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IBM® 1620

Program Library

COMPUTER TECHNOLOGY

IBM 1620-1443 Monitor I
Listings & Flow Charts

1620-PR-033(Card)
1620-PR-034(Paper Tape)

IBM

40 Saw Mill River Road
Hawthorne, New York 10532
White Plains 9-1900 (Code 914)

International Business Machines Corporation

SEPTEMBER, 1965

To:

ADDRESS CHANGE:

ANY DISCREPANCY BETWEEN MATERIAL RECEIVED AND THE
MATERIAL ORDERED SHOULD BE FORWARDED TO THE PROGRAM
INFORMATION DEPARTMENT, NOW LOCATED AT 40 SAW MILL RIVER
ROAD, HAWTHORNE, NEW YORK - 10532

PROGRAM INFORMATION DEPARTMENT

00020	*****	SYSTEM COMMON					
00030	DORG	402			00402		
00040	DIMENT	DSC 1,0,,	DDA FOR LOADER CALLS.		00402	1	
		0					
00050	DSA	0			00407	5 X	1
00060	DC	3,0			00407	-0000	
		-00			0C410	3	
00070	DSA	C			00415	5 X	1
00080	DC	6,0',			00415	-0000	
		-CCGO'			00421	6	
00090	DSC	1,1,,	DISK SCRATCH AREA DEFINER.		00422	1	
		1					
00100	SRELOC	DC 3,C			00423	3	
		-00					
00110	SFOINT	DSC 1,0,,	SPS, FORTRAN, AND DUP CNTL CARD SOURCE.		00426	1	
		0					
00120	CINIT	DC 1,C,,	LADDR INITIALIZATION INDICATOR.		00427	1	
		-					
00130	LDINPT	DSC 1,0,,	LOADER ENTRY CODE AND INPUT DEVICE.		00428	1	
		0					
00140	FSPS	DSC 1,0,,	LOAD SUP IND. AND MONITOR CNTL CARD SOUR.		00429	1	
		0					
00150	HIGH	DC 5,0,,	HIGHEST ADDRESS LOADED PLUS ONE.		00434	5	
		-0000					
00160	LADDR	DC 5,0,,	LOADER INPUT BUFFER VECTOR.		00439	5	
		-00CC					
00170	IBMMOD	DSC 1,1,,	DRIVE CODE FOR SYSTEM MODULE.		00440	1	
		1					
00180	OLCDA	DSC 15,0',	TRANSMIT HEADLESS DCA-S HERE FOR OVRLAY.		00441	15	
		000C00CC00000'					
00190	*****	OVERLAY READ ROUTINE					
00200	MALT	H XX,XX,02,	RESET AND START UPON OVERLAY ERROR.		00456	M8	-0000 C0000
00210	OVRLAY	34 IBMMOD,701,,	SEEK AND READ OVERLAYING PROGRAM.		00468	34	00440 00701
00220		36 IBMMOD,702,0			00480	L6	00440 00702
00230	BNI	B1 MALT,19C0,,	MALT IF INC. 1900.		00492	46	00456 01900
00240		B IBMMOD+13,,6,	BRANCH TO ITS FIRST LOCATICN.		00504	49	0045L 0C000
00250	DORG	--9			00506		
00260	DSA	20			00510	5 A	1
00270	*****				00510	-0020	
00280	*****	MAIN IORT ROUTINE.					
00290	*	ENTRIES ARE IORBC, IOPT, IOSK, AND IOGT.					
00300	*	FILE DESCRIPTOR AND RETURN ADDRESS VECTOR IS IOXX.					
00310	*****						
00320	*****	DRIVE REPOSITION TABLE					
00330	REPOS	DORG BNI+20			00512		
00340		DC 2,0			00513	2	
		-0					
00350		DC 2,0			00515	2	
		-0					
00360		DC 2,0			00517	2	
		-0					

00370	DC	2,0			00519	2	
		-0					
00380	*****	ENTRY SECTION					
00390	IORBC	TDM DIOP+47,1,11,	PUT ENTRY WITH READ BACK CHECK.		00520	15	02067 0000J
00400	IOPT	TFM DFILE+11,TT1+12,8,	PUT ENTRY.		00532	16	01933 0J764
00410		B IOGT+12			00544	49	00578 00000
00420	DORG	*-1			00554		
00430	IOSK	SF *,XX,,	SEEK ONLY ENTRY.		00554	32	00554 00000
00440	IOGT	TFM DFILE+11,TT1,,	GET ENTRY.		00566	16	01933 -1752
00450		TFM BKPT,X01,,	TURN OFF ANY I/O INDICATORS.		00578	16	00467 -1862
00460		R1 ERROR,1900,11			00590	46	00632 0190-
00470	ERRET	B BKPT,,16,	WHITHER WANDEREST THOU, WAYFARER.		00602	4R	0046P 00000
00480	DORG	*-4			00609		
00490	INDS	DC 2,06,,	ERROR INDICATOR TABLE.		00610	2	
		-6					
00500	DC	2,07			00612	2	
		-7					
00510	DC	2,16			00614	2	
		J6					
00520	DC	2,17			00616	2	
		J7					
00521	DC	2,25,,	PRINTER		00618	2	
		K5					
00530	DC	2,36			00620	2	
		L6					
00540	DC	2,37			00622	2	
		L7					
00550	DC	2,38			00624	2	
		L8					
00560	DSC	1,'			00625	1	
		'					
00561	DSC	1,0			00626	1	
		0					
00562	INUUT	DSA CHECK-12			00631	5 X	1
00570	*****	ERROR INDICATOR SCANNER ROUTINE.			00631	-1258	
00580	ERROR	TF **21,INDS,7,	INITIALIZE FOR CURRENT INDICATOR.		00632	24	00653 -0610
00590		BNI **24,XX,,	TEST IF INDICATOR ON.		00644	47	00668 00000
00600		SF ERROR+11,,6,	YES -SET FLAG INDICATOR.		00656	32	0064L 00000
00610		AM ERROR+11,2,10,	ADVANCE ADDRESSING.		00668	11	00643 0C0-2
00620		BD ERROR,ERROR+11,11,	TEST IF FINISHED		00680	43	00632 0064L
00640		TR OLDDA,ECALL,,	YES -SET UP CALL TO THE ERROR ROUTINE.		00692	31	00441 01805
00650		B OVRLAY,,			00704	49	00468 00000
00660	DORG	716			00716		
00670	*****	CALL LINK AND CALL LOAD ENTRY					
00680	*	SIMULATES AN IOGT ENTRY FOR SPS -CALL- PSUEDO-OP.					
00690	IOCAL	TFM DFILE+11,TT1,,	SET READ INDICATOR.		00716	16	01933 -1752
00700		TR CNTWD,IOXX,11,	MOVE FILE DESCRIPTOR.		00728	31	02170 0056M
00710		TFM BKPT,X01+36,,	PUNCH THE TIME CLOCK.		00740	16	00467 -1898
00720		AM IOXX,9,,	COMPUTE RETURN ADDRESS.		00752	11	00565 -0009
00730		BNF ERRET-12,CNTWD+7			00764	44	00590 02177
00740		AM IOXX,4			00776	11	00565 -0004
00750		B ERRET-12,,	EXECUTE ANY INDICATOR CHECK.		00788	49	00590 00000
00760	DORG	--3			00796		
00770	*****	MONITOR CALLER (THROUGH MONITOR RETURN ROUTINE.)					

00780	MONCAL	TR	OLDDA,MDDA		00796	31	00441	01791
00790		G	GVRLAY		00800	49	00468	00000
00800		DORG	+3		00816			
00810	*****		DISK FILE I/O PREPARATION SECTION					
00820	DIU	TD	DIOP+1,DFILE+11,11,SET LOW ORDER DIGIT OF OP CODE.		00816	25	02021	0193L
00830		TD	**35,CNTWD,,	DECODE SCRATCH AND HIGH UPDATE	00828	25	00863	02170
00840		CF	**23,DIOP+102,,	INDICATOR.	00840	33	00863	02122
00850		TD	DIOP+7,ERRET-2		00852	25	02027	00600
00860		HNF	CHK1,CNTWD+3,,	TEST IF DIM NUMBER SUPPLIED.	00864	44	01020	02173
00870		TR	MAPENT,MAPSCT,,	YES -COMPUTE SECTOR TO READ.	00876	31	02144	01847
00880		A	MAPENT+6,CNTWD+6		00888	21	02150	02176
00890		A	MAPENT+6,CNTWD+6		00900	21	02150	02176
00900		TFM	SK04,DI0X,,	SEEK THE MAP ENTRY.	00912	16	02143	-C932
00910		B	SEEK		00924	49	01496	00000
00920		DORG	+3		00932			
00930	DI0X	TD	DIOP+94,MAPENT+6,,	READ SLOT FOR DIM ENTRY (0,20,40,60,80).	00932	25	02114	02150
00940		TDM	MAPENT+6,0,11,	RESTORE SECTOR COUNT (=001)	00944	15	02150	CC00-
00950		TFM	BKPT,X03,,	PUNCH THE TIME CLOCK.	00956	16	00467	-0988
00960		36	MAPENT,702,,	READ THE DESIRED MAP ENTRY.	00968	36	02144	0C702
00970		B	ERRET-12,,	EXECUTE ERROR TEST.	00980	49	00590	00000
00980		DORG	+4		00987			
00990	X03	TR	MAPENT,DIOP+95,11,	MOVE DIM ENTRY TO WORKING SLOT.	00988	31	02144	0211M
01000		BNR	DI0Y,MAPENT,,	TEST IF VALID DIM ENTRY.	01000	45	01068	02144
01010		B	ERROR+60,,	NO-GO TO THE ERROR ROUTINE.	01012	49	00692	CC000
01020		DORG	+3		01020			
01030	CHK1	TR	MAPENT,CNTWD+6,11,	MOVE ODA TO WORKING SLOT.	01020	31	02144	02170
01040		BD	DI0Y,DIOP+7,,	TEST FOR SECTOR SCRATCH RELOCATION.	01032	43	01068	02027
01050		A	MAPENT+3,SRELOC,,	YES -COMPUTE ABSOLUTE SECTOR ADDRESS.	01044	21	02147	00425
01060		TD	MAPENT,SRELOC-3,,	GET ITS LOGICAL DRIVE CODE.	01056	25	02144	00422
01070	DI0Y	BNF	**44,10SK,,	TEST IF SEEK ONLY DESIRED.	01068	44	01112	0055A
01080		CF	10SK,,	YES -CLEAR THE INDICATOR.	01080	33	0055A	CC000
01090		TFM	SK04,DI0X,711,	PERFORM THE SEEK AND EXIT.	01092	16	02143	-G56M
01100		B	SEEK		01104	49	01496	CC000
01110		DORG	+3		01112			
01120		BNF	GTEST,DFILE+8,,	BRANCH IF GET ENTRY.	01112	44	01156	01930
01130	DI0Z	TD	DIOP+11,CNTWD+1,,	SET MODE DIGIT.	01124	25	02031	02171
01140		TFM	SK04,DIOP,,	PERFORM THE SEEK.	01136	16	02143	-2020
01150		H	SEEK		01148	49	01496	CC000
01160		DORG	+3		01156			
01170	GTEST	CM	MAPENT+13,55999,,	TEST IF RELOCATABLE LOADER REQUIRED.	01156	14	02157	00799
01180		GI	**24,12C0		01168	46	01192	011
01190		BNF	DI0Z,MAPENT+13,,	NO -TEST IF SPS SUPERVISOR REQUIRED.	01180	44	01124	02157
01200		TR	OLDDA,RCALL,,	YES -READ AND EXECUTE CALLER.	01192	31	00441	01819
01210		B	GVRLAY		01204	49	00468	CC000
01220		DORG	+3		01212			
01230	*****		POST DISK I/O HOUSEKEEPING SECTION					
01240	X04	CF	DIOP+98,,	CLEAR POSSIBLE USERS ERROR TRAP INC.	01212	33	02118	00000
01250		BNF	CHK2,DFILE+8,,	BRANCH IF GET ENTRY.	01224	44	01340	01930
01260		TDM	DIOP+47,0,,	KILL POSSIBLE RBC INDICATOR.	01236	15	02067	CC000
01270		BNF	10XX,CNTWD,6,	EXIT IF NO REPOSITIONING REQUIRED.	01248	44	0056N	02170
01280		AM	DRIVE,REPOS-OLDCLY,,	COMPUTE A SECTOR ADDRESS FROM THE	01260	11	02169	-161R
01290		TDM	MAPENT+1,0,11,	REPOSITION CONSTANT.	01272	15	02145	0000-
01300		TF	MAPENT+3,DRIVE,11		01284	26	02147	0216R
01310		CF	MAPENT+2		01296	33	02146	CC000
01320		A	MAPENT+3,DRIVE,11		01308	21	02147	021-R
01330		TD	MAPENT,TEMP-5,,	RESTORE THE LOGICAL DRIVE CODE DIGIT	01320	25	02144	020 4

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01340		B	DI0Y+24		01332	49	01092	CC000
01350		DORG	+3		01340			
01360	CHK2	HNF	CHK2,DIOP+7,,	TEST IF HIGH INDICATOR TO BE UPDATED.	01340	44	01376	02027
01370		TF	DIOP,MAPENT+13,,	YES.	01352	26	00434	02157
01380		A	F1GH-2,MAPENT+8		01364	21	00432	02152
01390	CHK3	BNF	CHK4,SPSMLP,,	TEST IF SPS MAIN LINE PROGRAM.	01376	44	01408	00468
01400		TR	OLDDA,SUPRET,,	YES -GET ROUTINE TO HANDLE.	01388	31	00441	01833
01410		B	GVRLAY		01400	49	00468	00000
01420		DORG	+3		01408			
01430	CHK4	BNF	X04+24,CNTWD+1,,	TEST IF EXECUTION DESIRED.	01408	44	01236	02171
01440		TF	HALT+4,10XX,,	YES -SET UP THE EXIT.	01420	26	00462	00565
01450		TFM	10XX,MAPENT+18,711		01432	16	00565	-216R
01460		BHR	X04+24,MAPENT+14		01444	45	01236	02158
01470		TFM	10XX,MAPENT+13,711		01456	16	00565	-215P
01480		B	X04+24		01468	49	01236	00000
01490		DORG	+3		01476			
01500	*****		SEEK ROUTINE	-SEEKS WHEN NECESSARY, COMPUTES PHYSICAL				
01510	*		DRIVE CODE CORRESPONDING TO USER SUPPLIED DRIVE CODE, AND					
01520	*		UPDATES CURRENT I/O CYLINDER POSITION INDICATOR.					
01530	SK01	TD	TEMP-5,MAPENT,,	INSERT SUPPLIED DRIVE CODE.	01476	25	02014	02144
01540		B	SK02		01488	49	01604	00000
01550		DORG	+3		01496			
01560	SEEK	TFM	TEMP-5,0,10,	COMPUTE CYLINDER FOR THIS CALL.	01496	16	02014	000-0
01570		TF	TEMP,MAPENT+5		01508	26	02019	02149
01580		CF	TEMP-4		01520	33	02015	00000
01590		A	TEMP,TEMP		01532	21	02019	02019
01600		A	TEMP,TEMP		01544	21	02019	02019
01610		A	TEMP,MAPENT+5		01556	21	02019	02149
01620		BD	SK01,MAPENT,,	TEST FOR SPECIFIED DRIVE CODE.	01568	43	01476	02144
01630		A	TEMP-5,TEMP-5,,	NO -MUST BE COMPUTED.	01580	21	02014	02014
01640		AM	TEMP-5,1,10		01592	11	02014	000-1
01650	SK02	TFM	DRIVE,EQUIV,,	COMPUTE LOCATION OF PHYSICAL DRIVE CODE.	01604	16	02169	-2123
01660		A	DRIVE,TEMP-5		01616	21	02169	02014
01670		TD	MAPENT,DRIVE,11,	REPLACE LOGICAL DRIVE CODE BY PHYSICAL.	01628	25	02144	0216R
01680		BD	**32,MAPENT,,	ERROR IF NO PHYSICAL DRIVE CODE.	01640	43	01672	02144
01690		TFM	BKPT,SK02		01652	16	00467	-160A
01700		B	ERROR+60,,	TELL THE OPERATOR A THING OR TWO.	01664	49	00692	CC000
01710		DORG	+3		01672			
01720		AM	DRIVE,OLDCLY-EQUIV,,	GET OLD CYLINDER POSITION.	01672	11	02169	-0008
01730		CF	TEMP-4,,	COMPARE WITH DESIRED CYLINDER.	01684	32	02015	00000
01740		C	TEMP-3,DRIVE,11		01696	24	02016	0216R
01750	SK03	B:	SK04,1200,6,	TEST IF THE SEEK IS NECESSARY.	01708	46	0214L	01200
01760		36	MAPENT,701,,	YES -PERFORM THE SEEK.	01720	34	02144	00701
01770		TF	DRIVE,TEMP-3,6,	UPDATE OLD CYLINDER POSITION.	01732	26	0216R	02016
01780		B	SK04,6,6	RETURN TO CALLER.	01744	49	0214L	00000
01790		DORG	+4		01751			
01800	*****		CONSTANTS AND ODA-5					
01810	TT1	OC	2,3,6,,	TABLE OF NON-DISK I/O MODE AND DEVICE	01752		2	
01820		DE	2,3,6,,	SPECIFIERS.	01754		2	
01830		OC	2,3,6		01756		2	
01840		OC	2,3,6		01758		2	
01850		OC	2,3,6		01760		2	

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01860	DC	2,57		01762	2
	NT				
01870	DC	2,18		01764	2
	JB				
01880	DC	2,28		01766	2
	K8				
01890	DC	2,48		01768	2
	M8				
01900	DC	2,19		01770	2
	J9				
01910	DC	2,29		01772	2
	K9				
01920	DC	2,49		01774	2
	M9				
01921	DC	4,C098,,,	PRINT NUMERIC	01778	4
	-098				
01922	DC	4,0099,,,	ALPHA	01782	4
	-099				
01923	DC	4,1098,,,	NUMERIC SUPPRESS SPACE	01786	4
	J098				
01924	DC	4,1C99,,,	ALPHA SUPPRESS SPACE	01790	4
	J099				
01930	MCCA	DS	0,++1	01791	0
01940		DSA	DSA19	01795	5 X 1
				01795	J9795
				01798	3
01950	DC	3,3			
	-03				
01960	DC	6,0*		01804	6
	-0000'				
01970	ECALL	DS	0,++1	01805	0
01980		DSA	DSA10	01809	5 X 1
				01809	J9749
				01812	3
01990	DC	3,12			
	-12				
02000	DSA	ERROR		01817	5 X 1
				01817	-0632
				01818	1
02010	DSC	1,*,			
	*				
				01819	0
02020	RCALL	DS	0,++1	01823	5 X 1
02030		DSA	DSA15		
				01823	J9783
				01824	1
02040	DSC	1,0			
	0				
02050	DC	2,3		01826	2
	-3				
02060	DC	6,0*		01832	6
	-0000'				
02070	SUPRET	DS	0,++1	01833	0
02080		USA	DSA17	01837	5 X 1
				01837	J9770
				01840	3
02090	DC	3,2			
	-02				

02100	DC	6,0*		01846	6
	-0000'				
02110	MAPSCT	DSC	1,1	01847	1
	1				
02120	DSA	4800		01852	5 X 1
				01852	-4800
				01853	3
02130	DSC	3,1			
	001				
02140	DC	6,0*		01861	6
	-0000'				
02150	*****		CONTINUATION OF ENTRY SECTION		
02160	X01	TF	**23,IOXX,11, MOVE FILE DESCRIPTOR TO CNTWD.	01862	26 01885 0056N
02170		TR	CNTWD,XX	01874	31 02170 00000
02180		AM	IOXX,1,, COMPUTE RETURN ADDRESS.	01886	11 00565 -0001
02190		BNF	DIO,CNTWD+5,, BRANCH IF DISK I/O.	01898	44 00816 02175
02200		A	DFILE+11,CNTWD+6,, NO -BUILD NON-DISK I/O INSTRUCTION.	01910	21 01933 02176
02210	CFILE	TF	IOP+10,XX	01922	26 01968 C0000
02211		TD	IOP+11,IOP+7,, SET Q11	01934	25 01969 01965
02220		TD	IOP+1,IOP+10	01946	25 01959 01968
02230	*****		I/O SECTION		
02240	IOP	30	CNTWD+4,XX,06, CONSTRUCTED NON-DISK I/O INSTRUCTION.	01958	L0 0217M 00000
02250		BI	DIO+60,1900,, TEST FOR ANY I/O ERROR.	01970	46 02080 01900
02260		TFM	BKPT,X03,, PUNCH THE TIME CLOCK.	01982	16 00467 -0988
02270		BNR	IOXX,CNTWD+4,0611, NO -TEST FOR AN INITIAL RECCRD MARK.	01994	M5 0056M 0217M
02280		B	ERROR+60,, YES -EXECUTE CONTROL CARD TRAP ROUTINE.	02006	49 00692 00000
02290		DDRC	*-4	02013	
02540	TEMP	DC	7,0,, SCRATCH FIELD FOR SEEK ROUTINE.	02019	7
		-00C000			
02300	DIOP	30	MAPENT,700,010, CONSTRUCTED DISK I/O INSTRUCTION.	02020	L0 02144 007-0
02310		BNF	**36,**35,, IF INDICATED, DD AN RBC.	02032	44 02068 02067
02320		S	**23,DIOP+11	02044	22 02067 02031
02330		36	MAPENT,700,10	02056	36 02144 007-0
02340		BNI	X04,1900,, PROCEED IF NO ERROR.	02068	47 01212 01900
02350		TFM	BKPT,X04,, ERROR -PUNCH THE TIME CLOCK.	02080	16 00467 -1212
02360		BNF	ERROR,**26,, BRANCH TO ERROR SCANNER OR USERS	02092	44 00632 02118
02370		CF	**14,XX,, ERROR ROUTINE.	02104	33 02118 00000
02380		B	XX	02116	49 00000 00000
02390		DDRC	*-4	02123	
02400	*****		DRIVE EQUIVALENCE AND POSITION TABLES		
02410	EQUIV	DS	0,++1	02123	0
02420		DC	2,1	02124	2
		-1			
02430		DC	2,0	02126	2
		-0			
02440		DC	2,0	02128	2
		-0			
02450		DC	2,0	02130	2
		-0			
02460	OLDY	DS	0,++1	02131	0
02470		DC	2,0	02132	2
		-0			
02480		DC	2,C	02134	2
		-0			
02490		DC	2,0	02136	2
		-0			

02500	UC	2,0		02138	2
02510	*****		SYMBOL DEFINITIONS AND WORKING STORAGE		
02530	SK04	DC	5,0,, -0000	02143	5
02520	MAPENT	DSC	21,0,, 00000000000000000000	02144	21
02550	CRIVE	UC	5,0,, -0000	02169	5
02560	CNTWD	DSC	13,C,, 000000000000	02170	13
02570	XX	DS	0,0,,	00000	0
02580	I0XX	DS	0,10SK+11,,	00565	0
02590	BKPT	DS	0,HALT+11,,	00467	0
02600	SYSORG	DS	0,2402,,	024C2	0
02610	SYSAL	DS	0,OVRLAY+7,,	00475	0
02620	NONEX	DS	0,HALT+1,,	00457	0
02630	SPSNLP	DS	0,OVRLAY,,	00468	0
02640	RM1	DS	0,2210,,	02210	0
02650	RM2	DS	0,2215,,	02215	0
02660	SUPENT	DS	0,2934,,	02934	0
02670	COMM	DS	0,SYSORG+400,,	028C2	0
02680	MCOMM	DS	0,COMM+50,,	02852	0
02690	MCCBUF	DS	0,13000,,	13000	0
02700	MCYL	DS	0,98,,	00098	0
02710	DSA00	DS	0,2C0+MCYL,,	19600	0
02720	CSA01	DS	0,DSA00+35,,	19635	0
02730	CSA02	DS	0,DSA01+1,,	19636	0
02740	CSA04	DS	0,DSA02+3,,	19639	0
02750	CSA06	DS	0,DSA04+1,,	1964C	0
02760	CSA07	DS	0,DSA06+16,,	19656	0
02770	CSA08	DS	0,DSA07+3,,	19659	0
02780	CSA09	DS	0,DSA08+85,,	19744	0
02790	CSA10	DS	0,DSA09+5,,	19749	0
02800	CSA11	DS	0,DSA10+12,,	19761	0
02850	CSA16	DS	0,DSA11+6,,	19767	0
02860	CSA17	DS	0,DSA16+3,,	19770	0
02820	CSA13	DS	0,CSA17+2,,	19772	0
02830	CSA14	DS	0,CSA13+5,,	19777	0
02840	CSA15	DS	0,CSA14+6,,	19783	0
02810	CSA12	DS	0,CSA15+3,,	19786	0
02870	CSA18	DS	0,CSA12+6,,	19792	0
02880	CSA19	DS	0,CSA18+3,,	19795	0
02890	CSA20	DS	0,CSA19+3,,	19798	0
02900	CSA21	DS	0,CSA01-5,,	19630	0
02910	CSA39	DS	0,CSA08+4,,	19663	0
02920	CSA40	DS	0,CSA08+84,,	19743	0
02930	CSA50	DS	0,17024,,	17024	0
02940	CSA51	DS	0,CSA00,,	19600	0
02950	DORG		19982,	19982	1
02960	DSC		1,1	19982	1
02970	DSA	USA04		19987	5 X 1
02980	DC	3,2C		19987	J9639
	-20			19990	3

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02990	DC	6,402*		19996	6
		-04C2'			
03000	*****		IORT SUBROUTINES WHICH NORMALLY RESIDE ON DISK FOLLOW		
03010	*****				
03020	*****				
03030	*****		OVERLAY ERROR ROUTINE STAGE 0		
03040	***		SAVE ERROR COUNT ROUTINE		
03050			DORG ERROR	00632	
03060	TEST	RNF	NDERR,INDS,7, TEST IND TABLE	00632	44 00656 -0610
03070		AM	COUNT,01,10,, UP THE ERACK COUNT	00644	11 01133 000-1
03080	NDERR	AM	TEST+11,02,10,, MODIFY ERROR TEST	00656	11 00643 000-2
03090		AM	TEST+18,02,10,, MODIFY ERROR COUNT LOCATION	00668	11 00650 000-2
03100		BD	TEST,TEST+11,11, TEST LAST INDICATOR	00680	43 00632 0064L
03120	**		WRITE ERROR COUNT TO DISK		
03130		TO	IBMWR,IBMDD,, SET CORRECT MODULE	00692	25 01024 CC440
03140	* NO ERROR		COUNT TO DISK IF FULL TRACK		
03160		RNF	WRCT+12,OLDDA+14,, WRITE ERROR COUNT NO FLAG	00704	44 00736 00455
03170		B	GDGO	00716	49 00866 00000
03180		DORG	+3	00724	
03240	WRCT	34	IBMWR,701,, SEEK THE ERROR COUNT	00724	34 01024 00701
03250		38	IBMWR,702,, WRITE THE ERROR COUNT	00736	38 01024 00702
03260		BI	BIGTRB,1900	00748	46 00768 01900
03270		B	GDGO	00760	49 00866 00000
03280		DORG	+3	00768	
03290	BIGTRB	RCTY		00768	34 00000 00102
03300		WATY	MES1,, DISK WRITE ERROR MESSAGE	00780	39 00813 00100
03310		H		00792	48 00000 00000
03320		B	WRCT	00804	49 00724 00000
03330		DORG	+4	00811	
03340	MES1	OAC	27,BAD DISK WRITE,RESET START' BAD DISK WRITE,RESET START' MESSAGE IF ENTERING IORT ERROR	00813	27 X 2
03350	***				
03360	GDGO	CM	BKPT,X01,, TEST IF CALLED AT ENTRY	00866	14 00467 -1862
03370		BE	MESSG	00878	46 00956 01200
03380		CM	BKPT,X01+36	00890	14 00467 -1898
03390		BE	MESSG	00902	46 00956 01200
03400		TR	OLDDA,JOFF,, NO-CALL IORT ERROR	00914	31 00441 01038
03410		B	OVRLAY+12,, ELIMINATE SEEK	00926	49 00480 00000
03420		DORG	+4	00933	
03430	MES2	CAC	11,ENT ERROR ' ENT ERROR '	00935	11 X 2
03440	MESSG	RCTY		00956	34 00000 00102
03450		WATY	MES2,, IO IN MESSAGE	00968	39 00935 00100
03460		WNTY	INDS-1,, IO INDICATORS	00980	38 00609 00100
03470		RCTY		00992	34 00000 00102
03480		BI	**12,700	01004	46 01016 00700
03490		B	EEXIT+12	01016	49 01650 00000
03500		DORG	+3	01024	
03510	IBMWR	DC	1,1	01024	1
03520		J			
		DSA	DSA10+5	01029	5 X 1
03530		GC	3,1	01029	J9754
		-01		01032	3
03540	DSA	ERROR+500		01037	5 X 1

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03550	JUFF	DS	0,++1		01037	-1132		
03560		DSA	DSA21		01038	0		
					01042	5 X	1	
03570		DC	3,5		01042	J9630		
					01045	3		
03580		DSA	ERROR		01050	5 X	1	
03590		DSC	1,1		01050	-0632		
					01051	1		
03610	*			ROUTINE TO TYPE OUT AND RESTORE THE ERROR COUNTERS TO ZERO				
03620		DORG	ERROR+500		01132			
03630	COUNT	DC	2,CC,...	06	01133	2		
03640		DC	2,CC,...	07	01135	2		
03650		DC	2,CC,...	16	01137	2		
03660		DC	2,CC,...	17	01139	2		
03661		DC	2,CC,...	25	01141	2		
03670		DC	2,CC,...	36	01143	2		
03680		DC	2,CC,...	37	01145	2		
03690		DC	3,CC,...	38	01148	3		
03700		DORG	ERROR+524		01156			
03710		RCTY	...	CALL IN BY ENTERING	01156	34	00000	00102
03720		WNTY	46,...	340003200701	01168	38	00046	00100
03730		TR	46,120,...	360003200702	01180	31	00046	00120
03740		38	32,702,...	4900070011975400100046	01192	38	00032	00702
03750		H			01204	48	00000	00000
03760		DORG	...	NOW WASN-T THAT NICE	01206			
03770		DC	2,0		01207	2		
03780		CC	2,0		01209	2		
03790		DC	2,0		01211	2		
03800		DC	2,0		01213	2		
03801		DC	2,0		01215	2		
03810		DC	2,0		01217	2		
03820		DC	2,0		01219	2		
03830		DC	3,0		01222	3		
03840	*****			THIS ROUTINE REMAINS IN CORE WITH ALL ERROR ROUTINES				
03850		DORG	ERROR+600		01232			
03860	BBUFF	00			01232	00	00000	00000

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03870		DSC	8,0		01244	8		
03880	SIOXX	DSC	6,0		01252	6		
03890		TFM	**23,INDS,...	ROUTINE TO DETERMINE ERROR INDS.	01258	16	01281	-0610
03900	CHECK	TF	**33,XX,7		01270	26	01303	-0000
03910		CF	*-1,1,6		01282	33	0128J	00000
03920		BNI	**36,XX		01294	47	01330	00000
03930		SF	CHECK+11,1,6		01306	32	0128J	00000
03940		SF	CHECK+8		01318	32	01278	00000
03950		AM	CHECK+11,2,10		01330	11	01281	000-2
03960	CHEK1	CM	CHECK+11,INDS+14,8		01342	14	01281	0-624
03970		BNI	CHECK,1300		01354	47	01270	01300
03980		BNF	O TEST,CHECK+8,...	ON DISK ERROR, DISTINGUISH IF OVERFLOW.	01366	44	00768	01278
03990	CHEK2	BD	RETRY,STEPS,...	IF NOT, GO INTO RETRY LOOP.	01378	43	01044	01200
04000	MOLLER	RCTY	...	TYPE ERROR MESSAGE.	01390	34	00000	00102
04010		WATY	EMSG1		01402	39	01787	00100
04020		SPTY			01414	34	00000	00101
04030	HO1	WNTY	SIOXX		01426	38	01252	00100
04040		SPTY			01438	34	00000	00101
04050		NOP	HO4		01450	41	01486	00000
04060	HO3	WNTY	INDS-1		01462	38	00609	00100
04070		SPTY			01474	34	00000	00101
04080	HO4	H	ERROR+8		01486	48	00640	00000
04090		TFM	B1-5,B1,711,...	INITIALIZE INDIRECT BRANCH.	01498	16	01574	-158J
04100		RNTY	BBUFF,...	READ THE OPERATORS ENTRY.	01510	36	01232	00100
04110		SPTY			01522	34	00000	00101
04120		BI	*-24,400,...	IF SSW4, ALLOW REENTRY.	01534	46	01510	00400
04130		SF	BBUFF,...	COMPUTE BRANCH ADDRESS.	01546	32	01232	00000
04140		S	B1-5,BBUFF+1		01558	22	01574	01233
04150		B	B1,6,...	PERFORM INDIRECT BRANCH.	01570	49	0158J	00000
04160		DORG	*-4		01577			
04170	B1	DSA	EEXIT		01581	5 X	1	
04180		DSA	RETRY		01581	-1638		
					01586	5 X	1	
04190		DSA	APHASE		01586	-1044		
					01591	5 X	1	
04200		DSA	AJOB		01591	-1614		
					01596	5 X	1	
04210		DSA	RETN		01596	-1602		
					01601	5 X	1	
04220	AJOB	TFM	**23,0,...	SET MONITOR RETURN INDICATOR.	01601	-1602		
04230	APHASE	TFM	SYSCAL,4		01602	15	01625	00000
04240		TFM	BKPT,MONCAL		01614	15	00475	00004
04250	EEXIT	NOP	MAPENT,SAVDDA,...	RESTORE WORKING DCA IF DISK I/O ERROR.	01626	16	00467	-0796
04260		TR	OLDDA,ERRB,...	RESTORE MAIN ROUTINE AND RETURN.	01638	41	02144	01177
04270		TFM	OLDCY+1,MCYL,10,...	RESTORE MONITOR MODULE CYLINDER IND.	01650	31	00441	01817
04280		B	OVRLAY+12		01662	16	02132	00008
04290		DORG	*-3		01674	49	00480	00000
04300	RETN	RNTY	BBUFF,...	READ OPERATORS ENTRY.	01682			
					01682	36	01232	00100

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04310	SPTY			01694	34	00000	0C101
04320	BI	*-24,400,,	ALLOW REENTRY IF SS#4.	01706	46	01682	0C400
04330	SF	BBLFF,,,	INITIALIZE FOR RETURN.	01718	32	01232	00000
04340	TF	BKPT,BBUFF+4		01730	26	00467	01236
04350	TDM	DIOP+47,0		01742	15	02067	0C000
04360	CF	IOSK		01754	33	00554	0C000
04370	CF	DIOP+98		01766	33	02118	00000
04380	B	EEXIT		01778	49	01638	0C000
04390	DORG	*-3		01786			
04400	EMSG1	DAC 9,DSK ERR ',		01787		9 X	2
		DSK ERR '					
04410	SIOP	36 MAPENT,702,0		01804	L6	02144	0C702
04420	DSC	1,,'		01816		1	
		'					
04430	ERRB	DS 0,++1		01817		0	
04440	DSA	DSA06+1		01821		5 X	1
04450	DC	3,13		01821		J9641	
		-13		01824		3	
04460	DSA	ERRET		01829		5 X	1
04470	DSC	1,,'		01829		-0602	
		'		01830		1	
04480	DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
04490	DSC	1,1		19982		1	
		1					
04500	DSA	DSA10		19987		5 X	1
04510	DC	3,12		19987		J9749	
		-12		19990		3	
04520	DSA	ERROR		19995		5 X	1
04530	DSC	1,,'		19995		-0632	
		'		19996		1	
04540	*****	OVERLAY ERROR ROUTINE STAGE 0 PLUS					
04550	DORG	ERROR		00632			
04560	EC030	TF ST0XX+4,10XX,,	MOVE RETURN ADDRESS FOR TYPE-CUT.	00632	26	01256	00745
04570	CM	HKPT,X03,,	THREE POSSIBILITIES FOR THIS.	00644	14	00467	-04
04580	B:F	EC070,CNTWD+5,,	BRANCH IF DISK I/O.	00656	44	00840	02175
04590	BNI	EC040,1200		00668	47	00738	01200
04600	BNR	EC050,CNTWD+4,11,	TEST IF CNTL CARD TRAP.	00680	45	00808	0217R
04610	TFM	BKPT,10XX,711,	YES -SET PROPER RETURN POINT.	00692	16	00467	-056N
04620	TR	OLDDA,++19,,	LOAD AND EXECUTE ERROR ROUTINE	00704	31	00441	00723
04630	B	OVRLAY+12,DSA14,,	STAGE 4.	00716	49	00480	19777
04640	DC	3,6		00730		3	
		-06					
04650	DSA	ERROR		00735		5 X	1
04660	DSC	1,,'		00735		-0632	
		'		00736		1	
04670	EC040	CM BKPT,X04,,	TEST IF ERROR AT NON-DISK I/O TIME.	00738	14	00467	-1712

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04580	BNI	EC050,1200		00750	47	00808	01200
04690	TFM	BKPT,IOP+24		00762	16	00467	-1982
04700	TR	OLDDA,++19,,	LOAD AND EXECUTE ERROR ROUTINE	00774	31	00441	0C793
04710	B	OVRLAY+12,DSA12,,	STAGE 2.	00786	49	00480	19784
04720	DC	3,6		00800		3	
		-06					
04730	DSA	ERROR		00805		5 X	1
04740	DSC	1,,'		00805		-0632	
		'		00806		1	
04750	EC050	RCTY ,,,	IMPOSSIBLE ERROR -MACHINE FAILURE CR	00808	34	00000	0C102
04760	WATY	EMSG21,,,	INCORRECT IORT CALLING SEQUENCE.	00820	39	01085	00100
04770	B	AP+ASE,,,	TERMINATE THE CURRENT PHASE.	00832	49	01614	00000
04780	DORG	*-3		00840			
04790	EC070	BI EC100,1200,,	TEST IF AT MAP SECTOR READ TIME.	00840	46	01052	01200
04800	CM	BKPT,X04,,	NO -TEST IF AT DISK I/O TIME.	00852	14	00467	-1212
04810	BNI	EC090,1200		00864	47	00958	01200
04820	TFM	H04+6,ERROR+20,,	YES -INITIALIZE FOR DISK ERROR.	00876	16	01492	-0652
04830	TD	DIOP+12,SIOP+12		00888	25	02032	01816
04840	TR	SIOP,DIOP		00900	31	01804	02020
04850	TDM	DIOP+12,4		00912	15	02032	00004
04860	EC080	TR OLDDA,++19,,	LOAD AND EXECUTE ERROR ROUTINE	00924	31	00441	00943
04870	B	OVRLAY+12,DSA11,,	STAGE 1.	00936	49	00480	19761
04880	DC	3,6		00950		3	
		-06					
04890	DSA	ERROR		00955		5 X	1
04900	DSC	1,,'		00955		-0632	
		'		00956		1	
04910	EC090	CM BKPT,AB01,,	TEST IF ILLEGAL NAME LOAD REQUEST.	00958	14	00467	J0926
04920	BI	EC095,1200		00970	46	01018	01200
04930	CM	BKPT,SK02,,	NO -TEST IF ILLEGAL DRIVE CODE.	00982	14	00467	-1604
04940	BNI	EC090,1200		00994	47	00808	01200
04950	TFM	H04+6,RDVC0,,	YES -SET UP FOR ERROR PROCEDURE.	01006	16	01492	-1004
04960	EC095	TR OLDDA,++19,,	LOAD AND EXECUTE ERROR ROUTINE	01018	31	00441	01037
04970	B	OVRLAY+12,DSA13,,	STAGE 3.	01030	49	00480	19772
04980	DC	3,5		01044		3	
		-05					
04990	DSA	ERROR		01049		5 X	1
05000	DSC	1,,'		01049		-0632	
		'		01050		1	
05010	EC100	BNR EC080,MAPENT,,	TEST IF EMPTY MAP ENTRY CALL.	01052	45	00924	02144
05020	TFM	H04+6,HERR,,	YES -SET UP CALL TO THE ERROR ROUTINE.	01064	16	01492	-0880
05030	B	EC095		01076	49	01018	00000
05040	DORG	*-3		01084			
05050	EMSG21	DAC 8,IMP ERR ',		01085		8 X	2
		IMP ERR '					
05060	DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
05070	DSC	1,1		19982		1	
		1					
05080	DSA	DSA21		19987		5 X	1

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05090	DC	3,5		19987	J9630		
	-05			19990	3		
05100	DSA	ERROR		19995	5 x	1	
				19995	-0632		
05110	DSC	1,1		19996	1		
05120	*****	OVERLAY ERROR ROUTINE	STAGE 1				
05130	DORG	ERROR		00632			
05140	B	H04*6,,6	BRANCH AS PRESET.	00632	49	0149K	00000
05150	DORG	*-3		00640			
05160	TDM	NIOP*13,9,,	DISABLE ANY READ CHECK.	00640	15	01081	00009
05170	TDM	EEXIT*3,,	INITIALIZE ERROR RETURN.	00652	15	01638	00003
05180	TFM	EEXIT*42,OVRLAY		00664	16	01680	-0468
05190	TR	NIOP,SIOP,,	MOVE THE I/O INSTRUCTION.	00676	31	01068	01804
05200	TDM	NIOP*12,4,,	CLEAR THE RECORD MARK.	00688	15	01080	00004
05210	TR	SAVCCA,MAPENT,,	SAVE THE WORKING CCA.	00700	31	01177	02144
05220	WTEST	BNF *+20,INDS*7,,	DETERMINE IF NON-CYLINDER OVERFLOW ERROR.	00712	44	00732	-0610
05230	B	RETRY,,,	NO.	00724	49	01044	00000
05240	DORG	*-3		00732			
05250	AM	WTEST*11,2		00732	11	00723	-0002
05260	CM	WTEST*11,INDS*14		00744	14	00723	-0624
05270	BNI	WTEST,1300		00756	47	00712	01300
05280	DTEST	BNI *+24,3800		00768	47	00792	03800
05290	SF	INDS*14		00780	32	00624	00000
05300	BNF	EEXIT,INDS*14		00792	44	01638	00624
05310	CYLOVF	TFM NEXT,200,,	YES -COMPUTE ADDRESS OF TOP OF NEXT CYL.	00804	16	00971	-0200
05320	TD	*+23,MAPENT*3		00816	25	00839	02147
05330	BD	*+24,TEETH		00828	43	00852	01211
05340	TFM	NEXT,100		00840	16	00971	-0100
05341	TFM	NEWDDA*13,0		00852	16	01175	-0000
05350	A	NEXT-2,MAPENT*3		00864	21	00969	02147
05360	TF	NEWDDA*5,NEXT,,		00876	26	01167	00971
05370	S	NEXT,MAPENT*5,,	COMPUTE NUMBER OF SECTORS PROCESSED.	00888	22	00971	02149
05380	TF	NEWDDA*11,NEXT		00900	26	01173	00971
05390	S	NEXT,MAPENT*8,,	COMPUTE NUMBER OF SECTORS YET TO PROCESS.	00912	22	00971	02152
05400	BNF	RETRY,NEXT,,	MUST RETRY IF 0 OR LESS.	00924	44	01044	00971
05410	CM	DRIVE,99,610,,	TEST IF DRIVE OVERFLOW.	00936	14	02168	00089
05420	RI	DDVFL,1200		00948	46	01136	01200
05430	CF	NEXT,,	NO -SET NEW SECTOR COUNT.	00960	33	00971	00000
05440	NEXT	DS 0,*		00971		0	
05450	SF	NEXT-2		00972	32	00969	00000
05460	TF	NEWDDA*8,NEXT		00984	26	01170	00971
05470	SF	NEWDDA*9,,,	COMPUTE NEW CORE ADDRESS.	00996	32	01171	00000
05480	A	NEWDDA*13,MAPENT*13		01008	21	01175	02157
05490	AM	DRIVE,1,610,,	UPDATE CYLINDER POSITION INDICATOR.	01020	11	02168	000-1
05500	TR	MAPENT*1,NEWDDA*1,,	MOVE NEW UDA TO WORKING SLCT.	01032	31	02145	01163
05510	RETRY	TD CHEK2*11,CHEK2*11,,	REDUCE RETRY COUNT.	01044	25	01389	01388
05520	34	MAPENT,701,,	RESEK.	01056	34	02144	00701
05530	NIOP	30	I/O INSTRUCTION GETS MOVED HERE.	01068	30	00000	00000
05540	BNF	*+36,DIOP*47,,	TEST IF ALSO READ BACK CHECK.	01080	44	01116	02067
05550	TD	*+23,NIOP*47,,	YES -GET MODE DIGIT.	01092	25	01115	02067
05560	36	MAPENT,700		01104	36	02144	00700
05570	BNI	EEXIT,1400,,	SEE IF ANY TROUBLE THIS TIME.	01116	47	01638	01900
05580	H	INCUT,6,		01128	49	0063J	00000

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05590	DORG	*-3		01136			
05600	DOVFL	TF EMSG1*12,EMSG2*4,,	INITIALIZE FOR DRIVE OVERFLOW TYPE-OUT.	01136	26	01799	01161
05610	B	HOLLER		01148	49	01390	00000
05620	DORG	*-3		01156			
05630	EMSG2	DAC 3,OFL,		01157		3 x	2
	OFL						
05640	NEWDDA	DSC 15,0*		01162		15	
		0000000000000000*					
05650	SAVCCA	DSC 20,C		01177		20	
		000000000000000000					
05660	STEPS	DSC 10,1234567890,1200,UP, UP, UP AND --WHOCPS.		01200		10	
		1234567890					
05670	TEETH	DAC 5,*****,1211		01211		5 x	2

05680	DORG	19982,,	CONTROL TO WRITE ON DISK	19982			
05690	DSC	1,1		19982		1	
	1						
05700	DSA	DSA11		19987		5 x	1
				19987		J9761	
05710	DC	3,6		19990		3	
	-06						
05720	DSA	ERROR		19995		5 x	1
				19995		-0632	
05730	DSC	1,1		19996		1	
05740	*****	OVERLAY ERROR ROUTINE	STAGE 2				
05750	DORG	ERROR		00632			
05760	TFM	CHEK2-6,EEXIT*12,,	INITIALIZE ERROR CHECK EXIT.	00632	16	01372	-1650
05770	TDM	CHEK2*1,1		00644	15	01379	00001
05780	TFM	B1*5,IOPA,,	SET RETRY ADDRESS.	00656	16	01586	-1076
05790	TD	IOP*12,SIOP*12,,	MOVE THE I/O INSTRUCTION.	00668	25	01970	01816
05800	TR	SIOP,IOP		00680	31	01804	01958
05810	TR	IOPA,IOP		00692	31	01076	01958
05820	TDM	IOP*12,4,,	CLEAR THE RECORD MARKS.	00704	15	01970	00004
05830	TDM	IOPA*12,4		00716	15	01088	00004
05840	SF	IOP*9,,	INITIALIZE FOR DEVICE COMPARISON	00728	32	01967	00000
05850	TDM	IOP*10,0		00740	15	01968	00000
05851	CM	IOP*10,90,10,	TEST IF PRINT ERROR	00752	14	01968	00000
05852	BNI	Z011,1200		00764	47	00816	01200
05853	TF	EMSG1*4,EMSG8*4,,	SET UP ERROR MESSAGE	00776	26	01791	01153
05854	TF	H03-5,Z05*07,,	MODIFY NOP TO BRANCH IN HOLLER	00788	26	01457	00815
05855	B	HOLLER		00800	49	01390	00000
05856	DORG	*-3		00808			
05857	Z05	B EEXIT*12,,0,	MODIFY BRANCH	00808	49	01650	00000
05858	DORG	*-3		00816			
05860	Z011	CM IOP*10,10,10,	DETERMINE IF A TYPE ERROR	00816	14	01968	000J0
05870	BNI	Z01,1200		00828	47	00908	01200
05880	CM	IOP*1,36,10,	YES -DETERMINE IF A READ.	00840	14	01959	000L6
05890	BI	*+36,1200		00852	46	00888	01200
05900	CM	IOP*1,37,10		00864	14	01959	000L7
05910	BNI	EEXIT*12,1200,,	EXIT IF A WRITE.	00876	47	01650	01200
05920	TF	EMSG1*4,EMSG7*4,,	SET UP ERROR MESSAGE.	00888	26	01791	01149
05930	B	HOLLER		00900	49	01390	00000
05940	DORG	*-3		00908			

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05950	Z01	CM	IOP+10,20,10,	TEST IF P/T PUNCH ERROR	00908	14	01968	0000
05960		HNI	Z02,1200		00920	47	00952	01200
05970		TF	EMSG1+4,EMSG6+4,,	YES -SET UP ERROR MESSAGE.	00932	26	01791	01143
05980		B	HOLLER		00944	49	01390	00000
05990		DORG	*-3		00952			
06000	Z02	CM	IOP+10,30,10,	TEST IF P/T READER ERROR	00952	14	01968	00000
06010		HNI	Z03,1200		00964	47	00996	01200
06020		TF	EMSG1+4,EMSG5+4,,	YES -SET UP ERROR MESSAGE.	00976	26	01791	01137
06030		B	HOLLER		00988	49	01390	00000
06040		DORG	*-3		00996			
06050	Z03	CM	IOP+10,40,10,	TEST IF CARD PUNCH ERROR	00996	14	01968	00000
06060		HNI	Z04,1200		01008	47	01052	01200
06070		TF	EMSG1+4,EMSG4+4,,	YES -SET UP ERROR MESSAGE.	01020	26	01791	01131
06080		HNF	HOLLER,INDS+2,,	TEST IF WRITE CHECK.	01032	44	01390	00612
06090		B	IOPA,,,	YES -GIVE FREE RETRY.	01044	49	01076	00000
06100		DORG	*-3		01052			
06110	Z04	TF	EMSG1+4,EMSG3+4,,	SET UP ERROR MESSAGE.	01052	26	01791	01125
06120		HNF	HOLLER,INDS,,	TEST IF READ CHECK.	01064	44	01390	00610
06130	IOPA	B	,,,	NON-DISK I/O INSTRUCTION.	01076	30	00000	00000
06140		HNI	EXIT+12,1900,,	EXIT IF NO ERROR.	01088	47	01650	01900
06150		TFM	CHEK1+11,INDS+8,,	NO -GIVE THE LCOPI A WHIKL.	01100	16	01353	-0618
06160		B	CHECK-12		01112	49	01258	00000
06170		DORG	*-3		01120			
06180	EMSG3	DAC	3,CDR,		01121		3 X	2
		CDR						
06190	EMSG4	DAC	3,CDP,		01127		3 X	2
		CDP						
06200	EMSG5	DAC	3,PTR,		01133		3 X	2
		PTR						
06210	EMSG6	DAC	3,PTP,		01139		3 X	2
		PTP						
06220	EMSG7	DAC	3,TPP,		01145		3 X	2
		TPP						
06221	EMSG8	DAC	3,PRT,		01151		3 X	2
		PRT						
06230		DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
06240		DSC	1,1		19982		1	
		I						
06250		DSA	DSA12		19987		5 X	1
					19987		19786	
06260		DC	3,6		19990		3	
		-06						
06270		USA	ERROR		19995		5 X	1
					19995		-0632	
06280		DSC	1,*		19996		1	
06290	*****		ERROR ROUTINE STAGE 3					
06300	*		PROCESSES INVALID DIMS, PROGRAM NAMED LOADS AND DRIVE CODES					
06310		DORG	ERROR		00632			
06320		B	HO4+6,,,6,	EXECUTE INDIRECT BRANCH.	00632	49	0149K	00000
06330		DORG	*-3		00640			
06340		TFM	B1,RNAM,,	INITIALIZE FOR ILLEGAL NAME CALL.	00640	16	01501	-0720
06350		TF	EMSG1+4,EMSG11+4		00652	26	01791	01091
06360		TDM	HO3+1,9		00664	15	01463	00009

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06370		TFM	HO3+6,AAO2A+6		00676	16	01468	-0235
06380		TD	AAO2A+18,S1UP+12		00688	25	00247	01816
06390		TFM	B1+5,RDIM		00700	16	01506	-0788
06400		H	HOLLER		00712	49	01390	00000
06410		DORG	*-3		00720			
06420	RNAM	RATY	BBUFF+1,,,	READ THE TYPED NAME.	00720	37	01233	00100
06430		SPTY			00732	34	00000	00101
06440		BI	*-24,400,,	ALLOW RE-ENTRY IF SSW4.	00744	46	00720	00400
06450		SF	BBUFF		00756	32	01232	00000
06460		TF	AAO2A+16,BBUFF+11		00768	26	00245	01243
06470		B	EXIT+12		00780	49	01650	00000
06480		DORG	*-3		00788			
06490	RCIM	RNTY	DBUFF,,,	READ THE TYPED DIM NUMBER.	00788	36	01232	00100
06500		SPTY			00800	34	00000	00101
06510		BI	*-24,400		00812	46	00788	00400
06520		SF	BBUFF		00824	32	01232	00000
06530	RCIM1	NOP	RMAP+20,,,	NOP/BRANCH SWITCH.	00836	41	00984	00000
06540		TF	AAO4+7,BBUFF+3		00848	26	00291	01235
06550		TFM	BKPT,ABO6+24,,	SET RETURN PCINT.	00860	16	00467	J1178
06560		B	EXIT+12		00872	49	01650	00000
06570		DORG	*-3		00880			
06580	HEKR	TF	RMAP-2,CNTWD+6		00880	26	00962	02176
06590		TFM	B1,RMAP		00892	16	01501	-0964
06600		TFM	B1+5,RMAP		00904	16	01506	-0964
06610		TF	EMSG1+4,EMSG10+4		00916	26	01791	01085
06620		TFM	BKPT,DID+60		00928	16	00467	-0876
06630		TFM	HO3+6,RMAP-5		00940	16	01468	-0959
06640		B	HOLLER		00952	49	01390	00000
06650		DORG	*-4		00959			
06660		DC	5,0*		00963		5	
		-000*						
06670	RMAP	TDM	RDIM1+1,9		00964	15	00837	00009
06680		B	RDIM		00976	49	00788	00000
06690		DORG	*-3		00984			
06700		TF	CNTWD+6,BBUFF+3		00984	26	02176	01235
06710		B	EXIT+12,,,	GO TRY AGAIN WITH NEW MAP NUMBER.	00996	49	01650	00000
06720		DORG	*-3		01004			
06730	RDVCD	TFM	B1,RDIM,,	INITIALIZE FOR ILLEGAL DRIVE CODE ERROR.	01004	16	01501	-0788
06740		TF	EMSG1+4,EMSG20+4		01016	26	01791	01097
06750		TDM	HO3-11,9		01028	15	01431	00009
06760		TF	RDIM1+6,DCDE+18		01040	26	00842	01078
06770		B	RNAM-20		01052	49	00700	00000
06780		DORG	*-3		01060			
06790	DCDE	TD	TEMP-5,BBUFF,0		01060	K5	02014	01232
06800		B	EXIT+12		01072	49	01650	00000
06810		DORG	*-3		01080			
06820	EMSG10	CAC	3,RAP,		01081		3 X	2
		NAP						
06830	EMSG11	CAC	3,RAP,		01087		3 X	2
		NAP						
06840	EMSG20	DAC	3,MOD,		01093		3 X	2
		MOD						
06850		DORG	19982,	CONTROL TO WRITE ON DISK.	19982			
06860		DSC	1,1		19982		1	
		I						
06870		DSA	DSA13		19987		5 X	1

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06880	DC	3,5		19987	J9772		
	-05			19990	3		
06890	DSA	ERROR		19995	5 X	1	
06900	DSC	1,1		19995	-0632		
				19996	1		
06910	*****	ERROR ROUTINE STAGE 4					
06920	*	MONITOR CONTROL CARD TRAP PROCESSOR					
06930	DORG	ERROR		00632			
06940	TC	Y00+8,FSPS,,	TEST IF FROM CONTROL CARD SOURCE.	00632	25	00688	00429
06950	TD	Y00+11,IOP+9		00644	25	00691	01967
06960	CF	Y00+8		00656	33	00688	00000
06970	CF	Y00+11		00668	33	00691	00000
06980	Y00	CM	**8,XX,710	00680	14	00688	-00-0
06990	BNI	EEEXIT+12,1200		00692	47	01650	01200
07000	CM	IOP+1,37,10,,	YES -TEST IF ALPHAMERIC READ.	00704	14	01959	000L7
07010	B1	Y02,1200		00716	46	00892	01200
07020	CM	IOP+1,36,10,,	NO -TEST IF NUMERIC READ.	00728	14	01959	000L6
07030	BNI	EEEXIT+12,1200		00740	47	01650	01200
07040	A	**23,CNTWD+4,,	YES -TEST FOR SECCND RECORD MARK.	00752	21	00775	02174
07050	BNR	EEEXIT+12,1,7		00764	45	01650	-0001
07060	TDM	OVRLAY+10,1,11,	YES -SET INDICATOR.	00776	15	00478	0000J
07070	Y01	AM	**13,1,,	00788	14	00775	-0001
07080	BNR	Y01B,**25,11	TEST IF END OF JOB CARD.	00800	45	00860	0077N
07090	AM	**37,1		00812	11	00775	-0001
07100	BNR	Y01B,**49,11		00824	45	00860	0077N
07110	Y01A	TDM	SYSCAL,0,,	00836	15	00475	00000
07120	TDM	OVRLAY+10,0,,	YES -SET END OF JOB INDICATOR.	00848	15	00478	00000
07130	Y01A	RCTY	... CLEAR CONTROL RECCRD TRAP IND.	00860	34	00000	00102
07140	WATY	EMSG13	TYPE TRAP MESSAGE.	00872	39	01209	00100
07150	B	APHASE+12,,	EXIT TO THE MONITOR.	00884	49	01626	00000
07160	DORG	**3		00892			
07170	Y02	TD	Y07+9,CNTWD+4,11,	00892	25	01125	0217M
07180	A	**23,CNTWD+4,,	MOVE INITIAL R.M.	00904	21	00927	02174
07190	BNR	EEEXIT+12,2,7	TEST FOR SECCND RECCRD MARK.	00916	45	01650	-0002
07200	TD	Y07+11,**1,11,	YES -MOVE SECCND R.M.	00928	25	01127	0092P
07210	TDM	OVRLAY+10,1,,	SET INDICATOR.	00940	15	00478	00001
07220	A	**23,Y02+35,,	TEST IF END OF JOB CARD.	00952	21	00975	00927
07230	BNR	Y06,2,7		00964	45	01008	-0002
07240	A	**23,**1		00976	21	00999	004
07250	BNR	Y06,2,7		00988	45	01008	-0002
07260	H	Y01A,,	YES.	01000	49	00836	00000
07270	DORG	**3		01008			
07280	Y06	A	**47,Y02+35,,	01008	21	01055	00927
07290	A	**18,**35,,	MOVE THE CONTROL CARD TO THE MONITOR	01020	21	01038	01055
07300	TD	157,SIOP+12,2	BUFFER.	01032	25	-0157	01816
07310	TH	ERROR,1,7		01044	31	00632	-0001
07320	TFM	MCCBUF+1,0,10		01056	16	13001	000-0
07330	AM	**6,2		01068	11	01062	-0002
07340	CM	**18,MCCBUF+161		01080	14	01062	J3161
07350	BNI	**36,1300		01092	47	01056	01300
07360	TR	MCCBUF+4,ERROR		01104	31	13004	00632
07370	Y07	TFM	MCCBUF+3,XX,8	01116	16	13003	0-000
07380	Y07A	SF	MCCBUF+,2,	01128	32	J3000	00000

07390	AM	Y07A+6,1		01140	11	01134	-0001
07400	CF	Y07A+6,,6		01152	33	0113M	00000
07410	AM	Y07A+6,1		01164	11	01134	-0001
07420	CM	Y07A+6,MCCBUF+160		01176	14	01134	J3160
07430	BNI	Y07A,1300		01188	47	01128	01300
07440	B	Y01B,,	GC TO TYPE-OUT.	01200	49	00860	00000
07450	DORG	**3		01208			
07460	EMSG13	DAC	8,TRP ERR',	01209			
		TRP ERR			8 X	2	
07470	DORG	19982,,	CONTROL TO WRITE ON DISK.	19982			
07480	DSC	1,1		19982			
07490	DSA	DSA14		19987	5 X	1	
07500	DC	3,6		19987	J9777		
	-06			19990	3		
07510	DSA	ERRCR		19995	5 X	1	
07520	DSC	1,1		19995	-0632		
				19996	1		
07530	*****	SPS SUPERVISOR AND RELOCATABLE LOADER CALLER STAGE 1					
07540	DORG	0		00000			
07550	TFM	QDCY+1,MCYL,10,	RESTORE MONITOR MODULE CYLINDER IND.	00000	16	02132	000R8
07560	BNF	LCA01,OLDDA+6,,	DETERMINE IF NON-TRA DISK LOAD.	00012	44	00072	00447
07570	TDM	LDINPT,0,11,	YES -SET INDICATOR.	00024	15	00428	0000-
07580	TR	DIMENT,MAPENT,,	MOVE WORKING DDA TO COMMON SLOT.	00036	31	00402	02144
07590	BNF	**24,CNTWD+7,,	NO -TEST IF SPECIFIED LOAD ADDRESS.	00048	44	00072	02177
07600	TF	HIGH,CNTWD+11,,	YES -MOVE IT INTO THE HIGH INDICATOR.	00060	26	00434	02181
07610	LCA01	BNF	LCA06A,LDINPT,,	00072	44	00204	00428
07620	BD	LCA04,LDINPT,,	TEST IF CALL FOR DISK LOAD.	00084	43	00120	00428
07630	BNF	LCA06,MAPENT+13,,	TEST IF CALL FOR SPS SUPERVISOR.	00096	44	00180	02157
07640	SF	FSPS,,	YES -SET FLAG.	00108	32	00429	00000
07650	LCA04	BNF	LCA06,FSPS,,	00120	44	00180	00429
07660	LCA02	TFM	IOXX,**23,,	00132	16	00565	-0155
07670	B	IOGT,LCA08,7	RESTORE MPY TABLE AND EXECUTE SUP.	00144	49	00566	-0237
07680	TFM	IOXX,**23,,		00156	16	00565	-0179
07690	B	IOGT,LCA09,7		00168	49	00566	-0245
07700	LCA06	BNF	**24,DIMENT+14,,	00180	44	00204	00416
07710	TF	DIMENT+13,DIMENT+18,,	TEST IF SPECIFIED ENTRY ADDRESS.	00192	26	00415	00420
07720	LCA06A	TR	OLDDA,LCA07,,	00204	31	00441	00223
07730	B	OVRLAY+12	LOAD AND EXECUTE STAGE 2 OF CALLER.	00216	49	00480	00000
07740	DORG	**4		00223			
07750	LCA07	DS	0,**1	00223		0	
07760	DSA	DSA16		00227	5 X	1	
07770	DC	3,3		00227	J9767		
	-03			00230	3		
07780	DSA	0		00235	5 X	1	
07790	DSC	1,1		00235	-0000		
				00236	1		
07800	LCA08	DSC	2,22	00237	2		
	22						

07810	DSA	LCAC3		00243	5 X	1
				00243	-0273	
07820	DSC	1,1		00244	1	
07830	LCA09	DSC	2,-22	00245	2	
		2K				
07840	DSA	LCAC2A		00251	5 X	1
				00251	-0253	
07850	DSC	1,1		00252	1	
07860	LCA02A	DSC	1,1	00253	1	
		1				
07870	DSA	DSA02		00258	5 X	1
				00258	J9636	
07880	DC	3,2		00261	3	
	-02					
07890	USA	100		00266	5 X	1
				00266	-0100	
07900	DSA	SUPENT		00271	5 X	1
				00271	-2934	
07910	DSC	1,1		00272	1	
07920	LCA03	DSC	1,1	00273	1	
		1				
07930	DSA	DSA50		00278	5 X	1
				00278	J7024	
07940	DC	3,5C		00261	3	
	-50					
07950	DSA	SYSORG-2		00286	5 X	1
				00286	-2400	
07960	DSC	1,1		00287	1	
07970	DORG	19982,	CONTROL TO WRITE ON DISK.	19982		
07980	DSC	1,1		19982	1	
		1				
07990	DSA	DSA15		19987	5 X	1
				19987	J9783	
08000	DC	3,3		19990	3	
	-03					
08010	DC	6,0'		19996	6	
	-0000'					
08020	*****	RELOCATABLE LOADER CALLER STAGE 2		00000		
08030	DORG	0		00000	44	00200 00428
08040	RNF	LCBC2,LDINPT,,	BRANCH IF TRA CALL.	00012	26	02176 00462
08050	TF	CNTND*6,HALT*6,,	SAVE POSSIBLE RETURN ADDRESS.	00024	43	00092 00428
08060	BD	LCBC1,LDINPT,,	BRANCH IF NON-DISK LOAD.	00036	15	01709 00009
08070	TDM	SK03*1,9,,	DISK -COMPLETE PHYSICAL DRIVE CCUE.	00048	16	02143 -0068
08080	TFM	SK04,**20				

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08090	M	SEEK		00060	49	01496 00000
08100	DORG	**3		00068		
08110	TD	DIMENT,MARENT,,	GIVE DRIVE CODE TO LOADER	00080	25	00402 02144
08120	TF	CNTND*6,IOXX,,	SAVE POSSIBLE RETURN ADDRESS.	00092	25	02164 00565
08130	LCB01	TD	DRIVE-5,TEMP-5,,	00104	31	02183 02164
08140	TR	CNTND*13,DRIVE-5,,	MOVE THE DERIVED DRIVE CODE.	00116	44	00140 00469
08150	RNF	**24,SPSMLP*1,,	WATCH OUT FOR THOSE NON-DISK MAIN-LINE	00128	32	00429 00000
08160	SF	FSPS,,	LOADS FOR THE SPS SUPERVISOR.	00140	44	00176 00468
08170	HNF	**36,SPSMLP,,	TEST IF SPS MAIN LINE PROGRAM.	00152	33	00468 00000
08180	CF	SPSMLP,,	YES -INDICATE RELOCATABLE.	00164	32	00469 00000
08190	SF	SPSMLP*1		00176	44	00200 00427
08200	HNF	**24,CINIT,,	TEST IF TO INITIALIZE LOADER FIELD.	00188	16	00439 -0000
08210	TFM	LADDR,0,,	YES.	00200	16	00565 -0223
08220	LCB02	TFM	IOXX,**23,,	00212	49	00520 -0255
08230	B	TORBC,LCB08.7	WRITE UPPER SAVE AREA ON DISK.	00224	26	00464 02180
08240	TF	HALT*8,CNTND*18.11,	INITIALIZE CYLINDER POSITION FOR LOADER.	00236	31	00441 00278
08250	TR	OLDDA,LCB10,,	READ AND EXECUTE THE LOADER.	00248	49	00480 00000
08260	B	OVRLAY*12		00255		
08270	DORG	**4		00255	2	
08280	LCB08	DSC	2,22			
		22		00261	5 X	1
08290	DSA	LCB09		00261	-0263	
				00262	1	
08300	DSC	1,1		00263	1	
				00268	5 X	1
08310	LCB09	DSC	1,1	00268	J9656	
		1		00271	3	
08320	DSA	DSA07		00276	5 X	1
				00276	-2102	
08330	DC	3,2		00277	1	
	-02			00278	0	
08340	DSA	ERRRET*1500		00282	5 X	1
				00282	J9600	
08350	DSC	1,1		00285	3	
				00291	6	
08360	LCB10	DS	0,**1	19982		
08370	DSA	DSA51		19982	1	
				19987	5 X	1
08380	DC	3,9		19987	J9767	
	-09			19990	3	
08390	DC	6,502'		19996	6	
	-0502'					
08400	DORG	19982,	CONTROL TO WRITE ON DISK.	19982		
08410	DSC	1,1		19982	1	
		1				
08420	DSA	DSA16		19987	5 X	1
				19987	J9767	
08430	DC	3,1		19990	3	
	-03					
08440	DC	6,0'		19996	6	
	-0000'					

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08450	*****	RELOCATABLE LOADER RETURN ANALYZER STAGE 1			
08460		DDRG 0		00000	
08470		TR OLDDA,LRA05,, RESTORE IORT AND THE UPPER SAVE AREA	00000	31 00441	00269
08480		B OVRLAY+12,,, VIA THE OVERLAY READ ROUTINE.	00012	49 00480	00000
08490		DDRG *-3		00020	
08490		TFM BNI+18,IBMOD+13,711,RESTORE OVRLAY ROUTINE EXIT.	00020	16 00510	-045L
08500		TR OLDDA,LRA06,, INITIALIZE FOR STAGE 2.	00032	31 00441	00283
08510		TF CNTWD+18,HALT+8,6, RESTORE LOAD MODULE CYLINDER IND.	00044	26 02180	00464
08520		TFM HALT+11,DIMENT+18,711,SET STAGE 2 RETURN ADDRESS.	00056	16 00467	-042-
08530		HNF LRA02,LDINPT,, BRANCH IF TGD EXIT FROM LOADER.	00068	44 00176	00428
08540		TR DRIVE-5,CNTWD+13,, RESTORE CALLING PARAMETERS.	00080	31 02164	02183
08550		TF IOXX,CNTWD+6	00092	26 00565	02176
08560		TD TEMP-5,DRIVE-5	00104	25 02014	02164
08570		TR MAPENT,DIMENT	00116	31 02144	00402
08580		TFM HALT+11,CHK4,, SET STAGE 2 INDIRECT RETURN ADDRESS.	00128	16 00467	-1408
08590		BNF **24,OVRLAY+21,, CHECK FOR NON-EXECUTE OF NCN-DISK LOAD.	00140	44 00164	00489
08600		CF CNTWD+1,,, YES -CLEAR THE EXECUTION INDICATOR.	00152	33 02171	00000
08610		CF OVRLAY+21	00164	33 00489	00000
08620	LRA02	TFM OLDCY+1,MCYL,10, RESTORE MONITOR MODULE CYLINDER IND.	00176	16 02132	00008
08630		TFM HALT+6,8	00188	16 00462	-0008
08640		BNF OVRLAY+12,FSPS,, TEST IF CALLED BY SPS SUPERVISOR.	00200	44 00480	00429
08650		BNF OVRLAY+12,SPSMLP+1,,YES -TEST IF MAIN LINE PROGRAM LOAD.	00212	44 00480	00469
08660		TFM HALT+11,DIMENT+18,711,SET STAGE 2 RETURN ADDRESS.	00224	16 00467	-042-
08670		TR OLDDA,**19,, READ IN SPS SUPERVISOR RETURN	00236	31 00441	00255
08680		B OVRLAY+12,DSA17,, ANALYZER.	00248	49 00480	19770
08690		DC 3,2	00262		3
		-02			
08700		DC 6,0'	00268		6
		-0000'			
08710	LRA05	DS 0,**+1	00269		0
08720		DSA DSAC6	00273		5 x 1
			00273	J9640	
08730		DC 3,18	00276		3
		-18			
08740		DSA 502			5 x 1
			00281	-0502	
08750		DSC 1,1	00282		1
		*			
08760	LRA06	DS 0,**+1	00283		0
08770		DSA DSAC1	00287		5 x 1
			00287	J9635	
08780		DC 3,4	00290		3
		-04			
08790		DSA 0	00295		5 x 1
			00295	-0000	
08800		DSC 1,1	00296		1
		*			
08810		DDRG 19982, CONTROL TO WRITE ON DISK.	19982		
08820		DSC 1,1	19982		1
		1			
08830		DSA DSA18	19987		5 x 1

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08840		DC 3,3	19987	J9792	
		-03	19990		3
08850		DC 6,0'	19996		6
		-0000'			
08860	*****	SPS SUPERVISOR RETURN ANALYZER STAGE 1			
08870		DDRG 0	00000		
08880		CF FSPS,,, CLEAR THE SPS SUPERVISOR FLAG.	00000	33 00429	00000
08890		BD SRA02,LDINPT,, BRANCH IF NON-DISK LOAD.	00012	43 00060	00428
08900		BNF SRA02,SPSMLP,, TEST IF RELOCATABLE.	00024	44 00060	00468
08910		CF SPSMLP,,, NO -TURN OFF THE INDICATOR.	00036	33 00468	00000
08920		TFM HALT+11,CHK4+12,, SET STAGE 2 INDIRECT ADDRESSES.	00048	16 00467	-1420
08930	SRA02	CF SPSMLP+1,,, TURN OF MAIN-LINE PROGRAM INDICATOR.	00060	33 00469	00000
08940	SRA01	TFM HALT+6,8	00072	16 00462	-0008
08950		TFM OLDCY+1,MCYL,10, RESTORE MONITOR MODULE CYLINDER IND.	00084	16 02132	00008
08960		TFM GTEST+54,OVRLAY,, RESTORE BRANCH ADDRESS IN IORT.	00096	16 01210	-0468
08970		TDM RM1,INDS+13,6, SET TWO RECORD MARKS IN THE SPS	00108	15 0221-	00623
08971		DC 1,1,0	00119		1
		*			
08980		TDM RM2,INDS+13,6, SUBROUTINE WORK AREA.	00120	15 0221N	00623
08981		DC 1,1,0	00131		1
		*			
08990		TR OLDDA,SRA03,, READ AND EXECUTE STAGE 2.	00132	31 00441	00152
09000		B OVRLAY+12	00144	49 00480	00000
09010		DDRG *-3	00152		
09020	SRA03	DS 0,**+1	00152		0
09030		DSA DSA01	00156		5 x 1
			00156	J9635	
09040		DC 3,4	00159		3
		-04			
09050		DC 6,0'	00165		6
		-0000'			
09060		DDRG 19982, CONTROL TO WRITE ON DISK.	19982		
09070		DSC 1,1	19982		1
		1			
09080		DSA DSA17	19987		5 x 1
			19987	J9770	
09090		DC 3,2	19990		3
		-02			
09100		DC 6,0'	19996		6
		-0000'			
09110	*****	SPS SUPERVISOR AND LOADER RETURN ANALYZER STAGE 2			
09120		DDRG 0	00000		
09130		B HALT+6,,6, INDIRECT EXECUTE BRANCH.	00000	49 0046K	00000
09140		DDRG 8	00008		
09150		SF CINIT,,, RESTORE LOADER INITIALIZATION IND.	00008	32 00427	00000
09160		BNF **20,FSPS,, TEST IF CALLED BY SPS SUPERVISOR.	00020	44 00040	00429
09170		B IOXX,,6, YES -RETURN TO IT.	00032	49 0056M	00000
09180		DDRG *-3	00040		
09190		BD **20,SYSCAL,, TEST IF CALLED BY A SYSTEM PROGRAM.	00040	43 00060	00475
09200		B HALT+11,,6, NO -RETURN THROUGH PRESET BRANCH.	00052	49 0046P	00000
09210		DDRG *-3	00060		
09220		TR OLDDA,**19,, EXECUTE SYSTEM RETURN ANALYZER.	00060	31 00441	00079
09230		B OVRLAY+12,DSA19	00072	49 00480	19795

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09910	DSC	1,'		00092	-2302		
				00093	1		
09920	DDRG	1C0		00100			
09930	MCA03	RNR **24,SYSCAL,,	REPLACE ANY SYSCAL R.M. BY 0.	00112	45	00124	00475
09940		TUM SYSCAL,0		00136	15	00475	00000
09950		BNF MCA03,SYSCAL,,	TEST IF DLP CALL.	00148	44	00052	00475
09960		TDM SYSCAL,5,,	YES -SET SYSCAL RETURN CODE.	00160	15	00475	00005
09970		TFM IDXX,**23,,	SAVE CORE FOR THE DUP SUPERVISOR.	00172	16	00565	-0171
09980		B IDRBC,MCA04,7		00184	49	00520	-0071
09990		TFM IDXX,**23,,	LOAD THE DLP SUPERVISOR.	00196	16	00565	-0195
09991		B IOGT,MCA05,7		00208	49	00566	-0241
10000		TFM HALT*6,CHK*12,,	SET UP EXIT AFTER RESTORATION OF TABLES.	00220	16	00462	-1420
10010	MCA01	TR OLDDA,**19,,	RESTORE ARITH TABLES AND EXECUTE	00234	31	00441	00227
10020		B OVRLAY,DSA01,,	MCNITOR OR DUP SUPERVISOR.		49	00468	19635
10030		DC 3,4					3
		-04					
10040		DC 6,0'		00240			6
		-0000'					
10050	MCA05	DSC 3,220		00241			3
		220					
10060		DC 5,139',		00248			5
		-139'					
10070	MCA06	TR OLDDA,**19,,	READ IN THE MCNITOR PLUS THE IORT VIA	00250	31	00441	00269
10080		B OVRLAY*12,DSA06,,	THE OVRLAY READ ROUTINE.	00262	49	00480	19640
10090		DC 3,109		00276			3
		J09					
10100		DC 6,502'		00282			6
		-0502'					
10110		DDRG 19982,,	CONTROL TO WRITE ON DISK.	19982			
10120		DSC 1,1		19982			1
		1					
10130	DSA	DSA19		19987		5 X	1
10140		DC 3,3		19987		J9795	
		-03		19990			3
10150		DC 6,0'		19996			6
		-0000'					
10160	*****						
10170	*****	MONITOR -MAIN ROUTINE					
10180	*****						
10190	*****	COMMUNICATION SECTOR ASSEMBLED PARAMETERS					
10200		DC 19,C,COMM+18,	HEADLESS DDA-S FROM SPS AND FORTRAN.	02820			19
		-0000CCCC00000000'					
10210		DC 2,8,COMM+41,	STANDARD SPS MANTISSA LENGTH.	02843			2
		-8					
10220		DC 2,2,COMM+43,	STANDARD SPS SUBROUTINE SET.	02845			2
		-2					
10230		DSC 1,0,COMM+44,	STANDARD SPS NOISE DIGIT.	02846			1
		0					
10240		DC 2,8,COMM+46,	STANDARD FORTRAN MANTISSA LENGTH.	02848			2
		-8					
10250		DC 2,4,COMM+48,	STANDARD FORTRAN FXC. PT. WORD LENGTH.	02850			2
		-4					
10260		DSC 1,1,COMM+49,	NUMBER OF MODULES IN 1620 SYSTEM.	02851			1
		1					

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10270	DSC	4,0,MC0MM,	MONITOR STATUS INDICATORS.	02852			4
		0000					
10280		CC 2,1,MC0MM+5		02857			2
		-1					
10290		CC 2,0,MC0MM+7		02859			2
		-0					
10300		DC 2,0,MC0MM+9		02861			2
		-0					
10310		DC 2,0,MC0MM+11		02863			2
		-0					
10320		DSC 1,0,MC0MM+12,	LE BOEUF SUR LE TOIT.	02864			1
		0					
10322		DSC 1,5,COMM+73,,	PRINCIPAL INPLT DEVICE CARD	02875			1
		5					
10321	**	THE PRINCIPAL INPUT DEVICE NUMBER WILL BE 5 FOR CARD SYSTEM					
10322	**	AND 3 FOR PAPER TAPE ON SYSTEM DELIVERY.					
10321		DC 1,1,COMM+76,	OBJECT SYSTEM SIZE	02878			1
		J					
10330		CC 5,0,COMM+88,	LOWEST ADDRESS LOADED BY LOADER.	02890			5
		-0000					
10331		DSC 1,1,COMM+83,	FORTRAN SUBROUTINE SET	02885			1
		1					
10340		DC 5,0,COMM+93,	CURRENT LOADER RELOCATION INCREMENT.	02895			5
		-0000					
10350		DC 5,0,COMM+98,	CARD SEQUENCE NUMBER FOR LOADING.	02900			5
		-0000					
10360		DSC 1,' ,COMM+99		02901			1
		'					
10370	*****	COLD START ENTRY TO THE MCNITOR -CLEAR STORAGE, THEN					
10380	*	THE FOLLOWING INSTRUCTIONS MUST BE LOADED INTO 0.					
10390	*	340003200701					
10400	*	360003200702					
10410	*	4902402X					
10420	*	Y1963611300102					
10430	*						
10440	*	WHERE X IS THE MONITOR CONTROL CARD SOURCE -					
10450	*	=1 TYPEWRITER IF ANY OTHER DIGIT IS SUPPLIED,					
10460	*	=3 P/T READER THE MONITOR WILL ASSUME THE					
10470	*	=5 CARD READER VALUE 1 (TYPEWRITER)					
10480	*						
10490	*	AND WHERE Y IS THE DRIVE CODE FOR THE PHYSICAL MODULE					
10500	*	ON WHICH THE MONITOR NOW RESIDES					
10510	*	=1 MODULE 0 IF ANY OTHER DIGIT IS SUPPLIED,					
10520	*	=3 MODULE 1 THE MONITOR WILL ASSUME THE					
10530	*	=5 MODULE 2 VALUE 1 (MODULE 0)					
10540	*	=7 MODULE 3					
10550	*						
10560		DDRG SYSORG		02402			
10570	MA000	TD 402,MCRO1A,,	MOVE ARITHMETIC TABLES TO PROPER ADDRESS.	02402	25	00402	04455
10580		TR 100,102		02414	31	00100	00102
10590		TDM 402,0		02426	15	00402	00000
10600		TD **23,31		02438	25	02474	00031
10610		BD **24,MC001		02450	43	02474	10490
10620		TD 31,1		02462	15	00031	00001
10630		TD MC0MM+3,31		02474	25	02855	00031
10640		CF 32,,	SET UP LOGICAL MODULE 0 DRIVE CODE	02486	33	00032	00000

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10650	TC	++23,32,,	EQUIVALENCE.	02498	25	02521	00032
10660	BD	++24,MCD04		02510	43	02534	1C720
10670	TDM	32,1		02522	15	00032	CC001
10680	TD	MCOMM+5,32		02534	25	02857	00032
10690	MA010	TDM MCOMM+0,,	INITIALIZE COMM SECTOR INDS.	02546	15	02852	00000
10700	TDM	MCOMM+1,0		02558	15	02853	CC000
10710	TDM	MCOMM+2,0		02570	15	02854	CC000
10720	TDM	MCOMM+12,4		02582	15	02864	00004
10730	TFM	BNI+18,IBMMOD+13,711		02594	16	00510	-045L
10740	TFM	QLDCY+1,MCYL,10		02606	16	02132	CC0R8
10750	TF	EQLIV+1,MCOMM+5,,	READ DDA-S FOR SPS, FORTRAN, DUP, AND	02618	26	02124	02857
10760	TD	IBMMOD,MCOMM+5,,	THE EQUIVALENCE TABLE AND DUMP THEM	02630	25	00440	02857
10770	BTM	UT05,8,,	CNT0 DISK ON SPECIAL SECTOR.	02642	17	08350	-0008
10780	TR	SPSCDA,UT05-1,11		02654	31	10802	0834R
10790	BTM	LT05,136		02666	17	08350	-0136
10800	TR	FORDDA,UT05-1,11		02678	31	10822	0834R
10810	BTM	UT05,139		02690	17	08350	-0139
10820	TR	DUPDDA,UT05-1,11		02702	31	10842	0834R
10830	BTM	LT05,2		02714	17	08350	-CC02
10840	TR	EQLDDA,UT05-1,11		02726	31	10862	0834R
10850	TFM	IOXX,++23		02738	16	00565	-2761
10860	H	IORBC,MA020,7		02750	49	00520	-2769
10870	B	MBCC0,,,	PROCEED TO THE INTER-PHASE ENTRY.	02762	49	02902	00000
10880	DORG	=-4		02769			
10890	MA020	DSC 2,22		02769		2	
		22					
10900	CSA	MAC25		02775		5 x	1
				02775		-2777	
10910	DSC	1,1		02776		1	
10920	MA025	DSC 1,1		02777		1	
10930	DSA	DSA40		02782		5 x	1
				02782		J9743	
10940	CC	3,1		02785		3	
		-01					
10950	DSA	SPSCDA		02790		5 x	1
				02790		J0802	
10960	DSC	1,1		02791		1	
10970	*****	INTER-PHASE ENTRY TO MONITOR.					
10980	DORG	SYSORG+500		02902			
10990	MB000	RCTY ,,,	RESTORE TYPEWRITER CARRIAGE.	02902	34	00000	00102
10991	TD	KREC+2,COMM+76,,	SAVE SYSTEM SIZE	02914	25	09806	02878
10992	TR	QLDCY,MB226-1,,	SET ARM INDICATORS SO SEEK MUST OCCUR	02926	31	02131	04046
11000	TF	EQUIV+1,MCOMM+5,,	RESTORE LOGICAL DRIVE 1 MODULE EQUIV.	02938	26	02124	02857
11010	TD	IBMMOD,MCOMM+5		02950	25	00440	02857
11020	SF	HALT,,,	INDICATE PRESENCE OF MONITOR.	02962	32	00456	CC000
11030	TDM	IOP+37,9,,	DISABLE CONTROL CARD TRAP.	02974	15	01995	00009
11040	BD	MBC35,OVRLAY+10,,	TEST FOR ENTRY VIA CNTL CARD TRAP.	02986	43	03162	00478
11050	TDM	M101,0,,	NO -SET UP TO READ A CNTL CARD.	02998	15	09840	CC000
11060	MB010	TD ++34,MCOMM+12,,	GNAY EATCHAY.	03010	25	03044	02864
11070	TD	++23,SYSCAL		03022	25	03045	00475

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11080	TD	SYSCAL,MCD06		03034	25	00475	10740
11090	BD	MB020,SYSCAL,,	TEST IF END OF JOB.	03046	43	03070	00475
11100	BTM	UT07,1,,	YES -GO TO JOB CLOSING ROUTINE.	03058	17	08782	-0001
11110	MB020	TD ++23,SYSCAL,,	EXECUTE A COMPUTED BRANCH ON SYSCAL.	03070	25	03043	00475
11120	TD	++23,MCD09		03082	25	03105	10770
11130	TF	++18,MCD10		03094	26	03112	10781
11140	R	MB025,6		03106	49	0312-	00000
11150	DORG	MBCC0+214,,	TRICKY, WHAT SAY---	03116			
11160	MB025	DSA MCR01,MB080,MB100,MB100,MB140		03120		5 x	5
				03120		-4068	
				03125		-3274	
				03130		-3422	
				03135		-3422	
				03140		-3658	
11170	MB030	TDM SYSCAL,0,,	FORCE TERMINATION OF JOB.	03142	15	00475	00000
11180	B	MB010+48		03154	49	03058	CC000
11190	DORG	=-3		03162			
11200	MB035	SF NONEX,,,	INHIBIT EXECUTION.	03162	32	00457	00000
11210	TD	=-1,OVRLAY+10,,	SAVE RETURN CODE.	03174	25	03173	00478
11220	TDM	OVRLAY+10,0,,	RESTORE MAIN IND.	03186	15	00478	CC000
11230	BNF	MB045,MB035+11,,	TEST IF READ NUMERICALLY.	03198	44	03254	03173
11240	MB040	WATY MM3C,,,	TYPE RELOAD MESSAGE.	03210	39	10351	00100
11250	RCTY			03222	34	00000	00102
11260	H	,,,	WAIT FOR OPERATOR.	03234	48	00000	CC000
11270	B	MB010-12		03246	49	02998	00000
11280	DORG	=-3		03254			
11290	MB045	TDM M101,1,,	INHIBIT READING A CONTROL CARD.	03254	15	09840	00001
11300	B	MB010		03266	49	03010	00000
11310	DORG	=-3		03274			
11320	MB080	BTM UT11,,,	TEST FOR INHIBITED EXECUTION.	03274	17	09618	-0000
11330	TDM	MDO2,6,,	SET SYSCAL CODE.	03286	15	09743	00004
11340	TDM	MCOMM+12,6,,	SET DUP INDICATOR.	03298	15	02864	CC000
11350	TR	MRO2,DUPDDA,,	GET DDA FOR DUP SUPERVISOR.	03310	31	09744	10842
11360	BNR	MB081,MRO2,,	TEST IF VALID.	03322	45	03390	09744
11370	TFM	POINT,139,,	NO.	03334	16	09768	-0139
11380	MB080A	WATY MM36,,,	TYPE ERROR MESSAGE.	03346	39	10451	00100
11390	WNTY	POINT-3,,,	IDENTIFY MISSING DIM ENTRY.	03358	38	09765	00100
11400	RCTY			03370	34	00000	00102
11410	B	UT10F		03382	49	09550	00000
11420	DORG	=-3		03390			
11430	MB081	NOP		03390	41	00000	00000
11440	TD	MB225+7,MCR01A,,	NO LOAD ADDRESS.	03402	25	04040	04455
11450	B	MB2C0,,	GO TO EXECUTE LOAD.	03414	49	03734	00000
11460	DORG	=-3		03422			
11470	MB100	BTM UT11,,,	TEST FOR INHIBITED EXECUTION.	03422	17	09618	-0000
11480	BNF	MB145,MCOMM+1,,	TEST IF PHASE BEGAN WITH EXECUTE CARD.	03434	44	03690	02853
11490	BNF	MB110,MCOMM+2,,	YES -TEST IF EXECUTION INHIBITED.	03446	44	03466	02854
11500	B	LT10F,,,	YES.	03458	49	09550	00000
11510	DORG	=-3		03466			
11520	MB110	TDM MCOMM+12,4,,	SET EXECUTION INDICATOR.	03466	15	02864	00004
11530	BNF	MB110B,COMM+22,,	TEST IF PROGRAM LOADED TO DISK.	03478	44	03566	02824
11540	BD	MB110B,COMM+22,,	YES -TEST IF IN CORE IMAGE FORMAT.	03490	43	03566	02824
11550	BNF	++20,COMM+39,,	YES -TEST IF A DIM NUMBER SUPPLIED.	03502	44	03522	02841
11560	B	MB110B,,,	WHERE ARE YOU.	03514	49	03566	00000
11570	DORG	=-3		03522			

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11580	MB110A	BT	LT05,COMM+39,,	GO TO GET THE DDA.	03522	27	08350	02841
11590		TR	MR02,UT05-1,11,	MOVE TO TEMPORARY SLOT.	03534	31	09744	08348
11600		BNR	MB190,MR02,,	TEST IF VALID.	03546	45	03710	09744
11610		B	MXQC+12,,	NO -TYPE ERROR MESSAGE AND CLOSE JOB.	03558	49	07206	0C000
11620		DORG	+--3		03566			
11630	MB110B	TR	MR02+1,COMM,,	USE DDA IN COMM SECTOR AS LOAD DDA.	03566	31	09745	02802
11640		A	MR02+3,SRELOC,,	CONVERT FROM SCRATCH TO ABSOLUTE	03578	21	09747	00425
11650		TD	MR02,SRELOC-3,,	SECTOR ADDRESS.	03590	25	09744	00422
11660		TFM	MR02+13,99999,,	FORCE THE RELOCATABLE INDICATOR.	03602	16	09757	R9999
11670		BNF	+*24,COMM+12,,	TEST IF THE SPS SUPERVISOR REQUIRED.	03614	44	03638	02814
11680		SF	MR02+13,,	YES -SET FLAG INDICATOR.	03626	32	09757	0C000
11690		TFM	HIGH,SYSGRG,,	RELOCATABLE PROGRAMS WILL BE LOADED	03638	16	00434	-2402
11700		B	MB195,,	AT SYSGRG.	03650	49	03722	0C000
11710		DORG	+--3		03658			
11720	MB140	RNF	+*2C,MCOMM+1,,	TERMINATE JOB IF THIS PHASE INVOLVES	03658	44	03678	02853
11730		B	MBC30,,	EXECUTION OF A USER-S PROGRAM.	03670	49	03142	00000
11740		DORG	+--3		03678			
11750		RTM	UT11,1,,	TYPE NCM EXECUTE MESSAGE.	03678	17	09618	-0001
11760	MB145	TDM	MCOMM+1,0,,	INDICATE PHASE NOT BEGUN.	03690	15	02853	00000
11770		B	MCRO1,,	GO TO CONTROL CARD READ EXECUTIVE.	03702	49	04088	0C000
11780		DORG	+--3		03710			
11790	MB190	TDM	MB225,3,,	FORCE UPDATING OF HIGH INDICATOR.	03710	15	04033	00003
11800	MB195	TDM	MD02,0,,	SET SYSCAL CODE.	03722	15	09743	0C000
11810	*****			FINAL LOAD AND EXECUTE OF SYSTEM OR USERS PROGRAM.				
11820	MB2C0	TF	EQLIV+3,MCOMM+7,,	MOVE REMAINDER OF EQUIV TABLE.	03734	26	02126	02859
11830		TF	EQLIV+5,MCOMM+9		03746	26	02128	02861
11840		TF	EQLIV+7,MCOMM+11		03758	26	02130	02863
11850		TR	REPOS,LREC,,	SET DRIVE REPOSITION TABLE TO ZERO-S.	03770	31	00512	09813
11860		TDM	REPOS+7,0		03782	15	00519	00000
11870		TC	+*47,FSPS,,	MOVE CONTROL CARD SOURCE TO COMMEN.	03794	25	03841	00429
11880		TD	FSPS,MCOMM+3		03806	25	00429	02853
11890		HNF	+*24,+*23		03818	44	03842	03841
11900		SF	FSPS		03830	32	00429	0C000
11910		SF	LDINPT,,	FOR GOOD MEASURE.	03842	32	00428	00000
11920		SF	CINIT		03854	32	00427	0C000
11930		TR	COMM+84,JREC		03866	31	02886	09788
11940		TFM	IOXX,+*23,,	WRITE COMM SECTOR ON DISK.	03878	16	00565	-3901
11950		B	IOXX,MB220,7		03890	49	00520	-4010
11960		TD	IOX+37,5,,	RESTORE CNTL CARD TRAP IN IORT.	03902	15	01995	00005
11970		TDM	SYSCAL,MD02,,	SET SYSCAL CODE.	03914	25	00475	09743
11980		CF	+ALT,1,,	REMOVE MONITOR INDICATOR.	03926	33	00456	0C000
11990		CF	+ALT+1,,	REMOVE ANY REMAINING LITTLE GOODIES.	03938	33	00457	07100
12000		RD	MB210,SYSCAL,,	TEST FOR EXECUTION.	03950	43	03986	00-5
12010		WATY	MM25,,	YES -TYPE MESSAGE.	03962	39	10289	00100
12020		RCTY			03974	34	00000	00102
12030	MB210	TFM	IOXX,+*23,,	LOAD AND EXECUTE DESIRED PROGRAM.	03986	16	00565	-4009
12040		B	IOGT,MB225,7		03998	49	00566	-4033
12050	MB220	DSC	2,22		04010			2
12060		DSA	MB222		04016		5 X	1
					04016		-4018	
12070		DSC	1,1		04017		1	
12080	MB222	DSC	1,1		04018		1	

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12090		DSA	DSA39		04023		5 X	1
					04023		J9663	
12100		DSC	3,1		04024		3	
12110		DSA	COMM		04031		5 X	1
					04031		-2802	
12120		DSC	1,1		04032		1	
12130	MB225	DSC	2,-22		04033		2	
12140		DSA	MR02		04039		5 X	1
					04039		-9744	
12150		DSC	1,1		04040		1	
12160		DSC	5,0*		04041		5	
12161	MB226	DC	2,-01		04047		2	
		-J						
12162		DC	2,-01		04049		2	
		-J						
12163		DC	2,-01		04051		2	
		-J						
12164		DC	3,-01*		04054		3	
		-J*						
12170	*****			MONITOR CONTROL CARD READ SUPERVISOR ROUTINE..				
12180		TDM	MI01,0,,	TURN OFF ALREADY READ IND.	04056	15	09840	0C000
12190	MCRO1	TD	MCRO2A+11,MCOMM+3,,	DECODE CONTROL CARD INPUT SOURCE.	04068	25	04127	02855
12200		TC	+*23,MCOMM+3		04080	25	04103	02855
12210		TF	MCRO6+6,MCDD02		04092	26	04941	10700
12220		RD	MCRO4,MI01,,	TEST IF CNTL CARD ALREADY READ.	04104	43	04304	09840
12230	MCRO2A	BNF	MCRC3,MCDD01,,	TEST IF TYPEWRITER INPUT.	04116	44	04188	10690
12240		RCTY	***	YES -TYPE ENTER MESSAGE.	04128	34	00000	00102
12250		WATY	MM01		04140	39	09843	00100
12260		BNF	+*24,MI03,,	TEST IF IN JOB CARD SEARCH.	04152	44	04176	09841
12270		WATY	MM26		04164	39	10309	00100
12280		RCTY			04176	34	00000	00102
12290	MCRO3	TFM	+*18,MCCBUF,,	CLEAR THE CONTROL CARD BUFFER.	04188	16	04206	J3000
12300		TR	xx,MCRO4A+7		04200	31	00000	04451
12310		AM	MCRO3+18,4		04212	11	04206	-0004
12320		CM	MCRO3+18,MCCBUF+160		04224	14	04206	J3160
12330		BNF	MCRO3+12,1300		04236	47	04200	01300
12340		TFM	IOXX,+*23,,	READ A RECCRD FROM CONTROL RECCRD SOURCE.	04248	16	00565	-4271
12350		B	IOGT,MCRO6,7		04260	49	00566	-4935
12360		BNF	+*32,ADD,,	IF SSHA, ALLOW RE-ENTRY ON TYPEWRITER	04272	47	04304	00400
12370		BNF	+*20,MCRO2A+11,11,	INPUT.	04284	44	04304	0412P
12380		B	MCRO1-12		04296	49	04056	0C000
12390		DORG	+--3		04304			
12400	MCRO4	BNF	+*24,MCRO2A+11,11,	RESTORE CARRIAGE IF TYPEWRITER INPUT.	04304	44	04328	0412P
12410		RCTY			04316	34	00000	00102
12420		TDM	MI01,1,,	TURN ON CNTL CARD READ INHIBITOR.	04328	15	09840	00001
12430		BNR	MCRO1-12,MCCBUF+1,,	READ AGAIN IF NO DOUBLE R.M.	04340	45	04056	13001
12440		BNR	MCRO1-12,MCCBUF+3		04352	45	04056	13003
12450		TFM	MF01,4,,	TREAT AS COMMENTS CARD IF ANY R.M.	04364	16	09716	-0004

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12460	BTM	LTO3,MCCBUF+5,,	IN COLS. 3-6.	04376	17	08038	J3005
12470	BNR	MCR4A,MDO1		04388	45	04444	09742
12480	BNR	MCR5A,MCCBUF+5,,	TEST FOR END OF JOB.	04400	45	04628	13005
12490	BNR	MCR5A,MCCBUF+7		04412	45	04628	13007
12500	TDM	M101,0,,	DISABLE CONTROL CARD READ INHIBITOR.	04424	15	09840	00000
12510	B	MBC30		04436	49	03142	00000
12520	DORG	=-3		04444			
12530	MCR04A	CF	MCCBUF+6,,, CLEAR FLAGS FOR COLS. 4,5 AND 6.	04444	33	13006	00000
12540	DORG	=-4		04451			
12550	DC	2,C		04452		2	
	-0						
12560	DC	3,0',		04455		3	
	-0'						
12570	CF	MCCBUF+8		04456	33	13008	00000
12580	CF	MCCBUF+10		04468	33	13010	00000
12590	TDM	MDO1,0		04480	15	09742	00000
12600	*	DECODE CONTROL CARD TYPE					
12610	C	MCCBUF+11,MPC2+6,,	TEST FOR -JOB- CARD.	04492	24	13011	09897
12620	BI	MJB01,1200		04504	46	04944	01200
12630	C	MCCBUF+11,MMO3+6,,	TEST FOR -TYPE- CARD.	04516	24	13011	09905
12640	BNR	MCR05,1200		04528	47	04572	01200
12650	TDM	MCUMM+3,1,,	YES -SET INDICATOR.	04540	15	02855	00001
12660	BTM	UTO6,,, GO TO TYPE-OUT ROUTINE.		04552	17	08494	-0000
12670	B	MCR01-12,,, GO TO READ ANOTHER CARD.		04564	49	04056	00000
12680	DORG	=-3		04572			
12690	MCR05	C	MCCBUF+11,MMO4+6,, TEST FOR -PAUS- CARD.	04572	24	13011	09913
12700	BNR	MCR5A,1200		04584	47	04628	01200
12710	BTM	LTO6,,, YES -GO TO TYPE-CUT ROUTINE.		04596	17	08494	-0000
12720	H	,,, AFTER START, READ ANOTHER CARD.		04608	48	00000	00000
12730	B	MCR01-12		04620	49	04056	00000
12740	DORG	=-3		04628			
12750	MCR05A	HD	MCR01-12,M103,, RE-READ IF IN JOB CARD SEARCH.	04628	43	04056	09841
12760	BTM	LTO6,,, GO TO TYPE OUT THE CARD.		04640	17	08494	-0000
12770	BD	MCR01-12,MDO1,, READ NEXT CARD IF FORCED COMMENTS CARD.		04652	43	04056	09742
12780	TR	COMM+22,IREC,, INITIALIZE SPS AND FORTRAN PROCESSOR		04664	31	02824	09770
12790	TDM	COMM+39,0,11,, OUTPUT FIELDS.		04676	15	02841	0000-
12800	TR	COMM,MREC		04688	31	02802	09821
12810	TD	SFDINT,MCOMM+3		04700	25	00426	02855
12820	TR	COMM+74,KREC,, DISABLE COMM SECTOR INDICATORS FOR		04712	31	02876	09804
12830	TDM	COMM+82,0,11,, SPS AND FORTRAN SUBROUTINE LOADERS.		04724	15	02884	0000-
12840	TFM	HIGH,SYSDRG		04736	16	00434	-2402
12850	TD	MB225+7,MCR01A		04748	25	04040	04455
12860	C	MCCBUF+11,MMO5+6,, TEST FOR -SPS- CARD.		04760	24	13011	09921
12870	BI	MSPO1,1200		04772	46	06198	01200
12880	C	MCCBUF+11,MMO6+6,, TEST FOR -SPSX- CARD.		04784	24	13011	09929
12890	BI	MSPO2,1200		04796	46	06218	01200
12900	C	MCCBUF+11,MMO7+6,, TEST FOR -FOR- CARD.		04808	24	13011	09937
12910	BI	MFT01,1200		04820	46	06550	01200
12920	C	MCCBUF+11,MMO8+6,, TEST FOR -FORX- CARD.		04832	24	13011	09945
12930	BI	MFT02,1200		04844	46	06570	01200
12940	C	MCCBUF+11,MMO9+6,, TEST FOR -DUP- CARD.		04856	24	13011	09953
12950	BI	MDO1,1200		04868	46	06806	01200
12960	C	MCCBUF+11,MMO10+6,, TEST FOR -XEQ- CARD.		04880	24	13011	09961
12970	BI	MXQ01,1200		04892	46	06910	01200
12980	C	MCCBUF+11,MMO11+6,, TEST FOR -XEQS- CARD.		04904	24	13011	09969
12990	BI	MXQ02,1200		04916	46	06942	01200

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13000	B	MCR01-12,MCCBUF+1,7,COMMENTS CARD -GC TO READ NEXT CNE.		04928	49	04056	J3001
13010	MCR06	DS	0,-4	04935		0	
13020	DC	2,XX		04941		2	
	XX						
13030	DSC	1,'		04942		1	
	'						
13040	MCR01A	DS	0,MCR04A+11	04455		0	
13050	*****	JOB CARD PROCESSOR					
13060	MJB01	BTM	UTO7,,, GO TO JOB CLOSE OUT ROUTINE.	04944	17	08782	-0000
13070	MJB02	BTM	UTO6,,, GO TO CONTROL RECORD TYPE-OUT ROUTINE.	04956	17	08494	-0000
13080	TFM	FO,++23,,, DECODE COL. 7.		04968	16	09598	-4991
13090	H	UT10,MJB02A,7		04980	49	09138	-5060
13100	BNF	MJB03,F4,, MUST RE-READ IF ANY ERROR.		04992	44	05074	09602
13110	BNF	MJB30,F1,, EXIT IF R.M.		05004	44	06150	09599
13120	BNF	MJB04,MDO1		05016	44	05142	09742
13130	MJB02X	RD	MJB03B,MCD01,, PROCEED IF PROPER DIGIT.	05028	43	05130	10690
13140	TFM	FO,MJB03,, NO -TYPE ERROR MESSAGE.		05040	16	09598	-5074
13150	B	LT10E		05052	49	09482	00000
13160	DORG	=-3		05060			
13170	MJB02A	DSC	4,0100	05060		4	
	0100						
13180	DC	2,7		05065		2	
	-7						
13190	DC	2,1		05067		2	
	-1						
13200	DSA	MJB02X+11		05072		5 X	1
13210	DSC	1,'		05072		-5039	
	'			05073		1	
13220	MJB03	RLTY		05074	34	00000	00102
13230	MJB03A	TDM	MCOMM+3,1,, CHANGE SOURCE INDICATOR.	05086	15	02855	00001
13240	TDM	M103,1,11,, INDICATE JOB CARD SEARCH.		05098	15	09841	00003
13250	TDM	MCUMM,0,, INDICATE JOB NOT BEGUN.		05110	15	02852	00000
13260	B	MCR01-12,,, GO TO CNTL CARD READ SUPERVISOR.		05122	49	04056	00000
13270	DORG	=-3		05130			
13280	MJB03B	TD	MCOMM+3,MFO2,11	05130	25	02855	09723
13290	MJB04	SF	MJB10,, INITIALIZE TO SCAN REMAINDER OF CARD.	05142	32	05250	00000
13300	SF	MJB15		05154	32	05574	00000
13310	TD	MJB11+11,COMM+49		05166	25	05377	02851
13320	TD	MJB20+8,COMM+49		05178	25	06034	02851
13330	TDM	MJB15A+11,1		05190	15	05488	00001
13340	TFM	MJB13A+4,MCOMM+5		05202	16	05544	-2857
13350	TFM	MJB17+11,4		05214	16	05941	-0004
13360	TFM	MJB50A+5,8,10		05226	16	06175	000-8
13370	TFM	MJB55A+5,12,10		05238	16	06189	00023
13380	MJB10	BNF	MJB12A+12,0,, IGNORE CONTROL CARD FIELD IF SCAN OVER.	05250	44	05494	05250
13390	TFM	FO,++23,, DECODE CURRENT DRIVE EQUIV. FIELD.		05262	16	09598	-5285
13400	B	UT10,MJB50A,7		05274	49	09138	-6170
13410	TDM	MJB12A+1,1,, SET ERROR RETURN SWITCH.		05286	15	05483	00001
13420	BNF	MJB12+20,F4,, CHECK FOR ANY ERROR.		05298	44	05418	09602
13430	BNR	++44,MDO1,, TEST IF CARD FINISHED.		05310	48	05354	09742
13440	CF	MJB10,,, YES -NO FURTHER SCAN OF FIELDS.		05322	33	05250	00000
13450	CF	MJB15		05334	33	05574	00000
13460	B	MJB12A+12		05346	49	05494	00000
13470	DORG	=-3		05354			

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13480	BNF	MJB12A+12,MDD1,,	IGNCRE A BLANK.	05354	44	05494	09742	
13490	MJB11	CM	MFO2,XX,610,	NO -CHECK IF WITHIN CORRECT RANGE.	05366	14	0972J	000-0
13500	BNF	MJB13,1300		05378	47	05514	01300	
13510	MJB12	TFM	FO,+20,,	NO -TYPE ERRCR MESSAGE.	05390	16	09598	-5410
13520	B	LT10E		05402	49	09482	00000	
13530	DORG	+3		05410				
13540	WATY	MM17		05410	39	10035	00100	
13550	RCTY			05422	34	00000	00102	
13560	H	...	WAIT FOR OPERATOR.	05434	48	00000	00000	
13570	BNF	MJB03,400,,	IF NO SSW4, SOURCE CHANGES TO TYPEWRITER.	05446	47	05074	00400	
13580	WATY	MM31,,	INDICATE THAT CONDITION IGNORED.	05458	39	10375	00100	
13590	RCTY			05470	34	00000	00102	
13600	MJB12A	NOP	MJB15A-20,,	NOP/BRANCH SWITCH.	05482	41	05658	00000
13610	TF	MFO2,MJB13A+6,611,,	ALLOW THE CLC EQUIVALENCE TO STAND.	05494	26	0972J	0554M	
13620	B	MJB13A+12		05506	49	05550	00000	
13630	DORG	+3		05514				
13640	MJB13	A	MFO2,MFO2,611,	COMPUTE PHYSICAL DRIVE CODE.	05514	21	0972J	0972J
13650	AM	MFO2,1,610		05526	11	0972J	000-1	
13660	MJB13A	TF	XX,MFO2,211,	MOVE TO MCOMM EQUIV TABLE.	05538	26	-0000	0972J
13670	AM	MJB13A+6,EQUIV-MCOMM-4,,	MOVE TO IORT EQUIV TABLE.	05550	11	05544	-073L	
13680	TF	MJB13A+6,MFO2,611		05562	26	0554M	0972J	
13690	MJB15	BNF	MJB15A-20,+,,	TEST IF R.M. ALREADY ENCOUNTERED.	05574	44	05658	05574
13700	TFM	FO,+23,,	NO -EXTRACT CURRENT PACK NO. FIELD.	05586	16	09598	-5609	
13710	B	LT10,MJB55A,7		05598	49	09138	-6184	
13720	TDM	MJB12A+1,9,,	SET SWITCH.	05610	15	05483	00009	
13730	BNF	MJB12+20,F4,,	CHECK FOR ANY ERROR.	05622	44	05410	09602	
13740	BNR	+24,MDD1,,	NO -TEST IF CARD FINISHED.	05634	45	05658	09742	
13750	CF	MJB15,,	YES -NO FURTHER SCAN OF PACK NO. FIELDS.	05646	33	05574	00000	
13760	BD	+2C,MJB13A+6,11,	SKIP TO END IF MODULE NOT ATTACHED.	05658	43	05678	0554M	
13770	B	MJB20		05670	49	06026	00000	
13780	DORG	+3		05678				
13790	MJB15A	TDM	MJB23,XX,10,	READ TRACK CONTAINING PACK NUMBER.	05678	15	06134	000-0
13800	TFM	IOXX,+23		05690	16	00565	-5713	
13810	B	IOGT,MJB22,7		05702	49	00566	-6126	
13820	BNF	MJB17,MJB15,,	IGNORE CHECK IF END OF CARD, OR	05714	44	05930	05574	
13830	BNF	MJB17,MDD1,,	BLANK FIELD, OR	05726	44	05930	09742	
13840	BNF	MJB17,F4,,	IGNORED ERROR IN FIELD.	05738	44	05930	09602	
13850	SF	14CCS,,	COMPARE THE PACK NUMBERS.	05750	32	14005	00000	
13860	C	14009,MFO2,11		05762	24	14009	0972J	
13870	RI	MJB17,1200		05774	46	05930	01200	
13880	TD	+23,MJB23,,	PACK NO. ERRCR. -GET MCDULE NUMBER.	05786	25	05809	06134	
13890	BTM	LT01,XX		05798	17	07958	-7000	
13900	TD	MM16+56,UT01-2		05810	25	10027	017A	
13910	WATY	MM16		05822	39	09971	00100	
13920	TF	MM17+72,MM32+14		05834	26	10107	10425	
13930	WATY	MM17		05846	39	10035	00100	
13940	TF	MM17+78,MM33+20		05858	26	10113	10447	
13950	RCTY			05870	34	00000	00102	
13960	H	...	WAIT FOR OPERATOR.	05882	48	00000	00000	
13970	HNI	MJB15A,400,,	RE-READ PACK NO. IF SSW4 OFF.	05894	47	05678	00400	
13980	WATY	MM31,,	TYPE CCNDITION IGNORED MESSAGE.	05906	39	10375	00100	
13990	RCTY			05918	34	00000	00102	
14000	MJB17	RTM	LT05,XX,,	READ IN DIM SECTOR FOR THIS LOGICAL	05930	17	08350	-0000
14010	SF	14CCO,,	MCDULE AND MOVE SECTOR ADDRESS FOR	05942	32	14000	00000	
14020	AM	UT05-1,5,,	THIS PACK TO PROPER DIM ENTRY.	05954	11	08349	-0005	
14030	TF	UT05-1,14004,6		05966	26	0834R	14004	

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14031	AM	UT05-1,1,610,	ADD 1 TO SECTOR ADDRESS.	05978	11	0834R	000-1	
14040	TD	MAPENT,TEMP-5,,	WRITE IT BACK OUT ON DISK.	05990	25	02144	02014	
14050	TFM	IOXX,+23		06002	16	00565	-6025	
14060	B	IORBC,MJB21,7		06014	49	00520	-6118	
14070	MJB20	SM	+*8,1,710,	EXIT IF ALL MODULES FOR THIS	06026	12	06034	-00-1
14080	BNF	MJB30,1100,,	CONFIGURATION PROCESSED.	06038	47	06150	01100	
14090	AM	MJB13A+6,MCOMM-EQUIV+6		06050	11	05544	-C735	
14100	AM	MJB15A+11,2,10		06062	11	05689	000-2	
14110	AM	MJB17+11,1		06074	11	05941	-0001	
14120	AM	MJB50A+5,1,10		06086	11	06175	000-1	
14130	AM	MJB55A+5,5,10		06098	11	06189	000-5	
14140	B	MJB10,,	REPEAT FOR NEXT LOGICAL MODULE.	06110	49	05250	00000	
14150	DORG	+3		06118				
14160	MJB21	DSC	2,22	06118		2		
14170	DSA	LT05B		06124		5 X	1	
14180	DSC	1,1		06124		-8468		
14190	MJB22	DSC	2,26	06125		1		
14200	DSA	MJB23		06126		2		
14210	DSC	1,1		06132		5 X	1	
14220	MJB23	DSC	1,1	06132		-6134		
14230	DSA	19800		06133		1		
14240	DC	3,20		06134		1		
14250	DSA	14000		06139		5 X	1	
14260	DSC	1,1		06139		J9800		
14270	MJB30	TDM	MIO3,0,,	DISABLE JOB CARD SEARCH.	06142	3		
14280	B	MCR01-12,,	GO READ ANOTHER CNTL CARD.	06147		5 X	1	
14290	DORG	+3		06147		J4000		
14300	MJB50A	DSC	4,0100	06148		1		
14310	DC	2,0		06148		1		
14320	DC	2,1		06175		2		
14330	DSC	6,0'		06177		2		
14340	MJB55A	DSC	4,0100	06178		6		
14350	DC	2,0		06178		2		
14360	DC	2,5		06184		4		
		-5		06189		2		
				06191		2		

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14370	DSC 6,0'		06192	6	
14380	*****	SPS AND SPSX CNTL CARD PROCESSOR			
14390	MSP01	TDM MCOMM+1,3,,	06198	15	02853 00C03
14400	B	*+20	06210	49	06230 00000
14410	DORG	*-3	06218		
14420	MSP02	TDM MCOMM+1,3,11,	06218	15	02853 0000L
14430	TDM	MCOMM+1,,	06230	15	02852 00C01
14440	TDM	MCOMM+12,5	06242	15	02864 00005
14450	TFM	FO,+23,,	06254	16	09598 -6277
14460	B	UTIC,MSP05A,7	06266	49	09138 -6493
14470	TD	*+23,SFDINT,,	06278	25	06301 00426
14480	BD	*+20,MCDD1	06290	43	06310 10690
14490	B	UTIOE,,,	06302	49	09482 00000
14500	DORG	*-3	06310		
14510	BNF	MSP03,F1	06310	44	06430 09599
14520	BNF	MSP03,MCOMM+1,,	06322	44	06430 02853
14530	TFM	FO,+23,,	06334	16	09598 -6357
14540	B	UTIC,MSP05B,7	06346	49	09138 -6507
14550	BNF	MSP03,F1	06358	44	06430 09599
14560	TFM	FO,+23,,	06370	16	09598 -6393
14570	B	LTIO,MSP05C,7	06382	49	09138 -6521
14580	BNF	MSP03,F1	06394	44	06430 09599
14590	TFM	FO,+23,,	06406	16	09598 -6429
14600	B	LTIC,MSP05D,7	06418	49	09138 -6535
14610	MSP03	TR MRO2,SPSDDA,,	06430	31	09744 10802
14620	BNR	MSP04,MRO2,,	06442	45	06474 09744
14630	TFM	POINT,8,,	06454	16	09768 -0008
14640	B	MBO80A	06466	49	03346 00000
14650	DORG	*-3	06474		
14660	MSP04	TDM MDC2,4,	06474	15	09743 00C04
14670	H	MBOE1+12	06486	49	03402 00C00
14680	DORG	*-4	06493		
14690	MSP05A	DSC 4,0101	06493		4
		0101			
14700	DC	2,7	06498		2
		-7			
14710	CC	2,1	06500		2
		-1			
14720	DSA	SFDINT	06505		5 X 1
			06505		-0426
14730	DSC	1,1	06506		1
14740	MSP05B	DSC 4,0101	06507		4
		0101			
14750	CC	2,8	06512		2
		-8			
14760	CC	2,2	06514		2
		-2			
14770	DSA	COMM+81	06519		5 X 1
			06519		-2883
14780	DSC	1,1	06520		1
14790	MSP05C	DSC 4,0101	06521		4
		0101			

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14800	DC	2,10	06526		2
		JO			
14810	DC	2,1	06528		2
		-1			
14820	DSA	COMM+77	06533		5 X 1
			06533		-2879
14830	DSC	1,1	06534		1
14840	MSP05D	DSC 4,0101	06535		4
		0101			
14850	CC	2,11	06540		2
		J1			
14860	DC	2,2	06542		2
		-2			
14870	DSA	COMM+79	06547		5 X 1
			06547		-2881
14880	DSC	1,1	06548		1
14890	*****	FOR AND FORX CNTL CARD PROCESSOR.			
14900	MFT01	TDM MCOMM+1,4,,	06550	15	02853 00004
14910	B	*+20	06562	49	06582 00000
14920	DORG	*-3	06570		
14930	MFT02	TDM MCOMM+1,4,11,	06570	15	02853 0000H
14940	TDM	MCOMM+1,,	06582	15	02852 00C01
14950	TDM	MCOMM+12,5	06594	15	02864 00005
14960	TFM	FO,+23,,	06606	16	09598 -6429
14970	B	UTIC,MSP05A,7	06618	49	09138 -6493
14980	TD	*+23,SFDINT,,	06630	25	06653 00426
14990	BD	*+20,MCDD1	06642	43	06662 10690
15000	B	UTIOE,,,	06654	49	09482 00000
15010	DORG	*-3	06662		
15020	BNF	MFT03,F1	06662	44	06734 09599
15030	TFM	FO,+23,,	06674	16	09598 -6497
15040	B	UTIC,MFT05B,7	06686	49	09138 -6778
15050	BNF	MFT03,F1	06698	44	06734 09599
15060	TFM	FO,+23,,	06710	16	09598 -6733
15070	B	LTIO,MFT05C,7	06722	49	09138 -6792
15080	MFT03	TR MRO2,FORDDA,,	06734	31	09744 10822
15090	BNR	MSP04,MRO2,,	06746	45	06474 09744
15100	TFM	POINT,136	06758	16	09768 -0134
15110	B	MBO80A	06770	49	03346 00000
15120	DORG	*-3	06778		
15130	MFT05B	DSC 4,0101	06778		4
		0101			
15140	CC	2,8	06783		2
		-8			
15150	CC	2,1	06785		2
		-1			
15160	DSA	COMM+82	06790		5 X 1
			06790		-2884
15170	DSC	1,1	06791		1
15180	MFT05C	DSC 4,0101	06792		4
		0101			

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15190	DC	2,9		06797		2	
15200	DC	2,2		06799		2	
15210	DSA	COMM+75		06804		5	X 1
15220	DSC	1,		06804		-2877	
				06805		1	
15230	*****	DUP CNTL CARD PROCESSOR					
15240	MDP01	TDM MCOMM+1,2,,	SET PHASE INDICATOR.	06806	15	02853	0C002
15250		TDM MCOMM,1,,	INDICATE PHASE BEGUN.	06818	15	02852	0C001
15260		TDM MCOMM+12,6,,	SET DUP INDICATOR.	06830	15	02864	00006
15270		TDM MD02,4,,	SET SYSCAL CODE.	06842	15	09743	0C004
15280		TFM FO,+23,,	DECODE COL. 7.	06854	16	09598	-6877
15290		B LT10,MSP05A,7		06866	49	09138	-6493
15300		TD ++2?,SFDINT,,	TEST IF LEGITIMATE.	06878	25	06901	00426
15310		RD MB080+24,MCD01		06890	43	03298	10690
15320		B UTICE,,	NO -KILL THIS PHASE.	06902	49	09482	0C000
15330		DORG --3		06910			
15340	*****	XEQ AND XEQS CNTL CARD PROCESSOR					
15350	MXQ01	CF FSPS,,	SET XEQ ENTRY INDICATORS.	06910	33	00429	00000
15360		TFM MXQ03B+11,27,10		06922	16	07157	000K7
15370		B MXQ02+24		06934	49	06966	0C000
15380		DORG --3		06942			
15390	MXQ02	SF FSPS,,	SET XEQS ENTRY INDICATORS.	06942	32	00429	00000
15400		TFM MXQ03B+11,34,10		06954	16	07157	0C0L4
15410		TDM MCOMM,1,,	INDICATE PHASE BEGUN.	06966	15	02852	0C001
15420		TDM MCOMM+1,1,11		06978	15	02853	0C00J
15430		TDM MCOMM+12,4,,	SET OBJECT PROGRAM INDICATOR.	06990	15	02864	00004
15440		BNF ++20,MCOMM+2,,	TEST IF EXECUTION IS INHIBITED	07002	44	07022	02854
15450		B UT10F,,	YES -TYPE MESSAGE AND FINISH UP JOB.	07014	49	09550	0C000
15460		DORG --3		07022			
15470		TFM FO,+23,,	DETERMINE IF COLS. 7-12 LEGITIMATE.	07022	16	09598	-7045
15480		B LT10,MXQ50,7		07034	49	09138	-7813
15490		BC MXQ07,MD01		07046	43	07418	09742
15500		BNF MXQ03,MD01		07058	44	07078	09742
15510		B UT10E,,	NO -NAMES MUST BE NON-NUMERIC.	07070	49	09482	0C000
15520		DORG --3		07078			
15530	MXQ03	TFM MXQ03A+23,MXQ55,,	INITIALIZE TO DECODE REST OF CARD.	07078	16	07113	-7827
15540	MXQ03A	TFM FO,+23,,	PERFORM THE SCAN.	07090	16	09598	-7115
15550		B UT10,XX		07102	49	09138	00000
15560		AM --1,14		07114	11	07113	-0014
15570		BNR ++20,MD01,,	TEST FOR R.M.	07126	45	07146	09742
15580		B MXQ04-24,,	YES -END OF CARD.	07138	49	07170	00000
15590		DORG --3		07146			
15600	MXQ03B	CM F5,XX		07146	14	09604	-0000
15610		BNI MXQ03A,1300		07158	47	07090	01300
15620		RD MXQ12,LDINPT,,	BRANCH IF NON-DISK LOAD INPUT.	07170	43	07674	00428
15630		BNF MXQ11,COMM+35,,	BRANCH IF PROGRAM NAME SUPPLIED.	07182	44	07642	02837
15640	MXQ04	BNF MXQ05,COMM+39,,	TEST IF DIM ENTRY PICKED UP.	07194	44	07226	02841
15650		WATY MM37,,	NO -TYPE ERROR MESSAGE AND CLCSE JOB.	07206	39	10487	00100
15660		B UT10F		07218	49	09550	00000
15670		DORG --3		07226			
15680	MXQ05	DT LT05,COMM+39,,	GO TO PICK UP THE DIM ENTRY.	07226	27	08350	02841
15690		TR MR02,UT05-1,11,	MOVE FOR LOAD ROUTINE.	07238	31	09744	0834F

15700	BNR	++20,MR02,,	TEST IF EMPTY.	07250	45	07270	09744
15710		B MXQ04+12,,	YES -ERROR.	07262	49	07206	00000
15720		DORG --3		07270			
15730		TF MF01,MR02+13,,	DETERMINE IF RELOCATABLE.	07270	26	09716	09757
15740		CF MF01		07282	33	09716	0C000
15750		CM MF01,99999		07294	14	09716	R9999
15760		BI MXQ06A,1200		07306	46	07338	01200
15770	MXQ06	TFM MXQ06C+6,MB190,,	NO -FORCE UPDATING OF HIGH INDICATOR.	07318	16	07416	-3710
15780		B MXQ06B		07330	49	07386	0C000
15790		DORG --3		07338			
15800	MXQ06A	BNF ++24,COMM+8,,	YES -MOVE IN LOAD ADDRESS IF ANY.	07338	44	07362	02810
15810		TF MB225+11,COMM+12		07350	26	04044	02814
15820		CF MB225+11		07362	33	04044	00000
15830		BNF MXQ06C+6,MB195		07374	16	07416	-3722
15840	MXQ06B	TFM ++24,COMM+13,,	MOVE IN ENTRY ADDRESS IF SUPPLIED.	07386	44	07410	02815
15850		TF MR02+18,COMM+17		07398	26	09762	02819
15860	MXQ06C	B MB195,,	MB190 OR MB195.	07410	49	03722	00000
15870		DORG --3		07418			
15880	MXQ07	CF MCCBUF+14,,	CLEAR EXCESS FLAGS IN NAME FIELD.	07418	33	13014	00000
15890		CF MCCBUF+16		07430	33	13016	00000
15900		CF MCCBUF+18		07442	33	13018	00000
15910		CF MCCBUF+20		07454	33	13020	00000
15920		CF MCCBUF+22		07466	33	13022	00000
15930	MXQ08	TFM ABC3+30,MXQ09,,	INITIALIZE FOR EQUIVALENCE TABLE SEARCH.	07478	14	11064	-7590
15940		TFM AB03+50,MXQ10		07490	16	11084	-7610
15950		TFM AB03+43,MCCBUF+23		07502	16	11077	J3023
15960		TF COMM+35,MCCBUF+23		07514	26	02837	13023
15970		TD AB09A,EQUDDA		07526	25	11379	10862
15980		BNR ++20,EQUDDA		07538	45	07558	10862
15990		B ++20		07550	49	07570	0C000
16000		DORG --3		07558			
16010		TF AB09A+5,EQUDDA+5		07558	26	11384	10867
16020		TFM MXQ03A+23,MXQ55+14		07570	16	07113	-7841
16030		B MXQ03A,,	RETURN TO DECODE REST OF CARD.	07582	49	07090	00000
16040		DORG --3		07590			
16050	MXQ09	WATY MM38,,	COULD NOT FIND -TYPE ERROR MESSAGE.	07590	39	10523	00100
16060		B UT10F,,	FINISH UP.	07602	49	09550	0C000
16070		DORG --3		07610			
16080	MXQ10	AM AB03+11,4,,	MOVE CORRESPONDING DIM NUMBER TO	07610	11	11045	-0004
16090		TF COMM+39,AB03+11,11,	TO THE COMM SECTOR.	07622	26	02841	1104N
16100		B MXQ05,,	GO PICK UP THE DIM ENTRY.	07634	49	07226	00000
16110		DORG --3		07642			
16120	MXQ11	BNR AB02-12,EQUDDA,,	GO TO EQU TABLE SEARCH IF DDA VALID.	07642	45	10986	10862
16130		TFM POINT,2,,	NO -TYPE ERROR MESSAGE.	07654	16	09768	-0002
16140		B MB080A		07666	49	03346	00000
16150		DORG --3		07674			
16160	MXQ12	TD ++23,LDINPT,,	TEST FOR LEGITIMACY OF INPUT DEVICE.	07674	25	07697	00428
16170		BD MXQ13,MCD05		07686	43	07718	10730
16180		TFM POINT,27,9,	NO -TYPE MESSAGE AND EXIT.	07698	16	09768	00-27
16190		B UT10E		07710	49	09482	00000
16200		DORG --3		07718			
16210	MXQ13	TR MR02,MXQ20,,	SET UP TO EXECUTE LOADER CALLER.	07718	31	09744	07798
16220		TD DIMENT+14,MCRQ1A		07730	25	00416	04455
16230		BNF ++24,COMM+13		07742	44	07766	02815
16240		TF DIMENT+18,COMM+17		07754	26	00420	02819
16250		BNF ++24,COMM+8		07766	44	07790	02810

16260	TF	HIGH,COMM+12		07778	26	00434	02814
16270	B	MB195		07790	49	03722	00000
16280	DORG	=-3		07798			
16290	MXQ20	DSC 1,1		07798			
16300	DSA	DSA15		07803		5 X	1
16310	DC	3,3		07803		J9783	
	-03			07806			3
16320	DC	6,0*		07812			6
	-0000*						
16330	MXQ50	DSC 4,1CD1,,	PROGRAM NAME.	07813			4
	1001						
16340	DC	2,7		07818			2
	-7						
16350	DC	2,6		07820			2
	-6						
16360	DSC	6,0*		07821			6
	00000*						
16370	MXQ55	DSC 4,0101,,	DIP NUMBER.	07827			4
	0101						
16380	DC	2,13		07832			2
	J3						
16390	DC	2,4		07834			2
	-4						
16400	DSA	COMM+39		07839		5 X	1
16410	DSC	1,1		07839		-2841	
				07840			1
16420	DSC	4,0101,,	LOAD ADDRESS.	07841			4
	0101						
16430	DC	2,17		07846			2
	J7						
16440	DC	2,5		07848			2
	-5						
16450	DSA	COMM+12		07853		5 X	1
16460	DSC	1,1		07853		-2814	
				07854			1
16470	DSC	4,0101,,	ENTRY ADDRESS.	07855			4
	0101						
16480	DC	2,22		07860			2
	K2						
16490	DC	2,5		07862			2
	-5						
16500	DSA	COMM+17		07867		5 X	1
16510	DSC	1,1		07867		-2819	
				07868			1
16520	DSC	4,0101,,	INPUT SOURCE.	07869			4
	0101						
16530	DC	2,27		07874			2
	K7						

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16540	DC	2,1		07876			2
	-1						
16550	DSA	LDINPT		07881		5 X	1
16560	DSC	1,1		07881		-0428	
				07882			1
16570	DSC	4,0101,,	SUBROUTINE SET IDENTIFICATION FOR FORTRA	07883			4
	0101						
16580	DC	2,28		07888			2
	K8						
16590	DC	2,1		07890			2
	-1						
16600	DSA	COMM+82		07895		5 X	1
16610	DSC	1,1		07895		-2884	
				07896			1
16620	DSC	4,0101,,	CONTROL CARD COUNT FOR FORTRAN.	07897			4
	0101						
16630	DC	2,29		07902			2
	K9						
16640	DC	2,2		07904			2
	-2						
16650	DSA	COMM+75		07909		5 X	1
16660	DSC	1,1		07909		-2877	
				07910			1
16670	DSC	4,0101,,	SPS SUBROUTINE SET.	07911			4
	0101						
16680	DC	2,31		07916			2
	L1						
16690	DC	2,2		07918			2
	-2						
16700	DSA	COMM+81		07923		5 X	1
16710	DSC	1,1		07923		-2883	
				07924			1
16720	DSC	4,0101,,	SPS NOISE DIGIT.	07925			4
	0101						
16730	DC	2,33		07930			2
	L3						
16740	DC	2,1		07932			2
	-1						
16750	DSA	COMM+77		07937		5 X	1
16760	DSC	1,1		07937		-2879	
				07938			1
16770	DSC	4,0101,,	SPS MANTISSA LENGTH.	07939			4
	0101						
16780	DC	2,34		07944			2
	L4						
16790	DC	2,2		07946			2
	-2						

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16800	DSA	COMM+79		07951	5	X	1
16810	DSC	1,'		07951 07952	-2881 1		
16820	*****	ROUTINE TO MULTIPLY A DIGIT BY FIVE -RESULT IS A FIVE					
16830	*	DIGIT FIELD ADDRESSED AT UT01-1					
16840	DC	5,0,,,	CALLING SEQUENCE	07957	5		
16850	UT01	TFM	*-2,0,8, TD *+23,DIGIT	07958	16	07956	0-000
16860		CF	UTC1-1,,7, BTM UT01,0	07970	33	07957	-0000
16870		TD	*-1,UT01-1	07982	25	07981	07957
16880		A	UT01-1,UT01-1	07994	21	07957	07957
16890		A	UT01-1,UT01-1	08006	21	07957	07957
16900		A	UT01-1,UT01+23	08018	21	07957	07981
16910		BB		08030	42	00000	00000
16920		DORG	*-9	08032			
16930	*****	ROUTINE TO EXTRACT NUMERICAL STRIP FROM MONITOR CONTROL					
16940	*	CARD READ IN AREA (MONITOR READ IN AREA HAS FLAGS IN EVERY					
16950	*	EVEN DIGIT POSITION)					
16960	DC	5,0,,	CALLING SEQUENCE	08036	5		
16970	UT03	TDM	M001,0,,	08038	15	09742	0C000
16980		TFM	MFO2,MFO3-20,, BTM MFO1,NCHAR	08050	16	09721	-9721
16990		A	MFO1,MFO1,, BTM UT03,ACDR	08062	21	09716	09716
17000		A	MFO1,UT03-1,,	08074	21	09716	08037
17010	UT03A	TF	UTC3B+8,UT03-1,11, WHERE NCHAR IS THE NUMBER OF CHARS.	08086	26	08156	0803P
17020		BNR	*+26,UT03B+8,, IN THE FIELD,ACDR IS THE ADDRESS OF	08098	45	08124	08156
17030		TDM	M001,0,, THE FIELD -AS IT WOULD BE ADDRESSED	08110	15	09742	00000
17040		DORG	*,, FOR AN ALPHAMERIC TOP (SECOND DIGIT).	08121			
17050		DSC	1,',,	08121	1		
17060		BB	,,, UPON RETURN, M001 CONTAINS MINUS ZERO	08122	42	00000	0C000
17070		DORG	*-9,, IF THE FIELD WAS PURE NUMERIC, PLUS	08124			
17080		AM	MFO2,1,, ZERO IF BLANK, A RECCRD MARK IF IT	08124	11	09721	-0001
17090		TD	MFO2,UT03B+8,6, CONTAINED A RECORD MARK, AND PLUS ONE	08136	25	0972J	08156
17100	UT03B	CM	*+8,0,710,, IF THE FIELD WAS NON-NUMERIC.	08148	14	08156	-00-0
17110		BNI	*+38,12C0,,	08160	47	08198	01200
17120		BNF	LTC3C,M001,, A ONE DIGIT SOURCE FIELD IS ALWAYS TRANS-	08172	44	08234	09742
17130		TDM	M001,1,, FERRER INTO A TWO DIGIT OBJECT FIELD.	08184	15	09742	00001
17140		BB	,,, SOURCE FIELDS OF MORE THAN ONE DIGIT	08196	42	00000	00000
17150		DORG	*-9,, RETAIN THEIR ORIGINAL DIGIT COUNT.	08198			
17160		CM	UTC3B+8,70,10, LOCATION OF THE OBJECT FIELD IS GIVEN	08198	14	08156	000+
17170		BNI	LTC3B+36,1300,, BY MFO2 (IT WILL BE IN MFO3)	08210	47	08184	01300
17180		TDM	M001,0,11	08222	15	09742	0000-
17190	UT03C	AM	UTC3-1,2	08234	11	08037	-0002
17200		C	LTC3-1,MFO1	08246	24	08037	09716
17210		MNI	LTC3A,1300	08258	47	08086	01300
17220		CM	MFO2,MFO3-19	08270	14	09721	-9722
17230		BNI	*+48,12C0	08282	47	08330	01200
17240		TC	MFO3-18,MFO3-19	08294	25	09723	09722
17250		TDM	MFO3-19,0	08306	15	09722	00000
17260		TFM	MFO2,MFO3-18	08318	16	09721	-9723
17270		SF	MFO3-19	08330	32	09722	00000
17280		BB		08342	42	00000	00000
17290		DORG	*-9	08344			

17300	*****	MONITOR SUBROUTINE TO READ A MAP SECTOR INTO 0-99					
17310	DC	5,0		08348	5		
17320	UT05	TR	UT05B,MAPSCT,, CALLING SEQUENCE	08350	31	08468	01847
17330		A	UT05B+6,UT05-1,, BTM UT05,DIMNUM	08362	21	08474	08349
17340		A	UT05B+6,UT05-1,, WHERE DIMNUM IS THE DIM ENTRY	08374	21	08474	08349
17350		TD	UT05A+11,UT05B+8,, WHICH IS DESIRED IN THIS SECTOR.	08386	25	08457	08474
17360		TDM	UT05B+6,0,11, UPON RETURN UT05-1 CONTAINS CORE	08398	15	08474	0000-
17370		TFM	IDXX,*+23,, ADDRESS OF THE REQUESTED ENTRY	08410	16	00565	-8433
17380		B	IDGT,UT05A1,7, (=0,20,40,60,80)	08422	49	00566	-8460
17390		TFM	UT05-1,0	08434	16	08349	-0000
17400	UT05A	TDM	UT05-2,XX	08446	15	08348	0C000
17410		BB		08458	42	00000	0C000
17420		DORG	*-9	08460			
17430	UT05A1	DSC	2,22	08460	2		
17440	DSA	UT05B		08466	5	X	1
17450		DSC	1,'	08466	-8468		
17460	UT05B	DSC	20,0	08468	20		
17470	*****	SUBROUTINE TO TYPE A MONITOR CONTROL CARD.					
17480	DC	5,0		08492	5		
17490	UT06	BNF	*+14,MCRO2A+11,11, RETURN IF INPUT FROM THE TYPEWRITER.	08494	44	08508	0412P
17500		BB		08506	42	00000	0C000
17510		DORG	*-9	08508			
17520		RCY	,,, RESTORE TYPEWRITER CARRIAGE.	08508	34	00000	00102
17530		TFM	UT06A+11,MCCBUF+11,,DETERMINE LAST NON-BLANK COLUMN OF	08520	16	08551	J3011
17540		B	UT06B+12,, CARD.	08532	49	08632	0C000
17550		DORG	*-3	08540			
17560	UT06A	BD	UT06B,XX	08540	43	08620	00000
17570		AM	UT06A+11,1	08552	11	08551	-0001
17580		BD	UTC6B+12,UT06A+11,11	08564	43	08632	0855J
17590		AM	UT06A+11,1	08576	11	08551	-0001
17600		CM	UT06A+11,MCCBUF+160	08588	14	08551	J3160
17610		BNI	UTC6A,1300	08600	47	08540	01300
17620		B	UTC6C	08612	49	08652	0C000
17630		DORG	*-3	08620			
17640	UT06B	AM	UT06A+11,1	08620	11	08551	-0001
17650		TF	UT06D+11,UT06A+11	08632	26	08725	08551
17660		B	UT06B-44	08644	49	08576	00000
17670		DORG	*-3	08632			
17680	UT06C	TD	1999B,MCCBUF+1,, DUMP INITIAL RECORD MARKS.	08652	25	1999B	13001
17690		TD	1999B,MCCBUF+3	08664	25	1999B	13003
17700		DNTY	1999B	08676	35	1999B	00100
17710		BNR	*+14,MCCBUF+5,, RETURN IF R.M. IN COL. 3.	08688	45	08702	13005
17720		BB		08700	42	00000	00000
17730		DORG	*-9	08702			
17740		AM	*+23,2,, SET R.M. AFTER LAST SIGNIFICANT CHAR.	08702	11	08725	-0002
17750	UT06D	TD	UT06E+11,XX	08714	25	08773	00000
17760		TD	*-1,MCRO1A,6	08726	25	0872N	04455
17770		WATY	MCCBUF+5,, TYPE REMAINDER OF CARD.	08738	39	13005	00100
17780		RCY		08750	34	00000	00102

17790	UTO6E	TDM	UTO6D+11,XX,6,	RESTORE DIGIT.	08762	15	0872M	00000
17800		BB			08774	42	00000	00000
17810		DORG	--9		08776			
17820	*****			JOB CLOSE-OUT SUBROUTINE.				
17830		DC	5,C		08780		5	
			-0000					
17840	UT07	BD	**14,MCOMM,,	FORGET IT IF WE HAVEN-T DONE ANYTHING.	08782	43	08796	02852
17850		BB			08794	42	00000	00000
17860		DORG	--9		08796			
17870		BD	**44,UT07-1,,	TYPE END OF JOB MESSAGE IF FORCED.	08796	43	08840	08781
17880		TD	**23,MCOMM+3,,	NO -TYPE ONLY IF THE CONTRGL CARD	08808	25	08831	02855
17890		BD	**20,MCO05,,	SOURCE IS NOT THE TYPEWRITER	08820	43	08840	10730
17900		B	**20		08832	49	08852	00000
17910		DORG	--3		08840			
17920		WATY	MM21		08840	39	10169	00100
17930		RCTY			08852	34	00000	00102
17940		TD	UT07C,MCOMM+5		08864	25	09122	02857
17950		TDM	LTO7A1+11,0		08876	15	09003	00000
17960		B	**2C		08888	49	08908	00000
17970		DORG	--3		08896			
17980	UT07A	34	UTC7C,701,,	REFRESH THE COMMON REGION AND THE	08896	34	09122	00701
17990		BI	**12,600,,	OVRLAY READ ROUTINE.	08908	46	08920	00600
18000		BI	**12,700		08920	46	08932	00700
18010		BI	**12,1600		08932	46	08944	01600
18020		BI	**12,1700		08944	46	08956	01700
18030		36	UT07C,702		08956	36	09122	00702
18040		BNI	LTO7B,1900		08968	47	09060	01900
18050		TD	**23,**23,11,		08980	25	09003	09001
18060	UT07A1	BD	UTC7A,MCD11		08992	43	08896	1C790
18070		WATY	MM22,,,	COMPLAIN LOUCLY IF ANY ERROR.	09004	39	10191	00100
18080		WATY	MM23		09016	39	10277	00100
18090		RCTY			09028	34	00000	00102
18100		H	,,,	OPERATOR MUST RESET AND START TC RETRY.	09040	48	00000	00000
18110		B	UT07A		09052	49	08896	00000
18120		DORG	--3		09060			
18130	UT07B	TDM	MCOMM,0,,	INITIALIZE NECESSARY INDICATORS AND	09060	15	02852	00000
18140		TDM	MCOMM+1,0,,	FIELDS.	09072	15	02853	00000
18150		TDM	MCOMM+2,0		09084	15	02854	00000
18160		TDM	M103,1,11		09096	15	09841	0000J
18170		TD	IBMMOD,MCOMM+5		09108	25	00440	02857
18180		BB	,,,	BOUNCE BACK.	09120	42	00000	00000
18190		DORG	--9		09122			
18200	UT07C	DSC	1,1		09122		1	
		I						
18210		OSA	DSAC4		09127		5 x	1
18220		DC	3,1		09127		J9639	
		-C1			09130		3	
18230		DC	6,402*		09136		6	
		-0402*						
18240	*****			SUBROUTINE TO DETERMINE VALIDITY OF A CONTROL CARD FIELD.				
18250	UT10	TF	**23,F0,11,	MOVE CALLING SEQUENCE RECORD.	09138	26	09161	09590
18260		TR	F1,XX		09150	31	09599	00000
18270		AM	F0,1,,	COMPUTE NORMAL RETURN ADDRESS.	09162	11	09598	-C001
18280		TF	POINT,F5,,	INITIALIZE COLUMN TYPE-OUT POINTER.	09174	26	09768	09604

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18290		CF	POINT-1		09186	33	09767	00000
18300		SF	F1,,,	INITIALIZE RETURN INC. FLAGS.	09198	32	09599	00000
18310		SF	F4		09210	32	09602	00000
18320		TFM	UT10A+23,MCCBUF-1,,	INITIALIZE CALL TO UT03.	09222	16	09293	J2999
18330		A	UT10A+23,F5		09234	21	09293	09604
18340		A	UT10A+23,F6		09246	21	09293	09604
18350		TD	UT10A+11,F6		09258	25	09281	09606
18360	UT10A	TFM	MFO1,XX,,	EXTRACT NUMERIC STRIP IF ANY.	09270	16	09716	-0000
18370		BTH	LTO3,XX		09282	17	08038	-0000
18380		BNR	LTOB,MDD1,,	NO -CHECK FOR R.M.	09294	45	09338	09742
18390		CF	F1,,,	YES -SET INDICATOR.	09306	33	09599	00000
18400		BD	UT10E,F1,	GO TO ERROR ROUTINE IF NOT ALLOWED.	09318	43	09482	09599
18410		B	F0,,6		09330	49	09590	00000
18420		DORG	--3		09338			
18430	UT10B	BD	UT10C,MDD1,,	GO TO ALPHA-S TEST IF ALPHANERIC.	09338	43	09442	09742
18440		BNF	UT10D,MDD1,,	GO TO BLANK-S TEST IF BLANK.	09350	44	09462	09742
18450		BNF	F0,F7-4,6,	NUMERIC -EXIT IF NO MOVE DESIRED.	09362	44	09590	09607
18460		CM	F6,1,10,	NUMERIC -MOVE DIGIT OR A FIELD.	09374	14	09606	000-1
18470		BNI	**24,1200		09386	47	09410	01200
18480		TDM	**13,5		09398	15	09411	00005
18490		TF	F7,MFO2,611		09410	26	0941J	0972J
18500		TDM	--11,6		09422	15	09411	00006
18510		B	F0,,6		09434	49	09590	00000
18520		DORG	--3		09442			
18530	UT10C	BD	UT10E,F2,,	GO TO ERROR IF ALPHA-S NOT ALLOWED.	09442	43	09482	09600
18540		B	F0,,6		09454	49	09590	00000
18550		DORG	--3		09462			
18560	UT10D	BD	UT10E,F3,,	GO TO ERROR IF BLANK-S NOT ALLOWED.	09462	43	09482	09601
18570		B	F0,,6		09474	49	09590	00000
18580		DORG	--3		09482			
18590	UT10E	WATY	MM39,,,	TYPE ERROR MESSAGE.	09482	39	10561	00100
18600		WNTY	POINT-1		09494	38	09767	00100
18610		WATY	MM45		09506	39	10647	00100
18620		BD	UT10F,F4,,	BRANCH IF PHASE TO BE DELETED.	09518	43	09550	09602
18630		CF	F4,,,	SET RETURN IND.	09530	33	09602	00000
18640		B	F0,,6		09542	49	09590	00000
18650		DORG	--3		09550			
18660	UT10F	WATY	MM40,,,	TYPE PHASE DELETED MESSAGE	09550	39	10609	00100
18670		RCTY			09562	34	00000	00102
18671		TDM	M101,0,,,	TURN OFF ALREADY READ INDICATOR	09574	15	09840	00000
18680		B	MB140,,	WIND-UP.	09586	49	03658	00000
18690		DORG	--3		09594			
18700	F0	DC	5,0,,	CALL AND RETURN VECTOR.	09598		5	
		-0000						
18710	F1	DSC	1,0,,	R.M. ERROR.	09599		1	
		0						
18720	F2	DSC	1,C,,	ALPHA ERROR.	09600		1	
		0						
18730	F3	DSC	1,0,,	BLANK ERROR.	09601		1	
		0						
18740	F4	DSC	1,0,,	END PHASE ON ANY ERROR.	09602		1	
		0						
18750	F5	DC	2,0,,	STARTING CARD COL.	09604		2	
		-0						
18760	F6	DC	2,0,,	FIELD LENGTH.	09606		2	
		-0						

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18770 F7	DC 5,0,,	MOVE TO ADDRESS FOR NUMERIC DATA.	09611	5
	-CCOO			
18780	DSC 1,,		09612	1
18790 *****		NON EXECUTE TESTER.		
18800	DC 5,0		09617	5
	-0000			
18810 UT11	BD **24,*-1,,	PICK THE ENTRY.	09618	43 09642 09617
18820	BNF LT11A*12,NONEX,,	TEST IF EXECUTE INHIBITOR IS ON.	09630	44 09710 00457
18830	BNF **20,MCOMM*2,,	YES -TYPE ONLY IF NOT ALREADY TYPED.	09642	44 09662 02854
18840	B LT11A		09654	49 09698 00000
18850	DORG *-3		09662	
18860	WATY MM19		09662	39 10119 00100
18870	KCTY		09674	34 00000 00102
18880	SF MCOMM*2,,	TURN ON EXECUTION INHIBITOR.	09686	32 02854 00000
18890 UT11A	CF NONEX		09698	33 00457 00000
18900	BB		09710	42 00000 00000
18910	DORG *-9		09712	
18920 *****		MONITOR SCRATCH FIELDS		
18930 MF01	DC 5,C		09716	5
	-0000			
18940 MF02	DC 5,0		09721	5
	-0000			
18950 MF03	DC 20,C		09741	20
	-000000000000000000			
18960 MD01	DSC 1,0		09742	1
	0			
18970 MD02	DSC 1,0		09743	1
	0			
18980 MR02	DSC 20,0',,	HOLDS DDA FOR PROGRAM MONITOR IS CALLING.	09744	20
	000000000000000000'			
18990 POINT	DC 5,0,,	LOCKY HERE, MA.	09768	5
	-0000			
19000	DSC 1,,		09769	1
	'			
19010 *****		INITIALIZATION RECORDS.		
19020 IREC	DSC 2,0		09770	2
	00			
19030	DC 12,-0		09783	12
	-000000000-			
19040	DC 4,0',		09787	4
	-00'			
19050 JREC	DC 1,0		09788	1
	-			
19060	DSC 5,-C		09789	5
	C000-			
19070	DSC 5,-C		09794	5
	0000-			
19080	DSC 5,0',		09799	5
	0000'			
19090 KREC	DC 1,0		09804	1
	-			
19100	DC 2,-C		09806	2
	--			
19110	DSC 1,-0		09807	1
	-			

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19120	DC 2,-0		09809	2
	--			
19130	DC 2,-0		09811	2
	--			
19140	DSC 1,,		09812	1
	'			
19150 LREC	DC 1,0		09813	1
	-			
19160	DSC 2,-0		09814	2
	0-			
19170	DSC 2,-C		09816	2
	0-			
19180	DSC 2,-0		09818	2
	0-			
19190	DSC 1,,		09820	1
	'			
19200 MREC	DSC 19,0'		09821	19
	000000000000000000'			
19210 *		THE FOLLOWING INDICATORS ARE NON-ZERO OR FLAGGED IF TRUE.		
19220 MI01	DSC 1,0,,	CNTL CARD READ IND.	09840	1
	0			
19230 MI03	DSC 1,0,,	-JOB- CARD SEARCH IND.	09841	1
	0			
19240 *****		MONITOR DAC-S		
19250 MM01	DAC 24,ENTER MONITOR CNTL REC.',		09843	24 X 2
	ENTER MONITOR CNTL REC.'			
19260 MM02	DAC 4,JOB ,		09891	4 X 2
	JOB			
19270 MM03	DAC 4,TYPE,		09899	4 X 2
	TYPE			
19280 MM04	DAC 4,PAUS,		09907	4 X 2
	PAUS			
19290 MM05	DAC 4,SPS ,		09915	4 X 2
	SPS			
19300 MM06	DAC 4,SPSX,		09923	4 X 2
	SPSX			
19310 MM07	DAC 4,FOR ,		09931	4 X 2
	FOR			
19320 MM08	DAC 4,FORX,		09939	4 X 2
	FORX			
19330 MM09	DAC 4,DLP ,		09947	4 X 2
	DUP			
19340 MM10	DAC 4,XEQ ,		09955	4 X 2
	XEQ			
19350 MM11	DAC 4,XEQS,		09963	4 X 2
	XEQS			
19360 MM16	DAC 32,PACK NUMBER ERROR ON MODULE 0. '		09971	32 X 2
	PACK NUMBER ERROR ON MODULE 0. '			
19370 MM17	DAC 42,SET SSW4 TO IGNORE, OFF TO RE-ENTER CARD.',		10035	42 X 2
	SET SSW4 TO IGNORE, OFF TO RE-ENTER CARD.'			
19380 MM19	DAC 25,EXECUTION IS INHIBITED. '		10119	25 X 2
	EXECUTION IS INHIBITED. '			
19390 MM21	DAC 11,END OF JOB',		10169	11 X 2
	END OF JOB'			
19400 MM22	DAC 43,CANNOT RESTORE COMMON -RESET AND START TO ',		10191	43 X 2
	CANNOT RESTORE COMMON -RESET AND START TO '			

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19410 MM23	DAC 6,RETRY',	10277	6 X	2
	RETRY'			
19420 MM25	DAC 10,EXECUTION',	10289	10 X	2
	EXECUTION'			
19430 MM26	DAC 21, JOB CARD GROUP ONLY',	10309	21 X	2
	JOB CARD GROUP ONLY'			
19440 MM30	DAC 12,MUST RELOAD',	10351	12 X	2
	MUST RELOAD'			
19450 MM31	DAC 18,CONDITION IGNORED',	10375	18 X	2
	CONDITION IGNORED'			
19460 MM32	DAC 8,COMPARE',	10411	8 X	2
	COMPARE'			
19470 MM33	DAC 12,-ENTER CARD',	10427	12 X	2
	-ENTER CARD'			
19480 MM36	DAC 18,SYSTEM DIM ERROR ',	10451	18 X	2
	SYSTEM DIM ERROR '			
19490 MM37	DAC 18,OBJECT DIM ERROR ',	10487	18 X	2
	OBJECT DIM ERROR '			
19500 MM38	DAC 19,OBJECT NAME ERROR ',	10523	19 X	2
	OBJECT NAME ERROR '			
19510 MM39	DAC 24,ERROR IN FIELD AT COL. ',	10561	24 X	2
	ERROR IN FIELD AT COL. '			
19520 MM40	DAC 19,PHASE TERMINATED. ',	10609	19 X	2
	PHASE TERMINATED. '			
19530 MM45	DAC 3.. ',	10647	3 X	2
	'			
19540 *****	FOLLOWING ARE MONITOR-S QUICK AND DIRTY DIGIT DECODERS.			
19550	DORG SYSORG+R288	10690		
19560 MCD01	DSC 2,-01	10690	2	
	OJ			
19570	DSC 8,01010000	10692	8	
	01010000			
19580 MCD02	DS 0,+1	10700	0	
19590	DC 2,6	10701	2	
	-6			
19600	DC 2,8	10703	2	
	-8			
19610	DC 6,100000	10709	6	
	J00000			
19620 MCD03	DSC 10,C010C00000	10710	10	
	0010000000			
19630 MCD04	DSC 10,C101010100	10720	10	
	0101010100			
19640 MCD05	DSC 10,C001010000	10730	10	
	0001010000			
19650 MCD06	DSC 10,C000C00000	10740	10	
	0000000000			
19660 MCD07	DSC 10,C124444444	10750	10	
	0124444444			
19670 MCD08	DSC 10,C443444444	10760	10	
	0443444444			
19680 MCD09	DSC 10,1357911111	10770	10	
	1357911111			
19690 MCD10	DC 2,-20	10781	2	
	K-			
19700	DC 2,-25	10783	2	
	KN			

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19710	DC 2,-30	10785	2	
	L-			
19720	DC 2,-35	10787	2	
	LN			
19730	DC 2,-40	10789	2	
	M-			
19740 MCD11	DSC 10,1234567890	10790	10	
	1234567890			
19750 *****	SYSTEM DIM ENTRY SECTOR -THESE CDA-S ARE PICKED UP			
19760	DORG SYSORG+8400,	10802		
19770 SPS CDA	DSC 1,0,,	10802	1	
	O			
19780	DSA 0	10807	5 X	1
		10807	-0000	
19790	DC 3,0	10810	3	
	-00			
19800	DSA 0,0	10815	5 X	2
		10815	-0000	
		10820	-0000	
19810	DSC 1,.,	10821	1	
	'			
19820 FOR CDA	DSC 1,0,,	10822	1	
	O			
19830	DSA 0	10827	5 X	1
		10827	-0000	
19840	DC 3,0	10830	3	
	-00			
19850	DSA 0,0	10835	5 X	2
		10835	-0000	
		10840	-0000	
19860	DSC 1,.,	10841	1	
	'			
19870 DUP CDA	DSC 1,0,,	10842	1	
	O			
19880	DSA 0	10847	5 X	1
		10847	-0000	
19890	DC 3,0	10850	3	
	-00			
19900	DSA 0,0	10855	5 X	2
		10855	-0000	
		10860	-0000	
19910	DSC 1,.,	10861	1	
	'			
19920 EQU CDA	DSC 1,0,,	10862	1	
	O			
19930	DSA 0	10867	5 X	1
		10867	-0000	
19940	DC 3,0	10870	3	
	-00			

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19950	DC	6,0'		10876	6	
		-0000'				
19960	*****	IORT LOAD PROCESSOR FOR NAMED PROGRAMS SECTION 2				
19970	DDRG	SYSDRG+8500		10902		
19980	AB00	BNF AB05,AA02A+5,,	TEST FOR A SPECIFIED LOAD ADDRESS.	10914	44	11134 00234
19990		TF AA04+11,AA02A+4,,	YES -MOVE TO CALLING PARAMETER RECORD.	10926	26	00295 00233
20000	AB01	SF AA02A+5,,	INITIALIZE SCAN.	10938	32	00234 C0000
20010		TFM IOXX,+23		10950	16	00565 JC961
20020		B IDSK,AB08,7		10962	49	00554 J1363
20030		TF ABC9A+5,MAPENT+5		10974	26	11384 02149
20040		TD ABC9A,TEMP-5		10986	25	11379 02014
20050		TD AB1C+411,AB09,,	SET A GROUP MARK FOR LOOP TEST.	10998	25	11805 11378
20060	AB02	TFM IOXX,+23,,	READ 4 EQUIVALENCE TABLE SECTORS.	10998	16	00565 J1021
20070		B IDGT,AB08+8,7		11010	49	00566 J1371
20080		TFM AB03+11,AB10+11,,	INITIALIZE 4 SECTOR SCAN.	11022	16	11045 J1405
20090	AB03	BNR **32,XX,,	TEST IF TABLE IS EXHAUSTED.	11034	45	11066 00000
20100		TFM BKPT,AB01		11046	16	00467 JC926
20110		B ERROR+72		11058	49	00704 00000
20120		DDRG *-3		11066		
20130		C ABC3+11,AA02A+16,6,	COMPARE CURRENT ENTRY.	11066	24	1104N 00245
20140		B1 AB06,1200,,	BRANCH IF FOUND.	11078	46	11154 01200
20150		AM ABC3+11,16,,	NO -ADVANCE ADDRESSING.	11090	11	11045 -0016
20160		55 ABC3,AB03+11,11,	TEST IF 4 SECTORS EXHAUSTED.	11122	55	11034 1104N
20170		AM ABC9A+5,4,,	YES -INCREMENT SECTOR ADDRESS.	11114	11	11384 -C004
20180		B AB02		11126	49	10998 00000
20190		DDRG *-3		11134		
20200	AB05	TF AAC2A+16,AA02A+12,,	MOVE NAME FOR NO LOAD ADDRESS CASE.	11134	26	00245 00241
20210		B AB01		11146	49	10926 00000
20220		DDRG *-3		11154		
20230	AB06	AM AB03+11,4,,	MOVE FOUND DIM ENTRY.	11154	11	11045 -C004
20240		TF AA04+6,AB03+11,11		11166	26	00290 1104N
20250		BNF **24,AA02A+26,,	TEST IF REPOSITIONING DESIRED.	11178	44	11202 00255
20260		SF AA04,,	YES -SET INDICATOR.	11190	32	00284 00000
20270		BD **24,AA02A+26,,	TEST IF EXECUTION DESIRED.	11202	43	11226 00255
20280		SF AA04+1,,	YES -SET INDICATOR.	11214	32	00285 00000
20290		TR O,AB07,,	OVERLAY SECTION 1 WITH TERMINATION	11226	31	00000 11246
20300		B O,,	ROUTINE.	11238	49	00000 00000
20310		DDRG *-3		11246		
20320	AB07	TFM IOXX,23,,	RESTORE CORE.	11246	16	00565 -0023
20330		B IDGT,AA03,7		11258	49	00566 -0261
20340		TFM DFILE+11,TT1,,	DUMMY UP A GET ENTRY TO IORT.	11270	16	01933 -1752
20350		TF IOXX,AA02A+23		11282	26	00565 00252
20360		TR CNTWD,AA04		11294	31	02170 00284
20370		TFM DLCCY+1,MCYL,,	SET UP TO RESTORE MPY TABLE AND	11306	16	02132 -0098
20380		TFM HALT+6,X01+36,,	EXECUTE LOAD.	11318	16	00462 -1898
20390		TR OLU DA,103		11330	31	00441 00103
20400		B OVRLAY,DSA01,,	YOU'RE ON YOUR OWN NOW, BOY.	11342	49	00468 19635
20410		DC 3,3		11356		3
		-03				
20420		DC 6,0'		11362		6
		-0000'				
20430	AB08	DSC 3,220		11363		3
		220				
20440		DC 4,2		11369		4
		-002				
20450		DSC 1,1		11370		1

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20460	DSC	2,22		11371		2
		22				
20470	DSA	ABC5A		11377		5 X 1
				11377		J1379
20480	AB09	DSC 1,0,,	GROUP MARK FOR TEST.	11378		1
		O				
20490	AB09A	DSC 1,1		11379		1
		1				
20500		DSA 0		11384		5 X 1
				11384		-0000
20510		DC 3,4		11387		3
		-04				
20520	CSA	AB1C		11392		5 X 1
				11392		J1394
20530		DSC 1,1		11393		1
		'				
20540	AB10	OO ***	READ BUFFER FOR FOUR SECTORS.	11394	00	00000 00000
20550		DDRG 19982,	CONTROL TO WRITE ON DISK.	19982		
20560		DSC 1,1		19982		1
		1				
20570		DSA DSA08		19987		5 X 1
				19987		J9659
20580		DC 3,9C		19990		3
		-90				
20590		DSA SYSDRG		19995		5 X 1
				19995		-2402
20600		DSC 1,1		19996		1
		'				
20610		DEND		00000		

AMHASE	01014	AB00	10902	CSA39	19663	LALDR	00439	MCD07	10750
BIGTRB	00768	AB01	10926	CSA40	19743	LCA01	00072	MCD08	10760
CYLQVF	00864	AB02	10998	CSA41	17024	LCA02	00132	MCD09	10770
DIMENT	00402	AB03	11034	CSA51	19600	LCA03	00273	MCD10	10781
DUPECA	10842	AB05	11134	E0030	00632	LCA04	00120	MCD11	10790
EMSG10	01081	AB06	11154	E0040	00738	LCA06	00180	MCDPM	02852
EMSG11	01207	AB07	11246	E0050	00808	LCA07	00223	MCR01	04068
EMSG13	01204	AB08	11363	E0070	00840	LCA08	00237	MCR03	04188
EMSG20	01171	AB09A	11379	E0090	00924	LCA09	00249	MCR04	04304
EMSG21	01085	AB09	11378	E0095	00938	LCB01	00292	MCR05	04372
EQUECA	10842	AB10	11394	E0095	00938	LCB02	00292	MCR06	04393
FORDCA	10822	AJOB	01602	E0100	01052	LCB08	00255	MCR06	04393
HULLER	01330	BJ	01581	ECALL	01805	LCB09	00263	MCR06	04393
IMMUC	00448	BBUFF	01232	EXIT	01838	LCB10	00278	MCR06	04393
IMMKT	01024	BRPT	00467	EMSG1	01737	LRA02	00276	MCR06	04393
LCA02A	00253	BNI	00492	EMSG2	01157	LRA05	00269	MCR06	04393
LCA06A	00204	CHECK	01270	EMSG3	01121	LRA06	00283	MCR06	04393
LDINPT	00428	CHEK1	01342	EMSG4	01127	LRA06	00283	MCR06	04393
MAPENT	02144	CHEK2	01378	EMSG5	01133	LRA06	00283	MCR06	04393
MAPSCT	01847	CHK1	01020	EMSG6	01139	LRA06	00283	MCR06	04393
MB080A	03346	CHK2	01340	EMSG7	01145	LRA06	00283	MCR06	04393
MB110A	03522	CHK3	01376	EMSG8	01151	LRA06	00283	MCR06	04393
MB110B	03566	CHK4	01408	ECUIV	02123	LRA06	00283	MCR06	04393
MCA00A	00079	CINIT	00427	ERRR	01817	LRA06	00283	MCR06	04393
MCCBUF	13000	CNTWD	02170	ERRR	00602	LRA06	00283	MCR06	04393
MCR01A	04455	COMM	02802	ERRR	00632	LRA06	00283	MCR06	04393
MCR02A	04116	COUNT	01133	FO	09598	LRA06	00283	MCR06	04393
MCR04A	04444	DCDE	01060	F1	09599	LRA06	00283	MCR06	04393
MCR05A	04628	DFILE	01922	F2	09600	LRA06	00283	MCR06	04393
MFT05B	06778	DIOP	02020	F3	09601	LRA06	00283	MCR06	04393
MFT05C	06792	DIO	00816	F4	09602	LRA06	00283	MCR06	04393
MJB02A	05060	DIOX	00932	F5	09604	LRA06	00283	MCR06	04393
MJB02X	05028	DIOY	01068	F6	09606	LRA06	00283	MCR06	04393
MJB04A	05086	DIOZ	01124	F7	09611	LRA06	00283	MCR06	04393
MJB04B	05130	DQVFL	01136	FSP5	00429	LRA06	00283	MCR06	04393
MJB12A	05482	DRIVE	02169	GCGU	00866	LRA06	00283	MCR06	04393
MJB13A	05538	DSA00	19600	GTEST	01156	LRA06	00283	MCR06	04393
MJB15A	05678	HO1	19635	HO1	19635	LRA06	00283	MCR06	04393
MJB50A	06170	DSA02	19636	HO3	19642	LRA06	00283	MCR06	04393
MJB55A	06184	DSA04	19639	HO4	19686	LRA06	00283	MCR06	04393
MINCAL	00796	DSA06	19640	HALT	00456	LRA06	00283	MCR06	04393
MSP05A	06493	DSA07	19656	HIGH	00434	LRA06	00283	MCR06	04393
MSP05B	06507	DSA08	19659	INDS	00610	LRA06	00283	MCR06	04393
MSP05C	06521	DSA09	19744	INOUT	00631	LRA06	00283	MCR06	04393
MSP05D	06535	DSA10	19749	ICCAL	00716	LRA06	00283	MCR06	04393
MXQ03A	07090	CSA11	19761	ICGT	00566	LRA06	00283	MCR06	04393
MXQ03B	07146	CSA12	19786	IOPA	01076	LRA06	00283	MCR06	04393
MXQ06A	07338	CSA13	19772	IPR	01958	LRA06	00283	MCR06	04393
MXQ06B	07386	CSA14	19777	IPRT	00532	LRA06	00283	MCR06	04393
MXQ06C	07410	CSA15	19783	IPWRC	00520	LRA06	00283	MCR06	04393
NEW50A	01162	CSA16	19767	ICSK	00554	MCD01	10760	MCR06	04393
OVRLAY	00468	CSA17	19770	ICXX	00565	MCD02	10700	MCR06	04393
AA02A	00229	CSA18	19792	IREC	09770	MCD03	10760	MCR06	04393
AA02	00120	CSA19	19795	JLFF	10138	MCD04	10720	MCR06	04393
AA03	00261	CSA20	19798	JREC	09788	MCD05	10730	MCR06	04393
AA04	00284	CSA21	19630	KREC	09804	MCD06	10740	MCR06	04393

MM14	10119	MXQ05	07226	RETRY	01044	UT05B	08668	XX	00000
MM21	10169	MXQ06	07318	RM1	02210	UT05	08350	Y00	00880
MM22	10191	MXQ07	07418	RM2	02215	UT06A	08540	Y01A	00836
MM23	10277	MXQ08	07478	RMAP	00964	UT06B	08620	Y01B	00860
MM25	10289	MXQ09	07590	RMAP	00720	UT06C	08650	Y01C	00788
MM26	10309	MXQ10	07610	SEEK	01496	UT06D	08714	Y02	00892
MM30	10351	MXQ11	07642	SIOP	01804	UT06E	08762	Y06	01008
MM31	10375	MXQ12	07674	SI0XX	01252	UT06	08494	Y07A	01128
MM32	10411	MXQ13	07718	SK01	01476	UT07A	08556	Y07	01116
MM33	10427	MXQ20	07798	SK02	01604	UT07B	08600	Z01	00816
MM36	10451	MXQ50	07813	SK03	01708	UT07C	08622	Z01	00908
MM37	10487	MXQ55	07827	SK04	02143	UT07	08732	Z02	00952
MM38	10523	NEXT	00971	SRA01	00072	UT10A	09270	Z03	00996
MM39	10561	NIOP	01068	SRA02	00060	UT10B	09338	Z04	01052
MM40	10609	NOERR	00656	SRA03	00152	UT10C	09442	Z05	00808
MM45	10647	NONEX	00457	STEPS	01200	UT10E	09462	ZAVD0A	01177
MR02	09744	DLDCY	02131	TEETH	01211	UT10F	09482	ZFDIMT	00426
MREC	09821	GLDDA	00441	TEMP	02019	UT10F	09550	ZPSDDA	10802
MSP01	06198	TEST	00768	TEST	00632	UT10	09178	ZPSMLP	00468
MSP02	06218	POINT	09768	TT1	01752	UT11A	09698	ZKEL0C	00425
MSP03	06430	RCALL	01819	UT01	07958	UT11	09618	ZUPREI	02934
MSP04	06474	RDIM1	00836	UT03A	08096	WATCT	00724	ZUSCAL	00405
MXQ01	06910	RDIM	00788	UT03B	08148	WTEST	00712	ZUSCAL	00405
MXQ02	06942	RDCVD	01004	UT03C	08234	X01	01867	ZUSCAL	00405
MXQ03	07078	REPOS	00512	UT03	08038	X03	00988	ZUSCAL	00405
MXQ04	07194	RETN	01682	UT05A	08446	X04	01212	ZUSCAL	00405

END OF ONE ASSEMBLY.

00010	*1620-1443 MONITOR I VERSION 2 MONITOR LOADER				
00020	DORG 25C0	02500			
00030	* WRITE SEGMENT 1 OF LOADER ON DISK.				
00040	TRY1 34 DCONT1,701	02500	34	02584	00701
00050	38 DCONT1,702	02512	38	02584	00702
00060	BNI RIG+T1,1900	02524	47	02560	01900
00070	H	02536	48	00000	00000
00080	B TRY1	02548	49	02500	00000
00090	RIGHT1 TRA	02560	36	00000	00500
		02572	49	00000	00000
		02584			9
00100	DCONT1 DSC 9,119600009				
	119600009				
00110	DSA CARDIN-10	02597		5 X	1
00120	DORG 502	02597		-0502	
00130	FAKE DC 2,C	00502			
	-0	00503		2	
00140	* DISK INPUT PROGRAM. IF CARD INPUT, BRING IN SEGMENT 2.				
00150	B LOADER	00504	49	01266	00000
00160	CORG +-4	00511			
00170	* INPUT CONTROL FOR DISK INPUT. DDA IS AT CNTL, CYLOV IS LOCATION				
00180	* OF CYLINDER OVERFLOW ROUTINE, LD 3 IS ERROR MESSAGE, CK IS				
00190	* NORMAL EXIT.				
00200	NORM DC 1,7	00511		1	
	P				
00210	CSA CNTL,CYLOV	00516		5 X	2
		00516		-0920	
		00521		-0554	
00220	DC 2,73	00523		2	
	P3				
00230	DSA OK	00528		5 X	1
00240	DC 1,1	00528		-0630	
		00529		1	
00250	* SECTOR ADDRESSES AND COUNTS FOR DISK INPUT.				
00260	CNTL1 DC 8,00100200	00537		8	
	-0100200				
00270	CNTL2 DC 8,00200100	00545		8	
	-0200100				
00280	CNT DC 8,00300000	00553		8	
	-0300000				
00290	* CYLINDER OVERFLOW ROUTINE.				
00300	* IF OVERFLOW OCCURRED, UPDATE ARM POSITION CODE FOR IOCS.				
00310	CYLOV AM ARM,1,10	00554	11	00464	000-1
00320	* READ ONE OR TWO SECTORS FROM NEXT CYLINDER, AND CONTINUE.				
00330	TF DIS-1,CNTL2	00566	26	00933	00545
00340	AM CNTL+5,1	00578	11	00925	-0001
00350	HD MORE,CNTL+5	00590	43	00610	00925
00360	B DIS	00602	49	00934	00000
00370	CORG +-3	00610			
00380	MORE TF DIS-1,CNTL1	00610	26	00933	00537
00390	B CYLOV+24	00622	49	00578	00000
00400	CORG +-3	00630			

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00410	* NORMAL EXIT. INCREMENT SECTOR ADDR. BY 3, DECREMENT COUNT BY 3,				
00420	* GO TO BEGIN PROCESSING INPUT.				
00430	OK TD OK+23,DIS-6	00630	25	00653	00928
00440	AM CNTL+5,XX	00642	11	00925	-0000
00450	SM MAPENT+8,3,9	00654	12	00410	00-03
00460	B FIN	00666	49	01092	00000
00470	DORG +-2	00675			
00480	* CONTROL TO BRING IN SEGMENT 2.				
00490	DC 1,7	00675		1	
	P				
00500	DSA CONT2,CYLOV	00680		5 X	2
		00680		-0694	
		00685		-0554	
		00687		2	
00510	DC 2,74				
	P4				
00520	CSA CARDIN	00692		5 X	1
		00692		-0512	
00530	* DCA TO BRING IN SEGMENT 2. TRANSMITTED TO OUT BEFORE USAGE.				
00540	DC 1,1	00693		1	
00550	DC 1,0	00694		1	
00560	DSA CARDAD	00699		5 X	1
		00699		J9609	
00570	DSC 3,3	00700		3	
	003				
00580	DSA CARDIN-10	00707		5 X	1
		00707		-0502	
00590	DSC 1,1	00708		1	
00600	* ADDRESS TO BRANCH TO AFTER DISK READ ERROR.				
00610	DSA DIS	00713		5 X	1
		00713		-0934	
00620	* LOAD ADDRESS FOR INPUT.				
00630	DC 5,0	00718		5	
	-0000				
00640	* FOR DISK INPUT, HAS CHARACTER COUNT REACHED 300...				
00650	CM CHAR1,300	00720	14	00863	-0300
00660	BNE ++32	00732	47	00764	01200
00670	* IF SO, GET MORE INPUT.				
00680	TFM C,0	00744	16	00439	-0000
00690	B DISK	00756	49	00864	00000
00700	DORG +-3	00764			
00710	* IF NOT, ARE WE READY FOR A NEW 75-CHARACTER GROUP...				
00720	C CHAR1,C	00764	24	00863	00439
00730	BNE BEGIN	00776	47	01164	01200
00740	B HERE,,7	00788	49	01116	-0000
00750	DORG +-3	00796			
00760	* INPUT CONTROL FOR CARD INPUT. 0 IS INPUT LOCATION, ERR IS ERROR				
00770	* ROUTINE, LD 2 IS ERROR MESSAGE, CEND IS NORMAL EXIT.				
00780	READ DSC 1,0	00796		1	
	0				

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00790	CSA	0,ERR	00801	5 X	2
			00801	-0000	
			00806	-1030	
00800	CC	2,72	00808	2	
	P2				
00810	CSA	CEND	00813	5 X	1
			00813	-0556	
00820	CC	1,'	00814	1	
00830	* TO BRING IN SEGMENT 2, TRANSMIT INPUT CONTROL AND CCA.				
00840	OUT	TD	CONT2,ARM+1	00816	25 00694 00465
00850	TR	A,GET		00828	31 01073 00675
00860	TFM	C,0		00840	16 00439 -0000
00870	B	DIS+12		00852	49 00946 00000
00880	DDRG	*-4		00859	
00890	* CHARACTER COUNTER.				
00900	CHAR1	DC	5,0	00863	5
00910	* DISK INPUT..EXIT WHEN SECTOR COUNT IS ZERO.				
00920	DISK	CM	MAPENT+8,0,9	00864	14 00410 00-00
00930	BNH	SIX		00876	47 02208 01100
00940	* NOT ZERO - TRANSMIT INPUT CONTROL AND 3-SECTOR CCA.				
00950	TR	A,NORM		00888	31 01073 00511
00960	TF	DIS-1 ,CNT		00900	26 00933 00553
00970	B	DIS,,2		00912	49 -0934 00000
00980	DDRG	*-3		00920	6
00990	* CCA FOR DISK INPUT. VARIABLE COUNT AND CORE ADDRESS TO HANDLE				
01000	* CYLINDER OVERFLOW.				
01010	CNTL	DSC	6,0	00920	6
01020	CC	8,C		00933	8
01030	* INPUT ROUTINE. SEEK, GET INPUT DEVICE, READ, CHECK FOR ERROR.				
01040	DIS	34	B,701,6	00934	34 01070 00701
01050	TD	**21,A		00946	25 00967 01073
01060	RD	36	B,702,6	00958	36 01070 00702
01070	BN1	E-1,1900,6		00970	47 0109- 01900
01080	ANYERR	B1	**12,0600	00982	46 00994 00600
01090	B1	**12,16C0		00994	46 01006 01500
01100	B1	**12,1700		01006	46 01018 01700
01110	B1	CIN,3800,6		01018	46 0108L 03800
01120	* ERROR ROUTINE. WRITE LD X, HALT, REREAD.				
01130	ERR	TF	STOP+9,D	01030	26 01063 01085
01140	WATY	STOP+3		01042	39 01057 00100
01150	STOP	H	53440	01054	48 53440 00000
01160	DDRG	*-4		01061	
01170	DSC	5,0'		01061	5
01180	BACK	B	DISKX,,6	01066	49 0071L 00000
01190	DDRG	*-4		01073	
01200	* INPUT CONTROL. DEVICE CODE, CORE ADDR. FOR INPUT, ERR ROUTINE,				
01210	* ERROR MESSG, NORMAL EXIT.				
01220	A	DC	1,0	01073	1

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01230	B	DC	5,0	01078	5
01240	CIN	DC	5,0	01083	5
01250	D	DC	2,C	01085	2
01260	E	DC	6,0'	01091	6
01270	* BEGIN PROCESSING A 75-CHARACTER GROUP.				
01280	FIN	TF	CHAR1,C	01092	26 00863 00439
01290	* IF THIS IS FIRST GROUP, COMPUTE RELCON, UNLESS RETURNING FROM TCD.				
01300	RCON	BNF	TD ,TCD	01104	44 01176 00428
01310	TF	RELCON, HIGH		01116	26 00449 00434
01320	SF	FIN		01128	32 01092 00000
01330	* SET LOW TO FIRST ADDRESS ON FIRST CARDPLUS RELCON.				
01340	ZERO	TF	LOW,4	01140	26 00444 00004
01350	BNR	**24	,MAPENT+14	01152	45 01176 00416
01360	TF	MAPENT+13,LOW		01164	26 00415 00444
01370	* RESET TCD INDICATOR.				
01380	TD	SF	TCD	01176	32 00428 00000
01390	* TO BRING IN SEGMENT 3, TRANSMIT INPUT CONTROL AND DDA.				
01400	TD	CONT3	,ARM+1	01188	25 01250 00465
01410	TR	A,RPROG		01200	31 01073 01231
01420	TR	OLT,CONT3		01212	31 00816 01250
01430	B	DIS		01224	49 00934 00000
01440	DDRG	*-4		01231	
01450	* INPUT CONTROL FOR SEGMENT 3. OUT IS DDA, LD 4 IS ERROR MESSG.				
01460	* RCON IS NORMAL RETURN.				
01470	RPROG	DC	1,7	01231	1
01480	DSA	OLT	,CYLOV	01236	5 X 2
				01236	-0816
				01241	-0554
				01243	2
01490	DC	2,74		01248	5 X 1
	P4			01248	-0720
01500	CSA	START		01249	1
01510	DC	1,'		01250	9
01520	* CCA FOR SEGMENT 3.				
01530	CONT3	DSC	9,019612012	01263	5 X 1
			019612012	01263	-1102
01540	OSA	RCON-2		01264	1
01550	DSC	1,'			
01560	* LOGICAL START OF LOADER. IF INPUT IS FROM CARDS, GET SEGMENT 2.				
01570	LOADER	TD	CNTLI ,ITAB	01266	25 01328 00440
01580	TO	ARP+1,ITAB		01278	25 00465 00440
01590	TR	A,INIT		01290	31 01073 01309
01600	B	DIS+12		01302	49 00946 00000
01610	DDRG	*-4		01309	
01620	INIT	DC	1,7	01309	1

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01630	DSA	CNTL1,CYLOV	01314	5	X	2
			01314	-1328		
			01319	-0554		
			01321	2		
01640	DC	2,74				
	P4					
01650	DSA	TRANS	01326	5	X	1
			01326	-1342		
01660	DSC	1,1	01327	1		
01670	CNTL1	DSC 1,0	01328	1		
		0				
01680	DSA	SYSSCT	01333	5	X	1
			01333	J9663		
01690	DC	8,1CC000	01341	8		
	-01C0000					
01700	TRANS	TR COMM,84	01342	31	00440	00084
01710	BD	OUT ,IOMED	01354	43	00816	00428
01720	* IF INPUT FROM DISK, GET FIRST SECTOR ADDR. AND GO TO READ DISK.					
01730	TF	CNTL+5,MAPENT+9,, DISK INPUT	01366	26	00925	00407
01740	TD	CNTL,MAPENT	01378	25	00920	00402
01750	B	DISK	01390	49	00864	00000
01760	DORG	=-3	01398			
01770	TCD	TRY1	02500			
			02500			
01780	DORG	2500				
01790	* WRITE SEGMENT 2 OF LOADER ON DISK.					
01800	TRY2	34 DCONT2,701	02500	34	02584	00701
01810		38 DCONT2,702	02512	38	02584	00702
01820	BN1	RIGHT2,1900	02524	47	02560	01900
01830	H		02536	48	00000	00000
01840	B	TRY2	02548	49	02500	00000
01850	RIGHT2	TRA	02560	36	00000	00500
			02572	49	00000	00000
01860	DCONT2	DSC 9,119609003	02584	9		
		119609003				
01870	DSA	CARDIN-10	02597	5	X	1
			02597	-0502		
01880	DORG	5C2	00502			
01890	DC	2,0	00503	2		
	-0					
01900	B	LOADER	005C4	49	01266	00000
01910	DORG	=-3	00512			
01920	* CARD INPUT PROGRAM.					
01930	* GET INPUT DEVICE CODE FROM COMM. AREA.					
01940	CARDIN	TD REAC,IOMED,, CARD OR TAPE INPUT	00512	25	00796	00428
01950	CF	READ	00524	33	00796	00000
01960	* TRANSMIT CARD INPUT CONTROL, AND GO TO READ A CARD.					
01970	CARD	TR A,READ	00536	31	01073	00796
01980	B	DIS+12	00548	49	00946	00000
01990	DORG	=-3	00556			
02000	* IF CARD INPUT, CHECK SEQUENCE. IF TAPE, BYPASS THIS.					
02010	CEND	CM READ,5,10	00556	14	00796	000-5

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02020	BNE	FIN	00568	47	01092	01200
02030	BNF	FIN,75,, CHECK CARD SEQUENCE NO.	00580	44	01092	00075
02040	AM	SEQ+1	00592	11	00454	-C001
02050	C	79,SEQ	00604	24	00079	00454
02060	BE	FIN	00616	46	01092	01200
02070	SM	SEQ+1	00628	12	00454	-0001
02080	* IF CARD IS OUT OF SEQUENCE, WRITE LAST SEQ. NO. WHICH WAS CORRECT,					
02090	* AND LD L. THEN HALT, AND READ ANOTHER CARD.					
02100	WNTY	SEQ-4	00640	38	00450	00100
02110	TFM	STOP+9,71,10	00652	16	01063	000P1
02120	B	ERR+12	00664	49	01042	00000
02130	DORG	=	00675			
02140	GET	DC 1,7	00675	1		
	P					
02150	DSA	OUT ,CYLOV	00680	5	X	2
			00680	-0816		
			00685	-0554		
			00687	2		
02160	DC	2,74				
	P4					
02170	DSA	DISK	00692	5	X	1
			00692	-0864		
02180	DC	1,1	00693	1		
02190	CONT2	DC 1,0	00694	1		
		-				
02200	DSA	DISKAD	00699	5	X	1
			00699	J9600		
02210	DSC	3,3	007C0	3		
	003					
02220	DSA	CARDIN-10	00707	5	X	1
			007C7	-0502		
02230	DSC	1,1	00708	1		
02240	* ADDRESS TO BRANCH TO AFTER CARD OR TAPE READ ERROR.					
02250	DISKX	DSA DIS+12	00713	5	X	1
			00713	-0946		
02260	REL	DC 5,0	00718	5		
	-0000					
02270	* FOR UNIT RECORD INPUT, HAS CHARACTER COUNT REACHED 75...					
02280	START	CM CHAR1,75	00720	14	00863	-0075
02290	FORK	BNE =+32	00732	47	00764	01200
02300	* IF SO, READ ANOTHER RECORD.					
02310	TFM	C,0	00744	16	00439	-0000
02320	B	CARD	00756	49	00536	00000
02330	DORG	=-3	00764			
02340	C	CHAR1,C	00764	24	00863	00439
02350	TCD	TRY2	02500			
			02500			
02360	DORG	2500				
02370	* WRITE SEGMENT 3 OF LOADER ON DISK.					
02380	TRY3	34 DCONT3,701	02500	34	02584	00701

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02390	38	DCONT3,702	02512	38	02584	00702
02400	BNF	RIGHT3,1900	02524	47	02580	01900
02410	M		02536	48	00000	00000
02420	B	TRY3	02548	49	02500	00000
02430	RIGHT3	TRA	02560	36	00000	00500
			02572	49	00000	00000
			02584		9	
02440	DCONT3	DSC 9,119612012				
		119612012				
02450	DSA	RCOIN-2	02597		5 x	1
02460	DORG	RCOIN	02597		-1102	
02470	* SEGMENT 3	HANDLES ANALYZING AND LOADING OF INPUT.	01104			
02480	TFM	CNTL-2,DIS+12				
02490	* INITIALIZE	COUNTERS FOR NEW 75-CHARACTER GROUP.	01104	16	00918	-0946
02500	HERE	AM C,75	01116	11	00439	-0075
02510	AM	C+AR1,4	01128	11	00863	-0004
02520	TF	LOC,CHAR1,11	01140	26	01283	0086L
02530	AM	CHAR1,1	01152	11	00863	-0001
02540	BEGIN	BNF NOTRM,CHAR1,11	01164	45	01228	0086L
02550	BNF	NOFLAG,CHAR1,11, RECORD MARK INDICATOR	01176	44	01208	0086L
02560	* FLAGGED	RECORD MARK - START NEW GROUP.				
02570	TF	C+AR1,C	01188	26	00863	00439
02580	A	START	01200	49	00720	00000
02590	DORG	*-3	01208			
02600	* UNFLAGGED	RECORD MARK - GET NEW 5-DIGIT ACCR.				
02610	NOFLAG	AM C+AR1,5	01208	11	00863	-0005
02620	B	HERE+24	01220	49	01140	00000
02630	DORG	*-3	01228			
02640	* ZERO	INDICATOR - READ IN SEGMENT 4.				
02650	NOZERM	BD NOZERO,CHAR1,11	01228	43	01272	0086L
02660	SEEK	TC CONTL,ARM+1	01240	25	02230	00465
02670	TR	A,PROG	01252	31	01073	02244
02680	B	DIS	01264	49	00934	00000
02690	DORG	*-3	01272			
02700	NOZERM	TFM REL,LOC,, NON-ZERO INDICATOR	01272	16	00718	-1283
02710	BNF	FLAC,CHAR1,11	01284	44	01316	0086L
02720	* FLAGGED	DIGIT - DO NOT RELOCATE.				
02730	TFM	2024,TWO	01296	16	02024	-1880
02740	B	DO	01308	49	01388	00000
02750	DORG	*-3	01316			
02760	* UNFLAGGED	DIGIT - ADD RELCON.				
02770	FLAG	A REL,RELCON	01316	21	00718	00449
02780	* IF	RELOCATABLE PROGRAM, ADD RELCON TO LOW AND ENTRY ADDRESS.				
02790	BNF	*+48,FIN	01328	44	01376	01092
02800	CF	FIN	01340	33	01092	00000
02810	A	LOW,RELCON	01352	21	00444	00449
02820	A	MARPENT+13,RELCON	01364	21	00415	00449
02830	TFM	2024,FIVE	01376	16	02024	-1684
02840	* GET	LENGTH OF DATA, SAVE ADDR. OF FIRST POSITION OF DATA FIELD.				
02850	DO	TC TEMP,CHAR1,11	01388	25	01477	0086L
02860	AM	CHAR1,2	01400	11	00863	-0002
02870	TF	N,C+AR1,11	01412	26	02057	0086L
02880	TF	M,N	01424	26	02067	02057
02890	AM	CHAR1,1	01436	11	00863	-0001
02900	TF	TEMP2,CHAR1	01448	26	02139	00863

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02910	TF	TEMP1,REL	01460	26	01789	00718
02920	* BRANCH	TO PROPER INDICATOR ROUTINE.				
02930	BR	B 2008,,4	01472	49	02-08	00000
02940	DORG	*-3	01480			
02950	* THREE	INDICATOR - SYMBOLIC ADDRESSES, FLAGGED AND RELOCATED BY SET.				
02960	THREE	TFM SET-1,,+21,, THREE INDICATOR	01480	16	02079	-1501
02970	B	SET,0,8	01492	49	02080	0-000
02980	DORG	*-1	01502			
02990	AM	CHAR1,5	01502	11	00863	-0005
03000	SM	M,5,10	01514	12	02067	000-5
03010	BP	THREE	01526	46	01480	01100
03020	B	STGRE	01538	49	01892	00000
03030	DORG	*-3	01546			
03040	* FOUR	INDICATOR - NUMERIC BLANKS.				
03050	FOUR	TD TEMP1,BLANK,6, FOUR INDICATOR	01546	25	01788	02229
03060	AM	TEMP1,1	01558	11	01789	-0001
03070	SM	M,1,10	01570	12	02067	000-1
03080	BP	FOUR	01582	46	01546	01100
03090	A	LOC,N	01594	21	01283	02057
03100	B	START	01606	49	00720	00000
03110	DORG	*-3	01614			
03120	* EXAMINE	SECOND POSITION OF OP CODE.				
03130	Q	AM CHAR1,1	01614	11	00863	-0001
03140	BNF	DONT,CHAR1,11	01626	44	01660	0086L
03150	* FLAGGED	- RELOCATE Q FIELD.				
03160	TFM	SET-1,,+21	01638	16	02079	-1659
03170	B	SET,600,8	01650	49	02080	0-600
03180	DORG	*-1	01660			
03190	* MOVE	TO NEXT INSTRUCTION.				
03200	DONT	AM CHAR1,11	01660	11	00863	-0011
03210	SM	M,12,10	01672	12	02067	000J2
03220	* FLAGGED	FIVE AND UNFLAGGED ONE INDICATORS - INSTRUCTIONS.				
03230	* ARE	THERE LESS THAN 7 DIGITS LEFT...				
03240	FIVE	CM M,7,10, FIVE INDICATOR	01684	14	02067	000-7
03250	BL	NO	01696	47	01868	01300
03260	* NO -	ARE THERE LESS THAN 12...				
03270	CM	M,12,10	01708	14	02067	000J2
03280	BL	LESS12	01720	47	01834	01300
03290	* NO -	EXAMINE FIRST POSITION OF OP CODE.				
03300	BNF	IF8,CHAR1,11	01732	44	01766	0086L
03310	* FLAGGED	- RELOCATE P FIELD.				
03320	TFM	SET-1,,+21	01744	16	02079	-1765
03330	B	SET,200,8	01756	49	02080	0-200
03340	DORG	*-1	01766			
03350	* IF	FIRST DIGIT OF OP CODE WAS 8, DO NOT EXAMINE SECOND DIGIT.				
03360	IF8	TD TEMP,CHAR1,11	01766	25	01477	0086L
03370	CF	TEMP	01778	33	01477	00000
03380	CM	TEMP,8,10	01790	14	01477	000-8
03390	BNE	Q	01802	47	01614	01200
03400	AM	CHAR1,1	01814	11	00863	-0001
03410	DONT		01826	49	01660	00000
03420	DORG	*-3	01834			
03430	* LESS	THAN 12 DIGITS LEFT - EXAMINE FIRST POSITION OF OP CODE ONLY.				
03440	BNF	NO,CHAR1,11	01834	44	01868	0086L
03450	* FLAGGED	- RELOCATE P FIELD.				
03460	TFM	SET-1,,+21	01846	16	02079	-1867

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03470	B	SET,200,8	01858	49	02080	0-200
03480		CURG *-1	01868			
03490		* RESET CHARACTER COUNTER TO BEGINNING OF DATA FIELD.				
03500	NO	TF CHAR1,TEMP2	01868	26	00863	02139
03510		* TWO AND FLAGGED ONE INDICATOR - CONSTANTS.				
03520	TWO	A CHAR1,N,, TWO INDICATOR	01880	21	00863	02057
03530		* SAVE DIGIT AT END OF FIELD.				
03540	STORE	SM CHAR1,1,10	01892	12	00863	000-1
03550		TO SAVE1,CHAR1,11, GENERAL STORING ROUTINE	01904	25	00968	0086L
03560		* SET A RECORD MARK THERE.				
03570	A	TEMP1,N	01916	21	01789	02057
03580	SM	TEMP1,1,10	01928	12	01789	000-1
03590	TD	CHAR1,RM,6	01940	25	0086L	02262
03600		* TRANSMIT DATA TO LOAD ADDRESS.				
03610	TR	REL,TEMP2,611	01952	31	00710	0213R
03620		* REPLACED SAVED DIGITS.				
03630	TD	TEMP1,SAVE1,6	01964	25	0178R	00968
03640	AM	TEMP1,1,10	01976	11	01789	000-1
03650	AM	CHAR1,1,10	01988	11	00863	000-1
03660		* GO TO UPDATE LOCATION POINTER.				
03670	PLACE	B FOUR*48 ,XX	02000	49	01594	00000
03680	P2	DS 0 ,*	02011		0	
03690		DORG 2018	02018			
03700	B	XX	02018	49	00000	00000
03710	DORG	*-1	02028			
03720	B	TWO	02028	49	01880	00000
03730	DORG	*-1	02038			
03740	B	THREE	02038	49	01480	00000
03750	DORG	*-1	02048			
03760	MSTOR	B FOUR	02048	49	01546	00000
03770	DORG	*-1	02058			
03780	MSTOR	B FIVE	02058	49	01684	00000
03790	DORG	*-1	02068			
03800	B	SIX	02068	49	02208	00000
03810	DORG	*-4	02075			
03820		* ROUTINE TO SET FLAGS AND RELOCATE 5-DIGIT ADDRESSES.				
03830	DC	5,0,, RELOCATING SUBROUTINE	02079		5	
		-0000				
03840		* COMPUTE BEGINNING AND END OF ADDRESS.				
03850	SET	TF P1,CHAR1	02080	26	02207	00863
03860	A	P1,SET-1,11	02092	21	02207	0207R
03870	TF	P2,P1	02104	26	02011	02207
03880	AM	P2,4	02116	11	02011	-0004
03890	SF	NOP P1,,6	02128	41	0220P	00000
03900	BNF	NF,P2,11	02140	44	02172	0201J
03910		* IF INDIRECT, SUBTRACT RELCON.				
03920	S	P2,RELCON,6	02152	22	0201J	00449
03930	B	BB	02164	49	02184	00000
03940	DORG	*-3	02172			
03950		* IF NOT INDIRECT, ADD RELCON.				
03960	NF	A P2,RELCON,6	02172	21	0201J	00449
03970	BB	AM SET-1,1	02184	11	02079	-0001
03980	B	SET-1,,6	02196	49	0207R	00000
03990		* SIX INDICATOR - END OF DATA TO BE LOADED.				
04000		* READ IN SEGMENT 4.				
04010	SIX	TFM PROG*17,LEAVE	02208	16	02261	-1548

04020	B	SEEK	02220	49	01240	00000
04030		DORG *-3	02228			
04040		* STORAGE FOR NUMERIC BLANK - MUST BE PATCHED IN ABSOLUTE DECK.				
04050	BLANK	DC 2,0	02229		2	
		-0				
04060		* CDA TO READ IN SEGMENT 4.				
04070	CONT1	DSC 9,019624005	02230		9	
		019624005				
04080	DSA	NOZERO	02243		5 X 1	
			02243		-1272	
04090		* INPUT CONTROL FOR SEGMENT 4 - CONT1 IS CDA, LD 4 IS ERROR MESSG.				
04100		* NOZERO IS NORMAL RETURN.				
04110	PROG	DC 1,7	02244		1	
		P				
04120	DSA	CONT1,CYLOV	02249		5 X 2	
			02249		-2230	
			02254		-0554	
04130	DC	2,74	02256		2	
		P4				
04140	DSA	NOZERO	02261		5 X 1	
			02261		-1272	
04150	RM	DC 1,,	02262		1	
		,				
04160	CARDAD	DS ,19609	19609		0	
04170	DISKAD	DS ,19600	19600		0	
04180	LDC	DS ,NOZERO*11	01283		0	
04190	M	DS ,MSTOR*9	02067		0	
04200	N	DS ,MSTOR*9	02057		0	
04210	P1	DS ,BB*23	02207		0	
04220	SAVE1	DS ,RD*10	00968		0	
04230	SAVE2	DS ,RD*7	00965		0	
04240	TEMP	DS ,BR*5	01477		0	
04250	TEMP1	DS ,IFB*23	01789		0	
04260	TEMP2	DS ,SF*11	02139		0	
04270	XX	DS 5,0	00000		5	
04280	ARN	DS ,464	00464		0	
04290	COMM	DS ,440	00440		0	
04300	C	DS ,439	00439		0	
04310	HIGH	DS ,434	00434		0	
04320	LOW	DS ,444	00444		0	
04330	IDMED	DS ,428	00428		0	
04340	MAPENT	DS ,402	00402		0	
04350	RELCON	DS ,449	00449		0	
04360	SEQ	DS ,454	00454		0	
04370	TCD	DS ,428	00428		0	
04380	ITAB	DS ,440	00440		0	
04390	SYSSCT	DS ,19663	19663		0	
04400		TCD TRY3	02900			
04410		DORG 2500	02900			
04420		* WRITE SEGMENT 4 OF LOADER ON DISK.				
04430	TRY4	34 DCONT4,701	02900	34	02984	00701
04440		38 DCONT4,702	02912	38	02984	00702

04450	BNI	RIGHT4,1900	02524	47	02560	01900
04460	H		02536	48	00000	00000
04470	B	TRY4	02548	49	02500	00000
04480	RIGHT4	TRA	02560	36	00000	00500
			02572	49	00000	00000
			02584		9	
04490	DCUNT4	DSC 9,119624005				
		119624005				
04500	DSA	NOZERO	02597		5 X	1
04510		DORG NOZERO	02597		-1272	
04520	*	ZERO INDICATOR - SET TCD INDICATOR.	01272			
04530	CF	TCU	01272	33	00428	00000
04540	BNF	**2C,CHAR1,11	01284	44	01304	0086L
04550	*	FLAGGED ZERO - DO NOT RELOCATE.				
04560	B	NUT	01296	49	01368	00000
04570	DORG	*-3	01304			
04580	*	UNFLAGGED ZERO - DO RELOCATE.				
04590	AM	CHAR1,5	01304	11	00863	-0005
04600	BNF	ADD,CHAR1,11	01316	44	01348	0086L
04610	*	INDIRECT ADDRESS - SUBTRACT RELCON.				
04620	S	CHAR1,RELCON,6	01328	22	0086L	00449
04630	B	NUT*12	01340	49	01380	00000
04640	DORG	*-3	01348			
04650	*	NOT INDIRECT - ADD RELCON.				
04660	ACC	A CHAR1,RELCON,6	01348	21	0086L	00449
04670	B	**20	01360	49	01380	00000
04680	DORG	*-3	01368			
04690	NOT	AM CHAR1,5	01368	11	00863	-0005
04700	*	PUT ADDRESS IN COMM. AREA.				
04710	TF	MAPENT+18,CHAR1,11				
04720	*	SAVE LAST SECTOR READ, IF DISK INPUT.	01380	26	00420	0086L
04730	BD	EXIT ,IO MED	01392	43	01440	00428
04740	TF	MAPENT+5,CNTL+5	01404	26	00407	00925
04750	SM	MAPENT+5,3	01416	12	00407	-0003
04760	AM	MAPENT+8,3,9	01428	11	00410	00-03
04770	*	WRITE THREE FIELDS ONTO COMMUNICATION SECTOR.				
04780	EXIT	TD CNTLE,ARM+1	01440	25	01490	00465
04790	TR	A,EX	01452	31	01073	01471
04800	H	DIS+12	01464	49	00946	00000
04810	DORG	*-4	01471			
04820	EX	CC 1,7	01471		1	
		P				
04830	OSA	CNTLE,CYLOV	01476		5 X	2
			01476		-1490	
			01481		-0554	
			01483		2	
04840	DC	2,74				
	P4					
04850	ESA	T+RL	01488		5 X	1
			01488		-1504	
04860	USC	1,1	01489		1	
04870	CNTLE	DSC 1,0	01490		1	
		0				

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04880	DSA	SYSSCT	01495		5 X	1
			01495		J9663	
04890	DC	8,100000	01503		8	
		-010000				
04900	THRU	TR 84,COMM	01504	31	00084	00440
04910	TDM	RD+1,8	01516	15	00959	00008
04920	TFM	CNTLE-2,NEXT	01528	16	01488	-1650
04930	B	EXIT	01540	49	01440	00000
04940	DORG	*-3	01548			
04950	*	SIX INDICATOR -UPDATE LAST LOCATION PLUS ONE INDICATOR.				
04960	LEAVE	TF HIGH,REL	01548	26	00434	00718
04970	*	MOVE THE ENTRY ADDRESS.				
04980	TF	MAPENT+18,MAPENT+13	01560	26	00420	00415
04990	*	IF NON-DISK INPUT, READ ONE MORE RECORD.				
05000	BD	**20 ,IO MED	01572	43	01592	00428
05010	B	EXIT	01584	49	01440	00000
05020	DORG	*-4	01591			
05030	TU	**21 ,IO MED	01592	25	01613	00428
05040	RNCD		01604	36	00000	00500
05050	TFM	SEQ,0	01616	16	00454	-0000
05060	B	EXIT	01628	49	01440	00000
05070	DORG	*-4	01635			
05080	*	CCA FOR IURT-S LOADER RETURN SUBROUTINE.				
05090	CNTL3	DSC 14, 19792003000001	01635		14	
		19792003000001				
05100	*	READ AND EXECUTE EXIT SUBROUTINE.				
05110	NEXT	TFM 510,0	01650	16	00510	-0000
05120	TD	COMM,ARM+1	01662	25	00440	00465
05130	TR	COMM+1,CNTL3	01674	31	00441	01635
05140	B	480	01686	49	00480	00000
05150	TCU	TRY4	02500			
05160		DORG 2500	02500			
05170	*	HEAD IN SEGMENT 1 OF LOADER AND BEGIN EXECUTION.				
05180	TRY5	34 DCNTS,701	02500	34	02584	00701
05190		36 DCNTS,702	02512	36	02584	00702
05200	BNI	RIGHT5,1900	02524	47	02560	01900
05210	H		02536	48	00000	00000
05220	B	TRY5	02548	49	02500	00000
05230	RIGHT5	H	02560	48	00000	00000
05240	H	LOADER	02572	49	01266	00000
05250	DCNTS	USC 14,0196000900502	02584		14	
		0196000900502				
05260	DEND	TRY5	02500			

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ANYERR 00982	BEGIN 01164	DO 01388	NEXT 01650	SET 02080
CARDAD 19609	BLANK 02229	C 01085	NF 02172	SF 02128
CARDIN 00512	BR 01472	ERR 01030	NORM 00511	SIX 02208
UCONT1 02584	B 01078	E 01091	NO 01868	START 00720
DCONT2 02584	CARD 00536	EXIT 01440	NOTRM 01228	STOP 01054
DCONT3 02584	CEND 00556	EX 01471	NOT 01368	STORE 01892
DCONT4 02584	CHAR1 00863	FAKE 00503	N 02057	TCO 00428
UCONT5 02584	CIN 01083	FIN 01092	NSTOR 02048	TD 01176
DISKAC 19600	CNTL1 00537	FIVE 01684	OK 00630	TEMP1 01789
LESS12 01834	CNTL2 00545	FLAG 01316	OUT 00816	TEMP2 02139
LOADER 01266	CNTL3 01635	FORK 00732	P1 02207	TEMP 01477
MAPENT 00402	CNTLE 01490	FOUR 01546	P2 02011	THREE 01480
NOFLAG 01208	CNTLI 01328	GET 00675	PLACE 02000	THRU 01504
NOZERO 01272	CNTL 00920	HERE 01116	PROG 02244	TRANS 01342
RELCON 00449	CNT 00553	HIGH 00434	Q 01614	TRY1 02500
RIGHT1 02560	COMM 00440	IF8 01766	RCON 01104	TRY2 02500
RIGHT2 02560	CONT1 02230	INIT 01309	RD 00958	TRY3 02500
RIGHT3 02560	CONT2 00694	ICMEC 00428	READ 00796	TRY4 02500
RIGHT4 02560	CONT3 01250	ITAB 00440	REL 00718	TRY5 02500
RIGHT5 02560	C 00439	LEAVE 01548	RM 02262	TWO 01880
ADD 01348	CYLOV 00554	LCC 01283	RPRUG 01231	XX 00000
ARM 00464	DISK 00864	LCW 00444	SAVE1 00968	ZERO 01140
A 01073	DISKX 00713	MORE 00610	SAVE2 00965	SYSSCT 19663
BACK 01066	DIS 00934	M 02067	SEEK 01240	
BB 02184	DOIT 01660	MSTOR 02058	SEQ 00454	

END OF ONE ASSEMBLY.

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00010 ***** PHASE A				
00020 ***** START OF S P S COMMON				
00030 DORG 2218		02218		
00040 * SYMBOL TABLE PARAMETERS				
00050 SPBL DS , 40,,	SECTORS PER BLOCK	00040	0	
00060 SMPBL DS , 235,,	SYMBOLS PER BLOCK	00235	0	
00070 SYMTBL DS , 16003,	HI-ORDER POSITION OF SYMBOL TABLE	16003	0	
00080 LOSYMB DS , SYMTBL+SMPBL*17-1,	LO-ORDER POSITION OF SYMBOLIC BLOCK	19997	0	
00090 SBFADD DS , LCSYMB-SPBL*100+1,	SYMBOLIC BLOCK DISK ADDRESS	15998	0	
00100 LBLIM DS , LCSYMB*12,	LO-ORDER BLOCK LIMIT	20009	0	
00110 MAXLIM DS , SYMTBL-6,	MAXIMUM LIMIT	15997	0	
00120 * EMPIRICAL SECTOR ASSIGNMENT PARAMETERS				
00130 1PTSPB DS ,1500,	1-PASS TOTAL SECTORS PER SYM. BLOCK	01500	0	
00140 2PTSPB DS ,600,	2-PASS TOTAL SECTORS PER SYM. BLOCK	00600	0	
00150 BP2OK DS ,5,	SYMBOLIC BLOCKS PER 20K CORE	00005	0	
00160 2PRTIO DS ,20000,	2-PASS RATIO--INTERM./FINAL SECTORS	20000	0	
00170 * SPS DISK ASSIGNMENT PARAMETERS				
00180 A1DAD DS ,18600,	CONTROL STATEMENTS, PH.A SUBROUTINES	18600	0	
00190 A1SCT DS ,137		00137	0	
00200 A2DAD DS ,18800,	NORMAL PROCESSING--FREQUENT STMTS.	18800	0	
00210 A2SCT DS ,55		00055	0	
00220 A3DAD DS ,19252,	TRA, CALL, GET-PUT AND ASSOC DECL	19252	0	
00230 A3SCT DS ,29		00029	0	
00240 A4DAD DS ,18881,	DMES, DVLC PROCESS	18881	0	
00250 A4SCT DS ,27		00027	0	
00260 A5DAD DS ,18737,	DEND, TCO, AND SYMBOL TABLE LIST	18737	0	
00270 A5SCT DS ,31		00031	0	
00280 S5DAD DS ,18908,	SYSTEM SYMBOL TABLE	18908	0	
00290 S5SCT DS ,35		00035	0	
00300 M5DAD DS ,S5DAD+S5SCT,	MASTER SYMBOL TABLE	18943	0	
00310 M5SCT DS ,19663,	MONITOR COMM SECTOR DISK ADDRESS	19663	0	
00320 B1DAD DS ,18978,	PHASE B INITIALIZATION	18978	0	
00330 B1SCT DS ,21		00021	0	
00340 B2DAD DS ,19200,	INPUT, BRANCH TABLE, SCAN	19200	0	
00350 B2SCT DS ,52		00052	0	
00360 B3DAD DS ,19000,	LINPRT, INSTAN, CC, DSDNB, DAS, DORG	19000	0	
00370 B3SCT DS ,69		00069	0	
00380 B3HAD DS ,09100, PHASE B3 MEMORY ADDRESS		09100	0	
00390 B4DAD DS ,19069,	RSTR, DAC, ALOW, DMES, DSB, DVLC, DGM	19069	0	
00400 B4SCT DS ,53		00053	0	
00410 B5DAD DS ,19122,	DSA, MACRO, CDA, TRA, DEND	19122	0	
00420 B5SCT DS ,29		00029	0	
00430 B6DAD DS ,19151,	CALL LINK, LOAD, EXIT	19151	0	
00440 B6SCT DS ,30		00030	0	
00450 ** PHASE A INITIALIZATION				
00460 B7DAD DS ,B2DAD+19,,	DISK-RESTORE B PARTIAL	19219	0	
00470 B7SCT DS ,04,,	SECTOR COUNT-RESTORE B PARTIAL	00004	0	
00480 B8DAD DS ,17001,,	DISK-PAGE OFLO GOODIES	17001	0	
00490 B9HAD DS ,16500,,	CORE ADDRESS TO INITIALIZE	16500	0	
00500 B10HAD DS ,09900,,	CORE ADDRESS OF PAGE OFLO	09900	0	
00510 PGCON DS ,B10HAD+1		09901	0	
00520 DIMDAD DS ,04800,	DIM ENTRY FOR EQUIV. TABLE	04800	0	
00530 DIMSCT DS ,1		00001	0	
00540 EQCAD DS ,0,	EQUIVALENCE TABLE	00000	0	
00550 EQSCT DS ,4		00004	0	
00560 PHCAD DS ,18855		18855	0	

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00570	PMCSCT	DS	,26		00026	0
00580	SUBHAD	DS	,0480B,	SPS SUBROUTINE DIM ENTRIES	0480B	0
00590	*			MONITOR COMMUNICATION PARAMETERS		
00600	MOSCT	DS	,16C00,	MONITOR COMM SECTOR MEMORY ADDRESS	16000	0
00610	MUDDC	US	,MOSCT+22,	DISC OUTPUT CODE	16022	0
00620	MUCTOC	DS	,MOSCT+23,	CD-TP OUTPT CODE	16023	0
00630	MONAME	DS	,MOSCT+35,	NAME	16035	0
00640	MOIDNO	DS	,MOSCT+39,	ID NUMBER	16039	0
00650	MOML	DS	,MOSCT+41,	MANT. LENGTH	16041	0
00660	MOSHNO	US	,MOSCT+43,	SUB. SET	16043	0
00670	MONOIS	DS	,MOSCT+44,	NOISE DIGIT	16044	0
00680	MOEXEC	DS	,426,	EXECUTE CONTROL AND SPS INPUT	00426	0
00690	MOMAD	DS	,415,	MEMORY ADDR	00415	0
00700	SYSCAL	DS	,475,	SYSTEM COMMON ACTION LOCATION	00475	0
00710	NONEX	DS	,457,	NON-EXECUTE FOR JOB ERROR	00457	0
00720	PCK	DS	,2365		02365	0
00730	*			IORT ENTRIES		
00740	IORT	CS	,565		00565	0
00750	IORT	DS	,532		00532	0
00760	IUGT	DS	,566		00566	0
00770	IORTC	CS	,520		00520	0
00780	IORS	DS	,554		00554	0
00790	IORTC	DS	,00716		00716	0
00800	MONCAL	DS	,00796		00796	0
00810	IOCSAD	DS	,19783,ADDRESS OF THE LOADER CALLER		19783	0
00820	*					
00830	*			SPS COMMUNICATION AREA		
00840	*					
00850	DUT	DS	1		02218	1
00860	DS	DS	80		02298	80
00870	ZEPD	DS	2		02300	2
00880	DS	DS	81		02381	81
00890	DC	DC	1,'		02382	1
00900	LNTD	DS	5		02387	5
00910	DC	DC	1,'		02388	1
00920	AJUST	DC	11,2121212121,,	INSTRUCTION PARITY TABLE	02399	11
			-2121212121			
00930	THINGS	DC	21,C01020304050607CC00'		02420	21
			-001020304050607CC00'			
00940	COLL	US	19		02439	19
00950	DS	DS	2		02441	2
00960	NUMB	DC	7,'		02448	7
			-00C00'			
00970	JSTBL	DC	11,3232323232,,	ALPHA PARITY TABLE	02459	11
			-3232323232			
00980	EVUDD	DC	10,C101010101,,	OMES PARITY TABLE	02469	10
			-101010101			
00990	*			PROCESSOR CONTROL SWITCHES--FLAGGED 1=ON, UNFLAGGED 0=OFF		
01000	STPCSW	DS	1,,	PUNCH SYMBOL TABLE	02470	1
01010	STYYSW	DS	1,,	TYPE SYMBOL TABLE	02471	1
01020	STPRSW	DS	1,,	PRINT SYMBOL TABLE	02472	1
01030	TYINSW	US	1,,	BEGIN TYPEWRITER INPUT	02473	1
01040	CCINSW	DC	1,1,,	BEGIN CARD INPUT	02474	1
			J			

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01050	PTINSW	DS	1,,	BEGIN PAPER TAPE INPUT	02475	1
01060	ERSTSW	DS	1,,	ERROR STOP	02476	1
01070	ZPSSW	DS	1,,	TWC PASS MODE	02477	1
01080	REL SW	DS	1,,	ASSEMBLE RELOCATABLE	02478	1
01090	LSCPSW	DS	1,,	LIST CARD	02479	1
01100	LSTYSW	DS	1,,	LIST TYPEWRITER	02480	1
01110	LSPRSW	DS	1,,	LIST PRINTER	02481	1
01120	PCNUSW	US	1,,	PUNCH RESEQUENCED SOURCE DECK	02482	1
01130	INTRSW	DS	1,,	INTERRUPT	02483	1
01140	KILSUB	DS	1,,	NO SUBROUTINES	02484	1
01150	CTVT	DC	5,C		02489	5
			-0000			
01160	INCODE	DC	2,5		02491	2
			-5			
01170	OBJCRE	DS	5,,	OBJECT MACHINE SIZE	02496	5
01180	PRUCKE	DS	1,,	PROCESSOR MACHINE SIZE	02497	1
01190	PRTLIM	DSA	5--5		02502	5 X 1
01200	HCLIM	DSA	LBLIM		02502	-0000
					02507	5 X 1
01210	DC	DC	1,'		02507	K0009
			*		02508	1
			*			
01220	STCNT	DC	5,1,,	STATEMENT COUNT	02513	5
			-0001			
01230	HIACD	DC	5,0,,	HIGH ADDRESS	02518	5
			-0000			
01240	L	DS	2,,	LENGTH OF MANTISSA	02520	2
01250	NOISE	DS	1		02521	1
01260	SUBNO	DS	2		02523	2
01270	PICKUP	DS	5		02528	5
01280	DC	DC	1,1		02529	1
			J			
01290	ISTAT	DC	30,C'		02559	30
			-00000000000000000000000000000000'			
01300	SPSGM	DGM			02560	1
01310	INKRM	DS	5		02565	5
01320	DC	DC	1,'		02566	1
			*			
01330	TEMPR	DS	5		02571	5
01340	DC	DC	1,'		02572	1
			*			
01350	RMRK	DS	3		02575	3
01360	DC	DC	1,'		02576	1
			*			
01370	ONEZ	DC	10,1		02586	10
			-000000001			
01380	*					
01390	*			IOCS CALL-LOAD PROCESSOR SECTION-NO MLRC		
01400	*					
01410	DS	DS	5		02591	5
01420	CFE	TFM	IORT,++23		02592	16 00565 -2615
01430	R	IOGT,CFEDEF,7			02604	49 00566 -2623
01440	B7	CFE-1,,6			02616	49 0259J
01450	CFEDEF	DSC	2,22,,	ABSOLUTE DISK NOT WRONG LENGTH	02623	2
			22			

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01460	CFFA	DSA	***		02629	5 X	1
01470		DC	1, *		02629	-0000	
					02630	1	
01480	MURI	DS	1		02631	1	
01490	IOACDR	DC	5,C,*,FILE ADDRESS OF INTERMEDIATE OUTPUT		02636	5	
			-0000				
01500	SYMTAD	DC	5,02600,*,FILE ADDRESS OF SYMBOL TABLE		02641	5	
			-2600				
01510	SBOUT	DC	2,0		02643	2	
			-0				
01520	PGNUM	DC	4,CC01,*, PAGE NUMBER BUCKET		02647	4	
			-001				
01530	*						
01540	*		END SPS COMMUNICATION AREA				
01550	*						
01560	TYPIN	DSA	INPLT-10		02652	5 X	1
					02652	-2877	
					02655	3	
01570		DC	3,06*				
			-6*				
01580	TAPIN	DSA	INPLT-10		02660	5 X	1
					02660	-2877	
01590		DC	3,08*		02663	3	
			-8*				
01600	CARDIN	DSA	INPLT-10		02668	5 X	1
					02668	-2877	
01610		DC	3,10*		02671	3	
			JO*				
01620	SBMAX	DC	2,0C		02673	2	
			-0				
01630	SBCNT	DC	2,0		02675	2	
			-0				
01640	ADDCOM	DS	5,PICKUP		02528	5	
01650		DS	1		02676	1	
01660	ALPHA	DS	10		02686	10	
01670	BETA	DS	10		02696	10	
01680	DIGITS	CS	3		02699	3	
01690	CLERER	DC	1,0		02700	1	
			-				
01700		DSC	26,C		02701	26	
			00000000000000000000000000000000				
01710		DSC	27,*		02727	27	
			00000000000000000000000000000000				
01720	INSAV	DAS	61		02755	61 X	2
01730		DAC	5, ***		02877	5 X	2
01740	INPUT	DAS	6		02887	6 X	2
01750		DAS	4		02899	4 X	2
01760		DAS	66		02907	66 X	2
01770		DC	1,*,**		03037	1	
			*				
01780		DAS	1		03039	1 X	2

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01790	INPUT2	DSS	217		03040	217	
01800	SUBENT	DS	5		03261	5	
01810	DMSV	DS	5		03266	5	
01820	DMSVH	DS	5		03271	5	
01830	PLACE	DS	5		03276	5	
01840	ERRDIG	DS	1		03277	1	
01850		DC	5,C		03282	5	
			-0000				
01860	LIMITS	CC	5,C		03287	5	
			-0000				
01870		DC	1,*		03288	1	
			*				
01880	ACCRS	DS	11		03299	11	
01890		DC	1,*		03300	1	
			*				
01900	ERLAB	DAS	6		03303	6 X	2
01910		DAC	2,*,*		03315	2 X	2
			,				
01920	LOPOUT	DC	10,C		03327	10	
			-00000000				
01930		DAC	2,*		03329	2 X	2
			*				
01940	LAB	US	12		03343	12	
01950		UC	1,*		03344	1	
			*				
01960	FLGRM	DC	1,*,**	FLAGGED RECORD MARK	03345	1	
			*				
01970	SMODE	DS	1		03346	1	
01980	DGSV	DS	1		03347	1	
01990		DS	1		03348	1	
02000	TEMP	DS	5		03353	5	
02010	CDRM	DAC	22, RE-ENTER STATEMENT. RE-ENTER STATEMENT.*		03355	22 X	2
02020	SALPHO	DAC	5,CC000 00000		03399	5 X	2
02030	*						
02040	*		READ INPLT				
02050	*						
02060	PHASEA	TDM	ERRDIG,0		03408	15	03277 00000
02070		BD	READ2, CDINSW		03420	43	03460 02474
02080		BD	READ1, PTINSW		03432	43	03408 02475
02090	*						
02100	*		READ TYPEWRITER				
02110	*						
02120	READ3	RCTY			03444	34	00000 00102
02130		TFM	**30, INPUT*18,**	OVERLAY INPUT AREA WITH	03456	16	03486 -2905
02140		AM	**18,2,10,	RECORD MARKS	03468	11	03486 000-2
02150		TFM	**-,**		03480	16	00000 -0000
02160		DAC	1,*,**		03491	1	X 2
			*				
02170		CM	**6, INPUT*140		03492	14	03486 -3027
02180		BL	**36		03504	47	03468 01300
02190		TF	INPUT-2, CLERER*9		03516	26	02885 02709
02200		TF	INPUT*10, CLERER*11		03528	26	02897 02711
02210		TF	INPUT*18, CLERER*7		03540	26	02905 02707
02220		TFM	IORT,*+23		03552	16	00965 -3575

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02230	R	IOGT,TYPIN-4,7	03564	49	00566	-2648
02240	BNC4	PROSTM	03576	47	03916	00400
02250	WATY	CORM	03588	39	03355	00100
02260	B7	READ3	03600	49	03444	
02270	*					
02280	*	READ PAPER TAPE				
02290	*					
02300	READ1	TFM IORT,++23	03608	16	00565	-3631
02310	B	IOGT,TAPIN-4,7	03620	49	00566	-2656
02320	B7	PROSTM	03632	49	03916	
02330	*					
02340	*	READ STATEMENT FROM CARD				
02350	*					
02360	READ2	TFM IORT,++23	03640	16	00565	-3663
02370	B	IOGT,CARDIN-4,7	03652	49	00566	-2664
02380	HNF	RSCAN,PCNUSW	03664	44	03808	02482
02390	DNR	++24,INPUT-10	03676	45	03700	02877
02400	TFM	INPLT-10,00,10	03688	16	02877	000-0
02410	CM	INPLT-10,14,10	03700	14	02877	000J4
02420	R2UE	BE RSCAN	03712	46	03808	01200
02430	TF	INPUT-02,5ALPHO+8	03724	26	02885	03407
02440	TD	INPLT-04,STCNT	03736	25	02883	02513
02450	TD	INPLT-06,STCNT-1	03748	25	02851	02512
02460	TD	INPLT-08,STCNT-2	03760	25	02879	02511
02470	TD	INPUT-10,STCNT-3	03772	25	02877	02510
02480	TFM	IORT,++23	03784	16	00565	-3807
02490	B	IOPT,CARDIN-4,7	03796	49	00532	-2664
02500	*					
02510	*	FIND RIGHTMOST CHARACTER OF STATEMENT AND PLACE A				
02520	*	RECORD MARK AFTER IT				
02530	*					
02540	RSCAN	TFM RSRD-1,INPUT+139	03808	16	03879	-3026
02550	TFM	RSRD+11,INPUT+140	03820	16	03891	-3027
02560	TFM	RSRD+11,,6	03832	16	0389J	00000
02570	DAC	1,*,*	03843		1 X	2
02580	SM	RSRD-1,2,10	03844	12	03879	000-2
02590	SM	RSRD+11,2,10	03856	12	03891	000-2
02600	BD	PROSTM,+-	03868	43	03916	00000
02610	RSBD	BD PROSTM,+-	03880	43	03916	00000
02620	CM	RSRD+11,INPUT+18	03892	14	03891	-2905
02630	BH	RSCAN+24	03904	46	03832	01170
02640	*					
02650	*	CLEAR FOR INTERMEDIATE OUTPUT				
02660	*					
02670	PROSTM	B PROCDN	03916	49	10882	00000
02680	HNR	++24, INPUT+20	03928	45	03952	02907
02690	TFM	INPLT+22, 00000	03940	16	02909	-0000
02700	DAC	1,*,*	03951		1 X	2
02710	TR	INPLT, CLERER+46	03952	31	03040	02746
02720	TR	INSAV-1,INPLT+19	03964	31	02754	02906
02730	AM	STCNT,1,10	03976	11	02513	00C-1
02740	TDM	LDABS, 1,11	03988	15	08036	0000J
02750	RD	R3E, 2PSSW	04000	43	04036	02477
02760	TCM	INPLT+99	04012	15	03139	00000

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02770	DC	1,*,*	04023		1	
02780	TR	INPLT+8, INPUT-11	04024	31	03048	02876
02790	R3E	AM INKRM, 1,10	04036	11	02565	000-1
02800	BNR	++24,INPUT-10	04048	45	04072	02877
02810	TFM	INPLT-10,00,10	04060	16	02877	000-0
02820	TF	PLACE, ADDCOW	04072	26	03276	02528
02830	CM	ADUCOW,99999	04084	14	02528	R9999
02840	BE	++48	04096	46	04144	01200
02850	C	ADDCOW,HIADD,,	04108	24	02528	02518
02860	HNM	++24	04120	47	04144	01100
02870	TF	HIADD,ADDCOW	04132	26	02518	02528
02880	HNR	++20,INPUT	04144	45	04164	02887
02890	B7	ER2	04156	49	04284	
02900	CM	INPLT,14,10	04168	14	02887	000J4
02910	HNE	RLOP1	04176	47	04224	01200
02920	HD	++24,ERRDIG	04188	43	04212	03277
02930	BD	P-ASEA, 2PSSW	04200	43	03408	02477
02940	HTM	OLTPUT, PHASEA	04212	17	09686	-3408
02950	*					
02960	*	CHECK FOR RECORD MARK IN LABEL FIELD.				
02970	*					
02980	RLOP1	TFM RLOP+11,INPUT-2	04224	16	04283	-2885
02990	AM	RLOP+11,2,10	04236	11	04283	000-2
03000	CM	RLOP+11,INPUT+12	04248	14	04283	-2899
03010	HE	OP	04260	46	04356	01200
03020	RLOP	BNR --36	04272	45	04236	00000
03030	*	RECORD MARK IN LABEL FIELD.				
03040	ER2	TFM EVALER-1, 20000	04284	16	07071	K0000
03050	DC	1,*,*	04295		1	
03060	BT	EPRINT,EPRINT-1	04296	27	07332	07331
03070	TF	INPLT+10, CLERER+11	04308	26	02897	02711
03080	DD	++24, 2PSSW	04320	43	04344	02477
03090	TR	INPLT+8, INPUT-11	04332	31	03048	02876
03100	BD	ERCOR, ERSTSW	04344	43	07196	02476
03110	DP	C CLERER+11,INPUT+10	04356	24	02711	02897
03120	BE	++36	04368	46	04404	01200
03130	TFM	ERLAB+10,INPUT+10	04380	26	03313	02897
03140	TFM	INKRM,C	04392	16	02565	-0000
03150	*					
03160	*	PROCESS OP CODE				
03170	*					
03180	*	CHECK FOR RECORD MARK IN OP CODE.				
03190	TFM	RMOP+11,INPUT+10	04404	17	04463	-2897
03200	AM	RMOP 11,2,10	04416	11	04463	000-2
03210	CM	RMOP+.1,INPUT+20	04428	14	04463	-2907
03220	BE	OPI	04440	46	04508	01200
03230	RMOP	BNR --36,++0,7	04452	45	04416	-0000
03240	TF	INPLT+18, CLERER+7	04464	26	02905	02707
03250	BD	++24, 2PSSW	04476	43	04500	02477
03260	TR	INPUT+8, INPUT-11	04488	31	03048	02876
03270	B7	ER3	04500	49	04848	
03280	*	TEST FOR ABSOLUTE OP CODE				
03290	OPI	TD ++46,INPUT+11	04508	25	04554	02898
03300	TD	++35,INPUT+13	04520	25	04555	02900

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03310	CM	++23,77,10	04532	14	04555	000P7
03320	BNE	ALFOP	04544	47	04616	01200
03330	C	CLERER+3,INPUT+18	04556	24	02703	02905
03340	BNE	ALFOP	04568	47	04616	01200
03350	TD	INPUT2, INPUT+12	04580	25	03040	02899
03360	TD	INPUT2+1, INPUT+14	04592	25	03041	02901
03370	BTM	INSTRN, DOINST+24	04604	17	10256	J0384
03380	*	SCAN OPCODE TABLE				
03390	ALFOP	TFM SHF+11,INPUT+18	04616	16	04759	-2905
03400	TFM	ALFLPI+11, OPLCTB+15	04628	16	04671	-4927
03410	BD	SHF,INPUT+11	04640	43	04748	02898
03420	B7	ER3	04652	49	04848	
03430	ALFLPI	TF ZP+11, +-*	04660	26	04815	00000
03440	TF	ALFLP+11, SHF+11	04672	26	04727	04759
03450	TF	ZP+18, SHF+11	04684	26	04822	04759
03460	SM	ALFLP+11, INPUT+7	04696	12	04727	-2894
03470	B7	++20	04708	49	04728	
03480	ALFLP	AM ZP+11, +-*	04716	11	04815	-0000
03490	BNR	ZP, ZP+11,11	04728	45	04804	0481N
03500	B7	ER3	04740	49	04848	
03510	SHF	C CLERER+1, +-*	04748	24	02701	00000
03520	BNE	ALFLPI	04760	47	04660	01200
03530	SM	ALFLPI+11, 5,10	04772	12	04671	000-5
03540	SM	SHF+11,2,10	04784	12	04759	000-2
03550	B7	SHF	04796	49	04748	
03560	ZP	TF ZEPO+30, +-*	04804	26	02330	00000
03570	C	+-*, ZEPO+27	04816	24	00000	02327
03580	BE	OK	04828	46	04928	01200
03590	B7	ALFLP	04840	49	04716	
03600	*	INVALID OP CODE				
03610	ER3	TFM EVALER-1,30000	04848	16	07071	LC000
03620	CC	1,*,*	04859		1	
03630	BT	EPRINT,EPRINT-1	04860	27	07332	07331
03640	DD	ERCOR, ERSTSW	04872	43	07196	02476
03650	TFM	INPLT2+1, 041, 9	04884	16	03041	00-41
03660	BTM	INSTRN,LDLHL	04896	17	10256	-8414
03670	*	LOCATIONS OF SECTIONS OF OP-CODE TABLE				
03680	OPLCTB	DSA A, B, C, D	04912		5 X	4
			04912		J3575	
			04917		J3632	
			04922		J3956	
			04927		J4615	
03690	*					
03700	*	USING THE LAST DIGIT OF THE OPCODE ENTRY GOODB IS				
03710	*	MODIFIED TO BRANCH TO THE CORRECT ENTRY IN BTBL				
03720	*					
03730	OK	TFM GOODB+6,BTBL	04928	16	04982	-5058
03740	TD	GOODB+11,ZEPO+30	04940	25	04987	02330
03750	A	GOODB+5,GOODB+11	04952	21	04981	04987
03760	SF	ZEPO+27	04964	32	02327	00000
03770	GOODB	B ,+10	04976	49	00000	000-0
03780	B	SAVRST,..-7	04988	49	05380	00000
03790	DORG	+1	04998			
03800	B	+-* ,..-6	04998	49	00000	00000

03810	DORG	+1	05008			
03820	B	CECL,..-5	05008	49	05148	00000
03830	DORG	+1	05018			
03840	B	BOMK,..-4	05018	49	05308	00000
03850	DORG	+1	05028			
03860	B	MCCALL,..-3	05028	49	11180	00000
03870	DORG	+1	05038			
03880	B	ADC,..-2	05038	49	05296	00000
03890	DORG	+1	05048			
03900	B	MACRO,..-1	05048	49	11288	00000
03910	DORG	+1	05058			
03920	BTBL	B INST,.. 0	05058	49	05284	00000
03930	DORG	+1	05068			
03940	B	SIUC,..+1	05068	49	05368	00000
03950	DORG	+1	05078			
03960	B	DISK,..+2	05078	49	05344	00000
03970	DORG	+1	05088			
03980	B	RDW,..+3	05088	49	05332	00000
03990	DORG	+1	05098			
04000	B	K,..+4	05098	49	05356	00000
04010	DORG	+1	05108			
04020	B	DSDNB,..+5	05108	49	12316	00000
04030	DORG	+1	05118			
04040	B	BI,..+6	05118	49	05320	00000
04050	DORG	+1	05128			
04060	B	BN1,..+7	05128	49	05320	00000
04070	DORG	+1	05138			
04080	B	DENDC,..+8	05138	49	12760	00000
04090	DORG	+1	05148			
04100	DECL	TFM GOODB2+6,BTBL2	05148	16	05190	-5196
04110	TD	GOODB2+11,ZEPO+29	05160	25	05195	02329
04120	A	GOODB2+5,GOODB2+11	05172	21	05189	05195
04130	GOODB2	B ,+10	05184	49	00000	000-0
04140	BTBL2	B DC,.. 0	05196	49	12800	00000
04150	DORG	+1	05206			
04160	B	DORG,..+1	05206	49	12584	00000
04170	DORG	+1	05216			
04180	B	CAC,..+2	05216	49	11472	00000
04190	DORG	+1	05226			
04200	B	DSA,..+3	05226	49	13308	00000
04210	DORG	+1	05236			
04220	B	DAS,..+4	05236	49	11392	00000
04230	DORG	+1	05246			
04240	B	HEADER,..+5	05246	49	12464	00000
04250	DORG	+1	05256			
04260	B	DSB,..+6	05256	49	12080	00000
04270	DORG	+1	05266			
04280	B	DGM,..+7	05266	49	11220	00000
04290	DORG	+1	05276			
04300	B	DHESCL,..+8	05276	49	11140	00000
04310	DORG	+3	05284			
04320	INST	BTM INSTRN,DOINST	05284	17	10256	J0360
04330	ADC	BTM INSTRN,DDADC	05296	17	10256	J0452
04340	BOMK	BTM INSTRN,DOBOMK	05308	17	10256	J0532
04350	BI	BTM INSTRN,DOB1	05320	17	10256	J0600
04360	DS	,BI	05320		0	

04370	RCW	DTM	INSTRN,DORDW	05332	17	10256	J0668
04380	DISK	BTM	INSTRN,DDDISK	05344	17	10256	J1060
04390	K	BTM	INSTRN,DUK	05356	17	10256	J0736
04400	SIUC	DTM	INSTRN,DOSIUC	05368	17	10256	J0816
04410	SAVRST	BTM	INSTRN,DOSVRS	05380	17	10256	J0980
04420	*						
04430	*		THE FOLLOWING CLOSED SUBROUTINE EVALUATES				
04440	*		THE STATEMENT OPERAND				
04450	*						
04460		NOP		05392	41	00000	00000
04470	IVALAD	TF	ADDRS,CLERER+9	05404	26	03299	02709
04480		TFM	RLGCSW,0,8	05416	16	08035	0-000
04490		TFM	EVALAD-9,100,9	05428	16	05395	00J00
04500		TF	BETA,ONEZ	05440	26	02696	02586
04510		TFM	ALPHA	05452	16	02686	-0000
04520		SF	HED-2	05464	32	10235	00000
04530		SF	EVALAD-5	05476	32	05399	00000
04540		TDM	B SW,1,11	05488	15	08037	0000J
04550		TDM	ADRS+1,1	05500	15	05897	00001
04560		TDM	RETURN+1,9	05512	15	05993	00009
04570		TR	COLL-18,THINGS-2C	05524	31	02421	02400
04580		TFM	LABL,1,10	05536	16	05687	000-1
04590		TFM	DOL,,10	05548	16	05685	000-0
04600		BNF	BCMSPC,EVALAD-7	05560	44	05772	05397
04610		TR	COLL-18,THINGS-2C	05572	31	02421	02400
04620		SF	HED-2	05584	32	10235	00000
04630		TFM	LABL,1,10	05596	16	05687	000-1
04640		TFM	DOL,,10	05608	16	05685	000-0
04650		B7	BCMSPC-12	05620	49	05760	
04660	*		CHECK FOR SPECIAL CHARACTER				
04670	COMSPC	CM	INPLT+20,70,10	05628	14	02907	000P0
04680		BL	SPEC	05640	47	05804	01300
04690		TDM	B SW,0	05652	15	08037	00000
04700		TF	COLL,INPUT+2C	05664	26	02439	02907
04710		CF	COLL-1	05676	33	02438	00000
04720	LABL	DS	,*	05687		0	
04730	DOL	DS	,*-2	05685		0	
04740		AM	DOL,1,10	05688	11	05685	000-1
04750		TDM	EVALAD-11	05700	15	05393	00000
04760		TR	COLL-17,COLL-15	05712	31	02422	02424
04770		CM	COLL-17,7,10	05724	14	02422	000-7
04780		BNE	*+24	05736	47	05760	01200
04790	*		SYMBOL IN OPERAND CONTAINS MORE THAN SIX CHARACTERS				
04800	*		OR NUMBER IN OPERAND HAS MORE THAN FIVE DIGITS				
04810	ERLNTN	BTM	EVALER,50000	05748	17	07072	NC000
04820		CC	1,*,*	05759		1	
04830		TR	INPUT+19,INPUT+21	05760	31	02906	02908
04840	*		CHECK TO SEE IF OPERAND IS PRESENT				
04850	BCMSPC	BNR	COMSPC,INPUT+20	05772	45	05628	02907
04860	COMMER	TDM	RETRN+1,1	05784	15	05993	00001
04870		B7	GET1	05796	49	05860	
04880	*		CHECK FOR + OR -				
04890	SPEC	RD	S1,INPUT+2C	05804	43	06208	02907
04900	*		CHECK FOR BLANK				
04910		BD	*+20,INPUT+19	05816	43	05836	02906

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04920		B7	BCMSPC-12	05828	49	05760	
04930		TDM	B SW,0	05836	15	08037	00000
04940		TC	ASET+11,INPUT+19	05848	25	05967	02906
04950	GET1	BD	ADRS,EVALAD-11	05860	43	05896	05393
04960		BTM	GET, *+12	05872	17	06454	-5884
04970		BT	MULT,MULT-1	05884	27	06796	06795
04980	ADRS	A	ADDRS,ALPHA,0	05896	41	03299	02686
04990		TC	RETRN-11,ADRS+1	05908	25	05981	05897
05000		TFM	EVALAD-9,100,9	05920	16	05395	00J00
05010		TF	BETA,ONEZ	05932	26	02696	02586
05020		TDM	MPYSW, 0	05944	15	08038	00000
05030	ASET	TDM	ADRS+1,1	05956	15	05897	00001
05040		BNF	*+24,RSYMSW	05968	44	05992	08034
05050		AM	RCTR,1,10	05980	11	08033	000-1
05060	RETURN	B	COMSPC-56	05992	49	05572	00000
05070		SF	ADRS-6	06004	32	03295	00000
05080		BNF	TOBB,RELSW	06016	44	06188	02478
05090		BNF	*+20,EVALAD-1	06028	44	06048	05403
05100		B7	TOBB	06040	49	06188	
05110		CM	RCTR,0,10	06048	14	08033	000-0
05120		BE	SREL+12	06060	46	06188	01200
05130		CM	RCTR,1,10	06072	14	08033	000-1
05140		BNE	*+24	06084	47	06108	01200
05150		BNF	SREL,ADRS	06096	44	06176	03299
05160		CM	RCTR,-1,10	06108	14	08033	000-J
05170		BNF	*+24,ADRS	06120	44	06144	03299
05180		BE	SREL	06132	46	06176	01200
05190	RELER	TFM	EVALER-2,71770,,	06144	16	07070	P1770
05200		BT	EPRINT,CPRINT-1	06156	27	07332	07331
05210		B7	EVI	06168	49	07108	
05220	SREL	TDM	RLGCSW,1,11	06176	15	08035	0000J
05230	TOBB	CF	EVALAD-1	06188	33	05403	00000
05240	BBACK	B7	EVALAD-1,,6	06200	49	0540L	
05250	*		CHECK FOR COMMA				
05260	S1	CM	INPLT+20,23,10	06208	14	02907	000K3
05270		HE	COMMER	06220	46	05784	01200
05280		TDM	B SW,0	06232	15	08037	00000
05290	*		CHECK FOR ASTERISK				
05300		CM	INPUT+20,14,10	06244	14	02907	000J4
05310		BE	ASTER	06256	46	06846	01200
05320	*		CHECK FOR DOLLAR SIGN				
05330		CM	INPUT+20,13,10	06268	14	02907	000J3
05340		BE	DOLLAR	06280	46	06312	01200
05350		TDM	LABL	06292	15	05687	00000
05360		B7	COMSPC+24	06304	49	05652	
05370	DOLLAR	BD	*+32,DOL	06312	43	06344	05685
05380		TFM	COLL,,10	06324	16	02439	000-0
05390		B7	*+44	06336	49	06380	
05400		CM	DOL,1,10	06344	14	05685	000-1
05410		BNE	DOLLAR-20	06356	47	06292	01200
05420		SF	COLL-3	06368	32	02436	00000
05430		CF	HED-2	06380	33	10235	00000
05440		TDM	EVALAD-11,1	06392	15	05393	00001
05450		TDM	LABL	06404	15	05687	00000
05460		BD	BCMSPC-12,DOL	06416	43	05760	05685
05470		B7	BCMSPC-60	06428	49	05712	

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05480 *	DOLLAR SIGN IMPROPERLY PLACED				
05490 ERCHAR	BTM EVALER,50000	06436	17	07072	N000G
05500	DC 1,*,*	06447		1	
05510 *					
05520 *	CLOSED ROUTINE TO EVALUATE COLLECTED SYMBOL OR INTEGER				
05530 *					
05540	DS 5	06452		5	
05550 GET	TDM RSYMSW,0	06454	15	08034	00000
05560	BD TRNUMB, LABL	06466	43	06638	05687
05570	CM COLL-17, 05,10	06478	14	02422	000-5
05580	BM 6CHAR	06490	46	06594	01100
05590	BE 5CHAR	06502	46	06562	01200
05600	TDM COLL,0	06514	15	02439	00000
05610	TR COLL-17, COLL-15	06526	31	02422	02424
05620	CM COLL-17, 05,10	06538	14	02422	000-5
05630	BNE *-36	06550	47	06514	01200
05640 5CHAR	BNF LBACD-24, HED-2	06562	44	07566	10235
05650	TF COLL-12, HED	06574	26	02427	10237
05660	R7 LBACD	06586	49	07590	
05670 6CHAR	BNF LBACD, HED-2	06594	44	07590	10235
05680	SF COLL-13	06606	32	02426	00000
05690	SF COLL-2	06618	32	02437	00000
05700	B7 LBACD	06630	49	07590	
05710 TRNUMB	CM COLL-14,6060	06638	14	02425	-6060
05720	BM ERLNTH	06650	46	05748	01100
05730	TDM NUMB-1,11	06662	15	02447	0000-
05740	TFM TRNUM1+11, COLL-2	06674	16	06733	-2437
05750	S TRNUM1+11, COLL-17	06686	22	06733	02422
05760	S TRNUM1+11, COLL-17	06698	22	06733	02422
05770	TR NUMB-5, NUMB-4	06710	31	02443	02444
05780 TRNUM1	TD NUMB-1	06722	25	02447	00000
05790	TR COLL-17, COLL-15	06734	31	02422	02424
05800	TF **23, *-13	06746	26	06769	06733
05810	BNR TRNUM1-12	06758	45	06710	00000
05820	TFM ALPHA	06770	16	02686	-0000
05830	A ALPHA, NUMB-1	06782	21	02686	02447
05840	BB2 , , 0	06794	M2		
05850 MULT	M ALPHA, BETA	06796	23	02686	02696
05860	SF 90	06808	32	00090	00000
05870	TF ALPHA, 99	06820	26	02686	00099
05880	TF BETA, 99	06832	26	02696	00099
05890	BB2 , , 0	06844	M2		
05900 ASTER	BD TEST3, EVALAD-11	06846	43	06938	05393
05910	DTM GET, **12	06858	17	06454	-6870
05920	BT MULT, MULT-1	06870	27	06796	06795
05930	TFM EVALAD-10, 11, 10	06882	16	05394	000J1
05940 ASR	DNF **36, RELSW	06894	44	06930	02478
05950	TDM MPYSW, 1, 11	06906	15	08038	000J3
05960	BD SREL-32, RSYMSW	06918	43	06144	08034
05970	B7 COMSPC-56	06930	49	05572	
05980 TEST3	BD TFACD, EVALAD-10	06938	43	06962	05394
05990	BD SW2, EVALAD-9	06950	43	07030	05395
06000 TFACD	TF ALPHA, ADDCOM	06962	26	02686	02528
06010	BT MULT, MULT-1	06974	27	06796	06795
06020	TFM EVALAD-9, 1, 10	06986	16	05395	000-1

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06030	TDM RSYMSW, 1, 11	06998	15	08034	0000J
06040	BD SREL-32, MPYSW	07010	43	06144	08038
06050	B7 COMSPC-56	07022	49	05572	
06060 SW2	TDM EVALAD-9	07030	15	05395	00000
06070	B7 ASR	07042	49	06894	
06080	DAS 5	07051		5 X	2
06090	BNR 59007	07060	45	59007	00000
06100	DAC 1,*,*	07071		1 X	2
06110 *					
06120 *	EVALER IS THE ERROR ROUTINE				
06130 *					
06140 EVALER	BT EPRINT, EPRINT-1	07072	27	07332	07331
06150	SPTY	07084	34	00000	00101
06160	WATY COLL-12, , ,	07096	39	02427	00100
06170 EV1	BD ERCOR, ERSTSW	07108	43	07196	02476
06180 CHKND	TFM ADDR	07120	16	03299	-0000
06190	BNR CHK2, INPUT+20	07132	45	07152	02907
06200	B7 TOBB	07144	49	06188	
06210 CHK2	CM INPUT+20, 23, 10	07152	14	02407	000K3
06220	BE TOBB	07164	46	06188	01200
06230	TR INPLT+19, INPUT+21	07176	31	02906	02908
06240	B7 CHKND+12, , 2	07188	49	-7132	
06250 ERCOR	WATY CORM, , ,	07196	39	03355	00100
06260	RCTY	07208	34	00000	00102
06270	TR INPLT+19, INSAV-1	07220	31	02906	02754
06280	WATY INPUT-10	07232	39	02877	00100
06290	TF ADDCOM, PLACE	07244	26	02528	03276
06300	TDM ERRDIG, 1, 11	07256	15	03277	0000J
06310	SM INKRM, 1, 10	07268	12	02565	000-1
06320	SM STCNT, 1, 10	07280	12	02513	000-1
06330	TFM CFFA, NCDCF1	07292	16	02629	-7316
06340	RTM CFF, READ3	07304	17	02592	-3444
06350 NCDCF1	DDA , 0, A2DAD, A2SCT, INSTRN	07316		14	
06360	DC 1,*,*	07330		1	
06370 *					
06380 *	EPRINT PRINTS THE ERROR MESSAGE AND REFERENCE TO				
06390 *	INDICATE THE STATEMENT IN ERROR				
06400 *					
06410 EPRINT	RCTY	07332	34	00000	00102
06420	TF LOPOUT, INPUT-2	07344	26	03327	02885
06430	WATY LOPOUT-8	07356	39	03319	00100
06440	WATY ERLAB	07368	39	03303	00100
06450	WNTY INKRM-3	07380	38	02562	00100
06460	WATY EVALER-21	07392	39	07051	00100
06470	BD **24, ERSTSW	07404	43	07428	02476
06480	SF NONEX, , ,	07416	32	00457	00000
06490	BB2	07428	42		
06500 *					
06510 *	TEST IF SIZE OF OBJECT CORE HAS BEEN EXCEEDED.				
06520 *	LINKAGE - BTM CTEST, **12 (RETURN ADDRESS IF ERROR).				
06530 *					
06540	DS 6	07435		6	
06550 CTEST	CM ADDCOM, 99999	07436	14	02528	R9999

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06560	BE	ER1-2	07448	46	07496	01200
06570	C	ADDCOM,OBJCRE	07460	24	02528	02496
06580	B1	ER1,1300	07472	46	07498	01300
06590	CT1	TDM CT1+10,00	07484	15	07494	00000
06600	BB2		07496	42		
06610	ER1	DD *-2,CT1+10	07498	43	07496	07494
06620	TFM	EVALER-1,1CC00	07510	16	07071	J0000
06630	DC	1,,'*	07521		1	
06640	BT	EPRINT,EPRINT-1	07522	27	07332	07331
06650	TDM	CT1+10,01	07534	15	07494	00001
06660	SF	NONEX	07546	32	00457	00000
06670	B7	CTEST-1,,6	07558	49	0743M	
06680	*					
06690	*	THE SYMBOL TABLE IS SEARCHED FOR EQUIVALENCE				
06700	*					
06710	TDM	COLL, 0	07566	15	02439	0C000
06720	TR	COLL-17, COLL-15	07578	31	02422	02424
06730	LBACC	BNF LB2, EVALAD-1	07590	44	07604	05403
06740	DB2		07602	42		
06750	LB2	TF BSENT, COLL-2	07604	26	08413	02437
06760	BT	BS, BS-1	07616	27	08120	08119
06770	BNF	NIC, EQSW	07628	44	07732	08359
06780	AM	BSBF-1,5,10	07640	11	08383	000-5
06790	TF	ALPHA, BSBF-1, 11	07652	26	02686	0838L
06800	LACCR	DNF **60, RELSW	07664	44	07724	02478
06810	BNF	**48, ALPHA	07676	44	07724	02686
06820	BD	SREL-32,MPYSW	07688	43	06144	08038
06830	TDM	RSYMSW,1,11	07700	15	08034	0000J
06840	CF	ALPHA	07712	33	02686	00000
06850	H7	GET-1,,6	07724	49	0643L	
06860	NIC	CM SBOLT, 00,10	07732	14	02643	000-0
06870	BNE	**24	07744	47	07768	01200
06880	BTM	EVALER, 50C00	07756	17	07072	NC000
06890	DC	1,,'*	07767		1	
06900	CM	BSBF-1, LBLIM	07768	14	08383	K0009
06910	HNL	**24	07780	46	07756	01300
06920	TD	DGSV, LOSYMB+1	07792	25	03347	19998
06930	TD	LOSYMB+1, SPSGM	07804	25	19998	02560
06940	*	WRITE DISK-WLRC--SAVE CORE SYMBOLS				
06950	TFM	IORT,**23	07816	16	00565	-7839
06960	B	IORBC,SDEF1,7	07828	49	00520	J0139
06970	TF	B2DCF+5, B1DCF+5	07840	26	10143	L0177
06980	TF	SBCNT, SBOUT	07852	26	02675	02643
06990	TFM	LIMITS-5, MAXLIM	07864	16	03282	J5997
07000	TFM	LIMITS, LBLIM	07876	16	03287	K0C09
07010	RDBLK	AM B2DCF+5, SPBL	07888	11	10193	-0040
07020	*	RFAD DISK-WLRC--READ SYMBOL BLOCK				
07030	TFM	IORT,**23	07900	16	00565	-7923
07040	H	IOGT,SDEF2,7	07912	49	00566	J0147
07050	BT	BS, BS-1	07924	27	08120	08119
07060	BD	LBFND, EQSW	07936	43	08040	08359
07070	SM	SBCNT, 1,10	07948	12	02675	000-1
07080	BP	RDBLK	07960	46	07888	01100
07090	*	READ DISK-WLRC--RESTORE CORE-ERS				

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07100	TFM	IORT,**23	07972	16	00565	-7995
07110	B	IOGT,SDEF1,7	07984	49	00566	J0139
07120	TD	LOSYMB+1, DGSV	07996	25	19998	03347
07130	TR	LIMITS-9, PRTLIM-4	08008	31	03278	02498
07140	RTM	EVALER, 50C00	08020	17	07072	NC000
07150	DC	1,,'*	08031		1	
07160	RCTR	DS 2,,	08033		2	
07170	RSYMSW	DS 1,,	08034		1	
07180	RLOCSW	DS 1,,	08035		1	
07190	LDABSW	DS 1,,	08036		1	
07200	BSW	DS 1,,	08037		1	
07210	MPYSW	DS 1	08039		1	
07220	LBFND	AM BSBF-1,5,10	08040	11	08383	000-5
07230	TF	ALPHA,BSBF-1,11	08052	26	02686	0838L
07240	*	READ DISK-WLRC--RESTORE CORE				
07250	TFM	IORT,**23	08064	16	00565	-8087
07260	B	IOGT,SDEF1,7	08076	49	00566	J0139
07270	TD	LOSYMB+1, DGSV	08088	25	19998	03347
07280	TR	LIMITS-9, PRTLIM-4	08100	31	03278	02498
07290	B7	LADDR,,2	08112	49	-7664	
07300	*	BINARY SYMBOL TABLE SEARCH SUBROUTINE				
07310	BS	TR LIM-9, LIMITS-9	08120	31	08391	03278
07320	BSCYC	TF BSBF, CLERER+5	08132	26	08384	02705
07330	A	BSBF, LIM	08144	21	08384	08400
07340	A	BSBF, LIM-5	08156	21	08384	08395
07350	TF	BSAV, BSBF	08168	26	08390	08384
07360	A	BSBF, BSBF	08180	21	08384	08384
07370	A	BSBF, BSBF	08192	21	08384	08384
07380	A	BSBF, BSAV	08204	21	08384	08390
07390	BD	**24, BSBF	08216	43	08240	05384
07400	AM	BSBF-1, 8,10	08228	11	08383	000-8
07410	SM	BSBF-1, 8,10	08240	12	08383	000-8
07420	C	BSBF-1, LIM-5	08252	24	08383	08395
07430	BNE	**26	08264	47	08290	01200
07440	TDM	EQSW, 0	08276	15	08359	00000
07450	BB2		08288	42		
07460	C	BSENT, BSBF-1,11	08290	24	08413	0838L
07470	BNE	BSNEQ	08302	47	08328	01200
07480	TDM	EQSW, 1,11	08314	15	08359	0000J
07490	BB2		08326	42		
07500	BSNEQ	BH BSHI	08328	46	08360	01100
07510	TF	LIM, BSBF-1	08340	26	08400	08383
07520	B7	BSCYC	08352	49	08132	
07530	BSHI	TF LIM-5, BSBF-1	08360	26	08395	08383
07540	B7	BSCYC	08372	49	08132	
07550	EQSW	DS , BSHI-1	08359		0	
07560	BSBF	DC 6,0	08384		6	
07570	BSAV	DC 6,0	08390		6	
07580	LIM	DC 10,0	08400		10	
07590	DC	1,,'*	08401		1	
07600	BSENT	DS 12	08413		12	

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07610 *
 07620 * MULTINE TO LOAD LABELS INTO SYMBOL TABLE
 07630 *
 07640 LDLHL C CLERER+11, INPUT+10 08414 24 02711 02897
 07650 HNE **24 08426 47 08450 01200
 07660 SMDTCC RTM OUTPUT, PHASEA 08438 17 09686 -3408
 07670 TDM TSPEC, 1 08450 15 10248 00001
 07680 TF LAB, INPUT+10 08462 26 03343 02897
 07690 BD LBCK2, LAB 08474 43 08530 03343
 07700 BD LBCK2, LAB-1 08486 43 08530 03342
 07710 TF LAB, LAB-2 08498 26 03343 03341
 07720 DT *-36 08510 49 08474
 07730 TF LAB, LAB-2 08518 26 03343 03341
 07740 LBCK2 C X03,LAB,, . UK 08530 24 10245 03343
 07750 HE **84 08542 46 08626 01200
 07760 C X21,LAB,, / OK 08554 24 10247 03343
 07770 RE **60,,, ()**8,AND BLANK ARE NOT ALLOWED 08566 46 08626 01200
 07780 C X33, LAB 08578 24 10243 03343
 07790 BM ER2B 08590 46 09498 01100
 07800 C X69, LAB 08602 24 10241 03343
 07810 BL **24 08614 47 08638 01300
 07820 TDM TSPEC,0 08626 15 10248 00000
 07830 BNF LBCK2-12, LAB-1 08638 44 08518 03342
 07840 BD ER2B, TSPEC 08650 43 09498 1C248
 07850 TF BSENT, INPUT+10 08662 26 08413 02897
 07860 SF BSENT 08674 32 08413 00000
 07870 BD **60, INPUT+10 08686 43 08746 02897
 07880 BC **48, INPUT+9 08698 43 08746 02896
 07890 TF BSENT, INPUT+8 08710 26 08413 02895
 07900 CF BSENT-9 08722 33 08404 00000
 07910 TF BSENT-10, MED 08734 26 08403 10237
 07920 AT BS, BS-1 08746 27 08120 08119
 07930 BD ER4A, EQSW 08758 43 09594 08359
 07940 CM BSBF-1, LBLIM 08770 14 08383 K0009
 07950 BNL LDSOK 08782 46 09058 01300
 07960 CM SBOUT, CO,10 08794 14 02643 000-0
 07970 BE LDSOK 08806 46 09058 01200
 07980 TD DGSV, LOSYMB+1 08818 25 03347 19998
 07990 TD LOSYMB+1, SPSGM 08830 25 19998 02560
 08000 * IOCS CALL-WRITE DISK WLRC
 08010 TFM IORT,**23 08842 16 00565 -8865
 08020 B IORBC,SDEF1,7 08854 49 00520 J013
 08030 TFM LIMITS, LBLIM 08866 16 03287 K0009
 08040 TFM LIMITS-5, MAXLIM,, LEFT FULL BLOCK LIMIT 08878 16 03282 J5997
 08050 TF SBENT, SBOUT 08890 26 02675 02643
 08060 TF B2DCF+5, BIDCF+5 08902 26 10193 10177
 08070 TF LDSR+11, BSBF-1 08914 26 09057 08383
 08080 LCESCY AM B2DCF+5, SPBL,10 08926 11 10193 00000
 08090 * READ DISK-WLRC
 08100 TFM IORT,**23 08938 16 00565 -8961
 08110 B IOGT,SDEF2,7 08950 49 00566 J0147
 08120 BT BS, BS-1 08962 27 08120 08119
 08130 DD ER4, EQSW 08974 43 09546 08359
 08140 SM SBENT, 1,10 08986 12 02675 000-1
 08150 RNZ LDDSCY 08998 47 08926 01200
 08160 * IOCS CALL-READ DISK WLRC

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08170 TFM IORT,**23 09010 16 00565 -9033
 08180 B IOGT,SDEF1,7 09022 49 00566 J0139
 08190 TD LOSYMB+1, DGSV 09034 25 19998 03347
 08200 LCSN TFM BSBF-1, *- 09046 16 08383 -CC00
 08210 LCSOK SM PRTLIM, 17,10 09058 12 02502 000J7
 08220 CM PRTLIM, MAXLIM 09070 14 02502 J5997
 08230 BL TABFUL 09082 47 09322 01300
 08240 TR LIMITS-9, PRTLIM-4 09094 31 03278 02498
 08250 TF SVDG+11, BSBF-1 09106 26 09141 08383
 08260 AM SVUG+11, 6,10 09118 11 09141 000-6
 08270 SVUG TD DGSV, *- 09130 25 03347 00000
 08280 TF **18, SVDG+11 09142 26 09160 09141
 08290 TDM SVDG+11,,6 09154 15 0914J 00000
 08300 DC 1,,* 09165 1
 08310 SM LDTR+6, 17,10 09166 12 09196 000J7
 08320 SM LDTR+11, 17,10 09178 12 09201 000J7
 08330 LDTR TR **,, **,, SHIFT SYMBOLS 09190 31 00000 00000
 08340 TF BSBF-1, BSENT, 6 09202 26 0838L 08413
 08350 BNF **48,RELSW 09214 44 09262 02478
 08360 SF ADDR 09226 32 03299 00000
 08370 HD **24,LDABSW 09238 43 09262 08036
 08380 CF ADDR 09250 33 03299 00000
 08390 TF **30, BSBF-1 09262 26 09292 08383
 08400 AM **18, 5,10 09274 11 09292 000-5
 08410 TF **,, ADDR 09286 26 00000 03299
 08420 TD SVUG+11, DGSV,6 09298 25 0914J 03347
 08430 DTM OUTPUT, PHASEA 09310 17 09686 -3408
 08440 TABFUL AM B2DCF+5, SPBL,10 09322 11 10193 00000
 08450 C SBOUT, SBMAX 09334 24 02643 02673
 08460 BNL ER19 09346 46 09614 01300
 08470 AM SBOUT, 1,10 09358 11 02643 000-1
 08480 TD DGSV, LOSYMB+1 09370 25 03347 19998
 08490 TD LOSYMB+1, SPSGM 09382 25 19998 02560
 08500 * IOCS CALL-WRITE DISK WLRC
 08510 TFM IORT,**23 09394 16 00565 -9417
 08520 B IORBC,SDEF2,7 09406 49 00520 J0147
 08530 TD LOSYMB+1, DGSV 09418 25 19998 03347
 08540 TFM PRTLIM, LBLIM-17 09430 16 02502 J9992
 08550 TFM LDTR+11, LBLIM-11 09442 14 09201 J9998
 08560 TFM LDTR+6, LBLIM-28 09454 16 09196 J9981
 08570 TF LOSYMB, CLERER+52 09466 26 19997 02752
 08580 TFM BSBF-1,LBLIM-17 09478 16 08383 J9992
 08590 BT LDSOK 09490 49 09058
 08600 ER2B TFM EVALER-1, 20000 09498 16 07071 K0000
 08610 DC 1,,* 09509 1
 08620 BT EPRINT, EPRINT-1 09510 27 07332 07331
 08630 BD ERCOR, ERSTSW 09522 43 07196 02476
 08640 BTM OUTPUT, PHASEA 09534 17 09686 -3408
 08650 * READ DISK-WLRC
 08660 ER4 TFM IORT,**23 09546 16 00565 -9569
 08670 B IOGT,SDEF1,7 09558 49 00566 J0139
 08680 TR LIMITS-9, PRTLIM-4 09570 31 03278 02498
 08690 TD LOSYMB+1, DGSV 09582 25 19998 03347
 08700 ER4A TFM EVALER-1, 40000 09594 16 07071 M0000

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08710	DC	1,*,*		09605	1		
08720	B7	ER28+12		09606	49	09510	
08730	ER19	TFM	EVALER-1, 17900	09614	16	07071	J7900
08740	DC	1,*,*		09625	1		
08750	TDM	ASTSW,1,11		09626	15	10249	0000J
08760	NOP	OUTPUT,PHASEA		09638	41	09686	03408
08770	BT	EPRINT,EPRINT-1		09650	27	07332	07331
08780	TFM	**23,17,10,	CHANGE NOP TO BTM	09662	16	09639	000J7
08790	B7	**36		09674	49	09638	
08800	*						
08810	*	OUTPUT ROUTINE					
08820	*						
08830	CS	5		09685	5		
08840	OUTPUT	TF	OT2DCF+5,OUTDCF+5	09686	26	10225	10209
08850	S		OT2DCF+5, SYMTAD	09698	22	10225	02641
08860	CM		OT2DCF+5,-2,10	09710	14	10225	000-K
08870	RH		ER2C,*,*	09722	46	10072	01100
08880	ND		2PASS, 2PSSW	09734	43	09882	02477
08890	BNR		2SECT, INPUT2+99	09746	45	09826	03139
08900	TD		INPLT2+99, SPSGM	09758	25	03139	02560
08910	TDM		OUTDCF+8, 1	09770	15	10212	C0001
08920	*	WRITE	DISK-NO WLRC				
08930	TFM		IORT,*,*23	09782	16	00565	-9805
08940	B		IORBC,OUTDF1,7	09794	49	00520	J0155
08950	AM		OUTDCF+5, 1	09806	11	10209	-0001
08960	B7		OUTPUT-1,*,*,*	09818	49	09688	
08970	2SECT	TUM	OUTDCF+8, 2	09826	15	10212	00002
08980	*	IUCS	CALL-WRITE DISK-NO WLRC				
08990	TFM		IORT,*,*23	09838	16	00565	-9861
09000	B		IORBC,OUTDF1,7	09850	49	00520	J0155
09010	2S	AM	OUTDCF+5, 2	09862	11	10209	-0002
09020	B7		OUTPUT-1,*,*,*	09874	49	09688	
09030	2PASS	CM	2PTR+6,INPUT2+208	09882	14	09948	-3248
09040	SL		**24	09894	47	09918	01300
09050	BTM		2PSOUT,*,*12	09906	17	09978	-9918
09060	TR		2PBLF,INPUT2	09918	31	10062	03040
09070	TD		2PBLF+7,ERRDIG	09930	25	10069	03277
09080	2PTR	TR	INPLT2+8,2PRUF,2	09942	31	-3048	10062
09090	AM		2PTR+6,8,10	09954	11	09948	000-8
09100	B7		OUTPUT-1,*,*,*	09966	49	09688	
09110	CS	5		09977	5		
09120	2PSOUT	TF	OT2DCF+5, OUTDCF+5	09978	26	10225	10209
09130	AM		OUTDCF+5,2,10	09990	11	10209	000-2
09140	TD		INPLT2+208, SPSGM	10002	25	03248	02560
09150	*	IUCS	CALL-WRITE DISK WITH WLRC				
09160	TFM		IORT,*,*23	10014	16	00565	J0037
09170	B		IORBC,OUTDF2,7	10026	49	00520	J0163
09180	TFM		2PTR+6,INPLT2+8	10038	16	09948	-3048
09190	2PRE	B	2PSOUT-1,*,*,*	10050	49	09979	00000
09200	2PBUF	DSC	9,C*	10062	9		
09210	ER20	NOP	OUTPUT-1,*,*,*	10072	41	09688	CC000
09220	TDM		ASTSW,1,11	10084	15	10249	0000J
09230	TFM		EVALER-1,27000	10096	16	07071	K7000

09240	DC	1,*,*		10107	1		
09250	BT		EPRINT,EPRINT-1	10108	27	07332	07331
09260	TFM		ER2C+1,49,10	10120	16	10073	000M9
09270	B7		OUTPUT-1,*,*,*	10132	49	09688	
09280	SCEF1	DSC	2,C*,*	10139	2		
09290	CO						
09290	DSA		B1DCF	10145	5	x	1
09300	DC	1,*,*		10145		J0172	
09310	SCEF2	CSC	2,C*,*	10146	2		
09320	CO						
09320	DSA		B2DCF	10147	5	x	1
09330	DC	1,*,*		10153		J0188	
09340	OUTDF1	DSC	2,02,*,*	10154	1		
09350	O2						
09350	DSA		OUTDCF	10155	2		
09360	DC	1,*,*		10161	5	x	1
09370	OUTDF2	DSC	2,00,*,*	10161		J0204	
09380	O0			10162	1		
09380	DSA		OT2DCF	10163	2		
09390	DC	1,*,*		10169	5	x	1
09400	B1DCF	CDA	,0,*,*,*,SPBL,SBFADD	10169		J0220	
09410	O-0000-40J5998	DC	1,*,*	10170	14		
09420	B2DCF	CDA	,0,*,*,*,SPBL,SBFADD	10172	14		
09430	O-0000-40J5998	DC	1,*,*	10186	1		
09440	OUTDCF	CDA	,0,*,*,*,1,INPUT2	10188	14		
09450	O-0000-01-3040	DC	1,*,*	10202	1		
09460	UT2DCF	CDA	,0,*,*,*,2,INPUT2+8	10204	14		
09470	O-0000-02-3048	DC	1,*,*	10210	1		
09480	DS	1		10234	1		
09490	HED	DC	2,0	10235	1		
09500	CNTR	DS	2	10237	2		
09510	X69	DC	2, 69	10239	2		
09520	X33	DC	2, 33	10241	2		
	L3			10243	2		

09530	X03	DC	2,03		10245	2	
09540	X21	CC	2,21		10247	2	
09550	TSPEC	DS	1		10248	1	
09560	ASTSM	CS	1		10249	1	
09570	*						
09580	*	PHASE	A1--INITIALIZATION				
09590	*						
09600	***	BRING	PRINT HEAD DOWN TO CORE CLEAR AND RETURN				
09610	PRTAD	DDA	,1,88DAD,87SCT,89MAD,,, DDA PAGE CFLO TITLE	10250		14	
09620		DC	1,1		10264	1	
09630	PRTHC	DSC	2,22,,, DEFINER TO REAC PAGE OVERFLW	10265		2	
09640		DSA	PRTAD	10271		5 x 1	
09650		DC	1,1	10271		J0250	
09660	CONTR	CSA	B9MAD+501	10272		1	
09670		DC	3,18',,,, PRINT SPS CONTROL RECORD	10277		5 x 1	
09680	START	J8'		10277		J7001	
09690		TFM	IORT,++23,,, GET INDICATOR RECORD	10280		3	
09700	H	IOGT,PRTHD,7		10282	16	00565	J0305
09710	TR	B9MAD,CLERER+1,,, CLEAR CONTROL HEADER AREA		10294	49	00566	J0265
09720	TR	B9MAD+52,CLERER+1		10306	31	16500	02701
09730	TR	B9MAD+104,CLERER+1		10318	31	16552	02701
09740	TR	B9MAD+163,CLERER+20,,,		10330	31	16604	02701
09750	TFM	IORT,++23,,,		10342	26	16663	02720
09760	R	IORBC,PRTHD,7, PUT INDICATOR RECCRC		10354	16	00565	J0377
09770	34	,0971,,, SKIP TO 1		10366	49	00520	J0265
09780	TFM	IOGT,++23		10378	34	00000	00971
09790	B	IOGT,MCADF,7		10390	16	00565	J0413
09800	TDM	MOCTOC,0		10402	49	00566	J5574
09810	TDM	MOCOC,0		10414	15	16023	00000
09820	TFM	MNAME,CLERER+11		10426	15	16022	00000
09830	TFM	MIDNO,CLERER+3		10438	26	16035	02711
09840	TFM	MOMAD,99999		10450	26	16039	02703
09850	TFM	INRRM,99999		10462	16	00415	R9999
09860	TFM	ADDCOW,2401		10474	16	02565	R9999
09870	TFM	L,MOML		10486	16	02528	-2401
09880	TD	NOISE,MONDIS		10498	26	02520	16041
09890	TFM	SUBNO,MOSBND		10510	25	02521	16044
09900	START2	TDM	0,0	10522	26	02523	16043
09910	TR	19959,CLERER+52		10534	15	00000	00000
09920	BNR	++44,0		10546	31	19949	02752
09930	TDM	PROCRE,2,11		10558	45	10602	00000
09940	TFM	HCLIM,LBLIM		10570	15	02497	0000K
09950	B7	AIC1		10582	16	02507	K0009
09960	TR	39959,CLERER+52		10594	49	10682	
09970	BNR	++44		10602	31	39999	02752
09980	TDM	PROCRE,4,11		10614	45	10658	00000
				10626	15	02497	0000M

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09980	TFM	HCLIM,LBLIM+1176*17		10638	16	02507	M0001
09990	B7	AIC1		10650	49	10682	
10000	TDM	PROCRE,6,11		10658	15	02497	00000
10010	TFM	HCLIM,LBLIM+2*1176*17		10670	16	02507	M9993
10020	AIC1	TD	OBJCRE-4,PROCRE	10682	25	02492	02497
10030	TFM	PRTLIM,HCLIM		10694	26	02502	02507
10040	SM	PRTLIM,17,10		10706	12	02502	000J7
10050	TR	LIMITS-9,PRTLIM-4		10718	31	03278	02498
10060	TFM	LDR+11,LIMITS		10730	26	09201	03287
10070	TFM	LDR+8,LIMITS		10742	26	09196	03287
10080	SM	LDR+11,11,10		10754	12	09201	000J1
10090	SM	LDR+8,28,10		10766	12	09196	000K8
10100	TFM	**30,OBJCRE		10778	26	10808	02496
10110	SM	**18,1,10		10790	12	10808	000-1
10120	TFM	**-,CLERER+52		10802	26	00000	02752
10130	TD	INCODE,MOEXEC		10814	25	02491	00426
10140	CF	INCODE		10826	33	02491	00000
10150	CM	INCODE,03,10		10838	14	02491	000-3
10160	ST2L	HL	C15P	10850	47	13376	01300
10170	HE	C14P		10862	46	13320	01200
10180	B7	C13P		10874	45	13264	
10190	PROCON	BNR	**24,INPUT-10	10882	45	10906	02877
10200	TFM	INPUT-10,00,10		10894	16	02877	000-0
10210	TFM	**30,INPUT-11		10906	16	10936	-2876
10220	AM	**18,2,10		10918	11	10936	000-2
10230	CF	**-		10930	33	00000	00000
10240	CM	**6,INPUT+151		10942	14	10936	-3038
10250	BL	**36		10954	47	10918	01300
10260	CM	INPUT-10,14,10		10966	14	02877	000J4
10270	BNE	CALLA2		10978	47	13924	01200
10280	TR	B9MAD+500,CLERER+27		10990	31	17000	02727
10290	TR	B9MAD+516,INPUT-11,,MOVE CONTROL RECORD TO PRINT		11002	31	17016	02876
10300	***	ROUTINE TO STORE THE PAGE HEAD					
10310	*	THE CONTROL RECORD WITH ASTERISKS IN FIRST AN SECOND					
10320	*	POSITIONS WILL BE THE PAGE INDICATOR					
10330	BNR	**20,INPUT-8,,, TEST FOR RM		11014	45	11034	02879
10340	B7	SLP-12,,, NOT AN ASTERISK -KEEP GOING		11026	49	11166	
10350	CM	INPUT-8,1414,8,,, TEST FOR A SECOND ASTERISK		11034	14	02879	0J414
10360	BNE	SLP-12,,, NO -FORGET IT		11046	47	11166	01200
10370	TFM	IORT,++23,,, YES -GET INDICATOR RECORD		11058	16	00565	J1081
10380	B	IOGT,PRTHD,7		11070	49	00566	J0265
10390	TR	B9MAD,INPUT-7,,, MOVE INDICATOR RECORD TO DISK AREA		11082	31	16500	02880
10400	REVSKN	TFM	**35,B9MAD+159	11094	16	11129	J6659
10410	SM	**23,2,10		11106	12	11129	000-2
10420	BNR	**12,--		11118	45	11104	00000
10430	TFM	**1,0,610		11130	16	11128	000-0
10440	TFM	IORT,++23,,, PUT INDICATOR RECORD		11142	16	00565	J1165
10450	B	IORBC,PRTHD,7		11154	49	00520	J0265
10460	TFM	SBNR+11,INPUT-10,,, COMPRESS BLANKS		11166	16	11201	-2877
10470	SLP	AM	SBNR+11,2,10	11178	11	11201	000-2
10480	SBNR	RNR	**20,--	11190	45	11210	00000
10490	B7	SLPX		11202	49	11302	
10500	C	CLERER+1,SBNR+11,11		11210	24	02701	1120J
10510	RNE	SLP		11222	47	11178	01200
10520	TFM	STR+11,SBNR+11		11234	26	11293	11201
10530	TFM	STR+6,SBNR+11		11246	26	11288	11201

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10540	SM	STR+6,1,10	11258	12	11288	000-1
10550	AM	STR+11,1,10	11270	11	11293	000-1
10560	STR	*-e,-e	11282	31	00000	00000
10570	B7	SBNR	11294	49	11190	
10580	SLPX	SBNR+11,INPUT-10*2*11,,	11302	14	11201	-2899
10590	BL	*+36	11314	47	11350	01300
10600	C	INPLT-10*2*10,C1+2*10	11326	24	02897	14821
10610	HE	C1P	11338	46	12644	01200
10620	CM	SBNR+11,INPUT-10*2*14	11350	14	11201	-2905
10630	BL	*+36	11362	47	11398	01300
10640	C	INPLT-10*2*13,C2+2*13	11374	24	02903	14849
10650	HE	C2P	11386	46	12724	01200
10660	CM	SBNR+11,INPUT-10*2*15	11398	14	11201	-2907
10670	BL	*+36	11410	47	11446	01300
10680	C	INPLT-10*2*14,C3+2*14	11422	24	02905	14879
10690	HE	C3P	11434	46	12844	01200
10700	CM	SBNR+11,INPUT-10*2*11	11446	14	11201	-2899
10710	BL	*+36	11458	47	11494	01300
10720	C	INPLT-10*2*10,C4+2*10	11470	24	02897	14901
10730	BE	C4P	11482	46	13024	01200
10740	CM	SBNR+11,INPUT-10*2*10	11494	14	11201	-2897
10750	BL	*+36	11506	47	11542	01300
10760	C	INPLT-10*2*9,C5+2*9	11518	24	02895	14921
10770	BE	C5P	11530	46	13044	01200
10780	CM	SBNR+11,INPUT-10*2*20	11542	14	11201	-2917
10790	BL	*+36	11554	47	11590	01300
10800	C	INPLT-10*2*19,C6+2*19	11566	24	02915	14961
10810	BE	C6P	11578	46	13064	01200
10820	CM	SBNR+11,INPUT-10*2*16	11590	14	11201	-2909
10830	BL	*+36	11602	47	11638	01300
10840	C	INPLT-10*2*15,C7+2*15	11614	24	02907	14993
10850	BE	C7P	11626	46	13084	01200
10860	CM	SBNR+11,INPUT-10*2*11	11638	14	11201	-2899
10870	BL	*+36	11650	47	11686	01300
10880	C	INPLT-10*2*10,C8+2*10	11662	24	02897	15015
10890	HE	C8P	11674	46	13104	01200
10900	CM	SBNR+11,INPUT-10*2*5	11686	14	11201	-2887
10910	BL	*+36	11698	47	11734	01300
10920	C	INPLT-10*2*4,C9+2*4	11710	24	02885	15025
10930	BE	C9P	11722	46	13124	01200
10940	CM	SBNR+11,INPUT-10*2*17	11734	14	11201	-2911
10950	BL	*+36	11746	47	11782	01300
10960	C	INPLT-10*2*16,C11+2*16	11758	24	02909	15091
10970	HE	C11P	11770	46	13204	01200
10980	CM	SBNR+11,INPUT-10*2*17	11782	14	11201	-2911
10990	BL	*+36	11794	47	11830	01300
11000	C	INPLT-10*2*16,C11A+2*16	11806	24	02909	15125
11010	HE	C11AP	11818	46	13224	01200
11020	CM	SBNR+11,INPUT-10*2*10	11830	14	11201	-2897
11030	BL	*+36	11842	47	11878	01300
11040	C	INPLT-10*2*9,C12+2*9	11854	24	02895	15145
11050	HE	C12P	11866	46	13244	01200
11060	CM	SBNR+11,INPUT-10*2*15	11878	14	11201	-2907
11070	BL	*+36	11890	47	11926	01300
11080	C	INPLT-10*2*14,C13+2*14	11902	24	02905	15175
11090	HE	C13P	11914	46	13264	01200

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11100	CM	SBNR+11,INPUT-10*2*20	11926	14	11201	-2917
11110	BL	*+36	11938	47	11974	01300
11120	C	INPUT-10*2*19,C14+2*19	11950	24	02915	15215
11130	BE	C14P	11962	46	13320	01200
11140	CM	SBNR+11,INPUT-10*2*21	11974	14	11201	-2919
11150	BL	*+36	11986	47	12022	01300
11160	C	INPUT-10*2*20,C15+2*20	11998	24	02917	15257
11170	BE	C15P	12010	46	13376	01200
11180	CM	SBNR+11,INPUT-10*2*9	12022	14	11201	-2895
11190	BL	*+36	12034	47	12070	01300
11200	C	INPUT-10*2*8,C16+2*8	12046	24	02893	15275
11210	BE	C16P	12058	46	13420	01200
11220	CM	SBNR+11,INPUT-10*2*15	12070	14	11201	-2907
11230	BL	*+36	12082	47	12118	01300
11240	C	INPUT-10*2*14,C17+2*14	12094	24	02905	15305
11250	NDP	C17P	12106	41	13440	00000
11260	CM	SBNR+11,INPUT-10*2*12	12118	14	11201	-2901
11270	BL	*+36	12130	47	12166	01300
11280	C	INPUT-10*2*11,C17A+2*11	12142	24	02899	15329
11290	BE	C17AP	12154	46	13460	01200
11300	CM	SBNR+11,INPUT-10*2*15	12166	14	11201	-2907
11310	BL	*+36	12178	47	12214	01300
11320	C	INPUT-10*2*14,C18+2*14	12190	24	02905	15359
11330	BE	C18P	12202	46	13480	01200
11340	CM	SBNR+11,INPUT-10*2*16	12214	14	11201	-2909
11350	BL	*+36	12226	47	12262	01300
11360	C	INPUT-10*2*15,C19+2*15	12238	24	02907	15391
11370	BE	C19P	12250	46	13524	01200
11380	CM	SBNR+11,INPUT-10*2*18	12262	14	11201	-2913
11390	BL	*+36	12274	47	12310	01300
11400	C	INPUT-10*2*17,C20+2*17	12286	24	02911	15427
11410	BE	C20P	12298	46	13544	01200
11420	CM	SBNR+11,INPUT-10*2*12	12310	14	11201	-2901
11430	BL	*+36	12322	47	12358	01300
11440	C	INPUT-10*2*11,C21+2*11	12334	24	02899	15451
11450	BE	C21P	12346	46	13720	01200
11460	CM	SBNR+11,INPUT-10*2*14	12358	14	11201	-2905
11470	BL	*+36	12370	47	12406	01300
11480	C	INPUT-10*2*13,C22+2*13	12382	24	02903	15479
11490	BE	C22P	12394	46	13740	01200
11500	CM	SBNR+11,INPUT-10*2*5	12406	14	11201	-2887
11510	BL	*+36	12418	47	12454	01300
11520	C	INPUT-10*2*4,C23+2*4	12430	24	02885	15489
11530	BE	C23P	12442	46	13760	01200
11540	CM	SBNR+11,INPUT-10*2*9	12454	14	11201	-2895
11550	BL	*+36	12466	47	12502	01300
11560	C	INPUT-10*2*8,C24+2*8	12478	24	02893	15507
11570	BE	C24P	12490	46	13816	01200
11580	CM	SBNR+11,INPUT-10*2*5	12502	14	11201	-2887
11590	BL	*+36	12514	47	12550	01300
11600	C	INPUT-10*2*4,C25+2*4	12526	24	02885	15517
11610	BE	C25P	12538	46	13884	01200
11620	CM	SBNR+11,INPUT-10*2*27	12550	14	11201	-2931
11630	BL	*+36	12562	47	12598	01300
11640	C	INPUT-10*2*26,C26+2*26	12574	24	02929	15571
11650	BE	C26P	12586	46	13904	01200

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11660	TR	H9MAD+500,1DMES-1		12598	31	17000	12630
11670	TDM	B9MAD+513,00000,,	BLANK THE GM	12610	15	17013	00000
11680	B7	PHASE		12622	49	15616	
11690	ICMES	CAC 07, (1D)'		12631		7	X 2
		(1D)'					
11700	C1P	TFM OBJCRE,0,,	OBJECT CORE N	12644	16	02496	-0000
11710	TD	OBJCRE-4,INPUT-10+2*11		12656	25	02492	02899
11720	SF	OBJCRE-4		12668	32	02492	00000
11730	CM	OBJCRE,20000		12680	14	02496	K0000
11740	RNL	**24		12692	46	12716	01300
11750	TFM	OBJCRE,20000		12704	16	02496	K0000
11760	A7	PHASE		12716	49	15616	
11770	C2P	HNR **2C,INPUT-10+2*15,,	SUBROUTINE NUMBER NN	12724	45	12744	02907
11780	B7	C2P1		12736	49	12768	
11790	C	C70,INPUT-10+2*15		12744	24	15573	02907
11800	BNH	C2P2		12756	47	12800	01100
11810	C2P1	TFM SUBNO,00,10		12768	16	02523	000-0
11820	TD	SUBNO,INPUT-10+2*14		12780	25	02523	02905
11830	B7	PHASE		12792	49	15616	
11840	C2P2	TD SUBNO,INPUT-10+2*15		12800	25	02523	02907
11850	TD	SUBNO-1,INPUT-10+2*14		12812	25	02522	02905
11860	SF	SUBNO-1		12824	32	02522	00000
11870	B7	PHASE		12836	49	15616	
11880	C3P	BNR **20,INPUT-10+2*16,,	MANTISSA LENGTH NN	12844	45	12864	02909
11890	A7	C3P1		12856	49	12888	
11900	C	C70,INPUT-10+2*16		12864	24	15573	02909
11910	BNH	C3P2		12876	47	12920	01100
11920	C3P1	TFM L,00,10		12888	16	02520	000-0
11930	TD	L,INPUT-10+2*15		12900	25	02520	02907
11940	B7	C3P3		12912	49	12956	
11950	C3P2	TD L,INPUT-10+2*16		12920	25	02520	02909
11960	TD	L-1,INPUT-10+2*15		12932	25	02519	02907
11970	SF	L-1		12944	32	02519	00000
11980	C3P3	CM L,2,10		12956	14	02520	000-2
11990	BL	**36		12968	47	13004	01300
12000	CM	L,45,10		12980	14	02520	000M5
12010	BNH	**24		12992	47	13016	01100
12020	TF	L,MODL		13004	26	02520	16041
12030	B7	PHASE		13016	49	15616	
12040	C4P	TD NOISE,INPUT-10+2*11,,	NOISE DIGIT N	13024	25	02521	02899
12050	B7	PHASE		13036	49	15616	
12060	C5P	TDM ERSTSW,1,11,	ERROR STOP	13044	15	02476	0000J
12070	B7	PHASE		13056	49	15616	
12080	C6P	TDM RELSW,1,11,	ASSEMBLE RELOCATABLE	13064	15	02478	0000J
12090	B7	PHASE		13076	49	15616	
12100	C7P	TDM MOC TOC,1,11,	CUTPLT PAPER TAPE	13084	15	16023	0000J
12110	B7	PHASE		13096	49	15616	
12120	C8P	TDM MOC TOC,0,11,	CUTPLT CARD	13104	15	16023	0000-
12130	B7	PHASE		13116	49	15616	
12140	C9P	TD CTVT ,INPUT+8,,	CTVT NNNNN	13124	25	02489	02895
12150	TD	CTVT-1,INPUT+6		13136	25	02488	02893
12160	TD	CTVT-2,INPUT+4		13148	25	02487	02891
12170	TD	CTVT-3,INPUT+2		13160	25	02486	02889
12180	TD	CTVT-4,INPUT		13172	25	02485	02887
12190	SF	CTVT-4,		13184	32	02485	00000
12200	B7	PHASE		13196	49	15616	

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12210	C11P	TDM STPCSW,1, 1,	PUNCH SYMBOL TABLE	13204	15	02470	0000J
12220	B7	PHASE		13216	49	15616	
12230	C11AP	TDM STPRSW,1,11,	PRINT SYMBOL TABLE	13224	15	02472	0000J
12240	B7	PHASE		13236	49	15616	
12250	C12P	TDM INTRSW,1,11,	INTERRUPT XXX	13244	15	02483	0000J
12260	B7	PHASE		13256	49	15616	
12270	C13P	TDM CDINSW,1,11,	BEGIN CARD INPUT	13264	15	02474	0000J
12280	TDM	PTINSW,0		13276	15	02475	00000
12290	TDM	TYINSW,0		13288	15	02473	00000
12300	TDM	INCODE,5		13300	15	02491	00005
12310	B7	PHASE		13312	49	15616	
12320	C14P	TDM PTINSW,1,11,	BEGIN PAPER TAPE INPUT	13320	15	02475	0000J
12330	TDM	TYINSW,0		13332	15	02473	00000
12340	TDM	CDINSW,0		13344	15	02474	00000
12350	TDM	INCODE,3		13356	15	02491	00003
12360	B7	PHASE		13368	49	15616	
12370	C15P	TDM TYINSW,1,11,	BEGIN TYPEWRITER INPUT	13376	15	02473	0000J
12380	TDM	CDINSW,0		13388	15	02474	00000
12390	TDM	PTINSW,0		13400	15	02475	00000
12400	B7	PHASE		13412	49	15616	
12410	C16P	TDM LSCDSW,1,11,	LIST CARD	13420	15	02479	0000J
12420	B7	PHASE		13432	49	15616	
12430	C17P	TDM LSTYSW,1,11,	LIST TYPEWRITER	13440	15	02480	0000J
12440	B7	PHASE		13452	49	15616	
12450	C17AP	TDM LSPRSW,1,11,	LIST PRINTER	13460	15	02481	0000J
12460	B7	PHASE		13472	49	15616	
12470	C18P	DNF PHASE,ISTAT-30,,	STORE CORE IMAGE	13480	44	15616	02529
12480	TD	ISTAT-30, FLGRM		13492	25	02529	03345
12490	TDM	MODOC,0,11,		13504	15	16022	0000-
12500	B7	PHASE		13516	49	15616	
12510	C19P	TDM MODOC,1,11,	STORE RELOADABLE	13524	15	16022	0000J
12520	B7	PHASE		13536	49	15616	
12530	C20P	BD PHASE,SSTSW,,,	SYSTEM SYMBOL TABLE	13544	43	15616	13719
12540	TF	SSTDCF+13,HCLIM		13556	26	13717	02507
12550	C20P2	SM SSTDCF+13,SSTSC+100+11		13568	12	13717	-3511
12560	TFM	IORT,**23		13580	16	00565	06003
12570	B	IOGT,SSTDF,7		13592	49	00566	06095
12580	TF	C20P1+11,SSTDCF+13		13604	26	13639	13717
12590	AM	C20P1+11,4,10		13616	11	13639	000-4
12600	C20P1	S PRTLIM,0-0		13628	22	02502	00000
12610	TR	LIMITS-9,PRTLIM-4		13640	31	03278	02498
12620	S	LDTR+11,C20P1+11,11		13652	22	09201	1363R
12630	S	LDTR+ 6,C20P1+11,11		13664	22	09196	1363R
12640	TDM	SSTSW,1,11		13676	15	13719	0000J
12650	C20P4	B7 PHASE		13688	49	15616	
12660	SSTDF	DSC 2,22,,	ABSOLUTE DISK NOT WRONG LENGTH	13695			2
		22					
12670	C20P3	DSA SSTDCF		13701			5 X 1
12680	DC	1, *		13701		13704	
				13702		1	
12690	SSTDCF	DDA ,0,SSTDD,SSTSC,0-0		13704		14	
		OJ8908-35-0000					
12700	DC	1, *		13710		1	

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12710	SSTSW	DS	1			13719	1	
12720	C21P	TOM	2PSSW,1,11,	TWO PASS MODE		13720	15	02477 0C00J
12730		B7	PHASE			13732	49	15616
12740	C22P	TOM	KILSUB,1,11,	NO SUBROUTINES		13740	15	02484 0C00J
12750		B7	PHASE			13752	49	15616
12760	C23P	TR	SNR+11,CLERER+1,6,	NAME AAAAAA		13760	31	1120J 02701
12770		SF	INPLT-10+2+5-1			13772	32	02886 0C000
12780		TF	MONAME,INPUT-10+2+5+2+5			13784	26	16035 02697
12790		CF	INPLT-10+2+5-1			13796	33	02886 0C000
12800		B7	PHASE			13808	49	15616
12810	C24P	TD	MOIDNO,INPUT-10+2+9+2+3,,1	D NUMBER NANN		13816	25	16039 02901
12820		TD	MOIDNO-1,INPUT-10+2+9+2+2			13828	25	16038 02899
12830		TD	MOIDNO-2,INPUT-10+2+9+2			13840	25	16037 02897
12840		TD	MOIDNO-3,INPUT-10+2+9			13852	25	16036 02895
12850		SF	MOIDNO-3			13864	32	16036 0C000
12860		B7	PHASE			13876	49	15616
12870	C25P	CF	ISTAT-30,,,	LIBR		13884	33	02529 0C000
12880		B7	PHASE			13896	49	15616
12890	C26P	TOM	PCNLSW,1,11,	PUNCH RESEQUENCED SOURCE DECK		13904	15	02482 0C00J
12900		B7	PHASE			13916	49	15616
12910	CALLA2	SF	INPLT-1			13924	32	02886 0C000
12920		SF	INPUT+11			13936	32	02898 0C000
12930		TFM	**30,INPUT+17			13948	16	13978 -2904
12940		AM	**18,2,10			13960	11	13978 000-2
12950		SF	**0			13972	32	00000 0C000
12960		CM	**6,INPUT+151			13984	14	13978 -3038
12970		BL	**36			13996	47	13960 01300
12980		TFM	IORT,**23			14008	16	00565 J4031
12990		B	IORBC,MCODEF,7			14020	49	00520 J5574
13000		BNF	**24,TYINSW			14032	44	14056 02473
13010		TDM	2PSSW,0			14044	15	02477 0C000
13020								
13030								
13040								
DISK STORAGE SCRATCH SECTOR ASSIGNMENT								
13050		TFM	IORT,**23			14056	16	00565 J4079
13060		B	IOGT,DIM,7			14068	49	00566 J4776
13070		TF	CYLA V,MOSCT+8+20			14080	26	15599 16028
13080		RCTY				14092	34	00000 00102
13090		TF	SCTAV-2,CYLA V,,	OBTAIN AVAIL CYL. FROM MONITOR		14104	26	15602 15599
13100		A	SCTAV,SCTAV			14116	21	15604 15604
13110		BD	SAS2P,2PSSW			14128	43	14348 02477
13120		TFM	SASC+11,1PTSPB+SPBL			14140	16	14223 -154
13130		CM	HCLIM,LBLIM+1176*17			14152	14	02507 MC001
13140		BL	**48			14164	47	14212 01300
13150		RE	**24			14176	46	14200 01200
13160		AM	SASC+11,BP20K*1PTSPB-BP20K*SPBL			14188	11	14223 -7300
13170		A	SASC+11,**-1			14200	21	14223 14199
13180	SASC	CM	SCTAV,**			14212	14	15604 -0C000
13190		BL	SASX1			14224	47	14316 01300
13200		AM	STSA V,2*SPBL			14236	11	15609 -0080
13210	SAS1	AM	SBMAX,1,10			14248	11	02673 000-1
13220		AM	SASC+11,1PTSPB			14260	11	14223 -1500
13230		C	SCTAV,SASC+11			14272	24	15604 14223
13240		BL	SASX1			14284	47	14316 01300
13250		AM	STSA V,SPBL			14296	11	15609 -0040
13260		B7	SAS1			14308	49	14248

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13270	SASX1	TF	INTSA V,SCTAV			14316	26	15614 15604
13280		S	INTSA V,STSA V			14328	22	15614 15609
13290		B7	TYPASS			14340	49	14620
13300	SAS2P	TFM	SASC2+11,2PTSPB+SPBL			14348	16	14431 -0640
13310		CM	HCLIM,LBLIM+1176*17			14360	14	02507 MC001
13320		BL	**48			14372	47	14420 01300
13330		BE	**24			14384	46	14408 01200
13340		AM	SASC2+11,BP20K*2PTSPB-BP20K*SPBL			14396	11	14431 -2800
13350		A	SASC2+11,**-1			14408	21	14431 14407
13360	SASC2	CM	SCTAV,**			14420	14	15604 -0C000
13370		BL	SASX2			14432	47	14524 01300
13380		AM	STSA V,2*SPBL			14444	11	15609 -0080
13390	SAS2	AM	SBMAX,1,10			14456	11	02673 000-1
13400		AM	SASC+11,2PTSPB			14468	11	14223 -0C000
13410		C	SCTAV,SASC+11			14480	24	15604 14223
13420		BL	SASX2			14492	47	14524 01300
13430		AM	STSA V,SPBL			14504	11	15609 -0040
13440		B7	SAS2			14516	49	14456
13450	SASX2	TF	INTSA V,SCTAV			14524	26	15614 15604
13460		S	INTSA V,STSA V			14536	22	15614 15609
13470		MM	INTSA V,2PRTIO			14548	13	15614 KC000
13480		SF	90			14560	32	00090 0C000
13490		TF	INTSA V,9A			14572	26	15614 00094
13500		TD	**23,INTSA V			14584	25	14607 15614
13510		TD	**23,AJUST			14596	25	14619 02399
13520		AM	INTSA V,10			14608	11	15614 000-0
13530	TYPASS	TF	SYMTAD,SCTAV			14620	26	02641 15604
13540		S	IOADDR,STSA V			14632	22	02641 15609
13550		TF	IOADDR,SYMTAD			14644	26	02636 02641
13560		S	IOADDR,INTSA V			14656	22	02636 15614
13570		TF	BIDCF+5, SYMTAD			14668	26	10177 02641
13580		TF	B2DCF+5, SYMTAD			14680	26	10193 02641
13590		TF	OUTDCF+5, IOADDR			14692	28	10209 02636
13600		BNF	**24,RELSW			14704	44	14728 02478
13610		TFM	ADDCOM,99999			14716	16	02528 R9999
13620		TFM	R2BE+1,41,10,	CHANGE BE TO NOP		14728	16	03713 000M1
13630		TFM	PROSTM+1,41,10,,	CHANGE B TO NOP		14740	16	03917 000M1
13640		TFM	CFFA,NCDCF1			14752	16	02629 -7316
13650		BTM	CFF,PROSTM			14764	17	02592 -3916
13660	DIM	DSC	2,22			14776		2
13670		DSA	DIMDCF			14782		5 X 1
13680		DC	1,1			14782		J4784
13690	DIMDCF	DDA	10,DIMDAD,1,MOSCT			14784		14
13700		DC	1,1			14798		1
13710	C1	DAC	11,*OBJECTCORE			14801		11 X 2
13720	C2	DAC	14,*SUBROUTINESET			14823		14 X 2
13730	C3	DAC	15,*MAINTISSALENGTH			14851		15 X 2

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13740	C4	DAC 11,*NOISEDIGIT	14881	11	X	2
13750	C5	*NOISEDIGIT DAC 10,*ERRORSTOP	14903	10	X	2
13760	C6	*ERRORSTOP DAC 20,*ASSEMBLERELOCATABLE	14923	20	X	2
13770	C7	*ASSEMBLERELOCATABLE DAC 16,*OUTPUTPAPERTAPE	14963	16	X	2
13780	C8	*OUTPUTPAPERTAPE DAC 11,*OUTPUTCARD	14995	11	X	2
13790	C9	*OUTPUTCARD DAC 05,*CTVT	15017	5	X	2
13800	C10	*CTVT DAC 16,*TYPESYMBOLTABLE	15027	16	X	2
13810	C11	*TYPESYMBOLTABLE DAC 17,*PUNCHSYMBOLTABLE	15059	17	X	2
13820	C11A	*PUNCHSYMBOLTABLE DAC 17,*PRINTSYMBOLTABLE	15093	17	X	2
13830	C12	*PRINTSYMBOLTABLE DAC 10,*INTERRUPT	15127	10	X	2
13840	C13	*INTERRUPT DAC 15,*BEGINCARDINPUT	15147	15	X	2
13850	C14	*BEGINCARDINPUT DAC 20,*BEGINPAPERTAPEINPUT	15177	20	X	2
13860	C15	*BEGINPAPERTAPEINPUT DAC 21,*BEGINTYPEWRITERINPUT	15217	21	X	2
13870	C16	*BEGINTYPEWRITERINPUT DAC 09,*LISTCARD	15259	9	X	2
13880	C17	*LISTCARD DAC 15,*LISTTYPEWRITER	15277	15	X	2
13890	C17A	*LISTTYPEWRITER DAC 12,*LISTPRINTER	15307	12	X	2
13900	C18	*LISTPRINTER DAC 15,*STORECOREIMAGE	15331	15	X	2
13910	C19	*STORECOREIMAGE DAC 16,*STORERELOADABLE	15361	16	X	2
13920	C20	*STORERELOADABLE DAC 18,*SYSTEMSYMBOLTABLE	15393	18	X	2
13930	C21	*SYSTEMSYMBOLTABLE DAC 12,*TWOPASSMODE	15429	12	X	2
13940	C22	*TWOPASSMODE DAC 14,*NDSUBROUTINES	15453	14	X	2
13950	C23	*NDSUBROUTINES DAC 05,*NAME	15481	5	X	2
13960	C24	*NAME DAC 09,*IDNUMBER	15491	9	X	2
13970	C25	*IDNUMBER DAC 05,*LIBR	15509	5	X	2
13980	C26	*LIBR DAC 27,*PUNCHRESEQUENCEDSOURCEDECK	15519	27	X	2
13990	C70	*PUNCHRESEQUENCEDSOURCEDECK DC 2,70	15573	2		
14000	MCACDF	PO OSC 2,22	15574	2		
14010		22 DSA MCACDF	15580	5	X	1

14020		DC 1,*	15580	J5582		
14030	MCACDF	CDA ,0,MOSDAD,1,MOSCT	15581	1		
14040		OJ9663-U1J6000 DC 1,*	15582	14		
14050	CYLAV	DC 3,2C	15596	1		
14060	SCTAV	-20 DC 5,0	15599	3		
14070	STSAV	-0000 DC 5,C	15604	5		
14080	INTSAV	-0000 DC 5,0	15609	5		
14090		-0000 CC 1,*	15614	5		
14100	PHASE	TFM IORT,**23	15615	1		
14110		NOP IOPT,CONTR-4,7	15616	16	00565	J5639
14120		TDM **11,9,,,	15628	41	00532	J0273
14130		H7 PHASEA	15640	15	15629	0C009
14140	FLA1	SF FLGRM	15652	49	03408	
14150		34 A1DCF,00701	15660	32	03345	0C000
14160		3R A1DCF,0C702	15672	34	15720	00701
14170		TRA	15684	38	15720	C0702
14180	A1DCF	CDA ,0,A1DAD,A1SCT,ZEPO	15696	36	00000	00500
14190		OJ86C0J37-2300 DC 1,*	15708	49	00000	0C000
14200		TCD FLA1	15720	14		
14210		DORG PRTAD	10250			
14220		DS 5	10254	5		
14230	INSTRN	TD **23,ADDCOM	10256	25	10279	02528
14240		TD **23,AJUST	10268	25	10291	02399
14250		AM ADDCOM,**10	10280	11	02528	000-0
14260		BTM EVALAD, **12, 4 11	10292	17	05M04	1030M
14270		BTM EVALAD, **12, 5 11	10304	17	054-4	10310
14280		TF ADDRS,ADDCOM	10316	26	03299	02528
14290		AM ADDCOM,**11,10	10328	11	02528	000J1
14300		BTM CTEST,**12	10340	17	07436	J0352
14310		BT INSTRN-1,**6	10352	49	1025M	
14320	DOINST	TF INPUT2*1, ZEPO*29	10360	26	03041	02329
14330		C INPLT*14, XB7-3	10372	24	02901	13650
14340		BNE **24	10384	47	10408	01200
14350		SM ADDCOM, 5,10	10396	12	02528	000-5
14360		C INPUT*16, XB2-3	10408	24	02903	14133
14370		HNE **24	10420	47	10444	01200
14380		SM ADDCOM,10,10	10432	12	02528	0C0J0
14390		B7 LDLBL	10444	49	08414	
14400	DOADC	TF INPUT2*2, ZEPO*29	10452	26	03042	02329
14410		SF INPUT2*2	10464	32	03042	00000
14420		TDM INPUT2,8	10474	15	03040	00008
14430		CM INPLT*12, 59,10,	10488	14	02899	000M9
14440		BNE **24	10500	47	10524	01200

14450	SF	INPLT2+1	10512	32	03041	0C000
14460	B7	LDLBL	10524	49	08414	
14470	DOROMK	TDM INPLT2,4	10532	15	03040	0C004
14480	TD	INPLT2+1, ZEPO+28	10544	25	03041	02328
14490	TD	INPLT2+6, ZEPO+29	10556	25	03046	02329
14500	SF	INPLT2+6	10568	32	03046	0C000
14510	TFM	INPLT2+4,00,10 11	10580	16	03044	000--
14520	B7	LDLBL	10592	49	08414	
14530	DOBT	TDM INPLT2, 4	10600	15	03040	0C004
14540	TD	INPLT2+1, ZEPO+30	10612	25	03041	02330
14550	SF	ZEPO+28	10624	32	02328	0C000
14560	TF	INPLT2+6, ZEPO+24	10636	26	03044	02329
14570	SF	INPLT2+4	10648	32	03044	0C000
14580	B7	LDLBL	10660	49	08414	
14590	DOXOW	TD INPLT2+1, ZEPO+28	10668	25	03041	02328
14600	TDM	INPLT2, 3	10680	15	03040	0C003
14610	TD	INPLT2+4, ZEPO+29	10692	25	03044	02329
14620	SF	INPLT2+4	10704	32	03044	0C000
14630	TDM	INPLT2+3,0,11	10716	15	03043	0000-
14640	B7	LDLHL	10728	49	08414	
14650	DOX	TFM INPLT2+1, 034,9	10736	16	03041	00-34
14660	TD	INPLT2+6, ZEPO+24	10748	25	03046	02329
14670	SF	INPLT2+6	10760	32	03046	0C000
14680	TD	INPLT2+4, ZEPO+28	10772	25	03044	02328
14690	SF	INPLT2+4	10784	32	03044	0C000
14700	TDM	INPLT2+3, 0,11	10796	15	03043	0C00-
14710	B7	LDLHL	10808	49	08414	
14720	DOSIOD	SF ZEPO+22	10816	32	02322	0C000
14730	TFM	INPLT2+1, 046,9	10828	16	03041	00-46
14740	CM	ZEPO+23,43,10	10840	14	02323	0C003
14750	RE	**72	10852	46	10924	01200
14760	CM	ZEPO+25,4243,8	10864	14	02325	0M243
14770	DE	**36	10876	46	10912	01200
14780	CM	ZEPO+23,42,10	10888	14	02323	0C002
14790	RE	**24	10900	46	10924	01200
14800	TDM	INPLT2+1, 7	10912	15	03041	0C007
14810	TFM	INPLT2+4,60,1011	10924	16	03044	0C00-
14820	SF	ZEPO+28	10936	32	02328	0C000
14830	TF	INPLT2+6, ZEPO+29	10948	26	03046	02329
14840	SF	INPLT2+6	10960	32	03046	0C000
14850	H7	LDLHL	10972	49	08414	
14860	DOSVRS	AM ADDCOW,12	10980	11	02528	712
14870	TFM	INPLT2+1, 02,10	10992	16	03041	00-
14880	HD	**36, ZEPO+29	11004	43	11040	02329
14890	AM	ADDCOW,12	11016	11	02528	-0012
14900	TDM	INPLT2+1,1	11028	15	03041	0C001
14910	HTM	C TEST, **12	11040	17	07436	J1052
14920	H7	LDLHL	11052	49	08414	
14930	DOXISK	TDM INPLT2, 3	11060	15	03040	00003
14940	TD	INPLT2+1, ZEPO+28	11072	25	03041	02328
14950	TDM	INPLT2+4, 7,11	11084	15	03044	0000P
14960	TDM	INPLT2+3, 1,11	11096	15	03043	0C00-
14970	TD	INPLT2+6, ZEPO+29	11108	25	03046	02329
14980	SF	INPLT2+6	11120	32	03046	0C000
14990	B7	LDLHL	11132	49	08414	
15000	DMESCL	TFM CFFA,FFIDCF	11140	16	02629	J1164

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15010	HTM	CFF,DECL2	11152	17	02542	J0256
15020	FFIDCF	CDA ,0,A4DAD,A4SCT,INSTRN	11164		14	
		0J8881-27J0256				
15030	CC	1,*	11178		1	
		*				
15040	MCCALL	TFM CFFA,A3DCF	11180	16	02629	J1204
15050	BTM	CFF,MACRO2	11192	17	02542	J0256
15060	A3DCF	CDA ,0,A3DAD,A3SCT,INSTRN	11204		14	
		0J9252-29J0256				
15070	CC	1,*	11216		1	
		*				
15080	DGM	TDM INPLT2, 5	11220	15	03040	00005
15090	BTM	EVALAD, **12, 4	11232	17	05M04	11244
15100	HNF	DAC3-32,BSW	11244	44	12004	08637
15110	AM	ADDCOW, 1	11256	11	02528	-0001
15120	TF	ADDCOW, ADCCOW	11268	26	03299	02528
15130	B7	DAC3-32	11280	49	12004	
15140	MACRO	TD **23,ADDCOW	11288	25	11311	02528
15150	TD	**23,AJUST	11300	25	11323	02399
15160	AM	ADDCOW,,10	11312	11	02528	000-0
15170	SF	ZEPO+28	11324	32	02328	0C000
15180	TF	INPLT2+6, ZEPO+29	11336	26	03046	02329
15190	*					
15200	*	SET ONE TO INDICATE SUBROUTINE IS REQUIRED				
15210	*					
15220	TFM	**30,ISTAT-30	11348	16	11378	-2529
15230	A	**18,ZEPO+29	11360	21	11378	02329
15240	TDM	**-, 1	11372	15	00000	00001
15250	B7	DSA,,TO DSA ROUTINE TO COUNT NUMBER OF OPERANDS	11384	49	13308	
15260	*	EVALUATE LENGTH OF DAS				
15270	*					
15280	CAS	BTM EVALAD,**12,4	11392	17	05M04	11404
15290	TF	LNTH,ADDS	11404	26	02387	03299
15300	TF	TEMPR,LNTH	11416	26	02571	02387
15310	A	TEMPR,TEMPR	11428	21	02571	02571
15320	TDM	INPLT2, 2	11440	15	03040	00002
15330	TD	INPUT2+6, ZEPO+29	11452	25	03046	02329
15340	B7	DAC3	11464	49	12036	
15350	*					
15360	*	EVALUATE LENGTH OF DAC				
15370	*					
15380	DAC	TDM INPLT2, 0	11472	15	03040	0C000
15390	TFM	STCHAR+11, 00,10	11484	16	11799	000-0
15400	DAC	1,*	11496		1	X 2
		*				
15410	BTM	EVALAD,**12,4	11496	17	05M04	11508
15420	TF	LNTH,ADDS	11508	26	02387	03299
15430	CM	LNTH,51	11520	14	02387	-0051
15440	BN	**BC	11532	47	11612	01300
15450	TFM	EVALER-1, 80000,,	11544	16	07071	0C000
15460	DC	1,*	11556		1	
		*				
15470	TFM	LNTH, 00050	11556	16	02387	-0050
15480	TFM	TEMPR, 100	11568	16	02571	-0100
15490	CACER	BT EPRINT, EPRINT-1	11580	27	07332	07331
15500	BD	ERCDP, ERYSW	11592	43	07196	02476

ER 8, LENGTH TOO BIG

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15510	B7	DACR	11604	49	11860	
15520	A	ADDRS,ADDRS	11612	21	03299	03299
15530	TF	TEMPR,ADDRS	11624	26	02571	03299
15540	BNR	**20,INPUT+20	11636	45	11656	02907
15550	B7	ER9CAC	11648	49	11668	
15560	BNR	**32, INPUT+22	11656	45	11688	02909
15570	ER9CAC	TFM EVALER-1, 9C000,,	11668	16	07071	RC000
15580	DC	1,,'*	11679		1	
CONSTANT NCT SPECIFIED						
15590	B7	DACER	11680	49	11580	
15600	TFM	**35,INPUT+19	11688	16	11723	-2906
15610	A	**23,TEMPR	11700	21	11723	02571
15620	CHVALD	TR ULT+2	11712	31	02220	00000
15630	BNR	**32, OUT+3	11724	45	11756	02221
15640	E10CAC	TFM EVALER-1, 17000,,	11736	16	07071	J7000
15650	DC	1,,'*	11747		1	
MIS-COUNT OF CONSTANT LENGTH						
15660	B7	DACER	11748	49	11580	
15670	BNR	**2C,OUT+5	11756	45	11776	02223
15680	B7	**32	11768	49	11800	
15690	CM	OLT+5,23,10	11776	14	02223	000K3
15700	STCHAR	BNE E10DAC	11788	47	11736	01200
15710	TC	STCHAR+11,OUT+5	11800	25	11799	02223
15720	AM	CHVALD+11,3	11812	11	11723	-0003
15730	TFM	CHVALD+11,,6 10	11824	16	11721	000-0
15740	DC	1,,'*	11835		1	
15750	AM	CHVALD+11,1,10	11836	11	11723	000-1
15760	TR	INPLT+21,CHVALD+11,11	11848	31	02908	1172L
15770	DACR	TF INPUT2+6, ZEPD+29	11860	26	03046	02329
15780	TC	INPUT2+4, LNTH	11872	25	03044	02387
15790	TD	INPLT2+3, LNTH-1	11884	25	03043	02386
15800	BNR	DAC3,STCHAR+11	11896	45	12036	11799
15810	*	ADDRESS ASSIGNED BY PROCESSOR				
15820	*					
15830	NOSINE	TD **23,ADDCOM	11908	25	11931	02528
15840	TD	**23,JSTBL	11920	25	11943	02459
15850	AM	ADDCOM,,10	11932	11	02528	000-0
15860	TF	ADDRS,ADDCOM	11944	26	03299	02528
15870	A	ADDCOM,TEMPR	11956	21	02528	02571
15880	SM	ADDCOM,2,10	11968	12	02528	000-2
15890	BD	**24,ZEPD+28	11980	43	12004	02328
15900	TF	ADDRS,ADDCOM	11992	26	03299	02528
15910	BTM	CTEST, **12	12004	17	07436	J2610
15920	TCM	INPLT2+1, 0,11	12016	15	03041	0000-
15930	B7	L0LBL	12028	49	08414	
15940	DAC3	BTM EVALAD,**12,5	12036	17	054-4	12048
15950	BD	NOSINE,BSW	12048	43	11908	08037
15960	TD	LDABSW,RLOCSW	12060	25	08036	08035
15970	B7	CAC3-32	12072	49	12004	
15980	*					
15990	*	EVALUATE LENGTH OF DSB				
16000	*					
16010	DSB	TDM INPUT2,4	12080	15	03040	00004
16020	TDM	INPUT2+6, 1	12092	15	03046	0C001
16030	TFM	EVALER-1, 70000	12104	16	07071	P0000

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16040	UC	1,,'*	12115		1	
16050	BTM	EVALAD, **12, 4	12116	17	05M04	12128
16060	TF	LNTH, ADDR	12128	26	02387	03299
16070	BTM	EVALAD, **12, 5	12140	17	054-4	12152
16080	TF	TEMPR, ADDR	12152	26	02571	03299
16090	BNF	**48, BSW	12164	44	12212	08037
16100	BT	EPRINT, EPRINT-1	12176	27	07332	07331
16110	BD	ERCOR, ERSTSW	12188	43	07196	02476
16120	TFM	TEMPR, 00001	12200	16	02571	-0001
16130	BTM	EVALAD, **12,5	12212	17	054-4	12224
16140	TD	LDABSW,RLOCSW	12224	25	08036	08035
16150	BNF	DAC3-32, BSW	12236	44	12004	08037
16160	TDM	LDABSW,1,11	12248	15	08036	0000J
16170	TF	ADDRS, ADDCOM	12260	26	03299	02528
16180	A	ADDRS, LNTH	12272	21	03299	02387
16190	M	LNTH, TEMPR	12284	23	02387	02571
16200	A	ADDCOM, 99	12296	21	02528	00099
16210	B7	CAC3-32	12308	49	12004	
16220	*					
16230	*	EVALUATE LENGTH OF DS OR DNB				
16240	*					
16250	DSDNB	BTM EVALAD,**12,4	12316	17	05M04	12328
16260	TD	INPUT2+6, ZEPD+29	12328	25	03046	02329
16270	TD	INPUT2+5, ZEPD+28	12340	25	03045	02328
16280	TF	LNTH,ADDRS	12352	26	02387	03299
16290	TDM	INPLT2, 4,11	12364	15	03040	0000M
16300	BD	**84, ZEPD+29	12376	43	12460	02329
16310	CM	LNTH,99	12388	14	02387	-0099
16320	BNP	**60	12400	47	12460	01100
16330	TFM	EVALER-1, 8C000	12412	16	07071	0C000
16340	DC	1,,'*	12423		1	
16350	BT	EPRINT, EPRINT-1	12424	27	07332	07331
16360	BD	ERCOR, ERSTSW	12436	43	07196	02476
16370	TFM	LNTH, 00099	12448	16	02387	-0099
16380	NASS	BTM EVALAD, **12, 5	12460	17	054-4	12472
16390	TD	LDABSW, RLOCSW	12472	25	08036	08035
16400	BNF	DAC3-32, BSW	12484	44	12004	08037
16410	*					
16420	*	ADDRESS ASSIGNED BY PROCESSOR				
16430	*					
16440	DNB2	TF ADDR, ADDCOM	12496	26	03299	02528
16450	TDM	LDABSW,1,11	12508	15	08036	0000J
16460	A	ADDCOM,LNTH	12520	21	02528	02387
16470	BD	DSS,ZEPD+28	12532	43	12564	02328
16480	A	ADDRS, LNTH	12544	21	03299	02387
16490	B7	DAC3-32	12556	49	12004	
16500	DSS	AM ADDR,1,10	12568	11	03299	000-1
16510	B7	DAC3-32	12576	49	12004	
16520	DORG	BTM EVALAD,**12,4	12588	17	05M04	12596
16530	BNF	**84,RELSW	12596	44	12600	02478
16540	BD	**72,RLOCSW	12608	43	12600	08035
16550	TFM	EVALER-2,71770,,	12620	16	07070	P1770
16560	BT	EPRINT,EPRINT-1,,	12632	27	07332	07331
16570	BD	ERCOR,ERSTSW	12644	43	07196	02476
RELOCATION ERROR IGNORE ABSOLUTE DORG						

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16580	TFM	INPUT2+1,06,10,	IN RELOCATABLE ASSEMBLY	12656	16	03041	000-6
16590	BTM	OUTPUT,PHASEA		12668	17	09686	-3408
16600	TF	ADDCOM,ADDRS		12680	26	02528	03299
16610	BTM	CTEST, **12		12692	17	07436	J2704
16620 *							
16630 *		SET ADDRESS COUNTER TO NEW VALUE					
16640 *							
16650	SM	ADDCOM,1,10		12704	12	02528	000-1
16660	TCM	INPUT2,1,11		12716	15	03040	0C00J
16670	BNF	**24,ADDCOM		12728	44	12752	02528
16680	TFM	ADDCOM,99999		12740	16	02528	R9999
16690	B7	UAC3-20		12752	49	12016	
16700	DENDC	TFM CFFA,CA5DCF		12760	16	02629	J2784
16710	BTM	CFF,DEND		12772	17	02592	J0420
16720	CA5CCF	CCA ,0,A50AD,A55CT,INSTRN		12784		14	
		OJ8/37-31J0256					
16730	DC	1, *		12798		1	
16740 *		DEFINE CONSTANT AND DEFINE SPECIAL CONSTANT					
16750 *							
16760	DC	TCM INPUT2, 2,11		12800	15	03040	CC00K
16770	TC	DC-1,ZEPO+28		12812	25	12799	02328
16780	TF	INPUT2+6, ZEPO+29		12824	26	03046	02329
16790	BTM	EVALAD,**12,4		12836	17	05M04	12848
16800	TF	LNTH,ADDRS		12848	26	02387	03299
16810	CCON	TFM TEMPR, -00G01		12860	16	02571	-000J
16820	AM	TEMPR,1		12872	11	02571	-CC01
16830	TR	INPLT+19, INPUT+21		12884	31	02906	02908
16840	BNR	CCN2-36,INPUT+20		12896	45	12976	02907
16850	CM	TEMPR,0		12908	14	02571	-0000
16860	BNF	CCN2		12920	47	13012	01200
16870	TFM	EVALER-1, 9C000		12932	16	07071	R0000
16880	DC	1,*,*		12944		1	
16890	BT	EPRINT, EPRINT-1		12944	27	07332	07331
16900	BD	ERCOR, ERSTW		12956	43	07196	02476
16910	B7	CCN2		12968	49	13012	
16920	CM	INPLT+20, 23,10		12976	14	02907	0C0K3
16930	BH	CCON+12		12988	46	12872	01100
16940	BL	CCON+24		13000	47	12884	01300
16950	CCN2	C TEMPR, LNTH		13012	24	02571	02387
16960	BNF	**40		13024	47	13084	01100
16970	TFM	EVALER-1, 17000		13036	15	07071	J1000
16980	DC	1,*,*		13048		1	
16990	BT	EPRINT, EPRINT-1		13048	27	07332	07331
17000	BD	ERCOR, ERSTW		13060	43	07196	02476
17010	DCRN	TF LNTH, TEMPR		13072	26	02387	02571
17020	CM	LNTH,51		13084	14	02387	-CC51
17030	B7	**72		13096	47	13168	01300
17040	TFM	EVALER-1, 8C000		13108	16	07071	CC000
17050	DC	1,*,*		13119		1	
17060	BT	EPRINT, EPRINT-1,,	ER 8 LENGTH TCC 81G	13120	27	07332	07331
17070	BD	ERCOR, ERSTW		13132	43	07196	02476
17080	TFM	LNTH, 00050		13144	16	02387	-0050

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17090	TFM	TEMPR, 50		13156	16	02571	-0050
17100	BTM	EVALAD, **12, 5		13168	17	054-4	13180
17110	TC	LOADSW,RLOC3W		13180	25	08036	08035
17120	BNF	CCN3, 85W		13192	44	13276	08037
17130	TCM	LOADSW,1,11		13204	15	08036	0C00J
17140	TF	ADDS,ADDCOM,,	MACHINE ASSIGNS ADDRESS	13216	26	03299	02528
17150	AM	ADDS,1		13228	11	03299	-0001
17160	A	ADDCOM, LNTH		13240	21	02528	02387
17170	BD	**24, DC-1		13252	43	13276	12799
17180	TF	ADDS,ADDCOM		13264	26	03299	02528
17190	CCN3	SF TEMPR-1		13276	32	02570	CC000
17200	TF	INPUT2+4, TEMPR		13288	26	03044	02571
17210	H7	DAL3-32		13300	49	12004	
17220	USA	TFM LNTH, 0C000		13308	16	02387	-0C00
17230	H7	DSA1		13320	49	13340	
17240	TR	INPLT+19, INPUT+21		13328	31	02906	02908
17250	CSA1	BTM EVALAD, **12, 4 11		13340	17	05M04	1335K
17260	AM	LNTH, 5,10		13352	11	02387	0C0-5
17270	BNR	**36, INPUT+20		13364	45	13328	02907
17280	CSA2	CM LNTH, 0050		13376	14	02387	-0050
17290	BH	ERUSA		13388	46	13516	01100
17300	TF	ADDS,ADDCOM		13400	26	03299	02528
17310	AM	ADDS, 5, 10		13412	11	03299	000-5
17320	A	ADDCOM, LNTH		13424	21	02528	02387
17330	TCM	INPUT2, 1		13436	15	03040	00001
17340	HNF	DAC3-32, ZEPO+28		13448	44	12004	02328
17350	AM	ADDCOM, 19,10		13460	11	02528	CC0J9
17360	SM	ADDS, 5		13472	12	03299	-0005
17370	TCM	INPUT2, 0,11		13484	15	03040	0C00-
17380	BTM	CTEST, **12		13496	17	07436	J3508
17390	B	LDLRL		13508	49	08414	0C000
17400	DURC	**3		13516			
17410	ERCSA	TFM EVALER-1,6C000		13516	16	07071	00000
17420	DC	1,*,*		13527		1	
17430	BT	EPRINT, EPRINT-1		13528	27	07332	07331
17440	BD	ERCOR, ERSTW		13540	43	07196	02476
17450	TFM	LNTH, 0C050		13552	16	02387	-0C050
17460	B7	DSA2+24		13564	49	13400	
17470 *							
17480 *		OPERATION CODE TABLE					
17490 *							
17500 A	DC	5,41210,,	ADD	A	13575		5
	M1210						
17510	DC	5,62220,,	SUBTRACT	S	13580		5
	O2220						
17520	DC	5,54230,,	MULTIPLY	M	13585		5
	N4230						
17530	DC	5,44290,,	DIVIDE	D	13590		5
	M4290						
17540	DC	5,43240,,	COMPARE	C	13595		5
	M3240						
17550	DC	5,42490,,	BRANCH	B	13600		5
	M2490						
17560	DC	5,52340,,	CONTROL	K	13605		5
	N2340						

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17570	DC 5,48480,,	HALT	M	13610	5
	M480				
17580	DC 5,6C000,,	DUMMY OP CODE		13615	5
	00000				
17590	DC 5,6C000,,	DUMMY OP CODE		13620	5
	00000				
17600	DC 5,,			13625	5
	-000'				
17610 B	DC 7,4154110,,	ADD IMMEDIATE	AM	13632	7
	M154110				
17620	DC 7,6254120,,	SUBTRACT IMMEDIATE	SM	13639	7
	0254120				
17630	DC 7,5454130,,	MULTIPLY IMMEDIATE	MM	13646	7
	N454130				
17640 XB7	CC 7,4277490,,	7-CHAR. BRANCH	B7	13653	7
	M277490				
17650	DC 7,4354140,,	COMPARE IMMEDIATE	CM	13660	7
	M354140				
17660	DC 7,6344250,,	TRANSMIT DIGIT	TD	13667	7
	0344250				
17670	DC 7,6346260,,	TRANSMIT FIELD	TF	13674	7
	U346260				
17680	DC 7,6359310,,	TRANSMIT RECORD	TR	13681	7
	0359310				
17690	DC 7,4263270,,	BRANCH AND TRANSMIT	BT	13688	7
	M263270				
17700	CC 7,4242420,,	BRANCH BACK	BB	13695	7
	M242420				
17710	DC 7,6246320,,	SET FLAG	SF	13702	7
	0246320				
17720	DC 7,4346330,,	CLEAR FLAG	CF	13709	7
	M346330				
17730	DC 7,5446710,,	MOVE FLAG	MF	13716	7
	N446710				
17740	CC 7,4244430,,	BRANCH DIGIT	BD	13723	7
	M244430				
17750	DC 7,4249460,,	BRANCH INDICATOR	BI	13730	7
	M249460				
17760	DC 7,4253137,,	BRANCH LOW	BL	13737	7
	M253137				
17770	DC 7,4255137,,	BRANCH NEGATIVE	BN	13744	7
	M255137				
17780	DC 7,4248116,,	BRANCH HIGH	HH	13751	7
	M248116				
17790	DC 7,4257116,,	BRANCH POSITIVE	BP	13758	7
	M257116				
17800	CC 7,4245126,,	BRANCH EQLAL	BE	13765	7
	M245126				
17810	DC 7,4269126,,	BRANCH ZERO	HZ	13772	7
	M269126				
17820	DC 7,4265146,,	BRANCH OVERFLOW	BV	13779	7
	M265146				
17830	DC 7,4241196,,	BRANCH ANY DATA CHECK	BA	13786	7
	M241196				
17840	DC 7,-4256704,,	BRANCH OUT, LOAD IR3	BO	13793	7
	M256704				

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17850 XCS	DC 7,4462015,,	DEFINE SYMBOL	DS	13800	7
	M462015				
17860	DC 7,-4443005,,	DEFINE CONSTANT	CC	13807	7
	M44300N				
17870	DC 7,-4641031,,	FLOATING ADD SUB.	FA	13814	7
	M64103J				
17880	DC 7,-4662021,,	FLOATING SUBTRACT SUB.	FS	13821	7
	M66202J				
17890	DC 7,-4654041,,	FLOATING MULTIPLY SUB.	FM	13828	7
	M65404J				
17900	CC 7,-4644051,,	FLOATING DIVIDE SUB.	FD	13835	7
	M64405J				
17910	DC 7,5344280,,	LOAD DIVIDEND	LD	13842	7
	N344280				
17920	DC 7,4454190,,	DIVIDE IMMEDIATE	DM	13849	7
	M454190				
17930	DC 7,-6241412,,	SELECT ADDRESS	SA	13856	7
	024141K				
17940	DC 7,-5452614,,	MASK INTERRUPTS	MK	13863	7
	N45261M				
17950	DC 7,6252412,,	SEEK	SK	13870	7
	0252412				
17960	DC 7,5955360,,	READ NUMERICALLY	RN	13877	7
	N955360				
17970	DC 7,5941370,,	READ ALPHAMERICALLY	RA	13884	7
	N941370				
17980	DC 7,4455350,,	DUMP NUMERICALLY	DN	13891	7
	M455350				
17990	DC 7,6655380,,	WRITE NUMERICALLY	WN	13898	7
	0655380				
18000	DC 7,6641390,,	WRITE ALPHAMERICALLY	WA	13905	7
	0641390				
18010	DC 7,-4444263,,	DEFINE DISK	CD	13912	7
	M44426L				
18020	DC 7,6060000,,	DUMMY OP CODE		13919	7
	0060000				
18030	DC 7,6060000,,	DUMMY OP CODE		13926	7
	0060000				
18040	DC 7,6060000,,	DUMMY OP CODE		13933	7
	0060000				
18050	DC 7,6060000,,	DUMMY OP CODE		13940	7
	0060000				
18060	DC 7,,			13947	7
	-00000'				
18070 C	DC 9,634654160,,	TRANSMIT FIELD IMMEDIATE	TFM	13956	9
	034654160				
18080	DC 9,634454150,,	TRANSMIT DIGIT IMMEDIATE	TDM	13965	9
	034454150				
18090	DC 9,425546440,,	BRANCH NO FLAG	BNF	13974	9
	M25546440				
18100	DC 9,425559450,,	BRANCH NO RECORD MARK	BNR	13983	9
	M25559450				
18110	DC 9,425549470,,	BRANCH NO INDICATOR	BNI	13992	9
	M25549470				
18120	DC 9,425548117,,	BRANCH NOT HIGH	BNH	14001	9
	M25548117				

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18130	DC 9,425557117,, M25557117	BRANCH NOT POSITIVE	BNP	14010	9
18140	DC 9,425545127,, M25545127	BRANCH NOT EQUAL	BNE	14019	9
18150	DC 9,425569127,, M25569127	BRANCH NOT ZERO	BNZ	14028	9
18160	DC 9,425553136,, M25553136	BRANCH NOT LOW	BNL	14037	9
18170	DC 9,425555136,, M25555136	BRANCH NOT NEGATIVE	BNN	14046	9
18180	DC 9,426765156,, M26765156	BRANCH EXPONENT CHECK	BXV	14055	9
18190	DC 9,425565147,, M25565147	BRANCH NO OVERFLOW	BNV	14064	9
18200	DC 9,425541197,, M25541197	BRANCH NOT ANY DATA CHECK	BNA	14073	9
18210	DC 9,425343096,, M25343096	BRANCH LAST CARD	BLC	14082	9
18220	DC 9,424371016,, M24371016	BRANCH CONSOLE SWITCH 1 ON	BC1	14091	9
18230	DC 9,424372026,, M24372026	BRANCH CONSOLE SWITCH 2 ON	BC2	14100	9
18240	DC 9,424373036,, M24373036	BRANCH CONSOLE SWITCH 3 ON	BC3	14109	9
18250	DC 9,424374046,, M24374046	BRANCH CONSOLE SWITCH 4 ON	BC4	14118	9
18260	DC 9,426354170,, M26354170	BRANCH AND TRANSMIT IMP.	BTM	14127	9
18270 XBR2	DC 9,424272420,, M24272420	2-CHAR. BRANCH BACK	BD2	14136	9
18280	DC 9,-645452604,, U4545260M	UNMASK INTERRUPTS	UMK	14145	9
18290	DC 9,555657410,, N55657410	NO OPERATION	NOP	14154	9
18300	DC 9,-444965011,, M4496501J	DIVIDE SUB.	DIV	14163	9
18310	DC 9,-464567111,, M6456711J	FLOATING NATURAL EXP. SUB.	FEX	14172	9
18320	DC 9,-465355131,, M6535513J	FLOATING NATURAL LOG. SUB.	FLN	14181	9
18330	DC 9,-435941003,, O3594100L	TRANSFER TO LOAD	TRA	14190	9
18340 XCSS	DC 9,446262115,, M46262115	DEFINE SPECIAL SYMBOL	DSS	14199	9
18350	DC 9,-446243105,, M4624310N	DEFINE SPECIAL CONSTANT	DSC	14208	9
18360 XCAS	DC 9,-444162145,, M4416214N	DEFINE ALPHA SYMBOL	CAS	14217	9
18370	DC 9,-444143125,, M4414312N	DEFINE ALPHA CONSTANT	DAC	14226	9
18380	DC 9,-445241035,, M4624103N	DEFINE SYMBOLIC ADDRESS	DSA	14235	9
18390	DC 9,-446242065,, M4624206N	DEFINE SYMBOLIC BLOCK	DSB	14244	9
18400	DC 9,445542005,, M45542005	DEFINE NUMERIC BLANK	DNB	14253	9

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18410	DC 9,-444754075,, M4475407N	DEFINE GROUP MARK	DGM	14262	9
18420	DC 9,425547550,, M25547550	BRANCH NO GROUP MARK	BNG	14271	9
18430	DC 9,634344018,, O34344018	TRANSFER TO PROCESS	TCC	14280	9
18440	DC 9,425659401,, M25659401	BRANCH OUTPUT RECORD MARK	BOR	14289	9
18450	DC 9,425945411,, M25945411	BRANCH END OF RECORD	BRE	14298	9
18460	DC 9,425443421,, M25443421	BRANCH MODE SHIFT	BMC	14307	9
18470	DC 9,424959441,, M24959441	BRANCH READ INPUT READY	BIR	14316	9
18480	DC 9,424342461,, M24342461	BRANCH SIOC CHANNEL BUSY	BCB	14325	9
18490	DC 9,624156840,, O24156840	SELECT ADDRESS AND OPERATE	SAC	14334	9
18500	DC 9,596355662,, N96355662	READ DISK TRACK NUM. W/O GP. MK.	RTN	14343	9
18510	DC 9,594455622,, N94455622	READ DISK WITHOUT GROUP MARK	RDN	14352	9
18520	DC 9,666355862,, O66355862	WRITE DISK TRACK NUM. W/O GP. MK.	WTN	14361	9
18530	DC 9,664455822,, O64455822	WRITE DISK WITHOUT GROUP MARK	WDN	14370	9
18540	DC 9,436355672,, M36355672	CHECK DISK TRACK NUM. W/O GP. MK.	CTN	14379	9
18550	DC 9,434455632,, M34455632	CHECK DISK WITHOUT GROUP MARK	CDN	14388	9
18560	DC 9,634653060,, O34653060	TRANSMIT FLOATING	TFL	14397	9
18570	DC 9,466253050,, M66253050	FLOATING SHIFT LEFT	FSL	14406	9
18580	DC 9,466259080,, M66259080	FLOATING SHIFT RIGHT	FSR	14415	9
18590	DC 9,635562720,, O35562720	TRANSMIT NUMERIC STRIP	TNS	14424	9
18600	DC 9,635546730,, O35546730	TRANSMIT NUMERIC FILL	TNF	14433	9
18610	DC 9,-444441073,, M4444107L	DEFINE DISK ADDRESS	CDA	14442	9
18620	DC 9,534454180,, N34454180	LOAD DIVIDEND IMMEDIATE	LDM	14451	9
18630	DC 9,-474563013,, M7456301L	IOCS READ	GET	14460	9
18640	DC 9,-576463023,, N7646302L	IOCS WRITE	PUT	14469	9
18650	DC 9,-446355053,, M4635505L	DEFINE TYPEWRITER NUMERIC	DTN	14478	9
18660	DC 9,-444355253,, M4435525L	DEFINE CARD NUMERIC	DCN	14487	9
18670	DC 9,-446341353,, M4634135L	DEFINE TYPEWRITER ALPHA	DTA	14496	9
18680	DC 9,-444341353,, M4434135L	DEFINE CARD ALPHA	CCA	14505	9

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18690	DC 9,-444466063,, M4446606L	DEFINE DISK WITH WLRC	CDW	14514	9
18700	DC 9,-575944783,, N7594478L	PRINTER DUMP	PRD	14523	9
18710	DC 9,-575955803,, N7595580L	PRINTER NUMERIC	PRN	14532	9
18720	DC 9,-575941983,, N7594198L	PRINTER ALPHA	PRA	14541	9
18730	DC 9,606060000,, 006060000	DUMMY OP CODE		14550	9
18740	DC 9,606060000,, 006060000	DUMMY OP CODE		14559	9
18750	DC 9,606060000,, 006060000	DUMMY OP CODE		14568	9
18760	DC 9,606060000,, 006060000	DUMMY OP CODE		14577	9
18770	DC 9,606060000,, 006060000	DUMMY OP CODE		14586	9
18780	DC 9,606060000,, 006060000	DUMMY OP CODE		14595	9
18790	DC 9, -0000000			14604	9
18800 D	DC 11,42554371017,, M2554371017	BRANCH CONSOLE SWITCH 1 OFF	BNC1	14615	11
18810	DC 11,42554372027,, M2554372027	BRANCH CONSOLE SWITCH 2 OFF	BNC2	14626	11
18820	DC 11,42554373037,, M2554373037	BRANCH CONSOLE SWITCH 3 OFF	BNC3	14637	11
18830	DC 11,42554374047,, M2554374047	BRANCH CONSOLE SWITCH 4 OFF	BNC4	14648	11
18840	DC 11,42555343097,, M2555343097	BRANCH NOT LAST CARD	BNLC	14659	11
18850	DC 11,42556765157,, M2556765157	BRANCH NOT EXPONENT CHECK	BNXV	14670	11
18860	DC 11,59556368613,, N9556368613	READ NUMERIC TYPEWRITER	RNTY	14681	11
18870	DC 11,59555763633,, N9555763633	READ NUMERIC PAPER TAPE	RNPT	14692	11
18880	DC 11,66556368813,, 06556368813	WRITE NUMERIC TYPEWRITER	WNTY	14703	11
18890	DC 11,66555763823,, 06555763823	WRITE NUMERIC PAPER TAPE	WNPT	14714	11
18900	DC 11,44556368513,, M4556368513	DUMP NUMERIC TYPEWRITER	DNTY	14725	11
18910	DC 11,44555763523,, M4555763523	DUMP NUMERIC PAPER TAPE	DNPT	14736	11
18920	DC 11,59416368713,, N9416368713	READ ALPHA TYPEWRITER	RATY	14747	11
18930	DC 11,59415763733,, N9415763733	READ ALPHA PAPER TAPE	RAPT	14758	11
18940	DC 11,66416368913,, U6416368913	WRITE ALPHA TYPEWRITER	WATY	14769	11
18950	DC 11,66415763923,, U6415763923	WRITE ALPHA PAPER TAPE	WAPT	14780	11
18960	DC 11,66414344943,, U6414344943	WRITE ALPHA CARD	WACD	14791	11

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18970	DC 11,59414344753,, N9414344753	READ ALPHA CARD	RACD	14802	11
18980	DC 11,44554344543,, M4554344543	DUMP NUMERIC CARD	DNCD	14813	11
18990	DC 11,66554344843,, 06554344843	WRITE NUMERIC CARD	WNCD	14824	11
19000	DC 11,59554344653,, N9554344653	READ NUMERIC CARD	RNCD	14835	11
19010	DC 11,63426368184,, O3426368184	TABULATE TYPEWRITER	TBTY	14846	11
19020	DC 11,59436368124,, N9436368124	RETURN CARRIAGE TYPEWRITER	RCTY	14857	11
19030	DC 11,62576368114,, O2576368114	SPACE TYPEWRITER	SPTY	14868	11
19040	DC 11,59634755642,, N9634755642	READ DISK TRACK NUM. W/GP. MK.	RTGN	14879	11
19050	DC 11,59444755602,, N9444755602	READ DISK WITH GROUP MARK	RDGN	14890	11
19060	DC 11,66634755842,, O6634755842	WRITE DISK TRACK NUM. W/GP. MK.	WTGN	14901	11
19070	DC 11,66444755802,, O6444755802	WRITE DISK WITH GROUP MARK	WDGN	14912	11
19080	DC 11,43634755652,, M3634755652	CHECK DISK TRACK NUM. W/GP. MK.	CTGN	14923	11
19090	DC 11,43444755612,, M3444755612	CHECK DISK WITH GROUP MARK	CDGN	14934	11
19100	DC 11,-42565344714,, M2565344714	BRANCH OUT, LOAD IRI	BQED	14945	11
19110	DC 11,-46625859061,, M6625859061	FLOATING SQUARE ROOT SUB.	FSQR	14956	11
19120	DC 11,-46435662071,, M6435662071	FLOATING COSINE SUB.	FCOS	14967	11
19130	DC 11,-46624955081,, M6624955081	FLOATING SINE SUB.	FSIN	14978	11
19140	DC 11,-46416355091,, M6416355091	FLOATING ARCTANGENT SUB.	FATN	14989	11
19150	DC 11,-46456763101,, M6456763101	FLOATING EXP. BASE 10 SUB.	FEXT	15000	11
19160	DC 11,-46535647121,, M6535647121	FLOATING LOG. BASE 10 SUB.	FLOG	15011	11
19170	DC 11,-46625962141,, M6625962141	FLOATING SHIFT RIGHT SUB.	FSRS	15022	11
19180	DC 11,-46625362151,, M6625362151	FLOATING SHIFT LEFT SUB.	FSLS	15033	11
19190	DC 11,-63465362161,, O3465362161	TRANSMIT FLOATING SUB.	TFLS	15044	11
19200	DC 11,46414444010,, M6414444010	FLOATING ADD	FADD	15055	11
19210	DC 11,46626442020,, M6626442020	FLOATING SUBTRACT	FSUB	15066	11
19220	DC 11,46446453030,, M6446453030	FLOATING MULTIPLY	FMUL	15077	11
19230	DC 11,46444965090,, M6444965090	FLOATING DIVIDE	FDIV	15088	11
19240	DC 11,42634653070,, M2634653070	BRANCH AND TRANSMIT FLOATING	BTFL	15099	11

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19250	DC 11,-62535959860,, U2535959860	SELECT READ NUMERICALLY	SLRN	15110	11
19260	DC 11,-42634662171,, M263466217J	BR. AND TRANS. FLOAT. SUB.	BTFS	15121	11
19270	DC 11,-44624143025,, M462414302N	DEFINE SPECIAL ALPHA CONSTANT	DSAC	15132	11
19280	DC 11,-44565947015,, M456594701N	DEFINE ORIGIN	DURG	15143	11
19290 XHEAD	DC 11,-48454144385,, M845414438N	HEAD	HEAD	15154	11
19300	DC 11,-62416545007,, Q241654500P	SAVE PRODUCT AREA	SAVE	15165	11
19310	DC 11,-59626359017,, N962635901P	RESTORE PRODUCT AREA	RSTR	15176	11
19320	DC 11,-42555659401,, M255565940I	BRANCH NO OUTPUT REGRD MARK	BNOR	15187	11
19330	DC 11,-42555945411,, M255594541I	BRANCH NO END OF RECCRU	BNPE	15198	11
19340	DC 11,-42555443421,, M255544342I	BRANCH NO MODE SHIFT	BNMC	15209	11
19350	DC 11,-42554959441,, M255495944I	BRANCH NO READ INPUT READY	BNIR	15220	11
19360	DC 11,-42435542461,, M243554246I	BRANCH SIOC CHANNEL NOT BUSY	BCNB	15231	11
19370	DC 11,-62534144662,, Q253414466K	SELECT ADC AND INCREMENT	SLAD	15242	11
19380	DC 11,-59556943652,, N955694365K	READ NUMERIC INPUT CHANNEL	BNIC	15253	11
19390	DC 11,-62414356422,, Q241435642K	SELECT ADDRESS AND CONTACT OPEN.	SACO	15264	11
19400	DC 11,-62415662432,, Q241566243K	SEL. ADDRS. AND PROVIDE OUTPUT SIG.	\$AOS	15275	11
19410	DC 11,-62536341612,, Q253634161K	SELECT TAS	SLTA	15286	11
19420	DC 11,-62534159622,, Q253415962K	SELECT ADC REGISTER	SLAR	15297	11
19430	DC 11,-62536343642,, Q253634364K	SELECT REAL-TIME CLOCK	SLTC	15308	11
19440	DC 11,-62534342672,, Q253434267K	SELECT CONTACT CLOCK	SLCB	15319	11
19450	DC 11,-62535445682,, Q253544568K	SELECT MANUAL ENTRY SWITCHES	SLME	15330	11
19460	DC 11,-62534943652,, Q253494365K	SELECT INPUT CHANNEL	SLIC	15341	11
19470	DC 11,-59414943752,, N941494375K	READ ALPHA INPUT CHANNEL	RAIC	15352	11
19480	DC 11,-6655643852,, M65564385K	WRITE NUMERIC OUTPUT CHANNEL	WNOC	15363	11
19490	DC 11,-66415643952,, M641564395K	WRITE ALPHA OUTPUT CHANNEL	WIOC	15374	11
19500	DC 11,-43415353033,, M341535303L	CALL IOCS OR EXEC PKG. ROUTINE	CALL	15385	11
19510	DC 11,-62454552043,, Q245455204L	IOCS SEEK DISK	SEEK	15396	11
19520	DC 11,-44576341453,, M457634145L	DEFINE PAPER TAPE ALPHA	QPTA	15407	11

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19530	DC 11,-4457635153,, M457635153L	DEFINE PAPER TAPE NUMERIC	DPTN	15418	11
19540	DC 11,-44655343185,, M465534318N	DEFINE VARIABLE LENGTH CONSTANT	DVLC	15429	11
19550	DC 11,-44544562085,, M454456208N	DEFINE MESSAGE	DMES	15440	11
19560	DC 11,-42434879336,, M243487933K	BRANCH ON CHAN 9	BCH9	15451	11
19570	DC 11,-42435665346,, M243566534K	BRANCH ON CHAN 12	BCHV	15462	11
19580	DC 11,-44455544008,, M445554400N	DEFINE END	DEND	15473	11
19590	DC 11,-44575955753,, M457595575L	DEFINE PRINTER NUMERIC	DPRN	15484	11
19600	DC 11,-44575941953,, M457594195L	DEFINE PRINTER ALPHA	DPRA	15495	11
19610	DC 11,-62524957083,, Q252495708L	SKIP PRINTER IMMEDIATE	SKIP	15506	11
19620	DC 11,-62524157183,, Q252415718L	SKIP PRINTER DELAY	SKAP	15517	11
19630	DC 11,-62574954283,, Q257495428L	SPACE PRINTER IMMEDIATE	SPIH	15528	11
19640	DC 11,-62574157383,, Q257415738L	SPACE PRINTER DELAY	SPAP	15539	11
19650	DC 11,-57594462483,, N759446248L	PRINTER DUMP NO SPACE	PRDS	15550	11
19660	DC 11,-57595562583,, N759556258L	PRINTER NUMERIC NO SPACE	PRNS	15561	11
19670	DC 11,-57594162683,, N759416268L	PRINTER ALPHA NO SPACE	PRAS	15572	11
19680	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15583	11
19690	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15594	11
19700	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15605	11
19710	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15616	11
19720	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15627	11
19730	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15638	11
19740	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15649	11
19750	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15660	11
19760	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15671	11
19770	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15682	11
19780	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15693	11
19790	DC 11,60606060606,, Q0606060606	DUMMY OP CODE		15704	11
19800	DC 11,-00000000000			15715	11

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19810	FILE	34	FDCF, Q0701	15716	34	15764	00701
19820		38	FDCF, 0C702	15728	38	15764	00702
19830			TRA	15740	36	00000	00500
				15752	49	00000	00000
				15764		14	
19840	FDCF	DDA	,0,A2DAD,A2SCT,INSTRN				
			OJ8800-55J0256				
19850		TCO	FILE	15716			
19860		DORG	INSTRN	10256			
19870	MACRO2	TFM	GOODB3+6,BTBL3	10256	16	10298	J0304
19880		TD	GOODB3+11,ZEPO+29	10268	25	10303	02329
19890		A	GOODB3+5,GOODH3+11	10280	21	10297	10363
19900	GOODB3	B	*-*,10	10292	49	00000	000-0
19910	BTBL3	B	TRA,,, 0	10304	49	10538	00000
19920		DORG	*-1	10314			
19930		B	IOGET,,, +1	10314	49	10618	00000
19940		DORG	*-1	10324			
19950		B	PUT,,, +2	10324	49	10666	00000
19960		DORG	*-1	10334			
19970		B	PCALL,,, +1	10334	49	11354	00000
19980		DORG	*-1	10344			
19990		B	SEEK,,, +4	10344	49	10642	00000
20000		DORG	*-1	10354			
20010		B	CCARD,,, +5	10354	49	10954	00000
20020		DORG	*-1	10364			
20030		B	UDMDD,,, +6	10364	49	11142	00000
20040		DORG	*-1	10374			
20050		B	DDA,,, +7	10374	49	12106	00000
20060		DORG	*-1	10384			
20070		B	PRNT,,, +8	10384	49	10392	00000
20080		DORG	*-3	10392			
20090	***		PRINTER BRANCH TABLE AND ROUTINES				
20100	PRNT	TFM	PRNT1+6 ,BTBL4	10392	16	10434	J0440
20110		TD	PRNT1+11 ,ZEPO+28	10404	25	10439	02328
20120		A	PRNT1+5 ,PRNT1+11	10416	21	10433	10439
20130	PRNT1	B	*-*,10	10428	49	00000	000-0
20140	BTBL4	B	SKAP,,, +0	10440	49	12584	00000
20150		DORG	*-1	10450			
20160		B	SKAP,,, +1	10450	49	12596	00000
20170		DORG	*-1	10460			
20180		B	PRNT4,,, +2 SPIM	10460	49	12640	00000
20190		DORG	*-1	10470			
20200		R	SPAP,,, +3	10470	49	12628	00000
20210		DORG	*-1	10480			
20220		B	PRDS,,, +4	10480	49	12348	00000
20230		DORG	*-1	10490			
20240		B	PRNS,,, +5	10490	49	12380	00000
20250		DORG	*-1	10500			
20260		B	PRAS,,, +6	10500	49	12412	00000
20270		DORG	*-1	10510			
20280		B	PRD,,, +7	10510	49	12360	00000
20290		DORG	*-1	10520			
20300		B	PRN,,, +8	10520	49	12392	00000
20310		DORG	*-1	10530			
20320		B	PRA,,, +9	10530	49	12424	00000
20330		DORG	*-3	10538			

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20340	*		TRANSFER INSTRUCTION ROUTINE				
20350	TRA	TD	*+23,ADDCOM	10538	25	10561	02528
20360		TD	*+23,AJUST	10550	25	10573	02399
20370		AM	ADDCOM,,10	10562	11	02528	000-0
20380		TF	ADDRS,ADDCOM	10574	26	03299	02528
20390		AM	ADDCOM,41	10586	11	02528	-C041
20400		TFM	INPLT2+1,50, 10 11	10598	16	03041	000N-
20410		B7	MEXIT	10610	49	10902	
20420	IOGET	TFM	INPLT2+6,IOGT	10618	16	03046	-0566
20430		BTM	EVALAD,PUSRSJ, 4 11	10630	17	05M04	1083-
20440	SEEK	TFM	INPLT2+6,IOSK	10642	16	03046	-0554
20450		BTM	EVALAD,PUSRSJ, 4 11	10654	17	05M04	1083-
20460	PUT	TFM	INPLT2+6,IOPT	10666	16	03046	-0532
20470		BTM	EVALAD,*+12,* 11	10678	17	05M04	1069-
20480		BTM	MACSHF,PUSRSJ	10690	17	11816	J0830
20490		CM	INPUT+20,59,10	10702	14	02907	000N9
20500		BNE	PUSRSJ	10714	47	10830	01200
20510		BTM	MACSHF,PUSRSJ	10726	17	11816	J0830
20520		CM	INPUT+20,42,10	10738	14	02907	000N2
20530		BNE	PUSRSJ	10750	47	10830	01200
20540		BTM	MACSHF,PUSRSJ	10762	17	11816	J0830
20550		CM	INPUT+20,43,10	10774	14	02907	000N3
20560		BNE	PUSRSJ	10786	47	10830	01200
20570		BTM	MACSHF,*+20	10798	17	11816	J0818
20580		B7	PUSRSJ	10810	49	10830	
20590		TFM	INPUT2+6,IORBC	10818	16	03046	-0520
20600	PUSRSJ	TD	*+23,ADDCOM	10830	25	10853	02528
20610		TD	*+23,AJUST	10842	25	10865	02399
20620		AM	ADDCOM,,10	10854	11	02528	000-0
20630		TF	ADDRS,ADDCOM	10866	26	03299	02528
20640		AM	ADDCOM,23,10	10878	11	02528	000K3
20650		TFM	INPUT2+1,07,10	10890	16	03041	000-7
20660	MEXIT	BTM	CTEST,*+12	10902	17	07436	J0914
20670		TFM	CFFA,NCDCF2	10914	16	02629	J0936
20680		BTM	CFF,LDLBL	10926	17	02592	-8414
20690	NCDCF2	DDA	,0,A2DAD,A3SCT,INSTRN	10938		14	
			OJ8800-29J0256				
20700		DC	1,1	10952		1	
20710	CCARD	TD	INPUT2+6,ZEPO+28	10954	25	03046	02328
20720		TD	INPLT2+5, 0,11	10966	15	03045	0000-
20730		A	INPLT2+6, INPUT2+6	10978	21	03046	03046
20740		TFM	INPUT2+1,05,10	10990	16	03041	000-5
20750		BTM	EVALAD, *+12,4	11002	17	05M04	11014
20760		TD	DCARD+19,BSW	11014	25	10973	08037
20770		TD	LDABSM,RLOC5W	11026	25	08036	08035
20780		TF	TEMPR,ADDRS	11038	26	02571	03299
20790		BTM	EVALAD,*+12,5 11	11050	17	054-4	1106K
20800		TF	ADDRS, TEMPR	11062	26	03299	02571
20810		BNE	MEXIT, DCARD+19	11074	44	10902	10973
20820		TD	LDABSM,1,11	11086	15	08036	0000J
20830		AM	ADDCOM,1,10	11098	11	02528	000-1
20840		TF	ADDRS,ADDCOM	11110	26	03299	02528
20850		AM	ADDCOM,7,10	11122	11	02528	000-7
20860		B7	MEXIT	11134	49	10902	
20870	DDMCD	TD	INPUT2+5,0,11	11142	15	03045	0000-

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20880	TD	INPLT2+6,ZEPO+28	11154	25	03046	02328
20890	TFM	INPUT2+1,05,10	11166	16	03041	000-5
20900	BTM	EVALAD,++12,4	11178	17	05M04	11190
20910	TD	DCARD+19,BSW	11190	25	10973	08037
20920	TD	LDABSW,RLOCSW	11202	25	08036	08035
20930	TF	TEMPR,ADDRS	11214	26	02571	03299
20940	BTM	EVALAD,++12,5 11	11226	17	054-4	11230
20950	BTM	EVALAD,++12,5 11	11238	17	054-4	1125-
20960	TF	ADDRS,TEMPR	11250	26	03299	02571
20970	BNF	ME XIT,DCARD+19	11262	44	10902	10973
20980	TDM	LDABSW,1,11	11274	15	08036	0000J
20990	AM	ADDCOM,1,10	11286	11	02528	000-1
21000	TF	ADDRS,ADDCOM	11298	26	03299	02528
21010	AM	ADDCOM,12,10	11310	11	02528	000J2
21020	BNF	++24,RSW	11322	44	11346	08037
21030	SM	ADDCOM,5,10	11334	12	02528	000-5
21040	B7	ME XIT	11346	49	10902	
21050	PCALL	TR COLL-18,THINGS-2C	11358	31	02421	02400
21060	BNR	++20,INPUT+20	11366	45	11386	02907
21070	H7	PCALL1	11378	49	11514	
21080	CM	INPLT+20,23,10	11386	14	02907	000K3
21090	BE	PCALL1	11398	46	11514	01200
21100	CM	INPLT+20,00,10	11410	14	02907	000-0
21110	HE	PCTR	11422	46	11494	01200
21120	TF	COLL,INPUT+20	11434	26	02439	02907
21130	CF	COLL-1	11446	33	02438	00000
21140	TR	COLL-17,COLL-15	11458	31	02422	02424
21150	CM	COLL-17,7,10	11470	14	02422	000-7
21160	BE	ER22	11482	46	11686	01200
21170	PCTR	TR INPLT+19,INPUT+21	11494	31	02906	02908
21180	B7	PCALL+12	11506	49	11366	
21190	PCALL1	CM COLL-17,06,10	11514	14	02422	000-6
21200	BE	++44	11526	46	11570	01200
21210	TDM	COLL,0	11538	15	02439	00000
21220	TR	COLL-17,COLL-15	11550	31	02422	02424
21230	B7	PCALL1	11562	49	11514	
21240	SF	COLL-13	11570	32	02426	00000
21250	TFM	PCC+11,CLTBL+10-18	11582	16	11641	J1751
21260	PCLP1	AM PCC+11,18,10	11594	11	11641	000J8
21270	CM	PCC+11,CLTBL+10+3+18	11606	14	11641	J1823
21280	BNL	ER22	11618	46	11686	01300
21290	PCC	C COLL-2,+-	11630	24	02437	00000
21300	BNE	PCLP1	11642	47	11594	01200
21310	AM	PCC+11,5,10	11654	11	11641	000-5
21320	SF	PCC+11	11666	32	11641	00000
21330	B7	PCC+11,,6	11678	49	1164J	
21340	ER22	TFM EVALER-1,27200	11686	16	07071	K7200
21350	DC	1,1,+	11697		1	
21360	BT	EPRINT,FPRINT-1	11698	27	07332	07331
21370	RD	ERCUR, ERSTSW	11710	43	07196	02476
21380	TFM	INPUT2+4,06000	11722	16	03044	-6C00
21390	TFM	CFFA,NCOCF2	11734	16	02629	J0938
21400	TFM	CFF,SNUTCD	11746	17	02592	-8438
21410	CLTBL	DAC 6,LINK ...	11759		6 x	2
	LINK					

TABLE/VECTOR OF CALL STATEMENT

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21420	DSA	CLLINK	11774		5 x	1
21430	DAC	6,LOAD ...	11774		J1898	
	LOAD		11777		6 x	2
21440	DSA	CLLOAD	11792		5 x	1
21450	DAC	6,EXIT ...	11792		J1898	
	EXIT		11795		6 x	2
21460	DSA	CALLEX	11810		5 x	1
21470	DS	5	11810		J2026	
21480	MACSHF	TR INPUT+19,INPUT+21	11815		5	
21490	BNR	++20,INPUT+20	11816	31	02906	02908
21500	B7	MACSHF-1,,6	11828	45	11848	02907
21510	CM	INPUT+20,23,10	11840	49	11814	
21520	BE	MACSHF-1,,6	11848	14	02907	000K3
21530	C	CLERER+1,INPUT+20	11860	46	1181M	01200
21540	BE	MACSHF	11872	24	02701	02907
21550	BB2		11884	46	11816	01200
			11896	42		
21560	CLLINK	DS ++1	11898		0	
21570	CLLOAD	TD ++23,ADDCOM	11898	25	11921	02528
21580	TD	++23,AJUST	11910	25	11933	02399
21590	AM	ADDCOM,,10	11922	11	02528	000-0
21600	BTM	EVALAD,++12,5 11	11934	17	054-4	11940
21610	BTM	EVALAD,++12,5 11	11946	17	054-4	11950
21620	TF	ADDRS,ADDCOM	11958	26	03299	02528
21630	AM	ADDCOM,31,10	11970	11	02528	000L1
21640	BNF	++24,BSW	11982	44	12006	08037
21650	SM	ADDCOM,5,10	11994	12	02528	000-5
21660	TFM	INPUT2+1,05,10	12006	16	03041	000-5
21670	B7	ME XIT	12018	49	10902	
21680	CALLEX	TD ++23,ADDCOM	12026	25	12049	02528
21690	TD	++23,AJUST	12038	25	12061	02399
21700	AM	ADDCOM,00,10	12050	11	02528	000-0
21710	TF	ADDRS,ADDCOM	12062	26	03299	02528
21720	TFM	INPUT2+1,04,10	12074	16	03041	000-4
21730	AM	ADDCOM,6,10	12086	11	02528	000-6
21740	B7	ME XIT	12098	49	10902	
21750	DDA	BTM EVALAD,++12,4	12106	17	05M04	12118
21760	SF	DDA	12118	32	12106	00000
21770	BD	++36,BSW	12130	43	12166	08037
21780	TD	LDABSW,RLOCSW	12142	25	08036	08035
21790	CF	DDA	12154	33	12106	00000
21800	TF	DDA+23,ADDRS	12166	26	12129	03299
21810	BTM	EVALAD, ++12, 5 11	12178	17	054-4	1219-
21820	BTM	EVALAD, ++12, 5 11	12190	17	054-4	1220K
21830	BTM	EVALAD, ++12, 5 11	12202	17	054-4	1221M
21840	BTM	EVALAD, ++12, 5 11	12214	17	054-4	12220
21850	TFM	INPUT2+1,060,9 11	12226	16	03041	00-6-
21860	TF	ADDRS,DDA+23	12238	26	03299	12129
21870	BNF	DDAX,DDA	12250	44	12322	12106
21880	TD	++23, ADDCOM	12262	25	12285	02528
21890	TD	++23, AJUST	12274	25	12297	02399

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21900	AM	ADDCOW, 00,10		12286	11	02528	000-0
21910	TF	ADDRS, ADDCOW		12298	26	03299	02528
21920	AM	ADDCOW, 13,10		12311	11	02528	000J3
21930 DCAX	TFM	CFFA,NCDCF2		12322	16	02629	J0938
21940	B7	MEXIT		12334	49	10902	
21950 C625	DC	2,62		12342		2	
	O2						
21960 C66W	DC	2,66		12344		2	
	O6						
21970 C41A	DC	2,41		12346		2	
	M1						
21980 **	PRINT	COMMANDS					
21990 PRCS	TDM	PRNT3+11,1,11,	Q11 IS 1	12348	15	12551	0000J
22000 PRC	TFM	INPUT2+1,035,9,	OP CODE	12360	16	03041	00-35
22010	B7	PRNT2		12372	49	12444	
22020 PRNS	TDM	PRNT3+11,1,11,	Q11 IS 1	12380	15	12551	0000J
22030 PRN	TFM	INPUT2+1,038,9,	OP CCDE	12392	16	03041	00-38
22040	B7	PRNT2		12404	49	12444	
22050 PRAS	TDM	PRNT3+11,1,11,	Q11 IS 1	12412	15	12551	0000J
22060 PRA	TFM	INPUT2+1,039,9,	OP CODE	12424	16	03041	00-39
22070	B7	PRNT2		12436	49	12444	
22080 PRNT2	TD	**23,ADDCOW,,	MAKE ADDCOW EVEN	12444	25	12467	02528
22090	TD	**23,AJUST		12456	25	12479	02399
22100	AM	ADDCOW,,10		12468	11	02528	000-0
22110	BTM	EVALAD,**12,411		12480	17	05M04	1249K
22120	BTM	EVALAD,**12,511,,	SHIFT LEADING COMMA	12492	17	054-4	1250M
22130	TF	ADDRS,ADDCOW		12504	26	03299	02528
22140	AM	ADDCOW,11,10		12516	11	02528	000J1
22150	BTM	CTEST,**12,,	TEST CORE OVERFLOW	12528	17	07436	J2540
22160 PRNT3	TDM	INPLT2+6,0,11,	MODIFIED TO MOVE 1 TO Q11	12540	15	03046	0000-
22170	TDM	INPUT2+4,9,11,	MOVE Q8 AND Q9	12552	15	03044	0000R
22180	TDM	INPLT2+3,0,11		12564	15	03043	0000-
22190	B7	MEXIT,,,	RESTORE MAIN PHASE + LOAD LABEL	12576	49	10902	
22200 **	PRINTER	CARRIAGE CONTROLS					
22210 SKIP	TFM	SKAP+23,SKIP1-1-10,,	MODIFY TABLE READ OUT MODIFIER	12584	16	12619	J2877
22220 SKAP	TFM	PRNT6+11,00012,,	MODIFY UPPER LIMIT OF OK Q FIELD	12596	16	12783	-0012
22230	TFM	PRNT7+11,SKAP1-1-10,,	MODIFY TABLE READ CUT	12608	16	12843	J2882
22240	B7	PRNT4		12620	49	12640	
22250 SPAP	TFM	PRNT7+11,SPAP1-1-10,,	MODIFY TABLE READ CUT	12628	16	12843	J3002
22260 PRNT4	TD	**23,ADDCOW,,	MAKE ADDCOW EVEN	12640	25	12663	02528
22270	TC	**23,AJUST		12652	25	12675	02399
22280	AM	ADDCOW,,10		12664	11	02528	000-0
22290	BTM	EVALAD,**12,411,	TEST P OPERAND	12676	17	05M04	1268Q
22300	BTM	EVALAD,**12,5,	GET Q OPERAND	12688	17	054-4	12700
22310	CM	ADDRS,00000,7,	IS Q OP LARGER THAN ZERO	12700	14	03299	-0000
22320	BH	PRNT6		12712	46	12772	01100
22330 PRNT5	TFM	EVALER-1,50000,,	ERROR 5	12724	16	07071	NC000
22340	DC	1,,*		12735		1	
	*						
22350	BT	EPRINT,EPRINT-1		12736	27	07332	07331
22360	RD	ERCOR,ERSTW		12748	43	07196	02476
22370	TFM	ADDRS,00001,,	SET THE Q FIELD TO 1	12760	16	03299	-0001
22380 PRNT6	CM	ADDRS,00003,,	IS Q LESS THAN 4 OR 13 MODIFIED	12772	14	03299	-0003
22390	BH	PRNT5,,,	NO GO TO ERROR 5	12784	46	12724	01100
22400	TFM	INPUT2+1,034,9,	MOVE OP CODE	12796	16	03041	00-34
22410	SP	ADDRS-3		12808	32	03296	00000

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22420	A	**22,ADDRS,,	MODIFY THE MOVE BY 10 TC 120	12820	21	12842	03299
22430 PRNT7	TR	INPUT2+3,SPIM1-1-10,7,	MOVE Q MODIFIER TO INTERMEDIATE	12832	31	03043	J2997
22440	TF	ADDRS,ADDCOW,,	SAVE THE ADDRESS	12844	26	03299	02528
22450	AM	ADDCOW,11,10,	UP THE CURRENT ADDRESS	12856	11	02528	000J1
22460	BTM	CTEST,**12,,	TEST CORE OVERFLOW	12868	17	07436	J2880
22470	B7	MEXIT,,,	RESTORE MAIN PHASE + LOAD LABEL	12880	49	10902	
22480 **	Q	MODIFIER PRINTER CONTROL DECCDE TABLES					
22490 SKIP1	DC	2,-09,,,	CHAN 1				
	-R			12888		2	
22500	DC	3,-71'		12891		3	
	PJ'						
22510 SKIP1	DC	2,-09		12893		2	
	-R						
22520	DC	3,-41'		12896		3	
	MJ'						
22530	DC	2,-09,,,	CHAN 2	12898		2	
	-R						
22540	DC	3,-72'		12901		3	
	PK'						
22550	DC	2,-09		12903		2	
	-R						
22560	DC	3,-42'		12906		3	
	MK'						
22570	DC	2,-09,,,	CHAN 3	12908		2	
	-R						
22580	DC	3,-73'		12911		3	
	PL'						
22590	DC	2,-09		12913		2	
	-R						
22600	DC	3,-43'		12916		3	
	ML'						
22610	DC	2,-09,,,	CHAN 4	12918		2	
	-R						
22620	DC	3,-74'		12921		3	
	PM'						
22630	DC	2,-09		12923		2	
	-R						
22640	DC	3,-44'		12926		3	
	NM'						
22650	DC	2,-09,,,	CHAN 5	12928		2	
	-R						
22660	DC	3,-75'		12931		3	
	PN'						
22670	DC	2,-09		12933		2	
	-R						
22680	DC	3,-45'		12936		3	
	MN'						
22690	DC	2,-09,,,	CHAN 6	12938		2	
	-R						
22700	DC	3,-76'		12941		3	
	PD'						
22710	DC	2,-09		12943		2	
	-R						
22720	DC	3,-46'		12946		3	
	MD'						
22730	DC	2,-09,,,	CHAN 7	12948		2	
	-R						

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22740	DC	3,-77'		12951	3	
	PP'					
22750	DC	2,-09		12953	2	
	-R					
22760	DC	3,-47'		12956	3	
	MP'					
22770	DC	2,-09,,,	CHAN 8	12958	2	
	-R					
22780	DC	3,-78'		12961	3	
	PQ'					
22790	UC	2,-09		12963	2	
	-R					
22800	DC	3,-48'		12966	3	
	MQ'					
22810	DC	2,-09,,,	CHAN 9	12968	2	
	-R					
22820	DC	3,-79'		12971	3	
	PR'					
22830	DC	2,-09		12973	2	
	-R					
22840	DC	3,-49'		12976	3	
	MR'					
22850	DC	2,-09,,,	CHAN 10	12978	2	
	-R					
22860	DC	3,-70'		12981	3	
	P'					
22870	DC	2,-09		12983	2	
	-R					
22880	DC	3,-40'		12986	3	
	M'					
22890	DC	2,-09,,,	CHAN 11	12988	2	
	-R					
22900	DC	3,-33'		12991	3	
	LL'					
22910	DC	2,-09		12993	2	
	-R					
22920	DC	3,-03'		12996	3	
	-L'					
22930	DC	2,-09,,,	CHAN 12	12998	2	
	-R					
22940	DC	3,-34'		13001	3	
	LM'					
22950	DC	2,-09		13003	2	
	-R					
22960	DC	3,-04'		13006	3	
	-M'					
22970	SPIM1	DC	2,-09,,,	SPACE 1	13008	2
	-R					
22980	DC	3,-51'		13011	3	
	NJ'					
22990	SPAP1	DC	2,-09	13013	2	
	-R					
23000	DC	3,-21'		13016	3	
	KJ'					
23010	DC	2,-09,,,	SPACE 2	13018	2	
	-R					

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23020	DC	3,-52'		13021	3		
	NK'						
23030	DC	2,-09		13023	2		
	-R						
23040	DC	3,-62'		13026	3		
	OK'						
23050	DC	2,-09,,,	SPACE 3	13028	2		
	-R						
23060	DC	3,-53'		13031	3		
	NL'						
23070	DC	2,-09		13033	2		
	-R						
23080	DC	3,-63'		13036	3		
	OL'						
23090	FM	34	FMCCF,00701	13038	34	13086	00701
23100		38	FMCCF,00702	13050	38	13086	00702
23110		TRA		13062	36	00000	00500
				13074	49	00000	00000
23120	FMCCF	DDA	,0,A3DAD,A3SCT,INSTRN	13086		14	
			QJ9252-29J0256				
23130		TCD	FM	13038			
23140	*						
23150	*	DEFINE MESSAGE					
23160	*						
23170		DORG	INSTRN	10256			
23180	**	BRANCH	TABLE FOR DMES,DVLC,HEAD				
23190	DECL2	TFM	DECL3+6,DECTAB	10256	16	10298	J0304
23200	TD	DECL3+11,ZEPD+28		10268	25	10303	02328
23210	A	DECL3+5,DECL3+11		10280	21	10297	10303
23220	DECL3	B	*-*,10	10292	49	00000	000-0
23230	DECTAB	B	DMES,,, +0	10304	49	10682	00000
23240	DORG	**1		10314			
23250	B	DVLC,,, +1		10314	49	12028	00000
23260	DORG	**1		10324			
23270	B	* ,,, +2		10324	49	10324	00000
23280	DORG	**1		10334			
23290	B	HEADER,,,+3		10334	49	12464	00000
23300	DORG	**3		10342			
23310	*	ANALYZE CONTROL CHARACTER, SUBROUTINE ANAL					
23320	ANAL	CM	INPUT+24,4,10, 1ST CHECK IF RIGHT PAREN IS PRESENT	10342	14	02911	000-4
23330	BNE	ANAL1+12,,, NO LEFT PAREN, ERROR		10354	47	10414	01200
23340	TF	ANAL1+11,INPUT+22,,MOVE CHARACTER TO ANOTHER LOCATION		10366	26	10413	02909
23350	TR	INPUT+19,INPUT+23,, POSITION INPUT RECORD		10378	31	02906	02910
23360	CM	ANAL1+11,44,10,15 IT A D		10390	14	10413	00004
23370	ANAL1	BNE	ANAL2,,10,, NOT A D, MAY BE GOOD	10402	47	10494	012-0
23380	TFM	EVALER-1,17400,,IT IS A D, ERROR		10414	16	07071	J7400
23390	DC	1.,'		10425		1	
	*						
23400	CF	ANAL,,, RESET STRAY PAREN SWITCH		10426	33	10342	00000
23410	BT	EPRINT,EPRINT-1,, PRINT ERROR MESSAGE		10438	27	07332	07331
23420	BD	ERCOR, ERSTW		10450	43	07196	02476
23430	ANL14	CM	DTR-1,DMESC,, BRANCH TO READ NEXT CHAR	10462	14	11043	J1002
23440	BE	DMSB1,,, SCANNING FOR ALPHA MODE		10474	46	10958	01200
23450	B	DMSNUM		10486	49	11062	00000
23460	DORG	**3		10494			

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23470	ANAL2	CM	ANAL1+11,41,10, CHECK TO SEE IF CHARACTER LFE BETWEEN A*F	10494	14	10413	000M1
23480		BL	ANAL1+12,,, NO IF BRANCH FROM HERE	10506	47	10414	01300
23490		CM	ANAL1+11,47,10, MAY BE CHECK FURTHER	10518	14	10413	000M7
23500		BL	ANL14,,, OKAY	10530	47	10462	01300
23510		CM	ANAL1+11,54,10, CHECK REST OF CHARACTERS SERIALLY	10542	14	10413	000M4
23520		HNE	ANAL3,,, NOT A MODE CHANGE	10554	47	10598	01200
23530		CM	DTR-1,DMESC,, MODE CHANGE SET UP BRANCH	10566	14	11843	J1002
23540		BE	DMSNUM,,, CHANGING FROM ALPHA TO NUMERIC	10578	46	11062	01200
23550		R	DMES2,,, CHANGING FROM NUMERIC TO ALFA	10590	49	11238	00000
23560		DURG	*-3	10598			
23570	ANAL3	CM	ANAL1+11,57,10, CHK FOR P	10598	14	10413	000M7
23580		BE	ANL14,,, LEAVE SUBROUTINE	10610	46	10462	01200
23590		CM	ANAL1+11,52,10, CHECK FOR R,S,,T	10622	14	10413	000M2
23600		BL	ANAL1+12,,, ERROR IF BRANCH	10634	47	10414	01300
23610		CM	ANAL1+11,63,10,	10646	14	10413	000M3
23620		BH	ANAL1+12,,, ERROR IF BRANCH	10658	46	10414	01100
23630		B	ANL14,,, OKAY, R,S, OR T	10670	49	10462	00000
23640	ANAL4	DS	,ANAL1+12	10414		0	
23650	* PHASE A	DMES	PROCESSOR				
23660	BTM	EVALAD,**12,4,	SCAN ADDRESS OPERAND	10682	17	05M04	10694
23670	TF	DIGITS,CLERER*2,,	CLEAR DIGIT COUNT	10694	26	02699	02702
23680	BNF	DTR-1,DMESC,,	SET SWITCH TO HANDLE POSSIBLE ERROR	10706	16	11843	J1002
23690	RNR	**2*,INPUT*20,,	CHECK IF BREAKER A RP	10718	45	10742	02907
23700	B	DMSKM,,,	BREAKER A RM, ERROR, INSERT NUM END MESSAGE	10730	49	11454	00000
23710	TDM	SMODE,,,	INITIALIZE STARTING MODE SWITCH	10742	15	03346	00000
23720	BNF	DMES1, BSW,,	PROGRAMMER SPECIFIES ADDRESS	10754	44	10778	08037
23730	TF	ADDRS,ADDCOM,,	NO, MOVE LOCATION COUNTER INTO ADDRESS LOC	10766	26	03299	02528
23740	DMES1	TFM	MODE1+6,DMSMNI,,, INITIALIZE BRANCH IN SUBROUTINE MODE	10778	16	11784	J1026
23750	BTM	MODE,**12,,	FIND MODE	10790	17	11730	J0802
23760	CM	INPLT*20,41,10,	SEE IF ALPHA MODE	10802	14	02907	000M1
23770	BE	DMSALF,,,	STARTING MODE ALPHA IF BRANCH.	10814	46	10862	01200
23780	TFM	EVALER-1,17300,,	ILLEGAL STARTING MODE CHARACTER,	10826	16	07071	J7300
23790	DC	1,,'*		10837		1	
23800		BT	EPRINT,EPRINT-1,,PRINT ERROR MESSAGE	10838	27	07332	07331
23810		BD	ERCOR, ERSTSM	10850	43	07196	02476
23820	DMSALF	BNF	DMSA,BSW,, SEE CF PROGRAMMER SPEC ADDRESS	10862	44	10934	08037
23830	TD	**2,ADDCOM,,	NO, ADJUST ADDRESS + LOC COUNTER	10874	25	10897	02528
23840	TD	**2,JSYBL		10886	25	10909	02459
23850	AM	ADDCOM,,10		10898	11	02528	000-0
23860	TF	ADDRS,ADDCOM,,	SET ADDRESS OF MESSAGE TO 2ND DIGIT	10910	26	03299	02528
23870	SM	ADDCOM*2,10,	SET LOC. COUNTER TO LOC BEFORE MESSAGE	10922	12	02528	000-2
23880	DMESA	TFM	MODE1+6,DMSB1,,, SET-UP BRANCH INST IN SUBROUTINE MODE	10934	16	11784	J0958
23890		BTM	MODE,MODE,,SEARCH FOR COMMA	10946	17	11730	J1730
23900	DMSR1	BTM	DTR,DMESC,, SCAN MESSAGE OPERAND	10958	17	11844	J1002
23910	AM	DIGITS,*10,	LEFT PAREN FOUND, UPDATE DIGIT COUNT BY 4	10970	11	02699	000-4
23920	BNF	ANAL,ANAL,,	STRAY PAREN NOT FOUND IF BRANCH	10982	44	10342	10342
23930	H	ANAL4		10994	49	10414	00000
23940	DURG	*-3		11002			
23950	DMESC	AM	DIGITS*2,10, UPDATE DIGIT COUNT BY 2	11002	11	02699	000-2
23960	B	DMSR1		11014	49	10958	00000
23970	DMSMNI	TDM	SMODE,1,10, SET SWITCH FOR ALPHA STARTING MODE	11026	15	03346	000-1
23980	BNF	DMSNUM,BSW,,	CHECK IF PROG SPECIFIED ADDRESS	11038	44	11062	08037
23990	AM	ADDRS,1,10,	PROCESSOR ASSIGNED, INCREASE ADDRESS	11050	11	03299	000-1
24000	DMSNUM	BTM	DTR,DMES11,,SCAN MESSAGE OPERAND	11062	17	11844	J1118
24010	AM	DIGITS*2,10,	LEFT PAREN FOUND	11074	11	02699	000-2

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24020	BNF	ANAL,ANAL,,	STRAY PAREN NOT FOUND IF BRANCH	11086	44	10342	10342
24030	B	ANAL4		11098	49	10414	00000
24040	DURG	*-3		11106			
24050	DC	1,,'*		11105		1	
24060		BT	EPRINT,EPRINT-1	11106	27	07332	07331
24070	DMES11	CM	INPLT*20,79,,CHECK TO SEE IF CHAR NUMERIC	11118	14	02907	-0079
24080	BH	DMSR2,,,	NOT NUMERIC, ERRCR	11130	46	11664	01100
24090	CM	INPUT*20,69,10		11142	14	02907	00009
24100	BH	DMS12,,,	NUMERIC IF BRANCH	11154	46	11214	01100
24110	CM	INPUT*20,50,10,	CHECK IF -OTHRU-9	11166	14	02907	00000
24120	HL	DMSR2,,,	NON-NUMERIC IF BRANCH	11178	47	11664	01300
24130	CM	INPUT*20,59,10		11190	14	02907	00009
24140	BH	DMSR2,,,	NOT NUMERIC IF BRANCH	11202	46	11664	01100
24150	DMS12	AM	DIGITS,1,10, UPDATE DIGIT COUNT BY ONE	11214	11	02699	000-1
24160	B	DMSNUM		11226	49	11062	00000
24170	* CHECK TO	SEE IF ALPHA WILL START IN EVEN LOCATION					
24180	* LOCATION	DMSV CONTAINS LOC OF LAST DIGIT STORED,					
24190	DMES2	TF	DMSV,DIGITS,, INITIALIZE IT WITH DIGIT COUNT.	11238	26	03266	02699
24200	BNF	DMES21, BSW,,	SEE CF PROGRAMMER SPEC ADDRESS	11250	44	11286	08037
24210	A	DMSV,ADDCOM,,	NO, ADD LOC COUNTER	11262	21	03266	02528
24220	B	DMES22		11274	49	11334	00000
24230	DMES21	A	DMSV,ADDRS,, ADD PROG SPEC ADDRESS	11286	21	03266	03299
24240	SM	DMSV,1,10,	ADJUST FOR NUMERIC STARTING MODE	11298	12	03266	000-1
24250	BD	**24,SMODE,,	CHECK STARTING MODE	11310	43	11334	03346
24260	SM	DMSV,1,10,	ADJUST FOR ALPHA STARTING MODE	11322	12	03266	000-1
24270	DMES22	TD	**23,DMSV	11334	25	11357	03266
24280	TD	DMSEND-1,EVODD,,		11346	25	11429	02469
24290	RD	DMSB1,DMSEND-1,,	WILL START IN EVEN	11358	43	10958	11429
24300	TFM	EVALER-1,17600,,	ODD ERROR, PRINT ERROR MESSAGE	11370	16	07071	J7600
24310	DC	1,,'*		11381		1	
24320		BT	EPRINT,EPRINT-1	11382	27	07332	07331
24330		BD	ERCOR, ERSTSM	11394	43	07196	02476
24340	AM	DIGITS,1,10,ALLOW FOR -		11406	11	02699	000-1
24350	B	DMSB1		11418	49	10958	00000
24360	DMSEND	CM	DIGITS,,9, SEE IF NO DIGITS ACCUMULATED	11430	14	02699	00-00
24370	BH	**36,,,	NO ZERO, OKAY	11442	46	11478	01100
24380	DMSRM	AM	DIGITS,100,9	11454	11	02699	00J00
24390	B	DMSR1,,,	ERROR IF BRANCH, NO DIGITS	11466	49	11614	00000
24400	TFM	INPUT*2+1, 070,9 11		11478	16	03041	00-7-
24410	TF	INPLT*2+6, DIGITS		11490	26	03046	02699
24420	BNF	**24, BSW		11502	44	11526	08037
24430	A	ADDCOM,DIGITS,,	UPDATE LOGATICA COUNTER BY MESSAGE SIZE	11514	21	02528	02699
24440	BTM	CTEST,**12		11526	17	07436	J1538
24450	TFM	CFFA,NCDCF		11538	16	02629	J1562
24460	BTM	CFF,LDLDBL		11550	17	02592	-8414
24470	NCDCF	DDA	,0,AZDAD,A4SCT,INSTRN	11562		14	
24480		DC	1,,'*	11574		1	
24490		TFM	DIGITS,100,9, SET DIGIT COUNT TO 100	11578	16	02699	00J00
24500	TFM	EVALER-1,00000,,	ER B MESSAGE, DMES TOO LONG	11590	16	07071	00000
24510	DC	1,,'*		11601		1	
24520	B	**24		11602	49	11626	00000

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24530	DMSER1	TFM	EVALER-1,9C000,, ER9 MESSAGE, NO DMES OPERAND	11614	16	07C71	R0000
24540	DC	1,,'*,	PRINT ERROR MESSAGE	11625		1	
24550	BT	EPRINT,EPRINT-1		11626	27	07332	07331
24560	BD	ERCOR, ERSTSW		11638	43	07196	02476
24570	B	DMSRM+24,, CONTINUE		11650	49	11478	00000
24580	NMOAL	DC	2,0	11663		2	
	-0						
24590	DMSER2	TFM	EVALER-1,17500,, ALPHA IN NUMERIC FIELD	11664	16	07071	J7500
24600	DC	1,,'*,		11675		1	
24610	BT	EPRINT,EPRINT-1,, PRINT ERROR MESSAGE		11676	27	07332	07331
24620	DD	ERCOR, ERSTSW		11688	43	07196	02476
24630	AM	DIGITS,2,10,, UPDATE DIGIT COUNT BY 2 FOR END CF MESS		11700	11	02699	000-2
24640	B	DMSNUM		11712	49	11062	00000
24650	DC	5,0		11728		5	
	-0000						
24660	MODE	TR	INPUT+19,INPUT+21,, MOVE INPLT REGRD LEFT 1 CHAR	11730	31	02906	02908
24670	BNR	**24,INPUT+20,,NOT BLANK, CHECK FOR RM		11742	45	11766	02907
24680	B	DMSRM,,,		11754	49	11454	00000
24690	CM	INPUT+20,23,10,, SEARCH FIELD, CHECK FOR COMMA		11766	14	02907	000K3
24700	MODE1	BE	,,, COMMA FOUND, BRANCH	11778	46	00000	01200
24710	CM	INPUT+20,,10,, COMMA NOT FOUND, CHECK FOR BLANK		11790	14	02907	000-0
24720	BE	MODE,,,	BLANK, CHECK NEXT CHARACTER	11802	46	11730	01200
24730	TF	**18,MODE-1,,,	ALPHA CHAR IN FIELD, RETURN, OR CHECK	11814	26	11832	11729
24740	B	,,,	NEXT CHAR. ACCORDING TO BRANCH	11826	49	00000	00000
24750	*	SUBROUTINE TO SHIFT ONE CHARACTER TO THE LEFT IN INPUT BUFFER					
24760	DS	5		11842		5	
24770	DTR	TR	INPUT+19,INPUT+21,, MOVE OPERAND LEFT 1 CHAR + SEARCH	11844	31	02906	02908
24780	CM	DIGITS,100,9,, CHECK DIGIT COUNT		11856	14	02699	00J00
24790	BM	DMSER1-36,,,	BRANCH TC ERROR ROUTINE	11868	46	11578	01100
24800	BNR	**20,INPUT+20,, FOR RM		11880	45	11900	02907
24810	B	DMSEND,,,	RECORD MARK FOUND, SCAN FINISHED	11892	49	11430	00000
24820	DORG	*-3		11900			
24830	CM	INPUT+20,4,10,, CHECK FOR STRAY RT PAREN		11900	14	02907	000-4
24840	BNE	**56,,,	NOT A STRAY PAREN IF BRANCH	11912	47	11968	01200
24850	SF	ANAL,,,	SET SWITCH FOR STRAY PAREN FCUND	11924	32	10342	00000
24860	CM	CTR-1,DMESC		11936	14	11843	J1002
24870	BE	DMSB1+2		11948	46	10970	01200
24880	B	DMSNUM+12,,,	NUM	11960	49	11074	00000
24890	DORG	*-3		11968			
24900	CM	INPUT+20,24,10,, CHK FOR LEFT PAREN		11968	14	02907	000K4
24910	BNE	**24,,,	NOT A LEFT PAREN	11980	47	12004	01200
24920	HB	,,,	LEFT PAREN FCUND	11992	42	00000	00000
24930	TF	**18,DTR-1,,	NOT A 1,	12004	26	12022	11843
24940	B	,,,	RETURN	12016	49	00000	00000
24950	*						
24960	*						
24970	*	DEFINE VARIABLE LENGTH ADDRESS CUNSTANT					
24980	*						
24990	DVLC	BTM	EVALAD, **12,4	12028	17	05M04	12040
25000	TD	LDABSW,RLOCSW		12040	25	08036	08035
25010	TF	DVAOB+11,, ADDR5		12052	26	12403	03299
25020	CF	DVSW1		12064	33	12100	00000
25030	RNF	DVLC2, RSW		12076	44	12112	08037
25040	TDM	LDABSW,1,11		12088	15	08036	0000J

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25050	DVASCN	SF	DVSW1	12100	32	12100	00000
25060	DVLC2	BTM	EVALAD, **12,5	12112	17	054-4	12124
25070	TF	DVCKL, ADDR5		12124	26	12111	03299
25080	BNF	DVLP, DVSW1		12136	44	12208	12100
25090	TF	DVADB+11, ADDCON,,	ADDR IS RT.-MOST POS OF 1ST CON.	12148	26	12403	02528
25100	AM	DVADR+11, 50		12160	11	12403	-0050
25110	SM	ADDR5, 50		12172	12	03299	-0050
25120	BNN	**24		12184	46	12208	01300
25130	A	DVADB+11, ADDR5		12196	21	12403	03299
25140	DVLP	BNR	**48, INPUT+20	12208	45	12256	02907
25150	TFM	EVALER-1, 9C000,,	ER 9, CCONSTANT NOT SPECIFIED	12220	16	C7071	RC000
25160	DC	1,,'*,		12231		1	
25170	BT	EPRINT, EPINT-1		12232	27	07332	07331
25180	BD	ERCOR, ERSTSW		12244	43	07196	02476
25190	BTM	EVALAD, **12, 5 11		12256	17	054-4	12260
25200	RNR	**20, INPUT+20		12268	45	12288	02907
25210	B7	DVEND		12280	49	12320	
25220	BTM	EVALAD, **12,5		12288	17	054-4	12300
25230	A	DVCKL, ADDR5		12300	21	12111	03299
25240	B7	DVLP		12312	49	12208	
25250	DVEND	CM	DVCKL, 00050	12320	14	12111	-0050
25260	BNP	**60		12332	47	12392	01100
25270	TFM	EVALER-1, 8C000,,	ERB, TOTAL LENGTH TOO BIG	12344	16	07071	00000
25280	DC	1,,'*,		12355		1	
25290	BT	EPRINT, EPRINT-1		12356	27	07332	07331
25300	BD	ERCOR, ERSTSW		12368	43	07196	02476
25310	TFM	DVCKL, 50		12380	16	12111	-0050
25320	DVADB	TFM	ADDR5, C0000	12392	16	03299	-0000
25330	BNF	**24, DVSW1		12404	44	12428	12100
25340	A	ADDCON, DVCKL		12416	21	02528	12111
25350	TDM	INPUT2, 8		12428	15	03040	00008
25360	TFM	CFFA,NCDCF		12440	16	02629	J1562
25370	BTM	CFF,DAC3-32		12452	17	02592	J2004
25380	DVCKL	DS	, DVASGN+11	12111		0	
25390	DVSW1	DS	, DVASGN	12100		0	
25400	*						
25410	*	HEADER ROUTINE					
25420	*						
25430	HEADER	TFM	MED,,10	12464	16	10237	000-0
25440	TDM	HEADER+7		12476	15	12471	00000
25450	BNR	COMA,INPUT+20		12488	45	12548	02907
25460	TFM	INPUT2+1, 030,9 11		12500	16	03041	00-3
25470	TF	INPUT2+8, MED		12512	26	03046	10237
25480	TFM	CFFA,NCDCF		12524	16	02629	J1562
25490	BTM	CFF,SNDFC		12536	17	02592	-8438
25500	COMA	CM	INPUT+20,23,10	12548	14	02907	000K3
25510	BE	HEADER+36		12560	46	12500	01200
25520	*	HEADER OPERAND GREATER THAN ONE CHARACTER					
25530	BD	ER12,HEADER+7		12572	43	12708	12471
25540	CM	INPUT+20,,10		12584	14	02907	000-0
25550	BE	**60		12596	46	12656	01200
25560	CM	INPUT+20,40,10		12608	14	02907	00000
25570	*	SPECIAL CHARACTER USED AS HEADER					
25580	BL	ER11		12620	47	12676	01300

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25590	TF	HEU,INPUT*20	12632	26	10237	02907
25600	TDM	HEADER*7,1	12644	15	12471	00001
25610	TR	INPUT*19,INPUT*21	12656	31	02906	02908
25620	A7	HEADER*24	12668	49	12488	
25630	ER11	TFM EVALER-1,17100	12676	16	07071	J7100
25640	DC	1,,'*	12687		1	
25650	TFM	HEU,,10	12688	16	10237	000-0
25660	H7	**20	12700	49	12720	
25670	ER12	TFM EVALER-1,17200	12708	16	07071	J7200
25680	DC	1,,'*	12719		1	
25690	BT	EPRINT,EPRINT-1	12720	27	07332	07331
25700	BD	ERCOR, ERSTSW	12732	43	07196	02476
25710	H7	HEADER*36	12744	49	12500	
25720	F2	34 F2DCF,CC701	12752	34	12860	CC701
25730		38 F2DCF,00702	12764	38	12860	00702
25740	TR	DLTAR-1, CLERER*3,2	12776	31	J0256	02703
25750	AM	**12*6,50,10	12788	11	12782	000N0
25760	SM	**23,1,10	12800	12	12823	000-1
25770	CM	CLERER*1, 34,10	12812	14	02701	000L4
25780	BL	**48	12824	47	12776	01300
25790	TRA		12836	36	00000	00500
25800	F2UCF	CUA ,0,A4DAD,A4SCT,INSTRN	12848	49	00000	00000
		OJ8881-27J0256	12860		14	
25810	TCD	F2	12752			
25820	*					
25830	*	SYMBOL TABLE OUTPUT PHASE				
25840	*					
25850		DORG INSTRN	10256			
25860	OUTAR	CAS 80	10257		80 x	2
25870		DAC 1,'	10417		1 x	2
25880	STIT1	CAS 32	10419		32 x	2
25890		DAC 12,SYMBOL TABLE	10483		12 x	2
		SYMBOL TABLE				
25900		CAS 36	10507		36 x	2
25910	STIT2	CAS 32	10579		32 x	2
25920		DAC 09, BLOCK 01	10643		9 x	2
		BLOCK 01				
25930		CAS 39	10661		39 x	2
25940	OUTCL	CAS 80	10739		80 x	2
25950		DAC 1,'	10899		1 x	2
25960	ALZR	DAC 5,CC000	10901		5 x	2
		CC000				
25970		CAS 1	10911		1 x	2
25980	NACC	DS 5	10916		5	
25990	LNCT	DS 2	10918		2	
26000	*					
26010	*	EVALUATE ADDRESS OF DEND				
26020	*					
26030	DFNC	TFM INPLT2*1,30,10 11	10920	16	03041	000L-
26040	BTM	EVALAD,**12,4	10932	17	05M04	10944

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26050	TD	INPLT2*6, ZEPO*29	10944	25	03046	02329
26060	TD	INPUT2*5, ZEPO*28	10956	25	03045	02328
26070	BU	**24,ZEPO*29,,	10968	43	10992	02329
26080	BTM	OUTPUT, CSTAT	10980	17	09686	J1016
26090	TFM	CFFA,NCDCF1	10992	16	02629	-7316
26100	BTM	CFF,SNUTCO	11004	17	02592	-8438
26110	CSTAT	BNF **24,2PSSW	11016	44	11040	02477
26120	BTM	2PSOUT, **12	11028	17	09978	J1040
26130	CM	SBOLT, CO,10	11040	14	02643	000-0
26140	BE	CALLA3	11052	46	11124	01200
26150	TD	DGSV, LOSYMB*1	11064	25	03347	19998
26160	TD	LOSYMB*1, SPSGM	11076	25	19998	02560
26170	*	WRITE DISK-WLAC-OUTPUT PARTIAL BLCK				
26180	TFM	IORT,**23	11088	16	00565	J1111
26190	B	IORBC,SDEF1,7	11100	49	00520	J0139
26200	TD	LOSYMB*1, DGSV	11112	25	19998	03347
26210	CALLA3	RCTY	11124	34	C0000	00102
26220	A3STR1	TFM A3BD*11,1,STAT-1	11136	16	11159	-2558
26230	A3BD	BD **44,**	11148	43	11192	00000
26240	TDM	A3BD*11,,6	11160	15	1115R	00000
26250	DC	1,,'*	11171		1	
26260	SM	A3BD*11,1,10	11172	12	11159	000-1
26270	B7	A3BD	11184	49	11148	
26280	TD	**23,MIADD	11192	25	11215	02518
26290	TD	**23,AJUST	11204	25	11227	02399
26300	AM	MIADD,00,10	11216	11	02518	000-0
26310	TD	**23,PICKUP	11228	25	11251	02528
26320	TD	**23,AJUST	11240	25	11263	02399
26330	AM	PICKUP,,10	11252	11	02528	000-0
26340	BNF	**20,1,STAT-30	11264	44	11284	02529
26350	B7	**20	11276	49	11296	
26360	TFM	MOMAD,MIADD	11284	26	00415	02518
26370	MACRIN	BNF **68,KILSUB	11296	44	11364	02484
26380	CM	A3BD*11,1,STAT-30	11308	14	11159	-2529
26390	BNM	**44	11320	47	11364	01100
26400	TD	A3BD*11,A3BD*23,6	11332	25	1115R	11171
26410	SM	A3BD*11,1,10	11344	12	11159	000-1
26420	B7	**48	11356	49	11308	
26430	BD	ASTOP,ASTSW	11364	43	12968	10249
26440	BNF	**84,2PSSW	11376	44	11460	02477
26450	BNF	**36,PTINSW	11388	44	11424	02475
26460	RCTY		11400	34	00000	00102
26470	WATY	PT2MES	11412	39	13013	00100
26480	BNF	**36,CDINSW	11424	44	11460	02474
26490	RCTY		11436	34	00000	00102
26500	WATY	CD2MES	11448	39	13091	00100
26510	BD	STBEGN,STPCSW	11460	43	11484	02470
26520	BNF	CALLB1,STPRSW	11472	44	12788	02472
26530	STBEGN	BNF ST1,STPCSW	11484	44	11520	02470
26540	MACD	ST11,...	11496	39	10419	00400
26550	MACD	OUTCL	11508	39	10739	00400
26560	ST1	BNF ST2,STTYSW	11520	44	11604	02471
26570	TFM	ST111*2*44,,,	11532	16	10507	-0000
26580	DAC	1,,'*	11543		1 x	2

PUNCH TITLE

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26590	RCTY		11544	34	00000	00102
26600	RCTY		11556	34	00000	00102
26610	WATY	STIT1	11568	39	10419	00100
26620	RCTY		11580	34	00000	00102
26630	RCTY		11592	34	00000	00102
26640	ST2	CM SBOLT,00,10	11604	14	02643	000-0
26650	BE	OSYMB-20,,,	11616	46	12044	01200
26660	TFM	SBCNT,00,10,	11628	16	02675	000-0
26670	TF	B2DCF+5,BIDCF+5	11640	26	10193	10177
26680	STLOOP	AM SBCNT,1,10	11652	11	02675	000-1
26690	TD	STIT2+40=2,SBCNT	11664	25	10659	02675
26700	TD	STIT2+39=2,SBCNT-1	11676	25	10657	02674
26710	HNF	ST3,STPCSW	11688	44	11748	02470
26720	WACD	OUTCL	11700	39	10739	00400
26730	WACD	OUTCL	11712	39	10739	00400
26740	WACD	STIT2	11724	39	10579	00400
26750	WACD	OUTCL	11736	39	10739	00400
26760	ST3	BNF CRLO,STTYSW	11748	44	11844	02471
26770	RCTY		11760	34	00000	00102
26780	RCTY		11772	34	00000	00102
26790	TFM	STIT2+41=2	11784	16	10661	-0000
26800	DAC	1,,'*	11795		1	X 2
26810	WATY	STIT2	11796	39	10579	00100
26820	RCTY		11808	34	00000	00102
26830	RCTY		11820	34	00000	00102
26840	TFM	STIT2+41=2,00,10	11832	16	10661	000-0
26850	CRLO	AM B2DCF+5,SPBL	11844	11	10193	-0040
26860	C	SBCNT,SBOUT	11856	24	02675	02643
26870	BH	FLOAD	11868	46	11972	01100
26880	TD	DGSV,LOS YMB+1	11880	25	03347	19998
26890	TD	LOS YMB+1,SPSGM	11892	25	19998	02560
26900	*	READ DISK-WLRC-READ SYMBOL BLOCK				
26910	TFM	IORT,++23	11904	16	00565	J1927
26920	B	IOGT,SDEF2,7	11916	49	00566	J0147
26930	TFM	LIMITS,LBLIM	11928	16	03287	K0009
26940	TFM	LIMITS-5,MAXLIM	11940	16	03282	J5997
26950	TD	LOS YMB+1,DGSV	11952	25	19998	03347
26960	B7	OSYMB-20	11964	49	12044	
26970	FLOAD	TD DGSV,LOS YMB+1	11972	25	03347	19998
26980	TD	LOS YMB+1,SPSGM	11984	25	19998	02560
26990	*	READ DISK-WLRC-PARTIAL BLOCK				
27000	TFM	IORT,++23	11996	16	00565	J2019
27010	B	IOGT,SDEF1,7	12008	49	00566	J0139
27020	TR	LIMITS-9,PRTLIM-4	12020	31	03278	02498
27030	TD	LOS YMB+1,DGSV	12032	25	19998	03347
27040	AM	LIMITS-5,17,10	12044	11	03282	000J7
27050	97	ST5	12056	49	12716	
27060	OSYMB	TR OUTAR-1,OUTCL-1	12068	31	10256	10738
27070	TFM	LNCNT,05,10	12076	16	10918	000-5
27080	TFM	STLP+6,OUTAR+5=2	12088	16	12106	J0267
27090	STLP	TF --,LIMITS-5,11	12100	26	00000	0328K
27100	AM	STLP+6,14,10	12112	11	12106	000J4
27110	AM	LIMITS-5,5,10	12124	11	03282	000-5
27120	TF	NADD,LIMITS-5,11	12136	26	10916	0328K
27130	TD	ALZR+8,NADD	12148	25	10909	10916

27140	TD	ALZR+6,NADD-1	12160	25	10907	10915
27150	TD	ALZR+4,NADD-2	12172	25	10905	10914
27160	TD	ALZR+2,NADD-3	12184	25	10903	10913
27170	TD	ALZR+0,NADD-4	12196	25	10901	10912
27180	TFM	ALZR+10,00,10	12208	16	10911	000-0
27190	BNF	**48,NADD	12220	44	12268	10916
27200	TFM	ALZR+10,59,10	12232	16	10911	000N9
27210	BD	**24,RELSW	12244	43	12268	02478
27220	TFM	ALZR+10,20,10	12256	16	10911	000K0
27230	CF	ALZR+9	12268	33	10910	00000
27240	CF	ALZR+8	12280	33	10909	00000
27250	CF	ALZR	12292	33	10901	00000
27260	TF	STLP+6,ALZR+10,6	12304	26	12100	10911
27270	AM	STLP+6,18,10	12316	11	12106	000J8
27280	AM	LIMITS-5,12,10	12328	11	03282	000J2
27290	C	LIMITS-5,LIMITS	12340	24	03282	03287
27300	BNL	**36	12352	46	12388	01300
27310	SM	LNCNT,1,10	12364	12	10918	000-1
27320	BP	STLP	12376	46	12100	01100
27330	BNF	ST4,STPCSW	12388	44	12424	02470
27340	TFM	IORT,++23	12400	16	00565	J2423
27350	B	IOPT,OUTAD-4,7	12412	49	00532	J3004
27360	ST4	BNF ST4A,STTYSW,,,	12424	44	12460	02471
27370	WATY	OUTAR	12436	39	10257	00100
27380	RCTY		12448	34	00000	00102
27390	**	PRINT HEADING AND SYSTEM SYMBOL TABLE				
27400	ST4A	BNF ST5,STPRSW,,	12460	44	12716	02472
27410	NOP	OFLO,,,	12472	41	12528	00000
27420	TFM	IORT,++23,,	12484	16	00565	J2507
27430	B	IOGT,DSKMD,7	12496	49	00566	J3325
27440	TFM	ST4A+13,9,,	12508	15	12473	CC009
27450	B7	OFLO+12,,	12520	49	12540	
27460	OFLO	BNF ST4B,3400,,	12528	47	12692	03400
27470	BD	ONE,PGNUM=2	12540	43	12572	02645
27480	BD	TWO,PGNUM=1	12552	43	12584	02646
27490	B7	NONLM	12564	49	12596	
27500	ONE	TFM B1OMAD+174,7	12572	15	10074	00007
27510	TWO	TFM B1OMAD+176,7	12584	15	10076	00007
27520	NONUM	TFM B1CMAD+179,PGNUM,,,	12596	25	10079	02647
27530	TFM	B1OMAD+177,PGNUM-1	12608	25	10077	02646
27540	TFM	B1OMAD+175,PGNUM-2	12620	25	10075	02645
27550	34	,0971,,	12632	34	00000	00971
27560	34	,0962,,	12644	34	00000	00962
27570	TFM	IORT,++23,,	12656	16	00565	J2679
27580	B	IOPT,PAGE-4,7	12668	49	00532	J3301
27590	AM	PGNUM,01,10,,	12680	11	02447	000-1
27600	ST4B	TFM IORT,++23,,	12692	16	00565	J2715
27610	B	IOPT,SYMTB-4,7,	12704	49	00532	J3293
27620	ST5	C LIMITS-5,LIMITS	12716	24	03282	03287
27630	BL	OSYMB	12728	47	12064	01300
27640	CM	SBOUT,00,10	12740	14	02643	000-0
27650	BE	CALLB1	12752	46	12788	01200
27660	C	SBCNT,SBOUT	12764	24	02675	02643
27670	BNH	STLOOP	12776	47	11652	01100
27680	CALLB1	BNF **60,2PSSW	12788	44	12848	02477
27690	BNF	**48,PTINSM	12800	44	12848	02475

27700	WATY	25TMS			12812	34	13155	00100
27710	RCTY				12824	34	00000	00102
27720	H				12836	48	00000	00000
27730	BNF	++96,STPCS	W		12848	44	12944	02470
27740	BNF	++84,LSCDS	W		12860	44	12944	02479
27750	WACD	OUTCL			12872	39	10739	00400
27760	WACD	OUTCL			12884	39	10739	00400
27770	WACC	OUTCL			12896	39	10739	00400
27780	NOP	OUTCL,,,CHNGE	TO WACD TO PUNCH 1 MORE BLNK LN AFTR SYM TABLE		12908	41	10739	00000
27790	NOP	OUTCL,,,CHNGE	TO WACD TC PUNCH 1 MORE BLNK LN AFTR SYM TABLE		12920	41	10739	00000
27800	NOP	OUTCL,,,CHNGE	TO WACD TC PUNCH 1 MORE BLNK LN AFTR SYM TABLE		12932	41	10739	00000
27810	TFM	CFFA,CBIDCF			12944	16	02629	J3278
27820	BTM	CFF,4188			12956	17	02592	-4188
27830	ASTOP	RCTY			12968	34	00000	00102
27840	WATY	ASMS			12980	39	13203	00100
27850	B	MONCAL,,,	CALL EXIT		12992	49	00796	00000
27860	OUTAD	DSA	OUTAR		13008		5 X	1
					13008		J0257	
27870	DC	3,10'			13011		3	
27880	PTZMES	DAC	39,RETHREAD SOURCE PAPER TAPE FOR PASS 2.'		13013		39 X	2
27890	CC2MES	DAC	32,RELOAD SOURCE CARDS FOR PASS 2.'		13091		32 X	2
27900	25TMS	DAC	24,PRESS START WHEN READY.'		13155		24 X	2
27910	ASMS	DAC	38,DISC AREA TOO SMALL. ASSEMBLY DELETED'		13203		38 X	2
27920	CBIDCF	DDA	,0,BIDAD,BISCT,SBOUT+1		13278		14	
27930	DC	1,'			13292		1	
27940	SYMTB	DSA	OLTR		13297		5 X	1
					13297		J0257	
27950	DC	3,18',,,,	PRINT SYMBOL TABLE LISTING		13300		3	
27960	PAGE	CSA	B10MAD+1		13305		5 X	1
					13305		-9901	
27970	DC	3,18',,,,	PRINT INDICATION AND PAGE NUMBER		13308		3	
27980	DISKCD	CDA	,1,BBDAD,002 ,B10MAD,,, C.A OF PRINT OUT OFLC		13310		14	
27990	DC	1,'			13324		1	
28000	DSKMC	DSC	2,22',,,, PAGE OFLO DEFINER FOR SYMBOL TABLE		13325		2	
28010	DSA	DISKDD			13331		5 X	1
					13331		J3310	
28020	DC	1,'			13332		1	
28030	F3	34	A5DCF,00701	125	13334	34	13382	00701
28040		38	A5DCF,00702		13346	38	13382	00702

28050	TRA				13358	36	00000	00500
28060	A5DCF	CDA	,0,A5DAD,A5SCT,INSTRN		13370	49	00000	00000
28070	TCD	F3			13382		14	
28080	DEND	START			13334			
					10282			

Table with 4 columns of data: labels, values, labels, values. Includes identifiers like 1PTSPB, 2PRATIO, 32FSOUT, etc. across multiple rows.

Table with 4 columns of data: labels, values, labels, values. Includes identifiers like CLTBL, CNTR, COLL, COMA, etc. across multiple rows.

ZEPJ 02300	SSTDCF 13704	STPCSW 02470	SYMTBL 16003	TYINSH 02473
ZP 04804	SSTSCY C0035	STPRSW 02472	SYSCAL 0C475	TYPASS 14020
SAVAST 05380	START2 10534	STTYSW 02471	TABFUL 09322	
SBFACD 15998	STBEGR 11484	SUBDAD 04808	THINGS 02420	
SNDCCD 08438	STCHAR 11788	SUBENT 03261	TRNUM1 06722	
SSFCAD 18908	STLOOP 11652	SYTAG 02641	TRNUM 06638	

END OF ONE ASSEMBLY.

