

LAST CHG 12SEPT75

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2 *
3 DECK 4
4 SEQ 0
5 TREP
6 C15 START 0
7 *****
8 *
9 * SECTION PREFACE
10 *
11 *****
12 *
13 ORG X'0A00'
14 *
15 PID DC XL2'C151' SECTION ID AND REVISION LEVEL
16 DC XL1'00' SECTION FLAGS
17 RTN DC XL1'01' CURRENT ROUTINE NUMBER
18 DC XL2'0000' RESERVED
19 PFC DC AL2(RTN01) ADDRESS OF ROUTINE PREFACE
20 DC XL2'FFFF' RESERVED
21 *
22 UDT0 DC XL3'C14000' 3340 UDT ENTRY
23 UDT1 DC XL3'101000' 5471 UDT FOR AMOP LINK
24 DS XL9 RESERVED
25 *
26 COM DC XL1'00' 3340 PROGRAM COMMUNICATION AREA
27 DS XL1 RESERVED
28 *
29 LDRID DS XL2 MICROCODE LOADER (C17) IN STORAGE
30 AMOPID DS AL2 AMOP (C19) IN STORAGE
31 FADID DS XL2 ATTACHMENT MICROCODE (FA0) IN STOR
32 *
33 SVPFC DS XL25 SECTION PREFACE STORAGE AREA
34 *
35 *
36 RTN01 DC XL1'01' ROUTINE 01 NOT USED
37 DC XL1'00' NEXT ROUTINE ADDRESS
38 DC AL2(RTN02)
39 B LINK

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0A00
0A00 C151
0A02 00
0A03 01
0A04 0000
0A06 0A3A
0A08 FFFF
0A0A C14000
0A0D 101000
0A10
0A19 00
0A1A
0A1B
0A1C
0A1D
0A1F
0A21
0A3A 01
0A3B 00
0A3C 0A42
0A3E C0 87 0216

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41 *****
42 * EXTERNAL ADDRESS CHECKER TEST
43 *EXT ADDRESS ERRORS ARE FORCED BY ADDRESSING AN EXT REG WHILE A BAD
44 *ZONE IS IN ZLS LOC X'12'. ALL ADDRESS BITS ARE TESTED.
45 *THE IOP HALT BIT AND EXT ADDRESS CHECK BIT ARE TESTED. A GOOD ZONE
46 *IS THEN PUT IN ZLS. AND EXT ADDRESSING TESTED AGAIN.
47 *****
48 *
49 RTN02 DC XL1'02' ROUTINE 02
50 DC XL1'00'
51 DC AL2(RTN03) NEXT ROUTINE ADDRESS
52 *
53 B BEGIN ROUTINE INITIALIZATION
54 LA EXTADR,XR1 LOAD ADDRESS OF TEST TABLE
55 EXTAD0 MVC VARBL2,2(3,XR1) MOVE THE NEXT INSTR TO INSTR STRING
56 LA 3(,XR1),XR1 BUMP THE POINTER TO NEXT INSTR
57 B LCS1 LOAD THE FOLLOWING MICRO PROG.
58 DC XL2'0000' AT ADDRESS '0000' IN C.S.
59 DC XL3'038801' SZI ZLS ADDR 08= TO 01 (BAD ZONE)
60 VAREL2 DC XL3'18BF00' VARIABLE INSTRUCTION WHICH ADDRESSES
61 * AN EXT REG.
62 DC XL3'080000' NO-OP INSTR
63 DC XL3'100003' BRNCH AND HANG
64 DC XL1'FF' TERMINATE INSTRUCTION STRING
65 *
66 B BGNSTST TEST LOOP BACK POINT IS HERE
67 *
68 B LALSD
69 DC AL1(MIAR0) SET UP ALS TO EXEC PROGRAM AT '0000'
70 DC XL1'00'
71 *
72 * START IOP EXECUTION HERE
73 *
74 B IOPGO
75 *
76 B SCS3 GET IOP ERRORS
77 TBF IOPIN,X'10' CHECK THAT EXT ADDRESS CK IS ON
78 JT EXTAD1 JUMP IF ERROR IS ON AS EXPECTED
79 * IF ERROR OCCURS.
80 MVC EXTAR,VARBL2-1(1) MOVE THE CURRENT EXT ADDRESS TO
81 B LEXTAR LEXTAR FOR PROBING
82 *
83 SBF EXTAR,X'E0' DROP EXTRA ADDRESS BITS
84 B ERRPRT ERROR CODE 5020
85 DC XL1'01' V1 = FAILING ADDRESS
86 DC AL2(EXTAR)
87 *
88 EXTAD1 B SDS2 IOP SENSE 2
89 TBN IOPIN,X'02' TEST FOR IOP HALT BIT
90 JT EXTAD2 JUMP IF ON AS EXPCTD
91 *
92 B ERRPRT ERROR CODE 5021
93 DC XL1'10'
94 *
95 EXTAD2 B NORMN LOOP THE TEST FROM HERE
96 CLI 0(,XR1),X'FF' END OF THE TABLE REACHED?
97 JE EXTAD3 JUMP IF END OF TABLE
98 *
99 B EXTAD0 GO BACK AND USE NEXT INSTR IN TABLE
100 *
101 * THIS PART TESTS THAT THE EXT ADDRESS CHECK IS OFF WHEN NO ERROR
102 *
103 EXTAD3 LA EXTADR,XR1 POINT TO THE TABLE AGAIN
104 EXTAD6 MVC VARBL3,2(3,XR1) MOVE NEW INSTRUCTION FROM THE TABLE
105 LA 3(,XR1),XR1 AND BUMP POINTER TO NEXT INSTR.
106 B LCS1 LOAD THE FOLLOWING STRING OF
107 DC XL2'0000' INSTRUCTIONS AT '0000' IN C.S.
108 DC XL3'138800' SZI SET ZLS ADDR 08 = 00 (GOOD ZONE)

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0A42 02 0A42
0A43 00 0A43
0A44 0B2A 0A45

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0A46 C0 87 2885
0A4A C2 01 0B10
0A4E 1C 02 0A61 02
0A53 D2 01 03
0A56 C0 87 2EE3
0A5A 0000
0A5C 038801
0A5E 18BF00

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0A62 080000 0A64
0A65 100003 0A67
0A68 FF 0A68

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0A69 C0 87 2999

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0A6D C0 87 2DDF
0A71 00 0A71
0A72 00 0A72

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0A73 C0 87 310D

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0A77 C0 87 311B
0A78 39 10 33DE
0A7F F2 10 15

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0A82 0C 00 33E5 0A60
0A88 C0 87 30CB

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0A8C 3B E0 33E5
0A90 C0 87 2A07
0A94 01 0A94
0A95 33E5 0A96

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0A97 C0 87 310D
0A9B 38 02 33DE
0A9F F2 10 05

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0AA2 C0 87 2A07
0AA6 10 0AA6

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0AA7 C0 87 29BB
0AAB 7D FF 00
0AAE F2 81 04

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0AB1 C0 87 0A4E

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0AB5 C2 01 0B10
0AB9 1C 02 0ACC 02
0ABE D2 01 03
0AC1 C0 87 2EE3
0AC5 0000 0AC6
0AC7 138800 0AC9

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C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
0ACA	18BF00	0ACC	109	VARBL3 DC XL3'18BF00'	VARIABLE INSTR ADDRESSING EXT REGS
0ACD	080000	0ACF	110	DC XL3'080000'	NO-OP
0ADD	000003	0AD2	111	DC XL3'000003'	BRANCH AND HANG
0AD3	FF	0AD3	112	DC XL1'FF'	TERMINATOR
0AD4	C0 87 2999		113 *		
			114	B BGNST	TEST LOOP POINT IS HERE
			115 *		
0AD8	C0 87 2DDF		116	B LALSD	SET UP ALS TO EXEC AT *0000'
0ADC	00	0ADC	117	DC AL1(MIARD)	
0ADD	00	0ADD	118	DC XL1'00'	
			119 *		
0ADE	C0 87 31DD		120	B IOPG0	START IOP EXECUTION
			121 *		
0AE2	C0 87 311B		122	B SDS3	GET IOP ERRORS
0AE6	38 10 33DE		123	TBN IOPIN,X'10'	TEST THAT EXT ADDR ERROR IS OFF
0AEA	F2 10 15		124	JT EXTAD4	JUMP IF OFF AS EXPECTED
			125 *		
0AED	C0 00 33E5 0ACB		126	MVC EXTAR,VARBL3-1(1)	ON AN ERROR, MOVE LAST USED EXT
0AF3	C0 87 30CB		127	B LEXTAR	ADDRESS TO EXTAR FOR PROBING
			128 *		
0AF7	38 E0 33E5		129	SBF EXTAR,X'E0'	DROP EXTRA ADDRESS BITS
0AFB	C0 87 2A07		130	B ERRPRT	ERROR CODE 5022
0AFF	21	0AFF	131	DC XL1'21'	V1 = FAILING ADDRESS
0B00	33E5	0B01	132	DC AL2(EXTAR)	
			133 *		
0B02	C0 87 29BB		134	B NORMN	LOOP TEST FROM HERE
			135 *		
0B06	7D FF 00		136	CLI 0(XR1),X'FF'	CHECK IF END OF TABLE
0B09	F2 81 1A		137	JE EXTAD5	JUMP IF END
			138 *		
030C	C0 87 0AB9		139	B EXTAD6	GO BACK TO EXECUTE IT
			140 *		
0B10	18BF00	0B10	141	EXTADR EQU *	TABLE OF EXTERNAL ADDRESSES
0B13	08A000	0B12	142	DC XL3'18BF00'	LBI TO EXT ADDRESS '1F'
0B16	18A100	0B15	143	DC XL3'08A000'	LBI TO EXT ADDRESS '00'
0B19	18A200	0B18	144	DC XL3'18A100'	LBI TO EXT ADDRESS '01'
0B1C	18A400	0B1B	145	DC XL3'18A200'	LBI TO EXT ADDRESS '02'
0B1F	18A600	0B1E	146	DC XL3'18A400'	LBI TO EXT ADDRESS '04'
0B22	18B000	0B21	147	DC XL3'18A800'	LBI TO EXT ADDRESS '08'
		0B24	148	DC XL3'18B000'	LBI TO EXT ADDRESS '10'
			149 *	DC XL3'10E200'	TAND1 EXT ADDRESS '02'
			150 *	ADD ABOVE WHEN EXT ADDRESS CHECKER IS FIXED BY ENGINEERING	
0B25	FF	0B25	152	DC XL1'FF'	TERMINATOR
0B26	C0 87 0216		153	B LINK	END OF ROUTINE
			154 *		

C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
			156	*****	
			157 *		
			158 *	TEST SCN REG AND IOP BUS IN	
			159 *		
			160	*****	
			161 *		
0B2A	03	0B2A	162	RTA03 DC XL1'03'	ROUTINE 03
0B2B	00	0B2B	163	DC XL1'00'	
0B2C	0BF2	0B2D	164	DC AL2(RTN04)	NEXT ROUTINE ADDRESS
			165 *		
0B2E	C0 87 2885		166	B BEGIN	ROUTINE INITIALIZATION
			167 *		
0B32	C0 87 2999		168	B BGNST	START TEST
0B36	3C 00 33FD		169	MVI SCN+EXT,X'00'	TEST PATTERN
0B3A	C0 87 28CA		170	B LSCN	LOAD SCN
0B3E	3C FF 3401		171	MVI DXC+EXT,X'FF'	CHANGE D REG VALUE
0B42	C0 87 28FA		172	B LDXC	TO DETECT WRITE PULSE PROBLEMS
			173 *		
0B46	C0 87 3078		174	B SSCN	SENSE SCN
0B4A	3D 00 33DE		175	CLI IOPIN,X'00'	CHECK FOR '00'
0B4E	C0 81 298B		176	BE NORMN	BR IF OK
			177 *		
0B52	C0 87 2A07		178	B ERRPRT	PRINT ERROR AND HALT
0B56	02	0B56	179	DC XL1'02'	
0B57	33FD	0B58	180	DC AL2(SCN+EXT)	
0B59	33DE	0B5A	181	DC AL2(IOPIN)	
			182 *		
			183 *	CHECK SCN WITH X'FF'	
			184 *		
0B5B	C0 87 2999		185	B BGNST	SET LOOP ADDR
0B5F	3C FF 33FD		186	MVI SCN+EXT,X'FF'	LOAD SCN WITH 'FF'
0B63	C0 87 28CA		187	B LSCN	GO DO IT
0B67	3C 00 3401		188	MVI DXC+EXT,X'00'	CHANGE D REG VALUE
0B6B	C0 87 28FA		189	B LDXC	TO DETECT WRITE PULSE ERRORS
			190 *		
0B6F	C0 87 307E		191	B SSCN	READ SCN
0B73	3D FF 33DE		192	CLI IOPIN,X'FF'	CHECK RESULTS
0B77	F2 81 09		193	JE SCN03	BR TO NEXT TEST IF OK
			194 *		
0B7A	C0 87 2A07		195	B ERRPRT	PRINT ERROR AND HALT
0B7E	12	0B7E	196	DC XL1'12'	
0B7F	33FD	0B80	197	DC AL2(SCN+EXT)	
0B81	33DE	0B82	198	DC AL2(IOPIN)	
			199 *		
			200 *	TEST FOR D-REG ERROR WITH PARITY BIT ON	
			201 *		
0B83	C0 87 311B		202	SCN03 B SDS3	GET 'IOP CHECKS'
			203 *		
0B87	38 04 33DE		204	TBN IOPIN,X'04'	D-REG ERROR ?
0B8B	C0 10 298B		205	BT NORMN	BR IF NO
			206 *		
0B8F	C0 87 2A07		207	B ERRPRT	
0B93	20	0B93	208	DC XL1'20'	ERROR 5032
			209 *		
			210 *	CHECK SCN WITH '10' (PARITY BIT OFF)	
			211 *		
0B94	C0 87 2999		212	B BGNST	START TEST
0B98	3C 10 33FD		213	MVI SCN+EXT,X'10'	TEST DATA
0B9C	C0 87 28CA		214	B LSCN	LOAD SCN
0BA0	C0 87 3078		215	B SSCN	READ SCN BACK
			216 *		
0BA4	3D 10 33DE		217	CLI IOPIN,X'10'	COMPARE RESULT
0BA8	F2 81 09		218	JE SCN07	BR IF OK
			219 *		
0BAB	C0 87 2A07		220	B ERRPRT	PRINT ERROR AND HALT
0BAF	22	0BAF	221	DC XL1'22'	
0BB0	33FD	0BB1	222	DC AL2(SCN+EXT)	
0BB2	33DE	0BB3	223	DC AL2(IOPIN)	

C151 3340 ATTACHMENT TESTS - MOD 12

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		224 *		TEST FOR D-REG ERROR WITH PARITY BIT OFF
		225 *		
		226 *		
OB84	C0 87 311B	227	SCN07 B	SOS3
		228 *		
OB88	38 04 33DE	229	TBN	IOPIN,X*04* D-REG ERROR
OB8C	C0 10 298B	230	BT	NORMN BR IF ND
		231 *		
OB80	C0 87 2A07	232	B	ERRPRT
OB84	30	233	OC	XL1*30* ERROR 5033
		234 *		
		235 *		TEST SCN WITH X*55*
		236 *		
OB85	C0 87 2999	237	B	BGNTST START TEST
OB89	3C 55 33FD	238	MVI	SCN+EXT,X*55* TEST DATA
OB8D	C0 87 28CA	239	B	LSCN LOAD SCN
OB81	C0 87 3078	240	B	SSCN READ SCN BACK
		241 *		
OB85	3D 55 33DE	242	CLI	IOPIN,X*55* COMPARE RESULT
OB89	C0 81 298B	243	BE	NORMN BR IF OK
		244 *		
OB8D	C0 87 2A07	245	B	ERRPRT PRINT ERROR AND HALT
OB81	22	246	DC	XL1*22* 5032
OB82	33FD	247	DC	AL2(SCN+EXT)
OB84	33DE	248	DC	AL2(IOPIN)
		249 *		
OB86	3C 00 33FD	250	MVI	SCN+EXT,X*00* SET SCN BACK TO *00*
OB8A	C0 87 28CA	251	B	LSCN NEXT RTNE
OB8E	C0 87 0216	252	B	LINK
		253 *		
		254		
OB82	04	255	DC	XL1*04* ROUTINE 04 NOT USED
OB83	00	256	DC	XL1*00* NEXT ROUTINE ADDRESS
OB84	0BFA	257	DC	AL2(RTN05)
OB86	C0 87 0216	258	B	LINK

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		260		*****
		261 *		
		262 *		TEST FTR REGISTER
		263 *		
		264		*****
		265 *		
OBFA	05	266	RTN05 DC	XL1*05* ROUTINE 05
OBFB	00	267	DC	XL1*00*
OBFC	0D19	268	DC	AL2(RTN06) NEXT ROUTINE ADDRESS
		269 *		
		270 *		TEST FTR WITH *00*
		271 *		
OBFE	C0 87 2885	272	B	BEGIN ROUTINE INITIALIZATION
		273 *		
OC02	C0 87 2999	274	B	BGNTST START TEST
OC06	3C 00 33FB	275	MVI	FTR+EXT,X*00* TEST DATA
OC0A	C0 87 28BA	276	B	LFTR LOAD FTR
OC0E	C0 87 2FF8	277	B	SFTR READ FTR
		278 *		
OC12	3D 00 33DE	279	CLI	IOPIN,X*00* CHECK RESULTS
OC16	C0 81 298B	280	BE	NORMN IF OK GO TO NEXT TEST
		281 *		
OC1A	C0 87 2A07	282	B	ERRPRT PRINT ERROR AND HALT
OC1E	02	283	DC	XL1*02* ERROR CODE 5050
OC1F	33FB	284	DC	AL2(FTR+EXT)
OC21	33DE	285	DC	AL2(IOPIN)
		286 *		
		287 *		TEST FTR REG WITH *FF*
		288 *		
OC23	C0 87 2999	289	B	BGNTST START TEST
OC27	3C FF 33FB	290	MVI	FTR+EXT,X*FF* TEST DATA
OC2B	C0 87 28BA	291	B	LFTR LOAD FTR
OC2F	C0 87 2FF8	292	B	SFTR READ FTR
		293 *		
OC33	3B 10 33FB	294	SBF	FTR+EXT,X*10* PREVENT
OC37	C0 87 28BA	295	B	LFTR PROC CHECK
OC3B	3A 10 33FB	296	SBN	FTR+EXT,X*10* ON ERROR PRINT
		297 *		
OC3F	3D FF 33DE	298	CLI	IOPIN,X*FF* CHECK RESULTS
OC43	C0 81 298B	299	BE	NORMN IF OK GO TO NEXT TEST
		300 *		
OC47	C0 87 2A07	301	B	ERRPRT PRINT ERROR AND HALT
OC4B	12	302	DC	XL1*12*
OC4C	33FB	303	DC	AL2(FTR+EXT)
OC4E	33DE	304	DC	AL2(IOPIN)
		305 *		
		306 *		TEST FTR REG WITH *AA*
		307 *		
OC50	C0 87 2999	308	B	BGNTST START TEST
OC54	3C AA 33FB	309	MVI	FTR+EXT,X*AA* TEST DATA
OC58	C0 87 28BA	310	B	LFTR LOAD FTR
OC5C	C0 87 2FF8	311	B	SFTR READ FTR
		312 *		
OC60	3D AA 33DE	313	CLI	IOPIN,X*AA* CHECK RESULTS
OC64	C0 81 298B	314	BE	NORMN IF OK GO TO NEXT TEST
		315 *		
OC68	C0 87 2A07	316	B	ERRPRT PRINT ERROR AND HALT
OC6C	22	317	DC	XL1*22*
OC6D	33FB	318	DC	AL2(FTR+EXT)
OC6F	33DE	319	DC	AL2(IOPIN)
		320 *		
		321 *		TEST FTR REG WITH *55*
		322 *		
OC71	C0 87 2999	323	B	BGNTST START TEST
OC75	3C 55 33FB	324	MVI	FTR+EXT,X*55* TEST DATA
OC79	C0 87 28BA	325	B	LFTR LOAD FTR
OC7D	C0 87 2FF8	326	B	SFTR READ FTR
		327 *		

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C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	PREVENT
OC81 3B 10 33FB	328	SBF	FTR+EXT.X*10*	PREVENT
OC85 C0 87 2BBA	329	B	LFTR	PROC CHECK
OC89 3A 10 33FB	330	SBN	FTR+EXT.X*10*	ON ERROR PRINT
OC8D 3D 55 33DE	331 *			
OC91 C0 81 298B	332	CLI	IOPIN.X*55*	CHECK RESULTS
	333	BE	NORMN	IF OK GO TO NEXT TEST
OC95 C0 87 2A07	334 *			
OC99 22	335	B	ERRPRT	PRINT ERROR AND HALT
OC9A 33FB	OC99 336	DC	XL1*22*	ERROR CODE 5052
OC9C 33DE	OC9B 337	DC	AL2(FTR+EXT)	
	OC9D 338	DC	AL2(IOPIN)	
	339 *			
	340 *			RESTORE FTR REG TO *00* AND TEST FOR GOOD PARITY
	341 *			
OC9E C0 87 2999	342	B	BGNTST	START TEST
OCA2 3C 00 33FB	343	MVI	FTR+EXT.X*00*	*00* TO FTR
OCA6 C0 87 2BBA	344	B	LFTR	LOAD AGAIN TO INSURE GOOD PARITY
OCA8 C0 87 2BBA	345	B	LFTR	
	346 *			
OCAE C0 87 2FF8	347	B	SFTR	READ FTR, EXPECT GOOD PARITY
	348 *			
OCB2 C0 87 311E	349	B	SDS3	SENSE IOP CHECKS
OCB6 3B 04 33DE	350	TBN	IOPIN.X*04*	EXPECT BIT 5 ON; NO D REG CHK
OCBA C0 10 298B	351	BT	NORMN	IF OK GO TO NEXT TEST
OCBE C0 87 2A07	352	B	ERRPRT	PRINT ERROR AND HALT
OC2 40	OC2 353	DC	XL1*40*	ERROR CODE 5054
	354 *			
OCC3 C0 87 2999	355	B	BGNTST	START TEST
OCC7 3C 02 33FB	356	MVI	FTR+EXT.X*02*	BIT 6 INVERTS PARITY
OCCB C0 87 2BBA	357	B	LFTR	LOAD FTR REG
OCCF C0 87 2BBA	358	B	LFTR	LOAD FTR AGAIN, SHD INVERT PARITY
	359 *			THIS TIME.
OCDD C0 87 2FF8	360	B	SFTR	READ FTR; SHOULD CAUSE D REG ERROR
OCDF C0 87 311B	361	B	SDS3	READ IOP CMKS
	362 *			
OCDB 3B 04 33DE	363	TBN	IOPIN.X*04*	TEST FOR D REG ERROR
OCDF C0 90 298B	364	BF	NORMN	IF OK GO TO NEXT TEST
	365 *			
OCE3 C0 87 2A07	366	B	ERRPRT	PRINT ERROR AND HALT
OCE7 50	OCET 367	DC	XL1*50*	ERROR CODE 5055
	368 *			
	369 *			PUT BAD PARITY IN SCN
	370 *			
OCE8 C0 87 2999	371	B	BGNTST	START TEST
OCEC 3C 00 33FD	372	MVI	SCN+EXT.X*00*	*00* TO SCN
OCF0 C0 87 2BBA	373	B	LSCN	LOAD SCN, FTR6 SHD FORCE BAD PARITY
OCF4 C0 87 3078	374	B	SSCN	GO GET BAD PARITY
	375 *			
OCF8 C0 87 311B	376	B	SDS3	GET IOP ERRORS
OCFC 3B 04 33DE	377	TBN	IOPIN.X*04*	TEST FOR D REG ERROR
OD00 C0 90 298B	378	BF	NORMN	IF ERROR IS PRESENT, GO TO
	379 *			NEXT TEST
OD04 C0 87 2A07	380	B	ERRPRT	PRINT ERROR AND HALT
OD08 60	OD08 381	DC	XL1*60*	ERROR CODE 5056
	382 *			
	383 *			PUT *00* IN FTR BEFORE EXITING
	384 *			
OD09 3C 00 33FB	385	MVI	FTR+EXT.X*00*	LOAD FTR WITH ZEROES
OD0D C0 87 2BBA	386	B	LFTR	AGAIN
OD11 C0 87 2BBA	387	B	LFTR	LOAD AGAIN TO INSURE GOOD PARITY
OD15 C0 87 0216	388	B	LINK	NEXT RTNE
	389 *			
	390			
OD19 06	OD19 391	RTN06	DC	XL1*06*
OD1A 00	OD1A 392	DC	XL1*00*	
OD1B 0D21	OD1C 393	DC	AL2(RTN07)	NEXT ROUTINE ADDRESS
OD1D C0 87 0216	394	B	LINK	

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	PREVENT
	396			
	397 *			
	398 *		TEST DXC REGISTER	
	399 *			
	400			
	401 *			
OD21 07	OD21 402	RTN07	DC	XL1*07*
OD22 00	OD22 403	DC	XL1*00*	ROUTINE 07
OD23 0DAD	OD24 404	DC	AL2(RTN08)	NEXT ROUTINE ADDRESS
	405 *			
OD25 C0 87 2885	406	B	BEGIN	ROUTINE INITIALIZATION
	407 *			
OD29 C0 87 2999	408	B	BGNTST	START TEST
OD2D 3C 00 3401	409	MVI	DXC+EXT.X*00*	*00* TO DXC
OD31 C0 87 2BFA	410	B	LDXC	LOAD DXC
OD35 C0 87 3088	411	B	SDXC	READ DXC BACK
	412 *			
OD39 3D 00 33DE	413	CLI	IOPIN.X*00*	COMPARE RESULTS
OD3D C0 81 298B	414	BE	NORMN	IF OK GO TO NEXT TEST
OD41 C0 87 2A07	415	B	ERRPRT	PRINT ERROR AND HALT
OD45 02	OD45 416	DC	XL1*02*	
OD46 3401	OD47 417	DC	AL2(DXC+EXT)	
OD48 33DE	OD49 418	DC	AL2(IOPIN)	
	419 *			
OD4A C0 87 2999	421	B	BGNTST	START TEST
OD4E 3C FF 3401	422	MVI	DXC+EXT.X*FF*	TEST DATA
OD52 C0 87 2BFA	423	B	LDXC	LOAD DXC
OD56 C0 87 3088	424	B	SDXC	READ DXC BACK
	425 *			
OD5A 3D FF 33DE	426	CLI	IOPIN.X*FF*	COMP RESULTS
OD5E C0 81 298B	427	BE	NORMN	GO TO NEXT TEST
OD62 C0 87 2A07	428	B	ERRPRT	PRINT ERROR AND HALT
OD66 02	OD66 429	DC	XL1*02*	
OD67 3401	OD68 430	DC	AL2(DXC+EXT)	
OD69 33DE	OD6A 431	DC	AL2(IOPIN)	
	432 *			
OD6B C0 87 2999	433	B	BGNTST	START TEST
OD6F C0 87 311B	434	B	SDS3	GET IOP ERRORS
	435 *			
OD73 3B 04 33DE	436	TBN	IOPIN.X*04*	D REG ERROR?
OD77 C0 10 298B	437	BT	NORMN	BR IF NO ERROR
OD7B C0 87 2A07	438	B	ERRPRT	PRINT ERROR AND HALT
OD7F 22	OD7F 439	DC	XL1*22*	
OD80 3401	OD81 440	DC	AL2(DXC+EXT)	
OD82 33DE	OD83 441	DC	AL2(IOPIN)	
	442 *			
OD84 C0 87 2999	443	B	BGNTST	START TEST
OD88 3C 01 3401	444	MVI	DXC+EXT.X*01*	TEST DATA
OD8C C0 87 2BFA	445	B	LDXC	LOAD DXC REG
OD90 C0 87 3088	446	B	SDXC	READ DXC BACK
OD94 C0 87 311B	447	B	SDS3	GET IOP ERRORS
	448 *			
OD98 3B 04 33DE	449	TBN	IOPIN.X*04*	D REG ERROR?
OD9C C0 10 298B	450	BT	NORMN	BR IF NO ERROR TO NEXT RTNE.
ODA0 C0 87 2A07	451	B	ERRPRT	PRINT ERROR AND HALT
ODA4 22	ODA4 452	DC	XL1*22*	
ODA5 3401	ODA6 453	DC	AL2(DXC+EXT)	
ODA7 33DE	ODA8 454	DC	AL2(IOPIN)	
	455 *			
ODA9 C0 87 0216	456	B	LINK	NEXT RTNE
	457 *			
	458			
	459			
ODAD 08	ODAD 459	RTN08	DC	XL1*08*
ODAE 00	ODAE 460	DC	XL1*00*	ROUTINE 08 NOT USED
ODAF 0DB5	OD80 461	DC	AL2(RTN09)	NEXT ROUTINE ADDRESS
OD81 C0 87 0216	462	B	LINK	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		464		*****
		465		*
		466		FTG REGISTER TEST
		467		*
		468		*****
		469		*
0DB5 09		0DB5 470	RTN09	DC XL1'09' RJUTINE 09
0DB6 00		0DB6 471		DC XL1'00' NEXT ROUTINE ADDRESS
0DB7 0E41		0DB8 472		DC AL2(RTN0A)
		473	*	
		474		B BEGIN ROUTINE INITIALIZATION
0DB9 C0 87 2885		475	*	
		476		B SGNSTST START TEST
0DBD C0 87 2999		477		MVI FTG+EXT,X'00' '00' TO FTG
0DC1 3C 00 33F3		478		B LFTG LOAD FTG
0DC5 C0 87 2BAA		479		B SFTG READ BACK FTG REG
0DC9 C0 87 2FE8		480	*	
		481		CLI IOPIN,X'00' COMPARE RESULTS
0DCD 3D 00 33DE		482		BE NORMN IF OK GO TO NEXT TEST
0DD1 C0 81 298B		483		B ERRPRT PRINT ERROR AND HALT
0DD5 C0 87 2A07		484		DC XL1'02' ERROR CODE 5090
0DD9 02	0DD9	485		DC AL2(FTG+EXT)
0DDA 33F3	0DDA	486		DC AL2(IOPIN)
0DDC 33DE	0DDC	487	*	
		488	*	
		489		B BGNSTST START TEST
0DDE C0 87 2999		490		MVI FTG+EXT,X'FF' TEST DATA
0DE2 3C FF 33F3		491		B LFTG LOAD FTG
0DE6 C0 87 2BAA		492		B SFTG READ FTG BACK
0DEA C0 87 2FE8		493	*	
		494		CLI IOPIN,X'FF' COMP RESULTS
0DEE 3D FF 33DE		495		BE NORMN GO TO NEXT TEST
0DF2 C0 81 298B		496		B ERRPRT PRINT ERROR AND HALT
0DF6 C0 87 2A07		497		DC XL1'02' ERROR CODE 5090
0DFA 02	0DFA	498		DC AL2(FTG+EXT)
0DFB 33F3	0DFB	499		DC AL2(IOPIN)
0DFD 33DE	0DFD	500	*	
		501		B BGNSTST START TEST
0DFF C0 87 2999		502		B SDS3 GET IOP ERRORS
0E03 C0 87 311B		503	*	
		504		TBN IOPIN,X'04' D REG ERROR?
0E07 38 04 33DE		505		BT NORMN BR IF NO ERROR
0E0B C0 10 298B		506		B ERRPRT PRINT ERROR AND HALT
0E0F C0 87 2A07		507		DC XL1'22' ERROR CODE 5092
0E13 22	0E13	508		DC AL2(FTG+EXT)
0E14 33F3	0E14	509		DC AL2(IOPIN)
0E16 33DE	0E16	510	*	
		511		B BGNSTST START TEST
0E18 C0 87 2999		512		MVI FTG+EXT,X'01' TEST DATA
0E1C 3C 01 33F3		513		B LFTG LOAD FTG REG
0E20 C0 87 2BAA		514		B SFTG READ FTG BACK
0E24 C0 87 2FE8		515		B SDS3 GET IOP ERRORS
0E28 C0 87 311B		516	*	
		517		TBN IOPIN,X'04' D REG ERROR?
0E2C 38 04 33DE		518		BT NORMN BR IF NO ERROR TO NEXT RTNE.
0E30 C0 10 298B		519		B ERRPRT PRINT ERROR AND HALT
0E34 C0 87 2A07		520		DC XL1'22'
0E38 22	0E38	521		DC AL2(FTG+EXT)
0E39 33F3	0E39	522		DC AL2(IOPIN)
0E3B 33DE	0E3B	523	*	
		524		B LINK NEXT RTNE
0E3D C0 87 0216		525	*	
		526		
		527		DC XL1'0A' ROUTINE 0A NOT USED
0E41 0A	0E41	528		DC XL1'00' NEXT ROUTINE ADDRESS
0E42 00	0E42	529		DC AL2(RTN0B)
0E43 0E49	0E43	530		B LINK
0E45 C0 87 0216	0E45			

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		532		*****
		533	*	
		534	*	FBO REGISTER TEST
		535	*	
		536		*****
		537	*	
0E49 0B	0E49	538	RTN0B	DC XL1'0B' ROUTINE 0B
0E4A 00	0E4A	539		DC XL1'00' NEXT ROUTINE ADDRESS
0E4B 0ED5	0E4C	540		DC AL2(RTN0C)
		541	*	
		542		B BEGIN ROUTINE INITIALIZATION
0E4D C0 87 2885		543	*	
		544		B BGNSTST START TEST
0E51 C0 87 2999		545		MVI FBO+EXT,X'00' '00' TO FBO
0E55 3C 00 33FC		546		B LFBO LOAD FBO
0E59 C0 87 2B8A		547		B SFBO READ BACK FBO REG
0E5D C0 87 2FCB		548	*	
		549		CLI IOPIN,X'00' COMPARE RESULTS
0E61 3D 00 33DE		550		BE NORMN IF OK GO TO NEXT TEST
0E65 C0 81 298B		551		B ERRPRT PRINT ERROR AND HALT
0E69 C0 87 2A07		552		DC XL1'02'
0E6D 02	0E6D	553		DC AL2(FBO+EXT)
0E6E 33FC	0E6E	554		DC AL2(IOPIN)
0E70 33DE	0E70	555	*	
		556	*	
		557		B BGNSTST START TEST
0E72 C0 87 2999		558		MVI FBO+EXT,X'FF' TEST DATA
0E76 3C FF 33FC		559		B LFBO LOAD FBO
0E7A C0 87 2B8A		560		B SFBO READ FBO BACK
0E7E C0 87 2FCB		561	*	
		562		CLI IOPIN,X'FF' COMP RESULTS
0E82 3D FF 33DE		563		BE NORMN GO TO NEXT TEST
0E86 C0 81 298B		564		B ERRPRT PRINT ERROR AND HALT
0E8A C0 87 2A07		565		DC X'1'02'
0E8E 02	0E8E	566		DC AL2(FBO+EXT)
0E8F 33FC	0E8F	567		DC AL2(IOPIN)
0E91 33DE	0E91	568	*	
		569		B BGNSTST START TEST
0E93 C0 87 2999		570		B SDS3 GET IOP ERRORS
0E97 C0 87 311B		571	*	
		572		TBN IOPIN,X'04' D REG ERROR?
0E9B 38 04 33DE		573		BT NORMN BR IF NO ERROR
0E9F C0 10 298B		574		B ERRPRT PRINT ERROR AND HALT
0EA3 C0 87 2A07		575		DC XL1'22' ERROR CODE 5082
0EA7 22	0EA7	576		DC AL2(FBO+EXT)
0EA8 33FC	0EA8	577		DC AL2(IOPIN)
0EAA 33DE	0EAA	578	*	
		579		B BGNSTST START TEST
0EAC C0 87 2999		580		MVI FBO+EXT,X'01' TEST DATA
0E80 3C 01 33FC		581		B LFBO LOAD FBO REG
0EB4 C0 87 2B8A		582		B SFBO READ FBO BACK
0EB8 C0 87 2FCB		583		B SDS3 GET IOP ERRORS
0EBC C0 87 311B		584	*	
		585		TBN IOPIN,X'04' D REG ERROR?
0EC0 38 04 33DE		586		BT NORMN BR IF NO ERROR TO NEXT RTNE.
0EC4 C0 10 298B		587		B ERRPRT PRINT ERROR AND HALT
0EC8 C0 87 2A07		588		DC XL1'22'
0ECC 22	0ECC	589		DC AL2(FBO+EXT)
0ECD 33FC	0ECD	590		DC AL2(IOPIN)
0ECF 33DE	0ECF	591	*	
		592		B LINK NEXT RTNE
0ED1 C0 87 0216		593	*	
		594		
		595		DC XL1'0C' ROUTINE 0C NOT USED
0ED5 0C	0ED5	596		DC XL1'00' NEXT ROUTINE ADDRESS
0ED6 00	0ED6	597		DC AL2(RTN0D)
0ED7 0E0D	0ED7	598		B LINK
0ED9 C0 87 0216	0ED9			

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
600	*****			*****
601	*			*
602	*			*
603	*			*
604	*****			*****
605	*			*
0EDD 0D	0EDD	606	RTNOD	DC XL1'0D'
0EDE 00	0EDE	607		DC XL1'00'
0EDF 0F69	0EE0	608		DC AL2(RTN0E)
		609	*	
0EE1 C0 87 2885		610	B	BEGIN
		611	*	
0EE5 C0 87 2999		612	B	BGNTST
0EE9 3C 00 33F4		613	MVI	FTO+EXT,X'00'
0EED C0 87 289A		614	B	LFTO
0EF1 C0 87 2FD8		615	B	SFTO
		616	*	
0EF5 3D 00 33DE		617	CLI	IOPIN,X'00'
0EF9 C0 81 298B		618	BE	NORMN
0EFD C0 87 2A07		619	B	ERRPRT
0F01 02	0F01	620	DC	XL1'02'
0F02 33F4	0F03	621	DC	AL2(FTO+EXT)
0F04 33DE	0F05	622	DC	AL2(IOPIN)
		623	*	
		624	*	
0F06 C0 87 2999		625	B	BGNTST
0F0A 3C FF 33F4		626	MVI	FTO+EXT,X'FF'
0F0E C0 87 289A		627	B	LFTO
0F12 C0 87 2FD8		628	B	SFTO
		629	*	
0F16 3D FF 33DE		630	CLI	IOPIN,X'FF'
0F1A C0 81 298B		631	BE	NORMN
0F1E C0 87 2A07		632	B	ERRPRT
0F22 02	0F22	633	DC	XL1'02'
0F23 33F4	0F24	634	DC	AL2(FTO+EXT)
0F25 33DE	0F26	635	DC	AL2(IOPIN)
		636	*	
0F27 C0 87 2999		637	B	BGNTST
0F28 C0 87 3118		638	B	SDS3
		639	*	
0F2F 38 04 33DE		640	TBN	IOPIN,X'04'
0F33 C0 10 298B		641	BT	NORMN
0F37 C0 87 2A07		642	B	ERRPRT
0F3B 22	0F3B	643	DC	XL1'22'
0F3C 33F4	0F3D	644	DC	AL2(FTO+EXT)
0F3E 33DE	0F3E	645	DC	AL2(IOPIN)
		646	*	
0F40 C0 87 2999		647	B	BGNTST
0F44 3C 01 33F4		648	MVI	FTO+EXT,X'01'
0F48 C0 87 289A		649	B	LFTO
0F4C C0 87 2FD8		650	B	SFTO
0F50 C0 87 3118		651	B	SDS3
		652	*	
0F54 38 04 33DE		653	TBN	IOPIN,X'04'
0F58 C0 10 298B		654	BT	NORMN
0F5C C0 87 2A07		655	B	ERRPRT
0F60 22	0F60	656	DC	XL1'22'
0F61 33F4	0F62	657	DC	AL2(FTO+EXT)
0F63 33DE	0F64	658	DC	AL2(IOPIN)
		659	*	
0F65 C0 87 0216		660	B	LINK
		661	*	
		662	*	
0F69 0E	0F69	663	RTN0E	DC XL1'0E'
0F6A 00	0F6A	664		DC XL1'00'
0F6B 0F71	0F6C	665		DC AL2(RTN0F)
0F6D C0 87 0216		666	B	LINK

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
668	*****			*****
669	*			*
670	*			*
671	*			*
672	*****			*****
673	*			*
0F71 0F	0F71	674	RTN0F	DC XL1'0F'
0F72 00	0F72	675		DC XL1'00'
0F73 104A	0F74	676		DC AL2(RTN10)
		677	*	
0F75 C0 87 2885		678	B	BEGIN
		679	*	
0F79 3C 00 340D		680	MVI	EXT+31,X'00'
0F7D 0C 1E 340C 340D		681	MVC	EXT+30(31),EXT+31
		682	*	
0F83 3C 05 33F3		683	MVI	FTG+EXT,X'05'
0F87 3C 06 33F4		684	MVI	FTO+EXT,X'06'
0F8B 3C 0D 33FB		685	MVI	FTR+EXT,X'0D'
0F8F 3C 0E 33FC		686	MVI	FBO+EXT,X'0E'
0F93 3C 0F 33FD		687	MVI	SCN+EXT,X'0F'
0F97 3C 13 3401		688	MVI	DXC+EXT,X'13'
		689	*	
0F9B C0 87 2999		690	B	BGNTST
		691	*	
0F9F C0 87 28AA		692	B	LFTG
0FA3 C0 87 289A		693	B	LFTO
0FA7 C0 87 28BA		694	B	LFTR
0FAB C0 87 288A		695	B	LFBO
0FAF C0 87 28CA		696	B	LSCN
0FB3 C0 87 28FA		697	B	LDXC
		698	*	
0FB7 3C 00 342D		699	TSTADR	MVI EXTIN+31,X'00'
0FBB 0C 1E 342C 342D		700	MVC	EXTIN+30(31),EXTIN+31
		701	*	
0FC1 C0 87 2FE8		702	B	SFTG
0FC5 C0 87 2FD8		703	B	SFTO
0FC9 C0 87 2FF8		704	B	SFTR
0FCD C0 87 2FC8		705	B	SFBO
0FD1 C0 87 3078		706	B	SSCN
0FD5 C0 87 3088		707	B	SDXC
		708	*	
0FD9 0D 1F 340D 342D		709	CLC	EXT+31(32),EXTIN+31
0FDF C0 01 100B		710	BNE	ADRERR
		711	*	
0FE3 38 04 33CE		712	TBN	IND,SWA
0FE7 C0 10 101C		713	BT	ADRDN
0FE8 3A 04 33CE		714	SBN	IND,SWA
		715	*	
0FEF C0 87 28FA		716	B	LDXC
0FF3 C0 87 28CA		717	B	LSCN
0FF7 C0 87 288A		718	B	LFBO
0FFB C0 87 28BA		719	B	LFTR
0FFD C0 87 289A		720	B	LFTO
1003 C0 87 28AA		721	B	LFTG
1007 C0 87 0FB7		722	B	TSTADR
		723	*	
1008 C0 87 2A07		724	ADRERR	B ERRPRT
100F 06	100F	725	DC	XL1'06'
1010 3413	1011	726	DC	AL2(EXTIN+FTG)
1012 3414	1013	727	DC	AL2(EXTIN+FTO)
1014 341B	1015	728	DC	AL2(EXTIN+FTR)
1016 341C	1017	729	DC	AL2(EXTIN+FBO)
1018 341D	1019	730	DC	AL2(EXTIN+SCN)
101A 3421	1018	731	DC	AL2(EXTIN+DXC)
		732	*	
101C 38 04 33CE		733	ADRDN	SBF IND,SWA
1020 C0 87 298B		734	B	NORMN
		735	*	

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	736 *		RESTORE THE REGS TO ZERO
	737 *		
1024 3C 00 340D	738	MVI	EXT+31,X*00*
1028 0C 1E 340C 340D	739	MVC	EXT+30(31),EXT+31
102E C0 87 2BFA	740	B	LDXC ZERDING
1032 C0 87 2BCA	741	B	LSCN
1036 C0 87 2BBA	742	B	LFBO OUT
103A C0 87 2BBA	743	B	LFTR THE
103E C0 87 2B9A	744	B	LFTG REGISTERS
1042 C0 87 2BAA	745	B	LFTG
1046 C0 87 0216	746	B	L INK NEXT RTNE

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	748 *		*****
	749 *		*
	750 *		'TEST' EXTERNAL REGISTER TEST BY SETTING EACH BIT OF FBO-REG *
	751 *		AND PERFORMING 'TBOF' OR 'TBOF' AS REQUIRED *
	752 *		*
	753 *		ERRORS: 5100 - TBOF FAILED *
	754 *		5101 - TBOF FAILED *
	755 *		*
	756 *		*****
	757 *		
104A 10	104A	758 RTN10	DC AL1*10* ROUTINE 10
104B 00	104B	759	DC XL1*00*
104C 1152	104D	760	DC AL2(RTN11) NEXT ROUTINE ADDRESS
	761 *		
104E C0 87 2885		762	B BEGIN
	763 *		
1052 C0 87 2EE3		764	B LCSI
1056 0000	1057	765	DC XL2*0000*
	766 *		TEST BIT 0 OFF
1058 08AE7F	105A	767	DC XL3*08AE7F* LBI FBO,X*7F* TURN OFF BIT 0
105B 186E03	105D	768	DC XL3*186E03* TBOF 0,FBO,03 BR IF BIT 0 OFF
105E 10001B	1060	769	DC XL3*10001B* B 001B ELSE GO TO ERROR LOC
	770 *		TEST BIT 1 OFF
1061 08AEBF096E061000	1069	771	DC XL9*08AEBF096E0610001B*
1069 1B		771	
	772 *		TEST BIT 2 OFF
106A 08AEDF0A6E091000	1072	773	DC XL9*08AEDF0A6E0910001B*
1072 1B		773	
	774 *		TEST BIT 3 (ALL BITS) OFF
1073 18AE001B6E0C1000	107B	775	DC XL9*18AE001B6E0C10001B*
107B 1B		775	
	776 *		TEST BIT 4 OFF
107C 08AEF70C6E0F1000	1084	777	DC XL9*08AEF70C6E0F10001B*
1084 1B		777	
	778 *		TEST BIT 5 OFF
1085 08AEFB1D6E121000	108D	779	DC XL9*08AEFB1D6E1210001B*
108D 1B		779	
	780 *		TEST BIT 6 OFF
108E 08AEFD0E6E151000	1096	781	DC XL9*08AEFD0E6E1510001B*
1096 1B		781	
	782 *		TEST BIT 7 OFF
1097 08AEFE0F6E181000	109F	783	DC XL9*08AEFE0F6E1810001B*
109F 1B		783	
	784 *		
10A0 18AEFF	10A2	785	DC XL3*18AEFF* LBI FBO,X*FF*
10A3 186E1B	10A5	786	DC XL3*186E1B* TBOF 0,FBO,1B SHOULD NOT BRANCH
10A6 00001A	10AB	787	DC XL3*00001A* B 001A OK HANG
10A9 10001B	10AB	788	DC XL3*10001B* B 001B ERROR HANG
10AC FF	10AC	789	DC XL1*FF* TERMINATOR
	790 *		
10AD C0 87 2999		791	B BGNST
	792 *		
10B1 C0 87 2DDF		793	B LALSD
10B5 00	10B5	794	DC AL1(MIARO)
10B6 00	10B6	795	DC XL1*00*
	796 *		
10B7 C0 87 310D		797	B IOPGO
	798 *		
10B8 C0 87 2E73		799	B SALSD
10BF 00	10BF	800	DC AL1(MIARO) HALT IOP, GET MIAR
	801 *		
10C0 3D 1A 33DE		802	CLI ICPIN,X*1A*
10C4 F2 81 05		803	JE TBOF05
	804 *		
10C7 C0 87 2A07		805	B ERRPRT
10C8 00	10CB	806	DC XL1*00* ERROR 5100
	807 *		
10CC C0 87 298B		808 TBOF05	B NORMN

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		809	
		809	
		810 *	
		811 *	NOW TEST 'TBN' CAPABILITY
		812 *	
		813	B LCS1
10D0 C0 87 2EE3		DC	XL2'0000'
10D4 0000	10D5	814	TEST BIT 0 ON
		815 *	DC XL3'08AE80' LBI FBO,X'80' TURN ON BIT 0
10D6 08AE80	10D8	816	DC XL3'006E03' TBN 0,FBO.03 BR IF BIT 0 ON
10D9 006E03	10DB	817	DC XL3'10001B' B 001B ELSE GO TO ERROR LOC
10DC 10001B	10DE	818	TEST BIT 1 ON
		819 *	DC XL9'08AE40116E0610001B'
10DF 08AE40116E061000	10E7	820	TEST BIT 2 ON
10E7 1B		820	DC XL9'08AE20126E0910001B'
		821 *	
10E8 08AE20126E091000	10F0	822	TEST BIT 3 (ANY BIT) ON
10F0 1B		822	DC XL9'08AE10036E0C10001B'
		823 *	
10F1 08AE10C36E0C1000	10F9	824	TEST BIT 4 ON
10F9 1B		824	DC XL9'08AE08146E0F10001B'
		825 *	
10FA 08AE08146E0F1000	1102	826	TEST BIT 5 ON
1102 1B		826	DC XL9'08AE04056E1210001B'
		827 *	
1103 08AE04056E121000	110B	828	TEST BIT 6 ON
110B 1B		828	DC XL9'08AE02166E1510001B'
		829 *	
110C 08AE02166E151000	1114	830	TEST BIT 7 ON
1114 1B		830	DC XL9'08AE01176E1810001B'
		831 *	
1115 08AE01176E181000	111D	832	
111D 1B		832	
		833 *	
111E 18AE00	1120	834	DC XL3'18AE00' LBI FBO,X'00' SHOULD NOT BRANCH
1121 006E1B	1123	835	DC XL3'006E1B' TBN 0,FBO.1B OK HANG
1124 00001A	1126	836	DC XL3'00001A' B 001A ERROR HANG
1127 10001B	1129	837	DC XL3'10001B' B 001B TERMINATOR
112A FF	112A	838	XL1'FF'
		839 *	
112B C0 87 2999		840	B BGNST
		841 *	
112F C0 87 2DDF		842	B LALSD
1133 00	1133	843	DC AL1(MIAR0)
1134 00	1134	844	DC XL1'00'
		845 *	
1135 C0 87 31DD		846	B IOPGO
		847 *	
1139 C0 87 2E73		848	B SALSD
113D 00	113D	849	DC AL1(MIAR0)
		850 *	
113E 3D 1A 33DE		851	CLI IOPIN,X'1A' TBN OK ?
1142 F2 01 08		852	JNE TBOF07 BR IF NO
		853 *	
1145 C0 87 29BB		854	B NORMN
1149 C0 87 0216		855	B LINK
		856 *	
114D C0 87 2A07		857	B ERRPRT
1151 10	1151	858	DC XL1'10' ERROR 5101

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		860	*****
		861 *	
		862 *	CHECK FOR HOT ERROR LATCHES
		863 *	*****
		864	*****
		865 *	
		866	ROUTINE 11
1152 11	1152	866	RTN11 DC XL1'11'
1153 00	1153	867	DC XL1'00'
1154 119A	1155	868	DC AL2(RTN12) NEXT ROUTINE ADDRESS
		869 *	
1156 C0 87 2885		870	B BEGIN
		871 *	
115A C0 87 2999		872	B BGNST
115E 3C 80 33FB		873	MVI FTR+EXT,X'80' START TEST
1162 C0 87 28BA		874	B LFTR
		875 *	
1166 C0 87 3141		876	B LXOPI
116A 080000FF	116D	877	DC XL4'080000FF' RUN THE IOP TO STROBE ERRORS
		878 *	
		879 *	CHECK ADS REGISTER
		880 *	
116E C0 87 3008		881	B SADS
1172 39 10 33DE		882	TBF IOPIN,X'1D' READ ADS REG(ERRORS)
1176 C0 10 29BB		883	BT NORMN
117A C0 87 2A07		884	B ERRPRT
117E 01	117E	885	DC XL1'01' CHECK FOR ERRORS.ALL SHD BE OFF.
117F 33DE	1180	886	DC AL2(IOPIN) BR IF NO ERRORS
		887 *	
		888 *	CHECK MES REGISTER
		889 *	
1181 C0 87 2999		890	B BGNST
1185 C0 87 3068		891	B SHES
1189 39 E9 33DE		892	TBF IOPIN,X'E9' START TEST
118D C0 10 29BB		893	BT NORMN
1191 C0 87 2A07		894	B ERRPRT
1195 10	1195	895	DC XL1'10' GET THE REST OF THE ERRORS
		896 *	
1196 C0 87 0216		897	B LINK
		898 *	TEST FOR ERRORS
			BR IF NO ERRORS TO NEXT TEST
			PRINT ERROR AND HALT
			ERROR CODE 5111
			NEXT RTNE

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C151 3340 ATTACHMENT TESTS - MOD 12

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
	900 *****
	901 *
	902 * TEST BUS OUT PARITY CHECKER
	903 *
	904 *****
	905 *
119A 12	119A 906 RTN12 DC XL1'12' ROUTINE 12
119B 00	119B 907 DC XL1'00' NEXT ROUTINE ADDRESS
119C 123F	119D 908 DC AL2(RTN13)
	909 * RTNE INITIALIZATION
	910 B BEGIN START TEST
	911 B BGNTST TURN ON THE INVERT PARITY
119E C0 87 2885	912 MVI FTR+EXT.X'02' BIT SO BAD PARITY CAN BE
11A2 C0 87 2999	913 B LFTR PUT IN THE FBO REG.
11A6 3C 02 33FB	914 MVI FBO+EXT.X'00' '00' WITH BAD PARITY TO FBO.
11AA C0 87 28BA	915 B LFBO TURN ON FILE TAG GATE TO GATE
11AE 3C 00 33FC	916 MVI FTG+EXT.X'80' BOPAR ERRORS
11B2 C0 87 28BA	917 B LFTG
11B6 3C 80 33F3	918 * RUN THE IOP ONE CYCLE TO
11BA C0 87 2BAA	919 B LXOPI CAUSE SENSE STROBE.(NO-OP INSTR)
11BE C0 87 3141	11C4 920 DC XL3'080000'
11C2 080000	11C5 921 DC XL1'FF'
11C5 FF	922 * READ ADS REG TO CHK IF ERR OCCURRED
	923 B SADS CHECK FOR BOPAR ERROR
11C6 C0 87 3008	924 TBN IOPIN.X'08' BR IF EXPECTED ERROR OCCURS
11CA 38 08 33DE	925 BT BOPAR1 PRINT AND HALT IF SOLID ERROR
11CE C0 10 11D7	926 B ERRPRT ERROR NUMBER 5120
11D2 C0 87 2A07	11D6 927 DC XL1'00'
11D6 00	928 * TEST FOR D REG ERROR (BAD PARITY GENERATOR)
	929 *
	930 *
11D7 C0 87 311E	931 BOPAR1 E SDS3 GET IOP ERRORS
11DB 38 04 33DE	932 TBN IOPIN.X'04' TEST FOR D REG ERROR
11DF C0 10 11E8	933 BT BOPAR2 NEXT TEST
11E3 C0 87 2A07	934 B ERRPRT PRINT AND HALT IF SOLID
11E7 10	11E7 935 DC XL1'10' ERROR NUMBER 5121
	936 * CHECK THAT THE ERROR IS IN THE HES REG.
	937 *
	938 *
11E8 C0 87 3068	939 BOPAR2 E SMES GET HES REG
11EC 38 08 33DE	940 TBN IOPIN.X'08' TEST FOR 'ANY ERROR'
11F0 C0 10 11F9	941 BT BOPAR3 BR IF ON TO NEXT TEST
11F4 C0 87 2A07	942 B ERRPRT
11F8 20	11F8 943 DC XL1'20' ERROR NUMBER 5122
	944 * CHECK FOR D REG ERROR
	945 *
	946 *
11F9 C0 87 311E	947 BOPAR3 E SDS3 GET IOP ERRORS
11FD 38 04 33DE	948 TBN IOPIN.X'04' TEST FOR D REG ERROR
1201 C0 10 298B	949 BT NORRN PRINT ERROR AND HALT IF SOLID
1205 C0 87 2A07	950 B ERRPRT ERROR. ERROR NUMBER 5123
1209 30	1209 951 DC XL1'30'
	952 * NOW SEE IF THE ERROR WILL RESET
	953 *
	954 *
120A C0 87 2999	955 B BGNTST START TEST
120E 3C 80 33FB	956 MVI FTR+EXT.X'80' BIT 0 IS RESET ADAPTER CHECKS
1212 C0 87 28BA	957 B LFTR
1216 C0 87 28BA	958 B LFBO PUT GOOD PARITY IN FBO
121A C0 87 3141	959 B LXOPI RUN ONE IOP CYCLE TO
121E 080000	1220 960 DC XL3'080000' CAUSE SENSE STROBE
1221 FF	1221 961 DC XL1'FF' TERMINATOR
1222 C0 87 3008	962 B SADS GET ADS ERRORS
1226 38 08 33DE	963 TBN IOPIN.X'08' TEST FOR BOPAR ERROR
122A C0 50 298E	964 BF NORRN GO TO EXIT
122E C0 87 2A07	965 B ERRPRT PRINT AND HALT IF SOLID ERROR
1232 40	1232 966 DC XL1'40' ERROR CODE 5124
	967 *

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
	1233 3C 00 33F3 968 MVI FTG+EXT.X'00' TURN OFF TAG GATE
	1237 C0 87 2BAA 969 B LFTG NEXT RTNE
	1238 C0 87 0216 970 B LINK

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
972	*			*****
973	*			*****
974	*			TEST FO, FI, AND FBI USING DIAGNOSTIC GATING
975	*			*****
976	*			*****
977	*			*****
123F 13		123F	978 RTN13	DC XL1*13* ROUTINE 13
1240 00		1240	979	DC XL1*00*
1241 1334		1242	980	DC AL2(RTN14) NEXT ROUTINE ADDRESS
			981 *	
1243 C0 87 2885			982	B BEGIN RTNE INIT
1247 3C 00 33FB			983	MVI FTR+EXT,X*00* ZERO FTR
1248 C0 87 28BA			984	B LFTR
124F 3C 00 33F0			985	MVI FBI+EXT,X*00* FIRST TEST PATTERN
1253 C0 87 2999			986 RTN13A	B BGNTST START TEST
1257 C0 87 2868			987	B LFBI DATA GOES TO FBO, TO FO, TO FI AND THEN TO FBI
			988 *	RESET FTR BIT 0
125B 3C 80 33FB			989	MVI FTR+EXT,X*80*
125F C0 87 28BA			990	B LFTR
1263 3C 00 33FB			991	MVI FTR+EXT,X*00*
1267 C0 87 28BA			992	B LFTR
			993 *	
			994 *	NOW TEST DATA FOR CORRECT PATTERN
			995 *	
126B C0 87 2FAB			996	B SFBI READ FBI REG
126F 0D 00 33DE 33F0			997	CLC IOPIN(1),FBI+EXT COMPARE DATA RECD(IOPIN) WITH DATA EXPECTED(FBI)
			998 *	IF EQUAL GO TO CHECK FOR ERRORS
1275 F2 81 09			999	JE RTN13B PRINT AND HALT IF ERROR IS SOLID
1278 C0 87 2A07			1000	B ERRPRT ERROR CODE 5130
127C 02		127C	1001	DC XL1*02*
127D 33F0		127E	1002	DC AL2(FBI+EXT)
127F 33DE		1280	1003	DC AL2(IOPIN)
			1004 *	
			1005 *	NOW TEST FOR BOPAR, FBI, AND FI ERRORS
			1006 *	
1281 3C 81 33F3			1007 RTN13B	MVI FTG+EXT,X*81* ALLOW FBI ERROR AND TURN ON TAG GATE
1285 C0 87 28AA			1008	B LFTG TO GATE BOPAR ERRORS
1289 C0 87 3141			1009	B LXOPI RUN IOP ONE CYCLE TO CAUSE SENSE
128D 080000		128F	1010	DC XL3*080000* STROBE TO GATE BOPAR AND FBI ERRS
1290 FF		1290	1011	DC XL1*FF* TERMINATOR
1291 3C 01 33F3			1012	MVI FTG+EXT,X*01* TURN OFF TAG GATE
1295 C0 87 28AA			1013	B LFTG
			1014 *	
			1015 *	TEST FOR BOPAR ERROR-NONE EXPECTED
			1016 *	
1299 C0 87 3008			1017	B SADS
129D 38 08 33DE			1018	TBN IOPIN,X*08* TEST FOR BUS OUT PARITY CHK
12A1 F2 90 09			1019	JF RTN13C JUMP IF NO ERROR
12A4 C0 87 2A07			1020	B ERRPRT PRINT ERROR AND HALT IF SOLID
12A8 12		12A8	1021	DC XL1*12* ERROR CODE 5131
12A9 33F0		12AA	1022	DC AL2(FBI+EXT)
12AB 33DE		12AC	1023	DC AL2(IOPIN)
			1024 *	
			1025 *	NOW TEST FOR FBI ERROR
			1026 *	
12AD 38 01 33DE			1027 RTN13C	TBN IOPIN,X*01* TEST FOR FBI ERROR
12B1 F2 90 0D			1028	JF RTN13D JUMP IF NO FBI ERROR
12B4 C0 87 2FAB			1029	B SFBI SET UP STATIC CONDITION FOR
12B8 C0 87 2A07			1030	B ERRPRT PROBING
12BC 22		12BC	1031	DC XL1*22* ERROR CODE 5132
12BD 33F0		12BE	1032	DC AL2(FBI+EXT)
12BF 33DE		12C0	1033	DC AL2(IOPIN)
			1034 *	
			1035 *	TEST FOR FI ERROR
			1036 *	
12C1 3C 02 33F3			1037 RTN13D	MVI FTG+EXT,X*02* DIAG SYNC-IN TO CAUSE GATE RE-CYCLE
12C5 C0 87 3141			1038	B LXOPI RUN IOP TO STROBE ERR REG
12C9 080000FF		12CC	1039	DC XLA*080000FF*

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
12CD C0 87 3008			1040 *	B SADS GET ADS ERROR REG AGAIN
12D1 38 01 33DE			1041	TBN IOPIN,X*01* TEST FOR FI ERROR
12D5 C0 90 12E2			1042	BF RTN13E BR IF NO ERROR
12D9 C0 87 2A07			1043	B ERRPRT
12DD 32		12DD	1044	DC XL1*32* ERROR CODE 5133
12DE 33F0		12DF	1045	DC AL2(FBI+EXT)
12E0 33DE		12E1	1046	DC AL2(IOPIN)
			1047	
			1048 *	
			1049 *	ALTER TEST PATTERN AND GO BACK TO TEST AGAIN
			1050 *	
12E2 3C 00 33FD			1051 RTN13E	MVI SCN+EXT,X*00* GO OUT OF FILE XFER MODE
12E6 C0 87 28CA			1052	B LSCN
12EA C0 87 29BB			1053	B NORMN LOOP TEST
12EE 0E 00 33F0 33C3			1054	ALC FBI+EXT,ELEVEN ALTER TEST PATTERN WITH X*11*
12F4 C0 20 1253			1055	BNOL RTN13A GO BACK AND EXEC WITH NEW PATTERN OR GO TO NEXT RTNE
			1056 *	
			1057	
			1058 *	TEST BUS-IN TO FBI
			1059 *	
			1060 *	
12F8 C0 87 2999			1061	B BGNTST
12FC 3C AA 33F0			1062	MVI FBI+EXT,X*AA* DATA TO FBI REG
1300 C0 87 2868			1063	B LFBI VIA FI
			1064 *	
1304 3C 10 33F3			1065	MVI FTG+EXT,X*10* BUS-IN TO FI REG (BUS IN
1308 C0 87 28AA			1066	B LFTG WILL NOT EQ *AA*)
			1067 *	
130C 3C 00 33F3			1068	MVI FTG+EXT,X*00* RESET BUS-IN GATE
1310 C0 87 28AA			1069	B LFTG
			1070 *	
1314 C0 87 3141			1071	B LXOPI
1318 18A200FF		131B	1072	DC :L4*18A200FF* L8I FBI,X*00* (FI -> FBI -- SHD NOT EQ *AA* NOW)
			1073 *	
131C C0 87 2FAB			1074	B SFBI GET FBI REG
1320 3D AA 33DE			1075	CLI IOPIN,X*AA* CHECK THAT FBI REG NOT EQ *AA*
1324 F2 81 04			1076	JE RTN13F BR IF YES, ERROR
			1077 *	
1327 C0 87 29BB			1078	B NORMN
			1079 *	
132B C0 87 2A07			1080 RTN13F	B ERRPRT FIG 5 DIAG GATE FAILS
132F 40		132F	1081	DC XL1*40* ERROR 5134
			1082 *	
1330 C0 87 0216			1083	B LINK
			1084	
			1085	
1334 14			1334 1085 RTN14	DC XL1*14* ROUTINE 14 NOT USED
1335 00			1335 1086	DC XL1*00* NEXT ROUTINE ADDRESS
1336 133C			1337 1087	DC AL2(RTN15)
1338 C0 87 0216			1088	B LINK

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ERR LOC	OBJECT CODE	ADDR	SYMT	SOURCE STATEMENT
		1090		*****
		1091	*	*
		1092	*	TEST FBI, FI AND FTO PARITY CHECKERS
		1093	*	*
		1094		*****
		1095	*	*
133C 15		133C 1096	RTN15	DC XL1'15' ROUTINE 15
133D 00		133D 1097		DC XL1'00'
133E 1510		133F 1098		DC AL2(RTN16) NEXT ROUTINE ADDRESS
		1099	*	*
		1100	*	TEST FI PARITY CHECKER
		1101	*	*
1340 C0 87 2885		1102	B	BEGIN RTNE INIT
1344 C0 87 2999		1103	B	BGNTST START TEST
1348 3C 02 33FB		1104	MVI	FTR+EXT,X'02' THIS BIT INVERTS PARITY FROM THE
134C C0 87 28BA		1105	B	LFTR IOP BUS OUT
1350 3C 00 33F0		1106	MVI	FBI+EXT,X'00' SET FBI TO '00'
1354 C0 87 2B68		1107	B	LFBI FI AND FBI REGS NOW HAVE BAD PARITY
1358 3C 06 33F3		1108	MVI	FTG+EXT,X'06' DIAG SYNC-IN CAUSES 'GATE RECYCLE'
135C C0 87 2BAA		1109	B	LFTG
1360 C0 87 3141		1110	B	LXOPI RUN THE IOP TO GATE ERRORS INTO
1364 080000FF	1367	1111	DC	XL4'080000FF' THE ADS REG
1368 C0 87 3008		1112	B	SADS GET THE ERROR REG
136C 38 01 33DE		1113	TBN	IOPIN,X'01' TEST FOR FI/FBI CHK (USE 'FI' LEG
		1114	*	TO SET PARITY CK LATCH)
1370 C0 10 298B		1115	BT	NORMN GO TO NEXT TEST IF ERROR IS ON
		1116	*	*
1374 C0 87 2A07		1117	B	ERRPRT
1378 00	1378	1118	DC	XL1'00' ERROR CODE 5150
		1119	*	*
		1120	*	TEST FI CHECK RESET
		1121	*	*
1379 C0 87 2999		1122	B	BGNTST START TEST
137D 3C 80 33FB		1123	MVI	FTR+EXT,X'80' THIS BIT IS CHECK RESET
1381 C0 87 28BA		1124	B	LFTR
1385 C0 87 3141		1125	B	LXOPI RUN IOP ONE CYCLE TO GATE ADS REG
1389 080000FF	138C	1126	DC	XL4'080000FF'
		1127	*	*
138D C0 87 3008		1128	B	SADS GET ERROR REG
1391 38 01 33DE		1129	TBN	IOPIN,X'01' EXPECT TO BE OFF
1395 C0 90 298B		1130	BF	NORMN
		1131	*	*
1399 C0 87 2A07		1132	B	ERRPRT PRINT AND HALT IF SOLID
139D 10	139D	1133	DC	XL1'10' ERROR CODE 5151
		1134	*	*
		1135	*	TEST FBI PARITY CHECKER USING FBI ADDRESS '02'
		1136	*	FI AND FBI REGS STILL HAVE BAD PARITY
		1137	*	*
139E 3C 00 33FB		1138	MVI	FTR+EXT,X'00'
13A2 C0 87 28BA		1139	B	LFTR
		1140	*	*
13A6 C0 87 2999		1141	B	BGNTST
		1142	*	*
13AA 3C 01 33F3		1143	MVI	FTG+EXT,X'01' ALLOW FBI ERRORS
13AE C0 87 2BAA		1144	B	LFTG
		1145	*	*
13B2 C0 87 2FA8		1146	B	SFBI SET ADDRESS INTO EXTAR TO ALLOW
		1147	*	ERRORS
		1148	*	NOW RUN IOP 2 CYCLES, USE TANDI FBI,00 TO ADDRS FBI REG '02'
		1149	*	*
13B6 C0 87 3141		1150	B	LXOPI LOAD AND EXEC THE FOLLOWING INSTR'
13BA 10E200	138C	1151	DC	XL3'10E200' INSTR IS 'TANDI FBI,X'00' ADDR=02
13BD 10E200	138F	1152	DC	XL3'10E200' INSTR IS 'TANDI FBI,X'00' ADDR=02
13C0 FF	13C0	1153	DC	XL1'FF' TERMINATOR
		1154	*	*
13C1 C0 87 3008		1155	B	SADS GET ERRORS AGAIN
		1156	*	*
13C5 38 01 33F3		1157	TBN	FTG+EXT,X'01' ERRORS ALLOWED ?