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00010	DORG 2218	02218	
00020 *	SYMBOL TABLE PARAMETERS		
00030 SPBL DS	, 40,,	SECTORS PER BLOCK	00040
00040 SMPBL DS	, 235,,	SYMBOLS PER BLOCK	00235
00050 SYMTBL DS	, 16003,	HI-ORDER POSITION OF SYMBL TABLE	16003
00060 LOSYMB DS	, SYMTBL+SMPBL*17-1,	LO-ORDER POSITION OF SYMBLIC BLOCK	19997
00070 SBFACD DS	, LCSYMB-SPBL*100*1,	SYMBLIC BLOCK DISK ADDRESS	15998
00080 LBLIM DS	, LCSYMB*12,	LO-ORDER BLOCK LIMIT	20009
00090 MAXLIM DS	, SYMTBL-6,	MAXIMUM LIMIT	15997
00100 *	EMPIRICAL SECTOR ASSIGNMENT PARAMETERS		
00110 IPTSPB DS	,1500,	1-PASS TOTAL SECTORS PER SYM. BLOCK	01500
00120 ZPTSPB DS	,600,	2-PASS TOTAL SECTORS PER SYM. BLOCK	00600
00130 BP2OK DS	,5,	SYMBOLIC BLOCKS PER 20K CORE	00005
00140 ZPTRIO DS	,20000,	2-PASS RATIO--INTERM./FINAL SECTORS	20000
00150 *	SPS DISC ASSIGNMENT PARAMETERS		
00160 AICAD DS	,18600,	CONTROL STATEMENTS, PH.A SUBROUTINS	18600
00170 A1SCT DS	,137,		00137
00180 A2CAD DS	,14800,	NORMAL PROCESSING--FREQUENT STMTS.	14800
00190 A2SCT DS	,55,		00055
00200 A3CAD DS	,19252,	THA, CALL, GET-PUT AND ASSCG DECL	19252
00210 A3SCT DS	,29,		00029
00220 A4CAD DS	,18881,	DMES, DVLC PROCESS	18881
00230 A4SCT DS	,27,		00027
00240 A5CAD DS	,18737,	DEND, TCD, AND SYMBOL TABLE LIST	18737
00250 A5SCT DS	,31,		00031
00260 SSTCAD DS	,18908,	SYSTEM SYMBL TABLE	18908
00270 SSTSCT DS	,35,		00035
00280 MSTCAD DS	,SSTCAD+SSTSCT,	MASTER SYMBL TABLE	18943
00290 M0SCAD DS	,19663,	MONITOR COMM SECTOR DISK ADDRESS	19663
00300 B1CAD DS	,18978,	PHASE B INITIALIZATION	18978
00310 B1SCT DS	,21,		00021
00320 B2CAD DS	,19200,	INPUT, BRANCH TABLE, SCAN	19200
00330 B2SCT DS	,52,		00052
00340 B3CAD DS	,19000,	LINPRT, INSTR, DC, DSDNB, CAS, DORG	19000
00350 B3SCT DS	,69,		00069
00360 B3MAD DS	,09100, PHASE B3 MEMORY ADDRESS		09100
00370 B4CAD DS	,19069,	RSTR, DAC, ALOW, CMES, DSB, DVLC, DGM	19069
00380 B4SCT DS	,53,		00053
00390 B5CAD DS	,19122,	DSA, MACRO, CDA, TRA, DEND	19122
00400 B5SCT DS	,29,		00029
00410 B6CAD DS	,19151,	CALL LINK, LOAD, EXIT	19151
00420 B6SCT DS	,30,		00030
00430 **	PHASE A INITIALIZATION		
00440 B7CAD DS	,B2DAD*19,,,	DISK-RESTORE B PARTIAL	19219
00450 B7SCT DS	,04,,,	SECTOR COUNT-RESTORE B PARTIAL	00004
00460 B8CAD DS	,17001,,,	DISK-PAGE OFLO GOODIES	17001
00470 B9MAD DS	,16500,,,	CORE ADDRESS TO INITIALIZE	16500
00480 B10MAD DS	,09900,,,	CORE ADDRESS OF PAGE OFLO	09900
00490 DIMDAD DS	,04800,	DIM ENTRY FOR EQUIV. TABLE	04800
00500 DIMSCT DS	,1,		00001
00510 EQDAD DS	,0,	EQUIVALENCE TABLE	00000
00520 EQSCT DS	,4,		00004
00530 PMCAD DS	,18855,		18855
00540 PMCSCT DS	,26,		00026
00550 SUBDAD DS	,04808,	SPS SUBROUTINE DIM ENTRIES	04808
00560 *	MONITOR COMMUNICATION PARAMETERS		

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00570	MOSCT	DS	,16C00,	MONITOR COMM SECTOR MEMORY ADDRESS	16000	0	
00580	MODOC	DS	,MUSCT+22,	DISC OUTPUT CODE	16022	0	
00590	MOCIOC	US	,MOSCT+23,	CD-TP OUTPT CODE	16023	0	
00600	MONAME	DS	,MOSCT+35,	NAME	16035	0	
00610	MOIDNO	DS	,MOSCT+39,	ID NUMBER	16039	0	
00620	MOHL	DS	,MOSCT+41,	MANT. LENGTH	16041	0	
00630	MOSBNO	DS	,MOSCT+43,	SUB. SET	16043	0	
00640	MONOIS	DS	,MOSCT+44,	NOISE DIGIT	16044	0	
00650	MOEXEC	DS	,426,	EXECUTE CONTROL AND SPS INPUT	00426	0	
00660	MOMAD	US	,415,	MEMORY ADDR	00415	0	
00670	SYSCAL	DS	,475,	SYSTEM COMMON ACTION LOCATION	00475	0	
00680	NONEX	DS	,457,	NON-EXECUTE FOR JOB ERROR	00457	0	
00690	PCK	DS	,2365		02365	0	
00700	*						
IORT ENTRIES							
00710	IORT	DS	,565		00565	0	
00720	IOPT	DS	,532		00532	0	
00730	IOGT	DS	,566		00566	0	
00740	IOWBC	DS	,520		00520	0	
00750	IOSK	US	,554		00554	0	
00760	IOCAL	DS	,00716		00716	0	
00770	MUNCAL	DS	,00796		00796	0	
00780	IOCSAQ	DS	,19783,ADDRESS OF THE LOADER CALLER		19783	0	
00790	*						
SPS COMMUNICATION AREA							
00800	*						
00810	*						
00820	UUT	DS	1		02218	1	
00830	US	DS	80		02298	80	
00840	ZEPD	DS	2		02300	2	
00850	DS	DS	81		02381	81	
00860	DC	DC	1,1		02382	1	
00870	LNTH	DS	5		02387	5	
00880	CC	CC	1,1		02388	1	
00890	AJUST	DC	11,2121212121,,	INSTRUCTION PARITY TABLE	02399	11	
00900	THINGS	DC	21,0010203040506070000'		02420	21	
00910	COLL	DS	19		02439	19	
00920	DS	DS	2		02441	2	
00930	NUMB	DC	7,1		02446	7	
00940	JSTHL	DC	11,3232323232,,	ALPHA PARITY TABLE	02459	11	
00950	EVOCC	DC	10,0101010101,,	DMS PARITY TABLE	02469	10	
00960	*			PROCESSOR CONTROL SWITCHES--FLAGGED 1=ON, UNFLAGGED 0=OFF			
00970	STPCSW	DS	1,,	PUNCH SYMBOL TABLE	02470	1	
00980	STYSW	DS	1,,	TYPE SYMBOL TABLE	02471	1	
00990	STPRSW	DS	1,,	PRINT SYMBOL TABLE	02472	1	
01000	TYINSW	US	1,,	BEGIN TYPEWRITER INPUT	02473	1	
01010	CCINSW	DC	1,1,,	BEGIN CARD INPUT	02474	1	
01020	PTINSW	DS	1,,	BEGIN PAPER TAPE INPUT	02475	1	
01030	ERSTSW	US	1,,	ERROR STOP	02476	1	
01040	2PSSW	DS	1,,	TWO PASS MODE	02477	1	

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01050	RELSW	US	1,,	ASSEMBLE RELOCATABLE	02478	1
01060	LSCDSW	DS	1,,	LIST CARD	02479	1
01070	LSTYSW	DS	1,,	LIST TYPEWRITER	02480	1
01080	LSPRSW	DS	1,,	LIST PRINTER	02481	1
01090	PCNUSW	DS	1,,	PUNCH RESEQUENCED SOURCE DECK	02482	1
01100	INTRSW	DS	1,,	INTERRUPT	02483	1
01110	KILSUB	DS	1,,	NO SUBROUTINES	02484	1
01120	CTVT	DC	5,0		02489	5
01130	INCODE	DC	2,5		02491	2
01140	OBJCRE	DS	5,,	OBJECT MACHINE SIZE	02496	5
01150	PROCRF	DS	1,,	PROCESSOR MACHINE SIZE	02497	1
01160	PRTLIM	DSA	--*		02502	5 X 1
01170	HCLIM	CSA	LBLIM		02502	-0000
01180	DC	DC	1,1		02507	5 X 1
01190	STCNT	DC	5,1,,	STATEMENT COUNT	02513	5
01200	HIADD	DC	5,0,,	HIGH ADDRESS	02518	5
01210	L	DS	2,,	LENGTH OF MANTISSA	02520	2
01220	NOISE	DS	1		02521	1
01230	SUBNO	DS	2		02523	2
01240	PICKUP	DS	5		02526	5
01250	DC	DC	1,1		02529	1
01260	ISTAT	DC	30,0'		02559	30
01270	SPSGM	DGM			02560	1
01280	INKRM	DS	5		02565	5
01290	DC	DC	1,1		02566	1
01300	TEMPR	DS	5		02571	5
01310	DC	DC	1,1		02572	1
01320	RMRK	DS	3		02575	3
01330	DC	DC	1,1		02576	1
01340	ONEZ	DC	10,1		02586	10
01350	*					
01360	*					
01370	*					
01380	DS	DS	5		02591	5
01390	CFP	TFM	IORT,++23		02592	14 00565 -2615
01400	B	B	IOGT,CFPDEF,7		02604	49 00566 -2623
01410	B7	B7	CFP-1,,6		02616	49 02591
01420	CFPDEF	DC	2,22,,	ABSOLUTE DISK NOT WRONG LENGTH	02623	2
01430	CFFA	CSA			02629	5 X 1

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01440	DC	1, *	02629	-0000
			02630	1
01450 MUR1	DS	1	02631	1
01460 IOACDR	DC	5, 0, , FILE ADDRESS OF INTERMEDIATE OUTPUT	02636	5
		-0000		
01470 SYMTAD	DC	5, 02600, , FILE ADDRESS OF SYMBOL TABLE	02641	5
		-2600		
01480 SBOUT	DC	2, 0	02643	2
		-0		
01490 PGNUM	DC	4, 0001, , PAGE NUMBER BUCKET	02647	4
		-001		
01500 *				
01510 *		END SPS COMMUNICATION AREA		
01520 *				
01530 TYPIN	DSA	INPLT-10	02652	5 X 1
			02652	-2783
			02655	3
01540	DC	3, 06 *		
		-6 *		
01550 TAPIN	DSA	INPLT-10	02660	5 X 1
			02660	-2783
			02663	3
01560	DC	3, 08 *		
		-8 *		
01570 CARDIN	DSA	INPLT-10	02668	5 X 1
			02668	-2783
			02671	3
01580	DC	3, 10 *		
		J0 *		
01590 SBMAX	DC	2, 10	02673	2
		J0		
01600 ACCCOM	CS	5	02678	5
01610 ALPHA	CS	10	02688	10
01620 META	CS	10	02698	10
01630 NOPREC	DC	15, 410000000000 *	02713	15
		-0410000000000 *		
01640 TEMP	DS	5	02718	5
01650 CLERER	DC	1, 0	02719	1
		-		
01660	DSC	26, 0	02720	26
		00000000000000000000000000000000		
01670	DSC	27, *	02746	27
		00000000000000000000000000000000		
01680	DS	8	02780	8
01690	CAC	5, *	02783	5 X 2
01700 INPUT	DAC	6, *	02793	6 X 2
01710	DC	8, 0	02811	8
		-0000000		
01720	00	++C246810	02812	-0 -0-0- 0-0-0
01730	00	++C246810	02824	-0 -0-0- 0-0-0
01740	00	++C246810	02836	-0 -0-0- 0-0-0
01750	00	++C246810	02848	-0 -0-0- 0-0-0
01760	00	++C246810	02860	-0 -0-0- 0-0-0

01770	00	++C246810	02872	-0 -0-0- 0-0-0
01780	00	++C246810	02884	-0 -0-0- 0-0-0
01790	00	++C246810	02896	-0 -0-0- 0-0-0
01800	00	++C246810	02908	-0 -0-0- 0-0-0
01810	00	++C246810	02920	-0 -0-0- 0-0-0
01820	00	++C246810	02932	-0 -0-0- 0-0-0
01830	00	++C246810	02944	-0 -0-0- 0-0-0
01840	00	++C246810	02956	-0 -0-0- 0-0-0
01850	00	++C246810	02968	-0 -0-0- 0-0-0
01860	DC	2, 0	02981	2
		-0		
01870	DC	2, 0	02983	2
		-0		
01880 PACK	DSS	300	02984	300
01890	DAS	1	03285	1 X 2
01900 INPUT2	CAS	1	03287	1 X 2
01910	DSC	50, 0	03288	50
		00000000000000000000000000000000		
01920	DSC	50, 0	03338	50
		00000000000000000000000000000000		
01930	DSC	50, 0	03388	50
		00000000000000000000000000000000		
01940	DSC	50, 0	03438	50
		00000000000000000000000000000000		
01950	DSC	22, *	03488	22
		00000000000000000000000000000000		
01960 ACCRS	DS	11	03520	11
01970	DC	1, *	03521	1
		*		
01980 LINK	TFM	PKK+10, 19, 17	03522	10 02375 -0019
01990	B	PKK ++26	03534	49 -236N 00000
02000	DC	1, *	03546	1
		*		
02010 DUMP1	DS	LINK+14	03536	0
02020	DS	1	03547	1
02030 DEFIN2	DSC	2, 00	03548	2
		00		
02040	DSA	SUBIN	03554	5 X 1
			03554	-3564
02050	DC	1, *	03555	1
		*		
02060 DEFIN	DSC	2, 02	03556	2
		02		
02070	DSA	SUBIN	03562	5 X 1
			03562	-3564
02080	DC	1, *	03563	1
		*		
02090 SUBIN	DDA	0, 0, 0, 2, 0, 0	03564	14
		0-0000-02-0000		
02100	DC	1, *	03578	1
		*		
02110 DEFOUT	DSC	2, 02	03579	2
		02		
02120	DSA	SUBOUT	03585	5 X 1

02130	DC	1,1	03585	-3588	
			03586	1	
02140	SUBOUT	DDA ,0,*,*,3,PACK 0-0000-03-2984	03588	14	
02150	CC	1,1	03602	1	
02160	DEFSM	DSC 2,00 00	03603	2	
02170	CSA	SLDSM	03609	5 X 1	
			03609	-3612	
02180	DC	1,1	03610	1	
02190	SUHSM	DDA ,0,*,*,5PBL,58FADD 0-0000-40J5998	03612	14	
02200	CC	1,1	03626	1	
02210	MUKTEL	DS 1	03627	1	
02220	INTBUF	DSC 9,CCCCCOO' 0000000'	03628	9	
02230	DSS	191	03637	191	
02240	DC	1,1	03828	1	
02250	ERLAB	CAS 6	03831	6 X 2	
02260	CAC	2,4*	03843	2 X 2	
02270	LOPOUT	DC 12,0 -00CCCLCOO	03857	12	
02280	DC	4,1 -00'	03861	4	
02290	LIMITSP	DS ,+CLIM	0257	0	
02300	LIM	CC 10,0 -00000000	03871	10	
02310	CC	1,1	03872	1	
02320	LIMSV	CS 10	03882	10	
02330	DC	1,1	03883	1	
02340	BLX	DS ,SUBOUT	02643	0	
02350	HEC	CS 3	03886	3	
02360	DMESW	DS 1	03887	1	
02370	7TY5	DC 5,75 -0075	03892	5	
02380	IC	CC 2,0 -0	03894	2	
02390	FRSTAD	DS 5	03899	5	
02400	STKLEN	DS 5	03904	5	
02410	LSTAC	DS 5	03909	5	
02420	FLGRM	DC 1,1	03910	1	
02430	PACKAD	CSA PACK,PACK+75,PACK+150,PACK+225	03915	5 X 4	
			03915	-2984	
			03920	-3059	
			03925	-3134	

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02440	DC	1,1	03930	-3209	
			03931	1	
02450	PKMOD	DSS 26	03932	26	
02460	DC	6,0 -00000	03963	6	
02470	ISTTCD	DS 5	03968	5	
02480	DC	1,1	03969	1	
02490	SFA	DS 8	03977	8	
02500	DC	1,0	03978	1	
02510	BLKACS	DSS 30	03979	30	
02520	CSA	SYMTBL-6	04013	5 X 1	
02530	LIMITSF	CSA SYMTBL+17+5PBL+11	04013	J5997	
			04018	5 X 1	
02540	DC	1,1	04018	K0009	
			04019	1	
02550	BLKCTR	DS 2	04021	2	
02560	DMPCTG	DC 5,0 -0000	04026	5	
02570	ABBA	DC 5,0 -0000	04031	5	
02580	FRSTMT	DSC 1,0 0	04032	1	
02590	KLRLSW	DS 1	04033	1	
02600	X	DS 5	04038	5	
02610	CAROLN	DS 1	04039	1	
02620	VACANT	DSS 140	04040	140	
02630	COPDEF	CSA INPLT2	04184	5 X 1	
02640	DC	3,10'	04184	-3287	
	JO'		04187	3	
02650	INITI	TF ERLAB+10,CLERER+11	04188	26	03841 02730
02660	TFM	HEC,10	04200	16	03886 000-0
02670	TFM	SUBOUT+5,0	04212	16	03593 -0000
02680	TFM	INKRM,99999	04224	16	02565 R9999
02690	TFM	SUBIN+13,INTBUF	04236	16	03577 -3628
02700	TF	SUBIN+5,IOADDR	04248	26	03569 02636
02710	SM	SUBIN+5,2,10	04260	12	03569 000-2
02720	TFM	ADDCOM,2401	04272	16	02678 -2401
02730	BNF	**24,RELSW	04284	44	04308 02478
02740	TFM	ADDCOM,99999	04296	16	02678 R9999
02750	TD	DMPDIG-4,PROCRE	04308	25	04022 02497
02760	SM	DMPDIG,1,10	04320	12	04026 000-1
02770	SF	FLGRM	04332	32	03910 00000
02780	BNR	**48,ISTAT-29	04344	45	04392 02530
02790	TR	PKMOD,PACKAD-4	04356	31	03932 03911
02800	TFM	7TY5,75	04368	16	03892 -0075
02810	B	**48	04380	49	04428 00000
02820	TR	PKMOD,PACKAD+1	04392	31	03932 03916
02830	AM	PKMOD+4,25	04404	11	03936 -0025

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02840	TFM	7TY5,50		04416	16	03892	-0050
02850	TR	LIM-9,LIMITSP-9		04428	31	03862	02498
02860	TF	SUBSM+5,SYMTAD		04440	26	03617	02641
02870	TF	SFA,SYMTAD		04452	26	03977	02641
02880	TF	ABBA ,PKMOD+4		04464	26	04031	03936
02890	TD	INTBUF+200,SPSCM		04476	25	03828	02560
02900	****	ROUTINE TO PRINT FIRST PAGE INDICATION FOR LISTING					
02910	BNF	ENT+12,LSPRSW,,	TEST FOR LISTING	04488	44	04584	02481
02920	TFM	PCALM,OC02,8		04500	16	02647	0-002
02930	TFM	IORT,++23,,	GET HEAD RECORD	04512	16	00565	-4535
02940	B	IOGT,MDPRT,7,,		04524	49	00586	-4631
02950	34	,0971,,	SKIP TO 1 IMMEDIATE	04536	34	00000	00971
02960	34	,0962,,	DOUBLE SPACE AFTER PRINT	04548	34	00000	00962
02970	TFM	IORT,++23,,	TC IORT PRINT PAGE	04560	16	00565	-4583
02980	ENT	B	IOPT,MDDEF-4,7,	04572	49	00532	-4623
02990	***	CONTINUE INITIALIZATION					
03000	*	CALL PHASE B2					
03010	TFM	CFFA,OCFB2		04584	16	02629	-4608
03020	BTM	CFF,PHASEB-12		04596	17	02592	-4188
03030	DCF82	CDA ,0,82DAD,82SCT,PHASEB-12		04608		14	
		0J9200-52-4188					
03040	DC	1,1		04622		1	
03050	MCDEF	USA	B7MAD+1	04627		5 X	1
				04627		-6089	
03060	DC	3,18*,*,	PRINT INDICATION AND PAGE NUMBER	04630		3	
		J8,					
03070	MDPRT	DSC	2,22*,*,	04631		2	
		22					
03080	DSA	+DPRT1	DISK DEFINER FOR 1ST PAGE HEADING	04637		5 X	1
				04637		-4640	
03090	DC	1,1		04638		1	
03100	MDPRT1	CDA ,1,88DAD,87SCT,87MAD*,*,	DDA 1ST PAGE HEADING	04640		14	
		1J7001-04-6088					
03110	DC	1,1		04654		1	
03120	*	LOAD PHASE B1 TO THE FILE					
03130	F1	34	SLBC,701	04656	34	04704	00701
03140		38	SLBC,702	04668	38	04704	00702
03150	TRA			04680	36	00000	00500
				04692	49	00000	00000
03160	SUBO	CDA ,0,81DAD,81SCT,81OUT+1		04704		14	
		0J8978-21-2644					
03170	TCC	F1		04656			
03180	CORG	INITI		04188			
03190	BTM	GEET,++12,,CALL PHASE B3		04188	17	09210	-4200
03200	PHASEB	BD	2PASS,2PASS	04200	43	04304	02477
03210	B7MAD	DS	,PHASEB-12+19C0,,	06008		0	
			-RESTORE B PARTIAL				
03220	TFM	SLBIN+13,INPLT-19		04212	16	03577	-2774
03230	AM	SLBIN+5,2,10		04224	11	03569	000-2
03240	*	READ SOURCE STATEMENT FROM THE FILE					
03250	TFM	IORT,++23		04236	16	00565	-4259

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03260	B	IOGT,DEFIN,7		04248	49	00566	-3556
03270	TR	INTBUF,INPUT-19		04260	31	03628	02774
03280	BNG	GO1 ,INPUT+80,,CHK,FCR FILE GRP.MRK		04272	55	04444	02873
03290	SM	SLBIN+5,1,10		04284	12	03569	000-1
03300	B7	GO1		04296	49	04444	
03310	2PASS	BNF	SECRD,PTINSW,,	04304	44	04348	02475
			CHK FOR CARU OR TAPE INPUT				
03320	*	ACCEPT TAPE INPUT					
03330	TFM	IORT,++23		04316	16	00565	-4339
03340	B	IOGT,TAPIN-4,7		04328	49	00566	-2656
03350	B7	FORWD		04340	49	04372	
03360	*	ACCEPT CARD INPUT					
03370	SECRD	TFM	IORT,++23	04348	16	00565	-4371
03380	B	IOGT,CARUIN-4,7		04360	49	00566	-2664
03390	FORWD	BNR	++24,INPUT-10	04372	45	04396	02783
03400	TFM	INPLT-10,0,10		04384	16	02783	000-0
03410	CM	INPUT-10,14,10		04396	14	02783	000J4
03420	BE	2PASS		04408	46	04304	01200
03430	TDM	--11,1		04420	15	04409	00001
03440	BT	RSCAN,RSCAN-1		04432	27	05744	05743
03450	GO1	AM	INKRM,1,10	04444	11	02565	000-1
03460	BT	CLOUT,CLOUT-1		04456	27	08126	08125
03470	TR	INPLT2+156,CLEPER+1,,	CLEAR THE REMAINS	04468	31	03443	02720
03480	TDM	KLRLSW,1,11		04480	15	04033	0000J
03490	TR	INPLT2-1,INPUT-11		04492	31	03286	02782
03500	BNF	++24,LSTYSW		04504	44	04528	02480
03510	RCTY			04516	34	00000	00102
03520	*						
03530	*	CHECK FOR COMMENT STATEMENT					
03540	*						
03550	CASTER	BNR	++20,INPUT	04528	45	04548	02793
03560	B7	CHKID		04540	49	04760	
03570	CM	INPLT,14,10		04548	14	02793	000J4
03580	HNE	CHKID		04560	47	04760	01200
03590	****	PRINT COMMENTS STATEMENT					
03600	PRINT3	BNF	PC-COM-24,LSPRSW,,	04572	44	04692	02481
			YES,LET ER GO	04584	16	00565	-4607
03610	TFM	IORT,++23,,		04596	49	00532	J2339
03620	B	IOPT,LSTDEF-4,7		04608	47	04692	03400
03630	BNF	PC-COM-24,3400,,	TEST PRINTER CHAN 12 OFLO PAGE	04620	16	12194	-4668
03640	TFM	PUNCH1+6,PRINT4,,	MODIFY BNF TO RETURN HERE	04632	15	12189	00009
03650	TDM	PUNCH1+1,9,,	MODIFY BNF TO BRANCH	04644	16	02629	J2172
03660	TFM	CFFA,PRYAD,,	DISK CONTROL FIELD PRINT OFLO	04656	17	02592	-6278
03670	BTM	CFF,PAGE,,	ADDRESS TO START OFLO INDICATION	04668	16	12194	J2294
03680	PRINT4	TFM	PUNCH1+6,GOCL,,	04680	15	12189	00004
			RESTORE BNF TO GOCL ADDRESS	04692	44	04200	02479
03690	TDM	PUNCH1+1,4,,	MODIFY BRANCH TO BNF	04704	27	05854	05853
03700	BNF	PHASEB,LSCDSW					
03710	BT	REVSCN,REVSCN-1					
03720	*	PUNCH COMMENTS CARD					
03730	PC-COM	BNF	PHASEB,LSCDSW	04716	44	04200	02479
03740	TFM	IORT,++23		04728	16	00565	-4751
03750	B	IOPT,COPDEF-4,7		04740	49	00532	-4180
03760	B7	PHASEB		04752	49	04200	
03770	CHKID	TFM	RLOP+11,INPUT-2	04764	16	04819	-2791
03780	AM	RLOP+11,2,10		04772	11	04819	060-2
03790	CM	RLOP+11,INPUT+12		04784	16	04819	-2805
03800	BE	RLOP+24		04796	46	04832	01200
03810	RLOP	BNR	--36,--	04808	45	04772	00000

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03820	TF	INPLT+10,CLERER+11	04820	26	02803	02730
03830	C	CLERER+11,INPUT+10	04832	24	02730	02803
03840	DE	**36	04844	46	04880	01200
03850	TF	ERLAB+10,INPUT+10	04856	26	03841	02803
03860	TFM	INCRM,0	04868	16	02565	-C000
03870	TFM	RMOP+11,INPUT+10	04880	16	04939	-2803
03880	AM	RMOP+11,2,10	04892	11	04939	000-2
03890	CM	RMOP+11,INPUT+20	04904	14	04939	-2813
03900	BE	RMUP+24	04916	46	04952	01200
03910	RMUP	BNR **36,**	04928	45	04892	00C00
03920	TF	INPUT+18,CLERER+7	04940	26	02811	02726
03930	BNF	NAST,2PSSW	04952	44	05220	02477
03940	BNF	**32,INTBUF+7	04964	44	04996	03635
03950	TCM	INTBUF+7,0	04976	15	03635	00C00
03960	B7	**20	04988	49	05008	
03970	TR	INTBUF,INTBUF+8	04996	31	03628	03636
03980	BNR	PULLIO,INTBUF	05008	45	05068	03628
03990	TFM	SCBIN+13,INTBUF	05020	16	03577	-3628
04000	AM	SUBIN+05,2,10	05032	11	03569	000-2
04010	*	RFAD INTERMEDIATE OUTPUT FROM FILE				
04020	TFM	IORT,**23	05044	16	00565	-5067
04030	B	IOGT,DEFIN2,7	05056	49	00566	-3548
04040	PULLIO	HNF NAST,INTBUF+7	05068	44	05220	03635
04050	TFM	EVALER-2,67670	05080	16	07634	07670
04060	BT	EPRINT,EPRINT-1	05092	27	08022	08021
04070	ERRXX	WATY MESS2	05104	39	07991	00100
04080	RCTY		05116	34	00000	00102
04090	BT	FWUSCN,FWUSCN-1	05128	27	05904	05903
04100	TFM	IORT,**23	05140	16	00565	-5163
04110	B	IOGT,TYPIN-4,7	05152	49	00566	-2648
04120	HC4	ERRXX	05164	46	05104	00400
04130	CM	INPUT,14,10	05176	14	02793	000J4
04140	BNE	**24	05188	47	05212	01200
04150	TDM	INTBUF+7,0	05200	15	03635	00000
04160	B7	CASTER-48	05212	49	04480	
04170	*					
04180	*	TYPE OUT SOURCE STATEMENT				
04190	*					
04200	NAST	TF LOPOUT, INPUT-2	05220	26	03857	02791
04210	TR	INPUT2-1, LOPOUT-9	05232	31	03286	03848
04220	TF	LOPOUT, INPUT+10	05244	26	03857	02803
04230	TR	INPUT2+11, LOPOUT-11	05256	31	03298	03846
04240	TF	LOPOUT, INPUT+18	05268	26	03857	02811
04250	TR	INPLT2+25, LOPOUT-7	05280	31	03312	03850
04260	TR	INPLT2+35, INPUT+19	05292	31	03322	02812
04270	TR	VACANT,INPUT+19	05304	31	04040	02812
04280	TCM	DMESW	05316	15	03887	00000
04290	MARK1	TF PLACE,ADDCOM	05328	26	09C33	02678
04300	BNR	**24,INPUT+20	05340	45	05364	02813
04310	TFM	INPLT+22,,10	05352	16	02815	000-0
04320	DC	1,,*	05363		1	
04330	BT	REVSCN,REVSCN-1	05364	27	05854	05853
04340	BNF	**32,INTBUF+1	05376	44	05408	03629
04350	HD	INSTRN,INTBUF+1	05388	43	12444	03629
04360	B7	TBL1	05400	49	05558	

04370	HNF	INSTRN,INTBUF	05408	44	12444	03628
04380	HD	INSTRN,INTBUF	05420	43	12444	03628
04390	TBL2	TFM GOODB2+6,BTBL2	05432	16	05474	-5480
04400	TD	GOODB2+11,INTBUF+1	05444	25	05479	03629
04410	A	GOODB2+5,GOODB2+11	05456	21	05473	05479
04420	GOODB2	B **1C	05468	49	00000	000-0
04430	BTBL2	B MACRO,,, 0	05480	49	14832	00000
04440	DORG	**1	05490			
04450	B	SAVE,,, +1	05490	49	14916	00000
04460	DORG	**1	05500			
04470	H	RSTR,,, +2	05500	49	14904	00000
04480	CORG	**1	05510			
04490	B	PCHCOM-12,,,+3	05510	49	04704	00000
04500	DORG	**1	05520			
04510	B	CALLEX,,,+4	05520	49	14808	00000
04520	DORG	**1	05530			
04530	B	MAC2,,,+5	05530	49	14952	00000
04540	DORG	**1	05540			
04550	B	PCHCOM-12,,,+6	05540	49	04704	00000
04560	CORG	**1	05550			
04570	B	LINKSF,,,+7	05550	49	14796	00000
04580	DORG	**3	05558			
04590	TBL1	TFM GOODB+6,BTBL	05558	16	05600	-5656
04600	TD	GOODB+11,INTBUF	05570	25	05605	03628
04610	A	GOODB+5,GOODB+11	05582	21	05599	05605
04620	GOODB	B **1C	05594	49	00000	000-0
04630	B	TRA,,, -5	05606	49	14820	00000
04640	CORG	**1	05616			
04650	B	DSDB,,, -4	05616	49	13332	00000
04660	DORG	**1	05626			
04670	B	DEND,,, -3	05626	49	14856	00000
04680	DORG	**1	05636			
04690	B	DC,,, -2	05636	49	13840	00000
04700	DORG	**1	05646			
04710	B	DORG,,, -1	05646	49	13736	00000
04720	DORG	**1	05656			
04730	BTBL	B DAC,,, 0	05656	49	14940	00000
04740	DORG	**1	05666			
04750	B	DSA,,, +1	05666	49	14844	00000
04760	DORG	**1	05676			
04770	B	CAS,,, +2	05676	49	13540	00000
04780	DORG	**1	05686			
04790	B	HEAD,,, +3	05686	49	06002	00000
04800	DORG	**1	05696			
04810	B	DSB,,, +4	05696	49	14784	00000
04820	DORG	**1	05706			
04830	B	DGM,,, +5	05706	49	14880	00000
04840	DORG	**1	05716			
04850	B	DDA,,, +6	05716	49	14868	00000
04860	DORG	**1	05726			
04870	B	DMES,,, +7	05726	49	14928	00000
04880	DORG	**1	05736			
04890	B	DVLC,,, +8	05736	49	14892	00000
04900	DORG	**3	05744			
04910	RSCAN	TFM INPLT+140	05744	16	02933	-0000
04920	DAQ	1,,*	05755		1 X	2

04930	TFM	++35,INPUT+140		05756	16	05791	-2933
04940	SM	++23,2		05760	12	05791	-0002
04950	TF	RSCAN1-1		05780	26	05851	00000
04960	DU	RSCAN1,RSCAN1-1		05792	43	05852	05851
04970	DD	RSCAN1,RSCAN1-2		05804	43	05852	05850
04980	TFM	+-25,610		05816	16	05791	000-0
04990	DC	1,*,*		05827		1	
05000	CM	RSCAN+47,INPUT+20		05828	14	05791	-2813
05010	BNE	RSCAN+24		05840	47	05760	01200
05020	RSCAN1	BB2		05852	42		
05030	REVSCN	TFM ++35,INPUT2+160		05854	16	05889	-3447
05040	SM	++23,2,10		05866	12	05889	000-2
05050	BNR	+-12,0-*		05878	45	05866	00000
05060	TFM	+-1.0,610		05890	16	05888	000-0
05070	BR2			05902	42		
05080	FWDSCN	TF INPLT-2,CLERER+9		05904	26	02791	02728
05090	TF	INPUT+10,CLERER+11		05916	26	02803	02730
05100	TF	INPUT+18,CLERER+7		05928	26	02811	02726
05110	TFM	++30,INPUT+18		05940	16	05970	-2811
05120	AM	++18,2,10		05952	11	05970	000-2
05130	TFM	0-*		05964	16	00000	-0000
05140	DAC	1,*,*		05975		1 X	2
05150	CM	0-6,INPUT+140		05976	14	05970	-2933
05160	BL	0-36		05988	47	05952	01300
05170	BB2			06000	42		
05180	*						
05190	*	HEADER ROUTINE					
05200	*						
05210	HEAD	TF HEAD,INTBUF+6		06002	26	03886	03634
05220	TFM	ADDRS		06014	16	03520	-0000
05230	B7	ECLAT1		06026	49	13796	
05240	NOP			06034	41	00000	00000
05250	SCAN	TFM OPER,10,10		06046	16	09047	000J0
05260	TFM	RLOCSW, 0000,0,,	CLEAR RELOCATION CONTROL AREA	06056	16	07950	0-000
05270	TDM	B5W,1,11		06070	15	09048	000J0
05280	SF	SCAN-5		06082	32	06041	00000
05290	TF	ADDRS,CLERER+9		06094	26	03520	02728
05300	TU	ALPHA, LNTH+1,,	RECORD MARK--ALPHA EMPTY	06106	25	02688	02388
05310	BD	++44,INPUT+19		06118	43	06162	02812
05320	BD	++32,INPUT+20		06130	43	06162	02813
05330	TR	INPUT+19,INPUT+21		06142	31	02812	02814
05340	B7	0-36		06154	49	06118	
05350	BNR	SCAN1-24,INPUT+20		06162	45	06334	02813
05360	SCAN	SF ADDRS-4		06174	32	03516	00000
05370	CM	RCTR, 00,10		06186	14	07948	000-0
05380	HE	SREL+12		06198	46	06326	01200
05390	CM	RCTR, 01,10		06210	14	07948	000-1
05400	BNE	++24		06222	47	06246	01200
05410	HNF	SREL, ADDRS		06234	44	06314	03520
05420	CM	RCTR, -01,10		06246	14	07948	000-J
05430	HNF	++24, ADDRS		06258	44	06282	03520
05440	HE	SREL		06270	46	06314	01200
05450	TFM	EVALER-2,71770,,	RELOCATION ERROR	06282	16	C7634	P1770
05460	BT	EPRINT,EPRINT-1		06294	27	08022	08021

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05470	B7	EVI		06306	49	07672	
05480	SREL	TDM RLOCSW,1,11		06314	15	07950	0000J
05490	H7	SCAN-1,6		06326	49	0604N	
05500	CM	INPLT+20,23,10		06334	14	02813	000K3
05510	RE	SCAN		06346	46	06174	01200
05520	SCAN1	CM INPLT+20,10,10		06358	14	02813	000J0
05530	BNE	++44		06370	47	06414	01200
05540	TFM	OPER,10,10		06382	16	09047	000J0
05550	TR	INPUT+19,INPUT+21		06394	31	02812	02814
05560	EVALOP	B7 EVALAD		06406	49	06726	
05570	CM	INPLT+20,20,10		06414	14	02813	000K0
05580	BNE	EVALAD		06426	47	06726	01200
05590	TFM	OPER,20,10		06438	16	09047	000K0
05600	B7	SCAN1+36		06450	49	06394	
05610	DIGALF	BNR ++20, ALPHA		06458	45	06478	02688
05620	B7	MOVE		06470	49	06534	
05630	M	ALPHA,BETA		06478	23	02688	02698
05640	SF	90		06490	32	00090	00000
05650	TF	ALPHA,99		06502	26	02688	00099
05660	BD	SREL-32,RSYMSW		06514	43	06282	07949
05670	B7	MOVE+12		06526	49	06546	
05680	MOVE	TF ALPHA,BETA		06534	26	02688	02698
05690	BNR	++20,INPUT+20		06546	45	06566	02813
05700	B7	BLOP		06558	49	06610	
05710	CM	INPUT+20,14,10		06566	14	02813	000J4
05720	BNE	++32		06578	47	06610	01200
05730	BD	SREL-32, RSYMSW		06590	43	06282	07949
05740	B7	SCAN1+36		06602	49	06394	
05750	BLOP	CM OPER,10		06610	14	09047	000-0
05760	BE	SCAN+60		06622	46	06106	01200
05770	TD	++13,OPER-1		06634	25	06647	09044
05780	ADDSUB	Z0 ADDRS,ALPHA		06646	20	03520	02688
05790	TF	ALPHA,CLERER+9		06658	26	02688	02728
05800	TFM	OPER,10		06670	16	09047	000-0
05810	BNF	++36,RSYMSW		06682	44	06718	07949
05820	TD	++13, ADDSUB+1		06694	25	06707	06647
05830	AM	RCTR, 1,10		06706	11	07948	000-1
05840	B7	SCAN+60		06718	49	06106	
05850	EVALAD	SF HEAD-2		06724	32	03884	00000
05860	SF	DOLLAR		06738	32	07046	00000
05870	TDM	B5W,0		06750	15	09048	00000
05880	TFM	LABL,1,10		06762	16	04853	000-1
05890	TFM	DOL,1,10		06774	16	04851	000-0
05900	TR	COLL-18,THINGS-20		06786	31	02421	02400
05910	BT	BCHSPC		06798	49	04922	
05920	*	CHECK FOR SPECIAL CHARACTER					
05930	COMSPC	CM INPUT+20,70,10		06806	14	02813	000P0
05940	BL	SPEC		06818	47	04942	01300
05950	TF	COLL,INPUT+20		06830	26	02439	02813
05960	CF	COLL-1		06842	33	02438	00000
05970	LABL	DS *		06853		0	
05980	DOL	DS ,4-2		06851		0	
05990	AM	DOL,1,10		06854	11	04851	000-1
06000	TR	COLL-17,COLL-15		06866	31	02422	02424
06010	CM	COLL-17,7,10		06878	14	02422	000-7
06020	*	SYMBOL IN OPERAND CONTAINS MORE THAN SIX CHARACTERS					

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06030 *		OR NUMBER IN OPERAND HAS MORE THAN FIVE DIGITS					
06040	BNE	**20	06890	47	06910	01200	
06050	ERLNTM	B7 CHKND	06902	49	07720		
06060	TR	INPUT+19,INPUT+21	06910	31	02812	02814	
06070 *		CHECK TO SEE IF OPERAND IS PRESENT					
06080	BCMSPC	BNR COMSPC,INPUT+20	06922	45	06806	02813	
06090	B7	GET	06934	49	07190		
06100 *		CHECK FOR + OR -					
06110	SPEC	BD S1,INPUT+20	06942	43	06974	02813	
06120 *		CHECK FOR BLANK					
06130	BD	GET,INPUT+19	06954	43	07190	02812	
06140	B7	BCMSPC-12	06966	49	06910		
06150 *		CHECK FOR COMMA					
06160	S1	CM INPUT+20,23,10	06974	14	02813	000K3	
06170	BE	GET	06986	46	07190	01200	
06180 *		CHECK FOR ASTERISK					
06190	CM	INPLT+20,14,10	06998	14	02813	000J4	
06200	BE	ASTER	07010	46	07534	01200	
06210 *		CHECK FOR DOLLAR SIGN					
06220	CM	INPUT+20,13,10	07022	14	02813	000J3	
06230	BE	DOLLAR	07034	46	07066	01200	
06240	TDM	LABL	07046	15	06853	00000	
06250	B7	COMSPC+24	07058	49	06830		
06260	DOLLAR	CF DOLLAR	07066	33	07066	00000	
06270	BD	**32,DDL	07078	43	07110	06851	
06280	TFM	COLL,,10	07090	16	02439	000-0	
06290	B7	**44	07102	49	07146		
06300	CM	DOL,1,10	07110	14	06851	000-1	
06310	BNE	DOLLAR-20	07122	47	07046	01200	
06320	SF	COLL-3	07134	32	02436	00000	
06330	CF	MED-2	07146	33	03884	00000	
06340	TDM	LABL	07158	15	06853	00000	
06350	BD	BCMSPC-12,DDL	07170	43	06910	06851	
06360	B7	BCMSPC-56	07182	49	06866		
06370	GET	TDM RSYMSW,0	07190	15	07949	00000	
06380	BD	TRNUMB,LABL	07202	43	07382	06853	
06390	A	COLL-17,COLL-17	07214	21	02422	02422	
06400	BNF	TRMM+24,MED-2	07226	44	07362	03884	
06410	CM	COLL-14,12070	07238	14	02425	J2070	
06420	BNE	**44	07250	47	07294	01200	
06430	SF	COLL-2	07262	32	02437	00000	
06440	SF	COLL-13	07274	32	02426	00000	
06450	B7	LBADD	07286	49	08176		
06460	TFM	**30,COLL-2	07294	16	07324	-2437	
06470	S	**18,COLL-17	07306	22	07324	02422	
06480	TF	,+EC	07318	26	00000	03886	
06490	B7	TRMM+24	07330	49	07362		
06500	TRMM	TR COLL-17,COLL-15	07338	31	02422	02424	
06510	TDM	COLL-2,0	07350	15	02437	00000	
06520	DNF	**24,COLL-13	07362	44	07338	02426	
06530	B7	LBADD	07374	49	08176		
06540	TRNUMB	CM COLL-14,6060	07382	14	02425	-6060	
06550	BH	CHKND	07394	46	07720	01100	
06560	TDM	NUMB-1,,11	07406	15	02447	0000-	
06570	TFM	TRNUM1+11,COLL-2	07418	16	07477	-2437	
06580	S	TRNUM1+11,COLL-17	07430	22	07477	02422	

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06590	S	TRNUM1+11,COLL-17	07442	22	07477	02422	
06600	TR	NUMB-5,NUMB-4	07454	31	02443	02444	
06610	TRNUM1	TD NUMB-1	07466	25	02447	00000	
06620	TR	COLL-17,COLL-15	07478	31	02422	02424	
06630	TF	**23,**-13	07490	26	07513	07477	
06640	BNR	TRNUM1-12	07502	45	07454	00000	
06650	TF	BETA,NUMB-1	07514	26	02698	02447	
06660	B7	DIGALF	07526	49	06458		
06670	ASTER	CM DOL,0,10	07534	14	06851	000-0	
06680	BNE	GET	07546	47	07130	01200	
06690	TF	BETA,ADDCOW	07558	26	02698	02678	
06700	BNF	**24, RELSW	07570	44	07594	02478	
06710	TDM	RSYMSW, 1,11	07582	15	07949	0000J	
06720	TR	INPUT+19,INPUT+21	07594	31	02812	02814	
06730	B7	DIGALF	07606	49	06458		
06740 *							
06750 *		EVALER IS THE ERROR ROUTINE					
06760 *							
06770	DAS	S	07615		5 X	2	
06780	BNR	59CC7	07624	45	59007	00000	
06790	DC	1,,*,*	07635		1		
06800	EVALER	BT EPRINT,EPRINT-1	07636	27	08022	08021	
06810	SPTY		07648	34	00000	00101	
06820	WATY	COLL-12	07660	39	02427	00100	
06830	EV1	BD CORERS ,ERSTSW	07672	43	07796	02476	
06840	BNF	CHKND,LSTYSW	07684	44	07720	02480	
06850	RCTY		07696	34	00000	00102	
06860	TBTY		07708	34	00000	00108	
06870	CHKND	TFM ADDR	07720	16	03520	-0000	
06880	BNR	**20,INPUT+20	07732	45	07752	02813	
06890	B7	SCAN-1,,6	07744	49	0604N		
06900	CM	INPUT+20,23,10	07752	14	02813	000K3	
06910	BE	SCAN-1,,6	07764	46	0604N	01200	
06920	TR	INPUT+19,INPUT+21	07776	31	02812	02814	
06930	B7	CHKND+12,,2	07788	49	-7732		
06940	CORERS	WATY RNMESS	07796	39	07953	00100	
06950	TF	ADDCOW,PLACE	07808	26	02678	09033	
06960	RCTY		07820	34	00000	00102	
06970	TR	INPLT+19,VACANT	07832	31	02812	04040	
06980	WATY	INPUT-10	07844	39	02783	00100	
06990	ODPS	RCTY	07856	34	00000	00102	
07000	BT	FWDCSN+36,FWDCSN+35	07868	27	05940	05939	
07010	WATY	INPUT-10	07880	39	02783	00100	
07020 *		ACCEPT CORRECTION FROM TYPWRITER					
07030	RATY	INPUT+20	07892	37	02813	00100	
07040	BC4	ODPS	07904	46	07856	00400	
07050	BTM	GEET,**12	07916	17	09210	-7928	
07060	TDM	INTBUF+7,1,11	07928	15	03635	0000J	
07070	B7	G01+12	07940	49	04456		
07080	RCTR	DS 2	07948		2		
07090	RSYMSW	DS 1	07949		1		
07100	RLOCSW	DS 1	07950		1		
07110	RNMESS	DAC 19, RE-ENTER OPERANDS'	07953		19 X	2	
		RE-ENTER OPERANDS'					
07120	MESS2	DAC 16, RE-ENTER STMT'	07991		16 X	2	
		RE-ENTER STMT'					

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07130 *							
07140 *	EPRINT	PRINTS THE ERROR MESSAGE AND REFERENCE TO					
07150 *		INDICATE THE STATEMENT IN ERROR					
07160 *							
07170	EPRINT	RCTY	08022	34	00000	00102	
07180	TF	LOPOUT,INPUT-2	08034	26	03857	02791	
07190	WATY	LOPOUT-8	08046	39	03849	00100	
07200	WATY	ERLAB	08058	39	03831	00100	
07210	WNTY	INCRM-3	08070	38	02562	00100	
07220	WATY	EVALER-21	08082	39	07615	00100	
07230	BD	++24,ERSTW	08094	43	08118	02476	
07240	SF	NONEX,,,KILL OBJECT PROG. EXECUTION IF ERROR IS DETECTED	08106	32	00457	00000	
07250	BB		08118	42	00000	00000	
07260	DOOR	--3	08126				
07270	CLOUT	TR INPLT2-1,CLERER	08126	31	03286	02719	
07280	TR	INPUT2+52,CLERER+1	08138	31	03339	02720	
07290	TR	INPLT2+104,CLERER+1	08150	31	03391	02720	
07300	TFM	INPLT2+160,0000,, CLEAR FINAL	08162	16	03447	-0000	
07310	HR2		08174	42			
07320 *							
07330 *		THE SYMBOL TABLE IS SEARCHED FOR EQUIVALENCE					
07340 *							
07350	LBADD	TFM BLKCTR,0,10,INITIALIZE BLOCK COUNTER	08176	16	04021	000-0	
07360	C	SFA,SYMTAD,,,CHK.TO SEE IF THIS IS PARTIAL BLOCK	08188	24	03977	02641	
07370	BE	PARTL	08200	46	08256	01200	
07380	AM	BLKCTR,1,10	08212	11	04021	000-1	
07390	TR	LIM-9,LIMITSF-9	08224	31	03862	04009	
07400	TF	LIM,LIMITSP	08236	26	03871	02507	
07410	B7	++20	08248	49	08268		
07420	PARTL	TR LIM-9,LIMITSP-9	08256	31	03862	02498	
07430	BT	BSEARCH,BSEARCH-1,,TO BINARY SEARCH ROUTINE TO FIND SYMBCL	08268	27	08752	08751	
07440	RD	GOTIT,EQSW,,WAS SYMBCL IN TABLE	08280	43	08376	08979	
07450	C	BSBF-1,LIMITSP	08292	24	09003	04018	
07460	BNL	GOTIT-24	08304	46	08352	01300	
07470	CM	BLX,0,10	08316	14	02643	000-0	
07480	DNF	CFIL	08328	47	08468	01200	
07490	TF	SFA,SUBSM+5	08340	26	03977	03617	
07500	TFM	EVALER-2,75000,,CANNOT FIND SYMBCL IN SYMBOL TABLE	08352	16	07634	05000	
07510	BT	EVALER,EVALER-1	08364	27	07636	07635	
07520	GOTIT	TF SFA,SUBSM+5,,SAVE FILE ADR.OF BLOCK WHERE SYMBCL WAS FOUND.	08376	26	03977	03617	
07530	AM	USHF-1,5,10,, MOVE SYMBCL ADDRESS	08388	11	09003	000-5	
07540	TF	BETA,BSBF-1,11, INTO BETA	08400	26	02698	0900L	
07550	DNF	++48,RELSW	08412	44	08460	02478	
07560	BNF	++36, BETA	08424	44	08460	02698	
07570	TDM	RSYMSW, 1,11	08436	15	07949	0000J	
07580	CF	BETA	08448	33	02698	00000	
07590	B7	DIGALF	08460	49	06458		
07600	CFIL	TF ++35,SYMTAD,,INITIALIZE SUB-INSTR. TO READ FIRST FILE BLK	08468	26	08503	02641	
07610	AM	++23,SPBL	08480	11	08503	-0040	
07620	TFM	SLHSM+5	08492	16	03617	-0000	
07630	TR	LIM-9,LIMITSF-9,,INITIALIZE FOR FULL BLOCK	08504	31	03862	04009	
07640	L	SUBSM+5,SFA,,CHK.IF THIS BLOCK HAS ALREADY BEEN SEARCHED	08516	24	03617	03977	
07650	BE	CMPCNT	08528	46	08636	01200	
07660 *		SAVE DIGIT AT LOSYMB+1					
07670	TU	MUKI, LOSYMB+1	08540	25	02631	19998	
07680	TD	LOSYMB+1,SPSGM	08552	25	19998	02560	

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07690 *		READ BLOCK OF SYMBOLS FROM FILE					
07700	TFM	IORT,++23	08564	16	00565	-8587	
07710	B	IOGT,DEFSM,7	08576	49	00566	-3603	
07720	TD	LOSYMB+1,MUKI	08588	25	19998	02631	
07730	BT	BSEARCH,BSEARCH-1	08600	27	08752	08751	
07740	AM	BLKCTR,1,10	08612	11	04021	000-1	
07750	RD	GOTIT,EQSW	08624	43	08376	08979	
07760	CMPCNT	C BLKCTR,BLX	08636	24	04021	02643	
07770	BH	GOTIT-36	08648	46	08340	01100	
07780	BL	CFIL+12	08660	47	08480	01300	
07790	C	SFA,SYMTAD	08672	24	03977	02641	
07800	BE	GOTIT-36	08684	46	08340	01200	
07810	TF	SUBSM+5,SYMTAD,,MOVE FILE ADDR.CF PARTIAL BLOCK TO SUBIN	08696	26	03617	02641	
07820	TR	LIM-9,LIMITSP-9	08708	31	03862	02498	
07830	TF	LIM,LIMITSF	08720	26	03871	04018	
07840	B7	CFIL+48	08732	49	08516		
07850 *		BINARY SYMBOL TABLE SEARCH SUBROUTINE					
07860	NOP		08740	41	00000	00000	
07870	BSEARCH	TF BSBF, CLERER+5	08752	26	09004	02724	
07880	A	BSBF, LIM	08764	21	09004	03871	
07890	A	BSBF, LIM-5	08776	21	09004	03866	
07900	TF	BSAV, BSBF	08788	26	09010	09004	
07910	A	BSBF, BSBF	08800	21	09004	09004	
07920	A	BSBF, BSBF	08812	21	09004	09004	
07930	A	BSBF, BSAV	08824	21	09004	09010	
07940	BD	++24, BSBF	08836	43	08860	09004	
07950	AM	BSBF-1, 8,10	08848	11	09003	000-8	
07960	SM	BSBF-1, 8,10	08860	12	09003	000-8	
07970	C	BSBF-1, LIM-5	08872	24	09003	03866	
07980	BNE	++26	08884	47	08910	01200	
07990	TDM	EQSW, 0	08896	15	08979	00000	
08000	BB2		08908	42			
08010	C	COLL-2,BSBF-1,11	08910	24	02437	0900L	
08020	BNE	BSNEQ	08922	47	08948	01200	
08030	TDM	EQSW, 1,11	08934	15	08979	0000J	
08040	BB2		08946	42			
08050	BSNEQ	BH BSH1	08948	46	08980	01100	
08060	TF	LIM, BSBF-1	08960	26	03871	09003	
08070	B7	BSEARCH	08972	49	08752		
08080	BSH1	TF LIM-5, BSBF-1	08980	26	03866	09003	
08090	B7	BSEARCH	08992	49	08752		
08100	EQSW	DS, BSH1-1	08979		0		
08110	BSBF	DC 6,0	09004		6		
08120	BSAV	DC 6,0	09010		6		
08130	TEST	DS 5	09015		5		
08140	BB2	DC 6,424272	09021		6		
08150	TYPE	DS 2	09023		2		
08160	TESTAD	DS 5	09028		5		
08170	PLACE	DS 5	09033		5		
08180	SUBENT	DS 5	09038		5		
08190	CNTR	DS 2	09040		2		
08200	TBLEND	DS 5	09045		5		
08210	OPER	DS 2	09047		2		

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08220	BSW	DS	1		09048		1
08230	CSABUX	USC	11,C'		09049		11
			00000000C0'				
08240		DS	1		09060		1
08250	NMOAL	DS	1		09061		1
08260	SMUCE	DS	1		09062		1
08270	DMSV	DS	5		09067		5
08280	DIGITS	DS	5		09072		5
08290	**	INSTRUCTIONS TO BRING IN PHASE B6					
08300		CC	5,12345		09077		5
			J2345				
08310	GAT	TFM	CFFA,DFADD3		09078	16	02629 -9102
08320		BT	CFF,GAT-1		09090	27	02592 09077
08330	DFACD3	DDA	,0,86DAD,86SCT,INSTRN		09102		14
			OJ9151-30J2444				
08340		DC	1,'		09116		1
			*				
08350	**	INSTRUCTIONS TO BRING IN PHASE B5					
08360		DC	5,12345		09121		5
			J2345				
08370	GIT	TFM	CFFA,DFADD2		09122	16	02629 -9146
08380		BT	CFF,GIT-1		09134	27	02592 09121
08390	DFACD2	DDA	,0,85DAD,85SCT,INSTRN		09146		14
			OJ9122-29J2444				
08400		DC	1,'		09160		1
			*				
08410	**	INSTRUCTIONS TO BRING IN PHASE B4					
08420		DC	5,12345		09165		5
			J2345				
08430	GETT	TFM	CFFA,DFADD		09166	16	02629 -9190
08440		BT	CFF,GETT-1		09178	27	02592 09165
08450	DFACD1	DDA	,0,84DAD,84SCT,LINPRT		09190		14
			OJ9069-53-9268				
08460		DC	1,'		09204		1
			*				
08470	**	INSTRUCTIONS TO RESTORE PHASE B3					
08480		DC	5,12345		09209		5
			J2345				
08490	GEET	TFM	CFFA,DFADD1		09210	16	02629 -9246
08500		TFM	X,PHASEB		09222	16	04038 -4200
08510		BT	CFF,GEET-1		09234	27	02592 09209
08520	DFACD1	DDA	,0,83DAD,83SCT,83MAD		09246		14
			OJ9000-69-9100				
08530		DC	1,'		09260		1
			*				
08540	*	TO LOAD PHASE B2 TO THE FILE					
08550	F3	34	SUB3,701		09262	34	09310 00701
08560		38	SUB3,702		09274	38	09310 00702
08570		TRA			09286	36	00000 00500
					09298	49	00000 00000
08580	SUB3	DDA	,0,82DAD,82SCT,PHASEB-12		09310		14
			OJ9200-52-4188				
08590		TCO	F3		09262		
08600		DDRG	F3		09262		
08610	*	THE ROUTINE WHICH FOLLOWS TAKES CARE OF THE					

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08620	*	OUTPUT FOR THE PROCESSOR					
08630	*						
08640		DC	5,00000		09266		5
			-0000				
08650	LINPRT	CF	ADDRS-4		09268	33	03516 00000
08660		CF	LNTN-4		09280	33	02383 00000
08670	*						
08680	*						
08690		CM	LINPRT-1,DOINST		09292	14	09267 J0088
08700		BE	DOINST		09304	46	1008E 01200
08710	*						
08720	*						
08730		SF	LNTN-4		09316	32	02383 00000
08740		SF	ADDRS-4		09328	32	03516 00000
08750	BRNCH	B	LINPRT-1,,6		09340	49	0926P 00000
08760	DDDS	BTM	LSTOUT,,+12 ,,PUNCH DS UR DNB LIST DECK CARD		09352	17	11984 -9364
08770		BD	X,INTBUF+6,6		09364	43	0403Q 03634
08780	*						
08790	*	GENERATE OUTPUT FOR NUMERIC BLANKS					
08800	*						
08810		AM	ADDRS,1,10		09376	11	03520 000-1
08820		IF	FRSTAD,ADDRS		09388	26	03899 03520
08830		TF	LSTAD,ADDRS		09400	26	03909 03520
08840		S	FRSTAD,LNTN		09412	22	03899 02387
08850		TFM	TYPE,99,10		09424	16	09023 000R9
08860		TFM	DOINST+23		09436	16	10111 -0000
08870		BTM	RELODG,4,1011		09448	17	10254 000-M
08880		BTM	STACKR,9,10		09460	17	10434 000-9
08890		B7	X,,6		09472	49	0403Q 00000
08900	LNTN2	DS	5,00000		00000		5
08910	*						
08920	*	PUNCH THE CONSTANT CARDS					
08930	*						
08940	PCON	BTM	LSTOUT,,+12		09480	17	11984 -9492
08950	DOCON	DS	,PCON,		09480		0
08960		TFM	,+30,OUT+2		09492	16	09522 -2220
08970		A	,+18,LNTN		09504	21	09522 02387
08980	PCON1	TD	,LNTN+1		09516	25	00000 02388
08990		BTM	RELODG,2,1011		09528	17	10254 000-K
09000		BD	MESOUT,DMESW		09540	43	09780 03887
09010	LUCK	BTM	STACKR,9,10		09552	17	10434 000-9
09020		B7	X,,6		09564	49	0403Q
09030	PDSA	BTM	CVACT,,+12		09572	17	11916 -9584
09040		BTM	LSTOUT,,+12		09584	17	11984 -9596
09050		TF	OUT+6,ZEPO+5		09596	26	02224 02305
09060		TD	OUT+7,LNTN+1		09608	25	02225 02388
09070		BTM	RELODG,2,1011		09620	17	10254 000-K
09080		AM	C+SYM+11,1,10		09632	11	09655 000-1
09090	CHSYM	BNF	,+24,DSABOX-1		09644	44	09668 09048
09100		BTM	RELODG,3,1011		09656	17	10254 000-L
09110		BTM	STACKR,9,10		09668	17	10434 000-9
09120		TFM	LNTN,5		09680	16	02387 -0005
09130		TR	ZEPO+1,ZEPO+6		09692	31	02301 02306
09140		BNR	,+32,ZEPO+1		09704	45	09736 02301
09150		TDM	INTBUF,0		09716	15	03628 00000
09160		B7	X,,6		09728	49	0403Q

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09170	TF	FRSTAD,LSTAD	09736	26	03899	03909
09180	AM	LSTAD,5,10	09748	11	03909	000-5
09190	AM	ADDRS,5,10	09760	11	03520	000-5
09200	DUDLEY	R7 LINPRT	09772	49	09268	
09210	*	THE FOLLOWING ROUTINE HANDLES DLTPUT FOR DMES				
09220	MESOUT	TC INPLT2+100,OUT+2,27,MOVE DMES	09780	25	-3387	-2220
09230	AM	=-6,1,10, DATA	09792	11	09786	000-1
09240	AM	=-13,1,10, FROM	09804	11	09791	000-1
09250	SM	LNTM,1,10, OUT+2	09816	12	02387	000-1
09260	BNN	MESOUT,,, TO INPLT2+100	09828	46	09780	01300
09270	DDMESS	TF LSTAD,FRSTAD	09840	26	03909	03899
09280	TR	OUT+2,INPUT2+100	09852	31	02220	03387
09290	TFM	BANAN+11,INPUT2+99	09864	16	09971	-3386
09300	SM	MESOUT+6,2,10	09876	12	09786	CCO-2
09310	TFM	LNTM,0	09888	16	02387	-0000
09320	AM	LSTAD,1,10	09900	11	03909	000-1
09330	AM	LNTM,1,10	09912	11	02387	000-1
09340	AM	BANAN+11,1,10	09924	11	09971	000-1
09350	C	BANAN+11,MESOUT+6	09936	24	09971	09786
09360	BNL	BANAN+12	09948	46	09972	01300
09370	BANAN	BNR =-60	09960	45	09900	00000
09380	HNR	=+24,BANAN+11,11	09972	45	09996	0997J
09390	TDM	DUMP1+11,0,11	09984	15	03547	0000-
09400	BTM	STACKR,9,10	09996	17	10434	000-9
09410	AM	BANAN+11,1,10	10008	11	09971	000-1
09420	C	BANAN+11,MESOUT+6	10020	24	09971	09786
09430	BH	X,,6	10032	46	04030	01100
09440	TR	OUT+2,BANAN+11,11	10044	31	02220	0997J
09450	TF	FRSTAD,LSTAD	10056	26	03899	03909
09460	SM	BANAN+11,1,10	10068	12	09971	CCO-1
09470	D7	DDMESS+48	10080	49	09888	
09480	*					
09490	*	OUTPLT ROUTINE FOR INSTRUCTIONS AND LINKAGES				
09500	*					
09510	DOINST	RTM LSTOUT,**12	10088	17	11984	J0100
09520	SF	ADDRS-4	10100	32	03516	00000
09530	TF	FRSTAD ,ADDRS	10112	26	03899	03520
09540	TF	LSTAD ,ADDRS	10124	26	03909	03520
09550	AM	LSTAD ,12	10136	11	03909	-0012
09560	NOTYPE	TD DOINST+19,ZEPO+12	10148	25	10107	02312
09570	TC	ZEPO+12,LNTM+1	10160	25	02312	02388
09580	TR	OUT+2 ,ZEPO	10172	31	02220	02300
09590	TFM	LNTM,12	10184	16	02387	-0012
09600	HTM	RELCDG,1,1011	10196	17	10254	CCO-J
09610	HTM	STACKR,9,10	10208	17	10434	000-9
09620	TD	ZEPO+12,DOINST+19	10220	25	02312	10107
09630	BNR	SECINS,ZEPO+12	10232	45	10352	02312
09640	B	X,,6	10244	49	04030	00000
09650	DORG	=-1	10254			
09660	RELCDG	TD IC,RELCDG-1	10254	25	03894	10253
09670	BNF	=+36,KRLRSW	10266	44	10302	0403J
09680	HNF	=+24,RELSW	10278	44	10302	02478
09690	CF	IC	10290	33	03894	00000
09700	RD	=+46,RELSW	10302	43	10350	02478
09710	CM	IC,1,1011	10314	14	03894	000-J
09720	HNE	=+24	10326	47	10350	01200

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09730	TDM	IC,2,11	10338	15	03894	CCOOK
09740	BB2		10350	42		
09750	SECONS	BT CLOUT,CLOUT-1	10352	27	08126	08125
09760	TR	ZEPO,ZEPO+12	10364	31	02300	02312
09770	AM	ADDRS,12	10376	11	03520	-C012
09780	RTM	LSTOUT,**17	10388	17	11984	J0400
09790	TF	FRSTAD,LSTAD	10400	26	03899	03909
09800	AM	LSTAD,12	10412	11	03909	-0012
09810	B	DOINST+60	10424	49	10148	00000
09820	DORG	=-1	10434			
09830	*					
09840	*	THE FOLLOWING ROUTINE ARRANGES THE OBJECT OUTPUT TO THE FILE				
09850	*					
09860	STACKR	TD STNLCN+13,STACKR-1	10434	25	11489	10433
09870	BNF	NEWCAR,FRSTMT,, GO TO NEWCAR IF THIS IS FIRST ENTRY	10446	44	11100	04032
09880	CM	7TYS,75,,CHK,IF CARD IS EMPTY	10458	14	03892	-0075
09890	BE	MODIFI	10470	46	11308	01200
09900	BD	BRSEQ,IC,,CHK,FOR TCD	10482	43	10502	03894
09910	B7	INDADR	10494	49	10932	
09920	BRSEQ	C TESTAD,FRSTAD,,TEST FOR BREAK IN ADDRESS SEQUENCE	10502	24	09028	03899
09930	BNE	REMAIL	10514	47	10976	01200
09940	C	TYPE,IC,,TEST FOR KIND OF STATEMENT	10526	24	09023	03894
09950	BNE	NEWIL	10538	47	11044	01200
09960	TFM	TEST,0 ,DATA IS	10550	16	09015	-0000
09970	TFM	TRDATA+11,OUT+2 ,CCNTIGUOLS,GO DIRECTLY	10562	16	10765	-2220
09980	TCM	OUT-7,0 ,TC SEE IF DATA FITS	10574	15	02211	00000
09990	FIT	S 7TYS,TEST,, TEST TO SEE IF ACCRS,IND,LEN ETC FITS	10586	22	03892	09015
10000	RNP	SETFRM,,NO,GO TO SET FLAG REC,MARK	10598	47	11296	01100
10010	S	7TYS,LNTM,,NOW SEE IF DATA FITS	10610	22	03892	02387
10020	BNZ	=+24	10622	47	10646	01200
10030	TFM	7TYS,75	10634	16	03892	-0075
10040	BNL	CHKRM	10646	46	10694	01300
10050	TD	=+22,IC,, NO,TEST	10658	25	10680	03894
10060	CM	=+8,20000,79,FOR	10670	14	10678	K0-00
10070	BNE	SETFRM,, CONSTANT	10682	47	11296	01200
10080	CHKRM	BNR TRDATA,OUT-7	10694	45	10754	02211
10090	TD	TRDATA+6,OUT-7,6	10706	25	1076-	02211
10100	AM	ABBA,1,10	10718	11	04031	000-1
10110	TDM	OUT-7,0	10730	15	02211	00000
10120	SM	TEST,1,10	10742	12	09015	000-1
10130	TRCAT	TR ABBA,,6,MOVE DATA (PLUS ADDR,,IND.LEN,ETC) TO OUTPUT BUFFER	10754	31	0403J	00000
10140	BNF	=+20,7TYS	10766	44	10786	03892
10150	B7	SPLIT	10778	49	11564	
10160	A	STKLEN,LNTM,6,UPDATE LENGTH	10786	21	0390M	02387
10170	A	ABBA,TEST	10798	21	04031	09015
10180	A	ABBA,LNTM	10810	21	04031	02387
10190	TF	TESTAD,LSTAD,, STORE ADDR.OF LAST POSN.+1	10822	26	09028	03909
10200	TF	TYPE,IC,,STORE INDIC.CODE.	10834	26	09023	03894
10210	BD	=+36,IC	10846	43	10882	03894
10220	TD	TRDATA+6,FLGRM,6	10858	25	1076-	03910
10230	TFM	7TYS,75	10870	16	03892	-0075
10240	TDM	FRSTMT,1,11	10882	15	04032	0000J
10250	BNF	=+24,DUMP1+11,,CK,FOR CONST.WHOSE LAST POSN.IS A REC.MRK.	10894	44	10918	03547
10260	TDM	TYPE-1,1,11,SET INDICATOR THAT CONST.HAS RECORD MARK	10906	15	09022	0000J
10270	TDM	DUMP1+11	10918	15	03547	00000
10280	RETRN	BB2	10930	42		

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10290 *	SET UP FOR INDICATOR AND ADDRESS--TCD				
10300 INDACR	TDM HUB1+11,6	10932	15	11167	00006
10310	TDM HUB1+35,5	10944	15	11191	00005
10320	TFM HUB2+11,OUT-7	10956	16	11203	-2211
10330	B7 HUB1	10968	49	11156	
10340 *	SET UP FOR REC.MRK.,ADDRESS,INDICATOR AND LENGTH				
10350 REMAIL	TD OUT-7,LNTH+1	10976	25	02211	02388
10360	TDM HUB1+11,9	10988	15	11167	00009
10370	TDM HUB1+35,8	11000	15	11191	00008
10380	TFM HUB2+11,OUT-6	11012	16	11203	-2212
10390	TF OUT-2,FRSTAD	11024	26	02216	03899
10400	B HUB	11036	49	11132	00000
10410	DORG *-3	11044			
10420 *	SET UP FOR NEW INDICATOR AND LENGTH				
10430 NEWIL	TDM TYPE-1,,11,TURN OFF ' INDICATOR	11044	15	09022	0000-
10440	TDM HUB1+11,3	11056	15	11167	00003
10450	TDM HUB1+35,2	11068	15	11191	00002
10460	TFM HUB2+11,OUT-1	11080	16	11203	-2217
10470	B FLB	11092	49	11132	00000
10480	DORG *-3	11100			
10490 *	SET UP FOR NEW 75-DIGIT RECORD- NEW ADDRESS,IND.AND LENGTH.				
10500 NEWCAR	TDM HUB1+11,8	11100	15	11167	00008
10510	TDM HUB1+35,7	11112	15	11191	00007
10520	B REMAIL+36	11124	49	11012	00000
10530	DORG *-3	11132			
10540 HUB	TD OUT-1,IC	11132	25	02217	03894
10550	TFM OUT+1,0,10	11144	16	02219	000-0
10560 HUB1	TFM TEST	11156	16	09015	-0000
10570	TF STKLEN,ABBA	11168	26	03904	04031
10580	AM STKLEN,	11180	11	03904	-0000
10590 HUB2	TFM TRDATA+11,	11192	16	10765	-0000
10600	TD **22,IC	11204	25	11226	03894
10610	CM **8,40000,79	11216	14	11224	MO-00
10620	BNE FIT	11228	47	10586	01200
10630	A OUT+1,LNTH	11240	21	02219	02387
10640	A OUT+1,DOINST+23	11252	21	02219	10111
10650	TF DOINST+23,LNTH	11264	26	10111	02387
10660	TFM LNTH,0	11276	16	02387	-0000
10670	B7 FIT	11288	49	10586	
10680 *	SET A FLAGGED RECORD MARK TERMINATING ONE CARD				
10690 SETFRM	TD TRDATA+6,FLGRM,6	11296	25	1076-	03910
10700 MOCIFI	TFM 7TYS,75,,INITIALIZE FULL CARD COUNTER	11308	16	03892	-0075
10710	TR PKMOD,PKMOD+5	11320	31	03932	03937
10720	BNR STNUCD,PKMOD	11332	45	11476	03932
10730	C SUBIN+5,SUBOUT+5	11344	24	03569	03593
10740	BNH OVRLAP	11356	47	11668	01100
10750 *	WRITE 3 SECTORS -- 4 CARDS -- TO THE FILE				
10760	TFM IORT,**23	11368	16	00565	J1391
10770	D IORBC,DEFOUT,7	11380	49	00520	-3579
10780	TFM **30,INPUT2+99	11392	16	11422	-3386
10790	SM **18,1,10	11404	12	11422	000-1
10800	TDM *-*,0	11416	15	00000	00000
10810	CM *-6,PACK	11428	14	11422	-2984
10820	BNE *-36	11440	47	11404	01200
10830	AM SUBOUT+5,3,10	11452	11	03593	000-3
10840	TR PKMOD,PACKAD-4,,INITIALIZE BUFFER ADDRESSES	11464	31	03932	03911

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10850 STNUCD	TF ABBA,PKMOD+4,,ADDRESS OF NEW CARD MOVE TO ABBA	11476	26	04031	03936
10860	B **8,,BRANCH BACK OR CONTINUE	11488	49	11496	00000
10870	DORG *-3	11496			
10880	TDM OUT-7,0	11496	15	02211	00000
10890	BD NEWCAR,IC	11508	43	11100	03894
10900	TF 1STTCD,ADDRS	11520	26	03968	03520
10910	TD 1STTCD-5,IC	11532	25	03963	03894
10920	TR TRDATA+6,1STTCD-10,6	11544	31	1076-	03958
10930	B7 REETRN-60	11556	49	10870	
10940 *	ROUTINE TO HANDLE THE CASE WHERE DATA OVERFLOWS FROM ONE				
10950 *	CARD TO ANOTHER				
10960 SPLIT	A LNTH,7TYS ** MOVE PARTIAL	11564	21	02387	03892
10970	TFM **35,OUT+2 ** DATA	11576	16	11611	-2220
10980	A **23,LNTH ** INTO	11588	21	11611	02387
10990	TR OUT+2 ** OUT+2	11600	31	02220	00000
11000	A FRSTAD,LNTH,,OBTAIN ADDRESS OF NEW FIRST DIGIT	11612	21	03892	02387
11010	CF 7TYS	11624	33	03892	00000
11020	A STKLEN,LNTH,6	11636	21	03904	02387
11030	TF LNTH,7TYS	11648	26	02387	03892
11040	B7 MODIFI	11660	49	11308	
11050 *	ERROR ROUTINE -- FINAL OUTPUT HAS OVERLAPPED INT. OUTPUT				
11060 OVRLAP	TFM EVALER-2,72710	11668	16	07634	P2710
11070	BT EPRINT,EPRINT-1	11680	27	08022	08021
11080	B7 MONCAL	11692	49	00796	
11090 *					
11100 *	NUMERIC TO ALPHA CONVERTER				
11110 *					
11120	DS 5	11703		5	
11130 FILL	TR FILBUF,FILL-1,11	11704	31	11960	1170L
11140	TFM FCHBUF, 70,10	11716	16	11977	000P0
11150	TD FCHBUF, FILBUF+4, 11	11728	25	11977	1196M
11160	BNF **60, FCHBUF	11740	44	11800	11977
11170	TDM FCHBUF-1, 5,11	11752	15	11976	0000M
11180	CF FCHBUF	11764	33	11977	00000
11190	BD **24, FCHBUF	11776	43	11800	11977
11200	TDM FCHBUF-1, 2,11	11788	15	11976	0000K
11205	BNG **24, FCHBUF	11800	55	11824	11977
11206	TFM FCHBUF,47,10	11812	16	11977	000M7
11210	BNR **24, FCHBUF	11824	45	11848	11977
11220	TFM FCHBUF,34,10	11836	16	11977	000L4
11230	TF FILBUF+14, FCHBUF,6	11848	26	1197M	11977
11240	AM FILBUF+4, 1,10	11860	11	11964	000-1
11250	AM FILBUF+14, 2,10	11872	11	11974	000-2
11260	C FILBUF+4, FILBUF+9	11884	24	11964	11969
11270	BNH FILL+12	11896	47	11716	01100
11280	BB2	11908	42		
11290	DS 5	11914		5	
11300 CVACT	TFM ACTFIL+5,2EPO	11916	16	12420	-2300
11310	A ACTFIL+5,LNTH	11928	21	12420	02387
11320	BTM FILL,ACTFIL-4	11940	17	11704	J2411
11330	B CVACT-1,,6	11952	49	1191M	00000
11340	DORG *-3	11960			
11350 FILBUF	DSS 16	11960		16	
11360 FCHBUF	DS 2	11977		2	
11370	DS 5	11982		5	
11380	THE FOLLOWING ROUTINE ARRANGES THE OUTPUT OF THE LISTING				

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11390	*	DECK							
11400	LSTOUT	DTM	FILL,ADRFIL-4,,ADDRESS	11984	17	11704	J2347		
11410		TCM	INPLT2+2*61-3*42,7	11996	15	03448	CC007		
11420		CM	LINPRT-1,DUINST	12008	14	09267	J0088		
11430		UNE	LSTCON	12020	47	12076	01200		
11440		HTM	FILL,OPFIL-4,,OP.CODE	12032	17	11704	J2363		
11450		DTM	FILL,PFIL-4,,P-FIELD	12044	17	11704	J2379		
11460		DTM	FILL,OFIL-4,,Q-FIELD	12056	17	11704	J2395		
11470		H7	PRINT	12068	49	12100			
11480	LSTCON	DTM	FILL,LNTHFL-4	12076	17	11704	J2427		
11490		TCM	INPLT2+2*67-3*42,7	12088	15	03460	CC007		
11500	PRINT	DNF	PUNCH1,LSPHSM,, SHALL WE PRINT	12100	44	12188	02481		
11510		TFM	IDRT,**23,, YES TO PRINT LISTING (IDRT)	12112	16	00565	J2135		
11520		H	IDPT,LSTDEF-4,7	12124	49	00532	J2339		
11530		BNI	PUNCH1,3400,, TEST PRINTER CHAN 12 OFLO PAGE	12136	47	12188	03400		
11540		TFM	CFFA,PRAD,, DISK CONTRCL FIELD PRINT OFLO	12148	16	02629	J2172		
11550		HTM	CFF,PAGE,, ADDRESS TO START CFLO INDICATION	12160	17	02592	-6278		
11560	PRAD	DDA	,1,8,8DAD,B7SCT,H7MAD,,, CDA PAGE OFLO TITLE AND PROGRAM	12172		14			
			1J7001-04-6088						
11570		DC	1, *	12186		1			
11580	PUNCH1	BNF	GOCL,LSCDSW,, TO PUNCH OR NOT	12188	44	12296	02479		
11590		CM	REVSCN+35,INPUT2+2*59,, YES MAKE MCLES	12200	14	05889	-3405		
11600		DNM	PUNCH2	12212	47	12260	01100		
11610		TFM	IDRT,**23,, PUNCH STATEMENT ONLY	12224	16	00565	J2247		
11620		H	IDPT,COPDEF-4,7	12236	49	00532	-4180		
11630		HT	CLULT,CLOUT-1,, CLEAR CARD ONLY AREA	12248	27	08126	08125		
11640	PUNCH2	TR	INPLT2+2*61-3,INPUT2+*1*2*39,, MOVE OBJECT CODE	12260	31	03406	03448		
11650		TFM	IDKT,**23,, PUNCH CODE-MAYBE STATE MENT	12272	16	00565	J2295		
11660		H	IDPT,COPDEF-4,7	12284	49	00532	-4180		
11670	GOCL	BT	CLULT,CLOUT-1	12296	27	08126	08125		
11680		TR	INPUT2+1*6,CLERER+1,, CLEAR THE REMAINS	12308	31	03443	02720		
11681		TFM	REVSCN+35,INPUT2+2*58,, SET PCINTER LOW FOR MACRO OUTPUT	12320	16	05889	-3403		
11690		B7	LSTOUT-1,**6	12332	49	11981			
11700	LSTDEF	DSA	INPLT2	12343		5 X	1		
				12343		-3287			
11710		DC	3,18',... PRINT ALPHA LISTING	12346		3			
11720	ACRFIL	DSA	ADDRS-4,ADRS,INPUT2+2*61-2*42	12351		5 X	3		
				12351		-3516			
				12356		-3520			
				12361		-3449			
11730		DC	1, *	12362		1			
11740	OPFIL	DSA	ZEPO ,ZEPO+1,INPUT2+2*67-2*42	12367		5 X	3		
				12367		-2300			
				12372		-2301			
				12377		-3461			
				12378		1			
11750		DC	1, *	12383		5 X	3		
11760	PFIL	DSA	ZEPO+2,ZEPO+6,INPUT2+2*70-2*42	12383		-2302			

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				12308		-2306			
				12393		-3467			
				12394		1			
11770		DC	1, *	12399		5 X	3		
				12399		-2307			
				12404		-2311			
				12409		-3479			
				12410		1			
11800	ACTFIL	DSA	ZEPO+1,--0 ,INPUT2+2*73-2*42	12415		5 X	3		
				12415		-2301			
				12420		-0000			
				12425		-3473			
				12426		1			
11810		DC	1, *	12431		5 X	3		
11820	LNTHFL	DSA	LNTH-4,LNTH,INPUT2+2*67-2*42	12431		-2383			
				12436		-2387			
				12441		-3461			
				12442		1			
11830		DC	1, *						
11840	*								
11850	*	ASSEMBLE INSTRUCTION							
11860	*								
11870	INSTRN	TD	**23,ADDCOW	12444	25	12467	02678		
11880		TD	**23,AJUST	12456	25	12479	02399		
11890		AM	ADDCOW,,10	12468	11	02678	000-0		
11900		TFM	LINPRT-1,DUINST	12480	16	09267	J0088		
11910		TD	ZEPO,INTBUF	12492	25	02300	03628		
11920		TD	ZEPO+1,INTBUF+1	12504	25	02301	03629		
11930		HTM	SCAN,**12	12516	17	06046	J2528		
11940		TR	ZEPO+2,CLERER+43	12528	31	02302	02762		
11950		TR	ZEPO+2,ADRS-4	12540	31	02302	03516		
11960		CF	ZEPO+2	12552	33	02302	00000		
11970		BNF	**24,RLOCSW	12564	44	12588	07950		
11980		SF	ZEPO	12576	32	02300	00000		
11990		TR	INPLT+19,INPUT+21	12588	31	02812	02814		
12000		BTM	SCAN,**12	12600	17	06046	J2612		
12010		TR	ZEPO+7,ADRS-4	12612	31	02307	03516		
12020		CF	ZEPO+7	12624	33	02307	00000		
12030		BNF	**24,RLOCSW	12636	44	12660	07950		
12040		SF	ZEPO+1	12648	32	02301	00000		
12050	*	SET THE Q-MODIFIERS							
12060	OPCODE	TFM	MVEMOD+6,ZEPO+6	12660	16	12750	-2306		
12070		TFM	CHKMOD+11,INTBUF+1	12672	16	12743	-3629		
12080	ACD1	AM	CHKMOD+11,1	12684	11	12743	-0001		
12090		CM	CHKMOD+11,INTBUF+7	12696	14	12743	-3635		
12100		BE	TYPINS	12708	46	12776	01200		
12110		AM	MVEMOD+6,1	12720	11	12750	-0001		
12120	CHKMOD	BNF	ADD1	12732	44	12684	00000		
12130	MVEMOD	TD	,CHKMOD+11,11	12744	25	00000	1274L		
12140		CF	MVEMOD+6,,6	12756	33	1275-	00000		

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12150	H7	ADD1		12768	49	12684	
12160	TYPINS	TF	ADDRS,ADDCOW	12776	26	03520	02678
12170	AM		ADDCOW,11	12788	11	02678	-0011
12180	C		INPLT+16,BB2	12800	24	02809	09021
12190	HNE		CHKB7	12812	47	12844	01200
12200	SM		ADDCOW,10,10	12824	12	02678	CCOJO
12210	B7		FLAGGR	12836	49	12880	
12220	CHKB7	CM	INPLT+14,4277,8	12844	14	02807	QM277
12230	HNE		FLAGGR	12856	47	12880	01200
12240	SM		ADDCOW,5	12868	12	02678	-0005
12250	*						
12260	*		CHECK TO SEE IF THERE IS A FLAG OPERAND				
12270	*						
12280	FLAGGR	TR	INPLT+19,INPUT+21	12880	31	02812	02814
12290	BNR		**20,INPUT+20	12892	45	12912	02813
12300	B7		SEEM	12904	49	12956	
12310	CM		INPLT+20,23,10	12912	14	02813	000K3
12320	RF		SEEM	12924	46	12956	01200
12330	HD		MGRUDR,INPUT+19	12936	43	13112	02812
12340	B7		FLAGGR	12948	49	12880	
12350	*						
12360	*		SET FLAG IF IMMEDIATE INSTRUCTION				
12370	*						
12380	SEEM	TC	**21,INTBUF	12956	25	12977	03628
12390	CM		**9,1,810	12968	14	12977	0-0-1
12400	HNE		LINPRT	12980	47	09268	01200
12410	C		**23,INTBUF+1	12992	24	13015	03629
12420	H1		LINPRT,1215,10	13004	46	09268	012J5
12430	SF		ZEPD+7	13016	32	02307	00000
12440	B7		LINPRT	13028	49	09268	
12450	*						
12460	*		SCAN FLAG OPERAND				
12470	*						
12480	TRANS	TR	INPLT+19,INPUT+31	13036	31	02812	02814
12490	BNR		**20,INPUT+20	13048	45	13068	02813
12500	B7		LINPRT	13060	49	09268	
12510	HD		**20,INPUT+19	13068	43	13088	02812
12520	B7		TRANS	13080	49	13036	
12530	CM		INPLT+20,23,10	13088	14	02813	000K3
12540	HE		LINPRT	13100	46	09268	01200
12550	MGRUDR	CM	INPUT+20,71,10	13112	14	02813	000P1
12560	HNE		ABLE	13124	47	13280	01200
12570	BNR		**20,INPUT+22	13136	45	13156	02815
12580	B7		ABLE	13148	49	13280	
12590	C		ZERONE+9,INPUT+22	13156	24	13321	02815
12600	HNE		BAKR	13168	47	13212	01200
12610	SF		ZEPD+10	13180	32	02310	00000
12620	CHAR	TR	INPUT+19,INPUT+23	13192	31	02812	02816
12630	B7		TRANS+12	13204	49	13048	
12640	BAKR	C	ZERONE+11,INPUT+22	13212	24	13323	02815
12650	HNE		ABLE	13224	47	13280	01200
12660	BNR		**20,INPUT+24	13236	45	13256	02817
12670	B7		ZERONE	13248	49	13312	
12680	C		ZERONE+9,INPUT+24	13256	24	13321	02817
12690	HNE		ZERONE	13268	47	13312	01200
12700	ABLE	TD	**18,INPUT+20	13280	25	13298	02813

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12710	SF		ZEPD	13292	32	02300	00000
12720	B7		TRANS	13304	49	13036	
12730	ZERONE	SF	ZEPD+11,7071,810	13312	32	02311	0POP1
12740	B7		CHAR	13324	49	13192	
12750	CNT	DS	2,CHAR-1	13191		2	
12760	*						
12770	*		EVALUATE LENGTH OF DS OR DNR				
12780	*						
12790	DSDNB	BTM	SCAN,**12	13332	17	06046	J3344
12800	TF		LNTH,ADDRS	13344	26	02387	03520
12810	BD		**48,INTBUF+6	13356	43	13404	03634
12820	CM		LNTH,100	13368	14	02387	-0100
12830	BN		**24	13380	47	13404	01300
12840	TFM		LNTH,99	13392	16	02387	-0099
12850	TR		INPUT+19,INPUT+21	13404	31	02812	02814
12860	BTM		SCAN,**12	13416	17	06046	J3428
12870	HD		**32,BSW	13428	43	13460	09048
12880	TD		KLRLSW,RLOCSW	13440	25	04033	07950
12890	B7		PRDS	13452	49	13528	
12900	*						
12910	*		ADDRESS ASSIGNED BY PROCESSOR				
12920	*						
12930	TF		ADDRS,ADDCOW	13460	26	03520	02678
12940	A		ADDCOW,LNTH	13472	21	02678	02387
12950	BD		DSS,INTBUF+5	13484	43	13516	03633
12960	A		ADDRS,LNTH	13496	21	03520	02387
12970	B7		DSS+12	13508	49	13528	
12980	DSS	AM	ADDRS,1,10	13516	11	03520	000-1
12990	PRDS	BTM	LINPRT,DDDS	13528	17	09268	-9352
13000	*						
13010	*		EVALUATE LENGTH OF DAS				
13020	*						
13030	DAS	BTM	SCAN,**12	13540	17	06046	J3552
13040	TF		LNTH,ADDRS	13552	26	02387	03520
13050	A		LNTH,LNTH	13564	21	02387	02387
13060	TF		TEMPR,LNTH	13576	26	02571	02387
13070	BNR		NOADD,INPUT+20	13588	45	13680	02813
13080	*						
13090	*		ADDRESS ASSIGNED BY PROCESSOR				
13100	*						
13110	TD		**23,ADDCOW	13600	25	13623	02678
13120	TD		**23,JSTBL	13612	25	13635	02459
13130	AM		ADDCOW,10	13624	11	02678	000-0
13140	TF		ADDRS,ADDCOW	13636	26	03520	02678
13150	A		ADDCOW,TEMPR	13648	21	02678	02571
13160	SM		ADDCOW,2,10	13660	12	02678	000-2
13170	B7		PRDS	13672	49	13528	
13180	NOADD	TR	INPUT+19,INPUT+21	13680	31	02812	02814
13190	BTM		SCAN,**12	13692	17	06046	J3704
13200	BD		DAS+60,BSW	13704	43	13600	09048
13210	TD		KLRLSW,RLOCSW	13716	25	04033	07950
13220	B7		PRDS	13728	49	13528	
13230	*						
13240	*		DEFINE ORIGIN				
13250	*						
13260	DORG	BTM	SCAN,**12	13736	17	06046	J3748

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1327U	TF	ADDCOM,ADDRS	13748	26	C2678	03520
1328U *						
1329U *		SET ADDRESS COUNTER TO NEW VALUE				
1330U *						
1331U	SM	ADDCOM,1,10	1376C	12	02678	000-1
1332U	BNF	**24,ADDCOM	13772	44	13796	02678
1333U	TFM	ADDCOM,99999	13784	16	02678	R9999
1334U	ECLATL	CF	13796	33	03516	OC000
1335U	BTM	FILL,ADRFIL-4	13808	17	11704	J2347
1336U	TFM	LSTCUT-1,PHASEB	13820	16	11983	-4200
1337U	R7	PRINT	13832	49	12100	
1338U *						
1339U *		DEFINE CONSTANT AND DEFINE SPECIAL CONSTANT				
1340U *						
1341U	DC	TC DC +23,INTBUF+5	1384C	25	13863	03633
1342U	CF	CCUMER	13852	31	13992	OC000
1343U	TFM	SFLAG+11, 00000	13864	16	14191	-0000
1344U	BTM	SCAN,**12	13876	17	06046	J3888
1345U	TF	LNTM,ADDRS	13888	26	02387	03520
1346U	CM	LNTM,51	13900	14	02387	-C051
1347U	DL	**24	13912	47	13936	01300
1348U	TFM	LNTM,50	13924	16	02387	-C050
1349U	TR	ZEPD-1,CLFRER	13936	31	02299	02719
1350U	TD	ZEPD+51,LNTM+1	13948	25	02351	02388
1351U	SF	ZEPD	13960	32	02300	00000
1352U	TFM	SFLAG+1, 41,10,	13972	16	14181	000M1
1353U	B7	TRRREC+12	13984	49	14168	
1354U	CCUMER	CM INPLT+22,23,10	13992	14	02815	CCUK3
1355U	BE	TRREC+24	14004	46	14180	01200
1356U	NM	TRREC-72	14016	46	14084	01100
1357U	CM	INPLT+22, 20,10,	14028	14	02815	000K0
1358U	BNE	TRREC,...	14040	47	14156	01200
1359U	SF	CCUMER	14052	32	13992	00000
1360U	TFM	SFLAG+1, 32,10,	14064	16	14161	000L2
1361U	B7	TRREC	14076	49	14156	
1362U *						
1363U *		COLLECT CONSTANT				
1364U *						
1365U	TF	SFLAG+11,INPUT+22	14084	26	14191	02815
1366U	TD	ZEPD+51,INPUT+22	14096	25	02351	02815
1367U	CM	INPLT+22,60,10	14108	14	02815	00000
1368U	RP	**24	14120	46	14144	01100
1369U	SF	ZEPD+51	14132	32	02351	00000
1370U	TR	ZEPD,ZEPD+1	14144	31	02300	02301
1371U	TRREC	TR INPLT+19,INPUT+21	14156	31	02812	02814
1372U	BNR	CCUMER,INPUT+22	14168	45	13992	02815
1373U	SFLAG	SF ZEPD+50	14180	32	02350	CC000
1374U	CM	**1,34,10	14192	14	14191	000L4
1375U	HNE	**72	14204	47	14276	01200
1376U	BNF	**36,ZEPD+50	14216	44	14252	02350
1377U	DNF	**24,CCUMER	14228	44	14252	13992
1378U	SF	ZEPD+49	14240	32	02349	00000
1379U	TD	ZEPD+50,LNTM+1	14252	25	02350	02388
1380U	TL*	DUMP1+11,11	14264	15	03547	000-
1381U	SF	ZEPD	14276	32	02300	00000
1382U	C	LNTM,INTBUF+4	14288	24	02387	03632

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1383U	BNM	**36	14300	46	14336	01300
1384U	TF	LNTM,INTBUF+4	14312	26	02387	03632
1385U	CF	LNTM-1	14324	33	02386	00000
1386U	TFM	**35,ZEPD+50	14336	16	14371	-2350
1387U	S	**23,LNTM	14348	22	14371	02387
1388U	TR	ZEPD	14360	31	02300	CC000
1389U	MD	**24,DC +23	14372	43	14396	13863
1390U	SF	ZEPD+1	14384	32	02301	00000
1391U	DNR	**24,ZEPD+1	14396	45	14420	02301
1392U	CF	ZEPD+1	14408	33	02301	00000
1393U	BNR	CH-CK,INPUT+22	14420	45	14612	02815
1394U *						
1395U *		ADDRESS ASSIGNED BY PROCESSOR				
1396U *						
1397U	GOAND	TF	14432	26	03520	02678
1398U	A	ADDCOM,LNTM	14444	21	02678	02387
1399U	TF	LSTAD,ADDCOM	14456	26	03909	02678
1400U	AM	LSTAD ,1,10	14468	11	03909	000-1
1401U	RD	DSC,DC +23	14480	43	14516	13863
1402U	A	ADDCOM,LNTM	14492	21	03520	02387
1403U	B	DSC+12	14504	49	14528	00000
1404U	DSC	AM	14516	11	03520	UCU-1
1405U	TR	OLT+2,ZEPD+1	14528	31	02220	02301
1406U	TF	FRSTAD,LSTAD	14540	26	03899	03909
1407U	S	FRSTAD ,LNTM	14552	22	03899	02387
1408U	HNF	**36,DUMP1+11	14564	44	14600	03547
1409U	HNR	**24,ZEPD+1	14576	45	14600	02301
1410U	TCM	DUMP1+11,1,11	14588	15	03547	0000J
1411U	PRDCSA	BTM	14600	17	09268	-9480
1412U	CHECK	TR	14612	31	02812	02816
1413U	BTM	SCAN,**12	14624	17	06046	J4636
1414U	BD	COAFD,BSW	14636	43	14432	09048
1415U	TD	KLRLSW,RLOCSW	14648	25	04033	07950
1416U *						
1417U *		ADDRESS ASSIGNED BY PROGRAMMER				
1418U *						
1419U	TF	LSTAD ,ADDRS	14660	26	03909	03520
1420U	BD	**32,DC +23	14672	43	14704	13863
1421U	AM	LSTAD ,1,10	14684	11	03909	000-1
1422U	B7	DSC+12	14696	49	14528	
1423U	A	LSTAD ,LNTM	14708	21	03909	02387
1424U	B7	DSC+12	14716	49	14528	
1425U	**FLIP	BRANCH TABLE				
1426U	DDUSF	BTM	14724	17	09268	-9352
1427U	DDCONP	BTM	14736	17	09268	-9480
1428U	PCSAP	BTM	14748	17	09268	-9572
1429U	PCUNF	BTM	14760	17	09268	-9480
1430U	LINP	BTM	14772	17	09268	J0088
1431U	DSB	BTM	14784	17	09166	-9268
1432U	LINKSF	BTM	14796	17	09166	J3976
1433U	CALLEX	BTM	14808	17	09166	J4204
1434U	TRA	BTM	14820	17	09122	J3838
1435U	MACRO	BTM	14832	17	09122	J3084
1436U	DSA	BTM	14844	17	09122	J2796
1437U	DEND	BTM	14856	17	09122	J4498
1438U	CCA	BTM	14868	17	09122	J3392

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14390	OGM	BTM	GET1,DCMF	14880	17	09166	-9460
14400	DVLC	BTM	GET1,DVLCF	14892	17	09166	-9616
14410	RSTR	BTM	GET1,RSTRF	14904	17	09166	J0232
14420	SAVE	BTM	GET1,SAVEF	14916	17	09166	J0510
14430	DMES	BTM	GET1,DMESF	14928	17	09166	J1196
14440	DAC	BTM	GET1,DACF	14940	17	09166	J2950
14450	MAC2	BTM	GAT,MACR2	14952	17	09078	J2756
14460	*		LOAD PHASE B3 TO THE FILE				
14470	F2	34	SLB2,701	14964	34	15012	0C701
14480		WN	SUB2,702	14976	38	15012	00702
14490		TRA		14988	36	00000	00500
				15000	49	00000	00000
14500	SUB2	CCA	0,830AD,B3SCT,B3MAD	15012			14
			OJ9C00-69-9100				
14510		TCO	F2	14964			
14520	*****		PAGE HEADING RECORD AND PHASE B PRINT OVERFLW				
14530		DORG	B7MAD,,,	06088			
14540	PGAREA	CAS	82,,,	06089		82 x	2
14550	PGCON	DAC	08,PAGE 1,,,,	06253		8 x	2
			PAGE 1				
14560		DSC	2,0'	06268		2	
			0'				
14570	PAGEP	DSA	PGAREA	06274		5 x	1
				06274		-6089	
14580		DC	3,18',,,,	06277		3	
		J8'					
14590	PAGE	TD	PGCON+14,PGNUM,,	06278	25	06267	02647
14600		TD	PGCON+12,PGNUM-1	06290	25	06265	02646
14610		TD	PGCON+10,PGNUM-2	06302	25	06263	02645
14620		BD	ONE,PGNUM-2	06314	43	06346	02645
14630		BD	TWU,PGNUM-1	06326	43	06358	02646
14640		B7	NONLM	06338	49	06370	
14650	ONE	TDM	PGCON+9,7	06346	15	06262	00007
14660	TWO	TDM	PGCON+11,7	06358	15	06264	00007
14670	NONUM	34	0971,,	06370	34	00000	00971
14680		34	0962,,	06382	34	00000	00962
14690	TFM	IDRT	**23,,	06394	16	00565	-6417
			TO IDRT-PRINT PAGE	06406	49	00532	-6270
14700		B	IDRT,PAGEP-4,7,,	06418	11	02647	000-1
14710		AM	PGNUM,01,10,,	06430	16	02629	-6454
14720		TFM	CFFA,RENU,,	06442	17	02592	J2188
14730		BTM	CFP,PUNCH,,,	06454			14
14740	RENU	DDA	1,870AD,B7SCT,B7MAD,,,				
			DDA CCA RESTORE PHASE B PARTIAL				
14750		CC	1,19219-C4-6088	06468			1
			1				
14760	*****		LOAD HEADING PHASE TO DISK STORAGE				
14770	F7	34	SLBD,701	06470	34	06518	00701
14780		38	SLBD,702	06482	38	06518	00702
14790		TRA		06494	36	00000	00500
				06506	49	00000	00000
14800	SUBC	DDA	1,880AD,B7SCT,B7MAD,,,	06518			14
			LOAD				
14810		TCO	F7	06470			

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14820		DORG	LINPRT	09268			
14830	*						
14840	*		EVALUATE LENGTH OF DSB				
14850	*						
14860	DSBF	BTM	SCAN,**12	09268	17	06046	-9280
14870		TF	LNTH,ADDRS	09280	26	02387	03520
14880		TR	INPLT+19,INPUT+21	09292	31	02812	02814
14890		BTM	SCAN,**12	09304	17	06046	-9316
14900		BNF	**24,BSW	09316	44	09340	09048
14910		TFM	ADDRS,1	09328	16	03520	-0001
14920		M	LNTH,ADDRS	09340	23	02387	03520
14930		SF	95	09352	32	00095	00000
14940		TR	INPUT+19,INPUT+21	09364	31	02812	02814
14950		BTM	SCAN,**12	09376	17	06046	-9388
14960		BNF	ASINE,BSW	09388	44	09436	09048
14970	*						
14980	*		ADDRESS ASSIGNED BY PROCESSOR				
14990	*						
15000		A	LNTH,ADDCOW	09400	21	02387	02678
15010		FF	ADDRS,LNTH	09412	26	03520	02387
15020		A	ADDCOW,99	09424	21	02678	00099
15030	*						
15040	*		ADDRESS ASSIGNED BY PROGRAMMER				
15050	*						
15060	ASINE	TF	LNTH,99	09436	26	02387	00099
15070		BTM	GEET,DDDSF	09448	17	09210	J4724
15080	*						
15090	*		DEFINE FILE GROUP MARK				
15100	*						
15110	DCMF	TFM	LNTH,1	09460	16	02387	-0001
15120		BTM	SCAN,**12	09472	17	06046	-9484
15130		TD	KLRLSW,RLOCSW	09484	25	04033	07950
15140		BNF	**48,BSW	09496	44	09544	09048
15150		AM	ADDCOW,1	09508	11	02678	-0001
15160		TF	ADDRS,ADDCOW	09520	26	03520	02678
15170		TDM	KLRLSW,1,11	09532	15	04033	0000J
15180		TF	FRSTAD ,ADDRS	09544	26	03899	03520
15190		TF	LSTAD ,ADDRS	09556	26	03909	03520
15200		AM	LSTAD ,1,710	09568	11	03909	-00-1
15210		TD	OUT+2,SPSGM	09580	25	02220	02560
15220		TDM	DUMPI+11,1,11	09592	15	03547	0000J
15230		BTM	GEET,PCOMF	09604	17	09210	J4760
15240	*						
15250	*		DEFINE VARIABLE LENGTH ADDRESS CONSTANT				
15260	*						
15270	DVLCF	BTM	SCAN,**12	09616	17	06046	-9628
15280		TD	KLRLSW,RLOCSW	09628	25	04033	07950
15290		TF	DVADBF+11, ADDR	09640	26	10147	03520
15300		SF	DVSW2	09652	32	10037	00000
15310		CF	DVSW1	09664	33	10036	00000
15320		BNF	**36,BSW	09676	44	09712	09048
15330	DVASGN	SF	DVSW1,,,	09688	32	10036	00000
			MACHINE ASSIGNS ADDRESS				
15340		TDM	KLRLSW,1,11	09700	15	04033	0000J
15350		TR	INPLT+19, INPUT+21	09712	31	02812	02814
15360		BTM	SCAN,**12	09724	17	06046	-9736
15370		TF	LNTH, ADDR	09736	26	02387	03520

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15380	TR	CLT, CLERER+1	09748	31	02218	02720
15390	TFM	DVTR+6, OUT+2	09760	16	10054	-2220
15400	DVLP	CM LNTH, OCO50	09772	14	02387	-0050
15410	BNP	++48	09784	47	09832	01100
15420	SM	LNTH,50,10	09796	12	02387	00000
15430	S	ADDRS, LNTH	09808	22	03520	02387
15440	TFM	LNTH,50	09820	16	02387	-0050
15450	RNF	++8+12, DVSW2	09832	44	09928	10037
15460	RNF	++36, DVSW1	09844	44	09880	10036
15470	TF	DVADBF+11,ADDCOW	09856	26	10147	02678
15480	A	DVADBF+11, LNTH	09868	21	10147	02387
15490	TF	LSTAD, DVADBF+11	09880	26	03909	10147
15500	S	LSTAD, LNTH	09892	22	03909	02387
15510	AM	LSTAD, 1	09904	11	03909	-0001
15520	CF	DVSW2	09916	33	10037	00000
15530	TR	ZEP0, CLERER+2	09928	31	02300	02721
15540	TFM	DVSF+6, ZEP0+51	09940	16	10042	-2351
15550	S	DVSF+6, ADDR5	09952	22	10042	03520
15560	TF	DVAD+11, ADDR5	09964	26	10071	03520
15570	TR	INPLT+19, INPUT+21	09976	31	02812	02814
15580	RTM	SCAN, ++12	09988	17	06046	JC000
15640	CF	ADDRS-4	10000	33	03516	00000
15650	TF	ZEP0+50, ADDR5	10012	26	02350	03520
15660	CF	ZEP0+50-9	10024	33	02341	00000
15670	DVSF	SF CCCC0,,2	10036	32	-CC00	00000
15680	DVTR	TR ++,DVSF+6,211	10048	31	-0000	1004K
15690	DVAD	AM DVTR+6, OCC00	10060	11	10054	-CC00
15700	RNR	++20, INPUT+20	10072	45	10042	02813
15710	B7	DVADBF	10084	49	10136	
15720	TR	INPLT+19, INPUT+21	10092	31	02812	02814
15730	RTM	SCAN, ++12	10104	17	06046	J0116
15740	A	LNTH, ADDR5	10116	21	02387	03520
15750	B7	DVLP	10128	49	09772	
15760	DVADBF	TFM ADDR5, C0000	10136	16	03520	-C000
15770	A	LSTAD, LNTH	10148	21	03909	02387
15780	RNF	++24, DVSW1	10160	44	10184	10036
15790	A	ADDCOW, LNTH	10172	21	02678	02387
15800	TR	ZEP0+1, OUT+2	10184	31	02301	02220
15810	TF	FRSTAD,LSTAD	10196	26	03899	03909
15820	S	FRSTAD, LNTH	10208	22	03899	02387
15830	UTM	GFET,DOCONF	10220	17	09210	J4736
15840	DVSW1	DS, DVSF	10036			C
15850	DVSW2	DS, DVSF+1	10037			0
15860	RSTNF	TD ++23,ADDCOW,, ADJUST	10232	25	10255	02678
15870	TD	++23,AJUST,, LOCATION	10244	25	10267	02399
15880	AM	ADDCOW,,10, COUNTER	10256	11	02678	000-0
15890	TF	TEMP,ADDCOW	10268	26	02718	02678
15900	TF	FRSTAD,ADDCOW	10280	26	03899	02678
15910	AM	ADDCOW,23,, UPDATE LOC COUNTER BY MACRO EXPANSION	10292	11	02678	-C023
15920	TF	LSTAD,ADDCOW	10304	26	03909	02678
15930	TR	ZEP0,RSIN,, MOVE EXPANSION INTO WORK BUFFER	10316	31	02300	10484
15940	BTM	SCAN,++12,, FIND NUMERIC EQUIV OF 1ST OPERAND	10328	17	06046	J0340
15950	BNF	++24,RSW	10340	44	10364	09048
15960	TFM	ADDRS,80	10352	16	03520	-0080
15970	CF	ADDRS-4,,MOVE 1ST	10364	33	03516	00000
15980	TR	ZEP0+2,ADDRS-4,, OPERAND INTO MACRO EXPANSION.	10376	31	02302	03516

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15990	TR	INPUT+19,INPUT+21,, GC AND GET	10388	31	02812	02814
16000	BTM	SCAN,++12,, NUMERIC EQUIVALENT OF NEXT CPERAND	10400	17	06046	J0412
16010	TF	ZEP0+11,ADDRS,, INTO MACRO EXPANSION	10412	26	02311	03520
16020	CF	ZEP0+7	10424	33	02307	00000
16023	BNF	++24,RLUCSW	10436	44	10460	07950
16025	SF	ZEP0+1	10448	32	02301	00000
16030	TF	ADDRS,TEMP	10460	26	03520	02718
16040	HTM	GEET,LINP	10472	17	09210	J4772
16050	* MACRO EXPANSION FOLLOWS					
16060	RSIN	TR 0,0	10484	31	00000	00000
16070	TDM	100,0	10496	15	00100	00000
16080	DC	1,,	10508			1
16090	SAVEF	TD ++23,ADDCOW,, ADJUST	10510	25	10533	02678
16100	TD	++23,AJUST,, LOCATION	10522	25	10545	02399
16110	AM	ADDCOW,,10, COUNTER	10534	11	02678	000-0
16120	TF	TEMP,ADDCOW	10546	26	02718	02678
16130	TF	FRSTAD,ADDCOW	10558	26	03899	02678
16140	AM	ADDCOW,35,, UPDATE COUNTER BY MACRO EXPANSION	10570	11	02678	-0035
16150	TF	LSTAD,ADDCOW	10582	26	03909	02678
16160	TR	ZEP0,SAVIN,, MOVE MACRO EXPANSION INTO WORK BUFFER	10594	31	02300	10774
16170	BTM	SCAN,++12,, FIND NUMERIC EQUIV OF 1ST OPERAND	10606	17	06046	J0618
16180	CF	ADDRS-4,, MOVE 1ST	10618	33	03516	00000
16190	TR	ZEP0+14,ADDRS-4,, OPERAND INTO MACRO EXPANSION	10630	31	02314	03516
16193	BNF	++24,RLUCSW	10642	44	10666	07950
16195	SF	ZEP0+12	10654	32	02312	00000
16200	TR	INPLT+19,INPUT+21,, GO + GET	10666	31	02812	02814
16210	BTM	SCAN,++12,, NUMERIC EQUIVALENT OF NEXT CPERAND	10678	17	06046	J0690
16220	BNF	++24,RSW	10690	44	10714	09048
16230	TFM	ADDRS,80	10702	16	03520	-0080
16240	TF	ZEP0+23,ADDRS,, OPERAND INTO MACRO EXPANSION	10714	26	02323	03520
16250	CF	ZEP0+19	10726	33	02319	00000
16260	TDM	ZEP0+11,0,, MOVE RECORD MARK IN EXPANSION	10738	15	02311	00000
16270	DC	1,,	10749			1
16280	TDM	0UMP1+11,1,11	10750	15	03547	0000J
16290	R	RSIN-24	10762	49	10460	00000
16300	* MACRO EXPANSION FOLLOWS					
16310	SAVIN	TDM -100,0	10774	15	00100	CC000
16320	TR		10786	31	00000	00000
16330	TDM	100	10798	15	00100	00000
16340	DC	1,,	10810			1
16350	* SUBROUTINE TO PROCESS CONTROL CHARACTER PHA					
16360	ANAL	CM INPUT+24,4,10, 1ST CHECK IF RT. PAREN. IS PRESENT	10812	14	02817	000-4
16370	BNF	ANAL4,, NO LEFT PAREN., ERROR	10824	47	11072	01200
16380	TF	ANAL1+11,INPUT+22,, MOVE CHAR TO ANOTHER LOCATION	10836	26	10895	02815
16390	TR	INPUT+19,INPUT+23,, POSITION INPUT RECORD	10848	31	02812	02816
16400	TFM	++23,CCHAR,, BEGIN CHECKING CONTROL CHAR. 1ST INITIALIZE	10860	16	10883	J1194
16410	C	ANAL1+11,, ADDRESSES. CHECK CHARACTERS	10872	24	10895	00000
16420	ANAL1	BE ANAL2,,10, CHARACTER FOUND	10884	46	10944	012-0
16430	CM	ANAL1-1,CCHAR-24,, SEE IF SEARCH IS FINISHED	10896	14	10883	J1170
16440	BE	ANAL4,, YES, NO CONTROL CHARACTER FOUND	10908	46	11072	01200
16450	SM	ANAL1-1,3,10, NOT FINISHED, MODIFY ADDRESS	10920	12	10883	000-3
16460	B	ANAL1-12,, BRANCH BACK TO CONTINUE SEARCH	10932	49	10872	00000
16470	ANAL2	TF ANLIC+11,ANAL1-1,, PREPARE TO MOVE CONTROL CHARACTER	10944	26	11003	10883

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16480	AM	DIGITS,1,10,, SET ADDRESS TO MOVE	10956	11	09072	000-1
16490	TF	**30,DIGITS,, DIGIT INTC OUTPLT BUFFER	10968	26	10998	09072
16500	SM	**23,2,10,, PREPARE TO SET CONTRGL CHARACTER IN CUTPUT BUFFER	10980	12	11003	000-2
16510	ANL1C	TD	10992	25	00000	00000
16520	ANL1B	CM	11004	14	10895	000M4
16530	DE	ANAL3	11016	46	11048	01200
16540	ANL1A	UD	11028	43	11680	09061
16550	B7	DMSB1,,, SCANNING FOR ALPHA MODE	11040	49	11436	
16560	ANAL3	DD	11048	43	11912	09061
16570	B	DMSM1,,, CHANGE FROM ALPHA TO NUMERIC	11060	49	11668	00000
16580	ANAL4	RD	11072	43	11108	09061
16590	TF	**18,DIGITS,,PREPARE TO CLEAR LOCATICN PREVIOUSLY SET WITH 7	11084	26	11102	09072
16600	TDM	,,, CLEAR LOCATICN	11096	15	00000	00000
16610	ANAL41	AM	11108	11	09072	000-1
16620	TF	**18,DIGITS	11120	26	11138	09072
16630	TDM	,,,	11132	15	00000	00000
16640	DSC	1,*,*	11143		1	
16650	CF	ANAL,,, RESET STRAY PAREN SWITCH	11144	33	10812	00000
16660	H	ANL1A	11156	49	11028	00000
16670	DSC	1,1	11166		1	
16680	DC	2,57	11170		2	
16690	DSC	1,3	11171		1	
16700	DC	2,43	11173		2	
16710	DSC	1,4	11174		1	
16720	DC	2,42	11176		2	
16730	DSC	1,5	11177		1	
16740	DC	2,41	11179		2	
16750	DSC	1,8	11180		1	
16760	DC	2,54	11182		2	
16770	DSC	1,7	11183		1	
16780	DC	2,62	11185		2	
16790	DSC	1,6	11186		1	
16800	DC	2,63	11188		2	
16810	DSC	1,2	11189		1	
16820	DC	2,54	11191		2	
16830	DSC	1,9	11192		1	
16840	CCHAR	DC	11194		2	

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16850	* PROGRAM	TO PROCESS DMES, PHASEB					
16860	DMESF	BTM	SCAN,**12,,EVALUATE ADDRESS OPERAND TO FIND NUM. VALUE	11196	17	06046	J1208
16870	TDM	DMESW,1,11,SET SWIYCH TO REPLACE - WITH	11208	15	03887	0000J	
16880	TDM	SMODE,,, RESET STARTING MODE SWITCH	11220	15	09062	00000	
16890	TR	OLT,CLERER,, CLEAR	11232	31	02218	02719	
16900	TR	OUT*50,CLERER*1,, OUTPUT BUFFER	11244	31	02268	02720	
16910	TFM	DIGITS,OUT*1,, INITIALIZE	11256	16	09072	-2219	
16920	BNR	**24,INPUT*20,, CHECK TO SEE OF BREAKER A RM	11268	45	11292	02813	
16930	B	DMSER1	11280	49	12496	00000	
16940	TFM	MODE1*6,DMESD,,FIND STARTING MODE	11292	16	12670	J1620	
16950	BTM	MODE,**12	11304	17	12616	J1316	
16960	BNF	DMESA,BSW,,ALPHA CHAR. IN FIELD, ASSUME ALPHA MODE. CHECK	11316	44	11400	09048	
16970	TDM	KLRLSW,1,11	11328	15	04033	0000J	
16980	TD	**23,ADDCOM,,TO SEE IF ADDRESS CP PRGRAMMER OR PROCESSOR	11340	25	11363	02678	
16990	TD	**23,JSTBL,,ASSIGNED PROCESSOR IF NO BRANCH FROM PREV INST.	11352	25	11375	02459	
17000	AM	ADDCOM,,10,ADJUST LOCATION COUNTER	11364	11	02678	000-0	
17010	TF	ADDRS,ADDCOM,, SET ADDRESS OF MESSAGE TO 2ND DIGIT	11376	26	03520	02678	
17020	SM	ADDCOM,2,10, SET LOC COUNTER TO LOC BEFORE MESSAGE	11388	12	02678	000-2	
17030	DMESA	TFM	MODE1*6,DMESB,, SEARCH FOR COMMA	11400	16	12670	J1424
17040	BTM	MODE,MODE,, ENDING FIELD	11412	17	12616	J2616	
17050	DMESB	TDM	NMDAL,,, SET SWITCH FOR ALPHA FIELD.	11424	15	09061	00000
17060	DMSB1	BTM	DTR,DMESC,, SCAN MESSAGE OPERAND	11436	17	12730	J154J
17070	AM	DIGITS,1,10,	11448	11	09072	000-1	
17080	TF	**18,DIGITS,, PREPARE TO MOVE IN O	11460	26	11478	09072	
17090	TR	,,,DMSB2-2	11472	31	00000	11517	
17100	AM	DIGITS,2,10, LEFT PAREN UPDATE DIGIT COUNT BY TWO	11484	11	09072	000-2	
17110	TF	**18,DIGITS,, ALLOW FOR CONTROL CHAR IN OUT PUT BUFFER	11496	26	11514	09072	
17120	TDM	,,, INSERT EVERYTHING EXCEPT FINAL CCONTRCL DIGIT	11508	15	00000	00000	
17130	DSC	2,*,*-2	11517		2		
17140	DMSB2	DSC	1,7,*	11519		1	
17150	BNF	ANAL,ANAL,, STRAY PAREN NOT FOUND IF BRANCH	11520	44	10812	10812	
17160	B	ANAL4,,, STRAY PAREN	11532	49	11072	00000	
17170	DORG	*-3	11540				
17180	DMESC	AM	DIGITS,2,10, UPDATE DIGIT COUNT BY 2	11540	11	09072	000-2
17190	TF	**18,DIGITS,, ALLOW FOR CHARACTER IN OUTPUT BUFFER	11552	26	11570	09072	
17200	TF	INPUT*20,, MOVE CHARACTER FROM INPUT TO OUTPUT BUFF	11564	26	00000	02813	
17210	SM	*-6,1,10, SET UP ADDRESSES TO CLEAR FLAG	11576	12	11570	000-1	
17220	CF	**18,*-18,, + CLEAR	11588	26	11606	11570	
17230	B	,,,	11600	33	00000	00000	
17240	DORG	DMSB1,,, CONTINUE SCAN	11612	49	11436	00000	
17250	DORG	*-3	11620				
17260	DMESD	BNF	DMES1,BSW,, IS IT A PROGRAMMER SPECIFIED ADDRESS	11620	44	11656	09048
17270	TF	ADDRS,ADDCOM,, NO, MOVE LOC. COUNTER INTO ADDRESS LOC.	11632	26	03520	02678	
17280	AM	ADDRS,1,1,10	11644	11	03520	000-1	
17290	DMES1	TDM	SMODE,1,10, SET SWITCH FOR NUM STARTING MODE	11656	15	09062	000-1
17300	DMSM1	TDM	NMDAL,1,10, SET SWITCH FOR NUMERIC MODE	11668	15	09061	000-1
17310	DMSNM	BTM	DTR,DMES1,,SCAN MESSAGE OPERAND	11680	17	12730	J1748
17320	AM	DIGITS,1,10, LEFT PAREN FOUND, UPDATE DIGIT COUNT BY 2	11692	11	09072	000-1	
17330	TF	**18,DIGITS,,ALLOW FOR CONTROL CHAR. IN OUTPUT BUFFER	11704	26	11722	09072	
17340	TDM	,,, MOVE TO BUFFER	11716	15	00000	00000	
17350	DSC	1,*,*	11727		1		
17360	BNF	ANAL,ANAL,, STRAY PAREN NOT FOUND IF BRANCH	11728	44	10812	10812	
17370	B	ANAL4,,, STRAY PAREN	11740	49	11072	00000	

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17380	DDMG	=-3	11748		
17390	DMS11	CM INPLT+20,79,10, CHECK TC SEE IF CHAR IS NUMERIC	11748	14	02813 000P9
17400	BM	DMSER2,,, NOT NUMERIC, ERROR	11760	46	11900 01100
17410	CM	INPUT+20,69,10	11772	14	02813 00009
17420	BM	DMS12,,, NUMERIC IF BRANCH	11784	46	11656 01100
17430	CM	INPUT+20,50,10, CHECK IF -OTHRU-9	11796	14	02813 000M0
17440	BL	DMSER2,,, NON-NUMERIC IF BRANCH	11808	47	11900 01300
17450	CM	INPUT+20,59,10	11820	14	02813 000N9
17460	BM	DMSER2,,, NOT NUMERIC IF BRANCH	11832	46	11900 01100
17470	SF	INPUT+20	11844	32	02813 00000
17480	DMS12	AM DIGITS,1,10, UPDATE DIGIT COUNT BY ONE	11856	11	09072 000-1
17490	TF	**18,DIGITS,, ALLCW FOR DIGIT	11868	26	11886 09072
17500	TD	INPUT+20,,, MOVE DIGIT TO OUT PUT HUFFER	11880	25	00000 02813
17510	B	DMSNUM,,, BRANCH BACK TO CONTINUE SCAN	11892	49	11680 00000
17520	DDRC	=-3	11900		
17530	DMSR2	BTM DMSR2,DMSNUM,, PLT END OF MESSAGE IN CUTPUT BUFFER	11900	17	12514 J1680
17540	DMS2	TF **35,DIGITS,, NUMERIC TO ALFA MODE CHANGE,	11912	26	11947 09072
17550	SM	**23,OUT+1,, SEE IF ALPHA STARTS IN EVEN LOCATION	11924	12	11947 -219
17560	TFM	DMSV,,, INIT. SAVE LOC WITH DIGIT COUNT	11936	16	09067 -0000
17570	JNF	DMS21,BSW,,, SEE IF THERE IS A PROGRAMMER SPEC ADDRESS	11948	44	11980 09048
17580	A	DMSV,ADDCOW,, NO, ADD LOC COUNTER FOR LOC OF LAST DIGIT	11960	21	09067 02678
17590	B7	DMS22	11972	49	12028
17600	DMS21	A DMSV,ADDRS,, ADD PRCG ADDRESS FOR LOC OF LAST DIGIT	11980	21	09067 03520
17610	SM	DMSV,1,10, ADJUST FOR NUMERIC STARTING MODE	11992	12	09067 000-1
17620	BD	**24,SMODE,, CHECK STARTING MODE	12004	43	12028 09062
17630	SM	DMSV,1,10, ADJUST FOR ALPHA STARTING MODE	12016	12	09067 000-1
17640	DMS22	TD **23,DMSV,, SEE IF CHAR WILL START IN EVEN LOC	12028	25	12051 09067
17650	TD	EVODD+1,EVODD	12040	25	02470 02469
17660	BD	DMS5B,EVODD+1,, WILL START IN EVEN LOCATION	12052	43	11424 02470
17670	AM	DIGITS,1,10, INSERT	12064	11	09072 000-1
17680	TF	**18,DIGITS,,	12076	26	12094 09072
17690	TFM	**11	12088	15	00000 000-0
17700	B	DMS50	12100	49	11424 00000
17710	DURG	**1	12112		
17720	DC	2,-C,-3	12108		2
17730	DC	3,2*,*	12111		3
17740	DMERIN	TFM OUT+100,, PLT IN NUMERIC	12112	15	02318 00000
17750	DC	1,*,*	12123		1
17760	TFM	OUT+101,,, END OF MESSAGE	12124	15	02319 00000
17770	DC	1,*,*	12135		1
17780	B	DMERIC	12136	49	12196 00000
17790	DMER1A	TFM OUT+101,,8, CLEAR LAST FOUR DIGITS FOR END OF MESSAGE	12148	16	02319 0-000
17800	CF	OUT+98	12160	33	02316 00000
17810	TFM	OUT+99,,, MOVE RM FLR	12172	15	02317 00000
17820	DC	1,*,*	12183		1
17830	TFM	OUT+101	12184	15	02319 00000
17840	DC	1,*,*	12195		1
17850	DMERIC	TFM DIGITS,100,, SET DIGIT COUNTER TO 100	12196	16	09072 -0100
17860	H	**46	12208	49	12304 00000
17870	DMS2C	CM DIGITS,OUT+1,, CHECK IF OPERAND PRESENT	12220	14	09072 -2219

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17880	ONE	**6C,,, ERROR IF NO MESSAGE OPERAND PRESENT	12232	47	12292 01200
17890	BD	DMSER1,SMODE,, CHECK MODE	12244	43	12496 09062
17900	TFM	OUT+5,,, MOVE IN ALPHA END OF MESSAGE	12256	16	02223 -0000
17910	DC	2,*,*-2	12265		2
17920	DSC	2,*,*-1	12266		2
17930	CF	OUT+2	12268	33	02220 00000
17940	TFM	DIGITS,OUT+101	12280	16	09072 -2319
17950	SM	DIGITS,OUT+1,, SUBTRACT STARTING LOCATION OF O/P BUFFER	12292	12	09072 -2219
17960	TF	LSTAD ,DIGITS,, MOVE DIGIT COUNT FOR OUTPUT	12304	26	03909 09072
17970	AM	LSTAD ,1,10, ADD 1 FOR RT LOC +1	12316	11	03909 000-1
17980	JNF	DMEND1,BSW,, CHECK FOR PROGRAMMER SPECIFIED ADDRESS	12328	44	12376 09048
17990	A	LSTAD ,ADDCOW,, FORM RT LOC+1	12340	21	03909 02678
18000	A	ADDCOW,DIGITS,, UPDATE LOC COUNTER TO LAST DIGIT OF CONSTANT	12352	21	02678 09072
18010	B	DMEND2	12364	49	12424 00000
18020	DMEND1	A LSTAD ,ADDRS,, INITIALIZE LEFT MOST WITH PRCG SPEC ADDRESS	12376	21	03909 03520
18030	SM	LSTAD ,1,10, ADJUST FOR NUMERIC STARTING MODE	12388	12	03909 000-1
18040	BD	**24,SMODE,, CHECK IF STARTING MODE ALPHA	12400	43	12424 09062
18050	SM	LSTAD ,1,10, UES, ADJUST FOR ALPHA STARTING MODE	12412	12	03909 000-1
18060	DMEND2	TF FRSTAD ,LSTAD ,, FORM LEFT MOST	12424	26	03899 03909
18070	S	FRSTAD ,DIGITS,, ADDRESS	12436	22	03899 09072
18080	TF	LNTH,DIGITS,, INITIALIZE LENGTH LOC	12448	26	02387 09072
18090	NUP	MESOUT+6,INPUT+5	12460	41	09786 03292
18100	NOP	MESOUT+11,OUT+2	12472	41	09791 02220
18110	BTM	GEET,PCDNF	12484	17	09210 J4760
18120	DMSR1	BTM DMSR2,DMS2C+60,,, PUT END OF MESSAGE IN OUTPUT BUFFER	12496	17	12514 J2280
18130	DS	5	12512		5
18140	DMSR2	AM DIGITS,1,10	12514	11	09072 000-1
18150	TF	**18,DIGITS	12526	26	12544 09072
18160	TFM	,,, INSERT	12538	15	00000 00000
18170	DC	1,*,*	12549		1
18180	AM	DIGITS,1,10	12550	11	09072 000-1
18190	TF	**18,DIGITS	12562	26	12580 09072
18200	TFM	,,, INSERT	12574	15	00000 00000
18210	DC	1,*,*	12585		1
18220	TF	**18,DMSR2-1	12586	26	12604 12513
18230	B		12598	49	00000 00000
18240	DC	3,-0*,*	12609		3
18250	DC	5,0	12614		5
18260	MODE	TR INPLT+19,INPUT+21,, MOVE INPLT RECCRD LEFT 1 CHAR	12616	31	02812 02814
18270	RNR	**24,INPUT+20,,, NOT BLANK, CHECK FOR RM	12628	45	12652 02813
18280	B	DMS2C+36	12640	49	12256 00000
18290	CH	INPUT+20,23,10, SEARCH FIELD, CHECK FOR COMMA	12652	14	02813 000K3
18300	MODE1	DE **,, COMMA FOUND, BRANCH	12664	46	00000 01200
18310	CH	INPLT+20,,10, COMMA NOT FOUND, CHECK FOR BLANK	12676	14	02813 000-0
18320	DE	MODE,,, BLANK, CHECK NEXT CHARACTER	12688	46	12616 01200
18330	TF	**18,MODE-1,,, ALPHA CHAR IN FIELD, RETURN, OR CHECK	12700	26	12716 12615
18340	B	,,, NEXT CHAR, ACCORDING TO BRANCH	12712	49	00000 00000
18350	• SUBROUTINE	TO SHIFT ONE CHARACTER TO THE LEFT IN INPUT BUFFER			
18360	DS	5	12728		5
18370	DTR	TR INPLT+19,INPUT+21,, MOVE OPERAND LEFT 1 CHAR + SEARCH	12730	31	02812 02814

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18380	TF	DMSV,DIGITS,, CHECK NUMBER OF DIGITS	12742	26	09067	09072
18390	SM	DMSV,OUT+1	17754	12	09067	-2219
18400	CM	DMSV,100,9, CHECK DIGIT COUNT	12766	14	09067	00J00
18410	BNM	**36,,, LESS THAN 100, OKAY, ERROR IF NO BRANCH	12778	47	12814	01100
18420	BD	UMERIN,NMOAL,, TEST SWITCH FOR NUM OR ALPHA, NUM IF BR	2790	43	12112	09061
18430	B	DMERIA,, ALPHA IF BRANCH FRM HERE	12802	49	12148	00000
18440	BNR	**20,INPUT+20,, FOR RM	12814	45	12834	02813
18450	R7	DMSEND	12826	49	12220	
18460	CM	INPUT+20,4,10, CHECK FOR STRAY RT PAREN	12834	14	02813	000-4
18470	BNE	**44,,, NOT A STRAY PAREN IF BRANCH	12846	47	12890	01200
18480	SF	ANAL,,, SET SWITCH FOR STRAY PAREN FOUNC	12858	32	10812	00000
18490	BD	DMSNUM+12,NMOAL,, SCANNING IN NUMERIC MODE IF BRANCH	12870	43	11692	09061
18500	B7	DMSB1+12,,, SCANNING IN ALPHA MODE	12882	49	11448	
18510	CM	INPLT+20,24,10, CHK FOR LEFT PAREN	12890	14	02813	000K4
18520	BNE	**24,,,NOT A LEFT PAREN	12902	47	12926	01200
18530	BB	,,, LEFT PAREN FOUND	12914	42	00000	00000
18540	TF	**18,DTR-1,, NOT A 1, ,OR ERRCR	12926	26	12944	12729
18550	B	,,, RETURN	12938	49	00000	00000
18560	*					
18570	*	EVALLATE LENGTH OF DAC				
18580	*					
18590	DACF	BTM SCAN,**12	12950	17	06046	J2962
18600	CM	ADDRS,51	12962	14	03520	-G051
18610	BNM	ERDAC	12974	46	13738	01300
18620	A	ADDRS,ADDRS	12986	21	03520	03520
18630	TF	TEMPR,ADDRS	12998	26	02571	03520
18640	BNR	**20,INPUT+20	13010	45	13030	02813
18650	B7	**20	13022	49	13042	
18660	BNR	DAC2,INPUT+22	13030	45	13090	02815
18670	CM	ADDRS,0	13042	14	03520	-C000
18680	BTM	ERDAC1	13054	46	13830	01100
18690	TFM	INPLT+22	13066	16	02815	-0000
18700	DAC	1,','*	13077		1	X 2
18710	TFM	INPUT+20,23,10	13078	16	02813	000K3
18720	DAC2	TFM **35,INPUT+19	13090	16	13125	-2812
18730	A	**23,TEMPR	13102	21	13125	02571
18740	CHVALD	TR OUT+2	13114	31	02220	00000
18750	BNR	**20,OUT+3	13126	45	13146	02221
18760	B7	ERDAC+12	13138	49	13750	
18770	BNR	**20,OUT+5	13146	45	13166	02223
18780	B7	**32	13158	49	13190	
18790	CM	OLT+5,23,10	13166	14	02223	000K3
18800	STCHAR	BNE ERDAC+12	13178	47	13750	01200
18810	TD	STCHAR+11,OUT+5	13190	25	13189	02223
18820	AM	CHVALD+11,3	13202	11	13125	-0003
18830	TFM	CHVALD+11,,610	13214	16	1312M	000-0
18840	DC	1,','*	13225		1	
18850	CM	OLT+3,34,10	13226	14	02221	00CL4
18860	BNE	**60	13238	47	13298	01200
18870	TDM	DUMPI-11,0,11	13250	15	03547	0000-
18880	TF	**30,CHVALD+11	13262	26	13292	13125
18890	SM	**18,2,10	13274	12	13292	000-2
18900	TFM	,,10	13286	16	00000	000-0
18910	DC	1,','*	13297		1	

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18920	STCHA1	TR OUT+2,INPUT+21	13298	31	02220	02814
18930	TF	**35,CHVALD+11	13310	26	13345	13125
18940	AM	**23,1	13322	11	13345	-0001
18950	TR	INPLT+19	13334	31	02812	00000
18960	TFM	**42,OUT+4	13346	16	13388	-2222
18970	A	**30,TEMPR	13358	21	13388	02571
18980	SM	**18,2,10	13370	12	13388	000-2
18990	CF		13382	33	00000	00000
19000	CM	**6,OUT+4	13394	14	13388	-2222
19010	BH	**36	13406	46	13370	01100
19020	BNR	DAC3,STCHAR+11	13418	45	13546	13189
19030	*	ADDRESS ASSIGNED BY PROCESSOR				
19040	*					
19050	NOSINE	TD **23,ADDCOW	13430	25	13453	02678
19060	TD	**23,JSTBL	13442	25	13465	02459
19070	AM	ADDCOW,,10	13454	11	02678	000-0
19080	TF	ADDRS,ADDCOW	13466	26	03520	02678
19090	A	ADDCOW,TEMPR	13478	21	02678	02571
19100	SM	ADDCOW,2,10	13490	12	02678	000-2
19110	TF	LNTH,ADDCOW	13502	26	02387	02678
19120	BD	**24,INTBUF+5	13514	43	13538	03633
19130	YF	ADDRS,ADDCOW	13526	26	03520	02678
19140	B7	DAC4	13538	49	13594	
19150	DAC3	BTM SCAN,**12	13546	17	06046	J3558
19160	BD	NOSINE,BSW	13558	43	13430	09048
19170	TD	KLRLSW,RLOCSW	13570	25	04033	07950
19180	TF	LNTH,ADDRS	13582	26	02387	03520
19190	DAC4	TF FRSTAD ,ADDRS	13594	26	03899	03520
19200	SM	FRSTAD ,1	13606	12	03899	-0001
19210	TF	LSTAD,FRSTAD	13618	26	03909	03899
19220	A	LSTAD ,TEMPR	13630	21	03909	02571
19230	BD	**72,INTBUF+5	13642	43	13714	03633
19240	TF	LSTAD ,ADDRS	13654	26	03909	03520
19250	AM	LSTAD ,1	13666	11	03909	-0001
19260	TF	FRSTAD,LSTAD	13678	26	03899	03909
19270	S	FRSTAD ,TEMPR	13690	22	03899	02571
19280	TF	ADDRS,LNTH	13702	26	03520	02387
19290	TF	LNTH,TEMPR	13714	26	02387	02571
19300	BTM	GET,PCONF	13726	17	09210	J4760
19310	ERDAC	TFM TEMPR,100	13738	16	02571	-0100
19320	TFM	**30,INPUT+22	13750	16	13780	-2815
19330	A	**18,TEMPR	13762	21	13780	02571
19340	DAC5	TFM	13774	16	00000	-0000
19350	DAC	1,','*	13786		1	X 2
19360	SM	DAC5+6,2,10	13786	12	13780	000-2
19370	BNR	CHVALD-24,DAC5+6,11	13798	45	13090	1378-
19380	TDM	DAC5+6,0,6	13810	15	1378-	00000
19390	B7	DAC5+12	13822	49	13786	
19400	ERDAC1	TFM **42,INPUT+22	13830	16	13872	-2815
19410	TF	NOSINE-37,ADDRS	13842	26	13393	03520
19420	SM	NOSINE-37,2,10	13854	12	13393	000-2
19430	TFM	-70,10	13866	16	00000	000P0
19440	AM	**6,2,10	13878	11	13872	000-2
19450	CM	NOSINE-37	13890	14	13393	-0000
19460	BNE	ERDAC1+24	13902	47	13854	01200

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19470	TF	**18,FRDAC1+42		13914	26	13932	13872
19480	TFM			13926	16	0C000	-C000
19490	DAC	1,1,*		13937		1 X	2
19500	B	CHVALD-24		13938	49	13090	00000
19510	MIU	DSC 2,-16		13950		2	
19520	IO						
19520	DSA	IORT ,00023		13956		5 X	2
				13956		-0565	
19530	DSC	2,49		13961		-0023	
49				13962		2	
19540	DSA	** ,0C000		13968		5 X	2
				13968		-0000	
19550	DSC	1,1		13973		-0000	
				13974		1	
19560	** GET PUT	LINKAGE GENERATION					
19570	LINKS	TD **23,ADDCOW,,	ADJUST ADCOW	13976	25	13999	02678
19580	TD	**23,AJUST		13988	25	14011	02399
19590	AM	ADDCOW,,10,		14000	11	02678	C00-0
19600	A	MIG +11,ADDCOW,,	RETURN ADDRESS	14012	21	13961	02678
19610	TF	MIO: +18,INTBUF+6,,	SET LP BR TC IOR	14024	26	13968	03634
19620	BTM	SCAN,**12		14036	17	06046	J4048
19630	TF	MIG +23,ADDRS		14048	26	13973	03520
19640	HNF	**24,RLOCSW		14060	44	14084	07950
19650	SF	MIU +13		14072	32	13963	00000
19660	TF	FRSTAD,ADDCOW		14084	26	03899	02678
19670	TF	LSTAD,ADDCOW		14096	26	03909	02678
19680	AM	LSTAD,24,10,	SET TC TOTAL LENGTH	14108	11	03909	000K4
19690	AM	ADDCOW,23,10,	UP ADCOW TOTAL LENGTH	14120	11	02678	000K3
19700	CF	MIO +2		14132	33	13952	0C000
19710	CF	MIG +14		14144	33	13964	0C000
19720	TR	ZEPD,MIO		14156	31	02300	13950
19730	TF	ADDRS,FRSTAD		14168	26	03520	03899
19740	TFM	X,PHASEB		14180	16	04038	-4200
19750	BTM	GEET,LINP		14192	17	09210	J4772
19760	** GET PUT	LINKAGE GENERATION END					
19770	CALEXT	TU **23,ADDCOW		14204	25	14227	02678
19780	TD	**23,AJUST		14216	25	14239	02399
19790	AM	ADDCOW,,10		14228	11	02678	0C0-0
19800	TFM	MIU +18,MONCAL,,	BRANCH TO MONCALL IN ICRT	14240	16	13968	-0796
19810	CF	MIG +14		14252	33	13964	0C000
19820	CF	MIG+19		14264	33	13969	00000
19830	TR	ZEPD,MIO +12,,	BRANCH INSTRUCTION	14276	31	02300	13962
19840	TF	ADDRS,ADDCOW		14288	26	03520	02678
19850	AM	ADDCOW,06,10,	B7	14300	11	02678	000-6
19860	BTM	GEET,LINP		14312	17	09210	J4772
19870	*	LOAD PHASE B4 TO THE FILE					
19880	F4	34 SLH4,701		14324	34	14372	0C701
19890		38 SLH4,702		14336	38	14372	00702
19900	TRA			14348	36	00000	00500
				14360	49	0C000	0C000
19910	SUB4	CDA ,0,B4DAD,B4SCT,LINPRT		14372		14	
		OJ9069-53-9268					

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19920	TCO	F4		14324			
19930	DDRG	INSTRN		12444			
19940	RCTAB	HNF **36,LSTYSW		12444	44	12480	02480
19950	RCTY			12456	34	00000	00102
19960	TBTY			12468	34	00000	00108
19970	BB			12480	42	00000	0C000
19980	DDRG	**9		12482			
19990	DC	5,12345		12486		5	
		J2345					
20000	LINKC	TFM LINPRT-1,DCON		12488	16	09267	-9480
20010	BT	LINKER,LINKC-1		12500	27	12632	12487
20020	DS	5		12516		5	
20030	LINKCR	BT RCTAB,RCTAB-1		12518	27	12444	12443
20040	BT	LINKC,LINKCR-1		12530	27	12488	12517
20050	DS	5		12546		5	
20060	LINKD	TFM LINPRT-1,PDSA		12548	16	09267	-9572
20070	TFM	CF-SYM+11,DSABOX-1		12560	16	09655	-9048
20080	TFM	LNTM,5		12572	16	02387	-C005
20090	BT	LINKER,LINKD-1		12584	27	12632	12547
20100	DS	5		12600		5	
20110	LINKDR	BT RCTAB,RCTAB-1		12602	27	12444	12443
20120	BT	LINKD,LINKDR-1		12614	27	12548	12601
20130	DS	5		12630		5	
20140	LINKER	TR ZEPD+1,OUT+2		12632	31	02301	02220
20150	TF	FRSTAD,LSTAD		12644	26	03899	03909
20160	A	LSTAD,LNTM		12656	21	03909	02387
20170	TF	ADDRS,FRSTAD		12668	26	03520	03899
20180	TF	X,LINKER-1		12680	26	04038	12631
20190	BTM	CVACT,LINPRT		12692	17	11916	-9268
20200	MIODS	DSC 2,-16		12704		2	
10							
20210	DSA	IORT ,00023		12710		5 X	2
				12710		-0565	
20220	DSC	2,49		12715		-0023	
49				12716		2	
20230	DSA	IOGT ,0C000		12722		5 X	2
				12722		-0566	
20240	DSC	1,1		12727		-0000	
				12728		1	
20250	MBUK1	DSA 01234		12733		5 X	1
				12733		-1234	
20260	DSC	1,1		12734		1	
20270	MBUK2	DSA 01234		12739		5 X	1
				12739		-1234	
20280	DSC	1,1		12740		1	
20290	MBUK3	DSC 2,12		12741		2	
12							

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20300	MRM	DSC	1,1		12743	1	
20310	MDIGIT	DSC	1,1		12744	1	
20320	OP3SW	DC	1,0		12745	1	
20330	ACDBKT	DC	5,12345		12750	5	
		J2345					
20340	SVADD	DC	2,12		12752	2	
		J2					
20350	M2DIG	DC	2,12		12754	2	
		J2					
20360	MACR2	CF	OP3SW		12756	33	12745 00000
20370		C	**23,INPUT+14		12768	24	12791 02807
20380		B1	REG,01244,10,	D DISK DEFINERS	12780	46	13256 012M4
20390		C	**23,INPUT+16		12792	24	12815 02809
20400		B1	CAL,01253,10,	L CALL LINK LOAD	12804	46	13998 012N3
20410		C	**23,INPUT+12		12816	24	12839 02805
20420		BNI	LINKS,01244,10,	D OTHER DEFINERS	12828	47	13976 012M4
20430	**	CARD TAPE TYPE DEFINERS					
20440		BTM	SCAN,**12		12840	17	06046 J2852
20450		BD	NCUPP,BSW		12852	43	12908 09048
20460		TD	KLRLSW,RLOCSW		12864	25	04033 07950
20470		TFM	SVADD,00,10		12876	16	12752 000-0
20480		TF	ADDRKT,ADDRS,,	PROGRAMMER ASSIGNS ADDRESS	12888	26	12750 03520
20490		B7	GO		12900	49	12944
20500	NOOPP	TF	ACDBKT,ADDCOW		12908	26	12750 02678
20510		TFM	SVADD,08,10		12920	16	12752 000-8
20520		AM	ACDBKT,01,10		12932	11	12750 000-1
20530	GO	TR	INPLT+19,INPUT+21		12944	31	02812 02814
20540		BTM	SCAN,**12,,	LOOK UP MEMORY ADDRESS	12956	17	06046 J2968
20550		TF	MBLK1,ADDRS		12968	26	12733 03520
20560		TR	OLT+2,MBUK1-4		12980	31	02220 12729
20570		TF	LSTAD,ACDBKT		12992	26	03909 12750
20580		TFM	LNTH,00005		13004	16	02387 -0005
20590		TD	DSABOX,RLOCSW		13016	25	09049 07950
20600		TDM	INTBUF,1		13028	15	03628 00001
20610		TR	ZEPD+1,OUT+2		13040	31	02301 02220
20620		BTM	LINKD,**12		13052	17	12548 J3064
20630		SF	INTBUF+5,,	START MD GENERATION	13064	32	03633 00000
20640		TF	MBLK3+1,INTBUF+6		13076	26	12742 03634
20650	**	PRINTER DEFINERS	OPRN,DPRA				
20660		C	**23,INPUT+16,,	TEST FOR R IN 3RD POSITION	13088	24	13111 02809
20670		BNI	NOPRT,01259,10,	NOT PRINTER DEFINER	13100	47	13172 012N9
20680		TR	INPLT+19,INPUT+21		13112	31	02812 02814
20690		BTM	LSTCAR,**12,,	PICK UP 3RD OPERAND	13124	17	14850 J3136
20700		C	**23,LCHAR,,	IS IT AN S FOR SPACE SUPPRESS	13136	24	13159 14983
20710		BNI	**24,01262,10, NO	DO NOT ADD	13148	47	13172 01202
20720		AM	MBLK3+1,08,10,	ADD B FOR SPACE SUPPRESS	13160	11	12742 000-8
20730	NOPRT	TR	OLT+2,MBUK3		13172	31	02220 12741
20740		TFM	LNTH,00003,		13184	16	02387 -0003
20750		TD	OUT+4,SPSGM		13196	25	02222 02560
20760		TDM	DUMPL+11,0,11,	PRINT GM	13208	15	03547 0000-
20770		A	ADDCOW,SVADD		13220	21	02678 12752
20780		HTM	LINKCR,**12		13232	17	12518 J3244
		HTM	GEET,PHASEB		13244	17	09210 -4200

20790	**	END OF CARD TAPE TYPE DEFINERS					
20800	**	DISK FILE DECLARATIVES NCT CALLS					
20810	REG	BTM	SCAN,**12		13256	17	06046 J3268
20820		TD	OP3SW,BSW		13268	25	12745 09048
20830		BD	NOTOP,BSW		13280	43	13336 09048
20840		TD	KLRLSW,RLOCSW		13292	25	04033 07950
20850		TFM	SVADD,00,10		13304	16	12752 000-0
20860		TF	ADDRKT,ADDRS,,	PROGRAMMER ASSIGNS ADDRESS	13316	26	12750 03520
20870		B	GONCW		13328	49	13372 00000
20880		DURG	**4		13335		
20890	NOTOP	TF	ACDBKT,ADDCOW		13336	26	12750 02678
20900		TFM	SVADD,08,10		13348	16	12752 000-8
20910		AM	ACDBKT,01,10		13360	11	12750 000-1
20920	GONCW	TR	INPLT+19,INPUT+21		13372	31	02812 02814
20930		SF	INTBUF+5		13384	32	03633 00000
20940		TF	MBLK3+1,INTBUF+6,,	CODE W/ FLAG W	13396	26	12742 03634
20950		BTM	SCAN,**12		13408	17	06046 J3420
20960		TF	MBUK1,ADDRS,,	LOAD ADD OF CCA	13420	26	12733 03520
20970		TD	MDIGIT,RLOCSW		13432	25	12744 07950
20980		TR	INPUT+19,INPUT+21		13444	31	02812 02814
20990		BTM	SCAN,**12,,	SCAN FOR 2ND OPERAND	13456	17	06046 J3468
21000		BNF	**36,OP3SW		13468	44	13504 12745
21010		RD	**24,BSW		13480	43	13504 09048
21020		AM	SVADD,05,10,	UP ADCOW FOR 3 OPERANDS	13492	11	12752 000-5
21030		TD	OP3SW,BSW,,	SET LONG LINK SWITCH	13504	25	12745 09048
21040		TF	MBUK2,ADDRS,,	LOAD RELOCATION ADDRESS	13516	26	12739 03520
21050	**	TEST FOR ARM REPOSITION					
21060		TR	INPUT+19,INPUT+21		13528	31	02812 02814
21070		BTM	LSTCAR,**12,,	PICK UP 3RD OPERAND	13540	17	14850 J3552
21080		TF	M2DIG,LCHAR		13552	26	12754 14983
21090		TR	INPLT+19,INPUT+21		13564	31	02812 02814
21100	**	TEST FOR ABSOLUTE SECTOR ADDRESS					
21110		BTM	LSTCAR,**12,,	PICK UP 4TH OPERAND	13576	17	14850 J3588
21120		C	**23,LCHAR		13588	24	13611 14983
21130		BNI	**24,01241,10,	TEST FOR A ABSOLUTE	13600	47	13624 012M1
21140		TDM	MBLK3,2,11		13612	15	12741 0000K
21150		C	**23,M2DIG		13624	24	13647 12754
21160		B1	EN,01259,10		13636	46	13660 012N9
21170		CF	MBLK3		13648	33	12741 00000
21180	EN	TR	OLT+2,MBUK3,,	FIRST OPERAND TO LIST	13660	31	02220 12741
21190		TF	LSTAD,ACDBKT		13672	26	03909 12750
21200		AM	ADUBKT,02,10		13684	11	12750 000-2
21210		TFM	LNTH,02		13696	16	02387 -0002
21220		BTM	LINKC,**12		13708	17	12488 J3720
21230		TR	OLT+2,MBUK1-4,,	SECOND OPERAND TO LIST	13720	31	02220 12729
21240		TFM	LNTH,05		13732	16	02387 -0005
21250		TD	DSABOX,MDIGIT		13744	25	09049 12744
21260		TDM	INTBUF,1		13756	15	03628 00001
21270		BTM	LINKDR,**12		13768	17	12602 J3780
21280		BD	NOT3,OP3SW		13780	43	13840 12745
21290		TR	OUT+2,MBUK2-4,,	THIRD OPERAND TO LIST	13792	31	02220 12735
21300		TDM	INTBUF,1		13804	15	03628 00001
21310		TD	DSABOX,RLOCSW		13816	25	09049 07950
21320		BTM	LINKDR,**12		13828	17	12602 J3840
21330	NOT3	TR	OUT+2,MRM,,	RECORD MARK	13840	31	02220 12743
21340		TFM	LNTH,01		13852	16	02387 -0001

21350	TDM	DUMPI+11,1,11		13864	15	03547	0000J
21360	A	ADDCOM,SVADD		13876	21	02678	12752
21370	BTM	LINKCR,++12		13888	17	12518	J3900
21380	BTM	GEET,PHASEB		13900	17	09210	-4200
21390	**	EMC OF DISK DEFINES					
21400	**	GENERATE CALL LINK AND LOAD					
21410	RM	CC 1,1		13912		1	
21420	FLDATA	DSS 400,RM-400		13512		400	
21430	***	ERROR 2ND OPERAND CALL NG					
21440	DC	5,12345		13917		5	
		J2345					
21450	ER	TFM EVALER-2,1780		13918	16	07634	P1780
21460	BT	EPRINT,EPRINT-1		13930	27	08022	08021
21470	HD	CORERS,ERSTSW		13942	43	07796	02476
21480	RNF	++36,LSTYSW		13954	44	13990	02480
21490	RCTY			13966	34	00000	00102
21500	TBTY			13978	34	00000	00108
21510	B	ER-1,,6		13990	49	1391P	0C000
21520	DRG	+-4		13997			
21530	CAL	TD ++23,ADDCOM,,	ADJUST ADCOM	13998	25	14021	02678
21540	TD	++23,AJUST		14010	25	14033	02399
21550	AM	ADDCOM,,10		14022	11	02678	C00-0
21560	TF	MIGCS+11,ADDCOM,,	RETURN ADDRESS	14034	26	12715	02678
21570	AM	MIGCS+11,19,10,	ADJUST ADDRESS	14046	11	12715	000J9
21580	TFM	MIGCS+18,LOCAL,,	SET UP BR TC ICR	14058	16	12722	-0716
21590	BTM	LSTCAR,++12		14070	17	14850	J4082
21600	TFM	MBLK3+1,32,10,	CODE FOR READ NO WLR	14082	16	12742	00012
21610	C	++23,LCHAR		14094	24	14117	14983
21620	HI	++24,01244,10,	TEST FOR D IN LOAD	14106	46	14130	012M4
21630	SF	MBLK3+1,,,	EXECLTE	14118	32	12742	00000
21640	TR	INPLT+19,INPUT+21,,	SLIDE COMMA	14130	31	02812	02814
21650	BTM	PCALL,++12		14142	17	14990	J4154
21660	RNF	FULND+12,ALPHSW,,	NO ALPHA INPUT	14154	44	14424	15329
21670	**	READ THE DIM ENTRY FOR EQUIV TABLE					
21680	TFM	IURT,++23		14166	16	00565	J4189
21690	B	IDGT,DEFDIM,7		14178	49	00566	J4197
21700	R7	CONTU		14190	49	14220	
21710	CEFDIM	DSC 2,22		14197		2	
		22					
21720	CSA	DFADD6		14203		5 X	1
21730	DFADD6	CDA ,0,0IMDAD,0IMSC7,FLDATA		14203		J4204	
		0-4800-G1J3512		14204		14	
21740	DC	1,1		14218		1	
21750	CONTU	TF DFADD4+5,FLDATA+45,,	EXTRACT EQUIV FILE ADDR	14220	26	14289	13557
21760	TD	DFADD4,FLDATA+40,,	EXTRACT EQUIV FILEMODULE	14232	25	14284	13552
21770	**	READ THE EQUIV TABLE FOR LCUK UP					
21780	RCEQIV	TFM IORT,++23		14244	16	00565	J4267
21790	B	IDGT,DEFEQ,7		14256	49	00566	J4275
21800	R7	GC0N		14268	49	14300	
21810	DEFEQ	DSC 2,22		14275		2	
		22					
21820	CSA	DFADD4		14281		5 X	1

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21830	LC	1,1		14281		J4284	
				14282		1	
21840	DFADD4	CDA ,0,EQDAD,EQSC7,FLDATA		14284		14	
		0-0C0C-C4J3512					
21850	DC	1,1		14298		1	
21860	GOON	BNR ++44,FLDATA+11,,	TEST END OF TABLE	14300	45	14344	13523
21870	TFM	IDENT-2,00000,,	ZERO QLT EQUIV BULKET	14312	16	15334	-0000
21880	BTM	ER,++12,,	OPERAND NOT FOUND	14324	17	13918	J4336
21890	B	FOLND+12		14336	49	14424	0C000
21900	DRG	+-4		14343			
21910	C	FLDATA+11,COLL-2		14344	24	13523	02437
21920	BE	FOLND		14356	46	14412	01200
21930	TR	FLDATA,FLDATA+16		14368	31	13512	13528
21940	BNR	GOON,FLDATA,,	TEST END OF BLCKC	14380	45	14300	13512
21950	AM	DFADD4+5,04,10,,	NEXT BLOCK	14392	11	14289	000-4
21960	R7	RCEQIV		14404	49	14244	
21970	FOUND	TF IDENT-2,FLDATA+15,,	LOAD EQUIV NUM	14412	26	15334	13527
21980	SF	IDENT-5		14424	32	15331	00000
21990	TF	MBLK1,IDENT-2		14436	26	12733	15334
22000	CF	MBUK1-4		14448	33	12729	00000
22010	TR	INPLT+19,INPUT+21,,	SLIDE COMMA	14460	31	02812	02814
22020	BTM	SCAN,++12		14472	17	06046	J4484
22030	TF	MBLK2,ADDRS,,	SAVE 3RD OPERAND	14484	26	12739	03520
22040	**	START TO OUTPUT					
22050	TF	FRSTAD,ADDCOM		14496	26	03899	02678
22060	TF	ACCRS,ADDCOM		14508	26	03520	02678
22070	TF	LSTAD,ADDCOM		14520	26	03909	02678
22080	AM	LSTAD,24,10,	SET TO TOTAL LENGTH	14532	11	03909	000K4
22090	AM	ADDCOM,19,10		14544	11	02678	000J9
22100	CF	MIOCS+2		14556	33	12706	0C000
22110	CF	MIOCS+14		14568	33	12718	00000
22120	CF	MIOCS+19		14580	33	12723	00000
22130	TR	ZEPO,MIOCS		14592	31	02300	12704
22140	TFM	X,++24		14604	16	04038	J4628
22150	BTM	LINPRT,DOINST		14616	17	09268	J0088
22160	**	OUT PUT CONSTANTS					
22170	TF	LSTAD,ADDCOM		14628	26	03909	02678
22180	AM	ADDCOM,07,10		14640	11	02678	000-7
22190	TFM	LNTM,07		14652	16	02387	-0007
22200	TR	OUT+2,MBUK3		14664	31	02220	12741
22210	TR	OUT+4,MBUK1-4		14676	31	02222	12729
22220	BTM	LINKCR,++12		14688	17	12518	J4700
22230	BD	NO3,BSW,,	TEST 3RD OPERAND	14700	43	14784	09048
22240	TR	OUT+2,MBUK2-4,,	OUTPLT 3RD OPERAND	14712	31	02220	12735
22250	TD	DSABOX,RLOCSM		14724	25	09049	07950
22260	TDM	INTBUF,1		14736	15	03628	00001
22270	AM	ADDCOM,05,10		14748	11	02678	000-5
22280	TFM	LNTM,05		14760	16	02387	-0005
22290	BTM	LINKDR,++12		14772	17	12602	J4784
22300	NO3	TR QLT+2,MRM		14784	31	02220	12743
22310	TDM	DUMPI+11,1,11		14796	15	03547	0000J
22320	TFM	LNTM,01		14808	16	02387	-0001
22330	BTM	LINKCR,++12		14820	17	12518	J4832
22340	BTM	GEET,PHASEB		14832	17	09210	-4200

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22350	DC	5,12345		14848	5		
	J2345						
22360	LSTCAR	TFM LCHAR,0,10,	BLANK THE ONE CHAR BUCKET	14850	16	14983	000-0
22370	RNR	**20,INPUT+20		14862	45	14882	02813
22380	B7	NOCAR		14874	49	14962	
22390	C	**23,INPUT+20,,	TEST BLANK	14882	24	14905	02813
22400	H1	**48,01200,10,		14894	46	14942	012-0
22410	C	**23,INPUT+20,,	TEST COMMA	14906	24	14929	02813
22420	B1	NOCAR,01223,10,		14918	46	14962	012K3
22430	TF	LCHAR,INPUT+20,,	SAVE LAST CHARACTER	14930	26	14983	02813
22440	TR	INPUT+19,INPUT+21		14942	31	02812	02814
22450	H7	LSTCAR+12		14954	49	14862	
22460	NOCAR	TF **18,LSTCAR-1		14962	26	14980	14849
22470	B	CCCCO		14974	49	00000	CC000
22480	DORG	*-3		14982			
22490	LCHAR	DC 2,12,,	LAST CHARACTER IN OPERAND	14983			2
	J2						
22500	DC	5,12345		14988	5		
	J2345						
22510	PCALL	TR COLL-18,THINGS-20		14990	31	02421	02400
22520	TR	ALPHSW,ZEROS,,	CLEAR BUCKET AND SWITCH OFF	15002	31	15329	15337
22530	BNR	**20,INPUT+20,,	RM	15014	45	15034	02813
22540	B7	PCALL1		15026	49	15254	
22550	CM	INPLT+20,23,10,	COMMA	15034	14	02813	000K3
22560	BE	PCALL1		15046	46	15254	01200
22570	CM	INPLT+20,00,10		15058	14	02813	000-0
22580	BE	PCTR		15070	46	15234	01200
22590	TF	COLL,INPUT+20		15082	26	02439	02813
22600	CF	COLL-1		15094	33	02438	00000
22610	TR	COLL-17,COLL-15		15106	31	02422	02424
22620	TD	IDENT-1,INPUT+20		15118	25	15335	02813
22630	TR	IDENT-6,IDENT-5		15130	31	15330	15331
22640	CM	INPLT+20,69,10,	TEST FOR ALPHA	15142	14	02813	00009
22650	HH	**24		15154	46	15178	01100
22660	TDM	ALPHSW,1,11,	SET ALPHA SW ON	15166	15	15329	0000J
22670	CM	COLL-17,7,10		15178	14	02422	000-7
22680	BNE	PCTR		15190	47	15234	01200
22690	TR	ALPHSW,ZEROS		15202	31	15329	15337
22700	BTM	ER,**12		15214	17	13918	J5226
22710	H7	ZILCH		15226	49	15322	
22720	PCTR	TR INPLT+19,INPUT+21		15234	31	02812	02814
22730	B	PCALL+24		15246	49	15014	CC000
22740	DORG	*-3		15254			
22750	PCALL1	CM COLL-17,06,10		15254	14	02422	000-6
22760	BE	**44		15266	46	15310	01200
22770	TDM	COLL,0		15278	15	02439	C0000
22780	TR	COLL-17,COLL-15		15290	31	02422	02424
22790	B7	PCALL1		15302	49	15254	
22800	SF	COLL-13		15310	32	02426	00000
22810	ZILCH	B PCALL-1,,6		15322	49	1498R	00000
22820	DORG	*-4		15329			
22830	ALPHSW	DC 1,0		15329			1
22840	IDENT	DC 7,CCCCOO* -00000*		15336			7
22850	ZEROS	DC 8,CCCCOO* 000000*		15337			8

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22860	* TO LOAD	PHASE B6 TO THE DISK FILE					
22870	F6	34 SUB6,701		15346	34	15394	00701
22880		38 SUB6,702		15358	38	15394	00702
22890	TRA			15370	36	CC000	00500
22900	SUB6	CUA 40,86DAD,86SCT,INSTRN		15382	49	00000	00000
22910	TCD	F6		15394		14	
22920	DORG	MACR2		12756			
22930	DSAF	TFM TRDSA+6,96,10		12756	16	12934	000R6
22940	TR	DSABOX,CLERER+43		12768	31	09049	02762
22950	TFM	RLDSA+6,DSABOX-1		12780	16	12866	-9048
22960	TFM	CHSYM+11,DSABOX-1		12792	16	09655	-9048
22970	B7	**20		12804	49	12824	
22980	TR	INPLT+19,INPUT+21		12812	31	02812	02814
22990	*						
23000	*	COLLECT OPERANDS					
23010	*						
23020	GOEVAL	BTM SCAN,**12		12824	17	06046	J2836
23030	AM	TRDSA+6,5,10		12836	11	12934	000-5
23040	AM	RLDSA+6,1,10		12848	11	12866	000-1
23050	RLDSA	TD ,RLDCSW		12860	25	00000	07950
23060	CM	TRDSA+6,51,10		12872	14	12934	000N1
23070	BL	TRDSA		12884	47	12928	01300
23080	TFM	TRDSA+6,46,10		12896	16	12934	000M6
23090	TFM	RLDSA+6,DSABOX+9		12908	16	12866	-9058
23100	B7	TRDSA+12		12920	49	12940	
23110	TRDSA	TR ZEPC,ADDRS-4		12928	31	02300	03516
23120	BNR	GOEVAL-12,INPUT+20		12940	45	12812	02813
23130	BNF	MAC1,INTBUF+1		12952	44	13140	03629
23140	TFM	LNTH,5		12964	16	02387	-0005
23150	AM	ADDCOM,5,10		12976	11	02678	000-5
23160	TF	ADDRS,ADDCOM		12988	26	03520	02678
23170	A	ADDCOM,TRDSA+6		13000	21	02678	12934
23180	SM	ADDCOM,1,10		13012	12	02678	000-1
23190	TF	FRSTAD,ADDRS		13024	26	03899	03520
23200	SM	FRSTAD,4		13036	12	03899	-0004
23210	TF	LSTAD,FRSTAD		13048	26	03909	03899
23220	AM	LSTAD,5		13060	11	03909	-0005
23230	KATHY	BTM GEET,PDSAF		13072	17	09210	J4748
23240	*						
23250	*	SUBROUTINE LINKAGE FOR FUNCTIONAL MACROS AND ARITHMETIC MACR					
23260	*						
23270	MACROF	TD **23,ADDCOM		13084	25	13107	02678
23280	TD	**23,AJUST		13096	25	13119	02399
23290	AM	ADDCOM,,10		13108	11	02678	000-0
23300	TF	SPQFLD+11,INTBUF+6		13120	26	13259	03634
23310	B7	DSAF,,TO DSA ROUTINE TO PICK UP OPERANDS		13132	49	12756	
23320	*						
23330	*	ASSEMBLE LINKAGE					
23340	*						
23350	MAC1	TR OUT+2,ZEPO+1		13140	31	02220	02301
23360	TF	ADDRS,ADDCOM		13152	26	03520	02678
23370	A	ADDCOM,TRDSA+6		13164	21	02678	12934
23380	AM	ADDCOM,23,10		13176	11	02678	000K3

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23390	TR	ZEPD, LINK	13188	31	02300	03522	
23400	A	ZEPD+11, ADDR5	13200	21	02311	03520	
23410	MM	SPOFLD+11, 5, 1011	13212	13	13259	000-M	
23420	TR	ZEPD+25, OUT+2	13224	31	02325	02220	
23430	S	ZEPD+18, 99	13236	22	02318	00099	
23440	SPOFLD	ZEPD+14	13248	33	02314	00000	
23450	TFM	X, +24	13260	16	04038	J3284	
23460	BTM	LINPRT, DOINST	13272	17	09268	J0088	
23470	TR	OUT+2, ZEPD+25	13284	31	02220	02325	
23480	AM	ADDR5, 7, 10	13296	11	03520	000-7	
23490	TF	LSTAD, ADDR5	13308	26	03909	03520	
23500	HTM	LINCR, **12	13320	17	12602	J3332	
23510	TFM	LNTM, 1	13332	16	02387	-0001	
23520	TC	OUT+2, LNTM+1, MOVE REC, MKR, TC OUT+2	13344	25	02220	02388	
23530	TCM	DUMPI+11, 1, 11	13356	15	03547	0000J	
23540	BTM	LINCR, **12	13368	17	12518	J3380	
23550	HTM	GEET, PHASED	13380	17	09210	-4200	
23560	*						
23570	*	DEFINE DISK ADDRESS					
23580	*						
23590	CCAF	BTM	SCAN, **12	13392	17	06046	J3404
23600	TC	MURIEL, BSW	13404	25	03627	09048	
23610	HD	DDASGN, BSW	13416	43	13460	09048	
23620	TC	KLKLSW, RLCLSW	13428	25	04033	07950	
23630	TF	LSTAD, ADDR5	13440	26	03909	03520	
23640	HT	DDA2	13452	49	13508		
23650	DCASGN	TF	LSTAD, ADDCCW	13460	26	03909	02678
23660	TD	**23, LSTAD	13472	25	13495	03909	
23670	TC	**23, AJUST	13484	25	13507	02399	
23680	AM	LSTAD, 00, 10	13496	11	03909	000-0	
23690	CCA2	TR	INPCT+19, INPCT+21	13508	31	02812	02814
23700	BTM	SCAN, **12	13520	17	06046	J3532	
23710	TD	DAX-5, ADDR5	13532	25	13820	03520	
23720	TR	INPCT+19, INPCT+21	13544	31	02812	02814	
23730	BTM	SCAN, **12	13556	17	06046	J3568	
23740	TF	DAX, ADDR5	13568	26	13825	03520	
23750	TR	INPCT+19, INPCT+21	13580	31	02812	02814	
23760	BTM	SCAN, **12	13592	17	06046	J3604	
23770	SF	ADDR5-2	13604	32	03518	00000	
23780	TF	SCTR, ADDR5	13616	26	13829	03520	
23790	TR	INPCT+19, INPCT+21	13628	31	02812	02814	
23800	BTM	SCAN, **12	13640	17	06046	J3652	
23810	TF	MAX, ADDR5	13652	26	13835	03520	
23820	TR	OUT+2, DAX-5	13664	31	02220	13820	
23830	TFM	LNTM, 4	13676	16	02387	-0006	
23840	HTM	LINCR, **12	13688	17	12488	J3700	
23850	TR	OUT+2, SCFX-2	13700	31	02220	13827	
23860	TFM	LNTM, 3	13712	16	02387	-0003	
23870	HTM	LINCR, **12	13724	17	12518	J3736	
23880	TR	OUT+2, MAX-4	13736	31	02220	13811	
23890	TD	DSABOX, RLCLSW	13748	25	09049	07950	
23900	BTM	LINCR, **12	13760	17	12602	J3772	
23910	RNF	**36, MURIEL	13772	44	13808	03627	
23920	TF	ADDCW, LSTAD	13784	26	02678	03909	
23930	SM	ADDCW, 1	13796	12	02678	-0001	
23940	HTM	GEET, PHASEH	13808	17	09210	-4200	

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23950	DAX	DS	6	13824	6			
23960	DC	1, 1		13824	1			
23970	SCTX	DS	3	13824	3			
23980	DC	1, 1		13824	1			
23990	MAX	DS	5	13836	5			
24000	CC	1, 1		13836	1			
24010	** TRANSFER	TO RETURN ADDRESS ROUTINE						
24020	MTRA	TD	**23, ADDCCW, ,	ADJUST ADDCCW	13838	25	13861	02678
24030	TD	**23, AJUST		13850	25	13873	02399	
24040	AM	ADDCW, , 10		13862	11	02678	000-0	
24050	TFM	MIOCS+11, 00019		13874	16	12715	-0019	
24060	A	MIOCS+11, ADDCCW, ,	RETURN ADDRESS	13886	21	12715	02678	
24070	TFM	MIOCS+18, IOCAL, ,	IOR GETS ENTRY	13898	16	12722	-0716	
24080	TF	FRSTAD, ADDCCW		13910	26	03899	02678	
24090	TF	LSTAD, ADDCCW		13922	26	03909	02678	
24100	AM	LSTAD, 24, 10, ,	SET TO TOTAL LENGTH	13934	11	03909	000K4	
24110	CF	MIOCS+2		13946	33	12706	00000	
24120	CF	MIOCS+14		13958	33	12718	00000	
24130	CF	MIOCS+19		13970	33	12723	00000	
24140	TR	ZEPD, MIOCS		13982	31	02300	12704	
24150	TF	ADDR5, FRSTAD		13994	26	03520	03899	
24160	TFM	X, **24		14006	16	04038	J4030	
24170	BTM	LINPRT, DOINST		14018	17	09268	J0088	
24180	** GENERATE	DISK DEFINERS						
24190	TFM	MBUK3+1, 22, 1011, ,	MODE CODE	14030	16	12742	000KK	
24200	CF	MBUK3		14042	33	12741	00000	
24210	TR	OUT+2, MBUK3		14054	31	02220	12741	
24220	AM	ADDCW, 19, 10, ,	MOVE ADDCCW TO END OF LINK	14066	11	02678	000J9	
24230	TF	LSTAD, ADDCCW		14078	26	03909	02678	
24240	AM	ADDCW, 02, 10		14090	11	02678	000-2	
24250	TFM	LNTM, 02		14102	16	02387	-0002	
24260	BTM	LINCR, **12		14114	17	12518	J4126	
24270	TF	MBUK1, ADDCCW, ,	ADDRESS OF CCA	14126	26	12733	02678	
24280	AM	MBUK1, 06, 10		14138	11	12733	000-6	
24290	TR	OUT+2, MBUK1-4		14150	31	02220	12729	
24300	AM	ADDCW, 05, 10		14162	11	02678	000-5	
24310	TFM	LNTM, 05		14174	16	02387	-0005	
24320	TD	DSABOX, RELSW		14186	25	09049	02478	
24330	FDM	INTBUF, 1		14198	15	03628	00001	
24340	BTM	LINCR, **12		14210	17	12602	J4222	
24350	TR	OUT+2, MRM, ,	RECORD MARK	14222	31	02220	12743	
24360	AM	ADDCW, 01, 10		14234	11	02678	000-1	
24370	TFM	LNTM, 01		14246	16	02387	-0001	
24380	FDM	DUMPI+11, 1, 11, ,	PRINT RM	14258	15	03547	0000J	
24390	BTM	LINCR, **12		14270	17	12518	J4282	
24400	** GENERATE	DDA						
24410	FDM	OUT+2, 1, ,	DISK ADDRESS	14282	15	02220	00001	
24420	TFM	MBUK1, IOCSAD		14294	16	12733	J9783	
24430	TR	OUT+3, MBUK1-4		14306	31	02221	12729	
24440	AM	ADDCW, 06, 10		14318	11	02678	000-6	
24450	TFM	LNTM, 06		14330	16	02387	-0006	
24460	BTM	LINCR, **12		14342	17	12518	J4354	
24470	TFM	MBUK1, 003, 9, ,	SECTOR COUNT	14354	16	12733	00-03	

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24480	TR	OLT+2,MBUK1-2	14366	31	02220	12731	
24490	AM	ADDCOM,03,10	14378	11	02678	000-3	
24500	TFM	LNTH,03	14390	16	02387	-0003	
24510	BTM	LINCR,++12	14402	17	12518	J4414	
24520	TFM	MBUK1,0,,	14414	16	12733	-0000	
24530	TR	OLT+2,MBUK1-4	14426	31	02220	12729	
24540	AM	ADDCOM,05,10	14438	11	02678	000-5	
24550	TFM	LNTH,06	14450	16	02387	-0006	
24560	TDM	DUMPI+11,0,11	14462	15	03547	0000-	
24570	BTM	LINCR,++12	14474	17	12518	J4486	
24580	RTM	GEET,PHASEB	14486	17	09210	-4200	
24590	*						
24600	*	EVALUATE ADDRESS OF DEND					
24610	*						
24620	DENDF	BTM	SCAN,++12	14498	17	06046	J4510
24630	CF	ADDS-4	14510	33	03516	00000	
24640	BTM	FILL,ADRFIL-4	14522	17	11704	J2347	
24650	TFM	LSTOUT-1,++20	14534	16	11983	J4554	
24660	B7	PRINT	14546	49	12100		
24670	SF	ADDS-4	14554	32	03516	00000	
24680	BD	DOTCD,INTBUF+6,,CHECK FOR TCD	14566	43	14806	03634	
24690	TFM	TESTAD	14578	16	09028	-0000	
24700	TF	FRSTAD,HIADD	14590	26	03899	02518	
24710	TFM	LNTH	14602	16	02387	-0000	
24720	TD	OLT+2,LNTH+1,,RK.MRK.	14614	25	02220	02388	
24730	BTM	RELOGD,6,11	14626	17	10254	00000	
24740	BTM	STACKR,9,10	14638	17	10434	000-9	
24750	TDM	STNUCD+13,2	14650	15	11489	00002	
24760	BT	MODIFI,MODIFI-1	14662	27	11308	11307	
24770	TR	TRDATA+6,NINES-5,6	14674	31	1076-	14793	
24780	TFM	410,999,9	14686	16	00410	00R99	
24790	TR	416,ADDS-4	14698	31	00416	03516	
24800	*	WRITE FINAL 3 SECTORS TO FILE					
24810	FINIS	TFM	IORT,++23	14710	16	00565	J4733
24820	B	IORBC,DEFOUT,7	14722	49	00520	-3579	
24830	*	END OF PHASE B ,CALL IN PHASE C					
24840	TFM	CFFA,PHAZEC	14734	16	02629	J4758	
24850	BTM	CFF,PHASEC	14746	17	02592	J0000	
24860	PHAZEC	DDA ,0,PHCDAD,PHCSCT,PHASEC	14758		14		
		OJ8855-26J0000					
24870	DC	1,1	14772		1		
24880	SIMPLE	TDM	TRDATA+6,6,611	14774	15	1076-	00000
24890	B7	FINIS-48	14786	49	14662		
24900	NINES	DC	6,99999	14798		6	
		R9999					
24910	DMSIX	DC	6,6	14804		6	
		-00006					
24920	DC	1,1	14805		1		
24930	DOTCD	BTM	RELOGD,0,1011	14806	17	10254	000--
24940	TFM	LNTH	14818	16	02387	-0000	
24950	TD	OLT-7,1C	14830	25	02211	03894	
24960	TR	OLT-6,ADDS-4	14842	31	02212	03516	
24970	BTM	GEET,LUCK	14854	17	09210	-9552	
24980	*	TO LOAD PHASE B5 TO THE FILE					

24990	F5	34	SLB5,701	14866	34	14914	00701
25000		38	SUR5,702	14878	38	14914	00702
25010	TRA			14890	36	00000	00500
				14902	49	00000	00000
25020	SUB5	DDA	,C,85DAD,B5SCT,INSTRN	14914		14	
25030		TCD	F5	14866			
25040	PHASEC	DORG	IC000 ,	10000			READ SECTORS 1+2 OF OBJECT PROGRAM
25050	TFM	IORT	,++23	10000	16	00565	J0023
25060	B	IORT	,JMB ,7	10012	49	00566	J1818
25070	BNR	DO-12	,ISTAT-29 ,,	10024	45	10044	02530
25080	B7	SIZE		10036	49	10376	
25090	BNR	DO+12	,CD IM ,,	10044	45	10068	02529
25100	DD	TDM	CDIM,-1	10056	15	02529	0000J
25110	SF	415	,,	10068	32	00415	00000
25120	TF	BUF+5	,BUF+105 ,,	10080	26	12440	12540
25130	TF	BUF+80	,BUF+5	10092	26	12515	12440
25140	SM	BUF+5	,100 ,9,	10104	12	12440	00J00
25150	TDM	BUF+6	,2	10116	15	12441	00002
25160	BNF	++24	,BUF+106 ,,	10128	44	10152	12541
25170	TDM	BUF+6	,2	10140	15	12441	0000K
25180	TF	BUF+14	,FRSTCD ,,	10152	26	12449	11817
25190	*****		TO CARD 1 COLS 6-14				
25200	TD	BUF+81	,BUF+6 ,,	10164	25	12516	12441
25210	TR	BUF+82	,SECCD-3 ,,	10176	31	12517	11791
25220	TD	BUF+85	,R MARK ,,	10188	25	12520	00421
25230	*****		WRITE SECTOR 1 AND 2 AFTER SECTOR 1 IS UPDATED				
25240	TD	BUF+24	,RELSW ,,	10200	25	12459	02478
25250	TR	BUF+25	,COMDAT+09,,	10212	31	12460	02509
25260	TF	BUF +75	,I STAT	10224	26	12510	02559
25270	TFM	IORT	,++23	10236	16	00565	J0259
25280	B	IORBC	,JMB ,7	10248	49	00520	J1818
25290	*****		RD DIM ENTRIES FOR SUBR INCL PICK				
25300	RCDIM	TFM	IORT ,++23	10260	16	00565	J0283
25310	B	IORT	,JMB ,7	10272	49	00566	J1826
25320	BNR	CKSET	,ISTAT-28 ,,	10284	45	11428	02531
25330	BD	CKSET+24	,ISTAT-36	10296	43	11452	02523
25340	A	PICKUP	,WA+1814 ,,	10308	21	02528	14249
25350	TFM	CKMAP+54	,SIZE ,,	10320	16	11622	J0376
25360	TFM	CKMAP+47,01		10332	16	11615	-0001
25370	TFM	MAP	,WA+1814	10344	16	11383	J4249
25380	B	CK DIM		10356	49	11532	00000
25390	DORG	-4		10363			
25400	BNR	CALC	,ISTAT-29 ,9,	10364	45	11240	02N30
25410	IND	DS	,,	10375		0	
25420	SIZE	TFM	IORT ,++23 ,,	10376	16	00565	J0399
25430	B	IORT	,CSDDA ,7	10388	49	00566	J1834
25440	*****		PUNCH BLANK RECORDS AFTER LIST DECK				
25450	BNF	HIPICK	,LCSDSW	10400	44	10496	02479
25460	TR	CLERER+54	,CLERER	10412	31	02773	02719
25470	TDM	CLERER+53,0		10424	15	02772	00000
25480	TR	CLERER+108	,CLERER	10436	31	02827	02719
25490	TDM	CLERER+107		10448	15	02826	00000
25500	WACD	CLERER+2		10460	39	02721	00400
25510	WACD	CLERER+2		10472	39	02721	00400

25520	WACD	CLERER+2			10484	39	02721	00400
25530	*****	PLACL HIGHEST ADDRESS USED IN PICKUP						
25540	HIPICK	C HIADD ,PICKUP			10496	24	02518	02528
25550		BNH *+24			10508	47	10532	01100
25560		TF PICKUP ,HIADD			10520	26	02528	02518
25570	*****	5 CYLINDER CHECK						
25580	CM	SLUOUT+5 ,1C00			1C532	14	03593	-1000
25590	HNH	AOK			10544	47	10732	01100
25600	DD	*+20 ,22+PHASEC			10556	43	10576	10022
25610	B7	AOK			10568	49	10732	
25620	CF	22+PHASEC			10576	33	10022	00000
25630	TDM	23+PHASEC,0			10588	15	10023	0000-
25640	TD	*+20 ,73+PHASEC		,11	10600	25	10620	10073
25650	CM	*+8 ,05		,710	10612	14	10620	-00-5
25660	BE	*+24			1C624	46	10648	01200
25670	TDM	23+PHASEC,-1			10636	15	10023	0000J
25680	RCTY				10648	34	00000	00102
25690	WATY	BARF			1C660	39	12249	00100
25700	RCTY				10672	34	00000	00102
25710	WATY	BARF2			10684	39	12335	00100
25720	H				10696	48	00000	00000
25730	BNC4	AOK			1C708	47	10732	C0400
25740	TDM	DLP-1 +2		.. INHIBIT DUP CALL	10720	15	11195	00002
25750	SM	STCNT +1		,10	1C732	12	02513	000-1
25760	TR	0+PHASEC ,403			10744	31	10000	00403
25770	RD	ALL-12 ,SKIP			10756	43	10888	11686
25780	S	OBJCRE ,PICKUP			1C768	22	02496	02528
25790	TD	PICKUP+1 ,R MARK			10780	25	02529	00421
25800	RNL	ALL-12,...		BR IF OBJCRE IS NOT EXCEEDED	10792	46	10888	01300
25810	TD	OVER+70,OBJCRE-4			10804	25	12063	02492
25820	TD	OVER+68,OBJCRE-3			10816	25	12061	02493
25830	TD	OVER+66,OBJCRE-2			10828	25	12059	02494
25840	TD	OVER+64,OBJCRE-1			10840	25	12057	02495
25850	TD	OVER+62,OBJCRE			1C852	25	12055	02496
25860	TFM	IORT,*+23			1C864	16	00565	J0887
25870	B	IOPT,DEF5,7			1C876	49	00532	J1731
25880	RCTY				10888	34	00000	00102
25890	ALL	WATY END			1C900	39	11845	00100
25900		34 ,C0951,...		SPACE CNCE	10912	34	00000	00951
25910	UD	*+72,SKIP			1C924	43	10996	11686
25920	CF	PICKUP-4			10936	33	02524	00000
25930	TFM	IORT,*+23			1C948	16	00565	J0971
25940	B	IOPT,DEF1-4,7			1C960	49	00532	J1695
25950	TFM	IORT,*+23			1C972	16	00565	J0995
25960	B	IOPT,DEF2-4,7			10984	49	00532	J1703
25970	BNF	*+36 ,RELSW			10996	44	11032	02478
25980	TFM	IORT,*+23			11008	16	00565	J1031
25990	G	IOPT,DEF6-4,7			11020	49	00532	J1735
26000	TF	ADDRS ,STCNT			11032	26	03520	02513
26010	CF	ADDRS-4			11044	33	03516	00000
26020	TFM	IORT,*+23			11056	16	00565	J1079
26030	A	IOPT,DEF3-4,7			11068	49	00532	J1711
26040	TFM	IORT,*+23			11080	16	00565	J1103
26050	B	IOPT,DEF4-4,7			11092	49	00532	J1719
26060	BV	*+12			11104	46	11116	01400
26070	TFM	IORT ,*+23			11116	16	00565	J1139

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26080	D	IORBC ,CSDDDA ,7			11128	49	00520	J1834
26090	RCTY			FOLLOWING MACRO TERMINATES PHASE C	11140	34	00000	00102
26100	BNF	*+20 ,22+PHASEC,...		BR IF DISK OUTPUT NOT RECD	11152	44	11172	10022
26110	B7	DLP-12			11164	49	11184	
26120	RNF	CALC-20 ,23+PHASEC,...		BR IF OTHER OUTPUT NOT RECD	11172	44	11220	10023
26130	TDM	SYSCAL +1			11184	15	00475	00001
26140	DUP	NOP		.. RESERVED FOR READING CARD TO ZERO	11196	41	00000	00000
26150	B	MONCAL			11208	49	00796	CC000
26160	TDM	SYSCAL +2		.. INHIBIT DUP CALL	11220	15	00475	00002
26170	B7	DUP			11232	49	11196	
26180	CALC	TFM CKMAP+54 ,USED			11240	16	11622	J1360
26190	BD	USED ,IND		,11, BR IF THIS SUBR USED	11252	43	11360	1037N
26200	AM	IND ,01		,10, ADJ ISTAT POINTER FOR NEXT ENTRY	11264	11	10375	000-1
26210	AM	CKMAP+42 ,01		,10	11276	11	11610	000-1
26220	SM	NE ,01		,10, ADJ NO OF ENTRIES FOR SUBR	11288	12	11320	000-1
26230	BH	IND-11		.. BR IF MORE ENTRIES OF SUBR AVAIL	11300	46	10364	01100
26240	AM	MAP ,20		,710, CBTAIN NO OF ENTRIES OF NEXT SUBR	11312	11	11383	-00K0
26250	NE	DS 2 ,*-3		.. NO OF ENTRIES LEFT FOR DIM ENTRY	11320		2	
26260	TD	NE ,MAP		,11	11324	25	11320	1138L
26270	BD	IND-11 ,NE		.. RETURN TO CHECK ISTAT	11336	43	10364	11320
26280	B	NE-8			11348	49	11312	00000
26290	USED	SM MAP ,5		,10, OBTAIN SUBR LENGTH ADD TO TOTAL L	11360	12	11383	000-5
26300	A	PICKUP ,WA+1214		,7	11372	21	02528	J3649
26310	MAP	DS		.. POINTER FOR SUBROUTINE DIM ENTRY	11383		0	
26320	AM	MAP ,25		,10, ADV SLBR PNTR FOR NEXT SUBR	11384	11	11383	000K5
26330	A	IND ,NE		.. ADV ISTAT PNTR FOR BAL OF SUBR ENTS	11396	21	10375	11320
26340	A	CKMAP+42 ,NE		..	11408	21	11610	11320
26350	B	NE+4		.. BR TO SET NE FOR NEXT SUBROUTINE	11420	49	11324	00000
26360	DDRG	-4			11427			
26370	CKSET	CM ISTAT-36 ,00		,10, CK FOR SOFT DIVIDE PKGE	11428	14	02523	000-0
26380	BE	DELETE		.. YES, BR TO ERROR MESSAGE TYPE OUT	11440	46	11640	01200
26390	CM	ISTAT-36 ,02			11452	14	02523	-0002
26400	BL	CK DIM		.. BR IF FIXED 6 SPECIFIED	11464	47	11532	01300
26410	TFM	MAP ,614+WA			11476	16	11383	J3049
26420	BE	CK DIM		.. BR IF VARIABLE L SPECIFIED	11488	46	11532	01200
26430	TFM	MAP ,14+WA			11500	16	11383	J2449
26440	B7	CK DIM			11512	49	11532	
26450	*****	SKIP BLANK DIM ENTRIES						
26460	AM	MAP ,20			11520	11	11383	-0020
26470	CKDIM	TF *+35 ,MAP			11532	26	11567	11383
26480	AM	*+23 ,6			11544	11	11567	-0006
26490	BNR	CK DIM-12			11556	45	11520	00000
26500	CKMAP	TF *+42 ,MAP		.. INSURE PROPER DIM ENTRIES	11568	26	11610	11383
26510	AM	*+30 ,4			11580	11	11610	-0004
26520	TF	*+21 ,ISTAT-36			11592	26	11613	02523
26530	CM	,00		.. INIT AT 01 FOR SOFT DIV	11604	14	00000	-0000
26540	BE	USED+12		.. BR IF ENTRY OK	11616	46	11372	01200
26550	TFM	DELETE+30,FAULT		.. CHANGE DELETE MESSAGE	11628	16	11670	J2139
26560	DELETE	RCTY			11640	34	00000	00102
26570	SF	NONEX		.. PREVENTS EXECUTION	11652	32	00457	00000
26580	WATY	OTHER			11664	39	12067	00100
26590	TDM	SKIP			11676	15	11686	0000J
26600	SKIP	DS 1		.. SKIP OLTPUT REFERRG TO CORE IF-1	11688		1	
26610	B7	SIZE			11688	49	10376	
26620	DEF1	DSA PICKUP-4			11699		5 X	1

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26630	DC	3,22*			11699	-2524		
	K2*				11702	3		
26640	DEF2	DSA	CORE		11707	5 X	1	
					11707	J1879		
26650	DC	3,18*			11710	3		
	J8*							
26660	DEF3	DSA	ADURS-4		11715	5 X	1	
					11715	-3516		
26670	DC	3,22*			11718	3		
	K2*							
26680	DEF4	DSA	STPM		11723	5 X	1	
					11723	J2195		
26690	DC	3,18*			11726	3		
	J8*							
26700	DEF5	DSA	OVER		11731	5 X	1	
					11731	J1993		
26710	DC	3,18*			11734	3		
	J8*							
26720	DEF6	DSA	RELCRE		11739	5 X	1	
					11739	J1939		
26730	DC	3,18*			11742	3		
	J8*							
26740	* FOR SUBROUTINE DIM ENTRIES							
26750	DCAJB	DDA	,1,SUBDAD,19,WA*1		11744	14		
			1-4808-19J2436					
26760	DC	1	,*		11758	1		
26770	* FOR READING 2 SECTORS AND WRT SECTOR 1							
26780	DCA1JB	DDA	,1,-*,2,BUF*1		11760	14		
			1-0000-02J2436					
26790	DC	1	,*		11774	1		
26800	CSCCA	DDA	,1,MOSDAD,1,0*PHASEC		11776	14		
			1J9663-01J0000					
26810	DC	1	,*		11790	1		
26820	SECCD	DC	4 ,100 ,,	CONSTANT FOR SECOND CARD	11794	4		
			-100					
26830	DC	6	,-3002		11800	6		
			-0300K					
26840	DC	9	,6012345*		11809	9		
			-6012345*					
26850	FRSTCD	DC	8 ,67514842 ,,	CONSTANT FOR FIRST CARD	11817	8		
			07514842					
26860	KMARK	DS	,421		04421	0		
			,1STAT-59 ,	HI ORDER POSITION OF COMMON DATA	02500	0		
26870	COMCAT	DS	,1STAT-30		02529	0		
26880	CEIM	DS	,02		11818	2		
26890	JMB	DSC	2					
			02					
26900	DSA	DDA1JB			11824	5 X	1	

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26910	DC	1	,*		11824	J1760		
					11825	1		
26920	JMB2	DSC	2 ,22		11826	2		
			22					
26930	DSA	DDAJB			11832	5 X	1	
					11832	J1744		
26940	DC	1	,*		11833	1		
26950	CSECCD	DSC	2 ,22		11834	2		
			22					
26960	DSA	CSDDA			11840	5 X	1	
					11840	J1776		
26970	DC	1	,*		11841	1		
26980	DS	1			11842	1		
26990	END	DAC	17,END OF ASSEMBLY.*		11845	17 X	2	
			END OF ASSEMBLY.*					
27000	CORE	DAC	30, CORE POSITIONS REQUIRED*		11879	30 X	2	
			CORE POSITIONS REQUIRED*					
27010	RELCRE	DAC	27, PLUS RELOCATION INCREMENT*		11939	27 X	2	
			PLUS RELOCATION INCREMENT*					
27020	OVER	DAC	37,EXCEEDED SPECIFIED CAPACITY BY 00000*		11993	37 X	2	
			EXCEEDED SPECIFIED CAPACITY BY 00000*					
27030	OTHER	DAC	36,SUBROUTINES OTHER THAN PGM DIV USED*		12067	36 X	2	
			SUBROUTINES OTHER THAN PGM DIV USED*					
27040	FAULT	DAC	28,NO DIM ENTRY FOR SUBROUTINE*		12139	28 X	2	
			NO DIM ENTRY FOR SUBROUTINE*					
27050	STPM	DAC	27, STATEMENTS PROCESSED*		12195	27 X	2	
			STATEMENTS PROCESSED*					
27060	BARF	DAC	43,MORE THAN 5 CYLINDERS OF RELOADABLE OUTPUT*		12249	43 X	2	
			MORE THAN 5 CYLINDERS OF RELOADABLE OUTPUT*					
27070	BARF2	DAC	50,SW4 ON TO DUMP OUTPUT, OFF TO CONTINUE, NO OUTPUT*		12335	50 X	2	
			SW4 ON TO DUMP OUTPUT, OFF TO CONTINUE, NO OUTPUT*					
27080	DS	1			12434	1		
27090	BUF	DSS	19CC		12435	1900		
27100	WA	DS	,BUF ,	WORK AREA FOR SUBROUTINE MAP	12435	0		
27110	DDRG	WA			12435			
27120	CLOAD	34	SUBC ,701 ,,	SELF LOADER	12436	34	12484	00701
27130		38	SUB C ,702		12448	38	12484	00702
27140	TRA				12460	36	00000	00500
					12472	49	00000	00000
27150	SUBC	DDA	,0,PHCDAD,PHCSCT,PHASEC		12484	14		
			0J8855-26J0000					
27160	TCD	CLOAD			12436			
27170	DEND	INITI			04188			

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SHFACD 15998	STACKR 10434	STTYSW 02471	TBLEND 09045	TYPINS 12776
SECINS 10352	STCHA1 13298	SUBDAD 04808	TESTAD 09028	VACANT 04040
SETRM 11296	STCHAR 13178	SUBENT 09038	THINGS 02420	ZERONE 13312
SIMPLE 14774	STKLE 03906	SUBOUT 03988	TRDATA 10754	
SQFLD 13248	STNUCD 11476	SYMTAD 02641	TRNUM1 07466	
SSTDAD 18908	STPCSW 02470	SYMTBL 16003	TRNUM8 07382	
SSTSCT 00035	STPRSW 02472	SYSICAL 00475	TYINSH 02473	

END OF ONE ASSEMBLY.

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00030	COMMON	DS	1	,401		00401	1	
00040	RMARK	DS		,421	, ADR CF RECORD MARK	00421	0	
00050	RELINC	US		,434	,, ADR CF RELOCATION INCREMENT	00434	0	
00060	SYSICAL	DS		,475		00475	0	
00070	IORBC	DS		,520		00520	0	
00080	IORT	DS		,565		00565	0	
00090	IOGT	DS		,566		00566	0	
00100	IOCAL	DS		,716		00716	0	
00110	MONCAL	DS		,796		00796	0	
00120	BASE	DS		,1600	, SCRATCH SEC ADR FOR SUBRS	01600	0	
00130	PCK	OSB	5	,7	,2365	02365	5 X	7
00140	PLUSL	DS	2	,PCK+33		02398	2	
00150	FOREQ	DS		,7280	, START CF AREA COMM WITH FORTRAN LDR	07280	0	
00160	SUBVEC	OSB	5	,30	,PCK -150	02215	5 X	30
00170	MOD	DSS	12CC0	,8000	, AREA FCR SUBR READ IN	08000	12000	
00180	BUF	DS		,MOD-1		07999	0	
00190	RM1	DS		,02210		02210	0	
00200	RM2	DS		,02215		02215	0	
00210	SSLOC	DS		,17024	, LOC CF SUBR SUPER ON DISK	17024	0	
00220	DDRG		24C2			02402		
00230	XEQ	TFM		,IORT	,, RD SUBR FM SCTC	02402	16	00565 -2425
00240	B	IOGT		,DDAP	,7	02414	44	00566 -2608
00250	A	DDAP+5		,SECLST	,7, AUJ FILE ADR	02426	21	02598 -2674
00260	AM	-1		,3	,, PNT TO SEC CNT OF NEXT SUBR	02438	11	02437 -0003
00270	TD	DCDAP+7		,DDAP+12	,, PERMIT HIGH CORE TO FURN ADR	02450	25	02615 02620
00280	CHECK	AM	CHECK+35	,1	,, ADJ ISTAT REFERENCE	02462	11	02497 -C001
00290	TFM	1210		,480	,, ELIMINATE A SEEK IN IORT	02474	16	01210 -0480
00300	BD	XEQ		,1STAT W	,7, BR IF ANOTHER SUBR TO BE PROCESSED	02486	43	02402 -2641
00310	TFM	439		,75		02498	16	00439 -0075
00320	SF	468		,	,, PREPARE TO LOAD OBJECT PROGRAM	02510	32	00468 CCCC0
00330	TF	434		,RESTOR+12,,	,, RESTCRE RELOCATION INCREMENT	02522	26	00434 02633
00340	CF	427				02534	33	00427 00000
00350	TFM	XEQ+23		,DDAR		02546	16	02425 -2585
00360	EXIT	B7		XEQ		02558	49	02402
00370	DDAR	DSS	20	,,	,, HOLDS DDA FOR OBJECT PROG	02565	20	
00380	DDAR	DSC	2	,-22		02585	2	
00390	DSA	DDAR				02591	5 X	1
						02591		-2565
00400	DC	1		,'		02592	1	
00410	DDAP	DSC	1	,0	,, RD SUBRS REQD FROM SCRATCH	02593	1	
00420	DSA	BASE				02598	5 X	1
						02598		-1600
00430	DC	3		,999		02601	3	
00440	DSA	99999				02606	5 X	1
						02606		R9999
00450	DC	1		,'		02607	1	
00460	DDAP	DSC	2	,02		02608	2	

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00470	DSA	DCAP	,0		02614	5	X	2
					02614			-2593
					02619			-0000
00480	DC	1	,*		02620			1
00490	RESTOR	DSS	20	,, FOR INFO LOST DURING LOADG OF SUBRS	02621			20
00500	ISTATW	DSC	30	,, INDICATORS FOR REQD SUBRS	02641			30
				00000000000000000000000000000000				
00510	DAC	1,C			02673		1	X 2
00520	DORG	*-1	,	ALIGN SEC LST AT EVEN ADR	02672			
00530	SECLST	DSB	3	,, LIST OF SEC LGTH FOR REQU PROGRAMS	02674		3	X 30
00540	DORG	*-50			02711			
00550	DDASC	DC	1		02711			1
					02716			5
00560	DC	5	,19663		02716			5
		J9663						
00570	DC	3	,1		02719			3
		-01						
00580	DSA	WA3			02724		5	X 1
					02724			-7300
00590	DC	1	,*		02725			1
00600	DDASC	DSC	2	,, FOR SYS COMM SEC	02726			2
00610	DSA	CCASC			02732		5	X 1
					02732			-2711
00620	DC	1	,*		02733			1
00630	*****DC	15	,0,, SIMULATE DUA	,0,0,001,WA				
00640	DCA	USC	1	,, RD OBJECT SECT 1	02734			1
		0						
00650	DC	5	,0		02734			5
		-0000						
00660	DC	3	,1		02742			3
		-01						
00670	DSA	WA			02747		5	X 1
					02747			-7400
00680	DC	1	,*		02748			1
00690	DCA2	CSC	1	,, RD DIM	02749			1
00700	DC	5	,4808		02754			5
		-4808						
00710	DC	3	,6		02757			3
		-06						
00720	DSA	WA2			02762		5	X 1
					02762			-2934
00730	DC	1	,*		02763			1
00740	DDAW	DC	1	,, WRT SLBR ON DISK	02764			1

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00750	DSA	BASE			02764		5	X 1
					02769			-1600
00760	DC	3	,0		02772			3
		-00						
00770	DSA	MOD			02777		5	X 1
					02777			-8000
00780	DC	1	,*		02778			1
00790	DCARS	DS	20	,, RD SLBR FOR MODIFICATION	02734			20
00800	CCCA	DSC	2	,22	02779			2
00810	DSA	CCA			02765		5	X 1
					02785			-2734
00820	DC	1	,*		02786			1
00830	CCCA2	DSC	2	,22	02787			2
00840	DSA	CCA2			02793		5	X 1
					02793			-2749
00850	DC	1	,*		02794			1
00860	DDARS	DSC	2	,22	02795			2
00870	DSA	DDARS			02801		5	X 1
					02801			-2734
00880	DC	1	,*		02802			1
00890	DDAW	DSC	2	,02	02803			2
		02						
00900	DSA	DDAW			02809		5	X 1
					02809			-2764
00910	DC	1	,*		02810			1
00920	NCCDA	DSA	WA		02815		5	X 1
					02815			-7400
00930	DC	3	,04*		02818			3
		-4*						
00940	*****	USED IN REQ PORTION OF PGM WHEN MGN DISK INPUT						
00950	NODISK	SF	469		02820	32	00469	00000
00960	TR	416	,RESTOR		02832	31	00416	02621
00970	TR	428	,RESTOR+6		02844	31	00428	02627
00980	TFM	XEQ+23	,DDAR		02856	16	02425	-2585
00990	BT	XEQ			02868	49	02402	
01000	DC	1	,*		02875			1
01010	NODDA	DSC	1	,1	02876			1
		1						
01020	DC	5	,19783		02881			5
		J9783						

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01030	DC	3	,3		02884	3	
	-03						
01040	DC	6	,0'		02840	6	
	-0CC0'						
01045	DRCODE	TD	DDA,+402		02892	25	C2734 00402
01046		B7	RDRFST		02904	44	C3126
01050	WA2	DRG	2934	,600 CHAR WA FOR DIM ENTRIES OVERLAYG PGM	02934		
01060	SUPER	TR	DDAR	,402 ,, SAVE OBJ PRCG DIM ENTRY	02934	31	02565 CC462
01070		TR	FOREQ	,402 ,, SAVE FOR FCRTFRAN AND NODISK INPUT	02946	31	C7280 00402
01080		TF	DDA+5	,407 ,, STORE OBJ PRG DISK ADR	02958	26	02739 00407
01090		TD	DDA	,402 ,,	02970	25	C2734 00402
01100		TR	RESTOR	,416 ,, SAVE ENTRY ADR	02982	31	C2621 CC416
01110		TFM	IORT	,+23 ,, RD SYS COPM SEC TO WA3	02994	16	00565 -3017
01120		B	IOGT	,ODDASC ,7	C3006	49	C0566 -2726
01130		TD	IOD	,428	03018	25	C3C38 00428
01140		CM	IOD	,03 ,71011	03030	14	C3038 -CO-L
01150	IOU	OS		,+3 ,, I/O DIGIT INDICATOR	03038		0
01160		BH	DRCODE	, ,, BR IF PRCG ON DISK	03042	46	C2892 01100
01170		DD	FOR EX	,WA3+75	03054	43	C3318 C7375
01180		DD	FOR EX	,WA3+74	03066	43	C3318 C7374
01190		TDM	DSKSW	,-1 ,, SCT FOR NON DISK INPUT	03078	15	05980 C000J
01200		TFM	RDRFST+23	,NDDDA-4	03090	16	03149 -2611
01210		HL	RD FRST	, ,, BR IF PRCG ON CARDS	C3102	47	C3126 01300
01220		TDM	NDDDA+2	,2	03114	15	C2817 C0002
01230	RDRFST	TFM	IORT	,+23 ,, READ FIRST RECORD OF OBJECT PRG	03126	16	00565 -3149
01240		H	IOGT	,ODDA ,7	03138	44	C0566 -2774
01250	*****			SAVE CARD SEQ NO IF NON DISK INPUT (NCL)			
01260		DNF	CAP	,DSKSW	03150	44	C3210 C5980
01270		SF	WA+75		03162	32	C7475 C0000
01280		TF	WA3+98	,WA+79	03174	26	C7398 07479
01290		TFM	IORT	,+23	03186	16	00565 -3209
01300		H	IORBC	,ODDASC ,7	03198	49	L0520 -2726
01310	*****			CALC SIZE OF OBJECT CORE. HIGHEST ADR AVAIL IN CAP+18			
01320	CAP	AM	CAP+15	,20 ,10, STEP HI ADDRESS BY 20000	03210	11	C3225 000K0
01330		DC	2	,1' ,+3	03218		2
	-1						
01340		TR	01599	,+5 ,23, MOVE RECCRD INTO HI ADDRESS	03222	31	-J499 03217
01350		BNR	CAP	,0 ,, BR IF NC WRAP AROUND	03234	45	C3210 00000
01360		TF	REDUCE+11	,CAP+18	03246	26	C6005 03228
01370		C	SPSTST	,WAF+13	03258	24	C6464 C7413
01380		RE	RD CTL	, ,, BR IF CANU IMAGE SPS PROGRAM	03270	46	C3430 01200
01390		SF	SPSTST-5		03282	32	C6459 UC000
01400		C	SPSTST	,WAF+5	03294	24	06464 C7405
01410		HE	CORIM	, ,, BR IF CORE IMAGE SPS PROGRAM	03306	46	C3358 01200
01420	FOREX	CF	429	, ,, IORT HOUSKEEP	03318	33	C0429 CC000
01430		TFM	IORT	,+19 ,, CALL LINK FOR FORTRAN LOADER	03330	16	C0565 -3349
01440		B	IOCAL	,22001 ,810	03342	47	C0716 2K0-1
01450		DSC	3	,38'	03354		3
	3R'						
01460	CORIM	TK	WA2,WA		03358	31	C2434 C7400
01470		TF	WA+70,RMS		03370	26	C7470 06456
01480		TR	WA+8,WA2		03382	31	C7408 C2434
01490		AM	DDAR+5,1,10		03394	11	C2570 C00-1
01500		SM	DDAR+8,1,10		C3406	12	C2573 C00-1
01510		AM	DDAR+11,1,10		C3418	11	C2576 C00-1
01520	RDCTL	DNF	,+24	,WAF+23 ,, ADJ FOR RELCCATION INCREMENT AS REQ	03430	44	03454 C7423

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01530	A	PICKUP	,REL INC		03442	21	C7443 CC434
01540	*****			SAVE AREA 428-440, CLR FLAG ON 429 FOR NON DISK INPUT			
01550		TD	441	,421	03454	25	00441 00421
01560		TR	RESTOR+6	,428	03466	31	C2627 00428
01570		CF	RESTOR+7		03478	33	C2628 CC000
01580		BNF	NOISY	,77+WA3	03490	44	03534 C7377
01590	PARAM	BNF	MANTL	,79+WA3	03502	44	03554 C7379
01600		BNF	SUBSET	,81+WA3	03514	44	C3598 07381
01610		B7	CKSET		03526	49	C3610
01620		TD	WA+36	,77+WA3	03538	25	C7436 C7377
01630		B7	PARAM		03546	49	03502
01640		MANTL	TD	,79+WA3	03554	25	C7435 C7374
01650		TD	WA+34	,78+WA3	03566	25	C7434 C7378
01660		SF	WA+34		03578	32	C7434 CC000
01670		B7	PARAM+12		03590	49	03514
01680	SUBSET	TD	WA+38	,81+WA3	03598	25	C7438 07381
01690	*****			SET SECTOR ADR FOR REQD SUBR SET			
01700	*****			03 AFP = 4808 ,02 VL = 4814 ,01 FXL = 4820 ,00 DIV = 4826			
01710	*****			AND CONTROL TYPEOUT			
01720	CKSET	BD	,+44	,WA+38	03610	43	C3654 C7438
01730		AM	DDA2+5	,18	03622	11	C2754 -C018
01740		TDM	DDA2+8	,1	03634	15	02757 CC001
01750		B7	RD DIM		03646	44	03758
01760		CM	WA+38	,02 ,10	03654	14	C7438 000-2
01770		HM	RD DIM	, ,, BR IF AFP SET (03)	03666	46	C3758 01100
01780		TFM	DDA2+5	,4814	03678	16	C2754 -4814
01790		BE	RD DIM	, ,, BR IF VL SET (02)	03690	46	03758 01200
01800		CM	WA+35	,08 ,10	03702	14	C7435 000-8
01810		BE	,+32		03714	46	03746 01200
01820		TFM	WA+38	,02 ,10	03726	16	07438 C00-2
01830		B7	RD DIM	, ,, FORCE SET 02	03738	44	03758
01840		AM	DDA2+5	,6	03746	11	C2754 -0006
01850	RDDIM	TFM	IORT	,+23 ,, READ REQD DIM ENTRIES	03758	16	00565 -3781
01860		B	IOGT	,ODDA2 ,7	03770	44	00566 -2787
01870	*****			INSIST THAT MANTISSA LENGTH MEET SPECIFICATIONS			
01880		CM	WA+35	,02 ,10	03782	14	C7435 000-2
01890		BH	,+24		03794	46	C3818 01100
01900		TFM	WA+35	,02 ,10	03806	16	07435 C00-2
01910		CM	WA+35	,45 ,10	03818	14	07435 U00M9
01920		BL	,+24		03830	47	C3854 01300
01930		TFM	WA+35	,45 ,10	03842	16	07435 000M5
01940		TD	PCK+34,WA+38	,, SUBROUTINE SET I.O.	03854	25	02399 07438
01950		TD	PCK+36	,WA+36	03866	25	02401 07436
01960		TF	PCK+33	,L ,, +L FOR OBJ PGM	03878	26	02398 07435
01970		BNR	DELETE	,WA2+19	03890	45	04022 02953
01980		TR	WA2+600,WA2		03902	31	03534 02934
01990	SETCOD	CM	WA2+15	,01 ,10, DECODE SET	03914	14	02949 000-1
02000		TFM	RM1	,-33 ,, IND LCC OF RM AT END OF ALPHA	03926	16	02210 -003L
02010		BE	FVLAFF		03938	46	04270 01200
02020		BH	VL AFP		03950	46	04102 01100
02030		BNR	DELETE	,1STAT-28	03962	45	04022 07446
02040		TDM	SUBNO	,1 ,, SET TO 01 FOR SOFT DIV SET	03974	15	04557 00001
02050		SM	SV	,5	03986	12	05740 -0005
02060		TFM	CAPCK-2	,SOFT	03998	16	05896 -6966
02070		B	FVLAFF	,8D SET M	04010	49	04270 06787
02080	DELETE	ACTY			04022	34	00000 00102

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02090	WATY	DELETE-1 ,	,6,	TYPE REASON FOR TERMINATION	04034	39	0402J	00100
02100	RCTY				04046	34	CC000	00102
02110	WATY	DELTD ,	,,	TYPE TERMINATION	04058	34	C6741	CC100
02120	RCTY				04070	34	CC000	CC102
02130	TDM	SYSCAL ,4			04082	15	00475	CC004
02140	H7	MONCAL			04094	49	C0796	
02150	*****	CREATE ADD VECTOR FOR ADJUSTMENT OF P AND Q OPERANDS						
02160	VLAFP	TFM RM1	-147	IND LCC OF RM AT END OF ALPHA	04102	16	02210	-C14P
02170	SM	FVLAFP+35,98			04114	12	04305	-009H
02180	A	LOC 115 ,L	,,	INSERT +L	04126	21	06315	C7435
02190	A	LOC115+50,L			04138	21	06365	C7435
02200	S	LOC115+10,L	,,	INSERT -L	04150	22	06325	C7435
02210	AM	LOC115+10,99999			04162	11	06325	R9999
02220	AM	LOC115+10,1			04174	11	06325	-C001
02230	TF	LOC115+60,LOC115+10			04186	26	06375	06325
02240	A	L	,,	INSERT +2L	04198	21	07435	C7435
02250	A	LOC115+20,L			04210	21	06335	07435
02260	A	LOC115+70,L			04222	21	06385	07435
02270	TF	LOC115+30,LOC115+10,,	,,	INSERT -2L	04234	26	06345	06325
02280	A	LOC115+30,LOC115+30			04246	21	06345	06345
02290	TF	LOC115+80,LOC115+30			04258	26	06395	06345
02300	FVLAFP	S	**35	PICKUP	04270	22	04305	C7443
02310	HMH	**24			04282	47	04306	01100
02320	AM	PICKUP	,SECLST-12,,	MUVE PICK IF CHJ PGM SHCRT	04294	11	07443	-2662
02330	TF	DDDAP+11	,PICKUP		04306	26	02619	07443
02340	TF	SUB NO-2	,MA+38	,,	04318	26	04555	C7438
02350	B7	RD SUB			04330	49	C4510	
02360	FINAL	BNR CK SUB	,ISTAT-30	,7,	04338	45	C4358	-7444
02370	IND	DS	,*	,,	04349		0	
02380	B7	CAP CK			04350	49	C5898	
02390	CKSUB	HD RD SUB	,IND	,11,	04358	43	C4510	0434R
02400	AM	IND	,1	,10	04370	11	C4349	CC0-1
02410	AM	SUB NO	,1	,10	04382	11	04557	CC0-1
02420	AM	DIM,10,610			04394	11	C447P	CC0J0
02430	AM	SV+5	,5		04406	11	C5745	-C005
02440	STPSV	SM SV	,5	,10,	04418	12	05740	CC0-5
02450	SM	NF	,1	,10	04430	12	C4438	CC0-1
02460	NE	DC	2	,*-3,	04438		2	
02470	BH	CK SUB			04442	46	C4358	C1100
02480	ADJDIM	AM DIM	,20	,10,	04454	11	C4477	CC0K0
02490	TD	NE	,MA2+18	,7,	04466	25	C4438	-2952
02500	DIM	DS	,*	,,	04477		0	
02510	TFM	SV+5	,MOD+7		04478	16	05745	-8C07
02520	BD	FINAL	,NE		04490	43	04338	C4438
02530	B7	ADJ DIM		,,	04502	49	C4454	
02540	RDSUB	TF RD SUB+35,DIM			04510	26	C4545	04477
02550	SM	RD SUB+35,18			04522	12	04545	-C018
02560	TR	DDARS		,,	04534	31	C2734	00000
02570	CM	UDARS+17		,,	04546	14	C2751	-CC00
02580	SUBNO	DS	4	,*	04557		4	
02590	BNE	DELETE			04558	47	04022	C1200
02600	AM	LOC115+40,		,,	04570	11	06395	-C006
02610	PICKAD	DS	,*	,,	04581		0	
02620	A	LOC115+50,PICKAD		,,	04582	21	C6365	C4581
02630	A	LOC115+60,PICKAD		,,	04594	21	06375	C4581

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02640	A	LOC115+70,PICKAD	,,	INSERT PICK +2L	04606	21	06395	C4581
02650	A	LOC115+80,PICKAD	,,	INSERT PICK -2L	04618	21	06395	C4581
02660	TF	PKLP	,CDARS+13	,,	04630	26	05853	C2747
02670	*****	SET PICKAD TO TENS COMPLEMENT OF CORES USED BY THIS SUBR						
02680	TF	PICKAD	,DDARS+13		04642	26	C4581	02747
02690	SF	PICKAD			04654	32	C4581	00000
02700	AM	PICKAD	,99999		04666	11	04581	R9999
02710	AM	PICKAD	,1		04678	11	C4581	-C001
02720	SUBRD	TFM DDARS+13	,MOD	,,	04690	16	02747	-8000
02730	TFM	IORT	,**23	,,	04702	16	00565	-4725
02740	B	IOGT	,DDARS	,7	04714	49	00566	-2795
02750	TFM	IORT	,**23	,,	04726	16	00565	-4744
02760	B	554	,DDDAW	,7,	04738	45	C0554	-2803
02770	TDM	SET P+25	,1	,,	04750	15	04943	CC001
02780	TDM	MOD+5	,-2	,,	04762	15	08005	CC00K
02790	MODIFY	TFM CARD	,BUF+6	,,	04774	16	C4797	-8005
02800	NEWCD	TFM PNTR	,CARD	,,	04786	16	C4821	-4797
02810	CARD	DS	,*	,,	04797		0	
02820	AM	CARD	,75	,10,	04798	11	04797	CC0P5
02830	NXTIND	BNR NOT RM	,BUF+6	,7,	04810	45	04862	-8005
02840	PNTR	US	,*	,,	04821		0	
02850	HNF	RM	,PNTR	,11,	04822	44	C4842	0482J
02860	B7	NEW CD		,,	04834	49	C4786	
02870	RM	AM PNTR	,6	,10,	04842	11	04821	000-6
02880	B7	PNTR-11			04854	49	04810	
02890	*****	BR TO ROUTINE TO PROCESS DATA PER INDICATOR DIGIT						
02900	NOTRM	TD	,**17	,PNTR	04862	25	04879	0482J
02910	B7	LOC115+5	,*	,6,	04874	49	0632-	
02920	INST	AM PNTR	,2	,10,	04882	11	C4821	000-2
02930	TF	LNG	,PNTR	,11,	04894	26	C5227	0482J
02940	AM	PNTR	,1	,10,	04906	11	04821	CC0-1
02950	SETP	AM PNTR	,2		04918	11	04821	-C002
02960	TDM	SWPQ	,-1	,,	04930	15	C4940	0000J
02970	SWPQ	DS	,*-1	,,	04940		1	
02980	NOP	ADJ	,CTL PNT	,11,	04942	41	04974	0498H
02990	AM	PNTR	,10		04954	11	C4821	-0010
03000	B7	LNG CK			04966	49	05218	
03010	ADJ	BD	,**2C	,*	04974	43	04994	CC000
03020	CTLPNT	DS	5	,*	04985		5	
03030	H	Q CK			04986	49	C5102	00000
03040	INDA	DORG	,*-4	,,	04993			
03050	SF	PNTR	,*	,6,	04994	32	0482J	CC000
03060	AM	PNTR	,4	,10,	05006	11	04821	000-4
03070	TD	IND A	,PNTR	,11,	05018	25	04993	0482J
03080	CF	PNTR	,*	,6,	05030	33	C482J	00000
03090	TD	,**22	,CTLPNT	,11,	05042	25	05064	0498H
03100	A	PNTR	,LOC115+40,6,	,,	05054	21	0482J	06355
03110	BNF	,**24	,IND A	,,	05066	44	05090	04993
03120	SF	PNTR	,*	,6,	05078	32	0482J	00000
03130	SM	PNTR	,4	,10,	05090	12	04821	CC0-4
03140	QCK	AM PNTR	,5	,10,	05102	11	04821	000-5
03150	AM	CTL PNT	,1	,10,	05114	11	04985	000-1
03160	BNF	ND INST	,SWPQ	,*	05126	44	C5182	04940
03170	TDM	SWPQ	,0	,*	05138	15	04940	CC000
03180	BNR	ADJ	,CTLPNT	,11,	05150	45	04974	0498H
03190	AM	PNTR	,5	,*	05162	11	04821	-0005

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03200	B7	LNG CK			05174	49	05218		
03210	NDINST	CM	CTL PNT	,CTLAR+9	05182	14	C4985	-6514	
03220		BL	LNG CK		05194	47	05218	01300	
03230	TDM	SET P+25	,1	..	05206	15	04943	CC001	
03240	LMGCK	SM	LNG	,12	,10,				
03250	LNG	US	2	,9-2	..				
03260	RNH	NXTIND		..	05218	12	05227	CC0J2	
03270	B7	SET P		..	05227		2		
03280	PCONST	BNF	CONST	,PNTR	,11,				
03290	SM	PNTR	,3	,10,	05230	47	C4810	01100	
03300	CM	PNTR	,3	,69	05242	49	C4918		
03310	RE	PSUEDO		..	05250	44	05310	C482J	
03320	AM	PNTR	,3	,10,	05262	12	04821	00G-3	
03330	CONST	AM	PNTR	,2	,10,	05274	14	C482J	00-03
03340	A	PNTR	,PNTR	,11,	05286	46	C5354	01200	
03350	AM	PNTR	,1	,10,	05298	11	04821	CCU-3	
03360	B7	PNTR-11			05310	11	04821	00G-2	
03370	*****	PUT PSUEDO CONSTANT INTO CTLAR AND FILL BAL WITH REG MKS			05322	21	C4821	0482J	
03380	*****	REPLACE ADR WITH ZERO ,PREVENT PSCCN FROM BEING LOADED			05334	11	04821	0C0-1	
03390	*****	ALSO WORKS IF PSCCN IS SPLIT ON 2 CARD RECORDS			05346	49	04810		
03400	PSUEDO	TF	CTLAR+59	,RMS	..				
03410	AM	PNTR	,2	..	05354	26	06524	C6456	
03420	TR	TCP	,PNTR	,11,	05366	11	04821	-0002	
03430	PBOTH	TFM	PNTR	,67,	05378	31	C6652	0482J	
03440	A	PNTR	,3	..	05390	16	0482J	-C000	
03450	A	PNTR	,PNTR	,11,	05402	11	04821	-C003	
03460	AM	PNTR	,1	..	05414	21	C4821	0482J	
03470	HNR	2ND PC	,PNTR	,11,	05426	11	04821	-0001	
03480	PLoad	TR	CTLAR	,TCP+4	05438	45	05494	C482J	
03490	TDM	SET P+25	,5	..	05450	31	06465	C6656	
03500	TFM	CTL PNT	,CTLAR		05462	15	0443	00005	
03510	B7	PNTR-11			05474	16	C4985	-6465	
03520	2NDPC	AM	PNTR	,5	..	05486	49	04810	
03530	RNF	P NOT C	,PNTR	,11	05494	11	04821	-CC05	
03540	SM	PNTR	,1	..	05506	44	05610	0482J	
03550	TFM	MOV2ND+11	,TCP+12		05518	12	C4821	-0001	
03560	TFM	MOV2ND+6	,TCP+4		05530	16	C5589	-6664	
03570	A	MOV2ND+11	,TCP+3		05542	16	05584	-6656	
03580	A	MOV2ND+6	,TCP+3		05554	21	05589	C6655	
03590	MOV2ND	TR		..	05566	21	05584	06655	
03600	AM	CARD	,75	..	05578	31	CC000	CC000	
03610	H7	PROTH		..	05590	11	04797	-C075	
03620	*****	PSUEDO CONST TERMINATES CARD AND IS NOT CCAT ON NEXT CARD			05602	49	05390		
03630	PNOTC	AM	CARD	,75	05610	11	C4797	-C075	
03640	TFM	+3C	,TCP+4		05622	16	05652	-6656	
03650	A	+18	,TCP+3		05634	21	C5652	06655	
03660	TD		,HMS-60		05646	25	0C000	06396	
03670	H7	P LOAD			05658	49	C5450		
03680	DNB	AM	PNTR	,3	,10,	05666	11	04821	CC0-3
03690	H7	PNTR-11			05678	49	04810		
03700	*****	FORM INFO REQD TO COMPLETE LOADING OF SUBROUTINE							
03710	*****	ADJ ENTRY POINTS IN SUBVEC AS IND BY CSA AT START OF SUBR.							
03720	FORM	A	IND	,NF	..	05686	21	C4349	C4438
03730	A	SUB NO	,NE	..	05696	21	04557	04438	
03740	FILSV	AM	FIL SV+35	,5	,10	05710	11	C5745	000-5
03750	T	SV	,PICKUP	,6	05722	26	C574-	07443	

03760	A	PCK	,MOD+7	,2	05734	21	-2365	08C07	
03770	SV	DS	5	,9-5	..	05740		5	
03780	SM	SV	,5	,10,	05746	12	05740	CC0-5	
03790	SM	NE	,1	,10,	05758	12	C4438	CC0-1	
03800	BH	FIL SV			05770	46	C5710	01100	
03810	TF	SCT	,DDAR+8	,6,	05782	26	C580N	02742	
03820	TF	DDAR+8	,SECLST	,7,	05794	26	02772	-2674	
03830	SCT	DS	5	..	05805		5		
03840	TFM	IORT	,+23	..	05806	16	C0565	-5829	
03850	B	IORBC	,DDAR	,7	05818	49	00520	-2803	
03860	A	DDAR+5	,DDAR+8	..	05830	21	02769	02772	
03870	AM	PICKUP		..	05842	11	07443	-C000	
03880	US	5		..	05853		5		
03890	AM	SCT	,3	,10,	05854	11	C5805	CCU-3	
03900	TDM	I STATW	,1	..	05866	15	02641	CC001	
03910	AM	+6	,1	..	05878	11	05872	-C001	
03920	B7	ADJ DIM			05890	49	C4454		
03930	CAPCK	A	RM1	,PCK	..	05898	21	02210	02365
03940	TF	RM2	,PCK	..	05910	26	02215	02365	
03950	SM	RM2	,1	..	05922	12	02215	-0001	
03960	*****	MAKE REQD ADJ TO READ OBJECT PROGRAM							
03970	CF	DDAR+13			05934	33	C2578	CC000	
03980	DISKCK	BNF	+48	,DSKSW	..	05946	44	05994	05980
03990	TR	EXIT-48	,NU DISK	..	05958	31	02510	02820	
04000	SF	DDAR+1			05970	32	C2586	00000	
04010	DSKSW	DS	1	,9-1	..	05980		1	
04020	TR	DDAR	,NODDA	..	05982	31	02565	C2876	
04030	REDUCE	SM	PICKUP	,CAP+18	..	05994	12	07443	-3228
04040	BV	+12			06006	46	C6018	01400	
04050	BNH	XEQ			06018	47	02402	01100	
04060	TD	SIZE+60	,PICKUP	..	06030	25	06715	07443	
04070	TD	SIZE+58	,PICKUP-1	..	06042	25	06713	07442	
04080	TD	SIZE+56	,PICKUP-2	..	06054	25	C6711	07441	
04090	TD	SIZE+54	,PICKUP-3	..	06066	25	C6709	C7440	
04100	TD	SIZE+52	,PICKUP-4	..	06078	25	06707	C7439	
04110	TFM	DELETE+18	,SIZE		06090	16	04040	-6655	
04120	B7	DELETE			06102	49	04022		
04130	*****	BELOW IS DUAL PURPOSE VECTOR. EVEN ADR FIELDS ARE ADR OF							
04140	*****	ROUTINES THAT ARE USED FO DECODING INDICATOR CODE							
04150	*****	ODD ADR FIELDS ARE SUBR ADJ FOR THE P AND Q OPERANDS OF INST							
04160	DORG	6296			06296				
04170	DSA	NEW CD,	,INST		06300		5 X	3	
					06300		-4786		
					06305		-0000		
					06310		-4882		
04180	LOC115	DSA	0,PCONST,0,CONST,0,0NB,0,0NYET,0,0FORM		06315		5 X	10	
					06315		-0000		
					06320		-5250		
					06325		-0000		
					06330		-5310		
					06335		-0000		
					06340		-5666		
					06345		-0000		
					06350		-6918		

				06355	-0000		
				06360	-5686		
04190	DSA	0	,NYET,0 ,NYET,0 ,NYET,0	06365	5 x	7	
				06365	-0000		
				06370	-6918		
				06375	-CC00		
				06380	-6918		
				06385	-0000		
				06390	-6918		
				06395	-CC00		
04200	DC	1	,'	06396	1		
04210	RMS	DS	60 ,,	60 RECORD MARKS	60		
04220	SPSTST	DC	8 ,67514842		8		
			07514842				
04230	CTLAR	DSS	188 ,,	USED FCR SUBR CONTROL CONSTANT	188		
04240	TCP	DS	,,	TEMP STOR FCR PSEUDO CONSTANT	0		
04250	SIZE	DAC	43,CORE CAPACITY EXCEEDED BY 0000 LOCATIONS.'		43 x	2	
			CORE CAPACITY EXCEEDED BY 0000 LOCATIONS.'				
04260	DELTED	DAC	23,PROGRAM IS TERMINATED.'		23 x	2	
			PROGRAM IS TERMINATED.'				
04270	BDSETM	DAC	35,SUBR NOT LOCATED IN SUBROUTINE MAP'		35 x	2	
			SUBR NOT LOCATED IN SUBROUTINE MAP'				
04280	NYMES	DAC	31,IMPRPER IND CODE IN SUBR 0000'		31 x	2	
			IMPRPER IND CODE IN SUBR 0000'				
04290	NYET	TD	NYMES+58 ,SUB NU	06918	25	06915	04557
04300		TD	NYMES+56 ,SUB NO-1	06930	25	06913	04556
04310		TD	NYMES+54 ,SUB NO-2	06942	25	06911	04555
04320		HTM	DELETE ,NYMES	06954	17	04022	-6857
04321	SOFT	TFM	RM2 ,COCCO	06966	16	02215	-0000
04322		TFM	RM1 ,COCCO	06978	16	02210	-0000
04323		B7	DISKCK-12	06990	49	05934	
04330		DORG	FOREQ	07280			
04340	LDRMKS	AM	+18 ,1	07280	11	07298	-0001
04350		TD	RMS-59 ,RMS-60 ,2	07292	25	-6397	06396
04360		CM	+6 ,RMS	07304	14	07298	-6456
04370		BL	LDRMKS	07316	47	07280	01300
04380		SF	RMS-60	07328	32	06396	00000
04390		34	DDAL ,701 ,,	07340	34	07368	00701
04400		38	DDAL ,702 ,,	07352	38	07368	00702
04410		TRA		07364	36	00000	00500
				07376	49	00000	00000
04420	DDAL	DSC	1 ,0	07386	1		
		U					
04430	DSA	SSL0C		07393	5 x	1	
				07393	J7C24		
04440		DC	3 ,051	07396	3		
		-51					
04450	OSA	XEQ-2		07401	5 x	1	
				07401			
04460	TCD	LDRMKS+12		07401			
				07292			
04470	DORG	FOREQ		07280			

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04480	DS	20		07294	20		
04490	WA3	DSS	100 ,,	07300	100		
04500	WAF	DSS	100 ,,	07400	100		
			FIRST SKTR OF OBJ PGM (IND RECORD)				
04510	WA	DS	,WAF	07400	0		
04520	L	DS	,WA+35 ,	07435	0		
			ADR OF SPEC MANT LENGTH				
04530	PICKUP	DS	,WA+43	07443	0		
04540	ISTAT	DS	,WA+74	07474	0		
04550	DEND	SUPER		02934			

ADJDIM 04454	RELINC 00434	CCDA 02779	NE 04438	SIZE 06655
BOSETM 06787	RESTOR 22621	DDAM 02803	NEWCD 04786	SOFT 06966
COMMON 00401	2NDPC 05494	DIM 04477	NOCCA 02876	SSLUC 17024
CTLPNT 04985	ADJ 04974	DNB 05666	NOISY 03534	STPSV 04418
DDARS 02795	BASE 01600	DSKSW 05980	NOTRM 04862	SUBND 04690
DDASC 02726	HUF 07999	EXIT 02558	NYET 06918	SUBND 04690
UELETE 04022	CAPCK 05898	FILSV 05710	NYMES 06857	SUPER 02934
DELTED 06741	CAP 03210	FINAL 04338	PARAM 03502	SV 05740
DISKCK 05946	CARD 04797	FOREQ 07280	PBOTH 05390	SHPQ 04940
URCODE 02892	CHECK 02462	FOREX 03318	PCK 02365	TCP 06652
FVLAFP 04270	CKSET 03610	FORM 05686	PKUP 05853	VLAFP 04102
ISTATW 02641	CKSUB 04358	INDA 04993	PLDAD 05450	WA2 02934
LDRMKS 07280	CONST 05310	IND 04349	PLUSL 02398	WA3 07300
LOC115 06315	CORIM 03358	INST 04882	PNDTC 05610	WAF 07400
MODIFY 04774	CTLAR 06465	LOCAL 00716	PNTR 04821	WA 07400
MONCAL 00796	DDA2 02749	ICD 03038	QCK 05102	XEQ 02402
MOVZND 05578	DDAL 07388	LOGT 00566	ROCTL 03430	SECLST 02674
NOINST 05182	DDAP 02593	IORBC 00520	RDDIM 03758	SETCUD 03914
NODISK 02820	DDAR 02565	ICRT 00565	RDSUB 04510	SPSTST 06464
NXTIND 04810	DDARS 02734	ISTAT 07474	RM1 02210	SUBSET 03598
PCONST 05250	DDA 02734	LMGCK 05218	RM2 02215	SUBVEC 02215
PICKAD 04581	DDASC 02711	LNG 05227	RMANK 00421	SYSCAL 00475
PICKUP 07443	DDAM 02764	L 07435	RM 04842	
PSUEDD 05354	DDDA2 02787	MANTL 03554	RMS 06456	
RDFRST 03126	DDDAP 02608	MOD 08000	SCT 05805	
REDUCE 05994	DDAR 02585	NCCCA 02815	SETP 04918	

END OF ONE ASSEMBLY.

00010* SPSLIB---THE SPS II-D MODIFICATION PROGRAM ---PRINTER			
00020 SSTDAD DS ,18908		18908 00000	
00030 MSTDAD DS ,18943		18943 00000	
00040 SSTSCT DS ,35		00035 00000	
00050 AZDAD DS ,18800		18800 00000	
00060 AZSCT DS ,55		00055 00000	
00070 AZDIS DS ,33		00033 00000	
00080 ZEPD DS ,02300		02300 00000	
00090 COLL DS ,02439		02439 00000	
00100 TYINSW DS ,02473		02473 00000	
00110 CDINSW DS ,02474		02474 00000	
00120 PTINSW DS ,02475		02475 00000	
00130 PRTLIM DS ,02502		02502 00000	
00140 MCLIM DS ,02507		02507 00000	
00150 CLERER DS ,02700		02700 00000	
00160 INPUT DS ,02887		02887 00000	
00170 LIMITS DS ,03287		03287 00000	
00180 ADDR5 DS ,03299		03299 00000	
00190 LPOUT DS ,03327		03327 00000	
00200 PHASEA DS ,03408		03408 00000	
00210 PROSTM DS ,03916		03916 00000	
00220 ALFOP DS ,04616		04616 00000	
00230 ALFLP DS ,04716		04716 00000	
00240 ER3 DS ,04848		04848 00000	
00250 ZP DS ,04804		04804 00000	
00260 EVALAD DS ,05404		05404 00000	
0 270 DK DS ,049		04928 00000	
00280 EVALER DS ,07072		07072 00000	
00290 LDLBL DS ,08414		08414 00000	
00300 LDTR DS ,09190		09190 00000	
00310 ER4A DS ,09594		09594 00000	
00320 OUTPUT DS ,09686		09686 00000	
00330 INSTRN DS ,10256		10256 00000	
00340 START2 DS ,10534		10534 00000	
00350 ST2L DS ,10850		10850 00000	
00360 ORG 10900		10900	
00370 LIBST GET PHA1		10900 10 00565 J0923	
		10912 49 00566 J3237	
00380 BTM MODSPS,PROCON		10924 17 12576 J0936	
00390 PROCON BTM RDCK,#+20		10936 17 12788 J0936	
00400 BTM PHASEA		10948 49 03408 00000	
00410 TFM #+30,INPUT-11		10958 16 10986 -2876	
00420 AM #+18,2,10		10968 11 10986 000-2	
00430 CF #=#		10980 33 00000 00000	
00440 CM #-6,INPUT+151		10992 14 10986 -3038	
00450 BL #-36		11004 47 10948 01300	
00460 TFM SBMR+11,INPUT-10,, COMPRESS BLANKS		11016 16 11051 -2877	
00470 SLP AM SBMR+11,2,10		11028 11 11051 000-2	
00480 SBMR BNR #+20,#=#		11040 45 11060 00000	
00490 BT SLPX		11052 49 11160 00000	
00500 C CLERER+1,SBMR+11,11		11060 24 02701 1105J	
00510 BME SLP		11072 47 11028 01200	
00520 TF STR+11,SBMR+11		11084 26 11143 11051	

00530	TF	STR+6,SBNR+11	11096	26	11138	11051
00540	SM	STR+6,1,10	11108	12	11138	000-1
00550	AM	STR+11,1,10	11120	11	11143	000-1
00560	STR	TR *-0,0--0	11132	31	00000	00000
00570	B7	SBNR	11144	49	11040	00000
00580	B7	SBNR	11152	49	11040	00000
00590	SLPX	CM SBNR+11,INPUT-10+2*13	11160	14	11051	-2903
00600	BL	*+36	11172	47	11208	01300
00610	C	INPUT-10+2*12,C1+2*12	11184	24	02901	11433
00620	BE	C1P	11196	46	11544	01200
00630	CM	SBNR+11,INPUT-10+2*13	11208	14	11051	-2903
00640	BL	*+36	11220	47	11256	01300
00650	C	INPUT-10+2*12,C2+2*12	11232	24	02901	11459
00660	BE	C2P	11244	46	11716	01200
00670	CM	SBNR+11,INPUT-10+2*24	11256	14	11051	-2925
00680	BL	*+36	11268	47	11304	01300
00690	C	INPUT-10+2*23,C3+2*23	11280	24	02923	11507
00700	BE	C4P	11292	46	11820	01200
00710	CM	SBNR+11,INPUT-10+2*07	11304	14	11051	-2891
00720	BL	*+36	11316	47	11352	01300
00730	C	INPUT-10+2*06,C4+2*06	11328	24	02889	11521
00740	BE	C3P	11340	46	12248	01200
00750	CM	SBNR+11,INPUT-10+2*11	11352	14	11051	-2899
00760	BL	*+36	11364	47	11400	01300
00770	C	INPUT-10+2*10,C5+2*10	11376	24	02897	11543
00780	BE	C5P	11388	46	12256	01200
00790	B7	PHASEA	11400	49	03408	00000
00800	C1	DAC 13,*DEFINIEOPCODE	11409	00026		
00810	C2	DAC 13,*DELETEOPCODE	11435	00026		
00820	C3	DAC 24,*DEFINESYSTEMSYMBOLTABLE	11461	00048		
00830	C4	DAC 07,*ENDLIB	11509	00014		
00840	C5	DAC 11,*LISTOPCODE	11523	00022		
00850	C1P	GET OPTAB,,,	11544	10	00565	J1567
			11556	49	00566	J3213
00860	BTM	MODSPS,**12	11568	17	12576	J1580
00870	C1P2	BTM RDCK,ENDC1P	11580	17	12788	J2978
00880	BTM	ALFUP,**20	11592	17	04616	J1612
00890	B7	ALRIN	11604	49	13010	00000
00900	TF	OPSAV,ZP+18,11	11612	26	13276	0482K
00910	TF	ZP+18,60S,6	11624	26	0482K	13268
00920	SF	INPUT+11	11636	32	02898	00000
00930	BTM	ALFUP,NOBPAC	11648	17	04616	J3030
00940	BTM	EVALAD,**12,+ 11	11660	17	05M04	1167K
00950	TF	ZEPD+30,ADDRS	11672	26	02330	03299
00960	TF	ZEPD+27,OPSAV	11684	26	02327	13276
00970	TF	ZP+18,ZEPD+30,6	11696	26	0481N	02330
00980	B7	PHASEA	11708	49	03408	00000
00990	C2P	GET OPTAB,,,	11716	10	00565	J1739
			11728	49	00566	J3213
01000	BTM	MODSPS,**12	11740	17	12576	J1752
01010	C2P2	BTM RDCK,ENDC1P	11752	17	12788	J2978
01020	BTM	ALFUP,NOTIN	11764	17	04616	J2958
01030	TF	INPUT+18,60S	11776	26	02905	13268

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01040	TF	ZEPD+27,ZP+18,11	11788	26	02327	0482K
01050	TF	ZP+11,ZEPD+30,6	11800	26	0481N	02330
01060	B7	PHASEA	11812	49	03408	00000
01070	C4P	TFM SSTDCE+5,MSTDAD,,,	11820	16	12237	J8943
01080	BTM	MODSPS,**12	11832	17	12576	J1844
01090	C4P1	TF SSTDCE+13,MCLIM	11844	26	12245	02507
01100	SM	SSTDCE+13,SSTSC*100+11	11856	12	12245	-3511
01110	GET	SST	11868	10	00565	J1891
			11880	49	00566	J2224
			11892	26	11927	12245
01120	TF	C4P02+11,SSTDCE+13	11904	11	11927	000-4
01130	AM	C4P02+11,4,10	11916	22	02502	00000
01140	C4P02	S PRTLIM,-0-	11928	31	03278	02498
01150	TR	LIMITS-9,PRTLIM-4	11940	22	09201	1192P
01160	S	LDR+11,C4P02+11,11	11952	22	09196	1192P
01170	S	LDR+ 6,C4P02+11,11	11964	16	03407	J1976
01180	TFM	PHASEA-1,**12	11976	17	12788	J2076
01190	BTM	RDCK,C4END	11988	11	12218	000-1
01200	AM	ENTCNT,1,10	12000	14	12218	00J50
01210	CM	ENTCNT,150,9	12012	46	12044	01100
01220	BM	C2OECT	12024	17	05M04	12036
01230	BTM	EVALAD,**12,4	12036	49	08414	00000
01240	B7	LDLBI	12044	34	00000	00102
01250	C2OECT	RCTY C2OEM	12056	39	12157	00100
01260	WATY	EXIT	12068	49	00796	00000
01270	CALL	EXIT	12076	26	1192P	02507
01280	C4END	TF C4P02+11,MCLIM,6	12088	22	1192P	02502
01290	S	C4P02+11,PRTLIM,6	12100	12	1192P	00J7
01300	SM	C4P02+11,17,6 10	12112	16	12237	J8908
01310	TFM	SSTDCE+5,SSTDAD	12124	10	00565	J2147
01320	PUT	SST,RBC	12136	49	00520	J2224
			12148	49	10956	00000
01330	B7	PROCON+20	12157	00060		
01340	C2OEM	DAC 30,LIMIT OF 150 SYMBOLS EXCEEDED	12218	00003		
01350	ENTCNT	DC 3,0	12223	00005		
01360	DS	5	12224	00002	22	
01370	SST	UD ,SSTDCE,,,A	12226	00005	J2232	
			12231	00001	2	
01380	SSTDCE	UDA ,0,SSTDAD,SSTSC*,-0-	12232	00006	0J8908	
			12238	00003	-35	
			12241	00005	-0000	
			12246	00001		
01390	DC	1,0	12248	49	00796	00000
01400	C3P	CALL EXIT	12256	10	00565	J2279
01410	C5P	GET OPTAB,,,	12268	49	00566	J3213
			12280	16	04846	J2456
01420	TFM	ZP+36+6,C5P2	12292	26	02905	02707
01430	TF	INPUT+18,CLERER+7	12304	26	03327	02709
01440	TF	LOPDT,CLERER+9	12316	26	12525	02701
01450	TF	XC+9,CLERER+1	12328	16	02899	000R9
01460	TFM	INPUT+12,99,10	12340	17	04616	J2352
01470	BTM	ALFOP,**12	12352	16	02901	000R9
01480	TFM	INPUT+14,99,10	12364	17	04616	J2376
01490	BTM	ALFOP,**12				

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SPSLIB	THE SPS II-D MODIFICATION PROGRAM	PRINTER	PAGE	4
01500	TFM	INPUT+16,99,10	12376	16 02903 000R9
01510	BTM	ALFOP,**12	12388	17 04616 J2400
01520	TFM	INPUT+18,99,10	12400	16 02905 000R9
01530	BTM	ALFOP,**12	12412	17 04616 J2424
01540	TFM	ZP+36*6,ALFLP	12424	16 04846 -4716
01545	TFM	PHASEA-1,PROCON	12436	16 03407 J0936
01550	B7	PHASEA	12448	49 03408 00000
01560	C5P2	TF LOPOUT-2,ZEPO+27	12456	26 03325 02327
01570	U	605-6,LOPOUT-2	12468	24 13262 03325
01580	BE	ALFLP	12480	46 04716 01200
01590	BD	**24,**24**9	12492	43 12516 12525
01600	RCTY		12504	34 00000 00102
01610	XC	AM **9,2,8 10	12516	11 12525 0-0-2
01620	WATY	LOPOUT-8	12528	39 03319 00100
01630	WNTY	ZEPU+28	12540	38 02328 00100
01640	SPTY		12552	34 00000 00101
01650	B7	ALFLP	12564	49 04716 00000
01660	US	5	12575	00005
01670	MODSPS	TF PRUSTM+6,BPHA+6,,	12576	26 03922 12710
01680	TFM	OK+1,42,10,,	12588	16 04929 000M2
01690	TF	ER3+6,BOP+6,,	12600	26 04854 12718
01700	TF	OUTPUT+6,BLDLBLE+6,,	12612	26 09692 12726
01710	TF	ER4A+6,BER4+6	12624	26 09600 12742
01720	TF	EVALER+6,BER5+6,,	12636	26 07078 12734
01730	TF	PHASEA-1,MODSPS-1	12648	26 03407 12575
01740	TF	STZL+6,BSTZ+6	12660	26 10856 12750
01750	TDM	ZEPU+31	12672	15 02331 00000
01760	UC	1,,*	12683	00001
01770	TFM	ALFUP+36+6,NOTIN	12684	16 04658 J2958
01780	B7	STARTZ	12696	49 10534 00000
01790	BPHA	B7 PHASEA-1,,0 6	12704	M9 0340P 00000
01800	BOP	B7 ALFUP-1,,0 6	12712	M9 0461N 00000
01810	BLDLBLE	B7 PHASEA,,0	12720	M9 03408 00000
01820	BER5	B7 ER5DET,,0	12728	M9 13050 00000
01830	BER4	B7 ALRIN,,0	12736	M9 13010 00000
01840	BSTZ	B7 STZC,,0	12744	M9 12752 00000
01850	STZC	BL C15P	12752	47 13170 01300
01860	BE	C14P	12764	46 13126 01200
01870	B7	C13P	12776	49 13082 00000
01880	DS	5	12787	00005
01890	RDCK	BMR **24,INPUT-10	12788	45 12812 02877
01900	TFM	INPUT-10,00,10	12800	16 02877 000-0
01910	BD	**36,TVINSW	12812	43 12848 02473
01920	RCTY		12824	34 00000 00102
01930	WATY	INPUT-10	12836	39 02877 00100
01940	CM	INPUT-10,14,10	12848	14 02877 000J4
01950	BE	RDCK-01,,6	12860	46 1278P 01200
01960	SF	INPUT-1	12872	32 02886 00000
01970	SF	INPUT+11	12884	32 02898 00000
01980	TFM	**30,INPUT+17	12896	16 12926 -2904
01990	AM	**18,2,10	12908	11 12926 000-2
02000	SF	**	12920	32 00000 00000
02010	CM	**6,INPUT+151	12932	14 12926 -3038

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SPSLIB	THE SPS II-D MODIFICATION PROGRAM	PRINTER	PAGE	5
02020	BL	**36	12944	47 12908 01300
02030	BB2		12956	42 00000 00000
02040	NOTIN	WATY NOTINM	12958	39 13353 00100
02050	B7	PHASEA	12970	49 03408 00000
02060	ENDCIP	PUT ,OPTAB,RBC	12978	10 00565 J3001
02070	B7	PROCON+20	12990	49 00520 J3213
02080	ALRIN	WATY ALRINM	13002	49 10956 00000
02090	B7	PHASEA	13010	39 13279 00100
02100	NOSPC	WATY NOSPM	13022	49 03408 00000
02110	B7	PHASEA	13030	39 13315 00100
02120	ER5DET	WATY UNDSYM	13042	49 03408 00000
02130	WATY	COLL-12	13050	39 13383 00100
02140	B7	PHASEA	13062	39 02427 00100
02150	C13P	TDM CDINSW,1,11	13074	49 03408 00000
02160	TDM	PTINSW,0	13082	15 02474 0000J
02170	TDM	TYINSW,0	13094	15 02475 00000
02180	B7	PHASEA	13106	15 02473 00000
02190	C14P	TDM PTINSW,1,11	13118	49 03408 00000
02200	TDM	CDINSW,0	13126	15 02475 0000J
02210	TDM	TYINSW,0	13138	15 02474 00000
02220	B7	PHASEA	13150	15 02473 00000
02230	C15P	TDM TYINSW,1,11	13162	49 03408 00000
02240	TDM	CDINSW,0	13170	15 02473 0000J
02250	TDM	PTINSW,0	13182	15 02474 00000
02260	B7	PHASEA	13194	15 02475 00000
02270	OPTAB	DD ,OPTB,,,A	13206	49 03408 00000
02280	OPTB	DDA ,0,A2DAD+A2DIS,A2SCT-A2DIS,INSTRN+100*A2DIS	13213	00002 22
02290	DC	1,,*	13215	00005 J3222
02300	PHA1	DD ,A1DCF,,,A	13220	06001 #
02310	A1DCF	DDA ,1,18600,86,2300	13222	00006 0J8833
02320	DC	1,,*	13228	00003 -22
02330	60S	DC 8,00606060	13231	00005 J3556
02340	OPSAV	DC 8,0	13236	00001
02350	ALRINM	DAC 18, ALREADY DEFINED	13237	00002 22
02360	NOSPM	DAC 19, NO ROOM IN TABLE	13239	00005 J3746
02370	NOTINM	DAC 15, NOT IN TABLE	13244	00001 #
02380	UNDSYM	DAC 20, UNDEFINED SYMBOL #	13246	00006 1J8600
02390	DEND	LIST	13252	00003 -86
13422	CORE POSITIONS REQUIRED		13255	00005 -2300
00240	STATEMENTS PROCESSED		13260	00001
			13268	00008
			13276	00008
			13279	00036
			13315	00038
			13333	00030
			13383	00040
			10900	

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00010	USA	DIV1-36			00004	00005	-0100
00020	DORG	*-4			00000		
00030	PCK	US	,2365		02365	00000	
00040	DS	100	,,		00099	00100	
							BUFFER REQD FOR CORE IMAGE OBJ PGM
00050	BV	**12	,		00100	M6	00112 01400
00060	TF	DIV1+11	,PCK+10		00112	K6	00147 02375
00070	AM	DIV1+11	,04		00124	J1	00147 -0004
00080	DIV1	TF	POST+11	,0,	00136	K6	00315 00000
00090	TFM	INDAD+42	,**20		00148	J0	01062 -0168
00100	B7	INUAD			00160	M9	01020 00000
00110	TF	SUB+11	,INDAD+59	,01			,LOAD B ADDR
					00168	K0	00711 01079
00120	TFM	INDAD+42	,**20		00180	J0	01062 -0200
00130	B7	INDAD			00192	M9	01020 00000
00140	TF	POST+6	,INDAD+59	,01			,LOAD SHIFT
					00200	K0	00310 01079
00150	TFM	INDAD+42	,**20		00212	J0	01062 -0232
00160	B7	INUAD			00224	M9	01020 00000
00170	TF	SUB+6	,INDAD+59	,01	00232	K0	00706 01079
00180	AM	DIV1+11,02,010			00244	J1	00147 000-2
00190	TF	94	,ZEROS		00256	Z0	00099 01132
00200	TF	66	,ZEROS		00268	Z0	00066 01132
00210	TF	37	,ZEROS		00280	Z0	00037 01132
00220	TDM	4,0			00292	L5	00004 00000
00230	POST	TF			00304	Z6	00000 00000
00240	TDM	POST+22	,1	,09	00316	J5	00326 00-01
00250	TF	POST+47	,POST+11	,01	00328	K0	00351 00315
00260	BNF	**48,,0			00340	M6	00388 00000
00270	TDM	POST+22	,	,011	00352	J5	00326 0000-
00280	TF	**18	,POST+6	,01	00364	K0	00382 00310
00290	CF				00376	Z3	00000 00000
00300	TDM	SUB+1,2,0			00388	J5	00701 00002
00310	TDM	PQ-11,1,0			00400	J5	00801 00001
00320	TF	**23,SUB+11,01			00412	K0	00435 00711
00330	BNF	**48,,0			00424	M6	00472 00000
00340	SM	POST+22	,1	,010	00436	J2	00326 000-1
00350	TDM	SUB+1,1,0			00448	J5	00701 00001
00360	TDM	PQ-11,2,0			00460	J5	00801 00002
00370	TF	**35	,POST+6	,01	00472	K0	00507 00310
00380	SM	**23,1,010			00484	J2	00507 000-1
00390	BNF	*-12,,0			00496	M6	00484 00000
00400	TF	**35,SUB+11,01			00508	K0	00543 00711
00410	SM	**23,1,010			00520	J2	00543 000-1
00420	BFLG	BNF	*-12,,0		00532	M6	00520 00000
00430	A	*-1,SUB+6,01			00544	KJ	00543 00706
00440	S	BFLG+11,SUB+11,01			00556	KK	00543 00711
00450	C	BFLG+11,BFLG-25,01			00568	KM	00543 00507
00460	BNL	**36			00580	M6	00616 01300
00470	CF	BFLG-37	,	,6	00592	L3	0049N 00000
00480	SF	BFLG+11	,	,6	00604	L2	0054L 00000
00490	TFM	SUB+42,NZQ,017			00616	J0	00742 -0756
00500	TF	PQ+6,BFLG+11,01			00628	K0	00818 00543

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00510	SM	PQ+6,1,010			00640	J2	00818 000-1
00520	TF	EMD+6,PQ+6,01			00652	K0	00910 00818
00530	TF	PQ-1,SUB+11,01			00664	K0	00811 00711
00540	TDM	SET+11,,0			00676	J5	01011 00000
00550	TFM	**9,,010			00688	J6	00697 000-0
00560	SUB	S			00700	Z2	00000 00000
00570	BN	PQ-24,,0			00712	M7	00788 01300
00580	AM	SUB-3,11,010			00724	J1	00647 000J1
00590	BD	,SUB-3,1			00736	4L	00000 00697
00600	B7	SET	,,0		00748	M9	01000 00000
00610	NZQ	TDM	SET+11,1,0		00756	J5	01011 00001
00620	TFM	SUB+42,SUB,017			00768	J0	00742 -0700
00630	B7	SUB,,0			00780	M9	00700 00000
00640	TF	**18,SUB+6,01			00788	K0	00806 00706
00650	A				00800	Z1	00000 00000
00660	PQ	TD	,SUB-3,1		00812	2M	00000 00697
00670	BNZ	**24			00824	M7	00848 01200
00680	CF	SUB+6	,	,6	00836	L3	00700 00000
00690	AM	SUB+6,1,010			00848	J1	00706 000-1
00700	BD	EMD,SUB+4,01			00860	ML	00904 00704
00710	AM	PQ+6,1,010			00872	J1	00818 000-1
00720	SF	PQ+6	,	,6	00884	L2	0081Q 00000
00730	B7	SUB-12,,0			00896	M9	00688 00000
00740	EMD	SF			00904	Z2	00000 00000
00750	BD	**36	,POST+22		00916	ML	00952 00326
00760	SF	PQ+6	,	,6	00928	L2	0081Q 00000
00770	SF	SET+11,,0			00940	L2	01011 00000
00780	AM	PQ+6,1,010			00952	J1	00818 000-1
00790	SF	PQ+6	,	,6	00964	L2	0081Q 00000
00800	BNF	**24	,POST+22	,01	00976	MM	01000 00326
00810	SF	99			00988	Z2	00099 00000
00820	SET	AM	**11,,010		01000	J1	01011 000-0
00830	B7	DIV1+11	,	,6	01012	M9	0014P 00000
00840	INDAD	AM	DIV1+11	,05	,010		,IND ADDR ROUTINE
					01020	J1	00147 000-5
00850	TF	**23	,DIV1+11	,01	01032	K0	01055 00147
00860	TF	INDAD+59	,	,0	01044	K6	01079 00000
00870	BNF	0	,INDAD+59	,1	01056	4M	00000 01079
00880	CF	INDAD+59	,0	,0	01068	L3	01079 00000
00890	TF	INUAD+59,INDAD+59	,0111		01080	K0	01079 01079
00900	B7	INUAD+36	,	,0	01092	M9	01056 00000
00910	ZEROS	DC	34	,0	01132	00034	
00920	DEND	00011			00011		

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00010***** FOR OPERANDS A AND B ONLY
00020***** PCK AREA MAY BE USED AS A WORK AREA IF SUBR NOT USED. IF
00030***** SUBROUTINES REQUIRED, THEN THE AREA IS USED AS FOLLOWS
00040***** PZ401 NOISE DIGIT. SOURCE, SUBROUTINE SUPERVISOR
00050***** PCK ADR OF PICK. SOURCE, SUBROUTINE SUPERVISOR
00060***** PCK+5 ADR OF RETURN TO SUBR. SOURCE, SUBROUTINE
00070***** PCK+10 ADR OF RETURN TO MAINLINE. SOURCE, PRIMARY LINKAGE
00080***** PCK+15 ADR OF A OPERAND CHARACTERISTIC. SOURCE, PICK
00090***** PCK+20 ADR OF B OPERAND CHARACTERISTIC. SOURCE, PICK
00100***** PCK+25 ADR OF A OPERAND MANTISSA. SOURCE, PICK
00110***** PCK+30 ADR OF B OPERAND MANTISSA. SOURCE, PICK
00120***** PCK+31 RESERVED FOR POSSIBLE RECORD MARK
00130* PCK+35 4 RESERVED CORE
00140***** PCK-6 THRU PCK-90 SUBVEC FOR THE 17 FURNISHED SUBROUTINES
00150* ADRS ARE SUPPLIED BY THE SUBROUTINE SUPERVISOR
00160***** PCK-91 DOWN TO END OF JORT MAY BE USED IF NO ADDED SUBROUTS
00170 P US ,0 00000 00000
00180 PLK DS 5 ,8 ,2365 02365 00040
00190 OSA PICK DS 4 PICK 00004 00005 -0100
00200 EDGAR US ,*-4 00000 00000
00210 DORG EDGAR DS 1 00000
00220 DS 40 ,WASTE 00045 00046
00230 ALPHA DS 21 00066 00021
00240 SAVE DS 11 00077 00011
00250 BETA DS 21 00098 00021
00260 DS 1 00099 00001
00270 PICK TO 401 ,BETA+1-P ,1, RESET ERROR INDICATOR
00100 2M 00401 00099
00280 TR PCK+11 ,PCK+10 ,11, MOVE OPERANDS FROM MAINLINE
00112 31 02376 0237N
00290 AM PCK+10 ,11 ,, CALC RETURN ADR 00124 11 02375 -0011
00300 BNF **44 ,PCK+15 ,, PROCESS A OPERAND
00136 M4 00180 02380
00310 CF PCK+15 ,, ,, 00148 33 02380 00000
00320 TF PCK+15 ,PCK+15 ,11 00160 26 02380 0238-
00330 B7 *-36 , ,0 00172 M9 00136 00000
00340 TF PCK+25 ,PCK+15 ,, A MINUS 2 00180 26 02390 02380
00350 SM PCK+25 ,2 00192 12 02390 -0002
00360 BNF **44 ,PCK+20 ,, PROCESS B OPERAND
00204 M4 00248 02385
00370 CF PCK+20 ,, ,, 00216 33 02385 00000
00380 TF PCK+20 ,PCK+20 ,11 00228 26 02385 0238N
00390 B7 *-36 , ,0 00240 M9 00204 00000
00400 TF PCK+30 ,PCK+20 ,, B MINUS 2 00248 26 02395 02385
00410 SM PCK+30 ,2 ,5, DELIBERATE OVERFLOW
00260 12 023R5 00002
00420 TF BETA ,PCK+20 ,11, MOVE B CHAR TO BETA
00272 K6 00098 0238N
00430 TF BETA-2 ,PCK+30 ,11, MOVE B MANT TO BETA-2
00284 K6 00096 0239N
00440 BV PCK+5 , ,6, RETURN TO SUBROUTINE
00296 46 0237- 01400
00450 SIGN BNF **24 ,99 ,0 00308 M4 00332 00099
    
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00460 SF ALPHA-2 , ,0 00320 L2 00064 00000
00470 AM ALPHA-2 ,00 ,010, SET HP EZ INDICATORS
00332 J1 00064 000-0
00480 STORE TF PCK+25 ,ALPHA-2 ,16 00344 20 0239- 00064
00490 CF PCK+15 ,ALPHA ,16 00356 20 0238- 00066
00500 B PCK+10 ,6 00368 49 0237N 00000
00510 UNFL TDM 401 ,1 ,11 00380 15 00401 0000J
00520 TF ALPHA-2 ,NINES-2 ,01 00392 K0 00064 00497
00530 TF ALPHA ,NINES ,01 00404 K0 00066 00499
00540 B7 ZRES+30 , ,06 00416 M9 00470 00000
00550 UNFL TDM 401 ,1 00424 15 00401 00001
00560 CF 49 00436 33 00099 00000
00570 ZRES TF ALPHA-2 ,AZERO-2 ,01 00448 K0 00064 00486
00580 TF ALPHA ,AZERO ,01 00460 K0 00066 00488
00590 B7 STORE , ,0 00472 M9 00344 00000
00600* PICK ROUTINE-SHARED CONSTANTS AND WORKING STORAGE
00610 NUSDIG DS 1 ,2401 02401 00001
00620 DC 8 ,0000 0000 00486 00008
00630 AZERO DC 2 ,*-99 00488 00002
00640 DC 1 ,@ 00489 00001
00650 DC 8 ,9999 9999 00497 00008
00660 NINES DC 2 ,99 00499 00002
00670 DC 1 ,@ 00500 00001
00680 ONEZ DC 13,1000000000000 00513 00013
00690 LODG DC 10 ,43 4294 4819 00523 00010
00700 LCN1 DC 10 ,7 6923 0769 00533 00010
00710 LCN2 DC 10 ,9 0909 0909 00543 00010
00720 LCN3 DC 10 ,11 1111 1111 00553 00010
00730 LCN4 DC 10 ,14 2857 1428 00563 00010
00740 LCN5 DC 10 ,20 0000 0000 00573 00010
00750 LCN6 DC 10 ,33 3333 3333 00583 00010
00760 LZERO DC 11 ,0 00594 00011
00770 FAC DS ,ALPHA 00066 00000
00780 DC 8,10000000 00602 00008
00790 FLONE DC 2,01 00604 00002
00800 DC 1,@ 00605 00001
00810 DEND 01001 01001
    