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ERR LOC	OBJECT CODE	ADDR	SYMT	SOURCE STATEMENT
13C9	F2 10 0C	1158	JT	FBI05 BR IF YES
		1159	*	GET HERE IF ERRORS INHIBITED
13CC	38 01 33DE	1160	TBN	IOPIN,X'01' ERROR OCCUR ?
13D0	F2 90 4A	1161	JF	FBI08 BR IF NO
		1162	*	*
13D3	C0 87 2A07	1163	B	ERRPRT
13D7	90	1164	DC	XL1'90' ELSE ERROR 5159
		1165	*	GET HERE IF ERRORS ALLOWED
13D8	38 01 33DE	1166	FBI05	TBN IOPIN,X'01' ERROR OCCUR ?
13DC	F2 10 0D	1167	JT	FBI07 BR IF YES
		1168	*	*
13DF	C0 87 2A07	1169	B	ERRPRT
13E3	20	1170	DC	XL1'20' ELSE ERROR 5152
		1171	*	*
13E4	3C 00 33F3	1172	FBI06	MVI FTG+EXT,X'00' ELSE INHIBIT ERRORS
13E8	C0 87 13AE	1173	B	FBI04 AND LOOP
		1174	*	*
		1175	*	CHECK FI/FBI PARITY CHK RESET
		1176	*	*
13EC	3C 80 33FB	1177	FBI07	MVI FTR+EXT,X'80' ERROR LATCH RESET
13F0	C0 87 28BA	1178	B	LFTR
13FA	3C 00 33FB	1179	MVI	FTR+EXT,X'00' TURN OFF RESET
13FB	C0 87 28BA	1180	B	LFTR
13FC	3C 00 33F3	1181	MVI	FTG+EXT,0 TURN OFF FTG 7
1400	C0 87 2BAA	1182	B	LFTG
1404	C0 87 3141	1183	B	LXOPI RUN IOP 1 CYCLE
1408	080000FF	1408	1184	DC XL4'080000FF' GET ERROR REG
140C	C0 87 3008	1185	B	SADS EXPECT ERROR TO BE OFF
1410	38 01 33DE	1186	TBN	IOPIN,X'01' BR IF YES
1414	C0 90 13E4	1187	BF	FBI06
		1188	*	*
1418	C0 87 2A07	1189	B	ERRPRT PRINT AND HALT IF SOLID
141C	30	141C	1190	DC XL1'30' ERROR CODE 5153
		1191	*	*
141D	C0 87 298B	1192	FBI08	B NORMN
		1193	*	*
		1194	*	*
		1195	*	CHECK FBI PARITY CHECKER WITH ADDRESS '0A'
		1196	*	*
1421	C0 87 2999	1197	B	BGNTST START TEST
1425	C0 87 2FB8	1198	B	SFBI READ FBI USING ADDRESS '0A'
		1199	*	*
		1200	*	NOW RUN IOP 2 CYCLES, USE TANDI FBI0A,00 TO ADDRS FBI '0A'
		1201	*	*
1429	C0 87 3141	1202	B	LXOPI LOAD AND EXEC THE FOLLOWING
142D	00EA00	142F	1203	DC XL3'00EA00' INSTR IS 'TANDI FBI,X'00' ADDR=0A
1430	00EA00	1432	1204	DC XL3'00EA00' INSTR IS 'TANDI FBI,X'00' ADDR=0A
1433	FF	1433	1205	DC XL1'FF'
		1206	*	*
1434	C0 87 3008	1207	B	SADS GET ERROR REG
1438	38 01 33DE	1208	TBN	IOPIN,X'01' TEST FOR FBI/FI ERROR
143C	C0 10 298B	1209	BT	NORMN
		1210	*	*
1440	C0 87 2A07	1211	B	ERRPRT PRINT AND HALT IF SOLID
1444	40	1444	1212	DC XL1'40' ERROR CODE 5154
		1213	*	*
1445	C0 87 2999	1214	B	BGNTST START TEST
1449	3C 80 33FB	1215	MVI	FTR+EXT,X'80' RESET FBI/FI ERROR LATCH OFF
144D	C0 87 28BA	1216	B	LFTR
1451	3C 00 33FB	1217	MVI	FTR+EXT,X'00' ZERO OUT FTR TO TURN OFF RESET
1455	C0 87 28BA	1218	B	LFTR
		1219	*	*
		1220	*	NOW RESET DST-REG BIT 0 (ATTACHMENT BUSY)
		1221	*	*
1459	3C 80 33F1	1222	MVI	DST+EXT,X'80' RESETS BIT 0, 2 & 3 OFF (IGNORE STAT
145D	C0 87 2C0A	1223	B	L0ST OF BIT 1 UNTIL FHF BIT 0 RESET IN
		1224	*	FOLLOWING TEST)

C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT		
1461 C0 87 3141	1225	B	LXOPI
1465 080000FF	1468 1226	DC	XL4*080000FF*
	1227 *		
1469 C0 87 3048	1228	B	SDST
146D 38 4F 33DE	1229	SBF	IOPIN.X*4F*
1471 3D 00 33DE	1230	CLI	IOPIN.X*00*
1475 F2 81 07	1231	JE	FBI10
	1232 *		
1478 C0 87 2A07	1233	B	ERRPRT
147C 61	147C 1234	DC	XL1*61*
147D 33DE	147E 1235	DC	AL2(IOPIN)
	1236		
	1237 *		
	1238 *		
	1239 *		
147F 3C C0 33F5	1240 FBI10	MVI	FHF+EXT.X*C0*
1483 C0 87 2C4A	1241	B	LFHF
	1242 *		
1487 C0 87 3141	1243	B	LXOPI
148B 080000FF	148E 1244	DC	XL4*080000FF*
	1245 *		
148F C0 87 3058	1246	B	SFHF
1493 39 C0 33DE	1247	TBF	IOPIN.X*C0*
1497 C0 10 298B	1248	BT	NORMN
	1249 *		
1498 C0 87 2A07	1250	B	ERRPRT
149F 50	149F 1251	DC	XL1*50*
	1252		
	1253 *		
	1254 *		
	1255 *		
14A0 C0 87 2999	1256	B	BGNTST
	1257 *		
14A4 3C 02 33FB	1258	MVI	FTR+EXT.X*02*
14AB C0 87 28BA	1259	B	LFTR
	1260 *		
14AC 3C 00 33FA	1261	MVI	FTD+EXT.X*00*
14B0 C0 87 289A	1262	B	LFTD
	1263 *		
14BA 3C 80 33F3	1264	MVI	FTG+EXT.X*80*
14B8 C0 87 28AA	1265	B	LFTG
	1266 *		
14BC C0 87 3141	1267	B	LXOPI
14C0 080000FF	14C3 1268	DC	XL4*080000FF*
	1269 *		
14C4 C0 87 3008	1270	B	SADS
14C8 38 04 33DE	1271	TBN	IOPIN.X*04*
14CC F2 10 05	1272	JT	FBI15
	1273 *		
14CF C0 87 2A07	1274	B	ERRPRT
14D3 70	14D3 1275	DC	XL1*70*
	1276 *		
14D4 3C 00 33FB	1277 FBI15	MVI	FTR+EXT.X*00*
14D8 C0 87 28BA	1278	B	LFTR
14DC C0 87 289A	1279	B	LFTD
	1280 *		
14E0 3C 80 33FB	1281	MVI	FTR+EXT.X*80*
14E4 C0 87 28BA	1282	B	LFTR
	1283 *		
14E8 C0 87 3141	1284	B	LXOPI
14EC 080000FF	14EF 1285	DC	XL4*080000FF*
	1286 *		
14F0 C0 87 3008	1287	B	SADS
14F4 38 04 33DE	1288	TBN	IOPIN.X*04*
14F8 F2 10 04	1289	JT	FBI17
	1290 *		

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT		
14FB C0 87 298B	1291	B	NORMN
	1292 *		
14FF C0 87 2A07	1293 FBI17	B	ERRPRT
1503 80	1294	DC	XL1*80*
	1295 *		
1504 3C 00 33F3	1296	MVI	FTG+EXT.X*00*
1508 C0 87 28AA	1297	B	LFTG
	1298 *		
150C C0 87 0216	1299	B	LINK
	1300 *		
	1301		
1510 16	1510 1302 RTN16	DC	XL1*16*
1511 00	1511 1303	DC	XL1*00*
1512 1518	1513 1304	DC	AL2(RTN17)
1514 C0 87 0216	1305	B	LINK

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1307	*			*****
1308	*			*
1309	*			TEST DST REGISTER
1310	*			*
1311	*			*****
1312	*			*
1518 17		1518	1313	RTN17 DC XL1'17' ROUTINE 17
1519 00		1519	1314	DC XL1'00'
151A 16B4		151B	1315	DC AL2(RTN18) RTNE 18
			1316 *	*
151C C0 87 2885			1317	B BEGIN
1520 C0 87 2999			1318	B BGNST START TEST
			1319 *	*
			1320 *	RESET FHF BITS 0 & 1 PRIOR TO TESTING DST
			1321 *	*
1524 3C C0 33F5			1322	MVI FHF+EXT,X'C0' RESET BITS 0 AND 1
1528 C0 87 2C4A			1323	B LFHF
			1324 *	*
152C C0 87 3141			1325	B LXOPI RUN IOP ONE CYCLE TO GATE
1530 080000FF		1533	1326	DC XL4'080000FF' FHF REG
			1327 *	*
1534 3C 80 33F1			1328	MVI DST+EXT,X'80' RESET DST BITS 0 - 3
1538 C0 87 2C0A			1329	B LDST
			1330 *	*
153C C0 87 3141			1331	B LXOPI RUN IOP 1 CYCLE
1540 080000FF		1543	1332	DC XL4'080000FF'
			1333 *	*
1544 C0 87 3048			1334	B SDST READ DST REG
1548 38 0F 33DE			1335	SBF IOPIN,X'0F' TURN OFF THE DONT CARE BITS
154C 3D 40 33DE			1336	CLI IOPIN,X'40' TEST IF DST 0-3=0,00 (DST 3 OFF AND
			1337 *	FHF 0 OFF INSURES *DIFF CNT = 0')
1550 F2 81 07			1338	JE DST01 BR IF YES
			1339 *	*
1553 C0 87 2A07			1340	B ERRPRT ERROR CODE 5170
1557 01		1557	1341	DC XL1'01'
1558 33DE		1559	1342	DC AL2(IOPIN)
			1343 *	*
155A F3 C1 00			1344	DST01 SIO X'00',X'C1' SIO SHD SET ATTACH BUSY
			1345 *	*
155D C0 87 3141			1346	B LXOPI RUN IOP ONE CYCLE TO SET DST
1561 080000FF		1564	1347	DC XL4'080000FF'
			1348 *	*
1565 C0 87 3048			1349	B SDST READ DST REG
1569 38 80 33DE			1350	TBN IOPIN,X'80' TEST IF ATTACH BUSY IS ON
156D F2 10 05			1351	JT DSTAA2
			1352 *	*
1570 C0 87 2A07			1353	B ERRPRT ERROR CODE 5171
1574 10		1574	1354	DC XL1'10'
			1355 *	*
1575 C1 C2 157E			1356	DSTAA2 TIO DSTA2,X'C2' TIO FOR ATTACHMENT BUSY--SHOULD BRCH
			1357 *	*
1579 C0 87 2A07			1358	B ERRPRT ERROR CODE 5179
157D 90		157D	1359	DC XL1'90'
			1360 *	*
			1361 *	*
157E C0 87 298B			1362	DSTA2 B NORMN START TEST
1582 C0 87 2999			1363	B BGNST RESET ATTACH BUSY
1586 3C 80 33F1			1364	MVI DST+EXT,X'80'
158A C0 87 2C0A			1365	B LCST
			1366 *	*
158E C0 87 3141			1367	B LXOPI RUN IOP ONE CYCLE
1592 080000FF		1595	1368	DC XL4'080000FF' TO RESET DST REG
			1369 *	*
1596 C0 87 3048			1370	B SDST READ DST
159A 39 80 33DE			1371	TBF IOPIN,X'80' TO SEE IF ATTACH BUSY RESET
159E F2 10 05			1372	JT DSTAA3 BR IF IT RESET OK
			1373 *	*
15A1 C0 87 2A07			1374	B ERRPRT ERROR CODE 5172

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
15A5 20		15A5	1375	DC XL1'20'
			1376 *	*
15A6 C1 C2 15AE			1377	DSTAA3 TIO DSTAA4,X'C2' TIO FOR ATTACHMENT BUSY--SHD NOT BR
15AA C0 87 298B			1378	B NORMN
			1379 *	*
15AE C0 87 2A07			1380	DSTAA4 B ERRPRT
15B2 A0		15B2	1381	DC XL1'A0' ERROR CODE 517A
			1382 *	*
15B3 C0 87 2999			1383	B BGNST START TEST
15B7 C0 87 3118			1384	B SDS3 GET IOP ERRORS
15B8 38 04 33DE			1385	TBN IOPIN,X'04' TEST FOR 0 REG ERRORS
15BF C0 10 298B			1386	BT NORMN BR IF NO ERROR
			1387 *	*
15C3 C0 87 2A07			1388	B ERRPRT
15C7 30		15C7	1389	DC XL1'30' ERROR CODE 5173
			1390 *	*
			1391 *	TEST THE SEEK COMPLETE LATCHES
			1392 *	*
15C8 C0 87 2999			1393	B BGNST START TEST
15CC F3 C4 80			1394	SIO X'80',X'C4' ENABLE INTERRUPTS IN THE ATTACH
15CF 3C 0F 33F1			1395	MVI DST+EXT,X'0F' TURN ON ALL SEEK COMPLETE LATCHES
15D3 C0 87 2C0A			1396	B LDST
			1397 *	*
15D7 C0 87 30FF			1398	B SCS1 GET SENSE BYTE
15DB 38 F0 33DE			1399	SBF IOPIN,X'F0' TURN OFF THE DONT CARE BITS
15DF 3D 0F 33DE			1400	CLI IOPIN,X'0F' TEST IF ALL LATCHES ARE ON
15E3 C0 81 298B			1401	BE NORMN
			1402 *	*
15E7 C0 87 2A07			1403	B ERRPRT
15EB 42		15EB	1404	DC XL1'42' ERROR CODE 5174
15EC 33F1		15ED	1405	DC AL2(DST+EXT) EXPECTED
15EE 33DE		15EF	1406	DC AL2(IOPIN) RECVD
			1407 *	*
			1408 *	TEST DST REG
			1409 *	*
15F0 C0 87 2999			1410	B BGNST START TEST
15F4 F3 C4 80			1411	SIO X'80',X'C4' ENABLE INTERRUPTS IN THE ATTACH
15F7 3C 0F 33F1			1412	MVI DST+EXT,X'0F' TURN ON ALL SEEK COMPLETE LATCHES
15FB C0 87 2C0A			1413	B LDST
			1414 *	*
15FF C0 87 3141			1415	B LXOPI RUN IOP ONE CYCLE
1603 080000FF		1606	1416	DC XL4'080000FF' TO SET DST REG
			1417 *	*
1607 C0 87 3048			1418	B SDST READ DST REG
1608 38 F0 33DE			1419	SBF IOPIN,X'F0' TURN OFF DONT CARE BITS
160F 3D 0F 33DE			1420	CLI IOPIN,X'0F' TEST THAT 4-7 ARE ON
1613 C0 81 298B			1421	BE NORMN
			1422 *	*
1617 C0 87 2A07			1423	B ERRPRT
1618 52		161B	1424	DC XL1'52' ERROR CODE 5175
161C 33F1		161D	1425	DC AL2(DST+EXT) EXPECTED
161E 33DE		161F	1426	DC AL2(IOPIN) RECVD
			1427 *	*
			1428 *	TRY TIO WITH SEEK COMPLETE ON
			1429 *	*
1620 C0 87 2DDF			1430	B LALSD INITIALIZE MIAR TO ADDRESS 0000
1624 00		1624	1431	DC AL1(MIAR0)
1625 00		1625	1432	DC XL1'00'
1626 C0 87 31DD			1433	B IOPGO RUN IOP WITH PREV IO OFF
162A F3 C4 04			1434	SIO X'04',X'C4' RESET OP END LATCH
162D C0 87 2999			1435	B BGNST START TEST
1631 F3 C4 80			1436	SIO X'80',X'C4' ENABLE INTERRUPTS IN THE ATTACH
1634 3C 0F 33F1			1437	MVI DST+EXT,X'0F' TURN ON ALL SEEK COMPLETE LATCHES
1638 C0 87 2C0A			1438	B LCST
			1439 *	*
163C C1 C4 1645			1440	TIO SKCMP3,X'C4' SHD BRANCH BECAUSE SEEK COMP IS ON
			1441 *	*
1640 C0 87 2A07			1442	B ERRPRT

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
1644 60	1644 1443 DC XL1'60'	1644 60	1644 1443 DC XL1'60' ERROR CODE 5176
1645 C0 87 29BB	1444 *	1645 C0 87 29BB	1444 *
1649 C0 87 2999	1445 SKCMP3 B NORMN	1649 C0 87 2999	1445 SKCMP3 B NORMN
164D F3 C4 80	1446 B BGNST	164D F3 C4 80	1446 B BGNST
1650 3C 0F 33F1	1447 SIO X'80'.X'C4'	1650 3C 0F 33F1	1447 SIO X'80'.X'C4'
1654 C0 87 2C0A	1448 MVI DST+EXT.X'0F'	1654 C0 87 2C0A	1448 MVI DST+EXT.X'0F'
	1449 B LDST		1449 B LDST
	1450 *		1450 *
	1451 *		1451 *
	1452 *		1452 *
	1453 *		1453 *
1658 F3 C4 40	1454 SIO X'40'.X'C4'	1658 F3 C4 40	1454 SIO X'40'.X'C4'
1658 F3 C4 20	1455 SIO X'20'.X'C4'	1658 F3 C4 20	1455 SIO X'20'.X'C4'
165E F3 C4 10	1456 SIO X'10'.X'C4'	165E F3 C4 10	1456 SIO X'10'.X'C4'
1661 F3 C4 08	1457 SIO X'08'.X'C4'	1661 F3 C4 08	1457 SIO X'08'.X'C4'
1664 C0 87 30FF	1458 B SDS1	1664 C0 87 30FF	1458 B SDS1
1668 3B F0 33DE	1459 SBF IOPIN.X'F0'	1668 3B F0 33DE	1459 SBF IOPIN.X'F0'
166C 39 0F 33DE	1460 TBF ICPIN.X'0F'	166C 39 0F 33DE	1460 TBF ICPIN.X'0F'
1670 F2 10 09	1461 JT SKCMP4	1670 F2 10 09	1461 JT SKCMP4
	1462 *		1462 *
1673 C0 87 2A07	1463 B ERRPRT	1673 C0 87 2A07	1463 B ERRPRT
1677 71	1677 1464 DC XL1'71'	1677 71	1677 1464 DC XL1'71' ERROR CODE 5177
1678 33C2	1679 1465 DC AL2(ZERO)	1678 33C2	1679 1465 DC AL2(ZERO) EXPECTED
167A 33DE	1678 1466 DC AL2(IOPIN)	167A 33DE	1678 1466 DC AL2(IOPIN) RECVD
	1467 *		1467 *
	1468 *		1468 *
	1469 *		1469 *
167C C0 87 3141	1470 SKCMP4 B LXOPI	167C C0 87 3141	1470 SKCMP4 B LXOPI
1680 080000FF	1683 1471 DC XL4'080000FF'	1680 080000FF	1683 1471 DC XL4'080000FF' RUN IOP TO GATE THE DST REG
	1472 *		1472 *
1684 C0 87 3048	1473 E SDST	1684 C0 87 3048	1473 E SDST
1688 09 0F 33DE	1474 TBF IOPIN.X'0F'	1688 09 0F 33DE	1474 TBF IOPIN.X'0F'
168C F2 10 05	1475 JT SKCMP5	168C F2 10 05	1475 JT SKCMP5
	1476 *		1476 *
168F C0 87 2A07	1477 B ERRPRT	168F C0 87 2A07	1477 B ERRPRT
1693 80	1693 1478 DC XL1'80'	1693 80	1693 1478 DC XL1'80' ERROR CODE 5178
	1479 *		1479 *
1694 F3 C4 02	1480 SKCMP5 SIO X'02'.X'C4'	1694 F3 C4 02	1480 SKCMP5 SIO X'02'.X'C4'
1697 3C 0F 33F1	1481 MVI DST+EXT.X'0F'	1697 3C 0F 33F1	1481 MVI DST+EXT.X'0F'
169B C0 87 2C0A	1482 B LDST	169B C0 87 2C0A	1482 B LDST
169F C0 87 30FF	1483 B SDS1	169F C0 87 30FF	1483 B SDS1
16A3 39 0F 33DE	1484 TBF ICPIN.X'0F'	16A3 39 0F 33DE	1484 TBF ICPIN.X'0F'
16A7 C0 10 29BB	1485 BT NORMN	16A7 C0 10 29BB	1485 BT NORMN
	1486 *		1486 *
16AB C0 87 2A07	1487 B ERRPRT	16AB C0 87 2A07	1487 B ERRPRT
16AF B0	16AF 1488 DC XL1'B0'	16AF B0	16AF 1488 DC XL1'B0' ERROR CODE 517B
	1489 *		1489 *
1680 C0 87 0216	1490 B LINK	1680 C0 87 0216	1490 B LINK
	1491 *		1491 *

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
	1493 *****		1493 *****
	1494 *		1494 *
	1495 * TEST SBO.SEEK BUSY.AND SENSE BYTE 0 BITS 0-3(NOT READY/UN CK)		1495 * TEST SBO.SEEK BUSY.AND SENSE BYTE 0 BITS 0-3(NOT READY/UN CK)
	1496 *		1496 *
	1497 *****		1497 *****
	1498 *		1498 *
1684 18	1684 1499 RTN18 DC XL1'18'	1684 18	1684 1499 RTN18 DC XL1'18' ROUTINE 18
1685 00	1685 1500 DC XL1'00'	1685 00	1685 1500 DC XL1'00'
1686 17E9	1687 1501 DC AL2(RTN19)	1686 17E9	1687 1501 DC AL2(RTN19) NEXT ROUTINE ADDRESS
	1502 *		1502 *
	1503 B BEGIN		1503 B BEGIN
	1504 *		1504 *
1688 C0 87 2885	1505 SE0A0 B BGNST	1688 C0 87 2885	1505 SE0A0 B BGNST
168C C0 87 2999	1506 MVI SBO+EXT.X'0F'	168C C0 87 2999	1506 MVI SBO+EXT.X'0F'
16C0 3C 0F 340D	1507 B LSBO	16C0 3C 0F 340D	1507 B LSBO
16C4 C0 87 28DA	1508 *	16C4 C0 87 28DA	1508 *
	1509 B LXOPI		1509 B LXOPI
16C8 C0 87 3141	16CF 1510 DC XL4'080000FF'	16C8 C0 87 3141	16CF 1510 DC XL4'080000FF' RUN IOP ONE CYCLE TO SET SBO REG
16CC 080000FF	1511 *	16CC 080000FF	1511 *
	1512 B SSBO		1512 B SSBO
16D0 C0 87 3038	1513 TBF IOPIN.X'FF'	16D0 C0 87 3038	1513 TBF IOPIN.X'FF'
16D4 39 FF 33DE	1514 JT SBOAA1	16D4 39 FF 33DE	1514 JT SBOAA1
16D8 F2 10 05	1515 *	16D8 F2 10 05	1515 *
	1516 B ERRPRT		1516 B ERRPRT
16DB C0 87 2A07	16DF 1517 DC XL1'00'	16DB C0 87 2A07	16DF 1517 DC XL1'00' ERROR CODE 5180
16DF 00	1518 *	16DF 00	1518 *
	1519 SBOAA1 B SDS1		1519 SBOAA1 B SDS1
16E0 C0 87 30FF	1520 TBF IOPIN.X'F0'	16E0 C0 87 30FF	1520 TBF IOPIN.X'F0'
16E4 39 F0 33DE	1521 BT SBOA1	16E4 39 F0 33DE	1521 BT SBOA1
16E8 C0 10 16F1	1522 *	16E8 C0 10 16F1	1522 *
	1523 B ERRPRT		1523 B ERRPRT
16EC C0 87 2A07	15F0 1524 DC XL1'90'	16EC C0 87 2A07	15F0 1524 DC XL1'90' ERROR CODE 5189
16F0 90	1525 *	16F0 90	1525 *
	1526 * TIO FOR SEEK BUSY--SHOULD NOT BRANCH		1526 * TIO FOR SEEK BUSY--SHOULD NOT BRANCH
	1527 *		1527 *
16F1 C1 C1 16FD	1528 SBOA1 TIO TIOCK1.X'C1'	16F1 C1 C1 16FD	1528 SBOA1 TIO TIOCK1.X'C1' DRV 1
16F5 C1 C9 16FD	1529 TIO TIOCK1.X'C9'	16F5 C1 C9 16FD	1529 TIO TIOCK1.X'C9' DRV 2
16F9 C0 87 1702	1530 B SBOA2	16F9 C0 87 1702	1530 B SBOA2 GO TO NEXT TEST
	1531 *		1531 *
16FD C0 87 2A07	1532 TIOCK1 B ERRPRT	16FD C0 87 2A07	1532 TIOCK1 B ERRPRT
1701 10	1533 DC XL1'10'	1701 10	1533 DC XL1'10' ERROR CODE 5181
	1534 * TEST FOR NOT READY/UN CK ---SHOUD NOT BRANCH ON TIO		1534 * TEST FOR NOT READY/UN CK ---SHOUD NOT BRANCH ON TIO
1702 C0 87 20DF	1535 SBOA2 B LALSD	1702 C0 87 20DF	1535 SBOA2 B LALSD
1706 00	1536 DC AL1(MIAR0)	1706 00	1536 DC AL1(MIAR0)
1707 00	1537 DC XL1'00'	1707 00	1537 DC XL1'00'
1708 C0 87 31DD	1538 B IOPGO	1708 C0 87 31DD	1538 B IOPGO RUN IOP WITH PREV IO OFF
	1539 *		1539 *
170C C1 C0 1718	1540 TIO TIOCK2.X'C0'	170C C1 C0 1718	1540 TIO TIOCK2.X'C0' DRV 1
1710 C1 C8 1718	1541 TIO TIOCK2.X'C8'	1710 C1 C8 1718	1541 TIO TIOCK2.X'C8' DRV 2
1714 C0 87 171D	1542 B SBOA3	1714 C0 87 171D	1542 B SBOA3 GO TO NEXT TEST
	1543 *		1543 *
1718 C0 87 2A07	1544 TIOCK2 B ERRPRT	1718 C0 87 2A07	1544 TIOCK2 B ERRPRT
171C 20	171C 1545 DC XL1'20'	171C 20	171C 1545 DC XL1'20' ERROR CODE 5182
	1546 *		1546 *
	1547 * TEST SBO BITS 0-3 (NOT READY/UNIT CK)		1547 * TEST SBO BITS 0-3 (NOT READY/UNIT CK)
	1548 *		1548 *
171D C0 87 29BB	1549 SBOA3 B NORMN	171D C0 87 29BB	1549 SBOA3 B NORMN
1721 C0 87 2999	1550 B BGNST	1721 C0 87 2999	1550 B BGNST
	1551 *		1551 *
	1552 * SETUP BIT TESTS FOR 2. 3 OR 4 DRIVE CONFIGURATION		1552 * SETUP BIT TESTS FOR 2. 3 OR 4 DRIVE CONFIGURATION
	1553 *		1553 *
1725 3C C0 173A	1554 MVI SBOA33.X'C0'	1725 3C C0 173A	1554 MVI SBOA33.X'C0' EXPECT DRIVE 1 & 2 BITS
1729 3C C0 1762	1555 MVI SBOAA6.X'C0'	1729 3C C0 1762	1555 MVI SBOAA6.X'C0'
172D 3C F0 340D	1556 SBOA31 MVI SBO+EXT.X'F0'	172D 3C F0 340D	1556 SBOA31 MVI SBO+EXT.X'F0' TURN ON BITS 0-3
1731 C0 87 28DA	1557 B LSBO	1731 C0 87 28DA	1557 B LSBO
1735 C0 87 3038	1558 B SSBO	1735 C0 87 3038	1558 B SSBO
	173A 1559 SBOA33 EQU *+1		173A 1559 SBOA33 EQU *+1
	1560 TBM IOPIN.X'F0'		1560 TBM IOPIN.X'F0' TEST IF 0-3 CAME ON

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
173D F2 10 05	1561	JT	SBOAA	
	1562 *			
1740 C0 87 2A07	1563	B	ERRPRT	
1744 30	1744 1564	DC	XL1'30'	ERROR CODE 5183
	1565 *			
	1566 *	TIO FOR NOT RDY/UN CK --SHD BRCH BECAUSE SBO 0-3 ARE ON		
	1567 *			
1745 C1 C0 174D	1568 SBOA4	TIO	TIOOK1.X'C0'	DRV 1
1749 C0 87 1758	1569	B	TIOCK3	ERROR
174D C1 C2 175D	1570 TIOOK1	TIO	SBOAAS.X'C8'	DRV 2
1751 C0 87 1758	1571	B	TIOCK3	ERROR
1755 F2 90 05	1572	JF	SBOAAS	GO TO NEXT TEST
	1573 *			
1758 C0 87 2A07	1574 TIOCK3	B	ERRPRT	
175C 40	175C 1575	DC	XL1'40'	ERROR CODE 5184
	1576 *			
175D C0 87 30FF	1577 SBOAAS	B	SDS1	GET SENSE BYTE 1
	1762 1578 SBOAA6	EQU	*+1	
1761 38 F0 33DE	1579	TBN	IOPIN.X'F0'	BITS 0-3 SHD BE ON
1765 C0 10 29BB	1580	BT	NORMN	
	1581 *			
1769 C0 87 2A07	1582	B	ERRPRT	
176D A0	176D 1583	DC	XL1'A0'	ERROR CODE 518A
	1584 *			
	1585 *	TEST SK BUSY LATCHES--SET EACH LATCH AND TRY WITH TIO		
	1586 *			
176E C0 87 2999	1587	B	BGNTST	START TEST
1772 F3 C0 00	1588	SIO	X'00'.X'C0'	SEEK SIO TO DRV 1
1775 3C 80 33F1	1589	MVI	DST+EXT.X'80'	RESET ATTACH BUSY TO
1779 C0 87 2C0A	1590	B	LDST	PERMIT ANOTHER SIO
177D F3 C8 00	1591	SIO	X'00'.X'C8'	SIO SEEK TO DRV 2
1780 C0 87 2C0A	1592	B	LDST	RESET ATTACH BUSY
	1593 *			
	1594 *	ALL SK BUSY LATCHES ARE NOW ON-TIO TO CHECK THEM		
	1595 *	SHOULD BRANCH ON TIO.		
	1596 *			
1784 C1 C1 178C	1597 SBOA6	TIO	TIOGD1.X'C1'	TIO DRV 1 FOR SK BUSY
1788 C0 87 1794	1598	B	TIOCK4	ERROR
178C C1 C9 1799	1599 TIOGD1	TIO	SBOA7.X'C9'	TIO DRV 2
1790 C0 87 1794	1600	B	TIOCK4	ERROR
	1601 *			
1794 C0 87 2A07	1602 TIOCK4	B	ERRPRT	
1798 50	1798 1603	DC	XL1'50'	ERROR CODE 5185
	1604 *			
	1605 *	NOW TEST SBO 4-7		
	1606 *			
1799 C0 87 3141	1607 SBOA7	B	LXOPI	RUN IOP ONE CYCLE TO
179D 080000FF	17A0 1608	DC	XL4'080000FF'	SET SBO REG
	1609 *			
17A1 C0 87 3038	1610	B	SSBO	READ SBO
17A5 38 0C 33DE	1611	TBN	IOPIN.X'0C'	TEST FOR DRV 1 AND 2
17A9 F2 90 03	1612	JF	SBOA8	BR IF ERROR
17AC F2 87 05	1613	J	SE0A9	
	1614 *			
17AF C0 87 2A07	1615 SBOA8	B	ERRPRT	
17B3 60	17B3 1616	DC	XL1'60'	ERROR CODE 5186
	1617 *			
	1618 *	NOW RESET THE SK BUSY LATCHES AND TEST AGAIN		
	1619 *			
17B4 3C 0F 340D	1620 SBOA9	MVI	SBO+EXT.X'0F'	
17B8 C0 87 28DA	1621	B	LSBO	RESET THE SK BUSY LATCHES
	1622 *			
17BC C0 87 3141	1623	B	LXOPI	RUN IOP ONE CYCLE TO
17C0 080000FF	17C3 1624	DC	XL4'080000FF'	SET THE SBO REG
	1625 *			
17C4 C0 87 3038	1626	B	SSBO	READ THE SBO REG
17C8 3D 00 33DE	1627	CLI	ICPIN.X'00'	CHECK IF ALL OFF
17CC F2 81 05	1628	JE	SBOB1	BR IF OK

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
	1629 *			
17CF C0 87 2A07	1630	B	ERRPRT	
17D3 70	17D3 1631	DC	XL1'70'	
	1632 *			
17D4 C0 87 311B	1633 SBOB1	B	SDS3	GET IOP ERRORS
17D8 38 04 33DE	1634	TBN	IOPIN.X'04'	TEST FOR D REG ERROR
17DC C0 10 29BB	1635	BT	NORMN	BR IF NO ERROR
	1636 *			
17E0 C0 87 2A07	1637	B	ERRPRT	
17E4 80	17E4 1638	DC	XL1'80'	ERROR CODE 5188
	1639 *			
17E5 C0 87 0216	1640	B	LINK	NEXT RTNE
	1641 *			

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1643	*****	*****	*****
1644	*		*
1645	*	TEST SBI REGISTER BITS 1,2,3,4,5 AND OP END	*
1646	*		*
1647	*****	*****	*****
1648	*		*
17E9 19	17E9	1649	RTN19 DC XL1'19' ROUTINE 19
17EA 00	17EA	1650	DC XL1'00' NEXT ROUTINE ADDRESS
17EB 194B	17EC	1651	DC AL2(RTN1A)
1652	*		*
1653	*	TEST SBI REGISTER BITS 1 & 4	*
1654	*		*
1655	*	B BEGIN RTN INIT	
1656	*	B BGNST START TEST	
1657	*	MVI SB1<EXT,X'48' BITS 1,4	
1658	*	B LSB1	
1659	*	B SDSO READ SBI SENSE BYTE 1	
1660	*	TBN IOPIN,X'48' TEST IF BITS 1,4 ARE 0	
1661	*	JT SB1A1 BR IF OK	
1662	*		*
1663	*	B ERRPRT ERROR CODE 5190	
1664	*	DC XL1'00'	
1665	*	MVI SB1<EXT,X'00' LOAD ZEROS TO RESET	
1666	*	B LSB1 BITS 1,4	
1667	*	B SDSO READ SBI SENSE	
1668	*	TBF IOPIN,X'48' TEST IF BITS 1,4 WERE RESET	
1669	*	BF SB1ER1 ERROR	
1670	*	B NORMN LOOP TEST	
1671	*		*
1672	*	TEST BIT 3 (OP END)	
1673	*		*
1674	*	TEST THAT 'OP-END' WON'T COME ON IF ENABLED BUT NOT SET	
1675	*		*
1676	*		*
1677	*	B LCS1	
1678	*	DC XL2'0000'	
1679	*	DC XL3'080000' NO-OP	
1680	*	DC XL4'100000FF' B 0000 (LOOP)	
1681	*		*
1682	*	B LALSD	
1683	*	DC AL1(MIARO)	
1684	*	DC XL1'00'	
1685	*		*
1686	*	B ICPGO START IOP	
1687	*		*
1688	*	B BGNST	
1689	*		*
1690	*	SIO X'02',X'C4' SIO - RESET 'ENABLE INTERRUPTS'	
1691	*	SIO X'04',X'C4' SIO - RESET 'OP-END'	
1692	*	SIO X'80',X'C4' SIO - 'ENABLE INTERRUPTS'	
1693	*		*
1694	*	B SDSO GET SENSE BYTE 0	
1695	*	TBF IOPIN,X'10' OP-END RESET ?	
1696	*	JF SB1A2 BR IF NO	
1697	*		*
1698	*	B NORMN	
1699	*		*
1700	*	B ERRPRT ERROR 5197	
1701	*	DC XL1'70'	
1702	*		*
1703	*	NOW TEST THAT OP-END WON'T COME ON IF SET BUT NOT ENABLED	
1704	*		*
1705	*	B LCS1 LOAD C.S. WITH INSTRUCTIONS	
1706	*	DC XL2'0000' ADDRESS	
1707	*	THE INSTRUCTION CAUSES A SET TO OP END	
1708	*	DC XL4'18B710FF' LBI TO SBI WITH X'10' TO SET 'OP-END'	
1709	*		*
1710	*		*

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1711	*		*
1712	*	B BGNST	START TEST
1713	*		*
1714	*	B LALSD	SET MIAR TO ADDRESS 0000
186F 1715	186F	1715	DC AL1(MIARO)
1870 1716	1870	1716	DC XL1'00'
1717	*	B ICPGO	
1718	*		*
1719	*	SIO X'02',X'C4' SIO TO RESET ENABLE INTERRUPTS	
1720	*	SIO X'04',X'C4' SIO TO RESET OP END	
1721	*		*
1722	*		*
1723	*	B SDSO	SENSE BYTE 1
1724	*	TBF IOPIN,X'10' TEST IF OP END IS RESET	
1725	*	JT SB1A3 BR IF OK	
1726	*		*
1727	*	B ERRPRT	ERROR CODE 5191
188A 1728	188A	1728	DC XL1'10'
1729	*		*
1730	*	TBN SB1ER2,X'C4' TIO FOR INTRPT PENDING(SHD NOT BR)	
1731	*	J SB1A4 NO ERROR-GO TO NEXT TEST	
1732	*		*
1733	*	B ERRPRT	ERROR CODE 5192
1734	*	DC XL1'20'	
1735	*		*
1736	*	NOW ENABLE INTERRUPTS--OP END SHD TURN ON	
1737	*		*
1738	*	SIO X'80',X'C4' SIO ENABLE INTRPTS (IOP INSTR 'LBI	
1739	*	TIO SB1A5,X'C4' SBI' WILL CAUSE 'OP-END' TO COME ON)	
1740	*	TIO FOR INTERRUPTS PENDING(SHD BR)	
1741	*		*
1742	*	B ERRPRT	ERROR CODE 5193
1743	*	DC XL1'30'	
1744	*		*
1745	*	B SDSO	GET ADAPTER SENSE BYTE 1
1746	*	TBN IOPIN,X'10' TEST FOR OP END ON	
1747	*	JT SB1A9 BR IF YES	
1748	*		*
1749	*	B ERRPRT	ERROR CODE 5194
1750	*	DC XL1'40'	
1751	*		*
1752	*	MVC SNSBYT(2),ZERO CLEAR INT SUBROUTINE SENSE AREA	
1753	*	SNS SNSINT,X'C5' SENSE ADAPTER STATUS BYTES	
1754	*	TBF SNSINT,X'15' OP END, ADAPTER CHK, DM ATTN	
1755	*	BF BGNINT BR TO THE OLD INTERRUPT RTN	
1756	*	TBF SNSINT-1,X'0F' ANY OF 4 SEEK COMPLETES	
1757	*	BF BGNINT BR TO THE OLD INTERRUPT RTN	
1758	*	B **4 NO-OP	
1759	*		*
1760	*	IF AN OP-END INTERRUPT IS PENDING INTERRUPT SUBROUTINE WILL	
1761	*	SENSE INTO LOCATION SNSBYT	
1762	*		*
1763	*	TBN SNSBYT,X'10' OP-END INTERRUPT OCCUR ?	
1764	*	JT SB1A6 BR IF YES	
1765	*		*
1766	*	B ERRPRT	ERROR 5198
1767	*	DC XL1'80'	
1768	*		*
1769	*	SIO X'02',X'C4' SIO RESET ENABLE INTERRUPTS	
1770	*	SIO X'04',X'C4' SIO RESET OP END	
1771	*	B SDSO GET SENSE BYTE 1	
1772	*	TBF ICPIN,X'10' TEST THAT OP END IS RESET	
1773	*	JT SB1A7	
1774	*		*
1775	*	B ERRPRT	ERROR CODE 5195
1776	*	DC XL1'50'	
1777	*		*
1778	*	NOW STOP IOP AND SEE IF OP END TURNS ON	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
18F3 C0 87 3265		1779 *		
18F7 F3 C4 80		1780 SB1A7	B	HIOP HALT MICRO-PROCESSOR
18FA C0 87 30F1		1781	SIO	X'80'.X'C4' SIO TO ENABLE INTERRUPTS
18FE 38 10 33DE		1782	B	SDSO GET SENSE BYTE 1
1902 F2 10 05		1783	TBN	IOPIN.X'10' TEST IF OP END IS ON
		1784	JT	SB1AB
		1785 *		
1905 C0 87 2A07		1786	B	ERRPRT
1909 60		1909	DC	XL1'60' ERROR CODE 5196
		1788 *		
190A C0 87 298B		1789 SB1AB	B	NORMN LOOP TEST
		1790 *		
		1791 *		NOW TEST FOR DM ATTENTION BIT OFF AND ON
		1792 *		
190E C0 87 2999		1793	B	BGNTST SET UP LOOP ADDRESS
1912 F3 C4 02		1794	SIO	X'02'.X'C4' SIO RESET ENABLE INTERRUPTS
1915 3C 20 33FB		1795	MVI	FTR+EXT.X'20' TURN ON DATA MODULE ATTN
1919 C0 87 28BA		1796	B	LFTR BIT IN FTR REG
		1797 *		
191D C0 87 30F1		1798	B	SDSO GET SENSE BYTE 1
1921 39 04 33DE		1799	TBF	IOPIN.X'04' TEST IF DM ATTN BIT IS OFF
1925 F2 10 05		1800	JT	SB1AA JUMP IF OFF
		1801 *		
1928 C0 87 2A07		1802	B	ERRPRT ERROR CODE 5199
192C 90		192C	DC	XL1'90'
		1804 *		
192D F3 C4 80		1805 SB1AA	SIO	X'80'.X'C4' SIO ENABLE INTERRUPTS
		1806 *		
1930 C0 87 30F1		1807	B	SDSO GET SENSE BYTE AGAIN
1934 3E 04 33DE		1808	TBN	IOPIN.X'04' TEST THAT DM ATTN BIT IS ON
1938 F2 10 05		1809	JT	SB1AB GO IF OK
		1810 *		
193B C0 87 2A07		1811	B	ERRPRT ERROR CODE 519A
193F A0		193F	DC	XL1'A0'
		1813 *		
1940 F3 C4 02		1814 SB1AB	SIO	X'02'.X'C4' SIO RESET ENABLE INTERRUPTS
1943 C0 87 298B		1815	B	NORMN BR TO LOOP
		1816 *		
1947 C0 87 0216		1817	B	LINK GO TO NEXT RTNE
		1818 *		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		1820		*****
		1821 *		
		1822 *		TEST THE FILE TRAP HARDWARE
		1823 *		
		1824		*****
		1825 *		
194B 1A		194B	1826	RTN1A DC XL1'1A' ROUTINE 1A
194C 00		194C	1827	DC XL1'00' DC XL1'00'
194D 1D55		194E	1828	DC AL2(RTN1B) NEXT ROUTINE ADDRESS
		1829 *		
194F C0 87 2885		1830	B	BEGIN INITIALIZATION
		1831 *		
1953 C0 87 2EE3		1832	B	LCSI LOAD CONTROL STORE AT 0000
1957 0000		1958	1833	DC XL2'0000' DC XL2'0000'
1959 19EF04		1958	1834	DC XL3'19EF04' ORI SCN REG WITH X'04'(ODD BYTE)
195C 19EF08		195E	1835	DC XL3'19EF08' ORI SCN REG WITH X'08'(FILE XFER)
195F 08B601		1961	1836	DC XL3'08B601' LBI FCT WITH 01(TO XFER 2 BYTES)
1962 08A505		1964	1837	DC XL3'08A505' LBI FTG REG WITH 05(DIAG MODE & ALLOW FBI ERRORS)
		1838 *		
1965 19E502		1967	1839	DC XL3'19E502' ORI FTG BIT 6(DIAG SYNC IN)
1968 13924A		196A	1840	DC XL3'13924A' LOAD ZLS LOC 12 = 4A (READ FROM FILE)
196B 080000		196D	1841	DC XL3'080000' NO-OP(WAIT)
196E 19E502		1970	1842	DC XL3'19E502' DIAG SYNC IN
1971 080000		1973	1843	DC XL3'080000' NO-OP(WAIT)
1974 080000		1976	1844	DC XL3'080000' NO-OP(WAIT)
1977 19E502		1979	1845	DC XL3'19E502' DIAG SYNC IN
197A 080000		197C	1846	DC XL3'080000' NO-OP(WAIT)
197D 080000		197F	1847	DC XL3'080000' NO-OP(WAIT)
1980 00000D		1982	1848	DC XL3'00000D' BRANCH TO ITSELF(HANG)
1983 FF		1983	1849	DC XL1'FF'
		1850 *		
1984 C0 87 2DA9		1851	B	LALSB SETUP DSADR FOR FILE XFER
1988 0A		1988	1852	DC AL1(DS2) ALS LOCATION
1989 86		1989	1853	DC XL1'86' 'MULTI BYTE' BIT AND 'BLOCK'
198A C0 87 2999		1854	B	BGNTST SET UP LOOP ADDRESS AND START TEST
		1855 *		
198E C0 87 2DDF		1856	B	LALSD LOAD ALSO IN PROG 2(FILE TRAP)
1992 0A		1992	1857	DC AL1(DS2) SET DATA STORE ADDR TO 0
1993 00		1993	1858	DC XL1'00' IN PROGRAM 2(FILE TRAP)
1994 3C 00 33FD			1859	MVI SCN+EXT.X'00' ZERO THE SCN REG (BIT 4 OFF TURNS OFF FHF BIT 4)
1998 C0 87 28CA			1860	B LSCN
		1861 *		
		1862 *		
		1863 *		
199C C0 87 2EE3		1864	B	LCSI LOAD DATA AREA WITH 00'S
19A0 0600		19A1	1865	DC XL2'0600' DC XL2'0600'
19A2 000000		19A4	1866	DC XL3'000000' DC XL3'000000'
19A5 000000		19A7	1867	DC XL3'000000' DC XL3'000000'
19A8 FF		19A8	1868	DC XL1'FF' DC XL1'FF'
		1869 *		
19A9 3C FF 33F0		1870	MVI	FBI+EXT.X'FF' TEST DATA
19AD C0 87 2868		1871	B	LFBI
		1872 *		
19B1 3C 81 33F5		1873	MVI	FHF+EXT.X'B1' SETUP TO RESET FHF BITS 0 & 7
19B5 C0 87 2C4A		1874	B	LFHF RESE: FHF BITS 0 & 7
		1875 *		
19B9 C0 87 3141		1876	B	LXOPI RUN IOP 1 CYCLE TO CAUSE SNS STROBE
19BD 080000FF		19C0	1877	DC XL4'080000FF' DC XL4'080000FF'
		1878 *		
19C1 C0 87 3058		1879	B	SFHF SENSE FHF REG
19C5 39 09 33DE		1880	TBF	IOPIN.X'09' SEE IF BITS 4 & 7 RESET
19C9 F2 10 05		1881	JT	FTRAPC BR IF YES
		1882 *		
19CC C0 87 2A07		1883	B	ERRPRT ERROR CODE 51AA
19D0 A0		19D0	1884	DC XL1'A0' DC XL1'A0'
19D1 C0 87 2DDF			1885	FTRAPC B LALSD
19D5 00		19D5	1886	DC AL1(MIAR0) SET UP ALS TO EXECUTE AT 0002
19D6 02		19D6	1887	DC XL1'02' SCNA WILL NOT BE ON,SO NO FILE TRAPS WILL OCCUR.

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EPR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1907 C0 87 31DD		1888 *	B	IOPGO START IOP EXECUTION(AT ADDR 0002)
		1889		
		1890 *		
		1891 *		NOW CHECK THAT NO TRAPS OCCURRED
19DB C0 87 2E73		1892 *	B	SALSD READ ALSO FOR THE FILE TRAP PROG
		1893		DS ADDR SHD NOT BE
		1894 *		CHANGED SINCE NO FILE
19DF 0A	19DF	1895	DC	AL1(DS2) TRAPS OCCURRED
		1896 *		
		1897 *		
19E0 3D 00 33DE		1898	CLI	IOPIN,X*00* JUMP IF OK
19E4 F2 81 05		1899	JE	FTRAP8
		1900 *		
19E7 C0 87 2A07		1901	B	ERRPRT ERROR CODE 51A8
19EB 80	19EB	1902	DC	XL1*80*
		1903 *		
19EC C0 87 2EE3		1904	B	LCSI ALTER INSTRUCTION AT 0002
19F0 0002	19F1	1905	DC	XL2*0002* TO A NO-OP INSTEAD OF LOAD THE FCT
19F2 080000	19F4	1906	DC	XL3*080000*
19F5 FF	19F5	1907	DC	XL1*FF*
		1908 *		
19F6 C0 87 2BCA		1909	B	LSCN LOAD SCN WITH 00 AGAIN
		1910 *		
19FA C0 87 2DDF		1911	B	LALSD SET UP TO EXEC PROG 0 AT 0000
19FE 00	19FE	1912	DC	AL1(MIAR0)
19FF 00	19FF	1913	DC	XL1*00*
		1914 *		
1A00 C0 87 2C4A		1915	B	LFHF RESET FHF BITS 0, 4 & 7
1A04 C0 87 31DD		1916	E	IOPGO START IOP AGAIN.WITHOUT THE SET FCT
		1917 *		THE RUN LATCH WILL BE OFF AND FILE
		1918 *		TRAPS WILL NOT OCCUR.
1A08 C0 87 2E73		1919	B	SALSD SENSE ALSO OF PRG 2. SHD STILL BE
1A0C 0A	1A0C	1920	DC	AL1(DS2) ZERO.
		1921 *		
1A0D 3D 00 33DE		1922	CLI	IOPIN,X*00* CHECK FOR *00*
1A11 F2 81 05		1923	JE	FTRAP9 JUMP IF OK
		1924 *		
1A14 C0 87 2A07		1925	B	ERRPRT ERROR CODE 51A9
1A18 90	1A18	1926	DC	XL1*90*
		1927 *		
1A19 C0 87 2EE3		1928	B	LCSI CHANGE INSTRUCTION AT 0002
1A1D 0002	1A1E	1929	DC	XL2*0002* BACK TO LOAD FCT WITH *01*
1A1F 08B601	1A21	1930	DC	XL3*08B601* TO XFER TWO BYTES
1A22 FF	1A22	1931	DC	XL1*FF*
		1932 *		
1A23 3C 01 33FD		1933	MVI	SCN+EXT,X*01* SCN BIT 7 'INHIBIT TRAPS'
1A27 C0 87 2BCA		1934	B	LSCN LOAD SCN WITH X*01*
		1935 *		
1A2B C0 87 2DDF		1936	B	LALSD SET UP TO EXEC PROG 0 AT 0000
1A2F 00	1A2F	1937	DC	AL1(MIAR0)
1A30 00	1A30	1938	DC	XL1*00*
		1939 *		
1A31 C0 87 2C4A		1940	B	LFHF RESET FHF BITS 0, 4 & 7
1A35 C0 87 31DD		1941	B	IOPGO START IOP AGAIN. WITH 'INHIBIT TRAP'
		1942 *		ON FILE TRAPS WILL NOT OCCUR.
		1943 *		
1A39 C0 87 2E73		1944	B	SALSD SENSE ALSO OF PRG 2. SHD STILL BE
1A3D 0A	1A3D	1945	DC	AL1(DS2) ZERO.
		1946 *		
1A3E 3D 00 33DE		1947	CLI	IOPIN,X*00* CHECK FOR *00*
1A42 F2 81 05		1948	JE	FTRAPD JUMP IF OK
		1949 *		
1A45 C0 87 2A07		1950	B	ERRPRT ERROR CODE 51A8
1A49 80	1A49	1951	DC	XL1*80*
		1952 *		
1A4A 3C 00 33FD		1953	MVI	SCN+EXT,X*00* ZERO THE SCN REG
1A4E C0 87 2BCA		1954	B	LSCN
		1955 *		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1A52 C0 87 2DDF		1956	B	LALSD SET UP TO START PROG 0
1A56 00		1957	DC	AL1(MIAR0) AT 0000 AGAIN
1A57 00		1958	DC	XL1*00*
		1959 *		
1A5P C0 87 2C4A		1960	B	LFHF RESET FHF BITS 0, 4 & 7
1A5C C0 87 31DD		1961	B	IOPGO START IOP AT '0000'. THIS TIME 3 FILE
		1962 *		TRAPS WILL OCCUR AS A RESULT OF 3
		1963 *		SYNC-IN'S. TWO BYTES OF DATA WILL BE
		1964 *		STORED IN THE FILE TRAP DATA AREA
		1965 *		ADDRESSED BY PROG 2.
		1966 *		
		1967 *		
		1968 *		NOW CHECK FOR ERRORS
1A60 C0 87 2E73		1969	B	SALSD SENSE THE FILE TRAP PROG
1A64 0A	1A64	1970	DC	AL1(DS2) DATA STORE ADDRESS
		1971 *		
1A65 3D 01 33DE		1972	CLI	IOPIN,X*01* ADDRESS SHD HAVE INCREMENTED
1A69 F2 81 05		1973	JE	FTRAP1 BY 1
		1974 *		
1A6C C0 87 2A07		1975	B	ERRPRT ERROR CODE 51A0
1A70 00	1A70	1976	DC	XL1*00*
		1977 *		
1A71 C0 87 2F43		1978	B	FTRAP1 SCS EXAMINE CS 0600 FOR DATA=FF
1A75 0600	1A76	1979	DC	XL2*0600*
		1980 *		
1A77 3D 00 3570		1981	CLI	CR,X*00* CHECK THAT STORE DID NOT START
1A7B F2 01 24		1982	JNE	FTRPX1 ON AN EVEN BYTE
		1983 *		
1A7E 3D FF 3571		1984	CLI	Y,X*FF* CHECK THAT 'FF' WAS STORED IN
1A82 F2 01 1D		1985	JNE	FTRPX1 THE ODD BYTE
		1986 *		
1A85 C0 87 3008		1987	B	FTRAP2 SADS READ ADS REG TO CHECK THAT
1A89 39 01 33DE		1988	TBF	IOPIN,X*01* FBI ERROR IS OFF
1A8D F2 10 05		1989	JT	FTRAP3
		1990 *		
1A90 C0 87 2A07		1991	B	ERRPRT ERROR CODE 51A1
1A94 10	1A94	1992	DC	XL1*10*
		1993 *		
1A95 C0 87 2F43		1994	B	FTRAP3 SCS READ CS TO SEE THAT 'FF' WAS
1A99 0601	1A9A	1995	DC	XL2*0601* STORED AT '0601'
		1996 *		
1A9B 3D FF 3570		1997	CLI	CR,X*FF* CHK FOR 'FF'
1A9F F2 81 05		1998	JE	FTRAP4
		1999 *		
1AA2 C0 87 2A07		2000	B	FTRPX1 ERRPRT ERROR CODE 51A2
1AA6 20	1AA6	2001	DC	XL1*20*
1AA7 C0 87 3058		2002	B	FTRAP4 SFHF READ FHF REG
		2003 *		
1AAB 38 01 33DE		2004	TBN	IOPIN,X*01* TEST IF END OF FILE XFER IS ON
1AAF F2 10 05		2005	JT	FTRAP5
		2006 *		
1AB2 C0 87 2A07		2007	B	ERRPRT ERROR CODE 51A3
1AB6 30	1AB6	2008	DC	XL1*30*
		2009 *		
1AB7 38 08 33DE		2010	TBN	FTRAP5 IOPIN,X*08* TEST IF END FILE TRAP COUNT IS ON
1ABB F2 10 05		2011	JT	FTRAP6
		2012 *		
1ABE C0 87 2A07		2013	B	ERRPRT ERROR CODE 51A4
1AC2 40	1AC2	2014	DC	XL1*40*
		2015 *		
1AC3 C0 87 29BB		2016	B	FTRAP6 NORMN GO TO NORMAL END AND LOOP
		2017 *		
		2018 *		NOW TEST EVEN BYTE FILE XFER
		2019 *		
1AC7 C0 87 2999		2020	B	BGNTST INIT FOR NEW TEST
		2021 *		
1ACB C0 87 2DDF		2022	B	LALSD SET FILE TRAP DATA ADDR TO '0000'
1ACF 0A	1ACF	2023	DC	AL1(DS2)

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1AD0	00	2024	DC	XL1'00'
1AD1	C0 87 2DDF	2025 *	B	LALSD
1AD5	00	2026	DC	AL1(MIARO)
1AD6	01	2027	DC	XL1'01'
1AD7	C0 87 2EE3	2029 *	B	LCSI
1ADB	0600	2030	DC	XL2'0600'
1ADD	000000	1ADC 2031	DC	XL3'000000'
1AE0	000000	1ADF 2032	DC	XL3'000000'
1AE3	FF	1AE2 2033	DC	XL1'FF'
1AE4	3C FF 33F0	1AE3 2034	DC	XL1'FF'
1AEB	C0 87 2B68	2035 *	MVI	FBI+EXT.X'FF'
1AEC	C0 87 2BCA	2036	B	LFBI
1AF0	C0 87 2C4A	2037	B	LSCN
1AF4	C0 87 31DD	2038 *	B	LFHF
		2039	B	IOPGO
		2040 *	B	IOPGO
		2041	B	LFHF
		2042	B	IOPGO
		2043 *	NOW TEST RESULTS OF EVEN BYTE XFER	
		2044 *	READ CS FILE TRAP DATA AREA	
		2045 *	B	SCS
1AF8	C0 87 2F43	2046	DC	XL2'0600'
1AFC	0600	1AFD 2047	DC	XL2'0600'
1AFE	3D FF 3570	2048 *	CLI	CR.X'FF'
1B02	F2 01 07	2049	JNE	FTRPX2
1B05	3D FF 3571	2050	CLI	Y.X'FF'
1B09	F2 81 05	2051 *	JE	FTRAP7
1B0C	C0 87 2A07	2052	JE	FTRAP7
1B10	50	2053	JE	FTRAP7
1B11	C0 87 298B	2054 *	B	ERRPRT
		2055	DC	XL1'50'
		2056	DC	XL1'50'
		2057 *	B	NORMN
		2058	B	NORMN
		2059 *	FORCE A FILE TRANSFER ERROR BY ALTERING THE ADDRESS USED BY THE FILE TRAP PROG	
		2060 *	LOAD THESE INSTRUCTIONS IN CS AT '0000'	
		2061 *	SET FILE READ AND XFER MODE(SCN REG) LOAD FCT WITH '01'	
		2062 *	DIAG MODE AND ALLOW ERRORS(FTG) DIAG SYNC IN	
1B15	C0 87 2EE3	2063	B	LCSI
1B19	0000	1B1A 2064	DC	XL2'0000'
1B1B	19EF0E	1B1D 2065	DC	XL3'19EF0E'
1B1E	C8B601	1B20 2066	DC	XL3'08B601'
1B21	08A505	1B23 2067	DC	XL3'08A505'
1B24	19E502	1B26 2068	DC	XL3'19E502'
1B27	080000	1B29 2069	DC	XL3'080000'
1B2A	080000	1B2C 2070	DC	XL3'080000'
1B2D	19E502	1B2F 2071	DC	XL3'19E502'
1B30	080000	1B32 2072	DC	XL3'080000'
1B33	080000	1B35 2073	DC	XL3'080000'
1B36	080000	1B38 2074	DC	XL3'080000'
1B39	080000	1B3B 2075	DC	XL3'080000'
1B3C	039242	1B3E 2076	DC	XL3'039242'
1B3F	19E502	1B41 2077	DC	XL3'19E502'
1B42	080000	1B44 2078	DC	XL3'080000'
1B45	080000	1B47 2079	DC	XL3'080000'
1B48	13524A	1B4A 2080	DC	XL3'13524A'
1B4B	000010	1B4D 2081	DC	XL3'000010'
1B4E	FF	1B4E 2082	DC	XL1'FF'
1B4F	C0 87 2999	2083 *	B	BGNTST
1B53	C0 87 2BCA	2084	B	LSCN
1B57	3C 80 33FB	2085 *	MVI	FTR+EXT.X'80'
1B5B	C0 87 2BBA	2086	B	LFTR
1B5F	C0 87 3141	2087 *	B	LXOPI
		2088	B	LXOPI
		2089	B	LXOPI
		2090 *	B	LXOPI
		2091	B	LXOPI

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1B63	080000FF	1B66 2092	DC	XL4'080000FF'
1B67	3C 00 33FB	2093 *	MVI	FTR+EXT.X'00'
1B6B	C0 87 2BBA	2094	B	LFTR
1B6F	C0 87 3008	2095	B	SADS
1B73	39 10 33DE	2096 *	TBF	IOPIN.X'10'
1B77	F2 10 05	2097	JT	FTRAPA
1B7A	C0 87 2A07	2098	JT	FTRAPA
1B7E	60	2099	JT	FTRAPA
1B7F	C0 87 2C4A	2100 *	B	ERRPRT
1B83	C0 87 2DDF	2101	B	ERRPRT
1B87	00	1B7E 2102	DC	XL1'60'
1B88	00	2103 *	DC	XL1'60'
1B89	C0 87 31DD	2104	B	LFHF
1B8D	C0 87 3008	2105 *	B	LALSD
1B91	38 10 33DE	2106	DC	AL1(MIARO)
1B95	F2 10 05	1B87 2107	DC	XL1'00'
1B98	C0 87 2A87	1B88 2108	DC	XL1'00'
1B9C	70	2109 *	B	IOPGO
1B9D	C0 87 298B	2110	B	IOPGO
		2111 *	B	IOPGO
		2112	B	IOPGO
		2113	B	IOPGO
		2114	B	IOPGO
		2115 *	B	IOPGO
		2116	B	IOPGO
		2117	B	IOPGO
		2118 *	B	IOPGO
		2119	B	IOPGO
		2120	B	IOPGO
		2121 *	B	IOPGO
		2122 *	B	IOPGO
		2123 *	B	IOPGO
		2124	B	IOPGO
		2125	B	IOPGO
		2126	B	IOPGO
		2127	B	IOPGO
		2128 *	B	IOPGO
		2129	B	IOPGO
		2130	B	IOPGO
		2131	B	IOPGO
		2132	B	IOPGO
		2133	B	IOPGO
		2134	B	IOPGO
		2135 *	B	IOPGO
		2136	B	IOPGO
		2137 *	B	IOPGO
		2138	B	IOPGO
		2139 *	B	IOPGO
		2140	B	IOPGO
		2141	B	IOPGO
		2142 *	B	IOPGO
		2143	B	IOPGO
		2144	B	IOPGO
		2145 *	B	IOPGO
		2146	B	IOPGO
		2147	B	IOPGO
		2148	B	IOPGO
		2149 *	B	IOPGO
		2150	B	IOPGO
		2151	B	IOPGO
		2152	B	IOPGO
		2153	B	IOPGO
		2154	B	IOPGO
		2155 *	B	IOPGO
		2156	B	IOPGO
		2157	B	IOPGO
		2158	B	IOPGO

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1BFE	C0 87 2DDF	2159 *	B	LALSD
1C02	04	2160	DC	AL1(MIARI) TRAP A MIAR = 0020
1C03	20	2161	DC	XL1'20'
		2162	DC	XL1'20'
1C04	C0 87 31DD	2163 *	B	IOPGD
		2164	B	IOPGD
1C08	C0 87 2E73	2165 *	B	SALSD HALT IOP, GET TRAP A MIAR
1C0C	04	2166	DC	AL1(MIARI)
1C0D	3D 21 33DE	2167	DC	AL1(MIARI)
1C11	F2 81 0C	2168	DC	AL1(MIARI)
		2169	DC	AL1(MIARI)
1C14	38 08 33FB	2170 *	DC	AL1(MIARI)
1C18	F2 10 11	2171	DC	AL1(MIARI)
		2172	DC	AL1(MIARI)
1C1B	C0 87 2A07	2173 *	DC	AL1(MIARI)
1C1F	E0	2174	DC	AL1(MIARI)
		2175	DC	AL1(MIARI)
1C20	38 08 33FB	2176 *	DC	AL1(MIARI)
1C24	F2 90 0D	2177	DC	AL1(MIARI)
		2178	DC	AL1(MIARI)
1C27	C0 87 2A07	2179 *	DC	AL1(MIARI)
1C2B	D0	2180	DC	AL1(MIARI)
		2181	DC	AL1(MIARI)
		2182 *	DC	AL1(MIARI)
1C2C	3C 00 1BDF	2183	DC	AL1(MIARI)
1C30	C0 87 1BCE	2184	DC	AL1(MIARI)
		2185 *	DC	AL1(MIARI)
1C34	3C 08 1BDF	2186	DC	AL1(MIARI)
1C38	C0 87 29BB	2187	DC	AL1(MIARI)
		2188 *	DC	AL1(MIARI)
		2189 *	DC	AL1(MIARI)
		2190 *	DC	AL1(MIARI)
1C3C	3C 00 3475	2191	DC	AL1(MIARI)
1C40	3C 14 3477	2192	DC	AL1(MIARI)
1C44	3C FA 3479	2193	DC	AL1(MIARI)
1C48	3C 54 347B	2194	DC	AL1(MIARI)
1C4C	3C 54 347D	2195	DC	AL1(MIARI)
1C50	C0 87 2DC8	2196	DC	AL1(MIARI)
		2197 *	DC	AL1(MIARI)
		2198	DC	AL1(MIARI)
		2199 *	DC	AL1(MIARI)
		2200 *	DC	AL1(MIARI)
		2201 *	DC	AL1(MIARI)
1C54	C0 87 2EE3	2202	DC	AL1(MIARI)
1C58	0000	2203	DC	AL1(MIARI)
1C5A	18AE55	2204	DC	AL1(MIARI)
1C5D	168A80	2205	DC	AL1(MIARI)
1C60	08AF0A	2206	DC	AL1(MIARI)
		2207 *	DC	AL1(MIARI)
1C63	18B60F	2208	DC	AL1(MIARI)
		2209 *	DC	AL1(MIARI)
1C66	080000	2210	DC	AL1(MIARI)
1C69	080000	2211	DC	AL1(MIARI)
1C6C	020000	2212	DC	AL1(MIARI)
1C6F	18A504	2213	DC	AL1(MIARI)
1C72	08A514	2214	DC	AL1(MIARI)
1C75	18A504	2215	DC	AL1(MIARI)
1C78	18A200	2216	DC	AL1(MIARI)
1C7B	08A500	2217	DC	AL1(MIARI)
1C7E	08AF00	2218	DC	AL1(MIARI)
1C81	00000D	2219	DC	AL1(MIARI)
1C84	FF	2220	DC	AL1(MIARI)
		2221 *	DC	AL1(MIARI)
1C85	3C 12 33E9	2222	DC	AL1(MIARI)
1C89	3C CE 34C0	2223	DC	AL1(MIARI)
1C8D	3C 01 33DF	2224	DC	AL1(MIARI)
1C91	C0 87 2D44	2225	DC	AL1(MIARI)

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1C95	3C 00 33FD	2226 *	B	LALSD
1C99	C0 87 2BCA	2227	B	LALSD
		2228	B	LALSD
		2229 *	B	LALSD
1C9D	3C 00 33F3	2230	B	LALSD
1CA1	C0 87 2BAA	2231	B	LALSD
		2232 *	B	LALSD
1CA5	C0 87 2DA9	2233	B	LALSD
1CA9	0A	2234	B	LALSD
1CAA	85	2235	B	LALSD
		2236 *	B	LALSD
1CAB	C0 87 2999	2237	B	LALSD
		2238 *	B	LALSD
1CAF	3C 01 33F5	2239	B	LALSD
1CB3	C0 87 2C4A	2240	B	LALSD
		2241 *	B	LALSD
		2242 *	B	LALSD
1CB7	C0 87 2DDF	2243	B	LALSD
1CB8	0A	2244	B	LALSD
1CBC	00	2245	B	LALSD
		2246 *	B	LALSD
1CBD	C0 87 2EE3	2247	B	LALSD
1CC1	0500	2248	B	LALSD
1CC3	10AAAAFF	2249	B	LALSD
		2250 *	B	LALSD
1CC7	C0 87 2DDF	2251	B	LALSD
1CCB	00	2252	B	LALSD
1CCC	00	2253	B	LALSD
		2254 *	B	LALSD
1CCD	C0 87 31DD	2255	B	LALSD
		2256 *	B	LALSD
1CD1	C0 87 2FAB	2257	B	LALSD
		2258	B	LALSD
1CD5	3D 55 33DE	2259	B	LALSD
1CD9	C0 81 1CE6	2260	B	LALSD
		2261 *	B	LALSD
1CDD	C0 87 2A07	2262	B	LALSD
1CE1	C2	2263	B	LALSD
1CE2	1CD6	2264	B	LALSD
1CE4	33DE	2265	B	LALSD
		2266 *	B	LALSD
1CE6	C0 87 29BB	2267	B	LALSD
		2268	B	LALSD
		2269 *	B	LALSD
		2270 *	B	LALSD
		2271 *	B	LALSD
1CEA	C0 87 2EE3	2272	B	LALSD
1CEE	0000	2273	B	LALSD
1CF0	18AE55	2274	B	LALSD
1CF3	168A80	2275	B	LALSD
1CF6	08AF0A	2276	B	LALSD
		2277 *	B	LALSD
1CF9	18B60F	2278	B	LALSD
		2279 *	B	LALSD
1CFC	080000	2280	B	LALSD
1CFF	080000	2281	B	LALSD
1D02	080000	2282	B	LALSD
1D05	18A502	2283	B	LALSD
		2284 *	B	LALSD
1D08	080000	2285	B	LALSD
1D0B	080000	2286	B	LALSD
1D0E	18A504	2287	B	LALSD
1D11	08A514	2288	B	LALSD
1D14	18A504	2289	B	LALSD
1D17	08A500	2290	B	LALSD
1D1A	18A200	2291	B	LALSD
1D1D	08AF00	2292	B	LALSD

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1D20	000010	1D22	2293	DC	XL3'000010' B 0010 HANG
1D23	FF	1D23	2294	DC	XL1'FF'
			2295 *		
1D24	C0 87 2999		2296	B	BGNTST
			2297 *		
1D28	C0 87 2DDF		2298	B	LALSD
1D2C	0A	1D2C	2299	DC	AL1(DS2)
1D2D	00	1D2D	2300	DC	XL1'00'
			2301 *		
1D2E	C0 87 2DDF		2302	B	LALSD
1D32	00	1D32	2303	DC	AL1(MIAR0)
1D33	00	1D33	2304	DC	XL1'00'
			2305 *		
1D34	C0 87 31DD		2306	B	IOPGO
			2307 *		
1D38	C0 87 2FA8		2308	B	SFBI HALT IOP. GET FBI-REG
		1D3D	2309	EQU	**+1
1D3C	3D AA 33DE		2310	CLI	IOPIN,X'AA' DATA AS EXPECTED ?
1D40	C0 81 1D4D		2311	BE	FTRP27 BR IF YES
			2312 *		
1D44	C0 87 2A07		2313	B	ERRPRT
1D48	C2	1D48	2314	DC	XL1'C2' ERROR 51AC
1D49	1D3D	1D4A	2315	DC	AL2(FTRP25) EXPECTED FBI
1D48	33DE	1D4C	2316	DC	AL2(IOPIN) RECIEVED
			2317 *		
1D4D	C0 87 29BB		2318	B	NORMN
1D51	C0 87 0216		2319	B	LINK END OF RTNE
			2320		
			2320		
1D55	1B	1D55	2321	DC	XL1'1B' ROUTINE 1B NOT USED
1D56	00	1D56	2322	DC	XL1'00'
1D57	1D5D	1D58	2323	DC	AL2(RTN1C) NEXT ROUTINE ADDRESS
1D59	C0 87 0216		2324	B	LINK

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
			2326		*****
			2327 *		
			2328 *		SCAN HARDWARE TEST (SHT)
			2329 *		TESTS - SCAN CONTROL HARDWARE (601,611,641,651)
			2330 *		TRAP 'C' CONTROL (T2, J2, Q2)
			2331 *		SET TO 'FBO' & 'FO' REGS
			2332 *		HI, LO COMPARE LATCHES
			2333 *		RESULT LATCHES ('SCAN EQ', 'SCAN HIT')
			2334 *		COMPARATOR
			2335 *		ERRORS DISPLAYED -
			2336 *		51C0 FHF BITS 5 & 6 FAIL TO RESET, V1 = FHF RCVD*
			2337 *		51C1 FBO NOT C'TED BY TRAP 'C'
			2338 *		51C2 FHF NOT AS EXPECTED FOLLOWING SCAN
			2339 *		V1 = FHF EXPD*
			2340 *		V2 = FHF RCVD*
			2341 *		51C3 TIO DIDN'T BR ON 'SCAN HIT'
			2342 *		51C4 TIO BRANCHED WITH NO 'SCAN HIT'
			2343 *		
			2344		*****
			2345 *		
1D5D	1C	1D5D	2346	DC	XL1'1C' ROUTINE 1C
1D5E	00	1D5E	2347	DC	XL1'00'
1D5F	1F2E	1D60	2348	DC	AL2(RTN1D) NEXT ROUTINE ADDRESS
			2349 *		
1D61	C0 87 2885		2350	B	BEGIN INITIALIZATION
			2351 *		
			2352 *		LOAD CONTROL STOR MICRO PROGRAM THAT SIMULATES SCAN
			2353 *		
			2354	B	LCSI LOAD CS AT LOC 0000
1D65	C0 87 2EE3		2355	DC	XL2'0000'
1D69	0000	1D6A	2356 *	DC	BELOW CAUSES 2 TRAP C'S TO LOAD FO, FBO FROM CS
			2357	DC	XL3'18A781' RESET FHF BIT 0 AND 7
1D6B	18A781	1D70	2358	DC	XL3'069A80' SET MODE FOR PGM 6 TO '10'
1D6E	069A80	1D73	2359	DC	XL3'168A80' SET MODE FOR PGM 2 TO '10'
1D71	168A80	1D75	2360	DC	XL3'0396CE' SET ZONE FOR PGM 6
1D74	0396CE	1D79	2361	DC	XL3'08AF88' LBI SCN,X'88'(SCN CTRL&FILE XFER)
1D77	08AF88	1D7C	2362	DC	XL3'08B601' LBI FCT,X'01'(TO XFER 2 BYTES)
1D7A	08B601	1D7F	2363	DC	XL3'100006' BR TO ITSELF, HANG
1D7D	100006		2364 *		BELOW SIMULATES SCAN ('READ' WITH SCN 0 ON) TO COMPARE FO/FI
			2365	DC	XL3'19E502' ORI FTG,X'02'(DIAG SYNC IN)
1D80	19E502	1D85	2366	DC	XL3'13924A' LOAD ?LS 12=X'4A' (READ FROM FILE)
1D83	13924A	1D88	2367	DC	XL3'080000' NO-OP, WAIT
1D86	080000	1D8B	2368	DC	XL3'19E502' DIAG SYNC-IN, SCAN COMPARE
1D89	19E502	1D8E	2369	DC	XL3'080000' NO-OP, WAIT
1D8C	080000	1D91	2370	DC	XL3'080000' NO-OP, WAIT
1D8F	080000	1D94	2371	DC	XL3'19E502' DIAG SYNC-IN, TERMINATE SCAN
1D92	19E502	1D97	2372	DC	XL3'080000' NO-OP, WAIT
1D95	080000	1D9A	2373	DC	XL3'080000' NO-OP, WAIT
1D98	080000	1D9D	2374	DC	XL3'08AF00' LBI SCN,X'00' CLEAR SCN REG
1D9B	08AF00	1DA0	2375	DC	XL3'100011' BR TO ITSELF, HANG
1D9E	100011	1DA1	2376	DC	XL1'FF' TERM
1DA1	FF		2377 *		
			2378	B	LALSB SETUP DSADDR FOR TRAP 'B'
1DA2	C0 87 2DA9		2379	DC	AL1(DS2) ALS ADDRESS
1DA6	0A	1DA7	2380	DC	XL1'85' BLOCK '05' + 'MULTI' BIT
1DA7	85		2381 *		
			2382	B	LALSB SETUP DSADR FOR TRAP 'C'
1DA8	C0 87 2DA9		2383	DC	XL1'1A' ALS ADDRESS
1DAC	1A	1DAD	2384	DC	XL1'86' 'MULTI' BIT AND BLOCK '06'
1DAD	86		2385 *		
			2386	B	LALSD SETUP INDEX BYTE IN ALS(D)
1DAE	C0 87 2DDF		2387	DC	XL1'08' ALS ADDRESS
1DB2	08	1DB3	2388	DC	XL1'D4' PTR = 6, LINK = '14'
1DB3	D4		2389 *		
			2390	MVI	SCN+EXT,X'00' CLEAR SCN REG
1DB4	3C 00 33FD		2391	B	LSCN
1DB8	C0 87 28CA		2392 *		
			2393	MVI	ZLS+22,X'CE' SETUP PTR 110 ZLS FOR

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1DC0 3C 16 33E9	2394	MVI	ZLSAR,22 *WRITE TO FILE*
1DC4 3C 01 330F	2395	MVI	LENGTH,1
1DC8 C0 87 2D44	2396	B	LZLS
	2397 *		
1DCC C2 01 1EE4	2398	LA	SHTTBL,XR1 POINT TO TEST TABLE
1DD0 1C 00 33F0 00	2399 SHT01	MVC	FBI+EXT,0(1,XR1) GET *FI* DATA
1DD5 C0 87 2B68	2400	B	LFBI MOVE *DATA* TO *FI*
	2401 *		
1DD9 1C 00 1DE5 01	2402	MVC	SHT04,1(1,XR1) GET *FO* DATA FOR COMPARE
1DDE C0 87 2EE3	2403	B	LCSI PUT IN CS DATA LOCATION
1DE2 0600	1DE3 2404	DC	AL2(DDDF1) PARITY FOR DATA BYTE
1DE4 10	1DE4 2405	DC	XL1*10* DATA BYTE FROM TABLE
1DE5 00	1DE5 2406 SHT04	DC	AL1(*--*) DATA TO TERMINATE SCAN
1DE6 FF	1DE6 2407	DC	XL1*FF* TERMINATE CS WORDS
1DE7 FF	1DE7 2408	DC	XL1*FF*
	2409 *		
1DE8 1C 00 1F2D 02	2410	MVC	SHTWK,2(1,XR1) SAVE TEST FLAGS
1DED 3B F9 1F2D	2411	SBF	SHTWK,X*F9* MASK SCN BIT OUT
1DF1 1C 00 1E50 02	2412	MVC	SHT07,2(1,XR1) MOVE FLAGS TO LBI SCN INST
1DF6 3B BF 1E50	2413	SBF	SHT07,X*BF* MASK FHF BITS OUT
1DFA 3A 88 1E50	2414	SBN	SHT07,X*88* TURN ON SCN CTRL & FILE XFER
1DFE 3C 18 1E4E	2415	MVI	SHT06,X*18* SETUP PARITY FOR *EVEN* WORD*
1E02 38 40 1E50	2416	TBN	SHT07,X*40* SEE IF *EVEN*
1E06 C0 10 1E0E	2417	BT	SHT05 BR IF YES
	2418 *		
1E0A 3C 08 1E4E	2419	MVI	SHT06,X*08* ELSE SETUP PARITY FOR *ODD*
	2420 *		
1E0E 3C 04 33F3	2421 SHT05	MVI	FTG+EXT,X*04* DROP THE *LOAD FI* CLK
1E12 C0 87 2BAA	2422	B	LFTG
	2423 *		
1E16 3C 00 33F3	2424	MVI	FTG+EXT,X*00* DROP THE DIAG GATE
1E1A C0 87 2BAA	2425	B	LFTG
	2426 *		
1E1E 3C 00 33F1	2427	MVI	DST+EXT,X*00* CLEAR DST REG
1E22 C0 87 2C0A	2428	B	LDST
	2429 *		
1E26 3C 00 3401	2430	MVI	DXC+EXT,X*00* CLEAR DXC REG
1E2A C0 87 2BFA	2431	B	LDXC
	2432 *		
	2433		
	2434 *		BEGIN TEST LOOP HERE
	2435 *		
1E2E C0 87 2999	2436	B	BGNTST
	2437 *		
1E32 3C 00 33FC	2438	MVI	FBD+EXT,X*00* CLEAR *FBD* REG
1E36 C0 87 2B8A	2439	B	LFBD
	2440 *		
1E3A C0 87 2DDF	2441	B	LALSD SET TRAP *C* DSADDR TO 0600
1E3E 1A	1E3E 2442	DC	XL1*1A*
1E3F 00	1E3F 2443	DC	XL1*00*
	2444 *		
1E40 3C 00 33FD	2445	MVI	SCN+EXT,0 RESET *SCN* REG
1E44 C0 87 2BCA	2446	B	LSCN
	2447 *		
1E48 C0 87 2EE3	2448	B	LCSI ALTER *LBI SCN* INST PER TABLE
1E4C 0004	1E4D 2449	DC	AL2(0004)
1E4E 00	1E4E 2450 SHT06	DC	AL1(*--*)
1E4F AF	1E4F 2451	DC	XL1*AF*
1E50 88	1E50 2452 SHT07	DC	XL1*88*
1E51 FF	1E51 2453	DC	XL1*FF*
	2454 *		
1E52 3C 04 33F5	2455	MVI	FHF+EXT,X*04* RESET *FHF* REG
1E56 C0 87 2C4A	2456	B	LFHF
	2457 *		
1E5A C0 87 3141	2458	B	LXOPI RUN IOP TO RESET FHF REG
1E5E 0B0000FF	1E61 2459	DC	XL4*0B0000FF*
	2460 *		

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1E62 C0 87 3058	2461	B	SFHF
1E66 39 06 33DE	2462	TBF	IOPIN,X*06* DID BITS 5 & 6 RESET?
1E6A C0 10 1E75	2463	BT	SHT08 BR IF YES
	2464 *		
1E6E C0 87 2A07	2465	B	ERRPRT
1E72 01	1E72 2466	DC	XL1*01* ERROR 51C0
1E73 33DE	1E74 2467	DC	AL2(IOPIN) RCVD FHF
	2468 *		
1E75 C0 87 2DDF	2469 SHT08	B	LALSD SET MIAR TO 0000
1E79 00	1E79 2470	DC	AL1(MIARO)
1E7A 00	1E7A 2471	DC	XL1*00*
	2472 *		
1E7B C0 87 31DD	2473	B	IOPGD START IOP PROGRAM, SET SCN, FCT REGS
	2474 *		
1E7F C0 87 2FC8	2475	B	SFBO READ *FBD* REG
1E83 3D FF 33DE	2476	CLI	IOPIN,X*FF* SEE IF TRAP C'S XFRD DATA FROM CS
1E87 C0 81 1E90	2477	BE	SHT09 BR IF YES
	2478 *		
1E8B C0 87 2A07	2479	B	ERRPRT
1E8F 10	1E8F 2480	DC	XL1*10* ERROR 51C1
	2481 *		
1E90 C0 87 2DDF	2482 SHT09	B	LALSD SETUP TO START IOP AT LOC 0007
1E94 00	1E94 2483	DC	AL1(MIARO) TO DO ACTUAL SCAN COMPARE
1E95 07	1E95 2484	DC	XL1*07* AND *FF* DETECT
	2485 *		
1E96 C0 87 31DD	2486	B	IOPGD START IOP PROGRAM, SIMULATE SCAN
	2487 *		
1E9A C0 87 3058	2488	B	SFHF GET *FHF* REG
1E9E 3B F9 33DE	2489	SBF	IOPIN,X*F9* MASK OFF ALL EXCEPT BITS 5 AND 6
1EA2 0D 00 33DE 1F2D	2490	CLC	IOPIN(1),SHTWK COMP RECD(IOPIN) WITH EXPTD(SHTWK)
1EA8 C0 81 1E85	2491	BE	SHT10 BR IF THEY ARE AS EXPTD
	2492 *		
1EAC C0 87 2A07	2493	B	ERRPRT
1EB0 22	1EB0 2494	DC	XL1*22* ERROR 51C2
1EB1 1F2D	1EB2 2495	DC	AL2(SHTWK) *FHF* EXPECTED
1EB3 33DE	1EB4 2496	DC	AL2(IOPIN) *FHF* RECEIVED
	2497 *		
1EB5 C1 C3 1EC6	2498 *		
	2499 *		
1EB9 39 06 1F2D	2500 SHT10	TIO	SHT12,X*C3* SHOULD BR ON *SCAN HIT*
1EBD C0 10 1ED2	2501 *		
	2502	TBF	SHTWK,X*06* SEE IF *SCAN HIT* EXPECTED
	2503	BT	SHT13 BR IF NOT
	2504 *		
1EC1 C0 87 2A07	2505	B	ERRPRT
1EC5 30	1EC5 2506	DC	XL1*30* ERROR 51C3
	2507 *		
1EC6 39 06 1F2D	2508 SHT12	TBF	SHTWK,X*06* SEE IF *SCAN HIT* EXPECTED
1ECA F2 90 05	2509	JF	SHT13 BR IF YES
	2510 *		
1ECD C0 87 2A07	2511	B	ERRPRT
1ED1 40	1ED1 2512	DC	XL1*40* ERROR 51C4
	2513 *		
1ED2 C0 87 298B	2514 SHT13	B	NORMN END OF TABLE REACHED ?
1ED6 7D FF 03	2515	CLI	3(XR1),X*FF* BR IF YES
1ED9 C0 81 0216	2516	BE	LINK
	2517 *		
1EED D2 01 03	2518	LA	3(XR1),XR1 ELSE BUMP POINTER TO NXT ENTRY
1EE0 C0 87 1DD0	2519	B	SHT01 LOOP
	2520		
	2521		*****
	2522 *		
	2523 *		
	2524 *		
	2525 *		
	2526 *		
	2527 *		

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

2528 *
2529 * SCN BIT 1 = 0. SCAN = EXPECTED *
2530 * = 1. SCAN HI OR = *
2531 * FHF BIT 4 = END OF TRAP COUNT *
2532 * BIT 5 = SCAN SATISFIED *
2533 * BIT 6 = SCAN EQUAL *
2534 * BIT 7 = END OF FILE DATA TRANSFER *
2535 *****
2536 *
1EE4 00000F 1EE4 2537 SHTTBL EQU *
1EE6 2538 DC XL3'00000F' FI = 00. FO = 00. SCN1 = 0. FHF5/6 = 11
1EE9 2539 DC XL3'00004F' FI = 00. FO = 00. SCN1 = 1. FHF5/6 = 11
1EEA 001109 1EEC 2540 DC XL3'001109' FI = 00. FO = 11. SCN1 = 0. FHF5/6 = 00
1EED 001149 1EEF 2541 DC XL3'001149' FI = 00. FO = 11. SCN1 = 1. FHF5/6 = 00
1EF0 110009 1EF2 2542 DC XL3'110009' FI = 11. FO = 00. SCN1 = 0. FHF5/6 = 00
1EF3 110040 1EF5 2543 DC XL3'110040' FI = 11. FO = 00. SCN1 = 1. FHF5/6 = 10
1EF6 11110F 1EF8 2544 DC XL3'11110F' FI = 11. FO = 11. SCN1 = 0. FHF5/6 = 11
1EF9 11114F 1EFB 2545 DC XL3'11114F' FI = 11. FO = 11. SCN1 = 1. FHF5/6 = 11
1EFC 112209 1EFE 2546 DC XL3'112209' FI = 11. FO = 22. SCN1 = 0. FHF5/6 = 00
1EFF 220009 1F01 2547 DC XL3'220009' FI = 22. FO = 00. SCN1 = 0. FHF5/6 = 10
1F02 22004D 1F04 2548 DC XL3'22004D' FI = 22. FO = 22. SCN1 = 0. FHF5/6 = 11
1F05 22220F 1F07 2549 DC XL3'22220F' FI = 22. FO = 22. SCN1 = 1. FHF5/6 = 11
1F08 22224F 1F0A 2550 DC XL3'22224F' FI = 22. FO = 44. SCN1 = 0. FHF5/6 = 00
1F0B 224409 1F0D 2551 DC XL3'224409' FI = 44. FO = 00. SCN1 = 0. FHF5/6 = 00
1F0E 440009 1F10 2552 DC XL3'440009' FI = 44. FO = 00. SCN1 = 1. FHF5/6 = 10
1F11 44004D 1F13 2553 DC XL3'44004D' FI = 44. FO = 00. SCN1 = 0. FHF5/6 = 00
1F14 44440F 1F16 2554 DC XL3'44440F' FI = 44. FO = 44. SCN1 = 1. FHF5/6 = 11
1F17 44444F 1F19 2555 DC XL3'44444F' FI = 44. FO = 44. SCN1 = 0. FHF5/6 = 11
1F1A 448809 1F1C 2556 DC XL3'448809' FI = 44. FO = 88. SCN1 = 0. FHF5/6 = 00
1F1D 880009 1F1F 2557 DC XL3'880009' FI = 88. FO = 00. SCN1 = 0. FHF5/6 = 00
1F20 88004D 1F22 2558 DC XL3'88004D' FI = 88. FO = 00. SCN1 = 1. FHF5/6 = 10
1F23 88880F 1F25 2559 DC XL3'88880F' FI = 88. FO = 88. SCN1 = 0. FHF5/6 = 11
1F26 88884F 1F28 2560 DC XL3'88884F' FI = 88. FO = 88. SCN1 = 1. FHF5/6 = 11
1F29 889909 1F2B 2561 DC XL3'889909' FI = 88. FO = 99. SCN1 = 0. FHF5/6 = 00
1F2C FF 1F2C 2562 DC XL1'FF' END OF TABLE
1F2D 00 2563 *
1F2D 2564 SHTWK DC AL1(0-*) SAVE AREA FOR EXPECTED DATA

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

2566 *****
2567 *
2568 * FORCE RECYCLE TEST (AD:) *
2569 * TESTS - ADS REG BIT 1 *
2570 * ERRORS DISPLAYED - *
2571 * 51D0 'RECYCLE' FAILED TO SET WHEN FCT > 7 *
2572 * 51D1 'RECYCLE' FAILED TO RESET WHEN FCT LE 7 *
2573 * 51D2 FHF BIT 7(END OF FILE XFER) DIDN'T SET *
2574 * 51D3 FORCED 'RECYCLE' DIDNT SET *
2575 * 51D4 'OTHER' ERROR (IOP STOPPED) *
2576 * 51D5 'DSADDR' IN ALS FAILED TO INCREMENT *
2577 *****
2578 *
1F2E 1D 1F2E 2579 RTN1D DC XL1'1D' ROUTINE 1D
1F2F 00 1F2F 2580 DC XL1'00'
1F30 2050 1F31 2581 DC AL2(RTN1E) NEXT ROUTINE ADDRESS
2582 * B BEGIN INITIALIZATION
2583 *
2584 * LOAD CONTROL STOR MICROPROGRAM THAT SIMULATES 'RECYCLE' CONDI *ION
2585 *
2586 *
2587 * B LCS1 LOAD CS AT LOC 0000
2588 * DC XL2'0000'
2589 * DC XL3'08AF00' LBI SCN.X'00' RESET 'ALLOW FILE XFER'
2590 * DC XL3'18A781' LBI FHF.X'81' RESET 'END OF FILE XFER'
2591 * DC XL3'18AF08' LBI SCN.X'08' SET 'FILE XFER'
2592 * DC XL3'18B6FF' LBI FCT.X'FF' FILE COUNT = 'FF'
2593 * DC XL3'18B0FF' LBI LO.X'FF' CONTROL COUNTER = 'FF'
2594 * 1ST 'DIAG. SYNC-IN' PREPARES DATA TRANSFER
2595 * DC XL3'18A502' LBI FTG.X'02' DIAGNOSTIC SYNC-IN
2596 * DC XL3'080000' NO-OP (WAIT)
2597 * DC XL3'080000' NO-OP (WAIT)
2598 * 2ND AND SUBSEQUENT 'SYNC-IN'S DECREMENT FILE COUNT ONCE
2599 * DC XL3'19E502' ORI FTG.X'02' DIAGNOSTIC SYNC-IN
2600 * DC XL3'080000' NO-OP (WAIT)
2601 * DC XL3'080000' NO-OP (WAIT)
2602 * DC XL3'08C0FF' ADDI LO.X'FF' DECREMENT CONTROL COUNT
2603 * DC XL3'03C0F8' TADDI LO.X'F8' SEE IF LE 7 (ADD '-8')
2604 * DC XL3'0A0010' BNC 0010 BR IF YES
2605 * FALL THRU IF 'RECYCLE' SHOULD STILL BE ON
2606 * DC XL3'116908' TSON 1.ADS.0008 BR IF 'RECYCLE' ON
2607 * DC XL3'100021' B 0021 ELSE BR TO ERROR AT 0021
2608 * GET HERE IF 'RECYCLE SHOULD BE OFF
2609 * DC XL3'016922' TSON 1.ADS.0022 BR IF 'RECYCLE' IS ON
2610 * DC XL3'10C0FF' TANDI LO.X'FF' SEE IF 256 LOOPS TAKEN
2611 * DC XL3'110008' BNZ 0008 BR IF NO
2612 * FALL THRU IF FILE COUNTER SHOULD GO TO 0
2613 * DC XL3'19E502' ORI FTG.X'02' ONE MORE DIAG SYNC-IN
2614 * DC XL3'080000' NO-OP
2615 * DC XL3'080000' NO-OP
2616 * DC XL3'00E701' TANDI FHF.X'01' SEE IF END OF FILE XFER
2617 * DC XL3'090023' BZ 0023 BR IF NOT
2618 * GET HERE TO 'FORCE' RECYCLE WITH FILE COUNTER LESS THAN 8
2619 * DC XL3'09E522' ORI FTG.X'22' 'FORCE RECYCLE'
2620 * DC XL3'18B600' LBI FCT.X'00' 'SET FCT' IS CLOCK
2621 * DC XL3'196924' TBOFF 1.ADS.24 BR IF 'RECYCLE' NOT ON
2622 * DC XL3'000020' B 0020 TAKE 'NORMAL' END
2623 * DC XL1'FF' TERMINATE STRING
2624 *
2625 * B LCS1 LOAD CS AT LOC 0020 (ERR STOPS)
2626 * DC XL2'0020'
2627 * DC XL3'000020' BR TO ITSELF (HANG) 'NORMAL END'
2628 * DC XL3'100021' BR TO ITSELF (HANG) 'RECYCLE NOT ON'
2629 * DC XL3'100022' BR TO ITSELF (HANG) 'RECYCLE ON'
2630 * DC XL3'000023' BR TO ITSELF (HANG) 'EOF NOT ON'
2631 * DC XL3'100024' BR TO ITSELF (HANG) 'RECYCLE NOT ON'
2632 * DC XL1'FF' TERMINATE
2633 *
1F32 C0 87 2885
1F36 C0 87 2EE3
1F3A 0000 1F3B 2588
1F3C 08AF00 1F3E 2589
1F3F 18A781 1F41 2590
1F42 18AF08 1F44 2591
1F45 18B6FF 1F47 2592
1F48 18B0FF 1F4A 2593
1F4B 18A502 2594 *
1F4E 080000 1F4D 2595
1F51 080000 1F50 2596
1F53 2597 1F53 2597
2598 *
1F54 19E502 1F56 2599
1F57 080000 1F59 2600
1F5A 080000 1F5C 2601
1F5D 08C0FF 1F5F 2602
1F60 03C0F8 1F62 2603
1F63 0A0010 1F65 2604
2605 *
1F66 116908 1F68 2606
1F69 100021 1F6B 2607
2608 *
1F6C 016922 1F6E 2609
1F6F 10C0FF 1F71 2610
1F72 110008 1F74 2611
2612 *
1F75 19E502 1F77 2613
1F78 080000 1F7A 2614
1F7B 080000 1F7D 2615
1F7E 00E701 1F80 2616
1F81 090023 1F83 2617
2618 *
1F84 09E522 1F86 2619
1F87 18B600 1F89 2620
1F8A 196924 1F8C 2621
1F8D 000020 1F8F 2622
1F90 FF 1F90 2623
2624 *
1F91 C0 87 2EE3 2625
1F95 0020 1F96 2626
1F97 000020 1F99 2627
1F9A 100021 1F9C 2628
1F9D 100022 1F9F 2629
1FA0 000023 1FA2 2630
1FA3 100024 1FA5 2631
1FA6 FF 1FA6 2632
2633 *

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1FA7 3C 4A 34C0		2634	MVI	ZLS+18,X*4A'	SETUP ZLS FOR PTR 010 FOR
1FAB 3C 12 33E9		2635	MVI	ZLSAR,18	'READ FROM FILE'
1FAF 3C 01 33DF		2636	MVI	LENGTH,1	
1FB3 C0 87 2D44		2637	B	LZLS	
		2638 *			
1FB7 C0 87 2999		2639	B	BGNTST	
		2640 *			
1FBB C0 87 2DA9		2641	B	LALSB	SETUP DSADDR (BLOCK) FOR TRAP B
1FBF 0A	1FBF	2642	DC	AL1(DS2)	ALS ADDRESS
1FC0 85	1FC0	2643	DC	XL1*85'	'MULTI BIT' & BLOCK '05'
		2644 *			
1FC1 C0 87 2DDF		2645	B	LALSD	SETUP DSADDR (DISP) FOR TRAP B
1FC5 0A	1FC5	2646	DC	AL1(DS2)	ALS ADDRESS
1FC6 00	1FC5	2647	DC	XL1*00'	DISPLACEMENT 00
		2648 *			
1FC7 C0 87 2DDF		2649	B	LALSD	SETUP MIAR TO 0000
1FCB 00	1FCB	2650	DC	AL1(MIAR0)	ALS ADDRESS
1FCC 00	1FCC	2651	DC	XL1*00'	
		2652 *			
1FCD C0 87 31DD		2653	B	IOPGO	START IOP PROGRAM
		2654 *			
		2655 *			
		2656 *			
1FD1 3C 00 33D2		2657	MVI	WORK1,0	START AT 0
1FD5 0E 00 33D2 33B4		2658	ALC	WORK1(1),11	BUMP BY 1
1FDB 38 80 33D2		2659	TBM	WORK1,X*80'	WAIT FOR HI ORDER BYTE
1FDF C0 90 1FDE		2660	BF	ADS04	LOOP 'TILL TIMEOUT
		2661 *			
1FE3 C0 87 2E73		2662	B	SALSD	HALT IOP AND GET THE MIAR
1FE7 00	1FE7	2663	DC	AL1(MIAR0)	
		2664 *			
1FEB 3D 20 33DE		2665	CLI	IOPIN,X*20'	SEE IF NORMAL END
1FEC C0 81 2029		2666	BE	ALSOK	BR IF YES
		2667 *			
1FF0 3D 21 33DE		2668	CLI	IOPIN,X*21'	SEE IF 'RECYCLE NOT ON' ERR
1FF4 C0 01 1FFD		2669	BNE	ADS05	BR IF NO
		2670 *			
1FFB C0 87 2A07		2671	B	ERRPRT	ERR 51D0
1FFC 00	1FFC	2672	DC	XL1*00'	
		2673 *			
1FFD 3D 22 33DE		2674	CLI	IOPIN,X*22'	SEE IF 'RECYCLE NOT OFF' ERR
2001 C0 01 20DA		2675	BNE	ADS06	BR IF NO
		2676 *			
2005 C0 87 2A07		2677	B	ERRPRT	ERR 51D1
2009 10	2009	2678	DC	XL1*10'	
		2679 *			
200A 3D 23 33DE		2680	CLI	IOPIN,X*23'	SEE IF 'END OF FILE XFR' NOT ON
200E C0 01 2017		2681	BNE	ADS07	BR IF NO
		2682 *			
2012 C0 87 2A07		2683	B	ERRPRT	ERR 51D2
2016 20	2016	2684	DC	XL1*20'	
		2685 *			
2017 3D 24 33DE		2686	CLI	IOPIN,X*24'	SEE IF 'FORCED RECYCLE' NOT ON ERR
2018 C0 01 2024		2687	BNE	ADS08	BR IF NO
		2688 *			
201F C0 87 2A07		2689	B	ERRPRT	ERR 51D3
2023 30	2023	2690	DC	XL1*30'	
		2691 *			
2024 C0 87 2A07		2692	B	ERRPRT	ERR 51D4
2028 40	2028	2693	DC	XL1*40'	
		2694 *			
		2695 *			
		2696 *			
		2697 *			
		2698 *			
2029 C0 87 2E6A		2699	B	SALSB	GET DSADDR (BLOCK PORTION)
202D 0A	202D	2700	DC	AL1(DS2)	
		2701 *			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
202E 3D 85 33DE		2702	CLI	IOPIN,X*85'	SEE IF 'BLOCK' AS EXPECTED
2032 C0 01 2048		2703	BNE	ALSER4	BR IF NO, ERROR
		2704 *			
2036 C0 87 2E73		2705	B	SALSD	GET DSADDR (DISP PORTION)
203A 0A	203A	2706	DC	AL1(DS2)	
		2707 *			
203B 3D 80 33DE		2708	CLI	IOPIN,X*80'	SEE IF DISP INCREMENTED
203F C0 01 2048		2709	BNE	ALSER4	BR IF NO
		2710 *			
2043 C0 87 298B		2711	B	NORMN	EXIT
2047 C0 87 0216		2712	B	LINK	
		2713 *			
204B C0 87 2A07		2714	B	ERRPRT	ERROR 51D5
204F 50	204F	2715	DC	XL1*50'	
		2716			
		2716			
2050 1E	2050	2717	DC	XL1*1E'	ROUTINE 1E NOT USED
2051 00	2051	2718	DC	XL1*00'	
2052 2058	2053	2719	DC	AL2(RTN1F)	NEXT ROUTINE ADDRESS
2054 C0 87 0216		2720	B	LINK	

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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2722 *****
2723 *
2724 * CHANNEL DATA PATH TEST (SINGLE BYTE, PART 1)
2725 * USE C00/C02 (IN) AND B00/C10 (OUT)
2726 * (E8401) (E8201)
2727 * ERRORS: S1F0 - D-REG CK C00/C02 PATH
2728 * S1F1 - DATA MISCOMPARE, V1 = EXPTD
2729 * V2 = RCVD
2730 * S1F3 - CI PARITY CK
2731 * S1F4 - DDR DATA MISCOMPARE V1,V2 = EXPTD
2732 * V3,V4 = RCVD
2733 * S1F5 - DDR LOAD DATA MISCOMPARE V1,V2 = EXP*
2734 * V3,V4 = RCV*
2735 * S1F6 - CI PARITY CK FAILED
2736 * S1F7 - B00 -> C00 TRANSFER FAILURE V1,V2 = EX*
2737 * V3,V4 = RC*
2738 *****
2739 *
2058 1F 2058 2740 RTA1F DC XL1*1F* ROUTINE 1F
2059 00 2059 2741 DC XL1*00*
205A 2287 2058 2742 DC AL2(RTN20) NEXT ROUTINE ADDRESS
2743 *
205C C0 87 2885 2744 * B BEGIN INITIALIZATION
2745 *
2746 * TEST C00/C02 BY READING 'R' BYTE OF A SIO INSTRUCTION
2747 *
2060 C0 87 2EE3 2748 * B LCS1 LOAD AT LOC 0000
2064 0000 2065 2749 DC XL2*0000*
2066 18A781 2068 2750 DC XL3*18A781* LBI FHF,X*81* RESET 'SYS RESET'
2069 106303 2068 2751 DC XL3*106303* TBN 0,DST.03 BR ON 'ATTACH BUSY'
206C 000001 206E 2752 DC XL3*000001* B 0001 BR TO LOOP
2753 * GET HERE ON 'ATTACH BUSY' (SIO EXECUTED)
206F 08E380 2071 2754 DC XL3*08E380* ANDI DST,X*80* RESET 'ATTACHMNT BUSY'
2072 08E37F 2074 2755 DC XL3*08E37F* ANDI DST,X*7F* C00 -> C02
2075 10C005 2077 2756 DC XL3*10C005* B 0005 HANG, BR TO ITSELF
2078 FF 2078 2757 DC XL1*FF*
2758 *
2079 3C 00 208D MVI COR,X*00* INITIAL R-BYTE
207D C0 87 2999 2759 * B BGNTST
2760 C001
2761 *
2081 C0 87 2DDF 2762 * B LALSD SETUP MIAR = 0000
2085 00 2085 2763 DC AL1(MIAR0)
2086 00 2086 2764 DC XL1*00*
2765 *
2087 C0 87 31DD 2766 * B IOPGO START IOP
2767 *
208D 2768 COR EQU **2 R-BYTE (DATA) FOR TEST
2769 * SIO X*00*,X*C0* START I/O, XFER R-BYTE TO C00
2770 * GET HERE TO TEST DATA TRANSFERRED
208E C0 87 3028 2771 * B SC02 GET C02 REG VIA D-REG
2772 *
2092 0D 00 208D 33DE 2773 * CLC COR(1),IOPIN C02 = R-BYTE ?
2098 F2 81 09 2774 * JE C007 BR IF YES
2775 * GET HERE IF C02 REG NOT = R-BYTE XFERD
2098 C0 87 2A07 2776 * B ERRPRT
209F 12 209F 2777 DC XL1*12* ERROR S1F1
20A0 208D 20A1 2778 DC AL2(COR) EXPTD DATA
20A2 33DE 20A3 2779 DC AL2(IOPIN) RCVD DATA
2780 * GET HERE IF READ DATA = EXPTD
20A4 C0 87 3118 2781 C007 * B SIOPCK GET IOP CK SENSE
2782 *
20A8 38 04 33DE 2783 * TBN IOPIN,X*04* D-REG CK ?
20AC F2 10 05 2784 * JT C008 BR IF NO
2785 * GET HERE IF 'D-REG' CHECK OCCURS
20AF C0 87 2A07 2786 * B ERRPRT
20B3 00 20B3 2787 DC XL1*00* ERROR S1F0
2788 * GET HERE IF NO D-REG CK OCCURRED
20B4 C0 87 298E 2789 C008 * B NORMN

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ERR LCC OBJECT CODE ADDR STMT SOURCE STATEMENT

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2790 *
2791 * CLI COR,X*01* 'LAST' PATTERN TESTED ?
2792 * JE CC20 BR IF YES
2793 *
2794 * CLI COR,X*FF* LAST PATTERN ( 00 - FF ) TESTED ?
2795 * JE C010 BR IF YES, SETUP 'ODD PARITY' PATRN
2796 *
2797 * ALC COR(1),ELEVEN ELSE BUMP PATTERN BY +11
2798 * B C001 LOOP TO TEST NEW PATTERN
2799 *
2800 C010 MVI COR,X*01* SETUP 'ODD PARITY', 'LAST' PATTERN
2801 * B C001
2802 *
2803 * GET HERE TO TEST B00/C10 BY READING AND UPDATING
2804 * DDR. ( VIA LSR CYCLE STEALS )
2805 *
2806 CC20 B LCS1 LOAD PROGRAM TO UPDATE DDR
2807 * DC XL2*0000* LOAD AT CS ADDR 0000
2808 * DC XL3*18AD00* LBI FTR,X*00*
2809 * DC XL3*08A780* LBI FHF,X*80* RESET 'SYS RESET'
2810 *
2811 * DATA '01' TO B00 REG
2812 * DC XL3*189D01* LBI B00,X*01* '01' TO B00 REG
2813 * ABOVE INST CHANGED TO LBI B00,X*0F* FOR 3RD PART OF TEST
2814 * DC XL3*18AD00* LBI FTR,X*00* RES.OR 'NORMAL' PARITY
2815 * DC XL3*08E340* ANDI DST,X*40* B00 -> C10
2816 * DC XL3*080000* NO-OP
2817 * ABOVE INST CHANGED TO LBI B00,X*00* FOR 3RD STEP OF TEST
2818 *
2819 * INITIALIZE LSR CYCLE STEALS
2820 * DC XL3*08B331* LBI DXC,X*31* LSR SELECT 'ODDR'
2821 * ABOVE INST CHANGED TO LBI DXC,X*33* FOR 2ND STEP OF TEST
2822 * DC XL3*18A100* LBI CCM,X*00* LSR 'REQUEST' AND
2823 * DC XL3*08B100* LBI CCL,X*00* '1' BYTE XFER FROM LSR
2824 * DC XL3*18A310* LBI DST,X*10* 'ALLOW CHNL XFER'
2825 *
2826 * DC XL3*02630C* TBN 2,DST.0C BR ON 'END CHNL XFER'
2827 * DC XL3*10000A* LOOP BACK TO 'TBN'
2828 *
2829 * DELAY FOLLOWING 'END OF CHNL XFER'
2830 * DC XL3*080000* NO-OP DELAY
2831 * DC XL3*080000* NO-OP DELAY
2832 * DC XL3*080000* NO-OP DELAY
2833 * DC XL3*080000* NO-OP DELAY
2834 * DC XL3*080000* NO-OP DELAY
2835 *
2836 * DC XL3*08A300* LBI DST,X*00* RESET 'ALLOW FILE XFER'
2837 * DC XL3*1C833B* MV L3,C02 DDR LO -> REG 3
2838 * DC XL3*08E340* ANDI DST,X*40* ODDR HI -> C02
2839 * DC XL3*0C823B* MV L2,C02 ODDR HI -> REG 2
2840 * DC XL3*000015* B 0015 BR TO ITSELF, HANG
2841 * DC XL1*FF*
2842 *
2843 * B BGNTST
2844 *
2845 * LIO ZERO,X*C4* INITIALIZE 'ODDR' = '0000'
2846 * MVI WORK4,X*01* INITIALIZE LO DDR
2847 * MVI WORK4-1,X*01* HI DDR
2848 * LOOP HERE UNTIL LAST LEGIT* ADDRESS 'BF' HAS BEEN TESTED
2849 C021 * B LALSD SETUP MIAR = 0000
2850 * DC AL1(MIAR0)
2851 * DC XL1*00*
2852 *
2853 * B IOPGO START IOP
2854 *
2855 * B SMES GET 'HES' REG
2856 * TBN IOPIN,X*40* CI PARITY CK ?
2857 * JF C023 BR IF NO

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C151 3340 ATTACHMENT TESTS - MOD 12

C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
2146 C0 87 2A07 214A 30	2858 * 2859 C022 214A 2860 2861 * 2862 C022 2863 2864 2865 * 2866 215C 2867 215E 2868 215D 2869 215F 2870 2161 2871 2163 2872 * 2873 C027 2874 2875 2876 2877 2878 * 2879 217E 2880 2180 2881 2182 2882 2184 2883 2186 2884 2885 * 2886 C029 2887 2888 * 2889 2890 2891 2892 * 2893 C03E 2894 2894 2895 * 2896 * 2897 * 2898 2899 2900 21AF 2901 2183 2902 2903 * 2904 2905 * 2906 2907 21C0 2908 21C1 2909 2910 * 2911 2912 * 2913 2914 * 2915 2916 2917 * 2918 21D8 2919 21DA 2920 21DC 2921 21DE 2922 21E0 2923 2924
2148 30 C4 33D6 214F 0D 01 33D6 33D8 2155 F2 81 0D 2158 C0 87 2A07 215C 44 215D 33D7 215F 33D8 2161 33D5 2163 33D6 2165 3C 02 33DF 2169 3C 02 33EB 216D C0 87 2CF0 2171 0D 01 3531 33D8 2177 F2 81 0D 217A C0 87 2A07 217E 54 217F 33D7 2181 33D8 2183 3530 2185 3531 2187 3D 7F 33D8 2188 F2 81 10 218E 0E 00 33D8 33B4 2194 0E 00 33D7 33B4 219A C0 87 2131 219E C0 87 298B 21A2 3C FE 33D7 21A6 3C FF 33D8 21AA C0 87 2EE3 21AE 0006 21B0 18B333FF 21B4 C0 87 2999 21B8 31 C4 33C2 21BC C0 87 2DDF 21C0 00 21C1 00 21C2 C0 87 31DD 21C6 30 C4 33D6 21CA 0D 01 33D6 33D8 21D0 C0 81 298B 21D4 C0 87 2A07 21D8 84 21D9 33D7 21DB 33D8 21DD 33D5 21DF 33D6	
ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
	GET HERE IF PARITY CHECK OCCURRED
	B ERRPRT
	DC XL1'30' ERROR 51F3
	SNS WORK3.X'C4' GET DDR
	CLC WORK3(2).WORK4 COMPARE WITH EXPECTED
	JE C027 BR IF OK
	GET HERE IF DDR LSR NOT AS EXPECTED
	B ERRPRT
	DC XL1'44' ERROR 51F4
	DC AL2(WORK4-1) DDR EXPECTED HI
	DC AL2(WORK4) LO
	DC AL2(WORK3-1) DDR RECIEVED HI
	DC AL2(WORK3) LO
	MVI LENGTH.X'02' SETUP TO READ 2 'LOCAL' REGS
	MVI DLSAR.X'02' SETUP TO READ REGS 2 & 3
	B SDLS
	CLC DLSIN+3(2).WORK4 SEE IF DATA READ = EXPECTED
	JE C029 BR IF YES
	GET HERE IF DATA 'IN' TO IOP NOT AS EXPECTED
	B ERRPRT
	DC XL1'54' ERROR 51F5
	DC AL2(WORK4-1) DATA EXPECTED HI
	DC AL2(WORK4) LO
	DC AL2(DLSIN+2) DATA RECIEVED HI
	DC AL2(DLSIN+3) LO
	CLI WORK4.X'7F' LAST DDR UPDATE ?
	JE C035 BR IF YES
	GET HERE TO UPDATE EXPECTED DDR DATA FOR NEXT TEST
	ALC WORK4(1).I1
	ALC WORK4-1(1).I1
	B C021 CONTINUE TEST
	B NORMN
	PART 2 - TEST CHANNEL 'SUBTRACT'
	MVI WORK4-1.X'FE' SETUP 'EXPECTED' DDR
	MVI WORK4.X'FF' AFTER SUBTRACT
	B LCS1
	DC XL2'0006' LBI DXC.X'33' SELECT DDR. SUBTRACT
	DC XL4'18B333FF'
	B BGNST
	LIO ZERO.X'C4' DDR = '0000'
	B LALSD
	DC AL1(MIAR0) INITIAL MIAR = 0000
	DC XL1'00'
	B IOPGO
	SNS WORK3.X'C4' GET DDR
	CLC WCRK3(2).WORK4 AS EXPECTED ?
	BE NORMN BR IF YES
	B ERRPRT
	DC XL1'84' ERROR 51F8
	DC AL2(WORK4-1) EXPECTED DDR
	DC AL2(WORK4) RECIEVED DDR
	DC AL2(WORK3-1)
	DC AL2(WORK3)

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
21E1 C0 87 2EE3 21E5 0002 21E7 08BD0F 21EA 18AD00 21ED 08E34 0 21F0 08BD00 21F3 08B331 21F6 FF 21F7 C0 87 2999 21FB 31 C4 33C2 21FF 3C 0F 33D8 2203 3C 00 33D7 2207 C0 87 2DDF 220B 00 220C 00 220D C0 87 31DD 2211 C0 87 3068 2215 38 40 33DE 2219 C0 10 2146 221D 30 C4 33D6 2221 0D 01 33D6 33D8 2227 C0 81 2238 222B C0 87 2A07 222F 74 2230 33D7 2232 33D8 2234 33D5 2236 33D6 2238 C0 87 298B 223C 31 C4 33C2 2240 C0 87 2999 2244 3C 02 33FB 2248 C0 87 28BA 224C C0 87 2DDF 2250 00 2251 01 2252 C0 87 31DD 2256 C0 87 3068 225A 38 40 33DE 225E C0 90 2282 2262 3C 80 33FB 2266 C0 87 28BA 226A C0 87 298B 226E 3C 00 33FB	2925 * 2926 * 2927 * 2928 21E6 2929 21E9 2930 21EC 2931 21EF 2932 21F2 2933 21F5 2934 21F6 2935 2936 * 2937 2938 * 2939 2940 2941 2942 * 2943 220B 2944 220C 2945 2946 * 2947 2948 * 2949 2950 2951 2952 * 2953 2954 2955 2956 * 2957 2958 2221 2959 2233 2960 2235 2961 2237 2962 2963 * 2964 C045 2965 2965 2966 * 2967 * 2968 * 2969 2970 * 2971 2972 * 2973 2974 2975 * 2976 2250 2977 2251 2978 2979 * 2980 2981 * 2982 2983 * 2984 2985 2986 * 2987 2988 2989 2990 * 2991
	PART 3 - TEST THAT CIO ONLY IS SENT TO LSR
	B LCS1
	DC XL2'0002'
	DC XL3'08BD0F' LBI B00.X'0F'
	DC XL3'18AD00' LBI FTR.X'00'
	DC XL3'08E340' ANDI DST.X'40' B00 -> CIO
	DC XL3'08BD00' LBI B00.X'00' '00' -> B00
	DC XL3'08B331' LBI DXC.X'31' LSR SELECT 'DDR'
	DC XL1'FF'
	B BGNST
	LIO ZERO.X'C4' DDR = '0000'
	MVI WORK4.X'0F' EXPECTED DDR LO
	MVI WORK4-1.X'00' DDR HI
	B LALSD
	DC AL1(MIAR0) INITIAL MIAR = '0C00'
	DC XL1'00'
	B IOPGO
	START IOP
	B SHES
	TBN IOPIN.X'40' HALT IOP. GET MES-REG
	ET C022 CI PARITY CK ?
	GET DDR
	SNS WORK3.X'C4' AS EXPECTED ?
	CLC WORK3(2).WORK4 BR IF YES
	BE C045
	B ERRPRT
	DC XL1'74' ERROR 51F7
	DC AL2(WORK4-1) EXPECTED DDR HI
	DC AL2(WORK4) LO
	DC AL2(WORK3-1) RECIEVED DDR HI
	DC AL2(WORK3) LO
	B NORMN
	PART 4 - TEST CI PARITY CHECKER BY FORCED 'PARITY CHECK'
	LIO ZERO.X'C4' RESTORE 'DDR' LSR TO 0000
	B BGNST
	MVI FTR+EXT.X'02' TURN ON 'INVERT PARITY'
	B LFTR
	B LALSD
	DC AL1(MIAR0) SETUP MIAR = 0001. DONT SET FTR-REG
	DC XL1'01'
	B IOPGO
	START IOP
	B SHES
	TBN IOPIN.X'40' GET MES REG
	BF C047 CI PARITY CK ?
	ELSE RESET CHECKS
	MVI FTR+EXT.X'80'
	B LFTR
	B NORMN
	MVI FTR+EXT.X'00' TURN OFF RESET

C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2272	CO 87 288A	2992	B	LFTR
		2993 *		
2276	3C 0F 340D	2994	MVI	SBO+EXT.X'OF*
227A	CO 87 28DA	2995	B	LSBO
		2996 *		
227E	CO 87 0216	2997	B	LINK
		2998 *		
2282	CO 87 2A07	2999	CO47	B ERRPRT
2286	60	3000	DC	XL1'60*
		3001 *		

RESET THE SEEK BUSY LATCHES AND
TURN OFF ATTACH WORKING.