```

00010	USA	DIVM1				00004	00005	-0000
00020	DORG	EDGAR				00000		
00030	DIVM1	TR	PCK+11	,PCK+10	,11,	MOVES DIV OPERANDS INTO PCK AREA		
						00000	31	02376 0237N
00040	AM	PCK+10	,21			00012	11	02375 -0021
00050	LD	PCK+25	,PCK+15	,+611		00024	28	0239- 0238-
00060	U	PCK+30	,PCK+20	,+611		00036	29	0239N 0238N
00070	B7	PCK+10	,	,+6		00048	49	0237N 00000
00080	DEMI	01011				01011		

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00010	USA	FS1	,FA1			00004	00005	-0000
						00009	00005	-0020
00020	DORG	EDGAR				00000		
00030	FS1	TFM	PCK+5	,FA1+20	,17	00000	10	02370 -0040
00040		B7	PCK,+6			00012	49	0236N 00000
00050	FA1	TFM	PCK+5	,ASCUM	,17	00020	10	02370 -0084
00060		B7	PCK	,	,+6	00032	49	0236N 00000
00070	DC	50,055000	50505000055500	00555050555005050050	5050505005,350	00350	00050	
00080	BNF	ASCUM-12	,BETA-2	,0,		CHANGE SIGN AND ADD		
						00040	MM	00072 00096
00090	CF	BETA-2				00052	L3	00096 00000
00100	B7	ASCUM				00064	M9	00084 00000
00110	SF	BETA-2				00072	L2	00096 00000
00120	ASCOM	TF	ALPHA	,PCK+15	,11,	MOVE A OPERAND		
						00084	K6	00066 0238-
00130		TF	ALPHA-2	,PCK+25	,11	00096	K6	00064 0239-
00140	TDM	ADD+1	,1	,0		00108	J5	00313 00001
00150	TFM	ADD+11	,BETA-2	,07		00120	JO	00323 -0096
00160	C	ALPHA	,BETA			00132	KM	00066 00098
00170	BE	ADD	,	,0,		CHARACTERISTICS EQUAL		
						00144	M6	00312 01200
00180	BH	**+48	,	,,		ALPHA LARGER THAN BETA		
						00156	M6	00204 01100
00190	TR	ALPHA-9,BETA-9,	,,SWITCH OPERANDS			00168	LJ	00057 00089
00200	TF	BETA,PCK+15,11				00180	K6	00098 0238-
00210	TF	BETA-2,PCK+25,11				00192	K6	00096 0239-
00220	S	BETA	,ALPHA	,,		SCALE		
						00204	KK	00098 00066
00230	BV	STORE-12				00216	M6	00332 01400
00240	A	ADD+11	,BETA	,0		00228	KJ	00323 00098
00250	BNF	**+24	,BETA-2	,0		00240	MM	00264 00096
00260	TDM	ADD+1	,2	,0		00252	J5	00313 00002
00270	CM	BETA	,7	,1011,CHECK DIFF IN CHARACTERISTICS		00264	J4	00098 000-P
						00276	M7	00332 01300
00280	BL	STORE-12				00288	J5	00088 0000-
00290	TDM	BETA-10	,0	,11		00300	L3	00089 00000
00300	CF	BETA-9				00312	K1	00064 00000
00310	ADD	A	ALPHA-2			00324	2N	00099 00064
00320	TD	99	,ALPHA-2	,,		STORE SIGN		
00330	DC	40	,5500505055	5050505050	5505555050	0050505550	,340	
						00340	00040	
00340	TFM	ZRES+30	,SIGN			00336	JO	00478 -0308
00350	BNV	NORM				00348	M7	00428 01400
00360	AM	ALPHA	,1	,10		00360	J1	00066 000-1
00370	BV	OVFL	,	,,		BR IF CHAR OVERFLOW		
						00372	M6	00380 01400
00380	TF	ALPHA-2	,ALPHA-3	,,		ADJUST MANTISSA		
						00384	K0	00064 00063
00390	TDM	ALPHA-9	,1	,11		00396	J5	00057 0000J
00400	CF	ALPHA-8				00408	L3	00058 00000
00410	B7	SIGN				00420	M9	00308 00000
00420	NORM	BZ	ZRES-12	,	,,	BR IF ZERO		
						00428	M6	00436 01200
00430	CF	ALPHA-2	,	,,		NORMALIZE		
						00440	L3	00064 00000
00440	TF	BETA	,ALPHA			00452	K0	00098 00066
00450	BD	**+68	,ALPHA-9	,0		00464	ML	00532 00057

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00460	TR	ALPHA-9	,,PHA-8	00476	LJ	00057	00058
00470	TD	ALPHA-2	,NOS DIG	00488	K5	00064	02401
00480	SM	BETA	,1	00500	J2	00098	000-1
00490	BNV	*-48	,	00512	M7	00484	01400
00500	B7	UNFL	,	00524	M9	00424	00000
00510	SF	ALPHA-9	,	00532	L2	00057	00000
00520	TF	ALPHA	,BETA	00544	K0	00066	00098
00530	B7	SIGN	,	00556	M9	00308	00000
00540	DEND	01022		01022			

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00010	DSA	FM1		00004	00005	-0000
00020	DRRG	FDGAR		00000		
00030	FM1	TFM	PCK+5 ,**20 ,17	00000	10	02370 -0020
00040	B7	PCK	, ,6, BR TO PICK AND RETURN	00012	49	0236N 00000
00050	DC	30,5505500050	000005000 0500050000,350	00350	00030	
00060	TFM	ZRES+30	,SIGN	00020	J0	00478 -0308
00070	M	PCK+25	,BETA-2 ,6, MUL MANTISSAS	00032	2L	0239- 00096
00080	BZ	ZRES-12		00044	M6	00436 01200
00090	BD	**56	,84 ,0	00056	M3	00112 00084
00100	TFM	SAVE	,01 ,1011,CORRECTION FOR 15 DIGIT PRODUCT	00068	J6	00077 000-J
00110	SF	B5		00080	32	00085 00000
00120	TF	PCK+25	,92 ,6	00092	26	0239- 00092
00130	B7	**32	, ,0	00104	M9	00136 00000
00140	TFM	SAVE	,00 ,10, INDICATE 16 DIGIT PRODUCT	00112	J6	00077 000-0
00150	TF	PCK+25	,91 ,6	00124	26	0239- 00091
00160	A	PCK+15	,BETA ,6, ADD CHARACTERISTICS	00136	2J	0238- 00098
00170	BV	**72	, ,6, ADJUST CHARACTERISTIC	00148	M6	00220 01400
00180	A	PCK+15	,SAVE ,6, ADJUST CHARACTERISTIC	00160	2J	0238- 00077
00190	BNF	**24,99		00172	M4	00196 00099
00200	SF	PCK+25,,6		00184	32	0239- 00000
00210	AM	PCK+25,00,610		00196	11	0239- 000-0
00220	BNV	PCK+10,,6		00208	47	0237N 01400
00230	BNF	**20	,PCK+15 ,011, BR IF POSITIVE CHARACTERISTIC	00220	M4	00240 0238-
00240	DC	6,500550,350		00350	00006	
00250	B7	UNFL		00232	M9	00424 00000
00260	A	PCK+15	,SAVE ,6, ADJUST CHARACTERISTIC	00240	2J	0238- 00077
00270	BNN	OVFL		00252	M6	00380 01300
00280	TFM	PCK+15,99,610		00264	16	0238- 000R9
00290	B7	PCK+10,,6		00276	49	0237N 00000
00300	DEND	01041		01041		

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00010 DSA F01 00004 00005 -0000
00020 UORG EDGAR 00000
00030 F01 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040 B7 PCK , ,6, BR TO PICK AND RETURN 00012 49 0236N 00000
00050 UC 34 ,5050050005 5050505505 0500005000 5050,350
00060 TF ALPHA,PCK+15,11 00350 00034
00070 TF ALPHA-2 ,PCK+25 ,11 00020 K6 00066 0238-
00080 B0 MANT ,BETA-9 ,0, CK FOR ZERO DIVISOR 00032 K6 00064 0239-
00090 TOM 401 ,0 ,11, SET ERROR CODE 00044 M1 00112 00089
00100 B0 MANT-24 ,ALPHA-9 ,0, CK FOR ZERO DIVIDEND 00056 15 00401 0000-
00110 B7 STORE 00068 M1 00088 00057
00120 AM ALPHA ,99 , , SIMULATE HARDWARE ZERO DIVIDE 00080 M9 00344 00000
00130 BV STORE 00088 J1 00066 -0099
00140 MANT TFM ZRES+30 ,SIGN 00100 M6 00344 01400
00150 L0 91 ,ALPHA-2 , , DIVIDE MANTISSAS 00112 J0 00478 -0308
00160 D 91 ,BETA-2 , , 00124 Z0 00091 00064
00170 TD 99,91, ,SAVE SIGN 00136 ZR 00091 00096
00180 B0 CHAR-24 ,83 ,0 00148 Z5 00099 00091
00190 B2 ZRES-12 00160 M3 00228 00083
00200 SF 84 , , MANT OF A SMALLER THAN MANT OF B 00172 M6 00436 01200
00210 TF ALPHA-2 ,91 00184 Z2 00084 00000
00220 TFM SAVE ,00 ,10 00196 K6 00064 00091
00230 B7 CHAR 00208 J6 00077 000-0
00240 UC 22 ,5050550055 5050555550 50,350 00220 M9 00252 00000
00250 TF ALPHA-2 ,90 00350 00022
00260 TFM SAVE ,01 ,10 00228 K6 00064 00090
00270 CHAM S ALPHA,BETA 00240 J6 00077 000-1
00280 BV **44 , ,0, BR IF DIFF GREATER THAN 99 00252 KK 00066 00098
00290 A ALPHA,SAVE 00264 M6 00308 01400
00300 BNV SIGN , , BR IF STILL LESS THAN 100 00276 KJ 00066 00077
00310 B7 OVFL 00288 M7 00308 01400
00320 BNF OVFL,ALPHA,,OVFL IF EXP POSITIVE OR UNFLAGGED ZERO 00300 M9 00380 00000
00330 A ALPHA,SAVE 00308 MM 00380 00066
00340 HM ZRES+12 , , BR IF MANT OF RESULT IS -99 00320 KJ 00066 00077
00350 B7 UNFL 00332 M6 00460 01100
00360 UEND 01051 00344 M9 00424 00000
01051
    
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00010 DSA FSQR1 00004 00005 -0000
00020 UORG EDGAR 00000
00030 FSQR1 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040 B7 PCK , ,6, BR TO PICK AND RETURN 00012 49 0236N 00000
00050 UC 46 ,0555505005 5000000000 0000000500 0500550000 000005, 348
00060 B0 **32 ,BETA-9 ,0, BR NON ZERO ARG 00346 00046
00070 TFM ZRES+30 ,STORE , , 00020 M1 00052 00089
00080 B7 ZRES , , BR ZERO ARG 00032 J0 00478 -0344
00090 MM BETA ,50 ,10 00044 M9 00448 00000
00100 BNF **36 ,BETA-2 ,0, BR IF POSITIVE ARG 00052 J3 00098 00000
00110 CF BETA-2 00064 MM 00100 00096
00120 TOM 401 ,0 00076 L3 00096 00000
00130 B0 SQ3 ,98 ,0, BR IF CHAR ODD 00088 15 00401 00000
00140 TFM SQ2+42 ,89 ,010 00100 M3 00436 00098
00150 BNF **24 ,99 ,0, BR IF CHAR POSITIVE 00112 J6 00178 00099
00160 SQ2 SF 97 , , SET SIGN OF CHAR 00124 M4 00148 00099
00170 TF PCK+15 ,97 ,6, STORE RESULTANT CHARACTERISTIC 00136 Z2 00097 00000
00180 LDM 79 ,00 ,10, CLEAR WORKING AREA 00148 Z6 0238- 00097
00190 TF ,BETA-2 , , MOVE MANTISSA INTO 89 OR 90 00160 18 00079 000-0
00200 TFM LSQ+18 ,81 ,010, MANTISSA ADR 00172 Z0 00000 00096
00210 TFM LSQ+23 ,BETA-10 ,07, RESULT ADR 00184 J6 00258 00001
00220 TFM LSQM-6 ,81 ,010 00032 J0 00263 -0088
00230 TF BETA-2 ,ONEZ-4 , , SET RESULT EQUAL 1000 00000 00208 J6 00342 00001
00240 B7 LSQM 00220 K0 00096 00509
00250 LSQ AM LSQ+23 ,2 , ,0610,RESULT + 2 00232 M9 00348 00000
00260 S , , MANTISSA MINUS RESULT 00240 J1 0026L 000-2
00270 BNN LSQ , ,0, 00252 Z2 00000 00000
00280 CM LSQ+23 ,BETA-02 ,07 00264 M6 00240 01300
00290 BNL SQEX , ,0, EXIT IF TERMINAL RESULT ADR REACHED 00276 JM 00263 -0096
00300 A LSQ+18 ,LSQ+23 ,01611, RESTORE LAST SUBTRACTION 00288 M6 00392 01300
00310 CF LSQ+18 , ,06, 00300 KJ 00250 0026L
00320 AM LSQM-6 ,01 ,010, MOVE FLAG RIGHT ONE. 00312 L3 00250 00000
00330 SF 00324 J1 00342 000-1
00340 LSQM AM LSQ+18 ,02 ,010, MANTISSA ADR + 2 00336 Z2 00000 00000
00350 AM LSQ+23 ,01 ,010, RESULT ADR + 1 00348 J1 00258 000-2
00360 SM LSQ+23 ,09 ,0610,RESULT + 9 00360 J1 00263 000-1
00370 B7 LSQ+12 00372 J2 0026L 000-9
00380 DC 14 ,5000000000 5050 ,314 00384 M9 00252 00000
00390 SQEX MM BETA-2 ,90 ,10, EXIT 00314 00014
00400 SF 90 00392 J3 00096 00000
00404 32 00090 00000
    
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00410	TF	PCK+25	,97	,6,	STORE MANTISSA RESULT		
00420	B7	PCK+10	,	,6,	RETURN TO MAINLINE PROGRAM	00416 26 0239-	00097
00430	SQ3	AM	99	,50	,10,	CALC RESULT WHEN GIVEN CHAR ODD	00428 49 0237M 00000
00440	TDM	BETA-10	,0	,11,	LENGTHEN MANTISSA	00436 11 00099	000N0
00450	CF	BETA-4				00448 J5 00088	0000-
00460	TFM	SQ2+42	,9,	,010		00460 L3 00089	00000
00470	B7	SQ2-12	,	,0,		00472 J6 00178	000R0
00480	DEND	01061				00484 M9 00124	00000
						01061	

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00010*	TRANSFORMATION OF HASTINGS APPROX FOR SINPIX/2						
00020	DSA	FCOS1	,FSIN1			00004 00005 -0000	
						00009 00005 -0032	
00030	DORG	EDGAR				00000	
00040	FCOS1	IDM	BNP+1,9,0			00000 J5 00321	00009
00050		IDM	FSIN1+68 ,3	,0		00012 J5 00100	00003
00060		B7	FSIN1+24,,0			00024 M9 00056	00000
00070	FSIN1	IDM	BNP+1,1,0			00032 J5 00321	00001
00080		IDM	FSIN1+68 ,4	,0		00044 J5 00100	00004
00090	TFM	PCK+5	,**20	,17		00056 10 02370	-0076
00100	B7	PCK	,	,6		00068 49 0236N	00000
00110	DC	46	,5000555550	5550000050	5000000500	5005500500	500000,350
						00150 00046	
00120	CM	BETA,04,1011				00076 J4 00098	000-M
00130	BH	**44,,0				00088 M6 00132	01100
00140	TR	BETA-9,FLONE-9				00100 LJ 00089	00595
00150	TR	ALPHA-9,BETA-9				00112 LJ 00057	00089
00160	B7	STORE				00124 M9 00344	00000
00170	TFM	ZRES+30,STORE				00132 J0 00478	-0344
00180	CM	BETA,08,10				00144 J4 00098	000-8
00190	BNH	**32,,0				00156 M7 00188	01100
00200	TDM	401,0,11				00168 15 00401	0000-
00210	B7	ZRES				00180 M9 00448	00000
00220	CM	BETA,02,10				00188 J4 00098	000-2
00230	BNH	**24,,0				00200 M7 00224	01100
00240	TDM	401,0				00212 15 00401	00000
00250	M	RTWOPI,BETA-2,0,	REDUCE			00224 KL 00771	00096
00260	CF	83				00236 33 00083	00000
00270	AM	BETA,91,10				00248 J1 00098	000R1
00280	TF	BNP-1,BETA,0				00260 K0 00319	00098
00290	SM	BETA,8,10				00272 J2 00098	000-8
00300	TF	**18,BETA,0				00284 K0 00302	00098
00310	SF	**9				00296 32 00000	00000
00320	TF	ALPHA-1				00308 K6 00065	00000
00330	BNP	B	**36,,0			00320 M9 00356	00000
00340	BNF	RTWOPI-27,99,0				00332 M4 00744	00099
00350	DC	36	,5050505050	0055500055	5050005500	000050	,336
						00336 00036	
00360	A	ALPHA-1,CONA,1				00344 KJ 00065	00780
00370	SF	ALPHA-1				00356 L2 00065	00000
00380	A	ALPHA-1,CONB,1				00368 KJ 00065	00789
00390	CF	ALPHA-1				00380 L3 00065	00000
00400	S	ALPHA-1,CONA,1				00392 KK 00065	00780
00410	BV	**12,,0				00404 M6 00416	01400
00420	C	ALPHA-2,AZERO-2				00416 KM 00064	00486
00430	BE	ZRES+12				00428 M6 00460	01200
00440	TFM	**9,4,010				00440 J6 00449	000-4
00450	M	ALPHA-1,ALPHA-1				00452 KL 00065	00065
00460	TF	SAVE,90				00464 K6 00077	00090
00470	TF	ALPHA-10,CONC,1				00476 K0 00056	00799
00480	TFM	**59,CONC+10,017				00488 J0 00547	-0809
00490	M	SAVE,ALPHA-10				00500 KL 00077	00056
00500	BNF	**24,99,0				00512 M4 00536	00099

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00510	SF	YU			00524	32	00090	00000
00520	M	YU			00536	21	00090	00000
00530	TF	ALPHA-10,90			00548	K6	00056	00090
00540	AM	*-13,10,010			00560	J1	00547	000J0
00550	SM	*-173,1,010			00572	J2	00449	000-1
00560	HNZ	*-H4,,0			00584	M7	00500	01200
00570	UC	ZR ,5055055050 0555505000 50555050 ,328			00328	00028		
00580	SF	ALPHA-18			00596	L2	00048	00000
00590	M	ALPHA-1,ALPHA-10			00608	KL	00065	00056
00600	TD	92,ALPHA+1,,	NORM		00620	2N	00092	00067
00610	TR	ALPHA-9,82			00632	L1	00057	00082
00620	TFM	BETA-10,01,10			00644	J6	00088	000-1
00630	BD	*+56,ALPHA-9,0			00656	ML	00712	00057
00640	TR	ALPHA-9,ALPHA-8			00668	LJ	00057	00058
00650	SM	BETA-10,1,10			00680	J2	00088	000-1
00660	TD	ALPHA ,NDS DIG			00692	K5	00066	02401
00670	B7	*-48,,0			00704	M9	00656	00000
00680	SF	ALPHA-9			00712	L2	00057	00000
00690	TF	ALPHA,BETA-10			00724	K0	00066	00088
00700	B7	SIGN			00736	M9	00308	00000
00710	SF	ALPHA-1			00744	L2	00065	00000
00720	B7	BNP+24,,0			00756	M9	00344	00000
00730	MTWOP1	UC 9,159154943			00771	00009		
00740	CONA	DC 9,2500000000			00780	00009		
00750	CONB	UC 9,5000000000			00789	00009		
00760	CONC	UC 10,3971067150			00799	00010		
00770		DC 10,-7657497509			00809	00010		
00780		DC 10,8160223158			00819	00010		
00790		DC 10,-4134167750			00829	00010		
00800		DC 10,0628318527			00839	00010		
00810	UEND	01072			01072			

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00010	USA	FATN1			00004	00005	-0000	
00020		DDRG	EDGAR		00000			
00030	FATN1	TFM	PCK+5	,*+20 ,1	00000	10	02370	00020
00040	B7	PCK		, ,6, BR TO PICK AND RETURN	00012	49	0236N	00000
00050	DC	50,055550505550000550500000050505050505050			00005	00050	050,350	
00060	BD	*+32	,BETA-9	,0, CK FOR ZERO MANTISSA	00350	00050		
00070	TR	FAC-9	,A ZERO-9		00020	ML	00052	00089
00080	RETURN	B7	STORE		00032	LJ	00057	00479
00090	CM	BETA	,-3	,10, IS NUMBER TOO SMALL	00044	M9	00344	00000
00100	TR	FAC-9	,BETA-9		00052	J4	00098	000-L
00110	BL	STORE		, , YES	00064	LJ	00057	00089
00120	TFM	TEST+11		, ,07, ND	00076	M7	00344	01300
00130	TD	TEST+9	,2	,0, STORE SIGN OF MANTISSA	00088	J6	00123	-0000
00140	TEST	CF	Z		00100	KN	00121	00096
00150	CM	BETA	,0	,10, IS CHAR POSITIVE	00112	L3	00096	00000
00160	BM	C PLUS		,0, YES	00124	J4	00098	000-0
00170	BE	ZERO C		,0, EQUAL ZERO YES	00136	M6	00752	01100
00180	TFM	TEST 3+11,Z		,07, NO CHAR IS NEGATIVE	00148	M6	00244	01200
00190	A	TEST 3+11,BETA		,0, ,	00160	JO	00219	-0096
00200	TFM	BETA-10	,0	,10	00172	KJ	00219	00098
00210	CF	Z-7			00184	J6	00088	000-0
00220	TEST3	TF	Z		00196	L3	00089	00000
00230	TUM	Z-7	,-10		00208	K6	00096	00000
00240	CF	Z-6			00220	J5	00089	0001-
00250	ZEROC	CM	Z-6	,29 ,10,	00232	L3	00090	00000
00260	BL	ARET+36		,0	00244	J4	00090	000K9
00270	MM	Z	,6	,10, LARGER THAN POINT 29	00256	M7	00376	01300
00280	TDM	90	,-1		00268	J3	00096	000-6
00290	S	Z	,SIX	,1,	00280	15	00090	0000J
00300	TF	SAVE	,98		00292	KK	00096	01008
00310	DC	50,0505005000555005005550505000000555055000000000,350			00304	K6	00077	00098
00320	LD	91	,2	,, HARDWARE DIVIDE	00316	2Q	00091	00096
00330	D	92	,SAVE		00328	2R	00092	00077
00340	ARET	TD	TEST 2-13,99	,0,				

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00350	TF	Z	,90	,,	EIGHT DIGITS	00340	K5	00579	00099	
00360	SF	TEST+11	,	,0,		00352	K6	00096	00090	
00370	M	Z	,Z			00364	L2	00123	00000	
00380	TF	SAVE	,91	,,	EIGHT DIGITS	00376	KL	00096	00096	
00390	TFM	LOOPA+11	,LCN3-1	,0 7,	NINE DIGITS	00388	K6	00077	00091	
00400	TFM	**9	,4	,010,		00400	JO	00447	-0552	
00410	M	LCN2-1	,SAVE			00412	J6	00421	000-4	
00420	LOOPA	TF	FAC			00424	KL	00542	00077	
00430	S	FAC	,91			00436	K6	00066	00000	
00440	M	FAC	,SAVE	,,	SEVENTEEN DIGIT PRODUCT	00448	K2	00066	00091	
00450	AM	LOOPA+11	,10	,010		00460	KL	00066	00077	
00460	SM	LOOPA-15	,1	,010,		00472	J1	00447	000JO	
00470	BNZ	LOOP A	,	,0,		00484	J2	00421	000-1	
00480	TF	FAC	,ONE 2-3			00496	M7	00436	01200	
00490	S	FAC	,91			00508	KO	00066	00510	
00500	M	FAC	,Z			00520	K2	00066	00091	
00510	BNF	TEST 2	,TEST+11	,01,	BR IF X WAS LESS THAN .29	00532	KL	00066	00096	
00520	BNF	**24	,TEST2-13	,01,	BR IF QUOTIENT WAS POSITIVE	00544	MM	00592	00123	
00530	SF	91				00556	MM	00580	00579	
00540	A	91	,A CON 1	,1,		00568	32	00091	00000	
00550	TEST2	BNF	**36	,TEST+10	,01,	BR IF CHAR NOT 1, 2, 3, 4	00580	2J	00091	00979
00560	SF	91				00592	MM	00628	00122	
00570	DC	50,005005005000000005050500550005505050050500500500,350				00604	32	00091	00000	
00580	A	91	,A CON 2	,1,		00616	2J	00091	00989	
00590	TFM	FAC	,01	,10,		00628	J6	00066	000-1	
00600	LOOP2	TD	92	,BETA+1		00640	2N	00092	00099	
00610	BD	TEST	1-24,82	,0,	NORMALIZATION	00652	M3	00708	00082	
00620	SM	FAC	,1	,10,		00664	J2	00066	000-1	
00630	TR	82	,83			00676	31	00082	00083	
00640	TD	91	,NOS DIG			00688	25	00091	02401	
00650	B7	LOOP 2	,	,0,		00700	M9	00652	00000	

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00660	SF	82				00708	32	00082	00000	
00670	TF	FAC-2	,89			00720	K6	00064	00089	
00680	TEST1	BNF	STORE	,TEST+9	, 1,	TERMINATE SUBROUTINE CALCULATION	00732	MM	00344	00121
00690	B7	SIGN+12				00744	M9	00320	00000	
00700	PLUS	TF	91	,C ZERO-1	,,	CHAR POSITIVE	00752	20	00091	00593
00710	CM	BETA	,8	,10,		00764	J4	00098	000-8	
00720	BH	TEST 2+24,		,0,		BR IF CHAR GREATER THAN EIGHT	00776	M6	00616	01100
00730	TF	FAC-2	,C ZERO-3	,,	ADJUST POSITION OF 1 IN NUMERATOR	00788	KO	00064	00591	
00740	TFM	**30	,FAC-10	,07,		00800	JO	00830	-0056	
00750	A	**18	,BETA	,0		00812	KJ	00830	00098	
00760	TDM		,1			00824	15	00000	00001	
00770	SF	FAC-9				00836	L2	00057	00000	
00780	LD	90	,FAC-2	,,	HARDWARE DIVIDE	00848	2Q	00090	00064	
00790	U	90	,Z			00860	2R	00090	00096	
00800	BD	SET VAL	,02	,0,	BR IF X EQUALS ONE	00872	M3	00952	00082	
00810	CM	BETA	,4	,10		00884	J4	00098	000-4	
00820	BH	TEST2+12	,	,0,	BR IF CHAR EQUAL 5, 6, 7, 8	00896	M6	00604	01100	
00830	DC	10,5000500050,350				00350	00010			
00840	TF	Z	,90	,,	ELIMINATE LEADING ZERO	00908	K6	00096	00090	
00850	SF	TEST+10	,	,0,		00920	L2	00122	00000	
00860	SF	Z-7				00932	L2	00089	00000	
00870	B7	ZERO C	,	,0,		00944	M9	00244	00000	
00880	SETVAL	TR	FAC-9	,ACON 3-10,1,	SET TO VALUE FOR X EQUAL ONE	00952	LJ	00057	00990	
00890	B7	TEST 1				00964	M9	00732	00000	
00900	ACON1	DC	9	, 540 419 500		00979	00009			
00910	ACON2	DC	10	,1 570 796 327,,ARC TAN OF PI OVER TWO		00989	00010			
00920	DC	8	, 78 539 816,,ARC TAN OF PI OVER FOUR		00997	00008				
00930	ACON3	DC	3	,002,,		01000	00003			
00940	SIX	DC	8	,60000000		01008	00008			
00950	Z	DS		,BETA-2		00096	00000			
00960		DEND	D1091			01091				

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00010* HASTINGS APPROXIMATION
00020 USA FEXT1 ,FEX1 00004 00005 -0000
00030 DORG EDGAR 00009 00005 -0020
00040 UC 38 ,0500050000 0555505000 5550000000 00050005 ,338
00050 FEXT1 TFM MUT Z+30 ,ONE Z-2 ,07 00338 00038
00060 L7 FEX,+12 00000 JO 00114 -0511
00070 FFX1 TFM NOTZ+30 ,LOG E ,07 00012 M9 00032 00000
00080 TFM PCK+4 ,+20 ,17 00020 JO 00114 -0523
00090 B7 PCK , ,06, BR TO PCK AND RETURN 00032 10 02370 -0052
00100 BU NOT Z ,D-4 ,0, ZERO CHECK 00044 49 0236M 00000
00110 TR FAC-9 ,FLONE-9 00052 ML 00084 00089
00120 B7 STORE 00064 LJ 00057 00595
00130 NOTZ CM D ,+8 ,10, 00076 M9 00344 00000
00140 BNH FEX1+44 00084 J4 00098 000-0
00150 M LODGE ,D-2 00096 M7 00064 01100
00160 CM D ,3 ,10, 00108 KL 00523 00096
00170 BL **36 , ,0, MUST CALC 00120 J4 00098 000-3
00180 BNE E ROUT , ,0, OVER OR UNDER 00132 M7 00168 01300
00190 B0 E ROUT ,82 ,0, HI ORDER NOT ZERO 00144 M7 00604 01200
00200 CF 82 00156 M3 00604 00082
00210 TF 81 ,C ZERO-2 00168 33 00082 00000
00220 TFM **30 ,80 ,010, POSITION FLAG 00180 20 00081 00592
00230 A **18 ,D ,0 00192 J6 00222 00000
00240 SF 00204 KJ 00222 00098
00250 AM *-6 ,01 ,010, SET CHAR EQUAL 00216 32 00000 00000
00260 AM *-18 ,01 ,0610,CHAR PLUS ONE 00228 J1 00222 000-1
00270 BV E ROUT , ,0, OVER OR UNDERFLOW 00240 J1 0022K 000-1
00280 AM *-42 ,09 ,010, MOVE MANT AND CHAR 00252 M6 00604 01400
00290 UC 40 ,5050005500 5055500000 0050550050 5555050050 ,340
00300 TF FAC+9 ,*-54 ,11 00276 KD 00075 0022K
00310 SF FAC+1 00288 L2 00067 00000
00320 TFM LOUPE+11 ,EXCN1 ,017, INIT CALC LOOP 00300 JO 00347 -0645
00330 TF FAC-2 ,C ZERO 00312 KO 00064 00594
00340 TFM LOUPE-3 ,7 ,010, COUNT 00324 J6 00333 000-7
00350 LOUPE A FAC-2 ,FAC+9 00336 K1 00064 00000
00360 M FAC-2 ,FAC+9 00348 KL 00064 00075
00370 TF FAC-2 ,90 00360 K6 00064 00090
00380 AM LOUPE+11 ,11 ,010, ADJUST LOOP VALVES
    
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00372 J1 00347 000J1
00384 J2 00333 000-1
00396 M7 00336 01201
00408 J1 00055 000JO
00420 KL 00063 00063
00432 32 00081 00000
00444 K6 00064 00088
00456 KN 00067 00099
00468 MM 00344 00096
00480 2M 00088 00508
00492 M7 00524 01200
00504 J2 00066 000-1
00516 M9 00572 00000
00520 UC 20 ,5005055050 5050555550 ,320 00320 00020
00524 K6 00077 00089
00536 2Q 00092 00510
00548 2R 00092 00077
00560 K6 00064 00090
00572 L2 00066 00000
00584 J1 00066 000-1
00596 M9 00344 00000
00604 JO 00478 -0344
00616 MM 00380 00096
00628 M9 00424 00000
00645 00011
00656 00011
00667 00011
00678 00011
00689 00011
00700 00011
00711 00011
00098 00000
001102
00370 D DS ,BETA
00710 DEND 01102
    
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00010 USA FLOG1 ,FL 00004 00005 -0000
00020 DDG EDGAR 00009 00005 -0020
00030 FLOG1 TDM MULM-11 ,9 ,0 00000 J5 00513 00009
00040 B7 FLN1+12 , ,0 00012 M9 00032 00000
00050 ***** RELOCATABLE SPS FLOATING LN
00060 FLN1 TDM MULM-11 ,1 ,0 00020 J5 00513 00001
00070 TFM PCK+5 ,+20 ,17 00032 10 02370 -0052
00080 B7 PCK , ,6 00044 49 0236N 00000
00090 DC 42,50050000000 055000050 5000550000 5555050550 ,350
00100 CF B-7 00350 00042
00110 BD **56 ,B-7 ,0, BR IF MANT NOT ZERO 00052 L3 00089 00000
00120 TDM 401,0,11 00064 ML 00120 00089
00130 TF PCK+25 ,NNINES ,6 00076 15 00401 0000-
00140 TFM PCK+15 ,+99 ,610 00088 20 0239- 00865
00150 B7 PCK+10 , ,6 00100 16 0238- 000R9
00160 BNF EVAL PN ,B ,0, BR IF MANT IS POSITIVE 00112 49 0237N 00000
00170 CF B 00120 MM 00156 00096
00180 TDM 401,0 00132 L3 00096 00000
00190 ***** EVALUATE X EQUAL PN SO THAT X IS GREATER THAN 00144 15 00401 00000
00200 ***** ONE HALF AND P EQUALS 1, 2, 4, 8
00210 EVALPN TFM LOOPL+107,CONST ,017, 00156 J0 00499 -0813
00220 TDM B-8 ,1 ,11, SET X EQUAL X PLUS ONE 00168 J5 00088 0000J
00230 CM B-7 ,15 ,10 00180 J4 00089 000J5
00240 BNL **44 , ,0, BR MODIFIED X MORE THAN 3 HALVES 00192 M6 00236 01300
00250 A B ,B , , SET X EQUAL X PLUS X 00204 KJ 00096 00096
00260 AM LOOPL+107,11 ,07, STEP LN P FOR P EQUAL P+P 00216 J1 00499 -0011
00270 B7 *-60 , ,0 00228 M9 00168 00000
00280 TF FAC-2 ,B , , 00236 K0 00064 00096
00290 S FAC-2 ,LCN5-1 , , SET NUMERATOR EQUAL X-1 00248 KK 00064 00572
00300 LD 89 ,FAC-2 , , HARDWARE DIVIDE 00260 ZQ 00089 00064
00310 D 89 ,B , 00272 ZR 00089 00096
00320 TF B ,90 , 00284 K6 00096 00090
00330 DC 46,5050555055 5505005055 5000000055 0550500005 050555,350
00340 SF B 00350 00046
00350 SF B-9 00296 L2 00096 00000
00360 M B ,B , , Z TIMES Z 00308 L2 00087 00000
00370 TF SAVE ,89 , , 00320 KL 00096 00096
00380 A B ,B , , Z PLUS Z 00332 K6 00077 00089
00390 TF FAC ,CZERO-1 , , 00344 KJ 00096 00096
00400 TFM LOOP L+11,LCN1 ,07 , 00356 K0 00066 00593
00410 TFM **9 ,6 ,010 00368 J0 00403 -0533
00380 J6 00389 000-6
    
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00420 LOOPL A FAC , , , CALC SERIES USING Z SQUARED 00392 K1 00066 00000
00430 M FAC ,SAVE 00404 KL 00066 00077
00440 TF FAC ,89 00416 K6 00066 00089
00450 AM LOOPL+11 ,10 ,07 00428 J1 00403 -0010
00460 SM LOOPL-3 ,1 ,010 00440 J2 00389 000-1
00470 BNZ LOOP L , ,0 00452 M7 00392 01200
00480 M FAC ,B , , CONVERT TO ODD POWERS OF Z 00464 KL 00066 00096
00490 S 89 ,B 00476 2K 00089 00096
00500 TF B 00488 K6 00096 00000
00510 S B ,89 00500 K2 00096 00089
00520 NOP MULLOG , ,0, BR IF LOG CALC RATHER THAN LN CALC 00512 M1 00736 00000
00530 MULM M LNTEN ,B+2 ,0 00524 KL 00857 00098
00540 A 99 ,B 00536 2J 00099 00096
00550 C 97 ,C ZERO 00548 2M 00097 00594
00560 TR FAC-9 ,AZERO-9 00560 LJ 00057 00479
00570 DC 38 ,5000000500 0000000000 0000000000 55505055 ,338
00580 BE STURE , , , BR IF X WAS ONE 00338 00038
00590 TFM PCK+15 ,03 ,610 00572 M6 00344 01200
00600 TD FLN1+7 ,99 ,0 00584 16 0238- 000-3
00610 TD 99 ,BETA+1 , , 00596 K5 00027 00099
00620 BD **56 ,87 ,0 00608 2N 00099 00099
00630 TR 87 ,88 00620 M3 00676 00087
00640 SM PCK+15 ,01 ,610 00632 31 00087 00088
00650 TD 98 ,NDS DIG 00644 12 0238- 000-1
00660 B7 *-48 , , 00656 25 00098 02401
00670 SF 87 , , 00668 M9 00620 00000
00680 BNF **24 ,FLN1+7 ,01, SET FLAG 00676 32 00087 00000
00690 SF 94 , , 00688 MM 00712 00027
00700 TF PCK+25 ,94 ,6 00700 32 00094 00000
00710 B PCK+10 , ,6 00712 26 0239- 00094
00720 MULLOG TDM 79 , , 00724 49 0237N 00000
00730 M LOGE ,B , 00736 15 00079 00000
00740 TF B ,89 , , 00748 KL 00523 00096
00750 SF B , , 00760 K6 00096 00089
00760 M DMEZ-2 ,B+2 , , 00772 L2 00096 00000
00770 B7 MULM+12 , ,0 00784 KL 00511 00098
00780 CONST DC 11 ,0 00796 M9 00536 00000
00790 DC 11,-6931471805 00813 00011
00800 DC 11,-13862943611 00824 00011
00810 DC 11,-20794415416 00835 00011
00820 LNTEN DC 11,23025850929 00846 00011
00830 NNINES DC 8,-99999999 00857 00011
00840 B DS ,BETA-2 00865 00008
00850 DEND 01122 ,BETA-2 00096 00000
01122
    
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00010 DSA FSR51 00004 00005 -0000
00020 DORG EDGAR 00000
00030 FSR51 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040 B7 PCK , ,6, BR TO PICK AND RETURN 00012 49 0236N 00000
00050 BNF **24 ,PCK+15 ,011, SAVE FLAG ALPHA FIELD 00020 M4 00044 0238-
00060 DC 12 ,5000000000 05 ,312 00312 00012
00070 SF BETA 00032 L2 00098 00000
00080 S PCK+15 ,PCK+15 ,611, ZERO ALPHA FIELD 00044 22 0238- 0238-
00090 SM PCK+20 ,1 ,10, LOCATE HI ORDER FLAG FROM B OPERAND 00056 12 02385 000-1
00100 BNF *-12 ,PCK+20 ,011, 00068 M4 00056 0238N
00110 LF PCK+20 , ,6, REMOVE FLAG FROM B OPERAND 00080 33 0238N 00000
00120 TF PCK+15 ,BETA ,6, MOVE FIELD TO A OPERAND 00092 20 0238- 00098
00130 B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM 00104 49 0237N 00000
00140 DEND 01141 01141

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00010 DSA FSL51 00004 00005 -0000
00020 DORG EDGAR 00000
00030 FSL51 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040 B7 PCK , ,6, BR TO PICK AND RETURN 00012 49 0236N 00000
00050 DC 14 ,0550000000 0005 ,314 00314 00014
00060 TD *-1 ,BETA ,0, SAVE SIGN OF B FIELD 00020 KN 00019 00098
00070 CF BETA 00032 L3 00098 00000
00080 TF PCK+30 ,PCK+20 ,, PROVIDE WORKING ADR OF B FIELD 00044 26 02395 02385
00090 SM PCK+30 ,1 ,, SUB TO ESTABLISH LENGTH. 00056 12 02395 -0001
00100 AM PCK+15 ,1 ,, ADJUST A FIELD ADR FOR EACH DIGIT 00068 11 02380 -0001
00110 BNF *-24 ,PCK+30 ,011, IN B FIELD 00080 M4 00056 0239N
00120 TF PCK+15 ,BETA ,6, MOVE B FIELD TO ADJUSTED A FIELD 00092 20 0238- 00098
00130 C PCK+15 ,PCK+20 00104 24 02380 02385
00140 BNN **44 , ,0, BR WHEN NO MORE ZEROS REQUIRED 00116 M6 00160 01300
00150 AM PCK+15 ,1 ,, ADJ ADR OF A FIELD 00128 11 02380 -0001
00160 TDM PCK+15 ,0 ,6, MOVE IN ZERO RT OF DATA IN A FIELD 00140 15 0238- 00000
00170 B7 *-48 , ,0 00152 M9 00104 00000
00180 BNF PCK+10 ,FSL51+19 ,16, RESTORE PROPER SIGN AND 00160 4M 0237N 00019
00190 SF PCK+20 , ,6, RETURN TO MAINLINE 00172 32 0238N 00000
00200 B7 PCK+10 , ,6, PROGRAM 00184 49 0237N 00000
00210 DEND 01151 01151

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00010   USA TFLS1           00004 00005 -0000
00020   UURG EDGAR         00000
00030 TFLS1 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040   B7 PCK , ,6, BR TO PICK AND RETURN
                                00012 49 0236N 00000
00050   DC 4 ,0505,304     00304 00004
00060   TF PCK+15 ,BETA ,6, MOVE CHARACTERISTIC
                                00020 20 0238- 00098
00070   TF PCK+25 ,BETA-2 ,6, MOVE MANTISSA 00032 20 0239- 00096
00080   B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM
                                00044 49 0237N 00000
00090   UEND 01161         01161

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00010   USA BTFS1           00004 00005 -0000
00020   UURG EDGAR         00000
00030 BTFS1 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040   B7 PCK , ,6, BR TO PICK AND RETURN
                                00012 49 0236N 00000
00050   SM PCK+25 ,1 , , ADJ ADR TO A FIELD-3
                                00020 12 02390 -0001
00060   DC 6 ,050005,350 00350 00006
00070   TF PCK+25 ,BETA-2 ,6, MOVE MANTISSA 00032 20 0239- 00096
00080   TF **30 ,PCK+10 ,0, STORE RETURN ADR OF MAINLINE
                                00044 K6 00074 02375
00090   BT PCK+15 ,BETA ,6, BR AND MOVE CHARACTERISTIC
                                00056 2P 0238- 00098
00100   B7 , , , BR TO MAINLINE WHEN BB OCCURS
                                00068 49 00000 00000
00110   UEND 01171         01171

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00010***** PCK AREA MAY BE USED AS A WORK AREA IF SUBR NOT USED. IF
00020***** SUBROUTINES REQUIRED, THEN THE AREA IS USED AS FOLLOWS
00030***** 02401 NOISE DIGIT, SOURCE, SUBROUTINE SUPERVISOR
00040***** PCK ADR OF PICK, SOURCE, SUBROUTINE SUPERVISOR
00050***** PCK+5 ADR OF RETURN TO SUBR. SOURCE, SUBROUTINE
00060***** PCK+10 ADR OF RETURN TO MAINLINE. SOURCE, PRIMARY LINKAGE
00070***** PCK+15 ADR OF A OPERAND CHARACTERISTIC. SOURCE, PCK
00080***** PCK+20 ADR OF B OPERAND CHARACTERISTIC. SOURCE, PCK
00090***** PCK+25 ADR OF A OPERAND MANTISSA. SOURCE, PCK
00100***** PCK+30 ADR OF B OPERAND MANTISSA. SOURCE, PCK
00110***** PCK+31 RESERVED FOR POSSIBLE RECORD MARK
00120** PCK+35 4 RESERVED CODE
00130***** PCK-6 THRU PCK-90 SUBVEC FOR THE 17 FURNISHED SUBROUTINES
00140** ADRS ARE SUPPLIED BY THE SUBROUTINE SUPERVISOR
00150***** PCK-41 DOWN TO END OF IORT MAY BE USED IF NO ADDFD SUBROUTS
00160***** PICK FOR VARIABLE LENGTH SUBROUTINES
00170***** FOR OPERANDS A AND B ONLY
00180 PCK US 5 8 ,2365 02365 00040
00190 NOSDIG US 1 ,2401 , NOISE DIGIT FOR SUBRS 02401 00001
00200 EDGAR DORG *+1 00000
00210 DSA PICK 00004 00005 -0198
00220 DORG *-4 00000
00230 ALPHA US 51 00050 00051
00240 P US 0 ,ALPHA-ALPHA 00000 00000
00250 SAVE US 50 00100 00050
00260 BETA US 96 00196 00096
00270 US 1 00197 00001
00280 PICK TD 401 ,BETA+1-P ,1, RESET ERROR INDICATOR 00198 2N 00401 00197
00290 TK PCK+11 ,PCK+10 ,11, MOVE OPERANDS FROM MAINLINE 00210 31 02376 0237N
00300 AM PCK+10 ,11 ,11, CALC RETURN ADR 00222 11 02375 -0011
00310 BNF *+44 ,PCK+15 ,1, PROCESS A OPERAND
00320 CF PCK+15 00234 M4 00278 02380
00330 TF PCK+15 ,PCK+15 ,11, 00246 33 02380 00000
00340 B7 *-36 ,1, 00258 26 02380 0238-
00350 TF PCK+25 ,PCK+15 ,1, A MINUS 2 00270 M9 00234 00000
00360 SM PCK+25 ,2 00278 26 02390 02380
00370 BNF *+44 ,PCK+20 ,1, PROCESS B OPERAND 00290 12 02390 -0002
00380 CF PCK+20 00302 M4 00346 02385
00390 TF PCK+20 ,PCK+20 ,11, 00314 33 02385 00000
00400 B7 *-36 ,1, 00326 26 02385 0238N
00410 TF PCK+30 ,PCK+20 ,1, B MINUS 2 00338 M9 00302 00000
00420 SM PCK+30 ,2 ,5, DELIBERATE OVERFLOW 00346 26 02395 02385
00430 TF BETA ,PCK+20 ,11, MOVE B CHAR TO BETA 00358 12 02385 00002
00440 TF BETA-2 ,PCK+30 ,11, MOVE B MANT TO BETA-2 00370 K6 00196 0238N
00450 BV PCK+5 ,1, ,6, RETURN TO SUBROUTINE 00382 K6 00194 0239N
    
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00460 SIGN BNF *+24 ,99 ,1, AFFIX PROPER SIGN 00394 46 0237- 01400
00470 SF ALPHA-2 00406 M4 00430 00099
00480 AM ALPHA-2 ,00 ,10, SET INDICATORS 00418 L2 00048 00000
00490 STORE TF PCK+25 ,ALPHA-2 ,6, MOVE ALPHA-2 TO A MANT 00430 J1 00048 000-0
00500 TF PCK+15 ,ALPHA ,6, MOVE ALPHA-2 TO A CHAR 00442 20 0239- 00048
00510 B7 PCK+10 ,1, 00454 20 0238- 00050
00520 DC 12 ,0100000001 ,312 00466 49 0237N 00000
00530 UVFL TDM 401 ,1, 00312 00012
00540 TF PCK+25 ,NINE -45 ,6, ,+L 00474 15 00401 0000J
00550 TFM PCK+15 ,99 ,610 ,1, 00486 20 0239- 00763
00560 B7 ZRES+24 ,1, 00498 16 0238- 000R9
00570 UNFL TDM 401 ,1, 00510 M9 00554 00000
00580 ZRES TF PCK+25 ,CLR-96 ,6, ,+L 00518 15 00401 00001
00590 TFM PCK+15 ,99 ,610 ,1, 00530 20 0239- 00808
00600 AM PCK+25 ,00 ,610 ,1, 00542 16 0238- 000RR
00610 B7 PCK+10 ,1, 00554 11 0239- 000-0
00620***** SHARED CONSTANTS 00566 49 0237N 00000
00630 ONEZ DC 49 ,100000000000000000000000000000000000000000000000000 00621 00049
00640 PIOV2 DC 47 ,15707963267948966192313216916397514420985846996 00668 00047
00650 LOGE DC 47 ,43429448190325182765112891891660508229439700580 00715 00047
00660 LN10 DC 48 ,230258509299404568401799145468436420760110148862 00763 00048
00670 NINE DC 45 ,9999999999999999999999999999999999999999999999999999 00808 00045
00680 CLR DS 96 ,1, 96 ZEROS 00904 00096
00690 DC 48 ,0, ,*, 00904 00048
00700 DC 49 ,0, ,*-47 00857 00049
00710 DEND 02001 02001
    
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00010	DSA	DIVW1				00004	00005	-0000
00020	UDRG	EDGAR				00000		
00030	DIVW1	TR	PCK+11	,PCK+10	,11,	MOVES DIV OPERANDS INTO PCK AREA		
						00000	31	02376 0237N
00040	AM	PCK+10	,21		,,	CALC RETURN ADR		
00050	TF	85	,CLR-10			00012	11	02375 -0021
00060	LD	PCK+25	,PCK+15	,611		00024	20	00085 00894
00070	D	PCK+30	,PCK+20	,611		00036	28	0239- 0238-
00080	B7	PCK+10	,	,6		00048	29	0239N 0238N
00090	DEND	02011				00060	49	0237N 00000
						02011		

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00010	USA	FS3	,FA3	,FM3	,FD3	00004	00005	-0000
						00009	00005	-0020
						00014	00005	-0564
						00019	00005	-0748
						00000		
00020	UDRG	EDGAR				00000	JO	00106 -0108
00030	FS3	TFM	BRANCH+6	,BRANCH+8	,017,	SET UP FOR SUBTRACT		
						00012	M9	00032 00000
00040	B7	FA3+12	,0			00020	JO	00106 -0152
00050	FA3	TFM	BRANCH+6	,INADD	,017,	SET UP FOR ADD		
00060	TFM	PCK+5	,**20	,17		00032	10	02370 -0052
00070	B7	PCK	,	,6		00044	49	0236N 00000
00080	DC	44	,	50507070	0005500050	0005550000	7750505550	515005 ,346
						00346	00044	
00090	TF	ALPHA-P	,PCK+15	,11,		MOVE A OPERAND CHAR		
						00052	K6	00050 0238-
00100	TF	ALPHA-2-P	,PCK+25	,11,		MOVE A OPERAND MANT		
						00064	K6	00048 0239-
00110	TDM	ALPHA-2-P	,0	,11,	-L	PREPARE FOR LONGER FIELDS		
						00076	J5	00048 0000-
00120	TDM	BETA-2-P	,0	,11,	-L	00088	J5	00194 0000-
00130	BRANCH	B7				00100	49	00000 00000
00140	BNF	INADD-12	,BETA-2-P	,0,		SWITCH SIGN OF B OPERAND		
						00108	MM	00140 00194
00150	CF	BETA-2-P	,	,0		00120	L3	00194 00000
00160	B7	INADD	,	,0		00132	M9	00152 00000
00170	SF	BETA-2-P	,	,0		00140	L2	00194 00000
00180	INADD	TDM	ADD+1	,1	,0	00152	J5	00345 00001
00190	TFM	ADD+11	,BETA-2-P	,07		00164	JO	00355 -0194
00200	C	ALPHA-P	,BETA-P			00176	KM	00050 00196
00210	BM	**60	,	,0,		BR IF A CHAR LARGER THAN B CHAR		
						00188	M6	00248 01100
00220	BE	ADD	,	,0,		BR IF CHARS EQUAL		
						00200	M6	00344 01200
00230	TR	ALPHA-1-P	,BETA-1-P	,,	-L,-L	EXCHANGE FIELDS		
						00212	LJ	00049 00195
00240	TF	BETA-P	,PCK+15	,11		00224	K6	00196 0238-
00250	TF	BETA-2-P	,PCK+25	,11		00236	K6	00194 0239-
00260	S	BETA-P	,ALPHA-P			00248	KK	00196 00050
00270	BV	STORE-12-P	,	,,		BR IF CHAR DIFF TOO LARGE		
						00260	M6	00430 01400
00280	CM	BETA-P	,99	,10,	,+L	00272	J4	00196 000RR
00290	BL	STORE-12-P	,	,,		BR IF CHAR DIFF GREATER THAN L		
						00284	M7	00430 01300
00300	A	ADD+11	,BETA-P	,0,		SHIFT BY CHAR DIFF		
						00296	KJ	00355 00196
00310	DC	44	,	0500705005	0090500770	7755505000	5570705050	5550 ,346
						00346	00044	
00320	BNF	**24	,BETA-2-P	,0		00308	MM	00332 00194
00330	TDM	ADD+1	,2	,0,		CHANGE TO SUB IF NEG		
						00320	J5	00345 00002
00340	CF	BETA-1-P	,	,,	-L,	CLEAR HI ORDER FLAG		
						00332	L3	00195 00000

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00350 ADD A ALPHA-2-P, 00344 K1 00048 00000
00360 T0 99 ,ALPHA-2-P,, STORE SIGN 00356 2N 00099 00048
00370 BV ADJ , ,0 00368 M6 00484 01400
00380 CF ALPHA-2-P, ,, PROCEED WITH NORMALIZATION 00380 L3 00048 00000
00390 BZ ZRES -P, ,, BR IF ZERO SUM 00392 M6 00530 01200
00400 NORM B0 EXIT ,ALPHA-1-P,0, ,-L BR IF NORMALIZATN COMPLTE 00404 ML 00532 00049
00410 SF ALPHA -P, ,, -L 00416 L2 00050 00000
00420 TR ALPHA-1-P,ALPHA -P,, -L,-L 00428 LJ 00049 00050
00430 TF ALPHA -P,ALPHA-1-P 00440 K0 00050 00049
00440 T0 ALPHA-2-P,NDS DIG ,, ENTER NOISE DIGIT 00452 K5 00048 02401
00450 SM ALPHA -P,1 ,10 00464 J2 00050 000-1
00460 B7 NUKM , ,0 00476 M9 00404 00000
00470 ADJ TF ALPHA-2-P,ALPHA-3-P,, SHIFT RIGHT ONE POSITION 00484 K0 00048 00047
00480 CF ALPHA -P, ,, -L, CLEAR EXTRA FLAG 00496 L3 00050 00000
00490 TDM ALPHA-1-P,-1 ,, -L, INSERT HI ORDER ONE WITH FLAG 00508 J5 00049 0000J
00500 AM ALPHA -P,01 ,10, ADJUST CHAR 00520 J1 00050 000-1
00510 EXIT BNV SIGN , ,, STORE ALPHA AND AFFIX SIGN 00532 M7 00406 01400
00520 BNF DVFL -P,ALPHA -P 00544 MM 00474 00050
00530 B7 UNFL -P 00556 M9 00518 00000
00540 FM3 TFM BRANCH+6 ,**32 ,017 00564 J0 00106 -0596
00550 TFM FIX+25 ,012 ,09 00576 J6 00669 00-12
00560 B7 F03+24 00588 M9 00772 00000
00570 DC 48 ,5550040250 00505000040 5552000000 020800252500020450,348
00580 M ALPHA-2-P,BETA-2 -P,, MUL MANTISSAS 00596 K1 00048 00194
00590 BZ ZRES -P, ,, BR IF ZERO PRODUCT 00608 M6 00530 01200
00600 B0 MOVE-12 ,100 ,0, ,-2L BR IF NORM NOT REQ 00620 M3 00716 00100
00610 TFM MOVE+11 ,100 ,09, -L 00632 J6 00739 00J00
00620 FIX SM BETA -P,01 ,10, ADJUST CHAR BY ONE 00644 J2 00196 000-1
00630 BNV **36 , ,0 00656 M7 00692 01400
00640 SM ALPHA -P,01 ,10 00668 J2 00050 000-1
00650 TFM BETA -P,-99 ,10 00680 J6 00196 000RR
00660 B0 CHGE ,FIX+23 ,01 00692 ML 00908 00667
00670 SF 101 , ,, -2L 00704 32 00101 00000
00680 A ALPHA -P,BETA -P 00716 KJ 00050 00196
00690 MOVE TF ALPHA-2-P,99 ,, ,-L 00728 K6 00048 00099
00700 B7 EXIT , ,0 00740 M9 00532 00000
00710 FD3 TFM BRANCH+6 ,**56 ,017 00748 J0 00106 -0804
00720 TFM FIX+25 ,111 ,09 00760 J6 00669 00J11
00730 TFM MOVE+11 ,099 ,09, ,-L 00772 J6 00739 00-99
00740 TF 85 ,CLR-106-P,, ,2L 00784 20 00085 0079R
    
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00750 B7 FA3+12 00796 M9 00032 00000
00760 LD 99 ,ALPHA-2-P,, -L 00804 20 00099 00048
00770 U 99 ,BETA-2 -P,, -L 00816 2R 00099 00194
00780 BV ZCK , ,0 00828 M6 00928 01400
00790 TD 99 ,99 ,, ,-L 00840 25 00099 00099
00800 B0 FIX ,99 ,0, ,-2L 00852 M3 00644 00099
00810 BZ ZRES -P 00864 M6 00530 01200
00820 DC 8 ,40550002 ,314 00314 00008
00830 SF 100 , ,, -2L 00876 32 00100 00000
00840 MOVEU S ALPHA -P,BETA -P 00888 KK 00050 00196
00850 B7 MOVE , ,0 00900 M9 00728 00000
00860 CHGE TFM MOVE+11 ,98 ,0, ,-L 00908 J6 00739 00098
00870 B7 MOVEU 00920 M9 00888 00000
00880***** PCK-90 DOWN TO END OF IORT MAY BE USED IF NO ADDED SUBROUTS
00890***** PCK-5 THRU PCK-89 SUBVEC FOR THE 17 FURNISHED SUBROUTINES
00900 ZCK TDM 401 ,0 ,11, SET ERROR INDICATOR
00910 AM PCK+15 ,99 ,6, SIMULATE HARDWARE DIV AND FORCE OVE 00928 15 00401 0000-
00920 BV PCK+10 , ,6 00940 11 0238- 00099
00930 DEND 02024 00952 46 0237N 01400
02024
    
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00010	USA	FSQR3				00004	00005	-0000
00020	DORG	EDGAR				00000		
00030	FSQR3	TFM	PCK+5	,+20	,17	00000	10	02370 -0020
00040	B7	PCK		,	,6,	BR TO PICK AND RETURN		
00050	DC	44		,075050	0550000002	0000000805	04000056000000005,350	
00060	BD	**20		,BETA-1	-P,0,	,-L	00020	ML 00040 00195
00070	B7	ZRES		-P,	,,	BR IF RESULT ZERO		
00080	MM	BETA		-P,50	,10,	DIV CHAR BY 2		
00090	BNF	**36		,BETA-2	-P,0,	BR FOR POSITIVE ARG		
00100	CF	BETA-2		-P		00052	MM	00088 00194
00110	TDM	401		,0	,,	00064	L3	00194 00000
00120	BD	SQ3		,98	,0,	BR IF CHAR ODD		
00130	TFM	SQ2+42		,97	,010,	,-L	MOVE MANTISSA ADR	
00140	BNF	**24		,99	,0,	BR IF CHAR POSITIVE		
00150	SQ2	SF		97		00112	M4	00136 00099
00160	TF	PCK+15		,97	,6,	00124	32	00097 00000
00170	TF	99		,CLR-92-P	,,	,2L	STORE RESULT CHAR, PROPER SIGND	
00180	TF			,BETA-2	-P,,	00136	26	0238- 00097
00190	TFM	LSQ+18		,97	,010,	,-2L	MOVE MANT INTO 97/98 MINUS L	
00200	TF	LSQ+23		,SQ3+18	,01,	INITIAL MANT ADR HI ORDER		
00210	TF	LSQM-6		,LSQ+18	,,	00172	J6	00246 000R7
00220	TF	BETA-2		-P,OMEZ-48-P,,	,+L	INITIAL RESULT ADR		
00230	B7	LSQM		,	,0,	00184	KD	00251 00398
00240	AM	LSQ+23		,2	,0610,	INITIAL MANT ADR		
00250	S			,	,,	00196	KD	00330 00246
00260	BNN	LSQ		,	,0,	+L SET RESULT TO ONE L+1 DIGITS		
00270	CM	LSQ+23		,BETA-2	-P,07	00208	KD	00194 00573
00280	BML	SQEX		,	,0,	00220	M9	00336 00000
00290	A	LSQ+18		,LSQ+23	,01611,	ADD 2 TO RESULT		
00300	CF	LSQ+18		,	,06	00228	J1	0025J 000-2
00310	AM	LSQM-6		,01	,010,	SUB RESULT FROM MANTISSA		
00320	SF			,	,,	00240	22	00000 00000
						CONTINUE UNTIL MANT IS NEG		
						00252	M6	00228 01300
						00264	JM	00251 -0194
						BR IF TERMINAL RESULT ADR		
						00276	M6	00436 01300
						RESTORE LAST SUB		
						00288	KJ	00240 0025J
						00300	L3	00240 00000
						REDUCE MANT FIELD LENGTH ONE		
						00312	J1	00330 000-1
						00324	32	00000 00000

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00330	LSQM	AM	LSQ+18	,02	,010,	STEP MANTISSA ADR, HI ORDER, +2		
00340	AM	LSQ+23		,01	,010,	00336	J1	00246 000-2
00350	SM	LSQ+23		,09	,0610,	STEP RESULT ADR +1		
00360	B7	LSQ+12		,	,0,	00348	J1	00251 000-1
00370	DC	16		,70700200065020,316		STEP RESULT -9		
00380	SQ3	AM	99	,50	,10,	00360	J2	0025J 000-9
00390	TDM	BETA-2		-P,0	,211, -L,	CONT LOOP WITH NEXT 2 DIGITS		
00400	CF	BETA-1		-P,	,,	00372	M9	00240 00000
00410	TFM	SQ2+42		,98	,010,	00316	00016	
00420	B7	SQ2-12		,	,0,	ADD .5 TO CHAR/2		
00430	SQEX	TF	80		,CLR-100-P,,	,+L	00380 11 00099 00000	
00440	MM	BETA-2		-P,50	,10,	00392	J5	-0194 0000-
00450	SF	98		,	,,	00404	L3	00195 00000
00460	TF	PCK+25		,97	,6,	MOVE MANT ADR		
00470	B7	PCK+10		,	,6,	00416	J6	00166 000R8
00480	DEND	02061				BR TO STORE CHAR + INIT LOOP		
						00428	M9	00112 00000
						00436	20	00080 00804
						00448	J3	00194 00000
						RESULT/2 DEFINE FIELD		
						00460	32	00098 00000
						STORE MANT RESULT		
						00472	26	0239- 00097
						RETURN TO MAINLINE		
						00484	49	0237M 00000
						02061		

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00010 USA FCOS3 ,FSI, 00004 00005 -0000
00020 UORG EDGAR 00009 00005 -0032
00030 IFM CLF+11 ,+010 ,+09, INIT FOR COS 00000
00040 IFM PCK+5 ,CLF ,+17 00000 J6 00099 00-10
00050 B7 PCK , ,+6, GO TO PICK AND RETURN 00012 10 02370 -0088
00060 FSIN3 IFM CLF+11 ,+011 ,+09, INIT FOR POSITIVE SIN 00024 49 0236N 00000
00070 IFM PCK+5 ,+20 ,+17 00032 J6 00099 00-1J
00080 B7 PCK , ,+6, GO TO PICK AND RETURN 00044 10 02370 -0064
00090 UC 46 ,0500507056 5000510007 0507005651 0070510000 505608,348 00056 49 0236N 00000
00100 HNF ,+36 ,BETA-2 -P 00348 00046 00064 M7 00100 00194
00110 TDM CLF+10 ,+0 ,+0, ADJUST FOR NEG SIN 00076 J5 00098 00000
00120 CLF CF BETA-2 -P 00088 L3 00194 00000
00130 CF BETA-1 -P, , , -L 00100 L3 00195 00000
00140 TF SAVE -P,CLR-94-P , , ,+L MOVE L+2 ZEROS TO SAVE 00112 K0 00100 00R10
00150 CM BETA -P,00 ,+10 00124 J4 00196 000-0
00160 BNH POZCH , ,+0, BR IF POSITIVE OR ZERO CHAR 00136 M6 00760 01300
00170 CM BETA -P,00 ,+1011, ,+L 00148 J4 00196 000--
00180 BL BRD , ,+0, BR IF CHAR LESS THAN -L 00160 M7 00208 01300
00190 IFM ,+30 ,SAVE -P,07, , -L CHAR BETWEEN 0 AND -L 00172 J0 00202 -0100
00200 S ,+18 ,BETA -P,0 00184 KK 00202 00196
00210 TR ,BETA-1 -P, , , -L 00196 J3 00000 00195
00220 BRD BD ,+24 ,CLF+11 ,+01, BR IF SIN ROUTINE 00208 M1 00232 00099
00230 A SAVE-P ,PIOV2-45-P, , ,+LCONVERT TO SIN 00220 KJ 00100 00623
00240 S SAVE -P,TWOPI-45 ,+1, ,+L 00232 KK 00100 00964
00250 BH ,+12 ,+0, SUB 2 PI FROM MANT UNTIL NEG 00244 M6 00232 01100
00260 SF SAVE-1 -P, , , -L 00256 L2 00099 00000
00270 A SAVE -P,PI-45 , , ,+L 00268 KJ 00100 00917
00280 BN ,+36 ,+0 00280 M7 00316 01300
00290 SM CLF+10 ,+01 ,+010 00292 J2 00098 000-1
00300 SF SAVE -P 00304 L2 00100 00000
00310 A SAVE -P,PIOV2-45-P, , ,+L 00316 KJ 00100 00623
00320 TF RO ,CLR-106-P, , ,+2L 00328 20 00080 00798
00330 UC 48,5552705600 0002202000 5055000000 0008500000 00560050 ,348 00348 00048
00340 M SAVE -P,SAVE -P 00340 KL 00100 00100
00350 TF SAVE -P,98 ,+10, , -L 00352 K6 00100 00088
00360 SF SAVE-1 -P, , , -L 00364 L2 00099 00000
00370 TF BETA -P,ONEZ-47-P, , ,+LSET BETA EQUAL 1 PLUS L+1 ZERO

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00380 TR AAB-3 ,H34-1 ,+01 00376 K0 00196 00574
00390 OVER TDM SUM+1 ,+2 ,+011, SET FOR SUBTRACTION 00388 LJ 00907 01010
00400 TF 99 ,98 ,+10, , -L 00400 J5 00473 0000K
00410 TFM 97 ,0000 ,+58, -L 00412 26 00099 00088
00420 U 98 ,AB ,+15 , -L 00424 16 00087 0-000
00430 BZ DONE , ,+0, BR IF QUOTIENT ZERO 00436 2K 00088 00914
00440 TF ALPHA -P,95 ,+10 00448 M6 00588 01200
00450 SUM S BETA -P,ALPHA -P 00460 K6 00050 00085
00460 AM AAB ,+2 ,+010 00472 KK 00196 00050
00470 AM AAB-2 ,+2 ,+010 00484 J1 00910 000-2
00480 M AAB ,AAB-2 ,+01, 4DIGIT PRODUCT 00496 J1 00908 000-2
00490 TF AB ,99 ,+0 00508 KL 00910 00908
00500 TF 80 ,CLR-106-P, , ,+2L 00520 K6 00914 00099
00510 M SAVE -P,ALPHA -P 00532 20 00080 00798
00520 BNF OVER ,SUM+1 ,+01 00544 KL 00100 00050
00530 TDM SUM+1 ,+1 ,+0, SET TO ADD 00556 M7 00400 00473
00540 B7 OVER+12 ,+0 00568 J5 00473 00001
00550 DONE C BETA-1 -P,CLR-95-P , , ,+L 00580 M9 00412 00000
00560 BE POZCH+60 , ,+0, BR IF L+1 ZEROS 00588 KM 00195 00809
00570 TFM SAVE -P,01 ,+10 00600 M6 00820 01200
00580 UC 48,0750775070 000500505 5000500051 0000505000 05057005,350 00612 J6 00100 000-1
00590 BD PLACE-24 ,BETA-1 -P,0, , -LBR IF NORMALIZATION NOT REQ 00350 00048 00624 M1 00692 00195
00600 SM SAVE -P,01 ,+10 00636 J2 00100 000-1
00610 TR BETA-1 -P,BETA -P, , -L, -L 00648 LJ 00195 00196
00620 TD BETA-1 -P,NOS DIG , , , ENTER NOISE DIGIT 00660 K5 00195 02401
00630 SF BETA-1 -P, , , -L 00672 L2 00195 00000
00640 B7 *-60 00684 M9 00624 00000
00650 BD PLACE ,CLF+10 ,+01 00692 M1 00716 00098
00660 SF BETA-2 -P 00704 L2 00194 00000
00670 PLACE TF PCK+15 ,SAVE -P,6, STORE CHAR 00716 20 0238- 00100
00680 TF PCK+25 ,BETA-2 -P,6, STORE MANT 00728 20 0239- 00194
00690 TD ALPHA+1 -P,H34+7 ,+1, RESTORE RM 00740 KM 00051 01018
00700 B7 PCK+10 , ,+6, RETURN TO MAINLINE PROGRAM 00752 49 0237N 00000
00710 POZCH CM BETA -P,03 ,+10 00760 J4 00196 000-3
00720 BL ,+80 ,+0, BR IF CHAR SMALLER THAN 03 00772 M7 00852 01300
00730 CM BETA -P,00 ,+10, ,+L 00784 J4 00196 000-0
00740 BNH ,+44 , ,+0, BR IF CHAR LESS OR EQUAL L 00796 M7 00840 01100
00750 TDM 401 ,+0 ,+11, CHAR TOO LARGE 00808 15 00401 0000-
00760 TD ALPHA+1 -P,H34+7 , , RESTORE RM 00820 KM 00051 01018
00770 B7 ZRES 00832 M9 00530 00000
00780 TDM 401 ,+0 00840 15 00401 00000

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00790 TFM **42 ,SAVE-1 -P,07, ADJ TO SUB TWO PI FROM MANT
00800 S **30 ,BETA -P,0, UNTIL REDUCED TO NEG NUMBER
00810 TDM BETA-2 -P,0 ,11, -L
00820 TF ,BETA-2 -P
00830 B BRD , ,0
00840 DORG *-4
00850 AAB DS 4
00860 AB DS 4
00870 DS 1
00880 PI DC 47 ,31415926535897932384626433832795028841971693993
00890 TWOP1 DC 47 ,62831853071795864769252867665590057683943387987
00900 M34 DC 2 ,01
00910 DC 2 ,02
00920 DC 5 ,00028
00930 DEND 02072
    
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00010 USA FATN3 00004 00005 -0000
00020 DORG EDGAR 00000
00030 FATN3 TFM PCK+5 ,**20 ,17 00000 10 02370 -0020
00040 B7 PCK , ,6, BR TO PICK AND RETURN
00050 DC 50 ,0700055050 0000510005 0576705070 7000065020 51500825,350
00060 TFM TEST+11 , ,08, SET INDICATORS
00070 B0 **20 ,BETA-1 -P,0, ,-L 00020 J6 00075 0-000
00080 B7 EOD+12 , , BR IF ZERO MANT 00032 ML 00052 00195
00090 TD TEST+9 ,BETA-2 -P,0, SAVE MANT SIGN 00044 M9 01052 00000
00100 TEST CF BETA-2 -P 00052 KN 00073 00194
00110 CM BETA -P, ,10 00064 L3 00194 00000
00120 BM PCHAR , ,0, BR IF CHAR POSITIVE 00076 J4 00196 000-0
00130 BE ALPH , ,0, BR IF CHAR ZERO 00088 M6 00836 01100
00140 CM BETA -P,-99999 ,10, +L 00100 M6 00196 01200
00150 BL EOD , ,0, BR IF CHAR LESS THAN -(L-1) 00112 J4 00196 999RR
00160 TFM ALPH-1 ,BETA-2 -P,07 00124 M7 01040 01300
00170 A ALPH-1 ,BETA -P,0 00136 JD 00195 -0194
00180 TF BETA-2 -P,CLR-96-P , , -L,+L CLEAR AREA LEFT OF BETA 00148 KJ 00195 00196
00190 CF BETA-1 -P, , , -L EXPAND BETA BY REMOVING FLAG 00160 KD 00194 00808
00200 TF BETA-2 -P, , , ADJUST BETA FIELD FOR CHAR 00172 L3 00195 00000
00210 ALPH SF BETA-1 -P, , , -L CONTRACT BETA BY RESETTING FLAG 00184 K6 00194 00000
00220 CM BETA -P,29 ,10, -L 00196 L2 00195 00000
00230 BL ATN1-72 , ,0, BR IF MANT LESS THAN .29 00208 J4 00196 000K9
00240 TF 79 ,CLR-100-P, , , +L 00220 M7 00352 01300
00250 MN BETA-2 -P,6 ,10, 6*MANT IN 99 00232 ZD 00079 00804
00260 TDM 98 , -1 , , -L 1+6*MANT IN 99 00244 J3 00194 000-6
00270 S BETA-2 -P,SIX-45 ,1, +L MANT-.6 L DIGITS 00256 I5 00098 0000J
00280 TF ALPHA -P,99 , , 10+6*MANT MOVED TO ALPHA.L+2DE 00268 KK 00194 01210
00290 TF 99 ,CLR-94-P , , ,2L 2L+2 ZEROS 00280 K6 00050 00099
00300 LD 98 ,BETA-2 -P, , , -L, L DIGITS 00292 ZD 00099 00810
00310 DC 48 ,2552000855 5256030106 2020055008 5552000000 56550855,348
00320 D 100 ,ALPHA -P, , , -L, L+2 DIGITS 00304 ZD 00098 00194
00330 TF BETA-2 -P,97 , , , -L MANT IS (MANT-.6)/(10+6*MANT) 00316 ZR 00100 00050
    
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00340 SF TEST+11 , ,0, IND THIS CALC MADE 00528 K6 00194 00097
00350 TF 80 ,CLR-106-P,, ,2L ZEROS 00340 L2 00075 00000
00360 M BETA-2 -P,BETA-2 -P,, SQUARE MANT 00352 Z0 00080 00798
00370 TF SAVE -P,99 ,, ,L SAVE IS MANT*MANT,L DIGITS 00364 KL 00194 00194
00380 TF ALPHA -P,CLR-95 -P,, ,+L INIT ALPHA TO 00 L+1 ZEROS 00376 K6 00100 00099
00390 TFM ATN1+35 ,99999 ,10, ,2L 00388 KO 00050 00809
00400 TFM ATN1-3 ,99999 ,10, ,+L 00400 J6 00459 99989
00410 ATN1 TF 99 ,CLR-92-P ,, ,+L L+4 ZEROS 00412 J6 00421 99989
00420 TFM 98 ,10 ,10, -L 00424 Z0 00099 00812
00430 DM 98 , , , -L 00436 L6 00098 000J0
00440 S 96 ,ALPHA -P ,, 00448 L9 00098 -0000
00450 TF ALPHA -P,96 ,, L+1 DIGITS 00460 ZK 00096 00050
00460 TF 80 ,CLR-106-P,, ,2L 00472 K6 00050 00096
00470 M ALPHA -P,SAVE -P,, ,2L+1 DIGITS 00484 Z0 00080 00798
00480 TF ALPHA -P,99 ,, ,L L+1 DIGITS 00496 KL 00050 00100
00490 SM ATN1+35 ,2 ,010 00508 K6 00050 00099
00500 SM ATN1-3 ,1 ,010 00520 J2 00459 000-2
00510 BNZ ATN1 , ,0, BR IF LESS THAN L-1 PASSES 00532 J2 00421 000-1
00520 TF SAVE -P,ONEZ-47-P,, ,+L L+2 DIGITS 00544 M7 00424 01200
00530 S SAVE -P,ALPHA -P,, ONE MINUS SUM OF COEF*MANT**21 00556 KO 00100 00574
00540 TF 80 ,CLR-106-P,, ,2L 00568 KK 00100 00050
00550 M SAVE -P,BETA-2 -P,, ,2L+2 DIGIT PRODUCT 00580 Z0 00080 00798
00560 UC 48 ,0000202100 2026502504 5044200040 0205000000 00084025,348
00570 BNF TEST2 ,TEST+11 ,01 00348 00048
00580 BNN TEST2-12 , ,0 00604 MM 00652 00075
00590 SF 99 , , , -L 00616 M6 00640 01300
00600 A 99 ,TAN6-45 ,1, -L,+L L+1 DIGITS 00628 Z2 00099 00000
00610 TEST2 BNF **36 ,TEST+10 ,01 00640 ZJ 00099 01256
00620 SF 99 , , , -L 00652 MM 00688 00074
00630 A 99 ,PIOV2-45-P,, -L,+L L+2 DIGITS 00664 Z2 00099 00000
00640 TFM BETA -P,1 ,10 00676 ZJ 00099 00623
00650 TD 100 ,BETA+1 -P,, -L INSERT RM AT 100-L 00688 J6 00196 000-1
00660 BD TEST1-36 ,98 ,0, ,2L BR IF NORMALIZATION NOT RECD 00700 ZN 00100 00197
00670 SM BETA -P,1 ,10 00712 M3 00768 00098
00680 TK 96 ,99 ,, -2L,-2L 00724 J2 00196 000-1
00690 00736 Z1 00098 00099

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00690 TD 99 ,NOS DIG ,, -L INSEAT NOISE DIGIT 00748 Z5 00099 02401
00700 B7 *-4H , ,0 00760 M9 00712 00000
00710 SF 98 , , , -2L 00768 Z2 00098 00000
00720 TF PCK+25 ,97 ,16, ,L 00780 Z6 0239- 00097
00730 TF PCK+15 ,BETA -P,16 00792 Z0 0238- 00196
00740 TEST1 BNF **24 ,TEST+9 ,01 00804 MM 00828 00073
00750 SF PCK+25 , ,16 00816 Z2 0239- 00000
00760 B7 PCK+10 , ,16 00828 Z9 0237N 00000
00770 PCHAR TDM TEST+10 ,1, ,0, INDICATE POSITIVE CHAR 00836 J5 00074 0000J
00780 TF 99 ,CLR-95-P ,, ,2L 00848 Z0 00099 00809
00790 TDM 100 ,1, ,, -2L DIVIDEND EQUALS .1 00860 L5 00100 0000J
00800 D 99 ,BETA-2 -P,, -L, DIVISOR IS MANT 00872 ZR 00099 00194
00810 DC 48 ,0440525000 5250000050 0000010000 050055670 70510005,348
00820 BD **56 ,99 ,0, ,2L BR IF MANT IS 100000... 00348 00048
00830 SF 100 , , , -2L REDUCE TO L DIGITS 00884 M3 00940 00099
00840 TF BETA-2 -P,99 ,, ,L 00896 Z2 00100 00000
00850 SM BETA -P,1 ,10, REDUCE CHAR BY 1 00908 K6 00194 00099
00860 B7 **32 , ,0, THESE 3 00920 J2 00196 000-1
00870 TF BETA-2 -P,98 ,, ,L INSTRUCTIONS GO 00932 M9 00964 00000
00880 SM BETA -P,2 ,10, 00940 K6 00194 00098
00890 BL **44 , ,0, BR IF OPERAND IS ONE WITH BD ABOVE 00952 J2 00196 000-2
00900 BE ALPH , ,0, BR IF CHAR REDUCED TO ZERO 00964 M7 01008 01300
00910 SF BETA -P, ,, CHAR STILL POSITIVE,MAKE NEG 00976 M6 00196 01200
00920 B7 TEST+48 00988 L2 00196 00000
00930 TFM PCK+15 , ,1610, STORE 01000 M9 00112 00000
00940 TF PCK+25 ,PIOV4-45 ,16, ,+L 01008 L6 0238- 000-0
00950 B7 TEST1 01020 Z0 0239- 01301
00960 EDD BD **32 ,TEST+10 ,01, BR IF RESULT MORE THAN PIOV2 01032 M9 00804 00000
00970 TF PCK+25 ,BETA-2 -P,16 01040 ML 01072 00074
00980 B7 TEST1-12 01052 Z0 0239- 00194
00990 TF ALPHA -P,BETA-2 -P 01064 M9 00792 00000
01000 TF BETA-2 -P,PIOV2-46-P,, ,+L L+1 DIGITS 01072 KO 00050 00194
01010 CF ALPHA-1-P, ,, -L 01084 KO 00194 00622
01020 TDM ALPHA -P, ,,11, -L 01096 L3 00049 00000
01030 CM BETA -P,00 ,1011, ,+L 01108 J5 00050 0000-
01040 BNM **48 , ,0 01120 J4 00196 000--
01050 TFM **35 ,ALPHA -P,07 01132 M7 01180 01100
01060 DC 10 ,0550050000,310 01144 J0 01179 -0050
00310 00010

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00350 A PCK+15 ,BETA-4 -P,6, , -L CHAR EQUALS +2 00348 00046
00360 TR BETA-5 -P,BETA-3 -P,, -L,-L SHIFT LEFT 2 POSITIONS 00344 2J 0238- 00192
00370 B7 E12-12 00356 LJ 00191 00193
00380 TDM BETA-6 -P, ,11, -L CHAR EQUALS +1 00368 M9 00424 00000
00390 CF BETA-5 -P, , -L 00376 J5 00190 0000-
00400 A PCK+15 ,BETA-5 -P,6, , -L 00388 L3 00191 00000
00410 TR BETA-5 -P,BETA-4 -P,, -L,-L SHIFT LEFT 1 POSITION 00400 2J 0238- 00191
00420 BNV **32 , ,0, BR IF ADJ CHAR DDES NOT OVFLOW 00412 LJ 00191 00192
00430 E12 BNF OVFL -P,RECIP-1 ,1, BR IF MANT POSITIVE 00424 M7 00456 01400
00440 B7 UNFL -P 00436 J5 00190 0000-
00450 SF BETA-5 -P, , -2L 00448 M9 00518 00000
00460 CALC TFM **9 , ,0810, INIT SIZE IND 00456 L2 00191 00000
00470 CM BETA-4 -P,34 ,10, -L 00468 J6 00477 0-0-0
00480 BL GORD , ,0, BR IF BETA LESS THAN .34 +CHAR 00480 J4 00192 000L4
00490 SM BETA-4 -P,34 ,10, -L ADJ BETA BY -.34 00492 M7 00608 01300
00500 AM CALC+9 ,1 ,010, STEP SIZE IND 00504 J2 00192 000L4
00510 B7 CALC+12 , ,0, CONTINUE REDUCTION OF BETA 00516 J1 00477 000-1
00520 TFM **59 ,BETA-4 -P,07, PROCESS IF CHAR NEG 00528 M9 00480 00000
00530 A **47 ,BETA -P,0 00536 J0 00595 -0192
00540 TF BETA-6 -P,CLR-96-P , -L,+L L+4 DIGIT FIELD 00548 KJ 00595 00196
00550 CF BETA-5 -P, , -L 00560 K0 00190 00R0:
00560 TF BETA-4 -P, , SHIFT RIGHT W R T CHAR SIZE 00572 L3 00191 00000
00570 SF BETA-5 -P, , -L 00584 K6 00192 00000
00580 UC 44,0856405252 0055085502 2020005000 000000851 +052 ,348 00596 L2 00191 00000
00590 GORD TF 80 ,CLR-106-P,, ,2L 00348 00044 00608 20 00080 00798
00600 M BETA-4 -P,LN10-46-P,, ,+L 2L+4 DIGIT PRODUCT 00620 KL 00192 00717
00610 SF 97 , , -2L 00632 32 00097 00000
00620 TF SAVE -P,99 , , -L L+4 DIGIT FIELDS 00644 K6 00100 00094
00630 TF BETA-2 -P,99 , , -L 00656 K6 00194 00099
00640 TFM FACT+11 ,2 ,010 00668 J6 00751 000-2
00650 A ALPHA-7 -P,SAVE -P 00680 KJ 00048 00100
00660 TF 80 ,CLR-106-P,, ,2L 00692 20 00080 00798
00670 M SAVE -P,BETA-2 -P,, 2L+8 DIGIT PRODUCT 00704 K1 00100 00194
00680 TF 99 ,96 , , -L L+6 DIGIT DIVIDEND

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00690 TFM 96 , ,10, -L 00716 26 00099 00096
00700 FACT DM 97 , , -L 00728 16 00096 000-0
00710 BZ FACT+56 , ,0, BR WHEN TERM REDUCES TO ZERO 00740 19 00097 -0000
00720 TF SAVE -P,97 , , L+4 DIGIT FIELD 00752 M6 00796 01200
00730 AM FACT+11 ,1 ,010 00764 K6 00100 00097
00740 B7 FACT-60 , ,0, CALC NEXT TERM 00776 J1 00751 000-1
00750 CM CALC+9 , ,010 00788 M9 00680 00000
00760 BE RECIP , ,0, BR IF FURTHER ADJ NOT REQUIRED 00796 J4 00477 000-0
00770 TF 80 ,CLR-106-P,, ,2LADJUST FOR REDUCTNS BY .34 00808 M6 00888 01200
00780 M ALPHA-4-P,TEN34-45 ,1 ,L 2L+4 DIGIT PRODUCT 00820 20 00080 00798
00790 SF 97 , , -2L 2L+3 DIGITS 00832 KL 00046 01024
00800 TF ALPHA-4-P,98 , , -L L+2 DIGITS 00844 32 00097 00000
00810 SM CALC+9 ,1 ,010, REDUCE INDICATOR 00856 K6 00046 00098
00820 B7 *-84 , ,0 00868 J2 00477 000-1
00830 DC 22, 0000084025 000200000005 ,350 00880 M9 00796 00000
00840 RECIP BNF GOBACK-12,RECIP-1 ,01, BR IF MANT WAS POSITIVE 00350 00022 00888 MM 01004 00887
00850 SF PCK+15 , ,6, MAKE CHAR NEGATIVE 00900 32 0238- 00000
00860 TF 99 ,CLR-94-P , ,2LCALC RECIPROCAL IF NEG MANT 00912 20 00099 00810
00870 TFM ** ,10 ,10, -2L, 2L+2 DIGIT DIVIDEND 00924 16 00099 000J0
00880 D 100 ,ALPHA-4-P,, -L, L+2 DIGIT DIVISOR 00936 2R 00100 00046
00890 BV GOBACK-24, , , BR IF ORIG OPER 1 OR 1/LOGE 00948 M6 00992 01400
00900 TF PCK+25 ,97 ,6, -L STORE RESULT MANTISSA 00960 26 0239- 00097
00910 AM PCK+15 ,1 ,610, REDUCE CHAR BY ONE 00972 11 0238- 000-1
00920 B7 PCK+10 , ,6, RETURN TO MAINLINE 00984 49 0237N 00000
00930 AM PCK+15 ,2 ,610 00992 11 0238- 000-2
00940 TF PCK+25 ,ALPHA-6-P,6, STORE RESULT MANTISSA 01004 20 0239- 00044
00950 GOBACK B PCK+10 , ,6, RETURN TO MAINLINE 01016 49 0237N 00000
00960 DORG *-4 01023
00970 TEN34 DC 47 ,21877616239495525622261149163841873167118056246 01069 00047
00980 DEND 02102 02102

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00010	DSA	FLOG3	,FLN3			00004 00005 -0000
00020		DORG	EDGAR			00009 00005 -0020
00030	FLOG3	TDM	CORN+1	,1	,0,	00000
00040		B7	*+20	,	,0	00000 J5 00609 00001
00050	FLN3	TDM	CORN+1	,9	,0,	00012 M9 00032 00000
00060		TFM	PCK+5	,*+20	,17	00020 J5 00609 00009
00070		B7	PCK	,	,6,	00032 10 02370 -0052
00080	DC	30	,0700060050	0500900105	7070700055	00044 49 0236M 00000
00090	BD	*+56	,BETA-1	-P,0,	,-L	00350 00030
00100	TDM	401	,0	,11,		00052 ML 00108 00195
00110	YF	PCK+25	,NINE-45-P,6,	,+L		00064 15 00401 0000-
00120	SF	PCK+25	,	,6,		00076 20 0239- 00763
00130	B7	OVFI+24-P,		,,		00088 32 0239- 00000
00140	BNF	*+36	,BETA-2	-P,0,		00100 M9 00498 00000
00150	TDM	401	,0	,,		00108 MM 00144 00194
00160	CF	BETA-2	-P,	,,		00120 15 00401 00000
00170	TFM	CORN-25	,CZERO-45	,017,	,+L	00132 L3 00194 00000
00180	TF	GOAL-13	,BETA	-P,0,		00144 J0 00583 -0914
00190	CF	BETA-1	-P,	,,		00156 KO 00831 00196
00200	TDM	BETA-2	-P,1	,11,		00168 L3 00195 00000
00210	CM	BETA-1	-P,15	,10,		00180 J5 00194 0000J
00220	BNL	*+44	,	,0,		00192 J4 00195 000J5
00230	A	BETA-2	-P,BETA-2	-P,,		00204 M6 00248 01300
00240	AM	CORN-25	,48	,010,		00216 KJ 00194 00194
00250	B7	*-60	,	,0		00228 J1 00583 000M8
00260	DC	42,56705508252552085552550103			5106202050	00240 M9 00180 00000
00270	TF	ALPHA	-P,ONEZ-48-P,,	,+L		00255 2, 350
00280	TDM	ALPHA	-P,2	,11,		00350 00042
00290	S	ALPHA	-P,BETA-2	-P,,		00248 KO 00050 00573
00300	IF	99	,CLR-93-P	,,	,2L	00248 TO TWDZ
00310	LD	97	,ALPHA	-P,,		00260 J5 00050 0000K
00320	D	98	,BETA-2	-P,,		00272 KK 00050 00194
						00284 20 00099 00811
						00296 20 00097 00050
						(2.0-2)/Z EQUALS Y

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00330	TF	BETA	-P,98	,,		00308 2R 00098 00194
00340	TF	80	,CLR-106-P,,	,2L		00320 K6 00196 00098
00350	M	BETA	-P,BETA	-P,,		00332 20 00080 00798
00360	TF	SAVE	-P,97	,,		00344 KL 00196 00196
00370	A	BETA	-P,BETA	-P,,		00356 K6 00100 00097
00380	COUN	TFM	*+9	,99999	,010,	00368 KJ 00196 00196
00390	TFM	COUN+71	,99999	,010,	,2L	00380 J6 00389 99999
00400	TF	ALPHA	-P,CZERO-46	,,	,+L	00392 J6 00451 99999
00410	TF	99	,CLR-92-P	,,	,+L	00404 KO 00050 00913
00420	TFM	98	,10	,10,		00416 20 00099 00812
00430	DM	98	,	,,		00428 16 00098 000J0
00440	A	ALPHA	-P,97	,,		00440 19 00098 -0000
00450	TF	80	,CLR-106-P,,	,2L		00452 K1 00050 00097
00460	M	ALPHA	-P,SAVE	-P,,		00464 20 00080 00798
00470	TF	ALPHA	-P,97	,,		00476 KL 00050 00100
00480	SM	COUN+71	,2	,010,		00488 K6 00050 00097
00490	SM	COUN+9	,1	,010,		00500 J2 00451 000-2
00500	BNZ	COUN+36	,	,0,		00512 J2 00389 000-1
00510	DC	46,	08552550	5052000865	5250066005	00524 M7 00416 01200
00520	TF	80	,CLR-106-P,,	,2L		00500 07770050 ,350
00530	M	ALPHA	-P,BETA	-P,,		00524 M7 00416 01200
00540	A	97	,BETA	-P,,		00530 00046
00550	YF	BETA	-P,	,,		00536 20 00080 00798
00560	SF	BETA	-P	,,		00548 KL 00050 00196
00570	S	BETA	-P,97	,,		00560 2J 00097 00196
00580	CORN	B	NLG	,0,		00572 K6 00196 00000
00590	TF	80	,CLR-106-P,,	,2L		00584 L2 00196 00000
00600	M	LOGE-45-P,BETA	-P,,	,+L		00596 K2 00196 00097
00610	TF	BETA	-P,97	,,		00608 M9 00876 00000
00620	SF	BETA	-P	,,		00620 20 00080 00798
00630	TF	80	,CLR-100-P,,	,+L		00632 KL 00670 00196
00640	M	ONEZ-46-P,GOAL-13	,1,	,+L		00644 K6 00196 00097
						00656 L2 00196 00000
						00668 20 00080 00804
						00680 KL 00975 00831

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00650 PLUS A 99 ,BETA -P 00692 2J 00099 00196
00660 TF BETA -P,99 ,, PREPARE FOR NORMALIZATION
                                00704 K6 00196 00099
00670 CF BETA -P 00716 L3 00196 00000
00680 C CLR-92 -P,98 ,, ,+L 00728 K4 00812 00098
00690 BE ZRES -P, ,, BR IF L+4 ZEROS 00740 M6 00530 01200
00700 TFM PCK+15 ,3 ,610, SET CHAR OF 3
00710 HD GOAL-24 ,BETA-4 -P,0, ,L BR IF -I ORDER DIGIT NON-ZERO
                                00752 16 0238- 000-3
                                00764 ML 00820 00192
00720 TR BETA-4 -P,BETA-3 -P,, -L,-L 00776 LJ 00192 00193
00730 SM PCK+15 ,1 ,610 00788 12 0238- 000-1
00740 TO BETA -P,NOS DIG ,, INSERT NOISE DIGIT
                                00800 K5 00196 02401
00750 B7 *-48 , ,0, CONTINUE NORMALIZATION
                                00812 M9 00764 00000
                                00350 00014
00760 UC 14 ,700500000 0660 ,350 -L, SET FIELD DEFINITION
00770 SF BETA-4 -P, ,,
                                00820 L2 00192 00000
                                00832 20 0239- 00191
00780 TF PCK+25 ,BETA-5 -P,6, STORE MANT 00844 44 0237N 00099
00790 GOAL HNF PCK+10 ,99 ,6, AFFIX SIGN AND RETURN TO MAINLINE
                                00856 32 0239- 00000
                                00868 49 0237N 00000
00800 SF PCK+25 , ,6 00876 20 00080 00804
00810 B7 PCK+10 , ,6 00888 KL 00718 00831
00820 NLG TF 80 ,CLR-100-P,, ,+L CONVERSION FOR LN
                                00900 M9 00692 00000
                                00959 00048
00830 M LN10-45-P,GOAL-13 ,, ,+L, L+5 DIGITS 00004 00005 -0000
00840 B PLUS , ,0, RETURN TO COMMON SECTION
                                00000
                                00000
00850 LZERO UC 48 ,0 01007 00048
00860 UC 48,-69314718055994530941723212145817656807550013436
                                0100026872
                                01055 00048
00870 DC 48,-138629436111989061883446424291635313615100026872
                                01103 00048
00880 UC 48,-207944154167983592825169636437452970422650040308
                                02122
00890 DEND 02122
    
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00010 USA FSR53 00004 00005 -0000
00020 DURG EDGAR 00000
00030 FSR53 TFM PCK+5 ,**20 ,, SET FOR RIGHT SHIFT
                                00000 10 02370 -0020
00040 B7 PCK , ,6, BR TO PICK AND RETURN
                                00012 49 0236N 00000
                                00320 00014
00050 UC 14 ,5000 00000005 ,320
00060 BNF **24 ,PCK+15 ,011, RETAIN PROPER SIGN
                                00020 M4 00044 0238-
                                00032 L2 00196 00000
00070 SF BETA -P 00044 22 0238- 0238-
00080 S PCK+15 ,PCK+15 ,611, CLEAR A FIELD TO ZEROS
                                00056 12 02385 000-1
                                00068 M4 00056 0238N
00090 SM PCK+20 ,1 ,10, FIND AND CLEAR HI ORDER FLAG
                                00080 33 0238N 00000
                                00092 20 0238- 00196
00100 BNF *-12 ,PCK+20 ,011, IN B FIELD
00110 CF PCK+20 , ,6 00104 49 0237N 00000
00120 TF PCK+15 ,BETA -P,6, STORE
00130 B7 PCK+10 , ,6, RETURN TO MAINLINE
                                02141
00140 DEND 02141
    
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00010	DSA	FSL5				00004	00005	-0000
00020	DORG	EDGAR				00000		
00030	FSL5	TFM	PCK+5	,**20	,17	00000	10	02370 -0020
00040	B7	PCK			,6	00012	49	0236N 00000
00050	DC	14	,055000000000005	,314		00314	00014	
00060	TD	CL +19	,BETA	-P,0,	SAVE SIGN OF B	00020	KM	00159 00196
00070	CF	BETA	-P			00032	L3	00196 00000
00080	TF	**47	,PCK+20		ADJ A ADR TO LD ORDER ADR IN	00044	K6	00091 02385
00090	SM	**35	,1		,010, ACCORDANCE WITH B FIELD LENGTH	00056	J2	00091 000-1
00100	AM	PCK+15	,1			00068	11	02380 -0001
00110	BNF	*-24			,0	00080	M4	00056 00000
00120	TF	PCK+15	,BETA	-P,6,	STORE	00092	20	0238- 00196
00130	C	PCK+15	,PCK+20		CLEAR LD ORDER B FIELD AND A FIELD	00104	24	02380 02385
00140	BNL	CL +20			,0	00116	M6	00140 01300
00150	AM	PCK+15	,1		,10	00128	11	02380 000-1
00160	CL	TDM	PCK+15		,0	00140	15	0238- 00000
00170	B7	CL -36			,0	00152	M9	00104 00000
00180	BNF	PCK+10	,CL +19		,16, SET SIGN AND EXIT	00160	4M	0237N 00159
00190	SF	PCK+20			,6	00172	32	0238N 00000
00200	B7	PCK+10			,6	00184	49	0237N 00000
00210	DEND	02151				02151		

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00010	DSA	TFL53				00004	00005	-0000
00020	DORG	EDGAR				00000		
00030	TFL53	TFM	PCK+5	,**20	,17, BR TO PICK AND RETURN	00000	10	02370 -0020
00040	B7	PCK			,6	00012	49	0236N 00000
00050	DC	4	,0505		,324	00324	00004	
00060	TF	PCK+25	,BETA-2	-P,6,	MOVE B-2 TO A-2	00020	20	0239- 00194
00070	TF	PCK+15	,BETA	-P,6,	MOVE B TO A	00032	20	0238- 00196
00080	B7	PCK+10			,6, RETURN TO MAINLINE	00044	49	0237N 00000
00090	DEND	02161				02161		

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00010	DSA	FS3	,FA3	,FM3	,FD3	00004	00005	-0000
						00009	00005	-0020
						00014	00005	-0040
						00019	00005	-0060
00020	DORG	EDGAR				00000		
00030	FS3	TDM	FLOP+1	,2		00000	J5	00117 00002
00040		B7	MOVE+12			00012	M9	00004 00000
00050	FA3	TDM	FLOP+1	,1		00020	J5	00117 00001
00060		B7	MOVE+12			00032	M9	00004 00000
00070	FM3	TDM	FLOP+1	,3		00040	J5	00117 00003
00080		B7	MOVE			00052	M9	00072 00000
00090	UC	4,0005,350				00350		00004
00100	FD3	TDM	FLOP+1	,9		00060	J5	00117 00009
00110	MOVE	TF	79	,CL	R-17	00072	20	00079 00685
00120		TFM	PCK+5	,FLOP-12		00084	10	02370 -0104
00130		B7	PCK	,6		00096	49	0236N 00000
00140		BXY	*+12			00104	M6	00116 01500
00150	FLOP	FADD	PCK+15	,PCK+20	,611	00116	01	0238- 0238N
00160		BV	ZRODIV			00128	M6	00196 01400
00170		BXV	PCK+10	,6		00140	47	0237N 01500
00180		TDM	401	,-1		00152	15	00401 0000J
00190		BNF	PCK+10	,PCK+15	,611	00164	44	0237N 0238-
00200	UNFLO	CF	401	,0000	,810	00176	33	00401 0-0-0
00210		B7	PCK+10	,6		00188	49	0237N 00000
00220	ZRODIV	TDM	401	,0	,11	00196	15	00401 0000-
00230		FADD	PCK+15	,UNFLO+11	,6	00208	0J	0238- 00187
00240		BNZ	PCK+10	,6		00220	47	0237N 01200
00250		TFM	PCK+15	,99	,61011	00232	16	0238- 000RR
00260		B7	PCK+10	,6		00244	49	0237N 00000
00270	DEND	03024				03024		

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00010	DSA	FSQR3				00004	00005	-0000
00020	DORG	EDGAR				00000		
00030	FSQR3	TFM	PCK+5	,**20	,17	00000	10	02370 -0020
00040		B7	PCK	,6				BR TO PICK AND RETURN
00050	DC	44	,075050	0550000002	0000000805	04000056000000005,350		
						00350		00044
00060	BD	**20	,BETA-1	-P,0,	,-L	00020	ML	00040 00195
00070	B7	ZRES	-P,	,,		00032	M9	00326 00000
								BR IF RESULT ZERD
00080	MM	BETA	-P,50	,10,		00040	J3	00196 000N0
								DIV CHAR BY 2
00090	BNF	**36	,BETA-2	-P,0,		00052	MM	00088 00194
						00064	L3	00194 00000
00100	CF	BETA-2	-P					BR FOR POSITIVE ARG
00110	TDM	401	,0	,,		00076	15	00401 00000
								SET NEG ARG INDICATOR
00120	BD	SQ3	,98	,0,		00088	M3	00380 00098
								BR IF CHAR ODD
00130	TFM	SQ2+42	,97	,010,	,-L	00100	J6	00166 000R7
								MOVE MANTISSA ADR
00140	BNF	**24	,99	,0,		00112	M4	00136 00099
						00124	32	00097 00000
00150	SQ2	SF	97					BR IF CHAR POSITIVE
00160	TF	SQEX+47	,97	,,		00136	K6	00483 00097
						00148	20	00099 00610
00170	TF	99	,CLR-92-P	,,	,2L	00160	20	00000 00194
00180	TF		,BETA-2	-P,,		00172	J6	00246 000R7
								MOVE MANT INTO 97/98 MINUS L
00190	TFM	LSQ+18	,97	,010,	,-2L	00184	KD	00251 00398
								INITIAL MANT ADR HI ORDER
00200	TF	LSQ+23	,SQ3+18	,01,		00196	KD	00330 00246
						00208	KD	00194 00369
00210	TF	LSQM-6	,LSQ+18	,,		00220	M9	00336 00000
								INITIAL MANT ADR
00220	TF	BETA-2	-P,ONEZ-48-P,,	,+L	SET RESULT	00228	J1	0025J 000-2
								TO ONE L+1 DIGITS
00230	B7	LSQM	,,	,0,		00240	22	00000 00000
00240	LSQ	AM	LSQ+23	,2	,0610,	00264	JM	00251 -0194
								ADD 2 TO RESULT
00250	S		,,	,,		00276	M6	00436 01300
								SUB RESULT FROM MANTISSA
00260	BNN	LSQ	,,	,0,		00280	KJ	00240 0025J
						00300	L3	00240 00000
00270	CM	LSQ+23	,BETA-2	-P,07				CONTINUE UNTIL MANT IS NEG
00280	BNL	SQEX	,,	,0,		00312	J1	00330 000-1
								BR IF TERMINAL RESULT ADR
00290	A	LSQ+18	,LSQ+23	,01611,		00324	32	00000 00000
								RESTORE LAST SUB
00300	LP	LSQ+18	,,	,06				REDUCE MANT FIELD LENGTH ONE
00310	AM	LSQM-6	,01	,010,				
00320	SF							

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00330 LSQM AM LSQ+18 , , ,010, STEP MANTISSA ADR,MI ORDER,+2
00340 AM LSQ+23 ,01 ,010, STEP RESULT ADR +1
00350 SM LSQ+23 ,09 ,0610, STEP RESULT -9
00360 B7 LSQ+12 , ,0, CONT LOOP WITH NEXT 2 DIGITS
00370 DC 16 ,70700200065020,316
00380 SQ3 AM 99 ,50 ,10, ADD .5 TO CHAR/2
00390 TDM BETA-2 -P,0 ,211, -L, LENGTHEN MANT FOR ODD CHAR
00400 CF BETA-1 -P, , , -L,
00410 TFM SQ2+42 ,98 ,010, -L MOVE MANT ADR
00420 B7 SQ2-12 , ,0, BR TO STORE CHAR + INIT LOOP
00430 SQEX TF 80 ,CLR-100-P,, ,+L
00440 MM BETA-2 -P,50 ,10, RESULT/2
00450 SF 98 , , -L, DEFINE FIELD
00460 TFM 99 , , , INSERTS CHAR
00470 TFL PCK+15 ,99 ,6, STORE RESULT
00480 B7 PCK+10 , ,6, RETURN TO MAINLINE
00490 HEND 03061

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00010 DSA FCO53 ,FSIN3
00020 DORG EDGAR
00030 FCO53 TFM CLF+11 ,010 ,09, INIT FOR COS
00040 TFM PCK+5 ,CLF ,17
00050 B7 PCK , ,6, GO TO PICK AND RETURN
00060 FSIN3 TFM CLF+11 ,011 ,09, INIT FOR POSITIVE SIN
00070 TFM PCK+5 ,*20 ,17
00080 B7 PCK , ,6, GO TO PICK AND RETURN
00090 DC 46 ,0500307056 5000510007 0507005651 0070510000 505608,348
00100 BNF *+36 ,BETA-2 -P
00110 TDM CLF+10 ,0 ,0, ADJUST FOR NEG SIN
00120 CLF CF BETA-2 -P
00130 CF BETA-1 -P, , , -L
00140 TF SAVE -P,CLR-94-P , , +L MOVE L+2 ZEROS TO SAVE
00150 CM BETA -P,00 ,10
00160 BNL POZCH , ,0, BR IF POSITIVE OR ZERO CHAR
00170 CM BETA -P,00 ,1011, +L
00180 BL BRD , ,0, BR IF CHAR LESS THAN -L
00190 TFM *+30 ,SAVE -P,07, -L CHAR BETWEEN 0 AND -L
00200 S *+18 ,BETA -P,0
00210 TR ,BETA-1 -P, , -L
00220 BRD BD *+24 ,CLF+11 ,01, BR IF SIN ROUTINE
00230 A SAVE-P ,PIOV2-45-P,, ,+LCONVERT TO SIN
00240 S SAVE -P,TWOPI-45 ,1, +L
00250 BH *+12 , ,0, SUB 2 PI FROM MANT UNTIL NEG
00260 SF SAVE-1 -P, , , -L
00270 A SAVE -P,PI-45 , , +L
00280 BN *+36 , ,0
00290 SM CLF+10 ,01 ,010
00300 SF SAVE -P
00310 A SAVE -P,PIOV2-45-P,, ,+L
00320 TF 80 ,CLR-104-P,, ,2L
00330 DC 48,5552705600 0002202000 8055000000 0008550000 00560050,348
00340 M SAVE -P,SAVE -P
00350 T+ SAVE -P,98 ,10, -L
00360 SF SAVE-1 -P, , , -L
00370 TF BETA -P,ONEZ-47-P,, ,+LSET BETA EQUAL 1 PLUS L+1 ZERO

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00380 TR AAB-3 ,H34-1 ,01 00388 LJ 00907 01010
00390 OVER TDM SUM+1 ,2 ,011, SET FOR SUBTRACTION 00400 J5 00473 0000K
00400 TF 99 ,98 ,10, -L 00412 26 00089 00088
00410 TFM 97 ,0000 ,58, -L 00424 16 00087 0-000
00420 B 98 ,AB ,15, -L 00436 2R 00088 00914
00430 DONE , ,0, BR IF QUOTIENT ZERO 00448 M6 00588 01200
00440 TF ALPHA -P,95 ,10 00460 K6 00050 00085
00450 SUM S BETA -P,ALPHA -P 00472 KK 00196 00050
00460 AM AAB ,2 ,010 00484 J1 00910 000-2
00470 AM AAB-2 ,2 ,010 00496 J1 00908 000-2
00480 M AAB ,AAB-2 ,01, 4DIGIT PRODUCT 00508 KL 00910 00908
00490 TF AB ,99 ,0 00520 K6 00914 00099
00500 TF 80 ,CLR-106-P,, ,2L 00532 20 00080 00596
00510 M SAVE -P,ALPHA -P 00544 KL 00100 00050
00520 BNF OVER ,SUM+1 ,01 00556 MM 00400 00473
00530 TDM SUM+1 ,1 ,0, SET TO ADD 00568 J5 00473 00001
00540 B7 OVER+12 , ,0 00580 M9 00412 00000
00550 DONE C BETA-1 -P,CLR-95-P ,, ,+L 00588 KM 00195 00607
00560 BE POZCH+60 , ,0, BR IF L+1 ZEROS 00600 M6 00820 01200
00570 TFM SAVE -P,01 ,10 00612 J6 00100 000-1
00580 DC 48,0750775070 0000505505 5000500051 0000505000 05057005,350 00350 00048
00590 BD PLACE-24 ,BETA-1 -P,0, ,-LBR IF NORMALIZATION NCT REQ 00624 ML 00692 00195
00600 SM SAVE -P,01 ,10 00636 J2 00100 000-1
00610 TR BETA-1 -P,BETA -P,, -L,-L 00648 LJ 00195 00196
00620 TD BETA-1 -P,NOS DIG ,, ENTER NOISE DIGIT 00660 K5 00195 02401
00630 SF BETA-1 -P, ,, -L 00672 L2 00195 00000
00640 B7 *-60 00684 M9 00624 00000
00650 BD PLACE ,CLF+10 ,01 00692 ML 00716 00098
00660 SF BETA-2 -P 00704 L2 00194 00000
00670 PLACE TF BETA -P,SAVE -P,, STORE CHAR 00716 K0 00196 00100
00680 TFL PCK+15 ,BETA -P,6, STORF RESULT 00728 00 0238- 00196
00690 TD ALPHA+1-P,H34+7 ,1, RESTORE RM 00740 KN 00051 01018
00700 B7 PCK+10 , ,6, RETURN TO MAINLINE PROGRAM 00752 49 0237N 00000
00710 POZCH CM BETA -P,03 ,10 00760 J4 00196 000-3
00720 BL **80 , ,0, BR IF CHAR SMALLER THAN 03 00772 M7 00852 01300
00730 CM BETA -P,00 ,10, ,+L 00784 J4 00196 000-0
00740 BNM **44 , ,0, BR IF CHAR LESS OR EQUAL L 00796 M7 00840 01100
00750 TDM 401 ,0 ,11, CHAR TOO LARGE 00808 15 00401 0000-
00760 TD ALPHA+1-P,H34+7 ,, RESTORE RM 00820 KN 00051 01018
00770 B7 ZRES , ,0 00832 M9 00326 00000
00780 TDM 401 ,0 00840 15 00401 00000
    
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00790 TFM **42 ,SAVE-1 -P,07, ADJ TO SUB TWO PI FROM WANT 00852 J0 00894 -0099
00800 S **30 ,BETA -P,0, UNTIL REDUCED TO NEG NUMBER 00864 KK 00894 00196
00810 TDM BETA-2 -P,0 ,11, -L 00876 J5 00194 0000-
00820 TF ,BETA-2 -P 00888 20 00000 00194
00830 B BRD , ,0 00900 M9 00208 00000
00840 DORG *-4 , ,0 00907
00850 AAB DS 4 00910 00004
00860 AB DS 4 00914 00004
00870 DS 1 00915 00001
00880 PI DC 47 ,31415926535897932384626433832795028841971693993 00962 00047
00890 TWOPI DC 47 ,62831853071795864769252867665590057683943387987 01009 00047
00900 H34 DC 2 ,01 01011 00002
00910 DC 2 ,02 01013 00002
00920 DC 5 ,00020 01018 00005
00930 UEND 03072 03072
    
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00010 USA FATN3 00004 00005 -0000
00020 DORG EDGAR 00000
00030 FATN3 TFM PCK*5 ,+20 ,17 00000 10 02370 -0020
00040 B7 PCK , , ,6, BR TO PICK AND RETURN 00012 49 0236M 00000
00050 DC 50 ,0700055050 0000510005 0576705070 7000065020 51500825,350
00060 TFM TEST+11 , , ,08, SET INDICATORS 00020 J6 00075 0-000
00070 BD *+20 ,BETA-1 -P,0, , -L 00032 ML 00052 00195
00080 B7 TEST1+24 , , , , 00044 M9 00816 00000
00090 TD TEST+9 ,BETA-2 -P,0, SAVE MANT SIGN 00052 KN 00073 00194
00100 TEST CF BETA-2 -P, 00064 L3 00194 00000
00110 CM BETA -P, , ,10, 00076 J4 00196 000-0
00120 RM PCHAR , , ,0, BR IF CHAR POSITIVE 00088 M6 00836 01100
00130 BE ALPH , , ,0, BR IF CHAR ZERO 00100 M6 00196 01200
00140 CM BETA -P,-99999 ,10, +L 00112 J4 00196 999RR
00150 BI EOD , , ,0, BR IF CHAR LESS THAN (-L-1) 00124 M7 01040 01300
00160 TFM ALPH-1 ,BETA-2 -P,07 00136 J0 00195 -0194
00170 A ALPH-1 ,BETA -P,0 00148 KJ 00195 00196
00180 TF BETA-2 -P,CLR-96-P , , -L,+L CLEAR AREA LEFT OF BETA 00160 K0 00194 00606
00190 CF BETA-1 -P, , , -L EXPAND BETA BY REMOVING FLAG 00172 L3 00195 00000
00200 TF BETA-2 -P, , , ADJUST BETA FIELD FOR CHAR 00184 K6 00194 00000
00210 ALPH SF BETA-1 -P, , , -L CONTRACT BETA BY RESETTNG FLAG 00196 L2 00195 00000
00220 CM BETA -P,.29 ,10, -L 00208 J4 00196 000K9
00230 BL ATN1-72 , , ,0, BR IF MANT LESS THAN .29 00220 M7 00352 01300
00240 TF 79 ,CLR-100-P, , , +L 00232 Z0 00079 00602
00250 MM BETA-2 -P,.6 ,10, 6*MANT IN 99 00244 J3 00194 000-6
00260 YDM 98 , -1 , , -L 1+6*MANT IN 99 00256 I5 00098 0000J
00270 S BETA-2 -P,SIX-45 ,1, +L MANT-.6 L DIGITS 00268 KK 00194 01190
00280 TF ALPHA -P,.99 , , 10+6*MANT MOVED TO ALPHA.L+2DG 00280 K6 00050 00099
00290 TF 99 ,CLR-94-P , , ,2L 2L+2 ZEROS 00292 Z0 00099 00608
00300 LU 98 ,BETA-2 -P, , -L, L DIGITS 1 00304 Z0 00098 00194
00310 DC 48 ,2552000855 5256030106 2020055008 5552000000 56550855,348
00320 D 100 ,ALPHA -P, , -L, L+2 DIGITS 00316 ZR 00100 00050
00330 TF BETA-2 -P,.97 , , , -L MANT IS (MANT-.6)/(10+6*MANT) 00328 K6 00194 00097
    
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00340 SF TEST+11 , , ,0, IND THIS CALC MADE 00340 L2 00075 00000
00350 TF 80 ,CLR-106-P, , ,2L ZEROS 00352 Z0 00080 00596
00360 M BETA-2 -P,BETA-2 -P, , SQUARE MANT 00364 KL 00194 00194
00370 TF SAVE -P,.99 , , , -L SAVE IS MANT*MANT.L DIGITS 00376 K6 00100 00099
00380 TF ALPHA -P,CLR-95 -P, , , +L INIT ALPHA TO 00 L+1 ZEROS 00388 K0 00050 00607
00390 TFM ATN1+35 ,99999 ,10, ,2L 00400 J6 00459 999R9
00400 DM ATN1-3 ,99999 ,10, , +L 00412 J6 00421 999R9
00410 ATN1 TF 99 ,CLR-92-P , , , +L L+4 ZEROS 00424 Z0 00099 00610
00420 TFM 98 ,10 ,10, -L 00436 I6 00098 000J0
00430 DM 98 , , , -L 00448 I9 00098 -0000
00440 S 96 ,ALPHA -P, , , 00460 ZK 00096 00050
00450 TF ALPHA -P,.96 , , , L+1 DIGITS 00472 K6 00050 00096
00460 TF 80 ,CLR-106-P, , ,2L 00484 Z0 00080 00596
00470 R ALPHA -P,SAVE -P, , ,2L+1 DIGITS 00496 KL 00050 00100
00480 TF ALPHA -P,.99 , , , -L L+1 DIGITS 00508 K6 00050 00099
00490 SM ATN1+35 ,2 ,010 00520 J2 00459 000-2
00500 SM ATN1-3 ,1 ,010 00532 J2 00421 000-1
00510 BNZ ATN1 , , ,0, BR IF LESS THAN L-1 PASSES 00544 M7 00424 01200
00520 TF SAVE -P,ONEZ-47-P, , , +L L+2 DIGITS 00556 K0 00100 00370
00530 S SAVE -P,ALPHA -P, , , ONE MINUS SUM OF (COFF*MANT**2) 00568 KK 00100 00050
00540 TF 80 ,CLR-106-P, , ,2L 00580 Z0 00080 00596
00550 M SAVE -P,BETA-2 -P, , ,2L+2 DIGIT PRODUCT 00592 KL 00100 00194
00560 DC 48 ,0000202100 2026502504 5044200040 5200500500 00084025,348
00570 BNF TEST2 ,TEST+11 ,01 00348 00048
00580 BNM TEST2-12 , , ,0 00604 MM 00652 00075
00590 SF 99 , , , , 00616 M6 00640 01300
00600 A 99 ,TAN6-45 ,1, -L,+L L+1 DIGITS 00628 Z2 00099 00000
00610 TEST2 BNF *+36 ,TEST+10 ,01 00640 ZJ 00099 01236
00620 SF 99 , , , , -L 00652 MM 00688 00074
00630 A 99 ,PIOV2-45-P, , , -L,+L L+2 DIGITS 00664 Z2 00099 00000
00640 TFM BETA -P,.1 ,10 00676 ZJ 00099 00419
00650 ID 100 ,BETA+1 -P, , -L INSERT RM AT 100-L 00688 J6 00196 000-1
00660 BD TEST1-24 ,98 , , , -2L BR IF NORMALIZATION NOT REQD 00700 ZM 00100 00197
00670 SM BETA -P,.1 ,10 00712 M3 00768 00098
00680 TR 98 ,.99 , , -2L,-2L 00724 J2 00196 000-1
    
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00690 TD 99 ,NDS DIG ,, -L INSEAT NOISE DIGIT
00700 B7 *-48 , ,0 00748 25 00099 02401
00710 SF 98 , ,1 -2L 00760 M9 00712 00000
00720 TF BETA-2 -P,97 ,, -L 00768 32 00098 00000
00730 TEST1 BNF **24 ,TEST+9 ,01 ,+L 00780 K6 00194 00097
00740 SF BETA-2 -P , ,0 00792 MM 00816 00073
00750 TFL PCK+15 ,BETA -P,6 00804 L2 00194 00000
00760 B7 PCK+10 , ,6 00816 00 0238- 00196
00770 PCVAR TOM TEST+10 ,,-1 ,0, INDICATE POSITIVE CHAR 00828 49 0237N 00000
00780 TF 99 ,CLR-95-P ,, ,2L 00836 J5 00074 0000J
00790 TOM 100 ,,-1 ,, -2L DIVIDEND EQUALS .1 00848 20 00099 00607
00800 D 99 ,BETA-2 -P, ,, -L, DIVISOR IS WANT 00860 15 00100 0000J
00810 DC 44 ,0440525000 5250000050 0050510000 555670 70510005,348
00820 BD **56 ,99 ,0, ,+2L BR IF WANT IS 100000... 00348 00044
00830 SF 100 , , , -2L REDUCE TO L DIGITS 00884 M3 00940 00099
00840 TF BETA-2 -P,99 ,, , -L 00896 32 00100 00000
00850 SM BETA -P,1 ,10, REDUCE CHAR BY 1 00908 K6 00194 00099
00860 B7 **32 , ,0, THESE 3 00920 J2 00196 000-1
00870 TF BETA-2 -P,98 ,, , -L INSTRUCTIONS GO 00932 M9 00964 00000
00880 SM BETA -P,2 ,10, WITH BD ABOVE 00940 K6 00194 00098
00890 BL **44 , ,0, BR IF OPERAND IS ONE 00952 J2 00196 000-2
00900 BE ALPH , ,0, BR IF CHAR REDUCED TO ZERO 00964 M7 01008 01300
00910 SF BETA -P, ,, CHAR STILL POSITIVE,MAKE NEG 00976 M6 00196 01200
00920 B7 TEST+48 , ,0, 00988 L2 00196 00000
00930 TFM BETA -P, ,10, STORE CHAR 01000 M9 00112 00000
00940 TF BETA-2 -P,PIOV4-45 ,, ,+L 01008 J6 00196 000-0
00950 B7 TEST1 , ,0, 01020 KO 00194 01281
00960 EOD BNF TEST1 ,TEST+10 ,, BR IF RESULT MORE THAN PIOV2 01032 M9 00792 00000
00970 TF ALPHA -P,BETA-2 -P 01040 MM 00792 00074
00980 TF BETA-2 -P,PIOV2-46-P, ,, ,+L L+2 DIGITS 01052 KO 00050 00194
00990 CF ALPHA-1-P, ,, -L 01064 KO 00194 00418
01000 TOM ALPHA -P, ,11, -L 01076 L3 00049 00000
01010 CM BETA -P, 00 ,1011, ,+L 01088 J5 00050 0000-
01020 BNF **48 , ,0 01100 J4 00196 000--
01030 TFM **35 ,ALPHA -P,07 ,0 01112 M7 01160 01100
01040 DC 10 ,0550555000 ,350 01124 JO 01159 -0050
01050 A **23 ,BETA -P,0 00350 00010
01060 S BETA-2 -P 01136 KJ 01159 00196
01148 K2 00194 00000

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01070 TF BETA-2 -P,BETA-3 -P 01160 KO 00194 00193
01080 TFM BETA -P,01 ,10 01172 J6 00196 000-1
01090 B TEST1 , ,0 01184 M9 00792 00000
01100 DORG **4 , ,0 01191
01110 SIX DC 45 ,6000 01235 00045
01120 TAN6 DC 46 ,5404195002705841554435783646085999101351482514 01281 00046
01130 PIOV4 DC 45 ,785398163397448309615660845819875721049292349 01326 00045
01140 DEND 03091 03091

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00010 DSA FEXT3 ,FEX3 00004 00005 -0020
00020 DORG EDGAR 00009 00005 -0000
00030 FEX3 TDM SETUP+1 ,1 ,0, ALLOW MUL BY LOG E FOR EXP
00040 B7 FEXT3+12 , ,0, 00000 J5 00145 00001
00050 FEXT3 TOM SETUP+1 ,9 ,0, PREVENT MUL BY LOG E FOR EXT
00060 TFM PCK+5 ,+20 ,17 00012 M9 00032 00000
00070 B7 PCK , ,0, 00020 J5 00145 00009
00080 DC 46,0056070005 5020250008 5604504052 0052510050 000050 , 348
00090 TFM GOBACK-1 ,01 ,10 00032 10 02370 -0052
00100 TF ALPHA-2-P,ONE2-45-P,, ,+L ONE. L+4 DIGIT MANTISSA
00110 BD **20 ,BETA-1 -P,0, , -L 00044 49 0236M 00000
00120 B7 GOBACK-12, ,, BR IF MANT ZERO
00130 TD RECIP-1 ,BETA-2 -P,0, NOM ZERO MANTISSA
00140 CF BETA-2 -P 00052 J6 01027 000-1
00150 TFM 101 , ,, -L 00064 KO 00048 00372
00160 TF 97 ,BETA-2 -P,, -L 00076 ML 00096 00195
00170 SETUP B **92 , ,0, MUL BY LOG E IF EXP
00180 TF 80 ,CLR-106-P,, ,2L 00088 M9 01016 00000
00190 M BETA-2 -P,LOGE-45-P,, ,+L 00096 KN 00887 00194
00200 BD **56 ,98 ,0, , -2L 00108 L3 00194 00000
00210 SM BETA -P,1 ,10 00120 16 00101 -0000
00220 SF 99 , ,, -L L+4 DIGITS IN 101-L
00230 TF BETA-2 -P,102 ,, , -L 00132 20 00097 00194
00240 B7 **20 , ,0, 00144 M9 00236 00000
00250 TF BETA-2 -P,101 ,, , -L 00156 20 00080 00596
00260 CM BETA -P,-00 ,1011 ,+L 2L+2 DIGIT PRODUCT
00270 BNM GOBACK-12, ,0, BR IF MORDER NOT ZERO
00280 CM BETA -P, ,10, 00168 KL 00194 00466
00290 BE CALC , ,0, 00180 M3 00236 00098
00300 BL CALC+68 , ,0, BR IF CHAR BETWEEN -L AND ZERO
00310 CM BETA -P,2 ,10 00192 J2 00196 000-1
00320 BM E12 , ,0, BR IF CHAR LARGER THAN 2
00330 BL **44 , ,0, BR IF CHAR BETWEEN 0 AND +2
00340 DC 46, 07770070 7007770050 5090007000 7000005055 76705070, 348
    
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00350 A GOBACK-1 ,BETA-4 -P,, , -L CHAR EQUALS P2
00360 TR BETA-5 -P,BETA-3 -P,, , -L,-L SHIFT LEFT 2 POSITIONS
00370 B7 E12-12 00344 KJ 01027 00192
00380 TDM BETA-6 -P, ,11, -L CHAR EQUALS +1
00390 CF BETA-5 -P, ,, -L 00356 LJ 00191 00193
00400 A GOBACK-1 ,BETA-5 -P,, , -L 00368 M9 00424 00000
00410 TR BETA-5 -P,BETA-4 -P,, , -L,-L SHIFT LEFT 1 POSITION
00420 BNV **32 , ,0, BR IF ADJ CHAR DOES NOT OVFLOW
00430 E12 BNF OVFL -P,RECIP-1 ,1, BR IF MANT POSITIVE
00440 B7 UNFL -P 00412 LJ 00191 00192
00450 SF BETA-5 -P, ,, -L 00424 M7 00456 01400
00460 CALC TFM **9 , ,0810, INIT SIZE IND
00470 CM BETA-4 -P,34 ,10, -L 00436 MM 00258 00887
00480 BL GORD , ,0, BR IF BETA LESS THAN .34 +CHAR
00490 SM BETA-4 -P,34 ,10, -L ADJ BETA BY -.34
00500 AM CALC+9 ,1 ,010, STEP SIZE IND
00510 B7 CALC+12 , ,0, CONTINUE REDUCTION OF BETA
00520 TFM **59 ,BETA-4 -P,07, PROCESS IF CHAR NEG
00530 A **47 ,BETA -P,0 00516 J1 00477 000-1
00540 TF BETA-6 -P,CLK-96-P ,, , -L,+L L+4 DIGIT FIELD
00550 CF BETA-5 -P, ,, -L 00536 J0 00595 -0192
00560 TF BETA-4 -P, ,, SHIFIT RIGHT W R T CHAR SIZE
00570 SF BETA-5 -P, ,, -L 00548 KJ 00595 00196
00580 DC 44,0856405252 0059085502 2020005000 0000000851 4052 ,348
00590 GORD TF 80 ,CLR-106-P,, ,2L 00560 KO 00190 00606
00600 M BETA-4 -P,LN10-46-P,, ,+L 00572 L3 00191 00000
00610 SF 97 , ,0, -L 00584 K6 00192 00000
00620 TF SAVE -P,99 ,, , -L 00596 L2 00191 00000
00630 TF BETA-2 -P,99 ,, , -L 00608 20 00080 00596
00640 TFM FACT+11 ,2 ,010 00620 KL 00192 00513
00650 A ALPHA-2-P,SAVE -P 00632 32 00097 00000
00660 TF 80 ,CLR-106-P,, ,2L 00644 K6 00100 00099
00670 M SAVE -P,BETA-2 -P,, , -L 00656 K6 00194 00099
00680 TF 99 ,96 ,, , -L 00668 J6 00751 000-2
    
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00690      TFM 96      ,      ,10, -L      00716 26 00099 00096
00700 FACT DM 97      ,      ,  -L      00728 16 00096 000-0
                                2 DIGIT DIVISOR. L+4 QUOTIENT
                                00740 19 00097 -0000
00710      BZ FACT+56 ,      ,0,      BR WHEN TERM REDUCES TO ZERO
                                00752 M6 00796 01200
00720      TF SAVE -P,97 ,      ,  L+4 DIGIT FIELD
                                00764 K6 00100 00097
00730      AM FACT+11 ,1      ,010      00776 J1 00751 000-1
00740      B7 FACT-60 ,      ,0,      CALC NEXT TERM
                                00788 M9 00680 00000
00750      CM CALC+9 ,      ,010      00796 J4 00477 000-0
00760      BE RECIP ,      ,0,      BR IF FURTHER ADJ NOT REQUIRED
                                00808 M6 00888 01200
00770      TF 80      ,CLR-106-P,, ,2LADJUST FOR REDUCTNS BY .34
                                00820 20 00080 00596
00780      M ALPHA-4-P,TEN34-45 ,1      ,L 2L+4 DIGIT PRODUCT
                                00832 KL 00046 01048
00790      SF 97      ,      ,  -2L 2L+3 DIGITS 00844 32 00097 00000
00800      TF ALPHA-4-P,98 ,      ,  -L L+2 DIGITS
                                00856 K6 00046 00098
00810      SM CALC+9 ,1      ,010,      REDUCE INDICATOR
                                00868 J2 00477 000-1
00820      B7 *-84      ,      ,0      00880 M9 00796 00000
00830      UC 26, 0000084025 0000000200 005005 ,350 00350 00026
00840 RECIP BNF GUBACK-12,RECIP-1 ,01,      BR IF MANT WAS POSITIVE
                                00888 MM 01016 00887
00850      SF GUBACK-1 ,      ,  MAKE CHAR NEGATIVE
                                00900 L2 01027 00000
00860      TF 99      ,CLR-94-P ,  ,2LCALC RECIPROCAL IF NEG MANT
                                00912 20 00099 00608
00870      TFM 99      ,10      ,10, -2L, 2L+2 DIGIT DIVIDEND
                                00924 16 00099 000J0
00880      D 100      ,ALPHA-4-P,, -L, L+2 DIGIT DIVISOR
                                00936 2R 00100 00046
00890      BV GUBACK-24, ,      ,0,      BR IF ORIG OPER 1 OR 1/LOGE
                                00948 M6 01004 01400
00900      AM GUBACK-1 ,01      ,10      00960 J1 01027 000-1
00910      TF *+23 ,GUBACK-1 ,6      00972 KD 0099N 01027
00920      TFL PCK+15 ,99      ,6,      -L STORE RESULT
                                00984 06 0238- 00099
00930      B7 PCK+10 ,      ,6,      RETURN TO MAINLINE
                                00996 49 0237N 00000
00940      AM GUBACK-1,2,10      01004 J1 01027 000-2
00950      TFM ALPHA-4-P      01016 J6 00046 -0000
00960 GOBACK TFL PCK+15 ,ALPHA-4-P,6,      STORE RESULT
                                01028 00 0238- 00046
00970      B7 PCK+10 ,      ,6,      RETURN TO MAINLINE
                                01040 49 0237N 00000
00980 TEN34 DC 47      ,21877616239495525622261149163841873167118056246
                                01093 00047
00990      DEND 03102      03102

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00010      DSA FLOG3 ,FLN3      00004 00005 -0000
                                00009 00005 -0020
                                00000
00020      DORG EDGAR
00030 FLOG3 TDM CORN+1 ,1      ,0,      SET FOR COMMON LOG
                                00000 J5 00597 00001
                                00012 M9 00032 00000
00040      B7 *+20      ,      ,0      00000 J5 00597 00009
00050 FLN3 TDM CORN+1 ,9      ,0,      SET FOR NATURAL LOG
                                00020 J5 00597 00009
                                00032 10 02370 -0052
00060      TFM PCK+5 ,*+20      ,17      00044 49 0236N 00000
00070      B7 PCK ,      ,6,      BR TO PICK AND RETURN
                                ,350
                                00350 00028
00080      DC 28 ,0700 6050 0500500105 7070700055
                                00052 ML 00096 00195
00090      BD **44      ,BETA-1 -P,, , -L BR IF NON ZERO ARG
                                00064 15 00401 0000-
00100      TDM 401      ,0      ,11,      SET IND FOR LOG OR LN OF ZERO.
                                00076 L2 00559 00000
00110      SF NINE-45-P, ,      ,  PL SET UP TO STROE NEG NINES
                                00088 M9 00270 00000
00120      B7 OVFL+12-P, ,      ,  BR TO STORE AND RTN TO MAINLIN
                                00096 MM 00132 00194
00130      BNF **36      ,BETA-2 -P,0, BR IF MANT POSITIVE
                                SET IND FOR NEGATIVE
                                00108 15 00401 00000
00140      TDM 401      ,0      ,  MAKE POSITIVE
                                00120 L3 00194 00000
00150      CF BETA-2 -P, ,      ,  INITIALIZE
                                00132 JO 00571 -0914
00160      TFM CORN-25 ,CZERO-45 ,017, +L 00144 KD 00819 00196
00170      TF GOAL-13 ,BETA -P,0,      SAVE CHAR
                                00156 L3 00195 00000
00180      CF BETA-1 -P, ,      ,  -L, EXPAND FIELD TO L+1 DIGITS
                                00168 J5 00194 0000J
                                00180 J4 00195 000J5
00190      TDM BETA-2 -P,1      ,11, -L, ADD 1.0
                                00192 M6 00236 01300
00200      CM BETA-1 -P,15      ,10, -L, BR IF MOD MANT NOT LESS 1.5
                                00204 KJ 00194 00194
00210      BNL **44      ,      ,0,      DOUBLE MANT. L+1 DIGITS
                                00220 M9 00168 00000
00220      A BETA-2 -P,BETA-2 -P,,      00228 M9 00168 00000
                                00350 00042
00230      AM CORN-25 ,48      ,010,      ADJ FOR NEXT CONSTANT
                                00216 J1 00571 000M8
                                00228 M9 00168 00000
00240      B7 *-60      ,      ,0      00350 00042
00250      DC 42,56705508252552085552550103 5106202050 085552, 350
                                00236 KD 00050 00369
00260      TF ALPHA -P,ONEZ-48-P,, ,+L L+1 DIGITS
                                00248 J5 00050 0000K
00270      TDM ALPHA -P,2      ,11, -L, CONVERT TO TWOZ
                                2.0 MINUS MOD MANT (2.0-2)
                                00260 KK 00050 00194
00280      S ALPHA -P,BETA-2 -P,,      00272 20 00099 00609
                                00284 2Q 00097 00050
00290      TF 99      ,CLR-93-P ,  ,2L      00296 2R 00098 00194
00300      LD 97      ,ALPHA -P,, -L,
                                (2.0-2)/Z EQUALS Y
00310      D 98      ,BETA-2 -P,, -L,
                                00296 2R 00098 00194
00320      TF BETA -P,98      ,  , -L L+2 DIGITS

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00330 TF 80 ,CLR-106-P,, ,2L 00308 K6 00196 00098
00340 M BETA -P,BETA -P,, 2L+4 DIGITS 00320 2D 00080 00596
00350 TF SAVE -P,97 ,, ,L Y**2 L+2 DIGITS 00332 KL 00196 00196
00360 A BETA -P,BETA -P,, DOUBLE Y 00344 K6 00100 00097
00370 COUN TFM **9 ,99999 ,010, ,+L INITIALIZE COUNT TO L-1 TERMS 00356 KJ 00196 00196
00380 TFM COUN+71 ,99999 ,010, ,2L 00368 J6 00377 999R9
00390 TF ALPHA -P,CZERO-46 ,, ,+L L+2 DIGITS, ZERO ALPHA 00380 J6 00439 999R9
00400 TF 99 ,CLR-92-P ,, ,+L 00392 KD 00050 00913
00410 TFM 98 ,10 ,10, -L, OBTAIN RECIPROCAL TERM 00404 2D 00099 00610
00420 DM 98 ,, -L, 00416 16 00098 000J0
00430 A ALPHA -P,97 ,, L+2 DIGITS TO PREV TOTAL 00428 19 00098 -0000
00440 TF 80 ,CLR-106-P,, ,2L PRODUCT OF Y**2 AND TOTAL DF 00440 K1 00050 00097
00450 M ALPHA -P,SAVE -P,, PREVIOUSLY LALC TERMS 00452 2D 00080 00596
00460 TF ALPHA -P,97 ,, ,L L+2 DIGITS STORED TOTAL 00464 K6 00050 00100
00470 SM COUN+71 ,2 ,010, REDUCE DIVISOR 00476 K6 00050 00097
00480 SM COUN+9 ,1 ,010, REDUCE NO OF UNCALC TERMS 00488 J2 00439 000-2
00490 BNZ COUN+36 , ,0, BR IF L-1 TERMS NOT CALC 00500 J2 00377 000-1
00500 DC 46, 08552550 5052000865 5250066005 5050605000 07770050,350 00512 M7 00404 01200
00510 TF 80 ,CLR-106-P,, ,2L 00524 2D 00080 00596
00520 M ALPHA -P,BETA -P,, 2Y * SUM OF L-1 TERMS 00536 KL 00050 00196
00530 A 97 ,BETA -P,, -L ADD 2Y TO ABOVE PRODUCT. L+2 00548 2J 00097 00196
00540 TF BETA -P, ,, SET WITH PROPER CONSTANT L+3 00560 K6 00196 00000
00550 SF BETA -P 00572 L2 00196 00000
00560 S BETA -P,97 ,, ,L SUB ACCUM TOTAL FROM CONSTANT 00584 K2 00196 00097
00570 CORN B NLG , ,0, BR IF FINDING NATURAL LOG 00596 M9 00076 00000
00580 TF 80 ,CLR-106-P,, ,2L 00608 2D 00080 00596
00590 M LOGE-45-P,BETA -P,, +L, 00620 KL 00466 00196
00600 TF BETA -P,97 ,, ,L L+3 DIGITS 00632 K6 00196 00097
00610 SF BETA -P 00644 L2 00196 00000
00620 TF 80 ,CLR-100-P,, ,+L 00656 2D 00080 00602
00630 M ONEZ-46-P,GOAL-13 ,1, +L, ORIG CHAR * ONE, L+5 DIGITS 00668 KL 00371 00819
00640 PLUS A 99 ,BETA -P 00680 2J 00099 00196
00650 TF BETA -P,99 ,, PREPARE FOR NORMALIZATION
    
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00660 CF BETA -P 00692 K6 00196 00099
00670 C CLR-92 -P,98 ,, ,+L 00704 L3 00196 00000
00680 BE ZRES -P, ,, BR IF L+5 ZEROS 00716 K4 00610 00098
00690 TFM GOAL-1 ,03 ,10, SET CHAR EQUAL 3 00728 M6 00326 01200
00700 BD GOAL-24 ,BETA-4 -P,0, ,L BR IF HI ORDER DIGIT NON-ZERO 00740 J6 00831 000-3
00710 TR BETA-4 -P,BETA-3 -P,, -L,-L 00752 ML 00808 00192
00720 SM GOAL-1 ,01 ,10, REDUCE CHAR 00764 LJ 00192 00193
00730 TC BETA -P,NOS DIG ,, INSERT NOISE DIGIT 00776 J2 00831 000-1
00740 BT *-48 , ,0, CONTINUE NORMALIZATION 00788 K5 00196 02401
00750 DC 16 ,7050005005000660 ,350 00800 M9 00752 00000
00760 SF BETA-4 -P, ,, -L, SET FIELD DEFINITION 00808 L2 00192 00000
00770 TFM BETA-3 00820 J6 00193 -0000
00780 GOAL BNF **24 ,99 ,, AFFIX SIGN AND RTN TO MAINLINE 00832 M4 00856 00099
00790 SF BETA-5 -P 00844 L2 00191 00000
00800 TFL PCK+15 ,BETA-3 -P,6 00856 00 0238- 00193
00810 B7 PCK+10 , ,6 00868 49 0237M 00000
00820 NLG TF 80 ,CLR-100-P,, ,+L CONVERSION FOR LN 00876 2D 00080 00602
00830 M LN10-45-P,GOAL-13 ,, +L, L+5 DIGITS 00888 KL 00514 00819
00840 B PLUS , ,0, RETURN TO COMMON SECTION 00900 M9 00680 00000
00850 CZERO DC 48 ,0 00859 00048
00860 DC 48,-69314718055994530941723212145817656807550013436 01007 00048
00870 DC 48,-138629436111989061883446424291635313615100026872 01055 00048
00880 DC 48,-207944154167983592825169636437452970422650040308 01103 00048
00890 DEMD 03122 03122
    
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00010	DSA	FSRS ,FSLs ,TFLS ,BTFS			00004 00005 -0000
					00009 00005 -0020
					00014 00005 -0040
					00019 00005 -0096
00020	DORG	EDGAR			00000
00030	FSMS	TDM	FLOAT+25 ,8		00000 J5 00077 00008
00040		B7	FLOAT		00012 M9 00052 00000
00050	FSLs	TDM	FLOAT+25 ,5		00020 J5 00077 00005
00060		B7	FLOAT		00032 M9 00052 00000
00070	TFLS	TDM	FLOAT+25 ,6		00040 J5 00077 00006
00080	FLOAT	TR	PCK+11 ,PCK+10 ,11		00052 31 02376 0237N
00090		AM	PCK+10 ,11		00064 11 02375 -0011
00100		FSR	PCK+15 ,PCK+20 ,611		00076 08 0238- 0238N
00110		B7	PCK+10 , ,6, RETURN TO MAINLINE		
00120	BTFS	TR	PCK+11,PCK+10,11		00088 49 0237N 00000
00130		AM	PCK+10,11		00096 31 02376 0237N
00140		TF	*+30,PCK+10		00108 11 02375 -0011
00150		BTFL	PCK+15,PCK+20,611		00120 K6 00190 02375
00160		B7			00132 07 0238- 0238N
00170	UEND	O3144			00144 49 00000 00000
					03144

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1620-1443 MONITOR I VERSION 2 FORTRAN II-C PHASE I-A

00010	*****	1620 FORTRAN II-D PHASE I-A			
00020	DORG	O221R		02218	
00030	DC	5 , -100		02222	5
		-011-			
00040	PUNUP	DC 3,1,0		02222	3
		-01			
00050	DSC	1 ,2		02223	1
		2			
00060	DC	2 ,67		02225	2
		07			
00070	PGRMSW	DSC 6,R		02226	6
		00008			
00080	IF+IC	DS ,PGRMSW		02226	0
00090	FAC+IC	DS ,PGRMSW+1		02227	0
00100	LIST	DS ,PGRMSW+2		02228	0
00110	PRST	DS ,PGRMSW+3		02229	0
00120	BIGPRI	DS ,PGRMSW+4		02230	0
00130	N1	DC 2 ,0		02233	2
		-0			
00140	N2	DC 5 ,0		02238	5
		-0000			
00150	W	DC 2 ,0		02240	2
		-0			
00160	RECLG	DC 3 ,00C		02243	3
		-00			
00170	SAVSYM	DS 12 ,RECLG		02243	12
00180	LENGTH	DS 5		02248	5
00190	PLNG	DS 2		02250	2
00200	KLNG	DS 2		02252	2
00210	PRCGST	DC 5 ,00000		02257	5
		-0000			
00220	CUMADD	DC 5 ,19999		02262	5
		J9999			
00230	USFDFS	DSC 30 ,0		02263	30
		000000000000000000000000000000			
00240	SURFCT	DC 1 ,0		02293	1
		-			
00250	PUSFSN	DSC 1 ,0		02294	1
		0			
00260	MW	DS 2		02296	2
00270	FP2	DS 2		02298	2
00280	TEND	DS 5		02303	5
00290	LSTAD	DS 5		02308	5
00300	P2PTR	DS 5		02313	5
00310	FCYEND	DS 5		02318	5
00320		DS 5		02323	5
00330	FMON	TF ++42,FMON-1,,	SETUP ROUTINE ENTRY	02324	26 02366 02323
00340		TFM IORT,++23		02336	16 00565 -2359
00350		B IDGT,,7		02348	49 00566 -0000
00360		B ,,,	GO TO EXECUTE CALLED ROUTINE	02360	49 00000 00000
00370		DORG +-4		02367	
00380	JAY	DSC 1 ,2		02367	1
		2			
00390	NALOC	DC 5 ,15999		02372	5
		J5999			
00400	STAL	DS 5		02377	5

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00410	CUMST	DS	5	02382	5
00420	DISKSW	DSC	1,0	02383	1
00430	MULDEF	DC	1,0	02384	1
00440	INTOPL	DSC	1,0	02385	1
00450		DC	5,00600	02390	5
00460		DC	3,001	02393	3
00470	DSA	CARD		02398	5 X 1
00480		DC	1,1	02398	J5036
00490	CALLP2	TFM	FMON+35,BLK8	02400	16 02359 -2461
00500		BTM	FMON,CALLP2	02412	17 02324 -2400
00510	INDIV	DS	1	02424	1
00520			INDIV = 0 FOR CARDS, 1 FOR TYPEWRITER,		
00530			FLAGGED 3 FOR PAPER TAPE		
00540	TUCNT	DC	5,00000	02429	5
00550	ENTLN	DS	,RECLG+5	02248	0
00560	AFTBL	DS	,15035	15035	0
00570	CHI	DAS	430	15139	430 X 2
00580	CHI5	DS	,CHI+700	15839	0
00590	CHIEND	DS	,CHI+860	15999	0
00600	CARD	DS	,CHI-103	15036	0
00610	IUCAL	DS	,716	00716	0
00620	IURT	DS	,566	00566	0
00630	IURBC	DS	,520	00520	0
00640	IURT	DS	,532	00532	0
00650	IUSK	DS	,554	00554	0
00660	LWRET	DS	,602	00602	0
00670	IURT	DS	,565	00565	0
00680	MONCAL	DS	,796	00796	0
00690	E86440	TFM	FMON+35,,BLK7	02430	16 02359 -0000
00700		BTM	FMON,E86440	02442	17 02324 -2430
00710	BLK8	DS	,E86440+31	02461	0
00720	PRSCAN	TFM	FMON+35,PHDDAT	02464	16 02359 -2478
00730		BTM	FMON,10512,,	02466	17 02324 J0512
00740	PHDDAT	DSC	2,22	02478	2
00750	DSA	PHDDA		02484	5 X 1
00760		DC	1,1	02484	-2486
00770	PHDDA	DSC	1,0	02485	1
00780		DC	5,17200	02486	1
00790		DC	3,084,,,	02491	5
00800	DSA	E86440	SECTOR COUNT OF PHASEB	02494	3
			275	02499	5 X 1

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00810		DC	1,1	02499	-2430
00820	HDDAD	DS	,17340	02500	1
00830	H7SCT	DS	,3	17340	0
00840	PRTAD	DDA	,1,RDDAD,H7SCT,N11+4	00003	0
00850		DC	1,1	02502	14
00860	PRTHD	DSC	2,22,,,	02516	1
00870	DSA	PRTAD	READ PAGE OFLO	02517	2
00880		DC	1,1	02523	5 X 1
00890	N11	BV	**12	02523	-2502
00900	TDM	00000	,0	02524	1
00910	AM	**18	,20000	02526	46 02538 01400
00920	TR	1	,ALPHRM-1	02538	15 00000 00000
00930	BNR	**24	,0	02550	11 02568 K0000
00940	TF	STBL	,*-18	02562	31 -000J 05679
00950	TF	INDDA+13	,STBL	02574	45 02550 00000
00960	SM	INDDA+13	,999	02586	26 02377 02568
00970	TFM	IORT	,**23	02598	26 05746 02377
00980	H	IORT	,INDATA	02610	12 05746 00R99
00990	SM	INDDA+10	,1	02622	16 00565 -2645
01000	C	INDDA+13	,HXLOC	02634	49 00566 -5725
01010	BNL	**48		02646	12 05743 000-1
01020	TDM	BUFSCS+100	,**	02658	24 05746 02372
01030	GRMK	DGM		02670	46 02622 01300
01040	TD	BUFEQT+800,GRMK		02682	15 06318 00000
01050	TD	BUFDIM+100,GRMK		02693	1
01060	TF	T111	,STBL	02694	25 07120 02693
01070	TFM	FCTEND	,STBL	02706	25 07222 02693
01080	B	IORT	,**23	02718	26 02933 02377
01090	B	IORT	,DIMDAT	02730	26 02318 02377
01100	TF	DIMDDA+5	,BUFDIM+45,,	02742	16 00565 -2765
01110	TD	DIMDDA	,BUFDIM+40	02754	49 00566 -5748
01120	TFM	DIMDDA+8	,00R	02766	26 05781 07167
01130	TFM	DIMDDA+13	,BUFEQT	02778	25 05786 07162
01140	TFM	IORT	,**23	02790	16 05786 00-08
01150	B	IORT	,DIMDAT	02802	16 05786 -4320
01160	N114	AM	**18	02814	16 00565 -2837
01170	C	BUFEQT-5	,12NINE	02826	49 00566 -5748
01180	BE	RDONE		02838	11 02856 000J6
01190	TF	**30	,N114+18	02850	24 -6315 06009
01200	AM	**18	,04	02862	46 03258 01200
01210	SM	DUMMY	,09	02874	26 02904 02856
01220	MN	**6	,05	02886	11 02904 000-4
01230	SF	95		02898	12 99999 000-9
01240	T111	DS	5	02910	13 02900 000-5
01250	AM	99	,ENTLN-5	02922	32 00095 00000
01260	TF	T111	,99	02933	5
01270	SM	T111	,5	02934	11 00099 -2243
01280	TF	T112	,N114+18	02946	26 02931 00000
			ELIMINATE BLANKS FROM NAME	02958	12 02933 000-5
				02970	26 03065 02856

01290	SM	T112	,12	,10	02982	12	03065	000J2
01300	LOOP41	AM	T112	,02	02994	11	03065	000-2
01310	C	T112	,N11+18		03006	24	03065	02856
01320	BH	N1142			03018	46	03102	01100
01330	TF	T113	,T112		03030	26	03089	03065
01340	SM	T113	,01	,10	03042	12	03089	000-1
01350	SF	T113	,	,6	03054	32	03089	00000
01360	T112	DS	5	,*	03065		5	
01370	CM	T112	,00	,610	03066	14	0306N	000-0
01380	CF	T113	,	,6	03078	33	0308R	00000
01390	T113	DS	5	,*	03089		5	
01400	BNE	LOOP41			03090	47	02994	01200
01410	N1142	SM	T112	,02	03102	12	03065	000-2
01420	TF	T113	,N114+18		03114	26	03089	02856
01430	SM	T113	,11	,10	03126	12	03089	000J1
01440	SF	T113	,	,6	03138	32	0308R	00000
01450	T114	DS	5	,*	03149		5	
01460	TF	T114	,T112		03150	26	03149	03065
01470	S	T114	,T113		03162	22	03149	03089
01480	AM	T114	,01	,10	03174	11	03149	000-1
01490	A	NXL0C	,T114		03186	21	02372	03149
01500	TF	NXL0C	,T112	,611, STORE SUBR. NAME IN NAME TABLE	03198	26	0237K	0306N
01510	TF	T111	,NXL0C	,6, STORE POINTER IN SYM. TABLE	03210	26	0293L	02372
01520	SM	T111	,05	,10	03222	12	02933	000-5
01530	TF	FCEND	,T111		03234	26	02318	02933
01540	AM	THCNT	,01	,10, UPDATE TABLE COUNT	03246	11	02429	000-1
01550	ROONE	CM	N114+18	,BUFFQT+795	03258	14	02856	-7115
01560	BL	N114			03270	47	02838	01300
01570	SM	FCEND	,05	,10	03282	12	02318	000-5
01580	SM	*+18	,02	,10, INITIALIZE READ IN AREA	03294	12	03312	000-2
01590	TFM	CHIEND	,00	,210	03306	16	J5999	000-0
01600	CM	*-6	,CHI		03318	14	03312	J5139
01610	BNL	*-36			03330	46	03294	01300
01620	TF	CHIEND	,ALPHRM		03342	26	J5999	05680
01630	TFM	IORT,+*23,,	GET HEAD		03354	16	00565	-3377
01640	B	IOGT,PRTHD,7			03366	49	00566	-2517
01650	TR	N11+4,CHIEND-162,,	BLANK HEADING SECTOR		03378	31	02530	15837
01660	TFM	N11+4+163,,	CLEAR RM		03390	16	02693	-0000
01670	TFM	IORT,+*23,,	PUT CLEARED HEADING		03402	16	00565	-3425
01680	B	IOHBC,PRTHD,7			03414	49	00520	-2517
01690	34	,0971,,	SKIP TO 1 IMMEDIATE		03426	34	00000	0771
01700	TD	INPUTD ,426	DETERMINE INPUT DEVICE		03438	25	06011	00-
01710	CF	INPUTD			03450	33	06011	00000
01720	CM	INPUTD ,01	,10		03462	14	06011	000-1
01730	HE	IPTY			03474	46	03574	01200
01740	CM	INPUTD ,03	,10		03486	14	06011	000-3
01750	BE	IPPT			03498	46	03542	01200
01760	TDM	INDIV ,0	,, CARD INPUT		03510	15	02424	00000
01770	TFM	N21KEY-1 ,10	,10		03522	16	06018	000J0
01780	B	N12			03534	49	03598	00000
01790	DDRG	*-4			03541			
01790	DDRG	*-4			03541			
01800	IPPT	TDM	INDIV ,3	,11, PAPER TAPE INPUT	03542	15	02424	0000L
01810	TFM	N21KEY-1 ,08	,10		03554	16	06018	C00-R
01820	B	N12			03566	49	03598	00000
01830	DDRG	*-4			03573			
01840	IPTY	TDM	INDIV ,1	,, TYPEWRITER INPUT	03574	15	02424	C0001

01850	TFM	N21KEY-1 ,06	,10	03586	16	06018	000-6	
01860	N12	TFM	IORT ,+*23	03598	16	00565	-3621	
01870	B	IOGT ,SCSDAT ,7,	GET SYSTEM COMMUNICATION SECTOR	03610	49	00566	-5771	
01880	TD	COMADD-4 ,BUFFSCS+76,,	MOVE OBJECT TIME MACHINE SIZE	03622	25	02258	06294	
01890	TF	COMST ,COMADD		03634	26	02382	02262	
01900	TR	BUFFSCS ,INIT	,, SET UP DIM IN SYS COMM SECTOR	03646	31	06218	05795	
01910	TR	00402 ,INIT-1	,, SET UP DIM IN SYS COMM AREA	03658	31	00402	05794	
01920	TF	FLNG ,BUFFSCS+46,,	MOVE F	03670	26	02250	06264	
01930	TF	KLNG ,BUFFSCS+48,,	MOVE K	03682	26	02252	06266	
01940	TD	BIGPRT,BUFFSCS+65,,	SET PRINTER SIZE	03694	25	02230	06283	
01950	N21	CM	INPUTD ,01	,10	03706	14	06011	000-1
01960	BNE	*+24			03718	47	03742	01200
01970	RCTY				03730	34	00000	00102
01980	TFM	IORT ,+*23	,, READ AN INPUT RECORD	03742	16	00565	-3765	
01990	B	IOGT ,N21KEY-7 ,7,	USING IORT.	03754	49	00566	-6012	
02000	CM	INPUTD ,01	,10	03766	14	06011	000-1	
02010	BNE	*+24		03778	47	03802	01200	
02020	BC4	N21+24	,, ALLOWS GOOD SWITCH	03790	46	03730	00400	
02030	CM	CHI ,14	,10, IS THIS A CONTROL STATEMENT	03802	14	15139	000J4	
02040	BNE	CALLP1	,, NO, CALL IN PASS 1	03814	47	04212	01200	
02050	CF	CHI+3		03826	33	15142	00000	
02060	CM	CHI+4,5762,R,	IS THIS APOSTN STATEMENT	03838	14	15143	00762	
02070	HE	WASS	,, YES	03850	46	04424	01200	
02080	CM	CHI+4,5756,8,	IS THIS A POBUP ST.	03862	14	15143	00756	
02090	BE	WADBJP	,, YES	03874	46	04584	01200	
02100	CM	CHI+4,5344,8,	IS THIS A LOISK ST.	03886	14	15143	00344	
02110	BE	WADK	,, YES	03898	46	04788	01200	
02120	CM	CHI+4,4641,8,	IS THIS A FANDS ST.	03910	14	15143	00641	
02130	BE	FKTEST	,, YL	03922	46	05096	01200	
02140	CM	CHI+4,4946,8,	IF TRACE	03934	14	15143	00946	
02150	RNE	*+24,,	NO	03946	47	03970	01200	
02160	BTM	CDCTL,IFTRC		03958	17	04084	-2226	
02170	CM	CHI+4,4153,8,	ALL STATEMENT MAP	03970	14	15143	00153	
02180	RNE	*+24,,	NO	03982	47	04006	01200	
02190	BTM	CDCTL,PRST		03994	17	04084	-2229	
02200	CM	CHI+4,4159,8,	ARITHMETIC TRACE	04006	14	15143	00159	
02210	RNE	*+24,,	NO	04018	47	04042	01200	
02220	BTM	CDCTL,FACTRC		04030	17	04084	-2227	
02230	CM	CHI+4,5349,8,	LIST PRINTER	04042	14	15143	00349	
02240	RNE	CDCTL+24,,	NO	04054	47	04108	01200	
02250	BTM	CDCTL,LIST		04066	17	04084	-2228	
02260	DC	5,0		04082		5		
		-0000						
02270	COCTL	TDM	*-1,1,611	04084	15	0408L	0000J	
02280	BTM	PGHD2,N21		04096	17	05694	-3706	
02290	CM	CHI+2,14,10,	TEST FOR **	04108	14	15141	000J4	
02300	BE	PGHD,,	YES PAGE HEADING	04120	46	05508	01200	
02310	RCTY		,, NO, INVALID CTL. ST.	04132	34	00000	00102	
02320	TF	CHI+32 ,ALPHRM		04144	26	15171	05680	
02330	WATY	CHI		04156	39	15139	00100	
02340	RCTY			04168	34	00000	00102	
02350	WATY	ERMES1	,, ERROR, INVALID CONTROL STATEMENT	04180	39	05819	00100	
02360	H			04192	48	00000	00000	
02370	B	N21	,, BR. TO READ NEXT STATEMENT	04204	49	03706	00000	
02380	DDRG	*-4		04211				
02390	CALLP1	SF	CHI+3	04212	32	15142	00000	

02400	SF	CHI+5			04224	32	15144	00000
02410	SF	CHI+7			04236	32	15146	00000
02420	SF	CHI+9			04248	32	15148	00000
02430	BD	**48	,INDIV	..	04260	43	04308	02424
02440	TF	CHI+160	,ALPHRM	..	04272	26	15299	05680
02450	TR	CHI5-1	,CHI-1	..	04284	31	15838	15138
02460	TFM	CHI+160	,00	,10,	04296	16	15299	000-0
02470	TF	FP2	,FLNG		04308	26	02298	02250
02480	AM	FP2	,02	,10,	04320	11	02298	000-2
02490	TF	W	,KLANG		04332	26	02240	02252
02500	C	FP2	,KLANG		04344	24	02298	02252
02510	BNM	**24			04356	47	04380	01100
02520	TF	W	,FP2	..	04368	26	02240	02298
02530	TF	WM	,W		04380	26	02296	02240
02540	TFM	IOHT	,**23		04392	16	00565	-4615
02550	B	IOPT	,SCSDAT	,7,	04404	49	00532	-5771
02560	B	PRSCAN			04416	49	02454	00000
02570	DORG	**4			04423			
02580	TF	CHI+14	,ALPHRM	..	04424	26	15153	05680
02590	BTM	PGHD2	,**12	..	04436	17	05694	-4448
02600	CM	CHI+12	,72	,10,	04448	14	15151	000P2
02610	BE	WASS2		..	04460	46	04564	01200
02620	CM	CHI+12	,74	,10,	04472	14	15151	000P4
02630	BE	WASS2		..	04484	46	04564	01200
02640	RCTY			..	04496	34	00000	00102
02650	WATY	CHI			04508	39	15139	00100
02660	RCTY			..	04520	34	00000	00102
02670	WATY	ERMES3		..	04532	39	05935	00100
02680	H				04544	48	00000	00000
02690	B	N21		..	04556	49	03706	00000
02700	DORG	**4			04563			
02710	WASS2	TD	PUSTSN	,CHI+12	04564	25	02294	15151
02720	H	N21			04576	49	03706	00000
02730	DORG	**4			04583			
02740	WAOBJP	TDM	JAY	,1	04584	15	02367	00001
02750	TF	CHI+14	,ALPHRM	..	04596	26	15153	05680
02760	BTM	PGHD2	,**12,,	GO TO PRINT POBJP	04608	17	05694	-4620
02770	CM	CHI+12	,72	,10,	04620	14	15151	000P2
02780	MNE	**32		..	04632	47	04664	01200
02790	TDM	BUFSCS+23,1		,11,	04644	15	06241	0000J
02800	B	N21			04656	49	03706	00000
02810	DORG	**4			04663			
02820	CM	CHI+12	,74	,10,	04664	14	15151	000P4
02830	RNE	**32		..	04676	47	04708	01200
02840	TDM	BUFSCS+23,0		,11,	04688	15	06241	0000-
02850	B	N21			04700	49	03706	00000
02860	DORG	**4			04707			
02870	TDM	BUFSCS+23,0		,11	04708	15	06241	0000-
02880	RCTY				04720	34	00000	00102
02890	WATY	CHI			04732	39	15139	00100
02900	RCTY			..	04744	34	00000	00102
02910	WATY	ERMES3		..	04756	39	05935	00100
02920	H				04768	48	00000	00000
02930	B	N21		..	04780	49	03706	00000
02940	DORG	**4			04787			
02950	WADK	TDM	BUFSCS+22,1	,11,	04788	15	06240	0000J

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02960	TDM	JAY	,1	..	04800	15	02367	00001
02970	TF	CHI+12	,ALPHRM	..	04812	26	15171	05680
02980	BTM	PGHD2	,**12,,	GO TO PRINT LDISK	04824	17	05694	-4836
02990	BVR	**24	,CHI+12	,7,	04836	45	04860	J5151
03000	TFM	**1	,00	,10	04848	16	04849	000-0
03010	AM	**13	,7		04860	11	04847	000-2
03020	CM	**25	,CHI+10		04872	14	04847	J5169
03030	BNM	**48			04884	47	04836	01100
03040	CF	CHI+13			04896	33	15152	00000
03050	CF	CHI+15			04908	33	15154	00000
03060	CF	CHI+17			04920	33	15156	00000
03070	CF	CHI+19			04932	33	15158	00000
03080	CF	CHI+21			04944	33	15160	00000
03090	TF	BUFSCS+35,CHI+22			04956	26	06253	15161
03100	SF	CHI+13			04968	32	15152	00000
03110	SF	CHI+15			04980	32	15154	00000
03120	SF	CHI+17			04992	32	15156	00000
03130	SF	CHI+19			05004	32	15158	00000
03140	SF	CHI+21			05016	32	15160	00000
03150	TD	BUFSCS+36,CHI+24			05028	25	06254	15163
03160	TD	BUFSCS+37,CHI+26			05040	25	06255	15165
03170	TD	BUFSCS+38,CHI+28			05052	25	06256	15167
03180	TD	BUFSCS+39,CHI+10			05064	25	06257	15169
03190	SF	BUFSCS+36			05076	32	06254	00000
03200	B	N21			05088	49	03706	00000
03210	DORG	**4			05095			
03220	FKTEST	TF	CHI+20	,ALPHRM	05096	26	15159	05680
03230	BTM	PGHD2	,**12,,	GO TO PRINT FANDK	05108	17	05694	-5120
03240	TD	FWORK-1	,CHI+11		05120	25	05814	15150
03250	TD	FWORK	,CHI+13		05132	25	05815	15152
03260	CF	FWORK			05144	33	05815	00000
03270	CM	FWORK	,77	,10,	05156	14	05815	000P7
03280	BNE	N31		..	05168	47	05440	01200
03290	TD	FWORK-1	,CHI+12	..	05180	25	05814	15151
03300	SF	FWORK-1			05192	32	05814	00000
03310	TD	FWORK	,CHI+14		05204	25	05815	15153
03320	CM	FWORK	,02	,10,	05216	14	05815	000-2
03330	BL	N31		..	05228	47	05440	01300
03340	CM	FWORK	,28	,10	05240	14	05615	000K8
03350	BH	N31		..	05252	46	05440	01100
03360	TF	FLNG	,FWORK	..	05264	26	02250	05815
03370	TD	KWORK-1	,CHI+15		05276	25	05816	15154
03380	TD	KWORK	,CHI+17		05288	25	05817	15156
03390	CF	FWORK			05300	33	05817	00000
03400	CM	KWORK	,77	,10,	05312	14	05817	000P7
03410	BNE	N31		..	05324	47	05440	01200
03420	TD	KWORK-1	,CHI+16	..	05336	25	05816	15155
03430	SF	KWORK-1			05348	32	05816	00000
03440	TD	KWORK	,CHI+18		05360	25	05817	15157
03450	CM	KWORK	,04	,10,	05372	14	05817	000-4
03460	BL	N31		..	05384	47	05440	01300
03470	CM	KWORK	,10	,10	05396	14	05817	000J0
03480	BH	N31		..	05408	46	05440	01100
03490	TF	KLANG	,KWORK	..	05420	26	02252	05817
03500	B	N21		..	05432	49	03706	00000
03510	DORG	**4			05439			

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03520	HJ1	RCTY			ERROR, F OR K OUTSIDE RANGE	05440	34	00000	00102
03530		WATY	CHI			05452	39	15139	00100
03540		RCTY				05464	34	00000	00102
03550		WATY	ERMES2			05476	39	05879	00100
03560		H				05488	48	00000	00000
03570		B	N21		RR. TC READ NEXT STATEMENT	05500	49	03706	00000
03580		DDRG	*-4			05507			
03590	**	ROUTINE	TO PRINT AND STORE	THE PAGE	HEADING				
03600	PGMD	TF	CHI**+160,	ALPHRM		05508	26	15303	05680
03610	**	THE	CLEARED	RECORD	IS STILL				
03620	TR	N11,	CHI-1,		LOAD	05520	31	02526	15138
03630	TFM	IORT,	**23,		PRINT	05532	16	00565	-5555
03640	B	IOPT,	HEAD-4,	7		05544	49	00532	-5671
03650	TFM	CHI**+160,	0,10,		CLEAR	05556	16	15303	000-0
03660	REVSCN	TFM	**59,	N11**+161,		05568	16	05627	-2693
03670	SM	**47,	2,10			05580	12	05627	000-2
03680	CM	**35,	N11*3			05592	14	05627	-2529
03690	BL	PUT				05604	67	05640	01300
03700	BNR	*-36,	*-*			05616	45	05580	00000
03710	TFM	*-1,	0,610			05628	16	0562P	000-0
03720	PUT	TFM	IORT,	**23,	WRITE	05640	16	00565	-5663
03730	B	IORBC,	PRTHD,	7		05652	49	00520	-2517
03740	H7	N21				05664	49	03706	
03750	HEAD	DSA	N11*1			05675		5 X	1
						05675		-2527	
03760	DC	3,18',	...		DEFINER	05678		3	
		J8'							
03770	ALPHRM	DC	2	0'		05680		2	
		-*							
03780	PGMD3	DSA	CHI			05685		5 X	1
						05685		J5139	
03790	DC	3,18',	...		CONTROL	05688		3	
		J8'							
03800	DC	5,12345				05693		5	
		J2345							
03810	PGMD2	TFM	IORT,**23,	...	NORMAL	05694	16	00565	-5717
03820	B	IOPT,	PGMD3-4,	7,		05706	49	00532	-5681
03830	B7	PGMD2-1,	6			05718	49	0569L	
03840	INDATA	DSC	2	22		05725		2	
		22							
03850	DSA	INDDA				05731		5 X	1
						05731		-5733	
03860	DC	1	0'			05732		1	
		0							
03870	INDDA	DSC	1	0		05733		1	
		0							
03880	DC	5	17330			05738		5	
		J7330							
03890	DC	3	010			05741		3	
		-10							
03900	DS	5				05746		5	
03910	DC	1	0'			05747		1	
		0							

03920	DIMDAT	DSC	2	20		05748		2	
		20							
03930	DSA	DIMDDA				05754		5 X	1
						05754		-5756	
03940	DC	1	0'			05755		1	
		0							
03950	DIMDDA	DSC	1	0		05756		1	
		0							
03960	DC	5	04800			05761		5	
		-4800							
03970	DC	3	001			05764		3	
		-01							
03980	USA	BUFDIM				05769		5 X	1
						05769		-7122	
03990	DC	1	0'			05770		1	
		0							
04000	SCSDAT	DSC	2	20		05771		2	
		20							
04010	DSA	SCSDDA				05777		5 X	1
						05777		-5779	
04020	DC	1	0'			05778		1	
		0							
04030	SCSDDA	DSC	1	0		05779		1	
		0							
04040	DC	5	19663			05784		5	
		J9663							
04050	DC	3	001			05787		3	
		-01							
04060	DSA	RUFSCS				05792		5 X	1
						05792		-6218	
04070	DC	1	0'			05793		1	
		0							
04080	DSC	1	0			05794		1	
		1							
04090	DC	5	00000			05799		5	
		-0000							
04100	INIT	DS	0	-4		05795		0	
04110	DC	3	999			05802		3	
		R99							
04120	DC	5	-99999			05807		5	
		R999R							
04130	DC	6	00000'			05813		6	
		-0000'							
04140	FWORK	DS	2			05815		2	
04150	KWORK	DS	2			05817		2	
04160	ERMES1	DAC	30,	ERROR,	INVALID	05819		30 X	2
					CONTROL				
					RECORD'				
04170	ERMES2	DAC	28,	ERROR,	F OR K	05879		28 X	2
					OUTSIDE				
					RANGE'				
04180	ERMES3	DAC	32,	ERROR,	INVALID	05935		32 X	2
					OUTPUT				
					UNIT				
					CODE'				
04190	LNINE	DC	12	99999999999		06009		12	
				R99999999999					

04200	INPUTD	DC	2	,00		06011	2	
		-0						
04210		OSA	CHI			06016	5	x 1
04220	NZIKY	DC	3	,00		06016	J5139	
		-0				06019	3	
04230		DDRG	06218			06218		
04240	BUFSCS	DSS	100			06218	100	
04250		DS	2			06319	2	
04260	DUFEUT	DSS	800			06320	800	
04270		DS	2			07121	2	
04280	BUFDIM	DSS	100			07122	100	
04290		DS	2			07223	2	
04300	DUMMY	DS		,99999		99999	0	
04310		DDRG	16000			16000		
04320	PHADDA	DSC	1,0			16000	1	
		0						
04330		DC	5,17290			16005	5	
		J7290						
04340		DC	3,050			16008	3	
		-50						
04350		DC	5,02218			16013	5	
		-2218						
04360		DC	1	,*		16014	1	
		*						
04370		DC	1	,*		16015	1	
		*						
04380		DC	1	,*		16016	1	
		*						
04390		DC	1	,*		16017	1	
		*						
04400		DC	1	,*		16018	1	
		*						
04410		USC	4	,0000		16019	4	
		0000						
04420	RECMKS	DSC	1	,0		16023	1	
		0						
04430	LDPHA	SF	RECMKS-4			16024	32	16014 00000
04440		TDM	GRMK			16036	15	02693 00000
04450		DGM	*			16047	1	
04460		TFM	**18	,BUFSCS+999		16048	16	16066 -7217
04470		TF	DUMMY	,RECMKS **	SET SYMBOL TABLE TO RECORD MARKS	16060	26	99999 16023
04480		SM	**6	,10		16072	12	16066 00000
04490		CM	**18	,BUFSCS-1		16084	14	16066 -6217
04500		BVE	**16			16096	47	16060 01200
04510		K	PHADDA,701			16108	34	16000 00701
04520		WN	PHADDA,702			16120	38	16000 00702
04530		TRA				16132	36	00000 00500
						16144	49	00000 00000
04540		TCO	LDPHA			16024		
04550		DENU				00000		

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LNINE	06004	LENGTH	02248	DUMMY	99999	KWDRK	05817	RECLG	02243
ALPHRM	05680	LCUP41	02794	ENTLN	02248	LDPHA	16024	STRAL	02177
BIGPRT	02230	MONGAL	00796	FRRET	00602	LIST	02228	T111	02933
HUFLIM	07122	MULDEF	02384	FLNG	02250	LSTAD	02308	T112	03065
BUFLDT	06320	NZIKY	06019	FMDN	02324	N1142	03102	T113	03089
HUFSCS	06218	PKMSW	02226	FP2	02298	N114	02836	T114	03149
CALLP1	04212	PHADDA	16000	FWRK	05815	N11	02526	TCNT	02429
CALLP2	02400	PHRDAT	02478	GRMK	02693	N12	03598	YEND	02303
CHIEND	15977	PHRDDA	02486	HEAD	05675	N1	02231	WADK	04788
COMARD	02262	PRLGST	02257	IFTRC	02226	N21	03706	WASS2	04564
SIJMAT	05748	PRSCAN	02454	INDDA	05731	N2	02238	WASS	04424
SIJMDA	05756	PUSTSN	02294	INDIV	02424	N31	05440	W	02240
DISKSW	02383	RECMKS	16023	INIT	05795	NKLCU	02172	WW	02296
SW6440	02430	REVSCN	05568	LOCAL	00716	P2PTR	02113	SAVSYM	02243
ERMES1	05814	AFTUL	15035	LOGT	00566	PGHD2	05694	SCSDAT	05771
ERMES2	05874	RTSET	00003	LUPT	00532	PGHD3	05685	SCSDDA	05779
FACTRC	02227	BRDAD	17340	ICRRC	00520	PGHD	05508	SUBFCT	02293
FCTLNU	02318	BLKB	02461	ICRT	00565	PGNUM	02222	USEDFS	02263
FKLEST	05096	CARD	15036	IPSK	00554	PRST	02229	WA08JP	04584
INDATA	05725	CDCTL	04084	IPPT	03542	PRTAG	02502		
INPUTD	06011	CHIS	15139	IPTY	03574	PRTHD	02517		
INTUPL	02385	CHL	15139	JAY	02367	PUF	05640		
		COMST	02382	KLNG	02252	ROONE	03258		

END OF ONE ASSEMBLY.

00010	*****	1620 FORTRAN II-D PHASE 1-B						
00020	DORG	0221A		02218				
00030	DC	5	, -100	02222		5		
		-01C-						
00040	PGNUM	DC	3,1,*	02222		3		
		-01						
00050	DC	1	,2	02223		1		
		K						
00060	DC	2	,67	02225		2		
		U7						
00070	DC	6	,9A7A9A	02231		6		
		R87898						
00080	N1	DC	2	,0	02233		2	
		-0						
00090	N2	DC	5	,0	02238		5	
		-0000						
00100	W	DC	2	,0	02240		2	
		-0						
00110	RECLG	DC	3	,000	02243		3	
		-00						
00120	SAVSYM	DS	12	,RECLG	02243		12	
00130	LENGTH	DS	5		02248		5	
00140	FLNG	DS	2		02250		2	
00150	KLNG	DS	2		02252		2	
00160	PKNGST	DC	5	,00000	02257		5	
		-0000						
00170	COMADD	DS	5		02262		5	
00180	USEDFS	USC	30	,0	02263		30	
		00000000000000000000000000000000						
00190	SURFCT	DC	1	,0	02293		1	
		-						
00200	PJUSTN	DS	1		02294		1	
00210	MM	DS	2		02296		2	
00220	FP2	US	2		02298		2	
00230	TEND	US	5		02303		5	
00240	LSTAD	DS	5		02308		5	
00250	P2PTR	DS	5		02313		5	
00260	FTEND	DS	5		02318		5	
00270		DS	5		02323		5	
00280	FMON	TF	++42,FMON-1,,	SETUP ROUTINE ENTRY	02324	26	02366	02323
00290	TFM	IOPT,++23			02336	16	00565	-235
00300	B	IOGT,,7			02348	49	00566	-0000
00310	B	...		GO TO EXECUTE CALLED ROUTINE	02360	49	00000	00000
00320	DORG	-4			02367			
00330	JAY	DS	1		02367		1	
00340	NALOC	DS	5		02372		5	
00350	STBL	US	5		02377		5	
00360	CUMST	DS	5		02382		5	
00370	UISKS	DC	1,0		02383		1	
		-						
00380	MULDEF	DC	1,0		02384		1	
		-						
00390	INTOP1	DSC	1,0		02385		1	
		0						
00400	DC	5,00600		02390		5		
		-0600						

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00410	DC	3,001		02393		3		
		-01						
00420	DSA	CARD		02398		5 X	1	
00430	DC	1,*		02398		J5036		
		*		02399		1		
00440	CALLP2	TFM	FMON+35,BLK8	02400	16	02359	-2461	
00450	BTM	FMON,CALLP2		02412	17	02324	-2400	
00460	INDIV	DS	1	02424		1		
00470	*	INDIV = 0 FOR CARDS, 1 FOR TYPEWRITER,						
00480	*	FLAGGED 3 FOR PAPER TAPE						
00490	TBCNT	DS	5	02429		5		
00500	ENTLOG	DS	,RECLG+5	02248		0		
00510	AFTBL	DS	,15035	15035		0		
00520	CHI	DAS	430,15139	15139		430 X	2	
00530	CHIS	DS	,CHI+700	15839		0		
00540	CARD	DS	,CHI-103	15036		0		
00550	LOCAL	DS	,716	00716		0		
00560	IOGT	DS	,566	00566		0		
00570	IURRC	DS	,520	00520		0		
00580	IOPT	DS	,532	00532		0		
00590	ILSK	DS	,554	00554		0		
00600	EXRET	DS	,602	00602		0		
00610	IURT	DS	,565	00565		0		
00620	LIST	DS	,2228	02228		0		
00630	HIGPRI	DS	,2230	02230		0		
00640	MONCAL	DS	,796	00796		0		
00650	E86440	TFM	FMON+35 ,BLK7	02430	16	02359	-9760	
00660	BTM	FMON	,E86440	02442	17	02324	-2430	
00670	BLK8	DS	,E86440+31	02441		0		
00680	FLIP1	DS	,17340,,	17340		0		
00690	FLOP1	DS	,17200+7,,	17207		0		
00700	FLIP2	DS	,E86440+700,,	03130		0		
00710	FLIP	TFM	BLK9A+5,FLIP1	02454	16	02510	J7340	
00720	FLOP	TFM	IOPT,++23,,	02466	16	00565	-2489	
00730	B	IOGT,BLK9,7		02478	49	00566	-2497	
00740	RETR	B7	...	02490	49	00000		
00750	** TO FLIP	TFM	RETRN-5,PRINT ROUTINE- TFM RETRN,RETURN ADDRESS B7FLIP					
00760	** TO RESTORE	TFM	BLK9A+5,PARTIAL DISK ADDRESS-TF RETRN-5,RETRN B7FLOP					
00770	BLK9	DSC	2,22					
		22						
00780	DSA	BLK9A		02497		2		
00790	DC	1,*		02503		5 X	1	
		*		02503		-2505		
				02504		1		
00800	BLK9A	DSC	1,0	02505		1		
		0						
00810	DSA	FLIP1		02510		5 X	1	
00820	DC	3,011		02510		J7340		
		-11		02513		3		
00830	DSA	FLIP2		02518		5 X	1	

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00840	DC	1,1		02518	-3130	
				02519	1	
00850	** PRINT	CHI OR CHI5				
00860	** CALL TO	PRINT IS TFM DEFCHI,CHI(OR CHI5), BTM PRNCHI,**12				
00870	DC	5,12345		02524	5	
		J2345				
00880	PRTCHI	TFM IORT,**23		02526	16	00565 -2549
00890	B	IORT,DEFCHI-4,7		02538	47	00532 -2589
00900	BNI	**32,03400		02550	47	02582 03400
00910	TFM	RETR +6,CDFLO		02562	16	02496 -3786
00920	B7	FLIP ,,,	CALL TO OVERFLOW ROUTINE	02574	49	02454
00930	B7	PRTCHI-1,,6,	RETURN TO PRINT CALLER	02582	49	0252N
00940	DEFCHI	DSA CHI		02593	5	X 1
00950	DC	3,18',,,,	CHI PRINT DEFINER	02593	J5139	
	J8'			02596	3	
00960	ESNOPL	DC 4,0		02600	4	
	-000					
00970	DC	1,1		02601	1	
00980	CLNO	DC 2,0		02603	2	
	-0					
00990	HL0C	DC 5,0		02608	5	
	-0000					
01000	TRIND	DSC 1,0		02609	1	
	0					
01010	NUIND	USC 1,0		02610	1	
	0					
01020	INSW	DSC 1,0		02611	1	
	0					
01030	CKEND	DSC 1,0		02612	1	
	0					
01040	PARCNT	DC 3,0		02615	3	
	-00					
01050	TEMP	DC 5,0		02620	5	
	-0000					
01060	TEMP5	DC 5,0		02625	5	
	-0000					
01070	BEGIN	BTM PUT,0132,811,	SEMI COLON	02626	17	09050 0-13K
01080	BEGINA	TFM PARCNT,0,9		02638	16	02615 00-00
01090	BD	MODAFT,SINGST		02650	43	09808 09998
01100	TF	SUBSW,ZER13*2		02662	26	10012 09997
01110	HD	BA,INDIV		02674	43	02718 02474
01120	TDM	CHI5*144		02685	18	15983 00000
01130	DC	1,1,1		02697	1	
01140	TR	CHI-1,CHI5-1		02698	31	15138 15838
01150	B	READ1*24		02710	49	02902 00000
01160	DDRG	**4		02717		
01170	BA	RCTY		02718	34	00000 00102
01180	ESND	US ,**5		02724		
01190	DC	1,1,1**4		02725	1	
01200	TFM	IORT,**23		02730	16	00565 -2753

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01210	B	IORT,UNDATA-4,7,	READ STATEMENTS FROM TYPEWRITER	02742	49	00566 -9783
01220	HC4	**36,,,	ALLOWS GOOD SWITCH	02754	46	02718 00400
01230	** CALL	P/T TYPE PRINT ROUTINE FROM DISK-RETURN IS TO LNGRP				
01240	BNF	LNGRP,LIST,,	TOTAL LISTING	02766	44	02798 02228
01250	TFM	RETR +6,SCAN		02778	16	02496 -3828
01260	B7	FLIP		02790	49	02454
01270	LNGRP	CM CHI,43,10,	TEST FOR COMMENT	02798	14	15139 00005
01280	HNE	LEADBL		02810	47	03098 01200
01290	CM	CHI*2,0,10,		02822	14	15141 000-0
01300	BNE	LEADBL		02834	47	03098 01200
01310	CM	CHI*4,0,10,		02846	14	15143 000-0
01320	BE	BEGINA		02858	46	02638 01200
01330	H	LEADBL		02870	49	03098 00000
01340	DDRG	**3		02878		
01350	READ1	TFM IORT,**23		02878	16	00565 -2901
01360	B	IORT,CDDATA-4,7,	READ FIRST CARD	02890	49	00566 -9791
01370	TFM	**35,CHI +144		02902	16	02937 J5283
01380	SM	**23,2,10		02914	12	02937 000-2
01390	TF	CKEND		02926	26	02612 00000
01400	CKRM	BD **56,CKEND,,	SCAN BACK TO PLACE RECORD MARK	02938	43	02994 02612
01410	RD	**44,CKEND-1		02950	43	02994 02611
01420	CM	CKRM-1,CHI		02962	14	02937 J5139
01430	BH	CKRM-24,,,	CHECK FOR BLANK CARD	02974	46	02914 01100
01440	H	READ1,,,		02986	49	02878 00000
01450	DDRG	**3		02994		
01460	AM	CKRM-1 ,2		02994	11	02937 -0002
01470	TDM	CKRM-1 ,*6		03006	15	0293P 00000
01480	DC	1,1,1		03017	1	
01490	**	BNF **44,LIST,,	TOTAL LISTING	03018	44	03062 02228
01500	**	PRINT CARDS FROM CHI				
01510	TFM	DEFCHI,CHI,,	MODIFY PRINT DEFINER	03030	16	02593 J5139
01520	TFM	PRTCHI-1,**20		03042	16	02525 -3062
01530	B7	PRTCHI		03054	49	02526
01540	CM	CHI,43,10		03062	14	15139 000M3
01550	HNE	READ1		03074	46	02878 01200
01560	TDM	CHI*9,0,11		03086	15	15148 0000-
01570	LEADBL	BD **32,CHI		03098	43	03130 15139
01580	TR	CHI-1,CHI+1		03110	31	15138 15140
01590	B	**24		03122	49	03098 00000
01600	DDRG	**3		03130		
01610	AM	ESNOPL,1,10		03130	11	02600 000-1
01620	CM	CHI,69,10		03142	14	15139 00009
01630	BNH	CSPVA-12,,,	BRANCH IF NO STATEMENT NUMBER	03154	47	03622 01100
01640	SF	OUTSW		03166	32	07034 00000
01650	BTM	CSTNO,**12,,	OUTPUT STATEMENT NUMBER	03178	17	05412 -3190
01660	BTM	PUT, 134,8,CCLON		03190	17	09050 0-134
01670	TF	ESNO,SYM		03202	26	02724 09979
01680	TFM	ESNOPL,0,8		03214	16	02600 0-000
01690	TDM	NOIND,1,11		03226	15	02610 0000J
01700	AM	SMADD,5,10		03238	11	07208 000-5
01710	BD	SMER,SMADD,11,	TEST IF STATEMENT NO. WAS USED BEFORE	03250	43	03410 07200
01720	TDM	SMADD,1,6,	SET INDICATOR THAT STA.NO. APPEARED	03262	15	07200 00001
01730	SM	SMADD,2,10		03274	12	07208 000-2
01740	BD	**20,SMADD,11		03286	43	03306 07200
01750	B	**44		03298	49	03342 00000

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01760	DORG	*-3		03306			
01770	BTM	PUT,	140,R,DUMMY	03306	17	09050	0-140
01780	TDM	SMADD,0,6		03318	15	07200	00000
01790	TDM	DOTRAN,1		03330	15	09999	00001
01800	AM	SMADD,1,10		03342	11	07208	000-1
01810	HD	FORM,SMADD,11		03354	43	03510	07200
01820	LEADZ	CM	CHI,0,10,	03366	14	15139	000-0
01830	HNE	STNER+20		03378	47	03430	01200
01840	TR	CHI-1,CHI+1		03390	31	15138	15140
01850	B	*-36		03402	49	03366	00000
01860	DORG	*-3		03410			
01870	STNER	TFM	SPGS+11,076,9	03410	16	09339	00-76
01880	B	SPERR+12,,,	STATEMENT NO. PREVIOUSLY USED	03422	49	09256	00000
01890	DORG	*-3		03430			
01900	CM	CHI,46,10		03430	14	15139	000M6
01910	HNE	CSPVA		03442	47	03634	01200
01920	BTM	COLNAM,6,10		03454	17	04662	000-6
01930	C	SYM,FMTCST		03466	24	09979	09929
01940	BV	CSPVA		03478	46	03634	01400
01950	BE	FORMAT		03490	46	10392	01200
01960	B	CSPVA		03502	49	03634	00000
01970	DORG	*-3		03510			
01980	FORM	CM	CHI,00,10,	03510	14	15139	000-0
01990	HNE	**32	SHIFT OFF BLANKS	03522	47	03554	01200
02000	TR	CHI-1,CHI+1		03534	31	15138	15140
02010	B	*-36		03546	49	03510	00000
02020	DORG	*-3		03554			
02030	BTM	COLNAM,6,10		03554	17	04662	000-6
02040	C	SYM,FMTCST,,	MUST BE FORMANT STATEMENT	03566	24	09979	09929
02050	BV	**24		03578	46	03602	01400
02060	BE	FORMAT		03590	46	10392	01200
02070	TFM	SPGS+11,277,9		03602	16	09339	00K77
02080	B	SPERR+12,,,	ELSE ERROR 27	03614	49	09256	00000
02090	DORG	*-3		03622			
02100	TDM	NOIND,		03622	15	02610	00000
02110	CSPVA	TFM	X+11,CHI,	03634	16	08149	J5139
02120	AM	X+11,2,10		03646	11	08149	000-2
02130	BNR	**44,X+11,11		03658	45	03702	08144
02140	TFM	X+11	,37,610	03670	16	08149	000L7
02150	TR	X+11	,AVOID,6,	03682	31	08149	06032
02160	B	DECODE	AVOID = FLAG3,7,FLAG0,REMARK	03694	49	03794	00000
02170	DORG	*-3		03702			
02180	CM	X+11	,0,610	03702	14	08149	000-0
02190	HNE	CSPVA+12		03714	47	03646	01200
02200	TF	**54,X+11		03726	26	03780	08149
02210	TF	**47,**42		03738	26	03785	03780
02220	AM	**35,1,10		03750	11	03785	000-1
02230	SM	**18,1,10		03762	12	03780	000-1
02240	TR	..	ELIMINATE BLANKS	03774	31	00000	00000
02250	B	CSPVA+24		03786	49	03658	00000
02260	DORG	*-3		03794			
02270	DECODE	TFM	**35,CHI-2	03794	16	03829	J5137
02280	AM	**23,2,10		03806	11	03829	000-2
02290	BNR	**20		03818	45	03838	00000
02300	B	**80		03830	49	03910	00000
02310	DORG	*-3		03838			

02320	CM	DECODE+35,40,610		03838	14	0382R	000M0
02330	BH	DECODE+12		03850	46	03806	01100
02340	CM	DECODE+35,33,610		03862	14	0382R	000L3
02350	HNE	**56		03874	47	03930	01200
02360	CM	PARCNT,0,10		03886	14	02615	000-0
02370	BE	DECUDA		03898	46	04018	01200
02380	TFM	PARCNT,0,9		03910	16	02615	00-00
02390	B	NONARI		03922	49	04144	00000
02400	DORG	*-3		03930			
02410	CM	DECODE+35,24,610		03930	14	0382R	000K4
02420	HNE	**32		03942	47	03974	01200
02430	AM	PARCNT,1,10		03954	11	02615	000-1
02440	B	DECODE+12		03966	49	03806	00000
02450	DORG	*-3		03974			
02460	CM	DECODE+35,4,610		03974	14	0382R	000-4
02470	HNE	DECODE+12		03986	47	03806	01200
02480	SM	PARCNT,1,10		03998	12	02615	000-1
02490	B	DECODE+12		04010	49	03806	00000
02500	DORG	*-3		04018			
02510	DECODA	AM	DECODE+35,2,10	04018	11	03829	000-2
02520	BNR	**20,DECODE+35,11		04030	45	04050	0382R
02530	B	CKCTAR		04042	49	04098	00000
02540	DORG	*-3		04050			
02550	CM	DECODE+35,23,610		04050	14	0382R	000K3
02560	BE	DDO		04062	46	10416	01200
02570	CM	DECODE+35,24,610		04074	14	0382R	000K4
02580	HNE	DECUDA		04086	47	04018	01200
02590	CKCTAR	BD	ASCAN,INDIV	04098	43	10440	02424
02600	BTM	CKCNTU,0,10		04110	17	04842	000-0
02610	B	ASCAN		04122	49	10440	00000
02620	DORG	*-3		04130			
02630	DS	14,,,	NONARI MUST BE AT LEAST -04144-	04143		14	
02640	NUNARI	TFM	L1+6,THST	04144	16	04234	-4658
02650	CF	CHI+1		04156	33	13140	00000
02660	CF	CHI+3		04168	33	15142	00000
02670	C	CHI+4,ENDCT+4		04180	24	15143	09939
02680	BE	END		04192	46	09474	01200
02690	BD	**24,INDIV		04204	43	04228	02424
02700	BTM	CKCNTU,0,10		04216	17	04842	000-0
02710	L1	C	TBST,CHI+4	04228	24	04658	15143
02720	BE	L2		04240	46	04300	01200
02730	SM	L1+6,11,10		04252	12	04234	000J1
02740	BNR	L1,L1+6,11		04264	45	04228	0423M
02750	TR	CHI-1,CHI+5		04276	31	15138	15144
02760	BTM	ERRDR,071,9		04288	17	09350	00-71
02770	L2	CM	L1+6,TBCM	04300	14	04234	-4504
02780	BNH	**72		04312	47	04384	01100
02790	TDM	STSN,0,,	SET SINGLE STATEMENT SWITCH OFF	04324	15	09641	00000
02800	BNF	**48,TRIND		04336	44	04384	02609
02810	TDM	TRIND,0		04348	15	02609	00000
02820	BD	**24,NOIND		04360	43	04384	02610
02830	BTM	ERRDR2,572,9,	MISSING STATEMENT NUMBER AFTER TRANSFER	04372	17	09406	00N72
02840	SM	L1+6,6,10		04384	12	04234	000-6
02850	TR	CHI-1,CHI+5		04396	31	15138	15144
02860	SF	L1+6,AFTBL+5,7		04408	32	04234	J5040
02870	STAFF	DS	5 ,*	04419		5	

02880	H	L1+6,,6		04420	49	0423M	00000
02890	DDRG	9--4		04427			
02900	DC	1,,		04427		1	
02910	DSA	NONARA		04432		5 X	1
02920	DC	6,466455,,	FUNCTION	04432		J0224	
	M66455			04438		6	
02930	DSA	NONARA		04443		5 X	1
02940	DC	6,626442,,	SUBROUTINE	04443		J0224	
	026442			04449		6	
02950	DSA	NONARA		04454		5 X	1
02960	DC	6,444546,,	DEFINE	04454		J0224	
	M44546			04460		6	
02970	DSA	NONARA		04465		5 X	1
02980	DC	6,455864,,	EQUIVALENCE	04465		J0224	
	M55864			04471		6	
02990	DSA	COMMON		04476		5 X	1
03000	DC	6,435654,,	COMMON	04476		J0272	
	M35654			04482		6	
03010	DSA	DIM		04487		5 X	1
03020	DC	6,444954,,	DIMENSION	04487		J0248	
	M44954			04493		6	
03030	DSA	RETURN		04498		5 X	1
03040	TRCH	DC	6,594563,,	RETURN		J0368	
	N94563			04504		6	
03050	DSA	NONARA		04509		5 X	1
03060	DC	6,626356,,	STOP	04509		J0224	
	026356			04515		6	
03070	DSA	NONARA		04520		5 X	1
03080	DC	6,574164,,	PAUSE	04520		J0224	
	N74164			04526		6	
03090	DSA	DKID		04531		5 X	1
03100	DC	6,464955,,	FIND	04531		J0488	
	M64955			04537		6	
03110	DSA	DKID		04542		5 X	1

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03120	DC	6,464563,,	FETCH	04542		J0488	
	M64563			04548		6	
03130	DSA	DKID		04553		5 X	1
03140	DC	6,594563,,	RECORD	04553		J0488	
	N94563			04559		6	
03150	DSA	IOUT		04564		5 X	1
03160	DC	6,414343,,	ACCEPT	04564		J0200	
	M14343			04570		6	
03170	DSA	IOUT		04575		5 X	1
03180	DC	6,576455,,	PUNCH	04575		J0200	
	N76455			04581		6	
03190	DSA	IOUT		04586		5 X	1
03200	DC	6,636857,,	TYPE	04586		J0200	
	036857			04592		6	
03210	DSA	IOUT		04597		5 X	1
03220	DC	6,575949,,	PRINT	04597		J0200	
	N75949			04603		6	
03230	DSA	IOUT		04608		5 X	1
03240	DC	6,594541,,	READ	04608		J0200	
	N94541			04614		6	
03250	DSA	NONARA		04619		5 X	1
03260	DC	6,435655,,	CONTINUE	04619		J0224	
	M35655			04625		6	
03270	DSA	CALL		04630		5 X	1
03280	DC	6,434153,,	CALL	04630		J0344	
	M34153			04636		6	
03290	DSA	GOTO		04641		5 X	1
03300	DC	6,475663,,	GOTO	04641		J0320	
	M75663			04647		6	
03310	DSA	IF		04652		5 X	1
03320	FBST	DC	6,494624,,	IF		J0296	
	M94624			04658		6	
03330	DS	2		04660		2	
03340	COLNAM	TFM	++42,SYM-26,,	04662	16	04704	-9953
03350	TFM	++35,CHI	COLLECT NAMES TO DETERMINE TYPE OF STMT	04674	16	04709	J5139

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03360	AM	**18,2,10		04686	11	04704	000-2
03370	IF	,CHI,7		04698	26	00000	J5139
03380	AM	*-1,2,10		04710	11	04709	000-2
03390	BNR	**20,*-13,11		04722	45	04742	04700
03400	R	**32		04734	49	04766	00000
03410	DORG	*-3		04742			
03420	SM	COLNAM-1,1,10		04742	12	04661	000-1
03430	BNZ	COLNAM+24		04754	47	04686	01200
03440	TFM	**30,SYM-25		04766	16	04796	-9954
03450	AM	**18,2,10		04778	11	04796	000-2
03460	CF			04790	33	00000	00000
03470	OUTSCE	DS 5 ,*		04801			
03480	C	*-6,COLNAM+42		04802	24	04796	04704
03490	BNH	*-36		04814	47	04778	01100
03500	TF	SYM,COLNAM+42,11		04826	26	09979	C4704
03510	BB			04838	42	00000	00000
03520	DORG	*-9		04840			
03530	****	CHECK FOR CONTINUATION CARDS	****				
03540	US	2		04841			2
03550	KKCNTU	TFM IORT,**23		04842	16	00565	-4865
03560	R	IOGT,CSDATA-4,7		04854	49	00566	-9799
03570	BD	CKCN1,CHI5+10		04866	43	04928	15849
03580	TFM	CCND,0,10		04878	16	02603	000-0
03590	CM	CHI5,43,10		04890	14	15839	000M3
03600	BE	**24		04902	46	04926	01200
03610	TDM	CHI5+9, 0,11		04914	15	15848	0000-
03620	BB			04926	42	00000	00000
03630	DORG	*-10		04927			
03640	KKCN1	CM CCND,04,10,	TEST FOR MORE THAN 4 CONTINUATION CARDS	04928	14	02603	000-4
03650	RNE	**68		04940	47	05008	01200
03660	CM	CHI5,43,10		04952	14	15839	000M3
03670	BE	**44		04964	46	05008	01200
03680	TFM	CCND,0,10		04976	16	02603	000-0
03690	TFM	SPCS+11,273,9		04988	16	09339	00K73
03700	B	SPERR+12		05000	49	09256	00000
03710	DORG	*-3		05008			
03720	TFM	**47,CHI5+144		05008	16	05055	J5983
03730	BD	CKCN2+68,FMSW		05020	43	05124	10002
03740	SM	**23,2,10		05032	12	05055	000
03750	TF	CKEND		05044	26	02612	00000
03760	KKCN2	BD **56,CKEND		05056	43	05112	02612
03770	BD	**44,CKEND-1		05068	43	05112	02611
03780	CM	CKCN2-1,CHI5+12		05080	14	05055	J5A51
03790	BM	CKCN2-24		05092	46	05032	01100
03800	B	CKCNTU		05104	49	04842	00000
03810	DORG	*-3		05112			
03820	AM	CKCN2-1 ,2,10		05112	11	05055	000-2
03830	TDM	CKCN2-1 ,.6		05124	15	05050	00000
03840	DC	1,*,*		05135			1
03850	BNF	**44,LIST,, TOTAL LISTING		05136	44	05180	02224
03860	**	PRINT CARDS FROM CHIS					
03870	TFM	DEFCHI,CHI5		05148	16	02593	J5839
03880	TFM	PRICHI-1,**20		05160	16	02525	-5180
03890	H7	PRICHI		05172	49	02526	
03900	CM	CHI5,43,10,	293	05180	14	15839	000M3

03910	BE	CKCNTU		05192	46	04842	01200
03920	AM	CCND,1,10		05204	11	02603	000-1
03930	BD	CKCN4,FMSW		05216	43	05352	10002
03940	TFM	**35,CHI5+10		05228	16	05263	J5849
03950	AM	**23,2,10		05240	11	05263	000-2
03960	KKCN3	BNR **44,		05252	45	05296	00000
03970	TFM	X+11 ,37,610		05264	16	0814R	000L7
03980	TR	X+11 ,AVCID,6		05276	31	0814R	06032
03990	B	CKCNTU		05288	49	04842	00000
04000	DORG	*-3		05296			
04010	CM	CKCN3+11,0,610 ,	CHECK FOR BLANKS AND MOVE NON BLANK	05296	14	0526L	000-0
04020	BE	CKCN3-12,,	TO SCAN AREA	05308	46	05240	01200
04030	TF	X+11 ,CKCN3+11,611		05320	26	0814R	0526L
04040	AM	X+11 ,2,10		05332	11	08149	000-2
04050	B	CKCN3-12		05344	49	05240	00000
04060	DORG	*-3		05352			
04070	KKCN4	TF **30,X+11		05352	26	05382	08149
04080	SM	**18,1,10		05364	12	05382	000-1
04090	TR	,CHI5+11		05376	31	00000	15850
04100	AM	X+11 ,132,9		05388	11	08149	00J32
04110	B	CKCNTU		05400	49	04842	00000
04120	*****	THE FOLLOWING IS USED TO COLLECT STATEMENT NUMBERS	*****				
04130	CSTND	TF CSORN-1,*-1,,	SET UP RETURN ADDRESS	05412	26	05703	05411
04140	RD	**32,CHI		05424	43	05456	15139
04150	TR	CHI-1,CHI+1,,	SHIFT OFF LEADING ZEROS	05436	31	15138	15140
04160	B	*-24		05448	49	05424	00000
04170	DORG	*-3		05456			
04180	TFM	SYM-14,0000,8		05456	16	09965	0-000
04190	TFM	CSTND1+6,SYM-14		05468	16	05522	-9965
04200	CM	CHI,69,10		05480	14	15139	00009
04210	BNH	CSTND1+104		05492	47	05620	01100
04220	AM	**18,1,10		05504	11	05522	000-1
04230	CSTND1	TD ,CHI		05516	25	00000	15139
04240	TR	CHI-1,CHI+1		05528	31	15138	15140
04250	BNR	**20,CHI+2		05540	45	05560	15141
04260	B	**32		05552	49	05584	00000
04270	DORG	*-3		05560			
04280	CM	CHI,69,10		05560	14	15139	00009
04290	BNH	CSTND1-12		05572	46	05504	01100
04300	CM	CSTND1+6,SYM-10		05584	14	05522	-9969
04310	BNH	**24		05596	47	05620	01100
04320	BTM	ERROR2,576,9,	STATEMENT NO GREATER THAN 4 DIGITS	05608	17	09406	00N76
04330	TF	SYM,CSTND1+6,11		05620	26	09979	0552K
04340	SF	SYM-3		05632	32	09976	00000
04350	RTSW	DS 1 ,*-4		05639			1
04360	ENSW	DS 1 ,*-3		05640			1
04370	STSN	DC 1 ,1,*-2		05641			1
04380	STC	DC 2 ,00,*		05643			2
04390	BD	CSTNO-1,DIMSW,6,	EXIT IF IN DIMENSION STATEMENT	05644	43	0541J	10004
04400	TDM	FXRFL,2		05656	15	06419	00002
04410	TDM	VARSW,1,,	EXIT TO LOOK UP STATEMENT NUMBER	05668	15	07581	00001
04420	TDM	STNOSW,1		05680	15	10003	00001
04430	B	SMTLU		05692	49	06954	00000
04440	CSORN	BD **24,EQU5W		05704	43	05728	10008

04450	TFM	SCMI,CHI,,	INITIALIZE IF NOT IN EQUIVALENCE	05716	16	06015	J5139
04460	TDM	FXORFL,0,,	INITIALIZE FIX OR FLOAT SWITCH	05728	15	06419	00000
04470	CM	SCMI,3,610,		05740	14	0601M	000-3
04480	BE	NUMBER		05752	46	06116	01200
04490	CM	SCMI,69,610,		05764	14	0601M	00009
04500	BH	NUMBER		05776	46	06116	01100
04510	CM	SCMI,48,610,	TEST FOR FIX VAR	05788	14	0601M	000M8
04520	BNH	CS		05800	47	05848	01100
04530	CM	SCMI,55,610		05812	14	0601M	000N5
04540	BH	CS		05824	46	05848	C1100
04550	TDM	FXORFL,2,,	SET FXORFL TO FIX VAR	05836	15	06419	00002
04560	CS	TFM SMLNG,0,,10,	INITIALIZE SYMBOL LENGTH COUNT	05848	16	05931	000-0
04570	TFM	SALT+6,SYM-12		05860	16	05914	-9967
04580	TFM	SALT+14,SYM-13		05872	16	05926	-9966
04590	AM	SALT+6,2,10		05884	11	05914	000-2
04600	AM	SALT+18,2,10		05896	11	05926	000-2
04610	SALT	TF ,SCMI,11,		05908	26	00000	0601M
04620	CF	,*		05920	33	00000	C0000
04630	SMLNG	DS ,*		05931		0	
04640	AM	SMLNG,2,10		05932	11	05931	000-2
04650	AM	SCMI,2,10		05944	11	06015	000-2
04660	CM	SCMI,40,610		05956	14	0601M	000M0
04670	BNH	**56		05968	47	06024	01100
04680	CM	SMLNG,12,10		05980	14	05931	000J2
04690	BL	SALT-24		05992	47	05884	01300
04700	SF	SYM-11		06004	32	09968	C0000
04710	SCMI	DS ,*		06015		0	
04720	B	SC2		06016	49	06104	00000
04730	DORG	=-3		06024			
04740	SF	SYM-11		06024	32	09968	00000
04750	AVOID	DC 2,37,=-3		06032		2	
	L7						
04760	DC	2,*,=-1		06034		2	
	-1						
04770	TF	SYM,SALT+6,11,		06036	26	09979	0591M
04780	TDM	VARSW,0		06048	15	07581	00000
04790	BD	SMTLU,EQUISH,,	TEST TO SEE IF	06060	43	06954	10008
04800	SM	SCMI,1,10,	SYMBOL IS TO BE	06072	12	06015	000-1
04810	TR	CHI-1,SCMI,11,	SHIFTED OFF	06084	31	15138	0601M
04820	B	SMTLU		06096	49	06954	00000
04830	DORG	=-3		06104			
04840	SC2	BTM ERROR,78,9	NAME GREATER THAN 6 CHARACTERS	06104	17	0935C	00-78
04850	NUMBR	TDM VARSW,1,,	SET VARIABLE SW. TO INDICATE LITERAL	06116	15	07581	00001
04860	TF	SYM,ZENSYM+1		06128	26	09979	06954
04870	TFM	NUMB1+6,SYM-29		06140	16	06274	-9950
04880	CM	CHI,70, 10,	TEST FOR LEADING ZEROS	06152	14	15139	000P0
04890	BNE	**32		06164	47	06196	01200
04900	TR	CHI-1,CHI+1		06176	31	15138	15140
04910	B	=-16		06188	49	06152	00000
04920	DORG	=-3		06196			
04930	NUMB	CM CHI,3, 10		06196	14	15139	000-3
04940	BE	FLNUMB		06208	46	06428	01200
04950	CM	CHI,69,10		06220	14	15139	00009
04960	BNH	FLNUMB		06232	47	06324	C1100
04970	CM	NUMB1+6,SYM+1		06244	14	06274	-9980
04980	BNL	**24		06256	46	06280	01300

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04990	NUMB1	TD ,CHI,,	COLLECT MANTISSA	06268	25	00000	15139
05000	TR	CHI-1,CHI+1		06280	31	15138	15140
05010	AM	NUMB1+6,1,10		06292	11	06274	000-1
05020	NUMB5	AM SYM-30,1,10		06304	11	09949	000-1
05030	B	NUMB		06316	49	06196	00000
05040	DORG	=-3		06324			
05050	FXNUMB	TDM FXORFL,2,,	SET FIX OR FLOAT SW TO FIX CONST	06324	15	06419	00002
05060	SM	SYM-30,1,10		06336	12	09949	000-1
05070	C	KLNG,SYM-30,,	TEST IF FIX NUMBER EXCEEDS K	06348	24	02252	09949
05080	HNL	**24		06360	46	06384	01300
05090	BTM	ERROR,177,9,	FIXED POINT NUMBER GREATER THAN K	06372	17	09350	00177
05100	TF	SYM-30,TENZ		06384	26	09949	09991
05110	TF	SYM+1,NUMB1+6,11,	RIGHT JUSTIFY VALUE	06396	26	09980	0627M
05120	SF	SYM+1,2		06408	32	-9980	00000
05130	MGDE	DC 2,0,=-2		06417		2	
	-0						
05140	FXORFL	DC 2,0,0		06419		2	
	-0						
05150	B	SMTLU		06420	49	06954	00000
05160	DORG	=-3		06428			
05170	FLNUMB	TFM VARBR+6,NUMB3		06428	16	06518	-6476
05180	CM	SYM-30,1,10		06440	14	09949	000-1
05190	BE	**24		06452	46	06476	01200
05200	TFM	VARBR+6,NUMB2+12		06464	16	06518	-6584
05210	NUMB3	SM SYM-30,1,10		06476	12	09949	000-1
05220	TR	CHI-1,CHI+1		06488	31	15138	15140
05230	CM	CHI,70, 10		06500	14	15139	000P0
05240	VARBR	HE ,,,	BRANCH BACK TO SHIFT OFF LEADING ZEROS	06512	46	00000	01200
05250	BNH	CMPAR		06524	47	06604	01100
05260	TFM	VARBR+6,NUMB2+12		06536	16	06518	-6584
05270	CM	NUMB1+6,SYM+1		06548	14	06274	-9980
05280	BNL	**24		06560	46	06584	01300
05290	NUMB2	TD NUMB1+6,CHI+6,	COLLECT NUMBER	06572	25	0627M	15139
05300	AM	NUMB1+6,1,10		06584	11	06274	000-1
05310	B	NUMB3+12		06596	49	06488	C0000
05320	DORG	=-3		06604			
05330	CMPAR	CM CHI,45,10,	TEST FOR E TYPE	06604	14	15139	000M5
05340	BNE	PLUS+12		06616	47	06844	01200
05350	TFM	PLUS+11,0,10		06628	16	06843	000-0
05360	TDM	PLUS+1,1		06640	15	06833	00001
05370	CM	CHI+2,20,10		06652	14	15141	000K0
05380	BL	**36		06664	47	06700	01300
05390	BNE	**36		06676	47	06712	01200
05400	TDM	PLUS+1,2		06688	15	06833	00002
05410	TR	CHI-1,CHI+1		06700	31	15138	15140
05420	CM	CHI+2,69,10		06712	14	15141	00009
05430	BH	**24		06724	46	06748	01100
05440	EXCESS	BTM ERROR,178,9,	INVALID EXPONENT	06736	17	09350	00378
05450	TD	PLUS+11,CHI+2		06748	25	06843	15141
05460	TR	CHI-1,CHI+3		06760	31	15138	15142
05470	CM	CHI,69,10		06772	14	15139	00009
05480	BNH	PLUS		06784	47	06832	01100
05490	S	PLUS+10,PLUS+11		06796	22	06842	06843
05500	TD	PLUS+11,CHI		06808	25	06843	15139
05510	TR	CHI-1,CHI+1		06820	31	15138	15140
05520	PLUS	AM SYM-30,,7		06832	11	09949	-0000

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05530	TF	SYM,SYM-30	06844	26	09979	09949
05540	SF	SYM-29	06856	32	09950	00000
05550	TF	SYM-2,SYM-30,7	06868	26	09977	-9949
05560	BV	EXCESS	06880	46	06736	01400
05570	BD	SMTLU,SYM-29	06892	43	06954	09950
05580	TFM	SYM,94,1011	06904	16	09979	000RR
05590	B	SMTLU	06916	49	06954	00000
05600	DORG	-3	06924			
05610	ZERSYM	DC 30,0	06953		30	
		-000000000000000000000000000000				
05620	DC	3,010,ZERSYM-28	06925		3	
		-10				
05630	*****	SYMBOL TABLE LOOK UP *****				
05640	*					
05650	SMTLU	TFM MODAD,STBL-4	06954	16	07805	-2373
05660	TFM	SMADD	06966	16	07208	-0000
05670	TFM	SMCNT,STBL-6	06978	16	07261	-2371
05680	*****	MODAD IS USED TO TEST FOR FIX OR FLOAT				
05690	**	SMADD WILL CONTAIN THE ADDRESS OF THE SYMBOL ENTRY AT EXIT				
05700	**	SMCNT IS USED TO FIND VARIABLE OR LITERAL				
05710	TF	LSTEN,TBCNT	06990	26	07025	02429
05720	AM	LSTFN,1,10	07007	11	07025	000-1
05730	CF	DMVAR	07014	33	08090	00000
05740	LSTEN	DS ,*	07025		0	
05750	B	SMLOOP+36	07026	49	07070	00000
05760	DORG	-3	07034			
05770	SMLOOP	SM SMCNT,10,10	07034	12	07261	000J0
05780	OUTSW	SM SMCNT,10,10	07034		0	
05790	SM	MODAD,10,10	07046	12	07805	000J0
05800	AM	SMADD,10,10	07058	11	07208	000J0
05810	SM	LSTEN,1,10	07070	12	07025	000-1
05820	RH	JOE	07082	46	07170	01100
05830	TF	+35,SMCNT	07094	26	07129	07261
05840	SM	+23,50,10	07106	12	07129	00000
05850	RNR	TBLFUL	07118	45	07150	00000
05860	AM	TBCNT,1,10	07130	11	02429	000-1
05870	B	ADVAR	07142	49	0809C	00000
05880	DORG	-3	07150			
05890	TBLFUL	BTM ERHOR2,74,9,	07150	17	09406	00-74
05900	H	MONCAL,,,	07162	49	00796	00C 7
05910	DORG	-3	07170			
05920	JUF	BD LITERL,VARSW,,	07170	43	07686	07581
05930	BNF	+20,SMCNT,11,	07182	44	07202	0726J
05940	B	SMLOOP	07194	49	07034	00000
05950	DORG	-3	07202			
05960	C	SYM	07202	24	00000	09979
05970	SMADD	DS ,*-5	07208		0	
05980	BV	SMLOOP	07214	46	07034	01400
05990	RNE	SMLOOP	07226	47	07034	01200
06000	TFM	INSW,1,,	07238	15	02611	00001
06010	CF	SMADD	07250	33	07208	00000
06020	SMCNT	DS ,*	07261		0	
06030	C	SMADD,FCNTEND,,	07262	24	07208	02318
06040	RH	FCNTEND,,,	07274	46	08846	01100
06050	AM	SMCNT,3,10	07286	11	07261	000-3
06060	BD	CSORN-1,DIMSW,6,	07298	43	0570L	10094

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06070	BD	+32,EQUSW	07310	43	07342	10008
06080	CM	CHI,24,10	07322	14	15139	000K4
06090	B	+20	07334	49	07354	00000
06100	DORG	-3	07342			
06110	CM	SCHI,24,610	07342	14	0601N	000K4
06120	RNR	+20,SMCNT,11	07354	45	07374	0726J
06130	B	FCST	07366	49	07946	00000
06140	DORG	-3	07374			
06150	BE	DIMERR+12	07374	46	07478	01200
06160	HD	+20,SMCNT,11,	07386	43	07406	0726J
06170	B	LUXIT	07398	49	07522	00000
06180	DORG	-4	07405			
06190	FNTSW2	DSC 1,0	07405		1	
06200	HD	LUXIT,IOSW,,	07406	43	07522	10011
06210	RD	LUXIT,FNTSW2	07418	43	07522	07405
06220	HD	LUXIT,,CALLSW,,	07430	43	07522	10009
06230	BD	COMB,COMSW,,	07442	43	11968	10010
06240	BD	LUXIT-12,EQUSW	07454	43	07510	10008
06250	DIMERR	BTM ERHOR,73,9,	07466	17	09350	00-73
06260	BTM	COMER2,COMSW	07478	43	09462	10010
06270	BD	+20,SMCNT,11	07490	43	07510	0726J
06280	B	DIMERR	07502	49	07466	00000
06290	DORG	-3	07510			
06300	SF	DHVAR,,,	07510	32	08090	00000
06310	*****	EXIT FROM TABLE LOCK UP *****				
06320	LUXIT	BNF CSORN-1,OUTSW,6,	07522	44	0570L	07034
06330	CF	OUTSW	07534	33	07034	00000
06340	BT	PUT,SMADD-1	07546	27	09050	07207
06350	BNF	+44,DHVAR	07558	44	07602	08090
06360	CF	DHVAR	07570	33	08090	00000
06370	VARSW	DS ,*	07581		0	
06380	TF	OUTSCE,CSORN-1	07582	26	04801	05703
06390	B	OUTSC	07594	49	10464	00000
06400	DORG	-3	07602			
06410	BNF	+32,,FNTSW,,	07602	44	07634	10000
06420	BTM	PUT,0154,8,	07614	17	09050	0-154
06430	B	CSORN-1,,6	07626	49	0570L	00000
06440	DORG	-3	07634			
06450	BD	+20,FNTSW,,	07634	43	07654	10000
06460	B	CSORN-1,,6	07646	49	0570L	00000
06470	DORG	-3	07654			
06480	BD	AERR1,OMM,,	07654	43	09450	10007
06490	BTM	PUT,0153,8,	07666	17	09050	0-153
06500	B	CSORN-1,,6	07678	49	0570L	00000
06510	DORG	-3	07686			
06520	*****	SEARCH SYMBOL TABLE FOR CONSTANTS *****				
06530	LITERL	BNF SMCNT,11,	07686	44	07034	0726J
06540	BD	LUSTNO,STNOSW,,	07698	43	08710	10003
06550	BD	FXLIT,FXORFL,,	07710	43	08026	06419
06560	BD	SMLOOP,MODAD,11,	07722	43	07034	0780N
06570	LITF	C SMADD,SYM,6,	07734	24	0720Q	09979
06580	BNE	SMLOOP	07746	47	07034	01200
06590	TF	ADSAVE,SMADD	07758	26	08485	07208
06600	CF	ADSAVE	07770	33	08485	00000
06610	CF	SMCNT,,6	07782	33	0726J	00000

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06620	SM	ADSAVE,2,610		07794	12	0848M	000-2	
06630	C	SMADD,SYM-2,6,	COMPARE MANTISSA	07806	24	07200	09977	
06640	BE	*+44		07818	46	07862	01200	
06650	AM	ADSAVE,2,610		07830	11	0848M	000-2	
06660	SF	SMCNT,,6		07842	32	0726J	00000	
06670	B	SMLLOOP		07854	49	07034	00000	
06680	DDRG	*-3		07862				
06690	AM	ADSAVE,2,610		07862	11	0848M	000-2	
06700	SF	SMCNT,,6		07874	32	0726J	00000	
06710	MUDAD	DS	,*	07885		0		
06720	TDM	INSH,,1		07896	15	02611	00001	
06730	E37061	CF	SMADD	07898	33	07208	00000	
06740	CM	CHI,24,10		07910	14	15139	000K4	
06750	BNE	LUXIT		07922	47	07522	01200	
06760	BTM	ERRDR,378,9		07934	17	09350	00L78	
06770	*****	TEST FOR SINGLE STATEMENT FUNCTION OR FUNCTION SUBROUTINE						
06780	FCST	BE	*+36	07946	46	07982	01200	
06790	BTM	*+24,CALLSW		07958	43	07982	10009	
06800	EXR09	BTM	ERRDR,079,9,	07970	17	09350	00-79	
06810	TDM	FNTSW,1,,	INCORRECT USE OF SUBPROGRAM NAME FUNCTION SUBROUTINE	07982	15	10000	00001	
06820	BNF	LUXIT,SMCNT,11		07994	44	07522	0726J	
06830	SF	FNTSW,,		08006	32	10000	00000	
06840	B	LUXIT		08018	49	07522	00000	
06850	DDRG	*-3		08026				
06860	FALIT	HD	*+20,MODAD,11,	08026	43	08046	0788M	
06870	B	SMLLOOP		08038	49	07034	00000	
06880	DDRG	*-3		08046				
06890	BNF	SMLLOOP,MODAD,11,	TEST FOR STATEMENT NO.	08046	44	07034	0788M	
06900	C	SMADD,SYM,6		08058	24	07200	09979	
06910	BNE	SMLLOOP		08070	47	07034	01200	
06920	H	E37061		08082	49	07898	00000	
06930	DDRG	*-3		08090				
06940	*****	ENTRY TO ADD A NEW VARIABLE TO SYMBOL TABLE	*****					
06950	AUVAR	CF	SMADD	08090	33	07208	00000	
06960	DMVAR	DS	,ADVAN	08090		C		
06970	TDM	INSH,0		08102	15	02611	00000	
06980	AM	SMCNT,3,10		08114	11	07261	000-3	
06990	TD	MODAD,FXORFL,6,		08126	25	0788M	06419	
07000	X	SF	MODAD,,6	08138	32	0788M	00000	
07010	BD	ADLIT,VARSW,,	BRANCH TO ADD CONSTANT	08150	43	0855C	07581	
07020	A	NXLOC,SMLNG,,	MOD SYMBOL STORAGE BY NUMBER OF CHAR	08162	21	02372	05931	
07030	TF	NXLOC,SYM,6,	MOVE SYMBOL INTO SYM STORAGE	08174	26	0237K	09979	
07040	AUVLOP	TF	SMADD,NXLOC,6,	MOVE ACD OF SYM INTO SYMBOL TABLE	08186	26	07200	02372
07050	BD	ADVARI,0IMSH,,	TEST IF IN DIMENSION STATEMENT	08198	43	08218	10004	
07060	H	ADVARE		08210	49	08266	00000	
07070	DDRG	*-3		08218				
07080	ADVARI	SM	SMADD,10,10	08218	12	07208	000J0	
07090	AM	TRCNT,1,10		08230	11	02429	000-1	
07100	TF	SMADD,NXLOC,6,	PLACF DOUBLE ENTRY FOR DIMENSION VAR	08242	26	07200	02372	
07110	AM	SMADD,10,10		08254	11	07208	000J0	
07120	ADVARI	BD	ADSVAR,SUBSW,,	08266	43	08462	10012	
07130	BD	CSURN-1,DIMSH,6,	TEST IF IN SUBROUTINE STATEMENT GOTO COLLECT DIMENSIONS IF IN DIM	08278	43	0570L	10004	
07140	SETTING	BNF	*+24,COMSW,,	08290	44	08314	10010	
07150	SF	SMCNT,,6,	SET FLAG ON INDICATOR IF COMMON VARIABLE	08302	32	0726J	00000	
07160	SUNTST	BD	*+32,EQUSSH,,	08314	43	08346	10008	
07170	CM	CHI,24,10		08326	14	15139	000K4	

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07180	B	*+20		08338	49	08358	00000
07190	DDRG	*-3		08346			
07200	CM	SMCHI,24,610		08346	14	0601N	000K4
07210	BNE	LUXIT		08358	47	07522	01200
07220	AD	SURTR,EQUSSH,,		08370	43	0845G	10008
07230	BD	LUXIT,SUBSW,,	DO NOT SET SWITCH IF IN DECLARATION STMT	08382	43	07522	10012
07240	BD	COMER2,COMSW		08394	43	09462	10010
07250	TDM	FNTSW,1,,	SET SWITCH FOR FUNCTION NAME (A)	08406	15	10000	00001
07260	TDM	SMCNT,,6		08418	15	0726J	00000
07270	DC	1,,*		08429		1	
07280	BD	ASC21,0MM		08430	43	13282	10007
07290	H	LUXIT,,		08442	49	07522	00000
07300	DDRG	*-3		08450			
07310	SURTR	BTM	ERROR,170,9,	08450	17	0935C	00J70
07320	*****	ENTRY TO PLACE VARIABLE IN SUBROUTINE DEFINITION IN TABLE					
07330	*****	THESE VARIABLE ARE PLACED IN TWICE BECAUSE OF POSSIBLE DIMENSIONING LATER					
07340	**						
07350	AUSUBP	BNF	*+44,SUBSW	08462	44	08506	10012
07360	CF	SUBSW		08474	33	10012	00000
07370	ALSAVE	DS	,*	08485		0	
07380	AM	SMADD,10,10		08486	11	07208	000J0
07390	B	SETIND		08498	49	0829C	00000
07400	DDRG	*-3		08506			
07410	SF	SUBSW		08506	32	10012	00000
07420	SM	SMADD,10,10		08518	12	07208	000J0
07430	AM	TRCNT,1,10		08530	11	02429	000-1
07440	B	ADVLOP,,	BRANCH TO PLACE SYMBOL IN SECOND TIME	08542	49	08186	00000
07450	DDRG	*-3		08550			
07460	*****	ENTRY TO PLACE CONSTANTS IN TABLE	*****				
07470	AULIT	BD	ADSTN,STNOSH,,	08550	43	08774	10003
07480	BD	ADXLIT,FXORFL,,	BRANCH TO ADD STATEMENT NUMBER BRANCH TO ADD FIX CONST	08562	43	08678	06419
07490	A	NXLOC,FLNG		08574	21	02372	02250
07500	TF	NXLOC,SYM-2,6,	MOVE IN FLOATING MANTISSA	08586	26	0237K	09977
07510	AM	NXLOC,2,10		08598	11	02372	000-2
07520	TF	SMADD,NXLOC,6,	SET SYM ADD INTO TABLE	08610	26	07200	02372
07530	ADLIT	TF	NXLOC,SYM,6,	08622	26	0237K	09979
07540	SM	SMADD,1,10		08634	12	07208	000-1
07550	SF	SMADD,,6		08646	32	07200	00000
07560	AM	SMADD,1,10		08658	11	07208	000-1
07570	B	E37061+12		08670	49	07910	00000
07580	DDRG	*-3		08678			
07590	ADXLIT	A	NXLOC,KLNG	08678	21	02372	02252
07600	TF	SMADD,NXLOC,6		08690	26	07200	02372
07610	B	ADLIT		08702	49	08622	00000
07620	DDRG	*-3		08710			
07630	*****	ENTER WHEN LOOKING UP STATEMENT NUMBERS	*****				
07640	LUSTND	BNF	*+20,MODAD,11,	08710	44	08730	0788M
07650	B	SMLLOOP		08722	49	07034	00000
07660	DDRG	*-3		08730			
07670	C	SMADD,SYM,6		08730	24	07200	09979
07680	BNE	SMLLOOP		08742	47	07034	01200
07690	TDM	STNOSH,0		08754	15	10003	00000
07700	B	E37061-12,,	BRANCH TO SET INSH AND GO TO LUXIT	08766	49	07886	00000
07710	DDRG	*-3		08774			
07720	*****	ENTER TO ADD STATEMENT NUMBER	*****				

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07730	ADSTV	AM	NXLOC,4,10		08774	11	02372	000-4
07740		TF	SMADD,NXLOC,6,	MOVE STAMNT NO. ADDRESS TO TABLE	08786	26	07200	02372
07750		CF	MODAD,,6,	CLEAR FLAG FOR STATEMENT NUMBER	08798	33	07888	00000
07760		TDM	STNOSW,0		08810	15	10003	00000
07770		B	ADLIT1		08822	49	08622	00000
07780		BTM	EROR,374,9,	ILLEGAL USE OF FUNCTION NAME	08834	17	09350	00174
07790	FCYEST	HD	*-12,COMSW,,	TEST FOR FUNCTION NAME IN COMMON	08846	43	08834	10010
07800		BD	*-24,EQUSW,,	FNCT NAME IN EQUIV	08858	43	08834	10008
07810		BD	*-36,DIMSW,,		08870	43	08834	10004
07820		BD	*-48,IUSW,,		08882	43	08834	10011
07830		BD	FCYEST-12,OMM		08894	43	08834	10007
07840		CM	CHI,24,10		08906	14	15139	000K4
07850		BNE	FCYEST-12		08918	47	08834	01200
07860		TF	*+35,SMADD		08930	26	08965	07208
07870		AM	*+23,5,10		08942	11	08965	000-5
07880		TF	TFMP,,,		08954	26	0262C	00000
07890		SM	TEMP,ENTLOG-5		08966	12	02620	-2243
07900		MM	TEMP,2,10		08978	13	02620	000-2
07910		SF	97		08990	32	00097	00000
07920	REL	DS	,*		09001			C
07930		TFM	*+30,USED5-1		09002	16	09032	-2262
07940		A	*+18,98		09014	21	09032	00098
07950		TDM	,1,10,	SET INDICATOR FOR FUNCTION USED	09026	15	00000	000-1
07960		B	LUXIT		09038	49	07522	00000
07970	PUT	BD	EXIT,ERSW		09050	43	09228	05640
07980		TF	PUTOUT,PUT-1		09062	26	09344	09049
07990		B	E94270		09074	49	09094	00000
08000		DORG	*-3		09082			
08010		TF	PUTOUT,PUT-2		09082	26	09344	09048
08020	LY4270	TR	CARD,PUTOUT-3,2		09094	31	J5036	09341
08030		AM	*-6,4,10		09106	11	09100	000-4
08040		CM	*-18,CARD+100		09118	14	09100	J5136
08050		BE	*+14		09130	46	09144	01200
08060		RR			09142	42	00000	00000
08070		DORG	*-9		09144			
08080		TFM	IOPT,**23		09144	16	00565	-9167
08090		B	IOPT,INTOP,7		09156	49	00532	-9235
08100		AM	INTOP1+5,1,10		09168	11	02390	000-1
08110		B	*+36,00200,,	C977 ST ON SW 2	09180	49	09216	00200
08120		RCTY			09192	34	00000	00102
08130		WNTY	CARD		09204	38	15036	00100
08140		TFM	E94270+6,CARD		09216	16	09100	J5036
08150	EXIT	RB	ER4440		09228	42	02430	00000
08160		DORG	*-4		09235			
08170	INTOP	DSC	2,02		09235			2
08180		O2						
08180		DSA	INTOP1		09241			5 X 1
08190		DC	1,1		09241			-2385
08200	SPERR	TFM	SPGS+11,071,9		09242			1
08210		BD	SPGS,INDIV		09244	16	09339	00-71
08220		TFM	IOPT,**23		09256	43	09328	02424
08230		B	IOGT,C5DATA-4,7,	CHECK FOR CONTINUATION CARDS	09268	16	00565	-9291
08240		CM	CHI5,43,10		09280	49	00566	-9799
					09292	14	15839	000M3

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08250		BE	*+24		09304	46	09328	01200
08260		BD	SPERR+24,CHI5+10		09316	43	09268	15849
08270	SPGS	BTM	ERROR,071,9		09328	17	09350	00-71
08280	PUTOUT	DC	5,0		09344			5
08290		-0000						
08290		DC	1,1		09345			1
08300		DS	4		09349			4
08310	ERROR	TDM	ERSW,1		09350	15	05640	00001
08320		TDM	E94620+1,9		09362	15	09395	00009
08330	* CALL	ERROR	PRINT OUT OF DISK	-RETURN IS TO E94620				
08340		TFM	RETR +6,ERI,,	SET BRANCH TO ERROR MESSAGE	09374	16	02496	-3486
08350		BT	FLIP		09386	49	02454	
08360	E94620	B	BEGINA		09394	49	02638	00000
08370	ERROR2	TDM	E94620+1,2		09406	15	09395	00002
08380		TDM	JAY,4		09418	15	02367	00004
08390		TF	ERROR-1,ERROR2-1,,	TRANSMIT THE ERROR NUMBER	09430	26	09349	09405
08400		B	ERROR+24		09442	49	09374	00000
08410		DORG	*-3		09450			
08420	AERR1	BTM	ERROR,376,9		09450	17	09350	00L76
08430	COMER	BTM	ERROR,372,9,	INCORRECT COMMON STATEMENT	09462	17	09350	00L72
08440	COMER2	DS	,COMER		09462			0
08450	END	BD	*+20,SUBFCT		09474	43	09494	02293
08460		B	*+32		09486	49	09518	00000
08470		DORG	*-3		09494			
08480		BD	*+24,RTSW		09494	43	09518	05639
08490		BTM	ERROR2,578,9		09506	17	09406	00M78
08500		HV	*+12		09518	46	09530	01400
08510		BD	MONCAL,ERSW,,	SKIP STORAGE ALLOCATION IF PROG HAD ERR	09530	43	00796	05640
08520		BTM	PUT,141,8,END		09542	17	09050	0-141
08530		BTM	PUT,140,8,DUMMY		09554	17	09050	0-140
08540		BTM	PUT,0132,811,	SEMI COLON	09566	17	09050	0-13K
08550		CM	E94270+6,CARD		09578	14	09100	J5036
08560		BE	E86440,,	EXIT TO STORAGE ALLOCATION	09590	46	02430	01200
08570		TDM	EXIT+1,9		09602	15	09229	00009
08580		B	E94270+50		09614	49	09144	00000
08590		DORG	*-3		09622			
08600	BLK1	DSC	2,22		09622			2
08610		22						
08610		OSA	BLK1A		09628			5 X 1
08620		DC	1,1		09628			-9630
08630	BLK1A	DSC	1,0		09629			1
08640		DC	5,17600		09630			1
08650		J7600			09635			5
08650		DC	3,043		09638			3
08660		-43						
08660		DSA	IOUT		09643			5 X 1
08670		DC	1,1		09643			J0200
08680	BLK2	DSC	2,22		09644			1
		22			09645			2

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08690	USA	BLK2A	09651	5 X 1
08700	DC	1,0	09651	-9653
08710	BLK2A	DSC 1,0	09652	1
08720	DC	5,17400	09653	1
08730	DC	J7400 3,046	09658	5
08740	DSA	-46 IDUT	09661	3
08750	DC	1,0	09666	5 X 1
08760	HLK3	DSC 2,22	09666	J0200
08770	DSA	22 BLK3A	09667	1
08780	DC	1,0	09668	2
08790	HLK3A	DSC 1,0	09674	5 X 1
08800	DC	5,17450	09674	-9676
08810	DC	J7450 3,046	09675	1
08820	DSA	-46 IDUT	09676	1
08830	DC	1,0	09681	5
08840	HLK4	DSC 2,22	09684	3
08850	DSA	22 BLK4A	09689	5 X 1
08860	DC	1,0	09689	J0200
08870	HLK4A	DSC 1,0	09690	1
08880	DC	5,17500	09691	2
08890	DC	J7500 3,046	09697	5 X 1
08900	DSA	-46 IDUT	09697	-9699
08910	DC	1,0	09698	1
08920	BLK5	DSC 2,22	09699	1
08930	DSA	22 BLK5A	09704	5
			09707	3
			09712	5 X 1
			09712	J0200
			09713	1
			09714	2
			09720	5 X 1

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08940	DC	1,0	09720	-9722
08950	BLK5A	DSC 1,0	09721	1
08960	DC	5,17650	09722	1
08970	DC	J7650 3,046	09727	5
08980	DSA	-46 IDUT	09730	3
08990	DC	1,0	09735	5 X 1
09000	HLK6	DSC 2,22	09735	J0200
09010	DSA	22 BLK6A	09736	1
09020	DC	1,0	09737	2
09030	HLK6A	DSC 1,0	09743	5 X 1
09040	DC	5,17750	09743	-9745
09050	DC	J7750 3,046	09744	1
09060	DSA	-46 IDUT	09745	1
09070	DC	1,0	09745	1
09080	HLK7	DSC 2,22	09750	5
09090	DSA	22 BLK7A	09753	3
09100	DC	1,0	09758	5 X 1
09110	HLK7A	DSC 1,0	09758	J0200
09120	DC	5,17700	09759	1
09130	DC	J7700 3,100	09760	2
09140	DSA	J00 ER6440	09766	5 X 1
09150	DC	1,0	09766	-9768
09160	URDATA	DSA CHI	09767	1
09170	DC	3,060	09768	1
09180	DDATA	DSA CHI	09768	1
			09768	1
			09773	5
			09776	3
			09781	5 X 1
			09781	-2430
			09782	1
			09787	5 X 1
			09787	J5139
			09790	3
			09795	5 X 1

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09190	DC	3,10	09795	J5139		
	JO		09798	3		
09200	CSDATA	DSA CH15	09803	5 X	1	
09210	DC	3,10	09803	J5839		
	JO		09806	3		
09220	MUDAFT	TFM **35,AFTBL+5	09808	16	09843	J5040
09230	SM	**23,5,10	09820	12	09843	000-5
09240	TF	**18,,	09832	26	09850	00000
09250	AM	,2,10	09844	11	00000	000-2
09260	C	*-13,STAFI	09856	24	09843	04419
09270	BH	*-48	09868	46	09820	01100
09280	TFM	STAFI,AFTBL+5	09880	16	04419	J5040
09290	R	BEGIN+36	09892	49	02662	00000
09300	DDRG	*-4	09899			
09310	EMMES	DAC 9,FRRUR 00	09901	9 X	2	
		ERROR 00				
09320	FMTCS	DC 12,465659544163	09929	12		
		M65659544163				
09330	PLUSS	DAC 2,+	09931	2 X	2	
		+				
09340	ENDCT	DAC 3,END	09935	3 X	2	
		END				
09350	SYM	DS 40	09979	40		
09360	DS	2	09981	2		
09370	DC	16,0	09997	16		
		-00000000000000				
09380	ZER13	DS ,*-2	09995	0		
09390	TENZ	DS ,*-6	09991	0		
09400	SINGST	DC 1,0	09998	1		
		-				
09410	DUTRAN	DSC 1,0	09999	1		
		0				
09420	FNTSW	DSC 1,0	10000	1		
		0				
09430	FNTSM1	DSC 1,0	10001	1		
		0				
09440	FMSW	USC 1,0	10002	1		
		0				
09450	STNDSW	DSC 1,0	10003	1		
		0				
09460	QMSW	JSC 1,0	10004	1		
		0				
09470	IFSW	DSC 1,0	10005	1		
		0				
09480	CGTO	DSC 1,0	10006	1		
		J				
09490	UMP	DSC 1,0	10007	1		
		J				
09500	EJUSW	DSC 1,0	10008	1		
		0				
09510	CALLS4	DSC 1,0	10009	1		
		0				
09520	CUMSW	DSC 1,0	10010	1		
		0				

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09530	IOSW	DSC 1,0	10011	1		
		0				
09540	SURSW	DSC 1,0	10012	1		
		0				
09550	DDRG	10200	10200			
09560	IDUT	TFM FMON+35,BLK4	10200	16	02359	-9691
09570	BTM	FMON,IIUT	10212	17	02324	J0200
09580	NONARA	TFM FMON+35,BLK2	10224	16	02359	-9645
09590	BTM	FMON,NONARA	10236	17	02324	J0224
09600	DIP	TFM FMON+35,BLK1	10248	16	02359	-9622
09610	BTM	FMON,DIP	10260	17	02324	J0248
09620	COMMON	TFM FMON+35,BLK1	10272	16	02359	-9622
09630	BTM	FMON,COMMON	10284	17	02324	J0272
09640	IF	TFM FMON+35,BLK6	10296	16	02359	-9737
09650	BTM	FMON,IF	10308	17	02324	J0296
09660	GUTO	TFM FMON+35,BLK6	10320	16	02359	-9737
09670	BTM	FMON,GUTO	10332	17	02324	J0320
09680	CALL	TFM FMON+35,BLK6	10344	16	02359	-9737
09690	BTM	FMON,CALL	10356	17	02324	J0344
09700	RETURN	TFM FMON+35,BLK6	10368	16	02359	-9737
09710	BTM	FMON,RETURN	10380	17	02324	J0368
09720	FORMAT	TFM FMON+35,BLK1	10392	16	02359	-9622
09730	BTM	FMON,FORMAT	10404	17	02324	J0392
09740	UCO	TFM FMON+35,BLK4	10416	16	02359	-9691
09750	BTM	FMON,UCO	10428	17	02324	J0416
09760	ASCAN	TFM FMON+35,BLK3	10440	16	02359	-9668
09770	BTM	FMON,ASCAN	10452	17	02324	J0440
09780	OUTSC	TFM FMON+35,BLK3	10464	16	02359	-9668
09790	BTM	FMON,OUTSC	10476	17	02324	J0464
09800	DKIO	TFM FMON+35,BLK5	10488	16	02359	-9714
09810	BTM	FMON,DKIO	10500	17	02324	J0488
09820	**	INITIALIZATION PHASE I-B				
09830	PRSCAN	BNF PRSCN1,LIST,, TOTAL LISTING	10512	44	10544	02228
09840	IFM	REIR +6,INITAL,, PRINT OUT THE HEAD	10524	16	02496	-4098
09850	B7	FLIP	10536	49	02454	
09860	PRSCN1	SF 00457	10544	32	00457	00000
09870	IDM	00475,2,,, SET SYSCAL	10556	15	00475	00002
09880	BD	**20,INDIV	10568	43	10588	02424
09890	B	**56	10580	49	10636	00000
09900	DDRG	*-3	10588			
09910	BNF	**48,INDIV	10588	44	10636	02424
09920	TFM	BA+1,41,10	10600	16	02719	000M1
09930	TFM	BA+37,41,10	10612	16	02755	000M1
09940	TFM	URDATA+2,08,10	10624	16	09789	000-8
09950	TF	SMTLU+11,STBL	10636	26	06965	02377
09960	SM	SMTLU+11,4,10	10648	12	06965	000-4
09970	S	SMTLU+23,STBL	10660	22	06977	02377
09980	AM	SMTLU+23,05,10	10672	11	06977	000-5
09990	TF	SMTLU+35,STBL	10684	24	06989	02377
10000	SM	SMTLU+35,6,10	10696	12	06989	000-6
10010	S	FXORFL-5,KLNG	10708	22	06414	02252
10020	A	PLUS+47,FLNG	10720	21	06879	02250
10030	BD	BA+48,INDIV	10732	43	02766	02424
10040	B	BEGINA	10744	49	02638	00000
10050	DDRG	*-3	10752			
10060	DDRG	16000	16000			

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10070	PHRDAT	DSC	2,22		16000		2	
10080	DSA	PHRDDA			16006		5 X 1	
10090	DC	1,0			16006	J6008		
10100	PHRDDA	DSC	1,0		16007		1	
10110	DC	5,17200			16008		1	
10120	J7200	DC	3,86		16013		5	
10130	DSA	E86660			16016		3	
10140	DC	1,0			16021		5 X 1	
10150	LUPMH	TFM	IOPT,0+23		16021		-2430	
10160	R	IOPT,PHRDAT,7			16022		1	
10170	TRA				16024	16	00565	J6047
10180	TCO	LDPMB			16038	49	00532	J6000
10190					16048	36	00000	00500
10200					16060	49	00000	00000
10210					16024			
10220								
10230								
10240	TFM	FMIN+35,BLK4		,,IOUT	10200			
10250	BTM	FMON,IOUT			10200	16	02359	-9691
10260	TFM	FMON+35,BLK2			10212	17	02324	J0200
10270	BTM	FMON,NONARA			10224	16	02359	-9665
10280	CF	STSN		,,DIM	10236	17	02324	J0224
10290	H	DIMEN			10248	33	05641	00000
10300	CF	STSN		,,COMMON	10260	49	10512	00000
10310	B	COMMEN			10272	33	05641	00000
10320	TFM	FMON+35,BLK6		,,IF	10284	49	11576	00000
10330	BTM	FMON,IF			10296	16	02359	-9737
10340	TFM	FMIN+35,BLK6		,,GOTO	10308	17	02324	J0296
10350	BTM	FMON,GOTO			10320	16	02359	-9737
10360	TFM	FMIN+35,BLK6		,,CALL	10332	17	02324	J0320
10370	BTM	FMON,CALL			10344	16	02359	-9737
10380	TFM	FMON+35,BLK6		,,RETURN	10356	17	02324	J0344
10390	BTM	FMON,RETURN			10368	16	02359	-9737
10400	CF	FREQSW		,,FORMAT	10380	17	02324	J0368
10410	B	FORMAT			10392	33	14218	00000
10420	TFM	FMON+35,BLK4		,,DOO	10404	49	12166	00000
10430	BTM	FMON,DOO			10416	16	02359	-9691
10440	TFM	FMIN+35,BLK3,,		ASCAN	10428	17	02324	J0416
10450	BTM	FMON,ASCAN			10440	16	02359	-9668
10460	TFM	FMON+35,BLK3,,		OUTSC	10452	17	02324	J0440
10470	BTM	FMON,OUTSC			10464	16	02359	-9668
10480	TFM	FMIN+35,BLK5		,,DKID	10476	17	02324	J0464
10490	BTM	FMON,DKID			10488	16	02359	-9714
10500	*****	ENTRY TO DECOMPOSE DIMENSION STATEMENT			10500	17	02324	J0488

10510	DIMEN	BTM	COLNAM,6,10		10512	17	04662	000-6
10520	C	SYM,FNSION+10			10524	24	09979	11575
10530	HV	ERK01			10536	46	04288	01400
10540	HNE	ERK01			10548	47	04288	01200
10550	TR	CHI-1,CHI+11			10560	31	15138	15150
10560	TDM	DIMS,1			10572	15	10004	00001
10570	BNR	+36,CHI+2			10584	45	10620	15141
10580	DIM1	BTM	ERR0R,072,9,		10596	17	0935C	00-72
10590	BTM	ERR0R,270,9			10608	17	0935C	00K70
10600	CM	CHI,40,10			10620	14	15139	000M0
10610	HNH	+24			10632	47	10608	01100
10620	CM	CHI,69,10			10644	14	15139	00009
10630	BH	DIM1+12			10656	46	10608	01100
10640	BTM	CSORN,+12			10668	17	05704	J0680
10650	SETDM	HD	DIM2,INSW,,	BRANCH IF SYM WAS ALREADY IN TABLE	10680	43	11484	02611
10660	TDM	SMCNT,1,6,			10692	15	0726J	00001
10670	TF	ADSAVE,SMADD,11,			10704	26	08485	07200
10680	SM	SMADD,05,10			10716	12	07208	000-5
10690	TFM	SMADD,1,67			10728	16	07200	-0001
10700	CM	CHI,24,10			10740	14	15139	000K4
10710	HNE	DIM1			10752	47	10596	01200
10720	SF	DIM1			10764	32	10596	00000
10730	SF	SETDM			10776	32	10680	00000
10740	SD	TR	CHI-1,CHI+1,,	SHIFT OFF LEFT PARN OR COMMA	10788	31	15138	15140
10750	CM	CHI,69,10,		TEST FOR ABSGLTUF	10800	14	15139	00009
10760	BNH	SETDM2+24			10812	47	10860	01100
10770	BTM	CSTNO,+12			10824	17	05412	J0836
10780	SETDM2	CM	SYM,0,10		10836	14	09979	000-0
10790	HNE	+24			10848	47	10872	01200
10800	BTM	ERR0R,179,9			10860	17	09350	00J79
10810	AM	ADSAVE,5,10			10872	11	08485	000-5
10820	TDM	SYM-4,0,11			10884	15	09975	0000-
10830	CF	SYM-3			10896	33	09976	00000
10840	TF	ADSAVE,SYM,6			10908	26	08488	09979
10850	AM	NXLOC,5,10			10920	11	02372	000-5
10860	TF	TEMP,SYM			10932	26	02620	09979
10870	CM	CHI,06,10			10944	14	15139	000-4
10880	BE	MOVDIM			10956	46	11116	01200
10890	CM	CHI,23,10			10968	14	15139	000K3
10900	HNE	DIM1			10980	47	10596	01200
10910	BNR	BENDIM,DIM1,,		TEST FOR SECOND DIMENSION	10992	44	11072	10596
10920	TDM	SMCNT,2,6			11004	15	0726J	00002
10930	SETDM3	M	SMADD,TEMP,6		11016	23	07200	02620
10940	SF	95			11028	32	00095	00000
10950	TF	SMADD,99,6,			11040	26	07200	00099
10960	CF	DIM1			11052	33	10596	00000
10970	B	SD			11064	49	10788	00000
10980	DORG	+3			11072			
10990	GENDIM	BNF	SETDM2+24,SETDM,,	TEST FOR THIRD DIMENSION	11072	44	10860	10680
11000	TDM	SMCNT,3,6			11084	15	0726J	00003
11010	CF	SETDM			11096	33	10680	00000
11020	B	SETDM3			11108	49	11016	00000
11030	DORG	+3			11116			
11040	MOVDIM	M	SMADD,TEMP,6		11116	23	07200	02620
11050	SF	95			11128	32	00095	00000
11060	TF	SMADD,99,6			11140	26	07200	00099

11070	TR	CHI-1,CHI+1		11152	31	15138	15140
11080	TD	DIMTP,SMCNT,11		11164	25	11185	0726J
11090	CM	DIMTP,0002,R10		11176	14	11185	0-0-2
11100	DIMTP	DS	,=-2	11185			0
11110	BM	SETDM4,,,	3 DIMENSIONS	11189	46	11276	01100
11120	BE	**32,,,	2 DIMENSIONS	11200	46	11232	01200
11130	TFM	ADSAVE,1,67,	1 DIMENSION	11212	16	0848N	-0001
11140	B	SETDM5*12		11224	49	11396	00000
11150	DORG	**3		11231			
11160	TF	TEMP,ADSAVE		11232	26	02620	08485
11170	SM	TEMP,9,10		11244	12	02620	000-5
11180	TF	ADSAVE,TEMP,611		11256	26	0848N	0262-
11190	B	SETDM5		11268	49	11384	00000
11200	DORG	**4		11275			
11210	SETDM4	TF	TEMP,ADSAVE	11276	26	02620	08485
11220	SM	ADSAVE,9,10		11288	12	08485	000-5
11230	SM	TEMP,10,10		11300	12	02620	000J0
11240	H	TEMP,ADSAVE,611		11312	23	0262-	0848N
11250	SF	95		11324	32	00095	00000
11260	TF	NXLOC,99,6		11336	26	0237K	00099
11270	TF	ADSAVE,TEMP,611		11348	26	0848N	0262-
11280	TF	TEMP,NXLOC,611		11360	26	0262-	0237K
11290	A	TEMP,ADSAVE,611		11372	21	0262-	0848N
11300	SETDM5	AM	TEMP,1,610	11384	11	0262-	000-1
11310	AM	NXLOC,05,10		11396	11	02372	000-5
11320	TF	NXLOC,SMADD,611		11408	26	0237K	0720Q
11330	BNR	**20,CHI+2		11420	45	11440	15141
11340	B	BEGINA		11432	49	02638	00000
11350	DORG	**3		11440			
11360	CM	CHI,23,10		11440	14	15139	000K3
11370	BNE	DIM1		11452	47	10596	01200
11380	TR	CHI-1,CHI+1		11464	31	15138	15140
11390	B	DIM1+24		11476	49	10620	00000
11400	DORG	**3		11484			
11410	UIM2	AM	MODAD,2,10	11484	11	07885	000-2
11420	BNR	DIM3,MODAD,11,	TEST IF DIM VAR WAS PLACED IN TABLE BY	11496	45	11592	0788N
11430	A	NXLOC,SMLNG,,	SUBROUTINE OR FUNCTION STATEMENT	11508	21	02372	05931
11440	TF	NXLOC,SYM,6		11520	26	0237K	09979
11450	TF	SMADD,NXLOC,6		11532	26	07200	02372
11460	B	SETDM*12		11544	49	10692	000-7
11470	DORG	**3		11552			
11480	DIM3	BTM	ERROR,271,9	11552	17	09350	00K71
11490	ENSI0N	DAC	6,ENSI0N	11565		6 X	2
11500	*****	DECODE COMMON STATEMENTS	*****				
11510	COPMEN	BTM	COLNAM,3,10	11576	17	04662	000-3
11520	C	SYM,MON**4		11588	24	09979	12165
11530	HV	ERR01		11600	46	04288	01400
11540	BNE	ERR01		11612	47	04288	01200
11550	TR	CHI-1,CHI+5		11624	31	15138	15144
11560	TDM	COMSW,1,11		11636	15	10010	00C0J
11570	CM	CHI,40,10		11648	14	15139	000M0
11580	BNH	COMER		11660	47	09462	01100
11590	CM	CHI,69,10		11672	14	15139	00009
11600	HM	COMER		11684	46	09462	01100
11610	BTM	CSORN,**12		11696	17	05704	J17C3

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11620	CM	CHI,24,10		11708	14	15139	000K4
11630	BE	COMER		11720	46	09462	01200
11640	BD	COMIN,INSH,,	BRANCH IF VARIABLE WAS PREVIOUSLY USED	11732	43	11876	02611
11650	*****	IF VARIABLE WAS NOT DEFINED THEN IT MUST BE SIMPLE VARIABLE					
11660	CUPA	AM	NXLOC,5,10	11744	11	02372	000-5
11670	TF	NXLOC,COMADD,6,	MOVE OBJ TIME COMMON ADDRESS TO SYM AREA	11756	26	0237K	02262
11680	BD	**32,FXORFL		11768	43	11800	06419
11690	S	COMADD,FP2,,	ADJ COMMON ADDRESS FOR FLOAT VARIABLE	11780	22	02262	02298
11700	B	**20		11792	49	11812	00000
11710	DORG	**3		11800			
11720	S	COMADD,KLNG,,	ADJ COMMON ADDRESS FOR FIX VARIABLE	11800	22	02262	02252
11730	CUMAB	BNR	**20,CHI+2	11812	45	11832	15141
11740	B	BEGINA		11824	49	02638	00000
11750	DORG	**3		11832			
11760	CM	CHI,23,10,	TEST FOR MCRE LIST ELEMENTS	11832	14	15139	000K3
11770	BNE	COMER		11844	47	09462	01200
11780	TR	CHI-1,CHI+1		11856	31	15138	15140
11790	B	COMMEN+72		11868	49	11648	00000
11800	DORG	**3		11876			
11810	*****	COME HERE IF SIMPLE VARIABLE WAS IN TABLE	*****				
11820	CUMIN	BNF	**24,SMCNT,11	11876	44	11900	0726J
11830	BTM	ERROR,373,9,	VARIABLE WAS PREVIOUSLY PLACED IN COMMON	11888	17	09350	00L73
11840	BNF	**12,MODAD,11,	WAS IT PREVIOUSLY EQUIVALENCED	11900	44	11888	0788N
11850	SF	SMCNT,**6		11912	32	0726J	00000
11860	CUMINA	A	NXLOC,SMLNG	11924	21	02372	05931
11870	TF	SMADD,NXLOC,6,	MOVE NEW SYMBOL ADDRESS INTO TABLE	11936	26	07200	02372
11880	TF	NXLOC,SYM,6		11948	26	0237K	09979
11890	B	COMA,,,	BRANCH TO PLACE COMMON ADDRESS IN TABLE	11960	49	11744	00000
11900	DORG	**3		11968			
11910	*****	RETURN FROM SYM TABLE	LOOK UP WHEN VARIABLE WAS DIMENSIONED				
11920	COME	BNF	**20,SMCNT,11	11968	44	11988	0726J
11930	B	COMIN+12,,,	VARIABLE PREVIOUSLY PLACED IN COMMON	11980	49	11888	00000
11940	DORG	**3		11988			
11950	BNF	COMIN+12,MODAD,11,	TEST IF VAR WAS PREVIOUSLY EQUIVALENCED	11988	44	11888	0788N
11960	SF	SMCNT,**6		12000	32	0726J	00000
11970	SM	SMCNT,07,10		12012	12	07261	000-7
11980	CUMC	BD	**32,FXORFL	12024	43	12056	06419
11990	TF	COMM+11,FP2,,	SET UP TO MULTIPLY NUMBER	12036	26	1207-	02298
12000	B	COMM		12048	49	12068	00000
12010	DORG	**3		12056			
12020	TF	**23,KLNG		12056	26	12079	02252
12030	CUMM	HM	SMCNT,**6	12068	13	0726J	00000
12040	SF	95	GEN. NO. OF LOCATIONS FOR ARRAY	12080	32	00095	00000
12050	S	COMADD,99,,	UPDATA COMMON ADDRESS	12092	22	02262	00099
12060	BN	COMER3		12104	47	12148	01300
12070	TF	SMCNT,COMADD,6		12116	26	0726J	02262
12080	A	SMCNT,COMM+11,6		12128	21	0726J	12079
12090	B	COMAB,,,	THIS ADDRESS IS THE LOW ORDER DIGIT OF	12140	49	11812	00000
12100	DORG	**4,,,	FIRST ELEMENT.	12147			
12110	COMER3	BTM	ERROR,474,9,	12148	17	09350	00M74
12120	MON	DAC	3,MON	12161		3 X	2
12130	****	UNIT RECORD FORMAT OUTPUT	****				
12140	FORAT	BD	**32,INSH	12166	43	12198	02611
12150	TDM	SMADD,1,6		12178	15	07200	00001
12160	B	FORAT1		12190	49	12230	00000

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12170	DORG	+3		12190
12180	BD	FORMAT1,SMADD,11		12198
12190	TFM	SPGS+11,277,9		12210
12200	B	SPERR+12,...	ERRCR 27	12222
12210	DORG	+3		12230
12220	FORMAT1	TFM X+11 ,CHI-2		12230
12230	AM	X+11 ,2,10		12242
12240	HNR	+12,X+11 ,11, SCAN AHEAD FOR RECORD MARK		12254
12250	BD	FORM99,INDIV		12266
12260	AM	CKRM-1,CHI+146,711		12278
12270	AM	CKRM-1,2,10		12290
12280	BE	+44		12302
12290	TFM	X+11 ,0,610		12314
12300	AM	X+11 ,2,10		12326
12310	B	+48		12338
12320	DORG	+3		12346
12330	TDM	FMSW,1		12346
12340	BTM	CKCNTU,0,10		12358
12350	FORMAT99	TFM X+11 ,37,610		12370
12360	TR	X+11 ,AVOID,6		12382
12370	TR	CHI-1,CHI+11		12394
12380	CM	CHI,0,10		12406
12390	BNE	+32		12418
12400	TR	CHI-1,CHI+1		12430
12410	B	+36		12442
12420	DORG	+3		12450
12430	CM	CHI,24,10		12450
12440	RE	+24		12462
12450	BTM	ERROR,375,9, LEFT PAREN DOES NOT FOLLOW FORMAT		12474
12460	BTM	PUT, 128,8,FORMAT		12486
12470	BTM	PUT, 124,8,LEFT PAREN		12498
12480	AM	PARCNT,1,10		12510
12490	TFM	WIDTH,145,8, INITIALIZE WIDTH CHECK		12522
12500	BD	+24,8,IGPRT		12534
12510	SM	WIDTH,24,10		12546
12520	FORMAT1	TR CHI-1,CHI+1		12558
12530	CM	CHI,0,10		12570
12540	BE	+24		12582
12550	CM	CHI,41,10,		12594
12560	HM	FORM2		12606
12570	BL	SLASH		12618
12580	BTM	PUT, 144,8,A TYPE		12630
12590	TDM	IATYPE,1		12642
12600	B	FORM3		12654
12610	DORG	+3		12662
12620	SLASH	CM CHI,21,10, TEST FOR SLASH		12662
12630	BE	FORM7		12674
12640	CM	CHI,24,10		12686
12650	BE	FORM4		12698
12660	CM	CHI,20,10, TEST FOR SCALE FACTOR		12710
12670	BE	FORMER+12		12722
12680	CM	CHI,10,10		12734
12690	HE	+24,...	INVALID FORMAT SPECIFICATION	12746
12700	FORMAT99	BTM ERROR,375,9,		12758
12710	TR	CHI-1,CHI+1		12770
12720	CM	CHI,0,10		12782

12730	BE	+24		12794
12740	CM	CHI,67,10, SHIFT OF SCALE FACTOR		12806
12750	BM	+48		12818
12760	CM	CHI,57,10, TEST FOR P		12830
12770	BNE	FORMER		12842
12780	HTYPE	TR CHI-1,CHI+1		12854
12790	CM	CHI,0,10		12866
12800	BNE	FTYPE		12878
12810	B	+36		12890
12820	DORG	+3		12898
12830	FORMAT2	CM CHI,69,10		12898
12840	BM	FORMA		12910
12850	CM	CHI,49,10, TEST FOR I TYPE		12922
12860	HNE	+44		12934
12870	BTM	PUT, 149,8,I TYPE		12946
12880	TDM	IATYPE,1		12958
12890	B	FORM3		12970
12900	DORG	+3		12978
12910	FTYPE	CM CHI,46,10, TEST FOR F TYPE		12978
12920	BNE	+32		12990
12930	BTM	PUT, 146,8,F TYPE		13002
12940	B	FORM3-12		13014
12950	DORG	+3		13022
12960	ETYPE	CM CHI,45,10, TEST FOR E TYPE		13022
12970	BNE	FORMER		13034
12980	BTM	PUT, 145,8,E TYPE		13046
12990	TDM	IATYPE,0		13058
13000	FORMAT3	TR CHI-1,CHI+1		13070
13010	CM	CHI,0,10		13082
13020	BE	+24		13094
13030	CM	CHI,69,10		13106
13040	BNH	FORMER		13118
13050	TDM	DIMSW,1, SET SWITCH TO RETURN FROM LSTND		13130
13060	BTM	CSTND,+12, COLLECT NUMBER		13142
13070	CM	SYM,0,10		13154
13080	BE	FORMER		13166
13090	BT	PUT,SYM,, OUTPUT M		13178
13100	BNF	+60,FREQSW,, TEST IF SPEC WAS MULT SPECIFICATION		13190
13110	CF	FREQSW		13202
13120	M	SYM,SETFRQ+11		13214
13130	SF	96		13226
13140	TF	SYM,99		13238
13150	BTM	WIDCK,0,10		13250
13160	BD	FORM5,IATYPE,, TEST IF IN I OR A TYPE		13262
13170	CM	CHI,0,10		13274
13180	BNE	+32		13286
13190	TR	CHI-1,CHI+1		13298
13200	B	+36		13310
13210	DORG	+3		13318
13220	CM	CHI,3,10		13318
13230	BNE	FORMER		13330
13240	BTM	PUT, 103,8,		13342
13250	TR	CHI-1,CHI+1		13354
13260	CM	CHI,0,10		13366
13270	BE	+24		13378
13280	CM	CHI,69,10		13390

13290	BNH	FORMER	13402	47	12758	01100
13300	BTM	CSTND,++12	13414	17	05412	J3426
13310	BT	PUT,SYN	13426	27	09050	09979
13320	FURM5	CM CHI,0,10	13438	14	15139	000-0
13330	BNE	++32	13450	47	13482	01200
13340	TR	CHI-1,CHI+1	13462	31	15138	15140
13350	B	FORM5	13474	49	13438	00000
13360	DORG	--3	13482			
13370	FORM51	CM CHI,4,10,	13482	14	15139	000-4
13380	BNE	FCMA	13494	47	13618	01200
13390	BTM	PUT, 104,0,RIGHT PAREN	13506	17	09050	0-104
13400	TR	CHI-1,CHI+1	13518	31	15138	15140
13410	SM	PARCNT,1,10	13530	12	02615	000-1
13420	BNZ	FORM5	13542	47	13438	01200
13430	CM	CHI,0,10	13554	14	15139	000-0
13440	BE	++32	13566	46	13598	01200
13450	BNR	FORMER,CHI+2	13578	45	12758	15141
13460	B	BEGIN	13590	49	02626	00000
13470	DORG	--3	13598			
13480	TR	CHI-1,CHI+1	13598	31	15138	15140
13490	B	--56	13610	49	13554	00000
13500	DORG	--3	13618			
13510	FCMA	CM CHI,23,10	13618	14	15139	000K3
13520	BNE	++32	13630	47	13662	01200
13530	BTM	PUT, 123,0,COMMA	13642	17	09050	0-123
13540	B	FORM1	13654	49	12558	00000
13550	DORG	--3	13662			
13560	CM	CHI,21,10	13662	14	15139	000K1
13570	BNE	FORM1+36	13674	47	12594	01200
13580	FURM7	BTM PUT, 121,0,DIVIDE	13686	17	09050	0-121
13590	TFM	WIDTH,149,0,	13698	16	14289	0-145
13600	BD	++24,BIGPRY	13710	43	13734	02230
13610	SM	WIDTH,24,10	13722	12	14289	000K4
13620	TR	CHI-1,CHI+1	13734	31	15138	15140
13630	CM	CHI,0,10	13746	14	15139	000-0
13640	BE	--24	13758	46	13734	01200
13650	CM	CHI,24,10	13770	14	15139	000K4
13660	BE	FORM4	13782	46	13946	01200
13670	CM	CHI,69,10	13794	14	15139	00009
13680	BNH	FORM51	13806	47	13482	01. 7
13690	FORM8	TDM DIMSW,1	13818	15	10004	0000.
13700	BTM	CSTND,++12	13830	17	05412	J3842
13710	CM	CHI,0,10	13842	14	15139	000-0
13720	BNE	++32	13854	47	13886	01200
13730	TR	CHI-1,CHI+1	13866	31	15138	15140
13740	B	--36	13878	49	13842	00000
13750	DORG	--3	13886			
13760	CM	CHI,57,10, TEST FOR SCALE FACTOR	13886	14	15139	000N7
13770	BE	PTYPE	13898	46	12854	01200
13780	CM	CHI,24,10	13910	14	15139	000K4
13790	BNE	FORMX	13922	47	13978	01200
13800	BT	PUT,SYN	13934	27	09050	09979
13810	FORM4	AM PARCNT,1,10	13946	11	02615	000-1
13820	BTM	PUT, 124,0,LEFT PAREN	13958	17	09050	0-124
13830	B	FORM1	13970	49	12558	00000
13840	DORG	--3	13978			

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13850	FORMX	CM CHI,67,10, TEST FOR X SPECIFICATION	13978	14	15139	00007
13860	BNE	HOLL	13990	47	14046	01200
13870	BTM	WIDCK,0,10	14002	17	14300	000-0
13880	BT	PUT,SYN	14014	27	09050	09979
13890	BTM	PUT, 147,0,X TYPE	14026	17	09050	0-147
13900	B	FORM5+24	14038	49	13462	00000
13910	DORG	--3	14046			
13920	HULL	CM CHI,48,10,	14046	14	15139	000M8
13930	BNE	SETFRQ	14058	47	14218	01200
13940	BTM	WIDCK,0,10	14070	17	14300	000-0
13950	BT	PUT,SYN	14082	27	09050	09979
13960	BTM	PUT, 148,0,M TYPE	14094	17	09050	0-148
13970	HULL1	TR CHI-1,CHI+1	14106	31	15138	15140
13980	BNR	++20,CHI+2	14118	45	14138	15141
13990	B	FORMER	14130	49	12758	00000
14000	DORG	--3	14138			
14010	TF	++35,CHI	14138	26	14173	15139
14020	CF	++22	14150	33	14172	00000
14030	BTM	PUT, .0,OUTPUT HOLL	14162	17	09050	0-000
14040	SM	SYM,1,10	14174	12	09979	000-1
14050	BNZ	HOLL1	14186	47	14106	01200
14060	BNR	FORM5+24,CHI+2	14198	45	13462	15141
14070	B	FORMER	14210	49	12758	00000
14080	DORG	--3	14218			
14090	SETFRQ	SF FREQSW	14218	32	14218	00000
14100	FREQSW	DS ,SETFRQ	14218		0	
14110	IATYPE	DS ,--4	14225		0	
14120	BT	PUT,SYN	14230	27	09050	09979
14130	TF	SETFRQ+11,SYM	14242	26	14229	09979
14140	CM	CHI,24,10,	14254	14	15139	000K4
14150	BNE	FORM1+36	14266	47	12594	01200
14160	CF	FREQSW	14278	33	14218	00000
14170	WIDTH	DS ,0	14289		0	
14180	B	FORM4	14290	49	13946	00000
14190	DORG	--3	14298			
14200	DS	2,	14299		2	
14210	WIDCK	S WIDTH,SYM	14300	22	14289	09979
14220	BN	FORMER	14312	47	12758	01300
14230	BB		14324	42	00000	00000
14240	DORG	--9	14326			
14250	DORG	16000	16000			
14260	TFM	IORT,++23	16000	16	00565	J4023
14270	B	LOPT,BLK1,7	16012	49	00532	-9622
14280	TRA		16024	36	00000	00500
			16036	49	00000	00000
14290	TCD	16000	16000			

- 14300 • OUT OF CORE BLOCK 2 CONTAINS THE FOLLOWING
- 14310 • EQUIVALENCE
- 14320 • SUBROUTINE
- 14330 • FUNCTION
- 14340 • CONTINUE
- 14350 • PAUSE
- 14360 • STOP
- 14370 • DEFINE
- 14380 • DORG IOUT

14390	TFM	FMUN+35,BLK4,,	IOUT	10200	16	02359	-9691
14400	BTM	FMON,IOUT		10212	17	02324	J0200
14410	CM	CHI,57,10,	CHECK FOR P IN STOP	10224	14	15139	000N7
14420	H	MNARAA		10236	49	10512	00000
14430	TFM	FMUN+35,BLK1,,	DIM	10248	16	02359	-9622
14440	BTM	FMON,DIM		10260	17	02324	J0248
14450	TFM	FMON+35,BLK1,,	COMMON	10272	16	02359	-9622
14460	BTM	FMON,COMMON		10284	17	02324	J0272
14470	TFM	FMON+35,BLK6,,	IF	10296	16	02359	-9737
14480	BTM	FMON,IF		10308	17	02324	J0296
14490	TFM	FMON+35,BLK6,,	GOTO	10320	16	02359	-9737
14500	BTM	FMON,GOTO		10332	17	02324	J0320
14510	TFM	FMON+35,BLK6,,	CALL	10344	16	02359	-9737
14520	BTM	FMON,CALL		10356	17	02324	J0344
14530	TFM	FMON+35,BLK6,,	RETURN	10368	16	02359	-9737
14540	BTM	FMON,RETURN		10380	17	02324	J0368
14550	TFM	FMON+35,BLK1,,	FORMAT	10392	16	02359	-9622
14560	BTM	FMON,FORMAT		10404	17	02324	J0392
14570	TFM	FMON+35,BLK4,,	DOO	10416	16	02359	-9691
14580	BTM	FMON,DOO		10428	17	02324	J0416
14590	TFM	FMON+35,BLK3,,	ASCAN	10440	16	02359	-9668
14600	BTM	FMON,ASCAN		10452	17	02324	J0440
14610	TFM	FMON+35,BLK3,,	OUTSC	10464	16	02359	-9668
14620	BTM	FMON,OUTSC		10476	17	02324	J0464
14630	TFM	FMON+35,BLK5,,	DKID	10488	16	02359	-9714
14640	BTM	FMON,DKID		10500	17	02324	J0488
14650	MNARAA	BE	STOPEN	10512	46	13958	01200
14660	BTM	COLNAM,2,10		10524	17	04662	000-2
14670	CM	SYM,6245,8		10536	14	09979	00245
14680	BV	ERR01		10548	46	04288	01400
14690	BE	PAUSEN		10560	46	13790	01200
14700	BTM	COLNAM,5,10		10572	17	04662	000-5
14710	C	SYM,TINUE+8		10584	24	09979	13789
14720	BV	ERR01		10596	46	04288	01400
14730	BE	CONTEN		10608	46	13724	01200
14740	C	SYM,CTION+8		10620	24	09979	13723
14750	BE	FUNCTA		10632	46	13658	01200
14760	BTM	COLNAM,7,10		10644	17	04662	000-7
14770	C	SYM,ROUTN+12		10656	24	09979	13657
14780	BV	ERR01		10668	46	04288	01400
14790	BE	SURPA		10680	46	13124	01200
14800	C	SYM,DEFCT+12		10692	24	09979	14419
14810	BE	DEFINE		10704	46	13990	01200
14820	*****	ENTER TO DECOMPOSE EQUIVALENCE STATEMENTS	*****				
14830	EQUIVN	BTM	COLNAM,8,10	10716	17	04662	000-8
14840		C	SYM,IVALEN+14	10728	24	09979	13123
14850		BV	ERR01	10740	46	04288	01400
14860		BVE	ERR01	10752	47	04288	01200
14870		TR	CHI-1,CHI+15	10764	31	15138	15154
14880		CF	STSN	10776	33	05641	00000
14890	EWR	TFM	EQUISW+1,11,	10788	15	10008	0000J
14900		TFM	PR,,,	10800	15	12581	00000
14910		DC	1,,,	10811			1
14920		CM	CHI,24,10	10812	14	15139	000K4
14930		BE	**24,	10824	46	10848	01200

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14940	BTM	ERROR,72,9,		10836	17	09350	00-1
14950	TFM	SCHI,CHI		10848	16	06015	J51
14960	EJ	AM	SCHI,2,10	10860	11	06015	000-3
14970	CM	SCHI,40,610		10872	14	0601N	000M0
14980	BH	**24		10884	46	10908	01100
14990	BTM	ERROR,170,9,	INVALID VAR	10896	17	09350	00J70
15000	CM	SCHI,69,610		10908	14	0601N	00009
15010	BH	**24		10920	46	10896	01100
15020	BTM	CSORN,**12,,	GO TO COLLECT NAME	10932	17	05704	JC944
15030	BD	**32,INSM,,	TEST IF SYM PREVIOUSLY DEFINED	10944	43	10976	02611
15040	E3230	AM	NXL0C,5,10,	10956	11	02372	000-5
15050	B	EQ21,,,	IF SYM NOT PREV DEFINED, SAVE ROOM FOR OFFSET VALUE	10968	49	11076	00000
15060	DORG	**3		10976			
15070	BD	EQ21,SMCNT,11,	TEST FOR DIM VAR	10976	43	11076	0726J
15080	BVF	EQ21,MODAD,11,	TEST IF SYM WAS PREVIOUSLY EQUIV	10988	44	11076	0788N
15090	BVF	**20,SMCNT,11,	TEST IF VAR WAS IN COMMON	11000	46	11020	0726J
15100	B	EQ21		11012	49	11076	00000
15110	DORG	**3		11020			
15120	A	NXL0C,SMLNG		11020	21	02372	05931
15130	TF	NXL0C,SYM,6,	MOVE SYM NAME INTO TABLE	11032	26	0237K	09979
15140	TF	SHADD,NXL0C,6,	MOVE NEW SYM ADD INTO TABLE	11044	26	07200	02372
15150	B	E3230		11056	49	10956	00000
15160	DORG	**3		11064			
15170	BTM	ERROR,171,9,	INVALID NAME USED IN FUNCTION	11064	17	09350	00J71
15180	BD	**12,FNTSW,,	TEST FOR FUNCTION NAME IN EQUIVALENCE	11076	43	11064	10000
15190	AM	SMCNT,1,10		11088	11	07261	000-1
15200	BVR	**20,SMCNT,11,	TEST FOR DUMMY PARAMETERS OF SUBPROGRAM	11100	45	11120	0726J
15210	B	EQ21-12		11112	49	11064	00000
15220	DORG	**3		11120			
15230	AM	SMCNT,01,10		11120	11	07261	000-1
15240	BVR	**20,SMCNT,11,	TEST FOR SUBPROGRAM NAME IN SUBPROGRAM	11132	45	11152	0726J
15250	B	EQ21-12		11144	49	11064	00000
15260	DORG	**3		11152			
15270	SM	SMCNT,02,10		11152	12	07261	000-2
15280	BVR	**20,PR,,	TEST FOR FIRST NAME ON LIST	11164	45	11184	12581
15290	B	EQ?		11176	49	11756	00000
15300	DORG	**3		11184			
15310	C	MODE,FXORFL,,	TEST FOR MIXED EQUIV	11184	24	06417	06419
15320	BE	**48		11196	48	11274	01200
15330	C	F2,K,XLNG,,	TEST FOR K EQUAL TO F+2 IN MIXED EQUIV	11208	24	02398	02252
15340	BE	**24		11220	46	11244	01200
15350	BTM	ERROR,172,9,		11232	17	09350	00J72
15360	BVF	EQ22,MODAD,11,	TEST IF SYM HAD BEEN PREVIOUSLY EQUIV	11244	44	12204	0788N
15370	BVF	**56,SMCNT,11,	BRANCH IF SYM IS NOT IN COMMON	11256	44	11312	0726J
15380	BVF	**24,PR,,	TEST IF PREVIOUS SYM WAS IN COMMON	11268	44	11292	12581
15390	BTM	ERROR,173,9,	ILLEGAL EQUIVALENCE	11280	17	09350	00J73
15400	BVF	**12,PR-1,,	TEST IF PREV SYM WAS EQUIV	11292	44	11280	12580
15410	B	EQ?		11304	49	11756	00000
15420	DORG	**3		11312			
15430	E024	BVF	EQ4,DNVAR,,	11312	44	11700	08090
15440	CM	SCHI,24,610	TEST FOR DIM VAR, BRANCH IF NOT	11324	14	0601N	000K4
15450	BNE	E0BR+8		11336	47	11596	01200
15460	AM	SCHI,2,10		11348	11	06015	000-2
15470	TFM	E0BR+6,E0BR+20		11360	16	11594	J1608
15480	CM	SCHI,69,410		11372	14	0601N	00009
15490	BH	**24		11384	46	11408	01100

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15500	BTM	ERROR,75,9,	INCORRECT SUBSCRIPTING	11396	17	09350	00-75
15510	TFM	SYN-3,0,7		11408	16	09976	-8000
15520	TFM	+30,SYN-4		11420	16	11450	-9975
15530	AM	+18,1,10		11432	11	11450	000-1
15540	EQ23	TD	COLLECT INDEX	11444	25	00000	0601N
15550	AM	SCHI,1,1,		11456	11	06015	000-2
15560	CM	SCHI,2,10		11468	14	0601N	00009
15570	BNH	+48		11480	47	11528	01100
15580	CM	EQ23+6,SYN		11492	14	11450	-9979
15590	BME	EQ23-12		11504	47	11432	01200
15600	BTM	ERROR,75,9		11516	17	09350	00-75
15610	TF	SYN,EQ23+8,11,		11528	26	09979	1145-
15620	SF	SYN-4		11540	32	09975	00000
15630	SAVE1	DS		11551		0	
15640	CM	SCHI,4,610,	TEST FOR RIGHT PAREN	11552	14	0601N	000-4
15650	BME	+48		11564	47	11516	01200
15660	AM	SCHI,2,10		11576	11	06015	000-2
15670	EQBR	B		11588	49	11608	00000
15680	DORG	+3		11596			
15690	TFM	SYN,1,		11596	16	09979	-0001
15700	BD	EQ4,PR,,	TEST IF PREVIOUS SYM WAS DIM VAR	11608	43	11700	12581
15710	BNF	+20,PR		11620	44	11640	12581
15720	B	EQ4		11632	49	11700	00000
15730	DORG	+3		11640			
15740	BNF	EQ4,PR-1,,	TEST IF PREVIOUS SYM WAS EQUIV	11640	44	11700	12580
15750	TF	REF,SMADD,		11652	26	09001	07208
15760	TD	PR,SMCNT,11,		11664	25	12581	0726J
15770	TD	PR-1,MODAD,11,	SAVE INDICATORS	11676	25	12580	0788N
15780	TF	TEMP,SYN,,	SAVE OFFSET	11688	26	02620	09979
15790	EQ4	CM		11700	14	0601N	000-4
15800	BE	EQL00P,,	END OF LIST	11712	46	12236	01200
15810	CM	SCHI,23,610		11724	14	0601N	000K3
15820	BE	EQ1		11736	46	10860	01200
15830	B	EQ1-24		11748	49	10836	00000
15840	DORG	+3		11756			
15850	EQ7	TD	SET FIX OR FLOAT	11756	25	06417	0788N
15860	CF	MODE		11768	33	06417	00000
15870	SAVE3	DS		11779		0	
15880	TF	REF,SMADD,		11780	26	09001	07208
15890	TD	PR-1,MODAD,11		11792	25	12580	0788N
15900	TD	PR,SMCNT,11		11804	25	12581	0726J
15910	BD	+32,PR,,	TEST FOR DIM VAR	11816	43	11668	12581
15920	TFM	TEMP,1		11828	16	02620	-0001
15930	B	EQ4,130		11840	49	11940	00000
15940	DORG	+3		11848			
15950	CM	SCHI,24,610		11848	14	0601N	000K4
15960	BNE	+32		11860	47	11828	01200
15970	AM	SCHI,2,10		11872	11	06015	000-2
15980	CM	SCHI,69,610		11884	14	0601N	00009
15990	BNH	EQ23+48		11896	47	11396	01100
16000	TFM	EQBR+6,+20		11908	16	11594	J1928
16010	B	EQ23-36,,	GO TO COLLECT SUBSCRIPTING	11920	49	11408	00000
16020	DORG	+3		11928			
16030	TF	TEMP,SYN		11928	26	02620	09979
16040	EQ4130	BNF	TEST IF VAR PREVIOUSLY EQUIVALENCED	11940	44	11960	0788N
16050	B	EQ4		11952	49	11700	00000

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16060	DORG	+3		11960			
16070	TF	+30,SMCNT		11960	26	11990	07261
16080	AM	+18,3,10		11972	11	11990	000-3
16090	EQ4180	CM	TEST IF PREVIOUSLY EQUIV SYM WAS A BASE	11984	14	00000	00-00
16100	BE	EQ4		11996	46	11700	01200
16110	BD	EQ4330,SMCNT,11,	TEST FOR DIM VAR	12008	43	12160	0726J
16120	TF	+35,SMADD,11		12020	26	12055	07200
16130	AM	+23,5,10		12032	11	12055	000-5
16140	A	TEMP,,	GENERATE OFFSET TO PREVIOUS BASE	12044	21	02620	00000
16150	EQ4240	TF		12056	26	08485	02377
16160	S	ADSAVE-1,EQ4180+6,11,	GEN ADDRESS OF BASE	12068	22	08484	1199-
16170	AM	ADSAVE-1,1,10		12080	11	08484	000-1
16180	TF	REF,ADSAVE		12092	26	09001	08485
16190	SM	ADSAVE,04,10		12104	12	08485	000-4
16200	TD	PR-1,ADSAVE,11,	SAVE FIX OR FLOAT	12116	25	12580	0848N
16210	AM	ADSAVE,1,10		12128	11	08485	000-1
16220	TD	PR,ADSAVE,11,	SAVE DIM INDICATOR	12140	25	12581	0848N
16230	B	EQ4		12152	49	11700	00000
16240	DORG	+3		12160			
16250	EQ4330	SM		12160	12	07208	000-5
16260	TF	+23,SMADD		12172	26	12195	07200
16270	A	TEMP,,	GEN NEW OFFSET	12184	21	02620	00000
16280	B	EQ4240		12196	49	12056	00000
16290	DORG	+3		12204			
16300	EQ22	BNF	ENTER FROM EQ3500, BR TO ERROR IF PREV	12204	44	11280	12580
16310	BNF	EQ7,PR,,	SYM WAS EQUIVALENCED OR IN COMMON	12216	44	11756	12581
16320	B	EQ24-32		12228	49	11280	00000
16330	DORG	+3		12236			
16340	EQLOOP	TFM	ENTER HERE AFTER EQUIV STATEMENT MAS	12236	16	06015	J5139
16350	TF	EBASE,STBL		12248	26	12295	02377
16360	S	EBASE,REF		12260	22	12295	09001
16370	AM	EBASE-1,1,10		12272	11	12294	000-1
16380	SF	EBASE-3		12284	32	12292	00000
16390	EBASE	DS		12295		0	
16400	AM	SCHI,2,10,	BEEN SCANNED ONCE TO DETERMINE BASE	12296	11	06015	000-2
16410	BTM	CSORN,+12,		12308	17	05704	J2320
16420	BNF	EQ4804,MODAD,11,	IF SYM WAS PREV EQUIV IT MUST BE THE	12320	44	13028	0788N
16430	C	SMADD,REF,,	BASE OF THE PRESENT EQUIV	12332	24	07208	09001
16440	BE	EQ4695		12344	44	12616	01200
16450	BD	EQ4560,SMCNT,11,	TEST FOR DIM VAR	12356	43	12472	0726J
16460	TF	ADSAVE,SMADD,11,		12368	26	08485	07200
16470	AM	ADSAVE,9,10,		12380	11	08485	000-5
16480	TFM	ADSAVE,1,6711,		12392	16	0848N	-000J
16490	A	ADSAVE,TEMP,6,	PLACE OFF SET INTO TABLE	12404	21	0848N	02620
16500	AM	SMADD,5,10		12416	11	07208	000-5
16510	TF	SMADD,EBASE-1,4		12428	26	07200	12294
16520	BNF	EQ4710,PR		12440	44	12856	12581
16530	SF	SMCNT,6		12452	32	0726J	00000
16540	B	EQ4710		12464	49	12856	00000
16550	DORG	+3		12472			
16560	EQ4560	CM		12472	14	0601N	000K4
16570	BE	+32		12484	46	12516	01200
16580	TFM	SYN,1,711		12496	16	09979	-000J
16590	B	+52		12508	49	12560	00000
16600	DORG	+3		12516			
16610	AM	SCHI,2,10		12516	11	06015	000-2

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16620	TFM	EQBR+6,++20		1252H	16	11594	J2548
16630	B	EQ23-36		12540	49	11408	00000
16640	DORG	-3		12544			
16650	SF	SYM		12548	32	09979	00000
16660	A	SYM,TEMP,,	GEN OFFSET	12560	21	09979	02620
16670	SM	SMADD,05,10		12572	12	07208	000-5
16680	PR	DS		12581		0	
16690	TF	SMADD,SYM,6,	MOVE OFFSET INTO TABLE	12584	26	07200	09979
16700	AM	SMADD,10,10		12596	11	07208	000J0
16710	H	ER4560-44		12608	49	12428	00000
16720	DORG	-3		12616			
16730	E84695	HNF	++20,SMCNT,11	12616	44	12636	0726J
16740	B	HERE		12628	49	12692	00000
16750	DORG	-3		12636			
16760	BD	HERE,SMCNT,11		12636	43	12692	0726J
16770	TF	ADSAVE,SMADD,11		12648	26	08485	07200
16780	AM	ADSAVE,5,10		12660	11	08485	000-5
16790	TF	ADSAVE,TEMP,6		12672	26	08488	02620
16800	B	E84710-36		12684	49	1282C	00000
16810	DORG	-3		12692			
16820	HERE	CM	SCMI,24,610	12692	14	0601N	000K4
16830	HNE	++60		12704	47	12764	01200
16840	AM	SCMI,2,10		12716	11	06015	000-2
16850	CM	SCMI,4,610		12728	14	0601N	000-4
16860	BNE	-24		12740	47	12716	01200
16870	AM	SCMI,2,10		12752	11	06015	000-2
16880	HNF	++20,SMCNT,11		12764	44	12784	0726J
16890	H	E84710-36		12776	49	12820	00000
16900	DORG	-3		12784			
16910	SM	SMADD,5,10		12784	12	07208	000-5
16920	TF	SMADD,TEMP,6		12796	26	07200	02620
16930	AM	SMADD,5,10		12808	11	07208	000-5
16940	AM	SMADD,5,10		12820	11	07208	000-5
16950	TFM	SMADD,0,69		12832	16	07200	00-00
16960	SM	SMADD,5,10		12844	12	07208	000-5
16970	E84710	CF	MODAD,6,	12856	33	0788N	00000
16980	SAVE2	DS	6	12867		0	
16990	CM	SCMI,4,610		12868	14	0601N	000-4
17000	BNE	EQL00P+60		12880	47	12296	01200
17010	AM	SCMI,2,10		12892	11	06015	000-2
17020	CM	SCMI,23,610		12904	14	0601N	000K3
17030	HNE	++6		12916	47	12972	01200
17040	TF	++35,SCMI		12928	26	12963	06015
17050	AM	++23,1,10		12940	11	12963	000-1
17060	TR	CHI-1		12952	31	15138	00000
17070	B	EQR		12964	49	10788	00000
17080	DORG	-3		12972			
17090	TF	++35,SCMI		12972	26	13007	06015
17100	AM	++23,2,10		12984	11	13007	000-2
17110	HNR	++20		12996	45	13016	0000G
17120	B	BEGINA		13008	49	02638	00000
17130	DORG	-3		13016			
17140	BTM	ERR0R,72,9,		13016	17	09350	00-72
17150	E84804	CM	SCMI,24,610	13028	14	0601N	000K4
17160	BVE	E84710		13040	47	12856	01200
17170	AM	SCMI,2,10		13052	11	06015	000-2

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17180	CM	SCMI,4,610		13064	14	0601N	000-4
17190	BNE	-24		13076	47	13052	01200
17200	AM	SCMI,2,10		13088	11	06015	000-2
17210	H	ER4710		13100	49	12856	00000
17220	DORG	-3		13108			
17230	I'VALEN	DAC	8,I'VALENCE	13109		B X	2
17240	*****	OUTPUT SUBROUTINE DECLARATION STATEMENT	*****				
17250	SURPA	TFM	SUBPUT+11,0135,8	13124	16	13291	0-135
17260	TR	CHI-1,CHI+13		13136	31	15138	15152
17270	BD	++36,SUBFCT		13148	43	13184	02293
17280	TDM	SUBFCT,1		13160	15	02293	00001
17290	BD	++24,STSN		13172	43	13196	05641
17300	BTM	ERR0R,370,9		13184	17	09350	00L70
17310	BNF	--12,STSN		13196	44	13184	05641
17320	SUPPF	TDM	SUBSW,1	13208	15	10012	00001
17330	CM	CHI,40,10		13220	14	15139	000M0
17340	RH	++24		13232	46	13256	01100
17350	SURPI	BTM	ERR0R,270,9,	13244	17	09350	00K70
17360	CM	CHI,69,10	SUB DECLARATION ERR0R	13256	14	15139	00009
17370	BH	--24		13268	46	13244	01100
17380	SURPUT	BTM	PUT,0135,8,	13280	17	09050	0-135
17390	SF	OUTSW	OUTPUT SUBROUTINE SYMBOL	13292	32	07034	00000
17400	BTM	CSURN,++12		13304	17	05704	J3316
17410	AM	SMADD,04,10		13316	11	07208	000-4
17420	TDM	SMADD,66		13328	15	07200	00000
17430	DC	1,1,6		13339		1	
17440	TF	SAVSYM,SYM		13340	26	02243	09979
17450	BNR	++36,CHI+2		13352	45	13388	15141
17460	BNF	BEGIN,SUBFCT		13364	44	02626	02293
17470	BTM	ERR0R,371,9		13376	17	09350	00L71
17480	CM	CHI,24,10		13388	14	15139	000K4
17490	BE	++24		13400	46	13424	01200
17500	BTM	ERR0R,371,9		13412	17	09350	00L71
17510	BTM	PUT, 124,8,LEFT PAREN		13424	17	09050	0-124
17520	TR	CHI-1,CHI+1		13436	31	15138	15140
17530	SURP2	CM	CHI,40,10	13448	14	15139	000M0
17540	BH	SUBP2-36		13460	47	13424	01100
17550	CM	CHI,69,10		13472	14	15139	00009
17560	BH	SUBP2-36,,,	TEST FOR SYMBOLIC ARGUEMENTS	13484	46	13412	01100
17570	SF	OUTSW		13496	32	07034	00000
17580	BTM	CSURN,++12,,	OUTPUT ARGUEMENT	13508	17	05704	J3520
17590	BD	SUBP2-36,INSH,,	ERROR IF ARGUEMENT WAS IN	13520	43	13412	02611
17600	AM	SMADD,3,10		13532	11	07208	000-3
17610	TDM	SMADD,66		13544	15	07200	00000
17620	DC	1,1,6		13555		1	
17630	CM	CHI,23,10		13556	14	15139	000K3
17640	BNE	++32		13568	47	13600	01200
17650	BTM	PUT, 123,8,COMMA		13580	17	09050	0-123
17660	B	SUBP2-12		13592	49	13436	00000
17670	DORG	-3		13600			
17680	CM	CHI,4,10		13600	14	15139	000-4
17690	BNE	SUBP2-36		13612	47	13412	01200
17700	BTM	PUT, 104,8,RIGHT PAREN		13624	17	09050	0-104

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17710	B	BEGIN		13636	49	02626	00000
17720	DORG	*-3		13644			
17730	ROUTN	DAC 7,ROUTINE		13645		7 X	2
		ROUTINE					
17740	*****	OUTPUT FUNCTION DECLARATION STATEMENTS	*****				
17750	FUNCTA	TR CHI-1,CHI+9		13658	31	15138	15148
17760	TFM	SUBPUT+11,136,8		13670	16	13291	0-136
17770	BD	SUBPF-24,SUBFCT		13682	43	13184	02293
17780	TDM	SURFCT,1,11		13694	15	02293	0000J
17790	B	SUBPF-36		13706	49	13172	00000
17800	DORG	*-3		13714			
17810	CTION	DAC 5,CTION		13715		5 X	2
		CTION					
17820	*****	OUTPUT CONTINUE STATEMENT	*****				
17830	CONTEN	BD *+24,NOIND		13724	43	13748	02610
17840	BTM	ERROR2,574,9, UNNUMBERED CONTINUE STATEMENT		13736	17	09406	00N74
17850	BTM	PUT, 127,8,CONTINUE		13748	17	09050	0-127
17860	BTM	PUT, 140,8,DUMMY		13760	17	09050	0-140
17870	B	BEGIN		13772	49	02626	00000
17880	DORG	*-3		13780			
17890	TINUE	DAC 5,TINUE		13781		5 X	2
		TINUE					
17900	****	OUTPUT PAUSE STATEMENT	****				
17910	PAUSEN	TR CHI-1,CHI+3		13790	31	15138	15142
17920	DTM	PUT, 126,8,PAUSE		13802	17	09050	0-126
17930	BTM	PUT, 140,8,DUMMY		13814	17	09050	0-140
17940	BMR	*+20,CHI+2		13826	45	13846	15141
17950	B	BEGIN		13838	49	02626	00000
17960	DORG	*-3		13846			
17970	PAUS	CM CHI,69,10		13846	14	15139	00009
17980	BM	*+32		13858	46	13890	01100
17990	BTM	ERROR2,573,9, CHARACTER AFTER PAUSE NOT NUMERIC		13870	17	09406	00M73
18000	B	BEGIN		13882	49	02626	00000
18010	DORG	*-3		13890			
18020	BTM	PUT, 140,8,DUMMY		13890	17	09050	0-140
18030	TD	*+23,CHI		13902	25	13925	15139
18040	BTM	PUT,0,8		13914	17	09050	0-000
18050	TR	CHI-1,CHI+1		13926	31	15138	15140
18060	BMR	*-36,CHI+2		13938	45	13902	15141
18070	B	BEGIN		13950	49	02626	00000
18080	DORG	*-3		13958			
18090	****	OUTPUT STOP STATEMENT	****				
18100	STOPEN	TR CHI-1,CHI+1		13958	31	15138	15141
18110	HTM	PUT, 125,9,STOP		13970	17	09050	0-125
18120	B	PAUSEN+24		13982	49	13814	00000
18130	DORG	*-4		13989			
18140	DEFINE	TR CHI-1,CHI+13,, SHIFT OFF INEDISK		13990	31	15138	15152
18150	CF	STSN		14002	33	05641	00000
18160	BD	ERR60+12,SUBFCT		14014	43	14432	02293
18170	BD	ERR60+12,MULDEF		14026	43	14432	02384
18180	TDM	MULDEF,1		14038	15	02384	00001
18190	CM	CHI,24,10, CHECK FOR LEFT PAREN		14050	14	15139	000K4
18200	BNE	ERR44		14062	47	14420	01200
18210	TR	CHI-1,CHI+1,, SHIFT OFF LEFT PAREN		14074	31	15138	15140
18220	CM	CHI,69,10		14086	14	15139	00009
18230	RNH	ERR44		14098	47	14420	01100

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18240	BTM	CLDGT,03,10, COLLECT N1		14110	17	14478	000-3
18250	SF	SYM-1		14122	32	09978	00000
18260	CM	SYM,50,10		14134	14	09979	000M0
18270	RM	ERR44,,, N1 GREATER THAN 50		14146	46	14420	01100
18280	TF	N1,SYM		14158	26	02233	09979
18290	CM	CHI,23,10		14170	14	15139	000K3
18300	BNE	ERR44		14182	47	14420	01200
18310	TR	CHI-1,CHI+1		14194	31	15138	15140
18320	M	W,N1		14206	23	02240	02233
18330	CM	99,0100,8		14218	14	00099	0-100
18340	TDM	RECLG,2		14230	15	02243	00002
18350	BM	*+24		14242	46	14266	01100
18360	TDM	RECLG,1		14254	15	02243	00001
18370	CM	99,0200,8		14266	14	00099	0-200
18380	RM	ERR44,,, EXCEEDS TWO SECTORS		14278	46	14420	01100
18390	CM	CHI,69,10		14290	14	15139	00009
18400	RNH	ERR44		14302	47	14420	01100
18410	BTM	CLDGT,06,10, COLLECT N2		14314	17	14478	000-6
18420	SF	SYM-4		14326	32	09975	00000
18430	TF	N2,SYM		14338	26	02238	09979
18440	CM	SYM,20000		14350	14	09979	K0000
18450	BM	ERR44		14362	46	14420	01100
18460	CM	CHI,04,10		14374	14	15139	000-4
18470	BNE	ERR44		14386	47	14420	01200
18480	B	BEGINA		14398	49	02638	00000
18490	DORG	*-3		14406			
18500	DEFCT	DAC 7,INEDISK		14407		7 X	2
		INEDISK					
18510	ERR60	TFM RECLG,000,9		14420	16	02243	00-00
18520	TD	*+35,JAY		14432	25	14467	02367
18530	BTM	ERROR2,670,9		14444	17	09406	00070
18540	TDM	JAY,*-*		14456	15	02367	00000
18550	B	BEGINA		14468	49	02638	00000
18560	DORG	*-4		14475			
18570	ERR44	DS ,ERR60		14420		0	
18580	***	COLLECT DIGITS SUBROUTINE	***				
18590	*		*				
18600	*	BTM CLDGT,XX,10, XX = NO. OF DIGITS TO COLLECT + 1	*				
18610	*		*				
18620	DS	2		14476		2	
18630	CLDGT	BD *+32,CHI		14478	43	14510	15139
18640	TR	CHI-1,CHI+1		14490	31	15138	15140
18650	B	*-24		14502	49	14478	00000
18660	DORG	*-3		14510			
18670	TFM	SYM-12,0		14510	16	09967	-0000
18680	TFM	CLDGT+6,SYM-12		14522	16	14600	-9967
18690	CLDGT1	SM CLDGT-1,1,10		14534	12	14477	000-1
18700	BZ	XCLDGT		14546	46	14638	01200
18710	CM	CHI,69,10		14558	14	15139	00009
18720	BMH	XCLDGT		14570	47	14638	01100
18730	AM	*+18,1,10		14582	11	14600	000-1
18740	CLDGT2	TD ,CHI		14594	25	00000	15139
18750	TR	CHI-1,CHI+1		14606	31	15138	15140
18760	BMR	CLDGT1,CHI+2		14618	45	14634	15141
18770	B	ERR44		14630	49	14420	00000
18780	DORG	*-3		14638			

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18790	KCLOGT	TF	SYM,CLDGT2+6,11		14638	26	09979	1460-
18800		BB			14650	42	00000	00000
18810		DORG	*-9		14652			
18820	*		DEND					
18830		DORG	16000		16000			
18840		TFM	INPT,0+23		16000	16	00565	J6023
18850		B	INPT,HLK2,7		16012	49	00532	-9645
18860		TRA			16024	36	00000	00500
					16036	49	00000	00000
18870		TCO	16000		16000			
18880	*		OUT OF CORE BLOCK 3 CONTAINS THE FOLLOWING					
18890	*		OUTSC					
18900	*		ASCAN					
18910		DORG	IOUT		10200			
18920		TFM	FMON+35,BLK4,, IOUT		10200	16	02359	-9691
18930		BTM	FMON,IOUT		10212	17	02324	J0200
18940		TFM	FMON+35,BLK2		10224	16	02359	-9645
18950		BTM	FMON,NONARA		10236	17	02324	J0224
18960		TFM	FMON+35,BLK1,, DIM		10248	16	02359	-9622
18970		BTM	FMON,UIM		10260	17	02324	J0240
18980		TFM	FMON+35,BLK1,, COMMON		10272	16	02359	-9622
18990		BTM	FMON,COMMON		10284	17	02324	J0272
19000		TFM	FMON+35,BLK6,, IF		10296	16	02359	-9737
19010		BTM	FMON,IF		10308	17	02324	J0296
19020		TFM	FMON+35,BLK6,, GOTO		10320	16	02359	-9737
19030		BTM	FMON,GOTO		10332	17	02324	J0320
19040		TFM	FMON+35,BLK6,, CALL		10344	16	02359	-9737
19050		BTM	FMON,CALL		10356	17	02324	J0344
19060		TFM	FMON+35,BLK6,, RETURN		10368	16	02359	-9737
19070		BTM	FMON,RETURN		10380	17	02324	J0368
19080		TFM	FMON+35,BLK1,, FORMAT		10392	16	02359	-9622
19090		BTM	FMON,FORMAT		10404	17	02324	J0392
19100		TFM	FMON+35,BLK4,, DO STPMT		10416	16	02359	-9691
19110		BTM	FMON,DOO		10428	17	02324	J0416
19120		BNF	ASCIA ,TRIND,, ASCAN		10440	44	12094	02609
19130		R	ASCANI		10452	49	12058	00000
19140		RD	SCI ,SINGST,, OUTSC		10464	43	10884	09998
19150		R	OUTSCI		10476	49	10512	00000
19160		TFM	FMON+35,BLK5,, DKIO		10488	16	02359	-9714
19170		BTM	FMON,DKIO		10500	17	02324	J0488
19180	****		OUTPUT SUBSCRIPTING CODE					
19190	OUTSCI	TF	TEMP ,SMADD ,11		10512	26	02620	07200
19200		TD	DIMNO,SMCNT,11		10524	25	10677	0726J
19210		CF	DIMNO		10536	33	10677	00000
19220	DIMNOT	DS	2,-2		10548		2	
19230		TF	DIMNOT,DIMNO		10548	26	10545	10677
19240		CF	SC22		10560	33	10620	00000
19250		TR	A1-3,MASK,, SET UP WORK AREA		10572	31	11920	11989
19260		TFM	PA1,A1-4		10584	16	10934	J1919
19270		TFM	PA2,A2-4		10596	16	10782	J1931
19280		TFM	PI,1-12		10608	16	11038	J1943
19290	SC22	AM	PA1,4,10		10620	11	10934	000-4
19300		AM	PA2,4,10		10632	11	10782	000-4
19310		AM	PI,12,10		10644	11	11038	000J2
19320		TR	CHI-1,CHI+1		10656	31	15138	15140

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19330		SM	DIMNO,0001,R10		10668	12	10677	0-0-1
19340	DIMNO	DS	2,-2		10677		2	
19350		CM	CHI,69,10		10680	14	15139	00009
19360		BNH	ALFAT		10692	47	10976	01100
19370		TDM	DIMSW,1		10704	15	10004	00001
19380		BTM	CSTND,0+12		10716	17	05412	J0728
19390		TDM	DIMSW,0		10728	15	10004	00000
19400		CM	CHI,14,10		10740	14	15139	000J4
19410		RE	SC3		10752	46	10928	01200
19420	SC4	TDM	DIMSW,0		10764	15	10004	00000
19430		TF	PA2,SYM		10776	26	10782	09979
19440	PA2	DS	,-5		10782		0	
19450		BNF	*+36,SC22		10788	44	10824	10620
19460		CF	SC22		10800	33	10620	00000
19470		SF	PA2,+6		10812	32	10788	00000
19480	SC5	CM	CHI,23,10		10824	14	15139	000K3
19490		RE	SC22		10836	46	10620	01200
19500		CM	CHI,4,10		10848	14	15139	000-4
19510		BE	*+36		10860	46	10896	01200
19520		BTM	ERROR,75,9		10872	17	09350	00-75
19530	SC1	BTM	ERROR,272,9		10884	17	09350	00K72
19540		TR	CHI-1,CHI+1		10896	31	15138	15140
19550		BD	SCI-12,DIMNO		10908	43	10872	10677
19560		R	SC9		10920	49	11164	00000
19570		DORG	*-3		10928			
19580	SC3	TF	PA1,SYM		10928	26	10934	09979
19590	PA1	DS	,-5		10934		0	
19600		TR	CHI-1,CHI+1		10940	31	15138	15140
19610		CM	CHI,69,10		10952	14	15139	00009
19620		BNH	SCI-12		10964	46	10872	01100
19630	ALFAT	CM	CHI,40,10		10976	14	15139	000M0
19640		BNH	SCI-12		10988	47	10872	01100
19650		BTM	CSDRN,0+12		11000	17	05704	J1012
19660		BD	*+20,FKORFL		11012	43	11032	06419
19670		B	SCI-12,, , FLOATING VARIABLE USED IN SUBSCRIP		11024	49	10872	00000
19680		DORG	*-4		11031			
19690		TF	PI,SMADD-1		11032	26	11038	07207
19700	PI	DS	,-5		11038		0	
19710		CM	CHI,10,10		11044	14	15139	000J0
19720		BE	*+48		11056	46	11104	01200
19730		CM	CHI,20,10		11068	14	15139	000K0
19740		BNE	SC5		11080	47	10824	01200
19750		SF	SC22		11092	32	10620	00000
19760		TR	CHI-1,CHI+1		11104	31	15138	15140
19770		CM	CHI,69,10		11116	14	15139	00009
19780		BNH	SCI-12		11128	47	10872	01100
19790		TDM	DIMSW,1		11140	15	10004	00001
19800		BTM	CSTND,SC4		11152	17	05412	J0764
19810	SC9	TFM	MOVEIT+6,D1-12		11164	16	11230	J1939
19820	CALC	MM	DIMNOT,05,10		11176	13	10545	000-5
19830		A	TEMP,99		11188	21	02620	00099
19840		MM	DIMNOT,12,10		11200	13	10545	000J2
19850		A	MOVEIT+6,99		11212	21	11230	00099
19860	MOVEIT	A	,TEMP,11		11224	21	00000	0262-
19870		SM	DIMNOT,1,10		11236	12	10545	000-1
19880		BZ	*+44		11248	46	11292	01200

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19890	SM	TEMP,05,10	11260	12	02620	000-5
19900	SM	MOVEIT+6,12,10	11272	12	11230	000J2
19910	B	MOVEIT	11284	49	11224	00000
19920	DORG	--4	11291			
19930	S	D4,D1	11292	22	11987	11951
19940	M	D3,C2	11304	23	11975	11943
19950	SF	92	11316	32	00092	00000
19960	A	D4,99	11328	21	11987	00099
19970	M	D2,82	11340	23	11963	11939
19980	SF	92	11352	32	00092	00000
19990	A	D4,99	11364	21	11987	00099
20000	A	D4,A2	11376	21	11987	11935
20010	M	D3,C1	11388	23	11975	11931
20020	SF	92	11400	32	00092	00000
20030	TF	D3,99	11412	26	11975	00099
20040	M	D2,81	11424	23	11963	11927
20050	SF	92	11436	32	00092	00000
20060	TF	D2,99	11448	26	11963	00099
20070	MM	A1,00001,R	11460	13	11923	0-001
20080	TF	D1,99	11472	26	11951	00099
20090	TFM	IND1,D4	11484	16	11519	J1987
20100	TFM	IND2,D4-7	11496	16	11538	J1980
20110	TUNY	BNF **36,IND1	11508	44	11544	11519
20120	IND1	DS	11519			0
20130	CF	IND1,,6	11520	33	11518	00000
20140	TDM	IND2,9,11	11532	15	11538	0000R
20150	IND2	DS	11538			0
20160	SM	IND1,12,10	11544	12	11519	000J2
20170	SM	IND2,12,10	11556	12	11538	000J2
20180	CM	IND1,D1,67	11568	14	11518	J1951
20190	BNL	TUNY	11580	46	11508	01300
20200	TFM	PI,1-12	11592	16	11038	J1943
20210	MV1	AM	11604	11	11038	000-9
20220	BNR	**20,PI,11	11616	45	11636	11030
20230	B	CONT,,*	11628	49	11772	00000
20240	DORG	--3	11636			
20250	AM	PI,3,10	11636	11	11038	000-3
20260	CM	PI,0,68	11648	14	11030	0-000
20270	BE	MV2	11660	46	11492	01200
20280	AM	DIMNOT,01,10	11672	11	10545	000-1
20290	M	MV1	11684	49	11604	00000
20300	DORG	--3	11692			
20310	MV2	TF MV3+6,PI,,	11692	26	11746	11038
20320	TF	MV3+11,PI	11704	26	11751	11038
20330	AM	MV3+11,1,10	11716	11	11751	000-1
20340	SM	MV3+6,11,10	11728	12	11746	000J1
20350	MV3	TR	11740	31	00000	00000
20360	SM	PI,03,10	11752	12	11038	000-3
20370	B	MV1+12	11764	49	11616	00000
20380	DORG	--3	11772			
20390	**	S0 = 148 LITERAL SUBSCRIPT, S1 = 149 ONE SUBSCRIPT				
20400	**	S2 = 150 TWO SUBSCRIPTS, S3 = 151 THREE SUBSCRIPTS				
20410	CUNT	TFM L4+11,0148,8, BASE FOR SUBSCRIPT OPERATORS	11772	16	11807	0-148
20420	A	L4+11,DIMNOT	11784	21	11807	10545
20430	L4	BTM PUT,0	11796	17	09050	-0000
20440	BTM	PUT,124,8	11808	17	09050	0-124

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20450	BTM	PUT,140,8	11820	17	09050	0-140
20460	L5	BNR L6,D1-7	11832	45	11876	11944
20470	BTM	PUT,104,8	11844	17	09050	0-104
20480	TFM	SMCNT,2219	11856	16	07261	-2219
20490	B	OUTSCE,,6	11868	49	0480J	00000
20500	DORG	--3	11876			
20510	L6	SF D1-7	11876	32	11944	00000
20520	RT	PUT,D1-4	11888	27	09050	11947
20530	TR	D1-7,D1-3	11900	31	11944	11948
20540	B	L5	11912	49	11832	00000
20550	DORG	--3	11920			
20560	A1	DS 4	11923			4
20570	B1	DS 4	11927			4
20580	C1	DS 4	11931			4
20590	A2	DS 4	11935			4
20600	H2	DS 4	11939			4
20610	C2	DS 4	11943			4
20620	D1	DS 8	11951			8
20630	I	DS 4	11955			4
20640	D2	DS 8	11963			8
20650	J	DS 4	11967			4
20660	U3	DS 8	11975			8
20670	K	DS 4	11979			4
20680	D4	DS 8	11987			8
20690	DS	1	11988			1
20700	DC	4,0001	11992			4
20710	MASK	DS ,--3	11989			0
20720	DC	4,1	11996			4
20730	DC	4,1	12000			4
20740	DC	4,0	12004			4
20750	DC	4,0	12008			4
20760	DC	4,0	12012			4
20770	DC	8,0	12020			8
20780	DC	4,0	12024			4
20790	DC	8,0	12032			8
20800	DC	4,0	12036			4
20810	DC	8,0	12044			8
20820	DC	4,0	12048			4
20830	DC	8,0	12056			8
20840	DC	1,1	12057			1
20850	****	ASCAN CODE				
20860	ASCAN1	CF TRIND	12058	33	02609	00000

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20870	BD	++24,NOIND	12070	43	12094	02610
20880	BTM	ERROR2,572,9,	12082	17	09406	00N72
20890	ASC1A	TDM UMM ,1	12094	15	10007	00001
20900	CM	CHI,40,10	12106	14	15139	000M0
20910	BNH	AERR	12110	47	12214	01100
20920	CM	CHI,70,10	12130	14	15139	000P0
20930	BNL	AERR	12142	46	12214	01300
20940	SF	DUTSW	12154	32	07034	00000
20950	BTM	CSORN,++12	12166	17	05704	J2178
20960	TDM	STSN	12178	15	05641	00000
20970	CM	CHI,33,10	12190	14	15139	000L3
20980	BE	++24	12202	46	12226	01200
20990	AERR	BTM ERROR,376,9	12214	17	09350	00L76
21000	TDM	UMM,0	12226	15	10007	00000
21010	ASC22	BTM PUT, 133,8,EQUAL	12238	17	09050	0-133
21020	TFM	NOPARM,00,10	12250	16	1470C	000-0
21030	TFM	ASC14+18,FLIST-9	12262	16	14644	J4697
21040	IFSCAN	TR CHI-1,CHI+1	12274	31	15138	15140
21050	BNR	++24,CHI+2	12286	45	1231C	151+1
21060	BTM	ERROR,378,9, MISSING OPERAND	12298	17	09350	00L78
21070	CM	CHI,40,10	12310	14	15139	000M0
21080	RM	ASC3	12322	46	12550	01100
21090	CM	CHI,20,10	12334	14	15139	000K0
21100	BNE	++44	12346	47	12390	01200
21110	BTM	PUT, 129,8,UNARY MINUS	12358	17	09050	0-129
21120	TR	CHI-1,CHI+1	12370	31	15138	15140
21130	R	IFSCAN+12	12382	49	12286	00000
21140	DORG	--3	12390			
21150	CM	CHI,10,10	12390	14	15139	000J0
21160	BE	IFSCAN	12402	46	12274	01200
21170	ASC4	CM CHI,24,10	12414	14	15139	000K4
21180	BNE	ASC6-24	12426	47	12502	01200
21190	ASC23	BD ++44,FNTSW1	12438	43	12482	10001
21200	AM	PARCNT, 1,10	12450	11	02615	000-1
21210	BTM	PUT, 124,8,LEFT PAREN	12462	17	09050	0-124
21220	B	IFSCAN	12474	49	12274	00000
21230	DORG	--3	12482			
21240	AM	TPARCT,1,10	12482	11	14698	000-1
21250	B	ASC23+24	12494	49	12462	00000
21260	DORG	--3	12502			
21270	CM	CHI,3,10	12502	14	15139	000-3
21280	BNE	IFSCAN+24	12514	47	12298	C1200
21290	ASC6	CM CHI+2,69,10	12526	14	15141	00009
21300	BNH	IFSCAN+24	12538	47	12298	01100
21310	ASC3	SF DUTSW	12550	32	07034	00000
21320	BTM	CSORN,++12	12562	17	05704	J2574
21330	BD	ASC9,FNTSW1,, BRANCH IF COLLECTING FUNCTION PARAMETERS	12574	43	14586	10001
21340	BD	ASC8,FNTSW,, BRANCH IF SYMBOL WAS FUNCTION NAME	12586	43	13754	10000
21350	ASC7	BD RTCALL,CALLSW,, RETURN TO CALL ROUTINE	12598	43	13242	10009
21360	BNR	ASC1,CHI+2,	12610	45	12658	15141
21370	CM	PARCNT,0,10	12622	14	02615	000-0
21380	BE	HEGIN	12634	46	02626	01200
21390	BTM	ERROR,379,9, UNBALANCED PARENTHESES	12646	17	09350	00L79
21400	ASC1	CM CHI,30,10	12658	14	15139	000L0
21410	BL	++24	12670	47	12694	01300
21420	BTM	ERROR,378,9, INVALID OPERATOR	12682	17	09350	00L78

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21430	CM	CHI,24,10	12694	14	15139	000K4
21440	BE	ASC23	12706	46	12438	01200
21450	CM	CHI,10,10	12718	14	15139	000J0
21460	BNE	++32	12730	47	12762	01200
21470	BTM	PUT, 110,8,ADD	12742	17	09050	0-110
21480	B	ASC24	12754	49	12942	00000
21490	DORG	--3	12762			
21500	CM	CHI,20,10	12762	14	15139	000K0
21510	BNE	++32	12774	47	12806	01200
21520	BTM	PUT, 120,8,SUBTRACT	12786	17	09050	0-120
21530	R	ASC24	12798	49	12942	00000
21540	DORG	--3	12806			
21550	CM	CHI,21,10	12806	14	15139	000K1
21560	BNE	++32	12818	47	12850	01200
21570	BTM	PUT, 121,8,DIVIDE	12830	17	09050	0-121
21580	H	ASC24	12842	49	12942	00000
21590	DORG	--3	12850			
21600	CM	CHI,14,10	12850	14	15139	000J4
21610	BNE	ASC25	12862	47	12986	01200
21620	CM	CHI+2,14,10	12874	14	15141	000J4
21630	BNE	ASC24-12	12886	47	12930	01200
21640	BTM	PUT, 115,8,EXPONENTIAL	12898	17	09050	0-115
21650	TR	CHI-1,CHI+1	12910	31	15138	15140
21660	B	++20	12922	49	12942	00000
21670	DORG	--3	12930			
21680	BTM	PUT, 114,8,MULTIPLY	12930	17	09050	0-114
21690	ASC24	TR CHI-1,CHI+1	12942	31	15138	15140
21700	CM	CHI,40,10	12954	14	15139	000M0
21710	BNH	ASC3	12966	46	12550	01100
21720	B	ASC4	12978	49	12414	00000
21730	DORG	--3	12986			
21740	ASC25	CM CHI,4,10	12986	14	15139	000-4
21750	BE	++36	12998	46	13034	01200
21760	BD	ASC281,FNTSW1	13010	43	14422	10001
21770	BTM	ERROR,378,9, INVALID OPERATOR	13022	17	09350	00L78
21780	BTM	PUT, 104,8,RIGHT PAREN	13034	17	09050	0-104
21790	BD	++32, FNTSW1	13046	43	13078	10001
21800	SM	PARCNT, 1,10	13058	12	02615	000-1
21810	B	++20	13070	49	13090	00000
21820	DORG	--3	13078			
21830	SM	TPARCT, 1,10	13078	12	14698	000-1
21840	TR	CHI-1,CHI+1	13090	31	15138	15140
21850	BN	ASC1-12	13102	47	12646	01300
21860	BNH	++48	13114	47	13162	01100
21870	CM	CHI,24,10	13126	14	15139	000K4
21880	BNE	ASC7-24	13138	47	12574	01200
21890	BTM	ERROR,378,9	13150	17	09350	00L78
21900	CM	PARCNT,0,10	13162	14	02615	000-0
21910	BNE	++24	13174	47	13198	01200
21920	BD	DUTS12,IFSW	13186	43	13262	10005
21930	CM	CHI,24,10	13198	14	15139	000K4
21940	BE	--60	13210	46	13150	01200
21950	BD	ASC31-12,FNTSW1	13222	43	14466	10001
21960	B	ASC7	13234	49	12598	00080
21970	DORG	--3	13242			
21980	RTCALL	TFM CALL+23,CALL2	13242	16	10367	J2486

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21990	B	CALL		13254	49	10344	00000	
22000	DORG	=-3		13262				
22010	OUTS12	TFM	IF+23,OUTSM+12	13262	16	10319	J3672	
22020	B	IF		13274	49	10296	00000	
22030	DORG	=-4		13281				
22040	*****	ENTER HERE TO OUTPUT SINGLE STATEMENT FUNCTIONS	*****					
22050	*****		*****					
22060	ASC21	BD	**24,STSM	13282	43	13306	05641	
22070	BTM	ERROR,377,9,	SINGLE STATEMENT PRECEDED BY OTHER STMT	13294	17	09350	00L77	
22080	CF	STSM		13306	33	05641	00000	
22090	SF	SMCNT,,0		13318	32	0726J	00000	
22100	TDM	OMM,0		13330	15	10007	00000	
22110	TF	TEMPS,SMADD,,	SAVE SYMBOL ADDRESS TO MOVE IN NO.OF PAR	13342	26	02625	07208	
22120	BTM	PUT, 137,8,ARITH	STATEMENT FUNCTION	13354	17	09050	0-137	
22130	BT	PUT,TEMPS-1,,	OUTPUT STMT NAME	13366	27	09050	02624	
22140	TFM	PCNT,0,10,	INITIAL PARAMETER COUNT	13378	16	14093	000-0	
22150	BTM	PUT, 124,8,LEFT	PAREN	13390	17	09050	0-124	
22160	TR	CHI-1,CHI+1		13402	31	15138	15140	
22170	BNR	**24,CHI+2		13414	45	13438	15141	
22180	ASC26	BTM	ERROR,376,9,	INCOMPLETE STATEMENT FUNCTION	13426	17	09350	00L76
22190	CM	CHI,40,10		13438	14	15139	000M0	
22200	BNH	=-24		13450	47	13426	01100	
22210	TDM	FNTSW,0		13462	15	10000	00000	
22220	CM	CHI,69,10		13474	14	15139	00009	
22230	BH	ASC26		13486	46	13426	01100	
22240	SF	OUTSW		13498	32	07034	00000	
22250	BTM	CSORN,**12		13510	17	05704	J3522	
22260	BD	ASC26,INSW		13522	43	13426	02611	
22270	AM	PCNT,1,10		13534	11	14093	000-1	
22280	TFM	SYM+2,14,10		13546	16	09981	000J4	
22290	CF	SYM+1		13558	33	09980	00000	
22300	AM	NXLOC,2,10		13570	11	02372	000-2	
22310	TF	NXLOC,SYM+2,6		13582	26	0237K	09981	
22320	SM	STAFY,5,10		13594	12	04419	000-5	
22330	TF	STAFY,SMADD,6		13606	26	0441R	07208	
22340	CM	CHI,04,10		13618	14	15139	000-4	
22350	BE	**56		13630	46	13606	01200	
22360	CM	CHI,23,10		13642	14	15139	000K3	
22370	BNE	ASC26		13654	47	13426	01200	
22380	BTM	PUT, 123,8,COMMA		13666	17	09050	0-123	
22390	B	ASC26-24		13678	49	13402	00000	
22400	DORG	=-3		13686				
22410	BTM	PUT, 104,8,RIGHT	PAREN	13686	17	09050	'04	
22420	TR	CHI-1,CHI+1		13698	31	15138	15140	
22430	AM	TEMPS,4,10		13710	11	02625	000-4	
22440	TF	TEMPS,PCNT,6		13722	26	0262N	14093	
22450	TDM	SINGST,1,11,	SET SINGLE STAMT SWITCH, SWITCH TESTED	13734	15	09998	0000J	
22460	B	AERR-24,,,	IN PUTTING OUT SUBSCRIPTING	13746	49	12190	00000	
22470	DORG	=-3		13754				
22480	*****	ENTER TO OUTPUT SINGLE STATEMENT FUNCTION CALL AND	*****					
22490	*****	FUNCTION SUBPROGRAM CALL	*****					
22500	ASC8	BNF	ASC11,FNTSW,, NO FLAG INDICATE FUNCTION SUBPROGRAM	13754	44	14606	10000	
22510	AM	SMCNT,2,10		13766	11	07261	000-2	
22520	TF	NOPARM,SMCNT,11,	MOVE NO. OF PARAMETERS TO COUNTER	13778	26	14700	0726J	
22530	ASC15	CM	CHI,24,10	13790	14	15139	000K4	
22540	BE	**24		13802	46	13826	01200	

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22550	BTM	ERROR,079,9,	FUNCT NAME NOT FOLLOWED BY LPAREN	13814	17	09350	00-79	
22560	BTM	PUT, 124,8,LEFT	PAREN	13826	17	09050	0-124	
22570	TFM	TPARCT,1,10,	SET UP TEMPORARY PAREN COUNT	13838	16	14698	000-1	
22580	TR	CHI-1,CHI+1		13850	31	15138	15140	
22590	TDM	FNTSW,0		13862	15	10000	00000	
22600	ASC12	CM	CHI,20,10	13874	14	15139	000K0	
22610	BNE	**32		13886	47	13918	01200	
22620	BTM	PUT, 129,8,UNARY	MINUS	13898	17	09050	0-129	
22630	B	**32		13910	49	13942	00000	
22640	DORG	=-3		13918				
22650	CM	CHI,10,10		13918	14	15139	000J0	
22660	BNE	**24		13930	47	13954	01200	
22670	TR	CHI-1,CHI+1		13942	31	15138	15140	
22680	CM	CHI,40,10		13954	14	15139	000M0	
22690	BH	ASC27		13966	46	14082	01100	
22700	CM	CHI,3,10,		13978	14	15139	000-3	
22710	BE	ASC27		13990	46	14082	01200	
22720	CM	CHI,24,10		14002	14	15139	000K4	
22730	BE	**24		14014	46	14038	01200	
22740	ASCER	BTM	ERROR,470,9,	INVALID FUNCTION PARAMETER LIST	14026	17	09350	00M70
22750	BTM	PUT, 124,8,LEFT	PAREN	14038	17	09050	0-124	
22760	TR	CHI-1,CHI+1		14050	31	15138	15140	
22770	AM	TPARCT,1,10		14062	11	14698	000-1	
22780	B	ASC12		14074	49	13874	00000	
22790	DORG	=-3		14082				
22800	ASC27	SF	OUTSW	14082	32	07034	00000	
22810	PCNT	OC	2,0,*	14093		2		
22820	BNF	ASC27A,NOPARM		14094	44	14150	14700	
22830	TDM	FNTSW2,1		14106	15	07405	00001	
22840	BTM	CSORN,**12		14118	17	05704	J4130	
22850	TDM	FNTSW2,0		14130	15	07405	00000	
22860	B	ASC29-12		14142	49	14186	00000	
22870	DORG	=-3		14150				
22880	ASC27A	BTM	CSORN,**12	14150	17	05704	J4162	
22890	SM	NOPARM,1,10		14162	12	14700	000-1	
22900	BN	ASCER		14174	47	14026	01300	
22910	BD	ASC14,FNTSW,,	TEST FOR NESTED FUNCTIONS	14186	43	14626	10000	
22920	ASC29	BNR	**20,CHI+2	14198	45	14218	15141	
22930	B	ASCER		14210	49	14026	00000	
22940	DORG	=-3		14218				
22950	CM	CHI,23,10		14218	14	15139	000K3	
22960	BNE	ASC28		14230	47	14318	01200	
22970	ASC30	BTM	PUT, 123,8,COMMA	14242	17	09050	0-123	
22980	TR	CHI-1,CHI+1		14254	31	15138	15140	
22990	BNF	**20,NOPARM		14266	44	14286	14700	
23000	B	ASC12		14278	49	13874	00000	
23010	DORG	=-3		14286				
23020	CM	NOPARM,0,10		14286	14	14700	000-0	
23030	BE	ASCER		14298	46	14026	01200	
23040	B	ASC12		14310	49	13874	00000	
23050	DORG	=-3		14318				
23060	ASC28	CM	CHI,4,10	14318	14	15139	000-4	
23070	BE	**32		14330	46	14362	01200	
23080	TDM	FNTSW1,1		14342	15	10001	00001	
23090	B	ASC1		14354	49	12658	00000	

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23100	DORG	=-3		14362			
23110	BTM	PUT,	104,8,RIGHT PAREN	14362	17	09050	0-104
23120	SM	TPARCT,1,10		14374	12	14698	000-1
23130	TR	CHI-1,CHI+1		14386	31	15138	15140
23140	BN	ASCER		14398	47	14026	01300
23150	BE	+*56		14410	46	14666	01200
23160	ASC281	CM	CHI,23,10	14422	14	15139	000K3
23170	BE	ASC30		14434	46	14242	01200
23180	BNR	ASC28+24,CHI+2		14446	45	14342	15141
23190	B	ASCER		14458	49	14026	00000
23200	DORG	=-3		14466			
23210	BNF	ASC9-32,NOPARM		14466	44	14554	14700
23220	ASC31	CM	ASC14+18,FLIST-9,, TEST IF NEST LIST IS EMPTY	14478	14	14644	J4697
23230	BNE	+*32		14490	47	14522	01200
23240	TDM	FNITSW1		14502	15	10001	00000
23250	B	RTCALL-44		14514	49	13198	00000
23260	DORG	=-3		14522			
23270	TR	TPARCT-1,ASC14+18,11		14522	31	14697	1464M
23280	SM	ASC14+18,5,10		14534	12	14644	000-5
23290	B	ASC29		14546	49	14198	00000
23300	DORG	=-3		14554			
23310	CM	NOPARM,0,10		14554	14	14700	000-0
23320	BZ	ASC31		14566	46	14478	01200
23330	B	ASCER		14578	49	14026	00000
23340	DORG	=-3		14586			
23350	ASC9	TDM	FNITSW1,0,,	14586	15	10001	00000
23360	B	ASC29-12		14598	49	14186	00000
23370	DORG	=-3		14606			
23380	ASC11	TFM	NOPARM,0,1011	14606	16	14700	000--
23390	B	ASC15		14618	49	13790	00000
23400	DORG	=-3		14626			
23410	*****	ENTER HERE TO SHIFT PARAMETER LIST DOWN FOR NESTED CALLS ***					
23420	ASC14	AM	+*18,5,10	14626	11	14644	000-5
23430	TR	FLIST-9,TPARCT-1,2		14638	31	J4697	14697
23440	B	ASC8		14650	49	13754	00000
23450	DORG	=-4		14657			
23460	IFASEN	TFM	ASC14+18,FLIST-9	14658	16	14644	J4697
23470	B	IFSCAN+12		14670	49	12286	00000
23480	DORG	=-4		14677			
23490	CLASEN	TFM	NOPARM,00,1011	14678	16	14700	000--
23500	B	IFSCAN-12		14690	49	12262	00000
23510	DORG	=-4		14697			
23520	TPARCT	DS	2	14698		2	
23530	NOPARM	DS	2	14700		2	
23540	DC	1,1		14701		1	
23550	FLIST	DSB	5,20	14706		5 X	20
23560	DORG	16000		16000			
23570	TFM	IOPT,++23		16000	16	00565	J6023
23580	B	IOPT,HLK3,7		16012	49	00532	-9668
23590	TRA			16024	36	00000	00500
23600	TCD	16000		16036	49	00000	00000
23610	*	OUT OF CORE BLOCK 4 CONTAINS THE FOLLOWING					
23620	*	UUTSC					

23630	*	CU					
23640	*	IO OTHER THAN DISK					
23650		DORG	IOUT	10200			
23660		CM	CHI,44,10, IOUT, NONDISK I/C	10200	14	15139	000M4
23670		B	IOUTEN	10212	49	13172	00000
23680		TFM	FMON+35,BLK2	10224	16	02359	-9645
23690		BTM	FMON,NONARA	10236	17	02324	J0224
23700		TFM	FMON+35,BLK1,, DIM	10248	16	02359	-9622
23710		BTM	FMON,DIM	10260	17	02324	J0248
23720		TFM	FMON+35,BLK1,, COMMON	10272	16	02359	-9622
23730		BTM	FMON,COMMON	10284	17	02324	J0272
23740		TFM	FMON+35,BLK6,, IF STMT	10296	16	02359	-9737
23750		BTM	FMON,IF	10308	17	02324	J0296
23760		TFM	FMON+35,BLK6,, GOTC	10320	16	02359	-9737
23770		BTM	FMON,GOTC	10332	17	02324	J0320
23780		TFM	FMON+35,BLK6,, CALL	10344	16	02359	-9737
23790		BTM	FMON,CALL	10356	17	02324	J0344
23800		TFM	FMON+35,BLK6,, RETURN	10368	16	02359	-9737
23810		BTM	FMON,RETURN	10380	17	02324	J0368
23820		TFM	FMON+35,BLK1,, FORMAT	10392	16	02359	-9622
23830		BTM	FMON,FORMAT	10404	17	02324	J0392
23840		BNF	DOLoop+36,TRIND,, DO STATEMENT	10416	44	12094	02609
23850		B	DOLoop	10428	49	12058	00000
23860		TFM	FMON+35,BLK3,, ASCAN	10440	16	02359	-9668
23870		BTM	FMON,ASCAN	10452	17	02324	J0440
23880		BD	SCI,SINGST,, OUTSC	10464	43	10884	09998
23890		B	OUTSC	10476	49	10512	00000
23900		TFM	FMON-35,BLK5,, DISK INPUT/OUTPUT	10488	16	02359	-9714
23910		BTM	FMON,DKIG	10500	17	02324	J0488
23920	**	UUTSC CODE IS HERE					
23930		DORG	ASCAN1	12058			
23940	*****	OUTPUT DO STATEMENTS					
23950	DOLoop	TDM	TRIND,0	12058	15	02609	00000
23960	BD	+*24,NOIND		12070	43	12094	02610
23970	BTM	ERROR2,572,9		12082	17	09406	00072
23980	CM	CHI,44,10		12094		15139	000M4
23990	BNE	SPERR		12106		09244	01200
24000	CM	CHI+2,56,10		12118	14	15141	000M6
24010	BNE	SPERR		12130	47	09744	01200
24020	BD	+*24,INDIV		12142	43	12166	02424
24030	BTM	CKCNTU,0,10		12154	17	04882	000-0
24040	TDM	STSN		12166	15	09661	00000
24050	TR	CHI-1,CHI+3		12178	31	15139	15142
24060	DO	CM	CHI,69,10	12190	14	15139	00009
24070	BM	+*24		12202	46	12226	01100
24080	BTM	ERROR,275,9, INCORRECT DO STATEMENT		12214	17	09350	00M75
24090	BTM	PUT,	108,8,DO	12226	17	09050	0-108
24100	SF	OUTSW		12238	32	07034	00000
24110	BTM	CSTMO,++12		12250	17	05412	J2242
24120	AM	SHADC,	5,10	12262	11	07208	000-5
24130	B	DOCK		12274	49	12390	00000
24140	DORG	=-3		12282			
24150	TDM	SHADO,1,6, SET BY IO, IF NOT SET DO REF IN TABLE		12282	15	07200	00001
24160	DOC	CM	CHI,40,10	12294	14	15139	00000
24170	BM	DOCK-12		12306	47	12378	01100
24180	CM	CHI,69,10		12318	14	15139	00009

24190	BM	DOCK-12		12330	46	12378	01100
24200	BTM	CSORN,**12,,	COLLECT DO INDEX SYMBOL	12342	17	05704	J2354
24210	BT	PUT,SMADD-1		12354	27	09050	07207
24220	BD	DOCK1,FXORFL		12366	43	12446	06419
24230	BTM	ERROR,275,9,	FLOATING POINT VARIABLE FOR INDEX	12378	17	09350	00K75
24240	BD	DOCK-12, SMADD,11		12390	43	12434	07200
24250	SM	SMADD, 2,10		12402	12	07208	00000
24260	BD	DOCK, SMADD,11		12414	43	12294	07200
24270	B	DOCK-12		12426	49	12282	00000
24280	DORG	*-3		12434			
24290	BTM	ERROR,274,9,	DO REFERENCING ILLEGAL STAMNT NO	12434	17	09350	00K74
24300	DOC1	CM	CHI,33,10,	12446	14	15139	000L3
24310	BNE	DO+24		12458	47	12214	01200
24320	BTM	PUT, 133,8,EQUAL		12470	17	09050	0-133
24330	TR	CHI-1,CHI+1		12482	31	15138	15140
24340	CF	DOA,,,	INITIALIZE SWITCHES	12494	33	12518	00000
24350	CF	DOB		12506	33	12670	00000
24360	DOA	CM	CHI,40,10	12518	14	15139	000M0
24370	BNM	DOCK-12,,,	TEST FOR UNSIGNED VALUES	12530	47	12378	01100
24380	CM	CHI,69,10		12542	14	15139	00009
24390	BNM	**24,,,		12554	47	12578	01100
24400	SF	DOA		12566	32	12518	00000
24410	SF	OUTSW		12578	32	07034	00000
24420	BTM	CSORN,**12,,	COLLECT AND OUTPUT FIRST INDEX	12590	17	05704	J2602
24430	BD	**20,FXORFL		12602	43	12622	06419
24440	B	DOCK-12		12614	49	12378	00000
24450	DORG	*-3		12622			
24460	BNF	DOB,DOA		12622	44	12670	12518
24470	TF	DOTEST,SYM		12634	26	13171	09979
24480	CM	SYM,0,10,	TEST IF FIRST INDEX WAS ZERO	12646	14	09979	000-0
24490	BE	DOCK-12		12658	46	12378	01200
24500	DOA	CM	CHI,23,10	12670	14	15139	000K3
24510	BNE	DO+24		12682	47	12214	01200
24520	BTM	PUT, 123,8,COMMA		12694	17	09050	0-123
24530	TR	CHI-1,CHI+1		12706	31	15138	15140
24540	CM	CHI,40,10		12718	14	15139	000M0
24550	BNM	DOCK-12		12730	47	12378	01100
24560	CM	CHI,69,10		12742	14	15139	00009
24570	BNM	**24		12754	47	12778	01100
24580	SF	DOA		12766	32	12670	00000
24590	BTM	CSORN,**12		12778	17	05704	J2790
24600	BT	PUT,SMADD-1		12790	27	09050	07207
24610	BD	**20,FXORFL		12802	43	12822	06419
24620	B	DOCK-12		12814	49	12378	00000
24630	DORG	*-3		12822			
24640	BNF	**72,DOB		12822	44	12894	12670
24650	BNF	**36,DOA		12834	44	12870	12518
24660	C	SYM,DOTEST,,	TEST IF SECND INDEX IS GREATER OR	12846	24	09979	13171
24670	BL	DOCK-12,,,	EQUAL TO THE FIRST IF BOTH ARE CONSTS	12858	47	12378	01300
24680	CM	SYM,0,10		12870	14	09979	000-0
24690	BE	DOCK-12		12882	46	12378	01200
24700	RNR	DOF,CHI+2		12894	45	12926	15141
24710	BD	DO+24,IUSW,,	I/O CANNOT END HERE	12906	43	12214	10011
24720	A	BEGIN		12918	49	02626	00000
24730	DORG	*-3		12926			
24740	DOE	CM	CHI,23,10	12926	14	15139	000K3

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24750	BE	**32		12938	46	12970	01200
24760	BD	DOF,IUSW,,	RETURN TO I/O SCAN	12950	43	14280	10011
24770	B	DO+24		12962	49	12214	00000
24780	DORG	*-3		12970			
24790	BTM	PUT, 123,8,COMMA		12970	17	09050	0-123
24800	TR	CHI-1,CHI+1		12982	31	15138	15140
24810	CM	CHI,40,10		12994	14	15139	000M0
24820	BNM	DOCK-12		13006	47	12378	01100
24830	SF	OUTSW		13018	32	07034	00000
24840	BTM	CSORN,**12		13030	17	05704	J3042
24850	CM	SMCNT,2219		13042	14	07261	-2219
24860	BE	DO+24,,,	SUBSCRIPTED VARIABLE IN DO	13054	46	12214	01200
24870	BD	**20,FXORFL		13066	43	13086	06419
24880	B	DOCK-12		13078	49	12378	00000
24890	DORG	*-3		13086			
24900	CM	SYM,0,10		13086	14	09979	000-0
24910	BE	DOCK-12		13098	46	12378	01200
24920	DOE	BD	DOF,IUSW,,	13110	43	14280	10011
24930	BNR	**20,CHI+2		13122	45	13142	15141
24940	B	BEGIN		13134	49	02626	00000
24950	DORG	*-3		13142			
24960	BTM	ERROR2,573,9		13142	17	09406	00N73
24970	B	BEGIN		13154	49	02626	00000
24980	DORG	*-3		13162			
24990	DOTEST	DS	10	13171		10	
25000	****	ENTER HERE TO DECOMPOSE I/O STATEMENTS OTHER THAN DISK	****				
25010	IOUTEN	BNE	**44	13172	47	13216	01200
25020	TFM	IOUT1+11,112,8,	OUTPUT READ SYMBOL	13184	16	13567	0-112
25030	TR	CHI-1,CHI+1		13196	31	15138	15140
25040	B	IOUT1		13208	49	13556	00000
25050	DORG	*-3		13216			
25060	CM	CHI,55,10		13216	14	15139	000M5
25070	BNE	IOUT2		13228	47	13308	01200
25080	CM	CHI+2,63,10		13240	14	15141	00003
25090	BE	**24		13252	46	13276	01200
25100	IOUTER	BTM	ERROR,71,9	13264	17	09350	00-71
25110	TFM	IOUT1+11,111,8,	OUTPUT PRINT SYMBOL	13276	16	13567	0-111
25120	TR	CHI-1,CHI+3		13288	31	15138	15142
25130	B	IOUT1		13300	49	13556	00000
25140	DORG	*-3		13308			
25150	IOUT2	CM	CHI,45,10	13308	14	15139	000M5
25160	BNE	IOUT3		13320	47	13308	01200
25170	TR	CHI-1,CHI+1,,	SHIFT OFF E	13332	31	15138	15140
25180	CM	CHI,69,10		13344	14	15139	00009
25190	BNM	IOUT3		13356	47	13308	01100
25200	TFM	IOUT1+11,0113,8,	OUTPUT TYPE SYMBOL	13368	16	13567	0-113
25210	B	IOUT1		13380	49	13556	00000
25220	DORG	*-3		13388			
25230	IOUT3	BTM	COLNAM,2,10	13388	17	04662	000-2
25240	CM	SYM,4348,8		13400	14	09979	00348
25250	BV	IOUTER		13412	46	13264	01400
25260	BNE	IOUT4		13424	47	13576	01200
25270	TFM	IOUT1+11,118,8,	OUTPUT PUNCH SYMBOL	13436	16	13567	0-118
25280	IOUT5	TR	CHI-1,CHI+3	13448	31	15138	15142
25290	CM	CHI,63,10		13460	14	15139	00003
25300	BNE	IOUT1		13472	47	13556	01200

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25310	BTM	COLNAM,4,10		13484	17	04662	000-4
25320	C	SYM,TPCST		13496	24	09979	13639
25330	BV	IOUTER		13508	46	13264	01400
25340	BNE	IOUTER		13520	47	13264	01200
25350	TR	CHI-1,CHI+7		13532	31	15138	15146
25360	AM	IOUT1+11,1,10		13544	11	13567	000-1
25370	IOUT1	BTM PUT,,,	OUTPUT I/O SYMBOL	13556	17	09050	-0000
25380	B	INOUT		13568	49	13640	00000
25390	DORG	+--3		13576			
25400	IUUT4	CM SYM,5763,8		13576	14	09979	0N763
25410	BV	IOUTER		13588	46	13264	01400
25420	BNE	IOUTER		13600	47	13264	01200
25430	TFM	IOUT1+11,0116,8,	OUTPUT ACCEPT SYMBOL	13612	16	13567	0-116
25440	B	IOUT5		13624	49	13448	00000
25450	DORG	+--3		13632			
25460	TPCST	DC 8,63415745,,	TAPE	13639		8	
		03415745					
25470	*****	OUTPUT INPUT-OUTPUT LISTS	*****				
25480	INOUT	CM CHI,69,10		13640	14	15139	00009
25490	BM	+24		13652	46	13676	01100
25500	BTM	ERROR,276,9,	STATEMENT NUMBER MISSING	13664	17	09350	00K76
25510	SF	OUTSW		13676	32	07034	00000
25520	TDM	IOSW,1		13688	15	10011	00001
25530	BTM	CSTNO,++12		13700	17	05412	J3712
25540	AM	SMADD,4,10		13712	11	07208	000-4
25550	BD	+32,INSM		13724	43	13756	02611
25560	TDM	SMADD,1,6,	SET DIGIT FOR FORMAT STAMNT NUMBER	13736	15	07200	00001
25570	B	+32		13748	49	13780	00000
25580	DORG	+--3		13756			
25590	BD	+24,SMADD,11,	TEST, IF STAMNT NUMBER CORRESPONDS TO FMT	13756	43	13780	07200
25600	BTM	ERROR,277,9,	I/O STATEMENT NO. NCT A FORMAT NUMBER	13768	17	09350	00K77
25610	IDA	BNR +20,CHI+2		13780	45	13800	15141
25620	B	BEGIN		13792	49	02626	00000
25630	DORG	+--3		13800			
25640	CM	CHI,23,10		13800	14	15139	000K3
25650	BE	+24		13812	46	13836	01200
25660	BTM	ERROR,278,9,	MISSING COMMA OR INVALID LIST ELEMENT	13824	17	09350	00K78
25670	BTM	PUT, 123,8,COMMA		13836	17	09050	0-123
25680	TR	CHI-1,CHI+1		13848	31	15138	15140
25690	CM	CHI,40,10		13860	14	15139	000M0
25700	BNH	IOB		13872	47	13932	01100
25710	CM	CHI,69,10		13884	14	15139	00009
25720	BH	IOLER		13896	46	13824	01100
25730	SF	OUTSW		13908	32	07034	00000
25740	BTM	CSORN,10A		13920	17	05704	J3780
25750	TFM	IOLoop,0,10		13932	16	14099	000-0
25760	CM	CHI,24,10		13944	14	15139	000K4
25770	BNE	IOLER		13956	47	13824	01200
25780	AM	PARCNT,1,10		13968	11	02615	000-1
25790	BTM	PUT, 124,8,LEFT PAREN		13980	17	09050	0-124
25800	TR	CHI-1,CHI+1		13992	31	15138	15140
25810	AM	IOLoop,1,10		14004	11	14099	000-1
25820	CM	CHI,24,10		14016	14	15139	000K4
25830	BE	IOG		14028	46	14464	01200
25840	IUD	CM CHI,40,10		14040	14	15139	000M0
25850	BNH	IOR+12		14052	47	13944	01100

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25860	CM	CHI,69,10		14064	14	15139	00009
25870	BM	IOLER		14076	46	13824	01100
25880	SF	OUTSW		14088	32	07034	00000
25890	IULoop	DC 2,0,0		14099		2	
		-0					
25900	BTM	CSORN,++12,,	COLLECT LIST ELEMENT	14100	17	05704	J4112
25910	BNR	+20,SMCNT,11		14112	45	14132	0726J
25920	B7	IOLER,,,FUNCTION NAME		14124	49	13824	
25930	CM	CHI,23,10		14132	14	15139	000K3
25940	BNE	IOE		14144	47	14200	01200
25950	BTM	PUT, 123,8,COMMA		14156	17	09050	0-123
25960	SF	IOSW		14168	32	10011	00000
25970	TR	CHI-1,CHI+1		14180	31	15138	15140
25980	B	IOO		14192	49	14040	00000
25990	DORG	+--3		14200			
26000	IUF	BNF IOLER,IOSW		14200	44	13824	10011
26010	CF	IOSW		14212	33	10011	00000
26020	CM	CHI,33,10		14224	14	15139	000L3
26030	BNE	IOH+12		14236	47	13944	01200
26040	BTM	PUT, 133,8,EQUAL		14248	17	09050	0-133
26050	BD	DOA-36,FXORFL,,	BRANCH TO COLLECT INDIC8 OF ARRAY LOOP	14260	43	12482	06419
26060	B	IOLER		14272	49	13824	00000
26070	DORG	+--3		14280			
26080	*****	RETURN HERE FROM DC CODEING	*****				
26090	IUF	CM CHI,4,10		14280	14	15139	000-4
26100	BNE	IOLER		14292	47	13824	01200
26110	BTM	PUT, 104,8,RIGHT PAREN		14304	17	09050	0-104
26120	TR	CHI-1,CHI+1		14316	31	15138	15140
26130	SM	PARCNT,1,10		14328	12	02615	000-1
26140	BN	IOLER		14340	47	13824	01300
26150	SM	IOLoop,1,10		14352	12	14099	000-1
26160	BNZ	+32		14364	47	14396	01200
26170	BNR	IOLER-24,CHI+2		14376	45	13800	15141
26180	B	BEGIN		14388	49	02626	00000
26190	DORG	+--3		14396			
26200	CM	CHI,23,10		14396	14	15139	000K3
26210	BNE	IOLER		14408	47	13824	01200
26220	BTM	PUT, 123,8,COMMA		14420	17	09050	0-123
26230	TR	CHI-1,CHI+1		14432	31	15138	15140
26240	SF	IOSW		14444	32	10011	00000
26250	B	IOO		14456	49	14040	00000
26260	DORG	+--3		14464			
26270	IUG	BTM PUT, 124,8,LEFT PAREN		14464	17	09050	0-124
26280	AM	PARCNT,1,10		14476	11	02615	000-1
26290	TR	CHI-1,CHI+1		14488	31	15138	15140
26300	AM	IOLoop,1,10		14500	11	14099	000-1
26310	CM	CHI,24,10		14512	14	15139	000K4
26320	BNE	IOO		14524	47	14040	01200
26330	BTM	PUT, 124,8,LEFT PAREN		14536	17	09050	0-124
26340	AM	PARCNT,1,10		14548	11	02615	000-1
26350	TR	CHI-1,CHI+1		14560	31	15138	15140
26360	AM	IOLoop,1,10		14572	11	14099	000-1
26370	B	IOO		14584	49	14040	00000
26380	DORG	+--3		14592			
26390	DORG	16000		16000			
26400	TFM	IORT,++23		16000	16	00965	J6023

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26410	B	IOPT,8LK4,7		16012	49	00532	-9691
26420	TRA			16024	36	00000	00500
				16036	49	00000	00000
26430	TCD	16000		16000			
26440 *		OUT OF CORE BLOCK 5 CONTAINS THE FOLLOWING					
26450 *		OUTSC					
26460 *		DO					
26470 *		DKIO					
26480	DORG	IOUT		10200			
26490	TFM	FMON+35,8LK4,,	IOUT	10200	16	02359	-9691
26500	BTM	FMON,IOUT		10212	17	02324	J0200
26510	TFM	FMON+35,8LK2		10224	16	02359	-9645
26520	BTM	FMON,NONARA		10236	17	02324	J0224
26530	TFM	FMON+35,8LK1,,	DIM	10248	16	02359	-9622
26540	BTM	FMON,DIM		10260	17	02324	J0248
26550	TFM	FMON+35,8LK1,,	COMMON	10272	16	02359	-9622
26560	BTM	FMON,COMMON		10284	17	02324	J0272
26570	TFM	FMON+35,8LK6,,	IF STMNT	10296	16	02359	-9737
26580	BTM	FMON,IF		10308	17	02324	J0296
26590	TFM	FMON+35,8LK6,,	GOTO	10320	16	02359	-9737
26600	BTM	FMON,GOTO		10332	17	02324	J0320
26610	TFM	FMON+35,8LK6,,	CALL	10344	16	02359	-9737
26620	BTM	FMON,CALL		10356	17	02324	J0344
26630	TFM	FMON+35,8LK6,,	RETURN	10368	16	02359	-9737
26640	BTM	FMON,RETURN		10380	17	02324	J0368
26650	TFM	FMON+35,8LK1,,	FORMAT	10392	16	02359	-9622
26660	BTM	FMON,FORMAT		10404	17	02324	J0392
26670	BNF	DOLOOP+36,TRIND,,	DO STATEMENT	10416	44	12094	02609
26680	B	DOLOOP		10428	49	12058	00000
26690	TFM	FMON+35,8LK3,,	ASCAN	10440	16	02359	-9648
26700	BTM	FMON,ASCAN		10452	17	02324	J0440
26710	BD	SCI,SINGST,,	OUTSC	10464	43	10884	09998
26720	B	OUTSCI		10476	49	10512	00000
26730	TDM	USEDFS+5,1,,	DISK I/O	10488	15	02268	00001
26740	B	DKIOEN		10500	49	13172	00000
26750 **		OUTSC CODE IS HERE					
26760	DORG	ASCAN1		12058			
26770 **		OUTPUT DO STATEMENT CODE IS HERE					
26780	DORG	DDE+24		12950			
26790 **		THE FOLLOWING INSTRUCTION IS A CHANGE TO DO STATEMENT CODE					
26800	BD	DKF,IOSW,,	RETURN TO I/O SCAN	12950	43	14396	10011
26810	DORG	DDEE		13110			
26820	BD	DKF,IOSW		13110	43	14396	10011
26830	DORG	IOUTEN		13172			
26840 ****		ENTER HERE TO DECODE DISK I/O STATEMENTS ***					
26850 DKIOEN	SF	DKIO...	FLAG FOR FETCH AND RECORD	13172	32	10488	00000
26860	CM	CHI,43,10		13184	14	15139	000M3
26870	BNE	DKIO1		13196	47	13264	01200
26880	TFM	DKPUT+11,0142,8,	FETCH SYMBCL	13208	16	13535	0-142
26890	CM	CHI+2,48,10,	CHECK FOR H	13220	14	15141	000M8
26900	BNE	ERR01		13232	47	04288	01200
26910	TR	CHI-1,CHI+3,,	SHIFT OFF TWO CHARACTERS	13244	31	15138	15142
26920	B	DKLIST		13256	49	13404	00000
26930	DORG	*-3		13264			
26940 DKIO1	CM	CHI,44,10		13264	14	15139	000M4

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26950	BNE	DKIO2		13276	47	13332	01200
26960	CF	DKIO,,	NO FLAG FOR FIND	13288	33	10488	00000
26970	TFM	DKPUT+11,0144,8,	FIND SYMBOL	13300	16	13535	0-144
26980	TR	CHI-1,CHI+1,,	SHIFT OFF ONE CHARACTER	13312	31	15138	15140
26990	B	DKLIST		13324	49	13404	00000
27000	DORG	*-3		13332			
27010 DKIO2	BTM	COLNAM,03,10		13332	17	04662	000-3
27020	C	SYM,ORDCT+4		13344	24	09979	14677
27030	BV	ERR01		13356	46	04288	01400
27040	BNE	ERR01		13368	47	04288	01200
27050	TR	CHI-1,CHI+5,,	SHIFT OFF THREE CHARACTERS	13380	31	15138	15144
27060	TFM	DKPUT+11,0146,8,	RECORD SYMBOL	13392	16	13535	0-146
27070 DKLIST	TDM	DISKSW,1,11,	SET SW TO INDICATE DISK I/O	13404	15	02383	0000J
27080	CM	CHI,24,10,	CHECK FOR LEFT PAREN	13416	14	15139	000R4
27090	BNE	DKER		13428	47	13752	01200
27100	TDM	IOSW,1		13440	15	10011	00001
27110	TR	CHI-1,CHI+1,,	SHIFT OFF LEFT PAREN	13452	31	15138	15140
27120	CM	CHI,69,10		13464	14	15139	00009
27130	BL	*+24		13476	47	13500	01300
27140	AM	DKPUT+11,1,10,	ADD ONE FOR LITERAL	13488	11	13535	000-1
27150	CM	CHI,40,10		13500	14	15139	000M0
27160	BL	DKER		13512	47	13752	01300
27170 DKPUT	BTM	PUT,,	OUTPUT DISK I/O SYMBOL	13524	17	09050	-0000
27180	BTM	PUT,0124,8,	OUTPUT LEFT PAREN	13536	17	09050	0-124
27190	SF	OUTSW		13548	32	07034	00000
27200	BTM	CSORN,,+12		13560	17	05704	J3572
27210	RD	*+20,FXORFL		13572	43	13592	06419
27220	B	DKER		13584	49	13752	00000
27230	DORG	*-4		13591			
27240	CM	CHI,04,10,	CHECK FOR RT PAREN	13592	14	15139	000-4
27250	BNE	DKER		13604	47	13752	01200
27260	BTM	PUT,0104,8,	OUTPUT RT PAREN	13616	17	09050	0-104
27270	BNF	BEGIN,DKIO,,	BRANCH TO BEGIN IF FIND STMNT	13628	44	02626	10488
27280	BTM	PUT,0123,8,	OUTPUT COMMA	13640	17	09050	0-123
27290	TR	CHI-1,CHI+1,,	SHIFT OFF RT PAREN	13652	31	15138	15140
27300 DKL	BNR	*+24,CHI+2		13664	45	13688	15141
27310	BTM	ERROR,472,9,	DISK I/O STMTS MUST HAVE LISTS	13676	17	09350	00M72
27320	TR	DKSWI-1,SWSET-4,,	INIT SWITCHES	13688	31	14303	14678
27330	B	DKB		13700	49	13788	00000
27340	DORG	*-3		13708			
27350 DKA	BNR	*+20,CHI+2		13708	45	13728	15141
27360	B	BEGIN		13720	49	02626	00000
27370	DORG	*-3		13728			
27380	CM	CHI,23,10		13728	14	15139	000R3
27390	BE	*+24		13740	46	13764	01200
27400 DKER	BTM	ERROR,471,9		13752	17	09350	00M71
27410	BTM	PUT,0123,8,	OUTPUT COMMA	13764	17	09050	0-123
27420	TR	CHI-1,CHI+1,,	SHIFT OFF ONE CHARACTER	13776	31	15138	15140
27430 DKR	CM	CHI,40,10		13788	14	15139	000M0
27440	BNM	DKC		13800	47	14000	01100
27450	CM	CHI,69,10		13812	14	15139	00009
27460	BM	DKER,,	LITERAL ITEM ON LIST	13824	46	13752	01100
27470	SF	OUTSW		13836	32	07034	00000
27480	BTM	CSORN,,+12		13848	17	05704	J3840
27490	BNR	*+20,SMCNT,11		13860	45	13888	0726J
27500	B	DKER,,	FUNCTION NAME	13872	49	13752	00000

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27510	DORG	*-3		13880			
27520	BD	**32,SMCNT,11,	DIGIT IMPLIES AN ARRAY NAME	13880	43	13912	0726J
27530	TD	DKSW2,2		13892	15	14306	00002
27540	B	*+20		13904	49	13924	00000
27550	DORG	*-3		13912			
27560	TD	DKSW2,1		13912	15	14306	00001
27570	BD	*+20,DKSW1		13924	43	13944	14304
27580	B	DKB1+12		13936	49	13980	00000
27590	DORG	*-4		13943			
27600	C	DKSW1,DKSW2		13944	24	14304	14306
27610	BE	DKA		13956	46	13708	01200
27620	DKB1	BTM	ERROR,+73,9,	13968	17	09350	00M73
27630	TD	DKSW1,DKSW2	ARRAYS AND SIMPLE VARIABLES ON SAME I/O	13980	25	14304	14306
27640	B	DKA		13992	49	13708	00000
27650	DORG	*-3		14000			
27660	*	THE FOLLOWING HANDLES IMPLIED DO LOOPS IN LISTS					
27670	DKC	TFM	DKLOOP,0,10	14000	16	14167	000-0
27680	CM	CHI,24,10		14012	14	15139	000K4
27690	HNE	DKFR		14024	47	13752	01200
27700	AM	PARCNT,1,10		14036	11	02615	000-1
27710	BTM	PUT,0124,8,	OUTPUT LEFT PAREN	14048	17	09050	0-124
27720	TR	CHI-1,CHI+1,,	SHIFT OFF ONE CHARACTER	14060	31	15138	15140
27730	AM	DKLOOP,1,10		14072	11	14167	000-1
27740	CM	CHI,24,10		14084	14	15139	000K4
27750	BE	DKG		14096	46	14544	01200
27760	DKD	CM	CHI,40,10	14108	14	15139	000M0
27770	BMM	DKC+12		14120	47	14012	01100
27780	CM	CHI,69,10		14132	14	15139	00009
27790	RM	DKER		14144	46	13752	01100
27800	SF	OUTSW		14156	32	07034	00000
27810	DKLOOP	DC	2,0,0	14167		2	
		-0					
27820	BTM	CSORN,**12		14168	17	05704	J4180
27830	BNR	**20,SMCNT,11		14180	45	14200	0726J
27840	B7	DKER,,,	FUNCTION NAME	14192	49	13752	
27850	BD	*+36,DKSW1		14200	43	14236	14304
27860	C	DKSW1,DKSW2		14212	24	14304	14306
27870	HNE	DKB1		14224	47	13968	01200
27880	TD	DKSW1,DKSW2		14236	25	14304	14306
27890	DKD1	CM	CHI,23,10	14248	14	15139	000K3
27900	HNE	DKK		14260	47	14316	01200
27910	HTM	PUT,0123,8,	OUTPUT COMMA	14272	17	09050	0-123
27920	TR	CHI-1,CHI+1		14284	31	15138	15140
27930	SF	DKK		14296	32	14316	00000
27940	DKSW1	DS	2,-3	14304		2	
27950	DKSW2	DS	2,-1	14306		2	
27960	B	DKD		14308	49	14108	00000
27970	DORG	*-3		14316			
27980	DKK	BNF	DKER,DKK	14316	44	13752	14316
27990	CF	DKK		14328	33	14316	00000
28000	CM	CHI,33,10		14340	14	15139	000L3
28010	RNE	DKC+12		14352	47	14012	01200
28020	BTM	PUT,0133,8,	OUTPUT EQUAL SYMBOL	14364	17	09050	0-133
28030	RD	DDA-36,FXORFL,,	GO TO DO CODING FOR IMPLIED DO LOOP	14376	43	12482	06419
28040	B	DKFR		14388	49	13752	00000
28050	DORG	*-3		14396			

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28060	*	RETURN HERE FROM DO CODING					
28070	DKF	CM	CHI,04,10	14396	14	15139	000-4
28080	HNE	DKER		14408	47	13752	01200
28090	BTM	PUT,0104,8,	OUTPUT RT PAREN	14420	17	09050	0-104
28100	TR	CHI-1,CHI+1		14432	31	15138	15140
28110	SM	PARCNT,1,10		14444	12	02615	000-1
28120	BN	DKER		14456	47	13752	01300
28130	SM	DKLOOP,1,10		14468	12	14167	000-1
28140	BNZ	**32		14480	47	14512	01200
28150	BNR	DKER-24,CHI+2		14492	45	13728	15141
28160	B	BEGIN		14504	49	02626	00000
28170	DORG	*-3		14512			
28180	CM	CHI,23,10		14512	14	15139	000K3
28190	BNE	DKER		14524	47	13752	01200
28200	R	DKD1		14536	49	14248	00000
28210	DORG	*-3		14544			
28220	DKG	BTM	PUT,0124,8,	14544	17	09050	0-124
28230	AM	PARCNT,1,10	OUTPUT LEFT PAREN	14556	11	02615	000-1
28240	TR	CHI-1,CHI+1		14568	31	15138	15140
28250	AM	DKLOOP,1,10		14580	11	14167	000-1
28260	CM	CHI,24,10		14592	14	15139	000K4
28270	BNE	DKD		14604	47	14108	01200
28280	BTM	PUT,0124,8,	OUTPUT LEFT PAREN	14616	17	09050	0-124
28290	AM	PARCNT,1,10		14628	11	02615	000-1
28300	TR	CHI-1,CHI+1		14640	31	15138	15140
28310	AM	DKLOOP,1,10		14652	11	14167	000-1
28320	H	DKD		14664	49	14108	00000
28330	DORG	*-3		14672			
28340	ORDCT	DAC	3,ORD	14673		3 X	2
		URD					
28350	DC	2,00		14679		2	
		-0					
28360	SWSET	DC	3,000	14682		3	
		-0					
28370	DORG	16000		16000			
28380	TFM	IDRT,**23		16000	16	00565	J6023
28390	B /	IDPT,BLK5,7		16012	49	00532	-9714
28400	TRA			16024	36	00000	00500
				16036	49	00000	00000
28410	TCO	16000		16000			
28420	*	OUT OF CORE BLOCK 6 CONTAINS THE FOLLOWING					
28430	*	OUTSC					
28440	*	CALL					
28450	*	RETURN					
28460	*	IF					
28470	*	IFSENSESWITCH					
28480	*	GOTO					
28490	DORG	IDUT		10200			
28500	TFM	FRON+35,BLK4,,	IDUT	10200	16	02359	-9691
28510	BTM	FRON, IDUT		10212	17	02324	J0200
28520	TFM	FRON+35,BLK2		10224	16	02359	-9645
28530	BTM	FRON,MONARA		10236	17	02324	J0224
28540	TFM	FRON+35,BLK1,,	DIM	10248	16	02359	-9622
28550	BTM	FRON,DIM		10260	17	02324	J0248
28560	TFM	FRON+35,BLK1,,	COMMON	10272	16	02359	-9622

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28570	BTM	FMON,COMMON		10284	17	02324	J0272
28580	AM	PARCNT,01,10,	IF	10296	11	02615	000-1
28590	B	IF1		10308	49	13284	00000
28600	CM	CHI,56,10,	GOTO	10320	14	15139	000N6
28610	R	GOTOEN		10332	49	14120	00000
28620	CM	CHI,53,10,	CALL	10344	14	15139	000N3
28630	B	CALLEN		10356	49	12058	00000
28640	BTM	COLNAM,03,10,	RETURN	10368	17	04662	000-3
28650	B	RETRN		10380	49	13166	00000
28660	TFM	FMON+35,BLK1,,	FORMAT	10392	16	02359	-9622
28670	BTM	FMON,FORMAT		10404	17	02324	J0392
28680	TFM	FMON+35,BLK4,,	DOO	10416	16	02359	-9691
28690	BTM	FMON,DOO		10428	17	02324	J0416
28700	TFM	FMON+35,BLK3,,	ASCAN	10440	16	02359	-9668
28710	BTM	FMON,ASCAN		10452	17	02324	J0440
28720	HD	SC1,SINGST,,	OUTSC	10464	43	10884	09998
28730	B	OUTSCI		10476	49	10512	00000
28740	TFM	FMON+35,BLK5,,	DISK INPUT/OUTPUT	10488	16	02359	-9714
28750	BTM	FMON,DKIO		10500	17	02324	J0488
28760	**	OUTSC CODE IS HERE					
28770	DORG	ASCANI		12058			
28780	***	ENTER HERE TO DECOMPOSE CALL STATEMENT	***				
28790	CALLER	BNE	ERR01	12058	47	04288	01200
28800	TR	CHI-1,CHI+1		12070	31	15138	15140
28810	BTM	COLNAM,04,10		12082	17	04662	000-4
28820	C	SYM,EXITCT+6		12094	24	09979	13129
28830	BV	CALLER-48		12106	46	12154	01400
28840	RE	EXITCD		12118	46	12662	01200
28850	C	SYM,LINKCT+6		12130	24	09979	13137
28860	BE	LINKCD		12142	46	12718	01200
28870	TDM	CALLSW,1		12154	15	10009	00001
28880	BTM	PUT, 138,8,CALL		12166	17	09050	0-138
28890	CM	CHI,40,10		12178	14	15139	000M0
28900	BH	*+24		12190	46	12214	01100
28910	CALLER	BTM	ERROR,279,9,	12202	17	09350	00K79
28920	CM	CHI,69,10	INCORRECT CALL NAME OR LIST	12214	14	15139	00009
28930	BH	CALLER		12226	46	12202	01100
28940	SF	OUTSW		12238	32	07034	00000
28950	BTM	CSORN,*+12		12250	17	05704	J2262
28960	BNR	CALLB,CHI+2		12262	45	12338	15141
28970	BD	CALLA,INSW		12274	43	12318	02611
28980	BTM	PUT,0153,8,	FUNCTION OPERATOR CALL	12286	17	09050	0-153
28990	TDM	SMCNT,,6		12298	15	0726J	00000
29000	DC	1,,*		12309		1	
29010	B	BEGIN		12310	49	02626	00000
29020	DORG	*-3		12318			
29030	CALLA	BNR	ERR09,SMCNT,11	12318	45	07970	0726J
29040	B	BEGIN		12330	49	02626	00000
29050	DORG	*-3		12338			
29060	CALLB	BD	*+24,FNTSW	12338	43	12362	10000
29070	BTM	ERROR,279,9,	SYM PREVIOUSLY USED NOT AS CALL NAME	12350	17	09350	00K79
29080	BNF	*+20,FNTSW		12362	44	12382	10000
29090	B	*-24,,,	TRYING TO CALL SINGLE STATMNT FUNCT	12374	49	12350	00000
29100	DORG	*-3		12382			
29110	TDM	FNTSW,0		12382	15	10000	00000

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29120	CM	CHI,24,10		12394	14	15139	000K4
29130	BNE	CALLER		12406	47	12202	01200
29140	BTM	PUT, 124,8,LEFT PAREN		12418	17	09050	0-124
29150	AM	PARCNT,1,10		12430	11	02615	000-1
29160	CM	CHI+2,4,10,	TEST FOR NO FUNCTION ARGUMENTS	12442	14	15141	000-4
29170	RE	CALLER		12454	46	12202	01200
29180	CALL1	TFM	ASCAN+23,CLASEN	12466	16	10463	J4678
29190	B	ASCAN,,,	GO TO ARITHMETIC SCAN	12478	49	10440	00000
29200	DORG	*-3		12486			
29210	CALL2	CM	CHI,23,10,	12486	14	15139	000K3
29220	BNE	*+32	TEST FOR MORE ARGUMENTS	12498	47	12330	01200
29230	BTM	PUT, 123,8,COMMA		12510	17	09050	0-123
29240	B	CALL1		12522	49	12466	00000
29250	DORG	*-3		12530			
29260	CM	CHI,4,10		12530	14	15139	000-4
29270	BE	*+32		12542	46	12374	01200
29280	TFM	ASCAN+23,ASC1		12554	16	10463	J2658
29290	B	ASCAN,,,	GO TO SCAN ARITH EXPRESSION OPERATOR	12566	49	10440	00000
29300	DORG	*-3		12574			
29310	BTM	PUT, 104,8,RIGHT PAREN		12574	17	09050	0-104
29320	SM	PARCNT,1,10		12586	12	02615	000-1
29330	TR	CHI-1,CHI+1		12598	31	15138	15140
29340	BZ	*+32		12610	46	12442	01200
29350	BNR	CALL2,CHI+2		12622	45	12486	15141
29360	B	CALLER		12634	49	12202	00000
29370	DORG	*-3		12642			
29380	BNR	CALLER,CHI+2		12642	45	12202	15141
29390	B	BEGIN		12654	49	02626	00000
29400	DORG	*-3		12662			
29410	EXITCD	BNR	CALLER-48,CHI+10	12662	45	12154	15149
29420	TDM	TRIND,1,11		12674	15	02609	0000J
29430	BTM	PUT,0131,8,	CALL EXIT SYMBOL	12686	17	09050	0-131
29440	BTM	PUT,0140,8,	DUMMY	12698	17	09050	0-140
29450	B	BEGIN		12710	49	02626	00000
29460	DORG	*-3		12718			
29470	LINKCD	CM	CHI+8,24,10	12718	14	15147	000K4
29480	BE	*+32		12730	46	12762	01200
29490	BNR	CALLER-48,CHI+8		12742	45	12154	15147
29500	B	ERR01		12754	49	04288	00000
29510	DORG	*-3		12762			
29520	TDM	TRIND,1,11		12762	15	02609	0000J
29530	BTM	PUT,0152,8,	CALL LINK SYMBOL	12774	17	09050	0-152
29540	BTM	PUT,0140,8		12786	17	09050	0-140
29550	BTM	PUT,0140,8		12798	17	09050	0-140
29560	TR	CHI-1,CHI+9		12810	31	15138	15148
29570	CM	CHI,40,10		12822	14	15139	000M0
29580	BNH	CALLER		12834	47	12202	01100
29590	CM	CHI,69,10		12846	14	15139	00009
29600	BH	CALLER		12858	46	12202	01100
29610	TR	OUTAR,MASKLK		12870	31	13138	13192
29620	TF	OUTAR+1,CHI		12882	26	13139	15139
29630	TR	CHI-1,CHI+1		12894	31	15138	15140
29640	TFM	LKCD3+6,OUTAR+3		12906	16	12968	J3141
29650	LKCD1	CM	CHI,40,10	12918	14	15139	000M0
29660	BNH	LKCD4		12930	47	13006	01100
29670	BNR	LKCD3,LKCD3+6,11		12942	45	12962	12960

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29680	B	ERR01		12954	49	04288	00000
29690	DORG	+3		12962			
29700	LKCD3	TF	,CMI,	12962	26	00000	15139
29710	TR	CMI-1,CMI+1		12974	31	15138	15140
29720	AM	LKCD3+6,02,10		12986	11	12968	000-2
29730	B	LKCD1		12998	49	12918	00000
29740	DORG	+3		13006			
29750	LKCD4	CM	CMI,04,10	13006	14	15139	000-4
29760	BNE	ERR01		13018	47	04288	01200
29770	BNR	ERR01,CMI+4		13030	45	04288	15143
29780	CF	OUTAR+2		13042	33	13140	00000
29790	CF	OUTAR+6		13054	33	13144	00000
29800	CF	OUTAR+10		13066	33	13148	00000
29810	BT	PUT,OUTAR+3		13078	27	09050	13141
29820	BT	PUT,OUTAR+7		13090	27	09050	13145
29830	BT	PUT,OUTAR+11		13102	27	09050	13149
29840	B	BEGIN		13114	49	02626	00000
29850	DORG	+3		13122			
29860	EXITCT	UAC	4,EXIT	13123		4 X	2
	EXIT						
29870	LINKCT	DAC	4,LINK	13131		4 X	2
	LINK						
29880	OUTAR	DSS	14	13138		14	
29890	DC	4,0		13155		4	
	-000						
29900	MASKLK	DS	,+3	13152		0	
29910	DC	4,0		13159		4	
	-000						
29920	DC	4,0		13163		4	
	-000						
29930	DC	2,0*		13165		2	
	-*						
29940	***	ENTER HERE TO OUTPUT RETURN STATEMENT	***				
29950	RETRN	C	SYM,URNCT+4	13166	24	09979	13283
29960	BNE	ERR01		13178	47	04288	01200
29970	BD	+44,SUBFCT		13190	43	13234	02293
29980	BTM	ERR02,577,9		13202	17	09406	00N77
29990	BD	BEGIN,NOIND		13214	43	02626	02610
30000	B	HEGINA		13226	49	02638	00000
30010	DORG	+3		13234			
30020	BTM	PUT,	139,8,RETURN	13234	17	09050	0-139
30030	BTM	PUT,	140,8,DUMMY	13246	17	09050	0-140
30040	TDM	KTSW,1		13258	15	05639	00001
30050	R	BEGIN		13270	49	02626	00000
30060	DORG	+3		13278			
30070	URNCT	DAC	3,URN	13279		3 X	2
	URN						
30080	*****	OUTPUT IF CODING	*****				
30090	*****		*****				
30100	IF1	TDM	TRIND,1,11, SET TRANSFER INDICATOR ON	13284	15	02609	0000J
30110	BTM	PUT,	107,R,IF SYMBOL	13296	17	09050	0-107
30120	BTM	PUT,	124,R,LEFT PAREN SYMBOL	13308	17	09050	0-124
30130	HD	+20,DOTRAN,,	TEST IF DO LOOP ENDING WITH TRANSFER	13320	43	13340	09999
30140	B	+20		13332	49	13352	00000
30150	DORG	+3		13340			
30160	BTM	ERR02,571,9		13340	17	09406	00N71

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30170	TDM	IFSW,1,,	SET SWITCH TO INDICAT IF STATEMENT	13352	15	10005	00001
30180	TFM	STC,3,10		13364	16	05643	000-3
30190	CM	CMI,04,10,	TEST FOR VACEOUS PARENS	13376	14	15139	000-4
30200	BE	ERR02		13388	46	13468	01200
30210	*	IFSS CODE					
30220	BTM	COLNAM,11,10		13400	17	04462	00031
30230	C	SYM,SENSWC+20		13412	24	09979	14321
30240	BV	+24		13424	46	13468	01400
30250	BE	ERR02+12		13436	46	13468	01200
30260	TFM	ASCAN+23,IFASEN		13448	16	10463	14658
30270	B	ASCAN,,	GO TO SCAN EXPRESSION	13460	49	10440	00000
30280	DORG	+3		13468			
30290	EXR02	BTM	ERR02,72,9	13468	17	09350	00-72
30300	TR	CMI-1,CMI+21		13480	31	15138	15160
30310	BTM	PUT,	130,8,SENSE SWITCH SYMBOL	13492	17	09050	0-130
30320	CM	CMI,70,10		13504	14	15139	000P0
30330	HM	+24		13516	46	13468	01100
30340	RTM	ERR02,174,9,	SWITCH NUMBER IN ERROR	13528	17	09350	00J74
30350	TDM	DIMSW,1		13540	15	10004	00001
30360	BTM	CSTNO,+12,,		13552	17	05412	13564
30370	TDM	DIMSW,0		13564	15	10004	00000
30380	SF	SYM-3		13576	32	09976	00000
30390	RT	PUT,SYM,,	PUT OUT SWITCH NUMBER	13588	27	09050	09979
30400	CM	CMI,4,10,	LOOK FOR RIGHT PAREN	13600	14	15139	000-4
30410	BNE	ERR02		13612	47	13468	01200
30420	SM	PARCNT,1,10		13624	12	02615	000-1
30430	BTM	PUT,	104,8,RIGHT PAREN SYMBOL	13636	17	09050	0-104
30440	TFM	STC,2,10,	SET UP TO OUTPUT TWO STATEMENT NUMBERS	13648	16	05643	000-2
30450	OUTSN	TR	CMI-1,CMI+1	13660	31	15138	15140
30460	SF	OUTSN		13672	32	07034	00000
30470	CM	CMI,69,10		13684	14	15139	00009
30480	BM	+24		13696	46	13720	01100
30490	RTM	ERR02,175,9,	INCORRECT STATEMENT NUMBER	13708	17	09350	00J75
30500	BTM	CSTNO,+12,,	COLLECT AND OUTPUT STATEMENT NUMBER	13720	17	05412	13732
30510	BD	+20,INSW		13732	43	13752	02611
30520	R	+32		13744	49	13776	00000
30530	DORG	+3		13752			
30540	AM	SMADD,4,10		13752	11	07208	000-4
30550	BD	OUTSNE-12,SMADD,11		13764	43	13832	07200
30560	BD	OUTSN2,CGTO,,	BRANCH IF IN COMPUTED GO TO	13776	43	13908	10006
30570	SM	STC,1,10		13788	12	05643	000-1
30580	HM	OUTSNE+20		13800	46	13864	01100
30590	BNR	+32,CMI+2		13812	45	13844	15141
30600	B	BEGIN		13824	49	02626	00000
30610	DORG	+3		13832			
30620	BTM	ERR02,77,9		13832	17	09350	00-77
30630	OUTSNE	BTM	ERR02,573,9,	13844	17	09406	00N73
30640	B	BEGIN	INCORRECT NUMBER OF STATEMENT NUMBERS	13856	49	02626	00000
30650	DORG	+3		13864			
30660	CM	CMI,23,10		13864	14	15139	000K3
30670	BNE	OUTSN+48		13876	47	13708	01200
30680	BNR	OUTSN,CMI+4		13888	45	13660	15143
30690	B	OUTSN+48		13900	49	13708	00000
30700	DORG	+3		13908			
30710	OUTSN2	CM	CMI,4,10	13908	14	15139	000-4
30720	BNE	OUTSNE+20		13920	47	13864	01200

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30730	SM	PARCNT,1,10		13932	12	02615	000-1
30740	TR	CHI-1,CHI+1		13944	31	15138	15140
30750	BTM	PUT,104,8		13956	17	09050	0-104
30760	BMR	**24,CHI+2		13968	45	13992	15141
30770	OUTSN3	BTM ERROR,176,9,	INDEX OF COMP. GO TO MISSING OR INVALID	13980	17	09350	00J76
30780	CM	CHI,23,10		13992	14	15139	000K3
30790	HME	**24		14004	47	13980	01200
30800	TR	CHI-1,CHI+1		14016	31	15138	15140
30810	CM	CHI,49,10,	TEST FOR FIXED POINT VAR	14028	14	15139	000M9
30820	BL	OUTSN3		14040	47	13980	01300
30830	CM	CHI,55,10		14052	14	15139	000M5
30840	BM	OUTSN3		14064	46	13980	01100
30850	BTM	CSORN,**12		14076	17	05704	J4088
30860	BD	OUTSN3,SMCNT,11		14088	43	13980	0726J
30870	BT	PUT,SMADD-1		14100	27	09050	07207
30880	B	OUTSNE-32		14112	49	13812	00000
30890	DDRG	**3		14120			
30900	***	ENTER HERE TO OUTPUT GO TO STATEMENT	***				
30910	GOTOEN	BNE ERROR1		14120	47	04288	01200
30920	TDM	TRIND,1,11,	SET TRANS INDICATOR	14132	15	02409	0000J
30930	BD	**20,ODTRAN		14144	43	14164	09999
30940	B	**20		14156	49	14176	00000
30950	DDRG	**3		14164			
30960	BTM	ERROR2,571,9		14164	17	09406	00N71
30970	TR	CHI-1,CHI+1		14176	31	15138	15140
30980	CM	CHI,24,10,	TEST FOR COMPUTED GO TO	14188	14	15139	000K4
30990	BE	COMPUT		14200	46	14244	01200
31000	TFM	STC,1,10		14212	16	05443	000-1
31010	BTM	PUT, 105,R,GO TO SYMBOL		14224	17	09050	0-105
31020	R	OUTSN+12,,,	BRANCH TO OUTPUT STATEMENT NUMBER	14236	49	13672	00000
31030	DDRG	**3		14244			
31040	CUMPUT	BTM PUT, 106,R,COMPUTED GO TO SYMBOL		14244	17	09050	0-106
31050	BTM	PUT, 124,R,LEFT PAREN SYMBOL		14256	17	09050	0-124
31060	AM	PARCNT,1,10		14268	11	02615	000-1
31070	TDM	CGTO,1		14280	15	10006	00001
31080	B	OUTSN,,,	BRANCH TO OUTPUT STATEMENT NUMBERS	14292	49	13660	00000
31090	DDRG	**3		14300			
31100	SENSWC	DAC 11,SENSESWITCH		14301		11 X	2
		SENSESWITCH					
31110	DDRG	16000		16000			
31120	TFM	IDRT,**23		16000	16	00565	J6023
31130	B	IOPT,BLK6,7		16012	49	00532	-9737
31140	TRA			16024	36	00000	00500
				16036	49	00000	00000
31150	TCD	16000		16000			
31160	DDRG	FLIP2		03130			
31170	OFLO2	DAS 82,,,	HEADER INFORMATION	03131		82 X	2
31180	PRNT4	DS ,OFLO2-1		03130		0	
31190	DAC	09,PAGE 1',,,,	PAGE CONSTANT	03295		9 X	2
		PAGE 1'					
31200	**	PRINT OVERFLOW PAGE HEADING AND RETURN					
31210	DC	5,12345		03316		5	
		J2345					
31220	OFLO	BD ONE,PGNUM-2		03318	43	03350	02220
31230	RD	TWO,PGNUM-1		03330	43	03362	02221

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31240	B7	NONUM		03342	49	03374	
31250	ONF	TDM PRNT4+174,7,,	ZERO SUPPRESS STUFF	03350	15	03304	00007
31260	TWO	TDM PRNT4+176,7,,		03362	15	03306	00007
31270	NONUM	TD PRNT4+179,PGNUM,,,	PAGE NUMBER	03374	25	03309	02222
31280	TD	PRNT4+177,PGNUM-1		03386	25	03307	02221
31290	TD	PRNT4+175,PGNUM-2		03398	25	03305	02220
31300	34	,0971,,	SKIP TO 1 IMMEDIATE	03410	34	00000	00971
31310	34	,0962,,	DOUBLE SPACE AFTER PRINT	03422	34	00000	00962
31320	TFM	IDRT,**23,,	TOIDRT-PRINT PAGE HEAD	03434	16	00565	-3457
31330	B	IOPT,OFLO1-4,7,		03446	49	00532	-3477
31340	AM	PGNUM,01,10,	ADD 1 TO PAGE NUMBER	03458	11	02222	000-1
31350	OFLO3	B7 OFLO-1,,6,	RETURN INDIRECT	03470	49	0331P	
31360	OFLO1	DSA OFLO2		03481		5 X	1
				03481		-3131	
31370	DC	3,18',,,	PAGE OVERFLOW DEFINER	03484		3	
		J8'					
31380	**	ERROR MESSAGE ROUTINE					
31390	ERI	TF ERMES1+14,ERROR-1,,	LOAD THE ERROR NUMBER	03486	26	03781	09349
31400	BD	LIST1,LIST,,	TOTAL LISTING	03498	43	03662	02228
31410	TD	ESNO1+6,ESNO ,,	NO LISTING-PRINT COMPLETE MESSAGE	03510	25	03749	02724
31420	TD	ESNO1+4,ESNO-1		03522	25	03747	02723
31430	TD	ESNO1+2,ESNO-2		03534	25	03745	02722
31440	TD	ESNO1,ESNO-3		03546	25	03743	02721
31450	TD	ESNOPL+2,ESNOPL-3		03558	25	03757	02597
31460	TD	ESNOPL+4,ESNOPL-2		03570	25	03759	02598
31470	TD	ESNOPL+6,ESNOPL-1		03582	25	03761	02599
31480	TD	ESNOPL+8,ESNOPL		03594	25	03763	02600
31490	TFM	IDRT,**23		03606	16	00565	-3629
31500	B	IOPT,NOLIST-4,7		03618	49	00532	-3725
31510	CHAN12	BNI EREXT,3400,,	TEST PRINTER CHAN12	03630	47	03694	03400
31520	TFM	OFLO-1,EREXT,,	SET UP ERROR EXIT AFTER OFLOW INDICATION	03642	16	03317	-3694
31530	B7	OFLO		03654	49	03318	
31540	LIST1	TFM IDRT,**23,,	PRINT ERROR IF LISTING	03662	16	00565	-3685
31550	B	IOPT,ERR-4,7		03674	49	00532	-3733
31560	B7	CHAN12		03686	49	03630	
31570	EREXT	TFM BLK9A+5,FLOP1,,	MODIFY DDA	03694	16	02510	J7207
31580	TFM	RETR **6,E94620,,	MODIFY RETURN ADDRESS	03706	16	02496	-9394
31590	B7	FLOP,,,	RESTORE PARTIAL	03718	49	02466	
31600	NOLIST	DSA ESNO1		03729		5 X	1
				03729		-3743	
31610	DC	3,18',,,,	DEFINER PRINT LONG ERROR XXXX+XXXX ERRORXX	03732		3	
		J8'					
31620	ERR	DSA ERMES1		03737		5 X	1
				03737		-3767	
31630	DC	3,18',,,,	DEFINER PRINT SHORT ERROR XX	03740		3	
		J8'					
31640	ESNO1	DAC 4,0000		03743		4 X	2
		0000					
31650	DAC	2, +		03751		2 X	2
		+					
31660	ESNOPL	DAC 5, 0000		03755		5 X	2
		0000					
31670	DSC	2,00		03764		2	
	00						

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31680	EKMES1	DAC	9,ENHOR 00*		03767		9 X	2
			ERRCLR 00*					
31690	CDNFLO	TFM	BLK9A+5,FLOP1,,	MODIFY DDA	03784	16	02510	J7207
31700		TF	RETR +6,PRTCHI-1,,	MODIFY RETURN ADDRESS-CHI PRINT	03796	26	02496	02525
31710		TFM	OFLO-1 ,FLOP,,	SET BRANCH TO RESTORE PARTIAL	03808	16	03317	-2466
31720		B7	OFLO		03820	49	03318	
31730	** ROUTINE		TO SCAN AND PRINT CHI FOR P/T OR TYPE INPUT					
31740	SCN1	TFM	SCN2+11,CHI-2,,	INITIALIZ START OF SCAN	03828	16	03863	J5137
31750		AM	SCN2+11,2,10,,	UP THE CURRENT LOCATION	03840	11	03863	000-2
31760	SCN2	BNR	SCN1+12,+-+,,	IS THIS AN RM	03852	45	03840	00000
31770		TFM	SCN3+11,CHI+220,,	INITIALIZE END OF FIRST PRINT OUT	03864	16	03899	J5359
31780		TFM	PRNT2,CHI,,	INITIALIZE DEFINER	03876	16	04094	J5139
31790	SCN3	CM	SCN2+11,+-+,,	IS THIS THE END	03888	14	03863	-0000
31800		BM	SCN4		03900	46	01956	01100
31810		ATM	PRNT1,+-+12,,	YES	03912	17	04042	-3924
31820		TFM	BLK9A+5,FLOP1,,	MODIFY DDA FOR RETURN	03924	16	02510	J7207
31830		TFM	RETR +6,LNGPRT,,	MODIFY RETURN ADDRESS	03936	16	02496	-2798
31840		B7	FLOP,,	RESTORE PARTIAL AND RETURN	03948	49	02466	
31850	SCN4	TF	SAVE,SCN3+11,11,	NO-SAVE THE CHARACTER	03956	26	04036	0389R
31860		TFM	SCN3+11,+-+,,6,,	SET RM AT END	03968	16	0389R	07936
31870		DC	2,0*,*		03979			2
		-*						
31880		BTM	PRNT1,+-+12,,	PRINT THIS INCREMENT	03980	17	04042	-3992
31890		TF	SCN3+11,SAVE,6,,	RESTORE CHARACTER	03992	26	0389R	04036
31900		TF	PRNT2,SCN3+11,,	MOVE PRINT DEFINER HIGHER	04004	26	04094	03899
31910		AM	SCN3+11,220,9,,	UP THE POINTER	04016	11	03899	00K20
31920		B7	SCN3		04028	49	03888	
31930	SAVE	DC	2,99		04036			2
		R9						
31940		DC	5,99999		04041			5
		R9999						
31950	PHNT1	TFM	IURT,+-+23,,	PHINT THE INPUT STATEMENT	04042	16	00565	-4065
31960		B	IOPT,PRNT2-4,7		04054	49	00532	-4090
31970		BN1	PRNT1-1,3400,6,,	TEST PRINT CHAN 12 BRANC BACK INDIRECT	04066	47	0404J	03400
31980		BTM	OFLO,PRNT1-1,711,,	-GO TO OVERFLOW WITH RETURN ADDRESS	04078	17	03318	-404J
31990	PHNT2	DSA	CHI		04094			5 X 1
					04094		J5139	
					04097			3
32000		DC	3,18*,*	PRINT P/T OR TYPE INPUT				
		J8*						
32010	INITAL	TFM	BLK9A+5,FLOP1,,	MODIFY DDA	04098	16	02510	J7207
32020		TFM	RETR +6,PRSCN1,,	SET RETURN ADDRESS	04110	16	02496	0J544
32030		BTM	OFLO,FLOP,,	GO TO OVERFLOW WITH CALL PARTIAL	04122	17	03318	-2466
32040		DORG	16000		16000			
32050		TFM	IORT,+-+23		16000	16	00565	J6023
32060		B	IOPT,BLK9,7		16012	49	00532	-2497
32070		TRA			16024	36	00000	00500
					16036	49	00000	00000
32080		TCO	16000		16000			
32090		DEND			00000			

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AIDLIT	08622	ER4710	12856	NOLIST	03729	ASCER	14026	CSPVA	03634
ADSAVE	08485	FR4404	13028	NONARA	10224	AVOID	06032	CS	05848
ADSURP	08462	F86440	02430	NONAM1	04144	B1	11927	CSTNO	05412
ADVAR1	08218	E94270	09094	NOPARP	14700	B2	11939	CTYON	13715
ADVAR2	08266	E94620	09394	NUMBER	06116	BA	02718	D1	11951
ADVLP1	08186	EN510N	11565	OUTS12	13262	BEGIN	02626	D2	11963
ADXLIT	08678	ENTLOG	02248	OUTSC1	10512	BLK1A	09630	D3	11975
ASC27A	14150	EQLDOP	12236	OUTSCE	04801	BLK1	09622	D4	11987
ASC281	14422	EQUIVN	10716	OUTSN2	13908	BLK2A	09653	DEFCT	14407
ASCAN1	12058	ERRR02	03767	OUTSN3	13980	BLK2	09645	D1M1	10596
REGINA	02638	FRM02	09406	OUTSNE	13844	BLK3A	09676	D1M2	11484
RIGPRT	02230	ESNOP1	03755	PARCNT	02615	BLK3	09668	D1M3	11552
CSDATA	09803	ESNOPL	02600	PAUSEN	13790	BLK4A	09699	D1FM	10512
CALLFN	12058	FKCESS	06736	PHBDAT	16000	BLK4	09691	D1MO	10677
CALLFR	12202	EXITCD	12662	PHRDDA	16008	BLK5A	09722	D1M	10248
CALLP2	02406	EXITCT	13123	PROGST	02257	BLK5	09714	D1MSW	10004
CALLW	10009	FCIEND	02318	PRSCAN	10512	BLK6A	09745	D1MTP	11185
CDATA	09795	FCTEST	08846	PRSCN1	10544	BLK6	09737	DKA	13708
CDUFLO	03784	FLNUM8	06428	PRTCHI	02526	BLK7A	09768	DKB1	13968
CHAN12	03630	FMTCS7	09929	PUSTSN	02294	BLK7	09760	DKB	13788
CKCNTU	04842	FNTSW1	10001	PUTOUT	09344	BLK8	02461	DKC	14000
CKCTAR	04098	FNTSW2	07405	RETURN	10368	BLK9A	02505	DKD1	14248
CLASEN	14678	FOMAT1	12230	RTCALL	13242	BLK9	02497	DKD	14108
CLDGT1	14534	F0RMS1	13482	A1	11923	BLDC	02608	DKER	13752
CLDGT2	14594	F0RNM9	12370	A2	11935	C1	11931	DKE	14316
COLNAM	04662	F0RMT	10392	ADLIT	08550	C2	11943	DKF	14396
COMADD	02262	F0RMR	12758	ADSTN	08774	CALC	11176	DKG	14544
COMER2	09462	FREQSW	14218	ADVAR	08090	CALL1	12466	DKI01	13264
COMER3	12148	FUNCTA	13658	AERR1	09450	CALL2	12486	DKI02	13332
COMINA	11924	FXNUMB	06324	AERR	12214	CALLA	12318	DKIO	10488
CUMMEN	11576	FKORFL	06419	AF7BL	15035	CALLB	12338	DKL	13664
COMMON	10272	GENDIM	11072	ALFAT	10976	CALL	10344	DKPUT	13524
COMPUT	14244	GOTOEN	14120	ASC11	14606	CARD	15036	DKSM1	14304
CONEN	13724	IATYPE	14225	ASC12	13874	CCNO	02603	DKSW2	14306
CSTNO1	05516	IFASEN	14658	ASC14	14626	CGTO	10006	DMVAR	08090
DECODA	04018	IFSCAN	12274	ASC15	13790	CM15	15839	DOA	12518
DECODE	03794	INITAL	04098	ASC1A	12094	CM1	15139	DOB	12670
DEFCHI	02593	INTOPI	02385	ASC1	12658	CKCN1	04928	DOC1	12446
DEFINE	13990	IOLoop	14099	ASC21	13282	CKCN2	09056	DOCK	12390
DIMER1	07466	IOUTEN	13172	ASC22	12238	CKCN3	09252	DOC	12294
DIMNOT	10545	IQUER	13264	ASC23	12438	CKCN4	09352	DOEE	13110
DISKSW	02383	IVALEN	13109	ASC24	12942	CKEND	02612	DOE	12926
DKIOFN	13172	LEADBL	03098	ASC25	12986	CKRM	02938	DOO	10416
DKLIST	13404	LENGTH	02248	ASC26	13426	CLDGT	14478	DO	12190
DKLUP1	14167	LINKCD	12718	ASC27	14082	COMP	06604	EBASE	12295
DKLUP2	12058	LINKCT	13131	ASC28	14318	CONAB	11812	ENDCT	09935
DOTEST	13171	LITERL	07686	ASC29	14198	CONA	11744	END	09474
DOTRAN	09999	LNGPRT	02798	ASC30	14242	CONC	12024	EQ1	10860
E37061	07898	LUSTNO	08710	ASC31	14478	CONE	09462	EQ21	11076
E83230	10956	MASKLK	13152	ASC3	12550	CONE	11968	EQ22	12204
E84130	11940	MODAFT	09808	ASC4	12414	CONIN	11876	EQ23	11444
E84180	11984	MONCAL	00794	ASC6	12526	CONM	12068	EQ24	11312
E84240	12056	MOVDIR	11116	ASC7	12598	CONST	02382	EQ4	11700
E84330	12160	MOVEIT	11224	ASC8	13754	CONSW	10010	EQ7	11756
E84560	12472	MULDEF	02384	ASC9	14586	CONT	11772	EQBR	11588
E84695	12614	NNARA	10512	ASCAN	10440	CSORN	09704	EQR	10788

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EQUSH 10008	IF1 13284	LKCD3 12962	PTYPE 12854	SWSET 14682
ER1 03486	IF 10296	LKCD4 13006	PUT 09050	SYM 09979
EREXT 03694	IFSW 10005	LSTAD 02308	READ1 02878	TBCM 04504
ERMES 09901	IND1 11519	LSTEN 07025	RECLG 02243	TBCNT 02429
ERM01 04288	IND2 11538	LUXIT 07522	REF 09001	TBST 04658
ERR02 1346A	INDIV 02424	MASK 11989	RETRN 13166	TEMP5 02625
ERR09 07970	INOUT 13640	MODAD 07885	RETR 02490	TEMP 02620
ERR44 14420	INSW 02611	MODE 06417	ROUTN 13645	TEND 02303
ERM60 14420	INTOP 09235	MON 12161	RTSW 05639	TENZ 09991
ERRFT 00602	IGA 13780	MV1 11604	SALT 05908	TINUE 13781
ERRNR 09350	IOB 13932	MV2 11692	SAVE1 11551	TONY 11508
ERR 03737	IOCAL 00716	MV3 11740	SAVE2 12867	TPCST 13639
EMSW 05640	IOD 14040	M1 02233	SAVE3 11779	TRIND 02609
ESN01 03743	IOE 14200	N2 02238	SAVE 04036	TWO 03362
ESN0 02724	IOF 14280	NOIND 02610	SC1 10884	URNCT 13279
ETYPE 13022	IOG 14464	NONUM 03374	SC22 10620	VARBR 06512
EXIT 09228	IOGT 00566	NUMB1 06268	SC2 06104	VARSW 07581
FCMA 13618	IOLER 13824	NUMB2 06572	SC3 10928	WIDCK 14300
FCTST 07946	IOPT 00532	NUMB3 06476	SC4 10764	WIDTH 14289
FLIP1 17340	IORHC 00520	NUMB5 06304	SC5 10824	W 02240
FLIP2 03130	IORT 00565	NUMB 06196	SC9 11164	WM 02296
FLIP 02454	IOSK 00594	NKLOC 02372	SCM1 06015	X 08138
FLIST 14706	IOSW 10011	OFL01 03481	SCN1 03828	ZER13 09995
FLNG 02250	IOUT1 13556	OFL02 03131	SCN2 03852	SAVSYM 02243
FLOP1 17207	IOUT2 13308	OFL03 03470	SCN3 03888	SENSWC 14301
FLCP 02466	IOUT3 13388	OFL0 03318	SCN4 03956	SETDM2 10836
FMON 02324	IOUT4 13576	OMM 10007	SD 10788	SETDM3 11016
FMSW 10002	IOUT5 13448	ONE 03350	SETDM 10680	SETDM4 11276
FNTSW 10000	IOUT 10200	ORDCT 14673	SLASH 12662	SETDM5 11384
FOMAT 12166	I 11955	OUTAR 13138	SHADD 07200	SETFRQ 14218
FOMF1 12558	JAY 02367	OUTSC 10464	SHCNT 07261	SETIND 08290
FOMF2 1289H	JOE 07170	OUTSN 13660	SMLNG 05931	SINGST 09998
FOMF3 13070	J 11967	OUTSW 07034	SMTLU 06954	SML00P 07034
FOMF4 13946	KLNG 02252	P2PTR 02313	SPERR 09244	STNOSW 10003
FOMF5 1343H	K 11979	PA1 10934	SPGS 09328	STOPE 13958
FOMF7 13686	L1 04228	PA2 10782	STAF 04419	SUBFCT 02293
FOMF8 13818	L2 04300	PAUS 13846	STBL 02377	SUBPUT 13280
FOMF9 03510	L4 11796	PCNT 14093	STC 05643	SUBTST 08314
FORMX 13978	L5 11832	PGNUM 02222	STNER 03410	TBLFUL 07150
FP2 02298	L6 11876	PI 11038	STSN 05641	TPARCT 14698
FTYPE 12978	LDPHB 16024	PLUS 06832	SUBP1 13244	URDATA 79787
FLIT 08026	LEADZ 03366	PLUS5 09931	SUBP2 13448	USEDFS 07453
GOTO 10320	LIST1 03662	PRNT1 04042	SUBPA 13124	XCLOGT 14658
HEXF 12692	LIST 02228	PRNT2 04094	SUBPF 13208	ZERSYM 06953
HULL1 14106	LITF 07734	PRNT4 03130	SUBSW 10012	
HULL 14046	LKCD1 12918	PR 12581	SUBTR 08450	

END OF ONE ASSEMBLY.

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00010 *****	1620 FORTRAN II-D	PHASE 1-C	STORAGE ALLOCATION		
00020	DORG 02218			02218	
00030	DC 5	,-100		02222	5
	-010-				
00040	PGNUM DC 3,1,0			02222	3
	-01				
00050	DC 1	,2		02223	1
	K				
00060	DC 2	,67		02225	2
	OT				
00070	DC 6	,987898		02231	6
	RR7898				
00080	N1 DC 2	,0		02233	2
	-0				
00090	N2 DC 5	,0		02238	5
	-0000				
00100	W DC 2	,0		02240	2
	-0				
00110	RECLG DC 3	,000		02243	3
	-00				
00120	SAVSYM DS 12	,RECLG		02243	12
00130	LENGTH DS 5			02248	5
00140	FLNG DS 2			02250	2
00150	KLNG DS 2			02252	2
00160	PRGST DC 5	,00000		02257	5
	-0000				
00170	COMADD DS 5			02262	5
00180	USEDFS DSC 30	,0		02263	30
	00000000000000000000000000000000				
00190	SURFCT DC 1	,0		02293	1
	-				
00200	PUSTSN DS 1			02294	1
00210	*** PUSTSN = 2 FOR PAPER TAPE				
00220	*** PUSTSN = 4 FOR CARDS				
00230	HW DS 2			02296	2
00240	FP2 DS 2			02298	2
00250	TEND DS 5			02303	5
00260	LSTAD DS 5			02308	5
00270	P2PTR DS 5			02313	5
00280	FCTEND DS 5			02318	5
00290	DS 5			02323	5
00300	FMON TF **42,FMON-1,,	SETUP ROUTINE ENTRY		02324 26	02366 02323
00310	TFM IDRT,**23			02336 16	00565 -2359
00320	B IDGT,**7			02348 49	00566 -0000
00330	B ***	GO TO EXECUTE CALLED ROUTINE		02360 49	00000 00000
00340	DORG **4			02367	
00350	JAY DS 1			02367	1
00360	NKLOC DS 5			02372	5
00370	STRL DS 5			02377	5
00380	COMST DS 5			02382	5
00390	DISKSW DC 1,0			02383	1
	-				
00400	MULDEF DC 1,0			02384	1
	-				
00410	INTOP1 DSC 1,0			02385	1
	0				

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00420	DC	5,00600		02390	5		
		-0600					
00430	DC	3,001		02393	3		
		-01					
00440	DSA	CARD		02398	5 X	1	
00450	DC	1, *		02398	-3454		
				02399	1		
00460	CALLP2	TFM FMON+35, BLK8		02400	16	02359	-2461
00470	BTM	FMON,CALLP2		02412	17	02324	-2400
00480	INDIV	DS 1		02424	1		
00490	*	INDIV = 0 FOR CARDS, 1 FOR TYPEWRITER,					
00500	*	FLAGGED 3 FOR PAPER TAPE					
00510	TBCNT	DS 5		02429	5		
00520	ENTLOG	DS ,USEDFS+4		02267	0		
00530	AFTBL	DS ,15035		15035	0		
00540	CHI	DAS 430,15139		15139	430 X	2	
00550	CHIS	DS ,CHI+700		15839	0		
00560	LOCAL	DS ,716		00716	0		
00570	LOGT	DS ,566		00566	0		
00580	LURBC	DS ,520		00520	C		
00590	IUPT	DS ,532		00532	0		
00600	IUSK	DS ,556		00554	0		
00610	IKRET	DS ,602		00602	0		
00620	IURT	DS ,565		00565	0		
00630	MUNCAL	DS ,796		00796	0		
00640	LIST	DS ,222R		0222R	0		
00650	HWDAD	DS ,17340,...	DISK ADDRESS OF PAGE HEADING	17340	0		
00660	HWMAD	DS ,12430,...	CORE STORAGE OF PAGE HEADING	12430	0		
00670	E86440	SF K1+4		02430	32	11239	00000
00680	RT	OUTADJ,PROGST,,	INIT OUTPUT ROUTINE	02442	27	10634	02257
00690	B	AROUND		02454	49	02484	00000
00700	DORG	-4		02461			
00710	HLK8	DSC 2,22		02461	2		
		22					
00720	DSA	BLKRA		02467	5 X	1	
00730	DC	1, *		02467	-2469		
				02468	1		
00740	BLKRA	DSC 1,0		02469	1		
		0					
00750	DC	5,17800		02474	5		
		JTRGO					
00760	DC	3,136		02477	3		
		J36					
00770	DSA	CALLP2		02482	5 X	1	
00780	DC	1, *		02482	-2400		
				02483	1		
00790	** INITIALIZE PRINTER PAGE HEADING						
00800	AKND	BNF **32,LIST,,	INITIAL READ AND PRINT HEADING	02484	44	02516	02228
00810	TFM	DFLOI-1, **20,,	IF CONSOLE SWITCH 1 IS ON	02496	16	11841	-2516
00820	H7	DFLOI		02508	49	11842	

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00830	TDM	SYM+1, **		02516	15	03580	00000
00840	DC	1, **		02527	1		
00850	SF	SYM+1,...	FLAGGED TERMINAL RM TO INDICATE CARD END	02528	32	03580	00000
00860	SM	PROGST,01,10		02540	12	02257	000-1
00870	TF	LOC,PROGST		02552	26	03586	02257
00880	TD	PTRA+2,PUSTSN		02564	25	12268	02294
00890	AM	PTRA+2,06,10		02576	11	12268	C00-6
00900	TFM	SMADD,0,		02588	16	03539	-0000
00910	S	SMADD,STRL		02600	22	03539	02377
00920	AM	SMADD,5,10		02612	11	03539	000-5
00930	TF	SMCNT,STBL		02624	26	03544	02377
00940	SM	SMCNT,6,10		02636	12	03544	000-6
00950	TF	MODAD,STRL		02648	26	03549	02377
00960	SM	MODAD,4,10		02660	12	03549	000-4
00970	SM	SMCNT,10,10		02672	12	03544	000J0
00980	SM	MODAD,10,10		02684	12	03549	000J0
00990	AM	SMADD,10,10		02696	11	03539	000J0
01000	BNR	**20,SMCNT,11,	TEST FOR END OF TABLE	02708	45	02728	0354M
01010	H	F87210		02720	49	03832	00000
01020	DORG	-3		02728			
01030	BNF	E86601,SMCNT,11,	TEST FOR LITERAL	02728	44	02672	0354M
01040	RNF	STMTNO,MODAD,11,	TEST FOR STMT NO	02740	44	03636	0354R
01050	CF	SMCNT,**6		02752	33	0354M	00000
01060	CF	MODAD,**6		02764	33	0354R	00000
01070	TF	SYM,SMADD,11		02776	26	03579	0353R
01080	CF	SMADD		02788	33	03539	00000
01090	RD	E86801-48,MODAD,11,	BRANCH IF FIXED	02800	43	02892	0354R
01100	SM	SMADD,2,610		02812	12	0353R	000-2
01110	TF	**23,SMADD,11		02824	26	02867	0353R
01120	TF	SYM-2		02836	26	03577	00000
01130	A	LOC,FP2		02848	21	03586	02298
01140	TF	SMADD,LOC,6		02860	26	0353R	03586
01150	TF	E86801+11,FP2		02872	26	02951	02298
01160	H	E86801-12		02884	49	02928	00000
01170	DORG	-3		02892			
01180	A	LOC,KLNG		02892	21	03586	02252
01190	TF	SMADD,LOC,6		02904	26	0353R	03586
01200	TF	E86801+11,KLNG		02916	26	02951	02252
01210	TFM	E86820+6,SYM+1		02928	16	03006	-3580
01220	E86801	SM E86820+6,...	FP2 OR KLNG	02940	12	03006	-0000
01230	B	**60		02952	49	03012	00000
01240	RCTY			02964	34	00000	00102
01250	AHASE	DS **5		02970			
01260	WNTY	LOC-4		02976	38		00100
01270	SPTY			02988			00101
01280	WDLN	DS **5					0
01290	E86820	WNTY		03000	38	00000	00100
01300	AM	SMADD,5,10		03012	11	03539	000-5
01310	TDM	SMADD,**6		03024	15	0353R	00000
01320	DC	1, **		03036	1		
01330	SM	SMADD,5,10		03036	12	03539	000-5
01340	SF	SMADD		03048	32	03539	00000
01350	TF	OUTLIT+21,E86820+6		03060	26	03253	03006
01360	** PRINT SYMBOL TABLE-FIRST PART						

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01370	BNF	OUTLIT-12,LIST,,TOTAL LISTING	03072	44	03220	02228
01380	TR	CARD,CARD-81,,, INIT FOR PRINTING	03084	31	03454	03373
01390	TF	CARD+4,LOC	03096	26	03458	03586
01400	CF	SYM+1	03108	33	03580	00000
01410	TR	CARD+6,E86820+6,11	03120	31	03460	03000
01420	SF	SYM+1	03132	32	03580	00000
01430	CF	CARD	03144	33	03494	00000
01440	CF	CARD+6	03156	33	03460	00000
01450	TFM	IDRT,,+23	03168	16	00565	-3191
01460	B	IDPT,PRNT-4,7	03180	49	00532	-3211
01470	TFM	OFLO1-1,OUTLIT-12,,SET RETURN FROM PAGE OVERFLOW TEST	03192	16	11841	-3220
01480	B7	OFLO,,, TEST PAGE OVERFLOW	03204	49	11898	
01490	PMNT	DSA CARD	03215		5 X	1
			03215		-3454	
			03218		3	
01500	DC	3,14'	03220	43	03262	02294
01510	J4'		03232	17	10056	-3248
01520	OUTLIT	ATM OUTK,,+16	03248		5 X	2
01530	DSA	E86801+11,E86820+6				
			03248		-2951	
			03253		-3006	
01540	B	E86601	03254	49	02672	00000
01550	DORG	*-3	03262			
01560	LL1	TR CARD,CARD-81,, INIT FOR PUNCHING CARDS/PAPETAPE	03262	31	03454	03373
01570	TF	CARD+4,LOC	03274	26	03458	03586
01580	CF	SYM+1	03286	33	03580	00000
01590	TR	CARD+6,E86820+6,11	03298	31	03460	03000
01600	SF	SYM+1	03310	32	03580	00000
01610	TD	PTCD+2,PUSTSN	03322	25	03371	02294
01620	TFM	IDRT,,+23	03334	16	00565	-3357
01630	B	IDPT,PTCD-4,7	03346	49	00532	-3365
01640	B	OUTLIT	03358	49	03232	00000
01650	DORG	*-4	03365			
01660	PTCD	DSA CARD	03369		5 X	1
			03369		-3454	
			03372		3	
01670	DC	3,00'	03422		50	
	-0'		03452		30	
01680	DNB	50	03453		1	
01690	DNB	30				
01700	DC	1,.'				
	'					
01710	CARD	DSS 81	03454		81	
01720	SMADD	DS 5	03539		5	
01730	SMCNT	DS 5	03544		5	
01740	MODAD	DS 5	03549		5	
01750	SYM	DS 30	03579		30	
01760	DS	2	03581		2	
01770	LOC	DS 5	03586		5	
01780	DC	1,.'	03587		1	
	'					
01790	TEMP	DS 5	03592		5	
01800	TEMP2	DS 5	03597		5	
01810	TEMP3	DS 5	03602		5	

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01820	TEMP5	DS 5	03607		5	
01830	SAVE1	DS 5	03612		5	
01840	SAVE2	DS 5	03617		5	
01850	SAVE3	DS 5	03622		5	
01860	ADSAVE	DS 5	03627		5	
01870	EBASE	DS 5	03632		5	
01880	MODE	DC 2,0	03634		2	
	-0					
01890	STMTNO	TF SYM,SMADD,11	03636	26	03579	0353R
01900	CF	SMADD,,	03648	33	03539	00000
01910	TFM	SMADD,,6	03660	16	0353R	00000
01920	DC	5,0000',*	03671		5	
	-000'					
01930	TF	*+35,SMADD	03672	26	03707	0353R
01940	AM	*+23,5,10	03684	11	03707	000-5
01950	STMT1	BD STMT2,0,	03696	43	03780	00000
01960	CF	SYM-3	03708	33	03576	00000
01970	TFM	IDRT,,+23	03720	16	00565	-3743
01980	B	IDPT,SYM1-4,7	03732	49	00532	-3824
01990	SF	SYM-3	03744	32	03576	00000
02000	TDM	JAY,4	03756	15	02367	00004
02010	BTM	ERRR2,579,9	03768	17	11246	00N79
02020	STMT2	TF STMT1+11,SYM+1,6, TABLE STMT NO. AND REC MARK	03780	26	03707	03580
02030	SF	STMT1+11,,6, SET FLAG OVER R/M FOR PASS 2	03792	32	03707	00000
02040	SF	SMADD	03804	32	03539	00000
02050	B	E86601	03816	49	02672	00000
02060	DORG	*-3	03824			
02070	SYM1	DSA SYM-3	03828		5 X	1
			03828		-3576	
			03831		3	
02080	DC	3,14'	03832	16	03581	000-0
	J4'		03843		1	
02090	E87210	TFM SYM+2,,10,				
02100	DC	1,,'*				
	'					
02110	TF	TEND,MODAD	03844	26	02303	03549
02120	BD	E92210,SUBFCT,, TEST IF IN SUBPROGRAM COMPIATION	03856	43	07972	02293
02130	TF	TBASE,FCYEND	03868	26	07791	02318
02140	B	BUFDUM,,, GO TO OUTPUT BUFFER	03880	49	09856	00000
02150	DORG	*-4	03887			
02160	TF	SMADD,TBASE	03888	26	03539	07791
02170	AM	SMADD,1,10	03900	11	03539	000-1
02180	E87270	TF SMCNT,TBASE	03912	26	03544	07791
02190	AM	SMCNT,5,10	03924	11	03544	000-5
02200	TF	MODAD,TBASE	03936	26	03549	07791
02210	AM	MODAD,2,10	03948	11	03549	000-2
02220	B	E87310+36	03960	49	04004	00000
02230	DORG	*-3	03968			
02240	E87310	SM SMADD,10,10	03968	12	03539	000J0
02250	SM	MODAD,10,10	03980	12	03549	000J0
02260	SM	SMCNT,10,10	03992	12	03544	000J0
02270	TF	SYM,ZER13-1	04004	26	03579	12231
02280	C	SMADD,TEND,, TEST FOR END OF TABLE	04016	24	03539	02303
02290	BE	E93010	04028	46	08774	01200
02300	BNR	E87420,SMCNT,11, TEST FOR CONST OR VARIABLE ASSIGNED	04040	45	04172	0354R
02310	SM	SMADD,01,10	04052	12	03539	000-1

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02320	BNR	++32,SMADD,11		04064	45	04096	0353R	
02330	AM	SMADD,1,10		04076	11	03539	000-1	
02340	B	E87310		04088	49	03968	00000	
02350	DDRG	--3		04096				
02360	AM	SMADD,1,10		04096	11	03539	000-1	
02370	BD	++20,MODAD,11,		04108	43	04128	0354R	
02380	B	E87310		04120	49	03968	00000	
02390	DDRG	--3		04128				
02400	SM	SMADD,10,10		04128	12	03539	000J0	
02410	SM	SMCNT,10,10		04140	12	03544	000J0	
02420	SM	MODAD,10,10		04152	12	03549	000J0	
02430	B	E87310		04164	49	03968	00000	
02440	DDRG	--3		04172				
02450	E87420	BNR	++20,MODAD,11,	TEST OF FUNCT OR SUB CALL NAME	04172	45	04192	0354R
02460	B	E87310,		04184	49	03968	00000	
02470	DDRG	--3		04192				
02480	BNF	E89820,MODAD,11,	BRANCH IF NOT IN COMMON	04192	44	0608C	0354R	
02490	BD	E87670,MODAD,11,	BRANCH IF COMMON VAR IS ARRAY	04204	43	04404	0354R	
02500	BNF	E89660,SMADD,11,	BRANCH IF COMMON VAR WAS EQUIV	04216	44	05976	0353R	
02510	CF	SMADD,,6		04228	33	0353R	00000	
02520	TF	WDLN,KLNG		04240	26	02994	C2252	
02530	BD	++24,SMADD,11		04252	43	04276	0353R	
02540	TF	WDLN,FP2		04264	26	02994	02298	
02550	E87490	SM	MODAD,2,10		04276	12	03549	000-2
02560	TF	++23,MODAD,11		04288	26	04311	0354R	
02570	TF	SYM		04300	26	03579	00000	
02580	AM	--1,5,10		04312	11	04311	000-5	
02590	TF	MODAD,--13,611		04324	26	0354R	0431J	
02600	TF	TEMP, --25,11		04336	26	03592	0431J	
02610	AM	MODAD,2,10		04348	11	03549	000-2	
02620	TDM	SMCNT,,6		04360	15	0354M	00000	
02630	DC	1,,'*		04371		1		
02640	BTM	PGPRT,++12,,	TYPE AND OR PUNCH	04372	17	11336	-4384	
02650	DC	1,0		04384		1		
02660	DSA	TEMP-4		04389		5 X	1	
				04389		-3588		
02670	DSA	SYM-11		04394		5 X	1	
				04394		-3568		
02680	H	E89740		04396	49	06020	00000	
02690	DDRG	--3		04404				
02700	E87670	BNF	E88420,SMADD,11,	BRANCH IF COMMON ARRAY WAS EQUIV	04404	44	04760	0353R
02710	CF	SMADD,,6		04416	33	0353R	00000	
02720	TD	MODE,MODAD,11,	SAVE NUMBER CF DIM INDICIES	04428	25	03634	0354R	
02730	CF	MODE		04440	33	03634	00000	
02740	SM	MODAD,2,10		04452	12	03549	000-2	
02750	TF	ADSAVE,MODAD,11,		04464	26	03627	0354R	
02760	TF	SYM,ADSAVE,11,	MOVE VAR NAME TO SYM	04476	26	03579	0362P	
02770	SM	SMCNT,10,10		04488	12	03544	000J0	
02780	TF	TEMP,SMCNT,11,	SAVE COMMON ADDRESS	04500	26	03592	0354M	
02790	TF	MODAD,SMCNT,611,	SET ENTRY TO COMMON	04512	26	0354R	0354M	
02800	AM	MODE,1,10,	SAVE DIMENSION INDICES	04524	11	03634	000-1	
02810	NM	MODE,5,10		04536	13	03634	000-5	

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02820	A	ADSAVE,99		04548	21	03627	00099	
02830	TF	SMCNT,ADSAVE,611,	PICK UP NO CF ELEMENTS	04560	26	0354M	0362P	
02840	BD	++32,SMADD,11		04572	43	04604	0353R	
02850	TF	WDLN,FP2		04584	26	02994	02298	
02860	B	++20		04596	49	04616	00000	
02870	DDRG	--3		04604				
02880	TF	WDLN,KLNG		04604	26	02994	C2252	
02890	M	SMCNT,WDLN,6		04616	23	0354M	02994	
02900	SF	95		04628	32	00095	00000	
02910	S	99,WDLN,,	CALC TOTAL ARRAY VOLUME	04640	22	00099	02994	
02920	TF	TEMP2,99		04652	26	03597	00099	
02930	A	TEMP2,TEMP,,	TEMP2 CONTAINS LAST ELEMENT OF ARRAY	04664	21	03597	03592	
02940	SM	MODAD,8,10		04676	12	03549	000-8	
02950	AM	SMADD,4,10		04688	11	03539	000-4	
02960	TDM	SMADD,,6		04700	15	0353R	00000	
02970	DC	1,,'*		04711		1		
02980	SM	SMADD,14,10		04712	12	03539	000J4	
02990	BTM	PGPRT,++12		04724	17	11336	-4736	
03000	DC	1,1		04736		1		
03010	J			04741		5 X	1	
	DSA	TEMP-4		04741		-3588		
03020	DSA	SYM-11		04746		5 X	1	
				04746		-3568		
03030	DSA	TEMP2-4		04751		5 X	1	
				04751		-3593		
03040	B	E89740		04752	49	06020	00000	
03050	DDRG	--3		04760				
03060	*****	ENTER FOR COMMON ARRAYS WHICH WERE EQUIVALENCED						
03070	E8R420	CM	SMCNT,0,69		04760	14	0354M	00-00
03080	BNE	E90620,,,	BRANCH IF NOT BASE	04772	47	04516	01200	
03090	SF	E89660+1		04784	32	05977	00000	
03100	R	E87670+24		04796	49	04428	00000	
03110	DDRG	--3		04804				
03120	E8R470	TF	E8ASE,SMADD,,	ENTER HERE AFTER ASSIGNING BASE VARIABLE	04804	26	03632	03539
03130	CF	E87670		04816	33	04404	00000	
03140	BNF	++44,E89660		04828	44	04872	05976	
03150	CF	E89660		04840	33	05976	00000	
03160	SM	E8ASE,10,10		04852	12	03632	000J0	
03170	B	++20		04864	49	04884	00000	
03180	DDRG	--3		04872				
03190	SM	E8ASE,1,10		04872	12	03632	000-1	
03200	SF	E8ASE		04884	32	03632	00000	
03210	A	E8ASE,STBL		04896	21	03632	02377	
03220	SF	E8ASE-3,,,	GEN TABLE NUMBER	04908	32	03629	00000	
03230	TF	SAVE1,SMADD		04920	26	03612	03539	
03240	TF	SAVE2,SMCNT		04932	26	03617	03544	
03250	TF	SAVE3,MODAD		04944	26	03622	03549	
03260	BNF	++60,E89660+1		04956	44	05016	05977	
03270	CF	E89660+1		04968	33	05977	00000	
03280	SM	SAVE1,10,10		04980	12	03612	000J0	
03290	SM	SAVE2,10,10		04992	12	03617	000J0	

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03300	SM	SAVE3,10,10		05004	12	03622	000J0	
03310	EMP540	SM	SMCNT,10,10	05016	12	03544	000J0	
03320	SM	SMADD,10,10		05028	12	03539	000J0	
03330	SM	MODAD,10,10		05040	12	03549	000J0	
03340	C	SMADD,TEND		05052	24	03539	02303	
03350	BE	E89610		05064	46	05908	01200	
03360	BNR	**20,MODAD,11,	BRANCH IF NOT SUBR OR FUNCT NAME	05076	45	05096	0354R	
03370	B	E89540		05088	49	05016	00000	
03380	DORG	--3		05096				
03390	BNR	E89660,SMCNT,11,	BRANCH IF NO STORAGE ALLOCATION DONE	05096	45	05192	0354M	
03400	BNF	E88600,SMCNT,11,	BRANCH IF NOT STATEMENT NUMBER	05108	44	05128	0354M	
03410	B	E89540		05120	49	05016	00000	
03420	DORG	--4		05127				
03430	EMP600	BD	**20,MODAD,11	05128	43	05148	0354R	
03440	B	E88540		05140	49	05016	00000	
03450	DORG	--3		05148				
03460	SM	SMADD,10,10		05148	12	03539	000J0	
03470	SM	SMCNT,10,10		05160	12	03544	000J0	
03480	SM	MODAD,10,10		05172	12	03549	000J0	
03490	B	E89540		05184	49	05016	00000	
03500	DORG	--3		05192				
03510	EMP660	BNF	**20,SMADD,11,	SEARCH FOR EQUIV. VARIABLE	05192	44	05212	0353R
03520	B	E88600		05204	49	05128	00000	
03530	DORG	--3		05212				
03540	C	ERASE-1,SMCNT,11,	IS EQUIV VAR EQUIV TO PRESENT BASE	05212	24	03631	0354M	
03550	BNE	E88600		05224	47	05128	01200	
03560	EMP8710	SM	SMADD,1,10	05224	12	03539	000-1	
03570	TF	ADSAVE,SMADD,11,	SAVE SYMBOL ADDRESS	05236	26	03627	0353R	
03580	TF	SYM,ZER13-1		05248	26	03579	12251	
03590	TF	SYM,ADSAVE,11,	MOVE SYM NAME TO SYM	05260	26	03579	12251	
03600	DD	E88900,MODAD,11,	TEST IF VAR WAS DIMENSIONED	05272	26	03579	0362P	
03610	AM	ADSAVE,5,10,		05284	43	05468	0354R	
03620	CM	ADSAVE,0,67,	TEST FOR ZERC OFF SET	05296	11	03627	000-5	
03630	BNE	**32		05308	14	0362P	-0000	
03640	TF	TEMP3,TEMP		05320	47	05352	01200	
03650	B	**56,		05332	26	03602	0359Z	
03660	DORG	--3		05344	49	05400	00000	
03670	M	ADSAVF,WDLN,6,		05352				
03680	SF	95		05352	23	0362P	02994	
03690	A	99,TEMP		05364	32	00095	00000	
03700	TF	TEMP3,99		05376	21	00099	0359Z	
03710	TF	SMADD,TEMP3,6,	MOVE OBJ TIME ADDRESS TO TABLE	05388	26	03602	00099	
03720	AM	SMADD,1,10		05400	26	0353R	0360Z	
03730	TDM	SMCNT,,6,		05412	11	03539	000-1	
03740	DC	1,*,*		05424	15	0354M	00000	
				05435		1		
03750	BTM	PGPRT,**12		05436	17	11336	-5448	
03760	DC	1,0		05448		1		
03770	DSA	TEMP3-4,SYM-11		05453		5 X	2	
				05453		-3598		
				05458		-3568		
03780	B	E89600		05460	49	05888	00000	
03790	DORG	--3		05468				
03800	EMP900	SM	SMCNT,10,10,	ENTER FROM EMP8730	05468	12	03544	000J0

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03810	CM	SMCNT,0,67,	TEST FOR ZERC OFF SET	05480	14	0354M	-0000	
03820	RNE	**32		05492	47	05524	01200	
03830	TF	99,TEMP		05504	26	00099	0359Z	
03840	B	**44		05516	49	05560	00000	
03850	DORG	--3		05524				
03860	M	SMCNT,WDLN,6		05524	23	0354M	02994	
03870	SF	95		05536	32	00095	00000	
03880	TEMP4	DS	,*	05547		0		
03890	A	99,TEMP,,	GEN ADD OF FIRST ELEMENT OF ARRAY	05548	21	00099	0359Z	
03900	TF	TEMP3,99,,	AND MOVE TO TEMP3	05560	26	03602	00099	
03910	TD	MODE,MODAD,11,		05572	25	03634	0354R	
03920	CF	MODE		05584	33	03634	00000	
03930	EMP910	TF	TEMP5,TEMP3,,	TEMP5 CONTAINS BASE ADDRESS	05596	26	03607	0360Z
03940	AM	MODE,1,10		05608	11	03634	000-1	
03950	MM	MODE,5,10		05620	13	03634	000-5	
03960	A	ADSAVE,99		05632	21	03627	00099	
03970	TF	SMCNT,ADSAVE,611		05644	26	0354M	0362P	
03980	M	SMCNT,WDLN,6		05656	23	0354M	02994	
03990	SF	95		05668	32	00095	00000	
04000	S	99,WDLN		05680	22	00099	02994	
04010	A	TEMP5,99,,	TEMP5 CONTAINS ADDRESS OF LAST ELEMENT	05692	21	03607	00099	
04020	BNF	**48,TELSW,,	BRANCH IF IN COMMON	05704	44	05752	07340	
04030	C	LOC,TEMP5		05716	24	03586	0360Z	
04040	BH	**24		05728	46	05752	01100	
04050	TF	LOC,TEMP5		05740	26	03586	0360Z	
04060	C	TEMP5,CONST		05752	24	03607	0238Z	
04070	BNH	**36		05764	47	05800	01100	
04080	TDM	JAY,4		05776	15	02367	00004	
04090	BTM	ERROR2,575,9,	COMMON VAR. OVERLAPS MEMORY	05788	17	11246	00N75	
04100	TF	SMADD,TEMP3,6		05800	26	0353R	0360Z	
04110	AM	SMADD,5,10		05812	11	03539	000-5	
04120	TDM	SMADD,,6		05824	15	0353R	00000	
04130	DC	1,*,*		05835		1		
04140	SM	SMADD,14,10		05836	12	03539	000J4	
04150	SM	MODAD,10,10		05848	12	03549	000J0	
04160	BTM	PGPRT,**12		05860	17	11336	-587Z	
04170	DC	1,1		05872		1		
04180	DSA	TEMP3-4		05877		5 X	1	
				05877		-3598		
04190	DSA	SYM-11		05882		5 X	1	
				05882		-3568		
04200	DSA	TEMP5-4		05887		5 X	1	
				05887		-3603		
04210	EMP900	BNF	E89540,EQRET	05888	44	05016	0751Z	
04220	B	E92010		05900	49	0789Z	00000	
04230	DORG	--3		05908				
04240	EMP910	TF	SMADD,SAVE1,,	RESTORE ADDRESS AND CONTINUE SCAN TO	05908	26	03539	0361Z
04250	TF	SMCNT,SAVE2,,	OUTPUT VAR STORAGE	05920	26	03544	0361Z	
04260	TF	MODAD,SAVE3,,		05932	26	03549	0362Z	
04270	BNF	E87310**36,TELSW,,		05944	44	04004	07340	
04280	CF	TELSW		05956	33	07340	00000	

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04290	B	E87310+36		05968	49	04004	00000
04300	DDRG	--J		05976			
04310	E89660	CM SMCNT,0,69,	ENTER FROM E87470 WHEN SIMPLE VAR WAS	05976	14	0354M	00-00
04320	BNF	E90620,,,	IN COMMON AND EQUIVALENCED	05988	47	06516	01200
04330	SF	E89660		06000	32	05976	00000
04340	R	E87490-36		06012	49	04240	00000
04350	DDRG	--J		06020			
04360	E89740	BNF ++20,OUTCE,,	FLAG SET AT 91210 WHEN EQUIV VAR WAS	06020	44	06040	07196
04370	B	E91250,,,	FOUND BEFORE COMMON IN TABLE	06032	49	07228	00000
04380	DDRG	--J		06040			
04390	BNF	++20,E89660+1		06040	44	06060	05977
04400	R	E84470		06052	49	04804	00000
04410	DDRG	--J		06060			
04420	RNF	E87310,E89660		06060	44	03968	05976
04430	B	E84470		06072	49	04804	00000
04440	DDRG	--J		06080			
04450	*****	ENTER FROM R7450 TO OUTPUT VARIABLES NOT IN COMMON					
04460	E89820	BNF E90620,SMADD,11,	BRANCH IF VARIABLE WAS EQUIVALENCED	06080	44	06516	0353R
04470	CF	SMADD,,6,		06092	33	0353R	00000
04480	TF	WDLN,KLNG		06104	26	02994	02252
04490	BD	++24,SMADD,11		06116	43	06140	0353R
04500	TF	WDLN,FP2		06128	26	02994	02298
04510	A	LOC,WDLN		06140	21	03586	02994
04520	TF	TFMP,LOC		06152	26	03592	03586
04530	SM	SMADD,1,10		06164	12	03539	000-1
04540	TF	++23,SMADD,11,		06176	26	06199	0353R
04550	E89930	TF SYM,,,	MOVE SYM NAME	06188	26	03579	00000
04560	TF	SMADD,LOC,6,	MOVE OBJ TIME ADDRESS TO TABLE	06200	26	0353R	03586
04570	BD	E90010,MODAD,11,	BRANCH IF VARIABLE IS AN ARRAY	06212	43	06280	0354R
04580	AM	SMADD,1,10		06224	11	03539	000-1
04590	TDM	SMCNT,,6		06236	15	0354M	00000
04600	DC	1,,'*		06247		1	
04610	HTM	PGPRT,++12		06248	17	11336	-6260
04620	DC	1,0		06260		1	
04630	DSA	TEMP-4		06265		5 X	1
04640	USA	SYM-11		06265		-3588	
				06270		5 X	1
				06270		-3568	
04650	B	E90580		06272	49	06470	00000
04660	DDRG	--J		06280			
04670	E90010	SM SMADD,5,10,	POINT TO NO OF ELEMENTS	06280	12	03539	000-5
04680	TD	MODE,MODAD,11,	SAVE DIMENSION INDICES	06292	25	03634	0354R
04690	AM	MODE,01,10		06304	11	03634	000-1
04700	MM	MODE,05,10		06316	13	03634	000-5
04710	A	E89930+11,99		06328	21	06199	00099
04720	TF	SMADD,E89930+11,611		06340	26	0353R	0619R
04730	M	SMADD,WDLN,6		06352	23	0353R	02994
04740	SF	95		06364	32	00095	00000
04750	S	99,WDLN		06376	22	00099	02994
04760	A	LOC,99,,	LOC UPDATED TO END OF ARRAY	06388	21	03586	00099
04770	TDM	SMCNT,,6		06400	15	0354M	00000
04780	DC	1,,'*		06411		1	

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04790	SM	SMADD,4,10		06412	12	03539	000-4
04800	SM	MODAD,10,10		06424	12	03549	000J0
04810	SM	SMCNT,10,10		06436	12	03544	000J0
04820	HTM	PGPRT,++12		06448	17	11336	-6460
04830	DC	1,1		06460		1	
04840	DSA	TEMP-4		06465		5 X	1
04850	DSA	SYM-11		06465		-3588	
				06470		5 X	1
04860	DSA	LOC-4		06470		-3568	
				06475		5 X	1
				06475		-3582	
04870	E90580	RNF ++20,TELSW		06476	44	06496	07340
04880	B	E91730		06488	49	07616	00000
04890	DDRG	--J		06496			
04900	RNF	E87310,EQRET		06496	44	03968	07512
04910	B	E91810		06508	49	07660	00000
04920	DDRG	--J		06516			
04930	*****	ENTER FROM E89820 TO ASSIGN EQUIV VARIABLES NOT IN COMMON					
04940	E90620	TF SAVE1,SMADD,,	SAVE ADDRESSES THEN SCAN TABLE TO	06516	26	03612	03539
04950	TF	SAVE2,SMCNT,,	FIND ALL VARIABLES EQUIVALENCED TO THIS	06528	26	03617	03544
04960	TF	SAVE3,MODAD,,	BASE, THE VARIABLE WITH THE LARGEST	06540	26	03622	03549
04970	TF	ADSAVE,SMADD,,	NEGATIVE OFF-SET, IF ANY, WILL THEN BE	06552	26	03627	03539
04980	CM	SMCNT,0,69,	ASSIGNED STORAGE FIRST ELSE BASE VAR	06564	14	0354M	00-00
04990	BNE	E91120,,,	WILL BE ASSIGNED FIRST	06576	47	07088	01200
05000	TF	SAVE4,SMADD		06588	26	06659	03539
05010	TF	ERASE,SMADD,,	SAVE REF NUMBER	06600	26	03632	03539
05020	SM	ERASE-1,1,10		06612	12	03631	000-1
05030	SF	ERASE		06624	32	03632	00000
05040	A	ERASE,STBL		06636	21	03632	02377
05050	SF	ERASE-3		06648	32	03629	00000
05060	SAVE4	DS **		06650		0	
05070	TFM	TEMP,0,		06660	16	03592	-0000
05080	BD	E90850,MODAD,11,	TEST FOR DIM	06672	43	06816	0354R
05090	E90750	SM SMADD,10,10		06684	12	03539	000J0
05100	SM	SMCNT,10,10		06696	12	03544	000J0
05110	SM	MODAD,10,10		06708	12	03549	000J0
05120	C	SMADD,TEND		06720	24	03539	02303
05130	RE	E91410		06732	46	07340	01200
05140	RNR	++20,MODAD,11,	SUBR OR FUNCTION NAME	06744	45	06764	0354R
05150	B	E90750		06756	49	06684	00000
05160	DDRG	--J		06764			
05170	RNR	E90900,SMCNT,11,	HAS STORAGE BEEN ALLOCATED	06764	45	06860	0354M
05180	BNF	++20,SMCNT,11,	BRANCH IF NOT STATEMENT NUMBER	06776	44	06796	0354M
05190	B	E90750		06788	49	06684	00000
05200	DDRG	--J		06795			
05210	BD	++20,MODAD,11		06796	43	06816	0354R
05220	B	E90750		06808	49	06684	00000
05230	DDRG	--J		06816			
05240	E90850	SM SMCNT,10,10		06816	12	03544	000J0
05250	SM	SMADD,10,10		06828	12	03539	000J0
05260	SM	MODAD,10,10		06840	12	03549	000J0
05270	R	E90750		06852	49	06684	00000

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05280	DORG	=-3		06860			
05290	E90900	HNF	+=20,SMADD,11,	LOOK FOR EQUIV VARIABLE	06860	44	06800 0353R
05300	B	E90850-20			06872	49	06796 00000
05310	DORG	=-3		06880			
05320	C	SMCNT,EBASE-1,6,	TEST FOR EQUIVALENCE TO BASE VARIABLE	06880	24	0354M	03631
05330	BNE	E90850-20		06892	47	06796	01200
05340	BD	E91050,MODAD,11,	TEST FOR DIMENSION	06904	43	07020	0354R
05350	SM	SMADD,1,10		06916	12	03539	000-1
05360	TF	ABASE,SMADD,11,		06928	26	02970	0353R
05370	AM	ABASE,5,10		06940	11	02970	000-5
05380	AM	SMADD,1,10		06952	11	03539	000-1
05390	C	ABASE,TEMP,6,	FIND NEG OFF-SET	06964	24	0297-	0359Z
05400	BNL	E90750		06976	46	06684	01300
05410	TF	TEMP,ABASE,11,	SAVE NEW OFF-SET	06988	26	0359Z	0297-
05420	TF	SAVE4,SMADD,,	SAVE TABLE ADDRESS OF NEW VARIABLE	07000	26	06659	03539
05430	B	E90750		07012	49	06684	00000
05440	DORG	=-3		07020			
05450	E91050	SM	SMCNT,10,10		07020	12	03544 000.0
05460	C	SMCNT,TEMP,6,	TEST OFF-SET	07032	24	0354M	0359Z
05470	BNL	E90850+12		07044	46	06828	01300
05480	TF	TEMP,SMCNT,11,	MOVE IN NEW OFF SET	07056	26	0359Z	0354M
05490	TF	SAVE4,SMADD		07068	26	06659	03539
05500	B	E90850+12		07080	49	06828	00000
05510	DORG	=-3		07088			
05520	E91120	TF	ADSAVE,STBL		07088	26	03627 02377
05530	S	ADSAVE-1,SMCNT,11,	GEN ADDRESS OF BASE	07100	22	03626	0354M
05540	AM	ADSAVE,07,10		07112	11	03627	000-7
05550	BNF	E91320,ADSAVE,11,	TEST IF BASE IS IN COMMON, BRANCH NO	07124	44	07296	0362P
05560	TF	MODAD,ADSAVE		07136	26	03549	03627
05570	TF	SMADD,ADSAVE		07148	26	03539	03627
05580	SM	SMADD,1,10		07160	12	03539	000-1
05590	TF	SMCNT,ADSAVE		07172	26	03544	03627
05600	AM	SMCNT,3,10		07184	11	03544	000-3
05610	OUTCE	DS	,**1	07196		0	
05620	SF	OUTCE		07196	32	07196	00000
05630	BD	E87670+12,MODAD,11,	RETURN TO OUTPUT COMMON ARRAY	07208	43	04416	0354R
05640	B	E87490-48,,,	RETURN TO OUTPUT SIMPLE COMMON VARIABLE	07220	49	04228	00000
05650	DORG	=-3		07228			
05660	E91250	CF	OUTCE,,,	ENTER FROM E89750	07228	33	07196 00000
05670	TF	SMADD,SAVE1		07240	26	03539	0361Z
05680	TF	SMCNT,SAVE2		07252	26	03544	03617
05690	TF	MODAD,SAVE3		07264	26	03549	0362Z
05700	TF	EBASE-1,SMCNT,11,	SET UP BASE NUMBER TO SEARCH FOR	07276	26	03631	0354M
05710	B	E88540+36,,,	THE REMAINING EQUIV VARIABLES	07288	49	05052	00000
05720	DORG	=-3		07296			
05730	E91320	SM	ADSAVE,1,10,	ENTER FROM E91150	07296	12	03627 000-1
05740	TFM	TEMP,0		07308	16	0359Z	-0000
05750	TF	EBASE-1,SMCNT,11,	SET UP BASE NUMBER	07320	26	03631	0354M
05760	B	E90900+44		07332	49	06904	00000
05770	DORG	=-3		07340			
05780	E91410	CM	TEMP,0,,	ENTER FROM E90790 AFTER SEARCHING TABLE	07340	14	0359Z -0000
05790	BL	E91610,,,	FOR ALL EQUIV VARIABLES, IF TEMP IS LESS	07352	47	0751Z	01300
05800	SF	TELSW,,,	IF NOT NEGATIVE	07364	32	07340	00000
05810	C	ADSAVE,SAVE1,,	THAN ZERO, THEN THE BASE ELEMENT IS	07376	24	03627	0361Z
05820	BNE	+=56,,,	NOT ASSIGNED FIRST	07388	47	07444	01200
05830	TF	SMADD,SAVE1		07400	26	03539	0361Z

05840	TF	SMCNT,SAVE2		07412	26	03544	03617
05850	TF	MODAD,SAVE3		07424	26	03549	0362Z
05860	B	E89820+12		07436	49	0609Z	00000
05870	DORG	=-3		07444			
05880	TF	SMADD,ADSAVE		07444	26	03539	03627
05890	TF	SMCNT,ADSAVE		07456	26	03544	03627
05900	AM	SMCNT,4		07468	11	03544	-0004
05910	TF	MODAD,ADSAVE		07480	26	03549	03627
05920	AM	MODAD,1,10		07492	11	03549	000-1
05930	B	E89820+12		07504	49	0609Z	00000
05940	DORG	=-3		07512			
05950	TELSW	DS	,E91410	07340		0	
05960	E91610	TF	SAVOFS,TEMP,,	ENTER FROM E91420 ,SAVE OFF-SET VALUE	07512	26	07963 0359Z
05970	TF	SMADD,SAVE4,,		07524	26	03539	06659
05980	TF	SMCNT,SAVE4		07536	26	03544	06659
05990	AM	SMCNT,4,10		07548	11	03544	000-4
06000	TF	MODAD,SAVE4		07560	26	03549	06659
06010	AM	MODAD,1,10		07572	11	03549	000-1
06020	SF	EQRET		07584	32	0751Z	00000
06030	SAVAD	DS	,*	07595		0	
06040	TF	SAVAD,ADSAVE,,	SAVE ADDRESS OF BASE ELEMENT	07596	26	07595	03627
06050	EQRET	DS	,E91610	07512		0	
06060	B	E89820+12,,,	BRANCH TO OUTPUT SYM WITH NEG OFF-SET	07608	49	0609Z	00000
06070	DORG	=-3		07616			
06080	E91730	TF	SMADD,SAVE1,,	ENTER FROM E90600	07616	26	03539 0361Z
06090	TF	SMCNT,SAVE2,,	RESTORE TABLE ADDRESSES AND BRANCH TO	07628	26	03544	03617
06100	TF	MODAD,SAVE3,,	ASSIGN EQUIVALENT ADDRESSES	07640	26	03549	0362Z
06110	B	E88540+36		07652	49	05052	00000
06120	DORG	=-3		07660			
06130	E91810	TF	SMADD,SAVAD,,	ENTER FROM E90603	07660	26	03539 07595
06140	TF	SMCNT,SAVAD		07672	26	03544	07595
06150	AM	SMCNT,4,10		07684	11	03544	000-4
06160	TF	MODAD,SAVAD		07696	26	03549	07595
06170	AM	MODAD,1,10		07708	11	03549	000-1
06180	TF	EBASE,SAVAD		07720	26	0363Z	07595
06190	SM	EBASE-1,1,10		07732	12	03631	000-1
06200	SF	EBASE		07744	32	0363Z	00000
06210	A	EBASE,STBL		07756	21	0363Z	02377
06220	SF	EBASE-3		07768	32	03629	00000
06230	CF	SAVOFS		07780	33	07963	00000
06240	TBASE	DS	,*	07791		0	
06250	BD	+=68 ,MODAD,11,	TEST IF DIM VAR	07792	43	07860	0354R
06260	SM	SAVAD,1,10		07804	12	07595	000-1
06270	TF	+=30,SAVAD,11		07816	26	07846	0759M
06280	AM	+=18,5,10		07828	11	07846	000-5
06290	TF	,SAVOFS,,	PLACE OFFSET INTO SYM AREA	07840	26	00000	07963
06300	B	E88710,,,		07852	49	05236	00000
06310	DORG	=-3		07860			
06320	SM	SAVAD,6,10		07860	12	07595	000-6
06330	TF	SAVAD,SAVOFS,6,	PLACE OFFSET INTO TABLE	07872	26	0759M	07963
06340	B	E88710,,,		07884	49	05236	00000
06350	DORG	=-3		07892			
06360	E92010	TF	TEMP,TEMP3,,	ENTER FROM E89601	07892	26	0359Z 0360Z
06370	CF	EQRET		07904	33	0751Z	00000
06380	TF	SMADD,SAVE1		07916	26	03539	0361Z
06390	TF	SMCNT,SAVE2		07928	26	03544	03617

06400	TF	MODAD,SAVE3		07940	26	03549	03622
06410	SF	TELSM		07952	32	07340	00000
06420	SAVDFS	DS	,*	07963		0	
06430	B	E8A540+36		07964	49	05052	00000
06440	DORG	=-3		07972			
06450	E92210	TF	SUBADD,FCFEND,, ENTER FROM E87240 TO OUTPUT SUBPROGRAM	07972	26	08123	02318
06460	HNR	**24,FCFEND,11,	RRANCH IF NOT STATEMENT NUMBER	07984	45	08008	02310
06470	SM	SUBADD,10,10		07996	12	08123	000J0
06480	TFM	E92440-23,41,10		08008	16	08197	000M1
06490	TF	SMADD,SUBADD		08020	26	03539	08123
06500	AM	SUBADD,3,10		08032	11	08123	000-3
06510	TF	MODAD,SUBADD		08044	26	03549	08123
06520	SM	MODAD,2,10		08056	12	03549	000-2
06530	E92290	BD	**32 ,MODAD,11, TEST FOR FIX OR FLOAT	08068	43	08100	0354R
06540	A	LOC,FP2		08080	21	03586	02298
06550	B	**20		08092	49	08112	00000
06560	DORG	=-3		08100			
06570	A	LOC,KLNG		08100	21	03586	02252
06580	CF	MODAD,,6,		08112	33	0354R	00000
06590	SURADD	DS	,*	08123		0	
06600	TF	SYM,ZER13-1		08124	26	03579	12251
06610	TF	**23,SMADD,11		08136	26	08159	0353R
06620	TF	SYM,,	MOVE NAME TO SYM	08148	26	03579	00000
06630	TF	SMADD,LOC,6,	MOVE OBJ TIME ADDRESS TO TABLE	08160	26	0353R	03586
06640	E92390	BTM	PGPRT,**12	08172	17	11336	-8184
06650	DC	1,0		08184		1	
06660	DSA	LOC-4		08189		5 X	1
				08189		-3582	
06670	DSA	SYM-11		08194		5 X	1
				08194		-3568	
06680	SF	SMADD,,6		08196	32	0353R	00000
06690	TFM	**11,32,10		0820R	16	08197	000L2
06700	E92440	SM	SURADD,20,10	08220	12	08123	000K0
06710	SM	SMADD,20,10		08232	12	03539	000K0
06720	SM	MODAD,20,10		08244	12	03549	000K0
06730	HNR	E92860,SUBADD,11,	TEST FOR END OF PARAMETERS	08256	45	08548	0812L
06740	SM	SUBADD,1,10		08268	12	08123	000-1
06750	CF	SUBADD,,6		08280	33	0812L	00000
06760	TF	**30,SURADD		08292	26	08322	08123
06770	SM	**18,1,10		08304	12	08322	000-1
06780	CF			08316	33	00000	00000
06790	BD	E92570,SUBADD,11,	TEST FOR DIM VAR	08328	43	08372	0812L
06800	AM	SUBADD,1,10,	FLAG INDICATES FUNCTION SUBPROGRAM IN	08340	11	08123	000-1
06810	AM	LOC,5,10		08352	11	03586	000-5
06820	B	E92390-60		08364	49	08112	00000
06830	DORG	=-3		08372			
06840	E92570	AM	LOC,5,10	08372	11	03586	000-5
06850	CF	MODAD,,6		08384	33	0354R	00000
06860	TF	SYM,ZER13-1		08396	26	03579	12251
06870	TF	ADSAVE,SMADD,11,		0840R	26	03627	0353R
06880	TF	SYM,ADSAVE,11,		08420	26	03579	0362P
06890	TF	SMADD,LOC,6,		08432	26	0353R	03586
06900	SF	SMADD,,6		08444	32	0353R	00000

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06910	TD	MODE,SUBADD,11,	SAVE NUMBER OF DIMENSIONS	08456	25	03634	0812L
06920	SM	SUBADD,7,10		08468	12	08123	000-7
06930	MM	MODE,5,10		08480	13	03634	000-5
06940	AM	99,5,10		08492	11	00099	000-5
06950	A	ADSAVE,99		08504	21	03627	00099
06960	TF	SUBADD,ADSAVE,611		08516	26	0812L	0362P
06970	AM	SUBADD,8,10		08528	11	08123	000-8
06980	B	E92390		08540	49	08172	00000
06990	DORG	=-3		08548			
07000	E92860	TF	TRASE,SMADD,, ENTER FROM E92470	08548	26	07791	03539
07010	AM	LOC,01,10,	FOR RECORD MARK	08560	11	03586	000-1
07020	AM	CADD,11,10		08572	11	11219	000J1
07030	C	CEND,CADD		08584	24	11224	11219
07040	BNH	EMP		08596	47	08710	01100
07050	SM	CADD,11,10		08608	12	11219	000J1
07060	CF	CADD,,6		08620	33	1121R	00000
07070	AM	CADD,01,10		08632	11	11219	000-1
07080	GLP	BT	OUTADD,LOC	08644	27	10634	03586
07090	BTM	OUTK,**16		08656	17	10056	-8672
07100	DSA	CST1,LOC+1		08672		5 X	2
				08672		-9730	
				08677		-3587	
07110	SF	LOC+1		08678	32	03587	00000
07120	TD	CADD,LOC+1,6		08690	25	1121R	03587
07130	B	MSP		08702	49	08730	00000
07140	DORG	=-4		08709			
07150	EMP	SM	CADD,09,10	08710	12	11219	000-9
07160	B	GLP		08722	49	08644	00000
07170	DORG	=-4		08729			
07180	MSP	MM	LOC,05,10	08730	13	03586	000-5
07190	BD	BUFDUM,99		08742	43	09856	00099
07200	AM	LOC,01,10		08754	11	03586	000-1
07210	B	BUFDUM,,	GO TO OUTPUT BUFFER	08766	49	09856	00000
07220	DORG	=-3		08774			
07230	*****	ENTER HERE FROM E87530 AFTER ALL STORAGE ALLOCATION IS					
07240	*****	COMPLETE					
07250	E94010	TF	DKADD,INTOP1+5	08774	26	10896	02390
07260	AM	TEND,9,10,	ESPECIALLY FOR JAY	08786	11	02303	000-9
07270	TF	SMADD,TBASE		08798	26	03539	07791
07280	TF	SMCNT,TBASE		08810	26	03544	07791
07290	AM	SMADD,2		08822	11	03539	-0002
07300	AM	SMCNT,5		08834	11	03544	-0005
07310	B	**32		08846	49	08878	00000
07320	DORG	=-3		08854			
07330	E93060	SM	SMADD,10,10	08854	12	03539	000J0
07340	SM	SMCNT,10,10		08866	12	03544	000J0
07350	C	SMCNT,TEND,		08878	24	03544	02303
07360	BL	E93610-24		08890	47	09260	01300
07370	BNR	E93200,SMCNT,11,		08902	45	08922	0354R
07380	B	E93060		08914	49	08854	00000
07390	DORG	=-3		08922			
07400	E93200	BNR	E93060,SMADD,11,	08922	45	08854	0353R
07410	BNF	**32,SMADD,11		08934	44	08966	0353R
07420	TDM	SMADD,0,6		08946	15	0353R	00000
07430	B	E93060		08958	49	08854	00000

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07440	DORG	=-3		08966			
07450	TDM	SMADD,0,6,	CLEAR RECORD MARK	08966	15	0353R	00000
07460	SM	SMADD,2,10		08978	12	03539	000-2
07470	E93330	AM LOC,5,10		08990	11	03586	000-5
07480	TF	SSYMK,ZER13-1		09002	26	09554	12251
07490	TF	**23,SMADD,11		09014	26	09037	0353R
07500	TF	SSYMK,...	MOVE FUNCTION NAME	09026	26	09554	00000
07510	BWP	SF SSYMK-11		09038	32	09543	00000
07520	CM	SSYMK-10,00,10		09050	14	09544	000-0
07530	BNE	WGP		09062	47	09118	01200
07540	TR	SSYMK-11,SSYMK-9		09074	31	09543	09545
07550	TFM	SSYMK,00,10		09086	16	09554	000-0
07560	CF	SSYMK-1		09098	33	09553	00000
07570	B	BWP		09110	49	09038	00000
07580	DORG	**4		09117			
07590	MGP	TF CARD+11,SSYMK		09118	26	03445	09554
07600	TF	CARD+16,LDC		09130	26	03470	03586
07610	TF	CARD+18,ALPHRM		09142	26	03472	02586
07620	TF	SMADD,LOC,6,	MOVE OBJ TIME ADDRESS TO TABLE	09154	26	0353R	03586
07630	BTM	OUTK,**16		09166	17	10056	-9182
07640	DSA	CST17,CARD		09182		5 X	2
				09182		-9256	
				09187		-3454	
07650	AM	SMADD,2,10,		09188	11	03539	000-2
07660	TF	SYM,ZER13-1		09200	26	03579	12251
07670	TF	SYM,E93330+47,11,	MOVE SYM NAME	09212	26	03579	0903P
07680	BTM	PGPRT,**12		09224	17	11336	-9236
07690	DC	1,0		09236		1	
07700	DSA	LOC-4		09241		5 X	1
				09241		-3582	
07710	DSA	SYM-11		09246		5 X	1
				09246		-3568	
07720	B	E93060		09248	49	08854	00000
07730	DORG	**4		09255		2	
07740	CST17	DC 2,18		09256		2	
	JR			09258		2	
07750	ALPHRM	DC 2,0*					
	-*						
07760	**	TERMINAL ROUTINE TO PRINT LAST BLOCK					
07770	CM	COUNT8,6,10		09260	14	12282	000-6
07780	BE	NOPRT		09272	46	09340	01200
07790	E#3610	BNF NOPRT,LIST,,	TEST ON LINE PRINT SWITCH	09284	44	09340	02228
07800	TFM	IDRT,**23,...	PRINT THE LAST LINE	09296	16	00565	-9319
07810	B	IDPT,FAF5-4,7		09308	49	00532	J2283
07820	**	PRINT HEADER FOR FIRST PAGE OF PHASE 2					
07840	TFM	OFLO1-1,**20,...	SUPPLY RETURN ADDRESS	09320	16	11841	-9340
07850	B7	OFLO+12,...	PRINT FIRST HEADING PHASE 2	09332	49	11910	
07860	NUPRT	BD **20,SURFCT		09340	43	09360	02293
07870	H	ERNEST		09352	49	09556	00000
07880	DORG	**3		09360			
07890	TFM	IDRT,**23		09360	16	00565	-9383
07900	B	IDGT,COMSEC,7		09372	49	00566	-9731

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07910	TF	SSYMK,ZER13-1		09384	26	09554	12251
07920	TF	SSYMK,SAVSYM		09396	26	09554	02243
07930	LTJUST	SF SSYMK-11		09408	32	09543	00000
07940	CM	SSYMK-10,00,10		09420	14	09544	000-0
07950	BNE	MVNAME		09432	47	09488	01200
07960	TR	SSYMK-11,SSYMK-9		09444	31	09543	09545
07970	TFM	SSYMK,00,10		09456	16	09554	000-0
07980	CF	SSYMK-1		09468	33	09553	00000
07990	B	LTJUST		09480	49	09408	00000
08000	DORG	**4		09487			
08010	MVNAME	TF COMNAM,SSYMK		09488	26	09789	09554
08020	TF	SAVSYM,SSYMK		09500	26	02243	09554
08030	TFM	IDRT,**23		09512	16	00565	-9535
08040	B	IDPT,COMSEC,7		09524	49	00532	-9731
08050	B	HU		09536	49	09592	00000
08060	DORG	**4		09543			
08070	SSYMK	DC 12,0		09554		12	
		-00000000000					
08080	DC	1,*		09555		1	
	*						
08090	ERNEST	BNF HU,DISKSW		09556	44	09592	02383
08100	BD	HU,MULDEF		09568	43	09592	02384
08110	BTM	ERROR2,670,9		09580	17	11246	00070
08120	HU	BTM OUTK,**16		09592	17	10056	-9608
08130	DSA	CST1,ALPHRM		09608		5 X	2
				09608		-9730	
				09613		-9258	
08140	C	CADD,CEND		09614	24	11219	11224
08150	BNE	**36		09626	47	09662	01200
08160	BTM	OUTADD		09638	17	10634	-0000
08170	SM	CADD,3,10		09650	12	11219	000-3
08180	TDM	CADD,6,6,	END OF PROGRAM INDICATOR	09662	15	1121R	00006
08190	TFM	IDRT,**23		09674	16	00565	-9697
08200	B	IDPT,DKDATA,7		09686	49	00532	J0906
08210	TF	PROGST,LOC		09698	26	02257	03586
08220	BV	**12		09710	46	09722	01400
08230	B	CALLP2		09722	49	02400	00000
08240	DORG	**4		09729			
08250	CST1	DC 2,01		09730		2	
	-1						
08260	COMSEC	DSC 2,20		09731		2	
	20						
08270	DSA	COMSC		09737		5 X	1
				09737		-9739	
08280	DC	1,*		09738		1	
	*						
08290	COMSC	DSC 1,0		09739		1	
	0						
08300	DC	5 ,19663		09744		5	
	J9663						
08310	DC	3,001		09747		3	
	-01						
08320	DSA	COMAR		09752		5 X	1

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08330	DC	1,0			09752	-9754	
					09753	1	
08340	CUMAR	DSS	50		09754	50	
08350		DSS	50		09804	50	
08360		DGM			09854	1	
08370	CLPNAM	DS		,COMAR*35	09789	0	
08380	*	OUTPUT	HUFFER-SET UP	POINTER AND LAST DISK			
08390	*		ADDRESS	FOR PASS2			
08400	HUFDM	TF	LSTAD,DKADD		09854	26	02308 10896
08410		CM	CADD,DISK*8		09868	14	11219 J0922
08420		BNE	BFDM1		09880	47	09912 01200
08430		TFM	P2PTR,0		09892	16	02313 -0000
08440		B	BFDM2		09904	49	10008 00000
08450		DORG	*-3		09912		
08460	BFDM1	TF	P2PTR,CEND		09912	26	02313 11224
08470		SM	P2PTR,DISK		09924	12	02313 J0914
08480		CM	P2PTR,300		09936	14	02313 -0300
08490		BNE	*+16		09948	47	09984 01200
08500		TFM	P2PTR,0		09960	16	02313 -0000
08510		AM	LSTAD,03,10		09972	11	02308 000-3
08520		TFM	IOPT,*+23		09984	16	00565 J0007
08530		B	IOPT,DKDATA,7		09996	49	00532 J0906
08540	BFDM2	TFM	CADD,DISK		10008	16	11219 J0914
08550		TFM	CEND,DISK*75		10020	16	11224 J0989
08560		HTM	OUTADD,00001		10032	17	10634 -0001
08570		B	E07270-24		10044	49	03888 00000
08580		DORG	*-4		10051		
08590	*	OUTPUT	CONSTANT ROUTINE				
08600	*						
08610	*		BTP	OUTK,*+16			
08620	*		DSA	LENGTH,HIGH-ORDER			
08630	*						
08640	DS	5			10055	5	
08650	OUTK	TF	WK1, CADD		10056	26	11244 11219
08660		TF	WK2, OUTK-1,11, LENGTH		10068	26	10139 1005M
08670		TF	WK2,WK2,11, MOVE	IN LENGTH	10080	26	10139 1013R
08680		AM	OUTK-1, 5,10		10092	11	10055 000-5
08690		TF	WK3, OUTK-1,11, CONSTANT	ADDRESS	10104	26	10223 1005M
08700		AM	OUTK-1, 1,10		10116	11	10055 000-1
08710		AM	WK1, *-*		10128	11	11244 -0000
08720	WK2	DS	,*		10139		0
08730		C	LADD, CADD		10140	24	11229 11219
08740		ME	OUTK2		10152	46	10504 01200
08750		C	CEND,CADD		10164	24	11224 11219
08760		BE	ITNC		10176	46	10364 01200
08770		C	WK1, CEND		10188	24	11244 11224
08780		RM	TD		10200	46	10256 01100
08790	OUTK1	TR	CADD,*+*,6		10212	31	1121R 00000
08800	WK3	DS	,*		10223		0
08810		A	CLGTH, WK2,6, INCREMENT	LENGTH	10224	21	1123M 10139
08820		A	CADD,WK2		10236	21	11219 10139
08830		B	OUTK-1,*,6,		10248	49	1005M 00000
08840		DORG	*-3		10256		
08850	*	TRANSMIT	DIGIT BY DIGIT				
08860	TD	TD	CADD, WK3,611,		10256	25	1121R 1022L

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08870	AM	CLGTH,	1,6,10,		10268	11	1123M 000-1
08880	AM	CADD,	1,10,		10280	11	11219 000-1
08890	AM	WK3,	1,10,		10292	11	10223 000-1
08900	SM	WK2,1,10			10304	12	10139 000-1
08910	*	TEST	FOR LAST CARD				
08920		C	CADD, LAOD		10316	24	11219 11229
08930		RE	OUTK2		10328	46	10504 01200
08940		C	CADD, CEND		10340	24	11219 11224
08950		BNE	TD		10352	47	10256 01200
08960	*	INCREMENT	TO NEXT CARD				
08970	ITNC	TF	CADD, CEND		10364	26	11219 11224
08980		AM	CADD, 4,10		10376	11	11219 000-4
08990		TR	CADD, K1,6		10388	31	1121R 11235
09000		TF	*+35, CLGTH		10400	26	10435 11234
09010		SM	*+23, 3,10		10412	12	10435 000-3
09020		TF	CADD, *-*,6		10424	26	1121R 00000
09030		A	CADD, CLGTH,611,		10436	21	1121R 1123M
09040		TF	CLGTH, CADD		10448	26	11234 11219
09050		AM	CLGTH, 3,10		10460	11	11234 000-3
09060		AM	CADD, 4,10		10472	11	11219 000-4
09070		AM	CEND, 75,10		10484	11	11224 000P5
09080		B	OUTK1		10496	49	10212 00000
09090		DORG	*-3		10504		
09100	*	OUTPUT	THREE SECTORS				
09110	OUTK2	TFM	RETURN*6,OUTK3		10504	16	10890 J0524
09120		B	CKL1*12		10516	49	10824 00000
09130		DORG	*-3		10524		
09140	OUTK3	AM	CADD, 4,10		10524	11	11219 000-4
09150		TR	CADD, K1,6		10536	31	1121R 11235
09160		SM	CLGTH, 3,10		10548	12	11234 000-3
09170		TF	CADD, CLGTH,611		10560	26	1121R 1123M
09180		AM	CLGTH, 3,10		10572	11	11234 000-3
09190		A	CADD, CLGTH,611		10584	21	1121R 1123M
09200		TFM	CLGTH, DISK*7		10596	16	11234 J0921
09210		TFM	CADD,DISK*8		10608	16	11219 J0922
09220		B	OUTK1		10620	49	10212 00000
09230		DORG	*-3		10628		
09240	*	CONSTANT	OUTPUT ROUTINE FOR PASS 1				
09250	*						
09260	*		BTP	OUTADD, NEW ADDRESS			
09270	DS	5			10632	5	
09280	OUTADD	AM	CADD, 9,10		10634	11	11219 000-9
09290		C	CEND, CADD		10646	24	11224 11219
09300		BNH	CKLCD		10658	47	10744 01100
09310		SM	CADD, 5,10		10670	12	11219 000-5
09320	OUT	TR	CADD, K1,6, CONSTANT		10682	31	1121R 11235
09330		TF	CADD, OUTADD-1,6, NEW	ADDRESS	10694	26	1121R 10633
09340		AM	CADD, 4,10		10706	11	11219 000-4
09350		TF	CLGTH,CADD		10718	26	11234 11219
09360		SM	CLGTH,01,10		10730	12	11234 000-1
09370		BB			10742	42	00000 00000
09380		DORG	*-9		10744		
09390	*	CHECK	FOR LAST CARD				
09400	CKLCD	C	LADD, CEND		10744	24	11229 11224
09410		BE	CKL1		10756	46	10812 01200
09420		TF	CADD, CEND		10768	26	11219 11224

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09430	AM	CEND,	75,10	10780	11	11224	000P5	
09440	CKL	AM	CADD,	4,10	10792	11	11219	000-4
09450	B	OUT		10804	49	10882	00000	
09460	DORG	-3		10812				
09470	*	OUTPUT						
09480	CKL1	TFM	RETURN+6,	10812	16	10890	J0792	
09490	*	DISK	OUTPUT ROUTINE					
09500	TFM	IORT,++23		10824	16	00565	J0847	
09510	B	IOPT,DKDATA,7		10836	49	00532	J0906	
09520	AM	DKADD,	3,10	10848	11	10896	000-3	
09530	TFM	CADD,	DISK	10860	16	11219	J0914	
09540	TFM	CEND,	DISK+75	10872	16	11224	J0989	
09550	RETURN	B	+-+	10884	49	00000	00000	
09560	DORG	-4		10891				
09570	OUTDK	DSC	1,0	10891				
09580	DKADD	DC	5,00000	10896				
09590		-0000		10899				
09600	DSA	DISK		10904		5 X	1	
09610	DC	1,	'	10904		J0914		
09620	DKDATA	DSC	2,02	10905				
09630	DSA	OUTDK		10906				
09640	DC	1,	'	10912		5 X	1	
09650	*	OUTPUT	DISK AREA	10912		J0891		
09660	DISK	DSC	50,0	10913				
09670	DISK	DSC	50,0	10914		50		
09680	DISK	DSC	50,0	10964		50		
09690	DISK	DSC	49,0	11014				
09700	DISK	DSC	50,0	11015		49		
09710	DISK	DSC	50,0	11064		50		
09720	DISK	DSC	50,0	11114		50		
09730	DISK	DSC	50,0	11164		50		
09740	CADD	DSA	DISK+101	11214				
09750	CEND	DSA	DISK+150	11219		J1015		
09760	LADD	DSA	DISK+300	11224		5 X	1	
				11229		J1064		

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09770	CLGTH	DSA	DISK+108	11229		J1214	
09780	K1	DSC	2,02	11234		5 X	1
09790	DC	2,0		11234		J1022	
09800	DC	1,	'	11235			
09810	WK1	DC	5,0	11238			
09820	*	DEND		11239			
09830	ERROR2	TF	ERMES+14,+-1	11244		5	
09840	TFM	IORT,++23		11246	26	11327	11245
09850	B	IOPT,ERMES1-4,7		11250	16	00565	J1281
09860	TFM	DFLO1-1,++20		11270	49	00532	J1304
09870	B7	DFLO1		11282	16	11841	J1302
09880	BB			11294	49	11842	
09890	DORG	-9		11302	42	00000	00000
09900	ERMES1	DSA	ERMES	11304			
09910	DC	3,18'		11308		J1313	
09920	ERMES	DAC	9,ERROR 00'	11311			
09930	*	LINKAGE	TO PGPRT	11313		9 X	2
09940	*						
09950	*						
09960	*						
09970	*						
09980	*						
09990	*						
10000	PGPRT	TFM	FAF1+6,RACARD+1	11334		5	
10010	TF	FAF1-1,PGPRT-1		11336	16	11390	J2103
10020	AM	FAF1-1,05,10		11348	26	11383	11335
10030	TF	FAF1+11,+-+		11360	11	11383	000-5
10040	FAF1	TD	+-+,+-+,	11372	26	11395	00000
10050	AM	FAF1+6,2,10	MOVE IN START ADDRESS	11384	25	00000	00000
10060	AM	FAF1+11,01,10		11396	11	11390	000-2
10070	CM	FAF1+6,RACARD+9		11400	11	11395	000-1
10080	BNH	FAF1		11420	14	11390	J2111
10090	AM	FAF1-1,5,10		11432	47	11384	01100
10100	TF	++23,FAF1-1,11		11444	11	11383	000-5
10110	TR	RACARD+12,+-+,	MOVE IN NAME	11456	26	11479	11381
10120	BD	FAF3,PGPRT-1,11,	BRANCH IF END ADDRESS REQUIRED	11468	31	12114	00000
10130	TF	RACARD+39,11ZERO		11480	43	11708	11334
10140	AM	FAF1-1,2,10		11492	26	12137	12250
10150	*** ROUTINE	TO PRINT OUT STATEMENT NUMBERS		11504	11	11383	000-2
10160	FAF2	BNF	BDPUST,LIST,, TOTAL LISTING	11516	44	11656	02228
10170	BD	MINUS1	,COUNTS	11528	43	11608	12282
10180	TFM	COUNTS,06,10,	RESET THE COUNT	11540	16	12282	000-6
10190	TFM	IORT,++23,,	PRINT THE LINE OF SYMBOLS	11552	16	00565	J1575
10200	B	IOPT,FAF5-4,7		11564	49	00532	J2283
10210	TFM	DFLO1-1,++20,,	TEST PAGE DFLO	11576	16	11841	J1596

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11020	LDPHC	TDM	COMAR+100	16024	15	09854	00000
11030		OGM	*	16035		1	
11040		TFM	IORT,++23	16036	16	00565	J6059
11050		B	IOPT,BLK7,7	16048	49	00532	J6000
11060		TRA		16060	36	00000	00500
				16072	49	00000	00000
11070		TCD	LDPHC	16024			
11080		DENU					00000

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11ZER0	12250	F90580	06476	RAMASK	12280	HU	09592	PTRA	12266
ADSAVE	03627	E90620	06516	RETURN	10884	INDIV	02424	RECLG	02243
ALPHRM	09258	E90750	06684	ABASE	02970	LOCAL	00716	SAVAD	07595
AROUND	02484	E90850	06816	AFTBL	15035	IDGT	00566	SAVE1	03612
BIOMAD	12430	E90900	06860	88DAD	17340	IOPT	00532	SAVE2	03617
HDPUST	11656	E91050	07020	BLK7A	1600H	IORBC	00520	SAVE3	03622
BFDUM1	09912	E91120	07088	BLK7	16000	IORT	00565	SAVE4	06659
BFDUM2	10008	E91250	07228	BLK8A	02469	IOSK	00554	SMADD	03539
RUFUDM	09856	E91320	07296	BLK8	02461	ITNC	10364	SMCNT	03544
CALLP2	02400	E91410	07340	BWP	09038	JAY	02367	STBL	02377
COMADD	02262	E91610	07512	CADD	11219	K1	11235	SYM1	03828
CGMNAM	09789	E91730	07616	CARD	03454	KLNG	02252	SYM	03579
COMSEC	09731	E91810	07660	CEND	11224	LADD	11229	TBASE	07791
COUNT8	12282	E92010	07892	CHI5	15839	LDPHC	16024	TBCNT	02429
DISKDD	12086	E92210	07972	CHI	15139	L1ST	02228	TD	10256
DISKSW	02383	E92290	08068	CKL1	10812	LL1	03262	TELSW	07340
DKDATA	10906	E92390	08172	CKLCD	10744	LOC	03586	TEMP2	03597
E86440	02430	E92440	08220	CKL	10792	LSTAD	02308	TEMP3	03602
E86601	02672	E92570	08372	CLGTH	11234	MODAD	03549	TEMP4	05547
E86801	02940	E92860	08548	COMAR	09754	MODE	03634	TEMP5	03607
E86820	03000	E93010	08774	COMSC	09739	MSP	08730	TEMP	03592
E87210	03832	E93060	08854	COMST	02382	N1	02233	TEND	02303
E87270	03912	E93200	08922	CST17	09256	N2	02238	TWD	11954
F87310	03968	E93330	08990	CST1	09730	NONUM	11966	MDLN	02994
F87420	04172	E93610	09284	DISK	10914	NDPRT	09340	MGP	09118
F87490	04276	ENTLOG	02267	DKADD	10896	NKLOC	02372	WK1	11244
F87670	04404	ERMES1	11308	DSKHD	12077	OFLO1	11842	WK2	10139
F88420	04760	ERNEST	09556	ERASE	03632	OFLO	11898	WK3	10223
F88470	04804	ERROR2	11246	EMP	08710	ONE	11942	W	02240
F88540	05016	FCSEND	02318	EORET	07512	OUTCE	07196	WM	02296
E88600	05128	INTOP1	02385	ERMES	11313	OUTDK	10891	ZER13	12252
E88660	05192	LENGTH	02248	ERRRT	00602	OUTK1	10212	SAVDF5	07943
F88710	05236	LJUST	09408	FAF1	11384	OUTK2	10504	SAVSVM	02243
E88900	05468	MINUS1	11408	FAF2	11516	OUTK3	10524	SSYMWK	09554
E89010	05596	MONCAL	00796	FAF3	11708	OUTK	10056	STMNT1	03696
E89000	05888	MULDEF	02384	FAF4	11756	OUT	10482	STMNT2	03780
E89610	05908	MWNAME	09488	FAF5	12287	P2PTR	02313	STMNT0	03636
E89660	05976	OUTADD	10634	FAF6	12730	PAGE	12073	SUBADD	08123
E89740	06020	OUTLIT	03232	FLMG	02250	PGNUM	02222	SUBFCT	02293
E89820	06080	PROGST	02257	FNOM	02324	PGPRT	11336	USED5	02263
E89930	06188	PUSTSN	02294	FR2	02298	PRNT	03215		
E90010	06280	RACARD	12102	GLP	08644	PTCD	03369		

END OF ONE ASSEMBLY.

00010	*****	SECOND PASS FORTRAN II					
00020	IUPT	DS	,532		00532		0
00030	IORT	DS	,565		00565		0
00040	IOGT	DS	,566		00566		0
00050	MONCAL	DS	,796		00796		0
00060	IOCAL	DS	,716		00716		0
00070	SYSCAL	DS	,475		00475		0
00080		DORG	2218		02218		
00090	HEADER	DSS	14		02218		14
00100	PGNUM	DC	3,1,2222		02222		3
			-01				
00110	N1	DS	2		02233		2
00120	N2	DS	5		02238		5
00130	M	DS	2		02240		2
00140	RECLG	DS	3		02243		3
00150	LENGTH	DS	5		02248		5
00160	F	DS	2		02250		2
00170	K	DS	2		02252		2
00180	BEGAD	DS	5		02257		5
00190	LOCOM	DS	5		02262		5
00200	UFSTR	DSS	30		02263		30
00210	FCYSW	DS	1		02293		1
00220	PUSTSN	DS	1		02294		1
00230	WM	DS	2		02296		2
00240	FP2	DS	2		02298		2
00250	TBASE	DS	5		02303		5
00260	LSTAD	DS	5		02308		5
00270	P2PTM	DS	5		02313		5
00280	FCTEND	DS	5		02318		5
00290		DS	5		02323		5
00300	UGRMK	DGM	2323		02323		1
00310	FMON	TF	++42	,FMON-1	02324	26	02366 02323
00320	TFM	IORT	++23		02336	16	00565 -2359
00330	R	IOGT		,7	02348	49	00566 -0000
00340	B				02360	49	00000 00000
00350		DORG	+-4		02367		
00360	JAY	DS	1		02367		1
00370	SR	DS	00005,,SR,,		02372		5
00380	SX	DS	00005,,SX,,		02377		5
00390	OP	DS	00002,,OP,,		02379		2
00400	SY	DS	00005,,SY,,		02384		5
00410	ANS	DS	00005,,ANS,,		02389		5
00420	ADTEMP	DS	00005,,ADTEMP,,		02394		5
00430	SL	DS	00005,,SL,,		02399		5
00440	BDAD	DS	,17340,,,	DISK ADDRESS OF PAGE HEADING	17340		0
00450	BIOMAD	DS	,14800,,,	CORE STORAGE OF PAGE HEADING	14800		0
00460	IFTRC	DS	,2226		02226		0
00470	FACTRC	DS	,2227		02227		0
00480	LIST	DS	,2228		02228		0
00490	PRST	DS	,2229		02229		0
00500	PASSII	TF	LNG	,WM	02400	26	09660 02296
00510		TF	ADCOM,BEGAD		02412	26	06925 02257
00520		AM	ADCOM,1,10		02424	11	06925 000-1
00530	*		SET ADDRESS IN ADCOM TO EVEN				
00540		BTM	ADJUST,ADCOM		02436	17	03766 -6925
00550		TF	BEGAD,ADCOM		02448	26	02257 06925

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00560	*	INITIALIZE					
00570	JMG	CF	ADCOM		02460	33	06925 00000
00580		TF	PUTXZ	,LSTAD	02472	26	08363 02308
00590		TFM	IORT	++23	02484	16	00565 -2507
00600		B	IOGT	,PUTXZ	02496	49	00566 -8350
00610		A	NEXT	,P2PTR	02508	21	08404 02313
00620		TF	PREBUF	,NEXT	02520	26	08713 08404
00630		SM	NEXT	,1	02532	12	08404 000-1
00640		SF	FLGRM		02544	32	08372 00000
00650		TF	DOMAX	,DOBASE	02556	26	09607 04026
00660		TR	++18	,PREBUF	02568	26	02586 08713
00670		TR	BUF1	,INPUT+26	02580	31	08408 09724
00680		AM	+-6	,75	02592	11	02586 000P5
00690		CM	+-18	,BUF4+75	02604	14	02586 -8708
00700		BL	+-36		02616	47	02580 01300
00710	CLEAR	BD	CD12R,DO5W		02628	43	10314 09403
00720	*		SET UP STRING RECORD CONSTANTS				
00730		TDM	BGNST+1		02640	15	16000 00000
00740		DC	1,,*		02651		1
00750		TF	SWAREA	,N13089	02652	26	09407 09434
00760		TFM	N40002,BGNST+4		02664	16	03710 J4003
00770	L1	BTM	GETX	,SX	02676	17	05434 -2377
00780		CM	SX,132,811		02688	14	02377 0-13K
00790		NE	L12		02700	46	02736 01200
00800		BTM	ADSL,SX		02712	17	05536 -2377
00810		B	L1,132,8		02724	49	02676 0-132
00820	L12	BTM	ADSL,+-1		02736	17	05536 -2735
00830		BNF	L13	,PRST	02748	44	02844 02229
00840		CM	BGNST+8	,134	02760	14	16007 0-134
00850		BE	L13		02772	46	02844 01200
00860		BNI	++24	,3400	02784	47	02808 03400
00870		K		,971	02796	34	00000 06971
00880		CF	ADCOM-4		02808	33	06921 00000
00890		WN	ADCOM-4	,900	02820	38	06921 00900
00900		SF	ADCOM-4		02832	32	06921 00000
00910	L13	TFM	I	,1	02844	16	09567 0-001
00920		BT	GTACL	,GTACL-1	02856	27	06796 06795
00930		AM	SCNT	,1	02868	11	09693 000-1
00940	L2	BTM	GTNS	++16	02880	17	05622 -2896
00950		DSA	I		02896		5 X 1
					02896		-9567
00960		DSA	LV		02901		5 X 1
					02901		-9587
00970		CM	LV	,152	02902	14	09587 0-152
00980		BH	L3		02914	46	03024 01100
00990		TF	N40002	,1	02926	26	03710 09567
01000		AM	N40002	,2	02938	11	03710 000-2
01010		BTM	GTNS	++16	02950	17	05622 -2966
01020		DSA	N40002		02966		5 X 1
					02966		-3710
01030		DSA	RV		02971		5 X 1

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01040	BTM	FORCE		,**16					02971	-9597		
01050	DSA	LV							02972	17	04604	-2988
									02988		5 X	1
01060	DSA	RV							02988	-9587		
									02993		5 X	1
01070	DSA	ANS							02993	-9597		
									02998		5 X	1
01080	CM	ANS							02998	-2389		
01090	RNE	ANS					,6		03000	14	02389	-0000
01100	LJ	AM				,1	,10		03012	47	02388	01200
01110	B	L2							03024	11	09567	000-1
01120	DDRG	**3							03036	49	02880	00000
01130	EXIT	CM				1,1,10			03044			
01140	BE	L2							03044	14	09567	000-1
01150	SM	L2							03056	46	02880	01200
01160	B	L2				,1	,10		03068	12	09567	000-1
01170	DDRG	**3							03080	49	02880	00000
01180	*****								03088			
01190	CODES	SM				1	,10		03100	17	05592	000-1
01200	BTM	RMNS				,**16			03116		5 X	1
01210	DSA	I							03116	-9567		
01220	DSA	SL							03121		5 X	1
01230	TF	T3	SL						03121	-2399		
01240	BTM	RMNS				,**16			03122	26	09676	02399
01250	DSA	I							03134	17	05592	-3150
									03150		5 X	1
01260	DSA	LV							03150	-9567		
									03155		5 X	1
01270	BTM	GTNS				,**16			03155	-9587		
01280	DSA	I							03156	17	05622	-3172
									03172		5 X	1
01290	DSA	SR							03172	-9567		
									03177		5 X	1
01300	CM	SR	140,8,DUMMY						03177	-2372		
01310	RNE	CKFMT							03178	14	02372	0-140
01320	TDM	DOSW				,1			03190	47	03258	01200
01330	BTM	RMNS				,**16			03202	15	09403	00001
01340	DSA	I,SR							03214	17	05592	-3230
									03230		5 X	2
01350	BTM	GTNS				,**16			03230	-9567		
01360	DSA	I,SR							03235	-2372		
									03236	17	05622	-3252
									03252		5 X	2

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01370	CKFMT	CM	SR	128,8,FORMAT					03252	-9567		
01380	RNE	SETFCT							03257	-2372		
01390	BTM	PUTX				,**16			03258	14	02372	0-128
01400	DSA	B,BLANK,BLANK							03270	47	03346	01200
									03282	17	06980	-3298
									03298		5 X	3
01410	TF	SXF				,ADCOM			03298	-6930		
01420	SM	SXF				,10	,10		03310	26	09602	06925
01430	SM	ADCOM				,6	,10		03322	12	09602	000J0
01440	SETFCT	TF	SETAD-1			,SL			03334	12	06925	000-6
01450	TDM	SETAD				,4			03346	26	03686	02399
01460	BNR	SETNMT				,SETAD	,11		03358	15	03687	00004
01470	TDM	SETAD				,5	,,		03370	45	03618	0368P
01480	TR	LSTN				,SETAD	,11,		03382	15	03687	00005
01490	CF	LSTN				,,	,,		03394	31	09166	0368P
01500	TFM	SCNT				,,	,,		03406	33	09166	00000
01510	BMF	NOTYP-24				,PRST	,,		03418	16	09693	-0000
01520	BNI	**24				,3400	,,		03430	44	03538	02229
01530	K					,971	,,		03442	47	03466	03400
01540	TR	LIS				,ADCOM-4	,,		03454	34	00000	00971
01550	TR	LIS+6				,SETAD	,11,		03466	31	04182	06921
01560	CF	LIS				,,	,,		03478	31	04188	0368P
01570	CF	LIS+6				,,	,,		03490	33	04182	00000
01580	TDM	LIS+5				,,	,,		03502	33	04188	00000
01590	DMB	1,0				,,	,,		03514	15	04187	00000
01600	WN	LIS,900				,,	,,		03525		1	
01610	TDM	SETAD,4,10				,,	,,		03526	38	04182	00900
01620	TF	SETAD				,ADCOM	,6		03538	15	03687	000-4
01630	NOTYP	TDM	SETAD			,9			03550	24	0368P	06925
01640	TDM	SETAD				,1	,611		03562	15	03687	00009
01650	CM	SR				,128	,8		03574	15	0368P	0000J
01660	BE	CODE17				,,	,,		03586	14	02372	0-128
01670	B	EXIT				,,	,,		03598	46	10242	01200
01680	DDRG	**3				,,	,,		03610	49	03044	00000
01690	SETNMT	TF	N40002			,SETAD	,11		03618			
01700	CF	N40002				,,	,,		03618	26	03710	0368P
01710	SM	N40002				,4	,10		03630	33	03710	00000
01720	BTM	PUTA				,**16			03642	12	03710	000-4
01730	DSA	N40002,ADCOM							03654	17	08220	-3670
									03670		5 X	2
01740	B	SETFCT+36				,4			03670	-371C		
01750	SETAD	CS	,0			,,	,,		03675	-6425		
01760	CGDEC	B	EXIT			,,	,,		03676	49	03382	CC0C4
01770	DDRG	**3				,,	,,		03687		C	
01780	N2C0CC	DS				,**1			03688	49	03C44	CC0CC
01790	N4C0CC	CS	5			,,	,,		03696		C	
01800	N40001	CS	5			,,	,,		0370C		5	
01810	N40002	CS	5			,,	,,		03705		5	
01820	N40003	CS	5			,,	,,		0371C		5	
01830	N40004	CS	5			,,	,,		03715		5	
									03720		5	

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01840	N4CC05	CS	5			03725	5	
01850	N4CC06	CS	5			03730	5	
01860	N4CC07	CS	5			03735	5	
01870	N4CC08	DS	5			03740	5	
01880	N4CC09	DS	5			03745	5	
01890	N4CC10	CS	5			03750	5	
01900	N4CC11	CS	5			03755	5	
01910	N4CC12	CS	5			03760	5	
01920	N2CC01	DS				03761	C	
01930	*****			FORTRAN ADJUST PRCEEDURE	*****			
01940		DS	5			03765	5	
01950	ADJUST	MM		*-1,5,61C,	MULTIPLY ACCCN BY 5	03766	13	C376A CCC-5
01960		BD		**14,99		03770	43	C3762 CCG99
01970		BB				03790	42	CCCC CCGCC
01980		DORG		*-9		03792		
01990		AM		ADJUST-1,1,610,	ADD 1 TO ACCCN	03792	11	C376A CCC-1
02000		BB				03804	42	CCCC CCGCC
02010		DORG		*-4		03811		
02020	*****			FORTRAN CP SEARCH ROUTINE	*****			
02030	CPSR	TF		CPSX,*-1,11,	PGVE IN PARAMETERS	03812	26	C3803 C381J
02040		AM		OPSR-1,5,1C		03824	11	C3811 CCG-5
02050		TF		DPGT,CPSR-1,11		03836	26	C3914 C381J
02060		AM		OPSR-1,1,1C		03848	11	C3811 CCG-1
02070		TFM		CPT1,CBASE		03860	16	C3915 -2841
02080		A		OPT1-1,*,*	GENERATE TABLE ADDRESS	03872	21	C391E CCGCC
02090	CPSX	CS		*		03883		C
02100		BD		**24,FX,*,*	IS IT FIXED OR FLOATING VARIABLE	03884	43	C390E C3931
02110		SM		OPT1,5,1C,	FLOATING, ADJUST TABLE ADDRESS	03896	12	C3915 CCG-5
02120		TF		*,*	PGVE ENTRY ADDRESS TO A CY	03908	26	CCCC CCGCC
02130	UPGT	DS		*-5		03914		C
02140	OPT1	DS		*		03919		C
02150		B		OPSR-1,*,*	EXIT	03920	49	C381J CCGCC
02160	FX	CS		1,*,*		03931		1
02170	URASE	CS		*,**1C-1100		02041		C
02180	FLAD	CC		5,C4C9C		03936		5
				-4C90				
02190	FXAD	CC		5,C3878		03941		5
				-3878				
02200	REP4	DC		5,C7230		03946		5
				-7230				
02210	PRINT	DC		5,C4354		03951		5
				-4354				
02220	TRACE	DC		5,C3496		03956		5
				-3496				
02230	READ	DC		5,C4426		03961		5
				-4426				
02240	DCREF	DC		00C05,1760C,*,DCREF,		03966		5
				J7600				
02250	TYPE	CC		5,C4282		03971		5
				-4282				
02260	FLMUL	CC		5,C4138		03976		5
				-4138				
02270	FXMUL	CC		5,C3950		03981		5
				-3950				
02280	FLFXP	CC		5,C4258		03986		5
				-4258				

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02290	FXEXP	CC		5,C4234		03991		5
				-4234				
02300	SLB1	CC		5,-C2258		03996		5
				-2258				
02310	ACCEPT	CC		5,C4378		04001		5
				-4378				
02320	SLP2	CC		5,-C2263		04006		5
				-2263				
02330	ACCTAP	CC		5,C4402		04011		5
				-4402				
02340	SLB3	CC		5,-C2268		04016		5
				-2268				
02350	PLNCH	CC		5,C4330		04021		5
				-4330				
02360	DCPASE	CC		00C05,1760C,*,DCBASE,		04026		5
				J7600				
02370	PLNTAP	CC		5,C4306		04031		5
				-4306				
02380	FLSUE	CC		5,C4066		04036		5
				-4066				
02390	FXSUE	CC		5,C3902		04041		5
				-3902				
02400	FLDVC	CC		5,C4162		04046		5
				-4162				
02410	FXDVC	CC		5,C3974		04051		5
				-3974				
02420	FLRDV	CC		5,C4186		04056		5
				-4186				
02430	FXRDV	CC		5,C3998		04061		5
				-3998				
02440	FXTOFL	CC		5,C4042		04066		5
				-4042				
02450	FLTCFX	CC		5,C3854		04071		5
				-3854				
02460	RFLSLB	CC		5,C4114		04076		5
				-4114				
02470	RFSLB	CC		5,C3926		04081		5
				-3926				
02480	RSNFL	CC		5,C4020		04086		5
				-4020				
02490	RSNFX	CC		5,C4020		04091		5
				-4020				
02500	ATYPE	CC		5,C4536		04096		5
				-4536				
02510	SLASH	CC		5,C6676		04101		5
				-6676				
02520	REP	DC		5,C7126		04106		5
				-7126				
02530	ITYPE	CC		5,C4448		04111		5
				-4448				
02540	FITYPE	CC		5,C4558		04116		5
				-4558				
02550	ETYPY	CC		5,C4580		04121		5
				-4580				
02560	REDO	CC		5,C7026		04126		5
				-7026				

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02570	HTYPE	CC	5,C4602		C4131	5		
			-46C2					
02580	XTYPE	CC	5,C7354		C4136	5		
			-7354					
02590	ASTOP	CC	5,C2395		C4141	5		
			-2355					
02600	RFAC	CC	5,C3452		C4146	5		
			-3452					
02610	TCFAC	CC	5,C3408		C4151	5		
			-34C8					
02620	FACAD	CC	5,C2492		C4156	5		
			-2492					
02630	IC	CC	5,C6C9C		C4161	5		
			-6C9C					
02640	ICFND	CC	5,C7CC6		C4166	5		
			-7CC6					
02650	IXI	CC	5,C421C		C4171	5		
			-421C					
02660	PAR	CC	5,C3378		C4176	5		
			-3378					
02670	MAT	CC	5,C6518		C4181	5		
			-6518					
02680	BGNST	CS	,15959		15999		C	
02690	LIS	DSC	12,C		04182		12	
			CCCCCCCCCCCC					
02700		CC	1,*,176CC		176CC		1	
			.					
02710	*****		FORTRAN SYMBOL TABLE SEARCH ROUTINE	*****				
02720		CS	5		C4158		5	
02730	SRFCT	TF	SRSY,*,1,11,	PCVE IN PARAMETERS	C4200	26	C4271	C4158
02740		AM	SRFCT-1,5,1C		04212	11	C4195	CC0-5
02750		TF	SRGT,SRFCT-1,11		04224	26	C4322	C4158
02760		AM	SRFCT-1,1,1C		C4236	11	C4195	CC0-1
02770		TDM	SBASE,4		C4248	15	C4595	CC0C4
02780		TF	SBASE-1		C4260	26	C4594	CC0CC
02790	SRSY	DS	,*		04271		C	
02800		BNR	SRSX,SBASE,11		C4272	45	C4316	C4594
02810		TFM	SRGT,C,67		C4284	16	C432K	-CC0C
02820		TDM	RPSW,1,11		C4296	15	C5005	CC0CJ
02830		B	SRFCT-1,*,6		C4308	49	C4158	CC0CC
02840		CORG	*-3		C4316			
02850	SRNX	TF	SBASE,11,	PCVE OBJECT ADDRESS OF SYMBOL TO CT	C4316	26	CC0CC	C4594
02860	SRGT	CS	,*-5		C4322		C	
02870		TDM	FPSW ,C		C4328	15	C9675	CC0CC
02880		BNF	**6B,SRGT,11		C4340	44	C440C	C432M
02890		BD	**36,SKIPSW		C4352	43	C4388	C9681
02900		CF	SRGT,*,6		C4364	33	C432K	CC0CC
02910	DMSW	CS	,*-1		C4374		C	
02920	CCMSW	DS	,*		C4375		C	
02930		TDM	FPSW,1,11		C4376	15	C9675	CC0CJ
02940		TFM	DPX,27,1C		C4388	16	C4417	CC0M7
02950		B	**2C		C4400	49	C442C	CC0CC
02960		CORG	*-3		C4408			
02970		TFM	CPX,17,1C		C4408	16	C4417	CC0CJ7
02980	CPX	CS	,*-2		C4417		C	
02990		AM	SBASE,1,1C		C4420	11	C4595	CC0-1

03000		TD	FXCRFL,SBASE,11,	SET FIX CR FLCAT	C4432	25	C4557	C4554
03010		AM	SBASE,1,1C		C4444	11	C4555	CC0-1
03020		TD	DMSW,SBASE,11,	SET DIMENSION SWITCH	C4456	25	C4374	C4554
03030		TDM	COMSW ,C		C4468	15	C4375	CC0CC
03040		BNF	**24,DMSW		C4480	44	C4504	C4374
03050		TDM	COMSW,1,,	SET COMMON SWITCH	C4492	15	C4375	CC0C1
03060		BD	**2C,DMSW,,	IS IT DIMENSIONED	C4504	43	C4524	C4374
03070		B	SRCFLL,*,*	NO EXIT	C4516	49	C456C	CC0CC
03080		CORG	*-3		C4524			
03090		SM	SBASE,7,1C		C4524	12	C4595	CC0-7
03100		TF	P1,SBASE,11,	SET I MAX	C4536	26	C9671	C4594
03110		AM	SBASE,7,1C		C4548	11	C4595	CC0-7
03120	SRCFLL	CF	FXCRFL		C4560	33	C4597	CC0CC
03130		SM	SBASE,2,1C		C4572	12	C4595	CC0-2
03140		B	SRFCT-1,*,6,	EXIT	C4584	49	C4158	CC0CC
03150	SBASE	CS	,*		C4595		C	
03160	FXCRFL	DC	2,C		C4597		2	
			-O					
03170	*****		FORTRAN FORCE PROCEDURE	*****				
03180		CS	5		04602		5	
03190	FORCE	TF	FLV,*,1,11,	PCVE IN PARAMETERS	C4604	26	C4682	C460L
03200		AM	FORCE-1,5,1C		C4616	11	C4603	CC0-5
03210		TF	FRV,FORCE-1,11		C4628	26	C476C	C460L
03220		AM	FORCE-1,5,1C		C4640	11	C4603	CC0-5
03230		TF	FANS,FORCE-1,11		C4652	26	C485E	C460L
03240		AM	FORCE-1,2,1C		C4664	11	C4603	CC0-2
03250		CM	, 1C4,0,IS	LEFT OPERATOR LESS THAN CP LOW VALUE	C4676	14	CC0CC	C-104
03260	FLV	CS	,*-5		C4682		C	
03270		BL	FORCB*24		C4688	47	C480C	C130C
03280		TFM	FT1,FBASE,,	PCVE TABLE BASE TO FT1	C4700	16	C4515	-39C1
03290		A	FT1-1,FLV,11,	GENERATE TABLE ADDRESS	C4712	21	C4914	C468M
03300		TF	LVAL,FT1,11,	REMOVE LEFT VALUE FROM TABLE	C4724	26	C4937	C4914
03310		AM	FT1,7,1C,	ADD 7 TC TABLE ADDRESS	C4736	11	C4515	CC0-7
03320		TF	FCGDE,FT1,11,	REMOVE CODE FROM TABLE	C4748	26	C4903	C4914
03330		CM	, 1C4,0,IS	RIGHT OPERATOR LESS THAN CP LOW VALUE	C4760	14	CC0CC	C-104
03340	FRV	DS	,*-5		C4766			
03350		BL	FORCB*24		C4772	47	C480C	C130C
03360		CM	FRV,141,69,	IS CP HIGHER THAN HIGH VALUE	C4784	14	C476C	CC341
03370		BNF	FORCC		C4796	46	C4916	C110C
03380		TFM	FT1,FBASE,,	MOVE TABLE BASE TO FT1	C4808	16	C4515	-39C1
03390		A	FT1-1,FRV,11,	GENERATE TABLE ADDRESS	C4820	21	C4914	C476C
03400		AM	FT1,2,1C,	ADD 2 TC TABLE ADDRESS	C4832	11	C4515	CC0-2
03410		TF	RVAL,FT1,11,	REMOVE RIGHT VALUE FROM TABLE	C4844	26	C4937	C4914
03420	FORCB	C	LVAL,RVAL,,	COMPARE LEFT VALUE TO RIGHT	C4856	24	C4937	C4939
03430		BNF	**24		C4868	47	C4892	C110C
03440		TFM	FCGDE,*,*	PCVE ZERO TC CODE	C4880	16	C4903	-CC0C
03450		TFM	*,*	PCVE ZERO CP CODE TO FANS	C4892	16	CC0CC	-000C
03460	FCODE	CS	,*		C4903		C	
03470	FANS	DS	,*-5		C4904	49	C480L	CC0CC
03480		B	FORCE-1,*,6,	EXIT	C4915		5	
03490	FT1	CS	5,*		C4916	16	C4939	CC0-C
03500	FCRCC	TFM	RVAL,0,1C		C4928	49	C4854	CC0CC
03510		B	FORCB					
03520		CORG	*-3					
03530		DS	2		C4937		2	
03540		DS	2		C4939		2	

C355C	FRASE	CS	1,1,2-104C			C3901	C
03960		DC	2,1,,	RPAREN		C4941	2
		-1					
C3570		CC	2,5C			C4943	2
		NO					
C3580		CSA	L3			C4948	5 X 1
C359C	RFLAG	CC	1,C			C4948	-3C24
		-				C4949	1
C360C		CC	2,6C,,	GCTC		C4951	2
		CO					
C361C		CC	2,59			C4953	2
		A9					
C3620		CSA	COCEE			C4958	5 X 1
C363C	RXFLAG	CC	1,C			C4958	JCC74
		-				C4959	1
C364C		CC	2,C,,	CCMPUTEC GCTC		C4961	2
		-0					
C3650		CC	2,C			C4963	2
		-0					
C3660		CSA	COCE9			C4968	5 X 1
C367C	FTSW	ESC	1,C			C4968	JC146
		C				C4969	1
C368C		CC	2,2,,	IF		C4971	2
		-2					
C369C		CC	2,C			C4973	2
		-0					
C370C		CSA	CODE7			C4978	5 X 1
C371C	CALLX	CC	1,C			C4978	JCC98
		-				C4979	1
C3720		CC	2,C,,	CC		C4981	2
		-0					
C373C		CC	2,C			C4983	2
		-0					
C374C		CSA	COCE12			C4988	5 X 1
C375C	FFRSH	CS	1			C4988	JC17C
		CC	2,C,,	CCA		C4989	1
		-0				C4991	2
C3770		CC	2,C			C4993	2
		-0					
C378C		CSA	COCEC			C4998	5 X 1
C379C	SLEPSH	CS	1			C4998	-3688
		CC	2,1C,,	PLUS		C4999	1
		JO				C5001	2
C3810		CC	2,1C			C5003	2
		JO					

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C382C		CSA	COCE1			C5008	5 X 1
C383C	RPSW	CS	1			C5008	JCCC2
		CC	2,C,,	PRINT		C5009	1
		-0				C5011	2
C385C		CC	2,C			C5013	2
		-0					
C3860		CSA	COCE14			C5018	5 X 1
C387C	FLAGSH	CS	1			C5018	JC154
		CC	2,C,,	READ		C5019	1
		-0				C5021	2
C389C		CC	2,C			C5023	2
		-0					
C390C		CSA	COCE14			C5028	5 X 1
C391C	CMSW	CS	1			C5028	JC154
		CC	2,C,,	TYPE		C5029	1
		-0				C5031	2
C393C		CC	2,C			C5033	2
		-0					
C394C		CSA	COCE14			C5038	5 X 1
C395C		CC	1,C			C5038	JC154
		-				C5039	1
C3960		CC	2,5,,	PPY		C5041	2
		-5					
C397C		CC	2,5			C5043	2
		-5					
C398C		CSA	COCE1			C5048	5 X 1
C399C		CC	1,C			C5048	JCCC2
		-				C5049	1
C400C		CC	2,5,,	EXP		C5051	2
		-5					
C4010		CC	2,4			C5053	2
		-4					
C4020		CSA	COCE1			C5058	5 X 1
C4030		CC	1,C			C5058	JCCC2
		-				C5059	1
C4040		CC	2,C,,	ACCEPT		C5061	2
		-0					
C4050		CC	2,C			C5063	2
		-0					
C4060		CSA	COCE14			C5068	5 X 1
C4070		CC	1,C			C5068	JC154
		-				C5069	1

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0408C	CC -0	2,C,,	ACCEPT TAPE	05071	2
04090	CC -0	2,C		05073	2
0410C	CSA	CODE14		05078	5 X 1
0411C	CC -	1,C		05078 05079	JC194 1
04120	CC -0	2,C,,	PLANCH	05081	2
04130	CC -0	2,C		05083	2
04140	CSA	CODE14		05088	5 X 1
04150	CC -	1,C		05088 05089	JC194 1
04160	CC -0	2,C,,	PUNCH TAPE	05091	2
04170	CC -0	2,C		05093	2
04180	CSA	CODE14		05098	5 X 1
04190	CC -	1,C		05098 05099	JC194 1
0420C	CC JO	2,1C,,	PIALS	05101	2
04210	CC JO	2,1C		05103	2
04220	CSA	CODE1		05108	5 X 1
04230	CC -	1,C		05108 05109	JCCC2 1
04240	CC -5	2,5,,	DIVIDE	05111	2
04250	CC -5	2,5		05112	2
04260	CSA	CODE1		05118	5 X 1
04270	CC -	1,C		05118 05119	JCCC2 1
04280	CC -0	2,C,,	RCVC	05121	2
04290	CC -0	2,C		05123	2
04300	CSA	CODEC		05128	5 X 1
04310	CC -	1,C		05128 05129	-3688 1
04320	CC M9	2,49,,	CMA	05131	2

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04330	CC M8	2,48		05133	2
04340	CSA	CODEE		05138	5 X 1
04350	CC -	1,C		05138 05139	JC122 1
04360	CC M9	2,49,,	LPAREA	05141	2
04370	CC -1	2,1		05143	2
04380	CSA	CODEE		05148	5 X 1
04390	CC -	1,C		05148 05149	JCC26 1
04400	CC 00	2,6C,,	STEP	05151	2
04410	CC N9	2,59		05153	2
04420	CSA	CODEE		05158	5 X 1
04430	CC -	1,C		05158 05159	JCC74 1
04440	CC 00	2,6C,,	PAUSE	05161	2
04450	CC N9	2,59		05163	2
04460	CSA	CODEE		05168	5 X 1
04470	CC -	1,C		05168 05169	JCC74 1
04480	CC 00	2,6C,,	CONTINUE	05171	2
04490	CC N9	2,59		05173	2
04500	CSA	CODEE		05178	5 X 1
04510	CC -	1,C		05178 05179	JCC74 1
04520	CC 00	2,6C,,	FCRMAP	05181	2
04530	CC N9	2,59		05183	2
04540	CSA	CODE17		05188	5 X 1
04550	CC -	1,C		05188 05189	JC242 1
04560	CC -5	2,5,,	UNPNS	05191	2
04570	CC -0	2,C		05193	2

0458C	CSA	CODE4		C5190	9 X 1
				05190	JCC9C
				05199	1
C459C	CC	1,C		05201	2
			SENSE SWITCH		
C460C	CC	2,C,,		05203	2
				05200	9 X 1
C4610	CC	2,2		05200	-3600
				05209	1
C462C	CSA	CODEC		05211	2
			CALL EXIT		
C463C	CC	1,C		05213	2
				05210	9 X 1
C464C	CC	2,C,,		05210	JC41C
				05219	1
C4650	CC	2,C		05221	2
			SC		
C4660	CC	2,C		05223	2
				05220	9 X 1
C4670	CSA	CODEC		05220	-3600
				05229	1
C471C	CC	1,C		05231	2
			EQUAL		
C4720	CC	2,6C,,		05233	2
				05230	9 X 1
C473C	CC	2,56		05230	JCCC2
				05239	1
C474C	CSA	CODE1		05241	2
			CCLCA		
C475C	CC	1,C		05243	2
				05240	9 X 1
C476C	CC	2,C,,		05240	-3000
				05249	1
C477C	CC	2,C		05251	2
			SLBP		
C478C	CSA	CODE5		05253	2
				05250	9 X 1
0479C	CC	1,C			
C480C	CC	2,C,,			
C481C	CC	2,C			
C482C	CSA	FCT1			

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0483C	CC	1,C		05250	JC330
				05259	1
C484C	CC	2,C,,		05261	2
			SLBF		
C485C	CC	2,C		05263	2
				05260	9 X 1
C486C	CSA	FCT1		05260	JC330
				05269	1
C487C	CC	1,C		05271	2
			DEF		
C488C	CC	2,C,,		05273	2
				05270	9 X 1
C489C	CC	2,C		05270	JC330
				05279	1
0490C	CSA	FCT1		05281	2
			CALL		
C4910	CC	1,C		05283	2
				05280	9 X 1
C4920	CC	2,C,,		05280	JC210
				05289	1
C4930	CC	2,C		05291	2
			RETRN		
C494C	CSA	CODE15		05293	2
				05290	9 X 1
0495C	CC	1,C		05290	JC362
				05299	1
C4960	CC	2,C,,		05301	2
			CUPPY		
C497C	CC	2,C		05303	2
				05300	9 X 1
C498C	CSA	FCTRT		05300	-3600
				05309	1
0499C	CC	1,C		05311	2
			END		
0500C	CC	2,C,,		05313	2
				05310	9 X 1
05010	CC	2,6C		05310	JCC74
				05319	1
05020	CSA	CODEC			
0503C	CC	1,C			
0504C	CC	2,C,,			
05050	CC	2,C			
05060	CSA	CODE6			
05070	CC	1,C			

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0508C	CC	2,1,,	FETCHV	05321	2
	-1				
0509C	CC	2,C		05323	2
	-0				
0510C	CSA	CODE14		05328	5 X 1
				05328	JC194
				05329	1
0511C	CC	1,C		05331	2
	-				
0512C	CC	2,1,,	FETCM	05333	2
	-1				
0513C	CC	2,C		05338	5 X 1
	-0				
0514C	CSA	CODE14		05338	JC194
				05339	1
0515C	CC	1,C		05341	2
	-				
0516C	CC	2,1,,	FINCV	05343	2
	-1				
0517C	CC	2,C		05348	5 X 1
	-0				
0518C	CSA	CODE14		05348	JC194
				05349	1
0519C	CC	1,C		05351	2
	-				
0520C	CC	2,1,,	FINCL	05353	2
	-1				
0521C	CC	2,C		05358	5 X 1
	-0				
0522C	CSA	CODE14		05358	JC194
				05359	1
0523C	CC	1,C		05361	2
	-				
0524C	CC	2,1,,	RECCRV	05363	2
	-1				
0525C	CC	2,C		05368	5 X 1
	-0				
0526C	CSA	CODE14		05368	JC194
				05369	1
0527C	CC	1,C		05371	2
	-				
0528C	CC	2,1,,	RECCRCL	05373	2
	-1				
0529C	CC	2,C		05378	5 X 1
	-0				
0530C	CSA	CODE14		05378	JC194
				05379	1
0531C	CC	1,C		05381	2
	-				
0532C	CC	2,C,,	SO		
	-0				

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0533C	CC	2,C		05383	2
	-0				
0534C	CSA	CDSSAB		05388	5 X 1
				05388	JC29C
				05389	1
0535C	CC	1,C		05391	2
	-				
0536C	CC	2,C,,	S1	05393	2
	-0				
0537C	CC	2,C		05398	5 X 1
	-0				
0538C	CSA	CODESS		05398	JC268
				05399	1
0539C	CC	1,C		05401	2
	-				
0540C	CC	2,C,,	S2	05403	2
	-0				
0541C	CC	2,C		05408	5 X 1
	-0				
0542C	CSA	CODESS		05408	JC268
				05409	1
0543C	CC	1,C		05411	2
	-				
0544C	CC	2,C,,	S3	05413	2
	-0				
0545C	CC	2,C		05418	5 X 1
	-0				
0546C	CSA	CODESS		05418	JC268
				05419	1
0547C	CC	1,C		05421	2
	-				
0548C	CC	2,C,,	CALL LINK	05423	2
	-0				
0549C	CC	2,C		05428	5 X 1
	-0				
0550C	CSA	CDCALL		05428	JC41C
				05433	5
0551C	*****	GETX FORTRAN ROUTINE	*****	05434	45
0552C	CS	5		05446	16
0553C	GETX	BMR GETSY,INPUT		05458	49
0554C	TFP	IOGT ,GETBLK	,,23 ,7	05470	11
0555C	B	IOGT ,GETBLK	,1 ,1C	05482	26
0556C	AM	GTOLKB		05484	31
0557C	GETSY	TF GETX-1,INPUT+3,6,	GET NEXT SYMBOL	05486	42
0558C	TR	INPUT,INPUT+4,,	SLICE DCWN	05508	
0559C	BB			05508	2
0560C	DORG	0-9		05514	5 X 1
0561C	GETBLK	DSC 2,2		05514	-5516
	C2				
0562C	CSA	GTOLKA			

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0563C	CC	1,1			C5515	1	
05640	GTBLKA	CSC	1,C		C5516	1	
0565C	GTBLKB	CC	5,6CC		C5521	5	
05660		CC	3,1		C5524	3	
05670	CSA	INPLT			C5529	5	1
0568C	CC	1,1			C5529	-9450	
0568C					C5530	1	
0569C	*****	FORTRAN II GTNS, RPNS, RPAS ROUTINES	*****		C5535	5	
0570C	DS	5			C5534	26	C371- C593H
05710	ACSL	TF	NACCC2	,ACSL-1	,611,		
0572C	AM	NACCC2		,1	,1C,		
0573C	TDM	NACCC2			,6		
0574C	CC	1			,9		
05750	AM	NACCC2		,3	,1C,		
0576C	BB2				,9		
05770	CS	5					
0578C	RPNS	TDM	RPNS*8,1,11,	SET RPNS SWITCH TO FLAG 1			
05790	BT	RGR,RPNS-1					
0580C	CS	5					
05810	GTNS	TDM	RPNS*8,1,	SET GTNS SWITCH TO 1			
0582C	BT	RGR,GTNS-1					
05830	CS	5					
0584C	RPNS	TDM	RPNS*8,C,	SET RPNS SWITCH TO C			
05850	BT	RGR,RPNS-1					
0586C	CS	5					
05870	RGR	TF	RGR1,-1,11,	MOVE IN ADDRESS OF I			
05880	AM	RGR-1,5,1C					
05890	TF	RGRS,RGR-1,11,		MOVE IN ADDRESS OF SYMBOL			
0590C	AM	RGR-1,1,10					
05910	MM		,4	,1C,			
0592C	RGR1	CS	,0-5				
05930	AM	99	,RGNST	,SET UP STRING ADDRESS			
0594C	BD	REMGET	,RPNS*8				
05950	TF	99		,PLACE SYMBOL ON STRING			
05960	RGRS	CS	,0				
05970	B7	RGR-1		,6			
0598C	REMGET	TF	RGRS,99,611,	TAKE SYMBOL FROM STRING			
05990	BNF	RGR-1,RPNS*8,6,		EXIT IF GTNS			
0600C	AM	99	,1	,1C,			
06010	TF	92	,95				
0602C	SM	92	,4	,10,			
06030	TR	92	,95				
06040	B	RGR-1,,6,		EXIT			
0605C	DORG	-3					
0606C	RGRNLL	BD	+2C,RPNS*8,,	BRANCH IF RPNS CR GTNS			
06070	B	RGR-1,,6,		EXIT IF RPNS			
0608C	DORG	-3					
0609C	TFM	RGRS,C,68,		MOVE NULL TO SYMBOL			
0610C	B	RGR-1,,6,		EXIT			

0611C	DORG	-3			C5906		
0612C	*****	FORTRAN GENERATE TEMPORARY STRACE ROUTINE	*****				
06130	CS	5			C5910	5	
0614C	GMRP	TFM	G1,,8,	SET GI TO ZERO	C5912	16	C6603 C-CCC
0615C	TDM	GTSBSH,C			C5924	15	C6574 CCCC
0616C	AM	G1,1,10,		ADD 1 TO GI	C5936	11	C6603 CCC-1
06170	B7M	GTNS,,+16,,		GET ITH SYMBOL	C5940	17	C5622 -5964
06180	CSA	G1,G1			C5964	5	X 2
0619C	CM	GA,1C1,8,		COMPARE TO FAC (1C1)	C5964	-6683	
0620C	BNE	GMRP+24			C5969	-6535	
06210	CM	TPAX,,9,		HAVE ANY TEMPS BEEN GENERATED	C5970	14	C6535 C-1C1
0622C	BE	GNCNE			C5982	47	C5936 C12CC
06230	GYES	TF	GBASE,TBASE		C5954	14	C652C CC-CC
0624C	TFM	GCNT,C,9			C6006	46	C6122 C12CC
06250	SM	GBASE,7,10			C6010	26	C9637 C23C3
0626C	BNF	GFREE,GBASE,11,		BRANCH IF FREE CNE FCUNC	C6030	16	C6005 CC-CC
0627C	GTPT	AM	GCNT,1,1C		C6042	12	C9637 CCC-7
0628C	CM	TPAX			C6054	44	C654C C65P9
0629C	GCNT	DS	,0		C6066	11	C6005 CCC-1
0630C	BE	GNCNE			C6078	14	C692C -CCCC
0631C	SM	GBASE,1C,1C			C6085	C	
0632C	B	GYES+36			C6090	46	C6122 C12CC
06330	DORG	-3			C6102	12	C9637 CCCC
0634C	GACNE	AM	TPAX,1,1C		C6114	49	C6054 CCCC
0635C	BD	FULLCK-24,GTSBSH			C6122	11	C652C CCC-1
06360	TF	GCON,ADCON,,		MOVE ADCON TO GCON	C6134	43	C6322 C6974
06370	AM	GCON,19,10,		ADD 19 FOR LENGTH OF INSTS	C6146	26	C6787 C6925
0638C	A	GCON,1NG			C6158	11	C6787 C69J9
06390	TF	TCCH,GCON,,		SAVE CONSTANT ADDRESS	C6170	21	C6787 C966C
0640C	TDM	552,1			C6182	24	C6517 C6787
06410	B7M	PUTX,,+16,,		OUTPUT STCRE PAC INST	C6194	15	C7425 CCCC1
06420	CSA	B7M,FRFAC,GCON			C6206	17	C658C -6222
06430	MM	GCON,5,10,		IS GCON ODD OR EVEN	C6222	-6928	
0644C	BD	GADD1,99			C6227	-4146	
06450	AM	GCON,2,1C,		ADD 2 TO GCON	C6232	-6787	
06460	GPUT	TDM	551,1		C6234	13	C6787 C60-5
06470	B7M	PUTX,,+16			C6246	43	C6516 C6559
06480	CSA	B,GCON,BLANK			C6258	11	C6787 CCC-2
06490	TF	ADCON,GCON,,		RESERVE SPACE FOR NEW TEMP	C6270	15	C7425 CCCC1
0650C	TF	GBASE,TBASE,,		MOVE IN NEXT AVAILABLE TABLE ADDRESS	C6282	17	C698C -6298
06510	S	GBASE-1,TPAX			C6298	5	X 3
06520	FLLCK	C	GBASE,DOPAX				
06530	DNL	GPLTA					
06540	B7M	ERRT,FULRES					
0655C	MNCLCV	BV	+12				

0656C B7 MONCAL
 06570 GPUTA TF GBASE,TCCW,6
 06580 GFLAG AM GBASE,4,10
 06590 TFM GBASE,10,61C
 06600 SM GBASE,3,1C
 06610 TD GBASE,FLAGSW,6
 06620 BD GTFIN,GTSBSW
 06630 TDM FSW,C
 06640 GTJW BTM RPN,++16
 06650 CSA GI,GBASE-1

06354 49 C6756
 06402 26 C9839 C6917
 06414 11 C9837 CCC-4
 06428 16 C9839 CCCJC
 06438 12 C9837 CCC-3
 06450 25 C9839 C5019
 06462 43 15442 C6974
 06474 15 C9356 CCCCC
 06486 17 C6522 -65C2
 06502 5 X 2

0666C B GNRP-1,6, EXIT
 06670 DORG *-3
 06680 GACCD1 AM GCCW,1,1C, ACC 1 TC GCCW
 06690 B GPLT
 06700 GA DS *
 06710 GFREE AM GBASE,1,1C
 06720 BD CTST,GBASE,11
 06730 BNF NGFRE,GTSBSW
 06740 GTST BD GFLAG,12,GTSBSW
 06750 SM GBASE,1,1C
 06760 B7 CTPT
 06770 NGFRE SM GBASE,4,1C
 06780 TF TCCW,GBASE,11, MOVE ADDRESS OF GT TC TCCW
 06790 TDM SS,1
 06800 BTM PUTX,++16,, CLTPUT STCR FAC IAST
 06810 CSA BTM,FRFAC,TCCW

06502 -6683
 06507 -9656
 06508 49 C591J CCCCC
 06516
 06516 11 C6787 CCC-1
 06528 49 C627C CCCCC
 06539 C
 06540 11 C9837 CCC-1
 06552 43 C6576 C9839
 06564 44 C66CE C6974
 06576 43 C6426 C6974
 06588 12 C9837 CCC-1
 06600 49 C6666
 06608 12 C9837 CCC-4
 06620 26 C6917 C9839
 06632 15 C7425 CCCCC
 06644 17 C658C -666C
 06660 5 X 3

06820 B GFLAG
 06830 CI DS 5,*
 06840 CC 4,1CCC
 06850 GTCL CM GTCL-1,1C1,8
 06860 BE **36
 06870 C TRASE-1,GTCL-1
 06880 BM GTFLCL
 06890 BR
 06900 CORG *-9
 06910 GCLEAR TF **17,GTCL-1
 06920 TDM 7
 06930 BB **,C
 06940 CORG *-9
 06950 GTFLCL TF **17,GTCL-1
 06960 CF 4
 06970 GCCW CS 5,*
 06980 B GCLEAR
 06990 CORG *-3
 07000 GTACL TF GBASE,TBASE
 07010 S GBASE-1,TPAX
 07020 AM GBASE,3,1C
 07030 C GBASE,TBASE

06660 -6928
 06665 -4146
 06670 -6917
 06672 49 C6414 CCCCC
 06683 5
 06687 4
 06688 14 C6687 C-1C1
 06700 46 C6736 C12CC
 06712 24 C23C2 C6687
 06724 46 C6764 C11CC
 06736 42 CCCCC CCCCC
 06738 26 C6755 C6687
 06750 15 CCCC7 CCCCC
 06762 42 CCCCC CCCCC
 06764
 06764 26 C6781 C6687
 06776 33 CCCCC CCCCC
 06787 5
 06788 49 C6736 CCCCC
 06796
 06796 26 C9837 C23C3
 06808 22 C9836 C692C
 06820 11 C9837 CCC-3
 06832 24 C9837 C23C3

07040 BNM **14
 07050 BB
 07060 DORG *-9
 07070 TDM GBASE,,6
 07080 SM GBASE,3,1C
 07090 CF GBASE,,6
 07100 AM GBASE,13,1C
 07110 B GTACL*36
 07120 TCCW CS *,*
 07130 TPAX CC 3,C
 07140 ACCW CC 5,C
 07150 CC 1,*
 07160 BTM CC 2,17
 07170 B CC 2,49
 07180 C1 DS 5
 07190 C1 DS 5
 07200 C2 DS 5
 07210 C3 DS 5
 07220 C3 DS 5
 07230 C4 DS 5
 07240 C4 DS 5
 07250 T1 DS 5
 07260 L DS 3
 07270 GTSBSW CSC 1,C
 07280 C

06844 47 C685E C11CC
 06856 42 CCCCC CCCCC
 06858
 06858 15 C9839 CCCCC
 06870 12 C6521 CCC-3
 06882 33 C9839 CCCCC
 06894 11 C9837 CCOJ3
 06906 45 C6832 CCCCC
 06917 C
 06920 3
 06925 5
 06926 1
 06928 2
 06930 2
 06935 5
 06940 5
 06945 5
 06950 5
 06955 5
 06960 5
 06965 5
 06970 5
 06973 3
 06974 1

07280 ***** DISC OUTPLT RCLTINES PER OBJECT PROGRAM
 07290 DS 5
 07300 PLTX TF PUT1 ,PLTX-1 ,11
 07310 AM PUTX-1 ,5 ,1C
 07320 TF PUT2 ,PLTX-1 ,11
 07330 AM PUTX-1 ,5 ,1C
 07340 TR TYPET ,TYPEX
 07350 PLTXA TF PUT3 ,PLTX-1 ,11
 07360 AM PUTX-1 ,2 ,1C
 07370 PLTXB C CODET ,LSTYPER
 07380 BNE PUTDIF
 07390 C SAVCOW ,ACCDW
 07400 BNE OUTSEQ
 07410 C BAL ,SLNG
 07420 BL PUTNXT
 07430 PLTEST BD PUTINS ,CCDET
 07440 B7 PUTCAD
 07450 ***** PLACE INSTRUCTIONS IN OUTPUT BUFFER
 07460 PLTINS AM NEXT ,2 ,1C
 07470 TF NEXT ,PUT1 ,011
 07480 C LOCOM ,PLT3 ,11
 07490 BNM **24
 07500 BD FLG2 ,SS2
 07510 PUTXC SM NEXT ,1 ,10
 07520 C LOCOM ,PUT2 ,11
 07530 BNM **24

06975 5
 06980 26 C8718 C697R
 06992 11 C6975 CCO-5
 07004 26 C8723 C697R
 07016 11 C6975 CCC-5
 07028 31 C8373 C8729
 07040 26 C8728 C697R
 07052 11 C6975 CCC-2
 07064 24 C8386 C8392
 07076 47 C7552 C12CC
 07088 24 C7447 C1925
 07100 47 C7492 C12CC
 07112 24 C8354 C8375
 07124 47 C7852 C13CC
 07136 43 C7156 C8386
 07148 49 C7476
 07156 11 C8464 C00-2
 07168 26 C84CP C871G
 07180 24 C2262 C872C
 07192 47 C7216 C11CC
 07204 43 C7416 C7425
 07216 12 C8464 CCO-1
 07228 24 C2262 C872L
 07240 47 C7264 C11CC

C754C	BD	++24	,SS1			07252	43	C7276	C7424
07550	CF	NEXT	,	,6		07244	33	C84CP	CCCC
07560	PLTGT	CS	,*			C7379		C	
07570	AM	NEXT	,6	,1C		07276	11	C84CA	CCC-6
07580	TF	NEXT	,PLT2	,611		C7288	26	C84CP	C872L
07590	BD	FLG3	,SS3			C73CC	43	C7436	C7426
07600	PLTXC	AM	NEXT	,5	,1C	C7312	11	C84CA	CCO-5
07610	TF	NEXT	,PLT3	,611		07324	26	C84CP	C872C
07620	BD	FLG4	,SS4			07336	43	C7456	C7427
07630	PLTXE	TFM	SS4	,C	,6	07348	16	C7427	C-CCC
07640	SM	BAL	,12	,1C		07360	12	C8354	CCOJ2
07650	PLTXF	A	ADCCN	,SLNG		C7372	21	C6925	C8375
07660	TF	SAVCCN	,ACCCN			C7384	26	C7447	C6925
07670	A	LNGAC	,SLAG	,6		C7396	21	C835R	C8375
07680	B7	PUTX-1	,	,6		07408	49	C697R	
07690	FLG2	SF	NEXT	,6		07416	32	C84CP	CCCC
07700	SS1	CS	,*-3			C7424		C	
07710	SS2	CS	,*-2			C7425		C	
07720	SS3	CS	,*-1			07426		C	
07730	SS4	CS	,*			07427		C	
07740	B7	PUTXC	,			C7428	49	C7216	
07750	FLG3	SF	NEXT	,6		07436	32	C84CP	R5999
07760	SAVCCN	DS	,*			07447		C	
07770	B7	PUTXC	,			07448	49	C7312	
07780	FLG4	SF	NEXT	,6		C7456	32	C84CP	CCCC
07790	B7	PUTXE	,			C7468	49	C7348	
07800	*****	PLACE CSA ADDRESSES IN CUTPLT BUFFER							
07810	PLTCA	A	NEXT	,SLAG		07476	21	C84CA	C8375
07820	S	BAL	,SLAG			07488	22	C8354	C8375
07830	TF	NEXT	,PLT3	,611		07500	26	C84CP	C872C
07840	BD	++2C	,CCDET-3			C7512	43	C7532	C8383
07850	B7	PUTXF	,			07524	49	C7372	
07860	TFM	SAVCCN	,69999			07532	16	C7447	R5999
07870	B7	PUTXF+24	,			C7544	49	C7356	
07880	*****	THIS TYPE NOT EQUAL TO LAST							
07890	PLTDIF	TF	LSTYPR	,CCDET		C7552	26	C8352	C8386
07900	C	SAVCCN	,ACCCN			C7564	24	C7447	C6925
07910	BNE	OUTSEQ	,			C7576	47	C7692	C120C
07920	C	BAL	,SSLAG			C7588	24	C8354	C8377
07930	BL	PUTNXT	,			07600	47	C7852	C130C
07940	PLTXG	AM	NEXT	,1	,1C	C7612	11	C84CA	CCO-1
07950	TD	NEXT	,TYPET	,6		07624	25	C84CP	C8373
07960	AM	NEXT	,2	,1C		C7636	11	C84CA	CCO-2
07970	TFM	NEXT	,C	,61C		C7648	16	C84CP	CCO-C
07980	TF	LNGAC	,NEXT			C7660	26	C8355	C84CA
07990	SM	BAL	,3	,1C		07672	12	C8354	CCO-3
08000	B7	PUTEST	,			C7684	49	C7136	
08010	*****	CUT CF SEQUENCE							
08020	CLTSEC	C	BAL	,SCLAG		C7692	24	C8354	C8381
08030	BL	PUTNXT	,			07704	47	C7852	C130C
08040	CM	BAL	,75	,1C		07716	14	C8354	CCCP5
08050	BE	PUTX-	,			C7728	46	C7776	C120C
08060	AM	NEXT	,1	,1C		C7740	11	C84CA	CCO-1
08070	SM	BAL	,1	,1C		C7752	12	C8394	CCO-1
08080	TD	NEXT	,	,6		07764	15	C84CP	CCCC
08090	CC	1,*,*	,			C7775		1	

08100	PLTX-	AM	NEXT	,5	,1C	07776	11	C84CA	CCC-5
08110	SM	BAL	,5	,1C		C7788	12	C8354	CCO-5
08120	BD	PUTTA	,CCDET-3			07800	43	C7832	C8383
08130	PLTXJ	TF	NEXT	,ACCCN	,6	07812	26	C84CP	C6925
08140	B7	PUTXG	,			07824	49	C7612	
08150	PLTTA	TF	NEXT	,PLT2	,611	C7832	26	C84CP	C872L
08160	B7	PUTXG	,			07844	49	C7612	
08170	*****	NEXT CARD BUFFER TO BE USED							
08180	PLTNXT	AM	NEXT	,1	,1C	07852	11	C84CA	CCO-1
08190	TD	NEXT	,FLGRP	,6		C7864	25	C84CP	C8372
08200	CM	PREBUF	,BLF4			07876	14	C8713	-8633
08210	BE	PUTPCH	,			07888	46	C7556	C120C
08220	AM	PREBLF	,75	,1C		C7900	11	C8713	CCCP5
08230	TF	NEXT	,PREBUF			C7912	26	C84CA	C8713
08240	SM	NEXT	,1	,1C		07924	12	C84CA	CCO-1
08250	PLTXI	TFM	BAL	,75	,1C	07936	16	C8354	CCCP5
08260	B7	PUTX-	,			C7948	49	C7776	
08270	*****	CUTPLT BUFFER LOAD TO DISC							
08280	PLTPE	TD	BUF4+75			07956	15	C870E	CCCC
08290	DGP	,*				07967			
08300	TFM	IORT	,++23			C7980	16	CC565	-7991
08310	B	IORT	,PLTX	,7		C7992	49	CC532	-8350
08320	AM	PUTX2	,3	,1C		07952	11	C8353	CCO-3
08330	TFM	PREBLF	,BLF1			08004	16	C8713	-8408
08340	TFM	NEXT	,BLF1-1			C8016	16	C84CA	-8407
08350	TFM	++18	,BLF4+75			C8028	16	C84CA	-8708
08360	TF	BUF4+75	,A13089			08040	26	C870E	C5434
08370	SM	+-6	,12	,1C		08052	12	C84CA	CCOJ2
08380	CM	+-18	,BLF1			08064	14	C84CA	-8408
08390	BH	+-36	,			C8076	46	C84CA	C110C
08400	B	PUTXI	,			08088	49	C7936	CCCC
08410	PLTC	TF	++23	,11		08100	26	C8123	C835R
08420	CF	++11	,			08112	33	C8123	CCCC
08430	C	+-1	,LCCCN	,6		08124	24	C812L	C2262
08440	BH	PUTCA	,			08136	46	C8196	C110C
08450	TR	TYPET	,TYPECR			08148	31	C8373	C8744
08460	PLTCB	TF	PUTX-1	,PLTC-1		C8160	24	C6976	C8399
08470	B	PUTXA	,			08172	49	C764C	CCOCC
08480	PLTD	TF	PUTC-1,PLTD-1			08184	26	C8396	C8183
08490	PLTCA	TR	TYPET	,TYPECA		08196	31	C8373	C8759
08500	B	PUTCB	,			08208	49	C816C	CCCC
08510	PLTA	TF	PUT2	,PLTA-1	,11	08220	24	C8723	C821R
08520	AM	PUTA-1	,5	,1C		08232	11	C8215	CCO-5
08530	TF	PUT3	,PLTA-1	,11		08244	26	C8728	C821R
08540	AM	PUTA-1	,1	,1C		08256	11	C8219	CCO-1
08550	TF	PUTX-1	,PLTA-1			08268	24	C6976	C8219
08560	TR	TYPET	,TYPEA			08280	31	C8373	C8774
08570	B	OUTSEQ	,			08292	49	C7692	CCCC
08580	PLTRM	TR	TYPET,TYPEP			C8304	31	C8373	C8335
08590	TF	PUTX-1,PLTRP-1	,			08316	24	C6976	C8335
08600	B7	PUTXA	,			08328	49	C764C	
08610	TYPEP	DSC	1,2			08335		1	
		2							
08620	DC	2,2				08337		2	
-2									
08630	CC	2,5				08339		2	
-5									

08640 CC 2,10
 JO
 0865C CC 2,11
 J1
 08660 CC 5,100
 -01CC
 0867C DC 1,1
 *
 0868C PLTX C 2,2
 C2
 08690 DSA PUTXY
 *
 0870C CC 1,1
 *
 08710 PLTX C 1,C
 C
 0872C PLTX Z CC 5,C
 -OCCC
 0873C CC 3,3
 -03
 0874C DSA BUF1
 *
 08750 FLGRM CC 1,1
 *
 08760 TYPET CS 1
 08770 SLNG CS 2
 0878C SSLNG CS 2
 0879C NLNG CS 2
 0880C SGLNG DS 2
 0881C CGDET DS 5
 0882C CS 1
 0883C LSTYPE DC 5,C
 -OCCC
 0884C BAL CC 2,75
 P5
 0885C LNGAD CS 5
 08860 NEXT DSA BUF1
 *
 0887C DAS 1
 0888C BLF1 DSC 5C,C
 CCC
 DSC 25,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 0889C BLF2 DSC 50,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 DSC 25,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 0890C BLF3 DSC 50,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 DSC 25,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 0891C BLF4 DSC 50,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 DSC 25,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 DSC 50,C
 CCCCCCCCCCCCCCCCCCCCCCCCC

08341 2
 08343 2
 08348 5
 08349 1
 0835C 2
 08356 5 X 1
 08356 -0358
 08357 1
 08358 1
 08363 5
 08366 3
 08371 5 X 1
 08371 -0408
 08372 1
 08373 1
 08375 2
 08377 2
 08379 2
 08381 2
 08386 5
 08387 1
 08392 5
 08394 2
 08399 5
 08404 5 X 1
 08404 -0408
 08407 1 X 2
 08408 5C
 08458 25
 08483 5C
 08533 25
 08558 5C
 08608 25
 08633 5C

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08950 DSC 25,C
 CCCCCCCCCCCCCCCCCCCCCCCCC
 0896C GRMK DGM
 0897C PREBLF DSA BUF1
 *
 0898C PLT1 CS 5
 0899C PLT2 DS 5
 0900C PLT3 CS 5
 09010 TYPEX CSC 1,1
 1
 09020 CC 2,12
 J2
 09030 CC 2,15
 J5
 09040 CC 2,20
 KO
 09050 CC 2,21
 K1
 09060 DC 5,1
 -OCC1
 09070 CC 1,1
 *
 09080 TYPECR DSC 1,3
 3
 0909C CC 2,5
 -5
 0910C DC 2,8
 -8
 09110 CC 2,13
 J3
 09120 CC 2,14
 J4
 09130 CC 5,10
 -0C1C
 09140 DC 1,1
 *
 09150 TYPECA DSC 1,2
 2
 09160 CC 2,5
 -5
 0917C DC 2,8
 -8
 09180 DC 2,13
 J3
 09190 DC 2,14
 J4
 0920C CC 5,100
 -01CC
 09210 CC 1,1
 *
 09220 TYPEA DSC 1,3
 3
 09230 DC 2,5
 -5
 09240 DC 2,13
 J3

08683 25
 08708 1
 08713 5 X 1
 08713 -0408
 08718 5
 08723 5
 08728 5
 08729 1
 08731 2
 08733 2
 08735 2
 08737 2
 08742 5
 08743 1
 08744 1
 08746 2
 08748 2
 0875C 2
 08752 2
 08757 5
 08758 1
 08759 1
 08761 2
 08763 2
 08765 2
 08767 2
 08772 5
 08773 1
 08774 1
 08776 2
 08778 2

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0925C	CC	2,13			0878C	2
	J3					
0926C	CC	2,14			08782	2
	J4					
09270	CC	5,1CCC			08787	5
	-1CCC					
0928C	CC	1,*			08788	1
	'					
0929C	CS	5			08793	5
0933C CANCS	TF	CANCSA	,*-1	.11	08794	26
0931C	BTP	RMNS	,*+16		08806	17
09320	CSA	1,DX			08822	5
						2
					08822	-9567
					08827	-9C65
09330	BTP	RMNS	,*+16		08828	17
0934C	CSA	1,DY			08844	5
						2
					08844	-9567
					08849	-9C73
0935C	CF	DY-3			0885C	33
0936C	SF	DX		.1C	08862	32
09370	TD	*-1	,*C-3		08874	25
0938C	CM	*-13	,*	.1C11	08886	14
0939C	BNE	*+24			08898	47
0940C	SF	DY			0891C	32
09410	TF		,CY		08922	26
09420 CANCSA	CS		,*-5		08928	C
0943C	AM	CANDS-1	,5	.1C	08934	11
0944C	BTP	RMNS	,*+16		08946	17
09450	CSA	1,DX			08962	5
						2
					08962	-9567
					08967	-9C65
09460	CM	DX	.1C4	.8	08968	14
0947C	BNE	*+32			0898C	47
0948C CANCRT	AM	CANDS-1	.1	.1C	08992	11
0949C	B	CANDE-1	.	.8	09004	49
0950C	DDRG	*-3			09012	C
0951C	BTP	SRFCT	,*+16		09012	17
09520	CSA	DX,DX			09028	5
						2
					09028	-9C65
					09033	-9C65
0953C	TF	*+18	,CANDS-1	.11	09034	26
0954C	TF		,CP		09046	26
0955C	B	CANCRT			09058	49
0956C	CS	*			09069	C
09570	CS	4			09073	4
0958C	DC	5	.C	.	09078	5
	-0CCC					
0959C ERR	WN	LSTN	.9C1	.	0908C	38
0960C	TD	EM1+14, SCNT-1		.	09092	25
0961C	TD	EM1+16, SCNT-2		.	09104	25
09620	TD	EM1+18, SCNT-1		.	09116	25
0963C	TD	EM1+20, SCNT		.	09128	25

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0964C	WA	EM1	.9C1	.	0914C	35
0965C	WA	ERRT-1	.5CC	.6	09152	35
0966C	BB		.	.	09164	42
0967C	LSTN	CS	*-9	.	09166	C
0968C	DDRG	LSTN+4		.	0917C	C
0969C	CC	1,*		.	0917C	1
0970C	EM1	DAC	12, + 7777'		09173	12
			+ 7777'			2
0971C	CAS	1			09197	1
09720	BLK1	CSC	2,22		09198	2
		22				
0973C	CSA	BLK1A			09204	5
						1
					09204	-92C6
0974C	CC	1,*			09205	1
	'					
0975C	BLK1A	DSC	1,C		09206	1
		C				
0976C	CC	5,17876			09211	5
	J7876					
0977C	CC	3,41			09214	3
	-41					
0978C	CSA	CODE1-2			09219	5
						1
					09219	JCCCC
0979C	CC	1,*			0922C	1
	'					
0980C	CS	1			09221	1
0981C	BLK2	DSC	2,22		09222	2
		22				
0982C	CSA	BLK2A			09228	5
						1
					09228	-523C
0983C	CC	1,*			09229	1
	'					
0984C	BLK2A	DSC	1,C		0923C	1
		C				
09850	CC	5,17536			09235	5
	J7536					
09860	CC	3,6C			09238	3
	-6C					
09870	CSA	CODE1-2			09243	5
						1
					09243	JCCCC
0988C	CC	1,*			09244	1
	'					
0989C	CS	1			09245	1
0990C	BLK3	DSC	2,22		09246	2
		22				
09910	CSA	BLK3A			09252	5
						1
					09252	-9254
09920	CC	1,*			09253	1
	'					
09930	BLK3A	DSC	1,C		09254	1
		C				

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0954C	CC	5,180CC	09259	5
	J8CCC			
0955C	CC	3,41	09262	3
	-41			
0956C	CSA	CODE1-2	09267	5 X 1
0957C	CC	1, *	09267	JCCCC
			09268	1
0958C	DS	1	09269	1
0959C BLK4	DSC	2,22	09270	2
	22			
100CC	CSA	BLK4A	09276	5 X 1
1001C	CC	1, *	09276	-9276
			09277	1
1002C BLK4A	DSC	1,C	09278	1
	C			
1003C	CC	5,180C41	09283	5
	J8041			
1004C	CC	3,41	09286	3
	-41			
1005C	CSA	CODE1-2	09291	5 X 1
1006C	CC	1, *	09291	JCCCC
			09292	1
1007C	DS	1	09293	1
1008C BLK5	DSC	2,22	09294	2
	22			
1009C	CSA	BLK5A	09300	5 X 1
1010C	CC	1, *	09300	-9302
			09301	1
1011C BLK5A	DSC	1,C	09302	1
	C			
1012C	CC	5,17517	09307	5
	J7917			
1013C	CC	3,C19	09310	3
	-19			
1014C	CSA	SUBCCS-2	09315	5 X 1
1015C	CC	1, *	09315	J41CC
			09316	1
1016C	DS	1	09317	1
1017C BLK6	DSC	2,22	09318	2
	22			
1018C	CSA	BLK6A	09324	5 X 1
1019C	CC	1, *	09324	-9326
			09325	1
1020C BLK6A	DSC	1,C	09326	1
	C			

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1021C	CC	5,180C2	09331	5
	J8C2			
1022C	CC	3,C19	09334	3
	-19			
1023C	CSA	SUBCCS-2	09339	5 X 1
1024C	CC	1, *	09339	J41CC
			09340	1
1025C	DS	1	09341	1
1026C BLK7	DSC	2,22	09342	2
	22			
1027C	CSA	BLK7A	09348	5 X 1
1028C	CC	1, *	09348	-9350
			09349	1
1029C BLK7A	DSC	1,C	09350	1
	C			
1030C	CC	5,181C1	09355	5
	J81C1			
1031C	CC	3,C19	09358	3
	-19			
1032C	CSA	SUBCCS-2	09363	5 X 1
1033C	CC	1, *	09363	J41CC
			09364	1
1034C	DS	1	09365	1
1035C BLK8	DSC	2,22	09366	2
	22			
1036C	CSA	BLK8A	09372	5 X 1
1037C	CC	1, *	09372	-9374
			09373	1
1038C BLK8A	DSC	1,C	09374	1
	C			
1039C	CC	5,1812C	09379	5
	J812C			
1040C	CC	3,C19	09382	3
	-19			
1041C	CSA	SUBCCS-2	09387	5 X 1
1042C	CC	1, *	09387	J41CC
			09388	1
1043C CKCOh	CC	5,C	09393	5
	-0CC0			
1044C	CC	1, *	09394	1
1045C SSSh	DS	0CC01,,SSSh,,	09395	1
1046C FSh	DS	00001,,FSh,,	09396	1
1047C IC1	DS	00001,,IC1,,	09397	1
1048C IC2	DS	00001,,IC2,,	09398	1
1049C IC3	DS	00001,,IC3,,	09399	1

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10900	STEMP1	CS	00CC1,,STEMP1,,	09400	1
10910	STEMP2	DS	CCCC1,,STEMP2,,	09401	1
10920	CALLS	DS	00C01,,CALLS,,	09402	1
10930	CCSW	DSC	1,C	09403	1
10940	EXINC	DS	00CC1,,EXINC,,	09404	1
10950	SLBS	DS	00CC1,,SLBS,,	09405	1
10960	RECS	CS	1	09406	1
10970	RS	CS	1	09407	1
10980	SHAREA	CS	,*	09407	1
10990	TFP	CC	00CC2,16,,TFP,	09409	2
10400	SF	CC	00CC2,32,,SF,	09411	2
10410	CF	CC	00CC2,33,,CF	09413	2
10420	TF	CC	00CC2,26,,TF,	09415	2
10430	AP	CC	00CC2,11,,AP,	09417	2
10440	PP	CC	00CC2,13,,PP,	09419	2
10450	H	CC	00CC2,48,,H,	09421	2
10460	N13085	CC	0CC13,C	09434	13
			-0CCCCCCCCC		
10470	ZERO	DS	,*-11	09423	C
10480	ZERO4	DS	,*-7	09427	C
10490	ZERO4	DS	,*-5	09425	C
10700	ZERO5	DS	,*-8	09426	C
10710	BLANK	DS	,*-8	09426	C
10720	N13052	CC	5,C0C99,,	09435	5
			-0C59		
10730	SLB	CC	CCCC2,22,,SLB,	09441	2
			K2		
10740	N13133	CC	5,C0C95,,	09446	5
			-0C55		
10750	MCC	CC	2,C	09448	2
			-0		
10760	MPY	CC	00CC2,23	09450	2
			K3		
10770	BT	CC	00CC2,27,,BT,	09452	2
			K7		
10780	RCTY	CC	00CC2,34,,RCTY,	09454	2
			L4		
10790	WATY	CC	00CC2,39,,WATY,	09456	2
			L9		
10800	GLND	CC	00CC4,0CC,,GLND,	09460	4
			-0CC		
10810	ACC	CC	00CC2,21,,ACC,	09462	2
			K1		
10820	SP	CC	00CC2,12,,SP,	09464	2
			J2		
10830	RVSN	CC	3,125	09467	3
			J25		
10840	RMCC	CC	3,123	09470	3
			J23		

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10850	FULLMES	DAC	30, SYMBCL TABLE FULL'	09473	30 X 2
			SYMBCL TABLE FULL'		
10860	CCA	CC	00CC4,1C9,,CCA,	09535	4
			-1C9		
10870	MNS5	CC	00CC2,-C5,,MNS5,	09537	2
			-M		
10880	N13063	CC	5,CC1CC,,	09542	5
			-01C0		
10890	N13062	CC	5,CC1C2,,	09547	5
			-01C2		
10900	FAC	CC	00CC4,1C1,,FAC,	09551	4
			-1C1		
10910	FIVE	CC	2,5	09553	2
			-5		
10920	RTNAME	DS	00CC5,,RTNAME,,	09558	5
10930	ST	DS	00CC5,,ST,,	09563	5
10940	I	DS	00CC4,,I,,	09567	4
10950	J	DS	00CC5,,J,,	09572	5
10960	P	DS	00CC5,,P,,	09577	5
10970	Q	DS	00CC5,,Q,,	09582	5
10980	LV	DS	00CC5,,LV,,	09587	5
10990	RTAC	DS	00CC5,,RTAC,,	09592	5
11000	RV	DS	00CC5,,RV,,	09597	5
11010	SXF	DS	5	09602	5
11020	CCPAX	CC	5,176CC	09607	5
			J76CC		
11030	J4CCCA	DS	5	09612	5
11040	T2	DS	4	09616	4
11050	NC11CC	CC	5,11CC	09621	5
			-11CC		
11060	BHM	CC	2,47	09623	2
			M7		
11070	C	CC	2,24	09625	2
			K4		
11080	CP	CC	2,14	09627	2
			J4		
11090	BL	CC	2,47	09629	2
			M7		
11100	NC13CC	CC	5,13CC	09634	5
			-13CC		
11110	BE	CC	2,46	09636	2
			M6		
11120	NC12CC	CC	5,12CC	09641	5
			-12CC		
11130	BC	CC	2,43	09643	2
			M3		
11140	BHF	CC	2,44	09645	2
			M4		
11150	FACH2	CC	5,C2490	09650	5
			-245C		
			M6		
11170	GBASE	DS	5	09657	5
11180	LMG	DS	3	09660	3
11190	P1	DS	11	09671	11
11200	T3	DS	5	09676	5

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1121C	CPZ	CS	2			C9678	2	
1122C	FPSW	DSC	1,C			C9679	1	
		C						
1123C	FPSW	DSC	1,C			C9680	1	
		C						
1124C	SKIPSW	DSC	1,C			C9681	1	
		C						
1125C	CCMXSW	DSC	1,C			C9682	1	
		C						
1126C	ERSWT	DSC	1,C			C9683	1	
		C						
1127C	NC0796	CSA	MONCAL			C9688	5 X	1
1128C	SCNT	DC	5,C			C9688	-C796	
		-OCCO				C9693	5	
1129C		DC	1,C			C9694	1	
1130C		DAS	1			C9697	1 X	2
1131C	INPUT	CC	1,C			C9698	1	
1132C		CS	99			C9797	99	
1133C		CC	1,C			C9798	1	
1134C	GISMC	BTP	PUTX	,**16		C9800	17	C6982 -9816
1135C		CSA	OPX,TOFAC,M13092			C9816	5 X	3
						C9816	-4417	
						C9821	-4151	
						C9826	-9436	
1136C		BTP	RPNS	,**16		C9828	17	C5652 -9844
1137C		CSA	I,FAC			C9844	5 X	2
						C9844	-9567	
						C9849	-9591	
1138C		TDP	FSW	,1	,11	C9850	15	C9396 CCCCJ
1139C		TD	FLAGSW	,RFLAG		C9862	25	C5C15 C4959
1140C		BD	**20	,CALLSW		C9874	43	C9894 C94C2
1141C		B7	EXIT			C9886	45	C3C44
1142C		BTP	GMRP	,**12		C9854	17	C5912 -5906
1143C		SM	GBASE	,1	,1C	C9506	12	C9657 C90-1
1144C		SF	GBASE		,0	C9518	32	C9659 CCCC
1145C		B7	EXIT			C9530	49	C3C44
1146C		DDRG	1CCCC			1CCCC		
1147C	*****	SECONDARY LINKAGE FOR BLCK 1						
1148C		DC	2,1			1CCCC	2	
		-1						
1149C	CCCE1	SM	1	,1	,1C	1CCCC	12	C5567 CCC-1
1150C		B	CODE1P			1CC14	49	1C434 C000C
1151C	CCCE3	TF	N4CCC2	,1		1CC26	26	C371C C5567
1152C		B	CODE3P			1CC38	49	1225C C000C
1153C	CCCE4	BTP	RMNS	,CCCE4P		1CC50	17	C5592 J3412
1154C		H				1CC62	48	C000C C000C
1155C	CCCE6	TFP	FMCN+35	,BLK2		1CC74	16	C2355 -9222
1156C		BTP	FMCN	,CCCE6		1CC86	17	C2324 JCC74
1157C	CCCE7	TFP	FMCN+35	,BLK2		1CC98	16	C2355 -9222

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1158C		BTP	FMCN	,CCCE7		1C110	17	C2324 JCC98
1159C	CCCE8	SM	1	,2	,1C	1C122	12	C5567 CCC-2
1160C		B	CODE8P			1C134	49	1365E C000C
1161C	CCCE9	TFP	FMCN+35	,BLK2		1C146	16	C2355 -9222
1162C		BTP	FMCN	,CCCE9		1C158	17	C2324 JC146
1163C	CCCE12	B	SUBC12			1C170	49	1415C C000C
1164C		H				1C182	48	C000C C000C
1165C	CCCE14	TFP	FMCN+35	,BLK3		1C194	16	C2355 -9246
1166C		BTP	FMCN	,CCCE14		1C206	17	C2324 JC194
1167C	CCCE15	TDM	CALLSW	,1		1C218	15	C94C2 C000C
1168C		B	CD15P			1C230	49	1375E C000C
1169C	CCCE17	TFP	FMCN+35	,BLK2		1C242	16	C2355 -9222
1170C		BTP	FMCN	,CCCE17		1C254	17	C2324 JC242
1171C	CCCE55	B	SUBCC5			1C266	49	1416C C000C
1172C		H				1C278	48	C000C C000C
1173C	CCSSA8	B	SUBCAB			1C290	49	1412E C000C
1174C		H				1C302	48	C000C C000C
1175C	CC12B	B	SUB12B			1C314	49	1417A C000C
1176C		H				1C326	48	C000C C000C
1177C	FCT1	TFM	FMCN+35	,BLK4		1C338	16	C2355 -927C
1178C		BTP	FMCN	,FCT1		1C350	17	C2324 JC338
1179C	FCTRT	TFM	FMCN+35	,BLK2		1C362	16	C2355 -9222
1180C		BTP	FMCN	,FCTRT		1C374	17	C2324 JC362
1181C	ECJ	TFM	FMCN+35	,BLK4		1C386	16	C2355 -927C
1182C		BTP	FMCN	,ECJ		1C398	17	C2324 JC386
1183C	CCCALL	TFM	FMCN+35	,BLK3		1C410	16	C2355 -9246
1184C		BTP	FMCN	,CCCALL		1C422	17	C2324 JC410
1185C	*****	THE FOLLOWING CCES ARITHMETIC OPERATORS						
1186C	CCCE1P	BTP	RMNS	,**16		1C434	17	C5592 JC434
1187C		CSA	I			1C450	5 X	1
						1C450	-9567	
1188C		CSA	SL			1C455	5 X	1
						1C455	-2355	
1189C		BTP	RMNS	,**16		1C456	17	C5592 JC472
1190C		CSA	I			1C472	5 X	1
						1C472	-9567	
1191C		CSA	LV			1C477	5 X	1
						1C477	-9587	
1192C		BTP	GTNS	,**16		1C478	17	C5622 JC494
1193C		CSA	I			1C494	5 X	1
						1C494	-9567	
1194C		CSA	SR			1C499	5 X	1
						1C499	-2372	
1195C		CM	LV, 133,0,EQUAL			1C500	14	C9987 C-133
1196C		BE	CODE1C			1C512	46	11036 C12CC
1197C		CM	LV, 115,0,EXPONENTIAL			1C524	14	C9987 C-115
1198C		BE	CODE1D			1C536	46	11538 C12CC
1199C	*****	CODE ADD, SUBTRACT, MULTIPLY, DIVIDE						
1200C		CM	SL, 101,0,FAC			1C548	14	C2399 C-101
1201C		BNE	N600C7			1C560	47	10794 C12CC

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12C2C	TD	MOD	,FLAGSW	1C572	25	C9448	C5019
12C30	CCCE1A	TDP	SS2	1C584	15	C7425	CCCC1
12C4C	BTP	SRFCT	,+16	1C596	17	C42CC	JC612
12C5C	CSA	SR		1C612		5 X	1
12C60	CSA	J		1C612		-2372	
				1C617		5 X	1
				1C617		-9572	
12C70		TEST FOR MIXED MCCE		1C618	24	C9448	C4597
12C8C	C	MOD	,FXCRFL	1C630	46	1C654	C12CC
12C9C	BE	+24		1C642	17	12C18	JC654
121CC	BTP	ERPOC	,+12	1C654	25	C3931	C4597
1211C	TD	FX	,FXCRFL				
12120	*****	FX IS USEC BY OPSR ROUTINE		1C666	17	C3812	JC682
1213C	BTP	OPSR	,+16	1C682		5 X	1
1214C	DSA	LV		1C682		-9587	
				1C687		5 X	1
1215C	CSA	N4CCCC1		1C687		-37C5	
1216C	BTP	PUTX	,+16	1C688	17	C698C	JC7C4
1217C	CSA	OPX		10704		5 X	1
				10704		-4417	
1218C	CSA	N4CCCC1		10709		5 X	1
				10709		-37C5	
1219C	CSA	J		10714		5 X	1
1220C	CCCE1A	BTP	RPNS	10714		-9572	
1221C	CSA	I	,+16	10716	17	C5652	JC732
				10732		5 X	1
12220	CSA	FAC		10732		-9567	
				10737		5 X	1
				10737		-9551	
1223C	TDP	FSW	,I	10738	15	C9356	CCOCJ
12240	TD	FLAGSW	,FXCRFL	10750	25	C5C15	C4597
1225C	BT	GTCL	,SL	10762	27	C668E	C2399
1226C	BT	GTCL	,SR	10774	27	C668E	C2372
1227C	B	EXIT		10786	49	C3C44	CCOCG
1228C	DORG	+3		10754			
1229C	N4CCCC1	CM	SR, ICI,8,FAC	10754	14	C2372	C-1C1
1230C	BNE	N4CCCC9		10806	47	1C83E	C12CC
1231C	TF	SR	,SL	10818	26	C2372	C2399
12320	B	CCDE1B		10830	49	1C944	CCCCC
12330	DORG	+3		10838			
1234C	N4CCCC9	BNF	N6CC1C, FSW	10838	44	1C862	C6396
1235C	BTP	GMRP	,+12	10850	17	C5912	JC862
12360	N4CCCC1	TDP	SS2	10862	15	C7425	CCCC1
1237C	BTP	SRFCT	,+16	10874	17	C42CC	JC89C
1238C	DSA	SL		1089C		5 X	1

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1239C	CSA	N4CCCC1		1C89C		-2355	
				1C895		5 X	1
1240C	BTP	PUTX	,+16	1C855		-37C5	
1241C	CSA	OPX		1C896	17	C698C	JC912
				1C912		5 X	1
1242C	CSA	TOFAC		1C912		-4417	
				1C917		5 X	1
1243C	CSA	N4CCCC1		1C917		-4191	
				1C922		5 X	1
1244C	TD	MCC	,FXCRFL	1C922		-37C5	
1245C	B	CCCE1A		1C924	25	C5446	C4597
1246C	DORG	+3		1C936	49	1C584	CCCCC
1247C	*****	ENTRY IF RIGHT SYMBOL IS FAC, THEN IF OPERATOR IS DIVICE		1C944			
1248C	*****	SET UP REVERSE DIVICE					
1249C	CCCE1B	TD	MOD, FLAGSW	1C944	25	C9448	C5019
1250C	CM	LV, 12C,8,SLBTRACT		1C956	14	C9587	C-12C
1251C	BNE	+24		1C968	47	1C952	C12CC
12520	TFM	LV, 124,8,LEFT PAREN		1C98C	16	C9587	C-124
12530	CM	LV, 121,8, DIVICE		1C952	14	C9587	C-121
1254C	BNE	CODE1A		11C04	47	1C584	C12CC
1255C	TFM	LV, 122,8,		11C16	16	C9587	C-122
12560	B	CODE1A		11C28	49	1C584	CCCCC
1257C	DORG	+3		11C36			
1258C	*****	ENTRY IF OPERATOR IS AN EQUAL SIGN					
1259C	CODE1C	BNF	N6CC13, FSW	11C36	44	11444	C5356
1260C	TD	EXIND	,FLAGSW	11C48	28	C94C4	C5015
1261C	BD	+34	,FTSW	11C6C	43	11C54	C4965
1262C	SLC	BTP	SRFCT, +16	11C72	17	C42CC	J1088
1263C	DSA	SL		11C88		5 X	1
1264C	CSA	SL		11C88		-2355	
				11C93		5 X	1
				11C93		-2355	
1265C	BNF	CODE1E	,RSW	11C94	44	1111E	C54C7
12660	TD	FXCRFL	,RFLAG	111C6	25	C4597	C4945
1267C	*****	FXORFL IS SET BY SRFCT					
1268C	CCCE1E	TD	+23, EXIND	11118	25	11141	C54C4
1269C	CM	FXCRFL	,C	1113C	14	C4597	CCC-C
1270C	BE	CODE1X		11142	46	11216	C12CC
1271C	*****	OUTPUTS FIX TO FLCAT OR FLCAT TO FIX INSTRUCTIONS					
12720	TD	FX	,FXCRFL	11154	25	C3931	C4597
1273C	BTP	OPSR	,+16	11166	17	C3812	J1182
1274C	DSA	RMCD		11182		5 X	1
1275C	CSA	N4CCCC1		11182		-947C	
				11187		5 X	1
1276C	BTP	PUTX	,+16	11187		-37C5	
1277C	CSA	BTP		11188	17	C698C	J12C4
				11204		5 X	1

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1278C	CSA	N4CCCC1			11204	-692E		
					11209	5 X	1	
12790	CSA	ZERC			11209	-37C5		
					11214	5 X	1	
12800	CCDEIX	BD	FCTIE	,FTSH	11214	-9423		
12810		BNF	N60C14	,RSH	11216	43	12C56	C4965
12820		TDM	RSH	,C	11228	44	11348	C54C7
12830		TDM	SS2	,I	1124C	15	C94C7	CCCC
12840		BNF	**48,FACTRC,,	ARITHMETIC TRACE	11252	15	C7425	CCCC1
12850			CUTPUT TRACE	INSTRCTICA	11264	44	11312	C2227
12860		BTM	PUTX	,**16	11276	17	C698C	J1292
1287C	CSA	BT,TRACE,SL			11292	5 X	3	
1288C	B	CLEAR			11292	-9452		
12890		CORG	*-3		11297	-3556		
1290C			CUTPUT FRFAC	INSTRCTICA	11302	-2355		
12910		BTM	PUTX	,**16	11304	49	C262E	CCCC
12920	CSA	BT,FRFAC,SL			11312	17	C698C	J1328
					1132E	5 X	3	
12930	B	CLEAR			11328	-9452		
12940		DORG	*-3		11333	-4146		
12950	N60014	TDM	SS2	,I	11338	-2355		
12960		BNF	**48,FACTRC,,	ARITHMETIC TRACE	1134C	49	C262E	CCCC
12970			CUTPUT TRACE	INSTRCTICA	11348	15	C7425	CCCC1
1298C		BTM	PUTX	,**16	1134C	44	1140E	C2227
1299C	CSA	OPX,TRACE,SL			11372	17	C698C	J1388
					11388	5 X	3	
1300C	B	CLEAR			11388	-4417		
13010		CORG	*-3		11393	-3956		
1302C			CUTPUT FRFAC	INSTRCTICA	11398	-2355		
1303C		BTM	PUTX	,**16	1140C	49	C262E	CCCC
1304C	CSA	OPX			1140E	17	C698C	J1424
					11424	5 X	1	
13050	CSA	FRFAC			11424	-4417		
					11429	5 X	1	
1306C	CSA	SL			11429	-4146		
					11434	5 X	1	
13070	B	CLEAR			11434	-2355		
1308C		DORG	*-3		11436	49	C262E	CCCC
13090	N60013	BTM	SRFCT	,**16	11444	17	C42CC	J146C
1310C	CSA	SR			1146C	5 X	1	

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1311C	CSA	N4CCCC2			1146C	-2372		
					11465	5 X	1	
13120	TDM	SS2	,I		11465	-371C		
1313C	BTM	PUTX	,**16		11466	15	C7425	CCCC1
1314C	CSA	OPX			11478	17	C658C	J1454
					11494	5 X	1	
13150	CSA	TOFAC			11494	-4417		
					11499	5 X	1	
13160	CSA	N4CCCC2			11499	-4151		
					11504	5 X	1	
1317C	TD	EXIND	,FACRFL		11504	-371C		
1318C	BNF	SLC	,RSH		11506	25	C94C4	C4567
1319C	B	SLC-12	,C		11518	44	11C72	C54C7
1320C		DORG	*-3		1153C	49	11C6C	CCCC
13210			ENTRY OPERATOR IS EXPONENTIAL		11538			
13220	CCDEIC	CM	SL,	IC1,0,FAC	11538	14	C2395	C-1C1
13230		BNE	N60C15		11550	47	1188E	C12CC
1324C	CCDEIC	BD	**2C	,FLAGSH	11562	43	11582	C5019
13250		B	N60016		11574	49	11734	CCCC
1326C		DORG	*-3		11582			
1327C		TDM	SS2	,I	11582	15	C7425	CCCC1
1328C		BTM	SRFCT	,**16	11594	17	C42CC	J161C
13290	CSA	SR			1161C	5 X	1	
1330C	CSA	J			1161C	-2372		
					11615	5 X	1	
13310	TD	**23	,FLAGSH		11615	-9972		
13320	CM	FXORFL	,C	,IC	11616	25	11635	C5019
13330	BE	**24			11628	14	04997	CCO-C
1334C	BTM	ERPCC	,**12		1164C	46	11664	C12CC
13350	N60017	BTM	PUTX	,**16	11652	17	12C18	J1664
1336C	CSA	OPX			11664	17	C658C	J168C
					1168C	5 X	1	
13370	CSA	IXI			1168C	-4417		
					11685	5 X	1	
1338C	CSA	J			11685	-4171		
					1169C	5 X	1	
13390	CODEIF	BTM	RPNS	,**16	11690	-9972		
1340C	CSA	I			11692	17	C5652	J170C
					11708	5 X	1	
13410	CSA	FAC			11708	-9567		
					11713	5 X	1	
13420	TDM	FSH	,I	,II	11713	-9551		
13430	B	EXIT			11714	15	C9394	CC0CJ
					11726	49	03044	CCCC

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1344C		DORG	-3			11734		
1345C	N4C016	BTP	SRFCT	,0016		11734	17	C42CC J175C
1346C		DSA	SR			1175C		5 X 1
						1175C		-2372
1347C		DSA	J			11755		5 X 1
						11755		-9572
1348C		TD	FX	,FXCRFL		11756	25	C3931 C4597
1349C		BD	0036	,FX		11768	43	11804 C3531
1350C		TDM	UFSTR	,1		11780C	15	C2263 CCCC1
1351C		TDM	UFSTR+1	,1		11792	19	C2264 CCCC1
1352C		TDM	SS2	,1		11804	15	C7425 CCCC1
1353C		BTP	OPSR	,0016		11816	17	C3812 J1832
1354C		DSA	LV			11832		5 X 1
						11832		-9587
1355C		DSA	N4CCC2			11837		5 X 1
						11837		-371C
1356C		BTP	PLTX	,0016		11838	17	C658C J1854
1357C		DSA	OPX			11854		5 X 1
						11854		-4417
1358C		DSA	N4CCC2			11859		5 X 1
						11859		-371C
1359C		DSA	J			11864		5 X 1
						11864		-9572
1360C		TDM	FXCRFL	,C		11866	15	C4597 CCCCC
1361C		B	CODE1H			11878	49	1C716 CCCCC
1362C		DORG	-3			11886		
1363C	N4C015	BNF	N6CC18	,FS6		11886	44	11932 C9396
1364C		BTP	GMRP	,0012		11898	17	C5512 J191C
1365C		BTP	GTNS	,0016		1191C	17	C5622 J1926
1366C		DSA	I			11926		5 X 1
						11926		-5567
1367C		DSA	SR			11931		5 X 1
						11931		-2372
1368C	N4C018	BTP	SRFCT	,0016		11932	17	C42CC J1948
1369C		DSA	SL			11948		5 X 1
						11948		-2365
1370C		DSA	J			11953		5 X 1
						11953		-9572
1371C		TD	FLAGSH	,FXCRFL		11954	25	C5C15 C4597
1372C		TDM	SS2	,1		11966	15	C7425 CCCC1
1373C		BTP	PLTX	,0016		11978	17	C698C J1964
1374C		DSA	OPX			11954		5 X 1
						11954		-4417
1375C		DSA	TCFAC			11959		5 X 1

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						11999		-4151
1376C		DSA	J			12004		5 X 1
						12004		-9572
1377C		B	CODE1G	,5		12006	49	115C2 CCCCC
1378C	EHMOD	BTP	ERR1	,PCDMES		12018	17	C9C8C J2031
1379C		TDM	ERSMT	,1		12030	15	C6833 CCCC1
1380C		B	ERMCD-1,06			12042	49	12C1P
1381C	PCCMES	CAC	23,	MIXED MCEE*		12051		23 X 2
				MIXED MCEE*				
1382C	FCTIE	TDM	FTSH	,P		12096	15	C4965 CCCCC
1383C		TDM	SS1	,1		12108	15	C7424 CCCC1
1384C		TDM	SS3	,1		12120	15	C7426 CCCC1
1385C		TF	N4CC11	,11		12132	26	C3755 C697C
1386C		SM	N4CC11	,1		12144	12	C3755 CCC-1
1387C		BTP	PLTX	,0016		12156	17	C658C J2172
1388C		DSA	B			12172		5 X 1
						12172		-693C
1389C		DSA	N4CC11			12177		5 X 1
						12177		-3755
1390C		DSA	BLANK			12182		5 X 1
						12182		-9426
1391C		SM	ADCC6	,4		12184	12	C6925 CCC-4
1392C		BTP	PUTA	,0016		12196	17	C822C J2212
1393C		DSA	SXF,ADCC6			12212		5 X 2
						12212		-56C2
						12217		-6925
1394C		S	IBASE-1, TMAX			12218	22	C23C2 C692C
1395C		TFM	TMAX, C,9			12230	16	C692C CC-CC
1396C		B	CLEAR			12242	49	C2628 CCCCC
1397C		DORG	-3			1225C		
1398C	*****		OUTPLT FUNCTION LINKAGE OR REMOVE PARENTHESIS					
1399C	CCDE3P	SM	N4CCC2	,1		12250	12	C371C CCO-1
1400C		BTP	GTNS	,0016		12262	17	C5622 J2278
1401C		DSA	N4CCC2			12278		5 X 1
						12278		-371C
1402C		DSA	SL			12283		5 X 1
						12283		-2355
1403C		CM	SL, 1C1,8,FAC			12284	14	C2395 C-1C1
1404C		BL	N60C20			12296	47	1234C C13CC
1405C		CM	SL, 194,8,ARITH STATEMENT CALL			12308	14	C2395 C-194
1406C		BH	N6CC2C			12320	46	1234C C11CC
1407C		B	CODE3M			12332	49	12674 C60CC
1408C		DORG	-3			1234C		
1409C	N4C02C	SM	I	,1		1234C	12	C9567 CCC-1
1410C		BTP	RMNS	,0016		12352	17	C9592 J2368
1411C		DSA	I			12368		5 X 1
						12368		-9567
1412C		DSA	SL			12373		5 X 1

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1413C	BTP	RMNS		,**16					12373	-2355		
14140	DSA	I							12374	17	C5592	J2390
									12350		5	X 1
									12390	-9567		
1415C	DSA	SR							12395		5	X 1
									12355	-2372		
1416C	BTP	RMNS		,**16					12356	17	C5592	J2412
1417C	DSA	I							12412		5	X 1
									12412	-9567		
1418C	DSA	SR							12417		5	X 1
									12417	-2372		
1419C	CM	SR		,1C1		,9			12418	14	C2372	CCJC1
1420C	BE	N6CC21							12430	46	1252C	C12CC
1421C	BNF	N6CC22		,FSh					12442	44	12466	C9396
14220	BTP	GMRP		,**12					12454	17	C5512	J2466
14230	N6CC22	BTP	SRFCT	,**16					12466	17	C42CC	J2482
1424C	DSA	SR							12482		5	X 1
									12482	-2372		
14250	DSA	SR							12487		5	X 1
									12487	-2372		
14260	TDM	SS2		,1					12488	15	C7425	CCCC1
14270	TD	FLAGSh		,FNCRFL					12500	25	C5C15	C4567
14280	B	CODE3A							12512	49	12544	CCCC
1429C	DORG	*-3							12520			
1430C	N60021	TF	SR		,FACAC				12520	26	C2372	C4156
1431C	TFM	OPX			,17		,1C		12532	16	C4417	CCJ7
14320	*****	OUTPLT	LIBRARY	FLNCTN	LNKAGE				12544	15	C742E	CCCC1
1433C	CODE3A	TFM	SS3		,1				12556	26	C371C	C23C3
1434C	TF	N4CCC2			,TBASE				12568	26	C37C5	C2355
1435C	TF	N4CCC2-1			,SL				12580	15	C371C	CCCC5
1436C	TDM	N4CCC2		,9					12592	26	C371C	C371-
1437C	TF	N4CCC2		,N40002		,11			12604	17	C658C	J262C
1438C	BTP	PUTX		,**16					12620		5	X 1
1439C	DSA	OPX							12620	-4417		
									12625		5	X 1
1440C	DSA	N4CCC2							12625	-371C		
									12630		5	X 1
1441C	DSA	SR							12630	-2372		
									12630	17	C5652	J2648
14420	BTP	RPNS		,**16					12648		5	X 1
14430	DSA	I							12648	-9567		
									12653		5	X 1
1444C	DSA	FAC							12653	-9551		
									12654	15	C9396	CCCCJ

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14460	B	EXIT							12666	45	C3C44	CCCC
14470	DORG	*-3							12674			
1448C	CCDE3B	CM	SL,	154,8,ARITH	STATEMENT	CALL			12674	14	C2355	C-154
1449C	BE	CODE3C							12686	46	12822	C12CC
1450C	CM	SL,	153,8,FUNCTION	CALL					12698	14	C2355	C-153
14510	BE	CODE3C							12710	46	12822	C12CC
14520	N6CC23	CM	SL,	107,8,IF					12722	14	C2355	C-107
1453C	BE	CODE7							12734	46	1005E	C12CC
1454C	BTP	RMNS		,**16					12746	17	C5592	J2762
14550	DSA	I							12762		5	X 1
									12762	-9567		
14560	DSA	SR							12767		5	X 1
									12767	-2372		
1457C	AM	I		,1		,1C			12768	11	C9567	CCC-1
14580	BTP	RMNS		,**16					12780	17	C5592	J2756
1459C	DSA	I							12796		5	X 1
									12796	-9567		
1460C	DSA	SR							12801		5	X 1
									12801	-2372		
1461C	SM	I		,1		,1C			12802	12	C9567	CCC-1
14620	B	EXIT							12814	49	C3C44	CCCC
1463C	DORG	*-3							12822			
1464C	*	ARITH	STATEMENT	CALL	OR	FUNCTION	CALL	OPERATOR	12822	12	C9567	CCC-2
1465C	CODE3C	SM	I	,2		,1C			12834	17	C5592	J2850
14660	CODE3Y	BTP	RMNS	,**16					12850		5	X 1
14670	DSA	I							12850	-9567		
									12855		5	X 1
1468C	DSA	SL							12855	-2355		
									12856	17	C5592	J2872
14690	BTP	RMNS		,**16					12872		5	X 1
1470C	DSA	I							12872	-9567		
									12877		5	X 1
14710	DSA	LV							12877	-9587		
									12878	17	C5592	J2894
1472C	BTP	RMNS		,**16					12894		5	X 1
14730	DSA	I							12894	-9567		
									12899		5	X 1
1474C	DSA	SR							12899	-2372		
									12900	44	12824	C9396
14750	BNF	N6CC26		,FSh					12912	17	C5912	J2924
14760	BTP	GMRP		,**12					12924	14	C9587	C-154
14770	N60024	CM	LV,	154,8,ARITH	STATEMENT	CALL			12936	46	1296C	C12CC
14780	BE	N60027							12948	15	C7425	CCCC1
14790	TDM	SS3		,1					12960	16	C7425	CCOJ1
1480C	N60027	TFM	SS2	,11		,1C			12972	17	0420C	J2988
14810	BTP	SRFCT		,**16								

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14820	CSA	SL				12500	5	X	1
14830	CSA	N4CCC1				12500	-2355		
						12593	5	X	1
14840	TF	N4CCC3	,ACCCb			12593	-3705		
14850	AM	N4CCC3	,11	,1C		12554	26	C3715	C6925
14860	TD	FLAGSH	,FACRFL			13006	11	C3715	CCCJ1
14870	BTP	PUTX	,0016			13010	25	C9C15	C4957
14880	CSA	BTP				13030	17	C690C	J3C46
						13046	5	X	1
14890	CSA	N4CC01				13046	-6928		
						13091	5	X	1
14900	CSA	N4CCC3				13091	-3705		
						13096	5	X	1
14910	BD	CODE3Z	,CALLX			13096	-3715		
14920	CCDE3C	TDM	FPSH	,C		13090	43	1331C	C4975
14930	BTP	RMNS	,0016			13070	15	C9675	CC0CC
14940	CSA	I				13082	17	C5992	J3C50
						13090	5	X	1
14950	CSA	SL				13090	-9567		
						13103	5	X	1
14960	BTP	GTNS	,0016			13103	-2355		
14970	DSA	I				13104	17	C5622	J312C
						13120	5	X	1
14980	CSA	SR				13120	-5567		
						13125	5	X	1
14990	BTP	SRFCT	,0016			13125	-2372		
15000	DSA	SL				13126	17	C42CC	J3142
						13142	5	X	1
15010	CSA	SL				13142	-2355		
						13147	5	X	1
15020	BNF	0024	,FPSH			13147	-2355		
15030	SF	SL				13148	44	13172	C5675
15040	BTP	PUTC	,0016			13160	32	C2355	CC0CC
15050	CSA	SL				13172	17	C81CC	J3188
						13180	5	X	1
15060	CCDE3E	CM	SR,	104,0,RIGHT PAREN		13180	-2355		
15070	BE	N6CC32				13190	14	C2372	C-104
15080	BTP	RMNS	,0016			13202	46	13244	C12CC
15090	CSA	I				13214	17	C5952	J323C
						13230	5	X	1
15100	CSA	SR				13230	-5567		
						13235	5	X	1

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15110	B	CODE3D				13235	-2372		
15120	CORG	0-3				13236	49	1307C	CC0CC
15130	NECC32	BTP	ADJLST	,ACCCb		13244	17	C3766	-6925
15140	CCDE3X	BD	CET	,CALLSH		13256	43	1333C	C54C2
15150	BTP	RPNS	,0016			13260	17	C5652	J3284
15160	CSA	I				13284	5	X	1
15170	CSA	FAC				13284	-9567		
						13289	5	X	1
15180	TDM	F5h	,1	,11		13289	-9551		
15190	B	EXIT				13290	15	C6356	CC0CJ
15200	CORG	0-3				13302	49	C3C44	CC0CC
15210	CCDE3Z	TDM	CALLX	,C		13310	15	C4975	CC0CC
15220	B	CLEAR				13322	45	C2628	CC0CC
15230	CORG	0-3				13330	26	C3705	C5567
15240	CET	TF	N4CCC1	,1		13342	11	C3705	CC-1
15250	AM	N4CCC1	,1	,1C		13354	17	C5622	J337C
15260	BTP	GTNS	,0016			13370	5	X	2
15270	CSA	N4CCC1,N4CCC1				13370	-3705		
						13375	-3705		
15280	CM	N4CCC1	,132	,8		13376	14	C3705	C-132
15290	BE	CLEAR				13388	46	C2628	C12CC
15300	B	CODE3X*12				13400	45	13268	CC0CC
15310	CORG	0-3				13408			
15320	*****	OUTPLT REVERSE SIGN INSTRUCTIONS FOR UNARY MINUS				13412	5	X	1
15330	CCDE4P	DSA	I			13412	-9567		
						13417	5	X	1
15340	CSA	LV				13417	-9587		
						13418	17	C5622	J3434
15350	BTP	GTNS	,0016			13434	5	X	1
15360	DSA	I				13434	-9567		
						13439	5	X	1
15370	CSA	SR				13439	-2372		
						13440	26	C5587	C5467
15380	TF	LV	,RVSN			13452	14	C2372	C-101
15390	CM	SR,	101,0,FAC			13464	47	13544	C12CC
15400	BNE	N6CC34				13476	25	C3931	C5015
15410	TD	FX	,FLAGSH			13488	17	C3012	J3564
15420	CCDE4A	BTP	QPSR	,0016		13504	5	X	2
15430	CSA	LV,N4CCC3				13504	-9587		
						13509	-3715		
15440	BTP	PUTX	,0016			13510	17	C658C	J3526
15450	DSA	BTP				13526	5	X	1
						13526	-6928		

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1546C	CSA	N4CCC3			13531	5	X	1
1547C	CSA	ZERC			13531	-3715		
					13536	5	X	1
1548C	B	EXIT			13536	-9423		
1549C	CORG	*-3			13538	49	C3C44	CCCC
1550C	N&C034	BNF	N6CC35	,FSH	13546			
1551C		BTF	GMRP	,0012	13546	44	1357C	C5396
1552C	N&C035	TDP	SS2	,1	13558	17	C5912	J357C
1553C		BTF	SRFCT	,0016	1357C	15	C7425	CCCC1
1554C	DSA	SR			13582	17	C42CC	J3598
					13598	5	X	1
1555C	CSA	N4CCC3			13598	-2372		
					136C3	5	X	1
1556C	BTM	PLTX		,0016	136C3	-3715		
1557C	CSA	OPX			136C4	17	C658C	J362C
					13620	5	X	1
1558C	CSA	TOFAC			1362C	-4417		
					13625	5	X	1
1559C	CSA	N4CCC3			13625	-4151		
					1363C	5	X	1
1560C	TDP	FSH		,1	13630	-3715		
1561C	TD	FLAGSH		,FXCRFL	13632	15	C9366	CCCCJ
1562C	BTM	RPNS		,0016	13644	25	C5C15	C4557
1563C	CSA	I			13656	17	C5652	J3672
					13672	5	X	1
1564C	CSA	FAC			13672	-9567		
					13677	5	X	1
1565C	TD	FX		,FXCRFL	13677	-9551		
1566C	B	CODE4A			13678	25	C9331	C4557
1567C	CORG	*-3			1369C	49	13488	CCCC
1568C	BTM	GTNS		,0016	13698	17	C5622	J3714
1569C	CSA	I			13714	5	X	1
1570C	DSA	LV			13714	-9567		
					13719	5	X	1
1571C	CH	LV,	124,8,LEFT PAREN		13719	-9587		
1572C	BNE	CODE8			1372C	14	C9587	C-124
1573C	B	CODE3			13732	47	1C122	C12CC
1574C	CORG	*-3			13744	45	1CC26	CCCC
1575C	BTM	RPNS		,0016	13752			
1576C	DSA	I			13752	17	C5592	J3768
					13768	5	X	1
1577C	CSA	SL			13768	-9567		
					13773	5	X	1

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1578C	TF	N4CC12		,1	13773	-2395		
1579C	AM	N4CC12		,2	13774	26	C376C	C5567
1580C	BTM	GTNS		,0016	13786	11	C376C	CCC-2
1581C	CSA	N4CC12			13788	17	C5622	J3814
					13814	5	X	1
1582C	CSA	SX			13814	-376C		
					13819	5	X	1
1583C	CH	SX,	132,8,SEMI CCLCA		13819	-2377		
1584C	BNE	EXIT			1382C	14	C2377	C-132
1585C	TDP	CALLY		,1	13832	47	C3C44	C12CC
1586C	B	CODE3V			13844	15	C4979	CCCC1
1587C	CORG	*-3			13856	45	12834	CCCC
1588C	CORG	141CC			13864			
1589C	*****	TERTIARY LINKAGE BLOCK 5			141CC			
1590C	DC	2,5			141C1	2		
1591C	SURCCS	BTM	RPNS	,CCSSP	141C2	17	C5592	J42C2
1592C	H				14114	48	CCCC	CCOCC
1593C	SLBCAB	TFM	FMCN+35	,BLK6	14126	16	C2355	-5318
1594C	BTM	FMCN		,SLBCAB	14138	17	C2324	J4126
1595C	SLBC12	TFM	FMCN+35	,BLK7	14150	16	C2355	-9342
1596C	BTM	FMCN		,SLBC12	14162	17	C2324	J415C
1597C	SLB12B	TFM	FMCN+35	,BLK8	14174	16	C2355	-5366
1598C	BTM	FMCN		,SLB12B	14186	17	C2324	J4174
1599C	CCSSP	DSA	I,SR		142C2	5	X	2
1600C	BTM	RPNS		,0016	142C2	-9567		
1601C	DSA	I,SY			142C7	-2372		
					142C8	17	C5592	J4224
					14224	5	X	2
1602C	BTM	RPNS		,0016	14224	-9567		
1603C	DSA	I,SY			14229	-2384		
					14230	17	C5592	J4246
					14246	5	X	2
1604C	SM	I		,1	14246	-9567		
1605C	BTM	GTNS		,0016	14251	-2384		
1606C	DSA	I,SX			14252	12	C9567	CCC-1
					14264	17	C5622	J428C
					1428C	5	X	2
1607C	AM	I		,1	1428C	-9567		
1608C	TDP	SKIPSH		,1	14285	-2377		
1609C	BTM	SRFCT		,0016	14286	11	C9567	CCO-1
1610C	CSA	SX,SX			14298	15	C9681	CCCC1
					1431C	17	042CC	J4326
					14326	5	X	2
1611C	TD	SPCOM		,CCNSH	14326	-2377		
1612C	TD	RXFLAG		,FXORFL	14331	-2377		
					14332	25	15577	C4375
					14344	25	C4959	C4597

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16130	BTP	CANDS	,**16		14356	17	C0754	J4372
1614C	CSA	D1,DI			14372		5 X	2
					14372		-6935	
					14377		-654C	
16150	TF	N4CCC5	,AECCCh		14370	26	C3725	C6925
1616C	AM	N4CCC5	,12	.1C	1439C	11	C3725	CCGJ2
16170	TDM	SS2	,1		144C2	15	C7425	CCCC1
1618C	BD	**2C	,RNFLOG		14414	43	14434	C4959
1619C	B7	**2C			14426	45	14446	
162CC	SF	N4CCC5			14434	32	C3725	CCCCC
16210	CM	SR	,150	.8	14446	14	C2372	C-15C
16220	BL	XX1			14450	47	14614	C13CC
1623C	BE	XX2			1447C	46	1454E	C12CC
1624C XX3	AM	I	,6	.1C	14482	11	C9567	CCC-6
16250	TF	N4CCC6	,SLB3		14454	26	C373C	C4C16
1626C	BTP	CANDS	,**16		145C6	17	C0754	J4522
1627C	CSA	D4,SY			14522		5 X	2
					14522		-6565	
					14527		-2384	
1628C	SM	I	,6	.1C	14520	12	C9567	CCC-6
1629C	B7	XX4			1454C	49	14672	
163CC XX2	AM	I	,3	.1C	14540	11	C9567	CCC-3
1631C	TF	N4CCC6	,SLB2		1456C	26	C373C	C4CC6
1632C	BTP	CANDS	,**16		14572	17	C0754	J4588
1633C	CSA	D4,SY			14580		5 X	2
					14580		-6565	
					14593		-2384	
1634C	SM	I	,3	.1C	14594	12	C9567	CCC-3
1635C	B7	XX4			146C6	45	14672	
1636C XX1	BTP	CANDS	,**16		14614	17	C0754	J463C
1637C	CSA	D4,SY			14630		5 X	2
					1463C		-6565	
					14635		-2384	
1638C	TF	N4CCC6	,SLB1		14636	26	C373C	C3996
1639C	CM	D1	,1		14640	14	C6935	-CCCI
164CC	BE	CDSIFP			1466C	46	15354	C12CC
1641C XX4	BTP	PUTX	,**16		14672	17	C658C	J4688
1642C	CSA	BTP,N4CCC6,N4CCC5			14680		5 X	3
					14680		-652E	
					14693		-373C	
					14698		-3725	
1643C	BTP	PLTC	,**16		147CC	17	C81CC	J4716
1644C	CSA	SX			14716		5 X	1
					14716		-2377	
1645C	BTP	PLTD	,**16		14718	17	C8184	J4734
1646C	CSA	D4			14734		5 X	1
					14734		-6965	