ERROR 51F6

C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		3003	*	*****
		3004 *		
		3005 *		CHANNEL DATA PATH TEST (SINGLE BYTE, PART 2)
		3006 *		ERRORS: 5200 - CI PARITY CHECK DURING 'CHANNEL STOR'
		3007 *		5201 - ALS FAILED TO INCREMENT DURING
		3008 *		'CHANNEL STOR'
		3009 *		5202 - DDDR OR DDCR FAILED TO INCREMENT
		3010 *		5203 - DDDF OR DDCF IN MAIN STOR NOT AS
		3011 *		EXPECTED V1 = EXPECTED DATA
		3012 *		V2 = RECEIVED DATA
		3013 *		5204 - CHNL DATA XFER OCCURRED WITH PTR
		3014 *		110, 01 OR 011 (NOT PTR BIT)
		3015 *		
		3016	*	*****
		3017 *		
2287	20	2287	3018	RTN20 DC XL1'20* ROUTINE 20
2288	00	2288	3019	DC XL1'00*
2289	23C5	228A	3020	DC AL2(RTN21) NEXT ROUTINE ADDRESS
		3021 *		
228B	CO 87 2885	3022	B	BEGIN INITIALIZATION
		3023 *		
228F	3C 00 2391	3024	MVI	CO225.X'00* CLEAR 'POINTER TEST' SW
2293	3C C4 2303	3025	MVI	CO207.X'CA* LTO TO 'DDDR'
2297	3C C4 2345	3026	MVI	CO212.X'CA* SNS FROM 'DDDR'
		3027 *		
229B	CO 87 2EE3	3028	B	LCSI LOAD IOP CS AT LOC 0000
229F	0000	22A0	3029	DC XL2'0000*
22A1	18A781	22A3	3030	DC XL3'18A781* LBI FMF.X'81* RESET 'SYS RESET'
22A4	08AF00	22A6	3031	DC XL3'08AF00* LBI SCN.X'00*
22A7	18A380	22A9	3032	DC XL3'18A380* LBI DST.X'80* RESET 'ATT. BUSY'
22AA	08B391	22AC	3033	DC XL3'08B391* LBI DXC.X'91* CHAN STOR/DDDR/1 BYTE
		3034 *		ABOVE INST CHANGED TO -
		3035 *		FOR 2ND PASS OF ROUTINE
22AD	18A100	22AF	3036	DC XL3'18A100* LBI CCM.X'00* CLEAR CHNL COUNTERS
22B0	08B100	22B2	3037	DC XL3'08B100* LBI CCL.X'00*
22B3	18A310	22B5	3038	DC XL3'18A310* LBI DST.X'10* 'ALLOW CHNL XFER'
22B6	026309	22B8	3039	DC XL3'026309* TIBON 2.DST.09 WAIT FOR 'END OF
		3040 *		CHANNEL XFER'
22B9	000007	22BB	3041	DC XL3'000007* B 0007 LOOP
		3042 *		
22BC	080000	22BE	3043	DC XL3'080000* NO-OP. DELAY TO
22BF	080000	22C1	3044	DC XL3'080000* NO-OP. WAIT FOR
22C2	080000	22C4	3045	DC XL3'080000* NO-OP. COMPLETE
22C5	080000	22C7	3046	DC XL3'080000* NO-OP. CHANNEL
22C8	080000	22CA	3047	DC XL3'080000* NO-OP. TRANSFER
22CB	08A300	22CD	3048	DC XL3'08A300* LBI DST.X'00* RESET 'ALLOW CHNL XFER'
22CE	10000F	22D0	3049	DC XL3'10000F* B 000F HANG
22D1	FF	22D1	3050	DC XL1'FF*
		3051 *		
		3052 *		SETUP GOOD PARITY DATA IN C. S. 'DDDF'
		3053 *		
22D2	CO 87 2EE3	3054	B	LCSI LOAD CS AT LOC 0500
22D6	0500	22D7	3055	DC XL2'0500*
22D8	10FFFF	22DA	3056	DC XL3'10FFFF*
22DB	10FFFF	22DD	3057	DC XL3'10FFFF*
22DE	10FFFF	22E0	3058	DC XL3'10FFFF*
22E1	FF	22E1	3059	DC XL1'FF*
		3060 *		
		3061 *		SETUP ZLS AT ADDRS 23 (CHNL DDCF TRAP) = 'DD'(STORE TO CHAN)
		3062 *		
22E2	3C 17 33E9	3063	MVI	ZLSAR,23
22E6	3C 01 33DF	3064	MVI	LENGTH,1
22EA	3C DD 34C5	3065	MVI	ZLS+23.X'DD*
22EE	CO 87 2044	3066	B	LZLS
		3067 *		
22F2	CO 87 2999	3068	CO201	B BGNST
		3069 *		
		3070 *		INITIALIZE OSADDR FOR CHNL XFER IN ALS = '8500'

C151 3340 ATTACHMENT TESTS - MOD 12

C151 3340 ATTACHMENT TESTS - MOD 12

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
22F6 C0 87 2DA9	3071 *	B	LALSB
22FA 1E	3072	DC	AL1(DS1)
22FB 85	22FA 3073	DC	XL1*85*
	22FB 3074	DC	XL1*85*
22FC C0 87 2DDF	3075 *	B	LALSD
2300 1E	3076	DC	AL1(DS1)
2301 00	2300 3077	DC	XL1*00*
	2301 3078	DC	XL1*00*
2302 31 C4 33C9	3079 *	EQU	**1
	2303 3080 CC207	LTO	DDDF.A.X*C4* INITIALIZE DDR = *DDDF*
	3081	ABOVE	ALTERED TO LTO DDDF.X*C6* FOR DDCR TEST
2306 3C 00 37FF	3082 *	MVI	DDDF+255.X*00* CLEAR DDDF/DDCF
230A 0C FE 37FE 37FF	3083	MVC	DDDF+254(255).DDDF+255
	3084	B	LALSD
	3085 *	DC	AL1(MIAR0) SETUP MIAR
2310 C0 87 2DDF	3086	DC	XL1*00*
2314 00	2314 3087	DC	XL1*00*
2315 00	2315 3088	DC	XL1*00*
2316 C0 87 31DD	3089 *	B	IOPGO
	3090	B	IOPGO
	3091 *	B	IOPGO
231A 38 04 2391	3092	TBN	CO225.X*04* IN *POINTER* TEST ?
231E F2 10 75	3093	JT	CO224
	3094 *	JT	CO224
2321 C0 87 3068	3095	E	SMS
2325 38 40 33DE	3096	TBN	IOPIN.X*40* CI PARITY CK ?
2329 C0 90 2332	3097	BF	CO210
	3098 *	BF	CO210
232D C0 87 2A07	3099	B	ERRPRT
2331 00	2331 3100	DC	XL1*00* ERROR 5200
	3101 *	DC	XL1*00*
2332 C0 87 2E73	3102	B	SALSD
2335 1E	2336 3103	DC	AL1(DS1)
2337 3D 03 33DE	3104	CLI	IOPIN.X*03*
2338 C0 81 2344	3105	BE	CO213
	3106 *	BE	CO213
233F C0 87 2A07	3107	B	ERRPRT
2343 10	2343 3108	DC	XL1*10* ERROR 5201
	3109 *	DC	XL1*10*
2344 30 C4 33D6	2345 3110 CC212	EQU	**1
	3111	SMS	WORK3.X*C4* GET DDR
	3112 *	ABOVE	INST ALTERED TO SNS WORK3.X*C6* FOR DDCR TEST
2348 3D 00 33D6	3113	CLI	WORK3.X*00* BUMPED BY 0 ?
234C C0 81 2355	3114	BE	CO217
	3115 *	BE	CO217
2350 C0 87 2A07	3116	B	ERRPRT
2354 20	2354 3117	DC	XL1*20* ERROR 5202
	3118 *	DC	XL1*20*
2355 3D FF 3700	3119	CLI	DDDF.X*FF* SEE IF *DATA* IN DDDF
2359 C0 81 2366	3120	BE	CO219
	3121 *	BE	CO219
235D C0 87 2A07	3122	B	ERRPRT
2361 32	2361 3123	DC	XL1*32* ERROR 5203
2362 2876	2363 3124	DC	AL2(FFFF) EXPECTED DATA
2364 3700	2365 3125	DC	AL2(DDDF) RECEIVED DATA
	3126 *	DC	AL2(DDDF)
2366 C0 87 2988	3127	E	NORMN
236A 3D C6 2303	2367 3128	CLI	CO207.X*C6* DDCR TEST DONE ?
236E C0 81 2388	3129	BE	CO221
	3130 *	BE	CO221
2372 C0 87 2EE3	3131	SETUP	FOR *DDCR* PHASE OF TEST
2376 0003	2377 3132	B	LCSI
2378 188381FF	2378 3133	DC	XL2*0003* LOAD CS LOC 0003
	3134 *	DC	XL4*188381FF* CHAN STOR/DDCR/1 BYTE CONTROL
237C 3C C6 2303	3135	MVI	CO207.X*C6*
2380 3C C6 2345	3136	MVI	CO212.X*C6*
2384 C0 87 22F2	3137	B	CC201
	3138	B	CC201

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2388 3C 74 2391	3139 *		
	3140 *		
	3141 *		
	3142 *		
	3143	MVI	CO225.X*74* NOW TEST THAT CHANNEL INDEX POINTERS OF *110*, *101* OR *011* DONT ALLOW DATA TRANSFER (POINTER 111 ONLY SHOULD WORK)
	3144 *		
238C C0 87 2DDF	3145	E	LALSD
2390 08	2390 3146	DC	AL1(DS3)
	2391 3147	EQU	*
	2391 3148	DC	XL1*00*
2391 00	3149 *		
	3150	B	CO201
2392 C0 87 22F2	3151 *		
	3152	CLI	DDDF.X*FF* DID DATA XFER ?
2396 3D FF 3700	3153	JNE	CO223
239A F2 01 05	3154 *		
	3155	B	ERRPRT
239D C0 87 2A07	23A1 3156	DC	XL1*40* ERROR 5204
23A1 40	3157 *		
	3158	B	NORMN
23A2 C0 87 2988	3159 *		
	3160	CLI	CO225.X*04* POINTER 110 TESTED ?
23A6 3D 04 2391	3161	BE	LINK
23AA C0 81 0216	3162 *		
	3163	TBN	CO225.X*84* POINTER 101 TESTED ?
23AE 38 84 2391	3164	JT	CO227
23B2 F2 10 08	3165 *		
	3166	MVI	CO225.X*84* ELSE SETUP POINTER 101 INDEX
23B5 3C 84 2391	3167	B	CO222
23B9 C0 87 238C	3168 *		
	3169	MVI	CO225.X*D4* SETUP POINTER 110 INDEX
23BD 3C 04 2391	3170	B	CO222
23C1 C0 87 238C	3171		
	3171		
	3171		
23C5 21	23C5 3172	DC	XL1*21* ROUTINE 21 NOT USED
23C6 00	23C6 3173	DC	XL1*00*
23C7 23CD	23C8 3174	DC	AL2(RTN22) NEXT ROUTINE ADDRESS
23C9 C0 87 0216	3175	B	LINK

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
3177 *****
3178 *
3179 *      CHANNEL DATA PATH TEST (255 BYTE XFER ODD & EVEN, TO & FROM *
3180 *      THE CHANNEL)
3181 *      ERRORS: 5220 - IOP PROGRAM DIDN'T RUN TO COMPLETION *
3182 *      TRANSFER EVEN 5221 - DATA TRANSFERRED TO CS NOT AS EXPTD *
3183 *      BOTH 5222 - RCS PARITY CHECK *
3184 *      BOTH 5223 - CHANNEL XFER CHECK *
3185 *      BOTH 5224 - DSADDR NOT INCREMENTED AS EXPTD *
3186 *      EVEN 5225 - CI PARITY CK *
3187 *      EVEN 5226 - DATA TRANSFERRED TO DDDF NOT AS EXPTD *
3188 *
3189 *      TRANSFER ODD 5227 - DATA TRANSFERRED TO CS NOT AS EXPTD *
3190 *      ODD 5228 - DATA TRANSFERRED TO DDDF NOT AS EXPTD *
3191 *      ODD 5229 - CI PARITY CK *
3192 *      ODD 522A - DDDR NOT AS EXPECTED *
3193 *      522B - DATA TO ATTACHMENT STARTED ON EVEN *
3194 *      INSTEAD OF ODD BYTE IN CS. *
3195 *      522C - DDDF ALTERED DURING CHANNEL TRANSFER *
3196 *      TO ATTACHMENT. *
3197 *
3198 *****
3199 *
23CD 22      23CD 3200 RTN22      DC      XL1'22'      ROUTINE 22
23CE 00      23CE 3201      DC      XL1'00'
23CF 2738    23DD 3202      DC      AL2(RTN23)    NEXT ROUTINE ADDRESS
3203 *
3204 *      R      BEGIN      INITIALIZATION
3205 *
3206 *      255 BYTE TRANSFER TO ATTACHMENT (EVEN)
3207 *
3208 *      B      LCS1
3209 *      DC      XL2'0000'
3210 *      DC      XL3'08AF00'      LBI      SCN,X'00' MAKE SURE
3211 *      FILE XFER CTRLS ARE OFF
3212 *      DC      XL3'08A780'      LBI      FHF,X'80' RESET FHF 0
3213 *      DC      XL3'08B310'      LBI      DXC,X'10' DATA FROM CHNL/CYCLE STEAL
3214 *      REQ/DDDR
3215 *      DC      XL3'18A100'      LBI      CCH,X'00' CHAN
3216 *      DC      XL3'18B1FD'      LBI      CCL,X'FD' CTR = 253
3217 *      DC      XL3'18A310'      LBI      DST,X'10' ALLOW CHNL DATA XFER
3218 *      DC      XL3'126308'      TBN      2,DST.08  BN GN 'END CHNL XFER'
3219 *      DC      XL3'100006'      B      0006      LOOP BACK
3220 *
3221 *      DC      XL3'080000'      NO-OP      DELAY
3222 *      DC      XL3'080000'      NO-OP      DELAY
3223 *      DC      XL3'080000'      NO-OP      DELAY
3224 *      DC      XL3'080000'      NO-OP      DELAY
3225 *      DC      XL3'080000'      NO-OP      DELAY
3226 *      DC      XL3'08A300'      LBI      DST,X'00' RESET 'ALLOW CHNL XFER'
3227 *      DC      XL3'00000E'      B      000E      HANG
3228 *      DC      XL1'FF'
3229 *      MVI      SHTWK,X'00'      INITIALIZE 'ROUTINE' FLAGS
3230 *
3231 *      SETUP DATA PATTERN '00' - 'FF' IN DDDF (LOC 8000)
3232 *
3233 *      MVI      CDP02,X'00'      INITIAL DATA = '00'
3234 *      MVC      CDP03(1),CDP02      ADDRESS = '80'+ 'DATA'
3235 *      EQU      **1      'DATA' ADDRESS
3236 *      EQU      **3      'DDDF' ADDRESS
3237 *      MVI      DDDF,X'00'      MOVE 'DATA' TO 'DDDF'
3238 *      ALC      CDP02,11      BUMP 'DATA' BY 1
3239 *      CLI      CDP02,X'00'      LAST DATA MOVED TO DDDF ?
3240 *      BNE
3241 *      FROM ROUTINE 24 ?
3242 *      TBN      SHTWK,X'40'      BR IF YES
3243 *      BT      DIFF01
3244 *

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
3245 *      SETUP LEFT/RIGHT DATA = 'FF00' TO INSURE THAT ALL BITS IN EACH
3246 *      PATH ARE TESTED
3247 *
2431 3C FF 3702      3248 *      MVI      DDDF+2,X'FF'
2435 3C 00 3703      3249 *      MVI      DDDF+3,X'00'
3250 *
2439 3C 17 33E9      3251 *      MVI      ZLSAR,23      SETUP CHNL TRAP ZLS FOR 'FETCH FROM
243D 3C 58 34C5      3252 *      MVI      ZLS+23,X'58'      CHANNEL'
2441 3C 01 330F      3253 *      MVI      LENGTH,1
2445 CO 87 2D44      3254 *      B      LZLS
3255 *
2449 38 80 1F2D      3255 *      TBN      SHTWK,X'80'      FROM ODD ROUTINE ?
244D CO 10 2606      3256 *      BT      CDP51      BR IF YES
3257 *
2451 CO 87 2C0A      3258 *      B      LOST      ELSE RESTORE DST-REG
3259 *
2455 CO 87 2999      3260 *      B      BGNTST
3261 *
2459 31 C4 33C9      3262 *      LIO      DDDFA,X'C4'      CDDR = DDDF (8000)
245D CO 87 2DA9      3263 *      B      LALS8      SETUP CHNL TRAP USADDR
2461 1E      3264 *      DC      AL1(DS1)      = '857F' (1 BYTE BEFORE DDDF)
2462 85      2461 3265 *      DC      XL1'85'
2462 85      2462 3266 *      DC
3267 *
2463 CO 87 2DDF      3268 *      B      LALSD
2467 1E      2467 3269 *      DC      AL1(DS1)
2468 7F      2468 3270 *      DC      XL1'7F'
3271 *
3271 *
3272 *
3273 *      NOW SET ALL CS ADDRESSES FROM 0500 - 057F = 'AAAA'
3274 *
2469 3C 00 247B      3275 *      MVI      CDP10,X'00'      INITIAL CS ADDRESS = 0500
246D F2 87 06      3276 *      J
3277 *
2470 0E 00 247B 33B4 3278 *      ALC      CDP10(1),11      BUMP ADDRESS BY 1
2476 CO 87 2EE3      3279 *      B      LCS1
247A 0500      2478 3280 *      DC      XL2'0500'
247C 80AAAAFF      247F 3281 *      DC      XL4'80AAAAFF'
3282 *
2480 3D 7F 247B      3283 *      CLI      CDP10,X'7F'      WRAPPED TO '057F' ?
2484 CO 01 2470      3284 *      BNE      CDP09      BR IF '0'. LOAD ALL ADDRSS
3285 *
2488 38 80 1F2D      3285 *      TBN      SHTWK,X'80'      FROM ODD ROUTINE ?
248C CO 10 261C      3286 *      BT      CDP55      BR IF YES
3287 *
2490 CO 87 2DDF      3288 *      B      LALSD      SETUP INITIAL MIAR
2494 00      2494 3289 *      DC      AL1(MIAR0)
2495 00      2495 3290 *      DC      XL1'00'
3291 *
2496 CO 87 310D      3292 *      B      IOPGO
3293 *
249A CO 87 271E      3294 *      B      CDPOLY      D E L A Y
3295 *
249E CO 87 2E73      3296 *      B      SALS0      HALT IOP. GET MIAR
24A2 00      24A2 3297 *      DC      AL1(MIAR0)
24A3 3D 0E 330E      3298 *      CLI      IOPIN,X'0E'      'NORMAL' END ?
24A7 CO 81 2480      3299 *      BE      CDP17      BR IF YES
3300 *
24AB CO 87 2A07      3301 *      B      ERRPRT
24AF 00      3302 *      DC      CDP16      B
3303 *      OC      XL1'00'      ERROR 5220
3304 *
2480 3D 01 3701      3305 *      CLI      DDDF+1,1
2484 F2 81 05      3306 *      JE      CDP17A
3307 *
2487 CO 87 2A07      3308 *      B      ERRPRT
248B CO      248B 3309 *      DC      XL1'CO'      ERROR 522C
3310 *
248C CO 87 3068      3311 *      B      SMES      GET MES-REG

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
24C0	38 01 33F9	3312	TBN	HES+EXT.X*01*	RCS PARITY CK ?
24C4	C0 90 24CD	3313	BF	CDP18	BR IF NO
		3314 *			
24C8	C0 87 2A07	3315	B	ERRPRT	
24CC	20	3316	DC	XL1*20*	ERROR 5222
		3317 *			
24CD	38 10 33F9	3318	TBN	HES+EXT.X*10*	CHNL XFER CK ?
24D1	C0 90 24DA	3319	BF	CDP20	BR IF NO
		3320 *			
24D5	C0 87 2A07	3321	B	ERRPRT	
24D9	30	3322	DC	XL1*30*	ERROR 5223
		3323 *			
24DA	C0 87 2F43	3324	B	SCS	GET CS DDDF
24DE	0500	3325	DC	XL2*0500*	
		3326	EQU	**+1	
24E0	3D 00 3570	3327	CLI	CR.X*00*	DATA AS EXPECTED ?
24E4	C0 81 24F1	3328	BE	CDP22	BR IF YES
		3329 *			
24E8	C0 87 2A07	3330	B	ERRPRT	
24EC	12	3331	DC	XL1*12*	ERROR 5221
24ED	24E1	3332	DC	AL2(CDP21)	
24EF	3570	3333	DC	AL2(CR)	
		3334 *			
24F1	C0 87 2F43	3335	B	SCS	
24F5	057F	3336	DC	XL2*057F*	
		3337	EQU	**+1	
24F7	3D FE 3570	3338	CLI	CR.X*FE*	DATA AS EXPECTED ?
24FB	C0 81 2508	3339	BE	CDP24	BR IF YES
		3340 *			
24FF	C0 87 2A07	3341	B	ERRPRT	
2503	12	3342	DC	XL1*12*	ERROR 5221
2504	24FB	3343	DC	AL2(CDP23)	
2506	3570	3344	DC	AL2(CR)	
		3345 *			
2508	C0 87 2F43	3346	B	SCS	
250C	0501	3347	DC	XL2*0501*	0501 SHOULD BE 'FF00'
		3348	EQU	**+1	
250E	3D FF 3570	3349	CLI	CR.X*FF*	
2512	C0 81 251F	3350	BE	CDP27	
		3351 *			
2516	C0 87 2A07	3352	B	ERRPRT	
251A	12	3353	DC	XL1*12*	ERROR 5221
251B	250F	3354	DC	AL2(CDP25)	EXPECTED DATA
251D	3570	3355	DC	AL2(CR)	RECEIVED DATA
		3356 *			
2520	3357	3357	EQU	**+1	
2527	3D 00 3571	3358	CLI	Y.X*00*	
252B	C0 81 2530	3359	BE	CDP28	
		3360 *			
2527	C0 87 2A07	3361	B	ERRPRT	
252B	12	3362	DC	XL1*12*	ERROR 5221
252C	2520	3363	DC	AL2(CDP26)	EXPECTED DATA
252E	3571	3364	DC	AL2(Y)	RECEIVED DATA
		3365			
		3366 *			
		3367 *			
		3368 *			
2530	C0 87 29BB	3369	B	NORMN	
		3370 *			
2534	C0 87 2EE3	3371	B	LCST	
2538	0002	3372	DC	XL2*0002*	
253A	18B390FF	3373	DC	XL4*18B390FF* LBI	DXC.X*90* DATA TO CHNL/DDDR
		3374 *			
253E	3C 17 33E9	3375	MVI	ZLSAR,23	SETUP CHNL TRAP ZLS FOR *STOR TO
2542	3C 01 33DF	3376	MVI	LENGTH,1	CHNL*
2546	3C 0D 34C5	3377	MVI	ZLS+23.X*00*	
254A	C0 87 2D44	3378	B	LZLS	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
		3379 *			
254E	38 80 1F2D	3380	TBN	SHTWK.X*80*	FROM ODD ROUTINE ?
2552	C0 10 268A	3381	BT	CDP68	BR IF YES
		3382 *			
2556	C0 87 2999	3383	B	BGNTST	
		3384 *			
255A	3C AA 37FF	3385	MVI	DDDF+255.X*AA*	INITIALIZE DDDF
255E	0C FE 37FE 37FF	3386	MVC	DDDF+254(255),DDDF+255	= 'AA'
		3387 *			
2564	31 C4 33C9	3388	L10	DDDF.A*X*C4*	DDDR = DDDF (8000)
		3389 *			
2568	C0 87 2DA9	3390	B	LALS8	SETUP CHNL TRAP DSADDR = '8500'
256C	1E	3391	DC	AL1(DS1)	
256D	85	3392	DC	XL1*85*	
256E	C0 87 2DDF	3393	B	LALSD	
2572	1E	3394	DC	AL1(DS1)	
2573	00	3395	DC	XL1*00*	
		3396 *			
2574	C0 87 2DDF	3397	B	LALSD	
2578	00	3398	DC	AL1(MIAR0)	
2579	00	3399	DC	XL1*00*	
		3400 *			
257A	C0 87 310D	3401	B	IOPGO	
257E	C0 87 271E	3402	B	CDPDLY	D E L A Y
		3403 *			
2582	C0 87 2E73	3404	B	SALSD	GET MIAR
2586	00	3405	DC	AL1(MIAR0)	
		3406 *			
2587	3D 0F 33DE	3407	CLI	IOPIN.X*0E*	*NORMAL* END ?
258B	C0 01 24AB	3408	BNE	CDP16	BR IF NO
		3409 *			
258F	C0 87 3068	3410	B	SHES	GET MES-REG
2593	38 40 33DE	3411	TBN	IOPIN.X*40*	CI PARITY CK ?
2597	C0 90 25A0	3412	BF	CDP33	BR IF NO
		3413 *			
259B	C0 87 2A07	3414	B	ERRPRT	
259F	50	3415	DC	XL1*50*	ERROR 5225
		3416 *			
25A0	C0 87 2E73	3417	B	SALSD	GET CHNL DSADDR
25A4	1E	3418	DC	AL1(DS1)	
		3419	EQU	**+1	
25A5	3D 82 33DE	3420	CLI	IOPIN.X*82*	AS EXPECTED?
25A9	C0 81 25B6	3421	BE	CDP35	BR IF YES
		3422 *			
25AD	C0 87 2A07	3423	B	ERRPRT	
25B1	42	3424	DC	XL1*42*	ERROR 5224
25B2	25A6	3425	DC	AL2(CDP34)	
25B4	33DE	3426	DC	AL2(IOPIN)	
		3427 *			
25B6	3D 00 3700	3428	CLI	DDDF.X*00*	DDDF AS EXPECTED ?
25BA	C0 81 25C7	3429	BE	CDP36	BR IF YES
		3430 *			
25BE	C0 87 2A07	3431	B	ERRPRT	
25C2	62	3432	DC	XL1*62*	ERROR 5226
25C3	25B7	3433	DC	AL2(CDP35+1)	
25C5	3700	3434	DC	AL2(DDDF)	
		3435 *			
25C7	3D FE 37FE	3436	CLI	DDDF+254.X*FE*	DDDF AS EXPECTED ?
25CB	C0 81 25D8	3437	BE	CDP40	BR IF YES
		3438 *			
25CF	C0 87 2A07	3439	B	ERRPRT	
25D3	62	3440	DC	XL1*62*	ERROR 5226
25D4	25C8	3441	DC	AL2(CDP38+1)	
25D6	37FF	3442	DC	AL2(DDDF+255)	
		3443 *			
25D8	3D FF 3702	3444	CLI	DDDF+2.X*FF*	DDDF AS EXPECTED ?
25DC	C0 81 25E9	3445	BE	CDP42	BR IF YES
		3446 *			

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
25E0	CO 87 2A07	3447	B	ERRPRT	
25E4	62	25E4 3448	DC	XL1'62'	ERROR 5226
25E5	25D9	25E6 3449	DC	AL2(CDP40+1)	
25E7	3702	25E8 3450	DC	AL2(DDDF+2)	
		3451 *			
25E9	3D 00 3703	3452 CDP42	CLI	DDDF+3,X'00'	DDDF AS EXPECTED ?
25E0	CO 81 25FA	3453	BE	CDP50	BR IF YES
		3454 *			
25F1	CO 87 2A07	3455	B	ERRPRT	
25F5	62	25F5 3456	DC	XL1'62'	ERROR 5226
25F6	25EA	25F7 3457	DC	AL2(CDP42+1)	
25F8	3703	25F9 3458	DC	AL2(DDDF+3)	
		3459 *			
25FA	CO 87 298B	3460 CDP50	B	NORMN	
		3461			
		3462 *			
		3463 *			
		3464 *			
25FE	3A 80 1F2D	3465	SBN	SHTWK,X'80'	SET ODD ROUTINE FLAG
2602	CO 87 240D	3466	B	CDP00	SETUP DATA PATTERN IN ODDF & ZLS
		3467 *			
2606	CO 87 2EE3	3468 CDP51	B	LCSI	
260A	0002	260B 3469	DC	XL2'0002'	
260C	18B350FF	260F 3470	DC	XL4'18B350FF'	LBI DXC,X'50' ODDR/ODD XFER
		3471 *			
2610	CO 87 2999	3472	B	BGNTST	
		3473 *			
2614	31 C4 33CB	3474 CDP53	LIO	DDDFAI,X'C4'	DDDR = ODDF+1
		3475 *			
2618	CO 87 2469	3476	B	CDP08	GO SETUP CS LOC 0500-057F ='AA'
		3477 *			
261C	CO 87 2DA9	3478 CDP55	B	LALSD	
2620	1E	2620 3479	DC	AL1(DS1)	SETUP CHNL TRAP DSADDR
2621	85	2621 3480	DC	XL1'85'	EQUAL '847F'
2622	CO 87 2DDF	3481	B	LALSD	
2626	1E	2626 3482	DC	AL1(DS1)	
2627	7F	2627 3483	DC	XL1'7F'	
		3484 *			
2628	CO 87 2DDF	3485	B	LALSD	GO SETUP INITIAL MIAR
262C	00	262C 3486	DC	AL1(MIAR0)	= '0000'
262D	00	262D 3487	DC	XL1'00'	
		3488 *			
262E	CO 87 31DD	3489	B	IOP60	START IOP
		3490 *			
2632	CO 87 271E	3491	B	CDPOLY	D E L A Y
		3492 *			
2636	CO 87 2E73	3493	B	SALSD	GET MIAR
263A	00	263A 3494	DC	AL1(MIAR0)	
263B	3D 0E 33DE	3495	CLI	IOPIN,X'0E'	'NORMAL' END ?
263F	CO 01 24AB	3496	BNE	CDP16	BR IF NO
		3497 *			
2643	CO 87 2F43	3498	B	SCS	GET CS LOC '0500'
2647	0500	2648 3499	DC	XL2'0500'	
		264A 3500 CDP58	EQU	**1	
2649	3D 01 3571	3501	CLI	Y,X'01'	AS EXPECTED ?
264D	CO 81 265A	3502	BE	CDP59	BR IF YES
		3503 *			
2651	CO 87 2A07	3504	B	ERRPRT	
2655	72	2655 3505	DC	XL1'72'	ERROR 5227
2656	264A	2657 3506	DC	AL2(CDP58)	EXPECTED DATA
2658	3571	2659 3507	DC	AL2(Y)	RECEIVED
		3508 *			
265A	3D AA 3570	3509 CDP59	CLI	CR,X'AA'	CHECK TO SEE THAT XFER DID NOT START
265E	CO 81 2667	3510	BE	CDP60	ON THE EVEN BYTE
		3511 *			
2662	CO 87 2A07	3512	B	ERRPRT	
2666	80	2666 3513	DC	XL1'80'	ERROR CODE 5228

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
		3514 *			
		3515 *			
2667	CO 87 2F43	3516 CDP60	B	SCS	GET CS LOC '057F' (ODD)
266B	05FF	266C 3517	DC	XL2'05FF'	
		266E 3518 CDP61	EQU	**1	
266D	3D FF 3571	3519	CLI	Y,X'FF'	DATA AS EXPECTED ?
2671	CO 81 267E	3520	BE	CDP65	BR IF YES
		3521 *			
2675	CO 87 2A07	3522	B	ERRPRT	
2679	72	2679 3523	DC	XL1'72'	ERROR 5227
267A	266E	267B 3524	DC	AL2(CDP61)	
267C	3571	267D 3525	DC	AL2(Y)	
		3526 *			
267E	30 C4 3308	3527 CDP65	SNS	WORK4,X'C4'	GET ODDR VALUE IN WORK LOCATION. TEST
2682	3D FF 3308	3528	CLI	WORK4,X'FF'	TO SEE IF CHAN CTR SHUT OFF CHAN
		3529 *			XFER PROPERLY
2686	F2 81 05	3530	JE	CDP66	JUMP IF OK
		3531 *			
2689	CO 87 2A07	3532	B	ERRPRT	
268D	A0	268D 3533	DC	XL1'A0'	ERROR CODE 522A
		3534 *			
		3535 *			
268E	CO 87 3068	3536 CDP66	B	SMES	GET MES-REG
2692	38 01 33F9	3537	TBN	HES+EXT,X'01'	RCS PARITY CK ?
2696	CO 10 24C8	3538	BT	CDP17E	BR IF YES
		3539 *			
269A	38 10 33F9	3540	TBN	HES+EXT,X'10'	CHNL TRANSFER CK ?
269E	CO 10 24D5	3541	BT	CDP18E	BR IF YES
		3542 *			
26A2	CO 87 298B	3543	B	NORMN	
		3544			
		3545 *			
		3546 *			
		3547 *			
26A6	CO 87 2EE3	3548	B	LCSI	255 BYTE TRANSFER TO THE CHANNEL (ODD)
26AA	0002	26AB 3549	DC	XL2'0002'	
26AC	08B3D0FF	26AF 3550	DC	XL4'08B3D0FF'	LBI DXC,X'00'
		3551 *			
26B0	CO 87 253E	3552	B	CDP29	SETUP ZLS 111 = '00'
		3553 *			
26B4	CO 87 2999	3554 CDP68	B	BGNTST	
		3555 *			
26B8	CO 87 2DA9	3556	B	LALSD	
26BC	1E	26BC 3557	DC	AL1(DS1)	DSADDR PTR 111 = '8500'
26BD	85	26BD 3558	DC	XL1'85'	
26BE	CO 87 2DDF	3559	B	LALSD	
26C2	1E	26C2 3560	DC	AL1(DS1)	
26C3	00	26C3 3561	DC	XL1'00'	
		3562 *			
26C4	31 C4 33CB	3563	LIO	DDDFAI,X'C4'	DDDR = ODDF+1 (8001)
		3564 *			
26C8	CO 87 2DDF	3565	B	LALSD	
26CC	00	26CC 3566	DC	AL1(MIAR0)	INITIAL MIAR = '0000'
26CD	00	26CD 3567	DC	XL1'00'	
		3568 *			
26CE	CO 87 31DD	3569	B	IOP60	START IOP
		3570 *			
26D2	CO 87 271E	3571	B	CDPOLY	D E L A Y
		3572 *			
26D6	CO 87 2E73	3573	B	SALSD	
26DA	00	26DA 3574	DC	AL1(MIAR0)	GET MIAR
26DB	3D 0E 33DE	3575	CLI	IOPIN,X'0E'	'NORMAL' END ?
26DF	CO 01 24AB	3576	BNE	CDP16	
		3577 *			
		26E4 3578 CDP70	EQU	**1	
26E3	3D 01 3701	3579	CLI	DDDF+1,X'01'	DDDF AS EXPECTED ?
26E7	CO 81 26FA	3580	BE	CDP72	BR IF YES

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ERR LOC OBJECT CODE	ADDR	SYNT	SOURCE STATEMENT
26EB C0 87 2A07	3581 *	B	ERRPRT
26EF 82	3582	DC	XL1'82'
26F0 26E4	26EF 3583	DC	AL2(CDP70)
26F2 33CB	26F1 3584	DC	AL2(DDDFAI)
	26F3 3585	DC	AL2(DDDFAI)
	3586 *		
26F4 3D FF 37FF	26F5 3587 CDP71	EQU	**+1
26F8 C0 81 2705	3588 CDP72	CLI	DDDF+255.X'FF'
	3589	BE	CDP75
	3590 *		
26FC C0 87 2A07	3591	B	ERRPRT
2700 82	2700 3592	DC	XL1'82'
2701 26F5	2702 3593	DC	AL2(CDP71)
2703 344A	2704 3594	DC	AL2(DDDFAI+127)
	3595 *		
2705 C0 87 3068	3596 CDP75	B	SHES
2709 38 40 33DE	3597	TBN	IOPIN.X'40'
270D C0 90 2716	3598	BF	CDP76
	3599 *		
2711 C0 87 2A07	3600	B	ERRPRT
2715 90	2715 3601	DC	XL1'90'
	3602 *		
2716 C0 87 2988	3603 CDP76	B	NORMN
271A C0 87 0216	3604	B	LINK
	3605 *		
	3606 *		CPDLY - DELAY SUBROUTINE (1.5 MSEC)
	3607 *		
271E 34 08 2737	3608 CDPDLY	ST	CPDLY+3.ARR
2722 3C 00 33D2	3609	MVI	WORK1.0
2726 0E 00 33D2	3610 CDPDLY	ALC	WORK1(1).11
272C 38 80 33D2	3611	TBN	WORK1.X'80'
2730 C0 90 2726	3612	BF	CPDLY
	3613 *		
2734 C0 87 0000	3614 CDPDLY	B	**
	3615		
	3615		
2738 23	2738 3616 RTN23	DC	XL1'23'
2739 00	2739 3617	DC	XL1'00'
273A 2740	2738 3618	DC	AL2(RTN24)
273C C0 87 0216	3619	B	LINK

ERR LOC OBJECT CODE	ADDR	SYNT	SOURCE STATEMENT
	3621 *		*****
	3622 *		
	3623 *		TRANSFER 130 BYTES TO THE ATTACHMENT TO TEST DIFF COUNTER
	3624 *		THEN INVERT PARITY (FTR-REG BIT 6 ON) TO INSURE THAT
	3625 *		RCS PARITY CHECK WILL OCCUR
	3626 *		
	3627 *		ERRORS: 5240 - DIFF COUNTER FAILED
	3628 *		5241 - RCS PARITY CK FAILED TO COME ON
	3629 *		
	3630 *		*****
	3631 *		*****
	3632 *		ROUTINE 24
2740 24	2740 3633 RTN24	DC	XL1'24'
2741 00	2741 3634	DC	XL1'00'
2742 2873	2743 3635	DC	AL2(RTN25)
	3636 *		
2744 C0 87 2885	3637	B	BEGIN
	3638 *		
2748 3C 40 1F2D	3639	MVI	SHWK.X'40'
274C C0 87 240D	3640	B	CDP00
	3641 *		
2750 3C 17 33E9	3642 DIFF01	MVI	ZLSAR.23
2754 3C 00 2775	3643	MVI	DIFF03.X'00'
2758 3C 01 33DF	3644	MVI	LENGTH.1
275C 3C 5B 34C5	3645	MVI	ZLS+23.X'5B'
2760 C0 87 2D44	3646	B	LZLS
2764 3C 12 33E9	3647	MVI	ZLSAR.18
2768 3C CE 34C0	3648	MVI	ZLS+18.X'CE'
276C C0 87 2D44	3649	B	LZLS
	3650 *		
	3651	B	LCST
2770 C0 87 2EE3	2 75 3652 DIFF03	DC	XL2'0000'
2774 0000	2778 3653	DC	XL3'168A80'
2776 168A80	277B 3654	DC	XL3'169E80'
2779 169E80	277E 3655	DC	XL3'08AF00'
277C 08AF00	2781 3656	DC	XL3'08A300'
277F 08A300	2784 3657	DC	XL3'18A781'
2782 18A781	2787 3658	DC	XL3'080000'
2785 080000	3659 *		
	278A 3660	DC	XL3'08B31C'
2788 08B31C	3661 *		
	278D 3662	DC	XL3'18A100'
278B 18A100	2790 3663	DC	XL3'18B180'
278E 18B180	2793 3664	DC	XL3'080000'
2791 080000	2796 3665	DC	XL3'18A310'
2794 18A310	2799 3666	DC	XL3'12630D'
2797 12630D	279C 3667	DC	XL3'00000B'
279A 00000B	3668 *		
	279F 3669	DC	XL3'080000'
279D 080000	27A2 3670	DC	XL3'080000'
27A0 080000	27A5 3671	DC	XL3'080000'
27A3 080000	27A8 3672	DC	XL3'080000'
27A6 080000	27AB 3673	DC	XL3'080000'
27A9 080000	27AE 3674	DC	XL3'18AE00'
27AC 18AE00	27B1 3675	DC	XL3'080000'
27AF 080000	27B4 3676	DC	XL3'08AF0A'
27B2 08AF0A	27B7 3677	DC	XL3'18B681'
27B5 18B681	27BA 3678	DC	XL3'080000'
27B8 080000	27BD 3679	DC	XL3'080000'
27BB 080000	27C0 3680	DC	XL3'080000'
27BE 080000	3681 *		
	3682 *		
	3683 *		
27C1 18A502	27C3 3684	DC	XL3'18A502'
27C4 080000	27C6 3685	DC	XL3'080000'
27C7 080000	27C9 3686	DC	XL3'080000'
27CA 080000	27CC 3687	DC	XL3'080000'
27CD 116326	27CF 3688	DC	XL3'116326'

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
27D0	080000	27D2	3689	DC XL3*080000* PATCH
27D3	080000	27D5	3690	DC XL3*080000* PATCH
27D6	18A502	27D8	3691	DC XL3*18A502* LBI FTG.X*02* DIAG SYNC-IN
27D9	080000	27DB	3692	DC XL3*080000* DELAY - TRAP B = 3RD DATA BYTE TO F80
27DC	080000	27DE	3693	DC XL3*080000* FROM EVEN SIDE.
27DF	08C000	27E1	3694	DC XL3*080000* 1ST DECREMENT OF FCT
27E2	17672B	27E4	3695	DC XL3*17672B* TBUN 7.FHF.2B BR ON *END FILE XFER*
27E5	000019	27E7	3696	DC XL3*000019* LOOP TO 0019 (DIAG SYNC-IN)
			3697 *	
27E8	18A502	27EA	3698	DC XL3*18A502* LBI FTG.X*02* DIAG SYNC-IN
27EB	080000	27ED	3699	DC XL3*080000* DELAY - LAST TRAP B
27EE	080000	27FD	3700	DC XL3*080000*
27F1	080000	27F3	3701	DC XL3*080000*
27F4	04672C	27F6	3702	DC XL3*04672C* TBUN 4.FHF.2C BR ON *END TRAP CNT*
			3703 *	
27F7	10002B	27F9	3704	DC XL3*10002B* HANG - ERROR
			3705 *	
27FA	00002C	27FC	3706	DC XL3*00002C* HANG - OK
27FD	FF	27FD	3707	DC XL1*FF*
			3708 *	
27FE	C0 87 2DA9		3709	B LALSB
2802	1E	2802	3710	DC AL1(DS1)
2803	85	2803	3711	DC XL1*85* CHNL TRAP DSADDR = *057F*
			3712 *	
2804	C0 87 2DA9		3713	B LALSB
2808	0A	2808	3714	DC AL1(DS2)
2809	85	2809	3715	DC XL1*85* FILE TRAP DSADDR = *0500*
			3716 *	
280A	C0 87 2999		3717	B DIFF05
			3718 *	
280E	31 C4 33C9		3719	L10 DDDFA,X*CA* DDDR = DDDF (8000)
			3720 *	
2812	C0 87 2DDF		3721	B LALSD
2816	1E	2816	3722	DC AL1(DS1)
2817	7F	2817	3723	DC XL1*7F* CHNL TRAP DSADDR = *057F*
			3724 *	
2818	C0 87 2DDF		3725	B LALSD
281C	0A	281C	3726	DC AL1(DS2)
281D	00	281D	3727	DC XL1*00* FILE TRAP DSADDR = *0500*
			3728 *	
281E	C0 87 2DDF		3729	B LALSD
2822	00	2822	3730	DC AL1(MIAR)
2823	00	2823	3731	DC XL1*00* INITIAL MIAR = *0000*
			3732 *	
2824	C0 87 31DD		3733	B IOPGO
			3734 *	
2828	C0 87 271E		3735	B CDDPLY
			3736 *	
282C	3D FF 2775		3737	CLI DIFF03,X*FF*
2830	F2 81 2E		3738	JE DIFF09
			3739 *	
2833	C0 87 2E73		3740	B SALS0
2837	00	2837	3741	DC AL1(MIAR0)
2838	3D 2C 33DE		3742	CLI IOPIN,X*2C*
283C	C0 81 2845		3743	BE DIFF07
			3744 *	
2840	C0 87 2A07		3745	B ERRPRT
2844	00	2844	3746	DC XL1*00* ERROR 5240
			3747 *	
2845	C0 87 298B		3748	B DIFF07
			3749	
			3750 *	
			3751 *	
			3752 *	
2849	C0 87 2EE3		3753	B LCS1
284D	0005	284E	3754	DC XL2*0005*
284F	08AD02FF	2852	3755	DC XL4*08AD02FF*

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
			3756 *	
2853	3C FF 2775		3757	MVI DIFF03,X*FF*
2857	C0 87 280A		3758	B DIFF05
			3759 *	
285B	C0 87 3068		3760	B DIFF09
285F	38 01 33DE		3761	TBN IOPIN,X*01*
2863	F2 90 08		3762	JF DIFF0A
			3763 *	
2866	C0 87 298B		3764	B NORMN
286A	C0 87 0216		3765	B LINK
			3766 *	
286E	C0 87 2A07		3767	B DIFF0A
2872	10	2872	3768	DC XL1*10*

SET *RCS TEST* FLAG
 GET MES-REG
 SEE IF *RCS PARITY CK*
 BR IF NO
 ERROR 5241

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
	3770 *****
	3771 * RELOAD ATTACHMENT MICROCODE IF 3340 IPL *
	3772 * *
	3773 * *
	3774 *****
	3775 * *
2873 25	2873 3776 RTN25 DC XL1*25* ROUTINE 25
2874 00	2874 3777 DC XL1*00*
2875 FFFF	2876 3778 FFFF DC XL2*FFFF* LAST ROUTINE
	3779 * *
2877 00 00 0232 0A00	3780 CLC UTAB(1),PID-1 RELOAD 3340 MICROCODE
287D C0 81 6C02	3781 BE LDR+2 IF 3340 IS IPL DEVICE
	3782 * *
2881 C0 87 0216	3783 B LINK TERMINATE SECTION
	3784 * *

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
	3786 *****
	3787 * *
	3788 * *BEGIN* COMMON ROUTINE INITIALIZATION *
	3789 * *
	3790 * COME HERE AT THE START OF EVERY ROUTINE TO SETUP THE *
	3791 * MICROPROCESSOR. *
	3792 * *
	3793 *****
	3794 * *
2885 34 08 2998	3795 BEGIN ST BEGINX+3,ARR SAVE RETURN ADDRESS
	3796 * *
2889 38 10 33CE	3797 TBN IND,LPSW BRANCH IF NOT
288D F2 90 0A	3798 JF BEGINO SECTION RESTART
	3799 * *
2890 C0 87 021A	3800 B PRINT PRINT MESSAGE
2894 46	2894 3801 DC XL1*46* 'SECTION RE-STARTED'
2895 12	2895 3802 DC AL1(MSG05N-MSG06+1)
2896 33B3	2897 3803 DC AL2(MSG06N)
2898 C100	2899 3804 DC AL2(HLT00)
	3805 * *
289A 38 01 0A19	3806 BEGINO TBN COM,AMOPSW BRANCH IF AMOP WAS
289E C0 10 2AE8	3807 BT AMOPLK ABNORMALLY TERMINATED
	3808 * *
28A2 0D 00 0232 0A00	3809 CLC UTAB(1),PID-1 BRANCH IF 3340
28A8 C0 01 28DF	3810 BNE BEGIN1 IS NOT IPL DEVICE
	3811 * *
28AC 0D 01 0A1C 28D6	3812 CLC LDRID(2),C17 BRANCH IF LOADER (C17)
28B2 C0 01 28C0	3813 BNE LDRLD HAS NOT YET BEEN LOADED
	3814 * *
28B6 0D 01 6C01 28D6	3815 CLC LDR+1(2),C17 BRANCH IF LOADER IS
28BC C0 81 28D7	3816 BE LDRG0 STILL IN MAIN STORAGE
	3817 * *
28C0 C0 87 021A	3818 LDRLD B PRINT PRINT MESSAGE
28C4 46	28C4 3819 DC XL1*46* 'LOADING SECTION C17'
28C5 13	28C5 3820 DC AL1(MSG05N-MSG05+1)
28C6 33A1	28C7 3821 DC AL2(MSG05N)
28C8 C100	28C9 3822 DC AL2(HLT00)
	3823 * *
28CA 0C 18 0A39 0A18	3824 MVC SVPPFC(25),COM-1 SAVE SECTION PREFACE
	3825 * *
28D0 C0 87 022A	3826 B LOAD LOAD SECTION C17
28D4 04	28D4 3827 DC XL1*04*
28D5 0C17	28D6 3828 C17 DC XL2*0C17*
	3829 * *
28D7 3A 10 0A19	3830 LDRG0 SBN COM,FA0FLG GO TO LOADER TO
28DB C0 87 6C02	3831 B LDR+2 LOAD SECTION FA0
	3832 * *
28DF 0C FF 3574 3575	3833 BEGIN1 MVC CLR-1(256),CLR CLEAR ALL RESERVED STG AREAS
28E5 0C FF 34CD 34CE	3834 MVC IND+255(256),IND+256
	3835 * *
28EB C0 87 31A7	3836 B CLKRST RESET IOP CLOCK AND INITIALIZE INDEX
	3837 * *
28EF 3C 80 33FB	3838 MVI FTR+EXT,X*80* RESET
28F3 C0 87 288A	3839 B LFTR ADAPTER CHECKS
	3840 * *
28F7 3C 00 33FB	3841 MVI FTR+EXT,0 RESET
28FB C0 87 288A	3842 B LFTR FTR REG
	3843 * *
28FF C0 87 28CA	3844 B LSCN RESET SCN.
2903 C0 87 28FA	3845 B LDXC DXC. AND
2907 C0 87 28AA	3846 B LFTG FTG REGS
	3847 * *
290B 3C 8F 33F1	3848 MVI DST+EXT,X*8F* RESET ATTACHMENT BUSY
290F C0 87 2C0A	3849 B LDST AND SEEK COMPLETE BITS
	3850 * *
2913 3C 00 33F1	3851 MVI DST+EXT,0 RESET
2917 C0 87 2C0A	3852 B LDST DST REG
	3853 * *

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
291B 3C 80 33F5	3854	MVI	FHF+EXT.X'80'
291F C0 87 2CAA	3855	B	LFHF
	3856 *		
2923 3C 00 33F5	3857	MVI	FHF+EXT.0
2927 C0 87 2CAA	3858	B	LFHF
	3859 *		
292B C0 87 31A7	3860	B	CLKRST
	3861 *		
292F C0 87 2EA9	3862	B	LMBI
2933 80	2933 3863	DC	XL1'80' PTR 000
2934 84	2934 3864	DC	XL1'84' 001
2935 8A	2935 3865	DC	XL1'8A' 010
2936 8C	2936 3866	DC	XL1'8C' 011
2937 90	2937 3867	DC	XL1'90' 100
2938 9A	2938 3868	DC	XL1'9A' 101
2939 9B	2939 3869	DC	XL1'9B' 110
293A 9E	293A 3870	DC	XL1'9E' 111
293B 9E	293B 3871	DC	XL1'9E' 111
293C FF	293C 3872	DC	XL1'FF' TERMINATOR
	3873 *		
293D C0 87 2D92	3874 *		INITIALIZE ALS (BLOCK)
	3875	B	LALSBI
	3876 *		
	3877 *		INITIALIZE ALS (DISPLACEMENT)
2941 3C 14 3477	3878	MVI	ALSD+09.X'14'
2945 3C F4 3479	3879	MVI	ALSD+11.X'F4'
2949 3C 54 347B	3880	MVI	ALSD+13.X'54'
294D 3C 54 347D	3881	MVI	ALSD+15.X'54'
2951 C0 87 2DC8	3882	B	LALSD1
	3883 *		
2955 3C 00 33E9	3884	MVI	ZLSAR.0
2959 3C 20 33DF	3885	MVI	LENGTH.32
295D C0 87 2D44	3886	B	LZLS
	3887 *		
2961 3C 40 33DF	3888	MVI	LENGTH.64
2965 C0 87 2C9E	3889	B	LDLS
	3890 *		
2969 C0 87 3141	3891	B	LXOPI
296D 0B0000FF	2970 3892	DC	XL4'0B0000FF'
	3893 *		
2971 C0 87 2EE3	3894	B	LCSI
2975 0000	2976 3895	DC	XL2'0000'
2977 03A100	2979 3896	DC	XL3'03A100'
297A 040000	297C 3897	DC	XL3'040000'
297D 040000	297F 3898	DC	XL3'040000'
2980 040000	2982 3899	DC	XL3'040000'
2983 040000	2985 3900	DC	XL3'040000'
2986 040000	2988 3901	DC	XL3'040000'
2989 040000	298B 3902	DC	XL3'040000'
298C FF	298C 3903	DC	XL1'FF'
	3904 *		
298D 3C 0A 3572	3905 BEGIN2	MVI	LPCNT.X'0A'
	3906 *		
2991 C0 87 0212	3907	B	TEST
	3908 *		
2995 C0 87 0000	3909 BEGINX	B	***
	3910 *		

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2999 3A 08 298A	3912	*****	*****
	3913 *		
	3914 *	'BGNTST'	BEGIN TEST LOOP
	3915 *		
	3916 *		COME HERE AT THE START OF EVERY TEST TO SETUP 'TEST
	3917 *		LOOP' ADDRESS
	3918 *		
	3919	*****	*****
	3920 *		
	3921 BGNTST	ST	LOOPX+3.ARR
	3922 *		SAVE RETURN ADDRESS
	3923	SBN	IND.TSTSW
	3924	SIO	X'7E'.X'C4'
	3925 *		
	3926	SNS	SWS.0 * AMOP * SENSE DATA SWS
	3927	CLI	LINKID.X'B1' * LINK * AND GO TO AMOP IF
	3928	BE	AMOPLK * 'B1' * SWS 1 & 2 CONTAIN 'B1'
	3929 *		
	3930 *		ENTER HERE IF 'LOOPING' A TEST
	3931 *		
	3932 *		
	3933 LOOP	SIO	X'80'.X'C4'
	3934	MVI	LENGTH.1
	3935 *		ENABLE 3340 INTERRUPTS
	3936 LOOPX	B	***
	3937 *		INITIALIZE 'LENGTH' DEFAULT
			RETURN TO START OF TEST

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
3939	*			*****
3940	*			
3941	*			
3942	*			
3943	*			
3944	*			
3945	*			
3946	*			*****
3947	*			*****
3948	*			
298B	34	08	2A06	
298F	38	80	33CE	
29C3	F2	90	3D	
29C6	38	10	33CE	
29CA	C0	10	2980	
29CE	3A	40	33CE	
29D2	3C	53	2AA7	
29D6	0F	00	3572	33B4
29DC	C0	01	2980	
29E0	38	20	33CE	
29E4	F2	10	B7	
29E7	38	FF	33CE	
29EB	3C	0A	3572	
29EF	30	C5	3577	
29F3	39	15	3577	
29F7	C0	90	2B48	
29FB	39	0F	3576	
29FF	C0	90	2B48	
2A03	C0	87	0000	
3975	*			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
3977	*			*****
3978	*			
3979	*			
3980	*			
3981	*			
3982	*			
3983	*			
3984	*			
3985	*			
3986	*			*****
3987	*			*****
3988	*			
2A07	34	08	2A35	
2A08	34	01	2A78	
2A0F	38	10	33CE	
2A13	C0	10	2980	
2A17	0C	1C	3333	3334
2A1D	C0	67	021E	
2A21	01			2A21 3998
2A22	0A01			2A23 3999
2A24	3317			2A25 4000
2A26	C0	67	021E	
2A2A	04			2A2A 4003
2A2B	0A05			2A2C 4004
2A2D	3318			2A2E 4005
2A2F	C0	67	021E	
2A33	01			2A33 4008
2A34				2A35 4009
2A36	33D4			2A37 4010
2A38	0C	00	3319	33D3
2A3E	C2	01	331C	
2A42	34	01	2A63	
2A46	35	01	2A35	
2A4A	07	00	33D4	33B8
2A50	F2	82	1B	
2A53	D2	01	02	
2A56	1C	01	2A61	00
2A58	C0	67	021E	
2A5F	01			2A5F 4026
2A60				2A61 4027
2A62				2A63 4028
2A64	0E	01	2A63	33B8
2A6A	C0	87	2A4A	
2A6E	D2	01	01	
2A71	34	01	2A80	
2A75	C2	01	0000	
2A79	38	80	33CE	
2A7D	C0	90	0000	
2A81	3C	52	2AA7	
2A85	38	40	33CE	
2A89	F2	10	12	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2ABC	3A 20 33CE	4045 *		
		4046	SBN	IND,ERRSW
		4047 *		SET 'ERROR DETECTED' INDICATOR
2A90	0F 00 3572 33B4	4048	SLC	LPCNT(1),I1
2A96	C0 01 29B0	4049	BNZ	LOOP
		4050 *		LOOP TEST UNTIL LOOP COUNT IS EXHAUSTED
2A9A	3C 51 2AA7	4051	MVI	HLTID,HLT5I
		4052 *		SETUP HALT CODE 51 (ALL TRIES FAILED)
2A9E	C0 87 021A	4053	B	PRINT
2AA2	C1	4054	DC	XL1'C1'
2AA3	01	4055	DC	AL1(1)
2AA4	3334	4056	DC	AL2(MSGN+1)
2AA6	C100	4057	DC	XL2'C100'
		4058 *		PRINT ERROR MESSAGE HEADING LINE
2AAB	C0 87 021A	4059	B	PRINT
2AAC	81	4060	DC	XL1'81'
2AAD	1C	4061	DC	AL1(MSG01N-MSG01+1)
2AAE	3350	4062	DC	AL2(MSG01N)
		4063 *		PRINT VARIABLE DATA HEADING LINE
2AB0	C0 87 021A	4064	B	PRINT
2AB4	86	4065	DC	XL1'86'
2AB5	1F	4066	DC	AL1(MSGN-MSG+1)
2AB6	3333	4067	DC	AL2(MSGN)
		4068 *		PRINT VARIABLE DATA LINE
2AB8	0C 01 2ADB 2AA7	4069	MVC	ERRHLT(2),HLTID
2ABE	30 C5 3577	4070	SNS	SNSINT,X'C5'
2AC2	39 15 3577	4071	TBF	SNSINT,X'15'
2AC6	C0 90 2B48	4072	BF	BGNINT
2ACA	39 0F 3576	4073	TBF	SNSINT-1,X'0F'
2ACE	C0 90 2B48	4074	BF	BGNINT
		4075 *		SETUP ERROR HALT CODE SENSE ADAPTR STATUS BYTES OP END,ADAPTR CHK,DM, ATTN, BR TO THE OLD INTERRUPT RTN ANY OF 4 SEEK COMPLETES BR TO THE OLD INTERRUPT RTN
2AD2	3A 10 33CE	4076	SBN	IND,LPSW
		4077 *		LOOP FAILING TEST
2AD6	C0 87 0222	4078	B	HALT
2ADA		4079	DS	XL2
		4080 *		ERROR HALT
2ADC	C0 87 021A	4081	B	PRINT
2AE0	06	4082	DC	XL1'06'
2AE1	1A	4083	DC	AL1(MSG02N-MSG02+1)
2AE2	336A	4084	DC	AL2(MSG02N)
		4085 *		PRINT 'LOOPING FAILING TEST'
2AE4	C0 87 29B0	4086	B	LOOP
		4087 *		LOOP UNTIL OPERATOR INTERVENES

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2AE8	34 08 2B47	4089		*****
		4090 *		*****
		4091 *		LINKAGE TO AMOP (SECTION C19)
		4092 *		*****
		4093		*****
		4094 *		*****
2AEC	38 01 020D	4095	AMOPLK ST	AMOPX+3,ARR
2AF0	F2 90 51	4096 *		SAVE RETURN POINTER
		4097	TBN	SEYTES,SSW2F
		4098	JF	AMOPX
		4099 *		RETURN TO CALLING ROUTINE IF SSW '2F' NOT ON
2AF3	34 01 2B43	4100	ST	AMOPS1+3,XR1
2AF7	34 02 2B3F	4101	ST	AMOPS2+3,XR2
		4102 *		SAVE INDEX REG 1
2AFB	0C 18 0A39 0A18	4103	MVC	SVPFC(25),COM-1
		4104 *		SAVE SECTION PREFACE
2B01	0D 01 0A1E 2B2D	4105	CLC	AMOPID(2),C19
2B07	F2 01 09	4106	JNE	AMOPLD
		4107 *		GO TO LOAD SECTION C19 IF NOT ALREADY IN CORE
2B0A	0D 01 4001 2B2D	4108	CLC	AMOP+1(2),C19
2B10	F2 81 25	4109	JE	AMOPGO
		4110 *		GO TO EXECUTE C19 IF ALREADY IN CORE
2B13	0D 00 0232 0A00	4111	AMOPLD CLC	UTAB(1),PID-1
2B19	C0 81 2B3C	4112	BE	AMOPS2
		4113 *		RETURN TO CALLING ROUTINE IF 3340 IS IPL DEVICE
2B1D	C0 87 021A	4114	B	PRINT
2B21	46	4115	DC	XL1'46'
2B22	13	4116	DC	AL1(MSG03N-MSG03+1)
2B23	3370	4117	DC	AL2(MSG03N)
2B25	C100	4118	DC	AL2(HLT00)
		4119 *		PRINT - 'LOADING SECTION C19'
2B27	C0 87 022A	4120	B	LOAD
2B2B	04	4121	DC	XL1'04'
2B2C	0C19	4122	DC	XL2'0C19'
		4123 *		LOAD SECTION C19
2B2E	C0 87 021A	4124	B	PRINT
2B32	46	4125	DC	XL1'46'
2B33	11	4126	DC	AL1(MSG04N-MSG04+1)
2B34	338E	4127	DC	AL2(MSG04N)
2B36	C100	4128	DC	AL2(HLT00)
		4129 *		PRINT - 'SECTION C19 READY'
2B38	C0 87 4002	4130	AMOPGD B	AMOP+2
		4131 *		GO TO AMOP
2B3C	C2 02 0000	4132	AMOPS2 LA	*--*,XR2
2B40	C2 01 0000	4133	AMOPS1 LA	*--*,XR1
2B44	C0 87 0000	4134	AMOPX B	*--*
				RELOAD XR2
				RELOAD XR1
				RETURN

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
4136	*****			*****
4137	*			*
4138	*	BGNINT	3340	INTERRUPT SUBROUTINE
4139	*			1. SENSE STATUS TO LOC 'SNSBYT'
4140	*			2. RESET/DISABLE (IGNORE) OTHER INTERRUPTS
4141	*			*
4142	*****			*****
4143	*			*
2B48 34 08 2B61	4144	BGNINT	ST	INTRTN+3,ARR SAVE THE RETURN ADDRESS
2B4C 34 04 2B67	4145		ST	BASPSR,PSR SAVE BASE LVL PSR
2B50 30 C5 3574	4146		SNS	SNSBYT,X'C5' SENSE ADAPTER STATUS BYTES
2B54 35 04 2B67	4147		L	BASPSR,PSR RESTORE BASE LVL PSR
	4148	*		*
2B58 F3 C4 02	4149		SIO	X'02',X'C4' RESET *ENABLE INTERRUPTS*
2B5B F3 C4 7C	4150		SIO	X'7C',X'C4' RESET PENDING INTERRUPTS
	4151	*		*
2B5E C0 87 0000	4152	INTRTN	B	*-* RETURN TO THECALLING RTN
2B62 C0 87 2B48	4153		B	BGNINT LOOP TO HANDLE NEXT INTERRUPT
	4154	*		*
2B66	2B67	4155	BASPSR DS	XL2 SAVE BASE LVL PSR

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
4157	*****			*****
4158	*			*
4159	*			SVP INTERFACE CONTROL SUBROUTINES
4160	*			*
4161	*****			*****
4162	*			*
4163	*			LOAD FBI REGISTER VIA FBO
4164	*			*
2B68 34 08 2B89	4165	LFBI	ST	LFBI+3,ARR SAVE RETURN ADDRESS
	4166	*		*
2B6C 0C 00 33FC 33F0	4167		MVC	FBO+EXT(1),FBI+EXT MOVE FBI FIELD TO FBO
2B72 3C 14 33F3	4168		MVI	FTG+EXT,X'14' SETUP FTG FOR DIAG PATH
	4169	*		*
2B76 C0 87 2B8A	4170		B	LFBO LOAD FBO REG
2B7A C0 87 2BAA	4171		B	LFTG LOAD FTG REG
	4172	*		*
2B7E 3C 02 33E5	4173		MVI	EXTAR,FBI SETUP FBI ADDRESS
	4174	*		*
2B82 C0 87 2C6A	4175		B	LEXT LOAD EXTERNAL REGISTER
	4176	*		*
2B86 C0 87 0000	4177	LFBI	B	*-* RETURN TO CALLING ROUTINE
	4178	*		*
	4179	*****		*****
	4180	*		LOAD FBO REGISTER
	4181	*		*
2B8A 34 08 2B99	4182	LFBO	ST	LFBO+3,ARR SAVE RETURN ADDRESS
	4183	*		*
2B8E 3C 0E 33E5	4184		MVI	EXTAR,FBO SETUP EXTERNAL REG ADDRESS
	4185	*		*
2B92 C0 87 2C6A	4186		B	LEXT GO TO EXECUTE CONTROL STRING
	4187	*		*
2B96 C0 87 0000	4188	LFBO	B	*-* RETURN TO CALLING ROUTINE
	4189	*		*
	4190	*****		*****
	4191	*		LOAD FTO REGISTER
	4192	*		*
2B9A 34 08 2BA9	4193	LFTO	ST	LFTO+3,ARR SAVE RETURN ADDRESS
	4194	*		*
2B9E 3C 06 33E5	4195		MVI	EXTAR,FTO SETUP EXTERNAL REG ADDRESS
	4196	*		*
2BA2 C0 87 2C6A	4197		B	LEXT LOAD EXTERNAL REGISTER
	4198	*		*
2BA6 C0 87 0000	4199	LFTOX	B	*-* RETURN TO CALLING ROUTINE
	4200	*****		*****
	4201	*		LOAD FTG REGISTER
	4202	*		*
2BAA 34 08 2B89	4203	LFTG	ST	LFTG+3,ARR SAVE RETURN ADDRESS
	4204	*		*
2BAE 3C 05 33E5	4205		MVI	EXTAR,FTG SETUP EXTERNAL REG ADDRESS
	4206	*		*
2BB2 C0 87 2C6A	4207		B	LEXT LOAD EXTERNAL REGISTER
	4208	*		*
2BB6 C0 87 0000	4209	LFTGX	B	*-* RETURN TO CALLING ROUTINE
	4210	*		*
	4211	*****		*****
	4212	*		LOAD FTR REGISTER
	4213	*		*
2BBA 34 08 2BC9	4214	LFTR	ST	LFTR+3,ARR SAVE RETURN ADDRESS
	4215	*		*
2BBE 3C 0D 33E5	4216		MVI	EXTAR,FTR SETUP EXTERNAL REG ADDRESS
	4217	*		*
2BC2 C0 87 2C6A	4218		B	LEXT LOAD EXTERNAL REGISTER
	4219	*		*
2BC6 C0 87 0000	4220	LFTRX	B	*-* RETURN TO CALLING ROUTINE
	4221	*		*
	4222	*****		*****
	4223	*		LOAD SCN REGISTER
	4224	*		*

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	SAVE RETURN ADDRESS
2BCA 34 08 2BD9	4225 LSCN ST LSCNX+3,ARR	SAVE RETURN ADDRESS
	4226 *	
2BCE 3C 0F 33E5	4227 MVI EXTAR,SCN	SETUP EXTERNAL REG ADDRESS
	4228 *	
2BD2 C0 87 2C6A	4229 B LEXT	LOAD EXTERNAL REGISTER
	4230 *	
2BD6 C0 87 0000	4231 LSCNX B *-*	RETURN TO CALLING ROUTINE
	4232 *	
	4233 *-----	
	4234 * LOAD SBO REGISTER	
	4235 *	
2BDA 34 08 2BE9	4236 LSB0 ST LSB0X+3,ARR	SAVE RETURN ADDRESS
	4237 *	
2BDE 3C 1F 33E5	4238 MVI EXTAR,SBO	SETUP EXTERNAL REG ADDRESS
	4239 *	
2BE2 C0 87 2C6A	4240 B LEXT	LOAD EXTERNAL REGISTER
	4241 *	
2BE6 C0 87 0000	4242 LSB0X B *-*	RETURN TO CALLING ROUTINE
	4243 *	
	4244 *-----	
	4245 * LOAD SB1 REGISTER	
	4246 *	
2BEA 34 08 2BF9	4247 LSB1 ST LSB1X+3,ARR	SAVE RETURN ADDRESS
	4248 *	
2BEE 3C 17 33E5	4249 MVI EXTAR,SB1	SETUP EXTERNAL REG ADDRESS
	4250 *	
2PF2 C0 87 2C6A	4251 B LEXT	LOAD EXTERNAL REGISTER
	4252 *	
2BF6 C0 87 0000	4253 LSB1X B *-*	RETURN TO CALLING ROUTINE
	4254 *	
	4255 *-----	
	4256 * LOAD DXC REGISTER	
	4257 *	
2BFA 34 08 2C09	4258 LDXC ST LDXCX+3,ARR	SAVE RETURN ADDRESS
	4259 *	
2BFE 3C 13 33E5	4260 MVI EXTAR,DXC	SETUP EXTERNAL REG ADDRESS
	4261 *	
2C02 C0 87 2C6A	4262 B LEXT	LOAD EXTERNAL REGISTER
	4263 *	
2C06 C0 87 0000	4264 LDXCX B *-*	RETURN TO CALLING ROUTINE
	4265 *	
	4266 *-----	
	4267 * LOAD DST REGISTER	
	4268 *	
2C0A 34 08 2C19	4269 LDST ST LDSTX+3,ARR	SAVE RETURN ADDRESS
	4270 *	
2C0E 3C 03 33E5	4271 MVI EXTAR,DST	SETUP EXTERNAL REG ADDRESS
	4272 *	
2C12 C0 87 2C6A	4273 B LEXT	LOAD EXTERNAL REGISTER
	4274 *	
2C16 C0 87 0000	4275 LDSTX B *-*	RETURN TO CALLING ROUTINE
	4276 *	
	4277 *-----	
	4278 * LOAD CCL REGISTER	
	4279 *	
2C1A 34 08 2C29	4280 LCCL ST LCCLX+3,ARR	SAVE RETURN ADDRESS
	4281 *	
2C1E 3C 11 33E5	4282 MVI EXTAR,CCL	SETUP EXTERNAL REG ADDRESS
	4283 *	
2C22 C0 87 2C6A	4284 B LEXT	LOAD EXTERNAL REGISTER
	4285 *	
2C26 C0 87 0000	4286 LCCLX B *-*	RETURN TO CALLING ROUTINE
	4287 *	
	4288 *-----	
	4289 * LOAD CCH REGISTER	
	4290 *	
2C2A 34 08 2C39	4291 LCCH ST LCCHX+3,ARR	SAVE RETURN ADDRESS
	4292 *	

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	SAVE RETURN ADDRESS
2C2E 3C 01 33E5	4293 MVI EXTAR,CCH	SETUP EXTERNAL REG ADDRESS
	4294 *	
2C32 C0 87 2C6A	4295 B LEXT	LOAD EXTERNAL REGISTER
	4296 *	
2C36 C0 87 0000	4297 LCCHX B *-*	RETURN TO CALLING ROUTINE
	4298 *	
	4299 *-----	
	4300 * LOAD FCT AND TRAP COUNTER REGISTERS	
	4301 *	
2C3A 34 08 2C49	4302 LFCT ST LFCYX+3,ARR	SAVE RETURN ADDRESS
	4303 *	
2C3E 3C 16 33E5	4304 MVI EXTAR,FCT	SETUP EXTERNAL REG ADDRESS
	4305 *	
2C42 C0 87 2C6A	4306 B LEXT	LOAD EXTERNAL REGISTER
	4307 *	
2C46 C0 87 0000	4308 LFCTX B *-*	RETURN TO CALLING ROUTINE
	4309 *	
	4310 *-----	
	4311 * LOAD FHF REGISTER	
	4312 *	
2C4A 34 08 2C59	4313 LFHF ST LFHFY+3,ARR	SAVE RETURN ADDRESS
	4314 *	
2C4E 3C 07 33E5	4315 MVI EXTAR,FHF	SETUP EXTERNAL REG ADDRESS
	4316 *	
2C52 C0 87 2C6A	4317 B LEXT	LOAD EXTERNAL REGISTER
	4318 *	
2C56 C0 87 0000	4319 LFHFY B *-*	RETURN TO CALLING ROUTINE
	4320 *	
	4321 *-----	
	4322 * LOAD B00 REGISTER	
	4323 *	
2C5A 34 08 2C69	4324 LB00 ST LB00X+3,ARR	SAVE RETURN ADDRESS
	4325 *	
2C5E 3C 19 33E5	4326 MVI EXTAR,B00	SETUP EXTERNAL REG ADDRESS
	4327 *	
2C62 C0 87 2C6A	4328 B LEXT	LOAD EXTERNAL REGISTER
	4329 *	
2C66 C0 87 0000	4330 LB00X B *-*	RETURN TO CALLING ROUTINE
	4331 *	
	4332 *-----	
	4333 * LOAD ANY EXTERNAL REGISTER	
	4334 *	
2C6A 34 08 2C9D	4335 LEXT ST LEXTX+3,ARR	SAVE RETURN ADDRESS
	4336 ST LEXTX1+3,XR1	SAVE INDEX REGISTER 1
2C6E 34 01 2C99	4337 *	
2C72 C0 87 30CB	4338 B LEXTAR	LOAD EXTERNAL ADDRESS REGS
	4339 *	
2C76 C2 01 33EE	4340 LA EXT,XR1	LOCATE VALUE TO BE
	4341 A EXTAR,XR1	LOADED INTO EXTERNAL REG
2C7A 36 01 33E5	4342 *	
2C7E 34 01 2C8D	4343 ST LEXT01,XR1	MOVE DATA ADDR TO SVP STRING
	4344 *	
2C82 C0 87 3289	4345 B SVP	EXECUTE SVP CONTROL STRING
	2C87 4346 DC XL2*A0C2*	SET K2 - SERVICE MODE
2C86 A0C2	2C89 4347 DC AL2(KREG)	
2C88 356E	2C8B 4348 DC XL2*00CB*	EXT REG DATA --> OP REG Y
2C8A 00CB	2C8D 4349 LEXT01 DS AL2	
2C8C	2C8F 4350 DC XL2*028F*	OP REG Y --> A REG --> DREG
2C8E 028F	2C91 4351 DC XL2*028D*	D REG --> EXTERNAL REG
2C90 028D	2C93 4352 DC XL2*00E2*	RESET SERVICE MODE
2C92 00E2	2C95 4353 DC AL2(KREG)	
2C94 356E	4354 *	
	4355 LEXTX1 LA *-*,XR1	RESTORE INDEX REGISTER 1
2C96 C2 01 0000	4356 LEXTX B *-*	RETURN TO CALLING ROUTINE
2C9A C0 87 0000	4357 *	
	4358 *-----	
	4359 * LOAD DATA LOCAL STORAGE	
	4360 *	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2C9E 34 08 2CEF	4361	LDLS	ST	LDLSX+3,ARR
2CA2 34 01 2CEB	4362		ST	LDLSX1+3,XR1
	4363 *			
2CA6 C0 87 3265	4364		B	HIOP
	4365 *			
2CAA C2 01 34EE	4366	LDLS01	LA	DLS,XR1
2CAE 36 01 33EB	4367		A	DLSAR,XR1
	4368 *			
2CB2 34 01 2CC5	4369		ST	LDLS02,XR1
	4370 *			
2CB6 C0 87 3289	4371		B	SVP
2CBA A0C2	2C9B 4372		DC	XL2'A0C2'
2CBC 356E	2C9D 4373		DC	AL2(KREG)
2CBE 00CA	2C9E 4374		DC	XL2'00CA'
2CC0 33EB	2CC1 4375		DC	AL2(DLSAR)
2CC2 00CB	2CC3 4376		DC	XL2'00CB'
2CC4	2CC5 4377	LDLS02	DS	AL2
2CC6 008C	2CC7 4378		DC	XL2'008C'
2CC8 028F	2CC9 4379		DC	XL2'028F'
2CCA 018D	2CCB 4380		DC	XL2'018D'
2CCC 00E2	2CCD 4381		DC	XL2'00E2'
2CCE 356E	2CCF 4382		DC	AL2(KREG)
	4383 *			
2CD0 3D 01 33DF	4384		CLI	LENGTH,1
2CD4 C0 04 2CE8	4385		BNH	LDLSX1
	4386 *			
2CD8 0F 00 33DF 33B4	4387		SLC	LENGTH(1),I1
2CDE 0E 00 33EB 33B4	4388		ALC	DLSAR(1),I1
2CE4 C0 87 2CAA	4389		B	LDLS01
	4390 *			
2CE8 C2 01 0000	4391	LDLSX1	LA	*-*,XR1
2CEC C0 87 0000	4392	LDLSX	B	*-*
	4393 *			
	4394 *			
	4395 *			SENSE DATA LOCAL STORAGE
	4396 *			
2CF0 34 08 2043	4397	SDLS	ST	SDLSX+3,ARR
2CF4 34 01 2D3F	4398		ST	SDLSX1+3,XR1
	4399 *			
2CF8 C0 87 3265	4400		B	HIOP
	4401 *			
2CFC C2 01 352E	4402	SDLS01	LA	DLSIN,XR1
2D00 36 01 33EB	4403		A	DLSAR,XR1
2D04 34 01 2D1F	4404		ST	SDLS02,XR1
	4405 *			
2D08 C0 87 3289	4406		B	SVP
2D0C ABC2	2D0D 4407		DC	XL2'ABC2'
2D0E 356E	2D0F 4408		DC	AL2(KREG)
2D10 00CA	2D11 4409		DC	XL2'00CA'
2D12 33EB	2D13 4410		DC	AL2(DLSAR)
2D14 008C	2D15 4411		DC	XL2'008C'
2D16 088F	2D17 4412		DC	XL2'088F'
2D18 038F	2D19 4413		DC	XL2'038F'
2D1A 0085	2D19 4414		DC	XL2'0085'
2D1C 004D	2D1D 4415		DC	XL2'004D'
2D1E 0000	2D1F 4416	SDLS02	DC	AL2(*-*)
2D20 00E2	2D21 4417		DC	XL2'00E2'
2D22 356E	2D23 4418		DC	AL2(KREG)
	4419 *			
2D24 3D 01 33DF	4420		CLI	LENGTH,1
2D28 C0 04 2D3C	4421		BNH	SDLSX1
	4422 *			
2D2C 0F 00 33DF 33B4	4423		SLC	LENGTH(1),I1
2D32 0E 00 33EB 33B4	4424		ALC	DLSAR(1),I1
2D38 C0 87 2CFC	4425		B	SDLS01
	4426 *			
2D3C C2 01 0000	4427	SDLSX1	LA	*-*,XR1
2D40 C0 87 0000	4428	SDLSX	B	*-*

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	4429 *			
	4430 *			
	4431 *			LOAD ZONE LOCAL STORAGE
	4432 *			
2D44 34 08 2D91	4433	LZLS	ST	LZLSX+3,ARR
2D48 34 01 2D8D	4434		ST	LZLSX1+3,XR1
	4435 *			
2D4C C2 01 34AE	4436		LA	ZLS,XR1
2D50 36 01 33E9	4437		A	ZLSAR,XR1
2D54 3A 80 33E9	4438		SBN	ZLSAR,X*80'
	4439 *			
2D58 3C 03 356F	4440	LZLS01	MVI	C,X*03'
2D5C 0C 00 3570 33E9	4441		MVC	CR,ZLSAR(1)
2D62 1C 00 3571 00	4442		MVC	Y,0(1,XR1)
	4443 *			
2D67 C0 87 3173	4444		B	LOP
2D6B C0 87 3197	4445		B	XCP
	4446 *			
2D6F 3D 01 33DF	4447		CLI	LENGTH,1
2D73 C0 04 2D8A	4448		BNH	LZLSX1
	4449 *			
2D77 0F 00 33DF 33B4	4450		SLC	LENGTH(1),I1
2D7D 0E 00 33E9 33B4	4451		ALC	ZLSAR(1),I1
2D83 D2 01 01	4452		LA	1(,XR1),XR1
2D86 C0 87 2D58	4453		B	LZLS01
	4454 *			
2D8A C2 01 0000	4455	LZLSX1	LA	*-*,XR1
2D8E C0 87 0000	4456	LZLSX	B	*-*
	4457 *			
	4458 *			LOAD ADDRESS LOCAL STORE (ALSB)
	4459 *			
	4460 *			
	4461 *			ENTER HERE TO SETUP ALL 32 ALSB LOCATIONS
2D92 34 08 2E63	4462	LALSB1	ST	LALSX+3,ARR
2D96 34 01 2E5F	4463		ST	LALSX1+3,XR1
	4464 *			
2D9A 3C 20 33DF	4465		MVI	LENGTH,32
2D9E 3C 80 33E7	4466		MVI	ALSAR,X*80'
2DA2 C2 01 3A2E	4467		LA	ALSB,XR1
2DA6 F2 87 52	4468		J	LALS01
	4469 *			
	4470 *			ENTER HERE TO SETUP SOME NUMBER OF ALSB LOCATIONS ('LENGTH')
	4471 *			MUST BE INITIALIZED PRIOR TO ENTRY. DEFAULT IS ONE LOC.
	4472 *			
2DA9 34 08 2E63	4473	LALSB	ST	LALSX+3,ARR
2DAD 34 01 2E5F	4474		ST	LALSX1+3,XR1
	4475 *			
2DB1 3A 04 33CE	4476		SBN	IND,SWA
2DB5 35 01 2E63	4477		L	LALSX+3,XR1
2DB9 1C 00 33E7 00	4478	LALSB2	MVC	ALSAR,0(1,XR1)
2DBE 3A 80 33E7	4479		SBN	ALSAR,X*80'
2DC2 D2 01 01	4480		LA	1(,XR1),XR1
2DC5 F2 87 33	4481		J	LALS01
	4482 *			
	4483 *			LOAD ADDRESS LOCAL STORE (ALSD)
	4484 *			
	4485 *			
	4486 *			ENTER HERE TO SETUP ALL 32 ALSD LOCATIONS
2DC8 34 08 2E63	4487	LALSD1	ST	LALSX+3,ARR
2DCC 34 01 2E5F	4488		ST	LALSX1+3,XR1
	4489 *			
2DD0 3C 20 33DF	4490		MVI	LENGTH,32
2DD4 3C 80 33E7	4491		MVI	ALSAR,X*80'
2DD8 C2 01 3A6E	4492		LA	ALSD,XR1
2DDC F2 87 1C	4493		J	LALS01
	4494 *			
	4495 *			ENTER HERE TO SETUP SOME NUMBER OF ALSD LOCATIONS
	4496 *			

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	COMMENT
2DDF 34 08 2E63		4497	LALSD	ST LALSX+3,ARR	SAVE RETURN ADDRESS
2DE3 34 01 2E5F		4498	ST	LALSX1+3,XR1	SAVE INDEX REG 1
2DE7 3A 02 33CE		4499 *			SET 'DISP' SWITCH
2DEB 35 01 2E63		4500	SBN	IND,SWB	POINT TO PARM
2DEF 1C 00 33E7 00		4501	L	LALSX+3,XR1	MOVE ALS ADDRESS
2DF4 3A A0 33E7		4502	LALSD2	MVC ALSAR,0(1,XR1)	SETUP SADI INSTRUCTION
2DF8 D2 01 01		4503	SBN	ALSAR,X'A0'	POINT TO ALS DATA
		4504	LA	1(,XR1),XR1	
		4505 *			COMPLETE THE
2DFB 3C 02 356F		4506	LALS01	MVI C,X'02'	SABI / SADI
2DFF 0C 00 3570 33E7		4507	MVC	CR,ALSAR(1)	INSTRUCTION
2E05 1C 00 3571 00		4508	MVC	Y,0(1,XR1)	
		4509 *			'INHIBIT CK STOP' DURING LOAD
2E0A 3A 80 356E		4510	SBN	KREG,X'80'	LOAD THE OP REG AND
2E0E C0 87 3173		4511	B	LOP	EXECUTE THE MICRO-INSTRUCTION
2E12 C0 87 3197		4512	B	XOP	
		4513 *			ARE WE IN 'ALL' LOCATION MODE?
2E16 39 06 33CE		4514	TBF	IND,SWA+SWB	BR IF YES
2E1A C0 10 2E25		4515	BT	LALS02	
		4516 *			ELSE ADVANCE PARM POINTER
2E1E D2 01 01		4517	LA	1(,XR1),XR1	TO RETURN ADDRESS
2E21 34 01 2E63		4518	ST	LALSX+3,XR1	
		4519 *			EXIT IF ALL NECESSARY
2E25 3D 01 33DF		4520	LALS02	CLI LENGTH,1	LOCATIONS HAVE BEEN LOADED
2E29 C0 04 2E50		4521	BNH	LALSX2	
		4522 *			DECREMENT DATA BYTE COUNT
2E2D 0F 00 33DF 33B4		4523	SLC	LENGTH(1),1	ADVANCE ALS ADDRESS
2E33 0E 00 33E7 33B4		4524	ALC	ALSAR(1),1	ADVANCE DATA POINTER
2E39 D2 01 01		4525	LA	1(,XR1),XR1	ARE WE IN 'ALL' LOCATION MODE
2E3C 39 06 33CE		4526	TBF	IND,SWA+SWB	BR IF YES
2E40 C0 10 2DFB		4527	BT	LALS01	
		4528 *			ELSE ARE WE IN 'BLOCK' MODE?
2E44 38 04 33CE		4529	TBN	IND,SWA	BR IF YES
2E48 C0 10 2DB9		4530	BT	LALS02	ELSE RETURN TO 'DISP' MODE
2E4C C0 87 2DEF		4531	B	LALS02	
		4532 *			RESET 'INHIBIT CK STOP'
2E50 3B 80 356E		4533	LALSX2	SBF KREG,X'80'	RESTORE COUNT = ONE
2E54 3C 01 33DF		4534	MVI	LENGTH,1	RESET 'BLOCK/DISP' MODE SW
2E58 3B 06 33CE		4535	SBF	IND,SWA+SWB	RESTORE INDEX REGISTER 1
2E5C C2 01 0000		4536	LALSX1	LA *-*,XR1	RETURN TO CALLING ROUTINE
2E60 C0 87 0000		4537	LALSX	B *-*	
		4538 *			
		4539 *			SENSE ALSB OR ALSD INTO LOCATION 'IOPIN'
		4540 *			
		4541 *			
2E64 34 08 2EAB		4542	SALSB	ST SALSX+3,ARR	SAVE RETURN
2E68 34 01 2EA4		4543	ST	SALSX1+3,XR1	SAVE INDEX REG 1
		4544 *			SETUP 'SENSE ALSB'
2E6C 3C 0E 2E9C		4545	MVI	RDALSB,X'0E'	
2E70 F2 87 0C		4546	J	SALS01	
		4547 *			
2E73 34 08 2EAB		4548	SALSD	ST SALSX+3,ARR	
2E77 34 01 2EA4		4549	ST	SALSX1+3,XR1	
		4550 *			SETUP 'SENSE ALSD'
2E7B 3C 0A 2E9C		4551	MVI	RDALSB,X'0A'	
		4552 *			
2E7F 35 01 2EAB		4553	SALS01	L SALSX+3,XR1	SETUP PARM POINTER
2E83 1C 00 3570 00		4554	MVC	CR,0(1,XR1)	MOVE ALS ADDR INTO STRING
2E88 D2 01 01		4555	LA	1(,XR1),XR1	BUMP RETURN ADDRESS
2E8B 34 01 2EAB		4556	ST	SALSX+3,XR1	AND PUT INTO RETURN
		4557 *			
2E8F C0 87 3173		4558	B	LOP	GO SETUP 'CR' REG
2E93 C0 87 3289		4559	B	SVP	GO SENSE ALSB OR ALSD
2L97 88C2	2E98 4560	DC	XL2'B8C2'		K0, K2, K3 (ALS DISPLAY)
2E99 356E	2E9A 4561	DC	AL2(KREG)		
2E9B 000E	2E9C 4562	DC	XL2'000E'		'0E' = ALSB, '0A' = ALSD
2E9D 00E2	2E9E 4563	DC	XL2'00E2'		RESTORE K REG
2E9F 356E	2EA0 4564	DC	AL2(KREG)		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	COMMENT
2EA1 C2 01 0000		4565 *			RESTORE INDEX REG 1
2EA5 C0 87 0000		4566	SALSX1	LA *-*,XR1	RETURN
		4567	SALSX	B *-*	
		4568 *			LOAD MODE BUFFER (IMMEDIATE = 00)
		4569 *			
2EA9 34 08 2EE2		4570 *			SAVE RETURN ADDRESS
2EAD 34 01 2EDE		4571	LMB1	ST LMBIX+3,ARR	SAVE INDEX REGISTER 1
		4572	ST	LMBIX1+3,XR1	
		4573 *			POINT TO PARAMETER LIST
2EB1 35 01 2EE2		4574	L	LMBIX+3,XR1	
		4575 *			BUILD
2EB5 3C 06 356F		4576	LMB101	MVI C,X'06'	SMODE
2EB9 1C 00 3570 00		4577	MVC	CR,0(1,XR1)	INSTRUCTION
2EBE 3C 80 3571		4578	MVI	Y,X'80'	
		4579 *			LOAD THE OP REG AND
2EC2 C0 87 3173		4580	B	LOP	EXECUTE THE MICROINSTRUCTION
2EC6 C0 87 3197		4581	B	XOP	
		4582 *			ADVANCE PARAMETER POINTER
2ECA D2 01 01		4583	LA	1(,XR1),XR1	LOOP IF NOT YET END OF
2ECD 7D FF 00		4584	CLI	0(,XR1),X'FF'	PARAMETER STRING
2ED0 C0 01 2EB5		4585	ENE	LMB101	
		4586 *			BUMP TO RETURN ADDRESS
2ED4 D2 01 01		4587	LA	1(,XR1),XR1	AND SETUP BRANCH INST
2ED7 34 01 2EE2		4588	ST	LMBIX+3,XR1	
		4589 *			RESTORE INDEX REGISTER 1
2EDB C2 01 0000		4590	LMBIX1	LA *-*,XR1	RETURN TO CALLING ROUTINE
2EDF C0 87 0000		4591	LMBIX	B *-*	
		4592 *			
		4593 *			LOAD CONTROL STORAGE (IMMEDIATE)
		4594 *			
		4595 *			
2EE3 34 08 2F22		4596	LCSI	ST LCSIX+3,ARR	SAVE RETURN ADDRESS
2EE7 34 01 2F1E		4597	ST	LCSIX1+3,XR1	SAVE INDEX REGISTER 1
		4598 *			POINT TO PARAMETER STRING
2EEB 35 01 2F22		4599	L	LCSIX+3,XR1	SETUP CONTROL STG ADDRESS
2EEF 1C 01 33ED 01		4600	MVC	CSAR(2),1(,XR1)	ADVANCE POINTER
2EF4 D2 01 02		4601	LA	2(,XR1),XR1	
		4602 *			MOVE MICROWORD TO OP REG AREA
2EF7 1C 02 3571 02		4603	LCSI01	MVC OPREG(3),2(,XR1)	
		4604 *			LOAD WORD INTO CONTROL STG
2EFC C0 87 2F23		4605	B	LCS	
		4606 *			ADVANCE POINTER
2F00 D2 01 03		4607	LA	3(,XR1),XR1	EXIT IF END
2F03 7D FF 00		4608	CLI	0(,XR1),X'FF'	OF PARAMETER STRING
2F06 C0 81 2F14		4609	BE	LCSI02	
		4610 *			ADVANCE CONTROL STG ADDRESS
2F0A 0E 00 33ED 33B4		4611	ALC	CSAR(1),1	GO TO LOAD NEXT WORD
2F10 C0 87 2EF7		4612	B	LCSI01	
		4613 *			SETUP RETURN
2F14 D2 01 01		4614	LCSI02	LA 1(,XR1),XR1	ADDRESS
2F17 34 01 2F22		4615	ST	LCSIX+3,XR1	
		4616 *			RESTORE INDEX REGISTER 1
2F1B C2 01 0000		4617	LCSIX1	LA *-*,XR1	RETURN TO CALLING ROUTINE
2F1F C0 87 0000		4618	LCSIX	B *-*	
		4619 *			
		4620 *			LOAD CONTROL STORAGE
		4621 *			
		4622 *			
2F23 34 08 2F42		4623	LCS	ST LCSX+3,ARR	SAVE RETURN ADDRESS
		4624 *			
2F27 C0 87 2F84		4625	B	LCSAR	LOAD CONTROL STG ADDR REG
2F28 C0 87 3173		4626	B	LOP	LOAD MICROWORD INTO OP REG
		4627 *			
2F2F C0 87 3289		4628	B	SVP	EXECUTE SVP CONTROL STRING
2F33 A0C2	2F34 4629	DC	XL2'A0C2'		SET K2 (SERVICE MODE) AND
2F35 356E	2F36 4630	DC	AL2(KREG)		K0 (CK STOP OVERRIDE)
2F37 AE8E	2F38 4631	DC	XL2'AE8E'		WRITE CONTROL STORAGE LEFT
2F39 CE8E	2F3A 4632	DC	XL2'CE8E'		WRITE CONTROL STORAGE RIGHT

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
2F3B	00E2	2F3C	4633	DC XL2'00E2'	RESET K2
2F3D	356E	2F3E	4634	DC AL2(KREG)	
2F3F	C0 87 0000	4635 *			RETURN TO CALLING ROUTINE
		4636	LCSX	B **	
		4637 *			
		4638 *			SENSE CONTROL STORAGE (1 LOCATION) INTO 'C', 'CR' & 'Y'
		4639 *			
		4640 *			
2F43	34 08 2F83	4641	SCS	ST SCSIX+3,ARR	SAVE RETURN ADDRESS
2F47	34 01 2F7F	4642	ST	SCSIX+3,XR1	SAVE INDEX REG 1
		4643 *			
2F4B	35 01 2F83	4644	L	SCSIX+3,XR1	POINT TO PARMS (CS ADDR)
2F4F	1C 00 33EC 00	4645	MVC	CSAR-1,0(1,XR1)	MOVE BLOK ADDR
2F54	1C 00 33ED 01	4646	MVC	CSAR,1(1,XR1)	MOVE DISP ADDR
2F59	D2 01 02	4647	LA	2(XR1),XR1	BUMP PAST PARMS
2F5C	34 01 2F83	4648	ST	SCSIX+3,XR1	PUT IN RETURN
2F60	C0 87 2F84	4649	B	LCSAR	LOAD CONTROL STOR ADDR REG
		4650 *			
2F64	C0 87 3289	4651	B	SVP	GET CONTENTS OF CS
2F68	A882	2F69	4652	DC XL2'A882'	K0,K2,K4
2F6A	0E8E	2F6B	4653	DC XL2'0E8E'	SERVICE ACCESS CYCLE
2F6C	0048	2F6D	4654	DC XL2'0048'	READ 'C'
2F6E	356F	2F6F	4655	DC AL2(C)	READ 'CR'
2F70	004A	2F71	4656	DC XL2'004A'	READ 'Y'
2F72	3570	2F73	4657	DC AL2(CR)	
2F74	004B	2F75	4658	DC 'L2'004B'	
2F76	3571	2F77	4659	DC AL2(Y)	RESTORE K REG
2F78	00E2	2F79	4660	DC XL2'00E2'	
2F7A	356E	2F7B	4661	DC AL2(KREG)	
		4662 *			
2F7C	C2 01 0000	4663	SCSIX1	LA ***,XR1	RETURN
2F80	C0 87 0000	4664	SCSIX	B **	
		4665 *			LOAD CONTROL STORE ADDRESS REGISTER (CSAR)
		4666 *			
		4667 *			
2F84	34 08 2FA7	4668	LCSAR	ST LCSARX+3,ARR	SAVE RETURN ADDRESS
		4669 *			
2F88	C0 87 3265	4670	B	MIOP	STOP IOP EXECUTION
		4671 *			
2F8C	C0 87 3289	4672	B	SVP	EXECUTE SVP CONTROL STRING
2F90	A0C2	2F91	4673	DC XL2'A0C2'	SET K2 (SERVICE MODE) AND
2F92	356E	2F93	4674	DC AL2(KREG)	K0 (CK STOP OVERRIDE)
2F94	00CA	2F95	4675	DC XL2'00CA'	CSAR B VALUE --> OP REG CR
2F96	33EC	2F97	4676	DC AL2(CSAR-1)	CSAR D VALUE --> OP REG Y
2F98	00CB	2F99	4677	DC XL2'00CB'	
2F9A	33ED	2F9B	4678	DC AL2(CSAR)	OP REG Y --> A REG --> D REG
2F9C	028F	2F9D	4679	DC XL2'028F'	P2-R7 & D REG --> CSAR
2F9E	088D	2F9F	4680	DC XL2'088D'	RESET K2
2FA0	00E2	2FA1	4681	DC XL2'00E2'	
2FA2	356E	2FA3	4682	DC AL2(KREG)	
		4683 *			RETURN TO CALLING ROUTINE
2FA4	C0 87 0000	4684	LCSARX	B **	
		4685 *			
		4686 *			SENSE FBI REGISTER WITH ADDRESS OF '02'
		4687 *			
		4688 *			
2FAB	34 08 2FB7	4689	SFBI	ST SFBIX+3,ARR	SAVE RETURN ADDRESS
		4690 *			SETUP EXTERNAL REG ADDRESS
2FAC	3C 02 33E5	4691	MVI	EXTAR,FBI	SENSE EXTERNAL REGISTER
		4692 *			RETURN TO CALLING ROUTINE
2FB0	C0 87 3098	4693	B	SEXT	
		4694 *			
2FB4	C0 87 0000	4695	SFBIX	B **	
		4696 *			
		4697 *			SENSE FBI REGISTER WITH ADDRESS OF '0A'
		4698 *			
		4699 *			
2FB8	34 08 2FC7	4700	SFBIA	ST SFBIXA+3,ARR	SAVE RETURN ADDRESS

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
2F8C	3C 0A 33E5	4701 *			SETUP EXTERNAL REG ADDRESS
		4702	MVI	EXTAR,FBIOA	
		4703 *			SENSE EXTERNAL REGISTER
2FC0	C0 87 3098	4704	B	SEXT	
		4705 *			RETURN TO CALLING ROUTINE
2FC4	C0 87 0000	4706	SFBIXA	B **	
		4707 *			
		4708 *			SENSE FBO REGISTER
		4709 *			
2FC8	34 08 2FD7	4710			SAVE RETURN ADDRESS
		4711	SFBC	ST SFBOX+3,ARR	
		4712 *			SETUP EXTERNAL REG ADDRESS
2FCC	3C 0E 33E5	4713	MVI	L.TAR,FBO	
		4714 *			SENSE EXTERNAL REGISTER
2FD0	C0 87 3098	4715	B	SEXT	
		4716 *			RETURN TO CALLING ROUTINE
2FD4	C0 87 0000	4717	SFBOX	B **	
		4718 *			
		4719 *			SENSE FTO REGISTER
		4720 *			
2FD8	34 08 2FE7	4721			SAVE RETURN ADDRESS
		4722	SFTO	ST SFTOX+3,ARR	
		4723 *			SETUP EXTERNAL REG ADDRESS
2FDC	3C 06 33E5	4724	MVI	EXTAR,FTO	
		4725 *			SENSE EXTERNAL REGISTER
2FE0	C0 87 3098	4726	B	SEXT	
		4727 *			RETURN TO CALLING ROUTINE
2FE4	C0 87 0000	4728	SFTOX	B **	
		4729 *			
		4730 *			SENSE FTG REGISTER
		4731 *			
2FE8	34 08 2FF7	4732			SAVE RETURN ADDRESS
		4733	SFTG	ST SFTGX+3,ARR	
		4734 *			SETUP EXTERNAL REG ADDRESS
2FEC	3C 05 33E5	4735	MVI	EXTAR,FTG	
		4736 *			SENSE EXTERNAL REGISTER
2FF0	C0 87 3098	4737	B	SEXT	
		4738 *			RETURN TO CALLING ROUTINE
2FF4	C0 87 0000	4739	SFTGX	B **	
		4740 *			
		4741 *			SENSE FTR REGISTER
		4742 *			
		4743 *			SAVE RETURN ADDRESS
2FF8	34 08 3007	4744	SFTR	ST SFTRX+3,ARR	
		4745 *			SETUP EXTERNAL REG ADDRESS
2FFC	3C 0D 33E5	4746	MVI	EXTAR,FTR	
		4747 *			SENSE EXTERNAL REGISTER
3000	C0 87 3098	4748	B	SEXT	
		4749 *			RETURN TO CALLING ROUTINE
3004	C0 87 0000	4750	SFTRX	B **	
		4751 *			
		4752 *			SENSE ADS REGISTER
		4753 *			
		4754 *			SAVE RETURN ADDRESS
3008	34 08 3017	4755	SADS	ST SADSX+3,ARR	
		4756 *			SETUP EXTERNAL REG ADDRESS
300C	3C 09 33E5	4757	MVI	EXTAR,ADS	
		4758 *			SENSE EXTERNAL REGISTER
3010	C0 87 3098	4759	B	SEXT	
		4760 *			RETURN TO CALLING ROUTINE
3014	C0 87 0000	4761	SADSX	B **	
		4762 *			
		4763 *			SENSE FTI REGISTER
		4764 *			
		4765 *			SAVE RETURN ADDRESS
3018	34 08 3027	4766	SFTI	ST SFTIX+3,ARR	
		4767 *			SETUP EXTERNAL REG ADDRESS
301C	3C 15 33E5	4768	MVI	EXTAR,FTI	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
3020	C0 87 3098	4769 *	B	SEXTR SENSE EXTERNAL REGISTER
3024	C0 87 0000	4771 *	B	SEXTR RETURN TO CALLING ROUTINE
3028	34 08 3037	4772 SFTIX	B	SEXTR RETURN TO CALLING ROUTINE
302C	3C 1B 33E5	4773 *	B	SEXTR RETURN TO CALLING ROUTINE
3030	C0 87 3098	4774 *	B	SEXTR RETURN TO CALLING ROUTINE
3034	C0 87 0000	4775 *	B	SEXTR RETURN TO CALLING ROUTINE
3038	34 08 3047	4776 *	B	SEXTR RETURN TO CALLING ROUTINE
303C	3C 1F 33E5	4777 SCO2	ST	SCO2X+3,ARR SAVE RETURN ADDRESS
3040	C0 87 3098	4778 *	B	SEXTR RETURN TO CALLING ROUTINE
3044	C0 87 0000	4779 MVI	MVI	EXTAR,CO2 SETUP EXTERNAL REG ADDRESS
3048	34 08 3057	4780 *	B	SEXTR SENSE EXTERNAL REGISTER
304C	3C 03 33E5	4781 *	B	SEXTR SENSE EXTERNAL REGISTER
3050	C0 87 3098	4782 *	B	SEXTR RETURN TO CALLING ROUTINE
3054	C0 87 0000	4783 SCO2X	B	SEXTR RETURN TO CALLING ROUTINE
3058	34 08 3067	4784 *	B	SEXTR RETURN TO CALLING ROUTINE
305C	3C 07 33E5	4785 *	B	SEXTR RETURN TO CALLING ROUTINE
3060	C0 87 3098	4786 *	B	SEXTR RETURN TO CALLING ROUTINE
3064	C0 87 0000	4787 *	B	SEXTR RETURN TO CALLING ROUTINE
3068	34 08 3077	4788 SSBO	ST	SSBOX+3,ARR SAVE RETURN ADDRESS
307C	3C 0F 33E5	4789 *	B	SEXTR RETURN TO CALLING ROUTINE
3080	C0 87 3098	4790 MVI	MVI	EXTAR,SSBO SETUP EXTERNAL REG ADDRESS
		4791 *	B	SEXTR SENSE EXTERNAL REGISTER
		4792 *	B	SEXTR SENSE EXTERNAL REGISTER
		4793 *	B	SEXTR RETURN TO CALLING ROUTINE
		4794 SSBOX	B	SEXTR RETURN TO CALLING ROUTINE
		4795 *	B	SEXTR RETURN TO CALLING ROUTINE
		4796 *	B	SEXTR RETURN TO CALLING ROUTINE
		4797 *	B	SEXTR RETURN TO CALLING ROUTINE
		4798 *	B	SEXTR RETURN TO CALLING ROUTINE
		4799 SDST	ST	SDSTX+3,ARR SAVE RETURN ADDRESS
		4800 *	B	SEXTR RETURN TO CALLING ROUTINE
		4801 MVI	MVI	EXTAR,SDST SETUP EXTERNAL REG ADDRESS
		4802 *	B	SEXTR SENSE EXTERNAL REGISTER
		4803 *	B	SEXTR SENSE EXTERNAL REGISTER
		4804 *	B	SEXTR RETURN TO CALLING ROUTINE
		4805 SDSTX	B	SEXTR RETURN TO CALLING ROUTINE
		4806 *	B	SEXTR RETURN TO CALLING ROUTINE
		4807 *	B	SEXTR RETURN TO CALLING ROUTINE
		4808 *	B	SEXTR RETURN TO CALLING ROUTINE
		4809 *	B	SEXTR RETURN TO CALLING ROUTINE
		4810 SFHF	ST	SFHF+3,ARR SAVE RETURN ADDRESS
		4811 *	B	SEXTR RETURN TO CALLING ROUTINE
		4812 MVI	MVI	EXTAR,SFHF SETUP EXTERNAL REG ADDRESS
		4813 *	B	SEXTR SENSE EXTERNAL REGISTER
		4814 *	B	SEXTR SENSE EXTERNAL REGISTER
		4815 *	B	SEXTR RETURN TO CALLING ROUTINE
		4816 SFHFX	B	SEXTR RETURN TO CALLING ROUTINE
		4817 *	B	SEXTR RETURN TO CALLING ROUTINE
		4818 *	B	SEXTR RETURN TO CALLING ROUTINE
		4819 *	B	SEXTR RETURN TO CALLING ROUTINE
		4820 *	B	SEXTR RETURN TO CALLING ROUTINE
		4821 SHES	ST	SHESX+3,ARR SAVE RETURN ADDRESS
		4822 *	B	SEXTR RETURN TO CALLING ROUTINE
		4823 MVI	MVI	EXTAR,SHES SETUP EXTERNAL REG ADDRESS
		4824 *	B	SEXTR SENSE EXTERNAL REGISTER
		4825 *	B	SEXTR SENSE EXTERNAL REGISTER
		4826 *	B	SEXTR RETURN TO CALLING ROUTINE
		4827 SHESX	B	SEXTR RETURN TO CALLING ROUTINE
		4828 *	B	SEXTR RETURN TO CALLING ROUTINE
		4829 *	B	SEXTR RETURN TO CALLING ROUTINE
		4830 *	B	SEXTR RETURN TO CALLING ROUTINE
		4831 *	B	SEXTR RETURN TO CALLING ROUTINE
		4832 SSCN	ST	SSCNX+3,ARR SAVE RETURN ADDRESS
		4833 *	B	SEXTR RETURN TO CALLING ROUTINE
		4834 MVI	MVI	EXTAR,SCN SETUP EXTERNAL REG ADDRESS
		4835 *	B	SEXTR SENSE EXTERNAL REGISTER
		4836 *	B	SEXTR SENSE EXTERNAL REGISTER

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
3084	C0 87 0000	4837 *	B	SEXTR RETURN TO CALLING ROUTINE
3088	34 08 3097	4838 SSCNX	B	SEXTR RETURN TO CALLING ROUTINE
308C	3C 13 33E5	4839 *	B	SEXTR RETURN TO CALLING ROUTINE
3090	C0 87 3098	4840 *	B	SEXTR RETURN TO CALLING ROUTINE
3094	C0 87 0000	4841 *	B	SEXTR RETURN TO CALLING ROUTINE
3098	34 08 30CA	4842 *	B	SEXTR RETURN TO CALLING ROUTINE
309C	34 01 30C6	4843 SDXC	ST	SDXC+3,ARR SAVE RETURN ADDRESS
30A0	C0 87 30CB	4844 *	B	SEXTR RETURN TO CALLING ROUTINE
30A4	C0 87 3289	4845 MVI	MVI	EXTAR,DXC SETUP EXTERNAL REG ADDRESS
30A8	A0C2	4846 *	B	SEXTR SENSE EXTERNAL REGISTER
30AB	4861	4847 *	B	SEXTR SENSE EXTERNAL REGISTER
30AC	08BF	4848 *	B	SEXTR RETURN TO CALLING ROUTINE
30AE	0085	4849 SDXCX	B	SEXTR RETURN TO CALLING ROUTINE
30B0	0000	4850 *	B	SEXTR RETURN TO CALLING ROUTINE
30B2	00E2	4851 *	B	SEXTR RETURN TO CALLING ROUTINE
30B4	356E	4852 *	B	SEXTR RETURN TO CALLING ROUTINE
30B6	C2 01 340E	4853 *	B	SEXTR RETURN TO CALLING ROUTINE
30BA	36 01 33E5	4854 SEXT	ST	SEXTX+3,ARR SAVE RETURN ADDRESS
30BE	4C 00 00 33DE	4855 SEXTX1	ST	SEXTX1+3,XR1 SAVE INDEX REGISTER 1
30C3	C2 01 0000	4856 *	B	SEXTR RETURN TO CALLING ROUTINE
30C7	C0 87 0000	4857 *	B	SEXTR RETURN TO CALLING ROUTINE
30CB	34 08 30F0	4858 *	B	SEXTR RETURN TO CALLING ROUTINE
30CF	C0 87 3265	4859 *	B	SEXTR RETURN TO CALLING ROUTINE
30D3	C0 87 3289	4860 *	B	SEXTR RETURN TO CALLING ROUTINE
30D7	A0C2	4861 *	B	SEXTR RETURN TO CALLING ROUTINE
30D9	356E	4862 *	B	SEXTR RETURN TO CALLING ROUTINE
30DB	0088	4863 *	B	SEXTR RETURN TO CALLING ROUTINE
30DD	00CA	4864 *	B	SEXTR RETURN TO CALLING ROUTINE
30DF	33E3	4865 *	B	SEXTR RETURN TO CALLING ROUTINE
30E1	018C	4866 *	B	SEXTR RETURN TO CALLING ROUTINE
30E3	20CA	4867 *	B	SEXTR RETURN TO CALLING ROUTINE
30E5	33E5	4868 *	B	SEXTR RETURN TO CALLING ROUTINE
30E7	008C	4869 *	B	SEXTR RETURN TO CALLING ROUTINE
30E9	00E2	4870 *	B	SEXTR RETURN TO CALLING ROUTINE
30EB	356E	4871 *	B	SEXTR RETURN TO CALLING ROUTINE
30ED	C0 87 0000	4872 *	B	SEXTR RETURN TO CALLING ROUTINE
30F1	34 08 30FE	4873 SEXTX1	LA	SEXTX1+3,XR1 RESTORE INDEX REGISTER 1
30F5	C0 87 3289	4874 SEXTX	B	SEXTR RETURN TO CALLING ROUTINE
30F9	0020	4875 *	B	SEXTR RETURN TO CALLING ROUTINE
		4876 *	B	SEXTR RETURN TO CALLING ROUTINE
		4877 *	B	SEXTR RETURN TO CALLING ROUTINE
		4878 *	B	SEXTR RETURN TO CALLING ROUTINE
		4879 LXTARX	ST	LXTARX+3,ARR SAVE RETURN ADDRESS
		4880 *	B	SEXTR RETURN TO CALLING ROUTINE
		4881 *	B	SEXTR RETURN TO CALLING ROUTINE
		4882 *	B	SEXTR RETURN TO CALLING ROUTINE
		4883 *	B	SEXTR RETURN TO CALLING ROUTINE
		4884 *	B	SEXTR RETURN TO CALLING ROUTINE
		4885 *	B	SEXTR RETURN TO CALLING ROUTINE
		4886 *	B	SEXTR RETURN TO CALLING ROUTINE
		4887 *	B	SEXTR RETURN TO CALLING ROUTINE
		4888 *	B	SEXTR RETURN TO CALLING ROUTINE
		4889 *	B	SEXTR RETURN TO CALLING ROUTINE
		4890 *	B	SEXTR RETURN TO CALLING ROUTINE
		4891 *	B	SEXTR RETURN TO CALLING ROUTINE
		4892 *	B	SEXTR RETURN TO CALLING ROUTINE
		4893 *	B	SEXTR RETURN TO CALLING ROUTINE
		4894 *	B	SEXTR RETURN TO CALLING ROUTINE
		4895 *	B	SEXTR RETURN TO CALLING ROUTINE
		4896 LXTARX	B	SEXTR RETURN TO CALLING ROUTINE
		4897 *	B	SEXTR RETURN TO CALLING ROUTINE
		4898 *	B	SEXTR RETURN TO CALLING ROUTINE
		4899 *	B	SEXTR RETURN TO CALLING ROUTINE
		4900 *	B	SEXTR RETURN TO CALLING ROUTINE
		4901 SDS0	ST	SDSOX+3,ARR SAVE RETURN ADDRESS
		4902 *	B	SEXTR RETURN TO CALLING ROUTINE
		4903 *	B	SEXTR RETURN TO CALLING ROUTINE
		4904 *	B	SEXTR RETURN TO CALLING ROUTINE