1647C	BNF	**24	,1C1		14736	44	1476C	C5357
1648C	SF	D1			14740	32	C6935	CCCCC

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1649C	BTP	PLTD	,**16		1476C	17	C8184	J4776
165CC	CSA	D1			14776		5 X	1
					14776		-6935	
1651C	BTP	PLTC	,**16		14770	17	C81CC	J4754
1652C	CSA	D1			14754		5 X	1
					14754		-654C	
1653C	CM	SR	,150	.8	1475E	14	C2372	C-15C
1654C	BL	CDSSS1			148C8	47	1454E	C13CC
1655C	BE	XX5			1482C	46	1485C	C12CC
1656C CDS53	BTP	CANDS	,**16		14832	17	C0754	J4848
1657C	CSA	D2,DJ			14848		5 X	2
					14848		-6545	
					14853		-655C	
1658C	BTP	PLTD	,**16		14854	17	C8184	J487C
1659C	CSA	D2			1487C		5 X	1
					1487C		-6545	
166CC	BTP	PLTC	,**16		14872	17	C81CC	J4888
1661C	CSA	DJ			14888		5 X	1
					14888		-655C	
1662C XX5	BTP	CANDS	,**16		1489C	17	C0754	J49C6
1663C	CSA	D3,DK			149C6		5 X	2
					149C6		-6555	
					14911		-696C	
1664C	BTP	PLTD	,**16		14912	17	C8184	J4928
1665C	CSA	D3			14928		5 X	1
					14928		-6555	
1666C	BTP	PLTC	,**16		1493C	17	C81CC	J4946
1667C	CSA	DK			14946		5 X	1
					14946		-696C	
1668C CDS51	TDM	UFSTR*2	,1		14940	15	C2265	CCCC1
1669C CDS1V	BTP	PUTRP	,**16		1496C	17	C83C4	J4976
167CC	CSA	ZRP			14976		5 X	1
					14976		J5457	
1671C	TDM	SKIPSh	,1C		14978	15	C9681	CCOCC
1672C	BNF	QZP	,1C1		1499C	44	15C44	C9357
1673C	SM	I	,1	.1C	15CC2	12	C9567	CCC-1
1674C	BTP	RMNS	,**16		15C14	17	C5992	J503C
1675C	CSA	I,ST			15C3C		5 X	2
					15C3C		-9567	
					15C35		-9563	
1676C	B	CD140			15C36	49	110CC	CCOCC
1677C	DORG	**3			15044			
1678C QZP	BTP	GTNS	,**16		15044	17	C5622	J506C
1679C	CSA	I,ST			1506C		5 X	2
					1506C		-9567	

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168CC	SM	I	,1	,1C	15065	-9563	
1681C	CM	ST	,133	,0	15066	12	C9567 CCC-1
16820	BNE	CDS1T			15078	14	C9563 C-133
1683C	TD	RFLAG	,RXFLAG		15090	47	15188 C12CC
16840	TDM	RSh	,1	,11	15102	25	C4945 C4959
16850	BTM	PUTX	,0016		15114	15	C94C7 CCCCJ
1686C	CSA	TF,FACAD,N13092			15126	17	C698C J5142
					15142	5	X 3
					15142	-9415	
					15147	-4156	
					15152	-9435	
1687C	BTM	RPNS	,0016		15154	17	C5652 J517C
1688C	CSA	I,FAC			1517C	5	X 2
					1517C	-9567	
					15175	-9551	
1689C	BTM	GMRP	,EXIT		15176	17	C9912 -3C44
1690C	CCS1T	BNF	,0024	,FSh	15188	44	15212 C5396
16910	BTM	GMRP	,0012		15200	17	C5112 J5212
1692C	BD	,0032	,CALLSh		15212	43	15244 C54C2
16930	TFM	OPX	,27	,1C	15224	16	C4417 CCCC7
16940	B	,002C			15236	49	15256 CCCCC
16950	UDRG	,0-3			15244		
16960	TFM	OPX	,17	,1C	15244	16	C4417 CCCC7
16970	BTM	PUTX	,0016		15256	17	C698C J5272
1698C	CSA	OPX,TCFAC,N13092			15272	5	X 3
					15272	-4417	
					15277	-4151	
					15282	-9435	
1699C	BTM	RPNS	,0016		15284	17	C5652 J53CC
170CC	CSA	I,FAC			15300	5	X 2
					15300	-9567	
					15305	-9551	
1701C	TDM	FSh	,1	,11	15306	15	C9396 CCCCJ
17020	TD	FLAGSh	,RXFLAG		15318	25	C5C15 C4959
1703C	BD	,002C	,CALLSh		1533C	43	1535C C54C2
1704C	B7	EXIT			15342	49	C3C44
1705C	BTM	GMRP	,0012		15350	17	C9912 -5362
17060	SM	GBASE	,1	,1C	15362	12	C9657 CC 1
1707C	SF	GBASE	,	,6	15374	32	C965P CCCCC
1708C	B7	EXIT			15386	49	C3C44
1709C	CCS1FP	TDM	FXIOSh,C		15394	15	15448 CCCCC
1710C	BD	,002C,RXFLAG			15406	43	15426 C4959
1711C	B7	PATSB2			15418	49	1545C
17120	BNF	,0024,IC1			15426	44	1545C C9357
1713C	TDM	FXIOSh,-1			15438	15	15448 CCCCJ
1714C	FXIOSh	DS	,0-1		15448		C
1715C	PATSB2	BNF	CDS12,SX		1545C	44	15458 C2377
17160	BD	XX4,FXIOSh			15462	43	14672 15448
17170	TDM	FPSh,-1			15474	15	C9675 CCCCJ
1718C	CF	SX			15486	33	C2377 CCCCC
17190	ZRP	CC	2,*,0		15497		2

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1720C	CCS1Z	BD	,0032	,RXFLAG	15498	43	1553C C4959
1721C	TF	L		,FP2	1551C	26	C6573 C2258
1722C	B7	CDS1S			15522	49	15542
17230	TF	L		,K	1553C	26	C6573 C2252
1724C	CCS1S	TDM	SS2	,C	15542	15	C7425 CCCCC
1725C	M	D4		,L	15554	23	C6965 C6973
1726C	SF	95			15566	32	CCC95 CCCCC
17270	SPCOM	DS	,0		15577		C
1728C	TF	D4		,99	15578	26	C6965 CCC95
1729C	BD	,0036,FPSH			1559C	43	15626 C6575
1730C	A	D4,SX			15602	21	C6965 C2377
17310	TF	SY,D4			15614	26	C2384 C6965
17320	BNF	,0024,FXIOSh			15626	44	1565C 15448
1733C	SF	L,21,1C			15638	32	C6573 CCCC1
1734C	OPJ	DS	,0		15649		C
17350	TDM	SS1	,1		1565C	15	C7424 CCCCC
1736C	BTM	PUTX	,0016		15662	17	C698C J5678
1737C	CSA	MM,DI,L			15678	5	X 3
					15678	-9415	
					15683	-654C	
					15688	-6573	
1738C	BNF	PATSBQ,FPSH			1569C	44	15786 C6575
17390	TFM	OPJ	,21	,1C	157C2	16	15645 CCCC1
1740C	ZPT	BD	,0024,SPCCP		15714	43	15738 15577
17410	TDM	SS2,1			15726	15	C7425 CCCCC
1742C	BTM	PUTX	,0016		15738	17	C698C J5754
17430	CSA	OPJ,N13092,SX			15754	5	X 3
					15754	J5645	
					15759	-9435	
					15764	-2377	
1744C	BD	PPJA	,FPSH		15766	43	15922 C9675
17450	B7	JARNDT			15778	45	15842
17460	PATSBQ	BNF	,0024,FXIOSh		15786	44	1581C 15448
17470	TDM	SS4,1			15798	15	C7427 CCCCC
1748C	BNF	JARNDT,SY			1581C	44	15842 C2384
17490	TFM	OPJ		,11	15822	16	15645 CCOJ1
1750C	B7	ZPT			15834	49	15714
17510	JARNDT	BNF	ITUSC,SY		15842	44	15898 C2384
17520	CALNEG	S	D4,SX		15854	22	C6965 C2377
17530	BNF	PPJA,FXIOSh			15866	44	15922 15448
17540	CF	D4			15878	33	C6965 CCCCC
17550	B7	PPJA			1589C	49	15922
17560	ITUSC	BD	,0024,SPCCP		15898	43	15922 15577
17570	TDM	SS2,1			15910	15	C7425 CCCC1
17580	PPJA	BTM	PUTX	,0016	15922	17	C698C J5938
17590	CSA	AM,N13092,D4			15938	5	X 3
					15938	-9417	
					15943	-9435	
					15948	-6965	
1760C	BTM	PUTX	,0016		1595C	17	C698C J5966
17610	CSA	SF,N13133,BLANK			15966	5	X 3

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17620	B7	COS14+18				15971	-9446		
1763C	DORG	16CC2				15976	-9426		
17640	XCCX	CSC 14,01780C136C24CC				15978	49 14978		
		C178C0136C24CC				16CC2		14	
17650	XVYX	34 XCCX,7C1				16C16	34 16CC2	CC7C1	
1766C	TD	PUTPCM+11,UGRPMK				16C28	25 C7967	C2323	
17670	TD	GRPM,UGRPMK				16C4C	25 C87C8	C2323	
1768C	38	XCCX,7C2				16C52	38 16CC2	CC7C2	
17690	TRA					16C64	36 CCCCC	CC9CC	
						16C76	49 CCCCC	CC0CC	
1770C	TCO	XVYX				16C16			
1771C	DORG	16CCC				16CCC			
17720	*****	SECONDARY LINKAGE FOR BLOCK 2							
17730	CC	2,2				16CC1		2	
	-2								
1774C	XCDE1	TFM FMCN+35		.BLK1		16CC2	16 C2355	-9168	
1775C	BTM	FMCN		.CCCE1		16C14	17 C2324	JC0C2	
1776C	XGDE3	TFM FMCN+35		.BLK1		16C26	16 C2355	-9168	
1777C	BTM	FMCN		.CCDE3		16C38	17 C2324	JC2C6	
1778C	XGDE4	TFM FMCN+35		.BLK1		16C9C	16 C2355	-9168	
1779C	BTM	FMCN		.CCDE4		16C62	17 C2324	JC0C0	
1780C	XGDE6	BTM RMNS		.CCDE6P		16C74	17 C5592	JC438	
1781C	H					16C86	48 CCCCC	CC0CC	
1782C	XGDE7	CM RV		.130	.8	16C98	14 C9567	C-13C	
1783C	B	CODE7P				16C11C	49 11284	CC0CC	
1784C	XGDE8	TFM FMCN+35		.BLK1		16C22	16 C2355	-9168	
1785C	BTM	FMCN		.CCDE8		16C34	17 C2324	JC122	
1786C	XGDE9	AM I		.1	.1C	16C46	11 C9567	CCC-1	
1787C	B	CODE9P				16C58	49 122CC	CC0CC	
1788C	XGDE12	TFM FMCN+35		.BLK1		16C7C	16 C2355	-9168	
1789C	BTM	FMCN		.CCDE12		16C82	17 C2324	JC17C	
1790C	XGDE14	TFM FMCN+35		.BLK3		16C94	16 C2355	-9246	
1791C	BTM	FMCN		.CCDE14		16C06	17 C2324	JC194	
1792C	XGDE15	TFM FMCN+35		.BLK1		16C28	16 C2355	-9168	
1793C	BTM	FMCN		.CCDE15		16C3C	17 C2324	JC210	
1794C	XGDE17	BTM RMNS		.CC17P		16C42	17 C5592	J2878	
1795C	H					16C54	48 CCCCC	CC0CC	
1796C	XGDESS	TFM FMCN+35		.BLK1		16C66	16 C2355	-9168	
1797C	BTM	FMCN		.CCDESS		16C78	17 C2324	JC266	
1798C	XLESSAB	TFM FMCN+35		.BLK1		16C9C	16 C2355	-9168	
1799C	BTM	FMCN		.CCSSAB		16C12	17 C2324	JC29C	
1800C	XG12B	TFM FMCN+35		.BLK1		16C34	16 C2355	-9168	
1801C	BTM	FMCN		.CC12B		16C36	17 C2324	JC314	
1802C	XG1	TFM FMCN+35		.BLK4		16C38	16 C2355	-927C	
1803C	BTM	FMCN		.FCT1		16C5C	17 C2324	JC338	
1804C	XG1T1	BD N60182		.SLBPSW		16C62	43 1474C	C4959	
1805C	B	FCT1TP				16C74	49 1467E	CC0CC	
1806C	XG1	TFM FMCN+35		.BLK4		16C86	16 C2355	-927C	
1807C	BTM	FMCN		.EJ3		16C98	17 C2324	JC386	
1808C	XG1CALL	TFM FMCN+35		.BLK3		16C1C	16 C2355	-9246	
1809C	BTM	FMCN		.CCG1CALL		16C22	17 C2324	JC41C	
1810C	*****	OUTPUTS CODING FOR GC TC, STCP, PAUSE, AND END							
1811C	CCDE6P	DSA I				16438		5 X 1	

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18120	DSA	LV				16438	-9567		
						16443		5 X 1	
1813C	BTM	RMNS		.0016		16443	-9587		
1814C	DSA	J				16444	17 C5592	JC46C	
						1646C		5 X 1	
1815C	DSA	SR				1646C	-9567		
						16465		5 X 1	
1816C	BTM	RMNS		.0016		16465	-2372		
1817C	DSA	I,5X				16466	17 C5592	JC482	
						16482		5 X 2	
						16482	-9567		
1818C	*****	CODE GD TC				16487	-2377		
1819C	CM	LV, 1C5,8,CC TC				16488	14 C9587	C-1C5	
1820C	BNE	N6CC41				165CC	47 1C652	C12CC	
1821C	TDM	SKIPSW		.1		16512	15 C9681	CC0C1	
1822C	BTM	SRFCT		.0016		16524	17 C42CC	JC54C	
1823C	DSA	SR				1654C		5 X 1	
						1654C	-2372		
1824C	DSA	SK				16545		5 X 1	
						16545	JC845		
1825C	TDM	SKIPSW		.C		16546	15 C9681	CC0CC	
1826C	BNF	CODE6B		.RPSW		16558	44 1C592	C50C5	
1827C	BTM	INSET		.0016		1657C	17 11144	JC586	
1828C	DSA	SR,ADCCN				16586		5 X 2	
						16586	-2372		
1829C	CCDE6B	TDM S51		.1		16591	-6925		
1830C	BTM	PUTX		.0016		16592	15 C7424	CC0C1	
1831C	DSA	B				16604	17 C698C	JC62C	
						1662C		5 X 1	
1832C	DSA	SK				1662C	-693C		
						16625		5 X 1	
1833C	DSA	BLANK				16625	JC845		
						1663C		5 X 1	
1834C	SM	ADCCN		.4	.1C	1663C	-9426		
1835C	CCDE6A	B CLEAR				16632	12 C6925	CCC-4	
1836C	DORG	=-3				16644	49 C2628	CC0CC	
1837C	N60041	CM LV, 127,8,CCNTINUE				16652	14 C9587	C-127	
1838C	BE	CLEAR				16664	46 C2628	C12CC	
1839C	CM	SR, 132,8,SEMI CCLCN				16676	14 C2377	C-132	
1840C	BNE	N6CC43				16688	47 1072C	C12CC	
1841C	TFM	J		.C		1670C	16 C9572	-C0CC	
1842C	B	N60044				16712	49 1085C	CC0CC	
1843C	DORG	=-3				1672C			
1844C	N60043	TFM J		.C		16720	16 C9572	-C0CC	

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18450	TFM	0+64		J-4		10732	16	10756	-9568
18460	BTM	RMNS		0+16		10744	17	C9592	JC76C
1847C	DSA	1,5X				1076C			5 X 2
						1076C			-9567
						10765			-2377
1848C	CM	SX,	132,0,SEMI	CCLCN		10766	14	C2377	C-132
1849C	BE	N6CC44-12				10778	46	10838	C12CC
1850C	TD	J-4				1079C	25	C956E	C2377
18510	AM	0-6		0,1	.1C	1080C	11	1079E	CC0-1
18520	CM	0-10		0,1		10814	14	1079E	-9573
18530	BL	N60043*24				10826	47	10744	C13CC
1854C	SF	J-4				10838	32	C956E	CCCCC
18550	SK	DS				10P44			C
18560	*****	CODE PAUSE							
18570	N6CC44	CM	LV,	120,0,PAUSE		1085C	14	C9587	C-126
18580	BNE	N6CC45				10862	47	1091C	C12CC
1859C	BTM	PUTX		0+16		10874	17	C690C	JC89C
186C0	DSA	H				1085C			5 X 1
						1089C			-9421
18610	CSA	J				10895			5 X 1
						10855			-9572
18620	CSA	BLANK				109CC			5 X 1
						109CC			-9426
18630	B	CLEAR				109C2	49	C262E	CCCCC
1864C	B	CORG	0-3			1091C			
1865C	*****	CODE STOP							
1866C	N60045	CM	LV,	125,0,STOP		1091C	14	C9587	C-125
18670	BNE	N6CC46				10922	47	1107E	C12CC
1868C	BTM	PUTX		0+16		10934	17	C690C	JC95C
1869C	DSA	RCTV				10950			5 X 1
						1095C			-9454
187C0	DSA	BLANK				10955			5 X 1
						10955			-9426
1871C	CSA	NCC951				1096C			5 X 1
						10960			J107C
18720	BTM	PUTX		0+16		10962	17	C698C	JC97E
18730	DSA	WATY				10978			5 X 1
						10978			-9456
18740	CSA	ASTCP				10983			5 X 1
						10983			-4141
1875C	CSA	NCC9CC				10988			5 X 1
						10988			J1075
1876C	BTM	PUTX		0+16		1099C	17	C698C	J1CC6
1877C	DSA	H				11CC6			5 X 1
						11CC6			-9421

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18780	DSA	J				11C11			5 X 1
						11C11			-9572
18790	CSA	BLANK				11C16			5 X 1
						11C16			-9426
188C0	BTM	PUTX		0+16		11C18	17	C658C	J1C34
1881C	DSA	B				11C34			5 X 1
						11C34			-693C
18820	CSA	NCC756				11C39			5 X 1
						11C39			-9688
18830	CSA	BLANK				11C44			5 X 1
						11C44			-9426
18840	SM	ADCCB		0,4	.1C	11C46	12	C6525	CCC-4
18850	B	CLEAR				11C58	49	C262E	CCCCC
18860	B	CORG	0-3			11C66			
18870	NCC951	CC	5,951			11C70			5
						11C75			5
1888C	NCC9CC	CC	5,9CC						
									-0951
1889C	*****	CODE END							
189C0	N6C046	BTM	PUTX		0+16	11C76	17	C658C	J1C52
18910	DSA	H				11C92			5 X 1
						11C92			-9421
18920	DSA	BLANK				11C97			5 X 1
						11102			-9426
18930	DSA	BLANK				11102			5 X 1
						11102			-9426
1894C	BTM	PUTX		0+16		11104	17	C658C	J112C
18950	DSA	B				11120			5 X 1
						1112C			-693C
18960	CSA	NCC756				11125			5 X 1
						11125			-9688
18970	CSA	BLANK				1113C			5 X 1
						11130			-9426
1898C	B	EOJ				11132	49	1038E	CCCCC
18990	INSET	TF	INSETA	0+1	.11	11144	26	112C3	1114L
190C0	AM	INSET-1		0,5	.1C	11156	11	11143	CCC-5
19010	TF	INSETB		INSET-1	.11	11168	26	11227	1114L
19020	AM	INSET-1		0,1	.10	1118C	11	11143	CCC-1
19030	TF	SETAC-1				11192	26	C368E	CCCCC
1904C	INSETA	DS				11203			C
19050	TDM	SETAD		0,4		11204	15	C3687	CCCC4
19060	TF	SADCCB				11216	26	11263	CCCCC
19070	INSETB	DS				11227			C
1908C	AM	SADCCM		0,6	.10	11228	11	11263	CCC-6
19090	TF	SETAD		0,6	.06	1124C	26	C368P	11263

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19100	SF	SETAC	.	.6	11252	32	C368P	CCCCC
19110	SACCOH	CS	.	.	11263		C	
19120	TDM	RPSH	.	C	11264	15	C5005	CCCCC
19130	B	INSET-1	.	.	11276	49	1114L	CCCCC
19140	CDRC	4-3	.	.	11284			
19150	*****	OUTPUT IF CODING						
19160	CCCE7P	BE	CCDE7B	.	11284	46	1205E	C12CC
19170	TF	N4CCC1	.	1	11296	26	C37C5	C967
19180	AM	N4CCC1	.	1	11300	11	C37C5	CCC-1
19150	BTP	GTNS	.	0.16	11320	17	C5622	J1336
19200	CSA	N4CCC1	.	.	11336		5 X	1
19210	DSA	SL	.	.	11336		-37C5	
					11341		5 X	1
19220	CM	SL	.	1C1	11341		-2355	
19230	BE	N4CC4B	.	.	11342	14	C2355	C-1C1
19240	BTP	SRFCT	.	0.16	11354	46	1144C	C12CC
19250	CSA	SL	.	.	11366	17	C42CC	J1382
					11382		5 X	1
19260	CSA	N4CCC3	.	.	11382		-2355	
					11387		5 X	1
19270	TDM	SS2	.	1	11387		-3715	
19280	BTP	PLTX	.	0.16	11388	15	C7425	CCCC1
19290	CSA	OPX	.	.	11400	17	C658C	J1416
					11416		5 X	1
19300	CSA	TOFAC	.	.	11416		-4417	
					11421		5 X	1
19310	CSA	N4CCC3	.	.	11421		-4151	
					11426		5 X	1
19320	TD	FLAGSH	.	F,CRPL	11426		-3715	
19330	N4004E	BNF	0.4C,IFTRC,0	IF TRACE	11428	25	C5C15	C4597
19340	BTP	PUTX	.	0.16	11440	44	1148C	C2226
19350	CSA	BTP	.	.	11452	17	C658C	J1468
					11468		5 X	1
19360	CSA	TRACE	.	.	11468		-652E	
					11473		5 X	1
19370	CSA	FACAD	.	.	11473		-3956	
					11478		5 X	1
19380	*****	OUTPUT FIXED VARIABLE IF TEST			11478		-4156	
19390	BD	0.2C	.	FLAGSH	11480	43	115CC	C5C15
19400	B	N6CC49	.	.	11492	45	11822	CCCCC
19410	CDRC	0-3	.	.	11500			
19420	AM	I	.	2	11500	11	C9567	CCC-2
19430	BTP	PUTX	.	0.16	11512	17	C658C	J152E
19440	CSA	CM,FACAD,ZERC4	.	.	11520		5 X	3

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					11528		-9627	
					11533		-4156	
					11538		-9425	
19450	TDM	SKIPSH	.	1	11540	15	C9681	CCCC1
19460	BTP	GSRI	.	0.12	11552	17	117C8	J1564
19470	BTP	PLTX	.	0.16	11564	17	C658C	J158C
19480	CSA	BL,N4CCC3,N413CC	.	.	11580		5 X	3
					11580		-9625	
					11585		-3715	
					11590		-9634	
19490	BTP	GSRI	.	0.12	11592	17	117C8	J16C4
19500	BTP	PLTX	.	0.16	11604	17	C658C	J162C
19510	CSA	BE,N4CCC3,N412CC	.	.	11620		5 X	3
					11620		-9636	
					11625		-3715	
					11630		-9641	
19520	CCCE7C	BTP	GSRI	.	11632	17	117C8	J1644
19530	BTP	PLTX	.	0.16	11644	17	C658C	J166C
19540	CSA	B,N4CCC3,ZERC5	.	.	11660		5 X	3
					11660		-693C	
					11665		-3715	
					11670		-9426	
19550	TDM	SKIPSH	.	C	11672	15	C9681	CCCCC
19560	SM	ADCOB	.	4	11684	12	C6925	CCC-4
19570	B	CLFAR	.	.	11696	45	C262E	CCCCC
19580	GSRI	AM	I	.	11708	11	C9567	CCC-1
19590	BTP	GTNS	.	0.16	11720	17	C5622	J1736
19600	CSA	I,SK	.	.	11736		5 X	2
					11736		-5567	
19610	BTP	SRFCT	.	0.16	11741		JC845	
19620	CSA	SK,N4CCC3	.	.	11742	17	C42CC	J175E
					11758		5 X	2
					11758		JC845	
					11763		-3715	
19630	BNF	0.34	.	RPSH	11764	44	1175E	C5005
19640	BTP	INSET	.	0.16	11776	17	11144	J1752
19650	CSA	SK,ACCCW	.	.	11792		5 X	2
					11792		JC845	
					11797		-6925	
19660	TDM	SSI	.	1	11798	15	C7424	CCCC1
19670	B	CSBI-1	.	.	11810	49	117CP	CCCCC
19680	N40045	TF	N4CC01	.	11822	26	C37C5	C6925
19690	AM	N4CCC1	.	ACCCW	11834	11	C37C5	CCCCC
19700	TF	N4CC04	.	2C	11846	26	C372C	C4156
19710	S	N4CC04	.	FACAD	11858	22	C372C	C2298
19720	AM	N4CC04	.	FP2	11870	11	C372C	CCC-1
19730	TDM	SSI	.	1	11882	15	C7424	CCCC1
19740	BTP	PUTX	.	0.16	11894	17	C658C	J191C
19750	CSA	BD,N40001,N4C004	.	.	11910		5 X	3

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1976C	AM	I	.3	.1C	1191C	-9643	
1977C	TDM	SKIPSW	.1		11915	-37C5	
1978C	BTM	GSI	..12		1192C	-372C	
1979C	BTM	PUTX	..16		11922	11 C9967	CCC-3
1980C	CSA	B,N4CCC3,ZERC5			11934	15 C9681	CCCC1
					11946	17 117C8	J1958
					11958	17 C698C	J1974
					11974	5 X	3
1981C	SM	ADCCW	.4	.1C	11974	-693C	
1982C	BTM	GSI	..12		11979	-3715	
1983C	BTM	PUTX	..16		11984	-9426	
1984C	CSA	BNF,N4CCC3,FACP2			11986	12 C6925	CCC-4
					11998	17 117C8	J2C1C
					12C1C	17 C698C	J2C26
					12C26	5 X	3
1985C	SM	I	.3	.1C	12C26	-9645	
1986C	B	CCDE7C			12C31	-3715	
1987C	DDRG	*-3			12C36	-965C	
1988C	CCDE7B	AM	I	.3	12C38	12 C9567	CCC-3
1989C	BTM	GTNS	..16		12C5C	49 11632	CCCCC
1990C	DSA	I,N4CCC1			12C58		
					12C58	11 C9567	CCC-3
					12C7C	17 C5622	J2086
					12C86	5 X	2
1991C	TF	INDREC-2	,N4C0C1		12C86	-9567	
1992C	SM	INDREC-4			12C91	-37C5	
1993C	TDM	SKIPSW	.1		12C92	26 12151	C37C5
1994C	AM	I	.1	.1C	121C4	32 12185	CCCCC
1995C	BTM	GSI	..12		12116	15 C9681	CCCC1
1996C	BTM	PUTX	..16		12128	11 C9567	CCC-1
1997C	DSA	BI,N4C0C3,INDREC			1214C	17 117C8	J2152
					12152	17 C698C	J2168
					12168	5 X	3
1998C	B	CODE7C			12168	-9652	
1999C	DDRG	*-3			12173	-3715	
2000C	INDREC	CC	6,C		12178	J2193	
					1218C	49 11632	CCCCC
					12188		
					12193	6	
2001C	CGCOW	DS	5		12198	5	
2002C	*****						
2003C	CCDESP	BTM	GTNS	..16	122CC	17 C5622	J2216
2004C	CSA	I			12216	5 X	1
2005C	CSA	SL			12216	-9567	
					12221	5 X	1
2006C	CM	SL	1C4,B,RIGHT PAREN		12221	-2355	
2007C	BNE	CODE5			12222	14 C2355	C-1C4
2008C	TF	N4CCC4	.1		12234	47 1C146	C12CC
					12246	26 C372C	C9567

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2009C	AM	N4CCC4	.1	.1C	12258	11 C372C	CCC-1
2010C	BTM	GTNS	..16		1227C	17 C5622	J2286
2011C	CSA	N4CCC4			12286	5 X	1
2012C	CSA	SL			12286	-372C	
					12291	5 X	1
2013C	TDM	SS1	.1		12291	-2355	
2014C	TDM	SKIPSW	.1		12292	15 C7424	CCCC1
2015C	BTM	SRFCT	..16		123C4	15 C9681	CCCC1
2016C	CSA	SL			12316	17 C42CC	J2332
					12332	5 X	1
2017C	CSA	N4C0C4			12332	-2355	
					12337	5 X	1
2018C	BTM	PUTX	..16		12337	-372C	
2019C	CSA	MM			12338	17 C698C	J2354
					12354	5 X	1
2020C	CSA	N4CCC4			12354	-9415	
					12359	5 X	1
2021C	CSA	MNS5			12359	-372C	
					12364	5 X	1
2022C	TDM	SS2	.1		12364	-9537	
2023C	TF	N4CCC1	,ACCOW		12366	15 C7425	CCCC1
2024C	AM	N4CCC1	.18	.1C	12378	26 C37C5	C6925
2025C	BTM	PUTX	..16		12390	11 C37C5	CCOJ8
2026C	CSA	SM			124C2	17 C698C	J2418
					12418	5 X	1
2027C	CSA	N13092			12418	-9464	
					12423	5 X	1
2028C	CSA	N4CCC1			12423	-9435	
					12428	5 X	1
2029C	TFM	I	.3	.1C	12428	-37C5	
2030C	TDM	SS3	.1		1243C	16 C9967	C-CC3
2031C	BTM	GTNS	..16		12442	15 C7426	CCCC1
2032C	CSA	I			12454	17 C5622	J247C
					1247C	5 X	1
2033C	CSA	SK			1247C	-9567	
					12475	5 X	1
2034C	BTM	SRFCT	..16		12475	J0845	
2035C	CSA	SK			12476	17 C42CC	J2492
					12492	5 X	1
2036C	CSA	N4C0C4			12492	J0845	
					12497	5 X	1
					12497	-372C	

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20370	TDM	SKIPSh	,C			12490	15	C9601	CCCC
20380	BNF	CODE5B	,RPSH			12510	44	12560	C5CC9
20390	TF	CGCCb	,ADCCb			12522	26	12190	C6529
20400	AM	GGCOb	,S		.1C	12534	11	12190	CC0-9
20410	BTP	INSET	,+16			12546	17	11144	J2562
20420	CSA	SK,GGCCb				12562		5 X	2
						12562		JC049	
						12567		J2190	
20430	CCDE5B	TDM	SS2	,1		12560	15	C7429	CCCC1
20440	BTP	PUTX	,+16			12500	17	C690C	J2596
20450	DSA	B				12596		5 X	1
						12596		-493C	
20460	CSA	N13C52				12601		5 X	1
						12601		-9439	
20470	CSA	N4CC04				12606		5 X	1
						12606		-372C	
20480	TFM	I	,4		.0	12608	16	C9567	C-CC4
20490	BTP	GTNS	,+16			12620	17	C5622	J2630
20500	CSA	I				12636		5 X	1
						12636		-9567	
20510	CSA	SL				12641		5 X	1
						12641		-2399	
20520	CM	SL		1C4,0,RIGHT PAREN		12642	14	C2399	C-104
20530	BE	CLEAR				12654	46	C2620	C12CC
20540	CCDE5A	BTP	GTNS	,+16		12666	17	C5622	J2602
20550	CSA	I,SL				12602		5 X	2
						12602		-9567	
						12607		-2399	
20560	CM	SL	,1C4		.0	12608	14	C2399	C-104
20570	BE	N6CC72				12700	46	12054	C12CC
20580	TDM	SKIPSh	,1			12712	15	C6081	CCCC1
20590	BTP	SRFCT	,+16			12724	17	C42CC	J274C
20600	CSA	SL,N4CC01				12740		5 X	2
						12740		-2399	
						12745		-37C5	
20610	TDM	SKIPSh	,C			12746	15	C6081	CCCCC
20620	BNF	CODE5C	,RPSH			12758	44	12016	C5CC9
20630	TF	CGCCb	,ADCCb			12770	26	12190	C6529
20640	SM	GGCCb	,2		.1C	12782	12	12190	CC0-2
20650	BTP	INSET	,+16			12754	17	11144	J201C
20660	DSA	SL,CGCCb				12710		5 X	2
						12710		-2399	
						12815		J2190	
20670	CCDE5C	BTP	PLTC	,+16		12816	17	C01CC	J2032
20680	CSA	N4CC01				12832		5 X	1
						12832		-37C5	

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20690	AM	I	,1		.1C	12834	11	C5567	CCC-1
20700	B	CODE9A				12846	45	12666	CCCCC
20710	DORG	*-3				12854		12054	
20720	N6CC72	BTP	ADJLST	,ADCCb		12854	17	C3766	-6929
20730	B	CLEAR				12866	45	C2620	CCCCC
20740	DORG	*-3				12874			
20750	*****	CUTPLTS FORMAT SPECIFICATIONS							
20760	CC17P	CSA	I,SY17			12878		5 X	2
						12878		-9567	
						12883		J3141	
20770	BTP	RMNS,+16				12884	17	C5592	J29CC
20780	CSA	I,SY17				12900		5 X	2
						12900		-9567	
						12905		J3141	
20790	TF	REP3,ADCCb,,		SAVE ADDRESS CF 1ST SPEC		12906	26	14371	C6925
20800	AM	ADCCb	,1		.1C	12918	11	C6925	CC-1
20810	CC17A	BTP	CKM,+12			12930	17	1354C	J2942
20820	BTP	RMNS,+16,,		REMOVE A SYMBCL		12942	17	C5592	J2950
20830	CSA	I,SY17				12950		5 X	2
						12950		-9567	
						12963		J3141	
20840	CM	SY17,	1C1,0,IS IT AN OPERATOR			12964	14	13141	C-101
20850	BNL	CO17B,,	YES, BRANCH			12976	46	134C4	C13CC
20860	XRMNS	BTP	RMNS,+16,,	REMOVE NEXT SYMBCL		12988	17	C5592	J3CC4
20870	CSA	I,SY17				13004		5 X	2
						13004		-9567	
						13009		J4243	
20880	CM	SY17,	147,0,IS IT XTYPE			13010	14	14243	C-147
20890	BE	CO17C				13022	46	13142	C12CC
20900	CM	SY17,	148,0,IS IT HTYPE			13034	14	14243	C-148
20910	BE	CO17D				13046	46	13202	C12CC
20920	CM	SY17,	124,0,IS IT LEFT PAREN			13058	14	14243	C-124
20930	BE	CO17E				13070	46	13332	C12CC
20940	TF	FREQ1,SY17,,		OTHER OPERATOR, SAVE FREQ		13082	26	13237	13141
20950	TF	REP1,ADCCb,,		SAVE ADDRESS CF NEXT SPEC		13094	26	13201	C6925
20960	AM	REP1,4,1C				13106	11	13201	CC0-4
20970	TF	SY17,SY17				13118	26	13141	14243
20980	B	CO17B				13130	49	13404	CCCCC
20990	CS	*				13141		C	
21000	SY17					13142	17	1492C	-4136
21010	CC17C	BTP	PUT17,XTYPE,,	PUT XTYPE AND LENGTH		13154	13	13141	CC0-2
21020	MM	SY17,2,1C				13166	32	CCC97	CCCCC
21030	SF	97				13178	27	14956	CCCC9
21040	BT	PUT17C,99				13190	49	1299C	CCCCC
21050	B	CO17A				13201		C	
21060	REP1	CS	*			13202	17	1492C	-4131
21070	CC17D	BTP	PUT17,HTYPE,,	PUT HTYPE, LENGTH AND CCNSTANTS		13214	13	13141	CC0-2
21080	MM	SY17,2,1C				13226	32	CCC97	CC-CC
21090	SF	97,,9				13237		C	
21100	FREQ1	DS	*			13238	27	14956	CCCC9
21110	BT	PUT17C,99				13250	17	C5592	J3266
21120	CC17F	BTP	RMNS,+16			13266		5 X	2
21130	CSA	I,SY17							

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21130	BT	PUT17B,SY17		13266	-9567
21140	SM	SX17,1,1C		13271	J4243
21150	CM	SX17,C,9		13272	27 J46C4 14243
21160	BH	CD17F		13284	12 13141 CCC-1
21170	B	CD17A		13296	14 13141 CC-CC
21180	REP2	CS	*	13308	46 1325C C11CC
21190	CC17E	TF	REP3,ADCC,,	1332C	49 1293C CCCCC
21200	SM	REP3,1,1C	SAVE FREQUENCY ADDRESS	13331	C
21210	YF	REP2,ADCC		13332	26 14371 C6925
21220	AM	REP2,4,1C		13344	12 14371 CCO-1
21230	TF	FREQ2,SX17		13356	26 13331 C6925
21240	B	CD17A,,9		13368	11 13331 CCC-4
21250	FREQ2	DS	*	1338C	26 134C3 13141
21260	CC17B	CM	SX17, 1C4,8,RIGHT PAREN	13392	49 1293C CC-CC
21270	BE	CD17G		134C3	C
21280	CM	SX17, 145,8,E TYPE		134C4	14 13141 C-1C4
21290	BE	CD17H		13416	46 14276 C12CC
21300	CM	SX17, 121,8,SLASH		13428	14 13141 C-145
21310	BE	CD17I		1344C	46 14244 C12CC
21320	CM	SX17, 144,8,A TYPE		13452	14 13141 C-121
21330	BE	CD17J		13464	46 1364C C12CC
21340	CM	SX17, 149,8,I TYPE		1347E	14 13141 C-144
21350	BE	CD17K		13488	46 13672 C12CC
21360	CM	SX17, 146,8,F TYPE		135CC	14 13141 C-145
21370	BE	CD17L		13512	46 13834 C12CC
21380	CM	SX17, 132,8,SEMI CCLCN		13524	14 13141 C-146
21390	BE	CD17SC		13536	46 13854 C12CC
21400	CM	SX17, 124,8,LEFT PAREN		13548	14 13141 C-132
21410	BNE	CD17A,,,		13560	46 14372 C12CC
21420	CC17P	BTF	CKXH,,+12	13572	14 13141 C-124
21430	TF	REP3,ADCC,,	SAVE REPEAT ADDRESS	13584	47 1293C C12CC
21440	SM	REP3,1,1C		13596	17 1354C J368
21450	B	CD17A		13608	26 14371 C6925
21460	DORG	=-3		13620	12 14371 CCO-1
21470	CC17I	BTF	CKXH,,+12	13632	49 1293C CCCCC
21480	BTF	PUT17,SLASH		1364C	17 1354C J3652
21490	B	CD17A		13652	17 1452C -41C1
21500	DORG	=-3		13664	49 1293C CCCCC
21510	CC17J	BTF	CKXH,,+12	13672	17 1394C J36
21520	BTF	PUT17,ATYPE		13672	17 1452C -409E
21530	BTF	RMNS,,+16		13684	17 1452C J3712
21540	CSA	I,SX17		13696	17 C5562 J3712
				13712	5 X 2
				13712	-9567
				13717	J3141
21550	PM	SX17,2,1C		13718	13 13141 CCC-2
21560	SF	97		13730	32 CCCC7 CCCCC
21570	BT	PUT17C,99	PLT FREQ RETURN ADDRESS	13742	27 14556 CCCC5
21580	CC17N	CM	FREQ1,0,9,	13754	14 13237 CC-CC
21590	BE	CD17A		13766	46 1293C C12CC
21600	BTF	PLT17,REP		13778	17 1452C -41C6
21610	CC117	BT	PUT17I,REP1	13790	27 14468 132C1
21620	BT	PUT17B,FREQ1		13802	27 146C4 13237
21630	TFM	FREQ1,C,9		13814	16 13237 CC-CC

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21640	B	CD17A		13826	49 1293C CCCCC
21650	DORG	=-3		13834	
21660	CC17K	BTF	PLT17,ITYPE	13834	17 1452C -4111
21670	B	CD17J+24		13846	49 13696 CCCCC
21680	DORG	=-3		13854	
21690	CC17L	BTF	PUT17,FTYPE	13854	17 1452C -4116
21700	BTF	RMNS,,+16		13866	17 C5562 J3882
21710	CSA	I,SX17		13882	5 X 2
				13882	-9567
				13887	J3141
21720	BT	PUT17C,SX17		13888	27 14556 13141
21730	BTF	RMNS,,+16		139CC	17 C5562 J3916
21740	CSA	I,SX17		13916	5 X 2
				13916	-9567
				13921	J3141
21750	B	WUB12B+24		13922	49 14156 CCCCC
21760	CC	5,C		13938	5
				13938	-9567
21770	CKXH	BTF	GTNS,,+16	1394C	17 C5622 J3956
21780	CSA	I,SY17		13956	5 X 2
				13956	-9567
				13961	J4243
21790	CM	SY17,147,9		13962	14 14243 CCJ47
21800	BE	XRMS		13974	46 12988 C12CC
21810	CM	SY17,148,9		13986	14 14243 CCJ48
21820	BE	XRMS		13998	46 12988 C12CC
21830	BTF	CKXH-1,,6		14C1C	49 1393R
21840	DORG	141CC		141CC	
21850	DC	2,2		14101	2
				14102	16 C2355 -5294
21860	WLBCCS	TFM	FMCN+35 ,BLK5	14114	17 C2324 J41C2
21870	BTF	FMCN	,SLBCCS	14126	16 C2355 -5318
21880	WLB CAB	TFM	FMCN+35 ,BLK6	14138	17 C2324 J4126
21890	BTF	FMCN	,SLCAB	14150	16 C2355 -5342
21900	WLB C12	TFM	FMON+35 ,BLK7	14162	17 C2324 J415C
21910	BTF	FMCN	,SLB C12	14174	16 C2355 -5366
21920	WUB12P	TFM	FMON+35 ,BLK8	14186	17 C2324 J4174
21930	BTF	FMCN	,SLB128	14198	17 C5562 J4214
21940	BTF	RMNS,,+16		14214	5 X 2
21950	CSA	I,SX17		14214	-9567
				14219	J3141
21960	BT	PUT17B,SX17		14220	27 146C4 13141
21970	B	CD17N		14232	49 13754 CCCCC
21980	SY17	CS	*	14243	C
21990	CC17M	BTF	CKXH,,+12	14244	17 1394C J4256
22000	BTF	PUT17,ETYP		14256	17 1452C -4121
22010	B	CD17L+12		14268	49 13866 CCCCC
22020	DORG	=-3		14276	
22030	CC17G	BTF	CKXH,,+12	14276	17 1394C J4288
22040	CM	FREQ2,0,9,	PUT FREQ RETURN ADDRESS	14288	14 134C3 CO-CC
22050	BE	CD17A		14300	46 1293C C12CC

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2206C	TF	FREQ1,FREQ2			14312	26	13237	13403
22070	TF	REP1,REP2			14324	26	132C1	13331
22080	TFM	FREQ2,C,5			14336	16	134C3	CC-CC
22090	BTM	PUT17, REPA			14348	17	1492C	-394E
22100	B	CD117			1436C	49	1375C	CCOCC
22110	REP3	CS	,*		14371			C
22120	CC175C	BNA	CD17A,BGAST+5		14372	45	1293C	16CC4
22130	BTM	PUT17,RECC			14384	17	1452C	-412E
22140	BT	PUT17,REP3			14394	27	1446E	14371
22150	CC17XX	BTM	ADJUST,ADCCB,, ADJUST ADCCB TO EVEN ADDRESS		14408	17	C376E	-6925
22160	TF	N4CC2,SMF			1442C	26	C371C	C96C2
22170	BTM	PUTA	,**16		14432	17	C822C	J444E
2218C	CSA	SMF,ADCCB			14440		5 X	2
2219C	B	CLEAR			14440		-96C2	
2220C	DDRG	+3			14483		-6925	
2221C	CS	5			14494	49	C262E	CCOCC
22220	PLT17I	TR	TYPET	,TYPECR	14466		5	
22230	TFM	PUT3		,PLT17I-1	14468	31	C8373	C8744
22240	TFM	PUTX-1		,**29	1448C	16	C872E	J4467
22250	BT	PLTXD			14492	16	C6575	J4512
22260	BB2				14504	49	C7C64	
2227C	CS	5			14512	42		
22280	PLT17	TR	TYPET	,TYPECN	14518		5	
22290	TF	PUT3		,PLT17-1	1452C	31	C8373	C8755
2230C	B	PUT17I+24			14532	26	C872E	14519
2231C	DS	,*			14544	49	14492	CCOCC
22320	PLT17C	TR	TYPET	,TYPEK3	14595		C	
2233C	SF	PUT17C-3			14596	31	C8373	14662
2234C	TFM	PUT3		,PLT17C-1	14568	32	14553	CCOCC
2235C	B	PUT17I+24			1458C	16	C872E	J4555
22360	CS	,*			14592	49	14492	CCOCC
22370	PLT17B	TR	TYPET	,TYPEK2	146C3		C	
2238C	SF	PUT17B-2			146C4	31	C8373	14647
22390	TFM	PUT3		,PLT17B-1	14616	32	146C2	CCOCC
2240C	BT	PUT17I+24			1462E	16	C872E	J46C3
22410	TYPEK2	CSC	1,2		1464C	45	14492	
22420	CC	2,2			14647		1	
22430	CC	2,5			14649		2	
2244C	CC	2,1C			14651		2	
2245C	CC	2,11			14653		2	
2246C	CC	5,1CCCC			14655		2	
2247C	CC	1,1			14660		5	
2248C	TYPEK3	DSC	1,2		14661		1	
2249C	CC	2,3			14662		1	
2250C	CC	-3			14664		2	

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2250C	CC	2,6			14666		2	
2251C	CC	2,11			14668		2	
2252C	CC	2,12			1467C		2	
2253C	CC	5,1CCCC			14675		5	
2254C	CC	1,1			14676		1	
2255C	*****	OUTPUT RETURN						
22560	FCTRTP	TDM	SS2	,1	14678	15	C7425	CCOCC1
2257C	BTM	SRFCT		,**16	1469C	17	C42CC	J47C6
2258C	CSA	RTNAME			147C6		5 X	1
22590	CSA	N4CC11			147C6		-955E	
2260C	BTM	PUTX		,**16	14711		5 X	1
2261C	CSA	BTM			14711		-3755	
22620	DSA	TCFAC			14712	17	C658C	J472E
22630	DSA	N4CC11			14720		5 X	1
2264C	N4CC12	TFM	SS3	,1C1	14720		-692E	
2265C	TF	N4CC12		,RTAC	14733		5 X	1
2266C	SM	N4CC12		,1	14733		-4151	
2267C	BTM	PUTX		,**16	14738		5 X	1
2268C	DSA	B			14738		-3755	
22690	CSA	N4CC12			1474C	16	C742E	CCJC1
2270C	CSA	BLANK			14752	26	C376C	C5592
22710	B	CLEAR			14764	12	C376C	CC-1
22720	DDRG	+3			14776	17	C658C	J4752
22730	DDRG	16CC2			14792		5 X	1
22740	XZZX	34	BLK2A,701		14792		-693C	
22750	XZZX	38	BLK2A,702		14797		5 X	1
22760	TRA				14797		-376C	
2277C	TCD	XZZX			148C2		5 X	1
2278C	DSA	CF			148C2		-942E	
22790	DDRG	100C			14802	49	C2E2E	CCOCC
2280C	*****	SECONDARY LINKAGE FOR BLCK 3			14812		16CC2	
					16CC2		16CC2	
					16002	34	C923C	C07C1
					16014	38	C923C	CC7C2
					16026	36	CCOCC	CC5C
					16038	49	CCOCC	CCOCC
					160C2			
					16C94		5 X	1
					16C94		-9413	
					10C0C			

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22810	DC	2,3			1CCCI	2	
22820	YCDE1	TFM	FMCN+35	,BLK1	1CCC2	16	C2355 -5158
22830	BTP	FMCN		,CCDE1	1CC14	17	C2324 JC002
22840	YCDE3	TFM	FMCN+35	,BLK1	1CC26	16	C2355 -5158
22850	BTP	FMCN		,CCDE3	1CC38	17	C2324 JC026
22860	YCDE4	TFM	FMCN+35	,BLK1	1CC50	16	C2355 -5158
22870	BTP	FMCN		,CCDE4	1CC62	17	C2324 JC050
22880	YCDE6	TFM	FMCN+35	,BLK2	1CC74	16	C2355 -5222
22890	BTP	FMCN		,CCDE6	1CC86	17	C2324 JC074
22900	YCDE7	TFM	FMCN+35	,BLK2	1CC98	16	C2355 -5222
22910	BTP	FMCN		,CCDE7	10110	17	C2324 JC098
22920	YCDE8	TFM	FMCN+35	,BLK1	10122	16	C2355 -5158
22930	BTP	FMCN		,CCDE8	10134	17	C2324 JC122
22940	YCDE9	TFM	FMCN+35	,BLK2	10146	16	C2355 -5222
22950	BTP	FMCN		,CCDE9	10158	17	C2324 JC146
22960	YCDE12	B	SUBC12		10170	49	1415C CCCCC
22970	H				10182	48	CCCCC CCCCC
22980	YCDE14	TDM	FX	,I	10194	15	C3531 CCCC1
22990	B	CD14P			10206	49	10434 CCCCC
23000	YCDE15	TFM	FMCN+35	,BLK1	10218	16	C2355 -5158
23010	BTP	FMCN		,CCDE15	10230	17	C2324 JC218
23020	YCDE17	TFM	FMCN+35	,BLK2	10242	16	C2355 -5222
23030	BTP	FMCN		,CCDE17	10254	17	C2324 JC242
23040	YCDSS5	B	SUBCDS		10266	49	14162 CCCCC
23050	H				10278	48	CCCCC CCCCC
23060	YESSAB	B	SUBCAB		10290	49	14126 CCCCC
23070	H				10302	48	CCCCC CCCCC
23080	YD128	B	SUB128		10314	49	14174 CCCCC
23090	H				10326	48	CCCCC CCCCC
23100	YCTE	TFM	FMCN+35	,BLK4	10338	16	C2355 -5270
23110	BTP	FMCN		,FCT1	10350	17	C2324 JC338
23120	YCTRT	TFM	FMCN+35	,BLK2	10362	16	C2355 -5222
23130	BTP	FMCN		,FCTRT	10374	17	C2324 JC362
23140	YCJ	TFM	FMCN+35	,BLK4	10386	16	C2355 -5270
23150	BTP	FMCN		,ECJ	10398	17	C2324 JC386
23160	YCCALL	CM	LV	,I31	10410	14	C9587 C-131
23170	B	GDICALP			10422	49	13004 CCCCC
23180	*****		OUTPUT IC STATEMENT				
23190	CD14P	TDM	FFRSW	,C	10434	15	C4585 CCCCC
23200	BTP	RMNS		,**16	10446	17	C5552 JC 42
23210	CSA	I			10462		5 X
23220	CSA	SR			10462		-9567
					10467		5 X 1
23230	BTP	GTNS		,**16	10467		-2372
23240	CSA	I,SL			10468	17	C5622 JC484
					10484		5 X 2
23250	CM	LV		,142	10484		-9567
23260	BL	CD14JG			10489		-2355
23270	CM	LV		,147	10490	14	C9587 C-142
23280	BH	CD14JG			10495	47	10980 C13CC
					10514	14	C9587 C-147
					10526	46	10580 C11CC

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23290	TDM	FFRSW		,I	10538	15	C4585 CCCCC
23300	CM	LV		,142	10550	14	C9587 C-142
23310	BE	CD14FV			10562	46	10650 C12CC
23320	CM	LV		,143	10574	14	C9587 C-143
23330	BE	CD14FL			10586	46	10784 C12CC
23340	CM	LV		,146	10598	14	C9587 C-146
23350	BE	CD14RV			10610	46	10900 C12CC
23360	CM	LV		,147	10622	14	C9587 C-147
23370	BE	CD14RL			10634	46	10920 C12CC
23380	SF	FFRSW			10646	32	C4585 CCCCC
23390	CM	LV		,144	10658	14	C9587 C-144
23400	BE	CD14SV			10670	46	10940 C12CC
23410	B	CD14SL			10682	49	10960 CCCCC
23420	DORG	*-3			10690		
23430	CD14FV	TF	LVP	,FETCH	10690	26	12971 13003
23440	CM	SL		,IC1	10702	14	C2355 C-101
23450	BNE	CD14JN			10714	47	11002 C12CC
23460	BTP	PUTX		,**16	10726	17	C6980 JC742
23470	CSA	BT,LVP,N13052			10742		5 X 3
23480	BTP	RMNS		,**16	10742		-9452
23490	CSA	I,SL			10747		J2571
					10752		-9435
					10754	17	C5552 JC770
					10770		5 X 2
23500	B	CD14A			10770		-9567
23510	DORG	*-3			10775		-2355
23520	CD14FL	TF	LVP	,FETCH	10776	49	11214 CCCCC
23530	BTP	SRFCT		,**16	10784		
23540	CSA	SL,N40004			10784	26	12971 13003
					10796	17	C4200 JC812
					10812		5 X 2
23550	TDM	SS2		,I	10812		-2355
23560	BTP	PUTX		,**16	10817		-3720
23570	CSA	BTP,T0FAC,N40004			10818	15	C7425 C0001
					10830	17	C6980 JC846
					10846		5 X 3
23580	BTP	RPNS		,**16	10846		-6928
23590	CSA	I,FAC			10851		-4151
					10856		-3720
					10858	17	C6952 JC874
					10874		5 X 2
23600	BTP	GMRP		,**12	10874		-9567
23610	B7	CD14FV+12			10879		-9551
23620	CD14RV	TF	LVP	,RECORD	10880	17	C5912 JC892
23630	B7	CD14FV+12			10892	49	10702
23640	CD14RL	TF	LVP	,RECORD	10900	26	12971 12998
23650	B7	CD14FL+12			10912	49	10702
23660	CD14SV	TF	LVP	,FIND	10920	26	12971 12998
23670	B7	CD14FV+12			10932	49	10796
					10940	26	12971 12993
					10952	49	10702

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23680	CC14SL	TF	LVP	,FIND		10560	26	12971	12953
23690		B7	CD14FL+12			10972	49	10758	
23700	CC14JC	BTM	OPSR	,**16		10980	17	C3812	J0996
23710		CSA	LV,LVP			10996		5 X	2
						10996		-9987	
						11001		J2971	
23720	CC14JH	BTM	RMNS	,**16		11002	17	C5992	J1018
23730		CSA	I			11018		5 X	1
						11018		-9567	
23740		CSA	SL			11023		5 X	1
						11023		-2399	
23750		TDM	SS2	,1		11024	15	C7425	CC001
23760	*****		OUTPLT INSTRUCTION FOR IC DEVICE			11036	17	C4200	J1052
23770		BTM	SRFCT	,**16		11052		5 X	1
23780		CSA	SL			11052		-2399	
						11057		5 X	1
23790		CSA	N4CCC4			11057		-3720	
						11058	43	11106	C4988
23800		BD	CD14NR+12	,FFRSH		11070	43	11126	C5009
23810		BD	CD14RP	,RPSH		11082	11	C4595	CC0-5
23820		AM	SBASE	,5	,1C	11094	45	11174	C4596
23830		BNR	CD14NR	,SBASE	,11	11106	16	C4417	CC0K7
23840		TFM	OPX	,27	,1C	11118	49	11106	
23850		B7	CD14NR+12			11126	26	C3705	C4929
23860	CC14RP	TF	N4CCC1	,RCCCH		11138	11	C3705	CC0J1
23870		AM	N4CCC1	,11	,1C	11150	26	C4596	C3705
23880		TF	SRASE	,N40001	,6	11162	15	C3006	CC000
23890		TDM	RMSH	,C		11174	16	C4417	CC0J7
23900	CC14NR	TFM	OPX	,17	,1C	11186	17	C6980	J1202
23910		BTM	PUTX	,**16		11202		5 X	3
23920		CSA	OPX,LVP,N4CCC4			11202		-4417	
						11207		J2971	
						11212		-3720	
23930	CC14A	TDM	ID1	,C		11214	15	C9357	CC000
23940		BNF	**2C	,FFRSH		11226	44	11246	C4985
23950		B7	CLEAR			11238	49	C2626	
23960		BTM	RMNS	,**16		11246	17	C5592	J1262
23970		CSA	I			11262		5 X	1
						11262		-9567	
23980		CSA	SL			11267		5 X	1
						11267		-2399	
23990		CM	SL	132.0,SEMI CCLCA		11268	14	C2395	C-132
24000		BE	CD14EN			11280	46	12958	C1200
24010		BTM	GTNS	,**16		11292	17	C5622	J1300
24020		CSA	I			11308		5 X	1
						11308		-9567	

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24030		CSA	SL			11313		5 X	1
						11313		-2399	
24040		CM	SL	105.0,CCA		11314	14	C2395	C-105
24050		BE	CO0CA			11326	46	12450	C1200
24060		CM	SL	124.0,LEFT PAREN		11338	14	C2395	C-124
24070		BE	CODEPA			11350	46	11852	C1200
24080		BTM	SRFCT	,**16		11362	17	C4200	J1378
24090		CSA	SL			11378		5 X	1
						11378		-2399	
24100		CSA	SR			11383		5 X	1
						11383		3712	
24110		BD	CO0ARR	,CPSH		11394	43	11674	C4374
24120	*****		OUTPLT SIMPLER VARIABLE			11396	43	11416	C4557
24130		BD	**2C	,FXCRFL		11408	49	11488	CC000
24140		B	CD59			11416			
24150		DORG	+3			11416	44	11476	C5679
24160		BNF	CD58	,FPSH		11428	15	C7424	CC001
24170		TDM	SS1	,1		11440	17	C6980	J1496
24180		BTM	PUTX	,**16		11456		5 X	1
24190		CSA	SF			11456		-9411	
						11461		5 X	1
24200		CSA	SR			11461		-2372	
						11466		5 X	1
24210		CSA	BLANK			11466		-9426	
						11466	49	11488	CC000
24220		B	**2C			11476			
24230		DORG	+3			11476	15	C7427	CC001
24240	CC98	TDM	SS4	,1		11488	15	C7425	CC001
24250	CC99	TDM	SS2	,1		11500	43	11532	C4989
24260		BD	CD57	,FFRSH		11512	26	C3720	C4161
24270		TF	N4CCC4	,1C		11524	49	11544	
24280		B7	CD56			11532	26	C3720	12978
24290	CC97	TF	N4CCC4	,5bF		11544	17	C6980	J1540
24300	CC96	BTM	PUTX	,**16		11560		5 X	1
24310		CSA	OPX			11560		-4417	
						11565		5 X	1
24320		CSA	N4CCC4			11570		-2720	
						11570		5 X	1
24330		CSA	SR			11570		-2372	
						11572	43	11592	C4557
24340		BD	**2C	,FXCRFL		11584	49	11644	CC000
24350		B	CD14C			11592			
24360		DORG	+3			11592	44	11644	C9679
24370		BNF	CD14C	,FPSH		11604	15	C7424	CC001
24380		TDM	SS1	,1		11616	17	C6980	J1632
24390		BTM	PUTX	,**16		11632		5 X	1
24400		CSA	CF			11632			

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24410	CSA	SR				11632	-9413		
						11637	5 X	1	
24420	CSA	BLANK				11637	-2372		
						11642	5 X	1	
24430	CC14C	BTP	RMNS	,**16		11642	-9426		
24440	CSA	I				11644	17	C5992	J166C
						11660	5 X	1	
24450	CSA	SL				11660	-9567		
						11665	5 X	1	
24460	B	CD14A				11665	-2355		
24470	DDRG	**3				11666	49	11214	CCCC
24480	*****	OUTPUT DIMENSION VARIABLES IN IC STATEMENTS				11674			
24490	CCDARR	TF	N4CCC4	,I		11674	26	C372C	C9567
24500	AM	N4CCC4		,I	,IC	11686	11	C372C	CCC-1
24510	BTP	GTNS	,**16			11690	17	C5622	J1714
24520	CSA	N4CCC4				11714	5 X	1	
24530	CSA	LV				11714	-372C		
						11719	5 X	1	
24540	CM	LV	,140	,0		11719	-9587		
24550	BL	COOPAT				11720	14	C9587	C-140
24560	AM	I	,I	,IC		11732	47	1265C	C13CC
24570	TDP	IOI	,I	,I1		11744	11	C9567	CCC-1
24580	CM	LV	,140	,0		11756	15	C9357	CCCCJ
24590	BE	COSSAB				11760	14	C9587	C-140
24600	B7	CODESS				11780	46	IC25C	C12CC
24610	CC140	TDP	IOI	,C		11792	49	IC26E	
24620	BD	CO95	,FFRSb			11800	15	C9357	CCCC
24630	TF	N4CCC4	,IC			11812	43	11844	C4985
24640	B7	CO94				11824	26	C372C	C4161
24650	CC95	TF	N4CCC4	,5WF		11836	49	11856	
24660	CC94	BTP	PUTX	,**16		11844	26	C372C	12570
24670	CSA	BT				11856	17	C658C	J1872
						11872	5 X	1	
24680	CSA	N4CCC4				11872	-9452		
						11877	5 X	1	
24690	CSA	N13C52				11877	-372C		
						11882	5 X	1	
24700	B	CD14A				11882	-5435		
24710	DDRG	**3				11884	49	11214	CCCC
24720	CCCEPA	TFM	PARCAT,1,IC			11892	16	12133	CCC-1
24730	CC14NA	AM	I,1,IC			11904	11	C9567	CCC-1
24740	BTP	GTNS,**16				11916	17	C5622	J1932
24750	CSA	I,5L				11932	5 X	2	
						11932	-9567		

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24760	CM	SL,1C4,0				11937	-2355		
24770	BE	CD14AB				11938	14	C2355	C-104
24780	CM	SL,140,0				11950	46	12C6E	C12CC
24790	BL	CD14AB+2C				11962	14	C2355	CCJ48
24800	CM	SL,151,0				11974	47	12C8E	C13CC
24810	BH	CD14AB+2C				11986	14	C2355	CCJ51
24820	SM	SL,140,0				11998	46	12C8E	C11CC
24830	PM	SL,3,1C				12010	12	C2355	CCJ46
24840	SF	96				12022	13	C2355	CCC-3
24850	A	I,99				12034	32	CC09E	CCCC
24860	B7	CD14AA+12				12046	21	C9567	CCC55
24870	CC14NB	SM	PARCAT,1,IC			12058	49	11916	
24880	B	CD14AA				12066	12	12133	CCC-1
24890	DDRG	**3				12078	49	119C4	CCCC
24900	CM	SL,124,0				12086			
24910	BNE	**36				12086	14	C2355	C-124
24920	AM	PARCAT,1,IC				12098	47	12134	C12CC
24930	B	CD14AA				12110	11	12133	CCC-1
24940	PARCNT	CS	2,*			12122	49	119C4	CCCC
24950	CM	SL,133,0				12133	2		
24960	BNE	CD14AA				12134	14	C2355	C-133
24970	CM	PARCAT,1,IC				12146	47	119C4	C12CC
24980	BH	CD14AA				12150	14	12133	CCC-1
24990	AM	GLNC,1,IC				12170	46	119C4	C11CC
25000	TF	T2,GLNC				12182	11	C944C	CCC-1
25010	SM	I,3,10				12194	26	C9616	C946C
25020	TDP	IOI,1				12206	12	C9567	CCC-3
25030	B7	CODE12				12210	15	C9357	CCCC1
25040	CC14E	TDP	IOI,C			12230	49	1C17C	
25050	AM	I,2,10				12238	15	C9357	CCCC
25060	BTP	RMNS,**16				12250	11	C9567	CCC-2
25070	CSA	I,5L				12262	17	C5992	J2270
						12270	5 X	2	
25080	BTP	RMNS,**16				12270	-9567		
25090	DSA	I,5L				12283	-2355		
						12284	17	C5992	J23CC
						12300	5 X	2	
25100	BTP	RPNS,**16				12300	-9567		
25110	DSA	I,00A				12305	-2355		
						12304	17	C5652	J2322
						12322	5 X	2	
25120	AM	I,1,10				12322	-9567		
25130	BTP	RMNS,**16				12327	-9535		
25140	CSA	I,5L				12328	11	C9567	CCC-1
						12340	17	C5992	J2356
						12356	5 X	2	
25150	CC14NC	BTP	RMNS,**16			12356	-9567		
25160	CSA	I,5L				12361	-2355		
						12362	17	C5992	J2370
						12370	5 X	2	
						12370	-9567		

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25170	BTP	GTNS,++16				12303	-2395		
25180	CSA	I,SL				12304	17	C5622	J24CC
						124CC		5	X 2
						124CC		-9567	
						124C5		-2395	
25190	CM	SL,LC4,8				124C6	14	C2395	C-1C4
25200	BNE	CD14NC				12418	47	12362	C12CC
25210	TFM	I,1,8				12430	16	C9567	C-CC1
25220	B	CD14A				12442	49	11214	CCCC
25230	DORG	=-3				1249C			
25240	CCDDA	TDM IO1			.1	12490	15	C9397	CCCC1
25250	TF	T2			.GLNC	12462	26	C9816	C946C
25260	BT	CD12B				12474	49	1C314	
25270	CC14M	SM	GLNC		.1	12402	12	C946C	CCC-1
25280	TDM	IO1			.C	12494	15	C9397	CCCCC
25290	BTP	RMNS			.++16	125C6	17	C5562	J2522
25300	CSA	I				12522		5	X 1
						12522		-9567	
25310	DSA	SL				12527		5	X 1
						12527		-2395	
25320	BTP	RMNS			.++16	12528	17	C5592	J2544
25330	CSA	I				12544		5	X 1
						12544		-9567	
25340	DSA	SL				12549		5	X 1
						12549		-2395	
25350	B	CD14A				1259C	49	11214	CCCC
25360	DORG	=-3				12598			
25370	CC14EN	BD	CD14ND		.FFRSW	12598	43	12618	C4985
25380	TF	N4CCC4			.ICENC	1257C	26	C372C	C4166
25390	BTP	PUTX			.++16	12582	17	C658C	J2558
25400	CSA	BTP				12598		5	X 1
						12598		-692E	
25410	CSA	N4CCC4				126C3		5	X 1
						126C3		-372C	
25420	CSA	ZERC				126C8		5	X 1
						126C8		-9423	
25430	B	CLEAR				1261C	49	C2628	CCCC
25440	DORG	=-3				12618			
25450	CC14ND	TF	N4CCC4		.ICENC	12618	26	C372C	12983
25460	TDM	FFRSW			.C	12630	15	C4989	CCCC
25470	B7	CD14EN*24				12642	49	12582	
25480	*****	OUTPLT CODING FOR COMPLETE MATRICES IN IC STATEMENTS							
25490	CCCPAT	BTP	PUTX		.++16	1265C	17	C658C	J2666
25500	CSA	TFM				12666		5	X 1
						12666		-94C5	
25510	CSA	PAR				12671		5	X 1

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25520	DSA	P1				12671		-4176	
						12676		5	X 1
						12676		-5671	
25530	BD	++2C			.FXCRFL	12678	43	12658	C4557
25540	B	CM99				12690	49	12782	CCCC
25550	DORG	=-3				12658			
25560	BNF	CM98			.FFSW	12658	44	1275E	C9679
25570	TDM	SS1			.1	1271C	15	C7424	CCCC1
25580	BTP	PUTX			.++16	12722	17	C698C	J2738
25590	CSA	SP				12738		5	X 1
						12738		-9411	
25600	CSA	SR				12743		5	X 1
						12743		-2372	
25610	CSA	BLANK				12748		5	X 1
						12748		-9426	
25620	B	++2C				1275C	49	1277C	CCCC
25630	DORG	=-3				12758			
25640	CP98	TDM	SS4		.1	12758	15	C7427	CCCC1
25650	BD	++24,	CCPSW		.1	1277C	43	12754	C4375
25660	CP99	TDM	SS2		.1	12782	15	C7425	CCCC1
25670	BD	CM96			.FFRSW	12754	43	1254E	C4985
25680	TF	N4CCC4			.MAT	128C6	26	C372C	C4181
25690	BTP	PUTX			.++16	12818	17	C658C	J2834
25700	CSA	OPX				12834		5	X 1
						12834		-4417	
25710	CSA	N4CCC4				12839		5	X 1
						12839		-372C	
25720	DSA	SR				12844		5	X 1
						12844		-2372	
25730	BD	++2C			.FXCRFL	12846	43	1286E	C4557
25740	B	CM97				12858	49	12918	CCCC
25750	DORG	=-3				12866			
25760	BNF	CM97			.FFSW	12866	44	1291E	C9675
25770	TDM	SS1			.1	12878	15	C7424	CCCC1
25780	BTP	PUTX			.++16	1289C	17	C698C	J29C6
25790	CSA	CF				129C6		5	X 1
						12906		-9413	
25800	CSA	SR				12911		5	X 1
						12911		-2372	
25810	CSA	BLANK				12916		5	X 1
						12916		-9426	
25820	CP97	BTP	RMNS		.++16	12918	17	C5592	J2934
25830	CSA	I				12934		5	X 1
						12934		-9567	
25840	DSA	SL				12939		5	X 1

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25850	B	CD14A				12939	-2355		
25860		DORG	*-3			12940	49	11214	CCOCC
25870	CM96	TF	NACCC4	,DRAY		12948			
25880		B7	CM99+36			12948	26	C372C	12988
25890	LVP	DS	5			12960	49	1201E	
25900	OPY	DS	2			12971			5
25910	SNF	DC	5,-C2288			12973			2
			-228Q			12978			5
25920	DICENC	CC	5,-C2298			12983			5
			-229Q			12988			5
25930	DRAY	DC	5,-C2293			12993			5
			-229L			12998			5
25940	FIND	CC	5,-C2273			12993			5
			-227L			12998			5
25950	RECORD	CC	5,-C2278			13003			5
			-227Q						
25960	FETCH	CC	5,-C2283						
			-228L						
25970	*****		CALL EXIT AND CALL LINK ROUTINES						
25980	CCCALP	BE	CDXIT			13004	46	1357E	C12CC
25990	CCLINK	AM	1	,3	,1C	13016	11	C9567	CCC-3
26000		BTM	RMNS	,**16		13028	17	C5992	J3C44
26010		CSA	1,5Y			13044		5	X 2
						13044		-9567	
						13049		-2384	
26020		TF	NAME-8	,5Y		13050	26	13565	C2384
26030		BTM	RMNS	,**16		13062	17	C5992	J3C78
26040		CSA	1,5Y			13078		5	X 2
						13078		-9567	
						13083		-2384	
26050		TF	NAME-4	,5Y		13084	26	13573	C2384
26060		CF	NAME-7			13096	33	1357C	CCCCC
26070		BTM	RMNS	,**16		13108	17	C5992	J3124
26080		CSA	1,5Y			13124		5	X 2
						13124		-9567	
						13129		-2384	
26090		TF	NAME	,5Y		13130	26	13577	C2384
26100		CF	NAME-3			13142	33	13574	CCCCC
26110	CCLGT	DS	,*			13153			
26120		TF	COLGT	,ACCCW		13154	26	13153	*4925
26130		TDW	SS2	,1		13166	15	07425	CCCC1
26140		AM	COLGT	,5C	,1C	13178	11	13153	CCCCC
26150		BTM	PUTX	,**16		13190	17	C658C	J32C6
26160		CSA	TFM,NC7495,CCLGT			13206		5	X 3
						13206		-9405	
						13211		J3543	
						13216		J3153	
26170		TF	COLGT	,ACCCW		13218	26	13153	C6925
26180		TDW	SS2	,1		13230	15	07425	CCCC1
26190		AM	COLGT	,16	,1C	13242	11	13153	CCCC1
26200		BTM	PUTX	,**16		13254	17	C658C	J327C

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26210		DSA	TFM,NC0565,CCLGT			13270		5	X 3
						13270		-9405	
						13275		J3548	
						13280		J3153	
26220		BTM	PUTX	,**16		13282	17	C658C	J3258
26230		CSA	B,NC0716,N2TMO			13298		5	X 3
						13298		-653C	
						13303		J3553	
						13308		J3558	
26240		SM	ADCCW	,4	,1C	13310	12	C6925	CCC-4
26250		BT	PUTX2	,NP22		13322	27	13382	1356C
26260		BT	PUTX17	,N147RP		13334	27	13434	13565
26270		BT	PUTX12	,NAME		13346	27	13478	13577
26280		AM	ADCCW	,1	,1C	13358	11	C6925	CCC-1
26290		B	CLEAR			13370	49	C2628	CCCCC
26300		DS	,*			13381		C	
26310	PLTX2	TR	TYPE1	,TYPE2		13382	31	C8373	13505
26320		TFM	PUT3	,PLTX2-1		13394	16	C872E	J3381
26330		TFM	PUTX-1	,**20		13406	16	C6975	J3426
26340		B7	PUTXB			13418	49	C7C64	
26350		BB2				13426	42		
26360		DS	5			13432		5	
26370	PLTX17	TR	TYPE1	,TYPECA		13434	31	C8373	C8755
26380		TFM	PUT3	,PLTX17-1		13446	16	C872E	J3433
26390		B	PUTX2+24			13458	49	1340C	CCCCC
26400		DS	7			13470		7	
26410	PLTX12	TR	TYPE1	,TYPE12		13478	31	C8373	13524
26420		TFM	PUT3	,PLTX12-1		13490	16	C872E	J3477
26430		B7	PUTX2+24			13502	49	1340C	
26440	TYPE2	GSC	1,2			13509		1	
			2						
26450		DC	2,2			13511		2	
			-2						
26460		DC	2,5			13513		2	
			-5						
26470		CC	2,10			13515		2	
			J0						
26480		DC	2,11			13517		2	
			J1						
26490		CC	5,10CC0			13522		5	
			JOCC0						
26500		DC	1,*			13523		1	
			1						
26510	TYPE12	GSC	1,2			13524		1	
			2						
26520		DC	2,12			13526		2	
			J2						
26530		DC	2,15			13528		2	
			J5						
26540		DC	2,20			13530		2	
			K0						
26550		CC	2,21			13532		2	
			K1						
26560		DC	5,10CC0			13537		5	
			JOCC0						

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2657C	CC	1, *			13530	1	
2658C	NC7455	CC	5, 7455		13543	5	
			-7455				
2659C	NCC565	DSA	IORT		13540	5 X	1
					13540		-C565
2660C	NCC716	DSA	IOCAL		13553	5 X	1
					13553		-C716
2661C	N27MC	CC	5, 2CCCC		13550	5	
			KOCCC				
2662C	NP22	CC	2, 2C		13560	2	
			KO				
2663C	N147RM	CC	5, 147*		13565	5	
			-147*				
2664C	NAME	DS	12		13577	12	
2665C	CCXIT	BTM	PUTX	, **16	13570	17	C658C J3594
2666C	DSA	B, ACC756, BLANK			13594	5 X	3
					13594		-693C
					13565		-9680
					13604		-9426
2667C	SM	ADCCN	, 4	, 1C	13604	12	C6925 CCC-4
2668C	B7	CLEAR			13610	45	C2628
2669C		DORG	16CC2		16CC2		
2670C	Rbxx	34	BLK3A, TC1		16CC2	34	C9254 CC7C1
2671C		38	BLK3A, TC2		16C14	38	C9254 CC7C2
2672C		TRA			16C26	36	CCCCC CC9CC
					16C30	45	CCCCC CCCCC
2673C	TCC	Rbxx			16CC2		
2674C		DORG	10CCC		10CCC		
2675C	*****		SECONDARY LINKAGE FOR BLCM 4				
2676C		CC	2, 4		10CC1	2	
			-4				
2677C	ZCDE1	TFM	FMCN+35	, BLK1	10CC2	16	C2355 -5158
2678C		BTM	FMCN	, CCDE1	10C14	17	C2324 JCC02
2679C	ZCDE3	TFM	FMCN+35	, BLK1	10C26	16	C2355 -5158
2680C		BTM	FMCN	, CCDE3	10C30	17	C2324 JCC026
2681C	ZCDE4	TFM	FMCN+35	, BLK1	10C50	16	C2355 -5158
2682C		BTM	FMCN	, CCDE4	10C62	17	C2324 JCC5C
2683C	ZCDE6	TFM	FMCN+35	, BLK2	10C74	16	C2355 -9222
2684C		BTM	FMCN	, CCDE6	10C86	17	C2324 JCC074
2685C	ZCDE7	TFM	FMCN+35	, BLK2	10C98	16	C2355 -9222
2686C		BTM	FMCN	, CCDE7	10C110	17	C2324 JCC98
2687C	ZCDE8	TFM	FMCN+35	, BLK1	10C22	16	C2355 -9158
2688C		BTM	FMCN	, CCDE8	10C34	17	C2324 JCC122
2689C	ZCDE9	TFM	FMCN+35	, BLK2	10C46	16	C2355 -9222
2690C		BTM	FMCN	, CCDE9	10C58	17	C2324 JCC146
2691C	ZCDE12	TFM	FMCN+35	, BLK1	10C70	16	C2355 -9158
2692C		BTM	FMCN	, CCDE12	10C82	17	C2324 JCC170
2693C	ZCDE14	TFM	FMCN+35	, BLK3	10C94	16	C2355 -9246
2694C		BTM	FMCN	, CCDE14	10C06	17	C2324 JCC194
2695C	ZCDE15	TFM	FMCN+35	, BLK1	10C18	16	C2355 -9158
2696C		BTM	FMCN	, CCDE15	10C30	17	C2324 JCC218

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2697C	ZCDE17	TFM	FMCN+35	, BLK2	10C42	16	C2355 -9222
2698C		BTM	FMCN	, CCDE17	10C54	17	C2324 JCC242
2699C	ZCDE55	TFM	FMCN+35	, BLK1	10C66	16	C2355 -9158
2700C		BTM	FMCN	, CCDE55	10C78	17	C2324 JCC266
2701C	ZC55AB	TFM	FMCN+35	, BLK1	10C90	16	C2355 -9158
2702C		BTM	FMCN	, CC55AB	10C02	17	C2324 JCC290
2703C	ZC12B	TFM	FMCN+35	, BLK1	10C14	16	C2355 -9158
2704C		BTM	FMCN	, CC12B	10C26	17	C2324 JCC314
2705C	ZCT1	BTM	RMNS	, FCT1P	10C38	17	C5552 JCC438
2706C					10350	48	CCCCC CCCCC
2707C	ZCTR1	TFM	FMCN+35	, BLK2	10C62	16	C2355 -9222
2708C		BTM	FMCN	, FCTR1	10C74	17	C2324 JCC362
2709C	ZCJ	NOP			10C86	41	CCCCC CCCCC
2710C		B	EOJP		10398	49	11976 CCCCC
2711C	ZCCALL	TFM	FMCN+35	, BLK3	10C10	16	C2355 -9246
2712C		BTM	FMCN	, CCCALL	10C22	17	C2324 JCC410
2713C	FCT1P	DSA	1, LV		10C30	17	C2355 -9158
					10438	5 X	2
					10438		-9567
					10443		-9567
2714C		BTM	RMNS	, **16	10444	17	C5552 JCC46C
2715C		DSA	1, SL		10460	5 X	2
					10460		
					10466		-9567
					10465		-2355
2716C	CM	LV	, 136	, 8	10466	14	C9587 C-136
2717C	BE	**36			10478	46	10514 C12CC
2718C	CM	LV	, 135	, 8	10490	14	C9587 C-135
2719C	BNE	FCT11			10502	47	10602 C12CC
2720C	AM	ADCCN	, 6	, 1C	10514	11	C6925 CCG-6
2721C	TF	RTAD	, ACCCN		10526	26	C9552 C6525
2722C	CM	LV	, 136	, 8	10538	14	C9587 C-136
2723C	BNE	**32			10550	47	10582 C12CC
2724C	TF	RTNAME	, 5L		10562	26	C9558 C2399
2725C	B7	FCT1G			10574	46	10768
2726C	TDM	SUBPSW	, 1		10586	15	C4955 CCCC1
2727C	B7	FCT1G			10598	46	10768
2728C	FCT11	TDM	FISW	, 1	10610	15	C4955 CCCCJ
2729C		BTM	SRFCT	, **16	10614	17	C42CC JCC63C
2730C		DSA	SL, N4CC12		10630	5 X	2
					10630		-2355
					10635		-376C
2731C	TD	RFLAG	, FRCRFL		10636	25	C4955 C4597
2732C	TDM	RSW, -1			10648	15	C94C7 CCCCJ
2733C	BTM	PUTX	, **16		10660	17	C698C JCC676
2734C	DSA	B, BLANK, BLANK			10676	5 X	3
					10676		-693C
					10681		-9426
					10686		-9426
2735C	TF	SXF	, ACCCN		10688	26	C96C2 C6925
2736C	SM	SXF	, 1C	, 1C	10700	12	C96C2 CCGJC
2737C	TFM	ADTEPP	, 4		10712	16	C2354 -GCC4
2738C	TF	ADTEPP-1	, SL		10724	26	C2353 C2355
2739C	TF	ADTEPP	, ACCCN	, 6	10736	26	C2399 C6925

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27400	AM	I	.1	.1C	10740	11	C9567	CCC-1
27410	B7	FCT1G1			10760	49	1C75C	
27420	FCT1C	BTM	RMNS	.,+16	10780	17	C5592	JC784
27430	CSA	I,SL			10784		5 X	2
27440	FCT1G1	TF	T1	,AECCH	10784		-9567	
27450	TFM	RV		,C	10786		-2355	
27460	TF	LV		,AECCH	10790	26	C657C	C6925
27470	SM	LV		.1	10802	16	C9597	CC-CC
27480	CM	SL	.132	.8	10814	26	C9587	C6925
27490	BE	FCT1C			10826	12	C9587	CCC-1
27500	FCT1A	BTM	RMNS	.,+16	10838	14	C2355	C-132
27510	CSA	I,SL			10850	46	11432	C12CC
27520	BTM	RMNS	.,+16		10862	17	C5592	JC878
27530	CSA	I,SR			10878		5 X	2
27540	BNF	FCT12		,FTSW	10878		-9567	
27550	*****	ARITHMETIC STATEMENT FUNCTION IN MAIN LINE			10883		-2355	
27560	TDM	SARGSW		,C	10884	17	C5592	JC9CC
27570	TF	SX		,LV	10900		5 X	2
27580	FCT1H	TDM	SS1	.1	10900		-9567	
27590	BTM	PUTX	.,+16		10905		-2372	
27600	CSA	AM,LV,FIVE			10906	44	11504	C4965
27610	TDM	SS4	.1		10918	15	136CC	CCCCC
27620	BD	++20		,FCTSW	10930	26	C2377	C9587
27630	B7	FCT13			10942	15	C7424	CCCC1
27640	TFM	SS2	.11	.1C	10954	17	C658C	JC97C
27650	TF	SURCCW	,AECCH		10970		5 X	3
27660	AM	SURCCW	.35	.1C	10970		-9417	
27670	BTM	PUTX	.,+16		10975		-9587	
27680	CSA	TF,SLBCCW,LV			10980		-9553	
27690	TF	BCCW	,AECCH		10982	15	C7427	CCCC1
27700	AM	BCCW	.36	.1C	10994	43	11C14	C2293
27710	TFM	SS2	.11	.1C	11006	49	11254	
27720	BTM	PUTX	.,+16		11014	16	C7425	CCCCJ1
27730	CSA	BNF,BCCW,SLBCCW			11026	26	136C5	C6925
27740	TDM	SS1	.1		11038	11	136C5	CCCC5
					11050	17	C658C	J1C66
					11066		5	3
					11066		-9415	
					11071		J36C5	
					11076		-6587	
					11078	26	1361C	C6925
					11090	11	1361C	CCCC6
					11102	16	C7425	CCCCJ1
					11114	17	C658C	J113C
					11130		5 X	3
					11130		-9645	
					11135		J361C	
					11140		J36C5	
					11142	15	C7424	CCCC1

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27750	BTM	PUTX	.,+16		11154	17	C698C	J117C
27760	CSA	CF,SLBCCW,BLANK			11170		5 X	3
27770	TFM	SS4	.1101	.8	11170		-9413	
27780	BTM	PUTX	.,+16		11175		J36C5	
27790	CSA	TF,SLBCCW,SLBCCW			11180		-5426	
27800	BNF	++20		,SARGSW	11182	16	C7427	CJ1C1
27810	B7	FCT1J			11184	17	C658C	J121C
27820	TF	SX		,SLBCCW	11210		5 X	3
27830	FCT1J	TDM	SS2	.1	11210		-9415	
27840	BTM	PUTX	.,+16		11215		J36C5	
27850	CSA	BT,TCFAC,SX			11220		J36C5	
27860	TDM	SS2	.1		11222	44	11242	136CC
27870	BTM	SRFCT	.,+16		11234	49	11706	
27880	CSA	SL,N40012			11242	26	C2377	136C5
27890	BTM	PUTX	.,+16		11254	15	C7425	CCCC1
27900	CSA	BTM,FRFAC,N40012			11266	17	C658C	J1282
27910	FCT1F	CM	SR	.1C4	11282		5 X	3
27920	BE	FCT1B			11282		-9452	
27930	AM	RV	.5	.1C	11287		-4151	
27940	B7	FCT1A			11292		-2377	
27950	FCT1B	BD	FCT1C	,RV	11294	15	C7425	CCCC1
27960	FCT1K	TFM	SR	.2	11306	17	C420C	J1322
27970	B7	FCT1D			11322		5 X	2
27980	FCT1C	TFM	SR	.1	11322		-2355	
27990	FCT1C	TDM	SS1	.1	11327		-376C	
28000	BTM	PUTX	.,+16		11328	17	C698C	J1344
28010	CSA	AM,LV,SR			11344		5 X	3
28020	BD	EXIT		,FTSW	11344		-692E	
28030	B7	CLEAR			11349		-4146	
28040	FCT12	BTM	SRFCT	.,+16	11354		-376C	
28050	CSA	SL,N40011			11356	14	C2372	C-104
					11368	46	114CC	C12CC
					11380	11	C9597	CCC-5
					11392	49	10862	
					11400	43	11432	C9557
					11412	16	C2372	CCO-2
					11424	49	11444	
					11432	16	C2372	CCC-1
					11444	15	C7424	CCCC1
					11456	17	C698C	J1472
					11472		5 X	3
					11472		-9417	
					11477		-9587	
					11482		-2372	
					11484	43	C3C44	C4965
					11496	49	C2628	
					11504	17	C420C	J152C
					11520		5 X	2
					11520		-2395	

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28060	CM	SR	.1C4	.8	,RIGHT PAREN	11525	-3755	
28070	BNE	++32				11526	14	C2372 C-104
28080	TDM	SARGSW	.1	.11		11530	47	1157C C12CC
28090	B7	FCT11-				11550	15	136CC CCCCJ
28100	TFM	SS2	.11	.1C		11562	49	1C94Z
28110	TF	N4CC12	,DECCW			11570	16	C7425 CCCJ1
28120	AM	N4CC12	.9C	.1C		11582	26	C376C C6925
28130	SM	N4CC11	.6	.1C		11594	11	C376C CCCC
28140	BTM	PUTX	,++16			11606	12	C3755 CCC-4
28150	DSA	TFM,N4CC12,N4CC11				11618	17	C658C J1634
						11634		5 X 3
						11634	-9405	
						11639	-376C	
						11644	-3755	
28160	TDM	SS1	.1			11646	15	C7424 CCCC1
28170	BTM	PUTX	,++16			11658	17	C658C J1674
28180	DSA	AM,N4CC12,FCLR				11674		5 X 3
						11674	-9417	
						11675	-376C	
						11684	J3616	
28190	TDM	SARGSW	.C	.11		11686	15	136CC CCCC-
28200	B7	FCT11-				11698	49	1C94Z
28210	FCT1J	TFM	SS2	.11	.1C	11706	16	C7425 CCCJ1
28220	BTM	PUTX	,++16			11718	17	C658C J1734
28230	DSA	TF,N4CC11,SLBCCW				11734		5 X 3
						11734	-9415	
						11735	-3755	
						11744	J3605	
28240	TDM	SS1	.1			11746	15	C7424 CCCC1
28250	BD	FCT1K	,SARGSW			11758	43	11412 136CC
28260	TDM	SS1	.1			11770	15	C7424 CCCC1
28270	TF	N4CC11	,DECCW			11782	26	C376C C6925
28280	SM	N4CC11	.6	.1C		11794	12	C3755 CCC-6
28290	BTM	PUTX	,++16			11806	17	C658C J1822
28300	DSA	AM,N4CC11,CNEZ				11822		5 X 3
						11822	-9417	
						11827	-3755	
						11832	J3614	
28310	TFM	SS4	.1101	.8		11834	16	C7427 CJ1C1
28320	TF	N4CC12	.LV			11846	26	C376C C6587
28330	AM	N4CC12	.13	.1C		11858	11	C376C CCCCJ
28340	BTM	PUTX	,++16			11870	17	C658C J1884
28350	DSA	BNR,N40012,N40011				11886		5 X 3
						11886	J3612	
						11891	-376C	
						11896	-3755	
28360	FCT1L	AM	RV	.5	.1C	11898	11	C9597 CCC-5
28370	AM	I	.1	.1C		11910	11	C6567 CCC-1
28380	BTM	RMAS	,++16			11922	17	C5592 J1938
28390	DSA	I,SR				11938		5 X 2

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28400	CM	SR	.1C4	.8	,RIGHT PAREN	11938	-9567	
28410	BNE	FCT1L				11943	-2372	
28420	B7	FCT1B				11944	14	C2372 C-104
28430	*****	END OF JCB RCLTIME				11956	47	11859 C12CC
28440	ECJP	SM	ADCCW	.5	.1C	11968	45	114CC
28450	CM	BAL	.C	.1C		11976	12	C6925 CCC-5
28460	BNH	++36				11988	14	C8354 CCC-C
28470	ECJJ	AM	NEXT	.1	.1C	12000	47	12036 C11CC
28480	TD	NEXT	,FLGRP	.6		12012	11	C84CA CCC-1
28490	CM	PREBLF	,BLF4			12024	25	C84CP C8372
28500	BE	EOJG				12036	14	C8713 -8633
28510	AM	PREBLF	.75	.1C		12048	46	12116 C12CC
28520	TF	NEXT	,PREBLF			12060	11	C8713 CCCP5
28530	AM	NEXT	.4	.1C		12072	26	C84CA C8713
28540	TFM	NEXT	.C	.67		12084	11	C84CA CCO-4
28550	B7	ECJJ				12096	16	C84CP -CCCC
28560	ECJG	TF	CLLBLK	,GTBLK		12108	49	12C12
28570	TFM	LNG	.67	.1C		12116	26	1355C C5521
28580	TD	BUF4+75	,PLTPCH+11			12128	16	C966C CCCC7
28590	TFM	IORT	,++23			12140	25	C870C C7967
28600	B	IORT	,PLTX	.7		12152	16	C6565 J2175
28610	AM	PUTX2	.3	.1C		12164	49	CC532 -839C
28620	TFM	PREBLF	,BLF1			12176	11	C8363 CCO-3
28630	CM	LNG	.67	.1C		12188	16	C8713 -8408
28640	BNE	EOJH+24				12200	14	C966C CCCC7
28650	TFM	IORT	,++23			12212	47	12368 C12CC
28660	B	IORT	,CALBLK	.7		12224	16	C6565 J2247
28670	AM	CLLBLK	.3	.1C		12236	45	CC566 J3577
28680	ECJWG	AM	PREBLF	.4	.1C	12248	11	1355C CCC-3
28690	A	PREBLF	,DECCW	.6		12260	11	C8713 CCC-4
28700	AM	PREBLF	.6	.1C		12272	21	C8713 C6925
28710	TF	LNG	,PREBLF	.11		12284	11	C8713 CCC-3
28720	AM	PREBLF	.68	.1C		12296	26	C966C C8711
28730	CM	PREBLF	,BLF4+75			12308	11	C8713 CCCC8
28740	BE	EOJG+24				12320	14	C8713 -8708
28750	ECJW	CM	LNG	.67	.1C	12332	16	1214C C12CC
28760	BE	EOJG				12344	14	C966C CCCC7
28770	AM	PREBLF	.74	.1C		12356	46	1226C C12CC
28780	TFM	PREBLF	,SIR9Z	.6		12368	11	C8713 CCO94
28790	B	IORT	,++23			12380	26	C8711 13456
28800	B	IORT	,PLTX	.7		12392	16	CC565 J2415
28810	BNF	EOJEND-12,LIST,,				12404	49	CC532 -839C
28820	BD	EOJEND-12,PRST,,				12416	44	12494 C2228
28830	TFM	IORT,++23				12428	43	12494 C2225
28840	B	IOCT,BLKH,7				12440	16	CC565 J2463
28850	B7	PBLDK1				12452	49	CC566 J2471
28860	BLKH	DSC	2,22			12464		1431C
28870	DSA	BLKHA				12476		5 X 1
						12477	J2475	
28880	DC	1,1				12478		1
28890	BLKMA	DSC	1,1			12479		1

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Table with columns for job number, code, description, and status. Includes entries for 28950, 28952, 28953, 28954, etc., up to 29330. A large '453' is printed in the center of the page.

Table with columns for job number, code, description, and status. Includes entries for 29370, 29380, 29390, 29400, etc., up to 29780. A large '454' is printed in the center of the page.

2979C	SVTYAB	DNB	1	13457	1
2980C		DNB	5C	135C7	5C
2981C		DNB	19	13526	19
2982C		CC	1,*	13527	1
2983C	GRPAGE	CS	,**1	13528	C
2984C		CC	6,-CCG2	13533	6
2985C		-OCCCK		13552	19
2986C		CC	19,17C1234567891234567	13553	1
2987C	SECTC	DGM	J7C1234567891234567	13554	2
2988C		CSC	2,C	1356C	5 X 1
2989C		CO		1356C	J3562
2990C		CSA	SECTY	13561	1
2991C		CC	1,*	13562	1
2992C	SECTY	DSC	1,C	13567	5
2993C		C		1357C	3
2994C		CC	5,C	13575	5 X 1
2995C		-OCCC		13575	-2218
2996C		CC	3,1	13576	1
2997C		-O1		13577	2
2998C	CSA	HEADER		13583	5 X 1
2999C		CC	1,*	13583	J3585
3000C		*		13584	1
3001C	CALBLK	DSC	2,C	13585	1
3002C		CO		1359C	5
3003C		CSA	CALLBK	13593	3
3004C		CC	1,*	13598	5 X 1
3005C		*		13598	-84C8
3006C		13599	1	1360C	1
3007C	SARGSW	CS	1	136C5	5
3008C	SURCCW	CS	5	1361C	5
3009C	BCOW	DS	5	1361C	2
3010C	BAR	CC	2,45	13614	2
3011C		M5		13616	2
3012C	CNE2	CC	2,1	13616	2
3013C		-1			
3014C	FCLR	CC	2,4		
3015C		-4			

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3016C	ENDMES	DAC	19,END OF COMPILEATION*	13619	15 X 2
3017C		END	OF COMPILEATION*	160C2	
3018C		CDRC	16CC2	160C2	34 C927E C07C1
3019C	XVVX	34	BLK4A,7C1	16014	25 13553 C2323
3020C		TD	SECTC-1,LGRWK	16026	38 C927E C07C2
3021C		3R	BLK4A,7C2	16038	36 C0CCC C05CC
3022C		TRA		16050	49 C0CCC C0CCC
3023C		TCD	XVVX	160C2	
3024C		CDRC	141CC	141CC	
3025C	*****	TERTIARY	LINKAGE BLCCX 6	141C1	2
3026C		CC	2,*	141C2	16 C2355 -9564
3027C		-6		14114	17 C2324 J41C2
3028C	XUBCCS	TFM	FMCN+35	14126	17 C5592 J42C2
3029C		BTM	FMCN	14138	48 C0CCC C0CCC
3030C	XLRCAE	BTM	RMNS	14150	16 C2355 -9342
3031C		H		14162	17 C2324 J415C
3032C	XLBC12	TFM	FMCN+35	14174	16 C2355 -9366
3033C		BTM	FMCN	14186	17 C2324 J4174
3034C	XLB12B	TFM	FMCN+35	142C2	5 X 2
3035C		BTM	FMCN	142C2	-9567
3036C		SCABP	CSA	142C7	-2377
3037C		DSA	I,SX	142C8	17 C5592 J4224
3038C		BTM	RMNS	14224	5 X 2
3039C		DSA	I,SX	14224	-9567
3040C		BTM	RMNS	14229	-2384
3041C		DSA	I,SX	1423C	17 C5592 J4246
3042C		BTM	RMNS	14246	5 X 2
3043C		BTM	RMNS	14246	-9567
3044C		SM	I	14251	-2384
3045C		SM	I	14252	15 C9681 C0CC1
3046C		BTM	GTNS	14264	12 C9567 C0C-1
3047C		CSA	I,SX	14276	17 C5622 J4292
3048C		BTM	SRFCT	14292	5 X 2
3049C		CSA	SX,SX	14297	-9567
3050C		BTM	SRFCT	14297	-2377
3051C		CSA	SX,SX	14298	17 C42CC J4314
3052C		BTM	SRFCT	14314	5 X 2
3053C		BTM	SRFCT	14314	-2377
3054C		BTM	SRFCT	14319	-2377
3055C		BTM	SRFCT	1432C	25 C4555 C4557
3056C		BTM	SRFCT	14332	11 C9567 C0C-1
3057C		BTM	SRFCT	14344	44 14368 C2377
3058C		BTM	SRFCT	14356	15 C9675 C0CCJ
3059C		BTM	SRFCT	14368	43 1440C C4557
3060C		BTM	SRFCT	1438C	26 C6573 C2298
3061C		BTM	SRFCT	14392	49 14436
3062C		BTM	SRFCT	1440C	26 C6973 C2252

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30460	BNF	CDABn	,IC1		14412	44	14436	C9397
30470	SF	L			14424	32	C6573	C0000
30480	CCABn	BTP	CANDS	,**16	14436	17	C8794	J4452
30490	CSA	D4,S4			14452	5	X	2
30500	CF	D4			14452		-6965	
30510	M	D4	,L		14457		-2304	
30520	SF	95			14458	33	C6965	C0000
30530	TF	D4	,55		14470	23	C6965	C6973
30540	CCSAB1	BD	CDSAB7	,IC1	14482	32	CC955	C0000
30550	BNF	CDSABX	,FPSW		14494	26	C6965	CC055
30560	BNF	CDSAB7+12	,FPSW		14506	43	14594	C9357
30570	BTP	GRRP	,**12		14518	44	15C22	C9679
30580	CCSAB7	BNF	CDSABX	,FPSW	14530	44	14566	C5356
30590	BNF	CDSAB2-12	,IC1		14542	17	C5122	J4594
30600	CM	D4	,C		14594	44	15C22	C9679
30610	BNL	**32			14566	44	14622	C9397
30620	TFM	OPX	,22	,IC	14578	14	C6965	-C000
30630	B7	CDSAB2			14590	44	14622	C13CC
30640	TFM	OPX	,21	,IC	14622	16	C4417	C00K2
30650	CCSAB2	TDM	SS1		14614	49	14634	
30660	TF	N4CCCS	,AECCH		14622	16	C4417	CC0K1
30670	AM	N4CCCS	,35	,IC	14634	15	C7424	CC0C1
30680	BTP	PUTX	,**16		14646	26	C3725	C6925
30690	CSA	TFM,N4CCCS,D4			14658	11	C3725	CC0L5
					14670	17	C690C	J4686
					14686		5	X
								3
30700	B7	CDSAB8			14686		-9405	
30710	CCSAB5	BD	**32	,FFRSW	14651		-3725	
30720	TF	N4CCCS	,IC		14696		-6965	
30730	B7	**2C			14698	49	14514	
30740	TF	N4CCCS	,5BF		14706	43	14738	C4989
30750	CCSAB4	TFM	OPX	,17	14718	26	C3725	C4161
30760	CCSAB3	TDM	SS2	,1	14730	49	14750	
30770	BTP	GTNS	,**16	,IC	14738	26	C3725	12978
30780	CSA	I,ST			14750	16	C4417	CC0J7
					14762	15	C7425	CC0C1
					14774	17	C5622	J4750
					14790		5	X
								2
30790	SM	I	,1	,IC	14790		-9567	
30800	CM	ST	,133	,8	14795		-9563	
30810	RE	CDARL			14796	12	C9567	CCC-1
30820	BTP	PUTX	,**16		14808	14	C9563	C-133
30830	CSA	OPX,N4CCCS,D4			14820	46	15214	C12CC
					14832	17	C690C	J4848
					14848		5	X
								3
30840	BNF	CDABP	,IC1		14848		-4417	
30850	TDM	SKIPSW	,C		14853		-3725	
30860	BTP	RMNS	,**16		14858		-6965	
30870	CSA	I,ST			14860	44	15308	C5357
					14872	15	C9681	CC000
					14884	17	C5592	J4900
					14900		5	X
								2

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30880	B7	CD14A			14900		-9567	
30890	CCSAB8	TFM	SS2	,11	14905		-9563	
30900	CF	SX		,IC	14906	45	11214	
30910	BTP	PUTX	,**16		14914	16	C7425	CCCJ1
30920	CSA	OPX,N4CCCS,5X			14926	33	C2377	CC000
					14938	17	C690C	J4954
					14954		5	X
								3
30930	BD	FPCL	,CALLSW		14954		-4417	
30940	TF	D4	,BLANK		14959		-3725	
30950	BD	CDSAB5	,IC1		14964		-2377	
30960	TF	N4CCCS	,TCFAC		14966	43	15182	C5402
30970	B7	CDSAB4			14978	26	C6965	C5426
30980	CCSABX	BNF	CDSABZ	,IC1	14990	43	14706	C5357
30990	BNF	CDSABZ	,C4		15022	26	C3725	C4151
31000	S	D4	,53		15014	49	14750	
31010	CF	D4			15022	44	15050	C5357
31020	TDM	SS4	,1		15034	44	15090	C6965
31030	B7	**20			15046	22	C6965	C2377
31040	CCSABZ	A	D4	,53	15058	33	C6965	CC000
31050	BD	CDSAB5	,IC1		15070	15	C7427	CC0C1
31060	SM	I			15082	49	15102	
31070	TF	GI			15090	21	C6965	C2377
31080	TF	TCCW	,C4		15102	43	14706	C5357
31090	TDM	GTSBSW	,1		15114	12	C9567	CCC-1
31100	TFM	GRRP-1	,CDABXT		15126	26	C6883	C5567
31110	B7	GYES-24			15138	26	C6917	C6965
31120	FPCL	N4CCCS	,FACAD		15150	15	C6574	CC0CJ
31130	TFM	OPX	,16	,IC	15162	16	C5111	J5422
31140	B7	CDSAB3			15174	49	C5904	
31150	CDABU	TDM	RSW	,1	15182	26	C3725	C4156
31160	TD	RFLAG	,RFLAG	,11	15194	16	C4417	CC0J6
31170	BTP	PUTX	,**16		15206	49	14762	
31180	CSA	TFM,FACAD,D4			15214	15	C9AC7	CC0CJ
					15226	25	08495	C4959
					15238	17	C690C	J5294
					15254		5	X
								3
31190	BTP	RPNS	,**16		15294		-9405	
31200	CSA	I,FAC			15299		-4156	
					15344		-6965	
					15246	17	C5652	J5282
					15282		5	X
								2
31210	BTP	GRRP	,**12		15282		-9567	
31220	B7	CDABXT			15287		-9551	
31230	CDABP	BTP	RPNS	,**16	15288	17	C9812	J5300
31240	CSA	I,FAC			15300	49	15422	
					15308	17	C5652	J5324
					15324		5	X
								2
31250	TDM	FSW	,1	,11	15324		-9567	
31260	TD	FLAGSW	,RFLAG		15329		-9551	
31270	BNF	CDABXT	,FPSW		15330	15	C9396	CC0CJ
					15342	25	C5016	C4959
					15394	44	15422	C9679

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31280	BD	++2C	,CALLSH		15366	43	15306	C54C2	
3129C	B7	CDABXT			15370	49	15422		
31300	BTM	GMRP	,++12		15386	17	C5912	J5398	
31310	SM	GBASE	,1	,1C	15398	12	C9657	CCC-1	
31320	SF	GBASE	,	,t	1541C	32	C965P	CCCC	
3133C	CCABXT	TDM	SKIPSW	,C	15422	15	C9601	CCCC	
3134C	B7	EXIT			15434	49	C3C44		
31350	CTFIN	TD	GBASE	,RXFLAG	,6	15442	25	C965P	C4959
3136C	AM	GBASE	,3	,1C	15454	11	C9657	CCC-3	
31370	TDM	GBASE	,1	,6	15466	15	C965P	CCCC1	
31380	SM	GBASE	,4	,1C	15478	12	C9657	CCC-4	
31390	TF	GBASE	,TCOM	,6	1549C	26	C965P	C6517	
31400	B7	GTJW			155C2	49	C6406		
3141C	DORG	16CC2			16CC2				
31420	XLUX	34	BLK6A,7C1		16CC2	34	C9326	C07C1	
31430		38	BLK6A,7C2		16C14	38	C9326	C07C2	
3144C	TRA				16C26	36	CCCC	CC5CC	
					16C38	49	CCCC	CCCC	
3149C	TCD	XULX			16CC2				
31460	DORG	141CC			141CC				
31470	*****	TERTIARY LINKAGE BLCK 7							
3148C	CC	2,7			14101		2		
	-7								
3149C	YLBCCS	TFM	FMCN+35	,BLK5	141C2	16	C2355	-9254	
3150C	BTM	FMCN	,SLBCCS		14114	17	C2324	J41C2	
3151C	YLB CAB	TFM	FMCN+35	,BLK6	14126	16	C2355	-9318	
31520	BTM	FMCN	,SLB CAB		14138	17	C2324	J4126	
31530	YLB C12	TF	N4CCC4	,1	1415C	26	C372C	C5667	
3154C	B	CD12P			14162	49	14198	CCCC	
31550	YLB12B	TFM	FMCN+35	,BLK8	14174	16	C2359	-9366	
31560	BTM	FMCN	,SLB12B		14186	17	C2324	J4174	
31570	*****	OUTPUT INITIALIZING INSTRUCTION FOR CC CCCINC AND PLACE							
3158C	*****	INDICIES ON CC LIST							
3159C	CC12P	AM	N4CCC4	,1	14198	11	C372C	CCO-1	
31600	BD	CD12C	,1C1	,1C	1421C	43	14244	C9357	
31610	BTM	GTNS	,++16		14222	17	C5622	J4238	
3162C	CSA	N4CCC4			14238		5 X	1	
					14238		-372C		
31630	CSA	T2			14243		5 X	1	
					14243		-9616		
3164C	CC12C	AM	DREF	,21	14244	11	C3966	CCCK1	
31650	C	DREF	,CPASE	,1C	14256	24	C3966	C9657	
31660	BNH	CD12E			14268	47	14352	C11CC	
3167C	BTM	ERRT,DFLMS			1428C	17	C9CC	J4313	
3168C	BV	++12			14292	46	143C4	C14CC	
31690	B7	MCN CAL			143C4	49	C0756		
3170C	EFLMS	CAC	20, DC TABLE FULL'		14313		2C X	2	
			DC TABLE FULL'						
3171C	CC12E	TF	DCMAX	,DREF	14352	26	C96C7	C3966	
3172C	AM	DCMAX	,21	,1C	14364	11	C96C7	CCCK1	
3173C	TF	DREF	,T2	,6	14376	26	C396C	C9616	
3174C	AM	N4CCC4	,1	,1C	14388	11	C372C	CCC-1	
3175C	BTM	GTNS	,++16		144CC	17	C5622	J4416	

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3176C	DSA	N4CCC4			14416		5 X	1
					14416		-372C	
3177C	DSA	SL			14421		5 X	1
					14421		-2395	
3178C	TF	J4CCC4	,DREF		14422	26	C5612	C3966
3179C	AM	J4CCC4	,5	,1C	14434	11	C5612	CCC-5
3180C	TF	J4CCC4	,5L	,6	14446	26	C961M	C2395
31810	AM	N4CCC4	,2	,1C	14458	11	C372C	CCC-2
31820	BTM	GTNS	,++16		1447C	17	C5622	J4486
3183C	CSA	N4CCC4			14486		5 X	1
					14486		-372C	
3184C	CSA	SR			14491		5 X	1
					14491		-2372	
3185C	TDM	SS1	,1		14492	15	C7424	CCCC1
3186C	TDM	SS2	,1		145C4	15	C7425	CCCC1
31870	TDM	SKIPSW	,1		14516	15	C9681	CCCC1
3188C	BTM	SRFCT	,++16		14528	17	C42CC	J4544
3189C	DSA	SL			14544		5 X	1
					14544		-2395	
3190C	DSA	N4CCO1			14549		5 X	1
					14549		-37C5	
3191C	BTM	SRFCT	,++16		1455C	17	C42CC	J4566
3192C	DSA	SR			14566		5 X	1
					14566		-2372	
3193C	DSA	N4CCC3			14571		5 X	1
					14571		-3715	
3194C	BTM	PUTX	,++16		14572	17	C658C	J4588
31950	DSA	TF			14588		5 X	1
					14588		-9415	
3196C	CSA	N4CCC1			14593		5 X	1
					14593		-37C5	
3197C	DSA	N4CCC3			14598		5 X	1
					14598		-3715	
31980	TDM	SKIPSW	,C		1460C	15	C9681	CCCC
31990	SM	J4CCC4	,4	,1C	14612	12	C9612	CCC-4
3200C	TF	J4CCC4	,DCCCH	,6	14624	26	C961M	C6925
3201C	AM	J4CCC4	,8	,1C	14636	11	C9612	CCO-8
32020	AM	N4CCO4	,2	,1C	14648	11	C372C	CCC-2
32030	BTM	GTNS	,++16		14660	17	C5622	J4676
32040	CSA	N4CCC4			14676		5 X	1
					14676		-372C	
32050	CSA	N4CCO1			14681		5 X	1
					14681		-37C5	

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32060	TF	J4CCC4	,N400C1	,0	14682	26	C961K	C37C5
32070	AM	N4CCC4	,1	,1C	14694	11	C372C	CC0-1
32080	BTM	GTNS	,0+16		14706	17	C5622	J4722
32090	DSA	N4CCC4			14722		5 X	1
32100	DSA	SL			14722		-372C	
					14727		5 X	1
32110	CM	SL,	132,8,SEPI	COLCN	14727		-2355	
32120	BE	N600B4			14728	14	C2355	G-132
32130	CM	SL,	1C4,8,RIGHT	PAREN	14740	46	14776	C12CC
32140	BNE	N6CC05			14752	14	C2355	C-1C4
32150	N6C0B4	AM	J4CCC4	,4	14764	47	1482C	C12CC
32160	TF	J4CCC4	,ZERG4	,0	14776	11	C9612	CC0-4
32170	BD	CD14E	,IC1		14788	26	C961K	C5425
32180	CC12A	B	CLEAR		14800	43	12230	C5357
32190	CORG	*-3			14812	49	C262E	CCCCC
32200	N600E5	AM	J4CCC4	,4	14820			
32210	AM	N4CCC4	,1	,1C	14820	11	C9612	CC0-4
32220	BTM	GTNS	,0+16		14832	11	C372C	CC0-1
32230	DSA	N4CCC4			14844	17	C5622	J486C
					14860		5 X	1
32240	DSA	N4CCC3			14860		-372C	
					14865		5 X	1
32250	TF	J4CCC4	,N400C3	,0	14865		-3715	
32260	B	CD12A-12			14866	26	C961K	C3715
32270	DORG	*-3			14878	49	148CC	CCCCC
32280	DORG	16C02			14886			
32290	XITX	34	BLK7A,7C1		16CC2			
32300	TRA	38	BLK7A,7C2		16CC2	34	C935C	CC7C1
32310	TRA				16C14	38	C935C	CC7C2
32320	TCD	XITX			16C26	36	CCCCC	CC50C
					16C38	49	CCCCC	CCCCC
32330	CORG	141CC			16CC2			
32340	*****	TERTIARY LINKAGE	BLCK	8	1410C			
32350	CC	2,8			141C1		2	
32360	ZLBCC5	TFM	FMCN+35	,BLK5	141C2	16	C2355	-9294
32370	BTM	FMCN		,SLBCC5	14114	17	C2324	101C2
32380	ZLRCAB	TFM	FMCN+35	,BLK6	14126	16	C2355	-5001
32390	BTM	FMCN		,SLBCAB	14138	17	C2324	J4126
32400	ZLRC12	TFM	FMCN+35	,BLK7	14150	16	C2355	-9342
32410	BTM	FMCN		,SLBC12	14162	17	C2324	J415C
32420	ZLB12B	BD	CD12BP+24	,IC1	14174	43	14222	C5357
32430	B	CD12BP			14186	49	1415E	CCCCC
32440	*****	THE FOLLOWING	OUTPUTS THE TEST AT THE	END OF A CC LCCP				
32450	CC12BP	TF	T2	,T3	14158	26	C9616	C5676
32460	TDM	DOSW		,C	1421C	15	C94C3	CCCCC
32470	TF	DOTEMP		,CCREF	14222	26	14852	C3566
32480	TDM	CKSW		,1	14234	15	C9C25	CC0C1
32490	TDM	SKIPSW		,1	14246	15	C96E1	CC0C1
32500	CC12Y	C	T2	,CCREF	14258	24	C9616	C356C

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32510	BNE	CD12X			14270	47	1440E	C12CC
32520	CC12C	TF	N4CCC3	,CCREF	14282	26	C3715	C3566
32530	AM	N4CCC3	,17	,1C	14294	11	C3715	CC0J7
32540	TF	SL	,N4CCC3	,11	14306	26	C2355	C371A
32550	CM	SL		,0	14318	14	C2355	C-CCC
32560	TDM	SKIPSW		,1	14330	15	C9681	CC0C1
32570	BE	N6CC52			14342	46	1448E	C12CC
32580	TFM	OPZ	,21	,1C	14354	16	C967E	CC0M1
32590	BTM	SRFCT	,0+16		14366	17	C42CC	J4382
32600	DSA	SL			14382		5 X	1
32610	DSA	N4CCC1			14382		-2355	
					14387		5 X	1
32620	TDM	SS2	,1		14387		-37C5	
32630	B	N6CC55			14388	15	C7425	CC0C1
32640	DDRG	*-3			1440C	49	14512	CCCCC
32650	CC12X	TDM	CKSW	,C	14408			
32660	TDM	ERSWT,1			14408	15	C9C25	CCCCC
32670	BTM	ERRT,DCMES			14420	15	C9683	CC0C1
32680	SM	D0REF	,21	,1C	14432	17	C980C	J4855
32690	CM	D0REF	,CCBASE		14444	12	C3566	CC0M1
32700	BL	EX1TA			14456	14	C3966	-A026
32710	B	CD12Y			14468	47	1485E	C13CC
32720	CORG	*-3			14480	49	1425E	CC0CC
32730	N6CC52	TFM	OPZ	,11	14488	16	C967E	CC0J1
32740	TFM	N4CCC1	,1	,10	14500	16	C37C5	CC0-1
32750	N6CC55	SM	N4CCC3	,0	14512	12	C3715	CC0-8
32760	TF	N6CC59	,N400C3		14524	26	14552	C3715
32770	BTM	SRFCT	,0+16		14536	17	C42CC	J4552
32780	DSA	N6CC99			14552		5 X	1
32790	N6CC59	DS	,0		14552		J4552	
32800	DSA	N4CCC4			14557		5 X	1
32810	TDM	SS1	,1		14557		-372C	
32820	BTM	PUTX	,0+16		14558	15	C7424	CC0C1
32830	DSA	OPZ,N4CC04,N400C1			14570	17	C698C	J4586
					14586		5 X	3
32840	AM	N4CC03	,4	,1C	14586		-967E	
32850	TF	N601C1	,N40003		14591		-372C	
32860	BTM	SRFCT	,0+16		14596		-37C5	
32870	DSA	N601C1			14598	11	C3715	CC0-4
					14610	26	14638	C3715
32880	N6C101	DS	,0		14622	17	C42CC	J4638
32890	DSA	N4CC01			14638		5 X	1
					14638		J4638	
32900	TFM	SS2	,11	,10	14638		-37C5	
					14644	16	C7425	CC0J1

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3251C	BTP	PUTX	,**16	14656	17	C658C	J4672
3252C	CSA	C,N4C004,N4CC01		14672	5	X	3
				14672		-9625	
				14677		-372C	
				14682		-37C9	
3253C	SM	N4CC03	,8	14684	12	C3715	CCC-8
3294C	TF	N4CC04	,A4CC03	14696	26	C372C	C371A
3255C	TDM	SS1	,1	14708	15	C7424	CC0C1
3256C	BTP	PUTX	,**16	1472C	17	C658C	J4736
3297C	CSA	BNH,N4CC04,N411CC		14736	5	X	3
				14736		-9623	
				14741		-372C	
				14746		-9621	
3298C	SM	DOREF	,21	14748	12	C3966	CC0C1
3299C	C	DOREF	,CCBASE	1476C	24	C3966	C4C2C
3300C	BE	N6C1C7		14772	46	14832	C12CC
3301C	TF	N4CC03	,CCREF	14784	26	C3715	C3966
3302C	AM	N4CC03	,21	14796	11	C3715	CC0C1
3303C	C	DOREF	,N4CC03	14808	24	C3966	C371A
3304C	BE	CD12D		14820	46	14282	C12CC
3305C	MEC1C7	BD	,*24	14832	43	14854	C5C29
3306C	TF	DOREF	,CCTEMP	14844	26	C3966	14892
3307C	EXITA	TDM	SKIP5H	14856	15	C9681	CC0CC
3308C	BD	CD14H	,C	14868	43	12482	C5357
3309C	B	CLEAR	,IC1	1488C	49	C26K8	CC0CC
3310C	CORG		,*3	14888			
3311C	CCTEMP	CS	5	14892		5	
3312C	CCMES	DAC	32,	14895		32	X 2
			IMPPROPER CC NESTING*				
			IMPPROPER CC NESTING*				
3313C	CORG	16CC2		16CC2			
3314C	XSSX	34	BLK8A,7C1	16CC2	34	C9374	CG7C1
3315C		38	BLK8A,7C2	16C14	38	C9374	CG7C2
3316C	TRA			16C26	36	CC0CC	CC5CC
				16C38	49	CC0CC	CC0CC
3317C	ICD	XSSX		16CC2			
3318C	CORG	141CC		141CC			
3319C	***	PRINT	FIRST PAGE HEAD -THEN PRINT BLOCMS				
3320C	CC	5,12345		14104		5	
			J2345				
3321C	CFLOC1	HNI	OFLOC1-1,34CC,6,	141C6	47	141C6	C34CC
3322C	BD	ONE,PGALM-2,,	TEST PRINTER CHAN 12 BRBACK INDIRECT	14118	43	1415C	C222C
3323C	BD	TWO,PGALM-1	YES- CHAN 12	14130	43	14162	C2221
3324C	B7	NCNLP		14142	49	14174	
3325C	CNE	TDM	BICMAD*176,7	1415C	15	14574	CC0C7
3326C	TWC	TDM	BICMAD*176,7	14162	15	14576	CC0C7
3327C	NGNUMP	TD	BICMAD*179,PGNUMP,,,PAGE NUMBER	14174	25	14979	C2222
3328C	TD	BICMAD*177,PGNUMP-1		14186	25	14577	C2221
3329C	TD	BICMAD*175,PGNUMP-2		14198	25	14575	C222C
3330C	34	,C971,,	SKIP TC 1 IMMEDIATE	1421C	34	CC0CC	CC971
3331C	34	,C962,,	DOUBLE SPACE AFTER PRINT	14222	34	CC0CC	CC962
3332C	TFM	IOPT,**23,,	TC ICRT-PRINT PAGE HEAD	14234	16	CC565	J4257
3333C	B	IOPT,PAGE-4,7		14246	49	CC532	J4277
3334C	AM	PGNUMP,C1,1C,,	ACC 1 TC PAGE NUMBER	14258	11	C2222	CC0-1

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3335C	B7	OFLOC1-1,,6,	BRANCH BACK INDIRECT	1427C	49	141C6	
3336C	PAGE	CSA	BICMAD*1	14281		5	X 1
				14281		J48C1	
3337C	CC	3,18*,...	PRINT INDICATION AND PAGE NUMBER	14284		3	
				14285		2	
3338C	DISKDC	CSC	2,22,,	14285		2	
3339C	CSA	DISKDC		14291		5	X 1
				14291		J4254	
3340C	CC	1,*		14292		1	
3341C	DISKDC	CSA	,1,BRDAD,CC2,BICMAD,,,CSA CF PRINT CUT CFLOC	14294		14	
3342C	CC	1,*	137340-C2J4MCC	14308		1	
				14308		1	
3343C	**	PRINT	CCRE MAP OF LABELS IN BLOCMS				
3344C	PBLOC1	TFM	IOPT,**23,,	14310	16	CC565	J4333
3345C	B	IOGT,DSKDC,7	BRING IN THE HEADING	14322	49	CC566	J4285
3346C	TDM	FAF6,CC0CC,,	RM FOR CLIPPY PRINT	14334	15	151CC	CC0CC
3347C	CC	1,*,,...		14345		1	
				14346		32	C2314
3348C	PBLOC	SF	FCTEND-4	14358	26	14685	C2318
3349C	TF	TBLEND,FCTEND,,	INITIALIZE THE PCINTER	1437C	31	153CC	13515
3350C	TR	OUTARA,SVTYNB*58		14382	11	14685	CC0-5
3351C	ECPR1	AM	TBLEND,5,1C	14394	44	14666	14688
3352C	BNF	EDPR11,TBLENC,11		14406	43	14678	14651
3353C	BD	MINUS1,CCOUNT8		14418	16	14651	CC0-8
3354C	TFM	COUNT8,C8,1C,,	RESET THE CCLNT	14430	16	CC565	J4453
3355C	TFM	IOPT,**23,,	PRINT THE LINE OF SYMBOLS	14442	49	CC532	J4652
3356C	B	IOPT,FAF5-4,7		14454	17	141C6	J4466
3357C	BTP	OFLOC1,**12,,	TEST CHAN 12	14466	16	14568	J51CC
3358C	TFM	MOVVR*6 ,FAF6,,	INITIALIZ FOR LOADING PRINT AREA	14478	12	14651	CC0-1
3359C	MINUS1	SM	COUNT8,01,1C,,	14490	15	14685	CC0C8
3360C	TDM	TBLEND,8,,	REDUCE THE CCLNT	14502	26	153C3	14688
3361C	TF	OUTARA*3,TBLEND,11	THE STATEMENT NUMBER IS HERE	14514	33	153CC	CC0CC
3362C	CF	OUTARA		14526	15	14685	CC0C4
3363C	TDM	TBLEND,4,,,	THE CCRE ADDRESS IS HERE	14538	26	153C5	14688
3364C	TF	OUTARA*9,TBLENC,11		14550	33	153C5	CC0CC
3365C	CF	OUTARA*5		14562	31	J51CC	153CC
3366C	MOVVR	TR	FAF6,CLTARA,2,	14574	11	14568	CC0C2
3367C	AM	MOVVR*6,12,1C,	MCVE TC PRINT BUFFER AREA	14586	12	14685	CC0CJ
3368C	SM	TBLEND,1C,1C,	ADJUST THE PCINTER	14598	24	14685	C23C3
3369C	CCMPAR	C	TBLEND,TBASE	1461C	46	14382	C13CC
3370C	BNL	EDPR1,,	END OF AREA CP	14622	16	CC565	J4645
3371C	TFM	IOPT,**23,,	YES-PRINT LAST LINE	14634	49	CC532	J4692
3372C	B	IOPT,FAF5-4,7		14646	17	141C6	J4658
3373C	BTP	OFLOC1,**12,,	TEST CHAN 12	14658	49	12494	
3374C	B7	EDJEND-12		14666	12	14685	CC0CJ5
3375C	EDPR1	SM	TBLEND,15,1C,	14678	49	14958	
3376C	B7	CCMPAR		14689		5	
3377C	TBLENC	DC	5,CC0CC,,				
			PCINTER FOR PRINTER ROUTINE (TABLE)				
3378C	COUNT8	DC	2,08	14691		2	

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3379C FAF6 DS ,BICPAD*30C
 3380C FAF5 DSA FAF6

3381C DC 3,14*...
 J4*

33820 CLTARA DSC 13,
 COCCO000CCOC*
 3383C DDRC 16CC2
 33840 DIP1 CC 1,1
 J

33850 DC 5,17351
 J7351

33860 DC 3,007
 -07

33870 DC 6,141CC*
 J41CO*

33880 DIP 34 DIP1,701
 33890 38 DIP1,702
 3390C TRA

33910 TCD DIP

3392C DEND PASSII

PRINT TABLE DEFINER
 ',FAF6*20C,,INTERPECIATE OUTPUT BUFFER

15100 C
 14696 9 X 1

14696 JS1CC
 14699 3

153CC 13

16002
 16CC2 1

16CC7 5

16C1C 3

16C16 6

16C18 34 16CC2 CC7C1
 16C3C 38 16CC2 CC7C2
 16C42 36 CCCC CC9C0
 16C94 49 CCCC CCCCC
 16C18

C24CC

ACCEPT C40C1
 ACCTAP C4011
 ACJUST C376E
 ACTEMP C2354
 BICPAD 148CC
 CALBLK 13577
 CALLBK 13585
 CALLSN C54C2
 CANSRT C8992
 CANSDA C8928
 CD12BP 14198
 CD14EN 12558
 CD14FL 10784
 CD14FU 1069C
 CD14JG 1C98C
 CD14JW 110C2
 CD14NA 119C4
 CD14NB 12066
 CD14NC 12362
 CD14ND 12618
 CD14NR 11174
 CD14RL C92CC
 CD14RM 11126
 CD14RV C9CC0
 CD14SL C966C
 CD14SV 1094C
 CD17SC 14372
 CD17XX 144C8
 CDABXT 15422
 CDACAL 1041C
 CDCALP 13004
 CDCLNK 13016
 CCS1FP 15394
 CCSA01 145C6
 CCSA02 14634
 CCSA03 14762
 CCSA04 1475C
 CCSA05 14706
 CCSA07 14554
 CCSA08 14914
 CCSA0X 15022
 CCSA0Z 1509C
 CCSA0B 1C29C
 CCS5S1 14948
 CCS5S3 14832
 CLLBLK 1359C
 CODARR 11674
 CODEE12 1C17C
 CODEE14 10194
 CODE15 10218
 CODE17 1C242
 CODE1A 1C584
 CODE1B 10944
 CODE1C 11036
 CODE1D 11538
 CODE1E 11118

CCDE1F 11692
 CCDE1G 11562
 CCDE1H 10716
 CCDE1P 10434
 CCDE1X 11216
 CCDE3A 1254
 CCDE3B 12674
 CCDE3C 12822
 CCDE3D 13C70
 CCDE3E 13190
 CCDE3P 12250
 CCDE3X 13256
 CCDE3Y 12834
 CCDE3Z 13310
 CCDE4A 13488
 CCDE4P 13412
 CCDE6A 1C644
 CCDE6B 10592
 CCDE6P 10438
 CCDE7B 12C58
 CCDE7C 11632
 CCDE7P 11284
 CCDE8P 13498
 CCDE9A 12466
 CCDE9C 12548
 CCDE9D 12816
 CCDE9P 12200
 CCDEPA 11892
 CCDESS 1C266
 CCDPAT 12450
 CCPPAR 14598
 CCPXSA 09482
 CCLNTR 14491
 DALNEG 15854
 DICENC 12983
 DISKDD 14294
 DCBASE 04C26
 DCTEMP 14892
 ENDMES 13619
 ECJENC 12506
 ECJRT1 13190
 ECJSTN 12990
 ECPETE 13070
 ECPRT1 14666
 ECTONY 13046
 FACTRC 02227
 FCT1G1 10790
 FCTEMD 02318
 FCTRTP 14678
 FLAGSN 05019
 FLTOFX 04071
 FULLCK 06346
 FULMES 09473
 FXIOSB 15448
 FXORFL 04597
 FXTOFL 04066

GCLEAR C6738
 GETBLK 05508
 GRPAG 13528
 GYELKA C5516
 GYELKE C5521
 GTFLCL C6764
 GTSBSN C6974
 HEADCP C2218
 INCREC 12193
 INSETA 11203
 INSETP 11227
 JACOG4 C5612
 JARNOT 15842
 LCPAD1 12977
 LCCPAC 13345
 LENGT1 C2248
 LSTYFE C6392
 MINUS1 14478
 MNCLCV C6382
 PCCMES 12051
 PCNCAL C6796
 N00545 13548
 NCC714 13553
 NCC796 C5688
 NCC900 11075
 N00951 11070
 N01100 C9621
 N01200 C9641
 N01300 C9634
 N07495 13543
 N13042 C9547
 N13089 C9434
 N13092 C9439
 N13133 C9446
 N1478P 13565
 N20000 C3696
 N20001 C3761
 N4000C C3700
 N4C001 C3705
 N4C002 C3710
 N40003 C3715
 N4C004 C3720
 N4C005 C3725
 N40006 C3730
 N40007 C3735
 N40008 C3740
 N40009 C3745
 N40010 C3750
 N40011 C3755
 N40012 C3760
 N60007 10794
 N60009 10838
 N60010 1C862
 N60013 11444
 N6C014 11348

N6CC15 11886
 N6CC16 11734
 N6CC17 11664
 N6CC18 11532
 N6CC2C 1234C
 N6CC21 12520
 N6CC22 12466
 N6CC23 12722
 N6CC26 12924
 N6CC27 1256C
 N6CC32 13244
 N6CC34 13546
 N6CC35 1357C
 N6CC41 1C652
 N6CC43 1C72C
 N6CC44 1C85C
 N6CC45 1C91C
 N6CC46 11C76
 N6CC48 1144C
 N6CC49 11822
 N6CC72 12894
 N6CC84 14776
 N6CC85 1482C
 N6CC92 14488
 N6CC95 14512
 N6CC99 14552
 N6D101 14638
 N6D107 14832
 N6C182 1474C
 NINERM 13387
 OUTARA 153CC
 OUTSEQ C7692
 PARCNT 12133
 PASSII 024C0
 PATSB2 15450
 PATSBQ 15786
 PBLK01 1431C
 PREBUF 08713
 PUNTAP C4C31
 PUSTSN C2294
 PUT17B 146C4
 PUT17C 14596
 PUT17I 14468
 PUTCAD C7476
 PUTCIF 07552
 PUTEST 07136
 PUTINS 07156
 PUTNXT C7852
 PUTPCM 07956
 PUTX12 13478
 PUTX17 13434
 RECORD 12998
 RENGET 05786
 RPLSUB 04C76
 RFXSUB C4C81
 RGRNUL 05866

RTNAME C5558
 RXFLAG 04959
 ACCCn 06525
 ACCW1 12953
 ADD C9462
 ADSL C5536
 AP 09417
 ANS 02389
 ARNDT 12530
 ASTCP 04141
 ATYPE 04C96
 B8CAD 1734C
 BAL C8394
 BCCn 13610
 BEGAC 02257
 BE C5636
 BGNST 15699
 BI 09652
 BLANK C9426
 BLK1A C9206
 BLK1 09198
 BLK2A C9230
 BLK2 C9222
 BLK3A C9254
 BLK3 C9246
 BLK4A C9278
 BLK4 C927C
 BLK5A C9302
 BLK5 C9294
 BLK6A C9326
 BLK6 C9318
 BLK7A C9350
 BLK7 C9342
 BLK8A C9374
 BLK8 C9366
 BLKHA 12479
 BLKH 12471
 BL 09629
 BNF C9645
 BNM 09623
 BAR 13612
 B 06530
 BTM C9628
 BT 09452
 BUF1 08408
 BUF2 08483
 BUF3 08558
 BUF4 08633
 CALLX 04979
 CANSO 08794
 CD117 13790
 CD12A 14812
 CD12B 10314
 CD12C 14244
 CD12D 14282

CC12E 14352	CP 09627	FAF6 19100	FRCVD 04C51	L1 02676
CC12P 14198	CCDEC 03688	FAAS 04898	FREXP 03991	L2 02800
CC12X 14408	CCDE1 10002	FBAE 03901	FRPOL 03981	L3 03024
CC12Y 14258	CCDE3 10026	FCOEE 04903	FRNOV 04C41	LM1 12718
CC14A 11214	CCDE4 10050	FCT11 10602	FX 03931	LIS 04182
CC14B 118CC	CCDE5 03C88	FCT12 11504	FHSUB 04C41	LIST 02228
CC14C 11644	CCDE6 10C74	FCT13 11254	GACD1 06516	LACAD 08399
CC14E 12238	CCDE7 10C98	FCT14 10862	GA 06539	LANG 09660
CC14H 12482	CCDE8 10122	FCT18 11400	GBASE 09657	LCCCM 02262
CC14P 10434	CCDE9 10146	FCT1C 11432	GCNT 06C89	06973
CC15P 13752	CCDET 08386	FCT1C 11444	GCCW 06787	LSTAD 02308
CC17A 12930	CCDCA 12450	FCT1E 12096	GETSY 05482	LSTN 09166
CC17B 13404	CCMSH 04375	FCT1F 11356	GETX 05434	LVAL 04937
CC17C 13142	C 09625	FCT1G 10768	GFLAG 04414	LVP 12671
CC17D 13202	CSH 13300	FCT1H 10942	GFREE 06540	LV 09587
CC17E 13332	C1 06935	FCT1J 11702	G1 06683	PAT 04181
CC17F 13250	C2 06945	FCT1K 11412	GSMO 05800	PH 09419
CC17G 14276	C3 06955	FCT1L 11898	GLNO 05460	PASS 05537
CC17H 14244	C4 06965	FCT1P 10438	GNONE 04122	PCD 09448
CC17I 13640	DPLHS 14313	FCT1 10338	GNRP 05912	PCVR 14362
CC17J 13672	CIP1 16C02	FCTRT 10362	GPLTA 04402	PPY 09450
CC17K 13834	CIP 16C18	FCTS 02293	GPLT 06270	N1 02233
CC17L 13854	CIP 06940	FETC 130C3	GRPK 08708	N2 02238
CC17M 13592	CJ 06950	FFRSW 04989	GSBI 11708	N2THC 13558
CC17N 13754	CK 06960	FINC 12993	GTCL 06688	NAME 13577
CC17P 12878	CMSH 04374	FIVE 05553	GTFIN 15442	NEAT 08404
CC54 11856	CCA 09533	FLAC 09336	GTJW 06486	NGFRE 06408
CC55 11844	CCMAX 09407	FLDVC 04C46	GTNS 05622	NLNG 08379
CC56 11544	CCMES 14895	FLEXP 03986	GTPT 06C66	NP22 13960
CC57 11532	CCREF 03566	FLG2 07416	GTSL 06796	NCNUP 14174
CC5F 11476	CCSH 09403	FLG3 07436	GTST 06576	NCTYP 03962
CC59 11488	CDRAW 12988	FLG4 07456	GYES 06C18	CBASE 02841
CCABP 15308	CSHMC 14285	FLGRP 08372	H 05421	CFCL1 14106
CCABU 15214	CX 09069	FLMUL 03976	HTYPE 04131	CNE2 13614
CCABW 14436	CY 09073	FLRVC 04C56	IFTRC 02226	CNE 14150
CCABZ 14368	EW1 09173	FLSUB 04C36	INPUT 05658	CPGT 03914
CCDGT 13153	ENDW1 12985	FLV 04682	INSET 11144	CPJ 15649
CCDPC 13278	ECJG 12116	FPCK 02324	IO1 09397	CP 02379
CCS1S 15542	EGJJ 12012	FCRCP 04856	IO2 09398	CPSR 08812
CCS1T 15188	ECJP 11976	FCRCC 04916	IO3 09399	CPSX 03883
CCS1V 14960	ECJ 10386	FCRCE 04604	IOCAL 02716	CPT1 03519
CCS1Z 15498	ECJNG 12260	FCUR 13616	IOENC 04166	OPX 04417
CCSSP 14202	ECJh 12344	FP2 02298	IOGT 00566	CPY 12973
CCXIT 13578	ECPR1 14382	FPCL 15182	IOPT 00532	CPZ 09678
CEI 13330	ECRCC 13258	FPSW 09679	IORT 00565	P1 09671
CF 05413	ERMCC 12018	FPSWX 05680	IO 04161	P2PTR 02313
CGCOM 12198	ERRT 09080	FREC1 13237	I 09567	PAGE 14281
CKCCW 09393	ERSWT 09683	FREC2 13403	ITLSD 15858	PAR 04176
CKFMT 03258	ETYPE 04121	FRAC 04146	ITYPE 04111	PBLCK 14346
CKSH 05025	EXINC 09404	FRV 04766	IXI 04171	PGNLP 02222
CLAR 02628	EXITA 14856	F 02250	JAY 02367	PPJA 15922
CM96 12948	EXIT 03044	FSW 05396	J 09572	PRAT 03551
CM97 12918	FACAD 04156	FTI 04915	JWG 02460	PRST 02229
CM98 12758	FACP2 09650	FTSW 04969	K 02252	P 05977
CM99 12782	FAC 09551	FTYPE 04116	L12 02736	PLACH 04C21
	FAF5 14696	FXAC 03941	L13 02844	PLT17 14520

PL11 08718	RSNFX 04091	T2 09616	YCTRT 10362	TYPECA 08759
PL12 08723	RSW 09407	T3 05676	YD12B 10314	TYPECR 08744
PL13 08728	RTAC 09592	TEASE 02303	YDCE1 10002	TYPEK2 14647
PLTA 08220	RVAL 04939	TCOW 06917	YDCE3 10026	TYPEK3 14662
PLTCA 08196	RV 09597	TFP 05409	YDCE4 10050	TYPEP2 13509
PLTCB 08160	RVSN 09467	TF 05415	YDCE6 10074	TYPEPM 08335
PLTCC 08100	SBASE 04595	TPAX 06920	YDCE7 10098	USDCR1 12561
PLTDC 08184	SCABP 14202	TCFAC 04151	YDCE8 10122	LSECCR 13311
PLTGT 07275	SCNT2 12969	TRACE 03956	YDCE9 10146	WLB12B 14174
PLTRM 08304	SCNT 09693	TSW 13381	YDCE 10386	WLB12C 14150
PLTITA 07832	SECTC 13594	TWC 14162	ZCT1 10338	WLB12D 14126
PLTX2 13382	SECTY 13562	TYPEA 08774	ZCTRT 10362	WLBCC5 14102
PLTXA 07040	SETAD 03687	TYPE 03971	ZD12B 10314	WOCALL 10410
PLTXB 07064	SF 09411	TYPEB 08373	ZER04 05425	WSSAB 02290
PLTXC 07216	SIX9Z 13456	TYPEX 08729	ZER05 05426	WCDE12 10170
PLTXD 07312	SK 10849	UFSTR 02263	ZER06 09427	WDE14 10194
PLTXE 07348	SLASH 04101	UGRPK 02323	ZERO 09423	WCDE15 10218
PLTXF 07372	SLC 11072	WATY 05456	ZDCE1 10002	WCDE17 10242
PLTXG 07612	SLNG 08375	W 02240	ZDCE3 10026	WCDESS 10266
PLTXH 07776	SL 02399	WV 02296	ZDCE4 10050	WLB12B 14174
PLTXI 07936	SP 09464	XOXX 16002	ZDCE6 10074	WLB12C 14150
PLTXJ 07812	SPCCP 15577	XCT1 10338	ZDCE7 10098	WLB12D 14126
PLTX 06980	SQNG 08381	XCTRT 10362	ZDCE8 10122	WLBCC5 14102
PLTXX 08350	SRFCT 04200	XD12B 10314	ZDCE9 10146	YDCALL 10410
PLTXY 08358	SRGT 04322	XCDE1 10002	ZDCE 10386	YDSSAB 10290
PLTXZ 08363	SRNX 04316	XCDE3 10026	ZPT 15714	YDCE12 10170
Q 05582	SR 02372	XCDE4 10050	ZRP 15497	YDCE14 10194
QZP 15044	SRSY 04271	XCDE6 10074	SACCON 11263	YDCE15 10218
RCTY 09454	SS1 07424	XCDE7 10098	SARGSW 13600	YDCE17 10242
READ 03961	SS2 07425	XCDE8 10122	SAVCON 07447	YDCESS 10266
RECLG 02243	SS3 07426	XCDE9 10146	SETFCT 03946	YUB12B 14174
RECC 04126	SS4 07427	XDJ 10386	SETNMY 03618	YUB12C 14150
REGSW 05406	SSLNG 08377	KRPN5 12988	SKIPSW 09681	YLB12B 14126
REP1 13201	SSSW 09395	XSSA 16002	SRCPFL 04560	YLBCC5 14102
REP2 13331	ST 09563	HTXA 16002	STEMP1 09400	ZDCALL 10410
REP3 14371	SUB1 03996	HTYPE 04136	STEMP2 09401	ZDSSAB 10290
REP4 03946	SUB2 04006	XUUX 16002	SUB12B 14174	ZDCE12 10170
REP 04106	SUB3 04016	XVXX 16002	SUBC12 14150	ZDCE14 10194
RFLAG 04949	SUB 09441	XWXX 16002	SUBCAB 14126	ZDCE15 10218
RGT 05736	SUBSH 09405	X1 14614	SUBC05 14102	ZDCE17 10242
RGR 05682	SWF 12978	X2 14548	SUBCON 13600	ZDCESS 10266
RGRS 05777	SW17 13141	X3 14482	SUBPSW 04969	ZUB12B 14174
RMS 05592	SW 09602	X4 14472	SVTNS 13487	ZUBC12 14150
RMD 05470	SW 02377	X5 14890	SWARE 09407	ZUBCAB 14126
RMSW 05009	SY17 14243	XVXX 16016	SYSCAL 00475	ZUBCC5 14102
RPNS 05652	SY 02380	XZZX 16002	TBLEND 14889	
RSNFL 04086	TI 06970	YCT1 10338	TYPE12 13524	

00C10	*****	1620 FORTRAN II-D SUBROUTINES			
00C20	*****	IOPT ENTRY PCIAIS AND CCNSTANTS			
00C30	ICRBC	DS	,52C	CC52C	C
00C40	ICPT	DS	,532	CC532	C
00C50	I0SK	DS	,554	CC554	C
00C60	ICGT	DS	,566	CC566	C
00C70	ERRET	DS	,6C2	CC6C2	C
00C80	IGRT	DS	,565	CC565	C
00C90	I0CAL	DS	,716	CC716	C
00100	PCNCAL	DS	,796	CC796	C
00110	C10	DS	,816	CC816	C
00120	*****	1620 FORTRAN II-D IN CORE AREAS			
00130	***	COMPLICATION AREA			
00140		DORG 2218		C2218	
00150	F	CS	2,, FLCCATING PCINT WCRC LENGTH	C2215	2
00160	K	CS	2,, FIXED PCINT WCRC LENGTH	C2221	2
00170	PROGSI	DS	5,, STARTING ADDRESS CF PAIILINE PRGCRAP	C2226	5
00180	CCPACC	DS	5,, STARTING ADDRESS CF CCPCCN AREA	C2231	5
00190	N1	CS	2,, NUMBER CF WCRCIS IN LCGICAL RECCRC	C2233	2
00200	N2	CS	5,, NUMBER CF LCGICAL RECCRCIS	C2238	5
00210	W	DS	2,, WCRC LENGTH	C2240	2
00220	RECLG	CS	3,, RECCRC LENGTH	C2243	3
00230	ENTLN	CS	5,, ENTRY ADDRESS TC LCG SUBRCUTINE	C2248	5
00240	ENTEXP	CS	5,, ENTRY ADDRESS TC EXPCCANTIAL SUBRCUTINE	C2253	5
00250	ENTSC1	DS	5,, ENTRY ADDRESS TC SINGLE SUBSCRIPIT SUBRCUTINE	C2258	5
00260	ENTSC2	DS	5,, ENTRY ADDRESS TC DCUBLE SUBSCRIPIT SUBRCUTINE	C2263	5
00270	ENTSC3	DS	5,, ENTRY ADDRESS TC TRIPLE SUBSCRIPIT SUBRCUTINE	C2268	5
00280	ENTFIC	CS	5,, ENTRY ADDRESS TC FING SUBRCUTINE	C2273	5
00290	ENTREC	CS	5,, ENTRY ADDRESS TC RECCRC SUBRCUTINE	C2278	5
00300	ENTFET	CS	5,, ENTRY ADDRESS TC FETCH SUBRCUTINE	C2283	5
00310	ENTSWC	CS	5,, ENTRY ADDRESS TC SWITCH C SUBRCUTINE	C2288	5
00320	ENTDRC	DS	5,, ENTRY ADDRESS TC ARRAY SUBRCUTINE	C2293	5
00330	ENTDEC	DS	5,, ENTRY ADDRESS TC DISK END SUBRCUTINE	C2298	5
00340	ENTCCS	DS	5,, ENTRY ADDRESS TC CCISINE SUBRCUTINE	C2303	5
00350	ENTSIN	CS	5,, ENTRY ADDRESS TC SINE SUBRCUTINE	C2308	5
00360	ENTATA	DS	5,, ENTRY ADDRESS TC ARCTANGENT SUBRCUTINE	C2313	5
00370	ENTSC1	DS	5,, ENTRY ADDRESS TC SQUARE RCCT SUBRCUTINE	C2318	5
00380	ENTABS	CS	5,, ENTRY ADDRESS TC ABSCLUTE SUBRCUTINE	C2323	5
00390		CS	7C,RESERVED FOR ENTRIES TC ACCCC SUBRCUTINES	C2323	7C
00400	*****	COMMON WCRRKING AREAS			
00410	STCP	DAC	5,STCP*	C2355	5 X 2
00420	RECMK	DS	,STCP*8	C2403	C
00430	CRBUFF	DSS	29	C2404	25
00440	FAC	DS	6C	C2462	6C
00450		CC	1	C2493	1
00460	SAVE	DS	72	C2565	72
00470	BETA	CS	38	C26C3	38
00480	GCM			C2604	1
00490	GAM	CS	,SAVE-1C	C2555	C
00500	TAFE	DS	,SAVE -30	C2535	C
00510	IMSA	DS	,BETA -28	C2575	C
00520	MESERR	DAC	6,ER E *	C2607	6 X 2
00530	CLCH	CS	,MESERR	C26C7	C

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00540	E1	DS	,*-2	C2615	C
00550	CLC	DS	70	C2687	7C
00560	*****	1620 FORTRAN II-D FLCCATING PCINT CCATANTS			
00570		CC	4C	C2727	4C
00580		DSG	40	C2728	4C
00590	ZERO	DS	*	C2767	C
00600	95CPF	CC	28	C2795	28
00610	*****	1620 FORTRAN II-D FIXED PCINT CCATANTS			
00620	FX9	CC	10	C28C5	1C
00630	FXZ	CC	10	C2815	1C
00640	FX1	CC	10	C2825	1C
00650	*****	CONSTANTS FOR RELCCATABLE SUBRCUTINES			
00660		CC	31	C2856	31
00670	5SPF	DS	,*-2	C2854	C
00680	LN2	DC	31	C2887	31
00690	LN4	CC	31	C2918	31
00700	LN8	DC	31	C2949	31
00710	LN10	CC	31	C298C	31
00720	LOGE	DC	30	C3C1C	3C
00730		DC	32	C3C42	32
00740	ONEZ	DS	,*-4	C3C38	C
00750		DC	2	C3C44	2
00760	TWOZ	DC	29	C3C73	25
00770	TWOPI	CC	30	C3103	3C
00780	PI	DC	30	C3133	3C
00790	PIOV2	DC	30	C3163	3C
00800	PIOV4	DC	28	C3191	28
00810	SIX	DC	28	C3219	28
00820	TAN6	DC	29	C3248	25
00830	TEN34	DC	30	C3278	3C
00840	*****	1620 FORTRAN II-D INDIRECT ADDRESS BCXES AND PCOIFIED			
00850	*****	CCNSTANTS (USING K AND F)			
00860	FHM	DSA	FAC+1	C3283	5 X 1

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00870	FP1MK	CS		,FMH	C3203	-2453	
00880	99MK	CC	5	,99	C3203	C	
				-0C59	C3200	5	
00890	1CCMK	CC	5	,1CC	C3293	5	
				-01CC			
00900	1MSAPP	CSA		1MSA	C3290	5 X	1
00910	1SPFM1	CSA		1MSA-1	C3290	-2575	
					C3303	5 X	1
00920	FM	CSA		FAC	C3303	-2574	
					C3300	5 X	1
00930	FM	CSA		FAC-1	C3300	-2452	
					C3313	5 X	1
00940	FM1MF	DS		,FMH	C3313	-2451	
00950	96PF	CC	5	,96	C3313	C	
				-0C56	C3310	5	
00960	97PF	CC	5	,97	C3323	5	
				-0C57			
00970	98PF	CC	5	,98	C3320	5	
				-0C58			
00980	PCT	CC	5	,99	C3333	5	
				-0C59			
00990	1AC	CC	5	,1CC	C3330	5	
				-01CC			
01000	1C2MF	CC	5	,1C2	C3343	5	
				-01C2			
01010	FLZALP	CSA		ZERC-78	C3340	5 X	1
01020	FLZ	CSA		ZERC-8C	C3340	-2685	
					C3353	5 X	1
01030	FM1MI	CSA		FAC-2	C3353	-2687	
					C3350	5 X	1
01040	97M2F	CC	5	,97	C3350	-2450	
				-0C57	C3363	5	
01050	LNENT	CC	5	,9C	C3360	5	
				-0C8C			
01060	EXPENT	CC	5	,9E	C3373	5	
				-0C36			
01070	PAR	CS	5	,9+5	C3378	5	
01080	PAR	CS	5		C3378	5	
01090	CKEATA	ESC	2	,9C	C3379	2	
01100		CSA		DICCCA	C3385	5 X	1
01110		CC	1	,9	C3385	-3387	
					C3386	1	
01120	DICCCA	ESC	1	,9C	C3387	1	

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01130		CC	5	,9CCCC	C3392	5	
				-0CC0			
01140		CC	3	,9CC	C3395	3	
				-0C			
01150		CSA		DKBUFF	C3400	5 X	1
01160		CC	1	,9	C3400	-24C4	
					C3401	1	
01170	*****			1620 FORTRAN II-C IN CORE SUBROUTINES			
01180		CS	5		C3406	5	
01190	TGFAC	TF		FAC FAC-1 ,11	C3408	26	C2452 C34CP
01200		SM		TGFAC-1 ,C1C2 ,8910	C3420	12	C34C7 C-J-2
01210	ZFM1	CS		,9-2	C3429	C	
01220	FKCCC	CS	1	,9-4	C3427	1	
01230		TF		FAC-2 ,TC FAC-1 ,11	C3432	26	C2450 C34CP
01240		BB			C3444	42	CCCC CCCC
01250		DDRG		9-5	C3446		
01260		CS	5		C3450	5	
01270	FMFAC	TF		FM FAC-1 ,FAC ,96	C3452	26	C345J C2452
01280		SM		FMFAC-1 ,CCC2 ,81C	C3464	12	C3451 C-C-2
01290	MF	CS		,9-2	C3473	C	
01300		TF		FM FAC-1 ,FAC-2 ,96	C3476	26	C345J C2450
01310		BB			C3480	42	CCCC CCCC
01320		DDRG		9-5	C3490		
01330		CS	5		C3494	5	
01340	TRACE	TF		FM FAC-1 ,9-1	C3496	26	C3451 C3495
01350		BNC4		FM FAC	C3500	47	C3452 CC4C
01360		K		GAM-1 ,9C91 ,92	C3520	34	-2554 CC991
01370	GM1M2F	CS		,9-5	C3526	C	
01380		BNF		TRFX ,FAC-1 ,9	C3532	44	C3564 C2451
01390		WN		FMP ,9C91 ,96	C3544	38	C331L CC9C1
01400		B		FM FAC	C3556	45	C3452 CCCC
01410		DDRG		9-4	C3563		
01420	TRFX	WN		FMP ,9C91 ,96	C3564	38	C328L CC9C1
01430		B		FM FAC	C3576	45	C3452 CCCC
01440		DDRG		9-4	C3583		
01450	FINCIA	CC	1	,91	C3583	1	
01460	ZERFAC	TF		FAC-2 ,9SPF-1	C3584	26	C2450 C2853
01470		TFM		FAC ,9299 ,81011	C3596	16	C2452 C-2RR
01480	FP2	CS		,9-2	C3605	C	
01490		B		FINISH+1	C3600	49	C38C4 CCCC
01500		DDRG		9-4	C3615		
01510	LV1	AM		SAVE ,C1C1 ,8910	C3616	11	C2565 C-J-1
01520	FP1	CS		,9-2	C3625	C	
01530		BNV		FINISH ,96	C3620	47	C38CL C14CC
01540		TFM		EI ,CC571 ,79	C3640	16	C2615 -CN71
01550	K2	DS		,9-3	C3640	C	
01560	OVFL0B	TFM		FAC ,CC99 ,810	C3652	16	C2452 C-OR5
01570	F2	DS		,9-2	C3661	C	
01580		TF		FAC-2 ,9SCPF ,9	C3664	26	C2450 C2755
01590	ERROR	K		FINISH ,9C91 ,96	C3676	34	C38CL CC991
01600		WA		MESERR ,9C91 ,9	C3680	39	C26C7 CC9C1
01610		B		ENDD+12	C3700	49	C378C CCCC
01620	ML	BNF		9+24 ,ML-1 ,9	C3712	44	C3736 C3711

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01630	SF	FAC	,GAP			03724	32	C2492	C2555
01640	GM2F	DS	,*		GAMMA MINUS TWO TIPS F	03735			C
01650	TDP	FXERR+25	,9		RESET ERROR EXIT	03736	15	C37C1	CCCC5
01660	MFCV2	CS	2	,*-1	MINUS F OVER 2	03746			2
01670	TFM	FXERR+30	,ENDD+12			03748	16	C37C6	-378C
01680	FIXENC	BB				03760	42	CCCCC	CCCCC
01690	DDRG	*-3				03768			C
01700	FXERR	CS	,ERROR			03768	26	C2492	C2565
01710	ENDC	TF	,SAVE		MCVE EXPONENT.	03780	44	C38C4	CCC55
01720	BNF	+*24	,95		SET PROPER SIGN	03792	32	C249C	C3768
01730	SF	FAC-2	,ENDC			03803			C
01740	FINISH	CS	,*			03810			C
01750	FLTENC	DS	,FINISH+7			03804	42	CCCCC	CCCCC
01760	BB					03811			C
01770	DDRG	*-4				03812	16	C4625	-475C
01780	WRFS	TFM	REFS	,WRTF		03824	49	C55C6	
01790	B7	BREFS				99599			C
01800	CLMPY	DS	,99999			03851			C
01810	START	DS	,03851						C
01820	*****		1620 FCRTFRAN II-D		SUBROUTINES - INITIAL SECONDARY LINKAGE				
01830	DDRG	START				03851			C
01840	CS	1				03851			1
01850	CC	2	,CC			03853			2
		-0							
01860	TFM	FMCN+11	,*-START			03854	16	C7465	-CCC3
01870	CC	2	,4	,*-3		03862			2
		-4							
01880	B	FMCN				03866	49	C7454	CCOCC
01890	TFM	FMCN+11	,*-START			03878	16	C7465	-CC27
01900	CC	2	,1	,*-3		03886			2
		-1							
01910	B	FMCN				03890	49	C7454	CCOCC
01920	TFM	FMCN+11	,*-START			03902	16	C7465	-CC51
01930	CC	2	,1	,*-3		03910			2
		-1							
01940	B	FMCN				03914	49	C7454	CCOCC
01950	TFM	FMCN+11	,*-START			03926	16	C7465	-CC75
01960	CC	2	,1	,*-3		03934			2
		-1							
01970	B	FMCN				03938	49	C7454	CCOCC
01980	TFM	FMCN+11	,*-START			03950	16	C7465	-CC55
01990	CC	2	,1	,*-3		03958			2
		-1							
02000	B	FMCN				03962	49	C7454	CCOCC
02010	TFM	FMCN+11	,*-START			03974	16	C7465	-C121
02020	CC	2	,1	,*-3		03982			2
		-1							
02030	B	FMCN				03986	49	C7454	CCOCC
02040	TFM	FMCN+11	,*-START			03998	16	C7465	-C147
02050	CC	2	,1	,*-3		04006			2
		-1							
02060	B	FMCN				04010	49	C7454	CCOCC
02070	DDRG	*-1				04020			C
02080	TFM	FMCN+11	,*-START			04020	16	C7465	-C165
02090	CC	2	,1	,*-3		04028			2
		-1							

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02100	B	FMCN	,	,8		04032	49	C7454	C-CCC
02110	DDRG	*-1				04042			C
02120	TFM	FMCN+11	,*-START			04042	16	C7465	-C151
02130	CC	2	,2	,*-3		04050			2
		-2							
02140	B	FMCN				04054	49	C7454	CCOCC
02150	TFM	FMCN+11	,*-START			04066	16	C7465	-C215
02160	CC	2	,1	,*-3		04074			2
		-1							
02170	B	FMCN				04078	49	C7454	CCOCC
02180	TFM	FMCN+11	,*-START			04090	16	C7465	-C235
02190	CC	2	,1	,*-3		04098			2
		-1							
02200	B	FMCN				04102	49	C7454	CCOCC
02210	TFM	FMCN+11	,*-START			04114	16	C7465	-C263
02220	CC	2	,1	,*-3		04122			2
		-1							
02230	B	FMCN				04126	49	C7454	CCOCC
02240	TFM	FMCN+11	,*-START			04138	16	C7465	-C287
02250	CC	2	,1	,*-3		04146			2
		-1							
02260	B	FMCN				04150	49	C7454	CCOCC
02270	TFM	FMCN+11	,*-START			04162	16	C7465	-C311
02280	CC	2	,1	,*-3		04170			2
		-1							
02290	B	FMCN				04174	49	C7454	CCOCC
02300	TFM	FMCN+11	,*-START			04186	16	C7465	-C335
02310	CC	2	,1	,*-3		04194			2
		-1							
02320	B	FMCN				04198	49	C7454	CCOCC
02330	TFM	FMCN+11	,*-START			04210	16	C7465	-C359
02340	CC	2	,1	,*-3		04218			2
		-1							
02350	B	FMCN				04222	49	C7454	CCOCC
02360	TFM	FMCN+11	,*-START			04234	16	C7465	-C383
02370	CC	2	,1	,*-3		04242			2
		-1							
02380	B	FMCN				04246	49	C7454	CCOCC
02390	TFM	FMCN+11	,*-START			04258	16	C7465	-C407
02400	CC	2	,1	,*-3		04266			2
		-1							
02410	B	FMCN				04270	49	C7454	CCOCC
02420	TFM	FMCN+11	,*-START			04282	16	C7465	-C431
02430	CC	2	,2	,*-3		04290			2
		-2							
02440	B	FMCN				04294	49	C7454	CCOCC
02450	TFM	FMCN+11	,*-START			04306	16	C7465	-C455
02460	CC	2	,2	,*-3		04314			2
		-2							
02470	B	FMCN				04318	49	C7454	CCOCC
02480	TFM	FMCN+11	,*-START			04330	16	C7465	-C479
02490	CC	2	,2	,*-3		04338			2
		-2							
02500	B	FMCN				04342	49	C7454	CCOCC
02510	TFM	FMCN+11	,*-START			04354	16	C7465	-C503
02520	CC	2	,2	,*-3		04362			2
		-2							

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C293C	B	FMCN				C4366	49	C7494	CCCC
C294C	TFM	FMCN+11	,0--START			C4378	16	C7465	-C527
C2950	CC	2	,2	,0--3		C4386		2	
C2960	B	FMCN				C439C	49	C7494	CCCC
C2970	TFM	FMCN+11	,0--START			C4402	16	C7465	-C591
C298C	CC	2	,2	,0--3		C4410		2	
C2990	B	FMCN				C4414	49	C7494	CCCC
C24CC	TFM	FMCN+11	,0--START			C4426	16	C7465	-C575
C241C	CC	2	,2	,0--3		C4434		2	
C242C	B	FMCN				C4438	49	C7494	C-CCC
C243C	CORG	0-1				C4448			
C244C	TFM	FMCN+11	,0--START			C4448	16	C7465	-C567
C2450	CC	2	,3	,0--3		C4456		2	
C246C	B	FMCN				C4460	49	C7494	C-CCC
C247C	CORG	0-1				C4470			
C248C	TFM	FMCN+11	,0--START			C447C	16	C7465	-C619
C2490	CC	2	,4	,0--3		C4470		2	
C27CC	B	FMCN				C4482	49	C7494	C-CCC
C271C	CORG	0-1				C4492			
C272C	TFM	FMCN+11	,0--START			C4492	16	C7465	-C641
C273C	CC	2	,7	,0--3		C450C		2	
C274C	B	FMCN				C4504	49	C7494	C-CCC
C275C	CORG	0-1				C4514			
C276C	TFM	FMCN+11	,0--START			C4514	16	C7465	-C683
C277C	CC	2	,8	,0--3		C4522		2	
C278C	B	FMCN				C4526	49	C7494	C-CCC
C279C	CORG	0-1				C4536			
C280C	TFM	FMCN+11	,0--START			C4536	16	C7465	-C685
C281C	CC	2	,7	,0--3		C4544		2	
C282C	B	FMCN				C4548	49	C7494	C-CCC
C283C	CORG	0-1				C4550			
C284C	TFM	FMCN+11	,0--START			C4550	16	C7465	-C7C7
C2850	CC	2	,5	,0--3		C4566		2	
C286C	B	FMCN				C457C	49	C7494	C-CCC
C287C	CORG	0-1				C458C			
C288C	TFM	FMCN+11	,0--START			C458C	16	C7465	-C729
C289C	CC	2	,5	,0--3		C4588		2	
C290C	B	FMCN				C4592	49	C7494	C-CCC
C291C	CORG	0-1				C4602			
C292C	TFM	FMCN+11	,0--START			C4602	16	C7465	-C751
C293C	CC	2	,5	,0--3		C461C		2	
C294C	B	FMCN				C4614	49	C7494	CCCC
C295C	CORG	0-4				C4621			
C2960	*****	MODIFICATIONS PAGE BEFORE START OF EXECUTION							
C297C	A	**23	,F			C4622	21	C4645	C2219

C298C	TF	LN2	,LA2-28	,7		C4634	26	C2887	-2855
C299C	A	**23	,F			C4646	21	C4665	C2219
C300C	TF	LN4	,LA4-28	,7		C4658	26	C2918	-289C
C301C	A	**23	,F			C467C	21	C4653	C2219
C302C	TF	LN8	,LA8-28	,7		C4682	26	C2945	-2921
C303C	A	**23	,F			C4694	21	C4717	C2219
C304C	TF	LN1C	,LA1C-28	,7		C4706	26	C295C	-2952
C305C	A	**23	,F			C4718	21	C4741	C2219
C306C	TF	LDGE	,LCGE-28	,7		C473C	26	C301C	-2982
C307C	A	**23	,F			C4742	21	C4765	C2215
C308C	TF	ONEZ	,CAEZ-28	,7		C4754	26	C3038	-301C
C309C	A	**23	,F			C4766	21	C4785	C2219
C310C	TF	THCZ	,THCZ-28	,7		C4778	26	C3073	-3045
C311C	A	**23	,F			C479C	21	C4813	C2219
C312C	TF	THCP1	,THCP1-28	,7		C4802	26	C31C3	-3075
C313C	A	**23	,F			C4814	21	C4837	C2219
C314C	TF	PI	,PI-28	,7		C4826	26	C3133	-31C5
C315C	A	**23	,F			C4838	21	C4861	C2219
C316C	TF	PICV2	,PICV2-28	,7		C4850	26	C3163	-3135
C317C	A	**23	,F			C4862	21	C4885	C2219
C318C	TF	PICV4	,PICV4-28	,7		C4874	26	C3191	-3163
C319C	A	**23	,F			C4886	21	C49C5	C2219
C320C	TF	SIX	,SIX-28	,7		C4898	26	C3215	-3161
C321C	A	**23	,F			C4910	21	C4933	C2219
C322C	TF	TAN6	,TAN6-28	,7		C4922	26	C3248	-322C
C323C	A	**23	,F			C4934	21	C4957	C2219
C324C	TF	TEN34	,TEN34-28	,7		C4946	26	C3278	-329C
C325C	S	**18	,F			C4958	22	C4976	C2219
C326C	SF	9SPF		,2		C497C	32	-2854	CCCC
C327C	S	**18	,K			C4982	22	C50CC	C2221
C328C	SF	FX9+1		,2		C4994	32	-28C6	CCCC
C329C	S	**18	,K			C5006	22	C5024	C2221
C330C	SF	FX2+1		,2		C5018	32	-2816	CCCC
C331C	S	**18	,K			C5030	22	C5048	C2221
C332C	SF	FX1+1		,2		C5042	32	-2826	CCCC
C333C	S	**18	,F			C5054	22	C5072	C2219
C334C	SF	9SCPFF+1		,2		C5066	32	-2756	CCCC
C335C	S	FXH		,K		C5078	22	C3283	C2221
C336C	S	99MK		,K		C5090	22	C3288	C2221
C337C	S	1CCMK		,K		C5102	22	C3293	C2221
C338C	A	IMSAPP		,F		C5114	21	C3298	C2219
C339C	A	ISPFM1		,F		C5126	21	C33C3	C2219
C340C	S	PH		,F		C5138	22	C33C8	C2219
C341C	S	FNH		,F		C5150	22	C3313	C2219
C342C	S	96MF		,F		C5162	22	C3318	C2219
C343C	S	97MF		,F		C5174	22	C3323	C2219
C344C	S	98MF		,F		C5186	22	C3328	C2219
C345C	S	PDT		,F		C5198	22	C3333	C2219
C346C	S	MND		,F		C5210	22	C3338	C2219
C347C	S	1C2MF		,F		C5222	22	C3343	C2219
C348C	A	FLZALP		,F		C5234	21	C3348	C2219
C349C	A	FLZ		,F		C5246	21	C3353	C2219
C350C	S	FNHM1		,F		C5258	22	C3358	C2219
C351C	TF	F2		,F		C5270	26	C3661	C2219
C352C	A	F2		,F		C5282	21	C3661	C2219
C353C	TF	K2		,K		C5294	26	C3648	C2221

0354C	A	K2	,K	..	2K	C5306	21	C3648	C2221
03550	S	97M2F	,F2	..	97-2F	C5318	22	03363	C3661
03560	S	GM2F	,F2	..	GAMMA-2F	05330	22	C3735	C3661
03570	S	GM1M2F	,F2	..	GAMMA-1-2F	C5342	22	C3526	C3661
0358C	A	FM1	,F	..	-1+F	C5354	21	C3625	C2219
0359C	A	FP2	,F	..	2+F	05366	21	C3605	C2219
0360C	S	MF	,F	..	-F	05378	22	C3473	C2219
03610	A	2FM1	,F2	..	-1+2F	05390	21	C3425	C3661
03620	MM	F	,C5	..	,10	C5422	13	C2215	CCC-5
0363C	SF	98				05414	32	CCC98	CCCC
0364C	SF	97				05426	32	CCC97	CCCC
03650	TF	MFCV2	,98	..	- F / 2	C5438	26	C3746	CCC98
03660	MM	F	,05	..	F EVEN	C5450	13	C2215	CCC-5
0367C	BD	ODDSET	,95	..	AC, BR, TC ODDSET	05462	43	C5510	CCC95
03680	MM	K	,C5	..	YES, K EVEN	05474	13	C2221	CCC-5
03690	BD	ODDSET	,99	..	AC, BR, TC ODDSET	C5486	43	C5518	CCC99
0370C	TDM	FKCCD	,1	..	YES, FKCCD = 1	05498	15	C3427	CCCC1
0371C	B	ODDSET+12				05510	49	C5530	CCCC
03720	DORG	*-4				05517			
03730	CCDSET	TDM FKCCD	,C	..	FKCCD = C	C5518	15	C3427	CCCC
03740	ENF	**36	,ENTLN-4	..		05530	44	C5566	C2244
0375C	A	LNENT	,ENTLN	..	FLA ENTRY PCINT FROM FAXB	05542	21	C3368	C2248
03760	A	EXPERT	,EXPERT	..	FEXP ENTRY PCINT FROM FAXB	05554	21	C3373	C2253
03770	BV	**12				C5566	46	C5578	C14CC
0378C	BD	SHCRT	,07499			05578	43	C5646	C7495
03790	TFM	IORT	,**23			05590	16	CC565	-5613
0380C	B	IOGT	,DALCNG	..		C5622	49	C0566	-5614
03810	DALCNG	CSC	2			C5614			2
		2K							
03820	CSC	1	,C			C5616			1
		C							
0383C	CC	4	,C146			C5620			4
		-146							
0384C	CC	1	,*			C5621			1
		*							
0385C	DAFMCN	CSC	2	,22		C5622			2
03860	CSA	DDFMCN				C5628			5 X 1
						C5628			-5630
0387C	CC	1	,*			C5629			1
		*							
0388C	DDFMCN	CSC	1	,C		C5630			1
		C							
0389C	CC	5	,16835			C5635			5
		J6835							
0390C	CC	3	,CC4			C5638			3
		-04							
0391C	CSA	FMCN-56				C5643			5 X 1
						C5643			-7358
03920	CC	1	,*			C5644			1
		*							
03930	SHCRT	TFM	IORT	,**23		C5646	16	CC565	-5665
0394C	B	IOGT	,DAFMCN	..		C5658	49	CC566	-5622
0395C	B	PRCGST	,*	..		C567C	49	C222C	CCCC

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0396C	DORG	*-4				C5677			
03970	DORG	06CCC				C6CCC			
0398C	34	B1	,CC701			06CCD	34	C6C44	C07C1
03990	38	B1	,CC702			C6C12	38	C6C44	C07C2
0400C	36	B1	,CC703			06C24	36	C6C44	C07C3
0401C	R	**22				C6C36	49	C6C5E	CCCC
04020	DORG	*-3				C6044			
04030	B1	CSC	9	,C168CCC35		06C44			5
		C168CCC35							
04040	CSA	STCP-1				C6C57			5 X 1
						C6C57			-2354
04050	TRA					C6C58	26	CCCC	CC5CC
						C6C7C	49	CCCC	CCCC
04060	TCC	06CCC				06CCD			
04070	*****	1620 FCRTAN II-C	ARITHMETIC BLCK			03851			
04080	*****	1620 FCRTAN II-C	ARITHMETIC BLCK - SECONDARY LINKAGE			03853			3
0409C	DORG	START				C3854	16	C7465	-CCC3
0410C	DS	3				C3862			2
04110	TFM	FMCN+11	,*-START						
04120	CC	2	,4	,*-3					
		-4							
04130	B	FMCN				03866	45	C7454	CCCC
04140	FXA	A	,FXA-1	..		C3878	21	C2452	C387P
04150	B	FXA1				0389C	49	C4622	CCCC
04160	FXS	S	,FXS-1	..		03902	22	C2492	C390J
04170	B	FXA1				C3914	49	C4622	CCCC
04180	FXSR	BNF	FXSR1+32	,FAC	..	C3926	44	C4666	C2492
04190	B	FXSR1				03938	49	C4636	CCCC
0420C	FXM	M	,FXM-1	..		03950	23	C2492	C394R
04210	B	FXM1				03962	49	C4688	CCCC
04220	FXD	LD	99	,FAC	..	C3974	28	CC095	C2492
04230	B	FXD1				03986	49	C4714	CCCC
04240	FXDR	LD	99	,FXDR-1	..	03998	28	CC099	C395P
04250	B	FXDR1				C4C1C	49	C4796	CCCC
04260	DORG	*-1				C4C2C			
04270	RSGN	BNF	RSGN1+4C	,FAC-1		04C20	44	04856	C2491
04280	B	RSGN1		..		04C32	49	C4816	C-CCC
04290	DORG	*-1				C4C42			
0430C	TFM	FMCN+11	,*-START			04C42	16	C7465	-C151
04310	CC	2	,2	,*-3		04C50			2
		-2							
04320	B	FMCN				C4C54	49	C7454	CCCC
04330	FSB	TDM	FAD1+37	,2	..	04C66	15	04953	CCCC
04340	B	FSB1				04C78	49	C4896	CCCC
0435C	FAD	TDM	FAD1+37	,1	..	04C90	15	04953	CCCC
04360	B	FAD1				041C2	49	04916	CCCC
04370	FSBR	BNF	FSBR1+32	,FAC-2	..	04114	44	C5474	C249C
0438C	B	FSBR1				04126	49	C5442	CCCC
04390	FPP	TF	SAVE	,FPP-1	..	04138	26	C2565	C413P
0440C	B	FPP1				04150	49	C5494	CCCC
04410	FC	TF	SE+11	,FC-1	..	04162	26	C5785	C416J
04420	B	FD1				04174	49	C5654	CCCC
04430	FCVR	TF	SAVE	,FCVR-1	..	04186	26	C2565	C418N
04440	B	FCVR1				04198	49	C5866	CCCC

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04450	FIX1	TF	IPSA	,FIX1-1	,11,	IPSA = 1	04210	26	C2575	C42CR
04460	B		FIX11				04222	49	C5946	CCCCC
04470	FAX1	TF	IPSA	,FAX1-1	,11,	IPSA = 1	04234	26	C2575	C423L
04480	B		FAX11				04246	49	C64CC	CCCCC
04490	FAXB	TF	TAFE	,FAXB-1	,11,	LCAC ERPCMENT B	04258	26	C2535	C425P
04500	B		FAXB1				04270	49	C7C62	CCCCC
04510	TFM		FMCN+11	,,-START			04282	16	C7465	-C431
04520	CC	2		,2	,0-3		04290		2	
	-2									
04530	B		FMCN				04294	49	C7454	CCCCC
04540	TFM		FMCN+11	,,-START			04306	16	C7465	-C455
04550	CC	2		,2	,0-3		04314		2	
	-2									
04560	B		FMCN				04318	49	C7454	CCCCC
04570	TFM		FMCN+11	,,-START			04330	16	C7465	-C479
04580	CC	2		,2	,0-3		04338		2	
	-2									
04590	B		FMCN				04342	49	C7454	CCCCC
04600	TFM		FMCN+11	,,-START			04354	16	C7465	-C503
04610	CC	2		,2	,0-3		04362		2	
	-2									
04620	B		FMCN				04366	49	C7454	CCCCC
04630	TFM		FMCN+11	,,-START			04378	16	C7465	-C527
04640	CC	2		,2	,0-3		04386		2	
	-2									
04650	B		FMCN				04390	49	C7454	CCCCC
04660	TFM		FMCN+11	,,-START			04402	16	C7465	-C551
04670	CC	2		,2	,0-3		04410		2	
	-2									
04680	B		FMCN				04414	49	C7454	CCCCC
04690	TFM		FMCN+11	,,-START			04426	16	C7465	-C575
04700	CC	2		,2	,0-3		04434		2	
	-2									
04710	B		FMCN		,0		04438	49	C7454	C-CCC
04720	DORG		0-1				04448			
04730	TFM		FMCN+11	,,-START			04448	16	C7465	-C557
04740	CC	2		,3	,0-3		04456		2	
	-3									
04750	B		FMCN		,0		04460	49	C7454	C-CCC
04760	DORG		0-1				04470			
04770	TFM		FMCN+11	,,-START			04470	16	C7465	-C619
04780	CC	2		,4	,0-3		04478		2	
	-4									
04790	B		FMCN		,0		04482	49	C7454	C-CCC
04800	DORG		0-1				04492			
04810	TFM		FMCN+11	,,-START			04492	16	C7465	-C641
04820	CC	2		,7	,0-3		04500		2	
	-7									
04830	B		FMCN		,0		04504	49	C7454	C-CCC
04840	DORG		0-1				04514			
04850	TFM		FMCN+11	,,-START			04514	16	C7465	-C663
04860	CC	2		,8	,0-3		04522		2	
	-8									
04870	B		FMCN		,0		04526	49	C7454	C-CCC
04880	DORG		0-1				04536			
04890	TFM		FMCN+11	,,-START			04536	16	C7465	-C685

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04500	CC	2		,7	,0-3		04544		2	
	-7									
04510	B		FMCN		,0		04548	45	C7454	C-CCC
04520	DORG		0-1				04558			
04530	TFM		FMCN+11	,,-START			04558	16	C7465	-C707
04540	CC	2		,5	,0-3		04566		2	
	-5									
04550	B		FMCN		,0		04570	45	C7454	C-CCC
04560	DORG		0-1				04580			
04570	TFM		FMCN+11	,,-START			04580	16	C7465	-0729
04580	CC	2		,5	,0-3		04588		2	
	-5									
04590	B		FMCN		,0		04592	49	C7454	C-CCC
04600	DORG		0-1				04602			
04610	TFM		FMCN+11	,,-START			04602	16	C7465	-C751
04620	CC	2		,5	,0-3		04610		2	
	-5									
04630	B		FMCN		,0		04614	49	C7454	CCCCC
04640	DORG		0-4				04621			
04650	*****		1620 PCRTFRAN II-C	ARITHMETIC BLCK - SUBROUTINES						
04660	FXA1	BV	**12				04622	46	C4634	C14CC
04670	BB						04634	42	CCCCC	CCCCC
04680	DORG		0-9				04636			
04690	FXSR1	CF	FAC				04636	33	C2492	CCCCC
04700	TF	FXA-1	,FXSR-1			SET UP ACC	04640	26	C3877	C3925
04710	B	FXA				BRANC TC FIXEC PCINT ACC	04660	49	C3878	CCCCC
04720	DORG	0-3					04668			
04730	SF	FAC					04680	32	C2492	CCCCC
04740	B	FXSR1*12					04680	49	C4448	CCCCC
04750	DORG	0-3					04688			
04760	FXM1	SF	100PK		,6		04688	32	C329L	CCCCC
04770	TF	FAC		,99			04700	26	C2492	CCCCC
04780	BB						04712	42	CCCCC	CCCCC
04790	DORG	0-9					04714			
04800	FXD1	C	100PK	,FXC-1	,611		04714	29	C329L	C397L
04810	BV	**26					04726	46	04752	C14CC
04820	TF	FAC		,99PK	,11		04738	26	C2492	C328C
04830	BB						04750	42	CCCCC	CCCCC
04840	DORG	0-9					04752			
04850	TFM	E1	,570		,9,	ERRCR E8	04752	16	C2615	CCN78
04860	FXNINE	TFM	FXERR*3C	,FIXEND-12,,		SET UP ERRCR EXIT	04764	16	C3704	-3748
04870	TF	FAC	,FX9			FAC = FX9	04776	26	C2492	C28C5
04880	B	FXERR					04788	49	C3676	CCCCC
04890	DORG	0-3					04796			
04900	FXD1	C	100PK	,FAC	,6		04796	29	C329L	C2492
04910	B	FXD1*12					04808	49	C4726	CCCCC
04920	DORG	0-4					04815			
04930	RSGN1	BNF	**26	,FAC-2		PLCATING PCINT NUMBER	04816	44	04842	C249C
04940	CF	FAC-2					04828	33	C249C	CCCCC
04950	BB						04840	42	CCCCC	CCCCC
04960	DORG	0-9					04842			
04970	SF	FAC-2					04842	32	C249C	CCCCC
04980	BB						04854	42	CCCCC	CCCCC
04990	DORG	0-9					04856			
05000	BNF	**26	,FAC			FIXED PCINT NUMBER	04856	44	04882	C2492
05010	CF	FAC					04868	33	C2492	CCCCC

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05420	BB				0488C	42	CCCC	CCCC
05430	DORG	--9			04882			
05440	SF	FAC			04882	32	C2492	CCCC
05450	BB				04894	42	CCCC	CCCC
05460	DORG	--9			04896			
05470	FSB1	TF	FAC-1	,FSB-1	04896	26	C4C85	C4C85
05480	B	FAD1			04908	49	C4516	CCCC
05490	DORG	--3			04916			
05500	FAD1	TF	BETA	,FAC-1	04916	26	C26C3	C4C8R
05510	SM	FAD-1		,11,	04928	12	C4C85	CCC-2
05520	TF	BETA-2		,10,	04946	26	C26C1	C285A
05530	A	BETA-2		,9SPF	04952	21	C26C1	C4C8R
05540	TF	SAVE		,FAC-1	04964	26	C2565	C2492
05550	TF	FAC-1		,FAC	04976	26	C2491	C2492
05560	CF	FH		,FAC-2	04988	26	C2491	C2492
05570	TDM	FNH		,C	04988	33	C330C	CCCC
05580	C	BETA		,SAVE	05000	15	C331C	CCCC
05590	BNM	**84		,C	05012	24	C26C3	C2565
05600	TF	SAVE-2		,FAC-1	05024	47	C510C	C110C
05610	TF	FAC-1		,BETA-2	05036	26	C2565	C2491
05620	TF	BETA-2		,SAVE-2	05048	26	C2491	C26C1
05630	TF	FAD+8		,SAVE	05060	26	C26C1	C2565
05640	TF	SAVE		,BETA	05072	26	C4C9E	C2565
05650	TF	BETA		,FAD+8	05084	26	C2565	C26C3
05660	TFM	ADD+11		,BETA-2	05096	26	C26C3	C4C9E
05670	S	BETA		,SAVE	05108	16	C5215	-26C1
05680	BV	NOACC		,C	05120	22	C26C3	C2565
05690	A	ADD+11		,BETA	05132	46	C4C4C	C140C
05700	A	BETA		,F	05144	21	C5215	C26C3
05710	BNM	NOACC		,C	05156	21	C26C3	C2219
05720	BNF	ADD		,BETA-2	05168	47	C4C4C	C110C
05730	SF	ADD+11		,C	05180	44	C520C	C26C1
05740	ACC	A	FAC-1		05192	32	C5219	CCCC
05750	BZ	ZERFAC+12		,C	05204	21	C2491	CCCC
05760	TDM	UNFLCw-1		,2	05216	46	C359E	C120C
05770	TDM	OVFLCw-1		,1	05228	15	C5371	C002C
05780	NCRM	TD	99	,FAC-1	05240	15	C3651	CCCC
05790	CF	FAC-1		,C	05252	25	C0095	C2491
05800	BD	LVI		,FNM	05264	33	C2491	CCCC
05810	TR	FNM		,FH	05276	43	C3616	C3311
05820	TDM	FAC-1		,C	05288	31	C3311	C330C
05830	SF	FNM		,C	05300	15	C2491	CCCC
05840	BD	FINISH		,FNM	05312	32	C3311	CCCC
05850	SM	SAVE		,1	05324	43	C380C	C3311
05860	BNV	NORM+36		,C	05336	12	C2565	CCC-1
05870	TFM	EI		,572	05348	47	C520E	C140C
05880	UNFLCw	TFM	FAC	,99	05360	16	C2615	C0A72
05890	TF	FAC-2		,9SPF-1	05372	16	C2492	C00RR
05900	B	ERRCR		,C	05384	26	C249C	C2853
05910	DORG	--4		,C	05396	49	C367E	CCCC
05920	NCACC	SF	FH		05408	32	C330C	CCCC
05930	TR	FNM		,FH	05416	31	C3311	C330C
05940	TF	FAC		,SAVE	05428	26	C2492	C2565
05950	BB			,C	05440	42	CCCC	CCCC
05960	DORG	--9		,C	05442			
05970	FSB1	CF	FAC-2		05442	33	C249C	CCCC

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05980	TF	FAC-1		,FSBR-1	05454	26	C4C85	C4113
05990	B	FAC		,C	05466	49	C4C9C	CCCC
06000	DORG	--3		,C	05474			
06010	SF	FAC-2		,C	05474	32	C249C	CCCC
06020	B	FSBR1+12		,C	05486	49	C454A	CCCC
06030	DORG	--4		,C	05493			
06040	FMP1	SM	FMP-1	,2	05494	12	C4137	CCC-2
06050	LD	79		,ZERO-1C	05506	28	C0075	C2757
06060	M	FAC-2		,FMP-1	05518	23	C249C	C413P
06070	BZ	ZERFAC		,C	05530	46	C358A	C120C
06080	A	SAVE		,FAC	05542	21	C2565	C2492
06090	TF	FAC-1		,HMC	05554	26	C2491	C333C
06100	TDM	UNFLCw-1		,4	05566	15	C5371	C004C
06110	FMFAXI	BNV	NORM+72	,C	05578	47	C532A	C140C
06120	BNF	**2C		,FAC	05590	44	C561C	C2492
06130	B	UNFLCw-12		,C	05602	49	C536C	CCCC
06140	DORG	--4		,C	05609			
06150	TDM	OVFLCw-1		,3	05610	15	C3651	CCCC
06160	BN	OVFLCw-12		,C	05622	46	C364C	C110C
06170	TFM	SAVE		,99	05634	16	C2565	CCCC
06180	B	NORM+24		,C	05646	49	C527E	C009C
06190	DORG	--4		,C	05653			
06200	FC1	TF	SAVE		05654	26	C2565	C2492
06210	SM	FD-1		,2	05666	12	C4141	CCC-2
06220	TF	79		,ZERO-9	05678	26	C0079	C2758
06230	LD	PDT		,FAC-2	05690	28	C333L	C249C
06240	D	PDT		,FC-1	05702	29	C333L	C416J
06250	TDM	OVFLCw-1		,7	05714	15	C3651	C007C
06260	BV	OVFLCw-12		,C	05726	46	C364C	C140C
06270	TF	FAC-1		,PCT	05738	26	C2491	C333L
06280	TD	99		,FAC-1	05750	25	C0095	C2491
06290	BZ	ZERFAC+12		,C	05762	46	C359E	C120C
06300	SE	SM	SAVE		05774	12	C2565	C00-0
06310	TDM	OVFLCw-1		,5	05786	15	C3651	CCCC
06320	BNV	NORM+24		,C	05798	47	C527E	C140C
06330	BNF	OVFLCw-12		,FAC	05810	44	C364C	C2492
06340	TDM	UNFLCw-1		,6	05822	15	C5371	C000A
06350	BN	UNFLCw-12		,C	05834	47	C536C	C130C
06360	TFM	SAVE		,99	05846	16	C2565	CCCC
06370	B	NORM+72		,C	05858	49	C532A	CCCC
06380	DORG	--4		,C	05865			
06390	FCV1	TF	SE+11		05866	26	C3785	C2492
06400	SM	FDVR-1		,2	05878	12	C4185	CCC-2
06410	TF	79		,ZERO-9	05890	26	C0079	C2758
06420	LD	PDT		,FCV1-1	05902	28	C333L	C418N
06430	D	PDT		,FAC-2	05914	29	C333L	C249C
06440	TD	FAC		,SAVE	05926	25	C2492	C2565
06450	B	FD1+6C		,C	05938	49	C571A	CCCC
06460	DORG	--4		,C	05945			
06470	FIX11	AM	IMSA		05946	11	C2575	CCC-C
06480	BNZ	**26		,C	05958	47	C590A	C120C
06490	TF	FAC		,FX1	05970	26	C2492	C2823
06500	BB			,C	05982	42	0000C	CCCC
06510	DORG	--9		,C	05984			
06520	AM	FAC		,0C	05984	11	C2492	CCC-C
06530	BNZ	PSI-12		,10,	05996	47	C606A	C120C

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Table with columns for code (e.g., C6540), instruction type (BNF, TFM), address, and comment (e.g., YES, IS I POSITIVE). Includes sub-headers like FHNIN, PS1, CCCREV, and FAX11.

Table with columns for code (e.g., C6502), instruction type, address, and comment (e.g., C2575, C6502).

Table with columns for code (e.g., C7100), instruction type (TDP, TFM), address, and comment (e.g., SET UP F+2 ACRPALIZATION). Includes sub-headers like AXJ, NCCDIV, SCS, and GEHT.

Table with columns for code (e.g., C6562), instruction type, address, and comment (e.g., C2492, C6562).

07660	BNF	FINISH+1	,TAFE-2	,,	IS B NEGATIVE	C7122	44	C38C4	C2533
07670	TFM	E1	,777	,9,	YES, ER G7 ZERC TC MINUS B	07134	16	C2615	CCP77
07680	MANTP	TDP	99	,0	SET SIGN	07146	15	CC995	CCCCC
07690	B	OVFLCW				C7158	49	C3652	CCCCC
07700	CORG		*-4			C7165			
07710	TDP	OLWR+1	,9	,,	SET UP AC ERR TYPE	C7166	15	C7311	CC0C9
07720	BNF	*+36	,FAC-2	,,	IS A NEGATIVE	07178	44	C7214	CC249
07730	TDP	OLWR+1	,1	,,	YES, SET UP ERR TYPE	0719C	15	C7311	CCCC1
07740	CF	FAC-2				C72C2	33	C245C	CCCCC
07750	TDP	FINISH+2	,9			07214	15	C38C5	CC0C9
07760	TFM	FINISH+7	,+20			C7226	16	C381C	-7246
07770	B	LNENT		,6,	FINC LA CF A	C7238	49	C336C	CCCCC
07780	CORG		*-4			C7245			
07790	TFM	FINISH+7	,+32			07246	16	C381C	-7278
07800	TFM	FMP-1	,TAFE	,,	SET UP MULTIPLICATION	C7258	16	C4137	-2535
07810	B	FMP		,,	MULTIPLY B TIMES LN(A)	0727C	49	C413E	CCCCC
07820	CORG		*-4			C7277			
07830	TFM	FINISH+7	,+20			07278	16	C381C	-7298
07840	B	EXPENT		,6,	FINC A*B = E*BLN(A)	0729C	49	C337L	CCCCC
07850	CORG		*-4			C7297			
07860	TDP	FINISH+2	,2			C7298	15	C38C5	CCCC2
07870	OLWR	NOP	FINISH+1			0731C	41	C38C4	CC0CC
07880	TFM	E1	,676	,9,	ERR F6, -ATCB	C7322	16	C2615	CC676
07890	TDP	99	,C			07334	15	CC955	CCCCC
07900	B	ERRDR				07346	49	C3676	CCCCC
07910	CORG		*-4			07353			
07920	CORG	08CCC				08CCC			
07930	34	A1	,CC701			08CCC	34	08C6E	CC7C1
07940	38	A1	,CC702			08C12	38	08C6E	CC7C2
07950	36	A1	,CC703			08C24	36	08C6E	CC7C3
07960	TD	15995	,CC40C			08C36	25	15995	CC4CC
07970	TR	START+3	,12CC			08C48	31	C3854	12CCC
07980	B	*+22				08C6C	49	08C82	CCCCC
07990	CORG	*-3				08C6E			
08000	A1	CSC	9	,C194CCC36		08C6E			5
08010	CSA	FIX				08C81			5 X 1
08020	TRA					08C81			-3854
08030	TCC	08CCC				08C82	36	CCCCC	CC5CC
08040						08C94	49	CCCCC	CCCCC
08050						08CCC			
08060	*****	162C FERTRAN II-C	FERMAT						
08070	*****	162C FERTRAN II-C	FERMAT - SECONDARY LINKAGE						
08080	CORG	START				C3851			
08090	CS	3				C3853			3
08100	TFM	FMEN+11	,*-START			C3854	16	C7465	-CCC3
08110	CC	2	,7	,*-3		C3862			2
08120	B	FMEN				C3866	49	C7454	CC0CC
08130	TFM	FMEN+11	,*-START			C3878	16	C7465	-CC27
08140	CC	2	,1	,*-3		C3886			2
08150	-1								
08160	B	FMEN				C389C	49	C7454	CC0CC
08170	TFM	FMEN+11	,*-START			035C2	16	C7465	-CC51
08180	CC	2	,7	,*-3					

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08190	CC	2	,1	,*-3		C351C			2
08200	-1								
08210	B	FMEN				C3514	49	C7454	CC0CC
08220	TFM	FMEN+11	,*-START			C3526	16	C7465	-CC75
08230	CC	2	,1	,*-3		C3534			2
08240	-1								
08250	B	FMEN				C3538	49	C7454	CC0CC
08260	TFM	FMEN+11	,*-START			0359C	16	C7465	-CC55
08270	CC	2	,1	,*-3		C3558			2
08280	-1								
08290	B	FMEN				C35E2	49	C7454	CC0CC
08300	TFM	FMEN+11	,*-START			C3574	16	C7465	-C123
08310	CC	2	,1	,*-3		03582			2
08320	-1								
08330	B	FMEN				C3586	49	C7454	CC0CC
08340	TFM	FMEN+11	,*-START			03598	16	C7465	-C147
08350	CC	2	,1	,*-3		C4CC6			2
08360	-1								
08370	B	FMEN				C4C1C	49	C7454	CC0CC
08380	CORG	*-1				04C2C			
08390	TFM	FMEN+11	,*-START			04C2C	16	C7465	-C165
08400	CC	2	,1	,*-3		C4C28			2
08410	-1								
08420	B	FMEN				04C32	49	C7454	C-CCC
08430	CORG	*-1				C4C42			
08440	AM	FAC	,CC	,10,	IS FAC ZERC	C4C42	11	C2452	CCC-C
08450	B	IFLCAT				C4C54	49	C515C	CC0CC
08460	TFM	FMEN+11	,*-START			04C66	16	C7465	-C215
08470	CC	2	,1	,*-3		C4C74			2
08480	-1								
08490	B	FMEN				04C78	49	C7454	CC0CC
08500	TFM	FMEN+11	,*-START			04C9C	16	C7465	-C235
08510	CC	2	,1	,*-3		C4C98			2
08520	-1								
08530	B	FMEN				041C2	49	C7454	CC0CC
08540	TFM	FMEN+11	,*-START			04114	16	C7465	-C263
08550	CC	2	,1	,*-3		04122			2
08560	-1								
08570	B	FMEN				04126	49	C7454	CC0CC
08580	TFM	FMEN+11	,*-START			04138	16	C7465	-C287
08590	CC	2	,1	,*-3		04146			2
08600	-1								
08610	B	FMEN				04150	49	C7454	CC0CC
08620	TFM	FMEN+11	,*-START			04162	16	C7465	-C311
08630	CC	2	,1	,*-3		0417C			2
08640	-1								
08650	B	FMEN				04174	49	C7454	CC0CC
08660	TFM	FMEN+11	,*-START			04186	16	C7465	-C335
08670	CC	2	,1	,*-3		04194			2
08680	-1								
08690	B	FMEN				04198	49	C7454	CC0CC
08700	TFM	FMEN+11	,*-START			0421C	16	C7465	-C359
08710	CC	2	,1	,*-3		04218			2
08720	-1								
08730	B	FMEN				04222	49	C7454	CC0CC
08740	TFM	FMEN+11	,*-START			04234	16	C7465	-C383

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085PC	CC	2	,1	,0-3	04242	2		
	-1							
C859C	B	FMCN			04246	49	C7454	CCCC
C860C	TFM	FMCN+11	,0-START		04250	16	C7465	-C4C7
C861C	CC	2	,1	,0-3	04266	2		
	-1							
08620	B	FMCN			0427C	49	C7454	CCCC
C863C	*****			WRITE ALPHAMERIC				
C864C	WATY	TF	SWF	,WATY-1	04282	26	C5965	C4281
08650	B	WATY1			04294	49	C5538	CCCC
08660	WAPT	TF	SWF	,WAPT-1	04306	26	C5965	C4305
C8670	B	WAPT1			04318	49	C5558	CCCC
C868C	WACC	TF	SWF	,WACC-1	04330	26	C5965	C4329
08690	B	WACC1			04342	49	C561C	CCCC
0870C	PRA	TF	SWF	,PRA-1	04354	26	C5965	C4353
08710	B	PRA1			04366	49	C5578	CCCC
0872C	*****			REAC ALPHAMERIC				
08730	RATY	TF	SWF	,RATY-1	04378	26	C5965	C4377
0874C	B	RATY1			04390	49	C557C	CCCC
08750	RAPT	TF	SWF	,RAPT-1	04402	26	C5965	C4401
0876C	B	RAPT1			04414	49	C599C	CCCC
08770	RACD	TF	SWF	,RACD-1	04426	26	C5965	C4425
0878C	B	RACD1			04438	49	C6C1C	C-CCC
0879C	DORG	--1			04448			
0880C	ITYPE	AM	SWF	,3	04448	11	C5965	-C0C3
08810	B	ITYPE1			04460	45	C4622	C-CCC
08820	DORG	--1			0447C			
08830	TFM	FMCN+11	,0-START		0447C	16	C7465	-C619
0884C	CC	2	,4	,0-3	04478	2		
	-4							
C8850	B	FMCN			04482	49	C7454	C-CCC
0886C	DORG	--1			04492			
0887C	TFM	FMCN+11	,0-START		04492	16	C7465	-C641
08880	CC	2	,7	,0-3	0450C	2		
	-7							
0889C	B	FMCN			04504	49	C7454	C-CCC
0890C	DORG	--1			04514			
08910	TFM	FMCN+11	,0-START		04514	16	C7465	-C663
08920	CC	2	,8	,0-3	04522	2		
	-8							
0893C	B	FMCN			04526	49	C7454	C-CCC
0894C	DORG	--1			04536			
08950	TFM	FMCN+11	,0-START		04536	16	C7465	-C685
08960	CC	2	,7	,0-3	04544	2		
	-7							
C8970	B	FMCN			04548	49	C7454	C-CCC
0898C	DORG	--1			04558			
08990	TFM	FMCN+11	,0-START		04558	16	C7465	-C7C7
0900C	CC	2	,5	,0-3	04566	2		
	-5							
09010	B	FMCN			0457C	49	C7454	C-CCC
0902C	DORG	--1			0458C			
0903C	TFM	FMCN+11	,0-START		0458C	16	C7465	-C729
0904C	CC	2	,5	,0-3	04588	2		
	-5							
0905C	B	FMCN			04592	49	C7454	C-CCC

09060	DORG	--1			04602			
0907C	TFM	FMCN+11	,0-START		04602	16	C7465	-C751
0908C	CC	2	,5	,0-3	0461C	2		
	-5							
0909C	B	FMCN			04614	49	C7454	CCCC
0910C	DORG	--4			04621			
0911C	*****			1620 FORTRAN II-D I FORNAT - SUBROUTINES				
09120	****			PACRC FOR I TYPE READ AND WRITE				
09130	ITYPE1	TF	WIDT+2	,SWF	04622	26	C6C64	C5968
0914C	A	LAST	,WIDT+2	,11	04634	21	C582C	C6C64
0915C	C	LAST	,PAR2		04646	24	C582C	C6145
09160	BH	ER FS			04658	46	C731C	C11CC
09170	TF	INPLLS	,LAST		04670	26	C6C53	C582C
0918C	TFM	IR DIG+6	,FAC		04682	16	C4932	-2492
0919C	TFM	SWC ADJ	,WRITE I		04694	16	C6152	-447C
0920C	BD	SWL	,RREFSB		04706	43	C6C42	C6C61
0921C	TF	TERM	,FP1MK		04718	26	C7C53	C3283
0922C	TF	FAC	,FXZ		04730	26	C2452	C2815
0923C	TFM	SWC ADJ	,READI		04742	16	C6152	-5034
09240	*****			CHAR BY CHAR IS MOVED INTO FAC,RIGHT JUSTIFIED,UNTIL SIGN				
09250	*****			CR W CHAR ARE EXAMINED.				
09260	*****			ERROR F7 WILL OCCUR IF MORE THAN N CHAR ARE AVAIL TO READ				
0927C	IREAD	SM	WIDT+2	,2	04754	12	C6C64	CCC-2
0928C	BL	SWL		,10	04766	47	C6C42	C13CC
0929C	SM	INPLLS	,2		04778	12	C6C53	CCC-2
0930C	BNR	+2C	,INPLLS	,11. CHECK FOR INPUT RECCRC MARK	04790	45	C481C	C605L
0931C	B7	ERRF7I			04802	49	C5CC2	
09320	CM	INPLLS	,7C	,61C	0481C	14	C6C5L	CCPCP
09330	BH	IR DIG			04822	46	C4926	C11CC
0934C	BE	IR BLNK			04834	46	C4962	C12CC
0935C	CM	INPLLS	,CC	,610	04846	14	C6C5L	CCC-C
09360	BE	IR BLNK			04858	46	C4962	C12CC
09370	CM	INPLLS	,2C	,610	0487C	14	C6C5L	CCCKC
0938C	BE	I MINUS			04882	46	C4962	C12CC
09390	CM	INPLLS	,1C	,610	04894	14	C6C5L	CCCJC
0940C	BE	SWL			04906	46	C6C42	C12CC
09410	B	ERR F7I			04918	49	C5CC2	CCCCC
09420	DORG	--4			04925			
09430	IRDIG	TD		,INPLLS	04926	25	CCCCC	C6C5L
0944C	C	--6		,TERM	04938	24	C4932	C7C93
0945C	BL	ERR F7 I			04950	47	C5CC2	C13CC
09460	IRBLNK	SM	IR DIG+6	,1	04962	12	C4932	-00C1
09470	B	I READ			04974	49	C4754	CCCCC
0948C	DORG	--4			04981			
09490	IMINUS	SF	FAC		04982	32	C2452	CCCCC
0950C	B	SWL			04994	49	C6C42	CCCCC
09510	DORG	--4			05001			
09520	ERRF7I	TF	FAC	,FXZ	05002	26	C2452	C2815
09530	TFM	EI	,677	,11. SET FINER ZER0 INTO FAC	05014	16	C2615	CC7P
09540	B	SWL			05026	49	C6C42	CCCCC
09550	DORG	--4			05033			
09560	READI	SF	FP1MK		05034	32	C328L	CCCCC
09570	TF	FLT END	,ICCN2+6	,6	05046	26	C301C	C5444
09580	BNF	FLCAT	,LCC		05058	44	04C42	C6089
09590	CF	LOC			05070	33	C6C85	CCCCC
09600	READIF	TF	LOC	,FAC	05082	26	C4C8R	C2492

09610	SM	LOC	2			C9C94	12	C6C85	-CCC2
09620	TF	LOC	FAC-2	06		C9106	26	C6C88	C249C
09630	ERF7	BNF	BSWF-12	EI	BR IF ACT ERROR TYPE F7	09118	44	C9922	C2615
09640	CF	EI			ERASE ERROR F 7 INDICATION	C9130	33	C2615	CCCCC
09650	B	ERCP2				09142	49	C7386	CCCCC
09660	DORG	0-4				C9149			
09670	IFLOAT	BZ	ZERFAC		YES	0919C	46	C3584	C12CC
09680	TD	99	FAC		STCRE SIGN	09162	25	C0C99	C2492
09690	CF	FAC				09174	33	C2492	CCCCC
09700	TR	BETA-9	FHM	11		C9186	31	C2994	C328L
09710	TF	FAC-2	9SPF-1		CLEAR FAC	C9198	26	C249C	C2893
09720	TF	SAVE	K		CHAR = K	0921C	26	C2965	C2221
09730	TFM	0-23	BETA-9			09222	16	C5245	-2594
09740	BD	0-44			FIND FI CRC DIGIT	C9234	43	C9278	CCCCC
09750	SM	SAVE	C1	10	ADJUST CHAR	09246	12	C2965	CCC-1
09760	AM	0-13	C1			09258	11	C5245	-00C1
09770	B	0-36				0927C	49	C9234	CCCCC
09780	DORG	0-3				09278			
09790	TR	FHM	0-33	611		C9278	31	C331L	C524N
09800	TF	0-35	FHM		FIND AND CLEAR RECCD MARK	09290	26	C9325	C3319
09810	AM	0-23	C1			C9302	11	C5325	-00C1
09820	BNR	0-12				C9314	45	C9302	CCCCC
09830	TDM	0-1	C	06		C9326	15	C932N	CCCCC
09840	TD	FAC+1	RECMK		REPLACE RECCD MARK	09338	25	C2493	C24C3
09850	TF	BETA	ZERC-74		CLEAR BETA	C935C	26	C26C3	C2693
09860	B	INCR0				C9362	49	C9394	CCCCC
09870	DORG	0-3				C937C			
09880	INCR36	TR	FHM	611	LEFT SHIFT CNCE	09370	31	C331L	C33C0
09890	TDM	FAC-1	0		SET LAST DIGIT TO ZERC.	09382	15	C2491	CCCCC
09900	INCR6C	SF	FHM	06		09394	32	C331L	CCCCC
09910	BD	FINISH	FHM	611	TEST LEADING ZERC	C9406	43	C38C1	C331L
09920	SM	SAVE	1	10	SUBT CNE FRCP EXPONENT.	09418	12	C2965	CCC-1
09930	B	INCR36				0943C	49	C937C	CCCCC
09940	DORG	0-4				09437			
09950	ICCN2	B	READ IF	1		09438	4R	C5C82	CCCCC
09960	DORG	0-4				09445			
09970	00000				1620 FCRTNAN II-C	FCRPMAT - SUBRELTINES			
09980	DORG	START+1687				09538			
09990	WATY1	TFM	MAX	C6C87		09538	16	C6914	-6C87
10000	B	WRTALP				09550	49	C5622	CCCCC
10010	DORG	0-3				09558			
10020	WAPT1	TFM	MAX	C8C87		09558	16	C6914	-8C87
10030	B	WRTALP				0957C	49	C5972	CCCCC
10040	DORG	0-3				09578			
10050	PRA1	TFM	MAX	26121	PRINT WITH SPACE SUPPRESS	09578	16	C6914	K6121
10060	TD	RWFSW	RECMK			0959C	25	C6C61	C24C3
10070	B7	RWA				C9602	49	C9634	
10080	WACD1	TFM	MAX	1CC8C		09610	16	C6914	JO8C0
10090	WRTALP	TDM	RWFSW	1	COMMON FOR EACH WRITE	09622	15	C6C61	CCCCC
10100	RWA	TF	DATINH+2	MAX-3		09634	26	C6175	C6911
10110	SF	MAX-2				09646	32	C6912	CCCCC
10120	REPSW	CS	2	0-3		09654			
10130	MATSW	DS	1	0-2	SET TC 1 WHEN MATRIX HAS CONTROL	09655			
10140	REPSW3	CS	2	0		09657			
10150	TFM	0-1	CCCCC	711		09658	16	C9657	-00C-
10160	TDM	SWL+1	2			09670	15	C6C43	CCCCC

10170	LCCC	CS	2	0-1	LCC OF DECIMAL AS SPEC BY FCRPMAT	0968C			2
10180	LCCC2	CS	2	0-3	TWICE LCC C	09678			2
10190	TFM	MESERR+8	679	9		09682	16	C2615	CCC75
10200	TFM	MAX2	INH			C9694	16	C6145	-6176
10210	A	MAX2	MAX			C9706	21	C6145	C6914
10220	A	MAX 2	MAX			09718	21	C6145	C6914
10230	00000				CONTINUATION OF RNA. ALSO USED AFTER EACH OUTPUT				
10240	00000				RECORD ACT TERMINATED BY COMPLT MACRO				
10250	TFM	LAST	INH			0973C	16	C582C	-6175
10260	RW2	TDM	COMP SW	1		09742	15	C975C	CO0CJ
10270	CCP SW	DS	0-3		1 PROHIBITS, 0 REQUIRES OUTPUT	09750			0
10280	TR	INH-1	STZERC+1			09754	31	C6178	C6424
10290	TR	INH+86	STZERC			09766	31	C6245	C6423
10300	TR	INH+174	STZERC+2C			09778	31	C6353	C6443
10310	CM	MAX-3	CB	10		0979C	14	C6911	CCC-8
10320	WIDTH	DS	3	0-2	NO. OF EFF. DIGITS IN FIELD	C9799			3
10330	RNL	0-24				09802	46	C9826	C13CC
10340	RCTY	RCTY				09814	34	CCCCC	CC1C2
10350	LAST	DS	5	0-5	ADR OF RM AT END OF VARIABLE CUT REC	0982C			5
10360	BNE	0-24				09826	47	C985C	C12CC
10370	TF	INH+174	FLZERS		PUT IN RM FOR PAPER TAPE OUTPUT	09838	26	C6393	C6511
10380	BD	BSWF	RWFSW			09850	43	C9934	C6061
10390	RAD0IT	TFM	IORT	0-23		09862	16	C9565	-5885
10400	B	IOGT	DATINH-4	7		09874	49	C9566	-6169
10410	CM	MAX-3	C6	10		09886	14	C6911	CCC-6
10420	BNE	0-24			ALLOWS GCF SWITCH FOR RATY	09898	47	C9922	C12CC
10430	BC4	RCTY				0991C	46	C9814	CC4CC
10440	TDM	FLT END-5	2			09922	15	C98C5	CCCCC
10450	00000				CONTROLS POSITION IN FCRPMAT SPECS				
10460	BSWF	AM	SWF	5		09934	11	C9965	-CCC5
10470	TF	0-18	SWF	11		09946	26	C9964	C9968
10480	B	SWF		06	BR TO ADR INDICATED BY FCRPMAT SPEC.	09958	49	C9968	CCCCC
10490	SWF	CS	5	0		09969			5
10500	RATY1	TFM	MAX	06C87		09970	16	C6914	-6087
10510	B	RDALP				09982	49	C6C22	CCCCC
10520	DORG	0-3				0999C			
10530	RAPT1	TFM	MAX	08C87		09990	16	C6914	-8C87
10540	B	RDALP				06C02	49	C6C22	CCCCC
10550	DORG	0-3				06C1C			
10560	RAD01	TFM	MAX	1CC8C		06C1C	16	C6914	JCC8C
10570	RDALP	TDM	RWFSW	0		06C22	15	C6C61	CCCCC
10580	B	RWA				06C34	49	C9634	CCCCC
10590	DORG	0-4				06C41			
10600	00000				SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE				
10610	00000				TO OBTAIN THE LOCATION THAT GOES WITH THE FORPMAT MACRO				
10620	00000				BEING PERFORMED				
10630	00000				BB FOR OBJECT PROGRAM				
10640	00000				NCP FOR RECC CONTROL				
10650	00000				B FOR MATRIX CONTROL				
10650	SWL	NOP	MATRIX 2			06C42	41	C6602	CCCCC
10660	INPLUS	CS	5	0	WORKING POSITION OF I/C RECORD	06053			5
10670	TDM	SWL+1	0	0	MATRIX CONTROL SETS SWL TO 49	06C54	15	C6C43	CCCC9
10680	RWFSW	DS	1	0-4	1 FOR WRT, 0 FOR RC, FLAG FOR E	06C61			1
10690	WIDTH2	CS	3	0-1		06C64			3
10700	BD	SWC+12	MATSW			06066	43	C61C2	C9699
10710	NOP					06078	41	CCCCC	CCCCC
10720	CPG	CS	5	0-5	TEMP ADR OF DEC PT IN GAPRA	06084			5

10730	LCC	DS	5	,*	..	CCRE LOCATION TO BE USED	06089	5	
10740	*****					AFTER LCC ACR OBTAINED BR TC PROPER MACRO			
10750	SWC	TDM	SWL+1	,2			06090	15	06043
10760	CHAR	CS	3	,*-1	,	PECIFIED CHARACTERISTIC	06100	3	06043
10770		BD	**2C	,RHEFSH	,*	BR IF WRITING	06102	43	06122
10780		B	SWC ADJ	,*	,*		06114	49	0615K
10790		CORG	**4				06121		
10800		TDM	COMPSh	,C	,*	SET TC REQUIRE OUTPUT	06122	15	0579C
10810		CF	LOC				06134	33	06085
10820	MAX2	CS	5	,*	,	THICE MAXIMUM CHAR FOR OUTPUT	06145	5	
10830		B					06146	49	0608C
10840	SWCACJ	DS		,*-5	,*	RETURN ACC CF MACRO IN CONTROL	06152		
10850		DORG	**4				06153		
10860	CATERR	CSA	DUCF				06157	5	X 1
10870		CC	3	,18*			06160		-2607
10880	CATDCC	CSA	DUCF				06165	5	X 1
10890		CC	3	,CC*			06165		-2607
10900	CATINH	CSA	INH				06168	3	
10910		CC	3	,CC*			06173	5	X 1
10920		CC	1	,9			06173		-6175
10930	ENDFCR	CAC	1,C				06176	3	
10940	IAM	CS		,ENDFCR			06177	1	
10950		CS	242				06179		C
10960	IA	CS	244	,IAM+242			06421		242
10970	STZERC	CC	2	,OC			06421		244
10980		CO				,C24681C	06423		2
10990		CO				,C24681C	06424	-C	-C-C-
11000		CO				,C24681C	06436	-C	-C-C-
11010		CO				,C24681C	06448	-C	-C-C-
11020		CO				,C24681C	06460	-C	-C-C-
11030		CO				,C24681C	06472	-C	-C-C-
11040		CO				,C24681C	06484	-C	-C-C-
11050		CC	2	,CC		,C24681C	06496	-C	-C-C-
11060	FLZERS	CC	2	,C'			06505	2	
11070		CS	5				06511	2	
11080	MATRIX	TDM	MATSh	,1	,*	MACRO TC PROCESS MATRICIES	06516	5	
11090		TDM	SWL+1	,9			06518	15	05655
11100		TF	LOCACJ	,FP2			06530	15	06043
11110		BNF	MATRIX2-12,MATRIX-1				06542	20	06974
11120		TFM	LOCACJ	,CC	,1C		06594	44	0695C
11130	LCCACJ	CS	2	,*-3	,*	ADJUST LCC FOR MATRIX	06566	16	06974
11140		S	LOCACJ	,K			06574	2	
							06578	22	06974

11150	S	MATRIX-1	,LCCADJ				06590	22	06517	06574
11160	MATRIX2	A	MATRIX-1	,LCCADJ	,*	RETURN FROM SWL, EACH MATRIX ELEMENT	06602	21	06517	06574
11170		TF	LOC	,MATRIX-1	,*	MOVE ADJUSTED LOCATION	06614	26	06085	06517
11180		SM	PAR	,1	,1C		06626	12	0337E	060-1
11190		BNE	**24				06638	47	06662	0120C
11200		TDM	MATSh	,C			06650	15	05655	0608C
11210		BNL	SWC+12				06662	46	06102	0130C
11220		BB					06674	42	0608C	0608C
11230		CORG	**6				06676			
11240	*****					MACRO FOR AN I/C CARRIAGE RETURN CLINE A FCMPAT STATEMENT				
11250	SLASH	TDM	COMEND+1	,9			06676	15	06953	06089
11260		BD	SLASH+2	,RHEFSH	,*	BR IF WRITING	06688	43	06708	06061
11270		B	COMEND				06700	49	06992	0608C
11280		CORG	**4				06707			
11290	SLASH2	BD	IOCR	,CCPP Sh	,*	BR TC IC CR IF OUTPUT RECORD BLANK	06708	43	07736	0575C
11300		CM	DATINH+2	,C6	,10		06720	14	06175	060-6
11310		BH	WRITE			BR IF ACT TYPEWRITER OUTPUT	06732	46	06016	0110C
11320		TF	LAST	,FLZERS	,*		06744	26	0582-	06511
11330		SM	LAST	,C2	,1C	ERASE BLANKS FROM END CF I/O RECCD	06756	12	0582C	060-2
11340		CM	LAST	,CC	,61C		06768	14	0582-	060-C
11350		BE	**36				06780	46	06744	0120C
11360		CM	LAST	,IAM			06792	14	0582C	-6175
11370		BL	COM END				06804	47	06992	0130C
11380	WRITE	BNR	WRITE1	,RHEFSH	,*		06816	45	06944	06061
11390		TFM	PRKEY	,52	,1C	DOUBLE SPACE	06828	16	06915	06082
11400		CM	INH	,7C	,1C		06840	14	06175	0608C
11410		BNH	**32				06852	47	06804	0110C
11420		TF	PRKEY	,IAM	,*	SKIP TC CHANNEL CODE	06864	26	06515	06175
11430		B7	PRCNTR				06876	49	0690C	
11440		BE	PRCNTR				06884	46	0690C	0120C
11450		TFM	PRKEY	,51	,10	SINGLE SPACE	06896	16	06915	06081
11460	PRCNTR	K		,C9C0	,*	CENTRAL CARRIAGE	06908	34	0608C	0699C
11470	PRKEY	CS	2	,*			06919	2		
11480	MAX	DS	5	,*-5			06914	5		
11490		TF	IN	,FLZERS			06920	26	06421	06511
11500		TR	INH-1				06932	31	06178	0610C
11510	WRITE1	TFM	IORT	,**23	,7	CUTPLT	06944	16	06365	-6967
11520		B	IORT	,DATINH-4	,7		06956	49	06332	-6169
11530		BN1	**24	,C340C			06968	47	06992	0340C
11540		K		,CC971			06980	34	0608C	06971
11550	COMEND	B	RWA2-12				06992	49	0573C	0608C
11560		DORG	**4				06996			
11570		CS	4				07002	4		
11580	*****					MACRO TERMINATING I/C CONTROL				
11590		CS	3				07005	3		
11600	CCMPLT	TDM	COMEND+1	,2			07006	15	06953	0608C
11610	CHAR2	DS	3	,*-1	,	THICE PECIFIED CHARACTERISTIC	07016	3		
11620		B	SLASH+12				07018	49	0688E	0608C
11630		CORG	**4				07025			
11640	REDO	BD	REDO A+24,MAT Sh				07026	43	07094	05655
11650		TD	REDOA+23	,CCMPSH			07038	25	07093	05750
11660		TFM	SWC ADJ	,REDO A	,*	MACRO PERMITS RECCING BACK TC I	07050	16	06192	-7070
11670		B	SWL				07062	49	06042	0608C
11680		DORG	**4				07069			
11690	REDOA	TDM	SWL+1	,1	,*	RETURN FROM SWL IF MORE DATA	07070	15	06043	06081
11700		TDM	COMPSh	,	,*	VEIC REDC USING SWC EFFECT ON COMPSh	07082	15	0575C	0608C

11710	TERM	DS	5	00		REFERENCE ACR IN I/C RECCRC	07C93	5	
11720		AM	SWF	05			07C94	11	C5965 -CCC5
11730		TF	SWF	05WF	011		07100	26	C5965 C596R
11740		B	SLASH				07110	49	C6676 CCCCC
11750		DORG	0-4				07125		
11760	*****					MACRC TC REPEAT FCMPAT SPECS A SPECIFIC NC CF TIMES			
11770	*****					SUB FCMP REP SW, INITIALLY SET TO ZERC			
11780	*****					IF REPSW NEG, SET TCREPS RECC AND REPEAT FCMPAT			
11790	*****					IF REPSW ZERC, LAST FCMPAT REPETITION IS COMPLETE			
11800	*****					IF REPSW PLUS, STEP DOWN AND REPEAT FCMPAT SPEC			
11810	REP	AM	SWF	07			07126	11	C5965 -CCC7
11820		SM	REP SW	01	010	CCATRL REPETITION CF FIELDS	07138	12	C5954 CCC-1
11830		BH	REP 2				07150	46	07150 C11CC
11840		BE	B5WF				07162	46	C5934 C12CC
11850		A	REP SW	05WF	011		07174	21	C5954 C596R
11860		BNT	B5WF				07186	47	C5934 C11CC
11870	REP2	SM	SWF	02			07198	12	C5965 -CCC2
11880		TF	SWF	05WF	011		07210	26	C5965 C596R
11890		B	SWF-23				07222	49	C5946 CCCCC
11900		DORG	0-4				07229		
11910	REP3	SF	REPSW3-1				07230	32	C5956 CCCCC
11920	WA	DS	5	00		WORKING AREA ACR REF TO FAC CR GAM	07241	5	
11930		AM	SWF	07	010		07242	11	C5965 CCC-7
11940		SM	REPSW 3	01	010		07254	12	C5957 CCC-1
11950		BH	REP 2				07266	46	07150 C11CC
11960		BE	B5WF				07278	46	C5934 C12CC
11970		A	REPSW 3	05WF	011		07290	21	C5957 C596R
11980		B	REP 2-12				07302	49	07186 CCCCC
11990		DORG	0-4				07309		
12000	ERF9	TFM	SWC ADJ	0ER CCP 2	00	MACRC FOR ERROR F9 WHEN WRITING	07310	16	C6152 -7386
12010		TF	LAST	0MAX 2			07322	26	C5920 C6145
12020		TFM	E1	0675	05		07334	16	C2615 C0C75
12030		B	SWL				07346	49	C6042 CCCCC
12040		DORG	0-4				07353		
12050	XTYPE	AM	SWF	03	00	MACRC FOR SKIPPING FIELDS	07354	11	C5965 -CCC3
12060		A	LAST	05WF	011		07366	21	C5920 C596R
12070		B	B5WF				07378	49	C5934 C0CCC
12080		DORG	0-4				07385		
12090	ERCOM2	K		0C951			07386	34	CCCCC CC951
12100	WA2	DS	5	00		WORKING AREA ACR REF TO FAC CR GAM	07392	5	
12110		TFM	IORT	0023	00		07398	16	C0565 -7421
12120		B	IORT	0DATER-4	07		07410	49	C0532 -6153
12130		TR	E1+1	0FLZERS-1	00	RESTORES RECCRC MARK	07422	31	C2616 C6510
12140		B	B5WF-12				07434	49	C5922 CCCCC
12150	DPT	DS	5	00		TEMP LCC CF DEC PT IN OUTPUT RECCRC	07445	5	
12160	DPTM2	DS	5	00		TEMP ACR CF DEC PT IN I/C REC. -2	07450	5	
12170		DS	5				07450	5	
12180		DORG	08CCC				08CCC		
12190		38	A3	0CC702			08CCC	38	C0C32 CC7C2
12200		36	A3	0CC703			08C12	36	C0C32 CC7C3
12210		B	0+22				08C24	49	C0C46 CCCCC
12220		DORG	0-3				08C32		
12230	A3	CSC	9	0C19436C36			08C32	5	
12240		CSA	FIX				08C45	5	0 1

12250	TRA						08C45		-3854
12260	TCC	08CCC					08C46	36	CCCCC CC5CC
							08C58	49	CCCCC CCCCC
							08CCC		
12270	*****					1620 FCRTAN II-C I WA FCMPAT	03851		
12280	*****					1620 FCRTAN II-C I WA FCMPAT - SECNCARY LINKAGE	03853	3	
12290		DORG	START				03854	14	C2452 CCC-C
12300		DS	3				03866	49	C5138 CCCCC
12310	FIX	CM	FAC	0CC	010	IS CHAR POSITIVE	03878	16	C7465 -CC27
12320		B	IFIX				03886	2	
12330		TFM	FMCN+11	00-START			03890	49	C7454 CCCCC
12340		DC	2	01	00-3		03902	16	C7465 -0051
		-1					03510	2	
12350		B	FMCN				03514	49	C7454 CCCCC
12360		TFM	FMCN+11	00-START			03926	16	C7465 -CC75
12370		CC	2	01	00-3		03934	2	
		-1					03938	49	C7454 CCCCC
12380		B	FMCN				03950	16	C7465 -C099
12390		TFM	FMCN+11	00-START			03958	2	
12400		CC	2	01	00-3		03962	49	C7454 CCCCC
		-1					03974	16	C7465 -C123
12410		B	FMCN				03982	2	
12420		TFM	FMCN+11	00-START			03986	49	C7454 CCCCC
12430		CC	2	01	00-3		03998	16	C7465 -C147
		-1					04CC6	2	
12440		B	FMCN				04C10	49	C7454 CCCCC
12450		TFM	FMCN+11	00-START			04C20		
12460		CC	2	01	00-3		04C20	16	C7465 -C165
		-1					04C28	2	
12470		B	FMCN				04C32	49	C7454 C-CCC
12480		TFM	FMCN+11	00-START			04C42		
12490		CC	2	01	00-3		04C42	16	C7465 -C151
		-1					04C50	2	
12500		B	FMCN				04C54	49	C7454 CCCCC
12510		DORG	0-1				04C66	16	C7465 -C215
12520		TFM	FMCN+11	00-START			04C74	2	
12530		CC	2	01	00-3		04C78	49	C7454 CCCCC
		-1					04C90	16	C7465 -C239
12540		B	FMCN				04C98	2	
12550		DORG	0-1				041C2	49	C7454 CCCCC
12560		TFM	FMCN+11	00-START			04114	16	C7465 -C263
12570		CC	2	03	00-3		04122	2	
		-3							
12580		B	FMCN						
12590		TFM	FMCN+11	00-START					
12600		CC	2	01	00-3				
		-1							
12610		B	FMCN						
12620		TFM	FMCN+11	00-START					
12630		CC	2	01	00-3				
		-1							
12640		B	FMCN						
12650		TFM	FMCN+11	00-START					
12660		CC	2	01	00-3				
		-1							

12470	B	FMCN			04124	49	C7454	CCCCC
12480	TFM	FMCN+11	,0--START		04130	16	C7465	-C287
12490	CC	2	,1	,0-3	04146			2
	-1							
12700	B	FMCN			04190	49	C7454	CCCCC
12710	TFM	FMCN+11	,0--START		04162	16	C7465	-C311
12720	CC	2	,1	,0-3	04170			2
	-1							
12730	B	FMCN			04174	49	C7454	CCCCC
12740	TFM	FMCN+11	,0--START		04180	16	C7465	-C395
12750	CC	2	,1	,0-3	04194			2
	-1							
12760	B	FMCN			04198	49	C7454	CCCCC
12770	TFM	FMCN+11	,0--START		04210	16	C7465	-C395
12780	CC	2	,1	,0-3	04218			2
	-1							
12790	B	FMCN			04222	49	C7454	CCCCC
12800	TFM	FMCN+11	,0--START		04234	16	C7465	-C389
12810	CC	2	,1	,0-3	04242			2
	-1							
12820	B	FMCN			04246	49	C7454	CCCCC
12830	TFM	FMCN+11	,0--START		04258	16	C7465	-C407
12840	CC	2	,1	,0-3	04266			2
	-1							
12850	B	FMCN			04270	49	C7454	CCCCC
12860	TFM	FMCN+11	,0--START		04282	16	C7465	-C431
12870	CC	2	,2	,0-3	04290			2
	-2							
12880	B	FMCN			04294	49	C7454	CCCCC
12890	TFM	FMCN+11	,0--START		04306	16	C7465	-C495
12900	CC	2	,2	,0-3	04314			2
	-2							
12910	B	FMCN			04318	49	C7454	CCCCC
12920	TFM	FMCN+11	,0--START		04330	16	C7465	-C475
12930	CC	2	,2	,0-3	04338			2
	-2							
12940	B	FMCN			04342	49	C7454	CCCCC
12950	TFM	FMCN+11	,0--START		04354	16	C7465	-C503
12960	CC	2	,2	,0-3	04362			2
	-2							
12970	B	FMCN			04366	49	C7454	CCCCC
12980	TFM	FMCN+11	,0--START		04378	16	C7465	-C527
12990	CC	2	,2	,0-3	04386			2
	-2							
13000	B	FMCN			04390	49	C7454	CCCCC
13010	TFM	FMCN+11	,0--START		04402	16	C7465	-C591
13020	CC	2	,2	,0-3	04410			2
	-2							
13030	B	FMCN			04414	49	C7454	CCCCC
13040	TFM	FMCN+11	,0--START		04426	16	C7465	-C575
13050	CC	2	,2	,0-3	04434			2
	-2							
13060	B	FMCN			04438	49	C7454	C-0CC
13070	CORG	0-1			04448			
13080	TFM	FMCN+11	,0--START		04448	16	C7465	-C597
13090	CC	2	,3	,0-3	04456			2
	-3							

13100	B	FMCN			04460	49	C7454	C-CCC	
13110	CORG	0-1			04470				
13120	WRITEI	TFM	WA	,GAP+2	04470	16	C7241	-2997	
13130	B	WRITII			04482	49	C4622	C-CCC	
13140	CORG	0-1			04492				
13150	TFM	FMCN+11	,0--START		04492	16	C7465	-C641	
13160	CC	2	,7	,0-3	04500			2	
	-7								
13170	B	FMCN			04504	49	C7454	C-0CC	
13180	CORG	0-1			04514				
13190	TFM	FMCN+11	,0--START		04514	16	C7465	-C663	
13200	CC	2	,8	,0-3	04522			2	
	-8								
13210	B	FMCN			04526	49	C7454	C-0CC	
13220	CORG	0-1			04536				
13230	TFM	FMCN+11	,0--START		04536	16	C7465	-C689	
13240	CC	2	,7	,0-3	04544			2	
	-7								
13250	B	FMCN			04548	49	C7454	C-CCC	
13260	CORG	0-1			04558				
13270	TFM	FMCN+11	,0--START		04558	16	C7465	-C707	
13280	CC	2	,5	,0-3	04566			2	
	-5								
13290	B	FMCN			04570	49	C7454	C-CCC	
13300	CORG	0-1			04580				
13310	TFM	FMCN+11	,0--START		04580	16	C7465	-C729	
13320	CC	2	,5	,0-3	04588			2	
	-5								
13330	B	FMCN			04592	49	C7454	C-CCC	
13340	CORG	0-1			04602				
13350	TFM	FMCN+11	,0--START		04602	16	C7465	-C791	
13360	CC	2	,5	,0-3	04610			2	
	-5								
13370	B	FMCN			04614	49	C7454	CCCCC	
13380	CORG	0-4			04621				
13390	*****	1620 PCRYTRAA II-C I WA PCRYMAT - SUBROUTINES							
13400	*****	RETURN PCRYM SBL VIA SBC IF WRITING I TYPE							
13410	*****	VALUE PUT IN FAC IN I PCRY, EXPANDED TO ALPHA IN							
13420	*****	GAMMA RIGHT TO LEFT. MC CONTAINS ACH OF PIG CENR							
13430	*****	CIGIT IN CAP. AFTER VALLE IN CAP IS SIGNED, CHECKED							
13440	*****	FOR WIDTH, MOVE TO CUTPUL RECCE.							
13450	*****	ERRBI RESLLTS IF VALUE TCC LARGE FOR PCRYMAT SPECS.							
13460	WRITEI	TFM	WA2	,FAC+1	04622	16	C7392	-2493	
13470	TF	FAC		,LCC	04634	26	C2492	C6CR	
13480	BNF	WRIT2+12		,FAC-1	04644	44	C4714	C2A7	
13490	IFWRT	SM	LOC	,2	04650	12	C2492	-CCC2	
13500	TF	FAC-2		,LCC	04670	26	C2490	C6CR	
13510	TF	FIXEND+6		,ICCN3+6	04682	26	C3766	C5348	
13520	B	FIN			04694	49	C3894	CC000	
13530	CORG	0-4			04701				
13540	WRITEI	TFM	FIXEND+1	,2	04702	15	C3761	CCCC2	
13550	TR	GAM-19		,MASK 1-1	04714	31	C2936	C5990	
13560	TFM	HO		,GAP+1	04726	16	04017	-2996	
13570	WRITEI	SM	WA 2	,1	04738	12	C7392	-CCC1	
13580	SM	WA		,2	04790	12	C7241	-CCC2	
13590	TD	WA		,WA 2	04762	29	C724J	C799K	

13600	BD	I	CIG	,hA 2	,11	04774	43	C4754	C735H
13610	B	I	CIG+12			04780	49	C480C	CCCCC
13620	DDRG		+4			04793			
13630	ICIG	TF	HO	,hA		04794	26	C4817	C7241
13640	CF	GAP				04806	33	C2555	CCCCC
13650	MC	DS	5			C4817	5		
13660	BNF	WRTI		,hA	,11	C4810	44	C4738	C724J
13670	CM	HO		,GAP+1		04830	14	C4817	-2556
13680	BNE	WRT SGN				04842	47	C4874	C12CC
13690	TFM	LAST		,7CC0	,60	04854	16	C582-	CPCCC
13700	B	BSWF				04866	49	C5934	CCCCC
13710	DDRG		+4			04873			
13720	WRTSGN	BNF	WRT I3	,FAC		04874	44	C491C	C2492
13730	SM	HO		,2		04886	12	C4817	-CCC2
13740	TFM	HO		,2C	,61C	04898	16	C481P	CC0RC
13750	WRTI3	SM	HO		,1	C491C	12	C4817	-CC1
13760	TFM	OUT		,GAP		04922	16	C4981	-2555
13770	S	OUT		,MC		C4934	22	C4981	C4817
13780	C	OLT		,bICTH 2		C4946	24	C4981	C6064
13790	BM	ER FB I				04958	46	C5038	C11CC
13800	SF	OUT				0497C	32	C4981	CCCCC
13810	CLT	CS	5		, MI CRDR WNG ACR IN I/C RECCRC, I TYPE	C4501	5		
13820	A	OUT		,LAST		C4502	21	C4981	C5820
13830	SM	OUT		,2		04994	12	C4981	-CCC2
13840	TR	OUT		,MC	,611	C5CC6	31	C498J	C481P
13850	TFM	LAST		,CC	,610	C5C18	16	C582-	CCC-C
13860	B	BSWF				05C30	49	C5934	CCCCC
13870	DDRG		+4			C5C37			
13880	ERFBI	TR	DUC +11	,FLZERS-67		C5C38	31	C2618	C6444
13890	TR	DUC +11		,MC	,11	C5C5C	31	C2618	C481P
13900	TFM	EI+2		,678CC		05062	16	C2617	C78CC
13910	BNR	+20		,RNEFSH		05074	45	C5064	C6C61
13920	B7	ERCCP2				05086	49	C7386	
13930	TF	DATELD+2		,CATIAP+2		C5C94	26	C6167	C6175
13940	TFM	IORT		,+23		05106	16	C6565	-5129
13950	B	IOPT		,DATOLC-4	,7	05118	49	C6532	-6161
13960	B	ER CCP 2				C513C	49	C7386	CCCCC
13970	DDRG		+4			05137			
13980	IFIX	BP	+32		, YES	05138	46	C517C	C11CC
13990	TF	FAC		,FX2	, AC	0515C	26	C2492	C2815
14000	B	FIXEND				05162	49	C376C	CCCCC
14010	DDRG		+3			C517C			
14020	TD	MU-1		,FAC-2		05170	25	C371	C249C
14030	C	FAC		,K		C5182	24	C2492	-2221
14040	BNF	+56			, STCRE SIGN	05194	47	C525C	C11CC
14050	TDP	FXERR+25	,1		, IS CHAR GREATER THAN K	C5206	15	C37C1	CCCCC
14060	TFM	EI	,579	,5,	, SET ERR TYPE	05218	16	C2615	CGN75
14070	TF	FAC	,FX9		, SET ER E9, CVFL IN FIX	0523C	26	C2492	C28C5
14080	B	FXERR			, YES, FAC = FX9	C5242	49	C3676	CCCCC
14090	DDRG		+3			C525C			
14100	CF	FAC-2				05250	33	C249C	CCCCC
14110	TF	BETA		,ZERO-51	, CLEAR ACC AREA	05262	26	C26C3	C2716
14120	TF	1MSA		,FX2		05274	26	C2575	C2815
14130	TF	+3C		,1MSAPP	, ALIGN DECIMAL POINTS	C5286	26	C5316	C3268
14140	S	+18		,FAC		05298	22	C5316	C2492
14150	A	DUMMY		,FAC-2		0531C	21	99555	C249C

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14160	TF	FAC		,1MSA		C5322	26	C2492	C2575
14170	B	MU				05334	49	C3712	CCCCC
14180	DDRG		+4			C5341			
14190	ICFN3	B	WRT I2		,1	C5342	4R	C47C2	CCCCC
14200	DDRG		+4			05349			
14210	MASKI	CAC	11,CCCCCCCCC'			C5351		11 X 2	
14220	DDRG	C8CCC				C8CCC			
14230	38	A5		,CC7C2		08CC0	38	C8C32	C07C2
14240	36	A5		,CC703		08C12	36	C8C32	CG7C3
14250	B	+22				08C24	49	C8C46	CCCCC
14260	DDRG		+3			C8C32			
14270	A5	ESC	9		,C19472C16	08C32		5	
14280	CSA	FIX				C8C45		5 X 1	
14290	TRA					08C45		-3854	
14300	TCC	08CCC				08C46	36	CCCCC	CC5CC
						08C58	49	CCCCC	CCCCC
						08CCC			
14310	*****	1620 FCNTRAN II-C EF-HTYPE	FCNTRAN						
14320	*****	1620 FCNTRAN II-C EF-HTYPE	FCNTRAN						
14330	DDRG	START				03851			
14340	CS	3				03853		3	
14350	TFM	FMCN+11		,--START		03854	16	C7465	-CCC3
14360	CC	2		,7	,--3	C3862		2	
	-7								
14370	B	FMCN				03866	49	C7454	CC0CC
14380	TFM	FMCN+11		,--START		03878	16	C7465	-CC27
14390	CC	2		,1	,--3	03886		2	
	-1								
14400	B	FMCN				0389C	49	C7454	CCCCC
14410	TFM	FMCN+11		,--START		03902	16	C7465	-CC51
14420	CC	2		,1	,--3	0391C		2	
	-1								
14430	B	FMCN				03914	49	C7454	CCCCC
14440	TFM	FMCN+11		,--START		03926	16	C7465	-CC75
14450	CC	2		,1	,--3	03934		2	
	-1								
14460	B	FMCN				03938	49	C7454	CC0CC
14470	TFM	FMCN+11		,--START		03950	16	C7465	-CC59
14480	CC	2		,1	,--3	03958		2	
	-1								
14490	B	FMCN				03962	49	C7454	CCCCC
14500	TFM	FMCN+11		,--START		03974	16	C7465	-C123
14510	CC	2		,1	,--3	03982		2	
	-1								
14520	B	FMCN				03986	49	C7454	CC0CC
14530	TFM	FMCN+11		,--START		03998	16	C7465	-C147
14540	CC	2		,1	,--3	04006		2	
	-1								
14550	B	FMCN				04010	49	C7454	CC0CC
14560	DDRG	+1				04020			
14570	TFM	FMCN+11		,--START		04030	16	C7465	-C169
14580	CC	2		,1	,--3	04038		2	
	-1								

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14590	B	FMCN	.	.0	C4C32	49	C7454	C-CCC
14600	CORG	0-1			C4C42			
14610	TFM	FMCN+11	,0-START		C4C42	16	C7465	-C191
14620	CC	2	,3	,0-3	C4C9C	2		
	-3							
14630	B	FMCN	.	.0	C4C54	49	C7454	CCCCC
14640	TFM	FMCN+11	,0-START		C4C66	16	C7465	-C218
14650	CC	2	,1	,0-3	C4C74	2		
	-1							
14660	B	FMCN	.	.0	C4C78	49	C7454	CCCCC
14670	TFM	FMCN+11	,0-START		C4C9C	16	C7465	-C239
14680	CC	2	,1	,0-3	C4C98	2		
	-1							
14690	B	FMCN	.	.0	C41C2	49	C7454	CCCCC
14700	TFM	FMCN+11	,0-START		C4114	16	C7465	-C268
14710	CC	2	,1	,0-3	C4122	2		
	-1							
14720	B	FMCN	.	.0	C4126	49	C7454	CCCCC
14730	TFM	FMCN+11	,0-START		C4138	16	C7465	-C287
14740	CC	2	,1	,0-3	C4146	2		
	-1							
14750	B	FMCN	.	.0	C415C	45	C7454	CCCCC
14760	TFM	FMCN+11	,0-START		C4162	16	C7465	-C311
14770	CC	2	,1	,0-3	C417C	2		
	-1							
14780	B	FMCN	.	.0	C4174	49	C7454	CCCCC
14790	TFM	FMCN+11	,0-START		C4186	16	C7465	-C338
14800	CC	2	,1	,0-3	C4154	2		
	-1							
14810	B	FMCN	.	.0	C4158	49	C7454	CCCCC
14820	TFM	FMCN+11	,0-START		C421C	16	C7465	-C359
14830	CC	2	,1	,0-3	C4218	2		
	-1							
14840	B	FMCN	.	.0	C4222	49	C7454	CCCCC
14850	TFM	FMCN+11	,0-START		C4234	16	C7465	-C383
14860	CC	2	,1	,0-3	C4242	2		
	-1							
14870	B	FMCN	.	.0	C4246	49	C7454	CCCCC
14880	TFM	FMCN+11	,0-START		C4258	16	C7465	-C4C7
14890	CC	2	,1	,0-3	C4266	2		
	-1							
14900	B	FMCN	.	.0	C427C	49	C7454	CCCCC
14910	****		WRITE ALPHAMERIC					
14920	TF	SWF	,WATY-1		C4282	26	C5965	C4281
14930	B	WATY1			C4294	49	C5938	CCCCC
14940	TF	SWF	,WAPT-1		C43C6	26	C5965	C43C5
14950	B	WAPT1			C4318	49	C5938	CCCCC
14960	TF	SWF	,WACO-1		C433C	26	C5965	C4325
14970	B	WACO1			C4342	49	C591C	CCCCC
14980	TF	SWF	,PRA-1		C4354	26	C5965	C4353
14990	B	PRA1			C4366	49	C5938	CCCCC
15000	****		REAC ALPHAMERIC					
15010	TF	SWF	,RATY-1		C4378	26	C5965	C4377
15020	B	RATY1			C439C	49	C593C	CCCCC
15030	TF	SWF	,RAPT-1		C44C2	26	C5965	C44C1
15040	B	RAPT1			C4414	49	C593C	CCCCC

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15050	EF25h	CS	5	.0	C4425	5		
15060	TF	SWF	,RACC-1		C4426	26	C5965	C4425
15070	B	RACC1	.	.0	C4438	49	C6C1C	C-CCC
15080	CORG	0-1			C4448			
15090	TFM	FMCN+11	,0-START		C4448	16	C7465	-C557
15100	CC	2	,3	,0-3	C4456	2		
	-3							
15110	B	FMCN	.	.0	C446C	49	C7454	C-CCC
15120	CORG	0-1			C447C			
15130	TFM	FMCN+11	,0-START		C447C	16	C7465	-C619
15140	CC	2	,4	,0-3	C4478	2		
	-4							
15150	B	FMCN	.	.0	C4482	49	C7454	C-CCC
15160	CORG	0-1			C4492			
15170	TFM	FMCN+11	,0-START		C4492	16	C7465	-C641
15180	CC	2	,7	,0-3	C45C0	2		
	-7							
15190	B	FMCN	.	.0	C45C4	49	C7454	C-CCC
15200	CORG	0-1			C4514			
15210	TFM	FMCN+11	,0-START		C4514	16	C7465	-C663
15220	CC	2	,8	,0-3	C4522	2		
	-8							
15230	B	FMCN	.	.0	C4526	49	C7454	C-CCC
15240	CORG	0-1			C4534			
15250	TFM	FMCN+11	,0-START		C4534	16	C7465	-C685
15260	CC	2	,7	,0-3	C4544	2		
	-7							
15270	B	FMCN	.	.0	C4548	49	C7454	C-CCC
15280	CORG	0-1			C4558			
15290	****		PACRC FCR F TYPE READ AND WRITE					
15300	FIVPE	CF	RNEFSW	.	C4558	33	C6C61	CCCCC
15310	B	EF CCM	.	.0	C457C	49	C4624	C-CCC
15320	CORG	0-1			C458C			
15330	****		PACRC FCR E TYPE READ AND WRITE					
15340	EIVPE	SF	RNEFSW	.	C458C	32	C6C61	CCCCC
15350	B	EFCCM	.	.0	C4592	49	C4624	C-CCC
15360	CORG	0-1			C46C2			
15370	HIVPE	AM	SWF	,3	C46C2	11	C5965	-CCC3
15380	B	HIVPE1	.	.0	C4614	49	C5248	C-CCC
15390	CORG	0-1			C4624			
15400	*****		1620 PCNTRON II-C EF-HIVPE FCRMAT - SUBROUTINES					
15410	EFCCP	AM	SWF	,3	C4624	11	C5965	-CCC3
15420	TF	WIDTH	,SWF	,11	C4634	26	C5795	C5968
15430	AM	SWF	,2		C4648	11	C5965	-CCC2
15440	TF	LQC C	,SWF	,11	C466C	26	C58C8	C5968
15450	TF	INPLLS	,LAST		C4672	26	C6C53	C582C
15460	TF	WIDTH 2	,WIDTM		C4684	26	C6C64	C5799
15470	A	WIDTH 2	,WIDTM		C4696	21	C6C64	C5799
15480	A	LAST	,WIDTM2		C47C8	21	C582C	C6C64
15490	C	LAST	,MAX 2		C4720	24	C582C	C6149
15500	BH	ER F9			C4732	46	C731C	C11CC
15510	TF	TERM	,LAST		C4744	26	C7C93	C582C
15520	SH	TERM	,2		C4756	12	C7C93	-CCC2
15530	TF	CHAR	,WIDTM		C4768	26	C61CC	C5795
15540	TF	WA	,FNM		C478C	26	C7241	C3313
15550	TDM	97	,C		C4792	15	C6C97	CCCCC

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1556C	TFM	99	,CC	,1C	C4804	16	CCC99	CC0-C
15570	BD	EF WRT	,RWFFSW		C4816	43	C5C84	C6C61
1558C	TF	FAC	,FLZALP	,11	C4828	26	C2492	C334C
1559C	TFM	SWCACJ	,READ EF		C484C	16	C6152	-4492
1560C	REFCR	BNR	RDFC-1	,INPLLS	C4852	45	04884	C605L
15610	TFM	EF2SW	,ERRFTE		C4864	16	C4425	-539E
1562C	B7	BEF2SW			C4876	45	C544C	
15630	REFCR-1	CM	INPLLS	,CC	C4884	14	C6C5L	CCC-C
1564C	BNE	FCH AB			C4896	47	C497E	C12CC
15650	SM	CHAR	,1	,1C	C4908	12	C61CC	CCC-1
1566C	AM	INPLLS	,2		C492C	11	C6C53	-CCC2
1567C	C	INPLLS	,LAST		C4932	24	C6C53	C582C
1568C	BL	RD FCM			C4944	47	C4852	C13CC
15690	TFM	EF2SW	,EFENC+12		C4956	16	C4425	-5284
1570C	B	BEF2SW			C4968	45	C544C	CCCCC
1571C	DDRC	*-4			C4975			
15720	FCRNB	CM	INPLLS	,2C	C4976	14	C6C5L	CCCKC
1573C	BNE	*+32			C4988	47	C5C2C	C12CC
1574C	TFM	EF2SW	,EF MIN		C500C	16	C4425	-465E
1575C	B	BEF2SW			C5C12	49	C544C	CCCCC
1576C	DDRC	*-4			C5C19			
1577C	CM	INPLLS	,1C	,61C	C5C2C	14	C6C5L	CCCJC
1578C	BNE	*+32			C5C32	47	C5C64	C12CC
1579C	TFM	EF2SW	,EF PLLS		C5C44	16	C4425	-46E8
1580C	B	BEF2SW			C5C56	45	C544C	CCCCC
1581C	DDRC	*-4			C5C63			
1582C	TFM	EF2SW	,EFTYPE+36		C5C64	16	C4425	-4716
1583C	B	BEF2SW			C5C76	45	C544C	CCCCC
1584C	DDRC	*-4			C5C83			
1585C	EFWRT	C	LOC C	,F	C5C84	24	C568C	C2219
1586C	BNT	*+24			C5C96	47	C512C	C11CC
1587C	TF	LOC C	,F		C5108	26	C568C	C2219
1588C	TF	LOC2 2	,LCC C		C512C	26	C5678	C568C
1589C	A	LOC2 2	,LCC C		C5132	21	C5678	C568C
1590C	TR	GAP-99	,MASK F-1		C5144	31	C249E	C5472
1591C	TFM	WA	,GAP		C5156	16	C7241	-2555
1592C	TFM	WA2	,FAC-1		C5168	16	C7392	-2491
1593C	TFM	SWCACJ	,EFPM		C518C	16	C6152	-4514
1594C	SM	WICTH	,2	,1C	C5192	12	C5795	CCC-2
1595C	BNT	SWL	,RWFFSW		C5204	44	C6C42	C60E1
1596C	SM	TERM	,8		C5216	12	C7C93	-CCC8
1597C	SM	WICTH	,4	,1C	C5228	12	C5795	CCC-
1598C	B	SWL			C524C	49	C6C42	CCCCC
1599C	DDRC	*-4			C5247			
1600C	****		MACRC FOR HELLERITH TYPE READ AND WRITE					
1601C	HTYPE1	TF	WIDTH-2	,SWF	C5248	26	C6C64	C598R
1602C	TF	INPLLS	,LAST		C526C	26	C6C53	C582C
1603C	A	LAST	,WIDTH-2		C5272	21	C582C	C60E4
1604C	C	LAST	,MAX2		C5284	24	C582C	C6145
1605C	BNT	*+32			C5296	47	C532E	C11CC
1606C	A	SWF	,WIDTH-2		C5308	21	C5965	C6C84
1607C	B	ER COM 2			C532C	49	C738E	CCCCC
1608C	DDRC	*-4			C5327			
1609C	RD	HVRT	,RWFFSW		C5328	43	C536C	C6C61
1610C	TFM	EF2SW	,FRC		C534C	16	C4425	-542E
1611C	B	BEF2SW			C5352	49	C544C	CCCCC

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1612C	DDRC	*-4			C5359			
1613C	HVRT	SM	WIDTH-2	,2	C536C	12	C6C64	CCC-2
1614C	TDM	COMP SW	,C	,1C	C5372	16	C575C	CCCCC
1615C	BL	RSWF	,		C5384	47	C5934	C13CC
1616C	AM	SWF	,2		C5396	11	C5965	-CCC2
1617C	TF	INPLLS	,SWF	,611	C5408	26	C6C5L	C594R
1618C	AM	INPLLS	,2		C542C	11	C6C53	-CCC2
1619C	B	H WRT			C5432	45	C536C	CCCCC
1620C	DDRC	*-4			C5439			
1621C	BEF2SW	TFM	MBASE+5	,FTYPE	C544C	16	C7662	-455E
1622C	TFM	FMCN+11	,HTYPE+22-START		C5452	16	C7465	-C773
1623C	CC	2	,6	,*-3	C546C			
1624C	B	FMCN			C5464	45	C7454	CCCCC
1625C	DDRC	*-4			C5471			
1626C	MASKF	CAC	31,CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		C5473		31 X	2
1627C	DDRC	08CCC			C8CCC			
1628C	J8	A6	,CC702		C8CCC	38	C8C32	CC7C2
1629C	36	A6	,CC703		C8C12	36	C8C32	CC7C3
1630C	B	*+22			C8C24	49	C8C46	CCCCC
1631C	DDRC	*-3			C8C32			
1632C	ASC	9	,C19488C17		C8C32			
1633C	CSA	FIX			C8C45		5 X	1
1634C	TRA				C8C45		-3854	
1635C	TCC	08CCC			C8C46	36	CCCCC	CC5CC
1636C	*****	162C	FORTRAN II-C EF-HTYPE 2	FCRPA1	C8C58	49	CCCCC	CCCCC
1637C	*****	162C	FORTRAN II-C EF-HTYPE 2	FCRPA1 - SUBROUTINES				
1638C	DDRC	FTYPE			C4558			
1639C	TFM	FMCN+11	,*-START		C4558	16	C7465	-C7C7
1640C	CC	2	,5	,*-3	C4566			
1641C	B	FMCN	,	,8	C4570	49	C7454	C-0CC
1642C	DDRC	*-1			C458C			
1643C	TFM	FMCN+11	,*-START		C458C	16	C7465	-C729
1644C	CC	2	,5	,*-3	C4588			
1645C	B	FMCN	,	,8	C4592	49	C7454	C-0CC
1646C	DDRC	*-1			C46C2			
1647C	TFM	FMCN+11	,*-START		C46C2	16	C7465	-C751
1648C	CC	2	,5	,*-3	C4610			
1649C	B	FMCN	,	,8	C4614	49	C7454	CCCCC
1650C	DDRC	*-1			C4624			
1651C	TFM	MBASE+5	,FIX		C4624	16	C7662	-3854
1652C	TFM	EFTERM+18,EF TYPE			C4636	16	C5266	-468C
1653C	B	EF2SW	,	,6	C4648	49	C442A	CCCCC
1654C	DDRC	*-4			C4655			
1655C	EFMIN	SF	99		C4656	32	CCCCC	CCCCC
1656C	EFPLLS	SM	CHAR	,1	C4668	12	C61CC	CCC-1
1657C	EFTYPE	AM	INPLLS	,2	C468C	11	C6C93	-CCC2

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16580	CM	INPLLS	.CC	.610	04692	14	C6C9L	CCC-C	
16590	BE	LDC DIG			C4704	46	C5C00	C12CC	
16600	CM	INPLLS	.7C	.610	C4716	14	C6C9L	CCPC	
16610	BM	EF DIG			04720	46	C5100	C11CC	
16620	BE	LDC DIG			04740	46	C5C00	C12CC	
16630	CM	INPLLS	.03	.610	C4752	14	C6C9L	CCC-3	
16640	BE	EF DEC			C4764	46	C512C	C12CC	
16650	BNF	ERRF7 E	.RNEFSH		04776	44	C5356	C6061	
16660	TFM	EXP	.CCC	.9	C4780	16	C40C5	CC-CC	
16670	TDM	E EXPAD+1	.1		04800	15	C5C65	CCCC1	
16680	EXP	CS	3	.0-2	C4809		3		
16690	CM	INPLLS	.45	.610	C4812	14	C6C9L	CCDP5	
16700	BE	E EXP			04824	46	C5CCC	C12CC	
16710	CM	INPLLS	.4C	.610	C4836	14	C6C9L	CCPC	
16720	BNL	ERRF7E			C4848	46	C5356	C13CC	
16730	EEXP2	CM	INPLLS	.2C	.610	04860	14	C6C9L	CCDCC
16740	BE	E EXP P			04872	46	C4900	C12CC	
16750	CM	INPLLS	.1C	.610	C4884	14	C6C9L	CCCJC	
16760	BE	E EXP			C4896	46	C5CCC	C12CC	
16770	EEXP22	BD	.+24	.97	04908	43	C4932	CC057	
16780	SM	CHAR	.1	.9	C4920	12	C6100	CC-C1	
16790	C	INPLLS	.TERM		C4932	24	C6C93	C7C93	
16800	BNL	EEXPAD-12			C4944	46	C5C56	C13CC	
16810	TD	EXP-1	.INPLLS	.11	04956	25	C4800	C605L	
16820	AM	INPLLS	.2		04968	11	C6C93	-CCC2	
16830	B	EEXP22+12			04980	49	C4920	CCCCC	
16840	DORG	.-4			C4987				
16850	EEXPM	TDM	E EXPAD+1	.2	04988	15	C5C65	CCCC2	
16860	EEXP	AM	INPLLS	.2	05000	11	C6C93	-CCC2	
16870	SM	CHAR	.1	.1C	C5012	12	C6100	CCC-1	
16880	C	INPLLS	.TERM		C5024	24	C6C93	C7C93	
16890	BNL	EEXP2			C5036	47	C4860	C11CC	
16900	B7	ERRF7E			C5048	49	C5356		
16910	TD	EXP	.INPLLS	.11	C5056	25	C4805	C6C9L	
16920	EEXPAC	A	CHAR	.EXP	C5068	21	C6100	C40C5	
16930	B	EF END			05080	49	C5272	CCCCC	
16940	DORG	.-4			05087				
16950	LCCDIE	BNF	EF DIG	.98	C5088	44	C5100	CCC50	
16960	SM	CHAR	.1	.1C	C5100	12	C6100	CCC-1	
16970	B	EF TERM			05112	49	C5248	CCCCC	
16980	DORG	.-4			C5119				
16990	EFDEC	BD	ERRF7 E	.97	C5120	43	C5356	CCC97	
17000	TFM	LDC C	.CC	.1C	C5132	16	C5600	CCC-C	
17010	TFM	EFTERM+10	.EF PLLS		C5144	16	C5266	-4660	
17020	TDM	97	.-1		C5156	15	CC057	CCCCJ	
17030	SM	CHAR	.1	.1C	C5168	12	C6100	CCC-1	
17040	B	EF TERM			C5180	49	C5248	CCCCC	
17050	DORG	.-4			C5187				
17060	EFDC	CF	98		C5188	33	CC050	CCCCC	
17070	CM	WA	.FAC-1		C5200	14	C7241	-2451	
17080	BNL	.+36		., TRUNCATES LOW ORDER DIGITS	C5212	46	C5248	C13CC	
17090	TD	WA	.INPLLS	.611	C5224	25	C724J	C6C9L	
17100	AM	WA	.1		C5236	11	C7241	-CCC1	
17110	EFTERM	C	INPLLS	.TERM	C5248	24	C6C93	C7C93	
17120	BL	EFTYPE			C5260	47	C4600	C13CC	
17130	EFENC	BNF	EFENC2	.FAM	.11, ZERO CHECK	C5272	44	C5304	C331L

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17140	TFM	FAC	.55	.1011	05284	16	C2452	CC0RR	
17150	B	SWL			05296	49	C6C42	CCCCC	
17160	DORG	.-3			C5304				
17170	EFFND2	S	CHAR	.LCC D	C5304	22	C6100	C5000	
17180	BD	ERR F7E	.CHAR-2		C5316	43	C5356	C6C90	
17190	SF	CHAR-1			C5328	32	C6C95	CCCCC	
17200	TF	FAC	.CHAR		C5340	26	C2452	C6100	
17210	SF	FAC		.6	C5352	32	C331L	CCCCC	
17220	BNF	SWL	.55		C5364	44	C6C42	CCCCC	
17230	SF	FAC-2			05376	32	C2450	CCCCC	
17240	B	SWL			C5388	49	C6C42	CCCCC	
17250	DORG	.-4			C5395				
17260	ERRF7E	TF	FAC	.FLZALP	.11, F PLUS 2 ZERCS TO FAC	05396	26	C2452	C334C
17270	TDM	E1	.7	.11, SET ER F7 INDICATION SWITCH	05408	15	C2615	CCCCC	
17280	B	EFEND			C5420	49	C5272	CCCCC	
17290	DORG	.-4			C5427				
17300	FRC	SM	WIDTH 2	.2	.1C, READ + FRCB IC REC TO FORPAT RECCRC	C5428	12	C6C64	CCC-2
17310	BL	SWF			C5440	47	C5934	C13CC	
17320	AM	SWF	.2		C5452	11	C5965	-CCC2	
17330	TF	SWF	.INPLLS	.611	C5464	26	C5960	C6C9L	
17340	AM	INPLLS	.2		C5476	11	C6C93	-CCC2	
17350	B	HRC			C5488	49	C5428	CCCCC	
17360	DORG	.-4			C5495				
17370	DORG	OBCCC			C8000				
17380	38	A7	.CC7C2		08000	38	C8C32	C07C2	
17390	36	A7	.CC703		08012	36	C8C32	C07C3	
17400	B	.+22			08024	49	C8C46	CCCCC	
17410	DORG	.-3			C8C32				
17420	A7	CSC	9	.C195C9C10	C8C32		5		
17430	CSA	FTYPE			08C45		5	1	
17440	TRA				C8C45		-4558		
17450	TCC	OBCCC			08C46	36	CCCCC	CC5CC	
					08C58	49	CCCCC	CCCCC	
					08CCC				
17460	*****	1620 FORTRAN II-C RAEF-ATYPE FORPAT			03051				
17470	*****	1620 FORTRAN II-C RAEF-ATYPE FORPAT - SECONDARY LINKAGE			C3053		3		
17480	DORG	START			03054	14	C2452	CCC-C	
17490	CS	3			03066	49	C4734	CCCCC	
17500	CM	FAC	.0C	.10, IS CHAR POSITIVE	C3078	16	C7465	-CC27	
17510	B	EFFIX			03086		2		
17520	TFM	FMCN+11	.-START		03090	49	C7454	CCCCC	
17530	CC	2	.1	.-3	C39C2	16	C7465	-CC51	
	-1				03910		2		
17540	B	FMCN			03914	49	C7454	CCCCC	
17550	TFM	FMCN+11	.-START		03926	16	C7465	-CC75	
17560	CC	2	.1	.-3	03934		2		
	-1								
17570	B	FMCN			03938	49	C7454	CCCCC	
17580	TFM	FMCN+11	.-START		03950	16	C7465	-CC99	
17590	CC	2	.1	.-3					
	-1								
17600	B	FMCN							
17610	TFM	FMCN+11	.-START						

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17620	DC	2	.1	.0-3	03550	2	
	-1						
17630	B	FMCN			C3942	49	C7454 C00CC
17640	TFM	FMCN+11	.0-START		C3574	16	C7465 -C123
17650	DC	2	.1	.0-3	C3582	2	
	-1						
17660	B	FMCN			C3986	49	C7454 C00CC
17670	TFM	FMCN+11	.0-START		C3958	16	C7465 -C147
17680	DC	2	.1	.0-3	04CC6	2	
	-1						
17690	B	FMCN			04C10	49	C7454 C00CC
17700	DORG	-1			04C20		
17710	TFM	FMCN+11	.0-START		04C20	16	C7465 -C165
17720	DC	2	.1	.0-3	04C28	2	
	-1						
17730	B	FMCN	.	.0	04C32	49	C7454 C-CCC
17740	DORG	-1			C4C42		
17750	TFM	FMCN+11	.0-START		C4C42	16	C7465 -C151
17760	DC	2	.3	.0-3	04C50	2	
	-3						
17770	B	FMCN			04C54	49	C7454 C00CC
17780	TFM	FMCN+11	.0-START		C4C66	16	C7465 -C215
17790	DC	2	.1	.0-3	04C74	2	
	-1						
17800	B	FMCN			C4C78	49	C7454 C00CC
17810	TFM	FMCN+11	.0-START		C4C90	16	C7465 -C235
17820	DC	2	.1	.0-3	04C98	2	
	-1						
17830	B	FMCN			C4102	49	C7454 C00CC
17840	TFM	FMCN+11	.0-START		C4114	16	C7465 -C263
17850	DC	2	.1	.0-3	04122	2	
	-1						
17860	B	FMCN			C4126	49	C7454 C00CC
17870	TFM	FMCN+11	.0-START		C4138	16	C7465 -C287
17880	DC	2	.1	.0-3	04146	2	
	-1						
17890	B	FMCN			C4150	49	C7454 C00CC
17900	TFM	FMCN+11	.0-START		C4162	16	C7465 -C311
17910	DC	2	.1	.0-3	04170	2	
	-1						
17920	B	FMCN			C4174	49	C7454 C00CC
17930	TFM	FMCN+11	.0-START		C4186	16	C7465 -C335
17940	DC	2	.1	.0-3	04194	2	
	-1						
17950	B	FMCN			C4158	49	C7454 C00CC
17960	TFM	FMCN+11	.0-START		C4210	16	C7465 -C355
17970	DC	2	.1	.0-3	04218	2	
	-1						
17980	B	FMCN			C4222	49	C7454 C00CC
17990	TFM	FMCN+11	.0-START		C4234	16	C7465 -C383
18000	DC	2	.1	.0-3	04242	2	
	-1						
18010	B	FMCN			C4246	49	C7454 C00CC
18020	TFM	FMCN+11	.0-START		C4258	16	C7465 -C407
18030	DC	2	.1	.0-3	04266	2	
	-1						

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18040	B	FMCN			04270	49	C7454 C00CC
18050	****		WRITE ALPHAMERIC				
18060	TF	SWF	,WATY-1		C4282	26	C5565 C4281
18070	B	WATY1			C4254	49	C5538 C00CC
18080	TF	SWF	,WAPT-1		04306	26	C5565 C4305
18090	B	WAPT1			04318	45	C5558 C00CC
18100	TF	SWF	,WACD-1		04330	26	C5565 C4329
18110	B	WACC1			04342	49	C5610 C00CC
18120	TF	SWF	,PRA-1		04354	26	C5565 C4353
18130	B	PRA1			04366	45	C5578 C00CC
18140	****		READ ALPHAMERIC				
18150	TF	SWF	,RATY-1		04378	26	C5565 C4377
18160	B	RATY1			04390	49	C5570 C00CC
18170	TF	SWF	,RAPT-1		04402	26	C5565 C4401
18180	B	RAPT1			04414	49	C5560 C00CC
18190	TF	SWF	,RACD-1		04426	26	C5565 C4425
18200	B	RACD1	.	.0	04438	49	C6010 C-0CC
18210	DORG	-1			C4448		
18220	TFM	FMCN+11	.0-START		04448	16	C7465 -C557
18230	DC	2	.3	.0-3	C4456	2	
	-3						
18240	B	FMCN	.	.0	C4460	49	C7454 C-CCC
18250	DORG	-1			04470		
18260	TFM	FMCN+11	.0-START		04470	16	C7465 -C615
18270	DC	2	.4	.0-3	04478	2	
	-4						
18280	B	FMCN	.	.0	04482	49	C7454 C-CCC
18290	DORG	-1			C4492		
18300	READEF	BNF	EF RD2+12,LCC		C4492	44	C4666 C6C85
18310	B	EF RD1	.	.0	04504	49	C4622 C-CCC
18320	DORG	-1			04514		
18330	TFM	FMCN+11	.0-START		04514	16	C7465 -C663
18340	DC	2	.0	.0-3	04522	2	
	-8						
18350	B	FMCN	.	.0	04526	49	C7454 C-CCC
18360	DORG	-1			04536		
18370	ATYPE	AM	SWF	.3	04536	11	C5565 -CCC3
18380	B	ATYPE1	.	.0	04540	49	C4946 C-CCC
18390	DORG	-1			04550		
18400	TFM	FMCN+11	.0-START		04550	16	C7465 -C707
18410	DC	2	.5	.0-3	04566	2	
	-5						
18420	B	FMCN	.	.0	04570	49	C7454 C-CCC
18430	DORG	-1			04580		
18440	TFM	FMCN+11	.0-START		04580	16	C7465 -C729
18450	DC	2	.5	.0-3	04588	2	
	-5						
18460	B	FMCN	.	.0	04592	49	C7454 C-0CC
18470	DORG	-1			04602		
18480	TFM	FMCN+11	.0-START		04602	16	C7465 -C751
18490	DC	2	.5	.0-3	04610	2	
	-5						
18500	B	FMCN			04614	49	C7454 C00CC
18510	DORG	-4			04621		
18520	*****		1620 FORTRAN II-C RAEF-ATYPE PCRPAT - SUBROUTINES				
18530	EPRD1	CF	LOC		04622	33	C6C85 C00CC

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1854C	TF	FIXEND+6	,1	CCN 5+6	04634	26	C3766	C4944
1855C	B	FIX			C4646	49	C3854	CCCCC
1856C	CORG	*-4			C4653			
18570	EFPRD2	TDM	FIXEND+1	,2	C4654	15	C3761	CCCC2
1858C	TF	LOC	,FAC	,6	C4666	26	C6C8R	C2452
1859C	SM	LOC	,2		C4670	12	C6C85	-C0C2
186CC	TF	LOC	,FAC-2	,6	C4690	26	C6C8R	C245C
18610	ERF75	BNF	BSWF-12	,E1	047C2	44	C5922	C2615
18620	CF	EI			C4714	33	C2615	CCCCC
1863C	B	ERCCP2			C4726	45	C7386	CCCCC
1864C	CORG	*-4			04733			
18650	EFFIX	BP	+32	,	04734	46	C4766	C11CC
18660	TF	FAC	,FXZ	,,	C4746	26	C2452	C2815
1867C	B	FIXEND			04750	45	C376C	CCCCC
1868C	CORG	*-3			04766			
18690	TD	MU-1	,FAC-2	,,	C4766	25	C3711	C245C
187C0	C	FAC	,K	,,	C4770	24	C2452	C2221
1871C	BNF	+56			0479C	47	C484E	C11CC
18720	TDM	FXERR+25	,1	,,	048C2	15	C37C1	CCCC1
18730	TFM	EI	,579	,9,	04814	16	C2615	CCN79
18740	TF	FAC	,FX9	,,	C4826	26	C2452	C28C5
18750	B	FXERR			C4830	49	C367E	CCCCC
18760	DORG	*-3			C4846			
18770	CF	FAC-2			04846	33	C245C	CCCCC
1878C	TF	BETA	,ZERO-51	,,	C4850	26	C26C3	C2716
1879C	TF	IPSA	,FXZ		04870	26	C2575	C2815
188C0	TF	+3C	,IPSAF	,,	04882	26	C4512	C3258
18810	S	+18	,FAC		04854	22	C4512	C2452
1882C	A	DUPPY	,FAC-2		C45C6	21	55555	C249C
1883C	TF	FAC	,IPSA		04910	26	C2452	C2575
18840	B	MU			04530	49	C3712	CCCCC
18850	CORG	*-4			C4537			
1886C	ICCN5	B	EFPRD 2	,	C4530	4R	C4654	CCCCC
1887C	CORG	*-4			04945			
18880	*****		MACRC PCR A TYPE READ AND WRITE					
18890	ATYPE1	TF	WIDTH 2	,SWF	04946	26	C6C64	C596R
189C0	TF	INPLLS	,LAST	,11	C4958	26	C6C53	C582C
1891C	A	LAST	,WIDTH 2		04970	21	C582C	C6064
18920	C	LAST	,MAX 2		04982	24	C582C	C6145
1893C	BNF	ER F5			04954	46	C731C	C11CC
1894C	TF	TERM	,LAST		C5C66	26	C7C93	C582C
1895C	SM	TERM	,2		05C18	12	C7C93	-C0C2
18960	TFM	SWC ADJ	,WRITE A		05C30	16	C6152	-529C
18970	BD	SWL	,RW EF SW		05C42	43	C6C42	C6C61
1898C	TFM	SWC ADJ	,READ A		05C54	16	C6152	-5074
1899C	B	SWL			05C66	49	C6C42	CCCCC
190C0	CORG	*-4			C5C73			
19010	READA	CF	INPLLS	,	05C74	33	C6C5L	CCCCC
19020	AM	INPLLS	,1	,1C	C5C86	11	C6C53	CCC-1
1903C	C	INPLLS	,TERM		05C98	24	C6C53	C7C93
19040	BL	READ A			0511C	47	C5C74	C13CC
19050	BNF	RDAFL	,LCC		C5122	44	C5234	C6C85
19060	CF	LOC	,FXZ	,6	C5134	33	C6C85	CCCCC
1907C	TF	LOC	,FXZ	,6	C5146	26	C6C8R	C2815
1908C	S	WIDTH 2	,K		C5150	22	C6C64	C2221
1909C	RCA	BM	ERF7A		C517C	46	C5214	C11CC

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191C0	A	LOC	,WIDTH 2		C5182	21	C6C85	C6C64
1911C	TF	LOC	,TERM	,611	C5154	26	C6C8R	C7C9L
1912C	B	ERF75			C52C6	49	C47C2	CCCCC
1913C	CORG	*-4			C5113			
1914C	ERF7A	TDM	EI	,7	05214	15	C2615	CCCP
19150	B	ERF75		,11,	C5226	49	C47C2	CCCCC
19160	CORG	*-4			C5233			
1917C	RCAFL	TFM	LOC	,CC	C5234	16	C6C8R	CCO-C
1918C	SM	LOC	,2	,1C	C5246	12	C6C85	CCO-2
1919C	TF	LOC	,FLZ	,611	C5258	26	C6C8R	C335L
192C0	S	WIDTH 2	,F		C527C	22	C6C64	C2215
1921C	B	RD A			C5282	49	C517C	CCGCC
19220	CORG	*-4			C5289			
19230	WRITEA	TF	FAC	,LCC	C529C	26	C2452	C6C8R
1924C	BNF	WA FX	,FAC-1		C53C2	44	C54C2	C2491
1925C	SM	LOC	,2		C5314	12	C6C85	-CC2
19260	S	WIDTH 2	,F		05326	22	C6C64	C2219
1927C	WRTA	BM	WRTA 2		C5330	46	C5382	C11CC
1928C	A	LOC	,WIDTH 2		C535C	21	C6C85	C6C64
1929C	TF	TERM	,LCC	,611	C5362	26	C7C5L	C6C8R
193C0	B	BSWF			05374	49	C5534	CCCCC
1931C	CORG	*-4			C5381			
19320	WRTA2	SM	WIDTH 2	,C2	05382	12	C6C64	CCO-2
1933C	B	WRTA			05394	49	C5338	CCCCC
19340	CORG	*-4			C54C1			
19350	WAFX	S	WIDTH 2	,K	054C2	22	C6C64	C2221
1936C	B	WRT A			C5414	49	C5338	CCCCC
1937C	CORG	*-4			05421			
19380	CORG	08CCC			08CCC			
19390	38	AB	,CC702		08CCC	38	C8C32	C67C2
194C0	36	AB	,CC703		08C12	36	C8C32	C67C3
1941C	B	+22			08C24	49	C8C4E	CCCCC
19420	DORG	*-3			C8C32			
19430	AB	DSC	9	,C19519C16	C8C32			
1944C		C15515C16						
1944C	ESA	FIX			08C45		S X	1
19450	TRA				C8C45		-3854	
19460	TCC	08CCC			C8C46	36	CCCCC	CC5CC
19470	*****		162C FCRTAN II-C EFPN FCRTAN		08C58	49	CCCCC	CC5CC
19480	*****		1620 FCRTAN II-D EFPN FCRTAN - SECONDARY LINKAGE		08CCC			
19490	DORG	START			03851			
195C0	ES	3			03853		3	
19510	TFM	FMCN+11	,0-START		03854	16	C7465	-0003
19520	CC	2	,7	,0-3	03862		2	
19530	B	FMCN			03866	49	C7454	CCGCC
1954C	TFM	FMCN+11	,0-START		03870	16	C7465	-0027
19550	CC	2	,1	,0-3	03886		2	
19560	E	FMCN			0389C	49	C7454	CCGCC
19570	TFM	FMCN+11	,0-START		03902	16	07465	-C051
19580	CC	2	,1	,0-3	03910		2	

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1959C	B	FMCN				03914	49	C7454	CCCCC
1960C	TFM	FMCN+11	,0--START			03926	16	C7465	-CC75
1961C	CC	2	,1	,0--3		03934	2		
	-1								
1962C	B	FMCN				03938	49	C7454	CCCCC
1963C	TFM	FMCN+11	,0--START			03950	16	C7465	-CC59
1964C	CC	2	,1	,0--3		03958	2		
	-1								
1965C	B	FMCN				03962	49	C7454	CCCCC
1966C	TFM	FMCN+11	,0--START			03974	16	C7465	-C123
1967C	CC	2	,1	,0--3		03982	2		
	-1								
1968C	B	FMCN				03986	49	C7454	CCCCC
1969C	TFM	FMCN+11	,0--START			03998	16	C7465	-C147
1970C	CC	2	,1	,0--3		04006	2		
	-1								
1971C	B	FMCN				04010	49	C7454	CCCCC
1972C	DORG	=-1				04020			
1973C	TFM	FMCN+11	,0--START			04020	16	C7465	-C169
1974C	CC	2	,3	,0--3		04028	2		
	-3								
1975C	B	FMCA	,	,0		04032	49	C7454	C-CCC
1976C	DORG	=-1				04042			
1977C	TFM	FMCN+11	,0--START			04042	16	C7465	-C151
1978C	CC	2	,1	,0--3		04050	2		
	-1								
1979C	B	FMCA	,	,0		04054	49	C7454	CCCCC
1980C	TFM	FMCN+11	,0--START			04066	16	C7465	-0215
1981C	CC	2	,1	,0--3		04074	2		
	-1								
1982C	B	FMCA	,	,0		04078	49	C7454	CCCCC
1983C	TFM	FMCN+11	,0--START			04090	16	C7465	-0239
1984C	CC	2	,1	,0--3		04098	2		
	-1								
1985C	B	FMCA	,	,0		04102	49	C7454	CCCCC
1986C	TFM	FMCN+11	,0--START			04114	16	C7465	-0263
1987C	CC	2	,1	,0--3		04122	2		
	-1								
1988C	B	FMCA	,	,0		04126	49	C7454	CCCCC
1989C	TFM	FMCN+11	,0--START			04138	16	C7465	-0287
1990C	CC	2	,1	,0--3		04146	2		
	-1								
1991C	B	FMCA	,	,0		04150	49	C7454	C-CCC
1992C	TFM	FMCN+11	,0--START			04162	16	C7465	-0311
1993C	CC	2	,1	,0--3		04170	2		
	-1								
1994C	B	FMCA	,	,0		04174	49	C7454	CCCCC
1995C	TFM	FMCN+11	,0--START			04186	16	C7465	-0335
1996C	CC	2	,1	,0--3		04194	2		
	-1								
1997C	B	FMCN	,	,0		04198	49	C7454	CCCCC
1998C	TFM	FMCN+11	,0--START			04210	16	C7465	-0359
1999C	CC	2	,1	,0--3		04218	2		
	-1								
2000C	B	FMCN	,	,0		04222	49	C7454	CCCCC
2001C	TFM	FMCN+11	,0--START			04234	16	C7465	-0383

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2002C	CC	2	,1	,0--3		04242	2		
	-1								
2003C	B	FMCN				04246	49	C7454	CCCCC
2004C	TFM	FMCN+11	,0--START			04258	16	C7465	-C407
2005C	CC	2	,1	,0--3		04266	2		
	-1								
2006C	B	FMCN				04270	49	C7454	CCCCC
2007C	****		WRITE ALPHAMERIC						
2008C	TF	SWF	,WATY-1			04282	26	C5965	C4281
2009C	B	WATY1	,	,0		04294	49	C5536	CC00C
2010C	TF	SWF	,WAPT-1			04306	26	C5965	C4305
2011C	B	WAPT1	,	,0		04318	49	C5556	CCCCC
2012C	TF	SWF	,WACD-1			04330	26	C5965	C4326
2013C	B	WACD1	,	,0		04342	49	C561C	CC00C
2014C	TF	SWF	,PRA-1			04354	26	C5965	C4353
2015C	B	PRA1	,	,0		04366	49	C557E	CCCCC
2016C	****		READ ALPHAMERIC						
2017C	TF	SWF	,RATY-1			04378	26	C5965	C4377
2018C	B	RATY1	,	,0		04390	49	C557C	CCCCC
2019C	TF	SWF	,RAPT-1			04402	26	C5965	C4401
2020C	B	RAPT1	,	,0		04414	49	C595C	CCCCC
2021C	TF	SWF	,RACD-1			04426	26	C5965	C4425
2022C	B	RACD1	,	,0		04438	49	C6C1C	C-CCC
2023C	DORG	=-1				04448			
2024C	TFM	FMCN+11	,0--START			04448	16	C7465	-C597
2025C	CC	2	,3	,0--3		04456	2		
	-3								
2026C	B	FMCA	,	,0		04460	49	C7454	C-CCC
2027C	DORG	=-1				04470			
2028C	TFM	FMCN+11	,0--START			04470	16	C7465	-C619
2029C	CC	2	,4	,0--3		04478	2		
	-4								
2030C	B	FMCN	,	,0		04482	49	C7454	C-CCC
2031C	DORG	=-1				04492			
2032C	TFM	FMCN+11	,0--START			04492	16	C7465	-C641
2033C	CC	2	,7	,0--3		04500	2		
	-7								
2034C	B	FMCN	,	,0		04504	49	C7454	C-CCC
2035C	DORG	=-1				04514			
2036C	TFM	FLTEND	,ICCN6+6			04514	26	C381C	C550A
2037C	B	EFFM1	,	,0		04526	49	C462E	C-00C
2038C	DORG	=-1				04536			
2039C	TFM	FMCN+11	,0--START			04536	16	C7465	-C685
2040C	CC	2	,7	,0--3		04544	2		
	-7								
2041C	B	FMCN	,	,0		04548	49	C7454	C-CCC
2042C	DORG	=-1				04558			
2043C	TFM	FMCN+11	,0--START			04558	16	C7465	-C707
2044C	CC	2	,5	,0--3		04566	2		
	-5								
2045C	B	FMCN	,	,0		04570	49	C7454	C-CCC
2046C	DORG	=-1				04580			
2047C	TFM	FMCN+11	,0--START			04580	16	C7465	-0729
2048C	CC	2	,5	,0--3		04588	2		
	-5								
2049C	B	FMCN	,	,0		04592	49	C7454	C-00C

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20500	DORG	*-1				C46C2			
20510	TFM	FMCN+11	,*-START			C46C2	16	C7465	-C751
20520	CC	2	,5	,*-3		C461C	2		
		-5							
20530	B	FMCN				C4614	49	C7454	CCCC
20540	REFSW	CS	5	,*		C4625	5		
20550	*****	162C	FORTRAN II-C	EFM#	FORPAT -				
20560	*****			E	AND F				
20570	*****			COMPLTE	DEC PT				
20580	*****			MAINTISSA	DIGIT				
20590	*****			TO	GAP.				
20600	*****			RR	TC				
20610	EFM#1	TF	FAC	,LCC	,11	C4626	26	C2452	C6C0R
20620	BNF	EFLCAT	,FAC-1			C4638	44	C5158	C2451
20630	SM	LOC	,2			C4650	12	C6C09	-C0C2
20640	TF	FAC-2	,LCC	,11		C4662	26	C2450	C6C0R
20650	EFALP#	TFM	FLTEND-4	,2C	,10	C4674	16	C3804	CCCKC
20660	TF	DPT	,TERM			C4686	26	C7445	C7C93
20670	S	DPT	,LCC	D 2		C4698	22	C7445	C5678
20680	TFM	DPG	,GAP			C4710	16	C6C04	-2355
20690	S	DPG	,LCC	D 2		C4722	22	C6C04	C5678
20700	TF	DPT#2	,DPT			C4734	26	C7450	C7445
20710	SM	DPT#2	,2			C4746	12	C7450	-C0C2
20720	EFALP	SM	WA 2	,1		C4758	12	C7352	-CC01
20730	TD	WA	,WA2	,611		C4770	25	C724J	C735K
20740	CF	WA	,2	,6		C4782	33	C724J	CCCC
20750	SM	WA	,2			C4794	12	C7241	-C0C2
20760	C	WA2	,FIMP			C4806	24	C7352	C3313
20770	BH	EF ALP				C4818	46	C4758	C11CC
20780	TFM	WA	,CC	,61C		C4830	16	C724J	CCC-C
20790	BNF	EF	CHK5	,FAC-2		C4842	44	C4866	C2450
20800	TFM	WA	,2C	,610		C4854	16	C724J	CCCKC
20810	EFCHK5	TFM	CK#	,CCC	,9	C4866	16	C7745	CC-CC
20820	A	CK#	,LCCD			C4878	21	C7745	C568C
20830	A	CK#	,FAC			C4890	21	C7745	C2452
20840	TF	CHAR	,CK#			C4902	26	C61CC	C7745
20850	S	CHAR	,F			C4914	22	C61CC	C2215
20860	C	WIDTH	,LCC	D		C4926	24	C5755	C568C
20870	RNL	+32				C4938	46	C457C	C13CC
20880	ERFBS	TFM	REFSW	,ERFBE		C4950	16	C4625	-5250
20890	B	BREFSW				C4962	49	C550C	CCCC
20900	DORG	*-4				C4974	14	C2452	CCCP-
20910	CM	FAC	,-7C	,1C		C4986	44	C5CC2	C6C61
20920	BNF	+20	,RREFSW			C4998	49	C5C14	
20930	B7	+2C				C5010	47	C5C2E	C13CC
20940	BL	+24				C5022	47	C5C2E	C13CC
20950	BD	+36	,FAH	,11		C5034	43	C5C5C	C3311
20960	IDM	FLTEND-4	,-1			C5046	15	C380C	CCCCJ
20970	TFM	CHAR	,-C99	,9		C5058	16	C61CC	CC-5R
20980	BNF	WRFS	,RREFSW			C5070	44	C3812	C6C61
20990	*****								
21000	*****								
21010	*****								
21020	WRTE	S	WIDTH	,F		C5062	22	C5755	C2219
21030	BL	+32				C5074	47	C510C	C13CC
21040	WRTE2S	TFM	REFSW	,WRTE2		C5086	16	C4625	-4646

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21050	B	BREFSW				C5098	49	C550C	CCCC
21060	DORG	*-4				C5105			
21070	BD	+36	,FLTEND-4			C5106	43	C5142	C380C
21080	S	CHAR	,WIDTH			C5118	22	C61CC	C5755
21090	BD	ERFBS	,CHAR-2			C5130	43	C455C	C6C98
21100	TFM	+47	,GAP			C5142	16	C5185	-2355
21110	A	+35	,WIDTH			C5154	21	C5185	C5755
21120	A	+23	,WIDTH			C5166	21	C5185	C5755
21130	TF	GAP				C5178	26	C2555	CCCC
21140	B	WRTE2S				C5190	49	C550C	CCCC
21150	DORG	*-4				C5197			
21160	EFLOAT	AM	FAC	,CC	,1C, IS FAC ZERC	C5198	11	C2452	CCC-C
21170	BZ	ZERFAC	,*	,*	YES	C5210	46	C358A	C120C
21180	TD	99	,FAC	,*	STCRE SIGN	C5222	25	CCCC5	C2452
21190	CF	FAC				C5234	33	C2452	CCCC
21200	TR	BETA-9	,FHM	,11		C5246	31	C2554	C328L
21210	TF	FAC-2	,9SPF-1	,*	CLEAR FAC	C5258	26	C245C	C2893
21220	TF	SAVE	,K	,*	CHAR = K	C5270	26	C5185	C2221
21230	TFM	+23	,BETA-5			C5282	16	C530C	-256A
21240	BD	+44	,DLMPY	,*	FIND +1 CRE DIGIT	C5294	43	C5338	C5995
21250	SM	SAVE	,CI	,10,	ADJUST CPAR	C5306	12	C2545	CCC-1
21260	AM	+13	,CI			C5318	11	C530C	-CC01
21270	B	+36				C5330	49	C5254	CCCC
21280	DORG	*-3				C5338			
21290	TR	FHM	,*-33	,611		C5338	31	C331L	C530A
21300	TF	+35	,FHM	,*	FIND AND CLEAR RECCRC MARK	C5350	26	C5305	C3313
21310	AM	+23	,CI			C5362	11	C5305	-CC01
21320	BNR	+12	,DLMPY			C5374	45	C5362	C5995
21330	TDM	+1	,C	,6		C5386	15	C530A	CCCC
21340	TD	FAC+1	,RECPK	,*	REPLACE RECCRC MARK	C5398	25	C2453	C24E3
21350	TF	BETA	,ZER0-74	,*	CLEAR BETA	C5410	26	C2603	C2493
21360	B	ENCR6C				C5422	49	C5454	CCCC
21370	DORG	*-3				C5430			
21380	ENOR36	TR	FHM	,F#	,611, LEFT SHIFT CNCE	C5430	31	C331L	C330C
21390	TDM	FAC-1	,C	,*	SET LAST DIGIT TO ZERC.	C5442	15	C2491	CCCC
21400	ENCR6C	SF	FHM	,6		C5454	32	C331L	CCCC
21410	BD	FINISH	,FHM	,611,	TEST LEADING ZERC	C5466	43	C380C	C3311
21420	SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT	C5478	12	C2565	CCC-1
21430	B	ENOR36				C5490	49	C543C	CCCC
21440	DORG	*-4				C5497			
21450	ICONE	B	EF ALPH	,*	,1	C5498	4R	C4674	CCCC
21460	DORG	*-4				C5505			
21470	BREFSW	TFM	MBASE+5	,MTYPE+24		C5506	16	C7662	-4626
21480	TFM	FMCN+11	,MTYPE+24-START			C5518	16	C7465	-0775
21490	CC	2	,*-3			C5526	2		
		-9							
21500	B	FMON				C5530	49	C7454	CCCC
21510	DORG	*-4				C5537			
21520	TFM	MAX	,06C87			C5538	16	C6914	-6C87
21530	DORG	08CCC				08CCC			
21540	38	A9	,CC702			08CCC	38	C8C32	CCTC2
21550	36	A9	,OC703			08C12	36	C8C32	C0703
21560	B	+22				08C24	49	C8C4E	CCCC
21570	DORG	*-3				08C32			
21580	AS	CSC	9	,C19531C17		08C32			
		C19531017							

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22600	DORG	START+3+360C		07454			
22610	FPCN	SF FPCN+9		07454	32	C7463	CCCC
22620	TFM	RETURN+6 ,START		07466	16	C746C	-3851
22630	TFM	BAS+11 ,FIL-8		07470	16	C7585	-7663
22640	AM	BAS+11 ,R	,10	0749C	11	C7585	CCO-8
22650	SM	FPCN+8 ,1	,10	075C2	12	C7462	CCC-1
22660	BNZ	*-24		C7514	47	C746C	C12CC
22670	A	RETURN+6 ,FPCN+11		C7526	21	C746C	C7465
2268C	TF	ARGCLT+11,RETURN+6		C7538	26	C7573	C764C
22690	SM	ARGCLT+11,1		0755C	12	C7573	-CC1
22700	ARGCLT	TF RETARG+11,DLPMY		C7562	26	C7633	59999
22710	BAS	TF MBASE ,DLPMY		C7574	26	C7657	59999
2272C	SF	MBASE-2		C7588	32	C7655	CCCC
22730	TFM	IDRT ,**23		07598	16	CC565	-7621
2274C	B	IOGT ,PCATA	,7	0761C	49	CC566	-7641
22750	RETARG	TFM ARGCLT+11,DLPMY	,6	C7622	16	C757L	59999
2276C	RETURN	B		07634	49	CCCC	CCCC
22770	DORG	*-4		C7641			
2278C	PCATA	DSC 2 ,C2		C7641			
2279C	CSA	MBASE-8		07647		5 X	1
				C7647		-7645	
2280C	CC	1, *		C7648		1	
2281C	DSC	1 ,0		07649		1	
2282C	PCASE	CS 8		C7657		8	
2283C	CSA	FIX		07662		5 X	1
				C7662		-3854	
2284C	CC	1 , *		C7663		1	
22850	FIL	CC 8 ,CCCCC36		07671		8	
		-OCCCO36		C7679		E	
2286C	CC	8 ,CCC36C36		07687		E	
		-OC36036		C7695		F	
22870	DC	8 ,CCC36C16		C77C3		E	
		-OC36016		C7711		E	
2288C	CC	8 ,CCC72C16		07715		E	
		-OC72C16		C7727		E	
2289C	CC	8 ,CCC88C17		07735		E	
		-OC88017		C7736	14	C6511	CCC-8
2290C	CC	8 ,CC105C10		C7745		3	
		-O1C501C		C7748	46	C6816	C13CC
2291C	DC	8 ,CC115C16		C776C	49	C6952	CCCC
		-O115016		C7767			
2292C	CC	8 ,CC131C17					
		-O131017					
2293C	CC	8 ,CC148CC9					
		-O148CC9					
2294C	ICCR	CM MAX-3 ,CB ,10					
2295C	CKW	DS 3 ,*-2 ,	DEC SFEC PLUS CHAR CF ARG				
2296C	BNL	WRITE					
2297C	B	COPEAD					
2298C	DORG	*-4					

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23000	DORG	O6CCC		06CCC			
2300C	34	B2 ,CC7C1		06CCC	34	C6C44	CC7C1
2301C	38	B2 ,CC7C2		06C12	38	C6C44	CC7C2
23020	36	B2 ,CC7C3		06C24	36	C6C44	CC7C3
23030	B	**22		06C36	49	C6C5F	CCCC
2304C	DORG	*-3		06C44			
2305C	B2	DSC 9 ,C16835CC4		06044		9	
2306C	CSA	FMCA-56		C6C57		5 X	1
				C6C57		-7358	
2307C	TRA			C6C58	36	CCCC	CC5CC
2308C	TCC	O6CCC		06C7C	49	CCCC	CCCC
2309C	DENC			06CCC			

ARGCLT C7562	FPFAXI 05578	AXJ C6562	FCVRI C5066	ICIG C4794
ATYPFI C4946	FNCNEZ 04954	B1 C6C44	FCVR C4186	IFIX C5138
BEF2SW C544C	FXNINE C4764	B2 C6C44	FF C03C8	IFWRT C4658
BREFSW C55C6	GPIM2F C3526	BAS C7574	FIL C7671	IPSA C2575
CLRTCS C5182	HTYPE1 C5248	BETA C26C3	FIX11 C5946	INH C6179
CCMACC C2231	IFLCAT C515C	BWAF C5934	FIXI C421C	IN C6421
CCMENC C6992	IMINLS C4982	CFAR2 C7C16	FIX C3854	ICCAL C6716
CCMPLT C70C6	IMSAPP C3298	CFAR C61C0	FKCCD C3427	ICCR C7736
CCMPSW C575C	INCR36 C537C	CKW C7745	FLCAT C4C42	ICGT C6566
CCMPCN C5622	INCR6C C5394	CLC C6C16	FLZ C3353	ICPT C6532
DALCNG C5614	INPLLS C6C53	CPG C6C84	FMIMF C3313	ICRRC C652C
DATGUC C6165	IRBLNK C4962	DPTM2 C7450	FM1 C3625	ICRT C6565
DATERR C6157	ISPFM1 C3303	DPT C7445	FMFAC C3452	ICSS C6554
DATINH C6173	ITYPE1 C4622	ELCH C2607	FMCN C7454	IRDIG C4526
DCFFCN C563C	LCGDIG C5C88	ELC C2687	FMP1 C5494	IREAD C4754
DICCCA C3387	LCCACJ C6574	LUMMY 95999	FMP C4138	ITYPE C4448
DKBLFF C24C4	MASKEP C5446	EEXP2 C486C	FNM1 C3358	K2 C3648
DMATA C3375	MASKF1 C5457	EEXP C4988	FNI C3313	K C2221
EXEP22 C49C8	MATRIX C6518	EFXP C50CC	FPIMK C3283	LAST C582C
EXPAD C506E	MATRX2 C6602	EF2SW C4425	FP2 C36C5	LN1C C258C
EFALPH C4674	MESERR C26C7	EFALP C4758	F C2219	LN2 C2887
EFCHK5 C4866	MNCAL C6796	EFCCP C4624	FSE1 C4856	LN4 C2518
EFFENC2 C53C4	CCDSET C5518	EFDEC C512C	FSEB1 C5442	LN8 C2549
EFFCAT C515E	CCGREV C618C	EFIC C5188	FSDR C4114	LNEAT C3368
EFPLLS C4666	CNEFAC C6424	EFENC C5272	FSB C4C66	LCCE2 C5678
EFTERM C5248	CVFLCW C3652	EFFIX C4734	FTYPE C4558	LCCC C568C
EFFYPE C468C	PRCCTR C6508	EFM1A C4656	FX1 C2825	LCC C6C89
ENCFOR C6175	PRCGT C2226	EFMw1 C4626	FX9 C28C5	LCGE C4626
ENCR36 C543C	RACCT C5862	EFMW C4514	FXA1 C4622	LV1 C3616
ENCR6C C5454	RCFCH1 C4884	EFRC1 C4622	FXA C3878	P14 C657C
ENTARS C2323	READEF C4492	EFRC2 C4654	FXC1 C4714	MAANTP C7146
ENTATN C2313	READIF C5C82	EFWRT C5084	FXCR1 C4756	MASKF C5473
ENTCPS C23C3	REPSW3 C5657	EI C2615	FXCR C3598	MASKI C5351
ENTCFD C225E	RETARG C7622	ENCC C3768	FXC C3674	MASK C5445
ENTLRR C2293	RETLRN C7634	ENTLA C2248	FXERR C3676	MATSW C5655
ENTEXP C2253	RWFSW C6C61	ERF7A C5214	FX C3283	MAX2 C6145
ENTFET C2283	LCOMK C3293	ERF7 C5118	FXM1 C4688	MAX C6514
ENTFIC C2273	IC2MF C3343	ERF7S C47C2	FXM C355C	PBASE C6577
ENTREC C2278	2FPM1 C3429	ERF8E C525C	FXNIN C6C32	PDATA C7641
ENTSC1 C225E	96MF C3318	ERF81 C5038	FXSR1 C4636	PFCV2 C3746
ENTSC2 C2263	97M2F C3363	ERF9 C731C	FXSR C3526	PF C3473
FATSC3 C226F	97MF C3323	ERRT C6C62	FXS C35C2	PL C3712
ENTSTN C23C8	98MF C3328	ERRCR C3676	FXZ C2815	N1 C2233
ENTSOT C231E	99MK C3288	ETYPE C458C	FZERO C4658	N2 C2238
FNTSWC C228E	5SCP C2795	EXP C48C9	GAP C2555	NCACC C54C4
FRCM2 C73P6	5SPF C2854	F2 C3661	GET C7C54	NCCIV C677C
FRFES C495C	A1C C8C32	FAC C2492	GP2F C3735	NCRP C5292
FRF7E C5396	A1 C8C68	FAD1 C4916	HMC C3338	CLWR C731C
RRR7I C50C2	A3 C8C32	FAC C4C9C	HC C4817	CNEZ C3C38
EXPENT C3373	A5 C8C32	FAXB1 C7C62	HRC C5428	CLT C4581
FINCIN C3583	A6 C8C32	FAXB C4258	HTYPE C46C2	PAR C3378
FINISH C38C3	A7 C8C32	FAH11 C64C0	HWT C536C	PCT C3333
FIXENC C376C	AR C8C32	FAH1 C4234	ICCN2 C5438	PICV2 C3163
FLTEND C381C	A9 C8C32	FCHB C4976	ICCN3 C5342	PICV4 C3191
FLZALP C334E	ACD C5204	FC1 C5654	ICCN5 C4638	P1 C3133
FLZERS C6511	ATYPE C4536	FC C4162	ICCN6 C5458	PRA1 C5578

PRA C4354	REDCA C7C7C	STCP C2395	WAPT1 C5558	ZERC C2767
PRKEY C6919	REDC C7C26	SWC C6C9C	WAPT C43C6	SLASH2 C67C8
PSI C607E	REFSW C4625	SWF C5969	WA C7241	STZERC C6423
RACCI C601C	REP2 C7198	SWL C6C42	WATY1 C5538	SWCACJ C6152
RACC C442E	REP3 C723C	TAFE C2535	WATY C4282	UNFLCW C5372
RAPTI C599C	REP C7126	TAN6 C3248	WICTH C5755	WEFDEC C5218
RAPT C44C2	REPSW C5654	TEN34 C3278	WRITE C6816	WIDTM2 C6C64
RATY1 C597C	REGA1 C4816	TERP C7C93	WRITE2 C5382	WRITE1 C6544
RATY C437E	REGA C4C2C	TEFAC C3408	WRTA C5338	WRITEA C529C
RCTY C5814	RNA2 C5742	TRACE C3496	WRITE2 C4646	WRITEI C447C
RCDFL C5234	RNA C5634	TRFX C3564	WRITE C5C62	WRTI1 C4622
REALP C6022	SAVE C2545	TWCPI C31C3	WRTIF C475C	WRTALP C5622
RCAL C517C	SE C5774	TNOZ C3C73	WRTFS C3812	WRTS25 C5C86
RCFCH C4852	SHORT C5646	WA2 C7392	WRTI2 C47C2	WRTFPC C5C74
REAF A C5074	SIX C3219	WA3 C4625	WRTI3 C4C1C	WRTFPE C5C42
REACI C5034	SLASH C6676	WACC1 C561C	WRTI C4738	WRTSGN C4874
RECLG C2243	SCS C6918	WACC C433C	W C224C	ZERFAC C3584
RECPK C24C3	START C3851	WAFX C54C2	XTYPE C7354	

END OF CNE ASSEMBLY.

00870	FP1MK	DS		,F1H		C3283	-2453	
00880	95MK	CC	5	,99		C3283		C
				-0C59		C3288		5
00890	1CCMK	CC	5	,1CC		C3293		5
				-01CC				
00900	1PSAPP	CSA		1MSA		C3298		5 X 1
00910	ISPFI	CSA		1MSA-1		C3298	-2575	
						C3303		5 X 1
00920	FF	CSA		FAC		C3303	-2574	
						C3308		5 X 1
00930	FNF	CSA		FAC-1		C3308	-2452	
						C3313		5 X 1
00940	FM1F	DS		,F1H		C3313	-2451	
00950	96MF	CC	5	,96		C3313		C
				-0C56		C3318		5
00960	97MF	CC	5	,97		C3323		5
				-0C57				
00970	98MF	CC	5	,98		C3328		5
				-0C58				
00980	PCT	CC	5	,99		C3333		5
				-0C59				
00990	11ND	CC	5	,1CC		C3338		5
				-01CC				
01000	1C2MF	CC	5	,1C2		C3343		5
				-01C2				
01010	FLZALP	CSA		ZERC-78		C3348		5 X 1
01020	FLZ	CSA		ZERC-8C		C3348	-2685	
						C3353		5 X 1
01030	FNF1	CSA		FAC-2		C3353	-2687	
						C3358		5 X 1
01040	97M2F	CC	5	,97		C3358	-2450	
				-0C57		C3363		5
01050	LNENT	CC	5	,8C		C3368		5
				-0C8C				
01060	EXPENT	CC	5	,36		C3373		5
				-0C36				
01070	PAR	CS	5	,**5		C3378		5
01080	CLPC	CS	5			C3378		5
01090	DNCDATA	DSC	2	,CC		C3375		2
01100		CSA		DICDDA		C3385		5 X 1
01110		CC	1	,*		C3385	-3387	
						C3386		1
01120	DICDDA	DSC	1	,C		C3387		1

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01130		CC	5	,CCCC		C3392		5
				-0CCC				
01140		CC	3	,CCC		C3395		3
				-0C				
01150		CSA		DKBUFF		C3400		5 X 1
01160		CC	1	,*		C3400	-2404	
						C3401		1
01170	*****			1620 FORTRAN II-D IN CORE SUBROUTINES				
01180		CS	5			C3406		5
01190	TGFAC	TF	FAC	,TC FAC-1 ,11		C3408	26	C2452 C34CP
01200		SM	TGFAC-1	,01C2 ,891C		C3420	12	C3407 C-J-2
01210	ZFM1	CS		,*-2 ,		C3425		C
01220	FKOCC	TF	FAC-1	,*-4 ,		C3427		1
01230		TF	FAC-2	,TC FAC-1 ,11		C3432	26	C2452 C34CP
01240		BB				C3444	42	COCCC COCCC
01250		DDRG	*-9			C3446		5
01260		CS	5			C3450		5
01270	FMFAC	TF	FM FAC-1	,FAC ,6		C3452	26	C345J C2492
01280		SM	FMFAC-1	,0CC2 ,810		C3464	12	C3451 C-0-2
01290	MF	CS		,*-2 ,		C3473		C
01300		TF	FM FAC-1	,FAC-2 ,6		C3476	26	C345J C249C
01310		BB				C3488	42	COCCC COCCC
01320		DDRG	*-9			C3490		5
01330		CS	5			C3494		5
01340	TRACE	TF	FM FAC-1	,*-1		C3496	26	C3451 C3495
01350		BNC4	FM FAC			C3508	47	C3452 C40C
01360		K	GAM-1	,0951 ,2,		C3520	34	-2554 CC951
01370	GM1M2F	CS		,*-5 ,		C3526		C
01380		BNF	TRFX	,FAC-1 ,		C3532	44	C3564 C2451
01390		WN	FNM	,09C1 ,6,		C3544	38	C331L CC9C1
01400		B	FM FAC			C3556	49	C3452 COCCC
01410		DDRG	*-4			C3563		
01420	TRFX	WN	FXM	,09C1 ,6,		C3564	38	C328L CC9C1
01430		B	FM FAC			C3576	49	C3452 COCCC
01440		DDRG	*-4			C3583		
01450	FINDIN	CC	1	,1		C3583		1
01460	ZERFAC	TF	FAC-2	,9SPF-1		C3584	26	C245C C2853
01470		TFM	FAC	,0299 ,81011		C3596	16	C2492 C-2RR
01480	FP2	CS		,*-2 ,		C3605		C
01490		B	FINISH+1			C3608	49	C3804 COCCC
01500		DDRG	*-4			C3615		
01510	LVI	AM	SAVE	,01C1 ,8910		C3616	11	C2565 C-J-1
01520	FM1	CS		,*-2 ,		C3625		C
01530		BNV	FINISH	, ,6		C3628	47	C380L C1400
01540		TFM	E1	,0C571 ,79,		C3640	16	C2615 -0N71
01550	K2	CS		,*-3 ,		C3648		C
01560	DNFLOW	TFM	FAC	,0C99 ,810		C3652	16	C2492 C-0R9
01570	F2	DS		,*-2 ,		C3661		C
01580		TF	FAC-2	,9SCPF ,		C3664	26	C249C C2795
01590	ERROR	K	FINISH	,0951 ,6,		C3676	34	C380L CC951
01600		WA	MESERR	,09C1 ,		C3688	39	C2607 CC9C1
01610		B	ENDD+12			C3700	49	C378C COCCC
01620	MU	BNF	*+24	,MU-1 ,		C3712	44	C3736 C3711

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01630	SF	FAC	,GAP			03724	32	C2492	C2555
01640	GM2F	DS	,*		GAPPA PINUS TNC TYPES F	03735			C
01650	TDM	FXERR+25	,*		RESET ERRRCR EXIT	03736	15	C37C1	CC0C9
01660	MFOV2	DS	2	,*-1	PINUS F COVER 2	03746			2
01670	TFM	FXERR+30	,ENDC+12			03740	16	C37C6	-378C
01680	FIXENC	BB				03760	42	CCGCC	CC0CC
01690	DORG	*-3				03768			C
01700	FXERR	CS	,ERROR			03676			C
01710	ENDD	TF	,SAVE		PCVE EXPNENT.	03768	26	C2492	C2565
01720	BNF	**+24	,99		SET PROPER SIGN	03780	44	C38C4	CC099
01730	SF	FAC-2	,ENDC			03792	32	C249C	C3768
01740	FINISH	CS	,*			03803			C
01750	FLTENC	CS	,FINISH+7			0381C			C
01760	BB					03804	42	CC0CC	CC0CC
01770	DORG	*-4				03811			C
01780	CLMPY	CS	,99999			99999			C
01790	START	CS	,C3851			C3851			C
01800	*****	1620 FORTRAN II-D		ALL SUBR IN CCRE					
01810	*****	1620 FCRTNAN II-D		ALL SUBR IN CCRE - SECCNARY LINKAGE					
01820	DORG	START				03851			C
01830	CS	3				03853		3	
01840	FIX	CM	,CC	,10,	IS CHAR POSITIVE	03854	14	C2492	CC0-C
01850	B	FIX1				03866	49	1113C	CCGCC
01860	FXA	A	,FXA-1	,11		03878	21	C2492	C387P
01870	B	FXA1				03890	49	11322	CCGCC
01880	FXS	S	,FXS-1	,11		03902	22	C2492	C390J
01890	B	FXA1				03914	45	11322	CCGCC
01900	FXSR	BNF	FXSR1+32	,FAC	CHANGE SIGN CN FAC	03926	46	11368	C2492
01910	B	FXSR1				03938	49	11336	CCGCC
01920	FXP	M	,FXP-1	,11		03950	23	C2492	C394R
01930	B	FXP1				03962	49	11388	CCGCC
01940	FXC	LD	,FAC		FAC = FAC/J	03974	28	CC099	C2492
01950	B	FXC1				03986	49	11414	CCGCC
01960	FXDR	LD	,FXDR-1	,11,	FAC = J/FAC	03998	28	CC099	C359P
01970	B	FXDR1				0401C	49	11496	CCGCC
01980	DORG	*-1				04020			C
01990	RSGN	BNF	RSGN1+40	,FAC-1		04020	44	11556	C2491
02000	B	RSGN1		,*		04032	49	11516	C-CCC
02010	DORG	*-1				04042			C
02020	FLOAT	AM	,CC	,10,	IS FAC ZERC	04042	11	C2492	CCC-C
02030	B	FLCAT1				04054	49	11596	CCGCC
02040	FSB	TDM	FAC1+37	,2	SET UP INST. TC SUBTRACT	04066	15	11873	CC0C2
02050	B	FSB1				04078	49	11816	CCGCC
02060	FAC	TDM	FAD1+37	,1	SET UP INST. TC ACC	04090	15	11873	CC0C1
02070	B	FAD1				04102	49	11836	CCGCC
02080	FSRR	BNF	FSBR1+32	,FAC-2	CHANGE SIGN CN FAC	04114	44	12394	C249C
02090	B	FSBR1				04126	49	12362	CCGCC
02100	FMP	TF	,FMP-1	,11,	PCVE EXPNENT TC SAVE.	04138	26	C2545	C413P
02110	B	FMP1				04150	49	12414	CCGCC
02120	FC	TF	,FC-1	,11,	PCVE EXPNENT.	04162	26	12705	C416J
02130	B	FD1				04174	49	12574	CCGCC
02140	FCVR	TF	,FCVR-1	,11,	PCVE EXPNENT.	04186	26	C2545	C418N
02150	B	FDVR1				04198	49	12786	CCGCC
02160	FIX1	TF	,FIX1-1	,11,	IMS A = I	04210	26	C2575	C420R
02170	B	FIX11				04222	49	12866	CCGCC
02180	FAX1	TF	,FAX1-1	,11,	IMS A = I	04234	26	C2575	C423L

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02190	R	FAX11				04246	49	13296	CCGCC
02200	FAXB	TF	,FAXB-1	,11,	LOAD EXPNENT B	04258	26	C2535	C425P
02210	B	FAXB1				04270	49	13598	CCGCC
02220	****				WRITE ALPHAMERIC				
02230	WATY	TF	,WATY-1			04282	26	C5965	C4281
02240	B	WATY1				04294	49	C553E	CCGCC
02250	WAPT	TF	,WAPT-1			04306	26	C5965	C43C5
02260	B	WAPT1				04318	49	C559E	CCGCC
02270	WACD	TF	,WACD-1			04330	26	C5965	C43Z5
02280	B	WACD1				04342	49	C561C	CCGCC
02290	PRA	TF	,PRA-1			04354	26	C5965	C4353
02300	B	PRA1				04366	49	C557E	CCGCC
02310	****				READ ALPHAMERIC				
02320	RATY	TF	,RATY-1			04378	26	C5965	C4377
02330	B	RATY1				04390	49	C557C	CCGCC
02340	RAPT	TF	,RAPT-1			04402	26	C5965	C44C1
02350	B	RAPT1				04414	49	C599C	CCGCC
02360	RACD	TF	,RACD-1			04426	26	C5965	C44Z5
02370	B	RACD1		,*		04438	49	C601C	C-0C0
02380	DORG	*-1				04448			C
02390	ITYPE	AM	,3			04448	11	C5965	-CCC3
02400	B	ITYPE1		,*		04460	49	1C146	C-CCC
02410	DORG	*-1				04470			C
02420	WRITEI	TFM	,GAP*2			04470	16	C7241	-2557
02430	B	WRIT11		,*		04482	49	1C682	C-CCC
02440	DORG	*-1				04492			C
02450	READEF	BNF	EF RD2+12,LCC			04492	44	C9C94	C6089
02460	B	EF RD1		,*		04504	49	C9C9C	C-CCC
02470	DORG	*-1				04514			C
02480	EFMW	TF	,ICCN6+6			04514	26	C381C	C59CC
02490	B	EFMW1		,*		04526	49	C9614	C-0C0
02500	DORG	*-1				04536			C
02510	ATYPE	AM	,3			04536	11	C5965	-CCC3
02520	B	ATYPE1		,*		04548	49	C913E	C-CCC
02530	DORG	*-1				04558			C
02540	****				PACRC FOR F TYPE READ AND WRITE				
02550	FTYPE	CF	RNEFSW			04558	33	C6061	CCGCC
02560	B	EF CCM		,*		04570	49	C747E	C-CCC
02570	DORG	*-1				04580			C
02580	****				PACRC FOR E TYPE READ AND WRITE				
02590	ETYPE	SF	RNEFSW			04580	32	C6061	CCGCC
02600	W#3	DS	,*		TEMP STCR FOR ZERC INSERT ADDRESS	04591			5
02610	B	EFCDP		,*		04592	49	0747E	C-0C0
02620	DORG	*-1				04602			C
02630	HTYPE	AM	,3			04602			11
02640	B	HTYPE1		,*		04614	49	C881C	CCGCC
02650	DORG	*-4				04621			C
02660	*****	1620 FORTRAN II-D		ALL SUBR IN CCRE - SUBROUTINES					
02670	WATE2	TR	,GAM+1	,*		04622	31	C2556	C5421
02680	BD	ERFBE	,CHAR-2			04634	43	C5226	C8719
02690	TD	GAM+8	,CHAR			04646	25	C2543	C8721
02700	TD	GAM+6	,CHAR-1			04658	25	C2541	C872C
02710	BNF	**+24	,CHAR			04670	44	06894	C8721
02720	TDM	GAM+3	,2			04682	15	C2590	CCGCC
02730	TF	TERM	,GAM+2	,*		04694	26	07C9L	C2557
02740	TR	DPT	,DPG	,611		04706	31	C744A	C608P

524

05950 80 EF WRT ,RNEFSH
05960 TF FAC ,FLZALP ,11
05970 TFM EFTERM+10,EF TYPE
05980 TFM SWCADJ ,READ EF
05990 RDFCH BNR +20 ,INPLUS ,11, CHECK FOR INPUT RECCRD MARK
06000 B7 ERRF7E
06010 CM INPLUS ,00 ,610, ELIMINATE LEADING BLANKS
06020 BNE FCH NB
06030 SM CHAR ,1 ,10
06040 AM INPLLS ,2
06050 C INPLLS ,LAST
06060 BL RD FCH
06070 B EFEND+12
06080 DORG +4
06090 FCHNB CM INPLUS ,2C ,610, PRCESS FIRST NON BLANK CHARACTER
06100 BE EF MIN
06110 CM INPLLS ,1C ,610
06120 BE EF PLUS
06130 B EFTYPE+36
06140 DORG +4
06150 EFWRT C LOC D ,F
06160 BNM +24
06170 TF LOC D ,F
06180 TF LOCD 2 ,LCC D
06190 A LOCD 2 ,LCC D
06200 TR GAM-59 ,MASK F-1
06210 TFM WA ,GAP
06220 TFM WA2 ,FAC-1
06230 TFM SWCADJ ,EFMH
06240 SM WIDTH ,2 ,10
06250 BNF SWL ,RNEFSH
06260 SM TERM ,8
06270 SM WIDTH ,4 ,10
06280 B SWL
06290 DORG +4
06300 EFMIN SF 99
06310 EFPLUS SM CHAR ,1 ,10
06320 EFTYPE AM INPLLS ,2
06330 CM INPLUS ,00 ,610
06340 BE LDG DIG
06350 CM INPLUS ,7C ,610
06360 BM EF DIG
06370 BE LDG DIG
06380 CM INPLLS ,03 ,610
06390 BE EF DEC
06400 BNF ERRF7 E ,RNEFSH
06410 TFM EXP ,OCC ,9
06420 TDM E EXPAD+1,1
06430 EXP DS 3 ,+2 , VALUE OF CALC CHAR FOR CLTPUT
06440 CM INPLLS ,45 ,610
06450 BE E EXP
06460 CM INPLLS ,4C ,610
06470 BNL ERRF7E
06480 EEXP2 CM INPLUS ,2C ,610
06490 BE E EXP M
06500 CM INPLLS ,1C ,610

0767C 43 C7874 C6061
07682 26 C2492 C334C
07694 14 C8648 -8062
07706 16 C6152 -4492
07718 45 C7738 C605L
07730 49 C8778
07738 14 C605L C00-C
07750 47 C7818 C12CC
07762 12 C8721 C00-1
07774 11 C6053 -C0G2
07786 24 C6C93 C582C
07798 47 C7718 C13CC
0781C 49 C8666 C00CC
07817
07818 14 C6C5L C00CC
07830 46 C8C38 C12CC
07842 14 C6C5L C00JC
07854 46 C8C5C C12CC
07866 49 C8098 C00CC
07873
07874 24 C568C C2219
07886 47 C791C C1100
07898 26 C568C C2219
0791C 26 C5678 C568C
07922 21 C5678 C568C
07934 31 C2496 C5432
07946 16 C7241 -2555
07958 16 C7392 -2451
0797C 16 C6152 -4514
07982 12 C5799 C00-2
07994 44 C6042 C8061
08006 12 C7C93 -C0C8
08018 12 C5799 C00-4
0803C 49 C6042 C00C0
08037
08038 32 C0C99 C00CC
08050 12 C8721 C00-1
08062 11 C6053 -00C2
08074 14 C6C5L C00-C
08086 46 C847C C12CC
08098 14 C6C5L C00PC
08110 46 C857C C1100
08122 46 C847C C12CC
08134 14 C6C5L C00-3
08146 46 C85C2 C12CC
08158 44 C8778 C0061
0817C 16 C8191 C00-CC
08182 15 C8451 C00C1
08191 3
08194 14 C605L C00P5
08206 46 C8382 C12CC
08218 14 C6C5L C00PC
08230 46 C8778 C13CC
08242 14 C6C5L C00K0
08254 46 C837C C12CC
08266 14 C6C5L C00JC

06510 BE E EXP
06520 EEXP22 BD +24 ,97
06530 SM CHAR ,1 ,9
06540 C INPLUS ,TERM
06550 BNL EEXPAD-12
06560 TD EXP-1 ,INPLUS ,11
06570 AM INPLLS ,2
0658C B EEXP22+12
06590 DORG +4
06600 EEXP2 TDM E EXPAD+1,2
06610 EEXP AM INPLUS ,2
0662C SM CHAR ,1 ,10
06630 C INPLLS ,TERM
06640 BNM EEXP2
06650 B7 ERRF7E
06660 TD EXP ,INPLUS ,11
06670 EEXPAC A CHAR ,EXP
06680 B EF END
0669C DORG +4
0670C LCGDIG BNF EF DIG ,98
06710 SM CHAR ,1 ,10
06720 B EF TERM
06730 DORG +4
0674C EFDEC BD ERRF7 E ,97
06750 TFM LOC D ,CC ,10
06760 TFM EFTERM+10,EF PLLS
06770 TDM 97 ,-1
0678C SM CHAR ,1 ,10
06790 B EF TERM
06800 DORG +4
06810 EFCIG CF 98
06820 DPTM2 DS 5 , TEMP ACR OF DEC PT IN I/O REC, -2
06830 CM WA ,FAC-1
06840 BNL +36 , TRUNCATES LOW ORDER DIGITS
06850 TD WA ,INPLUS ,611
06860 AM WA ,1
06870 EFTERM C INPLUS ,TERM
06880 BL EFTYPE
06890 EFEND BNF EFEND2 ,FMH ,11, ZERC CMEK
0690C TFM FAC ,99 ,1011
06910 B SWL
06920 DORG +4
06930 EFEND2 S CHAR ,LCC D
06940 BD ERR F7E ,CHAR-2
06950 SF CHAR-1
06960 CHAR DS 5 , MODIFIED CHARACTERISTIC
06970 TF FAC ,CHAR
06980 SF FMH ,6
06990 BNF SWL ,99
07000 SF FAC-2
07010 B SWL
07020 DORG +4
07030 ERRF7E TF FAC ,FLZALP ,11, F PLUS 2 ZEROS TO FAC
07040 TDM EI ,11, SET ER F7 INDICATICH SWITCH
07050 B EFEND
07060 DORG +4

08278 46 C8382 C12CC
0829C 43 C8314 C0097
08302 12 C8721 C00-1
08314 24 C6C53 C7093
08326 46 C8438 C13CC
08338 25 C819C C6C5L
0835C 11 C6C53 -C0C2
08362 49 C83C2 C00C0
08369
0837C 15 C8451 C00C2
08382 11 C6C53 -C0C2
08394 12 C8721 C00-1
08406 24 C6C53 C7093
08418 47 C8242 C11CC
08430 49 C8778
08438 25 C8191 C605L
08450 21 C8721 C8191
08462 49 C8654 C00C0
08469
08470 44 C857C C0098
08482 12 C8721 C00-1
08494 49 C863C C00C0
08501
08502 43 C8778 C0097
08514 16 C568C C00-C
08526 16 C8648 -8C50
08538 15 C0C97 C00CJ
08550 12 C8721 C00-1
08562 49 C863C C00CC
08569
08570 33 C0C98 C00CC
08581 5
08582 14 C7241 -2491
08594 46 C863C C13CC
08606 25 C724J C605L
08618 11 C7241 -C0C1
0863C 24 C6053 C7093
08642 47 C8C62 C13CC
08654 44 C8686 C331L
08666 16 C2492 C008R
08678 49 C6C42 C00CC
08686
08688 22 C8721 C5680
08698 43 C8778 C8719
0871C 32 C872C C00CC
08721 5
08722 26 C2492 08721
08734 32 C331L C00C0
08746 44 C6042 C0099
08758 32 C249C C00CC
0877C 49 C6042 C0000
08777
08778 26 C2492 C334C
08790 19 C2415 C00CP
08802 49 C8654 C008P
08809

07070 ****		MACRC FCR HCLLERITH TYPE READ AND WRITE					
07070	****						
07080	HTYPE1	TF	WIDTH2	,SWF	,11	08810	26 C6064 C596R
07090		TF	INPLLS	,LAST		08822	26 C6053 C582C
07100		A	LAST	,WIDTH2		08834	21 C582C C6064
07110		C	LAST	,MAX2		08846	24 C582C C6145
07120		BNH	**32			08858	47 C889C C11CC
07130		A	SWF	,WIDTH2		08870	21 C5965 C6C64
07140		B	ER CCM 2			08882	49 C7386 CCCCC
07150		DDRG	**4			08889	
07160		BD	MWRT	,RNEFSM		08890	43 C897C C6C61
07170	HRD	SM	WIDTH 2	,2	,10,	08902	12 C6064 C00-2
07180		BL	BSWF			08914	47 C5934 C13CC
07190		AM	SWF	,2		08926	11 C5565 -C002
07200		TF	SWF	,INPLUS	,611	08938	26 C596R C6C5L
07210		AM	INPLLS	,2		08950	11 C6C53 -C002
07220		B	HRD			08962	49 C8902 CCCCC
07230		DDRG	**4			08969	
07240	MWRT	SM	WIDTH 2	,2	,10,	08970	12 C6C64 C00-2
07250		TDM	COMPSS	,C		08982	15 C575C CCCCC
07260		BL	BSWF			08994	47 C5934 C13CC
07270		AM	SWF	,2		09006	11 C5965 -C002
07280		TF	INPLLS	,SWF	,611	09018	26 C6C5L C596R
07290		AM	INPLLS	,2		09030	11 C6C53 -C002
07300		B	H WRT			09042	49 C897C CCCCC
07310		DDRG	**4			09049	
07320	EFRD1	GF	LOC			09050	33 C6C85 CCCCC
07330		TF	FIXEND+6	,1	CON 5+6	09062	26 C3766 C55C8
07340		B	FIX			09074	49 C8854 CCCCC
07350		DDRG	**4			09081	
07360	EFRD2	TDM	FIXEND+1	,2		09082	15 C3761 C00C2
07370		TF	LOC	,FAC	,6	09094	26 C6C8R C2492
07380		SM	LOC	,2		09106	12 C6C85 -C002
07390		TF	LOC	,FAC-2	,6	09118	26 C6C8R C2490
07400		B	ER F7			09130	49 IC642 CCCCC
07410		DDRG	**4			09137	
07420	*****						
07430	ATYPE1	TF	WIDTH2	,SWF	,11	09138	26 C6C64 C596R
07440		TF	INPLLS	,LAST		09150	26 C6C53 C582C
07450		A	LAST	,WIDTH 2		09162	21 C582C C6064
07460		C	LAST	,MAX 2		09174	24 C582C C6145
07470		BH	ER F9			09186	46 C731C C1100
07480		TF	TERM	,LAST		09198	26 C7C93 C582C
07490		SM	TERM	,2		09210	12 C7C93 -C002
07500		TFM	SWC ADJ	,WRITE A		09222	16 C6152 -5482
07510		BD	SWL	,Rk EF SW		09234	43 C6042 C6061
07520		TFM	SWC ADJ	,READ A		09246	16 C6152 -9266
07530		B	SWL			09258	49 C6042 CCCCC
07540		DDRG	**4			09265	
07550	READA	CF	INPLUS	,1	,6	09266	33 C6C5L C00CC
07560		AM	INPLLS	,1	,10	09278	11 C6C53 C00-1
07570		C	INPLLS	,TERM		09290	24 C6C53 C7C93
07580		BL	READ A			09302	47 C9266 C13CC
07590		BNF	RDAFL	,LCC		09314	44 C9426 C6089
07600		CF	LOC			09326	33 C6C85 CCCCC
07610		TF	LOC	,FXZ	,6	09338	26 C6C8R C2815
07620		S	WIDTH 2	,K		09350	22 C6C64 C2221

07630	RCA	BH	ERF7A			09362	46 C94C6 C11CC
07640		A	LOC	,WIDTH 2		09374	21 C6C85 C6C64
07650		TF	LOC	,TERM	,611	09386	26 C6C8R C7C9L
07660		B	ER F7			09398	49 IC642 CCCCC
07670		DDRG	**4			09405	
07680	ERF7A	TDM	EI	,7	,11,	09406	15 C2615 CCCCC
07690		B	ER F7			09418	49 IC642 C0000
07700		DDRG	**4			09425	
07710	RDAFL	TFM	LOC	,CC	,610	09426	16 C6C8R C00-C
07720		SM	LOC	,2	,10	09438	12 C6C85 C00-2
07730		TF	LOC	,FLZ	,611	09450	26 C6C8R C335L
07740		S	WIDTH 2	,F		09462	22 C6C64 C2219
07750		B	RD A			09474	49 C9362 CCCCC
07760		DDRG	**4			09481	
07770	WRITEA	TF	FAC	,LCC	,11	09482	26 C2492 C608R
07780		BNF	WA FX	,FAC-1		09494	44 C9594 C2451
07790		SM	LOC	,2		09506	12 C6C85 -C002
07800		S	WIDTH 2	,F		09518	22 C6C64 C2219
07810	WRTA	BH	WRTA 2			09530	46 C9574 C11CC
07820		A	LOC	,WIDTH 2		09542	21 C6C85 C6064
07830		TF	TERM	,LCC	,611	09554	26 C7C5L C6C8R
07840		B	BSWF			09566	49 C5934 CCCCC
07850		DDRG	**4			09573	
07860	WRTA2	SM	WIDTH 2	,02	,10	09574	12 C6C64 C00-2
07870		B	WRTA			09586	49 C953C CCCCC
07880		DDRG	**4			09593	
07890	WAFX	S	WIDTH 2	,K		09594	22 C6064 C2221
07900		B	WRT A			09606	49 C953C CCCCC
07910		DDRG	**4			09613	
07920	*****						
07930	*****						
07940	*****						
07950	*****						
07960	*****						
07970	EPMW1	TF	FAC	,LCC	,11	09614	26 C2492 C608R
07980		BNF	FLOAT	,FAC-1		09626	44 C4C42 C2491
07990		SM	LOC	,2		09638	12 C6C85 -C002
08000		TF	FAC-2	,LCC	,11	09650	26 C249C C608R
08010	EFALP1	TDM	FLTEND-5	,2		09662	15 C38C5 C0002
08020		TF	DPT	,TERM		09674	26 C7445 C7C93
08030		S	DPT	,LCC D 2		09686	22 C7445 C5678
08040		TFM	DPG	,GAP		09698	16 C6C84 -2555
08050		S	DPG	,LOC D 2		09710	22 C6C84 C5678
08060		TF	DPTN2	,DPT		09722	26 C8581 C7445
08070		SM	DPTN2	,2		09734	12 C8581 -C002
08080	EFALP	SM	WA 2	,1		09746	12 C7392 -C001
08090		TD	WA	,WA2	,611	09758	25 C724J C739K
08100		CF	WA		,6	09770	33 C724J C0000
08110		SM	WA	,2		09782	12 C7241 -C002
08120		C	WA2	,FPM1F		09794	24 C7392 C3313
08130		BH	EF ALP			09806	46 C9746 C11CC
08140		TFM	WA	,CC	,610	09818	16 C724J C00-0
08150		BNF	EF CHKS	,FAC-2		09830	44 C9854 C2490
08160		TFM	WA	,2C	,610	09842	16 C724J C00KC
08170	EFCHKS	TFM	CKW	,CCO	,9	09854	16 C7455 C0-CC
08180		A	CKW	,LCCD		09866	21 C7455 C568C

0819C	A	CRh	,FAC			09878	21	C7455	C2492
0820C	TF	CHAR	,CRh			09890	26	C8721	C7455
08210	S	CHAR	,F			099C2	22	C8721	C2219
08220	C	WIDTH	,LCC D			09914	24	C5755	C5680
08230	BL	ER FR E				09926	47	C5226	C13CC
08240	CM	FAC	, -7C	,10		09938	14	C2492	CCOP-
08250	BNF	+2C	,RNEFSH			09950	44	C947C	C6061
08260	B7	+2C				09962	49	C9982	
08270	BL	+24				09970	47	C9994	C13CC
08280	BD	+26	,FNM	,11		09982	43	10018	C331L
08290	TDM	FLTEND-4	, -1			09994	15	C38C6	CCOCJ
0830C	TFM	CHAR	, -C99	,9		10006	16	C8721	CC-9R
08310	BNF	WRTF	,RNEFSH			10018	44	C4726	C6061
08320	*****								
08330	*****								
08340	*****								
08350	WRTF	S	WIDTH			10030	22	C5755	C2219
08360	BNL	WRT E2	,F			10042	46	C4622	C13CC
08370	BD	+36	,FLTEND-4	,, BR IF F ACT LARGER THAN EFF WICTH		10054	43	1009C	C38C6
08380	S	CHAR	,WIDTH			10066	22	C8721	C5755
08390	BD	ERF8E	,CHAR-2			10078	43	C5226	C8719
0840C	TFM	+47	,GAP			10090	16	10137	-2595
08410	A	+35	,WIDTH			10102	21	10137	C5759
08420	A	+23	,WIDTH			10114	21	10137	C5799
08430	TF	GAP				10126	26	C2555	CCOCC
08440	B	WRTF2				10138	49	C4622	CCOCC
08450	*****	DORG	+4			10145			
08460	*****								
08470	ITYPE1	TF	WIDTH2	,SNF	,11	10146	26	C6C64	C596R
08480	A	LAST	,WIDTH2			10158	21	C582C	C6C64
08490	C	LAST	,MAX2			10170	24	C582C	C6145
0850C	BM	ER F5				10182	46	0731C	C11CC
08510	TF	INPLLS	,LAST			10194	26	C6C53	C582C
08520	TFM	IR DIG+6	,FAC			10206	16	10456	-2492
08530	TFM	SWC ADJ	,WRITE I			10218	16	C6152	-447C
08540	BD	SWL	,RNEFSH			10230	43	C6042	C6061
08550	TF	TERM	,FP1MK			10242	26	C7C93	C3283
08560	TF	FAC	,FXZ			10254	26	C2492	C2815
08570	TFM	SWC ADJ	,READI			10266	16	C6152	JC558
0858C	*****								
08590	*****								
0860C	*****								
08610	IREAD	SM	WIDTH2	,2	,10	10278	12	C6C64	CCO-2
08620	BL	SWL				10290	47	C6C42	C1300
08630	SM	INPLLS	,2			10302	12	C6C53	-CCO2
08640	BNR	+20	,INPLUS	,11, CHECK FOR INPUT RECCRD MARK		10314	45	10334	C605L
0865C	B7	ERRF7I				10326	49	10526	
08660	CM	INPLLS	,7C	,610		10334	14	C6C5L	CCOPC
08670	BM	IR DIG				10346	46	1045C	C11CC
08680	BE	IR BLNK				10358	46	1048E	C12CC
08690	CM	INPLLS	,CC	,610		10370	14	C6C5L	CCO-C
0870C	HE	IR BLNK				10382	46	1048E	C12CC
08710	CM	INPLLS	,2C	,610		10394	14	C6C5L	CCOCC
08720	BE	I MINUS				10406	46	1050E	C12CC
08730	CM	INPLLS	,1C	,610		10418	14	C6C5L	CCOJO
08740	BE	SWL				10430	46	C6C42	C12CC

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0875C	B	ERR F7I				10442	49	10526	CCOCC
08760	*****	DORG	+4			10449			
08770	INDIG	TD	,INPLUS	,11		10450	25	CCOCC	C605L
08780	C	+6	,TERM			10462	24	10456	C7C93
08790	BL	ERR F7 I				10474	47	10526	C13CC
0880C	IRBLNK	SM	IR DIG+6	,1		10486	12	10456	-00C1
08810	B	I READ				10498	49	10278	CCOCC
08820	*****	DORG	+4			10505			
08830	IMINUS	SF	FAC			10506	32	C2492	CCOCC
0884C	B	SWL				10518	49	C6C42	CCOCC
08850	*****	DORG	+4			10525			
08860	ERRF7I	TF	FAC	,FXZ	,, SET FIXED ZERC INTC FAC	10526	26	C2492	C2815
08870	TFM	EI	,677	,911, SET ERRCR F7 INDICATION		10538	16	C2615	CC07P
0888C	B	SWL				10550	49	C6C42	CCOCC
08890	*****	DORG	+4			10557			
0890C	READI	SF	FP1MK	,	,6	10558	32	C328L	CCOCC
08910	TF	FLT END	,ICCN 2+6			10570	26	0381C	1068C
08920	BNF	FLOA1	,LCC			10582	44	04042	C6089
08930	CF	LOC				10594	33	C6C89	CCOCC
08940	READIF	TF	LOC	,FAC	,6	10606	26	C6C8R	C2492
08950	SM	LOC	,2			10618	12	C6C85	-CCO2
0896C	TF	LOC	,FAC-2	,6		10630	26	C6C8R	C249C
08970	ERF7	BNF	BSWF-12	,EI	,, BR IF ACT ERROR TYPE F7	10642	44	C5922	C2615
08980	CF	EI		,, ERASE ERRCR F7 INDICATION		10654	33	C2615	CCOCC
08990	B	ER CCM 2				10666	49	C738E	CCOCC
0900C	*****	DORG	+4			10673			
09010	ICON2	B	READ IF	,	,1	10674	4R	1060E	CCOCC
09020	*****	DORG	+4			10681			
09030	*****								
09040	*****								
09050	*****								
09060	*****								
09070	*****								
09080	*****								
09090	WRTI1	TFM	WA2	,FAC+1		10682	16	C7392	-2493
0910C	TF	FAC	,LCC	,11		10694	26	C2492	C608R
09110	BNF	WRTI2+12	,FAC-1			10706	44	10774	C2491
09120	IFWRT	SM	LOC	,2		10718	12	C6089	-0002
09130	TF	FAC-2	,LCC	,11		10730	26	C249C	C608R
09140	TF	FIXEND+6	,ICCN3+6			10742	26	C376E	C551E
09150	B	FIX				10754	49	C3854	CCOCC
09160	*****	DORG	+4			10761			
09170	WRTI2	TDM	FIXEND+1	,2		10762	15	C3761	CCOCC2
09180	TR	GAM-19	,MASK I			10774	31	C253E	C5472
09190	TFM	MO	,GAM+1			10786	16	10877	-2556
0920C	WRTI	SM	WA 2	,1		10798	12	C7392	-CCO1
09210	SM	WA	,2			10810	12	C7241	-CCO2
09220	TD	WA	,WA 2	,611		10822	25	0724J	C739K
09230	BD	I DIG	,WA 2	,11		10834	43	10854	C739K
09240	B	I DIG+12				10846	49	1086E	CCOCC
09250	*****	DORG	+4			10853			
09260	IDIG	TF	MO	,WA		10854	26	10877	C724J
09270	CF	GAM		,, PREVENTS PREMATURE TERM, FOR NEG ARG		10866	33	C2555	CCOCC
09280	MO	DS	5	,, ADR OF MI ORDER NON ZERO DIGIT		10877		5	
09290	BNF	WRTI	,WA	,11		10878	44	10798	C724J
0930C	CM	MO	,GAM+1			10890	14	10877	-2556

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12670	B	LNENT	.	.	6.	FIND LN CF A	14134	49	C336C	CCOCC
12680		DORG	-4				14141			
12690	TFM	FINISH*7	.,+32				14142	16	C381C	J4174
12700	TFM	FMP-1	.,TAFE			.. SET UP MULTIPLICATION	14154	16	04137	-2535
12710	B	FMP	.			.. MULTIPLY 8 TIMES LN(A)	14166	49	04138	COOCC
12720		DORG	-4				14173			
12730	TFM	FINISH*7	.,+20				14174	16	0381C	J4154
12740	B	EXPENT	.		6.	FIND A**B = E**BLN(A)	14186	49	0337L	CCOCC
12750		DORG	-4				14193			
12760	TDM	FINISH*2	.2				14194	15	C38C3	CCOCC2
12770	CLWR	NOP	FINISH*1				14206	41	038C4	CCOCC
12780	TFM	EI	.,676		9.	ERR F6, -ATCB	14218	16	C2615	CCO76
12790	TDM	99	.,0				14230	15	C0C95	CCOCC
12800	B	ERROR	.				14242	49	C3676	CCOCC
12810		DORG	-4				14249			
12820		DORG	15CCC				15000			
12830	34	B3	.,0C701				15000	34	15044	C07C1
12840	38	B3	.,0C702				15012	38	15044	C07C2
12850	36	B3	.,0C703				15024	36	15044	C07C3
12860	B	.,+22					15036	49	15058	CCOCC
12870		DORG	-3				15044			
12880	B3	DSC	9		.,01684C107		15044		9	
		CL68401C7								
12890		DSA	START*3				15057		5 x	1
							15057		-3854	
12900		TRA					15058	36	CCOCC	CC5CC
							15070	49	CCOCC	COOCC
12910		TCD	1500C				150CC			
12920		CEND					CCOCC			

ATYF1	C9138	ISPF1	03303	EFRC1	C5050	FXC1	11414	MASK1	C5472
CLRTCS	C5158	ITYPE1	10146	EFRC2	C5082	FXCR1	11496	MASK	C5421
COMACC	C2231	LCGDIG	08470	EFWRT	07874	FXCR	03598	MASK	05655
COMEND	C6992	LCCACJ	06574	EI	02615	FXC	03574	MASK	06145
COMPLT	C7006	MASKP	05422	EACC	03768	FXERR	03676	MASK	06914
COMPSW	C575C	MATRIX	06518	ENTLA	02248	FXI	03283	MFOV2	03746
DATCUD	C6165	MATRIX2	06602	ERCCP	05346	FXM1	11388	MF	03473
DATERR	C6157	MESERR	02607	ERFTA	C5406	FXM	03550	ML	03712
DATINH	C6173	MCACAL	00796	ERF7	1C842	FXSR1	11336	N1	C2233
DICDDA	C3387	CCCREV	13C76	ERF8E	C5226	FXSR	03926	N2	C2238
OKBLFF	C2404	ONEFAC	13320	ERF8I	11098	FXS	03902	NCADD	12324
DKDATA	C3375	CVFLC4	03652	ERF9	C7310	FXZ	02815	NCDIV	13666
EEXP22	C829C	PRCNTR	06908	ERRER	CC402	FZERO	04574	NCRM	12122
EEXPAD	C845C	PRCGST	C2226	ERRCR	03676	GAP	02555	OLWR	14206
EFALPH	C9662	RACDIT	05862	ETYPE	04580	GET	13950	CNEZ	03038
EFCHKS	C9854	REAFER	04492	EXP	C8191	GM2F	C3735	CLT	11C41
EFEND2	C8686	READIF	10606	F2	03661	HMC	C3338	PAR	C3378
EFPLUS	C805C	REPSW3	05657	FAC	02492	MC	1C877	PDT	C3333
EFTEPM	C863C	RHEFS4	06061	FAD1	11836	MRC	08902	PICV2	C3163
EFTYPE	C8062	ICOMK	03293	FAC	04C90	HTYPE	C4602	PICV4	03191
ENDFOR	C6179	IC2MF	03343	FAK21	13958	HRT	C8570	PI	C3133
ENTARS	C2323	2FM1	03429	FAXB	C4258	ICON2	1C674	PRAL	C5578
ENTATN	C2313	96MF	03318	FAXI1	13296	ICON3	05510	PR	04394
ENTCDS	C2303	97MF	03363	FAXI	04234	ICCN5	05502	PRKEY	06919
ENTCED	C2298	97MF	03323	FCMNE	07818	ICCN6	05494	PSI	12572
ENTCRR	C2293	98MF	03328	FC1	12574	ICIG	1C854	RACC1	C6C10
ENTEXP	C2253	99MK	03288	FC	04162	IFWRT	1C718	RACC	04426
ENTFET	C2283	9SCP	02795	FCVRI	12786	IMSA	C2575	RAPT1	05990
ENTFID	C2273	9SPF	02854	FCVR	04186	IMP	C6179	RAPT	C4402
ENTREC	C2278	ADD	12124	FM	03308	IN	C6421	RATV1	05970
ENTSC1	C2258	ATYF1	04536	FIX1	11130	LOCAL	00716	RATV	04378
ENTSC2	C2263	AXJ	13458	FIX11	12866	IOCR	C7446	RCTY	05080
ENTSC3	C2268	B3	15C44	FIXI	04210	IOGT	CC566	RDAFL	05426
ENTSN	C2308	BETA	02603	FIX	03854	IDPT	CC532	RDALP	06022
ENTSQT	C2318	BSMF	05934	FHOCC	03427	IORBC	CC520	RDA	09362
ENTSD	C2288	CHAR2	07016	FLAAT	C4042	IORT	CC565	RDFCH	07718
ERCCP2	C7386	CHAR	08721	FLZ	03353	IOSK	CC594	READA	09266
ERRF7E	C8778	CKW	07455	FPIMF	03313	IRSIG	1C450	READI	10598
ERRF7I	10526	DIO	00816	FPI	03625	IREAD	1C278	RECLG	02243
EXPENT	C3373	DPG	06084	FPFAC	03452	ITYPE	C4448	RECPR	02403
FINDIN	C3583	CPTM2	08581	FPP1	12414	K2	C3648	RECCA	07070
FINISH	C3803	DPT	07445	FPP	04138	K	02221	REDO	07026
FIXEND	03760	CUDH	02607	FNNM1	03358	LAST	05820	REP2	07198
FLOAT1	11596	CUD	02687	FNN	03313	LN10	02980	REP3	07230
FLTEND	C381C	CUMMY	99999	FPIMK	03283	LN2	02887	REP	C7126
FLZALP	C3348	EEXP2	08242	FP2	03605	LN4	02918	REPSH	05634
FLZERS	06511	EEXP	08370	F	02219	LN8	02949	RSN1	11516
FNFAXI	12498	EXP	08382	FSB1	11816	LNENT	03368	RSN	04020
FNGNEZ	C493C	EFALP	09746	FSB11	12362	LOCC2	05478	RWA2	05742
FNNINE	11464	EFCCP	07478	FSBR	04114	LOCO	05680	RWA	05634
GM2F2F	03526	EFDEC	08502	FSB	04066	LOC	04089	SAVE	02565
HTYPE1	C881C	EPDIG	08570	FTYPE	04558	LOGE	C3C10	SE	12694
IMINUS	10506	EPENC	08654	FX1	02825	LVI	03616	SIX	03219
ISAPP	C3298	EPINA	08038	FX9	02805	R14	13866	SLASH	06676
IMPLUS	G0053	EPW1	09614	FXA1	11322	HANTP	14C42	SOS	13814
IRBLNK	10486	EPW	04514	FRA	03878	MASKP	05433	START	03891

STUP	C2395	TNOPI	03103	WATY	04282	W	0224C	WRITE1	0447C
SWC	C609C	TNDZ	03073	WIDTH	03799	XTYPE	C7354	WRITE11	1C682
SWF	C5965	WA2	07392	WRITE	06816	ZERO	C2767	WRITE1P	05622
SWL	C6042	WA3	04591	WRTA	09574	SLASH2	067C8	WRITEPPE	05C50
TAFF	C2535	WACD1	05610	WRTA	09530	STZERO	06423	WRITEPPE	05C18
TANE	C3248	WACD	04330	WRTA2	04622	SWCADJ	06152	WRITEPPE	1C934
TER34	C3278	WAFX	09594	WRTA	1C030	UNFLOW	12292	ZERFAC	03584
TERM	C7093	WAPT1	05558	WRTF	04726	WEFDEC	05194		
TOPAC	C34CE	WAPT	04306	WRTI2	1C762	WIDTH2	06C64		
TRACE	C3496	WA	07241	WRTI3	1C970	WRITE1	06944		
TRFX	C3564	WATY1	05538	WRTI	1C798	WRITEA	05482		

END OF ONE ASSEMBLY.

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00C10	*****	1620 FORTRAN II-C	SUBROUTINES WITH FLOATING POINT HARDWARE						
00C20	*****	PORT ENTRY POINTS AND CONSTANTS							
00C30	ICRBC	DS	,52C			0C520		C	
00C40	ICPT	DS	,532			0C532		C	
00C50	ICSK	DS	,554			0C554		C	
00C60	IUGT	DS	,566			0C566		C	
00C70	ENRET	DS	,6C2			0C6C2		C	
00C80	ICRT	DS	,565			0C565		C	
00C90	ICCAL	DS	,716			00716		C	
00100	MONCAL	DS	,796			00796		C	
00110	CIO	DS	,816			00816		C	
00120	*****	1620 FORTRAN II-C	IN CORE AREAS						
00130	***	COMMUNICATION AREA							
00140		DORG	2218			02218			
00150	F	DS	2,, FLOATING POINT WORD LENGTH			02219		2	
00160	K	DS	2,, FIXED POINT WORD LENGTH			02221		2	
00170	PROGST	DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM			02226		5	
00180	CLMADD	DS	5,, STARTING ADDRESS OF COMMON AREA			02231		5	
00190	N1	DS	2,, NUMBER OF WORDS IN LOGICAL RECORD			02233		2	
00200	N2	DS	5,, NUMBER OF LOGICAL RECORDS			02238		5	
00210	W	DS	2,, WORD LENGTH			02240		2	
00220	WCLG	DS	3,, RECORD LENGTH			02243		3	
00230	ENTLN	DS	5,, ENTRY ADDRESS TO LOG SUBROUTINE			02248		5	
00240	ENTEXP	DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE			02253		5	
00250	ENTSC1	DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE			02258		5	
00260	ENTSC2	DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE			02263		5	
00270	ENTSC3	DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE			02268		5	
00280	ENTFIC	DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE			02273		5	
00290	ENTREC	DS	5,, ENTRY ADDRESS TO RECORD SUBROUTINE			02278		5	
00300	ENTFET	DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE			02283		5	
00310	ENTSWC	DS	5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE			02288		5	
00320	ENTDRR	DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE			02293		5	
00330	ENTDEC	DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE			02298		5	
00340	ENTCOS	DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE			02303		5	
00350	ENTSIN	DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE			02308		5	
00360	ENTATN	DS	5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE			02313		5	
00370	ENTSGT	DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE			02318		5	
00380	ENTABS	DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE			02323		5	
00390		DS	70,, RESERVED FOR ENTRIES TO ADDEC SUBROUTINES			02393		7C	
00400	*****	COMMON WORKING AREAS							
00410	STOP	DAC	5,STOP'			02395		5 X	2
			STOP'						
00420	RECMK	DS	,STCP+8			02403		C	
00430	CKBUFF	DSS	29			02404		29	
00440	FAC	DS	60			02492		6C	
00450		DC	1			02493		1	
			'						
00460	SAVE	DS	72			02565		72	
00470	BETA	DS	38			02603		38	
00480		DGM				02604		1	
00490	GAM	DS	,SAVE-10			02555		C	
00500	TAPE	DS	,SAVE -30			02535		C	
00510	IMSA	DS	,BETA -28			02575		C	
00520	MESERR	DAC	6,ER E '			02607		6 X	2
			ER E '						
00530	CLDM	DS	,MESERR			02607		C	

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Table listing program constants and parameters for MCNITCR 1. Columns include program name (e.g., 00540 EI), DC/DS values, constants (e.g., **, 70), and cross-reference codes (e.g., 02615 C). The list covers various modules like FICATING PCINT CCNTANTS, FIXEC PCJAT CCNTANTS, and INDIRECT ADDRESS BCHKES ANO MCCIFIEO.

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Table listing program constants and parameters for MCNITCR 1. Columns include program name, DC/DS values, constants, and cross-reference codes. The list includes modules like FPMK, LCOMK, IPMSAPF, ISPFM1, FAF, FAFM, G6MF, 97MF, S8MF, PCT, FNC, 1C2MF, FLZALP, FLZ, FNHML, 97M2F, LNFNT, EXPENT, PAR, CROATA, DIODDA, and CIODCA.

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01130	DC	5	,OCCOO		03392	5	
	-OCCO						
01140	DC	3	,OCC		03395	3	
	-OC						
01150	DSA	DKHUFF			03400	5 X	1
					03400		-24C4
					03401		1
01160	DC	1	,*				
	*						
01170	*****		1620 FORTRAN II-C IN CORE SUBROUTINES				
01180	DS	5			03406	5	
01190	TCFAC	TFL	FAC ,TCFAC-1 ,11		03408	C6	C2452 C34CP
01200	BB				03420	42	CCCC CC00C
01210	DOORG	**9			03422		
01220	ZERFAC	TFL	FAC ,FLZER		03422	C6	C2452 C376C
01230	B	FINISH+1	,ZERO-94 ,7		03434	49	C3724 -2673
01240	ZEROM	DS	5 ,*		03445	5	
					03450	5	
					03452	C6	C345J C2452
01260	FMFAC	TFL	FMFAC-1 ,FAC ,6		03464	42	CCCC CC00C
01270	BB				03466		
01280	DOORG	**9			03466	C6	C2452 C376C
01290	UNFLO	TFL	FAC ,FLZER ** ERR F5 UNFL IN FEXP		03478	49	C3774 C2485
01300	B	ERXV+12	,FAC-3 ** FAC IS FL PT ZERC		03489	5	
01310	FNHM2	DS	5 ,*		03494	5	
01320	DS	5			03496	C6	C349A C2452
01330	TRACE	TFL	TRACE-1 ,FAC ,6		03508	47	C3464 CC4CC
01340	BNC4	FMFAC+12			03520	34	C2554 CC951
01350	K	GAM-1	,C951 ** SINGLE CARRIAGE SPACE		03527		1
01360	FINDIN	CC	1 ,1 **4				
	J						
01370	GM1M2F	DS	**5 , GAMMA MINUS ONE MINUS TWO TIMES F		03526		C
01380	BNF	TRFX	,FAC-1 ** BRANCH IF FIXED ARGUMENT		03532	44	C355E C2451
01390	WN	FNH	,C9C1 ,6, PRINT FLICATING ARGUMENT		03544	38	C331L CC9C1
01400	BB				03556	42	CCCC CC00C
01410	DOORG	**9			03558		
01420	TRFX	WN	FXH ,C9C1 ,6, PRINT FIXED ARGUMENT		03558	38	C328L CC9C1
01430	BB				03570	42	CCCC CC00C
01440	DOORG	**9			03572		
01450	OVFLCN	TFM	FAC ,C199 ,8910		03572	16	C2452 C-JR9
01460	2FM1	DS	2 ,*-2 , TWO TIMES F MINUS ONE		03581		2
01470	FKDDC	DS	1 ,*-4 , O F OR K ODD, 1 F AND K EVEN		03579		1
01480	TF	FAC-2	,95CPF ** SET RESULT TO ALL NINES		03584	26	C245C C2755
01490	ERROR	K	FINISH ,C951 ,6, SINGLE CARRIAGE SPACE		03596	34	C372L CC951
01500	WA	MESERR	,C9C1 ** PRINT ERROR MESSAGE		03608	35	C24C7 CC9C1
01510	B	ENDD+12			03620	49	C37CC CC00C
01520	ML	RNF	**24 ,ML-1 ** SET CORRECT SIGN ON FAC		03632	44	C3656 C3631
01530	SF	FAC	,GAM		03644	32	C2492 C2555
01540	GM2F	DS	**2 , GAMMA MINUS TWO TIMES F		03655		C
01550	TDM	FXERR+25	,C2CC9 ,79, RESET ERROR EXIT		03656	15	C3621 -2-C9
01560	MF	DS	2 ,*-1 , MINUS F		03666		2
01570	FP2	DS	2 ,*-3 , F PLUS TWO		03664		2
01580	TFM	FXERR+30	,ENDD+12		03668	16	C3626 -37CC
01590	FIXENC	BB			03680	42	CCCC CC00C
01600	DOORG	**3			03688		
01610	FXERR	DS	,ERRCR ** MOVE EXPONENT		03596		C
01620	ENDD	TF	FAC ,SAVE **		03688	26	C2452 C2565

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01630	BNF	**24	,99 ** SET PROPER SIGN		03700	44	C3724 CC055
01640	SF	FAC-2	,ENDD		03712	32	C245C C3688
01650	FINISH	DS	,*		03723		C
01660	FLTENC	DS	,FINISH+7		03730		C
01670	BB				03724	42	CCCC CC00C
01680	DOORG	**4			03731		
01690	DC	28	,C		03758		28
			-OCCOOOCCOOOCCOOOCCOOOCCOOOCCOOO				
01700	FLZER	CC	2 ,*-99		03760		2
	RR						
01710	ERXV	BNF	**24 ,FAC		03762	44	C3786 C2492
01720	AM	EI	,0101 ,8910,ERR CODE = ERR CODE + 1		03774	11	C2615 C-J-1
01730	FMI	DS	**2 , F FINLS ONE		03783		2
01740	K	FMFAC+12	,C951 ** SINGLE CARRIAGE SPACE		03784	34	C3464 CC951
01750	WA	MESERR	,C9C1 ** PRINT ERROR MESSAGE		03798	39	C24C7 CC9C1
01760	B	ERXV+30	,*		03810	49	C375K CC00C
01770	DOORG	**4			03817		
01780	F2	CC	2 ,C		03818		2
	-O						
01790	K2	DC	2 ,O		03820		2
	-O						
01800	MFOV2	DS	2		03822		2
01810	CUMMY	DS	,99999		99999		C
01820	STANT	DS	,C3851		03851		C
01830	*****		1620 FORTRAN II-C SUBROUTINES - INITIAL SECONDARY LINKAGE				
01840	DOORG	START			03851		
01850	DS	1			03851		1
01860	DC	2	,OC		03853		2
	-O						
01870	TFM	FMCN+11	,*-START		03854	16	C7465 -CC03
01880	DC	2	,1 **3		03862		2
	-1						
01890	B	FMCN			03866	49	C7454 CC00C
01900	TFM	FMCN+11	,*-START		03878	16	C7465 -CC27
01910	DC	2	,1 **3		03886		2
	-1						
01920	B	FMCN			03890	49	C7454 CC00C
01930	TFM	FMCN+11	,*-START		03902	16	C7465 -CC51
01940	DC	2	,1 **3		03910		2
	-1						
01950	B	FMON			03914	49	C7454 CC00C
01960	TFM	FMCN+11	,*-START		03926	16	C7465 -0075
01970	DC	2	,1 **3		03934		2
	-1						
01980	B	FMON			03938	49	C7454 CC00C
01990	TFM	FMCN+11	,*-START		03950	16	C7465 -CC99
02000	DC	2	,1 **3		03958		2
	-1						
02010	B	FMON			03962	49	C7454 CC00C
02020	TFM	FMON+11	,*-START		03974	16	C7465 -C123
02030	DC	2	,1 **3		03982		2
	-1						
02040	B	FMON			03986	49	C7454 CC00C
02050	TFM	FMCN+11	,*-START		03998	16	C7465 -0147
02060	DC	2	,1 **3		04006		2
	-1						

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02070	B	FMCN			04C10	49	C7454	CC0CC
02080	DORG	*-1			04C20			
02090	TFM	FMCN+11	,*-START		04C20	16	C7465	-C169
02100	DC	2	,1	,*-3	04C28	2		
	-1							
02110	B	FMCN	,	,8	04C32	49	C7454	C-CCC
02120	DORG	*-1			04C42			
02130	TFM	FMCN+11	,*-START		04C42	16	C7465	-C191
02140	DC	2	,1	,*-3	04C50	2		
	-1							
02150	B	FMCN			04C54	49	C7454	CC0CC
02160	TFM	FMCN+11	,*-START		04C66	16	C7465	-C215
02170	DC	2	,1	,*-3	04C74	2		
	-1							
02180	B	FMCN			04C78	49	C7454	CC0CC
02190	TFM	FMCN+11	,*-START		04C90	16	C7465	-C239
02200	DC	2	,1	,*-3	04C98	2		
	-1							
02210	B	FMCN			04102	49	C7454	CC0CC
02220	TFM	FMCN+11	,*-START		04114	16	C7465	-C263
02230	DC	2	,1	,*-3	04122	2		
	-1							
02240	B	FMCN			04126	49	C7454	CC0CC
02250	TFM	FMCN+11	,*-START		04138	16	C7465	-C287
02260	DC	2	,1	,*-3	04146	2		
	-1							
02270	B	FMCN			04150	49	C7454	CC0CC
02280	TFM	FMCN+11	,*-START		04162	16	C7465	-0311
02290	DC	2	,1	,*-3	04170	2		
	-1							
02300	B	FMCN			04174	49	C7454	CC0CC
02310	TFM	FMCN+11	,*-START		04186	16	C7465	-0335
02320	DC	2	,1	,*-3	04194	2		
	-1							
02330	B	FMCN			04158	49	C7454	CC0CC
02340	TFM	FMCN+11	,*-START		04210	16	C7465	-0359
02350	DC	2	,1	,*-3	04218	2		
	-1							
02360	B	FMCN			04222	49	C7454	CC0CC
02370	TFM	FMCN+11	,*-START		04234	16	C7465	-0383
02380	DC	2	,1	,*-3	04242	2		
	-1							
02390	B	FMCN			04246	49	C7454	CC0CC
02400	TFM	FMCN+11	,*-START		04258	16	C7465	-0407
02410	DC	2	,1	,*-3	04266	2		
	-1							
02420	B	FMCN			04270	49	C7454	CC0CC
02430	TFM	FMCN+11	,*-START		04282	16	C7465	-0431
02440	DC	2	,2	,*-3	04290	2		
	-2							
02450	B	FMCN			04294	49	C7454	CC0CC
02460	TFM	FMCN+11	,*-START		04306	16	C7465	-0455
02470	DC	2	,2	,*-3	04314	2		
	-2							
02480	B	FMCN			04318	49	C7454	CC0CC
02490	TFM	FMCN+11	,*-START		04330	16	C7465	-0479

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02500	CC	2	,2	,*-3	04338	2		
	-2							
02510	B	FMCN			04342	49	C7454	CC0CC
02520	TFM	FMCN+11	,*-START		04354	16	C7465	-0503
02530	CC	2	,2	,*-3	04362	2		
	-2							
02540	B	FMCN			04366	49	C7454	CC0CC
02550	TFM	FMCN+11	,*-START		04378	16	C7465	-0527
02560	CC	2	,2	,*-3	04386	2		
	-2							
02570	B	FMCN			04390	49	C7454	CC0CC
02580	TFM	FMCN+11	,*-START		04402	16	C7465	-0551
02590	CC	2	,2	,*-3	04410	2		
	-2							
02600	B	FMCN			04414	49	C7454	CC0CC
02610	TFM	FMCN+11	,*-START		04426	16	C7465	-0575
02620	CC	2	,2	,*-3	04434	2		
	-2							
02630	B	FMCN	,	,8	04438	49	C7454	C-CCC
02640	DORG	*-1			04448			
02650	TFM	FMCN+11	,*-START		04448	16	C7465	-0597
02660	DC	2	,3	,*-3	04456	2		
	-3							
02670	B	FMCN	,	,8	04460	49	C7454	C-CCC
02680	DORG	*-1			04470			
02690	TFM	FMCN+11	,*-START		04470	16	C7465	-0619
02700	DC	2	,4	,*-3	04478	2		
	-4							
02710	B	FMCN	,	,8	04482	49	C7454	C-CCC
02720	DORG	*-1			04492			
02730	TFM	FMCN+11	,*-START		04492	16	C7465	-0641
02740	DC	2	,7	,*-3	04500	2		
	-7							
02750	B	FMCN	,	,8	04504	49	C7454	C-CCC
02760	DORG	*-1			04514			
02770	TFM	FMCN+11	,*-START		04514	16	C7465	-0663
02780	DC	2	,8	,*-3	04522	2		
	-8							
02790	B	FMCN	,	,8	04526	49	C7454	C-CCC
02800	DORG	*-1			04536			
02810	TFM	FMCN+11	,*-START		04536	16	C7465	-0685
02820	DC	2	,7	,*-3	04544	2		
	-7							
02830	B	FMCN	,	,8	04548	49	C7454	C-CCC
02840	DORG	*-1			04558			
02850	TFM	FMCN+11	,*-START		04558	16	C7465	-0707
02860	DC	2	,5	,*-3	04566	2		
	-5							
02870	B	FMCN	,	,8	04570	49	C7454	C-CCC
02880	DORG	*-1			04580			
02890	TFM	FMCN+11	,*-START		04580	16	C7465	-0729
02900	DC	2	,5	,*-3	04588	2		
	-5							
02910	B	FMCN	,	,8	04592	49	C7454	C-CCC
02920	DORG	*-1			04602			
02930	TFM	FMCN+11	,*-START		04602	16	C7465	-0751

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02940	DC	2	,5	,*-3	0461C	2	
02950	B	FMCN			04614	49	C7454 CCCCC
02960	DORG	*-4			04621		
02970	*****	MODIFICATIONS MADE BEFORE START OF EXECUTION					
02980	A	**23	,F		04622	21	C4645 C2219
02990	TF	LN2	,LN2-28	,7	04634	26	C2887 -2855
03000	A	**23	,F		04646	21	C4665 C2215
03010	TF	LN4	,LN4-28	,7	04658	26	C2918 -285C
03020	A	**23	,F		0467C	21	C4653 C2215
03030	TF	LN8	,LN8-28	,7	04682	26	C2945 -2921
03040	A	**23	,F		04694	21	C4717 C2215
03050	TF	LN10	,LN10-28	,7	0470C	26	C298C -2952
03060	A	**23	,F		04718	21	C4741 C2219
03070	TF	LOGE	,LGE-28	,7	0473C	26	C3C1C -2982
03080	A	**23	,F		04742	21	C4765 C2219
03090	TF	ONEZ	,CNEZ-28	,7	04754	26	C3C38 -3C1C
03100	A	**23	,F		04766	21	C4785 C2219
03110	TF	TWOZ	,TWCZ-28	,7	04778	26	C3C73 -3C45
03120	A	**23	,F		0479C	21	C4813 C2215
03130	TF	TWCPI	,TWCPI-28	,7	048C2	26	C31C3 -3C75
03140	A	**23	,F		04814	21	C4837 C2215
03150	TF	PI	,PI-28	,7	04826	26	C3133 -31C5
03160	A	**23	,F		04838	21	C4861 C2219
03170	TF	PICV2	,PICV2-28	,7	0485C	26	C3163 -3135
03180	A	**23	,F		04862	21	C4885 C2219
03190	TF	PICV4	,PICV4-28	,7	04874	26	C3191 -3163
03200	A	**23	,F		04886	21	C49C5 C2219
03210	TF	SIX	,SIX-28	,7	04898	26	C3215 -3151
03220	A	**23	,F		0491C	21	C4933 C2219
03230	TF	TAN6	,TAN6-28	,7	04922	26	C3248 -3220
03240	A	**23	,F		04934	21	C4957 C2219
03250	TF	TEN34	,TEN34-28	,7	04946	26	C3278 -325C
03260	S	**18	,F		04958	22	C4976 C2219
03270	SF	9SPF	,F	,2	04970	32	-2854 C00CC
03280	S	**18	,K		04982	22	C5CC0 C2221
03290	SF	FX9+1	,F	,2	04994	32	-28C6 C00CC
03300	S	**18	,K		05006	22	C5C24 C2221
03310	SF	FX2+1	,F	,2	05018	32	-2816 C00CC
03320	S	**18	,K		05030	22	C5C48 C2221
03330	SF	FX1+1	,F	,2	05042	32	-2826 C00CC
03340	S	**18	,F		05054	22	C5C72 C2219
03350	SF	9SCPF+1	,F	,2	05066	32	-2796 C00CC
03360	S	FXH	,K		05078	22	C3283 C2221
03370	S	99MK	,K		0509C	22	C3288 C2221
03380	S	10CMK	,K		051C2	22	C3253 C2221
03390	A	IMSAPP	,F		05114	21	C3258 C2219
03400	A	ISPFI	,F		05126	21	C33C3 C2219
03410	S	FH	,F		05138	22	C33C8 C2219
03420	S	FNH	,F		0515C	22	C3313 C2219
03430	S	96PF	,F		05162	22	C3318 C2219
03440	S	97MF	,F		05174	22	C3323 C2215
03450	S	98PF	,F		05186	22	C3328 C2215
03460	S	PDI	,F		05198	22	C3333 C2215
03470	S	HND	,F		05210	22	C3338 C2219
03480	S	102MF	,F		05222	22	C3343 C2215

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03490	A	FLZALP	,F		05234	21	C3348 C2219
03500	A	FLZ	,F		05246	21	C3353 C2219
03510	S	FNHM1	,F		05258	22	C3358 C2219
03520	TF	F2	,F		0527C	26	C381E C2219
03530	A	F2	,F		05282	21	C381E C2219
03540	TF	K2	,K		05294	26	C382C C2221
03550	A	K2	,K		05306	21	C382C C2221
03560	S	97M2F	,F2		05318	22	C3363 C3818
03570	S	GM2F	,F2		05330	22	C3655 C3818
03580	S	GM1M2F	,F2		05342	22	C3526 C3818
03590	A	ZEROP	,F2		05354	21	C3446 C3818
03600	CM	F	,7	,1C	05366	14	C2215 C0C-7
03610	BH	**24			05378	46	C54C2 C11CC
03620	AM	ZEROM	,12	,10	05390	11	C3445 C0CJ2
03630	S	FNHM2	,F		05402	22	C3485 C2219
03640	S	**18	,F		05414	22	C5432 C2219
03650	SF	FLZER-1	,F	,2	05426	32	-3759 C00CC
03660	A	FMI	,F		05438	21	C3783 C2215
03670	A	FP2	,F		0545C	21	C3664 C2219
03680	S	MF	,F		05462	22	C3666 C2219
03690	A	2FM1	,F2		05474	21	C3581 C3818
03700	MM	F	,05	,10	05486	13	C2215 C0C-5
03710	SF	98			05498	32	C0C98 C00CC
03720	SF	97			0551C	32	C0C97 C00CC
03730	TF	MFOV2	,98		05522	26	C3822 C0058
03740	MM	F	,05	,10	05534	13	C2215 C0C-5
03750	BD	ODDSET	,99		05546	43	C56C2 C0C99
03760	MM	K	,05	,1C	05558	13	C2221 C0C-5
03770	BD	ODDSET	,99		05570	43	C56C2 C0099
03780	TDM	FKODD	,1		05582	15	C3575 C0CC1
03790	B	ODDSET+12			05594	49	C5614 C00CC
03800	DORG	*-4			05601		
03810	OCCSET	TDM	FKODD	,0	05602	15	C3579 C00CC
03820	BNF	**36	,ENTLN-4		05614	44	C565C C2244
03830	A	LNENT	,ENTLN		05626	21	C3368 C2248
03840	A	EXPENT	,ENTEXP		05638	21	C3373 C2253
03850	CM	F	,7	,10	05650	14	C2219 C00-7
03860	BH	**24			05662	46	C5686 C11CC
03870	AM	ZEROM	,12	,10	05674	11	C3445 C0CJ2
03880	BV	**12			05686	46	C565E C14CC
03890	BD	SMORT	,07499		05698	43	C5766 C7499
03900	TFM	IORT	,**23		05710	16	C0565 -5733
03910	B	IOGT	,DALONG	,7	05722	49	C0566 -5734
03920	CALCNG	DSC	2	,-22	05734		2
03930	C	DSC	1	,0	05736		1
03940	DC	4	,0146		0574C		4
03950	DC	1	,0		05741		1
03960	CAFMCN	DSC	2	,22	05742		2
03970	DSA	DDFMON			05748	5	X 1

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05748 -575C

03980	DC	1	,*			05749	1	
03990	CCFMCN	DSC	1	,C		05750	1	
04000	DC	5	,16835			05755	5	
04010	J6835	DC	3	,0C4		05758	3	
04020	-04	DSA	FMCN-56			05763	5 X	1
04030	DC	1	,*			05763	-7398	
						05764	1	
04040	SHORT	TFM	IOBT	,**23		05766	16	CC365 -5789
04050	B	IOBT	,DAFPCA	,7		05778	49	CC366 -5742
04060	B	PROGST	,*	,6		05790	49	C222C CCCCC
04070	DORG	**4				05797		
04080	DORG	06CCC				06000		
04090	34	B1	,0C701			06002	34	C6C44 C07C1
04100	38	B1	,0C702			06012	38	C6044 C07C2
04110	36	B1	,0C703			06024	36	C6C44 C07C3
04120	B	**22				06038	49	C6C58 C00CC
04130	DORG	**3				06044		
04140	B1	DSC	9	,01680CC35		06044		5
04150	DSA	C16800C35	STCP-1			06057	5 X	1
04160	TRA					06057	-2354	
						06058	36	CCCCC C05CC
						06070	49	CCCCC C00CC
04170	YCD	06000				060CC		
04180	*****	1620	FCRTAN II-C	ARITHMETIC BLCK				
04190	*****	1620	FCRTAN II-D	ARITHMETIC BLCK - SECONDARY LINKAGE				
04200	DORG	START				03851		
04210	DS	3				03853	3	
04220	CM	FAC	,CC	,10, IS CHAR POSITIVE		03854	14	C2492 C00-C
04230	B	FIX1				03866	49	C4422 C00CC
04240	A	FAC	,FXA-1	,11		03878	21	C2492 C087P
04250	B	FXA1				03890	49	C4814 C00CC
04260	S	FAC	,FNS-1	,11		03902	22	C2492 C390J
04270	B	FXA1				03914	49	C4814 C00CC
04280	BNF	FXSR1+32	,FAC	,, CHANGE SIGN ON FAC		03926	44	C486C C2492
04290	B	FXSR1				03938	49	C4828 C00CC
04300	M	FAC	,FXM-1	,11		03950	23	C2492 C354R
04310	B	FXM1				03962	49	C480C C00CC
04320	LD	99	,FAC	,, FAC = FAC/J		03974	28	C0095 C2492
04330	B	FXD1				03986	49	C4906 C00CC
04340	LD	99	,FXDR-1	,11, FAC = J/FAC		03998	28	C0095 C399P
04350	B	FXDR1				04010	49	C4908 C00CC
04360	DORG	**1				04020		
04370	BNF	RSGN1+40	,FAC-1			04020	44	C504C C2491
04380	B	RSGN1	,*	,8		04032	49	C500C C-0CC
04390	DORG	**1				04042		
04400	AM	FAC	,0C	,10, IS FAC ZERC		04042	11	C2492 C00-C
04410	B	FLCAT1				04054	49	C5008 C00CC

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04420	FSM	FAC	,FSB-1	,11		04066	C2	C2492 C4068
04430	B	FAD1				04078	49	C5376 C00CC
04440	FAD	FAC	,FAC-1	,11		04090	C1	C2492 C4068
04450	B	FAD1				04102	49	C5376 C00CC
04460	BNF	FSBR1+32	,FAC-2	,, CHANGE SIGN ON FAC		04114	44	C544C C2491
04470	B	FSBR1				04126	45	C5408 C00CC
04480	TFM	E1	,573	,9, SET UP ERR E3 CCDE		04138	16	C2615 C0775
04490	B	FMP1				04150	49	C540C C00CC
04500	FC	TFM	E1	,575	,9, SET UP ERR E5 CCDE	04162	16	C2615 C0775
04510	B	FD1				04174	49	C5492 C00CC
04520	FCVR	TFL	SAVE	,FAC		04186	C6	C2565 C2492
04530	B	FDVRI				04198	49	C5572 C00CC
04540	FIX1	TF	IMSA	,FIX1-1	,11, IMSA = 1	04210	26	C2575 C420R
04550	B	FIX1				04222	49	C5604 C00CC
04560	FAX1	TF	IMSA	,FAX1-1	,11, IMSA = 1	04234	26	C2575 C423L
04570	B	FAX1				04246	49	C6034 C00CC
04580	TFM	TAFE	,FAXB-1	,11, LCAD E		04258	C6	C2595 C425P
04590	B	FAXB1				04270	49	C6472 C00CC
04600	TFM	FMCN+11	,*-START			04282	16	C7465 -C431
04610	DC	2	,2	,*-3		04290		2
04620	B	FMCN				04294	49	C7454 C00CC
04630	TFM	FMCN+11	,*-START			04306	16	C7465 -C455
04640	DC	2	,2	,*-3		04314		2
04650	B	FMCN				04318	49	C7454 C007C
04660	TFM	FMCN+11	,*-START			04330	16	C7465 -C479
04670	DC	2	,2	,*-3		04338		2
04680	B	FMCN				04342	49	C7454 C00CC
04690	TFM	FMCN+11	,*-START			04354	16	C7465 -C503
04700	DC	2	,2	,*-3		04362		2
04710	B	FMCN				04366	49	C7454 C00CC
04720	TFM	FMCN+11	,*-START			04378	16	C7465 -C527
04730	DC	2	,2	,*-3		04386		2
04740	B	FMCN				04390	49	C7454 C00CC
04750	TFM	FMCN+11	,*-START			04402	16	C7465 -C551
04760	DC	2	,2	,*-3		04410		2
04770	B	FMCN				04414	49	C7454 C00CC
04780	TFM	FMCN+11	,*-START			04426	16	C7465 -C575
04790	DC	2	,2	,*-3		04434		2
04800	B	FMCN				04438	49	C7454 C-0CC
04810	DORG	**1				04448		
04820	TFM	FMCN+11	,*-START			04448	16	C7465 -C557
04830	DC	2	,3	,*-3		04456		2
04840	B	FMCN				04460	49	C7454 C-0CC
04850	DORG	**1				04470		
04860	TFM	FMCN+11	,*-START			04470	16	C7465 -C619
04870	DC	2	,4	,*-3		04478		2
04880	B	FMCN				04482	49	C7454 C-0CC

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04850	DORG	*-1				04492			
04900	TFM	FMCN+11	,*-START			04492	16	C74E5	-0641
04910	DC	2	,7	,*-3		04500		2	
	-7								
04920	B	FMCN	,	,8		04504	49	C7454	C-OCC
04930	DORG	*-1				04514			
04940	TFM	FMCN+11	,*-START			04514	16	C74E5	-C663
04950	DC	2	,8	,*-3		04522		2	
	-8								
04960	B	FMCN	,	,8		04526	49	C7454	C-CCC
04970	DORG	*-1				04536			
04980	TFM	FMCN+11	,*-START			04536	16	C74E5	-C685
04990	DC	2	,7	,*-3		04544		2	
	-7								
05000	B	FMCN	,	,8		04548	49	C7454	C-CCC
05010	DORG	*-1				04558			
05020	TFM	FMCN+11	,*-START			04558	16	C74E5	-C7C7
05030	DC	2	,5	,*-3		04566		2	
	-5								
05040	B	FMCN	,	,8		04570	49	C7454	C-CCC
05050	DORG	*-1				04580			
05060	TFM	FMCN+11	,*-START			04580	16	C74E5	-C725
05070	DC	2	,5	,*-3		04588		2	
	-5								
05080	B	FMCN	,	,8		04592	49	C7454	C-OCC
05090	DORG	*-1				04602			
05100	TFM	FMCN+11	,*-START			04602	16	C74E5	-C751
05110	DC	2	,5	,*-3		04610		2	
	-5								
05120	B	FMCN	,	,8		04614	49	C7454	CCCC
05130	DORG	*-4				04621			
05140	*****	1620 FCRTAN II-D	ARITHMETIC BLCK - SUBROUTINES						
05150	FIX1	BP	**+32	,	**	04622	46	04654	C1100
05160	TF	FAC	,FX2	**	**	04634	26	C2492	C2815
05170	B	FIXEND	,	**	**	04646	49	C368C	CCCC
05180	DORG	*-3				04654			
05190	TD	MU-1	,FAC-2	**	**	04654	25	03631	C2490
05200	C	FAC	,K	**	**	04666	24	C2492	C2221
05210	BNH	**+64	,	**	**	04678	47	04722	C1100
05220	TFM	FXERR+25	,1	**	**	04690	15	C3621	CC001
05230	TFM	EI	,579	,9,	,9,	04702	16	C2615	COM79
05240	B	FXNINE+12,	,	**	**	04714	49	C4968	CCCC
05250	DORG	*-3				04722			
05260	CF	FAC-2	,	**	**	04722	33	C245C	CCCC
05270	TF	BETA	,ZERO-51	**	**	04734	26	C2603	C2716
05280	TF	IMSA	,FX2	**	**	04746	26	C2575	C2815
05290	TF	**+30	,IMSAF	**	**	04758	26	C478E	C3258
05300	S	**+18	,FAC	**	**	04770	22	C478E	C2492
05310	A	DUMMY	,FAC-2	**	**	04782	21	99999	C2490
05320	TF	FAC	,IMSA	**	**	04794	26	C2492	C2575
05330	B	MU	,	**	**	04806	49	C3632	CCCC
05340	DORG	*-4				04813			
05350	FXA1	BV	**+12	**	**	04814	46	04826	C14CC
05360	BR	,	,	**	**	04826	42	CCCCC	CCCCC
05370	DORG	*-9				04828			
05380	FXSRI	CF	FAC	**	**	04828	33	C2452	CCCC

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05390	TF	FXA-1	,FXSR-1	**	**	04840	26	C3877	C3925
05400	B	FXA	,	**	**	04852	49	C387E	CCCC
05410	DORG	*-3				04860			
05420	SF	FAC	,	**	**	04860	32	C2492	CCCC
05430	B	FXSRI+12	,	**	**	04872	49	C4840	CCCC
05440	DORG	*-4				04879			
05450	FXM1	SF	10CMK	,	,6	04880	32	C329L	CCCC
05460	TF	FAC	,99	**	**	04892	26	C2452	CCCC
05470	BB	,	,	**	**	04904	42	CCCCC	CCCCC
05480	DORG	*-9				04906			
05490	FXC1	D	10CMK	,FXD-1	,611	04906	29	C325L	C397L
05500	BV	**+26	,	**	**	04918	46	C4944	C14CC
05510	TF	FAC	,99MK	,11	**	04930	26	C2452	C328C
05520	BB	,	,	**	**	04942	42	CCCCC	CCCCC
05530	DORG	*-9				04944			
05540	TFM	EI	,578	,9,	,9,	04944	16	C2615	COM78
05550	FXNINE	TFM	FXERR+30	,FIXENC-12,	**	04956	16	C3626	-3668
05560	TF	FAC	,FX9	**	**	04968	26	C2452	C28C5
05570	B	FXERR	,	**	**	04980	49	C359E	CCCC
05580	DORG	*-4				04987			
05590	FXDRI	D	10CMK	,FAC	,6	04988	29	C325L	C2492
05600	B	FXD1+12	,	**	**	05000	49	C451E	CCCC
05610	DORG	*-4				05007			
05620	MSGN1	BNF	**+26	,FAC-2	**	05008	44	C5C34	C2450
05630	CF	FAC-2	,	**	**	05020	33	C245C	CCCC
05640	BB	,	,	**	**	05032	42	CCCCC	CCCCC
05650	DORG	*-9				05034			
05660	SF	FAC-2	,	**	**	05034	32	C249C	CCCC
05670	BB	,	,	**	**	05046	42	CCCCC	CCCCC
05680	DORG	*-9				05048			
05690	BNF	**+26	,FAC	**	**	05048	44	C5074	C2492
05700	CF	FAC	,	**	**	05060	33	C2492	CCCC
05710	BB	,	,	**	**	05072	42	CCCCC	CCCCC
05720	DORG	*-9				05074			
05730	SF	FAC	,	**	**	05074	32	C2492	CCCC
05740	BB	,	,	**	**	05086	42	CCCCC	CCCCC
05750	DORG	*-9				05088			
05760	FLNATI	BZ	ZERFAC	,	**	05088	46	C3422	C12CC
05770	TD	99	,FAC	**	**	05100	25	C0C99	C2492
05780	CF	FAC	,	**	**	05112	33	C2492	CCCC
05790	TR	BETA-9	,FMH	,11	**	05124	31	C2594	C328L
05800	TF	FAC-2	,9SPF-1	**	**	05136	26	C249C	C2853
05810	TF	SAVE	,K	**	**	05148	26	C2565	C2221
05820	TFM	**+23	,BETA-9	**	**	05160	16	C5183	-2554
05830	BD	**+44	,DUMMY	**	**	05172	43	C5216	99999
05840	SM	SAVE	,1	,10,	**	05184	12	C2565	COM-1
05850	AM	*-13	,1	**	**	05196	11	C5183	-00C1
05860	B	*-36	,	**	**	05208	49	C5172	CCCC
05870	DORG	*-3				05216			
05880	TR	FMH	,*-33	,611	**	05216	31	C331L	0518L
05890	TF	**+35	,FMH	**	**	05228	26	C5263	C3313
05900	AM	**+23	,1	**	**	05240	11	C5263	-CC01
05910	BNR	*-12	,DUMMY	**	**	05252	45	C524C	99999
05920	TFM	*-1	,0	,6	**	05264	15	C526L	COM00
05930	TD	FAC+1	,RECMK	**	**	05276	25	C2493	C24C3
05940	TF	BETA	,ZERO-74	**	**	05288	26	C2403	C2693

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07070	SM	IMSA	,C1	,10		06360	12	C2575	CCC-1
07080	BZ	**68				06372	46	C644C	C12CC
07090	TF	79	,ZEROP	,11,	CLEAR MULTIPLY AREA	06384	26	CC075	C344N
07100	FMUL	FAC	,GAP			06396	03	C2492	C2555
07110	BNXV	NODIV*12				06408	47	C636C	C15CC
07120	TF	FAC-2	,FAC-4			06420	26	C245C	C2488
07130	B	ERXV				06432	49	C3762	CC0CC
07140	DDRG	*-3				0644C			
07150	TF	FAC-2	,FAC-4			0644C	26	C245C	C2488
07160	BNF	ENDD*36	,ML-1			06452	44	C3724	C3631
07170	B	ENDD*24				06464	49	C3712	CC0CC
07180	DDRG	*-4				06471			
07190	FAXB1	AM	TAFE-2	,CC	,10, IS B ZERC	06472	11	C2533	CCC-C
07200	BZ	ONEFAC			YES	06484	46	C6C5F	C12CC
07210	ND	**44	,FNH	,11,	NC, IS A ZERC	06496	43	C654C	C3311
07220	BNF	FINISH*1	,TAFE-2		NC, IS B NEGATIVE	06508	44	C3724	C2533
07230	TFM	E1	,777	,9,	YES, ER G7, ZERC TC MINUS B	06520	16	C2615	CCP77
07240	B	OVFLC				06532	49	C554C	CCCCC
07250	DDRG	*-3				06540			
07260	TDM	QLWR*1	,9		SET UP NC ERR TYPE	0654C	15	C6697	CC0C9
07270	BNF	**36	,FAC-2		IS A NEGATIVE	06552	44	C658E	C249C
07280	TDM	QLWR*1	,1		YES, SET UP ERR TYPE	06564	15	C6657	CCCC1
07290	CF	FAC-2				06576	33	C249C	CC0CC
07300	TDM	FINISH*2	,9			06588	15	C3725	CC0C9
07310	TFM	FINISH*7	,**20			0660C	16	C373C	-662C
07320	B	LNENT		,6,	FINC LN CF A	06612	49	C336C	CCCCC
07330	DDRG	*-3				06620			
07340	TDM	FINISH*2	,2			06620	15	C3725	CC0C2
07350	TFM	FMP-1	,TAFE		SET UP MULTIPLICATION	06632	16	C4137	-2535
07360	TFM	ERXV*30	,**20			06644	16	C3702	-6664
07370	B	FMP			MULTIPLY B TIMES LNA	06656	49	C413E	CC0CC
07380	DDRG	*-3				06664			
07390	TFM	ERXV*30	,**20			06664	16	C3752	-6684
07400	B	EXPENT		,6,	FINC A*B = E**BLN(A)	06676	49	C337L	CC0CC
07410	DDRG	*-3				06684			
07420	TFM	ERXV*30	,FMFAC*12			06684	16	C3792	-3464
07430	NDP	FINISH*1				06696	41	C3724	CC0CC
07440	TFM	E1	,676	,9,	ERR F6, -A TC B	06708	16	C2615	CC076
07450	TDM	99	,C			06720	15	CC099	CC0CC
07460	B	ERROR				06732	49	C359C	CCCCC
07470	DDRG	*-4				06739			
07480	DDRG	08CCC				08C00			
07490	34	A1	,0C701		FIRST TIME ONLY	08C00	34	C8C6E	C07C1
07500	38	A1	,0C702			08C12	38	C8C6E	CC072
07510	34	A1	,CC703			08C24	36	C8C6E	CC073
07520	TD	15954	,4CC		FIRST TIME ONLY	08C36	25	15954	CC04C
07530	FR	START*3	,12C00			08C48	31	C3854	120CC
07540	B	**22				08C60	49	C8C82	CC0CC
07550	DDRG	*-3				08C68			
07560	A1	DSC	9	,C194CCC33		08C68			
07570	DSA	FIX				08C81		5 x	1
07580						08C81		-3854	
07590	IRA					08C82	36	CC0CC	CC5CC
						08C94	45	CCCCC	CCCCC

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07590	ICD	ORCCC				08C00			
07600	*****	1620 FORTRAN II-C	FCRMT						
07610	*****	1620 FORTRAN II-C	FCRMT - SECCNARY LINKAGE						
07620	DDRG	START				03851			
07630	DS	3				03853		3	
07640	TFM	FMCN*11	,*-START			03854	16	C7465	-CCC3
07650	CC	2	,1	,*-3		03862		2	
	-1								
07660	B	FMCN				03866	49	C7454	CCCCC
07670	TFM	FMCN*11	,*-START			03878	16	C7465	-CC27
07680	CC	2	,1	,*-3		03886		2	
	-1								
07690	B	FMCN				0389C	49	C7454	CCCCC
07700	TFM	FMCN*11	,*-START			039C2	16	C7465	-CC51
07710	CC	2	,1	,*-3		03910		2	
	-1								
07720	B	FMCN				03914	49	C7454	CCCCC
07730	TFM	FMCN*11	,*-START			03926	16	C7465	-CC75
07740	CC	2	,1	,*-3		03934		2	
	-1								
07750	B	FMCN				03938	49	C7454	CCCCC
07760	TFM	FMCN*11	,*-START			0395C	16	C7465	-CC59
07770	CC	2	,1	,*-3		03958		2	
	-1								
07780	B	FMCN				03962	49	C7454	CCCCC
07790	TFM	FMCN*11	,*-START			03974	16	C7465	-C123
07800	CC	2	,1	,*-3		03982		2	
	-1								
07810	B	FMCN				03986	49	C7454	CCCCC
07820	TFM	FMCN*11	,*-START			03998	16	C7465	-C147
07830	CC	2	,1	,*-3		04006		2	
	-1								
07840	B	FMCN				0401C	49	C7454	CCCCC
07850	DDRG	*-1				04020			
07860	TFM	FMCN*11	,*-START			04020	16	C7465	-C165
07870	CC	2	,1	,*-3		04028		2	
	-1								
07880	B	FMCN		,8		04032	49	C7454	C-CCC
07890	DDRG	*-1				04042			
07900	AM	FAC	,0C	,10,	IS FAC ZERC	04042	11	C2452	CC0-C
07910	B	IFLOAT				04054	49	C5126	CC0CC
07920	TFM	FMCN*11	,*-START			04066	16	C7465	-C215
07930	CC	2	,1	,*-3		04074		2	
	-1								
07940	B	FMCN				04078	49	C7454	CC0CC
07950	TFM	FMCN*11	,*-START			04090	16	C7465	-C239
07960	CC	2	,1	,*-3		04098		2	
	-1								
07970	B	FMCN				04102	49	C7454	CC0CC
07980	TFM	FMCN*11	,*-START			04114	16	C7465	-C263
07990	CC	2	,1	,*-3		04122		2	
	-1								
08000	B	FMCN				04126	49	C7454	CCCCC
08010	TFM	FMCN*11	,*-START			04138	16	C7465	-C287
08020	CC	2	,1	,*-3		04146		2	
	-1								

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08C30	B	FMCN			04150	49	C7454	CC0CC
08C40	TFM	FMCN+11	,0--START		04162	16	C7465	-C311
08C50	DC	2	,1	,0-3	0417C		2	
-1								
08C60	B	FMCN			04174	49	C7454	CC0CC
08C70	TFM	FMCN+11	,0--START		04186	16	C7465	-C335
08C80	DC	2	,1	,0-3	04194		2	
-1								
08C90	B	FMCN			04198	49	C7454	CC0CC
08100	TFM	FMCN+11	,0--START		04210	16	C7465	-C359
08110	DC	2	,1	,0-3	04218		2	
-1								
08120	B	FMCN			04222	49	C7454	CC0CC
08130	TFM	FMCN+11	,0--START		04234	16	C7465	-C383
08140	DC	2	,1	,0-3	04242		2	
-1								
08150	B	FMCN			04246	49	C7454	CC0CC
08160	TFM	FMCN+11	,0--START		04258	16	C7465	-C4C7
08170	DC	2	,1	,0-3	04266		2	
-1								
08180	B	FMCN			0427C	49	C7454	CC0CC
08190	*****		WRITE ALPHAMERIC					
08200	WATY	TF SWF	,WATY-1		04282	26	C5965	C4281
08210	B	WATY1			04294	49	C5938	CC0CC
08220	WAPT	TF SWF	,WAPT-1		04306	26	C5965	C43C5
08230	B	WAPT1			04318	49	C5938	CC0CC
08240	WACD	TF SWF	,WACD-1		04330	26	C5965	C43Z9
08250	B	WACD1			04342	49	C561C	CC0CC
08260	PRA	TF SWF	,PRA-1		04354	26	C5965	C4353
08270	B	PRA1			04366	49	C5938	CC0CC
08280	*****		REAC ALPHAMERIC					
08290	RATY	TF SWF	,RATY-1		04378	26	C5965	C4377
08300	B	RATY1			04390	49	C597C	CC0CC
08310	RAPT	TF SWF	,RAPT-1		04402	26	C5965	C44C1
08320	B	RAPT1			04414	49	C593C	CC0CC
08330	RACD	TF SWF	,RACD-1		04426	26	C5965	C44Z5
08340	B	RACD1		,8	04438	49	C6C1C	C-0CC
08350	DORG	0-1			04448			
08360	ITYPE	AM SWF	,3		04448	11	C5965	-CC03
08370	B	ITYPE1		,8	0446C	49	C4622	C-0CC
08380	DORG	0-1			0447C			
08390	TFM	FMCN+11	,0--START		0447C	16	C7465	-C619
08400	DC	2	,4	,0-3	04478		2	
-4								
08410	B	FMCN		,8	04482	49	C7454	C-0CC
08420	DORG	0-1			04492			
08430	TFM	FMCN+11	,0--START		04492	16	C7465	-C641
08440	DC	2	,7	,0-3	0450C		2	
-7								
08450	B	FMCN		,8	04504	49	C7454	C-0CC
08460	DORG	0-1			04514			
08470	TFM	FMCN+11	,0--START		04514	16	C7465	-C663
08480	DC	2	,8	,0-3	04522		2	
-8								
08490	B	FMCN		,8	04526	49	C7454	C-0CC
08500	DORG	0-1			04536			

08510	TFM	FMCN+11	,0--START		04536	16	C7465	-C685
08520	DC	2	,7	,0-3	04544		2	
-7								
08530	B	FMCN		,8	04548	49	C7454	C-0CC
08540	DORG	0-1			04558			
08550	TFM	FMCN+11	,0--START		04558	16	C7465	-C7C7
08560	DC	2	,5	,0-3	04566		2	
-5								
08570	B	FMCN		,8	0457C	49	C7454	C-0CC
08580	DORG	0-1			0458C			
08590	TFM	FMCN+11	,0--START		04580	16	C7465	-0729
08600	DC	2	,5	,0-3	04588		2	
-5								
08610	B	FMCN		,8	04592	49	C7454	C-0CC
08620	DORG	0-1			04602			
08630	TFM	FMCN+11	,0--START		04602	16	C7465	-0751
08640	DC	2	,5	,0-3	0461C		2	
-5								
08650	B	FMCN		,8	04614	49	C7454	CC0G0
08660	DORG	0-4			04621			
08670	*****		1620 FCRTFRM II-C I FCRTFRM - SUBROUTINES					
08680	*****		PACR FCR I TYPE REAC AND WRITE					
08690	ITYPE1	TF	WIDTH2	,SWF	04622	26	C6C64	C596R
08700	A	LAST	,WIDTH2		04634	21	C582C	C4064
08710	C	LAST	,MAX2		04646	24	C582C	C6145
08720	BH	ER FG			04658	46	C731C	C11CC
08730	TF	INPLUS	,LAST		04670	26	C6C53	C5820
08740	TFM	IR DIG+6	,FAC		04682	16	C4932	-2462
08750	TFM	SWC ADJ	,WRITE I		04694	16	C6152	-447C
08760	BD	SWL	,RNEFSH		04706	43	C6C42	C6061
08770	TF	TERM	,F1PK		04718	24	C7C93	C3283
08780	TF	FAC	,F1Z		04730	24	C2492	C2815
08790	TFM	SWC ADJ	,READI		04742	16	C6152	-5034
08800	*****		CHAR BY CHAR IS MOVED INTO FAC, RIGHT JUSTIFIED, UNTIL SIGN					
08810	*****		OR W CHAR ARE EXAMINED.					
08820	*****		ERROR F7 WILL OCCUR IF MORE THAN K CHAR ARE AVAILABLE TO READ					
08830	IREAD	SM	WIDTH2	,2	04754	12	C6C64	CC0-2
08840	BL	SWL		,10	04766	47	C6C42	C13CC
08850	SM	INPLUS	,2	,10	04778	12	C6C53	CC0-2
08860	BNR	0+20	,INPLUS	,11, CHECK FOR INPUT RECORD MARK	04790	45	C481C	C605L
08870	07	ERRF7I			04802	49	C5CC2	
08880	CM	INPLUS	,7C	,610	04810	14	C6C5L	CC0P0
08890	BH	IR DIG			04822	46	C4926	C11C0
08900	BE	IR BLNK			04834	46	C4962	C12C0
08910	CM	INPLUS	,0C	,610	04846	14	C6C5L	CC0-C
08920	BE	IR BLNK			04858	46	C4962	C12C0
08930	CM	INPLUS	,2C	,610	04870	14	C6C5L	CC0KC
08940	BE	I MINUS			04882	46	C4982	C12C0
08950	CM	INPLUS	,1C	,610	04894	14	C6C5L	CC0J0
08960	BE	SWL			04906	46	C6C42	C12C0
08970	B	ERR F7I			04918	49	C5CC2	CC0CC
08980	DORG	0-4			04925			
08990	IRDIG	TD	,INPLUS	,11	04926	25	CC0CC	C605L
09000	C	0-6	,TERM		04938	24	C4932	C7093
09010	BL	ERR F7 I			04950	47	C5CC2	C13CC
09020	IRBLNK	SM	IR DIG+6	,1	04962	12	C4932	-CC01

10150 ***** TO OBTAIN THE LOCATION THAT GOES WITH THE FORTAN MACRO
10160 ***** BEING PERFORMED BB FOR OBJECT PROGRAM
10170 ***** MCP FOR RECC CONTROL
10180 ***** B FOR MATRIX CONTROL

10190 SBL NOP MATRIX 2 06C42 41 C66C2 CCCCC
10200 INPLUS DS 5 , , WORKING POSITION OF I/O RECORD 06C53 5
10210 TDM SWL+1 , , MATRIX CONTROL SETS SWL TO 49 06054 15 C6C43 CCCC9
10220 RNFPSH DS 1 , , 1 FOR WRT, 0 FOR RD, FLAG FOR E 06C61 1
10230 WIDTH-2 DS 3 , , -1 06C64 3
10240 BNL SMC+12 , , PATSH 06C66 43 C61C2 C5655
10250 NOP 06C78 41 CCCCC CCCCC
10260 CPG DS 5 , , -5 TAPP FOR CF DEC PT IN GAMMA 06084 5
10270 LOC DS 5 , , CCRE LOCATION TO BE USED 06089 5
10280 ***** AFTER LCC ADDR OBTAINED BR TC PROPER MACRO

10290 SMC TDM SWL+1 , , 2 06C9C 15 C6C43 CCCC2
10300 CHAR DS 3 , , -1 PCIFIED CHARACTERISTIC 061CC 3
10310 BNL SMC+20 , , RNFPSH , , BR IF WRITING 061C2 43 C6122 C6C61
10320 B SMC ADJ , , 6 06114 49 C615H CCCCC
10330 DORG -4 , , 06121
10340 TDM COMPSW , , 0 SET TO REQUIRE OUTPUT 06122 15 C575C CCCCC
10350 CP LOC , , 33 06134 33 C6C85 CCCCC
10360 MAX2 DS 5 , , 5 TWICE MAXIMUM CHAR FOR OUTPUT 06145 5
10370 B 06146 49 CCCCC CCCCC
10380 SMCADJ DS 5 , , -5 RETURN ACC OF MACRO IN CONTROL 06152 C
10390 DORG -4 , , 06153
10400 CATERR DSA DUDH 06157 5 X 1

10410 DC 3 , , 18 06157 -26C7
0616C 3

10420 CATDUC DSA DUDH 06165 5 X 1

10430 DC 3 , , 0C 06165 -26C7
0616P 3

10440 CATIMP DSA INH 06173 5 X 1

10450 DC 3 , , 0C 06173 -6175
06176 3

10460 DC 1 , , 9 06177 1

10470 ENDPCR DAC 1,C 06175 1 X 2
C

1048C INH DS , , ENDPCR 06175 C
10490 DS 242 06421 242
1050C IN DS 244 , , INH+242 06421 244
10510 STZRC DC 2 , , 0C 06423 2

10520 CO , , C246810 06424 -C -C-C- C-C-C
10530 CO , , C246810 06436 -C -C-C- C-C-C
10540 CO , , C246810 06448 -C -C-C- C-C-C
10550 CO , , C246810 0646C -C -C-C- C-C-C
10560 CO , , C246810 06472 -C -C-C- C-C-C
10570 CO , , C246810 06484 -C -C-C- C-C-C
1058C CO , , C246810 06496 -C -C-C- C-C-C

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10590 DC 2 , , CC 065C9 2
-0
1060C FLZERS CC 2 , , C 06511 2
-1

10610 DS 5 06516 5
1062C MATRIX TDM MATSH , , 1 MACRO TO PROCESS MATRICES 0651R 15 C5655 CCCC1
10630 TDM SWL+1 , , 9 0653C 15 C6C43 CCCC9
10640 TF LCCADJ , , FP2 06542 26 C6574 C3664
10650 BNF MATRIX-12, MATRIX-1 , , 10 06554 44 C659C C6517
10660 TFM LCCADJ , , 0C 06566 16 C6574 CCC-C
10670 LCCADJ DS 2 , , -3 , , ADJUST LCC FOR MATRIX 06574 2
1068C S LCCADJ , , K 06578 22 C6574 C2221
10690 S MATRIX-1 , , LCCADJ 0659C 22 C6517 C6574
1070C MATRIX-1 A MATRIX-1 , , LCCADJ , , RETURN FROM SWL, EACH MATRIX ELEMENT 066C2 21 C6517 C6574
10710 TF LOC , , MATRIX-1 , , PCVE ADJUSTED LOCATION 06614 26 C6C85 C6517
10720 SM PAN , , 1 , , 10 06626 12 C337E C6C-1
10730 BNE +24 , , 0663P 47 C6662 C12CC
10740 TDM MATSH , , 0 0665C 15 C5655 CCCCC
10750 BNL SMC+12 , , 06662 46 C61C2 C13CC
10760 BR 06674 42 CCCCC CCCCC
10770 DORG -9 06676

10780 ***** MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT
10790 SLASH TDM COMEND+1 , , 9 06676 15 C6593 CCCC9
1080C BD SLASH-2 , , RNFPSH , , BR IF WRITING 06688 43 C670C C6C61
1081C B COMEND 067CC 49 C6952 CCCCC
10820 DORG -4 067C7

10830 SLASH-2 BD IOCR , , CCMPSH , , BR TO IC CR IF OUTPUT RECORD BLANK 067CB 43 C7736 C575C
10840 CM DATIM+2 , , CE , , 10 0672C 14 C6175 C6C-6
10850 BH WRITE , , , , BR IF ACT TYPEWRITER OUTPUT 06732 46 C6816 C11C0
10860 TF LAST , , FLZERS , , 6 06744 26 C582- C6511
10870 SM LAST , , C2 , , 10, ERASE BLANKS FROM END OF I/O RECORD 06756 12 C582C C6C-2
1088C CM LAST , , CC , , 61C 06768 14 C582- C6C-0
1089C BE -36 , , 0678C 46 C6744 C12CC
1090C CM LAST , , INH 06792 14 C582C -6175
10910 BL COM END 068C4 47 C6952 C13CC
10920 WRITE RNR WRITE1 , , RNFPSH 06816 45 C6944 C6C61
10930 TFM PRKEY , , S2 , , 10, DOUBLE SPACE 06828 16 C6916 C6C82
10940 CM INH , , 7C , , 10 0684C 14 C6175 C6CPC
10950 BNH +32 06852 47 C6884 C11CC
10960 TF PRKEY , , INH , , 33 SKIP TO CHANNEL CCEE 06864 26 C6515 C6175
10970 BT PRCNTR 06876 49 C69C8
10980 BE PRCNTR 06884 46 C69C8 C12CC
10990 TFM PRKEY , , S1 , , 10, SINGLE SPACE 06896 14 C6515 C6C81
, , C69C8 , , CONTROL CARRIAGE 06908 34 CCCCC C69CC
06919 2
06914 5

1100C PRCNTR K , , 0C 0692C 26 C6421 C6511
1101C PRKEY DS 2 , , 0C 06932 31 C6176 C618C
11020 MAX DS 5 , , -5 , , FLZERS 06944 16 C6945 -6967
11030 TF IN , , INH+1 , , 7, OUTPUT 06956 49 C6332 -6169
11040 TR INH-1 , , INH+1 , , 7, OUTPUT 06968 47 C6952 C34CC
11050 WRITE1 TFM IORT , , +29 , , 7, OUTPUT 0698C 34 CCCCC C6971
11060 B IOPT , , DATIM-4 , , 7 06992 49 C573C C6000
11070 BNL +24 , , 03480
11080 K , , C6991

11090 COMEND B RMA2-12 06992 49 C573C C6000
1110C DORG -4
11110 DS 4 06999
11120 ***** 07CC2 4

PACRO TERMINATING I/O CONTROL

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11130	DS	3			07CC5	3	
11140	CCMPLT	DM	COMFAD+1	,2	07CC6	15	06953 CCCC2
11150	CHAR2	DS	3	,*-1	07C16	3	
11160	B	SLASH+12			07C18	49	06688 CCCCC
11170	DDRG	*-4			07C25		
11180	RECO	BD	REDO A+24,MAT SW		07C26	43	07C64 C5655
11190	ID	REDOA+23	,CCMPSW		07C38	25	07C93 C5750
11200	TFM	SWC ADJ	,REDO A	,,	07C50	16	06152 -7C7C
11210	B	SWL			07C62	49	06C42 CCCCC
11220	DDRG	*-4			07C69		
11230	REDOA	DM	SWL+1	,1	07C70	15	06C43 CCG01
11240	DM	CCMPSW		,,	07C82	15	05750 CCCCC
11250	TERM	DS	5	,*	07C93	5	
11260	AM	SWF	,5	,*	07C94	11	05965 -CC05
11270	TF	SWF	,SWF	,11	07106	26	05965 C5968
11280	B	SLASH			07118	49	06676 CCCCC
11290	DDRG	*-4			07125		
11300	*****		MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES				
11310	*****		SUB FROM REP SW, INITIALLY SET TO ZERO				
11320	*****		IF REPSW NEG, SET TCREPS RECD AND REPEAT FORMAT				
11330	*****		IF REPSW ZER0, LAST FORMAT REPETITION IS COMPLETE				
11340	*****		IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC				
11350	REP	AM	SWF	,7	07126	11	05965 -G0C7
11360	SM	REP SW	,1	,10,	07138	12	05654 C0C-1
11370	BM	REP 2			07150	46	07158 C110C
11380	BF	B\$WF			07162	46	05934 C12CC
11390	A	REP SW	,SWF	,11	07174	21	05654 C596A
11400	BMH	B\$WF			07186	47	05934 C11CC
11410	REP2	SM	SWF	,2	07198	12	05965 -CC22
11420	TF	SWF	,SWF	,11	07210	26	05965 C596A
11430	B	SWF-23			07222	49	05946 C00CC
11440	DDRG	*-4			07229		
11450	REP3	SP	REPSW3-1		07230	32	05656 CCCCC
11460	WA	DS	5	,*	07241	5	
11470	AM	SWF	,7	,10	07242	11	05969 C00-7
11480	SM	REPSW 3	,1	,10	07254	12	05657 C0C-1
11490	BM	REP 2			07266	46	07158 C110C
11500	BE	B\$WF			07278	46	05934 C12CC
11510	A	REPSW 3	,SWF	,11	07290	21	05657 C596A
11520	B	REP 2-12			07302	49	07186 CCCCC
11530	DDRG	*-4			07309		
11540	ERF9	TFM	SWC ADJ	,ER CCM 2	07310	16	06152 -7386
11550	TF	LAST	,MAX 2	,,	07322	26	0582C C6145
11560	TFM	E1	,679	,9	07334	16	06215 C0C75
11570	B	SWL			07346	49	06C42 CCCCC
11580	DDRG	*-4			07353		
11590	XTYPE	AM	SWF	,3	07354	11	05965 -CC03
11600	A	LAST	,SWF	,11	07366	21	0582C C596A
11610	B	B\$WF			07378	49	05934 CCCCC
11620	DDRG	*-4			07385		
11630	ERCOMP2	K	,0951		07386	34	CCCCC CC951
11640	WA2	DS	,*-5	,	07392		
11650	TFM	IORT	,*-23	,,	07398	16	05655 -7421
11660	B	IORT	,DATERR-4	,7	07410	49	05932 -6153
11670	TR	E1+1	,FLZERS-1	,,	07422	31	06216 C651C
11680	B	B\$WF-12			07434	49	05922 CCCCC

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11690	CPT	DS	5	,*	07445	5	
11700	CPTM2	DS	5	,**5	07450	5	
11710	DS	5			07450	5	
11720	DDRG	08CCC			08CCC		
11730	3R	A3	,0C702		08C00	38	08032 C07C2
11740	36	A3	,0C703		08C12	36	08032 CC7C3
11750	B	**22			08C24	49	08C46 CCCCC
11760	DDRG	*-3			08C32		
11770	A3	DSC	9	,019433036	08C32		9
		C19433036					
11780	CSA	FIX			08C45		5 * 1
					08C45		-3854
11790	TRA				08C46	36	CCCCC CC5CC
					08C58	49	CCCCC CCCCC
11800	TCD	08CCC			08CCC		
11810	*****		1620 FORTRAN II-C 1 WA FORPAT		03851		
11820	*****		1620 FORTRAN II-C 1 WA FORPAT - SECONDARY LINKAGE		03853	3	
11830	DDRG	START			03854	14	02492 CCC-C
11840	DS	3			03866	49	05114 CCCCC
11850	CM	FAC	,0C	,10,	03878	16	07465 -C027
11860	B	IFIX			03886	2	
11870	TFM	FMCN+11	,*-START	,*-3			
11880	DC	2	,1		03890	49	07454 CCCCC
	-1				03902	16	07465 -C051
11890	B	FMCN	,*-START		03910	2	
11900	TFM	FMCN+11	,*-START				
11910	DC	2	,1	,*-3	03914	49	07454 CCCCC
	-1				03926	16	07465 -0C75
11920	B	FMCN	,*-START		03934	2	
11930	TFM	FMCN+11	,*-START				
11940	DC	2	,1	,*-3	03938	49	07454 CCCCC
	-1				03950	16	07465 -0099
11950	B	FMCN	,*-START		03958	2	
11960	TFM	FMCN+11	,*-START				
11970	DC	2	,1	,*-3	03962	49	07454 CCCCC
	-1				03974	16	07465 -0123
11980	B	FMCN	,*-START		03982	2	
11990	TFM	FMCN+11	,*-START				
12000	DC	2	,1	,*-3	03986	49	07454 CCCCC
	-1				03998	16	07465 -0147
12010	B	FMCN	,*-START		04006	2	
12020	TFM	FMCN+11	,*-START				
12030	DC	2	,1	,*-3	04010	49	07454 CCCCC
	-1				04020		
12040	B	FMCN	,*-START		04020	16	07465 -C169
12050	DDRG	*-1			04028	2	
12060	TFM	FMCN+11	,*-START				
12070	DC	2	,1	,*-3	04032	49	07454 0-0CC
	-1				04042		
12080	B	FMCN	,*-START		04042	16	07465 -C191
12090	DDRG	*-1			04050	2	
12100	TFM	FMCN+11	,*-START				
12110	DC	2	,1	,*-3			
	-1						

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12120	B	FMCN				04C54	49	C7454	CCCC	
12130	TFM	FMCN+11	,0-START			04C68	16	C7465	-C215	
12140	DC	2	,1	,0-3		04C74		2		
	-1									
12150	B	FMCN				04C78	49	C7454	CCCC	
12160	TFM	FMCN+11	,0-START			04C90	16	C7465	-C236	
12170	DC	2	,1	,0-3		04C98		2		
	-1									
12180	B	FMCN				04102	49	C7454	CCCC	
12190	TFM	FMCN+11	,0-START			04114	16	C7465	-C263	
12200	DC	2	,1	,0-3		04122		2		
	-1									
12210	B	FMCN				04126	49	C7454	CCCC	
12220	TFM	FMCN+11	,0-START			04138	16	C7465	-C287	
12230	DC	2	,1	,0-3		04146		2		
	-1									
12240	B	FMCN				04150	49	C7454	CCCC	
12250	TFM	FMCN+11	,0-START			04162	16	C7465	-C311	
12260	DC	2	,1	,0-3		04170		2		
	-1									
12270	B	FMCN				04174	49	C7454	CCCC	
12280	TFM	FMCN+11	,0-START			04186	16	C7465	-C335	
12290	DC	2	,1	,0-3		04194		2		
	-1									
12300	B	FMCN				04198	49	C7454	CCCC	
12310	TFM	FMCN+11	,0-START			04210	16	C7465	-C359	
12320	DC	2	,1	,0-3		04218		2		
	-1									
12330	B	FMCN				04222	49	C7454	CCCC	
12340	TFM	FMCN+11	,0-START			04234	16	C7465	-C383	
12350	DC	2	,1	,0-3		04242		2		
	-1									
12360	H	FMCN				04246	49	C7454	CCCC	
12370	TFM	FMCN+11	,0-START			04258	16	C7465	-C407	
12380	DC	2	,1	,0-3		04266		2		
	-1									
12390	B	FMCN				04270	49	C7454	CCCC	
12400	****		WRITE ALPHAMERIC							
12410	TF	SWF	,WATY-1			04282	26	C5965	C4281	
12420	B	WATY1				04254	49	C553E	CCCC	
12430	TF	SWF	,WAPT-1			04306	26	C5965	C4305	
12440	B	WAPT1				04318	49	C559E	CCCC	
12450	TF	SWF	,WACD-1			04330	26	C5965	C4329	
12460	B	WACD1				04342	49	C561C	CCCC	
12470	TF	SWF	,PRA-1			04354	26	C5965	C4353	
12480	B	PRA1				04366	49	C557E	CCCC	
12490	****		READ ALPHAMERIC							
12500	TF	SWF	,RATY-1			04378	26	C5965	C4377	
12510	B	RATY1				04390	49	C557C	CCCC	
12520	TF	SWF	,RAPY-1			04402	26	C5965	C4401	
12530	B	RAPT1				04414	49	C559C	CCCC	
12540	TF	SWF	,RACD-1			04426	26	C5965	C4425	
12550	B	RACD1		,R		04438	49	C601C	C-00C	
12560	DDRG	0-1				04448				
12570	TFM	FMCN+11	,0-START			04448	16	C7465	-C597	
12580	DC	2	,1	,0-3		04456		2		
	-3									

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12590	B	FMCN				04460	49	C7454	C-00C	
12600	DDRG	0-1		,R		04470				
12610	WRITE1	TFM	WA	,GAP+2		04470	16	C7241	-2557	
12620	B	WRIT11			,R	04482	49	C4F22	C-00C	
12630	DDRG	0-1				04452				
12640	TFM	FMCN+11	,0-START			04452	16	C7465	-C641	
12650	DC	2	,7	,0-3		04500		2		
	-7									
12660	H	FMCN			,R	04504	49	C7454	C-00C	
12670	DDRG	0-1				04514				
12680	TFM	FMCN+11	,0-START			04514	16	C7465	-C663	
12690	DC	2	,8	,0-3		04522		2		
	-8									
12700	B	FMCN			,R	04526	49	C7454	C-00C	
12710	DDRG	0-1				04536				
12720	TFM	FMCN+11	,0-START			04536	16	C7465	-C685	
12730	DC	2	,7	,0-3		04544		2		
	-7									
12740	B	FMCN			,R	04548	49	C7454	C-00C	
12750	DDRG	0-1				04558				
12760	TFM	FMCN+11	,0-START			04558	16	C7465	-C707	
12770	DC	2	,5	,0-3		04566		2		
	-5									
12780	B	FMCN			,R	04570	49	C7454	C-00C	
12790	DDRG	0-1				04580				
12800	TFM	FMCN+11	,0-START			04580	16	C7465	-0729	
12810	DC	2	,5	,0-3		04588		2		
	-5									
12820	B	FMCN			,R	04592	49	C7454	C-00C	
12830	DDRG	0-1				04602				
12840	TFM	FMCN+11	,0-START			04602	16	C7465	-C751	
12850	DC	2	,5	,0-3		04610		2		
	-5									
12860	B	FMCN			,R	04614	49	C7454	CO0CC	
12870	DDRG	0-4				04621				
12880	*****		1620 FORTRAN II-D I WA FCRMAT - SUBROUTINES							
12890	*****		RETURN FROM SWL VIA SWC IF WRITING I TYPE							
12900	*****		VALUE PUT IN FAC IN I FCRP, EXPANDED TO ALPHA IN							
12910	*****		GAMMA RIGHT TO LEFT. HC CONTAINS ACR OF HIGH ORDER							
12920	*****		DIGIT IN GAP. AFTER VALUE IN GAP IS SIGNED, CHECKED							
12930	*****		FOR WIDTH, MOVE TO OUTPUT RECORD.							
12940	*****		ERROR RESULTS IF VALUE TOO LARGE FOR FCRMAT SPECS.							
12950	WRIT11	TFM	WA2	,FAC+1		04622	16	C7392	-2453	
12960	TFL	FAC		,LCC	,11	04634	06	C2492	C608R	
12970	BNF	WRT12+12	,FAC-1			04646	44	04640	C2451	
12980	TF	FIXEND+6	,ICCN3+6			04658	26	C368E	C5324	
12990	B	FIX				04670	49	C3854	CO0CC	
13000	DDRG	0-4				04677				
13010	WRT12	TDM	FIXEND+1	,2		04678	15	C3681	CO0C2	
13020	TR	GAP-19	,PASK I-1			04690	31	C2536	C5326	
13030	TFM	HO	,GAP+1			04702	16	C4783	-2556	
13040	WRT1	SM	WA 2	,1		04714	12	C7342	-CC02	
13050	SM	WA		,2		04726	12	07241	-CC02	
13060	TD	WA	,WA 2	,611		04738	25	C7241	C739E	
13070	BD	I DIG	,WA 2	,11		04750	43	0477C	C739E	
13080	B	I DIG+12				04762	49	C4782	CCCC	

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13090		DORG	+4			04769			
13100	ICIG	TF	MO	,MA		04770	26	04793	C7241
13110		CF	GAM	,		04782	33	C2955	CCOCC
13120	MC	DS	5	,		04793		5	
13130		BNF	WRT1	,MA	,11	04794	44	C4714	C724J
13140		CM	MO	,GAM+1		04806	14	C4793	-2956
13150		BNE	WRT SGN			C4818	47	C485C	C120C
13160		TFM	LAST	,7CCO	,68	04830	16	C582-	CP00C
13170		B	BSWF			04842	49	C5934	CCOCC
13180		DORG	+4			04849			
13190	WRTSGN	BNF	WRT 13	,FAC		04850	44	04886	C2492
13200		SM	MO	,2		04862	12	04793	-0CC2
13210		TFM	MO	,2C	,610	04874	16	C479L	CCCMC
13220	WRT13	SM	MO	,1		04886	12	C4793	-CCCL
13230		TFM	OUT	,GAM		C4898	16	C4957	-2955
13240		S	OUT	,MC		04910	22	C4957	C4793
13250		C	OUT	,NICTH 2		04922	24	C4957	C6064
13260		BM	ER F8 I			04934	46	C5014	C11CC
13270		SF	OUT			04946	32	C4957	CCGCC
13280	OLT	DS	5	,	, MI ORDER WKG ACR IN I/C RECORD, I TYPE	04957		5	
13290		A	OUT	,LAST		04958	21	C4957	C582C
13300		SM	OUT	,2		04970	12	C4957	-CC02
13310		TR	OUT	,MC	,611	04982	31	C495P	C479L
13320		TFM	LAST	,0C	,610	04994	16	C582-	COO-C
13330		B	BSWF			05006	49	C5934	CCOCC
13340		DORG	+4			05013			
13350	ERF01	TR	DUD M+11	,FLZERS-67		05014	31	C261E	C6444
13360		TR	DUD M+11	,MC	,11	05026	31	C261E	C479L
13370		TFM	EI+2	,67800		05030	16	C2617	C78CC
13380		BNR	+2C	,RNEFSH		05050	45	C507C	C66E1
13390		B7	ER CCM 2			C5062	49	C738E	
13400		TF	DATDUD+2	,DATINH+2		05070	26	C6167	C6175
13410		TFM	ICRT	,+23		05082	16	C5065	-51C5
13420		B	ICPT	,DATOLC-4	,7	05094	49	C5032	-61E1
13430		B	ER CCM 2			05106	49	C738E	CCOCC
13440		DORG	+4			05113			
13450	IFIX	BP	+32	,	YES	05114	46	C514E	C11CC
13460		TF	FAC	,FX2	NC	05126	26	C2452	C2815
13470		B	FIXEND			05138	49	C388C	CCOCC
13480		DORG	+3			0514E			
13490		TD	MU-1	,FAC-2	STCRE SIGN	0514E	25	C3631	C249C
13500		C	FAC	,K	IS CHAR GREATER THAN K	05158	24	C2452	C2221
13510		BNH	+56			05170	47	C522E	C11CC
13520		TDM	FXERR+25	,1	SET ERR TYPE	05182	15	C3621	CCOCC
13530		TFM	EI	,579	SET ER E9, CVFL IN FIX	05194	16	C2615	CCN75
13540		TF	FAC	,FX9	YES, FAC = FX9	05206	26	C2452	C28C5
13550		B	FXERR			05218	49	C395E	CCOCC
13560		DORG	+3			0522E			
13570		CF	FAC-2			0522E	33	C249C	CCOCC
13580		TF	BETA	,ZERO-51	CLEAR ACC AREA	05238	26	C26C3	C2716
13590		TF	IMSA	,FX2		05250	26	C2575	C2815
13600		TF	+30	,IPSAPF	ALIGN DECIMAL POINTS	05262	26	C5262	C3258
13610		S	+18	,FAC		05274	22	C5262	C2452
13620		A	DUMMY	,FAC-2		05286	21	C5955	C245C
13630		TF	FAC	,IMSA		05298	26	C2452	C2575
13640		B	MU			05310	49	C3632	CCOCC

13650		DORG	+4			05317			
13660	ICON3	B	WRT 12	,	,1	05318	4R	C467E	CCOCC
13670		DORG	+4			05325			
13680	MASK1	DAC	11,CCCCCCCC			05327		11 X	2
13690		DORG	08CCC			08CCO			
13700		38	A5	,CC702		08CCC	38	C8032	CC7C2
13710		36	A5	,CC703		08C12	36	C8032	CC7C3
13720		B	+22			08C24	49	C8C4E	CCOCC
13730		DORG	+3			08C32			
13740	A5	DSC	9	,C19469016		08C32		5	
13750		OSA	FIX			08C45		5 X	1
13760		TRA				08C45		-3854	
13770		TCD	08C0C			08C46	36	CCOCC	CC5CC
						08C58	49	CCOCC	CCOCC
						08C00			
13780	*****		1620 FCRTAN II-D EF-MTYPE	FCRPA7					
13790	*****		1620 FCRTAN II-D EF-MTYPE	FCRPA7 - SECCDARY LINKAGE					
13800		DORG	START			03851			
13810		DS	3			03853		3	
13820		TFM	FMCN+11	,--START		03854	16	C7465	-CC03
13830		QC	2	,1	,+3	03862		2	
		-1							
13840		B	FMCN			03866	49	C7454	CCOCC
13850		TFM	FMCN+11	,--START		03878	16	C7465	-CC27
13860		DC	2	,1	,+3	03886		2	
		-1							
13870		B	FMCN			03890	49	C7454	CCOCC
13880		TFM	FMCN+11	,--START		03902	16	C7465	-CC51
13890		DC	2	,1	,+3	03910		2	
		-1							
13900		B	FMCN			03914	49	C7454	CCOCC
13910		TFM	FMCN+11	,--START		03926	16	C7465	-CC75
13920		DC	2	,1	,+3	03934		2	
		-1							
13930		B	FMCN			03938	49	C7454	CCOCC
13940		TFM	FMCN+11	,--START		03950	16	C7465	-CC99
13950		DC	2	,1	,+3	03958		2	
		-1							
13960		B	FMCN			03962	49	C7454	CCOCC
13970		TFM	FMCN+11	,--START		03974	16	C7465	-C123
13980		DC	2	,1	,+3	03982		2	
		-1							
13990		B	FMCN			03986	49	C7454	CCOCC
14000		TFM	FMCN+11	,--START		03998	16	C7465	-C147
14010		DC	2	,1	,+3	04006		2	
		-1							
14020		B	FMCN			04010	49	C7454	CCOCC
14030		DORG	+1			04020			
14040		TFM	FMCN+11	,--START		04020	16	07465	-0169
14050		DC	2	,1	,+3	04028		2	
		-1							
14060		B	FMCN	,	,8	04032	49	C7454	C-0CC

14070	DORG	*-1			04042			
14080	TFM	FMCN+11	,*-START		04042	16	C7465	-C151
14090	DC	2	,1	,*-3	04050		2	
	-1							
14100	B	FMCN			04054	49	C7454	CCCCC
14110	TFM	FMCN+11	,*-START		04066	16	C7465	-C215
14120	DC	2	,1	,*-3	04074		2	
	-1							
14130	B	FMCN			04078	49	C7454	CCCCC
14140	TFM	FMCN+11	,*-START		04090	16	C7465	-C235
14150	DC	2	,1	,*-3	04098		2	
	-1							
14160	B	FMCN			04102	49	C7454	CCCCC
14170	TFM	FMCN+11	,*-START		04114	16	C7465	-C263
14180	DC	2	,1	,*-3	04122		2	
	-1							
14190	B	FMCN			04126	49	C7454	CCCCC
14200	TFM	FMCN+11	,*-START		04138	16	C7465	-C287
14210	DC	2	,1	,*-3	04146		2	
	-1							
14220	B	FMCN			04150	49	C7454	CCCCC
14230	TFM	FMCN+11	,*-START		04162	16	C7465	-C311
14240	DC	2	,1	,*-3	04170		2	
	-1							
14250	B	FMCN			04174	49	C7454	CCCCC
14260	TFM	FMCN+11	,*-START		04186	16	C7465	-C335
14270	DC	2	,1	,*-3	04194		2	
	-1							
14280	B	FMCN			04198	49	C7454	CCCCC
14290	TFM	FMCN+11	,*-START		04210	16	C7465	-C359
14300	DC	2	,1	,*-3	04218		2	
	-1							
14310	B	FMCN			04222	49	C7454	CCCCC
14320	TFM	FMCN+11	,*-START		04234	16	C7465	-C383
14330	DC	2	,1	,*-3	04242		2	
	-1							
14340	B	FMCN			04246	49	C7454	CCCCC
14350	TFM	FMCN+11	,*-START		04258	16	C7465	-C407
14360	DC	2	,1	,*-3	04266		2	
	-1							
14370	B	FMCN			04270	49	C7454	CCCCC
14380	****		WRITE ALPHAMERIC					
14390	TF	SWF	,RATY-1		04282	26	C5965	C4281
14400	B	WATY1			04294	45	C5538	CCCCC
14410	TF	SWF	,RAPT-1		04306	26	C5965	C4365
14420	H	WAPT1			04318	49	C5558	CCCCC
14430	TF	SWF	,RACD-1		04330	26	C5965	C4325
14440	B	WACD1			04342	45	C5610	CCCCC
14450	TF	SWF	,PRA-1		04354	26	C5965	C4353
14460	B	PRA1			04366	45	C5578	CCCCC
14470	****		READ ALPHAMERIC					
14480	TF	SWF	,RATY-1		04378	26	C5965	C4377
14490	B	RATY1			04390	49	C5970	CCCCC
14500	TF	SWF	,RAPT-1		04402	26	C5965	C4401
14510	B	RAPT1			04414	49	C5950	CCCCC
14520	EF25W	DS	5	,*	04425		5	

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14530	TF	SWF	,RACD-1		04426	26	C5965	C4425
14540	B	RACD1		,*	04438	49	C6010	C-CCC
14550	DORG	*-1			04448			
14560	TFM	FMCN+11	,*-START		04448	16	C7465	-C557
14570	DC	2	,3	,*-3	04456		2	
	-3							
14580	B	FMCN		,*	04460	49	C7454	C-CCC
14590	DORG	*-1			04470			
14600	TFM	FMCN+11	,*-START		04470	16	C7465	-C619
14610	DC	2	,4	,*-3	04478		2	
	-4							
14620	B	FMCN		,*	04482	49	C7454	C-CCC
14630	DORG	*-1			04492			
14640	TFM	FMCN+11	,*-START		04492	16	C7465	-C641
14650	CC	2	,7	,*-3	04500		2	
	-7							
14660	B	FMCN		,*	04504	49	C7454	C-CCC
14670	DORG	*-1			04514			
14680	TFM	FMCN+11	,*-START		04514	16	C7465	-C663
14690	CC	2	,8	,*-3	04522		2	
	-8							
14700	B	FMCN		,*	04526	49	C7454	C-CCC
14710	DORG	*-1			04536			
14720	TFM	FMCN+11	,*-START		04536	16	C7465	-C685
14730	DC	2	,7	,*-3	04544		2	
	-7							
14740	B	FMCN		,*	04548	49	C7454	C-CCC
14750	DORG	*-1			04558			
14760	****		MACRC FOR F TYPE READ AND WRITE					
14770	FIYFE	CF	RWEFSW		04558	33	C6061	CCCCC
14780	B	EF CCM		,*	04570	49	C4624	C-CCC
14790	DORG	*-1			04580			
14800	****		MACRC FOR E TYPE READ AND WRITE					
14810	EYFE	SF	RWEFSW		04580	32	C6061	CCCCC
14820	B	EFCOM		,*	04592	49	C4624	C-CCC
14830	DORG	*-1			04602			
14840	HYFE	AM	SWF	,3	04602	11	C5965	-CCC3
14850	B	HYFE1		,*	04614	49	C5248	C-CCC
14860	DORG	*-1			04624			
14870	*****		1620 FORTRAN II-D EF-HYFE FORMAT - SUBROUTINES					
14880	EFCOM	AM	SWF	,3	04624	11	C5965	-CCC3
14890	TF	WIDTH	,SWF	,11	04636	26	C5755	C5968
14900	AM	SWF	,2		04648	11	C5965	-CCC2
14910	TF	LOC D	,SWF	,11	04660	26	C5880	C5968
14920	TF	INPLLS	,LAST		04672	26	C6053	C5820
14930	TF	WIDTH 2	,WIDTH		04684	26	C6064	C5799
14940	A	WIDTH 2	,WIDTH		04696	21	C6064	C5799
14950	A	LAST	,WIDTH2		04708	21	C5820	C6064
14960	C	LAST	,PAX 2		04720	24	C5820	C6145
14970	BM	ER F9			04732	46	C7310	C1100
14980	TF	TERP	,LAST		04744	26	C7093	C5820
14990	SM	TERP	,2		04756	12	C7093	-0002
15000	TF	CHAR	,WIDTH		04768	26	C6100	C5755
15010	TF	WA	,PAX		04780	26	C7241	C3313
15020	YDM	97	,C		04792	15	C6097	C6000
15030	YFP	99	,OC	,10	04804	16	C6099	C6000

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15040	BD	EF	WRT	,RNEFSH		04816	43	C5C84	C6061
15050	TF	FAC		,FLZALP	,11	04820	24	C2492	C334C
15060	TFM	SWCADJ		,BRAD EF		0484C	14	C6152	-4492
15070	RFCFH	BNR	RDFCH1	,IAPLUS	,11, CHECK FOR INPUT RECCRD MARK	04852	49	C4884	C605L
15080	TFM	EF25H		,ERRF7E		04864	16	C4425	-5354
15090	B7	BEF25H				04874	49	C544C	
15100	RDFCH1	CM	INPLUS	,0C	,610, ELIMINATE LEADING BLANKS	04884	14	C6C5L	CCO-C
15110	BNE	FCH AB				04896	47	C4974	C12CC
15120	SM	CHAR		,1	,10	04908	12	C61CC	CCO-1
15130	AM	INPLUS		,2		04920	11	C6C53	-CCO2
15140	C	INPLUS		,LAST		04932	24	C6C53	C582C
15150	BL	RD FCH				04944	47	C4852	C13CC
15160	TFM	EF25H		,EFEND+12		04956	16	C4425	-5284
15170	B	BEF25H				04968	49	C544C	CCOCC
15180	DORG	+4				04975			
15190	FCHM8	CM	INPLUS	,2C	,610, PRECESS FIRST ACN BLANK CHARACTER	04974	14	C6C5L	CCOCC
15200	BNE	+32				04988	47	C5C2C	C12CC
15210	TFM	EF25H		,EF PIA		05000	16	C4425	-4496
15220	B	BEF25H				05012	49	C544C	CCOCC
15230	DORG	+4				05019			
15240	CM	INPLUS		,1C	,61C	05020	14	C6C5L	CCOJC
15250	BNE	+32				05032	47	C5C64	C12CC
15260	TFM	EF25H		,EF PLS		05044	16	C4425	-4668
15270	B	BEF25H				05056	49	C544C	CCOCC
15280	DORG	+4				05063			
15290	TFM	EF25H		,EFTYPE+36		05064	16	C4425	-4716
15300	B	BEF25H				05076	49	C544C	CCOCC
15310	DORG	+4				05083			
15320	EFWRT	C	LOC D	,F		05084	24	C588C	C2219
15330	BNH	+24				05096	47	C512C	C11CC
15340	TF	LOC D		,F		05108	28	C588C	C2219
15350	TF	LOC2 2		,LCC D		05120	28	C587E	C588C
15360	A	LOC2 2		,LCC 0		05132	21	C587E	C588C
15370	TR	GAM-59		,PASK F-1		05144	31	C2496	C5472
15380	TFM	WA		,GAP		05156	16	C7241	-2555
15390	TFM	WA2		,FAC-1		05168	16	C7352	-2451
15400	TFM	SWCADJ		,EPPH		05180	16	C6152	-4514
15410	SM	WIDTH		,2	,10	05192	12	C5706	CCO-2
15420	BMF	SML		,RNEFSH		05204	44	C6C42	C6C61
15430	SM	TERM		,8		05216	12	C7C53	-CCO8
15440	SM	WIDTH		,4	,10	05228	12	C5755	CCO-4
15450	B	SML				05240	49	C6C42	CCOCC
15460	DORG	+4				05247			
15470	****								
15480	FTYPE1	TF	WIDTH2	,SWF	,11	05248	24	C6C64	C594R
15490	TF	INPLUS		,LAST		05260	26	C6C53	C582C
15500	A	LAST		,WIDTH2		05272	21	C582C	C6C64
15510	C	LAST		,MAX2		05284	24	C582C	C6145
15520	BNH	+32				05296	47	C5328	C11CC
15530	A	SWF		,WIDTH2		05308	21	C5965	C6C64
15540	B	ER CCM 2				05320	49	C7386	CCOCC
15550	DORG	+4				05327			
15560	BD	HVRT		,RNEFSH		05328	43	C536C	C6061
15570	TFM	EF25H		,HRC		05340	16	C4425	-5428
15580	B	BEF25H				05352	49	C544C	CCOCC
15590	DORG	+4				05359			

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15600	FVRT	SM	WIDTH 2	,2	,10, WRITE P TO I/C REC FROM FORMAT REC	05360	12	C6C64	CCO-2
15610	TFM	COMP5H		,C		05372	15	C575C	CCOCC
15620	BL	BSWF		,		05384	47	C5634	C13CC
15630	AM	SWF		,2		05396	11	C5965	-CCO2
15640	TF	INPLUS		,SWF	,611	05408	26	C6C5L	C596R
15650	AM	INPLUS		,2		05420	11	C6C53	-CCO2
15660	B	H WRT				05432	49	C536C	CCOCC
15670	DORG	+4				05439			
15680	BEF25H	TFM	MBASE+5	,FTYPE		0544C	16	C7662	-4558
15690	TFM	FMCN+11		,HTYPE+22-START		05452	16	C7465	-C773
15700	CC	2		,6	,*-3	05460			
15710	H	FMCN				05464	49	C7454	CCOCC
15720	DORG	+4				05471			
15730	MASKF	DAC	31,CCCCCCCCCCCCCCCCCCCCCCCCCCCC			05473		31 X	2
15740	DORG	08CC				08CC			
15750	38	A6		,0C702		08CC	38	C8C32	CC7C2
15760	36	A6		,0C703		08C12	36	C8C32	C07C3
15770	B	+22				08C24	49	C8C46	CCOCC
15780	DORG	+3				08C32			
15790	A6	CSC 9		,019485C17		08C32		5	
15800	DSA	FIX				08C45		5 X	1
15810	TRA					08C45		-3854	
15820	TCD	08CC				08C46	36	CCOCC	CC5CC
						08C58	49	CCOCC	CCOCC
						08CC			
15830	*****								
15840	*****								
15850	DORG	FTYPE				04558			
15860	TFM	FMCN+11		,*-START		04558	16	C7465	-C7C7
15870	DC	2		,5	,*-3	04566		2	
15880	B	FMCN		,	,8	0457C	49	C7454	C-CCC
15890	DORG	+1				0458C			
15900	TFM	FMCN+11		,*-START		0458C	16	C7465	-0729
15910	DC	2		,5	,*-3	04588		2	
15920	B	FMCN		,	,8	04592	49	C7454	C-CCC
15930	DORG	+1				04602			
15940	TFM	FMCN+11		,*-START		04602	16	C7465	-0751
15950	DC	2		,5	,*-3	0461C		2	
15960	B	FMCN		,	,8	04614	49	C7454	CCOCC
15970	DORG	+1				04624			
15980	TFM	MBASE+5		,PIB		04624	16	C7662	-3854
15990	TFM	EFTYPE+18		,EFTYPE		04636	16	C526C	-448C
16000	B	EF25H		,	,6	04648	49	C4425	CCOCC
16010	DORG	+4				04655			
16020	EFMIN	SF	99			04658	32	CCOCC	CCOCC
16030	EFPLUS	SM	CHAR	,1	,10	04668	12	C61CC	CCO-1
16040	EFTYPE	AM	INPLUS	,2		04680	11	C6C53	-0002
16050	CM	INPLUS		,0C	,610	04692	14	C6C5L	CCO-C

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Table with columns for address, operation, and values. Includes entries like 16060 BE LDG DIG, 16150 EXP DS 3, and 16610 TRM FAC.

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Table with columns for address, operation, and values. Includes entries like 16620 B SWL, 16770 HRC SM WINTP-2, and 17690 B FMON.

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17100	B	FMCN		03962	49	C7454	CCCC
17110	TFM	FMCN+11	,0-START	03974	16	C7465	-C123
17120	DC	2	,1	03982		2	
	-1						
17130	B	FMCN		03986	49	C7454	CCCC
17140	TFM	FMCN+11	,0-START	03998	16	C7465	-C147
17150	DC	2	,1	04006		2	
	-1						
17160	B	FMCN		04010	49	C7454	CCCC
17170	DORG	0-1		04020			
17180	TFM	FMCN+11	,0-START	04020	16	C7465	-C169
17190	DC	2	,1	04028		2	
	-1						
17200	B	FMCN		04032	49	C7454	C-CCC
17210	DORG	0-1		04042			
17220	TFM	FMCN+11	,0-START	04042	16	C7465	-C151
17230	DC	2	,1	04050		2	
	-1						
17240	B	FMCN		04054	49	C7454	CCCC
17250	TFM	FMCN+11	,0-START	04066	16	C7465	-C215
17260	DC	2	,1	04074		2	
	-1						
17270	B	FMCN		04078	49	C7454	CCCC
17280	TFM	FMCN+11	,0-START	04090	16	C7465	-C239
17290	DC	2	,1	04098		2	
	-1						
17300	B	FMCN		04102	49	C7454	CCCC
17310	TFM	FMCN+11	,0-START	04114	16	C7465	-C263
17320	DC	2	,1	04122		2	
	-1						
17330	B	FMCN		04126	49	C7454	CCCC
17340	TFM	FMCN+11	,0-START	04138	16	C7465	-C287
17350	DC	2	,1	04146		2	
	-1						
17360	B	FMCN		04150	49	C7454	CCCC
17370	TFM	FMCN+11	,0-START	04162	16	C7465	-C311
17380	DC	2	,1	04170		2	
	-1						
17390	B	FMCN		04174	49	C7454	CCCC
17400	TFM	FMCN+11	,0-START	04186	16	C7465	-C335
17410	DC	2	,1	04194		2	
	-1						
17420	B	FMCN		04198	49	C7454	CCCC
17430	TFM	FMCN+11	,0-START	04210	16	C7465	-C359
17440	DC	2	,1	04218		2	
	-1						
17450	B	FMCN		04222	49	C7454	CCCC
17460	TFM	FMCN+11	,0-START	04234	16	C7465	-C383
17470	DC	2	,1	04242		2	
	-1						
17480	B	FMCN		04246	49	C7454	CCCC
17490	TFM	FMCN+11	,0-START	04258	16	C7465	-C407
17500	DC	2	,1	04266		2	
	-1						
17510	B	FMCN		04270	49	C7454	CCCC
17520	****		WRITE ALPHAPERIC				

17530	TF	SWF	,WATY-1	04282	26	C5965	C4281
17540	B	WATY1		04294	49	C5538	CCCC
17550	TF	SWF	,WAPT-1	04306	26	C5965	C4305
17560	B	WAPT1		04318	49	C5558	CCCC
17570	TF	SWF	,WACD-1	04330	26	C5965	C4329
17580	B	WACD1		04342	49	C5610	CCCC
17590	TF	SWF	,PRA-1	04354	26	C5965	C4353
17600	B	PRA1		04366	49	C5578	CCCC
17610	****		READ ALPHAPERIC				
17620	TF	SWF	,RATY-1	04378	26	C5965	C4377
17630	B	RATY1		04390	49	C5570	CCCC
17640	TF	SWF	,RAPT-1	04402	26	C5965	C4401
17650	B	RAPT1		04414	49	C5580	CCCC
17660	TF	SWF	,RACD-1	04426	26	C5965	C4425
17670	B	RACD1		04438	49	C6010	C-CCC
17680	DORG	0-1		04448			
17690	TFM	FMCN+11	,0-START	04448	16	C7465	-C597
17700	DC	2	,3	04456		2	
	-3						
17710	B	FMCN		04460	49	C7454	C-CCC
17720	DORG	0-1		04470			
17730	TFM	FMCN+11	,0-START	04470	16	C7465	-C619
17740	DC	2	,4	04478		2	
	-4						
17750	B	FMCN		04482	49	C7454	C-CCC
17760	DORG	0-1		04492			
17770	READER	BNF	EF RD2+12,LCC	04492	44	C4646	C6C89
17780	B	EF RD1		04504	49	C4622	C-CCC
17790	DORG	0-1		04514			
17800	TFM	FMCN+11	,0-START	04514	16	C7465	-C663
17810	DC	2	,8	04522		2	
	-8						
17820	B	FMCN		04526	49	C7454	C-CCC
17830	DORG	0-1		04536			
17840	ATYPE	AM	SWF	04536	11	C5965	-CCCC
17850	B	ATYPE1		04548	49	C4922	C-CCC
17860	DORG	0-1		04558			
17870	TFM	FMCN+11	,0-START	04558	16	C7465	-C707
17880	DC	2	,5	04566		2	
	-5						
17890	B	FMCN		04570	49	C7454	C-CCC
17900	DORG	0-1		04580			
17910	TFM	FMCN+11	,0-START	04580	16	C7465	-C729
17920	DC	2	,5	04588		2	
	-5						
17930	B	FMCN		04592	49	C7454	C-CCC
17940	DORG	0-1		04602			
17950	TFM	FMCN+11	,0-START	04602	16	C7465	-C751
17960	DC	2	,5	04610		2	
	-5						
17970	B	FMCN		04614	49	C7454	CCCC
17980	DORG	0-4		04621			
17990	*****		1620 FORTRAN II-D RAEP-ATYPE FORPAT - SUBROUTINES				
18000	CF	LOC		04622	33	C6C89	CCCC
18010	TF	FIXEND+6	,1 CON 5+6	04634	26	C3886	C4920
18020	B	FIX		04646	49	C3854	CCCC

18030	DORG	-4				C4653		
18040	EPRD2	TDM	FIXEND+1	,2		C4654	15	C3681 CC002
18050		TF	LOC	,FAC	,6	04666	06	C6C08 C2492
18060	ENF75	BNF	BSWF-12	,E1	,, ER IF ACT ERRCR TYPE F7	04678	44	C5922 C2615
18070		CF	E1	,,	ERASE ERRCR F7 INDICATION	C4690	33	C2615 CCCCC
18080	B	ERCCM2				C4702	49	C7386 C0000
18090	DORG	-4				04709		
18100	EFFIX	BP	+32	,,	YES	C4710	46	C4742 C11CC
18110		TF	FAC	,FXZ	,, AC	C4722	26	C2452 C2815
18120	B	FIXEND				C4734	49	C3680 C0000
18130	DORG	-3				04742		
18140	TD	MU-1	,FAC-2	,, STCRE SIGN		04742	25	C3631 C2490
18150	C	FAC	,K	,, IS CHAR GREATER THAN K		C4754	24	C2452 C2221
18160	BNH	+56				C4766	47	04822 C11CC
18170	TDM	FXERR+25	,1	,, SET ERR TYPE		04778	15	C3621 C0001
18180	TFM	E1	,579	,9, SET ER EQ, CVFL IN FIX		04790	16	C2615 C0N75
18190	TF	FAC	,FX9	,, YES, FAC = FX9		C4802	26	C2452 C2805
18200	B	FXERR				C4814	49	C3596 C0000
18210	DORG	-3				04822		
18220	CF	FAC-2				C4822	33	C2490 C0000
18230	TF	BETA	,ZERO-51	,, CLEAR ACC AREA		04834	26	C2603 C2716
18240	TF	IPSA	,FXZ			C4846	26	C2575 C2815
18250	TF	+30	,IPSAPP	,, ALIGN DECIMAL POINTS		04858	26	C4808 C3250
18260	S	+18	,FAC			C4870	22	C4808 C2492
18270	A	DUMMY	,FAC-2			04882	21	99999 C2490
18280	TF	FAC	,IPSA			04894	26	C2492 C2575
18290	B	MU				04906	49	C3632 C0000
18300	DORG	-4				04913		
18310	ICONS	B	EPRD 2	,	,1	C4914	4R	C4654 C0000
18320	DORG	-4				04921		
18330	*****				MACRC FOR A TYPE READ AND WRITE			
18340	ATYPE1	TF	WIDTH 2	,SWF	,11	04922	26	C6C64 C596R
18350		TF	INPLLS	,LAST		C4934	26	C6C53 C5820
18360	A	LAST	,WIDTH 2			04946	21	C982C C6C64
18370	C	LAST	,MAX 2			04958	24	C582C C6145
18380	BH	ER FS				C4970	46	C731C C11CC
18390	TF	TFRM	,LAST			C4982	26	C7C53 C5820
18400	SM	TERM	,2			04994	12	C7C93 -C002
18410	TFM	SWC ADJ	,WRITE A			05006	16	C6152 -5266
18420	BD	SWL	,Rb EF SW			05018	43	C6C42 C6C61
18430	TFM	SWC ADJ	,READ A			05030	16	C6152 -5050
18440	B	SWL				05042	49	C6C42 C0000
18450	DORG	-4				C5049		
18460	READA	CF	INPLLS	,	,6	C5050	33	C6C5L C0000
18470	AM	INPLLS	,1	,10		C5062	11	C6C53 C00-1
18480	C	INPLLS	,TERM			C5074	24	C6C53 C7093
18490	BL	READ A				C5086	47	C5C5C C130C
18500	BNF	RDAFL	,LCC			C5098	44	C521C C6C85
18510	CF	LOC				C5110	33	C6C85 C0000
18520	TF	LOC	,FXZ	,6		05122	26	C6C8R C2815
18530	S	WIDTH 2	,K			05134	22	C6C64 C2221
18540	RDA	BH	ERF7A			05146	46	C519C C11CC
18550	A	LOC	,WIDTH 2			C5158	21	C6C85 C6C64
18560	TF	LUC	,TERM	,611		05170	26	C6C8R C709L
18570	B	ERF75				C5182	46	C4678 C0000
18580	DORG	-4				C5186		

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18590	ERF7A	TDM	E1	,7	,11, SET ER F7 ERRCR INC AND SWITCH	05190	15	C2615 C0000
18600	B	ERF75				05202	49	C4678 C0000
18610	DORG	-4				C5209		
18620	RDAFL	TFM	LOC	,CC	,610	05210	16	C6C8R C00-0
18630	SM	LOC	,2	,10		05222	12	C6C85 C00-2
18640	TF	LOC	,FLZ	,611		05234	26	C6C8R C335L
18650	S	WIDTH 2	,F			05246	22	C6C64 C2215
18660	B	RD A				05258	49	C5146 C0000
18670	DORG	-4				C5265		
18680	WRITEA	TF	FAC	,LCC	,11	C5266	26	C2452 C608R
18690	BNF	WA FX	,FAC-1			C5278	44	C5378 C2491
18700	SM	LOC	,2			05290	12	C6C85 -C002
18710	S	WIDTH 2	,F			C5302	22	C6C64 C2215
18720	WRTA	BH	WRTA 2			C5314	46	C5358 C11CC
18730	A	LOC	,WIDTH 2			C5326	21	C6C85 C6C64
18740	TF	TERM	,LCC	,611		C5338	26	C7C9L C608R
18750	B	BSWF				05350	49	C5934 C0000
18760	DORG	-4				C5357		
18770	WRTA2	SM	WIDTH 2	,C2	,10	05358	12	C6C64 C00-2
18780	B	WRTA				05370	49	C5314 C0000
18790	DORG	-4				05377		
18800	WAFX	S	WIDTH 2	,K		05378	22	C6C64 C2221
18810	B	WRT A				05390	49	C5314 C0000
18820	DORG	-4				C5397		
18830	DORG	08CCC				08CCC		
18840	38	AR	,CC702			C8CCC	38	C8C32 C07C2
18850	36	AR	,CC703			C8C12	36	C8C32 C07C3
18860	B	+22				08C24	49	C8C46 C0000
18870	DORG	-3				08C32		
18880	AR	CSC	9	,019512C16		08C32		9
18890	DSA	FIX				08C45		5 X 1
18900	TRA					C8C45		-3854
18910	TCC	08CCC				08C46	36	C0000 C0500
18920	*****				1620 FORTRAN II-D EFPN FORPAT	08C58	49	C0000 C0000
18930	*****				1620 FORTRAN II-D EFPN FORPAT - SECCNARY LINKAGE			
18940	DORG	START				03851		
18950	DS	3				03853		3
18960	TFM	FMCN+11	,-START			03854	16	C7465 -CCC3
18970	DC	2	,1	,-3		03862		2
18980	B	FMCN				03866	49	C7454 C0000
18990	TFM	FMCN+11	,-START			03878	16	C7465 -C027
19000	DC	2	,1	,-3		03886		2
19010	B	FMCN				03890	49	C7454 C0000
19020	TFM	FMCN+11	,-START			03902	16	C7465 -0091
19030	DC	2	,1	,-3		03910		2
19040	B	FMCN				03914	49	C7454 C0000
19050	TFM	FMCN+11	,-START			03926	16	C7465 -0075
19060	DC	2	,1	,-3		03934		2

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19070	B	FMON			03930	49	C7454	CC0CC
19080	TFM	FMON+11	,0--START		03930	16	C7465	--CC99
19090	DC	2	,1	,0--3	03938		2	
	-1							
19100	B	FMON			03962	49	C7454	CC0CC
19110	TFM	FMON+11	,0--START		03974	16	C7465	--C123
19120	DC	2	,1	,0--3	03982		2	
	-1							
19130	B	FMON			03986	49	C7454	CCCCC
19140	TFM	FMON+11	,0--START		03998	16	C7465	--C147
19150	DC	2	,1	,0--3	04006		2	
	-1							
19160	B	FMON			04010	49	C7454	CCCCC
19170	DORG	0-1			04020			
19180	TFM	FMON+11	,0--START		04020	16	C7465	--C169
19190	DC	2	,1	,0--3	04028		2	
	-1							
19200	B	FMON			04032	49	C7454	C-CCC
19210	DORG	0-1			04042			
19220	TFM	FMON+11	,0--START		04042	16	C7465	--C191
19230	DC	2	,1	,0--3	04050		2	
	-1							
19240	B	FMON			04054	49	C7454	CCCCC
19250	TFM	FMON+11	,0--START		04066	16	C7465	--0215
19260	DC	2	,1	,0--3	04074		2	
	-1							
19270	B	FMON			04078	49	C7454	CCCCC
19280	TFM	FMON+11	,0--START		04090	16	C7465	--0239
19290	DC	2	,1	,0--3	04098		2	
	-1							
19300	B	FMON			04102	49	C7454	CCCCC
19310	TFM	FMON+11	,0--START		04114	16	C7465	--0263
19320	DC	2	,1	,0--3	04122		2	
	-1							
19330	B	FMON			04126	49	C7454	CCCCC
19340	TFM	FMON+11	,0--START		04138	16	C7465	--0287
19350	DC	2	,1	,0--3	04146		2	
	-1							
19360	B	FMON			04150	49	C7454	CCCCC
19370	TFM	FMON+11	,0--START		04162	16	C7465	--0311
19380	DC	2	,1	,0--3	04170		2	
	-1							
19390	B	FMON			04174	49	C7454	CC0CC
19400	TFM	FMON+11	,0--START		04186	16	C7465	--0335
19410	DC	2	,1	,0--3	04194		2	
	-1							
19420	B	FMON			04198	49	C7454	CC0CC
19430	TFM	FMON+11	,0--START		04210	16	C7465	--0359
19440	DC	2	,1	,0--3	04218		2	
	-1							
19450	B	FMON			04222	49	C7454	CCCCC
19460	TFM	FMON+11	,0--START		04234	16	C7465	--0383
19470	DC	2	,1	,0--3	04242		2	
	-1							
19480	B	FMON			04246	49	C7454	CCCCC
19490	TFM	FMON+11	,0--START		04258	16	C7465	--C4C7

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19500	DC	2	,1	,0--3	04266		2	
	-1							
19510	B	FMON			04270	49	C7454	CCCCC
19520	****		WRITE ALPHANERIC					
19530	TF	SWF	,WATY-1		04282	26	C5965	C4281
19540	B	WATY1			04294	49	C5970	CCCCC
19550	TF	SWF	,WAPT-1		04306	26	C5965	C43C5
19560	B	WAPT1			04318	49	C5958	CCCCC
19570	TF	SWF	,WACD-1		04330	26	C5965	C4329
19580	B	WACD1			04342	49	C561C	CC0CC
19590	TF	SWF	,PRA-1		04354	26	C5965	C4353
19600	B	PRA1			04366	49	C5978	CCCCC
19610	****		READ ALPHANERIC					
19620	TF	SWF	,RATY-1		04378	26	C5965	C4377
19630	B	RATY1			04390	49	C5970	CCCCC
19640	TF	SWF	,RAPT-1		04402	26	C5965	C44C1
19650	B	RAPT1			04414	49	C599C	CCCCC
19660	TF	SWF	,RACD-1		04426	26	C5969	C4425
19670	B	RACD1		,0	04438	49	C6C1C	C-CCC
19680	DORG	0-1			04448			
19690	TFM	FMON+11	,0--START		04448	16	C7465	--C597
19700	DC	2	,3	,0--3	04456		2	
	-3							
19710	B	FMON		,0	04466	49	C7454	C-CCC
19720	DORG	0-1			04470			
19730	TFM	FMON+11	,0--START		04470	16	C7465	--0619
19740	DC	2	,4	,0--3	04478		2	
	-4							
19750	B	FMON		,0	04482	49	C7454	C-0CC
19760	DORG	0-1			04492			
19770	TFM	FMON+11	,0--START		04492	16	C7465	--0641
19780	CC	2	,7	,0--3	04500		2	
	-7							
19790	B	FMON		,0	04504	49	C7454	C-0CC
19800	DORG	0-1			04514			
19810	EFMW	TF	,ICCN6+6		04514	26	C373C	C55CC
19820	B	EFMW1		,0	04526	49	C4626	C-0CC
19830	DORG	0-1			04536			
19840	TFM	FMON+11	,0--START		04536	16	C7465	--C685
19850	DC	2	,7	,0--3	04544		2	
	-7							
19860	B	FMON		,0	04548	49	C7454	C-0CC
19870	DORG	0-1			04558			
19880	TFM	FMON+11	,0--START		04558	16	C7465	--C7C7
19890	DC	2	,5	,0--3	04566		2	
	-5							
19900	B	FMON		,0	04570	49	C7454	C-CCC
19910	DORG	0-1			04580			
19920	TFM	FMON+11	,0--START		04580	16	C7465	--0729
19930	DC	2	,5	,0--3	04588		2	
	-5							
19940	B	FMON		,0	04592	49	C7454	C-0CC
19950	DORG	0-1			04602			
19960	TFM	FMON+11	,0--START		04602	16	C7465	--0751
19970	DC	2	,5	,0--3	04610		2	
	-5							

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19980	B	FMCN			04614	49	C7454	CCCCC
19990	REFSW	DS	5	,*	04625		5	
20000	*****	1620	FORTRAN II-C	EFMw FCRMAT - SUBROUTINES				
20010	*****			E AND F TYPE MANTISSA WRITING,FLOAT ARG IF REQ.				
20020	*****			COMPLTE DEC PT IN GAM AND OUTPUT RECCRD. MOVE				
20030	*****			MANTISSA DIGIT BY DIGIT, RIGHT TC LEFT, FROM FAC				
20040	*****			TO GAM. INSERT SIGN, CHECK WIDTH, AND ZERC.				
20050	*****			BR TO WRIT F FOR F TYPE CONTINUATION				
20060	EFMW1	TFL	FAC	,LCC	04626	C6	C2492	C60BR
20070		BNF	EFLCAT	,FAC-1	04638	44	C5194	C2451
20080	EFALP1	TFM	FLTEND-4	,2C	04650	16	C3726	CCOKC
20090		TF	DPT	,TERM	04662	26	C7445	C7C53
20100		S	DPT	,LCC D 2	04674	22	C7445	C5678
20110		TFM	DPG	,GAM	04686	16	C6C84	-2555
20120		S	DPG	,LCC D 2	04698	22	C6C84	C5678
20130		TF	DPTM2	,DPT	04710	26	C745C	C7445
20140		SM	DPTM2	,2	04722	12	C745C	-CCC2
20150	EFALP	SM	WA 2	,1	04734	12	C7352	-CCC1
20160		TD	WA	,WA2	04746	25	C724J	C735K
20170		CF	WA	,	04758	33	C724J	CCCCC
20180		SM	WA	,2	04770	12	C7241	-CCC2
20190		C	WA2	,FMIMF	04782	24	C7352	C3313
20200		BM	EF ALP		04794	46	C4734	C11CC
20210		TFM	WA	,CC	04806	16	C724J	CCC-C
20220		BNF	EF C-HS	,FAC-2	04818	44	D4842	C249C
20230		TFM	WA	,2C	04830	16	C724J	CCOKC
20240	EFCHKS	TFM	CKW	,CCC	04842	16	C7745	CC-CC
20250		A	CKW	,LCCD	04854	21	C7745	C568C
20260		A	CKW	,FAC	04866	21	C7745	C2492
20270		TF	CHAR	,CKW	04878	26	C61CC	C7745
20280		S	CHAR	,F	04890	22	C61CC	C2219
20290		C	WIDTH	,LCC D	04902	24	C5795	C568C
20300		HNL	++32		04914	46	D4946	C13CC
20310	ERFBES	TFM	REFSW	,ERFBE	04926	16	D4625	-525C
20320		B	BREFSW		04938	49	C55C2	CCCCC
20330		DDRG	--4		04944			
20340		CM	FAC	,-7C	04946	14	C2492	CCCP-
20350		BNF	++2C	,RNFESW	04958	44	D4978	C6C61
20360		B7	++2C		04970	49	C499C	
20370		BL	++24		04978	47	C5CC2	C13CC
20380		BD	++36	,FNM	04990	43	C5C26	C3311
20390		TDM	FLTEND-4	,-1	05002	15	C3726	CCCCJ
20400		TFM	CHAR	,-C99	05014	16	C61CC	CC-5R
20410		RNF	WRTFS	,RNFESW	05026	44	C5174	C6C61
20420	*****			WRITE E TYPE. ASSEMBLE EXP IN GAM USING A MASK,				
20430	*****			THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO				
20440	*****			CUTPLT. THEN GC TC INSERT DECIMAL POINT				
20450	WRITE	S	WIDTH	,F	05038	22	C5795	C2219
20460		BL	++32	,	05050	47	C5C82	C13CC
20470	WITE2S	TFM	REFSW	,WITE2	05062	16	D4625	-4646
20480		B	BREFSW		05074	49	C55C2	CCCCC
20490		DDRG	--4		05081			
20500		BD	++36	,FLTEND-4	05087	43	C5118	C3726
20510		S	CHAR	,WIDTH	05094	22	C61CC	C5795
20520		BD	ERFBES	,CHAR-2	05106	43	D4926	C405R
20530		TFM	++47	,GAM	05118	16	C5165	-2555

20540	A	++35	,WIDTH		05130	21	C5165	C5799
20550	A	++23	,WIDTH		05142	21	C5165	C5799
20560	TF	GAM			05154	26	C2555	CCCCC
20570	B	WITE2S			05166	49	C5C62	CCCCC
20580	DDRG	--4			05173			
20590	WRTFS	TFM	REFSW	,WRTF	05174	16	D4625	-475C
20600		B	BREFSW		05186	49	C55C2	CCCCC
20610		DDRG	--4		05193			
20620	EFLOAT	AM	FAC	,CC	05194	11	C2492	CCC-C
20630		BZ	ZERFAC	,*	05206	46	C3422	C12CC
20640		TD	99	,FAC	05218	25	C0C55	C2492
20650		CF	FAC	,*	05230	33	C2492	CCCCC
20660		TR	BETA-9	,FNM	05242	31	C2594	C3281
20670		TF	FAC-2	,9SPF-1	05254	26	C249C	C2853
20680		TF	SAVE	,K	05266	26	C2565	C2221
20690		TFM	++23	,BETA-9	05278	16	C53C1	-2544
20700		BD	++44	,DUPPY	05290	43	C5334	99999
20710		SM	SAVE	,01	05302	12	C2565	CCC-1
20720		AM	--13	,C1	05314	11	C53C1	-CCC1
20730		B	--36		05326	49	C529C	CCCCC
20740		DDRG	--3		05334			
20750		TR	FNM	,--33	05334	31	C3311	C53CJ
20760		TF	++35	,FNM	05346	26	C5381	C3313
20770		AM	++23	,C1	05358	11	C5381	-CCC1
20780		BNR	--12	,DUPPY	05370	45	C5358	99999
20790		TDM	--1	,0	05382	15	C538J	CCCCC
20800		TD	FAC+1	,RECPK	05394	25	C2453	C24C3
20810		TF	BETA	,ZERO-74	05406	26	C26C3	C2693
20820		B	ENCR6C		05418	49	C545C	CCCCC
20830		DDRG	--3		05426			
20840	ENCR3E	TR	FNM	,FM	05426	31	C3311	C33CC
20850		TDM	FAC-1	,C	05438	15	C2451	CCCCC
20860	ENCR6C	SF	FNM	,*	05450	32	C3311	CCCCC
20870		BD	FINISH	,FNM	05462	43	C372L	C3311
20880		SM	SAVE	,1	05474	12	C2565	CCC-1
20890		B	ENCR3E		05486	49	C5426	CCCCC
20900		DDRG	--4		05493			
20910	ICON6	B	EF ALPH	,	05494	4R	C465C	CCCCC
20920		DDRG	--4		05501			
20930	BREFSW	TFM	MBASE+5	,HTYPE+24	05502	16	C7662	-4626
20940		TFM	FMON+11	,HTYPE+24-START	05514	16	D7465	-0775
20950		DC	2	,9	05522		2	
20960		B	FMCN		05526	49	C7454	CCCCC
20970		DDRG	--4		05533			
20980		DDRG	ORCC		08CCC			
20990		38	A9	,0C702	08CCC	38	C8C32	C87C2
21000		36	A9	,0C703	08C12	36	C8032	C87C3
21010		B	++22		08C24	49	C8C46	CCCCC
21020		DDRG	--3		08C32			
21030	A9	DSC	9	,019528C17	08C32		5	
21040		DSA	FIX		08C45		5 x	1
21050		TRA			08C45		-3854	
					08C46	36	CCCCC	CC5CC

21060	TCD	08CCC		08C58	49	CCCC	CCCC
21070	*****	1620 FORTRAN II-D	WRITE-F	FCRPMAT			
21080	*****	1620 FORTRAN II-D	WRITE-F	FCRPMAT - SUBROUTINES			
21090		DORG	HTYPE+24		04626		
21100		TFP	MBASE+5	,FIX	04626	16	C7662 -3854
21110		B	REFSH	,6	04630	49	C462A C0CC0
21120	WAS	DS	5	,REFSH	04625		5
21130		DORG	-4		04645		
21140	WRITE2	TR	GAM+1	,MASK	04646	31	C2556 C5445
21150		BD	ERFBE	,CHAR-2	04658	43	C525C C6098
21160		TD	GAM+8	,CHAR	04670	25	C2563 C61CC
21170		TD	GAM+6	,CHAR-1	04682	25	C2561 C6099
21180		BNF	+24	,CHAR	04694	44	0471E C61CC
21190		TDM	GAM+3	,2	04706	15	C255E CCCC2
21200		TF	TERM	,GAM+2	04718	26	C7C5L C2557
21210		TR	DPT	,DPG	04730	31	C744A C608P
21220		B	WEF DEC	,611	04742	49	C521E C00CC
21230		DORG	-4		C4749		
21240	*****			3 CASES FOR WRITING F TYPE,CHAR IS EXP-LCCC-F			
21250	*****			CHAR IS NEG, EXP IS NEG			
21260	*****			CHAR IS NEG, EXP IS POSITIVE (WRTFPE)			
21270	*****			CHAR IS POSITIVE (WRTFPC)			
21280	WRTF	TR	GAM+1	,MASK EP+7	04750	31	C255E C5453
21290		BD	F ZERO	,FLTEND-4	04762	43	0499E C3726
21300		BD	ER FB E	,CHAR-2	04774	43	C525C C6098
21310		CM	CKW	,CCC	04786	14	C7745 CC-CC
21320		BNH	F ZERO		04798	47	C499E C11CC
21330		C	CKW	,WIDTH	04810	24	C7745 C5799
21340		BH	ER FB E		04822	46	C525C C11CC
21350		TF	CHAR 2	,CHAR	04834	26	C7C1E C61CC
21360		A	CHAR 2	,CHAR	04846	21	C7C1E C61CC
21370		BNF	WRTFPC	,CHAR	04858	44	C5C74 C61CC
21380		TFP	+35	,GAP	04870	16	C49C5 -2555
21390		A	+23	,CHAR 2	04882	21	C49C5 C7C1E
21400		TF	GAP		04894	26	C2555 CCCC
21410		BNF	WRTFPE	,FAC	04906	44	C5C42 C2492
21420		TF	LAST	,GAM+2	04918	26	C582- C2557
21430		TF	DPTM2	,GPM2F	04930	26	C745- C365A
21440		TF	WAS	,DPT	04942	26	C4625 C7445
21450	FNCNEZ	AM	WAS	,2	04954	11	C4625 -C002
21460		BD	WEF DEC	,WAS	04966	43	C521E C462A
21470		TFP	WAS	,7C	04978	16	C462A CCCCPC
21480		B	FNCNEZ		04990	49	C4954 CCCC
21490		DORG	-4		C4997		
21500	FZERO	TFP	DPTM2	,7C	04998	16	C745- CCOPC
21510		TF	CHAR 2	,LCCC 2	C5C1C	26	C7C1E C5678
21520		TDM	CHAR-2	,C	C5C22	15	C6C5E CCOC-
21530		B	CLR7CS-12		05034	49	C517C C00CC
21540		DORG	-4		05041		
21550	WRTFPE	TF	DPTM2	,DPG	05042	26	0749- C608P
21560		TR	DPT	,DPG	05054	31	C744A C608P
21570		B	WEF DEC		05066	49	C521E C00CC
21580		DORG	-4		05073		
21590	WRTFPC	TF	+30	,TERM	05074	26	C51C4 C7C93

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21600	S	+18	,CHAR 2	05086	22	C51C4	C7C1E
21610	TF		,GAM+2	05098	26	C00CC	C2557
21620	TF	CLR7CS+3C	,TERM	05110	26	C5212	C7C93
21630	C	CHAR	,LCCC	05122	24	C61CC	C5680
21640	BNL	CLR 70S		05134	46	C5182	C13CC
21650	A	DPG	,CHAR 2	05146	21	C6C84	C7C1E
21660	TR	DPT	,DPG	05158	31	C744A	C608P
21670	TF	CLR7CS+3C	,LAST	05170	26	C5212	C5820
21680	CLR70S	TFP	+35	,MASK F1	05182	16	C5217 -5457
21690	A	+23	,CHAR 2	05194	21	C5217	C7C1E
21700	TF	TERM	,6	05206	26	C7C9L	CCCC
21710	WEFDEC	TFM	DPT	,C3	05218	16	C744A C00-3
21720		TFM	LAST	,OC	05230	16	C582- CCG-C
21730	B	BSWF		05242	49	C5934	CCCC
21740		DORG	-4		05249		
21750	ERFBE	TR	DUC H+21	,FLZERS-57	05250	31	C2628 C6454
21760		TR	GAM+1	,MASK	05262	31	C255E C5445
21770		TD	GAM+8	,FAC	05274	25	C2563 C2492
21780		TD	GAM+6	,FAC-1	05286	25	C2561 C2491
21790		TFM	GAM+3	,451	05298	16	C255E C0M51
21800		BNF	+24	,FAC	05310	44	C5334 C2492
21810		TDM	GAM+3	,2	05322	15	C2558 CCCC2
21820		TR	DUD H+13	,GPM2F	05334	31	C262C C352C
21830		TF	DUD H+12	,DUD H+14	05346	26	C2619 C2621
21840		TFM	DUD H+14	,03	05358	16	C2621 CCG-3
21850		TFM	EI+2	,67800	05370	16	C2617 C78CC
21860		BNR	+2C	,RREFSH	05382	45	C54C2 C60E1
21870		R7	ER CCM 2		05394	49	0738E
21880		TF	DATDUD+2	,DATINH+2	05402	26	C6167 C6175
21890		TFM	IORT	,+23	05414	16	C0565 -5437
21900		B	IOPT	,DATDUC-4	05426	49	C0532 -61E1
21910		B	ERCOM2		05438	49	C738E C00CC
21920		DORG	-4		05445		
21930	MASK	DSC	10	,45107C7001	05445		1C
21940	PASKEP	DS		,MASK+1	05446		C
21950	MASKF1	DAC	31	,0C000000000C0C0000000000000C001	05457		11 X 2
21960		DORG	08CCC		08CCC		
21970		38	A1C	,0C702	08011	15	C8032 C0702
21980		36	A10	,0C703	08012	36	C8C32 C07C3
21990		B	+22		08024	49	C8C4E CCCCC
22000		DORG	+3		08032		
22010	A1C	DSC	9	,019545C09	08032		5
22020		OSA	HTYPE+24		08045		5 X 1
22030		TRA			08045		-4626
22040		TCD	08CCC		08046	36	C00CC C05CC
22050		DORG	START+3+360C		08058	49	C00CC C00CC
22060	FMON	SF	FMON+9		08060		
22070		TFM	RETURN+6	,START	07454	32	C7463 CCCC
22080		TFM	BA5+11	,FIL-8	07466	10	C744C -3851

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22090	AM	BAS+11	,8	,10	07490	11	C7585	CCO-8	
22100	SM	FMCN+8	,1	,10	07502	12	C7462	CCO-1	
22110	BNZ	**24			07514	47	C749C	C12CC	
22120	A	RETURN+6	,FPCN+11		07526	21	C764C	C7465	
22130	TF	ARGOLT+11	,RETURN+6		07538	26	C7573	C764C	
22140	SM	ARGOLT+11	,1		07550	12	C7573	-CCO1	
22150	ARGOLT	TF	RETARG+11	,DLPHY	07562	26	C7633	59959	
22160	BAS	TF	MBASE	,DLPHY	07574	26	C7657	59959	
22170	SF	MBASE-2			07586	32	C7655	CCOCC	
22180	TFM	IOPT	,**23		07598	16	C0565	-7641	
22190	B	IOGT	,PDATA	,7	07610	49	C0566	-7641	
22200	RETARG	TFM	ARGOLT+11	,DLPHY	,6	07622	16	C757L	59959
22210	RETURN	B			07634	49	COCCC	CCOCC	
22220		DORG	**4		07641				
22230	MDATA	DSC	2	,C2	07641		2		
22240	DSA	MBASE-8			C7647		5 X	1	
22250	CC	1,	*		C7647		-7645		
22260	DSC	1	,0		C7648		1		
22270	MBASE	CS	8		07649		1		
22280	DSA	FIX			07657		8		
22290	CC	1	,*		C7662		5 X	1	
22300	FIL	DC	8	,0CC00C33	07662		-3854		
22310	CC	-OCC0033		,CCC33C36	07661		1		
22320	CC	-OC33036		,0CC33C16	07671		8		
22330	CC	-OC33016		,CCC69C16	07675		E		
22340	CC	-OC69016		,0CC85C17	07687		8		
22350	CC	-OC85017		,CC102C10	07655		E		
22360	CC	-O1C201C		,00112C16	07703		8		
22370	CC	-O112016		,CC128C17	07711		E		
22380	CC	-O128017		,0C145CC9	07719		8		
22390	IGCR	CM	MAX-3	,08	,1C	07727		E	
22400	CKM	CS	3	,*-2	,	07735		8	
22410	BNL	WRITE				07736	14	C6511	CCC-8
22420	B	CPMEND				07745		3	
22430	DORG	**4				07748	46	C6816	C13CC
22440	DORG	O6CCC				07760	49	C6592	CCOCC
22450	34	B2	,CC701			07767		06CCO	
22460	38	B2	,CC702			06CCO	34	C6C44	CC7C1
22470	36	B2	,CC703			06C12	38	C6C44	CC7C2
						06C24	36	C6C44	CC7C3

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22480	B	**22			C6C36	45	C6C5E	CCOCC
22490	DORG	**3			C6C44			
22500	DSC	9	,016835C04		C6C44		5	
22510	DSA	FMCN-56			C6C57		5 X	1
22520	TRA				C6C57		-735E	
22530	TCC	O6CCC			C6C58	36	CCOCC	CC5CC
22540	DENC				C6C7C	49	CCOCC	CCOCC
					06CCC			

ARGOUT	C7562	FLZERS	06511	ATYPE	04536	FDI	05492	ICCN5	04914
ATYPE1	C4922	FNCNEZ	04954	AXJ	06196	FD	C4162	ICCN6	05494
BEF2SW	C544C	FXNINE	04956	E1	06044	FDVRI	C5572	ICIG	C477C
BREFSW	C5502	GMIM2F	03526	E2	06044	FDVR	C4106	IFIX	05114
CLRTOS	C5182	HTYPE1	05248	BAS	07574	FP	03308	IPSA	02575
COMADD	C2231	IFLOAT	05126	BETA	02603	FIL	C7671	INM	06179
COMEND	C6992	IPINUS	04982	BSWF	05934	FIX1	C4622	IN	06421
COMPLT	C7006	IPSAPP	03298	CHAR2	07016	FIX11	C56C4	ICCAL	00716
COMPSW	C575C	INCR36	05346	CHAR	06100	FIX1	C421C	ICCR	07736
DALFON	C5742	INCR6C	05370	CKW	07745	FIX	C3854	ICGT	00566
DALCNG	C5734	INPLUS	06C53	CIC	0C816	FKCDD	C3579	ICPT	0C532
DATCUD	C6165	IRBLNK	04962	CPG	06084	FLOAT	04C42	ICRBC	0C520
DATERR	C6157	ISPFM1	03303	CPTP2	07450	FLZER	03760	ICRT	0C565
DATINH	C6173	ITYPE1	04622	CPT	07445	FL2	03353	ICSK	0C554
DCPFON	C575C	LCGDIG	05C88	CUCH	02607	FRIMF	C3313	IRDIG	04526
DIOGDA	C3387	LCCADJ	06574	CUC	C2687	FM1	03783	IREAD	04754
DNBLFF	C2404	MASKEP	05446	CUMPY	95999	FRFAC	03452	ITYPE	04468
DKDATA	C3375	MASKF1	05457	EEXP2	04860	FRON	C7454	K2	03820
EXEP22	C490C	MATRIX	06518	EEXPP	04988	FRP1	C5440	K	C2221
EXEPAD	C506E	MATR2	06602	EEXP	05000	FRP	04138	LAST	C5820
FFALPH	C465C	MESERR	02607	EF2SW	04425	FRM1	03358	LN1C	02900
FFCPCS	C4842	MNCAL	00796	FFALP	04734	FRM2	03489	LN2	02887
FFEND2	C53C4	NCRM36	05308	FFCCP	04624	FRN	C3313	LN4	02918
FFLOAT	C5194	NCRM6C	05332	FFDEC	05120	FRIMK	03283	LN8	02949
FFPLUS	0466E	ODDSE1	05602	FFDIG	05188	FP2	C3664	LNENT	03368
FFTERM	C5248	CCCREV	05814	FFENC	05272	F	C2219	LCCD2	05678
FFTYPE	C468C	CNEFAC	06C58	FFFIX	04710	FSBR1	054C8	LCCD	05680
ENCFOR	C6175	OVFLON	03572	FFMIN	04656	FSBR	04114	LCC	06089
ENOR36	C5426	PRCNTR	06908	FFM1	04626	FSB	C4C66	LCGE	03C10
ENOR60	C545C	PRCGST	02226	FFMH	04514	FTYPE	C4558	PASKF	05473
ENTABS	C2323	RADOIT	05862	FFRC1	04622	FX1	C2825	PASKI	05327
ENTATN	C2313	RCFCM1	04884	FFRC2	04654	FX9	02805	PASK	05445
ENTCOS	C2303	READEF	04492	FFWRT	05084	FXA1	C4814	PATSh	05058
ENTCDD	C2298	READIF	05C82	EI	02615	FXA	C3878	PAX2	06145
ENTCRR	C2293	REPSW3	05657	ENCC	03688	FXC1	049C6	PAX	06194
ENTEXP	C2253	RETARG	07622	ENTLN	02248	FXCR1	04988	MBASE	07657
ENTFET	C2283	RETURN	07634	ERF7A	05190	FXCR	C3558	PCATA	07641
ENTFID	C2273	RWFSW	06C61	ERF7	05094	FXC	C3974	PFCV2	C3822
ENTREC	C2278	ICOMK	03293	ERF7S	04678	FXERR	03596	MF	C3466
ENTSC1	C225E	IC2MF	03343	ERF8E	05250	FX	03283	NL	03632
ENTSC2	C2263	2FM1	03581	ERF8I	05014	FXM1	0488C	N1	C2233
ENTSC3	C2268	96MF	03318	ERF9	07310	FXP	C3550	N2	C2238
ENTSIN	C2308	97M2F	03363	ERRT	0C602	FXSR1	04828	MODIV	06348
ENTSOT	C2318	97MF	03323	ERRC	03596	FXSR	03926	CLNR	06696
ENTSWD	C2288	98MF	03328	ERXV	03762	FXS	039C2	CAEZ	03C38
ERCCM2	C7386	99MK	03288	ETYPE	04580	FXZ	C2815	CLT	C4657
ERFBES	C4926	5SCPF	02795	EXP	04809	FZERC	04998	OVFLD	0554C
ERRF7E	C5396	9SPF	02854	F2	03818	GAM	02555	PAR	03378
ERRF7I	C5002	A10	08C32	FAC	02492	GMZF	C3655	PCT	03333
EXPENT	C3373	A1	08C68	FAC1	05376	MNC	C3338	PICV2	C3163
FINCIN	C3527	A3	08C32	FAC	04090	MO	C4793	PICV4	C3191
FINISH	C3723	A5	08032	FAXB1	06472	MRC	C5428	PI	03133
FIXEND	C368C	A6	08032	FAXB	C4258	HTYPE	C46C2	PRA1	05578
FLCAT1	C5088	A7	08C32	FAXI1	C0034	HWRT	C536C	PRA	C6514
FLTENC	C373C	A8	08C32	FAXI	04234	ICOM2	C5414	PRKEY	04959
FLZALP	C3348	A9	08032	FCMNE	04976	ICCN3	05318	PSI	05710

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RACC1	C601C	REFSW	04625	TAFE	02535	WATY1	C5538	STZERO	C6423
RACD	C4426	REP2	07198	TAN6	03248	WATY	04282	SHCADJ	06152
RAPT1	0599C	REP3	07230	TEN34	03278	WICTH	05759	WEFDEC	05218
RAPT	C4402	REP	07126	TERM	07093	WRITE	C6816	WICTH2	06644
RATY1	C597C	REPSW	05654	TCFAC	03408	WRTA2	05358	WRITE1	06944
RATY	C4378	RSGN1	05008	TRACE	03496	WRTA	05314	WRITEA	05266
RCTY	05814	RSGN	04020	TRFX	03558	WRT2	C4646	WRITEJ	04470
RDAPL	C521C	RWA2	05742	TWCPI	03103	WRT3	C5C38	WRTI1	04622
RDALP	C6022	RWA	05634	TWOZ	03073	WRTF	0475C	WRTALP	05622
RCA	C5146	SAVE	02585	UNFLC	03466	WRTFS	05174	WRT2S	05062
RDFCH	C4852	SHORT	05766	W2	07392	WRTI2	C4678	WRTFPC	05C74
READA	C505C	SIX	03219	W3	04625	WRTI3	C4886	WRTFPC	05C42
REAC1	C5034	SLASH	06676	WACD1	05610	WRTI	C4714	WRTSGN	C4850
RECIP	C6256	START	03851	WACC	04330	W	0224C	ZERFAC	03422
RECLG	C2463	STOP	02395	WAFX	05378	HTYPE	07554		
RECPK	C24C3	SNC	06C90	WAPT1	05558	ZEROM	C3445		
RECOA	C707C	SNF	05969	WAPT	04306	ZERO	02767		
RECO	C7026	SWL	06042	WA	07241	SLASH2	067C8		

END OF ONE ASSEMBLY.

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00C10	*****	1620 FORTRAN II-D SUBROUTINES WITH FLOATING POINT HARDWARE		
00C20	*****	1620 FORTRAN II-D SUBROUTINES WITH FLOATING POINT HARDWARE		
00C30	IGRBC DS	,52C	CC52C	C
00C40	ICPT DS	,532	CC532	C
00C50	IUSK DS	,554	CC554	C
00C60	ILGT DS	,566	CC566	C
00C70	ERRET CS	,6C2	CC6C2	C
00C80	ICRT DS	,565	CC565	C
00C90	IGCAL DS	,716	CC716	C
00100	MCNCAL DS	,796	CC796	C
00110	CIO DS	,816	CC816	C
00120	*****	1620 FORTRAN II-D IN CORE AREAS		
00130	***	COMMUNICATION AREA		
00140	DORG	2210	C2210	
00150	F DS	2,, FLOATING POINT WORD LENGTH	C2219	2
00160	K DS	2,, FIXED POINT WORD LENGTH	C2221	2
00170	PROGST DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM	C2226	5
00180	COMADD DS	5,, STARTING ADDRESS OF COMMON AREA	C2231	5
00190	N1 DS	2,, NUMBER OF WORDS IN LOGICAL RECCRD	C2233	2
00200	N2 DS	5,, NUMBER OF LOGICAL RECCRS	C2230	5
00210	W DS	2,, WORD LENGTH	C224C	2
00220	RECLG DS	3,, RECCRD LENGTH	C2243	3
00230	ENTLN DS	5,, ENTRY ADDRESS TO LCG SUBROUTINE	C2240	5
00240	ENTEXP DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	C2253	5
00250	ENTSC1 DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	C2250	5
00260	ENTSC2 DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	C2263	5
00270	ENTSC3 DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	C2260	5
00280	ENTFIC DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE	C2273	5
00290	ENTREC DS	5,, ENTRY ADDRESS TO RECCRD SUBROUTINE	C2270	5
00300	ENTFET DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE	C2203	5
00310	ENTSWC DS	5,, ENTRY ADDRESS TO SWITCH D SUBROUTINE	C2200	5
00320	ENTDRA DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE	C2293	5
00330	ENTDEC DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE	C2290	5
00340	ENTGCS DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE	C2303	5
00350	ENTSIN DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE	C2300	5
00360	ENTATN DS	5,, ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	C2313	5
00370	ENTSQT DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	C2310	5
00380	ENTABS DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	C2323	5
00390	CS	70,, RESERVED FOR ENTRIES TO ADECC SUBROUTINES	C2393	7C
00400	*****	COMMON WORKING AREAS		
00410	STOP DAC	5,,STCP*	C2395	5 X 2
00420	RECHK CS	,STCP+8	C2403	C
00430	CRBUFF DSS	29	C2404	29
00440	FAC DS	60	C2492	6C
00450	CC	1	C2493	1
00460	SAVE DS	72	C2565	72
00470	BETA DS	38	C2603	38
00480	DGM		C2604	1
00490	GAP DS	,SAVE-1C	C2555	C
00500	TAPE DS	,SAVE-30	C2535	C
00510	IMSA DS	,BETA-28	C2575	C
00520	IMSERR DAC	6,,ER E *	C2607	6 X 2
00530	CLDM DS	,PESERR	C2607	C

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00540	EI DS	,-2	C2615	C
00550	DLD CS	70	C2687	7C
00560	*****	1620 FORTRAN II-C FLOATING POINT CONSTANTS		
00570	CC	40	C2727	4C
00580	DSC	40	C2728	4C
00590	ZERO DS		C2767	C
00600	SSCPF DS	28	C2745	28
00610	*****	1620 FORTRAN II-C FIXED POINT CONSTANTS		
00620	FX9	DC 10	C2805	1C
00630	FX2	DC 10	C2815	1C
00640	FX1	DC 10	C2825	1C
00650	*****	CONSTANTS FOR RELOCATABLE SUBROUTINES		
00660	DC	31	C2856	31
00670	SSPF DS	,-2	C2854	C
00680	LN2	DC 31	C2887	31
00690	LN4	DC 31	C2518	31
00700	LN8	DC 31	C2549	31
00710	LN10	DC 31	C2580	31
00720	LOGE	DC 30	C301C	3C
00730	CC	32	C3042	32
00740	ONEZ DS		C3030	C
00750	CC	2	C3044	2
00760	TH0Z	DC 29	C3073	29
00770	TH0P1	DC 30	C3103	3C
00780	P1	DC 30	C3133	3C
00790	P10V2	DC 30	C3163	3C
00800	P10V4	DC 28	C3191	28
00810	SIX	DC 28	C3219	28
00820	TAN6	DC 29	C3248	29
00830	TEN34	DC 30	C3278	3C
00840	*****	1620 FORTRAN II-D INDIRECT ADDRESS BOXES AND PCCIFIED		
00850	*****	CONSTANTS (USING K AND F)		
00860	FXH	DSA FAC+1	C3283	5 X 1

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00870	FRMK	DS		,FMH		03283	-2453	
00880	99MK	DC	5	,99		03283	C	
				-0099		03288	5	
00890	ICOMK	DC	5	,ICC		03293	5	
				-0100				
00900	IPSAPP	DSA		IPSA		03298	5 X 1	
00910	ISPFM1	DSA		IPSA-1		03298	-2575	
						03303	5 X 1	
00920	FF	DSA		FAC		03303	-2574	
						03308	5 X 1	
00930	FNM	DSA		FAC-1		03308	-2492	
						03313	5 X 1	
00940	FM1MF	DS		,FMH		03313	-2451	
00950	96MF	DC	5	,96		03313	C	
				-0096		03318	5	
00960	97MF	CC	5	,97		03323	5	
				-0097				
00970	98MF	DC	5	,98		03328	5	
				-0098				
00980	PCT	CC	5	,99		03333	5	
				-0099				
00990	HND	DC	5	,ICC		03338	5	
				-0100				
01000	IC2MF	DC	5	,IC2		03343	5	
				-0102				
01010	FLZALP	DSA		ZERO-78		03348	5 X 1	
01020	FLZ	DSA		ZERO-80		03348	-2689	
						03353	5 X 1	
01030	FNM1	DSA		FAC-2		03353	-2687	
						03358	5 X 1	
01040	97M2F	DC	5	,97		03358	-2490	
				-0097		03363	5	
01050	LNENT	DC	5	,96		03368	5	
				-0096				
01060	EXPENT	CC	5	,12		03373	5	
				-0012				
01070	PAR	DS	5	,99.5		03378	5	
01080		DS	5			03378	5	
01090	DKDATA	DSC	2	,CC		03379	2	
				CO				
01100		DSA		DIODDA		03385	5 X 1	
01110		DC	1	,9		03385	-3387	
						03386	1	
01120	DIODDA	DSC	1	,C		03387	1	

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01130		DC	5	,0000		03392	5	
				-0000				
01140		CC	3	,000		03395	3	
				-00				
01150		OSA		DKBUFF		03400	5 X 1	
01160		DC	1	,9		03400	-2404	
						03401	1	
01170	*****			1620 FCRTAN II-D IN CORE SUBROUTINES				
01180		DS	5			03406	5	
01190	TOFAC	TFL	FAC	,TOFAC-1	,11	03408	C6	C2492 C34CP
01200		BB				03420	42	CCCC CCCC
01210		DORG	9			03422		
01220	ZERFAC	TFL	FAC	,FLZER		03422	C6	C2452 C376C
01230		B	FINISH+1	,ZERO-94	,7	03434	49	C3724 -2673
01240	ZEROM	DS	5	,9		03445	5	
01250		DS	5			03450	5	
01260	FMFAC	TFL	FMFAC-1	,FAC	,6	03452	C6	C345J C2492
01270		BB				03464	42	CCCC CCCC
01280		DORG	9			03466		
01290	UNFLO	TFL	FAC	,FLZER	,,	03466	C6	C2452 C376C
01300		B	ERXX+12	,FAC-3	,,	03478	49	C3774 C2489
01310	FNM2	DS	5	,9		03489	5	
01320		DS	5			03494	5	
01330	TRACE	TFL	TRACE-1	,FAC	,6	03496	C6	C349A C2492
01340		BNC4	FMFAC+12			03508	47	C3464 CC4CC
01350		K	GAP-1	,0951	,,	03520	34	C2554 CC951
01360	FINDIN	DC	1	,1	,9-4	03527	1	
		J						
01370	GM2F	DS		,9-5	,	03526		C
01380		BNF	TRFX	,FAC-1	,,	03532	44	C3558 C2491
01390		WN	FNH	,0901	,6,	03544	38	C331L CC9C1
01400		BB				03556	42	CCCC CCCC
01410		DORG	9			03558		
01420	TRFX	WN	FNH	,0901	,6,	03570	38	C328L CC9C1
01430		BB				03572	42	CCCC CCCC
01440		DORG	9			03572		
01450	DVFLOW	TFM	FAC	,0199	,8910	03572	16	C2492 C-JR9
01460	2FM1	DS	2	,9-2	,	03581	2	
01470	FKOOD	DS	1	,9-4	,	03579	1	
01480		TF	FAC-2	,9SCPF	,,	03584	26	C249C C2795
01490	ERROR	K	FINISH	,0951	,6,	03596	34	C372L CC951
01500		WA	MESERR	,0901	,,	03608	39	C2607 CC9C1
01510		B	END+12			03620	49	C37CC CCCC
01520	MU	BNF	MU-1	,MU-1	,,	03632	44	C3656 C3631
01530		SF	FAC	,GAP	,,	03644	32	C2492 C2555
01540	GM2F	DS		,9	,,	03655		C
01550		TDN	FXERR+25	,02009	,79,	03656	15	C3621 -2-C9
01560	MF	DS	2	,9-1	,	03666	2	
01570	FP2	DS	2	,9-3	,	03664	2	
01580		TFM	FXERR+30	,END+12		03668	16	C3626 -37CC
01590	FIXEND	BB				03680	42	CCCC CCCC
01600		DORG	9			03688		
01610	FXERR	DS		,ERROR		03694		C
01620	ENDD	TF	FAC	,SAVE	,,	03688	26	C2492 C2565

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0163C	BNF	**24	,99	,,	SET PROPER SIGN	03700	44	C3724	CCCC99
01640	SF	FAC-2	,EADD	,,		03712	32	C2490	C3688
01650	FINISH	DS	,*	,,		C3723			C
01660	FLTENC	DS	,FINISH+7	,,		C3730			C
01670	BB			,,		C3724	42	CCCCC	CCOCC
01680	DORG	*-4		,,		C3731			
01690	DC	2R	,C	,,		C3750		2R	
		-OCCOCCCCCCCCCCCCCCCCOCCO		,,					
01700	FLZER	CC	2	,,-99		C3760		2	
	RR			,,					
01710	ERXV	BNF	**24	,FAC		03762	44	C3786	C2492
01720	AM	EI	,CIC1	,,	,0910,ERR CCCE = ERR CCCE + 1	C3774	11	C2615	C-J-1
01730	FM1	DS	2	,,-2	, F MINUS ONE	C3783		2	
01740	K	FMFAC+12	,0951	,,	SINGLE CARRIAGE SPACE	03786	34	C3464	CC951
01750	WA	MESERR	,C9C1	,,	PRINT ERROR MESSAGE	03790	35	C2607	CC9C1
01760	B	ERXV+30	,	,,		03810	49	C379K	CCCCC
01770	DORG	*-4		,,		C3817			
01780	F2	DC	2	,0		C3818		2	
		-0		,,					
01790	K2	CC	2	,C		03820		2	
		-0		,,					
01800	MFOV2	DS	2			03822		2	
01810	CUMPY	DS		,,99999		99999		C	
01820	START	CS		,,C3851		03851		C	
01830	*****		1620 FCRTFRAN II-D		ALL SUBR IN CCCE				
01840	*****		1620 FCRTFRAN II-D		ALL SUBR IN CCCE - SECONDARY LINKAGE				
01850	DORG	START		,,		C3851			
01860	DS	3		,,		C3853		3	
01870	FIX	CM	FAC	,OC	,10, IS CHAR POSITIVE	03854	14	C2492	CCO-C
01880	B	FIX1		,,		03866	49	11C34	CCCCC
01890	FXA	A	FAC	,FXA-1	,11	03870	21	C2492	C387P
01900	B	FXA1		,,		03890	49	11226	CCCCC
01910	FXS	S	FAC	,FXS-1	,11	03902	22	C2492	C390J
01920	D	FXA1		,,		03914	49	11226	CCCCC
01930	FXS	BNF	FXSR1+32	,FAC	,,	C3926	44	11272	C2492
01940	D	FXSR1		,,	CHANGE SIGN ON FAC	C3930	49	11240	CCCCC
01950	FXP	M	FAC	,FXP-1	,11	03950	23	C2492	C394R
01960	H	FXP1		,,		C3962	49	11292	CCCCC
01970	FXD	LD	99	,FAC	,,	C3974	28	CC955	C2492
01980	B	FXD1		,,	FAC = FAC/J	C3986	49	11318	CCCCC
01990	FXDR	LD	99	,FXDR-1	,11, FAC = J/FAC	03990	28	CC999	C399P
02000	B	FXDR1		,,		C4010	49	11400	CCCCC
02010	DORG	*-1		,,		C4020			
02020	RSGN	BNF	RSGN1+40	,FAC-1	,,	C4020	44	11460	C2451
02030	B	RSGN1		,,	,R	C4032	49	11420	C-0CC
02040	DORG	*-1		,,		C4042			
02050	FLOAT	AM	FAC	,CC	,10, IS FAC ZERO	C4042	11	C2492	CCC-C
02060	B	FLCAT1		,,		C4054	49	11500	CCCCC
02070	FSB	FSLB	FAC	,FSB-1	,11	C4066	02	C2492	C406A
02080	R	FAD1		,,		C4078	49	11788	CCCCC
02090	FAD	FADD	FAC	,FAD-1	,11	C4090	01	C2492	C408R
02100	B	FAD1		,,		C4102	49	11788	CCCCC
02110	FSBR	BNF	FSBR1+32	,FAC-2	,,	C4114	44	11852	C2490
02120	B	FSBR1		,,	CHANGE SIGN ON FAC	C4126	49	11820	CCCCC
02130	FMP	TFM	EI	,573	,9, SET UP ERR E3 CCCE	C4138	16	C2615	CCN73
02140	B	FMP1		,,		C4150	49	11872	CCCCC

02150	FL	TFM	EI	,575	,9, SET UP ERR E5 CCCE	C4162	16	C2615	CCN75
02160	B	FDI	SAVE	,FAC	,,	C4174	49	11904	CCCCC
02170	FCVR	TFL	SWF	,FAC	,,	C4186	06	C2565	C2492
02180	B	FDVRI		,,		C4198	49	11984	CCCCC
02190	FIX1	TF	IMSA	,FIX1-1	,11, IMSA = I	C4210	26	C2576	C420R
02200	B	FIX11		,,		C4222	49	12016	CCCCC
02210	FAX1	TF	IMSA	,FAX1-1	,11, IMSA = I	C4234	26	C2576	C423L
02220	B	FAX11		,,		C4246	49	12446	CCCCC
02230	FAXB	TFL	TAFE	,FAXB-1	,11, LCAC B	C4258	02	C2535	C425P
02240	B	FAXB1		,,		C4270	49	12884	CCCCC
02250	****		WRITE ALPHAPERIC						
02260	WATY	TF	SWF	,WATY-1	,,	C4282	26	C5965	C4281
02270	B	WATY1		,,		C4294	49	C553E	CCCCC
02280	WAPT	TF	SWF	,WAPT-1	,,	C4306	26	C5965	C4305
02290	H	WAPT1		,,		C4318	49	C5558	CCOCC
02300	WACD	TF	SWF	,WACD-1	,,	C4330	26	C5965	C4325
02310	B	WACD1		,,		C4342	49	C5610	CCCCC
02320	PRA	TF	SWF	,PRA-1	,,	C4354	26	C5965	C4353
02330	B	PRA1		,,		C4366	49	C557E	CCOCC
02340	****		READ ALPHAPERIC						
02350	RATY	TF	SWF	,RATY-1	,,	C4378	26	C5965	C4377
02360	B	RATY1		,,		C4390	49	C5670	CCCCC
02370	HAPT	TF	SWF	,RAPT-1	,,	C4402	26	C5969	C4401
02380	H	RAPT1		,,		C4414	49	C5990	CCCCC
02390	RACD	TF	SWF	,RACD-1	,,	C4426	26	C5965	C4425
02400	B	RACD1		,,		C4438	49	C6C1C	C-CCC
02410	DORG	*-1		,,		C4448			
02420	ITYPE	AM	SWF	,3	,,	C4448	11	C5965	-CCC3
02430	B	ITYPE1		,,		C4460	49	1CC9E	C-CCC
02440	DORG	*-1		,,		C4470			
02450	WRITEI	TFM	WA	,GAP+2	,,	C4470	16	C7241	-2557
02460	B	WRIT11		,,		C4482	49	10610	C-CCC
02470	DORG	*-1		,,		C4492			
02480	READEF	BNF	EF RD2+12	,LCC	,,	C4492	44	C9C54	C6089
02490	B	EF RDI		,,		C4504	49	C9C50	C-CCC
02500	DORG	*-1		,,		C4514			
02510	EFMw	TF	FLTEND	,ICCN6+6	,,	C4514	26	C3730	C5500
02520	B	EFMw1		,,		C4526	49	C5590	C-CCC
02530	DORG	*-1		,,		C4536			
02540	ATYPE	AM	SWF	,3	,,	C4536	11	C5965	-CCC3
02550	B	ATYPE1		,,		C4548	49	C9114	C-CCC
02560	DORG	*-1		,,		C4558			
02570	****		PACRC FOR F TYPE READ AND WRITE						
02580	FTYPE	CF	RWEFSW	,,	,,	C4558	33	C6C61	CCCCC
02590	B	EF CCM		,,		C4570	49	C747E	C-CCC
02600	DORG	*-1		,,		C4580			
02610	****		PACRC FOR E TYPE READ AND WRITE						
02620	ETYPE	SF	RWEFSW	,,	,,	C4580	32	C6C61	CCCCC
02630	WA3	DS	5	,,	TEPP STCRE FOR ZERC INSERT ADDRESS	C4591		5	
02640	B	EFCCP		,,		C4592	49	C747E	C-CCC
02650	DORG	*-1		,,		C4602			
02660	HTYPE	AM	SWF	,3	,,	C4602	11	C5969	-CCC3
02670	B	HTYPE1		,,		C4614	49	C881C	CCCCC
02680	DORG	*-4		,,		C4621			
02690	*****		1620 FORTRAN II-D		ALL SUBR IN CCCE - SUBROUTINES				
02700	WATE2	TR	GAP+1	,MASK	,,	C4622	31	C2556	C9421

04750	SM	PAR	06626	12	C3378	CCC-1	
04760	BNE	**24			06638	47	C6662	C12CC	
04810	TDM	MATSW	.0		06650	15	C5655	C00CC	
04820	BNL	SWC+12			06662	46	C61C2	C13CC	
04830	BR				06674	42	C00CC	CCCCC	
04840	DORG	**4			06676				
04850	*****	MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT							
04860	SLASH	TDM	COMEND+1	.9	06676	15	C6993	CCCC5	
04870	BD	SLASH2	,RNEFSW	..	06688	43	C67C6	C60E1	
04880	B	COMEND			06700	49	C6592	CCCCC	
04890	DORG	**4			06707				
04900	SLASH2	BD	IOCR	,CCMP SW	..	06708	43	07446	C575C
04910	CM	DATINM+2	.C6	.10	06720	14	C6175	CCC-6	
04920	BH	WRITE		..	06732	46	C6816	C11CC	
04930	TF	LAST	,FLZERS	.6	06744	26	C582-	C6511	
04940	SM	LAST	.C2	.10	06756	12	C582C	CCC-2	
04950	CM	LAST	.CC	.610	06768	14	C582-	CCC-C	
04960	BF	**36			06780	46	C6744	C12CC	
04970	CM	LAST	.INH		06792	14	C582C	-6179	
04980	BL	COP END			06804	47	C6992	C13CC	
04990	WRITE	BNR	WRITE1	,RNEFSW	..	06816	45	C6944	C60E1
05000	TFM	PRKEY	.52	.10	06828	16	C6915	CC0N2	
05010	CM	INH	.7C	.10	06840	14	C6175	C00P0	
05020	BNH	**32			06852	47	C6884	C11CC	
05030	TF	PRKEY	.INH	..	06864	26	C6515	C6179	
05040	B7	PRCNTR			06876	49	C65C6		
05050	BE	PRCNTR			06884	46	C69C6	C12CC	
05060	TFM	PRKEY	.51	.10	06896	16	C6915	CCCN1	
05070	PRCNTR	K	.C900	..	06908	34	CC0CC	CC9CC	
05080	PRKEY	DS	2	.0	06919			2	
05090	MAX	DS	5	.0-5	06914			5	
05100	TF	IN	,FLZERS		06920	26	C6421	C6511	
05110	TR	INH-1	.INH+1		06932	31	C6178	C618C	
05120	WRITE1	TFM	IORT	.0+23	..	06944	16	C0365	-69E7
05130	B	IOPT	.DATINM-6	.7	06956	49	C0332	-6169	
05140	BN1	**24	.C3400		06968	47	C6992	C34CC	
05150	K		.CC971		06980	34	CC0CC	CC971	
05160	COMEND	H	RWA2-12		06992	49	C573C	CC0CC	
05170	DORG	**4			06999				
05180	DS	4			07002			4	
05190	*****	MACRO TERMINATING I/O CONTROL							
05200	DS	3			07005			3	
05210	COMPLT	TDM	COMEND+1	.2	07006	15	C6993	CC0C2	
05220	CHAR2	DS	3	.0-1	07016			3	
05230	B	SLASH+12			07018	49	C668E	CC0CC	
05240	DORG	**4			07025				
05250	REDO	BD	REDO A+24	,MAT SW	..	07026	43	C7094	C5655
05260	TD	REDOA+23	,CCMP SW		07038	25	C7093	C578C	
05270	TFM	SWC ADJ	,REDO A	..	07050	16	C6152	-7C7C	
05280	B	SWL			07062	49	C6C42	CC0CC	
05290	DORG	**4			07069				
05300	REDOA	TDM	SWL+1	.1	..	07070	15	C6C43	CC0C1
05310	TDM	CCMP SW		..	07082	15	C575C	CC0CC	
05320	TERM	DS	5	.0	07093			5	
05330	AM	SWF	.5		07094	11	C5965	-CC05	
05340	TF	SWF	.5WF	.11	07106	26	C5965	C596R	

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05350	B	SLASH			07118	49	C6676	CC0CC	
05360	DORG	**4			07125				
05370	*****	MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES							
05380	*****	SUB FROM REP SW, INITIALLY SET TO ZERO							
05390	*****	IF REPSW NEG, SET TO REPS RECD AND REPEAT FORMAT							
05400	*****	IF REPSW ZERO, LAST FORMAT REPETITION IS COMPLETE							
05410	*****	IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC							
05420	REP	AM	SWF	.7	07126	11	C5965	-CC07	
05430	SM	REP SW	.1	.10	07138	12	C6554	CCC-1	
05440	BH	REP 2			07150	46	C7158	C11CC	
05450	BE	BSWF			07162	46	C5934	C12CC	
05460	A	REP SW	.SWF	.11	07174	21	C6554	C596R	
05470	BNH	BSWF			07186	47	C5934	C11CC	
05480	REP2	SM	SWF	.2	07198	12	C5965	-CC02	
05490	TF	SWF	.SWF	.11	07210	26	C5965	C596R	
05500	B	REP 2-23			07222	49	C5946	CC0CC	
05510	DORG	**4			07229				
05520	REP3	SF	REPSW3-1		07230	32	C5656	CC0CC	
05530	WA	DS	5	.0	07241			5	
05540	AM	SWF	.7	.10	07242	11	C5965	CCC-7	
05550	SM	REPSW 3	.1	.10	07254	12	C6557	CC0-1	
05560	BH	REP 2			07266	46	07198	C11CC	
05570	BE	BSWF			07278	46	C5934	C12CC	
05580	A	REPSW 3	.SWF	.11	07290	21	C6557	C596R	
05590	B	REP 2-12			07302	49	C7186	CC0CC	
05600	DORG	**4			07309				
05610	ERF9	TFM	SWC ADJ	.ER COP 2	..	07310	16	C6152	-7386
05620	TF	LAST	.MAX 2		07322	26	C582C	C6145	
05630	TFM	EI	.679	.9	07334	16	C2615	CC079	
05640	B	SWL			07346	49	C6C42	CC0CC	
05650	DORG	**4			07353				
05660	XTYPE	AM	SWF	.3	..	07354	11	C5965	-0003
05670	A	LAST	.SWF	.11	07366	21	C582C	C596R	
05680	B	BSWF			07378	49	C5934	CC0CC	
05690	DORG	**4			07385				
05700	ERCOM2	K	.0951		07386	34	C0C0C	CC951	
05710	WA2	DS	5	.0-5	07392			5	
05720	TFM	IORT	.0+23		07398	16	C0565	-7421	
05730	B	IOPT	.DATERR-4	.7	07410	49	C0592	-6153	
05740	TR	EI+1	.FLZERS-1	..	07422	31	C2616	C6510	
05750	B	BSWF-12			07434	49	C5922	CC0CC	
05760	DPT	DS	5	.0	07445			5	
05770	IOCR	CM	MAX-3	.08	.10	07446	14	C6911	CC0-8
05780	CKW	DS	3	.0-2	07455			3	
05790	BNL	WRITE			07458	46	C6816	C13CC	
05800	B	COMEND			07470	49	C6992	CC0CC	
05810	DORG	**4			07477				
05820	EFMOM	AM	SWF	.3	..	07478	11	C5965	-0003
05830	TF	WIDTH	.SWF	.11	07490	26	C5799	C596R	
05840	AM	SWF	.2		07502	11	C5965	-CC02	
05850	TF	LOC D	.SWF	.11	07514	26	C540C	C596R	
05860	TF	INPLUS	.LAST		07526	26	C6053	C5820	
05870	TF	WIDTH 2	.WIDTH		07538	26	C6C64	C5799	
05880	A	WIDTH 2	.WIDTH		07550	21	C6064	C5799	
05890	A	LAST	.WIDTH2		07562	21	C582C	C6064	
05900	C	LAST	.MAX 2		07574	24	C582C	C6145	

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05910	BH	ER F9				07586	46	C731C	C11CC
05920	TF	TERM	,LAST			07598	26	07093	05820
05930	SM	TERM	,2			07610	12	C7C93	-C0C2
05940	TF	CHAR	,WIDTH			C7622	26	C8721	C5759
05950	TF	WA	,FAC			07634	26	C7241	C3313
05960	TDM	97	,C			C7646	15	C0C97	CC0CC
05970	TFM	99	,OC	.10		07658	16	CC099	CC-C
05980	BD	EF WRT	,RNEFSW			0767C	43	07874	C6061
05990	TF	FAC	,FLZALP	.11		C7682	26	C2492	C334C
06000	TFM	EFTERM*10	,EF TYPE			C7694	16	08648	-8062
06010	TFM	SWCADJ	,READ EF			07706	16	C6152	-4492
06020	RCFCF	BNR	,INPLUS	.11	CHECK FOR INPUT RECCRC MARK	07718	45	07738	C605L
06030	B7	ERRF7E				C773C	49	C8778	
0604C	CM	INPLUS	,CC	.610	ELIMINATE LEADING BLANKS	07738	14	C6C5L	CC0-C
06050	BNE	FCH NB				07750	47	07818	C12CC
06060	SM	CHAR	,1	.10		07762	12	C8721	CC-C1
06070	AM	INPLUS	,2			C7774	11	C6C53	-C0C2
0608C	C	INPLUS	,LAST			07786	24	C6C53	C5820
06090	BL	RD FCH				C7798	47	07718	C13CC
06100	B	EFEND*12				0781C	49	08666	CC0CC
06110	DORG	*-4				C7817			
06120	FCFNB	CM	INPLUS	.2C	.610, PROCESS FIRST NON BLANK CHARACTER	07818	14	C605L	CC0K0
06130	BE	EF MIN				0783C	46	C8C38	C12CC
06140	CM	INPLUS	,1C	.610		C7842	14	C6C5L	CC0JC
06150	BE	EF PLUS				C7854	46	C8C5C	C12CC
06160	B	EFTYPE*36				07866	49	C8C98	CC0CC
06170	DORG	*-4				07873			
06180	EFWRT	C	LCC D	,F		C7874	24	C568C	C2219
06190	BNH	*+24				C7886	47	0751C	C11CC
06200	TF	LOC D	,F			07898	26	C568C	C2219
06210	TF	LOC D 2	,LCC D			0791C	26	C5678	C568C
06220	A	LOC D 2	,LCC D			07922	21	C5678	C568C
06230	TR	GAM-59	,MASK F-1			07934	31	C2496	C5432
06240	TFM	WA	,GAM			07946	16	07241	-2555
06250	TFM	WA2	,FAC-1			07958	16	C7392	-2451
06260	TFM	SWCADJ	,EFM			0797C	16	C6152	-4514
06270	SM	WIDTH	,2	.10		07982	12	C5759	CC-C2
0628C	BNF	SWL	,RNEFSW			07994	44	C6042	C6061
06290	SM	TERM	,R			08006	12	C7C93	-CC0C
06300	SM	WIDTH	,4	.10		08018	12	C5759	CC-C4
06310	B	SWL				0803C	49	C6C42	CC0CC
06320	DORG	*-4				08037			
06330	EFMIN	SF	99			08038	32	CC059	CC0CC
06340	EFPLUS	SM	CHAR	,1	.10	C805C	12	C8721	CC-C1
06350	EFTYPE	AM	INPLUS	,2		08062	11	C6C53	-C0C2
06360	CM	INPLUS	,CC	.610		08074	14	C6C5L	CC0-C
06370	BE	LDG DIG				08086	46	0847C	C12CC
06380	CM	INPLUS	,7C	.610		C8098	14	C6C5L	CC0PC
06390	BH	EF DIG				0811C	46	C857C	C11CC
06400	BE	LDG DIG				08122	46	0847C	C12CC
06410	CM	INPLUS	,C3	.610		C8134	14	C6C5L	CC-C3
06420	BE	EF DEC				08146	46	C85C2	C12CC
06430	BNF	ERRF7 E	,RNEFSW			C8158	44	C8778	C6061
06440	TFM	EXP	,CC	.9		08170	16	C8191	CC-CC
06450	TDM	E EXPAD*1				08182	15	C8451	CC0C1
06460	EXP	DS	3	.9-2	VALUE OF CALC CHAR FOR OUTPUT	08191		3	

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06470	CM	INPLUS	,45	.610		08194	14	C6C5L	CC0P5
06480	BE	E EXP				C8206	46	C8382	C12CC
06490	CM	INPLUS	,4C	.610		08218	14	C6C5L	CC0PC
06500	BNL	ERRF7E				08230	46	08778	C130C
06510	EEXP2	CM	INPLUS	.2C	.610	C8242	14	C6C5L	CC0KC
06520	BE	E EXP W				C8254	46	C837C	C12CC
06530	CM	INPLUS	,1C	.610		C8266	14	C6C5L	CC0JC
06540	BE	E EXP				08278	46	C8382	C12CC
06550	EEXP22	BD	*+24	.97		0829C	43	C8314	CC097
06560	SM	CHAR	,1	.9		C83C2	12	C8721	CC-C1
06570	C	INPLUS	,TERM			08314	24	C6C53	C7C93
0658C	BNL	EEXPAD*12				C8326	46	08438	C130C
06590	TD	EXP-1	,INPLUS	.11		C8338	25	C819C	C605L
06600	AM	INPLUS	,2			0835C	11	C6C53	-C0C2
06610	B	EEXP22*12				C8362	49	C83C2	CC0CC
06620	DORG	*-4				08369			
06630	EEXPM	TDM	F EXPAD*1,2			C837C	15	C8451	CC0C2
06640	EEXP	AM	INPLUS	.2		C8382	11	C6C53	-C0C2
06650	SM	CHAR	,1	.10		08394	12	C8721	CC0-1
06660	C	INPLUS	,TERM			08406	24	C6C53	C7093
06670	BNH	EEXP2				08418	47	08242	C11CC
06680	B7	ERRF7E				0843C	49	C8778	
06690	TD	EXP	,INPLUS	.11		C8438	25	C8191	C605L
06700	EEXPAC	A	CHAR	,EXP		0845C	21	C8721	C8191
06710	B	EF END				C8462	49	C8654	CC0CC
06720	DORG	*-4				08469			
06730	LCGIC	BNF	EF DIG	.98		0847C	44	C857C	CC098
0674C	SM	CHAR	,1	.10		08482	12	C8721	CC0-1
06750	B	EF TERM				08494	49	C863C	CC0CC
06760	DORG	*-4				085C1			
06770	EFDEC	BD	ERRF7 E	.97		085C2	43	C8778	CC097
0678C	TFM	LOC D	,OC	.10		08514	16	C568C	CC0-C
06790	TFM	EFTERM*10	,EF PLS			08526	16	08648	-8C5C
06800	TDM	97	,-1			08538	15	C0C97	CC0CJ
0681C	SM	CHAR	,1	.10		C855C	12	C8721	CC0-1
06820	B	EF TERM				08562	49	C863C	CC0CC
06830	DORG	*-4				08569			
06840	EFCIG	CF	98			0857C	33	C0C98	CC0CC
06850	CPTM2	DS	5	.9	TEPP FOR CF DEC PT IN I/O REC, -2	08581		5	
06860	CM	WA	,FAC-1			08582	14	C7241	-2491
06870	BNL	*+36		.9	TRUNCATES LOW ORDER DIGITS	08594	46	C863C	C13CC
06880	TD	WA	,INPLUS	.611		08606	25	C724J	C6C5L
06890	AM	WA	,1			08618	11	C7241	-0001
06900	EFTERM	C	INPLUS	,TERM		08630	24	C6C53	C7093
06910	BL	EFTYPE				08642	47	C8C62	C13CC
06920	EFEND	BNF	EFEND2	,FNM	.11, ZERO CHECK	08654	44	08686	C331L
06930	TFM	FAC	,99	.1011		C8666	16	C2492	C00RR
06940	B	SWL				08678	49	C6042	CC0CC
06950	DORG	*-3				08686			
06960	EFENC2	S	CHAR	,LCC D		08686	22	C8721	C568C
06970	BD	ERR F7E	,CHAR-2			08698	43	C8778	C8719
06980	SF	CHAR-1				08710	32	C872C	CC0CC
06990	CHAR	DS	5	.9	MCCEPIC CHARACTERISTIC	08721		5	
07000	TF	FAC	,CHAR	.9		08722	26	C2492	C8721
07010	SF	FNM		.9		08734	32	C331L	CC0CC
07020	BNF	SWL	,99			08746	44	C6C42	CC099

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08150	TFM	WA	,2C	,610	09794	16	0724J	CC0KC
08160	EFCNKS	TFM	CKW	,CCC	09806	16	07455	CC-CC
08170	A	CKW	,LCCD		09818	21	07455	C560C
08180	A	CKW	,FAC		09830	21	07455	C2492
08190	TF	CHAR	,CKW		09842	26	08721	C7455
08200	S	CHAR	,F		09854	22	08721	C2219
08210	C	WIDTH	,LCC D		09866	24	C5755	C560C
08220	BL	ER F8 F			09878	47	C5226	C13CC
08230	CM	FAC	,7C	,10	09890	14	C2452	CCCP-
08240	BNF	++2C	,RNF5W		09902	44	C9922	C6061
08250	B7	++2C			09914	49	C9534	
08260	BL	++24			09922	47	C9546	C13CC
08270	9D	++36	,FNM	,11	09934	43	C957C	C331L
08280	TDM	FLTEND-4	,-1		09946	15	C3726	CC0CJ
08290	TFM	CHAR	,-C99	,9	09958	16	08721	CC-9R
08300	BNF	WRTF	,RNF5W		09970	44	C4726	C6061
08310	*****		WRITE E TYPE. ASSEMBLE EXP IN GAP USING A MASK,					
08320	*****		THE CHAR AND SIGN. MOVE LEFT GAP AND RIGHT GAP TC					
08330	*****		CUTPLT. THEN GC TC INSERT DECIMAL POINT					
08340	WRT E	S	WIDTH	,F	09982	22	C5755	C2219
08350	BNL	WRT E2		,, BR IF F NCT LARGER THAN EFF WICTH	09994	46	C4622	C13CC
08360	RD	++36	,FLTEND-4		10006	43	10042	C3726
08370	S	CHAR	,WIDTH		10018	22	08721	C5755
08380	BD	ERFBE	,CHAR-2		10030	43	C5226	C8719
08390	TFM	++47	,GAP		10042	16	10005	-2555
08400	A	++35	,WIDTH		10054	21	10005	C5755
08410	A	++23	,WIDTH		10066	21	10005	C5755
08420	TF	GAP			10078	26	C2555	CC0CC
08430	B	WRT E2			10090	45	C4622	CC0CC
08440	DDRG	-4			10097			
08450	*****		MACRO FOR I TYPE READ AND WRITE					
08460	ITYPE1	TF	WIDTH2	,SWF	10098	26	C6064	C596R
08470	A	LAST	,WIDTH2	,11	10110	21	C502C	C6064
08480	C	LAST	,MAX2		10122	24	C502C	C6145
08490	BH	ER F5			10134	46	C731C	C11CC
08500	TF	INPLLS	,LAST		10146	26	C6053	C5020
08510	TFM	IR DIG+6	,FAC		10158	16	10408	-2492
08520	TFM	SWC ADJ	,WRITE I		10170	16	C6152	-447C
08530	BD	SWL	,RNF5W		10182	43	C6042	C6061
08540	TF	TERM	,FPIWK		10194	26	07093	C3203
08550	TF	FAC	,FXZ		10206	26	C2492	C2015
08560	TFM	SWC ADJ	,READI		10218	16	C6152	JC51C
08570	*****		CHAR BY CHAR IS MOVED INTO FAC, RIGHT JUSTIFIED, UNTIL SIGN					
08580	*****		OR W CHAR ARE EXAMINED.					
08590	*****		ERROR F7 WILL OCCUR IF MORE THAN K CHAR ARE AVAIL TO READ					
08600	IRFAD	SM	WIDTH2	,2	10230	12	C6064	CCC-2
08610	RL	SWL		,10	10242	47	C6042	C13CC
08620	SM	INPLLS	,2		10254	12	C6053	-00C2
08630	BNR	++20	,INPLUS	,11, CHECK FOR INPUT RECCRD MARK	10266	45	10206	C605L
08640	B7	ERRF7I			10278	49	10478	
08650	CM	INPLLS	,7C	,610	10286	14	C605L	CC0PC
08660	BH	IR DIG			10298	46	10402	C11CC
08670	BE	IR BLNK			10310	46	10438	C12CC
08680	CM	INPLLS	,CC	,610	10322	14	C605L	CCC-C
08690	HE	IR BLNK			10334	46	10438	C12CC
08700	CM	INPLLS	,2C	,610	10346	14	C605L	CC0KC

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08710	BE	I MINUS			10358	46	10458	C12CC
08720	CM	INPLLS	,1C	,610	10370	14	C605L	CC0JC
08730	BE	SWL			10382	46	C6042	C12CC
08740	B	ERR F7I			10394	49	10478	CC0CC
08750	DDRG	-4			10401			
08760	IRDIG	TD	,INPLUS	,11	10402	25	CC0CC	C605L
08770	C	-6	,TERM		10414	24	10408	C7093
08780	BL	ERR F7 I			10426	47	10478	C13CC
08790	IRPLNK	SM	IR DIG+6	,1	10438	12	10408	-C0C1
08800	B	I READ			10450	49	1023C	CC0CC
08810	DDRG	-4			10457			
08820	I MINUS	SF	FAC		10468	32	C2492	CC0CC
08830	B	SWL			10476	49	C6042	CC0CC
08840	DDRG	-4			10477			
08850	ERRF7I	TF	FAC	,FXZ	10478	26	C2492	C2015
08860	TFM	EI	,677	,911, SET ERROR F7 INDICATION	10490	16	C2615	CC07P
08870	B	SWL			10502	49	C6042	CC0CC
08880	DDRG	-4			10509			
08890	HEAD1	SF	FPIWK	,	10510	32	C320L	CC0CC
08900	TF	FLT END	,ICCN 2+6	,6	10522	26	0373C	10608
08910	BNF	FLOAT	,LCC		10534	44	C4042	C6089
08920	CF	LOC			10546	33	C6089	CC0CC
08930	HEADIF	TFL	LOC	,FAC	10558	06	C608R	C2492
08940	ERF7	BNF	BSWF-12	,EI	10570	44	C5022	C2615
08950	CF	EI		,, ERASE ERROR F7 INDICATION	10582	33	C2615	CC0CC
08960	B	ER CGP 2			10594	49	07386	CC0CC
08970	DDRG	-4			10601			
08980	ICCN2	B	READ IF	,	10602	4R	10558	CC0CC
08990	DDRG	-4			10609			
09000	*****		RETURN FROM SWL VIA SWC IF WRITING I TYPE					
09010	*****		VALUE PUT IN FAC IN I FCPR, EXPANDED TO ALPHA IN					
09020	*****		GAMMA RIGHT TO LEFT. NO CONTAINS ACR OF HIGH ORDER					
09030	*****		DIGIT IN GAP. AFTER VALUE IN GAP IS SIGNED, CHECKED					
09040	*****		FOR WIDTH, MOVE TO CUTPL RECCRD.					
09050	*****		ERRAI RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.					
09060	WRIT11	TFM	WA2	,FAC+1	10610	16	C7352	-2493
09070	TFL	FAC	,LCC	,11	10622	06	C2492	C608R
09080	BNF	WRT12+12	,FAC-1		10634	44	10678	C2491
09090	TF	FIXEND+6	,ICCN3+6		10646	26	C3006	C5516
09100	B	FIX			10658	49	03054	CC0CC
09110	DDRG	-4			10665			
09120	WRT12	TDM	FIXEND+1	,2	10666	15	C3601	CC0C2
09130	TR	GAM-19	,MASK I		10678	31	C2536	C5472
09140	TFM	HO	,GAP+1		10690	16	10781	-2556
09150	WRTI	SM	WA 2	,1	10702	12	C7392	-C001
09160	SM	WA	,2		10714	12	07241	-00C2
09170	TD	WA	,WA 2	,611	10726	25	0724J	C739K
09180	BD	I DIG	,WA 2	,11	10738	43	10750	C739K
09190	B	I DIG+12			10750	49	1077C	CC0CC
09200	DDRG	-4			10757			
09210	IDIG	TF	HO	,WA	10758	26	10781	C7241
09220	CF	GAM	,	,, PREVENTS PREATURE TERM. FOR NEG ARG	10770	33	C2555	CC0CC
09230	MC	DS	S	,, ACR OF HI CRDER NON ZERO DIGIT	10781			
09240	BNF	WRTI	,WA	,11	10782	44	10702	C724J
09250	CM	HO	,GAP+1		10794	14	10781	-2556
09260	BNE	WRT SGM			10806	47	10830	C12CC

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10390	DORG	*-4			11787			
10400	FAC1	TFM EI	,571	,9,	11788	16	C2615	CCN71
10410		BNXV ERXV*30	.	,6	11800	47	C379K	C19CC
10420	B	ERXV	.		11812	49	C3762	CC0CC
10430	DORG	*-4			11819			
10440	FSPR1	CF	FAC-2		11820	33	C245C	CC0CC
10450	FADC	FAC	,F5BR-1	,11,	11832	C1	C2492	C411L
10460	B	FAD1	.	,,	11844	49	11788	CC0CC
10470	DORG	*-3			11852			
10480	SF	FAC-2			11852	32	C245C	CC0CC
10490	B	F5HR1*12			11864	49	11832	CC0CC
10500	DORG	*-4			11871			
10510	FPP1	TF	79	,ZEROM	,11,	11872	26	CC075 C344N
10520	FMUL	FAC	,FPP-1	,11	11884	C3	C2452	C413P
10530	B	FAD1*12			11896	49	118CC	CC0CC
10540	DORG	*-4			11903			
10550	FC1	TF	79	,ZEROM	,11,	11904	26	CC075 C344N
10560	F0IV	FAC	,FC-1	,11	11916	C9	C2452	C416J
10570	BNV	FAD1*12			11928	47	118CC	C14CC
10580	TDM	EI	,7		11940	15	C2615	CC0C7
10590	CVFLG	TF	FAC-2	,95CPF		11952	26	C245C C2755
10600	TFM	FAC	,99	,10	11964	16	C2452	CC0R9
10610	B	ERXV*24			11976	49	C3786	CC0CC
10620	DORG	*-4			11983			
10630	FCVRI	TFL	FAC	,FCVR-1	,11	11984	C6	C2492 C418N
10640	TFM	FD-1	,SAVE		11996	16	C4161	-2565
10650	B	FD	.		12008	49	C4162	CC0CC
10660	DORG	*-4			12015			
10670	FIX1I	AM	IPSA	,CC	,1C,	12016	11	C2575 CCC-C
10680	BNZ	**26	.	,,	,,	12028	47	12C54 C12CC
10690	TF	FAC	,FXI	,,	,,	12040	26	C2492 C2825
10700	BB	.	.	,,	,,	12052	42	CC0CC
10710	DORG	*-9			12054			
10720	AM	FAC	,CC	,10,	12054	11	C2492	CCO-C
10730	BNZ	**44	.	,,	,,	12066	47	1211C C12CC
10740	BNF	*-26	,IPSA	,,	,,	12078	44	12C52 C2575
10750	TFM	EI	,771	,9,	,,	12090	16	C2615 CCP71
10760	B	FXNINE	.	,,	,,	12102	49	11368 CC0CC
10770	DORG	*-3			12110			
10780	TDM	ODCREV*1	,1		12110	15	12227	CC0C1
10790	PSI	CF	MU-1	.	,,	12122	33	C3631 CC0CC
10800	SF	IPSA-1	.	,,	12134	32	C2574	CC0CC
10810	MM	IPSA	,05	,10	12146	13	C2575	CCO-5
10820	CF	IPSA-1	.		12158	33	C2574	CC0CC
10830	RD	*+2C	,99		12170	43	1215C	CC055
10840	B	*+32	.	,,	12182	49	12214	CC0CC
10850	DORG	*-3			12190			
10860	BNF	*+36	,FAC	,,	12190	44	12226	C2492
10870	SF	MU-1	.	,,	12202	32	C3631	CC0CC
10880	CF	FAC	.	,,	12214	33	C2492	CC0CC
10890	ODCREV	NOP	AXJ	.	12226	41	12608	CC0CC
10900	C	FAC	,FX1	,,	12238	24	C2492	C2825
10910	BE	MU	.	,,	12250	46	C3632	C12CC
10920	BNF	*+56	,IPSA	,,	12262	44	12310	C2575
10930	TFM	EI	,772	,9,	12274	16	C2615	CCP72
10940	TF	FAC	,FXZ	,,	12286	26	C2492	C2815

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10950	TFM	FXERR*30	,FIXENC-12,,	SET UP ERRCR EXIT	12298	16	C3626	-3668
10960	B	FXERR	.		12310	49	C3596	CC0CC
10970	DORG	*-3			12310			
10980	TF	BETA	,FAC	,,	12318	26	C2603	C2492
10990	SM	IPSA	,01	,10,	12330	12	C2575	CCO-1
11000	BZ	MU	.		12342	46	C3632	C12CC
11010	M	FAC	,BETA		12354	23	C2492	C2603
11020	SF	1CCMK	.	,6	12366	32	C329L	CC0CC
11030	TF	FAC	,99		12378	26	C2492	CC059
11040	AM	99MK	,CC	,610,	12390	11	C328C	CCO-C
11050	BZ	*-72	.		12402	46	1233C	C12CC
11060	TFM	EI	,773	,9,	12414	16	C2615	CCP73
11070	TDM	FXERR*25	,1	,,	12426	15	C3621	CC0C1
11080	B	FXNINE	.	,,	12438	49	11368	CC0CC
11090	DORG	*-4			12445			
11100	FIX1I	AM	IPSA	,0C	,10,	12446	11	C2575 CCO-0
11110	BNZ	**38	.	,,	,,	12458	47	12496 C12CC
11120	ONEFAC	TFM	FAC	,01	,10,	12470	16	C2492 CCO-1
11130	TF	FAC-2	,CNEZ	,,	12482	26	C249C	C3C38
11140	BB	.	.	,,	12494	42	CC0CC	CC0CC
11150	DORG	*-9			12496			
11160	BD	*+44	,FAM	,11,	12496	43	1254C	C331L
11170	BNF	*-14	,IPSA	,,	12508	44	12454	C2575
11180	TFM	EI	,774	,9,	12520	16	C2615	CCP74
11190	B	OVFLD	.	,,	12532	49	11952	CC0CC
11200	DORG	*-3			12540			
11210	TF	SAVE	,FAC	,,	12540	26	C2565	C2492
11220	TD	FAC	,FAC-2	,,	12552	25	C2492	C2490
11230	CF	FAC-2	.	,,	12564	33	C249C	CC0CC
11240	TDM	FAC-1	,C		12576	15	C2491	CC0CC
11250	TDM	ODCREV*1	,9	,,	12588	15	12227	CC0C9
11260	B	PSI	.	,,	12600	49	12122	CC0C0
11270	DORG	*-3			12608			
11280	AXJ	TF	FAC	,SAVE	12608	26	C2492	C2565
11290	FSL	FNM2	,FAC-2	,6	12620	C5	C348R	C249C
11300	TFM	EI	,775	,9,	12632	16	C2615	CCP75
11310	BNF	NO DIV	,IPSA	,,	12644	44	1276C	C2575
11320	CF	IPSA	.		12656	33	C2575	CC0CC
11330	RECIP	TF	79	,ZEROM	,11,	12668	26	CC075 C344N
11340	TFL	SAVE	,FAC		12680	C6	C2565	C2492
11350	TF	FAC-2	,CNEZ*2		12692	26	C249C	C3C4C
11360	TFM	FAC	,01	,10	12704	16	C2492	CCO-1
11370	F0IV	FAC	,SAVE		12716	C9	C2492	C2565
11380	BNXV	NO DIV	.		12728	47	1276C	C150C
11390	TF	FAC-2	,FAC-4		12740	26	C249C	C2488
11400	B	ERXV	.		12752	49	C3762	CC0CC
11410	DORG	*-3			12760			
11420	NODIV	TFL	GAP	,FAC	12760	C6	C2555	C2492
11430	SM	IPSA	,01	,10	12772	12	C2575	CCO-1
11440	BZ	*+68	.		12784	46	12852	C12CC
11450	TF	79	,ZEROM	,11,	12796	26	CC075	C344N
11460	FMUL	FAC	,GAP		12808	C3	C2492	C2555
11470	BNXV	NODIV*12	.		12820	47	12772	C150C
11480	TF	FAC-2	,FAC-4		12832	26	C249C	C2488
11490	B	ERXV	.		12844	49	C3762	CC0CC
11500	DORG	*-3			12852			

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TAN6 C3248	W43 04591	WRITE 06816	XTYPE C7394	WRITEI 04470
TEN34 C3278	WACCD 08610	WRTA2 05950	ZEROM 03445	WRTIL 1C610
TERP C7093	WACD 04330	WRTA 05506	ZERC 02767	WRTALP 05622
TOFAC C34C8	WAFX 09570	WRT2 04622	SLASH2 067C8	WRTFPC 05C50
TRACE C3496	WAPT1 05558	WRT 05982	STZERO 06423	WRTFPE 05C18
TRFX C3558	WAPT 04306	WRTF 04726	SWCADJ 06152	WRTSGN 1C838
THOP1 C3103	WA 07241	WRT12 1C666	WEFCEC 09194	ZERFAC 03422
THOZ C3073	WATY1 05538	WRT13 1C874	WIDTH2 06064	
UNFLO C3466	WATY 04282	WRT1 1C702	WRITE1 06944	
WA2 C7392	WIDTH 05799	W 02240	WRITEA 09458	

ENC OF ONE ASSEMBLY.

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00C10 *****	162C FCRTAN II-C	SUBROUTINES		
00C20 *****	IOBT ENTRY POINTS AND CONSTANTS			
00C30 ICRBC DS	,520		0C520	C
00C40 ICPT DS	,532		0C532	C
00C50 ILSK DS	,554		0C554	C
00C60 IGGT DS	,566		0C566	C
00C70 ERRET DS	,6C2		0C6C2	C
00C80 ICRT DS	,565		0C565	C
00C90 ICCAL DS	,716		0C716	C
00100 MCNCAL DS	,796		00796	C
00110 C10 DS	,816		0C816	C
00120 *****	162C FCRTAN II-C IN CCRE AREAS			
00130 ***	COMMUNICATION AREA			
00140	DORG 2218			
00150 F DS	2,, FLOATING POINT WORD LENGTH		02218	2
00160 K DS	2,, FIXED POINT WORD LENGTH		02221	2
00170 PRNGST DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM		02226	5
00180 CWPACC DS	5,, STARTING ADDRESS OF COMMON AREA		02231	5
00190 N1 DS	2,, NUMBER OF WORDS IN LOGICAL RECORD		02233	2
00200 N2 DS	5,, NUMBER OF LOGICAL RECORDS		02238	5
00210 W DS	2,, WORD LENGTH		0224C	2
00220 RECLG DS	3,, RECORD LENGTH		02243	3
00230 ENYLN DS	5,, ENTRY ADDRESS TO LOG SUBROUTINE		02248	5
00240 ENYEXP DS	5,, ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE		02253	5
00250 ENYSC1 DS	5,, ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE		02258	5
00260 ENYSC2 DS	5,, ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE		02263	5
00270 ENYSC3 DS	5,, ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE		02268	5
00280 ENYFID DS	5,, ENTRY ADDRESS TO FIND SUBROUTINE		02273	5
00290 ENYREC DS	5,, ENTRY ADDRESS TO RECORD SUBROUTINE		02278	5
00300 ENYFET DS	5,, ENTRY ADDRESS TO FETCH SUBROUTINE		02283	5
00310 ENYSND DS	5,, ENTRY ADDRESS TO SWITCH C SUBROUTINE		02288	5
00320 ENYDRR DS	5,, ENTRY ADDRESS TO ARRAY SUBROUTINE		02293	5
00330 ENYDEC DS	5,, ENTRY ADDRESS TO DISK END SUBROUTINE		02298	5
00340 ENYCOS DS	5,, ENTRY ADDRESS TO COSINE SUBROUTINE		02303	5
00350 ENYSIN DS	5,, ENTRY ADDRESS TO SINE SUBROUTINE		02308	5
00360 ENYATA DS	5,, ENTRY ADDRESS TO ARC TANGENT SUBROUTINE		02313	5
00370 ENYSQT DS	5,, ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE		02318	5
00380 ENYABS DS	5,, ENTRY ADDRESS TO ABSOLUTE SUBROUTINE		02323	5
00380 DS	70,, RESERVED FOR ENTRIES TO ACCED SUBROUTINES		02393	7C
00400 *****	COMMON WORKING AREAS			
00410 STOP DAC	5,,STCP*		02395	5 X 2
	STCP*			
00420 RECHK DS	,STCP*B		024C3	C
00430 DKBUFF DSS	29		02404	29
00440 FAC DS	40		02492	4C
00450 DC	1		02493	1
	,			
00460 SAVE DS	72		02565	72
00470 BETA DS	38		02603	38
00480 DGM			02604	1
00490 GAM DS	,SAVE-10		02555	C
00500 TAFE DS	,SAVE -30		02535	C
00510 IMSA DS	,BETA -20		02575	C
00520 MESERR DAC	6,,ER E		02607	6 X 2
	ER E			
00530 CLDM DS	,MESERR		02607	C

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1620-1443 MONITOR 1 VERSICK 2 FORTRAN II-C SUBS SET 1 144 POS						PAGE	4
01130	CC	5	,CCCC		C3392	5	
01140	-OCCO						
01140	DC	3	,CCC		C3395	3	
01150	-OC						
01150	DSA	DKBUFF			03400	5 X	1
01160	CC	1	,		C3400	-24C4	
01160					C3401	1	
01170	*****			1620 FORTRAN II-D IN CORE SUBROUTINES			
01180	DS	5			C3406	5	
01190	TLFAC	TF	FAC	,TC FAC-1 ,11	C3408	26	C2452 C34CP
01200	SM	TOFAC-1	,C1C2	,8910	03420	12	C34C7 C-J-2
01210	2PM1	DS	,0-2	, TWC TIMES F MINUS ONE	03429		C
01220	FKDD	DS	1	,0-4 , O F CR K CCC, 1 F AND K EVEN	03427	1	
01230	TF	FAC-2	,TC FAC-1 ,11		03432	26	C245C C34CP
01240	BB				C3444	42	CCCC CCCC
01250	DORG	0-9			03446		
01260	DS	5			C3450	5	
01270	FMFAC	TF	FM FAC-1 ,FAC	,6	C3452	26	C345J C2492
01280	SM	FMFAC-1	,CCC2	,810	C3464	12	C3451 C-0-2
01290	MF	DS	,0-2	, MINUS F	03473		C
01300	TF	FM FAC-1	,FAC-2	,6	03476	26	C345J C245C
01310	BB				03488	42	CCCC CCCC
01320	DORG	0-9			03490		
01330	DS	5			C3494	5	
01340	TRACE	TF	FM FAC-1 ,0-1		03496	26	C3451 C3455
01350	BNC4	FM FAC			03508	47	C3452 CC4CC
01360	TRAC2	TFM	FMCN+11,TRAC1-START		03520	16	C7765 -03CP
01370	DC	2,2,0-3			03528	2	
01380	-2						
01380	07	FMCN			C3532	49	C7754
01390	GP1M2F	DSA	GAP-1		C3543	5 X	1
01400	TRAC1	TFM	ODD4+6 ,SWC		03543		-2594
01410	TFM	SWF	,P44C2-5		C3544	16	C63CC -6C9C
01420	07	P44C			C3556	16	C5965 -6279
01430	CORG	3584			C3568	49	C621C
01440	ZERFAC	TF	FAC-2 ,95PF-1		03584		
01450	TFM	FAC	,1C299 ,781011,		03584	26	C245C C2853
01460	FP2	DS	,0-2	, F PLUS TWC	C3596	16	C2492 J-2RR
01470	FINDIA	DS	1	,0-4	03605		C
01480	B	FINISH+1			03603	1	
01490	DORG	0-4			03608	49	C38C4 CCCCC
01500	LV1	AM	SAVE ,C1C1 ,8910		03615		
01510	FM1	DS	,0-2	, F PLUS ONE	03616	11	C2565 C-J-1
01520	BNV	FINISH			03629		C
01530	TFM	EI	,0C571 ,79, SET UP ERROR CODE EI		03628	47	C38CL C14CC
01540	K2	DS	,0-3	, TWC TIMES K	03640	16	C2615 -CN71
01550	DVFLD	TFM	FAC	,CC99 ,810	03648		C
01560	F2	DS	,0-2	, TWC TIMES F	03652	16	C2452 C-CR9
01570	TF	FAC-2	,95CPF	, SET RESULT TO ALL NINES.	03661		C
01580	ERROR	K	FINISH ,0951 ,6, SINGLE CARRIAGE SPACE		03664	26	C249C C2795
01590	WA	MESEERR	,09C1 ,. PRINT ERROR MESSAGE		03676	34	C38CL CC951
01600	B	ENDD+12			C3688	35	C26C7 CC9C1
					C3700	49	C378C CCCCC

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1620-1443 MONITOR 1 VERSICK 2 FORTRAN II-C SUBS SET 1 144 POS						PAGE	5
01610	ML	BNF	+24 ,ML-1	,, SET CORRECT SIGN ON FAC	03712	44	C3736 C3711
01620	SF	FAC	,GAM		03724	32	C2452 C2555
01630	GP2F	DS	,0	, GAMMA MINUS TWC TIMES F	03739		C
01640	TDM	FXERR+25	,9	,, RESET ERROR EXIT	03736	15	C37C1 CCCC9
01650	MFOV2	DS	2	,0-1 , MINUS F OVER 2	03746	2	
01660	TFM	FXERR+3C	,ENDD+12		03740	16	C37C6 -378C
01670	FIXEND	BB			03760	42	CCCC CCCC
01680	CORG	0-3			03768		
01690	FXERR	DS	,ERROR		03766		C
01700	ENDD	TF	FAC ,SAVE	,, MOVE EXPONENT.	03768	26	C2452 C2565
01710	BNF	+24	,99	,, SET PROPER SIGN	03780	44	C38C4 CCCC9
01720	SF	FAC-2	,ENDD		03792	32	C245C C3768
01730	FINISH	DS	,0		C3803		C
01740	FLTEND	DS	,0	,FINISH+7	C381C		C
01750	BB				03804	42	CCCC CCCC
01760	DORG	0-4			03811		
01770	WRTFS	TFM	REFSW ,WRTF		03812	16	C4625 -475C
01780	07	BREFSW			03824	49	C55C6
01790	CLMPY	CS	,99999		99999		C
01800	START	DS	,03851		03851		C
01810	*****			1620 FORTRAN II-D SUBROUTINES - INITIAL SECONDARY LINKAGE			
01820	DORG	START			03851		
01830	CS	1			03851	1	
01840	DC	2	,0C		03853	2	
01850	-0						
01850	TFM	FMCN+11	,0-START		C3854	16	C7765 -CCC3
01860	DC	2	,6	,0-3	03862	2	
01870	-4						
01870	B	FMCN			03866	49	C7754 CCCCC
01880	TFM	FMCN+11	,0-START		03878	16	C7765 -CC27
01890	DC	2	,1	,0-3	03886	2	
01900	-1						
01900	B	FMCN			03890	49	C7754 CCCCC
01910	TFM	FMCN+11	,0-START		03902	16	C7765 -CC51
01920	CC	2	,1	,0-3	03910	2	
01930	-1						
01930	B	FMCN			03914	49	C7754 CCCCC
01940	TFM	FMCN+11	,0-START		03926	16	C7765 -CC75
01950	CC	2	,1	,0-3	03934	2	
01960	-1						
01960	B	FMCN			03938	49	C7754 CCCCC
01970	TFM	FMCN+11	,0-START		03950	16	C7765 -CC99
01980	CC	2	,1	,0-3	03958	2	
01990	-1						
01990	B	FMCN			03962	49	C7754 CCCCC
02000	TFM	FMCN+11	,0-START		03974	16	C7765 -0123
02010	CC	2	,1	,0-3	03982	2	
02020	-1						
02020	B	FMCN			03986	49	C7754 CCCCC
02030	TFM	FMCN+11	,0-START		03998	16	C7765 -C147
02040	CC	2	,1	,0-3	04006	2	
02050	-1						
02050	B	FMCN			04010	49	C7754 CCCCC
02060	DORG	0-1			04020		
02070	TFM	FMCN+11	,0-START		04020	16	C7765 -C169
02080	CC	2	,1	,0-3	04028	2	
02090	-1						

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02090	B	FMCN	,	,8	04C32	49	C7754	C-CCC
02100	CORG	+1			04C42			
02110	TFM	FMCN+11	,0-START		04C42	16	C7765	-C191
02120	CC	2	,2	,0-3	04C50		2	
	-7							
02130	B	FMCN	,	,8	04C54	49	C7754	CCOCC
02140	TFM	FMCN+11	,0-START		04C66	16	C7765	-C215
02150	CC	2	,1	,0-3	04C74		2	
	-1							
02160	B	FMCN	,	,8	04C78	49	C7754	CCOCC
02170	TFM	FMCN+11	,0-START		04C90	16	C7765	-C239
02180	CC	2	,1	,0-3	04C98		2	
	-1							
02190	B	FMCN	,	,8	041C2	49	C7754	CCOCC
02200	TFM	FMCN+11	,0-START		04114	16	C7765	-C263
02210	CC	2	,1	,0-3	04122		2	
	-1							
02220	B	FMCN	,	,8	04126	49	C7754	CCOCC
02230	TFM	FMCN+11	,0-START		04138	16	C7765	-C287
02240	CC	2	,1	,0-3	04146		2	
	-1							
02250	B	FMCN	,	,8	0415C	49	C7754	CCOCC
02260	TFM	FMCN+11	,0-START		04162	16	C7765	-C311
02270	CC	2	,1	,0-3	04170		2	
	-1							
02280	B	FMCN	,	,8	04174	49	C7754	CCOCC
02290	TFM	FMCN+11	,0-START		04186	16	C7765	-C335
02300	CC	2	,1	,0-3	04194		2	
	-1							
02310	B	FMCN	,	,8	04198	49	C7754	CCOCC
02320	TFM	FMCN+11	,0-START		0421C	16	C7765	-C355
02330	CC	2	,1	,0-3	04218		2	
	-1							
02340	B	FMCN	,	,8	04222	49	C7754	CCOCC
02350	TFM	FMCN+11	,0-START		04234	16	C7765	-C383
02360	CC	2	,1	,0-3	04242		2	
	-1							
02370	B	FMCN	,	,8	04246	49	C7754	CCOCC
02380	TFM	FMCN+11	,0-START		04258	16	C7765	-04C7
02390	CC	2	,1	,0-3	04266		2	
	-1							
02400	B	FMCN	,	,8	0427C	49	C7754	CCOCC
02410	TFM	FMCN+11	,0-START		04282	16	C7765	-0431
02420	CC	2	,2	,0-3	0429C		2	
	-2							
02430	B	FMCN	,	,8	04294	49	C7754	CCOCC
02440	TFM	FMCN+11	,0-START		043C6	16	C7765	-0455
02450	CC	2	,2	,0-3	04314		2	
	-2							
02460	B	FMCN	,	,8	04318	49	C7754	CCOCC
02470	TFM	FMCN+11	,0-START		04330	16	C7765	-0479
02480	CC	2	,2	,0-3	04338		2	
	-2							
02490	B	FMCN	,	,8	04342	49	C7754	CCOCC
02500	TFM	FMCN+11	,0-START		04354	16	C7765	-C5C3
02510	CC	2	,2	,0-3	04362		2	
	-2							

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02520	B	FMCN	,	,8	04366	49	C7754	CCOCC
02530	TFM	FMCN+11	,0-START		04378	16	C7765	-C527
02540	CC	2	,2	,0-3	04386		2	
	-2							
02550	B	FMCN	,	,8	0439C	49	C7754	CCOCC
02560	TFM	FMCN+11	,0-START		044C2	16	C7765	-C551
02570	CC	2	,2	,0-3	0441C		2	
	-2							
02580	B	FMCN	,	,8	04414	49	C7754	CCOCC
02590	TFM	FMCN+11	,0-START		04426	16	C7765	-C575
02600	CC	2	,2	,0-3	04434		2	
	-2							
02610	B	FMCN	,	,8	04438	49	C7754	C-CCC
02620	CORG	+1			04448			
02630	TFM	FMCN+11	,0-START		04448	16	C7765	-C597
02640	CC	2	,3	,0-3	04456		2	
	-3							
02650	B	FMCN	,	,8	04460	49	C7754	C-CCC
02660	CORG	+1			0447C			
02670	TFM	FMCN+11	,0-START		04470	16	C7765	-0619
02680	CC	2	,4	,0-3	04478		2	
	-4							
02690	B	FMCN	,	,8	04482	49	C7754	C-0CC
02700	CORG	+1			04492			
02710	TFM	FMCN+11	,0-START		04492	16	C7765	-0641
02720	CC	2	,7	,0-3	045CC		2	
	-7							
02730	B	FMCN	,	,8	04504	49	C7754	C-0CC
02740	CORG	+1			04514			
02750	TFM	FMCN+11	,0-START		04514	16	C7765	-0663
02760	CC	2	,8	,0-3	04522		2	
	-8							
02770	B	FMCN	,	,8	04526	49	C7754	C-0CC
02780	CORG	+1			04536			
02790	TFM	FMCN+11	,0-START		04536	16	C7765	-0685
02800	CC	2	,7	,0-3	04544		2	
	-7							
02810	B	FMCN	,	,8	04548	49	C7754	C-0CC
02820	CORG	+1			04558			
02830	TFM	FMCN+11	,0-START		04558	16	C7765	-07C7
02840	CC	2	,5	,0-3	04566		2	
	-5							
02850	B	FMCN	,	,8	04570	49	C7754	C-0CC
02860	CORG	+1			04580			
02870	TFM	FMCN+11	,0-START		0458C	16	C7765	-0729
02880	CC	2	,5	,0-3	04588		2	
	-5							
02890	B	FMCN	,	,8	04592	49	C7754	C-0CC
02900	CORG	+1			04602			
02910	TFM	FMCN+11	,0-START		046C2	16	C7765	-0751
02920	CC	2	,5	,0-3	0461C		2	
	-5							
02930	B	FMCN	,	,8	04614	49	C7754	CCOCC
02940	CORG	+4			04621			
02950	*****	MODIFICATIONS MADE BEFORE START OF EXECUTION						
02960	A	+23	,F		04622	21	04645	C2219

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02970	TF	LN2	,LN2-28	,7	04634	26	C2887	-2855
02980	A	*+23	,F		04644	21	C4665	C2219
02990	TF	LN4	,LN4-28	,7	04650	26	C2918	-2850
03000	A	*+23	,F		04670	21	C4653	C2219
03010	TF	LN8	,LN8-28	,7	04682	26	C2945	-2921
03020	A	*+23	,F		04694	21	04717	C2219
03030	TF	LN10	,LN10-28	,7	04706	26	C2980	-2952
03040	A	*+23	,F		04718	21	C4741	C2219
03050	TF	LOGE	,LGE-28	,7	04730	26	03C10	-2982
03060	A	*+23	,F		04742	21	04765	C2219
03070	TF	ONEZ	,CNEZ-28	,7	04754	26	C3C38	-3010
03080	A	*+23	,F		04766	21	C4785	C2219
03090	TF	TWCZ	,TWCZ-28	,7	04778	26	C3C73	-3045
03100	A	*+23	,F		04790	21	04813	C2219
03110	TF	TWCP1	,TWCPI-28	,7	04802	26	C3103	-3075
03120	A	*+23	,F		04814	21	C4837	C2219
03130	TF	PI	,PI-28	,7	04826	26	C3133	-3105
03140	A	*+23	,F		04838	21	04861	C2219
03150	TF	PIOV2	,PICV2-28	,7	04850	26	C3163	-3135
03160	A	*+23	,F		04862	21	04885	C2219
03170	TF	PICV4	,PICV4-28	,7	04874	26	C3191	-3163
03180	A	*+23	,F		04886	21	04905	C2219
03190	TF	SIX	,SIX-28	,7	04898	26	C3215	-3191
03200	A	*+23	,F		04910	21	04933	C2219
03210	TF	TAN6	,TAN6-28	,7	04922	26	C3248	-3220
03220	A	*+23	,F		04934	21	04957	C2219
03230	TF	TEN34	,TEN34-28	,7	04946	26	C3278	-3250
03240	S	*+18	,F		04958	22	04976	C2219
03250	SF	9SPF	,F	,2	04970	32	-2854	CC000
03260	S	*+18	,K		04982	22	C5000	C2221
03270	SF	FX9+1	,F	,2	04994	32	-2806	CC000
03280	S	*+18	,K		C5006	22	C5024	C2221
03290	SF	FXZ+1	,F	,2	C5018	32	-2816	CC000
03300	S	*+18	,K		C5030	22	C5048	C2221
03310	SF	FX1+1	,F	,2	C5042	32	-2826	CC000
03320	S	*+18	,F		C5054	22	C5072	C2219
03330	SF	9SCPF+1	,F	,2	C5066	32	-2756	CC000
03340	S	FXK	,K		C5078	22	C3283	C2221
03350	S	99PK	,K		C5090	22	C3288	C2221
03360	S	1CCPK	,K		C5102	22	C3293	C2221
03370	A	IPSAFF	,F		C5114	21	C3298	C2219
03380	A	ISPFPI	,F		C5126	21	C3303	C2219
03390	S	FM	,F		C5138	22	C3308	C2219
03400	S	FNF	,F		C5150	22	C3313	C2219
03410	S	96MF	,F		96-F	22	C3316	C2219
03420	S	97MF	,F		97-F	22	C3323	C2219
03430	S	98MF	,F		98-F	22	C3328	C2219
03440	S	PDI	,F		99-F	22	C3333	C2219
03450	S	HND	,F		100-F	22	C3338	C2219
03460	S	102MF	,F		102-F	22	C3343	C2219
03470	A	FLZALP	,F		ZERC-78+F	21	C3348	C2219
03480	A	FLZ	,F		ZERC-8C+F	21	C3353	C2219
03490	S	FNM1	,F		FAC-2-F	22	C3358	C2219
03500	TF	F2	,F		05270	26	C3661	C2219
03510	A	F2	,F		05282	21	C3661	C2219
03520	TF	K2	,K		05294	26	C3648	C2221

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03530	A	K2	,K		05306	21	C3648	C2221
03540	S	97M2F	,F2		05318	22	C3363	C3661
03550	S	GM2F	,F2		C5330	22	C3735	C3661
03560	S	GM1M2F	,F2		05342	22	C3943	C3661
03570	A	FM1	,F		05354	21	C3625	C2219
03580	A	FP2	,F		05366	21	C3605	C2219
03590	S	MF	,F		05378	22	C3473	C2219
03600	A	2FM1	,F2		05390	21	C3429	C3661
03610	MM	F	,C5	,10	C5402	13	C2215	CC0-5
03620	SF	9R			05414	32	CC058	CC000
03630	SF	97			C5426	32	CC097	CC000
03640	TF	MFOV2	,98		C5438	26	C3746	CC058
03650	MM	F	,C5	,10	C5450	13	C2215	CC0-5
03660	BD	ODDSET	,99		05462	43	C5518	CC059
03670	MM	K	,C5	,10	C5474	13	C2221	000-5
03680	BD	ODDSET	,99		05486	43	C5518	CC059
03690	TDM	FKOCC	,1		05498	15	C3427	CC001
03700	B	ODDSET+12			C5510	49	C5530	CC000
03710	CORC	*+4			C5517			
03720	GLOSET	TDM	FKOCC	,0	05518	15	C3427	CC000
03730	BNF	*+36	,ENTLN-4		05530	44	C5566	C2244
03740	A	LNENT	,ENTLN		05542	21	C3368	C2248
03750	A	EXPENT	,ENTEXP		C5554	21	C3373	C2253
03760	RV	*+12			C5566	46	C5578	C1400
03770	BD	SHORT	,C7499		05578	43	C5670	C7499
03780	TFM	TRAC2+1	,49	,10	05590	16	C3521	CC0P9
03790	TFM	TRAC2+6	,TRAC1		05602	16	C3526	-3544
03800	TFM	IORT	,+23		05614	16	CC365	-5637
03810	B	IOGT	,DALONG	,7	05626	49	CC366	-5638
03820	DALONG	CSC	2	,-22	05638			
03830	CSC	1	,0		05640			
03840	CC	4	,0146		C5644			
03850	CC	1	,1		05645			
03860	CCFMCA	DSC	2	,22	05646			
03870	DSA	DDFMCA			05652			
03880	CC	1	,1		C5652			
03890	CCFMCA	DSC	1	,0	05654			
03900	CC	5	,16835		05659			
03910	CC	3	,004		05662			
03920	DSA	FMON-56			05667			
03930	CC	1	,1		05667			
03940	SPORT	TFM	IORT	,+23	05670	16	CC365	-5643

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03950	B	IOGT	,DAFMCN	,7		05682	49	C0566	-5646
03960	B	PRCGST	,	,6		05694	49	C222C	CC0CC
03970	CORG	+-4				057C1			
03980	CORG	06CCC				06C00			
03990	34	B1	,CC701			06C00	34	C6044	C07C1
04000	38	B1	,CC702			06012	38	C6C44	CC7C2
04010	36	B1	,CC703			06C24	36	C6C44	CC7C3
04020	B	+-22				06C36	49	C6C5E	CC0CC
04030	CORG	+-3				06044			
04040	B1	DSC	9	,01680CC35		06C44		5	
		C16800035							
04050	CSA	STCP-1				06C57		5 X	1
						06C57		-2394	
04060	TRA					06C58	36	CC0CC	CC5CC
						06C70	49	CC0CC	CC0CC
04070	TCC	06CCC				06C00			
04080	*****	1620 FORTRAN II-D	ARITHMETIC BLCK						
04090	*****	1620 FORTRAN II-D	ARITHMETIC BLCK - SECONDARY LINKAGE						
04100	DORG	START				03851			
04110	DS	3				03853		3	
04120	TFM	FMCN+11	,+-START			03854	16	C7765	-CCC3
04130	CC	2	,4	,+-3		03862		2	
04140	B	FMCN				03866	49	C7754	CC0CC
04150	FKA	A	FAC	,FXA-1	,11	03878	21	C2492	C387P
04160	B	FXA1				03890	49	C4622	CC0CC
04170	FXS	S	FAC	,FXS-1	,11	03902	22	C2492	C39CJ
04180	B	FXA1				03514	49	C4622	CC0CC
04190	FXSR	BNF	FXSR1+32	,FAC	,,	CHANGE SIGN CN FAC			
04200	B	FXSR1				03526	44	C4668	C2492
04210	FXP	H	FAC	,FXP-1	,11	03938	49	C4636	CC0CC
04220	B	FXM1				03950	23	C2492	C394R
04230	FXD	LD	99	,FAC	,,	FAC = FAC/J			
04240	B	FXD1				03574	28	CC095	C2492
04250	FXDR	LD	99	,FXDR-1	,11	FAC = J/FAC			
04260	B	FXDR1				03586	49	C4714	CC0CC
04270	CORG	+-1				03998	28	CC095	C394P
04280	RSGN	BNF	RSGN1+4C	,FAC-1		04C1C	49	C4796	CC0CC
04290	B	RSGN1				04C20	44	C4856	C2491
04300	DORG	+-1				04C32	49	C4816	C-0CC
04310	TFM	FMCN+11	,+-START			04C42			
04320	CC	2	,2	,+-3		04C50	16	C7765	-C191
								2	
04330	B	FMCN				04C54	49	C7754	CC0CC
04340	FSB	TDM	FAD1+37	,2	,,	SET UP INST. TC SUBTRACT			
04350	B	FSR1				04C66	15	C4953	CC0C2
04360	FAD	TDM	FAD1+37	,1	,,	SET UP INST. TC ACC			
04370	B	FAD1				04C78	49	C4896	CC0CC
04380	FSRR	BNF	FSRR1+32	,FAC-2	,,	CHANGE SIGN CN FAC			
04390	B	FSRR1				04C90	15	C4953	CC0C1
04400	FPP	TF	SAVE	,FPP-1	,11	MCVE EXPONENT TC SAVE.			
04410	R	FMP1				041C2	49	C4916	CC0CC
04420	FC	TF	SE+11	,FC-1	,11	MCVE EXPONENT.			
04430	B	FD1				04114	44	C5474	C249C
						04126	49	C5442	CC0CC
						04138	26	C2565	C413P
						04150	49	C5494	CC0CC
						04162	26	C5785	C416J
						04174	49	C5654	CC0CC

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04440	FCVR	TF	SAVE	,FCVR-1	,11	MCVE EXPONENT.			
04450	B	FDVR1				04186	26	C2565	C418N
04460	FIX1	TF	IMSA	,FIX1-1	,11	IMSA = I			
04470	B	FIX11				04198	49	C5866	CC0CC
04480	FAX1	TF	IMSA	,FAX1-1	,11	IMSA = I			
04490	B	FAX11				04210	26	C2575	C42CR
04500	FAXB	TF	TAFE	,FAXB-1	,11	LCAD EXPONENT B			
04510	B	FAXB1				04222	49	C5946	CC0CC
04520	TFM	FMCN+11	,+-START			04234	26	C2575	C423L
04530	CC	2	,2	,+-3		04246	49	C64CC	CC0CC
						04258	26	C2535	C425P
						04270	49	C7C62	CC0CC
						04282	16	C7765	-C431
						0429C		2	
04540	B	FMCN				04254	49	C7754	CC0CC
04550	TFM	FMCN+11	,+-START			04306	16	C7765	-C455
04560	CC	2	,2	,+-3		04314		2	
04570	B	FMCN				04318	49	C7754	CC0CC
04580	TFM	FMCN+11	,+-START			0433C	16	C7765	-C479
04590	CC	2	,2	,+-3		04338		2	
04600	B	FMCN				04342	49	C7754	CC0CC
04610	TFM	FMCN+11	,+-START			04354	16	C7765	-C5C3
04620	CC	2	,2	,+-3		04362		2	
04630	B	FMCN				04366	49	C7754	CC0CC
04640	TFM	FMCN+11	,+-START			04378	16	C7765	-C527
04650	CC	2	,2	,+-3		04386		2	
04660	B	FMCN				0439C	49	C7754	CC0CC
04670	TFM	FMCN+11	,+-START			044C2	16	C7765	-C531
04680	CC	2	,2	,+-3		04410		2	
04690	B	FMCN				04414	49	C7754	CC0CC
04700	TFM	FMCN+11	,+-START			04426	16	C7765	-C575
04710	CC	2	,2	,+-3		04434		2	
04720	B	FMCN				04438	49	C7754	C-0CC
04730	CORG	+-1				04448			
04740	TFM	FMCN+11	,+-START			04448	16	C7765	-0597
04750	DC	2	,3	,+-3		04456		2	
04760	B	FMCN				04460	49	C7754	C-0CC
04770	CORG	+-1				04470			
04780	TFM	FMCN+11	,+-START			04470	16	C7765	-C619
04790	CC	2	,4	,+-3		04478		2	
04800	B	FMCN				04482	49	C7754	C-0CC
04810	DORG	+-1				04492			
04820	TFM	FMCN+11	,+-START			04492	16	C7765	-C641
04830	CC	2	,7	,+-3		04500		2	
04840	B	FMCN				04504	49	C7754	C-0CC
04850	DORG	+-1				04514			
04860	TFM	FMCN+11	,+-START			04514	16	C7765	-C663
04870	CC	2	,8	,+-3		04522		2	
04880	B	FMCN				04526	49	C7754	C-0CC

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04890	DORG	*-1			04536			
04900	TFM	FMCN+11	,*-START		04536	16	C7765	-C605
04910	CC	2	,7	,*-3	C4544		2	
		-7						
04920	B	FMCN	,	,8	C4548	49	C7754	C-CCC
04930	DORG	*-1			C4558			
04940	TFM	FMCN+11	,*-START		C4558	16	C7765	-C7C7
04950	CC	2	,5	,*-3	04566		2	
		-5						
04960	B	FMCN	,	,8	04570	49	C7754	C-CCC
04970	DORG	*-1			04580			
04980	TFM	FMCN+11	,*-START		04580	16	C7765	-0729
04990	CC	2	,5	,*-3	04588		2	
		-5						
05000	B	FMCN	,	,8	C4592	49	C7754	C-CCC
05010	DORG	*-1			04602			
05020	TFM	FMCN+11	,*-START		C4602	16	C7765	-C751
05030	CC	2	,5	,*-3	04610		2	
		-5						
05040	B	FMCN	,	,8	04614	49	C7754	CGCCC
05050	DORG	*-4			C4621			
05060	*****	1620 FCRTAN II-C	ARITHMETIC BLCK - SLERCUTINES					
05070	FXA1	BV	*+12		C4622	46	C4634	C14CC
05080	BB				C4634	42	CCCC	CG0CC
05090	DORG	*-9			C4636			
05100	FXSR1	CF	FAC		C4636	33	C2492	CC0CC
05110	TF	FXA-1	,FXSR-1	,, SET UP ACC	04648	26	C3877	C3925
05120	B	FXA	,	,, BRANCH TO FIXED POINT ACC	04660	49	C3878	CC0CC
05130	DORG	*-3			04668			
05140	SF	FAC			C4668	32	C2452	CC0CC
05150	B	FXSR1+12			04680	49	C4648	CC0CC
05160	DORG	*-3			04688			
05170	FXP1	SF	10GPK	, ,6	C4688	32	C329L	CC0CC
05180	TF	FAC	,99		C4700	26	C2452	CC099
05190	BB				C4712	42	CCCC	CC0CC
05200	DORG	*-4			C4714			
05210	FXD1	C	10GPK	,FXD-1 ,611	C4714	29	C325L	C397L
05220	BV	*+26			C4726	46	C4752	C14CC
05230	TF	FAC	,95PK	,11	C4738	26	C2452	C328C
05240	BB				C4750	42	CCCC	CC0CC
05250	DORG	*-9			C4752			
05260	TFM	EI	,578	,9, ERRCR E8	C4752	16	C2615	CCN78
05270	FXNINE	TFM	FXERR+3C	,FIXPNC-12,, SET UP ERRCR EXIT	04764	16	C3706	-3748
05280	TF	FAC	,FX9	,, FAC = FX9	04776	26	C2452	C28C5
05290	B	FXERR			04788	49	C3676	CC0CC
05300	DORG	*-3			C4796			
05310	FXCR1	C	10GPK	,FAC ,6	C4796	29	C329L	C2492
05320	B	FXD1+12			C4808	49	C4726	CC0CC
05330	DORG	*-4			C4815			
05340	RSGN1	BNF	*+26	,FAC-2 ,, FLICATING POINT NUMBER	C4816	44	C4842	C249C
05350	CF	FAC-2			C4828	33	C245C	CG0CC
05360	BB				C484C	42	CCCC	CC0CC
05370	DORG	*-9			C4842			
05380	SF	FAC-2			C4842	32	C245C	CC0CC
05390	BB				C4854	42	CG0CC	CG0CC
05400	DORG	*-9			C4856			

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05410	BNF	*+26	,FAC	,, FIXED POINT NUMBER	C4856	44	C4882	C2452
05420	CF	FAC			04868	33	C2452	CG0CC
05430	BB				04880	42	CG0CC	CG0CC
05440	DORG	*-9			C4882			
05450	SF	FAC			04882	32	C2452	CG0CC
05460	BB				04894	42	CG0CC	CG0CC
05470	DORG	*-9			04896			
05480	FSB1	TF	FAC-1	,FSB-1	04896	26	C4C85	C4C65
05490	B	FAD1			04908	49	C4516	CG0CC
05500	DORG	*-3			04916			
05510	FAC1	TF	BETA	,FAC-1 ,11, MOVE EXPONENT	04916	26	C2603	C4C8R
05520	SM	FAD-1	,2	,10	C4928	12	C4C85	CC-2
05530	TF	BETA-2	,95PF	,, CLEAR BETA-2 TO F+1 ZERQS.	C494C	26	C26C1	C285A
05540	A	BETA-2	,FAC-1	,11, ACC CR SUBT.MANTISSA	04952	21	C26C1	C4C8R
05550	TF	SAVE	,FAC	,, MOVE EXPONENT.	04964	26	C2565	C2452
05560	TF	FAC-1	,FAC-2	,, RIGHT SHIFT ONE DIGIT.	04976	26	C2451	C249C
05570	CF	FM		,6, CLEAR FLAG ON HIGH ORDER DIGIT.	C4988	33	C33CC	CG0CC
05580	TFM	FNM	,0	,611, SET NEXT HIGH DIGIT TO FLAG ZERO.	C5000	15	C331L	CGCC-
05590	C	BETA	,SAVE	,, COMPARE EXPONENTS.	C5012	24	C2603	C2565
05600	BNH	*+84		,, BRANCH IF NO EXCHANGE OF OPERANDS	C5024	47	C510C	C11CC
05610	TF	SAVE-2	,FAC-1	,, EXCHANGE MANTISSAS.	C5036	26	C2563	C2451
05620	TF	FAC-1	,BETA-2	,, ,	C5048	26	C2451	C26C1
05630	TF	BETA-2	,SAVE-2	,, ,	C5060	26	C26C1	C2563
05640	TF	FAD+8	,SAVE	,, EXCHANGE EXPONENTS.	C5072	26	C4C5E	C2565
05650	TF	SAVE	,BETA	,, ,	C5084	26	C2565	C2603
05660	TF	BETA	,FAC+8	,, ,	C5096	26	C2603	C4C5R
05670	TFM	ADD+11	,BETA-2	,, SET UP ADDRESS	C5108	16	C5215	-26C1
05680	S	BETA	,SAVE	,, SUBTRACT EXPONENTS	C5120	22	C2603	C2565
05690	BV	NOADD		,, NO OPERATION IF OVERFLOW.	C5132	46	C540C	C14CC
05700	A	ADD+11	,BETA	,, MODIFY ADDRESS FOR SHIFT.	C5144	21	C5215	C2603
05710	A	BETA	,F	,, ACC F TO BETA	C5156	21	C2603	C2219
05720	BNH	NOADD		,, AC CP IF EX DIF NOT LESS THAN F	C5168	47	C540C	C11CC
05730	BNF	ADD	,BETA-2	,, ,	C5180	44	C5204	C26C1
05740	SF	ADD+11		,6, SET SIGN OF OPERAND.	C5192	32	C521A	CG0CC
05750	ACC	A	FAC-1	,, ,	C5204	21	C2491	CG0CC
05760	BZ	ZERFAC+12		,, BRANCH IF ZERO RESULT	C5216	46	C3596	C12CC
05770	TDM	UNFLCB-1	,2	,, ,	C5228	15	C3371	CG0C2
05780	TDM	OVFLCB-1	,1	,, ,	C5240	15	C3651	CG0C1
05790	NCRM	TO	99	,FAC-1 ,, STORE SIGN OF RESULT	C5252	25	CG095	C2491
05800	CF	FAC-1			C5264	33	C2491	CG0CC
05810	BD	LVI	,FNM	,11, ,	C5276	43	C3616	C331L
05820	TR	FNM	,611	,, LEFT SHIFT ONE	C5288	31	C331L	C33CC
05830	TDM	FAC-1	,0	,, SET LAST DIGIT TO ZERO.	C5300	15	C2491	CG0CC
05840	SF	FNM	,6	,, ,	C5312	32	C331L	CG0CC
05850	BD	FINISH	,FNM	,611, TEST LEADING ZERO	C5324	43	C380L	C331L
05860	SM	SAVE	,1	,10, SUBT ONE FROM EXPONENT.	C5336	12	C2565	CG-1
05870	BNV	NORM+36		,, ,	C5348	47	C5288	C14CC
05880	TFM	EI	,572	,9, SET UP ERRCR CODE E2.	C5360	16	C2615	CCN72
05890	UNFLOW	TFM	FAC	,-99, ,10, ,	C5372	16	C2492	CG0RR
05900	TF	FAC-2	,95PF-1	,, SET RESULT TO ZERO.	C5384	26	C249C	C2853
05910	B	ERROR			C5396	49	C3676	CG0CC
05920	DORG	*-4			C5403			
05930	MCADD	SF	FM	,6	C5404	32	C33CC	CG0CC
05940	TR	FNM	,FM	,611	C5416	31	C331L	C33CC
05950	TF	FAC	,SAVE	,, ,	C5428	26	C2492	C2565
05960	BB				C544C	42	CG0CC	CG0CC

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05970		DDRG	*-9			05442			
05980	FSRR1	CF	FAC-2			05442	33	C249C	CC0CC
05990		TF	FAD-1	,FSBR-1	..	05454	26	04C89	04113
06000		B	FAD		..	05466	49	04C9C	CC0CC
06010		DDRG	*-3			05474			
06020		SF	FAC-2			05474	32	C249C	CC0CC
06030		B	FSBR1+12			05486	49	C5454	CC0CC
06040		DDRG	*-4			05493			
06050	FMP1	SM	FMP-1	,2	,10,	05494	12	C4137	CCC-2
06060		LD	79	,ZERO-1C	..	05506	28	CC075	C2757
06070		M	FAC-2	,FMP-1	,11,	05518	23	C249C	C413P
06080		BZ	ZERFAC		..	05530	46	C3584	C12CC
06090		A	SAVE	,FAC	..	05542	21	C2565	C2492
06100		TF	FAC-1	,HMC	,11,	05554	26	C2491	C333C
06110		TDM	UNFLCW-1	,4	..	05566	15	C5371	C00C4
06120	FMFAX1	BNV	NORM+72		..	05578	47	C5324	C14CC
06130		BNF	*+20	,FAC	..	05590	44	C561C	C2492
06140		B	UNFLCW-12		..	05602	49	C536C	CC0CC
06150		DDRG	*-4			05609			
06160		TDM	OVFLCW-1	,3	..	0561C	15	03651	CC0C3
06170		BN	OVFLCW-12		..	05622	46	C364C	C11CC
06180		TFM	SAVE	,99	,10,	05634	16	C2565	CC0R9
06190		B	NORM+24		..	05646	49	C5276	CC0C0
06200		DDRG	*-4			05653			
06210	FC1	TF	SAVE	,FAC	..	05654	26	C2565	C2492
06220		SM	FD-1	,2	,10,	05666	12	C4161	CCC-2
06230		TF	79	,ZERO-9	..	05678	26	C0079	C2758
06240		LD	PDT	,FAC-2	,6,	05690	28	C333L	C249C
06250		D	PDT	,FC-1	,611,	05702	29	C333L	C416J
06260		TDM	OVFLCW-1	,7	..	05714	15	C3651	CC0C7
06270		BN	OVFLCW-12		..	05726	46	0364C	01400
06280		TF	FAC-1	,PDT	,11,	05738	26	C2491	C333L
06290		TD	99	,FAC-1	..	05750	25	C0C95	C2491
06300		BZ	ZERFAC+12		..	05762	46	C359E	C12CC
06310	SE	SM	SAVE		,10,	05774	12	C2565	C00-C
06320		TDM	OVFLCW-1	,5	..	05786	15	C3651	CC0C5
06330		BNV	NORM+24		..	05798	47	C5276	C14CC
06340		BNF	OVFLCW-12	,FAC	..	0581C	44	C364C	C2492
06350		TDM	UNFLCW-1	,6	..	05822	15	C5371	00006
06360		BN	UNFLCW-12		..	05834	47	C536C	C13CC
06370		TFM	SAVE	,99	,10,	05846	16	C2565	CC0RR
06380		B	NORM+72		..	05858	49	C5324	CC0CC
06390		DDRG	*-4			05865			
06400	FCVRI	TF	SE+11	,FAC	..	05866	26	C5785	C2492
06410		SM	FDVR-1	,2	,10,	05878	12	C4185	CC0-2
06420		TF	79	,ZERO-5	..	05890	26	C0075	C2758
06430		LD	PDT	,FCVR-1	,611,	05902	28	C333L	C418K
06440		D	PDT	,FAC-2	,6	05914	29	C333L	C249C
06450		TD	FAC	,SAVE	..	05926	25	C2492	C2565
06460		B	FDI+LC		..	05938	49	C5714	CC0CC
06470		DDRG	*-4			05945			
06480	FIX11	AM	MSA	,CC	,10,	05946	11	C2575	CC0-C
06490		BNZ	*+26		..	05958	47	C5984	C12CC
06500		TF	FAC	,FX1	..	05970	26	C2492	C2825
06510		BB			..	05982	42	CC0CC	CC0CC
06520		DDRG	*-9			05984			

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06530	AM	FAC	,CC	,1C,	IS J = ZERC	05984	11	C2492	C00-C
06540	BNZ	PSI-12				05996	47	C6C64	C12CC
06550	BNF	*-26	,IMSA	..	YES, IS I POSITIVE	06008	44	C5982	C2575
06560	TFM	EI	,771	,9,	NC, ERR G1, ZERC TC MINUS I POWER	06020	16	C2615	CCP71
06570	TFM	FXERR+30	,FIXENC-12	..	SET UP ERRCR EXIT	06032	16	037C6	-3748
06580	TF	FAC	,FX9	..	FAC = FX9	06044	26	C2492	C28C5
06590	B	FXERR				06056	49	C3676	CC0CC
06600	DDRG	*-4				06063			
06610	TDM	ODDREV+1	,1			06064	15	C6181	C00C1
06620	PSI	CF	MU-1		..	06076	33	C3711	CC0CC
06630		SF	MSA-1		..	06088	32	C2574	CC0CC
06640		MM	MSA	,C5	,1C	06100	13	C2575	CC0-5
06650		CF	MSA-1		..	06112	33	C2574	CC0CC
06660		BD	*+20	,99		06124	43	C6144	CC099
06670		B	*+32		..	06136	49	C6168	CC0CC
06680		DDRG	*-4			06143			
06690	BNF	*+36	,FAC	..	I CCD	06144	44	C618C	C2492
06700	SF	MU-1		..	J NEG, SET SIGN NEGATIVE	06156	32	C3711	CC0CC
06710	CF	FAC				06168	33	C2492	CC0CC
06720	CCCREV	NOP	AXJ			0618C	41	C6562	CC0CC
06730		C	FAC	,FX1		06192	24	C2492	C2825
06740		BE	MU		..	06204	46	C3712	C12CC
06750	BNF	*+56	,IMSA	..	IS I POSITIVE	06216	44	C6272	C2575
06760	TFM	EI	,772	,9,	NC, ERR G2, J TC MINUS I POWER	06228	16	C2615	CCP72
06770	TF	FAC	,FXZ	..	FAC = FXZ	06240	26	C2492	C2815
06780	TFM	FXERR+30	,FIXENC-12	..	SET UP ERRCR EXIT	06252	16	037C6	-3748
06790	B	FXERR				06264	49	C3676	CC0CC
06800	DDRG	*-4				06271			
06810	TF	BETA	,FAC	..	STORE J	06272	26	C26C3	C2492
06820	SM	MSA	,01	,1C,	I = I-1	06284	12	C2575	CC0-C
06830	BZ	MU				06296	46	C3712	C12CC
06840	M	FAC	,BETA			06308	23	C2492	C26C3
06850	SF	10CMK		,6		06320	32	C326L	CC0CC
06860	TF	FAC	,99			06332	26	C2492	CC099
06870	AM	99MK	,0C	,610,	TEST OVFL	06344	11	C3280	CC0-C
06880	BZ	*-72				06356	46	C6284	C1200
06890	TFM	EI	,773	,9,	ERR G3, CVFL IN FIX1	06368	16	C2615	CCP73
06900	TDM	FXERR+25	,1	..	SET UP SIGN	06380	15	C37C1	CC0C1
06910	B	FXIN+12				06392	49	C6044	CC0CC
06920	DDRG	*-4				06399			
06930	FAX11	AM	MSA	,0C	,10,	06400	11	C2575	CC0-C
06940		BNZ	*+38		..	06412	47	C645C	C12CC
06950	ONEFAC	TFM	FAC	,01	,10,	06424	16	C2492	CC0-1
06960		TF	FAC-2	,CNEZ	..	06436	26	C249C	C3038
06970		BB			..	06448	42	CC0CC	CC0CC
06980		DDRG	*-9			06450			
06990	BD	*+44	,FNM	..	IS A ZERC	06450	43	C6494	C331L
07000	BNF	*-14	,IMSA	..	YES, IS I NEGATIVE	06462	44	06448	C2575
07010	TFM	EI	,774	,9,	YES, ERR G4, ZERO TC MINUS I	06474	16	C2615	CCP74
07020	B	MANTP				06486	49	07146	CC0CC
07030	DDRG	*-4				06493			
07040	TF	SAVE	,FAC	..	STORE CHAR	06494	26	C2565	C2492
07050	TD	FAC	,FAC-2	..	CONVERT A TO F+2 FORM	06506	25	C2492	C2490
07060	CF	FAC-2				06518	33	C249C	CC0CC
07070	TDM	FAC-1	,0			06530	15	C2491	CC0CC
07080	TDM	ODDREV+1	,9	..	SET UP RETURN	06542	15	C6181	000C9

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07C90	B	PSI	,	,,	SET UP SIGN AT PU-1	06594	49	C6C7E	CCCC	
07100	DORG	0-4				06561				
07110	AXJ	TDM	FAC	,0		06562	15	C2452	CCCC	
07120		TFM	NORM+54	,FAC	,,	06574	16	C530C	-2492	
07130		TFM	ERROR+1	,49	,IC,	06586	16	C3677	CCCP9	
07140		TDM	FINISH+2	,9		06590	15	C3805	CC005	
07150		TFM	FINISH+7	,FINISH	,711	06610	16	C381C	-3801	
07160		BNF	NODIV	,IPSA	,,	06622	44	C677C	C2575	
07170		CF	IPSA	,,	IS I NEGATIVE	06634	33	C2575	CCCC	
07180		TF	79	,ZERC-35	,,	06646	26	CC075	C2732	
07190		LD	98MF	,GNEZ+2	,0,	06658	28	C332C	C304C	
07200		D	98MF	,FAC	,0	06670	29	C332C	C2492	
07210		TF	FAC	,97MF	,11	06682	26	C2452	C332L	
07220		TFM	FINISH	,+44		06694	16	C3803	-6738	
07230		TF	SE+11	,SAVE		06706	26	C5785	C2565	
07240		TFM	SAVE	,01	,10	06718	16	C2565	CC-1	
07250		B	SE	,,	FCR C+R ERROR CHECK	06730	49	C5774	CCCC	
07260		DORG	0-4			06737				
07270		BNF	NODIV	,FAC-1	,,	06738	44	C677C	C2451	
07280		BNF	SOS	,FAC	,,	06750	44	C6818	C2492	
07290		B	SOS+20	,,	UNFL	06762	49	C6938	CCCC	
07300		DORG	0-4			06769				
07310		TF	GAM	,FAC	,,	06770	26	C2555	C2492	
07320		TF	SAVE-2	,SAVE	,,	06782	26	C2563	C2565	
07330		TFM	FINISH	,SCS-2C	,,	06794	16	C3803	-6899	
07340		TFM	FMFAXI+23	,SAVE-2	,,	06806	16	C5601	-2563	
07350		SM	IPSA	,01	,IC,	06818	12	C2575	CC-1	
07360		BZ	M14	,,	I = I - 1	06830	46	C657C	C12CC	
07370		TF	79	,ZERC-35	,,	06842	26	CC075	C2732	
07380		M	FAC	,GAP	,,	06854	23	C2492	C2555	
07390		TF	FAC	,97MF	,11	06866	26	C2492	C332L	
07400		A	SAVE	,SAVE-2	,,	06878	21	C2565	C2563	
07410		B	FMFAXI	,,	GC TC FPP FCR C+R CHECK	06890	49	C5578	CCCC	
07420		DORG	0-4			06897				
07430		BNF	NODIV+08	,FAC-1	,,	06898	44	C6818	C2451	
07440		B	NODIV-20	,,	YES	06910	49	C675C	CCCC	
07450		DORG	0-4			06917				
07460		SCS	TFM	E1	,775	,9,	06918	16	C2615	CCP75
07470		B	++20	,,	ERR G5, CVFL IN FAXI	06930	49	C693C	CCCC	
07480		DORG	0-4			06937				
07490		TFM	E1	,776	,9,	06938	16	C2615	CCP76	
07500		TFM	GEHT+6	,ERRCR	,,	06950	16	07C4C	-3676	
07510		B	M14+12	,,	SET UP TYPE CUT OF ERR	06962	49	C6902	CCCC	
07520		DORG	0-4			06969				
07530		M14	TFM	GEHT+6	,ENCC	,,	06970	16	C7C6C	-3768
07540		TD	99	,PU-1	,,	06982	25	CC099	C3711	
07550		TFM	ERROR+1	,34	,IC,	06994	16	C3677	CC0L4	
07560		TFM	FINISH	,ENCC	,,	07006	16	C3803	-3748	
07570		TFM	NORM+54	,FAC-1	,,	07018	16	C530C	-2491	
07580		TDM	FINISH+2	,2	,,	07030	15	C3805	CC002	
07590		TFM	FMFAXI+23	,FAC	,,	07042	16	C5601	-2492	
07600		GEHT	B			07054	49	CCCC	CCCC	
07610		DORG	0-4			07061				
07620		FAXB1	SM	FAXB-1	,C2	,10	07062	12	C4257	CC0-2
07630		TF	TAFE-2	,FAXB-1	,11	,,	07074	26	C2533	C425P
07640		AM	TAFE-2	,CC	,10,	IS B ZERC	07086	11	C2533	CCC-C

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07650	BZ	ONEFAC	,	,,	YES	07098	46	C6424	C12CC
07660	BD	++56	,FNI	,11,	IS A ZERC	07110	43	C7166	C331L
07670	BNF	FINISH+1	,TAFE-2	,,	IS B NEGATIVE	07122	44	C3804	C2533
07680	TFM	E1	,777	,9,	YES, ER G7 ZERC TC MINUS B	07134	16	C2615	CCP77
07690	MANTP	TDM	99	,0	,,	07146	15	CC099	CCCC
07700	B	OVFLCN	,,		SET SIGN	07158	49	C3652	CCCC
07710	DORG	0-4				07165			
07720	TDM	DLWR+1	,9	,,	SET UP AC ERR TYPE	07166	15	C7311	CC009
07730	BNF	++36	,FAC-2	,,	IS A NEGATIVE	07178	44	07214	C249C
07740	TDM	DLWR+1	,1	,,	YES, SET UP ERR TYPE	07190	15	C7311	CCCC
07750	CF	FAC-2	,,			07202	33	C249C	CCCC
07760	TDM	FINISH+2	,9	,,		07214	15	C3805	CC009
07770	TFM	FINISH+7	,+20	,,		07226	16	C381C	-7246
07780	B	LNENT	,,	,0,	FINC LN CF A	07238	49	C336C	CCCC
07790	DORG	0-4				07245			
07800	TFM	FINISH+7	,+32	,,		07246	16	C381C	-7278
07810	TFM	FMP-1	,TAFE	,,	SET UP MULTIPLICATION	07258	16	C4137	-2535
07820	B	FMP	,,	,,	MULTIPLY B TIMES LN(A)	07270	49	C4138	CCCC
07830	DORG	0-4				07277			
07840	TFM	FINISH+7	,+20	,,		07278	16	C381C	-7258
07850	B	EXPENT	,,	,0,	FINC A*B = E*BLN(A)	07290	49	C337L	CCCC
07860	DORG	0-4				07297			
07870	TDM	FINISH+2	,2	,,		07298	15	C3805	CC002
07880	DLWR	NOP	FINISH+1	,,		07310	41	C3804	CC00C
07890	TFM	E1	,676	,9,	ERR F6, -ATCB	07322	16	C2615	CC076
07900	TDM	99	,C	,,		07334	15	CC055	CCCC
07910	B	ERROR	,,			07346	49	C3676	CCCC
07920	DORG	0-4				07353			
07930	DORG	08CCC	,,			08CCC			
07940	34	A1	,CC701	,,		08CCC	34	C8C6E	CC701
07950	38	A1	,CC702	,,		08C12	38	C8C6E	CC702
07960	36	A1	,CC703	,,		08C24	36	C8C6E	CC703
07970	TD	15999	,CC400	,,		08C36	25	15995	CC4CC
07980	TR	START+3	,12C00	,,		08C48	31	C3854	120CC
07990	B	++22	,,			08C60	49	CC02C	CCCC
08000	DORG	0-3				08C68			
08010	A1	DSC	9	,C194CCC36	,,	08C68			
08020	CSA	FIX	,,			08C81		5 X	1
08030	TRA	,,				08C81		-3894	
08040	TCO	08CCC	,,			08C82	36	CC0CC	CC5CC
08050	*****	1620 FORTRAN II-D	FORPAT	,,		08C94	49	CCCC	CCCC
08060	*****	1620 FORTRAN II-D	FORPAT - SECONDARY LINKAGE	,,		08C0C			
08070	DORG	START	,,			03051			
08080	OS	3	,,			03053		3	
08090	TFM	FMON+11	,+START	,,		03054	16	C7765	-CCCC
08100	CC	2	,7	,+3		03062		2	
08110	B	FMCN	,,			03066	49	C7754	CCCC
08120	TFM	FMCN+11	,+START	,,		03078	16	C7765	-CC27
08130	CC	2	,,	,+3		03086		2	
08140	-1	,,							

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08140	B	FMCN			03890	49	C7754	CCGCC
08150	TFM	FMCN+11	,0--START		03902	16	C7765	-CC51
08160	DC	2	,1	,0--3	0361C		2	
	-1							
08170	B	FMCN			03514	49	C7754	CCGCC
08180	TFM	FMCN+11	,0--START		03926	16	C7765	-CC75
08190	DC	2	,1	,0--3	03534		2	
	-1							
08200	B	FMCN			03938	49	C7754	CCGCC
08210	TFM	FMCN+11	,0--START		03950	16	C7765	-CC59
08220	DC	2	,1	,0--3	03550		2	
	-1							
08230	B	FMCN			03562	49	C7754	CCGCC
08240	TFM	FMCN+11	,0--START		03974	16	C7765	-C123
08250	DC	2	,1	,0--3	03582		2	
	-1							
08260	B	FMCN			03586	49	C7754	C00C0
08270	TFM	FMCN+11	,0--START		03598	16	C7765	-C147
08280	DC	2	,1	,0--3	04CC6		2	
	-1							
08290	B	FMCN			04C1C	49	C7754	C00C0
08300	DORG	0-1			04C2C			
08310	TFM	FMCN+11	,0--START		04C20	16	C7765	-C169
08320	CC	2	,1	,0--3	04C28		2	
	-1							
08330	B	FMCN		,0	04C32	49	C7754	C-0CC
08340	DORG	0-1			04C42			
08350	AM	FAC	,CC	,10, IS FAC ZERC	04C42	11	C2462	CC0-C
08360	B	IPLCAT			04054	49	C515C	C00C0
08370	TFM	FMCN+11	,0--START		04C66	16	C7765	-C215
08380	DC	2	,1	,0--3	04C74		2	
	-1							
08390	B	FMCN			04C78	49	C7754	C00C0
08400	TFM	FMCN+11	,0--START		04C9C	16	C7765	-C235
08410	DC	2	,1	,0--3	04C90		2	
	-1							
08420	B	FMCN			041C2	49	C7754	C00C0
08430	TFM	FMCN+11	,0--START		04114	16	C7765	-C263
08440	DC	2	,1	,0--3	04122		2	
	-1							
08450	B	FMCN			04126	49	C7754	C00C0
08460	TFM	FMCN+11	,0--START		04138	16	C7765	-C287
08470	CC	2	,1	,0--3	04146		2	
	-1							
08480	B	FMCN			04150	49	C7754	C00C0
08490	TFM	FMCN+11	,0--START		04162	16	C7765	-0311
08500	DC	2	,1	,0--3	0417C		2	
	-1							
08510	B	FMCN			04174	49	C7754	C00C0
08520	TFM	FMCN+11	,0--START		04186	16	C7765	-C335
08530	DC	2	,1	,0--3	04194		2	
	-1							
08540	B	FMCN			04198	49	C7754	C00C0
08550	TFM	FMCN+11	,0--START		0421C	16	C7765	-C359
08560	DC	2	,1	,0--3	04218		2	
	-1							

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08570	B	FMCN			04222	49	C7754	CCGCC
08580	TFM	FMCN+11	,0--START		04234	16	C7765	-C383
08590	DC	2	,1	,0--3	04242		2	
	-1							
08600	B	FMCN			04246	49	C7754	CCGCC
08610	TFM	FMCN+11	,0--START		04258	16	C7765	-C4C7
08620	DC	2	,1	,0--3	04266		2	
	-1							
08630	B	FMCN			0427C	49	C7754	CCGCC
08640	*****		WRITE ALPHAMERIC					
08650	WATY	TF	SWF	,WATY-1	04282	26	C5965	C4281
08660	B	WATY1			04294	49	C5538	CCGCC
08670	WAPT	TF	SWF	,WAPT-1	04306	26	C5965	C43C5
08680	B	WAPT1			04318	49	C5558	CCGCC
08690	WACD	TF	SWF	,WACD-1	04330	26	C5965	C4329
08700	B	WACD1			04342	49	C561C	C00C0
08710	PRA	TF	SWF	,PRA-1	04354	26	C5965	C4353
08720	B	PRAL			04366	49	C557E	CCGCC
08730	*****		READ ALPHAMERIC					
08740	RATY	TF	SWF	,RATY-1	04378	26	C5965	C4377
08750	B	RATY1			0439C	49	C597C	CCGCC
08760	RAPT	TF	SWF	,RAPT-1	04402	26	C5965	C44C1
08770	B	RAPT1			04414	49	C599C	C00C0
08780	RACD	TF	SWF	,RACD-1	04426	26	C5965	C4425
08790	B	RACD1		,0	04438	49	C6C1C	C-0CC
08800	DORG	0-1			04448			
08810	ITYPE	AM	SWF	,3	04448	11	C5965	-0003
08820	B	ITYPE1		,0	04460	49	C4622	C-0CC
08830	DORG	0-1			0447C			
08840	TFM	FMCN+11	,0--START		0447C	16	C7765	-0619
08850	DC	2	,4	,0--3	04478		2	
	-4							
08860	B	FMCN		,0	04482	49	C7754	C-0CC
08870	DORG	0-1			04492			
08880	TFM	FMCN+11	,0--START		04492	16	C7765	-0641
08890	DC	2	,7	,0--3	04500		2	
	-7							
08900	B	FMCN		,0	04504	49	C7754	C-0CC
08910	DORG	0-1			04514			
08920	TFM	FMCN+11	,0--START		04514	16	C7765	-C663
08930	DC	2	,8	,0--3	04522		2	
	-8							
08940	B	FMCN		,0	04526	49	C7754	C-0CC
08950	DORG	0-1			04536			
08960	TFM	FMCN+11	,0--START		04536	16	C7765	-C685
08970	CC	2	,7	,0--3	04544		2	
	-7							
08980	B	FMCN		,0	04548	49	C7754	C-0CC
08990	DORG	0-1			04558			
09000	TFM	FMCN+11	,0--START		04558	16	C7765	-0707
09010	DC	2	,5	,0--3	04566		2	
	-5							
09020	B	FMCN		,0	04570	49	C7754	C-0CC
09030	DORG	0-1			04580			
09040	TFM	FMCN+11	,0--START		04580	16	C7765	-0729
09050	DC	2	,5	,0--3	04588		2	
	-5							

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09060	B	FMCN	,R			C4592	49	C7754	C-CCC
09070		DORG	+1			C4602			
09080	TFM	FMCN+11	,+START			C4602	16	C7765	-C751
09090	CC	2	,5	,+3		04610	2		
09100	-5								
09110	B	FMCN				C4614	49	C7754	CCCC
09110		DORG	+4			C4621			
09120	*****	1620	FORTRAN II-C I	FORMAT - SUBROUTINES					
09130	*****	MACRO	FOR I	TYPE READ AND WRITE					
09140	ITYPE1	TF	WIDTH-2	,SFC	,11	04622	26	C6C64	C596R
09150	A	LAST	,WIDTH2			04634	21	C582C	C6064
09160	C	LAST	,PAX2			04646	24	C582C	C6145
09170	BM	ER F9				04658	46	C731C	C11CC
09180	TF	INPLLS	,LAST			04670	26	C6C53	C582C
09190	YFM	IR DIG+6	,FAC			04682	16	C4932	-2492
09200	YFM	SMC ADJ	,WRITE 1			04694	16	C6152	-447C
09210	BD	ODD4	,RNEFSH			04706	43	C6254	C6061
09220	TF	TERM	,FPIPK			04718	26	C7C93	C3283
09230	TF	FAC	,FZ			04730	26	C2462	C2815
09240	YFM	SMC ADJ	,READ1			04742	16	C6152	-5034
09250	*****	CHAR	BY CHAR	IS PCVED INTO FAC,RIGHT JUSTIFIED,UNTIL SIGN					
09260	*****	CR	W CHAR	ARE EXAMINED.					
09270	*****	ERROR	F7	WILL OCCUR IF MORE THAN K CHAR ARE AVAILABLE TO READ					
09280	I READ	SM	WIDTH-2	,2	,10	04754	12	C6C64	CCO-2
09290	BL	SWL				04766	47	C6C42	C13CC
09300	SM	INPLLS	,2	,10		04778	12	C6C53	CCG-2
09310	BMR	+2C	,INPLLS	,11,	CHECK FOR INPUT RECCRC MARK	04790	45	C481C	C6C5L
09320	B7	ERRF71				04802	49	C5CC2	
09330	CM	INPLLS	,7C	,610		04814	14	C6C5L	CCGPO
09340	BM	IR DIG				04826	46	C4926	C11CC
09350	BE	IR BLNK				04838	46	C4962	C12CC
09360	CM	INPLLS	,0C	,610		04850	14	C6C5L	CCO-C
09370	BE	IR BLNK				04862	46	C4962	C12CC
09380	CM	INPLLS	,2C	,610		04874	14	C6C5L	CCCKC
09390	BE	I MINUS				04886	46	C4982	C12CC
09400	CM	INPLLS	,1C	,610		04898	14	C6C5L	CCOJC
09410	BE	SWL				04910	46	C6C42	C12CC
09420	B	ERR F71				04918	49	C5CC2	CCCC
09430	DORG	+4				04926			
09440	IRDIG	TD	,INPLLS	,11		04926	25	CCCC	C6C5L
09450	C	+6	,TERM			04938	24	C4932	C7C93
09460	BL	ERR F7 I				04950	47	C5CC2	C13CC
09470	IRRLNK	SM	IR DIG+6	,1		04962	12	C4932	-00C1
09480	B	I READ				04974	49	C4754	CCCC
09490	DORG	+4				04981			
09500	IPINUS	SF	FAC			04982	32	C2452	CCCC
09510	B	SWL				04994	49	C6C42	CCOCC
09520	DORG	+4				C5001			
09530	ERRF71	TF	FAC	,FZ	,, SET FIXED ZFRC INTO FAC	C5002	26	C2492	C2815
09540	TFM	EI	,677	,911,	SET ERROR F7 INDICATION	C5014	16	C2615	CCC7P
09550	B	SWL				C5026	49	C6C42	CCOCC
09560	DORG	+4				C5033			
09570	READ1	SF	FPIPK	,	,6	C5034	32	C328L	CCCC
09580	TF	FLT END	,ICEN2+6			C5046	26	C381C	C5444
09590	BNF	FLCAT	,LCC			C5058	44	C4042	C6089
09600	CF	LOC				C5070	33	C6C85	CCCC

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09610	READIF	TF	LOC	,FAC	,6	C5082	26	C6C8R	C2492
09620	SM	LOC	,2			C5094	12	C6C85	-C0C2
09630	TF	LOC	,FAC-2	,6		C5106	26	C6C8R	C249C
09640	ERF7	BNF	BSWF-12	,EI	,, BR IF ACT ERROR TYPE F7	05118	44	C5922	C2615
09650	CF	EI			ERASE ERROR F 7 INDICATION	C5130	33	C2615	CCCC
09660	B	ERCDP2				05142	49	C7386	CCOCC
09670	DORG	+4				05149			
09680	IFLOAT	BZ	ZERFAC	,	,, YES	05150	46	C3584	C12CC
09690	TD	99	,FAC	,, STCRE SIGN		05162	25	CC656	C2492
09700	CF	FAC				05174	33	C2452	CCOCC
09710	TR	BETA-9	,FXH	,11		05186	31	C2594	C328L
09720	TF	FAC-2	,9SPF-1	,, CLEAR FAC		05198	26	C245C	C2853
09730	TF	SAVE	,K	,, CHAR * K		05210	26	C2565	C2221
09740	TFM	+23	,BETA-9	,, FINE +I CRC DIGIT		05222	16	C5245	-2594
09750	BD	+44	,	,, ADJUST CHAR		05234	43	C5278	CCOCC
09760	SM	SAVE	,C1	,10,		05246	12	C2565	CCO-1
09770	AM	+13	,C1			05258	11	C5245	-00C1
09780	R	+36	,C1			05270	49	C5234	CCOCC
09790	DORG	+3				05278			
09800	TR	FNH	,+33	,611		05278	31	C331L	C5244
09810	TF	+35	,FNH	,, FIND AND CLEAR RECCRC MARK		05290	26	C5325	C3313
09820	AM	+23	,C1			05302	11	C5325	-CCO1
09830	BNR	+12	,C	,, REPLACE RECCRC MARK		05314	45	C532C	CCCC
09840	TDM	+1	,C	,6		05326	15	C532A	CCCC
09850	TD	FAC+1	,RECMK	,, CLEAR BETA		05338	25	C2493	C2403
09860	TF	BETA	,ZERO-74	,, CLEAR BETA		05350	26	C2603	C2693
09870	B	INOREO				05362	49	C5354	CCCC
09880	DORG	+3				05370			
09890	INOR36	TR	FNH	,FY	,611, LEFT SHIFT ONCE	05370	31	C331L	C330C
09900	TDM	FAC-1	,0	,, SET LAST DIGIT TO ZERO.		05382	15	C2491	CCOCC
09910	INOR6C	SF	FNH	,6		05394	32	C331L	CCCC
09920	BD	FINISH	,FNH	,611, TEST LEADING ZERO		05406	43	C380L	C331L
09930	SM	SAVE	,1	,10, SUBT CNE FROM EXPONENT.		05418	12	C2565	CCO-1
09940	B	INOR36				05430	49	C537C	CCCC
09950	DORG	+4				05437			
09960	ICCN2	B	READ IF	,	,1	05438	4R	C5C82	CCOCC
09970	DORG	+4				05445			
09980	*****	1620	FORTRAN II-D	FORMAT - SUBROUTINES					
09990	DORG	START+1887				05538			
10000	WATY1	TFM	MAX	,06C87		05538	16	C6922	-6087
10010	B	WRTALP				05550	49	C5622	CCOCC
10020	DORG	+3				05558			
10030	WAPT1	TFM	MAX	,C8C87		05558	16	C6922	-8087
10040	B	WRTALP				05570	49	C5622	CCOCC
10050	DORG	+3				05578			
10060	PRAL	TFM	MAX	,26145	,7, PRINT WITH SPACE SUPPRESS	05578	16	C6922	M6145
10070	TD	RNEFSH	,RECMK			05590	25	C6061	C24C3
10080	B7	RWA				05602	49	C6634	
10090	WACD1	TFM	MAX	,1CC8C		05610	16	C6922	JO88C
10100	WRTALP	TDM	RNEFSH	,1	,, CCMPCA FOR EACH WRITE	05622	15	C6C61	CCCC1
10110	RWA	TF	DATINH+2	,MAX-3		05634	26	C6175	C6919
10120	SF	MAX-2				05646	32	C692C	CCOCC
10130	REPSH	DS	2	,+3		05654	2		
10140	MATSH	DS	1	,+2	,, SET TC 1 WHEN MATRIX HAS CONTROL	05655	1		
10150	REPSH3	DS	2	,0		05657	2		
10160	TFM	+1	,0CC00	,711		05688	16	C6957	-C0C-

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10170	TDM	SWL+1	+2			05670	15	C6043	CCCC2
10180	LCCD	DS	2	+,-1	,LCC CF DECIMAL AS SPEC BY FORPAT	05680		2	
10190	LCCD2	DS	2	+,-3	, TWICE LCC C	05678		2	
10200	TFM	MESERR+8	+679	,9		05682	16	C2615	CCC79
10210	TFM	MAX2	,INH			05694	16	C6145	-7453
10220	A	MAX2	,MAX			05706	21	C6145	C6922
10230	A	MAX 2	,MAX			05718	21	C6145	C6922
10240	*****				CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT				
10250	*****				RECORD NOT TERMINATED BY CCPLT MACRO				
10260	TFM	LAST	,INH			05730	16	C582C	-7453
10270	RWA2	TDM	COMPSW	+,-1		05742	15	C575C	C000J
10280	COMPSW	DS		+,-3	, -1 PROHIBITS, 0 REQUIRES OUTPUT	05750			C
10290	TR	INH-1	,STZERC+1			05754	31	C7452	C6424
10300	TR	INH+86	,STZERC			05766	31	C7535	C6423
10310	RWA2A	B	ODD3			05778	49	C6178	C000C
10320	CM	MAX-3	+08	+10		05790	14	C6915	CCC-8
10330	WICHT	DS	3	+,-2	, AC. CF EFF. DIGITS IN FIELD	05759		3	
10340	BNL	+*24				05802	46	C5826	C130C
10350	RCTY	RCTY				05814	34	C000C	C0102
10360	LAST	DS	5	+,-5	, ADR CF RM AT END CF VARIABLE CUT REC	05820		5	
10370	BNE					05826	47	C585C	C120C
10380	TF	INH+174	,FLZERS	,,	PUT IN RM FOR PAPER TAPE OUTPUT	05838	26	C7627	C6511
10390	BD	BSWF	,RWEFSW			05850	43	C5934	C6061
10400	RACDIT	TFM	IORT	+*23		05862	16	CC565	-5885
10410	B	IOGT	,DATINH-4	,7		05874	49	CC566	-6189
10420	CM	MAX-3	+C6	+10		05886	14	C6915	CCC-6
10430	BNE	+*24		,,	ALLONS GCCF SWITCH FOR RAY	05898	47	C5922	C1200
10440	BC4	RCTY				05910	46	C5814	C640C
10450	TDM	FLT END-5,2				05922	15	C3805	CCCC2
10460	*****				CONTROLS POSITION IN FORPAT SPECS				
10470	BSWF	AM	SWF	,5		05934	11	C5965	-0005
10480	TF	+*18	,SWF	+11		05946	26	C5964	C596R
10490	B	SWF		+6,	BR TC ADR INDICATED BY FORPAT SPEC.	05958	49	C596R	CCCCC
10500	SWF	DS	5	,,		05969		5	
10510	RATY1	TFM	MAX	,C6087		05970	16	C6922	-8087
10520	B	RDALP				05982	49	C6022	CCCCC
10530	DDRG	+*3				05990			
10540	RAPT1	TFM	MAX	,C80R7		06002	49	C6022	CCCCC
10550	B	RDALP				06010			
10560	DDRG	+*3				06010			
10570	RACD1	TFM	MAX	,10080		06010	16	C6922	JCC8C
10580	RLALP	TDM	RWEFSW	,C		06022	15	C6061	CCCCC
10590	B	RWA				06034	49	C5634	CCCCC
10600	DDRG	+*4				06041			
10610	*****				SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE				
10620	*****				TO OBTAIN THE LOCATION THAT GOES WITH THE FORPAT MACRO				
10630	*****				BEING PERFORMED				
10640	*****				BB FOR OBJECT PROGRAM				
10650	*****				NCP FOR RECC CONTROL				
10660	SWL	NOP	MATRIX 2			06042	41	C6602	CC00C
10670	INPLUS	DS	5	,,	WORKING POSITION OF I/C RECORD	06053		5	
10680	TDM	SWL+1	,9	,,	MATRIX CONTROL SETS SWL TO 49	06054	15	C6043	CCCC9
10690	RWEFSW	DS	1	+,-4	, 1 FOR WRT, 0 FOR RE, FLAG FOR E	06061		1	
10700	WICHT-2	DS	3	+,-1		06064		3	
10710	BD	SWC+12	,PATSW			06066	43	C6102	C5655
10720	NOP					06078	41	CCCCC	CCCCC

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10730	DPC	DS	5	+,-5	, TEMP ADR CF DEC PT IN GAMMA	06084		5	
10740	LOC	DS	5	,,	CCRE LOCATION TO BE USED	06089		5	
10750	*****				AFTER LCC ADR OBTAINED BR TC PROPER MACRO				
10760	SWC	TDM	SWL+1	+2		06090	15	C6043	CC002
10770	CHAR	DS	3	+,-1	, MODIFIED CHARACTERISTIC	06100		3	
10780	BD	+*20	,RWEFSW	,,	BR IF WRITING	06102	43	C6122	C6061
10790	B	SWC ADJ	,,	+6		06114	49	C615K	CCCCC
10800	DDRG	+*4				06121			
10810	TDM	COMPSW	,0	,,	SET TO REQUIRE OUTPUT	06122	15	C575C	C000C
10820	CF	LOC				06134	33	C6085	CCCCC
10830	MAX2	DS	5	,,	TWICE MAXIMUM CHAR FOR OUTPUT	06145		5	
10840	B					06146	49	CCCCC	CCCCC
10850	SWCADJ	DS		+,-5	,,	RETURN ADR CF MACRO IN CONTROL	06152		C
10860	DDRG	+*4				06153			
10870	CATERR	DSA	DUDH			06157		5 X	1
						06157		-2607	
10880	CC	3	,18*			06160		3	
	J8*								
10890	DATDUC	DSA	DUDH			06165		5 X	1
						06165		-2607	
10900	CC	3	,CC*			06168		3	
	-0*								
10910	DATINH	DSA	INH			06173		5 X	1
						06173		-7453	
10920	CC	3	,CC*			06176		3	
	-0*								
10930	DEC3	TR	INH+174,	STZERC+18		06178	31	C7627	C6441
10940	TR	INH+244,	STZERC+40			06190	31	C7697	C6463
10950	B7	RWA+12				06202	49	C579C	
10960	P44C	TFM	SWC-1	,FAC		06210	16	C6085	-2492
10970	TFM	TRRET+6	,P44E			06222	16	C6364	-6302
10980	BMF	PRA1	,FAC-1	,,	BRANCH IF FIXEC	06234	44	C5578	C2491
10990	TFM	SWF	,P44C1-5			06246	16	C5969	-6264
11000	B7	PRA1				06258	49	C5978	
11010	P44C1	DSA	ETYPE			06269		5 X	1
						06269		-4580	
11020	CC	3,35				06272		3	
	-35								
11030	CC	2,28				06274		2	
	K8								
11040	DSA	PRCNTR-12				06279		5 X	1
						06279		-6904	
11050	P44C2	DSA	ITYPE			06284		5 X	1
						06284		-4448	
11060	CC	3,24				06287		3	
	-24								
11070	DSA	PRCNTR-12				06292		5 X	1
						06292		-6904	
11080	CCD4	B7	SWL	,,	MODIFIED TO SWC BY TRACE	06294	49	C6042	

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11090	P44E	TFM	TRRET+6	,CCPENC	06302	16	06364	-6996	
11100		TFM	DDCA+6	,SWL	06314	16	06300	-6042	
11110		B7	FMFAC		06326	49	03452		
11120	CCD6	BNI	TRRET	,C3400	06334	47	06358	C34CC	
11130		K		,CC971	06346	34	00000	CC971	
11140	TRRET	B	COMEND		06358	49	06956	CC000	
11150		DORG	*-4		06365				
11160		DORG	6422		06422				
11170	SIZERC	CC	2	,CC	06423			2	
		-0							
11180	CO			,C246010	06424	-C	-0-C-	C-C-C	
11190	CO			,C246010	06436	-C	-0-C-	C-C-C	
11200	CO			,C246010	06448	-C	-0-C-	C-C-C	
11210	CO			,C24601C	06460	-C	-0-C-	C-C-C	
11220	CO			,C246010	06472	-C	-0-C-	C-C-C	
11230	CO			,C246010	06484	-C	-0-C-	C-C-C	
11240	CO			,C24601C	06496	-C	-0-C-	C-C-C	
11250	CC	2	,CC		06509			2	
		-0							
11260	FLZERS	CC	2	,C'	06511			2	
		-0							
11270	CS	5			06516			5	
11280	MATRIX	TDM	MATSW	,1	06518	15	06555	CCCC1	
11290		TDM	SWL+1	,9	06530	15	06043	CCCC9	
11300		TF	LOCACJ	,FP2	06542	26	06574	C3605	
11310		BNF	MATRIX-12	,MATRIX-1	06554	44	06590	C6517	
11320		TFM	LOCACJ	,OC	06566	16	06574	CCC-C	
11330	LCCADJ	DS	2	,*-3	06574			2	
		S	LOCACJ	,K	06578	22	06574	C2221	
11350		S	MATRIX-1	,LCCADJ	06590	22	06517	C6574	
11360	MATRIX2	A	MATRIX-1	,LCCADJ	06602	21	06517	C6574	
11370		TF	LOC	,MATRIX-1	06614	26	06085	C6517	
11380		SM	PAR	,1	06626	12	0337E	CC0-1	
11390		BNE	*+24		06638	47	06662	C1200	
11400		TDM	MATSW	,0	06650	15	06555	CCCCC	
11410		BNL	SWC+12		06662	46	06102	C1300	
11420		BB			06674	42	00000	CCCCC	
11430		DORG	*-9		06676				
11440	*****		MACRO FOR AN I/C CARRIAGE RETURN DURING A FORMAT STATEMENT						
11450	SLASH	TDM	COMEND+1	,9	06676	15	06957	CCCC9	
11460		BD	SLASH2	,RNEFSW	06688	43	0670E	C6061	
11470		R	COMEND		06700	49	06996	CC000	
11480		DORG	*-4		06707				
11490	SLASH2	BD	IDCR	,CCPP SW	06708	43	06572	C5750	
11500		CM	DATINH+2	,CE	06720	14	06175	CC0-6	
11510		BH	WRITE		06732	46	06016	C1100	
11520		TF	LAST	,FLZERS	06744	26	0502-	C6511	
11530		SM	LAST	,C2	06756	12	0502C	CCC-2	
11540		CM	LAST	,CC	06768	14	0502-	CCC-C	
11550		BE	*-36		06780	46	06744	C1200	
11560		CM	LAST	,IAH	06792	14	0502C	-7453	
11570		BL	COM END		06804	47	06996	C1300	
11580	WRITE	BNR	WRITE1	,RNEFSW	06816	45	06940	C6061	
11590		CM	INH	,7C	06828	14	07453	CC0PC	
11600		BNF	*+32		06840	47	06872	C1100	
11610		TF	PRKEY	,IAH	06852	26	06927	C7453	

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11620		B7	PRCNTR		06864	49	06916		
11630		BNE	*+32		06872	47	06906	C1200	
11640		TFM	PRKEY	,52	06884	16	06927	CC0N2	
11650		B7	PRCNTR		06896	49	06916		
11660		TFM	PRKEY	,51	06904	16	06927	CC0N1	
11670	PRCNTR	K		,C900	06916	34	00000	CC900	
11680	PRKEY	CS	2		06927			2	
11690	MAX	CS	5	,*-5	06922			5	
11700		TR	INH-1	,INH+1	06928	31	07452	C7454	
11710	WRITE1	TFM	IDRT	,*+23	06940	16	00565	-6963	
11720		B	IDPT	,DATINH-4	06952	49	00532	-6169	
11730		B	ODD6		06964	49	06334	CC000	
11740		DORG	*-4		06971				
11750	ICOR	CM	MAX-3	,CB	06972	14	06515	CC0-8	
11760	CKW	CS	3	,*-2	06981			3	
11770		BNL	WRITE		06984	46	06016	C1300	
11780	CCMENC	B	RNA2-12		06996	49	05730	CCCCC	
11790		DORG	*-4		07003				
11800	*****		MACRO TERMINATING I/C CONTROL						
11810		CS	3		07005			3	
11820	CCMPLT	TDM	COMEND+1	,2	07006	15	06957	CCCC2	
11830	CHAR2	DS	3	,*-1	07016			3	
11840		B	SLASH+12		07018	49	0668E	CC000	
11850		DORG	*-4		07025				
11860	REDD	BD	REDD A+24	,MAT SW	07026	43	07054	C5655	
11870		TD	REDDA+23	,CCMP SW	07038	25	07053	C5750	
11880		TFM	SWC ADJ	,REDD A	07050	16	06152	-7070	
11890		B	SWL		07062	49	06042	CC000	
11900		DORG	*-4		07069				
11910	REDDA	TDM	SWL+1	,1	07070	15	06043	CC001	
11920		TDM	CCMP SW		07082	15	05790	CC000	
11930	TERM	DS	5	,*	07093			5	