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EPR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
30FB	C0 87 0000	4905 *		RETURN TO CALLING ROUTINE
		4906 SDS0X B **		
		4907 *		
		4908 *		SENSE DIAGNOSTIC SENSE BYTE 1
		4909 *		
30FF	34 08 310C	4910 *		SAVE RETURN ADDRESS
		4911 SDS1 ST	SDS1X+3,ARR	
		4912 *		EXECUTE SVP CONTROL STRING
3103	C0 87 3289	4913 B SVP		SENSE IDLE SENSE BYTE
3107	0021	3108 4914 DC	XL2*0021*	
		4915 *		RETURN TO CALLING ROUTINE
3109	C0 87 0000	4916 SDS1X B **		
		4917 *		
		4918 *		SENSE IDLE SENSE BYTE (DIAGNOSTIC SENSE BYTE 2)
		4919 *		
		4920 *		
310D	4921 SIDLE EQU *			
		4922 *		
		4923 *		SENSE DIAGNOSTIC SENSE BYTE 2 (IDLE SENSE BYTE)
		4924 *		
		4925 *		SAVE RETURN ADDRESS
310D	34 08 311A	4926 SDS2 ST	SDS2X+3,ARR	
		4927 *		EXECUTE SVP CONTROL STRING
3111	C0 87 3289	4928 B SVP		SENSE IDLE SENSE BYTE
3115	0022	3116 4929 DC	XL2*0022*	
		4930 *		RETURN TO CALLING ROUTINE
3117	C0 87 0000	4931 SDS2X B **		
		4932 *		
		4933 *		SENSE IOP CHECK BYTE (DIAGNOSTIC SENSE BYTE 3)
		4934 *		
		4935 *		
3118	4936 SIOPCK EQU *			
		4937 *		
		4938 *		SENSE DIAGNOSTIC SENSE BYTE 3 (IOP CHECK BYTE)
		4939 *		
		4940 *		SAVE RETURN ADDRESS
3118	34 08 3128	4941 SDS3 ST	SDS3X+3,ARR	
		4942 *		EXECUTE SVP CONTROL STRING
311F	C0 87 3289	4943 B SVP		GET *CHECK* SENSE BYTE
3123	0023	3124 4944 DC	XL2*0023*	
		4945 *		RETURN TO CALLING ROUTINE
3125	C0 87 0000	4946 SDS3X B **		
		4947 *		
		4948 *		SENSE D-REG
		4949 *		
		4950 *		SAVE RETURN ADDRESS
3129	34 08 3140	4951 SDREG ST	SDREGX+3,ARR	
		4952 *		
312D	C0 87 326E	4953 B HIOP		
		4954 *		EXECUTE SVP CONTROL STRING
3131	C0 87 3289	4955 B SVP		SET K2 (SERVICE MODE)
3135	20C2	3136 4956 DC	XL2*20C2*	
3137	356E	3138 4957 DC	AL2(KREG)	D-REG -> X-REG
3139	0085	313A 4958 DC	XL2*0085*	READ X-REG
313B	002D	313C 4959 DC	XL2*002D*	
		4960 *		RETURN TO CALLING ROUTINE
313D	C0 87 0000	4961 SDREGX B **		
		4962 *		
		4963 *		LOAD OP REG AND EXECUTE MICRO-INSTRUCTION (IMMEDIATE)
		4964 *		
		4965 *		SAVE RETURN ADDRESS
3141	34 08 3172	4966 LXOPI ST	LXOPIX+3,ARR	
3145	34 01 316E	4967 ST	LXOPI1+3,XR1	SAVE INDEX REGISTER 1
		4968 *		POINT TO PARAMETER LIST
3149	35 01 3172	4969 L LXOPIX+3,XR1		
		4970 *		MOVE PARAMETER TO OP FIELD
314D	1C 02 3571 02	4971 LXOPIA MVC	OPREG(3),2(.XR1)	
		4972 *		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
3152	C0 87 3173	4973 B LOP		LOAD OP REG AND EXECUTE MICROINSTRUCTION
3156	C0 87 31D1	4974 B IOPRUN		
		4975 *		ADVANCE PARAMETER POINTER
315A	D2 01 03	4976 LA	3(.XR1),XR1	
		4977 *		BRANCH IF MORE MICRO-INSTRUCTIONS TO BE PROCESSED
315D	7D FF 00	4978 CLI	0(.XR1),X*FF*	
3160	C0 01 314D	4979 BNE	LXOPIA	
		4980 *		SETUP ADDRESS FOR RETURN TO CALLING ROUTINE
3164	D2 01 01	4981 LA	1(.XR1),XR1	
3167	34 01 3172	4982 ST	LXOPIX+3,XR1	
		4983 *		RESTORE INDEX REGISTER 1
3168	C2 01 0000	4984 LXOPI1 LA	**XR1	RETURN TO CALLING ROUTINE
316F	C0 87 0000	4985 LXCPIX B **		
		4986 *		
		4987 *		LOAD OP REGISTER
		4988 *		
		4989 *		SAVE RETURN ADDRESS
3173	34 08 3196	4990 LCP ST	LCPX+3,ARR	
		4991 *		HALT MICROPROCESSOR
3177	C0 87 3265	4992 B HIOP		
		4993 *		EXECUTE SVP CONTROL STRING
		4994 *		SET K2 (SERVICE MODE) AND K0 (CK STOP OVERRIDE)
3178	C0 87 3289	4995 B SVP		C FIELD --> OP REG C
317F	A0C2	3180 4995 DC	XL2*A0C2*	
3181	356E	3182 4996 DC	AL2(KREG)	CR FIELD --> OP REG CR
3183	00C8	3184 4997 DC	XL2*00C8*	Y FIELD --> OP REG Y
3185	356F	3186 4998 DC	AL2(C)	
3187	00CA	3188 4999 DC	XL2*00CA*	RESET SERVICE MODE
3189	3570	318A 5000 DC	AL2(CR)	
318B	00CB	318C 5001 DC	XL2*00CB*	
318D	3571	318E 5002 DC	AL2(Y)	
318F	00E2	3190 5003 DC	XL2*00E2*	
3191	356E	3192 5004 DC	AL2(KREG)	
		5005 *		RETURN TO CALLING ROUTINE
3193	C0 87 0000	5006 LOPX B **		
		5007 *		
		5008 *		EXECUTE MICRO-INSTRUCTION FROM OP REG
		5009 *		
		5010 *		SAVE RETURN ADDRESS
3197	34 08 31A6	5011 XOP ST	XCPX+3,ARR	
		5012 *		EXECUTE SVP CONTROL STRING
3198	C0 87 3289	5013 B SVP		K0 (CK STOP OVERRIDE) AND K4 (STOP AFTER ONE CYCLE)
319F	8882	31A0 5014 DC	XL2*8882*	START IOP *PROCESS* CYCLE
		5015 *		RETURN TO CALLING ROUTINE
31A1	00AF	31A2 5016 DC	XL2*00AF*	
		5017 *		
31A3	C0 87 0000	5018 XOPX B **		
		5019 *		
		5020 *		RESET IOP CLOCK AND INITIALIZE INDEX REGISTER
		5021 *		
		5022 *		SAVE RETURN ADDRESS
31A7	34 08 31D0	5023 CLKRST ST	CLKRSX+3,ARR	INITIAL INDEX (PTR 000)
31AB	3C 14 33E2	5024 MVI	INDEX,X*14*	
		5025 *		HALT MICROPROCESSOR
31AF	C0 87 3265	5026 B HIOP		
		5027 *		EXECUTE SVP CONTROL STRING
		5028 *		SET K3 (CLOCK RESET)
31B3	C0 87 3289	31B8 5029 DC	XL2*10C2*	
31B7	10C2	31BA 5030 DC	AL2(KREG)	
31B9	356E	31BC 5031 DC	XL2*00C2*	RESET K3
31BB	00C2	31BE 5032 DC	AL2(KREG)	
31BD	356E	31C0 5033 DC	XL2*A0C2*	SET K2 (SERVICE MODE) AND K0 (CK STOP OVERRIDE)
31BF	A0C2	31C2 5034 DC	AL2(KREG)	INDEX VALUE --> OPREG Y
31C1	356E	31C4 5035 DC	XL2*00CB*	
31C3	00CB	31C6 5036 DC	AL2(INDEX)	OP REG Y --> A REG --> D REG
31C5	33E2	31C8 5037 DC	XL2*028F*	D REG --> INDEX REG
31C7	028F	31CA 5038 DC	XL2*8BBE*	SERVICE ACCESS CYCLE
31C9	8BBE	31CC 5039 DC	XL2*08AE*	
31CB	08AE	5040 *		

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
31CD	C0	87	0000	5041 CLKRSX B *-*	RETURN TO CALLING ROUTINE
				5042 *	
				5043 *-----*	
				5044 * START MICRO-PROGRAM EXECUTION	
				5045 *	
				5046 * ENTER 'IOPRUN' TO START IOP (1 PROCESS/ACCESS CYCLE ONLY)	
				5047 * ENTER 'IOPGO' TO SETUP INDEX PRIOR TO 'START/RUN'	
				5048 *	
31D1	3A	08	3204	5049 IOPRUN ST IOPGOX+3,ARR	SAVE RETURN ADDRESS
31D5	3A	08	356E	5050 SBN KREG,X'08'	SET 'HALT' CONTROL BIT
31D9	C0	87	31F7	5051 B IOPGO2	GO 'START IOP'
				5052 *	
31DD	3A	08	3204	5053 IOPGO ST IOPGOX+3,ARR	SAVE RETURN ADDRESS
				5054 *	
				5055 B SVP	EXECUTE SVP CONTROL STRING
31E1	C0	87	3289	31E6 5056 DC XL2'A0C2'	SET K2 (SERVICE MODE) AND
31E5	A0C2			31E8 5057 DC AL2(KREG)	K0 (CK STOP OVERRIDE)
31E7	356E			31EA 5058 DC XL2'00CB'	INDEX VALUE --> OPREG Y
31E9	00CB			31EC 5059 DC AL2(INDEX)	
31EB	33E2			31EE 5060 DC XL2'028F'	OP REG Y --> A REG --> D REG
31ED	028F			31F0 5061 DC XL2'8B8E'	D REG --> INDEX REG
31EF	8B8E			31F2 5062 DC XL2'08AE'	SERVICE ACCESS CYCLE
31F1	08AE			5063 *	
				5064 SBF KREG,X'08'	RESET 'HALT' CONTROL BIT
31F3	3B	08	356E	5065 *	
				5066 IOPGO2 E SVP	EXECUTE SVP CONTROL STRING
31F7	C0	87	3289	31FC 5067 DC XL2'00C2'	SET K-REG
31FB	00C2			31FE 5068 DC AL2(KREG)	
31FD	356E			3200 5069 DC XL2'00AE'	START IOP PROCESS/ACCESS CYCLE
31FF	00AE			5070 *	
				5071 IOPGOX E *-*	RETURN TO CALLING ROUTINE
3201	C0	87	0000	5072 *	
				5073 *-----*	
				5074 * EXECUTE ACCESS-PROCESS CYCLE(S)	
				5075 *	
3205	3A	08	3212	5076 RNICP ST RNICPX+3,ARR	SAVE RETURN ADDRESS
				5077 *	
				5078 B SVP	EXECUTE SVP CONTROL STRING
3209	C0	87	3289	320E 5079 DC XL2'00AE'	START ACCESS-PROCESS CYCLE(S)
320D	00AE			5080 *	
				5081 RNICPX E *-*	RETURN TO CALLING ROUTINE
320F	C0	87	0000	5082 *	
				5083 *-----*	
				5084 * LOAD ADDRESS COMPARE REGISTER	
				5085 *	
3213	3A	08	3236	5086 LACR ST LACRX+3,ARR	SAVE RETURN ADDRESS
				5087 *	
3217	C0	87	3265	5088 B HIOP	HALT MICROPROCESSOR
				5089 *	
				5090 B SVP	EXECUTE SVP CONTROL STRING
3218	C0	87	3289	3220 5091 DC XL2'A0C2'	SET K2 (SERVICE MODE) AND
321F	A0C2			3222 5092 DC AL2(KREG)	K0 (CK STOP OVERRIDE)
3221	356E			3224 5093 DC XL2'00CA'	COMPARE ADDR B --> OP REG CR
3223	00CA			3226 5094 DC AL2(ACRB)	
3225	33E0			3228 5095 DC XL2'00CB'	COMPARE ADDR D --> OP REG Y
3227	00CB			322A 5096 DC AL2(ACRD)	
3229	33E1			322C 5097 DC XL2'028F'	OP REG Y --> A REG --> D REG
322B	028F			322E 5098 DC XL2'04AD'	R2-R7 & D REG --> ADDR COMP REG
322D	04AD			3230 5099 DC XL2'00E2'	ACTIVATE ADDR COMPARE
322F	00E2			3232 5100 DC AL2(KREG)	
3231	356E			5101 *	
				5102 LACPX B *-*	RETURN TO CALLING ROUTINE
3233	C0	87	0000	5103 *	
				5104 *-----*	
				5105 * ENABLE / INHIBIT ADDRESS COMPARE STOP	
				5106 *	
3237	3A	04	356E	5107 ASTP SBN KREG,X'04'	SET 'ADDR STOP' CONTROL BIT
323B	F2	87	04	5108 J ASTP01	GO TO LOAD K REG

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
323E	3B	04	356E	5109 *	RESET 'ADDR STOP' CONTROL BIT
				5110 IASTP SBF KREG,X'04'	
				5111 *	SAVE RETURN ADDRESS
3242	3A	08	3240	5112 ASTP01 ST ASTPX+3,ARR	
				5113 *	LOAD K REGISTER
3246	C0	87	3279	5114 B LK	
				5115 *	RETURN TO CALLING ROUTINE
324A	C0	87	0000	5116 ASTPX B *-*	
				5117 *	
				5118 *-----*	
				5119 * ENABLE / INHIBIT IOP CHECK STOP	
				5120 *	
324E	3B	80	356E	5121 CKSTP SBF KREG,X'80'	RESET 'CK INHIBIT' CONTROL BIT
3252	F2	87	04	5122 J CKSTPA	GO TO LOAD K REG
				5123 *	
3255	3A	80	356E	5124 ICKSTP SBN KREG,X'80'	SET 'CK INHIBIT' CONTROL BIT
				5125 *	
3259	3A	08	3264	5126 CKSTPA ST CKSTPX+3,ARR	SAVE RETURN ADDRESS
				5127 *	
325D	C0	87	3279	5128 B LK	LOAD K REGISTER
				5129 *	
3261	C0	87	0000	5130 CKSTPX B *-*	RETURN TO CALLING ROUTINE
				5131 *	
				5132 *-----*	
				5133 * HALT MICROPROCESSOR	
				5134 *	
				5135 HIOP ST HIOPX+3,ARR	SAVE RETURN ADDRESS
3265	3A	08	3278	5136 *	SET HALT BIT IN K REG VALUE
				5137 SBN KREG,X'08'	
3269	3A	08	356E	5138 *	EXECUTE SVP CONTROL STRING
				5139 B SVP	LOAD K REG
326D	C0	87	3289	5140 DC XL2'00E2'	
3271	00E2			3272 5141 DC AL2(KREG)	
3273	356E			3274 5142 *	
				5143 HIOPX B *-*	RETURN TO CALLING ROUTINE
3275	C0	87	0000	5144 *	
				5145 *-----*	
				5146 * LOAD K REGISTER	
				5147 *	
				5148 LK ST LKX+3,ARR	SAVE RETURN ADDRESS
3279	3A	08	3288	5149 *	EXECUTE SVP CONTROL STRING
				5150 B SVP	LOAD K REGISTER
327D	C0	87	3289	3282 5151 DC XL2'00E2'	
3281	00E2			3284 5152 DC AL2(KREG)	
3283	356E			5153 *	
				5154 LKX B *-*	RETURN TO CALLING ROUTINE
3285	C0	87	0000		

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
5156	*			-----
5157	*			COMMON SVP INTERFACE CONTROL SUBROUTINE
5158	*			
5159	*			CONTROL (BITS 0-3 OF 2ND BYTE, EACH WORD)
5160	*			BIT 0 - ON = SVP 'CONTROL' CMMAND
5161	*			OFF = SVP 'SENSE' COMMAND
5162	*			BIT 1 - ON = 'EXTENDED' DATA FIELD
5163	*			BIT 2 - ON = 'END' OF STRING
5164	*			
5165	*			-----
5166	*			
3289	34 08 3315	5167	SVP ST	SVPX+3,ARR SAVE RETURN ADDRESS
328D	34 01 3311	5168	ST	SVPX1+3,XR1 SAVE INDEX REGISTER 1
5169	*			
3291	30 00 33D0	5170	SNS	SWS,0 * AMOP * SENSE DATA SWS
3295	3D 82 33CF	5171	CLI	LINKID,X'82' * LINK * AND GO TO AMOP IF
3299	C0 81 2AE8	5172	BE	AMOPLK * '82' * SWS 1 & 2 CONTAIN '82'
5173	*			
329D	35 01 3315	5174	L	SVPX+3,XR1 POINT TO SVP STRING
5175	*			
32A1	1C 00 33D2 01	5176	SVP01 MVC	WORK1,1(1,XR1) SAVE SVP ROUTINE CONTROL BITS
5177	*			
32A6	1C 01 33DC 01	5178	MVC	IOPUT(2),1(,XR1) SETUP SVP LINK
32AB	3B F0 33DC	5179	SBF	IOPUT,X'F0' CONTROL BYTES
5180	*			
32AF	D2 01 02	5181	LA	2(,XR1),XR1 ADVANCE CONTROL STRING POINTER
5182	*			
32B2	38 80 33D2	5183	TBN	WORK1,X'80' BRANCH IF
32B6	F2 90 20	5184	JF	SVP SNS SVP SENSE OPERATION
5185	*			
3299	38 40 33D2	5186	TBN	WORK1,X'40' BRANCH IF SVP DATA IS
329D	F2 90 12	5187	JF	SVPCTL CONTAINED IN CONTROL STRING
5188	*			
32C0	1C 01 32CA 01	5189	MVC	**10(2),1(,XR1) SETUP
32C5	0C 00 32CC 0000	5190	MVC	**7(1),** SVP
32CB	3A 00 33DE	5191	SBN	IOPUT-1,** DATA
5192	*			
32CF	D2 01 02	5193	LA	2(,XR1),XR1 ADVANCE CONTROL STRING POINTER
5194	*			
32D2	31 C5 33DC	5195	SVPCTL LIC	IOPUT,X'C5' DIAGNOSTIC LIO-1 (SVP CONTROL)
32D6	F2 87 1D	5196	J	SVP02
5197	*			
32D9	31 C7 33DC	5198	SVP SNS LID	IOPUT,X'C7' DIAGNOSTIC LIO-2 (SNS SETUP)
32DD	30 C7 33DE	5199	SNS	IOPIN,X'C7' DIAGNOSTIC SENSE
5200	*			
32E1	38 40 33D2	5201	TBN	WORK1,X'40' BRANCH IF NO DATA MOVE REQUIRED
32E5	F2 90 0E	5202	JF	SVP02
5203	*			
32E8	1C 01 32F0 01	5204	MVC	**08(2),1(,XR1) MOVE SENSED DATA FROM
32ED	0C 00 0000 33DE	5205	MVC	***(1),IOPIN IOPIN TO ADDRESS IN CONTROL STRG
5206	*			
32F3	D2 01 02	5207	LA	2(,XR1),XR1 ADVANCE CONTROL STRING POINTER
5208	*			
32F6	38 20 33D2	5209	SVP02 TBN	WORK1,X'20' BRANCH IF NOT
32FA	C0 90 32A1	5210	BF	SVP01 YET END OF CONTROL STRING
5211	*			
32FE	34 01 3315	5212	ST	SVPX+3,XR1 SETUP RETURN ADDRESS
5213	*			
3302	30 00 33D0	5214	SNS	SWS,0 * AMOP * SENSE DATA SWS
3306	3D 83 33CF	5215	CLI	LINKID,X'83' * LINK * AND GO TO AMOP IF
330A	C0 81 2AE8	5216	BE	AMOPLK * '83' * SWS 1 & 2 CONTAIN '83'
5217	*			
330E	C2 01 0000	5218	SVPX1 LA	***,XR1 RESORE INDEX REG 1
3312	C0 87 0000	5219	SVPX B	** RETURN TO TEST RTN OR SUBRTN
5220	*			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
5222	*			*****
5223	*			
5224	*			PRINT MESSAGES
5225	*			
5226	*			*****
5227	*			
3316		3316	5228 MSG EQU	* VARIABLE MESSAGE AREA
3334	40	3333	5229 MSGN DS	CL30
		3334	5230 DC	CL1'
			5231 *	
		3335	5232 MSG01 EQU	*
3335	C5D9D94040E5F140	3350	5233 MSG01N DC	CL28'ERR V1 V2 V3 V4 V5 V6 V7 V8'
333D	E5F24 0E5F34 0E5F4		5233	
3345	40E5F540E5F640E5		5233	
334D	F740E5F8		5233	
			5234 *	
		3351	5235 MSG02 EQU	*
3351	4040405C5C5C40E3	336A	5236 MSG02N DC	CL26' *** TEST IS LOOPING ***'
3359	C5E2E340C9E240D3		5236	
3361	D6D6C7C9D5C7405C		5236	
3369	5C5C		5236	
			5237 *	
		336B	5238 MSG03 EQU	*
336B	D3D6C1C4C9D5C740	337D	5239 MSG03N DC	CL19'LOADING SECTION C19'
3373	E2C5C3E3C9D6D540		5239	
337B	C3F1F9		5239	
			5240 *	
		337E	5241 MSG04 EQU	*
337E	E2C5C3E3C9D6D540	338E	5242 MSG04N DC	CL17'SECTION C19 READY'
3386	C3F1F940D9C5C1C4		5242	
338E	E8		5242	
			5243 *	
		333F	5244 MSG05 EQU	*
338F	D3D6C1C4C9D5C740	33A1	5245 MSG05N DC	CL19'LOADING SECTION C17'
3397	E2C5C3E3C9D6D540		5245	
339F	C3F1F7		5245	
			5246 *	
		33A2	5247 MSG06 EQU	*
33A2	E2C5C3E3C9D6D540	33B3	5248 MSG06N DC	CL18'SECTION RE-STARTED'
33AA	D9C560E2E3C1D9E3		5248	
33B2	C5C4		5248	
			5249 *	

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	5251		*****
	5252	*	
	5253	*	PROGRAM CONSTANTS
	5254	*	
	5255		*****
	5256	*	
33B4 01	33B4 5257	I1	DC IL1*1*
33B5 0002	33B6 5258	I2	DC IL2*2*
33B7 0003	33B8 5259	I3	DC IL2*3*
33B9 04	33B9 5260	I4	DC IL1*4*
33BA 20	33BA 5261	I32	DC IL1*22*
	5262	*	
33BB F1	33BB 5263	D1	DC CL1*1*
33BC F2	33BC 5264	D2	DC CL1*2*
	5265	*	
33BD 1234	33BE 5266	X1234	DC XL2*1234*
33BF 04BC	33C0 5267	X04BC	DC XL2*04BC*
	5268	*	
33C1 0000	33C2 5269	ZERO	DC XL2*00*
33C3 11	33C3 5270	ELEVEN	DC XL1*11*
33C4 0009	33C5 5271	MASK	DC XL2*0009*
33C6 0008	33C7 5272	UNMASK	DC XL2*0008*
33C8 3700	33C9 5273	DDDF	DC AL2(DDDF)
33CA 3701	33CB 5274	DDDF+1	DC AL2(DDDF+1)
33CC 2B4B	33CD 5275	INTADR	DC AL2(SGNINT)
	5276	*	

DDDF ADDRESS
DDDF+1 ADDRESS (ODD DATA)
3340 INT ROUTINE ADDRESS

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	5278		*****
	5279	*	
	5280	*	RESERVED STORAGE AREAS
	5281	*	
	5282		*****
	5283	*	
33CE 00	33CE 5284	IND	DC XL1*00* PROGRAM INDICATORS
	5285	*	
33CF	3300 5286	SWS	DS XL2 DATA SWS SENSE AREA
	33CF 5287	LINKID	EQU SWS-1
	5288	*	
33D1	33D2 5289	WORK1	DS XL2 USED BY COMMON
33D3	33D4 5290	WORK2	DS XL2 SUBROUTINES
	5291	*	COMMON PROGRAM WORK AREAS
33D5	33D6 5292	WORK3	DS XL2 FOR USE BY TEST
33D7	33D8 5293	WORK4	DS XL2 ROUTINES
33D9	33DA 5294	WORK5	DS XL2
	5295	*	
33DB	33DC 5296	IOPCUT	DS XL2 COMMON IOP OUTPUT AREA
33DD	33DE 5297	IOPIN	DS XL2 COMMON IOP INPUT AREA
	5298	*	
33DF	33DF 5299	LENGTH	DS XL1 DATA LENGTH - MULTIBYTE LOADS
	5300	*	
	33E1 5301	ACR	EQU **1 ADDRESS COMPARE STOP VALUE
33E0	33E0 5302	ACRB	DS XL1
33E1	33E1 5303	ACRC	DS XL1
	5304	*	
33E2	33E2 5305	INDEX	DS XL1 INITIAL ALS INDEX VALUE
33E3	33E3 5306	EXTZN	DS XL1 EXTERNAL ZONE VALUE
33E4	33E5 5307	EXTAR	DS XL2 EXTERNAL REGISTER ADDRESS
33E6	33E7 5308	ALSAR	DS XL2 ADDR LOCAL STORE ADDRESS
33E8	33E9 5309	ZLSAR	DS XL2 ZONE LOCAL STORE ADDRESS
33EA	33EB 5310	DLSAR	DS XL2 DATA LOCAL STORE ADDRESS
33EC	33ED 5311	CSAR	DS XL2 CONTROL STORAGE ADDRESS
	5312	*	
	33EE 5313	EXT	EQU * EXTERNAL REGISTER LOAD AREA
33EE	340D 5314		DS XL32
	5315	*	
	340E 5316	EXTIN	EQU * EXTERNAL REGISTER SENSE AREA
340E	342D 5317		DS XL32
	5318	*	
	342E 5319	ALSB	EQU * ADDR LOCAL STORE (B) LOAD AREA
342E	344D 5320		DS XL32
	5321	*	
	344E 5322	ALSBIN	EQU * ADDR LOCAL STORE (B) SENSE AREA
344E	346D 5323		DS XL32
	5324	*	
	346E 5325	ALSD	EQU * ADDR LOCAL STORE (D) LOAD AREA
346E	348D 5326		DS XL32
	5327	*	
	348E 5328	ALSDIN	EQU * ADDR LOCAL STORE (D) SENSE AREA
348E	34AD 5329		DS XL32
	5330	*	
	34AE 5331	ZLS	EQU * ZONE LOCAL STORE LOAD AREA
34AE	34CD 5332		DS XL32
	5333	*	
	34CE 5334	ZLSIN	EQU * ZONE LOCAL STORE SENSE AREA
34CE	34ED 5335		DS XL32
	5336	*	
	34EE 5337	DLS	EQU * DATA LOCAL STORE LOAD AREA
34EE	352D 5338		DS XL64
	5339	*	
	352E 5340	DLSIN	EQU * DATA LOCAL STORE SENSE AREA
352E	356D 5341		DS XL64
	5342	*	
	356E 5343	KREG	DS XL1 K REGISTER LOAD AREA
356E	5344	*	
	3571 5345	OPREG	EQU **2 OP REGISTER LOAD AREA

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
356F		356F	5346	C DS XL1
3570		3570	5347	CR DS XL1
3571		3571	5348	Y DS XL1
			5349	* DS XL1
3572		3572	5350	LPCNT DS XL1
			5351	* DS XL1
3573		3574	5352	SNSBYT DS XL2
			5353	* DS XL2
3575 00		3575	5354	CLR DC XL1*00*
3576		3577	5355	SNSINT DS XL2

TEST LOOP COUNTER
3340 SENSE BYTES 0 & 1
USED TO CLEAR RESERVED STG AREA
SENSING ADAPTOR FOR INTERRUPT

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		5357	*	*****
		5358	*	*****
		5359	*	*****
		5360	*	*****
		5361	*	*****
		5362	*	*****
		5363	*	*****
		5364	*	*****
		5365	*	*****
0001	5365	XR1	EQU	X*01* INDEX REGISTER 1
0002	5366	XR2	EQU	X*02* INDEX REGISTER 2
	5367	*		
0004	5368	PSR	EQU	X*04* PROGRAM STATUS REGISTER
	5369	*		
0040	5370	PMR	EQU	X*40* CURRENT LEVEL PROGRAM MODE REGISTER
	5371	*		
0008	5372	ARR	EQU	X*08* CURRENT LEVEL ADDRESS RECALL REG
0040	5373	PARR	EQU	X*40* PROGRAM LEVEL ADDRESS RECALL REG
	5374	*		
0010	5375	IAR	EQU	X*10* CURRENT LEVEL INSTRUCTION ADDR REG
	5376	*		
	5377	*		
	5378	*		
	5379	*		
0001	5380	SSW2F	EQU	X*01* EXIT TO AMOP IF IN STG
	5381	*		
	5382	*		
	5383	*		
	5384	*		
0051	5385	HLT51	EQU	X*51* SOLID ERROR DETECTED
0052	5386	HLT52	EQU	X*52* INTERMITTANT ERROR DETECTED
0053	5387	HLT53	EQU	X*53* ERROR OCCURRED ONLY ONCE
C100	5388	HLT00	EQU	X*C100* DUMMY HALT FOR 'PRINT' CALL
	5389	*		
	5390	*		
	5391	*		
	5392	*		
0080	5393	ADRSTP	EQU	X*80* MICROPROCESSOR ADDR STOP SET
0010	5394	FAOFLG	EQU	X*10* LOAD SECTION FAO ONLY
0001	5395	AMOPSW	EQU	X*01* AMOP IN EXECUTION INDICATOR
	5396	*		
	5397	*		
	5398	*		
	5399	*		
0080	5400	TSTSW	EQU	X*80* TEST STARTED
0040	5401	NORNSW	EQU	X*40* TEST ENDED NORMALLY
0020	5402	ERRSW	EQU	X*20* TEST ENDED WITH ERROR CONDITION
0010	5403	LPSW	EQU	X*10* TEST LOCP IN PROGRESS
	5404	*		
0004	5405	SWA	EQU	X*04* GENERAL (MUST BE RESET
0002	5406	SWB	EQU	X*02* PURPOSE BY USER)
0001	5407	SWC	EQU	X*01* PROGRAM INDICATORS
	5408	*		
	5409	*		
	5410	*		
	5411	*		
0001	5412	CCH	EQU	X*01* CHANNEL COUNTER HIGH
0002	5413	FBI	EQU	X*02*
0003	5414	DST	EQU	X*03*
0005	5415	FTG	EQU	X*05*
0006	5416	FTD	EQU	X*06*
0007	5417	FHF	EQU	X*07*
0009	5418	ADS	EQU	X*09*
000A	5419	FBIOA	EQU	X*0A*
000B	5420	HES	EQU	X*0B*
000D	5421	FTR	EQU	X*0D*
000E	5422	FBD	EQU	X*0E*
000F	5423	SCN	EQU	X*0F*
0011	5424	CCL	EQU	X*11*

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

0013 5425 DXC EQU X*13*
0015 5426 FTI EQU X*15*
0016 5427 FCT EQU X*16*
0017 5428 SB1 EQU X*17*
0019 5429 B00 EQU X*19*
001B 5430 CC2 EQU X*1B*
001F 5431 SB0 EQU X*1F*
0000 5432 MIARO EQU X*00*
0004 5433 MIARI EQU X*04*
001E 5434 DS1 EQU X*1E*
000A 5435 DS2 EQU X*0A*
000B 5436 DS3 EQU X*0B*
0600 5437 DDDF1 EQU X*0600*

ALS ADDR FOR MIAR FOR PROG 000
ALS ADDR FOR MIAR FOR PROG 001
ALS ADDR FOR DS ADDR OF PROG 7 (CHNL)
ALS ADDR FOR DS ADDR OF PROG 2 (FILE)
ALS ADDR FOR CHNL TRAP INDEX
DDDF FIELD IN CONTROL STOR

DCP SECTION REFERENCE TABLE

0200 5442 SMOD EQU X*0200*
0202 5444 SIZE EQU X*0202*
0204 5445 CPU EQU X*0204*
020D 5447 SBYTE5 EQU X*020D*
0212 5449 TEST EQU X*0212*
0216 5450 LINK EQU X*0216*
021A 5451 PRINT EQU X*021A*
021E 5452 UNPACK EQU X*021E*
0222 5453 HALT EQU X*0222*
0226 5454 PACK EQU X*0226*
022A 5455 LOAD EQU X*022A*
022E 5456 EXIT EQU X*022E*

SYSTEM MODEL
MAIN STORAGE SIZE
CPU OPTIONAL FEATURES
SECTION SENSE SWITCHES 28-2F
TEST CONSOLE SWITCHES
LINK TO NEXT ROUTINE OR SECTION
PRINT A MESSAGE
UNPACK DATA - HEX TO EBCDIC
HALT AND DISPLAY HALT IDENTIFIER
PACK DATA - EBCDIC TO HEX
LOAD NEXT SECTION OR RECORD
SECTION TERMINATE MESSAGE

DCP UNIT DEFINITION TABLE ENTRIES

0232 5458 UTAB EQU X*0232*
0800 5463 LPIMAG EQU X*0800*
0878 5464 CHNFLAG EQU X*0878*
0879 5465 CRTFLAG EQU X*0879*
087C 5466 LPDATA EQU X*087C*
4000 5468 AMOP EQU X*4000*
6C00 5469 LDR EQU X*6C00*
3700 5471 DDDF EQU X*3700*

5203 PRINT IMAGE FIELD
CHAIN IMAGE FLAG
3277 MICROCODE FLAG
5203 PRINT DATA FIELD
ADAPTER MANUAL OPERATIONS PROGRAM
MICRO-CODE LOADER PROGRAM
DISK DRIVE DATA FIELD

OTHER REFERENCES EXTERNAL TO THIS SECTION

PATCH AREA FOLLOWS (END OF CODE)

3578 5478 PATCH EQU *
5479 *
FFFF 5480 END

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CROSS-REFERENCE

SYMBOL T LEN VALUE DEFN REFERENCES

ACR A 001 33E1 5301
ACRB A 001 33E0 5302 5094
ACRD A 001 33E1 5303 5096
ADRDN A 004 101C 0733 0713
ADRERR A 004 100B 0724 0710
ADRSTP C 001 0080 5393
ADS C 001 0009 5418 4757
ADS04 A 006 1F05 2658 2660
ACS05 A 004 1FFD 2674 2669
ADS06 A 004 200A 2680 2675
ADS07 A 004 2017 2686 2681
ADS08 A 004 2024 2692 2687
ALSAR A 002 33E7 5308 4466* 4478* 4479* 4491* 4502* 4503* 4507 4524*
ALSB A 001 342E 5319 4467
ALSBIN A 001 344E 5322
ALSD A 001 346E 5325 2129* 2130* 2131* 2132* 2133* 2191* 2192* 2193* 2194* 2195* 3872* 3879*
ALSDIN A 001 348E 5328 3880* 3881* 4492
ALSER4 A 004 2048 2714 2703 2709
ALSDK A 004 2029 2699 2666
AMOP C 001 4000 5468 4108 4130
AMOPGO A 004 2B38 4130 4109
AMOPID A 002 0A1E 0030 4105
AMOPLD A 006 2B13 4111 4106
AMOPLK A 004 2AE8 4095 3807 3928 5172 5216
AMOPSW C 001 0001 5395 3806
AMOP51 A 004 2B40 4133 4100*
AMOP52 A 004 2B3C 4132 4101* 4112
AMOPX A 004 2B44 4134 4095* 4098
ARR C 001 0008 5372 3608 3795 3921 3949 3989 4095 4144 4165 4182 4193 4203 4214
4225 4236 4247 4258 4269 4280 4291 4302 4313 4324 4335 4361
4397 4433 4462 4473 4487 4497 4542 4548 4571 4596 4623 4641
4668 4689 4700 4711 4722 4733 4744 4755 4766 4777 4788 4799
4810 4821 4832 4843 4854 1879 4901 4911 4926 4941 4951 4966
4990 5011 5023 5049 5053 5076 5086 5112 5126 5135 5148 5167

ASTP A 004 3237 5107 5112*
ASTPX A 004 324A 5116 5108
ASTP01 A 004 3242 5112 4145* 4147
BASPSR A 002 2B67 4155 0053 0166 0272 0406 C474 0542 0610 0678 0762 0870 0910 0982
BEGIN A 004 2885 3795 1102 1317 1503 1655 1830 2350 2583 2744 3022 3204 3637
BEGINX A 004 2995 3909 3795*
BEGIN0 A 004 289A 3806 3798
BEGIN1 A 006 28DF 3833 3810
BEGIN2 A 004 298D 3905
BGNINT A 004 28A8 4144 1755 1757 3970 3972 4072 4074 4153 5275
BGNTST A 004 2995 3921 0066 0114 0168 0185 0212 0237 0274 0289 0308 0323 0342 0355
0371 0408 0421 0433 0443 0476 0489 0501 0511 0544 0557 0569
0579 0612 0625 0637 0647 0690 0791 0840 0872 0890 0911 0955
0986 1061 1103 1122 1141 1197 1214 1256 1318 1363 1383 1393
1410 1435 1446 1505 1550 1587 1656 1688 1712 1793 1854 2020
2084 2138 2237 2296 2436 2639 2760 2843 2904 2937 2971 3068
3261 3382 3472 3554 3717 0925

BCPAR1 A 004 11D7 0931 0933
BCPAR2 A 004 11E8 0939 0941
BCPAR3 A 004 11F9 0947 4326
B00 C 001 0019 5429 4440* 4506* 4576* 4655 4998
C A 001 356F 5346 4293
CCH C 001 0001 5412 4282
CCL C 001 0011 5424 3295 3402 3491 3571 3735
CDPOLY A 004 271E 3608 3612
CDPDL1 A 006 2726 3610 3608*
CDPDL2 A 004 273A 3614 3276
CDPOA A 004 2476 3279 3466 3640
CDPO0 A 004 240D 3233 3240
CDPO1 A 006 2411 3234

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
CDP02	A	001	2418	3235	3233* 3234 3238* 3239
CDP03	A	001	241A	3236	3234*
CDP08	A	004	2469	3275	3476
CDP09	A	006	2470	3278	3284
CDP10	A	002	2478	3280	3275* 3278* 3283
CDP16	A	004	24AB	3302	3408 3496 3576
CDP17	A	004	2480	3305	3300
CDP17A	A	004	248C	3311	3306
CDP17E	A	004	24C8	3315	3538
CDP18	A	004	24CD	3318	3313
CDP18E	A	004	24D5	3321	3541
CDP20	A	004	24DA	3324	3319
CDP21	A	001	24E1	3326	3332
CDP22	A	004	24F1	3335	3328
CDP23	A	001	24F8	3337	3343
CDP24	A	004	2508	3346	3339
CDP25	A	001	250F	3348	3354
CDP26	A	001	2520	3357	3363
CDP27	A	004	251F	3358	3350
CDP28	A	004	2530	3369	3359
CDP29	A	004	253E	3375	3552
CDP33	A	004	25A0	3417	3412
CDP34	A	001	25A6	3419	3425
CDP35	A	004	25B6	3428	3421 3433
CDP38	A	004	25C7	3436	3429 3441
CDP40	A	004	25D8	3444	3437 3449
CDP42	A	004	25E9	3452	3445 3457
CDP50	A	004	25FA	3460	3453
CDP51	A	004	2606	3468	3257
CDP53	A	004	2614	3474	
CDP55	A	004	261C	3478	3287
CDP58	A	001	264A	3500	3506
CDP59	A	004	265A	3509	3502
CDP60	A	004	2667	3516	3510
CDP61	A	001	266E	3518	3524
CDP65	A	004	267E	3527	3520
CDP66	A	004	268E	3536	3530
CDP68	A	004	268A	3554	3381
CDP70	A	001	26EA	3578	3584
CDP71	A	001	26F5	3587	3593
CDP72	A	004	26FA	3588	3580
CDP75	A	004	2705	3596	3589
CDP76	A	004	2716	3603	3598
CHNFLG	C	001	0878	5464	
CKSTP	A	004	324E	5121	
CKSTPA	A	004	3259	5126	5122
CKSTPX	A	004	3261	5130	5126*
CLKRST	A	004	31A7	5023	3836 3860
CLKRSX	A	004	31CD	5041	5023*
CLR	A	001	3575	5354	3833 3833*
CDM	A	001	0A19	0026	3806 3824 3830* 4103
COR	A	001	208D	2768	2759* 2773 2778 2791 2794 2797* 2800*
CO01	A	004	207D	2760	2798 2801
CO07	A	004	20A4	2781	2774
CO08	A	004	20B4	2789	2784
CO10	A	004	20D0	2800	2795
CO2	C	001	001B	5430	4779
CO20	A	004	20D8	2806	2792
CO201	A	004	22F2	3068	3137 3150
CO207	A	001	2303	3080	3025* 3128 3135*
CO21	A	004	2131	2849	2891
CO210	A	004	2332	3102	3097
CO212	A	001	2345	3110	3026* 3126*
CO213	A	004	2344	3111	3105
CO217	A	004	2355	3119	3114
CO219	A	004	2366	3127	3120

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
CC22	A	004	2146	2859	2951
CO221	A	004	2388	3143	3129
CO222	A	004	238C	3145	3167 3170
CC223	A	004	23A2	3158	3153
CO224	A	004	2396	3152	3093
CO225	A	001	2391	3147	3024* 3092 3143* 3160 3163 3166* 3169*
CO227	A	004	23RD	3169	3164
CO23	A	004	2148	2862	2857
CC27	A	004	2165	2873	2864
CO29	A	004	2187	2886	2877
CO35	A	004	219E	2893	2887
CO45	A	004	2238	2964	2955
CO47	A	004	2282	2999	2985
CPU	C	001	0204	5445	
CR	A	001	3570	5347	1981 1997 2049 3327 3333 3338 3344 3349 3355 3509 4441* 4507* 4554* 4577* 4657 5000
CRTFLG	C	001	0879	5465	
CSAR	A	002	33E0	5311	4600* 4611* 4645* 4646* 4676 4678
C15	A	001	0000	0006	
C17	A	002	28D6	3828	3812 3815
C19	A	002	282D	4122	4105 410E
DDDF	C	001	3700	5471	3083* 3084 3084* 3119 3125 3152 3237* 3248* 3249* 3305 3385* 3386 3386* 3428 3434 3436 3442 3444 3450 3452 3458 3579 3588 5273 5274
DDDF A	A	002	33C9	5273	3081 3263 3388 3719
DDDF A1	A	002	33C8	5274	3474 3563 3585 3594
DDDF1	C	001	0600	5437	2404
DIFF0A	A	004	286E	3767	3762
DIFF01	A	004	27E0	3642	3243
DIFF03	A	002	2775	3652	3643* 3737 3757*
DIFF05	A	004	280A	3717	3758
DIFF07	A	004	2845	3748	3743
DIFF09	A	004	2858	3760	3738
DLS	A	001	34EE	5337	4366
DLSAR	A	002	33E8	5310	2874* 4367 4375 4388* 4403 4410 4424*
DLSIN	A	001	352E	5340	2876 2883 2884 4402
DST	C	001	0003	5414	1222* 1328* 1364* 1395* 1405 1412* 1425 1437* 1448* 1481* 1589* 2427* 2848* 3851* 4271 4801
DSTAA2	A	004	1575	1356	1351
DSTAA3	A	004	15A6	1377	1372
DSTAA4	A	004	15AE	1380	1377
DSTA2	A	004	157E	1362	1356
DST01	A	003	155A	1344	1338
DS1	C	001	001E	5434	3073 3077 3103 3265 3269 3391 3394 3418 3479 3482 3557 3560 3710 3722
DS2	C	001	000A	5435	1852 1857 1895 1920 1945 1970 2023 2234 2244 2299 2379 2642 2646 2700 2706 3714 3726
DS3	C	001	0008	5436	3146
DXC	C	001	0013	5425	0171* 0188* 0409* 0417 0422* 0430 0440 0444* 0453 0688* 0731 2430* 4260 4845
D1	A	001	338E	5263	4019
D2	A	001	33EC	5264	
ELEVEN	A	001	33C3	5270	1054 2797
ERRMLT	A	002	2ADB	4079	4069*
ERRP	A	004	2A9E	4053	3964 4044
ERRPRT	A	004	2A07	3989	0084 0092 0130 0178 0195 0207 0220 0232 0245 0282 0301 0316 0335 0352 0366 0380 0415 0428 0438 0451 0483 0496 0506 0519 0551 0564 0574 0587 0619 0632 0642 0655 0724 0805 0857 0884 0894 0926 0934 0942 0950 0965 1000 1020 1030 1044 1080 1117 1132 1163 1169 1189 1211 1233 1250 1274 1293 1340 1353 1358 1374 1380 1388 1403 1423 1442 1463 1477 1487 1516 1523 1532 1544 1563 1574 1582 1602 1615 1630 1637 1663 1700 1727 1733 1742 1749 1766 1775 1786 1802 1811 1883 1901 1925 1950 1975 1991 2000 2007 2013 2055 2101 2116 2174 2180 2262 2313 2465 2479 2493 2505 2511 2671 2677 2683 2689 2692 2714 2776 2786 2859 2866 2879 2918 2957 2999 3099 3107 3116 3122 3155 3302

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
					3308 3315 3321 3330 3341 3352 3361 3414 3423 3431 3439 3447
					3455 3504 3512 3522 3532 3582 3591 3600 3745 3767
ERRPX	A	004	2A7D	4039	4034*
ERRPX1	A	004	2A75	4036	3990*
ERRP00	A	004	2A0F	3992	
ERRP01	A	002	2A35	4009	3989* 4017
ERRP02	A	006	2A4A	4019	4031
ERRP03	A	002	2A61	4027	4023*
ERRP04	A	002	2A63	4028	4015* 4030*
ERRP05	A	003	2A6E	4033	4020
ERRSW	C	001	0020	5402	3963 4046
EXIT	C	001	022E	5456	
EXT	A	001	33EE	5313	0169* 0171* 0180 0186* 0188* 0197 0213* 0222 0238* 0247 0250* 0275*
					0284 0290* 0294* 0296* 0303 0309* 0318 0324* 0328* 0330* 0337 0343*
					0356* 0372* 0385* 0409* 0417 0422* 0430 0440 0444* 0453 0477* 0485
					0490* 0498 0508 0512* 0521 0545* 0553 0558* 0566 0576 0580* 0589
					0613* 0621 0626* 0634 064* 0648* 0657 0680* 0681 0681* 0683* 0684*
					0685* 0686* 0687* 0688* 0709 0738* 0739 0739* 0873* 0912* 0914* 0916*
					0956* 0968* 0983* 0985* 0989* 0991* 0997 1002 1007* 1012* 1022 1032
					1037* 1046 1051* 1054* 1062* 1065* 1068* 1104* 1106* 1108* 1123* 1138*
					1143* 1157 1172* 1177* 1179* 1181* 1215* 1217* 1222* 1240* 1258* 1261*
					1264* 1277* 1281* 1296* 1322* 1328* 1364* 1395* 1405 1412* 1425 1437*
					1448* 1481* 1506* 1556* 1589* 1620* 1657* 1666* 1795* 1859* 1870* 1873*
					1933* 1953* 2036* 2088* 2094* 2140* 2147* 2171 2177 2227* 2230* 2239*
					2390* 2399* 2421* 2424* 2427* 2430* 2438* 2445* 2455* 2973* 2987* 2991*
					2994* 3312 3318 3537 3540 3838* 3841* 3848* 3851* 3854* 3857* 4167
					4167* 4168* 4340
EXTADR	A	001	0B10	0141	0054 0103
EXTAD0	A	005	0A4E	0055	0099
EXTAD1	A	004	0A97	0088	0078
EXTAD2	A	004	0AA7	0095	0090
EXTAD3	A	004	0AB5	0103	0097
EXTAD4	A	004	0B02	0134	0124
EXTAD5	A	004	0B26	0153	0137
EXTAD6	A	005	0AB9	0104	0139
EXTAR	A	002	33E5	5307	0080* 0083* 0086 0126* 0129* 0132 4173* 4184* 4195* 4205* 4216* 4227*
					4238* 4249* 4260* 4271* 4282* 4293* 4304* 4315* 4326* 4341 4691* 4702*
					4712* 4724* 4735* 4746* 4757* 4768* 4779* 4790* 4801* 4812* 4823* 4834*
					4845* 4869 4891
					0699* 0700 0700* 0709 0726 0727 0728 0729 0730 0731 4868
EXTIN	A	001	340E	5316	4888
EXTZN	A	001	33E3	5306	
FAOID	A	002	0A20	0031	3830
FAOFLG	C	001	0010	5394	09F5* 0997 1002 1022 1032 1046 1054* 1062* 1106* 1870* 2036* 2399*
FBI	C	001	0002	5413	4167 4173 4691
FBI0A	C	001	000A	5419	4702
FBI0A	A	004	13AE	1144	1173
FBI05	A	004	1308	1166	1158
FBI06	A	004	13E4	1172	1187
FBI07	A	004	13EC	1177	1167
FBI08	A	004	141D	1192	1161
FBI10	A	004	147F	1240	1231
FBI15	A	004	14D4	1277	1272
FBI17	A	004	14FF	1293	1289
FBO	C	001	000E	5422	0545* 0553 0558* 0566 0576 0580* 0589 0686* 0729 0914* 2438* 4167*
					4184 4713
FCT	C	001	001E	5427	4304
FFFF	A	002	2876	3778	3124
FHF	C	001	0007	5417	1240* 1322* 1873* 2239* 2455* 3854* 3857* 4315 4812
FTG	C	001	0005	5415	0477* 0485 0490* 0498 0508 0512* 0521 0683* 0726 0916* 0968* 1007*
					1012* 1037* 1065* 1068* 1108* 1143* 1157 1172* 1131* 1264* 1296* 2230*
					2421* 2424* 4168* 4205 4735
FTI	C	001	0015	5426	4768
FTO	C	001	0006	5416	0613* 0621 0626* 0634 0644 0648* 0657 0684* 0727 1261* 4195 4724
FTR	C	001	000D	5421	0275* 0284 0290* 0294* 0296* 0303 0309* 0318 0324* 0328* 0330* 0337
					0343* 0356* 0385* 0685* 0728 0873* 0912* 0956* 0983* 0989* 0991* 1104*

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
					1123* 1138* 1177* 1179* 1215* 1217* 1258* 1277* 1281* 1795* 2088* 2094*
					2140* 2147* 2171 2177 2973* 2987* 2991* 3838* 3841* 4216 4746
FTRAPA	A	004	1B7F	2104	2099
FTRAPB	A	004	1B9D	2119	2114
FTRAPC	A	004	19D1	1885	1881
FTRAPD	A	004	1A4A	1953	1948
FTRAPE	A	004	1A71	1978	1973
FTRAPF	A	004	1A85	1987	
FTRAPG	A	004	1A95	1994	1989
FTRAPH	A	004	1AA7	2002	1998
FTRAPI	A	004	1AB7	2010	2005
FTRAPJ	A	004	1AC3	2016	2011
FTRAPK	A	004	1B11	2058	2053
FTRAPL	A	004	19EC	1904	1899
FTRAPM	A	004	1A19	1928	1923
FTRAPN	A	004	1AA2	2000	1982 1985
FTRAPX	A	004	1B0C	2055	2050
FTRAPY	A	004	1B0C	2055	2136* 2183* 2186*
FTRAPZ	A	001	1BDF	2146	2184
FTRP1A	A	004	1BCE	2140	2169
FTRP1E	A	004	1C20	2177	2172
FTRP17	A	004	1C2C	2183	2178
FTRP18	A	004	1C34	2186	2264
FTRP19	A	001	1CD6	2258	2260
FTRP20	A	004	1CE6	2267	2315
FTRP25	A	001	1D3D	2309	2311
FTRP27	A	004	1D4D	2318	4078
HALT	C	001	0222	5453	3312 3318 3537 3540 4823
HES	C	001	0008	5420	1780 4364 4400 4670 4881 4953 4992 5026 5088
HIDP	A	004	3265	5135	5135*
HIDPX	A	004	3275	5143	3958* 4041* 4051* 4069
HLTID	A	002	2AA7	4057	3804 3822 4118 4122
HLT00	C	001	C100	5388	4051
HLT51	C	001	0051	5385	4041
HLT52	C	001	0052	5386	3958
HLT53	C	001	0053	5387	
IAR	C	001	0010	5375	
IASTP	A	004	323E	5110	
ICKSTP	A	004	3255	5124	
IND	A	001	33CE	5284	0712 0714* 0733* 3797 3834 3834* 3923* 3951 3954 3957* 3963 3966*
					3992 4038 4043 4046* 4076* 4476* 4500* 4514 4526 4529 4535*
INDEX	A	001	33E2	5305	5024* 5036 5059
INTADR	A	002	33CD	5275	
INTRTN	A	004	285E	4152	4144*
IOPGD	A	004	31DD	5053	0074 0120 0797 0846 1433 1538 1686 1717 1829 1916 1941 1961
					2042 2110 2164 2255 2306 2473 2486 2653 2766 2853 2911 2947
					2980 3090 3293 3401 3489 3569 3733
IOPGX	A	004	3201	5071	5049* 5053*
IOPG02	A	004	31F7	5066	5051
IOPIN	A	002	33DE	5297	0077 0089 0123 0175 0181 0192 0198 0204 0217 0223 0229 0242
					0248 0279 0285 0298 0304 0313 0319 0332 0338 0350 0363 0377
					0413 0418 0426 0431 0436 0441 0449 0454 0481 0485 0484 0499
					0504 0509 0517 0522 0549 0554 0562 0567 0572 0577 0585 0590
					0617 0622 0630 0635 0640 0645 0653 0658 0802 0851 0882 0886
					0892 0924 0932 0940 0948 0963 0997 1003 1018 1023 1027 1033
					1042 1047 1075 1113 1129 1160 1166 1186 1208 1229* 1230 1235
					1247 1271 1288 1335* 1336 1342 1350 1371 1385 1399* 1400 1406
					1419* 1420 1426 1455* 1460 1466 1474 1484 1513 1520 1560 1579
					1611 1627 1634 1660 1669 1695 1724 1746 1772 1783 1799 1808
					1880 1858 1922 1947 1972 1988 2004 2010 2098 2113 2168 2259
					2265 2310 2316 2462 2467 2476 2489* 2490 2496 2665 2668 2674
					2680 2686 2702 2708 2773 2779 2783 2856 2950 2984 3096 3104
					3299 3407 3411 3420 3426 3495 3575 3597 3742 3761 4871 5199*
					5205
IOPOUT	A	002	33DC	5296	5178* 5179* 5191* 5195 5198
IOPRUN	A	004	31D1	5049	4974
II	A	001	33BA	5257	2658 2889 2890 3238 3278 3610 3960 4048 4387 4388 4423 4424

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
					4450 4451 4523 4524 4611
12	A	002	3386	5258	
13	A	002	3388	5259	4030
132	A	001	338A	5261	
14	A	001	3389	5260	
KREG	A	001	356E	5343	
					4347 4353 4373 4382 4408 4418 4510* 4533* 4561 4564 4630 4634
					4661 4674 4682 4861 4866 4885 4894 4957 4996 5004 5030 5032
					5034 5050* 5057 5064* 5068 5092 5100 5107* 5110* 5121* 5124* 5137*
					5141 5152
LACR	A	004	3213	5086	
LACRX	A	004	3233	5102	5086*
LALSB	A	004	20A9	4473	1851 2233 2378 2382 2641 3072 3264 3390 3478 3556 3709 3713
LALSBI	A	004	2092	4462	3875
LALSBI2	A	005	20E9	4478	4530
LALSD	A	004	20DF	4497	0068 0116 0793 0842 1430 1535 1682 1714 1856 1885 1911 1936
					1956 2022 2026 2106 2156 2160 2243 2251 2298 2302 2386 2441
					2469 2482 2645 2649 2762 2849 2907 2943 2976 3076 3086 3145
					3268 3289 3393 3397 3481 3485 3559 3565 3721 3725 3729
					2134 2196 3882
LALSD1	A	004	20C8	4487	4531
LALSD2	A	005	20EF	4502	4462* 4473* 4477 4487* 4497* 4501 4518*
LALSX	A	004	2E60	4537	4463* 4474* 4488* 4498*
LALSX1	A	004	2E5C	4536	4521
LALSX2	A	004	2E50	4533	4468 4481 4493 4527
LALS01	A	004	20FB	4506	4515
LALS02	A	004	2E25	4520	
LPOD	A	004	2C5A	4324	
LPOOX	A	004	2C66	4330	4324*
LCCH	A	004	2C2A	4251	
LCCHX	A	004	2C36	4257	4291*
LCCL	A	004	2C1A	4280	
LCCLX	A	004	2C26	4286	4280*
LCS	A	004	2F23	4623	4605
LCSAR	A	004	2F84	4668	4625 4649
LCSARX	A	004	2FA4	4684	4668*
LCSI	A	004	2EE3	4595	0057 0106 0764 0813 1677 1705 1832 1864 1904 1928 2030 2063
					2124 2202 2247 2272 2354 2403 2448 2587 2625 2748 2806 2900
					2928 3028 3054 3131 3208 3279 3371 3468 3548 3651 3753 3894
					4596* 4599 4615*
LCSIX	A	004	2F1F	4618	4597*
LCSIX1	A	004	2F1B	4617	4612
LCSI01	A	005	2EF7	4603	4609
LCSI02	A	003	2F14	4614	
LCSL	A	002	2F38	4631	
LCSR	A	002	2F3A	4632	
LCSX	A	004	2F3F	4636	4623*
LCLS	A	004	2C9E	4361	3889
LDLSX	A	004	2CEC	4392	4361*
LDLSX1	A	004	2CE8	4391	4362* 4385
LDLS01	A	004	2CAA	4366	4389
LDLS02	A	002	2CC5	4377	4369*
LDP	C	001	6C00	5469	3781 3815 3831
LDRGO	A	004	28D7	3830	3316
LDRID	A	002	0A1C	0029	3812
LDRLD	A	004	28C0	3818	3813
LOST	A	004	2C0A	4269	1223 1329 1365 1396 1413 1438 1449 1482 1590 1592 2151 2428
					3259 3849 3852
LDSTX	A	004	2C16	4275	4269*
LDXC	A	004	2BFA	4258	0172 0189 0410 0423 0445 0697 0716 0740 2431 3845
LDXCX	A	004	2C06	4264	4258*
LENGTH	A	001	33DF	5299	2224* 2395* 2636* 2873* 3064* 3253* 3376* 3644* 3885* 3888* 3934* 4384
					4387* 4420 4423* 4447 4450* 4465* 4490* 4520 4523* 4534*
					4175 4186 4197 4207 4218 4229 4240 4251 4262 4273 4284 4295
					4306 4317 4328
LEXTAR	A	004	30CB	4879	0081 0127 4338 4857
LEXTX	A	004	2C9A	4356	4335*
LEXTX1	A	004	2C96	4355	4336*
LEXT01	A	002	2C8D	4349	4343*

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
					0987 1063 1107 1871 2037 2400
LFBI	A	004	2668	4165	4165*
LFBI2	A	004	2886	4177	0546 0559 0581 0695 0718 0742 0915 0958 2439 4170
LFBO	A	004	288A	4182	4182*
LFBOX	A	004	2896	4188	
LFCT	A	004	2C3A	4302	
LFCTX	A	004	2C46	4308	4302*
LFHF	A	004	2C4A	4313	1241 1323 1874 1915 1940 1960 2041 2104 2152 2240 2456 3855
					3858
LFHFX	A	004	2C56	4319	4313*
LFTG	A	004	2BAA	4203	0478 0491 0513 0692 0721 0745 0917 0969 1008 1013 1066 1069
					1109 1144 1182 1265 1297 2231 2422 2425 3846 4171
LFTGX	A	004	28B6	4209	4203*
LFTO	A	004	289A	4193	0614 0627 0649 0693 0720 0744 1262 1279
LFTOX	A	004	28A6	4199	4193*
LFTR	A	004	28BA	4214	0276 0291 0295 0310 0325 0329 0344 0345 0357 0358 0387
					0694 0719 0743 0874 0913 0957 0984 0990 0992 1105 1124 1139
					1178 1180 1216 1218 1259 1278 1282 1796 2089 2095 2141 2148
					2974 2988 2992 3839 3842
LFTRX	A	004	28C6	4220	4214*
LINK	C	001	0216	5450	0039 0153 0252 0258 0388 0394 0456 0462 0524 0530 0592 0598
					0660 0666 0746 0855 0897 0970 1083 1088 1299 1305 1490 1640
					1817 2319 2324 2516 2712 2720 2997 3161 3175 3604 3619 3765
					3783
LINKID	A	002	33CF	5287	3927 5171 5215
LK	A	004	3279	5148	5114 5128
LKX	A	004	3285	5154	5148*
LMBI	A	004	2EA9	4571	2153 3862
LMBIX	A	004	2EDF	4591	4571* 4574 4588*
LMBIX1	A	004	2EDB	4590	4572*
LMBI01	A	004	2EB5	4576	4585
LOAD	C	001	022A	5455	3826 4120
LOOP	A	003	2980	3933	3955 3961 3993 4049 4086
LOCPX	A	004	29B7	3936	3921*
LDP	A	004	3173	4990	4444 4511 4558 4580 4626 4973
LCPX	A	004	3193	5006	4990*
LPCNT	A	001	3572	5350	3905* 3960* 3967* 4048*
LPDATA	C	001	087C	5466	
LPIMAG	C	001	0800	5463	
LPSW	C	001	0010	5403	3797 3954 3992 4076
LSB0	A	004	28DA	4236	1507 1557 1621 2995
LSB0X	A	004	28E6	4242	4236*
LSB1	A	004	28EA	4247	1658 1667
LSB1X	A	004	28FA	4253	4247*
LSCN	A	004	28CA	4225	0170 0187 0214 0239 0251 0373 0696 0717 0741 1052 1860 1909
					1934 1954 2039 2086 2150 2228 2391 2446 3844
LSCNX	A	004	28D6	4231	4225*
LXOPI	A	004	3141	4966	0876 0919 0959 1009 1038 1071 1110 1125 1150 1183 1202 1225
					1243 1267 1284 1325 1331 1346 1367 1415 1470 1509 1607 1623
					1876 2091 2143 2458 3891
LXOPIA	A	005	314D	4971	4979
LXOPIX	A	004	316F	4985	4966* 4969 4982*
LXOPII	A	004	3169	4984	4967*
LXTARX	A	004	30ED	4896	4879*
LZLS	A	004	2D44	4433	2225 2396 2637 3066 3254 3378 3646 3649 3886
LZLSX	A	004	2D8E	4456	4433*
LZLSX1	A	004	2D8A	4455	4434* 4448
LZLS01	A	004	2D58	4440	4453
MASK	A	002	33C5	5271	
MIARO	C	001	0000	5432	0069 0117 0794 0800 0843 0849 1431 1536 1683 1715 1886 1912
					1937 1957 2027 2107 2157 2252 2303 2470 2483 2650 2663 2763
					2850 2908 2944 2977 3087 3290 3298 3398 3405 3486 3494 3566
					3574 3730 3741
MIARI	C	001	0004	5433	2161 2167
MSG	A	001	3316	5228	3995 4000 4005 4012* 4014 4066
MSGN	A	030	3333	5229	3995 3995* 4056 4066 4067
MSG01	A	001	3335	5232	4061