11940		AM	SWF	,5	07094	11	05965	-CC05	
11950		TF	SWF	,SWF	07106	26	05965	C596R	
11960		B	SLASH		07118	49	06676	CC000	
11970		DORG	*-4		07125				
11980	*****		MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES						
11990	*****		SUR FRCP REP SW, INITIALLY SET TO ZERO						
12000	*****		IF REPSW NEG, SET TCREPS RECD AND REPEAT FORMAT						
12010	*****		IF REPSW ZERC, LAST FORMAT REPETITION IS COMPLETE						
12020	*****		IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC						
12030	REP	AM	SWF	,7	07126	11	05965	-CC07	
12040		SM	REP SW	,1	07138	12	06054	CC0-1	
12050		BH	REP 2		07150	46	07198	C1100	
12060		BE	BSWF		07162	46	05934	C1200	
12070		A	REP SW	,SWF	07174	21	05654	C596R	
12080		BNH	BSWF		07186	47	05934	C1100	
12090	REP2	SM	SWF	,2	07198	12	05965	-CC02	
12100		TF	SWF	,SWF	07210	26	05965	C596R	
12110		B	SWF-23		07222	49	05946	CC000	
12120		DORG	*-4		07229				
12130	REP3	SF	REPSW-1		07230	32	05656	CC000	
12140	WA	CS	5	,*	07241			5	
12150		AM	SWF	,7	07242	11	05965	CCC-7	
12160		SM	REPSW 3	,1	07294	12	05657	CC0-1	
12170		BH	REP 2		07286	46	07198	C1100	

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12180	BE	BSWF			07278	46	C5934	C12CC
12190	A	REPSW 3	,SWF	,11	07290	21	C5657	C596R
12200	R	REP 2-12			07302	49	C7186	CCCCC
12210	DDRG	*-4			07309			
12220	ERF9	TFM SWC ADJ	,ER CCP 2	,, MACRC FCR ERRCR F9 WHEN WRITING	07310	16	C6152	-7386
12230	TFM	LAST	,MAX 2		07322	26	C582C	C6145
12240	TFM	E1	,679	,9	07334	16	C2615	CC079
12250	B	SWL			07346	49	C6042	CCCCC
12260	DDRG	*-4			07353			
12270	XIYPE	AM SWF	,3	,, MACRC FCR SKIPPING FIELDS	07354	11	C5965	-CC03
12280	A	LAST	,SWF	,11	07366	21	C582C	C596R
12290	B	BSWF			07378	49	C5934	CCCCC
12300	DDRG	*-4			07385			
12310	ERCOM2	K	,0951		07386	34	CCCCC	CC951
12320	WA2	DS	,*-5	, WORKING AREA ACR REF TC FAC CR GAM	07392			
12330	TFM	IORT	,*-23		07398	16	CC565	-7421
12340	B	IOPT	,DATERR-4	,7	07410	49	CC532	-6153
12350	TR	E1+1	,FLZERS-1	,, RESTORES RECCRC MARK	07422	31	C2616	C651C
12360	B	BSWF-12			07434	49	C5922	CCCCC
12370	DPT	CS	,*	, TEMP LCC CF DEC PT IN OUTPUT RECCRD	07445			
12380	DPTM2	CS	,*+5	, TEMP ACR CF DEC PT IN I/O REC, -2	07450			
12390	CC				07450			
12400	CC	1	,9		07451			
12410	ENDFOR	CAC	1,C		C7453		1 x	2
12420	INM	DS	,ENDFOR		07453			
12430	CS	292,			07745		292	
12440	IN	CS	294,INM+292		C7745		294	
12450	CURG	090CC			090CC			
12460	3B	A3	,CC702		090CC	38	C9C32	CC7C2
12470	36	A3	,CC7C3		09C12	36	C9C32	CC7C3
12480	B	*+22			09024	49	C9C46	CC0C0
12490	DDRG	*-3			09C32			
12500	AJ	DSC	9,C19436C39		C9C32		5	
12510	CSA	FIX			09C45		5 x	1
12520	TRA				09C45		-3854	
12530	TCC	090CC			C9C46	36	CCCCC	CC5CC
					09058	49	CC0CC	CC0CC
					090CC			
12540	*****	1620 FORTRAN II-C	I WA FORMAT					
12550	*****	1620 FORTRAN II-D	I WA FORMAT - SECONDARY LINKAGE					
12560	DDRG	START			03851			
12570	CS	3			03853		3	
12580	FIX	CM FAC	,CC	,10, IS CHAR POSITIVE	C3854	14	C2452	CCC-C
12590	B	IFIX			03866	49	C5138	CC0CC
12600	TFM	FMCN+11	,*-START		03878	16	C7765	-CC27
12610	CC	2	,1	,*-3	C3886		2	
12620	-1							
12630	B	FMCN			0389C	49	C7754	CC0CC
12640	TFM	FMCN+11	,*-START		035C2	16	C7765	-CC51
	CC	2	,1	,*-3	C351C		2	
	-1							

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12650	B	FMCN			03514	49	C7754	CC0CC
12660	TFM	FMCN+11	,*-START		03526	16	C7765	-CC75
12670	CC	2	,1	,*-3	03934		2	
12680	-1							
12680	B	FMCN			03538	49	C7754	CC0CC
12690	TFM	FMCN+11	,*-START		03550	16	C7765	-CC95
12700	CC	2	,1	,*-3	03958		2	
12710	-1							
12710	B	FMCN			03562	49	C7754	CC0CC
12720	TFM	FMCN+11	,*-START		03974	16	C7765	-C123
12730	CC	2	,1	,*-3	03582		2	
12740	-1							
12740	B	FMCN			03586	49	C7754	CC0CC
12750	TFM	FMCN+11	,*-START		03998	16	C7765	-C147
12760	CC	2	,1	,*-3	04006		2	
12770	-1							
12770	B	FMCN			0401C	49	C7754	CC0CC
12780	DDRG	*-1			0402C			
12790	TFM	FMCN+11	,*-START		04020	16	C7765	-C169
12800	CC	2	,1	,*-3	04028		2	
12810	-1							
12810	B	FMCN		,8	04032	49	C7754	C-0CC
12820	DDRG	*-1			04042			
12830	TFM	FMCN+11	,*-START		04042	16	C7765	-C191
12840	CC	2	,3	,*-3	0405C		2	
12850	-3							
12850	B	FMCN			04054	49	C7754	CC0CC
12860	TFM	FMCN+11	,*-START		04066	16	C7765	-C215
12870	CC	2	,1	,*-3	04074		2	
12880	-1							
12880	B	FMCN			04078	49	C7754	CC0CC
12890	TFM	FMCN+11	,*-START		04090	16	C7765	-C239
12900	CC	2	,1	,*-3	04098		2	
12910	-1							
12910	B	FMCN			04102	49	C7754	CC0CC
12920	TFM	FMCN+11	,*-START		04114	16	C7765	-C263
12930	CC	2	,1	,*-3	04122		2	
12940	-1							
12940	B	FMCN			04126	49	C7754	CC0CC
12950	TFM	FMCN+11	,*-START		04138	16	C7765	-C287
12960	CC	2	,1	,*-3	04146		2	
12970	-1							
12970	B	FMCN			04150	49	C7754	CC0CC
12980	TFM	FMCN+11	,*-START		04162	16	C7765	-C311
12990	CC	2	,1	,*-3	04170		2	
13000	-1							
13000	B	FMCN			04174	49	C7754	CC0CC
13010	TFM	FMCN+11	,*-START		04186	16	C7765	-C395
13020	CC	2	,1	,*-3	04194		2	
13030	-1							
13030	B	FMCN			04198	49	C7754	CC0CC
13040	TFM	FMCN+11	,*-START		0421C	16	C7765	-0399
13050	CC	2	,1	,*-3	04218		2	
13060	-1							
13060	B	FMCN			04222	49	C7754	CC0CC
13070	TFM	FMCN+11	,*-START		04234	16	C7765	-0389

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1308C	CC	2	,1	,0-3	04242	2	
	-1						
13090	B	FMCN			04246	49	C7754 CCCCC
13100	TFM	FMCN+11	,0-START		04250	16	C7765 -C4C7
13110	CC	2	,1	,0-3	04266	2	
	-1						
13120	B	FMCN			04270	49	C7754 CCCCC
13130	TFM	FMCN+11	,0-START		04282	16	C7765 -C431
13140	DC	2	,2	,0-3	04290	2	
	-2						
13150	B	FMCN			04254	49	C7754 CCCCC
13160	TFM	FMCN+11	,0-START		04306	16	C7765 -C459
13170	DC	2	,2	,0-3	04314	2	
	-2						
13180	B	FMCN			04318	49	C7754 CCCCC
13190	TFM	FMCN+11	,0-START		04330	16	C7765 -0479
13200	DC	2	,2	,0-3	04338	2	
	-2						
13210	B	FMCN			04342	49	C7754 CCCCC
13220	TFM	FMCN+11	,0-START		04354	16	C7765 -C503
13230	DC	2	,2	,0-3	04362	2	
	-2						
13240	B	FMCN			04366	49	C7754 CCCCC
13250	TFM	FMCN+11	,0-START		04378	16	C7765 -C527
13260	DC	2	,2	,0-3	04386	2	
	-2						
13270	B	FMCN			04390	49	C7754 CCCCC
13280	TFM	FMCN+11	,0-START		04402	16	C7765 -C551
13290	DC	2	,2	,0-3	04410	2	
	-2						
13300	B	FMCN			04414	49	C7754 CCCCC
13310	TFM	FMCN+11	,0-START		04426	16	C7765 -C575
13320	DC	2	,2	,0-3	04434	2	
	-2						
13330	B	FMCN		,0	04438	49	C7754 C-CCC
13340	DORG	+1			04448		
13350	TFM	FMCN+11	,0-START		04448	16	C7765 -C597
13360	DC	2	,3	,0-3	04456	2	
	-3						
13370	B	FMCN		,0	04460	49	C7754 C-CCC
13380	DORG	+1			04470		
13390	WRITEI	WA	,GAM+2		04470	16	C7241 -2557
13400	B	WRIT11		,0	04482	49	C4622 C-CCC
13410	DORG	+1			04492		
13420	TFM	FMCN+11	,0-START		04492	16	C7765 -C641
13430	CC	2	,7	,0-3	04500	2	
	-7						
13440	B	FMCN		,0	04504	49	C7754 C-CCC
13450	DORG	+1			04514		
13460	TFM	FMCN+11	,0-START		04514	16	C7765 -C663
13470	CC	2	,8	,0-3	04522	2	
	-8						
13480	B	FMCN		,0	04526	49	C7754 C-CCC
13490	DORG	+1			04536		
13500	TFM	FMCN+11	,0-START		04536	16	C7765 -C685
13510	DC	2	,7	,0-3	04544	2	
	-7						

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13520	B	FMCN		,0	04548	49	C7754 C-CCC
13530	DORG	+1			04558		
13540	TFM	FMCN+11	,0-START		04558	16	C7765 -C7C7
13550	CC	2	,5	,0-3	04566	2	
	-5						
13560	B	FMCN		,0	04570	49	C7754 C-CCC
13570	DORG	+1			04580		
13580	TFM	FMCN+11	,0-START		04580	16	C7765 -C729
13590	CC	2	,5	,0-3	04588	2	
	-5						
13600	B	FMCN		,0	04592	49	C7754 C-CCC
13610	DORG	+1			04602		
13620	TFM	FMCN+11	,0-START		04602	16	C7765 -0751
13630	DC	2	,5	,0-3	04610	2	
	-5						
13640	B	FMCN		,0	04614	49	C7754 CCCCC
13650	DORG	+4			04621		
13660	*****	1620	FORTRAN II-C	I WA FORMAT - SUBROUTINES			
13670	*****			RETURN FROM SBL VIA SMC IF WRITING I TYPE			
13680	*****			VALUE PUT IN FAC IN I FORM, EXPANDED TO ALPHA IN			
13690	*****			GAMMA RIGHT TO LEFT. NO CONTAINS ADR OF HIGH ORDER			
13700	*****			DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED, CHECKED			
13710	*****			FOR WIDTH, PCVE TO OUTPUT RECCOR.			
13720	*****			ERRR! RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.			
13730	WRIT11	TFM	WA2	,FAC+1	04622	16	C7392 -2493
13740	TF	FAC		,LCC	04634	26	C2492 C6C8R
13750	BNF	WRIT2+12	,FAC-1	,11	04646	44	C4714 C2491
13760	IFWRT	SM	LOC	,2	04658	12	C6C85 -CCC2
13770	TF	FAC-2	,LCC	,11	04670	26	C249C C608R
13780	TF	FIXEND+6	,ICCN3+6		04682	26	C3766 C5348
13790	B	FIX			04694	49	C3854 CCCCC
13800	DORG	+4			04701		
13810	WRIT2	TFM	FIXEND+1	,2	04702	15	C3761 CCCC2
13820	TR	GAM-19	,MASK I-1		04714	31	C2536 C535C
13830	TFM	MO	,GAM+1		04726	16	C4817 -2556
13840	WRTI	SM	WA 2	,1	04738	12	C7392 -C0C1
13850	SM	WA	,2		04750	12	C7241 -CCC2
13860	TD	WA	,WA 2	,611	04762	25	C724J C739K
13870	BD	I DIG	,WA 2	,11	04774	43	C4794 C739K
13880	B	I DIG+12			04786	49	C480C CCCCC
13890	DORG	+4			04793		
13900	IGIG	TF	MO	,WA	04794	26	C4817 C7241
13910	CF	GAM		,,	04806	33	C2555 CCCCC
13920	PO	DS	S	,,	04817	5	
13930	BNF	WRTI	,WA	,11	04818	44	C4738 C724J
13940	CM	MO	,GAM+1		04830	14	C4817 -2556
13950	BNE	WRT SGN			04842	47	C4874 C120C
13960	TFM	LAST	,7CCO	,68	04854	16	C582- C90CC
13970	B	BSWF			04866	49	C5934 CCCCC
13980	DORG	+4			04873		
13990	WRTSGN	BNF	WRT 13	,FAC	04874	44	C491C C2492
14000	SM	MO	,2		04886	12	C4817 -0002
14010	TFM	MO	,2C	,610	04898	16	C481P CCCC
14020	WRT13	SM	MO	,1	04910	12	C4817 -CCC1
14030	TFM	OUT	,GAM		04922	16	C4981 -2555
14040	S	OUT	,MC		04934	22	C4981 C4817

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14050	C	OUT	,WIDTH 2	04946	24	04981	C6C64
14060	BH	ER F8 1		04958	46	C5C38	C11CC
14070	SF	OUT		04970	32	04981	CCCCC
14080	DLT	DS	5 ,* , MI ORDER WNG ACR IN I/C RECORD, I TYPE	04981		5	
14090	A	OUT	,LAST	04982	21	04981	C582C
14100	SM	OUT	,2	04994	12	04981	-CC2C
14110	TR	OUT	,MC ,611	05006	31	0498J	C481P
14120	TFM	LAST	,CC ,610	05018	16	C582-	CCC-C
14130	B	BSWF		05030	49	C5934	CCCCC
14140	DORG	*-4		05037			
14150	ERF81	TR	DUD M+11 ,FLZERS-67	05038	31	C2618	C6444
14160	TR	DUD M+11	,MC ,11	05050	31	C2618	C481P
14170	TFM	EI+2	,67800 ,* SETS ERRCR F8 AND ERASES REC MARK	05062	16	C2617	C78CC
14180	BNR	*+2C	,RNEFS*	05074	45	C5C94	C60E1
14190	B7	ERCDM2		05086	49	C7386	
14200	TF	DATDLD+2	,DATIN+2	05094	26	C6167	C6175
14210	TFM	IOPT	,*+23	05106	16	C0565	-5129
14220	B	IOPT	,DATDUC-4 ,7	05118	49	C0532	-6161
14230	B	ER CCM 2		05130	49	C7386	CCCCC
14240	DORG	*-4		05137			
14250	IFIX	BP	*+32 , , YES	05138	46	C517C	C11CC
14260	TF	FAC	,FXZ ,* NC	05150	26	C2492	C2815
14270	B	FIXEND		05162	49	C376C	CCCCC
14280	DORG	*-3		0517C			
14290	TD	MU-1	,FAC-2 ,* STCRE SIGN	0517C	25	C3711	C249C
14300	C	FAC	,K ,* IS CHAR GREATER THAN K	05182	24	C2492	02221
14310	BNH	*+56		05194	47	C525C	C11CC
14320	TFM	FXERR+25	,1 ,* SET ERR TYPE	05206	15	C37C1	CCCC1
14330	TFM	EI	,579 ,9, SET ER E9, CVFL IN FIX	05218	16	C2615	CCN79
14340	TF	FAC	,FX9 ,* YES, FAC = FX9	05230	26	C2492	C28C5
14350	B	FXERR		05242	49	C3676	CCCCC
14360	DORG	*-3		0525C			
14370	CF	FAC-2		0525C	33	C245C	CCCCC
14380	TF	BETA	,ZERO-51 ,* CLEAR ACC AREA	05262	26	C26C3	C2716
14390	TF	IMSA	,FXZ	05274	26	C2575	C2815
14400	TF	*+30	,IMSAPP ,* ALIGN DECIMAL PCINTS	05286	26	C5316	C3298
14410	S	*+18	,FAC	05298	22	C5316	C2492
14420	A	DUMMY	,FAC-2	05310	21	99999	C249C
14430	TF	FAC	,IMSA	05322	26	C2492	C2575
14440	B	MU		05334	49	C3712	CCCCC
14450	DORG	*-4		05341			
14460	IGON3	B	WRT 12 , ,1	05342	4R	C47C2	CC0CC
14470	DORG	*-4		05349			
14480	MASK1	DAC	11,0C0000CCCC' COCCCCCCCC'	05351		11 X	2
14490	DORG	ORCCC		080CC			
14500	38	A5	,0C702	080CC	38	C8032	CC7C2
14510	36	A5	,CC703	08C12	36	C8C32	CC7C3
14520	B	*+22		08C24	49	C8C46	CC0CC
14530	DORG	*-3		08C32			
14540	A5	DSC	9,019475016	08C32			9
14550	CSA	FIX		08C45		5 X	1
14560	TRA			08C45		-3854	
				08C46	36	CCCCC	CC5CC

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14570	TCC	ORCCC		08C58	49	CCCCC	CCCCC
14580	*****	1620 FCRTAN II-D EF-HTYPE	FCRMT	08CCC			
14590	*****	1620 FCRTAN II-C EF-HTYPE	FCRMT - SECONDARY LINKAGE				
14600	DORG	START		03851			
14610	CS	3		03893		3	
14620	TFM	FMCN+11	,*-START	03894	16	07765	-00C3
14630	CC	2	,7 ,*-3	03862		2	
	-7						
14640	B	FMCN		03866	49	C7754	CC0CC
14650	TFM	FMCN+11	,*-START	03878	16	07765	-0027
14660	CC	2	,1 ,*-3	03886		2	
	-1						
14670	B	FMCN		03890	49	C7754	CC0CC
14680	TFM	FMCN+11	,*-START	03902	16	07765	-0051
14690	CC	2	,1 ,*-3	0391C		2	
	-1						
14700	B	FMCN		03914	49	C7754	CC0CC
14710	TFM	FMCN+11	,*-START	03926	16	07765	-0075
14720	CC	2	,1 ,*-3	03934		2	
	-1						
14730	B	FMCN		03938	49	C7754	CC0CC
14740	TFM	FMCN+11	,*-START	03950	16	07765	-0099
14750	CC	2	,1 ,*-3	03958		2	
	-1						
14760	B	FMCN		03962	49	C7754	CC0CC
14770	TFM	FMCN+11	,*-START	03974	16	07765	-0123
14780	CC	2	,1 ,*-3	03982		2	
	-1						
14790	B	FMCN		03986	49	C7754	CC0CC
14800	TFM	FMCN+11	,*-START	03998	16	07765	-C147
14810	CC	2	,1 ,*-3	04C06		2	
	-1						
14820	B	FMCN		04C10	49	C7754	CC0CC
14830	DORG	*-1		04C20			
14840	TFM	FMCN+11	,*-START	04C20	16	07765	-C169
14850	CC	2	,1 ,*-3	04C28		2	
	-1						
14860	B	FMCN	,0	04C32	49	C7754	C-CCC
14870	DORG	*-1		04C42			
14880	TFM	FMCN+11	,*-START	04C42	16	07765	-C191
14890	CC	2	,3 ,*-3	04C50		2	
	-3						
14900	B	FMCN		04C54	49	C7754	CC0CC
14910	TFM	FMCN+11	,*-START	04C66	16	07765	-C215
14920	CC	2	,1 ,*-3	04C74		2	
	-1						
14930	B	FMCN		04C78	49	C7754	CC0CC
14940	TFM	FMCN+11	,*-START	04C90	16	07765	-C239
14950	CC	2	,1 ,*-3	04C98		2	
	-1						
14960	B	FMCN		041C2	49	C7754	CC0CC
14970	TFM	FMCN+11	,*-START	04114	16	07765	-C269
14980	CC	2	,1 ,*-3	04122		2	
	-1						

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14990	B	FMCN			04126	49	C7754	CCOCC
15000	TFM	FMCN+11	,*-START		04138	16	C7765	-C287
15010	CC	2	,1	,*-3	04146		2	
	-1							
15020	B	FMCN			04150	49	C7754	CCCC
15030	TFM	FMCN+11	,*-START		04162	16	C7765	-0311
15040	DC	2	,1	,*-3	04170		2	
	-1							
15050	B	FMCN			04174	49	C7754	CCCC
15060	TFM	FMCN+11	,*-START		04186	16	C7765	-C335
15070	DC	2	,1	,*-3	04194		2	
	-1							
15080	B	FMCN			04198	49	C7754	CCCC
15090	TFM	FMCN+11	,*-START		04210	16	C7765	-C339
15100	CC	2	,1	,*-3	04218		2	
	-1							
15110	B	FMCN			04222	49	C7754	CCOCC
15120	TFM	FMCN+11	,*-START		04234	16	C7765	-C383
15130	DC	2	,1	,*-3	04242		2	
	-1							
15140	B	FMCN			04246	49	C7754	CCOCC
15150	TFM	FMCN+11	,*-START		04258	16	C7765	-C4C7
15160	DC	2	,1	,*-3	04266		2	
	-1							
15170	B	FMCN			04270	49	C7754	COOCC
15180	****		WRITE ALPHAMERIC					
15190	TF	SWF	,WATY-1		04282	26	C5965	C4281
15200	B	WATY1			04294	49	C5538	CCOCC
15210	TF	SWF	,WAPT-1		04306	26	C5969	C4305
15220	B	WAPT1			04318	49	C5558	CCOCC
15230	TF	SWF	,WACD-1		04330	26	C5965	C4329
15240	B	WACD1			04342	49	C561C	CCOCC
15250	TF	SWF	,PRA-1		04354	26	C5965	C4353
15260	B	PRA1			04366	45	C5578	CCOCC
15270	****		READ ALPHAMERIC					
15280	TF	SWF	,RATY-1		04378	26	C5965	C4377
15290	B	RATY1			04390	49	C597C	CCOCC
15300	TF	SWF	,RAPT-1		04402	26	C5965	C44C1
15310	B	RAPT1			04414	49	C599C	CCOCC
15320	EF2Sw	CS	5	,*	04425		5	
15330	TF	SWF	,RACD-1		04426	26	C5969	C4425
15340	B	RACD1		,*	04438	49	C6C1C	C-CCC
15350	DORG	*-1			04448			
15360	TFM	FMCN+11	,*-START		04448	16	C7765	-C597
15370	CC	2	,3	,*-3	04456		2	
	-3							
15380	B	FMCN		,*	04460	49	C7754	C-CCC
15390	DORG	*-1			04470			
15400	TFM	FMCN+11	,*-START		04470	16	C7765	-0619
15410	CC	2	,4	,*-3	04478		2	
	-4							
15420	B	FMCN		,*	04482	49	C7754	C-CCC
15430	DORG	*-1			04492			
15440	TFM	FMCN+11	,*-START		04492	16	C7765	-C641
15450	DC	2	,7	,*-3	04500		2	
	-7							

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15460	B	FMCN		,*	04504	49	C7754	C-CCC
15470	DORG	*-1			04514			
15480	TFM	FMCN+11	,*-START		04514	16	C7765	-0663
15490	CC	2	,8	,*-3	04522		2	
	-8							
15500	B	FMCN		,*	04526	49	C7754	C-CCC
15510	DORG	*-1			04536			
15520	TFM	FMCN+11	,*-START		04536	16	C7765	-C685
15530	DC	2	,7	,*-3	04544		2	
	-7							
15540	B	FMCN		,*	04548	49	C7754	C-CCC
15550	DORG	*-1			04558			
15560	****		MACRC FOR F TYPE READ AND WRITE					
15570	FTYPE	CF	RWEFSw		04558	33	C6C61	CCOCC
15580	B	EF CCP		,*	04570	49	04624	C-CCC
15590	DORG	*-1			04580			
15600	****		MACRC FOR E TYPE READ AND WRITE					
15610	Etype	SF	RWEFSw		04580	32	C6C61	CCOCC
15620	B	EFCCP		,*	04592	49	04624	C-CCC
15630	DORG	*-1			04602			
15640	Htype	AM	SWF	,3	04602	11	C5965	-CCC3
15650	B	HTYPE1		,*	04614	49	C5248	C-CCC
15660	DORG	*-1			04624			
15670	*****		1620 FORTRAN II-C EF-HTYPE FORPAT - SUBROUTINES					
15680	EFCOM	AM	SWF	,3	04624	11	C5965	-CCC3
15690	TF	WIDTH	,SWF	,11	04636	26	C5755	C596R
15700	AM	SWF	,2		04648	11	C5965	-COC2
15710	TF	LOC D	,SWF	,11	04660	26	C568C	C596R
15720	TF	INPLUS	,LAST		04672	26	C6C53	C582C
15730	TF	WIDTH 2	,WIDTH		04684	26	C6C64	C5799
15740	A	WIDTH 2	,WIDTH		04696	21	C6C64	C5799
15750	A	LAST	,WIDTH2		04708	21	C582C	C6C64
15760	C	LAST	,MAX 2		04720	24	C582C	C6145
15770	BM	ER F9			04732	46	C731C	C11CC
15780	TF	TERM	,LAST		04744	26	C7C93	C582C
15790	SM	TERM	,2		04756	12	C7C93	-COC2
15800	TF	CHAR	,WIDTH		04768	26	C61CC	C5799
15810	TF	WA	,FNH		04780	26	C7241	C3313
15820	TDM	97	,0		04792	15	CC097	COOCC
15830	TFM	99	,CC	,10	04804	16	CC095	CCC-C
15840	BD	EF WRT	,RWEFSw		04816	43	C5C84	C6C61
15850	TF	FAC	,FLZALP	,11	04828	26	C2492	C334C
15860	TFM	SWCADJ	,READ EF		04840	16	C6152	-4492
15870	RDFCM1	BNR	RDFCM1	,INPLUS	04852	45	04884	C605L
15880	TFM	EF2Sw	,ERRPTE		04864	16	C4425	-5396
15890	B7	BEF2Sw			04876	49	C544C	
15900	RDFCM1	CM	INPLUS	,0C	04888	14	C6C5L	COO-0
15910	BNE	FCM NB		,610, ELIPINATE LEADING BLANKS	04896	47	0497E	C12CC
15920	SM	CHAR	,1	,10	04908	12	C61CC	CCC-1
15930	AM	INPLUS	,2		04920	11	C6C53	-COC2
15940	C	INPLUS	,LAST		04932	24	C6C53	C582C
15950	BL	RD FCM			04944	47	04852	C13CC
15960	TFM	EF2Sw	,EFEND*12		04956	16	04425	-5284
15970	B	BEF2Sw			04968	49	C544C	CCOCC
15980	DORG	*-4			04979			
15990	FCMNB	CM	INPLUS	,2C	04976	14	C6C5L	CCOCC

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17C20	CM	INPLLS	,1C	,010		04084	14	C6C5L	CCCJC
17C30	BE	E EXP				04096	46	C5CCC	C12CC
17C40	EEXP22	BD	+24	,97		04098	43	04932	CC097
17C50	SM	CHAR	,1	,9		04920	12	C61CC	CO-C1
17C60	C	INPLLS	,TERM			04932	24	C6C53	C7C93
17C70	BNL	EEXPAD-12				04944	46	C5C56	C13CC
17C80	TD	EXP-1	,INPLLS	,11		04956	25	0480E	C6C5L
17C90	AM	INPLLS	,2			04968	11	C6C53	-C0C2
17100	B	EEXP22+12				0458C	49	0492C	CC0CC
17110	DORG	+4				04587			
17120	EEXP	TDM	E EXPAC+1,2			04988	15	C5C65	CC0C2
17130	AM	INPLUS	,2			05000	11	C6C53	-C0C2
17140	SM	CHAR	,1	,10		05C12	12	C61CC	CC-1
17150	C	INPLLS	,TERM			05C24	24	C6C53	C7C93
17160	BNH	EEXP2				05C36	47	0486C	C11CC
17170	B7	ERRF7E				05048	49	C5396	
17180	TD	EXP	,INPLLS	,11		05C56	25	0480C	C605L
17190	EEXPAC	A	CHAR	,EXP		05C6P	21	C61CC	C48C9
17200	B	EF END				05C8C	49	05272	CC0CC
17210	CORG	+4				05087			
17220	LCGDIG	BNF	EF DIG	,98		05088	44	C5188	CCC98
17230	SM	CHAR	,1	,10		051CC	12	C61CC	CC-1
17240	B	EF TERM				05112	49	0524E	CC0CC
17250	DORG	+4				05119			
17260	EFDEC	BD	ERRF7 E	,97		05120	43	C5396	CCC97
17270	TFM	LOC D	,CC	,10		05132	16	C568C	CC-C
17280	TFM	EFTERM+18,EF PLS				05144	16	05266	-4668
17290	TDM	97	,-1			05156	15	00G97	CC00J
17300	SM	CHAR	,1	,10		0516P	12	C61CC	CC-1
17310	B	EF TERM				0518C	49	0524E	CC0CC
17320	DORG	+4				05187			
17330	EFDIG	CF	98			05188	33	00C9E	CC0CC
17340	CM	WA	,FAC-1			052C0	14	07241	-2491
17350	BNL	+36		,, TRUNCATES LCM ORDER DIGITS		05212	46	0524E	C13CC
17360	TD	WA	,INPLLS	,011		05224	25	0724J	C6C5L
17370	AM	WA	,1			05236	11	07241	-00C1
17380	EFTERM	C	INPLLS	,TERM		05248	24	C6053	C7C93
17390	BL	EFTYPE				0526C	47	0468C	C13CC
17400	EFEND	BNF	EFEND2	,FNH	,11, ZERO CHECK	05272	44	05304	C331L
17410	TFM	FAC	,99	,1011		05284	16	C2492	GCGRR
17420	B	SWL				05296	49	06C42	CC0CC
17430	DORG	+3				05304			
17440	EFEND2	S	CHAR	,LCC D		05304	22	C61CC	C568C
17450	BD	ERR F7E	,CHAR-2			05316	43	C5396	C6058
17460	SF	CHAR-1				05328	32	C6C95	CC0CC
17470	TF	FAC	,CHAR			0534C	26	C2492	C61CC
17480	SF	FNH	,	,6		05352	32	C331L	CC0CC
17490	BNF	SWL	,99			05364	44	C6C42	CC059
17500	SF	FAC-2				05376	32	C249C	CC0CC
17510	B	SWL				05388	49	C6C42	CC0CC
17520	DORG	+4				05395			
17530	ERRF7E	TF	FAC	,FLZALP	,11, F PLUS 2 ZEROS TO FAC	05396	26	C2492	C334C
17540	TDM	E1	,7	,11, SET ER F7 INDICATION SWITCH		05408	15	C2615	CC0CC
17550	B	EFEND				05420	49	05272	CC0CC
17560	DORG	+4				05427			
17570	MRC	SM	WIDTH 2	,2	,10, REAC F PRCP IC REC TC FORMAT RECCRD	05428	12	C6C64	CC-2

17580	BL	BSWF				0544C	47	C5934	C13CC
17590	AM	SWF	,2			05452	11	C5965	-C0C2
17600	TF	SWF	,INPLUS	,011		05464	26	C596R	C6C5L
17610	AM	INPLLS	,2			05476	11	C6C53	-C0C2
17620	B	MRC				05488	49	0542E	CC0CC
17630	DORG	+4				05495			
17640	DRRC	ORCCC				08CCC			
17650	38	A7	,CC702			08CCC	38	C8C32	CCTC2
17660	36	A7	,CC703			08C12	36	C8C32	CCTC3
17670	B	+22				08C24	49	08C4E	CC0CC
17680	DORG	+3				08C32			
17690	A7	DSC	9,C1950BC1C			08C32			
17700	USA	FTYPE				08C45		5 X	1
17710	TRA					08C45		-4558	
17720	TCD	ORCCC				08C46	36	CC0CC	CC50C
						08C98	49	CC0CC	CC0CC
						08CCC			
17730	*****	1620 FORTRAN II-D RAEF-ATYPE FORPAT							
17740	*****	1620 FORTRAN II-D RAEF-ATYPE FORPAT - SECCNDARY LINKAGE							
17750	DORG	START				C3851			
17760	DS	3				03853		3	
17770	CM	FAC	,CC	,10, IS CHAR POSITIVE		03854	14	C2492	CC0-C
17780	B	EFFIX				03866	49	04734	CC0CC
17790	TFM	FMCN+11	,-START			03878	16	07765	-CC27
17800	DC	2	,1	,-3		03886		2	
	-1								
17810	B	FMON				0389C	49	C7754	CC0CC
17820	TFM	FMCN+11	,-START			039C2	16	07765	-CC51
17830	DC	2	,1	,-3		0391C		2	
	-1								
17840	B	FMON				03914	49	C7754	CC0CC
17850	TFM	FMCN+11	,-START			03926	16	07765	-CC75
17860	DC	2	,1	,-3		03934		2	
	-1								
17870	B	FMON				03938	49	C7754	CC0CC
17880	TFM	FMCN+11	,-START			03950	16	07765	-CC99
17890	DC	2	,1	,-3		03958		2	
	-1								
17900	B	FMON				03962	49	C7754	CC0CC
17910	TFM	FMCN+11	,-START			03974	16	07765	-C123
17920	DC	2	,1	,-3		03982		2	
	-1								
17930	B	FMON				03986	49	C7754	CC0CC
17940	TFM	FMCN+11	,-START			03998	16	07765	-C147
17950	DC	2	,1	,-3		04006		2	
	-1								
17960	B	FMON				0401C	49	C7754	CC0CC
17970	DORG	+1				04020			
17980	TFM	FMCN+11	,-START			0402C	16	07765	-C169
17990	DC	2	,1	,-3		04028		2	
	-1								
18000	B	FMON		,8		04032	49	C7754	C-0CC
18010	DORG	+1				04042			

18020	TFM	FMCN+11	,0-START		04042	16	C7765	-C191
18030	DC	2	,3	,0-3	04030	2		
	B	FMCN			04054	49	C7754	CC0CC
18040	TFM	FMCN+11	,0-START		04066	16	C7765	-C215
18050	DC	2	,1	,0-3	04074	2		
18060	B	FMCN			04078	49	C7754	CC0CC
18070	TFM	FMCN+11	,0-START		04090	16	C7765	-C239
18080	DC	2	,1	,0-3	04098	2		
18090	B	FMCN			04102	49	C7754	CC0CC
18100	TFM	FMCN+11	,0-START		04114	16	C7765	-C263
18110	DC	2	,1	,0-3	04122	2		
18120	B	FMCN			04126	49	C7754	CC0CC
18130	TFM	FMCN+11	,0-START		04138	16	C7765	-C287
18140	DC	2	,1	,0-3	04146	2		
18150	B	FMCN			04150	49	C7754	CC0CC
18160	TFM	FMCN+11	,0-START		04162	16	C7765	-C311
18170	DC	2	,1	,0-3	04170	2		
18180	B	FMCN			04174	49	C7754	CC0CC
18190	TFM	FMCN+11	,0-START		04186	16	C7765	-C335
18200	DC	2	,1	,0-3	04194	2		
18210	B	FMCN			04198	49	C7754	CC0CC
18220	TFM	FMCN+11	,0-START		04210	16	C7765	-C359
18230	DC	2	,1	,0-3	04218	2		
18240	B	FMCN			04222	49	C7754	CC0CC
18250	TFM	FMCN+11	,0-START		04234	16	C7765	-C383
18260	DC	2	,1	,0-3	04242	2		
18270	B	FMCN			04246	49	C7754	CC0CC
18280	TFM	FMCN+11	,0-START		04258	16	C7765	-C407
18290	DC	2	,1	,0-3	04266	2		
18300	B	FMCN			04270	49	C7754	CC0CC
18310	TFM	FMCN+11	,0-START		04282	26	C5965	C4281
18320	DC	2	,3	,0-3	04294	49	C5938	CC0CC
18330	B	FMCN			04306	26	C5965	C4305
18340	TFM	FMCN+11	,0-START		04318	49	C5958	CC0CC
18350	DC	2	,1	,0-3	04330	26	C5965	C4329
18360	B	FMCN			04342	49	C5610	CC000
18370	TFM	FMCN+11	,0-START		04354	26	C5965	C4353
18380	DC	2	,1	,0-3	04366	49	C5978	CC0CC
18390	B	FMCN			04378	26	C5969	C4377
18400	TFM	FMCN+11	,0-START		04390	49	C5670	CC0CC
18410	DC	2	,1	,0-3	04402	26	C5965	C4401
18420	B	FMCN			04414	49	C5950	CC0CC
18430	TFM	FMCN+11	,0-START		04426	26	C5969	C4425
18440	DC	2	,1	,0-3	04438	49	C6100	C-0CC
18450	B	FMCN						
18460	TFM	FMCN+11	,0-START					
18470	DC	2	,1	,0-3				

18480	DORG	+1			04448			
18490	TFM	FMCN+11	,0-START		04448	16	C7765	-C597
18500	DC	2	,3	,0-3	04456	2		
	B	FMCN			04460	49	C7754	C-0CC
18510	DORG	+1			04470			
18520	TFM	FMCN+11	,0-START		04470	16	C7765	-C619
18530	DC	2	,4	,0-3	04478	2		
18540	B	FMCN			04482	49	C7754	C-0CC
18550	DORG	+1			04492			
18560	REACEF	DNF	EF RD2+12,LCC		04492	44	C4666	C6089
18570	B	FMCN			04504	49	04622	C-0CC
18580	DORG	+1			04514			
18590	TFM	FMCN+11	,0-START		04514	16	C7765	-C663
18600	DC	2	,0	,0-3	04522	2		
18610	B	FMCN			04526	49	C7754	C-0CC
18620	DORG	+1			04536			
18630	ATYPER	AM	SWF	,3	04536	11	C5969	-CC03
18640	B	FMCN			04548	49	04946	C-0CC
18650	DORG	+1			04558			
18660	TFM	FMCN+11	,0-START		04558	16	C7765	-C707
18670	DC	2	,5	,0-3	04566	2		
18680	B	FMCN			04570	49	C7754	C-0CC
18690	DORG	+1			04580			
18700	TFM	FMCN+11	,0-START		04580	16	C7765	-0729
18710	DC	2	,5	,0-3	04588	2		
18720	B	FMCN			04592	49	C7754	C-0CC
18730	DORG	+1			04602			
18740	TFM	FMCN+11	,0-START		04602	16	C7765	-0751
18750	DC	2	,5	,0-3	04610	2		
18760	B	FMCN			04614	49	C7754	CC0CC
18770	DORG	+1			04621			
18780	*****							
18790	1628	FORTRAN II-D	RAEF-ATYPER	FORPAT - SUBROUTINES				
18800	EFRD1	CF	LOC		04622	33	C6085	CC0CC
18810	TF	FIXEND+6	,1	CON 5+6	04634	26	C3764	C4944
18820	B	FMCN			04646	49	C3954	CC0CC
18830	DORG	+4			04653			
18840	EFRD2	TDH	FIXEND+1	,2	04654	15	03761	CC0CC
18850	TF	LOC	,FAC	,0	04666	26	C6088	C2492
18860	SM	LOC	,2		04678	12	C6089	-00C2
18870	TF	LOC	,FAC-2	,0	04690	26	C6088	C2490
18880	ERF75	DNF	DSHF-12	,01	04702	44	C5922	C2615
18890	CF	SI			04714	33	02615	00000
18900	B	ERCON2			04726	49	07386	00000
18910	DORG	+4			04733			
18920	EFFIX	SP	+032		04734	46	04766	C1100
18930	TF	PAC	,FHZ		04746	26	C2492	C2615
18940	B	FMCN			04758	49	03760	CC000
18950	DORG	+3			04766			
18960	TD	NU-1	,FAC-2		04766	25	03711	C2490
18970	C	PAC	,K		04778	26	C2492	02221

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18980	BNI	++56			0479C	47	C484E	C11CC	
18990	TDM	FXERR+25	,1	..	SET ERR TYPE	048C2	15	C37C1	
19000	TFM	EI	,579	,9,	SET ER E9, CVFL IN FIX	04814	16	C2615	
19010	TF	FAC	,FX9	..	YES, FAC = FX9	04826	26	C2492	
19020	B	FXERR				04838	49	C367E	
19030	DORG	+-3				04846			
19040	CF	FAC-2				04846	33	C249C	
19050	TF	BETA	,ZERO-51	..	CLEAR ACC AREA	04858	26	C26C3	
19060	TF	IMSA	,FXZ			0487C	26	C2575	
19070	TF	++3C	,IPSAF	..	ALIGN DECIMAL POINTS	C4882	26	C4912	
19080	S	++18	,FAC			04894	22	C4912	
19090	A	DUMMY	,FAC-2			04906	21	99995	
19100	TF	FAC	,IPSA			04918	26	C2452	
19110	B	MU				04930	49	C3712	
19120	DORG	+-4				04937			
19130	ICONS	B	EFWD 2	,	.1	04938	4R	C4654	
19140	DORG	+-4				04945			
19150	*****		MACRC FOR A TYPE READ AND WRITE						
19160	ATYPE1	TF	WIDTH 2	,SWF	.11	04946	26	C6C64	
19170	TF	INPLLS	,LAST			04958	26	C6C53	
19180	A	LAST	,WIDTH 2			0497C	21	C582C	
19190	C	LAST	,MAX 2			04982	24	C582C	
19200	BH	ER F9				04994	46	C731C	
19210	TF	TERM	,LAST			C5006	26	C7093	
19220	SM	TERM	,2			C5018	12	C7053	
19230	TFM	SMC ADJ	,WRITE A			C5030	16	C6152	
19240	BD	SM	,Rb EF SM			05042	43	C6C42	
19250	TFM	SMC ADJ	,READ A			05054	16	C6152	
19260	B	SM				05066	49	C6C42	
19270	DORG	+-4				C5073			
19280	READA	CF	INPLUS	,	.6	05074	33	C6C5L	
19290	AM	INPLLS	,1		.10	05086	11	C6C53	
19300	C	INPLLS	,TERM			05098	24	C6C53	
19310	BL	READ A				05110	47	C5074	
19320	BNF	RDAFL	,LCC			C5122	44	C5234	
19330	CF	LOC				05134	33	C6C85	
19340	TF	LOC	,FXZ	.6		05146	26	C6C8R	
19350	S	WIDTH 2	,K			05158	22	C6C64	
19360	RUA	BH	ERF7A			05170	46	C5214	
19370	A	LOC	,WIDTH 2			05182	21	C6C85	
19380	TF	LOC	,TERM	.611		05194	26	C6C8R	
19390	B	ERF7S				05206	49	047C2	
19400	DORG	+-4				05213			
19410	ERF7A	TDM	EI	,7	.11,	SET ER F7 ERROR INC AND SWITCH	05214	15	C2615
19420	B	ERF7S				05226	49	047C2	
19430	DORG	+-4				05233			
19440	RCAFL	TFM	LOC	,CC	.610	05234	16	C6C8R	
19450	SM	LOC	,2		.10	05246	12	C6C85	
19460	TF	LOC	,FLZ	.611		05258	26	C6C8R	
19470	S	WIDTH 2	,F			05270	22	C6C64	
19480	B	RD A				05282	49	C517C	
19490	DORG	+-4				05289			
19500	WRITEA	TF	FAC	,LCC	.11	05290	26	C2452	
19510	BNF	WA FX	,FAC-1			05302	44	C54C2	
19520	SM	LOC	,2			05314	12	C6C85	
19530	S	WIDTH 2	,F			05326	22	C6C64	

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19540	WRTA	BH	WRTA 2			05338	46	C5382
19550	A	LOC	,WIDTH 2			05350	21	C6C85
19560	TF	TERM	,LCC	.611		05362	26	C705L
19570	B	BSWF				05374	49	C5934
19580	DORG	+-4				05381		
19590	WRTA2	SM	WIDTH 2	,C2	.10	05382	12	C6C64
19600	B	WRTA				C5394	49	C533E
19610	DORG	+-4				05401		
19620	WAFX	S	WIDTH 2	,K		05402	22	C6C64
19630	B	WRT A				C5414	49	C533E
19640	DORG	+-4				05421		
19650	DORG	ORCCC				08000		
19660	38	AB	,OC702			08000	38	C8C32
19670	36	AB	,CC703			08012	36	C8C32
19680	B	++22				C8024	49	C8C4E
19690	DORG	+-3				08032		
19700	AB	CSC	9,C19518016			08032		5
			C19518016					
19710	CSA	FIX				08045		5 X 1
						08045		-3854
19720	TRA					C8C46	36	CCCCC
						C8C58	49	CCCCC
19730	TCC	ORCCC				08000		
19740	*****		1620 FCRTAN II-C EFM FCMPAT					
19750	*****		1620 FCRTAN II-C EFM FCMPAT - SECONDARY LINKAGE					
19760	DORG	START				03851		
19770	DS	3				03853		3
19780	TFM	FMCN+11	,--START			03854	16	C7765
19790	CC	2	,7	,-3		C3862		2
19800	B	FMCN				03866	45	C7754
19810	TFM	FMCN+11	,--START			03878	16	C7765
19820	CC	2	,1	,-3		03886		2
19830	B	FMCN				03890	49	C7754
19840	TFM	FMCN+11	,--START			03902	16	C7765
19850	CC	2	,1	,-3		03910		2
19860	B	FMCN				C3914	49	C7754
19870	TFM	FMCN+11	,--START			03926	16	C7765
19880	CC	2	,1	,-3		03934		2
19890	B	FMCN				03938	49	C7754
19900	TFM	FMCN+11	,--START			03950	16	C7765
19910	CC	2	,1	,-3		03958		2
19920	B	FMCN				03962	49	C7754
19930	TFM	FMCN+11	,--START			03974	16	C7765
19940	CC	2	,1	,-3		03982		2
19950	B	FMCN				03986	49	C7754
19960	TFM	FMCN+11	,--START			03998	16	C7765
19970	CC	2	,1	,-3		04006		2

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19980	B	FMCN			04C1C	49	C7754	CCCC
19990	DORG	=-1			04C20			
20000	TFM	FMCN+11	,0-START		04C20	16	C7765	-C169
20010	DC	2	,3	,0-3	04C28		2	
	-3							
20020	B	FMCN	,	,0	04C32	49	C7754	C-00C
20030	DORG	=-1			04C42			
20040	TFM	FMCN+11	,0-START		04C42	16	C7765	-C191
20050	DC	2	,1	,0-3	04C50		2	
	-1							
20060	B	FMCN			04C54	49	C7754	CCCC
20070	TFM	FMCN+11	,0-START		04C66	16	C7765	-C215
20080	DC	2	,1	,0-3	04C74		2	
	-1							
20090	B	FMCN			04C78	49	C7754	CCCC
20100	TFM	FMCN+11	,0-START		04C9C	16	C7765	-C239
20110	DC	2	,1	,0-3	04C98		2	
	-1							
20120	B	FMCN			041C2	49	C7754	CCCC
20130	TFM	FMCN+11	,0-START		04114	16	C7765	-C263
20140	DC	2	,1	,0-3	04122		2	
	-1							
20150	B	FMCN			04126	49	C7754	CCCC
20160	TFM	FMCN+11	,0-START		04138	16	C7765	-C287
20170	DC	2	,1	,0-3	04146		2	
	-1							
20180	B	FMCN			04150	49	C7754	CCCC
20190	TFM	FMCN+11	,0-START		04162	16	C7765	-C311
20200	DC	2	,1	,0-3	04170		2	
	-1							
20210	B	FMCN			04174	49	C7754	CCCC
20220	TFM	FMCN+11	,0-START		04186	16	C7765	-C335
20230	DC	2	,1	,0-3	04194		2	
	-1							
20240	B	FMCN			04198	49	C7754	CCCC
20250	TFM	FMCN+11	,0-START		0421C	16	C7765	-C355
20260	DC	2	,1	,0-3	04218		2	
	-1							
20270	B	FMCN			04222	49	C7754	CCCC
20280	TFM	FMCN+11	,0-START		04234	16	C7765	-C383
20290	DC	2	,1	,0-3	04242		2	
	-1							
20300	B	FMCN			04246	49	C7754	CCCC
20310	TFM	FMCN+11	,0-START		04258	16	C7765	-C407
20320	DC	2	,1	,0-3	04266		2	
	-1							
20330	B	FMCN			0427C	49	C7754	CCCC
20340	****		WRITE ALPHAMERIC					
20350	TF	SWF	,WATY-1		04282	26	C5965	C4281
20360	B	WATY1			04294	49	C5538	CCCC
20370	TF	SWF	,WAPT-1		04306	26	C5965	C4305
20380	B	WAPT1			04318	49	C5558	CCCC
20390	TF	SWF	,WACD-1		04330	26	C5965	C4329
20400	B	WACD1			04342	49	C561C	CCCC
20410	TF	SWF	,PRA-1		04354	26	C5965	C4353
20420	B	PRA1			04366	49	C5578	CCCC

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20430	****		READ ALPHAMERIC					
20440	TF	SWF	,RATY-1		04378	26	C5965	C4377
20450	B	RATY1			04390	49	C597C	C00CC
20460	TF	SWF	,RAPT-1		04402	26	C5965	C44C1
20470	B	RAPT1			04414	49	C599C	CCCC
20480	TF	SWF	,RACD-1		04426	26	C5965	C4425
20490	B	RACD1	,	,0	04438	49	C6C1C	C-00C
20500	DORG	=-1			04448			
20510	TFM	FMCN+11	,0-START		04448	16	C7765	-C597
20520	DC	2	,3	,0-3	04456		2	
	-3							
20530	B	FMCN	,	,0	04460	49	C7754	C-00C
20540	DORG	=-1			0447C			
20550	TFM	FMCN+11	,0-START		0447C	16	C7765	-C619
20560	DC	2	,4	,0-3	04478		2	
	-4							
20570	B	FMCN	,	,0	04482	49	C7754	C-00C
20580	DORG	=-1			04492			
20590	TFM	FMCN+11	,0-START		04492	16	C7765	-0641
20600	DC	2	,7	,0-3	04500		2	
	-7							
20610	B	FMCN	,	,0	04504	49	C7754	C-00C
20620	DORG	=-1			04514			
20630	EFM#	FLTEND	,ICCN6*6		04514	26	C381C	C55C4
20640	B	EFM#1	,	,0	04526	49	04626	C-00C
20650	DORG	=-1			04536			
20660	TFM	FMCN+11	,0-START		04536	16	07765	-C685
20670	DC	2	,7	,0-3	04544		2	
	-7							
20680	B	FMCN	,	,0	04548	49	C7754	C-00C
20690	DORG	=-1			04558			
20700	TFM	FMCN+11	,0-START		04558	16	C7765	-C707
20710	DC	2	,5	,0-3	04566		2	
	-5							
20720	B	FMCN	,	,0	04570	49	C7754	C-00C
20730	DORG	=-1			04580			
20740	TFM	FMCN+11	,0-START		04580	16	C7765	-C729
20750	DC	2	,5	,0-3	04588		2	
	-5							
20760	B	FMCN	,	,0	04592	49	C7754	C-00C
20770	DORG	=-1			04602			
20780	TFM	FMCN+11	,0-START		04602	16	C7765	-0751
20790	DC	2	,5	,0-3	04610		2	
	-5							
20800	B	FMCN			04614	49	C7754	CCCC
20810	REFSH	DS	5	,#	04625		5	
20820	*****		1620 FORTRAN II-D EFM# FORMAT - SUBROUTINES					
20830	*****		E AND F TYPE MANTISSA WRITING.FLOAT ARG IF REQ.					
20840	*****		COMPUTE DEC PT IN GAM AND OUTPUT RECORD. MOVE					
20850	*****		MANTISSA DIGIT BY DIGIT, RIGHT TO LEFT. FROM FAC					
20860	*****		TO GAM. INSERT SIGN, CHECK WIDTH, AND ZERO.					
20870	*****		OR TO WRT F FOR F TYPE CONTINUATION					
20880	EFM#1	TF	FAC	,LCC	04626	26	C2492	C608R
20890		BNF	E FLOAT	,FAC-1	04638	44	C5198	C2491
20900		SN	LOC	,2	04650	12	C6C89	-C0C2
20910		TF	FAC-2	,LCC	04662	26	C249C	C608R

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20920	EFALPH	TFM	FLYEND-4	,2C	,10	04674	16	0380E	C00KC
20930		TF	DPT	,TERM		04686	26	C7445	C7C53
20940		S	DPT	,LCC D 2		04698	22	C7445	C5678
20950		TFM	DPC	,GAP		04710	16	C6C84	-2555
20960		S	DPC	,LCC D 2		04722	22	C6C84	C5678
20970		TF	DPTM2	,DPT		04734	26	C745C	C7445
20980		SM	DPTM2	,2		04746	12	C745C	-CC22
20990	EFALP	SM	WA 2	,1		04758	12	C7352	-CC01
21000		TD	WA	,WA2	,611	04770	25	C724J	C739K
21010		CF	WA	,	,6	04782	33	C724J	CCCC
21020		SM	WA	,2		04794	12	C7241	-CC22
21030		C	WA2	,FP1MF		04806	24	C7352	C3313
21040		BM	EF ALP			04818	46	C475E	C11CC
21050		TFM	WA	,CC	,610	04830	16	C724J	CCC-C
21060		BNF	EF CHKS	,FAC-2		04842	44	C486E	C249C
21070		TFM	WA	,2C	,610	04854	16	C724J	CC0KC
21080	EFCHKS	TFM	CKW	,CCC	,9	04866	16	C6981	CC-CC
21090		A	CKW	,LCCD		04878	21	C6981	C568C
21100		A	CKW	,FAC		04890	21	C6981	C2492
21110		TF	CHAR	,CKW		04902	26	C61CC	C6981
21120		S	CHAR	,F		04914	22	C61CC	C2219
21130		C	WIDTH	,LCC D		04926	24	C5795	C568C
21140		BNL	++32			04938	46	C497C	C13CC
21150	ERF8ES	TFM	REFSW	,ERF8E		04950	16	C4625	-529C
21160		B	BREFSW			04962	49	C55CE	CCCC
21170		DORG	--4			04974			
21180		CM	FAC	,-7C	,10	04986	14	C2492	CCCC
21190		BNF	++2C	,RbFFSW		04998	44	C3CC2	C60E1
21200		B7	++20			04994	49	C5C14	
21210		RL	++24			05002	47	C5C2E	C13CC
21220		BD	++36	,FAN	,11	05014	43	C5C5C	C331L
21230		TDM	FLYEND-4	,-1		05026	15	C380E	CC0CJ
21240		TFM	CHAR	,-C99	,9	05038	16	C61CC	CC-5R
21250		RNF	WRTEFS	,RbFFSW		05050	44	C3812	C6C61
21260	*****			WRITE E TYPE. ASSEMBLE EXP IN GAP USING A MASK,					
21270	*****			THE CHAR AND SIGN. MOVE LEFT GAP AND RIGHT GAP TO					
21280	*****			CUTPLT. THEN GC TO INSERT DECIMAL POINT					
21290	WRTE	S	WIDTH	,F		05062	22	C5795	C2219
21300		BL	++32		,9	05074	47	C51CC	C13CC
21310	WRTE2S	TFM	REFSW	,WRTE2		05086	16	C4625	-464E
21320		B	BREFSW			05098	49	C59CE	CCCC
21330		DORG	--4			05105			
21340		BD	++36	,FLYEND-4		05106	43	C5142	C380E
21350		S	CHAR	,WIDTH		05118	22	C61CC	C5795
21360		RD	ERF8ES	,CHAR-2		05130	43	C495C	C6C9F
21370		TFM	++47	,GAP		05142	16	C5185	-2555
21380		A	++35	,WIDTH		05154	21	C5185	C5795
21390		A	++23	,WIDTH		05166	21	C5185	C5795
21400		TF	GAP			05178	26	C2555	CCCC
21410		B	WRTE2S			05190	49	C5C8E	CCCC
21420		DORG	--4			05197			
21430	EFLCAT	AM	FAC	,CC	,10, IS FAC ZERC	05198	11	C2492	CC0-C
21440		BZ	ZERFAC	,	,, YES	05210	46	C3584	C12CC
21450		TD	99	,FAC	,, STCRE SIGN	05222	25	CC055	C2492
21460		CF	FAC			05234	33	C2492	CCCC
21470		TR	BETA-9	,FMH	,11	05246	31	C2594	C328L

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21480		TF	FAC-2	,9SPF-1	,, CLEAR FAC	05258	26	C249C	C2853
21490		TF	SAVE	,K	,, CHAR = K	05270	26	C2565	C2221
21500		TFM	++23	,BETA-9		05282	16	C53C5	-2554
21510		BD	++44	,DLPY	,, FIND HI CRC DIGIT	05294	43	C5338	59959
21520		SM	SAVE	,C1	,10, ADJUST CHAR	05306	12	C2565	CC0-1
21530		AM	--13	,C1		05318	11	C53C5	-CC01
21540		B	--36			05330	49	C5294	CCCC
21550		DORG	--3			05338			
21560		TR	FMH	,--33	,611	05338	31	C331L	C53CN
21570		TF	++35	,FMH	,, FIND AND CLEAR RECCRC MARK	05350	26	C5385	C3313
21580		AM	++23	,C1		05362	11	C5385	-CC01
21590		BNR	--12	,DLPY		05374	45	C5362	59959
21600		TDM	--1	,C	,6	05386	15	C5388	CCCC
21610		TD	FAC+1	,RECPK	,, REPLACE RECCRC MARK	05398	25	C2493	C24C3
21620		TF	BETA	,ZERC-74	,, CLEAR BETA	05410	26	C26C3	C2693
21630		B	ENCR60			05422	49	C5454	CCCC
21640		DORG	--3			05430			
21650	ENCR3E	TR	FMH	,FMH	,611, LEFT SHIFT ONCE	05430	31	C331L	C33CC
21660		TUP	FAC-1	,0	,, SET LAST DIGIT TO ZERC.	05442	15	C2491	CCCC
21670	ENDR6C	SF	FMH	,6		05454	32	C331L	CCCC
21680		BD	FINISH	,FMH	,611, TEST LEADING ZERC	05466	43	C38CL	C331L
21690		SM	SAVE	,1	,10, SUBT ONE FROM EXPONENT	05478	12	C2565	CC0-1
21700		B	ENCR36			05490	49	C543C	CCCC
21710		DORG	--4			05497			
21720	ICCN6	B	EF ALPH	,	,1	05498	48	C4674	CCCC
21730		DORG	--4			05505			
21740	BREFSW	TFM	HRASE+5	,HTYPE+24		05506	16	C7962	-462E
21750		TFM	FMCN+11	,HTYPE+24-START		05518	16	C7765	-C775
21760		CC	2	,9	,--3	05526			2
21770		B	FMCN			05530	49	C7754	CCCC
21780		DORG	--4			05537			
21790		TFM	MAX	,06C87		05538	16	C6922	-6C87
21800		DORG	ORCCC			08C00			
21810		38	A9	,0CT02		08C00	38	C8C32	C07C2
21820		36	A9	,CC703		08C12	36	C8C32	CC7C3
21830		B	++22			08C24	49	C8C4E	CCCC
21840		DORG	--3			08C32			
21850	A9	DSC	9,019534017			08C32			5
21860		DSA	FIX			08C45		5 X	1
21870		TRA				08C45		-3854	
21880		TCD	OBCCC			08C46	36	CCCC	CCCC
21890						08C58	49	CCCC	CCCC
21900	*****		1620 FCRTAN II-D	WRTE-F FCRTAN					
21910	*****		1620 FCRTAN II-D	WRTE-F FCRTAN - SUBROUTINES					
21920		DORG	HTYPE+24			04626			
21930		TFM	HRASE+5	,FIX		04626	16	C7962	-3854
21940		B	REFSW	,	,6	04638	49	C462N	CCCC
21950		DS	5	,REFSW	,	04625			5
21960		DORG	--4			04645			
21970	WRTE2	TR	GAM+1	,MASK		04646	31	C255E	C5445
21980		BD	ERF8E	,CHAR-2		04658	43	C525C	C6C58

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21980	TD	GAM+8	,CMAR	04670	25	C2563	C61CC
21990	TD	GAM+6	,CMAR-1	04682	25	C2561	C6C99
22000	BNF	**24	,CMAR	04694	44	04718	C61CC
22010	TDM	GAM+3	,2	04706	15	C2558	C00C2
22020	TF	TERM	,GAM+2 ,6	04710	26	C7C9L	C2557
22030	TR	DPT	,DPG ,611	04730	31	C744A	C6C8P
22040	B	WEF DEC		04742	49	C521E	CC0C0
22050	DORG	*-4		04749			
22060	*****		3 CASES FOR WRITING F TYPE,CMAR IS EXP-LCCC-F				
22070	*****		CHAR IS NEG, EXP IS NEG				
22080	*****		CHAR IS NEG, EXP IS POSITIVE (WRTFPE)				
22090	*****		CHAR IS POSITIVE (WRTFPC)				
22100	WRTF	TR	GAM+1 ,MASK EP+7	04750	31	C2556	C5453
22110	BD	F ZERC	,FLTEND-4	04762	43	C495E	C38C6
22120	ND	ER FB E	,CMAR-2	04774	43	C525C	C6C5E
22130	CM	CMW	,DCC ,9	04786	14	C6981	CC-CC
22140	BNM	F ZERO		04798	47	0499E	C11CC
22150	C	CMW	,WIDTH	04810	24	C6981	C5759
22160	BN	ER FB E		04822	46	C525C	C11CC
22170	TF	CMAR 2	,CMAR	04834	26	C7C1E	C61CC
22180	A	CMAR 2	,CMAR	04846	21	C7C1E	C61CC
22190	BNF	WRTFPC	,CMAR	04858	44	C5C74	C61CC
22200	TFM	**35	,GAP	04870	16	C49C5	-2555
22210	A	**23	,CMAR 2	04882	21	C49C5	C7C1E
22220	TF	GAM		04894	26	C2555	CC0CC
22230	BNF	WRTFPE	,FAC	04906	44	C5C42	C2492
22240	TF	LAST	,GAM+2 ,6	04918	26	C582-	C2557
22250	TF	DPTM2	,GM2F ,611, SET SIGN LEFT CF DEC PT	04930	26	C745-	C373A
22260	TF	WA3	,DPT	04942	26	C4625	C7445
22270	FNCNEZ	AM	WA3 ,2 ,. INSERT ZERC FRCP DEC PT TC	04954	11	C4625	-CCG2
22280	BD	WEF DEC	,WA3 ,11, FIRST ACN ZERC DIGIT CN RIGHT	04966	43	C521E	C462N
22290	TFM	WA3	,7C ,610	04978	16	C462N	CC0PC
22300	B	FNCNEZ		04990	49	C4954	CC0CC
22310	DORG	*-4		04997			
22320	FZERC	TFM	DPTM2 ,7C ,610, F TYPE CUTPUT EQUALS ZERO	04998	16	C745-	CC0PC
22330	TF	CHAR 2	,LCCD 2	05010	26	C7C1E	C5678
22340	TDM	CHAR-2	,C ,11	05022	15	C6C9E	CC0CC
22350	B	CLR7C5-12		05034	49	C517C	CC0CC
22360	DORG	*-4		05041			
22370	WRTFPE	TF	DPTM2 ,DPG ,611	05042	26	C745-	C6C8P
22380	TR	DPT	,DPG ,611	05054	31	0744A	C6C8P
22390	B	WEF DEC		05066	49	C521E	CC0CC
22400	DORG	*-4		05073			
22410	WRTFPC	TF	**30 ,TERM	05074	26	C51C4	C7C93
22420	S	**18	,CMAR 2	05086	22	C51C4	C7C1E
22430	TF		,GAM+2	05098	26	CC0CC	C2557
22440	TF	CLR7C5+3C	,TERM	05110	26	C5212	C7093
22450	C	CHAR	,LCCD	05122	24	C61CC	C568C
22460	BNL	CLR 705		05134	46	C5182	C13CC
22470	A	DPG	,CMAR 2	05146	21	C6C84	C7C1E
22480	TR	DPT	,DPG ,611	05158	31	0744A	C608P
22490	TF	CLR7C5+30	,LAST	05170	26	C5212	C582C
22500	CLR7C5	TFM	**35 ,MASK F1	05182	16	C5217	-5457
22510	A	**23	,CMAR 2	05194	21	C5217	C7C1E
22520	TF	TERM	,6	05206	26	07C9L	CC0CC
22530	WEFDEC	TFM	DPT ,C3 ,610	05218	16	C744A	CC0-3

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22540	TFM	LAST	,CC ,610	05230	16	C582-	CC0-C
22550	B	BSWF		05242	49	C5934	CC0CC
22560	DORG	*-4		05249			
22570	ERFBE	TR	DUD H+21,FLZERS-57	05262	31	C262E	C6454
22580	TR	GAM+1	,MASK ,. PCVES E+0C ALPHAPERICALLY	05263	31	C2556	C5445
22590	TD	GAM+8	,FAC	05274	25	C2563	C2492
22600	TD	GAM+6	,FAC-1	05286	25	C2561	C2491
22610	TFM	GAM+3	,451 ,9	05298	16	C2558	CCM51
22620	BNF	**24	,FAC	05310	44	C5334	C2492
22630	TDM	GAM+3	,2	05322	15	C2558	CC0C2
22640	TR	DUD	H+13,GM2F ,11	05334	31	C262C	C354L
22650	TF	DUD	H+12,DUD H+14	05346	26	C2615	C2621
22660	TFM	DUD	H+14,03 ,10	05358	16	C2621	000-3
22670	TFM	E1+2	,67800 ,. SETS ERRCR F B ERASES REC MARK	05370	16	C2617	C78CC
22680	BNR	**20	,RNEFSH	05382	45	C54C2	C60E1
22690	B7	ER CCM 2		05394	49	C738E	
22700	TF	DATDLD+2	,DATIN+2	05402	26	C6167	C6175
22710	TFM	IDRT	,**23	05414	16	CC565	-5437
22720	B	IDPT	,DATDUC-4 ,7	05426	49	CC532	-6161
22730	B	ERCCP2		05438	49	C738E	CC0CC
22740	DORG	*-4		05445			
22750	MASK	DSC 10	,451070700'	05445		1C	
22760	MASKP	DS	,MASK+1	05446		C	
22770	MASKF1	DAC	31,CC000C000C000C00000000000000000000'	05457		31 X	2
22780	DORG	08CC		08CCC			
22790	38	A1C	,0C702	08CCC	38	C8032	CC7C2
22800	36	A1C	,0C703	08C12	36	C8032	00703
22810	B	**22		08C24	49	C8C4E	CC0CC
22820	DORG	*-3		08C32			
22830	A1C	DSC	9,019551CC9	08C32		5	
22840	DSA	MTYPE+24		08C45		5 X	1
22850	TRA			08C45		-462E	
22860	TCD	08CCC		08046	36	CC0CC	CC5C0
22870	DORG	START+3+3900		08C58	49	CC0CC	CC0CC
22880	FMON	SP	FMON+9	07754			
22890	TFM	RETURN+6	,START	07754	32	C7763	CC0CC
22900	TFM	BAS+11	,FIL-8	07766	16	C794C	-3851
22910	AM	BAS+11	,8 ,10	07778	16	C7885	-7963
22920	SM	FMON+8	,1 ,10	07790	11	C7885	CC0-8
22930	BNZ	*-24		07802	12	C7762	CC0-1
22940	A	RETURN+6	,FPCN+11	07814	47	C779C	C12CC
22950	TF	ARGOUT+11	,RETURN+6	07826	21	C794C	C1765
22960	SM	ARGOUT+11	,1	07838	26	C7873	C7840
22970	ARGOLT	TF	RETARG+11,DUPPY	07850	12	C7873	-CC01
22980	BAS	TF	MBASE ,DUPPY	07862	26	C7933	98999
22990	SF	MBASE-2		07874	26	C7937	98999
23000	TFM	IDRT	,**23	07886	32	C7985	00000
23010	B	IDGT	,PDATA ,7	07898	16	CC565	-7921
23020	RETARG	TFM	ARGOUT+11,DUPPY	07910	49	CC566	-7941
				07922	16	C787L	98999

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Handwritten mark resembling '33'.

23C30	RETURN	B			07534	49	CCCC	CCCC
23C40		DORG	-4		07541			
23C50	PDATA	DSC	2	.02	07941		2	
		O2						
23C60		DSA	MBASE-P		07547		5 X	1
23C70		DC	1.	'	07947		-7549	
					07548		1	
23C80		DSC	1	.0	07549		1	
		C						
23C90	MBASE	DS	8		07557		8	
231C0		DSA	FIX		07562		5 X	1
					07962		-3854	
23110		DC	1	'	07563		1	
23120	FIL	DC	8,CCCCC36		07571		8	
		-OCC036						
23130		DC	8,CCC36C36		07575		8	
		-OC36036						
23140		DC	8,CCC36C16		07587		8	
		-OC36016						
23150		DC	8,CCC75016		07595		8	
		-OC75016						
23160		DC	8,CCC91017		08003		8	
		-OC91017						
23170		DC	8,CC108C1C		08C11		8	
		-O1C801C						
23180		DC	8,CC118C16		08C19		8	
		-O118016						
23190		DC	8,CC134C17		08C27		8	
		-O134017						
232C0		DC	8,CC151CC9		08C35		8	
		-O1510C9						
23210		DORG	O6CCC		06CCC			
23220		34	B2	.CC701	06CCC	34	C6C44	CC7C1
23230		38	B2	.CC702	06C12	38	C6C44	CC7C2
2324C		36	B2	.CC703	06C24	36	C6C44	CC7C3
23250		8	**22		06C36	49	C6C5E	CCCC
23260		DORG	-3		06C44			
2327C	B2	DSC	9	.C16R35C04	06C44		5	
		O16E35004						
2328C		DSA	FMCN-56		06C57		5 X	1
					06C57		-769E	
2329C		TRA			06C58	36	CCCC	CC5CC
					06C70	49	CCCC	CCCC
233C0		TCC	O6CCC		06CCC			
23310		DENC			00CCC			

ARGCUT	C7862	FPFAXI	05578	AXJ	06562	FCVRI	C5866	IDIG	04794
ATYPFI	C4946	FACNEZ	04954	B1	06044	FCVR	C4186	IFIX	C5138
BEF2SW	C544C	FXNTNE	04764	B2	06044	FF	C33C8	IFWRT	04658
BREFSW	C550C	GPIW2F	C3543	PAS	07874	FIL	C7571	IPSA	C2575
CLR7CS	C5182	HTYPE1	05248	BETA	026C3	FIX11	05946	INH	07453
COMPAD	C2231	IFLOAT	05150	BSWF	05934	FIX1	C421C	IN	07745
COMPEN	C6996	IPINLS	04982	CHAR2	C7016	FIX	C3854	ICCAL	0C716
COMPLT	C700C	IPSAPF	03298	CHAR	0E10C	FKCDD	C3427	ICCR	C6572
COMPSS	C575C	INCR36	05370	CRW	06981	FLOAT	04C42	ICGY	0C566
DAPFON	C5646	INCR6C	05394	CIC	0C816	FLZ	03353	ICPT	0C532
DALCNG	C5638	INPLUS	06C53	CPG	0E084	FM1PF	C3313	ICRBC	0C520
DATCUD	C6165	IRPLNK	04962	CPTM2	07450	FM1	C3625	ICRT	CC565
DATERR	C6157	ISPPM1	03303	CPT	07445	FMPAC	C3452	ICSK	0C554
DATINH	C6173	ITYPE1	04622	CUCI	02607	FMCN	C7754	IRDIG	04926
DDFMON	C5654	LCCDIG	05C88	DUD	02687	FMP1	C5494	IREAD	04754
DICGDA	C3387	LCCADJ	06574	DUMPY	95999	FMP	C4138	ITYPE	C4448
DKBUFF	C2404	PASKEP	05446	EEKP2	04860	FMP1	C3358	K2	03648
DKDATA	03376	MASKF1	05457	EEKP	04988	FNF	03313	K	02221
EEKP22	C4908	MATRIX	06518	EEKP	05000	FPIHK	C3283	LAST	05820
EEKPAD	C506E	MATRIX2	066C2	EF2SW	04425	FP2	C36C5	LNIC	C2680
EVALPH	C4674	MESERR	02407	FALP	C4758	F	02219	LN2	02817
FFCHK5	C486E	MCNCAL	00796	EFCCP	04624	FSB1	04856	LN4	02518
EFENP2	C5304	CCDSET	0551R	EFCEC	05120	FSB1	C5442	LN8	C2549
FFLCAT	C5198	CCREVF	06180	EF2C1	05188	FSBR	C4114	LNENT	C3368
FFPLUS	C466E	CNEFAC	04424	EFENC	05272	FSB	C4C64	LOC02	05478
FFTERP	C5248	CVFLCB	03652	EFFIX	04734	FTYPE	04558	LCCD	05680
EFFYPE	C468C	PRCNTR	04916	FFNIA	04656	FX1	C2825	LCC	C6C89
ENCFOR	C7453	PRCGST	C2226	FFMW1	04626	FXG	C28C5	LCCG	C3C10
FNOR36	C543C	RAC0IT	05862	FFNM	C4514	FXA1	04622	LVL	03616
ENOR60	C5454	RDFCH1	04884	EFRC1	04622	FXA	03878	P14	06970
ENTABS	C2323	RFADEF	04492	EFRC2	04654	FXD1	C4714	PAATP	07146
ENTATN	C2313	RFADIF	05C82	EFWRT	C5084	FXCR1	C4796	MASKF	C5473
ENTCOS	C2303	RFP5W3	05657	E1	C2615	FXCR	C3998	MASKI	05351
ENTCED	02298	RETAGR	07922	ENCC	C3768	FXD	03574	MASK	05445
FNTLRR	C2293	RETURN	07934	ENTLA	02248	FXERR	C3676	MATSL	C6595
FNTEXP	C2253	RREFSW	06C61	ERF7A	C5214	FXP	C3283	MAT2	C6145
ENTFFT	C2283	1COMK	03293	ERF7	C5118	FXP1	04688	MAX	06922
FNTFID	C2273	102MF	03343	ERF75	C4702	FXP	C355C	MBASE	07557
FNTREC	C2278	2FM1	03429	ERF8E	05250	FXNIN	C6C32	PCATA	07541
ENTSC1	C2258	96MF	03318	ERF81	05038	FXSR1	04636	PFV2	C3746
ENTSC2	C2263	97MF2	03363	ERF9	07310	FXSR	03926	PF	03473
ENTSC3	0226E	97MF	03323	ERRRET	0C602	FXS	039C2	PU	C3712
ENT5IN	C230C	98MF	03328	ERRCR	03676	FXZ	02815	A1	C2233
ENT5QT	C2318	99MK	03288	ETYPE	04580	FZERO	04998	N2	02238
ENT5WD	C2288	95CPF	02795	EXP	04809	GAM	02555	ACADD	05404
ERCCM2	07386	95PF	02854	F2	03661	GET	07C94	ACDIV	C6770
ERF8E5	C495C	A10	08C32	FAC	02492	GM2F	03735	NCRM	05252
FRFR7E	05396	A1	08C68	FAD1	04916	MNC	03338	ODD3	06178
FRFR71	05002	A3	09C32	FAD	04090	MD	04817	ODD4	06294
EXPENT	03373	A5	08032	FAXB1	C7062	MRD	05428	ODD6	06334
FINDIN	C3603	A6	08C32	FAXB	04258	HTYPE	04602	OLWR	07310
FINISH	C3803	A7	08C32	FAXI1	06400	HWRT	05360	ONEZ	03C38
FIXEND	C376C	A8	08C32	FAXI	04234	ICON2	05438	OUT	04981
FLTEND	0381C	A9	08032	FCMNB	04976	ICON3	05342	P44C1	06269
FLZALP	03348	ADD	05204	FC1	05654	ICON5	04938	P44C2	06284
				FC1	01163	ICCN6	05498	P44C	06210

P44E	C63C2	RCFC	04852	SIX	03219	WA3	04625	h	02240
PAR	03378	READA	05074	SLASH	06674	WACC1	05610	XTYPE	C7354
PCT	C3333	READI	05034	SCS	06918	WACD	04330	ZERC	02767
PIOV2	03163	RECLG	02243	START	03851	WAFX	05402	SLASH2	06708
PIOV4	C3191	RECMK	02403	STOP	02395	WAPT1	C5558	STZERC	C6423
PI	C3133	RFDC	07070	SMC	06090	WAPT	04306	SHCADJ	C6152
PRA1	C5578	REDO	07026	SNF	05969	WA	07241	UNFLC	05372
PRA	C4354	REFS	04628	SNL	06042	WATY1	05538	WFODEC	05218
PRKEY	C6927	RFP2	07198	TAFE	02535	WATY	C4282	WICTM2	06064
PSI	C6076	REP3	07230	TAN6	03248	WICTH	C5799	WRITE1	06940
RACD1	C601C	REP	07126	TEN34	03278	WRITE	06816	WRITEA	05290
RACD	04426	REPS	05654	TERP	07093	WRTA2	C5382	WRITEI	04470
RAPT1	C599C	RSGN1	04816	TCFAC	03408	WRTA	05338	WRITEI1	C4622
RAPT	C44C2	RSGN	04C20	TRAC1	03544	WRTA2	C4646	WRTALP	C5622
RATY1	C597C	RW2A	05778	TRAC2	03520	WRTA	05C2C	WRTA2S	05086
RATY	C4378	RW2	05742	TRACE	03496	WRTF	C475C	WRTFPC	05C74
RCTY	C5814	RWA	05634	TRRET	06358	WRTFS	C3812	WRTFPE	05C42
RDAFL	C5234	SAVE	02565	TWOPI	03103	WRTI2	047C2	WRTSGN	C4874
RDALP	C6022	SE	05774	TWOZ	03073	WRTI3	04918	ZERFAC	03584
RCA	C517C	SMORT	05670	WA2	07392	WRTI	04738		

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00C10	*****	1620 FORTRAN II-D	SUBROUTINES						
00C20	*****	IORT ENTRY POINTS AND CONSTANTS							
00C30	ICRBC	DS	,52C			0C52C		C	
00C40	IDPT	DS	,532			00532		C	
00C50	ICSK	DS	,554			0C554		C	
00C60	ICGT	DS	,566			0C566		C	
00C70	ERRET	DS	,6C2			0C6C2		C	
00C80	IORT	DS	,565			0C565		C	
00C90	ICCAL	DS	,716			0C716		C	
00100	MCNCAL	DS	,796			0C796		C	
00110	DIC	DS	,816			0C816		C	
00120	*****	1620 FORTRAN II-C	IN CORE AREAS						
00130	***	COMMUNICATION AREA							
00140		DORG	2218			02218			
00150	F	CS	2,,	FLGATING POINT WORD LENGTH		02219		2	
00160	K	CS	2,,	FIXED POINT WORD LENGTH		02221		2	
00170	PRCGST	DS	5,,	STARTING ADDRESS OF MAINLINE PROGRAM		02226		5	
00180	COMACC	DS	5,,	STARTING ADDRESS OF COMMON AREA		02231		5	
00190	N1	DS	2,,	NUMBER OF WORDS IN LOGICAL RECCRD		02233		2	
00200	N2	DS	5,,	NUMBER OF LOGICAL RECCRCS		02238		5	
00210	W	DS	2,,	WORD LENGTH		0224C		2	
00220	RECLG	DS	3,,	RECCRD LENGTH		02243		3	
00230	ENTLN	DS	5,,	ENTRY ADDRESS TO LOG SUBROUTINE		02248		5	
00240	ENTEXP	DS	5,,	ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE		02253		5	
00250	ENTSC1	DS	5,,	ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE		02258		5	
00260	ENTSC2	DS	5,,	ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE		02263		5	
00270	ENTSC3	DS	5,,	ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE		02268		5	
00280	ENTFIC	DS	5,,	ENTRY ADDRESS TO FIND SUBROUTINE		02273		5	
00290	ENTREC	DS	5,,	ENTRY ADDRESS TO RECCRD SUBROUTINE		02278		5	
00300	ENTFET	DS	5,,	ENTRY ADDRESS TO FETCH SUBROUTINE		02283		5	
00310	ENTSMC	DS	5,,	ENTRY ADDRESS TO SWITCH 0 SUBROUTINE		02288		5	
00320	ENTDRA	DS	5,,	ENTRY ADDRESS TO ARRAY SUBROUTINE		02293		5	
00330	ENTDEC	DS	5,,	ENTRY ADDRESS TO DISK END SUBROUTINE		02298		5	
00340	ENTCOS	DS	5,,	ENTRY ADDRESS TO COSINE SUBROUTINE		02303		5	
00350	ENTSIN	DS	5,,	ENTRY ADDRESS TO SINE SUBROUTINE		02308		5	
00360	ENTATN	DS	5,,	ENTRY ADDRESS TO ARCTANGENT SUBROUTINE		02313		5	
00370	ENTSQT	DS	5,,	ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE		02318		5	
00380	ENTABS	DS	5,,	ENTRY ADDRESS TO ABSOLUTE SUBROUTINE		02323		5	
00390		DS	70,,	RESERVED FOR ENTRIES TO ADCEC SUBROUTINES		02393		7C	
00400	*****	COMMON WORKING AREAS							
00410	STOP	DAC	5,,	STOP		02395		5 X 2	
00420	RECMK	CS		,STOP+8		02403		C	
00430	DRBUFF	DSS	29			02404		25	
00440	FAC	CS	60			02492		6C	
00450		CC	1			02493		1	
00460	SAVE	DS	72			02565		72	
00470	BETA	DS	38			02603		38	
00480		CGM				02604		1	
00490	GAM	DS		,SAVE-1C		02555		C	
00500	TAFE	DS		,SAVE -30		02535		C	
00510	INSA	DS		,BETA -28		02575		C	
00520	MESERR	DAC	6,,	ER E		02607		6 X 2	
00530	DUDM	DS		,MESERR		02607		C	

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00540	E1	CS	,*-2	02615	9C
00550	DLC	CS	70	02607	9C
00560	*****		1620 PCRTRAN II-C FLICATING PCINT CCATANTS		
00570		CC	40	02727	4C
			-OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00580		DSC	40	02720	4C
			OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00590	ZERO	DS	,*	02767	C
00600	95CPF	CC	28	02795	20
			R999		
00610	*****		1620 PCRTRAN II-C FIXED PCINT CCATANTS		
00620	FX9	DC	10	02805	1C
			R999999999		
00630	FXZ	DC	10	02815	1C
			-OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00640	FX1	CC	10	02825	1C
			-OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00650	*****		CONSTANTS FOR RELCATABLE SUBROUTINES		
00660		CC	31	02856	31
			-OCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00670	95PF	DS	,*-2	02854	C
00680	LN2	DC	31	02887	31
			.069314718055994530941232121458		
			-69314718055994530941232121458		
00690	LN4	CC	31	02918	31
			.1386294361115890618034464242916		
			J3E294361119990618834464242916		
00700	LN8	DC	31	02949	31
			.2079441541679835928251696364375		
			K079441541679835928251696364375		
00710	LN10	CC	31	02980	31
			.23C2585C92994045684017991494684		
			M302585C92994045684017991494684		
00720	LOGE	CC	30	03010	30
			.434294481903251827651128918917		
			M34294481903251827651128918917		
00730		CC	32	03042	32
			.1GCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
			J0CCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00740	ONEZ	DS	,*-4	03038	C
00750		CC	2	03044	2
			.C1		
			-1		
00760	TwoZ	CC	29	03073	29
			.20CCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
			K0CCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00770	TwoPI	DC	30	03103	30
			.628318530717958647692528676656		
			O28318530717958647692528676656		
00780	P1	CC	30	03133	30
			.314159265358979323846264338328		
			L14159265358979323846264338328		
00790	PIOV2	CC	30	03163	30
			.157079632679489661923132169164		
			J57079632679489661923132169164		
00800	PIOV4	DC	28	03191	28
			.78539816339744830961566008458		
			PR539816339744830961566008458		
00810	SIX	CC	28	03219	28
			.60CCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
			O0CCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCO		
00820	TAM6	DC	29	03248	29
			.5404195027058415544357836461		
			N404195027058415544357836461		
00830	TEN34	CC	30	03278	30
			.218776162394955256222611491638		
			K18776162394955256222611491638		
00840	*****		1620 PCRTRAN II-C INDIRECT ADDRESS BOXES AND PCIFIED.		
00850	*****		CONSTANTS (USING K AND F)		
00860	FXH	DSA	FAC+1	03283	5 x 1

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00870	FPIPK	CS	,FXH	03283	-2453
00880	95PK	CC	,99	03283	C
			-OCS9	03288	5
00890	10PK	CC	,1CC	03293	5
			-O1CC		
00900	1PSAPF	DSA	1PSA	03298	5 x 1
				03298	-2575
00910	1SPFM1	CSA	1PSA-1	03303	5 x 1
				03303	-2574
00920	FF	DSA	FAC	03308	5 x 1
				03308	-2452
00930	FH+	DSA	FAC-1	03313	5 x 1
				03313	-2451
00940	FPIHF	DS	,FHH	03313	C
00950	96MF	CC	,96	03318	5
			-OCS6		
00960	97MF	CC	,97	03323	5
			-OCS7		
00970	98MF	CC	,98	03328	5
			-OCS8		
00980	PLT	CC	,99	03333	5
			-OCS9		
00990	PNF	CC	,1CC	03338	5
			-O1CC		
01000	1C2MF	CC	,1C2	03343	5
			-O1C2		
01010	FLZALP	DSA	ZERC-70	03348	5 x 1
				03348	-2685
01020	FLZ	DSA	ZERC-80	03353	5 x 1
				03353	-2687
01030	FNHPI	DSA	FAC-2	03358	5 x 1
				03358	-2450
01040	97M2F	CC	,97	03363	5
			-OCS7		
01050	LNENT	CC	,8C	03368	5
			-OCS0		
01060	EXPENT	CC	,36	03373	5
			-OCS6		
01070	PAR	DS	,*+5	03378	5
			, NC OF ELEMENTS IN MATRIX TC PROCESS	03378	5
01080	CIC80	CS	,5	03378	5
01090	CRDATA	DSC	,0C	03379	2
			00		
01100		DSA	DIODDA	03385	5 x 1
				03385	-3387
01110		CC	,*	03386	1
			,*		
01120	CIOCCA	DSC	,0C	03387	-1
			0		

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01130	DC	5	,CCCO		03352	5	
	-OCCO						
0114C	CC	3	,CCC		03395	3	
	-OO						
01150	DSA	DKBLFF			034CC	5 X	1
01160	DC	1	,'		034C0	-2406	
	'				03401	1	
01170	*****	1620 FCRTTRAN II-C	IN CCRE SUBROUTINES				
0118C	DS	5			034C6	5	
01190	TOFAC	TF	FAC ,TC FAC-1 ,11		03408	26	C2492 C34CP
01200	SM	TOFAC-1	,C1C2 ,8910		03420	12	C34C7 C-J-2
01210	2FM1	DS	,0-2 ,	TWC TYPES F MINUS ONE	03429	1	
01220	FKDDC	DS	,0-4 ,	C F OR K CCC, I F AND K EVEN	03427	1	
01230	TF	FAC-2	,TC FAC-1 ,11		03432	26	C249C C34CP
01240	BB				03444	42	CCCC
01250	DDRG	0-9			03446		
0126C	DS	5			03450	5	
01270	FMFAC	TF	FM FAC-1 ,FAC ,6		03452	26	C345J C2492
01280	SM	FMFAC-1	,CC2 ,81C		03464	12	C3451 C-C-2
01290	MF	DS	,0-2 ,	MINUS F	03473	1	
01300	TF	FM FAC-1 ,FAC-2	,6		03476	26	C345J C249C
01310	BB				03488	42	CCCC
01320	DDRG	0-9			0349C		
01330	DS	5			03494	5	
01340	TRACE	TF	FM FAC-1 ,0-1		03496	26	C3451 C3495
01350	BNC4	FM FAC			03508	47	C3452 CC4CC
01360	TRAC2	TFM	FMDN+11, TRAC1-START		0352C	16	C7965 -C3CP
01370	DC	2,2,0-3			03528	2	
	-2						
01380	B7	FNCN			03532	49	C7954
01390	GPIH2F	DSA	GAP-1		03543	5 X	1
01400	TRAC1	TFM	ODD4+6 ,SNC		03543	-2594	
01410	TFM	SNF	,P44C2-5		03544	16	C63CC -6C5C
01420	R7	P44C			03556	16	C5665 -6279
01430	DDRG	3584			03568	49	C621C
01440	ZERFAC	TF	FAC-2 ,9SPR-1		03584	26	C249C C2853
01450	TFM	FAC	,1C299 ,781011,		03596	16	C2452 J-2RR
01460	FP2	DS	,0-2 ,	F PLUS TWC	03605	1	
01470	FINDIN	DS	1 ,0-4		03603	1	
01480	B	FINISH+1			03608	49	C38C4 CCCCC
01490	DDRG	0-4			03615		
01500	LVI	AM	SAVE ,C1C1 ,8910		03616	11	C2565 C-J-1
01510	FM1	DS	,0-2 ,	F MINUS ONE	03625	1	
01520	BWV	FINISH	,6		03628	47	C38CL C14CC
01530	TFM	EI	,CC571 ,79,	SET UP ERROR CODE EI	0364C	16	C2615 -CN71
01540	K2	DS	,0-3 ,	TWC TYPES K	03648	1	
01550	OVFLOW	TFM	FAC ,0C99 ,810		03652	16	C2492 C-CR5
01560	F2	DS	,0-2 ,	TWC TYPES F	03661	1	
01570	TF	FAC-2	,95CPF ,	SET RESULT TO ALL NINES.	03664	26	C249C C2755
01580	ERROR	K	FINISH ,C951 ,6,	SINGLE CARRIAGE SPACE	03676	34	C38CL CC951
01590	WA	MESERR	,09C1 ,	PRINT ERROR MESSAGE	03688	39	C2667 CC9C1
01600	B	ENDD+12			0370C	49	C378C CCCCC

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01610	MU	BNF	**24 ,MU-1 ,	SET CORRECT SIGN ON FAC	03712	44	C3736 C3711
01620	SF	FAC	,GAM ,		03724	32	C2492 C2555
01630	GM2F	DS	, ,	GAMMA MINUS TWC TYPES F	03735	1	
01640	TDM	FXFR+25	,9 ,	RESET ERROR EXIT	03736	15	C37C1 CCCC9
01650	MFOV2	DS	2 ,0-1	MINUS F OVER 2	03746	2	
01660	TFM	FXERR+30	,ENDD+12		03748	16	C37C6 -378C
01670	FIXENC	BB			03760	42	CCCC
0168C	DDRG	0-3			03768		
01690	FXERR	DS	,ERROR		03676		
01700	ENDD	TF	FAC ,SAVE ,	PCVE EXPONENT.	03768	26	C2492 C2565
01710	BNF	**24	,99 ,	SET PROPER SIGN	0378C	44	C38C4 CCCC9
0172C	SF	FAC-2	,ENDD		03792	32	C249C C3788
0173C	FINISH	DS	, ,		03803	1	
01740	FLTENC	DS	,FINISH+7		0381C	1	
01750	BB				03804	42	CCCC
01760	DDRG	0-4			03811		
01770	DUPPY	DS	,99999		99999		
01780	START	DS	,C3851		03851		
01790	FMDN	DS	,C7954		07554		
01800	*****	1620 FCRTTRAN II-C	ALL SUBR IN CCRE				
01810	*****	1620 FORTRAN II-D	ALL SUBR IN CCRE - SECONDARY LINKAGE				
01820	DDRG	START			03851		
01830	DS	3			03853	3	
01840	FIX	CM	FAC ,CC ,10,	IS CHAR POSITIVE	03854	14	C2492 CCG-C
01850	B	FIX1	,		03866	49	11C58 CCCCC
01860	FXA	A	FAC ,FXA-1 ,11		03878	21	C2492 C387P
01870	B	FXA1	,FXS-1 ,11		0389C	49	1126C CCCCC
01880	FXS	S	FAC ,FXS-1 ,11		03902	22	C2492 C39CJ
0189C	B	FXA1	,		03914	49	1126C CCCCC
01900	FXSR	BNF	FXSR1+32 ,FAC ,	CHANGE SIGN ON FAC	03926	44	11336 C2492
01910	B	FXSR1	,		03938	49	11364 CCCCC
01920	FXP	M	FAC ,FXP-1 ,11		03950	23	C2492 C394R
0193C	B	FXP1	,		03962	49	11356 CCCCC
01940	FXD	LD	99 ,FAC ,	FAC = FAC/J	03974	28	CCC95 C2492
01950	B	FXD1	,		03984	49	11382 CCCCC
01960	FXDR	LD	99 ,FXDR-1 ,11,	FAC = J/FAC	03998	28	CCC95 C399P
01970	B	FXDR1	,		0401C	49	11464 CCCCC
01980	DDRG	0-1			04020		
01990	RSGN	BNF	RSGN1+40 ,FAC-1		04020	44	11524 C2491
02000	B	RSGN1	, ,8		04032	49	11484 C-0CC
02010	DDRG	0-1			04042		
02020	FLOAT	AM	FAC ,CC ,10,	IS FAC ZERO	04042	11	C2492 CCG-C
02030	B	FLOAT1	,		04054	49	11564 CCCCC
02040	FSB	TDM	FAD1+37 ,2 ,	SET UP INST. TO SUBTRACT	04066	15	11841 C00G2
02050	B	FSB1	,		04078	49	11784 CCCCC
02060	FAD	TDM	FAD1+37 ,1 ,	SET UP INST. TO ACC	04090	15	11841 C00C1
02070	B	FAD1	,		04102	49	11804 CCCCC
02080	FSBR	BNF	FSBR1+32 ,FAC-2 ,	CHANGE SIGN ON FAC	04114	44	12382 C2490
02090	B	FSBR1	,		04126	49	1233C CCCCC
02100	FMP	TF	SAVE ,FMP-1 ,11,	PCVE EXPONENT TO SAVE.	04138	26	C2565 C413P
02110	B	FMP1	,		04150	49	12382 CCCCC
02120	FC	TF	SE+11 ,FD-1 ,11,	PCVE EXPONENT.	04162	26	12673 C416J
02130	B	FD1	,		04174	49	12542 CCCCC
02140	FDVR	TF	SAVE ,FDVR-1 ,11,	PCVE EXPONENT.	04186	26	C2565 C418N
02150	B	FDVR1	,		04198	49	12754 CCCCC
02160	FIX1	TF	IMS A ,FIX1-1 ,11,	IMS A = I	04210	26	C2575 C420R

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02170	B	FIX11			04222	49	12834	CCCCC
02180	FAXI	TF	INSA	,FAXI-1 ,11, INSA = 1	04234	26	C2575	C423L
02190	B	FAX11			04246	49	13264	CCCCC
02200	FAXB	TF	TAFE	,FAXB-1 ,11, LCAC EXPONENT B	04258	26	C2535	C425P
02210	B	FAXB1			04270	49	13928	CCCCC
02220	****		WRITE ALPHAMERIC					
02230	WATY	TF	SWF	,WATY-1	04282	26	C5965	C4281
02240	B	WATY1			04294	49	C5532	CCCCC
02250	WAPT	TF	SWF	,WAPT-1	04306	26	C5965	C4305
02260	B	WAPT1			04318	49	C5552	CCCCC
02270	WACD	TF	SWF	,WACD-1	04330	26	C5965	C4329
02280	B	WACD1			04342	49	C5610	CCCCC
02290	PRA	TF	SWF	,PRA-1	04354	26	C5965	C4353
02300	B	PRA1			04366	45	C5578	COOOO
02310	****		REAC ALPHAMERIC					
02320	WATY	TF	SWF	,WATY-1	04378	26	C5965	C4377
02330	B	WATY1			04390	49	C5970	CCCCC
02340	WAPT	TF	SWF	,WAPT-1	04402	26	C5965	C4401
02350	B	WAPT1			04414	45	C5990	CCCCC
02360	WACD	TF	SWF	,WACD-1	04426	26	C5965	C4425
02370	B	WACD1		,B	04438	49	C6010	C-CCC
02380	CORG	0-1			04440			
02390	IATYPE	AM	SWF	,3	04440	11	C5965	-CCC3
02400	B	IATYPE1		,B	04460	49	C1114	C-CCC
02410	CORG	0-1			04470			
02420	WRITEI	TFM	WA	,GAM*2	04470	16	C7241	-2557
02430	B	WRITEI1		,B	04482	49	C6030	C-CCC
02440	DORG	0-1			04492			
02450	READCF	BNF	EF RD2*12,LCC		04492	44	C9022	C6089
02460	B	EF RD1		,B	04504	49	C9018	C-000
02470	DORG	0-1			04514			
02480	EFPW	TF	FLTEND	,ICC6*6	04514	26	C3810	C55CC
02490	B	EFPW1		,B	04526	45	C5582	C-CCC
02500	CORG	0-1			04536			
02510	AATYPE	AM	SWF	,3	04536	11	C5965	-CCC3
02520	B	AATYPE1		,B	04548	49	C9100	C-CCC
02530	DORG	0-1			04558			
02540	****		PACRC FOR F TYPE READ AND WRITE					
02550	FTYPE	CF	RWEFSW		04558	33	C6021	CCCCC
02560	B	EF CCM		,B	04570	49	C7446	C-CCC
02570	DORG	0-1			04580			
02580	****		PACRC FOR E TYPE READ AND WRITE					
02590	EATYPE	SF	RWEFSW		04580	32	C6021	CCCCC
02600	WAZ	DS	5	,, TEMP STORE FOR ZERC INSERT ADDRESS	04591	5		
02610	B	EFCCP		,B	04592	49	C7446	C-CCC
02620	CORG	0-1			04602			
02630	HATYPE	AM	SWF	,3	04602	11	C5965	-CCC3
02640	B	HATYPE1		,B	04614	49	C8772	CCCCC
02650	DORG	0-4			04621			
02660	*****		1620 FORTRAN II-D ALL SUBR IN CCRE - SUBROUTINES					
02670	WRITE2	TR	GAM*1	,MASK	04622	31	C2556	C5421
02680	BD	ERFBE		,CHAR-2	04634	43	C5226	C8687
02690	TD	GAM*8		,CHAR	04646	25	C2563	C8685
02700	TD	GAM*6		,CHAR-1	04658	25	C2561	C8682
02710	BNF	**24		,CHAR	04670	44	C4654	C8685
02720	TDM	GAM*3		,2	04682	15	C2556	CCCC2

02730	TR	TERM		,GAM*2 ,6	04654	26	C709L	C2557
02740	TR	DPT		,DPT ,611	04706	31	C744A	C608P
02750	B	WEF DEC			04718	49	C5194	CCCCC
02760	CORG	0-4			04725			
02770	*****		3 CASES FOR WRITING F TYPE, CHAR IS EXP-LOCC-F					
02780	*****		CHAR IS NEG, EXP IS NEG					
02790	*****		CHAR IS NEG, EXP IS POSITIVE (WRTPPE)					
02800	*****		CHAR IS POSITIVE (WRTFPC)					
02810	WRTF	TR	GAM*1	,MASK EP*7	04726	31	C2556	C5425
02820	BD	F ZERO		,FLTEND-4	04738	43	C4574	C3806
02830	BD	ER F8 E		,CHAR-2	04750	43	C5226	C8687
02840	CM	CKW		,CCC ,9	04762	14	C6981	CO-CC
02850	BNM	F ZERO			04774	47	C4574	C1100
02860	C	CKW		,WIDTH	04786	24	C6981	C5755
02870	BH	ER F8 E			04798	46	C5226	C1100
02880	TF	CHAR 2		,CHAR	04810	26	C7016	C8689
02890	A	CHAR 2		,CHAR	04822	21	C7016	C8685
02900	BNF	WRTPPC		,CHAR	04834	44	C5050	C8685
02910	TFM	**35		,GAM	04846	16	C4881	-2555
02920	A	**23		,CHAR 2	04858	21	C4881	C7016
02930	TF	GAM			04870	26	C2555	CCCCC
02940	BNF	WRTPPE		,FAC	04882	44	C5018	C2452
02950	TF	LAST		,GAM*2 ,6	04894	26	C582-	C2557
02960	TF	DPTM2		,DPTM2 ,611, SET SIGN LEFT CF DEC PT	04906	26	C854R	C373N
02970	TF	WAZ		,DPT	04918	26	C4591	C7445
02980	FNCNEZ	AM	WAZ	,2 ,, INSERT ZERC FROM DEC PT TO	04930	11	C4591	-CCC2
02990	BD	WEF DEC		,WAZ ,11, FIRST ACN ZERC DIGIT ON RIGHT	04942	43	C5194	C459J
03000	TFM	WAZ		,7C ,610	04954	16	C459J	COOPC
03010	B	FNCNEZ			04966	45	C4930	CCCCC
03020	DORG	0-4			04973			
03030	FZERC	TFM	DPTM2	,7C ,610, F TYPE OUTPUT EQUALS ZERC	04974	16	C854R	CCCCP
03040	TF	CHAR 2		,LOCC 2	04986	26	C7016	C5678
03050	TDM	CHAR-2		,0 ,11	04998	15	C8687	CCCC-
03060	B	CLR705-12			05010	49	C5146	CCCCC
03070	DORG	0-4			05017			
03080	WRTFPE	TF	DPTM2	,DPT ,611	05018	26	C854R	C608P
03090	TR	DPT		,DPT ,611	05030	31	C744A	C608P
03100	B	WEF DEC			05042	49	C5194	CCCCC
03110	DORG	0-4			05049			
03120	WRTFPC	TF	**30	,TERM	05050	26	C5080	C7093
03130	S	**18		,CHAR 2	05062	22	C5080	C7016
03140	TF	CLR705*30		,GAM*2	05074	26	CCCC	C2557
03150	TF	CHAR		,LOCC	05086	26	C5188	C7093
03160	C	CLR 705			05098	24	C8689	C568C
03170	BNL	CLR 705			05110	46	C5188	C130C
03180	A	DPT		,CHAR 2	05122	21	C6084	C7016
03190	TR	DPT		,DPT ,611	05134	31	C744A	C608P
03200	TF	CLR705*30		,LAST	05146	26	C5188	C582C
03210	TFM	**35		,MASK F	05158	16	C5193	-5433
03220	A	**23		,CHAR 2	05170	21	C5193	C7016
03230	TF	TERM			05182	26	C709L	CCCCC
03240	WEFDEC	TFM	DPT	,03 ,610	05194	16	C744A	CCC-3
03250	TFM	LAST		,00 ,610	05206	16	C582-	CCC-0
03260	B	BSNF			05218	49	C5934	CCCCC
03270	CORG	0-4			05225			
03280	ERFBE	TR	DUD	H*21,FLZER1-57	05226	31	C2628	C6454

03290 TR GAP+1 ,MASK .. PCVES E+00 ALPHAMERICALLY
03300 TD GAP+8 ,FAC
03310 TD GAP+6 ,FAC-1
03320 TFM GAP+3 ,431 ,9
03330 BNF +24 ,FAC
03340 TDM GAP+3 ,2
03350 TR DUD M+13,GMIN2F ,11
03360 TF DUD M+12,DUC M+14
03370 TFM DUD M+14,C3 ,10
03380 ERCOMP TFM EI+2 ,67800 .. SETS ERRER F 0 ERASES REC MARK
03390 BNR +20 ,RNEFSW
03400 B7 ER CCM 2
03410 TF DATDLD+2 ,DATINH+2
03420 TFM IORT ,+23
03430 B IOPT ,DATDUC-4 ,7
03440 B ERCCM2
03450 CORG =-4
03460 ***** MASKS
03470 MASK DSC 10 ,451070700'
03480 MASKEP CS ,MASK+1
03490 MASKF CAC 31,0C000000000C000000000000000C00'
03500 MASKI DS ,MASKF+39
03510 ICON6 B EF ALPH ,1
03520 DORG =-3
03530 ICON5 M EFRD 2 ,1
03540 DORG =-3
03550 ICON3 B WRT I2 ,1
03560 DORG =-3
03570 DS 20
03580 WATY1 TFM MAX ,060B7
03590 B WRTALP
03600 DORG =-3
03610 WAPT1 TFM MAX ,CBCB7
03620 B WRTALP
03630 DORG =-3
03640 PRA1 TFM MAX ,26145 ,7. PRINT WITH SPACE SUPPRESS
03650 TD RNEFSW ,RECMX
03660 B7 RWA
03670 WACD1 TFM MAX ,1CCB0
03680 WRTALP TDM RNEFSW ,1 .. COMPCN FCR EACH WRITE
03690 RWA TF DATINH+2 ,MAX-3
03700 SF MAX-2
03710 REPSW CS 2 ,=-3
03720 MATSW DS 1 ,=-2 .. SET TC 1 WHEN MATRIX HAS CONTROL
03730 REPSW3 DS 2 ,=
03740 TFM =-1 ,CCCO0 ,711
03750 TDM SWL+1 ,2
03760 LUCD DS 2 ,=-1 ,LCC CF DECIMAL AS SPEC BY FORMAT
03770 LCCD2 DS 2 ,=-3 , TWICE LCC C
03780 TFM MESERR+8 ,679 ,9
0379C TFM MAX2 ,INH
0380C A MAX2 ,MAX
03810 A MAX 2 ,MAX
03820 ***** CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT

0383C ***** RECCRD ACT TERMINATED BY COMPLT MACRO
03840 TFM LAST ,INH
03850 RWA2 TDM COMPSW ,=-1
03860 COMPSW DS ,=-3 ,=-1 PROHIBITS,0 REQUIRES OUTPUT
03870 TR INH-1 ,STZERC+1
03880 TR INH+86 ,STZERC
03890 RWA2 ODD3
03900 CM MAX-3 ,08 ,10
03910 WIMT DS 3 ,=-2 , AC. CF EFF. DIGITS IN FIELD
03920 BNL +24
03930 RCTY RCTY
03940 LAST DS 5 ,=-5 , ADR CF RM AT END CF VARIABLE CUT REC
03950 BNE +24
03960 TF INH+174 ,FLZERS .. PUT IA RM FCR PAPER TAPE OUTPUT
03970 BD BSWF ,RNEFSW
03980 RADDIT TFM IORT ,+23
03990 B IOGT ,DATINH-4 ,7
04000 CM MAX-3 ,06 ,10
04010 BNE +24 , .. ALLOWS GCOF SWITCH FOR RATY
04020 BC4 RCTY
04030 TDM FLT END-5,2
04040 ***** CONTROLS POSITION IN FORMAT SPECS
04050 HSWF AM SWF ,5
04060 TF +18 ,SWF ,11
04070 B SWF , .. BR TC ADR INDICATED BY FORMAT SPEC.
04080 SWF DS 5 ,=
04090 RATY1 TFM MAX ,06CR7
04100 B RDALP
04110 DORG =-3
04120 RAPT1 TFM MAX ,CBCB7
04130 B RDALP
04140 DORG =-3
04150 RACD1 TFM MAX ,1CCB0
04160 RDALP TDM RNEFSW ,0
04170 B RWA
04180 DORG =-4
04190 ***** SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE
04200 ***** TO OBTAIN THE LOCATION THAT GOES WITH THE FORMAT MACRO
04210 ***** BEING PERFORMED BB FCR CJECT PRGGRAP
04220 ***** NOP FCR RECC CNTRCL
04230 ***** B FCR MATRIX CNTRCL
04240 SWL NOP MATRIX 2
04250 INPLUS DS 5 ,= , WORKING POSITION CF I/C RECORD
04260 TDM SWL+1 ,9 , .. MATRIX CONTROL SETS SWL TO 49
04270 RNEFSW DS 1 ,=-4 , 1 FCR WRT, 0 FCR RC, FLAG FOR E
04280 WIDTH2 DS 3 ,=-1
04290 BD SWC+12 ,MATSW
04300 NOP
04310 DPG DS 5 ,=-5 , TEMP ADR CF DEC PT IN GAMMA
04320 LOC DS 5 ,= , CORE LCCATCN TO BE USED
04330 ***** AFTER LCC ADR OBTAINED BR TO PRCPER MACRO
04340 SWC TDM SWL+1 ,2
04350 BD +20 ,RNEFSW .. BR IF WRITING
04360 B SWC ADJ ,= ,
04370 DORG =-4
04380 TDM COMPSW ,0 .. SET TC REQUIRE OUTPUT

04390	CF	LOC			06134	33	C6C09	CCOCC
04400	MAX2	DS	5	,*	06145		5	
04410	B				06146	49	CCCCC	CCCCC
04420	SWCADJ	DS		,*-5	06152		C	
04430	CORG			*-4	06153			
04440	DATERM	DSA	DUCH		06157		5 X	1
					06157		-26C7	
04450	CC	3		,1P*	06160		3	
04460	DATDLC	DSA	DUCH		06165		5 X	1
					06165		-26C7	
04470	CC	3		,CC*	0616P		3	
04480	CATINH	CSA	INH		06173		5 X	1
					06173		J4219	
04490	CC	3		,CC*	06176		3	
04500	ODD3	TR	INH+174,	STZERC+18	06178	31	14393	C6441
04510	TR		INH+244,	STZERC+40	06190	31	14463	C6463
04520	B7		RW2A+12		06202	49	C579C	
04530	P44C	TFM	SWC-1	,FAC	06210	16	C6C95	-2492
04540	TFM	TRHET+6		,P44E	06222	16	C6364	-63C2
04550	BNF	PR1		,FAC-1	06234	44	C5578	C2491
04560	TFM	SWF		,P44C1-5	06246	16	C5965	-6264
04570	B7	PR1			06258	49	C5578	
04580	P44C1	CSA	ETYPE		06269		5 X	1
					06269		-458C	
04590	CC	3,35			06272		3	
04600	CC	2,28			06274		2	
04610	CSA	PRCNTR-12			06279		5 X	1
					06279		-69C4	
04620	P44C2	DSA	ITYPE		06284		5 X	1
					06284		-4448	
04630	CC	3,24			06287		3	
04640	CSA	PRCNTR-12			06292		5 X	1
					06292		-69C4	
04650	CC4	B7	SWL		06294	49	C6C42	
04660	P44E	TFM	TRRET+6	,CCPEND	06302	16	C6364	-6996
04670	TFM	ODD4+6		,SWL	06314	16	C63CC	-6C42
04680	B7	FMFAC			06326	49	C3452	
04690	CC6	BNI	TRRET	,C340C	06334	47	C6358	C34CC
04700	K			,CC97I	06346	34	CCOCC	CC97I
04710	TRRET	B		CCPEND	06358	49	C6996	CCCCC
04720	DORG			*-4	06365			
04730	DORG			6422	06422			
04740	STZERC	CC	2	,CC	06423		2	

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04750	CO			,C246810	06424	-C	-C-C-	C-C-C
04760	CO			,C246810	06436	-C	-C-C-	C-C-C
04770	CO			,C246810	06448	-C	-C-C-	C-C-C
04780	CO			,C246810	06460	-C	-C-C-	C-C-C
04790	CO			,C246810	06472	-C	-C-C-	C-C-C
04800	CO			,C246810	06484	-C	-C-C-	C-C-C
04810	CO			,C246810	06496	-C	-C-C-	C-C-C
04820	DC	2		,CC	06509		2	
04830	FLZERS	DC	2	,C*	06511		2	
04840	CS	5			06516		5	
04850	MATRIX	IDP	MATSW	,1	06518	15	C6555	CCOCC
04860	IDP		SWL+1	,9	06530	15	C6C43	CCCCC
04870	TF	LOCADJ		,FP2	06542	26	C6574	C36C5
04880	BNF	MATRIX2-12	MATRIX-1		06554	44	C659C	C6517
04890	TFM	LOCADJ		,OC	06566	16	C6574	CCO-C
04900	LOCADJ	DS	2	,*-3	06574		2	
04910	S	LOCADJ		,K	06578	22	C6574	C2221
04920	S	MATRIX-1	,LCCADJ		06590	22	C6517	C6574
04930	MATRIX2	A	MATRIX-1	,LCCADJ	06602	21	C6517	C6574
04940	TF	LOC	MATRIX-1	,MCVE ADJUSTED	06614	26	C6C09	C6517
04950	SM	PAR		,1	06626	12	C3378	CCC-1
04960	BNE	*+24			06638	47	C6662	C12CC
04970	TDP	MATSW		,C	06650	15	C6555	CCOCC
04980	BNL	SWC+12			06662	46	C61C2	C13CC
04990	BB				06674	42	CCCCC	CCCCC
05000	DORG	*-9			06676			
05010	*****							
05020	SLASH	TDP	COMEND+1	,9	06676	15	C6997	CCCC9
05030	BD	SLASH2	,RWEFSW	**	06688	43	C67C8	C6C61
05040	B	COMEND			06700	49	C6996	CCCCC
05050	DORG	*-4			06707			
05060	SLASH2	BD	IOCR	,CCMP SW	06708	43	C6972	C575C
05070	CM	DATINH+2		,C6	06720	14	C6175	CCC-6
05080	BM	WRITE		,10	06732	46	C6816	C11CC
05090	TF	LAST	,FLZERS	,6	06744	26	C582-	C6511
05100	SM	LAST	,C2	,10	06756	12	C582C	CCC-2
05110	CM	LAST	,OC	,610	06768	14	C582-	CCC-C
05120	BE	*-36			06780	46	C6744	C12CC
05130	CM	LAST	,INH		06792	14	C582C	J4219
05140	BL	COM END			06804	47	C6996	C13CC
05150	WRITE	BNR	WRITE1	,RWEFSW	06816	45	C694C	C6861
05160	CM	INH		,7C	06828	14	14219	CCOPO
05170	BNH	*+32			06840	47	C6872	C1100
05180	TF	PRKEY	,INH	**	06852	26	C6927	14219
05190	B7	PRCNTR			06864	49	C6916	
05200	BNE	*+32			06872	47	C69C4	C12CC
05210	TFM	PRKEY		,52	06884	16	C6927	CCO21
05220	B7	PRCNTR		,10	06896	49	C6916	
05230	TFM	PRKEY		,10	06904	16	C6927	CCO11
05240	PRCNTR	K		,C9C0	06916	34	CCCCC	CC9C0
05250	PRKEY	DS	2		06927		2	
05260	MAX	DS	5		06927		5	
05270	TR	INH-1		,INH+1	06928	31	14218	14220
05280	WRITE1	TFM	IORT	,*+23	06940	16	CC365	-6963

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05290	B	IOPT	,DATINM-4	,7	06952	49	C0532	-6169
05300	B	ODD6			06964	49	C6334	CCCCC
05310		CORG	-4		06971			
05320	IOCR	CM	MAX-3	,08	06972	14	C6915	CCC-8
05330	CKW	DS	3	,0-2				
05340		BNL	WRITE		06981			
05350	CCMENC	B	RWA2-12		06984	46	C6816	C13CC
05360		DORG	-4		06996	49	C573C	COCCC
05370	*****				07003			
05380		CS	3					
05390	CCMPLT	TDP	COMEND+1	,2	07005			
05400	CHAR2	DS	3	,0-1	07006	15	C6997	CGO02
05410		B	SLASH+12		07016			
05420		CORG	-4		07018	49	C668E	CCCCC
05430	REDD	BD	REDD A+24,MAT SW		07025			
05440		TD	REDDA+23,CCMPSW		07026	43	C7C94	C5655
05450	TFM	SWC	ADJ,RECC A	,,	07038	25	C7C93	C575C
05460		B	SWL		07050	16	C6152	-7C7C
05470		CORG	-4		C7C62	49	C6C42	CCCCC
05480	REDDA	TDP	SWL+1	,1	07069			
05490		TDP	COMPSW	,,	0707C	15	C6C43	CCO01
05500	TERM	DS	5	,,	07082	15	C575C	CCCCC
05510	AM	SWF	,5		07093			
05520	TF	SWF	,SWF	,11	07094	11	C5965	-C005
05530		B	SLASH		07106	26	C5965	C596R
05540		CORG	-4		07118	49	C667E	CCCCC
05550	*****				07125			
05560	*****							
05570	*****							
05580	*****							
05590	*****							
05600	REP	AM	SWF	,7	07126	11	C5965	-CCC7
05610		SM	REP SW	,1	07138	12	C5654	CCC-1
05620		BH	REP 2	,10,	07150	46	C715E	C11CC
05630		BE	B SWF		07162	46	C5934	C12CC
05640		A	REP SW	,SWF	07174	21	C5654	C596R
05650		BNH	B SWF		07186	47	C5934	C11CC
05660	REP2	SM	SWF	,2	07198	12	C5965	-CCC2
05670		TF	SWF	,SWF	07210	26	C5965	C596R
05680		B	SWF-23		07222	49	C594E	CCCCC
05690		DORG	-4		C7229			
05700	REP3	SF	RFP SW-1		07230	32	C565E	CCCCC
05710	WA	DS	5	,,	07241			
05720		AM	SWF	,7	07242	11	C5965	CCC-7
05730		SM	REPSW 3	,1	07254	12	C5657	CCC-1
05740		BH	REP 2		C7266	46	C719E	C11CC
05750		BE	B SWF		07278	46	C5934	C12CC
05760		A	REPSW 3	,SWF	07290	21	C5657	C596R
05770		B	REP 2-12		C7302	49	C718E	CCCCC
05780		CORG	-4		07309			
05790	EXF9	TFM	SWC	ADJ,ER CCP 2	07310	16	C6152	-738E
05800		TF	LAST	,MAX 2	07322	26	C582C	C6145
05810		TFM	EI	,679	07334	16	C2615	CCC79
05820		B	SWL		C7346	49	C6C42	COCCC
05830		DORG	-4		07353			
05840	XTYPE	AM	SWF	,3	07354	11	C5965	-CCC3

05850	A	LAST	,SWF	,11	07366	21	C582C	C596R
05860	B	B SWF			07378	49	C5534	COCCC
05870		DORG	-4		C7385			
05880	ERCOM2	K		,C551	07386	34	COCCC	CC951
05890	WA2	DS	5	,0-5	07392			
05900		TFM	IOPT	,0+23	07398	16	C5655	-7421
05910		B	IOPT	,DATERR-4	07410	49	C0532	-6153
05920		TR	EI+1	,FLZERS-1	07422	31	C2616	C6510
05930		B	B SWF-12		07434	49	C5922	COCCC
05940	EPT	DS	5	,,	07445			
05950	EFCOM	AM	SWF	,3	07446	11	C5965	-CCC3
05960		TF	WICHT	,SWF	07458	26	C5795	C596R
05970		AM	SWF	,2	07470	11	C5965	-CCC2
05980		TF	LOC D	,SWF	07482	26	C580C	C596R
05990		TF	INPLUS	,LAST	07494	26	C6C53	C582C
06000		TF	WIDTH 2	,WIDTH	C7506	26	C6C64	C5799
06010	A	WIDTH 2	,WIDTH		07518	21	C6C64	C5799
06020	A	LAST	,WIDTH2		07530	21	C582C	C6064
06030	C	LAST	,MAX 2		07542	24	C582C	C6145
06040	BH	ER FS			C7554	46	0731C	C11CC
06050	TF	TERM	,LAST		07566	26	C7C93	C582C
06060	SM	TERM	,2		07578	12	C7C93	-CCC2
06070	TF	CHAR	,WIDTH		07590	26	C8685	C5799
06080	TF	WA	,FMH		07602	26	C7241	C3313
06090	TDP	97	,C		07614	15	COCC9	COCCC
06100	TFM	99	,CC	,10	07626	16	COCC9	COO-C
06110	BD	EF WRT	,RNEFSW		07638	43	07842	C6061
06120	TF	FAC	,FLZALP	,11	07650	26	C2492	C334C
06130	TFM	EFTERM+18,EF TYPE			07662	16	C8616	-8C3C
06140	TFM	SWCADJ	,READ EF		07674	16	C6152	-4492
06150	RDFCH	BNR	+02C	,INPLUS	07686	45	C770C	C605L
06160	B7	ERRF7E			07698	49	0874E	
06170	CM	INPLUS	,0C	,610,	07706	14	C6C5L	COO-C
06180	BNE	FCH NB			07718	47	0778E	C12CC
06190	SM	CHAR	,1	,10	07730	12	C8685	CCC-1
06200	AM	INPLUS	,2		07742	11	C6053	-0002
06210	C	INPLUS	,LAST		07754	24	C6C53	C582C
06220	BL	RD FCH			07766	47	0768E	C13CC
06230	B	EFEND+12			07778	49	C8634	COCCC
06240		DORG	-4		07785			
06250	FCHNB	CM	INPLUS	,2C	07786	14	C6C5L	CO0CK
06260		BE	EF MIN	,610,	07798	46	C800C	C12CC
06270		CM	INPLUS	,1C	07810	14	C6C5L	CO0CJ
06280		BE	EF PLUS		07822	46	08C18	C1200
06290		B	EFTYPE+36		07834	49	C8C6E	COCCC
06300		DORG	-4		07841			
06310	EFWRT	C	LOC D	,F	07842	24	C560C	C2219
06320		BNH	+024		07854	47	07878	C11CC
06330		TF	LOC D	,F	07866	26	C560C	C2219
06340		TF	LOCD 2	,LCC D	07878	26	C5678	C568C
06350	A	LOCD 2	,LOC D		07890	21	C5678	C568C
06360	TR	GAP-59	,MASK F-1		07902	31	C2496	05432
06370	TFM	WA	,GAM		07914	16	07241	-2555
06380	TFM	WA2	,FAC-1		07926	16	07392	-2491
06390	TFM	SWCADJ	,EFMW		07938	16	C6152	-4514
06400		SM	WIDTH	,2	07950	12	C5799	COO-2

06410	BNF	SWL	,RNEFSH		07562	44	C6C42	C6061
06420	SM	TERM	,8		07974	12	C7C93	-C0C8
06430	SM	WICHT	,4	.10	07586	12	C5795	CCC-4
06440	B	ODD4			07558	49	C6294	CCCC
06450	DORG	*-4			08CC5			
06460	EFMIN	SF	99		08CC6	32	CCC95	CCOCC
06470	EFPLLS	SM	CHAR	,1	08C18	12	C8685	CCC-1
06480	EFTYPE	AM	INPLLS	,2	08C3C	11	C6C53	-CC2
06490	CM	INPLLS	,CC	.61C	08C42	14	C6C5L	CCO-C
06500	BE	LOG DIG			08C94	46	C843E	C12CC
06510	CM	INPLLS	,7C	.610	08C66	14	C6C5L	CCOCC
06520	BH	EF DIG			08C78	46	C8538	C11CC
06530	BE	LOG DIG			08C9C	46	C843E	C12CC
06540	CM	INPLLS	,03	.61C	08102	14	C6C5L	CCO-3
06550	BE	EF DEC			08114	46	C847C	C12CC
06560	BNF	ERRF7 E	,RNEFSH		08126	44	C8746	C6C61
06570	TFM	EXP	,CCC	.9	08138	16	C8155	CC-CC
06580	TDM	E EXPAD+1,	1		08150	15	C8415	CCOCC
06590	EXP	CS	3	*-2	08159			
06600	CM	INPLLS	,45	.610	08162	14	C6C5L	CCO95
06610	BE	E EXP			08174	46	C835C	C12CC
06620	CM	INPLLS	,4C	.610	08186	14	C6C5L	CCOCC
06630	BNL	ERRF7E			08198	46	C8746	C13CC
06640	EEXP2	CM	INPLLS	,2C	0821C	14	C6C5L	CCOCC
06650	BE	E EXP			08222	46	C831E	C12CC
06660	CM	INPLLS	,1C	.61C	08234	14	C6C5L	CCOCC
06670	BE	E EXP			08246	46	C835C	C12CC
06680	EEXP22	BD	*+24	.97	08258	43	C8282	CCO97
06690	SM	CHAR	,1	.9	0827C	12	C8685	CC-C1
06700	C	INPLLS	,TERM		08282	24	C6C53	C7C93
06710	BNL	EEXPAD-12			08254	46	C84C6	C13CC
06720	TD	EXP-1	,INPLUS	.11	08306	25	C8155	C6C5L
06730	AM	INPLLS	,2		08318	11	C6C53	-CC2
0674C	B	EEXP22+12			08330	49	0827C	CCOCC
06750	DORG	*-4			08337			
06760	EEXP	TDM	E EXPAD+1,2		08338	15	C8415	CCOCC
06770	EEXP	AM	INPLLS	,2	0835C	11	C6C53	-CC2
0678C	SM	CHAR	,1	.1C	08362	12	C8685	CCO-1
06790	C	INPLLS	,TERM		08374	24	C6C53	C7C93
06800	BNH	EEXP2			08386	47	C821C	C11CC
06810	B7	ERRF7E			08358	49	C8746	
06820	TD	EXP	,INPLUS	.11	08404	25	C8155	C6C5L
06830	EEXPAC	A	CHAR	,EXP	08418	21	C8685	C8155
06840	B	EF END			0843C	49	C8222	CCOCC
06850	DORG	*-4			C8437			
06860	LCCDIG	BNF	EF DIG	.98	08438	44	C8538	CCO98
06870	SM	CHAR	,1	.10	0845C	12	C8685	CCC-1
06880	B	EF TERM			C8462	49	C859E	CCCC
06890	DORG	*-4			08469			
06900	EFDEC	BD	ERRF7 E	.97	0847C	43	C8746	CCO97
06910	TFM	LOC D	,CC	.10	08482	16	C568C	CCC-C
06920	TFM	EFTERM+18,EF	PLLS		08454	16	C8416	-C818
06930	TDM	97	,-1		C85C6	15	CCO97	CCOCC
0694C	SM	CHAR	,1	.10	C8518	12	C8685	CCC-1
06950	B	EF TERM			C853C	49	C859E	CCCC
0696C	DORG	*-4			C8537			

06970	EPDIG	CF	98		08538	33	CCO98	CCOCC
06980	DPTM2	DS	5	,*	08549			
06990	CM	WA	,FAC-1		0855C	14	C7241	-2491
07000	BNL	*+36		,,	08562	46	C859E	C13CC
07010	TD	WA	,INPLUS	.611	08574	25	C724J	C6C5L
07020	AM	WA	,1		08586	11	C7241	-CCO1
07030	EFTERM	C	INPLLS	,TERM	08598	24	C6C53	C7C93
07040	BL	EFTYPE			08610	47	C803C	C13CC
07050	EFEND	BNF	EFEND2	,FNH	08622	44	C8654	C331L
07060	TFM	FAC	,95	.1011	08634	16	C2452	CCO98
07070	B	SWL			08646	49	C6C42	CCOCC
07080	DORG	*-3			08654			
07090	EFEND2	S	CHAR	,LCC D	08654	22	C8685	C568C
07100	BD	ERR F7E	,CHAR-2		08666	43	C8746	C8687
07110	SF	CHAR-1			08678	32	C868E	CCOCC
07120	CHAR	DS	5	,*	08689			
07130	TF	FAC	,CHAR		0869C	26	C2452	C8689
07140	SF	FNH	,6		087C2	32	C331L	CCOCC
07150	BNF	SWL	,99		08714	44	C6C42	CCO99
07160	SF	FAC-2			08726	32	C249C	CCOCC
07170	B	SWL			08738	49	C6C42	CCOCC
07180	DORG	*-4			08745			
07190	ERRF7E	TF	FAC	,FLZALP	08746	26	C2452	C334C
07200	TDM	FI	,7	.11,	08758	15	C2615	CCOCC
07210	B	EFEND			0877C	49	C8622	CCOCC
07220	DORG	*-4			C8777			
07230	****			PACRC FOR HOLLERITH TYPE REAC AND WRITE				
07240	MTYPE1	TF	WIDTH2	,SNF	08778	26	C6C64	C596R
07250	TF	INPLLS	,LAST	.11	0879C	26	C6C53	C5820
07260	A	LAST	,WIDTH2		088C2	21	C582C	C6C64
07270	C	LAST	,MAX2		08814	24	C582C	C6145
07280	BNH	*+32			08826	47	C885E	C11CC
07290	A	SNF	,WIDTH2		08838	21	C5965	C6C64
07300	B	ER CCM 2			0885C	49	C738E	CCOCC
07310	DORG	*-4			08857			
07320	BD	HURT	,RNEFSH		08858	43	C893E	C6C61
07330	PRD	SM	WIDTH 2	,2	0887C	12	C6C64	CCC-2
07340	BL	BSWF		.10,	08882	47	C5934	C13CC
07350	AM	SWF	,2		08894	11	C5965	-CCO2
07360	TF	SWF	,INPLUS	.611	08906	26	C596R	C6C5L
07370	AM	INPLLS	,2		08918	11	C6C53	-CC2
07380	B	HRD			0893C	49	C887C	CCOCC
07390	DORG	*-4			08937			
07400	HURT	SM	WIDTH 2	,2	08938	12	C6C64	CCC-2
07410	TDM	COMPSM	,C	.10,	08950	15	C759C	CCOCC
07420	BL	BSWF			08962	47	C5934	C13CC
07430	AM	SWF	,2		08974	11	C5965	-CCO2
07440	TF	INPLUS	,SNF	.611	08986	26	C6C5L	C596R
07450	AM	INPLLS	,2		08958	11	C6C53	-CC2
07460	B	H WRT			09C1C	49	C893E	CCOCC
07470	DORG	*-4			09C17			
07480	EFRD1	CF	LOC		09C18	33	C6C85	CCOCC
07490	TF	FIXEND+6	.1 CON 5+6		09C30	26	C3744	C55C8
07500	B	FIX			09C42	49	C8934	CCOCC
07510	DORG	*-4			09049			
07520	EFRD2	TDM	FIXEND+1	,2	09050	15	C3741	CCOCC

07530	TF	LOC	,FAC	,6		09042	26	C608R	C2492
07540	SM	LOC	,2			09074	12	C608S	-C0C2
07550	TF	LOC	,FAC-2	,6		09086	26	C608R	C249C
07560	B	ER F7				09098	49	IC61C	CC0CC
07570	DORG	**4				09105			
0758C	*****				MACRC FCR A TYPE READ ANC WRITE				
07590	ATYPE1	TF	WIDTH2	,5WF	,11	09106	26	C608A	C596R
07600	TF	INPLLS	,LAST			09118	26	C6053	C582C
07610	A	LAST	,WIDTH 2			09130	21	C582C	C604A
07620	C	LAST	,MAX 2			09142	24	C582C	C6145
07630	BH	ER F9				09154	46	C731C	C110C
07640	TF	TERM	,LAST			09166	26	C7093	C582C
07650	SM	TERM	,2			09178	12	07C93	-00C2
07660	TFM	SWC ADJ	,WRITE A			09190	16	C6152	-645C
07670	BD	SWL	,Rb EF SW			09202	43	C6042	C6061
07680	TFM	SWC ADJ	,READ A			09214	16	C6152	-523A
07690	B	SWL				09226	49	C6042	CC0CC
07700	DORG	**4				09233			
07710	READA	CF	INPLLS	,	,6	09234	33	C605L	CC0CC
07720	AM	INPLLS	,1	,10		09246	11	C6053	CCC-1
07730	C	INPLUS	,TERM			09258	24	C6053	C7093
07740	BL	READ A				09270	47	C923A	C13CC
07750	BNF	RDAFL	,LCC			09282	44	C935A	C608S
07760	CF	LOC				09294	33	C608S	CC0CC
07770	TF	LOC	,FXZ	,6		09306	26	C608R	C2815
07780	S	WIDTH 2	,K			09318	22	C6064	C2221
07790	RDA	BH	ERF7A			09330	46	C937A	C110C
07800	A	LOC	,WICTH 2			09342	21	C608S	C6064
07810	TF	LOC	,TERM	,611		09354	26	C608R	C709L
07820	B	ER F7				09366	49	IC61C	CC0CC
07830	DORG	**4				09373			
07840	ERF7A	TDM	EI	,7	,11, SET ER F7 ERRCR INC ANC SWITCH-	09374	15	C2615	CC0CP
07850	B	ER F7				09386	49	IC61C	CC0CC
07860	DORG	**4				09393			
07870	RDAFL	TFM	LOC	,0C	,610	09394	16	C608R	CC0-C
07880	SM	LOC	,2	,10		09406	12	C608S	CC0-2
07890	TF	LOC	,FLZ	,611		09418	26	C608R	C335L
07900	S	WIDTH 2	,F			09430	22	C6064	C2219
07910	B	RD A				09442	49	C933C	CC0CC
07920	DORG	**4				09449			
07930	WRITEA	TF	FAC	,LCC	,11	09450	26	C2492	C608R
07940	BNF	WA FX	,FAC-1			09462	44	C9562	C2451
07950	SM	LOC	,2			09474	12	C608S	-CC02
07960	S	WICTH 2	,F			09486	22	C6064	C2219
07970	RRTA	BH	WRTA 2			09498	46	C9542	C110C
07980	A	LOC	,WICTH 2			09510	21	C608S	C6064
07990	TF	TERM	,LCC	,611		09522	26	C705L	C608R
08000	B	BSWF				09534	49	C933A	CC0CC
08010	DORG	**4				09541			
08020	RRTA2	SM	WIDTH 2	,02	,10	09542	12	C6064	CC0-2
08030	B	RRTA				09554	49	C945E	CC0CC
08040	DORG	**4				09561			
08050	WAFX	S	WIDTH 2	,K		09562	22	C6064	C2221
08060	B	WRT A				09574	49	C945E	CC0CC
08070	DORG	**4				09581			
08080	*****				E AND F TYPE MANTISSA WRITING,FLCAT ARG IF REC.				

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0809C	*****				COMPLTE DEC PT IN GAM ANC OUTPUT RECORD. MOVE				
0810C	*****				MANTISSA DIGIT BY DIGIT, RIGHT TO LEFT, FROM FAC				
08110	*****				TO GAM, INSERT SIGN, CHECK WIDTH, ANC ZERO.				
08120	*****				BR TO WRT F FOR F TYPE CONTINUATION				
08130	EPMW1	TF	FAC	,LCC	,11	09582	26	C2492	C608R
08140	BNF	FLGAT	,FAC-1			09594	44	C4042	C2491
08150	SM	LOC	,2			09606	12	C608S	-C0C2
08160	TF	FAC-2	,LCC	,11		09618	26	C249C	C608R
08170	EFALP	TDM	FLTEND-5	,2		09630	15	C380C	CC0C2
08180	TF	DPT	,TERM			09642	26	C7445	C7093
08190	S	DPT	,LCC D 2			09654	22	C7445	C5678
08200	TFM	DPG	,GAM			09666	16	C608A	-2555
08210	S	DPG	,LCC D 2			09678	22	C608A	C5678
08220	TF	DPTW2	,DPT			09690	26	C8545	C7445
08230	SM	DPTW2	,2			09702	12	C8549	-00C2
08240	EFALP	SM	WA 2	,1		09714	12	C7392	-C0C1
08250	TD	WA	,WA2	,611		09726	25	C724J	C739K
08260	CF	WA	,	,6		09738	33	C724J	CC0CC
08270	SM	WA	,2			09750	12	07241	-00C2
08280	C	WA2	,FPLMF			09762	24	C7392	C3313
08290	BH	EF ALP				09774	46	C9714	C110C
08300	TFM	WA	,0C	,610		09786	16	C724J	CC0-C
08310	BNF	EF CHKS	,FAC-2			09798	44	C9822	C2490
08320	TFM	WA	,2C	,610		09810	16	C724J	CC0CC
08330	EFCNKS	TFM	CKW	,0CC	,9	09822	16	C6981	CC-CC
08340	A	CKW	,LCCD			09834	21	C6981	C568C
08350	A	CKW	,FAC			09846	21	C6981	C2492
08360	TF	CHAR	,CKW			09858	26	C868S	C6981
08370	S	CHAR	,F			09870	22	C868S	C2219
08380	C	WIDTH	,LCC D			09882	24	C5795	C568C
08390	BL	ER F8 E				09894	47	C5226	C130C
08400	CM	FAC	,-7C	,10		09906	14	C2492	CC0CP
08410	BNF	**20	,RHEFSb			09918	44	C993E	C6061
08420	B7	**2C				09930	49	C995C	
08430	BL	**24				09938	47	C9962	C130C
08440	BD	**36	,FNH	,11		09950	43	C9986	C331L
08450	TDM	FLTEND-4	,-1			09962	15	C380C	CC0CJ
08460	TFM	CHAR	,-C99	,9		09974	16	C868S	CC-9R
08470	BNF	WRTF	,RHEFSb			09986	44	04726	C6061
08480	*****				WRITE E TYPE. ASSEMBLE EXP IN GAM USING A MASK,				
08490	*****				THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO				
08500	*****				OUTPUT. THEN GO TO INSERT DECIMAL POINT				
08510	WRT E	S	WIDTH	,F		09998	22	C5799	C2219
08520	BNL	WRT E2	,	, BR IF F NOT LARGER THAN EFF WIDTH		10010	46	04622	C130C
08530	BD	**36	,FLTEND-4			10022	43	10058	C1806
08540	S	CHAR	,WIDTH			10034	22	C868S	C5799
08550	BD	ERF0E	,CHAR-2			10046	43	C5226	C8687
08560	TFM	**47	,GAM			10058	16	10105	-2555
08570	A	**35	,WIDTH			10070	21	10105	C5799
08580	A	**23	,WIDTH			10082	21	10105	C5799
08590	TF	GAM				10094	26	C2555	CC0CC
08600	B	WRT E2				10106	49	04622	CC0CC
08610	DORG	**4				10113			
08620	*****				MACRO FCR I TYPE READ ANC WRITE				
08630	ITYPE1	TF	WIDTH2	,5WF	,11	10114	26	C608A	C596R
08640	A	LAST	,WIDTH2			10126	21	C582C	C6064

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08650	C	LAST	,MAX2			10138	24	C582C	C6145
08660	BH	ER F9				10150	46	C731C	C11CC
08670	TF	INPLLS	,LAST			10162	26	C6C53	C582C
08680	TFM	IR DIG+6	,FAC			10174	16	1C424	-2492
08690	TFM	SWC ADJ	,WRITE I			10186	16	C6152	-447C
08700	HD	ODD4	,RWEFSW			10198	43	C6294	C6C61
08710	TF	TERM	,FPLMK			10210	26	C7C93	C3203
08720	TF	FAC	,FX2			10222	26	C2452	C2015
08730	TFM	SWC ADJ	,READI			10234	16	C6152	J0526
08740	*****	CHAR BY CHAR IS MOVED INTO FAC, RIGHT JUSTIFIED, UNTIL SIGN							
08750	*****	OR W CHAR ARE EXAMINED.							
08760	*****	ERROR F7 WILL OCCUR IF MORE THAN N CHAR ARE AVAILABLE TO READ							
08770	IREAD	SM	WIDTH-2	,2	,10	10246	12	C6C64	CCC-2
08780		BL	SWL			10258	47	C6C42	C13CC
08790		SM	INPLLS	,2		10270	12	C6C53	-CCC2
08800		BNR	*+2C	,INPLLS	,11, CHECK FOR INPUT RECCRD MARK	10282	45	1C3C2	C6C5L
08810		B7	ERRF71			10294	49	1C494	
08820		CM	INPLLS	,7C	,610	10302	14	C6C5L	CCCCC
08830		BH	IR DIG			10314	46	1C418	C11CC
08840		BE	IR BLNK			10326	46	1C494	C12CC
08850		CM	INPLLS	,0C	,610	10338	14	C6C5L	CCC-C
08860		BE	IR BLNK			10350	46	1C494	C12CC
08870		CM	INPLLS	,2C	,61C	10362	14	C6C5L	CCCKC
08880		BE	I MINUS			10374	46	1C474	C12CC
08890		CM	INPLLS	,1C	,610	10386	14	C6C5L	CCCJC
08900		BE	SWL			10398	46	C6C42	C12CC
08910		B	ERR F71			10410	49	1C494	CCCCC
08920		DORG	*-4			10417			
08930	IRDIG	ID		,INPLLS	,11	10418	25	CCCCC	C6C5L
08940		C	*-6	,TERM		10430	24	1C424	C7C53
08950		BL	ERR F7 I			10442	47	1C494	C13CC
08960	IRBLNK	SM	IR DIG+6	,1		10454	12	1C424	-00C1
08970		B	I READ			10466	49	1C246	CCCCC
08980		DORG	*-4			10473			
08990	IMINUS	SF	FAC			10474	32	C2492	CCCCC
09000		B	SWL			10486	49	C6C42	CCCCC
09010		DORG	*-4			10493			
09020	ENRF71	TF	FAC	,FX2	,, SET FIXED ZERO INTO FAC	10494	26	C2492	C2815
09030		TFM	EI	,677	,911, SET ERROR F7 INDICATION	10506	16	C2615	CC07P
09040		B	SWL			10518	49	C6C42	CCCCC
09050		DORG	*-4			10525			
09060	READI	SF	FPLMK	,	,6	10526	32	C328L	CCCCC
09070		TF	FLT END	,ICCN 2+6		10538	26	C381C	1C648
09080		BNF	FLCAT	,LCC		10550	44	C4C42	C6089
09090		CF	LOC			10562	33	C6C85	CCCCC
09100	READIF	TF	LOC	,FAC	,6	10574	26	C6C8R	C2492
09110		SM	LOC	,2		10586	12	C6C85	-CCC2
09120		TF	LOC	,FAC-2	,6	10598	26	C6C8R	C249C
09130	ERF7	BNF	BSWF-12	,EI	,, BR IF ACT ERROR TYPE F7	10610	44	C5922	C2615
09140		CF	EI	,	,, ERASE ERROR F7 INDICATION	10622	33	C2615	CCCCC
09150		B	ER CCM 2			10634	49	C7396	CCCCC
09160		DORG	*-4			10641			
09170	ICON2	B	READ IF	,	,1	10642	4R	1C574	CCCCC
09180		DORG	*-4			10649			
09190	*****	RETURN FROM SWL VIA SWC IF WRITING I TYPE							
09200	*****	VALUE PLT IN FAC IN I FORM, EXPANDED TO ALPHA IN							

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09210	*****	GAMMA RIGHT TO LEFT. NO CONTAINS ACP OF HIGH ORDER							
09220	*****	DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED, CHECKED							
09230	*****	FOR WIDTH, MOVE TO OUTPUT RECCRD.							
09240	*****	ERFBI RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.							
09250	WRIT11	TFM	WA2	,FAC+1		10650	16	C7352	-2493
09260		TF	FAC	,LCC	,11	10662	26	C2452	C608R
09270		BNF	WRIT12+12	,FAC-1		10674	44	1C742	C2451
09280	IFWRT	SM	LOC	,2		10686	12	C6C85	-CCC2
09290		TF	FAC-2	,LCC	,11	10698	26	C245C	C608R
09300		TF	FIXEND+6	,ICCN3+6		10710	26	C3766	C5516
09310		B	FIX			10722	49	C3854	CCCCC
09320		DORG	*-4			10725			
09330	WRT12	TRM	FIXEND+1	,2		10730	15	C3761	CCCCC
09340		TR	GAM-19	,PASK I		10742	31	C2536	C5472
09350		TFM	HO	,GAP+1		10754	16	1C845	-2556
09360	WRT1	SM	WA 2	,1		10766	12	C7352	-CCC1
09370		SM	WA	,2		10778	12	C7241	-CCC2
09380		TD	WA	,WA 2	,611	10790	25	C724J	C739K
09390		BD	I DIG	,WA 2	,11	10802	43	1C822	C739K
09400		B	I DIG+12			10814	49	1C834	CCCCC
09410		DORG	*-4			10821			
09420	IDIG	TF	HO	,WA		10822	26	1C845	C7241
09430		CF	GAM	,	,, PREVENTS PREMATURE TERM. FOR NEG ARG	10834	33	C2555	CCCCC
09440	PC	DS	S	,	,, ACP OF HI ORDER NON ZERO DIGIT	10845			
09450		BNF	WRT1	,WA	,11	10846	44	1C766	C724J
09460		CM	HO	,GAP+1		10858	14	1C845	-2556
09470		BNE	WRT SGN			10870	47	1C9C2	C12CC
09480		TFM	LAST	,7CCD	,68	10882	16	C582-	CPCCC
09490		B	BSWF			10894	49	C5934	CCCCC
09500		DORG	*-4			10901			
09510	WRTSGN	BNF	WRT 13	,FAC		10902	44	1C938	C2492
09520		SM	HO	,2		10914	12	1C845	-CCC2
09530		TFM	HO	,2C	,610	10926	16	1C84A	CC0KC
09540	WRT13	SM	HO	,1		10938	12	1C845	-0001
09550		TFM	OUT	,GAP		10950	16	11CC9	-2555
09560		S	OUT	,HC		10962	22	11CC9	1C845
09570		C	OUT	,WIDTH 2		10974	24	11CC9	C6064
09580		BH	ER F8 I			10986	46	11C66	C1100
09590		SF	OUT			10998	32	11CC9	CCCCC
09600	CLT	DS	S	,	,, HI ORDER WNG ACP IN I/C RECCRD, I TYPE	11009			
09610		A	OUT	,LAST		11010	21	11CC9	C5820
09620		SM	OUT	,2		11022	12	11CC9	-00C2
09630		TR	OUT	,HC	,611	11034	31	11CCR	1C84A
09640		TFM	LAST	,CC	,610	11046	16	C582-	CCO-C
09650		B	BSWF			11058	49	C5934	CCCCC
09660		DORG	*-4			11065			
09670	ERFBI	TR	DUD M+11,FLZERS-67			11066	31	C2618	C6444
09680		TR	DUD M+11,HC	,11		11078	31	C2618	1C84A
09690		B	ERCOM			11090	49	C5346	CCCCC
09700		DORG	*-4			11097			
09710	*****	1620 FORTRAN II-C ARITHMETIC SLURCUTINES							
09720	FIX1	BP	*+32	,	,, YES	11098	46	1113C	C11CC
09730		TF	FAC	,FX2	,, NC	11110	26	C2492	C2815
09740		B	FIXEND			11122	49	0376C	CO000
09750		DORG	*-3			11130			
09760		TD	MU-1	,FAC-2	,, STORE SIGN	11130	25	C3711	C249C

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09770	C	FAC	,K	,,	IS CHAR GREATER THAN K	11142	24	C2492	C2221
09780	BNH	+44				11154	47	11190	C11CC
09790	TOM	FXERR+25	,1	,,	SET ERR TYPE	11166	15	C3701	CC0C1
09800	TFM	FI	,579	,9,	SET ER EQ, CVFL IN FIX	11178	16	C2615	00M79
09810	B	FXNINE+12,		,,	YES, FAC = FX9	11190	49	11444	CC0CC
09820	DORG	+3				11190			
09830	CF	FAC-2				11190	33	C249C	CC0CC
09840	TF	BETA	,ZERO-51	,,	CLEAR ACC AREA	11210	26	C2603	C2716
09850	TF	IMSA	,FXZ			11222	26	C2575	C2815
09860	TF	+3C	,IPSAPP	,,	ALIGN DECIMAL PCINTS	11234	26	11264	C3298
09870	S	+18	,FAC			11246	22	11264	C2492
09880	A	DUMMY	,FAC-2			11258	21	99999	C2490
09890	TF	FAC	,IMSA			11270	26	C2492	C2575
09900	B	MU				11282	49	C3712	CC0CC
09910	DORG	+4				11289			
09920	FXA1	BV	+12			11290	46	11302	C1400
09930	BB	+9				11302	42	CC0CC	CC0CC
09940	DORG	+9				11304			
09950	FXSRI	CF	FAC			11304	33	C2492	CC0CC
09960	TF	FXA-1	,FXSR-1	,,	SET UP ACC	11316	26	C3877	C3925
09970	B	FXA		,,	BRANCH TO FIXED POINT ACC	11328	49	C3878	CC0CC
09980	DORG	+3				11336			
09990	SF	FAC				11336	32	C2492	CC0CC
10000	B	FXSRI+12				11340	49	11316	CC0CC
10010	DORG	+3				11356			
10020	FXM1	SF	10CMK	,	,6	11356	32	C325L	CC0CC
10030	TF	FAC	,99			11360	26	C2492	CC099
10040	BB					11380	42	CC0CC	CC0CC
10050	DORG	+9				11382			
10060	FXC1	D	10CMK	,FXC-1	,611	11382	29	C329L	C397L
10070	BV	+26				11394	46	1142C	C14CC
10080	TF	FAC	,99PK	,11		11406	26	C2492	C3280
10090	BB					11418	42	CC0CC	CC0CC
10100	DORG	+9				11420			
10110	TFM	E1	,578	,9,	ERRCR EB	11420	16	C2615	CCN78
10120	FXNINE	TFM	FXERR+30	,FIXENC-12,	,,	11432	16	C3706	-3748
10130	TF	FAC	,FX9	,,	SET UP ERRCR EXIT	11444	26	C2492	C2805
10140	B	FXERR			FAC = FX9	11456	49	C3676	CC0CC
10150	DORG	+3				11464			
10160	FXCRI	D	10CMK	,FAC	,6	11464	29	C329L	C2492
10170	B	FXI+12				11476	49	11354	CC0CC
10180	DORG	+4				11483			
10190	RSCN1	BNF	+26	,FAC-2	,,	11484	44	1151C	C249C
10200	CF	FAC-2			FLOATING POINT NUMBER	11496	33	C249C	CC0CC
10210	BB					11508	42	CC0CC	CC0CC
10220	DORG	+9				1151C			
10230	SF	FAC-2				1151C	32	C249C	CC0CC
10240	BB					11522	42	CC0CC	CC0CC
10250	DORG	+9				11524			
10260	HNF	+26	,FAC	,,	FIXED POINT NUMBER	11524	44	1155C	C2492
10270	CF	FAC				11536	33	C2492	CC0CC
10280	BB					11548	42	CC0CC	CC0CC
10290	DORG	+4				1155C			
10300	SF	FAC				1155C	32	C2492	CC0CC
10310	BB					11562	42	CC0CC	CC0CC
10320	DORG	+4				11564			

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10330	FLCAT1	BZ	ZERFAC	,	YES	11564	46	C3584	C12CC
10340	TD	99	,FAC	,,	STCRE SIGN	11576	25	CC095	C2492
10350	CF	FAC				11588	33	C2492	CC0CC
10360	TR	BETA-9	,FXH	,11		11600	31	C2554	C328L
10370	TF	FAC-2	,9SPF-1	,,	CLEAR FAC	11612	26	C249C	C2853
10380	TF	SAVE	,K	,,	CHAR = K	11624	26	C2565	C2221
10390	TFM	+23	,BETA-9			11636	16	11655	-2554
10400	BD	+44		,,	FIND F1 CRC DIGIT	11648	43	11652	CC0CC
10410	SM	SAVE	,1	,10,	ADJUST CHAR	11660	12	C2565	CC0-1
10420	AM	+13	,1			11672	11	11655	-CC01
10430	B	+36				11684	45	11648	CC0CC
10440	DORG	+3				11692			
10450	TR	FNH	,+33	,611		11692	31	C331L	1165R
10460	TF	+35	,FNH	,,	FIND AND CLEAR RECCRC MARK	11704	26	11735	C3313
10470	AM	+23	,1			11716	11	11735	-CC01
10480	BNR	+12				11728	45	11716	CC0CC
10490	TD	+1	,C	,6		11740	15	1173R	CC0CC
10500	TD	FAC+1	,RECMK	,,	REPLACE RECCRC MARK	11752	25	C2493	C2403
10510	TF	BETA	,ZERO-74	,,	CLEAR BETA	11764	26	C2603	C2653
10520	B	NORM+60				11776	49	1220C	CC0CC
10530	DORG	+4				11783			
10540	FSR1	TF	FAD-1	,FSB-1		11784	26	C4085	C4065
10550	B	FAD1				11796	49	11804	CC0CC
10560	DORG	+3				11804			
10570	FAC1	TF	BETA	,FAC-1	,11,	11804	26	C2603	C408R
10580	SM	FAD-1	,2	,10		11816	12	C4085	CC0-2
10590	TF	BETA-2	,9SPF	,,	CLEAR BETA-2 TO F+1 ZEROS.	11828	26	C2601	C2854
10600	A	BETA-2	,FAC-1	,11,	ADD CR SUBT.MANTISSA	11840	21	C2601	C408R
10610	TF	SAVE	,FAC	,,	MCVE EXPONENT.	11852	26	C2565	C2492
10620	TF	FAC-1	,FAC-2	,,	RIGHT SHIFT ONE DIGIT.	11864	26	C2491	C249C
10630	CF	FH		,6,	CLEAR FLAG ON HIGH ORDER DIGIT.	11876	33	C330C	CC0CC
10640	TOM	FNH	,0	,611,	SET NEXT HIGH DIGIT TO FLAG ZERO.	11888	15	C331L	CC0CC
10650	C	BETA	,SAVE	,,	CCMPARE EXPONENTS.	11900	24	C2603	C2565
10660	BNH	+84		,,	BRANCH IF NO EXCHANGE OF OPERANDS	11912	47	1199E	C11CC
10670	TF	SAVE-2	,FAC-1	,,	EXCHANGE MANTISSAS.	11924	26	C2563	C2491
10680	TF	FAC-1	,BETA-2	,,		11936	26	C2491	C2601
10690	TF	BETA-2	,SAVE-2	,,		11948	26	C2601	C2563
10700	TF	FAD+8	,SAVE	,,	EXCHANGE EXPONENTS.	11960	26	C4098	C2565
10710	TF	SAVE	,BETA	,,		11972	26	C2565	C2603
10720	TF	BETA	,FAD+8	,,		11984	26	C2603	C4098
10730	TFM	ADD+11	,BETA-2	,,	SET UP ADDRESS	11996	16	12103	-2601
10740	S	BETA	,SAVE	,,	SUBTRACT EXPONENTS	12008	22	C2603	C2565
10750	BV	NOADD		,,	NO OPERATION IF OVERFLOW.	12020	46	12292	C1400
10760	A	ADD+11	,BETA	,,	MODIFY ADDRESS FOR SHIFT.	12032	21	12103	C2603
10770	A	BETA	,F	,,	ADD F TO BETA	12044	21	C2603	C2219
10780	BNH	NOADD		,,	NO CP IF EX DIF NOT LESS THAN F	12056	47	12292	C11CC
10790	BNF	ADD	,BETA-2	,,		12068	44	12092	C2601
10800	SF	ADD+11	,,	,6,	SET SIGN OF OPERAND.	12080	32	1210L	CC0CC
10810	ACD	A	FAC-1	,,		12092	21	C2491	CC0CC
10820	BZ	ZERFAC+12,		,,	BRANCH IF ZERC RESULT	12104	46	C359E	C12CC
10830	TOM	UNFLOW-1	,2			12116	15	12259	CC002
10840	TOM	OVFLOW-1	,1			12128	15	03651	CC001
10850	NORM	TD	99	,FAC-1	,,	12140	25	00099	02491
10860	CF	FAC-1				12152	33	C2491	CC0CC
10870	BD	LVI	,FNH	,11,		12164	43	C3616	C331L
10880	TR	FNH	,FH	,611,	LEFT SHIFT CNCE	12176	31	C331L	C3300

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12010	TF	FAC-2	,CNEZ	..	FAC = FLT PY CNE	133CC	26	C249C	C3C38	
12020	BB					13312	42	CCCCC	CCCCC	
12030	DORG	+-9				13314				
12040	BD	++44	,FNH	,11,	IS A ZERC	13314	43	13358	C331L	
12050	BNF	-14	,IMSA	..	YES, IS I NEGATIVE	13326	44	13312	C2575	
12060	TFM	EI	,774	,9,	YES, ERR G4, ZERC TC MINUS I	13338	16	C2615	CCP74	
12070	B	MANTP				13350	49	1401C	CCCCC	
12080	DORG	+-4				13357				
12090	TF	SAVE	,FAC	..	STORE CHAR	13358	26	C2565	C2492	
12100	TD	FAC	,FAC-2	..	CONVERT A TC F+2 FCMP	13370	25	C2452	C249C	
12110	CF	FAC-2				13382	33	C249C	CCCCC	
12120	TDM	FAC-1	,0			13394	15	C2491	CCCCC	
12130	TDM	ODDREV+1,9		..	SET UP RETURN	13406	15	13C45	CCCC9	
12140	B	PSI		..	SET UP SIGN AT PU-1	13418	49	1254C	CCCCC	
12150	DORG	+-4				13425				
12160	AXJ	TDM	FAC	,C		13426	15	C2492	CCCCC	
12170	TFM	NORM+54	,FAC	..	SET UP F+2 NCRMLIZATION	13438	16	12194	-2492	
12180	TFM	ERRCR+1	,49	,1C,	SET UP RETURN ON ERROR	13450	16	C3677	CCOM9	
12190	TDM	FINISH+2,9				13462	15	C3805	CCO:9	
12200	TFM	FINISH+7,FINISH	,711			13474	16	0381C	-3RCL	
12210	BNF	NODIV	,IMSA	..	IS I NEGATIVE	13486	44	13634	C2575	
12220	CF	IMSA		..	YES	13498	33	C2575	COOCC	
12230	TF	79	,ZERC-35	..	CLEAR CLCIENT AREA	1351C	26	CC079	C2732	
12240	LD	98MF	,CNEZ+2	,6,	FIND I/A	13522	28	C332C	C3C4C	
12250	D	98MF	,FAC	,6		13534	29	C332C	C2492	
12260	TF	FAC	,97MF	,11		13546	26	C2492	C332L	
12270	TFM	FINISH	,++44			13558	16	C3803	J36C2	
12280	TF	SE+11	,SAVE			1357C	26	12673	C2565	
12290	TFM	SAVE	,01	,1C		13582	16	C2565	CC-1	
12300	B	SE		..	GC TC FC FCR CHAR CHECK	13594	49	1266C	CCCCC	
12310	DORG	+-4				136C1				
12320	BNF	NODIV	,FAC-1	..	DID CVFL CR UNFL OCCUR	136C2	44	13634	C2491	
12330	RNF	SOS	,FAC	..	YES, CVFL	13614	44	13782	C2492	
12340	B	SOS+20		..	UNFL	13626	49	138C2	COOCC	
12350	DORG	+-4				13633				
12360	NCFIV	TF	GAM	,FAC	STCRE A	13634	26	C2555	C2492	
12370	TF	SAVE-2	,SAVE			13646	26	C2563	C2565	
12380	TFM	FINISH	,SCS-2C	..	SET UP RETURN FROM FMP	13658	16	03803	J3762	
12390	TFM	FMFAXI+23,SAVE-2				1367C	16	12489	-2563	
12400	SM	IMSA	,01	,10,	I = I - I	13682	12	C2575	CC-1	
12410	BZ	M14				13654	46	13834	C12CC	
12420	TF	79	,ZERC-35	..	CLEAR PRCC AREA	13706	26	CC079	C2732	
12430	M	FAC	,GAM	..		13718	23	C2492	C2555	
12440	TF	FAC	,97MF	,11		13730	26	C2492	C332L	
12450	A	SAVE	,SAVE-2			13742	21	C2565	C2563	
12460	B	FMFAXI		..	GC TO FMP FCR CHAR CHECK	13754	49	12466	CCOCC	
12470	DORG	+-4				13761				
12480	BNF	NODIV+48,FAC-1		..	DID CVFL CR UNFL OCCUR	13762	44	13682	C2491	
12490	B	NODIV-2C,		..	YES	13774	49	13614	CCCCC	
12500	DORG	+-4				13781				
12510	SCS	TFM	EI	,775	,9,	ERR G5, CVFL IN FAXI	13782	16	C2615	CCP75
12520	B	++2C				13794	49	13814	CCCCC	
12530	DORG	+-4				138C1				
12540	TFM	EI	,776	,9,	ERR G6, UNFL IN FAXI	13802	16	C2615	CCP76	
12550	TFM	GEHT+6	,ERRCR	..	SET UP TYPE CUT CF ERR	13814	16	13924	-3676	
12560	B	M14+12				13826	49	13846	CCCCC	

12570	DORG	+-4				13833				
12580	M14	TFM	GEHT+6	,ENDC	..	REMCVE ERRCR TYPE CLT	13834	16	13924	-3768
12590	TD	99	,MU-1	..	SET UP SIGN	13846	25	CC095	C3711	
12600	TFM	ERRCR+1,34		,1C,	RESET	13858	16	C3677	CCOL4	
12610	TFM	FINISH	,ENDC			1387C	16	C38C3	-3768	
12620	TFM	NORM+54	,FAC-1			13882	16	12194	-2491	
12630	TDM	FINISH+2	,2			13854	15	C38C5	CCOCC	
12640	TFM	FMFAXI+23,FAC				13906	16	12489	-2492	
12650	GEHT	B				13918	49	CCCCC	CCCCC	
12660	DORG	+-4				13925				
12670	FAXB1	SM	FAXB-1	,C2	,1C	13926	12	C4257	CCO-2	
12680	TF	TAFE-2	,FAXB-1	,11		13938	26	C2533	C425P	
12690	AM	TAFE-2	,OC	,10,	IS B ZERC	13950	11	C2533	CCO-C	
12700	BZ	ONEFAC		..	YES	13962	46	13288	C12CC	
12710	BD	++56	,FNH	,11,	IS A ZERC	13974	43	14C3C	C331L	
12720	BNF	FINISH+1	,TAFE-2	..	IS B NEGATIVE	13986	44	C38C4	C2533	
12730	TFM	EI	,777	,9,	YES, ER G7 ZERC TC MINUS B	13998	16	C2615	CCP77	
12740	MANTP	TDM	99	,C	..	SET SIGN	14C1C	15	CC095	CCCCC
12750	B	OVFLCW				14C22	49	C3652	CCCCC	
12760	DORG	+-4				14C29				
12770	TDM	OLWR+1	,9	..	SET UP NC ERR TYPE	14C30	15	14175	CCCC9	
12780	BNF	++36	,FAC-2	..	IS A NEGATIVE	14C42	44	14078	C249C	
12790	TDM	OLWR+1	,1	..	YES, SET UP ERR TYPE	14C54	15	14175	CCOCC	
12800	CF	FAC-2				14C66	33	C249C	CCCCC	
12810	TDM	FINISH+2	,9			14C78	15	C38C5	CCCC9	
12820	TFM	FINISH+7	,++20			14C90	16	C381C	J411C	
12830	B	LNENT		,6,	FIND LN CF A	141C2	49	C336C	CCCCC	
12840	DORG	+-4				141C9				
12850	TFM	FINISH+7	,++32			14110	16	C381C	J4142	
12860	TFM	FMP-1	,TAFE	..	SET UP MULTIPLICATION	14122	16	C4137	-2535	
12870	B	FMP		..	MULTIPLY B TIMES LN(A)	14134	49	C4138	CCCCC	
12880	DORG	+-4				14141				
12890	TFM	FINISH+7	,++20			14142	16	C381C	J4162	
12900	B	EXPENT		,6,	FIND A**B = E**BLN(A)	14154	49	C337L	CCCCC	
12910	DORG	+-4				14161				
12920	TDM	FINISH+2	,2			14162	15	C38C5	GOO02	
12930	CLWR	NOP	FINISH+1			14174	41	C38C4	CCCCC	
12940	TFM	EI	,676	,9,	ERR F6, -ATCB	14186	16	C2615	CCO76	
12950	TDM	99	,C			14198	15	CC095	CCCCC	
12960	B	ERROR				14210	49	C3676	CCO00	
12970	DORG	+-4				14217				
12980	DC	1	,9			14217				
12990	ENCFOR	DAC	1,C			14219			1 X 2	
13000	INH	DS		,ENCFOR		14219			C	
13010	DS	292,				14511		292		
13020	IN	DS	294,INH+292			14511		294		
13030	DORG	13C0C				1500C				
13040	34	B3	,0C701			150C0	34	15044	CC7C1	
13050	38	B3	,0C702			15012	38	15044	CC7C2	
13060	36	B3	,0C703			15024	36	15044	CO703	
13070	B	++22				15036	49	15058	CCCCC	
13080	DORG	+-3				15044				
13090	B3	CSC	9,016840107			15044				
			0168401C7							

13100	DSA	START+3		15057		5	x	1
				15057				-3854
13110	TRA			15058	36	CCCC		CC5CC
13120	TCC	15CCC		15070	49	CCCC		CCCC
				15000				
13130	DENC							

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ATYPE1	C91C6	ISPFM1	03303	EFRC1	C5018	FXA	C3878	MASKF	C5433
CLR7CS	C5158	ITYPE1	1C114	EFRC2	C505C	FXC1	113E2	MASKI	C5472
CCMACD	C2231	LCGDIG	08438	EFWRT	07842	FXDR1	114E4	MASK	05421
COMEND	06996	LCCADJ	06574	EI	C2615	FXDR	03598	MATSw	05655
CCPLT	C70C6	MASKEP	05422	ENCC	03768	FXC	03574	MAX2	C6145
CCMPsw	C575C	MATRIX	06518	ENTLN	02248	FXERR	03676	MAX	C6522
DATCUD	C6165	MATRIX2	06602	ERCCP	05346	FXI	03283	MFCV2	03746
DATER	C6157	MESERR	02607	ERF7A	C9374	FXP1	11356	PF	03473
DATINH	C6173	MCNCAL	0C796	ERF7	1C61C	FXP	C355C	PU	C3712
DICLCA	C3387	CCCREV	13C44	ERF8E	05226	FXSR1	113C4	N1	C2233
DKBLFF	C24C4	ONEFAC	13288	ERF8I	11066	FXSR	03926	N2	02238
DKDATA	C3375	CVFLCw	03652	ERF9	07310	FXS	035C2	NCADD	12292
EEXP22	C8258	PRCNTR	06916	ERRET	CC602	FXZ	C2815	NCCIV	13634
EEXPAC	C8418	PRCGST	C2226	ERRCR	03676	FZERO	C4974	NORM	1214C
EFALPH	C963C	RACDII	05862	ETYPE	04580	GAM	02555	ODD3	06178
EFCKS	C9822	READIEF	04492	EXP	08159	GET	13518	ODD4	06294
EFEND2	C8654	READIF	10574	F2	03661	GM2F	C3735	CCD6	C6334
EFPLUS	C801E	REPSW3	05657	FAC	02492	MNC	03338	OLNR	14174
EFTERM	0859E	RNEFSw	06061	FAD1	11804	MO	1C845	CNEZ	03C38
EFTYPE	C803C	ICOMF	03293	FAD	C4C90	MRC	0887C	CUT	11C09
ENDFOR	14219	1C2MF	03343	FAXB1	13926	MTYPE	C46C2	P44C1	C6269
ENTABS	C2323	2FPI	03429	FAXB	04258	MWT	08938	P44C2	06284
ENTATH	C2313	96MF	03318	FAX11	13264	ICDN2	1C642	P44C	06210
ENTCDS	C23C3	97M2F	03363	FAX1	04234	ICCN3	C551C	P44E	063C2
ENTCFD	C2258	97MF	03323	FCHAB	07786	ICCN5	C55C2	PAR	C3378
ENTCRR	C2293	98MF	03328	FC1	12542	ICCN6	09494	PDT	C3333
ENTEXP	C2253	99MK	03288	FC	04162	IDIG	1C822	PICV2	03163
ENTFET	C2283	9SCPf	02795	FCVR1	12754	IFWRT	1C686	PICV4	03191
ENTFID	C2273	9SPF	02854	FCVR	04186	IMSA	C2575	PI	03133
ENTRFC	C227E	ADD	12C92	FW	03308	INH	14219	PRA1	05578
ENTSC1	C225E	ATYPE	04536	FIX1	11098	IN	14511	PRA	04354
ENTSC2	C2264	AXJ	13426	FIX11	12834	LOCAL	0C716	PRKEY	06527
ENTSC3	C2268	B3	15C44	FIX1	04210	IOCR	0C972	PSI	12940
ENTSIJ	C23C8	BETA	02403	FIX	03854	IOCT	0C866	RACD1	06C10
ENTSQD	C2318	BSWF	05934	FKODC	03427	IOPT	0C532	RACD	04426
ENTSWT	C2288	CHAR2	07C16	FLCAT	04042	IOBCC	0C520	RAPT1	0599C
ERRCCM2	C7386	CHAR	08489	FLZ	03353	IOBT	0C565	RAPT	C44C2
ERRR7E	08744	CKW	06981	FPIPF	03313	IOSK	0C554	RATY1	05970
ERRR7I	10494	DID	00816	FP1	03625	IRDIG	1C418	RATY	04378
ERRR7J	C3373	DPG	06C84	FFAC	03452	IREAD	1C246	RCTY	05814
FINCIN	C3603	DPT2	08549	FNCN	07954	ITYPE	C4448	RDALF	C9394
FINISH	C3803	DPT	07445	FPP1	12382	K2	03648	RDALP	06022
FILEND	0376C	DUDH	02607	FPP	04138	K	02221	RDA	09330
FLDAY1	11564	DUD	02687	FNHM1	03358	LAST	C5820	RDFCH	07684
FLTEND	C381C	DUMMY	99999	FNM	03313	LN10	0298C	READA	09234
FLZALP	C3348	EEXP2	08210	FPIPK	03283	LN2	02887	READI	10526
FLZERS	06511	EEXP	08338	FP2	03605	LN4	02918	RECLG	02243
FMFAXI	12466	EXXP	08350	F	02219	LN8	02949	RECMK	02403
FMCNEZ	C493C	EFALP	09714	FSB1	11784	LNENT	C3368	REDDA	07C70
FMNINE	11432	EFGOP	07446	FSB11	12330	LOCD2	09678	REDO	07C26
GM1M2F	03543	EFDEC	08470	FSBR	04114	LOCD	0968C	REP2	07198
MTYPE1	C8778	EFDIG	08538	FSB	04066	LOC	C8C89	REP3	07230
MINUS	10474	EFEND	08622	FTYPE	04558	LOGE	03C1C	REP	C7126
INSAPP	C3298	EFNIN	08006	FX1	02825	LVI	03616	REPSw	09654
INPLUS	06053	EFNM1	09582	FX9	02805	M14	13834	RSGN1	11484
IRBLNK	10454	EFNM	04514	FXA1	11290	NANTP	14C10	RSGN	04C20

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HW2A C5778	TAFE 02535	WACC1 05610	WRTE 05998	WIDTM2 06064
RWA2 C5742	TAN6 03248	WACC 04330	WRTF 04726	WRITE1 06940
RWA C5634	TEN34 03278	WAFX 05562	WRTI2 1C73C	WRITEA 09450
SAVE C2565	TEMP 07C93	WAPT1 05558	WRTI3 1C938	WRITEI 04470
SE 12662	TOPAC 03408	WAPT 04306	WRTI 10766	WRITL 1C650
SIX C3219	TRAC1 03544	WA 07241	W 0224C	WRTP 05622
SLASH C6676	TRAC2 03520	WATY1 05538	XTYPE C7354	WRTPC 05C50
SCS 13702	TRACE 03496	WATY 04282	ZERO 02767	WRTPPE 05018
START C3851	TRRET 06358	WIDTP 05799	SLASH2 06708	WRTPSN 1C902
STCP C2395	TRCPI 03103	WRITE 06816	STZERO 06423	ZERFAC 03584
SWC C609C	TRQZ 03C73	WRTA2 09542	SWCADJ C6152	
SWF C5965	WA2 07392	WRTA 09498	UNFLOW 1226C	
SWL 06042	WA3 04591	WRTE2 04622	WEFDEC 05194	

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00010 *****	1620 FORTRAN II-D	SUBROUTINES WITH FLOATING POINT HARDWARE		
00020 *****	IURT	ENTRY POINTS AND CONSTANTS		
00030 IORBC DS		,520	00520	0
00040 IOPT DS		,532	00532	0
00050 IOSK DS		,554	00554	0
00060 IOGT DS		,566	00566	0
00070 ERRET DS		,602	00602	0
00080 IORT DS		,565	00565	0
00090 LOCAL DS		,716	00716	0
00100 MUNCAL DS		,796	00796	0
00110 DIO DS		,816	00816	0
00120 *****	162C FORTRAN II-D	IN CORE AREAS		
00130 ***	COMMUNICATION AREA			
00140	ORIG 2218		02218	
00150 F DS	2,,	FLOATING POINT WORD LENGTH	02219	2
00160 K DS	2,,	FIXED POINT WORD LENGTH	02221	2
00170 PROGST DS	5,,	STARTING ADDRESS OF MAINLINE PROGRAM	02226	5
00180 COMADD DS	5,,	STARTING ADDRESS OF COMMON AREA	02231	5
00190 N1 DS	2,,	NUMBER OF WORDS IN LOGICAL RECORD	02233	2
00200 N2 DS	5,,	NUMBER OF LOGICAL RECORDS	02238	5
00210 W DS	2,,	WORD LENGTH	02240	2
00220 RECLG DS	3,,	RECORD LENGTH	02243	3
00230 ENTLN DS	5,,	ENTRY ADDRESS TO LOG SUBROUTINE	02248	5
00240 ENTEXP DS	5,,	ENTRY ADDRESS TO EXPONENTIAL SUBROUTINE	02253	5
00250 ENTSC1 DS	5,,	ENTRY ADDRESS TO SINGLE SUBSCRIPT SUBROUTINE	02258	5
00260 ENTSC2 DS	5,,	ENTRY ADDRESS TO DOUBLE SUBSCRIPT SUBROUTINE	02263	5
00270 ENTSC3 DS	5,,	ENTRY ADDRESS TO TRIPLE SUBSCRIPT SUBROUTINE	02268	5
00280 ENTFID DS	5,,	ENTRY ADDRESS TO FIND SUBROUTINE	02273	5
00290 ENTREC DS	5,,	ENTRY ADDRESS TO RECORD SUBROUTINE	02278	5
00300 ENTFET DS	5,,	ENTRY ADDRESS TO FETCH SUBROUTINE	02283	5
00310 ENTSD DS	5,,	ENTRY ADDRESS TO SWITCH D SUBROUTINE	02288	5
00320 ENTDR DS	5,,	ENTRY ADDRESS TO ARRAY SUBROUTINE	02293	5
00330 ENTDD DS	5,,	ENTRY ADDRESS TO DISK END SUBROUTINE	02298	5
00340 ENTCD DS	5,,	ENTRY ADDRESS TO COSINE SUBROUTINE	02303	5
00350 ENTSD DS	5,,	ENTRY ADDRESS TO SINE SUBROUTINE	02308	5
00360 ENTATN DS	5,,	ENTRY ADDRESS TO ARCTANGENT SUBROUTINE	02313	5
00370 ENTSGT DS	5,,	ENTRY ADDRESS TO SQUARE ROOT SUBROUTINE	02318	5
00380 ENTABS DS	5,,	ENTRY ADDRESS TO ABSOLUTE SUBROUTINE	02323	5
00390 DS	70,,	RESERVED FOR ENTRIES TO ADDED SUBROUTINES	02393	70
00400 *****	COMMON WORKING AREAS			
00410 STOP	DAC	5,STOP	02395	5 X 2
	STOP			
00420 RECMK DS		,STOP+8	02403	0
00430 DKBUFF DSS	29		02404	29
00440 FAC DS	60		02492	60
00450 DC	1	,	02493	1
00460 SAVE DS	72		02565	72
00470 BETA DS	38		02603	38
00480 DGM			02604	1
00490 GAM DS		,SAVE-10	02555	0
00500 TAFE DS		,SAVE -30	02535	0
00510 IMSA DS		,BETA -28	02575	0
00520 MESERR DAC	6,ER E		02607	6 X 2
	ER E			
00530 DUDH DS		,MESERR	02607	0

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01130	DC	5	,00000		03392	5	
	-C000						
01140	DC	3	,000		03395	3	
	-00						
01150	DSA	DKBUFF			03400	5 X	1
					03400	-240-	
01160	DC	1	,*		03401	1	
	*						
01170	*****		1620 FORTRAN II-D IN CORE SUBROUTINES				
01180	DS	5			03406	5	
01190	TOFAC	TFL	FAC ,TOFAC-1 ,11		03408	06	02492 0340P
01200	BB				03420	42	00000 00000
01210	DDRG	**9			03422		
01220	ZERFAC	TFL	FAC ,FLZER		03422	06	02492 03760
01230	B	FINISH+1	,ZERO-94 ,7		03434	49	03724 -2673
01240	ZEROM	DS	5 ,*		03445	5	
01250	DS	5			03450	5	
01260	FMFAC	TFL	FMFAC-1 ,FAC ,6	ZERO MINUS 94 PLUS TWO TIMES F	03452	06	03493 02492
01270	BB				03464	42	00000 00000
01280	DDRG	**9			03466		
01290	UNFLO	TFL	FAC ,FLZER ,*	ERR F5 UNFL IN FEXP	03466	06	02492 03760
01300	B	ERXV+12	,FAC-3 ,*	FAC IS FL PT ZERO	03478	49	03774 02489
01310	FNHM2	DS	5 ,*	FAC MINUS 3 MINUS F	03489	5	
01320	DS	5			03494	5	
01330	TRACE	TFL	TRACE-1 ,FAC ,6		03496	06	0349N 02492
01340	BNC4	FMFAC+12			03508	47	03464 00400
01350	TRAC2	TFM	FMON+11, TRAC1-START		03520	16	07765 -030P
01360	DC	2,2,-3			03528	2	
	-2						
01370	B7	FMGN			03532	49	07754
01380	GM1M2F	DSA	GAM-1		03543	5 X	1
					03543		-2554
01390	TRAC1	TFM	ODD4+6 ,SWC		03544	16	06312 -6090
01400	B7	P44C			03556	49	06210
01410	FINDIN	DC	1,1		03563	1	
	J						
01420	DDRG	3572			03572		
01430	OVFLOW	TFM	FAC ,0199 ,8910		03572	16	02492 0-JR9
01440	ZFM1	DS	2 ,*-2	TWO TIMES F MINUS ONE	03581	2	
01450	FKUDD	DS	1 ,*-4	O F OR K ODD, 1 F AND K EVEN	03579	1	
01460	TF	FAC-2	,9SCPF ,*	SET RESULT TO ALL NINES	03584	26	02490 02795
01470	ERROR	K	FINISH ,0951 ,6,	SINGLE CARRIAGE SPACE	03596	34	0372L 00951
01480	WA	MESERR	,0901 ,*	PRINT ERROR MESSAGE	03608	39	02607 00901
01490	B	ENDD+12			03620	49	03700 00000
01500	MU	BNF	**24 ,MU-1 ,*	SET CORRECT SIGN ON FAC	03632	44	03656 03631
01510	SF	FAC	,GAM ,*		03644	32	02492 02555
01520	GM2F	DS	2 ,*	GAMMA MINUS TWO TIMES F	03655	0	
01530	TDM	FXERR+25	,02009 ,79,	RESET ERROR EXIT	03656	15	03621 -2-09
01540	MF	DS	2 ,*-1	MINUS F	03666	2	
01550	FP2	DS	2 ,*-3	F PLUS TWO	03664	2	
01560	TFM	FXERR+30	,ENDD+12		03668	16	03626 -3700
01570	FIXEND	DS			03680	42	00000 00000
01580	DDRG	**3			03688		
01590	FXERR	DS	,ERROR		03596	0	

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01600	ENCD	TF	FAC ,SAVE ,*	MOVE EXPONENT	03688	26	02492 02565
01610	BNF	**24	,99 ,*	SET PROPER SIGN	03700	44	03724 00099
01620	SF	FAC-2	,ENDD ,*		03712	32	02490 03688
01630	FINISH	DS	5 ,*		03723	0	
01640	FLTEND	DS	,FINISH+7		03730	0	
01650	BB				03724	42	00000 00000
01660	DDRG	**4			03731		
01670	UC	28	,0		03758	28	
	-00000000000000000000000000000000						
01680	FLZER	DC	2 ,*-99		03760	2	
	RR						
01690	ERXV	BNF	**24 ,FAC ,*	,8910,ERR CODE = ERR CODE + 1	03762	44	03786 02492
01700	AM	EI	,0101 ,*		03774	11	02615 0-J-1
01710	FMI	DS	2 ,*-2	F MINUS ONE	03783	2	
01720	K	FMFAC+12	,0951 ,*	SINGLE CARRIAGE SPACE	03786	34	03464 00951
01730	WA	MESERR	,0901 ,*	PRINT ERROR MESSAGE	03798	39	02607 00901
01740	B	ERXV+30	,*		03810	49	0379K 00000
01750	DDRG	**4			03817		
01760	F2	DC	2 ,0		03818	2	
	-0						
01770	K2	DC	2 ,0		03820	2	
	-0						
01780	MFOV2	DS	2		03822	2	
01790	DUMMY	DS	,99999		99999	0	
01800	START	DS	,03851		03851	0	
01810	*****		1620 FORTRAN II-D SUBROUTINES - INITIAL SECONDARY LINKAGE				
01820	DDRG	START			03851		
01830	DC	1			03851	1	
01840	DC	2	,00		03853	2	
	-0						
01850	TFM	FMON+11	,*-START		03854	16	07765 -0003
01860	DC	2	,1 ,*-3		03862	2	
	-1						
01870	B	FMON			03866	49	07754 00000
01880	TFM	FMON+11	,*-START		03878	16	07765 -0027
01890	DC	2	,1 ,*-3		03886	2	
	-1						
01900	B	FMON			03890	49	07754 00000
01910	TFM	FMON+11	,*-START		03902	16	07765 -0051
01920	DC	2	,1 ,*-3		03910	2	
	-1						
01930	B	FMON			03914	49	07754 00000
01940	TFM	FMON+11	,*-START		03926	16	07765 -0075
01950	DC	2	,1 ,*-3		03934	2	
	-1						
01960	B	FMON			03938	49	07754 00000
01970	TFM	FMON+11	,*-START		03950	16	07765 -0099
01980	DC	2	,1 ,*-3		03958	2	
	-1						
01990	B	FMON			03962	49	07754 00000
02000	TFM	FMON+11	,*-START		03974	16	07765 -0123
02010	DC	2	,1 ,*-3		03982	2	
	-1						
02020	B	FMON			03986	49	07754 00000
02030	TFM	FMON+11	,*-START		03998	16	07765 -0147
02040	DC	2	,1 ,*-3		04006	2	
	-1						

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02050	B	FMON			04010	49	07754	00000
02060	DORG	*-1			04020			
02070	TFM	FMON+11	,*-START		04020	16	07765	-0169
02080	DC	2	.1	,*-3	04028	2		
	-1							
02090	B	FMON		.8	04032	49	07754	0-000
02100	DORG	*-1			04042			
02110	TFM	FMON+11	,*-START		04042	16	07765	-0191
02120	DC	2	.1	,*-3	04050	2		
	-1							
02130	B	FMON			04054	49	07754	00000
02140	TFM	FMON+11	,*-START		04066	16	07765	-0215
02150	DC	2	.1	,*-3	04074	2		
	-1							
02160	B	FMON			04078	49	07754	00000
02170	TFM	FMON+11	,*-START		04090	16	07765	-0239
02180	DC	2	.1	,*-3	04098	2		
	-1							
02190	B	FMON			04102	49	07754	00000
02200	TFM	FMON+11	,*-START		04114	16	07765	-0263
02210	DC	2	.1	,*-3	04122	2		
	-1							
02220	B	FMON			04126	49	07754	00000
02230	TFM	FMON+11	,*-START		04138	16	07765	-0287
02240	DC	2	.1	,*-3	04146	2		
	-1							
02250	B	FMON			04150	49	07754	00000
02260	TFM	FMON+11	,*-START		04162	16	07765	-0311
02270	DC	2	.1	,*-3	04170	2		
	-1							
02280	B	FMON			04174	49	07754	00000
02290	TFM	FMON+11	,*-START		04186	16	07765	-0335
02300	DC	2	.1	,*-3	04194	2		
	-1							
02310	B	FMON			04198	49	07754	00000
02320	TFM	FMON+11	,*-START		04210	16	07765	-0359
02330	DC	2	.1	,*-3	04218	2		
	-1							
02340	B	FMON			04222	49	07754	00000
02350	TFM	FMON+11	,*-START		04234	16	07765	-0383
02360	DC	2	.1	,*-3	04242	2		
	-1							
02370	B	FMON			04246	49	07754	00000
02380	TFM	FMON+11	,*-START		04258	16	07765	-0407
02390	DC	2	.1	,*-3	04266	2		
	-1							
02400	B	FMON			04270	49	07754	00000
02410	TFM	FMON+11	,*-START		04282	16	07765	-0431
02420	DC	2	.2	,*-3	04290	2		
	-2							
02430	B	FMON			04294	49	07754	00000
02440	TFM	FMON+11	,*-START		04306	16	07765	-0455
02450	DC	2	.2	,*-3	04314	2		
	-2							
02460	B	FMON			04318	49	07754	00000
02470	TFM	FMON+11	,*-START		04330	16	07765	-0479

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02480	DC	2	.2	,*-3	04338	2		
	-2							
02490	B	FMON			04342	49	07754	00000
02500	TFM	FMON+11	,*-START		04354	16	07765	-0503
02510	DC	2	.2	,*-3	04362	2		
	-2							
02520	B	FMON			04366	49	07754	00000
02530	TFM	FMON+11	,*-START		04378	16	07765	-0527
02540	DC	2	.2	,*-3	04386	2		
	-2							
02550	B	FMON			04390	49	07754	00000
02560	TFM	FMON+11	,*-START		04402	16	07765	-0551
02570	DC	2	.2	,*-3	04410	2		
	-2							
02580	B	FMON			04414	49	07754	00000
02590	TFM	FMON+11	,*-START		04426	16	07765	-0575
02600	DC	2	.2	,*-3	04434	2		
	-2							
02610	B	FMON		.8	04438	49	07754	0-000
02620	DORG	*-1			04448			
02630	TFM	FMON+11	,*-START		04448	16	07765	-0597
02640	DC	2	.3	,*-3	04456	2		
	-3							
02650	B	FMON		.8	04460	49	07754	0-000
02660	DORG	*-1			04470			
02670	TFM	FMON+11	,*-START		04470	16	07765	-0619
02680	DC	2	.4	,*-3	04478	2		
	-4							
02690	B	FMON		.8	04482	49	07754	0-000
02700	DORG	*-1			04492			
02710	TFM	FMON+11	,*-START		04492	16	07765	-0641
02720	DC	2	.7	,*-3	04500	2		
	-7							
02730	B	FMON		.8	04504	49	07754	0-000
02740	DORG	*-1			04514			
02750	TFM	FMON+11	,*-START		04514	16	07765	-0663
02760	DC	2	.8	,*-3	04522	2		
	-8							
02770	B	FMON		.8	04526	49	07754	0-000
02780	DORG	*-1			04536			
02790	TFM	FMON+11	,*-START		04536	16	07765	-0685
02800	DC	2	.7	,*-3	04544	2		
	-7							
02810	B	FMON		.8	04548	49	07754	0-000
02820	DORG	*-1			04558			
02830	TFM	FMON+11	,*-START		04558	16	07765	-0707
02840	DC	2	.5	,*-3	04566	2		
	-5							
02850	B	FMON		.8	04570	49	07754	0-000
02860	DORG	*-1			04580			
02870	TFM	FMON+11	,*-START		04580	16	07765	-0729
02880	DC	2	.5	,*-3	04588	2		
	-5							
02890	B	FMON		.8	04592	49	07754	0-000
02900	DORG	*-1			04602			
02910	TFM	FMON+11	,*-START		04602	16	07765	-0751

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02920	DC	2	,5	,*-3	04610	2			
	-5								
02930	D	FMUN			04614	49	07754	00000	
02940	DORG	**4			04621				
02950	*****	MODIFICATIONS MADE BEFORE START OF EXECUTION							
02960	A	**23	,F		04622	21	04645	02219	
02970	TF	LN2	,LN2-28	,7	04634	26	02887	-2859	
02980	A	**23	,F		04646	21	04669	02219	
02990	TF	LN4	,LN4-28	,7	04658	26	02918	-2890	
03000	A	**23	,F		04670	21	04693	02219	
03010	TF	LN8	,LN8-28	,7	04682	26	02949	-2921	
03020	A	**23	,F		04694	21	04717	02219	
03030	TF	LN10	,LN10-28	,7	04706	26	02980	-2952	
03040	A	**23	,F		04718	21	04741	02219	
03050	TF	LOGE	,LOGE-28	,7	04730	26	03010	-2982	
03060	A	**23	,F		04742	21	04765	02219	
03070	TF	ONEZ	,ONEZ-28	,7	04754	26	03038	-3010	
03080	A	**23	,F		04766	21	04789	02219	
03090	TF	TW0Z	,TW0Z-28	,7	04778	26	03073	-3045	
03100	A	**23	,F		04790	21	04813	02219	
03110	TF	TW0P1	,TW0P1-28	,7	04802	26	03103	-3075	
03120	A	**23	,F		04814	21	04837	02219	
03130	TF	P1	,P1-28	,7	04826	26	03133	-3105	
03140	A	**23	,F		04838	21	04861	02219	
03150	TF	P10V2	,P10V2-28	,7	04850	26	03163	-3135	
03160	A	**23	,F		04862	21	04885	02219	
03170	TF	P10V4	,P10V4-28	,7	04874	26	03191	-3163	
03180	A	**23	,F		04886	21	04909	02219	
03190	TF	S1X	,S1X-28	,7	04898	26	03219	-3191	
03200	A	**23	,F		04910	21	04933	02219	
03210	TF	TAN6	,TAN6-28	,7	04922	26	03248	-3220	
03220	A	**23	,F		04934	21	04957	02219	
03230	TF	TEN34	,TEN34-28	,7	04946	26	03278	-3250	
03240	S	**18	,F		04958	22	04976	02219	
03250	SF	95PF	,,	,2	04970	32	-2854	00000	
03260	S	**18	,K		04982	22	05000	02221	
03270	SF	FX4+1	,,	,2	04994	32	-2806	00000	
03280	S	**18	,K		05006	22	05024	02221	
03290	SF	FX2+1	,,	,2	05018	32	-2816	00000	
03300	S	**18	,K		05030	22	05048	02221	
03310	SF	FX1+1	,,	,2	05042	32	-2826	00000	
03320	S	**18	,F		05054	22	05072	02219	
03330	SF	95CPF+1	,,	,2	05066	32	-2796	00000	
03340	S	FX+	,K	,,	05078	22	03283	02221	
03350	S	99MK	,K	,,	05090	22	03288	02221	
03360	S	LOGMK	,K	,,	05102	22	03293	02221	
03370	A	IMSAPF	,F	,,	05114	21	03298	02219	
03380	A	15PFM1	,F	,,	05126	21	03303	02219	
03390	S	FX	,F	,,	05138	22	03308	02219	
03400	S	FNH	,F	,,	05150	22	03313	02219	
03410	S	9AMF	,F	,,	05162	22	03318	02219	
03420	S	9PMF	,F	,,	05174	22	03323	02219	
03430	S	9BMF	,F	,,	05186	22	03328	02219	
03440	S	PDT	,F	,,	05198	22	03333	02219	
03450	S	HND	,F	,,	05210	22	03338	02219	
03460	S	102MF	,F	,,	05222	22	03343	02219	

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03470	A	FLZALP	,F	,,	05234	21	03348	02219	
03480	A	FLZ	,F	,,	05246	21	03353	02219	
03490	S	FNFM1	,F	,,	05258	22	03358	02219	
03500	TF	F2	,F		05270	26	03818	02219	
03510	A	F2	,F	,,	05282	21	03818	02219	
03520	TF	K2	,K		05294	26	03820	02221	
03530	A	K2	,K	,,	05306	21	03820	02221	
03540	S	97M2F	,F2	,,	05318	22	03363	03818	
03550	S	GM2F	,F2	,,	05330	22	03655	03818	
03560	S	GM1M2F	,F2	,,	05342	22	03543	03818	
03570	A	ZEROM	,F2	,,	05354	21	03445	03818	
03580	CM	F	,7	,10	05366	14	02219	000-7	
03590	BH	**24			05378	46	05402	01100	
03600	AM	ZEROM	,12	,10	05390	11	03445	000J2	
03610	S	FNFM2	,F	,,	05402	22	03489	02219	
03620	S	**18	,F		05414	22	05432	02219	
03630	SF	FLZER-1	,,	,2	05426	32	-3759	00000	
03640	A	FM1	,F	,,	05438	21	03783	02219	
03650	A	FP2	,F	,,	05450	21	03664	02219	
03660	S	MF	,F	,,	05462	22	03666	02219	
03670	A	2FMI	,F2	,,	05474	21	03581	03818	
03680	MM	F	,05	,10	05486	13	02219	000-5	
03690	SF	98			05498	32	00098	00000	
03700	SF	97			05510	32	00097	00000	
03710	TF	MFUV2	,98	,,	05522	26	03822	00098	
03720	MM	F	,05	,10,	05534	13	02219	000-5	
03730	BD	ODDSET	,99	,,	05546	43	05602	00099	
03740	MM	K	,05	,10,	05558	13	02221	000-5	
03750	BD	ODDSET	,99	,,	05570	43	05602	00099	
03760	TDM	FKODD	,1	,,	05582	15	03579	00001	
03770	B	ODDSET*12			05594	49	05614	00000	
03780	DORG	**4			05601				
03790	ODDSET	TDM	FKODD	,0	,,	05602	15	03579	00000
03800	BNF	**36	,ENTLN-4	,,	05614	44	05650	02244	
03810	A	LNENT	,ENTLN	,,	05626	21	03368	02248	
03820	A	EXPENT	,ENTEXP	,,	05638	21	03373	02253	
03830	CM	F	,7	,10	05650	14	02219	000-7	
03840	BH	**24			05662	46	05686	01100	
03850	AM	ZEROM	,12	,10	05674	11	03445	000J2	
03860	BV	**12			05686	46	05698	01400	
03870	BD	SHORT	,07499		05698	43	05790	07499	
03880	TFM	TRAC2+1	,49	,10	05710	16	03521	00099	
03890	TFM	TRAC2+6	,TRAC1		05722	16	03524	-3544	
03900	TFM	IOR1	**23		05734	16	00565	-5757	
03910	B	IOGT	,DALONG	,7	05746	49	00566	-5758	
03920	DALONG	DSC	2	,-22	05758				
	2K								
03930	DSC	1	,0		05760				
	0								
03940	DC	4	,0146		05764				
	-146								
03950	DC	1	,'		05765				
	'								
03960	DAFMON	DSC	2	,22	05766				
	22								
03970	DSA	DDFMON			05772		5 X	1	

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03980	DC	1	,		05772		-5774	
					05773		1	
03990	DDFMUN	DSC	1	,0	05774		1	
		0						
04000	DC	5	,16835		05779		5	
		J6835						
04010	DC	3	,004		05782		3	
		-04						
04020	DSA	FNUM-56			05787		5 X 1	
					05787		-7698	
04030	DC	1	,		05788		1	
04040	SHORT	TFM	[ORT	,+23	05790	16	00565	-5813
04050		H	IOGT	,UAFMON	05802	49	00566	-5766
04060		B	PROGST	,	05814	49	02220	00000
04070		DORG	=-4		05821			
04080		DORG	06000		06000			
04090		34	H1	,00701	06000	34	06044	00701
04100		38	H1	,00702	06012	38	06044	00702
04110		36	H1	,00703	06024	36	06044	00703
04120		B	+22		06036	49	06058	00000
04130		DORG	=-3		06044			
04140	B1	DSC	9	,016800035	06044		9	
04150	DSA	STOP-1			06057		5 X 1	
					06057		-2394	
04160	TRA				06058	36	00000	00500
					06070	49	00000	00000
04170	TCD	06000			06000			
04180	*****	1620	FORTRAN II-D	ARITHMETIC BLOCK				
04190	*****	1620	FORTRAN II-D	ARITHMETIC BLOCK - SECONDARY LINKAGE				
04200		DORG	START		03851			
04210		DS	3		03853		3	
04220	FIX	CM	FAC	,00 ,10, IS CHAR POSITIVE	03854	14	02492	000-0
04230		B	FIX1		03866	49	04622	00000
04240	FXA	A	FAC	,FXA-1 ,11	03878	21	02492	0387P
04250		B	FXA1		03890	49	04814	00000
04260	FXS	S	FAC	,FXS-1 ,11	03902	22	02492	0390J
04270		B	FXA1		03914	49	04814	00000
04280	FXSR	BNF	FXSR1+32	,FAC ,, CHANGE SIGN ON FAC	03926	44	04860	02492
04290		B	FXSR1		03938	49	04828	00000
04300	FXM	M	FAC	,FXM-1 ,11	0395C	23	02492	0394R
04310		B	FXM1		03962	49	04880	00000
04320	FXD	LD	99	,FAC ,, FAC = FAC/J	03974	28	00099	02492
04330		B	FXD1		03986	49	04906	00000
04340	FXDR	LD	99	,FXDR-1 ,11, FAC = J/FAC	03998	28	00099	0399P
04350		B	FXDR1		04010	49	04988	00000
04360		DORG	=-1		04020			
04370	RSGN	BNF	RSGN1+40	,FAC-1	04020	44	05048	02491
04380		B	RSGN1	,	04032	49	05008	0-000
04390		DORG	=-1		04042			
04400	FLOAT	AM	FAC	,00 ,10, IS FAC ZERO	04042	11	02492	000-0

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04410	B	FLOAT1			04054	49	05088	00000
04420	FSB	FSUB	FAC	,FSB-1 ,11	04066	02	02492	0406N
04430		B	FAD1		04078	49	05376	00000
04440	FAD	FADD	FAC	,FAD-1 ,11	04090	01	02492	0408R
04450		B	FAD1		04102	49	05376	00000
04460	FSUB	BNF	FSBR1+32	,FAC-2 ,, CHANGE SIGN ON FAC	04114	44	05440	02490
04470		B	FSBR1		04126	49	05408	00000
04480	FMP	TFM	E1	,573 ,9, SET UP ERR E3 CODE	04138	16	02615	00N73
04490		B	FMP1		04150	49	05460	00000
04500	FC	TFM	E1	,575 ,9, SET UP ERR E5 CODE	04162	16	02615	00N75
04510		B	FD1		04174	49	05492	00000
04520	FDVR	TFL	SAVE	,FAC	04186	06	02565	02492
04530		B	FDW1		04198	49	05572	00000
04540	FIX1	TF	INSA	,FIX1-1 ,11, INSA = I	04210	26	02575	0420R
04550		B	FIX11		04222	49	05604	00000
04560	FAX1	TF	INSA	,FAX1-1 ,11, INSA = I	04234	26	02575	0423L
04570		B	FAX11		04246	49	06034	00000
04580	FAXB	TFL	TAFF	,FAXB-1 ,11, LOAD B	04258	06	02535	0425P
04590		B	FAXB1		04270	49	06472	00000
04600		TFM	FNON+11	,*-START	04282	16	07765	-0431
04610	DC	2	,2	,*-3	04290		2	
		-2						
04620	H	FNON			04294	49	07754	00000
04630		TFM	FNON+11	,*-START	04306	16	07765	-0455
04640	DC	2	,2	,*-3	04314		2	
		-2						
04650	B	FNON			04318	49	07754	00000
04660		TFM	FNON+11	,*-START	04330	16	07765	-0479
04670	DC	2	,2	,*-3	04338		2	
		-2						
04680	B	FNON			04342	49	07754	00000
04690		TFM	FNON+11	,*-START	04354	16	07765	-0503
04700	DC	2	,2	,*-3	04362		2	
		-2						
04710	B	FNON			04366	49	07754	00000
04720		TFM	FNON+11	,*-START	04378	16	07765	-0527
04730	DC	2	,2	,*-3	04386		2	
		-2						
04740	B	FNON			04390	49	07754	00000
04750		TFM	FNON+11	,*-START	04402	16	07765	-0551
04760	DC	2	,2	,*-3	04410		2	
		-2						
04770	B	FNON			04414	49	07754	00000
04780		TFM	FNON+11	,*-START	04426	16	07765	-0575
04790	DC	2	,2	,*-3	04434		2	
		-2						
04800	B	FNON		,8	04438	49	07754	0-000
04810		DORG	=-1		04448			
04820		TFM	FNON+11	,*-START	04448	16	07765	-0597
04830	DC	2	,3	,*-3	04456		2	
		-3						
04840	B	FNON		,8	04460	49	07754	0-000
04850		DORG	=-1		04470			
04860		TFM	FNON+11	,*-START	04470	16	07765	-0619
04870	DC	2	,4	,*-3	04478		2	
		-4						

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04880	B	FMON	,	,8	04482	49	07754	0-000	
04890	DORG	**1			04492				
04900	TFM	FMON+11	,*-START		04492	16	07765	-0641	
04910	DC	2	,7	,*-3	04500		2		
	-7								
04920	B	FMON	,	,8	04504	49	07754	0-000	
04930	DORG	**1			04514				
04940	TFM	FMON+11	,*-START		04514	16	07765	-0663	
04950	DC	2	,8	,*-3	04522		2		
	-8								
04960	B	FMON	,	,8	04526	49	07754	0-000	
04970	DORG	**1			04536				
04980	TFM	FMON+11	,*-START		04536	16	07765	-0685	
04990	DC	2	,7	,*-3	04544		2		
	-7								
05000	B	FMON	,	,8	04548	49	07754	0-000	
05010	DORG	**1			04558				
05020	TFM	FMON+11	,*-START		04558	16	07765	-0707	
05030	DC	2	,5	,*-3	04566		2		
	-5								
05040	B	FMON	,	,8	04570	49	07754	0-000	
05050	DORG	**1			04580				
05060	TFM	FMON+11	,*-START		04580	16	07765	-0729	
05070	DC	2	,5	,*-3	04588		2		
	-5								
05080	B	FMON	,	,8	04592	49	07754	0-000	
05090	DORG	**1			04602				
05100	TFM	FMON+11	,*-START		04602	16	07765	-0751	
05110	DC	2	,5	,*-3	04610		2		
	-5								
05120	B	FMON	,	,8	04614	49	07754	00000	
05130	DORG	**4			04621				
05140	*****	1620 FORTRAN II-D ARITHMETIC BLOCK - SUBROUTINES							
05150	FIX1	BP	**32	..	04622	46	04654	01100	
05160		TF	FAC	,FX2	04634	26	02492	02815	
05170		B	FIXEND	..	04646	49	03680	00000	
05180		DORG	**3		04654				
05190		TD	MU-1	,FAC-2	04654	25	03631	02490	
05200		C	FAC	,K	04666	24	02692	02221	
05210		BNH	**44	..	04678	47	04722	11000	
05220		TDM	FXERR+25	,1	04690	15	03621	00000	
05230		TFM	E1	,579	04702	16	02615	00000	
05240		B	FXNINE+12	..	04714	49	04968	00000	
05250		DORG	**3		04722				
05260		CF	FAC-2	..	04722	33	02490	00000	
05270		TF	BETA	,ZERO-51	04734	26	02603	02716	
05280		TF	IMSA	,FX2	04746	26	02575	02815	
05290		TF	**30	,IMSAPP	04758	26	04788	03298	
05300		S	**18	,FAC	04770	22	04788	02492	
05310		A	DUMMY	,FAC-2	04782	21	99999	02490	
05320		TF	FAC	,IMSA	04794	26	02492	02575	
05330		B	MU		04806	49	03632	00000	
05340		DORG	**4		04813				
05350	FXA1	BV	**12	..	04814	46	04826	01400	
05360		BB		..	04826	42	00000	00000	
05370		DORG	**9		04828				

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05380	FXSR1	CF	FAC		04828	33	02492	00000
05390		TF	FXA-1	,FXSR-1	04840	26	03877	03925
05400		B	FXA	..	04852	49	03878	00000
05410		DORG	**3		04860			
05420		SF	FAC		04860	32	02492	00000
05430		B	FXSR1+12		04872	49	04840	00000
05440		DORG	**4		04879			
05450	FXM1	SF	100MK	,	04880	32	0329L	00000
05460		TF	FAC	,99	04892	26	02492	00099
05470		BB			04904	42	00000	00000
05480		DORG	**9		04906			
05490	FXD1	D	100MK	,FXD-1	04906	29	0329L	0397L
05500		BV	**26		04918	46	04944	01400
05510		TF	FAC	,99MK	04930	26	02492	03280
05520		BB			04942	42	00000	00000
05530		DORG	**9		04944			
05540		TFM	E1	,578	04944	16	02615	00N78
05550	FXNINF	TFM	FXERR+30	,FIXEND-12	04956	16	03626	-3668
05560		TF	FAC	,FX9	04968	26	02492	02805
05570		B	FXERR	..	04980	49	03596	00000
05580		DORG	**4		04987			
05590	FXDR1	D	100MK	,FAC	04988	29	0329L	02492
05600		B	FXD1+12		05000	49	04918	00000
05610		DORG	**4		05007			
05620	RSGN1	BNF	**26	,FAC-2	05008	44	05034	02490
05630		CF	FAC-2	..	05020	33	02490	00000
05640		BB			05032	42	00000	00000
05650		DORG	**9		05034			
05660		SF	FAC-2		05034	32	02490	00000
05670		BB			05046	42	00000	00000
05680		DORG	**9		05048			
05690		BNF	**26	,FAC	05048	44	05074	02492
05700		CF	FAC	..	05060	33	02492	00000
05710		BB			05072	42	00000	00000
05720		DORG	**9		05074			
05730		SF	FAC		05074	32	02492	00000
05740		BB			05086	42	00000	00000
05750		DORG	**9		05088			
05760	FLOAT1	BZ	ZERFAC	..	05088	46	03422	01200
05770		TD	99	,FAC	05100	25	00099	02492
05780		CF	FAC	..	05112	33	02492	00000
05790		TR	BETA-9	,FXM	05124	31	02594	0328L
05800		TF	FAC-2	,9SPF-1	05136	26	02490	02853
05810		TF	SAVE	,K	05148	26	02565	02221
05820		TFM	**23	,BETA-9	05160	16	05183	-2594
05830		BD	**44	,DUMMY	05172	43	05216	99999
05840		SM	SAVE	,1	05184	12	02565	000-1
05850		AM	**13	,1	05196	11	05183	-0001
05860		B	**36		05208	49	05172	00000
05870		DORG	**3		05216			
05880		TR	FNH	,*-33	05216	31	0331L	0518L
05890		TF	**35	,FNH	05228	26	05263	03313
05900		AM	**23	,1	05240	11	05263	-0001
05910		BNR	**12	,DUMMY	05252	45	05240	99999
05920		TDM	**1	,0	05264	15	0526L	00000
05930		TD	FAC+1	,RECMK	05276	25	02493	02403

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05940	TF	BETA	,ZERO-74	,,	CLEAR BETA	05288	26	02603	02693
05950	B	NUMM60				05300	49	05332	00000
05960	DORG	+3				05308			
05970	NORM36	TR	FNH	,FH	,611, LEFT SHIFT ONCF	05308	31	0331L	03300
05980	TDM	FAC-1	,0	,,	SET LAST DIGIT TO ZERO	05320	15	02491	00000
05990	NORM60	SF	FNH	,,		05332	32	0331L	00000
06000	BD	FINISH	,FNH	,611,	TEST LEADING ZERO	05344	43	0372L	0331L
06010	SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT	05356	12	02565	000-1
06020	B	NORM36				05368	49	05308	00000
06030	DORG	+4				05375			
06040	FAC1	TFM	EI	,57L	,9, SET UP ERR E1 CODE	05376	16	02615	00M71
06050	BNXV	ERXV+30	,,	,6		05388	47	0379K	01500
06060	B	ERXV				05400	49	03762	00000
06070	DORG	+4				05407			
06080	FSBR1	CF	FAC-2			05408	33	02490	00000
06090	FADD	FAC	,FSBR-1	,11,	SET UP ADD	05420	01	02492	0411L
06100	B	FAD1	,,	,,	BRANCH TO FLOATING POINT ADD	05432	49	05376	00000
06110	DORG	+3				05440			
06120	SF	FAC-2				05440	32	02490	00000
06130	B	FSBR1+12				05452	49	05420	00000
06140	DORG	+4				05459			
06150	FMP1	TF	79	,ZEROM	,11, CLEAR MULTIPLY AREA	05460	26	00079	0344M
06160	FMUL	FAC	,FMP-1	,11		05472	03	02492	0413P
06170	B	FAD1+12				05484	49	05388	00000
06180	DORG	+4				05491			
06190	FD1	TF	79	,ZEROM	,11, CLEAR MULTIPLY AREA	05492	26	00079	0344M
06200	FDIV	FAC	,FD-1	,11		05504	09	02492	0416J
06210	BNV	FAD1+12				05516	47	05388	01400
06220	TDM	EI	,7			05528	15	02615	00007
06230	OVFLO	TF	FAC-2	,9SCPF		05540	26	02490	02795
06240	TFM	FAC	,99	,10		05552	16	02492	000R9
06250	B	ERXV+24				05564	49	03786	00000
06260	DORG	+4				05571			
06270	FUVRI	TFL	FAC	,FUVR-1	,11	05572	06	02492	0418M
06280	TFM	FD-1	,SAVE			05584	16	04161	-2565
06290	B	FD				05596	49	04162	00000
06300	DORG	+4				05603			
06310	FIX11	AM	IMSA	,00	,10, IS I = ZERO	05604	11	02575	000-0
06320	BNZ	+26	,,	,,	NO, CONTINUE	05616	47	05642	01200
06330	TF	FAC	,FX1	,,	YES, J+1 = ONE	05628	26	02492	02825
06340	BB					05640	42	00000	00000
06350	DORG	+9				05642			
06360	AM	FAC	,00	,10,	IS J = ZERO	05642	11	02492	000-0
06370	BNZ	+44	,,	,,	NO, CONTINUE	05654	47	05698	01200
06380	BNF	+26	,IMSA	,,	YES, THEN IS I POSITIVE	05666	44	05640	02575
06390	TFM	EI	,771	,9,	NO, ER G1, 0 TO MINUS I POWER	05678	16	02615	00P71
06400	B	FXNINE				05690	49	04956	00000
06410	DORG	+3				05698			
06420	TDM	ODDREV+1	,1	,,	SET SIGN POSITIVE	05698	15	05815	00001
06430	PSI	CF	MU-1	,,		05710	33	03631	00000
06440	SF	IMSA-1				05722	32	02574	00000
06450	MM	IMSA	,05	,10		05734	13	02575	000-5
06460	CF	IMSA-1				05746	33	02574	00000
06470	BD	+20	,99	,,		05758	43	05778	00099
06480	B	+32	,,	,,	I EVEN	05770	49	05802	00000
06490	DORG	+3				05778			

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06500	BNF	+36	,FAC	,,	I ODD	05778	44	05814	02492
06510	SF	MU-1	,,	,,	J NEG, SET SIGN NEGATIVE	05790	32	03631	00000
06520	CF	FAC				05802	33	02492	00000
06530	ODDREV	NUP	AXJ			05814	41	06196	00000
06540	C	FAC	,FX1	,,		05826	24	02492	02825
06550	HE	MU	,,	,,	J = + OR - ONE	05838	46	03632	01200
06560	BNF	+56	,IMSA	,,	IS I POSITIVE	05850	44	05906	02575
06570	TFM	EI	,772	,9,	NO, ERR G2, J TO MINUS I POWER	05862	16	02615	00P72
06580	TF	FAC	,FXZ	,,	FAC = FXZ	05874	26	02492	02815
06590	TFM	FXERR+30	,FIXEND-12	,,	SET LP ERROR EXIT	05886	16	03626	-3668
06600	B	FXERR				05898	49	03596	00000
06610	DORG	+3				05906			
06620	TF	BETA	,FAC	,,	STORE J	05906	26	02603	02492
06630	SM	IMSA	,01	,10,		05918	2	02575	000-1
06640	BZ	MU				05930	46	03632	01200
06650	M	FAC	,BETA	,,		05942	23	02492	02603
06660	SF	100MK	,,	,6		05954	32	0329L	00000
06670	TF	FAC	,99	,,		05966	26	02492	00099
06680	AM	99MK	,00	,610,	TEST OVFL	05978	11	0328Q	000-0
06690	BZ	+72	,,	,,		05990	46	05918	01200
06700	TFM	EI	,773	,9,	ERR G3, OVFL IN FIX1	06002	16	02615	00P73
06710	TDM	FXERR+25	,1	,,	SET UP SIGN	06014	15	03621	00001
06720	B	FXNINE				06026	49	04956	00000
06730	DORG	+4				06033			
06740	FAX11	AM	IMSA	,00	,10, IS I ZERO	06034	11	02575	000-0
06750	BNZ	+38	,,	,,	NO, CONTINUE	06046	47	06084	01200
06760	ONEFAC	TFM	FAC	,01	,10, YES	06058	16	02492	000-1
06770	TF	FAC-2	,ONEZ	,,	FAC = FLT PT ONE	06070	26	02490	03038
06780	BB					06082	42	00000	00000
06790	DORG	+9				06084			
06800	BD	+44	,FNH	,11,	IS A ZERO	06084	43	06128	0331L
06810	BNF	+14	,IMSA	,,	YES, IS I NEGATIVE	06096	44	06082	02575
06820	TFM	EI	,774	,9,	YES, ER G4, ZERO TO MINUS I	06108	16	02615	00P74
06830	B	OVFLO				06120	49	05540	00000
06840	DORG	+3				06128			
06850	TF	SAVE	,FAC	,,	STORE CHAR	06128	26	02565	02492
06860	TD	FAC	,FAC-2	,,	CONVERT A TO F+2 FORM	06140	25	02492	02490
06870	CF	FAC-2				06152	33	02490	00000
06880	TDM	FAC-1	,0	,,		06164	15	02491	00000
06890	TDM	ODDREV+1	,9	,,	SET UP RETURN	06176	15	05815	00009
06900	B	PSI	,,	,,	SET UP SIGN AT MU-1	06188	49	05710	00000
06910	DORG	+3				06196			
06920	AXJ	TF	FAC	,SAVE		06196	26	02492	02565
06930	FSL	FNHM2	,FAC-2	,6		06208	05	0348R	02490
06940	TFM	EI	,775	,9,	SET UP ERR G5 CODE	06220	16	02615	00P75
06950	BNF	NO DIV	,IMSA	,,		06232	44	06348	02575
06960	CF	79	,IMSA	,,		06244	33	02575	00000
06970	RECIP	TF	79	,ZEROM	,11, CLEAR MULTIPLY AREA	06256	26	00079	0344M
06980	TFL	SAVE	,FAC	,,		06268	06	02565	02492
06990	TF	FAC-2	,ONEZ+2	,10		06280	26	02490	03040
07000	TFM	FAC	,01	,,		06292	16	02492	000-1
07010	FOTV	FAC	,SAVE	,,		06304	09	02492	02565
07020	BNXV	NODIV				06316	47	06348	01500
07030	TF	FAC-2	,FAC-4	,,		06328	26	02490	02488
07040	B	ERXV				06340	49	03762	00000
07050	DORG	+3				06348			

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07060	NODIV	TFL	GAM	,FAC		06348	06	02555	02492
07070		SM	IMSA	,01	,10	06360	12	02575	000-1
07080		BZ	++68			06372	46	06440	01200
07090		TF	79	,ZEROM	,11, CLEAR MULTIPLY AREA	06384	26	C0079	0344N
07100		FMUL	FAC	,GAM		06396	03	02492	02555
07110		BNXV	NODIV+12			06408	47	06360	01500
07120		TF	FAC-2	,FAC-4		06420	26	02490	02488
07130		B	ERXV			06432	49	03762	00000
07140		DDRG	*-3			06440			
07150		TF	FAC-2	,FAC-4		06440	26	02490	02488
07160		BNF	ENDD+36	,MU-1		06452	44	03724	03631
07170		B	ENCC+24			06464	49	03712	00000
07180		DDRG	*-4			06471			
07190	FAXB1	AM	TAFE-2	,00	,10, IS B ZERO	06472	11	02533	000-0
07200		BZ	ONEFAC	,	,, YES	06484	46	06058	01200
07210		BD	++44	,FNH	,11, NU, IS A ZERO	06496	43	06540	0331L
07220		BNF	FINISH+1	,TAFE-2	,, NO, IS B NEGATIVE	06508	44	03724	02533
07230		TFM	EI	,777	,9, YES, ER G7, ZERO TO MINUS B	06520	16	02615	00P77
07240		B	OVFLO			06532	49	05540	00000
07250		DDRG	*-3			06540			
07260		TDM	OLWR+1	,9	,, SET UP NO ERR TYPE	06540	15	06697	00009
07270		BNF	++36	,FAC-2	,, IS A NEGATIVE	06552	44	06588	02490
07280		TDM	OLWR+1	,1	,, YES, SET UP ERR TYPE	06564	15	06697	00001
07290		CF	FAC-2			06576	33	02490	00000
07300		TDM	FINISH+2	,9		06588	15	03725	00009
07310		TFM	FINISH+7	,**20		06600	16	03730	-6620
07320		B	LNENT	,	,6, FIND LN OF A	06612	49	03360	00000
07330		DDRG	*-3			06620			
07340		TDM	FINISH+2	,2		06620	15	03725	00002
07350		TFM	FMP-1	,TAFE	,, SET UP MULTIPLICATION	06632	16	04137	-2535
07360		TFM	ERXV+30	,**20		06644	16	03792	-6664
07370		B	FMP	,	,, MULTIPLY B TIMES LNA	06656	49	04138	00000
07380		DDRG	*-3			06664			
07390		TFM	ERXV+30	,**20		06664	16	03792	-6684
07400		B	EXPENT	,	,6, FIND A**B = E**BLN(A)	06676	49	0337L	00000
07410		DDRG	*-3			06684			
07420		TFM	ERXV+30	,FMFAC+12		06684	16	03792	-3464
07430	OLWR	NOP	FINISH+1			06696	41	00124	C0000
07440		TFM	EI	,676	,9, ERR F6, -A TO B	06708	16	02000	00076
07450		TDM	99	,0		06720	15	00099	00000
07460		B	ERROR			06732	49	03596	00000
07470		DDRG	*-4			06739			
07480		DDRG	08CC0			08000			
07490		34	A1	,00701	,, FIRST TIME ONLY	08000	34	08068	00701
07500		38	A1	,00702		08012	38	08068	00702
07510		36	A1	,00703		08024	36	08068	00703
07520		TD	15999	,400	,, FIRST TIME ONLY	08036	25	15999	00400
07530		TR	START+3	,12000		08048	31	03854	12000
07540		B	**22			08060	49	08082	00000
07550		DDRG	*-3			08068			
07560	A1	DSC	9	,019400033		08068		9	
		019400033							
07570		DSA	FIX			08081		5 X	1
07580	TRA					08081		-3831	
						08082	36	00000	00500

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07590	TCD	080C0				08094	49	00000	00000
						080C0			
07600	*****	1620 FORTRAN II-D	FORMAT						
07610	*****	1620 FORTRAN II-D	FORMAT - SECONDARY LINKAGE						
07620		DDRG	START			03851			
07630		DS	3			03853		3	
07640		TFM	FMON+11	,*-START		03854	16	07765	-0003
07650		DC	2	,1	,*-3	03862		2	
		-1							
07660		B	FMON			03866	49	07754	00000
07670		TFM	FMON+11	,*-START		03878	16	07765	-0027
07680		DC	2	,1	,*-3	03886		2	
		-1							
07690		B	FMON			03890	49	07754	00000
07700		TFM	FMON+11	,*-START		03902	16	07765	-0051
07710		DC	2	,1	,*-3	03910		2	
		-1							
07720		B	FMON			03914	49	07754	00000
07730		TFM	FMON+11	,*-START		03926	16	07765	-0075
07740		DC	2	,1	,*-3	03934		2	
		-1							
07750		B	FMON			03938	49	07754	00000
07760		TFM	FMON+11	,*-START		03950	16	07765	-0099
07770		DC	2	,1	,*-3	03958		2	
		-1							
07780		B	FMON			03962	49	07754	00000
07790		TFM	FMON+11	,*-START		03974	16	07765	-0123
07800		DC	2	,1	,*-3	03982		2	
		-1							
07810		B	FMON			03986	49	07754	00000
07820		TFM	FMON+11	,*-START		03998	16	07765	-0147
07830		DC	2	,1	,*-3	04006		2	
		-1							
07840		B	FMON			04010	49	07754	00000
07850		DDRG	*-1			04020			
07860		TFM	FMON+11	,*-START		04020	16	07765	-0169
07870		DC	2	,1	,*-3	04028		2	
		-1							
07880		B	FMON	,	,8	04032	49	07754	0-000
07890		DDRG	*-1			04042			
07900		AM	FAC	,00	,10, IS FAC ZERO	04042	11	02492	000-0
07910		B	IFLOAT			04054	49	05126	00000
07920		TFM	FMON+11	,*-START		04066	16	07765	-0215
07930		DC	2	,1	,*-3	04074		2	
		-1							
07940		B	FMON			04078	49	07754	00000
07950		TFM	FMON+11	,*-START		04090	16	07765	-0239
07960		DC	2	,1	,*-3	04098		2	
		-1							
07970		B	FMON			04102	49	07754	00000
07980		TFM	FMON+11	,*-START		04114	16	07765	-0263
07990		DC	2	,1	,*-3	04122		2	
		-1							
08000		B	FMON			04126	49	07754	00000
08010		TFM	FMON+11	,*-START		04138	16	07765	-0287

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09010	BL	ERR F7 I			04950	47	05002	01300
09020	IRBLNK	SM	IR DIG+6	,1	04962	12	04932	-0001
09030	B	I	READ		04974	49	04754	00000
09040	DORG	+-4			04981			
09050	IMINUS	SF	FAC		04982	32	02492	00000
09060	B	SWL			04994	49	06042	00000
09070	DORG	+-4			05001			
09080	ERRF7I	TF	FAC	,FXZ	05002	26	02492	02815
09090	TFM	EI		,677	05014	16	02615	0007P
09100	B	SWL			05026	49	06042	00000
09110	DORG	+-4			05033			
09120	READI	SF	FPLMK		05034	32	0328L	00000
09130	TF	FLT END		,ICON2+6	05046	26	03730	05420
09140	BNF	FLOAT		,LOC	05058	44	04042	06089
09150	CF	LOC			05070	33	06089	00000
09160	READIF	TFL	LOC	,FAC	05082	06	0608R	02492
09170	ERF7	BNF	BSWF-12	,EI	05094	44	05922	02615
09180	CF	EI			05106	33	02615	00000
09190	B	ERCOM2			05118	49	07386	00000
09200	DORG	+-4			05125			
09210	IFLOAT	BZ	ZERFAC		05126	46	03422	01200
09220	TD	99	,FAC		05138	25	00099	02492
09230	CF	FAC			05150	33	02492	00000
09240	TR	BETA-9	,FXH	,11	05162	31	02594	0328L
09250	TF	FAC-2	,9SPF-1		05174	26	02490	02853
09260	TF	SAVE	,K		05186	26	02565	02221
09270	TFM	++23	,BETA-9		05198	16	05221	-2594
09280	BD	++44			05210	43	05254	00000
09290	SM	SAVE	,01	,10,	05222	12	02565	000-1
09300	AM	+-13	,01		05234	11	05221	-0001
09310	B	+-36			05246	49	05210	00000
09320	DORG	+-3			05254			
09330	TR	FNH	,+-33	,611	05254	31	0331L	0522J
09340	TF	++35	,FNH		05266	26	05301	03313
09350	AM	++23	,01		05278	11	05301	-0001
09360	BNR	+-12			05290	45	05278	00000
09370	TDM	+-1	,0	,6	05302	15	0530J	00000
09380	TD	FAC+1	,RECMK		05314	25	02493	02403
09390	TF	BETA	,ZERO-74		05326	26	02603	02693
09400	B	INOR60			05338	49	05370	00000
09410	DORG	+-3			05346			
09420	INOR36	TR	FNH	,FH	05346	31	0331L	03300
09430	TDM	FAC-1	,0		05358	15	02491	00000
09440	INOR60	SF	FNH	,6	05370	32	0331L	00000
09450	BD	FINISH	,FNH	,611,	05382	43	0372L	0331L
09460	SM	SAVE	,1	,10,	05394	12	02565	000-1
09470	B	INOR36			05406	49	05346	00000
09480	DORG	+-4			05413			
09490	ICON2	B	READ IF	,1	05414	4R	05082	00000
09500	DORG	+-4			05421			
09510	*****	1620 FORTRAN II-D	FORMAT - SUBROUTINES		05538			
09520	DORG	START+1687			05538	16	06922	-6087
09530	WATY1	TFM	MAX	,06087	05550	49	05622	00000
09540	B	WRTALP			05558			
09550	DORG	+-3			05558	16	06922	-8087
09560	WAPT1	TFM	MAX	,08087				

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09570	B	WRTALP			05570	49	05622	00000
09580	DORG	+-3			05578			
09590	PRAI	TFM	MAX	,26145	05578	16	06922	K6145
09600	TD	RWEFSW	,RECMK		05590	25	06061	02403
09610	B7	RWA			05602	49	05634	
09620	WACD1	TFM	MAX	,10080	05610	16	06922	J0080
09630	WRTALP	TDM	RWEFSW	,1	05622	15	06061	00001
09640	RWA	TF	DATINH+2	,MAX-3	05634	26	06175	06919
09650	SF	MAX-2			05646	32	06920	00000
09660	REPSW	DS	2	,+-3	05654			
09670	MATSW	DS	1	,+-2	05655			
09680	REPSW3	DS	2	,+	05657			
09690	TFM	+-1	,00000	,711	05658	16	05657	-000-
09700	TDM	SWL+1	,2		05670	15	06043	00002
09710	LOCD	DS	2	,+-1	05680			
09720	LOCD2	DS	2	,+-3	05678			
09730	TFM	MESERR+8	,679	,9	05682	16	02615	00079
09740	TFM	MAX2	,INH		05694	16	06145	-7453
09750	A	MAX2	,MAX		05706	21	06145	06922
09760	A	MAX 2	,MAX		05718	21	06145	06922
09770	*****		CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT					
09780	*****		RECORD NOT TERMINATED BY COMPLT MACRO					
09790	TFM	LAST	,INH		05730	16	05820	-7453
09800	RWA2	TDM	COMPWSW	,-1	05742	15	05750	0000J
09810	COMPWSW	DS		,+-3	05750			
09820	TR	INH-1	,STZERO+1		05754	31	07452	06424
09830	TR	INH+86	,STZERO		05766	31	07539	06423
09840	RW2A	B	ODD3		05778	49	06178	00000
09850	CM	MAX-3	,08	,10	05790	14	06919	000-8
09860	WIDTH	DS	3	,+-2	05799			
09870	BNL	++24			05802	46	05824	01300
09880	RCTY	RCTY			05814	34	00000	00102
09890	LAST	DS	5	,+-5	05820			
09900	BNE	++24			05826	47	05850	01200
09910	TF	INH+174	,FLZERS		05838	26	07627	04511
09920	BD	BSWF	,RWEFSW		05850	43	05934	04061
09930	RADOIT	TFM	IORT	,++23	05862	16	05665	-5885
09940	B	IOGT	,DATINH-4	,7	05874	49	05666	-6169
09950	CM	MAX-3	,06	,10	05886	14	06919	000-4
09960	BNE	++24			05898	47	05922	01200
09970	BC4	RCTY			05910	46	05814	00400
09980	TDM	FLT END-5,2			05922	15	03725	00002
09990	*****		CONTROLS POSITION IN FORMAT SPECS					
10000	BSWF	AM	SWF	,5	05934	11	05969	-0005
10010	TF	++18	,SWF	,11	05946	26	05964	0596R
10020	B	SWF		,6,	05958	49	0596R	00000
10030	SWF	DS	5	,+	05969			
10040	RATY1	TFM	MAX	,06087	05970	16	06922	-4087
10050	B	RDALP			05982	49	06022	00000
10060	DORG	+-3			05990			
10070	RAPT1	TFM	MAX	,08087	05990	16	06922	-4087
10080	B	RDALP			06002	49	06022	00000
10090	DORG	+-3			06010			
10100	RADALP	TFM	MAX	,10080	06010	16	06922	J0080
10110	RADALP	TFM	RWEFSW	,0	06022	15	06061	00000
10120					06034	49	05634	00000

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10130	DORG	=-4			06041			
10140	*****	SWL	IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE					
10150	*****		TO OBTAIN THE LOCATION THAT GOES WITH THE FORMAT MACRO					
10160	*****		BEING PERFORMED					
10170	*****		BB FOR OBJECT PROGRAM					
10180	*****		NOP FOR REDD CONTROL					
10190	SWL	NOP	MATRIX 2			06042	41	06602 00000
10200	INPLUS	DS	5	,*		06053		5
10210	TDM	SWL+1	,9	,,		06054	15	06043 00009
10220	RWFPSW	DS	1	,*-4	,,	06061		1
10230	WIDTH2	DS	3	,*-1	,,	06064		3
10240	BD	SWC+12	,MATSW			06066	43	06102 05655
10250	NOP					06078	41	00000 00000
10260	DPG	DS	5	,*-5	,,	06084		5
10270	LOC	DS	5	,*	,,	06089		5
10280	*****		AFTER LOC ADR OBTAINED BR TO PROPER MACRO					
10290	SWC	TDM	SWL+1	,2		06090	15	06043 00002
10300	CHAR	DS	3	,*-1	,,	06100		3
10310	BD	+20	,RWFPSW	,,		06102	43	06122 06061
10320	B	SWC ADJ	,	,6		06114	49	0615K 00000
10330	DORG	=-4				06121		
10340	TDM	COMP SW	,0	,,		06122	15	05750 00000
10350	CF	LOC				06134	33	06089 00000
10360	MAX2	DS	5	,*	,,	06145		5
10370	B					06146	49	00000 00000
10380	SWCADJ	DS		,*-5	,,	06152		0
10390	DORG	=-4				06153		
10400	DATERR	DSA	DUOH			06157		5 X 1
						06157		-2607
10410	DC	3	,18'			06160		3
						06165		5 X 1
10420	DATDUD	DSA	DUOH					
						06165		-2607
10430	DC	3	,00'			06168		3
10440	DATINH	DSA	INH			06173		5 X 1
						06173		-7453
10450	DC	3	,00'			06176		3
						06178	31	07627 06441
10460	ODD3	TR	INH+174, STZERO+18			06190	31	07697 06463
10470	TR		INH+244, STZERO+40			06202	49	05790
10480	B7	RW2A+12				06210	16	06089 -2492
10490	P44C	TFM	SWC-1 ,FAC			06222	16	05969 -6291
10500	TFM	SWF	,P44C2-5			06234	16	06370 -6314
10510	TFM	TRRET+6	,P44E			06246	44	05578 02491
10520	BNF	PRA1	,FAC-1	,,		06258	16	05969 -6276
10530	TFM	SWF	,P44C1-5			06270	49	05578
10540	B7	PRA1				06281		5 X 1
10550	P44C1	DSA	ETYPE			06281		-4580
10560	DC	3,35				06284		3

1019

10570	DC	2,28				06286		2
	K8					06291		5 X 1
10580	DSA	PRCNTR-12				06291		-6904
						06296		5 X 1
10590	P44C2	DSA	ITYPE			06296		-4448
						06299		3
10600	DC	3,24				06304		5 X 1
						06304		-6904
10610	DSA	PRCNTR-12				06306	49	06042
10620	DDD4	B7	SWL	,*	,,	06314	16	06370 -6996
10630	P44E	TFM	TRRET+6	,COMEND	,,	06326	16	06312 -6042
10640	TFM	UDD4+6	,SWL			06338	42	
10650	B82					06340	47	06364 03400
10660	DDD6	BNI	TRRET	,03400		06352	34	00000 00971
10670	K			,00971		06364	49	06996 00000
10680	TRRET	B	COMEND			06371		
10690	DORG	=-4				06422		
10700	DORG	6422				06423		2
10710	STZERO	DC	2	,00		06424	-0	-0-0- 0-0-0
						06436	-0	-0-0- 0-0-0
10720	00			,0246810		06448	-0	-0-0- 0-0-0
10730	00			,0246810		06460	-0	-0-0- 0-0-0
10740	00			,0246810		06472	-0	-0-0- 0-0-0
10750	00			,0246810		06484	-0	-0-0- 0-0-0
10760	00			,0246810		06496	-0	-0-0- 0-0-0
10770	00			,0246810		06504		2
10780	00			,0246810				
10790	DC	2	,00			06511		2
10800	FLZERS	DC	2	,0'		06516		5
						06518	15	05655 00001
10810	DS	5				06530	15	06043 00009
10820	MATRIX	TDM	MATSW	,1	,,	06542	26	06574 03664
10830	TDM	SWL+1	,9	,,		06554	44	06590 06517
10840	TF	LOCADJ	,PP2			06566	16	06574 000-0
10850	BNF	MATRIX2-12,MATRIX-1				06574		2
10860	TFM	LOCADJ	,00	,10		06578	22	06574 02221
10870	LOCADJ	DS	2	,*-3	,,	06590	22	06517 06574
10880	S	LOCADJ	,K			06602	21	06517 06574
10890	A	MATRIX-1,LOCADJ				06614	26	06089 06517
10900	MATRIX2	A	MATRIX-1,LOCADJ	,,		06626	12	03378 000-1
10910	TF	LOC	,MATRIX-1	,,		06638	47	06662 01200
10920	SM	PAR	,1	,10		06650	15	05655 00000
10930	BNE	+24				06662	46	06102 01300
10940	TDM	MATSW	,0			06674	42	06000 00000
10950	BNL	SWC+12				06676		
10960	BB							
10970	DORG	=-9						
10980	*****		MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT					
10990	SLASH	TDM	COMEND+1	,9		06676	15	06997 00009
11000	BD	SLASH2	,RWFPSW	,,		06688	43	06708 06061
11010	B	COMEND				06700	49	06996 00000

1020

11020	DORG	*-4			06707			
11030	SLASH2	BD	IOCR	,COMP SW	,,	BR TC IO CR IF OUTPUT RECORD BLANK	06708	43 06972 05750
11040	CM	DATINH+2	,06	,10			06720	14 06175 000-6
11050	BH	WRITE	,	,,		BR IF NOT TYPEWRITER CUTPUT	06732	46 06816 01100
11060	TF	LAST	,FLZERS	,6			06744	26 0582- 06511
11070	SM	LAST	,02	,10,		ERASE BLANKS FROM END OF I/O RECORD	06756	12 05820 000-2
11080	CM	LAST	,00	,610			06768	14 0582- 000-0
11090	BE	*-36					06780	46 06744 01200
11100	CM	LAST	,INH				06792	14 05820 -7453
11110	BL	COM END					06804	47 06996 01300
11120	WRITE	BNR	WRITE1	,RWEFSW			06816	45 06940 06061
11130	CM	INH	,70	,10			06828	14 07453 000P0
11140	BNH	*+32					06840	47 06872 01100
11150	TF	PRKEY	,INH	,,		SKIP TO CHANNEL CODE	06852	26 06927 07453
11160	B7	PRCNTR					06864	49 06916
11170	BNE	*+32					06872	47 06904 01200
11180	TFM	PRKEY	,52	,10,		DOUBLE SPACE	06884	16 06927 000N2
11190	B7	PRCNTR					06896	49 06916
11200	TFM	PRKEY	,51	,10,		SINGLE SPACE	06904	16 06927 000N1
11210	PRCNTR	K	,0900	,,		CONTROL CARRIAGE	06916	34 00000 00900
11220	PRKEY	DS	2	,*			06927	2
11230	MAX	DS	5	,+5			06922	5
11240	TR	INH-1	,INH+1				06928	31 07452 07454
11250	WRITE1	TFM	IOPT	,+23	,7,	OUTPUT	06940	16 00565 -6963
11260	B	IOPT	,DATINH-4	,7			06952	49 00532 -6169
11270	B	ODD6					06964	49 06340 00000
11280	DORG	*-4					06971	
11290	IOCR	CM	MAX-3	,08	,10		06972	14 06919 000-8
11300	CKW	DS	3	,+2		DEC SPFC PLUS CHAR OF ARG	06981	3
11310	BNL	WRITE					06984	46 06816 01300
11320	COMEND	B	RWA2-12				06996	49 05730 00000
11330	DORG	*-4					07003	
11340	*****					MACRO TERMINATING I/O CONTROL		
11350	DS	3					07005	3
11360	COMPLT	TDM	COMEND+1	,2			07006	15 06997 00002
11370	CHAR2	DS	3	,+1	,,	TWICE MODIFIED CHARACTERISTIC	07016	3
11380	B	SLASH+12					07018	49 06688 00000
11390	DORG	*-4					07025	
11400	REDD	BD	REDD A+24,MAT SW				07026	43 07094 05655
11410	TD	REDDA+23	,COMPSW				07038	25 07093 05750
11420	TFM	SWC ADJ	,REDD A	,,		MACRO PERMITS RECOING BACK TO (07050	16 06152 -7070
11430	B	SWL					07062	49 06042 00000
11440	DORG	*-4					07069	
11450	REDDA	TDM	SWL+1	,1	,,	RETURN FROM SWL IF MORE DATA	07070	15 06043 00001
11460	TDM	COMPSW	,	,,		VOID REDD USING SWC EFFECT ON COMPSW	07082	15 05750 00000
11470	TERM	DS	5	,*	,,	REFERENCE ADR IN I/O RECCRD	07093	5
11480	AM	SWF	,5				07094	11 05969 -0005
11490	TF	SWF	,SWF	,11			07106	26 05969 0596R
11500	B	SLASH					07118	49 06676 00000
11510	DORG	*-4					07125	
11520	*****					MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES		
11530	*****					SUB FROM REP SW, INITIALLY SET TO ZERO		
11540	*****					IF REPSW NEG, SET TO REPS REQD AND REPEAT FORMAT		
11550	*****					IF REPSW ZERO, LAST FORMAT REPETITION IS COMPLETE		
11560	*****					IF REPSW PLUS, STEP DOWN AND REPEAT FORMAT SPEC		
11570	REP	AM	SWF	,7			07126	11 05969 -0007

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11580	SM	REP SW	,1	,10,		CONTROL REPETITION OF FIELDS	07138	12 05654 000-1
11590	BH	REP 2					07150	46 07198 01100
11600	BE	BSWF					07162	46 05934 01200
11610	A	REP SW	,SWF	,11			07174	21 05654 0596R
11620	BNH	BSWF					07186	47 05934 01100
11630	REP2	SM	SWF	,2			07198	12 05969 -0002
11640	TF	SWF	,SWF	,11			07210	26 05969 0596R
11650	H	SWF-23					07222	49 05946 00000
11660	DORG	*-4					07229	
11670	REP3	SF	REPSW3-1				07230	32 05656 00000
11680	WA	DS	5	,*	,,	WORKING AREA ADR REF TO FAC OR GAM	07241	5
11690	AM	SWF	,7	,10			07242	11 05969 000-7
11700	SM	REPSW 3	,1	,10			07254	12 05657 000-1
11710	BH	REP 2					07266	46 07198 01100
11720	BE	BSWF					07278	46 05934 01200
11730	A	REPSW 3	,SWF	,11			07290	21 05657 0596R
11740	B	REP 2-12					07302	49 07186 00000
11750	DORG	*-4					07309	
11760	ERF9	TFM	SWC ADJ	,ER COM 2	,,	MACRO FOR ERROR F9 WHEN WRITING	07310	16 06152 -7386
11770	TF	LAST	,MAX 2	,,			07322	26 05820 06145
11780	TFM	EI	,679	,9			07334	16 02615 00079
11790	B	SWL					07346	49 06042 00000
11800	DORG	*-4					07353	
11810	XTYPE	AM	SWF	,3	,,	MACRO FOR SKIPPING FIELDS	07354	11 05969 -0003
11820	A	LAST	,SWF	,11			07366	21 05820 0596R
11830	B	BSWF					07378	49 05934 00000
11840	DORG	*-4					07385	
11850	ERCOM2	K	,0951				07386	34 00000 00951
11860	WA2	DS	,+5	,,		WORKING AREA ADR REF TO FAC OR GAM	07392	0
11870	TFM	IOPT	,+23				07398	16 00565 -7421
11880	B	IOPT	,DATERR-4	,7			07410	49 00532 -6153
11890	TR	EI+1	,FLZERS-1	,,		RESTORES RECORD MARK	07422	31 02616 06510
11900	B	BSWF-12					07434	49 05922 00000
11910	DPT	DS	5	,*	,,	TEMP LOC OF DEC PT IN OUTPUT RECORD	07445	5
11920	DPTM2	DS	5	,+5	,,	TEMP ADR OF DEC PT IN I/O REC. -2	07450	5
11930	DS	5					07450	5
11940	DC	1	,9				07451	1
11950	ENDFOR	DAC	1,0				07453	1 X 2
11960	INH	DS	,ENDFOR				07453	0
11970	DS	292,					07745	292
11980	IN	DS	294,INH+292				07745	294
11990	DORG	09C00					09000	
12000	38	A3	,00702				09000	38 09032 00702
12010	36	A3	,00703				09012	36 09032 00703
12020	B	*+22					09024	49 09046 00000
12030	DORG	*-3					09032	
12040	A3	DSC	9	,019433039			09032	9
12050		019433039					09045	5 X 1
		DSA	FIX				09045	-3854
12060	TRA						09046	36 00000 00500
12070	TCD	09000					09058	49 00000 00000
							09000	

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12990	TFM	FMON+11	,*-START		04536	16	07765	-0685	
13000	DC	2	,7	,*-3	04544		2		
13010	B	FMON	,	,8	04548	49	07754	0-000	
13020	DORG	*-1			04558				
13030	TFM	FMON+11	,*-START		04558	16	07765	-0707	
13040	DC	2	,5	,*-3	04566		2		
13050	B	FMON	,	,8	04570	49	07754	0-000	
13060	DORG	*-1			04580				
13070	TFM	FMON+11	,*-START		04580	16	07765	-0729	
13080	DC	2	,5	,*-3	04588		2		
13090	B	FMON	,	,8	04592	49	07754	0-000	
13100	DORG	*-1			04602				
13110	TFM	FMON+11	,*-START		04602	16	07765	-0751	
13120	DC	2	,5	,*-3	04610		2		
13130	B	FMON			04614	49	07754	00000	
13140	DORG	*-4			04621				
13150	*****	1620 FORTRAN II-D I WA FORMAT - SUBROUTINES							
13160	*****	RETURN FROM SWL VIA SWC IF WRITING I TYPE							
13170	*****	VALUE PUT IN FAC IN I FORM, EXPANDED TO ALPHA IN							
13180	*****	GAMMA RIGHT TO LEFT. HC CONTAINS ADR OF HIGH ORDER							
13190	*****	DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED, CHECKED							
13200	*****	FOR WIDTH, MOVE TO OUTPUT RECORD.							
13210	*****	ERFBI RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.							
13220	WRIT11	TFM	WA2	,FAC+1	04622	16	07392	-2493	
13230		TFL	FAC	,LOC	04634	06	02492	0608R	
13240		BNF	WRTI2+12	,FAC-1	04646	44	04690	02491	
13250		TF	FIXEND+6	,ICON3+6	04658	26	03686	05324	
13260		B	FIX		04670	49	03854	00000	
13270		DORG	*-4		04677				
13280	WRTI2	TDM	FIXEND+1	,2	04678	15	03681	00002	
13290		TR	GAM-19	,MASK I-1	04690	31	02536	05326	
13300		TFM	HO	,GAM+1	04702	16	04793	-2556	
13310	WRTI	SM	WA 2	,1	04714	12	07392	-0001	
13320		SM	WA	,2	04726	12	07241	-0002	
13330		TD	WA	,WA 2	04738	25	0724J	0739K	
13340		BD	I DIG	,WA 2	04750	43	04770	0739K	
13350		R	I DIG+12		04762	49	04782	00000	
13360		DORG	*-4		04769				
13370	IDIG	TF	HO	,WA	04770	26	04793	07241	
13380		CF	GAM	,	04782	33	02555	00000	
13390	HO	DS	5	,*	04793		5		
13400		BNF	WRTI	,WA	04794	44	04714	0724J	
13410		CM	HO	,GAM+1	04806	14	04793	-2556	
13420		BNE	WRT SGN		04818	47	04850	01200	
13430		TFM	LAST	,7000	04830	16	0582-	OPCOO	
13440		B	BSWF		04842	49	05934	00000	
13450		DORG	*-4		04849				
13460	WRTSGN	BNF	WRT 13	,FAC	04850	44	04886	02492	
13470		SM	HO	,2	04862	12	04793	-0002	
13480		TFM	HO	,20	04874	16	0479L	000K0	
13490	WRTI3	SM	HO	,1	04886	12	04793	-0001	
13500		TFM	OUT	,GAM	04898	16	04957	-2555	

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13510	S	OUT	,HO		04910	22	04957	04793
13520	C	OUT	,WIDTH 2		04922	24	04957	06064
13530	BH	ER FB 1			04934	46	05014	01100
13540	SF	OUT			04946	32	04957	00000
13550	UUT	DS	5	,*	04957		5	
13560		A	OUT	,LAST	04958	21	04957	05820
13570		SM	OUT	,2	04970	12	04957	-0002
13580		TK	OUT	,HO	04982	31	0495P	0479L
13590		TFM	LAST	,00	04994	16	0582-	000-0
13600		B	BSWF		05006	49	05934	00000
13610		DORG	*-4		05013			
13620	ERFBI	TR	DUD H+11	,FLZERS-67	05014	31	02618	06444
13630		TR	OLD H+11	,HO	05026	31	02618	0479L
13640		TFM	EI+2	,67800	05038	16	02617	07800
13650		BNR	*+2C	,RWEFSW	05050	45	05070	06061
13660		B7	ER COM 2		05062	49	07386	
13670		TF	DATDUD+2	,DATINH+2	05070	26	06167	06175
13680		TFM	IDRT	,*+23	05082	16	05665	-5105
13690		B	IDPT	,DATDUD-4	05094	49	00532	-6161
13700		B	ER COM 2		05106	49	07386	00000
13710		DORG	*-4		05113			
13720	IFIX	BP	*+32	,	05114	46	05146	01100
13730		TF	FAC	,FXZ	05126	26	02492	02815
13740		B	FIXEND		05138	49	03680	00000
13750		DORG	*-3		05146			
13760		TD	MU-1	,FAC-2	05146	25	03631	02490
13770		C	FAC	,K	05158	24	02492	02221
13780		BNH	*+56		05170	47	05226	01100
13790		TDM	FXERR+25	,1	05182	15	03621	00001
13800		TFM	EI	,579	05194	16	02615	00N79
13810		TF	FAC	,FX9	05206	26	02492	02805
13820		B	FXERR		05218	49	03596	00000
13830		DORG	*-3		05226			
13840		CF	FAC-2		05226	33	02490	00000
13850		TF	BETA	,ZERO-51	05238	26	02603	02716
13860		TF	IMSA	,FXZ	05250	26	02575	02815
13870		TF	*+30	,IMSAPP	05262	26	05292	03298
13880		S	*+18	,FAC	05274	22	05292	02492
13890		A	DUMMY	,FAC-2	05286	21	99999	02490
13900		TF	FAC	,IMSA	05298	26	02492	02575
13910		B	MU		05310	49	03632	00000
13920		DORG	*-4		05317			
13930	ICON3	B	WRT I2	,	05318	4R	04678	00000
13940		DORG	*-4		05325			
13950	MASK1	DAC	11,0000000000		05327		11 X	2
			0000000000					
13960		DORG	08000		08000			
13970		38	A5	,00702	08000	38	08032	00702
13980		36	A5	,00703	08012	36	08032	00703
13990		B	*+22		08024	49	08046	00000
14000		DORG	*-3		08032			
14010	A5	DSC	9	,019472016	08032		9	
			019472016					
14020		DSA	FIX		08045		5 X	1

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08045 -3854

14030	TRA				08046	36	00000	00500
14040	TCO	OBOCO			08058	49	00000	00000
					08000			
14050	*****	1620 FORTRAN II-D EF-HTYPE	FORMAT					
14060	*****	1620 FORTRAN II-D EF-HTYPE	FORMAT - SECONDARY LINKAGE					
14070		DORG	START		03851			
14080		DS	3		03853		3	
14090		TFM	FMON+11	,0--START	03854	16	07765	-0003
14100		DC	2	,1	03862		2	
		-1						
14110		B	FMON		03866	49	07754	00000
14120		TFM	FMON+11	,0--START	03878	16	07765	-0027
14130		DC	2	,1	03886		2	
		-1						
14140		B	FMON		03890	49	07754	00000
14150		TFM	FMON+11	,0--START	03902	16	07765	-0031
14160		DC	2	,1	03910		2	
		-1						
14170		B	FMON		03914	49	07754	00000
14180		TFM	FMON+11	,0--START	03926	16	07765	-0075
14190		DC	2	,1	03934		2	
		-1						
14200		B	FMON		03938	49	07754	00000
14210		TFM	FMON+11	,0--START	03950	16	07765	-0099
14220		DC	2	,1	03958		2	
		-1						
14230		B	FMON		03962	49	07754	00000
14240		TFM	FMON+11	,0--START	03974	16	07765	-0123
14250		DC	2	,1	03982		2	
		-1						
14260		B	FMON		03986	49	07754	00000
14270		TFM	FMON+11	,0--START	03998	16	07765	-0147
14280		DC	2	,1	04006		2	
		-1						
14290		B	FMON		04010	49	07754	00000
14300		DORG	0-1		04020			
14310		TFM	FMON+11	,0--START	04020	16	07765	-0169
14320		DC	2	,1	04028		2	
		-1						
14330		B	FMON		04032	49	07754	0-000
14340		DORG	0-1		04042			
14350		TFM	FMON+11	,0--START	04042	16	07765	-0191
14360		DC	2	,1	04050		2	
		-1						
14370		B	FMON		04054	49	07754	00000
14380		TFM	FMON+11	,0--START	04066	16	07765	-0215
14390		DC	2	,1	04074		2	
		-1						
14400		B	FMON		04078	49	07754	00000
14410		TFM	FMON+11	,0--START	04090	16	07765	-0239
14420		DC	2	,1	04098		2	
		-1						
14430		B	FMON		04102	49	07754	00000
14440		TFM	FMON+11	,0--START	04114	16	07765	-0263
14450		DC	2	,1	04122		2	
		-1						

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14460		B	FMON		04126	49	07754	00000
14470		TFM	FMON+11	,0--START	04138	16	07765	-0287
14480		DC	2	,1	04146		2	
		-1						
14490		B	FMON		04150	49	07754	00000
14500		TFM	FMON+11	,0--START	04162	16	07765	-0311
14510		DC	2	,1	04170		2	
		-1						
14520		B	FMON		04174	49	07754	00000
14530		TFM	FMON+11	,0--START	04186	16	07765	-0335
14540		DC	2	,1	04194		2	
		-1						
14550		B	FMON		04198	49	07754	00000
14560		TFM	FMON+11	,0--START	04210	16	07765	-0359
14570		DC	2	,1	04218		2	
		-1						
14580		B	FMON		04222	49	07754	00000
14590		TFM	FMON+11	,0--START	04234	16	07765	-0383
14600		DC	2	,1	04242		2	
		-1						
14610		B	FMON		04246	49	07754	00000
14620		TFM	FMON+11	,0--START	04258	16	07765	-0407
14630		DC	2	,1	04266		2	
		-1						
14640		B	FMON		04270	49	07754	00000
14650	****			WRITE ALPHAMERIC				
14660		TF	SWF	,WATY-1	04282	26	05969	04281
14670		B	WATY1		04294	49	05338	00000
14680		TF	SWF	,WAPT-1	04306	26	05969	04305
14690		B	WAPT1		04318	49	05358	00000
14700		TF	SWF	,WACD-1	04330	26	05969	04329
14710		B	WACD1		04342	49	05610	00000
14720		TF	SWF	,PRA-1	04354	26	05969	04353
14730		B	PRA1		04366	49	05378	00000
14740	****			READ ALPHAMERIC				
14750		TF	SWF	,RATY-1	04378	26	05969	04377
14760		B	RATY1		04390	49	05970	00000
14770		TF	SWF	,RAPT-1	04402	26	05969	04401
14780		B	RAPT1		04414	49	05990	00000
14790	EF2SW	DS	5	,0	04425		5	
14800		TF	SWF	,RACD-1	04426	26	05969	04425
14810		B	RACD1		04438	49	06010	0-000
14820		DORG	0-1		04448			
14830		TFM	FMON+11	,0--START	04448	16	07765	-0597
14840		DC	2	,3	04456		2	
		-3						
14850		B	FMON		04460	49	07754	0-000
14860		DORG	0-1		04470			
14870		TFM	FMON+11	,0--START	04470	16	07765	-0619
14880		DC	2	,4	04478		2	
		-4						
14890		B	FMON		04482	49	07754	0-000
14900		DORG	0-1		04492			
14910		TFM	FMON+11	,0--START	04492	16	07765	-0641
14920		DC	2	,7	04500		2	
		-7						

1028

Table listing program details for lines 14930 to 15460. Columns include line number, code, label, description, address, and other parameters.

1029

Table listing program details for lines 15470 to 15990. Columns include line number, code, label, description, address, and other parameters.

1030

16010	DORG	08000			08000			
16020	38 A6	,00702			08000	38	08032	00702
16030	36 A6	,00703			08012	36	08032	00703
16040	B	+22			08024	49	08046	00000
16050	DORG	+3			08032			
16060 A6	DSC	9	,019488017		08032		9	
	019488017							
16070	DSA	FIX			08045		5 X	1
16080	TRA				08045		-3854	
					08046	36	00000	00500
					08058	49	00000	00000
16090	TCD	08000			08000			
16100	*****	1620 FORTRAN II-D EF-MTYPE 2 FORMAT						
16110	*****	1620 FORTRAN II-D EF-MTYPE 2 FCAMAT - SUBROUTINES						
16120	DORG	FTYPE			04558			
16130	TFM	FMON+11	,+START		04558	16	07765	-0707
16140	DC	2	,5	,+3	04566		2	
	-5							
16150	B	FMON	,	,8	04570	49	07754	0-000
16160	DORG	+1			04580			
16170	TFM	FMON+11	,+START		04580	16	07765	-0729
16180	DC	2	,5	,+3	04588		2	
	-5							
16190	B	FMON	,	,8	04592	49	07754	0-000
16200	DORG	+1			04602			
16210	TFM	FMON+11	,+START		04602	16	07765	-0751
16220	DC	2	,5	,+3	04610		2	
	-5							
16230	B	FMON	,	,8	04614	49	07754	00000
16240	DORG	+1			04624			
16250	TFM	MBASE+5	,FIX		04624	16	07962	-3854
16260	TFM	EFTERM+10	,EF TYPE		04636	16	05266	-4680
16270	B	EF25M	,	,6	04648	49	0442M	00000
16280	DORG	+4			04655			
16290	EFMIN	SF	99		04656	32	00099	00000
16300	EFPLUS	SM	CHAR	,1	04668	12	06100	000-1
16310	EFTYPE	AM	INPLUS	,2	04680	11	06053	-0002
16320	CM	INPLUS	,00	,610	04692	14	06051	000-0
16330	BE	LDG DIG			04704	46	05088	01200
16340	CM	INPLUS	,70	,610	04716	14	06051	000P0
16350	BH	EF DIG			04728	46	05188	01100
16360	BE	LDG DIG			04740	46	05088	01200
16370	CM	INPLUS	,03	,610	04752	14	06051	000-3
16380	BE	EF DEC			04764	46	05120	01200
16390	BNF	ERRF7 E	,RNEFSW		04776	44	05396	06061
16400	TFM	EXP	,COO	,4	04788	16	04809	00-00
16410	TDM	E EXPAD+1	,1		04800	15	05069	00001
16420	EXP	DS	3	,+2	04809		3	
								VALUE OF CALC CHAR FOR OUTPUT
16430	CM	INPLUS	,45	,610	04812	14	06051	000M5
16440	BE	E EXP			04824	46	05000	01200
16450	CM	INPLUS	,40	,610	04836	14	06051	000M0
16460	BNL	ERRF7E			04848	46	05396	01300
16470	EEXP2	CM	INPLUS	,20	04860	14	06051	000K0
16480	BE	E EXP M			04872	46	04988	01200

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16490	CM	INPLUS	,10	,610	04884	14	06051	000J0
16500	BE	E EXP			04896	46	05000	01200
16510	EEXP22	BD	+24	,97	04908	43	04932	00097
16520	SM	CHAR	,1	,9	04920	12	06100	00-01
16530	C	INPLUS	,TERM		04932	24	06053	07093
16540	BNL	EEXPAD-12			04944	46	05056	01300
16550	TD	EXP-1	,INPLUS	,11	04956	25	04808	06051
16560	AM	INPLUS	,2		04968	11	06053	-0002
16570	B	EEXP22+12			04980	49	04920	00000
16580	DORG	+4			04987			
16590	EEXPM	TDM	E EXPAD+1,2		04988	15	05069	00002
16600	EEXP	AM	INPLUS	,2	05000	11	06053	-0002
16610	SM	CHAR	,1	,10	05012	12	06100	000-1
16620	C	INPLUS	,TERM		05024	24	06053	07093
16630	BNM	EEXP2			05036	47	04880	01100
16640	BT	ERRF7E			05048	49	05396	
16650	TD	EXP	,INPLUS	,11	05056	25	04809	06051
16660	EEXPAD	A	CHAR	,EXP	05068	21	06100	04809
16670	M	EF END			05080	49	05272	00000
16680	DORG	+4			05087			
16690	LCGDIG	BNF	EF DIG	,98	05088	44	05188	00098
16700	SM	CHAR	,1	,10	05100	12	06100	000-1
16710	B	EF TERM			05112	49	05248	00000
16720	DORG	+4			05119			
16730	EFDEC	BD	ERRF7 E	,97	05120	43	05396	00097
16740	TFM	LOC D	,00	,10	05132	16	05680	000-0
16750	TFM	EFTERM+10	,EF PLUS		05144	16	05266	-4680
16760	TDM	97	,-1		05156	15	00097	0000J
16770	SM	CHAR	,1	,10	05168	12	06100	000-1
16780	B	EF TERM			05180	49	05248	00000
16790	DORG	+4			05187			
16800	EFDIG	CF	98		05188	33	00098	00000
16810	CM	WA	,FAC-1		05200	14	07241	-2491
16820	BNL	+36	,	,, TRUNCATES LCM ORDER DIGITS	05212	46	05248	01300
16830	TD	WA	,INPLUS	,611	05224	25	0724J	06051
16840	AM	WA	,1		05236	11	07241	-0001
16850	EFTERM	C	INPLUS	,TERM	05248	24	06053	07093
16860	BL	EFTYPE			05260	47	04680	01300
16870	EFEND	BNF	EFEND2	,FNM	05272	44	05304	0331L
16880	TFM	FAC	,99	,1011	05284	16	02492	000R0
16890	B	SWL			05296	49	06042	00000
16900	DORG	+3			05304			
16910	EFEND2	S	CHAR	,LOC D	05304	22	06100	05680
16920	BD	ERR F7E	,CHAR-2		05316	43	05396	06098
16930	SF	CHAR-1			05328	32	06099	00000
16940	TF	FAC	,CHAR		05340	26	02492	06100
16950	SF	FNM	,	,6	05352	32	0331L	00000
16960	BNF	SWL	,99		05364	44	06042	00099
16970	SF	FAC-2			05376	32	02490	00000
16980	B	SWL			05388	49	06042	00000
16990	DORG	+4			05395			
17000	ERRF7E	TF	FAC	,FLZALP	05396	26	02492	03340
17010	TDM	EI	,7	,11, F PLUS 2 ZEROS TO FAC	05408	15	02615	0000P
				,11, SET ER P7 INDICATION SWITCH	05420	49	05272	00000
17020	B	EFEND			05427			
17030	DORG	+4			05427			
17040	HRD	SM	WIDTH 2	,2	05428	12	06064	000-2

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17050	BL	BSWF			05440	47	05934	01300
17060	AM	SWF	,2		05452	11	05969	-0002
17070	TF	SWF	,INPLUS	,611	05464	26	0596R	0605L
17080	AM	INPLUS	,2		05476	11	06053	-0002
17090	R	HRD			05488	49	05428	00000
17100	DDRG	*-4			05495			
17110	DDRG	08000			08000			
17120	38	A7	,00702		08000	38	08032	00702
17130	36	A7	,00703		08012	36	08032	00703
17140	B	*+22			08024	49	08046	00000
17150	DDRG	*-3			08032			
17160 A7	DSC	9	,019505010		08032		9	
17170	DSA	FTYPE			08045		5 x	1
17180	TRA				08045		-4558	
					08046	36	00000	00500
					08058	49	00000	00000
17190	TCO	08000			08000			
17200 *****		1620 FURTRAN II-D RAEF-ATYPE FORMAT						
17210 *****		1620 FORTRAN II-D RAEF-ATYPE FORMAT - SECONDARY LINKAGE						
17220	DDRG	START			03851			
17230	DS	3			03853		3	
17240	CM	FAC	,00	,10, IS CHAR POSITIVE	03854	14	02492	000-0
17250	B	EFFIX			03866	49	04710	00000
17260	TFM	FMON+11	,*-START		03878	16	07765	-0027
17270	DC	2	,1	,*-3	03886		2	
	-1							
17280	B	FMUN			03890	49	07754	00000
17290	TFM	FMON+11	,*-START		03902	16	07765	-0051
17300	DC	2	,1	,*-3	03910		2	
	-1							
17310	B	FMON			03914	49	07754	00000
17320	TFM	FMON+11	,*-START		03926	16	07765	-0075
17330	DC	2	,1	,*-3	03934		2	
	-1							
17340	B	FMUN			03938	49	07754	00000
17350	TFM	FMON+11	,*-START		03950	16	07765	-0099
17360	DC	2	,1	,*-3	03958		2	
	-1							
17370	B	FMON			03962	49	07754	00000
17380	TFM	FMON+11	,*-START		03974	16	07765	-0123
17390	DC	2	,1	,*-3	03982		2	
	-1							
17400	B	FMON			03986	49	07754	00000
17410	TFM	FMON+11	,*-START		03998	16	07765	-0147
17420	DC	2	,1	,*-3	04006		2	
	-1							
17430	B	FMUN			04010	49	07754	00000
17440	DDRG	*-1			04020			
17450	TFM	FMON+11	,*-START		04020	16	07765	-0169
17460	DC	2	,1	,*-3	04028		2	
	-1							
17470	B	FMON	,	,8	04032	49	07754	0-000
17480	DDRG	*-1			04042			

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17490	TFM	FMON+11	,*-START		04042	16	07765	-0191
17500	DC	2	,1	,*-3	04050		2	
	-1							
17510	B	FMON			04054	49	07754	00000
17520	TFM	FMON+11	,*-START		04066	16	07765	-0215
17530	DC	2	,1	,*-3	04074		2	
	-1							
17540	B	FMON			04078	49	07754	00000
17550	TFM	FMON+11	,*-START		04090	16	07765	-0239
17560	DC	2	,1	,*-3	04098		2	
	-1							
17570	B	FMUN			04102	49	07754	00000
17580	TFM	FMON+11	,*-START		04114	16	07765	-0263
17590	DC	2	,1	,*-3	04122		2	
	-1							
17600	B	FMON			04126	49	07754	00000
17610	TFM	FMON+11	,*-START		04138	16	07765	-0287
17620	DC	2	,1	,*-3	04146		2	
	-1							
17630	B	FMON			04150	49	07754	00000
17640	TFM	FMON+11	,*-START		04162	16	07765	-0311
17650	DC	2	,1	,*-3	04170		2	
	-1							
17660	B	FMON			04174	49	07754	00000
17670	TFM	FMON+11	,*-START		04186	16	07765	-0335
17680	DC	2	,1	,*-3	04194		2	
	-1							
17690	B	FMON			04198	49	07754	00000
17700	TFM	FMON+11	,*-START		04210	16	07765	-0359
17710	DC	2	,1	,*-3	04218		2	
	-1							
17720	B	FMON			04222	49	07754	00000
17730	TFM	FMON+11	,*-START		04234	16	07765	-0383
17740	DC	2	,1	,*-3	04242		2	
	-1							
17750	B	FMON			04246	49	07754	00000
17760	TFM	FMON+11	,*-START		04258	16	07765	-0407
17770	DC	2	,1	,*-3	04266		2	
	-1							
17780	B	FMON			04270	49	07754	00000
17790 ****		WRITE ALPHAMERIC						
17800	TF	SWF	,WATY-1		04282	26	05969	04281
17810	B	WATY1			04294	49	05538	00000
17820	TF	SWF	,WAPT-1		04306	26	05969	04305
17830	B	WAPT1			04318	49	05558	00000
17840	TF	SWF	,WACD-1		04330	26	05969	04329
17850	B	WACD1			04342	49	05610	00000
17860	TF	SWF	,PRA-1		04354	26	05969	04353
17870	B	PRA1			04366	49	05578	00000
17880 ****		READ ALPHAMERIC						
17890	TF	SWF	,RATY-1		04378	26	05969	04377
17900	B	RATY1			04390	49	05970	00000
17910	TF	SWF	,RAPT-1		04402	26	05969	04401
17920	B	RAPT1			04414	49	05990	00000
17930	TF	SWF	,RACD-1		04426	26	05969	04425
17940	B	RACD1	,	,8	04438	49	06010	0-000

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17950	DORG	=-1			04448			
17960	TFM	FMON+11	,0-START		04448	16	07765	-0597
17970	DC	2	,3	,0-3	04456		2	
		-3						
17980	B	FMON	,	,8	04460	49	07754	0-000
17990	DORG	=-1			04470			
18000	TFM	FMON+11	,0-START		04470	16	07765	-0619
18010	DC	2	,4	,0-3	04478		2	
		-4						
18020	B	FMON	,	,8	04482	49	07754	0-000
18030	DORG	=-1			04482			
18040	READEF	BNF	EF RD2+12,LOC		04482	44	04666	06089
18050	B	EF RD1	,	,8	04504	49	04622	0-000
18060	DORG	=-1			04514			
18070	TFM	FMON+11	,0-START		04514	16	07765	-0663
18080	DC	2	,8	,0-3	04522		2	
		-8						
18090	B	FMON	,	,8	04526	49	07754	0-000
18100	DORG	=-1			04536			
18110	ATYPE	AM	SWF	,3	04548	11	05969	-0003
18120	B	ATYPE1	,	,8	04548	49	04922	0-000
18130	DORG	=-1			04558			
18140	TFM	FMON+11	,0-START		04558	16	07765	-0707
18150	DC	2	,5	,0-3	04566		2	
		-5						
18160	B	FMON	,	,8	04570	49	07754	0-000
18170	DORG	=-1			04580			
18180	TFM	FMON+11	,0-START		04580	16	07765	-0729
18190	DC	2	,5	,0-3	04588		2	
		-5						
18200	B	FMON	,	,8	04592	49	07754	0-000
18210	DORG	=-1			04602			
18220	TFM	FMON+11	,0-START		04602	16	07765	-0751
18230	DC	2	,5	,0-3	04610		2	
		-5						
18240	B	FMON	,	,8	04614	49	07754	0C000
18250	DORG	=-4			04621			
18260	*****	1620 FORTRAN II-D RAEF-ATYPE FORMAT - SUBROUTINES						
18270	EFKD1	CF	LOC		04622	33	06089	00000
18280	TF	FIXEND+6	,I CON 6+6		04634	26	03686	04920
18290	M	FIX			04646	49	03854	00000
18300	DORG	=-4			04653			
18310	EFKD2	TDM	FIXEND+1	,2	04654	15	03681	00002
18320	TFL	LOC	,FAC	,6	04666	06	06088	02492
18330	ERF75	BNF	BSWF-12	,E1	04678	44	05922	02615
18340	CF	E1			04690	33	02615	00000
18350	B	ERCOM2			04702	49	07386	00000
18360	DORG	=-4			04709			
18370	EFFIX	BP	+32		04710	46	04742	01100
18380	TF	FAC	,FXZ		04722	26	02492	02815
18390	B	FIXEND			04734	49	03680	00000
18400	DORG	=-3			04742			
18410	TC	MU-1	,FAC-2		04742	25	03631	02490
18420	C	FAC	,K		04754	24	02492	02221
18430	BNM	+56			04766	47	04822	01100
18440	TDM	FXERR+25	,1		04778	15	03621	00001

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18450	TFM	E1	,579	,9,	SET ER E9, CVFL IN FIX	04790	16	02615	00N79	
18460	TF	FAC	,FX9		YES, FAC = FX9	04802	26	02492	02805	
18470	B	FXERR				04814	49	03596	00000	
18480	DORG	=-3				04822				
18490	CF	FAC-2				04822	33	02490	0C000	
18500	YF	BETA	,ZERO-51		CLEAR ADD AREA	04834	26	02603	02716	
18510	YF	IMSA	,FXZ			04846	26	02575	02815	
18520	TF	+30	,IMSAPP		ALIGN DECIMAL POINTS	04858	26	04888	03298	
18530	S	+18	,FAC			04870	22	04888	02492	
18540	A	DUMMY	,FAC-2			04882	21	99999	02490	
18550	TF	FAC	,IMSA			04894	26	02492	02575	
18560	B	MU				04906	49	03632	00000	
18570	DORG	=-4				04913				
18580	ICONS	H	EFRD 2			04914	4R	04654	00000	
18590	DORG	=-4				04921				
18600	*****	MACRO FOR A TYPE READ AND WRITE								
18610	ATYPE1	TF	WIDTH 2	,SWF	,11	04922	26	06064	0596R	
18620	TF	INPLUS	,LAST			04934	26	06053	05820	
18630	A	LAST	,WIDTH 2			04946	21	05820	06064	
18640	C	LAST	,MAX 2			04958	24	05820	06145	
18650	BM	ER F9				04970	46	07310	01100	
18660	TF	TERM	,LAST			04982	26	07093	05820	
18670	SM	TERM	,2			04994	26	07093	-0002	
18680	TFM	SWC ADJ	,WRITE A			05006	16	06152	-5266	
18690	BD	SWL	,RW EF SW			05018	43	06042	06061	
18700	TFM	SWC ADJ	,READ A			05030	16	06152	-5050	
18710	B	SWL				05042	49	06042	0C000	
18720	DORG	=-4				05049				
18730	REACA	CF	INPLUS		,6	05050	33	0605L	00000	
18740	AM	INPLUS	,1		,10	05062	11	06053	000-1	
18750	C	INPLUS	,TERM			05074	24	06053	07093	
18760	BL	READ A				05086	47	05050	01300	
18770	BNF	RD AFL	,LOC			05098	44	05210	06089	
18780	CF	LOC				05110	33	06089	00000	
18790	TF	LOC	,FXZ		,6	05122	26	06088	02815	
18800	S	WIDTH 2	,K			05134	22	06064	02221	
18810	RCA	BM	ERF7A			05146	46	05190	01100	
18820	A	LOC	,WIDTH 2			05158	21	06089	06064	
18830	TF	LOC	,TERM		,611	05170	26	06088	0709L	
18840	B	ERF75				05182	49	04678	00000	
18850	DORG	=-4				05189				
18860	ERF7A	TDM	E1	,7	,11,	SET ER F7 ERROR IND AND SWITCH	05190	15	02615	0000P
18870	B	ERF75				05202	49	04678	00000	
18880	DORG	=-4				05209				
18890	RCAFL	TFM	LOC	,00	,610	05210	16	06088	000-0	
18900	SM	LOC	,2		,10	05222	12	06089	000-2	
18910	TF	LOC	,FLZ		,611	05234	26	06088	0335L	
18920	S	WIDTH 2	,F			05246	22	06064	02219	
18930	B	RD A				05258	49	05146	0C000	
18940	DORG	=-4				05266				
18950	WRITEA	TF	FAC	,LOC	,11	05266	26	02492	0608R	
18960	BNF	WA FX	,FAC-1			05278	44	05378	02491	
18970	SM	LOC	,2			05290	12	06089	-0002	
18980	S	WIDTH 2	,F			05302	22	06064	02219	
18990	WRTA	BM	WRTA 2			05314	46	05358	01100	
19000	A	LOC	,WIDTH 2			05326	21	06089	06064	

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19010	TF	TERM	,LOC	,611	05338	26	0709L	0608R
19020	B	B5WF			05350	49	05934	00000
19030	DORG	=-4			05357			
19040	WRTA2	SM	WIDTH 2	,02	,10	05358	12	06064
19050	B	WRTA			05370	49	05314	00000
19060	DORG	=-4			05377			
19070	WAFX	S	WIDTH 2	,K	05378	22	06064	02221
19080	B	WRT A			05390	49	05314	00000
19090	DORG	=-4			05397			
19100	DORG	08CC0			08000			08000
19110	38	A8	,00702		08000	38	08032	0C702
19120	36	A8	,00703		08012	36	08032	00703
19130	B	=+22			08024	49	08046	00000
19140	DORG	=-3			08032			08032
19150	AB	DSC	9	,019515016	08032			9
		019515016						
19160	DSA	FIX			08045		5 x	1

19170	TRA				08045		-3854	
					08046	36	00000	00500
					08058	49	00000	00000
19180	TCD	08000			08000			

19190	*****	1620 FORTRAN II-D	EFMW FORMAT					
19200	*****	1620 FORTRAN II-D	EFMW FORMAT - SECONDARY LINKAGE					
19210	DORG	START			03851			
19220	DS	3			03853		3	
19230	TFM	FMON+11	,*-START		03854	16	07765	-0003
19240	DC	2	,1	,*-3	03862		2	
	-1							
19250	B	FMON			03866	49	07754	00000
19260	TFM	FMON+11	,*-START		03878	16	07765	-0027
19270	DC	2	,1	,*-3	03886		2	
	-1							
19280	B	FMON			03890	49	07754	00000
19290	TFM	FMON+11	,*-START		03902	16	07765	-0051
19300	DC	2	,1	,*-3	03910		2	
	-1							
19310	B	FMON			03914	49	07754	00000
19320	TFM	FMON+11	,*-START		03926	16	07765	-0075
19330	DC	2	,1	,*-3	03934		2	
	-1							
19340	B	FMON			03938	49	07754	00000
19350	TFM	FMON+11	,*-START		03950	16	07765	-0099
19360	DC	2	,1	,*-3	03958		2	
	-1							
19370	B	FMON			03962	49	07754	00000
19380	TFM	FMON+11	,*-START		03974	16	07765	-0123
19390	DC	2	,1	,*-3	03982		2	
	-1							
19400	B	FMON			03986	49	07754	00000
19410	TFM	FMON+11	,*-START		03998	16	07765	-0147
19420	DC	2	,1	,*-3	04006		2	
	-1							
19430	B	FMON			04010	49	07754	00000
19440	DORG	=-1			04020			

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19450	TFM	FMON+11	,*-START		04020	16	07765	-0169
19460	DC	2	,1	,*-3	04028		2	
	-1							
19470	B	FMON		,8	04032	49	07754	0-000
19480	DORG	=-1			04042			
19490	TFM	FMON+11	,*-START		04042	16	07765	-0191
19500	DC	2	,1	,*-3	04050		2	
	-1							
19510	B	FMON			04054	49	07754	00000
19520	TFM	FMON+11	,*-START		04066	16	07765	-0215
19530	DC	2	,1	,*-3	04074		2	
	-1							
19540	B	FMON			04078	49	07754	00000
19550	TFM	FMON+11	,*-START		04090	16	07765	-0239
19560	DC	2	,1	,*-3	04098		2	
	-1							
19570	B	FMON			04102	49	07754	00000
19580	TFM	FMON+11	,*-START		04114	16	07765	-0263
19590	DC	2	,1	,*-3	04122		2	
	-1							
19600	B	FMON			04126	49	07754	00000
19610	TFM	FMON+11	,*-START		04138	16	07765	-0287
19620	DC	2	,1	,*-3	04146		2	
	-1							
19630	B	FMON			04150	49	07754	00000
19640	TFM	FMON+11	,*-START		04162	16	07765	-0311
19650	DC	2	,1	,*-3	04170		2	
	-1							
19660	B	FMON			04174	49	07754	00000
19670	TFM	FMON+11	,*-START		04186	16	07765	-0335
19680	DC	2	,1	,*-3	04194		2	
	-1							
19690	B	FMON			04198	49	07754	00000
19700	TFM	FMON+11	,*-START		04210	16	07765	-0359
19710	DC	2	,1	,*-3	04218		2	
	-1							
19720	B	FMON			04222	49	07754	00000
19730	TFM	FMON+11	,*-START		04234	16	07765	-0383
19740	DC	2	,1	,*-3	04242		2	
	-1							
19750	B	FMON			04246	49	07754	00000
19760	TFM	FMON+11	,*-START		04258	16	07765	-0407
19770	DC	2	,1	,*-3	04266		2	
	-1							
19780	B	FMON			04270	49	07754	00000
19790	****	WRITE ALPHAMERIC						
19800	TF	SWF	,WATY-1		04282	26	05969	04281
19810	B	WATY1			04294	49	05538	00000
19820	TF	SWF	,WAPT-1		04306	26	05969	04305
19830	B	WAPT1			04318	49	05558	00000
19840	TF	SWF	,WACD-1		04330	26	05969	04329
19850	B	WACD1			04342	49	05610	00000
19860	TF	SWF	,PRA-1		04354	26	05969	04353
19870	B	PRA1			04366	49	05578	00000
19880	****	READ ALPHAMERIC						
19890	TF	SWF	,RATY-1		04378	26	05969	04377

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19900	B	RATY1			04390	49	05970	00000	
19910	TF	SMF	,RAPT-1		04402	26	05969	04401	
19920	B	RAPT1			04414	49	05990	00000	
19930	TF	SMF	,RACD-1		04426	26	05969	04425	
19940	B	RACD1		,8	04438	49	06010	0-000	
19950	DORG	--1			04448				
19960	TFM	FMON+11	,--START		04448	16	07765	-0597	
19970	DC	2	,3	,--3	04456		2		
	-3								
19980	B	FMON		,8	04460	49	07754	0-000	
19990	DORG	--1			04470				
20000	TFM	FMON+11	,--START		04470	16	07765	-0619	
20010	DC	2	,4	,--3	04478		2		
	-4								
20020	B	FMON		,8	04482	49	07754	0-000	
20030	DORG	--1			04492				
20040	TFM	FMON+11	,--START		04492	16	07765	-0641	
20050	DC	2	,7	,--3	04500		2		
	-7								
20060	B	FMON		,8	04504	49	07754	0-000	
20070	DORG	--1			04514				
20080	EFMW	TF	FLTEND	,ICON6+6	04514	26	03730	05500	
20090	B	EFMW1		,8	04526	49	04626	0-000	
20100	DORG	--1			04536				
20110	TFM	FMON+11	,--START		04536	16	07765	-0685	
20120	DC	2	,7	,--3	04544		2		
	-7								
20130	B	FMON		,8	04548	49	07754	0-000	
20140	DORG	--1			04558				
20150	TFM	FMON+11	,--START		04558	16	07765	-0707	
20160	DC	2	,5	,--3	04566		2		
	-5								
20170	B	FMON		,8	04570	49	07754	0-000	
20180	DORG	--1			04580				
20190	TFM	FMON+11	,--START		04580	16	07765	-0729	
20200	DC	2	,5	,--3	04588		2		
	-5								
20210	B	FMON		,8	04592	49	07754	0-000	
20220	DORG	--1			04602				
20230	TFM	FMON+11	,--START		04602	16	07765	-0751	
20240	DC	2	,5	,--3	04610		2		
	-5								
20250	B	FMON		,8	04614	49	07754	00000	
20260	REFSW	DS	5	,8	04625		5		
20270	*****	1620 FORTRAN II-D EFMW FORMAT - SUBROUTINES							
20280	*****	E AND F TYPE MANTISSA WRITING,FLOAT ARG IF REC.							
20290	*****	COMPUTE DEC PT IN GAM AND OUTPUT RECORD. MOVE							
20300	*****	MANTISSA DIGIT BY DIGIT, RIGHT TO LEFT, FROM FAC							
20310	*****	TO GAM, INSERT SIGN, CHECK WIDTH, AND ZERC.							
20320	*****	BR TO WRT F FOR F TYPE CONTINUATION							
20330	EFMW1	TFL	FAC	,LOC	,11	04626	06	02492	0608R
20340	BNF	EFLOAT	,FAC-1		04638	44	05194	02491	
20350	EFALPH	TFM	FLTEND-4	,20	,10	04650	16	03726	0G0K0
20360	TF	DPT	,TERM		04662	26	07445	07093	
20370	S	DPT	,LOC D 2		04674	22	07445	05678	
20380	TFM	DPG	,GAM		04686	16	06084	-2555	

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20390	S	DPG	,LOC D 2		04698	22	06084	05678	
20400	TF	DPTM2	,DPT		04710	26	07450	07445	
20410	SM	DPTM2	,2		04722	12	07450	-0002	
20420	EFALP	SM	WA 2	,1	04734	12	07392	-0001	
20430	TD	WA	,WA2	,611	04746	25	0724J	0739K	
20440	CF	WA	,1	,6	04758	33	0724J	00000	
20450	SM	WA	,2		04770	12	07241	-0002	
20460	C	WA2	,FM1MF		04782	24	07392	03313	
20470	BH	EF ALP			04794	46	04734	01100	
20480	TFM	WA	,00	,610	04806	16	0724J	000-0	
20490	BNF	EF CHKS	,FAC-2		04818	44	04842	02490	
20500	TFM	WA	,20	,610	04830	16	0724J	000K0	
20510	EFCHKS	TFM	CKW	,000	,9	04842	16	04981	00-00
20520	A	CKW	,LOC D		04854	21	04981	05680	
20530	A	CKW	,FAC		04866	21	04981	02492	
20540	TF	CMAR	,CKW		04878	26	06100	06981	
20550	S	CHAR	,F		04890	22	06100	02219	
20560	C	WIDTH	,LOC D		04902	24	05799	05680	
20570	RNL	++32			04914	46	04946	01300	
20580	ERF8ES	TFM	REFSW	,ERF8E	04926	16	04625	-5250	
20590	B	BREFSW			04938	49	05502	00000	
20600	DORG	--4			04945				
20610	CM	FAC	,70	,10	04946	14	02492	000P-	
20620	BNF	++20	,RREFSW		04958	44	04978	06061	
20630	B7	++20			04970	49	04990		
20640	BL	++24			04978	47	05002	01300	
20650	BD	++36	,FNM	,11	04990	43	05026	0331L	
20660	TCM	FLTEND-4	,-1		05002	15	03726	0000J	
20670	TFM	CHAR	,-099	,9	05014	16	06100	00-9R	
20680	BNF	WRIFS	,RREFSW		05026	44	05174	06061	
20690	*****	WRITE E TYPE. ASSEMBLE EXP IN GAM USING A MASK,							
20700	*****	THE CHAR AND SIGN. MOVE LEFT GAM AND RIGHT GAM TO							
20710	*****	OUTPUT. THEN GO TO INSERT DECIMAL POINT							
20720	WRTF	S	WIDTH	,F	05038	22	05799	02219	
20730	BL	++32			05050	47	05082	01300	
20740	WRTF2S	TFM	REFSW	,WRTF2	05062	16	04625	-4646	
20750	B	BREFSW			05074	49	05502	00000	
20760	DORG	--4			05081				
20770	BD	++36	,FLTEND-4		05082	43	05118	03726	
20780	S	CHAR	,WIDTH		05094	22	06100	05799	
20790	BD	ERF8ES	,CMAR-2		05106	43	04926	06098	
20800	TFM	++47	,GAM		05118	16	05165	-2555	
20810	A	++35	,WIDTH		05130	21	05165	05799	
20820	A	++23	,WIDTH		05142	21	05165	05799	
20830	TF	GAM			05154	26	02555	00000	
20840	B	WRTF2S			05166	49	05062	00000	
20850	DORG	--4			05173				
20860	WRTFS	TFM	REFSW	,WRTF	05174	16	04625	-4750	
20870	B	BREFSW			05186	49	05502	00000	
20880	DORG	--4			05193				
20890	EFLOAT	AM	FAC	,00	,10,	05194	11	02492	000-0
20900	BZ	ZERFAC			,,	05206	46	03422	01200
20910	TD	99	,FAC		,,	05218	25	00099	02492
20920	CF	FAC			,,	05230	33	02492	00080
20930	TR	BETA-9	,FXM	,11	05242	31	02584	0328L	
20940	TF	FAC-2	,SPF-1	,,	05254	26	02490	02853	

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20950	TF	SAVE	,K	..	CHAR = K	05265	26	02565	02221
20960	TFM	++23	,BETA-9	..		05278	16	05301	-2594
20970	BD	++44	,DUMMY	..	FIND HI ORD DIGIT	05290	43	05334	99999
20980	SM	SAVE	,01	,10,	ADJUST CHAR	05302	12	02565	000-1
20990	AM	--13	,01	..		05314	11	05301	-0001
21000	B	--36		..		05326	49	05290	00000
21010	DORG	--3		..		05334	31	0331L	0530J
21020	TR	FNF	,--33	,611		05346	26	05381	03313
21030	TF	++35	,FNF	..	FIND AND CLEAR RECORD MARK	05358	11	05381	-0001
21040	AM	++23	,01	..		05370	45	05358	99999
21050	HNR	--12	,DUMMY	..		05382	15	0538J	00000
21060	TDM	--1	,0	,6		05394	25	02493	02403
21070	TD	FAC+1	,RECMK	..	REPLACE RECORD MARK	05406	26	02603	02693
21080	TF	BETA	,ZERO-74	..	CLEAR BETA	05418	49	05450	00000
21090	B	ENOR60		..		05426	31	0331L	03300
21100	DORG	--3		..		05438	15	02491	00000
21110	ENOR36	TR	FNF	,611,	LEFT SHIFT ONCE	05450	32	0331L	00000
21120	TDM	FAC-1	,0	..	SET LAST DIGIT TO ZERO.	05462	43	0372L	0331L
21130	ENUR60	SF	FNF	,6		05474	12	02565	000-1
21140	RD	FINISH	,FNF	,611,	TEST LEADING ZERO	05486	49	05426	00000
21150	SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT	05493	48	04650	00000
21160	B	ENUR36		..		05501	16	07962	-4626
21170	DORG	--4		..		05502	16	07765	-0775
21180	ICON6	R	EF ALPH	,1		05522	2		
21190	ODRG	--4		..		05526	49	07754	00000
21200	BREFSW	TFM	MBASE+5	,HTYPE+24		05533	38	08032	00702
21210	TFM	FMON+11	,HTYPE+24-START			08012	49	08046	00000
21220	DC	2	,9	,--3		08024	49	08046	00000
21230	B	FMON		..		08032	9		
21240	DORG	--4		..		08037			
21250	DORG	08000		..		08045	5	X	1
21260	38	A9	,00702			08045	36	-3854	
21270	36	A9	,00703			08046	36	00000	00500
21280	B	++22		..		08058	49	00900	00000
21290	DORG	--3		..		08065			
21300	A9	DSC	9	,019531017		08065			
21310	019531017	DSA	FIX			08065			
21320	TRA					08065			
21330	TCD	08000		..		08065			
21340	*****	1620 FORTRAN II-D	WRITE-F FORMAT			04626			
21350	*****	1620 FORTRAN II-D	WRITE-F FORMAT - SUBROUTINES			04626	16	07962	-3854
21360	DORG	HTYPE+24	,FIX			04638	49	0462N	00000
21370	TFM	MBASE+5	,REFSW	,6	TEMP STORE FOR ZERO INSERT ADDRESS	04645	5		
21380	B	REFSW		..		04645	31	02556	05455
21390	WA3	DS	--4			04658	43	05250	00098
21400	DORG	--4		..		04670	25	02563	05100
21410	WRTF2	TR	GAM+1	,MASK		04682	25	02561	00099
21420	BD	ERFBE	,CHAR-2						
21430	TD	GAM+8	,CHAR						
21440	TD	GAM+6	,CHAR-1						

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21450	BNF	++24	,CHAR			04682	25	02561	00099
21460	TDM	GAM+3	,2			04706	15	02558	00002
21470	TF	TERP	,GAM+2	,6		04706	15	02558	00002
21480	TR	DPT	,DPG	,611		04742	48	05218	00000
21490	B	WEF DEC		..		04749			
21500	DORG	--4		..					
21510	*****		3 CASES FOR WRITING F TYPE,CHAR IS EXP-LOCD-F						
21520	*****		CHAR IS NEG, EXP IS NEG						
21530	*****		CHAR IS NEG, EXP IS POSITIVE (WRTFPE)						
21540	*****		CHAR IS POSITIVE (WRTFPC)						
21550	WRTF	TR	GAM+1	,MASK EP+7		04750	31	02556	05453
21560	BD	F ZERO	,FLTEND-4			04762	43	04998	03726
21570	BD	ER FB E	,CHAR-2			04774	43	05250	06098
21580	CM	CKW	,000	,9		04786	14	06981	00-00
21590	BNH	F ZERO		..		04798	47	04998	01100
21600	C	CKW	,WIDTH			04810	24	06981	05799
21610	BNH	ER FB E		..		04822	46	05250	01100
21620	TF	CHAR 2	,CHAR			04834	26	07016	06100
21630	A	CHAR 2	,CHAR			04846	21	07016	06100
21640	DNF	WRTFPC	,CHAR			04858	44	05074	06100
21650	TFM	++35	,GAM			04870	16	04905	-2555
21660	A	++23	,CHAR 2			04882	21	04905	07016
21670	TF	GAM		..		04894	26	02555	00000
21680	BNF	WRTFPE	,FAC			04906	44	05042	02492
21690	TF	LAST	,GAM+2	,6		04918	26	0582-	02557
21700	TF	DPTM2	,GM2F	,611,	SET SIGN LEFT OF DEC PT	04930	26	0745-	0365N
21710	TF	WA3	,DPT			04942	26	04625	07445
21720	FNCNEZ	AM	WA3	,2	..	04954	11	04625	-0002
21730	BD	WEF DEC	,WA3	,11,	INSERT ZERO FROM DEC PT TC	04966	43	05218	0462N
21740	TFM	WA3	,70	,610	FIRST NON ZERO DIGIT ON RIGHT	04978	16	0462N	000P0
21750	B	FNCNEZ		..		04990	49	04954	00000
21760	DORG	--4		..		04997			
21770	FZERO	TFM	DPTM2	,70	,610,	04998	16	0745-	000P0
21780	TF	CHAR 2	,LOCD 2			05010	26	07016	05678
21790	TDM	CHAR-2	,0	,11		05022	15	06098	0000-
21800	B	CLR705-12		..		05034	49	05170	00000
21810	DORG	--4		..		05041			
21820	WRTFPE	TF	DPTM2	,DPG	,611	05042	26	0745-	0608N
21830	TR	DPT	,DPG	,611		05054	31	0744N	0608N
21840	B	WEF DEC		..		05066	49	05218	00000
21850	DORG	--4		..		05073			
21860	WRTFPC	TF	++30	,TERM		05074	26	05104	07093
21870	S	++18	,CHAR 2			05086	22	05104	07016
21880	TF		,GAM+2			05098	26	00000	02557
21890	TF	CLR705+30	,TERM			05110	26	05212	07093
21900	C	CHAR	,LOCD			05122	24	06100	05680
21910	BNL	CLR 705		..		05134	46	05182	01300
21920	A	DPG	,CHAR 2			05146	21	06084	07016
21930	TR	DPT	,DPG	,611		05158	31	0744N	0608N
21940	TF	CLR705+30	,LAST			05170	26	05212	05820
21950	CLR705	TFM	++35	,MASK F1		05182	16	05217	-9457
21960	A	++23	,CHAR 2			05194	21	05217	07016
21970	TF	TERM		,6		05206	26	0709L	00030
21980	WEFDEC	TFM	DPT	,03	,610	05218	16	0744N	000-3
21990	TFM	LAST	,00	,610		05230	16	0582-	000-0
22000	B	BSWF		..		05242	49	05934	00000

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ARGOUT	07862	FLZERS	06511	ATYPE	04536	FDI	05492	ICON5	04914
ATYPE1	04922	FNCNEZ	04954	AXJ	06196	FD	04162	ICON6	05494
BEF2SW	05440	FXNINE	04956	B1	06044	FDVRI	05572	IDIG	04770
BREFSW	05502	GM1M2F	03543	B2	06044	FDVR	04186	IFIX	05114
CLR705	05182	HTYPE1	05248	BAS	07874	FH	03308	IMSA	02375
COMACD	02231	IFLOAT	05126	BETA	02603	FIL	07971	INM	07453
COMEND	06996	IMINUS	04982	BSWF	05934	FIX1	04622	IN	07745
COMPLT	07006	IMSAPP	03298	CHAR2	07016	FIX11	05604	IOCAL	00716
COMP5W	05750	INOR36	05346	CHAR	06100	FIXI	04210	IOCR	06972
DAEMON	05766	INOR60	05370	CKW	06981	FIX	03854	IOGT	00566
DALONG	05758	INPLUS	06053	DIO	00816	FKOOD	03579	IOPT	00532
DATCUC	06165	IRBLNK	04962	DPG	06084	FLOAT	04042	IORBC	00520
DATERR	06157	ISPFM1	03303	DPTM2	07450	FLZER	03760	IORT	00565
DATINH	06173	ITYPE1	04622	DPT	07445	FLZ	03353	IOSK	00554
DAFMUN	05774	LOGDIG	05088	DUDH	02607	FMHF	03313	IRDIG	04926
CIOCCA	03387	LOCADJ	06574	DUD	02687	FMI	03783	IREAD	04754
DKBUFF	02404	MASKEP	05446	DUMMY	99999	FMFAC	03452	ITYPE	04448
DKDATA	03379	MASKF1	05457	EEKX2	04860	FMON	07754	K2	03820
EEKP22	04908	MATRIX	06518	EEKPM	04988	FMP1	05460	K	02221
EEKPAD	05068	MATR2	06602	EEKP	05000	FMP	04138	LAST	05820
EFALPH	04650	MESERR	02607	EF25W	04425	FNHM1	03358	LN10	02980
EFCHKS	04842	MONCAL	00796	EFALP	04734	FNHM2	03489	LN2	02887
EFEND2	05304	NDRM36	05308	EFCDM	04624	FNH	03313	LN4	02918
EFLOAT	05194	NDRM60	05332	EFDEC	05120	FP1MK	03283	LN8	02949
EFPLUS	04668	ODDSE	05602	EFDIG	05188	FP2	03664	LNENT	03368
EFTERM	05248	ODDREV	05814	EFENC	05272	F	02219	LOC2	05678
EFTYPE	04680	ONEFAC	06058	EFFIX	04710	FSBR1	05408	LOC	06089
ENDFOR	07453	OVFLOW	03572	EFMIN	04656	FSBR	04114	LOC	06089
ENDOR36	05426	PRCNTR	06916	EFMW1	04626	FSB	04066	LOGE	03010
ENDOR60	05450	PROGST	02226	EFMW	04514	FTYPE	04558	MASKF	05473
ENTABS	02323	RADDOIT	05862	EFRD1	04622	FX1	02825	MASKI	05327
ENTATN	02313	RDFCH1	04884	EFRD2	04654	FX9	02805	MASK	05445
ENTCOS	02303	READFE	04492	EFWRT	05084	FXA1	04814	MATSW	05655
ENTCED	02298	READIF	05082	EI	02615	FXA	03878	MAX2	06145
ENTDRR	02293	REPSW3	05657	ENDD	03688	FXD1	04906	MAX	06922
ENTEXP	02253	RETARG	07922	ENTLN	02248	FXDR1	04988	MBASE	07957
ENTFET	02283	RETURN	07934	ERF7A	05190	FXDR	03998	MDATA	07941
ENTFIC	02273	RWEFSW	06061	ERF7	05094	FXC	03974	MFOV2	03822
ENTREC	02278	100MK	03293	ERF7S	04678	FXERR	03596	MF	03666
ENTSC1	02258	102MF	03343	ERF8E	05250	FXH	03283	MU	03632
ENTSC2	02263	2FM1	03581	ERF8I	05014	FXM1	04880	N1	02233
ENTSC3	02268	96MF	03318	ERF9	07310	FXM	03950	N2	02238
ENTSIIN	02308	97M2F	03363	ERRET	00602	FXSR1	04828	NODIV	06348
ENTSQT	02318	97MF	03323	ERROR	03596	FXSR	03926	ODD3	06178
ENTSWD	02288	98MF	03328	ERXV	03762	FXS	03902	ODD4	06306
ERCOM2	07386	99MK	03288	ETYP	04580	FXZ	02815	ODD6	06340
ERF8ES	04926	9SCPF	02795	EXP	04809	FZERO	04998	OLWR	06696
ERRF7E	05396	9SPF	02854	F2	03818	GAM	02555	ONEZ	03038
ERRF7I	05002	A10	08032	FAC	02492	GM2F	03655	OUT	04357
EXPENT	03373	A1	08068	FAD1	05376	HMC	03338	OVFLO	05540
FINDIIN	03563	A3	09032	FAD	04090	HO	04793	P44C1	06281
FINISH	03723	A5	08032	FAXB1	06472	HRD	05428	P44C2	06296
FIXEND	03680	A6	08032	FAXB	04258	HTYPE	04602	P44C	06210
FLOAT1	05088	A7	08032	FAXI1	06034	HMRT	05360	P44E	06314
FLTCND	03730	A8	08032	FAXI	04234	ICON2	05414	PAR	03378
FLZALP	03348	A9	08032	FCMNB	04976	ICON3	05318	PDT	03333

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PIOV2	03163	RECIP	06256	STOP	02395	WAFX	05378	ZERO	02767
PIOV4	03191	RECLG	02243	SWC	06090	WAPT1	05558	SLASH2	06708
PI	03133	RECMK	02403	SWF	05969	WAPT	04306	STZER	06423
PRA1	05578	REDOA	07070	SML	06042	WA	07241	SWCADJ	06152
PRA	04354	REDO	07026	TAFE	02535	WATY1	05538	WEFDEC	05218
PRKEY	06927	REFSW	04625	TAN6	03248	WATY	04282	WIDTH2	06064
PSI	05710	REP2	07198	TEN34	03278	WIDTH	05799	WRITE1	06940
RACD1	06010	REP3	07230	TERM	07093	WRITE	06816	WRITEA	05266
RACD	04426	REP	07126	TOFAC	03408	WRTA2	05358	WRITEI	04470
RAPT1	05990	REPSW	05654	TRAC1	03544	WRTA	05314	WRTI1	04622
RAPT	04402	RSGN1	05008	TRAC2	03520	WRTE2	04646	WRTALP	05622
RATY1	05970	RSGN	04020	TRACE	03496	WRTE	05038	WRTE2S	05062
RATY	04378	RWZA	05778	TRRET	06364	WRTF	04750	WRTFPC	05074
RCTY	05814	RWA2	05742	TWOP1	03103	WRTFS	05174	WRTFPE	05042
RDALF	05210	RWA	05634	TWZ	03073	WRTI2	04678	WRTSGN	04850
RDALP	06022	SAVE	02565	UNFLO	03466	WRTI3	04886	ZERFAC	03422
RCA	05146	SHORT	05790	WA2	07392	WRTI	04714		
RDFCH	04852	SIX	03219	WA3	04625	W	02240		
READA	05050	SLASH	06676	WACD1	05610	ATYPE	07354		
READI	05034	START	03851	WACC	04330	ZEROM	03445		

END OF ONE ASSEMBLY.

00870	FP1MK	DS		,FXH	03283	-2493		
00880	99MK	DC	5	,99	03283	0		
				-0099	03280	5		
00890	100MK	DC	5	,100	03293	5		
				-0100				
00900	IMSAPF	DSA		IMSA	03298	5 X	1	
00910	ISPFM1	DSA		IMSA-1	03298	-2575		
					03303	5 X	1	
00920	FH	DSA		FAC	03303	-2574		
					03308	5 X	1	
00930	FNH	DSA		FAC-1	03308	-2492		
					03313	5 X	1	
00940	FM1MF	DS		,FMH	03313	-2491		
00950	96MF	DC	5	,96	03313	0		
				-0096	03310	5		
00960	97MF	DC	5	,97	03323	5		
				-0097				
00970	98MF	DC	5	,98	03328	5		
				-0098				
00980	PDT	DC	5	,99	03333	5		
				-0099				
00990	HND	DC	5	,100	03338	5		
				-0100				
01000	102MF	DC	5	,102	03343	5		
				-0102				
01010	FLZALP	DSA		ZERO-78	03348	5 X	1	
01020	FLZ	DSA		ZERO-80	03348	-2689		
					03353	5 X	1	
01030	FNHML	DSA		FAC-2	03353	-2687		
					03358	5 X	1	
01040	97M2F	DC	5	,97	03358	-2490		
				-0097	03363	5		
01050	LNENT	DC	5	,56	03368	5		
				-0056				
01060	EXPENT	DC	5	,12	03373	5		
				-0012				
01070	PAR	DS	5	,0+5	03378	5		
01080	US	US	5		03378	5		
01090	DKDATA	DSC	2	,00	03379	2		
				00				
01100	OSA	DIODDA			03385	5 X	1	
01110	DC	1		,	03385	-3387		
					03386	1		
01120	DIODDA	DSC	1	,0	03387	1		
				0				

NO OF ELEMENTS IN MATRIX TO PROCESS

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01130	DC	5		,C000	03392	5		
				-0000				
01140	DC	3		,C00	03395	3		
				-00				
01150	DSA	DKBLFF			03400	5 X	1	
01160	DC	1		,	03400	-2404		
					03401	1		
01170	*****			1620 FORTRAN II-D IN CORE SUBROUTINES				
01180	DS	5			03406	5		
01190	TOFAC	TFL	FAC	,TOFAC-1 ,11	03408	06	02492	0340P
01200	BB				03420	42	00000	00000
01210	DORG	**9			03422			
01220	ZERFAC	TFL	FAC	,FLZER	03422	06	02492	0376G
01230	B	FINISH+1		,ZERO-94 ,7	03434	49	03724	-2673
01240	ZEROM	DS	5	,*	03445	5		
01250	DS	5			03450	5		
01260	FMFAC	TFL	FMFAC-1	,FAC ,6	03452	06	0345J	02492
01270	BB				03464	42	00000	00000
01280	DORG	**9			03466			
01290	UNFLO	TFL	FAC	,FLZER ,,	03466	06	02492	0376G
01300	B	ERXV+12		,FAC-3 ,,	03478	49	03774	02489
01310	FNHM2	DS	5	,*	03489	5		
01320	DS	5			03494	5		
01330	TRACE	TFL	TRACE-1	,FAC ,6	03496	06	0349N	02492
01340	BNC4	FMFAC+12			03508	47	03464	00400
01350	TRAC2	TFM	FMON+11,	TRAC1-START	03520	16	07965	-030P
01360	DC	2,2,0-3			03528	2		
		-2						
01370	B7	FMON			03532	49	07954	
01380	GM1M2F	OSA		GAM-1	03543	5 X	1	
01390	TRAC1	TFM	ODD4+6	,SWC	03543	-2554		
01400	B7	P44C			03544	16	06312	-6090
01410	FINDIN	DC	1,1		03556	49	06210	
		J			03563	1		
01420	DORG	3572			03572			
01430	OVFLOW	TFM	FAC	,0199 ,8910	03572	16	02492	0-JR9
01440	2FM1	DS	2	,0-2 ,	03581	2		
01450	FKOCD	DS	1	,0-4 ,	03579	1		
01460	TF	FAC-2		,9SCPF ,,	03584	26	02490	02795
01470	ERROR	K	FINISH	,0951 ,6,	03596	34	0372L	00951
01480	WA	MESERR		,0901 ,,	03608	39	02607	00901
01490	B	ENDD+12			03620	49	03700	00000
01500	MU	BNF	**24	,MU-1 ,,	03632	44	03656	03631
01510	SF	FAC		,GAM ,	03644	32	02492	02555
01520	GM2F	DS		,*	03655	0		
01530	TDM	FXERR+25		,02009 ,79,	03656	15	03621	-2-09
01540	MF	DS	2	,0-1 ,	03666	2		
01550	FP2	DS	2	,0-3 ,	03664	2		
01560	TFM	FXERR+30		,ENDD+12	03668	16	03626	-3700
01570	FIXEND	BB			03680	42	00000	00000
01580	DORG	**3			03688			
01590	FXERR	DS		,ERROR	03596	0		

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01600	ENCC	TF	FAC	,SAVE	,,	MOVE EXPONENT	03688	26	02492	02565
01610		BNF	++24	,99	,,	SET PROPER SIGN	03700	44	03724	00099
01620		SF	FAC-2	,ENDD	,,		03712	32	02490	03688
01630	FINISH	DS		,,			03723		0	
01640	FLTEND	DS		,FINISH+7	,,		03730		0	
01650		BB					03724	42	00000	00000
01660		DDRG	+-4				03731			
01670		DC	28	,0			03758		28	
				-00000000000000000000000000000000						
01680	FLZER	DC	2	,+99			03760		2	
		RR								
01690	ERXV	BNF	++24	,FAC			03762	44	03786	02492
01700		AM	E1	,0101	,,	,8910,ERR CODE = ERR CODE + 1	03774	11	02615	0-J-1
01710	FM1	DS	2	,+2	,,	F MINUS ONE	03783		2	
01720		K	FMFAC+12	,0951	,,	SINGLE CARRIAGE SPACE	03786	34	03464	00951
01730		WA	MESERR	,0901	,,	PRINT ERROR MESSAGE	03798	39	02607	00901
01740		B	ERXV+30	,,			03810	49	0379K	00000
01750		DDRG	+-4	,,			03817			
01760	F2	DC	2	,0			03818		2	
		-0								
01770	K2	DC	2	,0			03820		2	
		-0								
01780	MFOV2	DS	2				03822		2	
01790	DUMMY	DS		,99999			99999		0	
01800	START	DS		,03851			03851		0	
01810	FMON	DS		,07954			07954		0	
01820	*****		1620 FORTRAN II-D			ALL SUBR IN CORE				
01830	*****		1620 FORTRAN II-D			ALL SUBR IN CORE - SECONDARY LINKAGE				
01840		DDRG	START				03851			
01850		DS	3				03853		3	
01860	FIX	CM	FAC	,00	,10,	IS CHAR POSITIVE	03854	14	02492	000-0
01870		B	FIX1	,,			03866	49	11002	00000
01880	FXA	A	FAC	,FXA-1	,11		03878	21	02492	0387P
01890		B	FXA1	,,			03890	49	11194	00000
01900	FXS	S	FAC	,FXS-1	,11		03902	22	02492	0390J
01910		B	FXA1	,,			03914	49	11194	00000
01920	FXSR	BNF	FXSRI+32	,FAC	,,	CHANGE SIGN ON FAC	03926	44	11240	02492
01930		B	FXSRI	,,			03938	49	11208	00000
01940	FXM	M	FAC	,FXM-1	,11		03950	23	02492	0394R
01950		B	FXM1	,,			03962	49	11260	00000
01960	FXD	LD	99	,FAC	,,	FAC = FAC/J	03974	28	00099	02492
01970		B	FXD1	,,			03986	49	11286	00000
01980	FXDR	LD	99	,FXDR-1	,11,	FAC = J/FAC	03998	28	00099	0399P
01990		B	FXDR1	,,			04010	49	11368	00000
02000		DDRG	+-1				04020			
02010	RSGN	BNF	RSGNI+40	,FAC-1			04020	44	11428	02491
02020		B	RSGNI	,,	,8		04032	49	11388	0-000
02030		DDRG	+-1				04042			
02040	FLOAT	AM	FAC	,00	,10,	IS FAC ZERO	04042	11	02492	000-0
02050		B	FLOAT1	,,			04054	49	11468	00000
02060	FSB	FAC	FAC	,FSB-1	,11		04066	02	02492	0406N
02070		B	FAD1	,,			04078	49	11756	00000
02080	FAD	FAC	FAC	,FAD-1	,11		04090	01	02492	0408R
02090		B	FAD1	,,			04102	49	11756	00000
02100	FSBR	BNF	FSBRI+32	,FAC-2	,,	CHANGE SIGN ON FAC	04114	44	11820	02490
02110		B	FSBRI	,,			04126	49	11788	00000

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02120	FMP	TFM	E1	,573	,9,	SET UP ERR E3 CODE	04138	16	02615	00N73
02130		B	FMP1	,,			04150	49	11840	00000
02140	FC	TFM	E1	,575	,9,	SET LP ERR E5 CODE	04162	16	02615	00N75
02150		B	FD1	,,			04174	49	11872	00000
02160	FCVR	TFL	SAVE	,FAC			04186	06	02565	02492
02170		B	FDVRI	,,			04198	49	11952	00000
02180	FIX1	TF	IMSA	,FIX1-1	,11,	IMSA = I	04210	26	02575	0420R
02190		B	FIX11	,,			04222	49	11984	00000
02200	FAX1	TF	IMSA	,FAX1-1	,11,	IMSA = I	04234	26	02575	0423L
02210		B	FAX11	,,			04246	49	12414	00000
02220	FAXB	TFL	TAFE	,FAXB-1	,11,	LOAD B	04258	06	02535	0425P
02230		B	FAXB1	,,			04270	49	12852	00000
02240	****			WRITE ALPHAMERIC						
02250	WATY	TF	SWF	,WATY-1			04282	26	05969	04281
02260		B	WATY1	,,			04294	49	05538	00000
02270	WAPT	TF	SWF	,WAPT-1			04306	26	05969	04305
02280		B	WAPT1	,,			04318	49	05558	00000
02290	WACD	TF	SWF	,WACD-1			04330	26	05969	04329
02300		B	WACD1	,,			04342	49	05610	00000
02310	PRA	TF	SWF	,PRA-1			04354	26	05969	04353
02320		B	PRA1	,,			04366	49	05578	00000
02330	****			READ ALPHAMERIC						
02340	RATY	TF	SWF	,RATY-1			04378	26	05969	04377
02350		B	RATY1	,,			04390	49	05870	00000
02360	RAPT	TF	SWF	,RAPT-1			04402	26	05969	04401
02370		B	RAPT1	,,			04414	49	05990	00000
02380	RACD	TF	SWF	,RACD-1			04426	26	05969	04425
02390		B	RACD1	,,	,8		04438	49	06010	0-000
02400		DDRG	+-1				04448			
02410	ITYPE	AM	SWF	,3			04448	11	05969	-0003
02420		B	ITYPE1	,,	,8		04460	49	10064	0-000
02430		DDRG	+-1				04470			
02440	WRITEI	TFM	WA	,GAM+2			04470	16	07241	-2557
02450		B	WRIT11	,,	,8		04482	49	10578	0-000
02460		DDRG	+-1				04492			
02470	REACDF	BNF	EF RD2+12,LOC				04492	44	09062	06089
02480		B	EF RD1	,,	,8		04504	49	09018	0-000
02490		DDRG	+-1				04514			
02500	EFMW	TF	FLTEND	,ICDN6+6			04514	26	03730	05500
02510		B	EFMW1	,,	,8		04526	49	09558	0-000
02520		DDRG	+-1				04536			
02530	ATYPE	AM	SWF	,3			04536	11	05969	-0003
02540		B	ATYPE1	,,	,8		04548	49	09082	0-000
02550		DDRG	+-1				04558			
02560	****			MACRO FOR F TYPE READ AND WRITE						
02570	FTYPE	CF	RWEFSW	,,			04558	33	06061	00000
02580		B	EF COM	,,	,8		04570	49	07446	0-000
02590		DDRG	+-1				04580			
02600	****			MACRO FOR E TYPE READ AND WRITE						
02610	ETYPE	SF	RWEFSW	,,			04580	32	06061	00000
02620	WA3	DS	5	,,	,,	TEKP STORE FOR ZERO INSERT ADDRESS	04591		5	
02630		B	EFCOM	,,	,8		04592	49	07446	0-000
02640		DDRG	+-1				04602			
02650	HTYPE	AM	SWF	,3			04602	11	05969	-0003
02660		B	HTYPE1	,,			04614	49	08778	00000
02670		DDRG	+-4				04621			

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03780	LOCD	DS	2	,*-1	,LOC OF DECIMAL AS SPEC BY FORMAT	05680	2		
03790	LOCC2	DS	2	,*-3	, TWICE LCC D	05678	2		
03800	TFM	WESERR+8	,*679	,*9		05682	16	02615	00079
03810	TFM	MAX2	,*INH			05694	16	06145	J3121
03820	A	MAX2	,*MAX			05706	21	06145	06922
03830	A	MAX 2	,*MAX			05718	21	06145	06922
03840	*****				CONTINUATION OF RWA. ALSO USED AFTER EACH OUTPUT				
03850	*****				RECORD NOT TERMINATED BY COMPLT MACRO				
03860	TFM	LAST	,*INH			05730	16	05820	J3121
03870	RWA2	TDM	COMPSW	,*-1		05742	15	05750	0000J
03880	COMPSW	DS	5	,*-3	,-1 PROHIBITS,0 REQUIRES OUTPUT	05750	0		
03890	TR	INH-1	,*STZRD+1			05754	31	13120	06424
03900	TR	INH+86	,*STZRD			05766	31	13207	06423
03910	RWZA	B	ODD3			05778	49	06178	00000
03920	CM	MAX-3	,*08	,*10		05790	14	06919	000-8
03930	WIDTH	DS	3	,*-2	, NO. OF EFF. DIGITS IN FIELD	05799	3		
03940	BNL		,*+24			05802	46	05826	01300
03950	RCTY	RCTY				05814	34	00000	00102
03960	LAST	DS	5	,*-5	, ADR OF RM AT ENC OF VARIABLE OUT REC	05820	5		
03970	BNE	,*+24				05826	47	05850	01200
03980	TF	INH+174	,*FLZERS	,*	, PUT IN RM FOR PAPER TAPE CUTPUT	05838	26	13295	06511
03990	BD	BSWF	,*RWEFSW			05850	43	05934	06061
04000	RADBIT	TFM	IGRT	,*+23		05862	16	00565	-5885
04010	B	IGRT	,*DATINH-4	,*7		05874	49	00566	-6169
04020	CM	MAX-3	,*06	,*10		05886	14	06919	000-6
04030	BNE	,*+24			, ALLWS GCOF SWITCH FOR RATY	05898	47	05922	01200
04040	BC4	RCTY				05910	46	05814	00400
04050	TDM	FLT END-5,2				05922	15	03725	00002
04060	*****				CONTROLS POSITION IN FORMAT SPECS				
04070	BSWF	AM	SWF	,*5		05934	11	05969	-0005
04080	TF	,*+18	,*SWF	,*11		05946	26	05964	0596R
04090	B	SWF		,*6	, BR TC ADR INDICATED BY FORMAT SPEC.	05958	49	0596R	00000
04100	SWF	DS	5			05969	5		
04110	RATY1	TFM	MAX	,*06087		05970	16	06922	-6087
04120	B	RDALP				05982	49	06022	00000
04130	DORG	,*-3				05990			
04140	RAPT1	TFM	MAX	,*08087		05990	16	06922	-8087
04150	B	RDALP				06002	49	06022	00000
04160	DORG	,*-3				06010			
04170	RACD1	TFM	MAX	,*10080		06010	16	06922	J0080
04180	RCALP	TDM	RWEFSW	,*0		06022	15	06061	00000
04190	B	RWA				06034	49	05634	00000
04200	DORG	,*-4				06041			
04210	*****				SWL IS A TRINARY SWITCH USED TO BRANCH TO THE PROPER SOURCE				
04220	*****				TO OBTAIN THE LOCATION THAT GOES WITH THE FORMAT MACRO				
04230	*****				BEING PERFORMED BB FOR OBJECT PROGRAM				
04240	*****				NOP FOR REDO CONTROL				
04250	*****				B FOR MATRIX CONTROL				
04260	SWL	NOP	MATRIX 2			06042	41	06602	00000
04270	INPLUS	DS	5		, WORKING POSITION OF I/O RECORD	06053	5		
04280	TDM	SWL+1	,*9	,*	, MATRIX CONTROL SETS SWL TO 49	06054	15	06043	00009
04290	RWEFSW	DS	1	,*-4	, 1 FOR WRT, 0 FOR RC, FLAG FOR E	06061	1		
04300	WIDTH2	DS	3	,*-1		06064	3		
04310	BD	SWC+12	,*MATSW			06066	43	06102	05655
04320	NOP					06078	41	00000	00000
04330	DPG	DS	5	,*-5	, TEMP ADR OF DEC PT IN GAMMA	06084	5		

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04340	LOC	DS	5	,*	, CORE LOCATION TO BE USED	06089	5		
04350	*****				AFTER LOC ADR OBTAINED BR TO PROPER MACRO				
04360	SWC	TDM	SWL+1	,*2		06090	15	06043	00002
04370	BD	,*+2C	,*RWEFSW	,*	, BR IF WRITING	06102	43	06122	06061
04380	B	SWC ADJ	,*6			06114	49	0615R	00000
04390	DORG	,*-4				06121			
04400	TDM	COMPSW	,*0	,*	, SET TO REQUIRE OUTPUT	06122	15	05750	00000
04410	CF	LOC				06134	33	06089	00000
04420	MAX2	DS	5	,*	, TWICE MAXIMUM CHAR FOR OUTPUT	06145	5		
04430	B					06146	49	00000	00000
04440	SWCADJ	DS	5	,*-5	, RETURN ADD OF MACRO IN CONTROL	06152	0		
04450	DORG	,*-4				06153			
04460	DATERR	DSA	DUDH			06157		5 X	1
						06157			
04470	DC	3	,*18*			06157		-2607	
	J8*					06160		3	
04480	DATDUD	DSA	DUDH			06165		5 X	1
						06165		-2607	
04490	DC	3	,*00*			06168		3	
	-0*								
04500	DATINH	DSA	INH			06173		5 X	1
						06173		J3121	
04510	DC	3	,*00*			06176		3	
	-0*								
04520	ODC3	TR	INH+174,	STZRD+18		06178	31	13295	06441
04530	TR	INH+244,	STZRD+40			06190	31	13365	06463
04540	B7	RWZA+12				06202	49	05790	
04550	P44C	TFM	SWC-1	,*FAC		06210	16	06089	-2492
04560	TFM	SWF	,*P44C2-5			06222	16	05969	-6291
04570	TFM	TRRET+6	,*P44E			06234	16	06370	-6314
04580	BNF	PRA1	,*FAC-1	,*	, BRANCH IF FIXED	06246	44	05578	02491
04590	TFM	SWF	,*P44C1-5			06258	16	05969	-6276
04600	B7	PRA1				06270	49	05578	
04610	P44C1	DSA	ETYP			06281		5 X	1
						06281		-4580	
04620	DC	3,35				06284		3	
	-35								
04630	DC	2,28				06286		2	
	K8								
04640	DSA	PRCNTR-12				06291		5 X	1
						06291		-6904	
04650	P44C2	DSA	ITYP			06296		5 X	1
						06296		-4448	
04660	DC	3,24				06299		3	
	-24								
04670	DSA	PRCNTR-12				06304		5 X	1
						06304		-6904	
04680	ODC4	B7	SWL	,*	, MODIFIED TO SWC BY TRACE	06306	49	06042	
04690	P44E	TFM	TRRET+6	,*COMEND		06316	16	06370	-6996

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04700	TFM	ODD4+6	,SWL			06326	16	06312	-6042
04710		BB2				06338	42		
04720	ODD6	BNI	TRRET	,03400		06340	47	06364	03400
04730		K		,0C971		06352	34	00000	00971
04740	TRRET	B	COMEND			06364	49	06996	00000
04750		DORG	*-4			06371			
04760		DORG	6422			06422			
04770	STZERO	DC	2	,CO		06423		2	
		-0							
04780		00		,0246810		06424	-0	-0-0	0-0-0
04790		00		,0246810		06436	-0	-0-0	0-0-0
04800		00		,0246810		06448	-0	-0-0	0-0-0
04810		00		,0246810		06460	-0	-0-0	0-0-0
04820		00		,0246810		06472	-0	-0-0	0-0-0
04830		00		,0246810		06484	-0	-0-0	0-0-0
04840		00		,0246810		06496	-0	-0-0	0-0-0
04850		DC	2	,00		06509		2	
		-0							
04860	FLZERS	DC	2	,0'		06511		2	
		-'							
04870		DS	5			06516		5	
04880	MATRIX	TDM	MATSW	,1	MACRO TO PROCESS MATRICIES	06518	15	05655	00001
04890		TDM	SWL+1	,9		06530	15	06043	00009
04900		TF	LOCADJ	,FP2		06542	26	06574	03664
04910		BNF	MATRIX2-12,MATRIX-1			06554	44	06590	06517
04920		IFM	LOCADJ	,00	,10	06566	16	06574	000-0
04930	LOCADJ	DS	2	,*-3	ADJUST LOC FOR MATRIX	06574		2	
04940		S	LOCADJ	,K		06578	22	06574	02221
04950		S	MATRIX-1	,LOCADJ		06590	22	06517	06574
04960	MATRIX2	A	MATRIX-1	,LOCADJ	RETURN FROM SWL, EACH MATRIX ELEMENT	06602	21	06517	06574
04970		TF	LOC	,MATRIX-1	MOVE ADJUSTED LOCATICN	06614	26	06089	06517
04980		SM	PAR	,1	,10	06626	12	03378	000-1
04990		BNE	*+24			06638	47	06662	01200
05000		TDM	MATSW	,0		06650	15	05655	00000
05010		BNL	SWC+12			06662	46	06102	01300
05020		BB				06674	42	00000	00000
05030		UORG	*-9			06676			
05040	*****		MACRO FOR AN I/O CARRIAGE RETURN DURING A FORMAT STATEMENT						
05050	SLASH	TDM	COMEND+1	,9		06676	15	06997	00009
05060		BD	SLASH2	,RWEFSW	BR IF WRITING	06688	43	06708	06061
05070		B	COMEND			06700	49	06996	00000
05080		DORG	*-4			06707			
05090	SLASH2	BD	IOCR	,COMP SW	BR TO IO CR IF OUTPUT RECCRD BLANK	06708	43	06972	05750
05100		CM	DATINH+2	,06	,10	06720	14	06175	000-6
05110		BH	WRITE		BR IF NOT TYPEWRITER OUTPUT	06732	46	06816	01100
05120		TF	LAST	,FLZERS	,6	06744	26	05820	06511
05130		SM	LAST	,02	,10, ERASE BLANKS FROM END OF I/O RECORD	06756	12	05820	000-2
05140		CM	LAST	,CO	,610	06768	14	05820	000-0
05150		BE	*-36			06780	46	06744	01200
05160		CM	LAST	,INH		06792	14	05820	J3121
05170		BL	COM END			06804	47	06996	01300
05180	WRITE	BNR	WRITE1	,RWEFSW		06816	45	06940	06061
05190		CM	INH	,70	,10	06828	14	13121	000P0
05200		BNH	*+32			06840	47	06872	01100
05210		TF	PRKEY	,INH	SKIP TO CHANNEL CODE	06852	26	06927	13121
05220		B7	PRCNTR			06864	49	06916	

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05230		BNE	*+32			06872	47	06904	01200
05240		TFM	PRKEY	,52	,10, DOUBLE SPACE	06884	16	06927	000N2
05250		B7	PRCNTR			06896	49	06916	
05260		TFM	PRKEY	,51	,10, SINGLE SPACE	06904	16	06927	000N1
05270	PRCNTR	K		,0900	CUNTRNL CARRIAGE	06916	34	00000	00900
05280		DS	2	,*		06927		2	
05290		MAX	DS	5	,*-5	06922		5	
05300		TR	INH-1	,INH+1		06928	31	13120	13122
05310	WRITE1	TFM	IDRT	,*+23	,7, OUTPLT	06940	16	00565	-6963
05320		B	IDPT	,DATINH-4	,7	06952	49	00532	-6169
05330		B	ODD6			06964	49	06340	00000
05340		DORG	*-4			06971			
05350		IOCR	CM	MAX-3	,08	06972	14	06919	000-8
05360		CKW	DS	3	,*-2	06981		3	
05370		BNL	WRITE		DEC SPEC PLUS CHAR OF ARG	06984	46	06816	01300
05380		COMEND	B	RWA2-12		06996	49	05730	00000
05390		DORG	*-4			07003			
05400	*****		MACRO TERMINATING I/C CONTROL						
05410		DS	3			07005		3	
05420	COMPLT	TDM	COMEND+1	,2		07006	15	06997	00002
05430	CHAR2	DS	3	,*-1	TWICE MODIFIED CHARACTERISTIC	07016		3	
05440		B	SLASH+12			07018	49	06688	00000
05450		DORG	*-4			07025			
05460	REDD	BD	REDD A+24,MAT SW			07026	43	07094	05655
05470		ID	REDDA+23	,COMPSW		07038	25	07093	05750
05480		TFM	SWC ADJ	,REDD A	MACRO PERMITS REDDING BACK TO I	07050	16	06152	-7070
05490		B	SWL			07062	49	06042	00000
05500		DORG	*-4			07069			
05510	REDDA	TDM	SWL+1	,1	RETURN FROM SWL IF MORE DATA	07070	15	06043	00001
05520		TDM	COMPSW		VOID REDD USING SWC EFFECT ON COMPSW	07082	15	05750	00000
05530	TERM	DS	5	,*	REFERENCE ADR IN I/O RECORD	07093		5	
05540		AM	SWF	,5		07094	11	05969	-0005
05550		TF	SWF	,SWF	,11	07106	26	05969	0596A
05560		B	SLASH			07118	49	06676	00000
05570		DORG	*-4			07125			
05580	*****		MACRO TO REPEAT FORMAT SPECS A SPECIFIC NO OF TIMES						
05590	*****		SUB FROM REP SW, INITIALLY SET TO ZERO						
05600	*****		IF REPSW NEG, SET TO REPS REGD AND REPEAT FOMAT						
05610	*****		IF REPSW ZERO, LAST FOMAT REPETITION IS COMPLETE						
05620	*****		IF REPSW PLUS, STEP DOWN AND REPEAT FOMAT SPEC						
05630	REP	AM	SWF	,7		07126	11	05969	-0007
05640		SM	REP SW	,1	,10, CONTROL REPETITION OF FIELDS	07138	12	05654	000-1
05650		BH	REP 2			07150	46	07198	01100
05660		BE	BSWF			07162	46	05934	01200
05670		A	REP SW	,SWF	,11	07174	21	05654	0596A
05680		BNH	BSWF			07186	47	05934	01100
05690	REP2	SM	SWF	,2		07198	12	05969	-0002
05700		TF	SWF	,SWF	,11	07210	26	05969	0596A
05710		B	SWF-23			07222	49	05946	00000
05720		DORG	*-4			07229			
05730	REP3	SF	REPSW3-1			07230	32	05656	00000
05740	WA	DS	5	,*	WORKING AREA ADR REF TO FAC OR GAM	07241		5	
05750		AM	SWF	,7	,10	07242	11	05969	000-7
05760		SM	REPSW 3	,1	,10	07254	12	05657	000-1
05770		BH	REP 2			07266	46	07198	01100
05780		BE	BSWF			07278	46	05934	01200

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05790	A	REPSW 3	,SWF	,11	07290	21	05657	0596R	
05800	B	REP 2-12			07302	49	07186	00000	
05810	DDRG	*-4			07309				
05820	ERF9	TFM SWC ADJ	,ER COM 2	,, MACRO FOR ERROR F9 WHEN WRITING	07310	16	06152	-7386	
05830	TF	LAST	,MAX 2		07322	26	05820	06145	
05840	TFM	EI	,679	,9	07334	16	02615	00079	
05850	B	SWL			07346	49	06042	00000	
05860	DDRG	*-4			07353				
05870	XTYPE	AM SWF	,3	,, MACRO FOR SKIPPING FIELDS	07354	11	05969	-0003	
05880	A	LAST	,SWF	,11	07366	21	05820	0596R	
05890	B	BSWF			07378	49	05934	00000	
05900	DDRG	*-4			07385				
05910	ERCOM2	K	,0951		07386	34	00000	00951	
05920	WA2	DS	5	, WORKING AREA ADR REF TO FAC OR GAM	07392		5		
05930	TFM	IORT	,*-5		07398	16	00565	-7421	
05940	B	IORT	,DATERR-4	,7	07410	49	00532	-6153	
05950	TR	EI+1	,FLZERS-1	,, RESTORES RECORD MARK	07422	31	02616	06510	
05960	B	BSWF-12			07434	49	05922	00000	
05970	DPT	DS	5	, TEMP LOC OF DEC PT IN OUTPUT RECORD	07445		5		
05980	EFCOM	AM SWF	,3		07446	11	05969	-0003	
05990	TF	WIDTH	,SWF	,11	07458	26	05799	0596R	
06000	AM	SWF	,2		07470	11	05969	-0002	
06010	TF	LOC D	,SWF	,11	07482	26	05680	0596R	
06020	TF	INPLUS	,LAST		07494	26	06053	05820	
06030	TF	WIDTH 2	,WIDTH		07506	26	06064	05799	
06040	A	WIDTH 2	,WIDTH		07518	21	06064	05799	
06050	A	LAST	,WIDTH2		07530	21	05820	06064	
06060	C	LAST	,MAX 2		07542	24	05820	06145	
06070	BH	ER F9			07554	46	07310	01100	
06080	TF	TERM	,LAST		07566	26	07093	05820	
06090	SM	TERM	,2		07578	12	07093	-0002	
06100	TF	CHAR	,WIDTH		07590	26	08689	05799	
06110	TF	WA	,FNM		07602	26	07241	03313	
06120	TDM	97	,0		07614	15	00097	00000	
06130	TFM	99	,00	,10	07626	16	00099	000-0	
06140	BD	EF WRT	,RMEFSW		07638	43	07842	06061	
06150	TF	FAC	,FLZALP	,11	07650	26	02492	03340	
06160	TFM	EFTERM+10	,EF TYPE		07662	16	08616	-8030	
06170	TFM	SWCADJ	,READ EF		07674	16	06152	-4492	
06180	ROFCH	BNR	*+20	,INPLUS	,11, CHECK FOR INPUT RECORD MARK	07686	45	07706	0605L
06190	BT	ERRFTE			07698	49	08746		
06200	CM	INPLUS	,00	,610, ELIMINATE LEADING BLANKS	07706	14	0605L	000-0	
06210	BNE	FCH NB			07718	47	07786	01200	
06220	SM	CHAR	,1	,10	07730	12	08689	000-1	
06230	SM	INPLUS	,2		07742	11	06053	-0002	
06240	C	INPLUS	,LAST		07754	24	06053	05820	
06250	BL	RD FCH			07766	47	07686	01300	
06260	B	EFPEND+12			07778	49	08634	00000	
06270	DDRG	*-4			07785				
06280	FCHNB	CM	INPLUS	,20	,610, PROCESS FIRST NON BLANK CHARACTER	07786	14	0605L	00000
06290	BE	EF MIN			07798	46	08006	01200	
06300	CM	INPLUS	,10	,610	07810	14	0605L	00000	
06310	BE	EF PLUS			07822	46	08018	01200	
06320	B	EFTYPF+36			07834	49	08066	00000	
06330	DDRG	*-4			07841				
06340	EFWRT	C	LOC D	,F	07842	24	05680	02219	

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06350	BNH	*+24			07854	47	07878	01100	
06360	TF	LOC D	,F		07866	26	05680	02219	
06370	TF	LOC D 2	,LOC D		07878	26	05678	05680	
06380	A	LOC D 2	,LOC D		07890	21	05678	05680	
06390	TR	GAM-59	,MASK F-1		07902	31	02496	05432	
06400	TFM	WA	,GAM		07914	16	07241	-2555	
06410	TFM	WA2	,FAC-1		07926	16	07392	-2491	
06420	TFM	SWCADJ	,EFM		07938	16	06152	-4514	
06430	SM	WIDTH	,2	,10	07950	12	05799	000-2	
06440	BNF	SWL	,RMEFSW		07962	44	06042	06061	
06450	SM	TERM	,8		07974	12	07093	-0008	
06460	SM	WIDTH	,4	,10	07986	12	05799	000-4	
06470	B	ODD4			07998	49	06306	00000	
06480	DDRG	*-4			08005				
06490	EFCOM	SF	99		08006	32	00099	00000	
06500	EFPLUS	SM	CHAR	,1	,10	08018	12	08689	000-1
06510	EFTYPE	AM	INPLUS	,2		08030	11	06053	-0002
06520	CM	INPLUS	,00	,610	08042	14	0605L	000-0	
06530	BE	LDG DIG			08054	46	08438	01200	
06540	CM	INPLUS	,70	,610	08066	14	0605L	00000	
06550	BH	EF DIG			08078	46	08538	01100	
06560	BE	LDG DIG			08090	46	08438	01200	
06570	CM	INPLUS	,03	,610	08102	14	0605L	000-3	
06580	BE	EF DEC			08114	46	08470	01200	
06590	BNF	ERRFTE	,RMEFSW		08126	44	08746	06061	
06600	TFM	EXP	,000	,9	08138	16	08159	00-00	
06610	TDM	E EXPAD+1	,1		08150	15	08419	00001	
06620	EXP	DS	3	,*-2	, VALUE OF CALC CHAR FOR OUTPUT	08159		3	
06630	CM	INPLUS	,45	,610	08162	14	0605L	00005	
06640	BE	E EXP			08174	46	08350	01200	
06650	CM	INPLUS	,40	,610	08186	14	0605L	00000	
06660	BNL	ERRFTE			08198	46	08746	01300	
06670	EEXP2	CM	INPLUS	,20	,610	08210	14	0605L	00000
06680	BE	E EXP H			08222	46	08338	01200	
06690	CM	INPLUS	,10	,610	08234	14	0605L	00000	
06700	BE	E EXP			08246	46	08350	01300	
06710	EEXP22	BD	*+24	,97	08258	43	08282	00097	
06720	SM	CHAR	,1	,9	08270	12	08689	00-01	
06730	C	INPLUS	,TERM		08282	24	06053	07093	
06740	BNL	EEXPAD-12			08294	46	08406	01300	
06750	TD	EXP-1	,INPLUS	,11	08306	25	08159	0605L	
06760	AM	INPLUS	,2		08318	11	06053	-0002	
06770	B	EEXP22+12			08330	49	08270	00000	
06780	DDRG	*-4			08337				
06790	EEXP2	TDM	E EXPAD+1	,2	08338	15	08419	00002	
06800	EEXP	AM	INPLUS	,2	08350	11	06053	-0002	
06810	SM	CHAR	,1	,10	08362	12	08689	000-1	
06820	C	INPLUS	,TERM		08374	24	06053	07093	
06830	BNH	EEXP2			08386	47	08210	01100	
06840	B7	ERRFTE			08398	49	08746		
06850	TD	EXP	,INPLUS	,11	08406	25	08159	0605L	
06860	EEXPAD	A	CHAR	,EXP	08418	21	08689	08159	
06870	B	EF END			08430	49	08622	00000	
06880	DDRG	*-4			08437				
06890	LOGDIG	BNF	EF DIG	,98	08438	44	08538	00098	
06900	SM	CHAR	,1	,10	08450	12	08689	000-1	

1060

06910	B	EF TERM			08462	49	08598	00000
06920	DORG	*-4			08469			
06930	EFDEC	DD ERRF7 E	,97		08470	43	08746	00097
06940	TFM	LOC D	,00	,10	08482	16	05680	000-0
06950	TFM	EFTERM+18,EF PLUS			08494	16	08616	-8018
06960	TDM	97	,-1		08506	15	00097	0000J
06970	SM	CHAR	,1	,10	08518	12	08689	000-1
06980	B	EF TERM			08530	49	08598	00000
06990	DORG	*-4			08537			
07000	EFOIG	CF	98		08538	33	00098	00000
07010	DPTM2	DS	5	,*	08549		5	
07020	CM	WA	,FAC-1		08550	14	07241	-2491
07030	BNL	*+36		,,	08562	46	08598	01300
07040	TD	WA	,INPLUS	,611	08574	25	0724J	0605L
07050	AM	WA	,1		08586	11	07241	-0001
07060	EFTERM	C	INPLUS	,TERM	08598	24	06053	07093
07070	BL	EFYTYPE			08610	47	08030	01300
07080	EFEND	BNF	EFEND2	,FNH	08622	44	08654	0331L
07090	TFM	FAC	,99	,1011	08634	16	02492	000RR
07100	H	SWL			08646	49	06042	00000
07110	DORG	*-3			08654			
07120	EFEND2	S	CHAR	,LOC D	08654	22	08689	05680
07130	BD	ERR F7E	,CHAR-2		08666	43	08746	08687
07140	SF	CHAR-1			08678	32	08688	00000
07150	CHAR	DS	5	,*	08689		5	
07160	TF	FAC	,CHAR		08690	26	02492	08689
07170	SF	FNH		,6	08702	32	0331L	00000
07180	BNF	SWL	,99		08714	44	06042	00099
07190	SF	FAC-2			08726	32	02490	00000
07200	B	SWL			08738	49	06042	00000
07210	DORG	*-4			08745			
07220	ERRF7E	TF	FAC	,FLZALP	08746	26	02492	03340
07230	TDM	EI	,7	,11,	08758	15	02615	0000P
07240	H	EFEND		,11,	08770	49	08622	00000
07250	DORG	*-4			08777			
07260	****			MACRO FOR HOLLERITH TYPE READ AND WRITE				
07270	HTYPE1	TF	WIDTH2	,SWF	08778	26	06064	0596R
07280	TF	INPLUS		,LAST	08790	26	06053	05820
07290	A	LAST		,WIDTH2	08802	21	05820	06064
07300	C	LAST		,MAX2	08814	24	05820	06145
07310	RNH	*+32			08826	47	08858	01100
07320	A	SWF		,WIDTH2	08838	21	05969	06064
07330	B	ER COM 2			08850	49	07386	00000
07340	DORG	*-4			08857			
07350	HRD	HWR T		,RWEFSW	08858	43	08938	06061
07360	HRD	SM	WIDTH 2	,2	08870	12	06064	000-2
07370	OL	BSWF		,10,	08882	47	05934	01300
07380	AM	SWF		,2	08894	11	05969	-0002
07390	TF	SWF		,INPLUS	08906	26	0596R	0605L
07400	AM	INPLUS		,2	08918	11	06053	-0002
07410	B	HRD			08930	49	08870	00000
07420	DORG	*-4			08937			
07430	HWR T	SM	WIDTH 2	,2	08938	12	06064	000-2
07440	TDM	COMP SW		,0	08950	15	05750	00000
07450	HL	BSWF		,*	08962	47	05934	01300
07460	AM	SWF		,2	08974	11	05969	-0002

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07470	TF	INPLUS	,SWF	,611	08986	26	0605L	0596R
07480	AM	INPLUS	,2		08998	11	06053	-0002
07490	B	H WRT			09010	49	08938	00000
07500	DORG	*-4			09017			
07510	EFRD1	CF	LOC		09018	33	06089	00000
07520	TF	FIXEND+6	,1	CON 5+6	09030	26	03886	05508
07530	B	FIX			09042	49	03854	00000
07540	DORG	*-4			09049			
07550	EFRD2	TDM	FIXEND+1	,2	09050	15	03681	00002
07560	TFL	LOC	,FAC	,6	09062	06	0608R	02492
07570	H	ER F7			09074	49	10538	00000
07580	DORG	*-4			09081			
07590	*****			MACRO FOR A TYPE READ AND WRITE				
07600	ATYPE1	TF	WIDTH2	,SWF	09082	26	06064	0596R
07610	TF	INPLUS		,LAST	09094	26	06053	05820
07620	A	LAST		,WIDTH 2	09106	21	05820	06064
07630	C	LAST		,MAX 2	09118	24	05820	06145
07640	BH	ER F9			09130	46	07310	01100
07650	TF	TERM		,LAST	09142	26	07093	05820
07660	SM	TERM		,2	09154	12	07093	-0002
07670	TFM	SWC ADJ		,WRITE A	09166	16	06152	-9426
07680	BD	SWL		,RW EF SW	09178	43	06042	06061
07690	TFM	SWC ADJ		,READ A	09190	16	06152	-9210
07700	B	SWL			09202	49	06042	00000
07710	DORG	*-4			09209			
07720	READA	CF	INPLUS	,*	09210	33	0605L	00000
07730	AM	INPLUS	,1	,10	09222	11	06053	000-1
07740	C	INPLUS	,TERM		09234	24	06053	07093
07750	BL	READ A			09246	47	09210	01300
07760	BNF	RDAFL	,LOC		09258	44	09370	06089
07770	CF	LOC			09270	33	06089	00000
07780	TF	LOC	,FXZ	,6	09282	26	0608R	02815
07790	S	WIDTH 2		,K	09294	22	06064	02221
07800	RCA	BH	ERF7A		09306	46	09350	01100
07810	A	LOC		,WIDTH 2	09318	21	06089	06064
07820	TF	LOC	,TERM	,611	09330	26	0608R	0709L
07830	B	ER F7			09342	49	10538	00000
07840	DORG	*-4			09349			
07850	ERF7A	TDM	EI	,7	09350	15	02615	0000P
07860	B	ER F7			09362	49	10538	00000
07870	DORG	*-4			09369			
07880	RCAFL	TFM	LOC	,00	09370	16	0608R	000-0
07890	SM	LOC		,2	09382	12	06089	000-2
07900	TF	LOC	,FLZ	,611	09394	26	0608R	0335L
07910	S	WIDTH 2		,F	09406	22	06064	02219
07920	B	RD A			09418	49	09306	00000
07930	DORG	*-4			09425			
07940	WRITEA	TF	FAC	,LOC	09426	26	02492	0608R
07950	BNF	WA FX	,FAC-1		09438	44	09338	02491
07960	SM	LOC		,2	09450	12	06089	-0002
07970	S	WIDTH 2		,F	09462	22	06064	02219
07980	WRTA	BH	WRTA 2		09474	46	09518	01100
07990	A	LOC		,WIDTH 2	09486	21	06089	06064
08000	TF	TERM		,LOC	09498	26	0709L	0608R
08010	B	BSWF		,611	09510	49	05934	00000
08020	DORG	*-4			09517			

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08030	WRTA2	SM	WIDTH 2	,02	,10	09518	12	06064	000-2
08040	B	WRTA				09530	49	09474	C0000
08050	DORG					09537			
08060	WAFX	S	WIDTH 2	,K		09538	22	06064	02221
08070	B	WRT A				09550	49	09474	00000
08080	DORG					09557			
08090	*****								
08100	*****								
08110	*****								
08120	*****								
08130	*****								
08140	EPMW1	TFL	FAC	,LOC	,11	09558	06	02492	0608R
08150	BNF	FLOAT	,FAC-1			09570	44	04042	02491
08160	EFALPH	TDM	FLTEND-5	,2		09582	15	03725	0C002
08170	TF	DPT	,TERM			09594	26	07445	07093
08180	S	DPT	,LOC D 2			09606	22	07445	05678
08190	TFM	DPG	,GAM			09618	16	06084	-2555
08200	S	DPG	,LOC D 2			09630	22	06084	05678
08210	TF	DPTH2	,DTH			09642	26	08549	07445
08220	SM	DPTH2	,2			09654	12	08549	-0002
08230	EFALP	TD	MA 2	,1		09666	12	07392	-0001
08240	CF	MA	,MA2	,611		09678	25	0724J	0739K
08250	CF	MA	,2	,6		09690	33	0724J	00000
08270	C	MA2	,FMIMF			09702	12	07241	-0002
08280	RH	EF ALP				09714	24	07392	03313
08290	TFM	WA	,00	,610		09726	48	09666	01100
08300	BNF	EF CHKS	,FAC-2			09738	16	0724J	000-0
08310	TFM	WA	,20	,610		09750	44	09774	02490
08320	EFCHKS	TFM	CKW	,000	,9	09762	16	0724J	000K0
08330	A	CKW	,LOCD			09774	16	06981	00-00
08340	A	CKW	,FAC			09786	21	06981	05680
08350	TF	CHAR	,CKW			09798	21	06981	02492
08360	S	CHAR	,F			09810	26	08689	06981
08370	C	WIDTH	,LOC D			09822	22	08689	02219
08380	BL	ER F8 E				09834	24	05799	05680
08390	CM	FAC	,-70	,10		09846	47	05226	01300
08400	BNF	**2C	,RNEFSW			09858	14	02492	000P-
08410	B7	**20				09870	44	09890	06061
08420	BL	**24				09882	49	09902	
08430	ND	**36	,FNM	,11		09894	47	09914	01300
08440	TDM	FLTEND-4	,-1			09902	43	09938	0331L
08450	TFM	CHAR	,-099	,9		09914	15	03726	0000J
08460	BNF	WRTF	,RNEFSW			09926	16	08689	00-9R
08470	*****					09938	44	04726	06061
08480	*****								
08490	*****								
08500	WRT E	S	WIDTH	,F		09950	22	05799	02219
08510	BNL	WRT E2		,, BR IF F NOT LARGER THAN EFF WIDTH		09962	46	04622	01300
08520	BD	**36	,FLTEND-4			09974	43	10010	03726
08530	S	CHAR	,WIDTH			09986	22	08689	05799
08540	BD	ERFBE	,CHAR-2			09998	43	05226	08687
08550	TFM	**47	,GAM			10010	16	10057	-2555
08560	A	**35	,WIDTH			10022	21	10057	05799
08570	A	**23	,WIDTH			10034	21	10057	05799
08580	TF	GAM				10046	26	02555	C0000

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08590	B	WRT E2				10058	49	04622	00000
08600	DORG	**4				10065			
08610	*****								
08620	ITYPE1	TF	WIDTH2	,SMF	,11	10066	26	06064	0596R
08630	A	LAST	,WIDTH2			10078	21	05820	06064
08640	C	LAST	,MAX2			10090	24	05820	06145
08650	BH	ER F9				10102	46	07310	01100
08660	TF	INPLUS	,LAST			10114	26	06053	05820
08670	TFM	IR DIG+6	,FAC			10126	16	10376	-2492
08680	TFM	SNC ADJ	,WRITE I			10138	16	06152	-4470
08690	BD	ODD4	,RNEFSW			10150	43	06306	06061
08700	TF	TERM	,FPIMK			10162	26	07093	03283
08710	TF	FAC	,FXZ			10174	26	02492	02815
08720	TFM	SNC ADJ	,READ1			10186	16	06152	J0478
08730	*****								
08740	*****								
08750	*****								
08760	I READ	SM	WIDTH2	,2	,10	10198	12	06064	000-2
08770	BL	SWL				10210	47	06042	01300
08780	SM	INPLUS	,2			10222	12	06053	-0002
08790	BMR	**20	,INPLUS	,11, CHECK FOR INPUT RECORD MARK		10234	45	10294	0605L
08800	B7	ERRF7I				10246	49	10446	
08810	CM	INPLUS	,70	,610		10258	14	0405L	000P0
08820	RH	IR DIG				10270	46	10370	01100
08830	BE	IR BLNK				10282	46	10406	01200
08840	CM	INPLUS	,00	,610		10294	14	0405L	000-0
08850	BE	IR BLNK				10306	46	10406	01200
08860	CM	INPLUS	,20	,610		10318	14	0405L	000K0
08870	BE	I MINUS				10330	46	10426	01200
08880	CM	INPLUS	,10	,610		10342	14	0405L	000J0
08890	BE	SWL				10354	46	06042	01200
08900	B	ERR F7I				10366	49	10446	00C00
08910	DORG	**4				10378			
08920	IRDIG	TD	,INPLUS	,11		10390	25	00000	0605L
08930	C	**6	,TERM			10402	24	10376	07093
08940	BL	ERR F7 I				10414	47	10446	01300
08950	IRBLNK	SM	IR DIG+6	,1		10426	12	10376	-0001
08960	B	I READ				10438	49	10198	00000
08970	DORG	**4				10450			
08980	IMINUS	SF	FAC			10462	32	02492	00000
08990	B	SWL				10474	49	06042	00000
09000	DORG	**4				10486			
09010	ERRF7I	TF	FAC	,FXZ	,, SET FIXED ZERO INTO FAC	10498	26	02492	02815
09020	TFM	EI	,677	,911, SET ERROR F7 INDICATION		10510	16	02615	0007P
09030	B	SWL				10522	49	06042	00000
09040	DORG	**4				10534			
09050	READ1	SF	FPIMK	,6		10546	32	0328L	00000
09060	TF	FLT END	,ICON 2+6			10558	26	03730	10576
09070	BNF	FLOAT	,LOC			10570	44	04042	06089
09080	CF	LOC				10582	33	06089	00000
09090	READIF	TFL	LOC	,FAC	,6	10594	06	0608R	02492
09100	ERF7	BNF	BSWF-12	,EI	,, BR IF NOT ERROR TYPE F7	10606	44	05922	02615
09110	CF	EI		,, ERASE ERROR F7 INDICATION		10618	33	02615	00000
09120	B	ER CON 2				10630	49	07386	00000
09130	DORG	**4				10642			
09140	ICON2	B	READ IF	,1		10654	4R	10526	00000

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09150	DORG	**4	LC577				
09160	*****			RETURN FROM SWL VIA SWC IF WRITING I TYPE			
09170	*****			VALUE PUT IN FAC IN I FORM,EXPANDED TO ALPHA IN			
09180	*****			GAMMA RIGHT TO LEFT, HO CONTAINS ADR OF HIGH ORDER			
09190	*****			DIGIT IN GAM. AFTER VALUE IN GAM IS SIGNED,CHECKED			
09200	*****			FOR WIDTH, MOVE TO OUTPUT RECORD.			
09210	*****			ERFBI RESULTS IF VALUE TOO LARGE FOR FORMAT SPECS.			
09220	WRIT11	TFM WA2	,FAC+1			10578	16 07392 -2493
09230		TFL FAC	,LOC	,11		10590	06 02492 0608R
09240		BNF WRT12+12	,FAC-1			10602	44 10646 02491
09250		TF FIXEND+6	,ICON3+6			10614	26 03686 05516
09260		B FIX				10626	49 03854 00000
09270		DORG	**4			10633	
09280	WRT12	TDM FIXEND+1	,2			10634	15 03681 00002
09290		TR GAM-19	,MASK 1			10646	31 02536 05472
09300		TFM HO	,GAM+1			10658	16 10749 -2556
09310	WRT1	SM WA 2	,1			10670	12 07392 -0001
09320		SM WA	,2			10682	12 07241 -0002
09330		TD WA	,WA 2	,611		10694	25 0724J 0739K
09340		BD I DIG	,WA 2	,11		10706	43 10726 0739K
09350		B I DIG+12				10718	49 10738 00000
09360		DORG	**4			10725	
09370	IDIG	TF HO	,WA			10726	26 10749 07241
09380		CF GAM		,,	PREVENTS PREMATURE TERM.FOR NEG ARG	10738	33 02555 0C000
09390	HO	DS 5	,,	,,	ADR CF HI ORDER NON ZERO DIGIT	10749	5
09400		BNF WRT1	,WA	,11		10750	44 10670 0724J
09410		CM HO	,GAM+1			10762	14 10749 -2556
09420		HNE WRT SGN				10774	47 10806 01200
09430		TFM LAST	,7000	,68		10786	16 0582- 0PC00
09440		B BSWF				10798	49 05934 00000
09450		DORG	**4			10805	
09460	WRTSGN	BNF WRT I3	,FAC			10806	44 10842 02492
09470		SM HO	,2			10818	12 10749 -0002
09480		TFM HO	,20	,610		10830	16 1074R 000K0
09490	WRT13	SM HO	,1			10842	12 10749 -0001
09500		TFM OUT	,GAM			10854	16 10913 -2555
09510		S OUT	,HO			10866	22 10913 10749
09520		C OUT	,WIDTH 2			10878	24 10913 06064
09530		BH ER F8 I				10890	46 10970 01100
09540		SF OUT				10902	32 10913 00000
09550	OUT	DS 5	,,	,,	HI ORDER WKG ADR IN I/O RECORD, I TYPE	10913	5
09560		A OUT	,LAST			10914	21 10913 05820
09570		SM OUT	,2			10926	12 10913 -0002
09580		TR OUT	,HO	,611		10938	31 10911 1074R
09590		TFM LAST	,00	,610		10950	16 0582- 000-0
09600		B BSWF				10962	49 05934 00000
09610		DORG	**4			10969	
09620	ERFBI	TR DLD H+11,FLZERS-67				10970	31 02618 06444
09630		TR DLD H+11,HO	,11			10982	31 02618 1074R
09640		B EDCOM				10994	49 05346 00000
09650		DORG	**4			11001	
09660	*****			1620 FORTRAN II-D ARITHMETIC SUBROUTINES			
09670	FIX1	BP **32	,,	,,	YES	11002	46 11034 01100
09680		TF FAC	,FX2	,,	NO	11014	26 02492 02815
09690		B FIXEND				11026	49 03680 00000
09700		DORG	**3			11034	

09710	TD	MU-1	,FAC-2	,,	STONE SIGN	11034	25 03631 02490
09720		C FAC	,K	,,	IS CHAR GREATER THAN K	11046	24 02492 02221
09730		BNH **44	,,	,,	NO	11058	47 11102 01100
09740		TDM FXERR+25	,1	,,	YES, SET ERR TYPE	11070	15 03621 00001
09750		TFM EI	,579	,9,	SET ER E9, OVFL IN FIX	11082	16 02615 00M79
09760		B FXNINE+12	,,	,,	FAC = FX9	11094	49 11348 0CC00
09770		DORG	**3			11102	
09780		CF FAC-2				11102	33 02490 00000
09790		TF BETA	,ZERO-51	,,	CLEAR ADD AREA	11114	26 02603 02716
09800		TF IMSA	,FXZ	,,		11126	26 02575 02815
09810		TF **30	,IMSAPP	,,	ALIGN DECIMAL POINTS	11138	26 11168 03298
09820		S **18	,FAC			11150	22 11168 02492
09830		A DUMMY	,FAC-2			11162	21 99999 02490
09840		TF FAC	,IMSA			11174	26 02492 02575
09850		B MU				11186	49 03632 00000
09860		DORG	**4			11193	
09870	FXA1	BV **12				11194	46 11206 01400
09880		BB				11206	42 00000 00000
09890		DORG	**9			11208	
09900	FXSRI	CF FAC				11208	33 02492 00000
09910		TF FXA-1	,FXSR-1	,,	SET UP ACD	11220	26 03877 03925
09920		B FXA	,,	,,	BRANCH TO FIXED POINT ADD	11232	49 03878 00000
09930		DORG	**3			11240	
09940		SF FAC				11240	32 02492 00000
09950		B FXSR1+12				11252	49 11220 00000
09960		DORG	**4			11259	
09970	FXM1	SF ICCKM	,,	,6		11260	32 0329L 00000
09980		TF FAC	,99			11272	26 02492 00099
09990		BB				11284	42 00000 00000
10000		DORG	**9			11286	
10010	FXD1	D ICCKM	,FXD-1	,611		11286	29 0329L 0397L
10020		BV **26				11298	46 11324 01400
10030		TF FAC	,99MK	,11		11310	26 02492 03280
10040		BB				11322	42 00000 00000
10050		DORG	**9			11324	
10060		TFM EI	,578	,9,	ERROR E8, ZERO DIVISION	11324	16 02615 00M78
10070	FXNINE	TFM FXERR+30	,FIXEND-12,,	,,	SET UP ERROR EXIT	11336	16 03626 -3668
10080		TF FAC	,FX9	,,	FAC = FX9	11348	26 02492 02805
10090		B FXERR				11360	49 03596 00000
10100		DORG	**4			11367	
10110	FXDR1	D ICCKM	,FAC	,6		11368	29 0329L 02492
10120		B FXD1+12				11380	49 11298 00000
10130		DORG	**4			11387	
10140	RSGN1	BNF **26	,FAC-2	,,	FLOATING POINT NUMBER	11388	44 11414 02490
10150		CF FAC-2				11400	33 02490 00000
10160		BB				11412	42 00000 00000
10170		DORG	**9			11414	
10180		SF FAC-2				11426	42 00000 00000
10190		BB				11428	
10200		DORG	**9			11428	
10210		BNF **26	,FAC	,,	FIXED POINT NUMBER	11428	44 11454 02492
10220		CF FAC				11440	33 02492 00000
10230		BB				11452	42 00000 00000
10240		DORG	**9			11454	
10250		SF FAC				11454	32 02492 00000
10260		BB				11466	42 00000 00000

10270	DORG	-9				11468			
10280	FLOAT1	RZ	ZERFAC	..	YES	11468	46	03422 01200	
10290	TC	99	.FAC	..	STORE SIGN	11480	25	00099 02492	
10300	CF	FAC		..		11492	33	02492 00000	
10310	TR	BETA-9	.FHM	.11		11504	31	02594 0328L	
10320	TF	FAC-2	.9SPF-1	..	CLEAR FAC	11516	26	02490 02853	
10330	TF	SAVE	.K	..	CHAR = K	11528	26	02565 02221	
10340	TFM	+23	.BETA-9	..		11540	16	11563 -2594	
10350	BD	+44	.DUMMY	..	FIND HI ORDER DIGIT	11552	43	11596 99999	
10360	SM	SAVE	.1	.10,	ADJUST CHAR	11564	12	02565 000-1	
10370	AM	-13	.1			11576	11	11563 -0001	
10380	B	-36				11588	49	11552 00000	
10390	DORG	-3				11596			
10400	TR	FNH	.-33	.611		11596	31	0331L 1156L	
10410	TF	+25	.FHM	..	FIND AND CLEAR RECORD MARK	11608	26	11643 03313	
10420	AM	+23	.1			11620	11	11643 -0001	
10430	BNR	-12	.DUMMY			11632	45	11620 99999	
10440	TDM	-1	.0	.6		11644	15	1164L 00000	
10450	TD	FAC+1	.RECHK	..	REPLACE RECORD MARK	11656	25	02493 02403	
10460	TF	BETA	.ZERO-74	..	CLEAR BETA	11668	26	02603 02693	
10470	B	NORM60				11680	49	11712 00000	
10480	DORG	-3				11688			
10490	NORM36	TR	FNH	.FHM	.611,	LEFT SHIFT ONCE	11688	31	0331L 03300
10500	TDM	FAC-1	.0	..	SET LAST DIGIT TO ZERO	11700	15	02491 00000	
10510	NORM60	SF	FNH	.6		11712	32	0331L 00000	
10520	BD	FINISH	.FHM	.611,	TEST LEADING ZERO	11724	43	0372L 0331L	
10530	SM	SAVE	.1	.10,	SUBT ONE FROM EXPONENT	11736	12	02565 000-1	
10540	B	NORM36				11748	49	11688 00000	
10550	DORG	-4				11755			
10560	FAD1	TFM	EI	.571	.9,	SET UP ERR EI CODE	11756	16	02615 00N71
10570	BNXV	ERXV+30	.6			11768	47	0379K 01500	
10580	B	ERXV				11780	49	03762 00000	
10590	DORG	-4				11787			
10600	FSBR1	CF	FAC-2			11788	11	11430 00000	
10610	FACD	FAC	.FSBR-1	.11,	SET UP ACD	11800	01	02492 0411L	
10620	B	FAD1	.6	..	BRANCH TO FLOATING POINT ADD	11812	49	11756 00000	
10630	DORG	-3				11820			
10640	SF	FAC-2				11820	32	02490 00000	
10650	B	FSUR1+12				11832	49	11800 00000	
10660	DORG	-4				11839			
10670	FMP1	TF	79	.ZEROM	.11,	CLEAR MULTIPLY AREA	11840	26	C0079 0344N
10680	FMUL	FAC	.FMP-1	.11		11852	03	02492 0413P	
10690	B	FAD1+12				11864	49	11768 00000	
10700	DORG	-4				11871			
10710	FD1	TF	79	.ZEROM	.11,	CLEAR MULTIPLY AREA	11872	26	C0079 0344N
10720	FDIV	FAC	.FD-1	.11		11884	09	02492 0416J	
10730	BNV	FAD1+12				11896	47	11768 01400	
10740	TDM	EI	.7			11908	15	02615 00007	
10750	OVFLO	TF	FAC-2	.9SCPF		11920	26	02490 02795	
10760	TFM	FAC	.99	.10		11932	16	02492 000R9	
10770	B	ERXV+24				11944	49	03786 00000	
10780	DORG	-4				11951			
10790	FCVR1	TFL	FAC	.FDVR-1	.11		11952	06	02492 0418N
10800	TFM	FD-1	.SAVE			11964	16	04161 -2565	
10810	B	FD				11976	49	04162 00000	
10820	DORG	-4				11983			

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10830	FIX11	AM	IMSA	.00	.10,	IS I = ZERO	11984	11	02575 000-0
10840	BNZ	+26	.6	..	NO, CONTINUE	11996	47	12022 01200	
10850	TF	FAC	.FX1	..	YES, J+1 = ONE	12008	26	02492 02825	
10860	BB					12020	42	C0000 00000	
10870	DORG	-9				12022			
10880	AM	FAC	.00	.10,	IS J = ZERO	12022	11	02492 000-0	
10890	BNZ	+44	.6	..	NO, CONTINUE	12034	47	12078 01200	
10900	BNF	-26	.IMSA	..	YES, THEN IS I POSITIVE	12046	44	12020 02575	
10910	TFM	EI	.771	.9,	NO, ER G1, 0 TO MINUS I POWER	12058	16	02615 00P71	
10920	B	FXNINE				12070	49	11336 00000	
10930	DORG	-3				12078			
10940	TDM	ODDREV+1	.1			12078	15	12195 00001	
10950	PSI	CF	MU-1	..	SET SIGN POSITIVE	12090	33	03631 00000	
10960	SF	IMSA-1				12102	32	02574 00000	
10970	MM	IMSA	.05	.10		12114	13	02575 000-5	
10980	CF	IMSA-1				12126	33	02574 00000	
10990	BD	+2C	.99			12138	43	12158 00099	
11000	B	+32	.6	..	I EVEN	12150	49	12182 00000	
11010	DORG	-3				12158			
11020	BNF	+36	.FAC	..	I ODD	12158	44	12194 02492	
11030	SF	MU-1	.6	..	J NEG, SET SIGN NEGATIVE	12170	32	03631 00000	
11040	CF	FAC				12182	33	02492 00000	
11050	OCOREV	NOP	AXJ			12194	41	12576 00000	
11060	C	FAC	.FX1	..		12206	24	02492 02825	
11070	BE	MU		..	J = + OR - ONE	12218	46	03632 01200	
11080	BNF	+56	.IMSA	..	IS I POSITIVE	12230	44	12286 02575	
11090	TFM	EI	.772	.9,	NO, ERR G2, J TO MINUS I POWER	12242	16	02615 00P72	
11100	TF	FAC	.FXZ	..	FAC = FXZ	12254	26	02492 02815	
11110	TFM	FXERR+30	.FIXEND-12,	..	SET UP ERROR EXIT	12266	16	03626 -3668	
11120	B	FXERR				12278	49	03596 00000	
11130	DORG	-3				12286			
11140	TF	BETA	.FAC	..	STORE J	12286	26	02603 02492	
11150	SM	IMSA	.01	.10,		12298	12	02575 000-1	
11160	BZ	MU				12310	46	03632 01200	
11170	M	FAC	.BETA			12322	23	02492 02603	
11180	SF	100MK	.6			12334	32	0329L 00000	
11190	TF	FAC	.99			12346	26	02492 00099	
11200	AM	99MK	.00	.610,	TEST OVFL	12358	11	03280 000-0	
11210	BZ	-72	.6			12370	46	12298 01200	
11220	TFM	EI	.773	.9,	ERR G3, OVFL IN FIX1	12382	16	02615 00P73	
11230	TDM	FXERR+25	.1	..	SET UP SIGN	12394	15	03621 00001	
11240	B	FXNINE				12406	49	11336 00000	
11250	DORG	-4				12413			
11260	FAX11	AM	IMSA	.00	.10,	IS I ZERO	12414	11	02575 000-0
11270	BNZ	+38	.6	..	NO, CONTINUE	12426	47	12464 01200	
11280	ONEFAC	TFM	FAC	.01	.10,	YES	12438	16	02492 000-1
11290	TF	FAC-2	.ONEZ	..	FAC = FLT PT ONE	12450	26	02490 03038	
11300	BB					12462	42	00000 00000	
11310	DORG	-9				12464			
11320	BD	+44	.FHM	.11,	IS A ZERO	12464	43	12508 0331L	
11330	BNF	-14	.IMSA	..	YES, IS I NEGATIVE	12476	44	12462 02575	
11340	TFM	EI	.774	.9,	YES, ER G4, ZERO TO MINUS I	12488	16	02615 00P74	
11350	B	OVFLO				12500	49	11920 00000	
11360	DORG	-3				12508			
11370	TF	SAVE	.FAC	..	STORE CHAR	12508	26	02565 02492	
11380	TD	FAC	.FAC-2	..	CONVERT A TO F+2 FORM	12520	25	02492 02490	

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11390	CF	FAC-2			12532	33	02490	00000
11400	TDM	FAC-1	,0		12544	15	02491	00000
11410	TDM	ODUREV+1	,9	,, SET UP RETURN	12556	15	12195	00009
11420	B	P51	,	,, SET UP SIGN AT MU-1	12568	49	12090	00000
11430	DORG	*-3			12576			
11440	AXJ	TF	FAC	,SAVE	12576	26	02492	02565
11450	FSL	FNF+2	,FAC-2	,6	12588	05	03488	02490
11460	TFM	E1	,775	,9, SET UP ERR G5 CODE	12600	16	02615	00P75
11470	BNF	NO DIV	,IMSA		12612	44	12728	02575
11480	CF	IMSA			12624	33	02575	00000
11490	RECIP	TF	79	,ZEROM	12636	26	00079	0344N
11500	TFL	SAVE	,FAC		12648	06	02565	02492
11510	TF	FAC-2	,ONEZ+2		12660	26	02490	03040
11520	TFM	FAC	,01	,10	12672	16	02492	000-1
11530	FDIV	FAC	,SAVE		12684	09	02492	02565
11540	BNXV	NODIV			12696	47	12728	01500
11550	TF	FAC-2	,FAC-4		12708	26	02490	02488
11560	B	ERXV			12720	49	03762	00000
11570	INURG	*-3			12728			
11580	NODIV	TFL	GAM	,FAC	12728	06	02555	02492
11590	SM	IMSA	,01	,10	12740	12	02575	000-1
11600	BZ	*+68			12752	46	12820	01200
11610	TF	79	,ZEROM	,11, CLEAR MULTIPLY AREA	12764	26	00079	0344N
11620	FMUL	FAC	,GAM		12776	03	02492	02555
11630	BNXV	NODIV+12			12788	47	12740	01500
11640	TF	FAC-2	,FAC-4		12800	26	02490	02488
11650	B	ERXV			12812	49	03762	00000
11660	DORG	*-3			12820			
11670	TF	FAC-2	,FAC-4		12820	26	02490	02488
11680	BNF	ENDD+36	,MU-1		12832	44	03724	03631
11690	B	ENDD+24			12844	49	03712	00000
11700	DORG	*-4			12851			
11710	FAXR1	AM	TAFE-2	,00	12852	11	02533	000-0
11720	HZ	ONEFAC	,	,10, IS B ZERO	12864	46	12438	01200
11730	BD	*+44	,FNM	,11, YES	12876	43	12920	0331L
11740	BNF	FINISH+1	,TAFE-2	,, NO, IS A ZERO	12888	44	03724	02533
11750	TFM	E1	,777	,9, NU, IS B NEGATIVE	12900	16	02615	00P77
11760	B	OVFLO		,, YES, ER G7, ZERO TC MINUS B	12912	49	11920	00000
11770	DORG	*-3			12920			
11780	TDM	QLWR+1	,9	,, SET UP NO ERR TYPE	12920	15	13077	00009
11790	BNF	*+36	,FAC-2	,, IS A NEGATIVE	12932	44	12968	02490
11800	TDM	QLWR+1	,1	,, YES, SFT UP ERR TYPE	12944	15	13077	00001
11810	CF	FAC-2			12956	33	02490	00000
11820	TDM	FINISH+2	,9		12968	15	03725	00009
11830	TFM	FINISH+7	,**20		12980	16	03730	J3000
11840	B	LNENT	,	,6, FIND LN OF A	12992	49	03360	00000
11850	DORG	*-3			13000			
11860	TDM	FINISH+2	,2		13000	15	03725	00002
11870	TFM	FMP-1	,TAFE	,, SET UP MULTIPLICATION	13012	16	04137	-2535
11880	TFM	ERXV+30	,**20		13024	16	03792	J3044
11890	B	FMP	,	,, MULTIPLY B TIMES LNA	13036	49	04138	00000
11900	DORG	*-3			13044			
11910	TFM	ERXV+30	,**20		13044	16	03792	J3064
11920	B	EXPENT	,	,6, FIND A**B = E**BLN(A)	13056	49	0337L	00000
11930	DORG	*-3			13064			
11940	TFM	ERXV+30	,FMFAC+12		13064	16	03792	-3464

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11950	DLWR	NOP	FINISH+1		13076	41	03724	00000
11960	TFM	E1	,676	,9, ERR F6, -A TO B	13088	16	02615	00076
11970	TDM	99	,0		13100	15	00099	00000
11980	B	ERROR			13112	49	03596	00000
11990	DORG	*-4			13119			
12000	UC	1	,9		13119		1	
12010	ENCFUR	CAC	1,0		13121		1 x	2
12020	INH	DS	,ENDFOR		13121		0	
12030	DS	292,			13413		292	
12040	IN	DS	294,INH+292		13413		294	
12050	DORG	15CC0			15000			
12060	34	83	,00701		15000	34	15044	00701
12070	38	83	,00702		15012	38	15044	00702
12080	36	83	,00703		15024	36	15044	00703
12090	B	**22			15036	49	15058	00000
12100	DORG	*-3			15044			
12110	B3	QSC	9,016840107		15044		9	
12120	DSA	START+3			15057		5 x	1
12130	TRA				15057		-3854	
12140	TCD	15CC0			15058	36	00000	00500
					15070	49	00000	00000
12150	DEND				15000			
					00000			

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ATYPE1	09082	ITYPE1	10066	EFRD1	09018	FX9	02805	MATSW	05655
CLRTOS	05158	LDGDI	08438	EFRD2	09050	FXA1	11194	MAX2	06145
COMADD	02231	LOCADJ	06574	EFWAT	07842	FXA	03878	MAX	06922
CUMEND	06996	MASKEP	05422	EI	02615	FXD1	11286	MFOV2	03822
COMPLT	07006	MATRIX	06518	ENCC	03688	FXDR1	11368	MF	03666
COMPSS	05750	MATRIX2	06602	ENTLN	02248	FXCR	03998	MU	03632
DATDUD	06165	MESERK	02607	ERCOP	05346	FXC	03974	N1	02233
DATERA	06157	MONCAL	00796	ERF7A	09350	FXEAR	03996	N2	02238
DATINH	06173	NORM36	11688	ERF7	10538	FXM	03283	MODIV	12728
DIODDA	03387	NORM60	11712	ERF8E	05226	FAM1	11260	ODD3	06178
DKBUFF	02404	ODOREV	12194	ERF8I	10970	FXM	03950	ODD4	06306
DKDATA	03379	ONEFAC	12438	ERF9	07310	FXSR1	11208	ODD6	06340
EEXF22	08258	OVFLOW	03572	ERRR	02602	FXSA	03928	OLWR	13076
EEXPAD	08418	PRCNTR	06916	ERROR	03596	FAS	03902	OMEZ	03038
EFALPH	09582	PRDGT	02226	ERXV	03762	FX2	02815	OUT	10913
EFCMKS	09774	RADDIT	05862	ETYPE	04580	FZERO	04974	OVFLD	11920
EFCND2	08694	READEP	04492	EXP	08159	GAM	02959	P44C1	06281
EFPPLUS	08018	READIF	10526	F2	03818	GMZF	03655	P44C2	06296
EFTERM	08598	REPSW3	05657	FAC	02492	HMC	03338	P44C	06210
EFTYPE	08030	RNEFSW	06061	FAD1	11756	HO	1C749	P44E	06314
ENDFOR	13121	100MK	03293	FAD	04090	HRC	08870	PAR	03378
ENTABS	02323	102MF	03343	FAXB1	12852	HTYPE	04602	PD T	03333
ENTATN	02313	2PM1	03581	FAXB	04258	HWRT	08938	PIOV2	03163
ENTCOS	02303	96MF	03318	FAXI1	12414	ICOM2	10570	PIOV4	03191
ENTDEC	02298	97M2F	03363	FAXI	04234	ICOM3	05910	PI	03133
ENTDRR	02293	97MF	03323	FCMNB	07786	ICOM5	05902	PRA1	05578
ENTEXP	02253	98MF	03328	FD1	11872	ICOM6	05494	PRA	04354
ENTFTF	02283	99MK	03288	FD	04162	IDIG	1C726	PRKEY	06927
ENTFID	02273	95CPF	02795	FCVRI	11952	IMSA	02975	PS1	12090
ENTREC	02278	95PF	02854	FCVR	04186	IMH	13121	RACD1	06010
ENTSC1	02258	ATYPE	04536	FH	03308	IN	13413	RACD	04426
ENTSC2	02263	AXJ	12576	FIX1	11002	IOCAL	0C716	RAPT1	05990
ENTSC3	02268	B3	15044	FIXI1	11984	IOCR	06972	RAPT	04402
ENTSTN	02308	BETA	02603	FIXI	04210	IOCT	0C866	RATY1	05970
ENTSTOT	02318	BSWF	05934	FIX	03854	IOPT	0C532	RATY	04378
ENTSMU	02288	CHAR2	07016	FKODC	03579	IORBC	05520	RCTY	05814
ERCON2	07386	CHAR	08689	FLOAT	04042	IORT	0C565	RDAFL	09370
ERRF7E	08746	CHKW	06981	FLZER	03760	IOSK	0C554	RDALP	06022
ERRF7I	10446	DID	0C816	FLZ	03353	IRCIG	1C370	RDA	09304
EKPENT	03373	DPG	06084	FLMIF	03313	IREAD	1C198	RDFCM	07686
FINDIN	03563	DPTH2	08549	FM1	03783	ITYPE	04448	READA	09210
FINDISH	03723	DPT	07445	FMFAC	03452	K2	03820	READJ	10478
FIXEND	03680	DUDH	02607	FMON	07954	K	02221	RECIP	12634
FLOATI	11468	DUD	02687	FMP1	11840	LAST	05820	RECLG	02243
FLTEND	03730	DUMMY	99999	FMP	04138	LN10	02980	RECMK	02403
FLZALP	03348	EEXF2	08210	FNMN1	03558	LN2	02887	REDDA	07070
FLZERS	06511	EEXPM	08334	FNM2	03489	LN4	02918	REDO	07026
FNCNEZ	04930	EEXP	08350	FNN	03313	LNB	02949	REP2	07198
FXMINE	11336	EFALP	09666	FPMK	03283	LNENT	03368	REP3	07230
GMIM2F	03543	EFCOM	07446	FP2	03664	LOC02	05678	REP	07126
HTYPE1	08778	EFDEC	08470	F	02219	LOCD	05680	REPSW	05654
IMINUS	10426	EFDIG	08538	FSBR1	11788	LOC	06089	RSGM1	11388
IMSAFF	03298	EFEND	08622	FSBR	04114	LOGE	03010	RSGM	04020
INPLUS	06053	EFMIN	08006	FSB	04066	MASKF	05433	RW2A	05778
IRBLNK	10406	EFMW1	09558	FTYPE	04558	MASKI	05472	RWA2	05742
ISPFM1	03303	EFMW	04514	FXI	02825	MASK	05421	RWA	05634

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SAVE	02565	TOFAC	03608	WAFX	09538	WRTF	04726	WIDTH2	06064
SIX	03219	TRAC1	03544	WAPT1	05558	WRTI2	10634	WRITE1	06940
SLASH	06676	TRAC2	03520	WAPT	04306	WRTI3	10842	WRITEA	09426
START	03851	TRACE	03496	WA	07241	WRTI	10670	WRITEI	04470
STOP	02395	TRRET	06364	WATY1	05538	W	02240	WRIT11	10578
SWC	06090	TWOPI	03103	WATY	04282	XTYPE	07354	WRITALP	05622
SWF	05969	TWOZ	03073	WIDTH	05799	ZEROM	03445	WRTFPC	05050
SWL	06042	UNFLO	03466	WRITE	06816	ZERD	02760	WRTFPE	05018
TAFE	02535	WAZ	07392	WRTA2	09518	SLASH2	06708	WRTSGN	1C806
TAN6	03248	WAZ	04591	WRTA	09474	STZERD	06423	ZERFAC	03422
TEN34	03278	WACD1	05610	WRT2	04622	SWCADJ	06152		
TERM	07093	WACD	04330	WRTE	09950	WEFDEC	05194		

END OF UNE ASSEMBLY.

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00C10	DORG	2426		C2426	
00C20	NAMBLF	CC 16,C		02441	16
		-CCCCCCCCCCCC			
00C30	CC	2, *		C2443	2
		-*			
00C40	CVRLAP	CS 1		C2444	1
00C50	FLGRMK	CS 1		C2445	1
00C60	ADDCN	CS 5		C2450	5
00C70	EQADDR	CS 5		C2455	5
00C80	SCADCR	CS 5		C2460	5
00C90	ICINC	DS 1		C2461	1
00100	MLIND	DS 1		C2462	1
00110	EXTIAC	DS 1		C2463	1
00120	SECT	DS 3		C2466	3
00130	ZROTSI	DS 1		C2467	1
00140	ADDSVE	DS 5		C2472	5
00150	CC	1, *		C2473	1
		*			
00160	LCDDA	DDA +1,C,0,SLBTBL		02474	14
		1-CCCO-CC-2522			
00170	CC	1, *		C2488	1
		*			
00180	SVEDDA	DDA +1,C,21,C		C2450	14
		1-CCCO-21-CCCC			
00190	CC	1, *		C2504	1
		*			
00200	INCCDA	DDA +1,C,10,SLATBL		C2506	14
		1-CCCO-1C-2522			
00210	CC	1, *		C2520	1
		*			
00220	DS	1		C2521	1
00230	SLBTBL	CSS 10CC		C2522	10CC
00240	CC	12, *		C3533	12
		-CCCCCCCCC*			
00250	DORG	726C		C726C	
00260	CCAR	CSS 20		C726C	20
00270	CCMSEC	CSS 1CC,, SYSTEM COMMUNICATION SECTOR		C730C	1CC
00280	INRK	CSS 1CC,, READ IN AREA FOR INDICATOR RECORD		C740C	1CC
00290	BIGPRT	DS ,CCMSEC+65		C7365	C
00300	SBPTBL	DS ,INRK		C740C	C
00310	*				
00320	*				
00330	*				
00340	*				
00350	*				
00360	ICRT	DS ,565		CC565	C
00370	ICGT	DS ,566		CC566	C
00380	ICPT	DS ,532		CC532	C
00390	MCNCL	CS ,756		CC796	C
00400	TFM	IORT,++23,, GET BLOCK 2		C750C	16 CC565 -7523
00410	B	ICGT,FCR,7		C7512	49 CC566 JC288
00420	MLINIT	TFM TDIS+6,MTBL+11,, INITIALIZE MAINLINE TABLE		C7524	16 C7542 JC653
00430	TCIS	TDM		C7536	15 CCCCC CCCC
00440	CC	1, *, *		C7547	1
		*			
00450	AM	TDIS+6,2C,1C	1073	C7548	11 C7542 CCCC

00460	MSIZE	CM TDIS+6,MTBL+20+51+11		C7560	14 C7542 J1713
00470	BL	TDIS		C7572	47 C7536 C130C
00480	K	,571		C7584	34 CCCCC CC571
00490	TD	SUBSET+11,CCMSEC+82,, INITIALIZE ADDRESS COUNTER		C7596	25 C7687 C7382
00500	CM	SUBSET+11,4,10		C7608	14 C7687 CCC-4
00510	BNP	BLAPCT+12		C7620	47 C7656 C11CC
00520	BTM	EPRINT,78,8		C7632	17 IC216 C-C78
00530	BLAPGT	TD SUBSET+11,CCMSEC+83		C7644	25 C7687 C7383
00540	BD	SUBSET,SLBSET+11		C7656	43 C7676 C7687
00550	BT	BLAPCT		C7668	45 C7644
00560	SLRSET	AM ++35,,1C		C7676	11 C7711 CCC-C
00570	TDM	ICINC		C7688	15 C2461 CCCCC
00580	BD	TWC,CNETWC		C7700	43 C7744 C3C34
00590	CNE	TFM ADDCN,8C99		C7712	16 C245C -8C99
00600	TDM	ICINC,1		C7724	15 C2461 CCCC1
00610	B	++2C		C7736	49 C7756 CCCCC
00620	CORG	=-3		C7744	
00630	TWC	TFM ADDCN,14599		C7744	16 C245C J4599
00640	BD	++24,BIGPRT,, BIG PRINTER		C7756	43 C778C C7365
00650	SM	ADDCN,30C,9, ADJUST FOR SMALL PRINTER		C7768	12 C245C CCLCC
00660	LDPRC	TF ADDSVE,ADDCN		C7780	26 C2472 C245C
00670	AM	ADDSVE,1,1C		C7792	11 C2472 CCC-1
00680	TF	FLCD+19,ADDCN		C7804	26 C2843 C245C
00690	START	TF CCCN,CCMSEC+75,, GET CONTROL CARD COUNT		C7816	26 C6504 C7375
00700	GETDIP	TFM IORT,++23,, GET FIRST SECTOR OF DIP		C7828	16 CC565 -7851
00710	B	ICGT,MAP,7		C7840	49 CC566 J2761
00720	TFM	FLCD+18,C		C7852	16 C2842 -CCCC
00730	A	FLCD+16,CCIN+27		C7864	21 C284C C546
00740	A	FLCD+16,CCIN+27		C7876	21 C284C C546
00750	TF	FLCD+36,ADDCN		C7888	26 C284C C245C
00760	SM	FLCD+18,21,1C		C7900	12 C2842 CCCC1
00770	TF	FLSCDA+5,FLCD+18		C7912	26 C2937 C2842
00780	SM	FLSDDA+5,1,1C		C7924	12 C2937 CCC-1
00790	TF	SUBDDA+5,FLSCDA+5		C7936	26 C2951 C2937
00800	TF	FLCD+7,FLSDDA+5		C7948	26 C2831 C2937
00810	TF	FLCD+23,CCIN+44		C7960	26 C2847 C563
00820	TF	FLCD+26,CCIN+47		C7972	26 C285C C566
00830	TF	SVEDDA+5,FLCD+18		C7984	26 C2455 C2842
00840	TFM	SCADCR,C		C7996	16 C246C -CCCC
00850	TF	SECT,FLCD+26		C8008	26 C2466 C285C
00860	TF	EQADDR,FLCD+23		C8020	26 C2455 C2847
00870	TD	FLCD+99,ICIND		C8032	25 C2923 C2461
00880	TFM	EPRINT+45,39,1C		C8044	16 C2845 CCCC9
00890	CM	CCCN,,1C, ANY CONTROL CARDS PRESENT		C8056	14 C6504 CCC-C
00900	BE	XEQDN,, BRANCH IF ACNE TC REAC INDICATOR RECORD		C8068	46 C964C C12CC
00910	SBINIT	TFM SDIS+6,STBL+11,, INITIALIZE SUBPRCGRAP TABLE		C8080	16 C8098 J1713
00920	SCIS	TDM		C8092	15 CCCCC CCCCC
00930	CC	1, *, *		C8103	1
		*			
00940	AM	SDIS+6,5,1C		C8104	11 C8098 CCC-9
00950	TFM	SDIS+6,,47		C8116	16 C809C -C00C
00960	AM	SDIS+6,15,1C		C8128	11 C8098 CCCC9
00970	SSIZE	CM SDIS+6,STBL+20+51+11		C8140	14 C8098 J2733
00980	BL	SDIS		C8152	47 C809C C130C
00990	TFM	SUBCCN		C8164	16 C2991 -C00C
01000	TR	CCIN-1,INTCC,, INITIALIZE CONTROL READ IN AREA	1074	C8176	31 C0910 C0294

01C10	RCAGN	TFP	TFCC+11,INDV-1	00100	16	C0235	JC5C9
01C20	TD	API+11,429,,	GET INPLY DEVICE	00200	25	C0223	CC429
01C30	API	AM	TFCC+11,,1C	00212	11	C0235	CCC-C
01C40	TFCC	TF	NEXC+2	00224	26	12728	CCCC
01C50	TFP	IORT,,+23,,	GET CCNTRL RECCPC	00236	16	CC565	-8255
01C60	B	IOGT,NEXC-4,7		00240	49	CC566	J2722
01C70	CM	NEXC+2,,1C, IS IT A TYPED ENTRY		00260	14	12728	CCC-6
01C80	BNE	+24		00272	47	00256	C12CC
01C90	BC4	RDAGN-12		00284	46	00176	CC4CC
01100	TFP	+23,CCIN+16C		00296	16	00316	JG675
01110	SETRM	BMR	SETRM1	00300	45	00364	CCCC
01120	SM	+1,2,1C		00320	12	00316	CCC-2
01130	CM	SETRM+11,CCIN		00332	14	00315	JC519
01140	BE	RDLOC+12		00344	46	00448	C12CC
01150	B	SETRM		00356	45	00308	CCCC
01160	DORG	+3		00364			
01170	SETRM1	CM	SETRM+11,,61C	00364	14	00318	CC0-C
01180	BE	SETRM+12		00376	46	00320	C12CC
01190	AM	SETRM+11,2,1C		00388	11	00315	CCC-2
01200	TDP	SETRM+11,,6		00400	15	00318	CCCC
01210	DC	1,,0		00411		1	
01220	WA	CCIN,90C		00412	35	10515	CC9CC
01230	TDM	SETRM+11,,6		00424	15	00318	CCCC
01240	RCLOC	BMR	+32,CCIN	00436	45	00468	1C519
01250	BTM	EPRINT,71,8		00448	17	1C216	C-C71
01260	B	MONCAL		00460	49	CC796	CCCC
01270	DORG	+3		00468			
01280	CM	CCIN,14,10, IS IT A CONTRCL CARE		00468	14	10515	CC0J4
01290	BNE	RDLOC+12		00480	47	00448	C12CC
01300	RPCMK	TFP	+23,CCIN+2,, CHECK FOR RECCRC MARK IN LCCAL NAME	00452	16	00515	JC521
01310	BMR	+2C		00504	45	00524	CCCC
01320	B	RDLOC+12		00516	49	00448	CCCC
01330	DORG	+3		00524			
01340	AM	RPCMK+23,2,1C		00524	11	00515	CCC-2
01350	CM	RPCMK+23,CCIN+12		00536	14	00515	JC531
01360	BNE	RPCMK+12		00548	47	00504	C12CC
01370	C	CCIN+1C,LCCAL+8,, IS IT A LCCAL RECCRC		00560	24	1C525	1C465
01380	BE	COLNAP,,, BRANCH IF LCCAL		00572	46	00592	C12CC
01390	B	RDLOC+12		00584	49	00448	CCCC
01400	DORG	+3		00592			
01410	*****	COLLECT AND STORE MAINLINE AND SUBPROGRAM NAMES					
01420	COLNAP	BD	+24,CCAT,, CCNTALE CARE TEST --BRANCH IF CA--	00592	43	00616	1C286
01430	TDM	MLIND,1,, TLRN CN MAINLINE INDICATOR		00604	15	22462	CCCC
01440	TFP	CONT,CCIC0		00616	16	1C286	-C1CC
01450	TR	NAMBLF-13,INTCCL-10,, INITIALIZE COLLECT AREA		00628	31	22428	1C442
01460	RCMKCK	BMR	BLNKCK,CCIN+12,, TEST FOR RECCRC MARK IN NAME	00640	45	00672	1C531
01470	BTM	EPRINT,72,8		00652	17	1C216	C-C72
01480	B	MONCAL		00664	49	CC796	CC0CC
01490	DORG	+3		00672			
01500	BLNKCK	CM	CCIN+12,,1C, TEST FOR BLANK	00672	14	1C531	CCC-C
01510	BE	END		00684	46	00544	C12CC
01520	CM	CCIN+12,23,1C, TEST FOR CCMPA		00696	14	1C531	CC0C3
01530	BNE	SPCHAM		00708	47	00740	C12CC
01540	TDM	COPIAD,1,, TLRN CN CCMPA INDICATOR		00720	15	1C285	CCCC
01550	B	ENTER		00732	49	00668	CCCC

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01560	DORG	+3		00740			
01570	SPCHAR	CM	CCIN+12,4C,1C, TEST FOR SPECIAL CHARACTER	00740	14	1C531	CC0PC
01580	BL	RCMKCK+12		00752	47	00652	C13CC
01590	TFP	NAMBLF,CCIN+12,, PCVE CHARACTER INTO COLLECT AREA		00764	26	22441	1C531
01600	CM	NAMBLF,69,1C, TEST FOR ALPHA CHARACTER		00776	14	22441	CCCC
01610	BH	+24		00788	46	00812	C11CC
01620	TDM	ALFIND,C,, TLRN CN ALPHA INDICATOR		00800	15	1C284	CC0CC
01630	CF	NAMBLF-1		00812	33	22440	CC0CC
01640	TR	NAMBLF-15,NAMBLF-13,, SHIFT COLLECT AREA		00824	31	22426	C2428
01650	TR	CCIN+1C,CCIN+12,, SHIFT INPLY AREA		00836	31	1C525	1C531
01660	B	RCMKCK		00848	49	00640	CC0CC
01670	DORG	+3		00856			
01680	TR	NAMBLF-15,NAMBLF-13,, SHIFT COLLECT AREA		00856	31	22426	C2428
01690	ENTER	CM	NAMBLF-2,,1C	00868	14	22435	CC0-C
01700	BNE	LABFL		00880	47	00936	C12CC
01710	BD	+2C,PLIND		00892	43	00912	C2462
01720	B	RCMKCK+12		00904	49	00652	CCCC
01730	DORG	+3		00912			
01740	*****	INSERT 8 IF BLANK MAINLINE NAME					
01750	TFP	NAMBLF-2,13,10		00912	16	22435	CCCJ3
01760	TDM	ALFIND		00924	15	1C284	CCCC
01770	LARFUL	TDM	NAMBLF,,, SET TRAILING BLANK	00936	15	22441	CCCC
01780	CF	NAMBLF-1		00948	33	22440	CC0CC
01790	CM	NAMBLF-12,,1C, TEST FOR LEADING BLANKS		00960	14	22425	CCC-C
01800	BE	ENTER-12		00972	46	00856	C12CC
01810	CM	NAMBLF-14,,1C, TEST FOR MAX LENGTH OF SIX CHARACTERS		00984	14	22427	CCC-C
01820	BNE	RCMKCK+12		00996	47	00652	C12CC
01830	BD	RCMKCK+12,ALFIND,, TEST FOR ALL NUMERIC ENTRY		01008	43	00652	1C284
01840	SF	NAMBLF-13		01020	32	22428	CCCC
01850	BD	MLSCH+PLIND,, TEST FOR TYPE OF ENTRY		01032	43	01076	C2462
01860	SUPSCH	TFP	SEARCH+11,STBL+11,, INITIALIZE FOR SUBPROGRAM TABLE SEARCH	01044	16	01111	J1713
01870	TFP	TBLSE+11,STBL+5C+20+11		01056	16	01187	J2713
01880	B	SEARCH		01068	49	01100	CCCC
01890	DORG	+3		01076			
01900	MLSCH	TFP	SEARCH+11,PTBL+11	01076	16	01111	JG693
01910	TFP	TBLSE+11,PTBL+9C+20+11		01088	16	01187	J1693
01920	SEARCH	BMR	+2C,, TEST FOR AVAILABLE ENTRY	01100	45	01120	CCCC
01930	B	LOAD		01112	49	01220	CC0CC
01940	DORG	+3		01120			
01950	C	SEARCH+11,NAMBLF-2,6, TEST FOR MULTIPLE ENTRY		01120	24	01111	C2439
01960	BNE	+32		01132	47	01144	C12CC
01970	BTM	EPRINT,73,8		01144	17	1C216	C-073
01980	B	MONCAL		01156	49	CC796	CCCC
01990	DORG	+3		01164			
02000	AM	SEARCH+11,2C,10		01164	11	01111	CC0CC
02010	TBLSE	CM	SEARCH+11,, TEST FOR FULL TABLE	01176	14	01111	-CC0C
02020	BNE	SEARCH		01188	47	01100	C12CC
02030	BTM	EPRINT,74,8		01200	17	10216	C-074
02040	B	MONCAL		01212	49	00796	CCCC
02050	DORG	+3		01220			
02060	LOAD	TFP	SEARCH+11,NAMBLF-2,6	01220	26	01111	C2439
02070	BD	MAIN,PLIND		01232	43	01080	C2462
02080	AM	SUBCCB,2C,1C		01244	11	12991	CC0CC
02090	AM	SEARCH+11,8,10		01256	11	01111	CC0-8
02100	TDM	SEARCH+11,1,6, LCAD DIGIT TO INDICATE FLIPPED SUBPROGRAM		01268	15	01111	CC0C1
02110	LOAD1	BD	RNOED-60,BLRIND	01280	43	01060	10283

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02120	BD	++36,CCIN+13	09292	43	C9328	10532
02130	BD	++24,CCIN+14	C9304	43	C9328	10533
02140	B	++24	C9316	49	C9340	CC000
02150	TDM	CCPIND	C9328	15	10285	CC000
02160	TR	CCIN+10,CCIN+12	09340	31	10529	10531
02170	B	RCMCK-12	09352	49	C8E28	CC000
02180	DORG	=-3	C9360			
02190	SM	CCNT,1,10, DECREMENT CARD CCUNT BY ONE	09360	12	10504	CCC-1
02200	CM	SUBCCW,1000	C9372	14	12591	-1000
02210	BE	RNDEC	09384	46	C9420	C1200
02220	AM	SUBCCW-1,2,10	C9396	11	12950	CCC-2
02230	BD	RDUNC,SUBCCW-1	C9408	43	C9848	12950
02240	RNDEC	S SURCDA+5,SUBCCW-2	09420	22	12751	12985
02250	TF	SUBDDA+8,SUBCCW-2	C9432	26	12754	12985
02260	TFM	IORT,++23,, LCAD SLBPCGRAM TABLE IN SCRATCH AREA	05444	16	CC565	-5467
02270	B	IOPT,SUB,7	C9456	49	CC532	J2730
02280	TF	MLCCH,SUBDDA+8,6	C9468	26	12590	12754
02290	AM	MLCCH,5,10	C9480	11	12596	CCC-5
02300	TF	MLCCH,SUBCDA+5,6	C9492	26	12590	12751
02310	CM	CCNT,,10	C9504	14	10504	COO-C
02320	BNE	SBINIT	C9516	47	C8C80	C1200
02330	AM	MAINCT,20,10	09528	11	10502	CC000
02340	BD	RDUNCI,MAINCT-1	09540	43	C9868	10501
02350	RNDEC1	S SUBCDA+5,MAINCT-2	C9552	22	12751	10500
02360	TF	SUBDDA+8,MAINCT-2	09564	26	12754	10500
02370	TFM	SUBDDA+13,PTBL	09576	16	12755	J0602
02380	TFM	IORT,++23,, LCAD MAINLINE TABLE	C9588	16	CC565	-5611
02390	B	IOPT,SUB,7	C9600	49	CC532	J2730
02400	TF	FLDD+2,MAINCT-2	09612	26	12826	10500
02410	TF	FLDD+7,SUBDDA+5,, STCRE DISK LCAD ADDRESS CF MAINLINE TABLE	09624	26	12831	12751
02420	TF	LDDA+5,FLCC+7	09636	26	C2475	12831
02430	TF	LDDA+8,FLCC+2	C9648	26	C2482	12826
02440	KEQON	TF COMSEC+71,FLSDDA+5	09660	26	C7371	12937
02450	TF	FLDD+31,FLCC+7	C9672	26	12855	12831
02460	SM	FLDD+31,10,10	C9684	12	12855	CC000
02470	TF	INCCDA+5,FLCC+31	09696	26	C2511	12855
02480	TFM	++18,SLBTBL+11	09708	16	C9726	-2533
02490	TDM		C9720	15	CC000	CC000
02500	CC	1,,*	C9731			1
02510	AM	=-6,20,10	09732	11	C9726	CC000
02520	CM	=-18,SLBTBL+1031	09744	14	C9726	-3553
02530	BNE	=-36	C9756	47	C9720	C1200
02540	TFM	IORT,++23,, STCRE IN-CCRE TABLE	09768	16	CC565	-5751
02550	B	IOPT,INC,7	09780	49	CC532	J2971
02560	TFM	IORT,++23,, STCRE COMMUNICATION SECTOR	09792	16	CC565	-5815
02570	B	IOPT,COM,7	C9804	49	CC532	J2947
02580	TFM	IORT,++23	09816	16	CC565	-5839
02590	B	IOPT,FLS,7	09828	49	CC532	J2924
02600	B	KEQON1	09840	49	10024	CC000
02610	DORG	=-3	C9848			
02620	RCUNC	AM SUBCCW-2,1,10	C9860	11	12986	COO-1
02630	B	RNDEC	09860	49	C9420	CC000
02640	DORG	=-3	C9868			
02650	RCUNC1	AM MAINCT-2,1,10, RCUNC TC NEXT HIGHER SECTOR	C9868	11	10500	COO-1
02660	B	RNDEC1	09880	49	C9552	CC000

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02670	DORG	=-3	C9888			
02680	MAIN	TDM MLINC,, TLRA CFF MAINLINE INDICATOR	09888	15	C2462	CC000
02690	AM	MAINCT,20,10	09900	11	10502	CC000
02700	TF	MLCCH,SEARCH+11	C9912	26	12596	C5111
02710	AM	MLCCH,3,10	C9924	11	12596	CCC-3
02720	B	LCAD1	09936	49	C9280	CC000
02730	DORG	=-3	C9944			
02740	ENC	BD ++32,CCPIND	09944	43	C9576	10285
02750	TDM	BLKIND,1,, TLRA CN BLANK INDICATOR	C9956	15	10283	CC001
02760	B	ENTER	09968	49	C8868	CC000
02770	DORG	=-3	C9976			
02780	TDM	CONT,1	C9976	15	10286	CC001
02790	SM	CCNT,1,10	09988	12	10504	CCC-1
02800	BE	RDLOC+12	10000	46	C8446	C1200
02810	B	TFCC	10012	49	C8224	CC000
02820	KEQON1	TDM DDAR+14	10024	15	C7254	CC000
02830	CC	1,,*	10035			1
02840	TDM	EXTIND	10036	15	C2463	CC000
02850	TF	SVEDDA+13,FLDD+10	10048	26	C2503	12842
02860	TR	NAPBLF-11,LDPN-1	10060	31	C2430	13020
02870	CM	COMSEC+25,,10	10072	14	C7325	COO-C
02880	BNE	++56	10084	47	10140	C1200
02890	TFM	COMSEC+25,13,10	10096	16	C7329	CC000
02900	CF	COMSEC+35	10108	33	C7335	CC000
02910	BD	KEQON2,428	10120	43	10172	C0428
02920	B	3540,,6	10132	49	C354-	CC000
02930	DORG	=-3	10140			
02940	TF	NAPBLF,COMSEC+35	10140	26	C2441	C7335
02950	BD	KEQON2,428	10152	43	10172	CC428
02960	B	3540,,6	10164	49	C354-	CC000
02970	DORG	=-3	10172			
02980	KEQON2	TDM EXTIND,1	10172	15	C2463	CC001
02990	CM	COMSEC+75,,10	10184	14	C7375	COO-C
03000	BE	3540,,6	10196	46	C354-	C1200
03010	B	3545,,6	10208	49	C354A	CC000
03020	DORG	=-3	10216			
03030	*****	ERROR MESSAGE SUBROUTINE				
03040	EPRINT	TF ERMESS+18,EPRINT-1	10216	26	13017	10215
03050	RCTY		10228	34	CC000	CC100
03060	WATY	ERMESS	10240	39	12955	CC100
03070	RCTY		10252	34	CC000	CC100
03080	MDP	JOBOLT,100	10264	41	10471	CC100
03090	BB		10276	42	CC000	CC000
03100	CCNT	DS ,=-1, CONTINUE INDICATOR	10288			C
03110	CCPIND	DS ,=-2, COPPA INDICATOR	10288			C
03120	ALPIND	DS ,=-3, ALPHA INDICATOR	10288			C
03130	BLKIND	DS ,=-4, BLANK INDICATOR	10288			C
03140	PCR	DSC 2,22	10288			2
03150	DSC	1,C	10290			1
03160	DC	5,147*	10295			5
03170	INTCC	CO ,=-02	10296	-C	-0000	CC000
03180	CO	,-C246810	10308	-0	-0-C-	COO-C

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0319C	CO	.,C24681C	1032C	-C	-C-C-	C-C-C
0320C	CO	.,C24681C	1033C	-C	-C-C-	C-C-C
0321C	CO	.,C24681C	1034C	-C	-C-C-	C-C-C
0322C	CO	.,C24681C	1035C	-C	-C-C-	C-C-C
0323C	CO	.,C24681C	1036C	-C	-C-C-	C-C-C
0324C	CO	.,C24681C	1038C	-C	-C-C-	C-C-C
0325C	CO	.,C24681C	1039C	-C	-C-C-	C-C-C
0326C	CO	.,C24681C	1040C	-C	-C-C-	C-C-C
0327C	CO	.,C24681C	1041C	-C	-C-C-	C-C-C
0328C	CO	.,C24681C	1042C	-C	-C-C-	C-C-C
0329C	CO	.,C24681C	1044C	-C	-C-C-	C-C-C
033CC	INTCC1	CO	.,C24681C	1045C	-C	-C-C-
0331C	DORG	0-4	10459			
0332C	CC	1,1	10459			1
0333C	LOCAL	CAC	5,LCCAL	10461		5 X 2
0334C	JCBOLT	CAC	14,JCB ABANDCCNEC*	10471		14 X 2
0335C	PAINCT	CC	5,0	105C2		5
0336C	CCNT	CS	2,, CONTRL CARC CCLNT	105C4		2
0337C	INDV	DC	2,6,, TYPE IN LCCAL INFCRPATICA	105C6		2
0338C		CC	2,8,, READ LCCAL INFCRPATICA FRCP PAPER TAPE	105C8		2
0339C		DC	2,1C,,READ LCCAL INFCRPATICA FRCP CARCS	10510		2
0340C		JO	1,1	10511		1
0341C	CKSTL	CS	5	10516		5
0342C	CCIN	DAS	82,, REAC IA AREA FCR LCCAL CARDS	10519		82 X 2
0343C	PTPL	DSS	102C,,PAINLINE NAME TABLE	10682		102C
0344C	STPL	DSS	102C,,SUBPRCGRAP NAME TABLE	117C2		102C
0345C	NEXC	DSA	CCIN	12726		5 X 1
0346C		CC	3,1C*	12726	JC515	
0347C	TYPE	JO*	1,1	12729		3
0348C		DSA	CCIN	12734		5 X 1
0349C		CC	3,C6*	12734	JC515	
0350C		-6*	1,1	12737		3
0351C	SLB	DSC	2,C2	12738		2
0352C		C2	1,1	12744		5 X 1
0353C	CSA	SUBCDA	1,1	12744		5 X 1
0354C		CC	1,1	12744	J2746	
0355C			1,1	12745		1
0356C	SLBODA	DDA	1,C,C,STBL	12746		14
0357C		1-CC00-CCJ17C2	1,1	12746		14
0358C		CC	1,1	1276C		1
0359C	MAP	DSC	2,22	12761		2
0360C		22	1,1	12761		2

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0355C	DSA	MAPDDA	12767			5 X 1
0356C	CC	1,1	12767	J277C		1
0357C	MAPDDA	DDA	1,48CC,1,CCIN-1	1277C		14
0358C		1-48C0-CLJCS18	1,1	12784		1
0359C	LCMAIA	CAC	19,LCAD PAINLINE PRCG*	12787		15 X 2
0360C		LOAD	MAINLINE PRCG*			
0361C	*****		FORTRAN LCACER INFCRPATICA SECTOR			
0362C			C-2 CCNTAINS SECTOR CCLNT CF PAINLINE TABLE			
0363C			3-7 CCNTAINS DISK ADDRESS CF PAINLINE TABLE			
0364C			5-13 CCNTAINS DISK ADDRESS CF SCRATCH AREA			
0365C			14-18 CCNTAINS DISK ADDRESS CF CCMPEN RESERVE AREA			
0366C			19-23 CCNTAINS DISK ADDRESS CF ECLIVALENCE TABLE			
0367C			24-26 CCNTAINS SECTOR CCNTY CF ECLIVALENCE TAELE			
0368C			27-31 CCNTAINS ADDRESS CF IN-CCRE SUBPRCGRAP TABLE			
0369C			32-36 CCNTAINS INITIAL LCACING ADDRESS			
0370C			59 CCNTAINS A FLAGGED RECCRC MARK			
0371C	FLCD	CSS	10C	12824		10C
0372C	FLS	CSC	2,C2	12924		2
0373C		C2	1,1	1293C		5 X 1
0374C	FLSODA	DDA	1,C,1,FLCD	1293C	J2932	
0375C		1-CC00-CLJ2824	1,1	12931		1
0376C	CCP	CSC	2,22	12932		14
0377C		22	1,1	12946		1
0378C		DSA	COMDDA	12947		2
0379C		CC	1,1	12953		5 X 1
0380C			1,1	12953	J2956	
0381C	CCPDDA	DDA	1,19663,1,CCPSEC	12954		1
0382C		1,19663-C1-73CC	1,1	12956		14
0383C		DC	1,1	1297C		1
0384C	INC	DSC	2,C2	12971		2
0385C		C2	1,1	12977		5 X 1
0386C		DSA	INCCDA	12977		5 X 1
0387C		CC	1,1	12977	-29C6	
0388C			1,1	12978		1
0389C	SVE	DSC	2,22,, LINKAGE TO SVE CCMPEN AREA	12979		2
0390C		22	1,1	12985		5 X 1
0391C		ESA	SVEDDA	12985		5 X 1
0392C			1,1	12985	-249C	

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03860	CC	1,1		12986	1		
03870	SLBCCW	CC	5,C	12991	5		
		-OCCC					
03880	MLCOW	DC	5,C	12996	5		
		-OCCC					
03890	ERMESS	DAC	11, ERROR L	12999	11	X	2
		ERROR L					
03900	LEPN	DAC	7,MAIN	13021	7	X	2
		MAIN					
03910	CNETWC	DSC	5,CC1C1	13034	5		
		CO1C1					
03920	END1	SK	IT	13040	34	13088	CG7C1
03930		WDN	IT	13052	38	13088	CG7C2
03940		TRA		13064	36	CCCCC	CC5CC
				13076	45	CCCCC	CCCCC
				13088	14		
03950	IT	DDA	1,16CCC,6C,75CC				
		1J6CCO-E0-75CC					
03960		YCC	END1	13040			
03970		CEND		CCCCC			

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ACCCOW	C245C	LABFLL	C8536	ENC	C5944	MLCOW	12996	TFCC	C8224
ACCSVE	C2472	LCMAIN	12787	ENTER	C8868	MLIND	02462	TNC	C7744
ALFIND	1C284	LCCPRC	0778C	FLCC	12824	MLSCH	C5C76	TYPE	12734
BIGPRT	C7365	MAINCT	1C502	FLS	12924	MSIZE	C756C	XEQCN	C568C
BLAPCT	C7644	MAPDDA	1277C	FCR	1C288	MTBL	1C682	SBINIT	C8C8C
BLKIND	1C283	MLINIT	07524	INC	12971	NEXC	12726	SBPTBL	074C0
BLNKCK	C8672	MCACAL	00796	INCV	1C506	CNE	C7712	SCACCR	C2460
CCLNAM	C8592	NAPBLF	02441	IARK	C74CC	RDAGN	C8188	SEARCH	C51CC
COMCCA	12996	CNETWC	13C34	INTCC	1C296	RCLOC	C8436	SETRP1	C8364
COMIND	1C285	CVRLAP	02444	ICGT	C5566	RMCHK	08452	SPCHAR	C874C
COMSEC	C73CC	RCMKCK	08640	ICINC	C2461	RNCED	C542C	SLBCCW	12991
EPRINT	1C216	RNCEC1	09552	ICPT	C5532	ROLNC	C5848	SLBCCA	12746
EQACCR	C2455	RCLND1	09868	ICRT	C5565	SCIS	C8C92	SLBSCH	09C44
ERMESS	12995	API	08212	IT	13088	SECT	02466	SLBSET	07676
EXTIND	C2463	CCCNT	1C504	LECCA	C2474	SETRM	C83C8	SLBTBL	02522
FLGRMK	C2445	CCIN	1C519	LEMA	13C21	SSIZE	C814C	SVECCA	C249C
FLSCDA	12932	CKSTL	1C516	LCAD1	C528C	START	07816	TBLSZE	09176
GETCIM	C782E	CCP	12947	LCAD	09220	STBL	117C2	XEQCN1	1CC24
INCCEA	C25C6	CCNT	1C286	LCCAL	1C461	SLB	12738	XEQCN2	1C172
INTCC1	1C452	CCAR	07280	MAIN	05888	SVE	12979	ZRCTST	C2467
JCBCLT	1C471	END1	13C40	MAP	12761	TCIS	C7536		

END OF ONE ASSEMBLY.

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00C1C *				
00C20 ICPT CS	,532		00932	C
00C30 ICGT CS	,566		00966	C
00C40 ICRT CS	,565		00965	C
00C50 MCNCAL DS	,796		00796	C
00C60 ERRET DS	,602		00602	C
00C70 IACS DS	,61C		0061C	C
00C80 ERROR DS	,632		00632	C
00C9C CIC DS	,016		00016	C
001C0 ***	COMMUNICATION AREA			
00110	ORG 2210		C2210	
00120 F DS	2., FLICATING PCINT WCRD LENGTH		C2219	2
0013C K DS	2., FIXED PCINT WCRD LENGTH		02221	2
00140 PHOGST DS	5., STARTING ADDRESS CF MAINLINE PRCCRAP		02226	5
00150 CCMACE DS	5., STARTING ADDRESS CF CCMPCA AREA		02231	5
00160 NI CS	2., NUMBER CF WCRDS IN LOGICAL RECCRC		02233	2
0017C N2 DS	5., NUMBER CF LOGICAL RECCRS		02230	5
0018C W DS	2., WORD LENGTH		0224C	2
0019C RECLG CS	3., RECCRD LENGTH		C2243	3
002C0 ENTLN CS	5., ENTRY ADDRESS TC LOG SUBROUTINE		C2240	5
0021C ENTXP DS	5., ENTRY ADDRESS TC EXPONENTIAL SUBROUTINE		02293	5
00220 ENTSC1 DS	5., ENTRY ADDRESS TC SINGLE SUBSCRIPT SUBROUTINE		C2250	5
00230 ENTSC2 DS	5., ENTRY ADDRESS TC DOUBLE SUBSCRIPT SUBROUTINE		02263	5
00240 ENTSC3 DS	5., ENTRY ADDRESS TC TRIPLE SUBSCRIPT SUBROUTINE		C2260	5
0025C ENTFC DS	5., ENTRY ADDRESS TC FINC SUBROUTINE		C2273	5
00260 ENTMEC DS	5., ENTRY ADDRESS TC RECCRC SUBROUTINE		C2270	5
00270 ENTPEY DS	5., ENTRY ADDRESS TC FETCH SUBROUTINE		C2283	5
0028C ENTSC DS	5., ENTRY ADDRESS TC SWITCH C SUBROUTINE		02280	5
0029C ENTDRR DS	5., ENTRY ADDRESS TC ARRAY SUBROUTINE		C2293	5
003C0 ENTDEC DS	5., ENTRY ADDRESS TC DISK END SUBROUTINE		C2290	5
00310 ENTCCS DS	5., ENTRY ADDRESS TC CCSINE SUBROUTINE		C2303	5
00320 ENTSSN DS	5., ENTRY ADDRESS TC SINE SUBROUTINE		02300	5
0033C ENTATN DS	5., ENTRY ADDRESS TC ARCTANGENT SUBROUTINE		02313	5
0034C ENTSGT DS	5., ENTRY ADDRESS TC SQUARE ROOT SUBROUTINE		02310	5
00350 ENTABS DS	5., ENTRY ADDRESS TC ABSCLLYE SUBROUTINE		02323	5
0036C DS	7C., RESERVED FOR ENTRIES TC ADEEC SUBROUTINES		C2393	7C
0037C TEMP DS	,7510		07510	C
0038C LCED DS	,TEMP+1		07521	C
00390 EPRINT DS	,762C		0762C	C
004CC JCRDLT DS	,EPRINT+103		07723	C
00410 DVRPES DS	,LCED+54		07575	C
00420 LIRSLR DSS	3C., LIBRARY SUBROUTINE INDICATORS		C2364	3C
00430 CC	1., *		C2424	1
00440	ORG 2426		C2426	
0045C NAMBLF CC	18.C		C2441	18
	-CCCCCCCCCCCC			
0046C CC	2., *		C2443	2
	-			
00470 CVRLAP CC	1.C		C2444	1
	-			
0048C FLGRMK DS	1		C2445	1
00490 ALDCCL DS	5		C249C	5
005CC EGACDR DS	5		C2495	5
0051C SCACDR DS	5		C246C	5
0052C ICINC CC	1.C		C2461	1

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00530 PLINC CC	1.C		C2462	1
	-			
0054C EATINC DS	1		C2463	1
00550 SECT DS	3		C2466	3
0056C ZRECTST CC	1.C		C2467	1
	-			
00570 ACDSVE DS	5		C2472	5
0058C CC	1., *		C2473	1
	-			
0059C LCDA CDA	,1.C,0,SLBTBL		02474	14
	1-CCCC-CC-2522			
006CC CC	1., *		C2488	1
	-			
0061C SVEDCA CDA	,1.C,21.C		0249C	14
	1-CCCC-21-CCCC			
0062C CC	1., *		C29C4	1
	-			
0063C INCDA CDA	,1.C,10,SLBTBL		C29C6	14
	1-CCCC-1C-2522			
0064C CC	1., *		C252C	1
	-			
00650 NCDATA DSC	1.1		C2521	1
	1			
0066C SLBTBL CSS	1CCC		C2522	1CCC
0067C CC	12., *		03533	12
	-CCCCCCCC*			
0068C *****	ENTRY FROM CALL LINK STATEMENT			
00690 JAVENT NOP	TSTVL,CCCRTP		03534	41
007CC TFP	IOPT,++23		03546	16
00710 B	IOGT,CCP,7		03558	49
0072C TFP	CDTPLD+13,25,1C		0357C	16
0073C TF	DMECA+5,CCPSEC+71		03582	24
0074C TF	NAMBUF,7495,11		03594	24
00750 TF	COMSEC+35,NAMPRUF		03606	24
00760 TFP	IOPT,++23,, GET FLCC SECTOR		03618	16
00770 B	IOGT,DPE,7		03630	40
0078C TF	SVEDCA+5,INRR+10		03642	18
0079C TDM	DME,2		03654	18
008C0 TF	ADDCCL,INRR+36		03666	24
00810 TF	ADDSVE,ACDCCb		03678	24
0082C AM	ADDSVE,1,1C		03690	11
00830 TF	LDDA+5,INRR+7		03702	24
0084C TF	LDDA+8,INRR+2		03714	24
0085C TF	SECT,INRR+26		03726	24
0086C TF	EQACDR,INRR+23		03738	24
00870 TF	INCDA+5,INRR+31		03750	24
0088C TFP	++10,SLBTBL+11		03762	16
0089C TDM			03774	19
009C0 CC	1.,*		03786	1
	-			
00910 AM	--6,2C,1C		03786	11
00920 CM	--10,SLBTBL+1031		03798	14
0093C DME	--36		03810	47
00940 TFP	IOPT,++23,, STCRE IN-CRE TABLE		03822	16
00950 B	IOPT,INC,7		03834	49
00960 TDM	LNKIND,1		03846	19

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00970	LNKINC	DS	,-1			C3856		C
00980	TD	IOIAC,INRK+99				C3858	25	C2441 C7499
00990	TDP	EXTIND,1				03870	15	C2443 CCGCI
01000	*****	EQUIVALENCE TABLE SEARCH						
01010	EQSRCH	TF	EQUDDA+5,ECACDR			03882	26	C6C15 C2455
01020	TFP	INRK+48,SECT				03894	16	C7448 -2466
01030	TFP	IORT,+23,, REAC IN FOUR SECTORS CF EQUIV. TABLE				03906	16	CC565 -3929
01040	B	IOGT,EQU,7				03918	45	CC566 -8CC5
01050	CCPPER	TFP	COMP+11,SUBTBL+11,, SEARCH ECLIV. TABLE			03930	16	C3573 -2933
01060	BNR	+2C,COMP+11,11				03942	45	C3562 C397L
01070	B	NXTRD+24				03954	49	C4C46 CCGCC
01080	DORG	+3				03962		
01090	CCPP	C	NAMBLF			03962	24	C2441 CCGCC
01100	BE	FOUNC				03974	46	C4C9C C12CC
01110	AM	COMP+11,16,1C, INCREMENT TO NEXT NAME				03986	11	C3573 CCGJ6
01120	CM	COMP+11,SUBTBL+411,, TEST FOR END CF TABLE				03998	14	C3573 -2933
01130	BNE	COMPEN+12				04010	47	C3542 C12CC
01140	NXTRC	CM	INRK+48,C,9, TEST FOR END CF EQUIV. TABLE			04022	14	C7448 CC-CC
01150	BH	+2C				04034	46	C4C94 C11CC
01160	B	CDCTRTP				04046	49	C56CC CCGCC
01170	DORG	+3				04054		
01180	SM	INRK+48,4,1C, DECREMENT SECTOR CCUNT				04054	12	C7448 CCC-4
01190	AM	EQUDDA+5,4,1C				04066	11	C6C15 CCG-4
01200	B	COMPEN-24				04078	49	C39CC CCGCC
01210	FCUNC	AM	COMP+11,4,1C, INCREMENT TO GET CIP NUMBER			04090	11	C3573 CCC-4
01220	TFP	DIMDDA+5,48CC				04102	16	C6C63 -48CC
01230	S	DIMDDA+6,CCPP+11,11				04114	22	C6C64 C357L
01240	S	DIMDDA+6,CCPP+11,11				04126	22	C6C64 C357L
01250	TDM	DIMDDA+6,,11				04138	15	C6C64 CCCC-
01260	*****	READ IN CIP SECTOR						
01270	FCUND1	TFP	IORT,+23			04150	16	CC565 -4179
01280	B	IOGT,DIP,7				04162	49	CC566 -6C9C
01290	TD	SECT,CCPP+11,11				04174	25	C612C C397L
01300	CM	SECT,5,1C				04186	14	C612C CCG-5
01310	BL	+24				04198	47	C4232 C13CC
01320	SM	SECT,5,1C, CALCULATE CIP ENTRY ADDRESS				04210	12	C612C CCC-9
01330	MM	SECT,2,C,9				04222	13	C612C CC-2C
01340	AM	99,INRK				04234	11	CC655 -74CC
01350	TR	DIMSVE,99,11				04246	31	C6C75 CCGC8
01360	TD	DMEDDA,CIMSVE				04258	25	C5934 C6C75
01370	TF	DMEDDA+5,DIMSVE+5				04270	26	C5935 C6C84
01380	TR	DDAR,DMEDDA,, PCVE SECTOR CCA TC PROGRAM CCA AREA				04282	31	C728C C5934
01390	TFP	IORT,+23,, REAC IN INDICATOR RECCRC				04294	16	CC565 -4317
01400	B	IOGT,DME,7				04306	49	CC566 -5926
01410	TF	DDAR+8,DIMSVE+8,, PCVE SECTOR CCUNT				04318	26	C728E C6C87
01420	*****	INDICATOR RECCRC CHECK						
01430	TDM	EXTIND,0				04330	15	C2463 CCGCC
01440	TSTVLC	C	INRK+13 ,INDCCN , ,CHECK FOR VALID INDIC.			04342	24	C7413 C61E4
01450	BE	RELFRP				04354	46	C53C6 C12CC
01460	C	INRK+5,INDCCN,, CHECK FOR VALIDITY IN CORE IMAGE				04366	24	C74C5 C61E4
01470	BE	+48				04378	46	C442E C12CC
01480	TFP	EPRINT+61,35,1C				04390	16	C7681 CCCL5
01490	TDM	EPRINT+73,9				04402	15	C7653 CCGCC
01500	BTM	EPRINT,75,8				04414	17	C762C C-075
01510	TF	DDAR+13,ADDSVE				04426	26	C7293 C2472
01520	TDM	INDR+7,, CONVERT DEFINER TO CORE IPAGE				04438	15	C6C44 CCGCC

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01530	DC	1,,*				C4449		1
01540	AM	DDAR+5,1,1C, INCREMENT DISK ADDRESS BY ONE				C445C	11	C7285 CCC-1
01550	SM	DDAR+8,1,1C, DECREMENT SECTOR CCUNT BY ONE				C4462	12	C728E CCG-1
01560	*****	INITIALIZE FORTRAN COMMUNICATION AREA						
01570	CCMLC	TF	N1,INRK+7			C4474	26	C2233 C74C7
01580	TF	N2,INRK+12				C4486	26	C223E C7412
01590	TF	W,INRK+14				C4498	26	C224C C7414
01600	TF	RECLG,INRK+17				C451C	26	C2243 C7417
01610	BD	LNK,LNKIAD				C4522	43	C4566 C3856
01620	TF	F,INRK+24				C4534	26	C2215 C7424
01630	TF	K,INRK+26				C4546	26	C2221 C7426
01640	B	ML				C4558	49	C465C CCGCC
01650	DORG	+3				C4566		
01660	LNK	C	INRK+24,F			C4566	24	C7424 C2215
01670	BNE	+36				C4578	47	C4614 C12CC
01680	C	INRK+26,K				C4590	24	C742E C2221
01690	BE	ML				C4602	46	C465C C12CC
01700	TFP	EPRINT+61 ,35 ,1C,				C4614	16	C7481 CCCL9
01710	TDM	EPRINT+73 ,9 , ,				C4626	15	C7693 CCGC9
01720	BTM	EPRINT,76,8				C4638	17	C762C C-076
01730	ML	TF	PRCGST,INRK+31			C465C	26	C222E C7431
01740	A	PRCGST,ADDSVE				C4662	21	C222E C2472
01750	TF	COMADD,INRK+36				C4674	26	C2231 C7436
01760	TF	SVECCA+13,CCMADD				C4686	26	C25C3 C2231
01770	TF	MLLGH,INRK+22				C4698	26	C61C5 C7422
01780	*****	INITIALIZE LIBRARY SUBROUTINE INDICATORS						
01790	SF	INRK+37				04710	32	C7437 CCGCC
01800	TF	L1BSLB+29,INRK+66				04722	26	C2423 C7486
01810	*****	SAVE CCMPEN AREA						
01820	TDM	*				04734	15	CCCCC CCCCC
01830	DGM	*				04743		
01840	TFP	IORT,+23,, PUT 21 SECTORS CF CCMPEN AREA IN SCRATCH				04746	16	CC565 -4749
01850	B	IOPT,SVE,7				04758	49	CC532 -4C29
01860	CLEAR	TR	75CC,ZERCS,2			C477C	31	-75CC C629E
01870	AM	CLEAR+6,50C,9				04782	11	04776 C0NGC
01880	C	CLEAR+6,COMADD				04794	24	C4776 C2231
01890	BL	CLEAR				04806	47	0477C C13CC
01900	TR	EPRINT+1C1 ,ERRT , ,				04818	31	C762C C593C
01910	TDM	EPRINT+1C1				04830	15	C7721 CCGCC
01920	DC	1,,*				04841		1
01930	TRYSZE	TF	ADDSVE,ADDCCH			04842	26	C2472 C245C
01940	AM	ADDSVE,1,1C				04854	11	C2472 CCG-1
01950	A	ADDCCH,INRK+22				04866	21	C245C C7622
01960	TDM	INRK+23				04878	15	C7423 CCGCC
01970	CC	1,,*				04889		1
01980	C	ADDCCH,COMADD				04890	24	C245C C2231
01990	BH	ERWL				04902	46	C592C C11CC
02000	SIZECK	TR	OVRES-1,OVRES-1			04914	31	07974 C618C
02010	TR	LDED-1,LDED1-1				04926	31	0792C C6126
02020	TF	TEMP,INRK+22				04938	26	C7518 C7422
02030	TF	TEMP-6,ADDSVE				04950	26	07512 C2472
02040	TR	LDED+1,NAMRUF-11				04962	31	07522 C243C
02050	TFP	+3C,LDED+14				04974	16	C5C04 -7939

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02060	TFP	0+23,TEMP-11	04986	16	C5005	-7507
02070	TD	LOED+14,TEMP-11	04998	25	C7335	C7307
02080	AM	0-6,2,10	05010	11	C5004	CCC-2
02090	AM	0-13,1,10	05022	11	C5005	CCC-1
02100	CM	0-25,TEMP+1	05034	14	C5005	-7519
02110	BL	0-48	05046	47	C4998	C1300
02120	K	,951	05058	34	C5000	CC951
02130	WA	LOED+2,5CC	05070	39	C7323	CC900
02140	*****	LOAD PROGRAMS ROUTINE				
02150	RCPRCG	BD CDTPLO,EXTINC,, BRANCH IF PRGCRAP IN CARD CR TAPE	05082	43	C5142	C2463
02160	SC+LC	TFP IOXT,0+23,, GET PRGCRAP FRCP CISK	05094	16	C5065	-5117
02170	B	IOGT,INDR,7	05106	49	C5066	-6037
02180	CALL2	TFP IOXT,0+23	05118	16	C5065	-5141
02190	B	IOGT,BL2,7	05130	49	C5066	-6222
02200	*****	ROUTINE TO LOAD PROGRAM FRCP CARD CR TAPE				
02210	CCTPLC	TDP 416	05142	15	CC416	CCCC
02220	CC	1.,0	05153			1
02230	NOP	428,COMPSEC+73	05194	41	CC428	C7373
02240	SF	428	05166	32	CC428	CCCC
02250	CF	425	05178	33	CC425	CCCC
02260	TF	434,ADDSVE	05190	26	CC434	C2472
02270	SF	439	05202	32	CC435	CCCC
02280	TF	COMPSEC+98,INRK+75	05214	26	C7358	C7479
02290	TFP	IOXT,0+23,, PLT BACK COMMUNICATION SECTOR	05226	16	C5065	-5249
02300	B	IOPT,COMP,7	05238	49	C5332	-5949
02310	TFP	IOXT,0+23,, GET PRGCRAP	05250	16	C5065	-5273
02320	B	IOGT,EXT,7	05262	49	C5066	-5973
02330	TDP	EXTIND,C	05274	15	C2463	CCCC
02340	TDP	NODATA,C	05286	15	C2521	CCCC
02350	B	CALL2	05298	49	C5118	CCCC
02360	DORG	0-3	05306			
02370	RELFRM	TDP INRK+8C	05306	15	C748C	CCCC
02380	CC	1.,0	05317			1
02390	TR	INRK,INRK+8,, MOVE INDICATOR RECORD TO CONFRM TO CARD IMAGE	05318	31	C740C	C7408
02400	CF	427	05330	33	CC427	CCCC
02410	TFP	435,75	05342	16	CC435	-CC75
02420	TFM	DDAR+13,99999	05354	16	C7203	R9999
02430	TF	INDR+11,ADDSVE	05366	26	C6C48	C2472
02440	B	COMPLC	05378	49	C4474	CCCC
02450	*****	ERROR MESSAGE SUBROUTINE				
02460	ERRT	TF EPRINT+99 ,EPRINT-1	05390	26	C7716	C7619
02470	TDP	SVEDCA-1 ,1	05402	15	C2486	CCCC
02480	RCTY	, , ,	05414	34	CCCC	CC102
02490	WATY	EPRINT+81 , , ,	05426	36	C7701	CC100
02500	RCTY	, , ,	05438	34	CCCC	CC102
02510	NOP	EPRINT+103 ,100	05450	41	C7723	CC100
02520	BB	MONCAL , , ,	05462	42	C0756	CC000
02530	DORG	0-4	05469			
02540	DAC	25,ERRR L JCB ABANCCNEC' ERROR L JCB ABANCCNEC'	05471			25 2
02550	*****	MAINLINE OVERLAP ROUTINE				
02560	ERPL	RCTY	05520	34	CCCC	CC102
02570	WATY	NAMBLF-1C	05532	35	C2431	CC100
02580	WNTY	INRK+18	05544	38	C7418	CC100

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02590	WATY	OVPE+24	05556	35	C6205	CC100
02600	RCTY		05568	34	CCCC	CC102
02610	WATY	JOBCLT	05580	35	C7723	CC100
02620	B	MONCAL	05592	49	C0796	CC000
02630	DORG	0-3	05600			
02640	CCDRTP	RCTY	05600	34	CCCC	CC102
02650	RELACC	DS ,0-5	05606			C
02660	WATY	LOPES	05612	39	C5913	CC100
02670	WATY	NAMBLF-1C	05624	39	C2431	CC100
02680	*****	LOAD CARD CR TAPE STORED PROGRAMS				
02690	TD	CDTP+2,CCPSEC+73	05636	25	C6117	C7373
02700	SM	CDTP+2,1,10	05648	12	C6117	CCC-1
02710	READ	TFP IOXT,0+23,, GET INDICATOR RECORD	05660	16	CC965	-5689
02720	B	IOGT,CDTP-4,7	05672	49	CC966	-6111
02730	TFP	0+23,INRK	05684	16	C5707	-7400
02740	RMCHK	BNR 0+20	05696	45	C5716	CC000
02750	B	READ	05708	49	C5660	CC000
02760	DORG	0-3	05716			
02770	AM	RMCHK+11,1,10	05716	11	C5707	CC0-1
02780	CM	RMCHK+11,INRK+8C	05728	14	C5707	-7480
02790	BNE	RMCHK	05740	47	C5696	C1200
02800	SF	INRK+1	05752	32	C7401	CCCC
02810	CF	INRK+2	05764	33	C7402	CC000
02820	CF	INRK+3	05776	33	C7403	CC000
02830	CF	INRK+4	05788	33	C7404	CC000
02840	CM	INRK+4,4131,8	05800	14	C7404	CW131
02850	BNE	HEADER	05812	47	C5808	C1200
02860	RCTY		05824	34	CCCC	CC102
02870	TFP	IOXT,0+23	05836	16	CC965	-5689
02880	B	IOPT,TYPE-4,7	05848	49	CC932	-6230
02890	B	CCDRTP	05860	49	C5600	CC000
02900	DORG	0-3	05868			
02910	HEADER	C INRK+13,INDCCN	05880	24	C7413	C6104
02920	BNE	READ	05892	47	C5660	C1200
02930	BNE	READ,INRK+16	05904	44	C5660	C7416
02940	B	YSTVLD	05904	49	C4342	CC000
02950	DORG	0-3	05912			
02960	LCMES	CAC 7,LOAD	05913			7 2
02970	EPE	DSC 2,C2	05926			2
02980	DSA	DMEDCA	05932			5 1
02990	CC	1.,	05932			-5934
03000	EPECCA	DDA ,1,C,1,INRK 1-CC00-01-7400	05934			14
03010	DC	1.,	05948			1
03020	CCM	DSC 2,22	05949			2
03030	DSA	COMODA	05955			5 1
03040	DC	1.,	05955			-5958
			05956			1

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03C50	CCPDDA	DDA	,1,19663,1,CCMSEC	05958	14
			1J9663-C1-73CC		
03C6C		CC	1,'	05972	1
			'		
03C70	EXT	DSC	2,-22	05973	2
			2K		
03C8C		CSA	EXTDDA	05975	5 X 1
				05975	-5982
03C90		CC	1,'	05980	1
			'		
031CC	EXTDDA	DDA	,1,19783,3,C	05982	14
			1J9783-C3-0GCC		
03110		DC	1,'	05996	1
			'		
03120	INC	DSC	2,C2	05997	2
			C2		
03130		CSA	INCCDA	06003	5 X 1
				06003	-2504
03140		CC	1,'	06004	1
			'		
03150	EGU	DSC	2,22	06005	2
			22		
03160		CSA	EQUDDA	06011	5 X 1
				06011	-6C14
03170		CC	1,'	06012	1
			'		
03180	EQUDDA	DDA	,1,C,4,SLBTBL	06014	14
			1-CCCC-C4-2522		
03190		CC	1,'	06028	1
			'		
03200	SVE	DSC	2,C2	06029	2
			C2		
03210		CSA	SVEDDA	06035	5 X 1
				06035	-2450
03220		CC	1,'	06036	1
			'		
03230	INDR	DSC	2,22	06037	2
			22		
03240		CSA	ODAR,C	06043	5 X 2
				06043	-7280
				06048	-CCCC
03250		CC	1,'	06049	1
			'		
03260	EIM	DSC	2,22	06050	2
			22		
03270		CSA	DIMPDA	06056	5 X 1
				06056	-6058
03280		CC	1,'	06057	1
			'		
03290	CIMPDA	DDA	,1,4800,1,INRK	06058	14
			1-4800-C1-74CC		

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03300		CC	1,'	06072	1
			'		
03310	ZERONE	CC	6,10CCCC1	06078	6
			J0CCCC1		
03320	EIMSVE	DSS	20,, RESERVES CLRRNT DIP ENTRY	06079	20
03330	INDCCN	CC	6,987898,, INDICATOR RECCRC CCASANT	06104	6
			R87898		
03340	PLLGTH	CS	5,, LENGTH CF MAINLINE PRGCRAP	06109	5
03350	CCINP	DS	1	06110	1
03360	CDTP	CSA	INRK	06115	5 X 1
				06115	-74CC
03370		CC	3,'	06118	3
			-0'		
03380	SECCT	CC	2,C	06120	2
			-0		
03390	QNETWC	DSC	5,CC1C1	06121	5
			CO1C1		
03400	LEED1	DAC	27,XXXXXXXX 59999 99999 LCACED'	06127	27 X 2
			XXXXXXXX 59999 99999 LCACED'		
03410	OVMPES	DAC	21,XXXXXXXX 99999 CVERLAP'	06181	21 X 2
			XXXXXXXX 99999 CVERLAP'		
03420	BL2	DSC	2,-22	06222	2
			2K		
03430		DSC	1,C	06224	1
			C		
03440		CC	5,145'	06225	5
			-145'		
03450	TYPE	CSA	DATA	06234	5 X 1
				06234	-6235
03460		CC	3,C6'	06237	3
			-6'		
03470	DATA	DAC	6,*DATA'	06239	6 X 2
			*DATA'		
03480	ZEROS	DSC	50,C	06250	50
			CC		
03490		DSC	50,G	06300	50
			CC		
03500		DSC	50,C	06350	50
			CC		
03510		DSC	50,C	06400	50
			CC		
03520		DSC	50,C	06450	50
			CC		
03530		DSC	50,G	06500	50
			CC		
03540		DSC	50,C	06550	50
			CC		
03550		DSC	50,G	06600	50
			CC		
03560		DSC	50,C	06650	50
			CC		
03570		DSC	50,G	06700	50
			CC		
03580		DC	1,'	06750	1
			'		

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0355C	DORG	728C	C728C		
036CC	CCAR	DSS	2C		
0361C	CCPSEC	DSS	1CC,,	SYSTEM COMMUNICATIONS SECTOR	
03620	INRK	DSS	1CC,,	REAC IN AREA FOR INDICATOR RECCRC	
0363C	ENC2	SK	IT		
0364C	NDM	IT			
03650	TRA				
0366C	IT	DDA	,1,16C6C,45,2424		
			1J6C60-45-2424		
03670	TCC	END	2		
0368C	DENC				

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ACCCW	C245C	ENTSIN	C2308	CVPLAP	C2444	ERRET	CC6C2	N1	C2233
ACCSVE	C2472	ENTSQT	02318	CVRPES	C7575	ERROR	CC632	A2	02238
CCMTP	C56CC	ENTSWC	02288	PRCGST	C2226	ERRT	C539C	XTRO	04C22
CCPLD	C5142	EPRINT	07620	REPRCG	C5C82	EXT	C5573	CVPE5	C6181
CCMAD	C2231	ECADDR	C2455	RELACC	C56C6	POLNC	C4C9C	READ	C5660
CCMCA	C5958	ECSRCH	03882	RELFRR	C5306	F	02219	RECLG	02243
CCPPER	C393C	ECLDCA	06C14	RL2	C6222	INC	C5557	RPCMK	05696
CCPSEC	C73CC	EXTDCA	05982	CALL2	C5118	INCR	C6C37	SCHLD	C5C94
CIMPDA	C6058	EXTINC	C2463	CCINP	C611C	INCS	CC61C	SECT	C6170
CIP5VE	C6075	FLGRPM	02445	CCYP	C6115	INRK	074CC	SECT	C2466
DMEDCA	C5934	FCLNCL	04150	CLEAR	C477C	IOGT	CC586	SVE	06C29
ENTARS	C2323	HEADER	05868	CCPLC	04474	IOIND	C2481	TEPP	C7518
ENTATN	C2312	INCDDA	02506	CCPP	03962	IOPT	CC532	TYPE	C6234
ENTCOS	C23C3	INCCCN	06104	CCP	05949	IOPT	CC585	b	02240
ENTDEC	C2258	JAYENT	03534	DATA	C6239	IT	C7548	ZERCS	0629C
ENTDRR	C2293	JCBOUT	07723	CCAR	C728C	K	C2221	SCADDR	C2460
ENTEXP	C2253	LIBSLR	02394	CIP	C6C5C	LCDDA	C2474	SIZCCN	04914
ENTFET	C2283	LNKINC	03856	CIC	CC816	LCDD1	06127	SLETL	C2522
ENTFID	C2273	MLCTH	061C9	CME	C5926	LCDD	C7521	SVGCA	02490
ENTREC	C2278	PCNCAL	CC786	ENC2	C75CC	LOWES	05513	TRVSE	04842
ENTSC1	C2258	NAPBLF	C2441	ENTIA	C2248	LNK	04584	TSVLD	04342
ENTSC2	C2263	NCDATA	02521	ECU	06C05	MLIND	C2442	ZERCAE	04C78
ENTSC3	C2268	CNETWC	06121	ERPL	C5520	ML	C465C	ZRCTST	02467

END OF ONE ASSEMBLY.

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00C1C *					
00C2C *					
00C3C ICPT DS	,532	0C532		C	
00C4C IOGT DS	,566	0C566		C	
00C5C ICRT DS	,565	0C565		C	
00C6C MCNCAL DS	,796	0C796		C	
00C70 ***	COMMUNICATION AREA				
00C80	DORG 2218	C2218			
00C90 F DS	2,, FLCATING PCINT WORD LENGTH	C2219		2	
0010C K DS	2,, FIXED PCINT WORD LENGTH	02221		2	
00110 PROGST DS	5,, STARTING ADDRESS OF MAINLINE PROGRAM	02226		5	
00120 CCMACC DS	5,, STARTING ADDRESS OF CCMPCN AREA	02231		5	
00130 N1 DS	2,, NUMBER OF WORDS IN LOGICAL RECCRC	C2233		2	
00140 N2 DS	5,, NUMBER OF LOGICAL RECCRES	C2238		5	
0015C N DS	2,, WORD LENGTH	0224C		2	
00160 RECLC DS	3,, RECORD LENGTH	02243		3	
00170 ENTLN DS	5,, ENTRY ADDRESS TC LCG SUBRCUTINE	C2248		5	
00180 ENTENP DS	5,, ENTRY ADDRESS TC EXPONENTIAL SUBRCUTINE	02253		5	
00190 ENTSC1 DS	5,, ENTRY ADDRESS TC SINGLE SUBSCRIPT SUBRCUTINE	02258		5	
00200 ENTSC2 DS	5,, ENTRY ADDRESS TC DOUBLE SUBSCRIPT SUBRCUTINE	C2263		5	
00210 ENTSC3 DS	5,, ENTRY ADDRESS TC TRIPLE SUBSCRIPT SUBRCUTINE	02268		5	
00220 ENTFLC DS	5,, ENTRY ADDRESS TC FIND SUBRCUTINE	C2273		5	
00230 ENTREC DS	5,, ENTRY ADDRESS TC RECCRC SUBRCUTINE	02278		5	
00240 ENTRET DS	5,, ENTRY ADDRESS TC FETCH SUBRCUTINE	02283		5	
00250 ENTSHC DS	5,, ENTRY ADDRESS TC SWITCH C SUBRCUTINE	C2288		5	
00260 ENTDRR DS	5,, ENTRY ADDRESS TC ARRAY SUBRCUTINE	C2293		5	
00270 ENTDEC DS	5,, ENTRY ADDRESS TC DISK END SUBRCUTINE	02298		5	
00280 ENTCOS DS	5,, ENTRY ADDRESS TC COSINE SUBRCUTINE	C2303		5	
00290 ENTSTA DS	5,, ENTRY ADDRESS TC SINE SUBRCUTINE	02308		5	
0030C ENTATN DS	5,, ENTRY ADDRESS TC ARCTANGENT SUBRCUTINE	C2313		5	
0031C ENTSGT DS	5,, ENTRY ADDRESS TC SQUARE RCCT SUBRCUTINE	C2318		5	
00320 ENTABS DS	5,, ENTRY ADDRESS TC ABSOLUTE SUBRCUTINE	C2323		5	
00330 DS	70,, RESERVED FOR ENTRIES TC ACCED SUBRCUTINES	C2353		7C	
0034C TEMP DS	,7518	C7518		C	
00350 LCED DS	,TEMP+3	C7521		C	
0036C CVRMES DS	,LODED+54	C7575		C	
00370 EPRINT DS	,762C	C762C		C	
0038C LIBSUB DSS	3C,, LIBRARY SUBRCUTINE INDICATORS	C2354		3C	
00390 CC	1,,	C2424		1	
0040C *****	MAINLINE TABLE SEARCH				
00410 DORG	2426	C2426			
00420 NAMBLF CC	16,C	C2441		16	
	-0CCCC0CCCC0CCCC				
00430 CC	2,,	C2443		2	
	-*				
0044C CVRLAP DS	1	C2444		1	
0045C FLGRMK DS	1	C2445		1	
0046C ADCCLC DS	5	C245C		5	
00470 EGACDR DS	5	C2455		5	
0048C SCACDR DS	5	0246C		5	
00490 IDIND DS	1	C2461		1	
0050C MLINC DS	1	C2462		1	
00510 EXTINC DS	1	C2463		1	
00520 SECT DS	3	C2466		3	
0053C ZNCTST DS	1	C2467		1	

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0054C ACDSVE DS	5	02472		5
00550 CC	1,,	C2473		1
	*			
00560 LECCA CDA	,1,C,C,SLBTBL	02474		14
	1-CCCC-CC-2522			
00570 CC	1,,	C2488		1
	*			
0058C SVEDCA DDA	,1,C,21,C	0249C		14
	1-CCCC-21-0CCC			
0059C CC	1,,	C2504		1
	*			
0060C DATA CC	1,C	C2505		1
	-			
0061C INCCDA DDA	,1,C,1C,SLBTBL	02506		14
	1-CCCC-1C-2522			
00620 CC	1,,	C252C		1
	*			
0063C MCDATA DS	1	C2521		1
00640 SLBTBL DSS	10CC	C2522		10CC
00650 CC	12,,	C3533		12
	-0CCCC0CCCC*			
00660 RMTBL CM	COMPSEC+75,,1C, BRANCH IF AC LOCAL CARDS	03534	14	C7375 CCC-C
00670 BE	LODINC	03546	46	C5126 C12CC
0068C TFM	IORT,++23	03598	16	CC565 -3581
00690 B	IOGT,LD,7	0357C	49	CC566 -7161
0070C TFM	++23,SLBTBL+11	03582	16	C3605 -2533
00710 SRCH BNR	++32,, TEST FOR END OF TABLE	03594	45	C3626 CCCCC
0072C TDM	TBLIND,1	03606	15	C3615 CCOCl
00730 TBLINC DS	,*-2	03615		C
00740 B	LODINC	03618	49	C5126 CCCCC
00750 DORG	*-3	C3626		
00760 C	COMPSEC+35,SRCH+11,11, COMPARE NAMES	03626	24	C7335 C36CN
00770 BE	TBLLD	03638	46	C4558 C12CC
0078C AM	SRCH+11,2C,1C, INCREMENT TO NEXT ENTRY	0365C	11	C3605 CCCC
00790 B	SRCH	03662	45	C3554 CCCCC
0080C EQSRC TF	EQUDDA+5,EGACDR	03674	26	C6591 C2455
00810 TF	INRK+48,SECT	03686	26	C7448 C2466
00820 TFM	IORT,++23,, READ IN FOUR SECTORS OF EQUIV. TABLE	03698	16	CC565 -3721
00830 B	IOGT,EQU,7	0371C	49	CC566 -6977
0084C CCMPEM TFM	COMP+11,SLBTBL+11,, SEARCH EQUIV. TABLE	03722	16	C3765 -2533
00850 BNR	++20,COMP+11,11	03734	45	C3754 C376A
00860 B	EQSRCM-1,,6	03746	49	C367L CCCCC
00870 DORG	*-3	03754		
0088C CCMPEM C	NAMBUF	03754	24	C2441 CCCCC
00890 BE	FOUND	03766	46	C3874 C12CC
0090C AM	COMP+11,16,1C, INCREMENT TO NEXT NAME	03778	11	C3765 CCCJ6
00910 CM	COMP+11,SLBTBL+11,, TEST FOR END OF TABLE	0379C	14	C3765 -2933
00920 BNE	CMPEM+12	03802	47	03734 C12CC
00930 NXTRD CM	INRK+48,0,9, TEST FOR END OF EQUIV. TABLE	03814	14	C7448 CC-C
00940 BE	EQSRCM-1,,6	03826	46	C367L C12CC
00950 SM	INRK+48,4,1C, DECREMENT SECTOR COUNT	03838	12	C7448 CCO-4
00960 AM	EQUDDA+5,4,10	03850	11	C6591 CCO-4
00970 B	CMPEM-24	03862	49	C3698 CCCCC
00980 FOUND AM	COMP+11,4,1C, INCREMENT TO GET CIP NUMBER	03874	11	C3765 CCC-4
00990 TFM	DINDDA+5,48CC	03886	16	C7C51 -48CC
0100C S	DINDDA+6,COMP+11,11	03898	22	C7C52 C376N

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01C10	S	DIMCDA+6,CCPP+11,11	0351C	22	C7C52	C376A
01C20	TD	SECT, DIMCDA+6	C3522	25	C7C91	C7C52
01C30	*****	READ IN DIM SECTCR				
01C40	TDM	DIMCDA+6,11	03534	15	C7C52	CCCC-
01C50	BTP	INCGET,+12	C3546	17	C651C	-3598
01C60	SF	ENTST+11,6, SET -LCADED- INDICATOR	03550	32	C572J	CCOCC
01C70	BTP	INCLPT,+12	0357C	17	C6874	-3582
01C80	FLUNC1	TFM IORT,+23	03582	16	CC565	-4CC5
01C90	B	IOGT, DIM,7	C3594	49	CC566	-7C38
01100	TD	+22, SECT	04C06	25	C4C28	C7091
01110	TR	DIMSVE, INRK	04C18	31	C7C61	C74CC
01120	TD	DMECDA, DIMSVE	04C3C	25	C6954	C7C61
01130	TF	DMECDA+5, DIMSVE+5	04C42	26	C6955	C7C66
0114C	TR	DDAR, DMECDA	04C54	31	C728C	C6954
01150	TFM	DDAR+13,1	04C66	16	C7293	-CC1
01160	TFM	IORT,+23,, READ IN INDICATOR RECCRC	04C78	16	CC565	-41C1
01170	B	IOGT, DME,7	04C9C	49	CC566	-4946
0118C	TF	DDAR+8, DIMSVE+8,, PDVE SECTCR CCUNT	C41C2	26	C7288	C7065
01190	*****	INDICATOR RECCRC CHECK				
0120C	TSTVLC	C INRK+13, INDCCN,, CHECK FOR VALID INDICATOR RECCRC	04114	24	C7413	C4169
01210	BE	RELFRM	04126	46	C6614	C12CC
01220	C	INRK+5, INDCCN,, CHECK FOR VALIDITY IN CORE IMAGE	04138	24	C74C5	C4165
01230	BE	+72	04150	46	C4222	C12CC
01240	RCTY		04162	34	CCCCC	CC1C2
01250	INCCCN	CC 6,6R7898,0-4	04169			6
		R87E98				
01260	WATY	NAMBLF-1C	04174	39	C2431	CC1CC
01270	TFM	EPRINT+61	04186	16	C7681	CCCL9
0128C	TDM	EPRINT+73	04198	15	C7653	CCOCC
0129C	BTP	EPRINT	04210	17	C762C	C-075
0130C	A	DDAR+13, ADDCCW	04222	21	C7253	C245C
01310	TDM	INCR+7,,, CONVERT DEFINER TO CORE IMAGE	04234	15	C7C32	CCCCC
01320	CC	1,*,*	04245			1
01330	AM	DDAR+5,1,1C, INCREMENT DISK ADDRESS BY ONE	04246	11	C7285	CCC-1
01340	SM	DDAR+8,1,1C, DECREMENT SECTCR CCUNT BY ONE	04258	12	C7288	CCC-1
01350	B	SUBPRC-24	04270	49	C6674	CCCCC
0136C	CORG	+3	04278			
01370	TRYSZE	TF ADDSVE, ADDCCW	04278	26	C2472	C245C
0138C	AM	ADDSVE,1,1C	0429C	11	C2472	CCC-1
01390	A	SPRST, ADDSVE	043C2	21	C6152	C2472
0140C	A	ADDCW, INRK+22	04314	21	C245C	C7422
01410	TDM	INRK+23	04326	15	C7423	CCCCC
01420	CC	1,*,*	04337			1
0143C	C	ADDCW, CCMACC	04338	24	C245C	C2231
01440	BL	SIZECK	0435C	47	C62C2	C13CC
01450	S	ADDCW, INRK+22	04362	22	C245C	C7422
01460	*****	CVERLAP INDICATOR				
01470	TDM	OVRMLP,1,, TURN ON CVERLAP INDICATOR	04374	15	C2444	CCCC1
0148C	TR	OVRMES-1	04386	31	C7374	C243C
01490	TDM	OVRMES+12	04398	15	C7387	CCOCC
0150C	TD	OVRMES+14, INRK+1P	0441C	25	C7385	C7418
01510	TD	OVRMES+16, INRK+19	04422	25	C7391	C7415
01520	TD	OVRMES+18, INRK+2C	04434	25	C7393	C742C
01530	TD	OVRMES+2C, INRK+21	04446	25	C7395	C7421

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01540	TD	OVRMES+22, INRK+22	04458	25	C7397	C7422
01550	WA	OVRMES,9CC	0447C	39	C7375	CC9CC
01560	BD	+32,EXTIND,, BRANCH IF PROGRAM ON CARDS OR TAPE	0448C	43	C4514	C2463
0157C	B	PHASEB,,, BRANCH TO GET NEXT NAME	04494	49	C5686	CCCCC
01580	DDRG	+3	045C2			
01590	**	ROUTINE TO READ INDICATOR RECCRC FROM CARDS OR TAPE				
01600	*****	LOAD CARD OR TAPE STORCD PROGRAMS				
0161C	M		045C2	48	CCCCC	CCCCC
0162C	PHASEC	RTM INCGET,+12	04514	17	C651C	-4526
01630	TD	CDTP+2, CCMSEC+73	04526	25	C7C86	C7373
0164C	SM	CDTP+2,1,1C	04538	12	C7C86	CCC-1
01650	READ	TFM IORT,+23,, GET INDICATOR RECCRC	0459C	16	CC565	-4573
01660	B	IOGT, CDTP-4,7	04562	49	CC566	-7C82
01670	TDM	EXTIND,1	04574	15	C2463	CCCC1
0168C	TFM	+35, SUBTBL-9	04586	16	C4621	-2513
0169C	AM	ENTST+11,2C,10	04598	11	C4621	CCOCC
0170C	ENTST	BNR +2C,,, TEST FOR END OF TABLE	0461C	45	C463C	CCCCC
0171C	B	REAC	04622	49	C455C	CCCCC
01720	CORG	+3	0463C			
0173C	TFM	+23, INRK	0463C	16	C4653	-74CC
0174C	RMCHK	BNR +2C	04642	45	C4662	CCCCC
01750	B	REAC	04654	49	C455C	CCCCC
0176C	CORG	+3	04662			
01770	AM	RMCHK+11,1,1C	04662	11	C4653	CCC-1
01780	CM	RMCHK+11, INRK+8C	04674	14	C4653	-748C
01790	BNE	RMCHK	04686	47	C4642	C12CC
0180C	SF	INRK+1	04698	32	C74C1	CCCCC
01810	ONETNC	CSC 5, C0101,0-4	047C5			5
		COIC1				
0182C	CF	INRK+2	0471C	33	C74C2	CCCCC
0183C	CF	INRK+3	04722	33	C74C3	COOCC
0184C	CF	INRK+4	04734	33	C74C4	COOCC
01850	CM	INRK+4,4131,0	04746	14	C74C4	CP131
01860	BNE	HEADER	04758	47	C48C2	C12CC
01870	RCTY		04770	34	COOCC	CC1C2
01880	ZERONE	CC 6,18C001,0-4	04777			6
		JOCC1				
01890	WATY	DATA1	04782	39	C7171	CC1CC
0190C	B	PHASEC	04794	49	C5954	COOCC
01910	CORG	+3	048C2			
01920	HEADER	C INRK+13, INDCCN,, TEST FOR INDICATOR RECCRC	048C2	24	C7413	C4169
01930	BNE	REAC	04814	47	C455C	C12CC
01940	BMF	+2C, INRK+16	04826	44	C4846	C7418
01950	B	READ	04838	49	C455C	CCCCC
01960	CORG	+3	04846			
01970	C	INRK+25, ENTST+11,11, CCMPCRE NAMES	04846	24	C7425	C462J
01980	BNE	GONXT	04858	47	C4598	C12CC
01990	TF	NAMBLF, ENTST+11,11	0487C	26	C2441	C462J
0200C	AM	ENTST+11,0,1C	04882	11	C4621	CCC-4
02010	BMF	+32, ENTST+11,11	04894	44	C4826	C462J
02020	AM	ENTST+11,14,10	04906	11	C4621	CO8J4
02030	B	ENTST	04918	49	C461C	CCCCC
02040	CORG	+3	04926			
02050	SF	ENTST+11,0,6, SET -LCADED- INDICATOR	04926	32	C462J	COOCC
02060	BTP	INCLPT,+12	04938	17	C6874	-499C
02070	B	RELFRM	04950	49	C6614	COOCC

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02080	CORG	=-3	04958		
02090	*****	FLIP SLBPROGRAM TABLE SEARCH			
02100	TBLLC	AM SRC+11,3,1C	04958	11	C3605 CCC-3
02110	TF	FLPCCA+8,SRC+11,11	04970	26	C7C18 C36CA
02120	AM	SRC+11,5,1C	04982	11	C3605 C00-5
02130	TF	FLPCCA+5,SRC+11,11	04994	26	C7C15 C36CA
02140	TFM	IORT,++23	05006	16	CC565 -5C29
02150	B	IOGT,FLP,7	05018	49	CC566 -7CC1
02160	SF	COMPAR	05030	32	C5078 C00CC
02170	TFM	COMPAR+11,SLBTBL+11,, INITIALIZE PCINTER	05042	16	CC089 -2533
02180	TF	COMPRE+11,ACCCCH	05054	26	C5165 C245C
02190	AM	COMPRE+11,1,1C	05066	11	C5165 C00-1
02200	CCMPAR	BNR COMPRE	05078	45	C5158 C00CC
02210	BNF	COMPRE,CCMPAR	05090	44	C5158 C5078
02220	TFM	IORT,++23	05102	16	CC565 -5125
02230	B	IOPT,FLP,7	05114	49	CC532 -7CC1
02240	*****	IN-CORE SLBPRCGRAP TABLE SEARCH AND LCAD			
02250	LCCINC	BTM INCGET,++12	05126	17	C691C -5138
02260	CF	COMPAR	05138	33	C5078 C00CC
02270	B	COMPAR-36	05150	49	C5042 C00CC
02280	CORG	=-3	05158		
02290	CCMPRE	BNR SERCH	05158	45	C5178 C00CC
02300	B	SERCH-3	05170	49	C5222 C00CC
02310	CORG	=-3	05178		
02320	SERCH	BD ++32,COMPRE+11,11	05178	43	C521C C516R
02330	AM	COMPRE+11,18,1C	05190	11	C5165 C00J8
02340	B	COMPRE	05202	49	C5158 C00CC
02350	CORG	=-3	05210		
02360	AM	COMPRE+11,11,1C	05210	11	C5165 C00J1
02370	BNF	SERCH-2,CCMPAR	05222	44	C5462 C5078
02380	C	COMPAR+11,CCMPRE+11,611, CHECK FOR SAME NAME	05234	24	C508R C516R
02390	BE	SERCH-1	05246	46	C5278 C12CC
02400	AM	COMPRE+11,7,10	05258	11	C5165 C00-7
02410	B	COMPRE	05270	49	C5158 C00CC
02420	CORG	=-3	05278		
02430	SERCH-1	SM COMPRE+11,11,1C	05278	12	C5165 C00J1
02440	TDM	COMPRE+11,0,6	05290	15	C5168 C00CC
02450	AM	COMPAR+11,5,10	05302	11	C5085 C00-5
02460	AM	COMPRE+11,16,1C	05314	11	C5165 C00J6
02470	A	COMPRE+11,ACDSVE,6	05326	21	C516R C2472
02480	BNF	++56,COMPAR	05338	44	C5354 C5078
02490	CM	COMPAR+11,,67	05350	14	C508R -C00CC
02500	PNE	++32	05362	47	C5354 C12CC
02510	TF	COMPAR+11,CCMPRE+11,611, PCVE ADDRESS IN	05374	26	C508R C516R
02520	B	SERCH-2-2C	05386	49	C5442 C00CC
02530	CORG	=-3	05394		
02540	*****	ROUTINE TO PLACE INDIRECT ENTRY ADDRESSES INTO SUBPROGRAMS			
02550	TF	++35,COMPAR+11,11	05394	26	C5425 C508R
02560	TF	++18,COMPRE+11,11	05406	26	C5424 C516R
02570	TFM	... PCVE ADDRESS INTO PROGRAM	05418	16	C00CC -C00CC
02580	SF	+-6,,6	05430	32	C542P C00CC
02590	AM	COMPAR+11,15,1C	05442	11	C5085 C00J5
02600	B	COMPAR-24	05454	49	C5054 C00CC
02610	CORG	=-3	05462		
02620	*****	ROUTINE TO LCAD ENTRIES IN IN-CORE SUBPROGRAM TABLE			
02630	SERCH-2	CM COMPAR+11,SLBTBL+1C11	05462	14	C5085 -3533

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02640	PNE	++44	05474	47	C5518 C12CC
02650	BTM	EPRINT,75,8	05486	17	C762C C-075
02660	AM	COMPRE+11,7,10	05498	11	C5165 C00-7
02670	BT	COMPAR	05510	49	C5078
02680	BNR	SERCH+56,CCMPAR+11,11	05518	45	C5234 C508R
02690	TF	COMPAR+11,CCMPRE+11,611	05530	26	C508P C516R
02700	AM	COMPAR+11,5,10	05542	11	C5085 C00-5
02710	AM	COMPRE+11,5,10	05554	11	C5165 C00-5
02720	PVACC	TF COMPAR+11,CCMPRE+11,611	05566	26	C508R C516R
02730	A	COMPAR+11,ACDSVE,6	05578	21	C508R C2472
02740	AM	COMPAR+11,15,10	05590	11	C5085 C00J5
02750	AM	COMPRE+11,2,10	05602	11	C5165 C00-2
02760	B	COMPAR	05614	49	C5078 C00CC
02770	CORG	=-3	05622		
02780	SERCH-3	BNR ++44,COMPAR+11,11	05622	45	C5666 C508R
02790	TDM	COMPRE+11,,6	05634	15	C516R C00CC
02800	BTM	INCPL1,++12	05646	17	C6874 -5658
02810	B	PHASEB	05658	49	C5666 C00CC
02820	CORG	=-3	05666		
02830	AM	COMPAR+11,2C,1C	05666	11	C5085 C00K6
02840	B	COMPAR-24	05678	49	C5054 C00CC
02850	CORG	=-3	05686		
02860	*****	LOAD DISK-STORED SUBPROGRAMS			
02870	PHASEB	BTM INCGET,++12	05686	17	C651C -5658
02880	TFM	++23,SUBTBL+11	05698	16	C5721 -2533
02890	ENCTST	BNR ++44,, TEST FOR END OF TABLE	05710	45	C5754 C00CC
02900	CM	PROCON,,9	05722	14	C5656 C0-00
02910	BNE	PHASEC	05734	47	C6514 C12CC
02920	B	CALL3	05746	49	C6054 C00CC
02930	CORG	=-3	05754		
02940	TF	HANBUF,ENDTST+11,11	05754	26	C2441 C572J
02950	AM	ENDTST+11,6,10	05766	11	C5721 C00-6
02960	BNF	INC13-6C,ENDTST+11,11	05778	44	C581C C572J
02970	AM	ENDTST+11,14,1C	05790	11	C5721 C00J4
02980	B	ENDTST	05802	49	C571C C00CC
02990	CORG	=-3	05810		
03000	BTM	INCPUT,++12	05810	17	C6874 -5822
03010	BTM	EQRCH,++12,, SEARCH EQUIVALENCE TABLE	05822	17	C3674 -5834
03020	*****	RETURN IF ENTRY NOT FOUND IN EQUIV. TABLE			
03030	AM	ENDTST+11,1,10	05834	11	C5721 C00-1
03040	BTM	INCGET,++12	05846	17	C651C -5858
03050	BNF	++32,ENDTST+11,11	05858	44	C589C C572J
03060	INC13	AM ENDTST+11,13,10	05870	11	C5721 C00J3
03070	B	ENDTST	05882	49	C571C C00CC
03080	CORG	=-3	05890		
03090	*****	TYPE -LOAD NAME-			
03100	RCTY		05890	34	C00CC C01C2
03110	SPRST	CS ,--5	05896		
03120	WATY	LDMS	05902	39	C7C93 C01CC
03130	WATY	HANBUF-10	05914	39	C2431 C01C0
03140	BTM	INCGET,++12	05926	17	C691C -5930
03150	SF	ENDTST+11,6, SET -TYPE- INDICATOR	05938	32	C572J C00CC
03160	AM	PROCON,1,1C	05950	11	C5656 C00-1
03170	PROCON	CC 3,0,--2	05958		
-00					
03180	BTM	INCPUT,++12	05962	17	C6874 -5874

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03190	TDM	NOCDATA,0	05974	15	C2921	CCCCC
03200	E	INCL3	05986	49	C587C	CCCCC
03210	CORG	--3	C5994			
03220	*****	CHECK AND TYPE OLT NAMES OF UNLACED SUBPROGRAMS				
03230	PHASEC	TDM DATA,1	05994	15	C2905	CCCC1
03240	TFM	++35,SUBTBL+11	06006	16	C6041	-2533
03250	TDM	MORE	06018	15	C6143	CCCCC
03260	BNR	++48	06030	45	C6078	CCCCC
03270	BD	PHASEC-12,PCRE	06042	43	C49C2	C6143
03280	CALL3	TFM IORT,++23	06054	16	C69E5	-6C77
03290	E	IOGT,BL3,7	06066	49	C69E6	-710C
03300	TF	NAMBLF,PHASEC+47,11	06078	26	C2441	C604J
03310	AM	PHASED+47,6,10	06090	11	C6041	CCC-6
03320	BNF	++32,PHASEC+47,11	06102	44	C6134	C604J
03330	AM	PHASEC+47,14,1C	06114	11	C6041	CCCJ4
03340	E	PHASED+36	06126	49	C603C	CCCCC
03350	CORG	--3	06134			
03360	TDM	MORE,1	06134	15	C6143	CCCC1
03370	PCRE	CS ,--2	06143			
03380	RCTY		06146	34	CCCCC	CC1C2
03390	SPROST	CS ,--5	06152			
03400	TDM	DATA,C	06158	15	C2905	CCCCC
03410	HATY	LOMES	06170	35	C7053	CC10C
03420	HATY	NAMBLF-1C	06182	35	C2431	CC10C
03430	B	--RC	06194	49	C6114	CCCCC
03440	CORG	--3	06202			
03450	SIZECK	TF TEMP,INRK+22	06202	26	C7518	C7422
03460	TF	TEMP-6 ,ACDSVE	06214	26	C7512	C2472
03470	TR	LDED+1,NAMBLF-11	06226	31	C7522	C243C
03480	TFM	++3C,LDEC+14	06238	16	C6268	-7535
03490	TFM	++23,TEMP-11	06250	16	C6273	-7507
03500	TD	LDED+14,TEMP-11	06262	25	C7535	C7507
03510	AM	--6,2,1C	06274	11	C6268	CCC-2
03520	AM	--13,1,1C	06286	11	C6273	CCC-1
03530	CM	--25,TEMP+1	06298	14	C6273	-7518
03540	BL	--48	06310	47	C6262	C13CC
03550	WA	LDED+2,9CC	06322	35	C7523	CC9CC
03560	*****	LOAD PROGRAMS ROUTINE				
03570	TF	INCR+11,ACDSVE	06334	26	C7036	C2472
03580	BD	++24,EXTIND	06346	43	C637C	C2463
03590	TF	ENTST+11,ENCTST+11	06358	26	C4621	C5721
03600	SM	ENTST+11,1,1C	06370	12	C4621	CCC-1
03610	TF	++18,ENTST+11,11	06382	26	C64CC	C462J
03620	TF	ENTST+11,SPRCST,6	06394	26	C462J	C6152
03630	REPRCC	RD CDTPLD,EXTIND,, BRANCH IF PROGRAM IN CARD OR TAPE	06406	43	C649C	C2463
03640	SC-LC	TFM IORT,++23,, GET PROGRAM FROM DISK	06418	16	C69E5	-6441
03650	E	IOGT,INDR,7	06430	45	C69E6	-7025
03660	B	RMTBL	06442	49	C3534	CCCCC
03670	CORG	--3	06450			
03680	*****	ROUTINE TO LOAD PROGRAM FROM CARD OR TAPE				
03690	CETPLC	TDM 416	06450	15	CC416	CCOCC
03700	CC	1,*,*	06461			
03710	TD	428,COMPSEC+73	06462	25	CC428	C7373
03720	SF	42P	06474	32	CC42E	CCCCC
03730	MLLGT	CS ,*	06485			

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03740	CF	425	06486	33	CC425	CCCCC
03750	TF	434,ACDSVE	06498	26	CC434	C2472
03760	SF	4A9	06510	32	CC485	CCCCC
03770	TF	COMPSEC+58,INRK+75	06522	26	0735E	C7479
03780	TFM	IORT,++23,, PLT BACK COMMUNICATION SECTOR	06534	16	C69E5	-6557
03790	B	IOPT,COM,7	06546	49	C6532	-7137
03800	TFM	IORT,++23,, GET PROGRAM	06558	16	C69E5	-6581
03810	B	IOGT,EXT,7	06570	49	C69E6	-7114
03820	SM	PRCCC,1,1C	06582	12	C69E5	CC0-1
03830	TDM	EXTIND	06594	15	C2463	CCCCC
03840	B	RMTBL	06606	49	C3534	CCCCC
03850	CORG	--3	06614			
03860	RELFRM	TDM INRK+8C	06614	15	C748C	CCOCC
03870	CC	1,*,*	06625			
03880	TR	INRK,INRK+8,, MOVE INDICATOR RECORD TO COMFRM TO CARD IMAGE	06626	31	C74CC	C7408
03890	CF	427	06638	33	CC427	CCOCC
03900	TFM	439,75	06650	16	CC435	-CC75
03910	TFM	DDAR+13,99999	06662	16	C7293	R5999
03920	TF	SPROST,INRK+31	06674	26	C6152	C7431
03930	AM	SPRCST,4,1C	06686	11	C6152	CC0-6
03940	SURPRC	C INRK+24,F,, TEST FOR EQUAL F	06698	24	C7434	C2219
03950	BNE	++36	06710	47	C6746	C12CC
03960	C	INRK+26,K,, TEST FOR EQUAL K	06722	24	C7426	C2221
03970	BE	++24	06734	46	C6758	C12CC
03980	BTM	EPRINT,76,8	06746	17	C762C	C-076
03990	TFM	MOVE+11,INRK+37,, LDATE SUBROUTINE TABLE	06758	16	C6825	-7437
04000	TFM	MOVE+6,LIBSLB	06770	16	C682C	-2354
04010	CF	MOVE+7	06782	33	C6821	CCOCC
04020	SLPDIG	BD MOVE,PCVE+11,11	06794	43	C6814	C682K
04030	B	MOVE+12	06806	49	C6826	CCCCC
04040	CORG	--3	06814			
04050	PCVE	TD	06814	25	CCOCC	CCOCC
04060	A	MOVE+11,ZEROME	06826	21	C6825	C4777
04070	CM	MOVE+6,LIBSLB+3C	06838	14	C682C	-2424
04080	BE	TRYSZE	06850	46	04278	C12CC
04090	B	SUBDIG	06862	49	C6794	CCOCC
04100	INCPLT	TFM IORT,++23	06874	16	C69E5	-6857
04110	B	IOPT,INC,7	06886	49	C6532	-6949
04120	B	INCPLT-1,,6	06898	49	C687L	CCOCC
04130	INCGET	TFM IORT,++23	06910	16	C69E5	-6933
04140	B	IOGT,INC,7	06922	49	C69E6	-6949
04150	B	INCGET-1,,6	06934	49	C69CR	CCOCC
04160	CPE	CSC 2,22	06946			
04170	CSA	DMECCA	06952			
04180	CC	1,*,*	06952			
04190	CPECCA	CDA ,1,0,1,INRK 1-CC00-C1-74CC	06954			
04200	CC	1,*,*	06968			
04210	INC	CSC 2,02 C2	06969			

04220	CSA	INCCDA		06575	5 X	1
				06575		-2506
04230	CC	1, *		06576		1
04240	ECU	DSC 2,22		06577		2
		22				
04250	DSA	EQUDDA		06583	5 X	1
				06583		-6986
04260	EC	1, *		06584		1
04270	EQUDDA	CDA ,1,C,4,SLBTBL		06586		14
		1-CCCO-C4-2522				
04280	CC	1, *		07000		1
04290	FLP	DSC 2,C2		07001		2
		C2				
04300	CSA	FLPDDA		07007	5 X	1
				07007		-7010
04310	CC	1, *		07008		1
04320	FLPDDA	CDA ,1,C,C,SLBTBL		07010		14
		1-CCCO-CC-2522				
04330	CC	1, *		07024		1
04340	INCR	DSC 2,22		07025		2
		22				
04350	CSA	DDAR,C		07031	5 X	2
				07031		-7280
				07036		-CCCC
04360	CC	1, *		07037		1
04370	DIP	DSC 2,22		07038		2
		22				
04380	CSA	DIPDDA		07044	5 X	1
				07044		-7046
04390	CC	1, *		07045		1
04400	DIPDDA	CDA ,1,4800,1,INRK		07046		14
		1-4800-C1-7400				
04410	CC	1, *		07060		1
04420	DIPSV	DSS 20,, RESERVES CLURRENT DIP ENTRY		07061		20
04430	CCINP	CS 1		07081		1
04440	CCTP	CSA INRK		07086	5 X	1
				07084		-7400
04450	CC	3, *		07085		3
04460	SECCT	CC 2,C		07091		2
		-0				
04470	LCMES	DAC 7,LCAD		07093	7 X	2
		LOAE				

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04480	BL3	DSC 2,-22		07106		2
		2K				
04490		DSC 1,C		07108		1
		C				
04500		CC 5,150*		07113		5
		-150*				
04510	EXT	DSC 2,-22		07114		2
		2K				
04520	CSA	EXTDDA		07120	5 X	1
				07120		-7122
04530	CC	1, *		07121		1
04540	EXTDDA	CDA ,1,15783,3,C		07122		14
		1J5783-C3-CCCC				
04550	CC	1, *		07136		1
04560	CCM	DSC 2,22		07137		2
		22				
04570	CSA	CCMDDA		07143	5 X	1
				07143		-7146
04580	CC	1, *		07144		1
04590	CCMDDA	CDA ,1,15663,1,CCMSEC		07146		14
		1J9663-C1-7300				
04600	CC	1, *		07160		1
04610	LD	DSC 2,C2		07161		2
		C2				
04620	CSA	LCCDA		07167	5 X	1
				07167		-2474
04630	CC	1, *		07168		1
04640	CATAL	DAC 6, *DATA*		07171	6 X	2
		DATA				
04650		DORG 728C		07280		20
04660	DDAR	DSS 20		07280		20
04670	CCMSEC	DSS 100,, SYSTEM COMMUNICATION SECTOR		07300		100
04680	INRK	DSS 100,, READ IN AREA FOR INDICATOR RECCRC		07400		100
04690	END3	SK IT		07500	34	C7548 CC7C1
04700		NDM IT		07512	38	C7548 C07C2
04710		TRA		07524	36	CCCC CC5CC
				07536	49	CCCC CCCCC
				07548		14
04720	IT	CDA ,1,16109,30,348C				
		1J6109-38-348C				
04730		TCD END3		07500		
04740	DEND			00000		

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ACCCW C245C	ENTSC1 02310	PHASEC C4514	INC13 C987C	SECTY 07C91
ACCSVE C2472	ENTSN2 C2288	PHASEC 05994	INC C6569	SECT C2466
CC1PLC C645C	EPRINT 07620	PRCCW C5959	INCR 07C25	SERCH 05178
CCPACC C2231	EGACDR 02455	PRCGST C2226	INRK C74CC	SPRST 05896
CCPCDA C7146	EGSNC1 03674	RCPRCG C6406	ICGT CC566	SACH C3594
CCPPAR C5078	EGLDCA C6586	RELFRP C6614	ICINC C2461	TBLD C4958
CCPPER C3722	ERTDCA 07122	RL3 07106	IOPT CC532	TEPP C7518
CCPPE C5158	ERTINC C2463	CALL3 C6C54	IOPT CC565	W C224C
CCMSEC C730C	FLGRPK C2445	CEIAP C7081	IT C7548	SCACDR C2460
CIPCCA C7046	FLPDDA 07C1C	CETP C7086	K C2221	SERCH1 C5278
CIPSVE C7061	FCLND1 03982	CCPP C3754	LCCDA 02474	SERCH2 05462
DMEDDA C6954	HEADER 048C2	CCP C7137	LCEC C7521	SERCH3 05622
ENCTST C571C	IACDDA C7506	CATA1 C7171	LCPE5 C7C53	SIZECK C62C2
ENTABS C2923	INCGET C691C	CATA C25C5	LC C7161	SPRST C6152
ENTATN C2313	INCPUT 06874	CCAR 0728C	PLINC 02462	SLD01G 06794
ENTCOS C23C3	INCCCA C4169	CIP C7C38	PCRE C6143	SLBPRC 06698
ENTCEC C2258	LBSL2 C2394	CPE C6946	PCVE C6814	SLBTBL C2522
ENTCRR C2253	LCDIAC 05126	EAC3 C75CC	PVACC C5566	SVEDCA 02490
ENTEXP C2253	MLLGH1 06485	ENTLA 02248	N1 C2233	TBLIND 03615
ENTFET C2283	MCACAL 0C796	ENTST C4610	N2 C2238	TRY5ZE 04278
ENTFIC C2273	NAPBLF C2441	ECL C6977	NXTRC C3814	TSTVLC C4114
ENTREC C2278	NCCATA 02521	EPT C7114	READ C455C	ZERCNE 04777
ENTSC1 C225E	ORETNC 04705	FLP C7C01	RECLG 02243	ZRCTST C2467
ENTSC2 C2263	CVRLAP C2444	FCUAC C3874	RMCHK C4642	
ENTSC3 C226E	CVRPES C7575	F 02219	RPTBL C3534	
ENTSIN C23CE	PHASEE 05686	GCAXT C4598	SCPLD C6418	

END OF ONE ASSEMBLY.

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00C1C N1 CS ,2233	C2233	C
00C20 M2 CS ,2236	C2238	C
00C30 W CS ,224C	C224C	C
00C40 RECLC CS ,2243	C2243	C
00C50 ICRT CS ,565	CC565	C
00C60 ICGT CS ,566	CC566	C
00C70 ICPT CS ,532	CC532	C
00C80 ERRET CS ,6C2	CC6C2	C
00C90 INCS CS ,61C	CC61C	C
00100 ERRRCR CS ,624	CC624	C
00110 CIC CS ,816	CC816	C
00120 LIBSL2 CS ,2394	C2394	C
00130 CCPACC CS ,2231	C2231	C
00140 CORG DC 2426	02426	
00150 NAPBLF DC 16,C	C2441	16
0016C -CCCCCCCCCCCCC		
CC 2, *	C2443	2
00170 CVRLAP DS 1	C2444	1
0018C FLGRPK DS 1	C2445	1
0019C ACCCW CS 5	C2450	5
0020C EGACDR DS 5	02455	5
00210 SCACDR DS 5	C246C	5
00220 ICINC CS 1	C2461	1
00230 PLINC CS 1	C2462	1
00240 EXTINC DS 1	C2463	1
00250 SECT DS 3	C2466	3
00260 ZRCTST DS 1	C2467	1
0027C ACSVE CS 5	C2472	5
00280 TEMP DS ,7518	07518	C
00290 LCEC CS ,TEPP+3	C7521	C
0030C CVRPES CS ,LCEC+54	07575	C
0031C CC 1, *	C2473	1
00320 LCCDA CDA ,1,C,C,C	C2474	14
1-CCCO-CC-CCCC		
CC 1, *	C2488	1
0033C		
0034C SVECCA CDA ,1,C,21,C	0249C	14
1-CCCO-21-CCCC		
CC 1, *	025C4	1
0035C		
0036C DATA CS 1	C25C5	1
00370 INCDCA CDA ,1,C,C,C	C25C6	14
1-CCCO-CC-00CC		
CC 1, *	C252C	1
0038C		
0039C CS 1	C2521	1
0040C SLBTBL CSS 1CCO	C2522	1CCC
0041C CC 12, *	C3933	12
-CCCCCCCCC		
00420 LNKACC CS 5	C3938	5
0043C FLPDDA CDA ,1,C,0,SLBTBL	C394C	14
1-CCCO-CC-2522		
CC 1, *	C3954	1
0044C		

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00450 *****	LIBRARY SUBROUTINE LOACER ROUTINE						
00460 LBSUBA	CF PTRS+1			C3556	33	C5742	CCCC
00470	CF PTRS+6			C3568	33	C5747	CCCC
00480 CIMCT	DS *			C3579		C	
00490	TFM IORT,++23,, GET SUBROUTINE CIM ENTRIES (6 SECTORS)			C3580	16	C6545	-36C3
00500	B IOGT,LIB,7			C3592	49	C6544	-57C8
00510	BD ++56,PTRS,11, BRANCH IF SUBROUTINE FCUNC			C3604	43	C3640	C574J
00520	S PTRS+10,PTRCCN,, DECREMENT PCINTERS TC NEXT ENTRY			C3616	22	C5751	C576J
00530	CM PTRS,LIBSUB-1			C3628	14	C5741	-2393
00540	BE RMTBL			C3640	46	C4624	C12CC
00550	B *-48			C3652	45	C3604	CCCC
00560	DORG *-3			C3660			
00570	CM PTRS,LIBSUB+5			C3660	14	C5741	-2399
00580	BL ++48			C3672	47	C372C	C13CC
00590	CM PTRS,LIBSUB+7			C3684	14	C5741	-24C1
00600	BM ++24			C3696	46	C372C	C11CC
00610	TDM ZROTST,1			C3708	15	C2467	CCCC1
00620	BNR ++32,PTRS+1C,11, TEST FOR EMPTY CIM ENTRY			C3720	45	C3752	C575J
00630	S PTRS+10,PTRCCN,, DECREMENT PCINTERS TC NEXT ENTRY			C3732	22	C5751	C576J
00640	B *-24			C3744	49	C372C	CCCC
00650	DORG *-3			C3752			
00660	AM PTRS+1C,8,1C			C3752	11	C5751	CCO-8
00670	TF LIBCDA+8,PTRS+1C,11			C3764	26	C575C	C575J
00680	AM PTRS+1C,5,1C			C3776	11	C5751	CCO-5
00690	TF ADDSVE,ADCCCB			C3788	26	C2472	C245C
00700	AM ADDSVE,1,1C			C3800	11	C2472	CCO-1
00710	A ADCCCB,PTRS+10,11, INCREMENT ADDRESS COUNTER BY LENGTH			C3812	21	C5751	C575J
00720	AM PTRS+1C,5,1C			C3824	11	C5751	CCO-5
00730	TF DIMCT,PTRS+1C,11			C3836	26	C3575	C575J
00740	A PTRS,DIMCT			C3848	21	C5741	C3570
00750 DIMLC	SM PTRS,1,1C			C3860	12	C5741	CCO-1
00760	SM DIMCT,1,1C			C3872	12	C3575	CCO-1
00770	TDM PTRS,1,6			C3884	15	C574J	CCCC1
00780	CM DIMCT			C3896	14	C3575	-COCC
00790	BNE DIMPLD			C3908	47	C386C	C12CC
00800	SM PTRS+1C,5,1C			C3920	12	C5751	CCO-5
00810	C ADCCCB,CCMADC			C3932	24	C245C	C2231
00820	BL ++24			C3944	47	C396C	C13CC
00830	TDM CVRLAP,1			C3956	15	C2444	CCCC1
00840	TF TEMP-12 ,PTRS , ,CALCULATE SUBROUTINE NO.			C3968	26	C750C	C5741
00850	SM TEMP-12 ,LIBSUB , ,			C3980	12	C750C	-2354
00860	AM TEMP-12 ,1 ,1C,			C3992	11	C750C	CCO-1
00870	BD LAP,CVRLAP			C4004	43	C4144	C2444
00880	TF TEMP,PTRS+1C,11			C4016	26	C7518	C575J
00890	TF TEMP-6,ADCSVE			C4028	26	C7512	C2472
00900	TFM ++3C,LDED1			C4040	16	C407C	-58C5
00910	TFM ++23,TEPP-13			C4052	16	C4075	-75C5
00920	TD LDED1 ,TEPP-13			C4064	25	C58C5	C75C5
00930	AM *-6,2,1C			C4076	11	C407C	CCO-2
00940	AM *-13,1,1C			C4088	11	C4075	CCO-1
00950	CM *-25,TEPP+1			C4100	14	C4075	-7519
00960	BL *-48			C4112	47	C4064	C13CC
00970	WA LDEC1 ,9CC			C4124	35	C58C5	CC9CC
00980	B7 LBSUB1			C4136	49	C4296	
00990 LAP	TF TEMP,PTRS+1C,11			C4148	26	C7518	C575J
01000	TF TEMP-6,TEPP-12			C4160	26	C7512	C75C6

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01010	TFM ++30,ORPES+6			C4168	16	C4198	-5771
01020	TFM ++23,TEPP-7			C4180	16	C42C3	-7511
01030	TD ORPES+6,TEPP-7			C4192	25	C5771	C7511
01040	AM *-6,2,1C			C4204	11	C4198	CCO-2
01050	AM *-13,1,1C			C4216	11	C42C3	CCO-1
01060	CM *-25,TEPP+1			C4228	14	C42C3	-7519
01070	BL *-48			C4240	47	C4152	C13CC
01080	WA ORPES+6,90C			C4252	35	C5771	CC9CC
01090	S ADCCCB,PTRS+10,11, RESET ADDRESS COUNTER			C4264	22	C245C	C575J
01100	SM PTRS+1C,13,1C, CORRECT CIM PCINTER			C4276	12	C5751	CCCCJ
01110	B LBSUBA+6C,, , BRANCH TC CHECK NEXT ENTRY			C4288	49	E3E16	CCCC
01120	DORG *-3			C4296			
01130 LBSUB1	SM PTRS+10,5,1C, DECREMENT CIM TC SECTOR COUNT			C4296	12	C5751	CCO-5
01140	TF LIBCDA+8,PTRS+1C,11, MOVE IN SECTOR COUNT			C4308	26	C575C	C575J
01150	SM PTRS+1C,3,1C, DECREMENT CIM TC DISK ADDRESS			C4320	12	C5751	CCO-3
01160	TF LIBCDA+5,PTRS+1C,11, TRANSFER DISK ADDRESS			C4332	26	C5727	C575J
01170	TF DMEDDA+5,LIBCDA+5,, SET UP ONE SECTOR CDA			C4344	26	C5861	C5727
01180	SM PTRS+1C,5,1C, DECREMENT TC DISK DRIVE CODE			C4356	12	C5751	CCO-5
01190	TD LIBCDA,PTRS+10,11, TRANSFER DRIVE CODE			C4368	25	C5722	C575J
01200	TD DMECDA,LIBCDA			C4380	25	C5854	C5722
01210	TFM IORT,++23,, GET ONE SECTOR OF SUBROUTINE			C4392	16	C5945	-4415
01220	B IOGT,DPE,7			C4404	45	C4364	-5848
01230	TFM ++23,INRK+8			C4416	16	C4395	-74C8
01240 LBSUB2	BNR RELOC			C4428	45	C458C	COCCC
01250	TF 99,PTRS+5			C4440	26	C6C95	C5746
01260	A 99,INRK+7			C4452	21	CC955	C74C7
01270	TD ++35,99,11, SAVE DIGIT TC BE OVERLAYED			C4464	25	C4455	CCO8R
01280	TR PTRS+5,INRK+8,8, LCAD ENTRY ADDRESS			C4476	31	C574C	C74C8
01290	TDM 99,,6, RESTORE DIGIT			C4488	15	CC98R	CCCC
01300	TF LIB+11,ADCSVE			C4500	26	C5715	C2472
01310	CF LIBCDA+13,95999			C4512	16	C5735	R9959
01320	TFM 427			C4524	33	C0427	COCCC
01330	TFM 439			C4536	16	CC436	-CCCC
01340	TFM IORT,++23,, LCAC SUBROUTINES			C4548	16	CC565	-4571
01350	B IOGT,LIB,7			C4560	49	CC566	-57C8
01360	B LBSUBA+6C			C4572	49	C3616	COCCC
01370	DORG *-3			C4580			
01380 *****	RELOCATE ENTRY ADDRESSES						
01390 RELOC	AM LBSUB2+11,4,10			C4580	11	C4435	CCO-4
01400	A LBSUB2+11,ADCSVE,6, RELOCATE ADDRESS			C4592	21	C443R	C2472
01410	AM LBSUB2+11,1,10			C4604	11	C4435	CCO-1
01420	B LBSUB2			C4616	49	C442E	CCCC
01430	DORG *-3			C4624			
01440 RPTBL	CM COMSEC+75,,10, BRANCH IF NO LCCAL CARDS			C4624	14	C7375	CCO-C
01450	BNE ++48			C4636	47	C4684	C12CC
01460 CALL6	TF INRK+4,INCDDA+5			C4648	26	C74C4	C2511
01470	TFM IORT,++23			C4660	16	CC965	-4683
01480	B IOGT,DL6,7			C4672	49	CC966	-5692
01490	BD CALL6,OVRLAP			C4684	43	C4648	C2444
01500	TFM IORT,++23			C4696	16	CC965	-4719
01510	B IOGT,LD,7			C4708	49	CC966	-57C8
01520	TFM ++23,SUBTBL+11			C4720	16	C4743	-2593
01530 SRCH	BNR ++20,, TEST FOR END OF TABLE			C4732	45	C4752	CCCC
01540	B CALL6			C4744	49	C4648	CCCC
01550	DORG *-3			C4752			
01560	C COMSEC+35,SRCH+11,11			C4752	24	C7335	C474L

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01570	BE	TALLC	04764	46	04796	C12CC
0158C	AM	SRCH+11,2C,1C, INCREMENT TO NEXT ENTRY	04776	11	04743	CCGNC
01590	B	SRCH	04788	49	04732	CCCCC
0160C	DORG	=-3	04796			
0161C	TALLC	AM SRCH+11,3,1C	04796	11	04743	CCC-3
0162C	TF	FLPCCA+8,SRCH+11,11	04808	26	03546	C474L
0163C	AM	SRCH+11,5,1C	04820	11	04743	CCC-5
0164C	TF	FLPCCA+5,SRCH+11,11	04832	26	03545	C474L
01650	TFM	ICRT,++23	04844	16	03565	-4867
0166C	B	IOGT,FLP,7	04856	49	03566	-592C
01670	Y	AM X+11,6,1C	04868	11	04915	CCC-6
0168C	CC	1,,-2	04877		1	
0169C	TR	X+11,Y+7,6	0488C	31	0491A	C4875
0170C	AM	X+11,14,10	04892	11	04915	CCCJA
01710	X	BNR Y,SLPTL+11,7	04904	49	04866	-2533
01720	TFM	ICRT,++23	04916	16	03565	-4939
0173C	B	IOPT,FLP,7	04928	49	03532	-592C
0174C	TF	FLPPRO+11,ACCCCb	0494C	26	03936	C245C
01750	AM	FLPPRC+11,1,10	04952	11	03935	CCC-1
0176C	TF	STACC,FLPPRC+11	04964	26	035C4	C9839
0177C	A	ADDCCb,FLPCCb	04976	21	0245C	C5047
0178C	TF	LNKACD,ACCCCb	04988	26	03938	C249C
01790	AM	LNKACD,24,1C	05000	11	03938	CCCN4
0180C	C	ADDCCb,CCPACC	05012	24	0245C	C2231
0181C	BM	FLPOVR	05024	46	03664	C11CC
01820	CF	427	05036	33	00427	CCCCC
0183C	FLPCCb	CC 5,3CC,0	05047		5	
01840	TFM	439,C	05048	16	00439	-CCCC
01850	TFM	ICRT,++23	05060	16	00565	-5083
01860	B	IOGT,FLPPRC,7	05072	49	00566	-5928
0187C	FLIP	TF FLPLAK+11,FLPPRC+11	05084	26	03802	C5939
01880	AM	FLPLAK+11,4,10	05096	11	03802	CCC-4
0189C	TF	FLPLAK+11,ACCCCb,6	05108	26	0380K	C245C
0190C	AM	FLPLAK+11,1,61C	05120	11	0380K	CCC-1
0191C	AM	FLPLAK+11,6,1C	05132	11	03802	CCO-6
01920	SIZECK	BNR CALL5+24,SLBTBL+11	05144	45	03488	C2533
0193C	TF	ADDSVE,ACCCCb	05156	26	02472	C245C
0194C	AM	FLPPRC+11,4,1C	05168	11	03535	CCC-4
0195C	AM	ADDSVE,3,1C	05180	11	02472	CCO-3
01960	TF	FLPPRC+11,ADDSVE,6	05192	26	03538	C2472
0197C	AM	ADDCCb,2,1C	05204	11	0245C	CCC-2
0198C	BD	LAP2,CVRLAP	05216	43	03566	C2444
0199C	TF	TEMP,FLPCCb	05228	26	03518	C5047
0200C	TR	TEMP-6,STACC	05240	26	03512	C59C4
0201C	TR	LDEC+1,FLPPES-1	05252	31	03522	C59C6
02020	TFM	++3C,LDEC+14	05264	16	03244	-7539
0203C	TFM	++23,TEMP-11	05276	16	03295	-75C7
0204C	TD	LDEC+14,TEMP-11	05288	25	03535	C75C7
0205C	AM	=+6,2,1C	05300	11	03244	CCC-2
02060	AM	=-13,1,1C	05312	11	03245	CCC-1
0207C	CM	=-25,TEMP+1	05324	14	03245	-7519
0208C	BL	=-48	05336	47	03288	C13CC
0209C	WA	LDEC+2,9CC	05348	39	03523	CC9CC
0210C	BT	CALL5	05360	45	03464	

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02110	LAP2	TR OVRPES-1,FLPPES-1	05368	31	03574	C59C6
02120	TD	OVRPES+12	05380	15	03587	CCCCC
0213C	TD	OVRPES+14,FLPCCb-4	05392	25	03585	C5043
0214C	TD	OVRPES+16,FLPCCb-3	05404	25	03591	C5044
02150	TD	OVRPES+18,FLPCCb-2	05416	25	03593	C5045
02160	TD	OVRPES+20,FLPCCb-1	05428	25	03595	C5046
0217C	TD	OVRPES+22,FLPCCb	05440	25	03597	C5047
02180	WA	OVRPES,9CC	05452	39	03575	CC9CC
0219C	CALL5	TFM ICRT,++23	05464	16	00565	-5487
0220C	B	IOGT,BL5,7	05476	49	00566	-5684
0221C	TF	SECLNK+6,ACCCCb	05488	26	03542	C245C
02220	AM	SECLNK+6,2,1C	05500	11	03542	CCO-2
02230	AM	ADDCCb,19,1C	05512	11	0245C	CCCJ6
0224C	TF	FLPLAK+16,ACCCCb	05524	26	03807	C245C
0225C	SECLNK	TR ,FLPLNK	05536	31	00CCC	C5871
02260	AM	SIZECK+11,5,10	05548	11	03155	CCC-5
0227C	AM	SECLNK+6,5,1C	05560	11	03542	CCC-5
0228C	TF	++18,SIZECK+11,11	05572	26	0359C	C519A
0229C	TF	,SECLNK+6	05584	26	00CCC	C5542
0230C	AM	SIZECK+11,15,1C	05596	11	03155	CCCJ5
0231C	AM	ADDCCb,11,1C	05608	11	0245C	CCCJ1
0232C	AM	FLPCCb,3C,1C	05620	11	03047	CCCLC
0233C	C	ADDCCb,CCPACC	05632	24	0245C	C2231
0234C	BM	FLPOVR	05644	46	03664	C11CC
02350	B	SIZECK	05656	49	03144	CCCCC
02360	DORG	=-3	05664			
02370	FLPOVR	TD OVRRLAP,1	05664	15	02444	CGOC1
02380	B	FLIP	05676	49	03C84	CCCCC
0239C	DORG	=-3	05684			
0240C	BL5	DSC 2,-22	05684		2	
02410	DSC	1,C	05686		1	
02420	CC	5,152'	05691		5	
02430	BL6	DSC 2,-22	05692		2	
0244C	DSC	1,C	05694		1	
02450	CC	5,157'	05699		5	
02460	CIMTBL	CS ,SUBTBL+999	03121		C	
02470	CIMTBL	CS ,SUBTBL	02522		C	
02480	LC	DSC 2,C2	05700		2	
02490	DSA	LODDA	05706		5	1
02500	CC	1,'	05706		-2474	
02510	DSC	2,22	05707		1	
02520	DSA	LINDCA,C	05708		2	
02530	DSA	LINDCA,C	05714		5	2
02540	DSA	LINDCA,C	05714		-5722	
02550	DSA	LINDCA,C	05714		-0CCC	

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02530	CC	1, *		C5720	1	
02540	CC	1, *, LIB+7		C5715	1	
02550	LIRCCA	CDA ,1,48C2,6,DIPTB		C5722	14	
		1-4802-C6-2522				
02560	CC	1, *		C5736	1	
02570	PTRS	CSA LIBSLB+29,LIBSLB-5,CIPTBL-19		05741	5 X	3
				05741		-2423
				05746		-2385
				05751		-3102
				05763		12
02580	PTRCN	CC 12,C100CC5CCC2C				
		-1CCC05CCC20				
02590	CRMES	DAC 2C,99999 99999 OVERLAP*		C5765	2C X	2
		99999 99999 OVERLAP*				
02600	LCED1	DAC 22,77 77777 77777 LCADEC*		C5805	22 X	2
		77 77777 77777 LCADEC*				
02610	CPE	ESC 2,22		C5848	2	
		22				
02620	CSA	DMEDCA		05854	5 X	1
				C5854		-5856
				C5855		1
02630	CC	1, *		C5856	14	
02640	DMEDCA	DDA ,1,C,1,1,ARK		C5870	1	
		1-CCCC-C1-74CC				
02650	CC	1, *		C5871	5	
02660	FLPLAK	DSC 5,C		C5876	17	CCCC -CCCC
		COCCC		C5888	1	
02670	BTP					
02680	DSC	1,1		05893	5	
		1				
02690	CC	5,C		C5895	6	
		-OCCC				
02700	CC	6, *		C5904	5	
		-OCCC*		C5905	1	
02710	STAD	CS 5		C5907	7 X	2
02720	CC	1, *,		C5920	2	
				C5926	5 X	1
02730	FLPMES	DAC 7,FLIPER*		C5926		-354C
		FLIPER*		C5927	1	
02740	FLP	ESC 2,C2		C5928	2	
		C2				
02750	CSA	FLPCCA		C5934	5 X	2
				C5934		-5942
02760	CC	1, *				
02770	FLPPRC	DSC 2,22				
		22				
02780	CSA	FLDDA,C				

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02790	CC	1, *		C5935		-CCCC
				C5940		1
02800	FLDDA	CDA ,1,16195,999,99999		C5942	14	
		1J6195R99R99999				
02810	CC	1, *		C5956	1	
02820	DORC	72BC		C7280		
02830	CCAR	CSS 2C		C7280		2C
02840	CCMSEC	CSS 1CC,, SYSTEM COMMUNICATION SECTOR		C7300		1CC
02850	INRK	DSS 10C,, READ IN AREA FOR INDICATOR RECCRD		C7400		1CC
02860	END4	SK IT		C7500	34	C7548 CC7C1
02870	WON	IT		C7512	38	C7548 CC7C2
02880	TRA			C7524	36	CCCC CC500
				C7536	45	CCCC CCCCC
				C7548		14
02890	IT	DDA ,1,16949,25,3534				
		1J6949-25-3534				
02900	TCD	END4		C7500		
02910	DENC			CCCC		

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ACCCO	C249C	LBSUB1	04296	CIPCT	C3579	IORT	CC565	RPTBL	C4624
ACCSVE	C2472	LBSUB2	04420	CIPLC	C3060	IT	C7540	SECT	C2466
CCMCC	C2231	LBSUBA	03556	CIPTB	C2522	LAP2	C5300	SRCH	C4732
CCPSC	C73CC	LIBDDA	05722	CIC	0C016	LAP	04144	STADD	C5904
DIHTPL	C3121	LIRSLB	02394	CPE	C5040	LCCDA	C2474	TELLC	C4706
DPECCA	C5856	LNRACC	C3530	EAC4	C75CC	LCCD1	C90C5	TEPP	C7510
EGACCR	C2455	NAPBLF	C2441	ERRCT	CC6C2	LCEC	C7521	h	C224C
EXTIND	C2463	OVR LAP	02444	ERRCR	0C624	LC	057CC	Y	04904
FLGRPK	C2445	CVRPES	07575	FLCCA	C5942	L10	C57CC	Y	04860
FLPCCO	C5047	PTRCN	05763	FLIP	C5084	PLINC	C2462	SCACDR	02460
FLPCCA	C354C	BL5	05604	FLP	C552C	N1	C2233	SECLN	C5536
FLPLNK	C5871	BL6	05692	INCS	0C610	N2	02230	SIZECK	C5144
FLPPES	C5907	CALL5	05464	IARK	C74CC	ORPES	C5765	SL0TBL	02522
FLPCVR	C5664	CALL6	04640	ICGT	CC566	PTRS	C5741	SVECCA	C249C
FLPPRO	C5920	DATA	C2505	ICINC	C2461	RECLG	C2243	ZROTST	C2467
INCCDA	C2506	CCAR	07200	ICPT	CC532	RELOC	C498C		

END OF ONE ASSEMBLY.

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00C10	*								
00C2C	*								
00C3C	ICPT	DS	,532			CC532		C	
00C4C	ICGT	DS	,566			CC566		C	
00C50	ICRT	DS	,565			CC565		C	
00C60	MCNICAL	DS	,796			CC796		C	
00C7C	***	COMMUNICATION AREA							
00CFC	DORG		2210						
00C90	F	DS	2,,	FLOATING PCINT WCRD LENGTH		C2210		2	
001C0	K	DS	2,,	FIXED PCINT WCRD LENGTH		C2211		2	
0011C	PRCGST	DS	5,,	STARTING ADDRESS CF MAINLINE PRCGRAN		C2226		5	
0012C	CCPACC	DS	5,,	STARTING ADDRESS CF CCPMCA AREA		C2231		5	
00130	N1	DS	2,,	NUMBER CF WCROS IN LOGICAL RECCRC		C2233		2	
00140	N2	DS	5,,	NUMBER CF LOGICAL RECCRS		C2230		5	
0015C	W	DS	2,,	WCRD LENGTH		C224C		2	
00160	RECLG	DS	3,,	RECORD LENGTH		C2243		3	
00170	ENTLN	DS	5,,	ENTRY ADDRESS TC LCG SUBRCUTINE		C2240		5	
00180	ENTEXP	DS	5,,	ENTRY ADDRESS TC EXPONENTIAL SUBRCUTINE		C2253		5	
0019C	ENTSC1	DS	5,,	ENTRY ADDRESS TC SINGLE SUBSCRIPT SUBRCUTINE		C2250		5	
002CC	ENTSC2	DS	5,,	ENTRY ADDRESS TC DOUBLE SUBSCRIPT SUBRCUTINE		C2263		5	
00210	ENTSC3	DS	5,,	ENTRY ADDRESS TC TRIPLE SUBSCRIPT SUBRCUTINE		C2260		5	
00220	ENTFIC	DS	5,,	ENTRY ADDRESS TC FINC SUBRCUTINE		C2273		5	
00230	ENTFEC	DS	5,,	ENTRY ADDRESS TC RECCRD SUBRCUTINE		C2270		5	
0024C	ENTFET	DS	5,,	ENTRY ADDRESS TC FETCH SUBRCUTINE		C2203		5	
00250	ENTFNC	DS	5,,	ENTRY ADDRESS TC SWITCH C SUBRCUTINE		C2200		5	
00260	ENTDRR	DS	5,,	ENTRY ADDRESS TC ARRAY SUBRCUTINE		C2293		5	
0027C	ENTDEC	DS	5,,	ENTRY ADDRESS TC DISK END SUBRCUTINE		C2290		5	
0028C	ENTCOS	DS	5,,	ENTRY ADDRESS TC COSINE SUBRCUTINE		C2303		5	
0029C	ENT SIN	DS	5,,	ENTRY ADDRESS TC SINE SUBRCUTINE		C2300		5	
0030C	ENTATN	DS	5,,	ENTRY ADDRESS TC ARCTANGENT SUBRCUTINE		C2313		5	
0031C	ENTSCY	DS	5,,	ENTRY ADDRESS TC SQUARE RCCT SUBRCUTINE		C2310		5	
00320	ENTABS	DS	5,,	ENTRY ADDRESS TC ABSOLUTE SUBRCUTINE		C2323		5	
0033C		DS	70,,	RESERVED FOR ENTRIES TC ADCC SUBRCUTINES		C2393		7C	
00340	TEPP	DS	,7510			C7510		C	
00350	LCEC	DS	,TEPP+3			C7521		C	
0036C	OVRMES	DS	,LDED+54			C7575		C	
00370	EPRINT	DS	,762C			C7620		C	
00380	LIRSLB	DSS	30,,	LIBRARY SUBRCUTINE INDICATORS		C2394		3C	
0039C	CC		1,,			C2424		1	
004C0	*****	MAINLINE TABLE SEARCH							
00410	DORG		2426			02426			
00420	NAPBLF	CC	16,C			02441		16	
			-0CC000CC00CC0C						
00430	CC		2,,			02443		2	
			-,						
0044C	OVR LAP	DS	1			C2444		1	
00450	FLGRPK	DS	1			02445		1	
00460	ACCCO	DS	5			0249C		5	
00470	EGACCR	DS	5			02495		5	
0048C	SCACDR	DS	5			0246C		5	
00490	IGINC	DS	1			02461		1	
005C0	PLINC	DS	1			02462		1	
00510	EXTINC	DS	1			02463		1	
00520	SECT	DS	3			02466		3	
00530	ZROTST	DS	1			02467		1	

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0054C	ACCSVE	CS	5			C2472	5		
0055C	CC	1,	'			02473	1		
0056C	LEEDA	DDA	,1,C,C,SLBTBL			02474	14		
			1-CCCO-CC-2522						
0057C	CC	1,	'			C2488	1		
0058C	SVECCA	DDA	,1,C,21,C			0249C	14		
			1-CCCO-21-CCCC						
0059C	CC	1,	'			C2504	1		
0060C	DATA	CC	1,C			C25C5	1		
0061C	INCCDA	DDA	,1,C,10,SUBTBL			025C6	14		
			1-CCCO-1C-2522						
0062C	CC	1,	'			C252C	1		
0063C	NGDATA	DS	1			C2521	1		
0064C	SLETBL	DSS	1CCC			C2522	1CCC		
0065C	CC	12,	'			03533	12		
			-CCCCOCCCC'						
0066C	LNKACC	CS	5			03538	5		
0067C	FLPDCA	DDA	,1,C,C,SLBTBL			0354C	14		
			1-CCCO-CC-2522						
0068C	CC	1,	'			C3554	1		
0069C	*****		LOAD DISK-STCRED SLBPRCGRAMS						
0070C	AM	SPRST,	218			C3556	11	C6755	-C218
0071C	TF	SCHCCA+5,	INCCDA+5			03568	26	C6865	C2511
0072C	TF	SCHCCA+13,	ACCSVE			0358C	26	C6873	C2472
0073C	PHASEB	BTM	FLPGET,++12			03592	17	C6744	-36C4
0074C	TF	LNKPTR,LNKACC				036C4	26	C6784	C3538
0075C	TFM	++23,SUBTBL+11				03616	16	C3635	-2533
0076C	ENCTST	BNR	++44,,, TEST FOR END CF TABLE			03628	45	C3672	CCCC
0077C	CM	PRCCCN,,9				0364C	14	C3822	CC-CC
0078C	BNE	PHASEC				03652	47	C4752	C12CC
0079C	B	CALL6				03664	49	C6524	CCCC
0080C	DORG	+-3				03672			
0081C	TF	NAMBLF,ENDST+11,11				03672	26	C2441	C363R
0082C	AM	ENDST+11,C,10				03684	11	C3635	CCC-6
0083C	BNF	INC13-56,ENDST+11,11, TEST FOR -LCACED- INDICATOR				03696	44	C374C	C363R
0084C	AM	ENDST+11,14,1C				037C8	11	C3635	CCJ4
0085C	AM	LNKPTR,3C,1C				0372C	11	C6784	CCCLC
0086C	B	ENDST				03732	45	C362E	CCCC
0087C	DORG	+-3				0374C			
0088C	BTM	FLPPLT,++12				0374C	17	C67C8	-3752
0089C	B	EQRCH				03752	49	C3532	CCCC
0090C	DORG	+-3				0376C			
0091C	*****		RETURN IF ENTRY NOT FOUND IN EQUIV. TABLE						
0092C	AM	ENDST+11,1,10				0376C	11	C3635	CCC-1
0093C	BTM	FLPGET,++12				03772	17	C6744	-3784
0094C	BNF	++32,ENDST+11,11				03784	44	C3816	C363R
0095C	INC13	AM	ENDST+11,13,1C	1113		03796	11	C3635	CCJ3
0096C	B	ENDST				038C8	45	C362E	CCCC
0097C	DORG	+-3				03816			
0098C	*****		TYPE -LOAD NAME-						

0099C	RCTY					C3816	34	CCCC	CC1C2
0100C	PRCCCN	CC	3,C,+-5			C3822	3		
			-OC						
0101C	WATY	LOWES				03828	35	C7C17	CC1CC
0102C	WATY	NAMBLF-1C				0384C	35	C2431	CC1CC
0103C	BTM	FLPGET,++12				03852	17	C6744	-38C4
0104C	SF	ENDST+11,,6, SET -TYPED- INDICATOR				03864	32	C363R	CCOCC
0105C	AM	PRCCCN,1,C				03876	11	C3822	CCC-1
0106C	AM	LNKPTR,3C,1C				03888	11	C6784	CCCLC
0107C	BTM	FLPPLT,++12				035C0	17	C67C8	-3912
0108C	TDM	NOADA,C				03512	15	C2521	CCOCC
0109C	B	INC13				03524	45	C3756	CCCC
0110C	DORG	+-3				C3532			
0111C	EGRCH	TF	EQUDDA+5,EQACDR			C3522	26	C6521	C2455
0112C	TF	INRK+48,SECT				03544	26	C744E	C2466
0113C	TFM	IORT,++23,, READ IN FOUR SECTORS CF EQUIV. TABLE				03556	16	C5565	-3975
0114C	B	IOGT,7				03568	49	C5566	-69C7
0115C	CCMPER	TFM	COMP+11,SUBTBL+11,, SEARCH ECLIV. TABLE			0358C	16	C4C23	-2533
0116C	BNR	++2C,COMP+11,11				03592	45	C4C12	C4C2L
0117C	B	NXTRC+24				04CC4	45	C4C56	CCCC
0118C	DORG	+-3				04C12			
0119C	CCPP	C	NAMBLF			04C12	24	C2441	CCCC
0120C	BE	FOUND				04C24	46	C414C	C12CC
0121C	AM	COMP+11,16,1C, INCREMENT TO NEXT NAME				04C36	11	C4C23	CCJ6
0122C	CM	COMP+11,SUBTBL+11,, TEST FOR END CF TABLE				04C36	14	C4C23	-2933
0123C	BNE	CCMPER+12				04C60	47	C3552	C12CC
0124C	NXTRC	CM	INRK+48,C,9, TEST FOR END CF EQUIV. TABLE			04C72	14	C744E	CC-CC
0125C	BH	++2C				04C84	46	C41C4	C11CC
0126C	B	INC13-36				04C96	49	C376C	CCCC
0127C	DORG	+-3				04104			
0128C	SM	INRK+48,4,1C, DECREMENT SECTOR COUNT				04104	12	C744E	CCC-4
0129C	AM	EQUDDA+5,4,1C				04116	11	C6521	CCC-4
0130C	B	CCMPER-24				04128	49	C3556	CCCC
0131C	FOUND	AM	COMP+11,4,1C, INCREMENT TO GET DIM NUMBER			0414C	11	C4C23	CCC-6
0132C	TFM	DIMDDA+5,48C				04152	16	C6557	-48CC
0133C	S	DIMDDA+6,CCPP+11,11				04164	22	C6558	C4C2L
0134C	S	DIMDDA+6,CCPP+11,11				04176	22	C6558	C4C2L
0135C	TDM	DIMDDA+6,,11				04188	15	C6558	CCOCC
0136C	*****		READ IN DIM SECTOR						
0137C	TD	SECT,CCPP+11,11, SAVE UNIT POSITION CF DIM NO.				042CC	25	C7C14	C4C2L
0138C	BTM	FLPGET,++12				04212	17	C6744	-4224
0139C	SF	ENDST+11,,6, SET -LCACED- INDICATOR				04224	32	C363R	CCCC
0140C	BTM	FLPPLT,++12				04236	17	C67C8	-4248
0141C	FOUND1	TFM	IORT,++23			04248	16	C5565	-4271
0142C	B	IOGT,DIM,7				04260	49	C5566	-6944
0143C	CM	SECT,5,10				04272	14	C7C14	CCO-5
0144C	BL	++24				04284	47	C43C8	C13CC
0145C	SM	SECT,5,10, CALCULATE DIM ENTRY ADDRESS				04296	12	C7C14	CCC-5
0146C	HM	SECT,2C,9				043C8	13	C7C14	CC-2C
0147C	AM	99,INRK				04320	11	CC555	-74C0
0148C	TR	DIMSVE,99,11				04332	31	C6573	CC9R
0149C	TD	DMEDDA,DIMSVE				04344	25	C6884	C6973
0150C	TF	DMEDDA+9,DIMSVE+5				04356	26	C6885	C6978
0151C	TR	ODAR,DMEDDA,, PCVE SECTOR CDA TO PROGRAM CDA AREA				04368	31	C728C	06884
0152C	TFM	IORT,++23,, READ IN INDICATOR RECORD				04380	16	C5565	-44C3
0153C	B	IOGT,DPE,7				04392	49	C5566	-6873

0154C	TF	DDAR+8,DIPSVE+8,,	MOVE SECTOR COUNT	04404	26	C7288	C6981
01550	*****	INDICATOR RECCD CHECK					
01580	TSTVLC	INRK+13,INDCCN,,	CHECK FOR VALID INDICATOR RECCD	04416	24	C7413	C6988
01570	BE	RELFRM		04428	46	C568C	C12CC
0158C	C	INRK+5,INDCCN,,	CHECK FOR VALIDITY IN CCRE IMAGE	04440	24	C7403	C6988
01590	BE	+48		04452	46	C49CC	C12CC
01600	TFM	EPRINT+61	,35 ,1C,	04464	16	C7681	CCCL9
01610	YDM	EPRINT+73	,9 , ,	04476	15	C7653	CCCO9
0162C	BTM	EPRINT,75,8		04488	17	C762C	C-C75
01630	TF	DDAR+13,ADDSVE		045CC	26	C7253	C2472
0164C	YDM	INCR+7,,,	CONVERT DEFINER TO CCRE IMAGE	04512	15	C693E	CCCCC
01650	CC	1,,*		04523		1	
01660	AM	DDAR+5,1,1C,	INCREMENT DISK ADDRESS BY ONE	04524	11	C7285	CCC-1
01670	SM	DDAR+8,1,1C,	DECREMENT SECTOR COUNT BY ONE	04536	12	C728E	CCC-1
0168C	B	SUBPRD=24		04548	49	C5752	CCCCC
0169C	CORG	+3		04556			
0170C	TRYSZE	A	SPRCST,ADDSVE	04556	21	C6764	C2472
01710	A	ADCCCN,INRK+22		04568	21	C245C	C7422
01720	TF	ADDR,ADCCCN		04580	26	C6789	C2490
01730	S	ADCCCN,INRK+22		04592	22	C245C	C7422
0174C	YDM	INRK+23		04604	15	C7423	CCCCC
01750	CC	1,,*		04615		1	
01760	C	ADDR,CCPAD		04616	24	C6785	C2231
01770	BL	SIZECK		04628	47	C528C	C13CC
0178C	*****	OVERLAP INDICATION					
01790	YDM	DVRLAP,1,,	TURN ON OVERLAP INDICATOR	0464C	15	C2444	CCOC1
0180C	TR	OVRMES-1	,NAMBLF-11 , ,	04652	31	C7574	C243C
01810	YDM	OVRMES+12		04664	15	C7587	CCCCC
01820	TD	OVRMES+14,INRK+18		04676	25	C7585	C7418
0183C	TD	OVRMES+16,INRK+15		04688	25	C7591	C7419
0184C	TD	OVRMES+18,INRK+2C		0470C	25	C7593	C742C
01850	TD	OVRMES+20,INRK+21		04712	25	C7595	C7421
0186C	TD	OVRMES+22,INRK+22		04724	25	C7597	C7422
0187C	WA	OVRMES,9CC		04736	35	C7575	CC9CC
0188C	CLAP	LNKPTR,30,1C		04748	11	C6784	CCCLC
01890	BD	+2C,EXTIND,,	BRANCH IF PROGRAM ON CARDS OR TAPE	0476C	43	C478C	C2463
0190C	B	PHASEB ,,,	BRANCH TO GET NEXT NAME	04772	45	C3552	CCCCC
0191C	CORG	+3		0478C			
01920	**	ROUTINE TO READ INDICATOR RECCD FROM CARDS OR TAPE					
0193C	F			0478C	48	CCCCC	CCCCC
0194C	PHASEC	BTM	FLPGET,+12	04752	17	C6744	-48C4
0195C	YD	CDTP+2,CCMSEC+73		04804	25	C7C11	C7373
01960	SM	CDTP+2,1,1C		04816	12	C7C11	CCC-1
01970	READ	TFM	ICRT,+23,,	04828	16	CC565	-4851
0198C	B	IOGT,CDTP-4,7	GET INDICATOR RECCD	0484C	49	CC56E	-7CC5
0199C	YDM	EXTIND,1		04852	15	C2463	CCOC1
0200C	TF	LNKPTR,LNKACC		04864	26	C6784	C3538
0201C	TFM	+23,SLBTBL+11		04876	16	C4895	-2533
02020	ENTST	HNR	+2C,,,	04888	45	C49CC	CCCCC
0203C	B	READ	TEST FOR END OF TABLE	04900	49	C482E	CCCCC
0204C	CORG	+3		0490C			
0205C	TFM	+23,INRK		04908	16	C4931	-74CC
02060	RMCHK	HNR	+2C	04920	45	C494C	CCCCC
0207C	B	READ		04932	49	C482E	CCCCC

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0208C	CORG	+3		0494C			
0209C	AM	RMCHK+11,1,1C		0494C	11	C4931	CCC-1
0210C	CM	RMCHK+11,INRK+8C		04952	14	C4931	-740C
02110	BNE	RMCHK		04964	47	C492C	C12CC
02120	SF	INRK+1		04976	32	C74C1	CCCCC
0213C	CF	INRK+2		04988	33	C74C2	CCGCC
0214C	CF	INRK+3		05000	33	C74C3	CCCCC
02150	CF	INRK+4		05C12	33	C74C4	CCCCC
02160	CM	INRK+4,4131,8		05C24	14	C74C4	CP131
0217C	BNE	HEADER		05C36	47	C5C52	C12CC
0218C	RCTY			05C48	34	CCCCC	CC1C2
0219C	TFM	ICRT,+23		05C6C	16	CC565	-5C83
0220C	B	IOPT,TYPE-4,7		05C72	49	CC532	-71C1
0221C	B	PHASEC		05084	49	C64E4	CCOCC
02220	CORG	+3		05C92			
02230	HEADER	C	INRK+13,INDCCN,,	05C92	24	C7413	C6988
02240	BNE	READ	TEST FOR INDICATOR RECCD	05104	47	C482E	C12CC
0225C	BNF	+2C,INRK+16		05116	44	C513E	C7416
02260	B	READ		05128	49	C482E	CCCCC
02270	CORG	+3		05136			
0228C	C	INRK+25,ENTST+11,11,	CCMPARE NAMES	05136	24	C7425	C489R
0229C	BNE	GONXT		05148	47	C524E	C12CC
0230C	TF	NAMBLF,ENTST+11,11		0516C	26	C2441	C489R
02310	AM	ENTST+11,6,1C		05172	11	C4895	CCC-6
02320	BNF	+32,ENTST+11,11		05184	44	C521E	C489R
0233C	AM	ENTST+11,14,1C		05196	11	C4895	COOJ4
0234C	B	GONXT+12		05208	49	C52CC	CCCCC
02350	CORG	+3		05216			
02360	SF	ENTST+11,,6,	SET -LEADED- INDICATOR	05216	32	C489R	CCCCC
02370	BTM	FLPPLT,+12		05228	17	C67CE	-524C
02380	B	RELFRM		0524C	49	C568C	CCCCC
02390	CORG	+3		05248			
0240C	GENXT	AM	ENTST+11,2C,10	05248	11	C4895	CCOCC
02410	AM	LNKPTR,30,1C		05260	11	C6784	CCCLC
02420	B	ENTST		05272	49	C4888	CCCCC
0243C	CORG	+3		0528C			
02440	SIZECK	TF	+18,ADDSVE	0528C	26	C5258	C2472
02450	TR	,ZERCS		05292	31	CCCCC	C88CC
02460	AM	+6,50,1C		05304	11	C5258	CCOCC
02470	C	SIZECK+18,SPROST		05316	24	C5258	C6794
0248C	BL	+36		05328	47	C5258	C6794
02490	TF	TEPP,INRK+22		05340	26	C7518	C7422
0250C	TF	TEMP-6,ADDSVE		05352	26	C7512	C2472
02510	TR	LOED+1,NAMBLF-11		05364	31	C7522	C2430
02520	TFM	+3C,LOED+14		05376	16	C54CC	-7535
0253C	TFM	+23,TEPP-11		05388	16	C5411	-75C7
02540	TD	LOED+14,TEPP-11		05400	25	C7535	C75C7
02550	AM	+6,2,1C		05412	11	C54CC	CCC-2
02560	AM	+13,1,1C		05424	11	C5411	CCC-1
02570	CM	+25,TEPP+1		05436	14	C5411	-7519
02580	BL	+48		05448	47	C54CC	C13CC
02590	WA	LOED+2,9CC		05460	39	C7523	CCOCC
0260C	*****	LOAD PROGRAMS ROUTINE					
02610	RCPROG	BD	COTPLD,EXTIND,,	05472	43	C5514	C2463
02620	SCMLO	TFM	IOFT,+23,,	05484	14	C0945	-55C7
02630	B	IOGT,INDR,7	GET PROGRAM FROM DISK	05496	49	C0944	-6931

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02440	B	LOADINC	05508	49	C596C	CCCC
02450	DORG	+3	C5516			
02460	*****	ROUTINE TO LCAC PROGRAM FROM CARD CR TAPE				
02470	CDTPLE	TDM 416	C5516	15	C0416	CCOCC
02480	CC	1,,*	C5527		1	
02490	ID	428,COMSEC+73	C5528	25	CC428	C7373
02700	SF	42P	C5540	32	CC428	CCCC
02710	CF	42P	C5552	33	CC425	CCCC
02720	TF	434,ADDSVE	C5564	26	CC434	C2472
02730	SF	485	C5576	32	CC485	CCCC
02740	TF	COMSEC+98,INRK+75	C5588	26	C7398	C7475
02750	TFM	IORT,++23,, PLT BACK COMMUNICATION SECTOR	C5600	16	CC565	-5623
02760	B	IORT,COM,7	C5612	49	CC532	-7C69
02770	TFM	IORT,++23,, GET PROGRAM	C5624	16	CC565	-5647
02780	B	IORT,EXT,7	C5636	49	CC566	-7C38
02790	SM	PRCCCH,1,1C	C5648	12	C3822	CC-1
02800	TDM	EXTIND	C5660	15	C2463	CCCC
02810	B	LOADINC	C5672	49	C596C	CCCC
02820	DORG	+3	C5680			
02830	RELFRM	TDM INRK+8C	C5680	15	C748C	CCCC
02840	CC	1,,*	C5651		1	
02850	TR	INRK,INRK+8,, MOVE INDICATOR RECORD TO CONFIRM TO CARD IMAGE	05652	31	C74CC	C74CB
02860	CF	427	05704	33	CC427	CCCC
02870	TFM	435,75	05716	16	CC435	-CC75
02880	TFM	CDAR+13,99999	05728	16	C7293	R9999
02890	TF	INCR+11,ADDSVE	05740	26	CC542	C2472
02900	TF	SPRCST,INRK+31	05752	26	CC754	C7431
02910	AM	SPRCST,5,1C	05764	11	CC754	CC-5
02920	SLBPRC	C INRK+24,F,, TEST FOR EQUAL F	05776	24	C7424	C2219
02930	RNE	+36	05788	47	C5824	C12CC
02940	C	INRK+26,K,, TEST FOR EQUAL K	05800	24	C7426	C2221
02950	BE	+24	05812	46	C5836	C12CC
02960	RTM	EPRINT,76,8	05824	17	C762C	C-076
02970	*****	TEST FOR NEW SLBRCLINES CALLED FROM FLIPPED SUBPROGRAM				
02980	FLIP	TFM CCSLB+11,INRK+37	05836	16	C5871	-7437
02990	TFM	LRLSLP+11,LRLSLB	05848	16	C5535	-2354
03000	CCSUB	BD LRLSLB	05860	43	C5926	CCOCC
03010	AM	+1,1,10	05872	11	C5871	CC-1
03020	AM	LRLSLB+11,1,1C	05884	11	C5535	CC-1
03030	CM	LRLSLB+11,LRLSLB+3C	05896	14	C5535	-2424
03040	RNE	CCSLB	05908	47	C582C	C12CC
03050	B	TRYSZE	05920	49	C4556	CCCC
03060	DORG	+3	C5928			
03070	LRLSLB	BD CCSSUB+12	05928	43	C5872	CCOCC
03080	RTM	EPRINT,77,8	05940	17	C762C	C-077
03090	B	CCSUB+12	05952	49	C5872	CCOCC
03100	DORG	+3	C5960			
03110	*****	IN-CORE SUBPROGRAM TABLE SEARCH AND LCAC				
03120	LDCINC	TFM IORT,++23	C5960	16	CC565	-5983
03130	B	IORT,INC,7	C5972	49	CC566	-6855
03140	TF	COMPRES+11,ACCR	C5984	26	CC631	C6789
03150	AM	COMPRES+11,1,1C	C5996	11	CC631	CC-1
03160	TFM	COMPRES+11,SLBTBL+11,, INITIALIZE PINTER	C6008	16	CC651	-2533
03170	CCMPRE	BNR SERCH	C6020	45	CC684	CCCC

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03180	B	SCH-PRC	C6032	49	C6256	CCOCC
03190	DORG	+3	C6040			
03200	CCMPAR	BNR COMPRE	C6040	45	CC62C	CCCC
03210	RTM	EPRINT,717C,8	C6052	17	C762C	CP17C
03220	AM	COMPRES+11,18,1C	C6064	11	CC631	CCOJP
03230	B	COMPRES-12	C6076	49	CC68C	CCCC
03240	DORG	+3	C6084			
03250	SERCH	AM COMPRES+11,11,1C	C6084	11	CC631	CCOJ1
03260	C	COMPRES+11,CCMPRES+11,611, CHECK FOR SAME NAME	C6096	24	CC65J	CCOJ1
03270	BE	SERCH1	06108	46	CC152	C12CC
03280	AM	COMPRES+11,2C,1C	06120	11	CC651	CCOCC
03290	SM	COMPRES+11,11,1C	06132	12	CC631	CCOJ1
03300	B	COMPRES	06144	49	CC64C	CCCC
03310	DORG	+3	06152			
03320	SERCH1	AM COMPRES+11,5,10	06152	11	CC631	CC-5
03330	AM	COMPRES+11,5,10	06164	11	CC651	CC-5
03340	*****	ROUTINE TO PLACE INDIRECT ENTRY ADDRESSES INTO SUBPROGRAMS				
03350	A	COMPRES+11,ADDSVE,6	06176	21	CC63J	C2472
03360	TF	+35,COMPRES+11,11	06188	26	CC222	CC65J
03370	TF	+18,COMPRES+11,11	06200	26	CC21E	CC63J
03380	TFM	,,, MOVE ADDRESS INTO PROGRAM	06212	16	CCOCC	-C0CC
03390	SF	+6,,6	06224	32	CC21C	CCCC
03400	AM	COMPRES+11,2,10	06236	11	CC631	CC-2
03410	B	COMPRES-12	06248	49	CC68C	CCCC
03420	DORG	+3	06256			
03430	SCH-PRC	TF +3C,ADDR	06256	26	CC286	C6789
03440	AM	+18,2,1C	06268	11	CC286	CC-2
03450	SETGM	TDM	06280	15	CCOCC	CCCC
03460	CGM		06291		1	
03470	AM	INRK+20,1,1C	06282	11	C742C	CC-1
03480	PVESCT	TF SCHDDA+8,INRK+2C	06304	24	CC848	C742C
03490	S	SCHDDA+5,SCHDDA+8	06316	22	CC865	CC848
03500	C	SCHDDA+5,SPRST	06328	24	CC865	C6799
03510	BL	ERL	06340	47	CC884	C13CC
03520	TFM	IORT,++23	06352	16	CC865	-6375
03530	B	IORT,SCH,7	06364	49	CC532	-6851
03540	TDM	SETGM+6,0,6	06376	15	CC28C	CCCC
03550	TF	LNKPTR,SCHDDA+5,6	06388	26	CC78P	CC865
03560	AM	LNKPTR,5,1C	06400	11	CC784	CC-5
03570	TF	LNKPTR,SPRCST,6	06412	26	CC78P	CC754
03580	AM	LNKPTR,25,1C	06424	11	CC784	CC855
03590	B	PHASEB	06436	49	C3592	CCCC
03600	DORG	+3	06444			
03610	RCUND	AM INRK+20,1,1C	06444	11	C742C	CC-1
03620	B	PVESCT	06456	49	C6304	CCCC
03630	DORG	+3	06464			
03640	*****	CHECK AND TYPE OUT NAMES OF UNLOADED SUBPROGRAMS				
03650	PHASEC	TDM DATA,1	06464	15	C25C5	CCCC1
03660	TFM	+35,SUBTBL+11	06476	16	CC511	-2533
03670	TDM	MORE	06488	15	CC625	CCCC
03680	BNR	+60	06500	45	CC54C	CCCC
03690	BD	PHASEC-12,PCRE	06512	43	C478C	CC625
03700	CALL6	TF INRK+4,SCHDDA+5	06524	26	C74C4	CC865
03710	TFM	IORT,++23	06536	16	CC565	-6559
03720	B	IORT,BL4,7	06548	49	CC566	-7C3C
03730	TF	NAPBLF,PHASED+47,11	06560	26	C2441	CC51J

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04400	CSA	EXTDDA		07C44	5 X	1
				07C44	-7C46	
04410	CC	1, *		07C45	1	
04420	EXTDDA	CDA ,1,19783,3,C		07C46	14	
		1J9783-C3-CCCC				
04430	CC	1, *		07C60	1	
		*				
04440	FLP	DSC 2,C2		07C61	2	
		C2				
04450	CSA	FLPDDA		07C67	5 X	1
04460	DC	1, *		07C67	-354C	
		*		07C68	1	
04470	CCP	DSC 2,22		07C69	2	
		22				
04480	CSA	COMDDA		07C75	5 X	1
04490	CC	1, *		07C75	-7C78	
		*		07C76	1	
04500	CCMDDA	CDA ,1,19663,1,CCMSEC		07C78	14	
		1J9663-C1-73CC				
04510	CC	1, *		07C92	1	
		*				
04520	LC	DSC 2,22		07C93	2	
		22				
04530	CSA	LDDDA		07C99	5 X	1
04540	CC	1, *		07C99	-2474	
		*		07100	1	
04550	TYPE	DSA DATA1		07105	5 X	1
04560	CC	3,C6*		07105	-7111	
		-6*		07108	3	
04570	CATAL	CAC 6, *DATA*		07111	6 X	2
		DATA				
04580		CDRC 728C		0728C		
04590	CDAR	DSS 20		0728C	2C	
04600	CCMSEC	DSS 1CC,, SYSTEM COMMUNICATION SECTOR		0730C	1CC	
04610	INRK	DSS 1CC,, READ IN AREA FOR INDICATOR RECCRC		0740C	1CC	
04620	END5	SK IT		0750C	34	C756C CC7C1
04630		TDP SETGM+11		07512	15	C6251 CCCCC
04640		CGM *		07523	1	
04650		WDM IT		07524	38	C756C C07C2
04660		TRA		07536	36	CCCCC CC5CC
				07540	45	CCCCC CCCCC
04670	IT	CDA ,1,16143,37,3556		0756C	14	
		1J6143-37-3556				
04680		TCC END5		075CC		
04690	CENC			CCCCC		

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ACCCW	C245C	ENTSWC	02280	PHASEC	04792	FOLNC	C414C	RCUNC	C6444
ACCSEV	C2472	EPRINT	07620	PHASEC	06464	F	C2219	SCHLD	C5484
CCTPLC	C5516	EQADDR	02455	PRCCCW	03822	6ONXT	05248	SCM	06891
COMADC	C2231	ECSRCF	03932	PRCCST	02226	INC13	03756	SECCT	C7C14
COMDDA	C7078	EQLDDA	06916	RCPRCG	05472	INC	06855	SECT	C2466
CCMPAR	C604C	EXTDDA	07C46	RELFRP	0568C	INER	06931	SERCH	C6C84
CCMPER	C398C	EXTINC	02463	ACCR	06789	INRK	074CC	SETGP	C6280
COMPRE	C602C	FLGRPK	02445	BL6	07C30	IOGT	0C566	SPRST	C6799
CCMSEC	C73CC	FLPDDA	03540	CALLE	06524	ICINC	02461	TEPP	C7518
DIMPDA	C6952	FLPGET	06744	CCSUB	05860	IOPT	0C532	TYPE	C71C5
DIPSEV	C6973	FLPPLT	06708	CCINF	07004	IORT	0C565	h	02240
DMECDA	C6884	FCLNCL	04248	CCTP	07009	IT	0756C	ZERCS	C68CC
ENCTST	C3628	HEADER	05092	CCPP	04C12	K	C2221	SCACDR	C2460
ENTARS	C2322	INCDDA	02906	CCP	07069	LBSUB	05928	SCHEDA	C6660
ENTATN	C2313	INDCGN	06998	CATA1	07111	LCCCA	02474	SCHPRC	06256
ENTCOS	C2303	LIESUB	02394	CATA	02505	LDED	07521	SERCH1	06152
ENTDEC	C2298	LKWAEC	03538	CCAR	0728C	LDPE5	07C17	SIZECK	C528C
ENTERR	C2293	LKMPTR	06784	CIP	06944	LB	07C93	SPROCT	C6794
ENTERP	C2253	LCCINC	05860	CPE	06875	PLIND	02442	SLBPRC	C5776
ENTFET	C2283	PLIGHT	07C03	END5	07500	PCRE	06625	SLBTBL	02522
ENTFID	C2273	PCAL	00796	ENTLA	02248	N1	C2233	SVECCA	C2490
ENTRC1	C2278	PVSECT	06304	ENTST	04888	N2	02238	TRYSZE	C4556
ENTSC1	C2258	NAPBUP	02441	ECU	06907	NXTRC	04C72	YSTVLC	C4416
ENTSC2	C2263	NCCATA	02521	ERL	06484	OLAP	04748	ZERCNE	C6572
ENTSC3	C2268	CVRLAP	02444	EXT	07C38	READ	C4828	ZRCTST	C2467
ENTSHN	C23C8	DVRNES	07575	FLIP	05836	RECLG	02243		
ENTSOT	C2318	PHASEB	03592	FLP	07061	RNCHK	0492C		

END OF ONE ASSEMBLY.

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00C10	*						
00C20	*						
00C30	ICPT	CS	,532		CC532		C
00C40	ICGT	CS	,566		CC566		C
00C50	IGRT	CS	,565		CC565		C
00C60	MCNCAL	CS	,756		CC756		C
00C70	CIC	CS	,816		CC816		C
00C80	ERRET	CS	,6C2		CC6C2		C
00C90	INDS	CS	,61C		CC61C		C
00100	ERRCR	CS	,632		CC632		C
00110	***		COMMUNICATION AREA				
00120	CONG		221A		C2210		
00130	F	CS	2,, FLOATING PCINT WCRC LENGTH		C2219		2
00140	K	CS	2,, FIREC PCINT WCRC LENGTH		C2221		2
00150	PRCGST	CS	5,, STARTING ADDRESS OF MAINLINE PRCGRAP		C2226		5
00160	CCPACC	CS	5,, STARTING ADDRESS OF CCPACC AREA		C2231		5
00170	N1	CS	2,, NUMBER OF WORDS IN LOGICAL RECCRC		C2233		2
00180	N2	CS	5,, NUMBER OF LOGICAL RECCRCS		C2238		5
00190	W	CS	2,, WCRC LENGTH		C2240		2
00200	RECLG	CS	3,, RECCRC LENGTH		C2243		3
00210	ENTLN	CS	5,, ENTRY ADDRESS TC LCG SUBROUTINE		C2248		5
00220	ENTEXP	CS	5,, ENTRY ADDRESS TC EXPONENTIAL SUBROUTINE		C2253		5
00230	ENTSC1	CS	5,, ENTRY ADDRESS TC SINGLE SUBSCRIPT SUBROUTINE		C2258		5
00240	ENTSC2	CS	5,, ENTRY ADDRESS TC DOUBLE SUBSCRIPT SUBROUTINE		C2263		5
00250	ENTSC3	CS	5,, ENTRY ADDRESS TC TRIPLE SUBSCRIPT SUBROUTINE		C2268		5
00260	ENTFIC	CS	5,, ENTRY ADDRESS TC FINC SUBROUTINE		C2273		5
00270	ENTREC	CS	5,, ENTRY ADDRESS TC RECCRC SUBROUTINE		C2278		5
00280	ENTFET	CS	5,, ENTRY ADDRESS TC FETCH SUBROUTINE		C2283		5
00290	ENTSWC	CS	5,, ENTRY ADDRESS TC SWITCH C SUBROUTINE		C2288		5
00300	ENTDPR	CS	5,, ENTRY ADDRESS TC ARRAY SUBROUTINE		C2293		5
00310	ENTDEC	CS	5,, ENTRY ADDRESS TC DISK ENC SUBROUTINE		C2298		5
00320	ENTCOS	CS	5,, ENTRY ADDRESS TC COSINE SUBROUTINE		C2303		5
00330	ENTSIN	CS	5,, ENTRY ADDRESS TC SINE SUBROUTINE		C2308		5
00340	ENTATA	CS	5,, ENTRY ADDRESS TC ARCTANCENT SUBROUTINE		C2313		5
00350	ENTSCT	CS	5,, ENTRY ADDRESS TC SQUARE ROOT SUBROUTINE		C2318		5
00360	ENTABS	CS	5,, ENTRY ADDRESS TC ABSOLUTE SUBROUTINE		C2323		5
00370		DS	70,, RESERVEFC FOR ENTRIES TC ACCEC SUBROUTINES		C2393		7C
00380	LIRSLB	CS	30,, LIBRARY SUBROUTINE INDICATORS		C2354		3C
00390	CC		1,,		C2424		1
00400	*****		MAINLINE TABLE SEARCH				
00410	CONG		2426		02426		
00420	NAMBLF	CC	16,C		C2441		16
00430			-OCCGCCCCCCCCCC				
00440	CVRLAP	CS	1		02443		2
00450	FLGRPK	CS	1		C2444		1
00460	ADCCW	CS	5		C2445		5
00470	ECACCR	CS	5		C2450		5
00480	SCACCR	CS	5		C2455		5
00490	ICINC	CS	1		C2460		1
00500	MLINC	CS	1		C2461		1
00510	EXTINC	CS	1		C2462		1
00520	SECT	CS	3		C2463		3
00530	ZROYST	CS	1		C2466		1

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00540	ACDSVE	CS	5		C2472		5
00550	CC		1,,		02473		1
00560	LCCDA	DDA	,1,C,C,C		C2474		14
00570			1-CCCO-CC-CCCC				
00580	SVECCA	DDA	,1,C,21,C		C2488		1
00590			1-CCCO-21-CCCC				
00600	DATA	CC	1,C		C2490		1
00610	INCCDA	DDA	,1,C,1C,C		C2504		1
00620			1-CCOO-1C-CCCC				
00630	MGDATA	DS	1		C2505		1
00640	*****		ROUTINE TC LCAD ARITH AND I/C PACKAGE				
00650	ARITH	BD	INHIB, CVRLAP		C2506		14
00660		BD	INHIB, SVECCA-1		C2520		1
00670		BT	PRARTH, PRARTH-1		02521		1
00680		TFP	IORT, **23		C2522	43	C3658 C2444
00690		B	IOGT, SVE, 7		C2534	43	C3658 C2489
00700		BD	N1TST, ZRCTST		02546	27	C369C C3609
00710		B	LDFIX2		02550	16	CC565 -2501
00720		CORG	*-3		C257C	49	CC566 -351C
00730	N1TST	BD	N1N2CK, N1		C2582	43	C26C2 C2467
00740		BD	N1N2CK, N1-1		C2594	49	C3458 CCCCC
00750		RCTY			C26C2		
00760		TFP	IORT, **23		C26C2	43	C279C C2233
00770		B	IOPT, TYPE-4, 7		C2614	43	C279C C2232
00780		RCTY			02626	34	CCCC CC1C2
00790	CORSZE	DC	5,C, *-5		02638	16	CC565 -2461
00800			-OCCC		C265C	49	CC532 -3910
00810		TFP	IORT, **23		02662	34	CCCC CC1C2
00820		B	IOGT, TYPE1-4, 7		02668		5
00830		BCA	N1TST+24		C2674	16	CC565 -2657
00840		SF	INRR+10		02688	49	CC566 -3934
00850		SF	INRR+12		02698	46	C2626 CC4CC
00860		TF	N1, INRR+11		0271C	32	C741C CCCCC
00870		TF	N2, INRR+16		02722	32	C7412 CCCCC
00880		CH	N2		02734	26	C2233 C7411
00890		ONE	N1TST		02746	26	C2238 C7416
00900		B	N1TST+24		02758	14	C2238 -CCCC
00910		DORG	*-3		0277C	47	C26C2 C12CC
00920	N1N2CK	M	W, N1		02782	49	C2626 CCCCC
00930		SF	96		02790		
00940		CH	96, 1C1, 8		02790	23	C224C C2233
00950		BL	SET1		028C2	32	C0C96 CCCCC
00960		CH	96, 2C0, 8		02814	14	C0C99 C-1C1
00970		BM	N1TST+24		02826	47	C2882 C13CC
00980		TFP	RECLG, 2, 9		02838	14	C0C99 C-2CC
00990		B	N2TST		0285C	46	C2626 C11CC
00990		DORG	*-3		02862	16	C2243 C0-02
01000	SET1	TFP	RECLG, 1, 9		02874	49	C2894 CCCCC

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C1C10	N2TST	M	N2,RECLG	02854	23	C2238	C2243
01C20	SF	95		02506	32	C0055	C0000
01C30	CM	99,15995		02518	14	C0055	J4995
01C40	BH	N1TST+24		02530	46	C2626	C1100
01C50	CM	99,00001		02542	14	C0055	-0001
01C60	BL	N1TST+24		02554	47	C2626	C1300
01C70	B	LDFIX2		02566	45	C3458	C0000
01C80	DORG	*-3		02574			
01C90	LCFIX	BD	LDFIX1,DATA	02574	43	C3006	C2505
01100	BD	LDFIX1,ACDATA		02586	43	C3006	C2521
01110	B	READ-24		02598	45	C3236	C0000
01120	DORG	*-3		03006			
01130	LCFIX1	BD	*+20,IC1AD	03006	43	C3026	C2461
01140	B	GETFIX		03018	45	C3122	C0000
01150	DORG	*-3		03026			
01160	XFER	TFM	IORT,*+23	03026	16	C0565	-3049
01170	B	IOGT,INDR,7		03038	49	C0566	-3225
01180	TFM	IORT,*+23		03050	16	C0565	-3073
01190	B	IOPT,10,7		03062	45	C0532	-3190
01200	AM	DDAR+5,40,10		03074	11	C3203	C0000
01210	AM	IODDA+5,40,10		03086	11	C3215	C0000
01220	SM	CYLCTR,1,10		03098	12	C3140	C00-1
01230	BNE	XFER		03110	47	C3026	C1200
01240	GETFIX	TD	7499,IOIND	03122	25	C7495	C2461
01250	RCTY			03134	34	C0000	CC102
01260	CYLCTR	CC	2,5,*-5	03140			2
01270	K	,971		03146	34	C0000	CC971
01280	TFM	IORT,*+23,,	GET FIXED AREA	03158	16	C0565	-3181
01290	B	IOGT,*+12,7		03170	45	C0566	-3182
01300	DSC	2,-22		03182			2
01310	DSC	1,C		03184			1
01320	CC	5,144*		03189			5
01330	IC	DSC	2,C2	03190			2
01340	CSA	IODDA		03196		5 X	1
				03196		-3214	
01350	CC	1,*		03197			1
01360	CDAR	DDA	,1,19400,40,READ	03198			14
			1J9400-40-3262				
01370	CC	1,*		03212			1
01380	ICDDA	DDA	,1,C,40,READ	03214			14
			1-CC00-40-3262				
01390	CC	1,*		03228			1
01400	INCR	DSC	2,22	03229			2
01410	CSA	DDAR		03235		5 X	1
				03235		-3198	

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01420	CC	1,*		03236			1
01430	TD	CDTP+2,CCMSEC+73		03238	25	C3532	C7373
01440	SM	CDTP+2,1,10		03250	12	C3932	CC0-1
01450	READ	TFM	IORT,*+23	03262	16	C0565	-3285
01460	B	IOGT,CDTP-4,7		03274	45	C0566	-3526
01470	TFM	*+23,INRK		03286	16	C3305	-7400
01480	RMCHK	BNR	*+20	03298	45	C3318	C0000
01490	B	READ		03310	49	C3262	C0000
01500	DORG	*-3		03318			
01510	AM	RMCHK+11,1,10		03318	11	C3305	CC0-1
01520	CM	RMCHK+11,INRK+0C		03330	14	C3305	-7480
01530	BNE	RMCHK		03342	47	C3258	C1200
01540	SF	INRK+1		03354	32	C7401	C0000
01550	CF	INRK+2		03366	33	C7402	C0000
01560	CF	INRK+3		03378	33	C7403	C0000
01570	CF	INRK+4		03390	33	C7404	C0000
01580	CM	INRK+4,4131,8		03402	14	C7404	C9131
01590	BNE	READ		03414	47	C3262	C1200
01600	RCTY			03426	34	C0000	CC102
01610	WATY	DATA1		03438	35	C3551	CC100
01620	BD	LDFIX1		03450	45	C3006	C0000
01630	DORG	*-3		03458			
01640	LCFIX2	M	N2,RECLG	03458	23	C2238	C2243
01650	SF	95		03470	32	C0095	C0000
01660	AM	99,218,9		03482	11	C0095	CC118
01670	C	INRK+4,99		03494	24	C7404	C0055
01680	BNL	LDFIX		03506	46	C2574	C1300
01690	SM	INRK+4,218		03518	12	C7404	-0218
01700	LD	99,INRK+4		03530	28	C0095	C7404
01710	D	95,RECLG		03542	25	C0056	C2243
01720	TF	N2,96		03554	26	C2238	C0056
01730	TF	ADDSVE,96		03566	26	C2472	C0096
01740	TD	MAXN2+34,ADDSVE-4		03578	25	C3895	C2468
01750	TD	MAXN2+36,ADDSVE-3		03590	25	C3901	C2465
01760	TD	MAXN2+38,ADDSVE-2		03602	25	C3903	C2470
01770	TD	MAXN2+40,ADDSVE-1		03614	25	C3905	C2471
01780	TD	MAXN2+42,ADDSVE		03626	25	C3907	C2472
01790	WA	MAXN2,900		03638	35	C3865	CC000
01800	B	LDFIX		03650	49	C2574	C0000
01810	DORG	*-3		03658			
01820	INP18	RCTY		03658	34	C0000	CC102
01830	WATY	JOBOLT		03670	35	C3805	CC100
01840	B	MONCAL		03682	49	CC796	C0000
01850	DORG	*-3		03690			
01860	PRARTH	TD	CORSZE-4,CCMSEC+76	03690	25	C2664	C7376
01870	AM	CORSZE-3,10,10		03702	11	C2665	CC000
01880	S	CORSZE,COMACD		03714	22	C2668	C2231
01890	CM	CORSZE,2099		03726	14	C2668	-2099
01900	BH	AJUST-2		03738	46	C3786	C1100
01910	BD	AJUST,CORSZE-1		03750	43	C3788	C2667
01920	BD	AJUST,CORSZE		03762	43	C3788	C2668
01930	TF	SVEDDA+8,CORSZE-2		03774	26	C2498	C2666
01940	BB2			03786	42		
01950	AJUST	AM	CORSZE-2,1,10	03788	11	C2666	CC0-1
01960	BT	*-26		03800	49	C3774	

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C1970 JCBOULT	CAC	20,EXECUTICA INHIBITED'		C90C9	2C	2
		EXECUTICN INHIBITED'				
0198C ERC1	DAC	0,ER D1		C3049	0	2
		ER C1				
01990 MANN2	CAC	23,MAX N2 ALLOWABLE 99999'		C3065	23	2
		MAX N2 ALLOWABLE 99999'				
02000 SVE	DSC	2,C2		C9510	2	
		C2				
02010	DSA	SVECCA		C9516	5	1
02020	CC	1,'		C9516	-249C	
		'		C9517	1	
02030 TYPE	CSA	ERC1		C9522	5	1
02040	CC	3,C6'		C9522	-3045	
		-6'		C9525	3	
02050 CCTP	CSA	INRK		C9930	9	1
02060	CC	3,'		C9533	-74CC	
		-0'		C9533	3	
C2070 TYPE1	DSA	INRK+1C		C9530	5	1
C2080	CC	3,CC'		C9530	-741C	
		-0'		C9541	3	
02090 TYPE2	CSA	DATA1		C9546	5	1
C2100	CC	3,C6'		C9546	-3651	
		-6'		C9549	3	
02110 CATA1	CAC	6,DATA'		C9551	6	2
		*DATA'				
C2120	DORC	720C		C720C		
C2130	CSS	20		C720C	2C	
C2140 CCMSEC	CSS	1CC		C730C	1CC	
C2150 INRK	CSS	1CC		C740C	1CC	
C2160 ENCF	SK	1T		C750C	34	C7548 C07C1
C2170	WDM	1T		C7512	30	C7548 C07C2
C2180	TRA			C7524	36	CCCCC C05CC
				C7536	45	CCCCC C05CC
				C7540	14	
C2190 IT	CDA	,1,1610C,15,2522				
		1J6180-15-2522				
C2200	TCC	END6		C750C		
C2210	CENC			CCCCC		

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ACCCOW	C245C	ENTSC3	02260	CVRLAP	C2444	INCS	CC61C	N2	02230
ACCSVE	C2472	ENTSIN	02300	PRART-	0369C	INFI0	C3650	N2TST	C2094
CCPACC	C2231	ENTSQT	C2310	PRCGST	02226	INRK	C740C	READ	C3262
CCMSEC	C730C	ENTSWC	02200	AJUST	03700	IQCDA	03214	RECLG	02243
CCRSZE	C266E	EQACDR	02455	ARITP	02522	IGGT	CC566	RPCMK	03298
CYLCTR	C314C	EXTINC	C2463	CCTP	0393C	IOINC	C2461	SECT	C2466
FNTABS	C2323	FLGRPK	C2445	CATA1	C3951	ICPT	CC532	SET1	C2802
ENTAIN	C2313	GETFIX	03122	CATA	C2505	IDRT	CC565	SVE	03510
ENTICS	C2303	IACODA	02506	CCAR	C3190	IO	0319C	TYPE1	C3930
ENTICD	C2298	JCRCUT	03009	CIC	CC816	IT	C7540	TYPE2	03546
ENTERR	C2293	LCF1X1	03C06	ENCF	0750C	K	02221	TYPE	03922
ENTENP	C2253	LCF1X2	03450	ENTLA	02248	LCEDA	02474	b	02240
ENTFET	C2203	LIBSLB	02394	ERC1	C3049	LCF1X	C2574	XFER	03C26
ENTFID	C2273	MCNCAL	0C796	ERRCT	0C602	MANN2	C3065	SCADDR	C2460
ENTREC	C2270	MNZDR	02790	ERRCR	0C632	PLINC	C2462	SVECCA	C249C
ENTSC1	C2250	NAPBUF	02441	F	02219	N1	02233	ZRCTST	C2467
ENTSC2	C2263	NCCATA	02321	INCR	C3229	NITST	C26C2		

END OF ONE ASSEMBLY.

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00010	STCORE	DS	5			00004	00005
00020		US	5			00009	00005
00030	FLIP	TR	SWK,-1,11			00010	LJ 00278 0000R
00040		C	SWK+5,WK			00022	KM 00283 00277
00050		TF	EXIT+6,SWK+10			00034	KO 00196 00288
00060		BE	SMI			00046	M6 00154 01200
00070		TFM	SWK+8,999,9			00058	J6 00286 00R99
00080		TF	SWK+13,STCORE			00070	KO 00291 00004
00090		TFM	DIO+35,MYER,67			00082	IO 0085J -0198
00100		TF	WK,SWK+5			00094	KO 00277 00283
00110		TDM	SWK+14			00106	J5 00292 00000
00120		OC	1,2,*			00117	00001
00130		TFM	IORT,**23			00118	IO 00565 -0141
00140		B	IOGT,LABEL,7			00130	4R 00566 -0293
00150		TFM	INOUT,CHECK-12			00142	16 00631 -1258
00160	SMI	SM	FLIP-1,13			00154	J2 00009 -0013
00170		TF	**30,FLIP-1,611			00166	KO 00190 0000R
00180		AM	**18,1,10			00178	J1 00196 000-1
00190	EXIT	B				00190	49 00000 00000
00200		DORG	*-3			00198	
00210	MYER	BI	**12,3700			00198	M6 00210 03700
00220		BMI	ERRRET,1900			00210	47 00602 01900
00230		TFM	INOUT,MYER2			00222	IO 00631 -0242
00240		B7	ERROR			00234	49 00632 00000
00250	MYER2	BI	**12,3700			00242	M6 00254 03700
00260		BI	CHECK-12,1900			00254	46 01258 01900
00270		B7	EEXIT			00266	49 01638 00000
00280	WK	DC	5,99999			00277	00005
00290	SWK	DSS	15			00278	00015
00300	LABEL	DSC	2,20			00293	00002
00310		DSA	SWK			00299	00005 -0278
00320		DC	1,2			00300	00001
00330	INDS	DS	,610			00610	00000
00340	ERRRET	DS	,602			00602	00000
00350	IORT	DS	,565			00565	00000
00360	IOGT	DS	,566			00566	00000
00370	INOUT	DS	,631			00631	00000
00380	ERRRDR	DS	,632			00632	00000
00390	DIO	DS	,816			00816	00000
00400	CHECK	DS	,1270			01270	00000
00410	EEXIT	DS	,1638			01638	00000
00420		DEND				00000	

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00010	*****	1620	FORTRAN II-D	RELOCATABLE LN ROUTINE		00004	00005 -0006
00020		DSA	FLN			00006	2D 02492 0000N
00030	FLN	TF	FAC	,FLN-1	,111, LOAD ARGUMENT	00018	J2 00005 000-2
00040		SM	*-13	,02	,010	00030	2D 02490 0000N
00050		TF	FAC-2	,*-25	,111	00042	M3 00086 0331L
00060		BD	**44	,FNH	,011, IS A ZERO		
00070		TFM	EI	,672	,9, YES, ERR F2, LN		
00080		SF	99	,,	,, SET SIGN	00054	16 02615 00072
00090		B	OVFLOW	,,	,, FAC IS NEGATIVE ALL NINES	00066	32 00099 00000
00100		DORG	*-4			00078	49 03652 00000
00110		TFM	GOAL+18	,ENDD+12	,07, SET UP NO ERR TYPE	00085	
00120		BNF	**48	,FAC-2	,0, IS A NEGATIVE	00086	J6 00816 -3780
00130		TFM	EI	,673	,9, YES, ERR F3, LN	00098	M4 00146 02490
00140		TFM	GOAL+18	,ERROR	,07, SET UP ERR TYPE	00110	16 02615 00073
00150		CF	FAC-2	,,	,, A EQUALS POSITIVE A	00122	J6 00816 -3676
00160		TFM	CORN-25	,9SPF+2	,07, SET UP CONSTANT EQUAL ZERO	00134	33 02490 00000
00170		TF	CORN-13	,FAC	,0, STORE CHAR	00146	J6 00573 -2856
00180		CF	FNH	,,	,6, FIND 1 + A MANTISSA	00158	K6 00585 02492
00190		TDM	FNHM1	,1	,611	00170	33 0331L 00000
00200		CM	FNH	,15	,610, COMPARE TWO HIGH	00182	15 03350 0000J
00210		BNL	**44	,,	,0, TO 1.5, IF LESS THAN, NO BR	00194	14 0331L 000J5
00220		A	FAC-2	,FAC-2		00206	M6 00250 01300
00230		AM	CORN-25	,31	,010, ADJUST CONSTANT TO LN	00218	21 02490 02490
00240		B	*-60	,,	,0	00230	J1 00573 000L1
00250		DORG	*-4			00242	M9 00182 00000
00260		TF	BETA	,TWOZ	,,	00249	
00270		S	BETA	,FAC-2		00250	26 02603 03073
00280		TF	99	,ZERO-20	,,	00262	22 02603 02490
00290		TF	97MF	,BETA	,6	00274	26 00099 02747
00300		D	98MF	,FAC-2	,6	00286	26 0332L 02603
00310		TF	FAC	,98MF	,11, STORE IN FAC	00298	29 03320 02490
00320		TF	79	,ZERO-39	,,	00310	26 02492 03320
00330		M	FAC	,FAC	,,	00322	26 00079 02728
00340		TF	SAVE	,97MF	,11, STORE IN SAVE	00334	23 02492 02492
00350		A	FAC	,FAC	,,	00346	26 02565 0332L
00360	COUN	TF	IMSA-4	,FM1	,,	00358	21 02492 02492
00370		TF	COUN+71	,2FM1	,0, SET DIVISOR P EQUAL TO	00370	26 02571 03625
00380		TF	BETA	,9SPF+1	,,	00382	K6 00441 03429
						00394	26 02603 02855

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00390	TF	99	,ZERO-19	,,	FIND 10/P	00406	26	00099	02748
00400	TFM	98MF	,10	,610		00418	16	03320	000J0
00410	DM	98MF	,,	,8,	DIVIDE BY P	00430	19	03320	00000
00420	A	BETA	,97	,,	ADD QUOTIENT TO BETA				
						00442	21	02603	00097
00430	TF	79	,ZERO-39	,,		00454	26	00079	02728
00440	M	BETA	,SAVE	,,		00466	23	02603	02565
00450	TF	BETA	,97MF	,11,	BETA EQUALS BETA*SAVE				
						00478	26	02603	0332L
00460	SM	CDUM+71	,02	,010,	P EQUALS P-2	00490	J2	00441	000-2
00470	SM	IMSA-4	,01	,10,	REDUCE COUNTER BY ONE				
						00502	12	02571	000-1
00480	BMZ	CDUM+36	,,	,0,	IS COUNTER ZERO	00514	M7	00406	01200
00490	TF	79	,ZERO-39	,,	YES	00526	26	00079	02728
00500	M	BETA	,FAC	,,	MULTIPLY BETA BY FAC				
						00538	23	02603	02492
00510	A	97MF	,FAC	,6,	ADD FAC TO PRODUCT				
						00550	21	0332L	02492
00520	TF	FAC	,,	,,	SET CONSTANT IN FAC				
						00562	26	02492	00000
00530	SF	FAC	,,	,,	NEGATE CONSTANT	00574	32	02492	00000
00540	S	FAC	,97MF	,11,	SUBTRACT PRODUCT FROM CONSTANT				
						00586	22	02492	0332L
00550	CORN	TF	92	,9SPF-1		00598	26	00092	02853
00560	M	LN10	,CORN-13	,1,	MULTIPLY CHAR BY LN 10				
						00610	2L	02980	00585
00570	A	99	,FAC	,,	ADD FAC TO PRODUCT				
						00622	21	00099	02492
00580	AM	97	,00	,10,	ZERD CHECK	00634	11	00097	000-0
00590	BZ	GOAL+20	,,	,0		00646	M6	00818	01200
00600	TFM	SAVE	,03	,10,	SET UP CHAR	00658	16	02565	000-3
00610	TF	FAC+3	,99	,,	NORMALIZE	00670	26	02495	00099
00620	CF	FAC+3	,,	,,		00682	33	02495	00000
00630	TD	FAC+4	,RECMK	,,	SET RECORD MARK	00694	25	02496	02403
00640	BD	*+68	,FNM	,011		00706	M3	00774	0331L
00650	TR	FNM	,FM	,611		00718	31	0331L	03300
00660	TDM	FAC+3	,0	,,		00730	15	02495	00000
00670	SF	FNM	,,	,6		00742	32	0331L	00000
00680	SM	SAVE	,01	,10,	ADJUST CHAR	00754	12	02565	000-1
00690	S	*-00	,,	,0		00766	M9	00706	00000
00700	LDRG	*-4	,,	,,		00773			
00710	TDM	FAC+4	,0	,,	CLEAR RECORD MARK				
						00774	15	02496	00000
00720	TD	FAC+1	,RECMK	,,	REPLACE RECORD MARK				
						00786	25	02493	02403
00730	GOAL	TF	FAC	,SAVE	SET CHAR IN FAC	00798	26	02492	02565
00740	B	ENDD+12	,,	,,		00810	49	03780	00000
00750	DORG	*-4	,,	,,		00817			
00760	TF	FAC-2	,9SPF-1	,,		00818	26	02490	02853
00770	TFM	FAC	,-99	,10		00830	16	02492	000RR
00780	B	GDAL+12	,,	,0		00842	M9	00810	00000
00790	DORG	*-4	,,	,,		00849			
00800	FAC	DS	,02492	,,		02492		00000	

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00810	FNM	DS	,03313		03313	00000
00820	E1	DS	,02615		02615	00000
00830	OVFLOW	DS	,03652		03652	00000
00840	ENDD	DS	,03768		03768	00000
00850	ERROR	DS	,03676		03676	00000
00860	9SPF	DS	,02854		02854	00000
00870	FNM1	DS	,03358		03358	00000
00880	BETA	DS	,02603		02603	00000
00890	TMOZ	DS	,03073		03073	00000
00900	ZERO	DS	,02767		02767	00000
00910	97MF	DS	,03323		03323	00000
00920	98MF	DS	,03328		03328	00000
00930	FMI	DS	,03625		03625	00000
00940	IMSA	DS	,02575		02575	00000
00950	SAVE	DS	,02565		02565	00000
00960	2FM1	DS	,03429		03429	00000
00970	LN10	DS	,02980		02980	00000
00980	RECMK	DS	,02403		02403	00000
00990	FH	DS	,03308		03308	00000
01000	DEND	1			00001	

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00010***** 1620 FORTRAN II-D RELOCATABLE FLOATING EXPONENTIAL ROUTINE
00020 DSA FEXP 00004 00005 -0006
00030 FEXP TF FAC ,FEXP-1 ,111, LOAD ARGUMENT 00006 20 02492 0000N
00040 SM *-13 ,02 ,010 00018 J2 00005 000-2
00050 TF FAC-2 ,*-25 ,111 00030 20 02490 0000N
00060 TFM BETA ,01 ,10 00042 16 02603 000-1
00070 TF BETA-2 ,ONEZ+4 ,, BETA= FT PT ONE (F+4 FORM)
00054 26 02601 03042
00080 BD **20 ,FNM ,011, ZERO CHECK 00066 M3 00086 0331L
00090 B GOBACK-24, ,0 00078 M9 00978 00000
00100 DORG *-4 00085
00110 TD MU-1 ,FAC-2 ,, STORE SIGN 00086 25 03711 02490
00120 CF FAC-2 ,0098 33 02490 00000
00130 TF 79 ,ZERO-42 ,, CLEAR PRODUCT AREA
00110 26 00079 02725
00140 M FAC-2 ,LOGE ,, MULTIPLY BY LOGE 00122 23 02490 03010
00150 TF SAVE+2 ,FAC ,, STORE CHAR 00134 26 02567 02492
00160 TD FAC+4 ,FAC+1 ,, MOVE RECORD MARK 00146 25 02496 02493
00170 TF FAC+3 ,102MF ,11, MOVE F+5 DIGITS OF PRODUCT
00158 26 02495 0334L
00180 BD **48 ,FNM ,011, NORMALIZE 00170 M3 00218 0331L
00190 TR FNM ,FM ,611 00182 31 0331L 0330Q
00200 SM SAVE+2 ,01 ,10 00194 12 02567 000-1
00210 SF FNM , ,16 00206 32 0331L 00000
00220 C SAVE+2 ,MF ,, IS CHAR LESS THAN, EQUAL TO -F
00218 24 02567 03473
00230 BNM GOBACK-24, ,0, YES- RESULT IS FLT PT ONE
00230 M7 00978 01100
00240 BV **12 , ,0, TURN OFF OVFL IND
00242 M6 00254 01400
00250 AM SAVE+2 ,00 ,10, IS CHAR ZERO 00254 11 02567 000-0
00260 BE CALC , ,0, YES 00266 M6 00430 01200
00270 BL CALC+68 , ,0, CHAR LESS THAN ZERO
00278 M7 00498 01300
00280 CM SAVE+2 ,02 ,10, CHAR POSITIVE 00290 14 02567 000-2
00290 BH E12 , ,0, CHAR GREATER THAN 2, ERROR
00302 M6 01138 01100
00300 BL **44 , ,0, CHAR LESS THAN 2 00314 M7 00358 01300
00310 A BETA ,FM ,11, CHAR IS 2 00326 21 02603 0330Q
00320 TR FNHM1 ,FM ,611, ADJUST MANTISSA 00338 31 03350 0330Q
00330 B CALC-24 , ,0 00350 M9 00406 00000
00340 DORG *-4 00357
00350 TDM FNHM1 ,0 ,611, CHAR IS 1 00358 15 03350 0000-
00360 CF FNM , ,6, ADJUST MANTISSA 00370 33 0331L 00000
00370 A BETA ,FNM ,11 00382 21 02603 0331L
00380 TR FNM ,FM ,611 00394 31 0331L 0330Q
00390 BV E12 , ,0, DV ON CHAR ADJUST, ERROR
00406 M6 01138 01400
00400 SF FNM , ,610 00418 32 0331L 000-0
00410 CALC TFM *-1 ,00 ,010, SET COUNTER EQUAL TO ZERO
00430 J6 00429 000-0
00420 CM FH ,34 ,610, ARE HIGH ORDER DIGITS OF MANTISSA
00442 14 0330Q 000L4

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00430 BL GORD , ,0, LESS THAN 34, IF YES GO TO GORD
00454 M7 00570 01300
00440 SM FH ,34 ,610, SUB 34 FROM HIGH ORD DIGITS
00466 12 0330Q 000L4
00450 AM CALC-1 ,01 ,010, ADJUST COUNTER 00478 J1 00429 000-1
00460 B CALC+12 , ,0 00490 M9 00442 00000
00470 DORG *-4 00497
00480 TFM **59 ,FAC ,07, ADJUST MANTISSA FOR CASE WHEN
00498 J6 00557 -2492
00490 A **47 ,SAVE+2 ,0, CHAR LESS THAN ZERO, GREATER THAN
00510 K1 00557 02567
00500 TF FNHM1 ,9SPF-1 ,6, MINUS F 00522 26 03350 02853
00510 CF FNM , ,6 00534 33 0331L 00000
00520 TF FAC , ,0 00546 26 02492 00000
00530 SF FNM , ,6 00558 32 0331L 00000
00540 GORD M 79 ,ZERO-20 00570 26 00079 02747
00550 TF FAC ,LN10-1 ,, MULTIPLY ADJUSTED ARGUMENT
00582 23 02492 02979
00560 SF 97M2F , ,6, BY LN10 00594 32 0336L 00000
00570 TF SAVE ,PDT ,11, SET SAVE EQUAL PRODUCT
00606 26 02565 0333L
00580 TF FAC+2 ,PDT ,11, STORE PRODUCT IN FAC
00618 26 02494 0333L
00590 TFM FACT+11 ,02 ,010, SET DIVISOR EQUAL 2, DENOTE AS L
00630 J6 00713 000-2
00600 A BETA-2 ,SAVE ,, ADD SAVE TO BETA 00642 21 02601 02565
00610 TF 79 ,ZERO-38 00654 26 00079 02729
00620 M SAVE ,FAC+2 ,, MULTIPLY SAVE BY PRODUCT IN FAC
00666 23 02565 02494
00630 TF 99 ,96MF ,11 00678 26 00099 0331Q
00640 TFM 96MF ,00 ,610 00690 16 0331Q 000-0
00650 FACT DM 97MF , ,6, DIVIDE NEW PRODUCT BY L
00702 19 0332L 00000
00660 BZ FACT+56 , ,0, BR IF QUOTIENT IS ZERO
00714 M6 00758 01200
00670 TF SAVE ,97 ,, PUT QUOTIENT IN SAVE
00726 26 02565 00097
00680 AM FACT+11 ,01 ,010, INCREASE L BY ONE
00738 J1 00713 000-1
00690 B FACT-60 , ,0 00750 M9 00642 00000
00700 DORG *-4 00757
00710 CM CALC-1 ,00 ,010, QUOTIENT WAS ZERO, IS COUNTER
00758 J4 00429 000-0
00720 BE **80 , ,0, ZERO, IF YES BR 00770 M6 00850 01200
00730 TF 79 ,ZERO-38 ,, INDICATOR NOT ZERO
00782 26 00079 02729
00740 M BETA-4 ,TEN34 ,, MULTIPLY BETA BY 10 TO .34
00794 23 02599 03278
00750 SF 97M2F , ,6 00806 32 0336L 00000
00760 TF BETA-4 ,98MF ,11, STORE PRODUCT IN BETA
00818 26 02599 0332Q
00770 SM CALC-1 ,01 ,010, DECREASE COUNTER BY ONE
00830 J2 00429 000-1

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00780 B FACT+68 , .0 00842 M9 00770 00000
00790 DORG *-4 00849
00800 BMF GOBACK-24,MU-1 ,.0, COUNTER WAS ZERO, WAS ORIGINAL
00850 M4 00978 03711
00810 TF 99 ,ZERO-21 ,, ARGUMENT NEGATIVE
00862 26 00099 02746
00820 TF PDT ,ONEZ+2 ,6, YES, FIND RECIPROCAL
00874 26 0333L 03040
00830 D HND ,BETA-4 ,6 00886 29 0333Q 02599
00840 BV **44 , .0 00898 M6 00942 01400
00850 TF BETA-6 ,97MF ,11 00910 26 02597 0332L
00860 SM BETA ,01 ,10 00922 12 02603 000-1
00870 B **20 , .0 00934 M9 00954 00000
00880 DORG *-4 00941
00890 SM BETA ,02 ,10 00942 12 02603 000-2
00900 BE **24 , .0 00954 M6 00978 01200
00910 SF BETA 00966 32 02603 00000
00920 TF FAC-2 ,BETA-6 ,, PUT RESULT IN FAC
00978 26 02490 02597
00930 TF FAC ,BETA 00990 26 02492 02603
00940 GOBACK TDM GOBACK+37,9 ,.0, NO ERROR 01002 J5 01039 00009
00950 TD FAC+1 ,RECMK ,, REPLACE RECORD MARK
01014 25 02493 02403
00960 TFM FAC+4 ,0 ,9, REMOVE RECORD MARKS
01026 16 02496 00-00
00970 B FINISH+1 01038 49 03804 00000
00980 TDM 99 ,0 ,, SET SIGN POSITIVE
01050 15 00099 00000
00990 BMF **56 ,MU-1 ,0 01062 M4 01118 03711
01000 TFM EI ,675 ,9, ERR F5 UNFL IN FEXP
01074 16 02615 00075
01010 TFM FAC , -99 ,10, FAC IS FL PT ZERO
01086 16 02492 000RR
01020 TF FAC-2 ,9SPF-1 , 01098 26 02490 02853
01030 B ERROR 01110 49 03676 00000
01040 DORG *-4 01117
01050 TFM EI ,674 ,9, ERR F4 OVFL IN FEXP
01118 16 02615 00074
01060 B OVFLOW , ,, FAC IS FL PT NINES
01130 49 03652 00000
01070 DORG *-4 01137
01080 E12 TDM GOBACK+37,1 ,.0, SET ERROR BRANCH 01138 J5 01039 00001
01090 B GOBACK+12, ,0 01150 M9 01014 00000
01100 DORG *-4 01157
01110 FAC DS ,02492 02492 00000
01120 BETA DS ,02603 02603 00000
01130 ONEZ DS ,03038 03038 00000
01140 FMH DS ,03313 03313 00000
01150 MU DS ,03712 03712 00000
01160 ZERO DS ,02767 02767 00000
01170 LOGE DS ,03010 03010 00000
01180 SAVE DS ,02565 02565 00000
01190 102MF DS ,03343 03343 00000
    
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01200 FM DS ,03308 03308 00000
01210 MF DS ,03473 03473 00000
01220 FNHM1 DS ,03358 03358 00000
01230 9SPF DS ,02854 02854 00000
01240 LN10 DS ,02980 02980 00000
01250 97M2F DS ,03363 03363 00000
01260 PDT DS ,03333 03333 00000
01270 96MF DS ,03318 03318 00000
01280 97MF DS ,03323 03323 00000
01290 TEN34 DS ,03278 03278 00000
01300 98MF US ,03328 03328 00000
01310 HND US ,03338 03338 00000
01320 RECMK US ,02403 02403 00000
01330 FINISH US ,03803 03803 00000
01340 EI DS ,02615 02615 00000
01350 ERROR DS ,03676 03676 00000
01360 OVFLOW DS ,03652 03652 00000
01370 DEND 1 00001
    
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00010* SUBSCRIBING SUBROUTINE - RELOCATABLE- FOR ONE, TWO OR
00020* THREE DIMENSIONAL SUBSCRIPTED VARIABLES
00030* LINKAGE BTM ENTRYX,**12,, WHERE X=1,2 OR 3
00040* DSA BASE,D4,D1,I,D2,J,D3,K,OR/M
00050* IF Q ADDR FLAGGED BASE IS FIXED
00060* IF BASE IS FLAGGED ARRAY IS FORMAL PARAMETER
00070* IF D1 IS FLAGGED - I/O STMT
00080 FP2 DS ,3605 03605 00000
00090 K DS ,2221 02221 00000
00100 DSA ENTRY1,ENTRY2,ENTRY3 00004 00005 -0006
00009 00005 -0042
00014 00005 -0090
00005

00110 DORG *-9
00120 ENTRY1 TFM BRINST+6,L1 00006 J0 00336 -0386
00130 TFM EXIT-1,22,10 00018 J6 00481 000K2
00140 B COM 00030 M9 00126 00000
00150 ENTRY2 TFM BRINST+6,L2 00042 J0 00336 -0362
00160 TFM EXIT-1,32,10 00054 J6 00481 000L7
00170 TF ENTRY1-1,ENTRY2-1 00066 K0 00005 00041
00180 B COM 00078 M9 00126 00000
00190 ENTRY3 TFM BRINST+6,L3 00090 J0 00336 -0338
00200 TFM EXIT-1,42,10 00102 J6 00481 000M2
00210 TF ENTRY1-1,ENTRY3-1 00114 K0 00005 00089
00220* SET LENGTH OF FX OR FL
00230 COM TF X+11,FP2 00126 K6 00433 03605
00240 BNF **48,ENTRY1-1 00138 MM 00186 00005
00250 SF COM+1 00150 L2 00127 00000
00260 CF ENTRY1-1 00162 L3 00005 00000
00270 TF X+11,K 00174 K6 00433 02221
00280*
00290* MOVE PARAMETERS TO WORK AREA
00300*
00310 TR WKAREA,ENTRY1-1,11 00186 3J 00000 0000N
00320*
00330 CF Y+11 00198 L3 00445 00000
00340 BNF **36,BASE 00210 M4 00246 00004
00345 CF BASE 00222 33 00004 00000
00350 SF Y+11 00234 L2 00445 00000
00360* CHECK IF IN I/O
00370*
00380 BNF CFINST,COM+1 00246 MM 00306 00127
00390 CF COM+1 00258 L3 00127 00000
00400 BNF CFINST+12,D1 00270 M4 00318 00014
00410 SF X+11 00282 L2 00433 00000
00420 TDM Y+1,2,, SET OP TO SUBTRACT 00294 J5 00435 00002
00430 CFINST CF D1 00306 33 00014 00000
00440 S HOLD,HOLD 00318 KK 00508 00508
00450 BRINST B ** 00330 49 00000 00000
00460 DORG *-3 00338
00470*
00480 L3 M D3,KK,11 00338 23 00034 0003R
00490 TF HOLD,99 00350 K6 00508 00099
00500 L2 M D2,J,11 00362 23 00024 0002R

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00510 A HOLD,99 00374 K1 00508 00099
00520 L1 M D1,I,11 00386 23 00014 0001R
00530 A HOLD,99 00398 K1 00508 00099
00540 A HOLD,D4 00410 K1 00508 00009
00550 X MM HOLD,**,, MULTIPLY BY LENGTH 00422 J3 00508 -0000
00560 Y A 99,BASE,11, 00434 21 00099 0000M
00570 TDM *-11,1,, INIT OP TO ADD 00446 J5 00435 00001
00580 SF 95 00458 32 00095 00000
00590 AM ENTRY1-1,** 00470 J1 00005 -0000
00600 EXIT B ENTRY1-1,,6 00482 M9 0000N 00000
00610 WKAREA DSS 42,0 00000 00642
00620 HOLD DC 15,0 00508 00015
00630 BASE DS 5,4 00004 00005
00640 D4 DS 5,9 00009 00005
00650 D1 DS 5,14 00014 00005
00660 I DS 5,19 00019 00005
00670 D2 DS 5,24 00024 00005
00680 J DS 5,29 00029 00005
00690 D3 DS 5,34 00034 00005
00700 KK DS 5,39 00039 00005
00710 UEND 3 00003

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00010*      FORTRAN DISK I/O WITHOUT FLOATING POINT HARDWARE
00020*      THIS SUBROUTINE REQUIRES 1342 CORE STORAGE POSITIONS
00030 INOUT  DS ,631          00631 00000
00040 IOERR  DS ,632          00632 00000
00050 CHECK  US ,1270         01270 00000
00060 DIO    DS ,816          00816 00000
00070 EXIT   US ,1638         01638 00000
00080 ERRET  DS ,602          00602 00000
00090 ADR    DSA  FIND ,RECORD,FETCH,SWD,DRAY,DIOEND 00004 00005 -0124
                                           00009 00005 -0386
                                           00014 00005 -0350
                                           00019 00005 -0268
                                           00024 00005 -0064
                                           00029 00005 -0322
00100                                00000
00110 LOCAL DS ,716          00716 00000
00120 IORBC  DS ,520          00520 00000
00130 IORT   DS ,565          00565 00000
00140 IOSK   DS ,554          00554 00000
00150 IOGT   DS ,566          00566 00000
00160 IOPT   DS ,532          00532 00000
00170 FAC    DS ,2492         02492 00000
00180 DIODDA DS ,3387         03387 00000
00190 FINDIN DS ,3583         03583 00000
00200 FP2    US ,3605         03605 00000
00210 FKODD  US ,3427         03427 00000
00220 PAR    US ,3378         03378 00000
00230 ERROR  DS ,3676         03676 00000
00240 EI     US ,2615         02615 00000
00250 FIXEND US ,3760         03760 00000
00260 FLTEND US ,3810         03810 00000
00270 FLOAT  DS ,4042         04042 00000
00280 DKDATA DS ,3379         03379 00000
00290 ZERO   DS ,2700         02700 00000
00300 FIX    US ,3854         03854 00000
00310 RECLG  DS ,2243         02243 00000
00320 W       DS ,2240         02240 00000
00330 N2     DS ,2238         02238 00000
00340 N1     DS ,2233         02233 00000
00350 K      DS ,2221         02221 00000
00360 F      DS ,2219         02219 00000
00370 CORSIZ DS ,7376         07376 00000
00380*
00390 NOWLC  DSC  2,02        00000 00002
00400 USA    DIODDA          00006 00005 -3387
00410 UC     1,0            00007 00001
00420 MYER   BI  **12,3700,, TURN OFF WLRC IND 00008 M6 00020 03700
00430 B1     CHECK-12,1900,, LET IORT HANDLE DISK OVERFLOW
                                           00020 46 01258 01900
00440 B7     FEXIT,,WLRC WAS ONLY ERROR        00032 49 01638 00000
00450 TF     NITEMP,N1       00040 K6 00195 02233
00460 TOBB  B  DRAY1,,0     00052 M9 01074 00000
00470 DRAY  TOM TOBB+1,9,, SET TOBB TO BRANCH
    
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00480 BD     EVEN,FKODD,, TEST FOR EVEN ADDRES. 00044 J5 00053 00009
00490 BD     AGAIN,DDABLK+1,, BRANCH IF BUFFER PROG IN CORE 00076 M3 00588 03427
00500 TFM    DSABLK+5,AGAIN 00088 ML 00782 00300
00510 B     SWD+12          00100 J0 00317 -0782
00520 FIND  TOM FINDIN,0,, SET FIND INDICATOR ON 00112 M9 00280 00000
00530 TFM    RETD2+6,SET1,, BRANCH TO COMPUTE ADDRESS AND TEST1 00124 15 03583 00000
00540* N2  ERROR ROUTINE (I GRT N2) 00136 J0 00202 -0422
00550 N2LK  C  FIND-1,ZERO,6, IS I ZERO OR NEG 00148 K4 0012L 02700
00560 BNM   BE2            00160 M7 00208 01100
00570 C     FIND-1,N2,6, COMPARE I AND N2 00172 K4 0012L 02238
00580 BM    BE2            00184 M6 00208 01100
00590 RETD2 B  *-+        00196 49 00000 00000
00600 BUFFAR DS ,*        00207 00000
00610 BE2   TFM  E1,472,9, I GRT N2 00208 16 02615 00M72
00620 TF     NITEMP,N1     00220 K6 00195 02233
00630 BD     ERROR,DDABLK,,BR IF CK MADE FROM EVEN ARRAY PROGRAM
00640 TFM    DSAQTR+5,ERROR 00232 4L 03676 00299
00650 B     SETRMK         00244 J6 00475 -3676
00660*      00256 M9 00426 00000
00670*****  SWD SUBROUTINE
00680 SWDA  TOM SWD+900,0 00268 J5 01168 00000
00690 TFM    *-11,41,10    00280 J6 00269 000M1
00700 B     SWD1           00292 M9 00478 00000
00710 DORG  *-3          00300
00720*      SET UP LINKAGE FOR FLOAT
00730 FETCH5 TF  FLTEND,ICONB+5 00300 20 03810 01072
00740 B     FLOAT         00312 49 04042 00000
00750 UDRG  *-4          00319
00760 UDRG  *-4          00322
00770 IOEND TFM  DSAQTR+5,DIOEND 00322 J0 00475 -0322
00780 BD     SETRMK,FRIND,, BRANCH IF FETCH 00334 ML 00426 00215
00790 C     NITEMP,N1     00346 K4 00195 02233
00800 BE     SETRMK,, BRANCH IF BUFFER EMPTY 00358 M6 00426 01200
00810 TFM    RETD2+6,**20 00370 J0 00202 -0390
00820 B7     N2CK         00382 M9 00148 00000
00830 TFM    IORT,**23,, WRITE BUFFER TO FILE 00390 10 00565 -0413
00840 B     IOPT ,DKDATA,7 00402 49 00532 -3379
00850 AM     FIND-1,1,610 00414 J1 0012L 000-1
00860 SETRMK TD  SWD+900,DKBUFF+200 00426 KN 01168 01340
00870 TFM    IORT,IORREF2+11 00438 10 00565 -0513
00880 B     IOGT          00450 49 00566 00000
00890 DORG  *-4          00457
00900 DDB   DSC  1,1      00457 00001
00910 DSA   200          00462 00005 -0200
    
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00920	DC	3,9		00465	00003	
00930	DSAOTR	DSA	SWD,DIOEND	00470	00005 -0268	
				00475	00005 -0322	
00940	DC	1,2		00476	00001	
00950	SWD1	A	BUFFAR,W,, INCREMENT BUFFER ARROW	00478	K1 00207 02240	
00960	WD	FETCH1,FRIND,,	BRANCH IF FETCH	00490	ML 00802 00215	
00970**			RECORD			
00980	IREF2	CF	SWD-1,DATB,7,		CLEAR FLAG ON ADDRESS OF DATA	
				00502	LL 00267 -1131	
00990	SM	NITEMP,1,10,			DECREMENT WORD COUNT	
				00514	J2 00195 000-1	
01000	TF	BUFFAR,SWD-1,611,			SEND WORD TO BUFFER	
01010	SM	BUFFAR,2		00526	K0 0020P 0026P	
01020	SM	SWD-1,2		00538	J2 00207 -0002	
01030	TF	BUFFAR,SWD-1,611		00550	J2 00267 -0002	
01040	AM	BUFFAR,2		00562	K0 0020P 0026P	
01050	CK	CM	NITEMP,0,10,		CHECK FOR FULL BUFFER	
				00574	J1 00207 -0002	
01060	BNZ	TGOW		00586	J4 00195 000-0	
01070	BD	TOBB-12,FRIND,,	BR IF FETCH	00598	M7 00052 01200	
01080	TFM	LINKB+1R,IOPT		00610	ML 00040 00215	
01090	CKI	TFM	RFTD2+6,LINKB	00622	J6 00672 -0532	
01100	B	N2CK		00634	JD 00202 -0654	
01110	DORG	**4		00646	M9 00148 00000	
01120	LINKB	TFM	IORT,**+23,,		CALL CORRECT IORT ROUTINE	
				00654	I0 00565 -0677	
01130	B	,DKDATA,7		00666	49 00000 -3379	
01140	TFM	BUFFAR,DKBUFF+199,,			INITIALIZE BUFFER ARROW	
				00678	JO 00207 -1339	
01150	S	BUFFAR-2,RECLG		00690	K2 00205 02243	
01160	BNF	**+24,FRIND		00702	MM 00726 00215	
01170	A	BUFFAR,W		00714	K1 00207 02240	
01180	ADDT01	A	FIND-1,1,610,		INCREMENT I	
01190	A	DIODDA+5,DIODDA+8,,		00726	J1 0012L 000-1	
					INCREMENT SECTOR ADDRESS	
01200	BD	FETCH2,FRIND		00738	Z1 03392 03395	
01210	B	TOBB-12		00750	ML 00846 00215	
01220	DORG	**4		00762	M9 00040 00000	
01230	A	DRAY-1,FP2		00769		
01240	AGAIN	TF	SWD-1,DRAY-1	00770	K1 00063 03605	
01250	B	SWD		00782	K0 00267 00063	
01260	DORG	**4		00794	M9 00268 00000	
01270	FETCH1	C	NITEMP,N1		00801	
01280	BNE	FETCH2,,,			BRANCH IF BUFFER NOT EMPTY	
				00814	M7 00846 01200	
01290	TFM	LINKB+18,IOGT		00826	J6 00672 -0566	
01300	B	CKI		00838	M9 00634 00000	
01310	DORG	**4		00845		
01320	FETCH2	SM	NITEMP,1,10		00846	J2 00195 000-1
01330*			SEND THE WORD TO FAC			
01340	TF	FAC,BUFFAR,11		00858	Z0 02492 0020P	
01350	SM	BUFFAR,2		00870	J2 00207 -0002	

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01360	TF	FAC-2,BUFFAR,11		00882	Z0 02490 0020P
01370	AM	BUFFAR,2		00894	J1 00207 -0002
01380	BI	**+12,1400		00906	M6 00918 01400
01390*			TEST FOR FLOATING ADDRESS AT SWD-1		
01400	BNF	FETCH3,SWD-1		00918	MM 01012 00267
01410*			IT IS A FIXED ADDRESS		
01420	CF	SWD-1		00930	L3 00267 00000
01430*			TEST FOR FLOATING WORD IN FAC		
01440	BNF	FETCH4,FAC-1		00942	M4 01024 02491
01450*			THE WORD IS FLOATING SET UP LINKAGE FOR FIX		
01460	TF	FIXEND+6,ICON7+6		00954	Z0 03766 00979
01470	B	FIX		00966	49 03854 00000
01480	DORG	**4		00973	
01490	ICON7	DC	1,4	00973	00001
01500	DSC	1,9		00974	00001
01510	DSA	RETFLT		00979	00005 -0980
01520	RETFLT	TFM	FIXEND+1,2	00980	15 03761 00002
01530	TFM	FLTEND-5,2		00992	15 03805 00002
01540*			BRANCH TO STORE NUMBER		
01550	CKLD	B	FETCH4	01004	M9 01024 00000
01560	DORG	**4		01011	
01570	FETCH3	BNF	FETCH5,FAC-1,,		BRANCH IF FIXED
				01012	M4 00300 02491
01580*			STORE THE WORD IN MEMORY		
01590	FETCH4	TF	SWD-1,FAC,6	01024	K6 0026P 02492
01600	SM	SWD-1,2		01036	J2 00267 -0002
01610	TF	SWD-1,FAC-2,6		01048	K6 0026P 02490
01620*			CHECK FOR EMPTY BUFFER		
01630	B	CK		01060	M9 00586 00000
01640	DORG	**4		01067	
01650	ICON8	DC	1,9	01067	00001
01660	DSA	RETFLT		01072	00005 -0980
01670	DRAY1	SM	PAR,1,10,,		DECREMENT WORD COUNT
				01074	Z1 03378 000-1
01680	BNZ	**14		01086	M7 01100 01200
01690	BB			01098	42 00000 00000
01700	DORG	**9		01100	
01710	BNF	AGAIN-12,DRAY-1		01100	MM 00770 00063
01720	S	DRAY-1,K		01112	K2 00063 02221
01730	B	AGAIN		01124	M9 00782 00000
01740	DORG	**4		01131	
01750	DATB	DSC	2,-00	01131	00002
01760	DSA	DDB		01137	00005 -0457
01770	DC	1,2		01138	00001
01780	DKBUFF	DS	,DATB+9	01140	00000
01790*					
01800*					
01810*			WRITE 2ND BLOCK		
01820*					
01830	LD1RD	DSC	2,00	01139	00002
01840	OSA	DIM1		01145	00005 -1147
01850	DC	1,2		01146	00001
01860	DIM1	DSC	1,1	01147	00001

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01870	DSA	209		01152	00005	-0209
01880	DC	3,9		01155	00003	
01890	DSA	SWD		01160	00005	-0268
01900	DC	1,0		01161	00001	
01910	DORG	SWDA+902		01170		
01920	STLD1	TDM	DKBUFF+200,0	01170	J5	01340 00000
01930	UGM	*		01181	00001	
01940	TD	SWD+900,DKBUFF+200		01182	KN	01168 01340
01950	CF	ICON7+2		01194	L3	00975 00000
01960	CF	ICON8+1		01206	L3	01068 00000
01970	TFM	IORT,**23		01218	10	00565 -1241
01980	B	IORT,LD1RD,7		01230	4R	00532 -1139
01990	TRA			01242	10	00565 -1261
				01254	49	00716 00000
				01261	00002	2K
				01263	00005	-1269
				01268	00001	0
				01269	00006	1J9783
				01275	00003	-03
				01278	00006	-00000
				01170		
02000	TCD	STLD1				
02010*						
02020*		BLOCK 1 OF FETCH FIND RECORD				
02030	DORG	SWDA		00268		
02040	SWD	TFM	DSABLK+5,SWD	00268	JO	00317 -0268
02050	TFM	IORT,IOREF+11		00280	10	00565 -0623
02060	B	IORT		00292	49	00566 00000
02070	DORG	**4		00299		
02080	DDABLK	DSC	1,1	00299	00001	
02090	DSA	209		00304	00005	-0209
02100	DC	3,9		00307	00003	
02110	DSABLK	DSA	SWD,SWD	00312	00005	-0268
				00317	00005	-0268
				00318	00001	
02120	DC	1,0		00322		
02130	DORG	IOEND		00322	M6	00334 01400
02140	DIOEND	BI	**12,1400	00334	42	00000 00000
02150	BB			00336		
02160	DORG	**9		00336	00002	
02170	DAT1	USC	2,-00	00342	00005	-0299
02180	DSA	DDABLK		00343	00001	
02190	DC	1,0		00348	00005	
02200	DS	5		00350	KD	00123 00349
02210	FETCH	TF	FIND-1,FETCH-1,,	00362	J5	00215 0000J
02220	TDM	FRIND,1,1,,	SET FETCH-RECORD INDICATOR TO FETCH	00374	M9	00410 00000
				00374	M9	00410 00000
02230	B	AITEST,,	BRANCH TO SET FIND INDICATOR OFF,			
02240*			COMPUTE ADDRESS, TEST 1, AND TEST			
02250*			FOR DEFINE STATEMENT			
02260	RECORD	TF	FIND-1,RECORD-1,,	00386	KD	00123 00385
02270	TDM	FRIND,0,,	SET FETCH-RECORD INDICATOR TO RECD	00398	J5	00215 00000
02280	AITEST	TDM	FINDIN,1,,			
			SET FIND INDICATOR OFF			

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02290	SET1	TFM	DIODDA+5,218,,	SET SECTOR ADDRESS IN DDA	00410	15	03583	00001
					00422	16	03392	-0218
02300	M	FIND-1,RECLG,6,	COMPUTE ADDRESS OF FILE RECORD		00434	K3	0012L	02243
					00446	21	03392	00099
02310	A	DIODDA+5,99		BRANCH IF NOT FIND	00458	M3	00502	03583
02320	BD	**44,FINDIN,,			00470	10	00565	-0493
02330	SSEEK	TFM	IORT,**23	TRANSFER TO IORT TO SEEK	00482	49	00554	-3379
02340	B	IORSK,DKDATA,7,			00494	M9	00322	00000
					00502			
02350	B	DIOEND		INITIALIZE BUFFER ARROW	00502	JO	00207	-1339
02360	DORG	**3			00514	K2	00205	02243
02370	TFM	BUFFAR,DKBUFF+199,,			00526	K6	00195	02233
					00538	26	03395	02243
02380	S	BUFFAR-2,RECLG		STORE RECORD LENGTH IN DDA	00550	10	03400	-1340
02390	TF	NITEMP,N1,,			00562	22	03398	02243
02400	TF	DIODDA+8,RECLG,,		STORE ADDRESS OF BUFFER	00574	J5	00053	00002
					00586	42	00000	00000
02410	TFM	DIODDA+13,DKBUFF+200,,		SUB LENGTH OF RECORD TO GET FIRST COR	00588			
					00588	K6	00171	03605
02420	S	DIODDA+11,RECLG,,		INITIALIZE BRANCH BACK	00600	MM	00636	00063
					00612	LL	00063	-0336
02430	OVER	TDM	TOBB+1,2,,	STORE FIXED LENGTH IN TEMPA	00624	K6	00171	02221
					00636	20	03400	00063
02440	BB	**9		STORE ADDRESS OF FIRST ELEMENT	00648	11	03400	-0001
02450	DORG	**9			00660	2K	03400	00171
02460	EVEN	TF	TEMPA,FP2,,	HIGH ORDER POSITION OF ARRAY	00672	K6	00919	03400
					00684	K3	00171	03378
02470	BNF	**36,DRAY-1,,		EVALUATE AND STORE LOW ORDER	00696	32	00095	00000
					00708	K1	00919	00099
02480	IOREF	CF	DRAY-1,DAT1,7	POSITION + 1 OF ARRAY	00720	J4	00919	-0000
02490	TF	TEMPA,K,,			00732	M7	00756	01200
					00744	J6	00919	-0000
02500	TF	DIODDA+13,DRAY-1,,		EVALUATE SECTOR COUNT	00756	11	00097	00-01
					00768	K5	00791	02243
02510	AM	DIODDA+13,1			00780	M3	00828	00251
02520	S	DIODDA+13,TEMPA,,			00792	K5	00815	00097
02530	TF	EVEN+11,DIODDA+13						
02540	M	TEMPA,PAR						
02550	SF	95						
02560	A	EVEN+11,99						
02570*								
02580*								
02590	CARRY	LM	EVEN+11,0					
02600	UNE	**24						
02610	TFM	EVEN+11,0						
02620*								
02630	AM	97,1 ,9, ADD ONE FOR GROUP MARK						
02640	TD	**23,RECLG						
02650	BD12	BD	OVER3,251,, BRANCH IF RECLG IS 1					
02660	TD	**23,97						
02670	BD	**24,210,, BRANCH IF EVEN NUMB OF SECTORS						

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02680	AM	97,1,10	00804 M3 00828 00210
02690	OVER3	TF DIODDA+8,97,, SET UP SECTOR COUNT	00816 11 00097 000-1
02700	BD	OVER2,8D12+11,11	00828 26 03395 00097
02710	MM	DIODDA+8,50,10	00840 ML 00864 0079J
02720	OVER2	A FIND-1,97,6, ADD NUMBER OF RECORDS TO 1	00852 13 03395 00000
02730	SM	FIND-1,1,610	00864 K1 0012L 00097
02740	TFM	RETD2+6,++20	00876 J2 0012L 000-1
02750	B	NZCK	00888 J0 00202 -0908
02760	DORG	*-4	00900 M9 00148 00000
02770	EVEN1	TD EVEN2+11	00907
02780	BD	FETCH8,FRIND,,	00908 K5 00991 00000
			00920 ML 01018 00215
02790*		RECORD	
02800	TD	EVEN1+11,DKBUFF+200,6,	SET GROUP MARK AT END OF ARRAY
			00932 KN 0091R 01340
02810*			WRITE ARRAY ONTO FILE
02820	TFM	IORT,++23	00944 10 00565 -0967
02830	B	IORBC,NDWLC ,7	00956 4R 00520 -0000
02840	TDM	FLTEND-5,2	00968 15 03805 00002
02850	EVEN2	TDM EVEN1+11,,6,	RESTORE DIGIT
			00980 J5 0091R 00000
02860	AM	FIND-1,1,610	00992 J1 0012L 000-1
02870	A	DIUDDA+5,DIODDA+8,,	INCREMENT SECTOR ADDRESS
			01004 21 03392 03395
02880	BB		01016 42 00000 00000
02890	DORG	*-9	01018
02900	FETCH8	TFM DID+35,YTURN,67,	INSERT ADDRESS FOR ERROR ENTRY
			01018 10 0085J -1124
02910	TFM	IORT,++23,,	READ ARRAY FROM FILE
			01030 10 00565 -1053
02920	B	IOGT,DKDATA,7	01042 49 00566 -3379
02930	TFM	INDUT,CHECK-12,,	RESTORE SPECIAL IORT ERROR EXIT
			01054 16 00631 -1258
02940*			TEST FOR NO GROUP MARK
02950	BNG	++20,EVEN1+11,11	01066 MM 01086 0091R
02960	B	EVEN2	01078 M9 00980 00000
02970	DORG	*-4	01085
02980	TF	FLTEND,EVENSP+6	01086 20 03810 01123
02990	TFM	E1,473,9	01098 16 02615 00M73
03000	B	ERROR	01110 49 03676 00000
03010	DORG	*-4	01117
03020	EVENSP	DC 1,4	01117 00001
03030	DSC	1,9	01118 00001
03040	DSA	EVEN2-12	01123 00005 -0968
03050	YTURN	BI ++12,3700,,	TURN OFF WLRC IND
			01124 M6 01136 03700
03060	BNI	ERRET,1900,,	GO ON IF NO OTHER ERROR
			01136 47 00602 01900
03070	TFM	INDUT,MYER,,	SET UP SECOND IORT ERROR EXIT
			01148 10 00631 -0008
03080	B	IOERR,,,	LET IORT CHECK ANY OTHER ERRORS
			01160 49 00632 00000
03090	DORG	*-4	01167
03100	DORG	SWD+902	01170
03110	TEMPA	DS 2,NZCK+23	00171 00002

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03120	NITEMP	DS 2,RETD2-1	00195 00002
03130	FRIND	DS 1,BE2+7	00215 00001
03140*		WRITE FIRST BLOCK	
03150*			
03160	DIM2	DSC 1,1	01170 00001
03170	DSA	200	01175 00005 -0200
03180	DC	3,9	01178 00003
03190	DSA	SWD	01183 00005 -0268
03200	DC	1,2	01184 00001
03210	LD2ND	DSC 2,00	01185 00002
03220	USA	DIM2	01191 00005 -1170
03230	DC	1,2	01192 00001
03240	STLD2	CF EVENSP+2	01194 L3 01119 00000
03250	DGM	SWD+900	01168 00001
03260	TD	CARRY+7,CORS12	01206 K5 00727 07376
03270	AM	CARRY+8,10,10	01218 J1 00728 000J0
03280	TFM	IORT,++23	01230 10 00565 -1253
03290	B	IOPT ,LD2ND,7,	WRITE OUT 2ND PART BLK 1
			01242 4R 00532 -1185
03300	TRA		01254 10 00565 -1273
			01266 49 00716 00000
			01273 00002 2K
			01275 00005 -1281
			01280 00001 #
			01281 00006 1J9783
			01287 00003 -03
			01290 00006 -0000#
03310	TCD	STLD2	01194
03320	DEND	6	00006

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00010***** 1620 FORTRAN II-D RELOCATABLE SINE AND COSINE ROUTINES
00020***** COS(X) = 1 - (X**2)/2 + (X**4)/24 - (X**6)/720 + ...
00030***** SIN(A) = COS(PI/2 - A)
00040 DSA FCOS,FSIN
00004 00005 -0006
00009 00005 -0042
00005
00050 DORG *-4
00060 FCOS TDM CLF+11 ,0 ,0, SET ROUTINE FOR COSINE
00006 J5 00185 00000
00070 TF FSIN-1 ,FCOS-1 ,01, LOAD ADDRESS OF ARGUMENT
00018 K0 00041 00005
00080 B FSIN+12 , ,0 ,0
00030 M9 00054 00000
00090 FSIN TDM CLF+11 ,1 ,011, SET ROUTINE FOR SINE
00042 J5 00185 0000J
00100 TF FAC ,FSIN-1 ,111, LOAD ARGUMENT
00054 20 02492 0004J
00110 SM FSIN-1 ,02 ,010
00066 J2 00041 000-2
00120 TF FAC-2 ,FSIN-1 ,111
00078 20 02490 0004J
00130 BNF *-36 ,CLF+11 ,01, BRANCH IF COS
00090 MM 00126 00185
00140 C FAC ,MFOV2
00102 24 02492 03746
00150 BNM FINISH+1 , , BRANCH IF ANS. = ARG.
00114 47 03804 01100
00160 CF FNM , ,0, CLEAR HIGH ORDER FLAG
00126 33 0331L 00000
00170 TDM FNMM1 ,0 ,011, SET FLAG AT HIGH ORDER DIGIT -1
00138 15 03350 0000-
00180 TDM CLF+10 ,1 ,0, SET SWITCH ARG POSITIVE, RESULT POS
00150 J5 00184 00001
00190 BNF *-48 ,FAC-2 ,0, IS ARG NEGATIVE
00162 M4 00210 02490
00200 CLF CF FAC-2 , ,9, YES, REPLACE BY ABSOLUTE VALUE
00174 33 02490 00-00
00210 BNF *-24 ,CLF+11 ,01, IS ROUTINE SINE OR COSINE
00184 MM 00210 00185
00220 TDM CLF+10 ,0 ,0, SINE, SIN(-A)=-SIN(A), RESULT NEG
00198 J5 00184 00000
00230 TF IMSAFP ,9SPF+1 ,6, IMSA+F = F+2 ZEROS
00210 26 03290 02855
00240 CM FAC ,00 ,10, CHECK SIGN OF CHARACTERISTIC
00222 14 02492 000-0
00250 BNL POZEXP , ,0, BR IF POSITIVE, EQUAL TO ZERO
00234 M6 00766 01300
00260 C FAC ,MF , , COMPARE CHAR TO -F
00246 24 02492 03473
00270 BL BRD , ,0, BR IF CHAR LESS THAN -F
00258 M7 00306 01300
00280 TFM *-35 ,FAC-1 ,07, ADJUST MANTISSA (IN IMSAFP) FOR
00270 J6 00305 -2491
00290 A *-23 ,FAC ,0, CMAR GREATER THAN OR EQUAL TO -F
00282 K1 00305 02492
00300 A IMSAFP , ,6, AND LESS THAN ZERO
00294 21 03290 00000
00310 BRD BD *-24 ,CLF+11 ,01, BR IF ROUTINE IS SINE
00306 ML 00330 00185
00320 A IMSAFP ,PIOV2 ,6, ADD PIOV2, COS(A) = SIN(PIOV2-A)
00318 21 03290 03163
    
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00330 S IMSAFP ,TWOPI ,6, REDUCE ARGUMENT TO PRINCIPAL VALUE
00330 22 03290 03103
00340 BM *-12 , ,0, RANGE, MINUS PIOV2 TO POS PIOV2
00342 M6 00330 01100
00350 SF IMSA-1 , , , SET HIGH ORDER FLAG
00354 32 02574 00000
00360 A IMSAFP ,PI ,6
00366 21 03290 03133
00370 BN *-36 , ,0, BR ARG NEGATIVE
00378 M7 00414 01300
00380 SM CLF+10 ,01 ,010, SET SIGN OF RESULT
00390 J2 00184 000-1
00390 SF IMSAFP , ,6, SET SIGN ON ARGUMENT TO MINUS
00402 32 03290 00000
00400 A IMSAFP ,PIOV2 ,6, ADD PIOV2, SIN(A) = COS(PIOV2-A)
00414 21 03290 03163
00410 TF 79 ,ZERO-40 , , CLEAR PRODUCT AREA
00426 26 00079 02727
00420 M IMSAFP ,IMSAFP ,011, FIND A**2
00438 23 03290 03290
00430 TF IMSAFP ,9BMF ,011, PUT RESULT IN IMSA+F
00450 26 03290 03320
00440 SF IMSA-1 , , , SET HIGH ORDER FLAG
00462 32 02574 00000
00450 TF FAC ,ONEZ+2 , , FAC = 1 (F+2 DIGITS)
00474 26 02492 03040
00460 TR AAB-3 ,AABS-8 ,01, SET COUNTERS, AB = 2 FACTORIAL
00486 LJ 00957 00966
00470 OVER TDM SUM+1 ,2 ,0, SET SUM TO SUBTRACT
00498 J5 00571 00002
00480 TF 99 ,9BMF ,11, SHIFT PRODUCT
00510 26 00099 03320
00490 TFM 97MF ,0000 ,68
00522 16 0332L 0-000
00500 D 98MF ,AB ,16, DIVIDE BY AB
00534 2R 03320 00964
00510 BZ DONE , ,0
00546 M6 00698 01200
00520 TF SAVE ,95 ,10, STORE QUOTIENT
00558 26 02565 000R5
00530 SUM S FAC ,SAVE , , SUBTRACT QUOTIENT FROM FAC
00570 22 02492 02565
00540 AM AAB-2 ,02 ,010, AB CONTAINS K FACTORIAL
00582 J1 00958 000-2
00550 AM AAB ,02 ,010, FIND K+2 FACTORIAL MODIFIED FOR
00594 J1 00960 000-2
00560 M AAB ,AAB-2 ,01, PRODUCT DEVELOPMENT, PUT IN AB
00606 KL 00960 00958
00570 TF AB ,99 ,0
00618 K6 00964 00099
00580 TF 79 ,ZERO-12 ,0
00630 26 00079 02755
00590 M IMSAFP ,SAVE ,6, MULTIPLY ARG BY QUOTIENT
00642 23 03290 02565
00600 CM SUM+1 ,9521 ,08, ADD OR SUBTRACT AT SUM
00654 J4 00571 0R521
00610 BE OVER , ,0, SUBTRACT
00666 M6 00498 01200
00620 TDM SUM+1 ,1 ,0, SET SUM TO ADD
00678 J5 00571 00001
00630 B OVER+12 , ,0
00690 M9 00510 00000
00640 DORG *-4
00697
00650 DONE C FAC-1 ,9SPF , , COMPARE RESULT TO ZERO
00698 24 02491 02854
00660 BE ZERFAC , , , EQUAL, RESULT = ZERO
    
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00670	TFM	SAVE	,01	,10,	SET UP CHARACTERISTIC OF RESULT	00710 46 03584 01200
00680	BD	NORM72	,CLF+10	,01,	SET UP SIGN OF RESULT	00722 16 02565 000-1
00690	SF	99	,	,,	BR TO NORMALIZATION	00734 ML 00926 00184
00700	B	NORM72	,	,0		00746 32 00099 00000
00710	B	DORG	*-4	,		00758 M9 00926 00000
00720	POZEXP	L	FAL	,F	COMPARE CHAR TO F	00765
00730	BH	E9	,	,0,	BR TO E9 IF GREATER	00766 24 02492 02219
00740	TF	**30	,ISPFM1	,0,	ADJUST MANTISSA (IN IMSAPP) FOR	00778 M6 00834 01100
00750	S	**18	,FAC	,0,	CHAR GREATER THAN OR EQUAL TO ZERO	00790 K6 00820 03303
00760	TF		,FAC-2	,,	AND LESS THAN OR EQUAL TO F	00802 K2 00820 02492
00770	B	BRD	,	,0		00814 26 00000 02490
00780	B	DORG	*-4	,		00826 M9 00306 00000
00790	E9	TDM	99	,0	SET SIGN	00834 15 00099 00000
00800	TFM	EI		,671	SET ERROR F1, LOSS OF SIGNIFICANCE	00846 16 02615 00071
00810	UNDFLO	TFM	FAC	,-99	IN FCDS OR FSIN, FAC = ZERO	00858 16 02492 000RR
00820	TF	FAC-2	,9SPF-1	,		00870 26 02490 02853
00830	B	ERROR		,		00882 49 03676 00000
00840	B	DORG	*-4	,		00889
00850	NORM36	TR	FNH	,FH	LEFT SHIFT ONCE	00890 31 0331L 03300
00860	TDM	FAC-1		,0	SET LAST DIGIT TO ZERO.	
00870	SF	FNH		,,		00902 15 02491 00000
00880	NORM72	BD	FINISH	,FNH	TEST LEADING ZERO	00914 32 0331L 00000
00890	SM	SAVE	,1	,10,	SUBT ONE FROM EXPONENT.	00926 43 0380L 0331L
00900	B	NORM36	,	,0		00938 12 02565 000-1
00910	B	DORG	*-4	,		00950 M9 00890 00000
00920	AAB	DS	4	,		00957
00930	AB	DS	4	,		00960 00004
00940	AB	DS	1	,		00964 00004
00950	DC	2,01		,		00965 00001
00960	DC	2,02		,		00967 00002
00970	AABS	DC	5,00028	,		00969 00002
00980	FAC	DS		,02492		00974 00005
00990	FNH	DS		,03313		02492 00000
01000	FNMH1	DS		,03358		03313 00000
01010	IMSAPP	DS		,03298		03358 00000
01020	9SPF	DS		,02854		03298 00000
01030	MF	DS		,03473		02854 00000
01040	PIOV2	DS		,03163		03473 00000
01050	TWOPI	DS		,03103		03163 00000
						03103 00000

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01060	IMSA	DS		,02575		02575 00000
01070	PI	DS		,03133		03133 00000
01080	ZERO	DS		,02767		02767 00000
01090	98MF	DS		,03328		03328 00000
01100	97MF	DS		,03323		03323 00000
01110	SAVE	DS		,02565		02565 00000
01120	ZERFAC	DS		,03584		03584 00000
01130	F	DS		,02219		02219 00000
01140	ISPFM1	DS		,03303		03303 00000
01150	EI	DS		,02615		02615 00000
01160	ERROR	DS		,03676		03676 00000
01170	FH	DS		,03308		03308 00000
01180	FINISH	DS		,03803		03803 00000
01190	ONEZ	DS		,03038		03038 00000
01200	MFOV2	DS		,03746		03746 00000
01210	DEND 2					00002

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00010*****      1620 FORTRAN II-D RELOCATABLE FLOATING ARCTANGENT ROUTINE
00020*****      ARCTAN(X) = X - (X**3)/3 + (X**5)/5 - (X**7)/7 + ...
00030      DSA FAC      00004 00005 -0006
00040 FATN TF FAC      ,FATN-1 ,111, LOAD ARGUMENT      00006 20 02492 0000N
00050 SM *-13      ,02 ,010      00018 J2 00005 000-2
00060 TF FAC-2      ,*-25 ,111      00030 20 02490 0000N
00070 BD **20      ,FNM ,011, IS ARG ZERO      00042 M3 00062 0331L
00080 B ZERFAC      , , ,YES      00054 49 03584 00000
00090 DORG *-4      , , ,      00061
00100 TFM TEST+11      , , ,08, RESET INDICATORS      00062 J6 00097 0-000
00110 BNF TEST+24      ,FAC-2 ,0, BR IF ARG NEGATIVE      00074 M4 00110 02490
00120 TEST SF **9      , , ,0, SET INDICATOR, ARG NEG      00086 L2 00095 00000
00130 CF FAC-2      , , ,ARG = ABS ARG      00098 33 02490 00000
00140 CM FAC      ,00 ,10, IS CHAR OF ARG      00110 14 02492 000-0
00150 BM TEST1+20      , , ,0, POSITIVE      00122 M6 00894 01100
00160 BE ALPH+12      , , ,0, EQUAL ZERO      00134 M6 00290 01200
00170 M **35      ,F ,0, NEGATIVE      00146 K3 00181 02219
00180 SM 98      ,05 ,10, FIND-.5(F-1)      00158 12 00098 000-5
00190 SF 97      ,50 ,10      00170 32 00097 00000
00200 TF **23      ,97 ,0      00182 K6 00205 00097
00210 CM FAC      , , , IF CHAR OF ARG IS      00194 14 02492 -0000
00220 BL EOD      , , ,0, LESS THAN -.5(F-1),BR      00206 M7 01118 01300
00230 TFM ALPH-1      ,FAC-2 ,07, SET UP ADJUST MANTISSA      00218 J6 00277 -2490
00240 A ALPH-1      ,FAC ,0,      00230 K1 00277 02492
00250 TF FNHM1      ,9SPF-1 ,6      00242 26 03350 02853
00260 CF FNM      , , ,6      00254 33 0331L 00000
00270 TF FAC-2      , , ,ADJUST MANTISSA      00266 26 02490 00000
00280 ALPH CM FNM      , , ,6      00278 32 0331L 00000
00290 SF FM      ,29 ,610, COMPARE HI ORD MANTISSA DIGITS      00290 14 03300 000K9
00300 BL **132      , , ,0, TO 29, IF LESS THAN 29 BR      00302 M7 00434 01300
00310 TF 97      ,9SPF-1 ,10, FIND 1.6 TIMES MANTISSA      00314 26 00097 02853
00320 MM FAC-2      ,06 ,10,      00326 13 02490 000-6
00330 TOM 98MF      ,1 ,611      00338 15 03320 0000J
00340 S FAC-2      ,SIX , , FIND MANTISSA MINUS .6, PUT IN FAC      00350 22 02490 03219
00350 TF BETA      ,99 , , STORE 1.6 MANTISSA IN BETA      00362 26 02603 00099
00360 TF 79      ,ZERO-42 ,0374 26 00079 02725
00370 LD 98MF      ,FAC-2 ,6, FIND (FAC-.61)/(1.6 X MANTISSA)      00386 28 03320 02490
00380 D MND      ,BETA ,6      00398 29 03330 02603
00390 TF FAC-2      ,97MF ,11, PUT QUOTIENT IN FAC      00410 26 02490 0332L
00400 SF TEST+11      , , ,0, SET INDICATOR, HI ORD GREATER 29      00422 L2 00097 00000
    
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00410 TF 79      ,ZERO-44      00434 26 00079 02723
00420 M FAC-2      ,FAC-2 , , SQUARE FAC MANTISSA      00446 23 02490 02490
00430 TF SAVE      ,PDT ,11, STORE IN SAVE      00458 26 02565 0333L
00440 TF BETA      ,9SPF , , BETA IS F+1 ZEROS      00470 26 02603 02854
00450 TF ATN1+35      ,2FM1 ,0, SET DIVISOR EQUAL 2F-1, DENOTE AS W      00482 K6 00541 03429
00460 TF ALPH+11      ,FM1 ,0, SET COUNTER EQUAL F-1      00494 K6 00289 03625
00470 ATN1 TF 99      ,ZERO-47      00506 26 00099 02720
00480 TFM 98MF      ,10 ,610      00518 16 03320 000J0
00490 DM 98MF      , , ,6, DIVIDE 10/W      00530 19 03320 00000
00500 S 96      ,BETA , , SUBTRACT BETA FROM QUOTIENT      00542 22 00096 02603
00510 TF BETA      ,96 , , REPLACE BETA BY DIFFERENCE      00554 26 02603 00096
00520 TF 79      ,ZERO-43      00566 26 00079 02724
00530 M BETA      ,SAVE , , BETA EQUALS BETA TIMES      00578 23 02603 02565
00540 TF BETA      ,PDT ,11, SQUARE OF MANTISSA      00590 26 02603 0333L
00550 SM ATN1+35      ,02 ,010, W EQUALS W-2      00602 J2 00541 000-2
00560 SM ALPH+11      ,01 ,010, REDUCE COUNTER BY ONE      00614 J2 00289 000-1
00570 BNZ ATN1      , , ,0, IS COUNTER ZERO      00626 M7 00506 01200
00580 TF SAVE      ,ONEZ+2 , , YES, SAVE IS ONE (F+2 DIGITS)      00638 26 02565 03040
00590 S SAVE      ,BETA , , FIND 1 - BETA      00650 22 02565 02603
00600 TF 79      ,ZERO-42      00662 26 00079 02725
00610 M SAVE      ,FAC-2      00674 23 02565 02490
00620 BNF TEST2      ,TEST+11 ,01, TEST INDICATOR, HI ORD GREATER 29      00686 MM 00734 00097
00630 BNM TEST2-12      , , ,0, IS PRODUCT NEGATIVE      00698 M6 00722 01300
00640 SF PDT      , , ,6, YES, SET SIGN      00710 32 0333L 00000
00650 A PDT      ,TAN6 ,6, ADD ARCTAN OF .6 TO PRODUCT      00722 21 0333L 03248
00660 TEST2 BNF **36      ,TEST+10 ,01, TEST INDICATOR, CHAR POSITIVE      00734 MM 00770 00096
00670 SF PDT      , , ,6, SET SIGN      00746 32 0333L 00000
00680 A PDT      ,PIOV2 ,6, SUB PRODUCT FROM PIV2      00758 21 0333L 03163
00690 TFM SAVE      ,01 ,10, SET CHARACTERISTIC OF RESULT      00770 16 02565 000-1
00700 TF FAC      ,MND ,11, PUT RESULT IN FAC      00782 26 02492 03330
00710 BD TEST1-24      ,FNHM1 ,011, NORMALIZE      00794 M3 00850 03350
00720 TR FNHM1      , , ,611      00806 31 03350 0331L
00730 TDM FAC      ,0 , , ,00818 15 02492 00000
00740 SM SAVE      ,01 ,10      00830 12 02565 000-1
00750 B *-48      , , ,0      00842 M9 00794 00000
00760 DORG *-4      , , ,00849
    
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00770	SF	FNMH1	,	,6		00850	32	03350	00000	
00780	TF	FAC-2	,FAC-3			00862	26	02490	02489	
00790	TEST1	TD	99	,TEST+9	,1,	SET SIGN	00874	2M	00099	00095
00800	B	ENDD	,	,		RETURN	00886	49	03768	00000
00810	DORG	*-4					00893			
00820	SF	TEST+10	,	,0,		SET INDICATOR, CHAR	POSITIVE			
							00894	L2	00096	00000
00830	TF	99		,ZERO-23			00906	26	00099	02744
00840	TF	PDT		,ONEZ	,6		00918	26	0333L	03038
00850	D	PDT		,FAC-2	,6,	FIND RECIPROCAL OF MANTISSA				
							00930	29	0333L	02490
00860	TF	FAC-2		,PDT	,11,	PUT IN FAC-2	00942	26	02490	0333L
00870	BD	*+44		,FNMH1	,011,	NORMALIZE	00954	M3	00998	03350
00880	SF	FNM		,	,6		00966	32	0331L	00000
00890	SM	FAC		,01	,10		00978	12	02492	000-1
00900	B	*+32		,	,0		00990	M9	01022	00000
00910	DORG	*-4					00997			
00920	TF	FAC-2		,FAC-3			00998	26	02490	02489
00930	SM	FAC		,02	,10		01010	12	02492	000-2
00940	BL	*+44		,	,0,	BR NEW CHAR NEGATIVE				
							01022	M7	01066	01300
00950	BE	ALPH+12		,	,0,	BR NEW CHAR ZERO	01034	M6	00290	01200
00960	SF	FAC		,	,	NEW CHAR POSITIVE				
							01046	32	02492	00000
00970	B	TEST+60		,	,0		01058	M9	00146	00000
00980	DORG	*-4					01065			
00990	TFM	SAVE		,00	,10		01066	16	02565	000-0
01000	TF	FAC-2		,PIOV4			01078	26	02490	03191
01010	B	TEST1		,	,0		01090	M9	00874	00000
01020	DORG	*-4					01097			
01030	TD	99		,TEST+9	,1		01098	2M	00099	00095
01040	B	ENDD+12		,			01110	49	03780	00000
01050	DORG	*-4					01117			
01060	EOD	BNF	*-20	,TEST+10	,01,	TEST INDICATOR, CHAR POSITIVE				
							01118	MM	01098	00096
01070	TF	IMSAPP		,FAC-2	,6,	CHAR NEG, STORE FAC MANTISSA				
							01130	26	03290	02490
01080	TF	FAC-2		,PIOV2-1	,	FAC MANTISSA IS F+1 DIGIT P1OV2				
							01142	26	02490	03162
01090	C	FAC		,MF	,	COMPARE CHAR TO -F				
							01154	24	02492	03473
01100	BNM	*+72		,	,0,	BR IF CHAR NOT GREATER, EQUAL -F				
							01166	M7	01238	01100
01110	LF	IMS,+1		,	,	SUB OLD FAC MANTISSA FROM P1OV2				
							01178	33	02576	00000
01120	TDM	IMSA		,	,11		01190	15	02575	0000-
01130	TF	*+35		,IMSAPP	,0		01202	K6	01237	03298
01140	A	*+23		,FAC	,0		01214	K1	01237	02492
01150	S	FAC-2					01226	22	02490	00000
01160	TFM	SAVE		,01	,10,	SET CHAR	01238	16	02565	000-1
01170	B	TEST1-12		,	,0,	NORM AND RETURN	01250	M9	00862	00000
01180	DORG	*-4					01257			
01190	FAC	DS		,02492			02492		00000	

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01200	FNM	DS		,03313		03313	00000		
01210	ZERFAC	DS		,03584		03584	00000		
01220	F	DS		,02219		02219	00000		
01230	FNMH1	DS		,03358		03358	00000		
01240	9SPF	DS		,02854		02854	00000		
01250	FH	US		,03308		03308	00000		
01260	98MF	DS		,03328		03328	00000		
01270	SIX	DS		,03219		03219	00000		
01280	BETA	DS		,02603		02603	00000		
01290	ZERO	US		,02767		02767	00000		
01300	HMD	DS		,03338		03338	00000		
01310	97MF	DS		,03323		03323	00000		
01320	SAVE	DS		,02565		02565	00000		
01330	PDT	DS		,03333		03333	00000		
01340	2FM1	DS		,03429		03429	00000		
01350	FM1	DS		,03625		03625	00000		
01360	ONEZ	DS		,03038		03038	00000		
01370	TAN6	DS		,03248		03248	00000		
01380	PIOV2	DS		,03163		03163	00000		
01390	ENDD	US		,03768		03768	00000		
01400	PIOV4	DS		,03191		03191	00000		
01410	IMSAPP	DS		,03298		03298	00000		
01420	MF	DS		,03473		03473	00000		
01430	IMSA	DS		,02575		02575	00000		
01440	DEND	1				00001			

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00010***** 1620 FORTAN II-D RELOCATABLE SQUARE ROOT ROUTINE
00020 DSA SQRT 00004 00005 -0006
00030 SQRT MM SQRT-1 ,50 ,0610,HALF THE EXPONENT 00006 J3 0000N 000N0
00040 SM SQRT-1 ,2 ,010, GET ADDRESS OF MANTISSA 00018 J2 00005 000-2
00050 TF FAC-2 ,SQRT-1 ,111, MOVE MANTISSA TO FAC-2 00030 Z0 02490 0000N
00060 BD SQ1 ,FNH ,011, TEST FOR ZERO 00042 H3 00062 0331L
00070 B ZERFAC , , , RESULT IS ZERO 00054 49 03584 00000
00080 DORG *-4 00061
00090 SQ1 TDM FNHM1 ,0 ,611, SET NEXT HIGH ORDER DIGIT TO ZERO 00062 15 03350 0000-
00100 TDM SQEX+1 ,2 ,0, SET EXIT TO BRANCH BACK 00074 J5 00475 00002
00110 BMF *-48 ,FAC-2 ,0, TEST FOR SIGN 00086 M4 00134 02490
00120 CF FAC-2 , , REMOVE MINUS SIGN 00098 33 02490 00000
00130 TDM SQEX+1 ,9 ,0, SET EXIT TO ERROR ROUTINE 00110 J5 00475 00009
00140 TFM EI ,676 ,9, SET ERROR MESSAGE F6 00122 16 02615 00076
00150 BD SQ3 ,98 ,0, BRANCH IF EXPONENT ODD 00134 M3 00482 00098
00160 TF SQ2+42 ,97MF ,0, SET ADDRESS TO 97-F 00146 K6 00212 03323
00170 BMF SQ2+12 ,99 ,0, TEST FOR SIGN 00158 M4 00182 00099
00180 SQ2 SF 97 , , SET SIGN 00170 32 00097 00000
00190 TF FAC ,97 , , STORE EXPONENT 00182 26 02492 00097
00200 LD 80 ,95PF , , CLEAR PRODUCT AREA 00194 28 00080 02854
00210 TF ,FAC-2 , , MOVE MANTISSA INTO 97-F OR 98-F 00206 26 00000 02490
00220 TF LOOP+18 ,97M2F ,0, SET ADDRESS TO 97-2F 00218 K6 00292 03363
00230 TF LOOP+23 ,FNHM1 ,0, SET ADDRESS TO FNH-1 00230 K6 00297 03358
00240 TF LOOP+102 ,97M2F ,0, SET ADDRESS TO 97-2F 00242 K6 00376 03363
00250 TF FAC-2 ,ONEZ+1 , , SET RESULT TO 100... 00254 26 02490 03039
00260 B LOOP+108 , ,0, 00266 M9 00382 00000
00270 DORG *-4 00273
00280 LOOP AM LOOP+23 ,2 ,0610,ADD 2 TO RESULT 00274 J1 0029P 000-2
00290 S , , SUBTRACT RESULT FROM MANTISSA 00286 22 00000 00000
00300 BNM LOOP , ,0, CONTINUE LOOP IF NOT MINUS 00298 M6 00274 01300
00310 CM LOOP+23 ,FAC-2 ,07, COMPARE WITH TERMINAL ADDRESS 00310 J4 00297 -2490
00320 BNL SQEX+48 , ,0, GO TO EXIT IF EQUAL 00322 M6 00426 01300
00330 A LOOP+18 ,LOOP+23 ,01611,ADD BACK 00334 KJ 0029K 0029P
    
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00340 CF LOOP+18 , ,06, CLEAR FLAG 00346 L3 0029K 00000
00350 AM *-18 ,1 ,010, ADD 1 TO ADDRESS 00358 J1 00376 000-1
00360 SF , , SET FLAG ON MANTISSA ONE PLACE OVER 00370 32 00000 00000
00370 AM LOOP+18 ,02 ,010, ADD 2 TO MANTISSA 00382 J1 00292 000-2
00380 AM LOOP+23 ,01 ,010, ADD 1 TO RESULT ADD 00394 J1 00297 000-1
00390 SM LOOP+23 ,9 ,0610,SUBTRACT 9 FROM RESULT 00406 J2 0029P 000-9
00400 B LOOP+12 , ,0, GO TO LOOP 00418 M9 00286 00000
00410 DORG *-4 00425
00420 LD 80 ,95PF , , CLEAR PRODUCT AREA 00426 28 00080 02854
00430 MM FAC-2 ,50 ,10, HALF THE RESULT 00438 13 02490 000N0
00440 TF FAC-2 ,97 , , STORE RESULT 00450 26 02490 00097
00450 SF FNH , , SET FLAG IN HIGH ORDER DIGIT 00462 32 0331L 00000
00460 SQEX BB ERROR , , GO BACK OR ERROR TYPE-OUT 00474 42 03676 00000
00470 DORG *-4 00481
00480 SQ3 AM 99 ,50 ,10, ADD 5 TO PRODUCT 00482 11 00099 000N0
00490 CF FNH , , CLEAR HIGH ORDER FLAG IN FAC 00494 33 0331L 00000
00500 TF SQ2+42 ,98MF ,0, SET ADDRESS TO 98-F 00506 K6 00212 03328
00510 BNM SQ2+12 , ,0, BRANCH IF NOT NEGATIVE 00518 M6 00182 01300
00520 B SQ2 , ,0, GO TO SET SIGN IF NEGATIVE 00530 M9 00170 00000
00530 DORG *-4 00537
00540 FAC DS ,02492 02492 00000
00550 FNH DS ,03313 03313 00000
00560 ZERFAC DS ,03584 03584 00000
00570 FNHM1 DS ,03358 03358 00000
00580 EI DS ,02615 02615 00000
00590 97MF DS ,03323 03323 00000
00600 95PF DS ,02854 02854 00000
00610 97M2F DS ,03363 03363 00000
00620 ONEZ DS ,03038 03038 00000
00630 ERROR DS ,03676 03676 00000
00640 98MF DS ,03328 03328 00000
00650 DEMD 1 00001
    
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00010***** 1620 FORTRAM II-D RELOCATABLE ABSOLUTE VALUE ROUTINE
00020 DSA ABS 00004 00005 -0006
00030 ABS TF FAC ,ABS-1 ,111 00006 20 02492 0000N
00040 SM ABS-1 ,2 ,010 00018 J2 00005 000-2
00050 TF FAC-2 ,ABS-1 ,111 00030 20 02490 0000N
00060 BNF **26 ,FAC-1 ,0 00042 M4 00068 02491
00070 CF FAC-2 , , , FLOATING POINT NUMBER
00054 33 02490 00000
00080 BB 00066 42 00000 00000
00090 DORG *-9 00068
00100 CF FAC , , , FIXED POINT NUMBER
00068 33 02492 00000
00080 42 00000 00000
00110 BB 00082
00120 DORG *-9 ,02492 02492 00000
00130 FAC DS
00140 DEND 1 00001
    
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00010***** 1620 FORTRAM II-D RELOCATABLE LN ROUTINE
00020 DSA FLN 00004 00005 -0006
00030 FLN TFL FAC ,FLN-1 ,111, LOAD ARGUMENT. 00006 00 02492 0000N
00040 BD **44 ,FNH ,011, IS A ZERO 00018 M3 00062 0331L
00050 TFM EI ,672 ,9, YES, ERR F2, LOG ZERO
00030 16 02615 00072
00060 SF 99 , , , SET SIGN 00042 32 00099 00000
00070 B OVFLOW , , , FAC IS NEGATIVE ALL NINES
00054 49 03572 00000
00061
00080 DORG *-4
00090 TFM GOAL+18 ,ENDD+12 ,07, SET UP NO ERR TYPE
00062 J6 00780 -3700
00100 BNF **48 ,FAC-2 ,0, IS A NEGATIVE 00074 M4 00122 02490
00110 TFM EI ,673 ,9, YES, ERR F3, LOG -A
00086 16 02615 00073
00120 TFM GOAL+18 ,ERROR ,07, SET UP ERR TYPE 00098 J6 00780 -3596
00130 CF FAC-2 , , , A EQUALS POSITIVE A
00110 33 02490 00000
00140 TFM CORN-25 ,9SPF+2 ,07, SET UP CONSTANT EQUAL ZERO
00122 J6 00549 -2856
00150 TF CORN-13 ,FAC ,0, STORE CNAR 00134 K6 00561 02492
00160 CF FNH , , , FIND 1 + A MANTISSA
00146 33 0331L 00000
00170 TDM FNHM1 ,1 ,611 00158 15 03350 0000J
00180 CM FNH ,15 ,610, COMPARE TWO HIGH ORDER DIGITS
00170 14 0331L 000J5
00190 BNL **44 , , , TO 1.5, IF LESS THAN, NO BR
00182 M6 00226 01300
00200 A FAC-2 ,FAC-2 00194 21 02490 02490
00210 AM CORN-25 ,31 ,010, ADJUST CONSTANT TO LN 2, 4, OR 8
00206 J1 00549 000L1
00220 B *-60 , , , 00218 M9 00158 00000
00230 DORG *-4 00225
00240 TF BETA ,TWOZ , , , FIND 1 - A MANTISSA
00226 26 02603 03073
00250 S BETA ,FAC-2 , , , FIND 1-A MANT/1+A MANT
00238 22 02603 02490
00260 TF 99 ,ZERO-20 , , ,
00250 26 00099 02747
00270 TF 97MF ,BETA ,6 00262 26 0332L 02603
00280 D 98MF ,FAC-2 ,6 00274 29 03320 02490
00290 TF FAC ,98MF ,11, STORE IN FAC 00286 26 02492 0332Q
00300 TF 79 ,ZERO-39 , , , FIND FAC*2 00298 26 00079 02728
00310 M FAC ,FAC 00310 23 02492 02492
00320 TF SAVE ,97MF ,11, STORE IN SAVE 00322 26 02565 0332L
00330 A FAC ,FAC , , , FAC EQUALS 2*FAC 00334 21 02492 02492
00340 COUN TF IMSA-6 ,FM1 , , , SET COUNTER EQUAL F-1
00346 26 02571 03783
00350 TF COUN+71 ,2FM1 ,0, SET DIVISOR P EQUAL TO 2F-1
00358 K6 00417 03581
00360 TF BETA ,9SPF+1 , , , BETA EQUALS F+2 ZEROS
00370 26 02603 02855
00370 TF 99 ,ZERO-19 , , , FIND 10/P 00382 26 00099 02748
00380 TFM 98MF ,10 ,610 00394 16 03320 000J0
    
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00390	DM	98MF	,	,6,	DIVIDE BY P	00406	19	03320	00000	
00400	A	BETA	,97	,,	ADD QUOTIENT TO BETA					
						00418	21	02603	00097	
00410	TF	79	,ZERO-39	,,		00430	26	00079	02728	
00420	M	BETA	,SAVE	,,		00442	23	02603	02565	
00430	TF	BETA	,97MF	,11,	BETA EQUALS BETA*SAVE					
						00454	26	02603	0332L	
00440	SM	COUN+71	,02	,010,	P EQUALS P-2	00466	J2	00417	000-2	
00450	SM	INSA-4	,01	,10,	REDUCE COUNTER BY ONE					
						00478	12	02571	000-1	
00460	BNZ	COUN+36	,	,0,	IS COUNTER ZERO	00490	M7	00382	01200	
00470	TF	79	,ZERO-39	,,	YES	00502	26	00079	02728	
00480	M	BETA	,FAC	,,	MULTIPLY BETA BY FAC					
						00514	23	02603	02492	
00490	A	97MF	,FAC	,6,	ADD FAC TO PRODUCT					
						00526	21	0332L	02492	
00500	TF	FAC	,	,,	SET CONSTANT IN FAC					
						00538	26	02492	00000	
00510	SF	FAC	,	,,	NEGATE CONSTANT	00550	32	02492	00000	
00520	S	FAC	,97MF	,11,	SUBTRACT PRODUCT FROM CONSTANT					
						00562	22	02492	0332L	
00530	CORN	TF	92	,9SPF-1		00574	26	00092	02853	
00540	M	LN10	,CORN-13	,1,	MULTIPLY CHAR BY LN 10					
						00586	2L	02980	00561	
00550	A	99	,FAC	,,	ADD FAC TO PRODUCT					
						00598	21	00099	02492	
00560	AM	97	,00	,10,	ZERO CHECK	00610	11	00097	000-0	
00570	BZ	GOAL+20	,	,0		00622	M6	00782	01200	
00580	TFM	SAVE	,03	,10,	SET UP CHAR	00634	16	02565	000-3	
00590	TF	FAC+3	,99	,,	NORMALIZE	00646	26	02495	00099	
00600	CF	FAC+3				00658	33	02495	00000	
00610	TD	FAC+4	,RECMK	,,	SET RECORD MARK	00670	25	02496	02403	
00620	BD	+*68	,FNM	,011		00682	M3	00750	0331L	
00630	TR	FNM	,FM	,611		00694	31	0331L	0330Q	
00640	TDM	FAC+3	,0			00706	15	02495	00000	
00650	SF	FNM	,	,6		00718	32	0331L	00000	
00660	SM	SAVE	,01	,10,	ADJUST CHAR	00730	12	02565	000-1	
00670	B	*-60	,	,0		00742	M9	00682	00000	
00680	DORG	*-4				00749				
00690	TD	FAC+1	,RECMK	,,	REPLACE RECORD MARK					
						00750	25	02493	02403	
00700	GOAL	TF	FAC	,SAVE	,,	SET CHAR IN FAC	00762	26	02492	02565
00710	B	ENDD+12				00774	49	03700	00000	
00720	DORG	*-4				00781				
00730	TFL	FAC	,FLZER			00782	06	02492	03760	
00740	B	GOAL+12	,	,0		00794	M9	00774	00000	
00750	DORG	*-4				00801				
00760	FAC	DS		,02492		02492		00000		
00770	FNM	DS		,03313		03313		00000		
00780	EI	DS		,02615		02615		00000		
00790	OVFLOW	DS		,03572		03572		00000		
00800	ENDD	DS		,03688		03688		00000		
00810	ERROR	DS		,03596		03596		00000		

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00820	9SPF	DS		,02854		02854		00000	
00830	FNHM1	DS		,03358		03358		00000	
00840	BETA	DS		,02603		02603		00000	
00850	TWOZ	DS		,03073		03073		00000	
00860	ZERO	DS		,02767		02767		00000	
00870	97MF	DS		,03323		03323		00000	
00880	98MF	DS		,03328		03328		00000	
00890	FM1	DS		,03783		03783		00000	
00900	INSA	DS		,02575		02575		00000	
00910	SAVE	DS		,02565		02565		00000	
00920	2FM1	DS		,03581		03581		00000	
00930	LN10	DS		,02980		02980		00000	
00940	RECMK	DS		,02403		02403		00000	
00950	FM	DS		,03308		03308		00000	
00960	FLZER	DS		,03760		03760		00000	
00970	DEND	1				00001			

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00010***** 1620 FORTRAN II-D RELOCATABLE FLOATING EXPONENTIAL ROUTINE
00020 DSA FEXP ,0004 00005 -0006
00030 FEXP TFL FAC ,FEXP-1 ,111, LOAD ARGUMENT 00006 00 02492 0000M
00040 TFL BETA ,ONEZ+6 00018 0A 02603 03044
00050 BD **20 ,FNM ,011, ZERO CHECK 00030 M3 00050 0331L
00060 B GOBACK-24, ,0 00042 M9 00942 00000
00070 DORG *-4 00049
00080 TD MU-1 ,FAC-2 ,, STORE SIGN 00050 25 03631 02490
00090 CF FAC-2 ,00062 33 02490 00000
00100 TF 79 ,ZERO-42 ,, CLEAR PRODUCT AREA 00174 26 00079 02725
00110 M FAC-2 ,LOGE ,, MULTIPLY BY LOGE 00086 23 02490 03010
00120 TF SAVE+2 ,FAC ,, STORE CHAR 00098 26 02567 02492
00130 TD FAC+4 ,FAC+1 ,, MOVE RECORD MARK 00110 25 02496 02495
00140 TF FAC+3 ,102MF ,11, MOVE F+5 DIGITS OF PRODUCT 00122 26 02495 0334L
00150 BD **48 ,FNM ,011, NORMALIZE 00134 M3 00182 0331L
00160 TR FNM ,FM ,611 00146 31 0331L 0330Q
00170 SM SAVE+2 ,01 ,10 00158 12 02567 000-1
00180 SF FNM , ,6 00170 32 0331L 00000
00190 C SAVE+2 ,MF ,, IS CHAR LESS THAN, EQUAL TO -F 00182 24 02567 03666
00200 BNH GOBACK-24, ,0, YES- RESULT IS FLT PT ONE 00194 M7 00942 01100
00210 BV **12 , ,0, TURN OFF DVFL IND 00206 M6 00218 01400
00220 AM SAVE+2 ,00 ,10, IS CHAR ZERO 00218 11 02567 000-0
00230 BE CALC , ,0, YES 00230 M6 00394 01200
00240 BL CALC+68 , ,0, CHAR LESS THAN ZERO 00242 M7 00462 01300
00250 CM SAVE+2 ,02 ,10, CHAR POSITIVE 00254 14 02567 000-2
00260 BH E12 , ,0, CHAR GREATER THAN 2, ERROR 00266 M6 00986 01100
00270 BL **44 , ,0, CHAR LESS THAN 2 00278 M7 00322 01300
00280 A BETA ,FM ,11, CHAR IS 2 00290 21 02603 0330Q
00290 TR FNMM1 ,FM ,611, ADJUST MANTISSA 00302 31 0335Q 0330Q
00300 B CALC-24 , ,0 00314 M9 00370 00000
00310 DORG *-4 00321
00320 TDM FNMM1 ,0 ,611, CHAR IS 1 00322 16 0335Q 0000-
00330 CF FNM , ,6, ADJUST MANTISSA 00334 33 0331L 00000
00340 A BETA ,FNM ,11 00346 21 02603 0331L
00350 TR FNM ,FM ,611 00358 31 0331L 0330Q
00360 BV E12 , ,0, OV ON CHAR ADJUST, ERROR 00370 M6 00986 01400
00370 SF FNM , ,610 00382 32 0331L 000-0
00380 CALC TFM *-1 ,00 ,010, SET COUNTER EQUAL TO ZERO 00394 J6 00393 000-0
00390 CM FM ,34 ,610, ARE HIGH ORDER DIGITS OF MANTISSA 00406 14 0330Q 000L4
00400 BL GORD , ,0, LESS THAN 34, IF YES GO TO GORD 00418 M7 00534 01300
00410 SM FM ,34 ,610, SUB 34 FROM HIGH ORD DIGITS 00430 12 0330Q 000L4

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00420 AM CALC-1 ,01 ,010, ADJUST COUNTER 00442 J1 00393 000-1
00430 B CALC+12 , ,0 00454 M9 00406 00000
00440 DORG *-4 00461
00450 TFM **59 ,FAC ,07, ADJUST MANTISSA FOR CASE WHEN 00462 J6 00521 -2492
00460 A **47 ,SAVE+2 ,0, CHAR LESS THAN ZERO, GREATER THAN 00474 K1 00521 02567
00470 TF FNMM1 ,9SPF-1 ,6, MINUS F 00486 28 0335Q 02853
00480 CF FNM , ,6 00498 33 0331L 00000
00490 TF FAC , ,6 00510 28 02492 00000
00500 SF FNM , ,6 00522 32 0331L 00000
00510 GORD TF 79 ,ZERO-20 00534 28 00079 02747
00520 M FAC ,LN10-1 ,, MULTIPLY ADJUSTED ARGUMENT 00546 23 02492 02979
00530 SF 97MF , ,6, BY LN10 00558 32 0336L 00000
00540 TF SAVE ,PDT ,11, SET SAVE EQUAL PRODUCT 00570 26 02565 0333L
00550 TF FAC+2 ,PDT ,11, STORE PRODUCT IN FAC 00582 26 02494 0333L
00560 TFM FACT+11 ,02 ,010, SET DIVISOR EQUAL 2, DEMOTE AS L 00594 J6 00677 000-2
00570 A BETA-2 ,SAVE ,, ADD SAVE TO BETA 00606 21 02601 02565
00580 TF 79 ,ZERO-38 00618 28 00079 02729
00590 M SAVE ,FAC+2 ,, MULTIPLY SAVE BY PRODUCT IN FAC 00630 23 02565 02494
00600 TF 99 ,96MF ,11 00642 26 00099 0331Q
00610 TFM 96MF ,00 ,610 00654 16 0331Q 000-0
00620 FACT DM 97MF , ,6, DIVIDE NEW PRODUCT BY L 00666 19 0332L 00000
00630 BZ FACT+56 , ,0, BR IF QUOTIENT IS ZERO 00678 M6 00722 01200
00640 TF SAVE ,97 ,, PUT QUOTIENT IN SAVE 00690 26 02565 00097
00650 AM FACT+11 ,01 ,010, INCREASE L BY ONE 00702 J1 00677 000-1
00660 B FACT-60 , ,0 00714 M9 00606 00000
00670 DORG *-4 00721
00680 CM CALC-1 ,00 ,010, QUOTIENT WAS ZERO, IS COUNTER 00722 J4 00393 000-0
00690 BE **80 , ,0, ZERO, IF YES BR 00734 M6 00814 01200
00700 TF 79 ,ZERO-38 ,, INDICATOR NOT ZERO 00746 26 00079 02729
00710 M BETA-4 ,TEN34 ,, MULTIPLY BETA BY 10 TO .34 00758 23 02599 03278
00720 SF 97MF , ,6 00770 32 0336L 00000
00730 TF BETA-4 ,98MF ,11, STORE PRODUCT IN BETA 00782 26 02599 0332Q
00740 SM CALC-1 ,01 ,010, DECREASE COUNTER BY ONE 00794 J2 00393 000-1
00750 B FACT+68 , ,0 00806 M9 00734 00000
00760 DORG *-4 00813
00770 BNF GOBACK-24,MU-1 ,0, COUNTER WAS ZERO, WAS ORIGINAL 00814 M4 00942 03631

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00780	TF	99	,ZERO-21	,,	ARGUMENT NEGATIVE				
						00826	26	00099	02746
00790	TF	PDT	,ONEZ+2	,6,	YES, FIND RECIPROCAL				
						00838	26	0333L	03040
00800	D	HND	,BETA-4	,6		00850	29	03330	02599
00810	BV	**+44	,	,0		00862	M6	00906	01400
00820	TF	BETA-6	,97MF	,11		00874	26	02597	0332L
00830	SM	BETA	,01	,10		00886	12	02603	000-1
00840	M	**+20	,	,0		00898	M9	00918	00000
00850	DORG	**+4	,	,0		00905			
00860	SM	BETA	,02	,10		00906	12	02603	000-2
00870	BE	**+24	,	,0		00918	M6	00942	01200
00880	SF	BETA	,			00930	32	02603	00000
00890	TF	FAC-2	,BETA-6	,,	PUT RESULT IN FAC				
						00942	26	02490	02597
00900	TF	FAC	,BETA	,,		00954	26	02492	02603
00910	GOBACK	TD	,RECMK	,,	REPLACE RECORD MARK				
						00966	25	02493	02403
00920	M	ERXV+30	,	,6		00978	49	0379K	00000
00930	DORG	**+4	,			00985			
00940	E12	TD	,FAC+1	,BETA+1		00986	25	02493	02604
00950	TFM	E1	,674	,9,	ERR F4 OVFL IN FEXP				
						00998	16	02615	00074
00960	BNF	OVFLOX	,MU-1	,0		01010	M4	01030	03631
00970	B	UNFLO	,			01022	49	03466	00000
00980	DORG	**+4	,			01029			
00990	OVFLOX	TF	,FAC-2	,95CPF		01030	26	02490	02795
01000	TFM	FAC	,99	,10		01042	16	02492	000R9
01010	B	ERXV+24	,			01054	49	03786	00000
01020	DORG	**+4	,			01061			
01030	FAC	DS	,02492			02492		00000	
01040	BETA	DS	,02603			02603		00000	
01050	ONEZ	DS	,03038			03038		00000	
01060	FNH	DS	,03313			03313		00000	
01070	MU	DS	,03632			03632		00000	
01080	ZERO	DS	,02767			02767		00000	
01090	LOGE	DS	,03010			03010		00000	
01100	SAVE	DS	,02565			02565		00000	
01110	102MF	DS	,03343			03343		00000	
01120	FH	DS	,03308			03308		00000	
01130	MF	DS	,03666			03666		00000	
01140	FNHM1	DS	,03358			03358		00000	
01150	95PF	DS	,02854			02854		00000	
01160	LM10	DS	,02980			02980		00000	
01170	97M2F	DS	,03363			03363		00000	
01180	PDT	DS	,03333			03333		00000	
01190	96MF	DS	,03318			03318		00000	
01200	97MF	DS	,03323			03323		00000	
01210	TEN34	DS	,03278			03278		00000	
01220	98MF	DS	,03328			03328		00000	
01230	HND	DS	,03338			03338		00000	
01240	RECMK	DS	,02403			02403		00000	
01250	E1	DS	,02615			02615		00000	

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01260	ERXV	DS	,03762			03762		00000	
01270	UNFLO	DS	,03466			03466		00000	
01280	95CPF	DS	,02795			02795		00000	
01290	DEND 1					00001			

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00010* SUBSCRIPTING SUBROUTINE - RELOCATABLE- FOR ONE, TWO OR
00020* THREE DIMENSIONAL SUBSCRIPTED VARIABLES
00030* LINKAGE BTM ENTRYX,*,12,, WHERE X=1,2 OR 3
00040* DSA BASE,D4,D1,1,D2,J,D3,K,OR/M
00050* IF Q ADDR FLAGGED BASE IS FIXED
00060* IF BASE IS FLAGGED ARRAY IS FORMAL PARAMETER
00070* IF D1 IS FLAGGED - I/O STMT
00080 DSA ENTRY1,ENTRY2,ENTRY3
00004 00005 -0006
00009 00005 -0042
00014 00005 -0090
00005
00006 J0 00336 -0386
00018 J6 00481 000K2
00030 M9 00126 00000
00042 J0 00336 -0362
00054 J6 00481 000L2
00066 K0 00005 00041
00078 M9 00126 00000
00090 J0 00336 -0338
00102 J6 00481 000M2
00114 K0 00005 00089

00090 DORG *-9
00100 ENTRY1 TFM BRINST+6,L1
00110 TFM EXIT-1,22,10
00120 B COM
00130 ENTRY2 TFM BRINST+6,L2
00140 TFM EXIT-1,32,10
00150 TF ENTRY1-1,ENTRY2-1
00160 B COM
00170 ENTRY3 TFM BRINST+6,L3
00180 TFM EXIT-1,42,10
00190 TF ENTRY1-1,ENTRY3-1
00200* SET LENGTH OF FX OR FL
00210 COM TF X+11,FP2
00220 BNF **48,ENTRY1-1
00230 SF COM+1
00240 CF ENTRY1-1
00250 TF X+11,K
00260*
00270* MOVE PARAMETERS TO WORK AREA
00280*
00290 TR WKAREA,ENTRY1-1,11
00300*
00310 CF Y+11
00320 BNF **36,BASE
00330 CF BASE
00340 SF Y+11
00350* CHECK IF IN I/O
00360*
00370 BNF CFINST,COM+1
00380 CF COM+1
00390 BNF CFINST+12,D1
00400 SF X+11
00410 TDM Y+1,2,, SET OP TO SUBTRACT
00420 CFINST CF D1
00430 S HOLD,HOLD
00440 BRINST B **8
00450 DORG *-3
00460*
00470 L3 M D3,KK,11
00480 TF HOLD,99
00490 L2 M D2,J,11
00500 A HOLD,99
00510 L1 M D1,I,11
000126 K6 00433 03664
00138 MM 00186 00005
00150 L2 00127 00000
00162 L3 00005 00000
00174 K6 00433 02221
00186 3J 00000 0000N
00198 L3 00445 00000
00210 M4 00246 00004
00222 33 00004 00000
00234 L2 00445 00000
00246 MM 00306 00127
00258 L3 00127 00000
00270 M4 00318 00014
00282 L2 00433 00000
00294 J5 00435 00002
00306 33 00014 00000
00318 KK 00508 00508
00330 49 00000 00000
00338
00338 23 00034 0003R
00350 K6 00508 00099
00362 23 00024 0002R
00374 K1 00508 00099
00386 23 00014 0001R

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00520 A HOLD,99
00530 A HOLD,D4
00540 X MM HOLD,**,, MULTIPLY BY LENGTH
00550 Y A 99,BASE,11,
00560 TDM *-11,1,, INIT OP TO ADD
00570 SF 95
00580 AM ENTRY1-1,**
00590 EXIT B ENTRY1-1,,6
00600 WKAREA DSS 42,0
00610 HOLD DC 15,0
00620 BASE DS 5,4
00630 D4 DS 5,9
00640 D1 DS 5,14
00650 I DS 5,19
00660 D2 DS 5,24
00670 J DS 5,29
00680 D3 DS 5,34
00690 KK DS 5,39
00700 FP2 DS ,03664
00710 K DS ,02221
00720 DEND 3
00398 K1 00508 00099
00410 K1 00508 00009
00422 J3 00508 -0000
00434 21 00099 0000M
00446 J5 00435 00001
00458 32 00095 00000
00470 J1 00005 -0000
00482 M9 0000N 00000
00000 00042
00508 00015
00004 00005
00009 00005
00014 00005
00019 00005
00024 00005
00029 00005
00034 00005
00039 00005
03664 00000
02221 00000
00003

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00010*      FORTRAN II-D OK IO WITH FLT HARDWARE
00020*      THIS SUBROUTINE REQUIRES 1234 CORE STORAGE POSITIONS
00030 INOUT DS ,631          00631 00000
00040 IDERR DS ,632          00632 00000
00050 CHECK DS ,1270         01270 00000
00060 DIO  US ,816           00816 00000
00070 EEXIT DS ,1638        01638 00000
00080 ERRET DS ,602         00602 00000
00090 ADR  DSA  FIND ,RECORD,FETCH,SWD,DRAY,DIOEND 00004 00005 -0124
                                                00009 00005 -0386
                                                00014 00005 -0350
                                                00019 00005 -0268
                                                00024 00005 -0064
                                                00029 00005 -0322
00100      DORG ADR-4
00110 IOCAL DS ,716         00716 00000
00120 IORBC DS ,520         00520 00000
00130 IORT  DS ,565         00565 00000
00140 IOSK  US ,554         00554 00000
00150 IOGT  DS ,566         00566 00000
00160 IOPT  DS ,532         00532 00000
00170 FAC   DS ,2492        02492 00000
00180 DIODDA DS ,3387       03387 00000
00190 FINDIN DS ,3527       03527 00000
00200 FP2   US ,3664        03664 00000
00210 FKUDD US ,3579        03579 00000
00220 PAR   DS ,3378        03378 00000
00230 ERROR DS ,3596        03596 00000
00240 EI    DS ,2615        02615 00000
00250 FIXEND DS ,3680       03680 00000
00260 FLTEND DS ,3730       03730 00000
00270 FLOAT DS ,4042        04042 00000
00280 DKDATA DS ,3379       03379 00000
00290 ZERO  DS ,2700        02700 00000
00300 FIX   DS ,3854        03854 00000
00310 RECLG DS ,2243        02243 00000
00320 W     DS ,2240        02240 00000
00330 N2    DS ,2238        02238 00000
00340 N1    DS ,2233        02233 00000
00350 K     DS ,2221        02221 00000
00360 F     DS ,2219        02219 00000
00370 CORSTZ DS ,7376       07376 00000
00380*
00390 NOWLC DSC 2,02         00000 00002
00400 DSA  DIODDA           00006 00005 -3387
00410 DC   1,9             00007 00001
00420 MYER BI **12,3700,, TURN OFF MLRC IND 00008 M6 00020 03700
00430 BI  CHECK-12,1900,, LET IORT HANDLE DISK OVERFLOW
00440      BT  EEXIT,,MLRC WAS ONLY ERROR      00032 49 01638 00000
00450      TF  NITEMP,N1                       00040 K6 00195 02233
00460 TOBB B  DRAY1,,0                         00052 M9 00966 00000
00470 DRAY TDM TOBB+1,9,, SET TOBB TO BRANCH
    
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00480      BD  EVEN,FKUDD,, TEST FOR EVEN ADDRESS 00064 J5 00053 00009
00490      BD  AGAIN,DDABLK+1,, BRANCH IF BUFFER PROG IN CORE 00076 M3 00588 03579
00500      TFM DSABLK+5,AGAIN 00088 M1 00734 00300
00510      B   SWD+12          00100 J0 00317 -0734
00520 FIND  TDM  FINDIN,0,, SET FIND INDICATOR ON , 00112 M9 00280 00000
00530      TFM RETD2+6,SET1,, BRANCH TO COMPUTE ADDRESS AND TEST1 00124 15 03527 00000
00540*      N2  ERROR ROUTINE (I GRT N2)          00136 J0 00202 -0422
00550 N2CK  C  FIND-1,ZERO,6, IS I ZERO OR NEG 00148 K4 0012L 02700
00560 BNH  BE2                00160 M7 00208 01100
00570      C  FIND-1,N2,6, COMPARE I AND N2      00172 K4 0012L 02238
00580      BM  BE2            00184 M6 00208 01100
00590 RETD2 B  **            00196 49 00000 00000
00600 BUFRAR DS ,*           00207 00000
00610 BE2  TFM  EI,472,9, I GRT N2             00208 16 02615 00M72
00620      TF  NITEMP,N1     00220 K6 00195 02233
00630      BD  ERROR,DDABLK,,BR IF CK MADE FROM EVEN ARRAY PROGRAM 00232 4L 03596 00299
00640      TFM DSAOAT+5,ERROR 00244 J6 00475 -3596
00650      B   SETRMK        00256 M9 00426 00000
00660*
00670****** SWD SUBROUTINE
00680 SWDA  TDM  SWD+900,0 00268 J5 01168 00000
00690      TFM *-11,41,10 00280 J6 00269 000M1
00700      B   SWD1         00292 M9 00478 00000
00710      DORG *-3        00300
00720*      SET UP LINKAGE FOR FLOAT
00730 FETCHS TF  FLTEND,ICON8+5 00300 20 03730 00964
00740      B   FLOAT        00312 49 04042 00000
00750      DORG *-4        00319
00760      DORG **4        00322
00770 IOEND  TFM  DSAOAT+5,DIOEND 00322 J0 00475 -0322
00780      BD  SETRMK,FRIND,, BRANCH IF FETCH 00336 M1 00426 00215
00790      C  NITEMP,N1     00346 K4 00195 02233
00800      BE  SETRMK,,, BRANCH IF BUFFER EMPTY 00358 M6 00426 01200
00810      TFM RETD2+6,**20 00370 J0 00202 -0390
00820      BT  N2CK         00382 M9 00148 00000
00830      TFM IORT,**23,, WRITE BUFFER TO FILE 00390 10 00565 -0413
00840      B   IOPT ,DKDATA,7 00402 49 00532 -3379
00850      AM  FIND-1,1,610 00414 J1 0012L 000-1
00860 SETRMK TD  SWD+900,DKBUFR+200 00426 M1 01168 01232
00870      TFM IORT,IOREP2+11 00438 10 00565 -0513
00880      B   IOGT         00450 49 00566 00000
00890      DORG *-4        00457
00900 DDB   DSC 1,1        00457 00001
00910      DSA 200         00462 00005 -0200
    
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00920	DC	3,9		00465	00003
00930	DSAOTR	DSA SWD,DIEND		00470	00005 -0268
				00475	00005 -0322
00940	DC	1,2		00476	00001
00950	SWD1	A BUFFAR,W,,	INCREMENT BUFFER ARROW	00478	K1 00207 02240
00960	BD	FETCH1,FRIND,,	BRANCH IF FETCH	00490	ML 00754 00215
00970**		RECORD			
00980	IOREF2	CF SWD-1,DATB,7,	CLEAR FLAG ON ADDRESS OF DATA	00502	LL 00267 -1023
00990	SM	NITEMP,1,10 ,	DECREMENT WORD COUNT	00514	J2 00195 000-1
01000	TFL	BUFFAR,SWD-1,611		00526	-0 0020P 0026P
01010	CK	CM NITEMP,0,10,	CHECK FOR FULL BUFFER		
01020	BMZ	TDBB		00538	J4 00195 000-0
01030	BD	TDBB-12,FRIND,,	BR IF FETCH	00550	M7 00052 01200
01040	TFM	LINKB+18,IORT		00562	ML 00040 00215
01050	CKI	TFM RETD2+6,LINKB		00574	J6 00624 -0532
01060	B	N2CK		00586	JO 00202 -0606
01070	DORG	**4		00598	M9 00148 00000
01080	LINKB	TFM IORT,*+23,,	CALL CORRECT IORT ROUTINE	00605	
				00606	IO 00565 -0629
01090	B	,DKDATA,7		00618	49 00000 -3379
01100	TFM	BUFFAR,DKBUFF+199,,	INITIALIZE BUFFER ARROW		
				00630	JO 00207 -1231
01110	S	BUFFAR-2,RECLG		00642	K2 00205 02243
01120	BNF	**24,FRIND		00654	MM 00678 00215
01130	A	BUFFAR,W		00666	K1 00207 02240
01140	ADDTOI	AM FIND-1,1,610,	INCREMENT I	00678	J1 0012L 000-1
01150	A	DIODDA+5,DIODDA+8,,	INCREMENT SECTOR ADDRESS		
				00690	Z1 03392 03395
01160	BD	FETCH2,FRIND		00702	ML 00798 00215
01170	B	TDBB-12		00714	M9 00040 00000
01180	DORG	**4		00721	
01190	A	DRAY-1,FP2		00722	K1 00063 03664
01200	AGAIN	TF SWD-1,DRAY-1		00734	KO 00267 00063
01210	B	SWD		00746	M9 00268 00000
01220	DORG	**4		00753	
01230	FETCH1	C NITEMP,N1		00754	K4 00195 02233
01240	BNE	FETCH2,,,	BRANCH IF BUFFER NOT EMPTY		
				00766	M7 00798 01200
01250	TFM	LINKB+18,IORT		00778	J6 00624 -0566
01260	B	CKI		00790	M9 00586 00000
01270	DORG	**4		00797	
01280	FETCH2	SM NITEMP,1,10		00798	J2 00195 000-1
01290*		SEND THE WORD TO FAC			
01300	TFL	FAC,BUFFAR,11		00810	OO 02492 0020P
01310	BI	**12,1400		00822	M6 00834 01400
01320*		TEST FOR FLOATING ADDRESS AT SWD-1			
01330	BNF	FETCH3,SWD-1		00834	MM 00928 00267
01340*		IT IS A FIXED ADDRESS			
01350	CF	SWD-1		00846	L3 00267 00000

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01360*		TEST FOR FLOATING WORD IN FAC			
01370	BNF	FETCH4,FAC-1		00858	M4 00940 02491
01380*		THE WORD IS FLOATING SET UP LINKAGE FOR FIX			
01390	TF	FIXEND+6,ICON7+6		00870	ZD 03686 00895
01400	B	FIX		00882	49 03854 00000
01410	DORG	**4		00889	
01420	ICOM7	DC 1,4		00889	00001
01430	DSC	1,9		00890	00001
01440	DSA	RETFLT		00895	00005 -0896
01450	RETFLT	TDM FIXEND+1,2		00896	15 03681 00002
01460	TDM	FLTEND-5,2		00908	15 03725 00002
01470*		BRANCH TO STORE NUMBER			
01480	CKLD	B FETCH4		00920	M9 00940 00000
01490	DORG	**4		00927	
01500	FETCH3	BNF FETCH5,FAC-1,,	BRANCH IF FIXED		
				00928	M4 00300 02491
01510*		STORE THE WORD IN MEMORY			
01520	FETCH4	TFL SWD-1,FAC,6		00940	-6 0026P 02492
01530*		CHECK FOR EMPTY BUFFER			
01540	B	CK		00952	M9 00538 00000
01550	DORG	**4		00959	
01560	ICOM8	DC 1,9		00959	00001
01570	DSA	RETFLT		00964	00005 -0896
01580	DRAY1	SM PAR,1,10,,	DECREMENT WORD COUNT		
				00966	12 03378 000-1
01590	BNZ	**14		00978	M7 00992 01200
01600	BB	**9		00990	42 00000 00000
01610	DORG	**9		00992	
01620	BNF	AGAIN-12,DRAY-1		00992	MM 00722 00063
01630	S	DRAY-1,K		01004	K2 00063 02221
01640	B	AGAIN		01016	M9 00734 00000
01650	DORG	**4		01023	
01660	DATB	DSC 2,-00		01023	00002
01670	DSA	DOB		01029	00005 -0457
01680	DC	1,2		01030	00001
01690	DKBUFF	DS ,DATB+9		01032	00000
01700*					
01710*					
01720*		WRITE 2ND BLOCK			
01730*					
01740	LDIRD	DSC 2,00		01031	00002
01750	DSA	DIM1		01037	00005 -1039
01760	DC	1,2		01038	00001
01770	DIM1	DSC 1,1		01039	00001
01780	DSA	209		01044	00005 -0209
01790	DC	3,9		01047	00003
01800	DSA	SWD		01052	00005 -0268
01810	DC	1,2		01053	00001
01820	STLD1	CF ICOM7+2		01054	L3 00891 00000
01830	DGM	DATB+9+200		01232	00001
01840	CF	ICOM8+1		01066	L3 00960 00000
01850	TFM	IORT,HERE+11		01078	IO 00565 -1113
01860	TD	SWD+900,DKBUFF+200		01090	MM 01168 01232

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01870 HERE      B      IOPT,LOIRD,7          01102 4R 00532 -1031
01880           TRA          01114 1D 00565 -1133
                                01126 4Y 00716 00000
                                01133 00002 2K
                                01135 00005 -1141
                                01140 00001 @
                                01141 00006 1J9783
                                01147 00003 -03
                                01150 00006 -0000@
                                01054

01890           TCD  STLD1
01900*
01910*           BLOCK 1 OF FETCH FIND RECORD
01920           DORG SWDA          00268
01930 SWD       TFM DSABLK+5,SWD    00268 JO 00317 -0268
01940           TFM IORT,IOREF+11   00280 10 00565 -0623
01950           B      IOGT         00292 4Y 00566 00000
01960           DORG *-4           00299
01970 DDABLK   DSC 1,1             00299 00001
01980           DSA 209             00304 00005 -0209
01990           DC   3,9            00307 00003
02000 DSABLK   DSA SWD,SWD        00312 00005 -0268
                                00317 00005 -0268
                                00318 00001
                                00322
02010           DC   1,@           00322 M6 00334 01400
02020           DORG IOEND         00334 42 00000 00000
02030 DIOEND   BI   *+12,1400     00336
02040           BB                  00336 00002
02050           DORG *-9           00342 00005 -0299
02060 DAT1     DSC 2,-00          00343 00001
02070           DSA DDABLK         00348 00005
02080           DC   1,@           00350 KD 00123 00349
02090           DS   5              00362 J5 00215 0000J
02100 FETCH    TF   FIND-1,FETCH-1,, TRANSFER I
02110           TOM  FRIND,1,11,,   SET FETCH-RECORD INDICATOR TO FETCH
                                00374 M9 00410 00000
                                COMPUTE ADDRESS , TEST I , AND TEST
                                FOR DEFINE STATEMENT .
02120           B      AITEST,,,     BRANCH TO SET FIND INDICATOR OFF ,
                                00386 KO 00123 00385
                                SET FETCH-RECORD INDICATOR TO RECRD
02130*           RECORD TF   FIND-1,RECORD-1,, TRANSFER I
02140*           TOM  FRIND,0,,     SET FIND INDICATOR OFF
02150           TOM  FINDIN,1,,     SET FIND INDICATOR OFF
02160           TOM  FINDIN,1,,     SET FIND INDICATOR OFF
02170 AITEST   TOM  FINDIN,1,,     SET FIND INDICATOR OFF
02180 SET1     TFM  DIODDA+5,218,,  SET SECTOR ADDRESS IN DDA
02190           M      FIND-1,RECLG,6, COMPUTE ADDRESS OF FILE RECORD
                                00410 15 03527 00001
                                00422 16 03592 -0218
02200           A      DIODDA+5,99   00434 K3 0012L 02243
02210           BD   **44,FINDIN,,  BRANCH IF NOT FIND
02220 SSEEK    TFM  IORT,*+23      00446 21 03392 00089
02230           B      IOSK,DKDATA,7, TRANSFER TO IORT
                                00458 M3 00502 03527
                                00470 10 00565 -0493
                                TO SEEK
02240           B      DIOEND       00482 49 00554 -3379
                                00494 M9 00322 00000
    
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02250           DORG *-3           00502
02260           TFM  BUFFAR,DKBUFF+199,, INITIALIZE BUFFER ARROW
                                00502 JO 00207 -1231
02270           S      BUFFAR-2,RECLG 00514 K2 00205 02243
02280           TF   NITEMP,N1,,     00526 K6 00195 02233
02290           TF   DIODDA+8,RECLG,, STORE RECORD LENGTH IN DDA
                                00538 26 03395 02243
02300           TFM  DIODDA+13,DKBUFF+200,, STORE ADDRESS OF BUFFER
                                00550 10 03400 -1232
02310           S      DIODDA+11,RECLG,, SUB LENGTH OF RECORD TO GET FIRST COR
                                00562 22 03398 02243
02320 OVER     TOM  TOBB+1,2,,     INITIALIZE BRANCH BACK
                                00574 J5 00053 00002
02330           BB                  00586 42 00000 00000
02340           DORG *-9           00588
02350 EVEN     TF   TEMPA,FP2,,     STORE FLOATING LENGTH IN TEMPA
                                00588 K6 00171 03664
02360           BNF  **36,DRAY-1,,  BRANCH IF FLOATING ARRAY
                                00600 MM 00636 00063
02370 IOREF    CF   DRAY-1,DAT1,7   00612 LL 00063 -0336
02380           TF   TEMPA,K,,     STORE FIXED LENGTH IN TEMPA
                                00624 K6 00171 02221
02390           TF   DIODDA+13,DRAY-1,, STORE ADDRESS OF FIRST ELEMENT
                                00636 20 03400 00063
02400           A      DIODDA+13,1   00648 11 03400 -0001
02410           SM  DIODDA+13,TEMPA,, HIGH ORDER POSITION OF ARRAY
                                00660 2K 03400 00171
02420           TF   EVEN1+11,DIODDA+13 00672 K6 00919 03400
02430           M      TEMPA,PAR    00684 K3 00171 03378
02440           SF   95             00696 32 00095 00000
02450           A      EVEN1+11,99   00708 K1 00919 00099
02460 CARRY    CM   EVEN1+11,0     00720 J4 00919 -0000
02470           BNE  **24           00732 M7 00756 01280
02480           TFM  EVEN1+11,0     00744 J6 00919 -0000
02490*           EVALUATE AND STORE LOW ORDER
02500*           POSITION + 1 OF ARRAY
02510*           EVALUATE SECTOR COUNT
02520           AM  97,1 ,9, ADD ONE FOR GROUP MARK 00756 11 00097 00-01
02530           TD   **23,RECLG     00768 K5 00791 02243
02540 BD12     BD   OVER3,251,,    BRANCH IF RECLG IS 1 00780 M3 00828 00251
02550           TD   **23,97       00792 K5 00815 00097
02560           BD   **24,210,,    BRANCH IF EVEN NUMB OF SECTORS
                                00804 M3 00828 00210
                                00816 11 00097 000-1
02570           AM  97,1,10        00828 26 03395 00097
02580 OVER3    TF   DIODDA+8,97,,  SET UP SECTOR COUNT
02590           BD   OVER2,BD12+11,11 00840 M1 00864 0079J
02600           MM  DIODDA+8,50,10  00852 13 03395 00090
02610 OVER2    A      FIND-1,97,6,  ADD NUMBER OF RECORDS TO I 00864 K1 0012L 00097
02620           SM  FIND-1,1,610   00876 J2 0012L 000-1
02630           TFM  RETD2+6,**20   00888 JO 00202 -0908
02640           B      M2CK        00900 M9 00148 00000
02650           DORG *-4           00907
02660 EVEN1    TD   EVEN2+11      00908 K5 00991 00000
    
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02670      BD  FETCH8,FRIND,,          BRANCH IF FETCH          00920 ML 01018 00215
02680*     RECORD
02690      TO  EVEN1+11,DKBUFF+200,6,  SET GROUP MARK AT END OF ARRAY
                                                00932 KN 0091R 01232
02700*     WRITE ARRAY ONTO FILE
02710      TFM IORT,#+23                00944 10 00565 -0967
02720      B   IORBC,MWMLC ,7          00956 4R 00520 -0000
02730      TDM FLTEND-5,2              00968 15 03725 00002
02740      TDM EVEN1+11,,6,          RESTORE DIGIT
                                                00980 J5 0091R 00000
02750      AM  FIND-1,1,610            00992 J1 0012L 000-1
02760      A   DIODDA+5,DIODDA+8,,    INCREMENT SECTOR ADDRESS
                                                01004 21 03392 03395
02770      HB                                01016 42 00000 00000
02780      DORG #-9                    01018
02790      FETCH8 TFM DIO+35,YTURN,67, INSERT ADDRESS FOR ERROR ENTRY
                                                01018 10 0085J -1124
02800      TFM IORT,#+23,,          HEAD ARRAY FROM FILE
                                                01030 10 00565 -1053
02810      B   IOGT,DKDATA,7          01042 49 00566 -3379
02820      TFM INOUT,CHECK-12,,RESTORE SPECIAL IORT ERROR EXIT
                                                01054 16 00631 -1258
02830*     TEST FOR NO GROUP MARK
02840      HNG #+20,EVEN1+11,11      01066 NN 01086 0091R
02850      B   EVEN2                  01078 M9 00980 00000
02860      DORG #-4                    01085
02870      TF  FLTEND,EVENSP+6        01086 20 03730 01123
02880      TFM E1,473,9              01098 16 02615 00M73
02890      B   ERROR                  01110 49 03596 00000
02900      DORG #-4                    01117
02910      EVENSP DC 1,4              01117 00001
02920      DSC 1,9                    01118 00001
02930      DSA EVEN2-12              01123 00005 -0968
02940      YTURN BI #+12,3700,, TURN OFF WLRC IND
                                                01124 M6 01136 03700
02950      BNI ERRET,1900,, GO ON IF NO OTHER ERROR
                                                01136 47 00602 01900
02960      TFM INOUT,MYER,, SET UP SECOND IORT ERROR EXIT
                                                01148 10 00631 -000M
02970      B   IOERR,, LET IORT CHECK ANY OTHER ERRORS
                                                01160 49 00632 00000
02980      DORG #-4                    01167
02990      DORG SMD+906                01174
03000      TEMPA DS 2,M2CK+23          00171 00002
03010      NITEMP US 2,RET2-1          00195 00002
03020      FRIND US 1,8E2+7           00215 00001
03030*     WRITE FIRST BLOCK
03040*
03050      DIM2 DSC 1,1                01174 00001
03060      DSA 200                     01179 00005 -0200
03070      DC 3,9                      01182 00003
03080      DSA SMD                     01187 00005 -0268
03090      DC 1,8                      01188 00001
03100      LD2ND USC 2,00              01189 00002
03110      DSA DIM2                    01195 00005 -1174

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03120      DC 1,8                      01196 00001
03130      STLD2 TO CARRY+7,CDRS12    01198 K5 00727 07376
03140      AM  CARRY+8,10,10          01210 J1 00728 000J0
03150      GM  CF  EVENSP+2            01222 L3 01119 00000
03160      DGM DKBUFF+200             01232 00001
03170      DGM SMD+900                 01168 00001
03180      TFM IORT,NIO+11            01234 10 00565 -1257
03190      B   IOPT,LD2ND,7           01246 4R 00532 -1189
03200      TRA                          01258 10 00565 -1277
                                                01270 49 00716 00000
                                                01277 00002 2K
                                                01279 00005 -1285
                                                01284 00001 #
                                                01285 00006 1J9783
                                                01291 00003 -03
                                                01294 00006 -0000#
03210      TCD STLD2                  01198
03220      DEND 6                      00006

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00010***** 1620 FORTRAN II-D RELOCATABLE SINE AND COSINE ROUTINES
00020***** COS(X) = 1 - (X**2)/2 + (X**4)/24 - (X**6)/720 + ...
00030***** SIN(A) = COS(PIOV2 - A)
00040 DSA FCOS,FSIN 00004 00005 -0006
00050 DORG *-4 00009 00005 -0042
00060 FCOS TDM CLF+11 ,0 ,0, SET ROUTINE FOR COSINE 00006 J5 00149 00000
00070 TFL FAC ,FCOS-1 ,111, LOAD ARGUMENT 00018 00 02492 0000M
00080 B FSIN+48 , ,0 ,0, 00030 M9 00090 00000
00090 FSIN TOM CLF+11 ,1 ,011, SET ROUTINE FOR SINE 00042 J5 00149 0000J
00100 TFL FAC ,FSIN-1 ,111, LOAD ARGUMENT 00054 00 02492 0004J
00110 C FAC ,MFOV2 , ,0, 00066 24 02492 03822
00120 BNM FINISH+1 , , , , BRANCH IF ANS. = ARG. 00078 47 03724 01100
00130 CF FNM , , , , CLEAR HIGH ORDER FLAG 00090 33 0331L 00000
00140 TOM FNMM1 ,0 ,011, SET FLAG AT HIGH ORDER DIGIT -1 00102 15 0339Q 0000-
00150 TOM CLF+10 ,1 ,0, SET SWITCH ARG POSITIVE, RESULT PDS 00114 J5 00148 00001
00160 BNF **48 ,FAC-2 ,0, IS ARG NEGATIVE 00126 M4 00174 02490
00170 CLF CF FAC-2 , ,9, YES, REPLACE BY ABSOLUTE VALUE 00138 33 02490 00-00
00180 BNF **24 ,CLF+11 ,01, IS ROUTINE SINE OR COSINE 00150 MM 00174 00149
00190 TOM CLF+10 ,0 ,0, SINE, SIN(-A)=-SIN(A), RESULT NEG 00162 J5 00148 00000
00200 TF IMSAPP ,9SPF+1 ,6, IMSA+F = F+2 ZEROS 00174 26 0329Q 02855
00210 CM FAC ,00 ,10, CHECK SIGN OF CHARACTERISTIC 00186 14 02492 000-0
00220 DNL PULCAP , , , , BR IF POSITIVE, EQUAL TO ZERO 00198 M6 00730 01300
00230 C FAC ,MF , , , COMPARE CHAR TO -F 00210 24 02492 03666
00240 BL BRD , , , , BR IF CHAR LESS THAN -F 00222 M7 00270 01300
00250 TFM **35 ,FAC-1 ,07, ADJUST MANTISSA (IN IMSAPP) FOR 00234 J6 00269 -2491
00260 A **23 ,FAC ,0, CHAR GREATER THAN OR EQUAL TO -F 00246 K1 00269 02492
00270 A IMSAPP , , , , AND LESS THAN ZERO 00258 21 0329Q 00000
00280 BRD BD **24 ,CLF+11 ,01, BR IF ROUTINE IS SINE 00270 ML 00294 00149
00290 A IMSAPP ,PIOV2 ,6, ADD PIOV2, COS(A) = SIN(PIOV2-A) 00282 21 0329Q 03163
00300 S IMSAPP ,TMOPI ,6, REDUCE ARGUMENT TO PRINCIPAL VALUE 00294 22 0329Q 03103
00310 BM *-12 , , , , RANGE, MINUS PIOV2 TO POS PIOV2 00306 M6 00294 01100
    
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00320 SF IMSA-1 , , , , SET HIGH ORDER FLAG 00318 32 02574 00000
00330 A IMSAPP ,PI ,6, 00330 21 0329Q 03133
00340 BN **36 , , , , BR ARG NEGATIVE 00342 M7 00378 01300
00350 SM CLF+10 ,01 ,010, SET SIGN OF RESULT 00354 J2 00148 000-1
00360 SF IMSAPP , , , , SET SIGN ON ARGUMENT TO MINUS 00366 32 0329Q 00000
00370 A IMSAPP ,PIOV2 ,6, ADD PIOV2, SIN(A) = COS(PIOV2-A) 00378 21 0329Q 03163
00380 TF 79 ,ZEROM ,11, CLEAR PRODUCT AREA 00390 26 00079 0344N
00390 M IMSAPP ,IMSAPP ,011, FIND A**2 00402 23 0329Q 0329Q
00400 TF IMSAPP ,98MF ,011, PUT RESULT IN IMSA+F 00414 26 0329Q 0332Q
00410 SF IMSA-1 , , , , SET HIGH ORDER FLAG 00426 32 02574 00000
00420 TF FAC ,ONEZ+2 , , , FAC = 1 (F+2 DIGITS) 00438 26 02492 03040
00430 TR AAB-3 ,AABS-8 ,01, SET COUNTERS, AB = 2 FACTORIAL 00450 LJ 00885 00894
00440 OVER TOM SUM+1 ,2 ,0, SET SUM TO SUBTRACT 00462 J5 00535 00002
00450 TF 99 ,98MF ,11, SHIFT PRODUCT 00474 26 00099 0332Q
00460 TFM 97MF ,0000 ,68, 00486 16 0332L 0-000
00470 D 98MF ,AB ,16, DIVIDE BY AB 00498 2R 0332Q 00892
00480 BZ DONE , , , , 00510 M6 00662 01200
00490 TF SAVE ,95 ,10, STORE QUOTIENT 00522 26 02565 000R5
00500 SUM S FAC ,SAVE , , , SUBTRACT QUOTIENT FROM FAC 00534 22 02492 02565
00510 AM AAB-2 ,02 ,010, AB CONTAINS K FACTORIAL 00546 J1 00886 000-2
00520 AM AAB ,02 ,010, FIND K+2 FACTORIAL MODIFIED FOR 00558 J1 00888 000-2
00530 M AAB ,AAB-2 ,01, PRODUCT DEVELOPMENT, PUT IN AB 00570 KL 00888 00886
00540 TF AB ,99 ,0, 00582 K6 00892 00099
00550 TF 79 ,ZEROM ,11, 00594 26 00079 0344N
00560 M IMSAPP ,SAVE ,6, MULTIPLY ARG BY QUOTIENT 00606 23 0329Q 02565
00570 CM SUM+1 ,9521 ,08, ADD OR SUBTRACT AT SUM 00618 J4 00535 0R521
00580 BE OVER , , , , SUBTRACT 00630 M6 00462 01200
00590 TOM SUM+1 ,1 ,0, SET SUM TO ADD 00642 J5 00535 00001
00600 B OVER+12 , , , , 00654 M9 00474 00000
00610 DORG *-4 00661
00620 DONE C FAC-1 ,9SPF , , , COMPARE RESULT TO ZERO 00662 24 02491 02854
00630 BE ZERFAC , , , , EQUAL, RESULT = ZERO 00674 46 03422 01200
00640 TFM SAVE ,01 ,10, SET UP CHARACTERISTIC OF RESULT 00686 16 02565 000-1
00650 BD NORM72 ,CLF+10 ,01, SET UP SIGN OF RESULT
    
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00660	SF	99	,	,		00698	ML	00854	00148
						00710	32	00099	00000
00670	B	NORM72	,	,		00722	M9	00854	00000
00680	DORG	*-4				00729			
00690	POZEXP	C FAC	,	F					
						00730	24	02492	02219
00700	B1	**56	,	,		00742	M6	00798	01100
00710	TF	**30	,	ISPFM1	,				
						00754	K6	00784	03303
00720	S	**18	,	FAC	,				
						00766	K2	00784	02492
00730	TF		,	FAC-2	,				
						00778	26	00000	02490
00740	b	BRD	,		,	00790	M9	00270	00000
00750	DORG	*-4				00797			
00760	TFM	E1	,	b70	,				
						00798	16	02615	00070
00770	B	UNFLO	,		,				
						00810	49	03466	00000
00780	DORG	*-4				00817			
00790	NORP36	TR FNM	,	FM	,	00818	31	0331L	03300
00800	TDM	FAC-1	,		,				
						00830	15	02491	00000
00810	SF	FNM	,		,	00842	32	0331L	00000
00820	NORM72	BD FINISH	,	FNM	,				
						00854	43	0372L	0331L
00830	SM	SAVE	,	01	,				
						00866	12	02565	000-1
00840	B	NORP36	,		,	00878	M9	00818	00000
00850	DORG	*-4				00885			
00860	AAB	DS		4		00888		00004	
00870	AB	DS		4		00892		00004	
00880	DS	1				00893		00001	
00890	DC	2,01				00895		00002	
00900	UC	2,02				00897		00002	
00910	AABS	UC		5,00020		00902		00005	
00920	FAC	US				02492		00000	
00930	FNM	DS				03313		00000	
00940	FNM1	DS				03358		00000	
00950	IMSAPP	DS				03298		00000	
00960	9SPF	DS				02854		00000	
00970	MP	DS				03666		00000	
00980	PIOV2	US				03163		00000	
00990	TMOPI	DS				03103		00000	
01000	IMSA	DS				02575		00000	
01010	PI	US				03133		00000	
01020	ZERO	US				02767		00000	
01030	98MF	DS				03328		00000	
01040	97MF	DS				03323		00000	
01050	SAVE	DS				02565		00000	
01060	ZERFAC	DS				03422		00000	
01070	F	DS				02219		00000	

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01080	ISPFM1	DS		03303		03303	00000
01090	EI	US		02615		02615	00000
01100	FM	DS		03308		03308	00000
01110	FINISH	US		03723		03723	00000
01120	ONEZ	DS		03038		03038	00000
01130	ZEROM	DS		03445		03445	00000
01140	UNFLO	DS		03466		03466	00000
01150	MFOV2	DS		03822		03822	00000
01160	DEND 2					00002	

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00010***** 1620 FORTRAN II-D RELOCATABLE FLOATING ARCTANGENT ROUTINE
00020***** ARCTAN(X) = X - (X**3)/3 + (X**5)/5 - (X**7)/7 + ...
00030 DSA FATN , , , , , , 00004 00005 -0006
00040 FATN TFL FAC ,FATN-1 ,+11, LOAD ARGUMENT 00006 00 02492 0000M
00050 BD ,+20 ,FNM ,+011, IS ARG ZERO 00018 M3 00038 0331L
00060 B ZERFAC , , , , YES 00030 49 03422 00000
00070 DORG ,+4 , , , , 00037
00080 TFM TEST+11 , , , ,+08, RESET INDICATORS 00038 J6 00073 0-000
00090 BNF TEST+24 ,FAC-2 , , ,+0, BR IF ARG NEGATIVE
, , , , , , 00050 M4 00086 02490
00100 TEST SF ,+9 , , , ,+0, SET INDICATOR, ARG NEG
, , , , , , 00062 L2 00071 00000
00110 CF FAC-2 , , , , ARG = ABS ARG 00074 33 02490 00000
00120 CM FAC ,+00 , , , , IS CHAR OF ARG 00086 14 02492 000-0
00130 BM TEST1+20 , , , , POSITIVE 00098 M6 00070 01100
00140 BE ALPH+12 , , , , EQUAL ZERO 00110 M6 00266 01200
00150 M ,+35 ,F , , , , NEGATIVE 00122 K3 00157 02219
00160 SM 98 ,+05 ,+10, FIND-.5(F-1) 00134 12 00098 000-5
00170 SF 97 ,+50 ,+10, 00146 32 00097 000N0
00180 TF ,+23 ,+97 , , , , 00158 K6 00181 00097
00190 CM FAC , , , , IF CHAR OF ARG IS
, , , , , , 00170 14 02492 -0000
00200 BL EOD , , , ,+0, LESS THAN -.5(F-1),BR
, , , , , , 00182 M7 01094 01300
00210 TFM ALPH-1 ,FAC-2 ,+07, SET UP ADJUST MANTISSA
, , , , , , 00194 J6 00253 -2490
00220 A ALPH-1 ,FAC ,+0, 00206 K1 00253 02492
00230 TF FNHM1 ,+9SPF-1 ,+6 , , , , 00218 26 03350 02853
00240 CF FNM , , , ,+6 , , , , 00230 33 0331L 00000
00250 TF FAC-2 , , , , ADJUST MANTISSA 00242 26 02490 00000
00260 SF FNM , , , ,+6 , , , , 00254 32 0331L 00000
00270 CM FH ,+29 ,+610, COMPARE HI ORD MANTISSA DIGITS
, , , , , , 00266 14 03300 000K9
00280 BL ,+132 , , , ,+0, TO 29, IF LESS THAN 29 BR
, , , , , , 00278 M7 00410 01300
00290 TF 97 ,+9SPF-1 ,+06 , , , , 00290 26 00097 02853
00300 MM FAC-2 ,+06 ,+10, FIND 1.6 TIMES MANTISSA
, , , , , , 00302 13 02490 000-6
00310 TDM 98MF ,+1 ,+611 , , , , 00314 15 03320 0000J
00320 S FAC-2 ,+51X , , , , FIND MANTISSA MINUS .6, PUT IN FAC
, , , , , , 00326 22 02490 03219
00330 TF BETA ,+99 , , , , STORE 1.6 MANTISSA IN BETA
, , , , , , 00338 26 02603 00099
00340 TF 79 ,+ZERO-42 ,+6, FIND (FAC-.6)/(1.6 X MANTISSA) 00350 26 00079 02725
00350 LD 98MF ,FAC-2 ,+6, 00362 28 03320 02490
00360 D HND ,+BETA ,+6 , , , , 00374 29 03330 02603
00370 TF FAC-2 ,+97MF ,+11, PUT QUOTIENT IN FAC
, , , , , , 00386 26 02490 0332L
00380 SF TEST+11 , , , ,+0, SET INDICATOR, HI ORD GREATER 29
, , , , , , 00398 L2 00073 00000
00390 TF 79 ,+ZERO-44 ,+6, 00410 26 00079 02723
00400 M FAC-2 ,FAC-2 , , , , SQUARE FAC MANTISSA

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00410 TF SAVE ,PDT ,+11, STORE IN SAVE 00422 23 02490 02490
00420 TF BETA ,+9SPF , , , , BETA IS F+1 ZEROS 00434 26 02565 0333L
, , , , , , 00446 26 02603 02854
00430 TF ATN1+35 ,+2FM1 ,+0, SET DIVISOR EQUAL 2F-1, DENOTE AS W
, , , , , , 00458 K6 00517 03581
00440 TF ALPH+11 ,FM1 ,+0, SET COUNTER EQUAL F-1
, , , , , , 00470 K6 00265 03783
00450 ATN1 TFM 99 ,+ZERO-47 ,+10, 00482 26 00099 02720
00460 TFM 98MF , , , ,+610 , , , , 00494 16 03320 000J0
00470 DM 98MF , , , ,+6, DIVIDE 10/W 00506 19 03320 00000
00480 S ,+BETA , , , , SUBTRACT BETA FROM QUOTIENT
, , , , , , 00518 22 00096 02603
00490 TF BETA ,+96 , , , , REPLACE BETA BY DIFFERENCE
, , , , , , 00530 26 02603 00096
00500 TF 79 ,+ZERO-43 ,+6, 00542 26 00079 02724
00510 M BETA ,+SAVE , , , , BETA EQUALS BETA TIMES
, , , , , , 00554 23 02603 02565
00520 TF BETA ,PDT ,+11, SQUARE OF MANTISSA
, , , , , , 00566 26 02603 0333L
00530 SM ATN1+35 ,+02 ,+010, M EQUALS M-2 00578 J2 00517 000-2
00540 SM ALPH+11 ,+01 ,+010, REDUCE COUNTER BY ONE
, , , , , , 00590 J2 00265 000-1
00550 BNZ ATN1 , , , ,+0, IS COUNTER ZERO 00602 M7 00482 01200
00560 TF SAVE ,+ONE2+2 , , , , YES, SAVE IS ONE (F+2 DIGITS)
, , , , , , 00614 26 02565 03040
00570 S SAVE ,+BETA , , , , FIND 1 - BETA 00626 22 02565 02603
00580 TF 79 ,+ZERO-42 ,+6, 00638 26 00079 02725
00590 M SAVE ,FAC-2 ,+6, 00650 23 02565 02490
00600 BNF TEST2 ,TEST+11 ,+01, TEST INDICATOR, HI ORD GREATER 29
, , , , , , 00662 MM 00710 00073
00610 BNM TEST2-12 , , , ,+0, IS PRODUCT NEGATIVE
, , , , , , 00674 M6 00698 01300
00620 SF PDT , , , ,+6, YES, SET SIGN 00686 32 0333L 00000
00630 A PDT ,+TAN6 ,+6, ADD ARCTAN OF .6 TO PRODUCT
, , , , , , 00698 21 0333L 03248
00640 TEST2 BNF ,+36 ,+TEST+10 ,+01, TEST INDICATOR, CHAR POSITIVE
, , , , , , 00710 MM 00746 00072
00650 SF PDT , , , ,+6, SET SIGN 00722 32 0333L 00000
00660 A PDT ,+PIOV2 ,+6, SUB PRODUCT FROM P1OV2
, , , , , , 00734 21 0333L 03163
00670 TFM SAVE ,+01 ,+10, SET CHARACTERISTIC OF RESULT
, , , , , , 00746 16 02565 000-1
00680 TF FAC ,+MND ,+11, PUT RESULT IN FAC
, , , , , , 00758 26 02492 03330
00690 BD TEST1-24 ,FNHM1 ,+011, NORMALIZE 00770 M3 00826 03350
00700 TR FNHM1 ,FNM ,+611 , , , , 00782 31 03350 0331L
00710 TDM FAC ,+0 , , , , 00794 15 02492 00000
00720 SM SAVE ,+01 ,+10, 00806 12 02565 000-1
00730 B ,+48 , , , ,+0, 00818 M9 00770 00000
00740 DORG ,+4 , , , , 00825
00750 SF FNHM1 , , , ,+6 , , , , 00826 32 03350 00000
00760 TF FAC-2 ,FAC-3 , , , , 00838 26 02490 02489

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00770	TEST1	TD	99	,TEST+9	,1,	SET SIGN	00850	2N	00099	00071
00780		B	ENDD	,	,,	RETURN	00862	49	03688	00000
00790		DORG	**4	,	,		00869			
00800		SF	TEST+10	,	,0,	SET INDICATOR, CHAR POSITIVE				
00810		TF	99	,ZERO-23	,		00870	L2	00072	00000
00820		TF	PDT	,ONEZ	,6,		00882	26	00099	02744
00830		D	PDT	,FAC-2	,6,	FIND RECIPROCAL OF MANTISSA	00894	26	0333L	03038
00840		TF	FAC-2	,PDT	,11,	PUT IN FAC-2	00906	29	0333L	02490
00850		BD	**44	,FNHML	,011,	NORMALIZE	00918	26	02490	0333L
00860		SF	FMH	,	,6,		00930	M3	00974	03350
00870		SM	FAC	,01	,10		00942	32	0331L	00000
00880		B	**22	,	,0		00954	L2	02492	000-1
00890		DORG	**4	,	,0		00966	M9	00998	00000
00900		TF	FAC-2	,FAC-3	,		00974	26	02490	02489
00910		SM	FAC	,02	,10		00986	L2	02492	000-2
00920		BL	**64	,	,0,	BR NEW CHAR NEGATIVE				
00930		BE	ALPH+12	,	,0,	BR NEW CHAR ZERO	00998	M7	01042	01300
00940		SF	FAC	,	,,	NEW CHAR POSITIVE	01010	M6	00266	01200
00950		B	TEST+60	,	,0		01022	32	02492	00000
00960		DORG	**4	,	,0		01034	M9	00122	00000
00970		TFM	SAVE	,00	,10		01042	L6	02565	000-0
00980		TF	FAC-2	,PIOV4	,		01054	26	02490	03191
00990		B	TEST1	,	,0		01066	M9	00850	00000
01000		DORG	**4	,	,0		01073			
01010		TD	99	,TEST+9	,1		01074	2N	00099	00071
01020		B	ENDD+12	,	,0		01086	49	03700	00000
01030		DORG	**4	,	,0		01093			
01040	EOD	BNF	**20	,TEST+10	,01,	TEST INDICATOR, CHAR POSITIVE	01094	MM	01074	00072
01050		TF	IMSAPP	,FAC-2	,6,	CHAR NEG, STORE FAC MANTISSA	01106	26	03290	02490
01060		TF	FAC-2	,PIOV2-1	,,	FAC MANTISSA IS F+1 DIGIT PIOV2	01118	26	02490	03162
01070		C	FAC	,MF	,,	COMPARE CHAR TO -F	01130	24	02492	03666
01080		BNH	**72	,	,0,	BR IF CHAR NOT GREATER, EQUAL -F	01142	M7	01214	01100
01090		CF	IMSA+1	,	,,	SUB OLD FAC MANTISSA FROM PIOV2	01154	33	02576	00000
01100		TDM	IMSA	,	,11		01166	L5	02575	0000-
01110		TF	**35	,IMSAPP	,0		01178	K6	01213	03298
01120		A	**23	,FAC	,0		01190	K1	01213	02492
01130		S	FAC-2	,	,0		01202	22	02490	00000
01140		TFM	SAVE	,01	,10,	SET CHAR	01214	L6	02565	000-1
01150		B	TEST1-12	,	,0,	NORM AND RETURN	01226	M9	00838	00000
01160		DORG	**4	,	,0		01233			
01170	FAC	DS		,02492			02492		00000	
01180	FMH	DS		,03313			03313		00000	
01190	ZERFAC	DS		,03422			03422		00000	

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01200	F	DS		,02219		02219	00000
01210	FNHML	DS		,03358		03358	00000
01220	95PF	DS		,02854		02854	00000
01230	FM	DS		,03308		03308	00000
01240	98MF	DS		,03328		03328	00000
01250	SIX	DS		,03219		03219	00000
01260	BETA	DS		,02603		02603	00000
01270	ZERO	US		,02767		02767	00000
01280	HND	DS		,03338		03338	00000
01290	97MF	DS		,03323		03323	00000
01300	SAVE	DS		,02565		02565	00000
01310	PDT	DS		,03333		03333	00000
01320	2FM1	DS		,03581		03581	00000
01330	FM1	DS		,03783		03783	00000
01340	ONEZ	DS		,03038		03038	00000
01350	TAN6	DS		,03248		03248	00000
01360	PIOV2	DS		,03163		03163	00000
01370	ENDD	DS		,03688		03688	00000
01380	PIOV4	DS		,03191		03191	00000
01390	IMSAPP	DS		,03298		03298	00000
01400	MF	DS		,03666		03666	00000
01410	IMSA	DS		,02575		02575	00000
01420	DEND	1				00001	

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00010***** 1620 FORTRAN II-D RELOCATABLE SQUARE ROOT ROUTINE
00020 DSA SORT 00004 00005 -000.
00030 SORT MM SORT-1 ,50 ,0610,HALF THE EXPONENT 00006 J3 0000N 0000N
00040 TFL FAC ,SQRT-1 ,111, MOVE MANTISSA TO FAC-2 00018 00 02492 0000N
00050 BD SQ1 ,FNH ,011, TEST FOR ZERO 00030 M3 00050 0331L
00060 B ZERFAC , ,,, RESULT IS ZERO 00042 49 03422 00000
00070 DORG *-4 00049
00080 SQ1 TDM FNHM1 ,0 ,0611, SET NEXT HIGH ORDER DIGIT TO ZERO
00090 TDM SQEX+1 ,2 ,0, SET EXIT TO BRANCH BACK 00050 15 0335Q 0000-
00100 BNF **48 ,FAC-2 ,0, TEST FOR SIGN 00062 J5 00463 00002
00110 CF FAC-2 , ,,, REMOVE MINUS SIGN 00074 M4 00122 02490
00120 TDM SQEX+1 ,9 ,0, SET EXIT TO ERROR ROUTINE 00086 33 02490 00000
00130 TFM EI ,676 ,9, SET ERROR MESSAGE F6 00098 J5 00463 00009
00140 BD SQ3 ,98 ,0, BRANCH IF EXPONENT ODD 00110 16 02615 00076
00150 TF SQ2+42 ,97MF ,0, SET ADDRESS TO 97-F 00122 M3 00470 00098
00160 BNF SQ2+12 ,99 ,0, TEST FOR SIGN 00134 K6 00200 03323
00170 SQ2 SF 97 , ,,, SET SIGN 00146 M4 00170 00099
00180 TF FAC ,97 , ,,, STORE EXPONENT 00158 32 00097 00000
00190 LD 80 ,95PF , ,,, CLEAR PRODUCT AREA 00170 26 02492 00097
00200 TF ,FAC-2 , ,,, MOVE MANTISSA INTO 97-F OR 98-F 00182 28 00080 02854
00210 TF LOOP+18 ,97M2F ,0, SET ADDRESS TO 97 - 2F 00194 26 00000 02490
00220 TF LOOP+23 ,FNHM1 ,0, SET ADDRESS TO FNH - 1 00206 K6 00280 03363
00230 TF LOOP+102 ,97M2F ,0, SET ADDRESS TO 97-2F 00218 K6 00285 03358
00240 TF FAC-2 ,DNEZ+1 , ,,, SET RESULT TO 100... 00230 K6 00364 03363
00250 B LOOP+108 , ,0, 00242 26 02490 03039
00260 DORG *-4 00254 M9 00370 00000
00270 LOOP AM LOOP+23 ,2 ,0610,ADD 2 TO RESULT 00261
00280 S , ,,, SUBTRACT RESULT FROM MANTISSA 00262 J1 0028N 000-2
00290 BNM LOOP , ,0, CONTINUE LOOP IF NOT MINUS 00274 22 00000 00000
00300 CM LOOP+23 ,FAC-2 ,07, COMPARE WITH TERMINAL ADDRESS 00286 M6 00262 01300
00310 BNL SQEX-48 , ,0, GO TO EXIT IF EQUAL 00298 J4 00285 -2490
00320 A LOOP+18 ,LOOP+23 ,01611,ADD BACK 00310 M6 00414 01300
00330 CF LOOP+18 , ,06, CLEAR FLAG 00322 KJ 0028- 0028N
00340 AM *-18 ,1 ,010, ADD 1 TO ADDRESS 00334 L3 0028- 00000
00346 J1 00364 000-1

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00350 SF , ,,, SET FLAG ON MANTISSA ONE PLACE OVER 00358 32 00000 00000
00360 AM LOOP+18 ,02 ,010, ADD 2 TO MANTISSA 00370 J1 00280 000-2
00370 AM LOOP+23 ,01 ,010, ADD 1 TO RESULT ADD 00382 J1 00285 000-1
00380 SM LOOP+23 ,9 ,0610,SUBTRACT 9 FROM RESULT 00394 J2 0028N 000-9
00390 B LOOP+12 , ,0, GO TO LOOP 00406 M9 00274 00000
00400 DORG *-4 00413
00410 LD 80 ,95PF , ,,, CLEAR PRODUCT AREA 00414 28 00080 02854
00420 MM FAC-2 ,50 ,10, HALF THE RESULT 00426 13 02490 00000
00430 TF FAC-2 ,97 , ,,, STORE RESULT 00438 26 02490 00097
00440 SF FNH , ,06, SET FLAG IN HIGH ORDER DIGIT 00450 32 0331L 00000
00450 SQEX BB ERROR , ,,, GO BACK OR ERROR TYPE-OUT 00462 42 03596 00000
00460 DORG *-4 00469
00470 SQ3 AM 99 ,50 ,10, ADD 5 TO PRODUCT 00470 11 00099 00000
00480 CF FNH , ,06, CLEAR HIGH ORDER FLAG IN FAC 00482 33 0331L 00000
00490 TF SQ2+42 ,98MF ,0, SET ADDRESS TO 98-F 00494 K6 00200 03320
00500 BNM SQ2+12 , ,0, BRANCH IF NOT NEGATIVE 00506 M6 00170 01300
00510 B SQ2 , ,0, GO TO SET SIGN IF NEGATIVE 00518 M9 00158 00000
00520 DORG *-4 00525
00530 FAC DS ,02492 02492 00000
00540 FNH DS ,03313 03313 00000
00550 ZERFAC DS ,03422 03422 00000
00560 FNHM1 DS ,03358 03358 00000
00570 EI DS ,02615 02615 00000
00580 97MF DS ,03323 03323 00000
00590 95PF DS ,02854 02854 00000
00600 97M2F DS ,03363 03363 00000
00610 DNEZ DS ,03038 03038 00000
00620 ERROR DS ,03596 03596 00000
00630 98MF DS ,03328 03328 00000
00640 UEND 1 00001

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00010***** 1620 FORTRAN II-D RELOCATABLE ABSOLUTE VALUE ROUTINE
00020 DSA AAS 00004 00005 -0006
00030 ABS TFL FAC ,ABS-1 ,111 00006 00 02492 0000N
00040 MNF **26 ,FAC-1 ,0 00018 M4 00044 02491
00050 CF FAC-2 , , FLOATING POINT NUMBER
00060 BB 00030 33 02490 00000
00070 DORG *-9 00042 42 00000 00000
00080 CF FAC , , FIXED POINT NUMBER
00090 BB 00044 33 02492 00000
00100 DORG *-9 00056 42 00000 00000
00110 FAC DS ,02492 00058
00120 DEND 1 00001 02492 00000
    
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1620-1443 MONITOR I SYSTEM TABLE EDITOR

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00010**** THIS PROGRAM EDITS DIM TABLE AND RESTORES S.P.LIST
00020 DORG 02402 02402
00030 MT CM SA,20000 02402 14 03371 K0000
00040 BE **24 02414 46 02438 01200
00050 H ,,, FOR DEBUGGING.....NO
00060 TFM SPL2+13,LISTDK 02426 48 00000 00000
00070 TFM IDRT,**23 02438 16 03551 -3800
00080 B IOGT,SPL1,7 02450 16 00565 -2473
00090 AM **23,1,10 02462 49 00566 -3419
00100 OLDRM MNR *-12,LISTDK-1,7 02474 11 02497 000-1
00110 SM *-1,1,10 02486 45 02474 -3799
00120 SM POINT,4,10, RECORD MARK OF NEW LIST MINUS 1
00130 C POINT,OLDRM+11,611, COMPARE LISTS 02510 12 03366 000-4
00140 RCTY ,,, LIST IS OK 02522 24 03360 0249P
00150 BNE BAD 02534 34 00000 00102
00160 TFM LISTOK+28,0000,8, MAKE MESSAGE CORRECT 02546 47 02602 01200
00170 WATY LISTOK 02558 16 03457 0-000
00180 RCTY 02570 39 03429 00100
00190 B7 FLAGO 02582 34 00000 00102
00200 BAD WATY LISTOK,,, LIST WAS INCORRECT 02594 49 02674 00000
00210 RCTY 02602 39 03429 00100
00220 H 02614 34 00000 00102
00230 MAXDIM DC 4,0,**-5 02626 48 00000 00000
00240 DIMNUM DC 4,0,**-1, DIM NUMBER FIELD 02632 00004
00250 DSC 1,2,* RECORD MARK FOR WNTY 02636 00004
00260 BNCL **36,,, DUMP LIST THAT WAS WRONG 02637 00001
00270 WNTY LISTDK,,, ON SWITCH ONE OPTION 02638 47 02674 00100
00280 RCTY 02650 38 03800 00100
00290 FLAGO AM POINT,3,10 02662 34 00000 00102
00300 TFM POINT,00,61011 02674 11 03366 000-3
00310 AM POINT,2,10 02686 16 03360 000--
00320 CM POINT,LIST+7998 02698 11 03366 000-2
00330 BL FLAGO+12 02710 14 03366 J9998
00340 TFM SPL2+13,LIST 02722 47 02606 01300
00350 TFM IDRT,**23 02734 16 03551 J2000
00360 B IOPT,SPL1,7 02746 16 00565 -2749
00370 DROP CM DROPDM,LISTCM+3,, ARE THERE ANY TO BE DROPPED 02758 49 00532 -3419
00380 BE MONCAL 02770 14 03376 -3703
00390 TFM PICK+11,LISTCM+3 ,,,YES 02782 46 00796 01200
00400 TFM EQU2+8,40,9, INIT. FOR EQUIV. TABLE READ 02794 16 02841 -3703
00410 TFM EQU2+13,LIST 02806 16 03506 00-40
00420 PICK TF DIMNUM,LISTCM+3 02818 16 03511 J2000
00430 RCTY 02830 26 02636 03703
00440 WNTY DIMNUM-3 02842 34 00000 00102
    
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00450	BT	DIMMER,DIMNUM,,	GET DIM ENTRY	02866	27	03216	02636
00460	TDM	TREC+11,,6		02878	15	0334P	00000
00470	DSC	1,,#		02889		00001	
00480	AM	TREC+11,19,10		02890	11	03347	000J9
00490	TF	TREC+11,ZERO19,6,	DELETE DIM ENTRY	02902	26	0334P	03395
00500	TFM	IORT,+*23		02914	16	00565	-2937
00510	B	IOPT,DIM1,7		02926	49	00532	-3599
00520	TR	EQU22,8QU2,,	INIT. READ DDA	02938	31	03516	03498
00530	RDEQU	TFM RMK+11,LIST+11		02950	16	03009	J2011
00540	TFM	DIMEQ+11,LIST+15		02962	16	03089	J2015
00550	TFM	IORT,+*23		02974	16	00565	-2997
00560	B	IOGT,EQU1,7,	READ EQUIVALENCE TABLE	02986	49	00566	-3490
00570	RMK	BMR DIMEQ,LIST+11,7,	END OF LIST TEST	02998	45	03078	J2011
00580	TFM	IORT,+*23		03010	16	00565	-3033
00590	B	IOPT,EQU1,7		03022	49	00532	-3490
00600	AM	PICK+11,4,10		03034	11	02841	000-4
00610	C	DROPPM,PICK+11		03046	24	03376	028+1
00620	BE	MONCAL		03058	46	00796	01200
00630	B7	PICK		03070	49	02830	00000
00640	DIMEQ	C DIMNUM,LIST+15,,	LOOK FOR DIM NUMBER	03078	24	02636	12015
00650	BNE	+*24		03090	47	03114	01200
00660	TF	DIMEQ+11,EIGHTS,6,	PUT IN 16 EIGHTS	03102	26	0308R	03489
00670	AM	RMK+11,16,10,	INCREMENT TO NEXT NAME	03114	11	03009	000J6
00680	AM	DIMEQ+11,16,10		03126	11	03089	000J6
00690	CM	DIMEQ+11,LIST+4015,,	END OF 40 SECTORS	03138	14	03089	J6015
00700	BL	RMK,,, NO		03150	47	02998	01300
00710	TFM	IORT,+*23		03162	16	00565	-3185
00720	B	IOPT,EQU1,7,	WRITE EQUIV. TABLE	03174	49	00532	-3490
00730	AM	EQU22+5,40,10		03186	11	03523	000M0
00740	B7	RDEQU		03198	49	02950	00000
00750	DC	2,0		03206		00002	
00760	SCRSA	DC 5,0		03211		00005	
00770	DC	4,0		03215		00004	
00780	DIMMER	MM DIMMER-1,2,10,	FIND CORRECT DIM ENTRY	03216	13	03215	000-2
00790	AM	96,48,10		03228	11	00096	000M8
00800	TF	DIM2+5,98		03240	26	03612	00098
00810	TFM	DIM2+8,1,9		03252	16	03615	00-01
00820	TFM	DIM2+13,LISTDK		03264	16	03620	-3800
00830	TD	TREC-1,99		03276	25	03335	00099
00840	TFM	IORT,+*23		03288	16	00565	-3311
00850	B	IOGT,DIM1,7		03300	49	00566	-3599
00860	TFM	TREC+11,LISTDK		03312	16	03347	-3800
00870	AM	TREC+10,0,10		03324	11	03346	000-0
00880	TREC	TR DMNXT,LISTDK		03336	31	03579	03800
00890	BB2			03348	42	00000	00000
00900	ERR3	H		03350	48	00000	00000
00910	POINT	DC 5,0,		03366		00005	
00920	SA	DC 5,0,		03371		00005	

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00930	DROPPM	DC 5,0,		03376		00005	
00940	ZERO19	DC 19,0		03395		00019	
00950	IORT	DS ,565		00565		00000	
00960	IOGT	DS ,566		00566		00000	
00970	IOPT	DS ,532		00532		00000	
00980	MAP1	DSC 2,22		03396		00002	
00990	DSA	MAP2		03402		00005	-3404
01000	DSC	1,#		03403		00001	
01010	MAP2	DSC 1,1		03404		00001	
01020	DC	5,0,4800		03409		00005	
01030	DC	3,2		03412		00003	
01040	DSA	DIMS		03417		00005	J1800
01050	DSC	1,9		03418		00001	
01060	SPL1	DSC 2,22		03419		00002	
01070	DSA	SPL2		03425		00005	-3538
01080	DSC	1,9		03426		00001	
01090	LISTDK	DAC 23,5,P. LIST IS INCORRECT#		03429		00046	
01100	MONCAL	DS ,796		00796		00000	
01110	EIGHTS	DC 16,8888888888888888		03489		00016	
01120	EQU1	DSC 2,22		03490		00002	
01130	DSA	EQU22		03496		00005	-3518
01140	DSC	1,9		03497		00001	
01150	EQU2	DSC 20,0		03498		00020	
01160	EQU22	DSC 20,0		03518		00020	
01170	SPL2	DSC 20,0		03538		00020	
01180	DC	1,0		03558		00001	
01190	MAP20	DSC 20,0		03559		00020	
01200	DMNXT	DSC 20,0		03579		00020	
01210	DIM1	DSC 2,22		03599		00002	
01220	DSA	DIM2		03605		00005	-3607
01230	DSC	1,9		03606		00001	
01240	DIM2	DSC 1,1,,	CONTROL FIELD TO READ DIMS	03607		00001	
01250	DC	5,0,4800		03612		00005	
01260	DC	3,050		03615		00003	
01270	DSA	DIMS		03620		00005	J1800
01280	DSC	1,9		03621		00001	
01290	DORG	3700		03700			
01300**		EDIT THE DIM TABLES FOR FLAGS OR RECORD MARKS					
01310	SAVE	MM DIMS+68,5,10,	MAXIMUM NUMBER OF DIMS	03700	13	11868	000-5
01320	SF	96		03712	32	00096	00000
01330	TF	MAXDIM,99		03724	26	02632	00099
01340	TFM	DIMNUM,1,8,	START DIM COUNTER	03736	16	02636	0-001
01350	TFM	MAP,DIMS+20,,	INIT. TO DIM POSITION 1	03748	16	05373	J1820
01360	TR	EQU2,DIMS+40		03760	31	03498	11840
01370	TFM	DROPPM,LISTCM+3		03772	16	03376	-3703
01380	TDM	START+25,1,,	NOP BRANCH TO SAVE	03784	15	03829	00001
01390	B7	START+48,,,	RETURN TO MAIN DIM EXIT	03796	49	03852	00000
01400	START	TFM IORT,+*23		03804	16	00565	-3827

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01410	B	IOGT,DIM1,7,	READ DIMS	03816	49	00566	-3599
01420	B	SAVE,,,	CHANGE TO NOP AFTER FIRST TIME				
01430	TFM	MAP,DIMS,,	INIT. TO POSITION ZERO	03828	49	03700	00000
01440	TFM	CNT2,0,10,	MAP+CNT2 IS POINT	03840	16	05373	J1800
01450	TEST	BMR INUSE,MAP,11,	IS DIM IN USE	03852	16	04270	000-0
01460	AM	MAP,1,10,	NO	03864	45	04104	0537L
01470	AM	CNT2,1,10,	TEST FIRST POSITION	03876	11	05373	000-1
01480	B7	TEST1		03888	11	04270	000-1
01490	AM	MAP,1,10		03900	49	03952	00000
01500	AM	CNT2,1,10		03908	11	05373	000-1
01510	BMF	**20,MAP,11,	TEST REST OF DIM	03920	11	04270	000-1
01520	B7	DIMFOR,,,	FOR UNFLAGGED ZEROS	03932	44	03952	0537L
01530	TEST1	BD DIMFOR,MAP,11		03944	49	04264	00000
01540	CM	CNT2,19,10,	HAS LAST ONE BEEN TESTED	03952	43	04264	0537L
01550	BL	TESTR		03964	14	04270	000J9
01560**	INCREMENT TO NEXT DIM ENTRY			03976	47	03908	01300
01570	NEXT	AM DIMNUM,1,10,	NEXT DIM NUMBER	03988	11	02636	000-1
01580	C	DIMNUM,MAXDIM,,	END OF DIM TABLE	04000	24	02636	02632
01590	BE	PUTCYL		04012	46	04622	01200
01600	AM	MAP,1,10		04024	11	05373	000-1
01610	CM	MAP,DIMS+5000,,	END OF 50 SECTORS	04036	14	05373	J6800
01620	BL	TEST-12		04048	47	03852	01300
01630	TFM	IOPT,**23		04060	16	00565	-4083
01640	B	IOPT,DIM1,7,	WRITE DIM TABLE	04072	49	00532	-3599
01650	AM	DIM2+5,50,10,	YES	04084	11	03612	000N0
01660	B7	START,,,	GO READ NEXT 50	04096	49	03804	00000
01670	INUSE	TFM CA,CFIELD,,	DIM IS IN USE	04108	16	04294	-4534
01680	TF	LP+11,MAP		04116	26	04139	05373
01690	LP	BMR **20,MAP,,	CHECK FOR VALID DIM	04128	45	04148	05373
01700	B7	DIMFOR,,,	ACCORDING TO CFIELD	04140	49	04264	00000
01710	BD	ADD1,CA,11		04148	43	04184	0429M
01720	BNF	NF,CA,11		04160	44	04252	0429M
01730	BNF	DIMFOR,LP+11,11		04172	44	04264	0413R
01740	ADD1	AM CA,1,10		04184	11	04294	000-1
01750	AM	LP+11,1,10		04196	11	04139	000-1
01760	BNR	LP,CA,11		04208	45	04128	0429M
01770	BNR	DIMFOR,LP+11,11		04220	45	04264	0413R
01780	AM	MAP,19,10		04232	11	05373	000J9
01790	B7	NEXT		04244	49	03988	00000
01800	NF	BNF ADD1,LP+11,11		04252	44	04184	0413R
01810	DIMFOR	RCTY ,,,	DIM ENTRY IS IN ERROR	04264	34	00000	00102
01820	CNT2	DC 2,0,*-5		04270	00002		
01830	WATY	FORMD		04276	39	04501	00100
01840	RCTY			04288	34	00000	00102
01850	CA	UC 5,0,*-5		04294	00005		

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01860	HNTY	DIMNUM-3,,,	TYPE DIM NUMBER	04300	38	02633	00100
01870	SPTY			04312	34	00000	00101
01880	DB1	DC 6,100001,*-4		04319	00006		
01890	S	MAP,CNT2		04324	22	05373	04270
01900	TFM	DUMP,19980		04336	16	05397	J9980
01910	TDDUMP	ID DUMP,MAP,611		04348	25	05399	0537L
01920	AM	MAP,1,10		04360	11	05373	000-1
01930	AM	DUMP,1,10		04372	11	05397	000-1
01940	BD	TDDUMP,DUMP-1		04384	43	04348	05396
01950	DNTY	19980		04396	35	19980	00100
01960	SM	MAP,1,10		04408	12	05373	000-1
01970	TF	MAP,ZERO19,6,	DELETE INVALID DIM ENTRY	04420	26	0537L	03395
01980	SM	MAP,19,10		04432	12	05373	000J9
01990	TDM	MAP,,6		04444	15	0537L	00000
02000	DSC	1,2,*		04455	00001		
02010	AM	MAP,19,10		04456	11	05373	000J9
02020	TF	DROPDN,DIMNUM,6		04468	26	03370	02636
02030	AM	DROPDN,4,10		04480	11	03376	000-4
02040	B7	NEXT		04492	49	03988	00000
02050	FORMD	UAC 17,DIM FORMAT ERROR		04501	00034		
02060	CFIELD	DSC 1,0		04534	00001		
02070	DC	5,0		04539	00005		
02080	DC	3,0		04542	00003		
02090	DC	5,1		04547	00005		
02100	DC	5,1		04552	00005		
02110	DSC	1,2		04553	00001		
02120	SAVE1	TR SPL2,DIMS+80		04554	31	03538	11880
02130	TF	SCRSC,DIMS+28		04566	26	04845	11828
02140	TF	SCRSA,DIMS+25		04578	26	03211	11825
02150	TD	SCRSA-5,DIMS+20		04590	25	03206	11820
02160	TDM	RDLIST+25,1		04602	15	04835	00001
02170	B7	TRMAP		04614	49	04846	00000
02180**	MAKE A LIST WITH ONLY CYLINDER ENTRIES IN IT						
02190	PUTCYL	TFM LIST+3,7000,28		04622	16	J2003	0P000
02200	CF	LIST,,2		04634	33	J2000	00000
02210	AM	PUTCYL+6,4,10		04646	11	04628	000-4
02220	AM	PUTCYL+11,1,10		04658	11	04633	000-1
02230	AM	PUTCYL+18,4,10		04670	11	04640	000-4
02240	BD	**20,PUTCYL+9,,	TEST FOR LAST ENTRY DONE	04682	43	04702	04631
02250	B7	PUTCYL		04694	49	04622	00000
02260	TDM	PUTCYL+18,,6,	ADD FINAL RECORD MARK	04702	15	04644	00000
02270	DSC	1,2,*		04713	00001		
02280	SF	LIST,,,	FLAG START OF LIST	04714	32	12000	00000
02290	AM	PUTCYL+18,4,10		04726	11	04640	000-4
02300	TFM	PUTCYL+18,0,68		04738	16	04644	0-000
02310	CF	PUTCYL+18,3,10		04750	12	04640	000-3
02320	SM	PUTCYL+18,,6		04762	33	04644	00000
02330	AM	PUTCYL+18,3,10		04774	11	04640	000-3
02340	TFM	DIMNUM,0002,8,	START WITH DIM ENTRY TWO				

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02350	TFM	TRMAP+11,DIMS+40	04786	16	02636	0-002
02360	RDLIST	TFM IORT,*+23,,	04798	16	04857	J1840
						READ TWO SECTORS OF DIMS
02370	B	IOGT,MAP1,7.	04810	16	00565	-4833
02380	B	SAVE1	04822	49	00566	-3396
02390	SCRSC	DC 3,0,*	04834	49	04554	00000
02400	TRMAP	TR MAP20,DIMS	04845	00003		
02410	BMR	MONPK-24,MAP20	04846	31	03559	11800
02420	NXT	AM DIMNUM,1,10,	04858	45	04962	03559
02430	C	DIMNUM,MAXDIM,,	04870	11	02636	000-1
02440	BML	FILLIN	04882	24	02636	02632
02450	AM	TRMAP+11,20,10,	04894	46	05438	01300
02460	BD	TRMAP,DIMNUM	04906	11	04857	000K0
02470	AM	MAP2+5,2,10,	04918	43	04846	02636
						READ NEXT TWO SECTORS
02480	TFM	TRMAP+11,DIMS	04930	11	03409	000-2
02490	B7	RDLIST	04942	16	04857	J1800
02500**	DIM	REFERS TO MONITOR PACK	04954	49	04810	00000
02510	CM	MAP20,1,10	04962	14	03559	000-1
02520	BH	NXT	04974	46	04870	01100
02530	MONPK	MM MAP20+5,5,10,				CALCULATE CYLINDER OF PROGRAM
02540	TD	CYL,96	04986	13	03564	000-5
02550	TD	CYL-1,95	04998	25	05193	00096
02560	TFM	LK+11,LIST+3,,	05010	25	05192	00095
						INIT. CYL. SEARCH TO FIRST ENTRY
02570	LK	C CYL,LIST+3,7,	05022	16	05045	J2003
						COMPARE FOR CYLINDER OF PROGRAM
02580	BE	GETR	05034	24	05193	J2003
02590	AM	LK+11,4,10,	05046	46	05078	01200
02600	B7	LK	05058	11	05045	000-4
02610	GETR	AM LK+11,1,10,	05070	49	05034	00000
						GET RIGHT HAND ENTRY M.O.
02620	BMR	*+32,LK+11,11	05078	11	05045	000-1
02630	AM	LK+11,3,10	05090	45	05122	0504N
02640	B7	INS,,,	05102	11	05045	000-3
						IF RECORD MARK, INSERT DIM
02650	AM	LK+11,3,10	05114	49	05266	00000
02660	C	SEV,LK+11,11	05122	11	05045	000-3
02670	BL	INS,,,	05134	24	05217	0504N
						IF CYLINDER, INSERT DIM
02680	TF	DMBT+6,LK+11	05146	47	05266	01300
02690	SM	DMBT+6,3,10	05158	26	05188	05045
02700	DMBT	SF LIST,,,	05170	12	05188	000-3
						IT MUST BE A DIM NUMBER
02710	CYL	DC 4,7000,*	05182	32	12000	00000
02720	BT	DIMMER,LK+11,11	05193	00004		
02730	CF	DMBT+6,,6	05194	27	03216	0504N
02740	SEV	DC 4,6999,*	05206	33	05180	00000
02750	TF	HOLDS,MAP20+5	05217	00004		
02760	S	HOLDS,DMNXT+5	05218	26	05313	03564
02770	BZ	ERR	05230	22	05313	03584
			05242	46	05406	01200

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02780	BP	GETR	05254	46	05078	01100
02790**	INSERT	DIM NUMBER INTO LIST				
02800	INS	TF TFDIM+11,PUTCYL+18	05266	26	05325	04640
02810	AM	PUTCYL+18,4,10,				CONTAINS ADDR. OF RECORD MARK
02820	SM	LK+11,3,10	05278	11	04640	000-4
02830	SF	LK+11,,6	05290	12	05045	000-3
02840	HOLDS	DC 5,0,*	05302	32	0504N	00000
02850	TFDIM	TF PUTCYL+18,LIST+4,6,	05313	00005		
						OPEN FOR DIM NUMBER
02860	AM	LK+11,3,10	05314	26	0464-	12004
02870	TF	LK+11,DIMNUM,6,	05326	11	05045	000-3
02880	SM	LK+11,3,10	05338	26	0504N	02636
02890	CF	LK+11,,6,	05350	12	05045	000-3
						CLEAR FLAG OVER DIM
02900	MAP	DC 5,0,*	05362	33	0504N	00000
02910	AM	LK+11,4,10	05373	00005		
02920	CF	LK+11,,6	05374	11	05045	000-4
02930	DUMP	DC 5,0,*	05386	33	0504N	00000
02940	B7	NXT	05397	00005		
02950**	TWO	PROGRAMS START AT THE SAME SECTOR ADDRESS	05398	49	04870	00000
02960	ERR	TF DROPDM,DIMNUM,6,	05406	26	03370	02636
02970	AM	DROPDM,4,10,	05418	11	03376	000-4
02980	B7	NXT	05430	49	04870	00000
02990**	FILL	IN LIST WITH 9-ENTRIES AND DUPLICATE DIMS				
03000	FILLIN	TFM SA,0,7,				INIT. TO START OF LIST
03010	TFM	POINT,LIST+3	05438	16	03371	-0000
03020	TFM	SC,200,9,	05450	16	03366	J2003
03030	NX	AM POINT,1,10,	05462	16	05661	00K00
						NEXT ENTRY TO RIGHT M.O.
03040	BMR	*+32,POINT,11	05474	11	03366	000-1
03050	AM	POINT,3,10,	05486	45	05518	03360
						REACHED END OF LIST
03060	B7	LST	05498	11	03366	000-3
03070	AM	POINT,3,10	05510	49	06806	00000
03080	C	SEV,POINT,11,	05518	11	03366	000-3
						IS IT A CYLINDER ENTRY
03090	BML	NOCYL	05530	24	05217	03360
03100	CM	SC,0,9,	05542	46	05766	01300
						IS SC DOWN TO ZERO
03110	BE	NX-12	05554	14	05661	00-00
03120	TF	PT9+11,END,,	05566	46	05462	01200
03130	AM	END,4,10	05578	26	05637	04640
03140	SM	POINT,3,10	05590	11	04640	000-4
03150	SF	POINT,,6	05602	12	03366	000-3
03160	PT9	TF END,LIST,6,	05614	32	03360	00000
						MOVE LIST TO THE RIGHT
03170	TF	NINESC,SC	05626	26	0464-	12000
03180	CF	NINESC-2	05638	26	05709	05661
03190	SC	DC 3,0,*	05650	33	05707	00000
03200	AM	POINT,3,10	05661	00003		
03210	TF	POINT,NINESC,6,	05662	11	03366	000-3
			05674	26	03360	05709
						INSERT 9 ENTRY

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03220	SM	POINT,3,10	05686	12	03366	000-3
03230	CF	POINT,,6,	CLEAR FLAG OVER 9	05698	33	03360 00000
03240	NINESC	UC 4,9000,*	05709	00004		
03250	AM	POINT,4,10	05710	11	03366	000-4
03260	CF	POINT,,6,	CLEAR FLAG SET FOR MOVE	05722	33	03360 00000
03270	A	SA,SC,,	UPDATE SECTOR ADDR.	05734	21	03371 05661
03280	AM	POINT,3,10,	POINT TO ENTRY ON RIGHT OF 9XXX	05746	11	03366 000-3
03290	B7	NX-12	05758	49	05462	00000
03300	NOCYL	TF NOCYL+30,POINT,,	MUST BE A DIM NUMBER	05766	26	05796 03366
03310	SM	NOCYL+30,3,10	05778	12	05796	000-3
03320	SF	LIST,,2	05790	32	J2030	00000
03330	B7	DIMMER,POINT,11,	GET DIM ENTRY	05802	27	03216 03360
03340	CF	NOCYL+30,,6	05814	33	05790	00000
03350	S	DMNXT+5,SA	05826	22	03584	03371
03360	BN	ERR1,,,	THERE IS AN OVERLAP	05838	47	06382 01300
03370	BZ	FITS,,,	NO 9XXX NEEDED	05850	46	06066 01200
03380	SF	DMNXT+3,,,	PUT A 9 ENTRY IN FRONT OF DIM	05862	32	03582 00000
03390	TF	NINESC,DMNXT+5	05874	26	05709	03584
03400	CF	NINESC-2,,,	PREPARE TO INSERT REMAINDER	05886	33	05707 00000
03410	TF	OP+11,END	05898	26	05957	04640
03420	AM	END,4,10	05910	11	04640	000-4
03430	SM	POINT,3,10	05922	12	03366	000-3
03440	SF	POINT,,6	05934	32	03360	00000
03450	OP	TF END,LIST,6,	MOVE LIST TO MAKE ROOM FOR 9XXX	05946	26	0464- 12000
03460	AM	POINT,3,10	05958	11	03366	000-3
03470	TF	POINT,NINESC,6,	INSERT REMAINDER	05970	26	03360 05709
03480	SM	POINT,3,10	05982	12	03366	000-3
03490	CF	POINT,,6,	CLEAR FLAG OVER 9	05994	33	03360 00000
03500	AM	POINT,4,10	06006	11	03366	000-4
03510	CF	POINT,,6,	CLEAR FLAG SET FOR MOVE	06018	33	03360 00000
03520	A	SA,DMNXT+5,,	UPDATE SECTOR ADDR.	06030	21	03371 03584
03530	S	SC,DMNXT+5,,	SUBTRACT REMAINDER 9 FROM S.C.	06042	22	05661 03584
03540	AM	POINT,3,10,	MOVE POINTER TO DIM	06054	11	03366 000-3
03550	FITS	A SA,DMNXT+8,,	UPDATE WITH S.C. OF DIM	06066	21	03371 03587
03560	S	SC,DMNXT+8,,	DOES DIM OVERLAP CYLINDER	06078	22	05661 03587
03570	BZ	NX,,,	JUST FITS	06090	46	05474 01200
03580	BP	NX,,,	ROOM FOR MORE	06102	46	05474 01100
03590	AM	POINT,1,10,	OVERLAPS CYLINDER	06114	11	03366 010-1
03600	BNR	*+32,POINT,11,	IS NEXT POSITION A			

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03610	AM	POINT,3,10,	CYLINDER ENTRY	06126	45	06158 03360
03620	B7	LST	06138	11	03366	000-3
03630	AM	POINT,3,10	06150	49	06806	00000
03640	C	SEV,POINT,11	06158	11	03366	000-3
03650	BNL	ERR 2	06170	24	05217	03360
03660	AM	POINT,1,10,	06182	46	06554	01300
03670	SF	POINT,,6	06194	11	03366	000-1
03680	TF	*+35,END	06206	32	03360	00000
03690	AM	END,4,10	06218	26	06253	04640
03700	TF	END,LIST,6,	06230	11	04640	000-4
03710	AM	POINT,3,10	OPEN LIST TO RIGHT OF CYLINDER	06242	26	0464- 12000
03720	TF	POINT,DIMMER-1,6,	06254	11	03366	000-3
03730	SM	POINT,3,10	INSERT DIM NUMBER	06266	26	03360 03215
03740	CF	POINT,,6,	06278	12	03366	000-3
03750	AM	POINT,4,10	CLEAR FLAG OVER DIM	06290	33	03360 00000
03760	CF	POINT,,6,	06302	11	03366	000-4
03770	SM	POINT,1,10	CLEAR FLAG FROM MOVE	06314	33	03360 00000
03780	AM	SC,200,9,	06326	12	03366	000-1
03790	BZ	NX	ADD 200 FOR NEXT CYLINDER	06338	11	05661 00K00
03800	BNF	NX,SC	06350	46	05474	01200
03810	B7	FITS+48,,,	06362	44	05474	05661
03820**	PROGRAMS	OVERLAP	06374	49	06114	00000
03830	ERR1	TF DROPDM,DIMMER-1,6	06382	26	03370	03215
03840	AM	DROPDM,4,10	06394	11	03376	000-4
03850	AM	POINT,1,10	06406	11	03366	000-1
03860	TR	NOCYL+30,POINT,611,	DROP DIM FROM LIST	06418	31	05790 03360
03870	SF	POINT,,6	06430	32	03360	00000
03880	TF	ERR1+42,POINT	06442	26	06424	03366
03890	BNR	*+20,POINT,11	06454	45	06474	03360
03900	B7	*+44	06466	49	06510	00000
03910	AM	POINT,3,10	06474	11	03366	000-3
03920	C	POINT,DIMMER-1,6	06486	24	03360	03215
03930	BE	ERR1+24,,6	06498	46	06406	01200
03940	CF	ERR1+42,,6	06510	33	0642M	00000
03950	TF	POINT,NOCYL+30	06522	26	03366	05796
03960	SM	POINT,1,10	06534	12	03366	000-1
03970	B7	NX	06546	49	05474	00000
03980**	PROGRAM	OVERLAPS CYLINDER, BUT NEXT ENTRY IS NOT	CYLINDER			
03990	ERR2	SM POINT,3,10	06554	12	03366	000-3
04000	BNR	*+20,POINT,11,	IS IT END OF LIST	06566	45	06586 03360
04010	B7	LST	06578	49	06806	00000
04020	SF	POINT,,6	06586	32	03360	00000
04030	TF	ERR2+43,POINT,,	SAVE POINT IN LIST	06598	26	06597 03366
04040	AM	POINT,3,10	06610	11	03366	000-3
04050	TF	SAVDM,POINT,11	06622	26	06725	03360
04060	TF	DROPDM,SAVDM,6,	PUT DIM NUMBER IN DROP LIST			

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04070	AM	DROPDIM,4,10		06634 26 03370 06725
04080	AM	POINT,1,10		06646 11 03376 000-4
04090	TR2	TR ERR2+43,POINT,611,	DROPDIM NUMBER FROM S.P. LIST	06658 11 03366 000-1
04100	SM	POINT,4,10		06670 31 06599 03360
04110	BMR	**20,POINT,11		06682 12 03366 000-4
04120	B7	FITS+60		06694 45 06714 03360
04130	SF	POINT,,6		06706 49 06126 00000
04140	SAVDM	DC 4,0,*		06714 32 03360 00000
04150	TF	TR2+6,POINT		06725 00004
04160	AM	POINT,3,10		06726 26 06676 03366
04170	C	POINT,SAVDM,6		06738 11 03366 000-3
04180	BE	TR2-12		06750 24 03360 06725
04190	SM	POINT,3,10		06762 46 06658 01200
04200	CF	POINT,,6		06774 12 03366 000-3
04210	B7	FITS+60		06786 33 03360 00000
04220**	RECORD	MARK MARKS END OF THE S.P. LIST		06798 49 06126 00000
04230	LST	CM SCRSA-5,1,10,	IS SCRATCH ON MONITOR PACK	
04240	BH	NOSCR		06806 14 03206 000-1
04250	MM	SCRSA,5,10,	WHAT IS THE STARTING CYLINDER	06818 46 07022 01100
04260	TU	CYL,96		06830 13 03211 000-5
04270	TU	CYL-1,95		06842 25 05193 00096
04280	TFM	PUTSCR+11,LIST-1		06854 25 05192 00095
04290	AM	PUTSCR+11,4,10		06866 16 06901 J1999
04300	PUTSCR	C CYL,LIST+3,7,	FIND FIRST CYLINDER	06878 11 06901 000-4
04310	BNE	PUTSCR-12		06890 24 05193 J2003
04320	AM	PUTSCR+11,4,10		06902 47 06878 01200
04330	C	NINE2,PUTSCR+11,11,	IS THERE A 9200	06914 11 06901 000-4
04340	BNE	ERR3		06926 24 06985 0690J
04350	TFM	PUTSCR+11,0001,68,	REPLACE IT WITH DIM 0001	06938 47 03350 01200
04360	SM	PUTSCR+11,3,10		06950 16 0690J 0-001
04370	CF	PUTSCR+11,,6		06962 12 06901 000-3
04380	NINE2	DC 4,9200,*		06974 33 0690J 00000
04390	AM	PUTSCR+11,11,10		06985 00004
04400	SM	SCRSC,1,10,	KEEP TRACK OF NUMBER OF CYLINDERS	06986 11 06901 000J1
04410	BNZ	PUTSCR+36		06998 12 04845 000-1
04420	NOSCR	CM SC,0,9		07010 47 06926 01200
04430	BE	WT		07022 14 05661 00-00
04440	TFM	NOCYL-2,MT,,	YES	07034 46 02402 01200
04450	B7	PT9-48		07046 16 05764 -2402
04460	PATCH	DSS 100		07058 49 05578 00000
04470	LIST	DS ,12000		07065 00100
04480	DIMS	DS ,11800		12000 00000
04490	LISTDK	DS ,3800		11800 00000
04500	LISTCM	DS ,3700		03800 00000
04510	END	DS ,PUTCYL+18		03700 00000
04520	DEND	START		04640 00000
				03804

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00010	***	READ/WRITE FOR CORE IMAGE LOAD			
00020	DORG	2203		02203	
00030	IOCAL	DS ,716		02716	0
00040	RDWR	DSA RDI		02207	5 X 1
00050	TFM	IOPT,**23,,	PLT CORE IMAGE PROGRAM	02207	-5059
00060	B	IOPT,WR,7		02208	16 00565 -2231
00070	TFM	IOPT,SL1,7		02220	49 00532 -2251
00080	B7	IOCAL		02232	16 00565 -2274
00090	WR	DSC 2,02		02244	49 00716
		O2		02251	2
00100		DSA WR2		02257	5 X 1
00110		DSC 1,*		02257	-2259
		,		02258	1
00120	WR2	DSC 1,0		02259	1
		O			
00130		DC 5,0		02264	5
		-0000			
00140		DC 3,0		02267	3
		-00			
00150		DC 5,0		02272	5
		-0000			
00160		DSC 1,*		02273	1
		,			
00170	SL1	DSC 2,-22		02274	2
		2K			
00180		DSA SL2		02280	5 X 1
00190		DSC 1,*		02280	-2282
		,		02281	1
00200	SL2	DSC 1,1		02282	1
		1			
00210		DC 5,18554		02287	5
		J8554			
00220		DC 3,041		02290	3
		-41			
00230		DC 5,2402		02295	5
		-2402			
00240		DSA SOLDDN		02300	5 X 1
00250		DSC 1,*		02300	-5106
		,		02301	1
00260	COR	TFM IOPT,**23		02302	16 00565 -2325
00270	B	IOPT,COR1,7		02314	49 00532 -2350
00280	TRA			02326	36 00000 00500
				02338	49 00000 00000
00290	COR1	DSC 2,22		02350	2
		22			
00300		DSA COR2		02356	5 X 1
				02356	-2358

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00310	DC	1,1		02357	1		
00320	CDR2	DSC	1,1	02358	1		
00330		DC	5,18260	02363	5		
00340		J8260		02366	3		
00350		DC	5,02202	02371	5		
00360		DC	1,1	02372	1		
00370		TCD	CDR	023C2			
00380	****		1620 DISK UTILITY PROGRAM SELECTION ROUTINE				
00390		DORG	2402	02402			
00400	SELEC	TFM	IORT,++23	02402	16	00565	-2425
00410		B	IOGT,DDA,7	02414	49	00566	-2434
00420		B	COCCO	02426	49	00000	00000
00430		DORG	--3	02434			
00440	CCA	DSC	2,22	02434	2		
00450		USA	DCF	02440	5	X	1
00460		DSC	1,1	02440			-2442
00470	DCF	DSC	1,1	02441	1		
00480		DC	5,0	02442	1		
00490		-0000		02447	5		
00500		DC	3,0	02450	3		
00510		-00		02455	5		
00520	SELECT	TFM	HOLD2,0,10	02456	1		
00530		TFM	IORT,++23	02458	16	05907	000-0
00540		H	IOGT,DDA,7	02470	16	00565	-2493
00550		TFM	MCS+98,0,7	02482	49	00566	-5908
00560		TFM	IORT,++23	02494	16	17876	-0000
00570		H	IOPT,DDA,7	02506	16	00565	-2529
00580		TD	HOLD2,MCS+49	02518	49	00532	-5908
00590		TFM	IORT,++23	02530	25	05907	17427
00600		B	IOGT,DDA,7	02542	16	00565	-2565
00610	LIS	TFM	DIM+13,READ,27	02554	49	00566	-6349
00620		SM	HOLD2,1,10	02566	16	J7993	-9778
00630		TFM	IORT,++23	02578	12	05907	000-1
00640		B	IOGT,LIS,7	02590	16	00565	-2613
00650		TFM	RFLG+11,READ+100	02602	49	00566	-6422
00660	CT	TFM	CNT1,002,29	02614	16	02649	-9878
00670	BFLG	BNF	**20,READ+100,7	02626	16	-6432	00-02
00680		B7	NEXT	02638	44	02658	-9878
00690		AM	CT+6,1,610	02650	49	02706	
00700		AM	BFLG+11,100,9	02658	11	0263K	000-1
				02670	11	02649	00J00

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00710	CM	RFLG+11,READ+80CC		02682	14	02649	J7778
00720	HL	BFLG		02694	47	02638	01300
00730	NEXT	CM	HOLD2,0,10	02706	14	05907	000-0
00740		BE	DN	02718	46	02714	01200
00750		AM	CT+6,3,10	02730	11	02632	000-3
00760		AM	LIS+6,20,10	02742	11	02572	000K0
00770		AM	LIS+6,20,10	02754	11	06428	000K0
00780		B7	LIS	02766	49	02566	
00790	DN	TFM	IORT,++23	02774	16	00565	-2797
00800		B	IOGT,SPLSUB,7	02786	49	00566	-6443
00810		TF	SPLPK0+8,CNT1	02798	26	12653	06432
00820		TF	SPLPK1+8,CNT1+3	02810	26	12676	06435
00830		TF	SPLPK2+8,CNT1+6	02822	26	12699	06438
00840		TF	SPLPK3+8,CNT1+9	02834	26	12722	06441
00850	COMPAR	C	CNT1,CNT1+3	02846	24	06432	06435
00860		BH	**32	02858	46	02890	01100
00870		TR	CNT1-2,CNT1+1	02870	31	06430	06433
00880		B7	**20	02882	49	02902	
00890		TR	CNT1+1,CNT1+4	02890	31	06433	06436
00900		BNR	COMPAR,CNT1+1	02902	45	02846	06433
00910		TF	TMRDWS+8,CNT1	02914	26	12745	06432
00920		TF	CDRSIZ,CNT1	02926	26	12483	06432
00930		TFM	IORT,++23	02938	16	00565	-2961
00940		B	IOPT,SPLSUB,7	02950	49	00532	-6443
00950		BTM	CLRIN,++12	02962	17	05246	-2974
00960		TD	HOLD2,SYSCAL	02974	25	05907	00475
00970		CM	HOLD2,4,10	02986	14	05907	000-4
00980		BE	CONTCO	02998	46	03596	01200
00990		CM	HOLD2,6,10	03010	14	05907	000-6
01000		BNE	NDCOMP	03022	47	04692	01200
01010		BNF	DMP,MCS+22	03034	44	03378	17800
01020		CM	MCS+39,0,8	03046	14	17817	0-000
01030		BE	CALLD	03058	46	03118	01200
01040		TF	NEWDIM,MCS+39	03070	26	05934	17817
01050		TFM	DIMMER-6,MAP	03082	16	05340	-5935
01060		BTM	DIMMER,++12	03094	17	05346	-3106
01070		DNR	CALRPL,MAP	03106	45	03246	05935
01080	CALLD	B	IOGT,++23,,	03118	16	00565	-3141
01090		B	IOGT,DDA2,7	03130	49	00566	-3434
01100		TD	REPLAC,0,10	03142	15	02202	000-0
01110	CALCOM	TFM	IORT,++23,,	03154	16	00565	-3177
01120		B	IOGT,COM2,7	03166	49	00566	-3680
01130		TFM	IORT,++23	03178	16	00565	-3201
01140		B	IOGT,DDA,7	03190	49	00566	-3657
01150		TFM	SELEC+30,05800	03202	16	02432	-5800
01160		TR	DDA,DDA5,,	03214	31	02434	03503
01170		TR	DCF,DCF5,,	03226	31	02442	03511
01180		B	SELEC	03238	49	02402	00000
01190		DORG	--3	03246			
01200	CALRPL	BNF	**32,MAP+19	03246	44	03278	05954
01210		TFM	DIMERR+22,7578,8	03258	16	06341	0P578
01220		B	UP1	03270	49	05826	00000
01230		DORG	--3	03278			
01240		C	MCS+35,ZERO12	03278	24	17813	06390
01250		BE	**24	03290	46	03314	01200
01260		BTM	EQUIV,++12	03302	17	05538	-3314

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Address	Op	Operand	Label	Address	Op	Operand
01270	TFM	TDRT,0+23,,	CALL IN REPLACE ROUTINE	03314	16	00565 -3337
01280	B	TDGT,DDA3,7		03326	49	00566 -3526
01290	TDM	REPLAC,1		03338	15	02202 00001
01300	B	CALCOM		03350	49	03154 00000
01310	DORG	*-3		03358		
01320	SELERR	TFM DIMERR+22,7579,0		03358	16	06341 0P579
01330	B	UPI		03370	49	05826 00000
01340	DORG	*-3		03378		
01350	DMP	BNF MONCAL,MCS+23	SET UP CALL FOR DUMP ROUTINE	03378	44	00796 17801
01360	TR	DDA,DDA6,,		03390	31	02434 05955
01370	TR	DCF,DCF8		03402	31	02442 05963
01380	TFM	SELEC+30,02500		03414	16	02432 -2500
01390	B	SELEC		03426	49	02402 0C000
01400	DDRG	*-3		03434		
01410	DCA2	DSC 2,22		03434		2
		22				
01420	DSA	DCF2		03440		5 X 1
				03440		-3442
01430	DSC	1,1		03441		1
01440	DCF2	DSC 1,1,,	DLOAD	03442		1
		1				
01450	DC	5,18369		03447		5
		J8369				
01460	DC	3,027		03450		3
		-27				
01470	DC	5,05800		03455		5
		-5800				
01480	DSC	1,1		03456		1
01490	DDA4	DSC 2,22		03457		2
		22				
01500	DSA	DCF4		03463		5 X 1
				03463		-3465
01510	DSC	1,1		03464		1
01520	DCF4	DSC 1,1,,	COMMON	03465		1
		1				
01530	DC	5,18480		03470		5
		J8480				
01540	DC	3,031		03473		3
		-31				
01550	DC	5,08600		03478		5
		-8600				
01560	DSC	1,1		03479		1
01570	COM2	DSC 2,22		03480		2
		22				
01580	DSA	COM22		03486		5 X 1
				03486		-3488
01590	DSC	1,1		03487		1
01600	COM22	DSC 1,1		03488		1
		1				

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Address	Op	Operand	Label	Address	Op	Operand
01610	DC	5,18512		03493		5
		J8512				
01620	DC	3,030		03496		3
		-30				
01630	DC	5,10600		03501		5
		J0600				
01640	DSC	1,1		03502		1
01650	DCA5	DSC 2,22		03503		2
		22				
01660	DSA	DCF5		03509		5 X 1
				03509		-3511
01670	DSC	1,1		03510		1
01680	DCF5	DSC 1,1,,	SP LIST SUBROUTINES	03511		1
		1				
01690	DC	5,18298		03516		5
		J8298				
01700	DC	3,033		03519		3
		-33				
01710	DC	5,02458		03524		5
		-2458				
01720	DSC	1,1		03525		1
01730	DCA3	DSC 2,22		03526		2
		22				
01740	DSA	DCF3		03532		5 X 1
				03532		-3534
01750	DSC	1,1		03533		1
01760	DCF3	DSC 1,1,,	DREPL	03534		1
		1				
01770	DC	5,18397		03539		5
		J8397				
01780	DC	3,028		03542		3
		-28				
01790	DC	5,05800		03547		5
		-5800				
01800	DSC	1,1		03548		1
01810	DCA6	DSC 2,22		03549		2
		22				
01820	DSA	DCFP6		03555		5 X 1
				03555		-3557
01830	DSC	1,1		03556		1
01840	DCFP6	DSC 1,1		03557		1
		1				
01850	DC	5,18247		03562		5
		J8247				
01860	DC	3,013		03565		3
		-13				
01870	DC	5,05800		03570		5
		-5800				

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01880	DSC	1, *	03571	1	
01890	EQUCCA	DSC 2,22	03572	2	
01900	DSA	EQUDCF	03578	5 x 1	
			03578	-3580	
01910	DSC	1, *	03579	1	
01920	EQUCCF	DSC 1,1	03580	1	
01930	DC	5,18278	03585	5	
01940	DC	3,020	03588	3	
01950	DC	5,08600	03593	5	
01960	DSC	1, *	03594	1	
01970	CONTCD	TFM CARDIO+2,0,10	03596	16	06397 000-0
01980	TD	CARDIO+2,426	03608	25	06397 00426
01990	CF	CARDIO+2	03620	33	06397 00000
02000	AM	CARDIO+2,5,10	03632	11	06397 000-5
02010	CM	CARDIO+2,06,10	03644	14	06397 000-6
02020	BNE	**60	03656	47	03716 01200
02030	RCTY		03668	34	00000 00102
02040	TFM	IORT,**23	03680	16	00565 -2703
02050	B	IOPT,ENTMES-4,7	03692	49	00532 -6236
02060	RCTY		03704	34	00000 00102
02070	TFM	IORT,**23	03716	16	00565 -3739
02080	B	IOGT,CARDIO-4,7	03728	49	00566 -6391
02090	CM	CARDIO+2,06,10	03740	14	06397 000-6
02100	BNE	**24	03752	47	03776 01200
02110	DC4	CONTCD+72	03764	46	03668 00400
02120	TFM	**23,INPUT+159	03776	16	03799 J3772
02130	BDTEST	BD **32,INPUT	03788	43	03820 13613
02140	SM	*-1,2,10	03800	12	03799 000-2
02150	B	*-24	03812	49	03788 00000
02160	DORG	*-3	03820		
02170	AM	BDTEST+11,3,10	03820	11	03799 000-3
02180	CM	BDTEST+11,INPUT+10	03832	14	03799 J3623
02190	BH	**32	03844	46	03876 01100
02200	TDM	INPLT+12...	03856	15	13625 00000
02210	DSC	1,*,*	03867	1	
02220	B	**20	03868	49	03888 00000
02230	DORG	*-3	03876		
02240	TDM	BDTEST+11,,6	03876	15	03799 00000
02250	DSC	1,*,*	03887	1	
02260	CM	CARDIO+2,06,10	03888	14	06397 000-6
02270	BE	**72	03900	46	03972 01200
02280	TFM	CARDIO+2,06,10	03912	16	06397 000-6
02290	RCTY		03924	34	00000 00102
02300	TFM	IORT,**23	03936	16	00565 -3959
02310	B	IOPT,CARDIO-4,7	03948	49	00532 -6391

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02320	RCTY		03960	34	00000 00102
02330	CM	BDTEST+11,INPUT+10	03972	14	03799 J3623
02340	BH	**32	03984	46	04016 01100
02350	TDM	INPUT+12,0	03996	15	13625 00000
02360	B	**20	04008	49	04028 00000
02370	DORG	*-3	04016		
02380	TDM	BDTEST+11,0,6	04016	15	03799 00000
02390	TDM	MCS+23,0,10	04028	15	17801 000-0
02400	SF	INPLT-1	04040	32	13612 00000
02410	C	INPLT+10,WRAD	04052	24	13623 05989
02420	BNE	**56	04064	47	04120 01200
02430	TR	DDA,DDAP1	04076	31	02434 05990
02440	TR	DCF,DCFP1	04088	31	02442 05998
02450	TFM	SELEC+30,02502	04100	16	02432 -2502
02460	B	SELEC	04112	49	02402 00000
02470	DORG	*-3	04120		
02480	C	INPUT+10,ALTR	04120	24	13623 06024
02490	BNE	**56	04132	47	04188 01200
02500	TR	DDA,DDAP2	04144	31	02434 06025
02510	TR	DCF,DCFP2	04156	31	02442 06033
02520	TFM	SELEC+30,3000	04168	16	02432 -3000
02530	B	SELEC	04180	49	02402 00000
02540	DORG	*-3	04188		
02550	C	INPUT+10,DUMP	04188	24	13623 06059
02560	BE	DMP+12	04200	46	03990 01200
02570	C	INPLT+10,LOAD	04212	24	13623 06071
02580	BE	CALLD	04224	46	03118 01200
02590	C	INPUT+10,REPL	04236	24	13623 06083
02600	BE	CALRPL+68	04248	46	03314 01200
02610	C	INPUT+10,COPY	04260	24	13623 06095
02620	BNE	**56	04272	47	04328 01200
02630	TR	DDA,DDAP5	04284	31	02434 06096
02640	TR	DCF,DCFP5	04296	31	02442 06104
02650	TFM	SELEC+30,02700	04308	16	02432 -2700
02660	B	SELEC	04320	49	02402 00000
02670	DORG	*-3	04328		
02680	C	INPLT+10,DELET	04328	24	13623 06130
02690	BNE	**92	04340	47	04432 01200
02700	TFM	IORT,**23	04352	16	00565 -4375
02710	B	IOGT,DDAP6,7	04364	49	00566 -3549
02720	TFM	IORT,**23	04376	16	00565 -4399
02730	B	IOGT,EQUDDA,7	04388	49	00566 -3572
02740	TFM	IORT,**23	04400	16	00565 -4423
02750	B	IOGT,COM2,7	04412	49	00566 -3480
02760	B	CALCOM+48	04424	49	03202 00000
02770	DORG	*-3	04432		
02780	C	INPUT+10,FINE	04432	24	13623 06142
02790	BNE	**56	04444	47	04500 01200
02800	TR	DDA,DDAP7	04456	31	02434 06143
02810	TR	DCF,DCFP7	04468	31	02442 06151
02820	TFM	SELEC+30,05000	04480	16	02432 -5000
02830	B	SELEC	04492	49	02402 00000
02840	DORG	*-3	04500		
02850	C	INPUT+10,LABL	04500	24	13623 06177
02860	BNE	**56	04512	47	04568 01200
02870	TR	DDA,DDAP8	04524	31	02434 06178

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02880	TR	DCF,DCFP8	04536	31	02442	06186
02890	TFM	SELEC+30,02502	04548	16	02432	-2502
02900	B	SELEC	04560	49	02402	00000
02910	DDRG	+3	04568			
02920	C	INPLT+10,FL18	04568	24	13623	06212
02930	BNE	+56	04580	47	04636	01200
02940	TR	DDA,DDAP9	04592	31	02434	06213
02950	TR	DCF,DCFP9	04604	31	02442	06221
02960	TFM	SELEC+30,03040	04616	16	02432	-3040
02970	B	SELEC	04628	49	02402	00000
02980	DDRG	+3	04636			
02990	RCTY		04636	34	00000	00102
03000	TFM	IORT,+23	04648	16	00565	-4671
03010	B	IOPT,ERCD-4,7	04660	49	00532	-6286
03020	H		04672	48	00000	00000
03030	H	MONCAL	04684	49	00796	00000
03040	DDRG	+3	04692			
03050	NOCOMP	CM HOLD2,5,10	04692	14	05907	000-5
03060	BNE	NOCOMP-56	04704	47	04636	01200
03070	RTURNL	BNF MONCAL,428,,	04716	44	00796	00428
03080	TD	UP1+14,REPLAC	04728	25	05840	02202
03090	TFM	IORT,+23,,	04740	16	00565	-4763
03100	B	IOGT,SEC2,7	04752	49	00566	-5082
03110	TD	REPLAC,UP1+14	04764	25	02202	05840
03120	TFM	HOLD2,0,10	04776	16	05907	000-0
03130	TD	HOLD2,MCS+88	04788	25	05907	17866
03140	MM	HOLD2,5,10	04800	13	05907	000-5
03150	BD	+20,99	04812	43	04832	00099
03160	B	+20	04824	49	04844	00000
03170	DDRG	+3	04832			
03180	SM	MCS+88,1,10	04832	12	17866	000-1
03190	TF	HOLD5,434,,	04844	26	05897	00434
03200	S	HOLD5,MCS+88	04856	22	05897	17866
03210	BD	+32,HOLD5	04868	43	04900	05897
03220	BD	+20,HOLD5-1	04880	43	04900	05896
03230	B	+20	04892	49	04912	00000
03240	DDRG	+3	04900			
03250	AM	HOLD5-2,1,10	04900	11	05895	000-1
03260	TF	WR2+8,HOLD5-2	04912	26	02267	05895
03270	CM	MCS+88,02302	04924	14	17866	-2302
03280	BNL	+56	04936	46	04992	01300
03290	TFM	DIMERR+22,7179,8	04948	16	06341	0P179
03300	RCTY		04960	34	00000	00102
03310	WATY	DIMERR	04972	39	06319	00100
03320	B	NOCOMP-20	04984	49	04672	00000
03330	DDRG	+3	04992			
03340	TF	WR2+13,MCS+88	04992	26	02272	17866
03350	DNF	+24,MCS+12	05004	44	05028	17790
03360	SF	WR2+13	05016	32	02272	00000
03370	TFM	WR2+5,00800	05028	16	02264	-0800
03380	TFM	IORT,RDWR	05040	16	00565	-2207
03390	B7	IOGT	05052	49	00566	
03400	RD1	DSC 2,02	05059			2
	O2					
03410	DSA	RD2	05065		5 X	1

CHANGE TO ERRQR MESS. LATER

GET TWO SECTORS RD , WR

COMPUTE SECTOR COUNT

1203

03420	DSC	1,1	05065		-5067	
			05066			1
03430	RD2	DSC 1,1	05067			1
		1				
03440	DC	5,01400	05072			5
		-1400				
03450	DC	3,177	05075			3
		J77				
03460	DC	5,02302	05080			5
		-2302				
03470	DSC	1,1	05081			1
		1				
03480	SEC2	DSC 2,22	05082			2
		22				
03490	DSA	SEC22	05088		5 X	1
03500	DSC	1,1	05088		-5090	
		1	05089			1
03510	SEC22	DSC 1,1	05090			1
		1				
03520	DC	5,18260	05095			5
		J8260				
03530	DC	3,1	05098			3
		-01				
03540	DC	5,02202	05103			5
		-2202				
03550	DSC	1,1	05104			1
		1				
03560	SOLDON	BTM CLRIN,+23	05106	17	05246	-5118
03570	TFM	IORT,+23	05118	16	00565	-5141
03580	B	IOGT,DDA1,7	05130	49	00566	-5908
03590	TF	INPUT+74,ZERO12	05142	26	13687	04390
03600	BNF	+20,MCS+22	05154	44	05174	17800
03610	B	+32	05166	49	05198	00000
03620	DDRG	+3	05174			
03630	TFM	IORT,+23	05174	16	00565	-5197
03640	B	IOGT,CCD,7	05186	49	00566	-5313
03650	TFM	INPUT+96,44,10	05198	16	13709	000M4
03660	TFM	INPUT+98,49,10	05210	16	13711	000M9
03670	BD	CALRPL+48,REPLAC	05222	43	03314	02202
03680	B	CALLD	05234	49	03118	00000
03690	CLRIN	TFM +23,INPUT-1	05246	16	05264	J3612
03700	TDM	INPUT-1,0	05258	15	13612	00000
03710	AM	+6,1,10	05270	11	05264	000-1
03720	CM	+18,INPUT+161	05282	14	05264	J3774
03730	BL	+36	05294	47	05258	01300
03740	B7	CLRIN-1,,6	05306	49	05246	
03750	CCD	DSC 2,02	05313			2
	O2					
03760	DSA	CCD2	05319		5 X	1
03770	DSC	1,1	05319		-5321	
		1	05320			1

1204

03780	CCD2	DSC	1,1	05321	1		
03790		DC	5,00798	05326	5		
03800		DC	3,2	05329	3		
03810		DSA	INPUT-1	05334	5 X	1	
03820		DSC	1,1	05334	J3612		
03830	REPLAC	DSC	1,0,02202	05335	1		
03840		DC	5,0	02202	1		
03850		DC	5,0	05340	5		
03860	DIMMER	CM	NEWDIM,4994	05345	5		
03870		BH	SELERR	05346	14	05934	-4994
03880		TF	HOLD6,ZERO6	05358	46	03358	01100
03890		TF	HOLD6,NEWDIM	05370	26	06349	06355
03900		A	HOLD6,HOLD6	05382	26	06349	05934
03910		CF	HOLD6-3	05394	21	06349	06349
03920		SF	HOLD6-4	05406	33	06346	00000
03930		AM	HOLD6,48000,7	05418	32	06345	00000
03940		TF	DMREAD+5,HOLD6-1	05430	11	06349	M8000
03950		TFM	IORT,++23	05442	26	06369	06348
03960		B	IORT,DDREAD,7	05454	16	00565	-5477
03970		TFM	TREC+11,READIN	05466	49	00566	-6356
03980		TD	++23,HOLD6	05478	16	05525	-6468
03990		AM	TREC+10,0,10	05490	25	05513	06349
04000	TREC	TR	DIMMER-6,,6	05502	11	05524	000-0
04010		B	DIMMER-1,,6	05514	31	0534-	00000
04020	EQUIV	TFM	NEWDIM,0002,8	05526	49	0534N	00000
04030		TFM	DIMMER-6,MAP	05538	16	05934	0-002
04040		BTM	DIMMER,++12	05550	16	05340	-5935
04050		TFM	MAP+8,4,9	05562	17	05346	-5574
04060		TFM	MAP+13,READIN	05574	16	05943	00-04
04070		TFM	MAP+14,,	05586	16	05948	-6468
04080		DSC	1,1,*	05598	15	05949	00000
04090		TFM	IORT,++23	05609			
04100		B	IORT,MAPDDA,7	05610	16	00565	-5633
04110		TFM	++47,READIN+11	05622	49	00566	-5898
04120		CM	BNR+11,READIN+411	05634	16	05681	-6479
04130		BE	RD	05646	14	05681	-6879
04140	BNR	UNR	++32,READIN+11	05658	46	05746	01200
04150		TFM	DIMERR+22,7577,8	05670	45	05702	06479
04160		B	LP1	05682	16	06341	0P517
04170		DURG	++3	05694	49	05826	00000
04180		C	MCS+35,BNR+11,11	05702	24	17813	0568J
04190		UE	ERRERPL	05714	46	05766	01200
04200		AM	BNR+11,16,10	05726	11	05681	000J6
04210		H	BNR-24	05738	49	05646	00000
04220		DURG	++3	05746			
04230	RD	AM	MAP+5,4,10	05746	11	05940	000-4

1205

04240		B	BNR-60	05758	49	05610	00000
04250		DDRG	++3	05766			
04260	ERREPL	AM	BNR+11,4,10	05766	11	05681	000-4
04270		C	MCS+39,HNR+11,11	05778	24	17817	0568J
04280		BE	EQUIV-1,,6	05790	46	0553P	01200
04290		TFM	DIMERR+22,7576,8	05802	16	06341	0P576
04300		TF	MCS+35,ZERU12	05814	26	17813	06390
04310	UP1	TFM	MCS+39,0,8	05826	16	17817	0-000
04320		RCTY		05838	34	00000	00102
04330		WATY	DIMERR	05850	39	06319	00100
04340		TFM	IORT,++23	05862	16	00565	-5885
04350		B	IORT,DDA1,7	05874	49	00532	-5908
04360		B	CALLD	05886	49	03118	00000
04370	HOLDS	DC	5,0,*	05897			
04380		DS	,565	00565			
04390		DS	,532	00532			
04400	MAPCDA	USC	2,22	05898			
04410		DSA	MAP	05904		5 X	1
04420		DSC	1,1	05904			
04430		DS	,566	05904			
04440	HOLD2	DC	2,0	00566			
04450		DS	,475	05907			
04460	DCAL	DSC	2,22	00475			
04470		DSA	DCF1	05908			
04480		DSC	1,1	05914		5 X	1
04490	DCF1	DSC	1,1,,	05914			
04500		DC	5,19663	05915			
04510		DC	3,001	05916			
04520		DSA	MCS	05921		5	
04530		DSC	1,1	05924		3	
04540	MCS	DS	,17778	05929		5 X	1
04550	NEWDIM	DC	4,0	05929		J7778	
04560	MAP	DSC	20,0	05930		1	
04570	MONCAL	DS	,796	17778			
04580	INPUT	DS	81,13613	05934		4	
04590	DDA6	DSC	2,22	05935		20	
04600		DSA	DCF6	00796			
				13613		81 X	2
				05955		2	
				05961		5 X	1

MONITOR COMM. SECTOR

1206

493

04610	OSC 1.1		05961	-5963
			05962	1
04620	DCF6	DDUMP	05963	1
	1			
04630	DC 5.18426		05968	5
	J8426			
04640	DC 3.053		05971	3
	-53			
04650	OSC 5.02500		05972	5
	02500			
04660	OSC 1.1		05977	1
04670	WRAD DC 12.144466996144		05989	12
	J44466596144			
04680	DCAP1 DSC 2.22		05990	2
	22			
04690	USA DCFP1		05996	5 X 1
04700	OSC 1.1		05996	-5998
			05997	1
04710	DCFPI DSC 1.1		05998	1
	1			
04720	DC 5.18220		06003	5
	J8220			
04730	DC 3.027		06006	3
	-27			
04740	OSC 5.02502		06007	5
	02502			
04750	OSC 1.1		06012	1
04760	ALTR DC 12.144441936359		06024	12
	J44441536359			
04770	DCAP2 DSC 2.22		06025	2
	22			
04780	DSA DCFP2		06031	5 X 1
04790	OSC 1.1		06031	-6033
			06032	1
04800	DCFPI DSC 1.1		06033	1
	1			
04810	DC 5.19300		06038	5
	J9300			
04820	DC 3.038		06041	3
	-38			
04830	OSC 5.03000		06042	5
	03000			
04840	OSC 1.1		06047	1
04850	DUMP DC 12.144446645457		06059	12
	J44446645457			
04860	LOAD DC 12.144453964144		06071	12
	J44453964144			
04870	REPL DC 12.144459655753		06083	12
	J44459655753			

1207

04880	COPY DC 12.144443565768		06095	12
	J44443565768			
04890	DCAP5 DSC 2.22		06096	2
	22			
04900	DSA DCFP5		06102	5 X 1
04910	OSC 1.1		06102	-6104
			06103	1
04920	DCFPI DSC 1.1		06104	1
	1			
04930	DC 5.19363		06109	5
	J9363			
04940	DC 3.037		06112	3
	-37			
04950	DC 5.02700		06117	5
	-2700			
04960	OSC 1.1		06118	1
04970	DELET DC 12.144445534563		06130	12
	J44445534563			
04980	FINE DC 12.144446495545		06142	12
	J44446495545			
04990	DCAP7 DSC 2.22		06143	2
	22			
05000	DSA DCFP7		06149	5 X 1
05010	OSC 1.1		06149	-6151
			06150	1
05020	DCFPI DSC 1.1		06151	1
	1			
05030	DC 5.18139		06156	5
	J8139			
05040	DC 3.038		06159	3
	-38			
05050	OSC 5.05000		06160	5
	05000			
05060	OSC 1.1		06165	1
05070	LABL DC 12.144453614253		06177	12
	J44453614253			
05080	DCAP8 DSC 2.22		06178	2
	22			
05090	DSA DCFP8		06184	5 X 1
05100	OSC 1.1		06184	-6186
			06185	1
05110	DCFPI DSC 1.1		06186	1
	1			
05120	DC 5.18208		06191	5
	J8208			
05130	DC 3.028		06194	3
	-28			
05140	OSC 5.02502		06195	5
	02502			

1208

05150	DSC	1, *	06200	1
05160	FLIB	DC 12, 144446534942 J44446534942	06212	12
05170	DCAP9	DSC 2, 22	06213	2
05180	DSA	DCFP9	06219	5 x 1
			06219	-6221
05190	DSC	1, *	06220	1
05200	DCFP9	DSC 1, 1	06221	1
05210	DC	5, 18261	06226	5
05220	J8261	DC 3, 017	06229	3
05230	DC	5, 03000	06234	5
05240	DSC	1, *	06235	1
05250	DSC	1, *, 13775	13775	1
05260	ENTMES	DSA ENTER	06240	5 x 1
			06240	-6245
05270	DC	3, 06'	06243	3
05280	ENTER	CAC 21, ENTER DUP CNTRL REC. ENTER DLP CNTRL REC.'	06245	21 x 2
05290	ERCD	DSA ERMCD	06290	5 x 1
			06290	-6295
05300	DC	3, 06'	06293	3
05310	ERRCD	DAC 12, ERR CONTROL ERR CONTROL'	06295	12 x 2
05320	DIMERR	DAC 13, DUP*ERROR 00' DUP*ERRUR 00'	06319	13 x 2
05330	HOLD6	DC 6, 0	06349	6
05340	ZERO6	DC 6, 0	06355	6
05350	DDREAD	DSC 2, 22	06356	2
05360	DSA	DMREAD	06362	5 x 1
			06362	-6364
05370	DSC	1, *	06363	1
05380	DMREAD	DSC 1, 1	06364	1
05390	DC	5, 04800	06369	5
05400	DC	3, 001	06372	3

1209

05410	DSA	READIN	06377	5 x 1
			06377	-6468
05420	DSC	1, *	06378	1
05430	ZERO12	DC 12, 0 -0000000000	06390	12
05440	CARDIO	DSA INPLT	06395	5 x 1
			06395	J3613
05450	DC	3, 10'	06398	3
05460	DIM1	DSC 2, 22	06399	2
05470	DSA	DIM2	06405	5 x 1
			06405	-6407
05480	DSC	1, *	06406	1
05490	DIM2	DSC 1, 1	06407	1
05500	DC	5, 04800	06412	5
05510	DC	3, 002	06415	3
05520	DC	5, 17900	06420	5
05530	DSC	1, *	06421	1
05540	DIM4	DS 1, 17980	17980	0
05550	LIST1	DSC 2, 22	06422	2
05560	DSA	DIM4	06428	5 x 1
			06428	J7980
05570	DSC	1, *	06429	1
05580	READ	DS 0, 9778	09778	0
05590	CNT1	DC 3, 0	06432	3
05600	DC	3, 0	06435	3
05610	DC	3, 0	06438	3
05620	DC	3, 0	06441	3
05630	DSC	1, *	06442	1
05640	SPLPK0	DS 1, 12645	12645	0
05650	SPLPK1	DS 1, 12668	12668	0
05660	SPLPK2	DS 1, 12691	12691	0
05670	SPLPK3	DS 1, 12714	12714	0
05680	THROWS	DS 1, 12737	12737	0
05690	CORSIZ	DS 1, 12483	12483	0
05700	SPLSUB	DSC 2, 22	06443	2

1210

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05710	DSA	SUBSPL		06449	5 X	1
05720	DSC	1,1		06449	-6451	
				06450	1	
05730	SUBSPL	DSC 1,1		06451	1	
05740	DC	5,18298		06456	5	
		J8298				
05750	DC	3,133		06459	3	
		-33				
05760	DC	5,2458		06464	5	
		J2458				
05770	DSC	1,1		06465	1	
05780	DAC	1,1		06467	1 X	2
		0				
05790	READIN	DSS 400		06468	400	
05800	SEL	TFM IORT,++23		06888	16 00365	-6891
05810		B IOP',SEL1,7		06880	49 00532	-6916
05820		TRA		06892	36 00000	00500
				06904	49 00000	00000
05830	SEL1	DSC 2,22		06916	2	
		22				
05840	DSA	SEL2		06922	5 X	1
05850	DC	1,1		06922	-6924	
				06923	1	
05860	SEL2	DSC 1,1		06924	1	
		1				
05870	DC	5,18554		06929	5	
		J8554				
05880	DC	3,041		06932	3	
		-41				
05890	DC	5,02402		06937	5	
		-2402				
05900	DC	1,1		06938	1	
05910	TCD	SEL		06888		
05920	DEND			00000		

1211

BDTEST 03788	CALLD 03118	OCF 02442	ERRCD 06295	SEC2 05082
CALCOM 03154	CCD2 05321	DCA1 05908	FINE 06142	SEL1 06916
CALRPL 03246	CCD 05313	DCA2 03434	FLIB 06212	SEL2 06924
CARDIO 06395	CLRIN 05246	CCA3 03526	HOLD2 05907	SELEC 02402
COMPAR 02846	CNT1 06432	CDA4 03457	HOLD5 05897	SEL 06848
CONTCO 03596	CON22 03488	DDA5 03503	HOLD6 06349	SL1 02274
CORSIZ 12483	CON2 03480	DDA6 05955	INPUT 13613	SL2 02282
DDRREAD 06356	COPY 06095	CCAP1 05990	IOCAL 00716	TREC 05514
DINERR 06319	COR1 02350	CDAP2 06025	IOGT 00966	UP1 05826
DINMER 05346	COR2 02358	CDAP5 06096	IORT 00932	WR2 02259
DMREAD 06364	COR 02302	DDAP6 03549	IORT 00965	WRAD 05989
ENTMES 06240	CT 02626	CCAP7 06143	LABL 06177	WR 02251
EQUDCF 03580	DCF1 05916	DDAP8 06178	LIS 02966	ZERD6 06355
EQUDDA 03572	DCF2 03442	DDAP9 06213	LIST1 06422	SELECT 02458
ERRRPL 05766	DCF3 03534	DDA 02434	LOAD 06071	SELERR 03358
HAPDDA 05898	DCF4 03465	DELET 06130	MAP 05935	SOLDON 05106
NONCAL 00796	DCF5 03511	DIN1 06399	MCS 17778	SPLPK0 12645
NEWDIR 05934	DCF6 05943	DIN2 06407	NEXT 02706	SPLPK1 12668
NOCOMP 04692	DCFP1 05998	DIN4 17980	RD1 05059	SPLPK2 12691
READIN 06468	DCFP2 06033	DMP 03378	RD2 05067	SPLPK3 12714
REPLAC 02202	DCFP5 06104	DM 02774	RD 05766	SPLSUB 06443
RTURNL 04716	DCFP6 03597	DUMP 06059	RDWR 02207	SUBSPL 06451
ALTR 06024	DCFP7 06191	ENTER 06245	READ 09778	SYSCAL 00475
BPLG 02638	DCFP8 06186	EQUIV 05538	REPL 06083	THROWS 12737
BNR 05670	DCFP9 06221	ERCD 06290	SEC22 05090	ZERD12 06390

END OF ONE ASSEMBLY.

1212

00010	DORG	2502	02502			
00020	DWRAD	SF CARD+31	02502	32	13644	CC000
00030	SF	CARD+33	02514	32	13646	CC000
00040	YFM	CNT,0,10	02526	16	05132	000-0
00050	GM	CARD+32,57,10	02538	14	13645	000N7
00060	BNE	ZS	02550	47	02582	01200
00070	SF	R00ONLY	02562	32	05135	CC000
00080	B	++20	02574	49	02594	00000
00090	DORG	--3	02582			
00100	ZS	CF R00ONLY	02582	33	05135	00000
00110	CM	CARD+34,69,10	02594	14	13647	00009
00120	BNE	NOZ	02606	47	02638	01200
00130	SF	ZERO	02618	32	05138	00000
00140	B	++20	02630	49	02650	CC000
00150	DORG	--3	02638			
00160	NOZ	CF ZERO	02638	33	05138	00000
00170	TFM	AN+6,NUMER	02650	16	02680	-5091
00180	TFM	AN+11,CARD+12	02662	16	02685	J3625
00190	AN	TD NUMER,CARD+12	02674	25	05091	13625
00200	AM	AN+6,1,10	02686	11	02680	000-1
00210	AM	AN+11,2,10	02698	11	02685	000-2
00220	CM	AN+6,NUMER+26	02710	14	02680	-5117
00230	BNE	AN	02722	47	02674	01200
00240	SF	NUMER	02734	32	05091	00000
00250	SF	NUMER+14	02746	32	05105	00000
00260	SF	NUMER+20	02758	32	05111	00000
00270	TFM	SETFLG+11,CARD+11	02770	16	04555	J3624
00280	TFM	COMFLG+11,CARD+23	02782	16	04615	J3636
00290	BTM	SETFLG,++12	02794	17	04544	-2806
00300	TFM	SETFLG+11,CARD+39	02806	16	04555	J3652
00310	TFM	COMFLG+11,CARD+63	02818	16	04615	J3676
00320	BTM	SETFLG,++12	02830	17	04544	-2842
00330	TF	HOLDS,ENDAD	02842	26	05123	05116
00340	S	HOLDS,STARTA	02854	22	05123	05110
00350	BL	ERADDR	02866	47	04482	01300
00360	INIT	RCTY	02878	34	00000	00102
00370	SF	BUTTON	02890	32	00455	00000
00380	SF	ADDRS-4	02902	32	05092	00000
00390	SF	STARTA-4	02914	32	05106	00000
00400	SF	ENDAD-4	02926	32	05112	00000
00410	RCTY		02938	34	00000	00102
00420	WATY	MES1	02950	39	04767	00100
00430	BNF	++32,ZERO	02962	44	02994	05138
00440	WATY	MES3	02974	39	04799	00100
00450	B	++20	02986	49	03006	00000
00460	DORG	--3	02994			
00470	WATY	MES2	02994	39	04784	00100
00480	RCTY		03006	34	00000	00102
00490	WATY	MES4	03018	39	04809	00100
00500	RCTY		03030	34	00000	00102
00510	TDM	ADDRS+1,...	03042	15	05097	CC000
00520	DSC	1,*,*	03053			
00530	TDM	ENDAD+1,...	03054	15	05117	00000
00540	DSC	1,*,*	03065			

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00550	TF	HOLDA,ENDAD+1	03066	26	05130	05117
00560	TD	HOLDA-6,ENDAD-5	03078	25	05124	05111
00570	TDM	STARTA+1,...	03090	15	05111	00000
00580	DSC	1,*,*	03101			
00590	WNTY	ADDRS-5	03102	38	05091	00100
00600	SPTY		03114	34	00000	00101
00610	WNTY	STARTA-5	03126	38	05105	00100
00620	SPTY		03138	34	00000	00101
00630	WNTY	HOLDA-6	03150	38	05124	00100
00640	TF	ENDAD+1,HOLDA	03162	26	05117	05130
00650	RCTY		03174	34	00000	00102
00660	BTM	KYMESS,++12	03186	17	04662	-3198
00670	RCTY		03198	34	00000	00102
00680	TDM	INIT+2,0	03210	15	02880	00000
00690	TF	NEW+11,STARTA	03222	26	03645	05110
00700	SM	NEW+11,1,10	03234	12	03645	000-1
00710	SEEKTR	TF DCF+5,ADDRS	03246	26	04981	05096
00720	TD	DCF,ADDRS-5	03258	25	04976	05091
00730	CF	DCF	03270	33	04976	00000
00740	TFM	HOLD2,0,10	03282	16	05118	000-0
00750	TD	HOLD2,ADDRS-1	03294	25	05118	05095
00760	HM	HOLD2,5,10	03306	13	05118	000-5
00770	RD	++20,99	03318	43	03338	00099
00780	B	++20	03330	49	03350	00000
00790	DORG	--3	03338			
00800	SM	HOLD2,1,10	03338	12	05118	000-1
00810	TD	DCF+4,HOLD2	03350	25	04980	05118
00820	TDM	DCF+5,0	03362	15	04981	00000
00830	YFM	DCF+13,TRACK	03374	16	04989	J3776
00840	TF	WORKAD,ADDRS	03386	26	05145	05096
00850	ROTRAK	TFM DIU+35,TEST,67	03398	16	0085J	-4006
00860	YFM	IORT,++23	03410	16	00565	-3433
00870	B	IOGT,DATA,7	03422	49	00566	-5153
00880	RD	PUTNEW,INIT+2	03434	43	03586	02880
00890	TF	TEMPY,ADDRS	03446	26	05152	05096
00900	TD	++23,TEMPY-1	03458	25	03481	05151
00910	TD	++23,AJUST	03470	25	03493	04529
00920	SM	TEMPY-1,0,10	03482	12	05151	000-0
00930	TDM	TEMPY,0	03494	15	05152	00000
00940	S	WORKAD,TEMPY	03506	22	05145	05152
00950	HM	WORKAD,105,9	03518	13	05145	00J05
00960	SF	95	03530	32	00095	00000
00970	AM	99,TRACK-101	03542	11	00099	J3675
00980	TF	NEW+6,99	03554	26	03640	00099
00990	TDM	INIT+2,1	03566	15	02880	00001
01000	B	PUTNEW+12	03578	49	03598	00000
01010	DORG	--3	03586			
01020	PUTNEW	TFM NEW+6,TRACK-101	03586	16	03640	J3675
01030	AM	NEW+11,1,10	03598	11	03645	000-1
01040	CF	NEW+11	03610	33	03645	00000
01050	AM	NEW+6,105,9	03622	11	03640	00J05
01060	NEW	TFM	03634	16	00000	-C000
01070	BNF	++20,RDONLY	03646	44	03666	05135
01080	B	CKZERO	03658	49	03702	00000
01090	DORG	--3	03666			

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01100	TF	++30,NEW+6	03666	26	03696	03640
01110	SM	++18,4,10	03678	12	03696	000-1
01120	CF		03690	33	00000	00000
01130	CKZERO	BNF CKEND,ZERO	03702	44	03786	05131
01140	TF	++30,NEW+6	03714	26	03744	03640
01150	AM	++18,1,10	03726	11	03744	000-1
01160	TR	,MUN	03738	31	00000	04991
01170	TF	++30,-6	03750	26	03780	03744
01180	AM	++18,99,10	03762	11	03780	000R9
01190	TDM		03774	15	00000	00000
01200	CKEND	C NEW+11,ENDAD	03786	24	03665	05116
01210	MNE	++92	03798	47	03890	01200
01220	TFM	DIO+35,TEST,67	03810	16	0085J	-4006
01230	TDM	WAGAIN,0	03822	15	04435	0C000
01240	TFM	IORT,++23	03834	16	00565	-3857
01250	B	IOPT,DATA,7	03846	49	00532	-5153
01260	BD	WTNOFD,THRU	03858	43	04098	04433
01270	BD	--60,WAGAIN	03870	43	03810	04435
01280	B	EXIT2	03882	49	04426	00000
01290	DORG	-3	03890			
01300	CM	NEW+6,TRACK+1999	03890	14	03640	J5775
01310	BNE	PUTNEM+12	03902	47	03598	01200
01320	RITEBK	TFM DID+35,TEST,67	03914	16	0085J	-4006
01330	TDM	WAGAIN,0	03926	15	04435	0C000
01340	TFM	IORT,++23	03938	16	00565	-3961
01350	B	IOPT,DATA,7	03950	49	00532	-5153
01360	BD	WTNOFD,THRU	03962	43	04098	04433
01370	BD	--60,WAGAIN	03974	43	03914	04435
01380	AM	ADDRS-1,02,10	03986	11	05095	000-2
01390	B	SEEKTR	03998	49	03246	00000
01400	DORG	-3	04006			
01410	TEST	BI ++12,3600	04006	46	04018	03600
01420	BI	ERROR,1900	04018	46	00632	01900
01430	AM	DCF+5,1,10	04030	11	04981	000-1
01440	TDM	THRL,0	04042	15	04433	00000
01450	AM	CNT,1,10	04054	11	05132	000-1
01460	CM	CNT,20,10	04066	14	05132	000K0
01470	BL	EXIT-12	04078	47	04406	01300
01480	B	EXIT-24	04090	49	04394	00000
01490	DORG	-3	04098			
01500	WTNOFD	SM DCF+5,1,10	04098	12	04981	000-1
01510	TD	NOFIND+12,DCF	04110	25	04885	04976
01520	TD	NOFIND+14,DCF+1	04122	25	04887	04977
01530	TD	NOFIND+16,DCF+2	04134	25	04889	04978
01540	TD	NOFIND+18,DCF+3	04146	25	04891	04979
01550	TD	NOFIND+20,DCF+4	04158	25	04893	04980
01560	TD	NOFIND+22,DCF+5	04170	25	04895	04981
01570	RCTY		04182	34	00000	00102
01580	TFM	IORT,++23	04194	16	00565	-4217
01590	B	IOPT,NDF-4,7	04206	49	00532	-5177
01600	TFM	IORT,++23	04218	16	00565	-4241
01610	B	IOGT,DATA,7	04230	49	00566	-5153
01620	RCTY		04242	34	00000	00102
01630	TFM	TRK,TRACK	04254	16	05173	J3776
01640	TFM	++18,TRACK+5	04266	16	04284	J3781
01650	TDM	TRACK+5,,2	04278	15	J3781	00000

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01660	DSC	1,,4	04289			1
01670	TFM	IORT,++23	04290	16	00565	-4313
01680	B	IOPT,TRK-4,7	04302	49	00532	-5169
01690	SPTY		04314	34	00000	00101
01700	AM	--42,105,9	04326	11	04284	0CJ05
01710	AM	TRK,105,9	04338	11	05173	00J05
01720	CM	TRK,TRACK+2100	04350	14	05173	J5876
01730	BNE	-84	04362	47	04278	01200
01740	B		04374	48	00000	00000
01750	B	EXIT2+12	04386	49	04438	00000
01760	DORG	-3	04394			
01770	TDM	THRL,1	04394	15	04433	00001
01780	TDM	WAGAIN,1	04406	15	04435	00001
01790	EXIT	B ERRET	04418	49	00602	00000
01800	DORG	-3	04426			
01810	EXIT2	TDM SVSCAL,3	04426	15	00475	00003
01820	CF	BUTTON	04438	33	00455	00000
01830	BTM	KYMESS,++12	04450	17	04662	-4462
01840	BV	++12	04462	46	04474	01400
01850	B	MONCAL	04474	49	00796	00000
01860	DORG	-3	04482			
01870	ERACDR	TFM DIMERR+22,7177,8	04482	16	04869	0P177
01880	RCTY		04494	34	00000	00102
01890	WATY	DIMERR	04506	39	04847	00100
01900	M		04518	48	00000	00000
01910	B	EXIT2+12	04530	49	04438	00000
01920	DORG	-3	04538			
01930	DC	5,0	04542			5
		-0000				
01940	SETFLG	SP ++11,CARD+11,6	04544	32	0455N	13624
01950	AM	SETFLG+11,1,10	04556	11	04555	000-1
01960	CM	SETFLG+11,70,610	04568	14	0455N	000P0
01970	BL	ER1	04580	47	04636	01300
01980	AM	SETFLG+11,1,10	04592	11	04555	000-1
01990	COMPLG	CM SETFLG+11,CARD+23	04604	14	04555	J3636
02000	BL	SETFLG	04616	47	04544	01300
02010	B	SETFLG-1,,6	04628	49	0454L	00000
02020	DORG	-3	04636			
02030	ER1	TFM DIMERR+22,0071,8	04636	16	04869	0-071
02040	B	ERADDR+12	04648	49	04494	0C000
02050	DORG	-3	04656			
02060	DC	5,0	04660			5
		-0000				
02070	KYMESS	BNF ++32,BUTTON	04662	44	04694	00455
02080	TFM	KEYMES+24,9500,8	04674	16	04923	0N500
02090	B	++20	04686	49	04706	00000
02100	DORG	-3	04694			
02110	TFM	KEYMES+24,4646,8	04694	16	04923	0M646
02120	RCTY		04706	34	00000	00102
02130	TFM	IORT,++23	04718	16	00565	-4741
02140	B	IOPT,MESS-4,7	04730	49	00532	-5161
02150	M		04742	48	00000	00000
02160	B	KYMESS-1,,6	04754	49	0466J	00000
02170	AJUST	DC 10,0101010101,ERADDR+47	04754			10
		-101010101				

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02180 MES1	DAC 11,WRITE AND *	04767	11 X	2
02190 MES2	DAC 5,SAVE*	04789	5 X	2
02200 MES3	DAC 5,ZERO*	04799	5 X	2
02210 MES4	DAC 19,SEEK START STOP*	04809	19 X	2
02220 DIMERR	DAC 13,DUP*ERROR 00*	04847	13 X	2
02230 NOFIND	DAC 13,ER SK OCC000*	04873	13 X	2
02240 KEYMES	DAC 39,DUP* TURN OFF WRITE ADDRESS KEY, START*	04899	39 X	2
02250 TRACK	DSS 2100,13776	13776	2100	
02260 DCF	DSC 1,0	04976	1	
02270	DC 5,0	04981	5	
02280	DC 3,020	04984	3	
02290	DSA TRACK	04989	5 X	1
02300	DSC 1,*	04989	J3776	
02310 HUN	DSC 50,0	04991	50	
02320	DSC 50,0*	05041	50	
02330 CARD	DAS 81,13613	13613	81 X	2
02340 INPUT	CS ,CARD	13613	0	
02350 NUMER	DSS 26	05091	26	
02360 HOLD2	DC 2,0	05118	2	
02370 HOLD5	DC 5,0	05123	5	
02380 HOLCA	DC 7,0	05130	7	
02390 CNT	DC 2,0	05132	2	
02400 RCUNLY	DC 3,0	05135	3	
02410 ZERO	DC 3,0	05138	3	
02420 WORKAD	DC 7,0	05145	7	
02430 TEMPY	DC 7,0	05152	7	
02440 ACDRS	DS ,NUMER+5	05096	0	
02450 STARTA	DS ,NUMER+19	05110	0	
02460 ENCAC	DS ,NUMER+25	05116	0	
02470 BUTON	DSC 1,0,455	00455	1	
02480 DCAA	DSC 2,26	05153	2	

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02490	DSA DCF	05159	5 X	1
02500	DC 1,*	05159	-4976	
02510 DATA	DS ,DDAA	05153	0	
02520 THRU	DSC 1,C,EXIT2*7	04433	1	
02530 WAGAIN	DSC 1,0,EXIT2*9	04435	1	
02540 IORT	DS ,565	00565	0	
02550 IOSK	DS ,554	00554	0	
02560 IOGT	DS ,566	00566	0	
02570 ERROR	DS ,632	00632	0	
02580 ERRET	DS ,602	00602	0	
02590 DIU	DS ,816	00816	0	
02600 IOPT	DS ,532	00532	0	
02610 IORBC	DS ,52C	00520	0	
02620 MONCAL	DS ,796	00796	0	
02630 MESS	USA KEYMES	05165	5 X	1
02640	DC 3,06*	05165	-4899	
02650 TRK	DSA TRACK	05168	3	
02660	DC 3,00*	05173	5 X	1
02670 NDF	DSA NOFIND	05173	J3776	
02680	DC 3,06*	05176	3	
02690 SYSCAL	DS ,475	05181	5 X	1
02700 WRAD	TFM IORT,++23	05181	-4873	
02710	B IOPT,WRAD1,7	05184	3	
02720	TRA	00475	0	
02730 WRAD1	DSC 2,22	05186	16	00565 -5209
02740	DSA WRAD2	05198	49	00532 -5234
02750	DC 1,*	05210	36	00000 00500
02760 WRAD2	DSC 1,1	05222	49	00000 00000
02770	DC 5,18220	05234	2	
02780	DC 3,027	05240	5 X	1
02790	DC 5,02502	05240	-5242	
02800	DC 1,*	05241	1	

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02810	TCD WRAD	05106
02820	DEND DWRAD	02902

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BUTTON 00455	AJUST 04529	EXIT2 04426	MES2 04789	WRAD2 05242
CKZERO 03702	AN 02674	EXIT 04418	MES3 04799	WRAD 05186
COMFLG 04604	CARD 13613	HOLD2 05118	MES4 04809	ZERO 05138
DIMERR 04847	CKEND 03786	HOLD5 05123	MES5 05165	ZS 02582
ERADDR 04482	CNT 05132	HOLDA 05130	NEW 03634	SEEKTR 03246
KEYMES 04899	DATA 05153	HUN 04991	NOF 05181	SETFLG 04544
KYMES 04662	DCF 04976	INIT 02878	NOZ 02638	STARTA 05110
MONCAL 00796	DDAA 05153	INPUT 13613	NUMER 05091	SYSCAL 00475
NOFIND 04873	DIC 00816	IOGT 00566	TEMPY 05152	WAGAIN 04435
PUTNEW 03586	DWRAD 02902	IOPT 00532	TEST 04006	WORKAD 05145
RDONLY 05135	ENDAD 05116	IORBC 00520	THRU 04433	WTNOFD 04898
RDTRAK 03398	ERI 04636	IORT 00565	TRACK 13776	
RITEBK 03914	ERRR 00602	IOSK 00554	TRK 05173	
ADDRS 05096	ERRR 00632	MES1 04767	WRAD1 05234	

END OF ONE ASSEMBLY.

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00010	DORG	3000	03000		
00020	IOGT	DS ,566	00566	0	
00030	IORT	DS ,565	00565	0	
00040	IOPT	DS ,532	00532	0	
00050	CCAST	DS ,14800	19800	0	
00060	TFM	6,SNEEZY	03000	16	00006 -3268
00070	TFM	1,49,10	03012	16	00001 000M9
00080	B	FUR2	03024	49	03048 00000
00090	DORG	+3	03032		
00100	BOTCH	DC 5,0	03036	5	
		-0000			
00110	COUNT	DC 2,0	03038	2	
		-0			
00120	P	DS ,6	00006	0	
00130	Q	DS ,11	00011	0	
00140	L	DS ,12	00012	0	
00150	FILL	DS ,99999	99999	0	
00160	TEMP	DS 3	03041	3	
00170	SAVADD	DS 5	03046	5	
00180	FUR2	RCTY	03048	34	00000 00102
00190	SF	**21	03060	32	03081 00000
00200	TFM	SECTAD+2,	03072	16	05484 -0000
00210	DC	1,*,*-2	03081	1	
		*			
00220	DC	1,*,*-1	03082	1	
		*			
00230	DC	1,*,*	03083	1	
		*			
00240	WATY	ADMES	03084	39	05439 00100
00250	RCTY		03096	34	00000 00102
00260	TFM	IORT,**23	03108	16	00565 -3131
00270	B	IOGT,BRC1-4,7	03120	49	00566 -6678
00280	BC4	A10C-1	03132	46	03096 00460
00290	HNR	PRD1,SECTAD+1	03144	45	03220 05483
00300	BNR	PRD1,SECTAD+2	03156	45	03220 05484
00310	HNR	A200,SECTAD-5	03168	45	03422 05477
00320	YDM	475,3	03180	15	00475 00003
00330		49 796	03192	49	00796 00000
00340	DORG	+3	03200		
00350	BNR	**20,SECTAD	03200	45	03220 05482
00360	B	PRD1	03212	49	03220 00000
00370	DORG	+3	03220		
00380	PRD1	RCTY	03220	34	00000 00102
00390	WATY	BADTYP	03232	39	03301 00100
00400	RCTY		03244	34	00000 00102
00410	48	,,,FOR AIR	03256	48	00000 00000
00420	SNEEZY	TFM IORT,**23	03268	16	00565 -3291
00430	B	IOGT,TRWADR,7	03280	49	00566 -3398
00440	B	03000	03292	49	03000 00000
00450	DORG	+3	03300		
00460	BACTYP	DAC 49,SECTOR ADDRESS ILLEGAL, START TO RE-ENTER *DALTR'	03301	49	x 2
		SECTOR ADDRESS ILLEGAL, START TO RE-ENTER *CALTR'			
00470	TRWADR	DSC 2,22	03398	2	
		22			
00480	DSA	SKLNK	03404	5	x 1

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00490	DC	1,*	03404		-3406
		*	03405	1	
00500	SKUNK	DSC 1,0	03406	1	
		0			
00510	DC	5,19300	03411	5	
		J9300			
00520	DC	3,050	03414	3	
		-50			
00530	DC	5,03000	03419	5	
		-3000			
00540	DC	1,*	03420	1	
		*			
00550	A200	RCTY	03422	34	00000 00102
00560	BNF	**20,SECTAD	03434	44	03454 05482
00570	B	PRD1	03446	49	03220 00000
00580	DORG	+3	03454		
00590	BNF	**20,SECTAD-1	03454	44	03474 05481
00600	B	PRD1	03466	49	03220 00000
00610	DORG	+3	03474		
00620	BNF	**20,SECTAD-2	03474	44	03494 05480
00630	B	PRD1	03486	49	03220 00000
00640	DORG	+3	03494		
00650	BNF	**20,SECTAD-3	03494	44	03514 05479
00660	B	PRD1	03506	49	03220 00000
00670	DORG	+3	03514		
00680	BNF	**20,SECTAD-4	03514	44	03534 05478
00690	B	PRD1	03526	49	03220 00000
00700	DORG	+3	03534		
00710	BNF	**20,SECTAD-5	03534	44	03554 05477
00720	B	PRD1	03546	49	03220 00000
00730	DORG	+3	03554		
00740	TFM	A110+L+5,SECTAD	03554	26	03607 05482
00750	TFM	A110+L+13,SECTRI	03566	16	03615 -5304
00760	SF	A110+13	03578	32	03603 00000
00770	A110	B A110PL,,, NO DDOR	03590	49	03618 00000
00780	OSC	6,0	03602	6	
		000000			
00790	DC	3,001	03610	3	
		-01			
00800	DC	5,0	03615	5	
		-0000			
00810	DC	1,*	03616	1	
		*			
00820	A110PL	TFM IORT,**23	03618	16	00545 -3641
00830	B	IOGT,BRC2,7	03630	49	00566 -6686
00840	RCTY		03642	34	00000 00102
00850	WATY	FRSTHF	03654	39	06287 00100
00860	TFM	LODP9+P,**2+L	03666	16	05432 -3690
00870	BTM	LODP,SECTRI-11	03678	17	05246 -5493
00880	WATY	ORIG	03690	39	06307 00100
00890	RCTY		03702	34	00000 00102
00900	WATY	SECMF	03714	39	06327 00100
00910	TFM	LODP9+P,**2+L	03726	16	05432 -3750
00920	BTM	LODP,SECTRI+39	03738	17	05246 -5543
00930	WATY	ORIG	03750	39	06307 00100

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00940	TRWFIX	RCTY		03762	34	00000	00107
00950		RCTY		03774	34	00000	00102
00960		WATY	SECME5	03786	39	05607	00100
00970		RCTY		03798	34	00000	00102
00980		TFM	SECTION,0	03810	18	05626	-0000
00990		DC	5,CC000,0	03821		5	
		-0000					
01000	A130	TFM	IORT,0023	03822	16	00565	-3845
01010		B	IOGT,BRC3-4,7	03834	49	00566	-8694
01020		BC4	A130-40L	03846	46	03774	00400
01030		BMR	PROD2,SECTION+1	03858	45	06346	05627
01040		BMR	PROD2,SECTION+2	03870	45	06346	05628
01050		BMR	0020,SECTION-1	03882	45	03902	05625
01060		B	WRFILE	03894	49	05126	00000
01070		DORG	0-3	03902			
01080		BNF	0020,SECTION	03902	44	03922	05626
01090		B	PROD2	03914	49	06346	00000
01100		DORG	0-3	03922			
01110		BNF	0020,SECTION-1	03922	44	03942	05625
01120		B	PROD2	03934	49	06346	00000
01130		DORG	0-3	03942			
01140		SF	SECTION-1	03942	32	05625	00000
01150		CM	SECTION,10,10	03954	14	05626	00010
01160		BH	PROD2	03966	46	06346	01100
01170		SM	SECTION,1,9	03978	12	05626	00-01
01180		TFM	LOOP2+11,SECTR1-1	03990	16	05293	-5503
01190		A	LOOP2+10,SECTION	04002	21	05292	05626
01200		TF	SAVADD,LOOP2+11	04014	26	03046	05293
01210		RCTY		04026	34	00000	00102
01220		TFM	COUNT,4,10	04038	16	03038	000-4
01230		TFM	LOOP9+P,0020L	04050	16	05432	-4074
01240		BT	LOOP2,LOOP2-1	04062	27	05282	05281
01250		TFM	TRDIG+11,SECTR1-1	04074	16	04133	-5503
01260		TFM	TRDIG+6,SECTR2-1	04086	16	04128	-8183
01270		AM	TRDIG+6,1,10	04098	11	04128	000-1
01280		AM	TRDIG+11,1,10	04110	11	04133	000-1
01290	TRDIG	TD		04122	25	00000	00000
01300		CM	TRDIG+11,SECTR1+100	04134	14	04133	-5604
01310		BNE	0048	04146	47	04098	01200
01320		SPTY		04158	34	00000	00101
01330		WATY	MESX	04170	39	05453	00100
01340		RCTY		04182	34	00000	00102
01350		TR	AREA,CLEAR	04194	31	05630	05849
01360	A140	TFM	IORT,0023	04206	16	00565	-4229
01370		B	IOGT,BRC4-4,7	04218	49	00566	-6702
01380		BC4	A140	04230	46	04206	00400
01390	*		TO PLACE AN INDICATION AFTER LAST CHARACTER ENTERED FROM THE				
01400	*		TYPEWRITER				
01410	SCAN	TFM	0035,AREA+219	04242	16	04277	-5849
01420		SM	0023,2,10	04254	12	04277	000-2
01430		TF	TEMP	04266	26	03041	00000
01440		BD	SCAN1,TEMP	04278	43	04370	03041
01450		BD	SCAN1,TEMP-1	04290	43	04370	03040
01460		CM	SCAN+35,AREA+1	04302	14	04277	-5631
01470		BNE	SCAN+12	04314	47	04254	01200
01480		RCTY		04326	34	00000	00102

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01490		WATY	NOTMNG	04338	39	06069	00100
01500		RCTY		04350	34	00000	00102
01510		B	A140	04362	49	04206	00000
01520		DORG	0-3	04370			
01530	SCAN1	TF	BOTCH,SCAN+35	04370	26	03036	04277
01540		SM	BOTCH,AREA-1	04382	12	03036	-5629
01550		MM	BOTCH,05,10	04394	13	03036	000-5
01560		A	97,SECTION	04406	21	00097	05626
01570		SF	96	04418	32	00096	00000
01580		CM	99,1000,8	04430	14	00099	0J000
01590		BH	PROD3	04442	46	06524	01100
01600		TF	0030,SCAN+35	04454	26	04484	04277
01610		AM	0018,2,10	04466	11	04484	000-2
01620		TFM	0099,10	04478	16	00000	00009
01630	HEART	TFM	0059,AREA-1	04490	16	04549	-5629
01640		TF	MOVE+6,SAVADD	04502	26	04788	03046
01650		AM	MOVE+6,1,10	04514	11	04788	000-1
01660		AM	0023,2,10	04526	11	04549	000-2
01670		TF	TEMP	04538	26	03041	00000
01680		BMR	0020,TEMP	04550	45	04570	03041
01690		B	MOVE	04562	49	04782	00000
01700		DORG	0-3	04570			
01710		CM	TEMP,99,10	04570	14	03041	00009
01720		BE	CORREND,,,SENSED LAST DIGIT OF CORRECTION MADE TO SECTOR	04582	46	04886	01200
01730		CM	TEMP,0,10	04594	14	03041	000-0
01740		BE	HEART+36,,,SENSED A SPACE BETWEEN SECTIONS	04606	46	04526	01200
01750		CM	TEMP,39,10,CHECK FOR NUMERIC BLANK	04618	14	03041	000L4
01760		BNE	0032	04630	47	04662	01200
01770		YDM	TEMP	04642	15	03041	00000
01780		DNB	1,0	04654		1	
01790		B	MOVE	04654	49	04782	00000
01800		DORG	0-3	04662			
01810		CM	TEMP,20,10, CHECK FOR FLAGGED ZERO (HYPHEN)	04662	14	03041	00000
01820		BE	MOVE-12	04674	46	04770	01200
01830		CM	TEMP,67,10,CHK.FOR NO CHANGE	04686	14	03041	00007
01840		BE	HEART+24	04698	46	04514	01200
01850		CM	TEMP,49,10	04710	14	03041	00007
01860		BE	PLGM	04722	46	04834	01200
01870		CM	TEMP,66,10	04734	14	03041	00004
01880		BE	FLRM	04746	46	04802	01200
01890		BH	MOVE	04758	46	04782	01100
01900		SF	TEMP	04770	32	03041	00000
01910	MOVE	TD	TEMP	04782	25	00000	03041
01920		B	HEART+24	04794	49	04514	00000
01930		DORG	0-3	04802			
01940	FLRM	YDM	TEMP,	04802	15	03041	00000
01950		DC	1,0,0	04813		1	
		.					
01960		SF	TEMP	04814	32	03041	00000
01970		B	MOVE	04826	49	04782	00000
01980		DORG	0-3	04834			
01990	FLGM	YDM	TEMP,0	04834	15	03041	00000
02000		DGM	0	04845		1	
02010		SF	TEMP	04846	32	03041	00000
02020		B	MOVE	04858	49	04782	00000
02030		DORG	0-3	04866			

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02900	ORIG	DAC	10, ORIGINAL'	06307	10	X	2
			ORIGINAL'				
02910	SECHF	DAC	10,2ND.HALF'	06327	10	X	2
			2ND.HALF'				
02920	PROD2	RCTY		06346	34	00000	00102
02930		WATY	UGOOFD	06358	39	06427	00100
02940		RCTY		06370	34	00000	00102
02950		48	,,,	06382	48	00000	00000
02960		TFM	IORT,++23	06394	16	00565	-6417
02970		B	IOGT,TRMADR,7	06406	49	00566	-3398
02980		B	03000	06418	49	03000	00000
02990		DORG	=-3	06426			
03000	UGOOFD	DAC	49,SECTION NUMBER ILLEGAL, START TO RE-ENTER *DALTR'	06427	49	X	2
			SECTION NUMBER ILLEGAL, START TO RE-ENTER *CALTR'				
03010	PROD3	RCTY		06524	34	00000	00102
03020		WATY	PROD31	06536	39	06605	00100
03030		RCTY		06548	34	00000	00102
03040		48	,,, RE-ENTER *DALTR	06560	48	00000	00000
03050		TFM	IORT,++23	06572	16	00565	-6595
03060		B	IOGT,TRMADR,7	06584	49	00566	-3398
03070		B	03000	06596	49	03000	00000
03080		DORG	=-3	06604			
03090	PROD31	DAC	37,TYPE-IN EXCEEDS SECTOR LENGTH, START'	06605	37	X	2
			TYPE-IN EXCEEDS SECTOR LENGTH, START'				
03100	BRC1	DSA	SECTAD-5	06682	5	X	1
				06682			-5477
03110		DC	3,00'	06685			3
			-0'				
03120	BRC2	DSC	2,22	06686			2
			22				
03130		DSA	A110+L	06692	5	X	1
				06692			-3602
03140		DC	1,1'	06693			1
03150	BRC3	DSA	SECTON-1	06698	5	X	1
				06698			-5625
03160		DC	3,00'	06701			3
			-0'				
03170	BRC4	DSA	AREA+1	06706	5	X	1
				06706			-5631
03180		DC	3,06'	06709			3
			-6'				
03190	TABC	TFM	IORT,++23	06710	16	00565	-6733
03200		B	IOPT,TABA,7	06722	49	00532	-6758
03210		TRA		06734	36	00000	00500
				06746	49	00000	00000
03220	TABA	DSC	2,22	06758			2
			22				
03230		DSA	TABB	06764	5	X	1
				06764			-6766
03240		DC	1,1'	06765			1

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03250	TABB	DSC	1,1	06766			1
			1				
03260		DC	5,19300	06771			5
			J9300				
03270		DC	3,038	06774			3
			-38				
03280		DC	6,03000'	06780			6
			-3000'				
03290		TCD	TABC	06710			
03300		DEND	0	00000			

A11OPL 03618	AREA 05630	MALT 05210	PROD3 06524	SAVADD 03066
ADMES 05439	BOTCH 03036	HEART 04490	P 00006	SECME5 03607
BADTYP 03301	BRC1 06682	IOGT 00566	Q 00011	SECTAD 05662
COREND 04866	BRC2 06686	IOPT 00532	SCAN1 04370	SFCTON 05626
CORRTC 06163	BRC3 06698	IOPT 00565	SCAN 04242	SECTR1 05524
FRSTHF 06287	BRC4 06706	LCOP2 05282	SECHF 06327	SECTR2 06184
NOTHNG 06069	CLEAR 05849	LCOP9 05426	SFLAG 06068	SNEEZY 03268
PROG31 06605	COUNT 03038	LGOP 05246	SKUNK 03406	SUBINS 05489
A100 03108	DDAST 19800	L 00012	TABA 06758	TRWADR 03398
A11C 03590	FILL 99999	MESX 05453	TABB 06766	TRWFIX 03762
A12C 05366	FLGM 04834	MOVE 04782	TABC 06710	UGOOFD 06427
A130 03822	FLRM 04802	ORIG 06307	TEMP 03041	WRFILE 05126
A140 04206	FLSEC 06137	PROG1 03220	TRCIG 04122	
A2C0 03422	FUR2 03048	PROG2 06346	TR 05330	

END OF ONE ASSEMBLY.

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00010 *****	DISK UTILITY PROGRAM FOR 1620 *DLABL		
00020 ****			
00030 ****			
00040	DORG 2502	02502	
00050 DLABL SF	INPUT+21,,10	02502 32	13635 000-0
00060 CM	INPUT+22,0,10	02514 14	13635 000-0
00070 BE	ERR1	02526 46	03906 01200
00080 CM	INPUT+22,73,10	02538 14	13635 000P3
00090 BH	ERR10	02550 46	03926 01100
00100 CM	INPUT+22,70,10	02562 14	13635 000P6
00110 BL	ERR10	02574 47	03926 01300
00120 SF	INPUT+11	02586 32	13624 00000
00130 C	INPUT+20,ZERO10	02598 24	13633 04307
00140 BE	ERR1	02610 46	03906 01200
00150 TD	PACK,INPUT+20	02622 25	04312 13633
00160 TD	PACK-1,INPUT+18	02634 25	04311 13631
00170 TD	PACK-2,INPUT+16	02646 25	04310 13629
00180 TD	PACK-3,INPUT+14	02658 25	04309 13627
00190 TD	PACK-4,INPUT+12	02670 25	04308 13625
00200 SF	PACK-4	02682 32	04308 00000
00210 CM	PACK,0	02694 14	04312 -00000
00220 BE	ERR10	02706 46	03926 01200
00230 TFM	SETFLG+11,INPUT+11	02718 16	02741 13624
00240 SETFLG SF	**11,INPUT+11,6	02730 32	0274J 13624
00250 AM	SETFLG+11,1,10	02742 11	02741 000-1
00260 CM	SETFLG+11,70,610	02754 14	0274J 000P0
00270 BL	ERR10	02766 47	03926 01300
00280 AM	SETFLG+11,1,10	02778 11	02741 000-1
00290 CM	SETFLG+11,INPUT+21	02790 14	02741 13634
00300 BL	SETFLG	02802 47	02730 01300
00310 TD	MOD,INPUT+22	02814 25	02513 13635
00320 TD	**47,INPUT+22	02826 25	02873 13635
00330 A	**35,**35	02838 21	02873 02873
00340 AM	**23,1,10	02850 11	02873 000-1
00350 TOM	INPLT+22,0,8	02862 15	13635 0-000
00360 TFM	ADDRS,RDAREA+71,,	02874 16	04362 J3847
00370 TOM	DDAL2+1,0,11	02886 15	04284 0000-
00380 TOM	DDAL2,0	02898 15	04283 00000
00390 TFM	IOGT,**23	02910 16	00565 -2933
00400 B	IOGT,DDAL1,7	02922 49	00566 -4275
00400 TF	DDAL8+8,RDAREA+88	02934 26	04268 13844
00410 TD	**22,INPUT+22	02946 25	02968 13635
00420 AM	ADDRS,0,9	02958 11	04362 00-00
00430 TD	DDAL2+1,ADDRS,11	02970 25	04284 0436K
00440 TD	DDAL4+1,ADDRS,11	02982 25	04215 0436K
00450 TD	DDAL6+1,ADDRS,11	02994 25	04238 0436K
00460 TD	DDAL8+1,ADDRS,11	03006 25	04261 0436K
00470 TD	DDAL2,INPUT+22	03018 25	04283 13635
00480 SM	DDAL2+5,10000,7	03030 12	04288 J0000
00490 TFM	IOGT,**23	03042 16	00565 -3065
00500 B	IOGT,DDAL1,7	03054 49	00566 -4275
00510 TFM	TEST48+11,RDAREA+61	03066 16	03101 J3837
00520 BNF	RSPT,RDAREA+61	03078 44	03190 13837
00530 TEST48 BNR	**20,RDAREA+61	03090 45	03110 13837
00540 B	RSPT	03102 49	03190 00000
00550 DORG	*-3	03110	

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00560	AM	TEST40+11,1,10	03110	11	03101	000-1
00570	CM	TEST40+11,RDAREA+65,7	03122	14	03101	J3841
00580	RM	+32	03134	46	03166	C1100
00590	BNF	TEST40,TEST40+11,11	03146	44	03090	0310J
00600	B	RSPT	03158	49	03190	00000
00610	DORG	+3	03166			
00620	CM	RDAREA+65,04800,7	03166	14	13841	-4800
00630	ME	LAB	03178	46	03634	01200
00640	*****					
00650		REINITIALIZE SEQUENTIAL PROGRAM TABLE				
00660	*****					
00670	RSPT	TD DDAL8,INPUT+22	03190	25	04260	13635
00680	TFM	SEV+11,7000,8	03202	16	03261	0P000
00690	TF	SEV+23,+1	03214	26	03273	03213
00700	TFM	IORT,+23	03226	16	00565	-3249
00710	B	IOGT,DDAL7,7	03238	49	00566	-4252
00720	SEV	TFM RDAREA+1997,7000,8	03250	16	11779	0P000
00730	CM	SEV+11,7000,8	03262	14	03261	0P000
00740	BE	+448	03274	46	03322	01200
00750	SM	SEV+6,3,10	03286	12	03256	000-3
00760	CF	SEV+6,+6	03298	33	03250	00000
00770	AM	SEV+6,3,10	03310	11	03256	000-3
00780	AM	SEV+6,4,10	03322	11	03256	000-4
00790	TFM	SEV+6,9200,88	03334	16	03250	0A200
00800	SM	SEV+6,3,10	03346	12	03256	000-3
00810	CF	SEV+6,+6	03358	33	03250	00000
00820	AM	SEV+6,7,10	03370	11	03256	000-7
00830	AM	SEV+11,1,10	03382	11	03261	000-1
00840	CM	SEV+11,7099,8	03394	14	03261	0P099
00850	BL	SEV	03406	47	03250	01300
00860	AM	SEV+6,24,10	03418	11	03256	000K4
00870	TF	SEV+6,LSTENT+3,6	03430	26	03250	04341
00880	SM	SEV+6,4,10	03442	12	03256	000-4
00890	A	SEV+6,MOD,6	03454	21	03250	02513
00900	SM	SEV+6,4,10	03466	12	03256	000-4
00910	A	SEV+6,MOD,6	03478	21	03250	02513
00920	SM	SEV+6,8,10	03490	12	03256	000-8
00930	A	SEV+6,MOD,6	03502	21	03250	02513
00940	SM	SEV+6,4,10	03514	12	03256	000-4
00950	A	SEV+6,MOD,6	03526	21	03250	02513
00960	SM	SEV+6,7,10	03538	12	03256	000-7
00970	CF	SEV+6,+6	03550	33	03250	00000
00971	TFM	RDAREA-1179,00,21011	03562	16	J2597	000-1
00972	AM	+6,2,10	03574	11	03568	000-2
00973	CM	+18,RDAREA+6000	03586	14	03568	J3776
00974	BL	+36	03598	47	03562	01300
00980	TFM	IORT,+23	03610	16	00565	-3633
00990	B	IOPT,DDAL7,7	03622	49	00532	-4252
01000	****					
01010	*****	LABEL DISK PACK				
01020	****					
01030	LAB	TD DDAL4,DDAL2	03634	25	04214	04283
01040	SF	BUTTON	03646	32	00455	00000
01050	BTM	KYMESS,+12	03658	17	03998	-3670
01060	TFM	IORT,+23	03670	16	00565	-3693
01070	B	IOGT,DDAL3,7	03682	49	00566	-4206

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01080	SF	RDAREA	03694	32	14776	00000
01090	TF	RDAREA+9,PACK	03706	26	13785	04312
01091	TFM	RDAREA+99,79,10, MANTISSA LENGTH POSITION	03718	16	13875	000P9
01092	TFM	RDAREA+104,19663,7, IN COM. SECTOR	03730	16	13880	J9663
01100	TFM	IORT,+23	03742	16	00565	-3765
01110	B	IOPT,DDAL3,7	03754	49	00532	-4206
01120	TD	DDAL6,DDAL2	03766	25	04237	04283
01130	TFM	IORT,+23	03778	16	00565	-3801
01140	B	IOGT,DDALS,7	03790	49	00566	-4229
01150	TFM	RDAREA+1999,00199,7	03802	16	15775	-0199
01160	CF	RDAREA+1995	03814	33	15771	00000
01170	TF	RDAREA+2034,PACK	03826	26	15810	04312
01180	TFM	IORT,+23	03838	16	00565	-3861
01190	B	IOPT,DDALS,7	03850	49	00532	-4229
01200	CF	BUTTON	03862	33	00455	00000
01210	BTM	KYMESS,+12	03874	17	03998	-3886
01220	TD	SYSCAL,3	03886	15	00475	00003
01230	B	NONCAL	03898	49	00796	00000
01240	DORG	+3	03906			
01250	ERR1	TFM DIMERR+22,0071,8	03906	16	04203	0-071
01260	B	ERR10+12	03918	49	03938	00000
01270	DORG	+3	03926			
01280	ERR10	TFM DIMERR+22,7170,8	03926	16	04203	0P170
01290	RCTY		03938	34	00000	00102
01300	TFM	IORT,+23	03950	16	00565	-3973
01310	B	IOPT,ERRMES-4,7	03962	49	00532	-4342
01320	H		03974	48	00000	00000
01330	B	ERR1-20	03986	49	03886	00000
01360	KYMESS	BNF +32,BUTTON	03998	44	04030	00455
01370	TFM	KEYMES+24,5900,8	04010	16	04127	0M500
01380	B	+20	04022	49	04042	00000
01390	DORG	+3	04030			
01400	TFM	KEYMES+24,4646,8	04030	16	04127	0M646
01410	RCTY		04042	34	00000	00102
01420	TFM	IORT,+23	04054	16	00565	-4077
01430	B	IOPT,MESS-4,7	04066	49	00532	-4350
01440	H		04078	48	00000	00000
01450	B	KYMESS-1,+6	04090	49	03999	00000
01460	RDAREA	DSS 2100,12776	13776		2100	
01470	KEYMES	DAC 39,DUP+ TURN OFF WRITE ADDRESS KEY, START'	04103		39 X	2
		DUP+ TURN OFF WRITE ADDRESS KEY, START'				
01480	DIMERR	DAC 13,DUP+ERROR 00'	04181		13 X	2
		DUP+ERROR 00'				
01490	DDAL3	DSC 2,26	04206		2	
01500	DSA	DDAL4	04212		9 X	1
01510	DSC	1,0	04212		-4214	
			04213		1	
01520	DDAL4	DSC 1,0	04214		1	
01530	DC	5,19800	04219		5	
		J9800				
01540	DC	3,028	04222		3	
		-20				

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01550	DSA	RDAREA	04227	5 X 1
			04227	J3776
01560	DSC	1,'	04228	1
01570	DCAL5	DSC 2,26	04229	2
		26		
01580	DSA	DDAL6	04235	5 X 1
			04235	-4237
01590	DSC	1,'	04236	1
01600	DCAL6	DSC 1,0	04237	1
		0		
01610	DC	5,15980	04242	5
		J9980		
01620	DC	3,020	04245	3
		-20		
01630	DSA	RDAREA	04250	5 X 1
			04250	J3776
01640	DSC	1,'	04251	1
01650	DDAL7	DSC 2,22	04252	2
		22		
01660	DSA	DDAL8	04258	5 X 1
			04258	-4260
01670	DSC	1,'	04259	1
01680	DCAL8	DSC 1,0	04260	1
		0		
01690	DC	5,19801	04265	5
		J9801		
01700	DC	3,010	04268	3
		-10		
01710	DSA	RDAREA-2000	04273	5 X 1
			04273	J1776
01720	DSC	1,'	04274	1
01730	DCAL1	DSC 2,22	04275	2
		22		
01740	DSA	DDAL2	04281	5 X 1
			04281	-4283
01750	DSC	1,'	04282	1
01760	CCAL2	DSC 1,0	04283	1
		0		
01770	DC	5,04800	04288	5
		-4800		
01780	DC	3,002	04291	3
		-02		
01790	DSA	RDAREA	04296	5 X 1

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			04296	J3776
			04297	1
01800	DSC	1,'	00545	0
			00546	0
01810	IORT	DS ,565	13613	81 X 2
01820	IOGT	DS ,566	04307	10
01830	INPUT	DAS 81,13613		
01840	ZERIO	DC 10,0		
		-000000C00		
01850	PACK	DC 5,0	04312	5
		-0000		
01860	MONPK	DSC 1,0	04313	1
		0		
01870	MONCAL	DS ,796	00796	0
01880	BUTTON	DSC 1,0,455	00455	1
		0		
01890	IOPT	DS ,532	00532	0
01900	LSTENT	DC 25,709901580004909901660162'	04338	25
		P09901580004909901660162'		
01910		DSC 3,000	04339	3
		000		
01920	ERRMES	DSA DIMERR	04346	5 X 1
			04346	-4181
01930	DC	3,06'	04349	3
		-6'		
01940	MESS	DSA KEYMES	04354	5 X 1
			04354	-4103
01950	DC	3,06'	04357	3
		-6'		
01960	ACDRS	DSA RDAREA+71	04362	5 X 1
			04362	J3847
01970	MOD	DS ,DLABL+11	02513	0
01980	SYSCAL	DS ,475	00475	0
01990	LABL	TFM IORT,++23	04364	16 00565 -4387
02000		B IOPT,LABL1,7	04376	49 00532 -4412
02010		TRA	04388	36 00000 00500
			04400	49 00000 00000
02020	LABL1	DSC 2,22	04412	2
		22		
02030	DSA	LABL2	04418	5 X 1
			04418	-4420
02040	DC	1,'	04419	1
02050	LABL2	DSC 1,1	04420	1
		1		
02060	DC	5,18200	04425	5
		J8200		
02070	DC	3,020	04428	3
		-20		
02080	DC	5,02502	04433	5
		-2502		
02090	DC	1,'	04434	1

1234

02100	TCD LABL	04364
02110	DEND 02502	02502

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BUTTON 00455	ADDR5 04362	DDAL8 04260	LABL1 04412	RSPT 03190
DIMERR 04181	DDAL1 04275	DLABL 02502	LABL2 04420	SEV 03250
ERRMES 04346	DDAL2 04283	ERR10 03926	LABL 04364	SETFLG 02750
KEYMES 04103	DDAL3 04206	ERR1 03906	LAB 03634	SYSCAL 00475
KYMESS 03998	DDAL4 04214	INPUT 13613	MESS 04394	TEST48 03090
LSTENT 04338	DDAL5 04229	IOGT 00564	MOD 02813	ZERD10 04307
MONCAL 00796	DDAL6 04237	IOPT 00532	MONPK 04313	
RDAREA 13776	DDAL7 04252	IORT 00565	PACK 04312	

END OF ONE ASSEMBLY.

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00010 *	DUP ROUTINE	DFLIB							
00020	DORG	3000			03000				
00030	IORT	DS	,565		00565	0			
00040	MONCAL	DS	,796		00796	0			
00050	IOGT	DS	,566		00566	0			
00060	IORT	DS	,532		00532	0			
00070	D4800	DSC	2,22		03000	2			
		Z2							
00080	DSA	DIMDDA			03006	5 X	1		
00090	DC	1,1			03006	-3008			
					03007	1			
00100	DIMCCA	DSC	1,1		03008	1			
00110	DSA	4800			03013	5 X	1		
00120	DC	3,1			03013	-4800			
		-01			C3016	3			
00130	DSA	DSEC			03021	5 X	1		
00140	DC	1,1			03021	-9900			
					03022	1			
00150	DEQU	DSC	2,22		03023	2			
00160	DSA	EQUIV			03029	5 X	1		
00170	DC	1,1			03029	-9940			
					03030	1			
00180	LIBEF	DSC	2,22		03031	2			
00190	DSA	DSEC			03037	5 X	1		
00200	DC	1,1			03037	-9900			
					03038	1			
00210 *									
00220	INEQU	DS	,1CC00		1C0C0	0			
00230	DSEC	DS	,99C0		09900	0			
00240	CC	DS	,13613		13613	0			
00250	DFLIB	SF	CC+25,,, SET FLAG ON NUMBER		03040	32	13638	00C00	
00260		SF	CC+11,,, SET FLAG ON NAME		03052	32	13624	C0000	
00270	BD	ERTEN,CC+23			03064	43	03740	13636	
00280	BD	ERTEN,CC+24			03076	43	03740	13637	
00290	BD	+20,CC+25			03088	43	03108	13638	
00300	B7	ERTEN			03100	49	03740		
00310	BD	+20,CC+27			03108	43	C3128	13640	
00320	B7	ERTEN			03120	49	03740		
00330	TFM	BM+11,CC-2			03128	16	03187	J3611	
00340	AM	BM+11,1			03140	11	03187	-0001	
00350	CM	BM+11,CC+29,7			C3152	14	03187	J3642	
00360	BE	RMOK			03164	46	03196	01200	
00370	BH	BNR	AM,0=0		03176	45	03140	00000	

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00380	B7	ERTEN			C3188	49	03740		
00390 *									
00400	RMOK	BTM	CKZRO,00,10		03196	17	03552	CC0-0	
00410		TFM	IORT,+23,, READ EQU TABLE DIM		03208	16	00565	-3231	
00420	B	IOGT,D4800,7			03220	49	00566	-3000	
00430	TF	CNT,EQUIV+8,, SAVE NUMB SECTORS IN DIM			03232	26	03051	09948	
00440	TFM	EQUV+13,INEQU			03244	16	09953	JC000	
00450	TFM	EQUV+8,8,9, SET NUM SECTOR TO 8			03256	16	09948	00-08	
00460	TR	DSEC,EQUIV			03268	31	09900	09940	
00470	SM	CNT,8,9			03280	12	03051	00-08	
00480	RDEQU	TFM	IORT,+23,, READ EIGHT SECTORS OF TABLE		03292	16	00565	-3315	
00490	B	IOGT,DEQU,7			03304	49	00566	-3023	
00500	TFM	COMP+11,INEQU-5			03316	16	03395	-9995	
00510	ADEQU	AM	COMP+11,16		03328	11	03395	-0016	
00520	BNR	+20 ,COMP+11,11			03340	45	03360	0339N	
00530	B7	OKALL			03352	49	04162		
00540	CM	COMP+11,INEQU+800			03360	14	03395	J0800	
00550	BH	TESTL			03372	46	03506	01100	
00560	COMP	C	CC+22,0=0		03384	24	13635	00000	
00570	BNE	ADEQU			03396	47	03328	01200	
00580	RCTY				03408	34	00000	00102	
00590	TFM	STERR+24,7571,8			03420	16	03501	0P571	
00600	WATY	STERR			03432	39	03477	00100	
00610	NAMER	TDM	CC+24,0		03444	15	13637	00000	
00620	DC	1,1,0			03455		1		
00630	WATY	CC+12			03456	39	13625	00100	
00640	B7	EXITE			03468	49	03636		
00650	STERR	DAC	15,DUP= ERROR 51		03477		15 X	2	
		DUP=	ERROR 51						
00660	TESTL	CM	CNT,0,9		03506	14	03051	00-00	
00670	EQUIV	DS	,DSEC+40		09940		0		
00680	BHM	OKALL			03518	47	04162	01100	
00690	A	EQUIV+5,EQUIV+8			03530	21	09945	09948	
00700	B7	RDEQU-12			03542	49	03280		
00710	CNT	DS	,DFLIB+11		03051		0		
00720	DS	2			03550		2		
00730	CKZRO	C	CC+22,ZERD,, TEST FOR INVALID OPERAND OR OPERAND MISSING		03552	24	13635	03794	
00740	BE	ERONE			03564	46	03600	01200	
00750	C	CC+28,ZERD-8			03576	24	13641	03784	
00760	BNE	OVERR			03588	47	03656	01200	
00770	ERONE	RCTY			03600	34	00000	00102	
00780	TFM	STERR+24,0071,8			03612	16	03501	0=071	
00790	WATY	STERR			03624	39	03477	00100	
00800	SYSCAL	DS	,475		00475		0		
00810	EXITE	H			03636	48	00000	00000	
00820	B7	MONCAL			03648	49	00796		
00830	OVERR	TD	DIG,CC+25		03656	25	03688	13638	
00840	CF	DIG			03668	33	03688	00000	
00850	CM	DIG,7,710			03680	14	03688	-00-7	
00860	BNE	ERTEN			03692	47	03740	01200	
00870	TD	DIG,CC+27			03704	25	03688	13640	
00880	CM	DIG,7,10			03716	14	03688	000-7	
00890	BE	OVTE			03728	46	03796	01200	
00900	ERTEN	RCTY			03740	34	00000	00102	
00910	TFM	STERR+24,7170,8			03752	16	03501	0P170	

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00920	WATY STERR	03764	39	03477	00100
00930	B7 EXITE	03776	49	03636	
00940	DIG DS ,OVERR+32	03688		0	
00950	ZERD DC 12,0	03794		12	
-0000000000					
MORE VALID OPERAND CHECKS					
00960	OVTEN TFM SFVAL+6 , CC+11	03796	16	03838	J3624
00980	TFM CVAL , CC+12	03808	16	03843	J3625
00990	TDM SFVAL+13,9	03820	15	03843	00009
01000	SFVAL SF 0=0	03832	32	00000	00000
01010	CVAL DS ,SFVAL+11	03843		0	
01020	49 CK1ST	03844	49	03984	00000
01030	CKSP CM CVAL , 41,610	03856	14	0384L	000M1
01040	BL ERTEM	03868	47	03740	01300
01050	AM CVAL ,2	03880	11	03843	-0002
01060	CF SFVAL+8,,6	03892	33	0383Q	00000
01070	AM SFVAL+8,2,10	03904	11	03838	000-2
01080	SF SFVAL+8,,6	03916	32	0383Q	00000
01090	CM CVAL ,00,610	03928	14	0384L	000-0
01100	BE CKBLK	03940	46	04052	01200
01110	CM CVAL ,CC+22	03952	14	03843	J3635
01120	BNN RNGECK	03964	46	04088	01300
01130	B7 SFVAL	03976	49	03832	
01140	CK1ST TDM SFVAL+13,1	03984	15	03843	00001
01150	CM CVAL,79,610	03996	14	0384L	000P9
01160	BW ERTEM	04008	46	03740	01100
01170	CM CVAL ,70,610	04020	14	0384L	000P0
01180	RL CKSP	04032	47	03856	01300
01190	B7 ERTEM	04044	49	03740	
01200					
01210	CKBLK C CC+22,ZERD	04052	24	13635	03794
01220	B1 +12,1400	04064	46	04076	01400
01230	BNE ERTEM	04076	47	03740	01200
01240					
CHECK RANGE OF DIM NUMB					
01250	RNGECK CF SFVAL+8,,6	04088	33	0383Q	00000
01270	CM CC+28,7170,8	04100	14	13641	0P170
01280	BL ERTEM	04112	47	03740	01300
01290	CM CC+28,7379,8	04124	14	13641	0P379
01300	BW ERTEM	04136	46	03740	01100
01310	SF CC+11	04148	32	13624	00000
01320	BB2	04160	42		
END OF VALIDITY CHECKS					
01330	OKALL TFM IORT,+23	04162	16	00565	-4185
01350	B IOGT,LIBEF,7, RD LIBRARY NAMES	04174	49	00566	-3031
01360	CO DS ,RNGECK	04088		0	
01370	TFM CO+11,INEQU-5	04186	16	04099	-9995
01380	AZEGU AM CO+11,16	04198	11	04099	-0016
01390	C CO+11,NINES,67	04210	24	0409R	-4312
01400	BE PUT	04222	46	04314	01200
01410	CM CO+11,INEQU+779	04234	14	04099	J0779
01420	RNM AZEGU	04246	47	04198	01100
01430	RCTY	04258	34	00000	00102
01440	TFM STERR+24,7574,8	04270	16	03501	0P574
01450	WATY STERR	04282	39	03477	00100
01460	B7 NAMED	04294	49	03444	

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01470	NINES DC 12,999999999999	04312		12	
01480	PUT TF CO+11,CC+22,6	04314	26	0409R	13635
01490	AM CO+11,4	04326	11	04099	-0004
01500	TFM CO+11,0,68	04338	16	0409R	0-000
01510	TD CO+11,CC+28,6	04350	25	0409R	13641
01520	SM CO+11,1	04362	12	04099	-0001
01530	TD CO+11,CC+26,6	04374	25	0409R	13639
01540	TFM IORT,+23	04386	16	00565	-4409
01550	B IOPT,LIBEF,7, WR LIBRARY NAMES	04398	49	00532	-3031
WRITE CONFIRM MESSAGE					
01560	RCTY	04410	34	00000	00102
01580	WATY PLACE	04422	39	04575	00100
01590	SM CO+11,1	04434	12	04099	-0001
01600	TDM CO+11,0,6	04446	15	0409R	00000
01610	DC 1,,0	04457		1	
01620	SM CO+11,12	04458	12	04099	-0012
01630	WATY CO+11,,6	04470	39	0409R	00100
01640	AM CO+11,12	04482	11	04099	-0012
01650	TFM CO+11,0,610	04494	16	0409R	000-0
01660	AM CO+11,3	04506	11	04099	-0003
01670	TDM CO+11,0,6	04518	15	0409R	00000
01680	DC 1,,0	04529		1	
01690	SM CO+11,4	04530	12	04099	-0004
01700	WNTY CO+11,,6	04542	38	0409R	00100
01710	TDM SYSCAL,3	04554	15	00475	00003
01720	B7 EXITE+12	04566	49	03648	
01730	PLACE DAC 26,FORTRAM LIB NAME ENTERED	04575		26 X	2
FORTRAM LIB NAME ENTERED					
01740					
01741	FLIB TFM IORT,+23	04626	16	00565	-4649
	B IOPT,FLIB1,7	04638	49	00532	-4674
	TRA	04650	36	00000	00500
	FLIB1 DSC 2,22	04662	49	00000	00000
	22	04674		2	
	DSA FLIB2	04680		5 X	1
		04680		-4682	
	DC 1,,	04681		1	
	FLIB2 DSC 1,1	04682		1	
	1	04687		5	
	DC 5,18261	04687		5	
	J8261	04690		3	
	DC 3,017	04690		3	
	-17	04695		5	
	DC 5,03000	04695		5	
	-3000	04696		1	
	DSC 1,,	04696		1	
		04696			
	TCD FLIB	04696			
01750	DEND	00000			

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DIMODA 03008	CKSP 03856	DSEC 09900	IOPT 00532	RDEQU 03292
MONCAL 00796	CKZRO 03552	EQUIV 09940	IURT 00565	RMOK 03196
RNGECK 04088	CNT 03051	ERONE 03600	LIBEF 03031	SFVAL 03032
A2EQU 04198	COMP 03384	ERTEN 03740	NAMER 03444	STERR 03477
ADEQU 03328	CO 04088	EXITE 03636	NINES 04312	TESTL 03506
AM 03140	CVAL 03843	FLIB1 04674	OKALL 04162	ZERD 03794
BM 03176	D4800 03000	FLIB2 04682	OVERR 03696	SYSVAL 00475
CC 13613	DEQU 03023	FLIB 04626	OVTEM 03796	
CK1ST 03984	DFLIB 03040	INEQU 10000	PLACE 04575	
CKBLK 04052	DIG 03688	IOGT 00566	PUT 04314	

END OF ONE ASSEMBLY.

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00010	DDRG 2700		02700		
00020	DC 2,-11,6301		06301	2	
	JJ				
00030	DC 2,-33,6303		06303	2	
	LL				
00040	DC 2,-55,6305		06305	2	
	NN				
00050	DC 2,-77,6307		06307	2	
	PP				
00060	DC 2,-99,6309		06309	2	
	RR				
00070	POINT DS ,6300		06300	0	
00080	LASTNO DC 5,9,6314		06314	5	
	-0009				
00090	NUMSEC DC 3,100,6317		06317	3	
	J00				
00100 *	DCOPY DUP ROUTINE				
00110	INEQU DS ,10000		10000	0	
00120	CC DS ,13613, ALPHA INPUT FOR CONTROL STATEMENT		13613	0	
00130	IOPT DS ,532		00532	0	
00140	IOGT DS ,564		00564	0	
00150	IORT DS ,565		00565	0	
00160	IORBC DS ,520		00520	0	
00170	MONCAL DS ,794		00794	0	
00180	SYSVAL DS ,475		00475	0	
00190 *	CK FOR RK-MK IN CONTROL RECORD				
00200	DCOPY TFM TRM+11,CC-2		02700 16	02759	J3611
00210	BAKT AM TRM+11,2		02712 11	02759	-0002
00220	CM TRM+11,CC+51*2		02724 14	02759	J3715
00230	BH GOONT		02736 46	02760	01100
00240	TRM BNR BAKT,0*0		02748 45	02712	00000
00250	TFM STERR+24,7170,8		02760 16	03633	0P170
00260	B7 ERONE+12		02772 49	03552	
00270 *					
00280 *					
00290	GOONT BD **20,CC+73,, BR IF TO SECTOR GIVEN		02780 43	02800	13686
00300	B7 ERONE,,, OPERAND MISSING		02792 49	03540	
00310	SF CC+99,,, SET UP AND CHECK FOR FILE PROTECTION DESIRED		02800 32	13712	00000
00320	CM CC+100,57,10		02812 14	13713	00007
00330	BNE **24		02824 47	02848	01200
00340	SF STCHG+1,,, SET IND IF FILE PROTECTION DESIRED		02836 32	02861	00000
00350	BD SFSECL,CC+61,,BR IF SECTOR LIMITS GIVEN		02848 43	03176	13674
00360 *	ROUTINE TO CONVERT ALPHA TO NUMERIC				
00370	STCHG TFM ST1+6,CC+23		02860 16	02890	J3636
00380	TFM ST1+11,CC+24		02872 16	02895	J3637
00390	STI TD CC+23,CC+24		02884 25	13636	13637
00400	AM ST1+6,1		02896 11	02890	-0001
00410 *	CK FOR NON-NUMERIC SECTOR ADDRESS				
00420	CM ST1+11,CC+40		02908 14	02895	J3653
00430	BL ON		02920 47	03036	01300
00440	SM ST1+11,1		02932 12	02895	-0001
00450	TD **35,ST1+11,11		02944 25	02979	0289N
00460	AM ST1+11,1		02956 11	02895	-0001
00470	CM **8,07000,710		02968 14	02976	-70-0
00480	BE ON		02980 46	03036	01200
00490	CM **13,0,10		02992 14	02979	000-0

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00500	HE	ON		03004	46	03036	01200
00510	TFM	STERR+24,7175,8		03014	16	03633	0P175
00520	B7	ERONE+12		03028	49	03552	
00530	DN	AM	STI+11,2	03036	11	02895	-0002
00540	CM	STI+11,CC+76		03048	14	02895	J3689
00550	BL	STI		03060	47	02884	01300
00560	BTM	BAK,CKLIM+11,, GET SYSTEM DIMS		03072	17	03268	-3207
00570	MM	DCOPY+68,5,10		03084	13	02768	000-5
00580	TF	LASTNO,99,, PUT LARGEST LEGAL DIM NUMB+1 IN LASTNO		03096	26	06314	00099
00590	*	SAVE SCRATCH AREA DIM					
00600	COPY	DS	,DCOPY			02700	0
00610	TR	COPY+100,COPY+20		03108	31	02800	02720
00620	TDM	COPY+110,0		03120	13	02810	00000
00630	TOM	COPY+109,0		03132	15	02809	00000
00640	A	COPY+108,COPY+108		03144	21	02808	02808
00650	LENC	DS	,COPY+110	02810		0	0
00660	LENC	US	,COPY+110	02810		0	0
00670	*						
00680	BNF	GOAGIN,STCMG+13,, BR IF NO SECTOR LIMITS		03156	44	03452	02873
00690	B7	CKLIM,,, LIMITS GIVEN - GO CHECK LIMITS		03168	49	03196	
00700	SFSECL	SF	STCMG+13,,, PRESERVE INDICATION THAT SECTOR LIMITS GIVEN	03176	32	02873	00000
00710	DIMNO	DS	,CC+26	13639		0	
00720	B7	STCMG		03188	49	02860	
00730	CKLIM	SF	CC+31,2,8, CHECK FOR VALID LIMITS Q HAS NUM EQU DIM	03196	32	13644	0-002
00740	SF	CC+37		03208	32	13650	00000
00750	C	CC+36,CC+42		03220	24	13649	13655
00760	BNM	GOON		03232	47	03968	01100
00770	TFM	STERR+24,7177,8, END ADDRESS GREATER THAN BEGINNING ADDRESS		03244	16	03633	0P177
00780	B7	ERONE+12		03256	49	03552	
00790	*	GET DIM ROUTINE - ENTER USING BTM BAK,DIMADR					
00800	*	GET DIM ROUTINE - UPON EXIT DIM IS IN ADDR AT RMCK+11					
00810	DS	5		03267		5	
00820	BAK	C	+1, LASTNO,6, CK FOR DIM IN RANGE	03268	24	0326P	06314
00830	BL	+32,,, BR IF DIM OK		03280	47	03312	01300
00840	TFM	STERR+24,0076,8, DIM TOO LARGE		03292	16	03633	0-076
00850	B7	ERONE+12,		03304	49	03552	
00860	TFM	CALC1,4800,, CALCULATE THE FROM ADDRESS DIM ADDRESS		03312	16	03642	-4800
00870	TDM	CALC1+1,0		03324	15	03643	00000
00880	A	CALC1+1,BAK-1,11		03336	21	03643	0326P
00890	A	CALC1+1,BAK-1,11		03348	21	03643	0326P
00900	TF	DDADIM,CALC1,, PUT SECTOR ADDRESS IN DDA		03360	26	03657	03642
00910	TFM	IOBT,+23		03372	16	00565	-3395
00920	B	IOBT,DEF1,7, GET DIM		03384	49	00566	-3644
00930	TD	+22,CALC1+1		03396	25	03418	03643
00940	RMCK	BNDIM ,RDDIM,7, BR IF DIM IS OK		03408	45	03440	-2700
00950	TFM	STERR+24,0074,8, ERROR-DIM NOT IN USE		03420	16	03633	0-074
00960	B7	ERONE+12		03432	49	03552	
00970	BDDIM	BB		03440	42	00000	00000
00980	*						
00990	GOAGIN	SF	DIMNO-3	03452	32	13636	C0000
01000	CM	CC+26,0,8		03464	14	13639	0-000
01010	BNE	BTMD		03476	47	03496	01200
01020	B7	EQUOTLU,,, GO GET DIM NUMBER		03488	49	03676	
01030	BTMD	TFM	DDADIM+8,DCOPY-100,, ALTER THE LINKAGE TO RD DIMS	03496	16	03665	-2600
01040	TFM	RMCK+11,DCOPY-100,, ALTER THE DIM GET ROUTINE		03508	16	03419	-2600
01050	BTM	BAK,DIMNO,, GET DIM		03520	17	03268	J3639

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01060	B7	OKGOON		03532	49	04084	
01070	*						
01080	ERONE	TFM	STERR+24,0071,8, ERROR-TO SECTOR NOT GIVEN	03540	16	03633	0-071
01090	RCTY			03552	34	00000	00102
01100	WATY	STERR		03564	39	03609	00100
01110	EXIT	H		03576	48	00000	0C000
01120	OKEXIT	B1	+12,1400	03588	46	03600	01400
01130	B7	MONCAL,,, ONLY EXIT FROM ROUTINE		03600	49	00796	
01140	STERR	DAC	15,DUP* ERROR XX '	03609		15 X	2
01150	*	DUP* ERROR XX '					
01160	CALC1	DC	5,0	03642		5	
			-0000				
01170	DS	1		03643		1	
01180	DEF1	DSC	2,22	03644		2	
			22				
01190	DSA	DDADIM-5		03650		5 X	1
01200	DC	1,1		03650		-3652	
				03651		1	
01210	DSC	1,1		03652		1	
01220	RDDIM	DS	,DCOPY	02700		0	
01230	DCADIM	DC	5,0	03657		5	
			-0000				
01240	DC	3,1		03660		3	
			-01				
01250	DSA	RDDIM		03665		5 X	1
01260	DC	1,1		03665		-2700	
				03666		1	
01270	*						
01280	DEQU	DSC	2,22	03667		2	
			22				
01290	DSA	DCOPY+40		03673		5 X	1
01300	DC	1,1		03673		-2740	
				03674		1	
01310	*						
01320	*	TLU EQUIVALENCE TABLE					
01330	EQUOTLU	BD	+20,CC+11	03676	43	03696	13624
01340	B7	ERONE,,, ERROR - ESSENTIAL OPERAND BLANK		03688	49	03540	
01350	CNT	DS	,ERONE+10	03550		0	
01360	TF	CNT,DCOPY+48,,SAVE NUM SECTORS IN EQU TABLE		03696	26	03558	02748
01370	TFM	DCOPY+53,INEQU,7, FILL IN CORE ADDRESS		03708	16	02753	J0000
01380	TFM	DCOPY+48,16,9, SET NUM SECTORS TO 16		03720	16	02748	00-16
01390	SF	CC+11		03732	32	13624	00000
01400	SM	CNT,16,9		03744	12	03558	00-16
01410	RDEQU	TFM	IOBT,+23,, RD 16 SECTORS EQ TAB	03756	16	00565	-3779
01420	B	IOBT,DEQU,7		03768	49	00566	-3667
01430	TFM	COMP+11,INEQU-5		03780	16	03859	-9995
01440	ADEQU	AM	COMP+11,16	03792	11	03859	-0016
01450	BNR	+20,COMP+11,11		03804	45	03824	0385R

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01460	B7	ERR20,,,	ERROR - NAME NOT IN EQU TAB	03816	49	03948	
01470	CM	COMP+11,INEQU+1600		03824	14	03859	J1600
01480	BH	TESTL,,,	BR IF END OF 16 SECTORS	03836	46	03904	01100
01490	*						
01500	COMP	C	CC+22,0+0	03848	24	13635	00000
01510	BNE	ADEQU,,,	BR NOT FOUND, TRY AGAIN	03860	47	03792	01200
01520	FOUND	AM	COMP+11,4	03872	11	03859	-C004
01530	TF	DIMNO,COMP+11,11,	NAME FOUND - MOVE NUMBER	03884	26	13639	0385R
01540	B7	B7MFC,,,	TAKE SAME PATH AS IF DIM NUM GIVEN	03896	49	03496	
01550	*						
01560	TESTL	CM	CNT,0,9	03904	14	03558	CO-00
01570	BH	ERR20,,,	ERROR - NAME NOT IN EQ TAB	03916	47	03948	01100
01580	A	DCOPY+45,DCOPY+48		03928	21	02745	02748
01590	B7	RDEQU-12		03940	49	03744	
01600	ERR20	TFM	STERR+24,7270 ,8,	03948	16	03633	OP270
01610	B7	ERONE+12		03960	49	03552	
01620	*						
01630	*						
01640	GOON	S	CC+42,CC+36,,	03968	22	13655	13649
01650	AM	CC+42,1	CHANGE SECTOR LIMITS TO SECTOR COUNT	03980	11	13655	-0001
01660	TF	SAVSCT,CC+42,,	SAVE THE SECTOR COUNT	03992	26	04312	13655
01670	SF	CC+40		04004	32	13653	00000
01680	TF	CC+39,CC+42		04016	26	13652	13655
01690	BAK3	CF	CC+31,,,	04028	33	13644	00000
01700	SF	CC+32,,,	FLAG	04040	32	13645	00000
01710	TDM	CC+40,0		04052	15	13653	00000
01720	DC	1,*,*		04063		1	
01730	TR	RDDIM,CC+31		04064	31	02700	13644
01740	B7	LOK		04076	49	04120	
01750	DKGOOM	TR	RDDIM,RMCK+11,11,	04084	31	02700	0341R
01760	TF	SAVSCT, RDDIM+8,,	SAVE SECTOR COUNT	04096	26	04312	02708
01770	CF	SAVSCT-2		04108	33	04310	00000
01780	SAV2	DS	*,*	04119		0	
01790	LOK	TFM	RDDIM+13,INEQU	04120	16	02713	J0000
01800	*		THE NUMB SECTORS NEEDED IS IN SAVSCT				
01810	*						
01820	SF	CC+44		04132	32	13657	CC000
01830	TF	RDDIM+60+5,CC+48,,	MOVE THE	04144	26	02765	13661
01840	TD	RDDIM+60,CC+43 ,,	TO SECTOR	04156	25	02760	13656
01850	TDM	RDDIM+14,0		04168	15	02714	00000
01860	DC	1,*,*		04179		1	
01870	TR	RDDIM+60+6,RDDIM+6,,	PUT SECTOR COUNT + CORE ADDR IN TO CDA	04180	31	02766	02706
01880	*		GET SP LIST				
01890	TD	DDASPL,RDDIM+60,,	GET CORRECT MODULE AND	04192	25	04327	02760
01900	TD	++35 ,RDDIM+61,,	ADDRESS SCHEME FOR SP LIST	04204	25	04239	02761
01910	CF	++23		04216	33	04239	CC000
01920	TD	DDASPL+1,POINT		04228	25	04328	06300
01930	TFM	IORT,++23 ,,	READ THE	04240	16	00565	-4263
01940	B	I0GT,DEFSPL,7,	SP LIST	04252	49	00566	-4319
01950	*		SEARCH FOR CYLINDER				
01960	CYLCMP	HM	RDDIM+65,5	04264	13	02765	-0005
01970	TFM	94,70,10,	SET UP THE SP LIST CYL ENTRY	04276	16	00094	000P0
01980	TF	CYLCMP+3,96		04288	26	04267	00096
01990	*		CYLINDER DESIRED IS AT CYLCMP+3 IN TOXX FORMAT				

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02000	B7	CKSPL		04300	49	04342	
02010	SAVSCT	DC	0,0	04312		6	
			-00000				
02020	SAVCPY	DC	0,0	04318		6	
			-00000				
02030	DEFSPL	DSC	2,22	04319		2	
			22				
02040	DSA	DDASPL		04325		5 x	1
				04325		-4327	
02050	DC	1,*,*		04326		1	
02060	DCASPL	DS	1	04327		1	
02070	DSA	19801		04332		5 x	1
				04332		J9801	
02080	DC	3,100		04335		3	
	J00						
02090	DSA	INEQU		04340		5 x	1
				04340		J0000	
02100	DC	1,*,*		04341		1	
02110	*		LOOK FOR CYLINDER ENTRY OF TO CYLINDER				
02120	CKSPL	SF	INEQU ,2	04342	32	J0000	00000
02130	AM	CKSPL+6,4		04354	11	04348	-0004
02140	AM	CKSPL+42,4		04366	11	04384	-0004
02150	C	INEQU-1,CYLCMP+3,2		04378	24	-9999	04267
02160	BNE	CKSPL		04390	47	04342	01200
02170	*		SP POINTER IN CKSPL+42 HAS ADDR OF CYL ENTRY FOR THE				
02180	*		CYLINDER CONTAINING THE TO SECTOR				
02190	TF	WK1,CKSPL+42,11,	MOVE THE TOXX	04402	26	04556	0438H
02200	TDM	WK1-2,0,11,	MAKE FIELD OXX	04414	15	04554	0000-
02210	A	WK1,WK1,,	FIVE DIGIT SECTOR ADDR OF CYL IS AT WK2	04426	21	04556	04556
02220	*		WK2 CONTAINS THE 5 DIGIT SECTOR ADDRESS OF THE TO CYL				
02230	*		RDDIM+65 CONTAINS THE 5 DIGIT TO SECTOR ADDRESS				
02240	*		CKSPL+42 CONTAINS THE ADDRESS OR THE TO CYL ENTRY IN SP LIST				
02250	*						
02260	LAB	SF	CKSPL+6,,6	04438	32	04340	00000
02270	AM	CKSPL+6,4		04450	11	04348	-0004
02280	AM	CKSPL+42,4		04462	11	04384	-0004
02290	CM	CKSPL+42,9000,68		04474	14	0438H	OR000
02300	BH	AVLENT		04486	26	04560	01100
02310	CM	CKSPL+42,7000,68		04498	14	0438H	OP000
02320	BH	ERUNA		04510	46	04648	01100
02330	CM	CKSPL+42,0001,68		04522	14	0438H	0-001
02340	BE	SCRENT		04534	46	04668	01200
02350	B7	DIMENT		04546	49	04728	
02360	WK1	DC	4,0	04556		4	
			-000				
02370	DSC	1,0		04557		1	
			0				
02380	WK2	DSC	1,0	04558		1	
			0				
02390	*		SAVSCT CONTAINS THE SECTOR COUNT TO BE COPIED				
02400	*		SENSC CONTAINS THE SECTOR COUNT OF SCRATCH AREA				

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02410 *									
02420	AVLENT	TF	WKA,CKSPL+42,11		04560	26	06227	0438M	
02430		SF	WKA-2		04572	32	06225	00000	
02440		A	WK2,WKA,, ADD THE AVAIL SECTORS TO START OF CYLINDER		04584	21	04558	06227	
02450	OUTF1	C	WK2,RDDIM+65		04596	24	04558	02765	
02460		BH	++20		04608	46	04628	01100	
02470		B7	LAB		04620	49	04438		
02480	OUTF	SM	WK2,1		04628	12	04558	-C001	
02490		B7	FOUND5		04640	49	04808		
02500	ERUNA	TFM	STERR+24,0078,8		04648	16	03633	0-078	
02510		B7	ERONE+12		04660	49	03552		
02520	SCRENT	TF	WK2,COPY+25		04668	26	04558	02725	
02530		A	WK2,LENSC		04680	21	04558	02810	
02540		CF	STCMG+1		04692	33	02861	00000	
02550		TFM	STERR+24,7176,8		04704	16	03633	0P176	
02560		B	OUTF		04716	49	04628	0C000	
02570 *									
02580 *									
02590	DIMENT	TF	WKA,CKSPL+42,11		04728	26	06227	0438M	
02600		BTM	BAK,WKA		04740	17	03268	-6227	
02610		TR	WKDIM, RMCK+11,11		04752	31	06228	0341R	
02620		A	WK2,WKDIM+8,, ADD SECTOR COUNT TO BEGIN OF CYL		04764	21	04558	06236	
02630		C	WK2,RDDIM+65		04776	24	04558	02765	
02640		BH	ERLNA		04788	46	04648	01100	
02650		B7	LAB		04800	49	04438		
02660 *									
02670 *			WHEN FOUND5 IS ENTERED WK2 CONTAINS ADDR OF LAST SECT AVAIL						
02680	FOUND5	TF	WKHICP,RDDIM+65		04808	26	06223	02765	
02690		A	WKHICP,RDDIM+68,, ADD SECTOR COUNT TO THE TO SECTOR ADDR		04820	21	06223	02768	
02700		SM	WKHICP,1,, OBTAIN THE LAST SECTOR TO BE COPIED		04832	12	06223	-0001	
02710	CKIT	C	WK2,WKHICP		04844	24	04558	06223	
02720		BML	COPYIT		04856	46	05064	01300	
02730		CM	CKSPL+42,0001,68		04868	14	0438M	0-001	
02740		BE	ERONE+12		04880	46	03552	01200	
02750 *									
02760	LABZ	AM	CKSPL+42,1,10		04892	11	04384	000-1	
02770		SF	CKSPL+42,6		04904	32	0438M	00000	
02780		AM	CKSPL+6,4		04916	11	04348	-0004	
02790		AM	CKSPL+42,3		04928	11	04384	-0003	
02800		CM	CKSPL+42,9000,68		04940	14	0438M	0R000	
02810		BH	AVL		04952	46	04996	01100	
02820		CM	CKSPL+42,7000,68		04964	14	0438M	0P000	
02830		BH	LABZ		04976	46	04892	01100	
02840		B7	ERUNA		04988	49	04648		
02850	AVL	TF	WKA,CKSPL+42,11		04996	26	06227	0438M	
02860		SF	WKA-2		05008	32	06225	00000	
02870		A	WK2,WKA		05020	21	04558	06227	
02880		C	WK2,WKHICP,, WKHICP IS LAST SECTOR TO BE COPIED		05032	24	04558	06223	
02890		BH	COPYIT		05044	46	05064	01100	
02900		B7	LABZ		05056	49	04892		
02910 *									
02920 *			COPY SUBROUTINE						
02930	COPYIT	TF	SAVCPY,SAVSCT,, SAVE THE NUM OF SECTORS		05064	26	04318	04312	
02940		TFM	RDDIM+39,1MEQU		05076	16	02733	J0000	
02950		TF	RDDIM+29,RDDIM+65		05088	26	02725	02765	
02960		TD	RDDIM+20,RDDIM+60		05100	25	02720	02760	

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02970	SAVRD	DS	,FOLNDS		04808		0		
02980	SAVMR	DS	,RDEQU		03756		0		
02990		TR	SAVRD,RDDIM		05112	31	04808	02700	
03000		TR	SAVMR,RDDIM+20		05124	31	03756	02720	
03010	REPEAT	S	SAVCPY,NUMSEC		05136	22	04318	06317	
03020	CHGP	BL	ADJLST		05148	47	05192	01300	
03030		TF	RDDIM+8,NUMSEC		05160	26	02708	06317	
03040		TF	RDDIM+28,NUMSEC		05172	26	02728	06317	
03050		B7	RDWR		05184	49	05252		
03060	ADJUST	A	SAVCPY,NUMSEC		05192	21	04318	06317	
03070		SF	SAVCPY-2		05204	32	04316	0C000	
03080		TF	RDDIM+8,SAVCPY		05216	26	02708	04318	
03090		TF	RDDIM+28,SAVCPY		05228	26	02728	04318	
03100		S	SAVCPY,SAVCPY		05240	22	04318	04318	
03110	RDWR	TFM	IORT,++23		05252	16	00565	-5275	
03120		B	IOGT,DEFIN,7, READ IN NUMSEC - OR LAST REMAINDER RECORD		05264	49	00566	-5379	
03130		BD	SETFPR,CHGP+7,, BR WHILE FLIP PROTECTION IS OCCURRING		05276	43	06036	05155	
03140	WRDSKF	TFM	IORT,++23		05288	16	00565	-5311	
03150		B	IOPT,DEFOUT,7, WRITE COPY		05300	49	00532	-5387	
03160		A	RDDIM+5,RDDIM+8		05312	21	02705	02708	
03170		A	RDDIM+25,RDDIM+28		05324	21	02725	02728	
03180	CFINS	CF	SAVCPY-2		05336	33	04316	00000	
03190		CM	SAVCPY,0,, IS RD-WR FINISHED		05348	14	04318	-0000	
03200		BNZ	REPEAT		05360	47	05136	01200	
03210 *			TRANSFER OF DATA IS COMPLETE						
03220		B7	LCOPY-12		05372	49	05396		
03230	DEFIN	DSC	2,22		05379		2		
03240		DSA	RDDIM		05385		5 X 1		
03250		DC	1,1		05385		-2700		
03260					05386		1		
03260	DEFOUT	DSC	2,22		05387		2		
03270		DSA	RDDIM+20		05393		5 X 1		
03280		DC	1,1		05393		-2720		
03290 *			CHECK FOR FILE PROTECTION DESIRED		05394		1		
03300		BNF	++20,STCMG+1		05396	44	05416	02861	
03310	LCOPY	B7	FILPRO		05408	49	05714		
03320 *			END ROUTINE						
03330	ENDC	TDM	SAVRD+6,0		05416	15	04814	00000	
03340		DC	1,1,0		05427		1		
03350		TDM	SAVMR+6,0		05428	15	03762	00000	
03360		DC	1,1,0		05439		1		
03370		TDM	SAVSCT+1		05440	15	04313	00000	
03380		DC	1,1,0		05451		1		
03390		RCTY			05462	34	00000	00102	
03400		WNTY	SAVSCT-4		05464	38	04308	00100	
03410		WATY	FINNES		05476	39	05605	00100	

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03420	BNF	++36,STCHG+1	05488	44	05524	02861
03430	WNTY	SAVRO+5	05500	38	05743	00100
03440	B	++24	05512	49	05536	00000
03450	WNTY	SAVRD	05524	38	04808	00100
03460	WNTY	FINMS2	05536	39	05665	00100
03470	WNTY	SAVWR	05548	38	03756	00100
03480	BNF	++24,STCHG+1	05560	44	05584	02861
03490	WNTY	FL	05572	39	05675	00100
03500	TDM	SYSCAL,3	05584	15	00475	00003
03510	B7	DKEXIT	05596	49	03588	
03520	*					
03530	FINMES	DAC 30, SECTORS OF DATA COPIED FROM ' SECTORS OF DATA COPIED FROM ' TO ' TO ' AND FILE PROTECTED' AND FILE PROTECTED' FILE PROTECTION ROUTINE	05665		30 X	2
03540	FINMS2	DAC 5, TO ' TO ' AND FILE PROTECTED' AND FILE PROTECTED' FILE PROTECTION ROUTINE	05665		5 X	2
03550	FL	DAC 20, AND FILE PROTECTED' AND FILE PROTECTED' FILE PROTECTION ROUTINE	05675		20 X	2
03560	*					
03570	FILPRO	RCTY	05714	34	00000	00102
03580	WNTY	KEYMES	05726	39	05915	00100
03590	SAVRO	H 0,0,7	05738	48	00000	-0000
03600	DC	1,*,*	05749		1	
03610	TFM	KEYMES+24,4646,8	05750	16	05939	0M646
03620	TDM	DEFIN+1,6	05762	15	05380	00006
03630	TDM	DEFOUT+1,6	05774	15	05388	00006
03640	TDM	CHGP+7,1,, SET IND FOR FILE PROTECTION BRANCH	05786	15	05155	00001
03650	TF	CFINS+11,DUM1+11	05798	26	05347	05913
03660	TF	CFINS+18,DUM+6	05810	26	05354	05900
03670	TR	RDDIM,SAVWR	05822	31	02700	03756
03680	TR	RDDIM+20,SAVWR	05834	31	02720	03756
03690	TFM	RDDIM+8,20,9	05846	16	02708	00-20
03700	TFM	RDDIM+28,20,9	05858	16	02728	00-20
03710	TF	SAVRO+10,SAVRD+5	05870	26	05748	04813
03720	TD	SAVRD+5,SAVRD	05882	25	05743	04808
03730	DUM	B7 RDWR,,0	05894	M9	05252	
03740	DUM1	BD ENDMES,SETX+10,0	05902	M3	05992	06210
03750	*					
03760	KEYMES	DAC 39,DUP* TURN ON WRITE ADDRESS KEY, START' DUP* TURN ON WRITE ADDRESS KEY, START'	05915		39 X	2
03770	*					
03780	ENDMES	RCTY	05992	34	00000	00102
03790	WNTY	KEYMES	06004	39	05915	00100
03800	H		06016	48	00000	00000
03810	B7	ENDC	06028	49	05416	
03820	*					
03830	*	SELECT AND FILE PROTECT THE SECTORS COPIED				
03840	SETFPR	TFM SFFL+11,INEQU,7	06036	16	06083	JC000
03850	AM	SFFL+11,4	06048	11	06083	-C004
03860	CFM	TFM FLAG+1,41,10	06060	16	06145	000M1
03870	SFFL	C SAVWR+5,INEQU,7	06072	24	03761	J0000
03880	BH	FLAG-12	06084	46	06132	01100
03890	PNT	DS ,SFFL+11	06083		0	
03900	C	WKHICP,PNT,11	06096	24	06223	0608L
03910	BL	SETX	06108	47	06200	01300
03920	TFM	FLAG+1,32,10	06120	16	06145	000L2

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03930	SM	PNT,4	06132	12	06083	-0004
03940	FLAG	SF PNT,,6, THIS IS THE SET OR CLEAR FLAG INSTRUCTION	06144	32	0608L	00000
03950	AM	PNT,105	06156	11	06083	-0105
03960	CM	PNT,105*20+INEQU	06168	14	06083	J2100
03970	BNH	SETFPR+12	06180	47	06048	01100
03980	B7	WRDSKF	06192	49	05288	
03990	*					
04000	SETX	TDM SETX+10,9	06200	15	06210	00009
04010	B7	WRDSKF	06212	49	05288	
04020	WKHICP	DS 5	06223		5	
04030	WKA	DS 4	06227		4	
04040	WKDIM	DSS 20	06228		20	
04041	DDRG	6400	06400			
04042	COP	TFM IORT,++23	06400	16	00565	-6423
		B TOPT,COP1,7	06412	49	00532	-6448
		TRA	06424	36	00000	00500
			06436	49	00000	00000
			06448		2	
	COP1	DSC 2,22	06454		5 X	1
		22				
		DSA COP2				
			06454		-6456	
		DC 1, *	06455		1	
		*				
	COP2	DSC 1,1	06456		1	
		1				
		DC 5,19363	06461		5	
		J9363				
		DC 3,037	06464		3	
		-37				
		DC 5,62700	06469		5	
		-2700				
		DSC 1, *	06470		1	
		*				
		TCD COP	06400			
04050	DEND		00000			

ADJUST 05192	DKGOON 04084	COP 06400	IOPT 00532	SAVNR 03756
AVLENT 04560	REPEAT 05136	COPY 02700	IORBC 00520	SETX 06200
COPYIT 05064	ADEQU 03792	DCOPY 02700	IORT 00565	SPFL 06072
CYLCHP 04264	AVL 04996	DEFI 03644	LAB 04438	STI 02884
DDADIM 03657	BAK3 04028	DEFIM 05379	LAB2 04892	STCMG 02860
DDASPL 04327	BAK 03268	DEQU 03667	LCOPY 05408	STERR 03609
DEFOUT 05387	BAKT 02712	DIMMC 13639	LENC5 02810	TESTL 03904
DEFSPL 04319	BBDIM 03440	DUMI 05902	LENSC 02810	TRM 02748
DIMENT 04728	BTND 03496	DUM 05894	LOK 04120	MK1 04554
ENDMES 05992	CALC1 03642	ENDC 05416	ON 03036	MK2 04558
EQUATLU 03676	CC 13613	ERONE 03540	OUTP1 04896	MKA 06228
FILPRD 05714	CFM 06060	ERR20 03948	OUTF 04628	MKDIM 06228
FINMES 05605	CFINS 05336	ERUMA 04648	PNT 06083	SAVCPY 04318
FINMS2 05665	CHGP 05148	EXIT 03576	POINT 06300	SAVCT 04312
FOUNDS 04808	CKIT 04844	FLAG 06144	RDDIM 02700	SCABT 04668
GOAGIN 03452	CKLIM 03196	FL 05675	RDEQU 03756	SETPPR 06036
KEYMES 05915	CKSPL 04342	FOUND 03872	RDNR 02522	SFSECL 03176
LASTND 06314	CNT 03558	GOON 03968	RNCK 03488	SYSCAL 00475
MONCAL 00796	COMPN 03848	GCONT 02780	SAV2 04119	MKMICP 06223
NUMSEC 06317	COP1 06448	INEQU 10000	SAVRD 04808	WRDSKP 05288
OKEXIT 03588	COP2 06456	IOGT 00566	SAVRO 05738	

END OF ONE ASSEMBLY.

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00010 ***
00020 ***
00030 *** SUBROUTINES-DIMMER,GETR,GETL,INSERT,REMOVE,FIND
00040 ***
00050 ***
00060 DORG 2458 02458
00070 IOPT DS ,532 00532 0
00080 IOGT DS ,566 00566 0
00090 IORT DS ,565 00565 0
00100 KING DSC 2.02,, DDA TO FLIP CORE WHEN MOVING PROGRAMS 02458 2
00110 DSA QUEEN 02464 5 X 1
00120 DC 1,' 02464 -2464
00130 QUEEN DSC 1,1 02465 1
00140 DC 5,02000 02471 5
00150 DC 3,140 02474 3
00160 DC 6,05800' 02480 6
00170 CORSIZ DC 3,080,, THE CURRENT SIZE OF THE SPL 02483 3
00180 DIMERR DAC 14,DUP=ERROR 00 ' 02485 14 X 2
00190 TFM DIMERR+22,0071,8 02512 16 02507 0-071
00200 ERRD RCTY DIMERR+22,0071,8 02524 34 00000 00102
00210 WATY DIMERR 02536 39 02485 00100
00220 M 02548 48 00000 00000
00230 B MONCAL 02560 49 00796 00000
00240 DORG -3 02568
00250 DMCOA DSC 2,22,,DDA USED BY DIMMER TO READ IN ONE SECTOR 02568 2
00260 DSA DMREAD 02574 5 X 1
00270 DSC 1,' 02574 -2574
00280 DMREAD DSC 1,0 02575 1
00290 DC 5,0 02576 1
00300 -0000 02581 5
00310 DC 3,1 02584 3
00320 -01 02589 5
00330 DC 5,19900 02590 1
00340 J9900 02591 2
00350 DSC 1,' 02597 5 X 1
00360 DMDDA DSC 2,22,,DDA USED BY THE MOVER TO MOVE PROGRAMS 02597 -2599
00370 DSA RDMOVE

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00350	DSC 1, *	02598	1
00360	RDMOVE DSC 1, 0	02599	1
00370	DC 5, 0	02604	5
00380	DC 3, 140	02607	3
00390	DC 5, 05800	02612	5
00400	DSC 1, *	02613	1
00410	WRMCCA DSC 2, 22, , DDA USED BY THE MOVER TO TRANSFER PROGRAMS	02614	2
00420	DSA WRMVME	02620	5 X 1
00430	DSC 1, *	02620	-2622
00440	WRMOVE DSC 1, 0	02621	1
00450	DC 5, 0	02622	1
00460	DC 3, 140	02627	5
00470	DC 5, 05800	02630	3
00480	DSC 1, *	02635	5
00490	PKODDA DSC 2, 22, , DDA FOR HANDLING THE SPL ON MODULE ZERO	02636	1
00500	USA SPLPK0	02637	2
00510	DSC 1, *	02643	5 X 1
00520	SPLPK0 DSC 1, 1	02643	-2645
00530	DC 5, 19801	02644	1
00540	DC 3, 080	02645	1
00550	DC 5, 05800	02650	5
00560	DSC 1, *	02653	3
00570	PKICDA DSC 2, 22, , DDA FOR HANDLING THE SPL ON MODULE ONE	02658	5
00580	USA SPLPK1	02659	1
00590	DSC 1, *	02660	2
00600	SPLPK1 DSC 1, 3	02666	5 X 1
00610	DC 5, 39801	02666	-2668
	L9801	02667	1
		02668	1
		02673	5

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00620	DC 3, 080	02676	3
00630	DC 5, C5800	02681	5
00640	DSC 1, *	02682	1
00650	PK2CDA DSC 2, 22, , DDA FOR HANDLING THE SPL ON MODULE TWO	02683	2
00660	DSA SPLPK2	02689	5 X 1
00670	DSC 1, *	02689	-2691
00680	SPLPK2 DSC 1, 5	02690	1
00690	DC 5, 59801	02691	1
00700	DC 3, 080	02696	5
00710	DC 5, 05800	02699	3
00720	DSC 1, *	02704	5
00730	PK3DDA DSC 2, 22, , DDA FOR HANDLING THE SPL ON MODULE THREE	02705	1
00740	DSA SPLPK3	02706	2
00750	DSC 1, *	02712	5 X 1
00760	SPLPK3 DSC 1, 7	02712	-2714
00770	DC 5, 79801	02713	1
00780	DC 3, 080	02714	1
00790	DC 5, 05800	02719	5
00800	DSC 1, *	02722	3
00810	THRDDA DSC 2, 22, , DDA TO EXCHANGE CORE WHEN USING THE SPL	02727	5
00820	DSA THROWS	02728	1
00830	DSC 1, *	02729	2
00840	THROWS DSC 1, 1	02735	5 X 1
00850	DC 5, 19801	02735	-2737
00860	DC 3, 080	02736	1
00870	DC 5, 05800	02737	1
00880	DSC 1, *	02742	5
		02749	3
		02750	5
		02751	1

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00890	BAVAIL	DC	4,0,,	ACCUMULATES AVAILABLE BLANK SECTORS FOUND IN MOVE	02755	4
		-000				
00900	CALC2	DC	5,0		02760	5
		-0000				
00910	GOLDEN	DC	1,0,,	LISTER-4	02761	1
		-				
00920	LISTER	DC	4,0,,	HOLDS PRESENT SPL POSITION	02765	4
		-000				
00930	N48000	DC	6,0,48000,,	FIRST SECTOR OF DIM MAP	02771	6
		-48000				
00940		DC	1,0,,	PACK CONTINUED	02772	1
		-				
00950	PACK	DC	1,0,,	PACK NUM FOR SPLIST	02773	1
		-				
00960		DC	1,0		02774	1
		-				
00970	CALC3	DC	6,0		02780	6
		-00000				
00980	CALC4	DC	4,0,,	CALCULATION AREA	02784	4
		-000				
00990		DC	1,0,,	SET UP THE OVERRIDE CODE FOR COMPARIOM	02785	1
		-				
01000	LISTES	DC	6,0,,	DESIRED SECTOR ADDRESS FIND	02791	6
		-00000				
01010	LISTET	DC	4,0,,	NUMBER TO BE INSERTED SPL INSERT	02795	4
		-000				
01020	HEX	DSC	1,0		02796	1
		0				
01030	CONST1	DC	6,0,,	WORK AREAS	02802	6
		-00000				
01040	CONST2	DC	6,0,,		02808	6
		-00000				
01050	QCARRY	DC	6,0,,	WHERE TO LOAD NEXT MOVED SECTORS	02814	6
		-00000				
01060	QHOLD	DC	6,0		02820	6
		-00000				
01070	CONST5	DC	6,0		02826	6
		-00000				
01080	CONST6	DC	6,0		02832	6
		-00000				
01090	CONST7	DC	6,0		02838	6
		-00000				
01100	RACKET	DC	4,0		02842	4
		-000				
01110	STEAL	DC	4,0		02846	4
		-000				
01120	CALC7	DC	3,0		02849	3
		-00				
01130	FAKSEV	DC	4,0,,	HAS SEVEN FROM LISTER	02853	4
		-000				
01140	COMMON	DC	1,0		02854	1
		-				
01150	NONMON	DC	2,0		02856	2
		-0				
01160	NOSECA	DC	1,0		02857	1
		-				

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01170	MOVESA	DC	6,0,,	FOR SECTOR ADDRESS	02863	6
		-00000				
01180	MOVESC	DC	3,0,,	FOR SECTOR COUNT	02866	3
		-00				
01190	CONST8	DC	5,0		02871	5
		-0000				
01200	***					
01210	***					
01220	***					
01230	***					
01240	GETR	TDM	NONMON,1,,	INITIALIZE TO SAVE CORE FOR EXCHANGE OF SPL	02872	15
		TF	94,PACK		02884	26
		TFM	10RT,++23		02896	16
		B	10PT,THRDDA,7		02908	49
		B	REDSPL		02920	49
		DORG	--3		02928	
01300	GETRTR	TF	CALC2,SPLCOR,,	LEFT PRESENT SPL C.A.	02928	26
		AM	SPLCOR,04,10,	LEFT END NEW ENTRY	02940	11
		SF	SPLCOR,,6,	NEW FLAG	02952	32
		DC	4,0,,	DESIRED DIM ENTRY	02963	4
		-000				
01340		AM	CALC2,07,10,	RIGHT END OF NEW ENTRY	02964	11
		TF	LISTER,CALC2,11		02976	26
		B	WHYNOT		02988	49
		DORG	--3		02996	
01380	***					
01390	***					
01400	***					
01410	***					
01420	GETL	TDM	NONMON,2,		02996	15
		B	CLIPPP		03008	49
		DORG	--3		03016	
01430		B	CLIPPP		03016	26
		SM	SPLCOR,04,10,	LEFT END OF NEW ENTRY	03028	12
		SF	SPLCOR,,6,		03040	32
		SM	CALC2,01,10,	RIGHT END NEW ENTRY	03052	12
		TF	LISTER,CALC2,11		03064	26
		B	WHYNOT		03076	49
		DORG	--3		03084	
01520	***					
01530	***					
01540	***					
01550	***					
01560	REMOVE	TDM	NONMON,3,,		03084	15
		B	CLIPPP		03096	49
		DORG	--3		03104	
01590	REMOYR	TF	CALC2,SPLCOR		03104	26
		AM	CALC2,04,10,		03116	11
		TR	SPLCOR,CALC2,611,	CLOSES HOLE	03128	31
		SF	SPLCOR,,6		03140	32
		DC	5,0,,	DIM ADDRESS SPL	03151	5
		-0000				
01640		SM	CALC2,01,10		03152	12
		TF	LISTER,CALC2,11		03164	26
		CF	SPLCOR,,6		03176	33
01670	SPLCYL	DC	5,0,,	CYLINDER SPL	03187	5
		-0000				

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01680	STOMP	CM	PACK,00,1011, PACK ZERO	03188	14	02773	000--
01690		HE	WRTSPO	03200	46	03268	01200
01700		CM	PACK,01,1011,PACK ONE	03212	14	02773	000-J
01710		BE	WRTSP1	03224	46	03300	01200
01720		CM	PACK,02,1011, PACK TWO	03236	14	02773	000-K
01730		BE	WRTSP2	03248	46	03332	01200
01740		B	WRTSP3,,, PACK THREE	03260	49	03364	00000
01750		DORG	*-3	03268			
01760	**		ROUTINE FOR RETURNING APPRIATE SPL TO DISK				
01770	WRTSPO	TFM	IORT,++23	03268	16	00565	-3291
01780		B	IOPT,PKODDA,7	03280	49	00532	-2637
01790		B	WHYNOT	03292	49	03388	00000
01800		DORG	*-3	03300			
01810	WRTSP1	TFM	IORT,++23	03300	16	00565	-3323
01820		B	IOPT,PK1DDA,7	03312	49	00532	-2660
01830		B	WHYNOT	03324	49	03388	00000
01840		DORG	*-3	03332			
01850	WRTSP2	TFM	IORT,++23	03332	16	00565	-3355
01860		B	IOPT,PK2DDA,7	03344	49	00532	-2683
01870		B	WHYNOT	03356	49	03388	00000
01880		DORG	*-3	03364			
01890	WRTSP3	TFM	IORT,++23	03364	16	00565	-3387
01900		B	IOPT,PK3DDA,7	03376	49	00532	-2706
01910	WHYNOT	TFM	IORT,++23,,RESTORES CORE BEFORE RETURNING TC MAINLINE	03388	16	00565	-3411
01920	***						
01930	***		SUBROUTINE-INSERT				
01940	***		INSERTS TO THE LEFT OF THE PRESENT ENTRYAND OPENS LIST				
01950		B	IOGT,THRDDA,7	03400	49	00566	-2729
01960		BB		03412	42	00000	00000
01970		DORG	*-9	03414			
01980	INSERT	TDM	NOMMON,4,,	03414	15	02856	00004
01990		B	CLIPPP	03426	49	02884	00000
02000		DORG	*-3	03434			
02010	INSETR	SF	SPLCOR,,6	03434	32	0315J	00000
02020	FOUND	DC	5,0,,FIND SECTOR TOTAL	03445		5	
			-0000				
02030	**		ROUTINE TO SEE IF LIST IS ALREADY FULL				
02040		TFM	++35,05800,7	03446	16	03481	-5800
02050		AM	++23,04,10	03458	11	03481	000-4
02060	TIPSY	RNR	*-12,99599,,FINDS RECCRD MARK AT END OF LIST	03470	45	03458	99999
02070		TF	CONST2,TIPSY+11	03482	26	02808	03481
02080		AM	CONST2,04,10	03494	11	02808	000-4
02090		TF	CNST3,CONST2	03506	26	03578	02808
02100		SM	CNST3,05800,7	03518	12	03578	-5800
02110		C	CNST3-2,COR512,,COMPARES PRESENT SIZE TO DEFINED LIMIT	03530	24	03576	02483
02120		BL	NERR	03542	47	03580	01300
02130		TFM	DIMERR+22,7178,8	03554	16	02507	0P178
02140		B	ERRD	03566	49	02524	C0000
02150		DORG	*-3	03574			
02160	CNST3	DC	5,0	03578		5	
			-0000				
02170	NERR	TF	CONST2,TIPSY+11,611,OPENS THE LIST	03580	26	02800	0348J
02180		TF	CALC2,SPLCOR	03592	26	02760	03151
02190		AM	CALC2,03,10	03604	11	02760	000-3
02200		TF	CALC2,LISTET,6, INSERTS THE ENTRY FROM LISTET	03616	26	0276-	02795
02210		CF	SPLCOR,,6,	03628	33	0315J	00000

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02220	DRESTR	DC	5,19880,,	03639		5	
		J9880					
02230		AM	SPLCOR,4,10,	03640	11	03151	000-4
02240		CF	SPLCOR,,6	03652	33	0315J	00000
02250		B	STOMP,,,	03664	49	03188	00000
02260		DORG	*-3	03672			
02270	***						
02280	***		THE DIMMER SUBROUTINE FOR BRINGING IN A DIM ENTRY				
02290	***		SPECIFIED IN -NEWDIM- TO BEGIN AT CORE POSITION 19880				
02300	***						
02310	DIMMER	C	NEWDIM,MAXDIM	03672	24	02963	03849
02320		BNM	++32	03684	47	03716	01100
02330		TFM	DIMERR+22,0076,8	03696	16	02507	C-076
02340		B	ERRD	03708	49	02524	
02350		TF	CALC2,NEWDIM	03716	26	02760	02963
02360		A	CALC2,CALC2	03728	21	02760	02760
02370		TF	CALC3,N48000	03740	26	02780	02771
02380		A	CALC3,CALC2,,NEW DIM SECTOR ADDRESS	03752	21	02780	02760
02390		TF	DMREAD+13,DRESTR	03764	26	02589	03639
02400		TD	++23,CALC3	03776	25	03799	02780
02410		SM	DMREAD+12,0,10,ADJUST DIM READER S A	03788	12	02588	000-0
02420		TF	DMREAD+5,CALC3-1	03800	26	02581	02779
02430		TFM	IORT,++23	03812	16	00565	-3835
02440		B	IOGT,DMDDA,7	03824	49	00566	-2568
02450		BB		03836	42	00000	00000
02460		DORG	*-9	03838			
02470	***						
02480	***		THE FIND SUBROUTINE FOR LOCATING A POINT ON A PARTICULAR				
02490	***		SPL FROM AN ADDRESS GIVEN IN -LISTES-				
02500	***						
02510	FIND	SF	LISTES-5,,8	03838	32	02786	0-000
02520		CF	LISTES-4	03850	33	02787	00000
02530		TF	19885,LISTES,,ACCEPTS SECTOR ARGUMENT	03862	26	19885	02791
02540		BT	SPLIST,SPLIST-1,,FINDSTART OF CYLINDER	03874	27	04330	04329
02550		TDM	NOMMON,5	03886	15	02856	00005
02560		B	CLIPPP	03898	49	02884	00000
02570		DORG	*-3	03906			
02580	FINDTR	TF	CALC2-1,NEWDIM	03906	26	02759	02963
02590		TDM	CALC2-4,,11,FLAG ZERO	03918	15	02756	0000-
02600		MM	CALC2-1,02,10,FIND SECTOR	03930	13	02759	000-2
02610		TFM	ADRSP,,7, ZERO THE FIELD	03942	16	04520	-0000
02620		SF	97,,PICK UP COUNT	03954	32	00097	00000
02630		TF	ADRSP-2,99,, MOVE SECTOR CYL ADDRESS	03966	26	04518	00099
02640		TD	ADRSP-4,LISTES-4	03978	25	04516	02787
02650		SF	ADRSP-4	03990	32	04516	00000
02660	TRYAGN	TF	CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	04002	26	02760	03151
02670		AM	SPLCOR,04,10, LEFT END NEW ENTRY	04014	11	03151	000-4
02680		SF	SPLCOR,,6,NEW FLAG	04026	32	0315J	00000
02690		AM	CALC2,07,10,RIGHT END OF NEW ENTRY	04038	11	02760	000-7
02700		TF	LISTER,CALC2,11	04050	26	02765	0276-
02710		TD	CALC4,SPLCOR,11,	04062	25	02784	0315J
02720		CM	CALC4,09,1011, BLANK SECTORS	04074	14	02784	000-R
02730		BE	ADDBLK	04086	46	04286	01200
02740		TF	NEWDIM,LISTER	04098	26	02963	02765
02750		BT	DIMMER,DIMMER-1	04110	27	03672	03671
02760		C	19885,ADRSP,,DOES THIS PROGRAM BEGIN ON THIS CYLINDER	04122	24	19885	04520

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02770	BNL	0+48	04134	46	04182	01300
02780	S	19885,ADRSP	04144	22	19885	04520
02790	SF	19883	04158	32	19883	00000
02800	A	19888,19885	04170	21	19888	19885
02810	A	ADRSP,19888,, ADD SECTOR TOTAL,ADJUSTED IF NECESSARY	04182	21	04520	19888
02820	PLUSSR	SF LISTES-4	04194	32	02787	00000
02830	C	ADRSP,LISTES,,HAS THE CORRECT ENTRY BEEN REACHED	04206	24	04520	02791
02840	CF	LISTES-4	04218	33	02787	00000
02850	BNM	TRYAGN	04230	47	04002	01100
02860	TF	FOUND,ADRSP	04242	26	03445	04520
02870	RLGONE	TFM IORT,0+23	04254	16	00565	-4277
02880	B	IOGT,THRDDA,7	04266	49	00566	-2729
02890	B	0,,2, EXIT TO BE FILLED	04278	49	-4278	00000
02900	DORG	0-3	04286			
02910	ACDBLK	SF LISTER-2	04286	32	02763	00000
02920	A	ADRSP,LISTER,,ADD IN THE COUNT FOR BLANK SECTORS	04298	21	04520	02765
02930	CF	LISTER-2	04310	33	02763	00000
02940	B	PLUSSR	04322	49	04194	00000
02950	DORG	0-3	04330			
02960	NEVER	DC 2,0,ADDBLK+11	04297		2	
		-0				
02970	CLEVER	DC 1,0,ADDBLK+35	04321		1	
		-				
02980	***	ROUTINE FOR BRINGING IN THE PROPER LIST AND				
02990	***	SCANNING TO THE CORRECT CYLINDER ENTRY				
03000	SPLIST	TFM IORT,0+23	04330	16	00565	-4353
03010	B	IOPT,THRDDA,7	04342	49	00532	-2729
03020	TDM	19880,,11,FLAG ZERO	04354	15	19880	0000-
03030	MM	19885,05,10	04366	13	19885	000-5
03040	CF	COMMON	04378	33	02854	00000
03050	SF	94,,DESIRED CYLINDER	04390	32	00094	00000
03060	SF	93	04402	32	00093	00000
03070	TD	STARDT+10,95,,SET-UP SEARCH FOR THE CORRECT CYLINDER	04414	25	05032	00095
03080	TD	STARDT+11,96	04426	25	05033	00096
03090	MM	LISTES-5,9C000,7,USE OVERRIDE CODE TO DETERMINE MODULE	04438	13	02786	00000
03100	SF	94	04450	32	00094	00000
03110	B	RDSPL	04462	49	04594	00000
03120	DORG	0-3	04470			
03130	SPLINI	BNF 0+20,COMMON	04470	44	04490	02854
03140	B	GETBAK	04482	49	05170	00000
03150	DORG	0-3	04490			
03160	TDM	CALC4-1,0,11,SET-UP CALC4	04490	15	02783	0000-
03170	TFM	ADRSP,05800	04502	16	04520	-5800
03180	LPSRDA	NOP ,,, HOLDS COUNT POSITION FOR SPL LIST	04514	41	00000	00000
03190	TD	CALC4,ADRSP ,11, PREPARE TO COMPARE	04526	25	02784	0452-
03200	CF	CALC4	04538	33	02784	00000
03210	CM	CALC4,7,10	04550	14	02784	000-7
03220	BE	COMCYL	04562	46	04986	01200
03230	SPLADD	AM ADRSP ,04,10,,NEXT ENTRY	04574	11	04520	000-4
03240	B	ADRSP+6	04586	49	04526	00000
03250	DORG	0-3	04594			
03260	RDSPL	TF KEVE,94	04594	26	05009	00094
03270	TF	NEVER,LISTES-4,,CORRECT TENTHOUSANDS POSITION	04606	26	04297	02787
03280	TDM	NEVER-1,,11	04618	15	04296	0000-
03290	MM	NEVER,05,10	04630	13	04297	000-5
03300	BD	0+24,99	04642	43	04666	00099

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03310	AM	NEVER,1,10.	04654	11	04297	000-1
03320	TD	CLEVER,NEVER	04666	25	04321	04297
03330	SF	CLEVER	04678	32	04321	00000
03340	***	ROUTINE TO READ IN CORRECT SPL				
03350	TF	94,KEVE	04690	26	00094	05009
03360	REDSPL	CM 94,0,1011, PACK ZERO	04702	14	00094	000-
03370	TF	PACK,94,,SAVE PACK NUM	04714	26	02773	00094
03380	BE	REDSPO	04726	46	04810	01200
03390	CM	94,1,1011, PACK ONE	04738	14	00094	000-J
03400	BE	REDSPL	04750	46	04854	01200
03410	CM	94,2,1011, PACK TWO	04762	14	00094	000-K
03420	BE	REDSPL	04774	46	04898	01200
03430	CM	94,3,1011, PACK THREE	04786	14	00094	000-L
03440	BE	REDSPL	04798	46	04942	01200
03450	REDSPO	TD SPLPK0+1,CLEVER	04810	23	02646	04321
03460	TFM	IORT,0+23	04822	16	00565	-4845
03470	B	IOGT,PK0DDA,7	04834	49	00566	-2637
03480	B	SPLINI	04846	49	04470	00000
03490	DORG	0-3	04854			
03500	REDSPL	TD SPLPK1+1,CLEVER	04854	25	02649	04321
03510	TFM	IORT,0+23	04866	16	00565	-4889
03520	B	IOGT,PK1DDA,7	04878	49	00566	-2660
03530	B	SPLINI	04890	49	04470	00000
03540	DORG	0-3	04898			
03550	REDSPL	TD SPLPK2+1,CLEVER	04898	25	02692	04321
03560	TFM	IORT,0+23	04910	16	00565	-4933
03570	B	IOGT,PK2DDA,7	04922	49	00566	-2683
03580	B	SPLINI	04934	49	04470	00000
03590	DORG	0-3	04942			
03600	REDSPL	TD SPLPK3+1,CLEVER	04942	25	02715	04321
03610	TFM	IORT,0+23	04954	16	00565	-4977
03620	B	IOGT,PK3DDA,7	04966	49	00566	-2706
03630	B	SPLINI	04978	49	04470	00000
03640	DORG	0-3	04986			
03650	COMCYL	TF SPLCYL,ADRSP ,CYLCORE POSITION	04986	26	03187	04520
03660	SF	ADRSP,,6	04998	32	0452-	00000
03670	KEVE	DS ,COMCYL+23	05009		0	
03680	AM	SPLCYL,03,10	05010	11	03187	000-3
03690	STARDT	CM SPLCYL,7000,68,IS THIS THE RIGHT CYLINDER	05022	14	03187	00000
03700	BE	SPLXT	05034	46	05066	01200
03710	CF	ADRSP,,6	05046	33	0452-	00000
03720	B	SPLADD	05058	49	04574	00000
03730	DORG	0-3	05066			
03740	SPLXT	TF SPLCOR,SPLCYL,,FIND DIM NUM LOCATION	05066	26	03151	03187
03750	SM	SPLCYL,03,10,BACK TO HIGH ORDER POSITION	05078	12	03187	000-3
03760	SF	SPLCYL,,6	05090	32	03187	00000
03770	TF	NEWDIM,SPLCOR, 11,CYLINDER DESIRED	05102	26	02963	0315J
03780	TF	LISTER,SPLCOR,11.	05114	26	02765	0315J
03790	TF	SPLCOR,SPLCYL	05126	26	03151	03187
03800	TF	SPLCYL,ADRSP	05138	26	03187	04520
03810	SF	COMMON	05150	32	02854	00000
03820	B	WHYNOT	05162	49	03388	00000
03830	DORG	0-3	05170			
03840	***	LINKAGE TO RETURN TO PROPER SUBROUTINE AFTER SAVING CORE				
03850	GETBAK	CM NONMON,01,10	05170	14	02856	000-1
03860	BE	GETRTR	05182	46	02928	01200

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03870	CM	NOMMON,02,10	05194	14	02856	000-2
03880	BE	GETLTR	05206	46	03016	01200
03890	CM	NOMMON,03,10	05218	14	02856	000-3
03900	BE	REMOTR	05230	46	03104	01200
03910	CM	NOMMON,04,10	05242	14	02856	000-4
03920	BE	INSETR	05254	46	03434	01200
03930	B	FINDTR	05266	49	03906	00000
03940	DORG	=-3	05274			
03950	ADR SPL DS	,LPSRDA+6	04520		0	
03960	***	PORTION OF THE MOVER SUBROUTINE WHICH MOVES THE DATA				
03970	COMPR	TFM IORT,++23	05274	16	00565	-5297
03980	B	IOPT,KING,7,SAVE THE INFORMATION IN CORE	05286	49	00532	-2458
03990	CM	CALC7,140,9,REGULAR READ	05298	14	02849	00J40
04000	BL	SPCRD	05310	47	05462	01300
04010	SM	RDMOVE+5,140,9	05322	12	02604	00J40
04020	SM	WRMOVE+5,140,9	05334	12	02627	00J40
04030	WHIPIT	TFM IORT,++23	05346	16	00565	-5369
04040	B	IOGT,RDMDDA,7	05358	49	00566	-2591
04050	TFM	IORT,++23	05370	16	00565	-5393
04060	B	IOPT,WRMDDA,7	05382	49	00532	-2614
04070	SM	CALC7,140,9	05394	12	02849	00J40
04080	CM	CALC7,140,9	05406	14	02849	00J40
04090	BNH	SPCRD	05418	47	05462	01100
04100	SM	WRMOVE+5,140,9,ADJUST COUNT AND DDA AFTER TRANSFERING 140 SE	05430	12	02627	00J40
04110	SM	RDMOVE+5,140,9	05442	12	02604	00J40
04120	B	WHIPIT	05454	49	05346	00000
04130	DORG	=-3	05462			
04140	SPCRD	TF RDMOVE+8,CALC7,,TRANSFER LAST PORTION OF PROGRAM	05462	26	02607	02849
04150	TF	WRMOVE+8,CALC7	05474	26	02630	02849
04160	S	WRMOVE+5,CALC7	05486	22	02627	02849
04170	S	RDMOVE+5,CALC7	05498	22	02604	02849
04180	TFM	IORT,++23	05510	16	00565	-5533
04190	B	IOGT,RDMDDA,7	05522	49	00566	-2591
04200	TFM	IORT,++23	05534	16	00565	-5557
04210	B	IOPT,WRMDDA,7	05546	49	00532	-2614
04220	TFM	WRMOVE+8,140,9, RESTORE CONSTANTS TO 140	05558	16	02630	00J40
04230	TFM	RDMOVE+8,140,9	05570	16	02607	00J40
04240	TF	MPT,19885,, SAVE ADDRESS OF LAST PROGRAMS ORIGINAL SECTOR A	05582	26	08636	19885
04250	TF	19885,WRMOVE+5,,CORRECT SECTOR ADDRESS IN DIM ENTRY	05594	26	19885	02627
04260	TFM	IORT,++23	05606	16	00565	-5629
04270	B	IOPT,DMDDA,7	05618	49	00532	-2568
04280	TFM	IORT,++23	05630	16	00565	-5653
04290	B	IOGT,KING,7	05642	49	00566	-2458
04300	B	MARVEL	05654	49	10908	00000
04310	DORG	=-3	05662			
04320	ERR	BNF +*68,FORT,,CHECK FOR ERROR 60 IN DLOAD	05662	44	05730	13114
04330	TFM	DIMERR+22,7670,8	05674	16	02507	0P670
04340	PCTY		05686	34	00000	00102
04350	WATY	DIMERR	05698	39	02485	00100
04360	BNF	FRD+24,DUMP	05710	44	02548	13426
04370	B	PATCH3	05722	49	14936	00000
04380	DORG	=-3	05730			
04390	TFM	DIMERR+22,0078,8	05730	16	02507	0-078
04400	B	ERRD	05742	49	02524	00000
04410	DORG	=-3	05750			
04420	NINESC	DC 4,9C00	05753		4	
	ROOD					

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04430	CONST3	DC 6,0	05759		6	
		-00000				
04440	SPLFL	TFM IORT,++23,, LINKAGE FOR THROWING SACRED SIX TO DISK WHEN LOA	05760	16	00565	-5783
04450	B	IOPT,SPLR2,7	05772	49	00532	-5823
04460	TRA		05784	36	00000	00500
			05796	49	00000	00000
04470	SPLR1	DSC 1,1	05808		1	
		1				
04480	DC	5,18298	05813		5	
		J8298				
04490	DC	3,033	05816		3	
		-33				
04500	DC	5,02458	05821		5	
		-2458				
04510	DSC	1,1	05822		1	
		1				
04520	SPLR2	DSC 2,22	05823		2	
		22				
04530	DSA	SPLR1	05829		5 X 1	
04540	DSC	1,1	05829		-5808	
		1	05830		1	
04550	TCD	SPLFL	05760			
04560	DORG	8500	08500			
04570	MOVFL	TFM IORT,++23,, LINKAGE FOR THROWING MOVER TO DISK WHEN LOADING	08500	16	00565	-8523
04580	B	IOPT,MOVFL1,7	08512	49	00532	-8548
04590	TRA		08524	36	00000	00500
			08536	49	00000	00000
04600	MOVFL1	DSC 2,22	08548		2	
		22				
04610	DSA	MOVFL2	08554		5 X 1	
04620	DSC	1,1	08554		-8556	
		1	08555		1	
04630	MOVFL2	DSC 1,1	08556		1	
		1				
04640	DC	5,18331	08561		5	
		J8331				
04650	DC	3,038	08564		3	
		-38				
04660	DC	5,08600	08569		5	
		-8600				
04670	DSC	1,1	08570		1	
		1				
04680	***					
04690	***					
04700	***	THE MOVER SUBROUTINE FOR PREPARING A PLACE TO PUT A PROGRAM GIVE				
04710	***	A STARTING SECTOR ADDRESS -MOVESA- AND A SECTOR COUNT -MOVESC-				
04720	***					
04730	***					
04740	DORG	8600	08600			
04750	SFSUCE	SF SUCESS	08600	32	13118	00000
04760	TF	MOVESC,SFSUCE+11,, RESTORE MOVE SECTOR COUNT.	08612	26	02866	08611

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04770	EXITMR	B	*,*,TO BE TFM BY CALLING PROGRAM	08624	49	08624	00000
04780		DDRG	*-3	08632			
04790	MPT	DC	5,0	08636		5	
			-0000				
04800	PRE7	TFM	IORT,*,*23	08638	16	00565	-8661
04810		B	IOGT,NOMA,7, LINKAGE FOR BRINGING IN THE SECCND HALF OF MOV	08650	49	00566	-8670
04820		B	PRE7A	08662	49	09000	00000
04830		DDRG	*-3	08670			
04840	NOMA	DSC	2,22	08670		2	
			22				
04850		DSA	NOMB	08676		5 X	1
04860		DC	1,1	08676		-8678	
				08677		1	
04870	NOMB	DSC	1,1	08678		1	
			1				
04880		DC	5,17106	08683		5	
			J7106				
04890		DC	3,022	08686		3	
			-22				
04900		DC	6,09000'	08692		6	
			-9000'				
04910	TRWCAR	DSC	2,22,, DDA FOR MOVING DATA	08693		2	
			22				
04920		DSA	MOVCAR	08699		5 X	1
04930		DC	1,1	08699		-8701	
				08700		1	
04940	MOVCAR	DSC	1,0	08701		1	
			0				
04950		DC	5,0	08706		5	
			-0000				
04960		DC	3,060	08709		3	
			-60				
04970		DC	5,13776	08714		5	
			J3776				
04980		DC	1,1	08715		1	
04990	TRMBUS	DSC	2,22,, DDA FOR MOVING DATA	08716		2	
			22				
05000		DSA	MOVBUS	08722		5 X	1
05010		DC	1,1	08722		-8724	
				08723		1	
05020	MOVBUS	DSC	1,0	08724		1	
			0				
05030		DC	5,0	08729		5	
			-0000				
05040		DC	3,060	08732		3	
			-60				
05050		DC	5,13776	08737		5	
			J3776				
05060		DC	1,1	08738		1	

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05070	TRWA	DSC	2,22,, DDA FOR MOVINGDATA	08739		2	
			22				
05080		DSA	LOPEZA	08745		5 X	1
05090		DC	1,1	08745		-8747	
				08746		1	
05100	LOPEZA	DSC	1,0	08747		1	
			0				
05110		DC	5,0	08752		5	
			-0000				
05120		DC	3,060	08755		3	
			-60				
05130		DC	5,13776	08760		5	
			J3776				
05140		DC	1,1	08761		1	
05150	TRWB	DSC	2,22,, DDA FOR MOVING DATA	08762		2	
			22				
05160		DSA	LOPEZB	08768		5 X	1
05170		DC	1,1	08768		-8770	
				08769		1	
05180	LOPEZB	DSC	1,0	08770		1	
			0				
05190		DC	5,0	08775		5	
			-0000				
05200		DC	3,060	08778		3	
			-60				
05210		DC	5,13776	08783		5	
			J3776				
05220		DC	1,1	08784		1	
05230	MONITR	DS	,796	08796		0	
05240	KEYS	DSC	1,0	08785		1	
			0				
05250	CALC6	DC	5,0	08790		5	
			-0000				
05260	CALC3	DC	6,0	08796		6	
			-00000				
05270	ZEROES	DC	10,0	08806		10	
			-000000000				
05280	CURREN	DC	3,0	08809		3	
			-00				
05290	LIMIT	DC	3,099	08812		3	
			-99				
05300	KEY1	DSC	1,0	08813		1	
			0				
05310	DIMHLD	DC	9,0	08822		9	
			-00000000				
05320	DIMENT	DS	,19880, CONTROL FIELD FOR NOWDIN	19880		0	
05330	MOVER	SF	MOVESA-3	08824	32	02858	00000
05340		CF	MOVESA-4	08836	33	02859	00000
05350		TF	SFSLCE+11,MOVESC,, STORE MOVE SECTOR COUNT.	08848	26	08611	02866
05360		YF	LISTES,MOVESA,, FIND POINT IN LIST WHERE PROGRAM IS TO BEGI	08860	26	02791	02863

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05370	TFM	RLGONE+30,++20	08872	16	04284	-8892
05380	B	FIND	08884	49	03838	00000
05390	DORG	*-3	08892			
05400	CM	LISTER-3,09,1011,LOOK FOR BLANK ENTRY	08892	14	02762	000-R
05410	BE	MIDNIT	08904	46	09372	01200
05420	TF	NEWDIM,LISTER,, MOVESA IS 9N THE MIDDLE OF A PROGRAM	08916	26	02963	02765
05430	BT	DIMMER,DIMMER-1	08928	27	03672	03671
05440	SF	MOVESA-4	08940	32	02859	00000
05450	TF	CONST5,19885	08952	26	02826	19885
05460	S	CONST5,MOVESA	08964	22	02826	02863
05470	CF	MOVESA-4	08976	33	02859	00000
05480	SF	CONST5-3	08988	32	02823	00000
05490	TF	BAVAIL,CONST5,, ADJUST BLANK AVAIL TO MINUS TO ALLOW FOR DIM	09000	26	02755	02826
05500	BNF	FILTST,19899,, IS THE PROGRAM FILE PROTECTED	09012	44	10204	19899
05510	MSTAKE	CF	09024	33	13118	00000
05520	TF	SUCCESS,,ERROR EXIT	09036	26	02866	08611
05530	B	MOVESC,SFSUCE+11,, RESTORE MOVE SECTOR COUNT.	09048	49	08624	00000
05540	DORG	*-3	09056			
05550	DSEVEN	SF	09056	32	02787	00000
05560	S	LISTES-4	09068	22	03445	02791
05570	SF	FOUND,LISTES	09080	32	03442	00000
05580	TF	FOUND-3	09092	26	02808	03445
05590	ACTAJ	C	09104	24	02808	02866
05600	BML	CONST2,MOVESC,, ENOUGH SECTORS AVAILABLE	09116	46	09260	01300
05610	ACTAH	BT	09128	27	02872	02871
05620	CM	GETR,GETR-1,, LOOK FOR MORE ROOM	09140	14	02762	000-P
05630	BE	LISTER-3,7,1011	09152	46	09128	01200
05640	CM	ACTAH	09164	14	02762	000-R
05650	BNE	LISTER-3,9,1011	09176	47	09220	01200
05660	SF	ACTAK	09188	32	02763	00000
05670	A	LISTER-2	09200	21	02808	02765
05680	B	CONST2,LISTER	09212	49	09104	00000
05690	DORG	*-3	09220			
05700	ACTAK	TF	09220	26	02791	02863
05710	TFM	LISTES,MOVESA,, REPOSITION LISTER TO MOVESA	09232	16	04284	-9252
05720	B	RLGONE+30,++20	09244	49	03838	00000
05730	DORG	*-3	09252			
05740	B	FIND	09252	49	10348	00000
05750	DORG	*-3	09260			
05760	ACTAG	TF	09260	26	02791	02863
05770	TFM	LISTES,MOVESA,, REPOSITION FIND TO MOVESA	09272	16	04284	-9292
05780	B	RLGONE+30,++20	09284	49	03838	00000
05790	DORG	*-3	09292			
05800	BT	BLANKT,, PROGRAMS MUST BE MOVED	09292	27	02872	02871
05810	SF	GETR,GETR-1	09304	32	02763	00000
05820	MM	LISTER-2	09316	13	02765	00000
05830	TF	LISTER-200,9	09328	26	02802	00099
05840	BT	CONST1,99	09340	27	02996	02995
05850	SF	GETL,GETL-1	09352	32	02763	00000
05860	B	LISTER-2	09364	49	09552	00000
05870	DORG	*-3	09372			
05880	MIDNIT	SF	09372	32	02859	00000
05890	SF	MOVESA-4,, MOVESA IS AT AN AREA COVERED BY BLANK SECTORS	09384	32	02763	00000
05900	BT	LISTER-2	09396	27	02872	02871
05910	CM	GETR,GETR-1	09408	14	02762	000-P
05920	BE	LISTER-3,7,1011	09420	46	09056	01200
		DSEVEN				

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05930	TF	NEWDIM,LISTER,, POSITION END OF BLANKS FROM THIS DIMS SECTOR	09432	26	02963	02765
05940	BT	DIMMER,DIMMER-1	09444	27	03672	03671
05950	TF	CONST1,19885	09456	26	02802	19885
05960	ZSEVEN	TF	09468	26	02832	02863
05970	TF	CONST6,MOVESA	09480	26	05759	02802
05980	BT	CONST3,CONST1	09492	27	02996	02995
05990	SF	GETL,GETL-1	09504	32	02763	00000
06000	A	LISTER-2	09516	21	02832	02866
06010	C	CONST6,MOVESC,, IS THERE ENOUGH ROOM TO LOAD THE MOVESC	09528	24	02832	02802
06020	BH	CONST6,CONST1,,	09540	46	10348	01100
06030	ACTAA	S	09552	22	02802	02765
06040	TF	CONST1,LISTER,, ENOUGH ROOM HAS BEEN FOUND WITHOUT MOVING PRO	09564	26	02808	02863
06050	S	CONST2,MOVESA	09576	22	02808	02802
06060	SF	CONST2,CONST1	09588	32	02806	00000
06070	TF	CONST2-2	09600	26	09635	02808
06080	CF	*+35,CONST2,, PREPARE THE TRAILING NINES ENTRY	09612	33	09633	00000
06090	TFM	*+21	09624	16	02795	00000
06100	CM	LISTER,9000,8	09636	14	02795	00000
06110	BE	LISTER,9000,8	09648	46	09672	01200
06120	BT	*+24	09660	27	03414	03413
06130	NONAME	BT	09672	27	03084	03083
06140	CM	INSERT,INSERT-1	09684	14	02762	000-P
06150	BNE	REMOVE,REMOVE-1	09696	47	09896	01200
06160	SF	LISTER-3,7,1011	09708	32	02763	00000
06170	MM	ACTAD	09720	13	02765	00000
06180	TFM	LISTER-2	09732	16	00095	00000
06190	TF	MM	09744	26	05759	00099
06200	S	95,99,10,, TO COMPENSATE FOR PACK ADDRESSING	09756	22	00099	02863
06210	SF	TF	09768	32	00097	00000
06220	C	97	09780	24	00099	02866
06230	BML	99,MOVESC	09792	46	09968	01300
06240	A	ACTAC	09804	21	02863	00099
06250	S	MOVESA,99	09816	22	02866	00099
06260	TF	MOVESC,99	09828	26	09863	00099
06270	CF	*+35,99,, PREPARE EIGHTS ENTRY OF MOVESC	09840	33	09861	00000
06280	TFM	*+21	09852	16	02795	00099
06290	BT	LISTER,8999,8	09864	27	03414	03413
06300	BT	INSERT,INSERT-1	09876	27	02872	02871
06310	B	GETR,GETR-1	09888	49	09672	00000
06320	DORG	NONAME	09896			
06330	ACTAD	TF	09896	26	02963	02765
06340	BT	NEWDIM,LISTER,, USE DIM ENTRY TO FIND SECTOR ADDRESS	09908	27	03672	03671
06350	TF	DIMMER,DIMMER-1	09920	26	05759	19885
06360	TD	CONST3,19885	09932	25	05754	19880
06370	CF	CONST3-5,19880	09944	33	05755	00000
06380	SF	CONST3-4	09956	32	05754	00000
06390	ACTAC	TF	09968	26	10003	02866
06400	CF	*+35,MOVESC,, PREPARE AN EIGHTS ENTRY OF MOVESC	09980	33	10001	00000
06410	TFM	*+21	09992	16	02795	00000
06420	BT	LISTER,8000,8	10004	27	03414	03413
06430	TF	INSERT,INSERT-1	10016	26	02808	02863
06440	A	CONST2,MOVESA	10028	21	02808	02866
06450	S	CONST2,MOVESC	10040	22	05759	02808
06460	SF	CONST3,CONST2	10052	32	05757	00000
06470	TF	CONST3-2	10064	26	10099	05759
06480	CF	*+35,CONST3,, PREPARE THE LEADING NINES ENTRY	10076	33	10097	00000
		*+21				

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06490	TFM	LISTET,9000,8	10088	16	02795	0R000
06500	CM	LISTET,9000,8	10100	14	02795	0R000
06510	BE	*+24	10112	46	10136	01200
06520	BT	INSERT,INSERT-1	10124	27	03414	03413
06530	REMSIL CF	MOVESA-4,,,POSITION LISTER FOR EXIT	10136	33	02859	00000
06540	BT	GETL,GETL-1	10148	27	02996	02995
06550	CM	LISTER-3,08,1011	10160	14	02762	000-Q
06560	BNE	*-24	10172	47	10148	01200
06570	BT	GETR,GETR-1	10184	27	02872	02871
06580	B	SFSUCE	10196	49	08600	00000
06590	DORG	*-3	10204			
06600	FILST BNG	GORT,19899,, CHECK FOR FILE PROTECTION	10204	55	10224	19899
06610	B	MSTAKE	10216	49	09024	00000
06620	DORG	*-3	10224			
06630	GORT BT	GETR,GETR-1,, SEARCH FOR MORE BLANK SECTORS	10224	27	02872	02871
06640	CM	LISTER-3,07,1011, CYL REPRESENTED	10236	14	02762	000-P
06650	BE	GORT	10248	46	10224	01200
06660	CM	LISTER-3,09,1011,BLANKS	10260	14	02762	000-R
06670	BE	BAVADD	10272	46	10464	01200
06680	TF	NEWDIM,LISTER	10284	26	02963	02765
06690	BT	DIMMER,DIMMER-1	10296	27	03672	03671
06700	BNG	*+20,19899,, FILE PROTECTED PROGRAM	10308	55	10328	19899
06710	B	FILST*12	10320	49	10216	00000
06720	DORG	*-3	10328			
06730	BNF	GORT,19899,,IMMOVABLE PROGRAM	10328	44	10224	19899
06740	B	MSTAKE	10340	49	09024	00000
06750	DORG	*-3	10348			
06760	BLANKT SF	LISTYES-3	10348	32	02788	00000
06770	TF	CONSTS,FOUND	10360	26	02826	03445
06780	S	FOUND,LISTES	10372	22	03445	02791
06790	CF	LISTES-3	10384	33	02788	00000
06800	SF	FOUND-3	10396	32	03442	00000
06810	TF	BAVAIL,FOUND	10408	26	02755	03445
06820	CF	FOUND-3	10420	33	03442	00000
06830	BAVCOM C	BAVAIL,MOVESC,,IS HOLE BIG ENOUGH	10432	24	02755	02866
06840	BML	MOVNOH	10444	46	10496	01300
06850	R	GORT	10456	49	10224	00000
06860	DORG	*-3	10464			
06870	BAVADD SF	LISTER-2,,, ADD IN COUNT OF BLANK SECTORS FOUND	10464	32	02763	00000
06880	A	BAVAIL,LISTER	10476	21	02755	02765
06890	R	BAVCOM	10488	49	10432	00000
06900	DORG	*-3	10496			
06910	MOVNOH S	BAVAIL,MOVESC,, ADJUST LAST NINES ENTRY FOR FINAL OUTPUT	10496	22	02755	02866
06920	CM	BAVAIL,COO,9,	10508	14	02755	00-00
06930	BE	REMBLK	10520	46	10652	01200
06940	SF	LISTER-2	10532	32	02763	00000
06941	SF	BAVAIL-2	10544	32	02753	00000
06942	TF	PAT6R*23,BAVAIL	10556	26	10603	02755
06943	CF	BAVAIL-2	10568	33	02753	00000
06960	PAT6R CF	*+21	10580	33	10601	00000
06970	TFM	LISTET,9000,8	10592	16	02795	0R000
06980	BT	INSERT,INSERT-1	10604	27	03414	03413
06990	TFM	WRMOVE+5,,,ZERO FIELD	10616	16	02627	-0000
07000	S	WRMOVE+5,BAVAIL	10628	22	02627	02755
07010	TDM	HEX,,,RECORD MARK	10640	15	02796	00000
07020	DC	1,*,*	10651		1	

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07030	REMBLK BT	REMOVE,REMOVE-1,,REMOVE LAST NINES ENTRY IF IT IS A PERFECT	10652	27	03084	03083
07040	CM	LISTER-3,07,1011	10664	14	02762	000-P
07050	BE	KSEVEN	10676	46	10732	01200
07060	TF	NEWDIM,LISTER,,SET MOVER DDA FROM DIM ENTRY	10688	26	02963	02765
07070	BT	DIMMER,DIMMER-1	10700	27	03672	03671
07080	A	WRMOVE+5,19885	10712	21	02627	19885
07090	B	TOPPRO	10724	49	10836	00000
07100	DORG	*-3	10732			
07110	KSEVEN SF	LISTER-1,,,SET MOVER DDA FROM CYLINDER ENTRY	10732	32	02764	00000
07120	MM	LISTER,200,9	10744	13	02765	00K00
07130	A	WRMOVE+5,99	10756	21	02627	00099
07140	SF	WRMOVE	10768	32	02622	00000
07150	S	WRMOVE+1,NEVER	10780	22	02623	04297
07160	AM	WRMOVE+1,01,10	10792	11	02623	000-1
07170	CF	WRMOVE	10804	33	02622	00000
07180	B	TOPPRO	10816	49	10836	00000
07190	DORG	*-3	10824			
07200	RSEVEN BT	REMOVE,REMOVE-1	10824	27	03084	03083
07210	TOPPRO BMR	*+24,MEX	10836	45	10860	02796
07220	BT	GETL,GETL-1,,ADJUST THE LISTER FOR NO EXACT FIT	10848	27	02996	02995
07230	TF	CONSTS,MOVESA	10860	26	02826	02863
07240	A	CONSTS,MOVESC	10872	21	02826	02866
07250	SF	CONSTS-4,,,SECTOR ADDRES OF LAST SECTOR TO BE MOVED TOWARD	10884	32	02822	00000
07260	TFM	NEWDIM,9999,8	10896	14	02963	0R999
07270	MARVEL BT	GETL,GETL-1	10908	27	02996	02995
07280	C	WRMOVE+5,CONSTS,,HAS THE LAST PROGRAM JUST BEEN MOVED	10920	24	02627	02826
07290	BNH	PRET	10932	47	08638	01100
07300	CM	LISTER-3,8,1011,FLAGGED ABOVE SIX	10944	14	02762	000-0
07310	BH	*+32,,,BOTH NUMBERS ARE MINUS	10956	46	10988	01100
07320	WASH BT	REMOVE,REMOVE-1	10968	27	03084	03083
07330	B	MARVEL	10980	49	10988	00000
07340	DORG	*-3	10988			
07350	C	LISTER,NEWDIM	10988	24	02765	02963
07360	BE	WASH	11000	46	10988	01200
07370	TF	NEWDIM,LISTER,,BEGIN-MOVE PROGRAMS DOWN	11012	26	02963	02765
07380	BT	DIMMER,DIMMER-1	11024	27	03672	03671
07390	TF	CALC7,19889,,SECTOR COUNT	11036	26	02849	19888
07400	TF	CALC3,19889,,INIT READ AND WRITE	11048	26	02780	19885
07410	TD	RDMOVE,19888	11060	25	02599	19880
07420	A	CALC3,CALC7	11072	21	02780	02849
07430	TF	RDMOVE+5,CALC3	11084	26	02804	02780
07440	TD	WRMOVE,RDMOVE	11096	23	02622	02599
07450	B	CONPPR	11108	49	05274	00000
07460	DORG	*-3	11116			
07470	TCB	MOVFL	08900			
07480	DORG	09000	09000			
07490	***	ROUTINE TO COMPLETE THE REMOVAL OF NON-PROGRAM ENTRIES				
07500	PRETA BT	GETR,GETR-1	09000	27	02872	02871
07510	TF	CONSTS,LISTER	09012	26	02826	02765
07520	LOOPSV BT	GETL,GETL-1,, SEARCH TOWARD THE LEFT FOR NEW DIM NUMBER	09024	27	02996	02995
07530	CM	LISTER-3,7,1011	09036	14	02762	000-P
07540	BE	SEVENT	09048	46	09188	01200
07550	CM	LISTER-3,9,1011	09060	14	02762	880-R
07560	BE	NINENT	09072	46	09132	01200
07570	C	LISTER,CONSTS	09084	24	02765	02826

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07580	BNE	CHOICE	09096	47	09196	01200	
07590	SEVENT	CM	LISTER,7000,8,CHECK FOR SPECIAL CASE OF CYLINDER ZERO	09108	14	02765	0P000
07600	BE	SPECAS	09120	46	09152	01200	
07610	NINENT	BT	REMOVE,REMOVE-1	09132	27	03084	03083
07620	B	LOOFSY	09144	49	09024	00000	
07630	DORG	*-3	09152				
07640	SPECAS	TFM	19885,,,	09152	16	19885	-C000
07650	BT	REMOVE,REMOVE-1	09164	27	03084	03083	
07660	TFM	MAMY+1,41,10,NOP THE GETR IN THIS SPECIAL CASE	09176	16	09497	000M1	
07670	B	MEAT	09188	49	09292	00000	
07680	DORG	*-3	09196				
07690	CHOICE	TF	NEWDIM,LISTER	09196	26	02963	02765
07700	BT	DIMMER,DIMMER-1	09208	27	03672	03671	
07710	CM	LISTER,0001,8, CHECK FOR WORK REPRESENTED BY CYLINDER COUNT	09220	14	02765	0-001	
07720	BNE	*+48	09232	47	09280	01200	
07730	MM	19888,200,9	09244	13	19888	00K00	
07740	SF	95	09256	32	00095	00000	
07750	A	19885,99	09268	21	19885	00099	
07760	A	19885,19888	09280	21	19885	19888	
07770	***	SET-UP	FAKSEV AND RACKET				
07780	HEAT	MM	MOVESA-4,05,10	09292	13	02859	000-5
07790	TDM	MOVESA-4,1,11	09304	15	02859	0000J	
07800	BD	*+24,99	09316	43	09340	00099	
07810	TDM	MOVESA-4,0,11	09328	15	02859	0000-	
07820	TD	19881,MOVESA-4	09340	25	19881	02859	
07830	TFM	FAKSEV,7000,8	09352	16	02853	0P000	
07840	SF	19883	09364	32	19883	00000	
07850	DELTA	DC	5,00200,*	09375		5	
		-0200					
07860	TFM	RACKET,,8	09376	16	02842	0-000	
07870	TF	RACKET,19885,,ESTABLISH THE NUMBER OF SECTORS USED ON THIS C	09388	26	02842	19885	
07880	CF	19883	09400	33	19883	00000	
07890	TDM	RACKET-2,1	09412	15	02840	00001	
07900	MM	19883,05,10	09424	13	19883	000-5	
07910	BD	*+24,99	09436	43	09460	00099	
07920	TDM	RACKET-2,0	09448	15	02840	00000	
07930	TD	FAKSEV,98	09460	25	02853	00098	
07940	TD	FAKSEV-1,97	09472	25	02852	00097	
07950	S	DELTA,RACKET,, INIT TO 200 MINUS RACKET	09484	22	09375	02842	
07960	MAMY	BT	GETR,GETR-1,, SHIFT OFF OF ANCHOR PROGRAM	09496	27	02872	02871
07970	TF	CONSTS,MOVESA	09508	26	02826	02863	
07980	S	CONSTS,19885	09520	22	02826	19885	
07990	CM	RACKET,0000,8	09532	14	02842	0-000	
08000	BNE	CONCUD	09544	47	09452	01200	
08010	TF	LISTET,FAKSEV,, REPLACE THE CYLINDER MARKER	09556	26	02795	02853	
08020	BT	INSERT,INSERT-1	09568	27	03414	03413	
08030	CM	CONSTS,,7,	09580	14	02826	-0000	
08040	BE	EIGHTS	09592	46	09984	01200	
08050	DELNTS	C	DELTA,CONSTS,, IS THERE ENOUGH ROOM FOR REMAINING NINES ENT	09604	24	09375	02826
08060	BL	TAC	09616	47	09412	01000	
08070	BH	TIC	09628	46	09744	01100	
08080	SF	CONSTS-2,,, A PERFECT FIT,INSERT THE NINES ENTRY	09640	32	02824	00000	
08090	TF	*+35,CONSTS	09652	26	09687	02826	
08100	CF	*+21	09664	33	09685	00000	
08110	TFM	LISTET,9000,8	09676	16	02795	0P000	
08120	BT	INSERT,INSERT-1	09688	27	03414	03413	

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08130	AM	FAKSEV,01,10	09700	11	02853	000-1	
08140	TF	LISTET,FAKSEV,, RESTORE THE CYLINDER MARKER	09712	26	02795	02853	
08150	BT	INSERT,INSERT-1	09724	27	03414	03413	
08160	B	EIGHTS	09736	49	09984	00000	
08170	DORG	*-3	09744				
08180	TIC	SF	CONSTS-2,,, INSERT THE NINES ENTRY	09744	32	02824	00000
08190	TF	*+35,CONSTS	09756	26	09791	02826	
08200	CF	*+21	09768	33	09789	00000	
08210	TFM	LISTET,9000,8	09780	16	02795	0R000	
08220	BT	INSERT,INSERT-1	09792	27	03414	03413	
08230	B	EIGHTS	09804	49	09984	00000	
08240	DORG	*-3	09812				
08250	TAC	SF	DELTA-2,, FILL THE REST OF THE CYLINDER WITH NINES ENTRY	09812	32	09373	00000
08260	TF	*+35,DELTA	09824	26	09859	09375	
08270	CF	*+21	09836	33	09857	00000	
08280	TFM	LISTET,9000,8	09848	16	02795	0R000	
08290	CF	DELTA-2	09860	33	09373	00000	
08300	BT	INSERT,INSERT-1	09872	27	03414	03413	
08310	S	CONSTS,DELTA	09884	22	02826	09375	
08320	AM	FAKSEV,01,10	09896	11	02853	000-1	
08330	TF	LISTET,FAKSEV,, RESTORE THE CYLINDER MARKER	09908	26	02795	02853	
08340	BT	INSERT,INSERT-1	09920	27	03414	03413	
08350	TFM	DELTA,00200,7,	09932	16	09375	-0200	
08360	B	DELNTS	09944	49	09604	00000	
08370	DORG	*-3	09952				
08380	CONCUD	CM	CONSTS,00000,7, SECTOR ADDRES FITS ON END OF PREVIOUS PROGR	09952	14	02826	-0000
08390	BE	EIGHTS	09964	46	09984	01200	
08400	B	DELNTS	09976	49	09604	00000	
08410	DORG	*-3	09984				
08420	EIGHTS	TF	*+35,MOVESC,, INSERT AN EIGHTS ENTRY FOR MOVESC	09984	26	10019	02866
08430	CF	*+21	09996	33	10017	00000	
08440	TFM	LISTET,8000,8	10008	16	02795	0Q000	
08450	BT	INSERT,INSERT-1	10020	27	03414	03413	
08460	BT	GETL,GETL-1	10032	27	02996	02995	
08470	SF	MOVESA-3	10044	32	02860	00000	
08480	TF	RACKET,MOVESA	10056	26	02842	02863	
08490	CF	MOVESA-3	10068	33	02860	00000	
08500	SM	RACKET,200,9	10080	12	02842	00K00	
08510	BNF	*-12,RACKET	10092	44	10080	02842	
08520	AM	RACKET,200,9	10104	11	02842	00K00	
08530	BT	GETL,GETL-1	10116	27	02996	02995	
08540	***	ROUTINE TO RESTORE THE SPL TO ITS PROPER FORM					
08550	ALLRIY	BT	GETR,GETR-1,, SHIFT TO PICK UP NEXT ENTRY TO ANALYZE	10128	27	02872	02871
08560	CM	LISTER-3,7,1011	10140	14	02762	000-P	
08570	BE	BEAUTY	10152	46	10592	01200	
08580	CM	LISTER-3,9,1011	10164	14	02762	000-A	
08590	BE	ADDRAC	10176	46	10656	01200	
08600	CM	LISTER-3,8,1011	10188	14	02762	000-0	
08610	BE	ADDRAC	10200	46	10656	01200	
08620	TF	NEWDIM,LISTER,, BRING IN NEW DIM ENTRY TO FIND LENGTH	10212	26	02963	02765	
08630	BT	DIMMER,DIMMER-1	10224	27	03672	03671	
08640	SF	FAKSEV-1	10236	32	02852	00000	
08650	MM	FAKSEV,200,9	10248	13	02853	00K00	
08660	SF	94	10260	32	00094	00000	
08670	S	95,NEVER	10272	22	00095	04297	
08680	AM	95,01,10	10284	11	00095	000-1	

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08690	CF	FAKSEV-1	10296	33	02852	00000
08700	C	19885,99,,DOES THIS PROGRAM START ON A CYLINDER PREVIOUS TO	10308	24	19885	00099
08710	BML	++48	10320	46	10368	01300
08720	S	19885,99	10332	22	19885	00099
08730	SF	19883	10344	32	19883	00000
08740	A	19888,19885	10356	21	19888	19885
08750	A	RACKET,19888	10368	21	02842	19888
08760	NOISY	CM RACKET,200,9, HAVE 200 SECTORS BEEN ACCOUNTED FOR THIS CYL	10380	14	02842	00000
08770	BE	EZEST	10392	46	10700	01200
08780	BNM	ALLRIT	10404	47	10128	01100
08790	CM	LISTER-3,8,1011	10416	14	02762	000-Q
08800	BNM	TELAST	10428	47	10756	01100
08810	TF	STEAL,LISTER	10440	26	02846	02765
08820	BT	GETR,GETR-1	10452	27	02872	02871
08830	AM	FAKSEV,1,10	10464	11	02853	000-1
08840	TF	LISTET,FAKSEV,, RESTORE SEVENS PARKER	10476	26	02795	02853
08850	BT	INSERT,INSERT-1	10488	27	03414	03413
08860	TF	LISTET,STEAL,, REPEAT THE DIM NUMBER	10500	26	02795	02846
08870	BT	INSERT,INSERT-1	10512	27	03414	03413
08880	RAKES	SM RACKET,200,9,	10524	12	02842	00000
08890	C	LISTER,FAKSEV	10536	24	02765	02853
08900	BE	++32	10548	46	10580	01200
08910	BT	GETL,GETL-1	10560	27	02996	02995
08920	B	NOISY	10572	49	10380	00000
08930	DORG	--3	10580			
08940	BT	REMOVE,REMOVE-1	10580	27	03084	03083
08950	BEAUTY	BT GETL,GETL-1,, POSITION LISTER FOR EXIT	10592	27	02996	02995
08960	CM	LISTER-3,08,1011	10604	14	02762	000-Q
08970	BE	++20	10616	46	10636	01200
08980	B	BEAUTY	10628	49	10592	00000
08990	DORG	--3	10636			
09000	BT	GETR,GETR-1	10636	27	02872	02871
09010	B	SFSUCE	10648	49	08600	00000
09020	DORG	--3	10656			
09030	ADDRAC	SF LISTER-2,, ADD THE BLANK OR EIGHTS SECTOR COUNT TO TOTAL	10656	32	02763	00000
09040	A	RACKET,LISTER	10668	21	02842	02765
09050	CF	LISTER-2	10680	33	02763	00000
09060	B	NOISY	10692	49	10380	00000
09070	DORG	--3	10700			
09080	EZEST	AM FAKSEV,1,10, INSERT CYL MARKER FOR A PERFECT FIT	10700	11	02853	000-1
09090	TF	LISTET,FAKSEV	10712	26	02795	02853
09100	BT	GETR,GETR-1	10724	27	02872	02871
09110	BT	INSERT,INSERT-1	10736	27	03414	03413
09120	B	RAKES	10748	49	10524	00000
09130	DORG	--3	10756			
09140	TELAST	SF LISTER-2	10756	32	02763	00000
09150	S	RACKET,LISTER,, PREPARE THE SIZE OF THE EIGHTS ENTRY	10768	22	02842	02765
09160	CF	LISTER-2	10780	33	02763	00000
09170	TFM	CONSTB,200,8	10792	16	02871	0-200
09180	S	CONSTB,RACKET	10804	22	02871	02842
09190	SF	CONSTB-2	10816	32	02849	00000
09200	S	LISTER,CONSTB	10828	22	02765	02871
09210	TF	STEAL,LISTER	10840	26	02846	02765
09220	TF	++35,CONSTB	10852	26	10887	02871
09230	CF	++21	10864	33	10885	00000
09240	TFM	LISTET,8000,8, INSERT THE EIGHTS ENTRY	10876	16	02795	00000

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09250	BT	REMOVE,REMOVE-1,, REMOVE THE INDICATOR FROM THE LIST	10888	27	03084	03083
09260	BT	INSERT,INSERT-1	10900	27	03414	03413
09270	AM	FAKSEV,1,10	10912	11	02853	000-1
09280	TF	LISTET,FAKSEV	10924	26	02795	02853
09290	BT	INSERT,INSERT-1,, INSERT THE SEVENS MARKER	10936	27	03414	03413
09300	TF	LISTET,STEAL	10948	26	02795	02846
09310	BT	INSERT,INSERT-1,, REPLACE THE REDUCED INDICATOR	10960	27	03414	03413
09320	BT	GETL,GETL-1	10972	27	02996	02995
09330	TF	RACKET,LISTET	10984	26	02842	02795
09340	TDM	RACKET-3,0,11	10996	15	02839	00000
09350	B	NOISY	11008	49	10380	00000
09360	DORG	--3	11016			
09370	***	LINKAGE FOR PLACING THIS LAST PORTION OF MOVIE ON DISK				
09380	NOMC	TFM IORT,++23	11016	16	00565	J1039
09390	B	IOPT,NOMD,7	11028	49	00532	J1064
09400	TRA		11040	36	00000	00500
			11052	49	00000	00000
09410	NOMC	DSC 2,22	11064			2
		22				
09420	DSA	NOME	11070			5 X 1
			11070			J1072
09430	DC	1,1	11071			1
09440	NOME	DSC 1,1	11072			1
		1				
09450	DC	5,17106	11077			5
		J7106				
09460	DC	3,022	11080			3
		-22				
09470	DC	6,09000'	11086			6
		-9000'				
09480	TGD	NOMC	11016			
09490	DORG	5600	05600			
09500	DELFL	TFM IORT,++23	05600	16	00565	-5623
09510	B	IOPT,DEL1,7	05612	49	00532	-5648
09520	TRA		05624	36	00000	00500
			05636	49	00000	00000
09530	DEL1	DSC 2,22	05648			2
		22				
09540	DSA	DEL2	05654			5 X 1
			05654			-5656
09550	DSC	1,1	05655			1
09560	DEL2	DSC 1,1	05656			1
		1				
09570	DC	5,18247	05661			5
		J8247				
09580	DC	3,013	05664			3
		-13				
09590	DC	5,05800	05669			5
		-5800				
09600	DSC	1,1	05670			1

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DELETE PROGRAM ROUTINE					
09610	*				
09620	*				
09630	*				
09640		DORG	5800	05800	
09650	DELET	SF	DELETE	05800	32 13134 C0000
09660	***		DETERMINE MAX.NO. OF DIM ENTRIES		
09670		TFM	MAXDIM,9999,8	05812	16 03849 08999
09680		TFM	NEWDIM,3,8	05824	16 02963 0-003
09690		BT	DIMMER,DIMMER-1	05836	27 03672 03671
09700		BNR	**20,MAP	05848	45 05868 19880
09710		B	MONCAL	05860	49 00796 00000
09720		DORG	*-3	05868	
09730		MM	MAP+8,5,10	05868	13 19888 000-5
09740		SF	96	05880	32 00096 00000
09750		SM	99,1,10	05892	12 00099 000-1
09760		TF	MAXDIM,99	05904	26 03849 00099
09770		SF	INPUT+11	05916	32 13624 C0000
09780		TF	PNAME,INPUT+22	05928	26 13229 13635
09790		TD	DIMNUM,INPUT+30	05940	25 13190 13643
09800		TD	DIMNUM-1,INPUT+28	05952	25 13189 13641
09810		TD	DIMNUM-2,INPUT+26	05964	25 13188 13639
09820		TD	DIMNUM-3,INPUT+24	05976	25 13187 13637
09830		SF	DIMNUM-3	05988	32 13187 00000
09840		CM	DIMNUM,0,8	06000	14 13190 0-000
09850		RE	OKDEL-24	06012	46 06124 01200
09860	***		IS DIM NO. IN RANGE		
09870		C	DIMNUM,MAXDIM	06024	24 13190 03849
09880		BNH	**32	06036	47 06068 01100
09890		TFM	DIMERR+22,0076,8	06048	16 02507 0-076
09900		B	ERRD	06060	49 02524 00000
09910		DORG	*-3	06068	
09920	***		IS DIM NO. IN USE		
09930		TF	NEWDIM,DIMNUM	06068	26 02963 13190
09940		BT	DIMMER,DIMMER-1	06080	27 03672 03671
09950		BNR	OKDEL,MAP	06092	45 06148 19880
09960		TFM	DIMERR+22,7271,8	06104	16 02507 0P271
09970		B	ERRD	06116	49 02524 00000
09980		DORG	*-3	06124	
09990		C	PNAME,ZERO12	06124	24 13229 13167
10000		RE	ERRD-12	06136	46 02512 01200
10010	OKDEL	BTM	EQUITV,**12	06148	17 08606 -6140
10020		CM	DIMNUM,0,8	06160	14 13190 0-000
10030		BNE	**32	06172	47 06204 01200
10040		TFM	DIMERR+22,7270,8	06184	16 02507 0P270
10050		B	ERRD	06196	49 02524 00000
10060		DORG	*-3	06204	
10061		TF	NEWDIM,DIMNUM	06204	26 02963 13190
10062		BT	DIMMER,DIMMER-1	06216	27 03672 03671
10063		BNR	**20,MAP	06228	45 06248 19880
10064		B7	EXIT3	06240	49 06936 00000
10070	*		DELETE ENTRY FROM SP LIST		
10080		BTM	SPIDEL,**12	06248	17 12090 -6260
10090		TF	NEWDIM,DIMNUM	06260	26 02963 13190
10100		BT	DIMMER,DIMMER-1	06272	27 03672 03671
10110		TF	FWRIT+5,MAP+5	06284	26 13272 19885
10120		TD	FWRIT,MAP	06296	25 13267 19880

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10130		TF	HOLD3,MAP+8	06308	26 13193 19888
10140		TF	LOADSC,MAP+8	06320	26 13180 19888
10150		TFM	FLAG+11,TRACK2	06332	16 06523 19885
10160		TF	LOADSA,MAP+5	06344	26 13102 19885
10170		TD	LOADSA-5,MAP	06356	25 13107 19880
10180		SF	MAP+4	06368	32 15884 00000
10190		SM	MAP+5,20,10	06380	12 19895 00000
10200		BH	**12	06392	46 06380 01100
10210		BZ	**48	06404	46 06452 01200
10220		AM	MAP+5,20,10	06416	11 19885 00000
10230		MM	MAP+5,105,9	06428	13 19885 00105
10240		A	FLAG+11,99	06440	21 06523 00099
10250		TF	CLFP+6,FLAG+11	06452	26 06702 06523
10260		TFM	FWRIT+8,20,9	06464	16 13275 00-20
10270		TFM	FWRIT+13,TRACK2	06476	16 13280 J7778
10280		TFM	IORT,**23	06488	16 00565 -6511
10290		B	IOGT,FPDDA,7	06500	49 00566 J3451
10300	FLAG	BNF	**20,TRACK2,,	06512	44 06532 17778
10310		B	CLEAR	06524	49 06624 00000
10320		DORG	*-3	06532	
10330		SM	HOLD3,1,10	06532	12 13193 000-1
10340		BZ	FPOK	06544	46 06864 01200
10350		AM	FLAG+11,105,9	06556	11 06523 00J05
10360		CM	FLAG+11,TRACK2+21C0	06568	14 06523 J9878
10370		BL	FLAG	06580	47 06512 01300
10380		TFM	FLAG+11,TRACK2	06592	16 06523 J7778
10390		AM	FWRIT+5,20,10	06604	11 13272 000K0
10400		B	FLAG-24	06616	49 06488 00000
10410		DORG	*-3	06624	
10420	CLEAR	TF	FWRIT+5,LOADSA	06624	26 13272 13102
10430		TD	FWRIT,LOADSA-5	06636	25 13267 13097
10440		SF	BUTTON	06648	32 00455 00000
10450		BTM	KYMESS,**12	06660	17 11998 -6672
10460		TFM	IORT,**23	06672	16 00565 -6695
10470		B	IOGT,FPDDA,7	06684	49 00566 J3451
10480	CLFP	CF	TRACK2,,	06696	33 17778 00000
10490		SM	LOADSC,1,10	06708	12 13180 000-1
10500		BZ	WROK	06720	46 06768 01200
10510		AM	CLFP+6,105,9	06732	11 06702 00J05
10520		CM	CLFP+6,TRACK2+2100	06744	14 06702 J9878
10530		BL	CLFP	06756	47 06696 01300
10540	WROK	TFM	IORT,**23	06768	16 00565 -6791
10550		B	IOGT,FPDDA,7	06780	49 00532 J3451
10560		AM	FWRIT+5,20,10	06792	11 13272 000K0
10570		TFM	CLFP+6,TRACK2	06804	16 06702 J7778
10580		CM	LOADSC,0,9	06816	14 13180 00-00
10590		BNE	CLFP-24	06828	47 06672 01200
10600		CF	BUTTON	06840	33 00455 00000
10610		BTM	KYMESS,**12	06852	17 11998 -6864
10620	FPOK	TF	NEWDIM,DIMNUM	06864	26 02963 13190
10630		BT	DIMMER,DIMMER-1	06876	27 03672 03671
10640		TDM	MAP,,,	06888	15 19880 00000
10650		OSC	1,,,	06899	1
10660		TF	MAP+19,ZERO19	06900	26 19899 13174
10670		TFM	IORT,**23	06912	16 00565 -6935

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10680	B	IOPT,DMDDA,7	06924	49	00532	-2568
10690	EXIT3	TDM SYSCAL,3	06936	15	00475	00003
10700	B	MONCAL	06948	49	00796	00000
10710	DORG	*-3	06956			
10720	TCD	DELFL	05600			
10730	****					
10740	*****	DLOAD INDEPENDENT ROUTINES				
10750	****					
10760	DORG	44C0	04400			
10770	LOADFL	YFM IORT,++23	04400	16	00565	-4423
10780	B	IOPT,LOAD2,7	04412	49	00532	-4463
10790	TRA		04424	36	00000	00500
			04436	49	00000	00000
			04448			1
10800	LOAD1	DSC 1,1				
		1				
10810	DC	5,18369	04453			5
		J8369				
10820	DC	3,027	04456			3
		-27				
10830	DC	5,C5800	04461			5
		-5800				
10840	DSC	1,1	04462			1
		'				
10850	LOAD2	DSC 2,22	04463			2
		22				
10860	DSA	LOAD1	04469			5 X 1
10870	DSC	1,1	04469			-4448
		'	04470			1
10880	DORG	5800	05800			
10890	DLOAD	BTM SCRAD,++12	05800	17	09298	-5812
10900	TD	MXNOSA-2,MCS+49	05812	25	05833	17827
10910	SF	MXNOSA-2,399,9	05824	32	05833	00199
10920	SM	MXNOSA,100,9	05836	12	05835	00J00
10930	MXNOSA	DC 3,399,DLOAD+35	05835			3
		L99				
10940	TFM	HOLD2,0,10	05848	16	13104	000-0
10950	TD	HOLD2,SYSCAL	05860	25	13104	00475
10960	**	IS CALL FROM CONTROL CARD				
10970	CM	HOLD2,4,10	05872	14	13104	000-4
10980	BNE	SP5	05884	47	07484	01200
10990	TFM	ATN+11,INPUT+32	05896	16	09053	J3643
11000	**	I CONVERT CONTROL CARD TO NUMERIC				
11010	BTM	ATNR,++12	05908	17	08606	-5920
11020	DC2	SF HOLDCD+10	05920	32	13056	00000
11030	SF	HOLDCD+17	05932	32	13063	00000
11040	SF	HOLDCD+22	05944	32	13068	00000
11050	SF	HOLDCD+27	05956	32	13073	00000
11060	BD	*+8,RTST	05968	43	06036	13132
11070	CM	HOLDCD+26,0,7	05980	14	13072	-0000
11080	BNE	*+24	05992	47	06016	01200
11090	TFM	HOLDCD+26,02402,7	06004	16	13072	-2402
11100	TF	NAPMA,HOLDCD+26	06016	26	13150	13072
11110	BT	*+44	06028	49	06072	

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11120	CM	HOLDCD+26,0,7	06036	14	13072	-0000
11130	BNE	*-32	06048	47	06016	01200
11140	TFM	NAPMA,99999,7	06060	16	13150	R9999
11150	TF	MAPEA,HOLDCD+31	06072	26	13153	13077
11160	BD	DISKN,PHI,1	06084	43	06340	13130
11170	DC22	SF INPLT+39	06096	32	13452	00000
11180	C	INPUT+90,ZERO12	06108	24	13463	13147
11190	BE	ERRD-12	06120	46	02512	01200
11200	TF	HOLD6,HOLDCD+15	06132	26	13215	13061
11210	S	HOLD6,HOLDCD+9	06144	22	13215	13055
11220	BML	*+32	06156	46	06188	01300
11230	TFM	DIMERR+22,7177,8	06168	16	02907	0P177
11240	B	ERRD	06180	49	02524	00000
11250	DORG	*-3	06188			
11260	C	HOLDCD+9,SCR1	06188	24	13055	13203
11270	BL	SCERR	06200	47	12854	01300
11280	C	HOLDCD+15,SCR2	06212	24	13061	13209
11290	BM	SCERR	06224	46	12854	01100
11300	TF	LOADSC,HOLDCD+15,1	06236	26	13100	13061
11310	S	LOADSC,HOLDCD+9	06248	22	13100	13055
11320	AM	LOADSC,1,10	06260	11	13100	000-1
11330	TF	SCRACH,HOLDCD+9	06272	26	13186	13055
11340	SF	LOADSC-2	06284	32	13178	00000
11350	SF	SCRACH-4	06296	32	13182	00000
11360	CF	SCRACH-5	06308	33	13181	00000
11370	BD	MODD1,RTST	06320	43	10482	13131
11380	B	MAINB1	06332	49	06344	00000
11390	DORG	*-3	06340			
11400	DISKN	BD MODD1,RTST	06340	43	10482	13131
11410	BTM	NODISK,++12	06352	17	09866	-4364
11420	MAINB1	BD *+32,PTST	06364	43	06396	13133
11430	TDM	NAPRM,...	06376	15	13115	00000
11440	DSC	1,1,1	06388			1
11450	B	*+20	06388	49	06408	00000
11460	DORG	*-3	06396			
11470	TD	NAPRM,GPHARK,...	06396	25	13115	13116
11480	SF	INPLT+63	06408	32	13676	00000
11490	C	INPUT+74,ZERO12	06420	24	13687	13167
11500	BE	NDSAC	06432	46	10886	01200
11510	SF	NAPRM,...	06444	32	13115	00000
11520	TF	LOADSA,HOLDCD+21	06456	26	13102	13067
11530	TD	LOADSA-9,HOLDCD+16	06468	25	13097	13062
11540	CF	LOADSA-4	06480	33	13098	00000
11550	SF	LOADSA-5	06492	32	13097	00000
11560	C	LOADSA,SCR2	06504	24	13102	13209
11570	BML	SCRCK	06516	46	06588	01300
11580	TF	HOLD6,LOADSA	06528	26	13215	13102
11590	A	HOLD6,LOADSC	06540	21	13215	13180
11600	SM	HOLD6,1,10	06552	12	13215	000-1
11610	C	HOLD6,SCR1	06564	24	13215	13203
11620	BML	SCRERR	06576	46	12854	01300
11630	SCRCK	SF INPUT+11	06588	32	13624	00000
11640	SF	LOADSA-4	06600	32	13098	00000
11650	CF	LOADSA-5	06612	33	13097	00000
11660	TF	PNAME,INPUT+22	06624	26	13229	13635

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11670	CM	HOLD00+3,0,8	06636	14	13049	0-000
11680	BE	FINCON	06648	46	06740	01200
11690	TF	NEWDIM,HOLD00+3	06660	26	02963	13049
11700	BT	DIMMER,DIMMER-1	06672	27	03672	03671
11710	BNR	++20,MAP	06684	45	06704	19880
11720	B	CALLMV	06696	49	07036	00000
11730	DDRG	+-3	06704			
11740	RCTY		06704	34	00000	00102
11750	TFM	DIMERR+22,7572,8	06716	16	02507	0P572
11760	WATY	DIMERR	06728	39	02485	00100
11770	FINCON	TFM NEWDIM,131,8,	06740	16	02963	0-131
11780	TF	HOLD6,ZERO6	06752	26	13215	13161
11790	TF	HOLD6,NEWDIM	06764	26	13215	02963
11800	A	HOLD6,HOLD6	06776	21	13215	13215
11810	CF	HOLD6-3	06788	33	13212	00000
11820	AM	HOLD6-1,4800,8	06800	11	13214	0M800
11830	TF	D2READ+5,HOLD6-1	06812	26	13504	13214
11840	TFM	IORT,++23	06824	16	00565	-6847
11850	B	IOGT,DIREAD,7	06836	49	00566	J3491
11860	TFM	TREC+11,TRACK	06848	16	06895	J3776
11870	TD	++23,HOLD6	06860	25	06883	13215
11880	AM	TREC+10,0,10	06872	11	06894	000-0
11890	TREC	BNR ++20,TRACK	06884	45	06904	13776
11900	B	CALLMV	06896	49	07036	00000
11910	DDRG	+-3	06904			
11920	AM	NEWDIM,1,10	06904	11	02963	000-1
11930	C	NEWDIM,MAXDIM	06916	24	02963	03849
11940	BH	EXITFL	06928	46	06984	01100
11950	AM	TREC+11,20,10	06940	11	06895	00000
11960	CM	TREC+11,TRACK+2100	06952	14	06895	J5876
11970	BL	TREC	06964	47	06884	01300
11980	B	FINCON+12	06976	49	06752	00000
11990	DDRG	+-3	06984			
12000	EXITFL	BNF ++32,FORT	06984	44	07016	13114
12010	TFM	DIMERR+22,7671,8	06996	16	02507	0P671
12020	B	ERR+24	07008	49	05686	00000
12030	DDRG	+-3	07016			
12040	TFM	DIMERR+22,0079,8	07016	16	02507	0-079
12050	B	ERR0	07028	49	02524	00000
12060	DDRG	+-3	07036			
12070	CALLMV	TF DIMNUM,NEWDIM	07036	26	13190	02963
12080	TF	MOVESC,LOADSC	07048	26	02866	13180
12090	TF	MOVESA,LOADSA	07060	26	02863	13102
12100	TD	MOVESA-5,LOADSA-5	07072	25	02858	13097
12110	TFM	IORT,++23	07084	16	00565	-7107
12120	B	IOGT,MOVODA,7	07096	49	00566	J3244
12130	TFM	EXITMR+6,++20	07108	16	08630	-7128
12140	B	MOVER	07120	49	08824	00000
12150	DDRG	+-3	07128			
12160	BNF	ERR,SUCCESS	07128	44	05662	13118
12170	TFM	IORT,++23	07140	16	00565	-7163
12180	B	IOGT,EQUDDA,7	07152	49	00566	J3312
12190	TFM	IORT,++23	07164	16	00565	-7187
12200	B	IOGT,COM2,7	07176	49	00566	J3335
12210	TF	NEWDIM,DIMNUM	07188	26	02963	13190
12220	BT	DIMMER,DIMMER-1	07200	27	03672	03671

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12230	BTM	SETMAP,++12	07212	17	10738	-7224
12240	BTM	WRLAST,++12	07224	17	11842	-7236
12250	BNF	MONCAL,DUMP	07236	44	00796	13426
12260	TD	MCS+23,DUMP	07248	25	17801	13426
12270	TFM	IORT,++23	07260	16	00565	-7283
12280	B	IOGT,DMPDIM,7	07272	49	00566	J3403
12290	WR2	DS ,2259	02259		0	
12300	LOADRE	TFM ATN+11,INPUT+32	07284	16	09053	J3645
12310	SF	LOADRE	07296	32	07284	00000
12320	BTM	ATNR,++12	07308	17	08606	-7320
12330	TFM	INPLT+49,7070,8	07320	16	13662	0P070
12340	A	WR2+3,425	07332	21	02262	00425
12350	TD	WR2,422	07344	25	02259	00422
12360	SF	WR2	07356	32	02259	00000
12370	CF	WR2+1	07368	33	02260	00000
12380	TF	HOLD00+9,WR2+5	07380	26	13055	02264
12390	TF	HOLD00+15,WR2+5	07392	26	13061	02264
12400	A	HOLD00+15,WR2+8	07404	21	13061	02267
12410	SM	HOLD00+15,1,10	07416	12	13061	000-1
12420	TF	HOLD00+26,WR2+13	07428	26	13072	02272
12430	TF	MAPMA,WR2+13	07440	26	13150	02272
12440	BNF	DC2,MCS+22	07452	44	05920	17800
12450	SF	FORT	07464	32	13114	00000
12460	B	NORE1	07476	49	07600	00000
12470	DDRG	+-3	07484			
12480	SPS	TFM PHI,0,9,	07484	16	13130	00-00
12490	CM	HOLD2,6,10	07496	14	13104	000-6
12500	RNE	LOADRE	07508	47	07284	01200
12510	TDM	FREDDA,0	07520	15	13467	00000
12520	SF	FORT	07532	32	13114	00000
12530	TF	MAPMA,MCS+12	07544	26	13150	17790
12540	BD	NORE1,MCS+22	07556	43	07600	17800
12550	TFM	SCRACH,0,7	07568	16	13186	-0000
12560	TDM	SCRACH-5,0	07580	15	13181	00000
12570	B	MODDK1	07592	49	10682	00000
12580	DDRG	+-3	07600			
12590	NORE1	TF INPUT+22,MCS+35	07600	26	13635	17813
12600	TF	MAPMA,MCS+17	07612	26	13155	17795
12610	TD	DUMP,MCS+23	07624	25	13426	17801
12620	NEGATE	TDM PTEST,0,,	07636	15	13133	00000
12630	TF	INPUT+74,ZERO12	07648	26	13687	13167
12640	TF	HOLD00+40,ZERO6,,	07660	26	13086	13161
12650	TF	HOLD00+3,MCS+39	07672	26	13049	17817
12660	BNF	++20,LOADRE	07684	44	07704	07284
12670	B	DC22	07696	49	06096	00000
12680	DDRG	+-3	07704			
12690	TFM	LOADSC,0,9	07704	16	13180	00-00
12700	TFM	DCFSCR+8,3,9	07716	16	13381	00-03
12710	TFM	DCFSCR+9,0,7	07728	16	13378	-0000
12720	INIT1	TFM LOOP,4,10	07740	16	13120	000-6
12730	TFM	SCAN1+6,READIN	07752	16	07794	J7778
12740	TFM	IORT,++23	07764	16	00565	-7787
12750	B	IOGT,DDASCR,7	07776	49	00566	J3483
12760	SCAN1	NOP READIN,0	07788	41	17778	00000
12770	TF	BNR+11,SCAN1+6	07800	26	09661	07794
12780	TFM	NODISK-1,MAINB1	07812	16	09865	-6364

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12790	BTM	LC TEST,++12	07824	17	09614	-7836
12800	SM	LODP,1,10	07836	12	13120	000-1
12810	BD	UPSCA,LODP	07848	43	07892	13120
12820	AM	LOADSC,3,10	07860	11	13180	000-3
12830	AM	DCFSR+5,3,10	07872	11	13378	000-3
12840	B	INIT1	07884	49	07740	00000
12850	DDRG	+3	07892			
12860	UPSCA	AM SCAN1+6,75,9	07892	11	07794	00-75
12870	B	SCAN1	07904	49	07788	00000
12880	DDRG	+3	07912			
12890	TCD	LOADFL	04400			
12900	*****					
12910	*****	*DREPL INDEPENDENT ROUTINES				
12920	*****					
12930	DDRG	4400	04400			
12940	KEPLFL	TFM IDRT,++23	04400	16	00565	-4423
12950	B	IDPT,REPL2,7	04412	49	00532	-4463
12960	TRA		04424	36	00000	00500
12970	REPL1	DSC 1,1	04436	49	00000	00000
		1	04448		1	
12980	DC	5,18397	04453		5	
		J8397				
12990	DC	3,028	04456		3	
		-28				
13000	DC	5,05800	04461		5	
		-5800				
13010	DSC	1,1	04462		1	
		1				
13020	REPL2	DSC 2,22	04463		2	
		22				
13030	DSA	REPL1	04469		5 X	1
13040	DSC	1,1	04469		-4448	
		1	04470		1	
13050	DDRG	58CC	05800			
13060	DREPL	TFM HOLD2,0,10	05800	16	13104	000-0
13070	BTM	SCRAD,++12	05812	17	09298	-5824
13080	TD	HOLD2,SYSCAL	05824	25	13104	00475
13090	CM	HOLD2,4,10	05836	14	13104	000-4
13100	RNE	RELD	05848	47	08172	01200
13110	SF	INPUT+11	05860	32	13624	00000
13120	TFM	ATN+11,INPUT+24	05872	16	09053	J3637
13130	BTM	ATNR,++12,++	05884	17	08406	-5896
13140	SF	HOLD2+8	05896	32	13054	00000
13150	SF	HOLD2+14	05908	32	13060	00000
13160	SF	HOLD2+26	05920	32	13072	00000
13170	SF	HOLD2+31	05932	32	13077	00000
13180	TF	PNAME,INPUT+22	05944	26	13229	13635
13190	ISTO	CM HOLD2+7,0,8,	05956	14	13053	0-000
		ERROR IF NO TO DIM	05968	46	02512	01200
13200	BE	ERRD-12	05980	26	02963	13053
13210	TF	NEWDIM,HOLD2+7	05992	27	03672	03671
13220	BT	DINNER,DINNER-1	06004	45	06036	19880
13230	BNR	++32,MAP				

CARD TO NUMERIC

ERROR IF NO TO DIM

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13240	TFM	DIMERR+22,0072,8	06016	16	02507	0-072
13250	B	ERRD,++	06028	49	02524	00000
		ERROR IF TO DIM NOT IN USE	06036			
13260	DDRG	+3	06036			
13270	BNF	++32,MAP+19	06036	44	06068	19899
13280	*****	ERROR IF TO DIM IS IMMOVABLE				
13290	TFM	DIMERR+22,0073,8	06048	16	02507	0-073
13300	B	ERRD	06060	49	02524	00000
13310	DDRG	+3	06068			
13320	TF	LOADSA,MAP+5	06068	26	13102	19885
13330	TD	LOADSA-5,MAP	06080	25	13097	19880
13340	**	ENTRY AND CORE ADDRESSES FROM CARD				
13350	TF	MAPEA,HOLD2+35	06092	26	13155	13081
13360	BD	PATCH2+52,NTTEST	06104	43	11634	13132
13370	CM	HOLD2+30,0,7	06116	14	13076	-0000
13380	BT	PATCH2	06128	49	11582	
13390	PATZ	TFM MAPNA,99999,7	06136	16	13150	R9999
13400	BD	++32,PTTEST	06148	43	06180	13133
13410	**	NO FILE PROTECTION				
13420	TDM	MAPRN,++	06160	15	13115	00000
13430	DSC	1,1,1	06171		1	
		1				
13440	B	++20	06172	49	06192	00000
13450	DDRG	+3	06180			
13460	**	FILE PROTECTION				
13470	TD	MAPRN,GPMARK	06180	25	13115	13116
13480	**	PROGRAM IS MOVABLE				
13490	BD	NDISK,PHI	06192	43	06848	13130
13500	**	IS THERE A FROM DIM				
13510	CM	HOLD2+3,0,8	06204	14	13049	0-000
13520	BNE	NTZ	06216	47	06380	01200
13530	**	PROGRAM IS IN WORK AREA				
13540	SF	INPUT+39	06228	32	13052	00000
13550	C	INPUT+50,ZERO12	06240	24	13663	13167
13560	BE	ERRD-12	06252	46	02512	01200
13570	C	HOLD2+19,SCR2	06264	24	13065	13209
13580	BM	SCERR	06276	46	12854	01100
13590	C	HOLD2+13,SCR1	06288	24	13059	13203
13600	SCR16	BL SCERR	06300	47	12854	01300
13610	**	COMPUTE SECTOR COUNT				
13620	TF	LOADSC,HOLD2+19	06312	26	13180	13065
13630	S	LOADSC,HOLD2+13	06324	22	13180	13059
13640	AM	LOADSC,1,10	06336	11	13180	000-1
13650	**	LOADSC-2	06348	32	13178	00000
13660	TF	LOADSC,HOLD2+13	06360	26	13186	13059
13670	B	LNZ	06372	49	06884	00000
13680	DDRG	+3	06380			
13690	NTZ	TF NEWDIM,HOLD2+3	06380	26	02963	13049
13700	BNF	++20,LOADER	06392	44	06412	11310
13710	B	NTZ-08	06404	49	06312	00000
13720	DDRG	+3	06412			
13730	BT	DINNER,DINNER-1	06412	27	03672	03671
13740	**	ERROR IF FROM DIM NOT IN USE				
13750	BNR	++32,MAP	06424	45	06456	19880
13760	TFM	DIMERR+22,0074,8	06436	16	02507	0-074
13770	B	ERRD	06448	49	02524	00000
13780	DDRG	+3	06456			

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13790	**	ERROR IF FROM DIM IS IMMOVABLE				
13800		BNF **32,MAP+19	06456	44	06488	19899
13810		TFM DIMERR+22,0077,8	06468	16	02507	0-077
13820		B ERRO	06480	49	02524	00000
13830		DORG *-3	06488			
13840		TF LOADSC,MAP+8	06488	26	13180	19888
13850	***	PUT FROM DIM PROG. ON SCRATCH				
13860		TDM FWRDDA,0	06500	15	13459	00000
13870		TFM FWRIT+5,C,7	06512	46	13272	-0000
13880		TDM FWRIT,0	06524	85	13267	00000
13890		TFM FWRIT+13,TRACK	06536	16	13280	J3776
13900		TF FREAD+5,MAP+5	06548	26	13287	19885
13910		TD FREAD,MAP	06560	25	13282	19880
13920		TFM FREAD+13,TRACK	06572	16	13295	J3776
13930	MORERD	CM MAP+8,040,9	06584	14	19888	00-40
13940		BNH **44	06596	47	06640	01100
13950		SM MAP+8,040,9	06608	12	19888	00-40
13960		TFM FREAD+8,040,9	06620	16	13290	00-40
13970		B **32	06632	49	06664	00000
13980		DORG *-3	06640			
13990		TF FREAD+8,MAP+8	06640	26	13290	19888
14000		S MAP+8,MAP+8	06652	22	19888	19888
14010		TF FWRIT+8,FREAD+8	06664	26	13275	13290
14020		TFM IORT,**23	06676	16	00565	-6699
14030		B IOGT,FREDDA,7	06688	49	00566	J3467
14040		TFM IORT,**23	06700	16	00565	-6723
14050		B IOPT,FWRDDA,7	06712	49	00532	J3459
14060		CM MAP+8,0,9	06724	14	19888	00-00
14070		BE **44	06736	46	06780	01200
14080		A FREAD+5,FREAD+8	06748	21	13287	13290
14090		A FWRIT+5,FREAD+8	06760	21	13272	13290
14100		B MORERD	06772	49	06584	00000
14110		DORG *-3	06780			
14120		TDM FWRDDA,2	06780	15	13459	00002
14130		TFM SCRACH,0,7	06792	16	13186	-0000
14140		TDM FREDDA,0	06804	15	13467	00000
14150	**	ENTRY AND CORE ADDRESSES FROM FROM DIM MAP				
14160		CM HOLDCD+35,0,7	06816	14	13081	-0000
14170		BNE PATCH1+12	06828	47	12810	01200
14180		B7 PATCH1	06840	49	12798	
14190	NDISK	BD MODND1,RTEST	06848	43	10482	13131
14200		BTM NODISK,**12	06860	17	09866	-6872
14210		TFM HOLDCD+3,0,8	06872	16	13049	0-000
14220	MAINB2	BD MODDK1,RTEST	06884	43	10682	13131
14230		TFM IORT,**23	06896	16	00565	-6919
14240		B IOGT,COM2,7	06908	49	00566	J3335
14250		CM HOLDCD+3,0,8	06920	14	13049	0-000
14260		BE **36	06932	46	06968	01200
14270	***	DELETE FROM DIM FROM S.P.LIST				
14280		TF DIMNUM,HOLDCD+3	06944	26	13190	13049
14290		BTM SPLDEL,**12	06956	17	12090	-6968
14300	*	DELETE TO DIM FROM SP LIST				
14310		TF DIMNUM,HOLDCD+7	06968	26	13190	13053
14320		BTM SPLDEL,**12	06980	17	12090	-6992
14330		TF MOVESA,LOADSA	06992	26	02863	13102
14340		TD MOVESA-5,LOADSA-5	07004	25	02858	13097

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14350		TF MOVESC,LOADSC	07016	26	02866	13180
14360		TFM IORT,**23	07028	16	00565	-7051
14370		B IOGT,MOVDDA,7	07040	49	00566	J3244
14380		TFM EXITMR+6,**20	07052	16	08630	-7072
14390		B MOVER	07064	49	08824	00000
14400		DORG *-3	07072			
14410		BNF **20,ADK	07072	44	07092	13118
14420		B UPDIM	07084	49	07312	00000
14430		DORG *-3	07092			
14440	***	INSERT TO AND FROM DIMS INTO S.P.LIST				
14450	NOSPAC	TF NEWDIM,HOLDCD+7,7	07092	26	02963	J3053
14460		BT DIMMER,DIMMER-1	07104	27	03672	03671
14470		TF MOVESC,MAP+8	07116	26	02866	19888
14480		TF MOVESA,MAP+5	07128	26	02863	19885
14490		TD MOVESA-5,MAP	07140	25	02858	19880
14500		TFM EXITMR+6,**20	07152	16	08630	-7172
14510		B MOVER	07164	49	08824	00000
14520		DORG *-3	07172			
14530		TF DIMNUM,NOSPAC+11,11	07172	26	13190	07101
14540		TFM IORT,**23	07184	16	00565	-7207
14550		B IOGT,COM2,7	07196	49	00566	J3335
14560		BTM SPLINS,**12	07208	17	10606	-7220
14570		CM NOSPAC+11,HOLDCD+3	07220	14	07103	J3049
14580		BE ERR	07232	46	05662	01200
14590		CM HOLDCD+3,0,8	07244	14	13049	0-000
14600		BE ERR	07256	46	05662	01200
14610		TFM NOSPAC+11,HOLDCD+3	07268	16	07103	J3049
14620		TFM IORT,**23	07280	16	00565	-7303
14630		B IOGT,MOVDDA,7	07292	49	00566	J3244
14640		B NOSPAC	07304	49	07092	00000
14650		DORG *-3	07312			
14660	UPDIM	TFM IORT,**23	07312	16	00565	-7335
14670		B IOGT,EQUDDA,7	07324	49	00566	J3312
14680		TFM IORT,**23	07336	16	00565	-7359
14690		B IOGT,COM2,7	07348	49	00566	J3335
14700	***	CLEAR ANY FILE PROTECTION IN TO AND FROM DIM				
14710	SEARFP	TF NEWDIM,HOLDCD+7,7	07360	26	02963	J3053
14720		BT DIMMER,DIMMER-1	07372	27	03672	03671
14730		TF FWRIT+5,MAP+5	07384	26	13272	19885
14740		TD FWRIT,MAP	07396	25	13267	19880
14750		TFM HOLDS,MAP+8	07408	26	13193	19888
14760		TFM TESTFP+11,TRACK	07420	16	07587	J3776
14770		TF HOLDS,MAP+5	07432	26	13139	19885
14780		SF HOLDS-1	07444	32	13138	00000
14790		SM HOLDS,20,10	07456	12	13139	00000
14800		BH *-12	07468	46	07456	01100
14810		BZ **48	07480	46	07528	01200
14820		AM HOLDS,20,10	07492	11	13139	00000
14830		MM HOLDS,105,9	07504	13	13139	00005
14840		A TESTFP+11,99	07516	21	07587	00099
14850		TFM FWRIT+8,020,9	07528	16	13275	00-20
14860		TFM FWRIT+13,TRACK	07540	16	13280	J3776
14870		TFM IORT,**23	07552	16	00565	-7575
14880		B IOGT,FDDA,7	07564	49	00566	J3451
14890	TESTFP	BNF **20,TRACK	07576	44	07594	13776
14900		B CLRFP	07588	49	07688	00000

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14910	DORG	+3	07596		
14920	SM	HOLD3,1,10	07596	12	13193 000-1
14930	DZ	NOFLGS	07608	46	07748 01200
14940	AM	TESTFP+11,109,9	07620	11	07587 00J05
14950	CM	TESTFP+11,TRACK+21CO	07632	14	07587 J5876
14960	BL	TESTFP	07644	47	07576 01300
14970	AM	FWRIT+5,20,10	07656	11	13272 000K0
14980	TFM	TESTFP+11,TRACK	07668	16	07587 J3776
14990	B	TESTFP-24	07680	49	07552 00000
15000	DORG	+3	07688		
15010	CLRFP	TF HOLD3,MAP+8	07688	26	13193 19888
15020	TF	FWRIT+5,MAP+5	07700	26	13272 19885
15030	TD	FWRIT,MAP	07712	25	13267 19880
15040	TFM	FPSF+1,33,10	07724	16	11643 000L3
15050	BTM	FP,+12	07736	17	11462 -7748
15060	NOFLGS	CM SEARFP+11,HOLD3+3	07748	14	07371 J3049
15070	BE	ALLCLR	07760	46	07816 01200
15080	CM	HOLD3+3,0,8	07772	14	13049 0-000
15090	BE	ALLCLR	07784	46	07816 01200
15100	TFM	SEARFP+11,HOLD3+3	07796	16	07371 J3049
15110	B	SEARFP	07808	49	07360 00000
15120	DORG	+3	07816		
15130	***	REMOVE NAMES			
15140	ALLCLR	C HOLD3+3,HOLD3+7	07816	24	13049 13053
15150	RE	+108	07828	46	07936 01200
15160	CM	HOLD3+3,0,8	07840	14	13049 0-000
15170	BE	+48	07852	46	07900 01200
15180	SF	DELETE	07864	32	13134 00000
15190	TF	DINUM,HOLD3+3	07876	26	13190 13049
15200	BTM	EQUIV,+12	07888	17	08606 -7900
15210	SF	DELETE	07900	32	13134 00000
15220	TF	DINUM,HOLD3+7	07912	26	13190 13053
15230	BTM	EQUIV,+12	07924	17	08606 -7936
15240	TF	NEWDIM,HOLD3+7	07936	26	02963 13053
15250	BT	DIMMER,DIMMER-1	07948	27	03672 03671
15260	BTM	SETMAP,+12	07960	17	10738 -7972
15270	C	HOLD3+3,HOLD3+7	07972	24	13049 13053
15280	RE	VOILA	07984	46	08112 01200
15290	CM	HOLD3+3,0,8	07996	14	13049 0-000
15300	BE	VOILA	08008	46	08112 01200
15310	*	DELETE FROM DIM REFERENCES			
15320	TF	NEWDIM,HOLD3+3	08020	26	02963 13049
15330	BT	DIMMER,DIMMER-1	08032	27	03672 03671
15340	DNR	+20,MAP	08044	45	08064 19880
15350	B	MONCAL	08056	49	00796 00000
15360	DORG	+3	08064		
15370	TDM	MAP,,,	08064	15	19880 00000
15380	DSC	1,*,*	08075		1
15390	TF	MAP+19,ZERO19	08076	26	19899 13174
15400	TFM	IORT,+23	08088	16	00565 -8111
15410	B	IOPT,DMDDA,7	08100	49	00532 -2548
15420	VOILA	BTM WRLAST,+12	08112	17	11842 -8124
15430	BNF	MONCAL,DUMP	08124	44	00796 13426
15440	TD	MCS+23,DUMP	08136	25	17801 13424
15450	TFM	IORT,+23	08148	16	00565 -8171

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15460	B	IOGT,DMPDIM,7	08160	49	00566 J3403
15470	RELD	TFM PMI,0,10	08172	16	13130 000-0
15480	CM	HOLD2,6,10	08184	14	13104 000-6
15490	BNE	LOADER	08196	47	11310 01200
15500	SF	FORT	08208	32	13114 00000
15510	TD	DUMP,MCS+23	08220	25	13426 17801
15520	TF	PNAME,MCS+35	08232	26	13229 17813
15530	TF	HOLD3+7,MCS+39	08244	26	13053 17817
15540	TFM	SCRACH,0,7	08256	16	13186 -C000
15550	TDM	FREDDA,0	08268	15	13467 00000
15560	BD	+20,MCS+22	08280	43	08300 17800
15570	B	MOODK1	08292	49	10682 00000
15580	DORG	+3	08300		
15590	NOREZ	TF HOLD3+30,MCS+12	08300	26	13076 17790
15600	TF	HOLD3+35,MCS+17	08312	26	13081 17795
15610	TFM	LOADSC,0,9	08324	16	13180 00-00
15620	TFM	DCFSR+8,3,9	08336	16	13381 00-03
15630	TFM	DCFSR+9,0,7	08348	16	13378 -0000
15640	INIT2	TFM LOOP,4,10	08360	16	13120 000-4
15650	TFM	SCAN2+6,READIN	08372	16	08414 J7778
15660	TFM	IORT,+23	08384	16	00565 -8407
15670	B	IOGT,DDASCR,7	08396	49	00566 J3483
15680	SCAN2	NOP READIN,0	08408	41	17778 00000
15690	TF	BNR+11,SCAN2+6	08420	26	09661 08414
15700	TFM	MODISK-1,RELD2	08432	16	09865 -8532
15710	BTM	LCTEST,+12	08444	17	09614 -8456
15720	SM	LOOP,1,10	08456	12	13120 000-1
15730	BD	UPSCAN,LOOP	08468	43	08912 13120
15740	AM	LOADSC,3,10	08480	11	13180 000-3
15750	AM	DCFSR+9,3,10	08492	11	13378 000-3
15760	B	INIT2	08504	49	08360 00000
15770	DORG	+3	08512		
15780	UPSCAN	AM SCAN2+6,75,9	08512	11	08414 00-75
15790	B	SCAN2	08524	49	08408 00000
15800	DORG	+3	08532		
15810	RELD2	TF HOLD3+13,THOU	08532	26	13059 13096
15820	TF	HOLD3+19,THOU	08544	26	13065 13096
15830	A	HOLD3+19,LOADSC	08556	21	13065 13180
15840	SM	HOLD3+19,1,10	08568	12	13065 000-1
15850	TFM	INPUT+2,7070,8	08580	16	13455 00P70
15860	B	PATCH6	08592	49	13538 00000
15870	DORG	+3	08600		
15880	TCD	REPLFL	04400		

15890 ****
 15900 *****
 15910 ****
 15920 DORG 7200
 15930 COMMFL TFM IORT,+23
 15940 B IOPT,COMM2,7
 15950 TRA
 15960 COMM1 DSC 1,1
 1
 15970 DC 5,10480
 J8480

07200		
07200	16	00565 -7223
07212	49	00532 -7243
07224	36	00000 00508
07236	49	00000 00000
07248		1
07253		5

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15980	DC	3,031		07256	3
15990	DC	5,08600		07261	5
16000	DSC	1,1		07262	1
16010	COMM2	DSC 2,22		07263	2
16020	DSA	COMM1		07269	5 X 1
16030	DSC	1,1		07269	-7248
16040	DORG	8100		07270	1
16050	EQUFL	TFM IORT,++23		08100	16 00565 -8123
16060	B	IOPT,EQUI,7		08112	49 00532 -8148
16070	TRA			08124	36 00000 00500
16080	EQUI	DSC 2,22		08136	49 00000 00000
16090	DSA	EQU2		08148	2
16100	DSC	1,1		08154	5 X 1
16110	EQU2	DSC 1,1		08154	-8156
16120	DC	5,18278		08155	1
16130	DC	3,020		08156	1
16140	DC	5,08600		08161	5
16150	DSC	1,1		08164	3
16160	DORG	8600		08169	5
16170				08170	1
16180				08600	
16190	DC	5,0		08604	5
16200	EQUIV	TFM NEWDIM,0002,8		08606	16 02963 0-002
16210	BT	DIMMER,DIMMER-1		08618	27 03672 03671
16220	BNF	SKNAME,DELETE		08630	44 09690 13134
16230	CM	DIMNUM,0,8,	START DELETE OPERATION	08642	14 13190 0-000
16240	BE	ANAME		08654	46 10466 01200
16250	LIMITS	CM DIMNUM,SUBLO,8		08666	14 13190 0-010
16260	BL	B2READ		08678	47 09054 01300
16270	CM	DIMNUM,SUBH1,8		08690	14 13190 0-039
16280	BH	B2READ		08702	46 09054 01100
16290	TFM	CMINE+6,DIMNUM		08714	16 08816 J3190
16300	TFM	CMINE+11,TRACK+15		08726	16 08821 J3791
16310	WITHIN	TFM HOLD4,0,10	WITHIN SUBROUTINE DIM LIMITS	08738	16 13197 000-0
16320	TF	DISKF+5,EQUDIM+5,,		08750	26 13393 19885
16330	TD	DISKF,EQUDIM		08762	25 13388 19880
16340	TFM	IORT,++23		08774	16 00565 -8797
16350	B	IOGT,DDAKF,7		08786	49 00566 J3443

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16360	AM	HOLD4,1,10		08798	11 13197 000-1
16370	CMINE	C		08810	24 00000 00000
16380	BE	TFLG		08822	46 08878 01200
16390	CM	HOLD4,50,10		08834	14 13197 000M0
16400	BH	WRT2		08846	46 08946 01100
16410	AM	CMINE+11,16,10		08858	11 08821 000J6
16420	B	CMINE-12		08870	49 08798 00000
16430	DORG	+3		08878	
16440	TFLG	BNF NOF,DELETE		08878	44 08986 13134
16450	TFM	CMINE+11,9999,6		08890	16 0882J 09999
16460	SM	CMINE+11,4,10		08902	12 08821 000-4
16470	TF	CMINE+11,NIME12,6		08914	26 0882J 13243
16480	AM	CMINE+11,20,10		08926	11 08821 000K0
16490	B	CMINE-12		08938	49 08798 00000
16500	DORG	+3		08946	
16510	WRT2	BNF ++20,DELETE		08946	44 08966 13134
16520	B	WRT		08958	49 09022 00000
16530	DORG	+3		08966	
16540	TFM	DIMERR+22,7574,8		08966	16 02507 0P574
16550	B	MULT2		08978	49 09974 00000
16560	DORG	+3		08986	
16570	NOF	TF CMINE+11,PNAME,6		08986	26 0882J 13229
16580	AM	CMINE+11,4,10		08998	11 08821 000-4
16590	TF	CMINE+11,DIMNUM,6		09010	26 0882J 13190
16600	WRT	TFM IORT,++23		09022	16 00565 -9045
16610	B	IOPT,DDAKF,7		09034	49 00532 J3443
16620	B	EXIT		09046	49 10530 00000
16630	DORG	+3		09054	
16640	B2READ	TF DISKF+5,EQUDIM+5,,	NOT WITHIN LIMITS	09054	26 13393 19885
16650	AM	DISKF+5,8,10		09066	11 13393 000-8
16660	TD	DISKF,EQUDIM		09078	25 13388 19880
16670	INITSC	TFM RECD+11,TRACK		09090	16 09185 J3776
16680	TFM	CMPAR+11,TRACK+15		09102	16 09205 J3791
16690	TFM	CLOSAR+8,20,9		09114	16 13366 00-20
16700	TFM	CLOSM+8,20,9		09126	16 13305 00-20
16710	TFM	IORT,++23		09138	16 00565 -9161
16720	B	IOGT,DDAKF,7		09150	49 00566 J3443
16730	AM	++23,11,10		09162	11 09185 000J1
16740	RECD	BNR ++20,...	TEST FOR LAST ENTRY	09174	49 09194 00000
16750	B	EXIT		09186	49 10530 00000
16760	DORG	+3		09194	
16770	CMPAR	C DIMNUM,...	LOOK FOR DIM NUMBER	09194	24 13190 00000
16780	BE	CLOSE		09206	46 09294 01200
16790	CM	CMPAR+11,TRACK+1099,,	TEST FOR END OF 20 SECTORS	09218	14 09205 J5775
16800	BE	INCRD		09230	46 09274 01200
16810	AM	RECD+11,16,10		09242	11 09185 000J6
16820	AM	CMPAR+11,16,10		09254	11 09205 000J6
16830	B	RECD		09266	49 09174 00000
16840	DORG	+3		09274	
16850	INCRD	AM DISKF+5,20,9		09274	11 13393 00-20
16860	B	INITSC		09286	49 09090 00000
16870	DORG	+3		09294	
16880	CLOSE	TDM CLOSUP+2000,...	ROUTINE TO CLOSE IN LIST	09294	19 15776 00000
16890	DSC	1,1		09306	1
16900	TF	TRAC+6,CMPAR+11		09306	26 09420 09205

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16910	SM	TRREC+6,15,10	09318	12	09420	000J5
16920	TF	TRREC+11,CMPAR+11	09330	26	09425	09205
16930	AM	TRREC+11,1,10	09342	11	09425	000-1
16940	TFM	CLOSUP+13,CLOSUP	09354	16	13310	J3776
16950	TFM	CLOSUP+13,CLOSUP+1984	09366	16	13371	J5760
16960	TF	CLOSUP+5,DISKF+5	09378	26	13302	13393
16970	TF	CLOSUP+5,DISKF+5	09390	26	13363	13393
16980	AM	CLOSUP+5,20,10	09402	11	13363	0C0K0
16990	TRREC	TR 0,0,,	09414	31	00000	00000
17000	BNR	DDNE,CLOSUP+1984,,	09426	45	09542	15760
17010	TFM	IOPT,++23	09438	16	00565	-9461
17020	B	IOGT,CLDDA,7	09450	49	00566	J3427
17030	TFM	IOPT,++23	09462	16	00565	-9485
17040	B	IOPT,CLDDA,7	09474	49	00532	J3435
17050	TFM	CLOSUP+3984,,	09486	15	17760	00000
17060	DSC	1,,*	09497		1	
17070	TR	CLOSUP,CLOSUP+2C00	09498	31	13776	15776
17080	AM	CLOSUP+5,20,10	09510	11	13363	000K0
17090	AM	CLOSUP+5,20,10	09522	11	13302	000K0
17100	B	TRREC+12	09534	49	09426	00000
17110	DORG	=-3	09542			
17120	DDNE	TF HOLDS,CLOSUP+5,,	09542	26	13139	13302
17130	S	HOLDS,EQUIDIM+5	09554	22	13139	19885
17140	SF	HOLDS-2	09566	32	13137	00000
17150	C	HOLDS,EQUIDIM+8	09578	24	13139	19888
17160	RM	NOTOK	09590	46	09634	01100
17170	TFM	IOPT,++23	09602	16	00565	-9625
17180	B	IOPT,CLDDA,7	09614	49	00532	J3435
17190	B	INITSC	09626	49	09090	00000
17200	DORG	=-3	09634			
17210	NOTOK	SM HOLDS,20,10,	09634	12	13139	000K0
17220	TF	HOLDS,EQUIDIM+8	09646	26	13193	19888
17230	S	HOLDS,HOLDS	09658	22	13193	13139
17240	TF	CLOSUP+8,HOLDS	09670	26	13305	13193
17250	B	NOTOK-32	09682	49	09602	0C000
17260	DORG	=-3	09690			
17270	SKNAME	CM DIMNUM,0,8,	09690	14	13190	0-000
17280	BE	EXIT	09702	46	10530	01200
17290	TF	DISKF+5,EQUIDIM+5	09714	26	13393	19885
17300	TD	DISKF,EQUIDIM	09726	25	13308	19880
17310	TFM	DISKF+8,20,9	09738	16	13396	00-20
17320	TFM	DISKF+13,TRACK	09750	16	13401	J3776
17330	SCANN	TFM CNAMES+11,TRACK+11	09762	16	09829	J3787
17340	TFM	IOPT,++23	09774	16	00565	-9797
17350	B	IOGT,DDAKF,7	09786	49	00566	J3443
17360	BNR	++20,CNAMES+11,11,	09798	45	09818	0982R
17370	B	NOMLLT	09810	49	10030	0C000
17380	DORG	=-3	09818			
17390	CNAMES	C PNAME,,7,	09818	24	13229	-0000
17400	BE	MULT	09830	46	09906	01200
17410	CM	CNAMES+11,TRACK+1995,7	09842	14	09829	J5771
17420	BE	++32	09854	46	09886	01200
17430	AM	CNAMES+11,16,10	09866	11	09829	000J6
17440	B	CNAMES-20	09878	49	09798	00000
17450	DORG	=-3	09886			

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17460	AM	DISKF+5,20,10	09886	11	13393	000K0
17470	B	SCANN	09898	49	09762	0C000
17480	DORG	=-3	09906			
17490	MULT	BNF ++20,DELETE,,	09906	44	09926	13134
17500	B	HOLDIM	09918	49	10498	00000
17510	DORG	=-3	09926			
17520	AM	CNAMES+11,4,10	09926	11	09829	000-4
17530	C	DIMNUM,CNAMES+11,11	09938	24	13190	0982R
17540	BE	EXIT	09950	46	10530	01200
17550	TFM	DIMERR+22,7571,8	09962	16	02507	0P571
17560	MULT2	RCTY	09974	34	00000	00102
17570	WATY	DIMERR	09986	39	02485	00100
17580	WATY	PNAME-10	09998	39	13219	00100
17590	TF	PNAME,ZERO12	10010	26	13229	13167
17600	B	EXIT	10022	49	10530	0C000
17610	DORG	=-3	10030			
17620	BNF	++20,DELETE	10030	44	10050	13134
17630	B	EXIT	10042	49	10530	00000
17640	DORG	=-3	10050			
17650	CM	DIMNUM,SUBLO,8,	10050	14	13190	0-010
17660	BL	OLIMIT	10062	47	10130	01300
17670	CM	DIMNUM,SUBHI,8	10074	14	13190	0-039
17680	BH	OLIMIT	10086	46	10130	01100
17690	TFM	CNINE+6,NINE12	10098	16	08816	J3243
17700	TFM	CNINE+11,TRACK+11	10110	16	08821	J3787
17710	B	WITHIN	10122	49	08738	00000
17720	DORG	=-3	10130			
17730	OLIMIT	TFM CNT,0,10,	10130	16	13142	000-0
17740	TFM	++23,TRACK+95	10142	16	10165	J3871
17750	CM	CNAMES+11,TRACK+95	10154	14	09829	J3871
17760	BE	SECT	10166	46	10234	01200
17770	AM	=-13,100,9	10178	11	10165	00J00
17780	AM	CNT,1,10	10190	11	13142	000-1
17790	CM	CNT,20,10	10202	14	13142	000K0
17800	BNE	=-60	10214	47	10154	01200
17810	B	ENTOK	10226	49	10362	00000
17820	DORG	=-3	10234			
17830	SECT	TF HOLDS,DISKF+5	10234	26	13139	13393
17840	A	HOLDS,CNT	10246	21	13139	13142
17850	S	HOLDS,EQUIDIM+5	10258	22	13139	19885
17860	SF	HOLDS-2	10270	32	13137	00000
17870	C	HOLDS,EQUIDIM+8	10282	24	13139	19888
17880	BL	++32	10294	47	10326	01300
17890	TFM	DIMERR+22,7573,8	10306	16	02507	0P573
17900	B	MULT2	10318	49	09974	00000
17910	DORG	=-3	10326			
17920	CM	CNAMES+11,TRACK+1995	10326	14	09829	J5771
17930	BNE	ENTOK	10338	47	10362	01200
17940	AM	DISKF+8,1,10	10350	11	13396	000-1
17950	ENTOK	TF CNAMES+11,PNAME,6,	10362	26	0982R	13229
17960	AM	CNAMES+11,4,10	10374	11	09829	000-4
17970	TF	CNAMES+11,DIMNUM,6	10386	26	0982R	13190
17980	AM	CNAMES+11,12,10	10398	11	09829	000J2
17990	TF	CNAMES+11,ZERO12,6	10410	26	0982R	13167
18000	TFM	CNAMES+11,,6	10422	15	0982R	00000
18010	DSC	1,,*	10433		1	

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18020	TFM	IORT,+23		10434	16	00565	J0457
18030	B	IOP7,DDAKF,7		10446	49	00532	J3443
18040	B	EXIT		10458	49	10530	00000
18050	DORG	+3		10466			
18060	ANAME	C	PNAME,ZER012,,	10466	24	13229	13147
18070	BE	EXIT	FIND DIM NUMBER TO BE DELETED	10478	46	10530	01200
18080	B	SKNAME+24		10490	49	09714	00000
18090	DORG	+3		10498			
18100	HOLDIM	AM	CNAMES+11,4,10	10498	11	09829	000-4
18110	TF	DIMNUM,CNAMES+11,11		10510	26	13190	09828
18120	B	LIMITS		10522	49	08666	00000
18130	DORG	+3		10530			
18140	EXIT	CF	DELETE	10530	33	13134	00000
18150	B	EQUIV-1,,6		10542	49	0860M	00000
18160	DORG	+3		10550			
18170	TGD	EQUFL		08100			
18180	****		COMMON1				
18190	DORG	8600		08600			
18200	DC	5.0		08604		5	
		-0000					
18210	ATNR	CF	FORT	08606	33	13114	00000
18220	SF	INPUT+95		08618	32	13708	00000
18230	CM	INPUT+96,43,10,	DETERMINE INPUT DEVICE	08630	14	13709	000M3
18240	BNE	+32		08642	47	08674	01200
18250	TFM	PHI,05,10		08654	16	13130	000-5
18260	B	R		08666	49	08754	00000
18270	DORG	+3		08674			
18280	CM	INPUT+96,57,10		08674	14	13709	000M7
18290	BNE	+32		08686	47	08718	01200
18300	TFM	PHI,03,10		08698	16	13130	000-3
18310	B	R		08710	49	08754	00000
18320	DORG	+3		08718			
18330	CM	INPUT+96,44,10		08718	14	13709	000M4
18340	BNE	ERRD-12		08730	47	02512	01200
18350	TFM	PHI,0,10		08742	16	13130	000-0
18360	R	SF	INPUT+97	08754	32	13710	00000
18370	SF	INPUT+117,,	TEST FOR SUBROUTINES	08766	32	13730	00000
18380	CM	INPUT+118,00,10		08778	14	13731	000-0
18390	BE	+24		08790	46	08814	01200
18400	SF	STFLAG		08802	32	13537	00000
18410	CM	INPUT+98,54,10,	TEST FOR RELOCATION	08814	14	13711	000M4
18420	BNE	+32		08826	47	08858	01200
18430	TDM	RTEST,1,,	BRANCH ON DIGIT TO RELOCATE	08838	15	13131	00001
18440	B	R2		08850	49	08950	00000
18450	DORG	+3		08858			
18460	TDM	RTEST,0		08858	15	13131	00000
18470	CM	INPUT+98,62,10		08870	14	13711	00002
18480	BNE	+32		08882	47	08914	01200
18490	TDM	NTEST,1		08894	15	13132	00001
18500	B	R2		08906	49	08950	00000
18510	DORG	+3		08914			
18520	TDM	NTEST,0		08914	15	13132	00000
18530	CM	INPUT+98,49,10		08926	14	13711	000M9
18540	BNE	ERRD-12		08938	47	02512	01200
18550	R2	SF	INPUT+99	08950	32	13712	00000

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18560	CM	INPUT+100,57,10,	TEST FOR FILE PROTECTION	08962	14	13713	000M7	
18570	BNE	+32		08974	47	09006	01200	
18580	TDM	PTEST,1,,	BRANCH ON DIGIT TO PROTECT	08986	15	13133	00001	
18590	B	+20		08998	49	09018	00000	
18600	DORG	+3		09006				
18610	TDM	PTEST,0		09006	15	13133	00000	
18620	TFM	+47,INPUT+112,,	CARD FROM	09018	16	09065	J3725	
18630	TFM	ATN+6,HOLD0D		09030	16	09048	J3046	
18640	ATN	TD	HOLD0D,0,7,	ALPHA TO NUMERIC	09042	25	13046	-0000
18650	CM	+1,0		09054	14	09053	-0000	
18660	BE	EXIT2		09066	46	09110	01200	
18670	AM	ATN+6,01,10		09078	11	09048	000-1	
18680	AM	ATN+11,02,10		09090	11	09053	000-2	
18690	B	ATN		09102	49	09042	00000	
18700	DORG	+3		09110				
18710	EXIT2	TFM	SETFLG+6,INPUT+31	09110	16	09128	J3644	
18720	SETFLG	SF	INPUT+31,,	TEST FOR ALPHA CHARACTERS	09122	32	13644	00000
18730	AM	SETFLG+6,1,10		09134	11	09128	000-1	
18740	CM	SETFLG+6,70,610		09146	14	09120	000P0	
18750	BNL	+36		09158	46	09194	01300	
18760	CM	SETFLG+6,00,610		09170	14	09120	000-0	
18770	BNE	ERRD-12		09182	47	02512	01200	
18780	SM	SETFLG+6,1,10		09194	12	09128	000-1	
18790	CF	SETFLG+6,,6		09206	33	09120	00000	
18800	CM	SETFLG+6,INPUT+93		09218	14	09128	J3706	
18810	BE	+32		09230	46	09262	01200	
18820	AM	SETFLG+6,2,10		09242	11	09128	000-2	
18830	B	SETFLG		09254	49	09122	00000	
18840	DORG	+3		09262				
18850	SF	HOLD0D,,	DEFINE CONTROL CARD FIELDS	09262	32	13046	00000	
18860	SF	HOLD0D+4		09274	32	13050	00000	
18870	B	ATNR-1,,6		09286	49	0860M	00000	
18880	**							
18890	SCRAD	TFM	MAXDIM,9999,8	DETERMINE MAX. NO. OF DIM ENTRIES	09298	16	03849	0R999
18900	TFM	NEWDIM,3,8		09310	16	02963	0-003	
18910	BT	DIMMER,DIMMER-1		09322	27	03672	03671	
18920	BNR	+20,MAP		09334	45	09354	19880	
18930	B	MONCAL		09346	49	00796	00000	
18940	DORG	+3		09354				
18950	NH	MAP+8,5,10		09354	13	19888	000-5	
18960	SF	96		09366	32	00096	00000	
18970	SM	99,1,10		09378	12	00099	000-1	
18980	TF	MAXDIM,99		09390	26	03849	00099	
18990	TFM	NEWDIM,1,8		09402	16	02963	0-001	
19000	BT	DIMMER,DIMMER-1		09414	27	03672	03671	
19010	BNR	+20,MAP		09426	45	09446	19880	
19020	B	MONCAL		09438	49	00796	00000	
19030	DORG	+3		09446				
19040	CM	MAP+13,88888,7		09446	14	19893	08888	
19050	BNE	MONCAL		09458	47	00796	01200	
19060	TF	SCR1,MAP+5		09470	26	13203	19885	
19070	TD	SCR1-5,MAP		09482	25	13198	19880	
19080	NH	MAP+8,200,9		09494	13	19888	00000	
19090	SF	95		09506	32	00095	00000	
19100	A	MAP+5,99		09518	21	19885	08099	
19110	TF	SCR2,MAP+5		09530	26	13209	19885	

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19120	TD	SCR2-5,MAP	09542	25	13204	19880
19130	DC1	SF SCR1-5	09554	32	13198	00000
19140	SF	SCR2-5	09566	32	13204	00000
19150	CF	SCR1-4	09578	33	13199	00000
19160	CF	SCR2-4	09590	33	13205	00000
19170	B	SCRAD-1,,6	09602	49	0929P	00000
19180	LCTEST	TFM COUNT,0,10,	09614	16	13145	000-0
19190	BV	*+12	09626	46	09638	01400
19200	BNF	NOALF,BNR+11,11	09638	44	09854	0966J
19210	BNR	*+20,0	09650	45	09670	00000
19220	B	NOALF	09662	49	09854	00000
19230	DDRG	*-3	09670			
19240	AM	COUNT,1,10	09670	11	13145	000-1
19250	CM	COUNT,5,10	09682	14	13145	000-5
19260	BE	*+32	09694	46	09726	01200
19270	AM	BNR+11,1,10	09706	11	09661	000-1
19280	B	BNR	09718	49	09650	00000
19290	DDRG	*-3	09726			
19300	CM	BNR+11,99999,67	09726	14	0966J	R9999
19310	BV	NOALF	09738	46	09854	01400
19320	BNE	NOALF	09750	47	09854	01200
19330	AM	BNR+11,1,10	09762	11	09661	000-1
19340	BNR	NOALF,BNR+11,11	09774	45	09854	0966J
19350	AM	BNR+11,1,10	09786	11	09661	000-1
19360	BD	NOALF,BNR+11,11	09798	43	09854	0966J
19370	AM	COUNT,1,10	09810	11	13145	000-1
19380	CM	COUNT,65,10	09822	14	13145	00005
19390	BNE	*-48	09834	47	09786	01200
19400	B	ALPHAS	09846	49	10266	00000
19410	DDRG	*-3	09854			
19420	NOALF	B LCTEST-1,,6	09854	49	0961L	00000
19430	NODISK	TD READ+2,PHI,,	09866	25	13481	13130
19440	SM	READ+2,1,10	09878	12	13481	000-1
19450	TFM	SCRACH,0,7	09890	16	13186	-0000
19460	TDM	FREDDA,0	09902	15	13467	00000
19470	TFM	LOADSC,0,9	09914	16	13180	00-00
19480	TFM	SEQ,1	09926	16	13128	-0001
19490	TFM	DCFSCR+8,003,9	09938	16	13381	00-03
19500	TFM	DCFSCR+5,0,7	09950	16	13378	-0000
19510	TDM	DCFSCR,0	09962	15	13373	00000
19520	INITRD	TFM READ,READIN,,	09974	16	13479	J7778
19530	TFM	LOOP,04,10	09986	16	13120	000-4
19540	TFM	COMP+11,READIN+79	09998	16	10117	J7857
19550	TFM	SF+11,READIN+75	10010	16	10105	J7853
19560	READC	TFM IORT,*+23	10022	16	00565	J0045
19570	B	IOGT,READ-4,7	10034	49	00566	J3475
19580	TF	BNR+11,READ	10046	26	09661	13479
19590	BTM	LCTEST,*+12	10058	17	09614	J0070
19600	CM	PHI,05,10	10070	14	13130	000-5
19610	BNE	COMP+60	10082	47	10166	01200
19620	SF	BNF COMP+36,READIN+75	10094	44	10142	17853
19630	COMP	C SEQ,READIN+79,,	10106	24	13128	17857
19640	BNE	SEQERR	10118	47	10378	01200
19650	AM	SEQ,1,10	10130	11	13128	000-1
19660	AM	SF+11,075,9	10142	11	10105	00-75
19670	AM	COMP+11,075,9	10154	11	10117	00-75

LAST RECORD TEST

SETUP READ DEVICE

INIT. READ LOOP

CHECK FOR PROPER SEQUENCE

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19680	SM	LOOP,1,10	10166	12	13120	000-1
19690	BD	INCR,LOOP	10178	43	10246	13120
19700	TFM	IORT,*+23	10190	16	00565	J0213
19710	B	IOPT,DDASCR,7	10202	49	00532	J3483
19720	AM	LOADSC,03,10	10214	11	13180	000-3
19730	AM	DCFSCR+5,03,10	10226	11	13378	000-3
19740	B	INITRD	10238	49	09974	00000
19750	DDRG	*-3	10246			
19760	INCR	AM READ,075,9	10246	11	13479	00-75
19770	B	READC	10258	49	10022	00000
19780	DDRG	*-3	10266			
19790	ALPHAS	TFM SCREM,04,9,	10266	16	13123	00-04
19800	S	SCREM,LOOP	10278	22	13123	13120
19810	BD	*+20,SCREM	10290	43	10310	13123
19820	B	MAINB	10302	49	10370	00000
19830	DDRG	*-3	10310			
19840	NOP	SCREM,1,10, CHANGE TO SUBTRACT FOR NEW DUMP	10310	41	13123	000-1
19850	TF	DCFSCR+8,SCREM	10322	26	13381	13123
19860	TFM	IORT,*+23	10334	16	00565	J0357
19870	B	IOPT,DDASCR,7	10346	49	00532	J3483
19880	A	LOADSC,SCREM	10358	21	13180	13123
19890	MAINB	B NODISK-1,,6	10370	49	0986N	00000
19900	DDRG	*-3	10378			
19910	SEQERR	RCTY	10378	34	00000	00102
19920	TDM	READIN+305,,,	10390	15	18083	00000
19930	DSC	1,,*	10401			
19940	WATY	ERRSEQ	10402	39	12913	00100
19950	TF	READIN+304,COMP+11,11	10414	26	18082	1011P
19960	WNTY	READIN+300	10426	38	18078	00100
19970	H		10438	48	00000	00000
19980	B	READC	10450	49	10022	00000
19990	DDRG	*-3	10458			
20000	***					
20010	CCD	DSC 2,02	10458			
20020	OZ	OSA CCD2	10464			
20030	DSC	1,,	10464		J0466	
20040	CCC2	DSC 1,1	10465			
20050	DC	5,00798	10471			
20060	DC	3,2	10474			
20070	DSA	INPUT-1	10479			
20080	DSC	1,,	10479		J3612	
20090	MODND1	TDM SYSCAL,1,11	10480			
20100	TFM	IORT,*+23	10482	15	00475	0000J
20110	B	IOPT,CCD,7	10494	16	00565	J0517
20120	CM	NAPEA,0,7	10506	49	00532	J0458
			10518	14	13155	-0000

SYSTEM LOADER MCM-DISK

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20130	BE	++32	10530	44	10562	01200
20140	TF	420,MAPEA	10542	26	00420	13155
20150	B	++20	10554	49	10574	00000
20160	DORG	-3	10562			
20170	TDM	416,,,	10562	15	00416	00000
20180	DSC	1,',*	10573		1	
20190	TD	428,PHI	10574	25	00428	13130
20200	SF	428	10584	32	00428	00000
20210	TF	434,MAPMA	10598	26	00434	13150
20220	SF	489	10610	32	00489	00000
20230	CF	429	10622	33	00429	00000
20240	TFM	IORI,++23	10634	16	00565	J0657
20250	B	IOGT,SOL,7	10646	49	00566	J0658
20260	SOL	DSC 2,-22	10658		2	
		2K				
20270	DSA	SOL2	10664		5 X	1
20280	DSC	1,'	10664		J0666	
			10665		1	
20290	SOL2	DSC 1,1	10666		1	
		1				
20300	DSA	19783	10671		5 X	1
20310	DC	3,3	10671		J9783	
		-03	10674		3	
20320	DC	6,0'	10680		4	
		-0000'				
20330	MODDK1	TDM SVSCAL,1,11	10682	15	00475	0000J
20340	TFM	IORI,++23	10694	16	00565	J0717
20350	B	IOPT,CCD,7	10706	49	00532	J0458
20360	TF	DLDCF+5,SCRACH	10718	26	10876	13186
20370	TD	DLDCF,SCRACH-5	10730	25	10871	13181
20380	SF	DLDCF+1	10742	32	10872	00000
20390	CF	DLDCF	10754	33	10871	00000
20400	TDM	428,0,11	10766	15	00428	0000-
20410	CM	MAPMA,0,7	10778	14	13150	-0000
20420	BE	++32	10790	46	10822	01200
20430	TF	DLD+11,MAPMA	10802	26	10869	13150
20440	B	++20	10814	49	10834	00000
20450	DORG	-3	10822			
20460	TDM	DLD+7,,,	10822	15	10865	00000
20470	DSC	1,',*	10833		1	
20480	TFM	IORI,++23	10834	16	00565	J0857
20490	B	IOGT,DL,7	10846	49	00566	J0858
20500	DL	DSC 2,02	10858		2	
		02				
20510	DSA	DLDCF,0	10864		5 X	2
20520	DSC	1,'	10864		J0871	
			10869		-0000	
			10870		1	

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20530	DLDCF	DSC 1,0	10871		1	
		0				
20540	DC	5,0	10876		5	
		-0000				
20550	DC	3,999	10879		3	
		R99				
20560	DC	5,99999	10884		5	
		R9999				
20570	DSC	1,'	10885		1	
20580	NOSAC	TFM IORI,FINDX,7	10886	16	00565	J0905
20590	B7	LOCAL	10898	49	00716	
20600	FINDX	DSC 2,-22	10905		2	
		2K				
20610	DSA	FINDXX	10911		5 X	1
20620	DSC	1,'	10911		J0913	
			10912		1	
20630	FINDXX	DSC 1,1	10913		1	
		1				
20640	DC	5,18542	10918		5	
		J8542				
20650	DC	3,012	10921		3	
		-12				
20660	DSA	NOSA	10926		5 X	1
20670	DSA	NOSA	10926		J3800	
			10931		5 X	1
20680	DSC	1,'	10931		J3800	
			10932		1	
20690	SPD	CM LISTER-3,7,1011	10934	14	02762	000-P
20700	BNE	HERE	10946	47	11194	01200
20710	SF	LISTER-1	10958	32	02764	00000
20720	MM	LISTER,200,9	10970	13	02765	00K00
20730	TF	LOADSA,99	10982	26	13102	00099
20740	TD	LOADSA-5,PACK	10994	25	13097	02773
20750	CF	LOADSA-5	11006	33	13097	00000
20760	TD	++47,LOADSA-5	11018	25	11065	13097
20770	A	++35,++35	11030	21	11065	11065
20780	AM	++29,1,10	11042	11	11065	000-1
20790	TDM	LOADSA-5,0,10	11054	15	13097	000-0
20800	TFM	IORI,++23	11066	16	00565	J1089
20810	B	IOGT,DIR,7	11078	49	00566	J1286
20820	TFM	HOLD6-1,READIN+71	11090	16	13214	J7849
20830	TD	++22,LOADSA-5	11102	25	11124	13097
20840	AM	HOLD6-1,0,9	11114	11	13214	00-00
20850	BD	++24,LOADSA-4	11126	43	11150	13098
20860	BL	++29,12,10	11138	16	11163	000J2
20870	TD	LOADSA-4,HOLD6-1,11	11150	25	13098	1321M
20880	HDP	LOADSA,10000,7	11162	41	13102	J0000
20890	CF	LISTER-1	11174	33	02764	00000
20900	B	SCRAD	11186	49	11254	00000
20910	DORG	-3	11194			

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20920	HERE	TF	NEWDIM,LISTER	11194	26	02963	02765
20930		BT	DIMMER,DIMMER-1	11206	27	03672	03671
20940		A	MAP*5,MAP*8	11218	21	19885	19888
20950		TF	LOADSA,MAP*5	11230	26	13102	19885
20960		TD	LOADSA-5,MAP	11242	25	13097	19880
20970	SCRKD	A	LOADSA,NINESC	11254	21	13102	05753
20980		S	LOADSA,LOADSC	11266	22	13102	13180
20990		B	SCRDK	11278	49	06588	00000
21000		DORG	*-3	11286			
21010	D3READ	DSC	2,22	11286		2	
		22					
21020		OSA	DAREAD	11292		5 X	1
				11292		J1294	
21030		DSC	1,1	11293		1	
21040	D4READ	DSC	1,1	11294		1	
		1					
21050		DC	5,04800	11299		5	
		-4800					
21060		DC	3,2	11302		3	
		-02					
21070		OSA	READIN	11307		5 X	1
				11307		J7778	
21080		DSC	1,1	11308		1	
21090	LOAUER	TFM	ATN*11,INPUT*24	11310	16	09053	J3637
21100		SF	LOADER	11322	32	13110	00000
21110		BTM	ATNR,*+12	11334	17	08606	J1346
21120		TFM	INPUT*49,7070,8	11346	16	13662	OP070
21130		A	WR2*3,425	11358	21	02262	00425
21140		TD	WR2,422	11370	25	02259	00422
21150		SF	WR2	11382	32	02259	00000
21160		CF	WR2*1	11394	33	02260	00000
21170		TF	HOLD*13,WR2*5	11406	26	13059	02264
21180		TF	HOLD*19,WR2*5	11418	26	13065	02264
21190		A	HOLD*19,WR2*8	11430	21	13065	02267
21200		SM	HOLD*19,1,10	11442	12	13065	000-1
21210		TF	HOLD*30,WR2*13	11454	26	13076	02272
21220		TDM	RTEST,0	11466	15	13131	00000
21230		BNF	ISTO-24,MCS*22	11478	44	05932	17800
21240		SF	FORT	11490	32	13114	00000
21250		TDM	PTEST,0	11502	15	13133	00000
21260		TF	HOLD*7,MCS*39	11514	26	13053	17817
21270		TF	PNAME,MCS*35	11526	26	13229	17813
21280		TD	DUMP,MCS*23	11538	25	13426	17801
21290		TF	HOLD*35,MCS*17	11550	26	13081	17795
21300		TFM	HOLD*3,0,8	11562	16	13049	0-000
21310		B	ISTO	11574	49	05956	00000
21320		DORG	*-3	11582			
21330	PATCH2	BE	*+32	11582	46	11614	01200
21340		TF	MAPMA,HOLD*30	11594	26	13150	13076
21350		B7	PAT2*12	11606	49	06148	
21360		TFM	MAPMA,02402,7	11614	16	13150	-2402
21370		B7	PAT2*12	11626	49	06148	

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21380		CM	HOLD*30,0,7	11634	14	13076	-0000
21390		BNE	*-52	11646	47	11594	01200
21400		B7	PAT2	11658	49	06136	
21410		TCD	COMMFL	07200			
				10100			
21420		DORG	10100	10100			
21430	COMFL	TFM	IORT,*+23	10112	49	00532	J0144
21440		B	IOPT,COMFL1,7	10124	36	00000	00500
21450		TRA		10136	49	00000	00000
				10148		2	
21460	COMFL1	DSC	2,22	10154		5 X	1
		22					
21470		OSA	COMFL2	10154		J0156	
				10155		1	
21480		DSC	1,1	10156		1	
21490	COMFL2	DSC	1,1	10156		1	
		1					
21500		DC	5,18512	10161		5	
		J8512					
21510		DC	3,030	10164		3	
		-30					
21520		DC	5,10600	10169		5	
		J0600					
21530		DSC	1,1	10170		1	
21540		DORG	10600	10600			
21550		DC	5,0	10604		5	
		-0000					
21560	SPLINS	TFM	HOLD*3,0,9	10606	16	13193	00-00
21570		CM	LISTER-3,8,1011	10618	14	02762	000-8
21580		BNE	LOOK	10630	47	10690	01200
21590		A	HOLD*3,LISTER	10642	21	13193	02765
21600		BT	REMOVE,REMOVE-1	10654	27	03084	03083
21610		TF	LISTET,DINNUM	10666	26	02795	13190
21620		BT	INSERT,INSERT-1	10678	27	03414	03413
21630	LOOK	C	HOLD*3,MOVESC	10690	24	13193	02866
21640		BE	SPLINS-1,,6	10702	46	1060M	01200
21650		BT	GETL,GETL-1	10714	27	02996	02995
21660		B	SPLINS*12	10726	49	10618	00000
21670	SETHAP	TF	MAP*5,LOADSA,,	10738	26	19885	13102
		TD	MAP,LOADSA-5	10750	25	19880	13097
21690		CF	MAP	10762	33	19880	00000
21700		SF	MAP*1	10774	32	19881	00000
21710		TF	MAP*8,LOADSC	10786	26	19888	13180
21720		BNF	*+24,STFLAG	10798	44	10822	13537
21730		SF	MAPMA	10810	32	13150	00000
21740		TF	MAP*13,MAPMA	10822	26	19893	13150
21750		TF	MAP*18,MAPMA	10834	26	19898	13155
21760		TD	MAP*19,MAPMA	10846	25	19899	13115
21770		TF	DINNUM,NEWDIM	10858	26	13190	02963
21780		TFM	IORT,*+23	10870	16	00565	J0893
21790		B	IOPT,DMDDA,7	10882	49	00532	02668
21800		TFM	IORT,*+23	10894	16	00565	J0917
21810		B	IOPT,MCS1,7	10906	49	00566	J3514

SET UP DIM ENTRY

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21820	TF	MCS+39,DIMNUM	10918	26	17817	13190
21830	TFM	IOPT,++23	10930	16	00565	J0953
21840	B	IOPT,MCS1,7	10942	49	00532	J3514
21850	*	INSERT DIMNUM IN SPLIST				
21860	BTM	SPLINS,++12	10954	17	10606	J0966
21870	C	PNAME,ZERO12,,	10966	24	13229	13167
21880	BE	NONAM	10978	46	11002	01200
21890	BTM	EQUIV,++12,,	10990	17	08606	J1002
21900	NONAM	TF FREAD+5,SCRACH,,	11002	26	13287	13186
21910	TD	FREAD,SCRACH-5	11014	25	13282	13181
21920	SF	FREAD+1	11026	32	13283	00000
21930	CF	FREAD	11038	33	13282	00000
21940	TF	FWRIT+5,LOADSA	11050	26	13272	13102
21950	TD	FWRIT,LOADSA-5	11062	25	13267	13097
21960	TFM	FREAD+13,FAREA	11074	16	13295	J3776
21970	TFM	FWRIT+13,FAREA	11086	16	13280	J3776
21980	C	MAXSC,LOADSC	11098	24	13107	13180
21990	BL	ALTER	11110	47	11282	01300
22000	TF	FREAD+8,LOADSC	11122	26	13290	13180
22010	TF	FWRIT+8,LOADSC	11134	26	13275	13180
22020	LSK	TFM IOPT,++23	11146	16	00565	J1169
22030	B	IOGT,FREDDA,7	11158	49	00566	J3467
22040	TFM	IOPT,++23	11170	16	00565	J1193
22050	B	IOPT,FWRDDA,7	11182	49	00532	J3459
22060	BD	++20,PTEST	11194	43	11214	13133
22070	ENDWRT	B SETMAP-1,,6	11206	49	1073P	00000
22080	DORG	+-3	11214			
22090	TFM	FPSF+1,32,10	11214	16	11643	000L2
22100	TF	HOLD3,LOADSC	11226	26	13193	13180
22110	TF	FWRIT+5,LOADSA	11238	26	13272	13102
22120	TD	FWRIT,LOADSA-5	11250	25	13267	13097
22130	BTM	FP,++12	11262	17	11462	J1274
22140	B	ENDWRT	11274	49	11206	00000
22150	DORG	+-3	11282			
22160	ALTER	TF HOLD3,LOADSC	11282	26	13193	13180
22170	S	HOLD3,MAXSC	11294	22	13193	13107
22180	TF	FREAD+8,MAXSC	11306	26	13290	13107
22190	TF	FWRIT+8,MAXSC	11318	26	13275	13107
22200	TFM	IOPT,++23	11330	16	00565	J1353
22210	B	IOGT,FREDDA,7	11342	49	00566	J3467
22220	TFM	IOPT,++23	11354	16	00565	J1377
22230	B	IOPT,FWRDDA,7	11366	49	00532	J3459
22240	A	FREAD+5,MAXSC	11378	21	13287	13107
22250	A	FWRIT+5,MAXSC	11390	21	13272	13107
22260	C	MAXSC,HOLD3	11402	24	13107	13193
22270	BL	ALTER+12	11414	47	11294	01300
22280	TF	FREAD+8,HOLD3	11426	26	13290	13193
22290	TF	FWRIT+8,HOLD3	11438	26	13275	13193
22300	B	LSK	11450	49	11146	00000
22310	FP	SF BUTTON,++	11462	32	00455	00000
22320	BTM	KYMESS,++12	11474	17	11998	J1486
22330	TF	HOLD5,FWRIT+5	11486	26	13139	13272
22340	SF	HOLD5-1	11498	32	13138	00000
22350	TFM	FPSF+6,TRACK2	11510	16	11648	J7778
22360	SM	HOLD5,20,10	11522	12	13139	000K0
22370	BH	+-12	11534	46	11522	01100

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22380	BZ	++48	11546	46	11594	01200
22390	AM	HOLD5,20,10	11558	11	13139	000K0
22400	MM	HOLD5,105,9	11570	13	13139	00J05
22410	A	FPSF+6,99	11582	21	11648	00099
22420	TFM	FWRIT+8,20,9	11594	16	13275	00-20
22430	TFM	FWRIT+13,TRACK2	11606	16	13280	J7778
22440	TFM	IOPT,++23	11618	16	00565	J1641
22450	B	IOGT,FPDDA,7	11630	49	00566	J3451
22460	FPSF	SF TRACK2	11642	32	17778	00000
22470	SM	HOLD3,1,10	11654	12	13193	000-1
22480	CM	HOLD3,0,9	11666	14	13193	00-00
22490	BE	DONESF	11678	46	11782	01200
22500	AM	FPSF+6,105,9	11690	11	11648	00J05
22510	CM	FPSF+6,TRACK2+2100	11702	14	11648	J9878
22520	BNE	FPSF	11714	47	11642	01200
22530	TFM	IOPT,++23	11726	16	00565	J1749
22540	B	IOPT,FPDDA,7	11738	49	00532	J3451
22550	AM	FWRIT+5,20,10	11750	11	13272	000K0
22560	TFM	FPSF+6,TRACK2	11762	16	11648	J7778
22570	B	FPSF-36	11774	49	11606	00000
22580	DORG	+-3	11782			
22590	DONESF	TFM IOPT,++23	11782	16	00565	J1805
22600	B	IOPT,FPDDA,7	11794	49	00532	J3451
22610	CF	BUTTON	11806	33	00455	00000
22620	BTM	KYMESS,++12	11818	17	11998	J1830
22630	B	FP-1,,6	11830	49	11462	00000
22640	WRLAST	TF FINAL+30,PNAME,,	11842	26	12905	13229
22650	TF	NEWDIM,DIMNUM	11854	26	02963	13190
22660	BT	DIMMER,DIMMER-1	11866	27	03672	03671
22670	RCTY		11878	34	00000	00102
22680	WATY	FINALM	11890	39	12875	00100
22690	TD	19999,MAP+19	11902	25	19999	19899
22700	TF	19998,DIMNUM	11914	26	19998	13190
22710	WNTY	19995	11926	38	19995	00100
22720	SPTY		11938	34	00000	00101
22730	WNTY	MAP	11950	38	19880	00100
22740	DNTY	19999	11962	35	19999	00100
22750	TDM	SYSCAL,3	11974	15	00475	00003
22760	B	WRLAST-1,,6	11986	49	11841	00000
22770	*	ADDRESS KEY MESSAGE SUBROUTINE				
22780	KYMESS	BNF ++32,BUTTON	11998	44	12030	00455
22790	TFM	KEYMES+24,9500,8	12010	16	12991	0M500
22800	B	++20	12022	49	12042	00000
22810	DORG	+-3	12030			
22820	TFM	KEYMES+24,4444,8	12030	16	12991	0M446
22830	RCTY		12042	34	00000	00102
22840	WATY	KEYMES	12054	39	12967	00100
22850	H		12066	48	00000	00000
22860	B	KYMESS-1,,6	12078	49	1199P	00000
22870	***	DELETE DIM NO, FROM S.P. LIST				
22880	SPLDEL	TF NEWDIM,DIMNUM	12090	26	02963	13190
22890	BT	DIMMER,DIMMER-1	12102	27	03672	03671
22900	TF	LISTES,MAP+5	12114	26	02791	19885
22910	TD	LISTES-5,MAP	12126	25	02786	19880
22920	TF	NINESC,MAP+8	12138	26	05753	19888
22930	TF	HOLD5,MAP+5	12150	26	13139	19885

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23880	BUTTON	DS	1,455	00455	0
23890	PHI	DC	2,0	13130	2
		-0			
23900	RTEST	DSC	1,0	13131	1
		0			
23910	NTEST	DSC	1,0	13132	1
		0			
23920	PTEST	DSC	1,0	13133	1
		0			
23930	DELETE	DSC	1,0	13134	1
		0			
23940	HOLD5	DC	5,0	13139	5
		-0000			
23950	CNT	DC	3,0	13142	3
		-00			
23960	CDUNT	DC	3,0	13145	3
		-00			
23970	MAPMA	DC	5,0	13150	5
		-0000			
23980	MAPEA	DC	5,0	13155	5
		-0000			
23990	ZERD19	DC	19,0	13174	19
		-0000000C0000000000			
24000	ZERD6	DC	6,0,ZERD19-13	13161	6
		-00000			
24010	LOADSC	DC	6,0	13180	6
		-00000			
24020	SCRACH	DC	6,0	13186	6
		-00000			
24030	DIMNUM	DC	4,0	13190	4
		-000			
24040	HOLD3	DC	3,0	13193	3
		-00			
24050	HOLD4	DC	4,0	13197	4
		-000			
24060	SCR1	DC	6,0	13203	6
		-00000			
24070	SCR2	DC	6,0	13209	6
		-00000			
24080	HOLD6	DC	6,0	13215	6
		-00000			
24090	DAC	1,0		13217	1 X 2
		0			
24100	PNAME	DC	12,0	13229	12
		-0000000C000			
24110	DAC	1,0		13231	1 X 2
		'			
24120	ZERD12	DC	12,0,ZERD19-7	13167	12
		-0000000C000			
24130	NINE12	DC	12,599999999999999	13243	12
		R999999999999999			
24140	MOVDDA	DSC	2,22	13244	2
		22			
24150	DSA	MOVDCF		13250	5 X 1
				13250	J3252

1301

24160		DSC	1,0	13251	1
		'			
24170	MOVDCF	DSC	1,1	13252	1
		1			
24180		DC	5,18331	13257	5
		J8331			
24190		DC	3,038	13260	3
		-38			
24200		DC	5,08600	13265	5
		-8600			
24210		DSC	1,0	13266	1
		'			
24220	FWRIT	DSC	1,1	13267	1
		1			
24230		DC	5,0	13272	5
		-0000			
24240		DC	3,0	13275	3
		-00			
24250		DC	5,0	13280	5
		-0000			
24260		DSC	1,0	13281	1
		'			
24270	FREAD	DSC	1,1	13282	1
		1			
24280		DC	5,0	13287	5
		-0000			
24290		DC	3,0	13290	3
		-00			
24300		DC	5,0	13295	5
		-0000			
24310		DSC	1,0	13296	1
		'			
24320	CLOSW	DSC	1,1	13297	1
		1			
24330		DC	5,0	13302	5
		-0000			
24340		DC	3,0	13305	3
		-00			
24350		DC	5,0	13310	5
		-0000			
24360		DSC	1,0	13311	1
		'			
24370	EQUDDA	DSC	2,22	13312	2
		22			
24380	DSA	EQUDCF		13318	5 X 1
				13318	J3320
				13319	1
24390		DSC	1,0	13320	1
		'			
24400	EQUDCF	DSC	1,1	13320	1
		1			
24410		/DC	5,18278	13325	5
		J8278			
24420		DC	3,020	13320	3
		-20			
24430		DC	5,08600	13333	5
		-8600			

1302

24447	DSC	1, *	13334	1
24450	CD-2	DSC 2,22	13335	2
24460	DSA	COM22	13341	5 X 1
24470	DSC	1, *	13341	J3343
			13342	1
24480	COM22	DSC 1,1	13343	1
24490	DC	5,18512	13348	5
		J8512		
24500	DC	3,020	13351	3
		-20		
24510	DC	5,10600	13356	5
		J0600		
24520	DSC	1, *	13357	1
24530	CLOSR	DSC 1,1	13358	1
		1		
24540	DC	5,0	13363	5
		-0000		
24550	DC	3,0	13366	3
		-00		
24560	DC	5,0	13371	5
		-0000		
24570	DSC	1, *	13372	1
24580	MAP	DSC 20,0,19880	19880	20
		00000000000000000000		
24590	DCFSCR	DSC 1,0	13373	1
		0		
24600	DC	5,0	13378	5
		-0000		
24610	DC	3,0	13381	3
		-00		
24620	DSA	READIN	13386	5 X 1
24630	DSC	1, *	13386	J7778
			13387	1
24640	EQU DIM	DSC 20,0,19880	19880	20
		00000000000000000000		
24650	DISKF	DSC 1,0	13388	1
		0		
24660	DC	5,0	13393	5
		-0000		
24670	DC	3,020	13396	3
		-20		
24680	DSA	TRACK	13401	5 X 1
24690	DSC	1, *	13401	J3776
			13402	1
24700	FAREA	DS ,CLOSUP	13376	0

1303

24710	SYSCAL	DS ,475	00475	0
24720	SUBLO	DS ,10	00010	0
24730	SUBMI	DS ,39	00039	0
24740	TRACK	DS ,CLOSUP	13776	0
24750	BASICM	DS ,796	00796	0
24760	MONCAL	DS ,BASICM	00796	0
24770	TRACK3	DS ,CLOSUP	13776	0
24780	DUPCRC	DS ,INPUT	13613	0
24790	SUCCESS	DS ,AOK	13118	0
24800	DMPDIM	DSC 2,-22	13403	2
		2K		
24810	DSA	DMPDM	13409	5 X 1
24820	DSC	1, *	13409	J3411
			13410	1
24830	DMPDM	DSC 1,1	13411	1
		1		
24840	DC	5,18426	13416	5
		J8426		
24850	DC	3,053	13419	3
		-53		
24860	DC	5,02500	13424	5
		-2500		
24870	DSC	1, *	13425	1
24880	DUMP	DSC 1,0	13426	1
		0		
24890	CLOCCA	DSC 2,22	13427	2
		22		
24900	DSA	CLOSR	13433	5 X 1
24910	DSC	1, *	13433	J3358
			13434	1
24920	CLWCDA	DSC 2,22	13435	2
		22		
24930	DSA	CLOSW	13441	5 X 1
24940	DSC	1, *	13441	J3297
			13442	1
24950	DCAKF	DSC 2,22	13443	2
		22		
24960	DSA	DISKF	13449	5 X 1
24970	DSC	1, *	13449	J3388
			13450	1
24980	FPCCA	DSC 2,26	13451	2
		26		
24990	DSA	FWRIT	13457	5 X 1
25000	DSC	1, *	13457	J3267
			13458	1

1304

25010	FWRDDA	DSC	2,22	13459	2		
25020		DSA	FWRIT	13465	5 X	1	
25030		DSC	1,0	13465	J3267		
25040	FREDDA	DSC	2,22	13466	1		
25050		DSA	FREAD	13467	2		
25060		DSC	1,0	13473	5 X	1	
25070	READ	DSA	READIN	13473	J3282		
25080		DC	3,000	13474	1		
25090	DDASCR	DSC	2,02	13479	5 X	1	
25100		DSA	DCFSCR	13479	J7778		
25110		DSC	1,0	13482	3		
25120	DIREAD	DSC	2,22	13483	2		
25130		DSA	D2READ	13489	5 X	1	
25140		DSC	1,0	13489	J3373		
25150	D2READ	DSC	1,1	13490	1		
25160		DC	5,0	13491	2		
25170		DC	3,021	13497	5 X	1	
25180		DSA	TRACK	13497	J3499		
25190		DSC	1,0	13498	1		
25200	MCS1	DSC	2,22	13499	1		
25210		DSA	MCS2	13504	5		
25220		DSC	1,0	13507	3		
25230	MCS2	DSC	1,1	13512	5 X	1	
25240		DC	5,15663	13512	J3776		
25250		DC	3,1	13513	1		
				13514	2		
				13520	5 X	1	
				13520	J3522		
				13521	1		
				13522	1		
				13527	5		
				13530	3		

1305

25260		DSA	MCS	13535	5 X	1	
25270		DSC	1,0	13535	J7778		
25280	STFLAG	DSC	1,0	13536	1		
25281	PATCH6	TFM	SCR16+1,41,10	13537	1		
25282		B	ISTO	13538	16	06301	000M1
25290	TRACK2	DSS	2100,17778,, READ WRITE AREA FOR TRACK	13550	49	05956	00000
25300		TCD	CONFL	17778		2100	
				10100			
25310	***		FIND AVAILABLE AREA	13800			
25320		DORG	13800	13800	33	13115	00000
25330	NOSA	CF	MAPRM,,, NOT IMMOVABLE	13812	32	13081	00000
25340		SF	HOLD00+35	13824	24	13086	13161
25350		C	HOLD00+40,ZERO6	13836	47	13860	01200
25360		BNE	**24	13848	26	13086	05835
25370		TF	HOLD00+40,MXNOSA	13860	32	13084	00000
25380		SF	HOLD00+36	13872	26	13823	13086
25390		TF	HILIM,HOLD00+40	13884	26	13955	13083
25400		TF	L0LIM,HOLD00+37	13896	24	05835	13823
25410		C	MXNOSA,HILIM	13908	47	14276	01300
25420		BL	ERRCYL	13920	24	05835	13955
25430		C	MXNOSA,L0LIM	13932	47	14276	01300
25440		BL	ERRCYL	13944	33	13821	00000
25450		CF	HILIM-2	13956	33	13953	00000
25460		CF	L0LIM-2	13968	32	13082	00000
25470		SF	HOLD00+36	13980	13	13083	00K00
25480		MM	HOLD00+37,200,9	13992	32	00095	00000
25490		SF	95	14004	26	02791	00099
25500		TF	LISTES,99	14016	33	13081	00000
25510		CF	HOLD00+35	14028	25	14075	13081
25520		TD	**47,HOLD00+35,, SET UP DRIVE CODE	14040	21	14075	14075
25530		A	**35,**35	14052	11	14075	000-1
25540		AM	**23,1,10	14064	15	02786	000-0
25550		TDM	LISTES-5,0,10	14076	16	00565	J4099
25560		TFM	IDRT,**23	14088	49	00566	J1286
25570		B	IOGT,D3READ,7, DETERMINE ADDRESS SCHEME	14100	16	13214	J7849
25580		TFM	HOLD0-1,READIN*71	14112	25	14134	02786
25590		TD	**22,LISTES-5	14124	11	13214	00-00
25600		AM	HOLD0-1,0,9	14136	43	14160	02787
25610		BD	**24,LISTES-4	14148	16	14173	000J2
25620		TFM	**25,12,10	14160	25	02787	1321M
25630		TD	LISTES-4,HOLD0-1,11	14172	41	02791	J0000
25640		NOP	LISTES,10000,7	14184	26	05753	13180
25650		TF	NINESC,LOADSC,, DETERMINE NUMBER OF CYLINDERS	14196	14	13979	000-0
25660		TFM	CNTCYL,0,10	14208	33	05751	00000
25670		CF	NINESC-2	14220	14	05753	0R200
25680		CM	NINESC,9200,8	14232	47	14296	01100
25690		BNH	SMALL	14244	12	05753	0-200
25700		SM	NINESC,200,8	14256	11	13979	000-1
25710		AM	CNTCYL,1,10	14268	49	14220	00000
25720		B	**48	14276			
25730		DORG	**3	14276	16	02507	0P274
25740		ERRCYL	TFM DIMERR*22,7274,8				

1306

25750	B	ERRD	14288	49	02524	C0000
25760	DORG	*-3	14296			
25770	SMALL	CM CNTCYL,0,10	14308	14	13979	000-0
25780	BE	*+38	14308	46	14344	01200
25790	TF	SCOLD,NINESC	14320	26	13967	05783
25800	TFM	NINESC,9200,8	14332	16	05753	0R200
25810	TFM	LGE+23,0,10	14344	16	14811	000-0
25820	TDM	RLGONE+13,1	14356	15	04267	00001
25830	TDM	WHYNOT+13,1	14368	15	03401	00001
25840	TDM	CLIPPP+25,1	14380	15	02909	00001
25850	TFM	CLIPPP+42,SPLINI	14392	16	02926	-4702
25860	TFM	RLGONE+30,*+20	14404	16	04264	J4424
25870	B	FIND	14416	49	03838	00000
25880	DORG	*-3	14424			
25890	RGE	C LISTER,NINESC	14424	24	02765	05783
25900	BNL	LGE	14436	46	14788	01300
25910	CM	LISTER-3,7,1011	14448	14	02762	000-P
25920	BE	*+60	14460	46	14520	01200
25930	TFM	LGE+23,0,10	14472	16	14811	000-0
25940	CM	CNTCYL,0,10	14484	14	13979	000-0
25950	BE	*+24	14496	46	14520	01200
25960	TFM	NINESC,9200,8	14508	16	05753	0R200
25970	BT	GETR,GETR-1	14520	27	02872	02871
25980	BMR	CHIL,LISTER-3	14532	45	14472	02782
25990	AM	L0LIM,100,9	14544	11	13955	00J00
26000	C	L0LIM-2,MILIM-2	14556	24	13953	13821
26010	BH	ERR	14568	46	05662	01100
26020	TDM	WHYNOT+13,9	14580	15	03401	00009
26030	TDM	CLIPPP+25,9	14592	15	02909	00009
26040	TFM	CLIPPP+42,REOSPL	14604	16	02926	-4702
26050	TDM	RLGONE+13,9	14616	15	04267	00009
26060	BT	WHYNOT,WHYNOT-1	14628	27	03308	03387
26070	TFM	H0LD0D+37,0,9	14640	14	13083	00-00
26080	TD	H0LD0D+35,L0LIM-2	14652	25	13081	13953
26090	B	NOSA	14664	49	13800	00000
26100	DORG	*-3	14672			
26110	CHIL	CM LISTER-3,7,1011	14672	14	02762	000-P
26120	BNE	RGE	14684	47	14424	01200
26130	TD	*+47,MILIM-2	14696	25	14743	13821
26140	TDM	MILIM-2,0	14708	15	13821	00000
26150	C	LISTER,MILIM	14720	24	02765	13823
26160	TDM	MILIM-2,0	14732	15	13821	00000
26170	BNE	RGE	14744	47	14424	01200
26180	C	L0LIM-2,MILIM-2	14756	24	13953	13821
26190	BNE	RGE	14768	47	14424	01200
26200	B	ERR	14780	49	05662	00000
26210	DORG	*-3	14788			
26220	LGE	AM *+23,1,10	14788	11	14811	000-1
26230	CM	CNTCYL,0,10	14800	14	13979	000-0
26240	BH	RGE+96	14812	46	14520	01100
26250	BL	*+32	14824	47	14856	01300
26260	TF	NINESC,SCOLD	14836	26	05753	13967
26270	B	RGE+96	14848	49	14520	00000
26280	DORG	*-3	14856			
26290	SF	NINESC-2	14856	32	05751	00000
26300	TDM	WHYNOT+13,9	14868	15	03401	00009

1307

26310	BT	GETL,GETL-1	14880	27	02996	02995
26320	TDM	CLIPPP+25,9	14892	15	02909	00009
26330	TFM	CLIPPP+42,REOSPL	14904	16	02926	-4702
26340	TDM	RLGONE+13,9	14916	15	04267	00009
26350	B7	SPD	14928	49	10934	
26360	MILIM	DC 4,7000,NOSA+23	13823		4	
	P000					
26370	L0LIM	DC 4,7000,NOSA+155	13955		4	
	P000					
26380	SCOLD	DC 4,0,NOSA+167	13967		4	
	-000					
26390	CNTCYL	DC 2,0,NOSA+179	13979		2	
	-0					
26391	PATCH3	TFM IDRT,*+23	14936	16	00565	J4959
26392	B	IOGT,THRDDA,7	14948	49	00566	-2729
26393	B7	LOADRE-36	14960	49	07248	
26400	FINDFL	TFM IDRT,*+23	14968	16	00565	J4991
26410	B	IDPT,FINDLF,7	14980	49	00532	J5016
26420	TRA		14992	36	00000	00500
			15004	49	00000	00000
26430	FINDLF	DSC 2,22	15016		2	
	22					
26440	DSA	FINDDA	15022		5 x	1
26450	DSC	1,1	15022		J5024	
			15023		1	
26460	FINCDA	DSC 1,1	15024		1	
	1					
26470	DC	5,18542	15029		5	
	J8542					
26480	DC	3,012	15032		3	
	-12					
26490	DC	5,13800	15037		5	
	J3800					
26500	DSC	1,1	15038		1	
26510	TCD	FINDFL	14968			
26520	LOCAL	DS ,716	00716		0	
26530	DEND		00000			

ADDBLK	04286	DONESF	11782	MARVEL	10908	REMSIL	10136	DLD	10858
ADDRAC	10656	DRESTR	03639	MAXDIM	03849	REPLFL	04400	DLOAD	05800
ADRSPL	04520	DSEVEN	09056	MIDNIT	09372	RLGONE	04254	DMODA	02568
ALLCLR	07816	DUPCRD	13613	MOCOK1	10682	RSEVEN	10824	DMPDM	13411
ALLRIT	10128	EIGHTS	09984	MODMD1	10482	ACTAA	09552	DONE	09542
ALPHAS	10266	ENDWRT	11206	MONCAL	00796	ACTAC	09968	DREPL	05800
B2READ	09054	EQUODCF	13320	MONITR	00796	ACTAD	09896	DUMP	13426
BASICM	00796	EQUDDA	13312	MORERD	06584	ACTAG	09260	ENTOK	10362
BAVADD	10464	EQUDIM	19800	MOVBUS	08724	ACTAM	09128	EQU1	08148
BAVAIL	02755	ERRCYL	14276	MOVCAR	08701	ACTAJ	09104	EQU2	08156
BAVCOM	10432	ERRSEQ	12913	MOVDCF	13252	ACTAK	09220	EQUFL	08100
BEAUTY	10592	EXITFL	06984	MOVEDA	13244	ALTER	11282	EQUIV	08606
BLANKT	10348	EXITMR	08624	MOVESA	02863	ANAME	10466	ERRD	02524
BUTTON	00455	FAKSEV	02853	MOVESC	02866	ADK	13118	ERR	05662
CALLMV	07036	FILTST	10204	MOVFL1	08548	ATNR	08606	EXIT2	09110
CHOICE	09196	FINALM	12875	MOVFL2	08556	ATN	09042	EXIT3	06936
CLEVER	04321	FINDDA	15024	MOVNOW	10496	BNR	09650	EXIT	10530
CLIPPP	02884	FINDFL	14968	MSTAKE	09024	CALC2	02760	EZEST	10700
CLODDA	13427	FINDIM	13117	MXNOSA	05835	CALC3	02780	FAREA	13776
CLOSUP	13776	FINDLF	15016	N48000	02771	CALC4	02784	FIMO	03838
CLWDDA	13435	FINDON	06740	NEGATE	07636	CALC5	08796	FINDX	10905
CNAMES	09818	FINDTR	03906	NEWDIM	02963	CALC6	08790	FLAG	06512
CNTCYL	13979	FINDXX	10913	NINE12	13243	CALC7	02849	FORT	13114
COMCYL	04986	FREDDA	13467	NINENT	09132	CARD	13090	FOUND	03445
COMFL1	10148	FWRDDA	13459	NINESC	05753	CCD2	10466	FPDDA	13451
COMFL2	10156	GETBAK	05170	NODISK	09866	CCC	10458	FPOK	08664
COMMFL	07200	GETLTR	03016	NOFLGS	07748	CHIL	14672	FP	11462
COMMON	02854	GETRTR	02928	NOMMON	02856	CLEAR	06624	FPSF	11642
COMPFR	05274	GOLDEN	02761	NOMULT	10030	CLFP	06696	FREAD	13282
COMPRS	12406	GPNARK	13116	NONAME	09672	CLOSE	09294	FWRIT	13267
CONCUD	09952	HOLDGD	13046	NOSECA	02857	CLOSR	13358	GETL	02996
CONST1	02802	HOLDIM	10498	NOSPAC	07092	CLOSW	13297	GETR	02076
CONST2	02808	INITRD	09974	OLIMIT	10130	CLRFP	07688	GORT	10224
CONST3	05759	INITSC	09090	PATCH1	12798	CMPAR	09194	HERE	11194
CONST5	02826	INSDEL	12278	PATCH2	11582	CNINE	08810	HEX	02796
CONST6	02832	INSERT	03414	PATCH3	14936	CNST3	03578	HILLM	13073
CONST7	02838	INSETR	03434	PATCH6	13538	CNT	13142	HOLD2	13104
CONST8	02871	KEYMES	12967	PKOCDA	02637	COM22	13343	HOLD3	13193
CORSIZ	02483	KSEVEN	10732	PK1DDA	02660	COM2	13335	HOLD4	13197
CURREN	08809	KYNESS	11998	PK2DDA	02683	COMFL	10100	HOLD5	13139
CYLDEL	12462	LCTEST	09614	PK3CDA	02706	COMM1	07248	HOLD6	13215
D1READ	13491	LIMITS	08666	PLUSSR	04194	COMM2	07263	INCRD	09274
D2READ	13499	LISTER	02765	QCARRY	02814	COMP	10106	INCRE	10244
D3READ	11286	LISTES	02791	RACKET	02842	COUNT	13145	INIT1	07740
D4READ	11294	LISTET	02795	RDMDA	02591			INIT2	08360
DCFSCR	13373	LOADER	11310	RCMOVE	02599			INPUT	13613
DDASCR	13483	LOADFL	04400	READIN	17778	UC2	05920	LOCAL	00716
DELETE	13134	LOADRE	07284	REDSPO	04810	DDAKF	13443	LOGT	00566
DELNT5	09604	LOADSA	13102	REDSPL	04854	DEL1	05648	LOPT	00532
DIMENT	19880	LOADSC	13180	REDSP2	04898	DEL2	05656	LORT	00565
DIMERR	02485	LOOPLY	09024	REDSP3	04942	DELET	05800	LSTO	05956
DIMMLD	08822	LOPEZA	08747	REDSPL	04702	DELFL	05600	KEVE	05009
DIMMER	03672	LOPEZB	08770	REMLBK	10652	DELTA	09375	KEY1	08813
DIMNUM	13190	LPSRDA	04514	REMDL	12194	DISKF	13388	KEY5	08785
DMPDIM	13403	MAINB1	06364	REMOTR	03104	DISKN	06340	KING	02458
DMREAD	02576	MAINB2	06884	REMOVE	03084	DLCF	10871	LGE	14788

1309

LIMIT	08812	NOMD	11064	RTEST	13131	TREC	06884	SPLPK2	02691
LOAD1	04448	NOME	11072	SCAN1	07788	TRREC	09414	SPLPK3	02714
LOAD2	04463	NONAM	11002	SCAN2	08408	TRWA	08739	STARDT	05022
LOLIM	13955	NORE1	07600	SCANN	09762	TRWB	08762	STFLAG	13537
L00K	10690	NORE2	08300	SCERR	12854	UPDIM	07312	SUCCESS	13118
LOOP	13120	NOSAC	10886	SCOLD	13967	UPSCA	07892	SYSCAL	00475
LSK	11146	NOSA	13800	SCR16	06300	VOILA	08112	TELAST	10756
MAINB	10370	NOTOK	09634	SCR1	13203	WASH	10968	TESTFP	07576
MAMY	09496	NTEST	13132	SCR2	13209	WR2	02259	THRODA	02729
MAPEA	13155	NTZ	06380	SCRAD	09298	WR0K	06768	THROWS	02737
MARPA	13150	OKDEL	06148	SCREM	13123	WRT2	08946	TOPPRD	10836
MARPM	13115	PACK	02773	SCRKO	11254	WRT	09022	TRACK2	17778
MAP	19880	PAT2	06136	SCR0K	06588	YES9	12730	TRACK3	13776
MAXSC	13107	PAT6R	10580	SECT	10234	ZER06	13161	TRMBUS	08716
MCAS	13113	PHI	13130	SEQ	13128	SCRACH	13186	TRNCR	08693
MCS1	13514	PNAME	13229	SF	10094	SEARFP	07360	TRYAGN	04002
MCS2	13522	PRE7A	09000	SMALL	14296	SEQERR	10378	UPSCAN	08512
MCS	17778	PRE7	08638	SOL2	10666	SETFLG	09122	WHIPIT	05346
MEAT	09292	PTEST	13133	SOL	10658	SETMAP	10758	WHYNOT	03388
MOVER	08824	QHOLD	02820	SPD	10934	SEVENT	09108	WITHIN	08738
MOVFL	08500	QUEEN	02466	SPLFL	05760	SFKUCE	08600	WRLAST	11842
MPT	08636	RZ	08950	SPLR1	05808	SKNAME	09690	WRMDA	02614
MULT	09974	RAKES	10524	SPLR2	05823	SPCRD	05462	WRMOVE	02622
MULT2	09974	RDSPL	04594	SPS	07484	SPECAS	09152	WRTSPO	03268
NDISK	06848	REDC	10022	STEAL	02846	SPLADD	04574	WRTSPL	03300
NERR	03580	READ	13479	STOMP	03188	SPLCOR	03151	WRTSP2	03332
NEVER	04297	RECD	09174	SURMI	00039	SPLCYL	03167	WRTSP3	03364
NO200	12566	RELD2	08532	SURLO	00010	SPLDEL	12090	ZER012	13167
NOALF	09554	RELO	08172	TAC	09812	SPLXT	05066	ZER019	13174
NOF	08986	REPL	08448	TFLG	08878	SPLINI	04470	ZER0ES	08806
NOISY	10380	REPL2	04463	TMDU	13096	SPLINS	10406	ZSEVEN	09468
NOMA	08670	RCE	14424	TIC	09744	SPLIST	04330		
NOMB	08678	RMARK	12911	TIPSY	03470	SPLPK0	02645		
NOMC	11016	R	08754	TRACK	13776	SPLPK1	02668		

END OF ONE ASSEMBLY.

1310

00010	DORG	2500		02500			
00020	DUMP	BNF DUMPCC,MCS+23,,	IS CALL FROM SPS,FORTRAN	02500	44	02604	17801
00030	CF	CONTRD-2		02512	33	13611	00000
00040	TR	FILAD,402		02524	31	05558	00402
00050	TFM	FILAD+3,0,9		02536	16	05563	00-00
00060	TF	FILAD+3,425		02548	26	05561	00425
00070	TD	FILAD,422		02560	25	05558	00422
00080	TF	SC,FILAD+8		02572	26	13643	05566
00090	BD	PAPST,MCS+23		02584	43	03330	17801
00100	B	CA		02596	49	03274	00000
00110	DORG	*-4		02603			
00120	DUMPCC	SF CONTRD-2,,	CALL FROM CONTROL RECORD	02604	32	13611	00000
00130	**		SAVE DUP CONTROL RECORD				
00140	TDM	CONTRD+160,,		02616	15	13773	00000
00150	DSC	1,,*	SET RECORD MARK	02627		1	
00160	TR	HEAD,CONTRD+1,		02628	31	08000	13614
00170	TFM	**35,HEAD+161,,	CLEAR RECORD MARK	02640	16	02675	-8161
00180	SM	**23,2,10		02652	12	02675	000-2
00190	BNR	**12,HEAD+161		02664	45	02652	08161
00200	TFM	**1,0,610		02676	16	02676	000-0
00210	TR	HEAD+160,PGCON-1,,	PUT PAGE IN HEADING	02688	31	08160	05780
00220	LAB	SF TYPE-1		02700	32	13646	00000
00230	*		DETERMINE TYPE				
00240	CM	TYPE,50,10		02712	14	13647	00000
00250	BM	LORM		02724	46	02990	01100
00260	CM	TYPE,45,10		02736	14	13647	00005
00270	BE	E		02748	46	02822	01200
00280	CM	TYPE,49,10		02760	14	13647	00009
00290	BE	I		02772	46	02842	01200
00300	CM	TYPE,41,10		02784	14	13647	00001
00310	BE	TYPHRT		02796	46	05798	01200
00320	B	ERRD-12		02808	49	06530	00000
00330	DORG	*+3		02822			
00340	E	TFM NUMB,EENT		02822	16	13643	-0002
00350	B	B1		02834	49	03110	00000
00360	DORG	*-4		02841			
00370	I	TFM NUMB,MENT		02842	16	13643	-0003
00380	B	B1		02854	49	03110	00000
00390	DORG	*-4		02861			
00400	SPL	CM TYPE,62,10		02862	14	13647	00002
00410	BNE	ERRD-12		02874	47	06530	01200
00420	SF	TYPE+1		02886	32	13648	00000
00430	CM	TYPE+2,73,10		02898	14	13649	00003
00440	BM	ERRD-12		02910	46	06530	01100
00450	CM	TYPE+2,70,10		02922	14	13649	00000
00460	BL	ERRD-12		02934	47	06530	01300
00470	TFM	NUMB,SENT		02946	16	13643	-0004
00480	TD	**23,TYPE+2		02958	25	02981	13649
00490	AM	NUMB,0,10		02970	11	13643	000-0
00500	B	B1		02982	49	03110	00000
00510	DORG	*-3		02990			
00520	LORM	CM TYPE,53,10		02990	14	13647	00003
00530	BE	L		03002	46	04718	01200
00540	CM	TYPE,54,10		03014	14	13647	00004
00550	BNE	SPL		03026	47	02862	01200

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00560	SF	NUMB-7		03038	32	13636	00000
00570	CM	NUMB,0,10		03050	14	13643	000-0
00580	BE	NAME		03062	46	04362	01200
00590	TFM	TD+6,NUMB-1,,	CONV MAP NC TO NUMERIC	03074	16	05280	J3642
00600	TFM	AN-1,**23		03086	16	05249	-3109
00610	B	AN,NUMB-7,7		03098	49	05250	J3636
00620	B1	TF FIND+23,NUMB,,	FIND MAP ENTRY	03110	26	05129	13643
00630	TFM	TR+23,**23,711		03122	16	05213	-314N
00640	B	TEMAP,FILAD		03134	49	05058	05558
00650	BNR	CONT,FILAD		03146	45	03178	05558
00660	*	ERROR MAP NO NOT IN USE					
00670	TFM	DIMERR+22,0074,8		03158	16	06741	0-074
00680	B	ERRD		03170	49	06542	00000
00690	DORG	*-3		03178			
00700	COMT	TF SC,FILAD+8,,	SAVE SC FROM FILAD	03178	26	13643	05566
00710	B2	SF IOD-1		03190	32	13644	00000
00720	CM	IOD,57,10,	OUTPUT DEVICE TEST	03202	14	13645	00007
00730	BE	PAPST		03214	46	03330	01200
00740	CM	IOD,53,10,	OUTPUT DEVICE IS PRINTER	03226	14	13645	00003
00750	BE	TYPHRT		03238	46	05798	01200
00760	CM	IOD,43,10		03250	14	13645	00003
00770	BNE	ERRD-12		03262	47	06530	01200
00780	CA	CF OI,,	OUTPUT DEVICE IS CARDS	03274	33	02731	00000
00790	TFM	SEQUEN,0		03286	16	02711	-0000
00800	TFM	ENDTES+11,TSXC+35		03298	16	05409	-3705
00810	TFM	RELLT-6,FINISC		03310	16	03644	-7504
00820	B	SETUP		03322	49	03366	00000
00830	DORG	*-4		03329			
00840	PAPST	SF OI,,	OUTPUT DEVICE IS PAPER TAPE	03330	32	02731	00000
00850	TFM	ENDTES+11,A10+11		03342	16	05409	-3541
00860	TFM	RELLT-6,FINISC		03354	16	03644	-7560
00870	SETUP	TFM FILAD+13,SECTOR,,	SET UP MAP OF FILAD	03366	16	05571	J8000
00880	TFM	FILAD+8,3,9,	SET UP SECTOR CNT OF FILAD	03378	16	05566	00-03
00890	TDM	FILAD+14,,		03390	15	05572	00000
00900	DSC	1,,*		03401		1	
00910	READ	TFM IOFY,**23		03402	16	00565	-3425
00920	B	IOGT,FILDDA,7		03414	49	00566	-5550
00930	*		INITIALIZE ADDRESSES				
00940	INIT	TFM A10+11,SECTOR		03426	16	03541	J8000
00950	TFM	TSXC+11,SECTOR+79		03438	16	03681	J8079
00960	TFM	TSXC+35,SECTOR		03450	16	03705	J8000
00970	*		SET LOOP COUNTER				
00980	SCTEST	CM SC,3,10		03462	14	13643	000-3
00990	BNL	FOUR		03474	46	03506	01300
01000	TF	LOOP,SC		03486	26	02820	13643
01010	B	FOUR+12		03498	49	03518	00000
01020	DORG	*-4		03505			
01030	FOUR	TFM LOOP,4,10		03506	16	02820	000-4
01040	L1	BNF TSXC,OI		03518	44	03670	02731
01050	A10	TFM PAPER+35,XX,7,	CALL PAPER TAPE	03530	16	04049	-0000
01060	BTM	PAPER,**12		03542	17	04014	-3554
01070	AM	A10+11,78,10		03554	11	03541	00005
01080	TYPEND	BNF ENDTES,CONTRD-2		03566	44	05398	13611
01090	SM	LOOP,1,10		03578	12	02820	000-1
01100	BNE	L1		03590	47	03518	01200

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02230	DORG	+-4		04717			
02240 L	TFM	TD+6,SA1-1		04718	16	05280	J3662
02250	TFM	STFLG+6,SA1-11		04730	16	04760	J3652
02260	TFM	STFLG+18,SA1-10		04742	16	04772	J3653
02270 STFLG	SF	SA1-11		04754	32	13652	00000
02280	CM	SA1-10,70,10		04766	14	13653	000P0
02290	BNL	+-32		04778	46	04810	01300
02300	TFM	DIMERR+22,7175,8		04790	16	06741	0P175
02310	B	ERRD		04802	49	06542	00000
02320	DORG	+-3		04810			
02330	CF	STFLG+6,,6		04810	33	0476-	00000
02340	AM	STFLG+6,2,10		04822	11	04760	000-2
02350	AM	STFLG+18,2,10		04834	11	04772	000-2
02360	CM	STFLG+6,SA2+1		04846	14	04760	J3676
02370	BL	STFLG		04858	47	04754	01300
02380	TFM	AN-1,+-23		04870	16	05249	-4893
02390	B	AN,SA1-11,7		04882	49	05250	J3652
02400	TFM	TD+6,SA2-1		04894	16	05280	J3674
02410	TFM	AN-1,+-23		04906	16	05249	-4929
02420	B	AN,SA2-11,7		04918	49	05250	J3664
02430	SF	SA1-4		04930	32	13659	00000
02440	SF	SA2-4		04942	32	13671	00000
02450	CF	SA1-5		04954	33	13658	00000
02460	TD	FILAD,SA1-5		04966	25	05558	13658
02470 BEGS	TF	FILAD+5,SA1		04978	26	05563	13663
02480	TF	SC,SA2		04990	26	13643	13675
02490	S	SC,SA1		05002	22	13643	13663
02500	AM	SC,1,10		05014	11	13643	000-1
02510	BH	B2		05026	46	03190	01100
02520	TFM	DIMERR+22,7177,8		05038	16	06741	0P177
02530	B	ERRD		05050	49	06542	00000
02540	DORG	+-4		05057			
02550 TEMAP	CM	FIND+23,0,10,	IS MAP NO. WITHIN LIMITS	05058	14	05129	000-0
02560	BNM	ERNAP		05070	47	05378	01100
02570	CM	FIND+23,4994,8		05082	14	05129	0M994
02580	BH	ERNAP		05094	46	05378	01100
02590 FIND	TFM	SAFCF+5,MAPTAB,,	GIVEN DIM, READ ENTRY TO CORE	05106	16	05563	-4800
02600	AM	SAFCF+6,XX		05118	11	05584	-0000
02610	A	SAFCF+6,FIND+23		05130	21	05584	05129
02620	TD	TR+10,SAFCF+6		05142	25	05200	05584
02630	TDM	SAFCF+6,0		05154	15	05584	00000
02640	TFM	IORT,+-23		05166	16	00565	-5189
02650	B	IORT,SAFCF+6		05178	49	00566	-5542
02660 TR	TR	+-23,SECTOR,6		05190	31	05211	18000
02670	TDM	FILAD+14,,,		05202	15	05572	00000
02680	DSC	1,,,		05213			1
02690	CF	TR+23		05214	33	05213	00000
02700	AM	TR+23,1		05226	11	05213	-0001
02710	B	TR+23,,6		05238	49	05211	00000
02720 AM	TF	TD+11,TD+6,,	ALPHA TO NUMERIC CONVERSION	05250	26	05285	05280
02730	SM	TD+11,1		05262	12	05285	-0001
02740 TD	TD	XX,XX,27		05274	25	-0000	-0000
02750	SM	TD+6,1		05286	12	05280	-0001
02760	SM	TD+11,2		05298	12	05285	-0002
02770	C	TD+11,AM-1,11		05310	24	05285	0524R

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02780	BH	TD		05322	46	05274	01100
02790	AM	TD+6,1,10		05334	11	05280	000-1
02800	SF	TD+6,,6		05346	32	0528-	00000
02810	AM	AN-1,1,10		05358	11	05249	000-1
02820	B	AN-1,,6		05370	49	0524R	00000
02830	DORG	+-4		05377			
02840 ERNAP	TFM	DIMERR+22,0076,8		05378	16	06741	0-076
02850	B	ERRD		05390	49	06542	00000
02860	DORG	+-3		05398			
02870 ENDTES	TF	LAST,XX,,	SPS-FORTRAN TERMINAL TEST - 99999	05398	26	02615	00000
02880	SM	LAST,75,10		05410	12	02615	000P5
02890	BNF	TYPEND+12,LAST,11		05422	44	03578	0261M
02900	TFM	CNT5,5,10		05434	16	02735	000-5
02910 BNR	BNR	IN8,LAST,11		05446	45	05466	0261M
02920	B	TYPEND+12		05458	49	03578	00000
02930	DORG	+-4		05465			
02940 INB	SM	CNT5,1,10		05466	12	02735	000-1
02950	BE	COM		05478	46	05510	01200
02960	AM	LAST,1,10		05490	11	02615	000-1
02970	B	BNR		05502	49	05446	00000
02980	DORG	+-4		05509			
02990 COM	C	TRAIL+4,LAST,11		05510	24	07628	0261M
03000	BE	FINISP+36		05522	46	07596	01200
03010	B	TYPEND+12		05534	49	03578	00000
03020	DORG	+-3		05542			
03030 SAFCDA	DSC	2,22		05542			2
03040	DSA	SAFCF		05548		5 X	1
03050	DSC	1,,		05548		-5578	
03060 FILCDA	DSC	2,22		05549		1	
03070	DSA	FILAD		05550		2	
03080	DSC	1,,		05556		5 X	1
03090 SENT	DS	,4		05556		-5558	
03100 FILAD	DSC	1,0		05557		1	
03110	DC	5,0		05563		5	
03120	DC	3,0		05566		3	
03130	DC	5,0		05571		5	
03140	DSC	6,00000'		05572		6	
03150 SAFCF	DSC	6,0		05578		6	
03160	DSC	3,1		05584		3	
03170	DSA	SECTOR		05591		5 X	1

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03180	DC	1,1		05591	J8000		
				05592	1		
03190	DC	1,1,,	BLOCK FIELD TRANSMISSION	05593	1		
03200	HEAD	BNI	JUMP,03400,,	05594	47	05762	03400
03210		34	,0971,,	05606	34	05600	00971
03220		34	,0962,,	05618	34	00000	00962
03230	TFM		IORT,++23	05630	16	00565	-5653
03240	B		IOPT,DEFHD-4,7,	05642	49	00532	-5764
03250	TFM		HEAD+173,7070,8	05654	16	08173	0P070
03260	TD		HEAD+175,PGCT,,	05666	25	08175	05611
03270	TD		HEAD+173,PGCT-1	05678	25	08173	05610
03280	TD		HEAD+171,PGCT-2	05690	25	08171	05609
03290	AM		PGCT,C1,10,	05702	11	05611	000-1
03300	BD		*+2,HEAD+171	05714	43	05762	08171
03310	TDM		HEAD+170,0	05726	15	08170	00000
03320	BD		*+2,HEAD+173	05738	43	05762	08173
03330	TDM		HEAD+172,0	05750	15	08172	00000
03340	JUMP	BB2		05762	42		
03350	DEFHD	USA	HEAD+1	05768		5 X	1
				05768		-8001	
03360	DC	3,18',,	HEAD PRINT DEFINER	05771		3	
	J8'						
03370	PGCT	DC	4,0002,HEADR+17	05611		4	
		-002					
03380	AVAIL	DS	,14200	14200		0	
03390	NBUF	DC	4,1234,HEADR+29	05623		4	
		J234					
03400	DEFAVL	DSA	AVAIL+1	05776		5 X	1
				05776		J4201	
03410	DC	3,18'		05779		3	
	J8'						
03420	HEAD	DS	,8000	08000		0	
03430	PGCOM	DAC	9,PAGE 1'	05781		9 X	2
		PAGE	1'				
04630	TYPWRT	BT	HEADR+12,HEADR+11,,	05798	27	05606	05605
03440	CM		TYPE,45,10	05810	14	13647	000M5
03450	HL		TYP4	05622	47	06896	01300
03451	BE		SPECIAL	05834	46	06046	01200
03460	TFM		COLNT,0,9	05846	16	06572	00-00
03470	TFM		FILAD+8,1,9	05858	16	05566	00-01
03480	TFM		FILAD+13,19856	05870	16	05571	J9856
03500	TD		19599,TYPSEC-5,2	05882	25	J4999	07487
03501	SM		*-6,1,10	05894	12	05888	000-1
03502	CM		*-18,19900,7	05906	14	05888	J9900
03503	BNE		*-36	05918	47	05882	01200
03510	DISK	TFM	IORT,++23	05930	16	00565	-5953
03520	B		IOGT,FILDDA,7	05942	49	00566	-5550
03530	HT		HEADR,HEADR-1,,	05954	27	05594	05593
03540		35	19856,00900,,	05966	35	19856	00900
03550	BTM		ERRDMP,++12	05978	17	06590	-5990
03560	AM		FILAD+5,1,10	05990	11	05563	000-1
03570	AM		COLNT,1,10	06002	11	06572	000-1

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03580	C		COLNT,50	06014	24	06572	13643
03590	BL		DISK	06026	47	05930	01300
03600	B		FINISP+36	06038	49	07596	00000
03610	DORG		*-3	06046			
03650	SPECIAL	TFM	FILAD+8,32,9	06046	16	05566	00-00
03660	TFM		FILAD+13,EQUIV	06058	16	05571	06000
03670	ONE	TFM	CHT2,0,9	06070	16	06370	00-00
03680	TFM		TFWRIT+11,EQUIV+11	06082	16	06177	J6011
03690	TFM		TWO+6,EQUIV+12	06094	16	06248	J6012
03691	TFM		TWO+23,EQUIV+15	06106	16	06265	J6013
03700	TFM		IORT,++23	06118	16	00566	-6251
03710	B		IOGT,FILDDA,7	06130	49	00566	-5550
03720	TFM		COLNT,0,10	06142	16	06572	000-0
03730	TFM		FILLB+6,AVAIL,,	06154	16	06320	J4200
03740	TFWRIT	TF	NAMOUT+10,EQUIV+11	06166	26	06513	16011
03750	BNR		TWO,TFWRIT+11,11	06178	45	06242	06179
03751	BD		*+20,COUNT,,	06190	43	06210	06572
03752	B7		FINISP+36,,	06202	49	07596	
03760	TFM		IORT,++23	06210	16	00566	-6233
03770	B		IOPT,DEFAVL-4,7,	06222	49	00532	-5772
03780	B		FINISP+36	06234	49	07596	00000
03790	DORG		*-3	06242			
03800	TWO	SF	EQUIV+12,,2	06242	32	J6012	00000
03801	TF		NBUF,EQUIV+15	06254	26	05623	16014
03810	TD		NUMOUT+6,NBUF,,	06266	25	06523	05623
03820	TD		NUMOUT+4,NBUF-1	06278	25	06521	05622
03830	TD		NUMOUT+2,NBUF-2	06290	25	06519	05621
03840	TD		NUMOUT,NBUF-3	06302	25	06517	05620
03850	FILLB	TR	AVAIL,NAMOUT-1,,	06314	31	14200	06502
03860	AM		FILLB+6,26,10	06326	11	06320	00006
03870	AM		TFWRIT+11,16,10	06338	11	06177	00004
03880	AM		TWO+6,16,10	06350	11	06248	00006
03881	AM		TWO+23,16,10	06362	11	06265	00006
03890	AM		COUNT,1,10	06374	11	06572	000-1
03900	CM		COUNT,5,10	06386	14	06572	000-5
03910	BL		TFWRIT	06398	47	06166	01300
03920	TFM		IORT,++23	06410	16	00565	-6433
03930	B		IOPT,DEFAVL-4,7,	06422	49	00532	-5772
03940	BT		HEADR,HEADR-1,,	06434	27	05594	05593
03950	A		CNT2,COUNT	06446	21	06570	06572
03960	CM		CNT2,200,9	06458	14	06570	00000
03970	BL		TFWRIT-24	06470	47	06142	01300
03980	AM		FILAD+5,32,10,	06482	11	05563	000L2
03990	B7		ONE	06494	49	06070	
04000	NAMOUT	DAC	6,000000	06503		6 X	2
		000000					
04010	DSC		2,00	06514		2	
	00						
04020	NUMOUT	DAC	4,0000	06517		4 X	2
		0000					
04030	DSC		6,000'	06524		6	
		00000'					
04040	TFM		DIMERR+22,0071,8	06530	16	06741	0-071
04050	ERRD	ACTY		06542	34	00000	00102
04060	MATY		DIMERR	06554	39	06719	00100
04070	M			06566	48	00000	00000

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04080	B	MONCAL	06578	49	00796	00000
04090	ERRDMP	BI	**12,3600	06590	46	06602 03600
04100	BI	**12,3700	06602	46	06614 03700	
04110	HI	**12,3800	06614	46	06626 03800	
04120	BNI	ERRDMP-1,1900,6	06626	47	0658R 01900	
04130	RCTY		06638	34	00000 00102	
04140	WATY	ERDLMP	06650	39	06683 00100	
04150	H		06662	48	00000 00000	
04160	B	ERRDMP-1,,6	06674	49	0658R 00000	
04170	DDRG	**3	06682			
04180	CNTZ	DC 3,0,ERRD+28	06570		3	
	-00					
04190	COUNT	DC 2,0,ERRD+30	06572		2	
	-0					
04200	ERDUMP	DAC 18,DUP*ERROR IN DUMP*	06683		18 X 2	
		DUP*ERRUR IN DUMP*				
04210	DIMERR	DAC 13,DUP*ERRUR 00*	06719		13 X 2	
		DUP*ERROR 00*				
04220	IDRT	DS ,565	00565		0	
04230	IOPT	DS ,532	00532		0	
04240	IOGT	DS ,566	00566		0	
04250	MONCAL	US ,796	00796		0	
04260	CONTR0	DAS 81,13613	13613		81 X 2	
04270	DIMMER	TF CALC2,NEWDIM	06744	26	06668 07315	
04280	A	CALC2,CALC2	06756	21	06668 06668	
04290	TF	CALC3,N48000	06768	26	06645 06894	
04300	A	CALC3,CALC2,,NEW DIM SECTOR ADDRESS	06780	21	06645 06668	
04310	TF	DMREAD+13,DRESTR	06792	26	06887 06548	
04320	TD	**23,CALC3	06804	25	06827 06645	
04330	SM	UMREAD+12,0,10,ADJUST UIM READER S A	06816	12	06886 000-0	
04340	TF	DMREAD+5,CALC3-1	06828	26	06879 06644	
04350	TFM	IORT,**23	06840	16	00565 -6863	
04360	B	IOGT,OMDDA,7	06852	49	00566 -6866	
04370	BB		06864	42	00000 00000	
04380	DDRG	**9	06866			
04390	DMCCA	DSC 2,22	06866		2	
	22					
04400	DSA	UMREAD	06872		5 X 1	
04410	DSC	1,1	06872		-6874	
			06873		1	
04420	DMREAD	DSC 1,0	06874		1	
	0					
04430	DC	5,0	06879		5	
	-0000					
04440	DC	3,1	06882		3	
	-01					
04450	DC	5,15900	06887		5	
	J9900					
04460	DSC	1,1	06888		1	
04470	CALC3	DC 6,0,ERRDMP+55	06645		6	
		-00000				
04480	CALC2	DC 5,0,ERRDMP+78	06668		5	
		-0000				

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04490	DRESTR	DC 5,19880,ERRD+6	06548		5
	J9880				
04500	TWICE	DC 4,0,ERRD+35	06577		4
	-000				
04510	N48000	DC 6,048000,,FIRST SECTOR OF DIM MAP	06894		6
	-48000				
04520	TYP A	TFM NEWDIM,0004,8	06896	16	07315 0-004
04530	TOM	CONTR0+35,,11	06908	15	13648 0000-
04540	A	NEWDIM,CONTR0+36,,	06920	21	07315 13649
04550	BT	DIMMER,DIMMER-1	06932	27	06744 06743
04560	TD	DUMSY,19880	06944	25	07472 19880
04570	TU	DUMSY+1,19881	06956	25	07473 19881
04580	TFM	IORT,**23	06968	16	00565 -6991
04590	B	IOGT,DUMSW,7	06980	49	00566 -7464
04600	TFM	TYPSEC,,ZERO FIELD	06992	16	07492 -0000
04610	TFM	UPPER,10803	07004	16	07107 J0803
04620	TFM	LOWER,10800	07016	16	07498 J0800
04640	CF	10700	07028	33	10700 00000
04650	TDM	10705	07040	15	10705 00000
04660	DL	1,1,*	07051		1
04670	TFM	IORT,**23	07052	16	00565 -7075
04680	B	IOPT,DEPFTA-4,7,	07064	49	00532 -7456
04690	UREAL	HNR **20,LOWER,11	07076	45	07096 07490
	C4700	H7 FINISP+36	07088	49	07596
04710	SF	LOWER,,6	07096	32	07490 00000
04720	TF	EXAMIN,UPPER,11	07108	26	07503 0710P
04730	CM	EXAMIN-3,7,1011	07120	14	07500 000-P
04740	HE	FORWAR	07132	46	07424 01200
04750	CM	EXAMIN-3,9,1011	07144	14	07500 000-R
04760	BE	NINIT	07156	46	07292 01200
04770	CM	EXAMIN,0001,8	07168	14	07503 0-001
04780	RE	TONY	07180	46	07272 01200
04790	C	EXAMIN,TWICE	07192	24	07503 06577
04800	BE	FORWAR	07204	46	07424 01200
04810	TF	TWICE,EXAMIN	07216	26	06577 07503
04820	TF	NEWDIM,EXAMIN	07228	26	07315 07503
04830	HT	DIMMER,DIMMER-1	07240	27	06744 06743
04840	A	TYPSEC,19888	07252	21	07492 19888
04850	B	FORWAR	07264	49	07424 00000
04860	DDRG	**3	07272		
04870	TONY	AM TYPSEC,200,9	07272	11	07492 00000
04880	B	FORWAR	07284	49	07424 00000
04890	DDRG	**3	07292		
04900	NINIT	TR 10700,TYPSEC-4,,	07292	31	10700 07488
04910	SF	EXAMIN-2	07304	32	07501 00000
04920	A	TYPSEC,EXAMIN	07316	21	07492 07503
04930	SM	TYPSEC,01,10	07328	12	07492 000-1
04940	TR	10705,TYPSEC-5,,	07340	31	10705 07487
04950	CF	10700	07352	33	10700 00000
04960	CF	10706	07364	33	10706 00000
04970	TFM	IORT,**23	07376	16	00565 -7399
04980	R	IOPT,DEPFTA-4,7,	07388	49	00532 -7456
04990	BT	HEADR,HEADR-1,,	07400	27	05594 05593
05000	AM	TYPSEC,01,10	07412	11	07492 000-1
05010	FORWAR	AM UPPER,04,10	07424	11	07107 000-4

1320

05750	DC 3,053	07816	3
	-53		
05760	DC 6,02500'	07822	6
	-2500'		
05770	TCD JACK	C7752	
05780	DEND DLMP	02960	

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CONTR0 13613	AB1 04166	ERNF 04666	MCS 17778	STFLG 04754
DEFAVL 05776	AENT CC004	ERRC 06542	MENT 0C003	TD3 04038
DEFPTA 07460	AN 05250	E 02822	NAME 04362	TD 05274
DIMERR 06719	AVAIL 14200	FILLAC 05558	NAM 13635	TEMAP 05058
DIMERR 06744	B1 C3110	FILLB 06314	NBUF C5623	TEN 07800
DMREAC 06874	B2 C3190	FINI 04222	NINE 07808	TONY C7272
DMRETR 06548	BEG5 04978	FIND 05106	NINIT 07292	TRAIL 07624
DUMPCC 02604	BNR 05446	FOUNC 04686	NUMB 13643	TR 05190
ENDTES 05398	CALC2 06668	FOUR 03506	OI 02731	TSXC 03670
EQUINO 05566	CALC3 06645	HEADR 05994	ONE 06070	TWICE 06577
ERRDMP 06683	CARD 04118	HEAD 08000	PAPER 04014	TWO 06242
ERRDMP 06590	CA 03274	INH 05466	PAPST 03330	TYPA 06896
EXAMIN 07503	CNT2 06570	INIT 03426	PGCON 05781	TYPE 13667
FILCCA 05550	CNT5 02735	IGC 13645	PGCT 05611	UPPER C7107
FINISC 07504	COMPE 04446	IOGT 00566	PUN 07620	UREAL 07076
FINISP 07560	COM 05510	IQPT 00532	RAIL 07629	XX 00000
FORWAR 07424	CCNL 07750	ICRT 00565	RD 04494	ZER0 07654
MAPTAB 04800	CONT 03178	I 02842	READ 03402	SAFDDA 05542
MONCAL 00796	COUNT 06572	JACK 07752	RELLT 03650	SECTEST 03462
N480CO 06894	DEFHD 05768	JUMP 05762	RM 02821	SECTUR 18000
NAMOUT 06503	DISK 05930	L1 03518	SA1 13663	SEQUEN 02711
NEMCIN 07315	DMDDA 06866	LAB 02700	SA2 13675	SPECIAL 06066
NUMDUT 06517	DUMP 02500	LAST 02615	SAFCF 05578	SYSCAL 00475
A10 03530	DUMSW 07464	LOOP3 04562	SAV 03049	TFWRIT 06166
A1 03738	DUMSY 07472	LCOF 02820	SC 13643	TYPEND 03566
A2 03854	EENT CCCC2	LGRM 02990	SENT 00004	TYPSEC 07492
A3 03898	EQUIV 16000	LOWER 07498	SETUP 03366	TYPWRT 05798
A4 03966	ERMAP 05378	L 04718	SPL 02862	ZERQ12 07641

END OF ONE ASSEMBLY.

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00010	***				
00020	***				
00030	***	SUBROUTINES- DIMMER,GETR,GETL,REMOVE,INSERT,FIND			
00040	***	THIS VERSION OPERATES WITH THE SPL ALWAYS IN CORE TIL JUST			
00050	***	BEFORE THE RETURN TO THE MONITOR			
00060	***				
00070	***				
00080		DORG	2458	02458	
00090	IOPT	DS	,532	0C532	0
00100	IOGT	DS	,566	0C566	0
00110	IORT	DS	,565	0C565	0
00120	DIMMTR	TF	CALC2,NEWDIM	02458	26 02613 C9649
00130		A	CALC2,CALC2	02470	21 02613 02613
00140		TF	CALC3,N48000	02482	26 02608 02624
00150		A	CALC3,CALC2,,NEW DIM SECTOR ADDRESS	02494	21 02608 02613
00160		TF	DMREAD+13,DRESTR	02506	26 02601 02618
00170		TU	*+23,CALC3	02518	25 02541 02608
00180		SM	DMREAD+12,0,10,ADJUST DIM READER S A	02530	12 02600 000-0
00190		TF	DMREAD+5,CALC3-1	02542	26 02593 02607
00200		TFM	IORT,++23	02554	16 00565 -2577
00210		D	IOGT,DMDDA,7	02566	49 00566 -2580
00220		BB		02578	42 00000 00000
00230		CORG	*-4	02580	
00240	DMCCA	DSC	2,22,,DDA FOR DIMMER-READS ONE SECTOR	02580	2
00250		22			
		DSA	DMREAD	02586	5 X 1
				02586	-2588
00260		DSC	1,1	02587	1
				02588	1
00270	DMREAD	DSC	1,0	02588	1
		0		02593	5
00280		DC	5,0	02596	3
		-0000		02601	5
00290		DC	3,1	02601	5
		-01		02602	1
00300		DC	5,15900	02602	1
		J9900		02608	6
00310		DSC	1,1	02613	5
				02618	5
00320	CALC3	DC	6,0	02624	6
		-00000		02627	3
00330	CALC2	DC	5,0	02628	2
		-0000		02634	5 X 1
00340	DRESTR	DC	5,19800,,RESTORES CORE ADDRESS FOR DIM DDA	02634	5 X 1
		J9880		02636	-2636
00350	N48000	DC	6,048000,,FIRST SECTOR OF DIM MAP	02636	1
		-48000			
00360	CORSIZ	DC	3,080,, THE PRESENT LENGTH OF THE SPL		
		-80			
00370	THRDDA	DSC	2,02,, DDA FOR SAVING CORE WHEN MOVING THE EQV. TABLE		
		02			
00380		USA	THRUWS		
00390		DSC	1,1		

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00400	THROWS	DSC	1,0	02636	1
		0		02641	5
00410		DC	5,C2000	02644	3
		-2000		02649	5
00420		DC	3,100	02650	1
		J00		02653	13 X 2
00430		DC	5,05800	02678	16 02675 0-071
		-9800		02640	34 00000 00102
00440		DSC	1,1	02702	39 02653 00100
				02714	48 00000 00000
00450	DIMERR	DAC	13,DUP*ERROR 00'	02726	49 00796 00000
		DUP	*ERROR 00'	02734	2
00460		TFM	DIMERR+22,0071,8	02740	-2742
00470	ERRD	RCTY		02741	1
00480		WATY	DIMERR	02742	1
00490		H		02747	5
00500		B	756,,MONCAL	02750	3
00510		DORG	*-3	02755	5
00520	PKODDA	DSC	2,22,, DDA FOR SPL ON MODULE ZERO	02756	1
		22		02757	2
00530		DSA	SPLPK0	02763	5 X 1
				02740	-2742
00540		DSC	1,1	02741	1
				02742	1
00550	SPLPK0	DSC	1,1	02747	5
		1		02750	3
00560		DC	5,19801	02755	5
		J9801		02756	1
00570		DC	3,100	02757	2
		J00		02763	5 X 1
00580		DC	5,09800	02763	-2765
		-9800		02764	1
00590		DSC	1,1	02765	1
				02770	5
00600	PK1DDA	DSC	2,22,, DDA FOR SPL ON MODULE ONE	02773	3
		22		02778	5
00610		DSA	SPLPK1	02779	1
				02780	2
00620		DSC	1,1	02786	5 X 1
00630	SPLPK1	DSC	1,3	02765	1
		3		02770	5
00640		DC	5,39801	02773	3
		L9801		02778	5
00650		DC	3,100	02779	1
		J00		02780	2
00660		DC	5,09800	02786	5 X 1
		-9800			
00670		DSC	1,1		
00680	PK2DDA	DSC	2,22,, DDA FOR SPL ON MODULE TWO		
		22			
00690		DSA	SPLPK2		

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00700	DSC 1,1	02786	-2788
		02787	1
00710	SPLPK2 DSC 1,5	02788	1
	5		
00720	DC 5,59801	02793	5
	N9801		
00730	DC 3,100	02796	3
	J00		
00740	DC 5,04800	02801	5
	-9800		
00750	DSC 1,1	02802	1
00760	PK3CCA DSC 2,22, ODA FOR SPL ON MODULE THREE	02803	2
	22		
00770	DSA SPLPK3	02809	5 x 1
00780	DSC 1,1	02809	-2811
		02810	1
00790	SPLPK3 DSC 1,7	02811	1
	7		
00800	CC 5,75801	02816	5
	P9801		
00810	DC 3,100	02819	3
	J00		
00820	CC 5,05800	02824	5
	-9800		
00830	DSC 1,1	02825	1
00840	CLEVER DC 2,0	02827	2
	-0		
00850	BAVAIL DC 3,0,,OTAL BLANKS FOUND IN MOVE	02830	3
	-00		
00860	FOUND DC 5,0,,FINDS SECTOR TOTAL	02835	5
	-0000		
00870	ADR SPL DC 5,0,, ADDRESS OF THE SPLIST CORE SEARCH POINT	02840	5
	-C000		
00880	SPLCYL DC 5,0,,CYLINDER SPL	02845	5
	-0000		
00890	SPLCOR DC 5,0,,DIM ADDRESS SPL	02850	5
	-C000		
00900	REPACK DC 2,0	02852	2
	-0		
00910	UNPACK UC 2,C	02854	2
	-0		
00920	DC 1,0,,PACK CONTINUED	02855	1
	-		
00930	PACK DC 1,9,,PACK NUM FOR SPLIST	02856	1
	R		
00940	DC 1,1	02857	1
00950	CALC9 DC 6,0	02863	6
	-00000		
00960	CALC4 DC 4,C,, CALCULATION AREA	02867	4
	-C00		

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00970	HEX DSC 1,0	02868	1
	0		
00980	CONST1 DC 6,C,,WORK AREAS	02874	6
	-00000		
00990	CONST2 DC 6,0,,	02880	6
	-00000		
01000	QCARRY DC 6,C,,WHERE TO LOAD NEXT MOVED SECTORS	02886	6
	-00000		
01010	QHOLD DC 6,0	02892	6
	-00000		
01020	CONST5 DC 6,C	02898	6
	-00000		
01030	CONST6 DC 6,0	02904	6
	-00000		
01040	CONST7 DC 6,C	02910	6
	-00000		
01050	RACKET DC 4,C,, ACCUMULATES 200 SECTORS FOR A CYLINDER	02914	4
	-000		
01060	STEAL UC 4,C	02918	4
	-000		
01070	CALC7 DC 3,0	02921	3
	-00		
01080	FAKSEV DC 4,C,, HAS SEVEN FROM LISTEN	02925	4
	-000		
01090	COMMON DC 1,0	02926	1
	-		
01100	COMMON DC 2,0	02928	2
	-0		
01110	NOSECA DC 1,0	02929	1
	-		
01120	CONST8 DC 5,C	02934	5
	-0000		
01130	ERRRIT TFM DIMERR+22,7179,8	02936	16
01140	B ERRD	02948	49
01150	DORG #-3	02956	00000
01160	***		
01170	*** SUBROUTINE-GETR SHIFTS ONE TO RIGHT IN SPL		
01180	***		
01190	GETATR TF CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	02956	26
01200	AM SPLCOR,04,10, LEFT END NEW ENTRY	02966	11
01210	SF SPLCOR,,8,NEW FLAG	02980	32
01220	AM CALC2,07,10,RIGHT END OF NEW ENTRY	02992	11
01230	TF LISTER,CALC2,11	03004	26
01240	CF SPLCOR,,8	03016	33
01250	BB	03028	42
01260	DORG #-9	03030	00000
01270	***		
01280	*** SUBROUTINE-GETL SHIFTS ONE TO LEFT IN THE SPL		
01290	***		
01300	GETLTR TF CALC2,SPLCOR	03030	26
01310	SM SPLCOR,04,10,FELT END OF NEW ENTRY	03042	12
01320	SF SPLCOR,,8,	03054	32
01330	SM CALC2,01,10,RIGHT END NEW ENTRY	03066	12
01340	TF LISTER,CALC2,11	03078	26
01350	CF SPLCOR,,8	03090	33
01360	HB	03102	42

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01370	DORG	=-4	03104	26	C2613	02850
01380	***		03116	11	C2613	000-4
01390	***	SUBROUTINE-REMOVE	REMOVES AN ENTRY FROM SPL	03128	31	C285- 0261L
01400	***		03140	32	C285- 00000	
01410	REMOVR	TF	CALC2,SPLCOR	03152	12	C2613 000-1
01420	AM	CALC2,04,10,		03164	26	04654 0261L
01430	TR	SPLCOR,CALC2,611,CLOSES HOLE		03176	33	C285- 00000
01440	SF	SPLCOR,,6		03188	42	00000 00000
01450	SM	CALC2,01,10		03190		
01460	TF	LISTER,CALC2,11				
01470	CF	SPLCOR,,6				
01480	BB					
01490	DORG	=-9				
01500	***					
01510	***	SUBROUTINE-INSERT	INSERTS AN ENTRY IN THE SPL			
01520	***					
01530	INSETR	SF	SPLCOR,,6	03190	32	C285- 00000
01540	TFM	*+35,09800,7		03202	16	C3237 -5800
01550	AM	*+23,04,10		03214	11	C3237 000-4
01560	TIPSY	BNR	=-12,94999,, FINDS RECORD MARK IN SPL	03226	45	03214 99999
01570	TF	CONST2,TIPSY+11		03238	26	C2880 03237
01580	AM	CUNST2,04,10		03250	11	C2880 000-4
01590	TF	CONST3,CUNST2,,		03262	26	C5130 02880
01600	SM	CONST3,09800,7		03274	12	C5130 -9800
01610	C	CONST3-2,CORS12,, IS THERE RCDP FOR ANOTHER ENTRY		03286	24	C5128 02627
01620	BL	NERR		03298	47	C3354 01300
01630	RCTY			03310	34	C0000 00102
01640	WNTY	PACK		03322	38	C2856 00100
01650	TFM	DIMERR+22,7178,8, THE SPL IS FULL MESSAGE		03334	16	C2675 0P178
01660	B	ERRD		03346	49	C2690 00000
01670	DORG	=-3		03354		
01680	NERR	TF	CONST2,TIPSY+11,611, OPENS A HOLE IN THE LIST	03354	26	C288- 0323P
01690	TF	CALC2,SPLCOR		03366	26	C2613 02850
01700	AM	CALC2,03,10		03378	11	C2613 000-3
01710	TF	CALC2,LISTER,6		03390	26	C261L 09665
01720	CF	SPLCOR,,6,		03402	33	C285- 00000
01730	AM	SPLCOR,4,10,		03414	11	C2850 000-4
01740	CF	SPLCOR,,6		03426	33	C285- 00000
01750	BB			03438	42	C0000 00000
01760	DORG	=-4		03440		
01770	***					
01780	***	SUBROUTINE-FIND	GIVEN A SECTOR ADDRESS THE LISTER			
01790	***	IS INITIALIZED TO COVER THAT ADDRESS				
01800	***					
01810	FINDTR	CF	LISTES-4	03440	33	C9657 00000
01820	SF	LISTES-5		03452	32	C9656 00000
01830	TF	19885,LISTES,,ACCEPTS SECTOR ARGUMENT		03464	26	19885 09661
01840	B	SPLIST		03476	49	03956 00000
01850	DORG	=-3		03484		
01860	SPLXTR	MM	SPLCOR,200,69, RETURNS WITH CYLINDER IN LISTER	03484	13	C285- 00000
01870	SF	95		03496	32	C0045 00000
01880	TF	ADRSP,99		03508	26	C2840 00099
01890	SM	ADRSP,01,10		03520	12	C2840 000-1
01900	MM	LISTES-4,05,10		03532	13	C9657 000-5
01910	TDM	LISTES-4,1,11		03544	15	C9657 0000J
01920	BD	*+24,99		03556	43	03580 00099

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01930	TDM	LISTES-4,0,11	03568	15	C9657 0000-	
01940	SM	SPLCOR,03,10,SET AT HIGH ORDER OF LIST IN CORE	03580	12	C2850 000-3	
01950	CF	SPLCOR,,6	03592	13	C285- 00000	
01960	TRYAGN	TF	CALC2,SPLCOR,, LEFT PRESENT SPL C.A.	03604	26	C2613 02850
01970	AM	SPLCOR,04,10, LEFT END NEW ENTRY	03616	11	C2850 000-4	
01980	SF	SPLCOR,,6,NEW FLAG	03628	32	C285- 00000	
01990	AM	CALC2,07,10,RIGHT END OF NEW ENTRY	03640	11	C2613 000-7	
02000	TF	LISTER,CALC2,11	03652	26	C9654 0261L	
02010	CF	SPLCOR,,6	03664	33	C285- 00000	
02020	CM	LISTER-3,9,1011	03676	14	C9651 000-R	
02030	BE	ADDBLK	03688	46	03912 01200	
02040	CM	LISTER,001,8, IF WORK AREA EXIT	03700	14	C9654 0-001	
02050	DE	PLUSR+24	03712	46	C3892 01200	
02060	TF	NEWDIM,LISTER	03724	26	C9649 09654	
02070	BT	DIMMER,DIMMER-1	03736	27	C9600 09599	
02080	TDM	19880,0,11	03748	15	19880 0000-	
02090	MM	19881,05,1011	03760	13	19881 000-N	
02100	TDM	19881,1,11	03772	15	19881 0000J	
02110	BD	*+24,99,, MATCH-UP THE TENTHOUSANDS POSITION	03784	43	C3808 00099	
02120	TDM	19881,0,11	03796	15	19881 0000-	
02130	SM	19885,01,10	03808	12	19885 000-1	
02140	S	19885,ADRSP	03820	22	19885 02840	
02150	BE	*+24	03832	46	C3856 01200	
02160	A	ADRSP,19885,,SUBTRACTS THE BACKFLOW	03844	21	C2840 19885	
02170	A	ADRSP,19888,,ADD THE SECTOR COUNT TO SECTOR POSITION	03856	21	C2840 19888	
02180	PLUSR	C	ADRSP,LISTES	03868	24	C2840 09661
02190	BL	TRYAGN		03880	47	C3604 01300
02200	TF	FOUND,ADRSP		03892	26	02835 02840
02210	B	GOONY		03904	49	09638 00000
02220	DORG	=-3		03912		
02230	ADDBLK	SF	LISTER-2,, ADD THE BLANK SECTOR COUNT	03912	32	09652 00000
02240	***					
02250	***	ROUTINE FOR LOCATING THE CORRECT SPL IN CORE AND				
02260	***	DIRECTING THE LISTER TO THE CORRECT CYLINDER ENTRY				
02270	***					
02280	A	ADRSP,LISTER	03924	21	C2840 09654	
02290	CF	LISTER-2	03936	33	C9652 00000	
02300	B	PLUSR	03948	49	C3868 00000	
02310	DORG	=-3	03956			
02320	SPLIST	TDM	19880,,11,FLAG ZERO	03956	15	19880 0000-
02330	MM	19885,05,10	03968	13	19885 000-5	
02340	SF	94,,DESIRED CYLINDER	03980	32	C0094 00000	
02350	SF	93	03992	32	C0093 00000	
02360	TD	START+10,95	04004	25	04174 00095	
02370	TD	START+11,96	04016	25	04175 00096	
02380	TF	REPACK,94	04028	26	02852 00094	
02390	MM	LISTES-5,05,10	04040	13	09656 000-5	
02400	BD	*+32,99,,SIGNIFICANT OVERRIDE CODE	04052	43	04084 00099	
02410	TF	94,REPACK	04064	26	00094 02852	
02420	B	REDSPL	04076	49	04220 00000	
02430	DORG	=-3	04084			
02440	MM	LISTES-5,50000,7, GENERATE PROPER MODULE FROM OVERRIDE CODE	04084	13	C9656 00000	
02450	SF	94	04096	32	00094 00000	
02460	B	REDSPL	04108	49	04220 00000	
02470	DORG	=-3	04116			
02480	SPLINI	TFM	ADRSP,09800	04116	16	C2840 -9800

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02490	CLUCK	SF	ADRSPL,,6	04128	32	0284-	00000
02500	TF	SPLCOR,ADRSPL		04140	26	C2850	02840
02510	AM	SPLCOR,03,10		04152	11	02850	000-3
02520	STARDT	CM	SPLCOR,7000,68, FIND THE CORRECT CYLINDER ENTRY	04164	14	0285-	0P000
02530	BE	SPLXRT		04176	46	03484	01200
02540	CF	ADRSPL,,6		04188	33	0284-	00000
02550	AM	ADRSPL,04,10		04200	11	02840	000-4
02560	B	CLUCK		04212	49	04128	0C000
02570	DORG	=-3		04220			
02580	***	ROUTINE TO WRITE BACK LIST ALREADY IN CORE IF NECESSARY					
02590	REDSPL	C	94,PACK	04220	24	00094	02856
02600	BE	SPLINI		04232	46	04116	01200
02610	CM	PACK,09,1011,FIRST TRIP		04244	14	02856	000-R
02620	TF	UNPACK,94		04256	26	C2854	00094
02630	BE	SPLXRT		04268	46	04480	01200
02640	CM	PACK,00,1011, PACK ZERO		04280	14	02856	000-J
02650	BE	WRTSPO		04292	46	04360	01200
02660	CM	PACK,01,1011,PACK ONE		04304	14	02856	000-J
02670	BE	WRTSPO		04316	46	04392	01200
02680	CM	PACK,02,1011, PACK TWO		04328	14	02856	000-K
02690	BE	WRTSPO		04340	46	04424	01200
02700	B	WRTSPO,,, PACK THREE		04352	49	04456	00000
02710	DORG	=-3		04360			
02720	WRTSPO	TFM	IORT,++23	04360	16	00565	-4383
02730	B	IOGT,PK0DDA,7		04372	49	00532	-2734
02740	B	SPLXRT		04384	49	04480	0C000
02750	DORG	=-3		04392			
02760	WRTSPO	TFM	IORT,++23	04392	16	00565	-4415
02770	B	IOGT,PK10DA,7		04404	49	00532	-2757
02780	B	SPLXRT		04416	49	04480	0C000
02790	DORG	=-3		04424			
02800	WRTSPO	TFM	IORT,++23	04424	16	00565	-4447
02810	B	IOGT,PK20DA,7		04436	49	00532	-2780
02820	B	SPLXRT		04448	49	C4480	0C000
02830	DORG	=-3		04456			
02840	WRTSPO	TFM	IORT,++23	04456	16	00565	-4479
02850	B	IOGT,PK30DA,7		04468	49	00532	-2803
02860	***	ROUTINE TO BRING IN DESIRED SPL IF NOT ALREADY IN CORE					
02870	SPLXRT	TF	PACK,UNPACK,,SAVE PACK NUM	04480	26	02856	C2854
02880	TD	CLEVER,LISTES-4		04492	25	02827	09657
02890	SF	CLEVER		04504	32	02827	0C000
02900	MM	LISTES-4,05,10		04516	13	09657	000-5
02910	BD	++24,99		04528	43	04552	00099
02920	SM	CLEVER,01,10		04540	12	02827	000-1
02930	CM	PACK,0,1011, PACK ZERO		04552	14	02856	000-J
02940	BE	REDSPO		04564	46	C4668	01200
02950	CM	PACK,1,1011, PACK ONE		04576	14	02856	000-J
02960	BE	REDSPO		04588	46	C4712	01200
02970	CM	PACK,2,1011, PACK TWO		C4600	14	02856	000-K
02980	BE	REDSPO		04612	46	04756	01200
02990	RECSPL	TD	SPLPK3+1,CLEVER	04624	25	02812	02827
03000	TFM	IORT,++23		04636	16	00565	-4659
03010	B	IOGT,PK30DA,7		04648	49	00566	-2803
03020	B	SPLINI		04660	49	04116	00000
03030	DORG	=-3		04668			
03040	REDSPO	TD	SPLPK0+1,CLEVER	04668	25	02743	02827

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03050	TFM	IORT,++23	04680	16	00565	-4703	
03060	B	IOGT,PK0DDA,7	04692	49	00566	-2734	
03070	B	SPLINI	04704	49	04116	0C000	
03080	DORG	=-3	04712				
03090	REDSPL	TD	SPLPK1+1,CLEVER	04712	25	02766	02827
03100	TFM	IORT,++23	04724	16	00565	-4747	
03110	B	IOGT,PK1DDA,7	04736	49	00566	-2757	
03120	B	SPLINI	04748	49	04116	0C000	
03130	DORG	=-3	04756				
03140	REDSPL	TD	SPLPK2+1,CLEVER	04756	25	02789	02827
03150	TFM	IORT,++23	04768	16	00565	-4791	
03160	B	IOGT,PK2DDA,7	04780	49	00566	-2780	
03170	B	SPLINI	04792	49	04116	00000	
03180	DORG	=-3	04800				
03190	***	ROUTINE TO LOAD THE SACRED SIX TO DISK WHEN LOADING FROM CARDS					
03200	SPLFL	TFM	IORT,++23	04800	16	00565	-4823
03210	B	IOGT,SPLR2,7	04812	49	00532	-4863	
03220	TRA		04824	36	0C000	00500	
			04836	49	0C000	00000	
03230	SPLR1	DSC	1,1	04848		1	
03240	DC	5,19338	04853			5	
		J9338					
03250	DC	3,025	04856			3	
		-25					
03260	DC	5,02458	04861			5	
		-2458					
03270	DSC	1,1	04862			1	
03280	SPLR2	DSC	2,22	04863		2	
03290	DSC	SPLR1		04869		5 X 1	
03300	DSC	1,1	04869			-4848	
			04870			1	
03310	TCO	SPLFL	04800				
03320	***						
03330	.	DDDD EEEEE FFFFF III N N EEEEE					
03340	.	D DD E F I NN N E					
03350	.	D D EEEE FFFF I N N N EEEE					
03360	.	D DD E F I N NN E					
03370	.	DDDD EEEEE F III N N EEEEE					
03380	***						
03390	***	THE DEFINE PROGRAM FOR REDEFINING THE SYSTEM PARAMETERS					
03400	***						
03410	DORG	5CCC	05000				
03420	TCO	13775,0C000	05000	19	13775	0C000	
03430	DC	1,1,0	05011			1	
03440	TR	9336,13612,, TRANSMIT THE DEFINE CONTROL CARD	05012	31	C9336	13612	
03450	TFM	IORT,++23	05024	16	00565	-5047	
03460	B	IOGT,SLIPRY,7, BRING IN THE SECONDARY LINKAGE	05036	49	00566	-5056	
03470	B	DFINE	05048	49	05174	00000	
03480	DORG	=-3	05056				

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03440	SLIPRY	DSC	2,22,,	DDA FOR THE SACRED SIX SECONDARY LINKAGE	05056	2
03500		DSA	TABC		05067	5 X 1
03510		DC	1, *		05068	-5064 1
03520	TABC	DSC	1,1		05074	1
03530		DC	5,18197		05079	5
03540		DC	3,003		05080	3
03550		DC	6,05900*		05076	6
03560	TRWSLD	DSC	2,22,,	DDA FOR SHIFTING THE EQUIVALENCE LIST	05079	2
03570		DSA	SLDEQV		05085	5 X 1
03580		DC	1, *		05085	-5087 1
03590	SLDEQV	DSC	1,0		05087	1
03600		DC	5,0		05092	5
03610		DC	3,060		05095	3
03620		DC	5,05800		05100	5
03630		DC	1, *		05101	1
03640	TRWFLD	DSC	2,02,,	DDA FOR SHIFTING THE EQUIVALENCE LIST	05102	2
03650		DSA	TLDEQV		05106	5 X 1
03660		DC	1, *		05108	-5110 1
03670	TLDEQV	DSC	1,0		05110	1
03680		DC	5,0		05115	5
03690		DC	3,060		05116	3
03700		DC	5,05800		05123	5
03710		DC	1, *		05124	1
03720	CONST3	DC	6,0		05130	6
03730	ZERDES	DC	10,0		05140	10
03740		DSC	2,0,,	EXTENSION OF ZERDES	05141	2
03750	CURREN	DC	3,0		05145	3

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03760	LIMIT	DC	3,059		05148	3
03770	KEYS	DSC	1,0		05149	1
03780	DUPCRD	DSS	162,9337		05137	162
03790	SARB	DSC	2,22,,	DDA FOR COMMUNICATION SECTOR ON DISK	05150	2
03800		DSA	SARC		05156	5 X 1
03810		DC	1, *		05156	-5158 1
03820	SARC	DSC	1,1		05158	1
03830		DC	5,15639		05163	5
03840		DC	3,001		05166	3
03850		DSA	DFINE		05171	5 X 1
03860		DC	1, *		05171	-5174 1
03870	DFINE	TFM	NEWDIM,004,8		05174	16 09649 0-004
03880		BT	DIMMER,DIMMER-1		05186	27 09600 09599
03890		TF	CORSIZ,19888		05196	26 02627 19888
03900		TD	CALC9,DUPCRD+22,,	STARTING SECTOR FOR WORK AREA	05210	25 02863 09359
03910		TD	CALC9-1,DUPCRD+20		05222	25 02862 09357
03920		TD	CALC9-2,DUPCRD+18		05234	25 02861 09355
03930		TD	CALC9-3,DUPCRD+16		05246	25 02860 09353
03940		TD	CALC9-4,DUPCRD+14		05258	25 02859 09351
03950		TU	CALC9-5,DUPCRD+12		05270	25 02858 09349
03960		SF	CALC9-5		05282	32 02858 00000
03970		SF	DUPCRD+11		05294	32 09348 00000
03980		C	DUPCRD+22,ZERDES+2,,	WAS THIS FIELD BLANK	05306	24 09359 05142
03990		BNE	SANDOR		05318	47 05402 01200
04000		TFM	NEWDIM,001,8		05330	16 09649 0-001
04010		BT	DIMMER,DIMMER-1,,	BRING IN WRK AREA DIM	05342	27 04600 09599
04020		TF	CALC9,19885		05354	26 02863 19885
04030		CF	CALC9-4		05366	33 02859 00000
04040		TD	CALC9-5,19880		05378	25 02858 19880
04050		SF	CALC9-5		05390	32 02858 00000
04060	SANDOR	MM	CALC9,05,9,USED FOR CYLINDER NUMBER ALSO		05402	13 02863 00-05
04070		BD	ERRDR1,97,,	IS START OF SCRATCH AT BEGINNING OF CYLINDER	05414	43 05698 00097
04080		BD	ERRDR1,98,,		05426	43 05698 00098
04090		BD	ERRDR1,99,,		05438	43 05698 00099
04100	LENSCT	TD	CALC4-1,DUPCRD+30,,	NUMBER OF CYLINDERS REQUESTED	05450	25 02866 09367
04110		TD	CALC4-2,DUPCRD+28		05462	25 02865 09365
04120		TD	CALC4-3,DUPCRD+26		05474	25 02864 09363
04130		SF	CALC4-2		05486	32 02865 00000
04140		SF	DUPCRD+25		05498	32 09362 00000
04150		C	DUPCRD+30,ZERDES-4,,	WAS THIS FIELD BLANK	05510	24 09367 05136
04160		BNE	ENUFF		05522	47 06026 01200
04170		C	DUPCRD+22,ZERDES+2		05534	24 09359 05142
04180		BE	ESOR		05546	46 06530 01200
04190		TFM	NEWDIM,0001,8		05558	16 09649 0-001

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04200	BT	DIMMER,DIMMER-1	05970	27	09600	09599
04210	TF	CALC4-1,19888,, SAVE OLD CYLINDER COUNT	05582	26	02866	19888
04220	SF	CALC4-2	05594	32	02863	00000
04230	PKROOM	TF CURREN,LIMIT	05606	26	05145	05148
04240	SF	CURREN-1	05618	32	05144	00000
04250	SF	95	05630	32	00095	00000
04260	S	CURREN,96,, TO FIND ALLOWABLE CYLINDERS LEFT	05642	22	05145	00096
04270	C	CALC4-1,CURREN	05654	24	02866	05145
04280	BNH	ROMENF	05666	47	05718	01100
04290	TFM	DIMERR+22,7173,8	05678	16	02675	0P173
04300	B	ERRD	05690	49	02690	00000
04310	DORG	=-3	05698			
04320	ERROR1	TFM DIMERR+22,7172,8	05698	16	02675	0P172
04330	B	ERRD	05710	49	02690	00000
04340	DORG	=-3	05718			
04350	**	WILL THERE BE ENOUGH ROOM TO MOVE THE WORKING AREA				
04360	ROMENF	TF LISTES,CALC9	05718	26	09661	02863
04370	TFM	RLGONE+30,++20	05730	16	09644	-5750
04380	B	FIND	05742	49	09540	00000
04390	DORG	=-3	05750			
04400	TFM	ADRSPL,CO,10	05750	16	02840	000-0
04410	SCRASM	CM LISTER,9200,8, IS THIS AREA AVAILABLE	05762	14	09654	0R200
04420	HE	=+36	05774	46	05810	01200
04430	CM	LISTER,COO1,8	05786	14	09654	0-001
04440	BNE	ERR23	05798	47	06282	01200
04450	AM	ADRSPL,01,10	05810	11	02840	000-1
04460	C	ADRSPL,CALC4-1,, HAVE ENOUGH CYLINDERS BEEN FOUND	05822	24	02840	02866
04470	HE	FIXEQV	05834	46	05878	01200
04480	BT	GETR,GETR-1	05846	27	09520	09519
04490	BT	GETR,GETR-1	05858	27	09520	09519
04500	B	SCRASM	05870	49	05762	00000
04510	DORG	=-3	05878			
04520	FIXEQV	TFM NEWDIM,1,8,SCRATCH ENTHY	05878	16	09649	0-001
04530	BT	DIMMER,DIMMER-1	05890	27	09600	09599
04540	TF	LISTES,19885	05902	26	09661	19885
04550	TD	LISTES-5,19880	05914	25	09656	19880
04560	TFM	RLGONE+30,++20	05926	16	09644	-5946
04570	B	FIND	05938	49	09540	00000
04580	DORG	=-3	05946			
04590	TFM	LISTET,9200,8	05946	16	09665	0R200
04600	DOC	CM LISTER,COO1,8, IS THERE MORE WORK AREA TO ERASE	05958	14	09654	0-001
04610	BNE	SLEEPY	05970	47	06074	01200
04620	BT	REMOVE,REMOVE-1	05982	27	09560	09559
04630	DT	INSERT,INSERT-1	05994	27	09580	09579
04640	HT	GETR,GETR-1	06006	27	09520	09519
04650	B	DOC	06018	49	05958	00000
04660	DORG	=-3	06026			
04670	ENUFF	CM CALC4-1,11,10, ARE THERE LESS THAN ELEVEN CYLINDERS DESIRED	06026	14	02866	00000
04680	BNL	PKROOM	06038	46	05606	01300
04690	TFM	DIMERR+22,7078,8	06050	16	02675	0P078
04700	B	ERRD	06062	49	02690	00000
04710	SLEEPY	TFM LISTET,COO1,8	06074	16	09665	0-001
04720	TF	LISTES,CALC9	06086	26	09661	02863
04730	TFM	RLGONE+30,++20	06098	16	09644	-6118
04740	B	FIND,, WHERE THE NEW WORK AREA WILL BEGIN	06110	49	09540	00000
04750	DORG	=-3	06118			

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04760	TF	ADRSPL,CALC4-1	06118	26	02640	02866
04770	CM	LISTER,9200,8	06130	14	09654	0R200
04780	BNE	ERR23	06142	47	06282	01200
04790	LUCKY	HT REMOVE,REMOVE-1	06154	27	09560	09559
04800	BT	INSERT,INSERT-1,, STUFF IN THE NEW WORK AREA	06166	27	09580	09579
04810	SM	ADRSPL,01,10	06178	12	02840	000-1
04820	CM	ADRSPL,CO,10	06190	14	02840	000-0
04830	RNF	FIXSUP	06202	47	06302	01100
04840	LOUNGE	CM LISTER,9200,8	06214	14	09654	0R200
04850	HE	LUCKY	06226	46	06154	01200
04860	CM	LISTER-3,7,1011	06238	14	09651	000-P
04870	BNE	ERR23	06250	47	06282	01200
04880	BT	GETR,GETR-1	06262	27	09520	09519
04890	B	LOUNGE	06274	49	06214	00000
04900	DORG	=-3	06282			
04910	ERR23	TFM DIMERR+22,7173,8	06282	16	02675	0P173
04920	B	ERRD	06294	49	02690	00000
04930	DORG	=-3	06302			
04940	FIXSUP	TFM IORT,++23,, LET IORT IN CN THE SECRET	06302	16	00565	-6325
04950	H	IORT,SARB,7	06314	49	00566	-5150
04960	TF	00425,CALC9-2,, WORK AREA CHANGED IN COMMUNICATION AREA	06326	26	00425	02861
04970	SF	00423	06338	32	00423	00000
04980	CF	00422	06350	33	00422	00000
04990	TF	DFINE+23,CALC9-2	06362	26	05197	02861
05000	SF	DFINE+21	06374	32	05195	00000
05010	CF	DFINE+20	06386	33	05194	00000
05020	TFM	IORT,++23	06398	16	00565	-6421
05030	B	IORT,SARB,7	06410	49	00532	-5150
05040	NUMMOD	TFM NEWDIM,COO1,8, LET THE DIM TABLE IN ON OUR SECRET	06422	16	09649	0-001
05050	BT	DIMMER,DIMMER-1	06434	27	09600	09599
05060	TF	19885,CALC9	06446	26	19885	02863
05070	SF	19881	06458	32	19881	00000
05080	CF	19880	06470	33	19880	00000
05090	TF	19888,CALC4-1	06482	26	19888	02866
05100	CF	19887	06494	33	19887	00000
05110	TFM	IORT,++23	06506	16	00565	-6529
05120	B	IORT,DMDDA,7	06518	49	00532	-2580
05130	ESOR	SF DUPCRD+33,,, HOW ARE WE FIXED FOR NUMBER OF MODULES	06530	32	09370	00000
05140	CM	DUPCRD+34,00,10	06542	14	09371	000-0
05150	BE	AAA	06554	46	06660	01200
05160	TD	CURREN-1,DUPCRD+34,, THERE WAS SOMETHING THERE	06566	25	05144	09371
05170	CM	CURREN-1,04,10, IS MODULE NUM 4 OR LESS	06578	14	05144	000-4
05180	BH	=+36	06590	46	06626	01100
05190	CM	CURREN-1,01,10	06602	14	05144	000-1
05200	BNL	AAA	06614	46	06660	01300
05210	TFM	DIMERR+22,7171,8	06626	16	02675	0P171
05220	B	ERRD	06638	49	02690	00000
05230	DORG	=-3	06646			
05240	NEWTOT	DC 4,0	06649		4	
-000						
05250	OLDTOT	DC 4,0	06653		4	
-000						
05260	DDIM	DC 3,0	06656		3	
-00						
05270	DEQV	DC 3,0	06659		3	
-00						

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05280	AAA	TD	CALC4-1,DUPCRD+42,, BRING IN DIM SECTOR COUNT	06660	25	02866	09379
05290		TD	CALC4-2,DUPCRD+40	06672	25	02865	09377
05300		TD	CALC4-3,DUPCRD+38	06684	25	02864	09375
05310		SF	CALC4-3	06696	32	02864	00000
05320		TD	CALC7,DUPCRD+50,, BRING IN THE EQV TABLE SECTOR COUNT	06708	25	02921	09387
05330		TD	CALC7-1,DUPCRD+48	06720	25	02920	09385
05340		TD	CALC7-2,DUPCRD+46	06732	25	02919	09383
05350		SF	CALC7-2	06744	32	02919	00000
05360	**		BRING IN OLD DIM AND EQV ENTRIES				
05370		TFM	NEWDIM,002,8	06756	16	09649	0-002
05380		BT	DIMMER,DIMMER-1	06768	27	09600	09599
05390		TF	DEQV,19888	06780	26	06659	19888
05400		TDM	NEWDIM,3	06792	15	09649	00003
05410		BT	DIMMER,DIMMER-1	06804	27	09600	09599
05420		TF	ODIM,19888	06816	26	06656	19888
05430	***		A LITTLE MATHEMATICS TO SEE IF THE DIM PLUS THE EQV				
05440	***		TABLE TOTAL HAS INCREASED OR AT LEAST TRYED				
05450		SF	DUPCRD+45	06828	32	09382	00000
05460		C	DUPCRD+50,ZERDES-4,, SHOULD CLD EQV LENGTH BE USED	06840	24	09387	05136
05470		BNE	**24	06852	47	06876	01200
05480		TF	CALC7,DEQV	06864	26	02921	06659
05490		SF	DUPCRD+37	06876	32	09374	00000
05500		C	DUPCRD+42,ZERDES-4,, SHOULD CLD DIM LENGTH BE USED	06888	24	09379	05136
05510		BNE	**24	06900	47	06924	01200
05520		TF	CALC4-1,ODIM	06912	26	02866	06656
05530		TF	NEWTOT,CALC7	06924	26	06649	02921
05540		CF	NEWTOT-2	06936	33	06647	00000
05550		A	NEWTOT,CALC4-1	06948	21	06649	02866
05560		TF	OLDTOT,ODIM	06960	26	06653	06656
05570		CF	OLDTOT-2	06972	33	06651	00000
05580		A	OLDTOT,DEQV	06984	21	06653	06659
05590		C	OLDTOT,NEWTOT,, IS THE TCTAL LENGTH OF THE TWO TABLES LONGE	06996	24	06653	06649
05600		BNL	CONTIN	07008	46	07236	01300
05610		S	NEWTOT,OLDTOT	07020	22	06649	06653
05620		TFM	LISTES,04800	07032	16	09661	-4800
05630		TDM	LISTES-5,1	07044	15	09656	00001
05640		A	LISTES,OLDTOT	07056	21	09661	06653
05650		TFM	RLGONE+30,**20	07068	16	09644	-7088
05660		B	FIND,,, FIND THE END OF THE CLD EQV TABLE	07080	49	09540	00000
05670		DORG	**3	07088			
05680		TFM	CONST5,000,8	07088	16	02898	0-000
05690	SARJ	CM	LISTER-3,9,1011	07100	14	09651	000-R
05700		BNE	ERROR8	07112	47	07216	01200
05710		SF	LISTER-2	07124	32	09652	00000
05720		A	CONST5,LISTER	07136	21	02898	09654
05730		C	CONST5,NEWTOT,, HAVE ENOUGH BLANK SECTORS BEEN FOUND	07148	24	02898	06649
05740		BNL	CONTIN	07160	46	07236	01300
05750		BT	GETR,GETR-1	07172	27	09520	09519
05760		CM	LISTER-3,7,1011	07184	14	09651	000-P
05770		HE	**24	07196	46	07172	01200
05780		B	SARJ	07208	49	07100	00000
05790		DORG	**3	07216			
05800	ERROR8	TFM	DIMERR+22,7078,8, NOT ENOUGH RLOM AT SPECIED LOCATION	07216	16	02675	09078
05810		B	ERRD	07228	49	02690	00000
05820		DORG	**3	07236			
05830	CONTIN	SF	DUPCRD+37	07236	32	09374	00000

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05840		C	DUPCRD+42,ZERDES-4,, WAS THERE ANEW DIM TABLE LENGTH	07248	24	09379	05136
05850		BE	EQVLEN	07260	46	08400	01200
05860		CM	CALC4-1,035,9	07272	14	02866	00-35
05870		BNL	**32	07284	46	07316	01300
05880		TFM	DIMERR+22,7078,8	07296	16	02675	09078
05890		B	ERRD	07308	49	02690	00000
05900		DORG	**3	07316			
05910		TFM	NEWDIM,003,8,NEW DIM LENGTH SPECIFIED	07316	16	09649	0-003
05920		BT	DIMMER,DIMMER-1	07328	27	09600	09599
05930		TF	CONST3,19888	07340	26	05130	19888
05940		C	CONST3,CALC4-1	07352	24	05130	02866
05950		BE	EQVLEN	07364	46	08400	01200
05960		TF	19888,CALC4-1,,SET NEW DIM LENGTH	07376	26	19888	02866
05970		TFM	IORT,**23	07388	16	00565	-7411
05980		B	IOPT,DMCDA,7	07400	49	00532	-2580
05990		TFM	TLDEQV+5,01000,7	07412	16	05115	-1000
06000		TFM	NEWDIM,2,8, EQV TABLE	07424	16	09649	0-002
06010		BT	DIMMER,DIMMER-1	07436	27	09600	09599
06020		TF	CALC7,19888	07448	26	02921	19888
06030		TF	CONST2,19888	07460	26	02880	19888
06040		TF	SLDEQV+5,19885	07472	26	05092	19885
06050		TD	SLDEQV,19880	07484	25	05087	19880
06060		TFM	IORT,**23	07496	16	00565	-7519
06070		B	IOPT,THRDDA,7	07508	49	00532	-2628
06080	HERD	TFM	IORT,**23,, PREPARE TO SHIFT THE EQUIVALENCE TABLE	07520	16	00565	-7543
06090		B	IOGT,TRNSLD,7	07532	49	00566	-5079
06100		TFM	IORT,**23	07544	16	00565	-7567
06110		B	IOPT,TRWTL,7	07556	49	00532	-5102
06120		AM	SLDEQV+5,60,10	07568	11	05092	00000
06130		AM	TLDEQV+5,60,10	07580	11	05115	00000
06140		SM	CONST2,60,10	07592	12	02880	00000
06150		BNF	HERD, CONST2	07604	44	07520	02880
06160		TDM	TRNSLD,0	07616	15	05079	00000
06170		TDM	TRWTL,2	07628	15	05102	00002
06180		TFM	SLDEQV+5,01000,7	07640	16	05092	-1000
06190		TFM	TLDEQV+5,04800	07652	16	05115	-4800
06200		A	TLDEQV+5,CALC4-1	07664	21	05115	02866
06210	JANITO	CM	CALC7,060,9, MAJOR SHIFT OF EQUIVALENCE TABLE	07676	14	02921	00-60
06220		BNH	MELANC	07688	47	07792	01100
06230		TFM	IORT,**23	07700	16	00565	-7723
06240		B	IOGT,TRNSLD,7	07712	49	00566	-5079
06250		TFM	IORT,**23	07724	16	00565	-7747
06260		B	IOPT,TRWTL,7	07736	49	00532	-5102
06270		AM	SLDEQV+5,060,9	07748	11	05092	00-60
06280		AM	TLDEQV+5,060,9	07760	11	05115	00-60
06290		SM	CALC7,060,9	07772	12	02921	00-60
06300		B	JANITO	07784	49	07676	00000
06310		DORG	**3	07792			
06320	MELANC	TF	TLDEQV+5,CALC7,, MINOR SHIFT OF EQUIVALENCE TABLE	07792	26	05118	02921
06330		TFM	IORT,**23	07804	16	00565	-7827
06340		B	IOGT,TRNSLD,7	07816	49	00566	-5079
06350		TFM	IORT,**23	07828	16	00565	-7851
06360		B	IOPT,TRWTL,7	07840	49	00532	-5102
06370		TFM	TLDEQV+5,60,9	07852	16	05118	00-60
06380		TFM	IORT,**23	07864	16	00565	-7887
06390		B	IOGT,THRDDA,7, REFRESH THE CORE FROM DISK	07876	49	00566	-2628

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06400	NURSES	SF	KEYS	07888	32	05149	00000
06410		C	CONST3,CALC4-1	07900	24	05130	02866
06420		BNL	EQVLEN	07912	46	08400	01300
06430		TF	CONST5,CALC4-1	07924	26	02898	02866
06440		S	CONST5,CONST3,, NUMBER OF SECTORS ADDED	07936	22	02898	05130
06450		TFM	HEWDM,COO2,8	07948	16	09649	0-002
06460		BT	DIMMER,DIMMER-1	07960	27	09600	09599
06470		TF	SARM+5,19885	07972	26	08189	19885
06480		TD	SARM,19880	07984	23	08184	19880
06490	SARI	TFM	IORT,++23	07996	16	00565	-8019
06500		B	IOPT,SARF,7	08008	49	00532	-8176
06510		SM	CONST5,01,10	08020	12	02898	000-1
06520		CM	CONST5,COO,9	08032	14	02898	00-00
06530		HE	EQVLEN	08044	46	08400	01200
06540		AM	SARM+5,01,10	08056	11	08189	000-1
06550		B	SARI	08068	49	07996	00000
06560		DURG	-3	08076			
06570	DUMDIM	DC	1,, DUMMY SECTOR FILL	08076			1
06580		DC	1,0	08077			1
06590		DSC	18,0	08078			18
06600		DC	1,0	08096			1
06610		DC	1,0	08097			1
06620		DSC	18,0	08098			18
06630		DC	1,0	08116			1
06640		DC	1,0	08117			1
06650		DSC	18,0	08118			18
06660		DC	1,0	08136			1
06670		DC	1,0	08137			1
06680		DSC	18,0	08138			18
06690		DC	1,0	08156			1
06700		DC	1,0	08157			1
06710		DSC	18,0	08158			18
06720	SARF	DSC	2,22,, DDA FOR FILLING IN BLANK DIM SECTORS	08176			2
06730		DSA	SARM	08182			5 X 1
06740		CC	1,0	08182		-8184	1
06750	SARM	DSC	1,1	08183			1

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06760		DC	5,95999	08189			5
06770		DC	3,001	08192			3
06780		DSA	DUMDIM	08197			5 X 1
06790		DC	1,0	08197		-8076	1
06800		DORG	08400	08198			1
06810	***	LINKAGE TO CALL IN PHASE TWO AND EXECUTE IT		08400			
06820	EQVLEN	TFM	IORT,++23	08400	16	00565	-8423
06830		B	IOPT,SARF,7	08412	49	00566	-8424
06840	SARK	DSC	2,-22	08424			2
06850		DSA	SARL	08430			5 X 1
06860		CC	1,0	08430		-8432	1
06870	SAHL	DSC	1,1	08432			1
06880		DC	5,18174	08437			5
06890		DC	3,023	08440			3
06900		DSA	PHASE2	08445			5 X 1
06910		DC	1,0	08445		-5600	1
06920	***	LINKAGE FOR THROWING PHASE1 TO DISK WHEN LOADING PROGRAM		08446			1
06930	DDFIN4	TFM	IORT,++23	08448	16	00565	-8471
06940		B	IOPT,DDFIN5,7	08460	49	00532	-8496
06950		TRN		08472	36	00000	00500
06960	DDFIN5	DSC	2,22	08484	49	00000	00000
06970		DSA	DDFIN6	08496			2
06980		DC	1,0	08502			5 X 1
06990	DDFIN6	DSC	1,1	08502		-8504	1
07000		DC	5,18139	08503			1
07010		DC	3,038	08504			1
07020		DC	5,05000	08509			5
07030		DC	1,0	08512			3
07040		TCD	DDFIN4	08517			5
07050		DORG	05600	08518			1

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07060	PHASE2	TD	CALC7,DUPCRD+50,, READ IN EQV ENTRY DATA	05600	25	02921	C9387
07070		TD	CALC7-1,DUPCRD+48	05612	25	02920	09385
07080		TU	CALC7-2,DUPCRD+46	05624	25	02919	09383
07090		SF	CALC7-2	05636	32	02919	00000
07100		SF	DUPCRD+45	05648	32	09382	00000
07110		C	DUPCRD+50,ZERDES-4,, WAS THERE A EQV TABLE ENTRY	05660	24	09387	05136
07120		BNE	LNGNFF	05672	47	06872	01200
07130		BNF	OUTSYD,KEY5	05684	44	06422	05149
07140	TABA	TFM	NEWDIM,2,8, EQV ENTRY	05696	16	09649	0-002
07150		BT	DIMMER,DIMMER-1	05708	27	09600	09599
07160		TF	CALC9,19888	05720	26	02863	19888
07170		BNF	888,KEY5	05732	44	05804	05149
07180		TFM	CALC3,04800	05744	16	02608	-4800
07190		A	CALC3,CALC4-1	05756	21	02608	02866
07200		TF	19885,CALC3	05768	26	19885	02608
07210		CM	CALC7,000,9	05780	14	02921	00-00
07220		BE	TABB	05792	46	05816	01200
07230	888	TF	19888,CALC7,,SET NEW EQV LENGTH	05804	26	19888	02921
07240	TABB	TFM	IDRT,**23	05816	16	00565	-5839
07250		B	IDPT,DMDDA,7	05828	49	00532	-2580
07260	LENLIS	TF	EL,19888	05840	26	05887	19888
07270		CF	EL-2	05852	33	05885	CC000
07280	ACCUM	DC	4,C,*	05864			4
		-000					
07290		TF	DL,CALC4-1	05876	26	06715	02866
07300		CF	DL-2	05887	33	06713	00000
07310	EL	UC	4,C,*				4
		-000					
07320			* SET POINTER TO END OF CYL 23				
07330	LOOPA	TF	LISTER,END23	05888	26	09661	06921
07340	LOOPB	TFM	RLGONE+30,**20	05900	16	09644	-5420
07350		B	FIND	05912	49	09540	CC000
07360		DORG	**3	05920			
07370		TFM	LISTER,9200,8	05920	16	09665	0R200
07380		BT	GETR,GETR-1	05932	27	09520	09519
07390	LOOP1	CM	LISTER-3,7,1011	05944	14	09651	000-P
07400		BE	**24	05956	46	09332	01200
07410		CM	LISTER,C003,8	05968	14	09654	0-003
07420		BNE	LOOP2	05980	47	06024	01200
07430	LOOP3	BT	REMOVE,REMOVE-1,, REMOVE DIM TABLE ENTRIES	05992	27	09560	09559
07440		BT	INSERT,INSERT-1	06004	27	09580	09579
07450		B	LOUPL	06016	49	05944	00000
07460		DORG	**3	06024			
07470	LOOP2	CM	LISTER,C002,8	06024	14	09654	0-002
07480		DE	LOOP5	06036	46	06164	01200
07490		CM	LISTER-3,9,1011	06048	14	09651	000-R
07500		BNE	LOOP4	06060	47	06240	01200
07510		CM	LISTER,9200,8, HAVE WE ERASED ALL PROGRAMS	06072	14	09654	0R200
07520		HE	SETKEY	06084	46	06456	01200
07530		BT	GETR,GETR-1	06096	27	09520	09519
07540		CM	LISTER-3,7,1011	06108	14	09651	000-P
07550		HNE	LOOP4	06120	47	06240	01200
07560		BT	GETL,GETL-1	06132	27	09500	09499
07570		BT	REMOVE,REMOVE-1	06144	27	09560	09559
07580		H	SETKEY	06156	49	06456	CC000
07590		DORG	**3	06164			

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07600	LOOP5	BT	GETL,GETL-1	06164	27	09500	09499
07610		CM	LISTER-3,9,1011, IS THIS A NININES INDICATOR	06176	14	09651	000-R
07620		BNE	LOOP6	06188	47	06220	01200
07630		BT	REMOVE,REMOVE-1	06200	27	09560	09559
07640		B	LOOP5	06212	49	06164	00000
07650		DORG	**3	06220			
07660	LOOP6	BT	GETR,GETR-1	06220	27	09520	09519
07670		B	LOOP3	06232	49	05992	CC000
07680		DORG	**3	06240			
07690	LOOP4	TF	NEWDIM,LISTER	06240	26	09649	09654
07700		BT	DIMMER,DIMMER-1	06252	27	09600	09599
07710		MM	19883,05,10, CALCULATE SIZE OF ODD NINES ENTRY	06264	13	19883	000-5
07720		TDM	19883,1,11	06276	15	19883	CC00J
07730		BD	**24,99	06288	43	06312	00099
07740		TDM	19883,0,11	06300	15	19883	0000-
07750		TF	LOOP7+11,19885	06312	26	06347	19885
07760		CF	**21	06324	33	06345	CC000
07770	KEY1	US	,*	06335			0
07780	LOOP7	TFM	LISTER,9000,8	06336	16	09665	0R000
07790		BT	GETL,GETL-1	06348	27	09500	09499
07800		CM	LISTER-3,9,1011	06360	14	09651	000-R
07810		BNE	**36	06372	47	06408	01200
07820		BT	REMOVE,REMOVE-1,, REMOVE THE NINES RECORD	06384	27	09560	09559
07830		B	**48	06396	49	06348	CC000
07840		BT	GETR,GETR-1	06408	27	09520	09519
07850		CM	LISTER,9000,8	06420	14	09665	0R000
07860		BE	**24	06432	46	06456	01200
07870		BT	INSERT,INSERT-1	06444	27	09580	09579
07880	SETKEY	SF	KEY1	06456	32	06335	00000
07890	NMTOT	DC	5,0,*	06467			5
		-0000					
07900		TF	NMTOT,DL	06468	26	06467	06715
07910		A	NMTOT,EL	06480	21	06467	05887
07920		TFM	LOOP8+11,RETURN,, PREPARE TO REPOSITION THE LISTER THROUGH	06492	16	05911	-6512
07930		B	LOOPA	06504	49	05888	00000
07940		DORG	**3	06512			
07950	RETURN	BT	GETR,GETR-1	06512	27	09520	09519
07960		CM	LISTER-3,7,1011	06524	14	09651	000-P
07970		BE	RETURN	06536	46	06512	01200
07980		SF	LISTER-2	06548	32	09652	00000
07990		A	ACCUM,LISTER,, ACCUMULATE THE NUMBER OF SECTORS FILLED	06560	21	05863	09654
08000		CF	LISTER-2	06572	33	09652	00000
08010		BT	REMOVE,REMOVE-1	06584	27	09560	09559
08020		BNF	ELCHK,KEY1	06596	44	06756	06335
08030		TFM	LISTER,C003,8	06608	16	09665	0-003
08040		BT	INSERT,INSERT-1	06620	27	09580	09579
08050		SM	DL,200,9	06632	12	06715	00K00
08060		BH	RETURN,, RETURN TO FILL IN MORE DIM TABLE ENTRIES	06644	46	06512	01100
08070		BE	CLFLAG	06656	46	06736	01200
08080		A	EL,DL	06668	21	05887	06715
08090		TFM	LISTER,0002,8	06680	16	09665	0-002
08100		BT	INSERT,INSERT-1	06692	27	09580	09579
08110		CF	KEY1	06704	33	06335	00000
08120	DL	DC	4,0,*	06715			4
		-000					
08130		BNF	RETURN,EL	06716	44	06512	05887

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08140	B	COMPEL+24	06728	49	06804	00000
08150	DORG	*-3	06736			
08160	CLFLAG	CF KEY1	06736	33	06335	CC000
08170	B	RETRN	06748	49	06512	C0000
08180	DORG	*-3	06756			
08190	ELCHECK	TFM LISTET,0002,8, PREPARE TO INSERT THE EQV TABLE ENTRIES	06756	16	09665	0-002
08200	BT	INSERT,INSERT-1	06768	27	09580	C9579
08210	COMPEL	SM EL,200,9	06780	12	05887	C0K00
08220	BH	RETRN	06792	46	06512	01100
08230	S	ACCLM,NNTOT	06804	22	05863	06667
08240	BE	OUTSYD	06816	46	06922	01200
08250	TDM	ACCUM-3,9,11	06828	19	05860	0000R
08260	TF	LISTET,ACCUM	06840	26	09665	05863
08270	OT	INSERT,INSERT-1	06852	27	09580	C9579
08280	B	OUTSYD	06864	49	06922	00000
08290	DORG	*-3	06872			
08300	LNGHFF	CM CALC7,009,9, DOES THE EQUIVALECE TABLE MEET MINIMUM STANDA	06872	14	02921	00-09
08310	BNL	TABA	06884	46	05694	01300
08320	TFM	DIMERR+22,7078,8	06896	16	02675	0P078
08330	B	ERRD	06908	49	02690	C0000
08340	DORG	*-3	06916			
08350	END23	DC 6,104799	06921		6	
		J04799				
08360	OUTSYD	TFM IORT,++23,, BRING IN AND EXECUTE PHASE3	06922	16	00565	-6945
08370	B	IOGT,TRWAA,7	06934	49	00566	-6946
08380	TRWAA	DSC 2,-22	06946		2	
		2K				
08390	DSA	TRWBB	06952		5 X	1
			06952		-6954	
08400	DC	1,1	06953		1	
08410	TRWBB	DSC 1,1	06954		1	
08420	DC	5,17084	06954		5	
		J7084				
08430	DC	3,022	06962		3	
		-22				
08440	DSA	PHASE3	06967		5 X	1
			06967		-5200	
08450	DC	1,1	06968		1	
08460	SARN	TFM IORT,++23,, TRN-TCD TO THROW PHASE2 TO DISK WHILE LOADING	06970	16	00565	-6993
08470	B	IOPT,SARD,7	06982	49	00532	-7018
08480	TRA		06994	36	C0000	00500
			07006	49	00000	00000
08490	SARD	DSC 2,22	07018		2	
		22				
08500	DSA	SARP	07024		5 X	1
			07024		-7026	
08510	DC	1,1	07025		1	
08520	SARP	DSC 1,1	07026		1	

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08530	DC	5,18174	07031		5	
		J8174				
08540	DC	3,023	07034		3	
		-23				
08550	DC	5,05600	07039		5	
		-5600				
08560	DC	1,1	07040		1	
08570	TCD	SARN	06970			
			05200			
08580	DORG	05200	05200	25	05459	09345
08590	PHASE3	TD PATCH,DUPCRD+58,,LENGTH OF SPL LIST	05212	25	05458	09343
08600	TD	PATCH-1,DUPCRD+56	05224	25	05457	09341
08610	TD	PATCH-2,DUPCRD+54	05236	32	05457	00000
08620	SF	PATCH-2	05248	14	05459	00-00
08630	CH	PATCH,C00,9	05260	46	06280	01200
08640	BE	ACTP	05272	16	09661	-0000
08650	TFM	LISTES,,,	05284	15	09656	00001
08660	TDM	LISTES-5,1,11	05296	16	09664	-5316
08670	TFM	RLGONE+30,++20	05308	49	09540	00000
08680	B	FIND,,, BRING IN THE SPL FOR SOME OBSERVATION	05316			
08690	DORG	*-3	05316	32	04370	00000
08700	SF	DUPCRD+33	05326	14	09371	000-0
08710	CH	DUPCRD+34,00,10	05340	47	05388	01200
08720	BNE	*+48	05352	16	00565	-5375
08730	TFM	IORT,++23	05364	49	06566	-6924
08740	B	IOGT,LDX,7	05376	25	04371	05249
08750	TD	DUPCRD+34,CS+49	05386	16	05423	-9800
08760	TFM	*+35,09800,7	05400	11	05423	000-4
08770	AM	*+23,04,10	05412	45	05400	99999
08780	BNR	*-12,99999,, FIND THE END OF THE SPL	05424	11	05423	000-4
08790	AM	*-1,04,10	05436	12	05423	-9800
08800	SM	*-13,9800,7	05448	14	05421	-5459
08810	CM	*-27,PATCH	05459		3	
08820	PATCH	DC 3,0,*				
		-00				
08830	BNH	*+32	05460	47	05492	C1100
08840	TFM	DIMERR+22,7178,8, SPL LIST IS REDEFINED LESS THAN NEEDED	05472	16	02675	0P178
08850	B	ERRD	05484	49	02690	C0000
08860	DORG	*-3	05492			
08870	TF	CONST5,PATCH	05492	26	02898	05459
08880	TF	CALC9,PATCH	05504	26	02863	05459
08890	CM	PATCH,00,9	05516	14	05459	00-80
08900	BNH	ACTN	05528	47	05560	01100
08910	TFM	DIMERR+22,7174,8	05540	16	02675	0P174
08920	B	ERRD	05552	49	02690	C0000
08930	DORG	*-3	05560			
08940	***	ROUTINE TO UPDATE THE SPL ENTRY FOR ITSELF				
08950	ACTN	TFM LISTES,19801	05560	16	09661	J9601
08960	TDM	LISTES-5,1,11	05572	15	09656	0000J
08970	TDM	DUPCRD+33,,11, FLAG ZERO	05584	15	09370	0000-
08980	TF	CURREN-1,DUPCRD+34	05596	26	05144	09371
08990	TFM	NEWDIM,C004,8	05608	16	09649	0-004
09000	BT	DIMMER,DIMMER-1	05620	27	09600	09599
09010	C	CONST5,19888	05632	24	02898	19888
09020	BE	ACTP	05644	46	06280	C1200

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09030	ACCT	TF	CONST6,19888	05656	26	02904	19888
09040		TF	19888,CALC9	05668	26	19888	02863
09050		TFM	IORT,++23	05680	16	00565	-5703
09060		B	IOPT,DMDDA,7, CORRECT SPL ENTRY CN DISK	05692	49	00532	-2580
09070		TF	CONST5,CALC9	05704	26	02498	02863
09080		TFM	GDUNY+6,++20	05716	16	09644	-5736
09090		B	FIND	05728	49	09540	00000
09100		DORG	*-3	05736			
09110		BT	GETR,GETR-1	05748	27	04520	04519
09120		C	CONST5,CONST6,, IS THE NEW LIST LONGER OR SHORTER	05760	24	02898	02904
09130		BL	ACTQ	05772	47	05864	01300
09140		S	CONST5,CONST6	05784	22	02898	02904
09150		S	LISTER,CONST5	05796	26	09665	09654
09160		TF	LISTER,LISTER	05808	27	09560	09559
09170		BT	REMOVE,REMOVE-1	05820	14	09665	09000
09180		CM	LISTER,9000,8	05832	46	05856	01200
09190		BE	*+24	05844	27	09580	09579
09200		BT	INSERT,INSERT-1,, PLACE THE CORRECT BLANK SECTOR IN THE LIS	05856	49	06004	00000
09210		B	MODS2	05864			
09220		DORG	*-3	05864			
09230	ACTQ	S	CONST6,CONST5	05864	22	02904	02898
09240		CM	LISTER-3,7,1011	05876	14	09651	000-P
09250		BNH	ACTR	05888	47	05956	01100
09260		TF	*+35,CONST6	05900	26	05935	02904
09270		CF	*+21	05912	33	05933	00000
09280		TFM	LISTER,9000,8	05924	16	09665	09000
09290		BT	INSERT,INSERT-1	05936	27	09580	09579
09300		B	MODS2	05948	49	06004	00000
09310		DORG	*-3	05956			
09320	ACTR	A	LISTER,CONST6,, INCREASE THE BLANK SECTOR COUNT	05956	21	09654	02904
09330		TF	LISTER,LISTER	05968	26	09665	09654
09340		BT	REMOVE,REMOVE-1	05980	27	09560	09559
09350		BT	INSERT,INSERT-1	05992	27	09580	09579
09360	MODS2	CM	CURREN-1,01,10	06004	14	05144	000-1
09370		BE	ACTP	06016	46	06280	01200
09380		CM	CURREN-1,02,10	06028	14	05144	000-2
09390		BE	ACT2	06040	46	06212	01200
09400		CM	CURREN-1,03,10	06052	14	05144	000-3
09410		BE	ACT3	06064	46	06144	01200
09420		TFM	NEWDIM,0007,8, SET UP ON MODULE THREE	06076	16	09649	0-007
09430		BT	DIMMER,DIMMER-1	06088	27	09600	09599
09440		TF	LISTES,19885	06100	26	09661	19885
09450		TD	LISTES-5,19880	06112	25	09656	19880
09460		TDM	CURREN-1,3,,	06124	15	05144	00003
09470		B	ACTT	06136	49	05656	00000
09480		DORG	*-3	06144			
09490	ACT3	TFM	NEWDIM,0006,8	06144	16	09649	0-006
09500		BT	DIMMER,DIMMER-1	06156	27	09600	09599
09510		TF	LISTES,19885,, FIND END OF OLD LISTS	06168	26	09661	19885
09520		TD	LISTES-5,19880	06180	25	09656	19880
09530		TDM	CURREN-1,2,,	06192	15	05144	00002
09540		B	ACTT	06204	49	05656	00000
09550		DORG	*-3	06212			
09560	ACT2	TFM	NEWDIM,0005,8	06212	16	09649	0-005
09570		BT	DIMMER,DIMMER-1	06224	27	09600	09599
09580		TF	LISTES,19885	06236	26	09661	19885

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09590		TD	LISTES-5,19880	06248	25	09656	19880
09600		TDM	CURREN-1,1,,	06260	15	05144	00001
09610		B	ACTT	06272	49	05656	00000
09620		DORG	*-3	06280			
09630	ACTP	TFM	IORT,++23,, BRING IN THE COMMUNICATION SECTOR	06280	16	00565	-6303
09640		B	IOGT,LDX,7	06292	49	00566	-6924
09650	***	ROUTINE FOR TRANSFERING THE CONTROL CHARACTERS IF PRESENT					
09660	***	TO THE COMMUNICATION SECTOR AND SETTING FLAGS IF NECESSARY					
09670		SF	DUPCRD+71	06304	32	09408	00000
09680		CM	DUPCRD+74,0000,8,	06316	14	09411	0-000
09690		BE	*+48	06328	46	06376	01200
09700		TD	CS+40,DUPCRD+72	06340	25	05240	09409
09710		TD	CS+41,DUPCRD+74	06352	25	05241	09411
09720		SF	CS+40	06364	32	05240	00000
09721		SF	DUPCRD+77	06376	32	09414	00000
09722		CM	DUPCRD+80,0000,8	06388	14	09417	0-000
09723		BE	*+48	06400	46	06448	01200
09724		TD	CS+42,DUPCRD+78	06412	25	05242	09415
09725		TD	CS+43,DUPCRD+80	06424	25	05243	09417
09726		SF	CS+42	06436	32	05242	00000
09730		SF	DUPCRD+83	06448	32	09420	00000
09740		CM	DUPCRD+84,00,10	06460	14	09421	000-0
09750		BE	*+24	06472	46	06496	01200
09760		TD	CS+44,DUPCRD+84	06484	25	05244	09421
09770		SF	DUPCRD+87	06496	32	09424	00000
09780		CM	DUPCRD+90,0000,8	06508	14	09427	0-000
09790		BE	*+48	06520	46	06568	01200
09800		TD	CS+45,DUPCRD+88	06532	25	05245	09425
09810		TD	CS+46,DUPCRD+90	06544	25	05246	09427
09820		SF	CS+45	06556	32	05245	00000
09830		SF	DUPCRD+93	06568	32	09430	00000
09840		CM	DUPCRD+96,0000,8	06580	14	09433	0-000
09850		BE	*+48	06592	46	06640	01200
09860		TD	CS+47,DUPCRD+94	06604	25	05247	09431
09870		TD	CS+48,DUPCRD+96	06616	25	05248	09433
09880		SF	CS+47	06628	32	05247	00000
09890		SF	DUPCRD+33	06640	32	09370	00000
09900		CM	DUPCRD+34,00,10	06652	14	09371	000-0
09910		BE	*+24	06664	46	06688	01200
09920		TD	CS+49,DUPCRD+34	06676	25	05249	09371
09930		SF	DUPCRD+99	06688	32	09436	00000
09940		CM	DUPCRD+100,00,10	06700	14	09437	000-0
09950		BE	*+24	06712	46	06736	01200
09960		TD	CS+73,DUPCRD+100	06724	25	05273	09437
09970		SF	DUPCRD+103	06736	32	09440	00000
09980		CM	DUPCRD+104,00,10	06748	14	09441	000-0
09990		BE	*+36	06760	46	06796	01200
10000		TD	CS+76,DUPCRD+104	06772	25	05276	09441
10010		SF	CS+76	06784	32	05276	00000
1007C		SF	DUPCRD+111	06796	32	09448	00000
10080		CM	DUPCRD+112,00,10	06808	14	09449	000-0
10090		BE	*+24	06820	46	06844	01200
10100		TD	CS+83,DUPCRD+112	06832	25	05283	09449
10101		SF	DUPCRD+115	06844	32	09452	00000
10102		CM	DUPCRD+116,,10	06856	14	09453	000-0
10103		BE	*+24	06868	46	06892	01200

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10104	TD	CS+65,DUPCRD+116	06880	25	05265	09453
10110	TFM	IOPT,++23	06892	16	00565	-6915
10120	B	IOPT,LDX,7,, PLACE THE COMMUNICATION SECTOR BACK ON DISK	06904	49	00532	-6924
10130	B	MONITR	06916	49	06948	00000
10140	DORG	=-3	06924			
10150	LDX	DSC 2,22,, DDA FOR THE COMMUNICATION SECTOR	06930			2
		22				
10160	DSA	FIELDX	06930		5 X	1
			06931		-6932	
10170	DC	1,1			1	
10180	CS	DSS 100,05200	06932		100	
10190	FIELDX	DSC 1,0			1	
		0				
10200	DC	5,19663	06937		5	
		J9663				
10210	DC	3,001	06940		3	
		-01				
10220	DSA	CS	06945		5 X	1
			06945		-5200	
10230	DC	1,1	06946		1	
10240	***	ROUTINE FOR WRITING BACK THE SPL TO THE PROPER PACK BEFORE				
10250	***	EXITING TO MONITOR				
10260	MONITR	CM PACK,00,1011, PACK ZERO	06946	14	02856	000--
10270	BE	RITSP0	06960	46	07052	01200
10280	CM	PACK,01,1011,PACK ONE	06972	14	02856	000-J
10290	BE	RITSP1	06984	46	07084	01200
10300	CM	PACK,02,1011, PACK TWO	06996	14	02856	000-K
10310	BE	RITSP2	07008	46	07116	01200
10320	CM	PACK,03,1011	07020	14	02856	000-L
10330	BE	RITSP3	07032	46	07148	01200
10340	B	WHYNOT	07044	49	07172	00000
10350	DORG	=-3	07052			
10360	RITSP0	TFM IOPT,++23	07052	16	00565	-7075
10370	B	IOPT,PKODDA,7	07064	49	00532	-2734
10380	B	WHYNOT	07076	49	07172	00000
10390	DORG	=-3	07084			
10400	RITSP1	TFM IOPT,++23	07084	16	00565	-7107
10410	B	IOPT,PK10DA,7	07096	49	00532	-2757
10420	B	WHYNOT	07108	49	07172	00000
10430	DORG	=-3	07116			
10440	RITSP2	TFM IOPT,++23	07116	16	00565	-7139
10450	B	IOPT,PK20DA,7	07128	49	00532	-2780
10460	B	WHYNOT	07140	49	07172	00000
10470	DORG	=-3	07148			
10480	RITSP3	TFM IOPT,++23	07148	16	00565	-7171
10490	B	IOPT,PK30DA,7	07160	49	00532	-2803
10500	WHYNOT	TDM 475,3	07172	15	00475	00003
10510	B	796,,,MONCAL	07184	49	00796	00000
10520	DORG	=-3	07192			
10530	DDFIN1	TFM IOPT,++23,, LINKAGE FOR THROWING PHASE3 TO DISK	07192	16	00565	-7215
10540	B	IOPT,DDFIN2,7	07204	49	00532	-7240
10550	TRA		07216	36	00000	00500

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10560	DDFIN2	DSC 2,22	07228	49	00000	00000
		22	07240		2	
10570	DSA	DDFIN3	07246		5 X	1
			07246		-7248	
10580	DC	1,1	07247		1	
10590	DDFIN3	DSC 1,1	07248		1	
		1				
10600	DC	5,17084	07253		5	
		J7084				
10610	CC	3,022	07256		3	
		-22				
10620	DC	5,05200	07261		5	
		-5200				
10630	DC	1,1	07262		1	
10640	TCD	DDFIN1	07192			
10650	***	SECONDARY LINKAGE FOR THE FIND,GETL,GETR,REMOVE,INSERT				
10660	***	PROGRAMS TO SEE IF THE ROUTINES ARE PRESENTLY IN CORE				
10670	DORG	9500	09500			
10680	GETL	TFM CHEX+6,GETLTR	09500	16	09722	-3030
10690	B	INCORE	09512	49	09668	00000
10700	DORG	=-3	09520			
10710	GETR	TFM CHEX+6,GETRTR	09520	16	09722	-2956
10720	B	INCORE	09532	49	09668	00000
10730	DORG	=-3	09540			
10740	FIND	TFM CHEX+6,FINDTR	09540	16	09722	-3440
10750	B	INCORE	09552	49	09668	00000
10760	DORG	=-3	09560			
10770	REMOVE	TFM CHEX+6,REMOVR	09560	16	09722	-3104
10780	B	INCORE	09572	49	09668	00000
10790	DORG	=-3	09580			
10800	INSERT	TFM CHEX+6,INSETR	09580	16	09722	-3190
10810	B	INCORE	09592	49	09668	00000
10820	DORG	=-3	09600			
10830	DIMMR	TFM CHEX+6,DIMMTR	09600	16	09722	-2458
10840	B	INCORE	09612	49	09668	00000
10850	DORG	=-3	09620			
10860	MOVESA	DC 6,0,,FOR SECTOR ADDRESS	09620		6	
		-0000				
10870	MOVESC	DC 3,0,,FOR SECTOR COUNT	09628		3	
		-00				
10880	EXITMR	B 99999	09630	49	99999	00000
10890	DORG	=-3	09638			
10900	GOONY	B 99999	09638	49	99999	00000
10910	DORG	=-3	09646			
10920	NEWDIM	DC 4,0	09649		4	
		-000				
10930	DC	1,0,, FOR COMPARING AT LISTER-3	09650		1	
		-				
10940	LISTER	DC 4,0	09654		4	
		-000				
10950	DC	1,0,, TO SET-UP LISTES OVERRIDE CODE	09655		1	
		-				

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10960	LISTES	DC	6,0		09661		6	
			-00000					
10970	L1STET	DC	4,0		09665		4	
			-000					
10980	LAYSPL	DC	1,0		09666		1	
			-					
10990	INCORE	BNF	CHEX,LAYSPL,, IS THE ROUTINE ALREADY IN CORE		09668	44	09716	09666
11000	TFM		IORT,++23		09680	16	00565	-9703
11010	B		IOGT,SPL1,7		09692	49	00566	-9724
11020	CF		LAYSPL		09704	33	09666	00000
11030	CHEX	B	99999		09716	49	99999	00000
11040	DORG		=-3		09724			
11050	RLGONE	DS	,GOONY-24		09614		0	
11060	SPL1	DSC	2,22,, DDA FOR BRINGING IN THE SACRED SIX		09724		2	
			22					
11070	DSA	SPL2			09730		5 X	1
					09730		-9732	
11080	DC		1,1		09731		1	
11090	SPL2	DSC	1,1		09732		1	
			1					
11100	DC		5,19330		09737		5	
			J9330					
11110	DC		3,025		09740		3	
			-25					
11120	DC		6,02450'		09746		6	
			-2450'					
11130	GREAT1	TFM	IORT,++23,, TRA-TCD FOR THROWING THE SECONDARY LINKAGE TO D		09748	16	00565	-9771
11140	B		IOPT,GREAT2,7		09760	49	00532	-9796
11150	TRA				09772	36	00000	00500
					09784	49	00000	00000
11160	GREAT2	DSC	2,22		09796		2	
			22					
11170	DSA	GREAT3			09802		5 X	1
					09802		-9804	
11180	DC		1,1		09803		1	
11190	GREAT3	DSC	1,1		09804		1	
			1					
11200	DC		5,18197		09809		5	
			J8197					
11210	DC		3,003		09812		3	
			-03					
11220	DC		6,09500'		09818		6	
			-9500'					
11230	TCD	GREAT1			09748			
11240	DEND	0			00000			

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ADDBLK	03912	GETRTR	02956	REDSPL	04624	GETL	09500	SPL2	09732
ADRSPL	02840	GREAT1	09748	REDSPL	04220	GETR	09520	SPLFL	04800
BAVAIL	02830	GREAT2	09796	REMOVR	03104	GOONY	09638	SPLR1	04848
CL EVER	02827	GREAT3	09804	REMOVE	09560	HERO	07320	SPLR2	04863
CLFLAG	06736	INCORE	09668	REPACK	02852	HEX	02868	SPDR	04480
CDMMON	02926	INSERT	09580	RETURN	06512	IOGT	00566	STEAL	02918
CDMPEL	06780	INSETR	03190	RITSP0	07052	IOPT	00532	TABB	05696
CONST1	02874	JANITO	07676	RITSP1	07084	IORT	00565	TABB	05816
CONST2	02880	LAYSPL	09666	RITSP2	07114	KEY1	06335	TABC	05064
CONST3	05130	LENLIS	05840	RITSP3	07148	KEY5	05149	TIPSY	03224
CONST5	02898	LENSCT	05450	RLGONE	09614	LDX	06924	TRWAA	06946
CONST6	02904	LISTER	09654	ROMENF	05718	LIMIT	05148	TRWBB	06954
CONST7	02910	LISTES	09661	AAA	06660	LOOP1	05944	SANDOR	05402
CONST8	02934	LISTET	09665	ACCUM	05863	LOOP2	04024	SCRASN	05762
CONTIN	07236	LNGNFF	06872	ACT2	06212	LOOP3	05992	SETKEY	06456
CORSIZ	02627	LOUNGE	06214	ACT3	06144	LOOP4	06240	SLDEQV	05087
CURREN	05145	MELAMC	07792	ACTN	05560	LOOP5	06164	SLEEPY	06074
DDFIN1	07192	MONITR	06948	ACTP	06280	LOOP6	06220	SLIPRY	05056
DDFIN2	07240	MOVESA	09625	ACTQ	05864	LOOP7	06336	SPLCOR	02850
DDFIN3	07248	MOVESC	09628	ACTR	05956	LOOPA	05888	SPLCYL	02845
DDFIN4	08448	N48000	02624	ACTT	06456	LOOPB	05900	SPLXET	03484
DDFIN5	08496	NENDIM	09649	BBB	05804	LUCKY	06154	SPLINI	04116
DDFIN6	08504	NMTOT	06649	CALC2	02613	MODS2	06004	SPLIST	03956
QIMERR	02653	NOMMON	02928	CALC3	02608	NERR	03354	SPLPK0	02742
DIMMER	09600	NOSECA	02929	CALC4	02867	NMTOT	06467	SPLPK1	02765
DIMMTR	02458	NUMMOD	06422	CALC7	02921	ODIM	06456	SPLPK2	02788
DMREAD	02588	NURSES	07888	CALC9	02863	OEQV	06659	SPLPK3	02811
DRESTR	02618	OLDTOT	06653	CHEX	09716	PACK	02856	STARDT	04164
DUMDIM	08076	OUTSYD	06922	CLUCK	04128	PATCH	05459	THRDDA	02628
DUPCRD	09337	PHASE2	05600	CS	05200	QHOLD	02892	THROWS	02636
ELCHECK	06756	PHASE3	05200	DFINE	05174	SARB	05150	TLDEQV	05110
EQVLEN	08400	PKODDA	02734	DL	06715	SARC	05158	TRWLD	05079
ERROR1	05698	PKLDDA	02757	DMDDA	02580	SARF	08176	TRWTL0	05102
ERROR8	07216	PKZDDA	02780	DOC	05958	SARM	08184	TRYAGN	03604
ERRRIT	02936	PKZDDA	02803	EL	05887	SARI	07996	UNPACK	02854
EXITMR	09630	PKROOM	05606	ENO23	06921	SARJ	07100	WHYNGT	07172
FAKSEY	02925	PLUSRR	03868	ENUFF	06026	SARK	08424	WRTSP0	04360
FIELDM	06932	QCARRY	02886	ERR23	06282	SARL	08432	WRTSP1	04392
FINDTR	03440	RACKET	02914	ERRD	02690	SARN	06970	WRTSP2	04424
FIXEQV	05878	REDSPO	04660	ESOR	06930	SARQ	07018	WRTSP3	04456
FIXSUP	06302	REDSPL	04712	FIND	09540	SARP	07026	ZERDES	05140
GETLTR	03030	REDSPL2	04756	FOUND	02835	SPL1	09724		

END OF ONE ASSEMBLY.

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00010* THIS PROGRAM WILL LOAD MONITOR 1 SYSTEM TO DISK
00020* FORMAT FOR CNTR CD IS *LDCNTR NAMEPR SSSSSS EEEEE NM MNS
00030 DORG 7404
00040 STAR TR 3972,NAM-1
00050 RACD 3973,,, RAPT IF PAPER TP *****
00060 TFM TD1+6,4000
00070 TFM TD1+11,4003
00080 SF 3972
00090 SF 3988
00100 BNR **20,3983
00110 B7 ERMI
00120 C 3983,LDCNTR+12
00130 BNE ERMI
00140 TD1 TD 4000,4003,27
00150 AM TD1+6,1
00160 AM TD1+11,2
00170 CM TD1+6,4067
00180 BNE TD1,,, CONVERT CNTRL CD TO NUMERIC
00190 SF1 SF 4001,,, SET FIELD FLAG ON SECTOR ADDR
00200 SF 4008,,, AND ON SECTOR COUNT
00210 TEMPSC DS ,SF+11
00220 SF 4014
00230 S 4012,4005
00240 BL ERMI
00250 TDM 4006,0,,, PLACE REC MK FOR TR
00260 DC 1,2,*
00270 TR DSKOUT,4000
00280 AM 4012,1
00290 TF TOTSEC,4012,,, SAVE TOTAL SECTOR COUNT
00300 TFM TEMPSC,0
00310 SF 4060
00320 TF CM+11,4064
00330 TF CM+V,4016
00340 AM CM+11,1
00350 INITZ TFM DSKOUT+8,0,9, MAKE SECTOR CNT ZERO
00360 TFM DSKOUT+13,5000
00370 TD MNP+1,1,,, MAKE WLRC SW INTO MDP
00380*
00390* READ INPUT FOR DISK LOAD
00400*
00410 COINI TFM RC+6,5000
00420 TFM CM+6,5079
00430 RC RNCD 5000,,2, RNPT IF PAPER TAPE INPUT *****
00440 BI HALTRD,0600
00450 TF BF+11,CM+6,,, NOP IF P. T.
00460 SM BF+11,*,,,, NOP IF P. T.
00470 BF BNF CD1, 0,,, NOP IF PAPER TP *****
00480 CM 5079,1,27, COMPARE CD SEQ NOP IF TP*****
00490 BNE ERSEQ-12,,, NOP IF TP*****
00500 AM CM+11,1
00510 BD RDTAL,ERSEQ+10,,, BR TO READ TRAILER
00520 CM RC+6,5000,,,CK FOR FIRST CD OF SET
00530 BE ADJUST
07404
07404 31 03972 08866
07416 37 03973 00500
07428 16 07526 -4000
07440 16 07531 -4003
07452 32 03972 00000
07464 32 03988 00000
07476 45 07496 03983
07488 49 08042 00000
07496 24 03985 08041
07508 47 08042 01200
07520 25 -4000 -4003
07532 11 07526 -0001
07544 11 07531 -0002
07556 14 07526 -4067
07568 47 07520 01200
07580 32 04001 00000
07592 32 04008 00000
07591 00000
07604 32 04014 00000
07616 22 04012 04005
07628 47 08042 01300
07640 15 04006 00000
07651 00001
07652 31 09028 04000
07664 11 04012 -0001
07676 26 08511 04012
07688 16 07591 -0000
07700 32 04060 00000
07712 26 07879 04064
07724 26 07877 04016
07736 11 07879 -0001
07748 16 09036 00-00
07760 16 09041 -5000
07772 25 09287 00001
07784 16 07814 -5000
07796 16 07874 -5079
07808 36 -5000 00500
07820 48 07996 00600
07832 26 07867 07874
07844 12 07867 -0004
07856 44 08466 00000
07868 14 -5079 -0001
07880 47 08250 01200
07892 11 07879 -0001
07904 43 08488 08272
07916 14 07814 -5000
07928 46 08158 01200
    
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00540 CM RC+6,5075,,,2ND CD CK
00550 BE ADJUST
00560 CM RC+6,5150,,,3RD CD CK
00570 BE ADJUST
00580 B7 WRDSK,,, 4TH CD WAS READ, WRITE 3 SECTORS
00590*
00600 HALTRD WATY **15
00610 DAC 6,MRDER@
00620 B7 RC
00630*
00640 LDCNTR DAC 7,*LDCNTR
00650 ERMI RCTY
00660 WATY ERMHIGH
00670 M
00680 B7 STAR
00690 ERMHIGH DAC 36,CONTROL STATEMENT INVALID, RE-ENTER@
00700 ADJUST AM DSKOUT+8,1,9, INCREMENT SECTOR COUNT
00710 AM RC+6,75,,, INCREMENT READ-IN POINTER
00720 AM CM+6,75,,, INCREMENT SEQ NUM ADDRESS
00730 AM TEMPSC,1,,, ADD TO COUNT OF SECTORS USED
00740 C TOTSEC,TEMPSC,,, ALL SECTORS PREPARED FOR LOAD
00750 BNE RC,,, READ ANOTHER RECORD
00760 TDM ERSEQ+10,1,,, SET TERMINAL INDICATOR
00770 B7 RC
00780*
00790* SEQUENCE ERROR ROUTINE
00800*
00810 TFM SAVMS1+18,RC
00820 ERSEQ RCTY
00830 BD TRSEQ,ERSEQ+10
00840 TF WOUT+4,CM+6,11, TRANSFER WRONG SEQ NO. FOR PRINTING
00850 WNTY WOUT
00860 WATY ERR
00870 BI **12,0700
00880 SAVMS1 M
00890 B7 RC
00900 TRSEQ WATY TC
00910 B7 SAVMS1-12
00920 TC DAC 8,TRAILER ,
00930 ERR DAC 35, CARD SEQ ERROR, CORRECT AND START@
00940 WOUT DSC 6,00000@
00950*
00960*
00970* TRAILER CARD EARLY DETECTION ROUTINE
00980*
00990 CD1 TFM CM+6,0,67, SPECIAL SEQ NUM IF NON-SEQ AND NOT TRAILER
01000 B7 CM
01010*
01020*
01030 SKADR DC 3,999
01040*
01050* LAST CD READ AND CK
01060*
07940 14 07814 -5075
07952 48 08158 01200
07964 14 07814 -5150
07976 48 08158 01200
07988 49 09042 00000
07996 39 08011 00100
08009 00012
08020 49 07808 00000
08029 00014
08042 34 00000 00102
08054 39 08087 00100
08066 48 00000 00000
08078 49 07404 00000
08087 00072
08158 11 09036 00-01
08170 11 07814 -0075
08182 11 07874 -0075
08194 11 07591 -0001
08206 24 08511 07591
08218 47 07808 01200
08230 15 08272 00001
08242 49 07808 00000
08250 16 08352 -7808
08262 34 00000 00102
08274 43 08354 08272
08286 26 08464 07874
08298 38 08460 00100
08310 39 08391 00100
08322 46 08334 00700
08334 48 00000 00000
08346 49 07808 00000
08354 39 08375 00100
08366 49 08322 00000
08375 00016
08391 00070
08460 00006
08466 16 07874 -0000
08478 49 07868 00000
08487 00003
    
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MONITOR SYSTEM LOADER

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01070	RDTRL	RNCD	5311,,	READ TRAILER	RMPT IF PAPER TAPE *****	08488	36	05311	00500
01080	TOTSEC	DS	,RDTRL+23			08511	00000		
01090		SF	5311			08500	32	05311	00000
01100		TFM	SAVMS1+18,RDTRL			08512	16	08352	-8488
01110		C	5390,CM+11,,	NOP IF P. T. *****		08524	24	05390	07879
01120		BNE	ERSEQ,,,	NOP IF P. T. *****		08536	47	08262	01200
01130		BD	**40,5318			08548	43	08608	05318
01140		BD	**48,5317			08560	43	08608	05317
01150		BMR	**36,5316			08572	45	08608	05316
01160		CM	5315,99999			08584	14	05315	89999
01170		BE	WRDSK,,,	BR IF TRAILER OK		08596	46	09042	01200
01180*				ERROR NO TRAILER REC					
01190*									
01200	ERTR	RCTY				08608	34	00000	00102
01210		WATY	NOTRL			08620	39	08713	00100
01220		RCTY				08632	34	00000	00102
01230		WATY	NOTRL2			08644	39	08807	00100
01240		RCTY				08656	34	00000	00102
01250		BI	**12,0700			08668	46	08680	00700
01260		TDM	ERSEQ+10,0			08680	15	08272	00000
01270		H				08692	48	00000	00000
01280		B7	ERTR			08704	49	08608	00000
01290	NOTRL	DAC	47,NO TRAILER REC. CORRECT, RE-LOAD COMPLETE DECK			08713	00094		
01300	NOTRL2	DAC	30,WITH CNTR REC, AND BR TO 74048			08807	00060		
01310*									
01320	NAM	DAC	50,			08867	00100		
01330		DAC	31,			08967	00062		
01340	DSKOUT	DSS	6			09028	00006		
01350		DC	3,0			09036	00003		
01360		DSA	5000			09041	00005	-5000	
01370*				WRITE DISK ROUTINE					
01380	WRDSK	C	DSKOUT+3,SKADR,,	CK FOR SEEK NEEDED		09042	24	09031	08487
01390		BE	**36			09054	46	09090	01200
01400	SKI	SK	DSKOUT			09066	34	09028	00701
01410		TF	SKADR, DSKOUT+3,,	SAVE SEEK ADDRESS		09078	26	08487	09031
01420		WDM	DSKOUT			09090	38	09028	00702
01430		CDM	DSKOUT			09102	36	09028	00703
01440		BI	ASC,3800,,	BR OVERFLOW		09114	46	09452	03800
01450		BI	TEST,1900,,	BR ANY OTHER ERROR		09126	46	09214	01900
01460		BMI	SM2,1900,,	BR NO ERRORS		09138	47	09182	01900
01470	M2	H				09150	48	00000	00000
01480		BI	**12,0700			09162	46	09174	00700
01490		B7	SKI			09174	49	09066	00000
01500	SM2	A	DSKOUT+5,DSKOUT+8,,	ADD NUMB SECT WRITTEN TO SECTOR ADDR		09182	21	09033	09036
01510		BD	END,ERSEQ+10,,	BRANCH IF LAST WRITE		09194	43	09508	08272
01520		B7	INITZ,,	BRANCH IF NOT LAST WRITE		09206	49	07748	00000
01530*									
01540	TEST	BI	**12,0600			09214	46	09226	00600
01550		BI	**12,0700			09226	46	09238	00700
01560		BI	**12,1600			09238	46	09250	01600
01570		BI	**12,1700			09250	46	09262	01700
01580		BI	**12,3600			09262	46	09274	03600
01590		BI	**12,3700			09274	46	09286	03700

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MONITOR SYSTEM LOADER

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01600*				WRONG LEN REC CK ROUTINE					
01610	NOP	NOP	OMESEC,,,	NOP 1ST TIME, BRANCH 2ND TIME		09286	41	09318	00000
01620		TD	NOP+1,9			09298	25	09287	00009
01630		B7	SKI			09310	49	09066	00000
01640	OMESEC	TDM	NOP+1,1			09318	15	09287	00001
01650		RCTY				09330	34	00000	00102
01660		WATY	DERR			09342	39	09387	00100
01670		BI	**12,0700			09354	46	09366	00700
01680		H				09366	48	00000	00000
01690		B7	SKI			09378	49	09066	00000
01700	DERR	DAC	33,DISK RD WR ERROR, START TO RETRY			09387	00066		
01710*									
01720*				OVERFLOW ROUTINE					
01730	ASC	BI	M2,1900,,	BR IF OTHER ERROR ALSO		09452	46	09150	01900
01740		AM	DSKOUT+13,100,,	INCREMENT CORE WRITE-OUT ADDRESS		09464	11	09041	-0100
01750		AM	DSKOUT+5,1,,	INCREMENT SECTOR ADDR		09476	11	09033	-0001
01760		SM	DSKOUT+8,1,9			09488	12	09036	00-01
01770		B7	SKI			09500	49	09066	00000
01780*									
01790*				END ROUTINE					
01800*									
01810	END	TDM	ERSEQ+10,0			09508	15	08272	00000
01820		TF	LDMESS+10,3999,,	GET NAME INTO MESSAGE		09520	24	09717	03999
01830		RCTY				09532	34	00000	00102
01840		WATY	LDMESS			09544	39	09707	00100
01850		BI	**12,0700			09556	46	09568	00700
01860		TDM	4006,0			09568	15	04006	00000
01870		DC	1,8,*			09579	00001		
01880		WNTY	4000			09580	38	04000	00100
01890		BI	**12,0700			09592	46	09604	00700
01900		A	4005,TOTSEC,,	PREPARE FINAL SECTOR TYPEOUT		09604	21	04005	08511
01910		SM	4005,1,,			09616	12	04005	-0001
01920		WNTY	LDMESS2			09628	39	09697	00100
01930		WNTY	4000			09640	38	04000	00100
01940		BI	**12,0700			09652	46	09664	00700
01950		BC1	**24			09664	46	09688	00100
01960	SAVMS	H				09676	48	00000	00000
01970		B7	STAR			09688	49	07404	00000
01980*									
01990	LDMESS2	DAC	5, TO 2			09697	00010		
02000	LDMESS	DAC	20,AAAAAA LOADED FROM 2			09707	00040		
02010			DEND STAR			07404			

09746 CORE POSITIONS REQUIRED
00201 STATEMENTS PROCESSED

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00010*THIS PROGRAM COMPUTES THE AREA UNDER THE CURVE
00020=SQRT(3X**2)ARCSINX,WHERE X LIES BETWEEN 0 AND 1. THE AREA IS
00030*COMPUTED BY SIMPSONS RULE
00040* FOR NUMERICAL INTEGRATION. THE AREA IS EVALUATED USING THREE
00050* DIFFERENT VALUES FOR DELTAX. THEY ARE 0.100, 0.050, AND 0.025.
00060 START TF DELTAX,X,7,TRANSMIT VALUE OF INCREMENT
00070 TF AREA,Z-3
00080 TF XSUBN,UNIT
00090 TDM SW3+1,1,,SET SW3 OFF
00100 TDM SW2+1,1,,SET SW2 OFF
00110 TDM SW1+1,1,,SET SW1 OFF
00120 TR ASUBN-9,CONST-9,,TRANSMIT ASUBS TO ASUBO
00130 TF PSIX,ASUBN
00140 ASINE M PSIX,XSUBN
00150 SF 84
00160 BMF **2*L,99
00170 SF 93
00180 TF PSIX,93
00190 TR ASUBN-9,ASUBN+1
00200 A PSIX,ASUBN
00210 BNR ASINE,ASUBN+1
00220 BNC1 CONTA
00230 TD POLY+48,PSIX-9
00240 TD POLY+52,PSIX-8
00250 TD POLY+54,PSIX-7
00260 TD POLY+56,PSIX-6
00270 TD POLY+58,PSIX-5
00280 TD POLY+60,PSIX-4
00290 TD POLY+62,PSIX-3
00300 TD POLY+64,PSIX-2
00310 TD POLY+66,PSIX-1
00320 TD POLY+68,PSIX
00330 TD POLY+12,XSUBN-6
00340 TD POLY+16,XSUBN-5
00350 TD POLY+18,XSUBN-4
00360 TD POLY+20,XSUBN-3
00370 PUT POLYDF

00380 CONTA TF RADCND,UNIT
00390 S RADCND,XSUBN,,RADICAND = 1-X
00400 TR RADCND,ZNINES-13,
00410 BNC1 CONTB
00420 TD ARG+42,RADCND-6
00430 TD ARG+46,RADCND-5
00440 TD ARG+48,RADCND-4
00450 TD ARG+50,RADCND-3
00460 TD ARG+52,RADCND-2
00470 TD ARG+54,RADCND-1
00480 TD ARG+56,RADCND
00490 PUT ARGDF

00500 CONTB TF NINE,TWO9
00510 TF ODDINT,ONEONE

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02402 26 04059 -4066
02414 26 04088 04096
02426 26 04106 04113
02438 15 03759 00001
02450 15 03567 00001
02462 15 03435 00001
02474 31 04114 04175
02486 26 04245 04123
02498 23 04245 04106
02510 32 00084 00000
02522 44 02546 00099
02534 32 00093 00000
02546 26 04245 00093
02558 31 04114 04124
02570 21 04245 04123
02582 45 02498 04124
02594 47 02798 00100
02606 25 04481 04236
02618 25 04485 04237
02630 25 04487 04238
02642 25 04489 04239
02654 25 04491 04240
02666 25 04493 04241
02678 25 04495 04242
02690 25 04497 04243
02702 25 04499 04244
02714 25 04501 04245
02726 25 04445 04100
02738 25 04449 04101
02750 25 04451 04102
02762 25 04453 04103
02774 10 00565 -2797
02786 49 00532 -4391
02798 26 04253 04113
02810 22 04253 04106
02822 31 04253 04268
02834 47 02954 00100
02846 25 04547 04247
02858 25 04551 04248
02870 25 04553 04249
02882 25 04555 04250
02894 25 04557 04251
02906 25 04559 04252
02918 25 04561 04253
02930 10 00565 -2953
02942 49 00532 -4399
02954 26 04293 04305
02966 26 04319 04333

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00520 B **2*L
00530 ROOT A ODDINT-8,TWO
00540 S RADCND+7,ODDINT
00550 BNR ROOT
00560 A RADCND+7,ODDINT
00570 TR RADCND-7,RADCND-6
00580 SF RADCND-7
00590 S ODDINT-8,NINE
00600 TF NINE,NINE-1
00610 BMF ROOT+1*L,TWO+1
00620 TF SORT,NINES
00630 SF RADCND+1
00640 S SORT,RADCND+6
00650 BNC1 CONTC
00660 TD GENRT+24,SORT-5
00670 TD GENRT+28,SORT-4
00680 TD GENRT+30,SORT-3
00690 TD GENRT+32,SORT-2
00700 TD GENRT+34,SORT-1
00710 TD GENRT+36,SORT
00720 PUT GENRTD

00730 CONTC M SORT,PSIX
00740 SF 85
00750 TF TEMP1,94
00760 BNC1 SW1
00770 TD FUNCT+10,TEMP1-9
00780 TD FUNCT+14,TEMP1-8
00790 TD FUNCT+16,TEMP1-7
00800 TD FUNCT+18,TEMP1-6
00810 TD FUNCT+20,TEMP1-5
00820 TD FUNCT+22,TEMP1-4
00830 TD FUNCT+24,TEMP1-3
00840 TD FUNCT+26,TEMP1-2
00850 TD FUNCT+28,TEMP1-1
00860 TD FUNCT+30,TEMP1
00870 PUT FUNCTD

00880 SW1 B SW2
00890 M XSUBN,XSUBN
00900 SF 87
00910 TF TEMP2,96
00920 MM TEMP2,3,10
00930 SF 90
00940 TF RADCND,96
00950 TF PSIX,CONST+50
00960 S PSIX,TEMP1
00970 TDM SW1+1,9
00980 B ROOT-1*L
00990 SW2 B ODDVN
01000 A AREA,TEMP1-4,,FO+FN
01010* INITIALIZATION FOR FSUBODD
01020 TF XSUBN,DELTA*

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02978 49 03002 00000
02990 21 04311 04287
03002 22 04280 04319
03014 46 02990 01300
03028 21 04280 04319
03038 31 04246 04247
03050 32 04246 00000
03062 22 04311 04293
03074 26 04293 04292
03086 44 03002 04288
03098 26 04339 04345
03110 32 04254 00000
03122 22 04339 04259
03134 47 03242 00100
03146 25 04589 04334
03158 25 04593 04335
03170 25 04595 04336
03182 25 04597 04337
03194 25 04599 04338
03206 25 04601 04339
03218 10 00565 -3241
03230 49 00532 -4407
03242 23 04339 04245
03254 32 00085 00000
03266 26 04355 00094
03278 47 03434 00100
03290 25 04615 04346
03302 25 04619 04347
03314 25 04621 04348
03326 25 04623 04349
03338 25 04625 04350
03350 25 04627 04351
03362 25 04629 04352
03374 25 04631 04353
03386 25 04633 04354
03398 25 04635 04355
03410 10 00565 -3433
03422 49 00532 -4415
03434 49 03566 00000
03446 23 04106 04106
03458 32 00087 00000
03470 26 04365 00094
03482 13 04365 000-3
03494 32 00090 00000
03506 26 04253 00096
03518 26 04245 04234
03530 22 04245 04355
03542 15 03435 00009
03554 49 02822 00000
03566 49 03674 00000
03578 21 04088 04351
03590 26 04106 04059