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
MSG01N	A	028	3350	5233	4061 4062
MSG02	A	001	3351	5235	4083
MSG02N	A	026	336A	5236	4083 4084
MSG03	A	001	336B	5238	4116
MSG03N	A	019	337D	5239	4116 4117
MSG04	A	001	337E	5241	4126
MSG04N	A	017	338E	5242	4126 4127
MSG05	A	001	338F	5244	3820
MSG05N	A	019	33A1	5245	3820 3821
MSG06	A	001	33A2	5247	3802
MSG06N	A	018	33B3	5248	3802 3803
NCRMN	A	004	298B	3949	0095 0134 0176 0205 0230 0243 0280 0299 0314 0333 0351 0364
					0378 0414 0427 0437 0450 0482 0495 0505 0518 0550 0563 0573
					0586 0618 0631 0641 0654 0734 0808 0854 0883 0893 0949 0964
					1053 1078 1115 1130 1192 1209 1248 1291 1362 1378 1386 1401
					1421 1445 1485 1549 1580 1635 1671 1698 1789 1815 2016 2058
					2119 2187 2267 2318 2514 2711 2789 2893 2916 2964 2989 3127
					3158 3369 3460 3543 3603 3748 3768
					3957 4042
NCRMSW	C	001	0040	5401	3949* 3952
NCRMX	A	004	2A03	3974	
NCRM01	A	004	298F	3951	
DPREG	A	001	3571	5345	4603* 4971*
PACK	C	001	0226	5454	
PARR	C	001	0040	5373	
PATCH	A	001	3578	5478	
PFC	A	002	0A07	0019	
PID	A	002	0A01	0015	3780 3809 3999 4111
PMR	C	001	0040	5370	
PRINT	C	001	021A	5451	3800 3818 4053 4059 4064 4081 4114 4124
PSR	C	001	0004	5368	4145 4147*
RDALSB	A	002	2E9C	4562	4545* 4551*
RNIOP	A	004	3205	5076	
RNIOPX	A	004	320F	5081	5076*
RTN	A	001	0A03	0017	4004
RTNOA	A	001	0E41	0527	0472
RTNOB	A	001	0E49	0538	0529
RTNOC	A	001	0ED5	0595	0540
RTNOD	A	001	0EDD	0606	0597
RTNOE	A	001	0F69	0663	0608
RTNOF	A	001	0F71	0674	0665
RTN01	A	001	0A3A	0036	0019
RTN02	A	001	0A42	0049	0038
RTN03	A	001	0B2A	0162	0051
RTN04	A	001	0BF2	0255	0164
RTN05	A	001	0BFA	0266	0257
RTN06	A	001	0D19	0391	0268
RTN07	A	001	0D21	0402	0393
RTN08	A	001	0DAD	0459	0404
RTN09	A	001	0DB5	0470	0461
RTN1A	A	001	194B	1826	1651
RTN1B	A	001	1D55	2321	1828
RTN1C	A	001	1D5D	2346	2323
RTN1E	A	001	1F2E	2579	2348
RTN1F	A	001	2050	2717	2581
RTN1G	A	001	2058	2740	2719
RTN10	A	001	104A	0758	0676
RTN11	A	001	1152	0866	0760
RTN12	A	001	119A	0906	0868
RTN13	A	001	123F	0978	0908
RTN13A	A	004	1253	0986	1055
RTN13B	A	004	1281	1007	0959
RTN13C	A	004	12AD	1027	1019
RTN13D	A	004	12C1	1037	1028
RTN13E	A	004	12E2	1051	1043
RTN13F	A	004	132B	1080	1076
RTN14	A	001	1334	1085	0980

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
RTN15	A	001	133C	1096	1087
RTN16	A	001	1510	1302	1098
RTN17	A	001	1518	1313	1304
RTN18	A	001	1684	1499	1315
RTN19	A	001	17E9	1649	1501
RTN20	A	001	2287	3018	2742
RTN21	A	001	23C5	3172	3020
RTN22	A	001	23CD	3200	3174
RTN23	A	001	2738	3616	3202
RTN24	A	001	2740	3633	3618
RTN25	A	001	2873	3776	3635
SADS	A	004	3008	47E5	0881 0923 0962 1017 1041 1112 1128 1155 1185 1207 1270 1287
					1987 2097 2112
SADSX	A	004	3014	4761	4755*
SALSB	A	004	2E64	4542	2699
SALSD	A	004	2E73	4548	0799 0848 1893 1919 1944 1969 2166 2662 2705 3102 3297 3404
					3417 3493 3573 3740
SALSX	A	004	2EA5	4567	4542* 4548* 4553 4556*
SALSX1	A	004	2EA1	4566	4543* 4549*
SALS01	A	004	2E7F	4553	4546
SBYTE5	C	001	020D	5447	4097
SBO	C	001	001F	5431	1506* 1556* 1620* 2994* 4238 4790
SBOAA1	A	004	16E0	1519	1514
SBOAA5	A	004	175D	1577	1570 1572
SBOAA6	A	001	1762	1578	1555*
SBOA0	A	004	168C	1505	
SBOA1	A	004	16F1	1528	1521
SBOA2	A	004	1702	1535	1530
SBOA3	A	004	171D	1549	1542
SBOA31	A	004	172D	1556	
SBOA33	A	001	173A	1559	1554*
SBOA4	A	004	1745	1568	1561
SBOA6	A	004	1784	1597	
SBOA7	A	004	1799	1607	1599
SBOA8	A	004	17AF	1615	1612
SBOA9	A	004	17B4	1620	1613
SBOB1	A	004	17D4	1633	1628
SBI	C	001	0017	5428	1657* 1666* 4249
SBI1A	A	003	192D	1805	1800
SBI1B	A	003	1940	1814	1809
SBI1A1	A	004	180D	1666	1661
SBI1A2	A	004	1858	1700	1696
SBI1A3	A	004	1888	1730	1725
SBI1A4	A	003	1897	1738	1731
SBI1A5	A	004	18A3	1745	1740
SBI1A6	A	003	18DD	1769	1764
SBI1A7	A	004	18F3	1780	1773
SBI1A8	A	004	190A	1789	1784
SBI1A9	A	006	18B3	1752	1747
SBI1ER1	A	004	1808	1663	1670
SRIEP2	A	004	1892	1733	1730
SCN	C	001	000F	5423	0169* 0180 0186* 0197 0213* 0222 0238* 0247 0250* 0372* 0667* 0730
					1051* 1859* 1933* 1953* 2227* 2390* 2445* 4227 4834
SCN03	A	004	0883	0202	0193
SCN07	A	004	08B4	0227	0218
SC02	A	004	3028	4777	2771
SC02X	A	004	3034	4783	4777*
SCS	A	004	2F43	4641	1978 1994 2046 3324 3335 3346 3498 3516
SCSIX	A	004	2F80	4664	4641* 4644 4648*
SCSIX1	A	004	2F7C	4663	4642*
SDLS	A	004	2CF0	4397	2875
SDLSX	A	004	2D40	4428	4397*
SDLSX1	A	004	2D3C	4427	4398* 4421
SDLS01	A	004	2CFC	4402	4425
SDLS02	A	002	2D1F	4416	4404*
SDREG	A	004	3129	4951	

C151 3340 ATTACHMENT TESTS - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
SDREGX	A	004	3130	4961	4951*
SDST	A	004	3048	4799	1228 1334 1349 1370 1418 1473
SDSTX	A	004	3054	4805	4799*
SDSO	A	004	30F1	4901	1659 1668 1694 1723 1745 1771 1782 1798 1807
SDSOX	A	004	30FB	4906	4901*
SDS1	A	004	30FF	4911	1398 1458 1483 1519 1577
SDS1X	A	004	3109	4916	4911*
SDS2	A	004	310D	4926	0088
SDS2X	A	004	3117	4921	4926*
SDS3	A	004	3118	4941	0076 0122 0202 0227 0349 0361 0376 0434 0447 0502 0515 0570
					0583 0638 0651 0931 0947 1384 1633
SDS3X	A	004	3125	4946	4941*
SDXC	A	004	3088	4843	0411 0424 0446 0707
SDXCX	A	004	3094	4849	4843*
SEXT	A	004	3098	4854	4693 4704 4715 4726 4737 4748 4759 4770 4781 4792 4803 4814
					4825 4836 4847
SEXTX	A	004	30C7	4874	4854*
SEXTX1	A	004	30C3	4873	4855*
SFBI	A	004	2FAB	4689	0996 1029 1074 1146 2257 2308
SFBIA	A	004	2FBB	4700	1198
SFBIX	A	004	2FBA	4695	4689*
SFBIXA	A	004	2FCA	4706	4700*
SFBO	A	004	2FC8	4711	0547 0560 0582 0705 2475
SFBOX	A	004	2FD4	4717	4711*
SFHF	A	004	3058	4810	1246 1875 2002 2461 2488
SFHFx	A	004	3064	4816	4810*
SFTG	A	004	2FE8	4733	0479 0492 0514 0702
SFTGX	A	004	2FFA	4739	4733*
SFTI	A	004	3018	4766	
SFTIX	A	004	3024	4772	4766*
SFTO	A	004	2FDB	4722	0615 0628 0650 0703
SFTOX	A	004	2FE4	4728	4722*
SFTR	A	004	2FF8	4744	0277 0292 0311 0326 0347 0360 0704
SFTRX	A	004	3004	4750	4744*
SHES	A	004	3068	4821	0851 0939 2855 2945 2982 3095 3311 3410 3536 3596 3760
SHESX	A	004	3074	4827	4821*
SHTTBL	A	001	1EE4	2537	2398
SHTWK	A	001	1F2D	2564	2410* 2411* 2490 2495 2502 2508 3229* 3242 3256 3286 3380 3465*
					3639*
SHT01	A	005	1DD0	2399	2519
SHT04	A	001	1DE3	2406	2402*
SHT05	A	004	1E0E	2421	2417
SHT06	A	001	1E4E	2450	2415* 2419*
SHT07	A	001	1E50	2452	2412* 2413* 2414* 2416
SHT08	A	004	1E75	2469	2463
SHT09	A	004	1E90	2482	2477
SHT10	A	004	1EB5	2500	2491
SHT12	A	004	1EC6	2508	2500
SHT13	A	004	1ED2	2514	2503 2509
SIDLE	A	001	310D	4921	
SICPCK	A	001	311B	4936	2781
SIZE	C	001	0202	5444	
SKCMP3	A	004	1645	1445	1440
SKCMP4	A	004	167C	1470	1461
SKCMP5	A	003	1694	1480	1475
SMCD	C	001	0200	5442	
SNSBYT	A	002	3574	5352	1752* 1763 4146*
SNSINT	A	002	3577	5355	1753* 1754 1756 3968* 3969 3971 4070* 4071 4073
SSBO	A	004	3038	4788	1512 1558 1610 1626
SSBOX	A	004	3044	4794	4788*
SSCN	A	004	3078	4832	0174 0191 0215 0240 0374 0706
SSCNX	A	004	3084	4838	4832*
SSW2F	C	001	0001	5380	4097
SVP	A	004	3289	5167	4345 4371 4406 4559 4628 4651 4672 4859 4883 4903 4913 4928
					4943 4955 4994 5013 5028 5055 5066 5078 5090 5139 5150
SVPCTL	A	004	3202	5195	5187

C151 3340 ATTACHMENT TESTS - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
SVPFC	A	025	0A39	0033	3824* 4103*
SVPSNS	A	004	32D9	5198	5184
SVPX	A	004	3312	5219	5167* 5174 5212*
SVPX1	A	004	330E	5218	5168*
SVP01	A	005	32A1	5176	5210
SVP02	A	004	32F6	5209	5196 5202
SWA	C	001	0004	5405	0712 0714 0733 4476 4514 4526 4529 4535
SWB	C	001	0002	5406	4500 4514 4526 4535
SWC	C	001	0001	5407	
SWS	A	002	33D0	5286	3926* 5170* 5214* 5287
TBOF07	A	004	114D	0857	0852
TBON05	A	004	10CC	0808	0803
TEST	C	001	0212	5449	3907
TIOCK1	A	004	16FD	1532	1528 1529
TIOCK2	A	004	1718	1544	1540 1541
TIOCK3	A	004	1758	1574	1569 1571
TIOCK4	A	004	1794	1602	1598 1600
TIOGD1	A	004	178C	1599	1597
TIOOK1	A	004	174D	1570	1568
TSTADR	A	004	0FB7	0699	0722
TSTSW	C	001	0080	5400	3923 3951 4038
UCT0	A	003	0A0C	0022	
UDT1	A	003	0A0F	0023	
UNMASK	A	002	33C7	5272	
UNPACK	C	001	021E	5452	3997 4002 4007 402E
UTAB	C	001	0232	5458	3780 3809 4111
VARBL2	A	003	0A61	0060	0055* 0080
VARBL3	A	003	0ACC	0109	0104* 0126
WORK1	A	002	33D2	5289	2657* 2658* 2659 3609* 3610* 3611 5176* 5183 5186 5201 5204
WORK2	A	002	33D4	5290	4010 4012 4019*
WORK3	A	002	33D6	5292	2862* 2863 2870 2871 2913* 2915 2922 2923 2953* 2954 2961 2962
					3111* 3113
WORK4	A	002	33D8	5293	2846* 2847* 2863 286E 2869 2876 2881 2882 2886 2889* 2890* 2898*
					2899* 2915 2920 2921 2940* 2941* 2954 2959 2960 3527* 3528
WORK5	A	002	33DA	5294	
XOP	A	004	3197	5011	4445 4512 4581
XOPX	A	004	31A3	5018	5011*
XR1	C	001	0001	5365	0054* 0055 0056 0056* 0096 0103* 0104 0105 0105* 0136 2398* 2399
					2402 2410 2412 2515 2518 2518* 3990 4014* 4015 4017* 4022 4022*
					4023 4033 4033* 4034 4036* 4100 4133* 4336 4340* 4341* 4343 4355*
					4362 4366* 4367* 4369 4391* 4398 4402* 4403* 4404 4427* 4434 4436*
					4437* 4442 4452 4452* 4455* 4463 4467* 4474 4477* 4478 4480 4480*
					4488 4492* 4498 4501* 4502 4504 4504* 4508 4517 4517* 4518 4525
					4525* 4536* 4543 4549 4553* 4554 4555 4555* 4556 4566* 4572 4574*
					4577 4583 4583* 4584 4587 4587* 4588 4590* 4597 4599* 4600 4601
					4601* 4603 4607 4607* 4608 4614 4614* 4615 4617* 4642 4644* 4645
					4646 4647 4647* 4648 4663* 4855 4868* 4869* 4871 4873* 4967 4969*
					4971 4976 4976* 4978 4981 4981* 4982 4984* 5168 5174* 5176 5178
					5181 5181* 5189 5193 5193* 5204 5207 5207* 5212 5218*
					4101 4132*
XR2	C	001	0002	5366	
X04BC	A	002	33C0	5267	
X1234	A	002	338E	5266	
Y	A	001	3571	5348	1984 2052 3358 3364 3501 3507 3519 3525 4442* 4508* 4578* 4659
					5002
ZERO	A	002	33C2	5269	1465 1752 2845 2906 2939 2969
ZLS	A	001	34AE	5331	2223* 2393* 2634* 3065* 3252* 3377* 3645* 3648* 4436
ZLSAR	A	002	33E9	5309	2222* 2394* 2635* 3063* 3251* 3375* 3642* 3647* 3884* 4437 4438* 4441
					4451*
ZLSIN	A	001	34CE	5334	

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

C151 3340 ATTACHMENT TESTS - MOD 12

C151 3340 ATTACHMENT TESTS - MOD 12

OBJECT CARD LISTING

OBJECT CARD LISTING

THE CHARACTER ' ' INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
GBK GBD PN 42	47606 EC 827827	3340 ATTACHMENT TESTS - MODEL 12	84008400		C1510000
TCOY|OND & BT.	"BE A &				7-4C1510001
T YR					LHYC1510002
T+-Z4 & HGXBG /O	B XDOH*Y/*HAB1	*-Z/ _HA &BG.><	+H JS" - A	" /2WROH*_70	0H* 1KMC1510003
T+-D7< 7 /3DS+J	377H&E60 <=MHQ<B	G<<X#EC|VOM*DA0D	39*BG<64E T|:0/	E0H*DA1C /2W#~>0	BYD ET8C1510004
T+-DA<BGBU#B &X	6G MH3 .K &| /2#	T LS Q70 H	|"0H*ZW*BG.)0	<BG< 7 /3DS+A	377H 60&C1510005
T+-XVDAM< C|VBX?	/3C.+ = 39*BGH~>	<=P /2W#~>0 BYD	E0H*H>JS" S- AS	/ ASS ASU ASY AS	0 |0 780C1510006
T+-_0H*BE-< B"	/2SE0H*ZWL0 <#7	/27H|:4 *BGH".	/3AB|& 37XBAH5?	/2YG T|'<# /2W	R| |0 *KBC1510007
T+->S<#7 /27H|	4 *BGH". /3AB|~0	377HAB*BGH~*K<#4	37XBG<JX&AC|:0A	Z>0BGH~>0H*ZWL0	&<#4 18HC1510008
T+-700H*2XBG<G-	*DC|:0YD10H*DA2H	3=|:0H*1F3-D<#4	DBW#0H*DA3C /2W	R|EM3**BGH0, /3A	8|NM "CEC1510009
T+-0J<# -KW#0H*	DA2H3"L|:| 3**0B	GHB, /0H0A . =XB	G /QE 4ROH*Y/*B	GHRU0 C|0H*,>XB	G." 03EC1510010
T+-1< & 37XBAH5?	/2YG T|'<# /2W	R| |03=0BGH", /2"	8+1 3=0BGH#Y:DC|	#|~037XBAH5? /2Y	GDT< #18C1510011
T+-2G=3|:0H*ZWL2	D<#? /2>:0H*?>C6	E<# -KW#0H*DA2H	3=3|:0H*ZWL1N<#?	/2>:0H*?>C6<#?	/2X /4C1510012
T+-3B>TYE<#X*NL|	:0HDZ>0EGH~>5<#X	37XBGHRU0 C|0H*	>XBGH", /2"0H*	1F3-D<# DBW#0H*	DA4)#MC1510013
T+-3*0H*ZWL0E<#?	/2>:0H*,>XBG."T	/3DS+ &37XBEH5?	/2YGM<BGHRU0 C|	*0H*2XBG<GT /3D	S+ & 19YC1510014
T+-4B<# UBW#0H*	DA6 & C|0H*,>XB	GHB, /0H0A- (H*#B	G /QG 6_0H*Y/*B	GHRU0 CEAOH* =XB	G<H- N--C1510015
T+-53|& 37XBAH5?	/2YG TCA<# /2W	R| |04 *BGH". /3E	H|~037XBAH5? /2Y	G T&A<# /2WROH*	1F3- 9--C1510016
T+-6>AC|:0A Z>0B	GH~*5(037XEGHRU	0 L&AOH* =XBG<HT	/3DS+ &37X EH5?	/2YGHTEA<# /0H	OB " KEHC1510017
T+-7ZCSP /0H0B0	+&EGH#F /2WR|	3&8BG~: /2"Y|&	37XBAH5? /2YG T|	3<# /2WR| |0300B	GH:Y)08C1510018
T+-8U0H*?:C7<#	-KW#0H*DA0H303|	:0H*ZW*BG<JX&AC|	:0A Z>0BGH~*S<#<	37XBGHRU0 L|30H*	.DX" 034C1510019
T+-9~ /2"Y0H*1F3-	D<# DBW#0H*DA2H	303|:0H*BE-Y CUX	/0H0B0 +5*EGH#F	/2WR| 3"CBGH0,	/20 4 4C1510020

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+-E2CA <# -KW	#0H*DA0H3" C|:0H*	ZWL3" <#3 /2>H0H*	72C7" <# -KW#0H*	DA0H3" C|:0H*ZW*#B	G<JX NCX<C1510021
T+-#N+ &37X EH5?	/2YGHTEA<# /2W	R| D3" <BGH0, /2"	H0H*1F3-D<# DBW	#0H*DA2H3" C|:0H*	BE-0 5ABC1510022
T+-0E #)0H*BE-4	C6X /2SE0H*ZWL0	<"L /2>E0H*?&C4	<# -KW#0H*DA0H	3" C|:0H*ZWL3" <"L	/2X &.UC1510023
T+-WXBG."-#3|	:0HDZ>0BGH~>#<#&	37XBGHRX /3DS+ &	37X EH5? /2YGHTEA	4<# /2WR| D3" <B	GH9Y '6<C1510024
T+-F0H*?6<BG<JX	EAC|:0A Z>0BGH~>	S<"&37XEG /Q+	10H*BE-B DD. /2S	E| 4CE0:(04CLO	E<"< "08C1510025
T+-#A| Q3" C0<#<#X	0CT|& 03" L0L(G	/2WROH*.CXBGH0,	/2>:0H*5XBGH0,	/27:| 4.60:(B0	A.* 0-DC1510026
T+-#B /2"Y0H*?6<B	G."T /2"Y0H*0:<B	G<H-(G3E((B7 J	+ &33X &DA0:AC|	+0H* =XBGH0, /2>	H0H* 5#HC1510027
T+ /7# /2>E0H*	.DXBGC#~ /2YGATE	L(A&AF3E*(A44HLX	D<B0 /2W#| 4CE0	:(04C*BGH", /2?	H0H* #3* C1510028
T+ /A2H0, /2>:0H*	.WXBGH": /0HOD	JM#BGHHP /2#T	H.XB0S-<E AXH.+0	1S-0E AXH. THS-U	& AX EHAC1510029
T+ /B_FH0 F68<D	\$BH#7CF8|D \$BH#	#G08KD \$BH#*CWB	ND \$BH#>C680D	\$FH#FF8\$ ED	\$#& =36C1510030
T+ /CY/2WROH*_70	0H*17*BG.X< |JY	377HAA*BGH~>0H*	Z>0BG.>< S>- A	> 1 F0S>&AE>A/	F0- "/<C1510031
T+ /DT.S KS-UE AX	H. / CS-0E AXH.--	MS-0E AXH.-&ES/H	E AXH.-H0S/M& AX	H.-DP8/-E AX0.-	6/X 1.0C1510032
T+ /E: ED �B	GHRX /27~ C /3G	10F+>0 *FT|:E-D	H0H*Z>0BG /8 /2Y	GDAD DR. /2SE0H*	ZWL0 9BYC1510033
T+ /FR-C|0H*,>XB	G<MDH C"0H*0BCU	)<# DBW#0H*DA0D	37XBGHRX /3AY+;U	37X EH5? /2YGD<B	G /0 =MUC1510034
T+ /GMD- K|0BGH#F	/2WR| H3=0BGH#Y	0 C|0H*0ST2 <#|	/2>D0H*1&E- |"	/3 H+ -37X ED)~	/2Y 08 C1510035
T+ /H|A0C /3DS+ &	37X ED:T /2YGD<B	G<F-8BC|:0A J=#B	GH~>0H*1F3-D<#	DBW#0H*DA3C /2W	R|H RE&C1510036
T+ /IH<#? /2>:0H*	.SXBG<MDH C"0H*	0EC-H<# UBW#0H*	DA4 & C|30H*.DXB	G /OL A<40H*Y/L0	<"X)&MC1510037
T+ /HE0H* >T0 <#C	/2WROH*.EC2 <#?	/2>:| 3=2BGH",	/2=YC& 37T|0&YD	10H*DA0H30C|:|HD	300 2C0C1510038
T+ /> /2>D0H*1&E-	|00 L|30H*.DXB	G<-EBC|:0Z 10H*	DA1H30C|:| D377H	E<#BG.:T /2YGHTEA	0<#8 #34C1510039
T+ /#| H300BG<MD	H C"0H*0BC-A<#	UA.S0H*DA3H30C|	:| 3**BGH0, /2W	#C- 30C|C0B KM0B	GHRU ~RX<C1510040
T+ /<6 HY30<BGH6-	EDC 30H*.DTC <#	/2>D0H*1&J55 "	/2=Y EY377HAA<B	GH5? /2YGE<BG /O	M A< 450C1510041
T+ /(<BG /0N AM	E0H*Y*BGHRU0 T	#0H*,>T0 <"C /2_	Y Q300BGH": /3E	AB "0BG<-B L	:0A 690C1510042

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CL 1 THROUGH 16 CL 17 THROUGH 22 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+/XHS? /2YG <B GHRUB-C| #0M*.>XB G<MDH C*OH*OBC- A<# UBW#OH*DA1 a C|#0M*.>XBGHRU B L< B/OC1510043

T+/|XBBBGH: /2= YOH*1EJCS ACS | = /3 H+ D3B*H6CC- A<#2UD. /2YGUC- A<#2D 7 /2YGHCO <#<)SYC1510044

T+/65OH*L.T2 <#? /2>:| 3=BBGH#Y B C|30H*.DXBG<MD H C*OH*OBC-A<# UA|UOH*DA3C /2W #OH* OSBC1510045

T+/J|HRX /2=80M* 1E6CD CD | = /3 H+ D37X 6HS? /2Y G6<BGRUB-C|#0M* .>T0 <#? /2>:|H 3B* 1BQC1510046

T+/K0/20HOM*1E6- | = /3AH+4B37T4 <#2-6- /2YGO L | :|< 3*BG.D. /3E AB *BBG<E-90C| :0A J0QC1510047

T+/LLHS? /2YGM<B GHRUB T|#0M*.>T0 <#L /2>E|H 3B8B GH: /3EAB *#B G< -8AC|:B/ EOH* DA7 *R&C1510048

T+/M+| 3=BBGH#. /2>E|H 3=BBGH#. /3EAB *#B G< -8AC|:B/ DOH*Z>BB GH-: | 3B8BGH: /OH #B&C1510049

T+/NIE/O EJT /OH OE0 O<BGHMP /2W R|< 3*BG.D. /3E AB *#32 <#G /2O H0H*1E6- | = /3A H+OB :2UC1510050

T+/OD<B*6C|:BYD GOM*DA0D37?|A <B G<MDH C*OH*OKCS <#2D P /2YGD<G BEP# /2YGU<BGHS? /2U 5RDC1510051

T+/O*WL2 <#G /2O H0H*1E6- | = /3A H+O 377H6A*BGH-# -O*HN.XBGHS? /2Y GY<BGRX /3DB+ 6 37X 06MC1510052

T+/P:DBW#OH*DA3C /2WRB&K | B3B*B G. /3C*# 3714 |<# -K#OH*DA4H 3BL|:OH*ZW-|D-CO |<#D J6*C1510053

T+/Q5OH*XB&BG<MD H C*OH*OKC70<B *C3|:OHZ>BBGH-) K<#D37XBG.)B <B G<|731 L /2WRB&K | B #/-C1510054

T+/RO<#G /2OH0*E OJ*BGH-) -OH*Z>BB GHRX31H 8C3|10H* XB?|D6| |DH| |DD| DB<BG<|B#8C|: +E& 377H =B C1510055

T+/E.D X /2YG+L| B<# /3EAB *#B G<D-9C3|:B/ EOH* DABC31 H8C3|10H* XB&BG<|B9C3|:0A Z>B M08C1510056

T+/SW/2YGX<BG /O O A-ZOH*Y/*BGRU 8C3E(OH*.6XBG<MD H C*OH*O+CX*# 2D P /2YG <BG<|B 9BCC *3UC1510057

T+/+7X 6E7G /2Y GUKGAE?7A2J5*OH* P XBGH-*6OH*_70 OH*17*G E1TA2A* OOH*PG*BGH-*OH* Z>B -R&C1510058

T+/|*/2WR|< P+T3 E6H&2C6(OH*.6XB G<C-2B<|:B/ EOH* DA3CA0A)(OH*PDCG HE57 /1)0BZ EOH* DA4 4J&C1510059

T+/:POH*O*3T0<# DBW#OH*DA:C /2W PB& |H 3B*BG. 32 C /2OH0*DPTCB GE9LA2J;ROH*PV<B GH-* OB<C1510060

T+/~KKBG<MOH C *OH*O+C-<<#2U | 2/OP /2YGC0|E 7 /2?E0H*1E6- | = /3 B|E 377HAA*BB GH-* :IMC1510061

T+/-(*BG<JXBAC| :0A Z>BBGH-: OH* BE/U FM? /2SEOH* ZWL1H(P /2?DOH* 0BL/1K*#2D P /2Y G C0 =L C1510062

T+/H C6E0M*.:XB G<|D9KC|:OI OB<B GHs? /2#T H 6 C*OH*_70 OH* 17*BGHRX31 .31 L 31H -L*C1510063

T+/SCOH*0&LUC<# 2U L /2W#OH*DA7C /2#T Q_1C*OH* ZW*BG.)B <BG<|7 31 .31 L /3C1+J 377H OYOC1510064

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+/S=D P /2YGD<G DFI.2/OP /2YGH|| D-<GDFH| /2YG<<B G<|D8DC|:B/ EOH* DA4 < LN4<#H01LN 7+JM KIDC1510065

T+/T9(P- UB_H+EB 5)XB&H4T /1TJ+A 5)|H&A*BGH-: BDE B&B&EDOH*0&LUC<# 2D P /2YGM<BG<WP 31H OZBC1510066

T+/U4OH*0&L-6<# 2D P /2YGO<BGHS? /2WRB&EB|B 3=BB GH. /3C1+6E37?H 6A*BGH-:E&B&K OH* 0&L- MLOC1510067

T+/V?AC|:B/ EOH* DA:C31 . /2W#OH* BE/Y GNP /2SEOH* >80 F:8DF:8HB.0 ABHMEF;MBD9IMB F:M O0*C1510068

T+/WD -- -- AX V -- -- -- C# /26ZBYS /2WROH* _70Y | 3#*BGH#. /2#TA- C #||B OL-C1510069

T+/XV<#C /2_Y|HD 3*BG.D. /3EAB *#B G< -8AC|:B/ EOH*DA7 *R&C1510048

T+/Y-A*BGH-: OH* >80 BB *#B G< -8AC|:B/ EOH*DA7 *R&C1510048

T+/ZB -B&L|OH* .2XBG.)B <BG.D. /3G)OH*>OY* C| :BYDEOH*DA# B C| *OH*.2XBG.)B <B G.DY 8L8C1510072

T+/DOOH*17*BG.X< H|6D37?HAA*BGH-* OH*7600 |E 5*|H AIC7*(PG2 J7 /3 H+ED37?H&A*BGH-* 6OH* 6.DC1510073

T+/J.4<F L7*(PC 2-6P /2YGH<BG<E- B L|:B/ EOH*DA3 8BC|:B/ EOH*DA4C /2W#OH*ZW*BG.)B H < 3L8C1510074

T+/X</27 G /2# TA- C#||B 3E<BGH6T /2?H0H* XKXBG<|7 /2*CA- *#3N0B-DG|-B5*# AA* 52-C1510075

T+/G/2YGM<BGHS? /2#T R#O-H-D HZ&MR9&H# H R9&H# H H H CUUHR9&H# H)1*C1510076

T+/>BD9IH 6#BB GHRX /27H|H 3=BB GH. /3EAB *#30 <#? /2>:OH*OBCU 6<#2D P /2YGO<B G.DY 6#AC1510077

T+/>OH*_70 OH* 17*BG< -8DC|:B/ EOH*DA7C /2W#OH* >80 -B D /#30 L(GM&D3J7| |E4:L1 H(GX 8R-C1510078

T+/78|C*4*#BG.*- 8BA7-OH*ZWL2 <#? /2>:OH*1E6- |B 8BC|#OH*.>XBGH#. /2OH0H*XKXBG.DW D*# NE* C1510079

T+/03/27 C /27 -ABC /3G)OH*>O6 *HL|:BYD<+ -3=#H 6D*BGH-+ -3=#H 6C*BGH-+E| 67&B GF&B 3Q*C1510080

T+/|>| -87&BGH#X B C|5|A&4)334(GU 8NCJ#|E64*#BG.*T /2#T Q.VMOSY H.OYQ_-2H H H C1510081

T+/22FHMCB#MMFH DFHM BHM BMB (#20K<=U&3TL | D 37&BG.M&B C|*OH* .2T0 <#| /2>DOH* _DEY =ZMC1510082

T+/3U/*BGRUB L| 5OH*XKXBG.)B# <B G.>XE ABDD?# /27 C /3G)OH*7DC5 N<# -J3W0H*DA&H *ET< PJ4C1510083

T+/4-7XBGHS? /2# T Q.VMOSY H.OY G_-8H H H 0Z&H# H QZ& HZJ&QZ&E&HZE OY- H.O OHUC1510084

T+/5E 6#BGRX /27-B-C /27 C /3G)OH*7DC6D<# -J5(OH*DA&H)|L| :OH*Z>BBG /Q5 A5)OH* L80C1510085

T+/6N /O*AB>OH* Y/*BG.>> ASX-6E E-AEH- +03-S7S S 6 J A/XV /+KK-- AXV -- -- AX V -- QCMC1510086

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T+7E H H.0 C AG*OH*_D6DEOH* _DJDF0H*_707M| ** 3**BGHBYB3TLD|AO 3:L0A<* /2500-D :9A0 EZDC1510087
T+/B. C|O <BGH6- * A7V *BG.><F A **B* AB_ T?9G24 * A9C T>=GV :SA9 C|A-ILT/ GVC DAB +| - PQUC1510088
T+/9FGUBBAC|30H* .DIO <M| /2>D| ** 3*BG. YB C6A0H* .=XBGHRUB C|80H* .5XBG.)BE C0 <M7 /2X 2YDC1510089
T+/:A2XBG.>< A B 7S|8BAC|50H*XXKB GCMDSH C*OH*0DCU F<# DA950H*DAOD 37XBG.)B <BG<|7 /2B E.OC1510090
T+/:82C7M<|J: 60H*DA1C /27~ /3G|OH*00C79<#E (C|:G27 -J:50H* DA2H.L|;0<:1TU FG24 =2C1510091
T+/:70A :4XBGH-+ 0+EQ.-HEA*BGH-) OH*Z>77# 8BA /8 K E| /17E | A | ADI AEIDE I0EA (DJDN/ C1510092
T+/:2C1D1JL1DSBKH BKH LKHSC2HSL21 DEWE EM E LMJDC4J DL4KH80- BQ- LQS HCB5HL8SRB-> GE -M< N.OC1510093
T+/:_2SEOH*>80 BHB FF:AFHDF.S *FHC*FHMEE B F:MBB B B0C *BCBB- EDOUHD /OU ::&C1510094
T+/:YH/C *1D BAX V -- -- CX EU HXXVH/56 AVZI M|* /2#T B B E BDE BH BGE BL =|DY EL* C1510095
T+/:T((BDT|Z|D 378BG.ML /2WROH* _DEDEOH*_70Y OH* _70 OH*17L0 <#H + C|K<8E8-C|K0I -5* *0MC1510096
T+S :/293 C4-<# -K Z|KD37% AG*7 /2Y6 C4<# K H0H*DA1 *H3|;0 D -E8BGM-*|K637% AMBE EY% C1510097
T+SAROH*DA3C /2Y 6E<BG.WCH|OM37% AHD? /293BT6 <# KA.OH*Z>8BG /S /2YGMAB HET /OH OGO J-<<C1510098
T+SBBMHy /2SEOH* >80 FH:ADF<< AB++ E+((C E*30 HH7 /2WROH*_70 OH*17~| <BG<B- (B *8EC1510099
T+SC|TL|;8YD10H* DA1H-TL|;0H*1F3- D<#2D P /2Y6 <B GH#% KB(BYDR|-B -T-HAB-B MM4308B GHGA 8LYC1510100
T+SCH|D-T*BGMG7 /2#T O.E HZB Q7E0Q.E H84 M HX3D0Y6 HX6 QY1 B000E YH H M .X C1510101
T+SEEB B BH< GH<#B+| CHH# N#8BGRU11C|B|D 36C0AK*_ /27~ C /3G|OH*0EC/ <# 2U M K/UC1510102
T+SF OH*DA3 01C| OC6D35T|08YD(OH* DA4E353|OK*35T0 E<#8 T|.OH*XB 4 A(LD36|HAC*BGH-) M<#* 328C1510103
T+SF#<-5CCM1|P8 36|HAD 8 <-3_ B <#*3<EGHLG /2W #|83533* <T /2# T OQX3|*OH*ZWL6 D<8H 3#HC1510104
T+SG60H*_70 OH* 17LCD<Q|L|O<#T -KW#OH*DA86353| O<#M35XBG.>< -S *C15_ TTE S' S 3<-8 69<C1510105
T+SH10H*ZWLGD<8H 8C3|O| 358BG.)B <BG<|7 /3AY+D 37% 8HMQ01C|OC6D 35T|08HDS+<BGH-) 4<# :O* C1510106
T+S1X<*-35L|OOH* Z>3GD<B. /2#R| H 3=8BGM#. /27~ G /3G|OH*0EC/ <# UBHB|H 3=8BGM#. /2U \$50C1510107
T+SHX>30 <#? /2> :| 8AC*BGH. /OH 00H*DA6 - E|EOH* Y/L0 H9DB1B<|<E TJ*BG.>< ASX-ES ? A- 7H C1510108

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CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96
T+S.SYB HX9DQY6 HX6 QY1 B00U * * H H H H H HYO E **OH* >80M D|**D|**D|** **30 PKHC1510109
T+S<|E3|Z| 03733)(<P /25D0H*ZW*# G.EU;/#BG.)B; CG D<8UB C~MC|87MT~ **OH*_70 OH*17L- OH9D \$50C1510110
T+S(OB/ASOH*0EC/ <# UB<20H*DAOC /293GT4C<# -K(DOH*DA1 01C|O|E 35XBABSP /2YGH7 *C0 8HOC1510111
T+S+L0HDTRXBGH-* 2HGQ7 <BGH#X*1S< COHDS<BG.>< 1S 3--8815<C|<OTJ*B GH7HB)B+JOH*_70X OH* 8H4C1510112
T+S|+H7H*#3* 8-D EOH*DA4C /2W#|)E TU*BA /O8_B+J8/ H|.ETU*BGH8085B+ JOH*TTBD H87 /OH OH- \$S C1510113
T+SC113T /2SEOH* >80 BHB BH; B.< EFD F.G*FH<6DW< MD FB B B B B BH< +*30 L00C1510114
T+SJD AB_| UF 0 IAYUFCO (0 + BE O<#E BEOO DUDL/ G27 DB)E|B7 TO (O<8E3|Z|EX41L0 A<#8 Q.YC1510115
T+SJM*OH*_JCS G27 DBQFOH*XBXBGRU 11C|10H*_DJ:E0H* _719M| U;*HGA-B IGX3<BG.><E MB DD78 \$LHC1510116
T+SK:|PBU;8 AIG 8-AB_0A MG<BG.)B <BG<|7 /2*|OH* >80 *CT|;OHDUXB GH-* |E07 -H:A*B GH-* KQ C1510117
T+SL50<BGKF-B L| 901 U3*BGH-#-#A 3=#BEI(. /2Y6<<B G.4<E C4 (PC -KL 10H*DA1HUBLN00H* 760M OBXC1510118
T+SMO=37=(PC -KM H0H*DA1HU=CNOOH* 760MA|>85*BAIJ* /2Y6DSH|(P *CN 10HDV<<BGH-*KIK 5** *0MC1510119
T+SN./2W#OH*>80 BF.+E*30P<=UB L| ~|(441*BG.ME8-AB _0A W<BGHRUBD~ *C|87MT~*<8E32*# G.EU 38 C1510120
T+SOWGYP /27#G-C /27~ C /3G|OH* XGXBG.X< |E837% AIH? /3AY+D 37% B IEC /2YGM<BG.X< :|OH J28C1510121
T+SP/<# -K060H* DA4HVZT|;|E 7 <B AI#- /2Y6G0S07 (0 *HT=0HDV6<BGH-) SI*-7*37*(0. -KP ZOH* *8HC1510122
T+SQ*H-)SI1U7 T4 (O| -KP:OH*DA6H V:T+COH*Z>3D G27 /2E(OH*>E0 BF.(E*8BGRU11C|.OH* UE* :.XC1510123
T+SRP/26ZGYP /27 -GX* /27~ C /3G 10H*XGXBG.X< |E 37% AIH? /2*CAE * LN10HDW<XBGH-) 2IUY 8Z8C1510124
T+SEK(PD*DTN00HD WR8BGM;-0OH*760P *|>85**BAIX# /2Y G*SR|(PD01C|O|>8 36|HAA*BGH-1-0H* 0EC- RHQC1510125
T+S(L|90A U2C- E<#X DBLNOH*Z>8B G.>< -S34|* /2M =OH*ZW*BG.EU;/#B G.)B; CGD<E? /27 ~ 61UC1510126
T+S*H0H*17*BG11# /293 C4+<# KK .|E07 *BAI7L /2Y G-S&U<8X*#3-*0HD XA*BGH-;817M4KXB GCF- #JMC1510127
T+SIC+D 37X8E11# /2YGU<BGH*#? /OH O(-X(30 <#H+ C| K<#E8-C|K0I XI&B G T B) OH*BES6 HG< 8DDC1510128
T+S)=OH*Y/L1 G27 /2E(|A*3:L0 17M 8 L|>|EX41*BG.ME 8DT|Z|<840<BG.ML /2#T OSY OXY H.0 56&C1510:29
T+S:98H< FH:AB B.<#FHD F.F B FH<6DW< .B B B B B B FHB B EHQHF.E AB GA* C1510130

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OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+S-4 - - AS V -- - - AE	TI-- - - ASV -- - - A)XHO	FJSV -- - - -	E ABC1510131		
T+S-7R20E BX B3	*OH*_DJ:EOH*_DGD	EOH*ZWLGD<@X /27	-GX* /27-B-C /27	- C /3G)OH*XGT7	*17M 3ROC1510132
T+S/D8YDYOH*=>0	.C|:OHYJ*BGH-*	OH*Z>BBG.>< A&S	- 788=2)5OH*YBXB	GCF-B L|:BZ HOH*	Z>B MAXC1510133
T+SSV/OHOOH*DA1	V |*CC B<-Y OHE	X XBG /OABEWO+A	337HCBXBG /ZFDT+	30E B EYROA D: 4	TM :O&C1510134
T+ST-B-C KT=C&D	HGBTCO DYO 4AS D	YXBAH(- /OHEJ/<	3Y*D CA-H+&YQOH*	BH-&E3YCB/X /60	BC|@ \$S-C1510135
T+SUB(P&5)E3M<K4	43XBG<E*B-C|#OH*	>T0 <M? /2>:OH*	.2XBGH*. /2>D|H@	38*BG. YB C|1OH*	XBT0 9.YC1510136
T+SVO-C|50F*%KTO	<M? /21HOM+1Z8B	G.DW /HDKUIKQXZ#	*OH*_UTOM(G*%&CJ	9|E&4:31M(G7 /27	H| "E C1510137
T+SWJ<U&HC|-OH*	_JC1 <M? /22:OH*	1&E- |* /2#T	CY& D D D	D D D C*| Y	5*% 3YXC1510138
T+SXC/OHKOH* C&	HH*Y:-C|+@BJ=<	3AC6AC@# -K.Y@BK	| D37@BG	ABBY F+K 337H&L-L-E<@#	DBU -J*C1510139
T+SYGXZC <@B@M2D	XCO 5*+40 DZXC-	<@#2D.*#3|+| Y	5*TCE(P*9ELN70I	.KCU|(P& UB_HOH*	C& OC-C1510140
TM2Y3BBY5(DD:C-	&@# DBW0CA03<3K	4OH*BG-DH L<POH*	BG-DH 3<QOH*BG-D		6.OC1510141
TKKZ<K&< C<R<K|	B L<*(DD03MAHTM	G C|M<#72-/7K &H	* KZ/ <BG /8A		:10C1510142
T+SD:C-DD03+8OH*	DK_HA L&AHYCB &	+H 33XB& @MSD	X+D 337H&DTY-<@B	| CN2<#L KW0|ED	DZ@ 3LYC1510143
T+S.R/OH&E0&D3(<D	OH*BFYD*%SC /OH	E//83<00AH_XDZ3C	E(P*9ELN70I .KCU	| (P& U)_H+ / 33XB	G SH JCYC1510144
T+SXOOH*BF-O&E<6.	/2W0(-.J3-A -7	2UEDA K_C| H. |00	QBTUHF 4AB/8..-H	AB&4AE D..-HAI&4	TM 8Z<C1510145
T+S_JB-C -KX&OH*	BFUQL<77A <BG SY	DCAX /OHEJ/D3T&D	OH) %HB CB &	OH* CEHM6D4AB_	X<<M E1MC1510146
TD2_V(P&5AB_X&@E	B&@J&OH* <BGHA-				2I%1510147
T+S>S(-.SE0 <M?0	3BCOM<M| /2>HOM*	.DTOB<P /21DOH*	C&HH9UBCT|VOH*	X&XBG 4BB>Z| Q	39* N8MC1510148
T+S7)/21DOH* C&	HH#UBAL|VOH*X&XB	G 4BB7I| 439*#	G.F. /O (-.6LO	|<=P /21DOH* C&	HH=U J-B&C1510149
T+S00|A@39*BG.F.	/O (-.L0P<=P	/21DOH* C&H. U	ED3|VOH*X&XBG	4BBOR| <39*BG.F.	/O M&UC1510150
T+S1L C&H.BU@DL	VOH*X&XBG 4BB0	9 D39*BG.F. /O	(-XKLOO<=P /21	DOH* C&H.EU@A3	VOH* SEUC1510151
T(22..F. /O (-	X&LOR<=P /21DOH*	C&H.144 K2ROH*	02@HAK=86 L V(D	XT*BG<YW-OTN> <X	NEQC1510152

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OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T(K3C Y@BTECS(O#	B & OH* C&H.+@	4 K3.OH*2R*HA(+@	6 L|.( DXI*BG<YW	-OTN> <Y3:OC.	***** 3H4C1510153
T+S4 HOBTOF(+H	5&T4AK*# AB3YCO	373+4C- 3:3+40H*	XDXHA C /O (-	_E3&A.L* /31V0-D	5.T0 3YDC1510154
T+S4# L|.( D_G@B	G<YWYOTN> <Y3:OB	<BH@CTOBE D4 C	S(OB' L|-O &_| @	<'@3_ @ <=X3_<B	G.|0 -.HC1510155
T+S560-D <BG	4EB6J(D_T*HA(HB	6 L|Z+Y 3:L0C(O@	< CN0<=U* CN1 <B	G<P| /3FP|&D37@	D.OY *8HC1510156
T+S61C0 373+4C-	3:L+44-DAOH*_DCH	A C /O (->Q3E	A.V@BHC|-|H 39@H	A(B#2/5H4BB9T(D	>P3Y @BYC1510157
T+S7XAC|+(&D>Q10	<=& +Y 39*HA -H	G<3&H.W<4 K9-|B	3732-<=&-B LJ>BY*	* (->Q3&A.V@: T|	+(&D 4H&C1510158
T+S8X.W< C|X CD	<=&-K &DB TN?C	5+C|XG 5*% :-CN	>OH*1*BBGKR*5AT|	+OA >I)HA L&A.W<	L< QROC1510159
T+S9S7@ D.V | C|	<=&#& C|X<#LK &D	9AT|+OA _=3-D<@#	DB69OH*_#3> (OB	@ L|-+0Q33XHA C	/O M2&C1510160
T+S:) C&H.D-4 K:	U| B>X|HGCC&H.D-	4 K:U| Y>XCHA.D-	* CNO (HA L&A.DT	/3E3OH*2&#T8:OB	C- EY-C1510161
T+S@BNTN>0-D <B	G 4BB#5(D>7TM	A.>H@ATN?G 5*	@-CN1OH*1@BBGKR-	K &E*%OC K:54-D	A(D 81OC1510162
T+SBL.>.B & OH*	C&H.2H4 K@:(&D	7H/OA<=4A4-DBG H	5*% /2BT4-DC->@	OHDT&E B <=43_<B	G.7* M1MC1510163
T+S'+4-DA(D7HXH	A C /O (-7&XB	G.EL /3E3OH*25&C	B(O:>T%:& +H5&XB	G 4BB=C(D7-3M	A.8< :8MC1510164
T+S=IG 3# * C|	_ )HA T&A.8| /2=	D0F*25&SBCY& KCN	? DYS* A.(PD 8TN	>0-D <BG 4BB=	XOH* E&C1510165
T+S@D<WP /3HIY<H	ES-CH<=0 23|_ Y@	HT&CS(O# /O (-	?_3OB<=P /3BQOH*	C&H.@*@BT|VOH*	OW< NI C1510166
T+S**/O (-7530	+<=P /3BQOH* C&	H.=&@AT|VOH*OW<E	G 4BB*7| M39*#	G<IT /O (-0A30	(=&M #80C1510167
T+T :OH*3W<BG	ABC P| U39*BG<IT	/O (-0I3ON<=P	/3BQOH* C&H<C*	2F3|VOH*OW<BG	4BC RJ C1510168
T+TA5J30-<=P /3B	OOH* C&H<E*@ 3|	VOH*OW<E&G ABCA	X| *39*BG<IT /O	(-0)30.<=P /3B	OOH* *0&C1510169
T+T80 ABCBG| @	39*BG<IT /O (-	OV3OL<=P /3BQOH*	C&H<Y4 LCFOH*	02@BG<YW-OTN>88@	/& 9JOC1510170
T+TC.C&CS(O#B LE	<(-D39H0 C|:0-D	<BG 4BCC0OH*	2R*BG<YW-OTN> H-	2T|T Q0-2T|V H0	8TM \$D*C1510171
T+TDW%XBG 4BCC	=OH*25& -OH* C&	H<E3 /3HI BG /O	(-1FXBG<YU HXB	G 4BCDYOH*25&	TOH* O#8C1510172
T+TE/ 4BCE OH*	2R*BG<YU-OTN> HM	*.BG 4ECE2(E	1STMA<PH* TN1 %B	G<P| /3GJ4-DC->@	O D M&UC1510173
T+TF*<M7K &O4 LE	20-D <BG A&CF	D0F*2R*BG<YW-OTN	> <-5*0CH(P 23N	I +H5&XBG 4BCF	WOH* 79OC1510174

C151 3340 ATTACHMENT TESTS - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+TGP<YWH--B70H*	C&H< 8EC|50H*	2R*BG<YU&0TN> <H	5&DCB(08 23|S Y=	.T-S>0H* C&H<-E	:BCM JJ&C1510175
T+THK&XBG<-*4BCH	DOH*2SECB(08 23|	S Y=.T-S>+0-5&XB	G<YU 0TN> H# /0	(-2DXBG<YU ,XB	G **** J#HC1510176
T+TI(((-2(XBG<WP	/3HIY<H5&-CHK=	.23|/ Y&D.&CS(08	/0 ** +-E5&7HGACX	D(084BCI(0H*2I*B	G **** KLMC1510177
T+THH+8 5&7HGACD	(084BCIU0H*2I*B	G **** ABCIB+--5&XB	G<YU 8TN>0H* C6	H<YT /3HI +H5&XB	G **** #Z&C1510178
T+T.C(-3EL&AK1D	0 C|E|0H33&BAH>	E L<NG 3A-D* L|	* L70<*3K &HB-C|	K&Z -->D 3&7H&D/0	A<XY 8TDC1510179
T+T.= 60 <X0 CY	<*7K &H11L|=8Y*	)<**37CCG< 8&6C|	K&Z +G D2& D<	<*#K &HBHC|K0I	2YLE M:4C1510180
TET<N L<N< 3AC6	C<8" -K.Y0-D <B	G			80MC1510181
T+T(>&<PR6MA 9-E	9-I 9-(9-J 9-N	9-R 9-) 9-/ &DA	*PE1 8&PS&4C18UC	L5_#P2)PG&E1*P(|	00#6 9ZYC1510182
T+T+Z2)PG&+.E0=|	I5_N 0#G9&XPC&BX	05MCC&-V 6*PA1+T	L5XGD2)PG&+.E0=|	I5_N 0#G7&XPC&BX	05M #JUC1510183
TIC|+6*N-8>|A6i|	E1 D - CABCI&H	4AH0 AD B& H(0	7 K_H		4LYC1510184
T CNS					:9DC1510185
E***E7**=DC*PHS	=*7M&F| | C	FX ASC R A S0 0		09290630750	10776**8C1510186

----- LAST PAGE -----



C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

LAST CHG :05 20 REH

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0000		2 *		DECK 4	36				*****
		3		SEQ 0	37				*
		4		TREP	38				SECTION ENTRY
		5		START 0	39				*
		6 C163		*****	40				*****
		7		*****	41				*
		8 *		SECTION PREFACE	42	0A3A 01	0A3A	DC	XL1*01*
		9 *		*****	43	0A3B 00	0A3B	DC	XL1*00*
		10 *		*****	44	0A3C FFFF	0A3D	DC	XL2*FFFF*
		11		*****	45				ROUTINE 01
0A00		12 *		*****	46	0A3E 38 80 1104		TBN	IND,BGNSW
		13	ORG	X*0A00*	47	0A42 C0 90 1174		BF	LDAMOP
		14 *		*****	48				GO TO INITIALIZATION
0A00 C163	0A01	15 PID	DC	XL2*C163*	49			TBN	COM,AMOPSW
0A02 00	0A02	16	DC	XL1*00*	50			BT	AMOP+2
0A03 01	0A03	17 RTN	DC	XL1*01*	51				BRANCH IF AMOP WAS
0A04 0000	0A05	18	DC	XL2*0000*	52				ABNORMALLY TERMINATED
0A06 0A3A	0A07	19 PFC	DC	AL2(RTNPFC)	53			CLC	LDID(1),FA1TBL+2
0A08 FFFF	0A09	20	DC	XL2*FFFF*	54			JE	SEARCH
		21 *		*****	55	0A57 C0 87 021A		B	PRINT
0A0A C14000	0A0C	22 UDT0	DC	XL3*C14000*	56	0A5B 46	0A5B	DC	XL1*46*
0A0D 101000	0A0F	23 UDT1	DC	XL3*101000*	57	0A5C 17	0A5C	DC	AL1(MSG02N-MSG02+1)
0A10	0A18	24	DS	XL9	58	0A5D 1077	0A5E	DC	AL2(MSG02N)
		25 *		*****	59	0A5F C100	0A60	DC	AL2(HLT00)
0A19 00	0A19	26 COM	DC	XL1*00*	60				PRINT
0A1A	0A1A	27	DS	XL1	61			MVC	CSAK(2),NULLS
		28 *		*****	62	0A61 0C 01 1118 10DA		MVI	PTR,X*14*
0A1B 0000	0A1C	29 LDRID	DC	XL2*0000*	63	0A67 3C 14 1119		MVI	INDEX,X*BF*
0A1D	0A1E	30 AMOPID	DS	AL2	64	0A6B 3C BF 111A			MICRO DIAGNOSTICS
0A1F 0000	0A20	31 FA0ID	DC	XL2*0000*	65			B	READY MESSAGE
		32 *		*****	66				GO TO START MICRO-PROGRAM
0A21	0A39	33 SVPFC	DS	XL25		0A6F C0 87 0C4B			
		34 *		*****					

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

68 *****
69 *
70 *          CLEAR CONTROL STORE OVERLAY AREA
71 *
72 *****
73 *
0A73 0C 01 1118 101B 74 OVNLY  HVC  CSAR(2),X0700  INITIALIZE CONTROL STORE ADDR
75 *
0A79 0C 07 0EE1 76 OVRLY1 B  CSAR  LOAD CS ADDR REG
0A7D 0C 02 1118 10EE 77 HVC  DPREG(3),PARITY  WRITE CONTROL STORE
0A83 0C 07 0F12 78 B  WRCS
79 *
0A87 0E 01 1118 10DC 80 ALC  CSAR(2),ONE  ADVANCE CONTROL STORE ADDR
81 *
0A8D 3E 00 1118 82 TRN  CSAR(8),B111  LOOP UNTIL
0A91 0C 90 0A79 83 BF  OVRLY1  BLOCK IS INITIALIZED
84 *
0A95 3C 00 1118 84 HVI  CSAR(0)  RESET DISPLACEMENT
86 *
0A99 3D 08 1117 87 CL1  CSAR(8),X10B1  BRANCH IF SECOND
0A9D 0C 01 0AA9 88 BE  SEARCH  BLOCK HAS BEEN INITIALIZED
89 *
0AA1 3C 08 1117 90 HVI  CSAR(8),X10B1  INITIALIZE
0AA5 0C 07 0A79 91 B  OVRLY1  SECOND BLOCK
92 *

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```

94 *****
95 *
96 *          SEARCH MAIN STORE FOR REQUIRED MICRO-PROGRAM LOAD
97 *
98 *****
99 *
100 SEARCH L  MSPTA,XR1  POINT TO BEGINNING OF STG AREA
101 *
102 SCH01 LA  B(XR1),XR1  ADVANCE MAIN STORE POINTER
103 *
104 SCH02 TRN  0(XR1),X1FO1  LOOP UNTIL MAIN STORE
105 BF  SCH01  DELIMITER BYTE IS FOUND
106 *
107 CL1  0(XR1),LDADR  BRANCH IF NOT
108 JNE  SCH03  START OF LOAD DELIMITER
109 *
110 CLC  2(XR1),LDID  GO TO LOAD CONTROL
111 BE  LDCS  STORE IF REQUIRED LOAD FOUND
112 *
113 SCH03 CL1  0(XR1),TERM  BRANCH IF REQUIRED
114 BE  LDFAX  LOAD IS NOT IN MAIN STORE
115 *
116 CL1  0(XR1),MSADR  CONTINUE SEARCH IF NOT
117 BNE  SCH01  MAIN STORE ADDRESS DELIMITER
118 *
119 L  2(XR1),XR1  SETUP NEW MAIN STORE
120 B  SCH02  POINTER AND CONTINUE SEARCH
121 *

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C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

1163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

123 *****
124 *
125 *          LOAD MICROCODE INTO CONTROL STORAGE
126 *
127 *****
128 *
OADB 02 01 03      129 LDCS   LA   3(,XR1),XR1      ADVANCE
OADE 7D F2 00      130      CLI  0(,XR1),MSADR      MAIN STORE
OAE1 F2 01 03      131      JNE  LDCS01          POINTER
OAE4 75 01 02      132      L   2(,XR1),XR1
133 *
OAE7 7D F1 00      134 LDCS01 CLI  0(,XR1),CSADR      BRANCH IF NOT
OAEA F2 01 09      135      JNE  LDCS02          CONTROL STORE ADDR WORD
136 *
OAE8 1C 01 1118 02 137      MVC  CSAR,2(2,XR1)      SETUP CONTROL STORE ADDRESS
OAF2 C0 87 0ADB    138      B   LDCS                GO TO ADVANCE MAIN STORE PTR
139 *
OAF6 78 F0 00      140 LDCS02 TBN  0(,XR1),X'F0'      BRANCH IF CONTROL
OAF9 F2 10 4B      141      JT   REPCS                STORE LOAD IS COMPLETE
142 *
OAF0 C0 87 0EEE    143      B   LCSAR                LOAD CONTROL STORE ADDR REG
144 *
OB00 0E 00 1118 10DC 145      ALC  CSARD(1),ONE          ADVANCE CONTROL STORE ADDRESS
146 *
OB06 1C 02 1116 02 147      MVC  OPREG,2(3,XR1)        GET CONTROL STORE DATA
OB08 3B E0 1114    148      SBF  C,X'EO'              RESET UNUSED BITS
149 *
OB0F C0 87 0F12    150 LDCS03 B   WRCS                WRITE CONTROL
OB13 C0 87 0F26    151      B   RDCS                STORE AND READ BACK
152 *
OB17 0D 02 1116 1112 153      CLC  OPREG(3),SVPIN+2      LOOP BACK IF NO
OB1D C0 81 0ADB    154      BE  LDCS                CONTROL STORE ERROR
155 *
OB21 79 80 00      156      TBF  0(,XR1),BIT0        BRANCH IF ERROR
OB24 39 20 1114    157      TBF  C,BIT2              IS UNCORRECTABLE
OB28 F2 90 08      158      JF   CSERR
159 *
OB2B 3A 20 1114    160      SBN  C,BIT2              SET INVERT BIT
OB2F C0 87 0B0F    161      B   LDCS03             AND GO TO RETRY
162 *
OB33 C0 87 021A    163 CSERR  B   PRINT                PRINT
OB37 C6           164      DC   XL1'C6'            CONTROL STORE
OB38 18           165      DC   AL1(MSG03N-MSG03+1)  ERROR MESSAGE
OB39 108F        166      DC   AL2(MSG03N)
OB3B C101        167      DC   AL2(HLT01)
168 *
OB3D C0 87 0222    169      B   HALT                ERROR HALT 01
OB41 C101        170      DC   AL2(HLT01)
171 *
OB43 C0 87 0A73    172      B   OVRLAY             GO TO RETRY CS LOAD PROCEDURE
173 *

```