```

1356

01030	TFM	MULT+11,4,10	03602	16	03733	000-4	
01040	TFM	SW2+1,9	03614	15	03567	00009	
01050	TF	ACCUM,2	03626	26	04376	04099	
01060	TF	TEMP3,DELTA	03638	26	04383	04059	
01070	A	TEMP3,TEMP3	03650	21	04383	04383	
01080	B	ASINE-3*L	03662	49	02462	00000	
01090	ODDVM	A	ACCUM,TEMP1	03674	21	04376	04355
01100	A	XSUBN,TEMP3	03686	21	04106	04383	
01110	C	XSUBN,NINES	03698	24	04106	04345	
01120	BMM	ASINE-3*L	03710	47	02462	01100	
01130	MULT	MM	ACCUM	03722	13	04376	-0000
01140	SF	88	03734	32	00088	00000	
01150	A	AREA,95	03746	21	04088	00095	
01160	SW3	B	**6*L	03758	49	03830	00000
01170	* INITIALIZATION FOR FSUBEVEN						
01180	TFM	MULT+11,2,10	03770	16	03733	000-2	
01190	TF	ACCUM,2	03782	26	04376	04099	
01200	TF	XSUBN,TEMP3	03794	26	04106	04383	
01210	TFM	SW3+1,9	03806	15	03759	00009	
01220	B	ASINE-3*L	03818	49	02462	00000	
01230	M	AREA,DELTA	03830	23	04088	04059	
01240	SF	88	03842	32	00088	00000	
01250	TF	TEMP1,97	03854	26	04355	00097	
01260	M	TEMP1,THREES	03866	23	04355	04390	
01270	TD	OUTPUT+26,DELTA-5	03878	25	04665	04054	
01280	TD	OUTPUT+28,DELTA-4	03890	25	04667	04055	
01290	TD	OUTPUT+30,DELTA-3	03902	25	04669	04056	
01300	TD	OUTPUT+46,83	03914	25	04685	00083	
01310	TD	OUTPUT+50,84	03926	25	04689	00084	
01320	TD	OUTPUT+52,85	03938	25	04691	00085	
01330	TD	OUTPUT+54,86	03950	25	04693	00086	
01340	TD	OUTPUT+56,87	03962	25	04695	00087	
01350	TD	OUTPUT+58,88	03974	25	04697	00088	
01360	PUT	OUTPTD	03986	10	0056*	-4009	
			03998	49	00532	-4423	
01370	AM	START+11,7,10	04010	11	02413	000-7	
01380	CM	START+11,X+21	04022	14	02413	-4087	
01390	BNE	START	04034	47	02402	01200	
01400	CALXIT	CALL EXIT	04046	49	00796	00000	
01410	* AREA DEFINITIONS						
01420	DELTA	DS 7	04059	00007			
01430	X	DC 7,100000	04066	00007			
01440		DC 7,50000	04073	00007			
01450		DC 7,25000	04080	00007			
01460	AREA	DS 8	04088	00008			
01470	Z	DC 11,0	04099	00011			
01480	XSUBN	DS 7	04106	00007			
01490	UNIT	DC 7,1000000	04113	00007			
01500	ASUBN	DSB 10,6	04123	00060			
01510		DS 1	04174	00001			
01520	CONST	DC 10,-4337769	04184	00010			
01530		DC 10,19349939	04194	00010			
01540		DC 10,-44958884	04204	00010			

1357

01550	DC	10,87876311	04214	00010		
01560	DC	10,-214512362	04224	00010		
01570	DC	11,1570795207a	04235	00011		
01580	L	DS ,12	00012	00000		
01590	PSIX	DS 10	04245	00010		
01600	VS	1	04246	00001		
01610	RADCND	VS 7	04253	00007		
01620	DS	13	04266	00013		
01630	ZNINES	DC 15,99999999	04281	00015		
01640	TWO	DS 6	04287	00006		
01650	NINE	DS 6	04293	00006		
01660	TWO9	DC 12,200000090000	04305	00012		
01670	ODDINT	DS 14	04319	00014		
01680	ONEONE	DC 14,10000000000001	04333	00014		
01690	SOFT	DS 6	04339	00006		
01700	NINES	DC 6,999999	04345	00006		
01710	TEMP1	DS 10	04355	00010		
01720	TEMP2	DS 10	04365	00010		
01730	ACCUM	DS 11	04376	00011		
01740	TEMP3	DS 7	04383	00007		
01750	THREES	DC 7,3333333	04390	00007		
01760	POLYDF	DPRA ,POLY	04391	00005	-4433	
			04396	00003	J8G	
01770	ARGDF	DPRA ,ARG	04399	00005	-4505	
			04404	00003	J8G	
01780	GENRTD	DPRA ,GENRT	04407	00005	-4565	
			04412	00003	J8G	
01790	FUNCTD	DPRA ,FUNCT	04415	00005	-4605	
			04420	00003	J8G	
01800	OUTPTD	DPRA ,OUTPUT	04423	00005	-4639	
			04428	00003	J8G	
01810	POLY	DAC 36,FOR X=0.000, POLYNOMIAL=0.0000000000,,	04433	00072		
01820	ARG	DAC 30,SQUARE ROOT ARGUMENT=0.0000000,,	04505	00060		
01830	GENRT	DAC 20,SQUARE ROOT=0.000000,,	04565	00040		
01840	FUNCT	DAC 17,F(X)=0.0000000000,,	04605	00034		
01850	OUTPUT	DAC 31,FOR DELTA=0.000, AREA=0.000000,,	04639	00062		
01860		DENO START	02402			

04700 CORE POSITIONS REQUIRED
00186 STATEMENTS PROCESSED
FOR DELTA=0.100, AREA=0.68656
FOR DELTA=0.050, AREA=0.68241
FOR DELTA=0.025, AREA=0.68096

1358

```

DIMENSION E(10),F(10),G(10),H(5,5),FUNCT(90),M(5,5),VALUE(50)
DIMENSION ARG(10)
DEFINE DISK (10,200)
EQUIVALENCE (F,ARG),(VALUE,G,H),(FUNCT,E,M)
SCSFCT(X)=SINF(X)**2+COSF(X)**2
20 READ 999,XZERO,XMAX,DELX
50 READ 987,A,B,C,D
   READ 992,ARG
   READ 991,VALUE
   READ 991,FUNCT
   IND=1
   RECORD(IND) ARG,VALUE,FUNCT
   READ 988,((M(N,M),N=1,5),M=1,5)
   READ 984,(F(I),I=1,10)
   READ 984,(G(J),J=1,10)
   PRINT 983
200 X=XZERO
30 X1=SINF(X)
   X2=COSF(X)
   X3=SINF(X)/COSF(X)
   X4=EXPF(X)
   X5=EXPF(-X)
   X6=LOGF(X)
   X7=LOGF(X)/2.3058509
   X8=SQRTF(X)
   X9=ATANF(X)
   X10=LOGF(X3)/2.3058509
   PRINT 998,X,X1,X2,X3
   PRINT 998,X,X4,X5
   PRINT 998,X,X6,X7
   PRINT 998,X,X8
   PRINT 998,X,X9,X10
   PRINT 988
   IF(X-XMAX) 40,51,51
40 X=X+DELX
   GO TO 30
51 DO 61 I=1,10,5
   E(I)=SCSFCT(F(I))
   DO 55 J=1,10,5
   F(I)=J
   PRINT 999, F(I)
   K=G(J)
   PRINT 998,E(I)
   PRINT 993,J,G(J),K
55 CONTINUE
61 CONTINUE
   IND=1
   FETCH(IND) ARG,VALUE,FUNCT
   DO 63 J=1,10
   DO 70 L=1,50
   IF(ARG(J)-VALUE(L))70,65,70
65 PRINT 990,ARG(J),FUNCT(L)
70 CONTINUE

```

1359

```

63 CONTINUE
   PAUSE
   GO TO 20
983 FORMAT(11X 1MX 13X 6MSIN(X) 10X 6MCOS(X) 10X 6MTAN(X) /11X1MX 13X
1 6MEXP(X) 10X 7MEXP(-X)/ 11X 1MX 13X 6MLOG(X) 9X 8MLOG10(X)/ 11X
2 1MX 13X 7MSQRT(X)/ 11X 1MX 13X 7MATAN(X) 7X 13MLOG10(TAN(X))// )
998 FORMAT(4F16.8)
991 FORMAT(10F5.2)
992 FORMAT(F4.2,9F5.2)
993 FORMAT(13,5X,F10.7,5X,13)
984 FORMAT(10F4.2)
987 FORMAT(F5.3,1X,F5.3,1X,F5.3,1X,F5.3)
999 FORMAT(3F4.0)
990 FORMAT(2F20.7)
988 FORMAT(10F4.3)
END

```

1360

00003 0002
00007 0001

00011 0005
00015 0010
00025 23058509-1
00029 0050

00039	FUNCT	00529	00039	E	00129	00039	M1	00279	00539	F	00629	00539	ARG	00629	00639	VALUE	01129
00639	G	00729	00639	H	00879	01139	X*		01149	XZERO		01159	XMAX		01169	DELX	
01179	A		01189	B		01199	C		01209	D		01213	IND		01217	M	
01221	N		01225	I		01229	J		01239	X		01249	X1		01259	X2	
01269	X3		01279	X4		01289	X5		01299	X6		01309	X7		01319	X8	
01329	X9		01339	X10		01343	K		01347	L							

1361

0020	01506	0999	05088	0050	01566	0987	05006	0992	04856	0991	04816	0988	05168	0984	04966
0983	04334	0200	02342	0030	02386	0998	04776	0040	03096	0051	03140	0061	03776	0055	03740
0993	04906	0063	04272	0070	04236	0065	04116	0990	05128						

05222 CORES USED
19999 NEXT COMMON
END OF COMPILATION

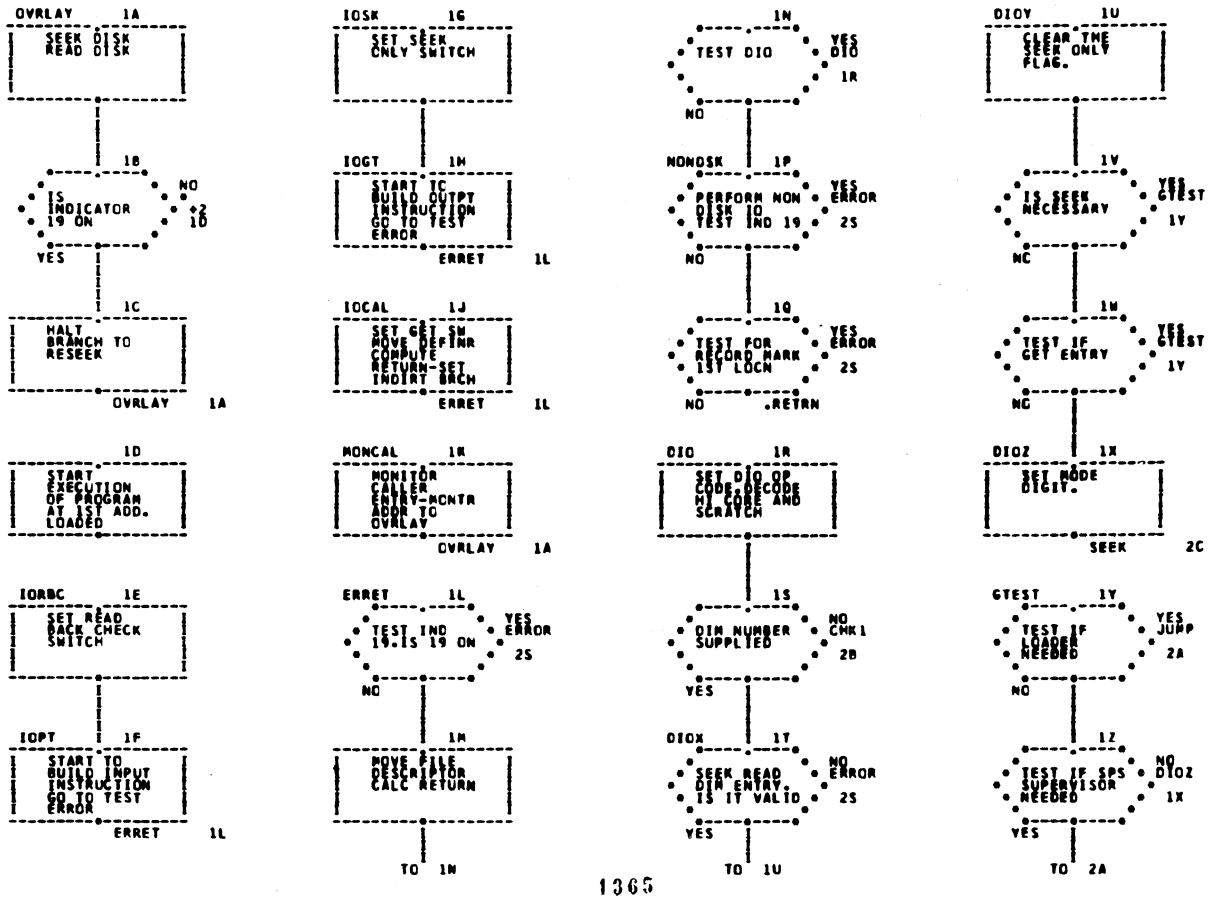
1362

MAIN 07800 05222 LOADED
 15 13022 00538 LOADED
 14 13560 01258 LOADED
 12 14818 00976 LOADED
 06 15794 01342 LOADED
 03 17136 00510 LOADED
 02 17646 01158 LOADED
 01 18804 00850 LOADED

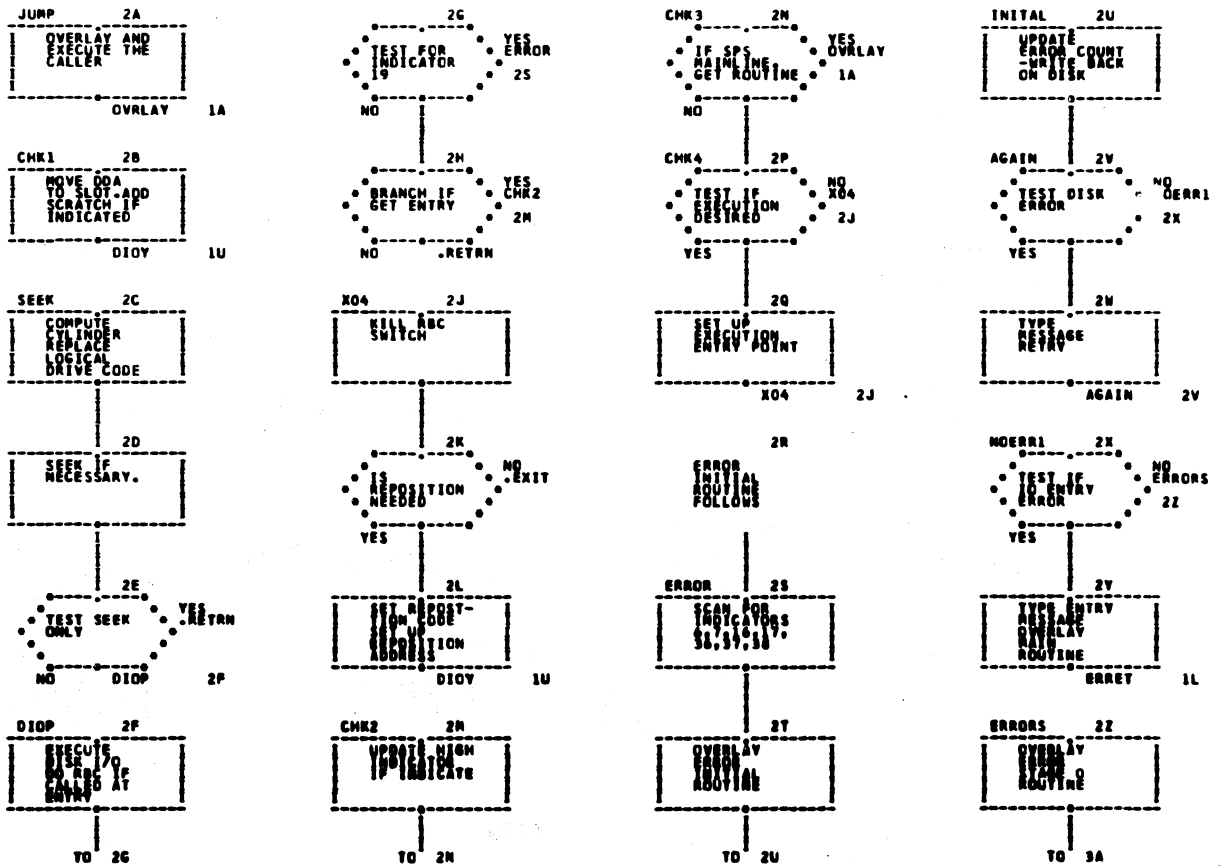
1363

X	SIN(X)	COS(X)	TAN(X)
X	EXP(X)	EXP(-X)	
X	LOG(X)	LOG10(X)	
X	SQRT(X)		
X	ATAN(X)	LOG10(TAN(X))	
.40000000	.38941834	.92106099	.42279321
.40000000	1.49182460	.67032004	
.40000000	-.91629073	-.39737640	
.40000000	.63245553		
.40000000	.38050637	-.37334247	
.50000000	.47942553	.87758256	.54630248
.50000000	1.64872120	.60653065	
.50000000	-.69314717	-.30060363	
.50000000	.70710678		
.50000000	.46364761	-.26219494	
.60000000	.56464247	.82533561	.68413680
.60000000	1.82211870	.54881163	
.60000000	-.51082562	-.22153454	
.60000000	.77459666		
.60000000	.54041950	-.16462355	
1.	.99999998		
1	2.1000000	2	
6.	.99999998		
6	2.6000000	2	
1.	.99999999		
1	2.1000000	2	
6.	.99999999		
6	2.6000000	2	
	5.0000000	5.0000000	
	10.0000000	10.0000000	
	24.0000000	24.0000000	
	11.0000000	11.0000000	
	39.0000000	39.0000000	
	17.0000000	17.0000000	
	44.0000000	44.0000000	
	41.0000000	41.0000000	
	50.0000000	50.0000000	
	1.0000000	1.0000000	

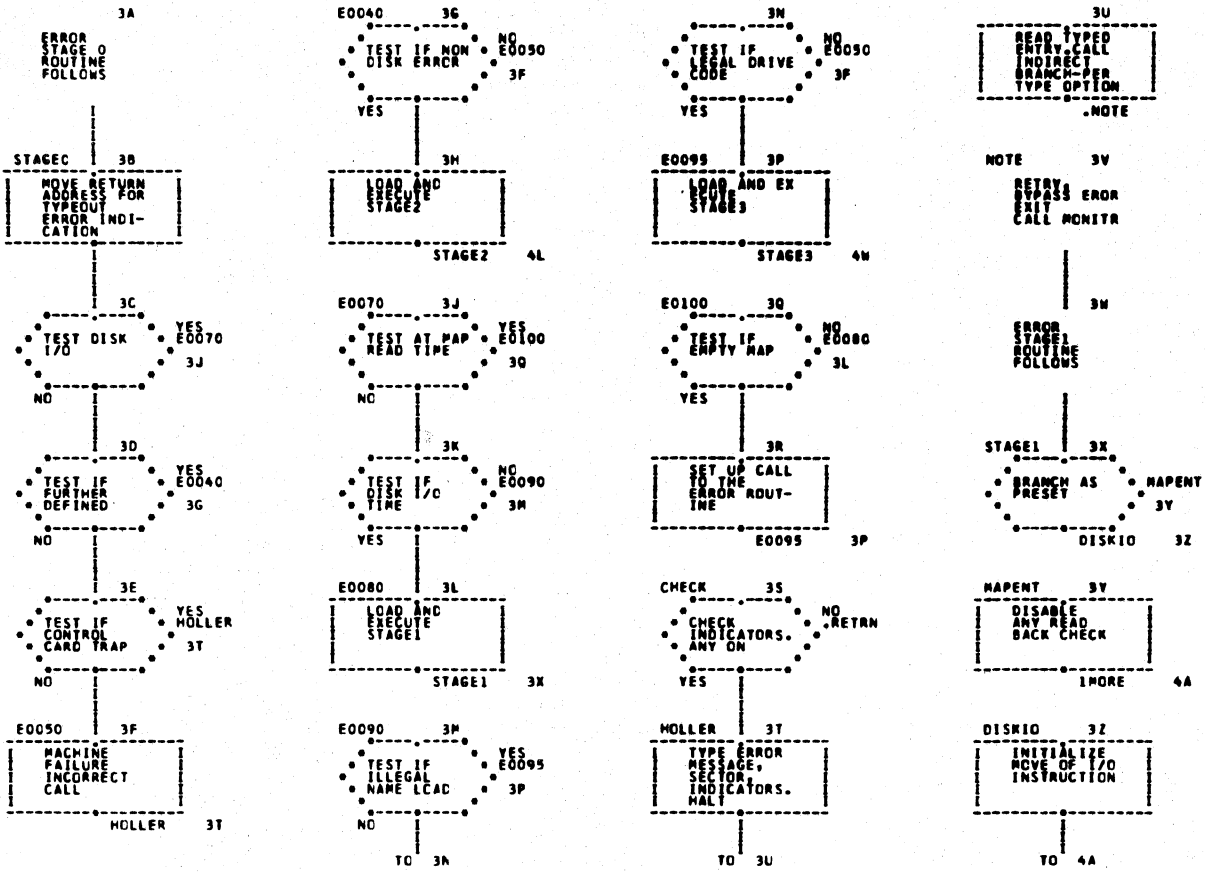
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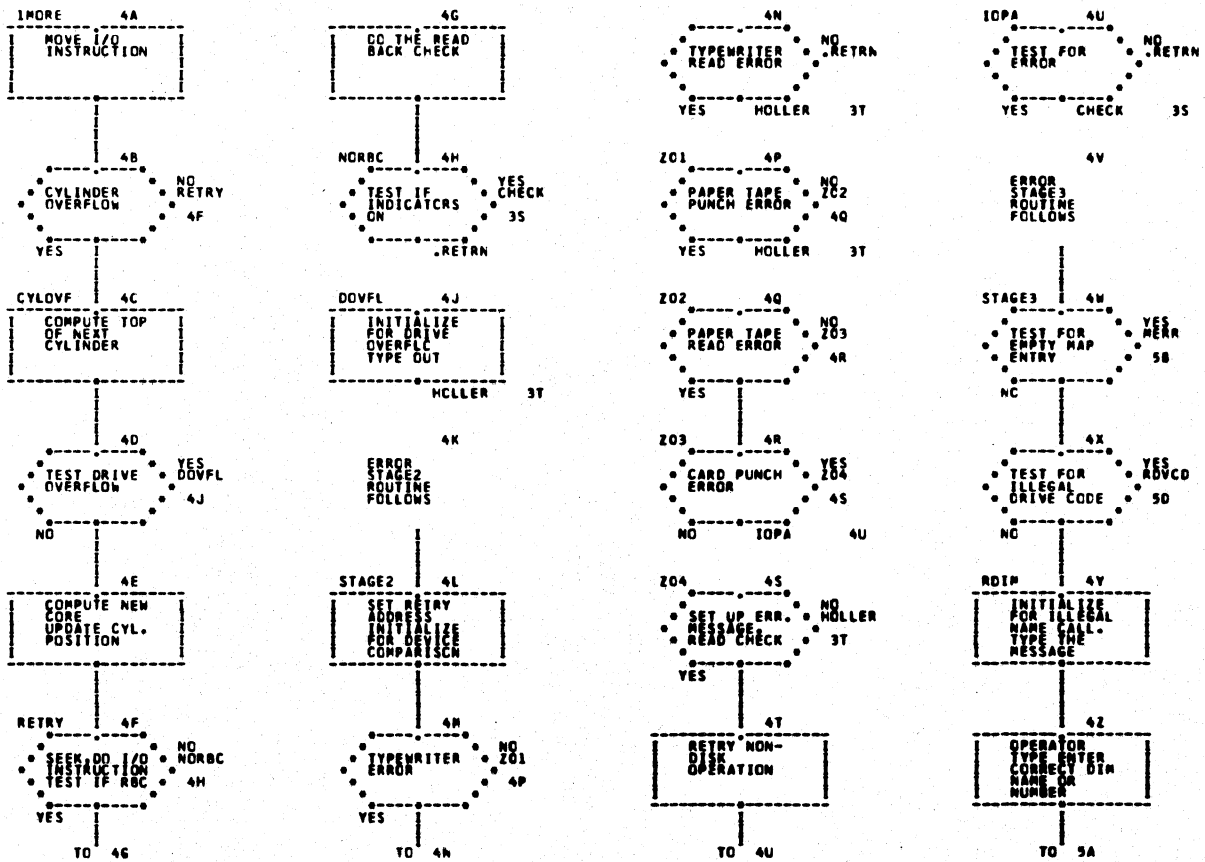
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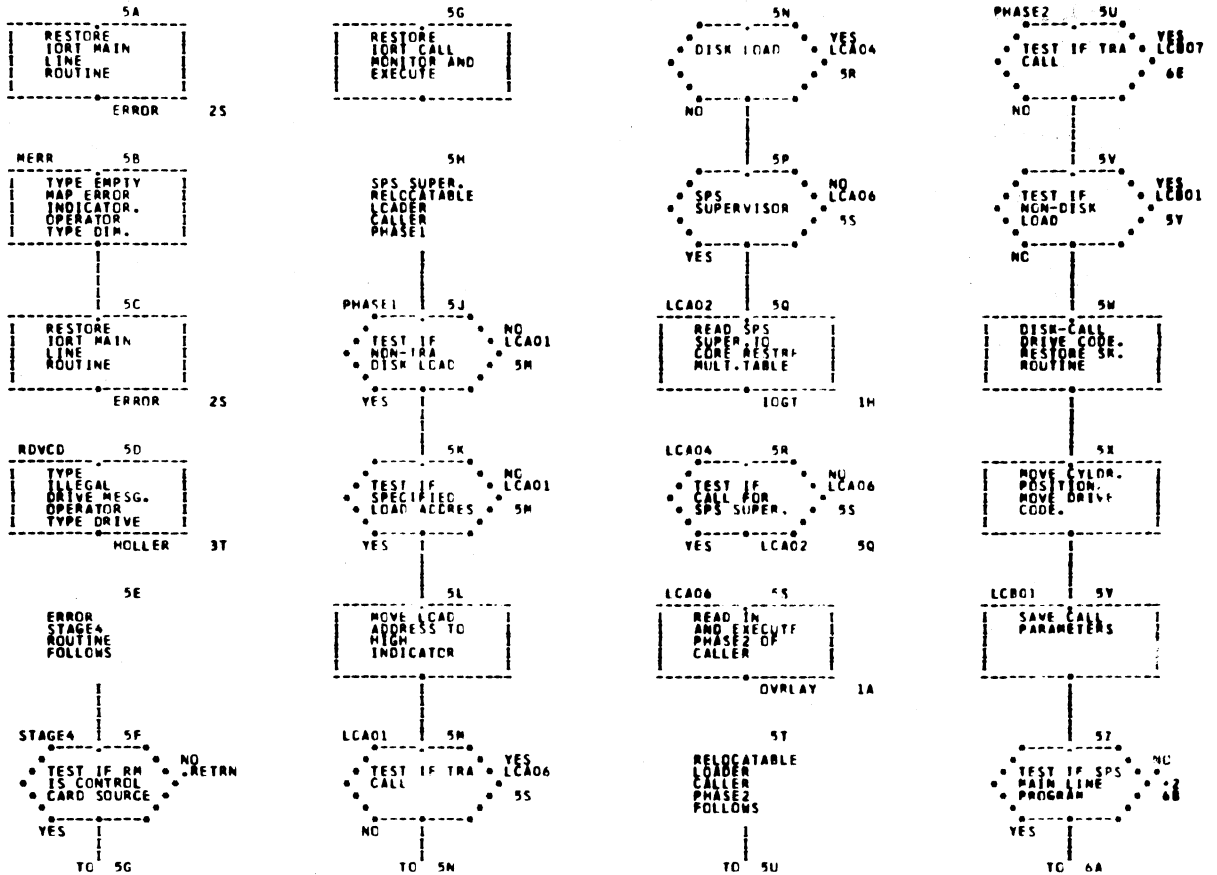
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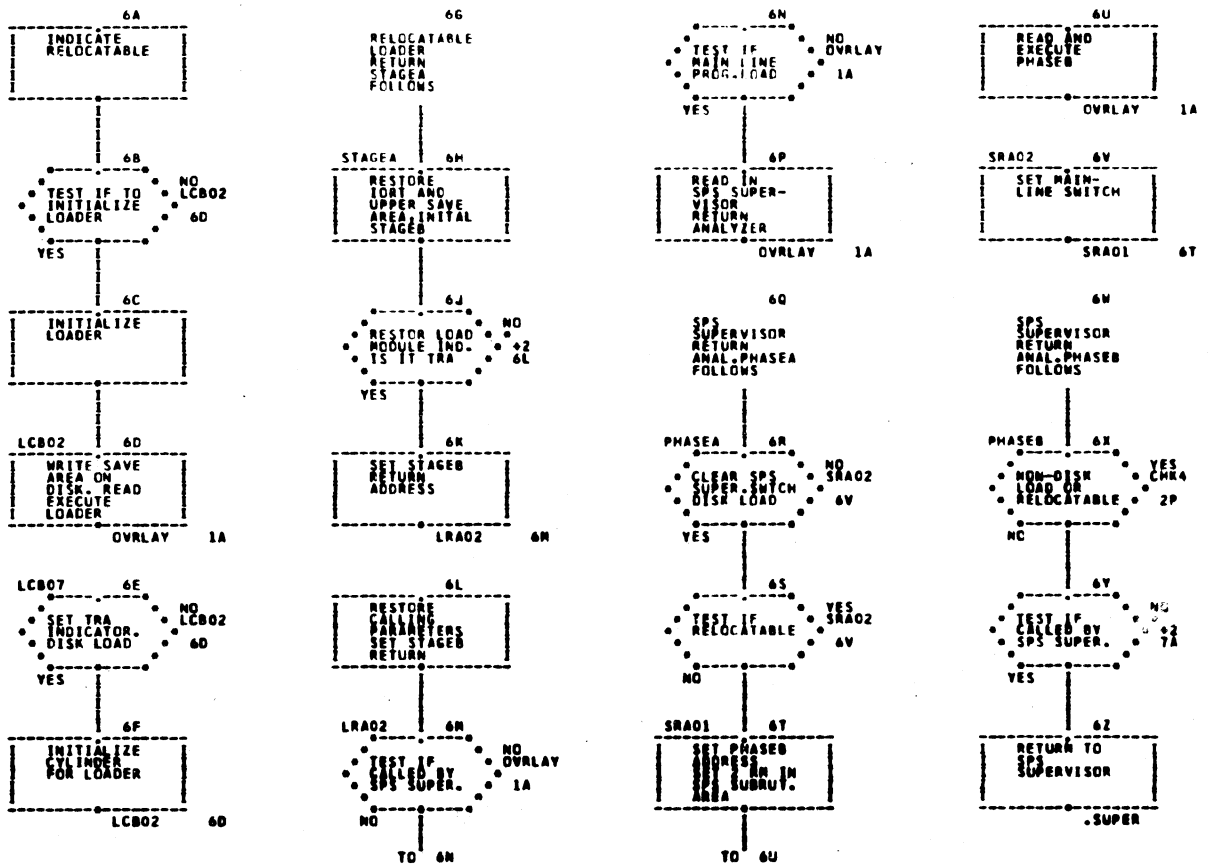
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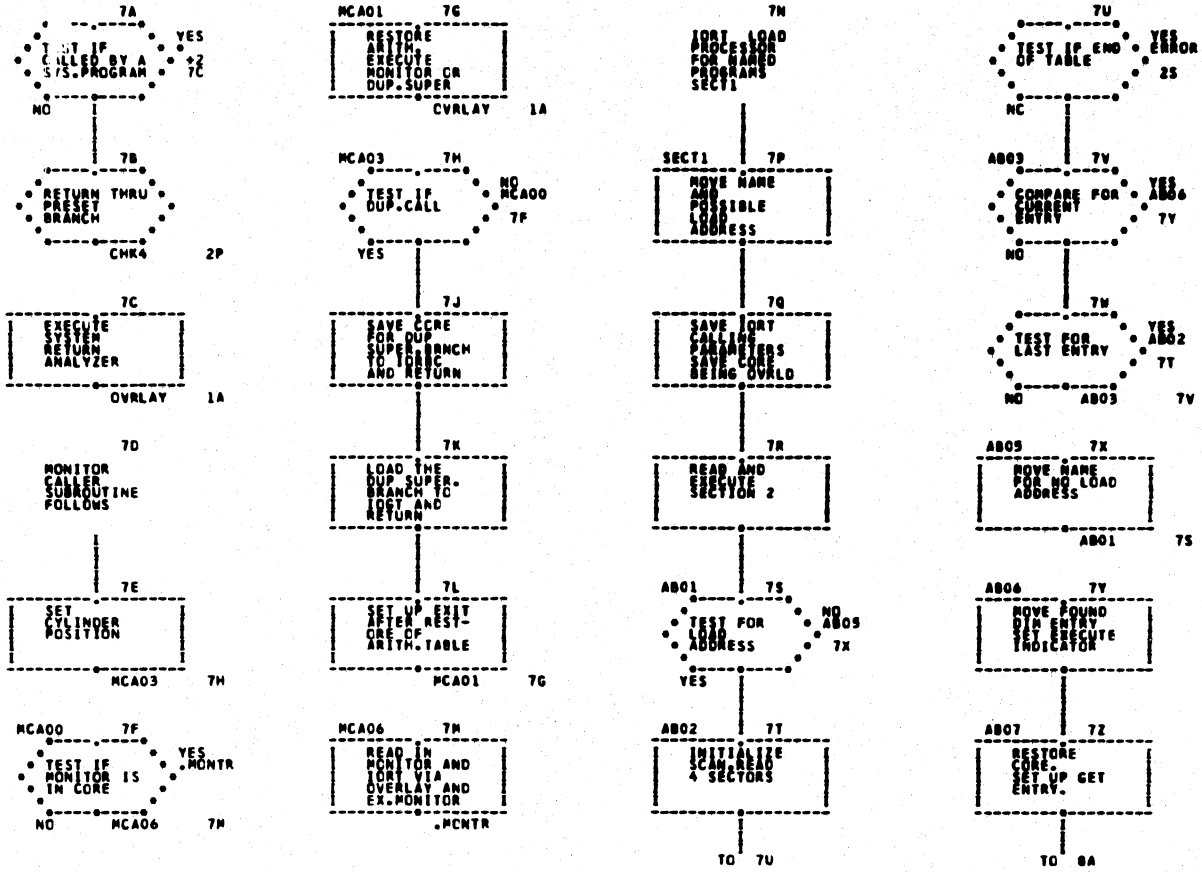
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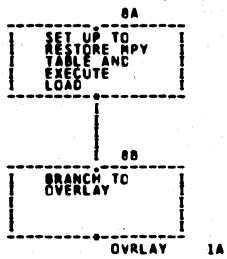
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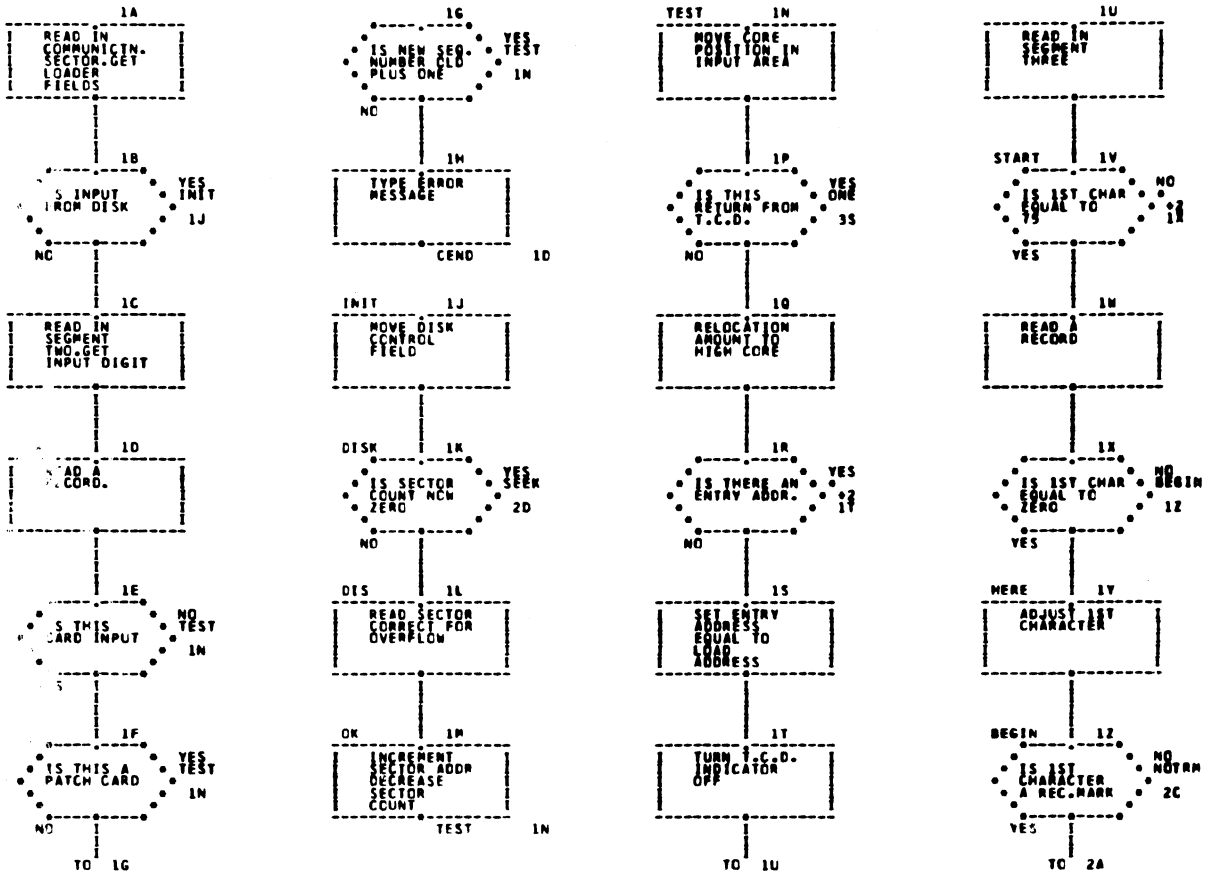
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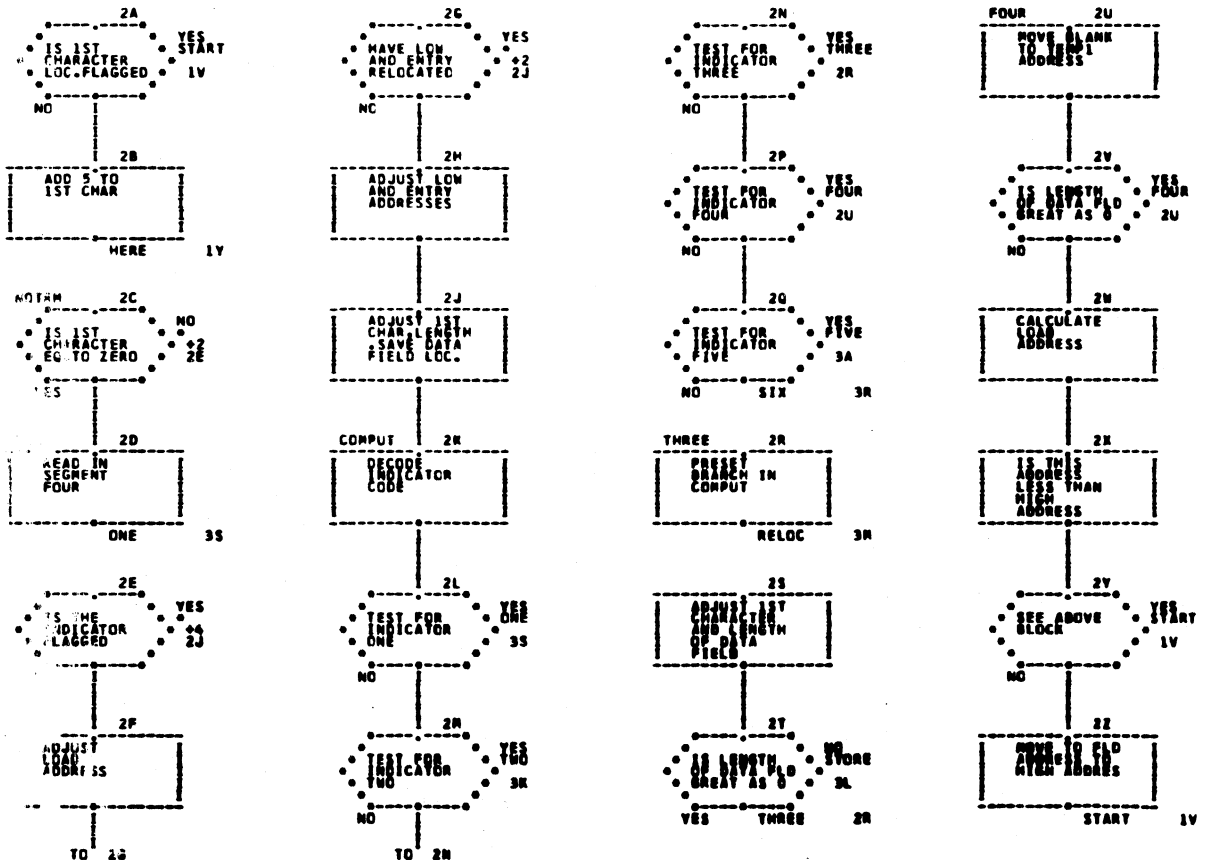
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1372

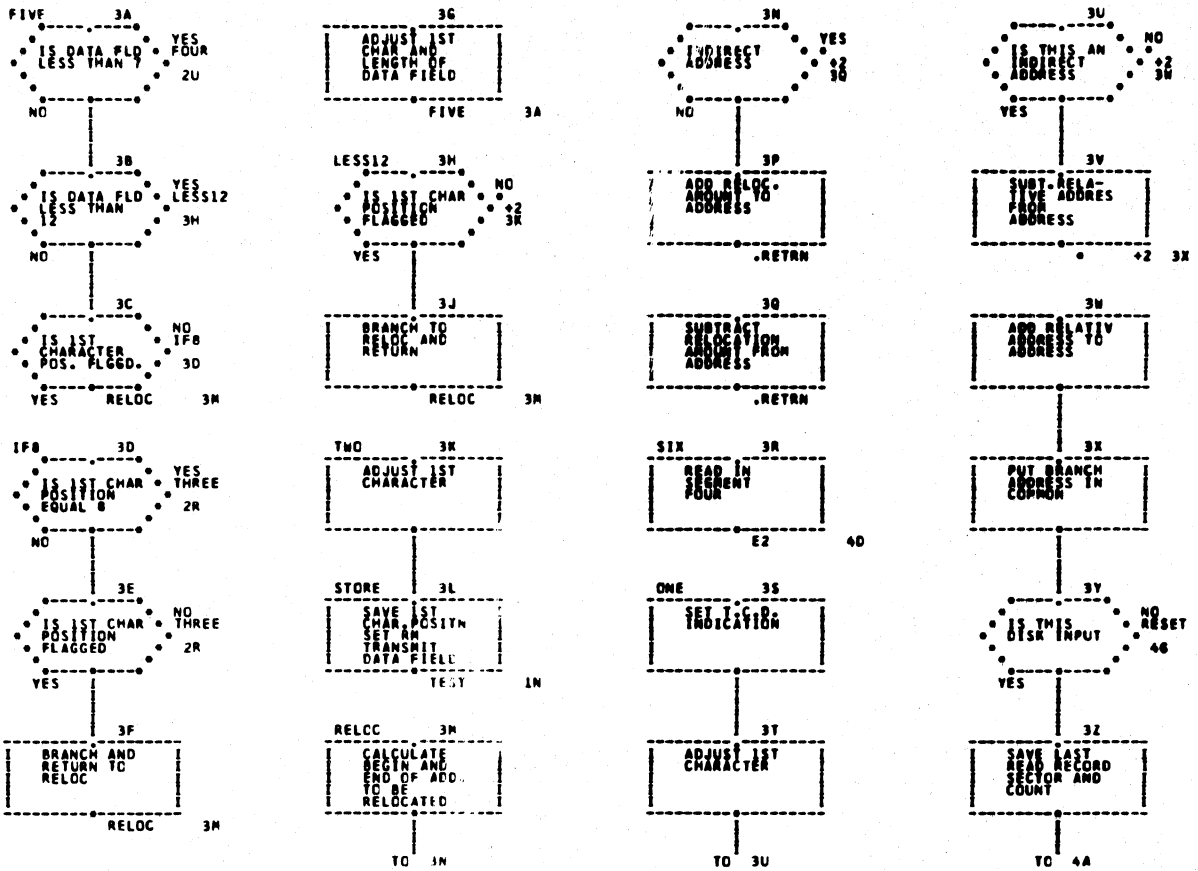


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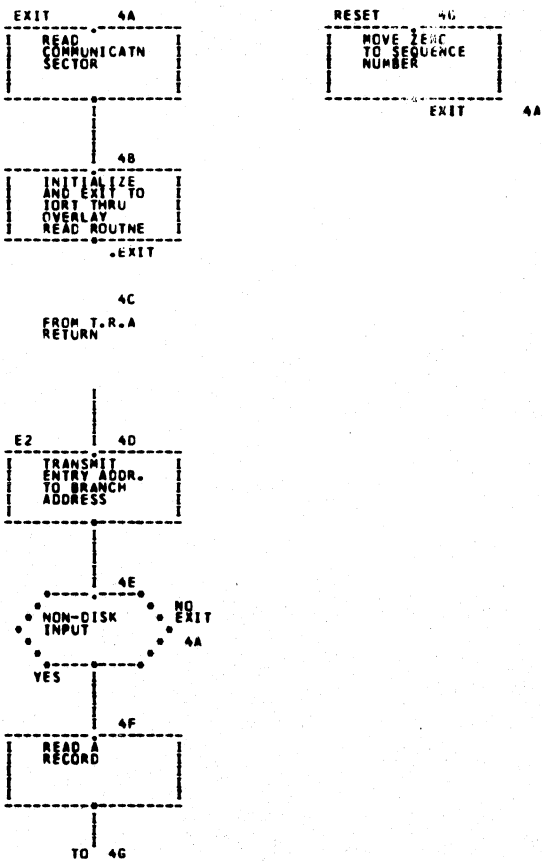


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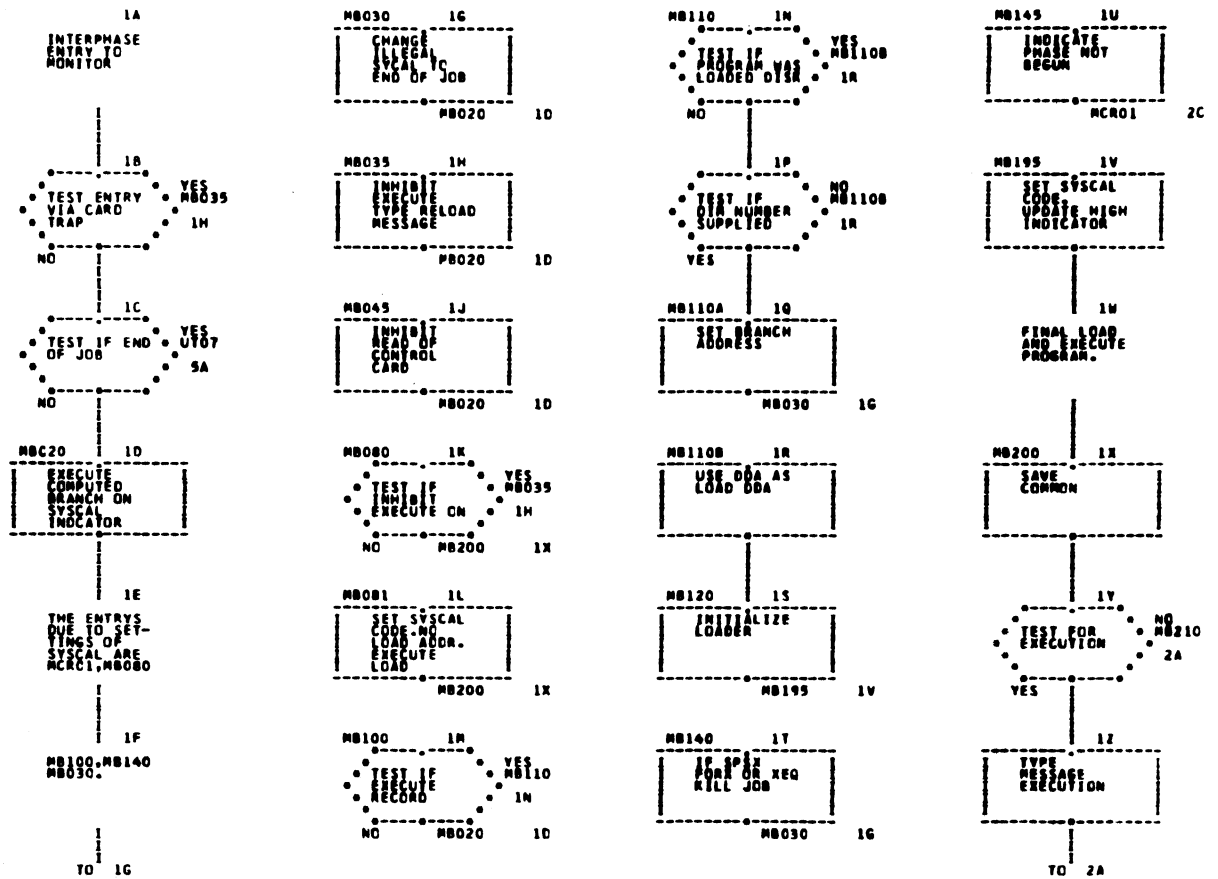
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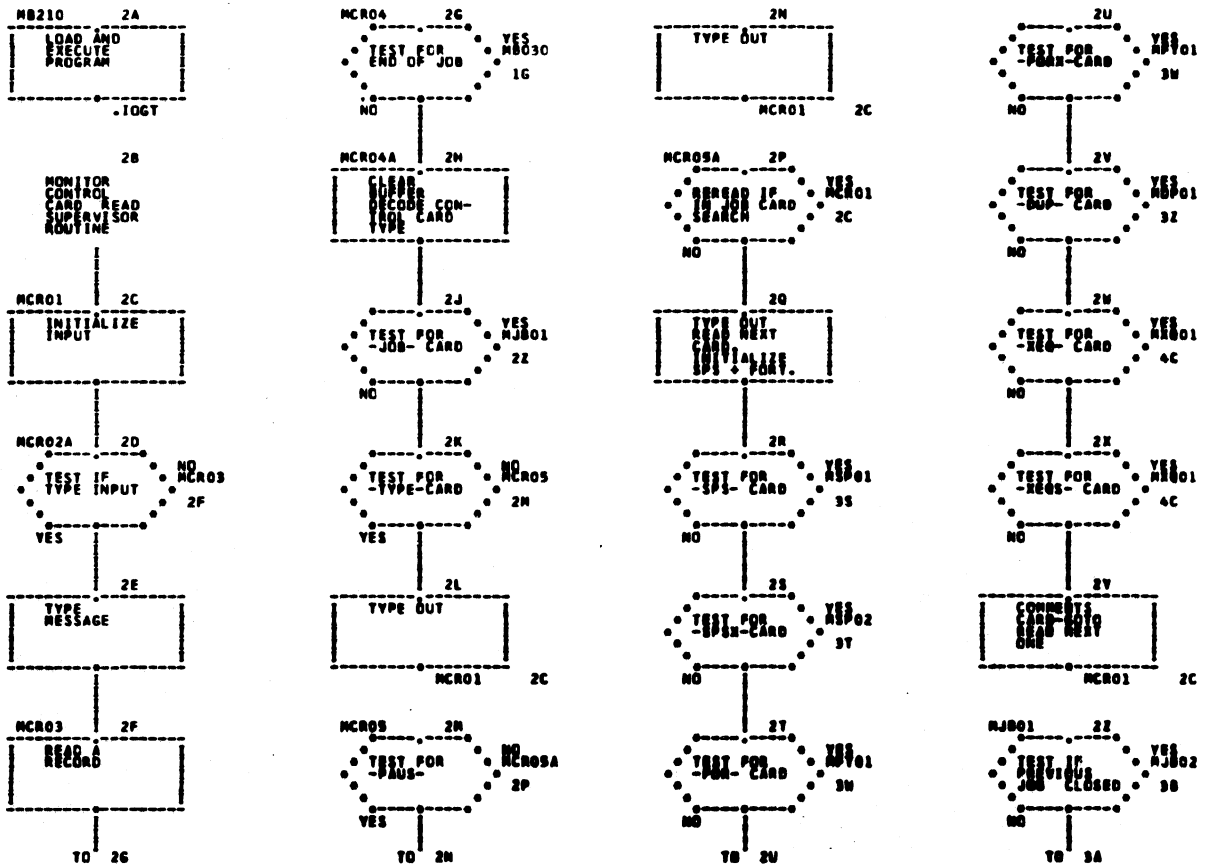
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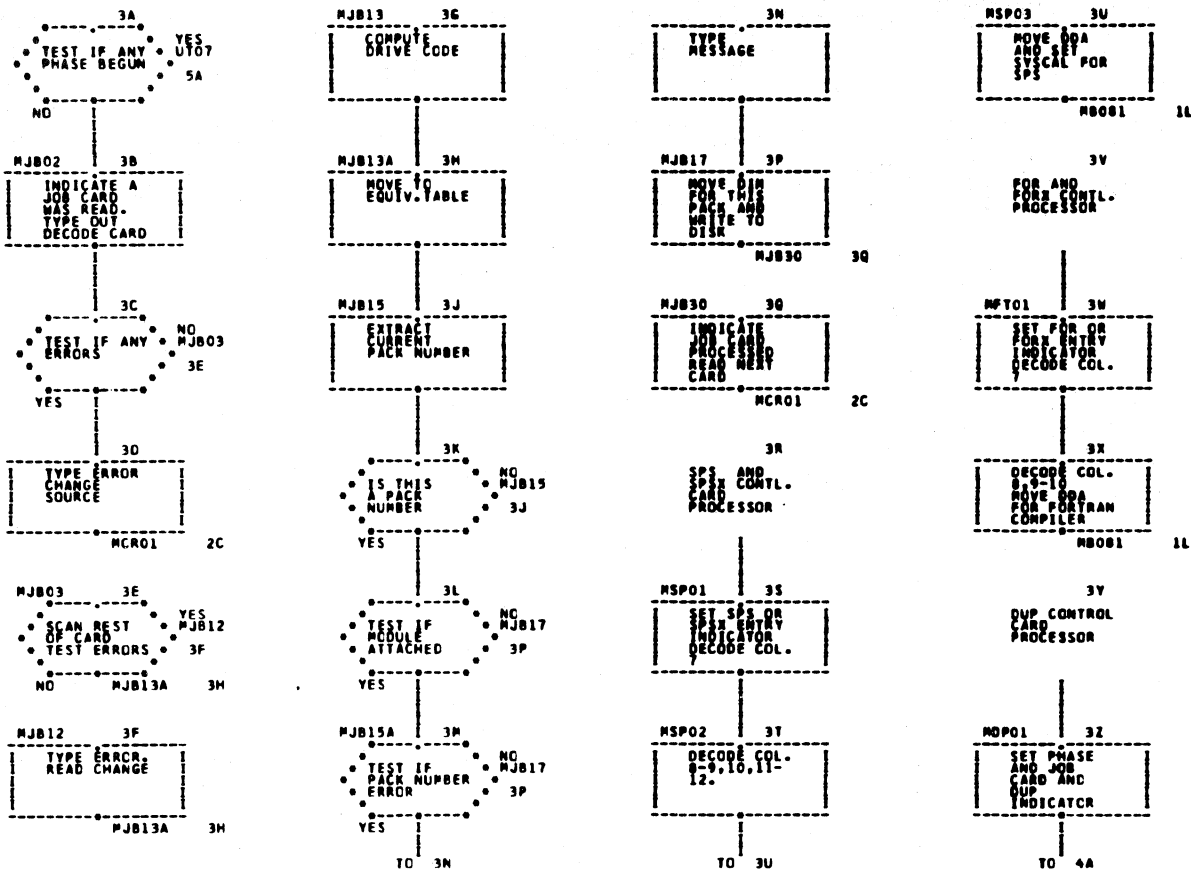
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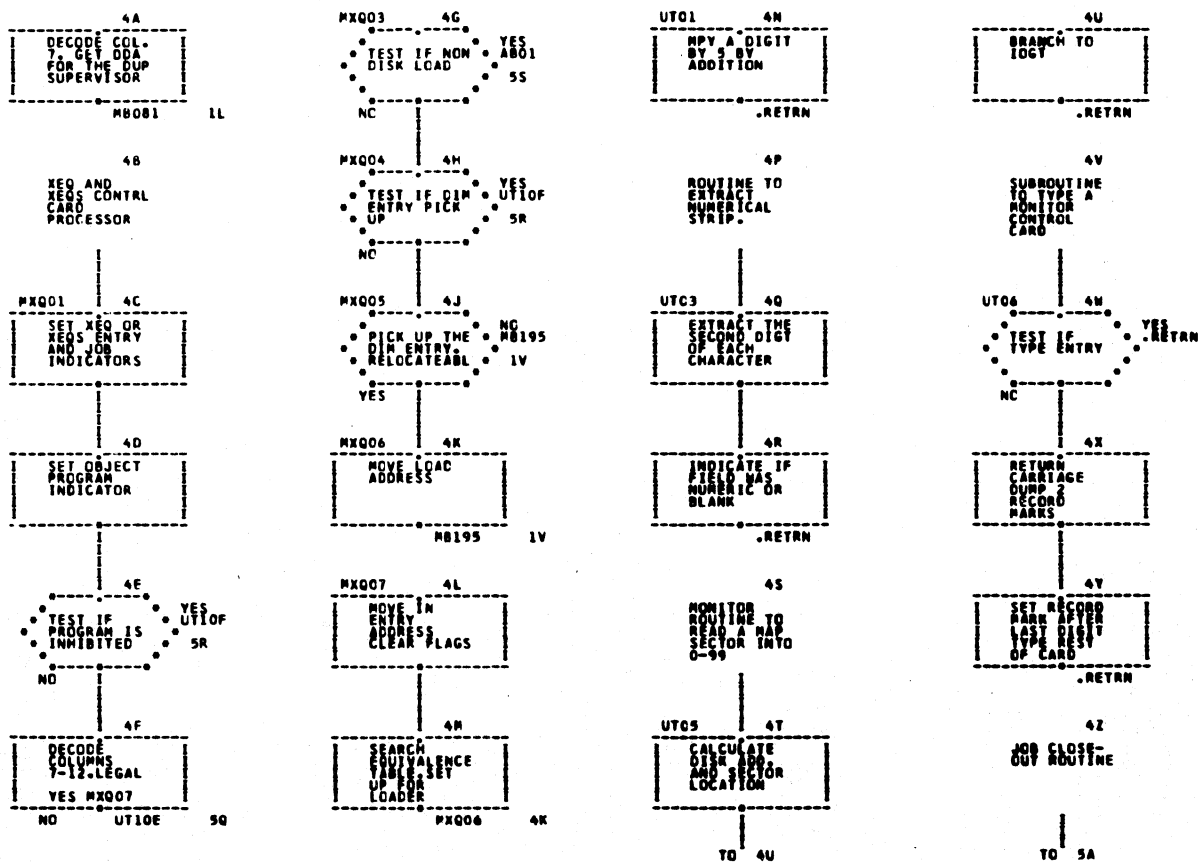
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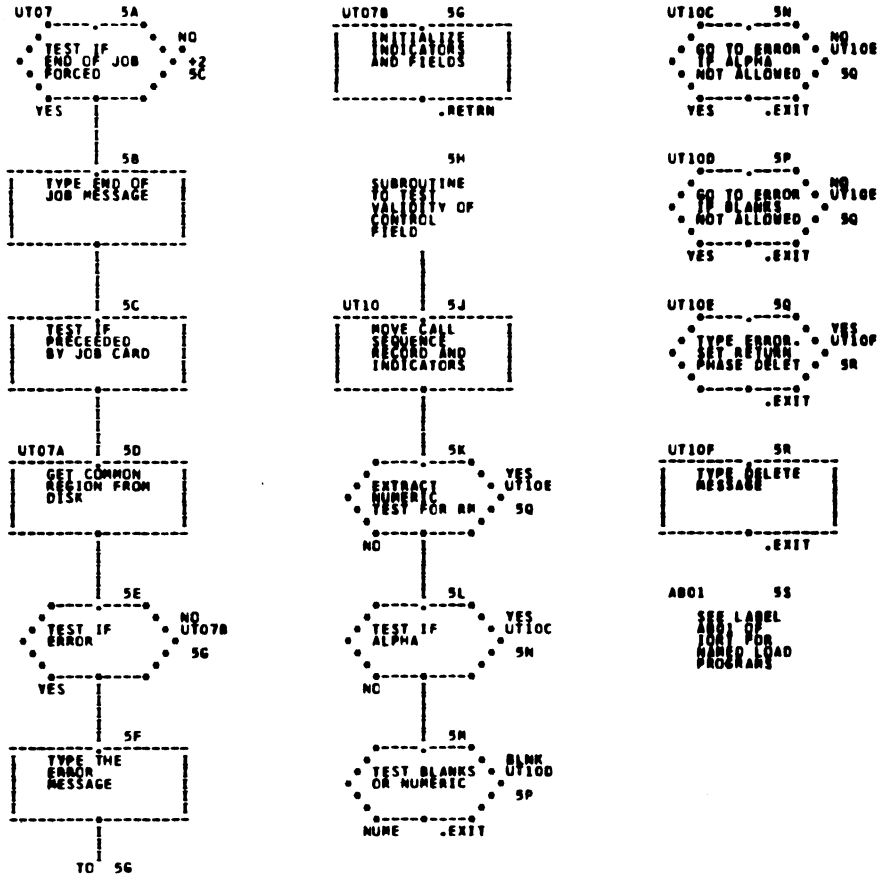
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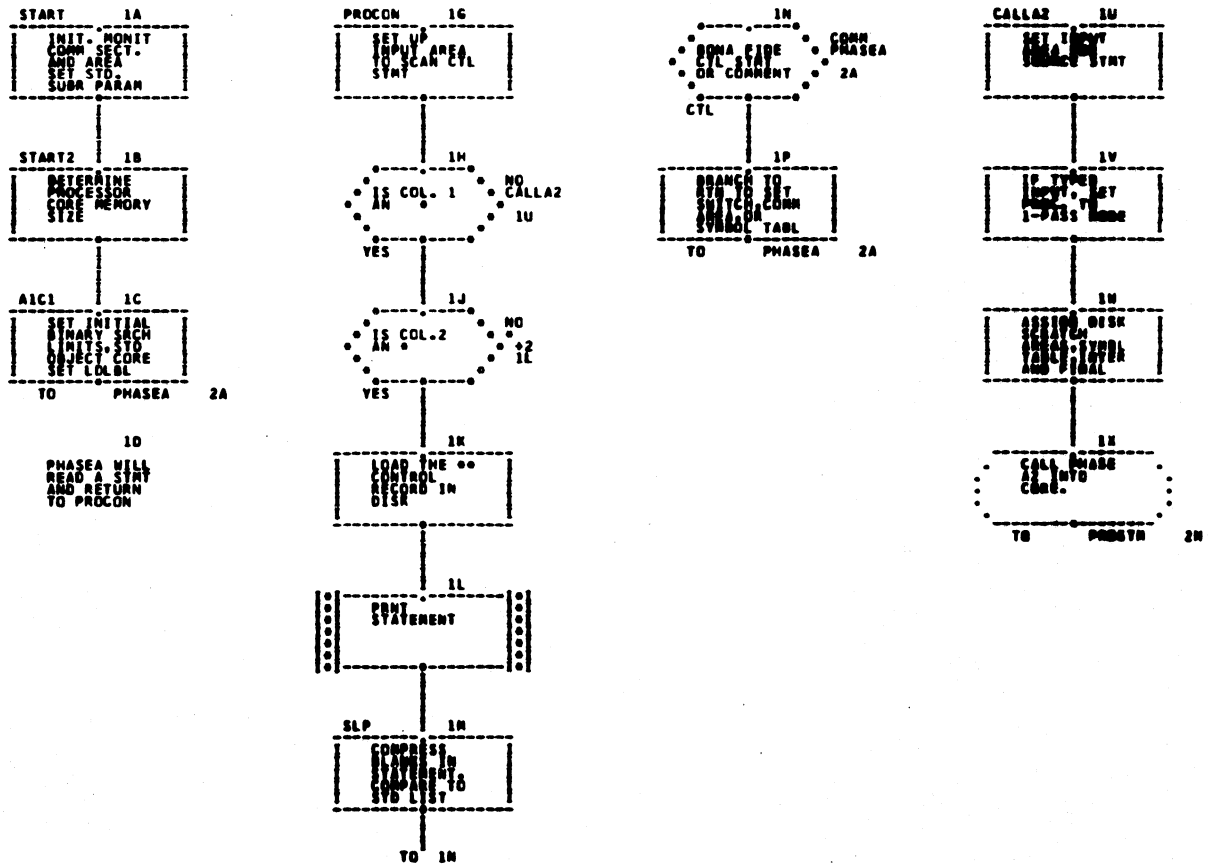
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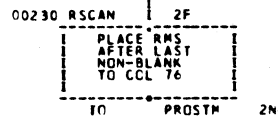
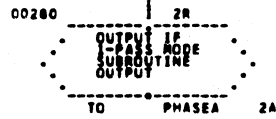
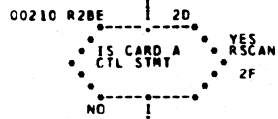
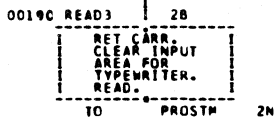
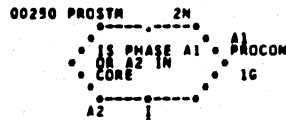
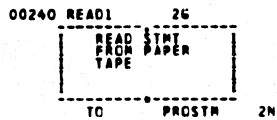
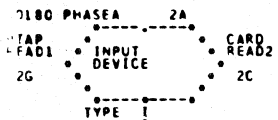
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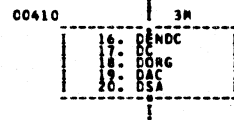
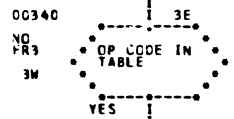
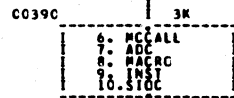
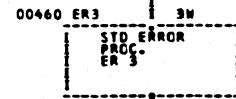
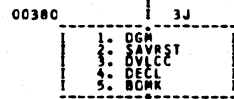
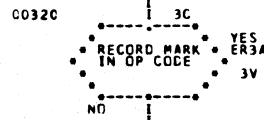
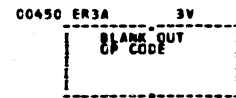
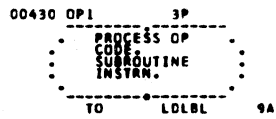
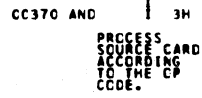
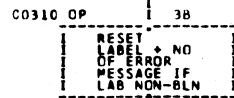
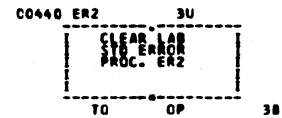
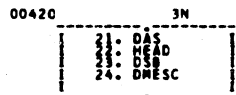
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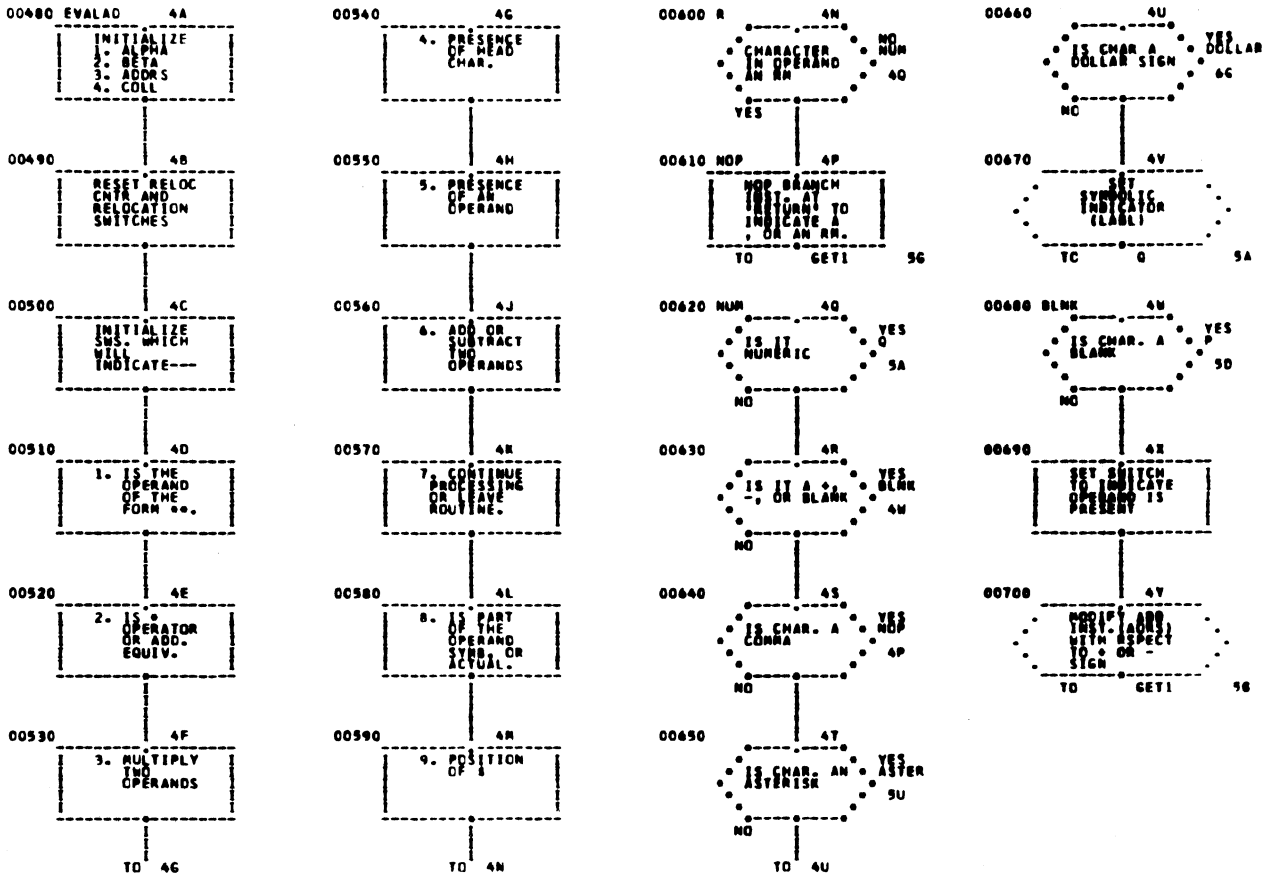
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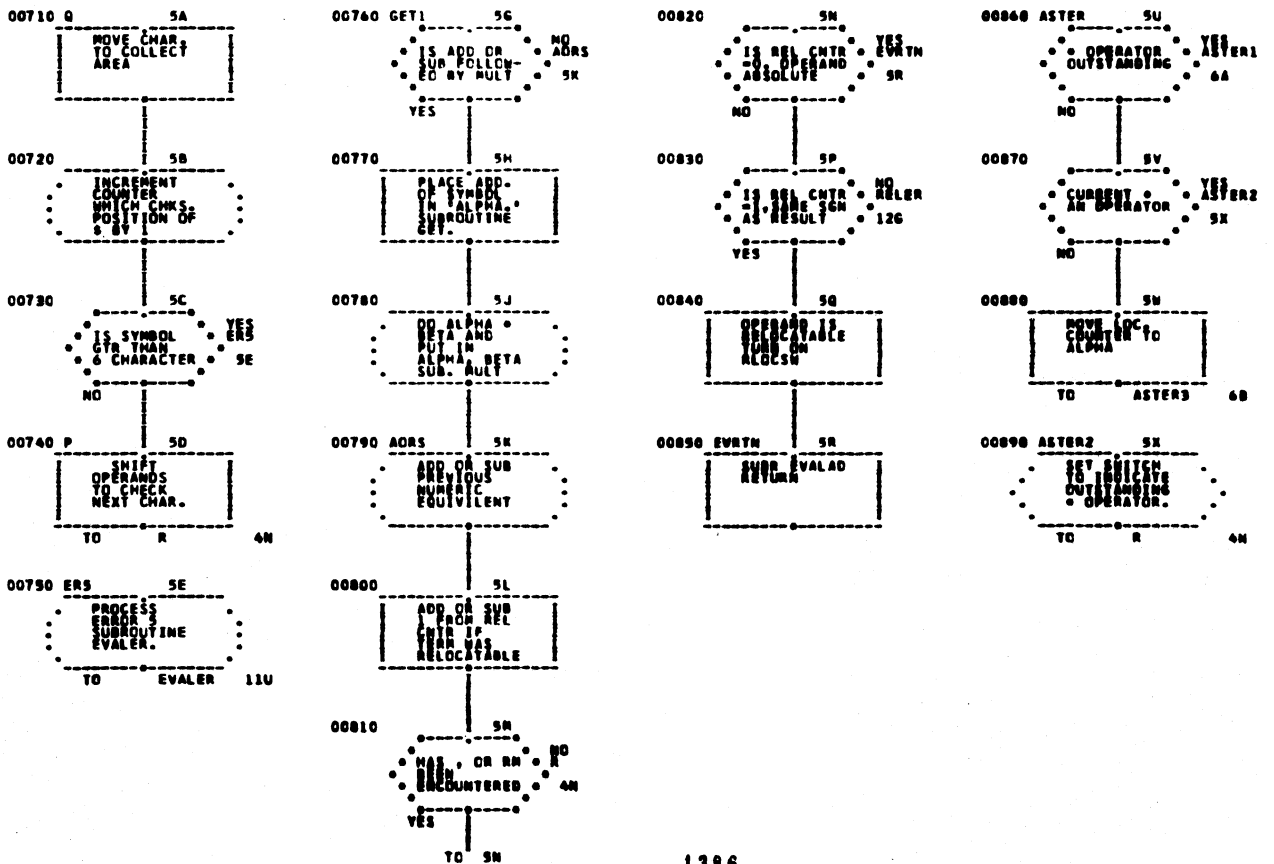
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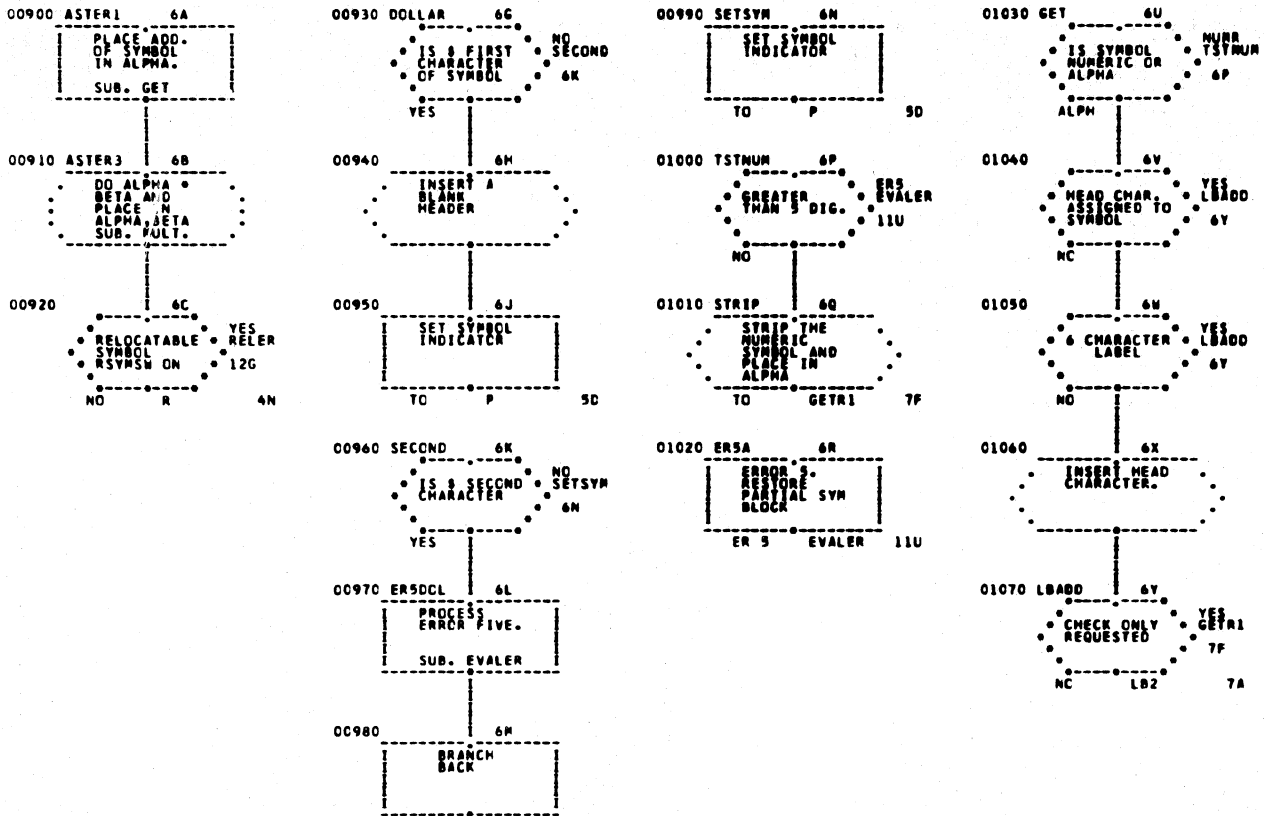
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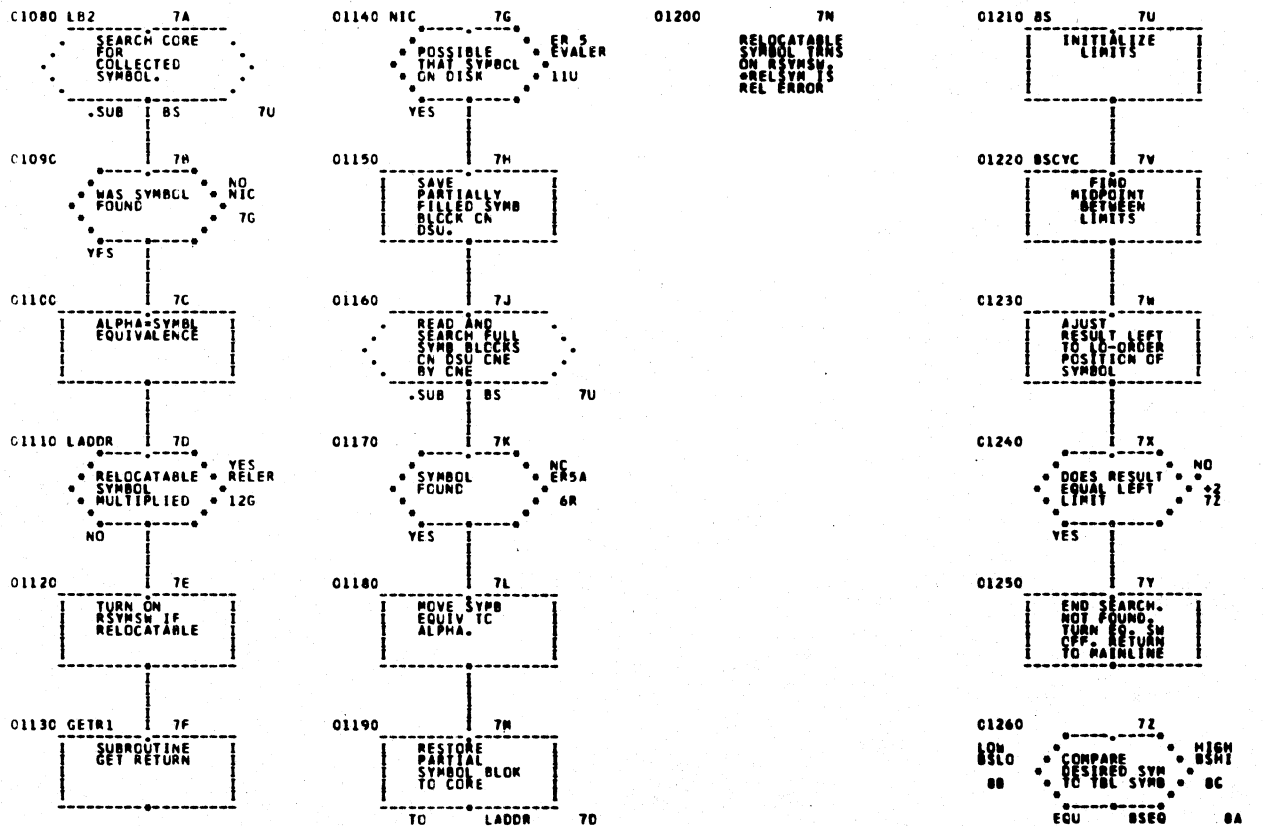
1385



1386



1387



1388

01270 BSEQ 8A

END SEARCH.
FOUND. TURN
EQUAL SW
ON. RETURN
TO MAINLINE

01280 BSLD 8B

REPLACE
RIGHT LIMIT
BY ADDRESS
OF TABLE
SYMBOL
TO BSCYC 7V

01290 BSMI 8C

REPLACE
LEFT LIMIT
BY ADDRESS
OF TABLE
SYMBOL
TO BSCYC 7V

01300 8D

SEARCHES
SYN TAB IN
CORE BEGNN
SET LIMITS

1389

01310 L0LBL 9A

LABEL FIELD
BLANK
YES SNOTCD 9N
NO

01370 SVDC 9G

INSERT INTO
LABEL INERT
LAB EQUV.
NEXT TO IT.
TO SNOTCD 9N

01420 SNOTCD 9M

OUTPUT
INTERMED.
DATA
SUMR OUTPUT
TO PHASEA 2A

01430 ER2B 9U

SID ERROR
PROCEDURE.
ER 2.
TO SNOTCD 9N

01320 9B

IS LABEL
VALID
NO ER2B 9U
YES

01380 TABPUL 9H

IS EMPTY
DISK AVAIL
FOR SYMBOLS
NO ER19 9X
YES

01440 ER4 9V

REWRITE
CALLBACK
TO CORE IN
NECESSARY.

01330 9C

ASSEMBLE
LITH FOR
TABLE

01390 9J

WRITE CORE
TO DISK
IF TO
CORE EMPTY
CONDITION
TO L0SOR 9F

01430 ER4A 9M

SID ERROR
ER 4.
TO SNOTCD 9N

01340 9D

SEARCH
CORE AND
DISK FOR
LABEL
.SUB 8S 7U

01400 9K

THIS SECT
LOADS LABEL
TO SYMBOL
TABLE IN
CORE + DISC

01440 ER19 9X

IS THIS
FIRST TIME
ERROR OCCUR
NO SNOTCD 9N
YES

01350 9E

WAS LABEL
FOUND
YES ER2 9V
NO L0SOK 9F

01410 9L

THIS SECT
IN CORE
DURING
PHASE A

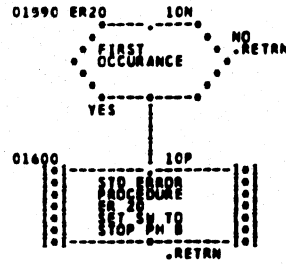
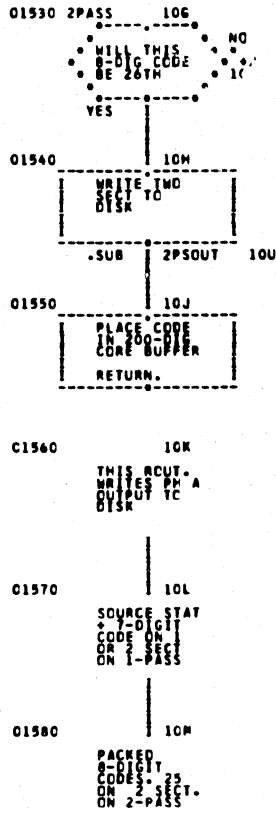
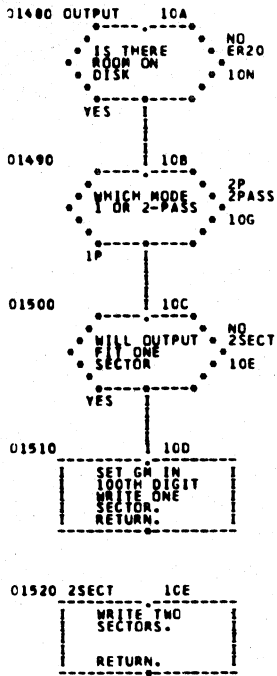
01470 9V

SID ERROR
ER 5.
TO SNOTCD 9N

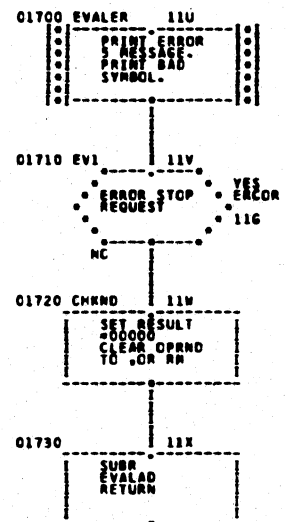
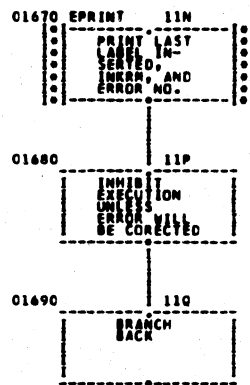
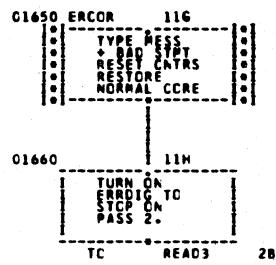
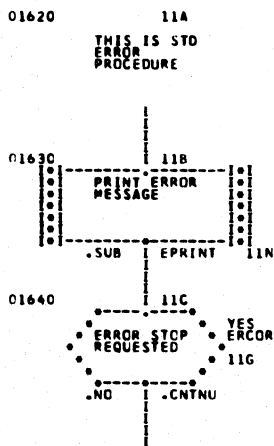
01340 L0SOK 9F

LOOK FOR
SYMBOL IN
CORE
YES
NO TABPUL 9H
TO 9G

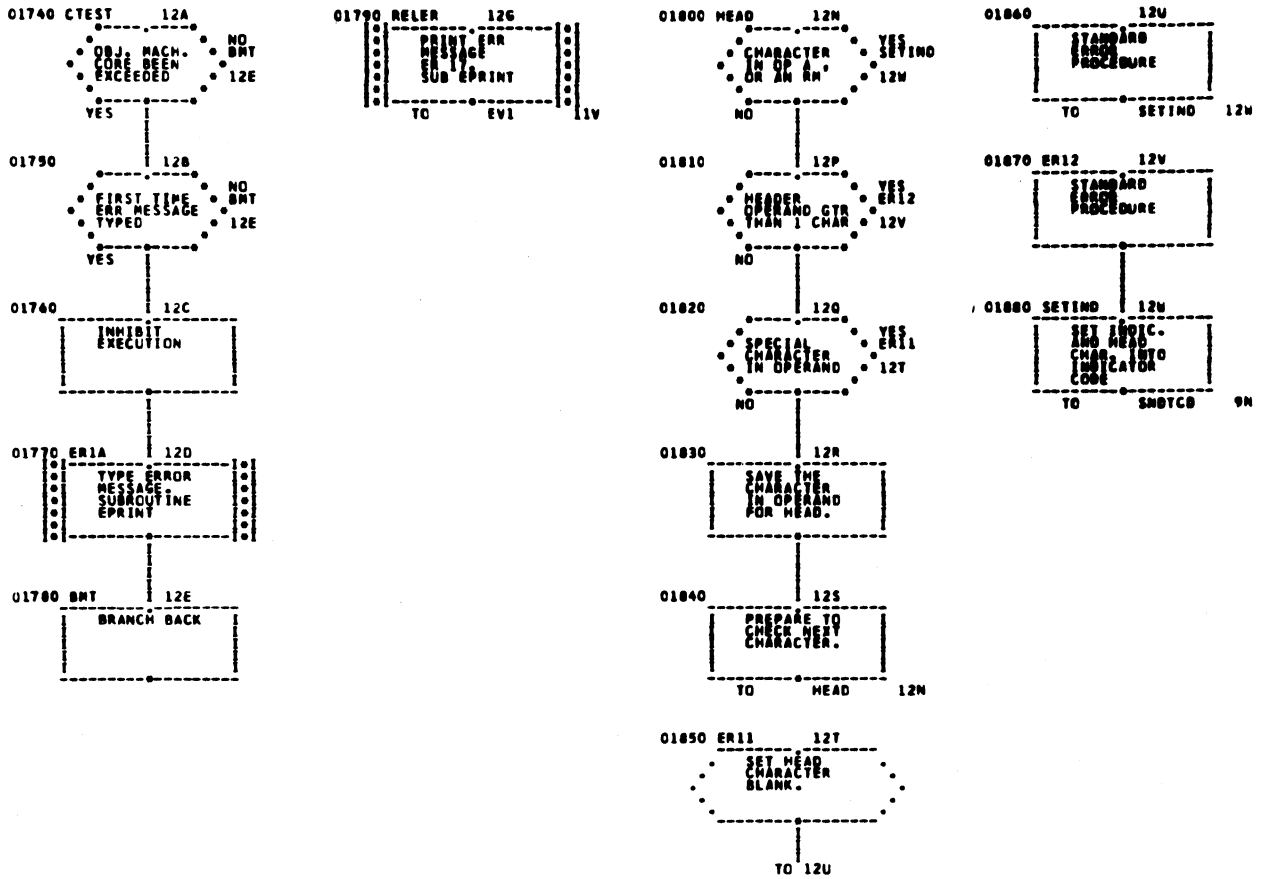
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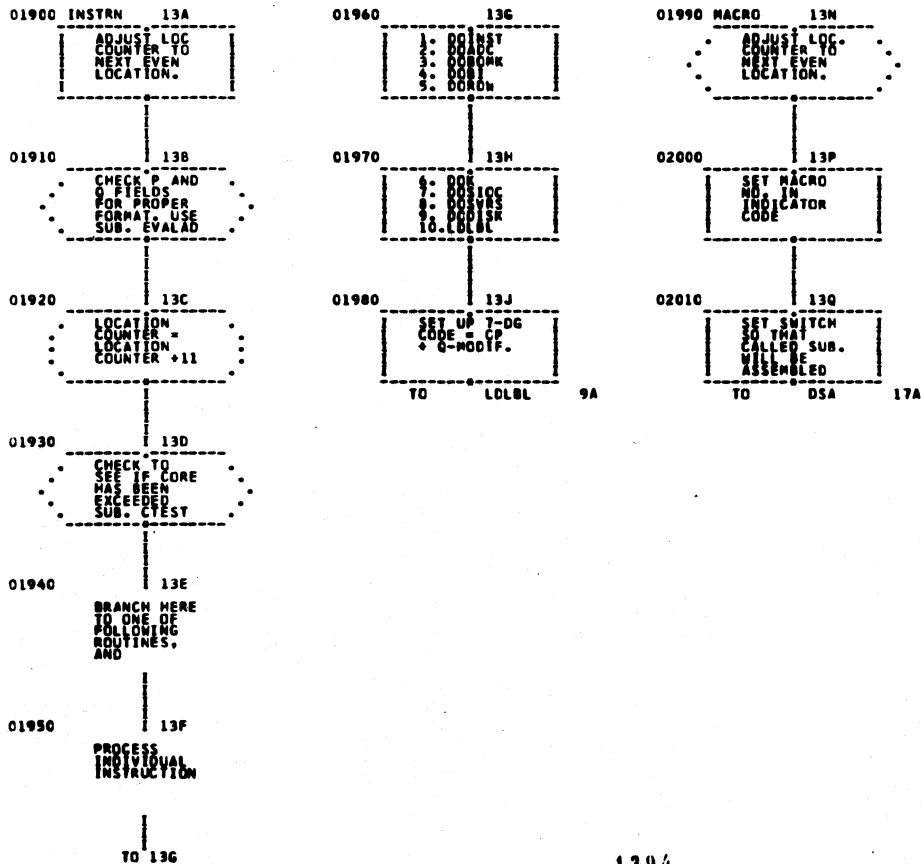
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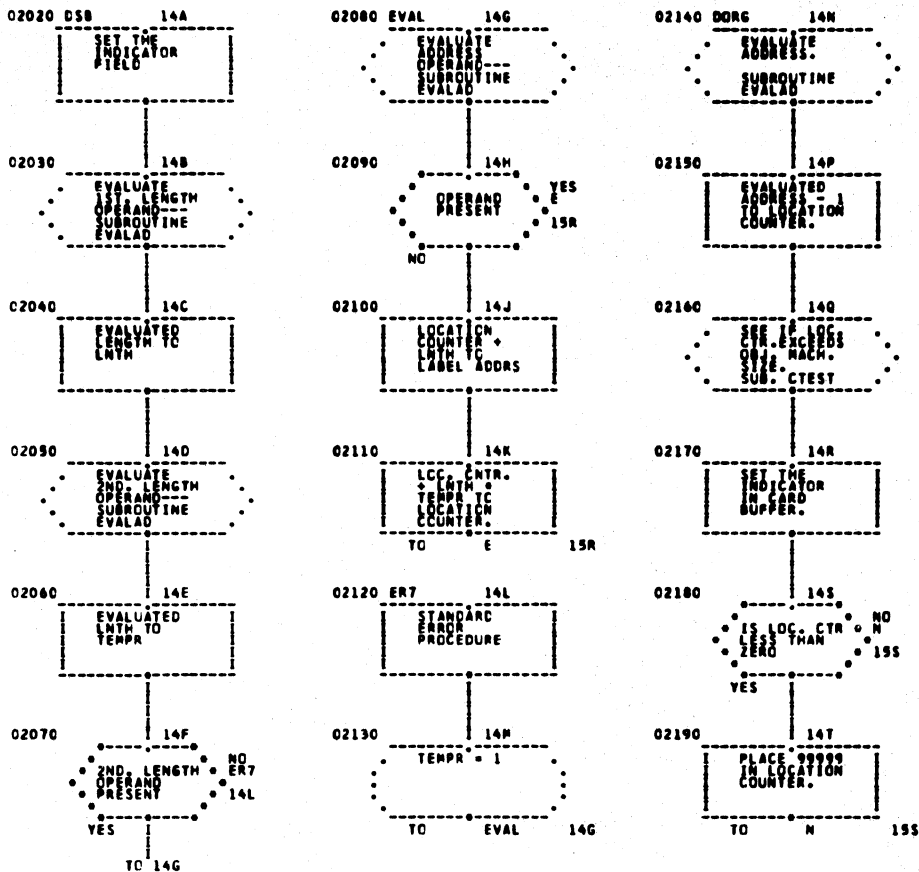
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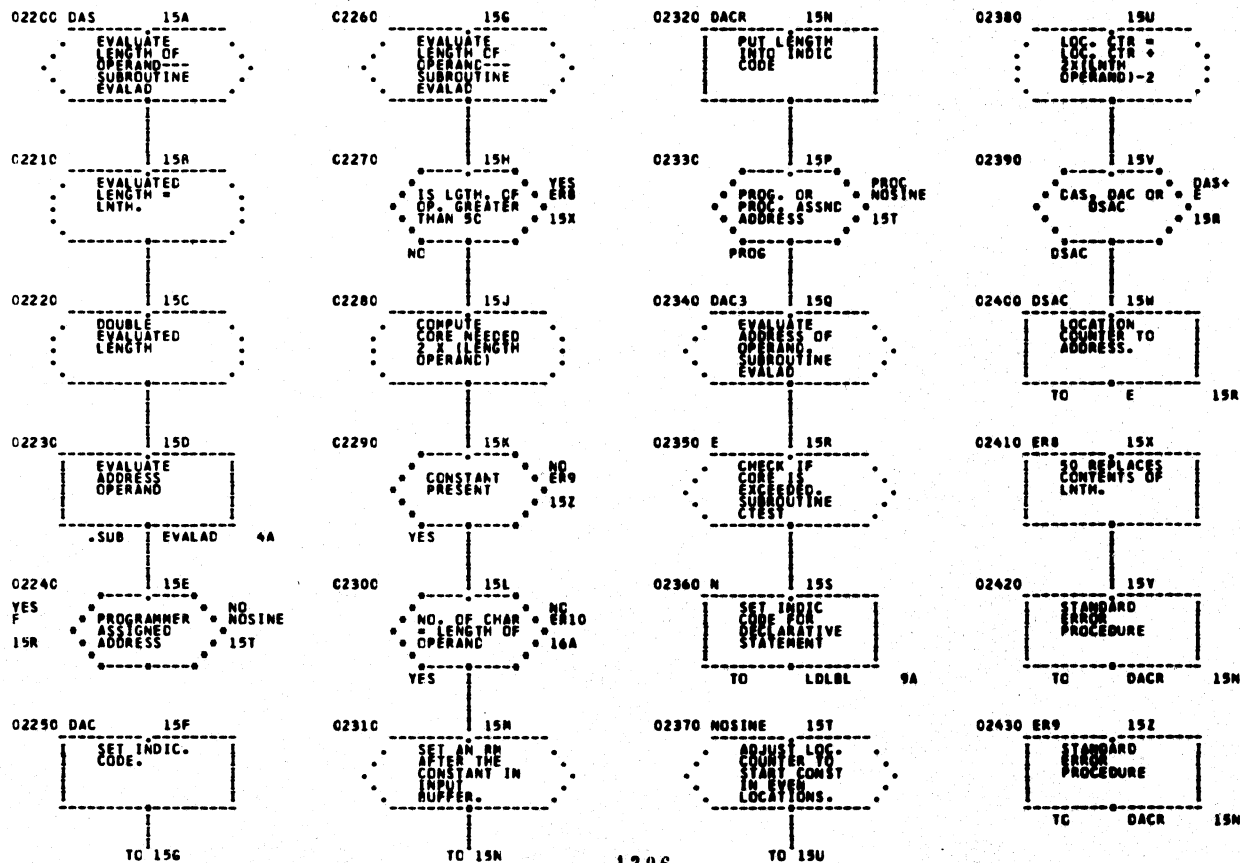
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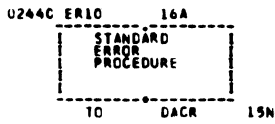
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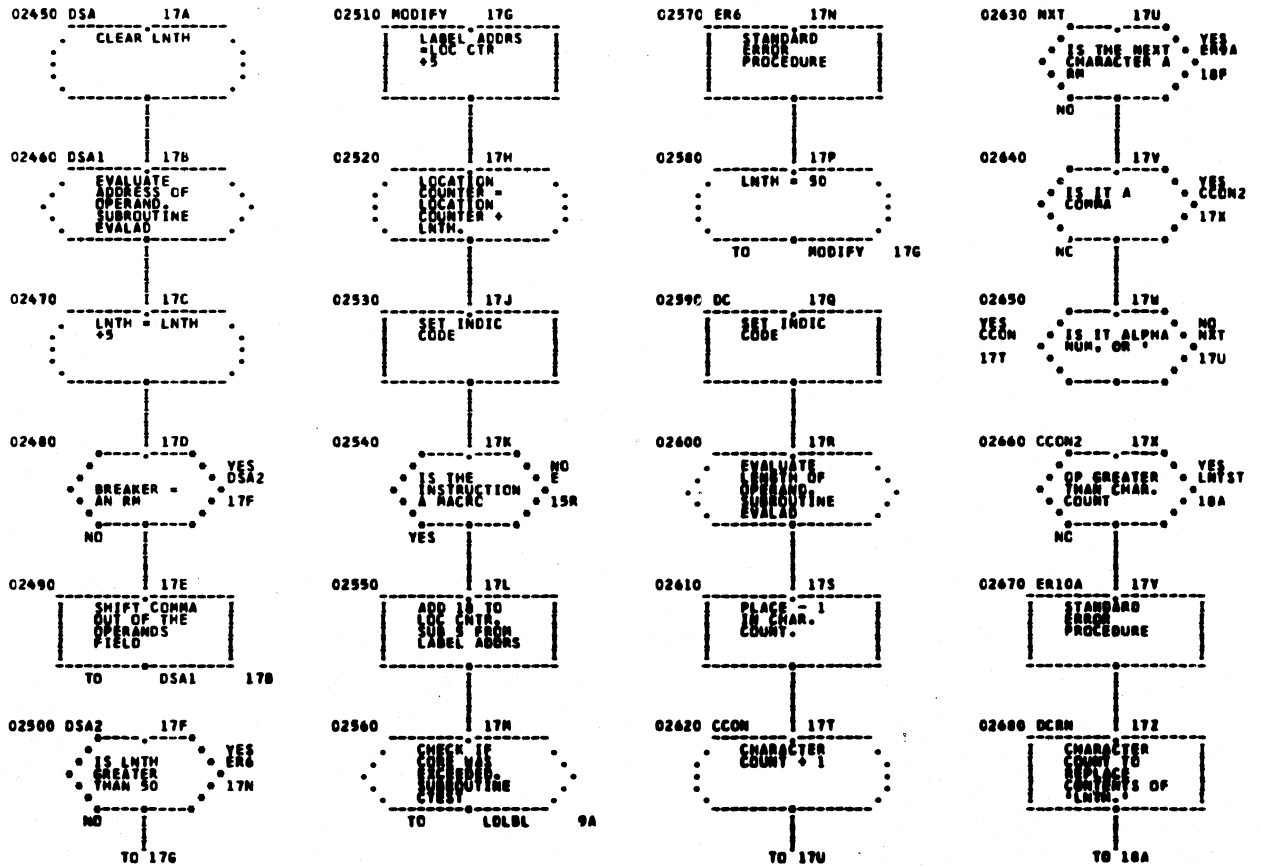
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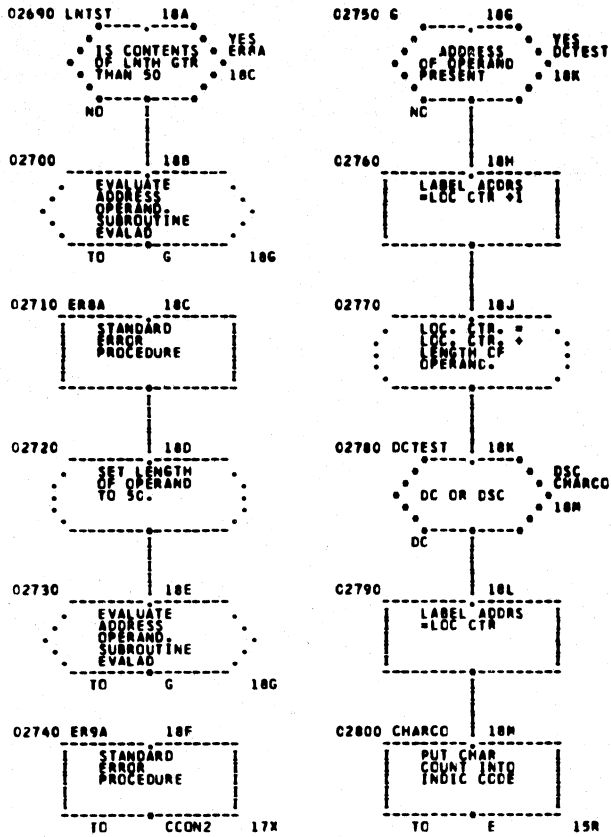
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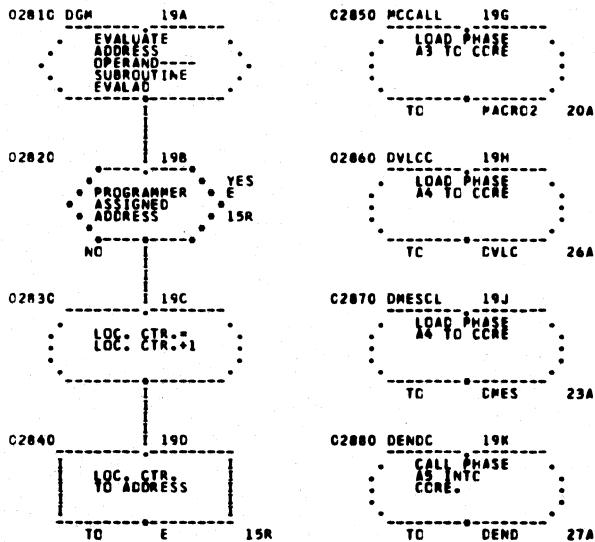
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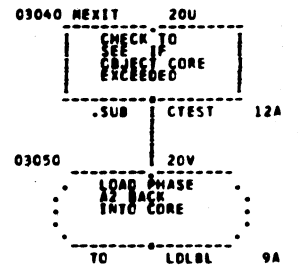
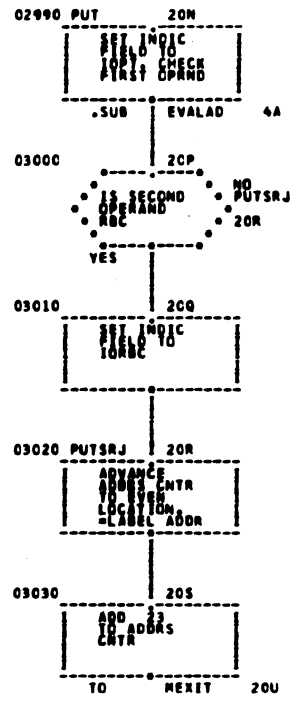
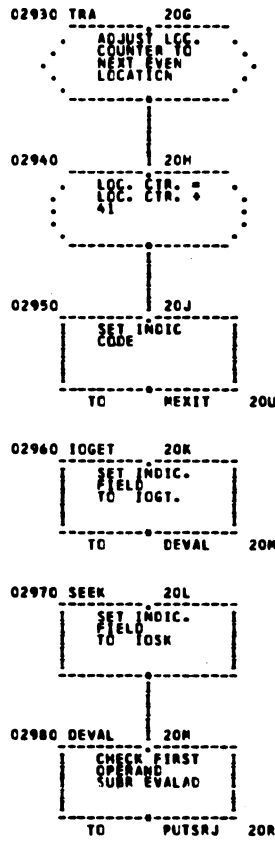
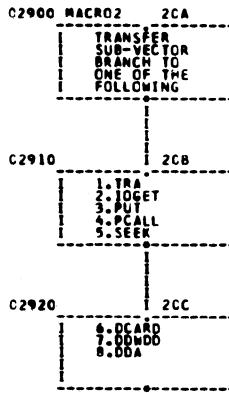
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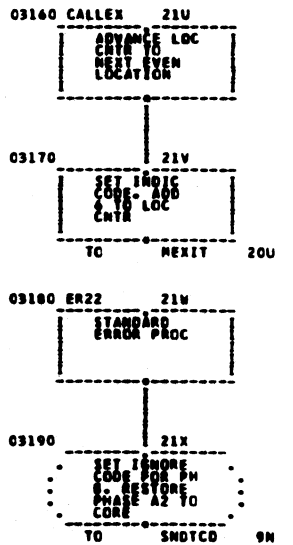
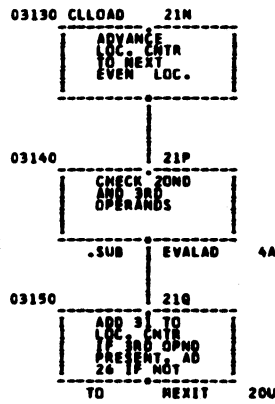
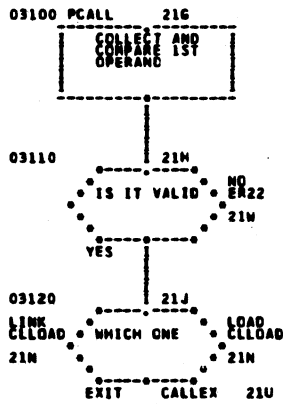
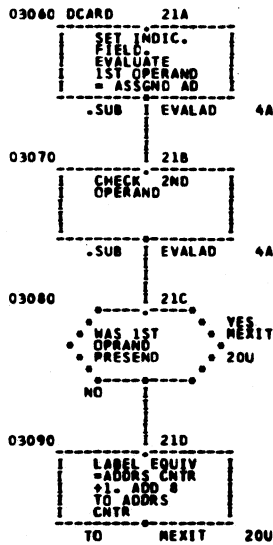
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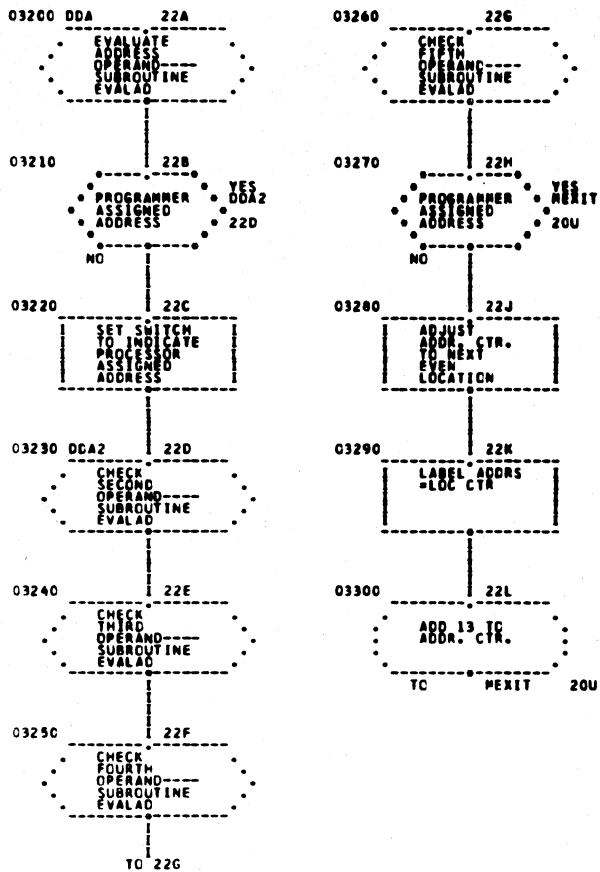
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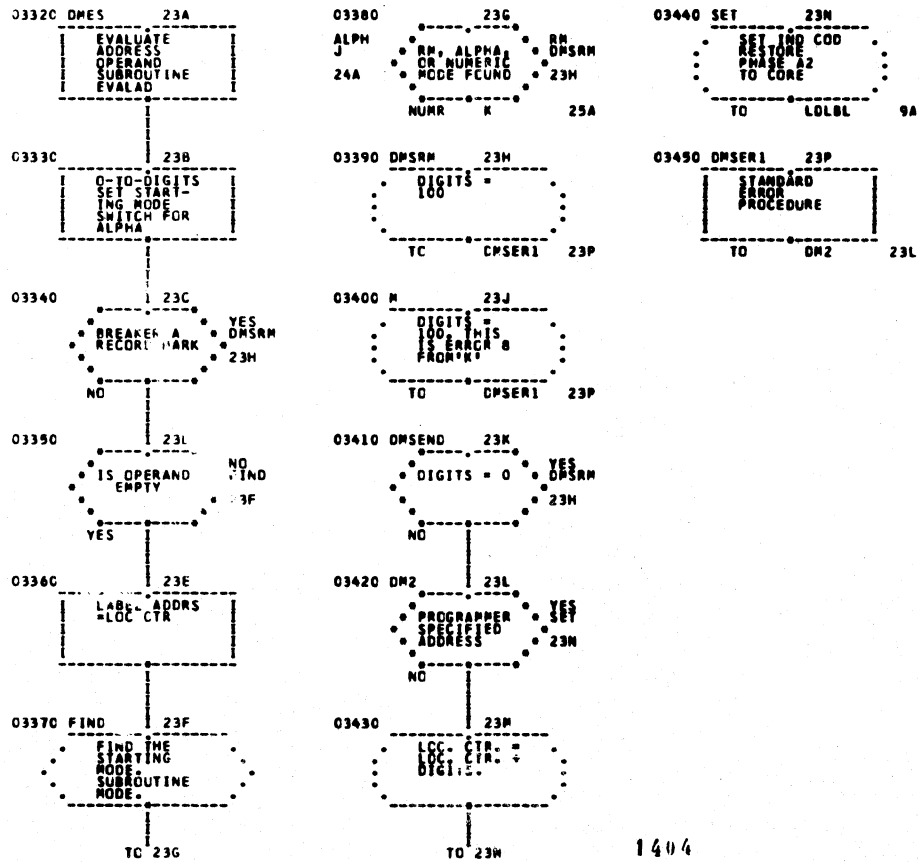
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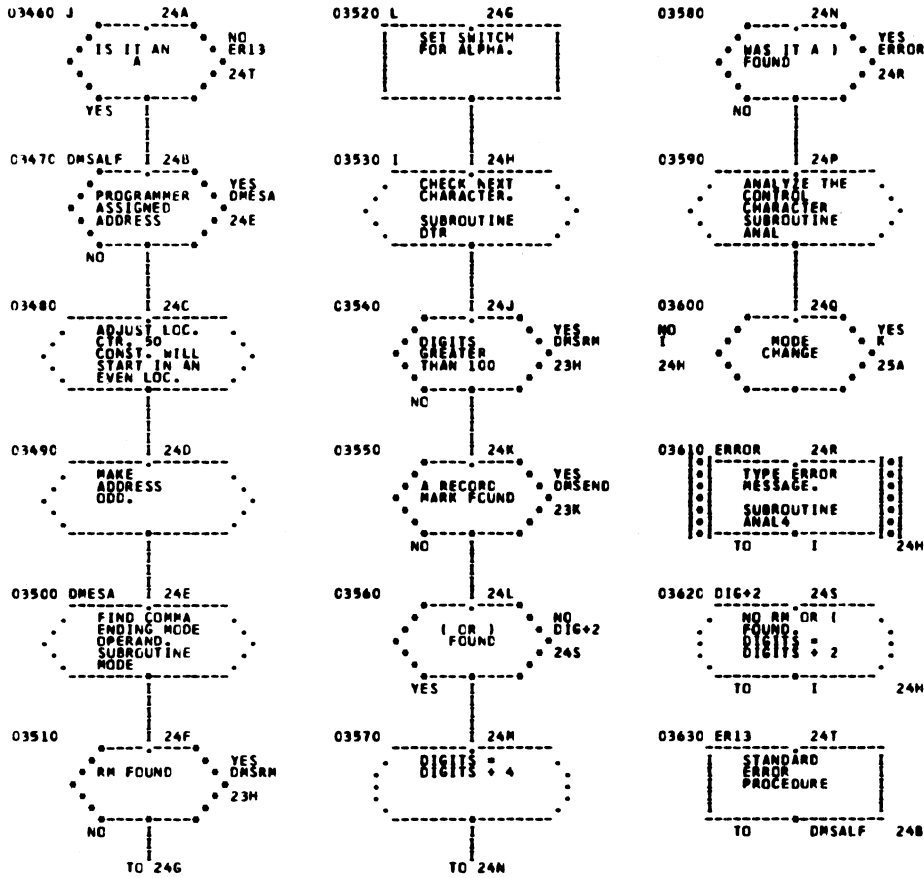
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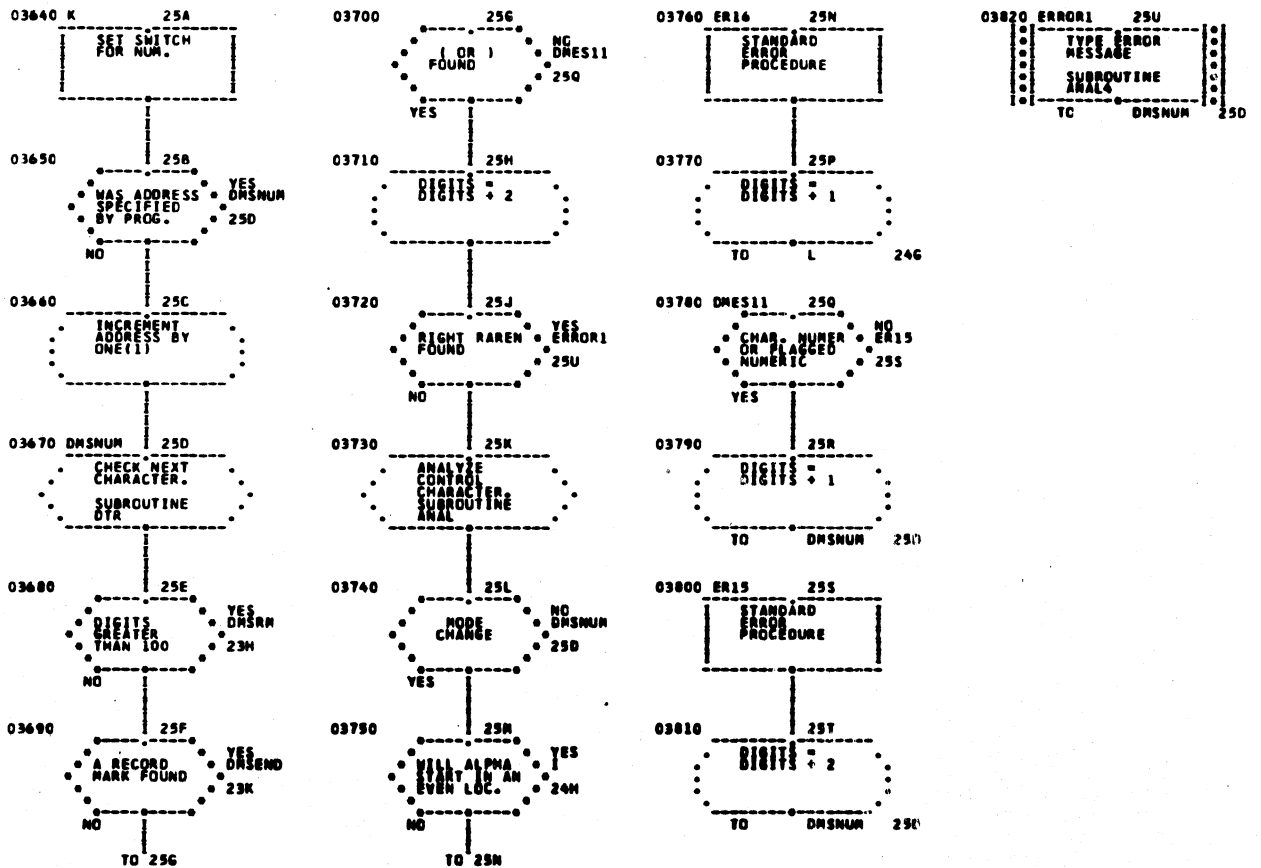
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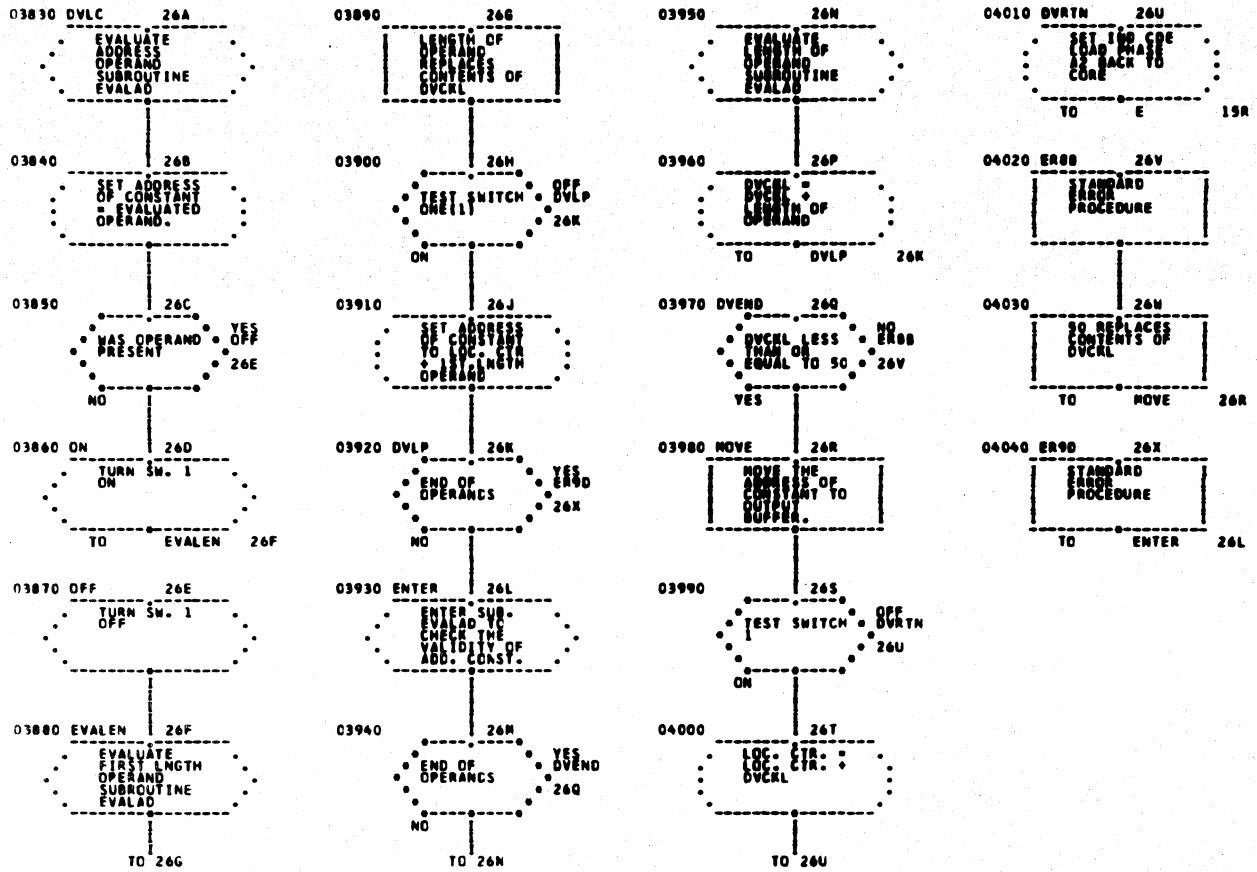
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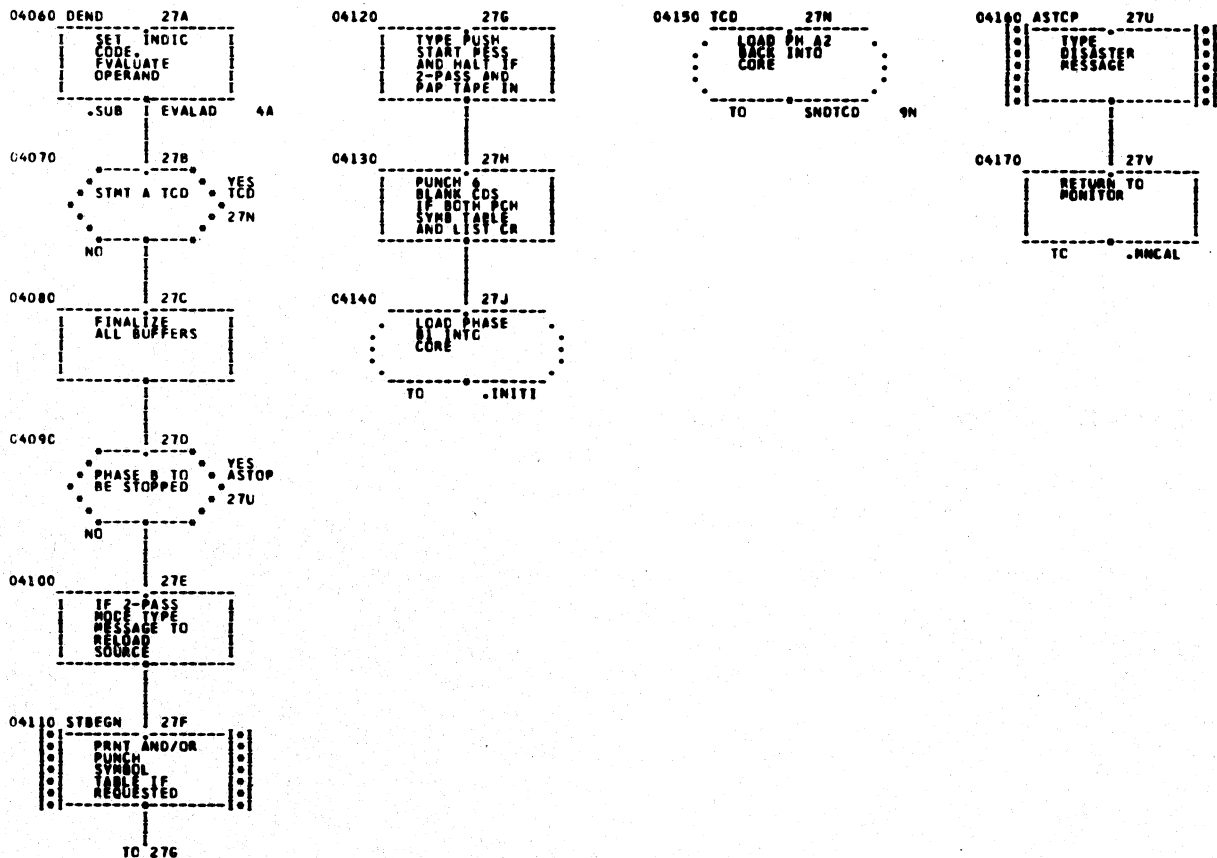
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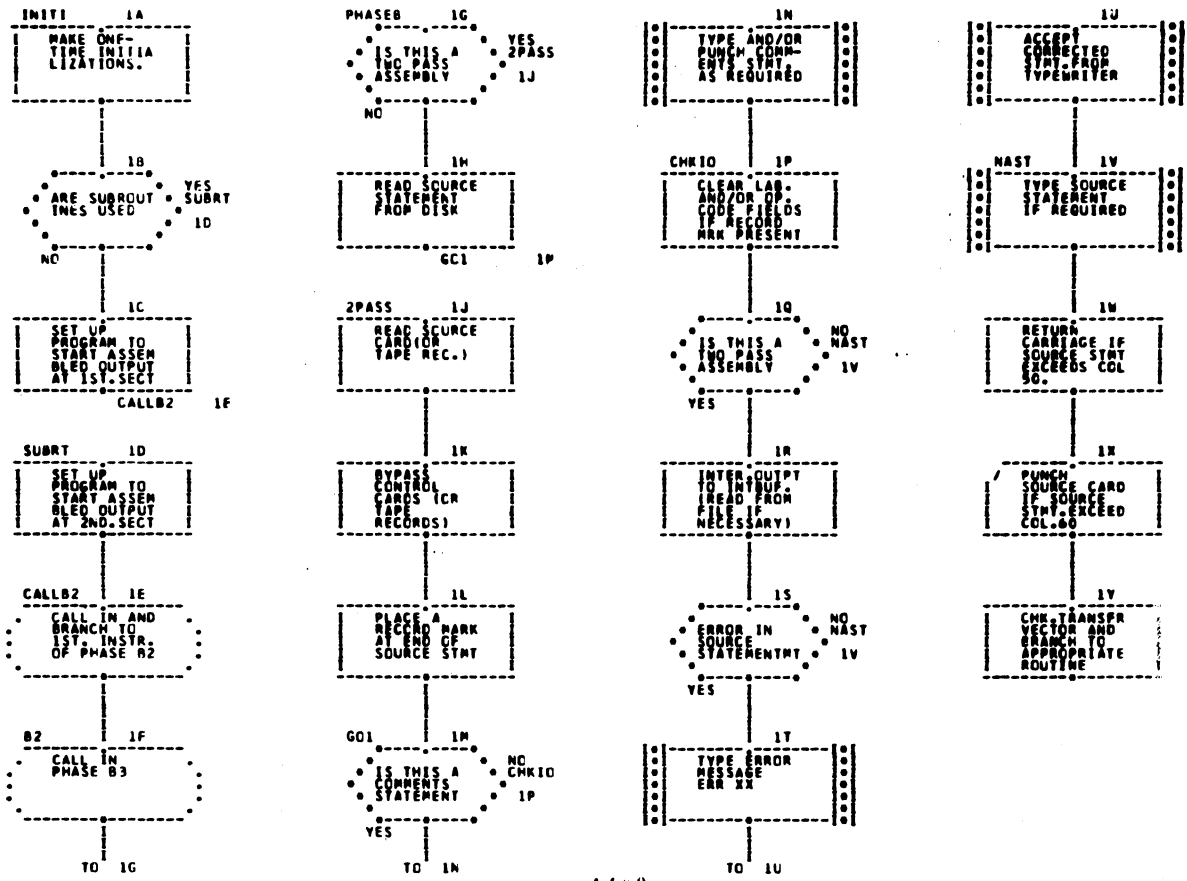
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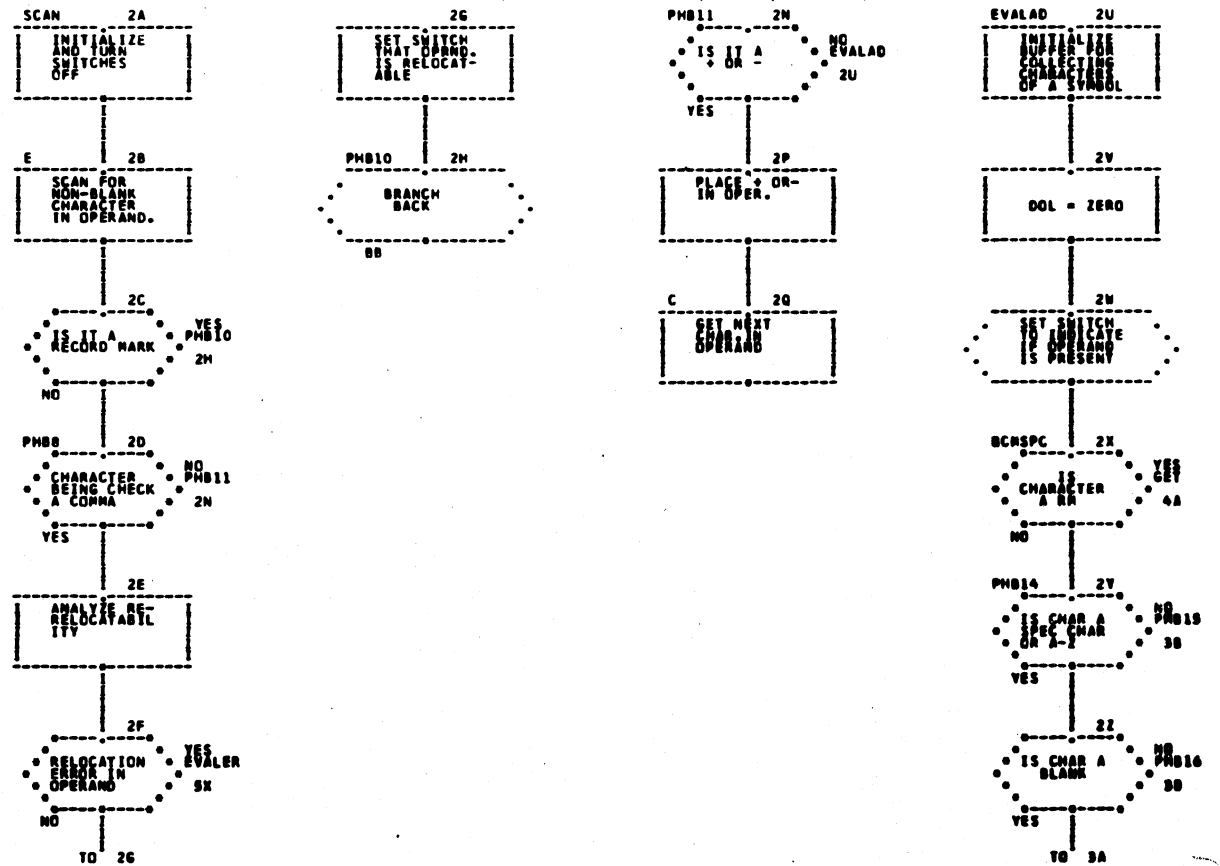
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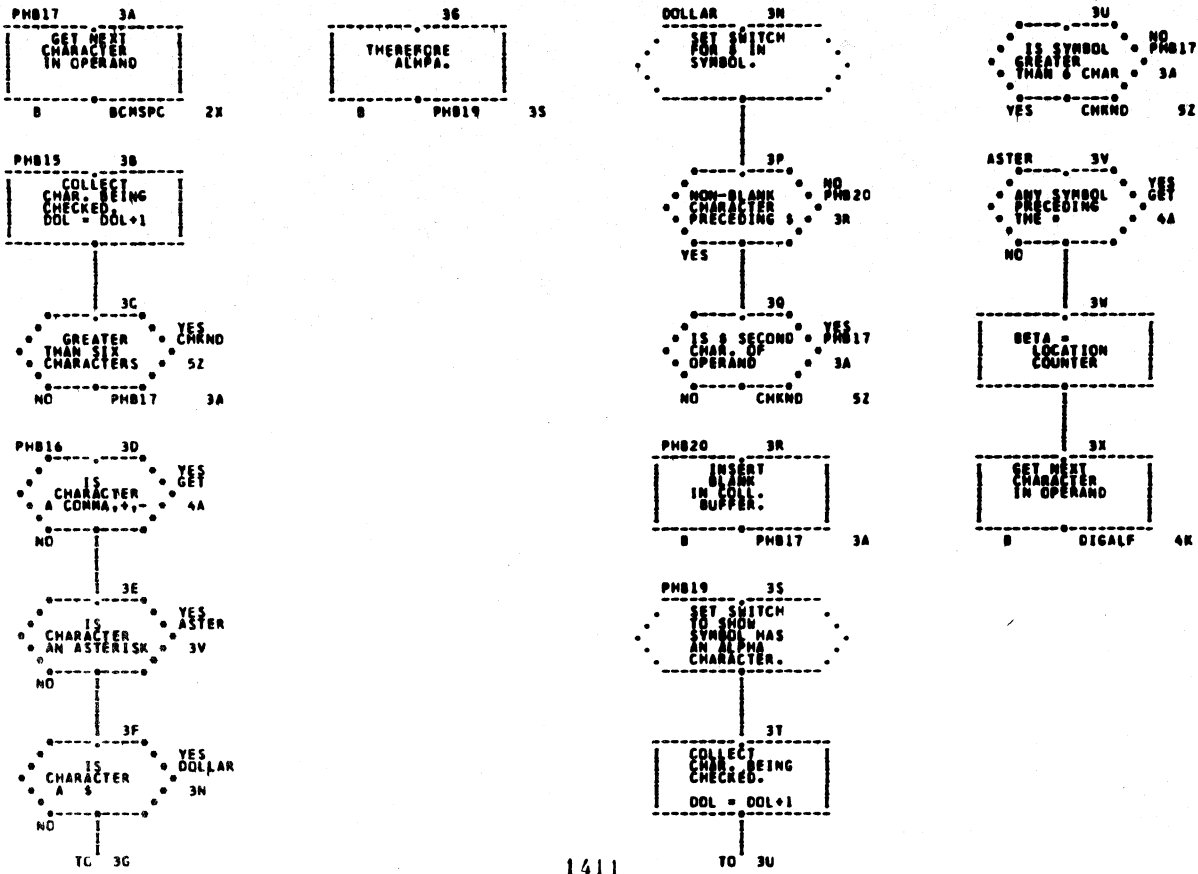
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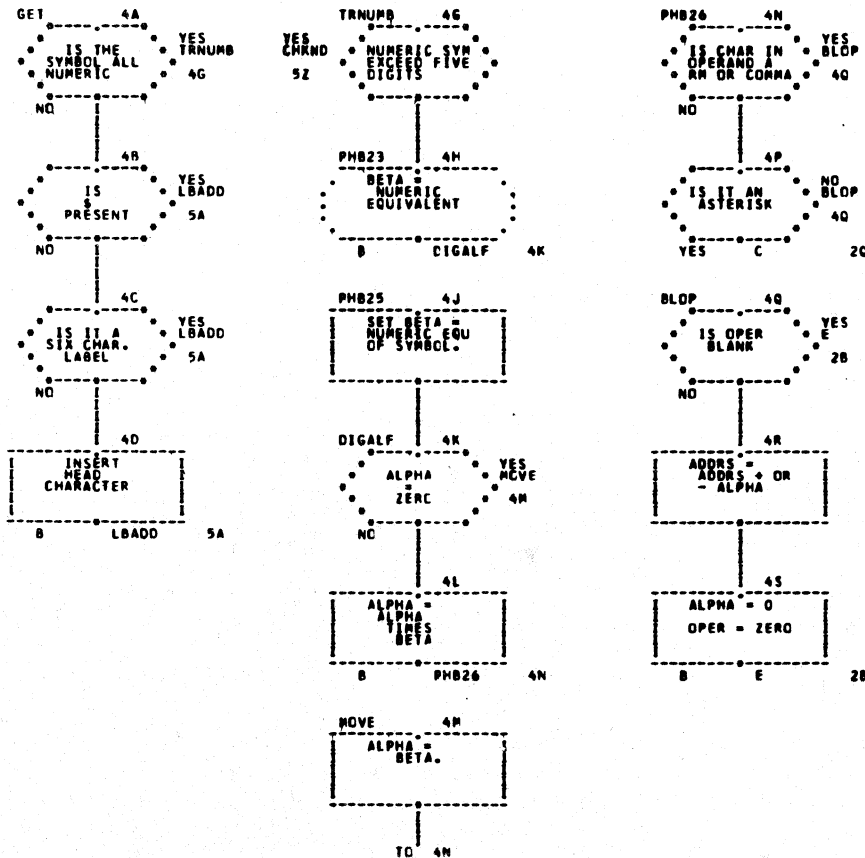
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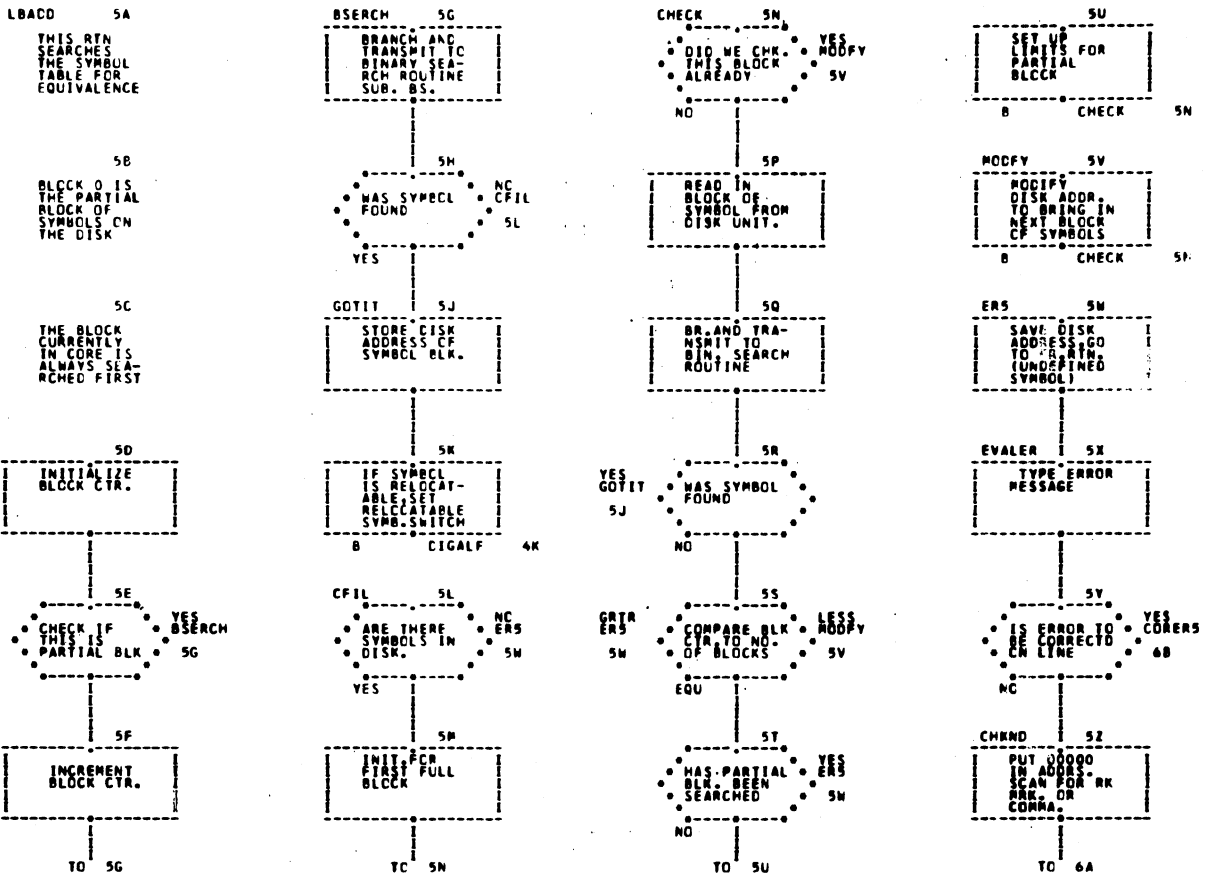
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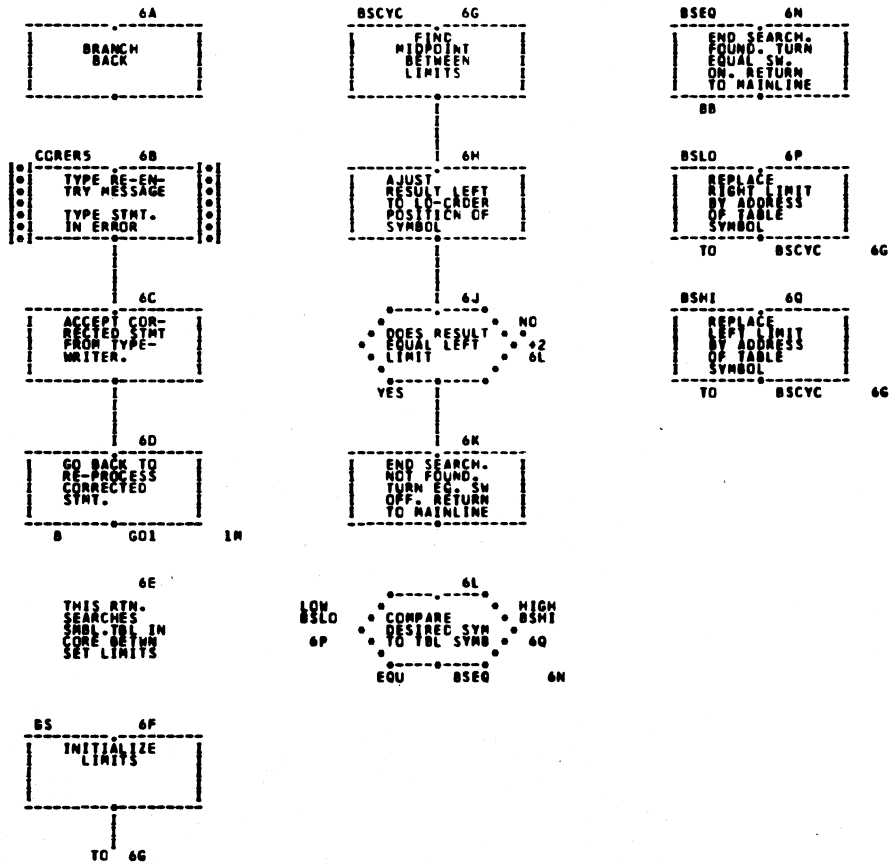
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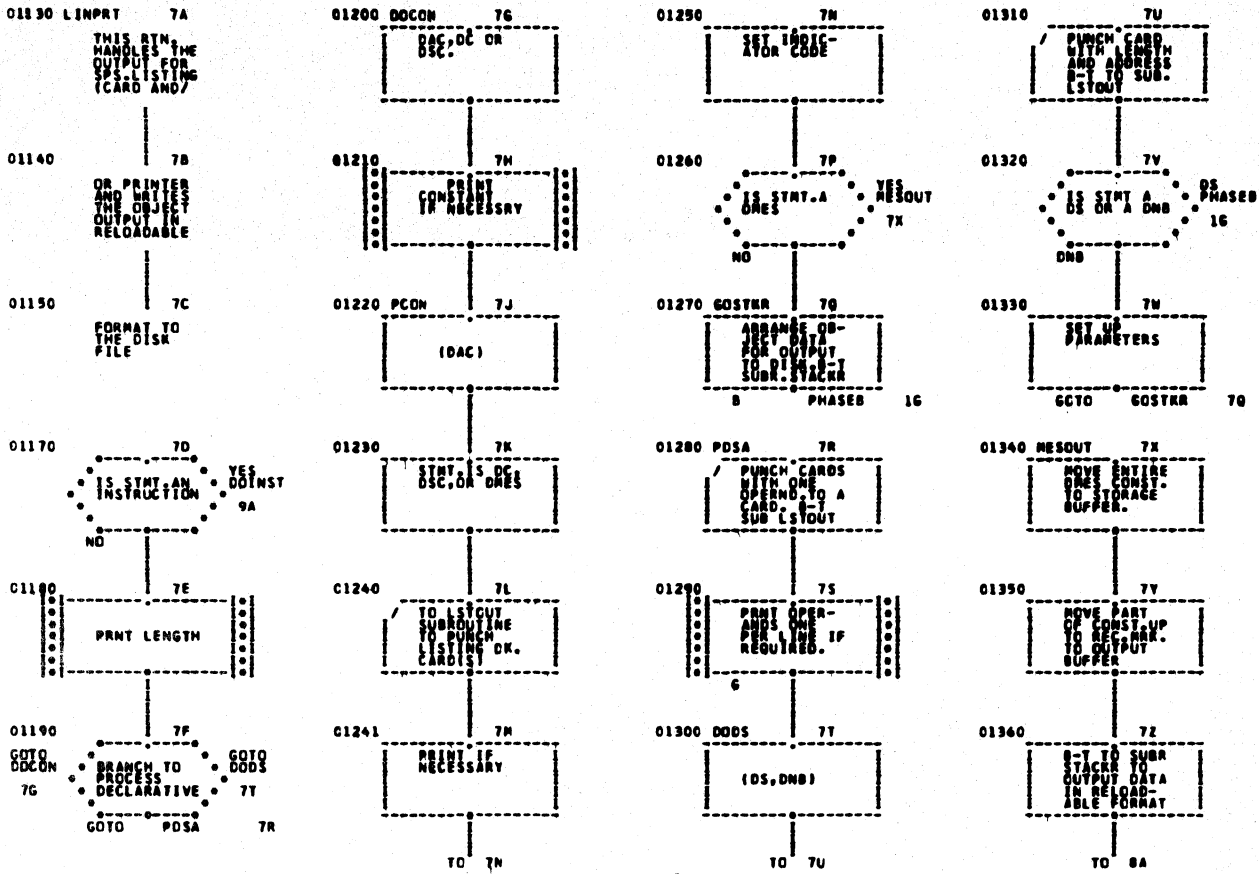
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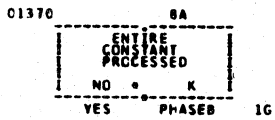
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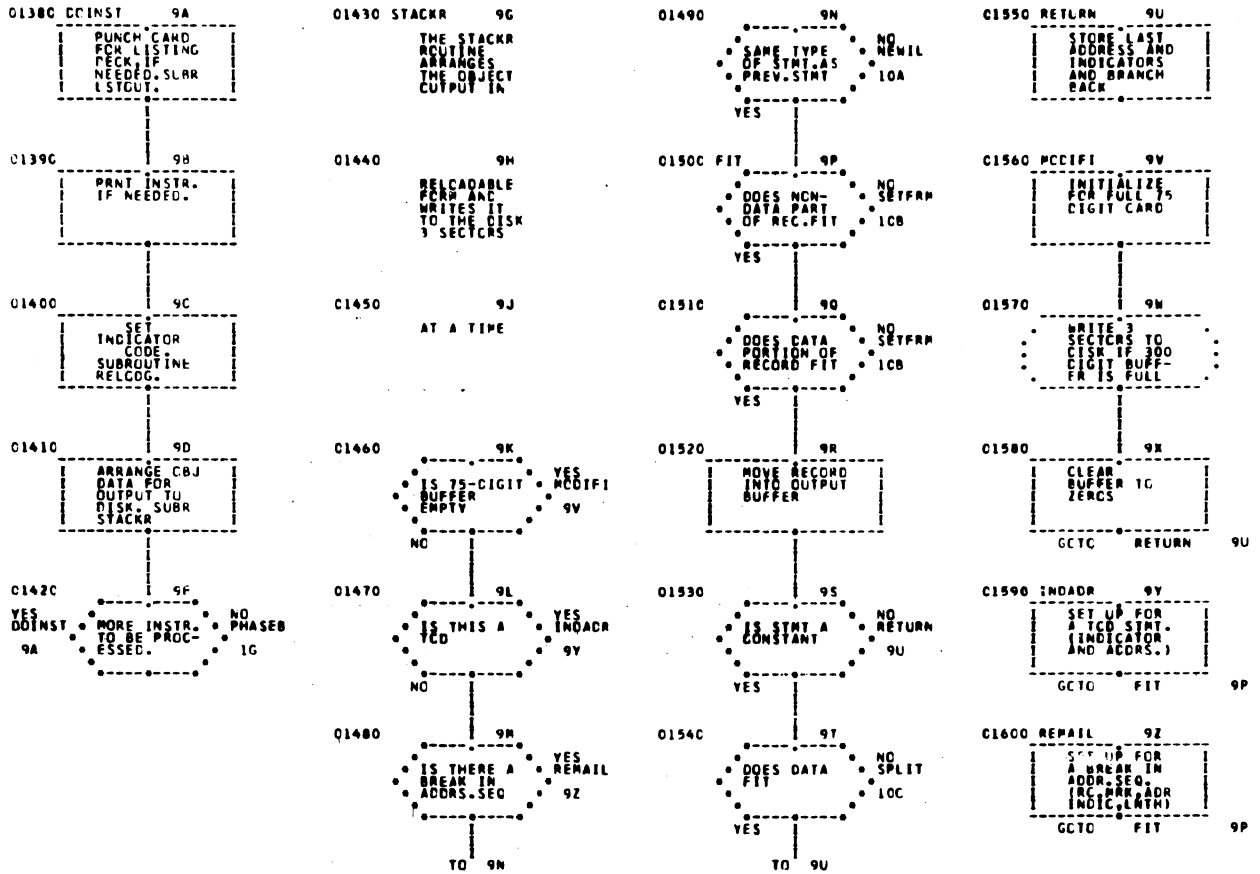


1414

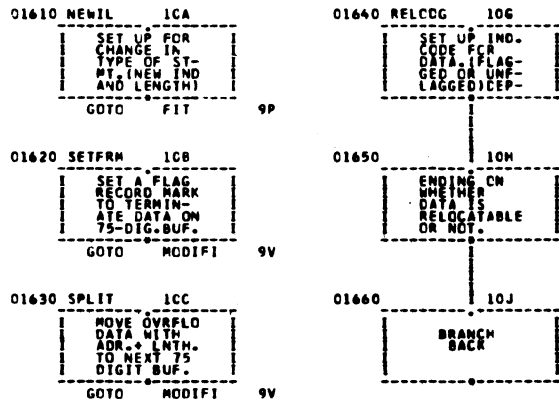


1415





1417



1418

0167C 11A
TO PROCESS
A STATEMENT
WHICH IS AN
INSTRUCTION

01730 11G
INCREMENT
ADDR. CNT.
AND ADJUST
FOR BY *2
IF RECD.

01780 DSDND 11M
EVALUATE
LENGTH
OPERAND
SUBROUTINE
SCAN.

01830 DAS 11U
EVALUATE
LENGTH
OPERAND
SUBROUTINE
SCAN.

01680 INSTRN 11B
ADJUST ADD-
RESS COUNT-
ER TO NEXT
EVEN DIGIT

01740 11H
IS THERE
A FLAG
OPERAND
NO
YES FLAGGR 11L

01790 11P
IS STRY A
DND
NO *+2
YES

01840 11V
LENGTH=
LENGTH X 2

01690 11C
PLACE OP.
CODE INTO
INSTRUCTION
BUFFER ZERO

01750 11J
IF INSTRU-
TION SET
FLAG ON 7
(EXCEPTION)

01800 11Q
SET LNTM =
99 IF IT IS
GREATER
THAN 99

01850 11W
IS ADDRESS
ASSIGNED BY
PROGRAMMER
NO PROSGN
YES 11Y

01700 11D
EVALUATE P
AND C OPER-
ANDS
SUBROUTINE
SCAN.

01760 11K
TO LINPRT
IC STACK
PUNCH AND/
OR PRINT
INSTRUCTION
B LINPRT 7A

01810 11R
EVALUATE
ADDRESS
OPERAND

01860 11X
EVALUATE
ADDRESS
OPERAND
SUBROUTINE
SCAN
B LINPRT 7A

01710 11E
MOVE EVALUA
TED OPERANDS
TO OUTPUT
BUFFER, ZERO

01770 FLAGGR 11L
SCAN FLAG
OPERAND AND
SET FLAG
ON REQUIRED
POSITIONS.
B LINPRT 7A

01820 11S
UPDATE
ADDRESS
COUNTER IF
ADDRESS NOT
ASSIGNED
B LINPRT 7A

01870 PRCSGN 11Y
ADJUST ADD-
COUNTER TO
NEXT ODD
ADDRESS AND
ADD LNTM X2
B LINPRT 7A

01720 11F
INSERT Q-
MODIFIERS
IF ANY

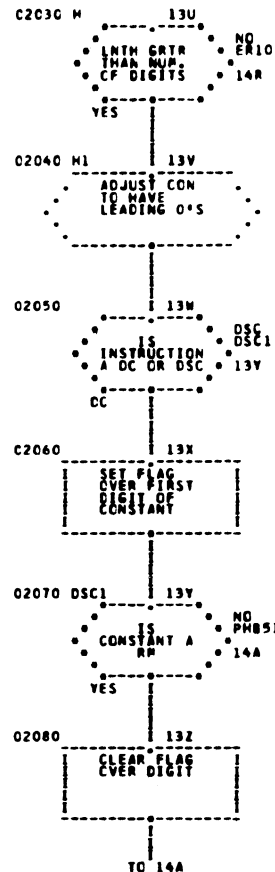
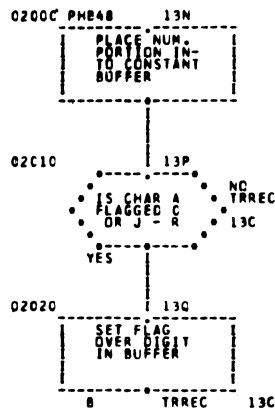
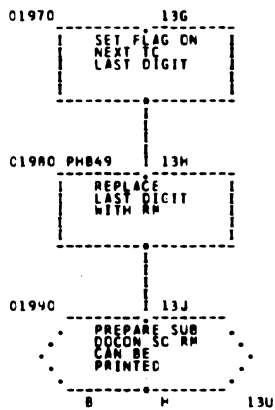
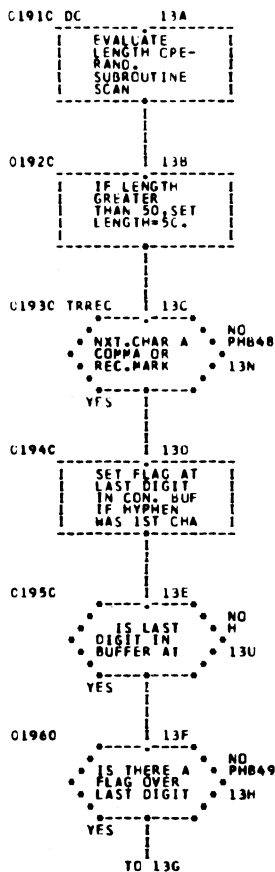
TO 11G

1419

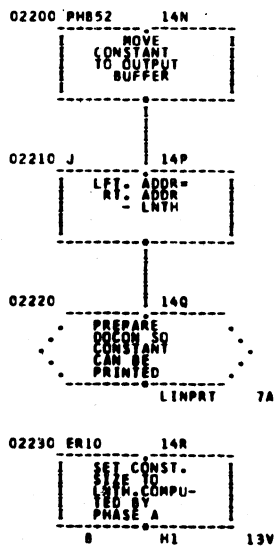
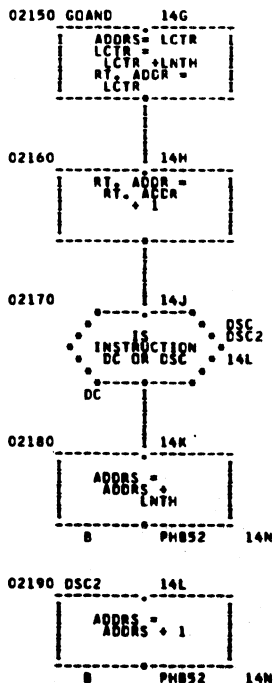
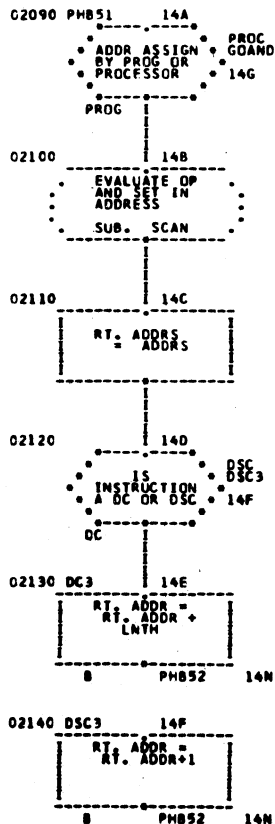
01880 DRG 12A
EVALUATE
OPERAND
SUBROUTINE
SCAN.

0189C 12B
SET ADDRESS
COUNTER TO
NEW VALUE.

0190C 12C
LISTING
OUTPUT.
PRINT AND/OR
PUNCH CARD
AS REQUIRED
R PHASER 1G



1421



1422

565

0229C B4 15A
 SECONDARY
 LINKAGE
 CALLS IN
 PHASE B4
 FROM DISK

02310 15G
 RESTORE
 PHASE B3
 THE PART
 COVERED BY
 PHASE B4
 PHASEB 1G

02320 DGM 15M
 SET LNTH
 TO 1

02380 15U
 ADD 1 TO
 RT. ADDR.

02260 15B
 AND BRANCH
 TO FIRST
 INSTRUCTION
 OF ROUTINE

02330 15P
 EVALUATE
 ADDRESS
 SUBROUTINE
 SCAN

02390 15V
 MOVE MARK
 TO OUTPUT
 AREA

02270 DSB 15C
 EVALUATE
 LENGTH
 OPERAND
 SUBROUTINE
 SCAN

02340 15Q
 PROGRAMMER
 ADDRESS
 YES DGM1
 NO 15T

02400 15W
 RESTORE
 PHASE B3
 THE PART
 COVERED BY
 PHASE B4
 LINPRT 7A

02280 15D
 EVALUATE
 SECOND
 OPERAND
 SUBROUTINE
 SCAN

02350 15R
 LOC. CTR. =
 LOC. CTR. + 1

02290 15E
 MULTIPLY
 FIRST AND
 SECOND
 OPERANDS.

02360 15S
 MOVE
 LOC. CTR.
 TO ADDRESS

02300 15F
 UPDATE ADR.
 COUNTER BY
 PRODUCT IF
 ADDRESS IS
 MACH. ASSGND

02370 DGM1 15T
 MOVE
 ADDRESS TO
 LFT. ADDR.
 AND
 RT. ADDR.

TO 15G

1423

TO 15U

0241C DVLC 16A
 EVALUATE
 ADDRESS
 OPERAND.
 SUB. SCAN

02470 16G
 LNTH =
 ADDR.

02530 16N
 TURN OFF
 SWITCH
 DVSM2.

02590 16U
 IS SWITCH
 DVSM1 ON OR
 OFF
 CN 14P

0242C 16B
 TURN SWITCH
 DVSM2 ON.

02480 CHCK 16H
 IS LNTH GTR. GTR ERDVLC
 OR LESS THAN 50 16Z
 YES 16I
 NO 16J

0254C DVLC2 16P
 EVALUATE
 ADDRESS
 CONSTANT
 SUB. SCAN

02600 16V
 LOCATION
 COUNTER =
 LOCATION
 COUNTER +
 LNTH.
 B

02430 16C
 ADDRESS
 PRESENT
 YES TRNOFF 16E
 NO 16D

02490 CHCKA 16J
 SWITCH
 DVSM2 ON OR
 OFF
 ON 16P
 OFF DVLC2

02550 16Q
 MOVE THE
 EVALUATED
 CONSTANT TO
 INSTRUCTION
 BUFFER

02610 16W
 RESTORE
 PHASE B3
 THE PART
 COVERED BY
 PHASE B4
 LINPRT 7A

0244C 16D
 TURN SWITCH
 DVSM1 ON.
 GOTO DVLC1 16F

02500 16K
 SWITCH
 DVSM1 ON OR
 OFF
 ON 16M
 OFF DVLC3

02560 16R
 END OF
 OPERANDS
 YES 16S
 NO DVLC4 16X

02620 DVLC4 16X
 EVALUATE
 LENGTH
 OPERAND.
 SUB. SCAN

02450 TRNOFF 16E
 TURN SWITCH
 1 OFF.

02510 16L
 SET UP
 PROCESSOR
 ASSIGNED
 ADDR. IN ADD-
 RESS BUFFER

02570 16S
 SET ADDRESS
 OF CONSTANT

02630 16Y
 LNTH = LNTH
 + ADDR
 GOTO CHCK 16H

02460 DVLC1 16F
 EVALUATE
 LENGTH
 OPERAND
 SUB. SCAN

02520 DVLC3 16P
 HIGH-ORDER
 CORE ADDR. =
 HIGH-ORDER
 ADDR. BUF
 PER LNTH + 1.

02580 16T
 LOW-ORDER
 CORE ADDR. =
 HIGH-ORDER
 CORE ADDR. +
 LNTH

02640 ERDVLC 16Z
 CUT OFF
 TIME LENGTH
 OF CONSTANT
 MAKE TOTAL
 LENGTH = 50

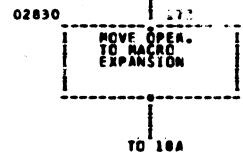
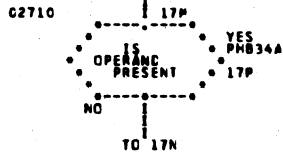
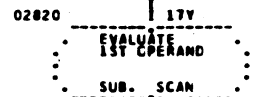
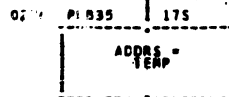
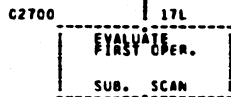
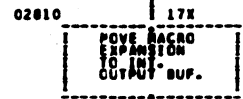
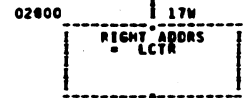
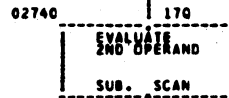
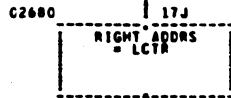
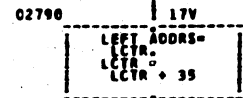
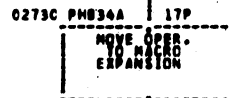
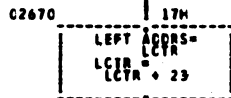
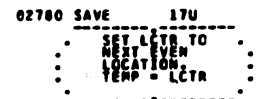
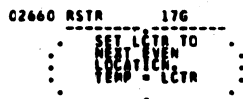
TO 16G

TO 16N

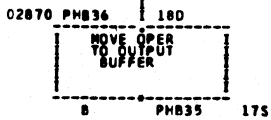
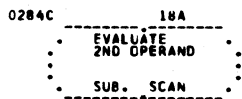
1424

TO 16U

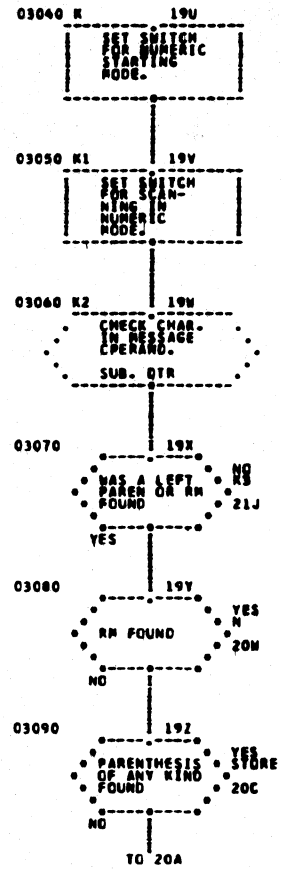
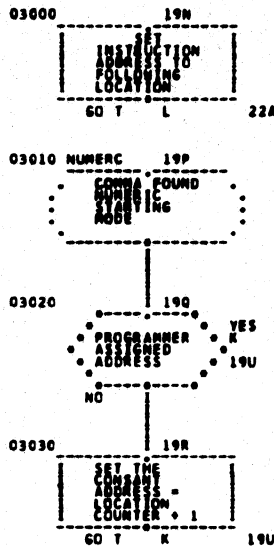
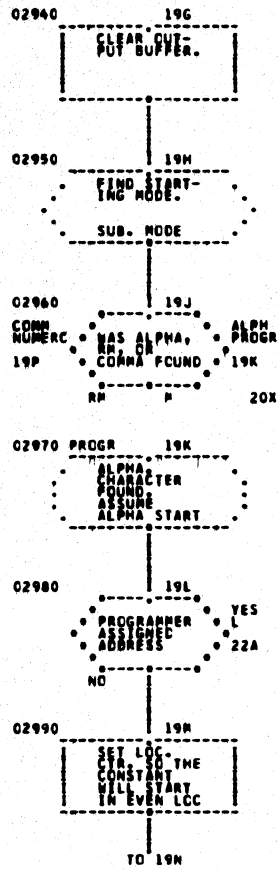
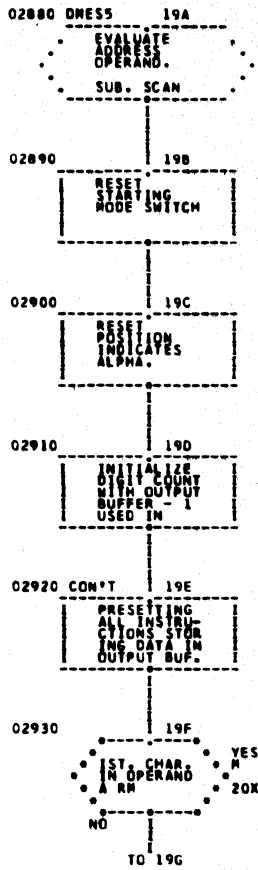
TO 17A



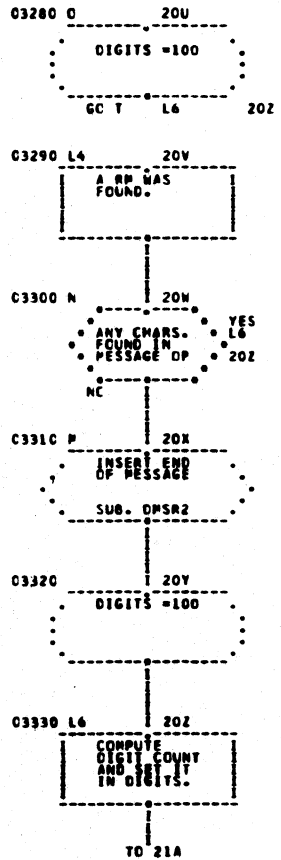
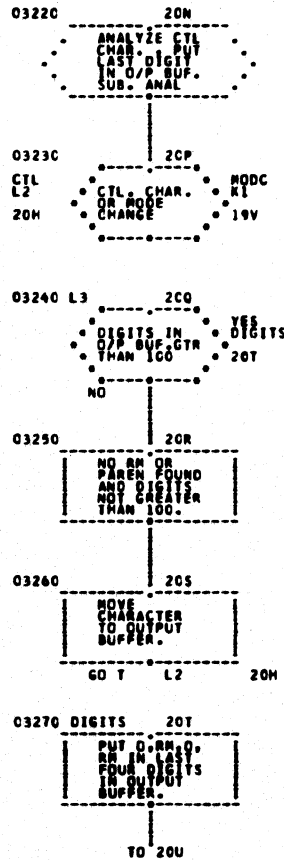
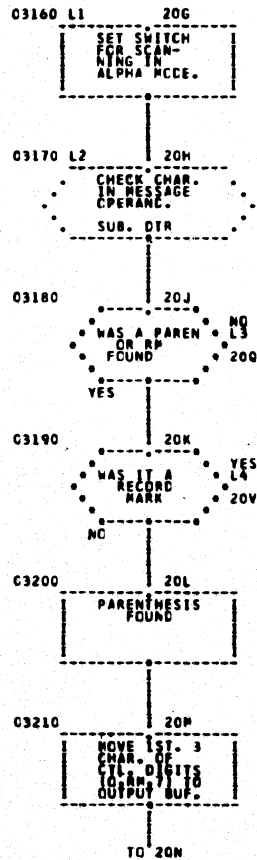
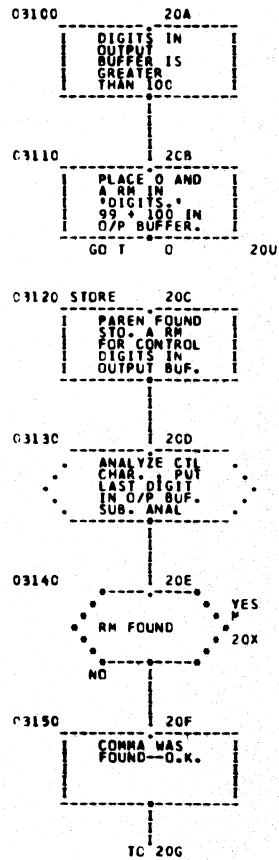
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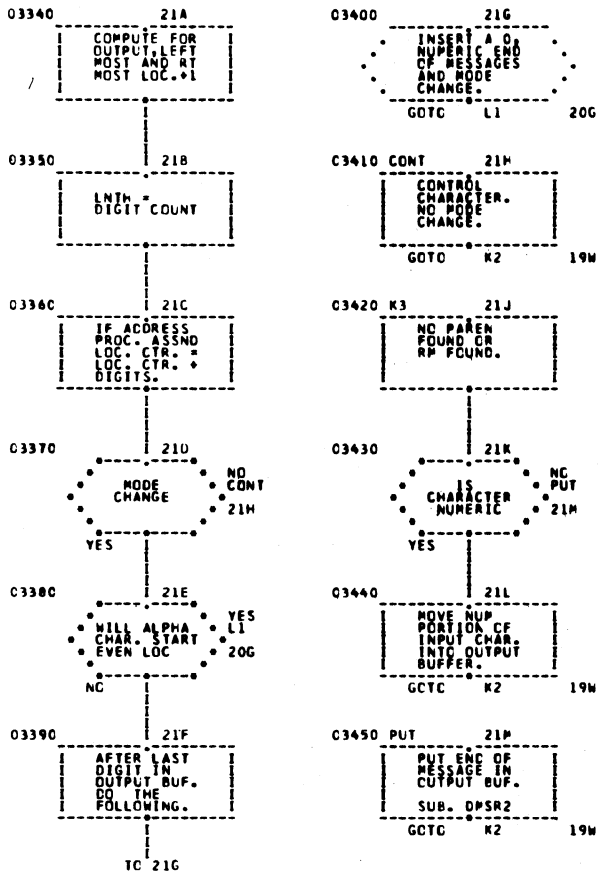
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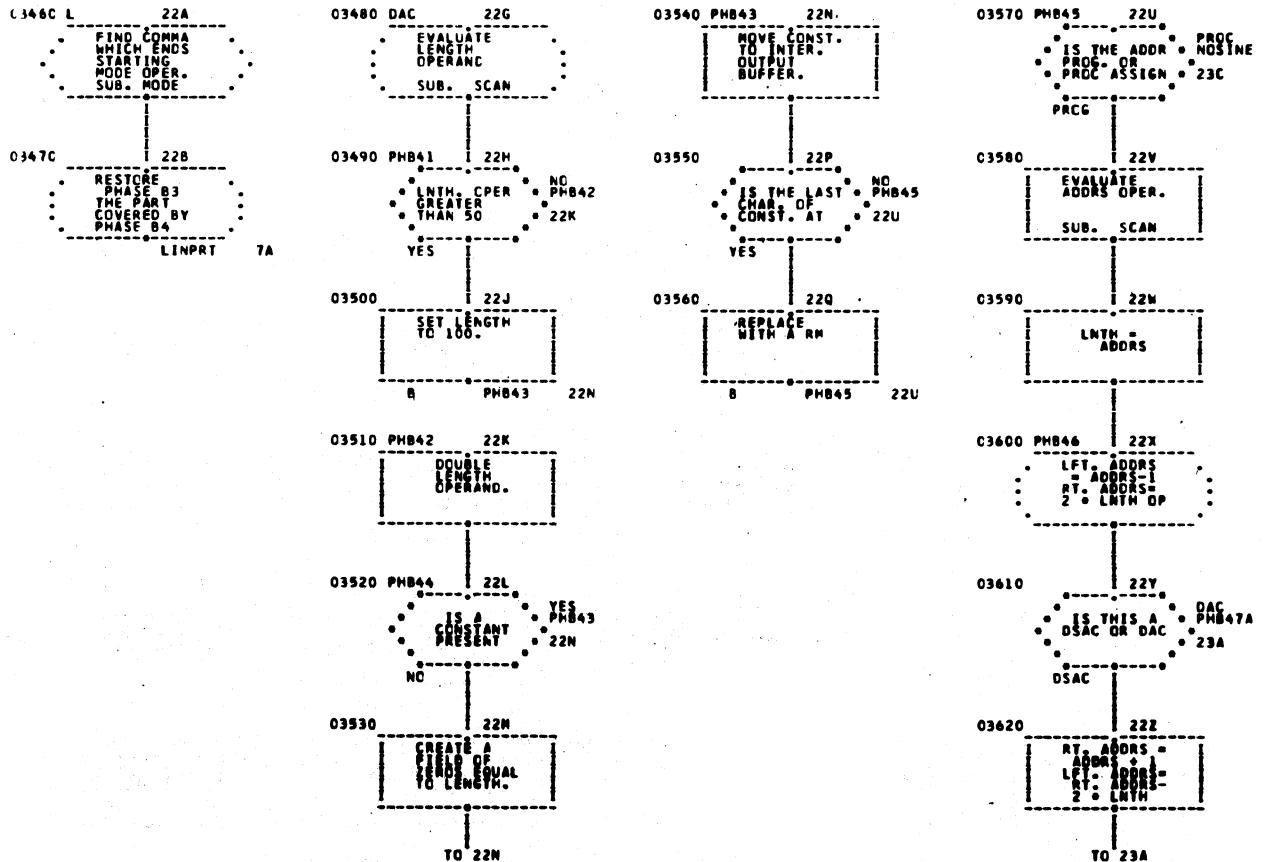
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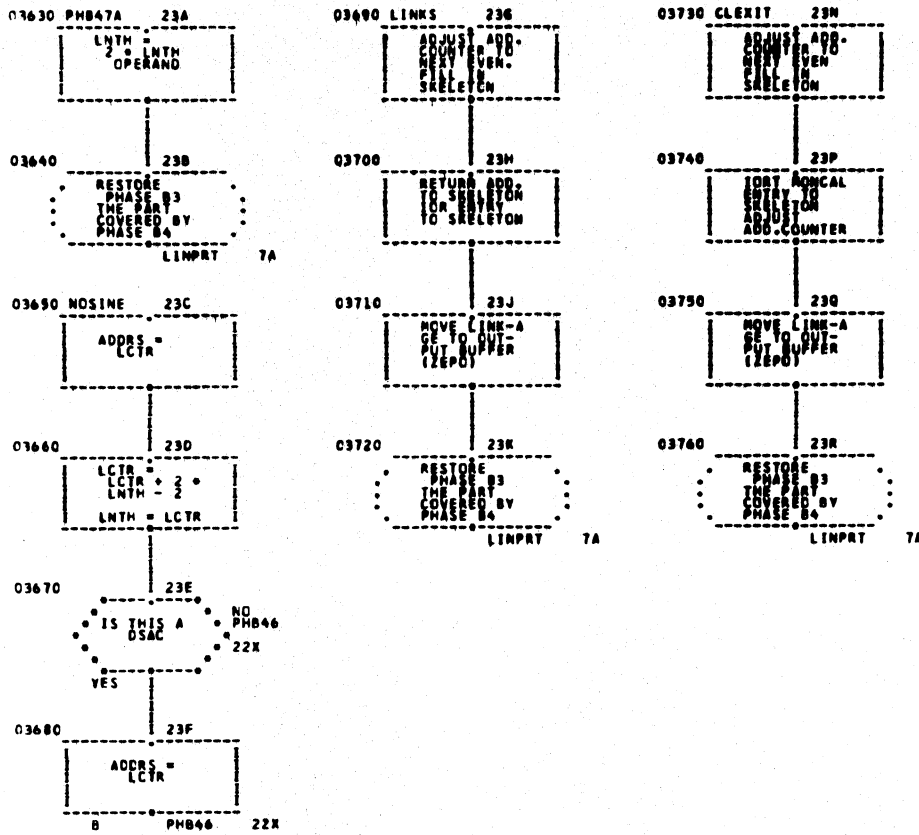
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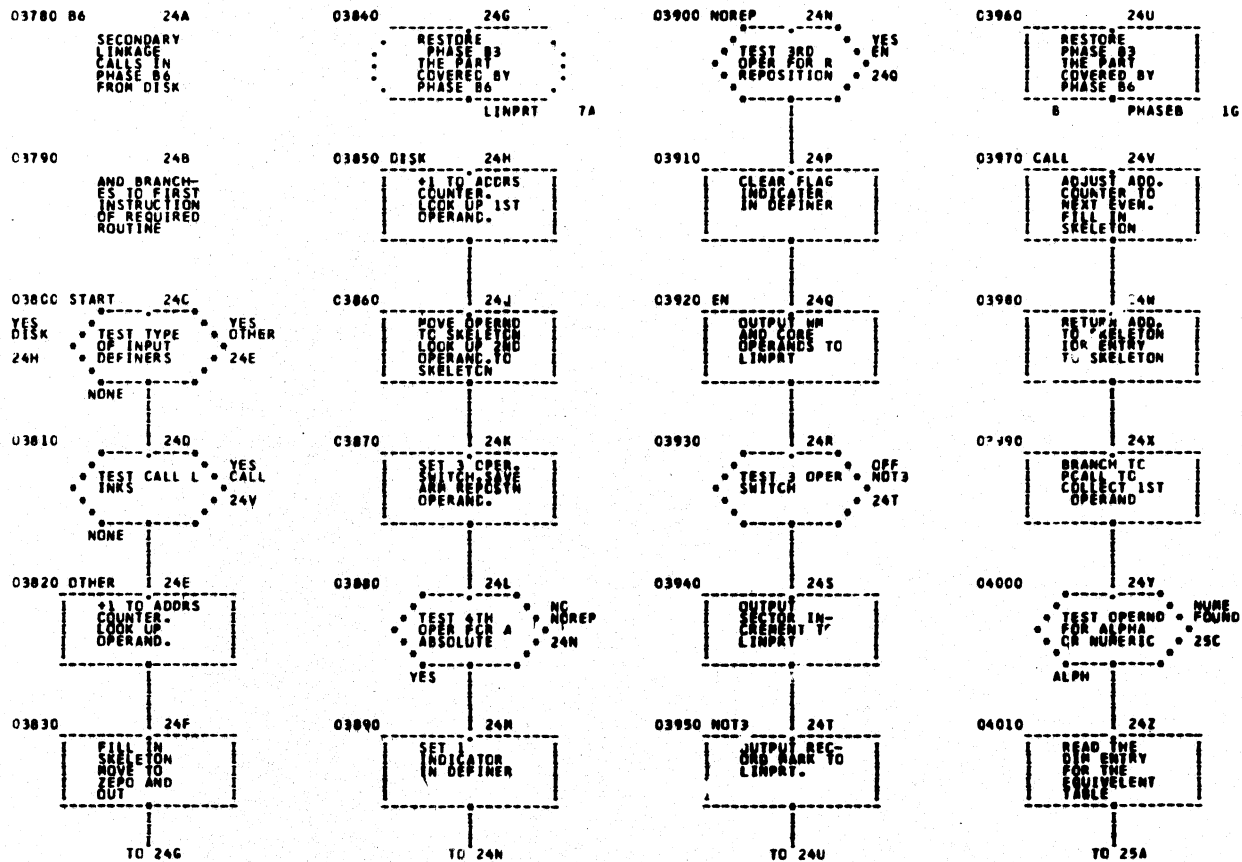
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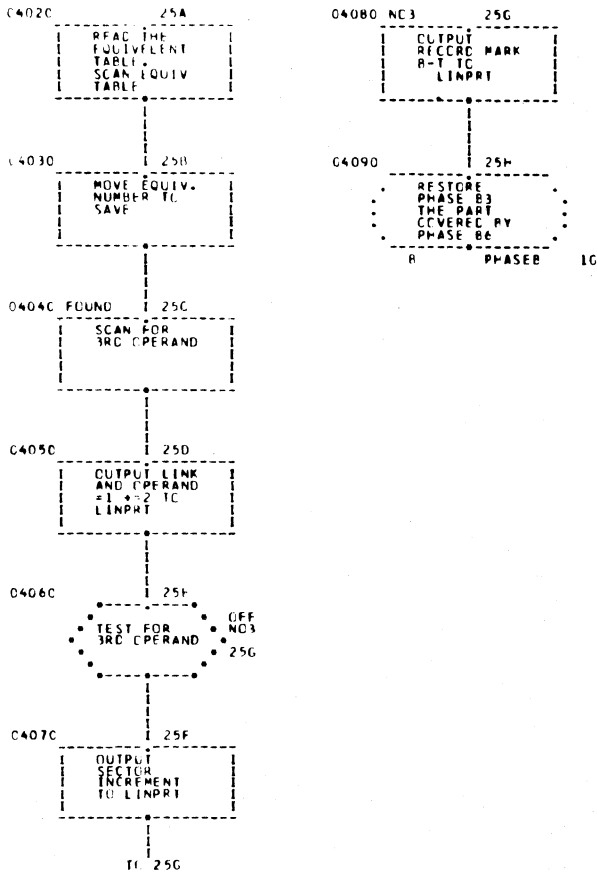
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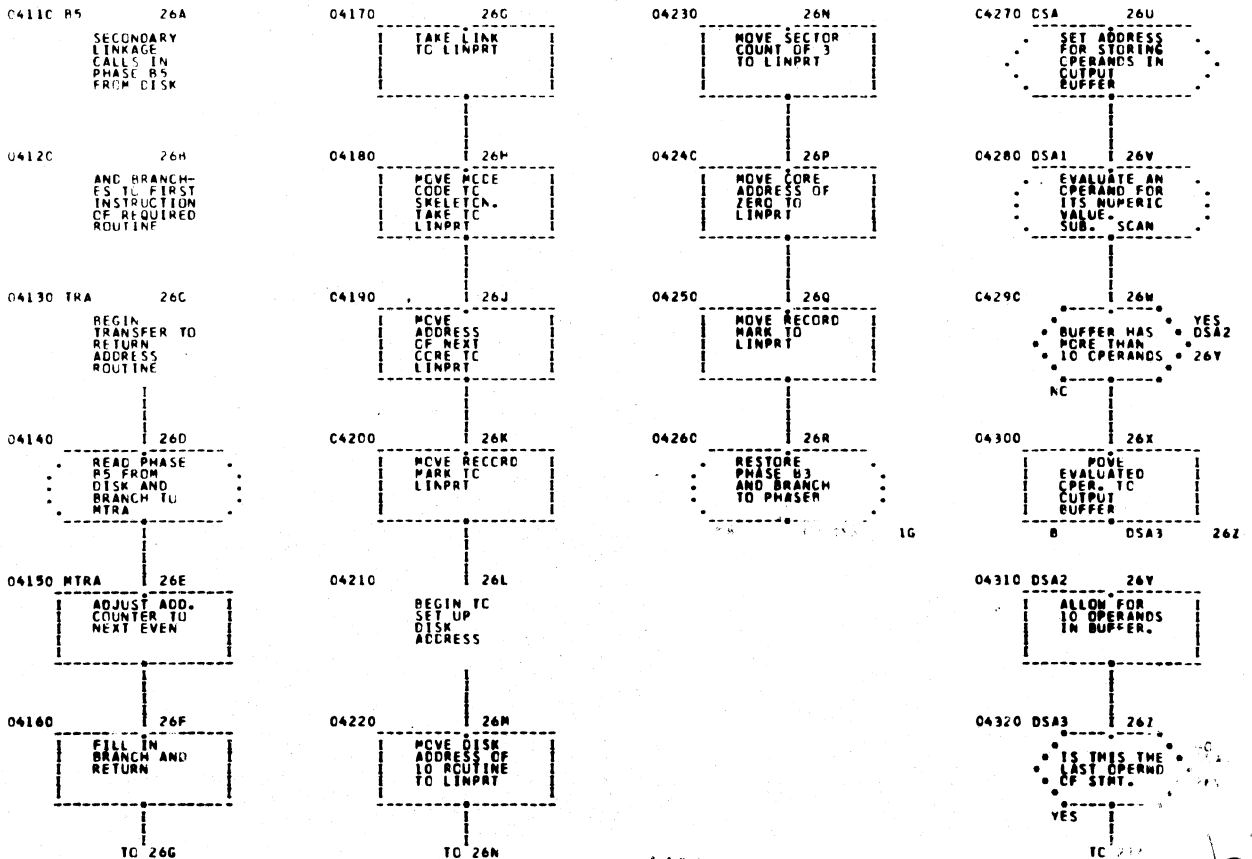
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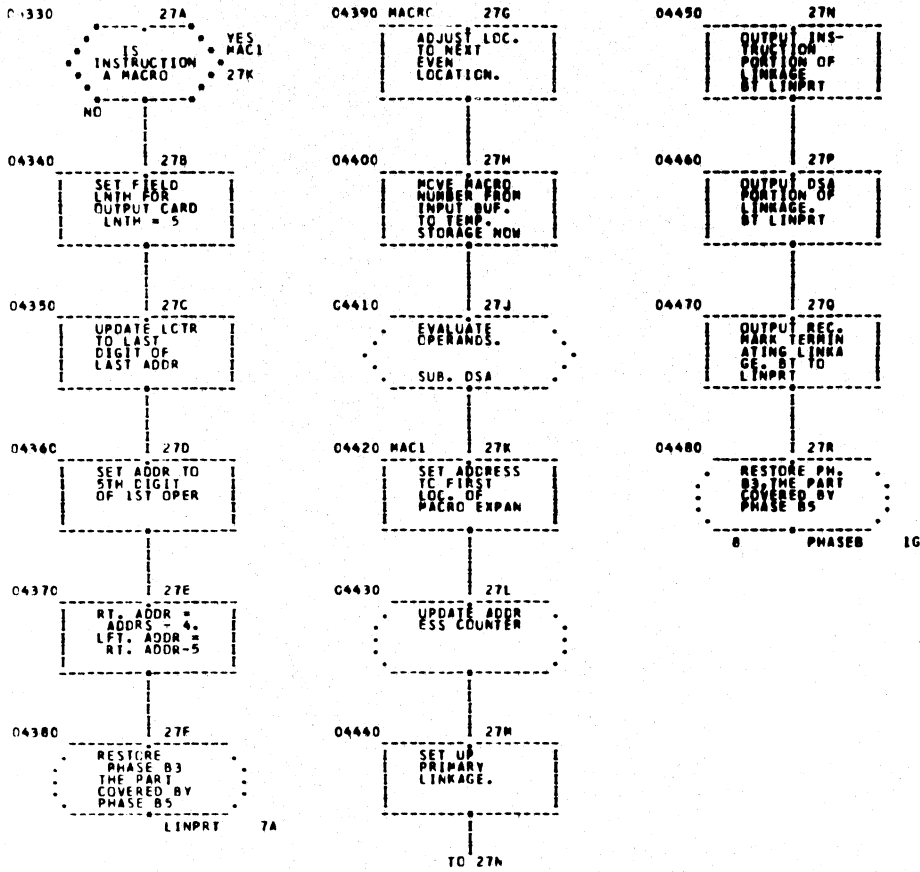


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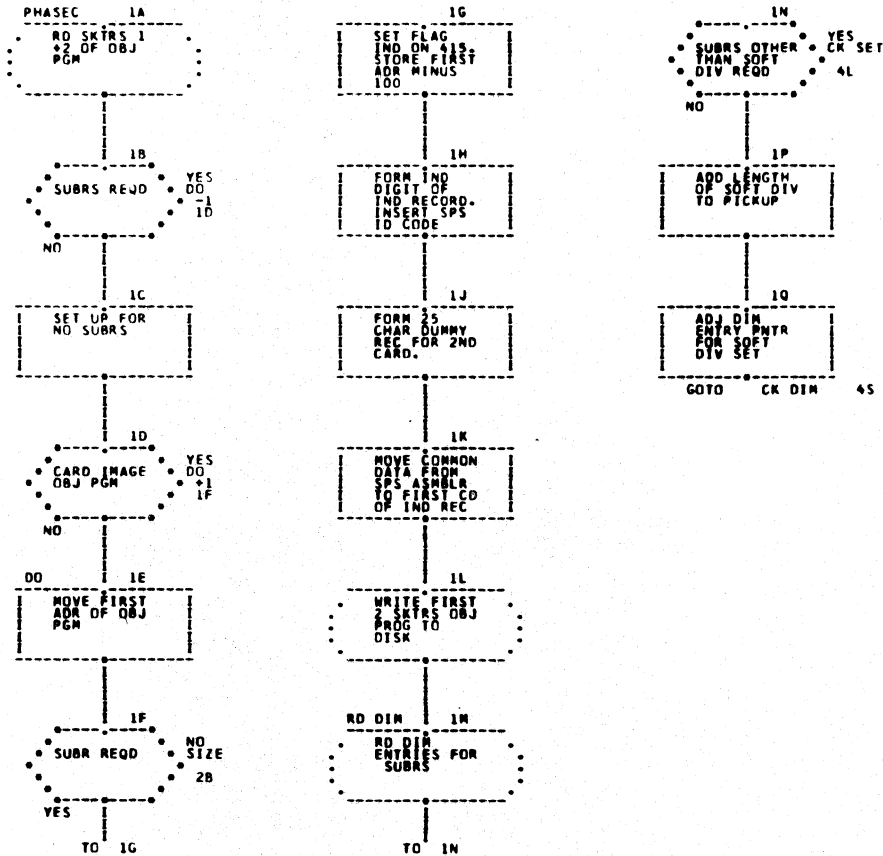


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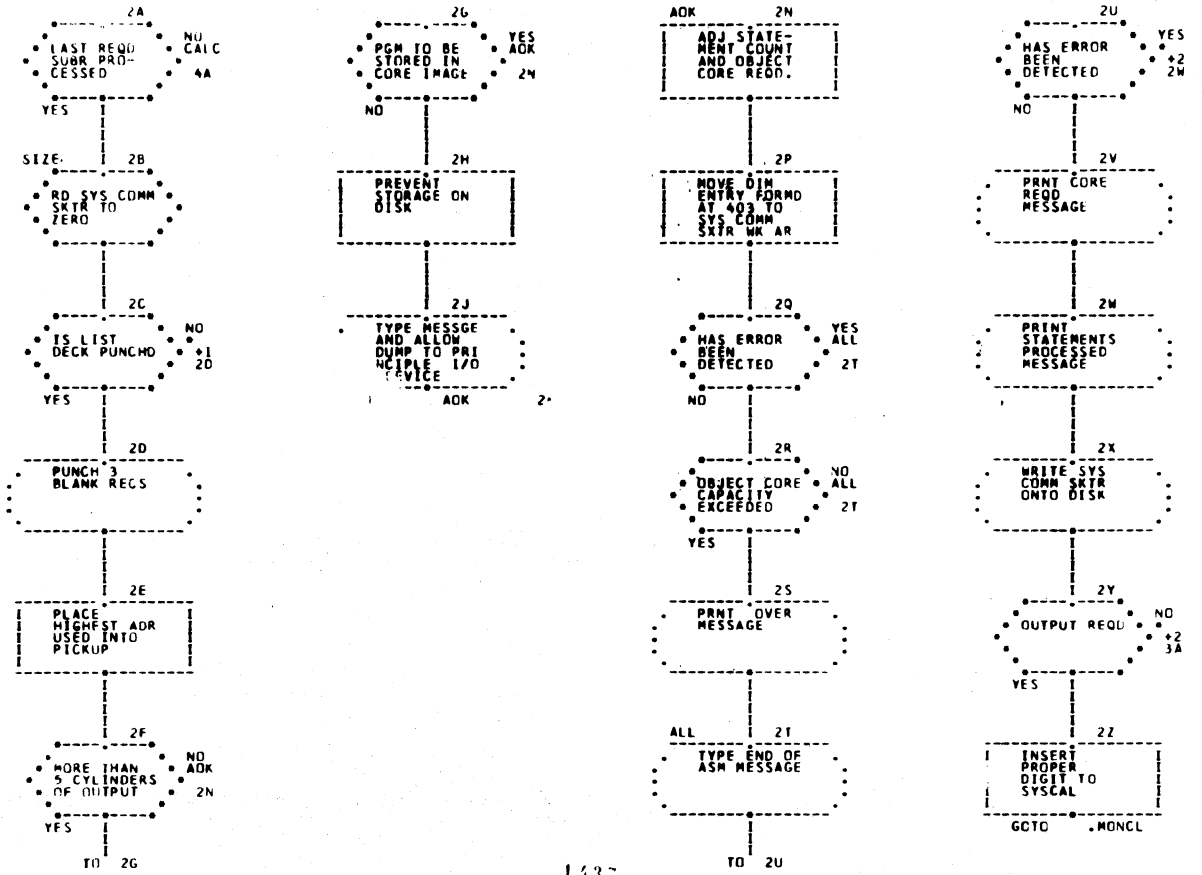
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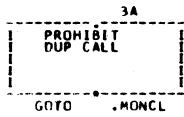
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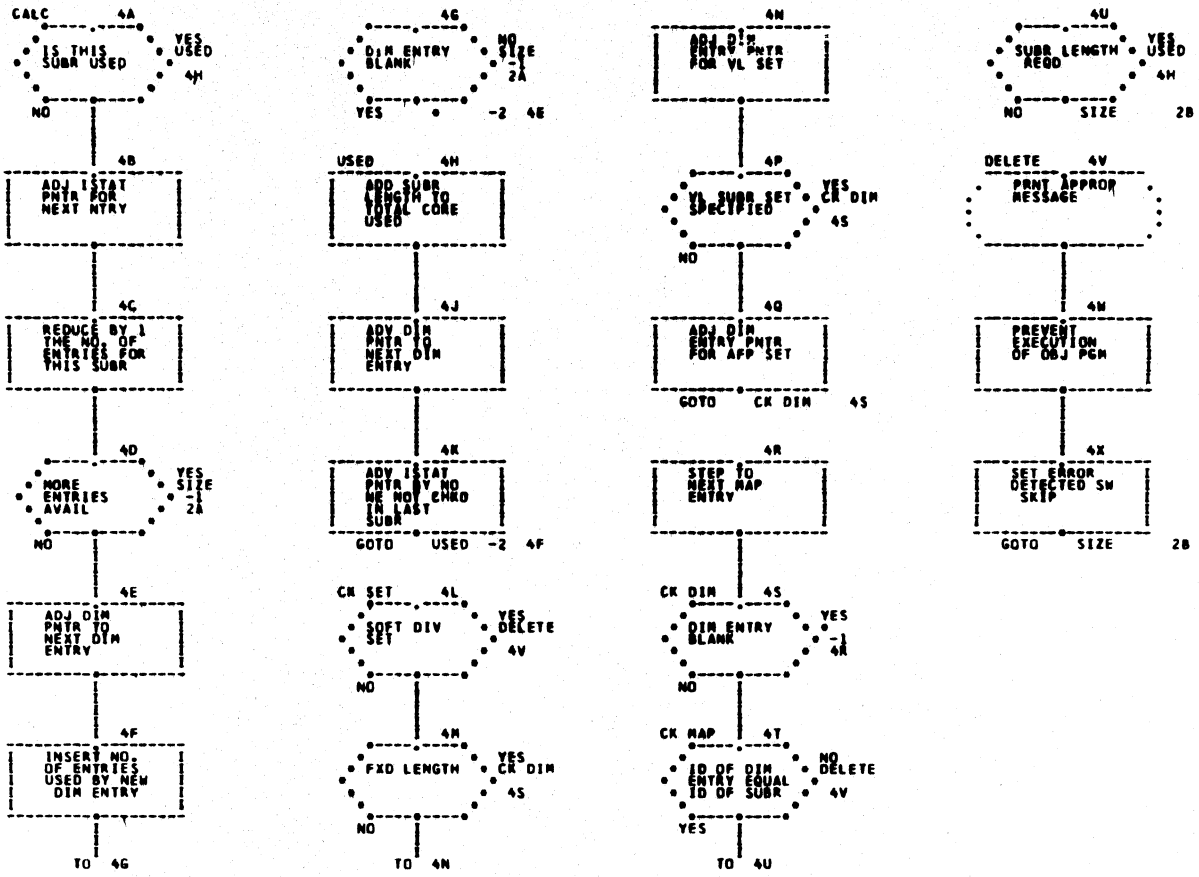


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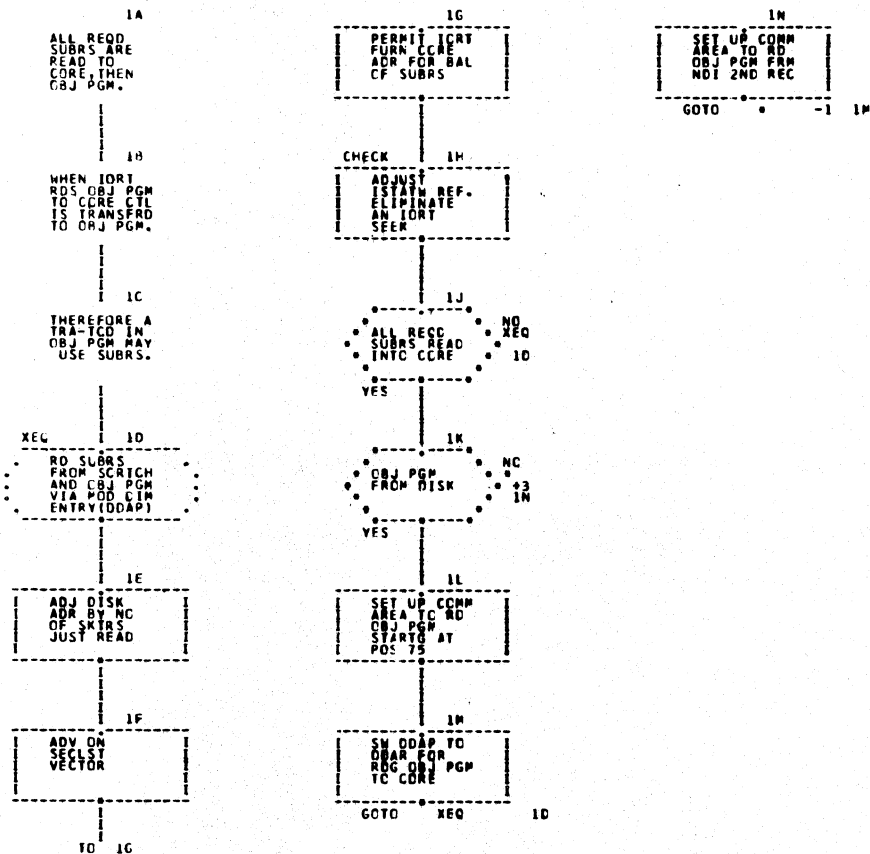


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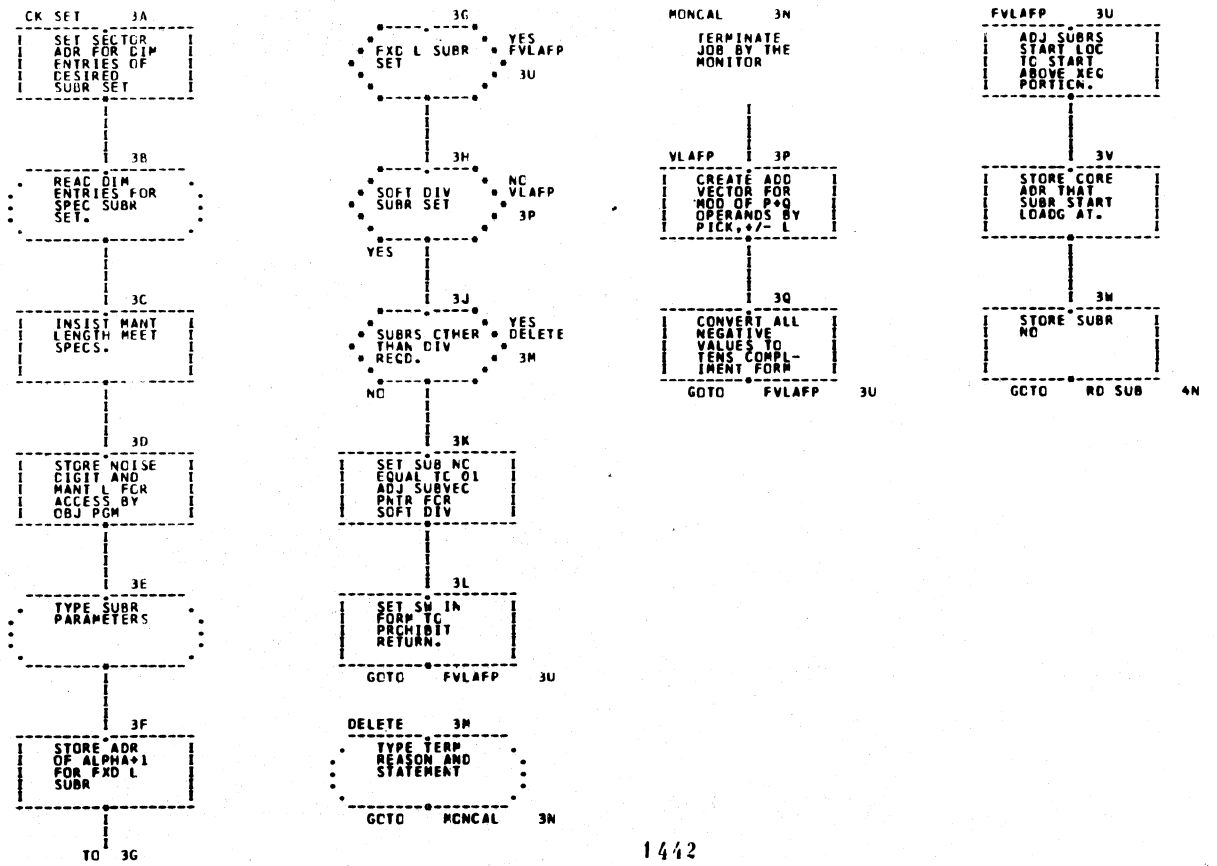
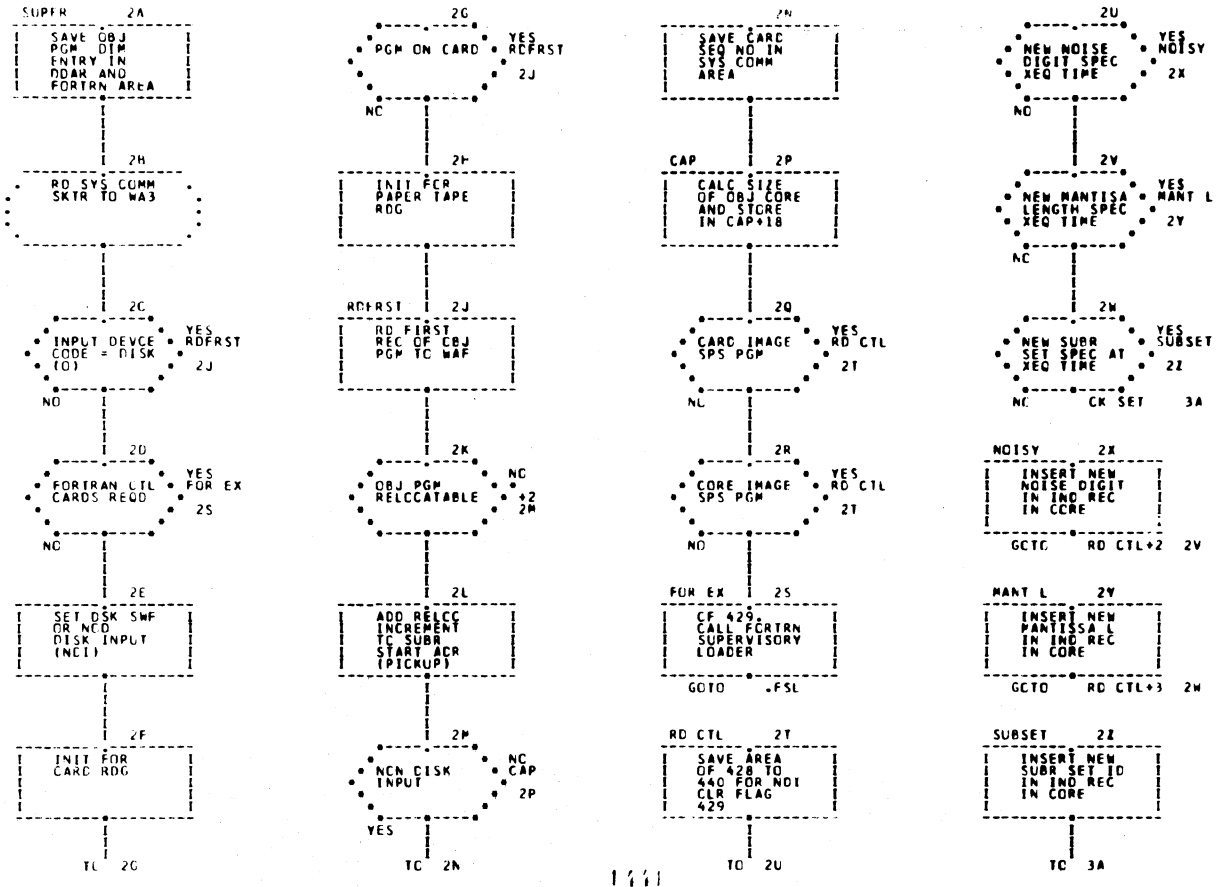


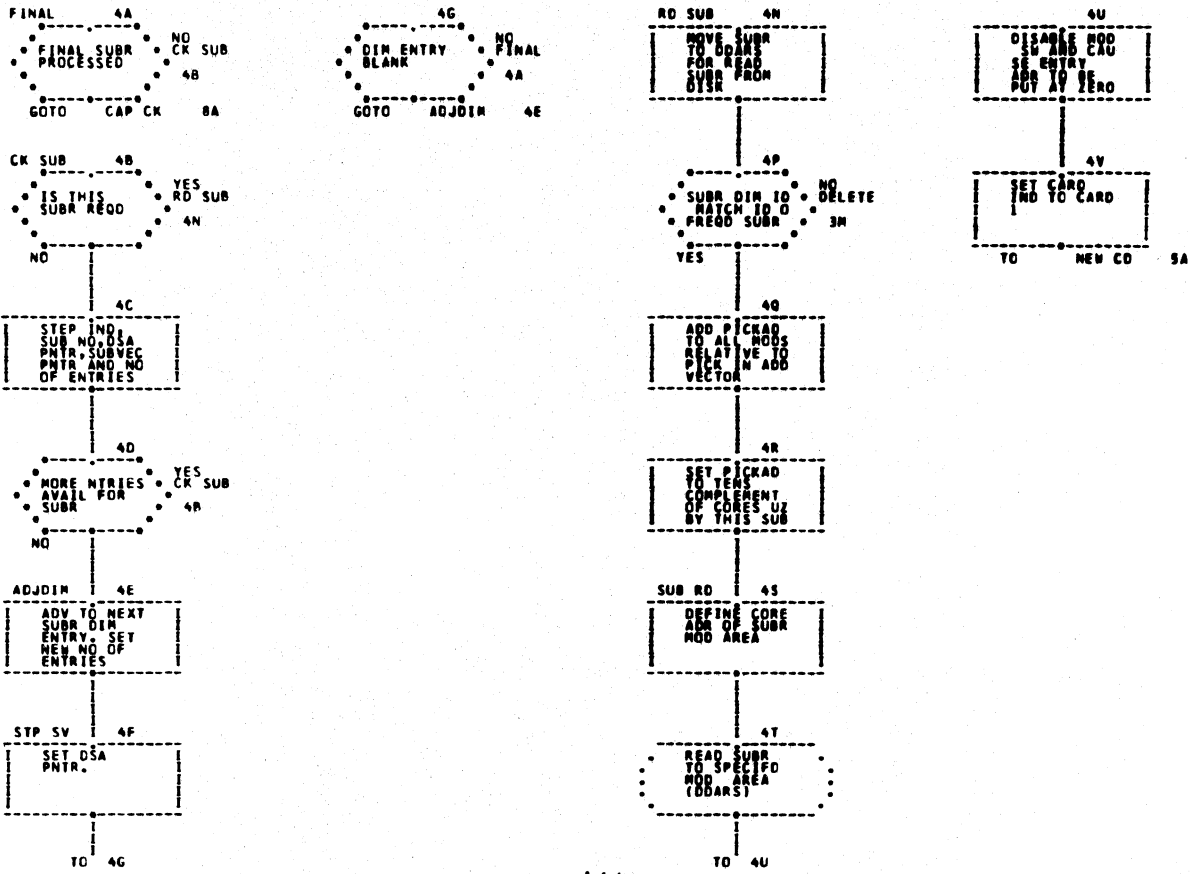


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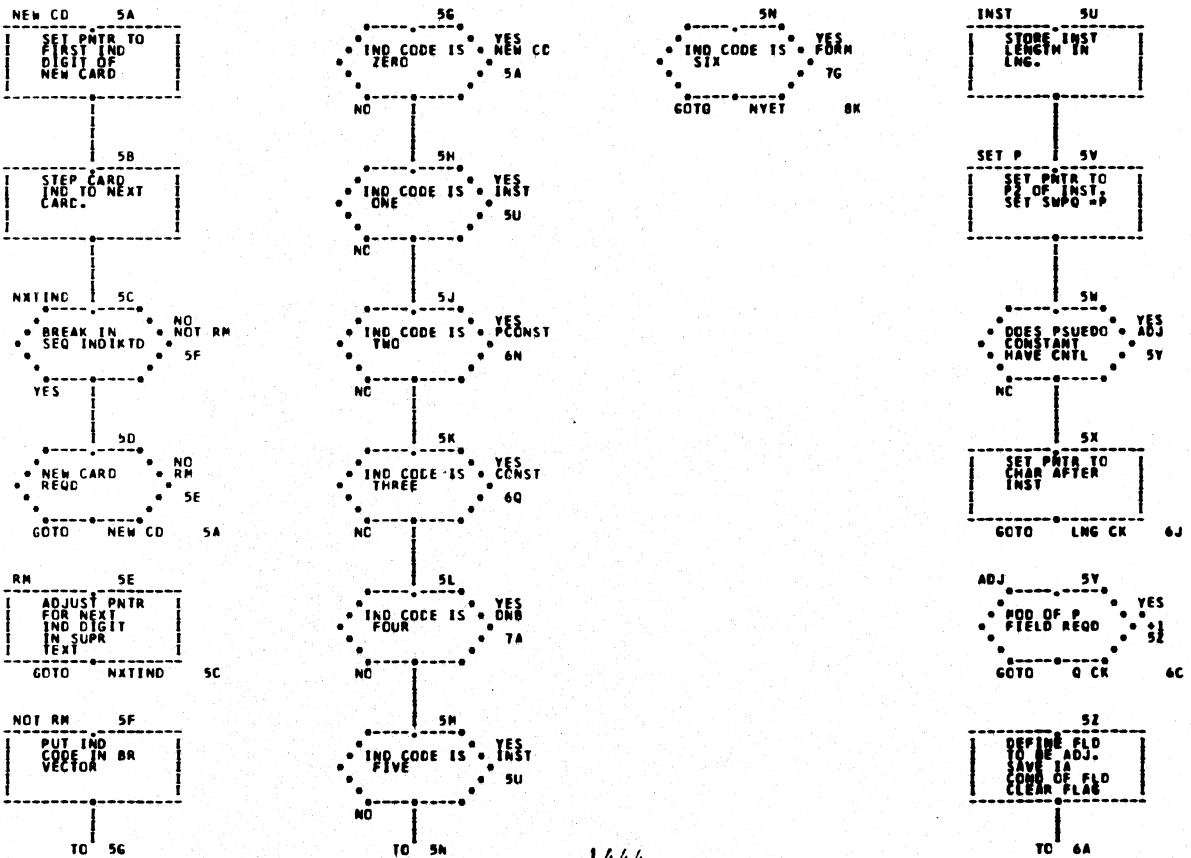


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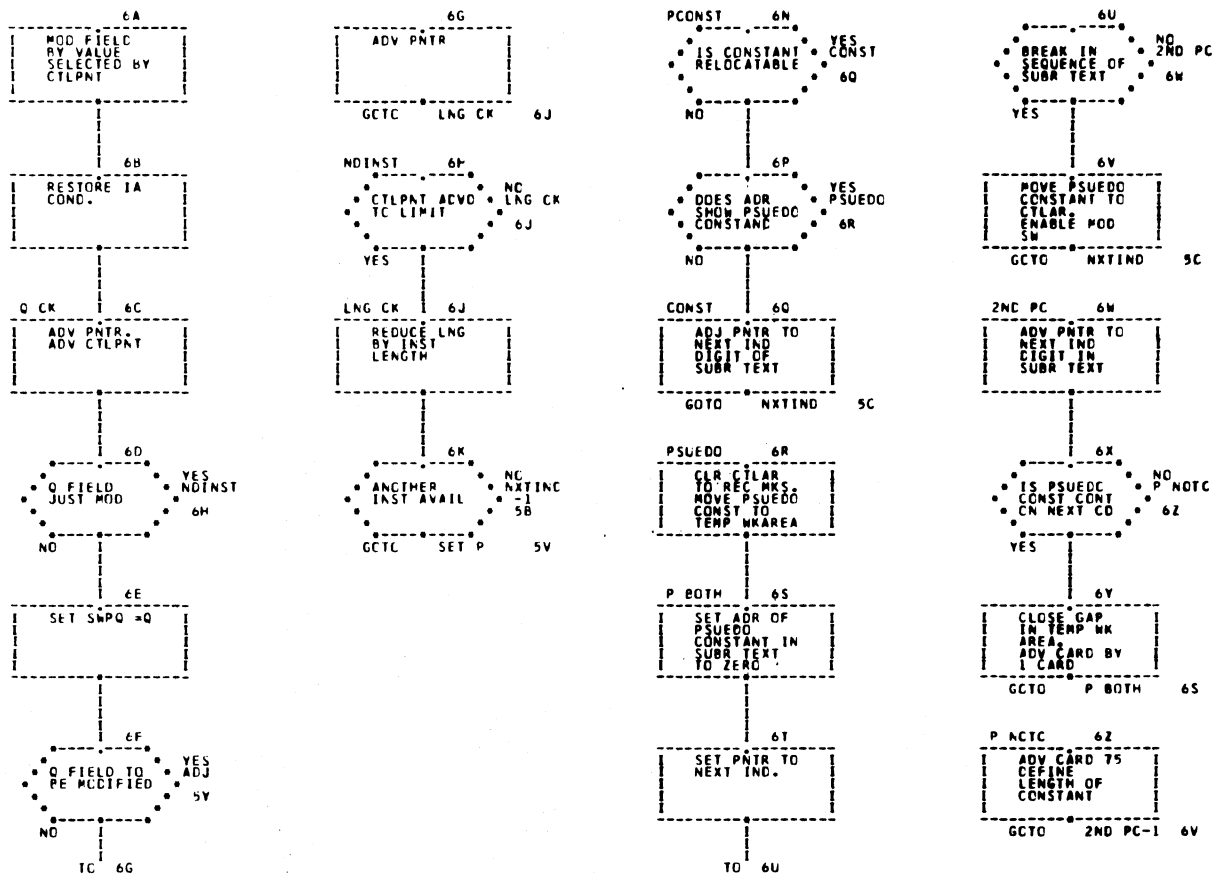




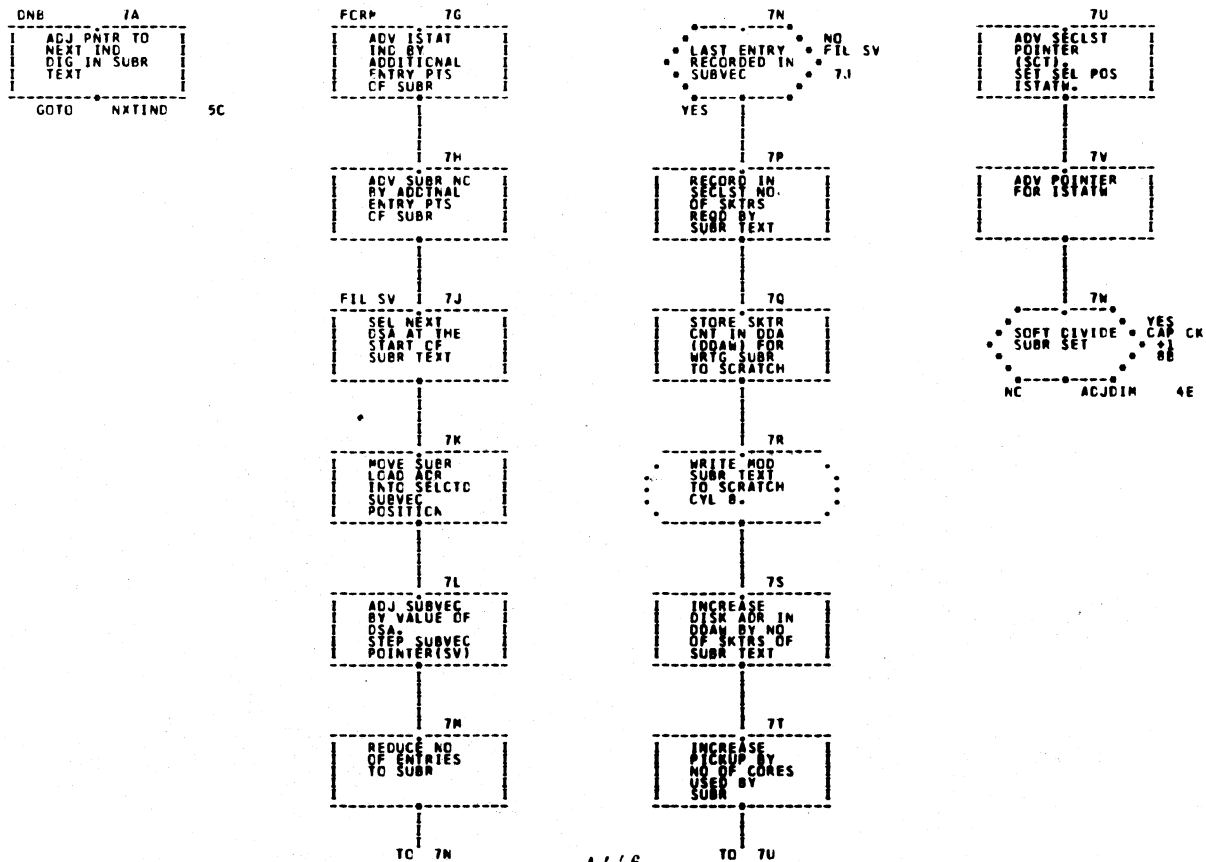
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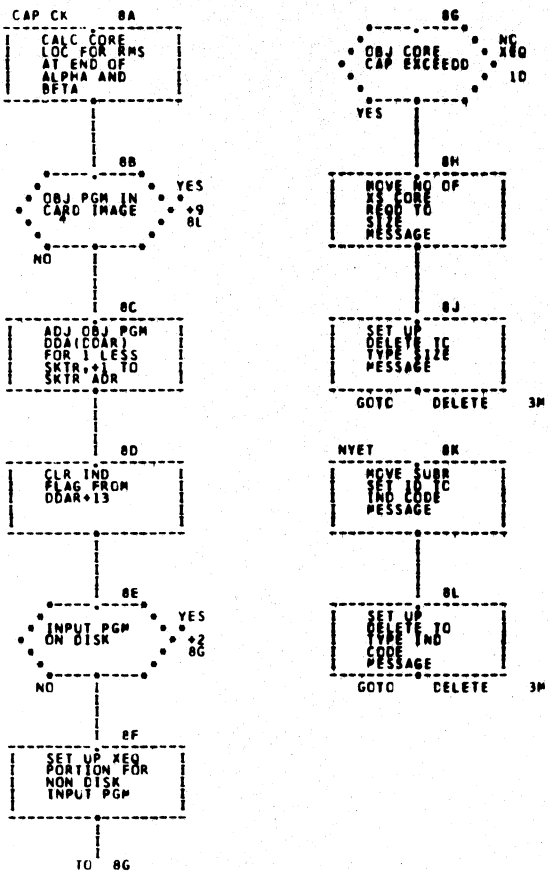
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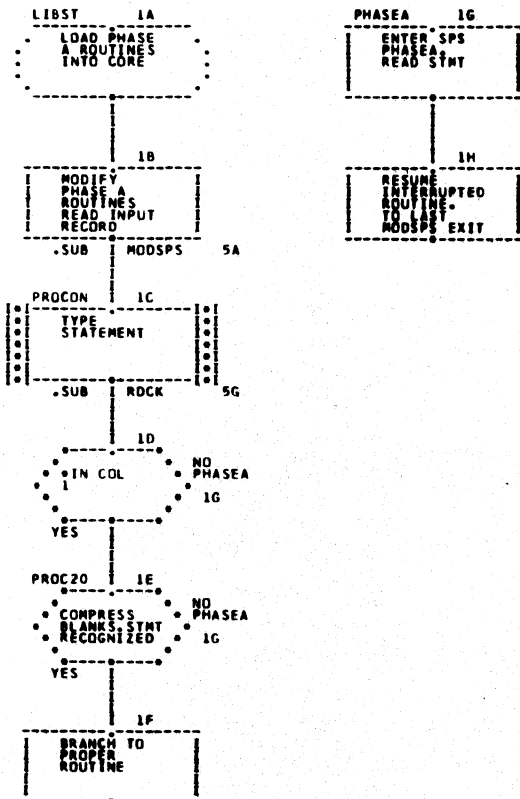
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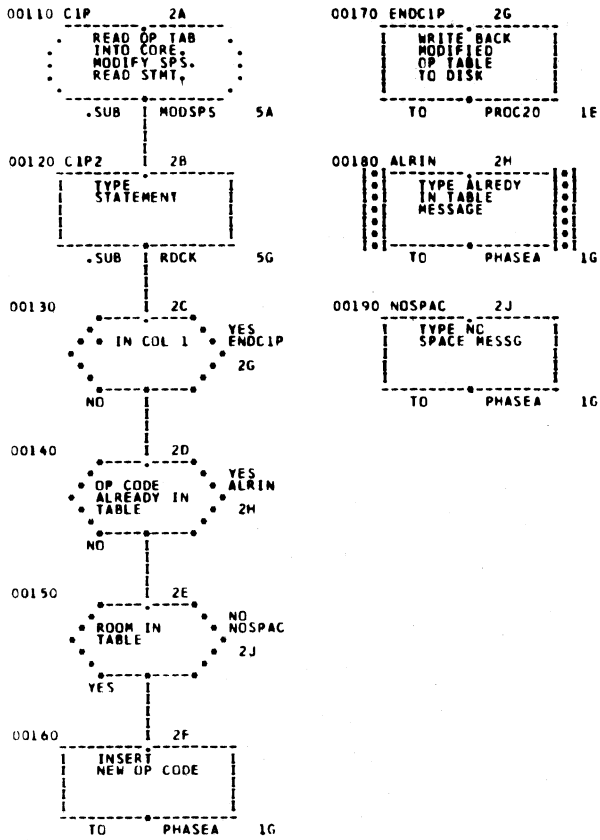
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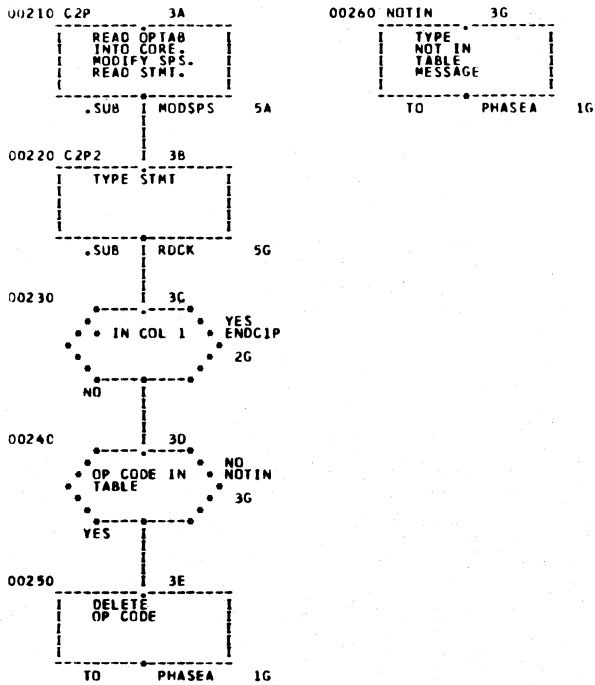
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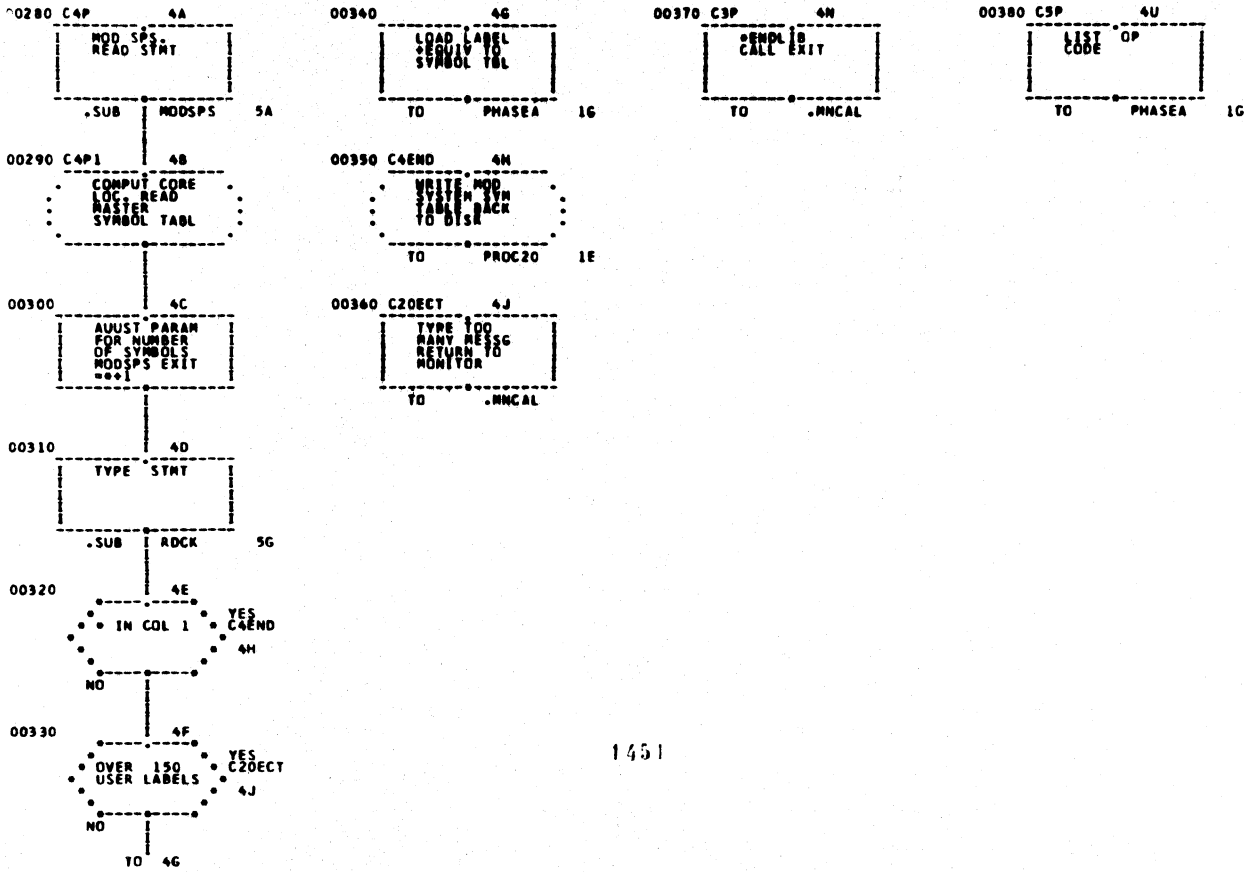


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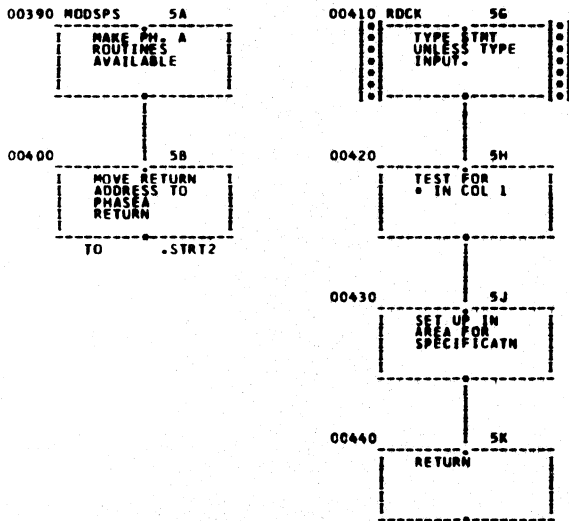


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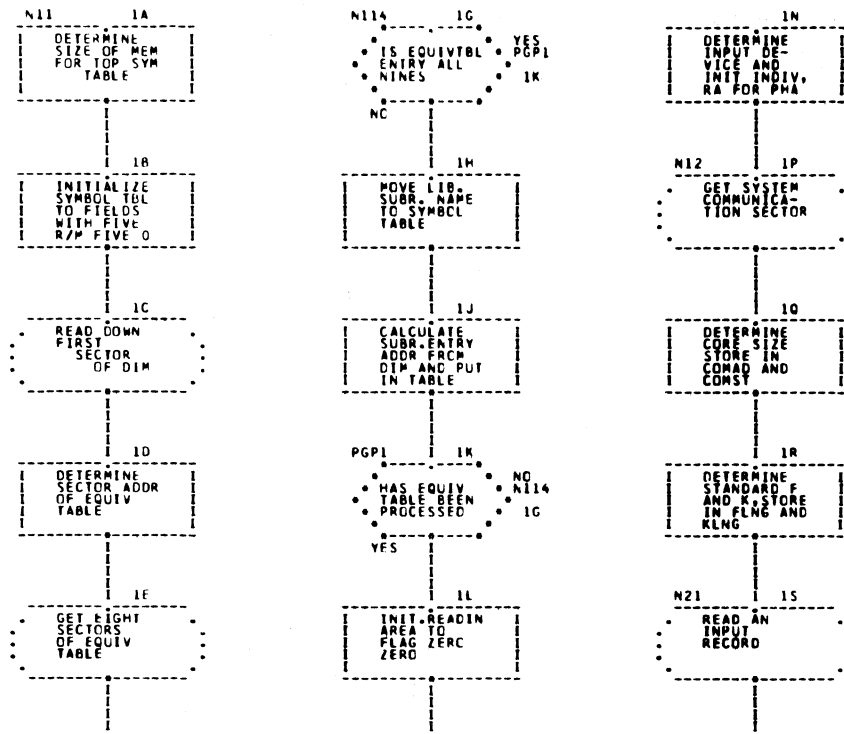
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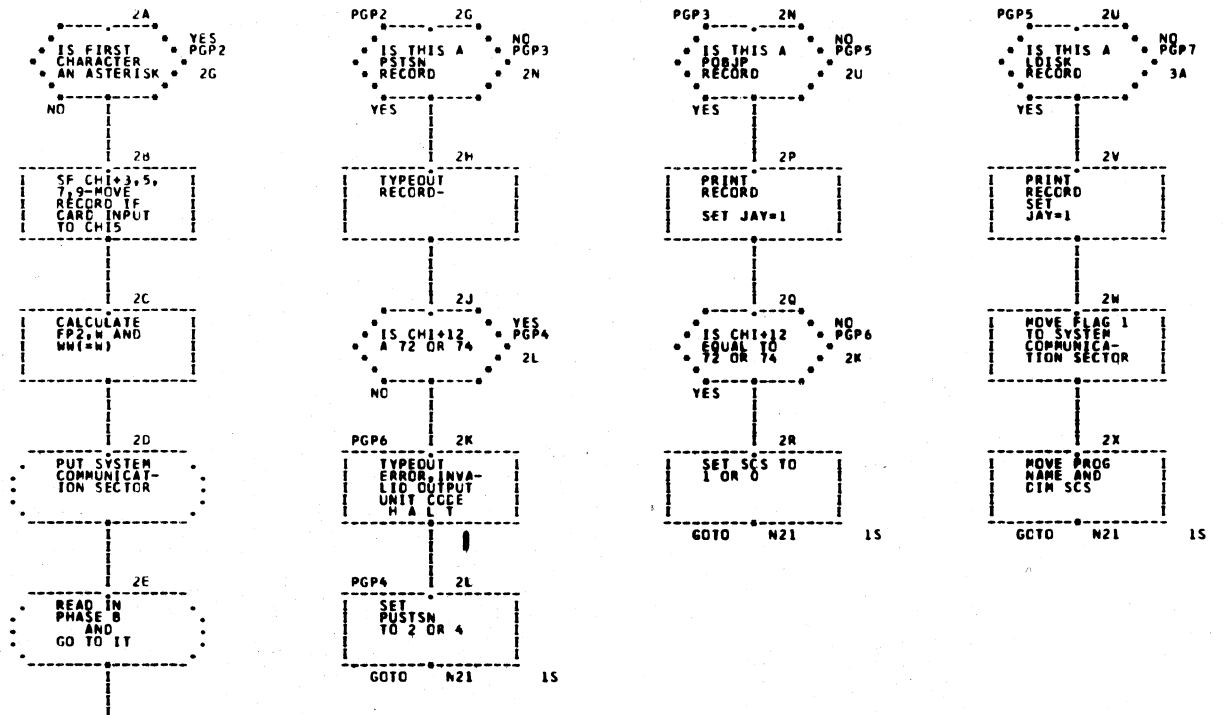
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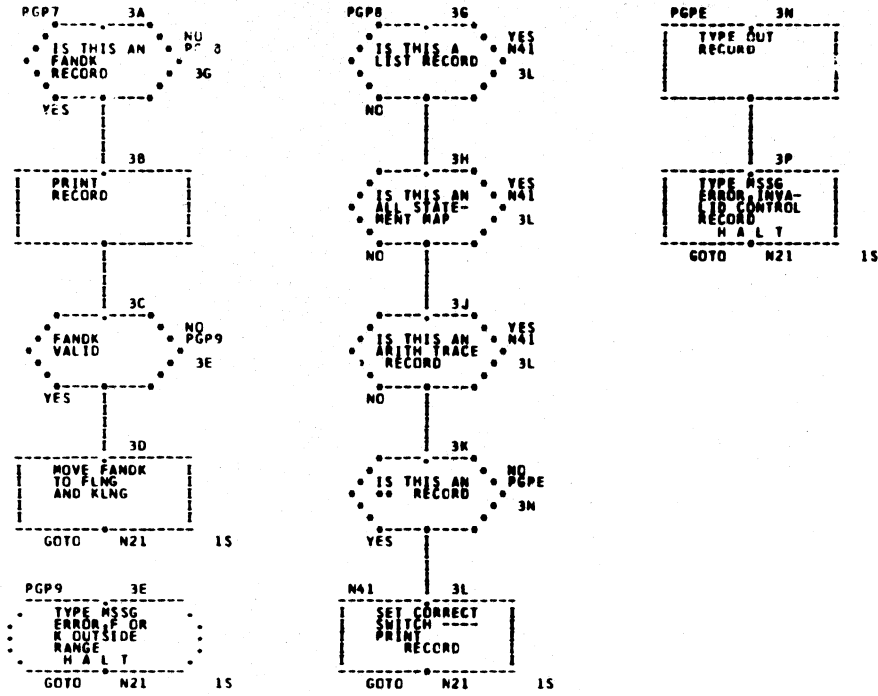


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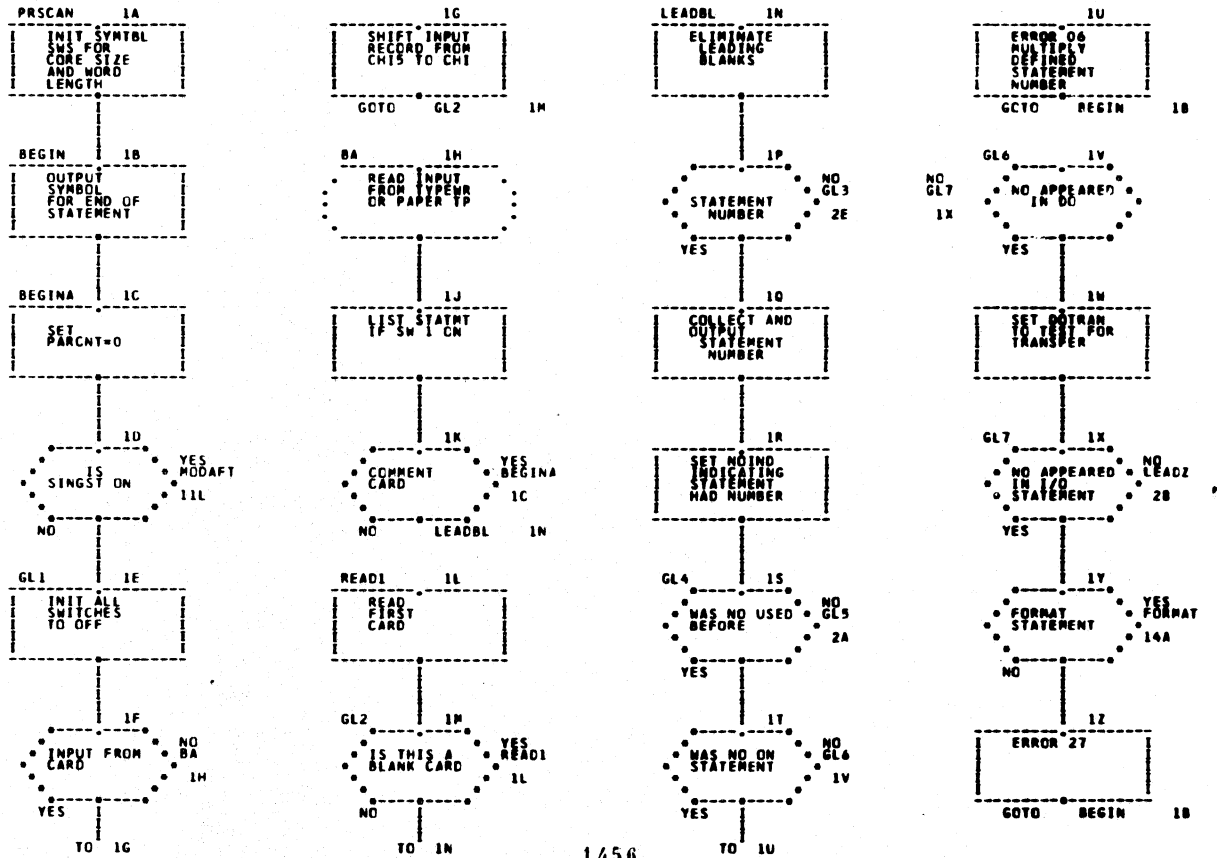


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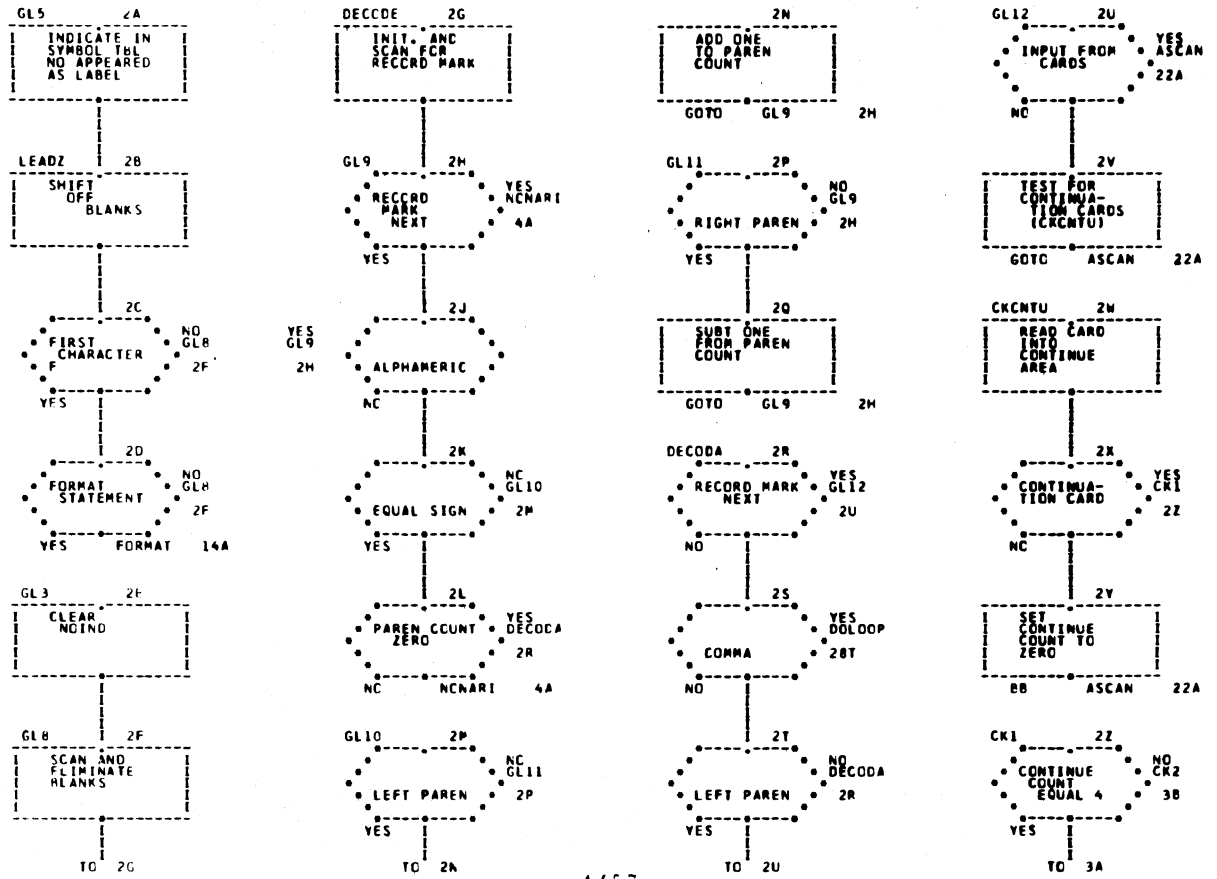
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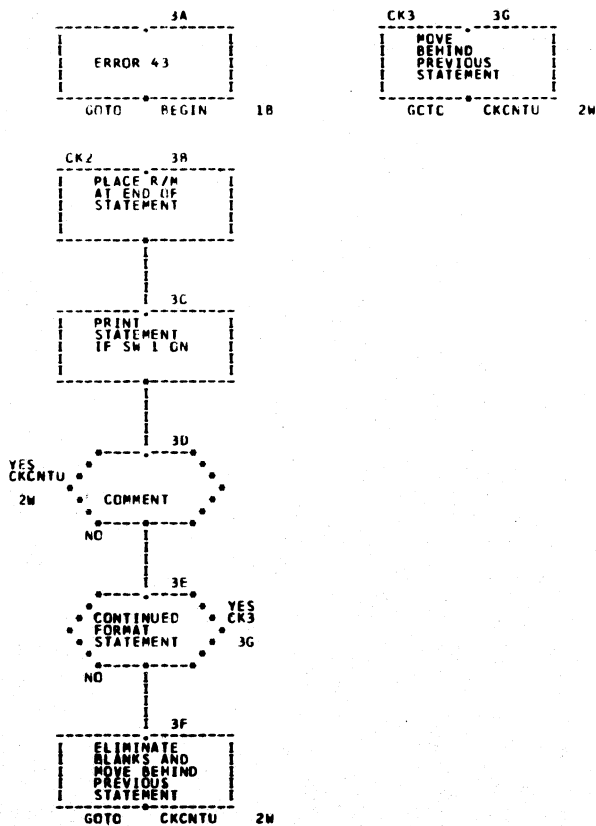
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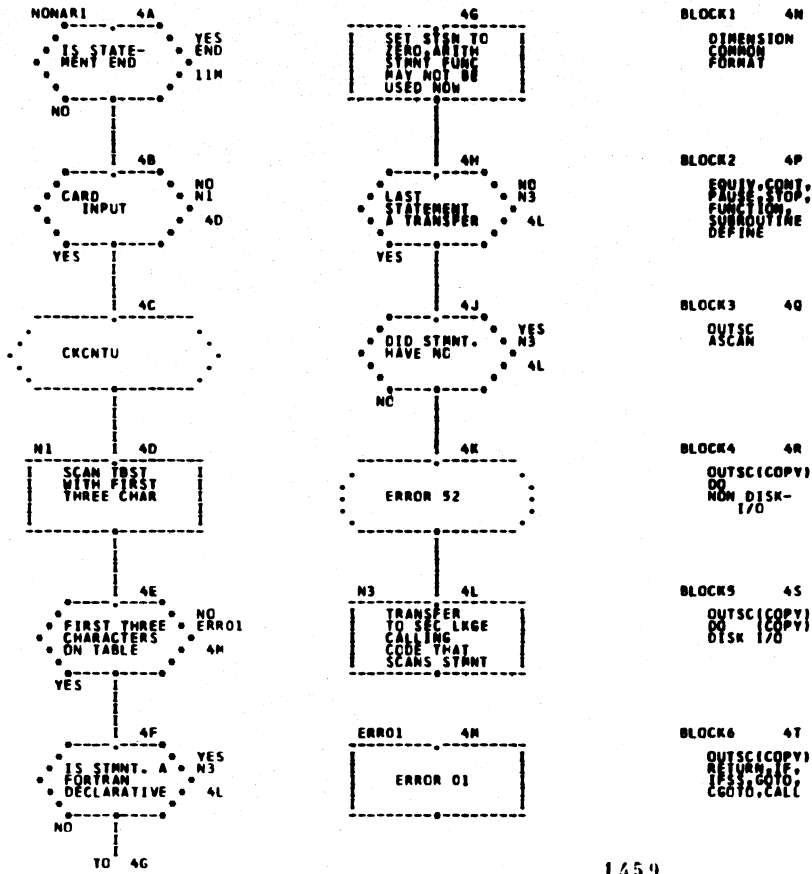
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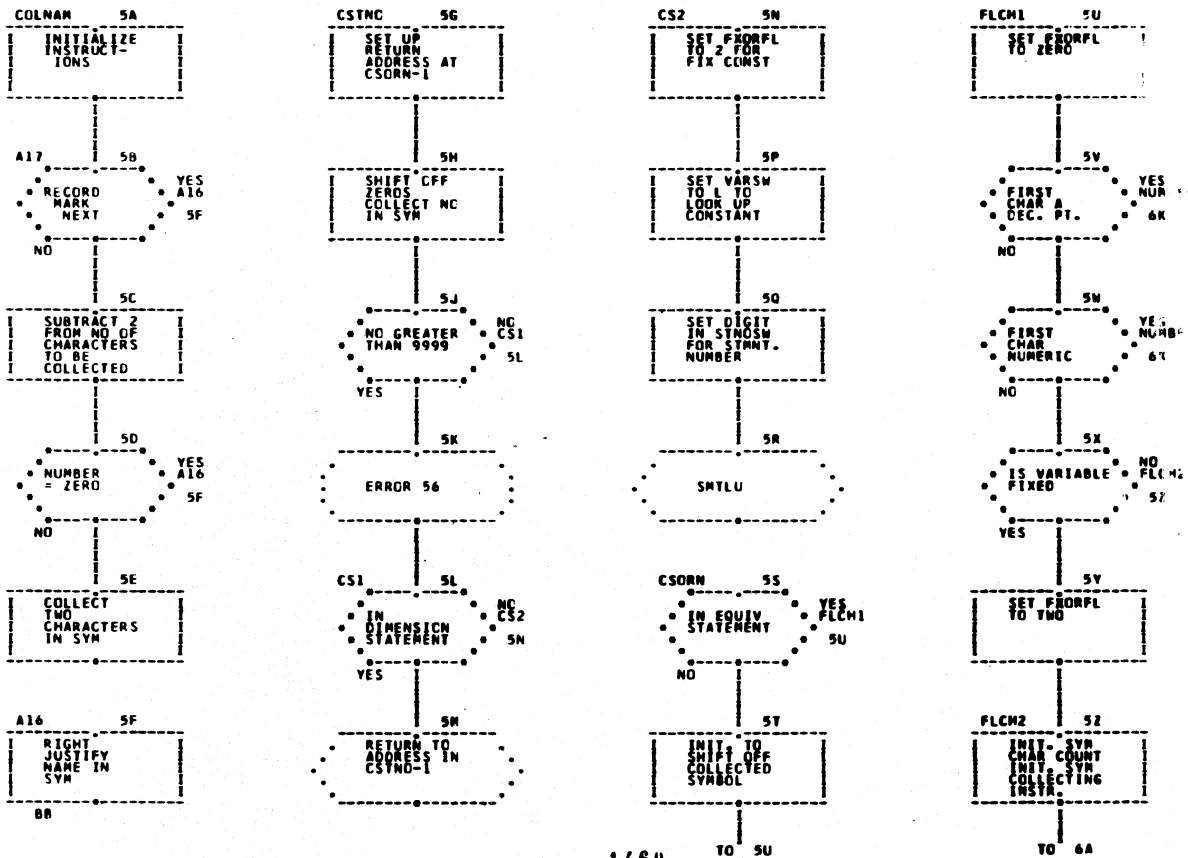
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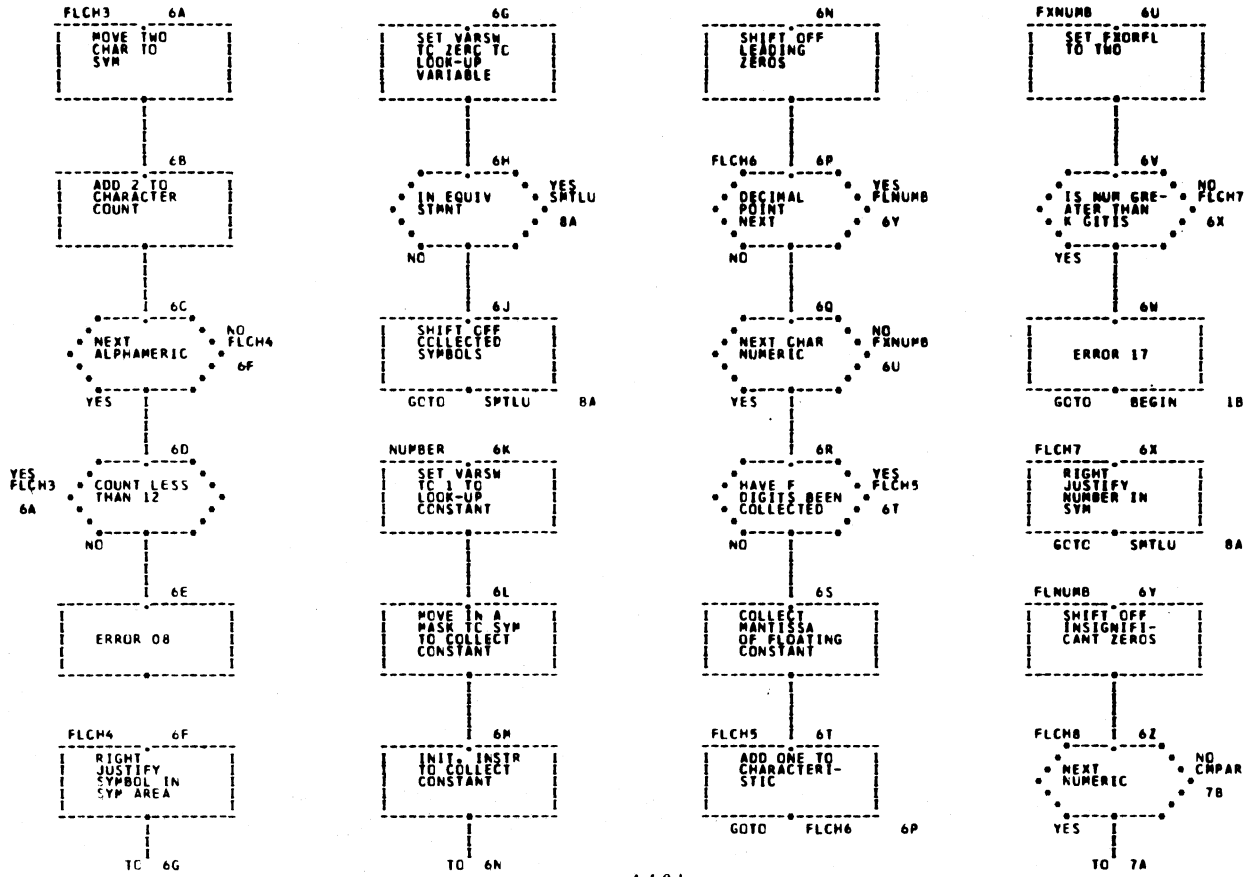
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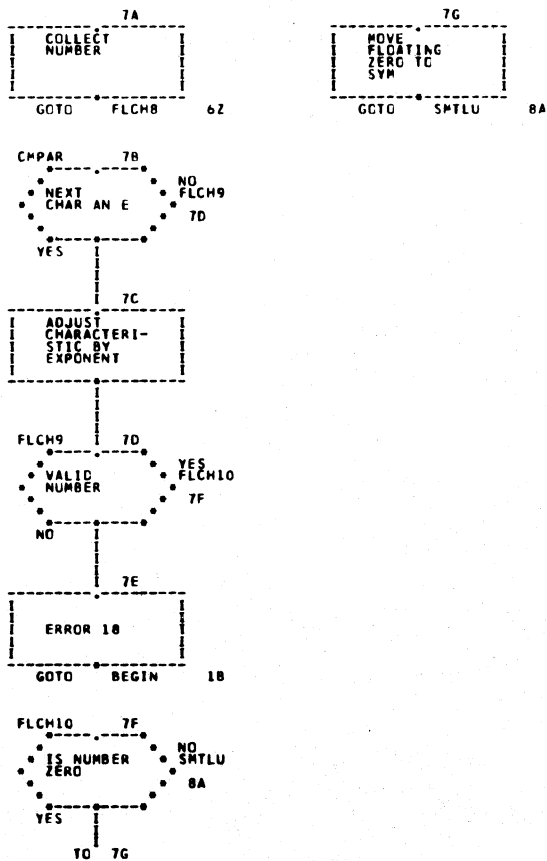
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TO 5U

TO 6A

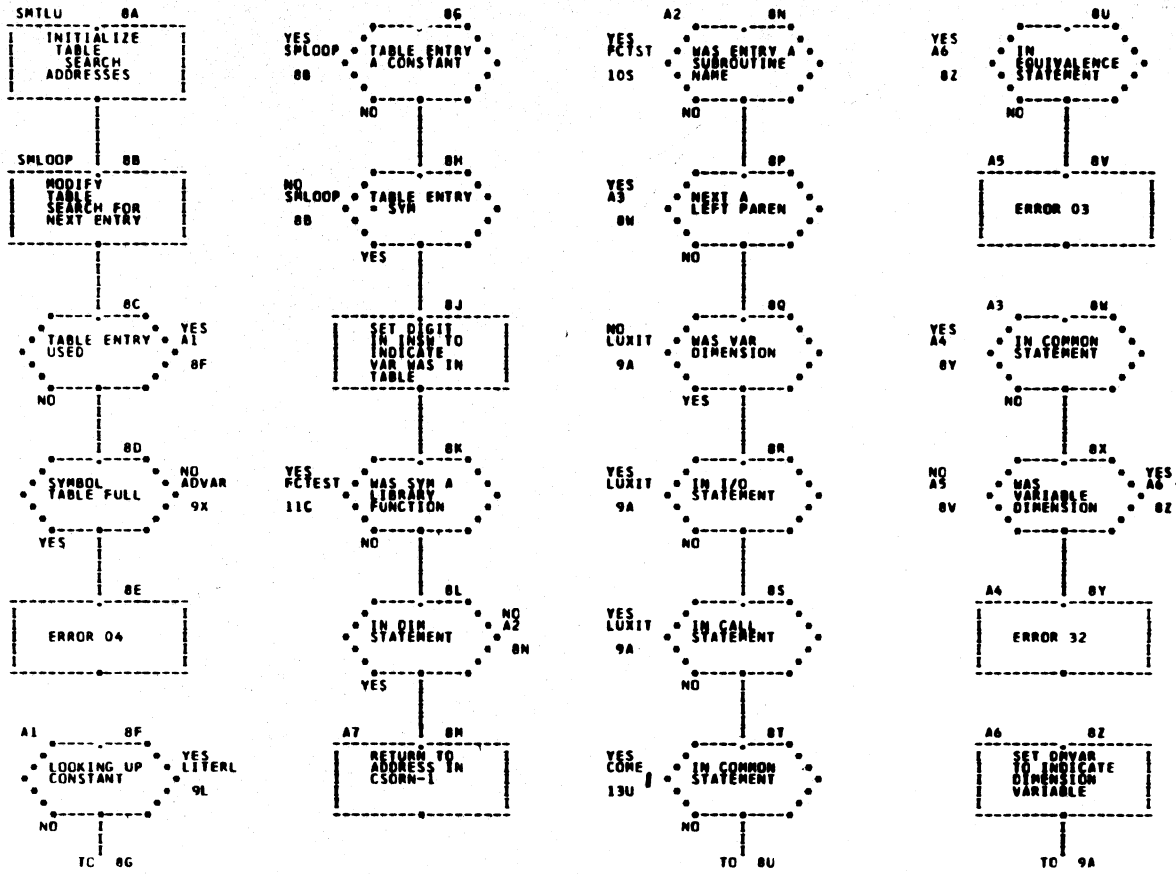


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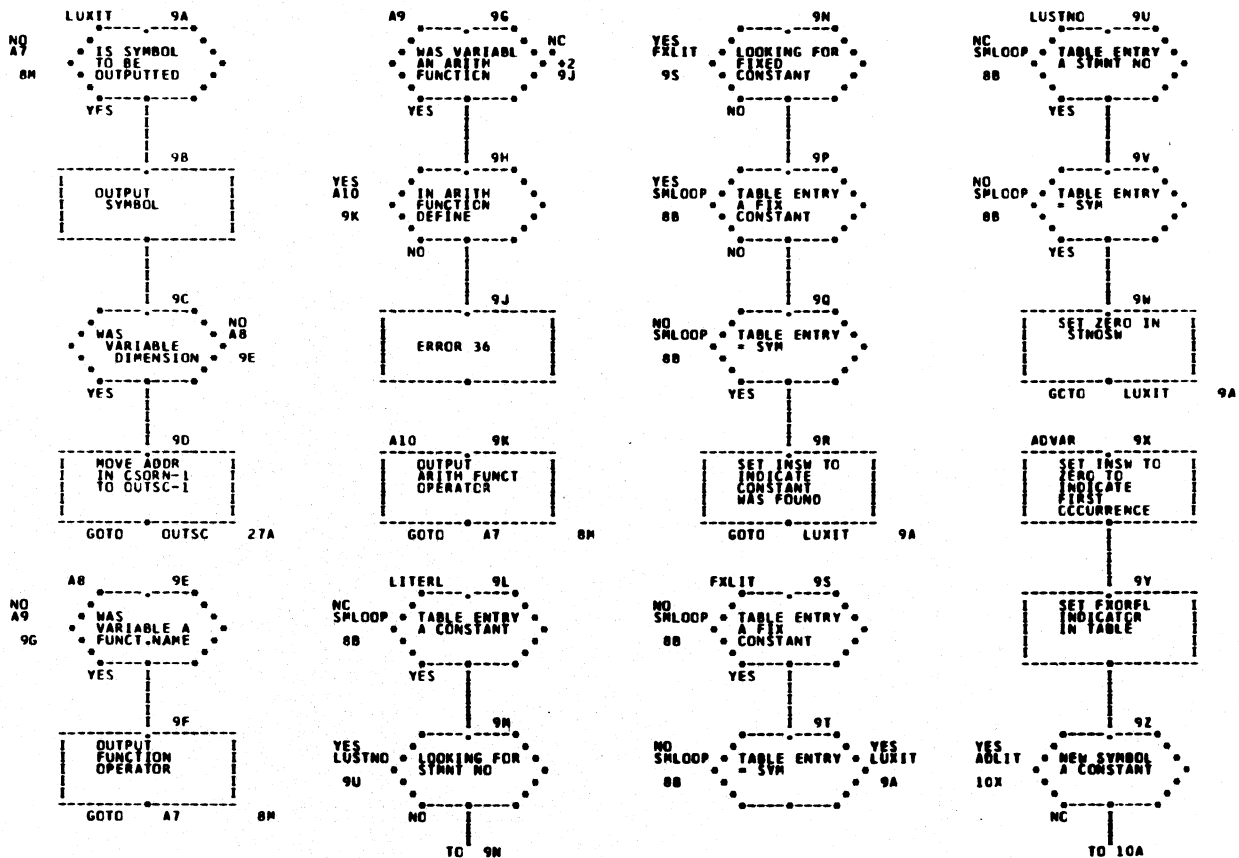


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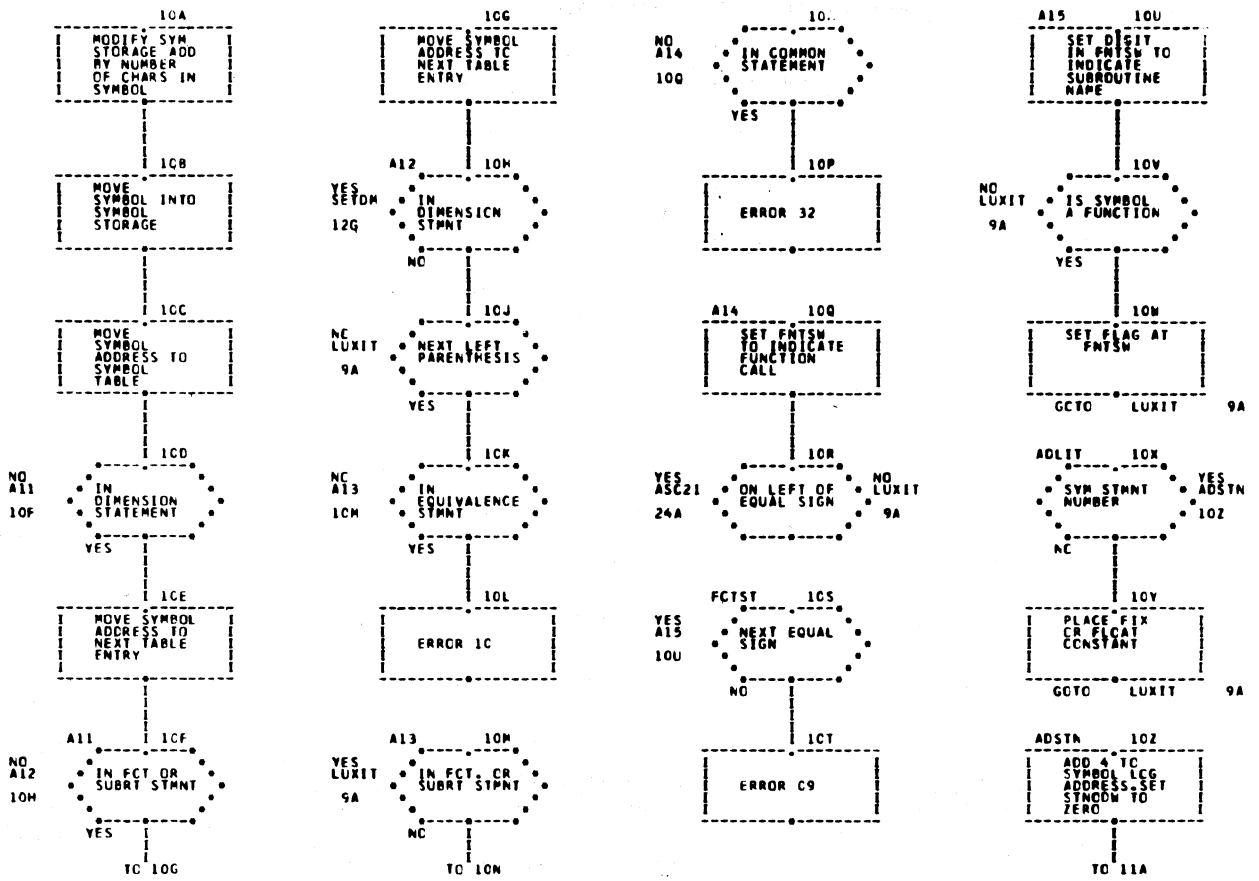
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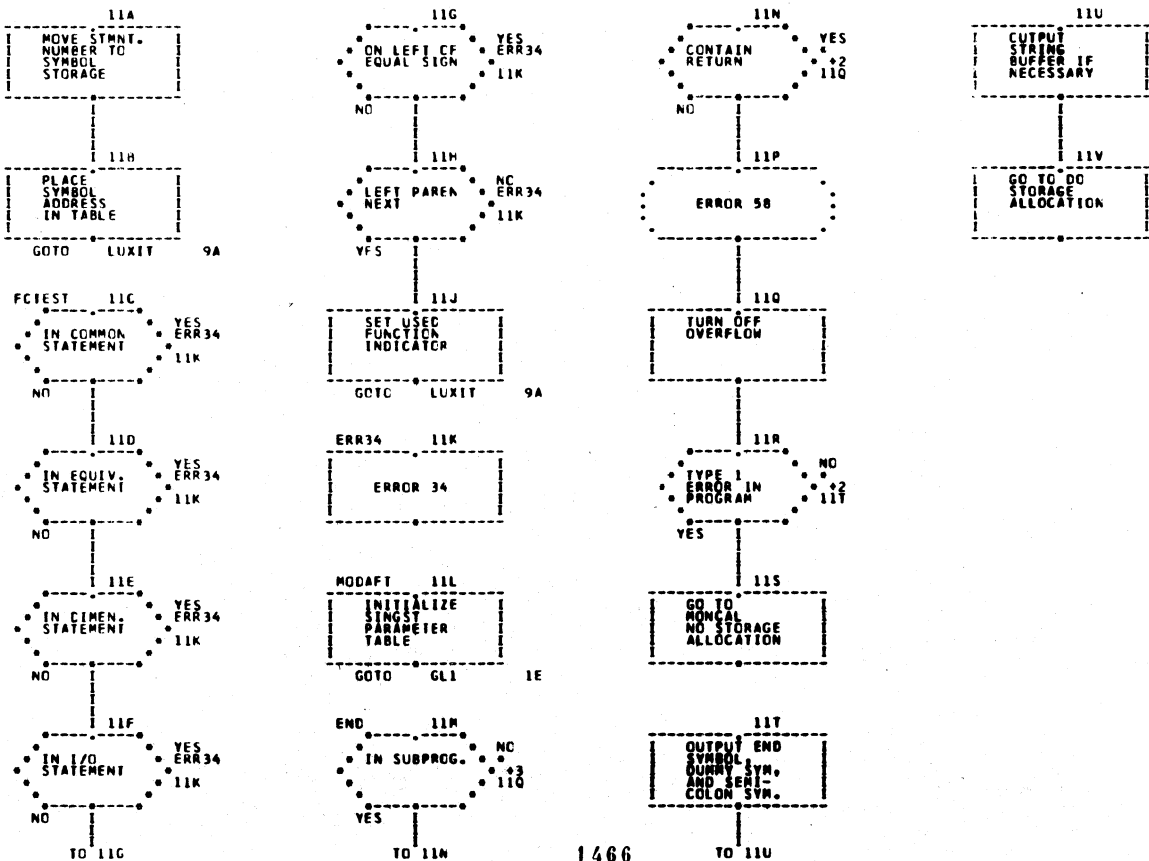
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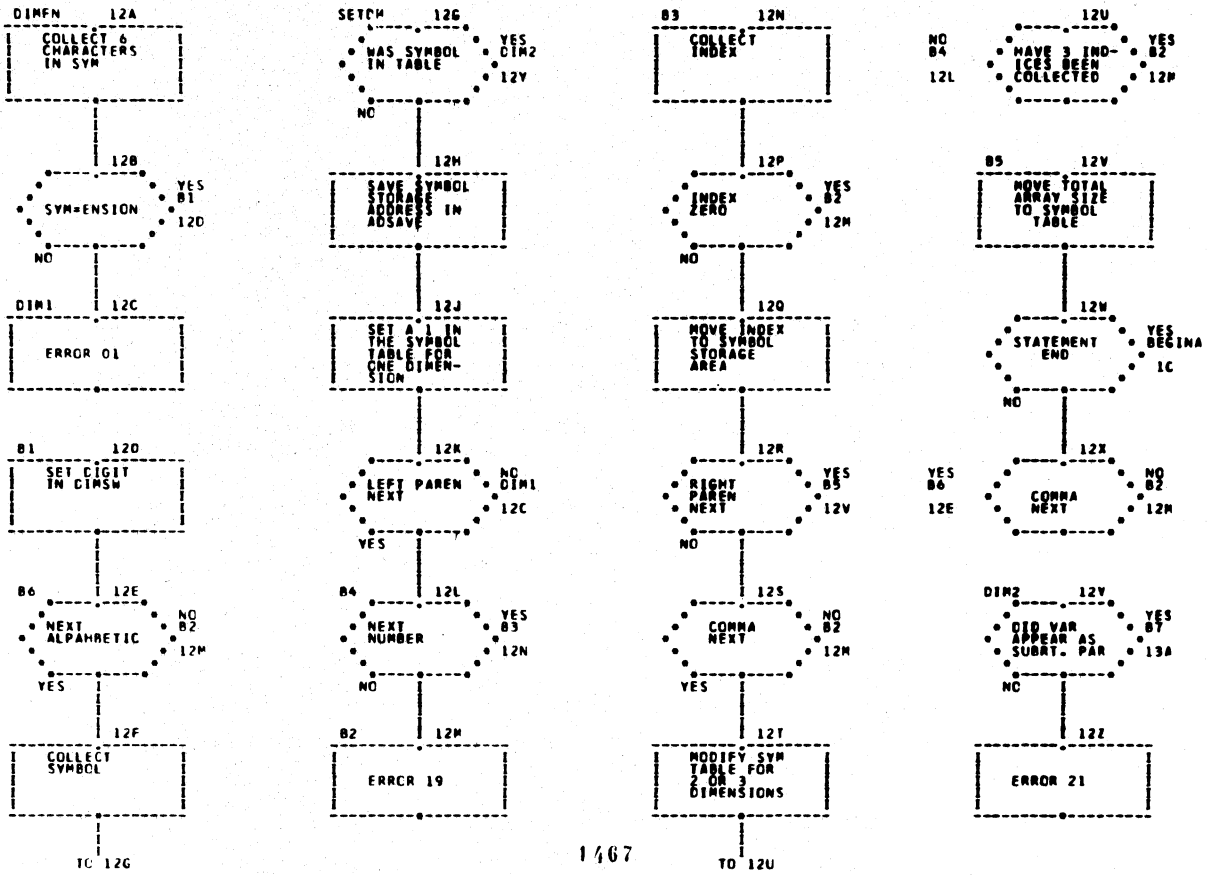


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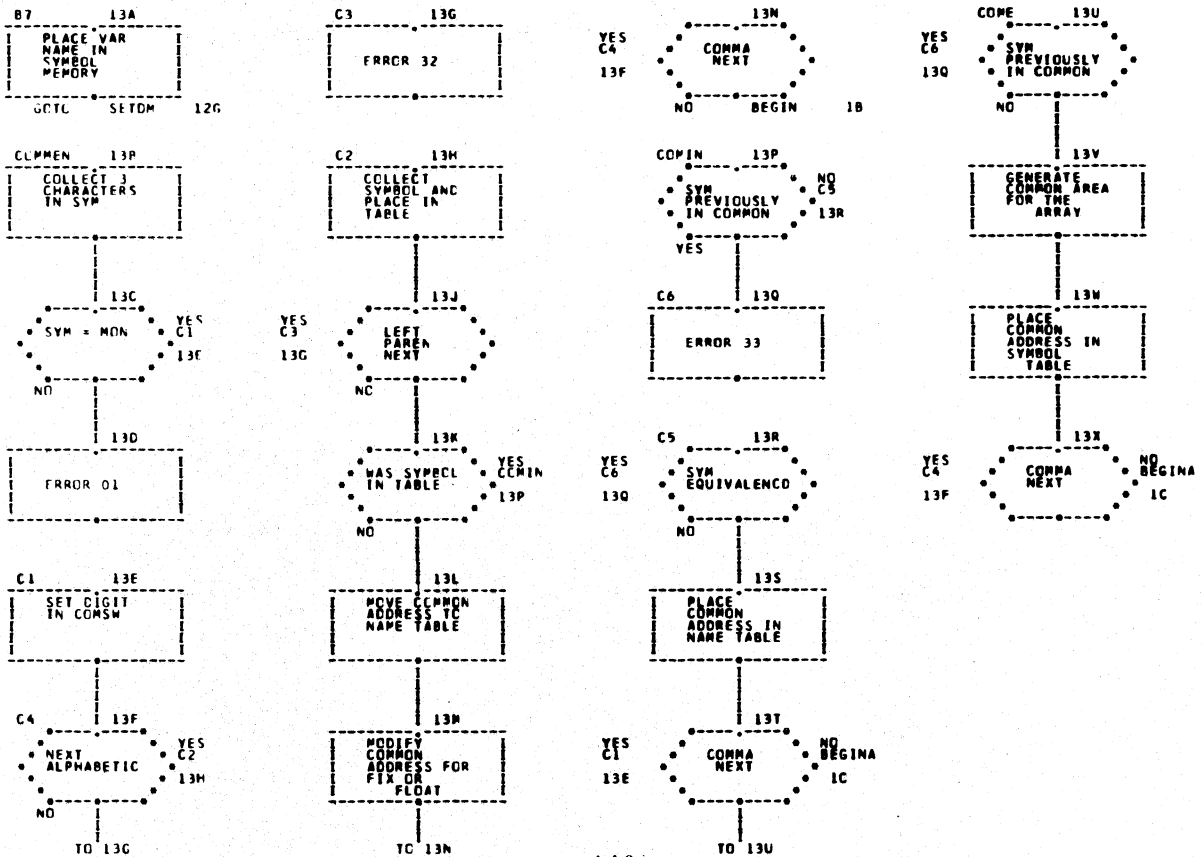


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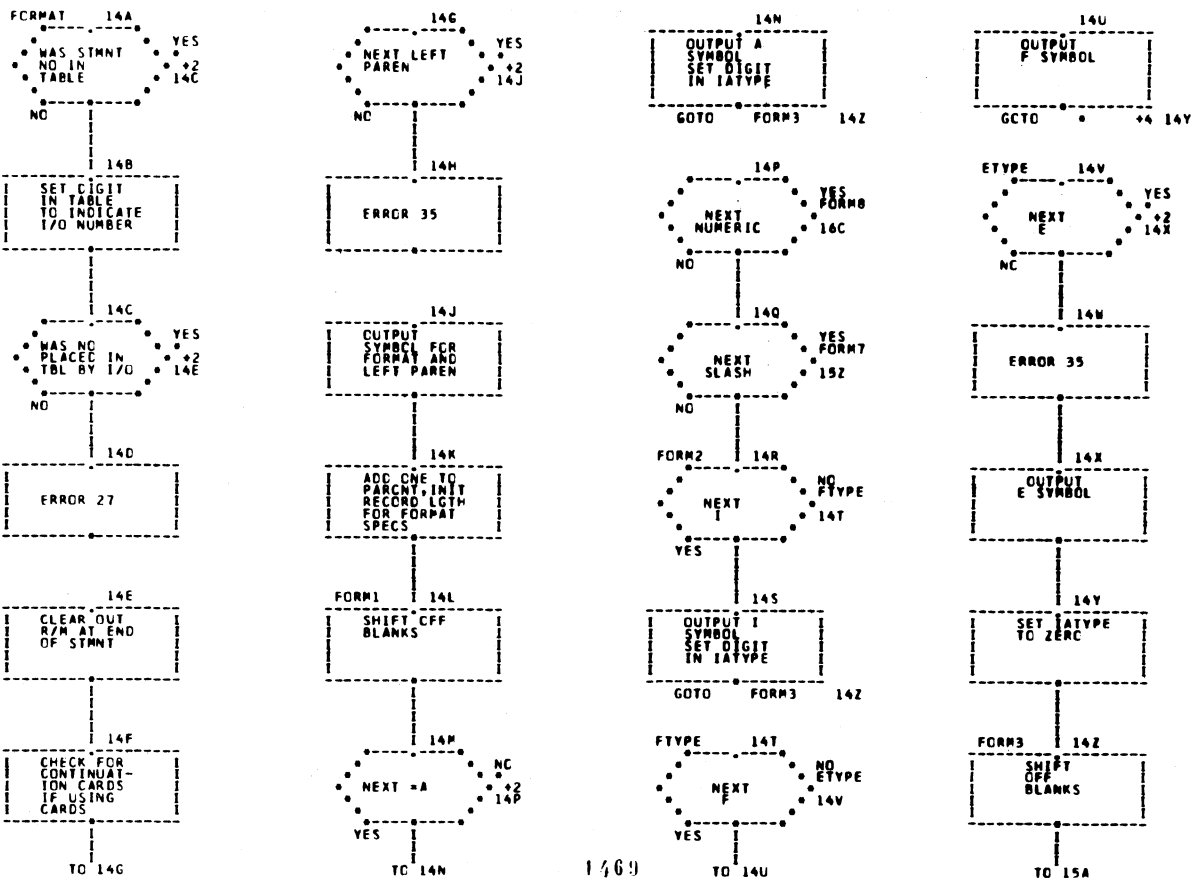
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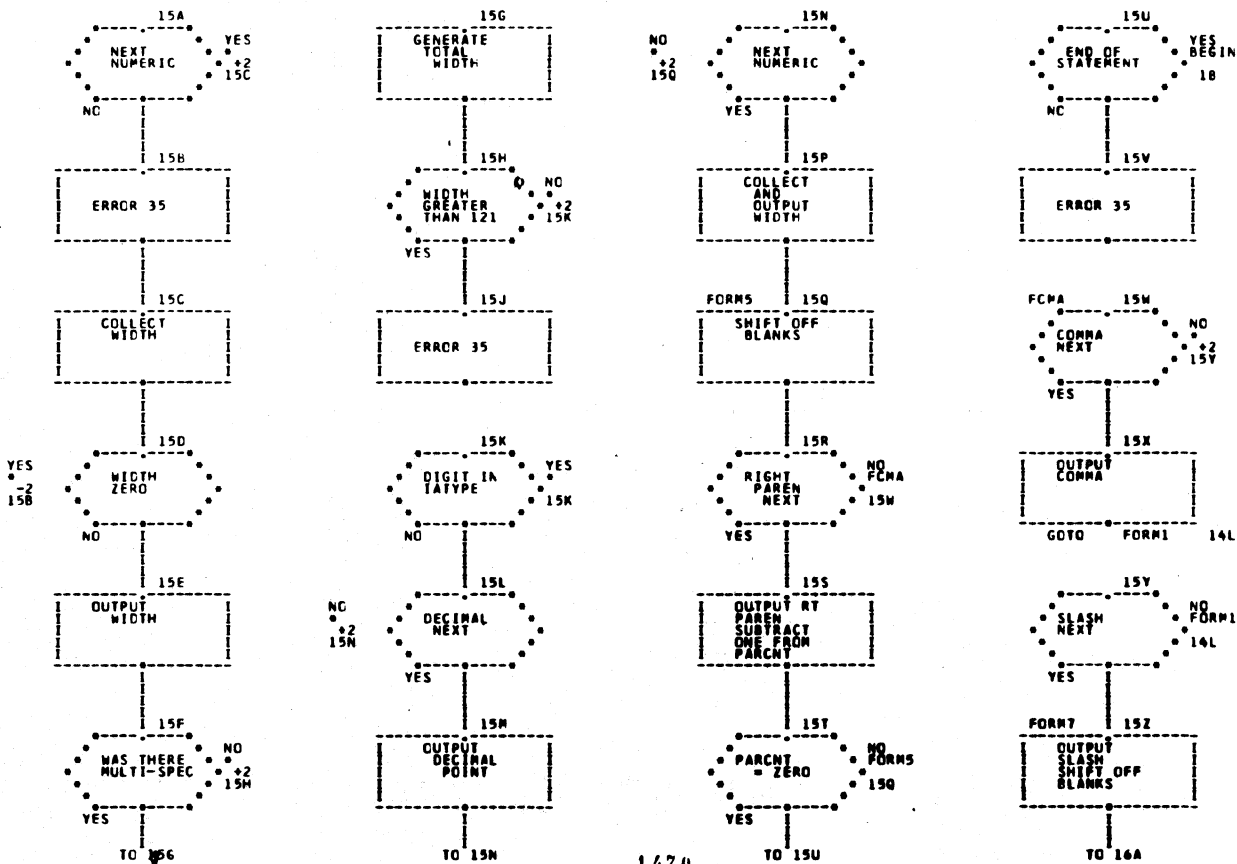
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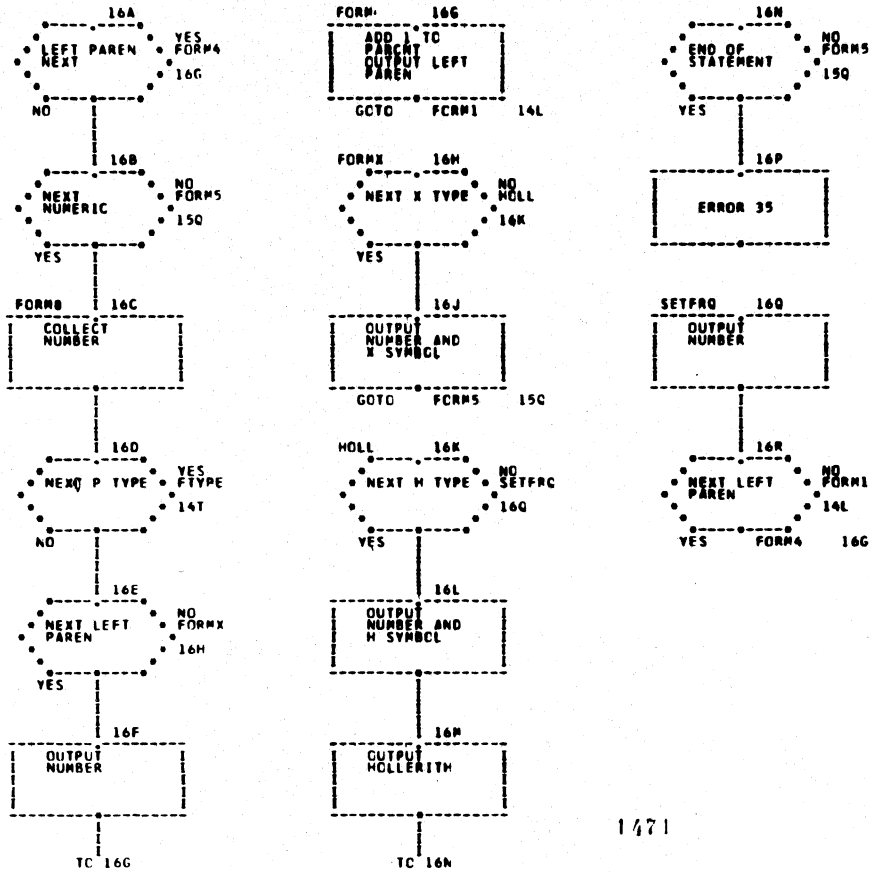


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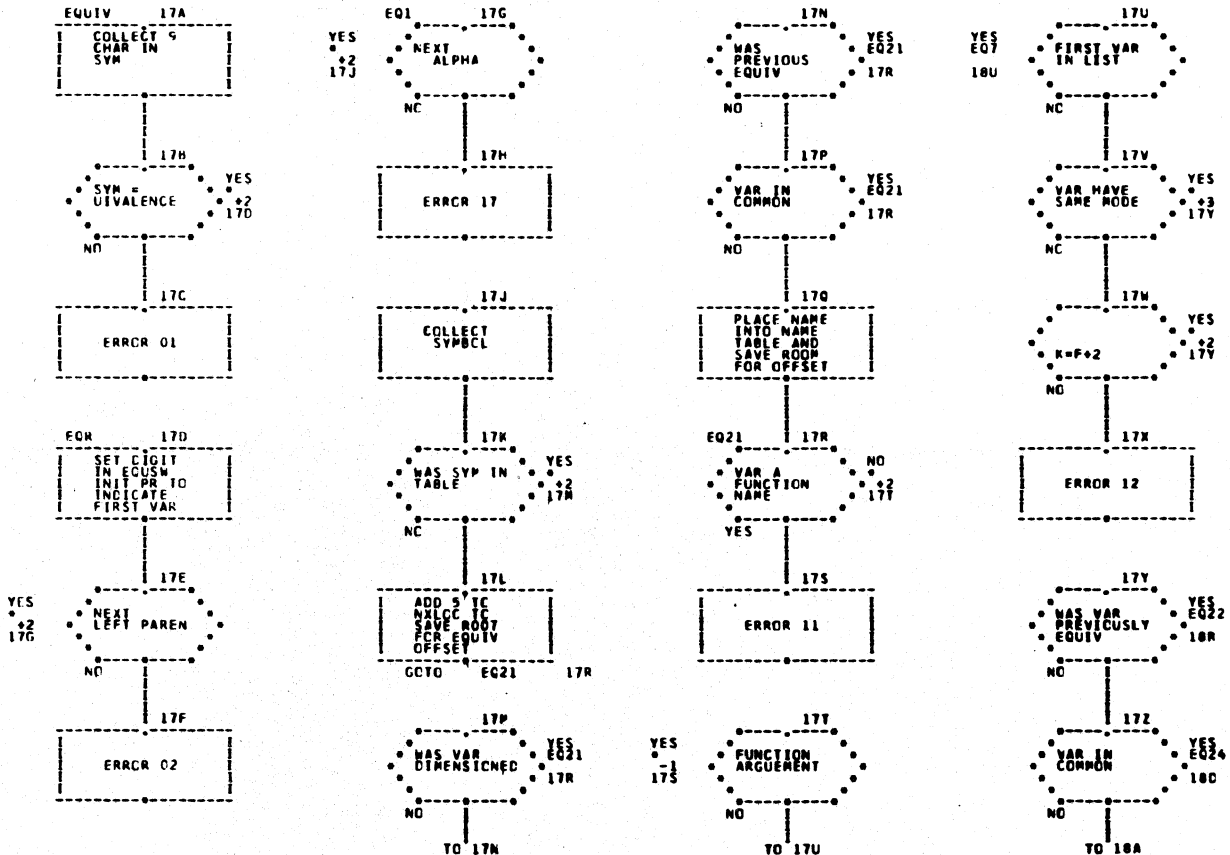


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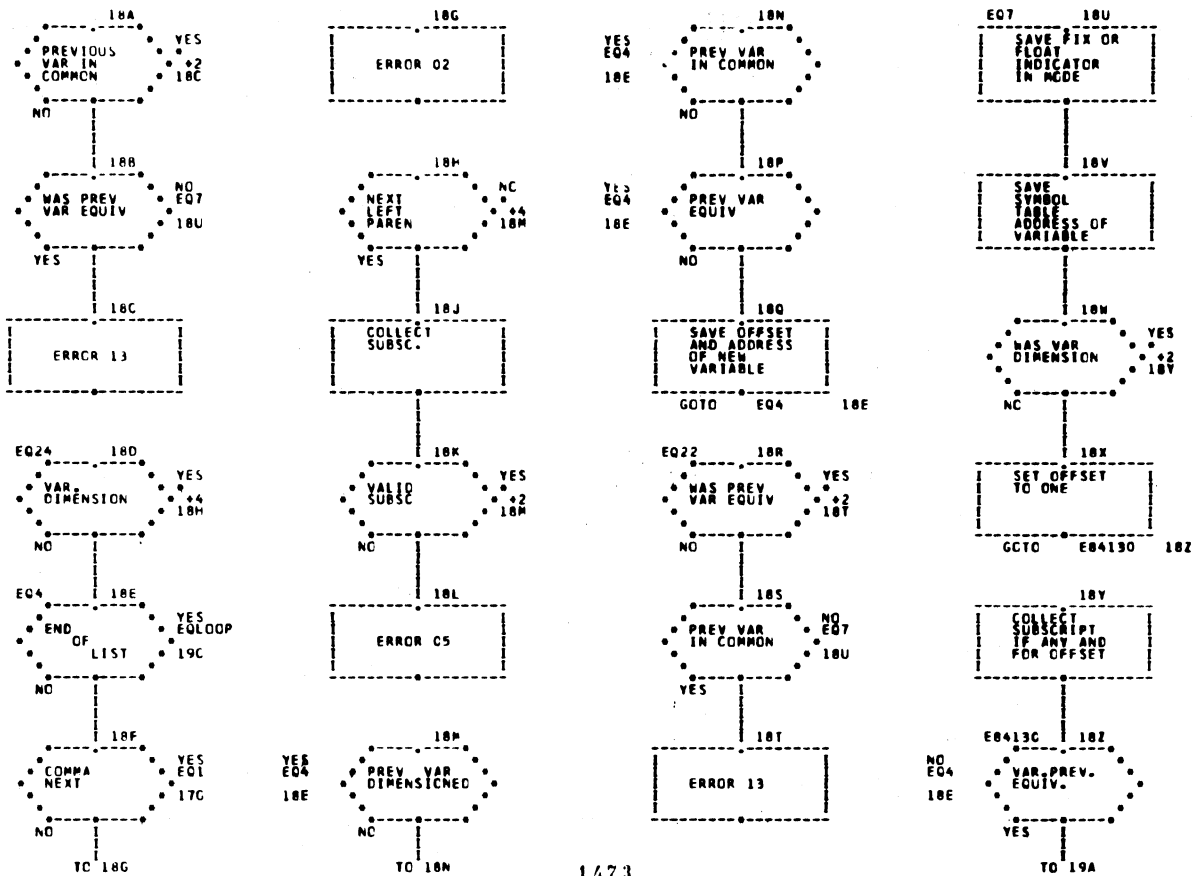
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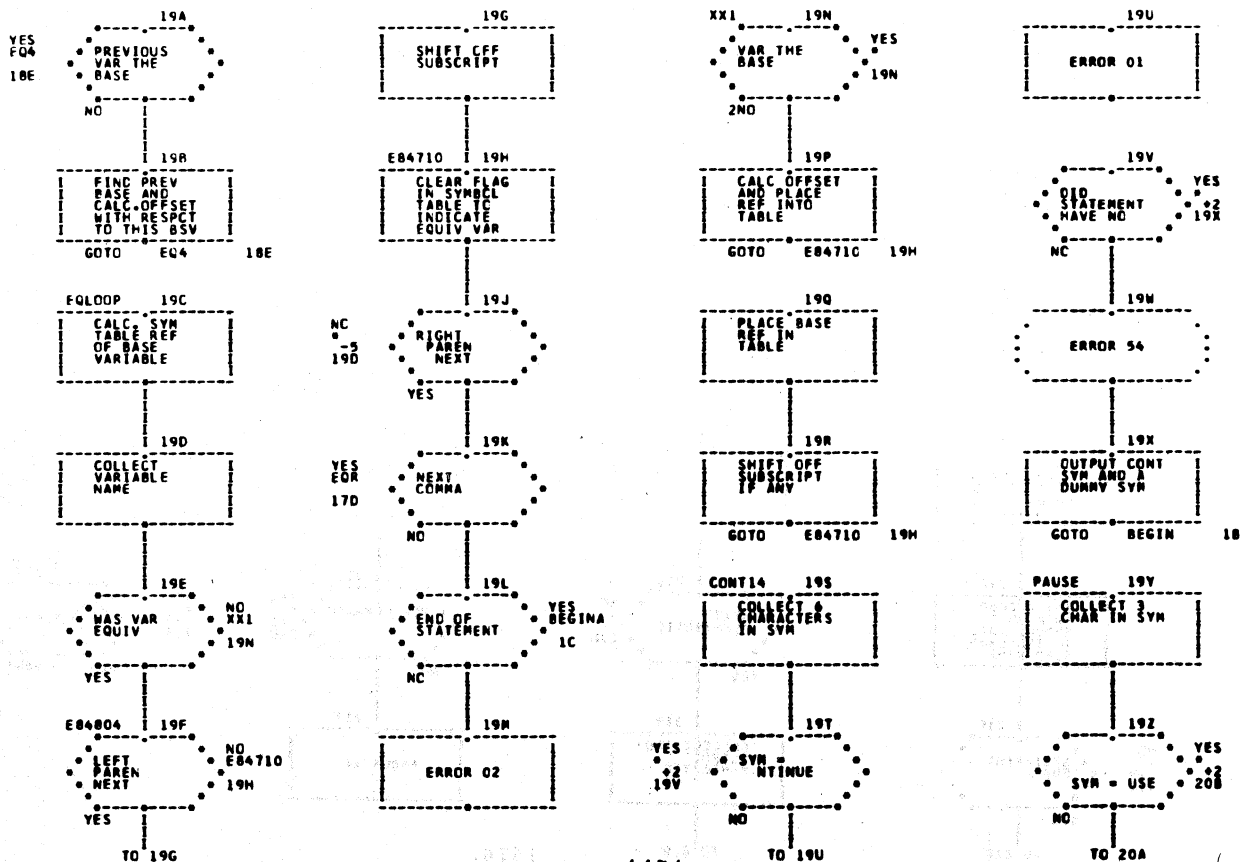
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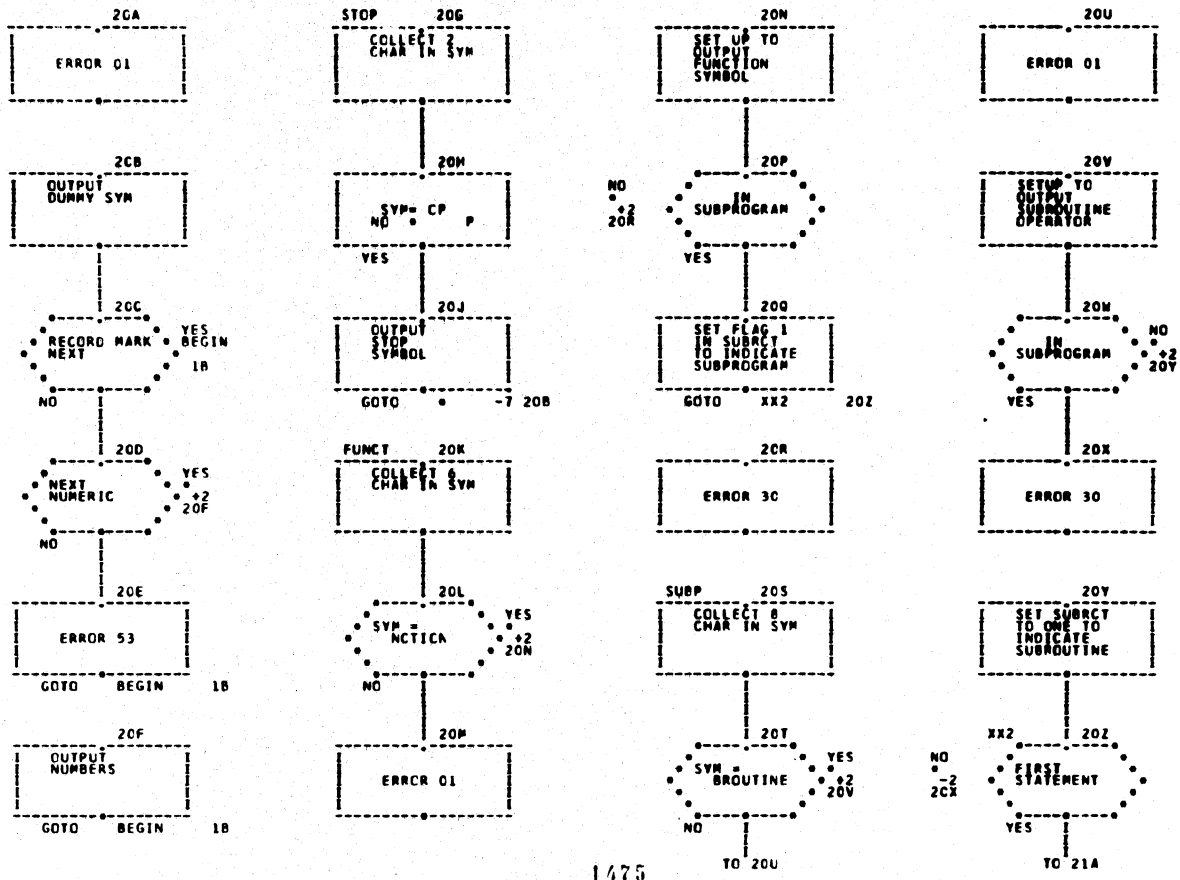


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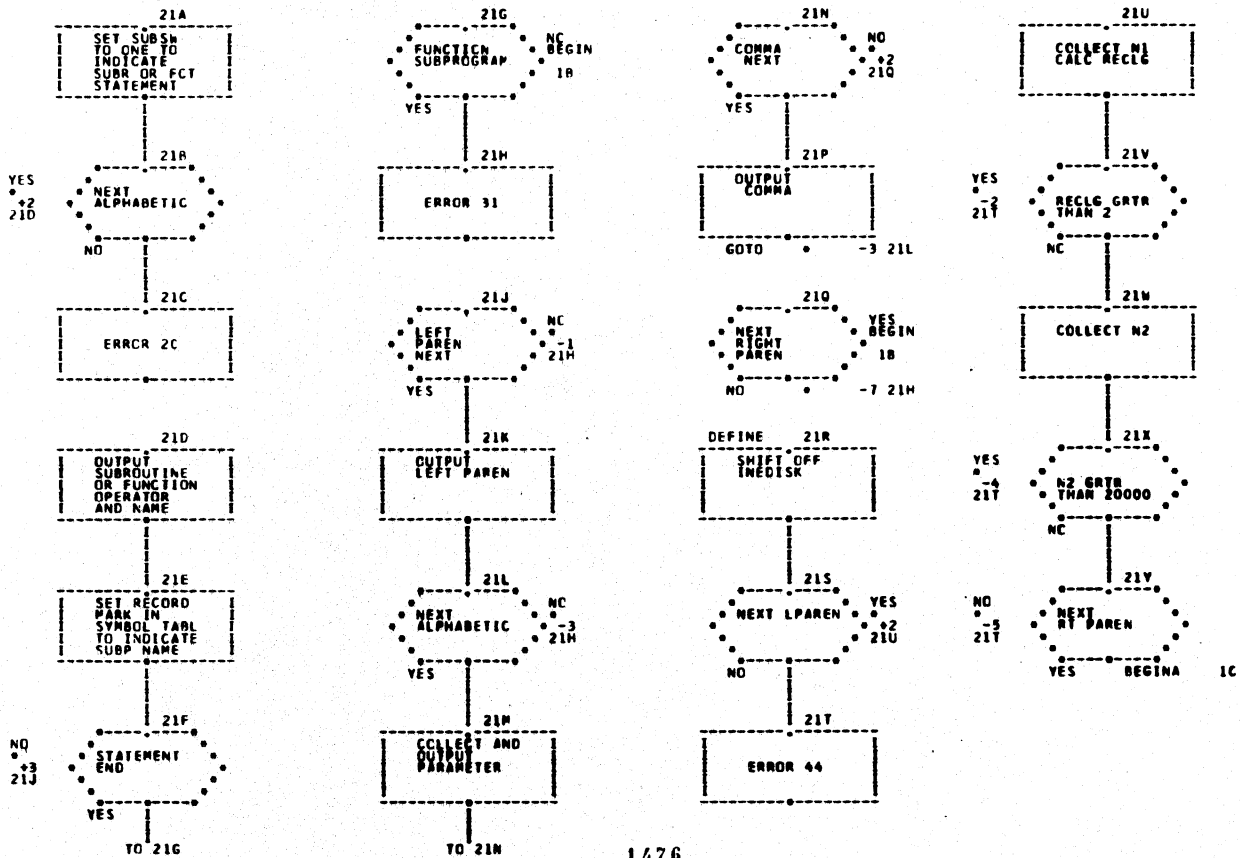


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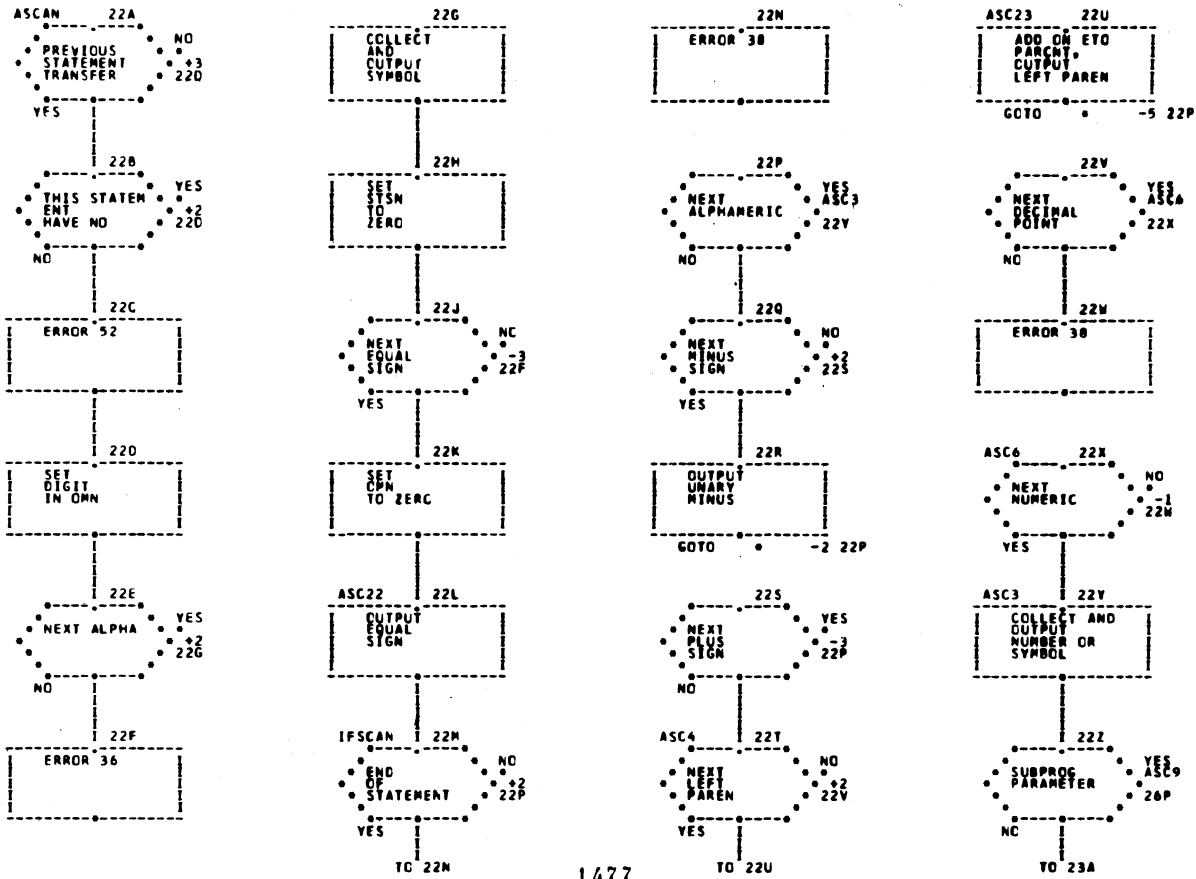
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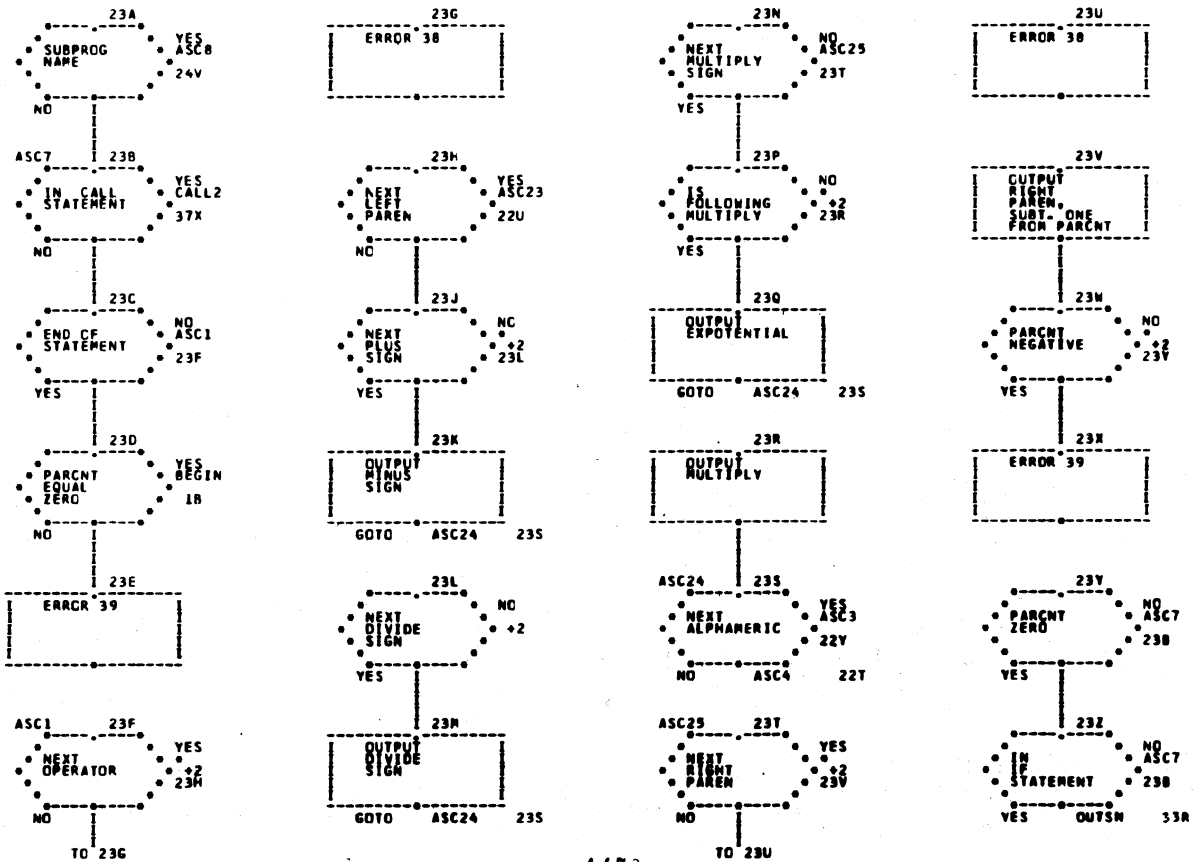
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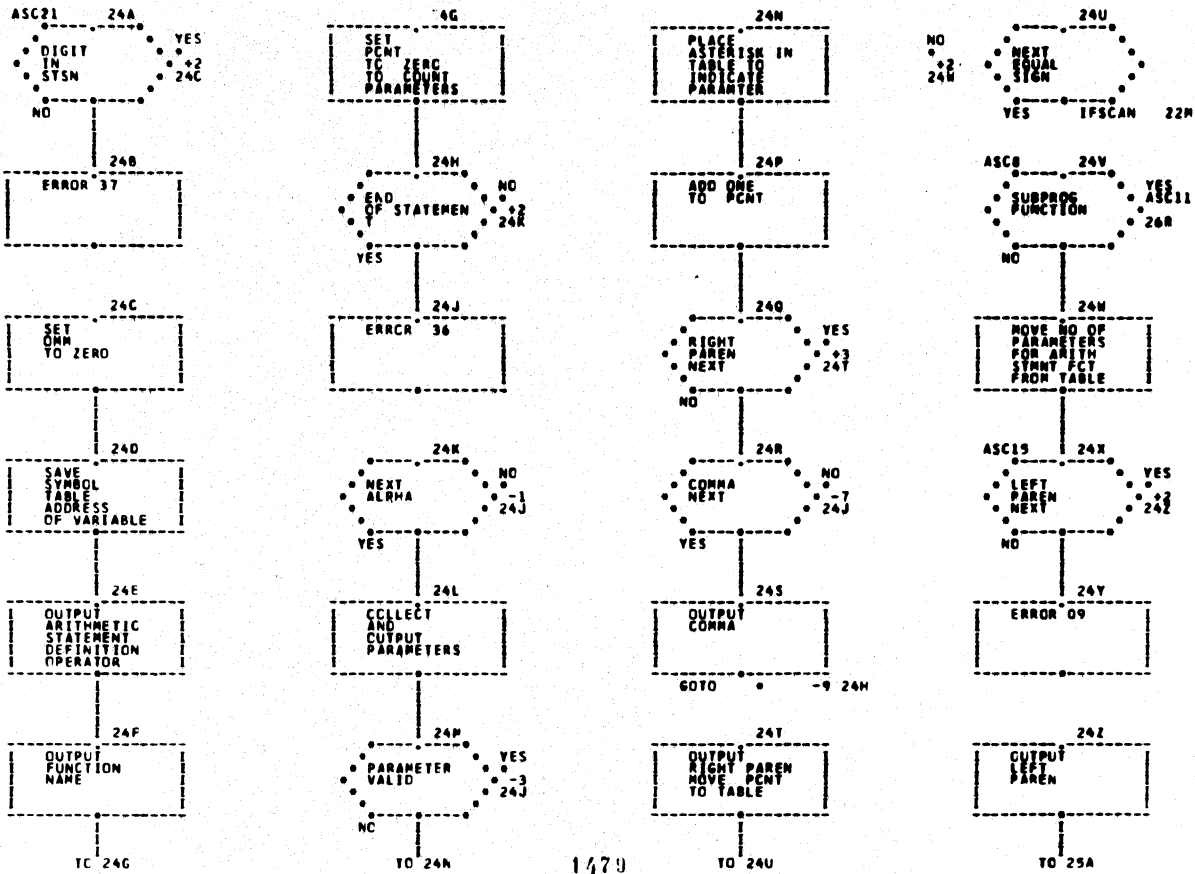
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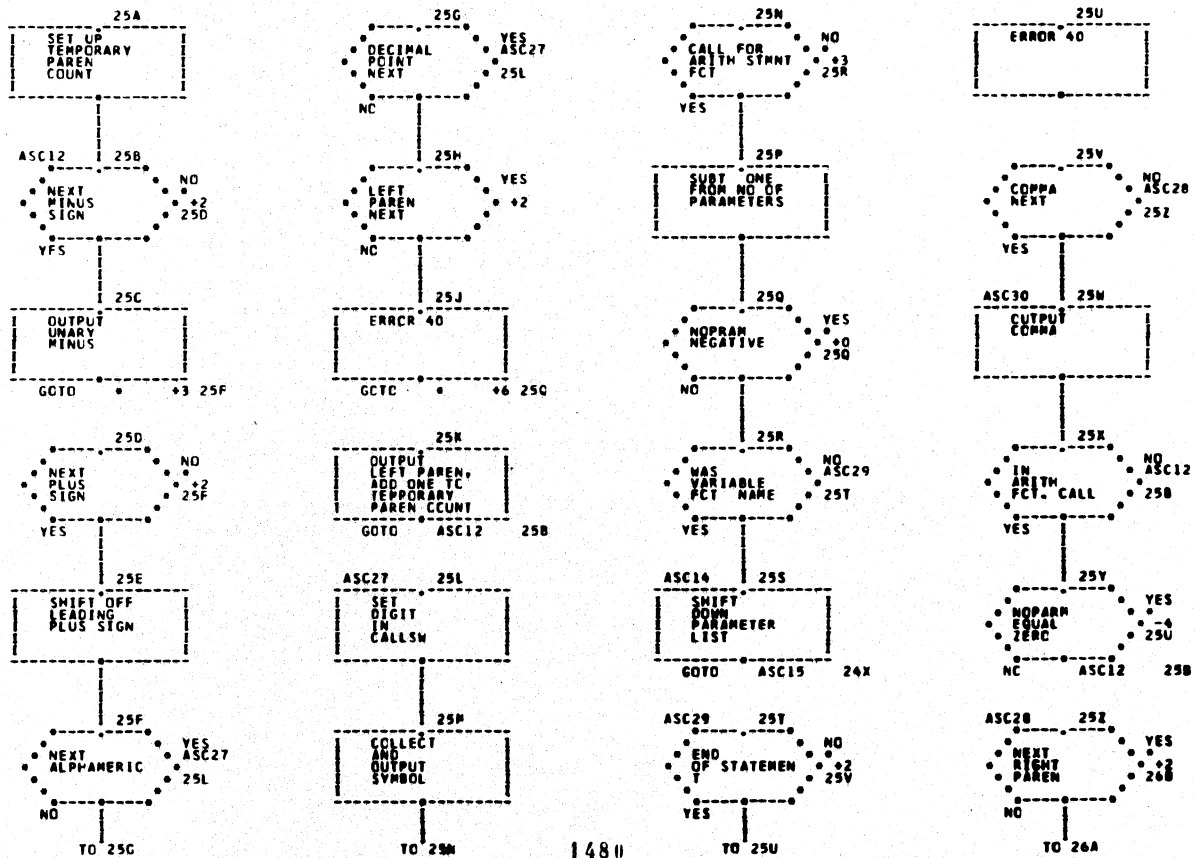
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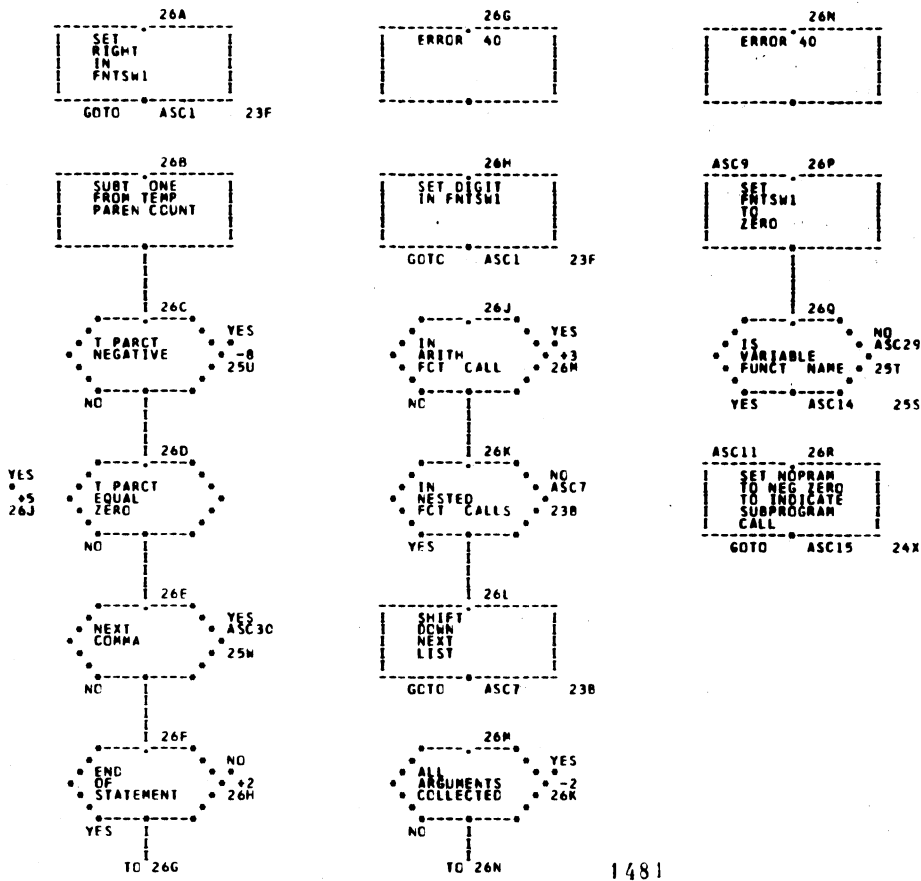
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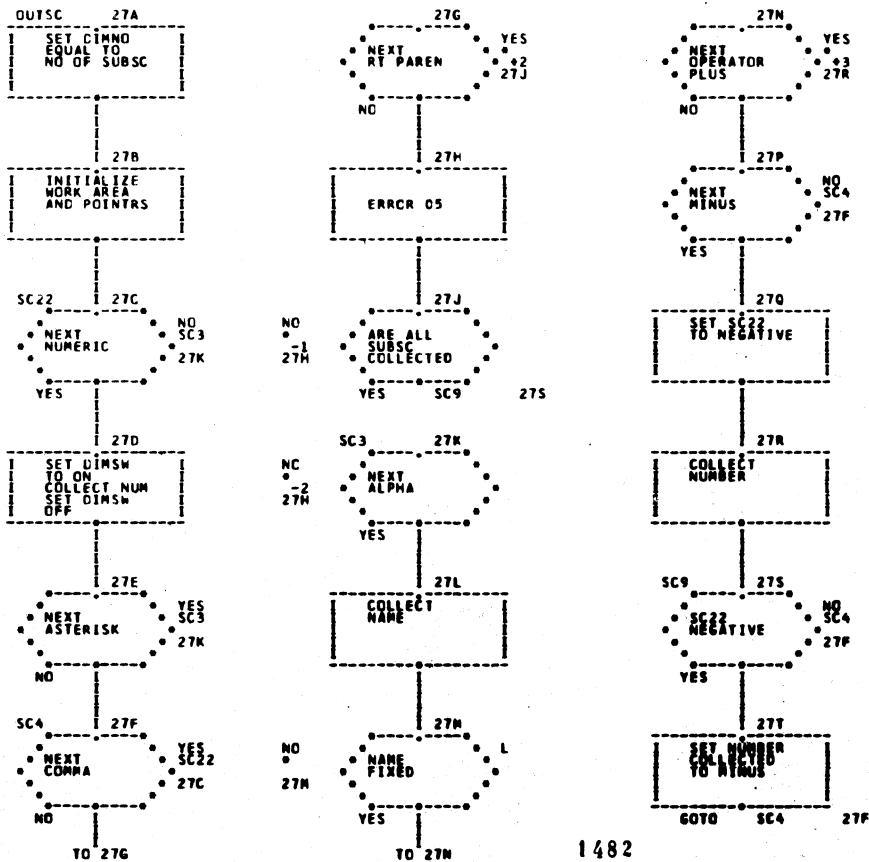
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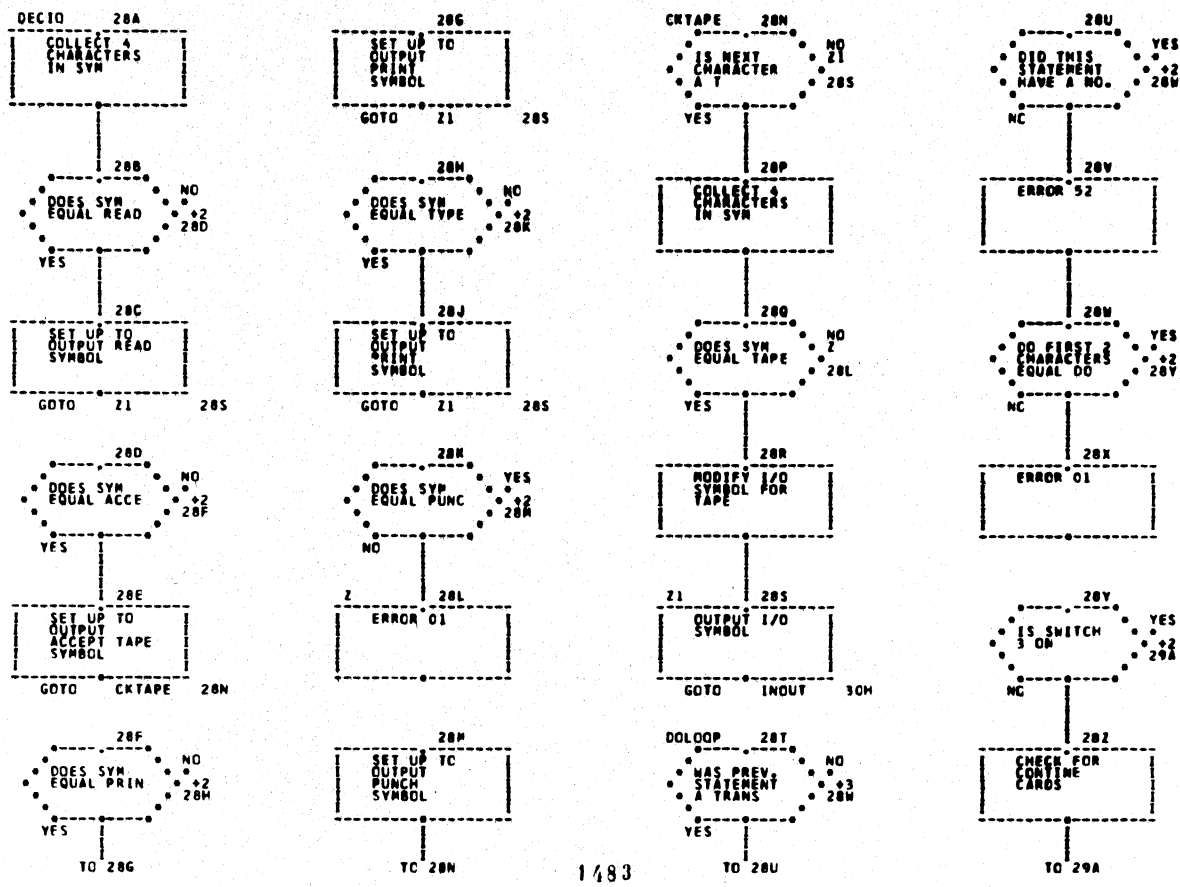
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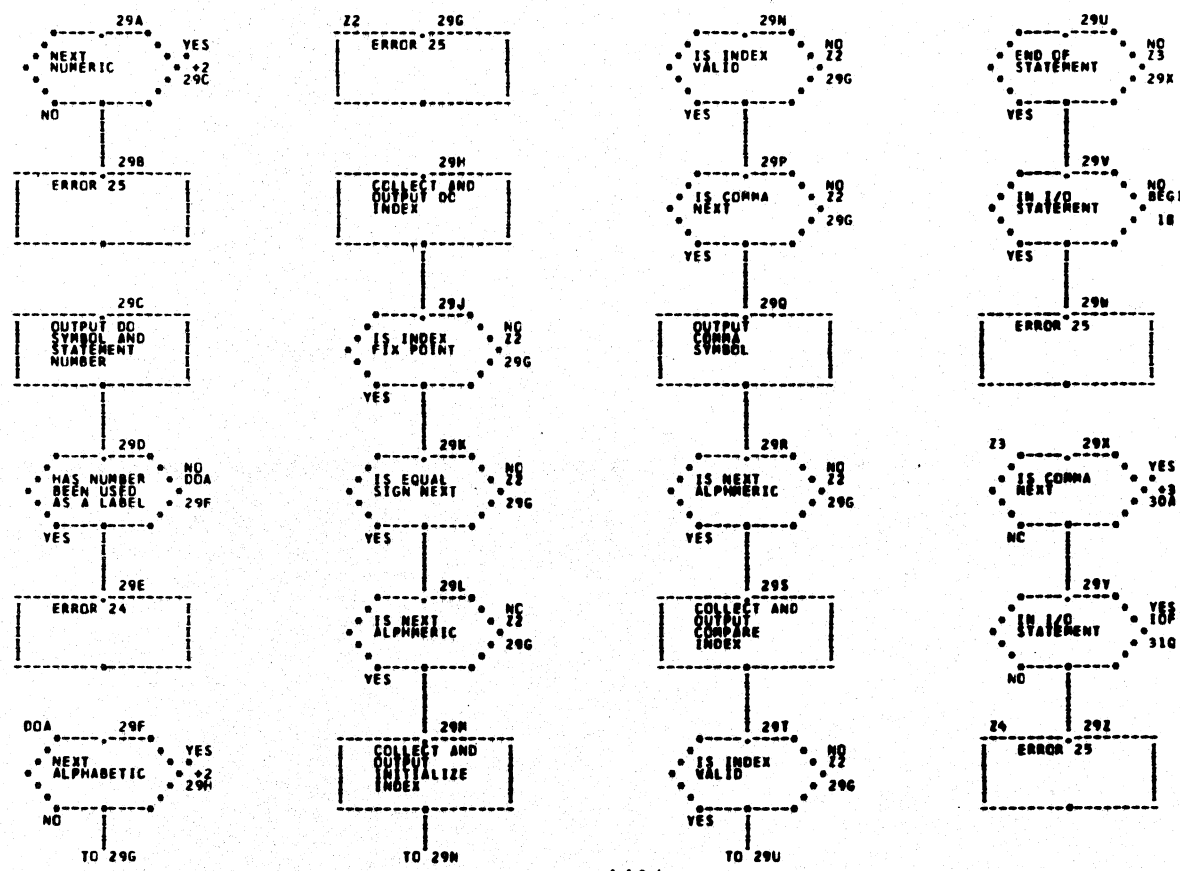
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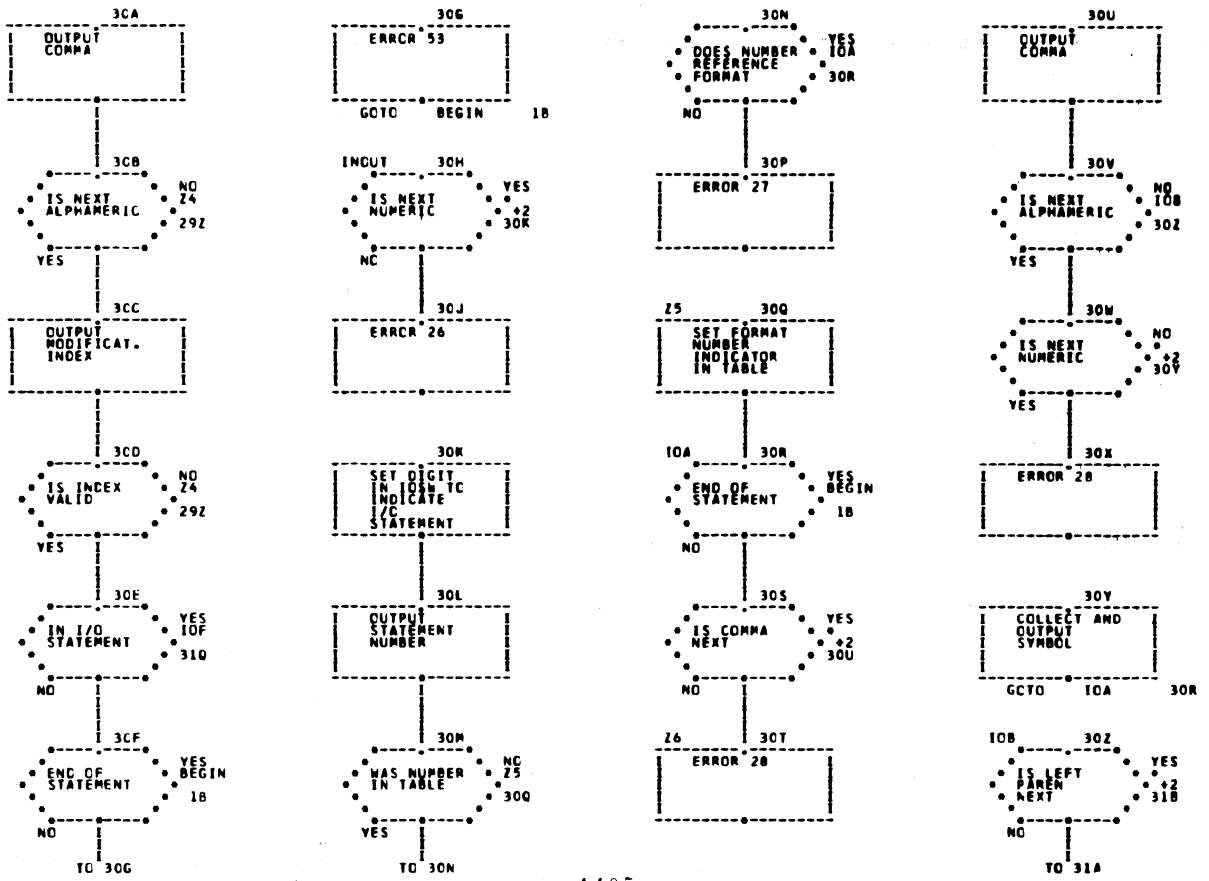
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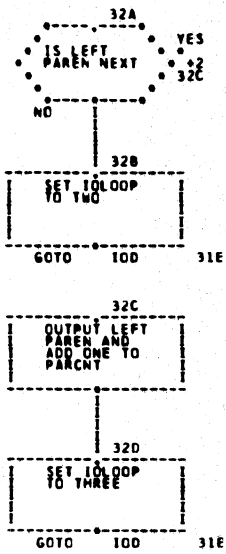
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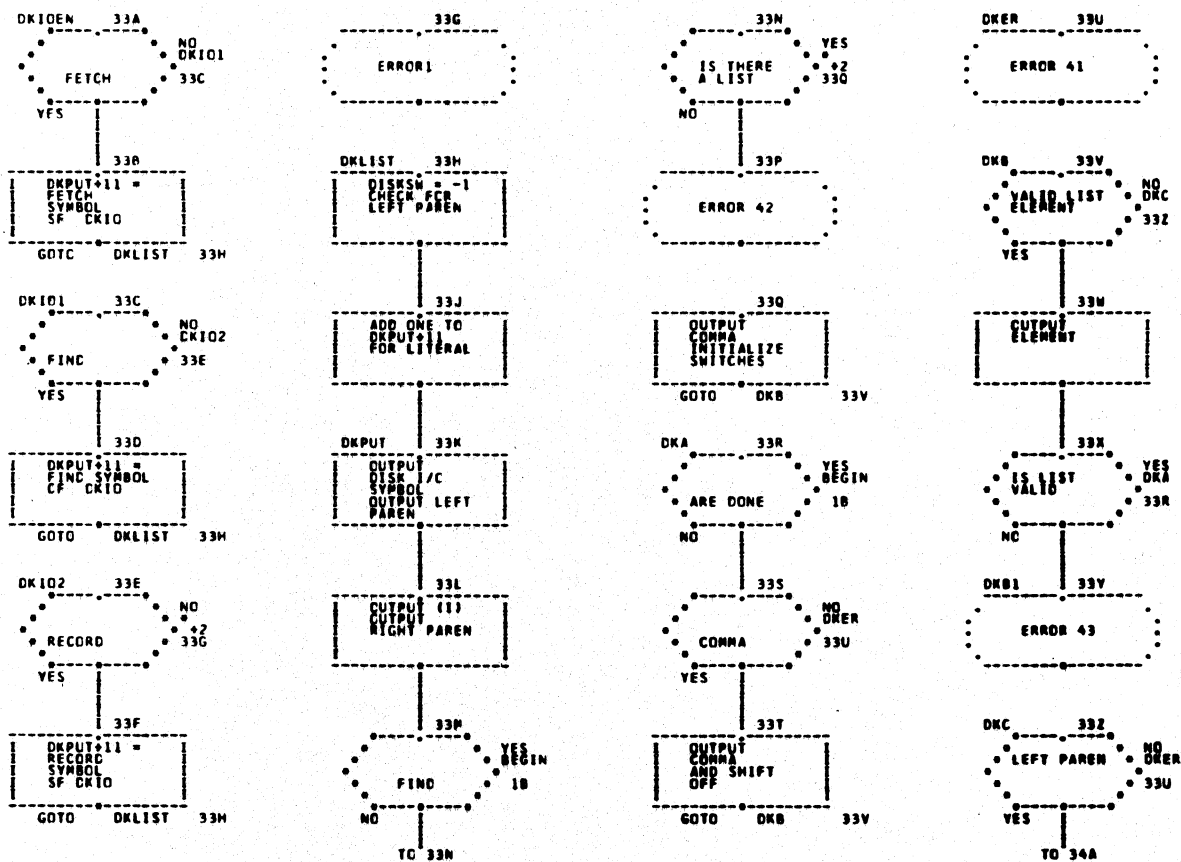
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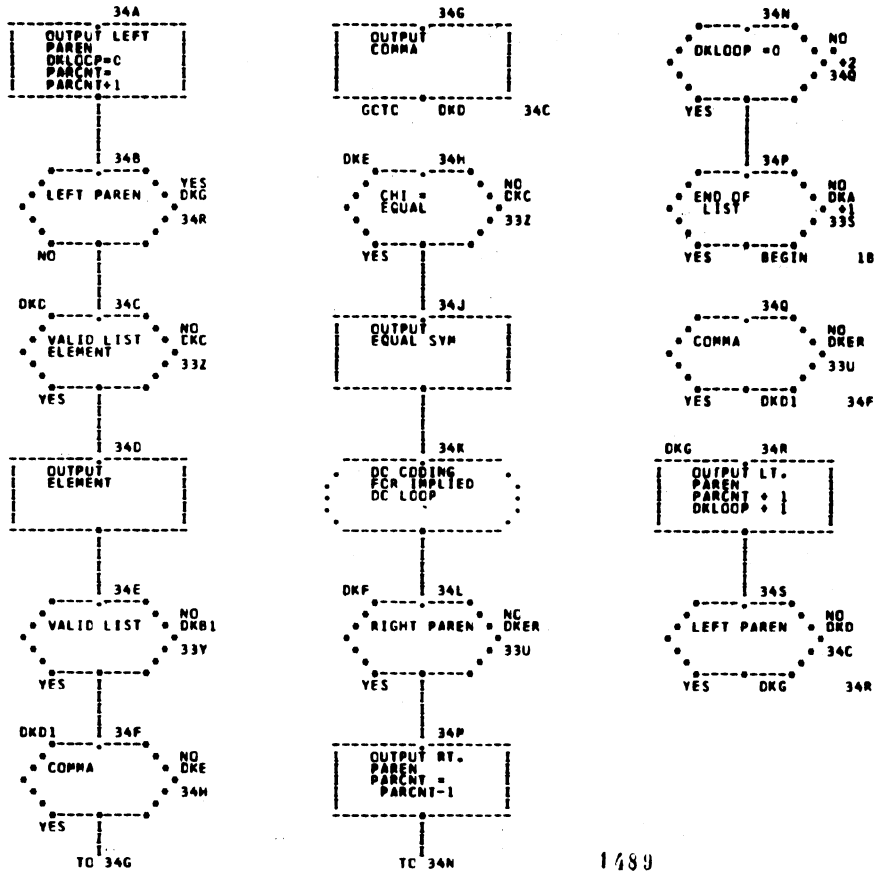
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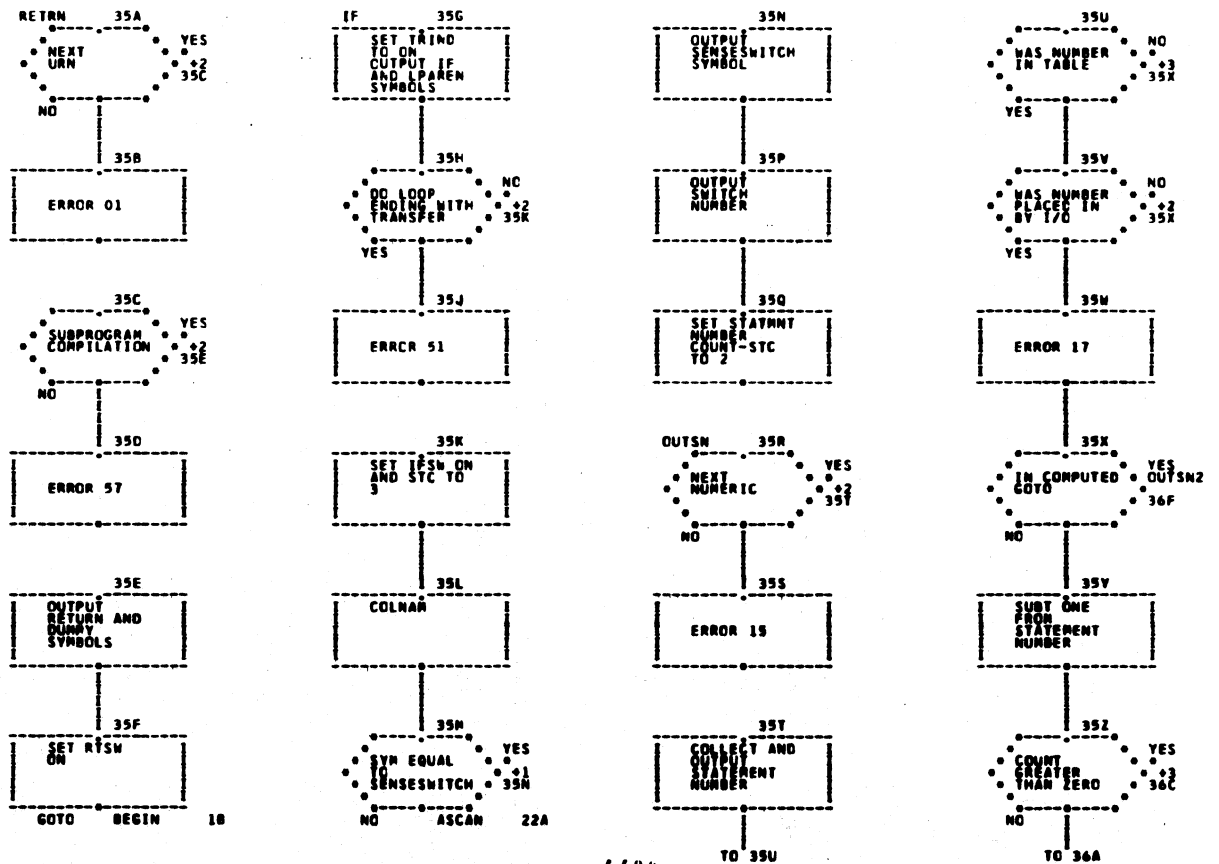
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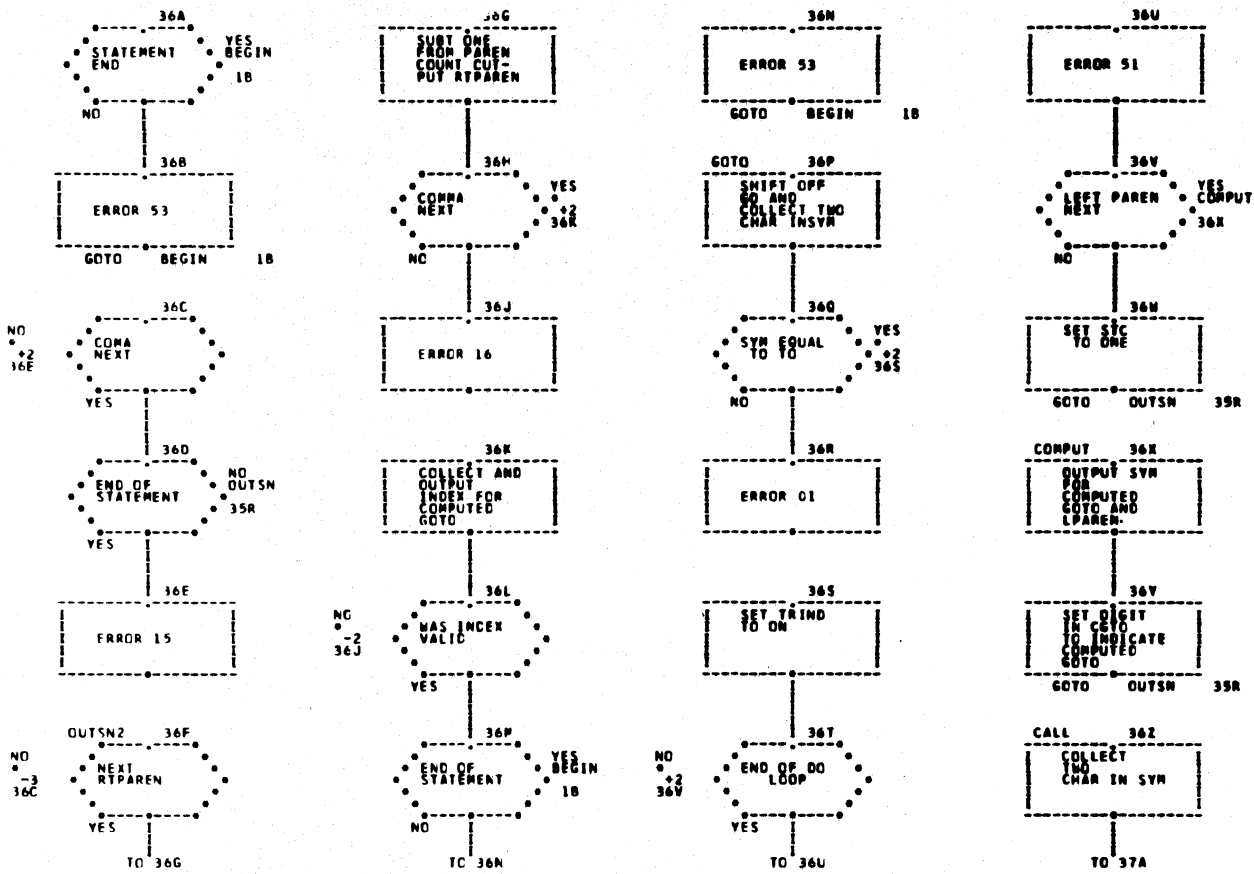
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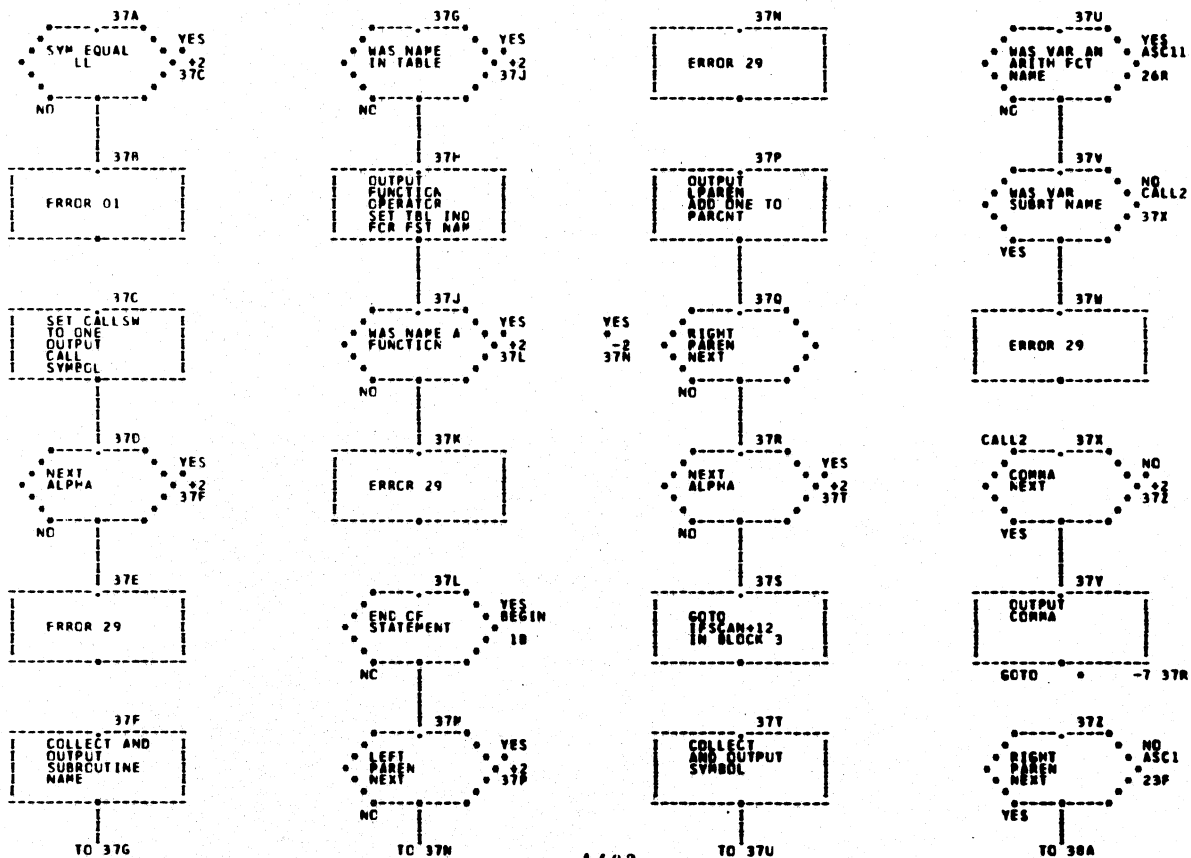
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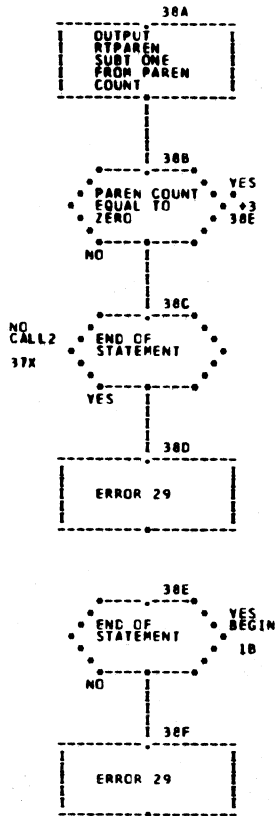
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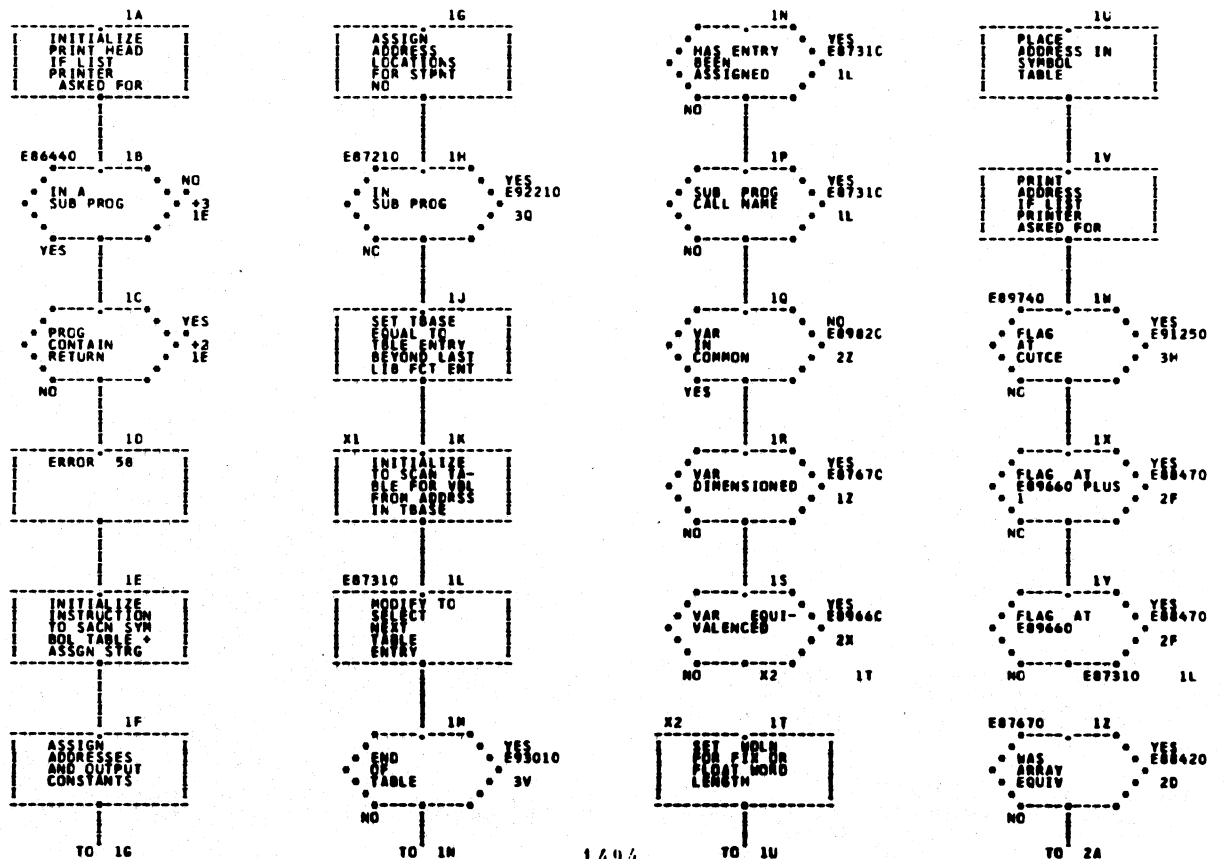
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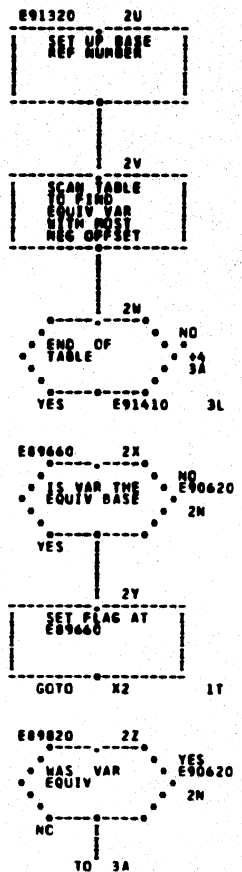
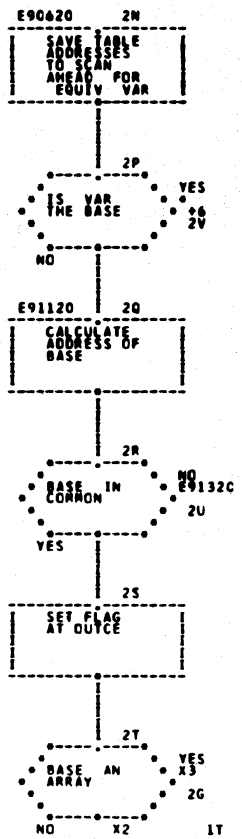
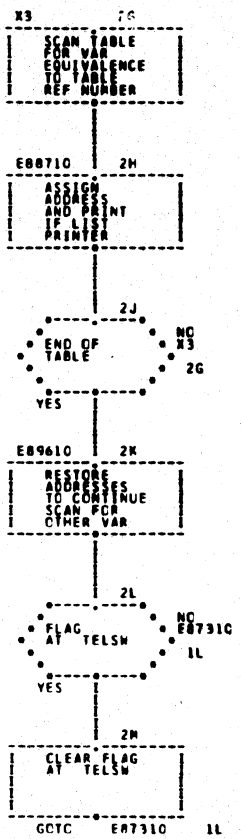
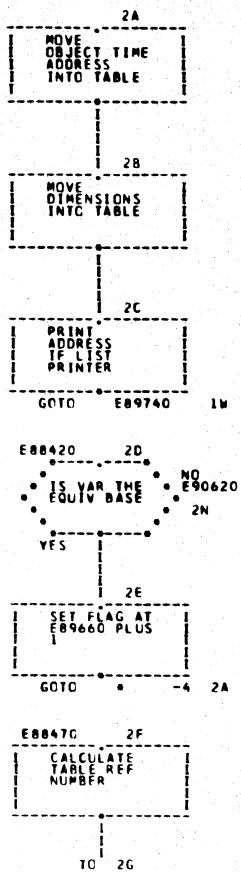
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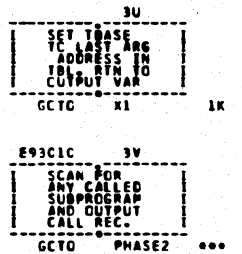
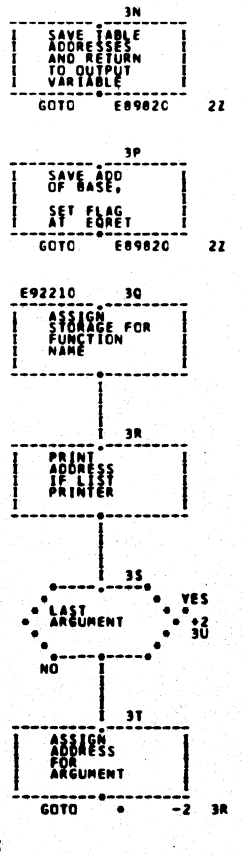
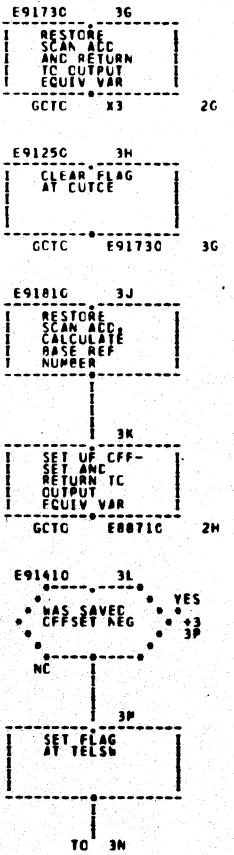
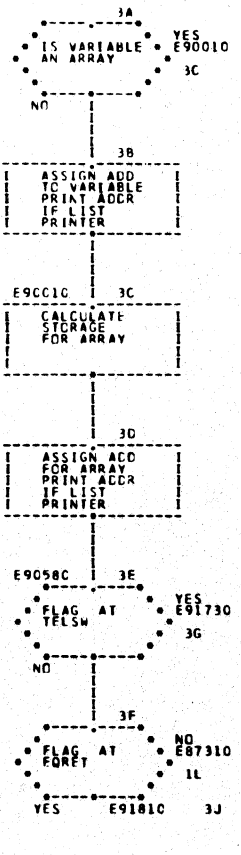
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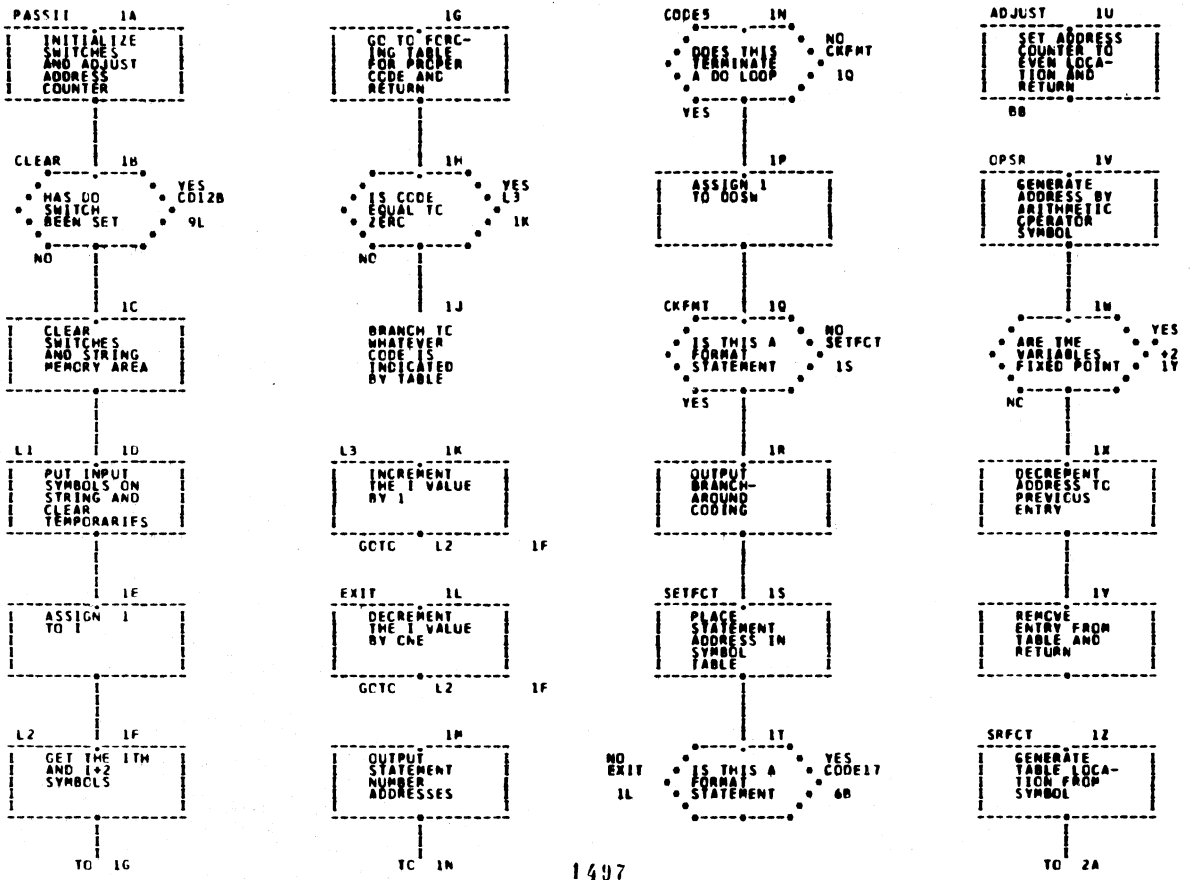
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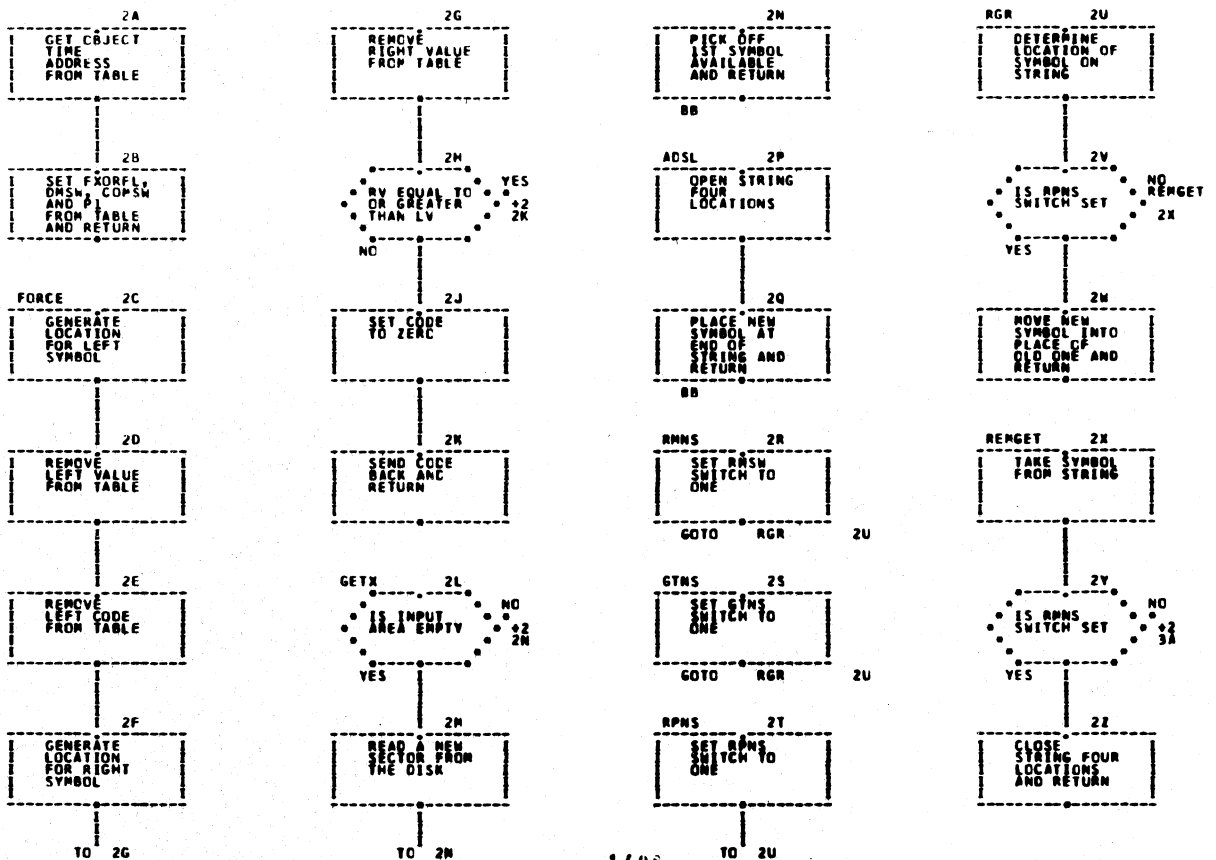
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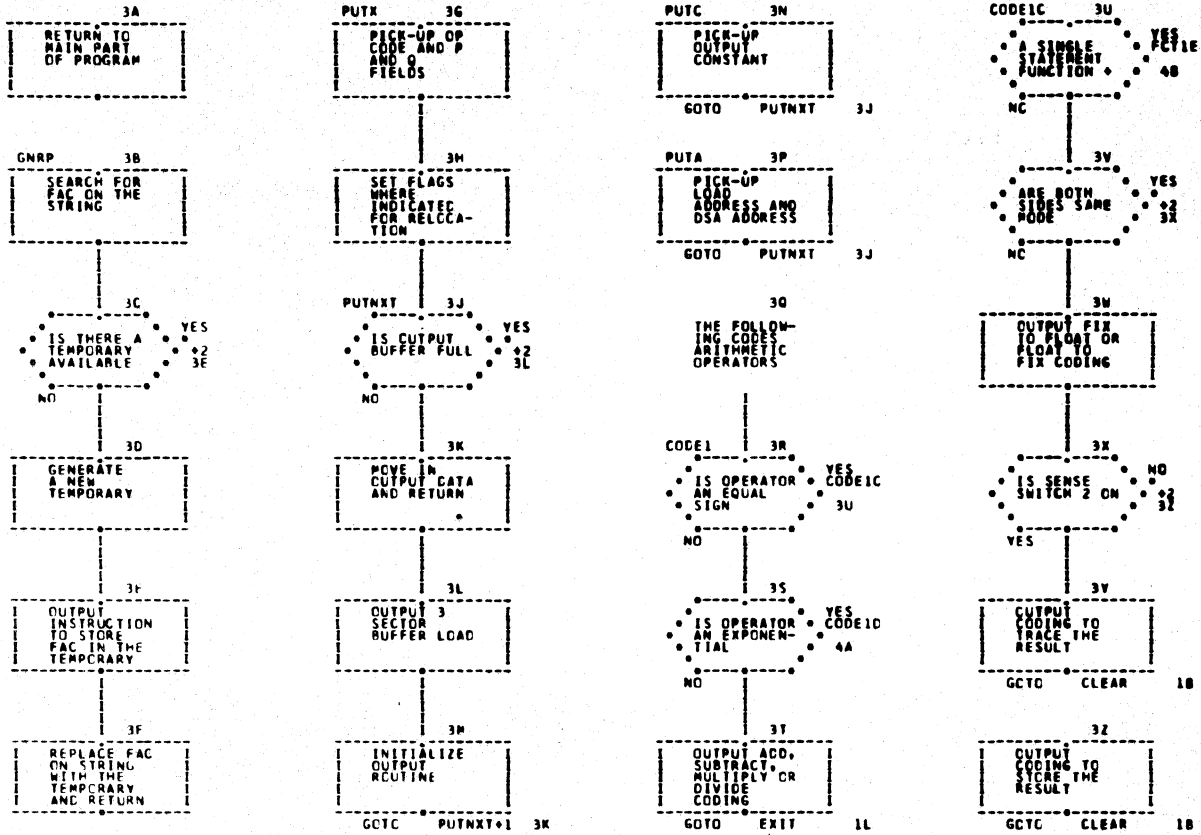


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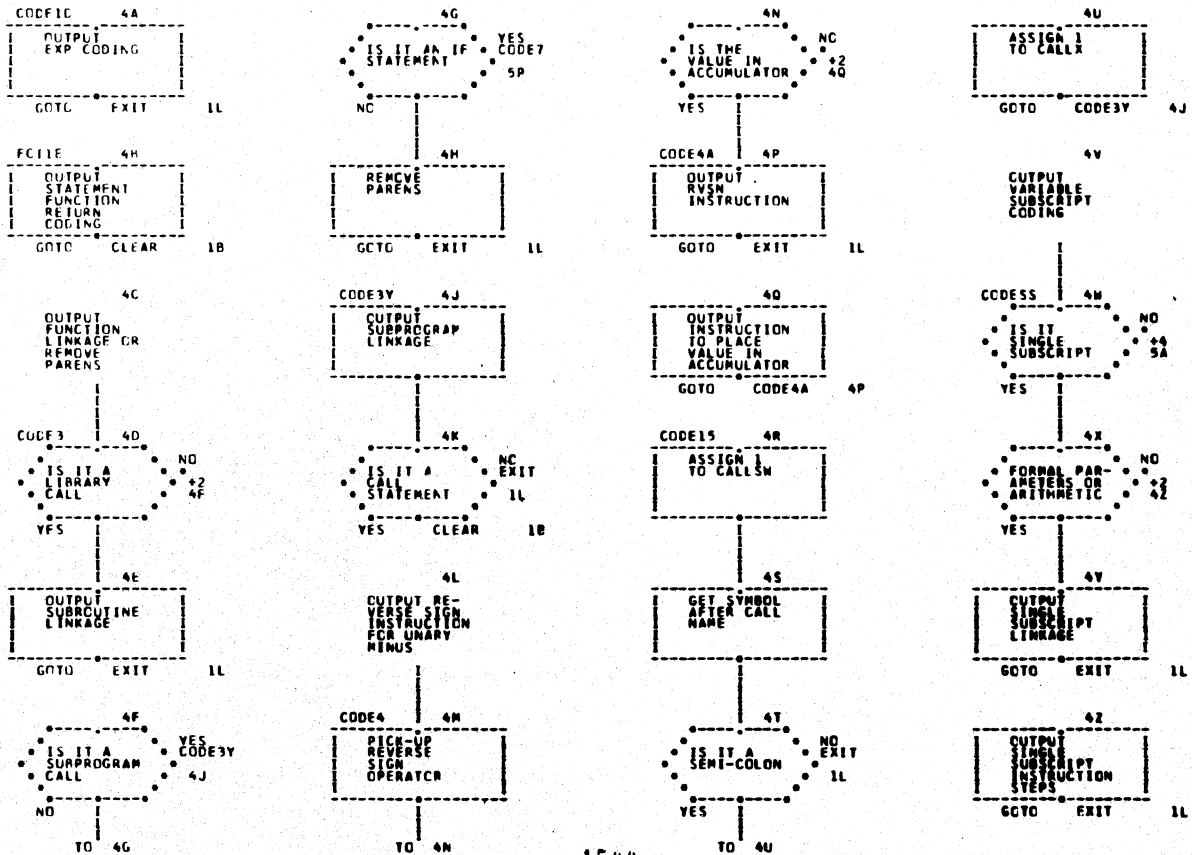


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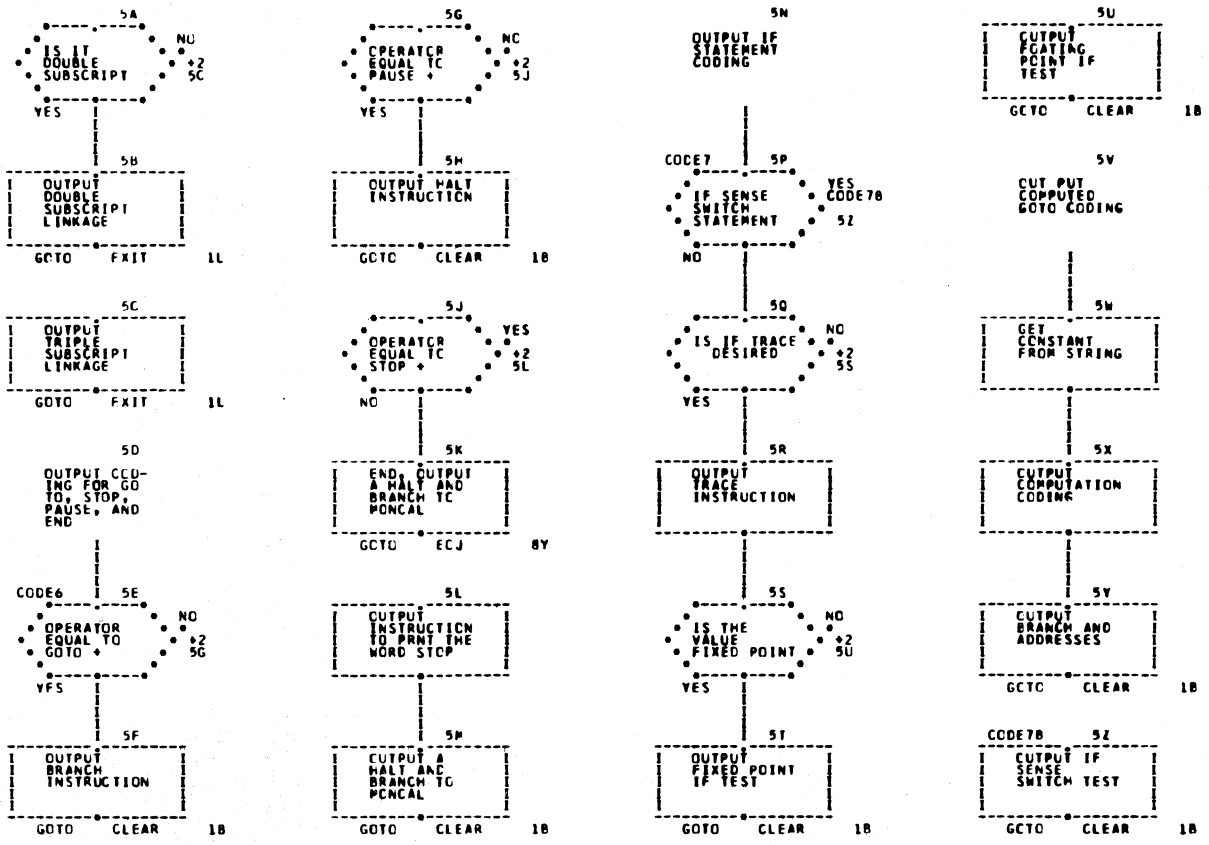
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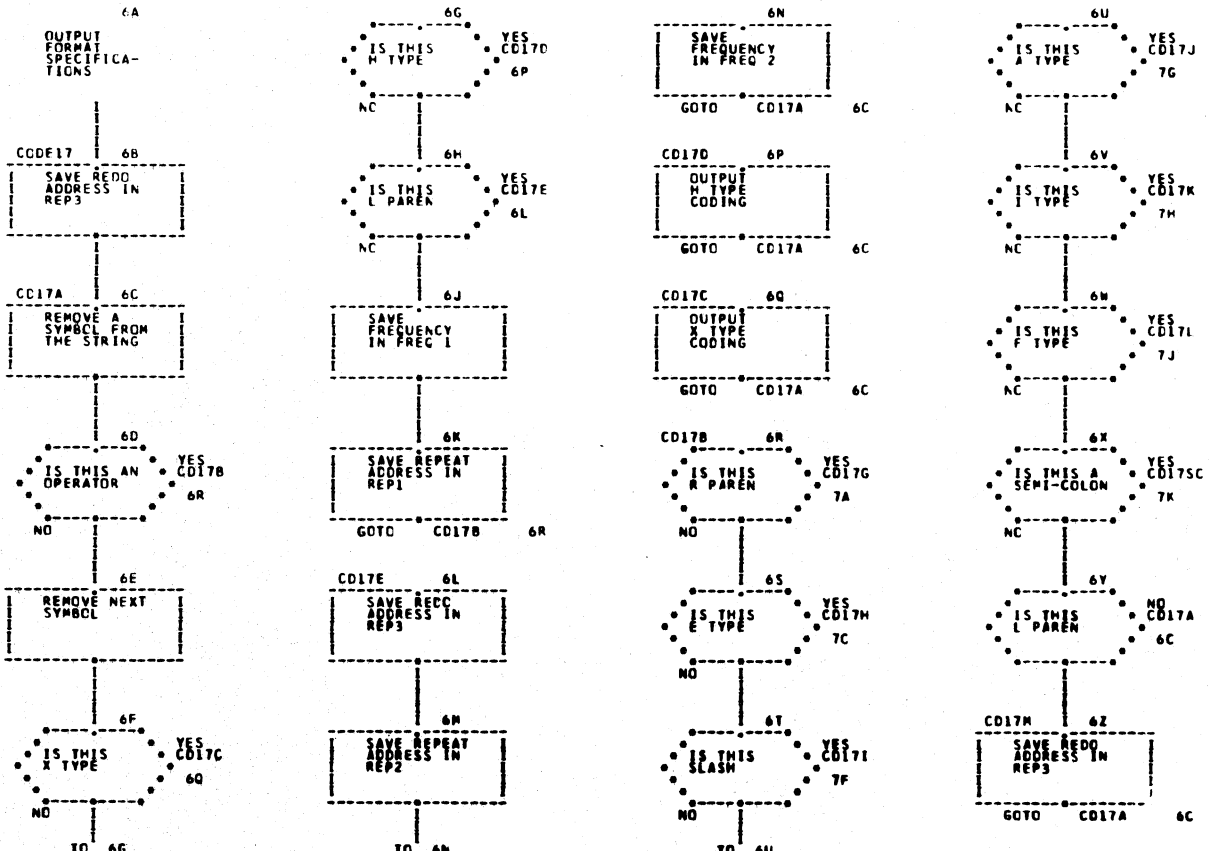
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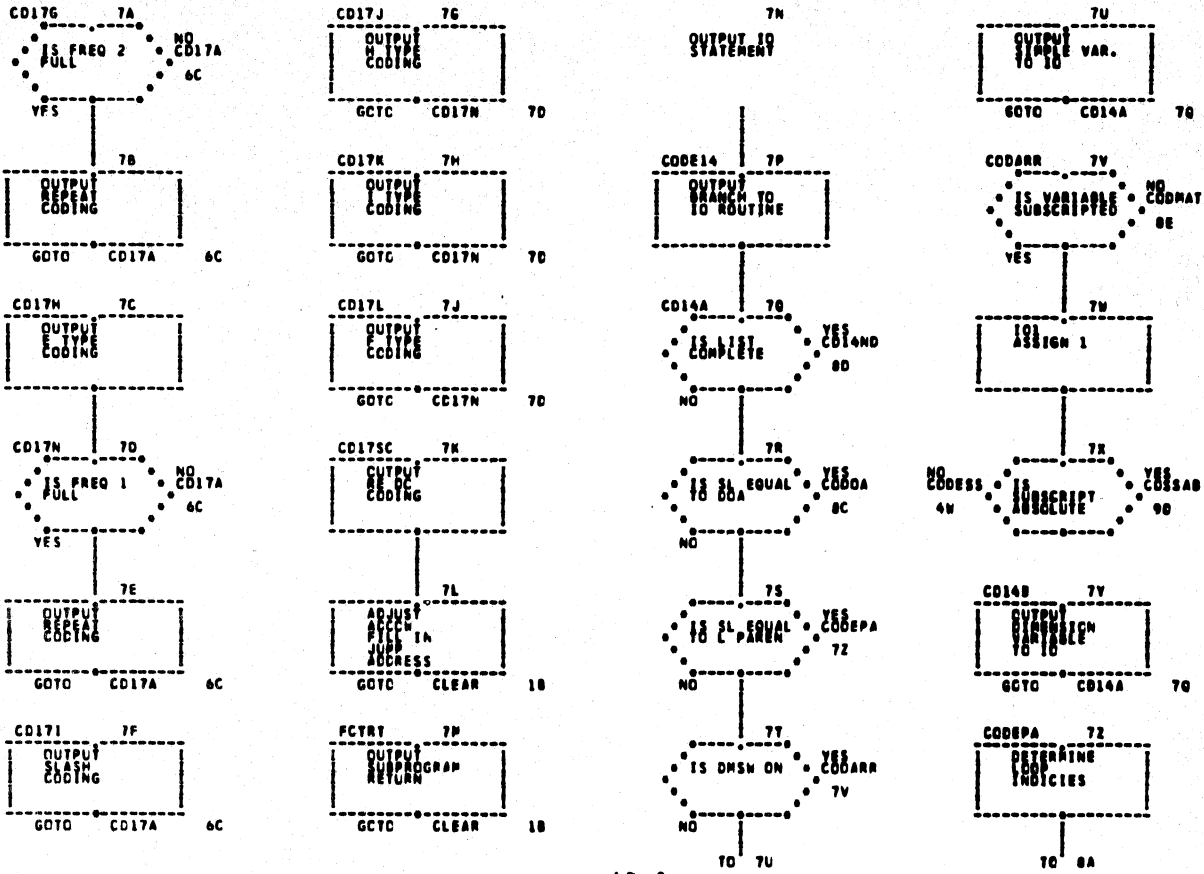
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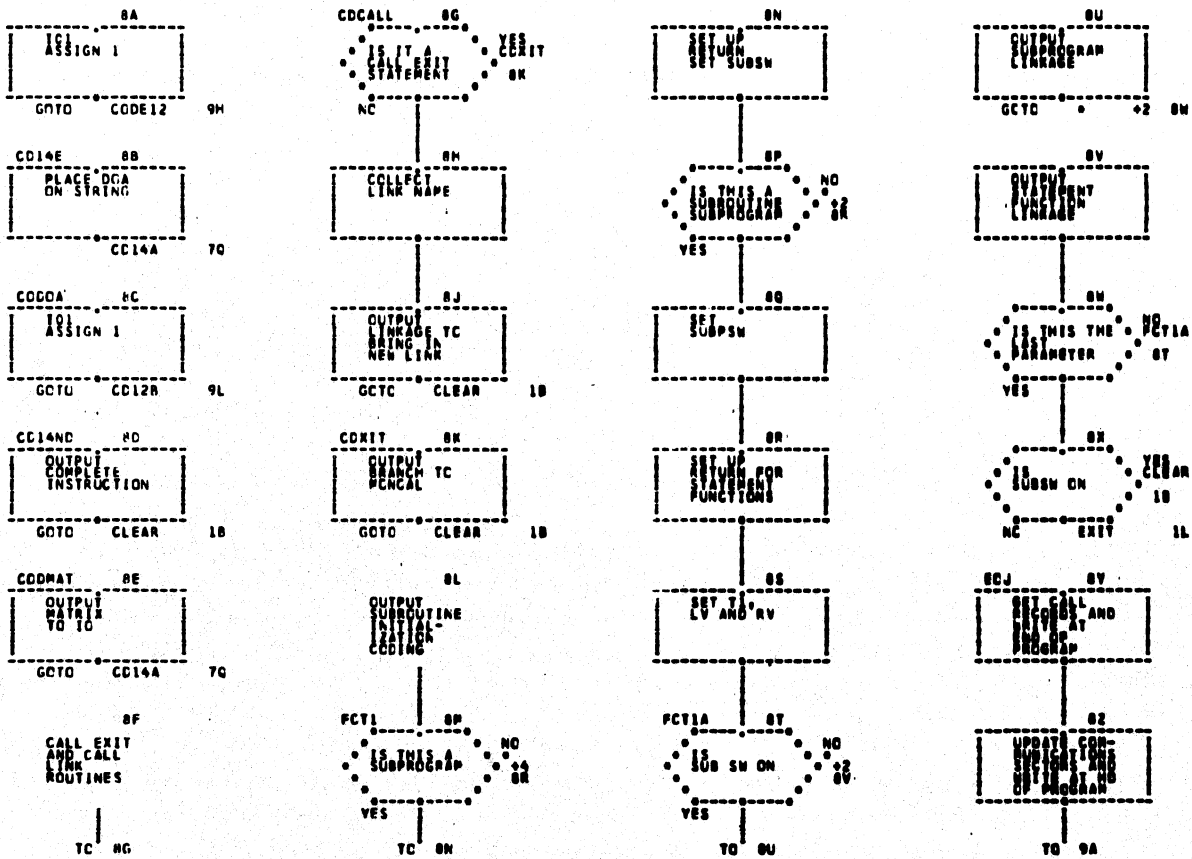
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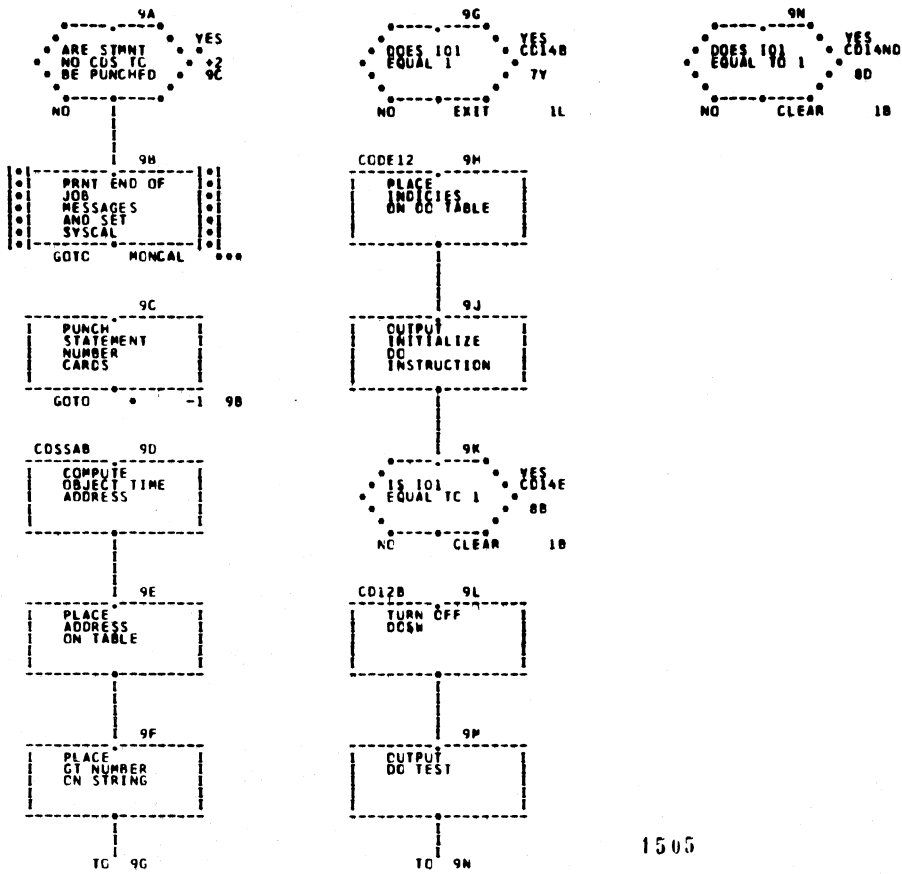
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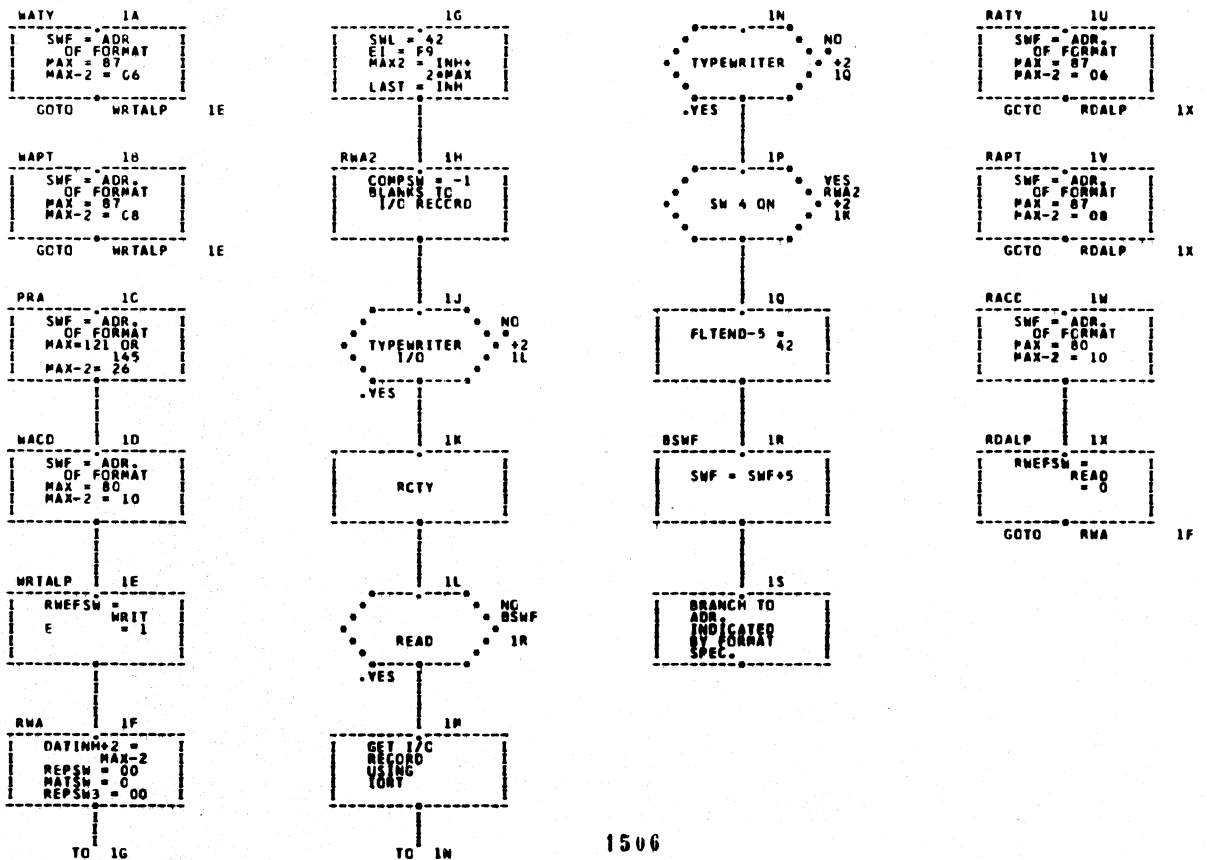
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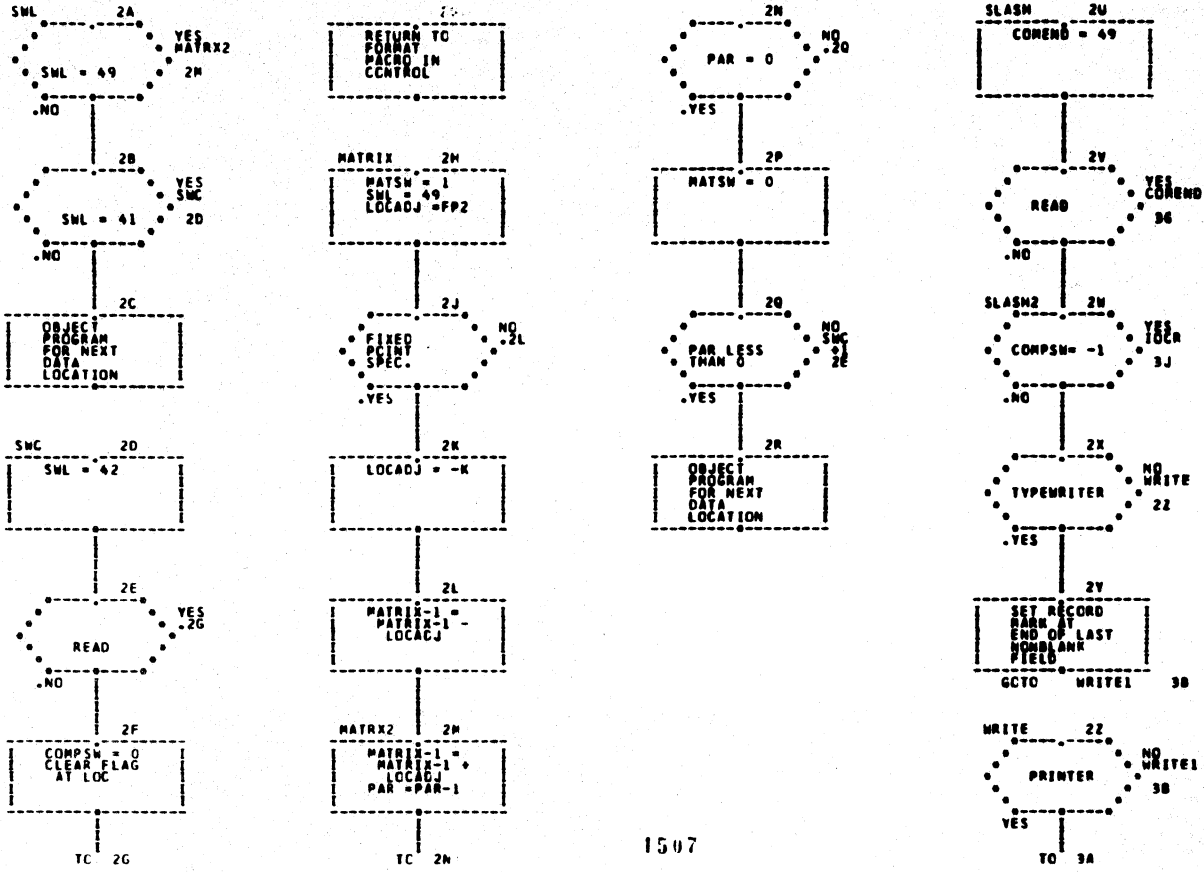
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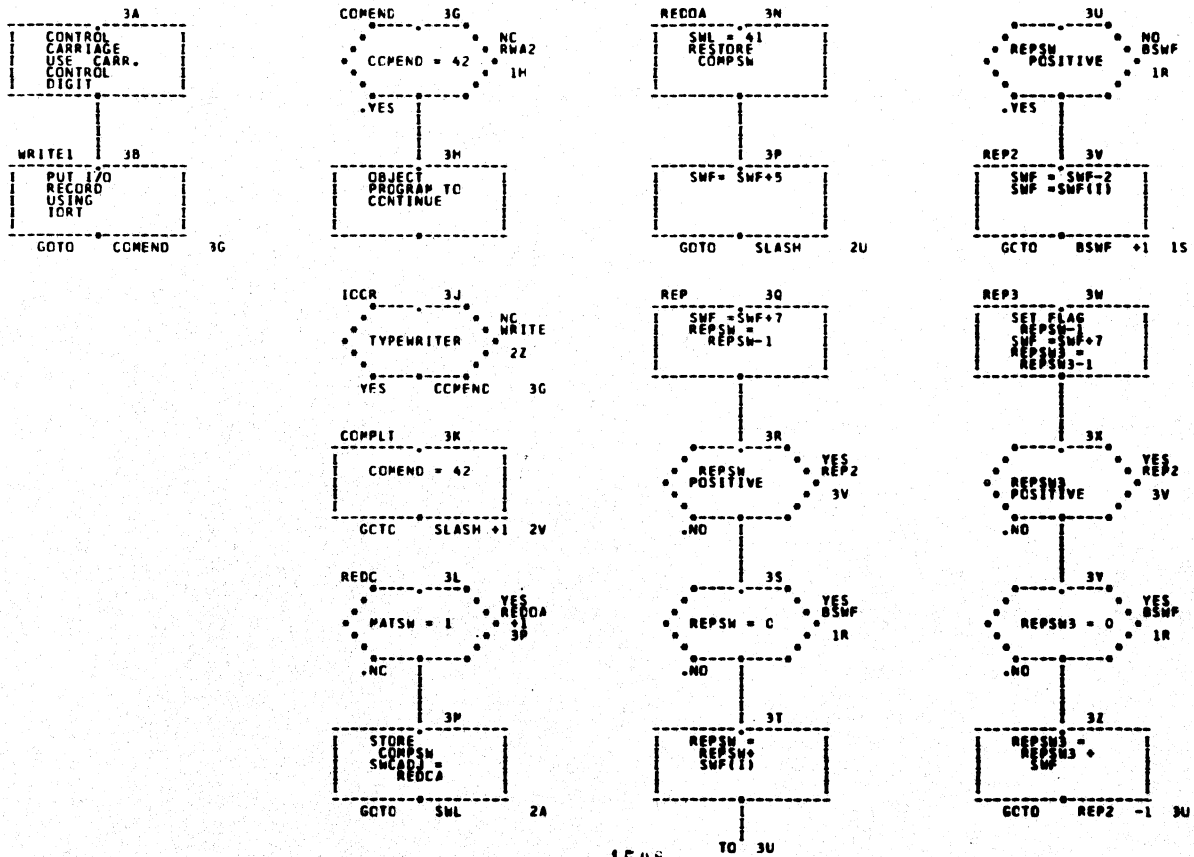
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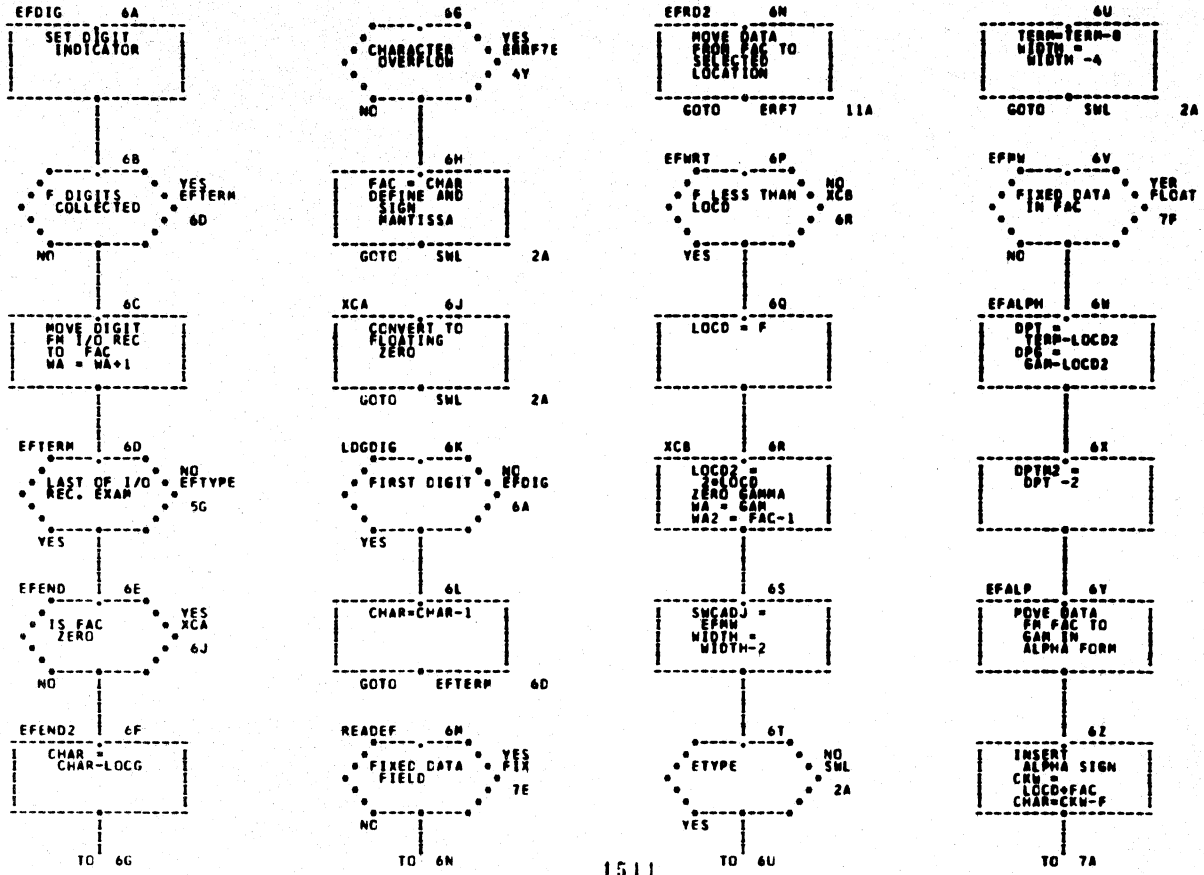


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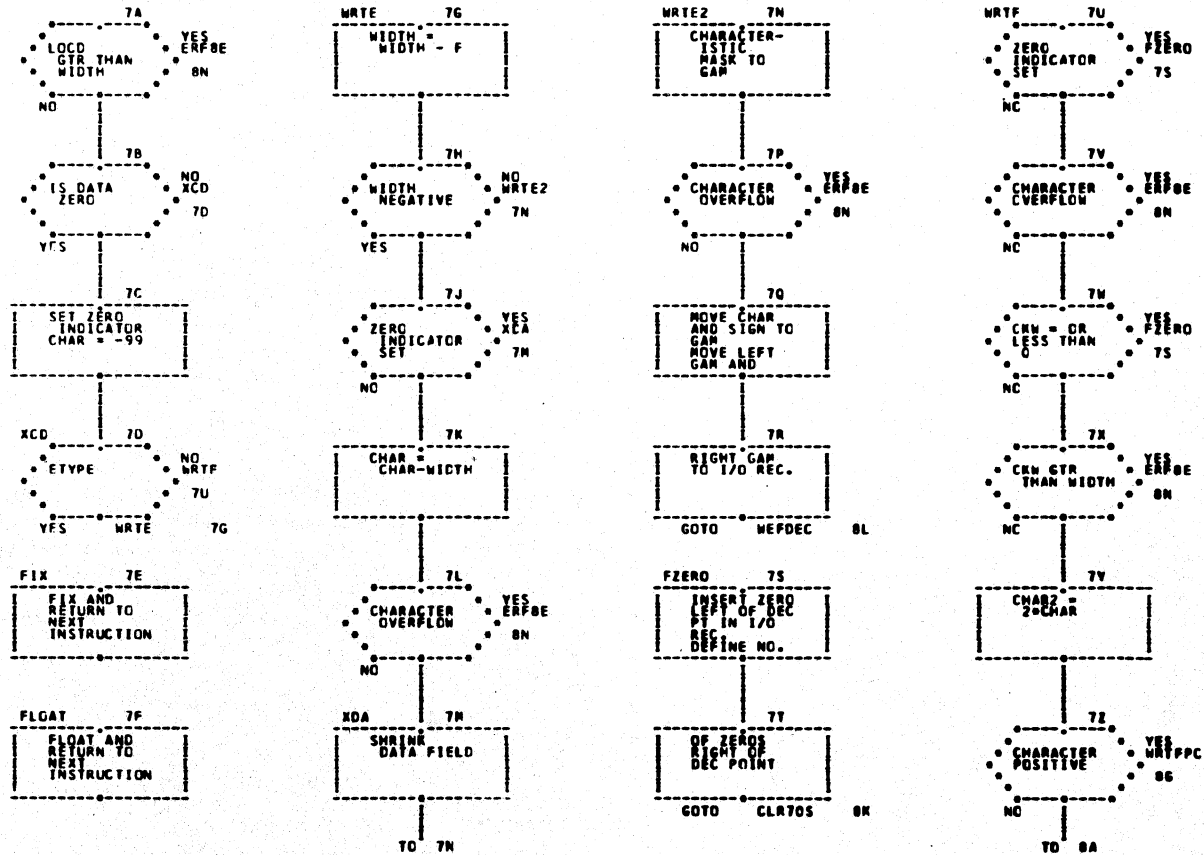


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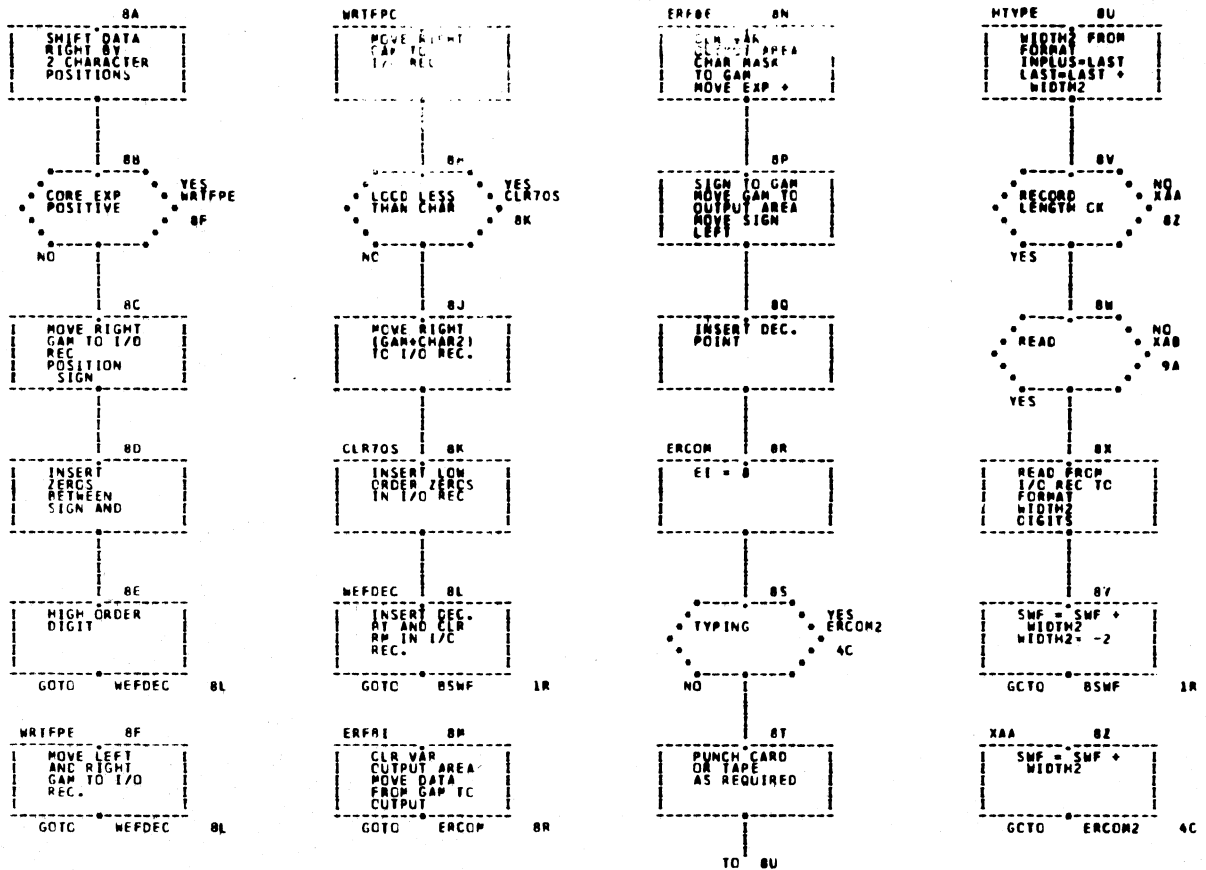
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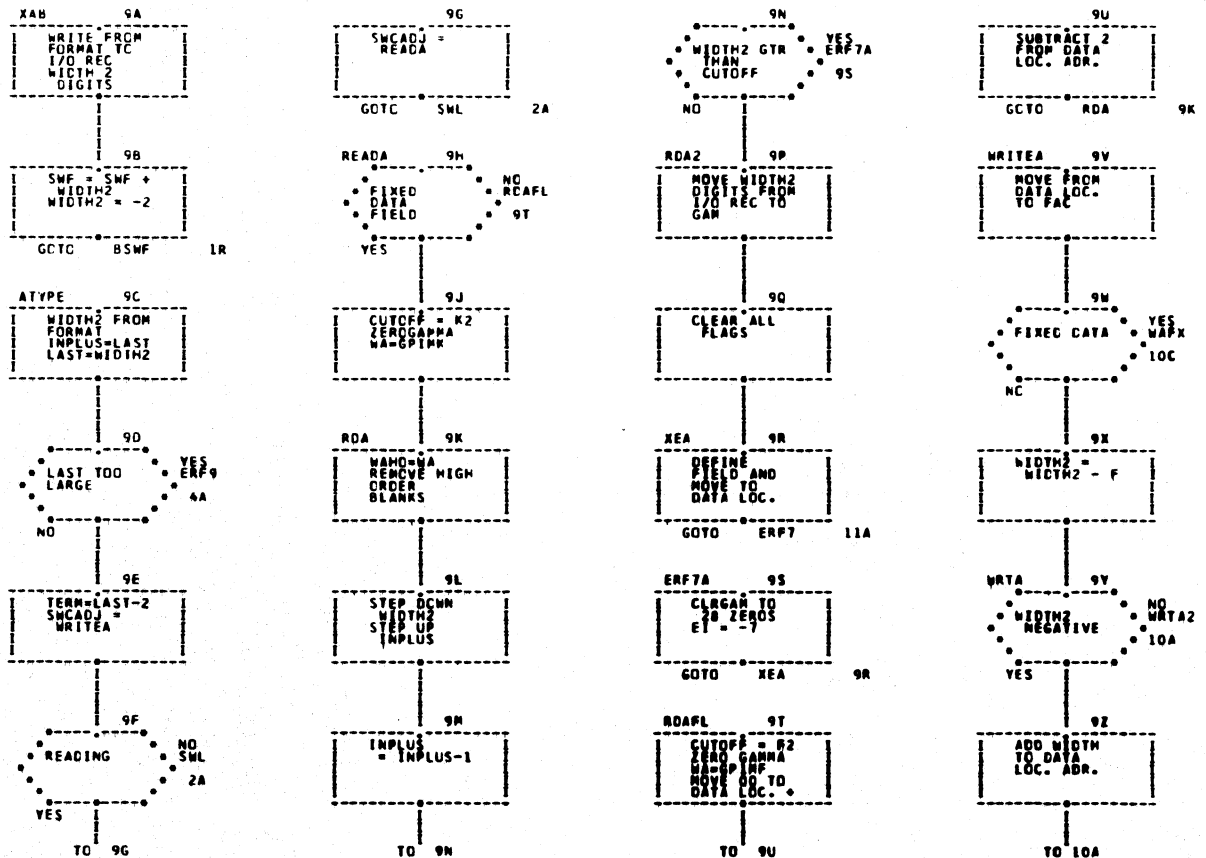
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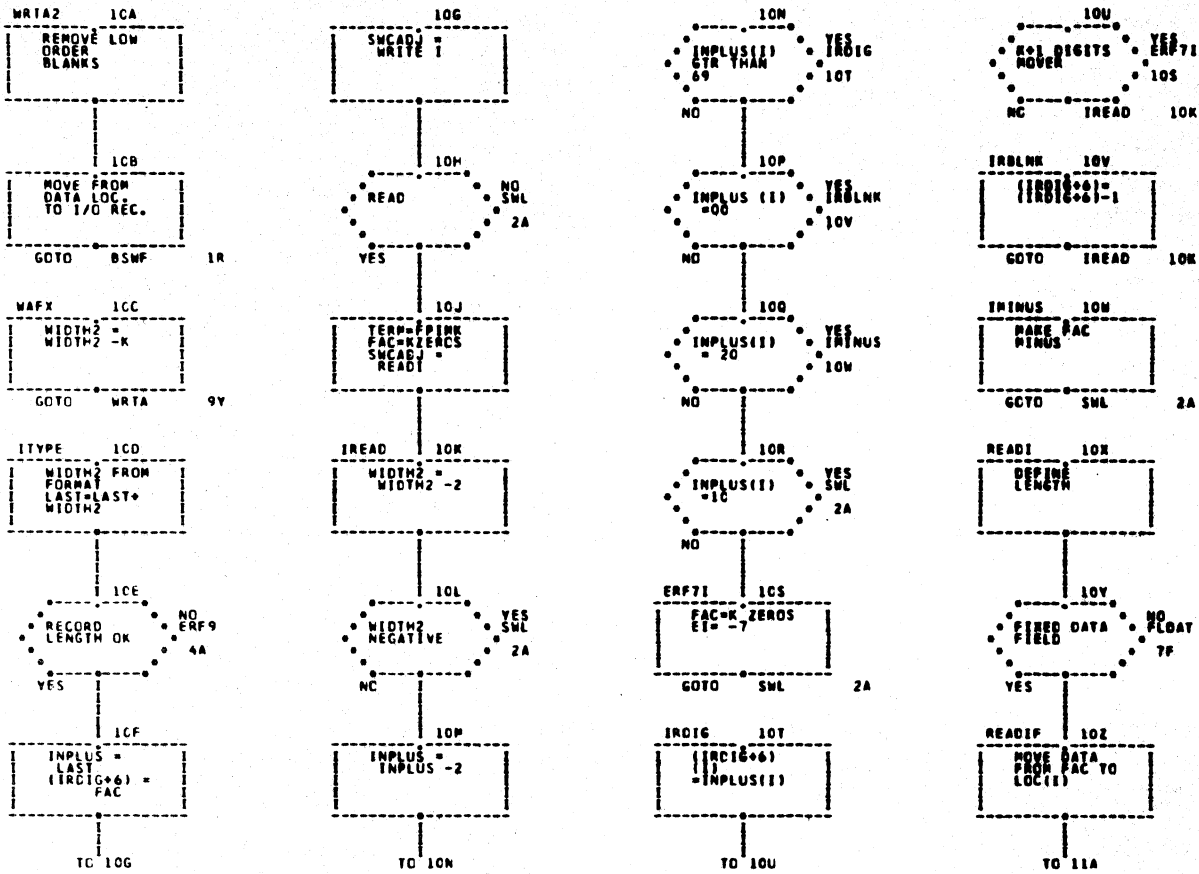
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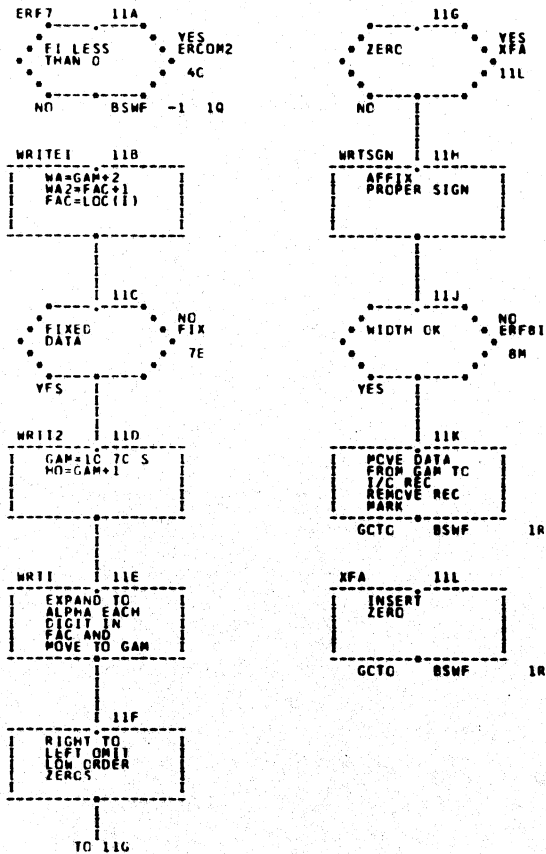
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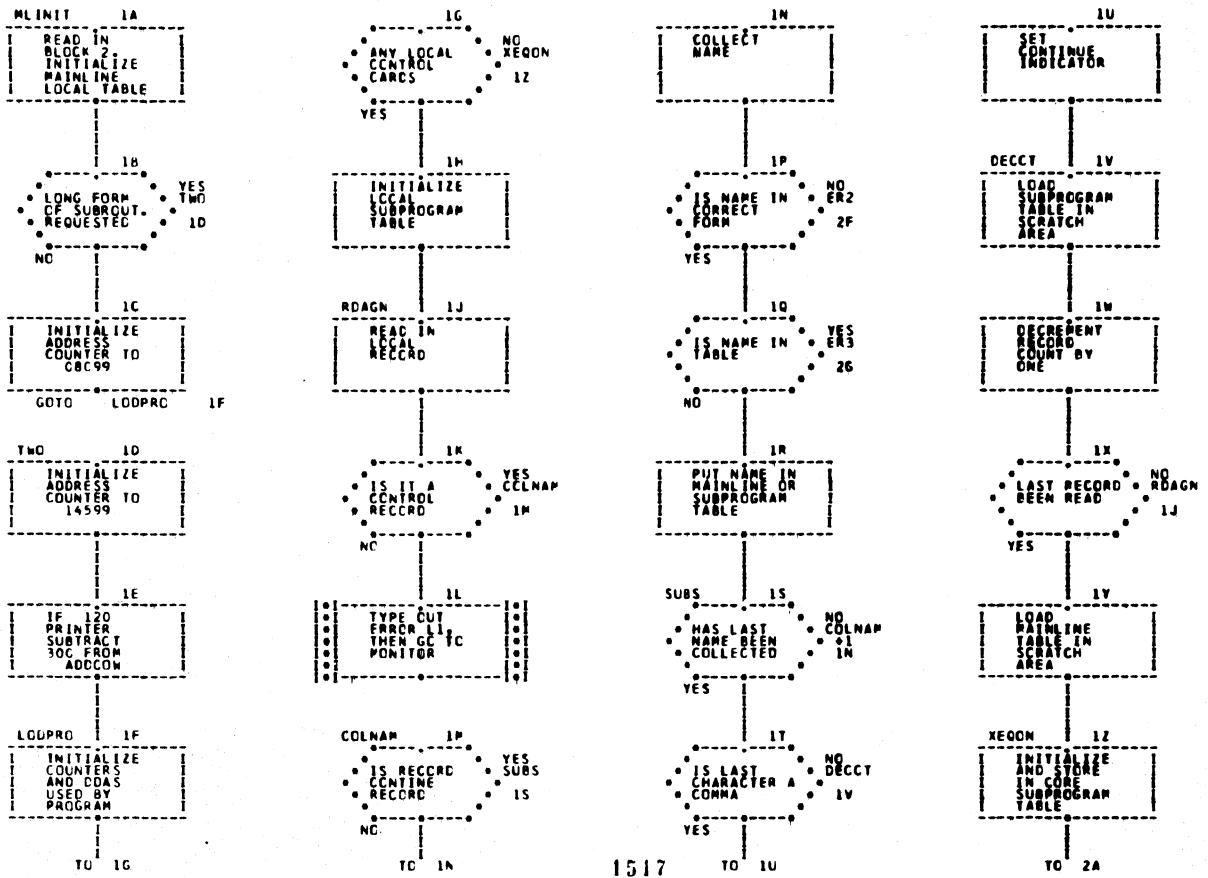
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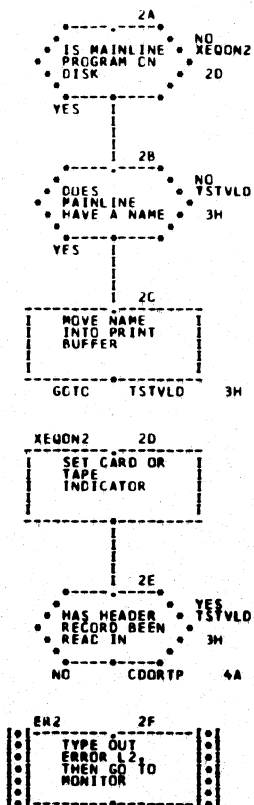
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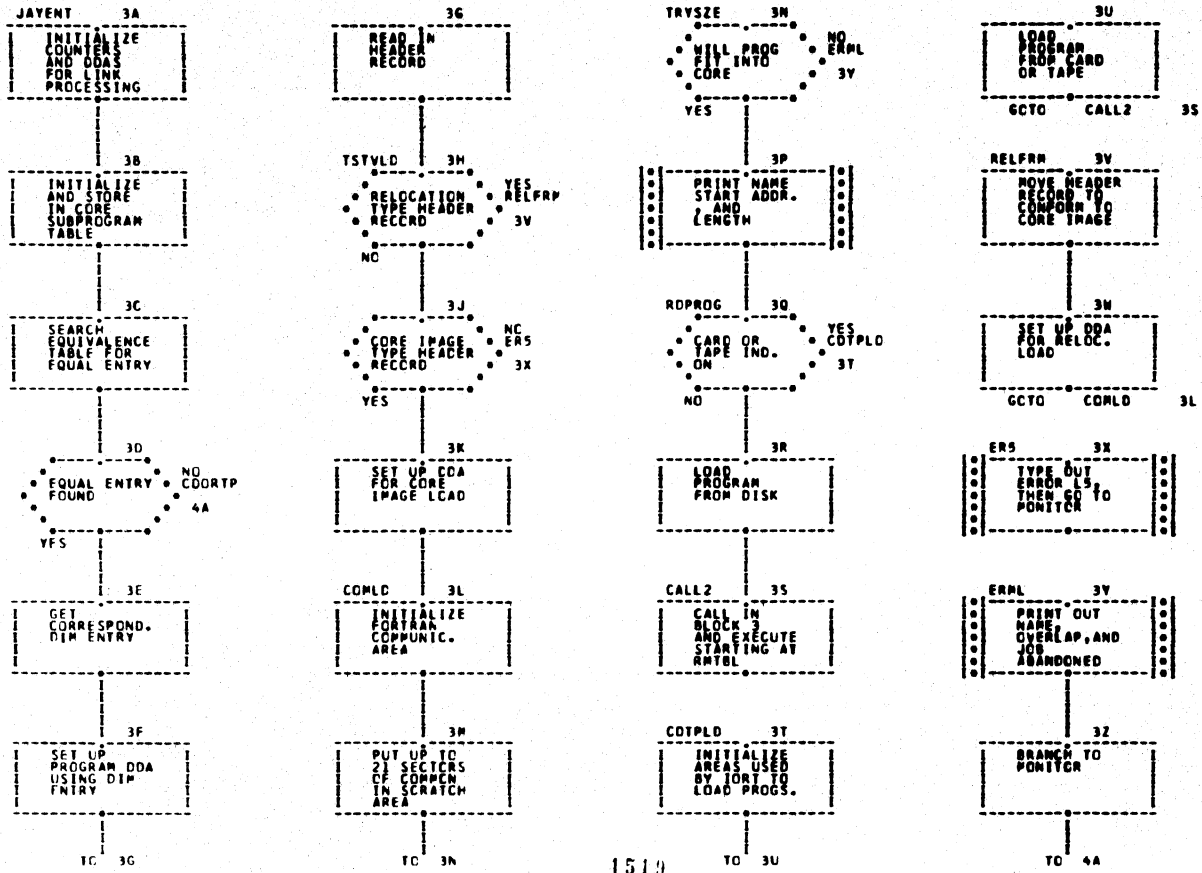
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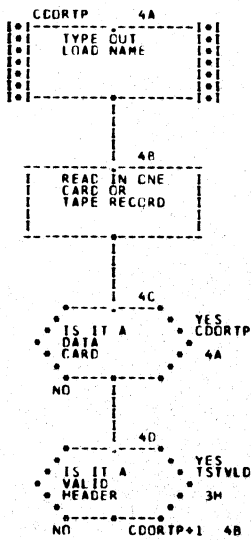
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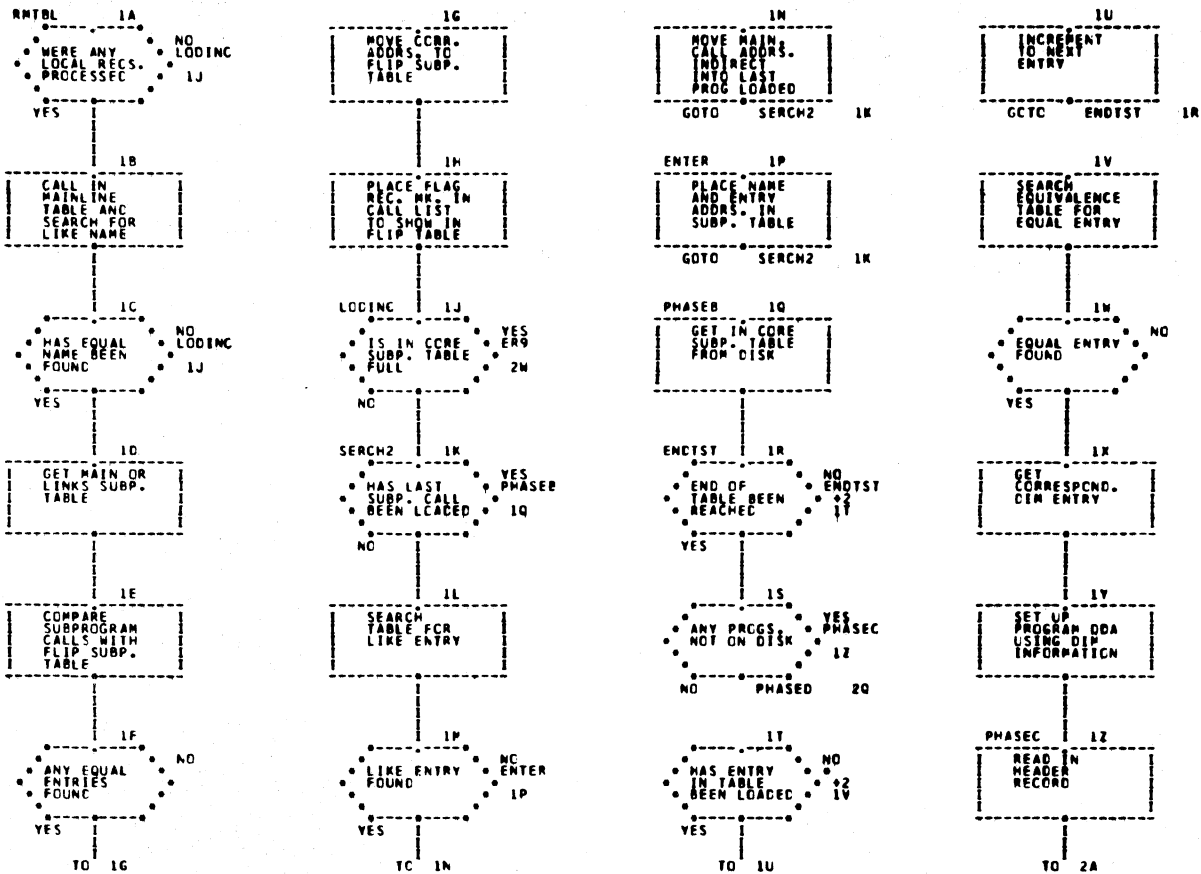


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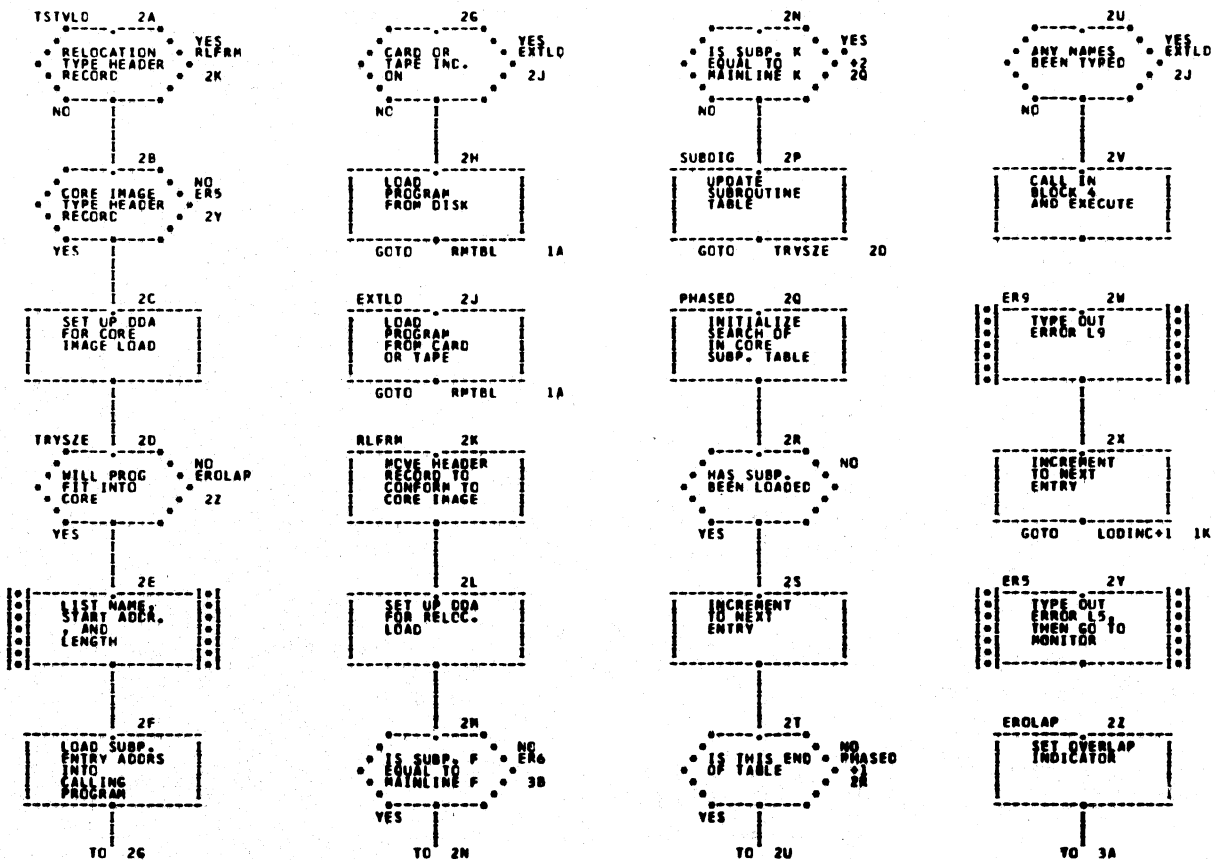


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1521

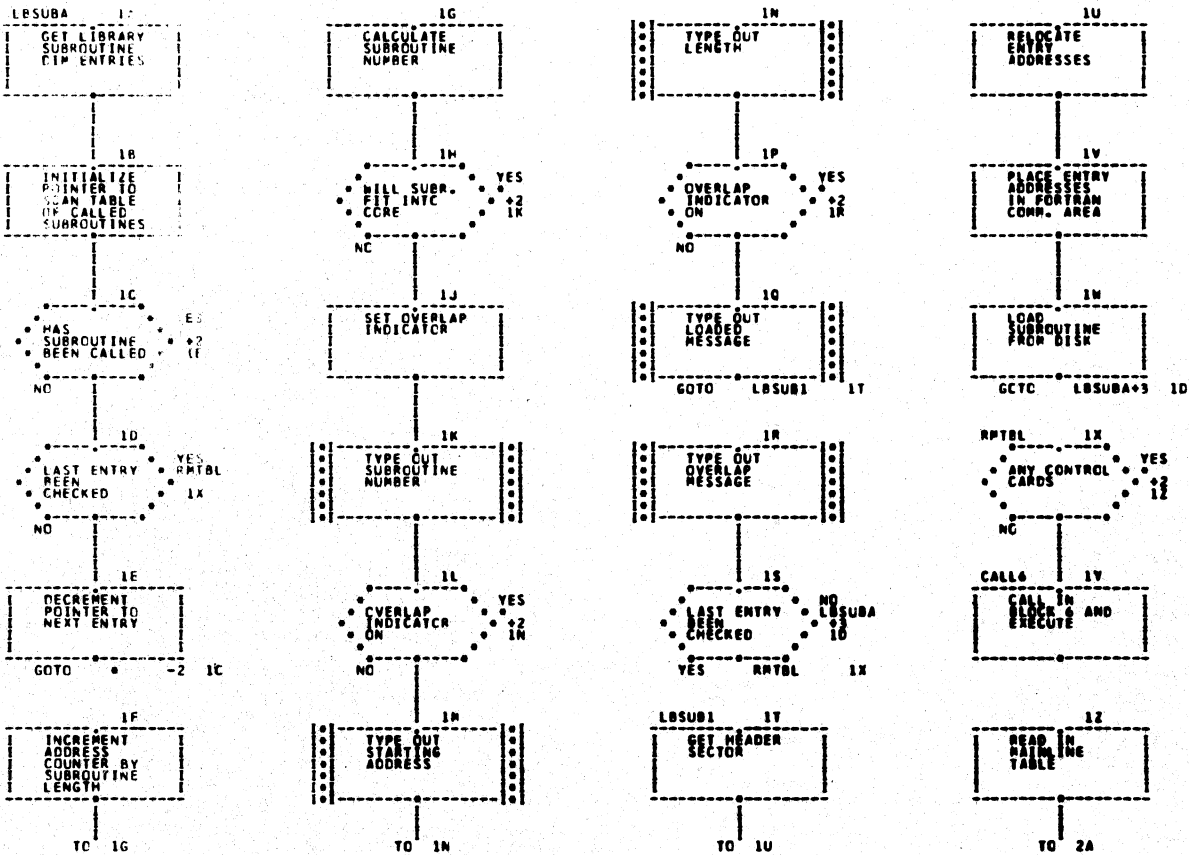


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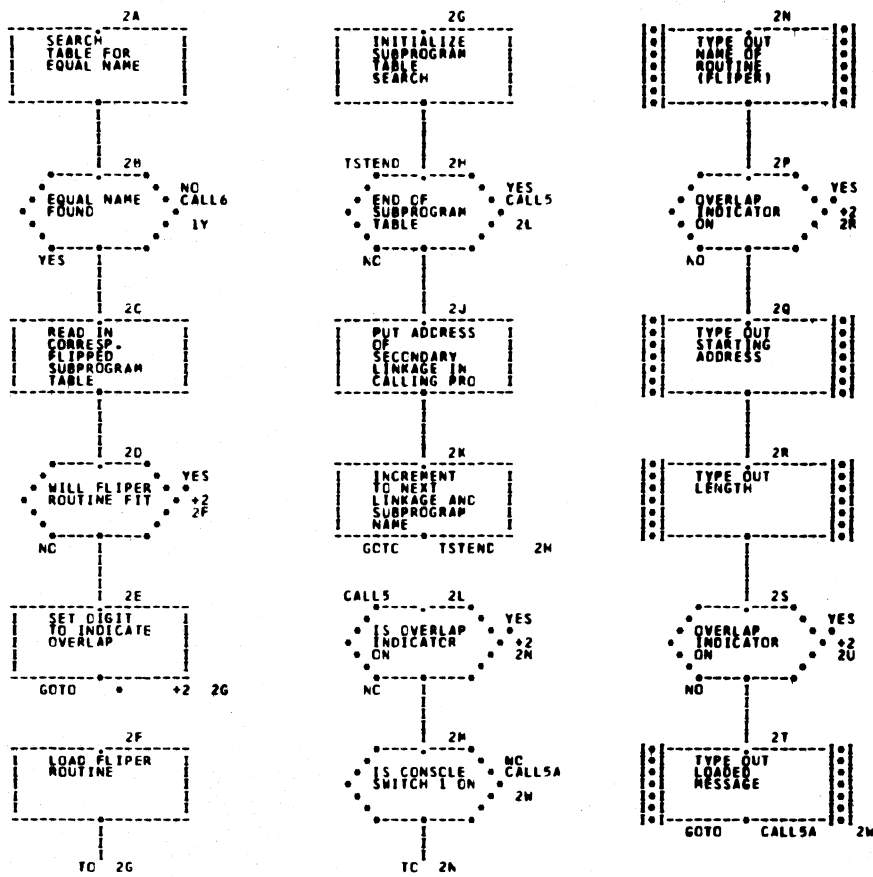
3A
 PRINT OUT
 NAME, LENGTH
 AND OVERLAP
 MESSAGE
 GOTO RMTBL 1A

3B
 TYPE OUT
 ERROR NO

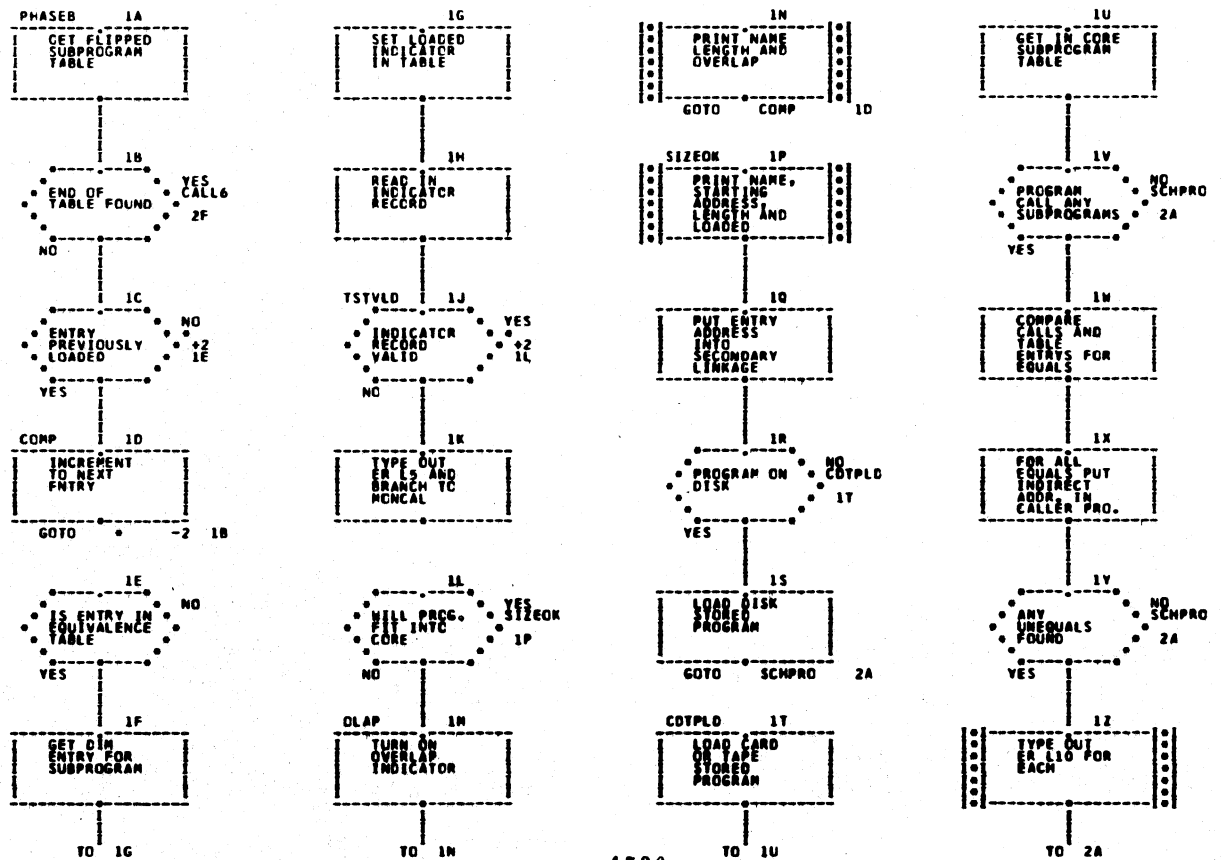
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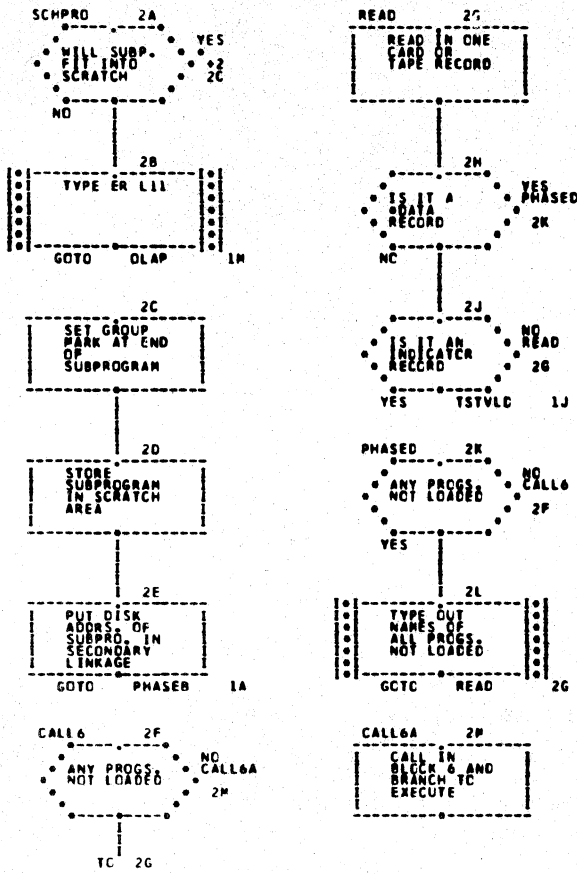
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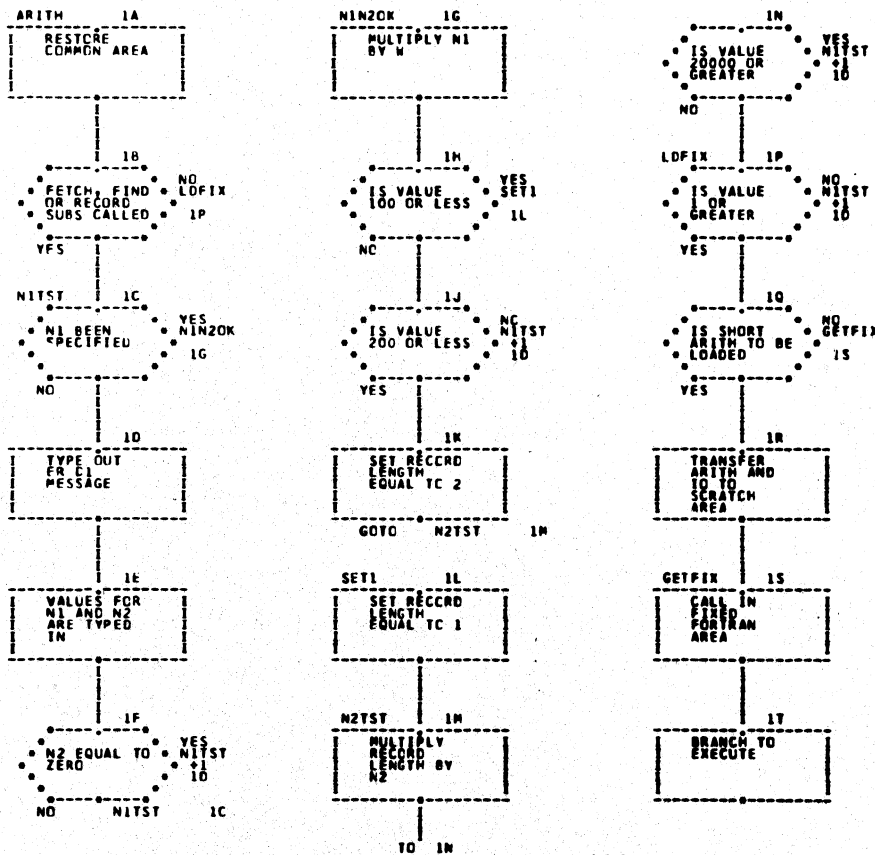
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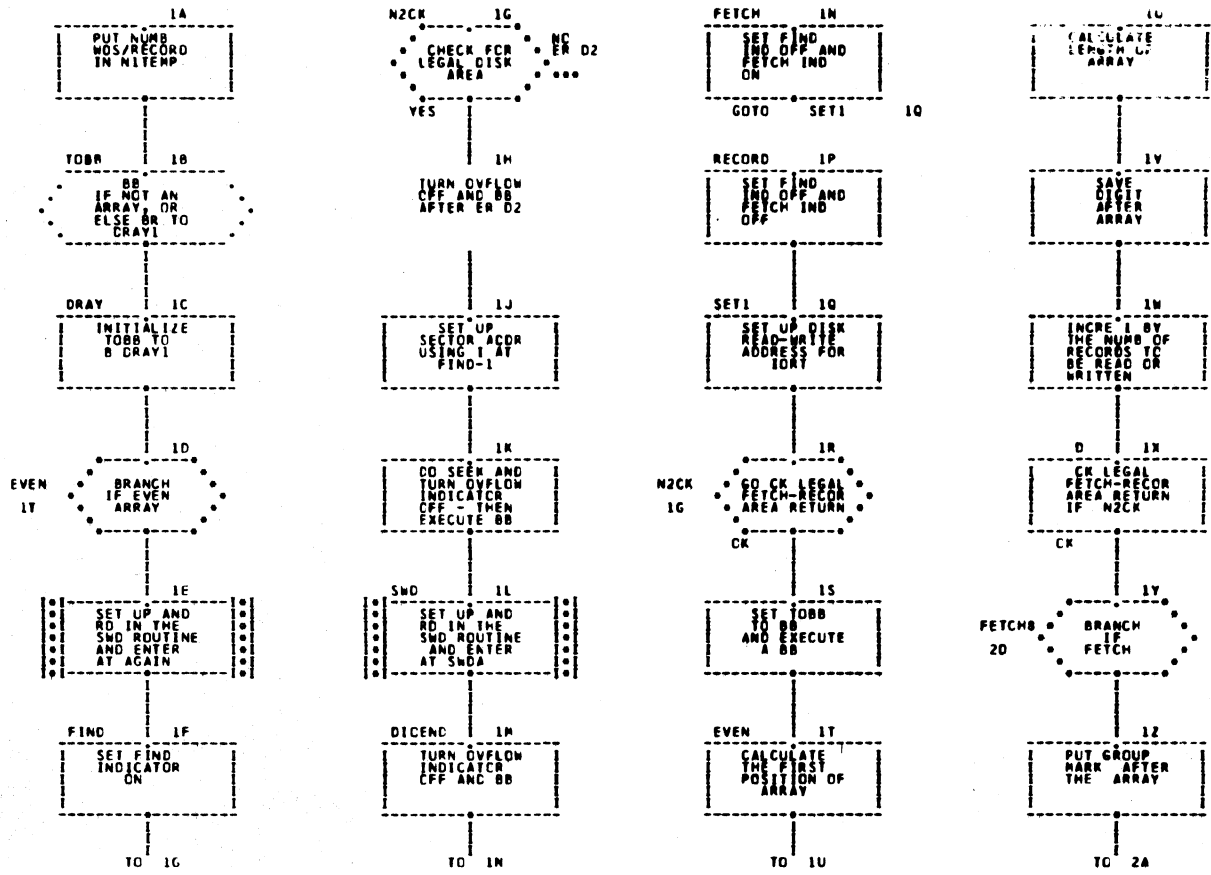
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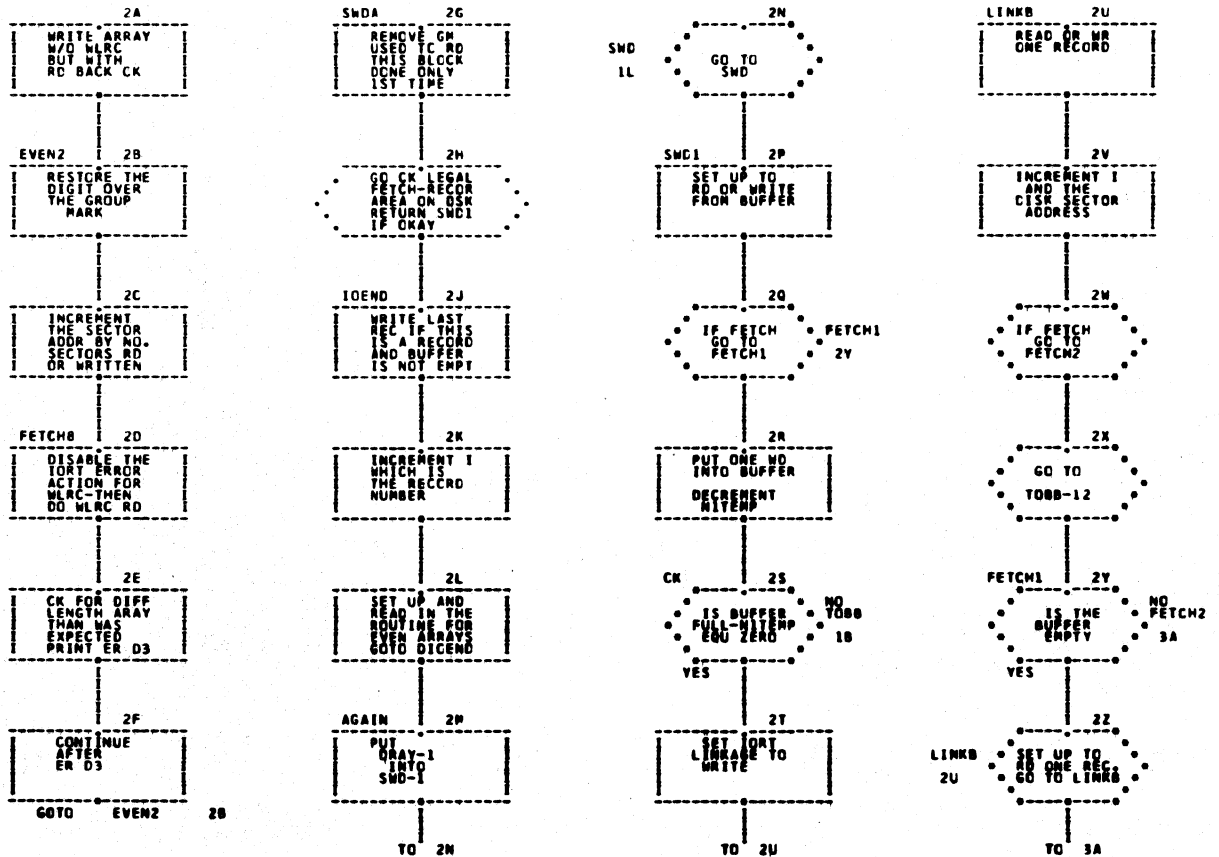
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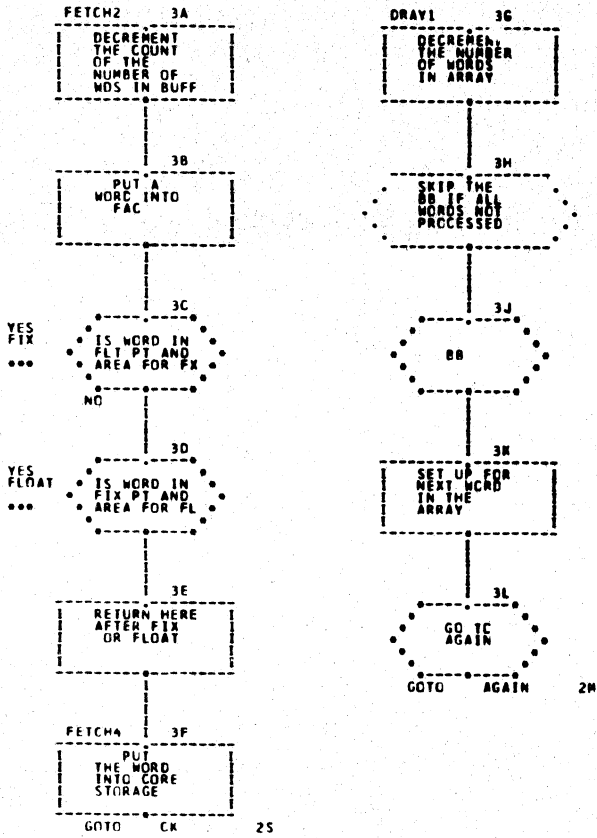
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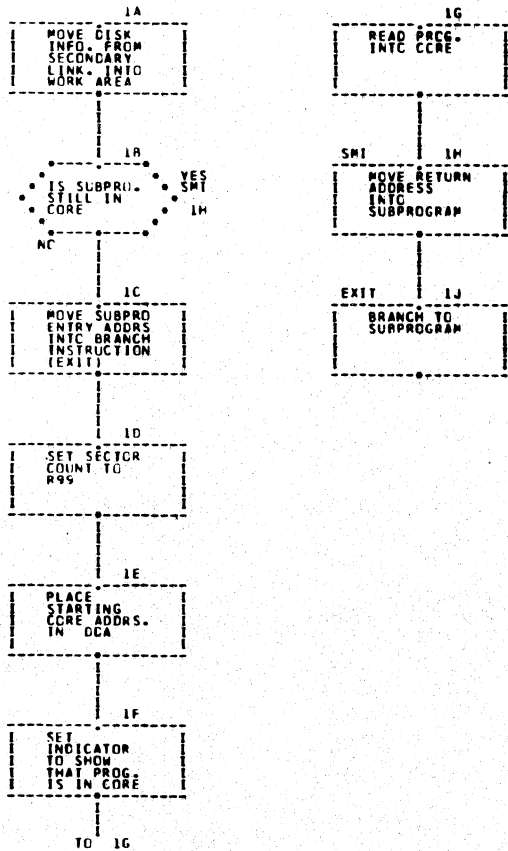
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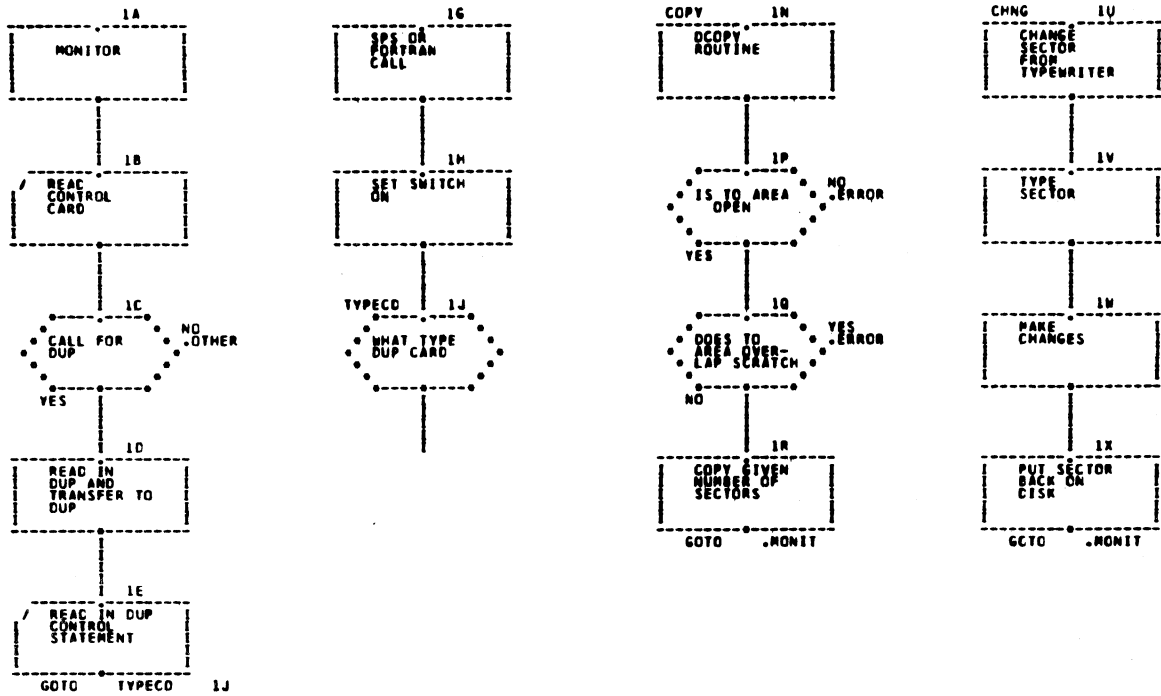
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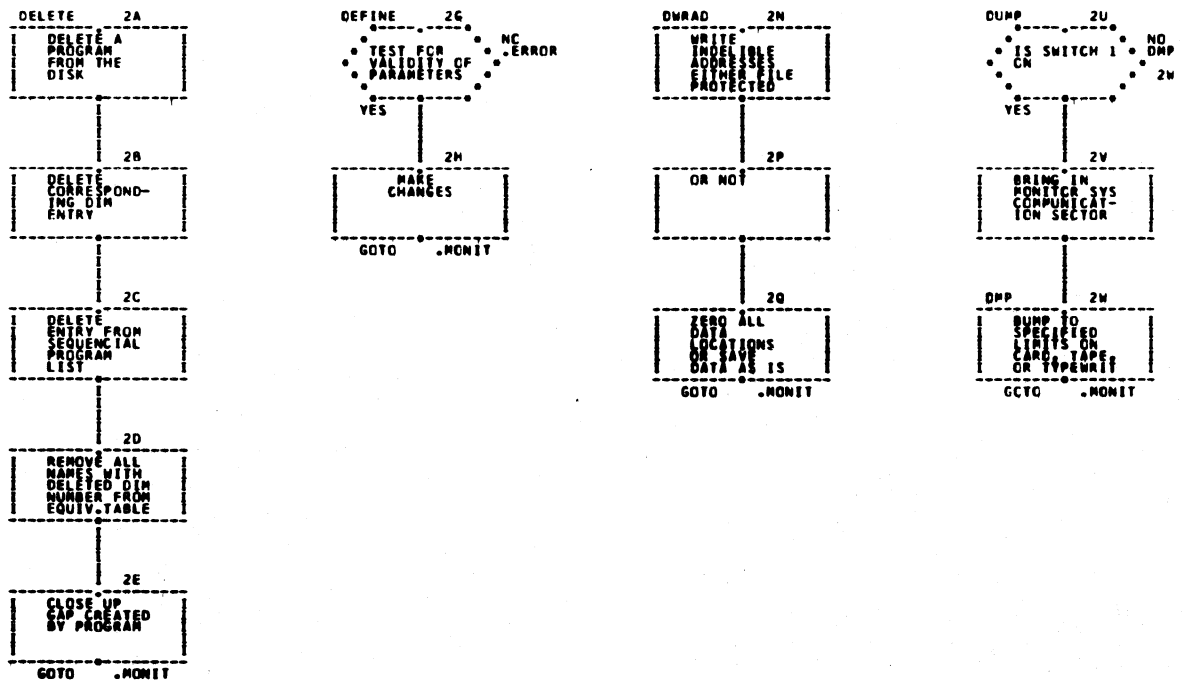
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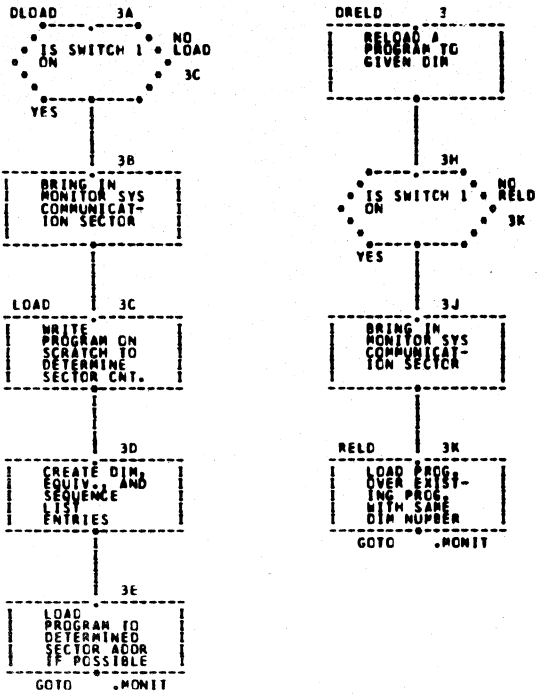
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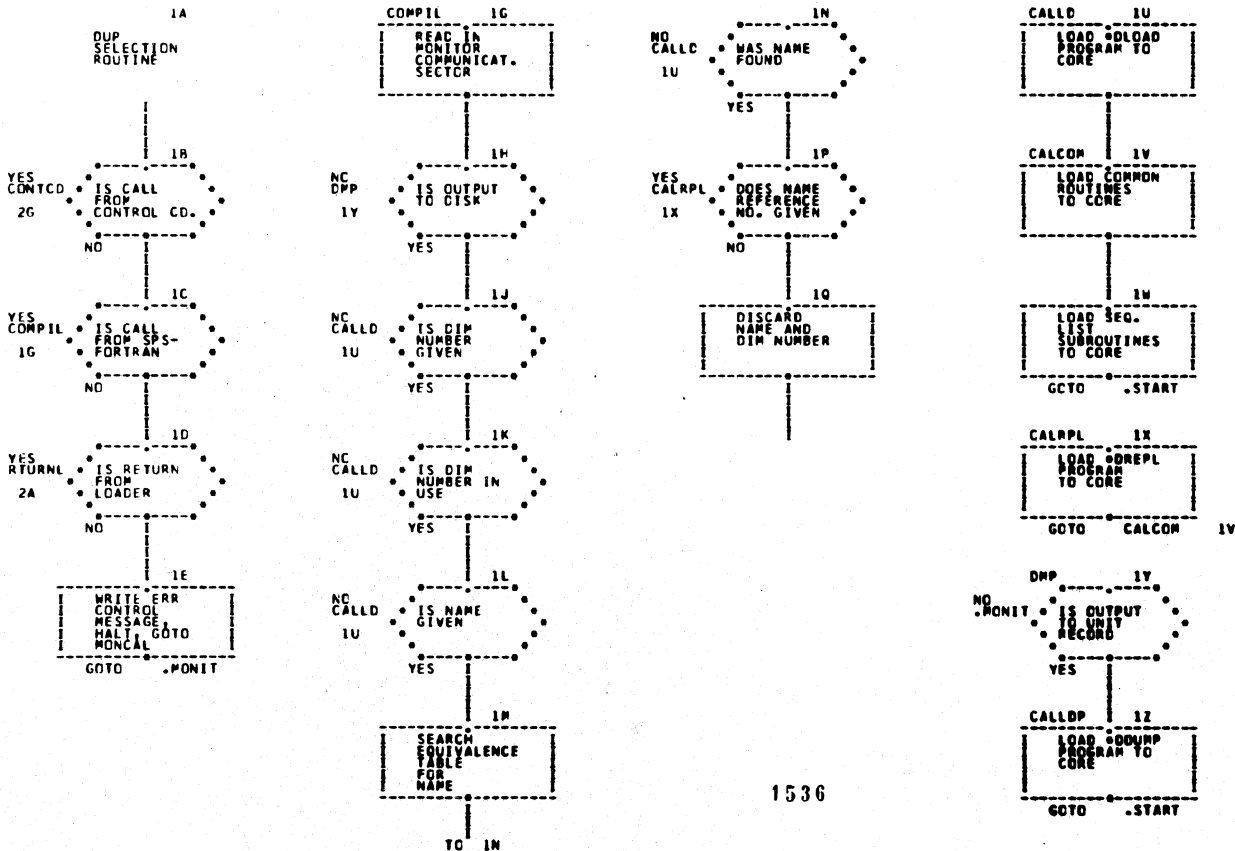
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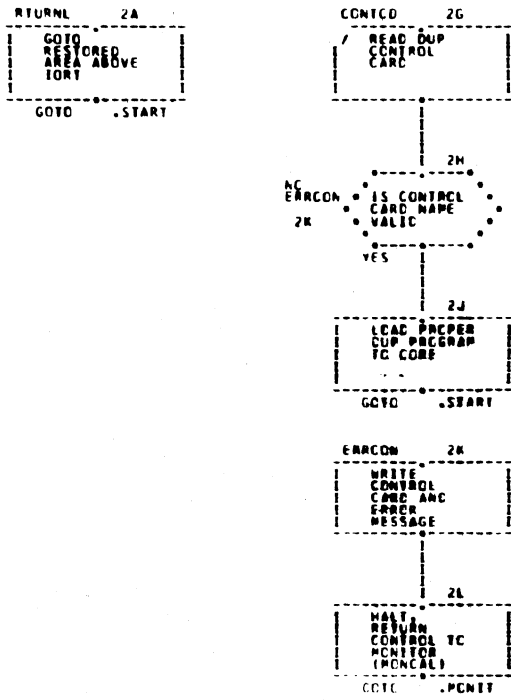
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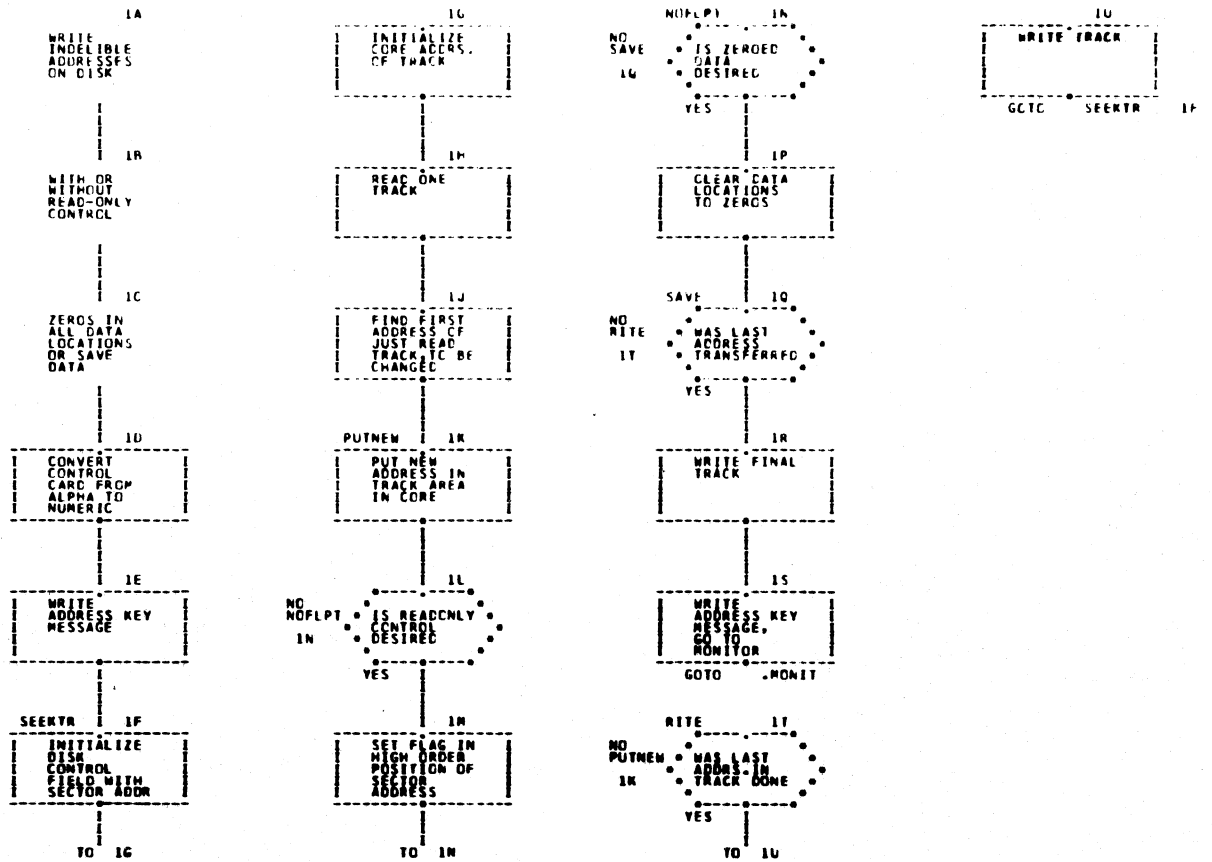
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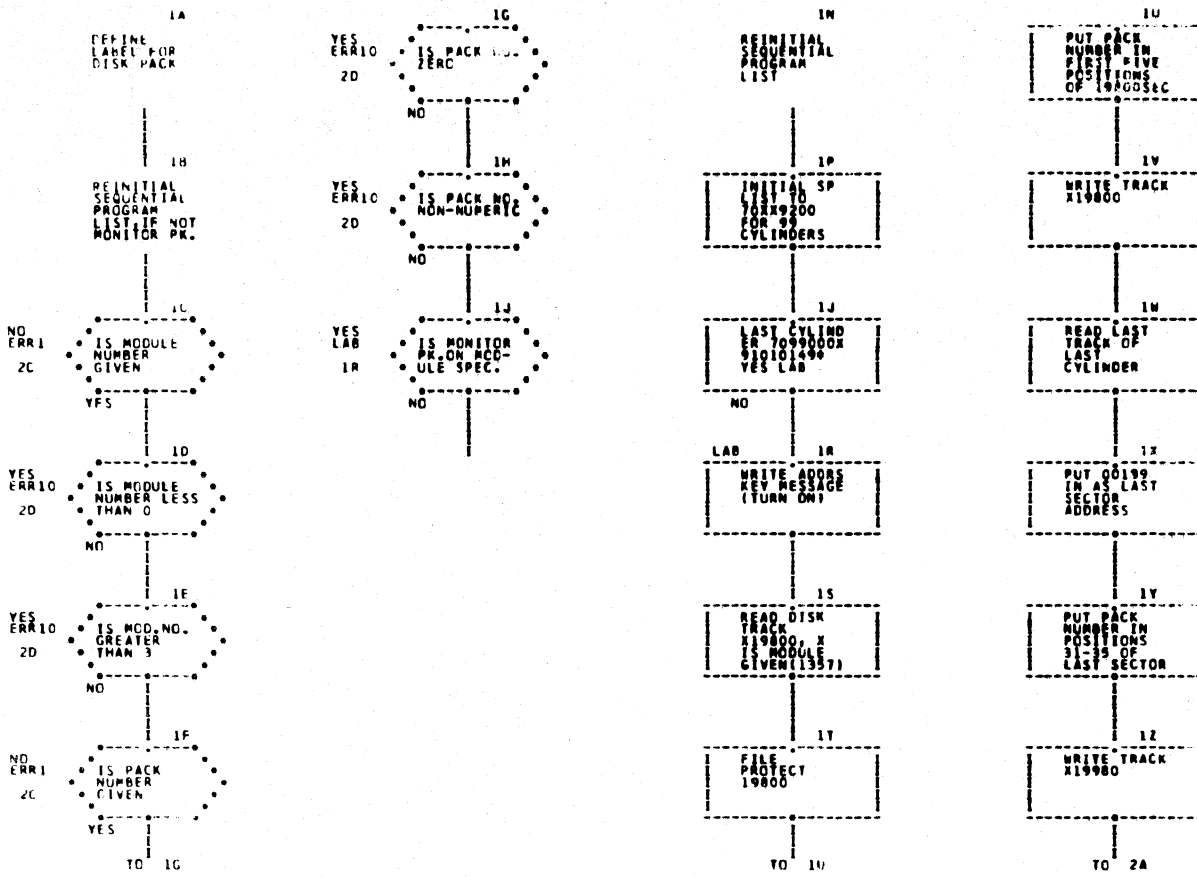
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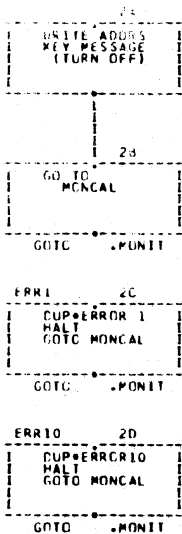
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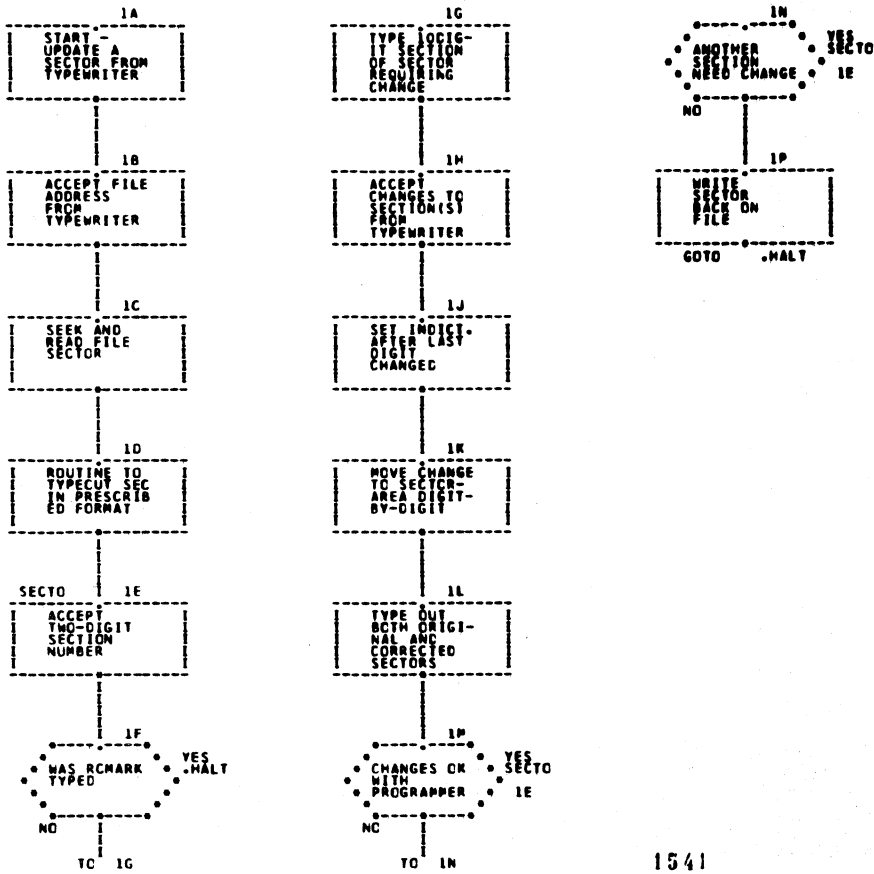
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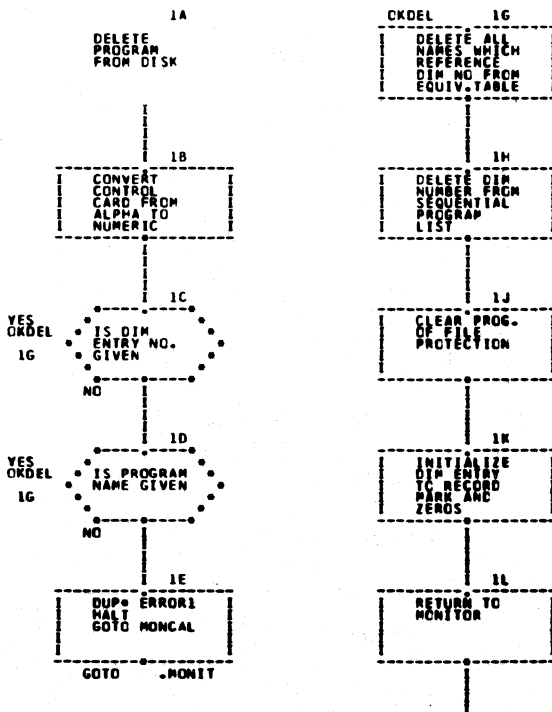
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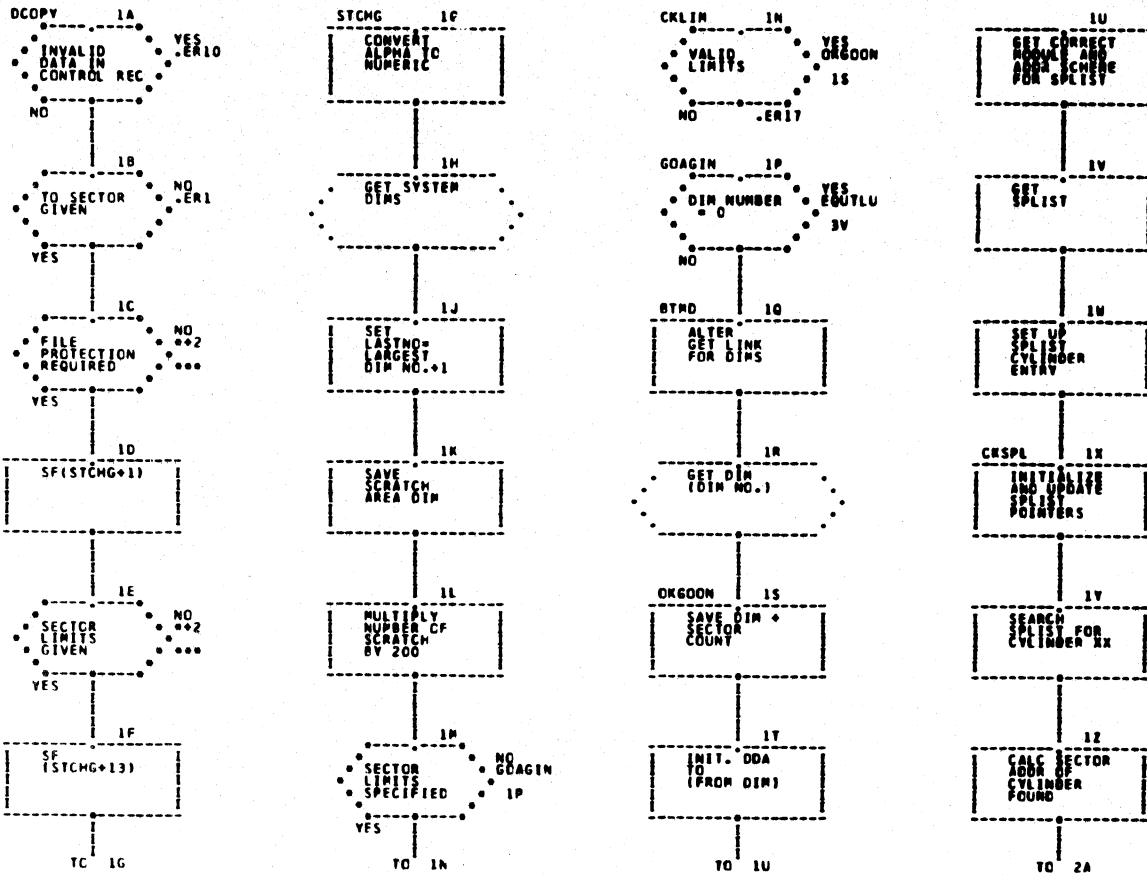
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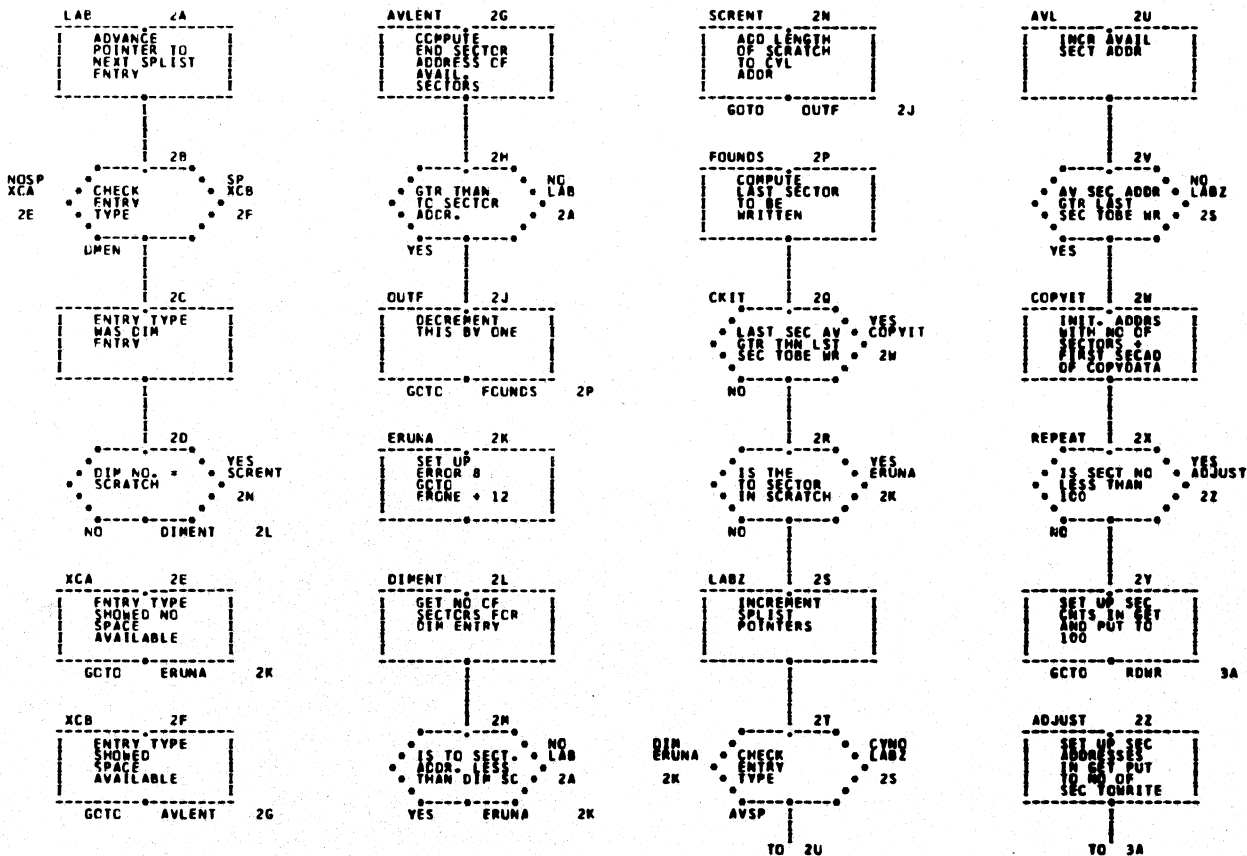
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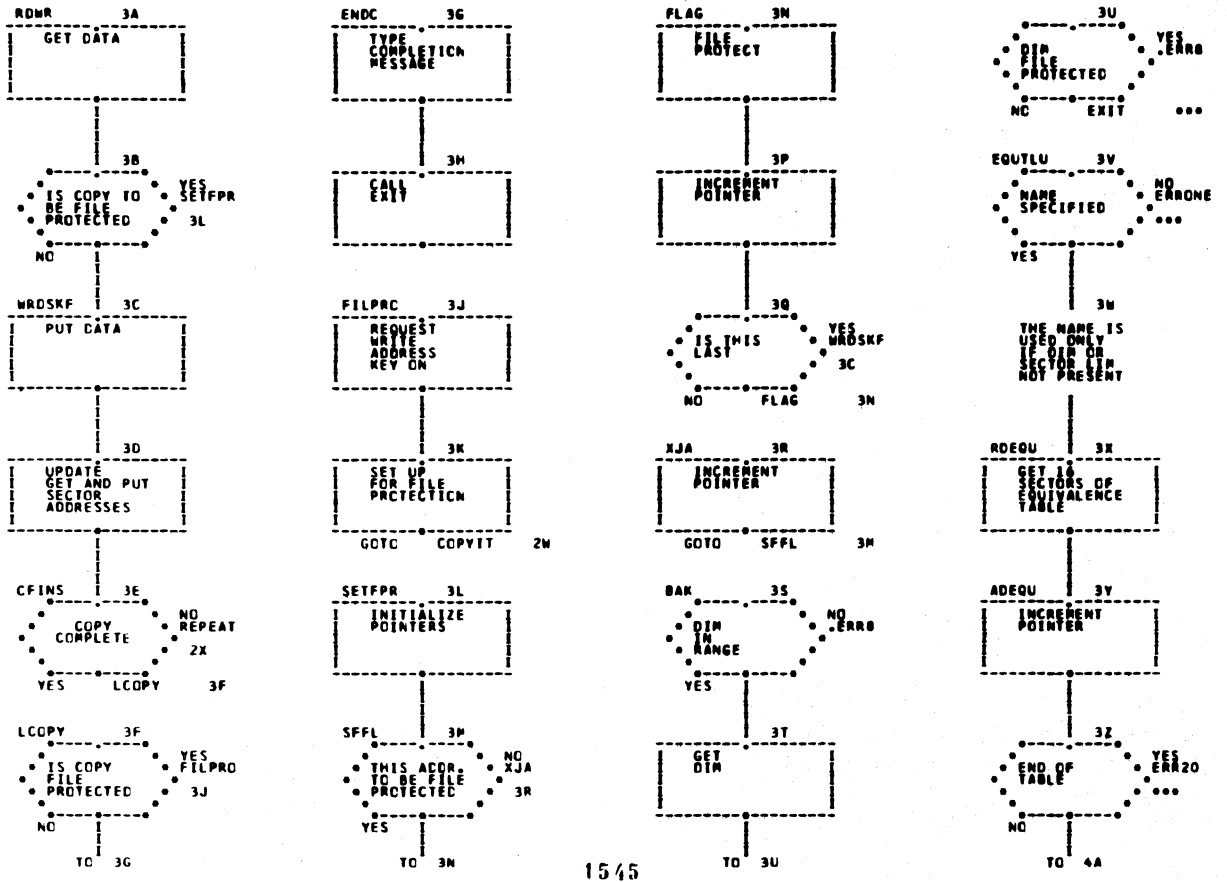
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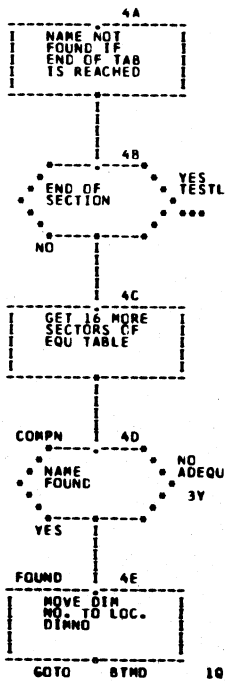
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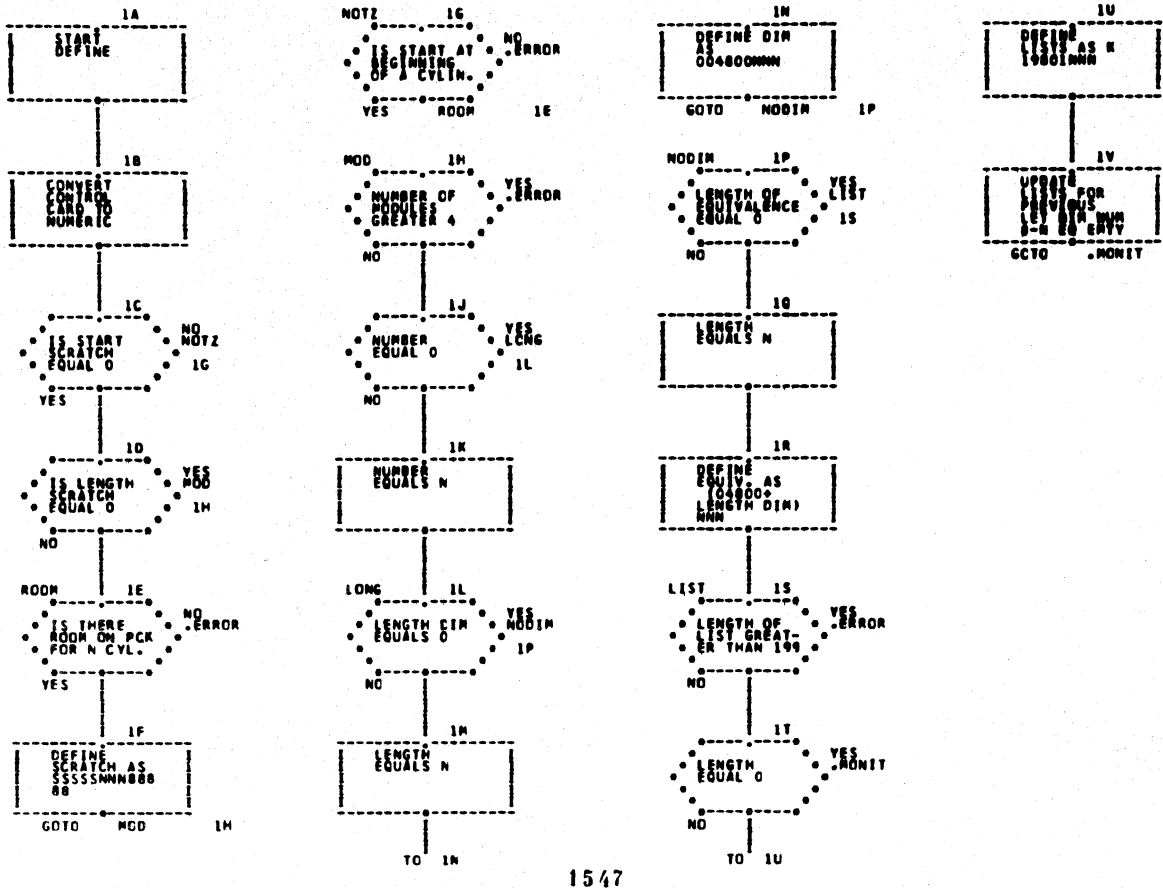


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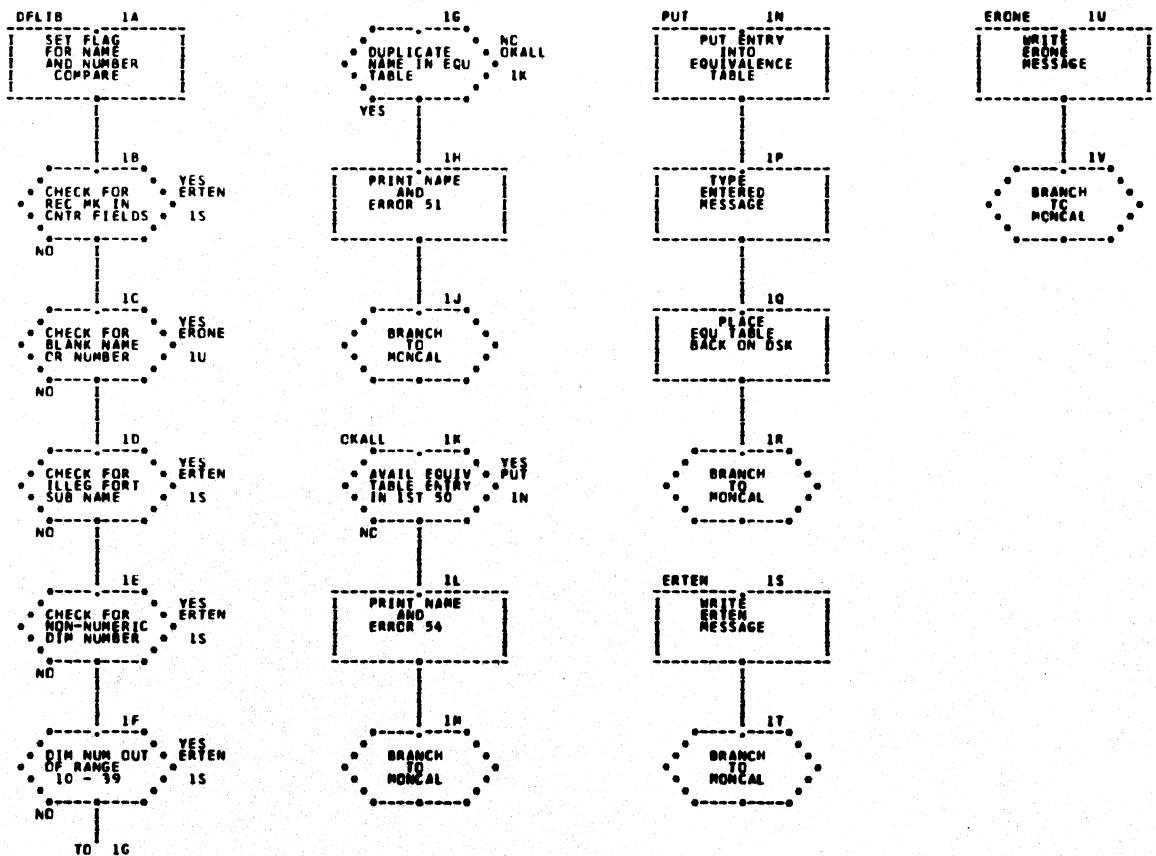


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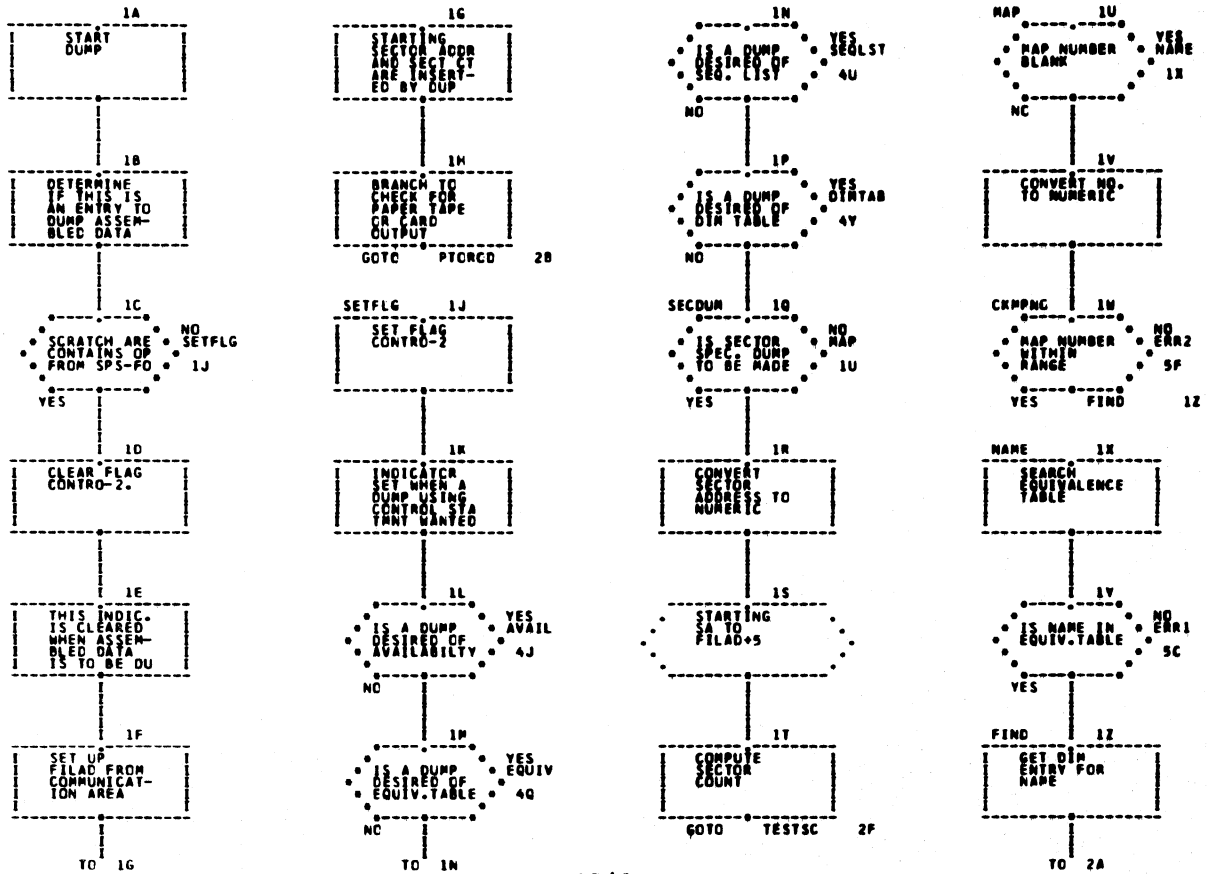




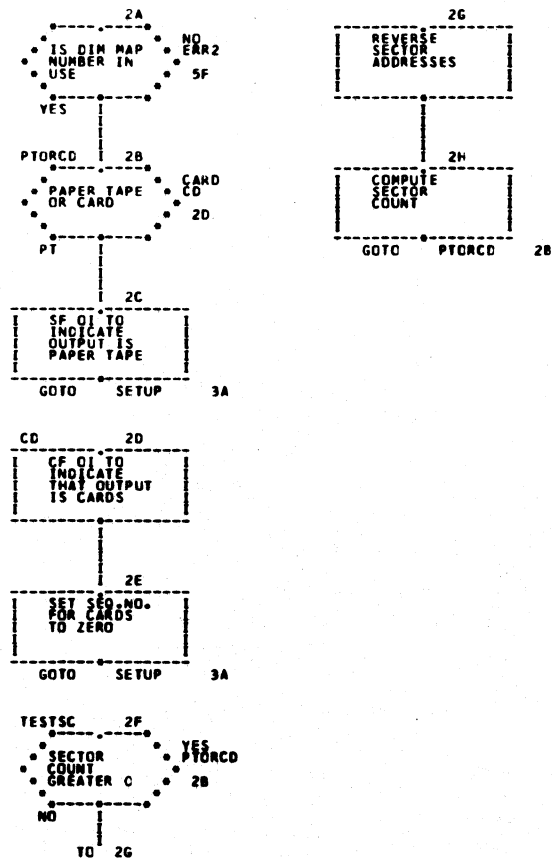
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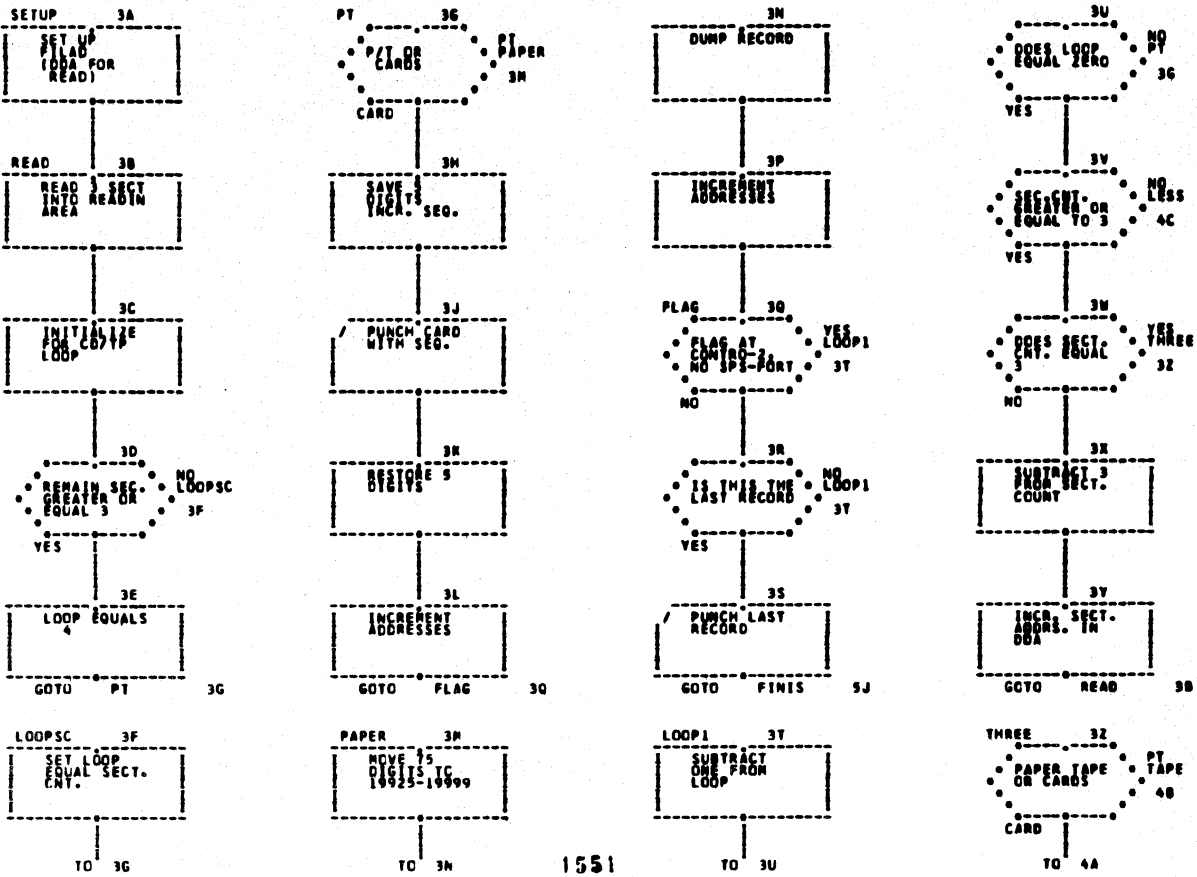
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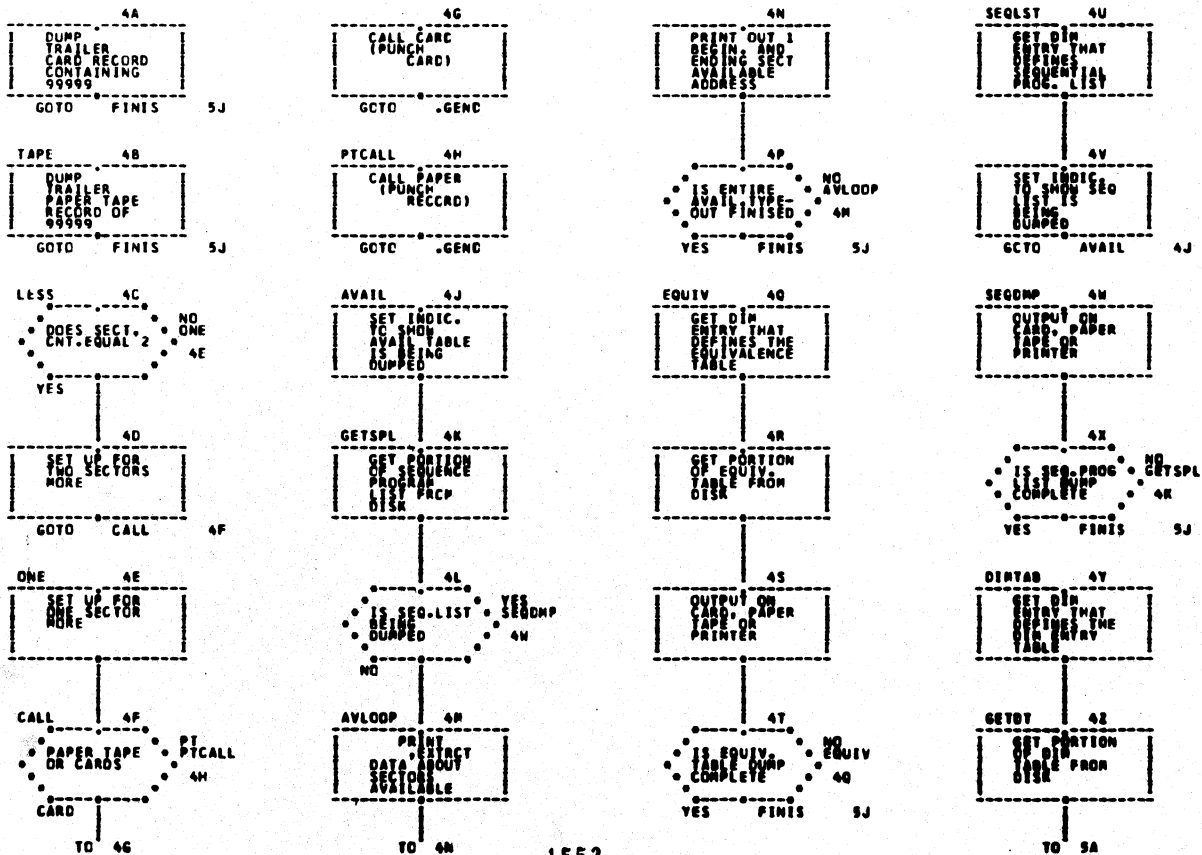
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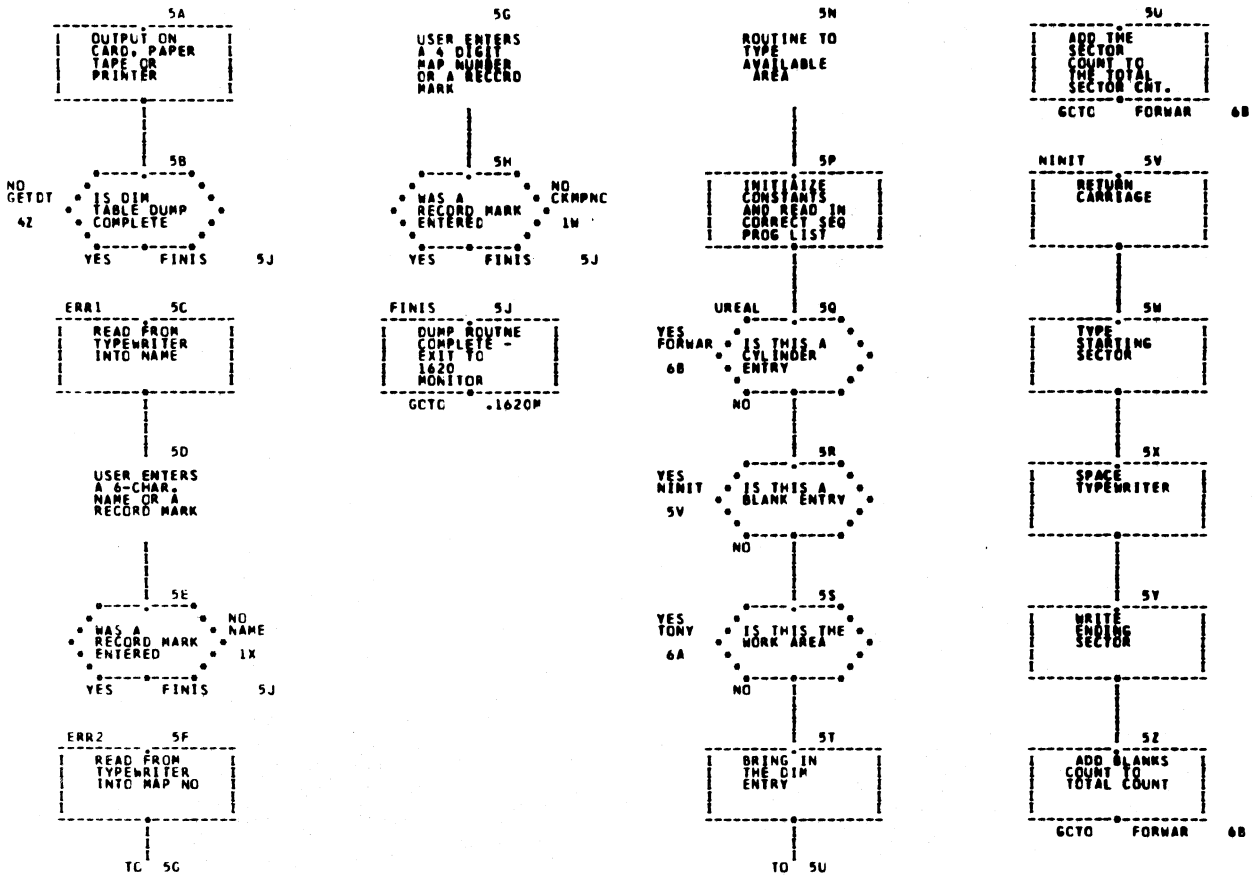
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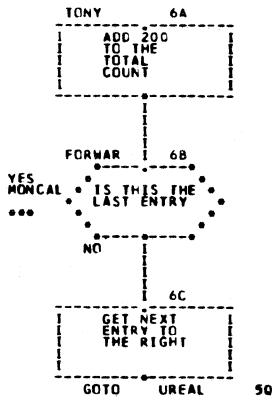
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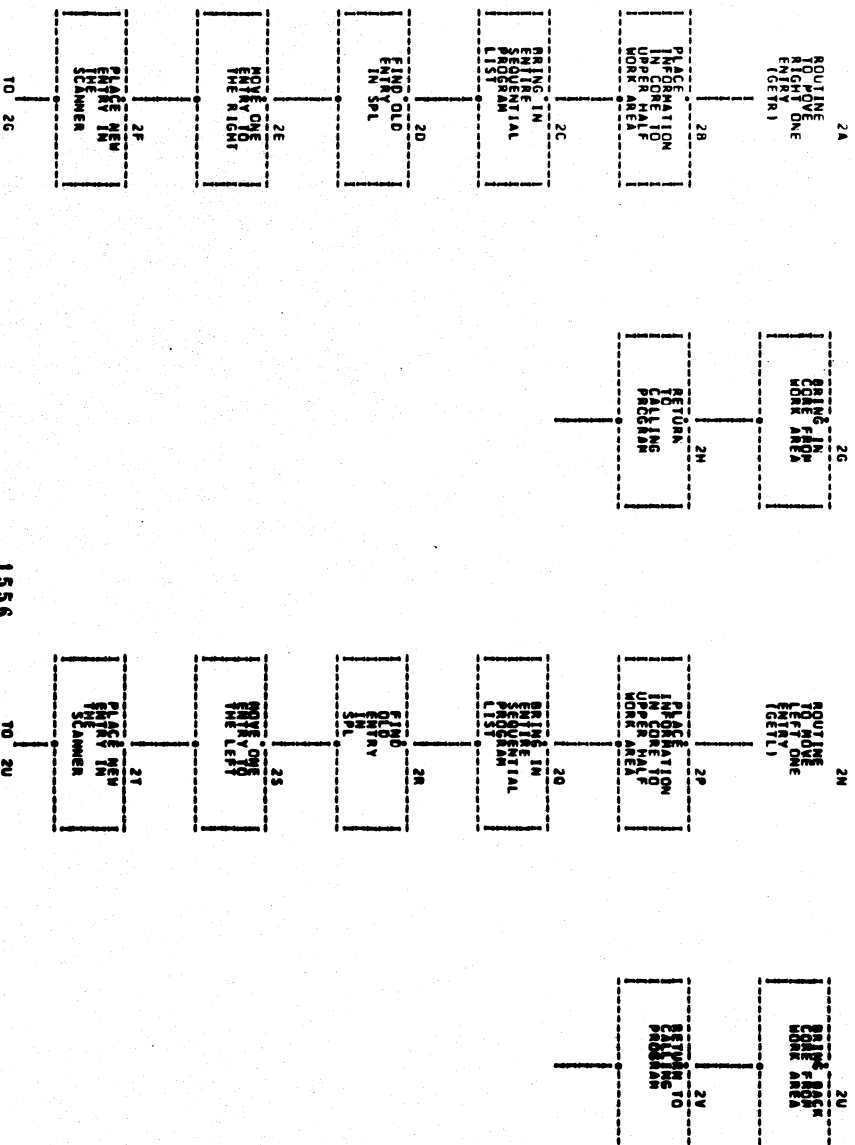
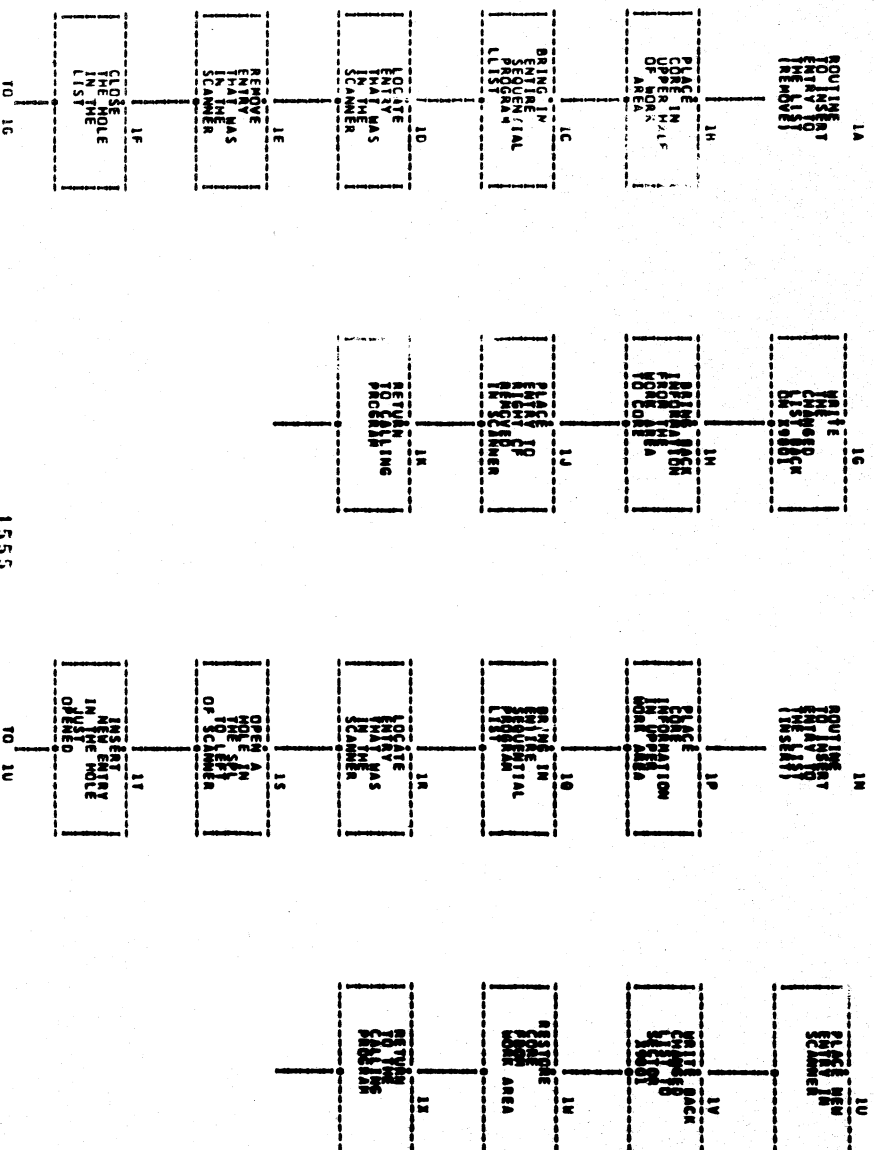
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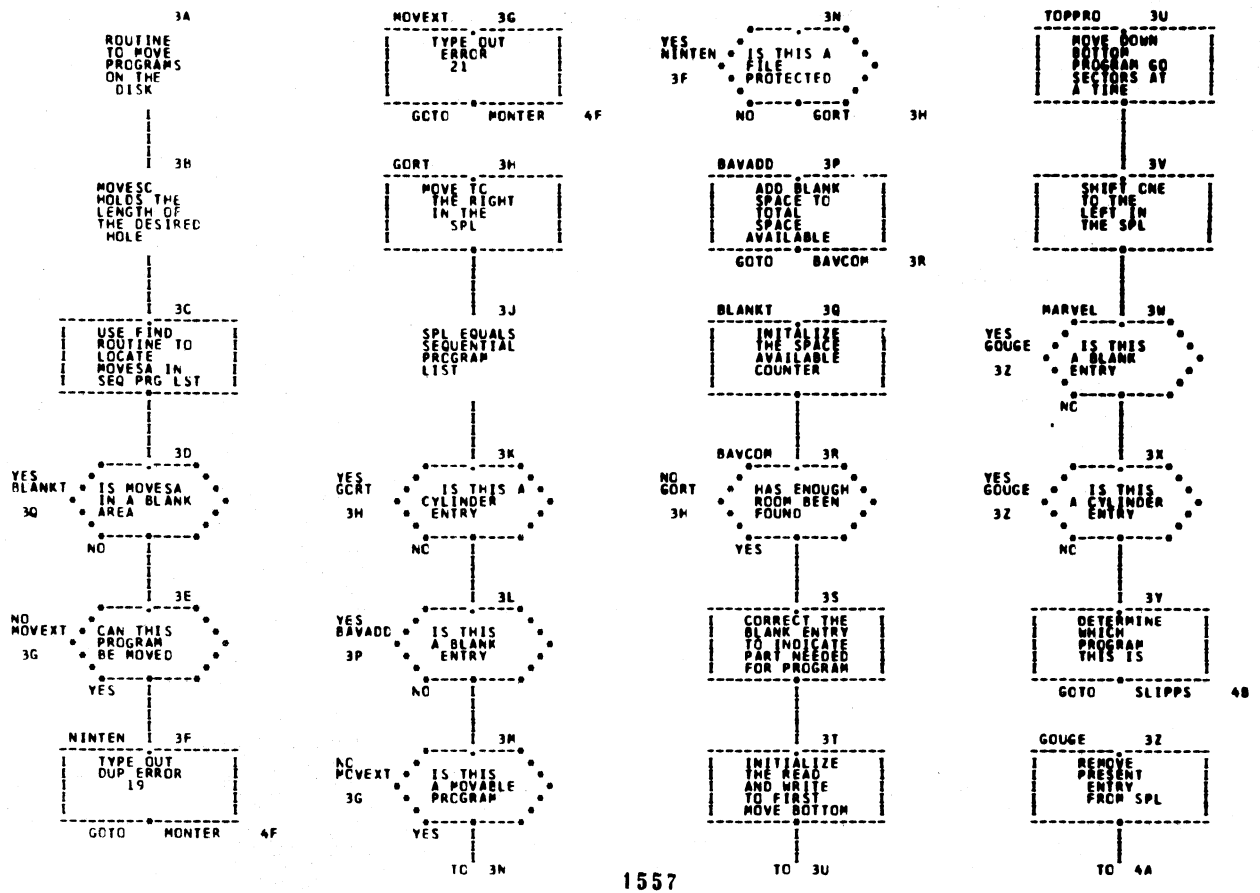


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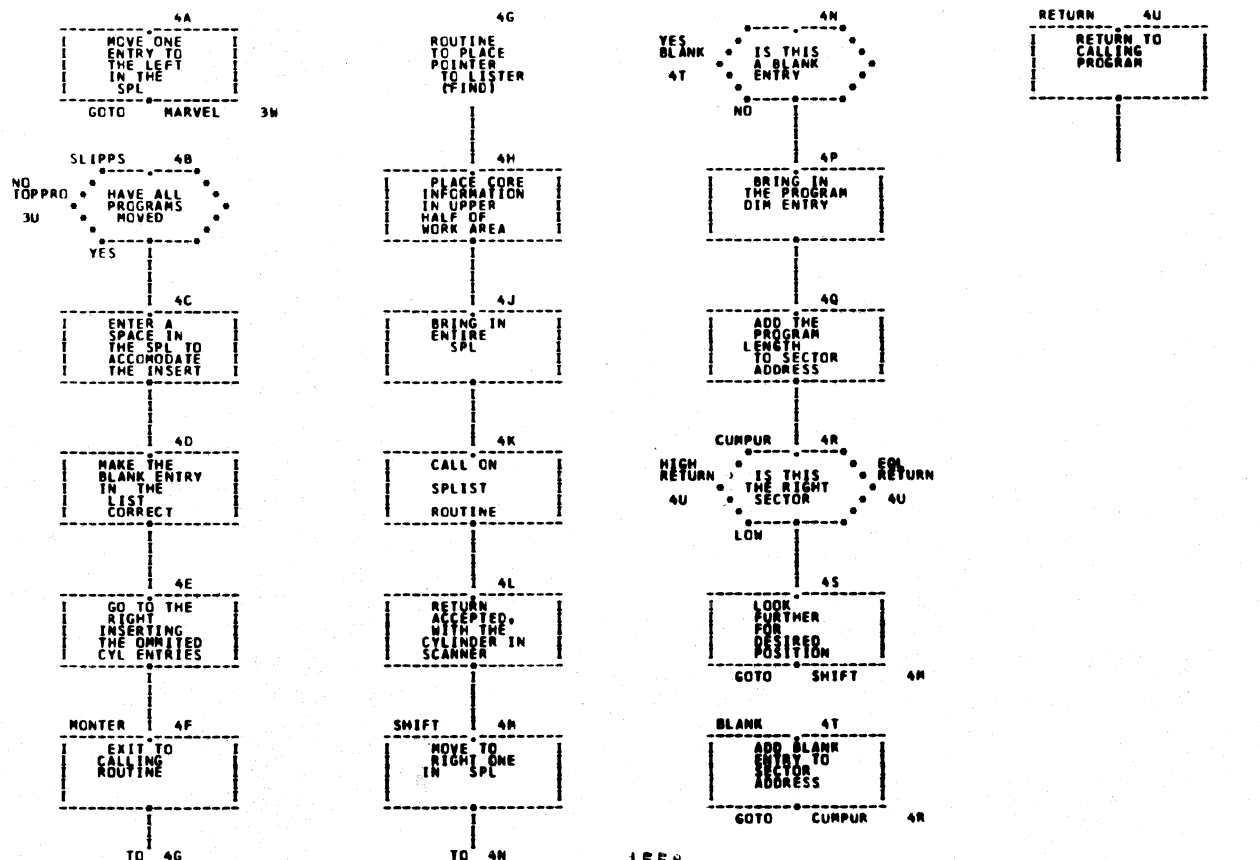


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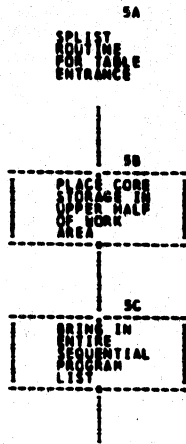




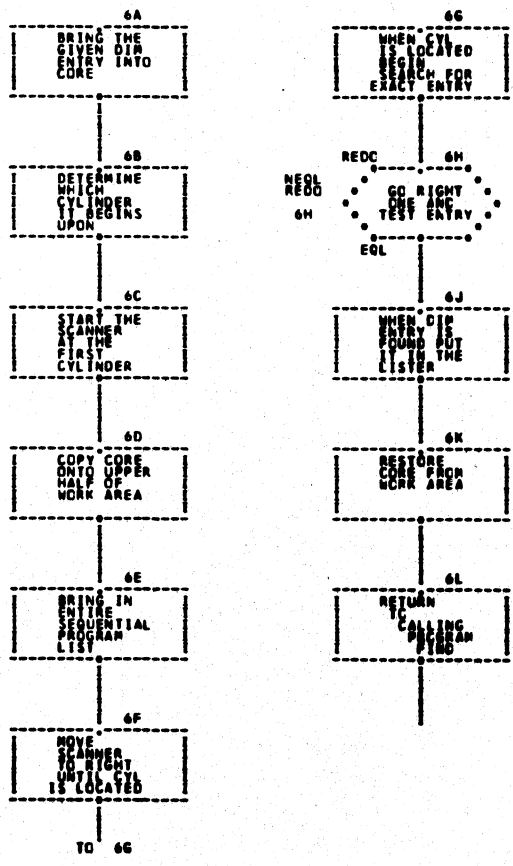
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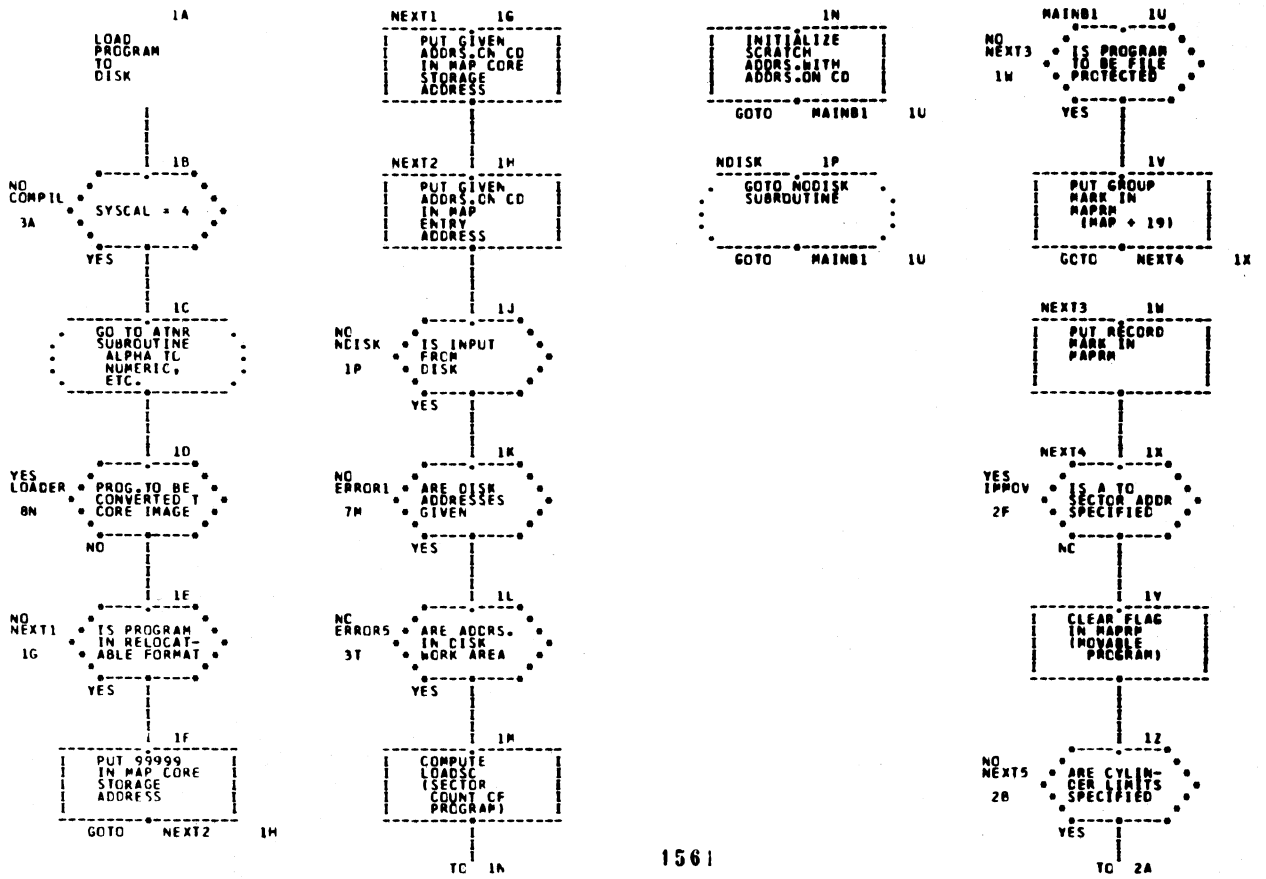
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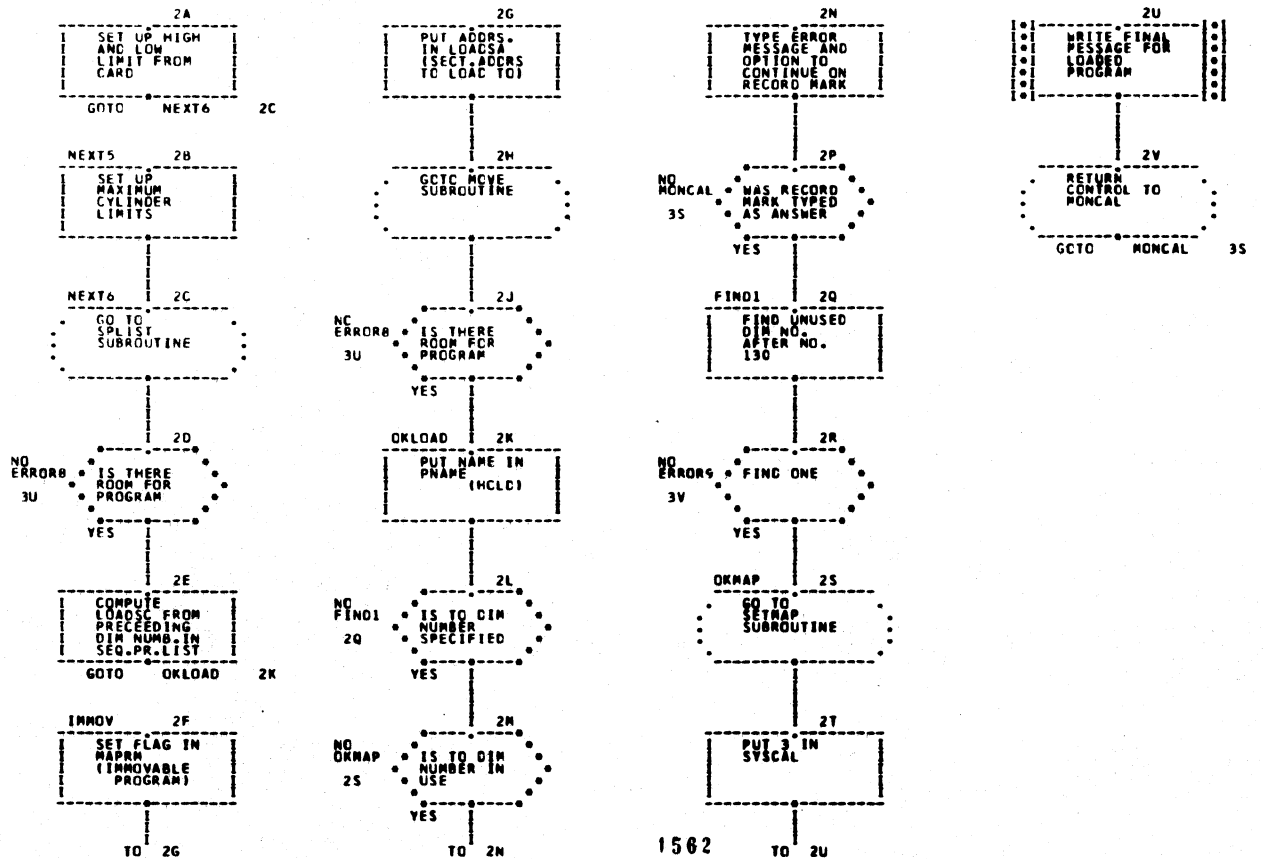
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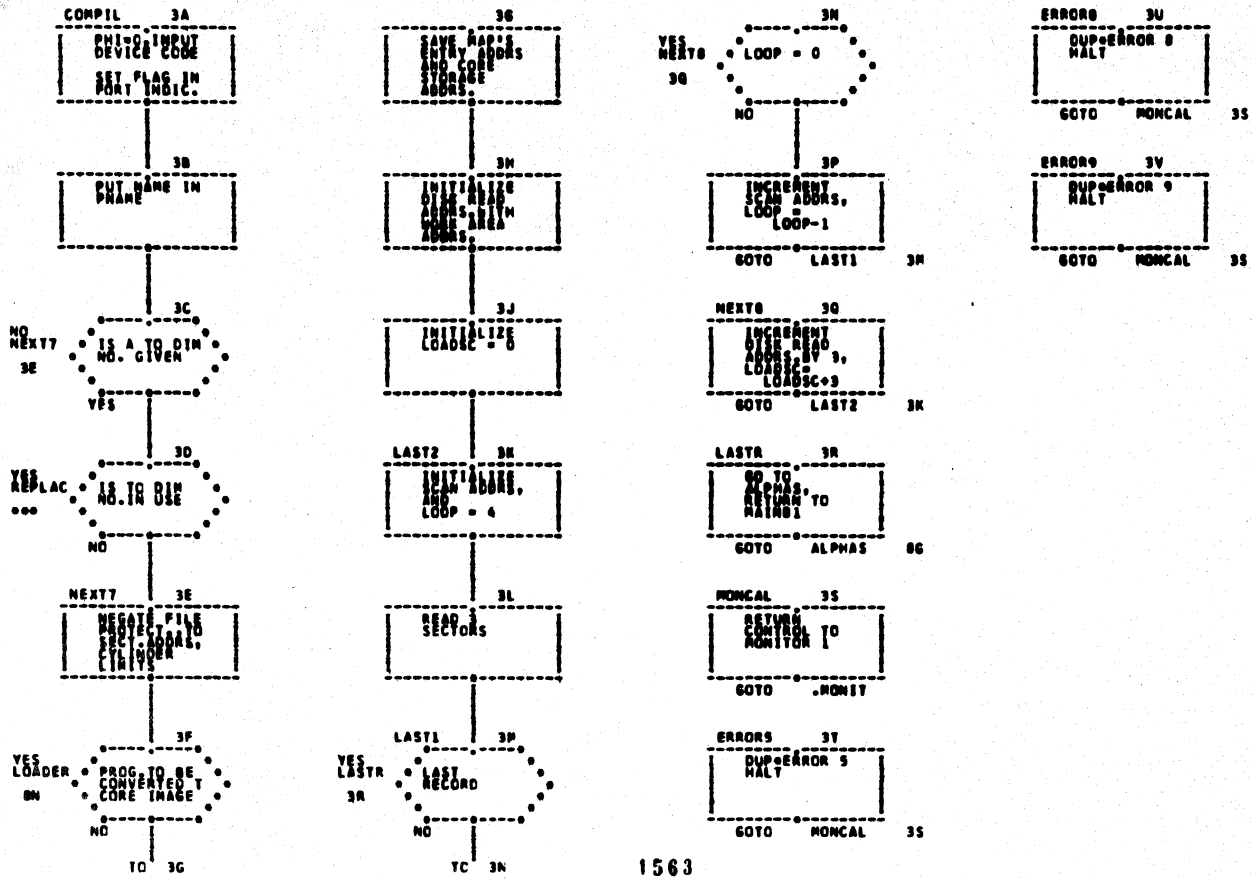
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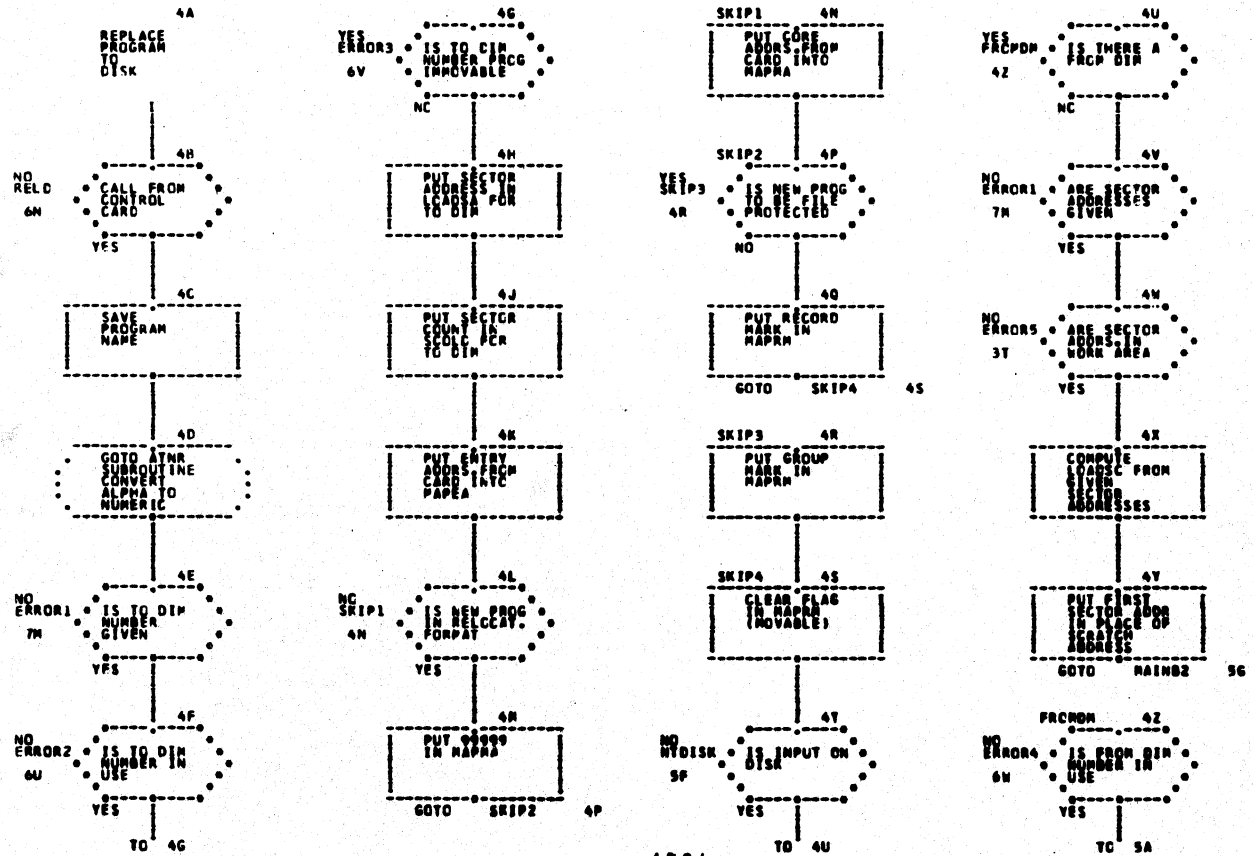
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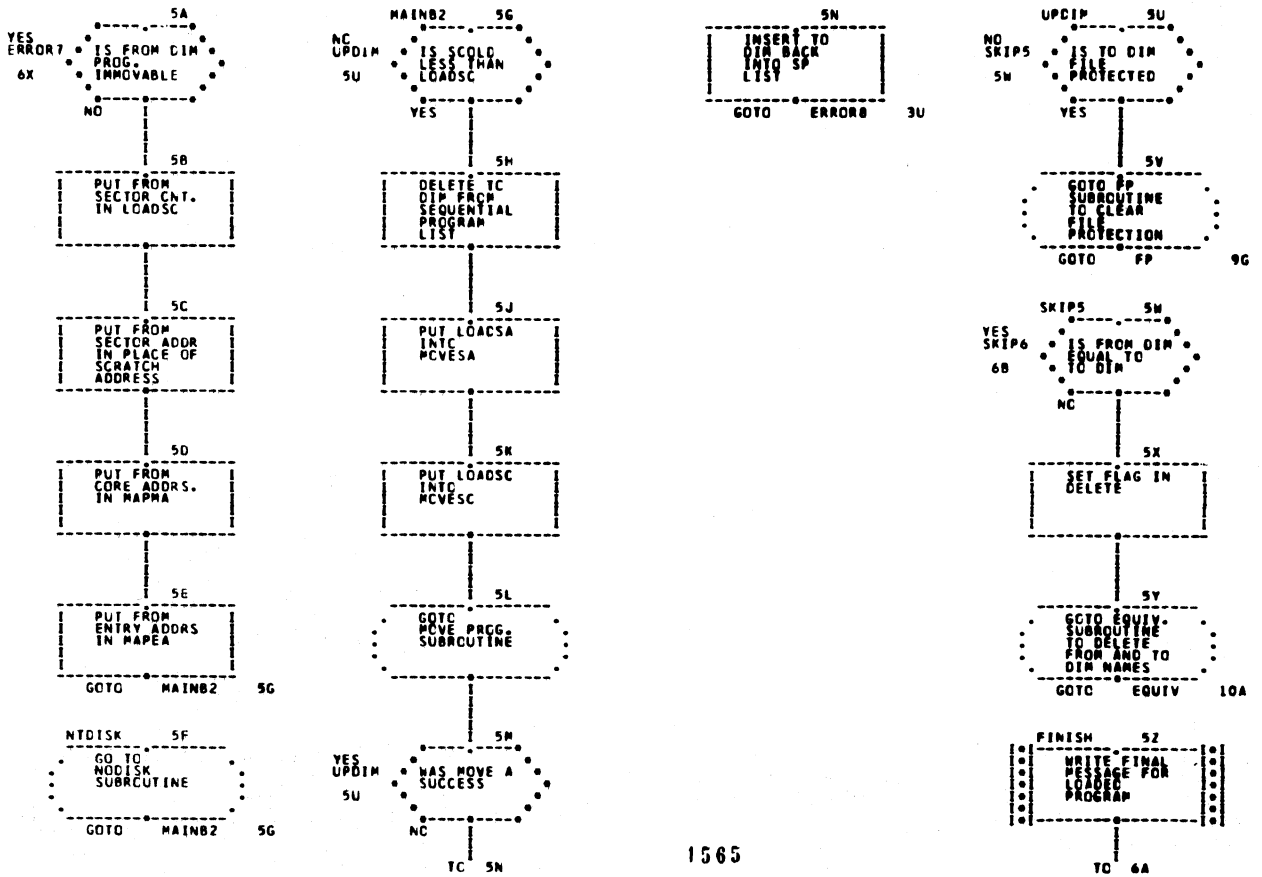
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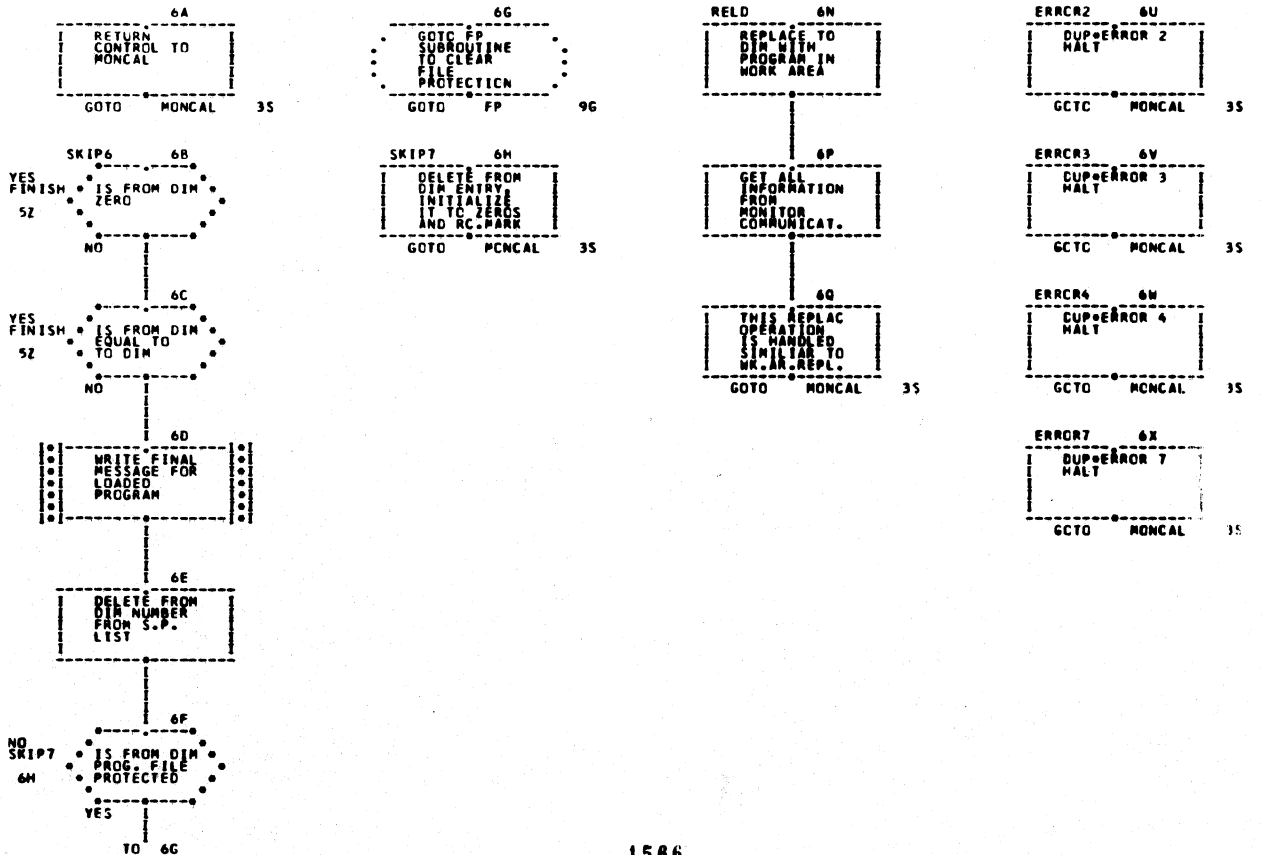
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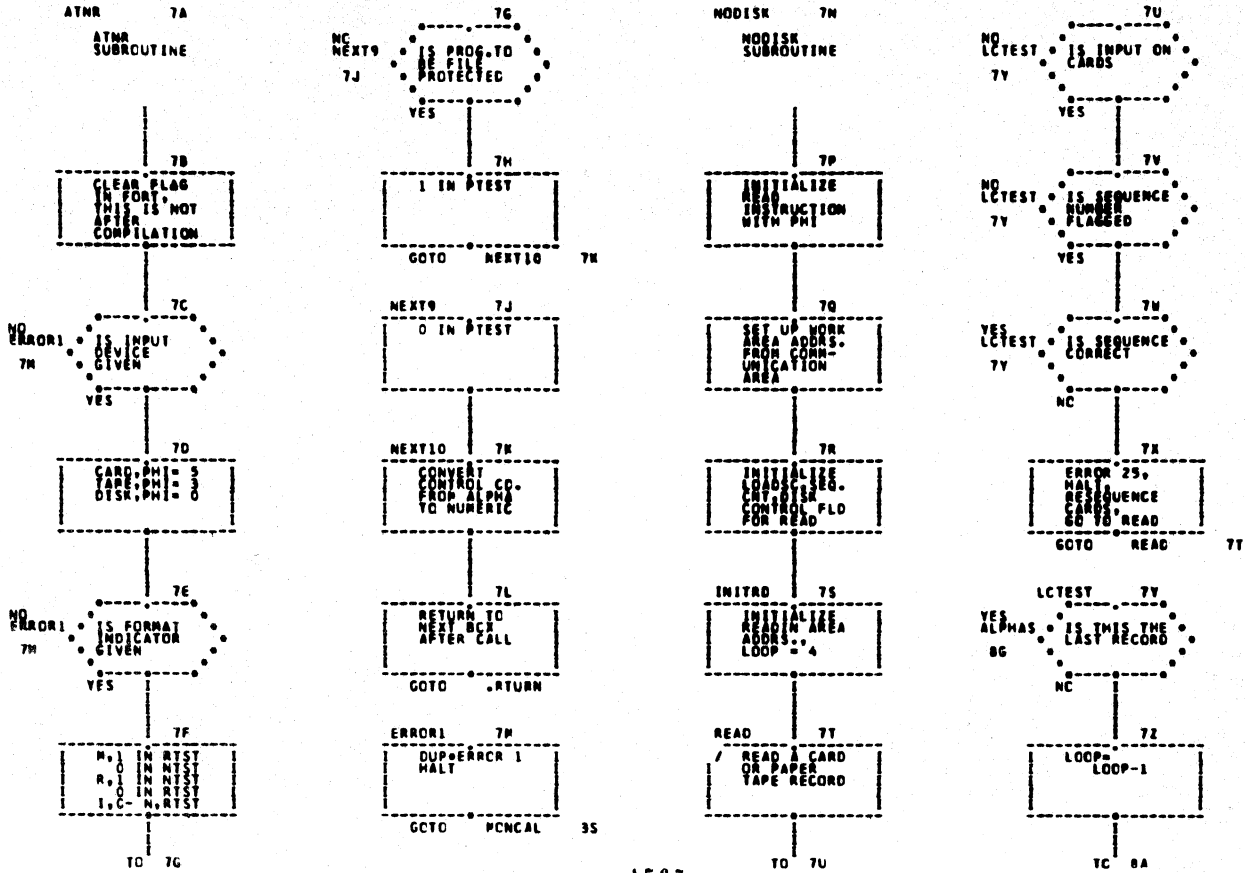
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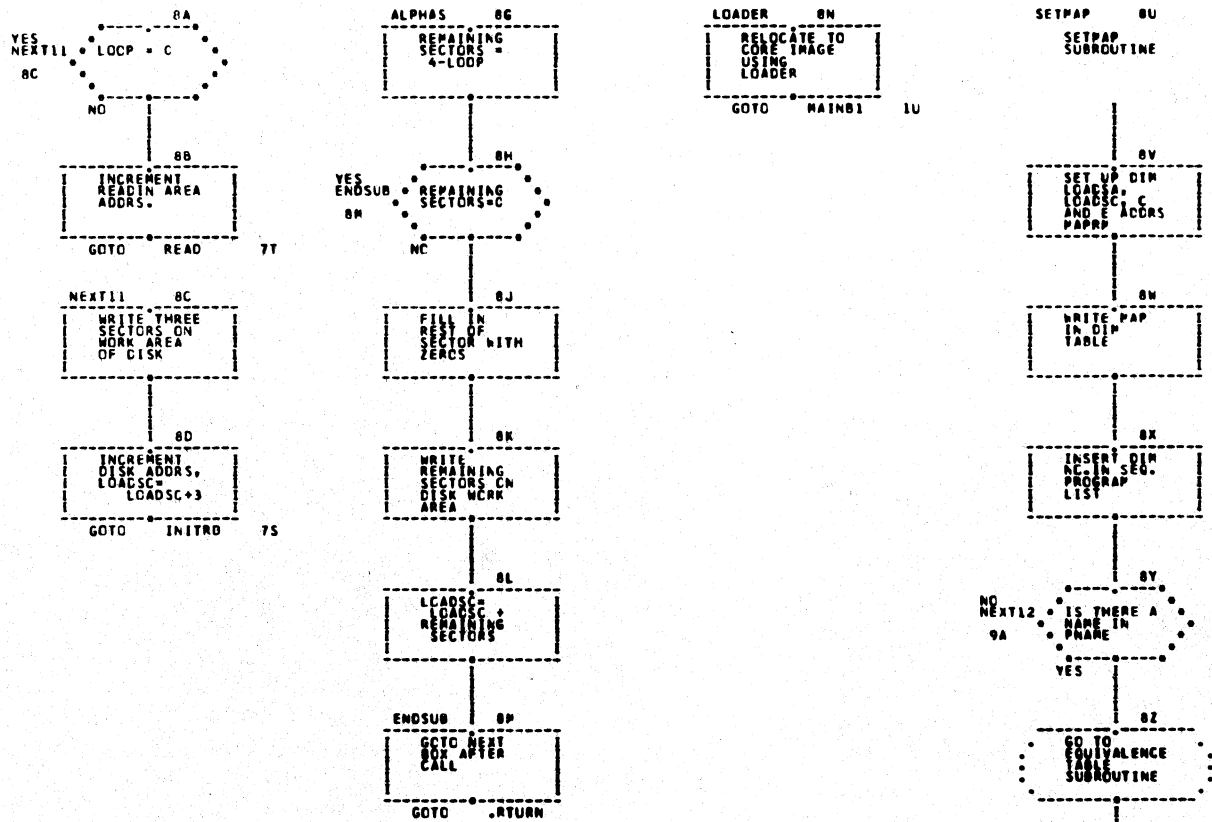
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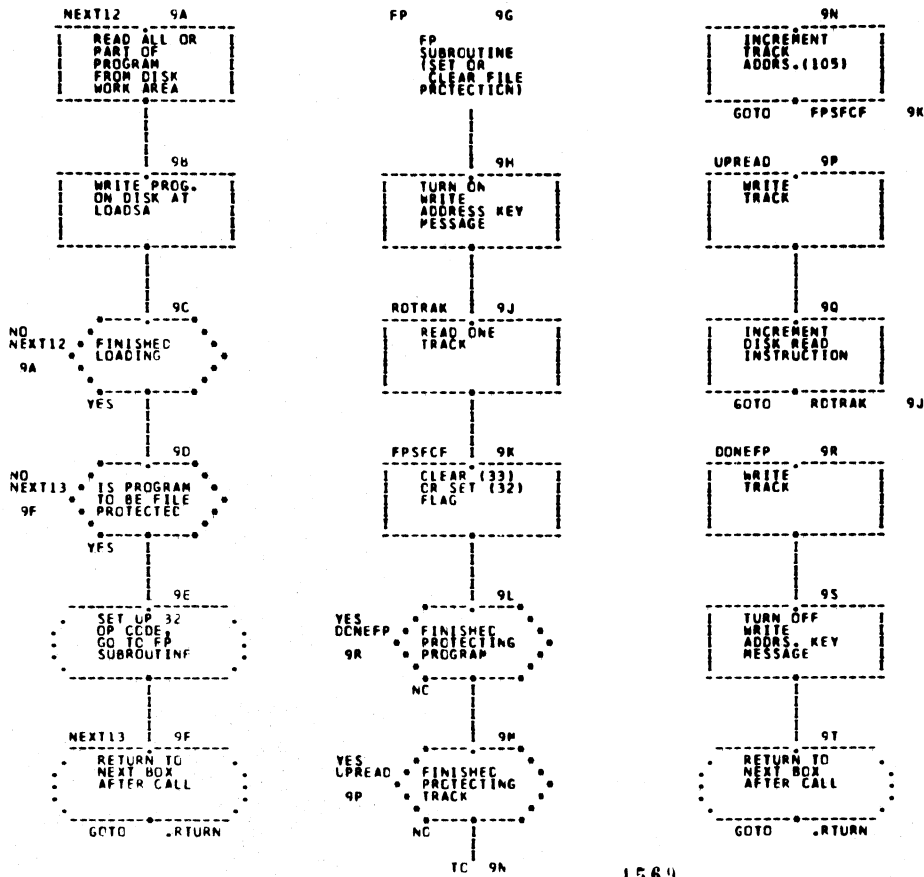
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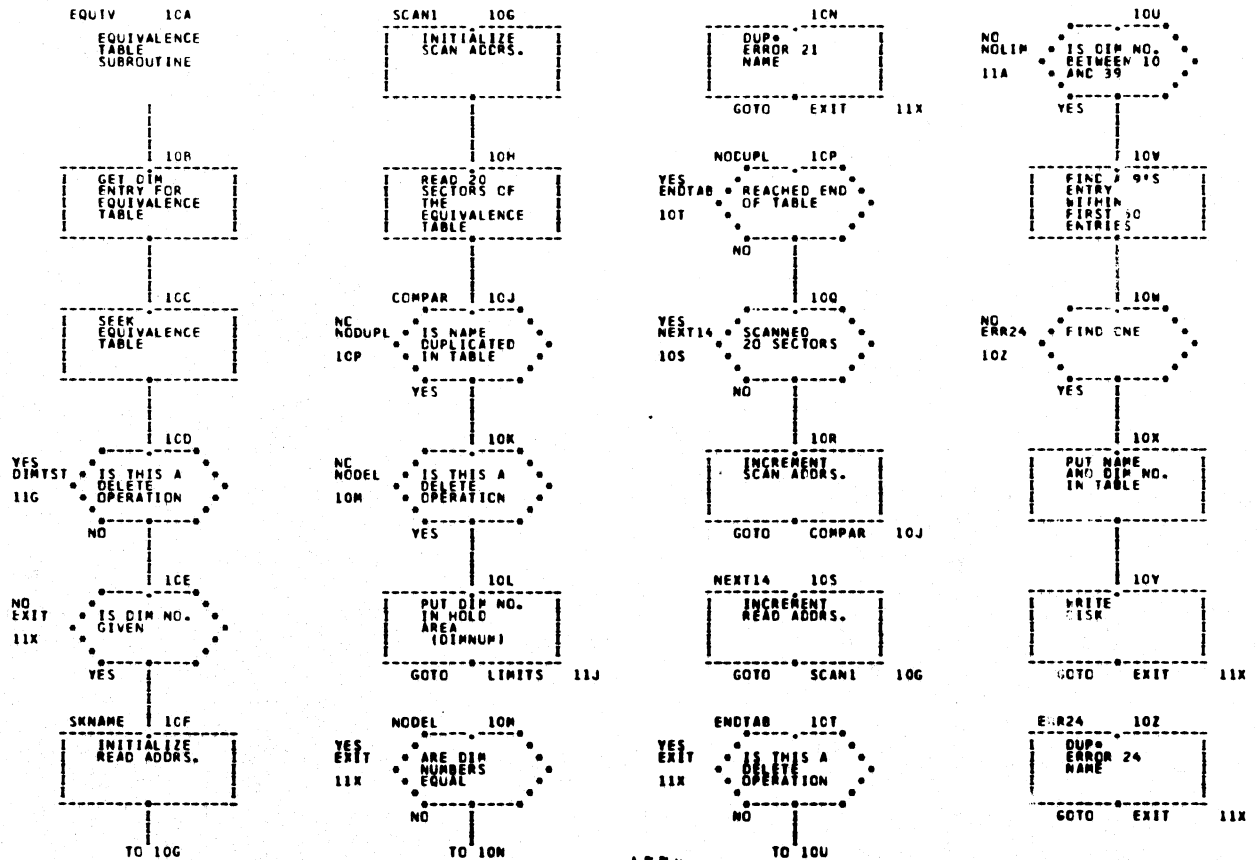
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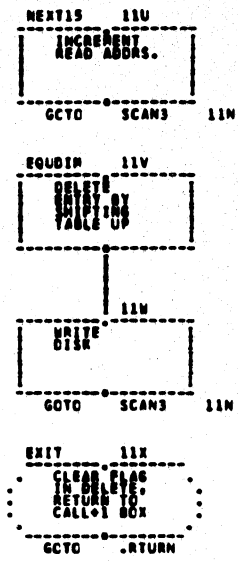
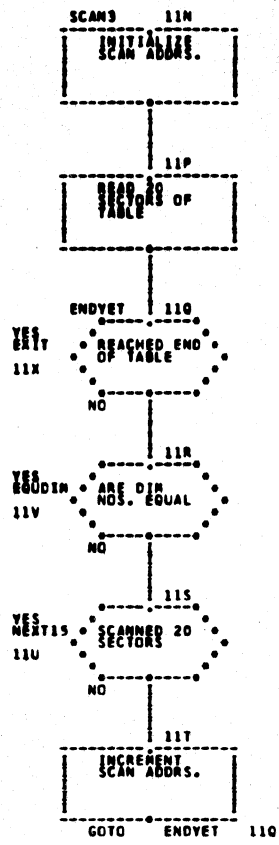
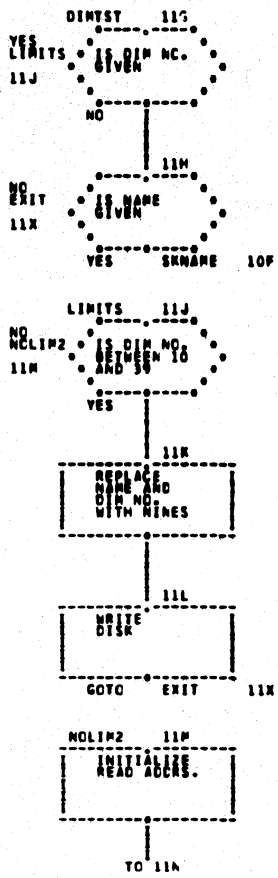
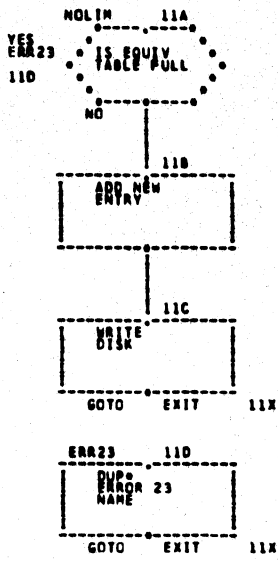
1568



1569



1570



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October, 1964

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1443 Monitor I, Version 2
Program No. 1620-PR-033 (Card)

We are forwarding the subject program to you with this memorandum and are providing the following abstract which summarizes its capabilities.

ABSTRACT

Purpose

Monitor I, for Printer, a disk-oriented system, modified for use with the IBM 1443 Printer, allows the user to execute several programs without operator intervention; output listings which previously were produced by the typewriter or 407 (off-line) are now listed on-line on the 1443 Printer. Jobs to be performed are stacked and separated by control records that identify the jobs. Jobs may be processed in any order; i. e., FORTRAN compiling jobs, user jobs, SPS assembly jobs, and Disk Utility Programs (DUP) may be entered as input. Input may be from cards, paper tape, or typewriter. This version modifies the FORTRAN compiler to allow the object program the use of 144 print position printer.

Use of the Monitor I System reduces the amount of operator supervision time required of the programmer. Substantial savings in set-up time are achieved when jobs are performed using the Monitor I System. The IBM 1620 Monitor I System is comprised of the following programs:

1. Supervisor
2. SPS II-D
3. FORTRAN II-D
4. Disk Utility

The Monitor I Supervisor Program consists of the following three routines:

- a. The Monitor I Control Record Analyzer Routine determines the type of Monitor I Control Record entered into the system, tests for Monitor I control record validity, tests for the correct disk pack on each drive, and takes appropriate action to load and execute the job specified.
- b. The Input-Output Routine (IORT) provided in the Supervisor performs input-output functions and tests all error indicators. It attempts to correct and re-execute the input or output function where possible. In the event of cylinder overflow, feasibility is tested and adjustments are made on disk address, sector count and core address. A seek is made and the file operation is executed for the adjusted disk control field.
- c. The System Output Format Loader Routine is used by the Supervisor as necessary to load SPS II-D assembled or FORTRAN II-D compiled programs from card, paper tape, or disk to core storage.

SPS II-D is designed to operate with the Monitor I System and cannot be operated independently. Card, typewriter, paper tape, and disk storage input-output routines, contained in the Supervisor program, are used by the SPS II-D macro-instructions to perform their assigned tasks. Program and Symbol Table listings are provided by the 1443 Printer.

SPS Control Records are provided to control the assembly of SPS II-D programs. These records may be in card, paper tape, or typewriter form.

FORTRAN II-D is an integral part of the Monitor I System and cannot be operated independently. Card, typewriter, paper tape, and disk storage input-output routines, contained in the Supervisor program, are used by the FORTRAN II-D statements. The PRINT statement is now used to output data to the 1443 Printer, and program listings are now generated by the Printer.

In contrast to the basic FORTRAN II compiler, the disk-oriented compiler requires only 20,000 positions of core storage. Another feature of FORTRAN II-D is its ability to accept source statements from the 1621 Paper Tape Unit.

FORTRAN control records are provided to control the compilation of FORTRAN II-D programs. These records may be in card, paper tape, or typewriter form.

The Disk Utility Program (DUP) is an essential part of the Monitor I System and cannot be operated independently. It consists of a group of routines designed to assist the User in the day-to-day operation of his installation.

By means of these routines, certain frequently required operations, such as loading or unloading disk storage (data or programs) from cards or paper tape, etc., can be performed with minimum programming effort by the user.

A DUP control record is required each time a Disk Utility routine is to be executed.

The Disk-to-Output routine has been modified to allow system tables to be printed on the 1443 Printer.

Use

The complete Monitor I System resides in 1311 disk storage. The Supervisor (Monitor I Control Record Analyzer and IORT) is called into core storage and it requests the entry of a Monitor I control record from typewriter, card reader, or paper tape reader. The control record may set up the system for a new job. Following may be Monitor I control records that specify programs to be compiled or assembled by the use of FORTRAN II-D or SPS II-D, a Disk Utility Program or data records.

When a Monitor control record specifying SPS II-D or FORTRAN II-D is encountered by the Supervisor, the appropriate program is brought into core storage from disk and given control. The system program assembles or compiles and stores the object program on disk. If execution of the currently assembled or compiled program is desired, it is loaded to core storage and given control.

An object program may also be stored on disk or punched in paper tape or cards after assembly or compilation. It may then be loaded to core storage at a later time and executed.

If DUP is specified by a Monitor I control record, the Supervisor brings DUP into core storage and executes it. The Disk Utility Program will take control and select the appropriate Disk Utility routine as identified by the next record in sequence which should be a Disk Utility Program control record.

Minimum System Configurations

1. IBM 1620 Model I System with a minimum of 20,000 positions of core storage.
2. IBM 1311 Disk Storage Drive, Model 3.

3. Indirect Addressing Feature.
4. IBM 1622 Card Read-Punch.
5. IBM 1443 Printer.

Basic Program Material

According to the Program Request Form you submitted, the material being forwarded includes:

1. IBM 1620 Monitor I System Reference Manual, C26-5739.
2. IBM 1620 Monitor I System composed of:

<u>Label</u>	<u>Numbered in Cols. 76-80</u>
Monitor I System Loader, Deck #1	00001-00040
System Tables, Deck #2	02000-02108
	03000-03268
	04000-04108
Disk Utility Program, Deck #3	10000-10616
	11000-11135
	12000-12060
SPS II-D Subroutine Supervisor, Deck #4	20000-20100
SPS II-D Subroutines, Deck #5	22000-22535
SPS II-D Processor, Deck #6	23000-23924
Supervisor, Deck #7	40000-40268
FORTRAN II-D Processor, Deck #8	50000-50212
	51000-51987
FORTRAN Loader, Deck #9	63000-63268
	64000-64035
FORTRAN Subroutines, Option A--Sets 1 and 2 for 120 print positions, Deck #10	52000-52268
	53000-53199
	54000-54009
	55000-55021
	56000-56027
	57000-57015
	58000-58052
	59000-59023
	60000-60029
	61000-61016
	62000-62008

<u>Label</u>	<u>Numbered in Cols. 76-80</u>
FORTTRAN Subroutines, Option A--Sets 3 and 4 for 120 print positions and Automatic Floating Point Feature, Deck #11	65000-65268 66000-66199 67000-67009 68000-68021 69000-69027 70000-70015 71000-71052 72000-72023 73000-73029 74000-74016 75000-75008
FORTTRAN Subroutines, Option B--Sets 1 and 2 for 144 print positions, Deck #12	77000-77268 78000-78199 79000-79009 80000-80021 81000-81027 82000-82015 83000-83052 84000-84023 85000-85029 86000-86016 87000-87008
FORTTRAN Subroutines, Option B--Sets 3 and 4 for 144 print positions and Automatic Floating Point Feature, Deck #13	88000-88268 89000-89199 90000-90009 91000-91021 92000-92027 93000-93015 94000-94052 95000-95023 96000-96029 97000-97016 98000-98008
System Table Editor, Deck #14	99001-99082
SPS II-D Sample Program, Deck #15	00001-00191
FORTTRAN II-D Sample Program, Deck #16	00001-00092

Optional Material

The following optional material is being forwarded, if requested:

1. Listings:

<u>Label</u>	<u>Pages</u>
<u>Supervisor</u>	
1620-1311 Supervisor and IORT-Printer	1-52
1620-1311 Monitor Loader (System Output Format)	1-13
<u>SPS II-D</u>	
SPS II-D, Phase A Printer	1-64
SPS II-D, Phase B Printer	1-58
SPS II-D, Subroutine Supervisor Printer	1-12
SPSLIB - The SPS II-D Modification Program Printer	1-5
SPS II-D Monitor I Subroutine Set 00	1-2
SPS II-D Monitor I Subroutine Set 01	1-22
SPS II-D Monitor I Subroutine Set 02	1-25
SPS II-D Monitor I Subroutine Set 03	1-20
<u>FORTRAN II-D</u>	
FORTRAN II-D, Phase 1-A	1-11
FORTRAN II-D, Phase 1-B	1-65
FORTRAN II-D, Phase 1-C	1-25
FORTRAN II-D, Phase 2	1-94
FORTRAN II-D Subroutines Set 1, Option A	1-50
FORTRAN II-D Subroutines Set 2, Option A	1-27
FORTRAN II-D Subroutines Set 3, Option A	1-49
FORTRAN II-D Subroutines Set 4, Option A	1-25
FORTRAN II-D Subroutines Set 1, Option B	1-50
FORTRAN II-D Subroutines Set 2, Option B	1-28
FORTRAN II-D Subroutines Set 3, Option B	1-49
FORTRAN II-D Subroutines Set 4, Option B	1-26

<u>Label</u>	<u>Pages</u>
FORTTRAN II-D Loader, Block 1	1-10
FORTTRAN II-D Loader, Block 2	1-10
FORTTRAN II-D Loader, Block 3	1-11
FORTTRAN II-D Loader, Block 4	1-8
FORTTRAN II-D Loader, Block 5	1-11
FORTTRAN II-D Loader, Block 6	1-6
FORTTRAN II-D Flip Routine for Load on Call Subroutines	1-1
FORTTRAN II-D Relocatable Library Subroutines with Automatic Divide	1-28
FORTTRAN II-D Relocatable Library Subroutines with Automatic Floating Point	1-28
<u>System Table Editor</u>	1-10
<u>Disk Utility Program</u>	
SELECTION ROUTINE	1-17
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DALTR	1-9
DLABL	1-7
DFLIB	1-5
DCOPY	1-10
DLOAD-DREPL-DELET	1-59
DDUMP	1-14
DFINE	1-26
<u>Monitor System Loader</u>	1-4
<u>Monitor I SPS II-D Printer--Sample Program</u> <u>(includes output)</u>	1-4
<u>Monitor I FORTRAN II-D Sample Program,</u> <u>Printer</u>	1-4
<u>Output from FORTRAN II-D Sample Program,</u> <u>Printer</u>	1-2

2. Flow Charts

<u>Label</u>	<u>Pages</u>
<u>Supervisor</u>	
Monitor I Input Output Routine	1-8
Monitor Relocating Loader	1-4
Monitor Input Record Analyzer	1-5
<u>SPS II-D</u>	
SPS II-D, Phase A	1-27
SPS II-D, Phase B	1-27
SPS II-D, Phase C	1-4
SPS II-D Subroutine Supervisor	1-8
SPS II-D Modification Program	1-5
<u>FORTRAN II-D</u>	
FORTRAN II-D, Phase 1A	1-3
FORTRAN II-D, Phase 1B	1-38
FORTRAN II-D, Phase 1C	1-3
FORTRAN II-D, Phase 2	1-9
FORTRAN II-D I/O Subroutines	1-11
FORTRAN II-D Loader, Blocks 1-2	1-4
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FORTRAN II-D Loader, Block 6	1-1
FORTRAN II-D Disk I/O Subroutine	1-3
FLIP Routine for LOCAL Subprograms	1-1
<u>Disk Utility Program</u>	
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SELECTION ROUTINE	1-2
DWRAD	1-1
DLABL	1-2
DALTR	1-1
DELET	1-1
DCOPY	1-4

Disk Utility Program (Cont'd)

<u>Label</u>	<u>Pages</u>
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DFLIB	1-1
DDUMP	1-6
SEQSUB	1-6
DLOAD	1-3
DREPL	4-6
Subroutines Shared by Load and Replace	7-11

- Notes:
- 1.) The Monitor I System should be loaded in the sequence specified by Deck Numbers.
 - 2.) Only one deck from Decks #10, #11, #12 or #13 should be loaded depending on the features desired.
 - 3.) After the Monitor I System has been loaded, a Cold Start Procedure must be executed. See the IBM 1620 Monitor I System Reference Manual, C26-5739, for further explanation.

System Table Editor (Deck #14)

This deck is not to be loaded with the system but should be used as described:

The Disk Identification Map (DIM) and the Sequential Program List (S. P. List) are changed whenever a user adds or deletes a program in his system. All installed systems will contain different entries in these tables. The maintenance of such system is not possible in every users installation by loading change cards over the original tables--instead correction procedures must consider the variability of the tables. The program described here was designed to correct and reconstruct these tables if they should be altered incorrectly for any reason.

Purpose:

This maintenance program will examine the users DIM entries for correct format. After typing any incorrect entry along with the entry number and an error message, the incorrect entry is deleted. A new Sequential Program List is created using the DIM entries. If this new list is different from the former list, the user can print the old list before the new list is substituted.

When the new list is created, it is possible that two different DIM entries specify the same area on disk. This error is handled by deleting any DIM entry that conflicts with any previously examined entry. The first of the entries encountered, under these condition, will be the one that is retained.

After the new list has been constructed, a list of DIM entry numbers may be printed. This list will contain the entry numbers of any DIMs deleted because they specified disk sectors already specified by other DIM entries. Thus the user may wish to dump the DIMs using a *DDUMP control record before running this modification program.

Operation:

Place the program supplied in the input unit as a normal monitor job. Retain this program for use in the event that any new problems arise.

Results:

Sequential Program List Creation

If the new Sequential Program List, which is built up from the DIM entries, compares equally with the one on the disk, the message, "S. P. LIST IS CORRECT" is typed. If the Lists do not compare equally, the message, "S. P. LIST IS INCORRECT" is typed and the program halts. Turning Console Switch One (1) on and pressing Start will dump the incorrect list (the one that was on the disk) onto the typewriter. In either case, the new list will be written on the disk when the Start Key is depressed.

Any DIM numbers which are typed, after the S. P. List message has been typed, have been deleted from the DIM Table and replaced by eights (8's) in the Equivalence Table.

Reference

The following reference material will be useful in implementing 1620-1443 Monitor I.

IBM 1620 Monitor I System Reference Manual, C26-5739
IBM 1443 On-Line Printer for 1620/1710 Systems, A26-5730
IBM 1311 Disk Storage Drive, Model 3, A26-5650

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Program No. 1620-PR-033 (Card)
Page 11

This program will be maintained through the use of modification letters. Whenever modifications are made to this program, a serially numbered letter, starting with number 1, will be mailed to all users. The initial availability of this program is considered to be at modification level 0, and each letter increases this level by one. When this program is requested and the modification level is other than 0, all letters will be supplied with the package, but only the latest deck will be forwarded since the program will always reflect the latest changes. Should the nature or quantity of changes make a reassembly necessary, a new version will be announced, and should be ordered through the IBM Branch Office. Modification letters to this new version will begin at 1. The coding for or replacement of changes when incorporated in a new version will not necessarily correspond to the changes as distributed in modification letters to the preceding version.

Any discrepancies between the material you receive and the items listed in this memorandum (as well as any error in card reproduction) should be brought to the attention of the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, CE Managers



International Business Machines Corporation

40 Saw Mill River Road
Hawthorne, New York 10532
914 / 592-5790

January 21, 1965

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1443 Monitor I, Version 2
Program No. 1620-PR-033 (Card)
Modification No. 1

This letter transmits Modification No. 1 of the subject program. The material enclosed with this modification consists of the following:

Twelve (12) Correction Cards

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, CE Managers

Disk Utility Program, Deck #3

1. Error The *DDUMP routine will not permit more than 999 sectors to be dumped to the printer.

Correction The following change is necessary to correct the problem:

Page 7 of the listing (1620-1443 Monitor I, Version 2 DUP DDUMP)
should be changed

From	03460	TFM	COUNT,0,9	05846 16 06572 00000
To	03460	TFM	COUNT,0,,	05846 16 06572 00000

One (1) replacement card numbered 10428 is provided. Please remove the correspondingly numbered card from Deck #3 and insert the card provided.

SPS II-D Subroutines, Deck #5

1. Error The Arctangent routine hangs up upon execution.

Correction The following changes are necessary to correct the problem:

Page 12 of the listing (Set 1) should be changed

From	00030	FATN1 TFM	PCK+5, *+20, 1	00000 16 02370 00020
To	00030	FATN1 TFM	PCK+5, *+20, 17	00000 16 02370 00020

One (1) replacement card numbered 22409 is provided. Please remove the correspondingly card from Deck #5 and insert the card provided.

SPS II-D Processor, Deck #6

1. Error A DAC with a long comments field is sometimes treated as a DSAC.

Correction The following changes are necessary to correct the problem:

Page 31 of the listing (1620-1443 Monitor I, Version 2 SPS II-D, Phase A) should be changed

From	15330	TD	INPUT2+6, ZEP0+29	11452 25 03046 02329
	15410	BTM	EVALAD, *+12, 4	11496 17 05M04 11508
To	15330	TF	INPUT2+6, ZEP0+29	11452 26 03046 02329
	15410	BTM	EVALAD, DAC5, 4	11496 17 05M04 15716

Page 32 of the same listing should be changed

From	15770	DACR	TF	INPUT2+6, ZEP0+29	11860 26 03046 02329
To	15770	DACR	NOP	INPUT2+6, ZEP0+29	11860 41 03046 02329
From	15890		BD	*+24, ZEP0+28	11980 43 12004 02328
To	15890		BD	*+24, INPUT2+5	11980 43 12004 03045
From	19810	FILE	34	FDCF, 00701	15716 34 15764 00701
	19820		38	FDCF, 00702	15728 38 15764 00702
To	19810	DAC5	TF	INPUT2+6, ZEP0+29	15716 26 03046 02329
	19820		B7	DAC+36	15728 49 11508

Five (5) replacement cards numbered 23283, 23284, 23289, 23290, and 23340 are provided. Please remove the correspondingly cards from Deck #6 and insert the cards provided.

Supervisor, Deck #7

- Error Erroneous error message LD3 is typed when loading a relocatable program stored on the disk such that a three sector boundary coincides with a cylinder.

Correction The following changes are necessary to correct the problem:

Page 3 of the listing (Monitor Loader) should be changed

From	01100	BI	*+12, 1700	01006 46 01018 01700
To	01100	BNI	PATCH, 1700	01006 47 02264 01700

Page 10 of the same listing

Add	04151	PATCH	BNI	ERR-12, 3600	02264 47 01018 03000
	04152		BD	ERR, CNTL+4	02276 43 01030 00924
	04153		B7	DIS	02288 49 00934

Two (2) replacement cards numbered 40007 and 40032 are provided. Please remove the correspondingly numbered cards from Deck #7 and insert the cards provided.

FORTRAN II-D Processor, Deck #8

1. Error NEXT COMMON not correctly calculated when COMMON area extended by array equivalence.

Correction The following changes are necessary to correct the problem:

Page 9 of the listing (FORTRAN II-D, Phase 1C) should be changed

From	04020	BNF	*+48, TELSW	05704 44 05752 07340
To	04020	BNF	EXTCOM, TELSW	05704 44 12292 07340

Page 23 of the same listing

Add	10921	EXTCOM	TF	*+35, TEMP3	12292 26 12327 03602
	10922		S	*+23, WDLN	12304 22 12327 02994
	10923		CM	COMADD, *-*	12316 14 02262 00000
	10924		BNH	E89010+156	12328 47 05752 01100
	10925		TF	COMADD, *-13	12340 26 02262 12327
	10926		B7	E89010+156	12352 49 05752

Three (3) replacement cards numbered 51444, 51532, and 51533 are provided. Please remove the correspondingly numbered cards from Deck #8 and insert the cards provided.

After Decks #3, #5, #6, #7, and #8 have been corrected, only these decks should be loaded to the Monitor I-1443 disk pack using Deck #1 (System Loader). It should be noted that Deck #6 reinitializes the systems symbol and op code tables. Deck #7 reinitializes the system communication sector. Any user changes to these areas must be made again after loading these decks.



International Business Machines Corporation

40 Saw Mill River Road
Hawthorne, New York 10532
914 / 592-5790

March 11, 1965

MEMORANDUM TO: Users of IBM 1620 Data Processing Systems

SUBJECT: IBM 1620-1443 Monitor I, Version 2
Program No. 1620-PR-033 (Card)
Modification No. 2

This letter transmits Modification No. 2 of the subject program. The material enclosed with this modification consists of the following:

Fifty-One (51) Correction Cards

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 112 East Post Road, White Plains, New York.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

An Authorized Programming Analysis Report (APAR) should be submitted through your local IBM Systems Engineer to report any difficulties encountered in the use of this system. The APAR should be addressed to APAR Processing, Programming Systems Department, IBM Corporation, Monterey and Cottle Roads, San Jose, California 95114.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, CE Managers

Disk Utility Program (DUP), Deck #3

1. Error When an SPS program which uses subroutines is stored Core Image, any constants which are to be stored above 22302 are lost if the program exceeds 20,000 core positions.

Correction The following changes are necessary to correct the problem:

Page 8 of the listing (1620-1443 Monitor I, Version 2 DUP *SELECTION Routine) should be changed

From	03360	SF	WR2+13	05016 32 02272 00000
To	03360	SF	WR2+14	05016 32 02273 00000

Page 9 of the same listing should be changed

From	03580	B	IOGT, DDA1, 7	05130 49 00566 05908
To	03580	B	P736, DDA1, 7	05130 49 06468 05908

Page 16 of the same listing should be changed

From Not used at this point in execution

To		DORG	06468	
	05791	P736	DS	, READIN
	05792		BNF	*+24, WR2+14
	05793		SF	WR2+13
	05794		B7	IOGT
				06468
				06468 44 06492 02273
				06480 32 02272 00000
				06492 49 00566

2. Error The file protecting ability of the DCOPY routine did not function in some cases and the completion message did not indicate this.

Correction The DCOPY routine has been modified to perform the file protecting function as specified. The changes are combined with those under error 3.

3. Error An erroneous error message printed, indicating that insufficient available storage for the copy was found by the DCOPY routine. This occurred in cases when the starting sector address for the copy was located after a program on a cylinder.

Correction The DCOPY routine was modified to perform the check of available disk area in the specified manner.

Change the DCOPY listing (DUP) as follows:

Page 6 of the listing should be changed

From	02600	BTM	BAK, WKA	04740 17 03268 06227
To	02600	B	NXTDIM	04740 49 06250 00000

Page 7 of the listing should be changed

From	03130	BD	SETFPR, CHGP+7	05276 43 06036 05155
To	03130	NOP		05276 41 00000 00000

Page 8 of the listing should be changed

From	03420	BNF	*+36, STCHG+1	05488 44 05524 02861
	03430	WNTY	SAVRO+5	05500 38 05743 00100
	03440	B	*+24	05512 49 05536 00000
To	03420	B	*+36	05488 49 05524 00000
	03430	FILDEF DSC	2, 26	05500 00002
	03432	DSA	RDDIM	05506 00005 02700
	03435	DC	1, 1	05507 00001
	03438	DSC	4, 0	05508 00004
	03440	NOP		05512 41 00000 00000
From	03620	TDM	DEFIN+1, 6	05762 15 05380 00006
	03630	TDM	DEFOUT+1, 6	05774 15 05388 00006
	03640	TDM	CHGP+7, 1	05786 15 05155 00001
	03650	TF	CFINS+11, DUM1+11	05798 26 05347 05913

From (Cont'd)

	03660	TF	CFINS+18, DUM+6	05810 26 05354 05900
	03670	TR	RDDIM, SAVWR	05822 31 02700 03756
	03680	TR	RDDIM+20, SAVWR	05834 31 02720 03756
	03690	TFM	RDDIM+8, 20, 9	05846 16 02708 00020
	03700	TFM	RDDIM+28, 20, 9	05858 16 02728 00020
	03710	TF	SAVRO+10, SAVRD+5	05870 26 05748 04813
	03720	TD	SAVRO+5, SAVRD	05882 25 05743 04808
	03730	DUM B7	RDWR, , 0	05894 49 05252
	03740	DUM1 BD	ENDMES, SETX+10, 0	05902 43 05992 06210
	03750	*		
	03820	*		
	03830	*	SELECT AND FILE PROTECT THE SECTORS COPIED	
	03840	SETFPR TFM	SFFL+11, INEQU, 7	06036 16 06083 10000
	03850	AM	SFFL+11, 4	06048 11 06083 00004
	03860	CFH TFM	FLAG+1, 41, 10	06060 16 06145 00041
	03870	SFFL C	SAVWR+5, INEQU, 7	06072 24 03761 10000
	03880	BH	FLAG-12	06084 46 06132 01100
	03890	PNT DS	, SFFL+11	06083 0
	03900	C	WKHICP, PNT, 11	06096 24 06223 06083
	03910	BL	SETX	06108 47 06200 01300
	03920	TFM	FLAG+1, 32, 10	06120 16 06145 00032
	03930	SM	PNT, 4	06132 12 06083 00004
	03940	FLAG SF	PNT, , 6	06144 32 06083 00000
	03950	AM	PNT, 105	06156 11 06083 00105
	03960	CM	PNT, 105*20+INEQU	06168 14 06083 12100
	03970	BNH	SETFPR+12	06180 47 06048 01100
	03980	B7	WRDSKF	06192 49 05288
	03990	*		
	04000	SETX TDM	SETX+10, 9	06200 15 06210 00009
	04010	B7	WRDSKF	06212 49 05288
To	03635	TR	RDDIM, SAVWR	05762 31 02700 03756
	03640	TFM	RDDIM+8, 20, 9	05774 16 02708 00020
	03650	SH SF	SAVCNT-4	05786 32 04308 00000
	03660	FPADR DS	, SH+11	05797 00000
	03670	TF	CNTDWN, SAVCNT	05798 26 06103 04312
	03680	TFM	RDDIM+13, 10000	05810 16 02713 10000
	03690	SF	BUTTON	05822 32 00455 00000
	03700	BUTTON DS	, 00455	00455 00000

To (Cont'd)

03840	CONUE	AM	FPADR, 105	06036	11	05797	00105
03845		CM	FPADR, 12000	06048	14	05797	12000
03850		BH	WRFPR	06060	46	06152	01100
03860		B7	SOMMOR	06072	49	05870	00000
03870	SFPFLG	SM	FPADR, 4, 10	06080	12	05797	00004
03880		SF	FPADR, , 6	06092	32	05797	00000
03890		AM	FPADR, 4, 10	06104	11	05797	00004
03900		SM	CNTDWN, 1	06116	12	06103	00001
03910		BNZ	CONUE	06128	47	06036	01200
03920		TDM	SFPFLG+7, 1	06140	15	06087	00001
03930	WRFPR	TFM	IORT, *+23	06152	16	00565	06175
03940		B	IOPT, FILDEF, 7	06164	49	00532	05500
03950		CF	BUTTON	06176	33	00455	00000
03960		BD	ENDMES, SFPFLG+7	06188	43	05992	06087
03970		AM	RDDIM+5, 20, 10	06200	11	02705	00020
03980		B7	BREP	06212	49	05834	00000
03990	CNTDWN	DS	, SFPFLG+23	06103		00000	
04000		DORG	6250	06250			
04005	NXTDIM	TFM	DDADIM+8 ,DCOPY-200	06250	16	03665	02500
04010		TFM	RMCK+11 ,DCOPY-200	06262	16	03419	02500
04015		BTM	BAK ,WKA	06274	17	03268	06227
04018		B7	DIMENT+24	06286	49	04752	00000

4. Error When deleting an entry from the Equivalence Table and the end of the table is between Sectors 05068 and 06079, eight(8) sectors following the area reserved for the Table are destroyed (05080-05087).

Correction The following change is necessary to correct the problem:

Page 36 of 1620-1443 Monitor I, Version 2 DUP Routine *DLOAD, *DREPL, *DELET

From	17120	DONE	TF	HOLD5, CLOSW+5	09542	26	13139	13302
To	17120	DONE	TF	HOLD5, CLOSR+5	09542	26	13139	13363

Twenty-eight(28) replacement cards are provided. These cards are numbered 11109 thru 11132, 10199, 10589, 10590 and 10608. Please remove the correspondingly numbered cards from Deck #3 and insert the cards provided.

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From	17120	DONE	TF	HOLD5, CLOSW+5	09542 26 13139 13303
To	17120	DONE	TF	HOLD5, CLOSR+5	09542 26 13139 13363

Twenty-eight (28) replacement cards are provided. These cards are numbered 11109 thru 11132, 10199, 10589, 10590 and 10608. Please remove the correspondingly numbered cards from Deck #3 and insert the cards provided.

SPS II-D Subroutines, Deck #5

1. Error Subroutine Set 00 will sometimes (Fixed Product Area position dependent) calculate erroneous results for division that have at least 2 low order digits smaller than the corresponding number of high order digits of the dividend.

Correction The following changes are necessary to correct the problem:

Page 1 of the listing (Set 00) should be changed

From	00470	CF	BFLG-37,, 6	00592 33 00495 00000
To	00470	CF	BFLG-25,, 6	00592 33 00507 00000

One (1) replacement card numbered 22516 is provided. Please remove the corresponding card from Deck #5 and insert the card provided.

Supervisor, Deck #7

1. Error The correction to the Relocating Loader in Modification No. 1 does not function properly when a cylinder overflow occurs on the first three sector group read into core.

Correction The following changes are necessary to correct the problem:

Page 3 of the listing (Monitor I Relocating Loader) should be changed

From	01100	BNI	PATCH, 1700	01006 47 02264 01700
	01110	BI	CIN, 3800, 6	01018 46 01083 03800

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To	01100	BI	CIN, 3800, 6	01006 46 01083 03800
	01110	BNI	PATCH, 1700	01018 47 02264 01700

Page 10 of the same listing should be changed

From	04151	PATCH BNI	ERR-12, 3600	02264 47 01018 03600
------	-------	-----------	--------------	----------------------

To	04151	PATCH BNI	ERR, 3600	02264 47 01030 03600
----	-------	-----------	-----------	----------------------

Three (3) replacement cards numbered 40007, 40008, and 40032 are provided. Please remove the correspondingly numbered cards from Deck #7 and insert the cards provided.

FORTRAN II-D Loader, Deck #9

1. Error An object FORTRAN subprogram cannot be loaded from paper tape.

Correction The following changes are necessary to correct the problem:

Page 4 of the listing (FORTRAN II-D Loader, Block 3) should be changed

From	01780	CM	RMCHK+11, INRK+80	04674 14 04653 07480
------	-------	----	-------------------	----------------------

To	01780	CM	RMCHK+11, INRK+75	04674 14 04653 07475
----	-------	----	-------------------	----------------------

Page 8 of the same listing should be changed

From	03770	TF	COMSEC+98, INRK+79	06522 26 07398 07479
------	-------	----	--------------------	----------------------

To	03770	TR	COMSEC+94, INRK+75	06522 31 07394 07475
----	-------	----	--------------------	----------------------

Page 5 of the listing (FORTRAN II-D Loader, Block 5) should be changed

From	02100	CM	RMCHK+11, INRK+80	04950 14 04931 07480
------	-------	----	-------------------	----------------------

To	02100	CM	RMCHK+11, INRK+75	04950 14 04931 07475
----	-------	----	-------------------	----------------------

Page 6 of the same listing should be changed

From	02740	TF	COMSEC+98, INRK+79	05588 26 07398 07479
------	-------	----	--------------------	----------------------

To 02740 TR COMSEC+94, INRK+75 05588 31 07394 07475

2. Error FORTRAN load map not under the control of Sense Switch 1.

Correction The following changes are necessary to correct the problem:

Page 2 of the listing (FORTRAN II-D Loader, Block 2) should be changed

From 00710 B IOGT, COM, 7 03558 49 00566 05949

To 00710 B PATCH, COM, 7 03558 49 06752 05949

Page 5 of the same listing should be changed

From 02120 K , 951 05058 34 00000 00951

To 02120 B PRINT 05058 49 06784 00000

Page 8 of the same listing

Add 03581 PATCH BNC1 IOGT 06752 47 00566 00100

03582 K , 971 06764 34 00000 00971

03583 B7 IOGT 06776 49 00566

03584 PRINT BNC1 RDPROG 06784 47 05082 00100

03585 K , 951 06796 34 00000 00951

03586 B7 RDPROG-12 06808 49 05070

Page 7 of the listing (FORTRAN II-D Loader, Block 3) should be changed

From 03550 WA LDED+2, 900 06322 39 07523 00900

To 03550 BC1 PRINT 06322 46 07182 00100

Page 10 of the same listing

Add 04641 PRINT WA LDED+2, 900 07182 39 07523 00900

04642 B7 RDPROG-72 07194 49 06334

Page 2 of the listing (FORTRAN II-D Loader, Block 4) should be changed

From 00970 WA LDED1, 900 04124 39 05805 00900

To 00970 BTM PRINT, LDED1 04124 17 05962 05805

Page 4 of the same listing should be changed

From 02090 WA LDED+2, 900 05348 39 07523 00900

To 02090 BTM PRINT, LDED+2 05348 17 05962 07523

Page 7 of the same listing

Add 02811 DS 5 05961 5
 02812 PRINT BNC1 *+24 05962 47 05986 00100
 02813 WA PRINT-1, 900, 6 05974 39 05961 00900
 02814 BB2 05986 42

Page 5 of the listing (FORTRAN II-D Loader, Block 5) should be changed

From 02590 WA LDED+2, 900 05460 39 07523 00900

To 02590 BC1 PRINT 05460 46 07122 00100

Page 10 of the same listing

Add 04571 PRINT WA LDED+2, 900 07122 39 07523 00900
 04572 B7 RDPROG 07134 49 05472

Page 2 of the listing (FORTRAN II-D Loader, Block 6) should be changed

From 00690 B IOGT, SVE, 7 02670 49 00566 03910

To 00690 B PATCH, SVE, 7 02570 49 03962 03910

Page 3 of the same listing should be changed

From 01270 K , 971 03146 34 00000 00971

To 01270 NOP 03146 41 00000 00000

Page 5 of the same listing

Add 02111 PATCH BNC1 IOGT 03962 47 00566 00100
 02112 K , 971 03974 34 00000 00971
 02113 B7 IOGT 03986 49 00566

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Nineteen (19) replacement cards are provided. These cards are numbered:

63116	63179	63218	64008
63138	63181	63239	64009
63139	63190	63241	64025
63157	63210	63249	64033
63178	63217	63260	

Please remove the correspondingly numbered cards from Deck #9 and insert the cards provided.

After Decks #3, #5, #7, and #9 have been corrected, only these decks should be loaded to the Monitor I-1443 disk pack using Deck #1 (System Loader). It should be noted that Deck #7 reinitializes the system communication sector. Any user changes to this area must be made again after loading these decks.

PROGRAM INFORMATION DEPARTMENT



International Business Machines Corporation

40 Saw Mill River Road
Hawthorne, New York 10532
914 / 592-5790

October, 1966

MEMORANDUM TO: Users of IBM 1620-Data Processing Systems

SUBJECT: IBM 1620-1443 Monitor 1, Version 2
Program No. 1620-PR-033 (Card)
Modification No. 3

This letter transmits Modification No. 3 of the subject program. The conditions corrected and the changes incorporated in this modification level are:

Correction

Correction or Change Made

Deck #3

1. The terminal \neq in the Sequential Program List is not detected properly when attempting to load a program when the monitor pack has insufficient room.
2. The flagged zeros after the \neq in the S. P. List sometimes interfere with finding the \neq .

Deck #6

1. When an assembled program that includes subroutines is loaded and the total program exceeds memory, a MAR check stop occurs.
2. When a program being assembled contains an *SYSTEM SYMBOL TABLE, a check stop may occur when listing this record.
3. If a symbolic operand in a statement contains a flagged-zero ($\bar{0}$), the program will loop in Phase B.

Deck #7

1. FORTRAN subroutines assume the arithmetic overflow to be unchanged after return from an IORT call.

Deck #8

1. When the last instruction generated falls at the very end of memory, a check stop occurs when trying to load the program.

2. Left parenthesis following a statement number in a FORTRAN statement causes the compiler to loop on that statement.

3. Must be able to classify a FORTRAN statement before reading the first continuation card.

4. The correction in Modification No. 1 concerning COMMON extended by array equivalence calculates an incorrect value for NEXT COMMON in some cases on non-COMMON array equivalence.

Deck #9

1. An incorrect check is made for 7 character local names.

2. If a local subprogram is called from a local subprogram and there are no in-core subprograms used, the error is indicated improperly.

3. If local subprograms are to be loaded from both card or paper tape and the disk, they will not be loader properly.

4. If FORTRAN links have different F and/or K, the error is indicated improperly.

IBM 1620-1443 Monitor 1, Version 2
Program No. 1620-PR-033 (Card)
Modification No. 3
Page 3

Deck #10 1. Subroutine overlays do not work properly
 if the function required are in the following
 order: FIX, FLOAT, I/O.

Deck #12 1. Subroutine overlays do not work properly
 if the function required are in the following
 order: FIX, FLOAT, I/O.

A list of materials distributed with this letter follows:

<u>Item No.</u>	<u>Description</u>
1	47 Change Cards
2	Attachment 1 - Listing of Change Cards
3	Attachment 2 - Listing of Symbolic Changes

Initial requests for this system which are filled after the date of this letter will not include the cards mentioned above, as these cards will be included in the object deck.

Any discrepancies between the material you receive and the items listed should be reported to the Manager of DP Program Information Department, IBM Corporation, 40 Sawmill River Road, Hawthorne, New York 10532.

This program has been registered by type of system and is listed under the name and address shown on your order. Program modifications as and when made by IBM will be sent to this same address. Should there be a change in your type of system or in your address, or should you no longer require maintenance of this particular program, we would appreciate your notifying DPD Program Information Department through your IBM Branch Office.

PROGRAM INFORMATION DEPARTMENT

Distribution: SE Managers, FE Managers

LISTING OF SYMBOLIC CHANGES (DECK 3)

01690	TFM	WRTSPO+23,PKODDA	03200	16	03331	-2637	CHANGE
01700	BE	WRTSPO	03212	46	03308	01200	CHANGE
01710	CM	PACK,01,1011	03224	14	02773	000-J	CHANGE
01720	TFM	WRTSPO+23,PK1DDA	03236	16	03331	-2660	CHANGE
01730	BE	WRTSPO	03248	46	03308	01200	CHANGE
01740	CM	PACK,02,1011	03260	14	02773	000-K	CHANGE
01750	TFM	WRTSPO+23,PK2DDA	03272	16	03331	-2683	CHANGE
01760	BE	WRTSPO	03284	46	03308	01200	CHANGE
01770	TFM	WRTSPO+23,PK3DDA	03296	16	03331	-2706	CHANGE
01780	WRTSPO	TFM IORT,*+23	03308	16	00565	-3331	CHANGE
01790	B	IOPT,*	03320	49	00532	-2637	CHANGE
01800	B7	WHYNOT	03332	49	03388	0	CHANGE
01810	PATXX	AM CONST2,1,10	03340	11	02808	000-1	CHANGE
01820	TR	CONST2,TIPSY+11,611	03352	31	0280Q	0348J	CHANGE
01830	TF	CALC2,SPLCOR	03364	26	02760	03151	CHANGE
01840	B7	NERR+24	03376	49	03604		CHANGE
02180	B	PATXX	03592	49	03340		CHANGE
03380	TFM	REDSP0+23,PKODDA	04726	16	04905	-2637	CHANGE
03390	TD	SPLPK0+1,CLEVER	04738	25	02646	04321	CHANGE
03400	BE	REDSP0	04750	46	04882	01200	CHANGE
03410	CM	94,1,1011	04762	14	00094	000-J	CHANGE
03420	TFM	REDSP0+23,PK1DDA	04774	16	04905	-2660	CHANGE
03430	TD	SPLPK1+1,CLEVER	04786	25	02669	04321	CHANGE
03440	BE	REDSP0	04798	46	04882	01200	CHANGE
03450	CM	94,2,1011	04810	14	00094	000-K	CHANGE
03460	TFM	REDSP0+23,PK2DDA	04822	16	04905	-2683	CHANGE
03470	TD	SPLPK2+1,CLEVER	04834	25	02692	04321	CHANGE
03480	BE	REDSP0	04846	46	04882	01200	CHANGE
03490	TFM	REDSP0+23,PK3DDA	04858	16	04905	-2706	CHANGE
03500	TD	SPLPK3+1,CLEVER	04870	25	02715	04321	CHANGE
03510	REDSP0	TFM IORT,*+23	04882	16	00565	-4905	CHANGE
03520	B	IOGT,*-*	04894	49	00566	00000	CHANGE
03530	B7	SPLINI	04906	49	04470	0	CHANGE
03540	REM	TF CLFLG,SPLCOR	04914	26	04949	03151	CHANGE
03550	AM	CLFLG,05,10	04926	11	04949	000-5	CHANGE
03560	CF	CLFLG,,6	04938	33	0494R	00000	CHANGE
03570	CLFLG	DC 5,0,*	04949		-0000		CHANGE
03580	AM	CLFLG,01,10	04950	11	04949	000-1	CHANGE
03590	CF	CLFLG,,6	04962	33	0494R	00000	CHANGE
03600	B7	SPLINI	04974	49	04470	0	CHANGE
25850	TFM	CLIPPP+42,REM	14392	16	02926	-4914	CHANGE

LISTING OF SYMBOLIC CHANGES (DECK 6)

05940	BL	PATCH	06818	47	15500	01300	CHANGE	
10270	BNE	C2OP	10978	47	13544	01200	CHANGE	
11410	BE	PTCH	12298	46	15660	01200	CHANGE	
12530	C2OP	BNFPBEE,SSTSW	13544	44	13676	13719	CHANGE	
12640	BEE	B	CALLA2	13676	49	13924	00000	CHANGE
14140	PTCH	TDM	SSTSW,1,11	15660	15	13719	0000J	CHANGE
14141	B7	PHASE	15672	49	15616		CHANGE	
14515	PATCH	CM	INPUT+20,50,10	15500	14	02813	000N0	ADD
14516	BE	DOLLAR-20	15512	46	07046	01200	ADD	
14517	B7	SPEC	15524	49	06942		ADD	
25810	TD	OVER+62,OBJCRE-4	10804	25	12055	02492	CHANGE	
25820	TD	OVER+64,OBJCRE-3	10816	25	12057	02493	CHANGE	
25830	TD	OVER+66,OBJCRE-2	10828	25	12059	02494	CHANGE	
25840	TD	OVER+68,OBJCRE-1	10840	25	12061	02495	CHANGE	
25850	TD	OVER+70,OBJCRE	10852	25	12063	02496	CHANGE	
25860	TFM	IORT,#+23	10864	16	00565	J0887	CHANGE	
25870	B	IOPT,DEF5-4,7	10876	49	00532	J1727	CHANGE	

LISTING OF SYMBOLIC CHANGES (DECK 7)

03100	BNF	TEST,TEST+18,11	00680	44	00632	0065J	CHANGE
03690	DC	1,0	01146		1		CHANGE
03691	DC	2,0'	01148		2		ADD
03830	DC	1,0	01220		1		CHANGE
03831	DC	2,0'	01222		2		ADD

LISTING OF SYMBOLIC CHANGES (DECK 8)

01100	TF	SUBSW+1,ZER13+2	02662	26	10013	09997	CHANGE
02450	E87420	BNR COMSET,MODAD,11	04172	45	12360	0354R	CHANGE
02451	COMSW	DS ,*-1	04191		0		ADD
02480	BNF	NONCOM,MODAD,11	04192	44	12380	0354R	CHANGE
02600	BNF	DOCCTU,SUBSW+1	04110	44	10122	10013	CHANGE
02700	BNF	EQONNC,SUBSW+1	04216	44	10066	10013	CHANGE
04020	BD	EXTCOM,COMSW	05704	43	12292	04191	CHANGE
04260	B	CSTNO3	05552	49	10046	00000	CHANGE
04430	B	CSTNO2	05692	49	10014	00000	CHANGE
09541	CSTNO2	CM CHI,24,10	10014	14	15139	000K4	ADD
09542	BNE	SMTLU	10026	47	06954	01200	ADD
09543	B7	CSPVA-12	10038	49	03622		ADD
09544	CSTNO3	TFM CHI,37,10	10046	16	15139	000L7	ADD
09545	B7	CSTNO1+68	10058	49	05584		ADD
09546	EQONCC	SF SUBSW+1	10066	32	10013	00000	ADD
09547	SF	CHI+1	10078	32	15140	00000	ADD
09548	SF	CHI+3	10090	32	15142	00000	ADD
09549	BTM	CKCNTU,0,10	10102	17	04842	000-0	ADD
0954A	B7	DECODE	10114	49	03794		ADD
0954B	DOCCTU	BTM CKCNTU,0,10	10122	17	04842	000-0	ADD
0954C	B7	ASCAN	10134	49	10440		ADD
10927	COMSET	TDM COMSW,1	12360	15	04191	00001	ADD
10928	B7	E87420+20	12372	49	04192		ADD
10929	NONCOM	TDM COMSW,0	12380	15	04191	00000	ADD
1092A	B7	E89820	12392	49	06080		ADD
27100	B	EOPAT	10398	49	13656	00000	CHANGE
30091	EOPAT	SM NEXT,5,10	13656	12	08404	000-5	ADD
30092	SM	LNGAD,5,610	13668	12	0839R	000-5	ADD
30093	B7	EOJP	13680	49	11976		ADD

LISTING OF SYMBOLIC CHANGES (DECK 9)

00710	B	PATCH1,COM,7	03558	49	06816	-5949	CHANGE
00960	B	PATCH1	03808	49	07142	00000	CHANGE
01060	NOP	LNKPTR,30,10	03888	41	06784	000L0	CHANGE
01660	B	END1	08848	49	13040	00000	CHANGE
03170	COMPRES	BNR COMPAR	06020	45	06040	00000	CHANGE
03200	COMPRES	BNR SERCH	06040	45	06084	00000	CHANGE
03300	B	COMPRES	06144	49	06020	00000	CHANGE
03587	PATCH1	TR EPRINT,ERRT	06816	31	07620	05390	ADD
03588	TDM	EPRINT+101	06828	15	07721	00000	ADD
03589	DC	1,!,*	06839		1		ADD
0358A	B7	PATCH	06840	49	06752		ADD
03920	END1	BNF RCMKCK+12,NUMBUF-15	13040	44	08652	02426	CHANGE
03930	B7	RCMKCK	13052	49	08640	0	CHANGE
04573	PATCH1	AM LNKPTR,30,10	07142	11	06784	000L0	ADD
04574	B7	ENDTST	07154	49	03628		ADD

LISTING OF SYMBOLIC CHANGES (DECK 10)

12570	DC	2,2,*-3	04050		2		CHANGE
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LISTING OF SYMBOLIC CHANGES (DECK 12)

12840	DC	2,2,*-3	04050		2		CHANGE
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PACK 1

CONTROL STATEMENT INVALID, RE ENTER

EQU TAB LOADED FROM 105000 TO 105079
DIM FOR LOADED FROM 104800 TO 104999
SEQ PL LOADED FROM 019801 TO 019880
DUP A LOADED FROM 118139 TO 118599
DUP B LOADED FROM 119300 TO 119399
DUP C LOADED FROM 117084 TO 117127
SUBSUP LOADED FROM 017001 TO 017074
ALLSUB LOADED FROM 016400 TO 016799
SPSTID LOADED FROM 018600 TO 019291
SUPERI LOADED FROM 119600 TO 119799
PH 1-A LOADED FROM 017200 TO 017357
PH 1+2 LOADED FROM 017400 TO 018138
LOAD 1 LOADED FROM 016000 TO 016199
LOAD 2 LOADED FROM 016949 TO 016973
SET 1 LOADED FROM 019400 TO 019599
SET 2 LOADED FROM 016800 TO 016947
DIM FS LOADED FROM 004802 TO 004807
FLN FS LOADED FROM 016200 TO 016214
FEX PFS LOADED FROM 016215 TO 016233
SUB FS LOADED FROM 016234 TO 016243
DKIOFS LOADED FROM 016244 TO 016281
S+C FS LOADED FROM 016282 TO 016297
FATNFS LOADED FROM 016298 TO 016318
SQRTFS LOADED FROM 016319 TO 016329
ABS FS LOADED FROM 016330 TO 016334

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##JOB SYSTEM TABLE EDITOR

##XEQ 02402038045
EXECUTION

S.P. LIST IS CORRECT

END OF JOB

##JOB 1620-1443 MONITOR I SPS SAMPLE PROGRAM

##SPSX

END OF ASSEMBLY.

EXECUTION

END OF JOB

##JOB 1620-1443 MONITOR I FORTRAN SAMPLE PROGRAM

##FORX51

EXECUTION

TRP ERR
END OF JOB