```

175 *****
176 *
177 *          MODIFY CONTROL STORE WITH PATCH AREA DATA
178 *
179 *          PATCH FORMAT - (PATCH AREA 8000 - 80FF)
180 *
181 *          XXXYYYYZZZZZ.....
182 *          WHERE X = LOAD ID ( 1 BYTE )
183 *          Y = CS ADDR ( 2 BYTES )
184 *          Z = DATA ( MULTIPLES OF 3 BYTES )
185 *          NOTE: HI ORDER BIT OF Y HAS FOLLOWING SIGNIFICANCE -
186 *          OFF - INSTRUCTION FOLLOWS, ON - DATA LEFT FOLLOWS
187 *
188 *          HI ORDER BIT OF Z HAS FOLLOWING SIGNIFICANCE -
189 *          OFF - INSTRUCTION, ON - DATA (LEFT OR RIGHT)
190 *****
191 *
192 REPCS  LA   PATCH,XR1          POINT TO PATCH AREA
193 *
194 REPO1  CLI  0(,XR1),TERM      BRANCH IF PATCH
195      JE   REPX                TERMINATOR BYTE
196 *
197      CLC  0(1,XR1),LDID        BRANCH IF
198      JE   REPO4                APPLICABLE PATCH FOUND
199 *
200 REPO2  LA   3(,XR1),XR1      LOOP
201      CLI  0(,XR1),TERM        UNTIL NEXT
202      BNE  REPO2                TERMINATOR FOUND
203 *
204      J   REPX                GO CHECK FOR END OF PATCH AREA
205 *
206 REPO4  MVC  CSAR,2(2,XR1)      SAVE CONTROL STORE ADDRESS
207 *
208      LA   3(,XR1),XR1        ADVANCE MAIN STORE POINTER
209 *
210 REPO5  B   LCSAR                LOAD CONTROL STORE ADDR REG
211 *
212      MVC  OPREG,2(3,XR1)      GET CONTROL STORE DATA
213 *
214      TBN  C,BIT0              BRANCH IF
215      JF   REP12              MICRO-INSTRUCTION PATCH
216 *
217      B   RDCS                READ CONTROL STORE
218 *
219      TBN  CSARD,BIT0          BRANCH IF
220      JF   REPO6              LEFT CONTROL STORE PATCH
221 *
222      MVC  CR(1),SVPIN+1      RETAIN LEFT DATA BYTE
223      J   REPO7                SKIP NEXT INSTRUCTION
224 *
225 REPO6  MVC  Y(1),SVPIN+2      RETAIN RIGHT DATA BYTE
226 *
227 REPO7  MVC  WORK+1(2),Y        DATA BYTES ('CR' & 'Y') TO
228 *          WORK AREA
229 REPO8  ALC  WORK+1(1),WORK+1  GENERATE
230      JNOL REPO9                RIGHT DATA
231      ALC  C(1),TWO            PARITY BIT
232 REPO9  BNZ  REPO8
233 *
234      SBF  C,X'FD'            RESET UNUSED BITS
235 *
236 REPO10 ALC  WORK(1),WORK      GENERATE
237      JNOL REP11              LEFT DATA
238      ALC  C(1),EIGHT         PARITY BIT
239 REPO11 BNZ  REP10
240 *
241      SBF  C,X'F5'            RESET UNUSED BITS
242      SBN  C,X'10'            SET PARITY BIT

```

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

OBD0 F2 87 1E 243 *
 244 J REP15
 OBD3 OC 02 111E 1116 245 *
 246 REP12 MVC WORKN(3),OPREG
 247 *
 OBD9 OE 00 1114 10E9 248 REP13 ALC C(1),X10
 OBD9 OE 02 111E 111E 249 REP14 ALC WORKN(3),WORKN
 OBE5 CO A0 OBD9 250 BOL REP13
 OBE9 CO 01 OBD9 251 BNZ REP14
 252 *
 OBED 3B E0 1114 253 SBF C,X'E0'
 254 *
 OBF1 CO 87 OF12 255 REP15 B WRCS
 OBF5 CO 87 OF26 256 B RDCS
 257 *
 OBF9 OD 02 1116 1114 258 CLC OPREG(3),SVPIN*2
 OBF9 F2 81 10 259 JE REP16
 260 *
 OC02 39 A0 1114 261 TBF C,BIT0+BIT2
 OC06 CO 90 0B33 262 BF CSERR
 263 *
 OCOA 3A 20 1114 264 SBN C,BIT2
 OCOE CO 87 OBF1 265 B REP15
 266 *
 OC12 OE 00 1118 10DC 267 REP16 ALC CSARD(1),ONE
 OC18 D2 01 03 268 LA 3(XR1),XR1
 269 *
 OC1B 7D FF 00 270 CLI O(XR1),TERM
 OC1E CO 01 0B6E 271 BNE REPO5
 272 *
 OC22 D2 01 01 273 REPX LA 1(XR1),XR1
 OC25 34 01 111E 274 ST WORKN,XR1
 OC29 38 08 111D 275 TBN WORKN-1,BIT4
 OC2D CO 90 0B4B 276 BF REPO1
 277 *
 OC31 OD 00 110F 0FAE 278 CLC LDID(1),FA1TBL+2
 OC37 CO 81 0A57 279 BE RESTR1
 280 *
 OC3B 3C 0A 1117 281 MVI CSARB,X'0A'
 OC3F 3C 00 1118 282 MVI CSARD,X'00'
 OC43 3C 18 1119 283 MVI PTR,X'18'
 OC47 3C C1 111A 284 MVI INDEX,X'C1'
 285 *

GO TO WRITE CONTROL STORE
 CONTROL STORE DATA TO WORK AREA
 GENERATE MICRO-WORD PARITY BIT
 RESET UNUSED BITS
 WRITE CONTROL STORE AND READ BACK I4
 BRANCH IF NO CONTROL STORE ERROR
 GO TO ERROR HALT IF UNCORRECTABLE ERROR
 SET INVERT BIT AND GO TO RETRY
 ADVANCE CONTROL STORE ADDR ADVANCE MAIN STORE POINTER
 LOOP UNTIL TERMINATOR FOUND
 LOOP UNTIL END OF PATCH AREA (LOC 77FF) REH
 BRANCH IF MICRO-DIAGNOSTIC MONITOR WAS JUST LOADED
 MAIN IAR = 0A00
 POINTER = 6
 INDEX = X'C1'

287 *****
 288 *
 289 * START MICRO-PROGRAM EXECUTION
 290 *
 291 *****
 292 *
 293 GO LA EXTBL,XR1 POINT TO EXT REG ADDR TABLE
 294 *
 295 GO1 MVC OPREG(3),NULLS CLEAR UP REG FIELD
 296 *
 297 B LOP LOAD OP REG
 298 *
 299 LIO LEXTZ,X'C5' R4-R7 --> EXTERNAL ZONE REG
 300 *
 301 MVC Y,1(2,XR1) EXT ADDR & DATA --> OP CR & Y
 302 *
 303 GO2 B LOP LOAD OP REG
 304 *
 305 LIO LEXTAR,X'C5' R3-R7 --> EXT ADDR REG (EXTAR)
 306 LIO LALUD,X'C5' OP REG Y --> A REG --> D REG
 307 LIO LEXT,X'C5' D REG --> EXTERNAL REG
 308 *
 309 LA 2(XR1),XR1 ADVANCE EXT ADDR TBL POINTER
 310 *
 311 CLI O(XR1),TERM LOOP UNTIL
 312 BNE GO1 END OF ADDRESS TABLE
 313 *
 314 MVI C,X'06' BUILD
 315 MVC CR(1),PTR 'SMODE'
 316 SBN CR,BIT0 MICRO-INSTRUCTION
 317 MVI Y,X'80'
 318 *
 319 B LXOP EXECUTE 'SMODE' INSTRUCTION
 320 *
 321 MVI C,X'02' BUILD 'SABI'
 322 MVC Y(1),CSARB MICRO-INSTRUCTION
 323 *
 324 B LXOP EXECUTE 'SABI' INSTRUCTION
 325 *
 326 SBN CR,BIT2 BUILD 'SADI' MICRO-INSTRUCTION
 327 MVC Y(1),CSARD MICRO-INSTRUCTION
 328 *
 329 B LXOP EXECUTE 'SADI' INSTRUCTION
 330 *
 331 MVC CR(1),INDEX BUILD 'SABI'
 332 MVC Y(1),INDEX OR 'SADI' MICRO-
 333 ALC CR(1),CR INSTRUCTION TO
 334 SBF CR,BIT1 STORE INDEX VALUE IN ALS
 335 SBN CR,BIT0+BIT7
 336 *
 337 B LXOP EXECUTE MICRO-INSTRUCTION
 338 *
 339 LIO LINDEX,X'C5' LOAD INDEX REGISTER
 340 LIO INACC,X'C5' INITIAL ACCESS CYCLE
 341 *
 342 MVI K,0 RESET ALL K REG BITS
 343 *
 344 TBN COM,ADRSTP SKIP IF NO
 345 JF GO3 ADDR STOP IS SET
 346 *
 347 SBN K,BIT5 SET K REG ADDR STOP BIT
 348 *
 349 GO3 LIO KREG,X'C5' LOAD K REG FOR RUN MODE
 350 LIO RSPCR,X'C5' RESET PCR AND X REG
 351 *
 352 TBN IND,AMOPIN BRANCH IF
 353 BF GO4 AMOP NOT ENABLED
 354 *

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
OCF3	30 00 110C	355	SNS	SWS,0 * AMOP * SENSE DATA SWS
OCF7	3D 81 110B	356	CLI	LINKID,X'81' * LINK * AND GO TO AMOP IF
OCFB	C0 81 4002	357	BE	AMOP+2 * '81' * SWS 1 & 2 CONTAIN '81'
		358 *		
OCFF	31 C5 10C8	359	GO4	LIO RUNMP,X'C5' START MICRO-PROCESSOR
		360 *		
OD03	3D 01 111B	361	CLI	CSARD,X'01' BRANCH IF NO MICRO-
OD07	C0 01 0D11	362	BNE	IDLE PROCESSOR HALT ERROR
		363 *		
ODOB	C0 87 0222	364	B	HALT ERROR HALT 01
ODOF	C101	365	DC	AL2(HLT01)
		366 *		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		368		*****
		369 *		
		370 *		WAIT FOR ROUTINE LOAD REQUEST FROM MICRO-DIAGNOSTIC MONITOR
		371 *		
		372		*****
		373 *		
OD11	C0 87 0212	374	IDLE B	TEST ALLOW OPERATOR INTERVENTION
		375 *		
OD15	3C 00 110B	376	MVI	SWS-1,0 CLEAR DATA SW SENSE AREA
		377 *		
OD19	38 40 1104	378	TBN	IND,AMOPIN BRANCH IF
OD1D	F2 90 0C	379	JF	IDLEO AMOP NOT ENABLED
		380 *		
OD20	30 00 110C	381	SNS	SWS,0 * AMOP * SENSE DATA SWS
OD24	3D 82 110B	382	CLI	LINKID,X'82' * LINK * AND GO TO AMOP IF
OD28	C0 81 4002	383	BE	AMOP+2 * '82' * SWS 1 & 2 CONTAIN '82'
		384 *		
OD2C	31 C7 10AE	385	IDLEO	LIO SIDLE,X'C7' SENSE
OD30	30 C7 111E	386	SNS	WORKN,X'C7' IDLE STATUS
		387 *		
OD34	38 01 111E	388	TBN	WORKN,BIT7 BRANCH IF
OD38	F2 90 35	389	JF	PCR PCR REQUEST
		390 *		
OD3B	38 02 111E	391	TBN	WORKN,BIT6 LOOP IF MICRO-
OD3F	C0 90 0D11	392	BF	IDLE PROCESSOR IS STILL RUNNING
		393 *		
OD43	38 80 0A19	394	TBN	COM,ADRSTP BRANCH IF NO
OD47	F2 90 08	395	JF	IDLE1 ADDRESS STOP EXPECTED
		396 *		
OD4A	C0 87 4002	397	B	AMCP+2 EXECUTE AMOP
OD4E	C0 87 0D11	398	B	IDLE RETURN TO IDLE LOOP
		399 *		
OD52	C0 87 021A	400	IDLE1	B PRINT
OD56	C6	401	DC	XL1'C6' PRINT
OD57	19	402	DC	AL1(MSG04N-MSG04+1) MICRO-PROCESSOR
OD58	10A8	403	DC	AL2(MSG04N) HALTED MESSAGE
OD5A	C101	404	DC	AL2(HLT01)
		405 *		
OD5C	3C 08 1117	406	MVI	CSARB,X'0B' MAIN IAR = 0B01
OD60	3C 01 111B	407	MVI	CSARD,X'01' POINTER = 6
OD64	3C 18 1119	408	MVI	PTR,X'18' INDEX = X'C1'
OD68	3C C1 111A	409	MVI	INDEX,X'C1'
		410 *		
OD6C	C0 87 0C4B	411	B	GO GO TO RESTART MICRO-PROCESSOR
		412 *		
OD70	3D 83 110B	413	PCR	CLI LINKID,X'83' * AMOP * GO TO AMOP IF DATA
OD74	C0 81 4002	414	BE	AMOP+2 * LINK * SWS 1 & 2 CONTAIN '83'
		415 *		
OD78	31 C7 10C2	416	LIO	SNSX,X'C7' SENSE
OD7C	30 C7 111E	417	SNS	WORKN,X'C7' X REG
		418 *		
OD80	0C 00 110F 111E	419	MVC	LDID(1),WORKN SAVE X REG VALUE SENSED
		420 *		
OD86	31 C5 10AA	421	LIO	RSPCR,X'C5' RESET PCR REQ AND X REG
OD8A	31 C5 10B6	422	LIO	SVPR,X'C5' SET SVP REQUEST
		423 *		
OD8E	3D FE 110F	424	CLI	LDID,X'FE' LOOP BACK IF
OD92	C0 81 0D11	425	BE	IDLE NOT LOAD ID FROM X REG
		426 *		
OD96	3D 00 110F	427	CLI	LDID,0 BRANCH IF
OD9A	C0 81 0D0C	428	BE	INVALID INVALID LOAD ID
		429 *		
OD9E	C0 87 0A73	430	B	OVRLAY GO TO FIND REQUIRED LOAD
		431 *		

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C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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433 *****
434 *
435 *   LOAD DIAGNOSTIC MICROCODE SECTION (FA1-FA5) INTO MAIN STG
436 *
437 *****
438 *
439 LDFAX  LA   IDTBL-1,XR1      POINT TO LOAD ID TABLES
440 *
441 FAX01  CLI  1(,XR1),TERM     BRANCH IF NOT
442 JNE    FAX02                YET END OF TABLES
443 *
444 INVALD MVI  CSARB,X*0B*     MAIN IAR = 0B00
445 MVI    CSARD,X*00*         POINTER = 6
446 MVI    PTR,X*18*          INDEX = X*C1*
447 MVI    INDEX,X*C1*
448 *
449 B      GO                   GO TO RESTART MICRO-PROCESSOR
450 *
451 FAX02  MVC  MSGO1N,1(1,XR1)  SETUP 'LOADING FAX' MESSAGE
452 *
453 LA     2(,XR1),XR1         ADVANCE TABLE POINTER
454 *
455 FAX03  LA   1(,XR1),XR1     ADVANCE TABLE POINTER
456 *
457 CLI    0(,XR1),TERM       BRANCH IF
458 BE     FAX01              END OF TABLE
459 *
460 CLC    0(1,XR1),LDID      LOOP IF REQUESTED
461 BNE    FAX03             LOAD ID NOT YET FOUND
462 *
463 B      PRINT              PRINT
464 DC     XL1*46*            'LOADING SECTION FAX'
465 DC     AL1(MSGO1N-MSGO1+1)
466 DC     AL2(MSGO1N)
467 DC     AL2(HLT00)
468 *
469 L      MSPTR,XR1         SETUP MAIN STORE POINTER
470 *
471 NXREC  B      LOAD        DJL
472 DC     XL1*10*
473 *
474 CLC    REC+74(3),XFA1     CHECK FOR COMPRESSED
475 JL     CMPRS             RECORD,IF SO CONTINUE
476 CLC    REC+74(3),XFA5
477 JNH    CKTYPE
478 *
479 CMPRS  LA   RECN,XR2     UNCOMPRESSED DATA MUST BE
480 *                               POINT TO MICROCODE RECORD
481 MVI    S1+1,0
482 MVC    S2+1(1),S1+1     SETUP BYTE COUNT
483 *                               IN ALC INSTRUCTIONS
484 CLI    0(,XR2),X*DO*     CHANGE ANY HEX *DO*
485 JNE    S1                BYTE IN MICROCODE
486 MVI    0(,XR2),X*2A*    RECORD TO HEX *2A*
487 *
488 S1    ALC  RECN(*-*),RECN SHIFT OFF TWO UNUSED BITS
489 S2    ALC  RECN(*-*),RECN FROM EACH BYTE IN RECORD
490 *
491 A      NEG1,XR2         UPDATE RECORD POINTER
492 *
493 ALC    S1+1(1),ONE      UPDATE SHIFT BYTE COUNT
494 *
495 CLI    S1+1,RECN-REC    LOOP UNTIL ALL UNUSED BITS HAVE
496 BL     CMP01           BEEN SHIFTED OUT OF RECORD
497 *
498 CKTYPE L      MSPTR,XR2 SETUP MAIN STORE POINTER
499 *
500 CLI    REC+1,X*70*     BRANCH IF LOAD

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501 JE     HDR             HEADER RECORD
502 *
503 CLI    REC+1,C*T*     BRANCH IF
504 JE     TEXT           MICROCODE TEXT RECORD
505 *
506 CLI    REC+1,C*E*     BRANCH IF
507 JE     END           END RECORD
508 *
509 B      NXREC         GO TO READ NEXT RECORD
510 *
511 HDR   CLI    REC+11,X*01* SKIP IF NOT MICRO-
512 JNE    HDRO1        DIAGNOSTIC MONITOR CODE DJL
513 *
514 SBN    IND,BYPASS    SET MONITOR BYPASS INDICATOR
515 *
516 CLC    LDID(1),FAITBL+2 BRANCH IF MONITOR
517 BNE    NXREC        IS NOT BEING LOADED
518 *
519 HDRO1 SBF  IND,BYPASS  RESET MONITOR BYPASS INDICATOR
520 MVI    CSARB,X*FF*   FORCE CS ADDR STG ON 1ST TEXT
521 MVI    0(,XR2),LDADR SET LOAD DELIMITER IN MAIN STG
522 MVI    0(,XR1),TERM MOVE END DELIMITER
523 MVC    2(2,XR1),REC+11 MOVE LOAD ID TO MAIN STORAGE
524 *
525 ST     MSPTR,XR1    UPDATE MAIN
526 LA    0(,XR1),XR2  STORE POINTERS
527 *
528 LA    3(,XR1),XR1  ADVANCE
529 CLI   0(,XR1),MSADR MAIN STORE
530 BNE   NXREC        ADDRESS POINTER
531 L     2(,XR1),XR1
532 B     NXREC
533 *
534 BTN   IND,BYPASS  GO TO READ NEXT IF MONITOR
535 BT    NXREC      BYPASS INDICATOR IS ON
536 *
537 LA    REC+10,XR2  POINT TO DATA AREA OF RECORD
538 *
539 CLC   REC+9(2),CSAR BRANCH IF SEQUENTIAL
540 JE    TXT02      CONTROL STORE ADDRESS
541 *
542 MVI   0(,XR1),CSADR MOVE DELIMITER AND
543 MVC   2(2,XR1),REC+9 CS ADDR TO MAIN STORE
544 *
545 MVC   CSAR(2),REC+9 SAVE CONTROL STORE ADDR
546 *
547 TXTO1 LA  3(,XR1),XR1  ADVANCE
548 CLI   0(,XR1),MSADR MAIN STORE
549 JNE   TXT02      POINTER
550 L     2(,XR1),XR1
551 *
552 TXTO2 CLI  REC+6,0   BRANCH IF
553 BE    NXREC      END OF TEXT RECORD
554 *
555 MVC   2(3,XR1),2(,XR2) MOVE TEXT TO MAIN STORE
556 *
557 LA    3(,XR2),XR2  ADVANCE TEXT POINTER
558 ALC   CSARD(1),ONE ADVANCE CONTROL STORE ADDR
559 SLC   REC+6(1),THREE DECREMENT DATA BYTE COUNT
560 B     TXTO1       GO TO PROCESS NEXT MICROWORD
561 *
562 END   MVI   0(,XR2),LDADR STORE LAST LOAD DELIMITER
563 MVI   0(,XR1),TERM STORE END OF STG DELIMITER
564 ST    MSPTR,XR1  SAVE END OF STG ADDRESS
565 *
566 B     SEARCH     GO TO LOAD REQUIRED MICROCODE
567 *

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C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

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ERR LOC OBJECT CODE   ADDR STMT SOURCE STATEMENT
569 *****
570 *
571 *           SVP INTERFACE CONTROL SUBROUTINES
572 *
573 *****
574 *
575 *           LOAD CONTROL STORAGE ADDRESS REGISTER (CSAR)
576 *
577 *
OEEE 34 08 OF11      578 LCSAR   ST   LCSARX+3,ARR   SAVE RETURN ADDRESS
579 *
580 *           MVI   C,0           X'00' --> OP REG C FIELD
581 *           MVC   CR(1),CSARB   CSAR(B) VALUE --> OP REG CR FLD
582 *           MVC   Y(1),CSARD   CSAR(D) VALUE --> OP REG Y FLD
583 *
584 *           B     LOP           LOAD OP REG
585 *
586 *           LIO   LALUD,X'C5'   OP REG Y --> A REG --> D REG
587 *           LIO   LDOSAR,X'C5' CS ADDR --> CSAR
588 *
589 *           LCSARX B   *--*    RETURN TO CALLING ROUTINE
590 *
591 *-----
592 *           WRITE CONTROL STORAGE
593 *
594 *           WRCS  ST   WRCSX+3,ARR   SAVE RETURN ADDRESS
595 *
596 *           B     LOP           LOAD OP REG
597 *
598 *           LIO   WRCSL,X'C5'   WRITE CONTROL STORE LEFT
599 *           LIO   WRCSR,X'C5'   WRITE CONTROL STORE RIGHT
600 *
601 *           WRCSX B   *--*    RETURN TO CALLING ROUTINE
602 *
603 *-----
604 *           READ CONTROL STORAGE
605 *
606 *           RDCS  ST   RDCSX+3,ARR   SAVE RETURN ADDRESS
607 *
608 *           LIO   CSACC,X'C5'   CONTROL STORE --> OP REG
609 *
610 *           B     SOP           SENSE OP REGISTER
611 *
612 *           RDCSX B   *--*    RETURN TO CALLING ROUTINE
613 *
614 *-----
615 *           LOAD OP REG AND EXECUTE MICRO-INSTRUCTION
616 *
617 *           LXOP  ST   LXOPX+3,ARR   SAVE RETURN ADDRESS
618 *
619 *           B     LOP           LOAD OP REG
620 *
621 *           LIO   K04,X'C5'     RESET K2 (SERVICE MODE)
622 *           LIO   PRDC,X'C5'   SERVICE PROCESS CYCLE
623 *           LIO   K024,X'C5'   SET SERVICE MODE
624 *
625 *           LXOPX B   *--*    RETURN TO CALLING ROUTINE
626 *
627 *-----
628 *           LOAD OP REGISTER
629 *
630 *           LOP   ST   LOPX+3,ARR   SAVE RETURN ADDRESS
631 *
632 *           LIO   K04,X'C5'     HALT MICRO-PROCESSOR
633 *           LIO   K024,X'C5'   SET K4 (SERVICE MODE)
634 *
635 *           MVI   WORKN,X'08'   BUILD SVP
636 *           MVC   WORKN-1(1),C  INTERFACE CONTROL

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ERR LOC OBJECT CODE   ADDR STMT SOURCE STATEMENT
637 *           LIO   WORKN,X'C5'   LOAD OP REG C
638 *
639 *           SBN   WORKN,BIT6     BUILD SVP
640 *           MVC   WORKN-1(1),CR  INTERFACE CONTROL
641 *           LIO   WORKN,X'C5'   LOAD OP REG CR
642 *
643 *           SBN   WORKN,BIT7     BUILD SVP
644 *           MVC   WORKN-1(1),Y   INTERFACE CONTROL
645 *           LIO   WORKN,X'C5'   LOAD OP REG Y
646 *
647 *           LOPX  B   *--*    RETURN TO CALLING ROUTINE
648 *
649 *-----
650 *           SENSE OP REG
651 *
652 *           SOP   ST   SOPX+3,ARR   SAVE RETURN ADDRESS
653 *
654 *           LIO   SOPC,X'C7'     SENSE OP REG C
655 *           SNS   WORKN,X'C7'   SENSE OP REG CR AND Y
656 *           LIO   SOPCR,X'C7'
657 *           SNS   SVPIN+1,X'C7'
658 *
659 *           MVC   SVPIN+2(1),SVPIN  MOVE VALUES SENSED
660 *           MVC   SVPIN(1),WORKN   TO INPUT WORK AREA
661 *
662 *           SOPX  B   *--*    RETURN TO CALLING ROUTINE
663 *

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C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
11D2	13C7	11D3	877	DC AL2(MSGT3N)
11D4	C1E8	11D5	878	DC AL2(HLTE8)
			879 *	
11D6	C0 87 0222		880	B HALT HALT EB
11DA	C1E8	11DE	881	DC AL2(HLTE8)
			882 *	
11DC	C0 87 022A		883	B LOAD TERMINATE SECTION
11E0	00	11E0	884	DC XL1'00'
			885 *	
			886 *	
			887 *	RESET MICROPROCESSOR CLOCK
			888 *	
11E1	3A 10 1104	889	BGN00	SBN IND,CDIPL SET 'CARD IPL' INDICATOR
			890 *	
11E5	3D 51 0232	891		CLI UTAB,X'51' SKIP IF
11E9	F2 81 12	892		JE BGN01 IPL FROM
11EC	3D F0 0232	893		CLI UTAB,X'F0' ANY CARD
11FO	F2 81 0B	894		JE BGN01 DEVICE
11F3	3D 40 0232	895		CLI UTAB,X'40'
11F7	F2 81 04	896		JE BGN01
			897 *	
11FA	3B 10 1104	898		SBF IND,CDIPL RESET 'CARD IPL' INDICATOR
			899 *	
11FE	F3 C4 7E	900	BGN01	SIO X'7E',X'C4' RESET AND DISABLE 3340 INTRPS
			901 *	
1201	31 C5 10B0	902		LIO K04,X'C5' SET K0 AND K4 (HALT IOP)
1205	31 C5 10B4	903		LIO K034,X'C5' SET K3 (CLOCK RESET)
			904 *	
			905 *	
			906 *	RESET EXTERNAL REGISTERS
			907 *	
1209	C2 01 10EF	908		LA EXTBL,XR1 POINT TO EXT REG ADDR TABLE
			909 *	
120D	3C 00 1114	910		MVI C,0 CLEAR OP REG
1211	3C 00 1116	911		MVI Y,0 C AND Y FIELDS
			912 *	
1215	3C 00 1115	913	EXTRST	MVI CR,0 CLEAR OP REG CR FIELD
1219	C0 87 0F4E	914		B LOP LOAD OP REG
			915 *	
121D	31 C5 10C0	916		LIO LEXTZ,X'C5' R4-R7 --> EXTERNAL ZONE REG
			917 *	
1221	1C 01 1116 01	918		MVC Y,1(2,XR1) EXT ADDR & DATA --> OP CR & Y
1226	C0 87 0F4E	919		B LOP LOAD OP REG
			920 *	
122A	31 C5 10BE	921		LIO LEXTAR,X'C5' R3-R7 --> EXT ADDR REG (EXTAR)
122E	31 C5 10D6	922		LIO LALUD,X'C5' OP REG Y --> A REG --> D REG
1232	31 C5 10C4	923		LIO LEXT,X'C5' D REG --> EXTERNAL REG
			924 *	
1236	D2 01 02	925		LA 2(,XR1),XR1 ADVANCE EXT ADDR TBL POINTER
			926 *	
1239	7D FF 00	927		CLI O(,XR1),X'FF' LOOP UNTIL
123C	C0 01 1215	928		BNE EXTRST END OF ADDRESS TABLE
			929 *	
			930 *	
			931 *	RESET MODE BUFFER
			932 *	
1240	3C 06 1114	933		MVI C,X'06' BUILD
1244	3C 80 1115	934		MVI CR,X'80' 'SMODE'
1248	3C 80 1116	935		MVI Y,X'80' MICRO-INSTRUCTION
			936 *	
124C	C0 87 0F36	937	MBRST	B LXOP EXECUTE 'SMODE' INSTRUCTION
			938 *	
1250	0E 00 1115 10E2	939		ALC CR(1),FOUR ADVANCE MODE BUFFER ADDRESS
			940 *	
1256	38 20 1115	941		TBN CR,BIT2 LOOP UNTIL ALL MODE BUFFER
125A	C0 90 124C	942		BF MBRST LOCATIONS HAVE BEEN RESET
			943 *	
			944 *	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
			945 *	INITIALIZE ADDRESS LCCAL STORE (ALS)
			946 *	
125E	3C 02 1114	947		MVI C,X'02' BUILD 'SABI'
1262	3C 80 1115	948		MVI CR,X'80' MICRO-INSTRUCTION
1266	3C 00 1116	949		MVI Y,0
			950 *	
126A	C0 87 0F36	951	ALSLD	B LXOP EXECUTE 'SABI' INSTRUCTION
			952 *	
126E	3A 20 1115	953		SBN CR,BIT2 BUILD 'SADI' MICRO-INSTRUCTION
1272	C0 87 0F36	954		B LXOP EXECUTE 'SADI' INSTRUCTION
			955 *	
1276	3B 20 1115	956		SBF CR,BIT2 BUILD 'SABI' MICRO-INSTRUCTION
127A	0E 00 1115 10DC	957		ALC CR(1),ONE ADVANCE ALS ADDRESS
			958 *	
1280	38 20 1115	959		TBN CR,BIT2 LOOP UNTIL ALL ALS LOCATIONS
1284	C0 90 126A	960		BF ALSLD HAVE BEEN INITIALIZED
			961 *	
			962 *	
			963 *	INITIALIZE ZONE LOCAL STORAGE (ZLS)
			964 *	
1288	3C 03 1114	965		MVI C,X'03' BUILD
128C	3C 80 1115	966		MVI CR,X'80' 'SZI'
1290	3C 00 1116	967		MVI Y,X'00' MICRO-INSTRUCTION
			968 *	
1294	C0 87 0F36	969	ZLSLD	B LXOP EXECUTE 'SZI' INSTRUCTION
			970 *	
1298	0E 00 1115 10DC	971		ALC CR(1),ONE ADVANCE ZLS ADDRESS
			972 *	
129E	38 20 1115	973		TBN CR,BIT2 LOOP UNTIL ALL ZLS
12A2	C0 90 1294	974		BF ZLSLD LOCATIONS HAVE BEEN RESET
			975 *	
			976 *	
			977 *	CLEAR CONTROL STORAGE
			978 *	
12A6	0C 01 1118 10DA	979	CLRCS	MVC CSAR(2),NULLS INITIALIZE CONTROL STORE ADDR
			980 *	
12AC	C0 87 0EEE	981	CLRCSI	B LCSAR LOAD CS ADDR REG
12B0	0C 02 1116 10EE	982		MVC OPREG(3),PARITY
12B6	C0 87 0F12	983		B WRCS WRITE CONTROL STORE
			984 *	
12BA	0E 01 1118 10DC	985		ALC CSAR(2),ONE ADVANCE CONTROL STORE ADDR
			986 *	
12C0	38 80 1118	987		TBN CSARD,BIT0 LOOP UNTIL
12C4	C0 90 12AC	988		BF CLRCSI BLOCK IS INITIALIZED
			989 *	
12C8	3C 00 1118	990		MVI CSARD,0 RESET DISPLACEMENT
			991 *	
12CC	3D 3F 1117	992		CLI CSARB,X'3F' BRANCH IF ALL BLOCKS
12D0	C0 81 12DE	993		BE CLRSTG HAVE BEEN INITIALIZED
			994 *	
12D4	0E 00 1117 10DC	995		ALC CSARB(1),ONE INITIALIZE
12DA	C0 87 12AC	996		B CLRCSI NEXT BLOCK
			997 *	
			998 *	
			999 *	INITIALIZE MAIN STORAGE FOR MICROCODE STORAGE AREA
			1000 *	
12DE	C2 01 1173	1001	CLRSTG	LA STG,XR1 INITIALIZE
12E2	34 01 110E	1002		ST MSPTR,XR1 STORAGE AREA POINTERS
			1003 *	
12E6	D2 01 03	1004	CLROO	LA 3(,XR1),XR1 ORIENT
12E9	34 01 111E	1005		ST WORKN,XR1 ON THREE
12ED	0D 01 111E 13D1	1006		CLC WORKN(2),C16N BYTE BOUNDARY
12F3	C0 82 12E6	1007		BL CLROO
			1008 *	
12F7	0C 02 3FFA 13CD	1009		MVC AMOP-6(3),XFF SETUP LOOP TERMINATOR
			1010 *	
12FD	7C 00 00	1011	CLRO1	MVI O(,XR1),0 CLEAR
1300	D2 01 03	1012		LA 3(,XR1),XR1 STORAGE

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1303	0D 02 3FFA 13CD	1013	CLC	AMOP-6(3),XFF
1309	C0 81 12FD	1014	BE	CLR01
		1015 *		
130D	0C 02 76FA 13CD	1016	MVC	PATCH-6(3),XFF
		1017 *		
1313	3C 00 0A1E	1018	MVI	AMOPID,0
		1019 *		
1317	38 40 1104	1020	TBN	IND,AMOPIN
1318	F2 90 0D	1021	JF	CLR02
		1022 *		
131E	D2 02 00	1023	LA	0(,XR1),XR2
1321	C2 01 6800	1024	LA	LDR,XR1
		1025 *		
1325	BC F2 00	1026	MVI	0(,XR2),MSADR
1328	B4 01 02	1027	ST	Z(,XR2),XR1
		1028 *		
132B	7C 00 00	1029	CLR02	MVI 0(,XR1),0
132E	D2 01 03	1030	LA	3(,XR1),XR1
1331	0D 02 76FA 13CD	1031	CLC	PATCH-6(3),XFF
1337	C0 81 132B	1032	BE	CLR02
133B	0D 01 0203 13CF	1033	CLC	SIZE(2),X8000
1341	C0 81 136E	1034	BE	CLR32K
		1035 *		
1345	D2 02 00	1036	LA	0(,XR1),XR2
1348	35 01 13CF	1037	L	X8000,XR1
		1038 *		
134C	BC F2 00	1039	MVI	0(,XR2),MSADR
134F	B4 01 02	1040	ST	Z(,XR2),XR1
		1041 *		
1352	35 02 0203	1042	L	SIZE,XR2
1356	36 02 13C9	1043	A	NEG6,XR2
		1044 *		
135A	8C 02 00 13CD	1045	MVC	0(3,XR2),XFF
		1046 *		
135F	7C 00 00	1047	CLR03	MVI 0(,XR1),0
1362	D2 01 03	1048	LA	3(,XR1),XR1
1365	8D 02 00 13CD	1049	CLC	0(3,XR2),XFF
136A	C0 81 135F	1050	BE	CLR03
		1051 *		
136E	D2 02 00	1052	CLR32K	LA 0(,XR1),XR2
1371	C2 01 1173	1053	LA	STG,XR1
		1054 *		
1375	BC F2 00	1055	MVI	0(,XR2),MSADR
1378	B4 01 02	1056	ST	Z(,XR2),XR1
		1057 *		
137B	0C 00 110F 0FAE	1058	MVC	LDID(1),FA1TBL+2
1381	3A 80 1104	1059	SEN	IND,BGN5W
		1060 *		
1385	0C 02 1301 13CD	1061	MVC	C16N(3),XFF
1388	C0 87 115F	1062	B	CLEAR
		1063 *		
		1064 *		
		1065 *		OVERLAY AREA PRINT MESSAGES
		1066 *		
138F	D3D6C1C4C9D5C740	138F	1067	MSGT1 EQU *
1397	E2C5C3E3C9D6D540	13A1	1068	MSGTIN DC CL19*LOADING SECTION C19*
139F	C3F1F9		1068	
			1068	
			1069 *	
13A2	E2C5C3E3C9D6D540	13A2	1070	MSGT2 EQU *
13AA	C3F1F940D9C5C1C4	13B2	1071	MSGT2N DC CL17*SECTION C19 READY*
13B2	EB		1071	
			1071	
			1072 *	
13B3	E4E2C540C1D3E3C5	13B3	1073	MSGT3 EQU *
13BB	D9D5C1E3C540C9D7	13C7	1074	MSGT3N DC CL21*USE ALTERNATE IPL DEV*
13C3	D340C4C5E5		1074	
			1074	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		1075		
		1075		
		1076 *		
		1077 *		OVERLAY AREA CONSTANTS AND WORK AREAS
		1078 *		
13C8	FFFA	13C9	1079	NEG6 DC IL2*-6*
13CA	FFFFFFFF	13CD	1080	XFF DC 4XL1*FF'
13CE	8000	13CF	1081	X8000 DC XL2*8000*
13D0	13D1	13D1	1082	C16N DC AL2(C16N)
		1083 *		
				32K MACHINE
				END OF OVERLAY AREA

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

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ERR LOC OBJECT CODE   ADDR STMT SOURCE STATEMENT
1085 *****
1086 *
1087 *           SYMBOL DEFINITIONS
1088 *
1089 *****
1090 *
1091 *           LOCAL STORE REGISTERS
0001 1093 XR1      EQU  X'01'      INDEX REGISTER 1
0002 1094 XR2      EQU  X'02'      INDEX REGISTER 2
0008 1095 ARR      EQU  X'08'      ADDRESS RECALL REG (CURRENT LEVEL)
1096 *
-----
1097 *           SECTION SENSE SWITCHES
0001 1100 SSW2F    EQU  X'01'      ENABLE SECTION C19 (AMCP)
1101 *
-----
1102 *           MESSAGE / HALT IDENTIFIERS
1103 *
1104 *
C100 1105 HLT00    EQU  X'C100'     NO HALT (PRINTOUT ONLY)
C101 1106 HLT01    EQU  X'C101'     ERROR HALT (AFTER PRINT)
C1E8 1107 HLTE8    EQU  X'C1E8'     USE ALTERNATE IPL DEVICE
1108 *
-----
1109 *           3340 PROGRAM COMMUNICATION AREA BIT DEFINITIONS
1110 *
0080 1112 ADRSTP   EQU  X'80'      MICROPROCESSOR ADR STOP ENABLED
0040 1113 NOMPL   EQU  X'40'      SECTION C19 MPL COMMAND INHIBIT
0001 1114 AMDPSW   EQU  X'01'
1115 *
-----
1116 *           PROGRAM INDICATORS
1117 *
0080 1119 BGNSW   EQU  X'80'      INITIAL ENTRY INDICATOR
0040 1120 AMOPIN  EQU  X'40'      AMOP (SECTION C19) READY
0020 1121 BYPASS  EQU  X'20'      BYPASS MICRO MONITOR TEXT
0010 1122 CDIPL   EQU  X'10'      CARD IPL INDICATOR
1123 *
-----
1124 *           MAIN STORE DELIMITERS
1125 *
00F0 1127 LDADR   EQU  X'F0'      START OF MICRO-LOAD
00F1 1128 CSADR   EQU  X'F1'      NEXT CONTROL STORE ADDR
00F2 1129 MSADR   EQU  X'F2'      NEXT MAIN STORE ADDR
00FF 1130 TERM    EQU  X'FF'      TERMINATOR
1131 *
-----
1132 *           BIT POSITION SYMBOLS
1133 *
0080 1135 BIT0    EQU  X'80'
0040 1136 BIT1    EQU  X'40'
0020 1137 BIT2    EQU  X'20'
0010 1138 BIT3    EQU  X'10'
0008 1139 BIT4    EQU  X'08'
0004 1140 BIT5    EQU  X'04'
0002 1141 BIT6    EQU  X'02'
0001 1142 BIT7    EQU  X'01'
1143 *
-----
1144 *           DCP SECTION REFERENCE TABLE
1145 *
0203 1147 SIZE    EQU  X'0203'     MAIN STORAGE SIZE
1148 *
020D 1149 SBYTE5  EQU  X'020D'     SECTION SENSE SWS 28-2F
1150 *
0212 1151 TEST    EQU  X'0212'     CHECK CE CONSOLE SWITCHES
0216 1152 LINK    EQU  X'0216'     LINK TO NEXT ROUTINE OR SECTION

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ERR LOC OBJECT CODE   ADDR STMT SOURCE STATEMENT
021A 1153 PRINT   EQU  X'021A'     PRINT A MESSAGE
0222 1154 HALT    EQU  X'0222'     HALT AND DISPLAY HALT IDENTIFIER
0226 1155 PACK    EQU  X'0226'     PACK DATA - EBCDIC TO HEX
022A 1156 LOAD    EQU  X'022A'     LOAD NEXT SECTION OR RECORD
1157 *
0232 1158 UTAB    EQU  X'0232'     DCP UDT ENTRIES ( IPL UDT )
1159 *
-----
1160 *           OTHER REFERENCES EXTERNAL TO THIS SECTION
1161 *
1162 *
0880 1163 REC     EQU  X'0880'     LOAD SUBROUTINE INPUT AREA
08D4 1164 RECN    EQU  REC+84     END OF MICROCODE TEXT RECORD
1165 *
4000 1166 AMOP    EQU  X'4000'     ADAPTER MANUAL OPS PGM (C19)
6800 1167 LDR     EQU  X'6800'     ATTACHMENT MICROCODE LOADER (C17)
7800 1168 DCP     EQU  X'7800'     DIAGNOSTIC CONTROL PGM (FFF)
1169 *
-----
1170 *           DIAGNOSTIC MICROCODE PATCH AREA
1171 *
1172 *
7700 1173        ORG  X'7700'
1174 *
7700 1175 PATCH   EQU  *
77FF 1176 PATCHN  DC    255ALI(TERM)
1177 *
1178 *
7700 FFFFFFFFFFFFFF
7708 FFFFFFFFFFFFFF
7710 FFFFFFFFFFFFFF
7718 FFFFFFFFFFFFFF
7720 FFFFFFFFFFFFFF
7728 FFFFFFFFFFFFFF
7730 FFFFFFFFFFFFFF
7738 FFFFFFFFFFFFFF
7740 FFFFFFFFFFFFFF
7748 FFFFFFFFFFFFFF
7750 FFFFFFFFFFFFFF
7758 FFFFFFFFFFFFFF
7760 FFFFFFFFFFFFFF
7768 FFFFFFFFFFFFFF
7770 FFFFFFFFFFFFFF
7778 FFFFFFFFFFFFFF
7780 FFFFFFFFFFFFFF
7788 FFFFFFFFFFFFFF
7790 FFFFFFFFFFFFFF
7798 FFFFFFFFFFFFFF
77A0 FFFFFFFFFFFFFF
77A8 FFFFFFFFFFFFFF
77B0 FFFFFFFFFFFFFF
77B8 FFFFFFFFFFFFFF
77C0 FFFFFFFFFFFFFF
77C8 FFFFFFFFFFFFFF
77D0 FFFFFFFFFFFFFF
77D8 FFFFFFFFFFFFFF
77E0 FFFFFFFFFFFFFF
77E8 FFFFFFFFFFFFFF
77F0 FFFFFFFFFFFFFF
77F8 FFFFFFFFFFFFFF
1177 *
FFFF 1178        END

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C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ADRSTP	C	001	0080	1112	0344 0394
ALSLD	A	004	126A	0951	0960
AMOP	C	001	4000	1166	0050 0357 0383 0397 0414 0847 1009* 1013
AMOPCK	A	006	1194	0844	0839
AMOPGO	A	004	11C1	0866	0848
AMOPID	A	002	0A1E	0030	0841* 0844 1018*
AMOPIN	C	001	0040	1120	0352 0378 0866 1020
AMOPLD	A	004	11A6	0650	0845
AMOPSW	C	001	0001	1114	0049
ARR	C	001	0008	1095	0578 0594 0606 0617 0630 0652
BGNSW	C	001	0080	1119	0046 1059
BGN00	A	004	11E1	0889	0842 0868
BGN01	A	003	11FE	0900	0892 0894 0896
BIT0	C	001	0080	1135	0082 0156 0214 0219 0261 0316 0335 0987
BIT1	C	001	0040	1136	0334
BIT2	C	001	0020	1137	0157 0160 0261 0264 0326 0941 0953 0956 0959 0973
BIT3	C	001	0010	1138	
BIT4	C	001	0008	1139	0275
BIT5	C	001	0004	1140	0347
BIT6	C	001	0002	1141	0391 0639
BIT7	C	001	0001	1142	0335 0388 0643
BYPASS	C	001	0020	1121	0514 0519 0534
C	A	003	1114	0792	0148* 0157 0160* 0214 0231* 0234* 0238* 0241* 0242* 0248* 0253* 0261 0264* 0314* 0321* 0580* 0636 0910* 0933* 0947* 0965*
CDIPL	C	001	0010	1122	0889 0898
CKTYPE	A	004	0E35	0498	0477
CLEAR	A	003	115F	0816	0819 1062
CLRCS	A	006	12A6	0979	
CLRCS1	A	004	12AC	0981	0988 0996
CLRSTG	A	004	12DE	1001	0993
CLRO0	A	003	12E6	1004	1007
CLRO1	A	003	12FD	1011	1014
CLRO2	A	003	132B	1029	1021 1032
CLRO3	A	003	135F	1047	1050
CLR32K	A	003	136E	1052	1034
CMPRS	A	004	0E00	0479	0475
CMPO1	A	006	0E08	0482	0496
COM	A	001	0A19	0026	0049 0344 0394 0836 0867*
CR	A	003	1115	0793	0222* 0315* 0316* 0326* 0331* 0333 0333* 0334* 0335* 0581* 0640 0913* 0934* 0939* 0941 0946* 0953* 0956* 0957* 0959 0966* 0971* 0973
CSACC	A	002	10CC	0741	0608
CSADR	C	001	00F1	1128	0134 0542
CSAR	A	002	1118	0796	0061* 0074* 0080* 0137* 0206* 0539 0545* 0797 0798 0979* 0985*
CSARB	A	002	1117	0797	0087 0090* 0281* 0322 0406* 0444* 0520* 0581 0992 0995*
CSARD	A	002	1118	0798	0082 0085* 0145* 0219 0267* 0282* 0327 0361 0407* 0445* 0558* 0582 0987 0990*
CSERR	A	004	0833	0163	0158 0262
C16N	A	002	13D1	1082	0818 1006 1061* 1082
C163	A	001	0000	0006	
C19	A	002	11B6	0858	0844 0847
C19EXT	A	004	11CC	0874	0834
DGP	C	001	7800	1168	
DST	A	002	10FA	0769	
DXC	A	002	10F6	0767	
EIGHT	A	002	10E4	0756	0238
END	A	003	0EE0	0562	0507
ENTRY	A	004	0A3E	0046	0821
EXTBL	A	001	10EF	0763	0293 0908
EXTBLN	A	001	1103	0774	
EXTRST	A	001	1215	0913	0928
FAX01	A	003	0DA6	0441	0458
FAX02	A	005	0DC0	0451	0442
FAX03	A	003	0DC8	0455	0461
FA01D	A	002	0A20	0031	
FA1TBL	A	001	0FAC	0675	0052 0278 0516 1058
FA2TBL	A	001	0FC3	0680	

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
FA3TBL	A	001	0FEE	0686	
FA4TBL	A	001	1019	0692	
FA5TBL	A	001	1030	0697	
FHF	A	002	10FE	0771	
FOUR	A	002	10E2	0755	0939
FTG	A	002	10F8	0768	
FTR	A	002	10F0	0764	
GO	A	004	0C4B	0293	0065 0411 0449
G01	A	006	0C4F	0295	0312
G02	A	004	0C62	0303	
G03	A	004	0CE3	0349	0345
G04	A	004	0CFF	0359	0353
HALT	C	001	0222	1154	0169 0364 0880
HDR	A	004	0E52	0511	0501
HDR01	A	004	0E67	0519	0512
HLTE8	C	001	C1E8	1107	0878 0881
HLT00	C	001	C100	1105	0059 0467 0854 0864
HLT01	C	001	C101	1106	0167 0170 0365 0404
IDLE	A	004	0D11	0374	0362 0392 0398 0425
IDLE0	A	004	0D2C	0385	0379
IDLE1	A	004	0D52	0400	0395
IDTBL	A	001	0FAC	0673	0439
IDTBLN	A	001	1047	0701	
INACC	A	002	10CA	0740	0340
IND	A	001	1104	0776	0046 0352 0378 0514* 0519* 0534 0866* 0889* 0898* 1020 1059*
INDEX	A	001	111A	0602	0063* 0284* 0331 0332 0409* 0447*
INVALID	A	004	0DAC	0444	0428
K	A	001	10AB	0722	0342* 0347*
KREG	A	002	10AC	0723	0349
K024	A	002	10B2	0726	0623 0633
K034	A	002	10B4	0727	0903
K04	A	002	10B0	0725	0621 0632 0902
LALUD	A	002	10D6	0746	0306 0586 0922
LCSAR	A	004	0EEE	0578	0076 0143 0210 0981
LCSARX	A	004	0F0E	0589	0578*
LDADR	C	001	00F0	1127	0107 0521 0562
LDAMOP	A	006	1174	0833	0047
LDCS	A	003	0ADB	0129	0111 0138 0154
LDCSAR	A	002	10C6	0738	0587
LDCS01	A	003	0AE7	0134	0131
LDCS02	A	003	0AF6	0140	0135
LDCS03	A	004	0B0F	0150	0161
LDFAIX	A	004	0DA2	0439	0114
LDID	A	001	110F	0786	0052 0110 0197 0278 0419* 0424 0427 0410 0516 1058*
LDR	C	001	6800	1167	1024
LDRID	A	002	0A1C	0029	
LEXT	A	002	10C4	0737	0307 0923
LEXTAR	A	002	10BE	0734	0305 0921
LEXTZ	A	002	10C0	0735	0299 0916
LINDEX	A	002	10CE	0742	0339
LINK	C	001	0216	1152	
LINKID	A	002	110B	0782	0356 0382 0413
LOAD	C	001	022A	1156	0471 0856 0883
L0P	A	004	0F4E	0630	0297 0303 0584 0596 0619 0914 0919
L0PC	A	002	10B8	0729	0730
L0PCR	A	002	10BA	0731	0732
L0PX	A	004	0F84	0647	0630*
L0PY	A	002	10BC	0733	
LX0P	A	004	0F36	0617	0319 0324 0329 0337 0937 0951 0954 0969
LX0PX	A	004	0F4A	0625	0617*
MBRST	A	004	124C	0937	0942
MSADR	C	001	00F2	1129	0116 0130 0529 0548 1026 1039 1055
MSGT1	A	001	138F	1067	0852
MSGT1N	A	019	13A1	1068	0852 0853
MSGT2	A	001	13A2	1070	0862
MSGT2N	A	017	13B2	1071	0862 0863

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
MSGT3	A	001	1383	1073	0876
MSGT3N	A	021	13C7	1074	0876 0877
MSG01	A	001	1048	0706	0465
MSG01N	A	025	1060	0707	0451* 0465 0466
MSG02	A	001	1061	0709	0057
MSG02N	A	023	1077	0710	0057 0058
MSG03	A	001	1078	0712	0165
MSG03N	A	024	108F	0713	0165 0166
MSG04	A	001	1090	0715	0402
MSG04N	A	025	10A8	0716	0402 0403
MSPTR	A	002	110E	0784	0100 0469 0498 0525* 0564* 1002*
NEG1	A	004	10E8	0757	0491
NEG6	A	002	13C9	1079	1043
NOMPL	C	001	0040	1113	0867
NULLS	A	001	10DA	0751	0061 0295 0841 0979
NXREC	A	004	0DE9	0471	0509 0517 0530 0532 0535 0553
ONE	A	002	10DC	0752	0080 0145 0267 0493 0558 0957 0971 0985 0995
OPREG	A	003	1116	0791	0077* 0147* 0153 0212* 0246 0258 0295* 0792 0793 0794 0982*
OVRLAY	A	006	0A73	0074	0172 0430
OVRLY1	A	004	0A79	0076	0083 0091
PACK	C	001	0226	1155	
PARITY	A	003	10EE	0761	0077 0982
PATCH	A	001	7700	1175	0192 1016* 1031
PATCHM	A	001	77FF	1176	
PCR	A	004	0D70	0413	0389
PFC	A	002	0A07	0019	
PID	A	002	0A01	0015	0833
PRINT	C	001	021A	1153	0055 0163 0400 0463 0850 0860 0874
PRDC	A	002	10D4	0745	0622
PTR	A	001	1119	0800	0062* 0283* 0315 0408* 0446*
RDCS	A	004	0F26	0606	0151 0217 0256
RDCSX	A	004	0F32	0612	0606*
REC	C	001	0880	1163	0474 0476 0495 0500 0503 0506 0511 0523 0537 0539 0543 0545
RECN	C	001	08D4	1164	0479 0488 0488* 0489 0489* 0495
REPCS	A	004	0B47	0192	0141
REPX	A	003	0C22	0273	0195 0204
REPO1	A	003	0B48	0194	0276
REPO2	A	003	0B59	0200	0202
REPO4	A	005	0B66	0206	0198
REPO5	A	004	0B6E	0210	0271
REPO6	A	006	0B92	0225	0220
REPO7	A	006	0B98	0227	0223
REPO8	A	006	0B9E	0229	0232
REPO9	A	004	0BAD	0232	0230
REP10	A	006	0BB5	0236	0239
REP11	A	004	0BC4	0239	0237
REP12	A	006	0BD3	0246	0215
REP13	A	006	0BD9	0248	0250
REP14	A	006	0BDF	0249	0251
REP15	A	004	0BF1	0255	0244 0265
REP16	A	006	0C12	0267	0259
RESTR	A	004	0A57	0055	0279
RSPCR	A	002	10AA	0721	0350 0421
RTN	A	001	0A03	0017	
RTNPFC	A	001	0A3A	0042	0019
RUNMP	A	002	10C8	0739	0359
SBYTE5	C	001	020D	1149	0838
SBO	A	002	1102	0773	
SCH01	A	003	0AAD	0102	0105 0117
SCH02	A	003	0AB0	0104	0120
SCH03	A	003	0AC6	0113	0108
SCN	A	002	10F4	0766	
SEARCH	A	004	0AA9	0100	0053 0088 0566
SIDLE	A	002	10AE	0724	0385
SIZE	C	001	0203	1147	1033 1042

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
SNSX	A	002	10C2	0736	0416
SOP	A	004	0F88	0652	0610
SOPC	A	002	10B8	0730	0654
SOPCR	A	002	10BA	0732	0656
SOPX	A	004	0F88	0662	0652*
SSW2F	C	001	0001	1100	0838
STG	A	001	1173	0828	1001 1053
SVFPC	A	025	0A39	0033	0836*
SVPIN	A	001	1110	0788	0153 0222 0225 0258 0657* 0659 0659* 0660*
SVPR	A	002	10B6	0728	0422
SWS	A	002	110C	0781	0355* 0376* 0381* 0782
S1	A	006	0E17	0488	0481* 0482 0485 0493* 0495
S2	A	006	0E1D	0489	0482*
TERM	C	001	00FF	1130	0113 0194 0201 0270 0311 0441 0457 0522 0563 0678 0684 0690
TEST	C	001	0212	1151	0695 0700 0701 0828 1176
TEXT	A	004	0E92	0534	0374
THREE	A	002	10E0	0754	0504
TWO	A	002	10DE	0753	0559
TXT01	A	003	0EB5	0547	0231
TXT02	A	004	0EC1	0552	0560
UDTO	A	003	0A0C	0022	0540 0549
UDT1	A	003	0A0F	0023	
UTAF	C	001	0232	1158	0833 0891 0893 0895
WORK	A	001	1118	0804	0227* 0229 0229* 0236 0236*
WORKN	A	004	111E	0805	0246* 0249 0249* 0274* 0275 0386* 0388 0391 0417* 0419 0635* 0636*
WRCS	A	004	0F12	0594	0637 0639* 0640* 0641 0643* 0644* 0645 0655* 0660 1005* 1006
WRCS1	A	002	10D0	0743	0078 0150 0255 0983
WRCS2	A	002	10D2	0744	0598
WRCSX	A	004	0F22	0601	0599
XFA1	A	003	1107	0778	0594*
XFA5	A	003	110A	0779	0474
XFF	A	001	13CD	1080	0476
XRI	C	001	0001	1093	0818 1009 1013 1016 1031 1045 1049 1061
					0100* 0102 0102* 0104 0107 0110 0113 0116 0119 0119* 0129 0129*
					0130 0132 0132* 0134 0137 0140 0147 0156 0192* 0194 0197 0200
					0200* 0201 0206 0208 0208* 0212 0268 0268* 0270 0273 0273* 0274
					0293* 0301 0309 0309* 0311 0439* 0441 0451 0453 0453* 0455 0455*
					0457 0460 0469* 0522 0523 0525 0526 0528 0528* 0529 0531 0531*
					0542 0543 0547 0547* 0548 0550 0550* 0555 0563 0564 0816 0816*
					0817 0908* 0918 0925 0925* 0927 1001* 1002 1004 1004* 1005 1011
					1012 1012* 1023 1024* 1027 1029 1036 1036* 1036 1037* 1040 1047
					1048 1048* 1052 1053* 1056
XR2	C	001	0002	1094	0479* 0484 0486 0491* 0498* 0521 0526* 0537* 0555 0557 0557* 0562
					1023* 1026 1027 1036* 1039 1040 1042* 1043* 1045 1049 1052* 1055
					1056
X0700	A	002	10EB	0760	0074
X10	A	001	10E9	0759	0248
X8000	A	002	13CF	1081	1033 1037
Y	A	003	1116	0794	0225* 0227 0301* 0317* 0322* 0327* 0332* 0582* 0644 0911* 0918* 0935*
ZLSLD	A	004	1294	0969	0949* 0967*

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

OBJECT CARD LISTING

OBJECT CARD LISTING

THE CHARACTER ' ' INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+-BU/OHDD 48BY	JAHBBE48BYJB7H	D(*HBB(22 8QC	+G-8Q?) a-DC?BY	C- H5 TMC- H5 T	M(-H :14C1630021
GBK GBD PN 42	47608 EC 571872	3340 MICRO-DIAG	CONTROL- MOD 12	8422REH2	C1630000 T+-9-D++ BQDIO
TCOY|00K & BT,	**AE A &				7Y*C1630001 T+-:ECO=>0 D(:L% -D&E2"1DP?| -|a
T YR					L:-C1630002 T+-#N -SHC&DHSJD Q2YDE-|D L DBBHU < JDQBHXK &(a-C
T &Y*					6DUC1630003 T+-@&CO H//C-OH* +_330 G3" CEAD&# /ODZ(-|DLO DJ&
T &Y-					9D8C1630004 T+-: C&HC2P /O' +<*M&4CGED(/O' (-|LGED<3 /O=
T+-Z4 &C"3S D&L	UAE4+ DHF* &L H	(AD|C:#2-N. /OH	EJ/*E|aD C DJFAC	E|A&JFL2*DJ, /O1	C D OH*C1630005 T+-=F 4B =G<*M
T+-D?DJ-&:aBGC>8	< /DOD+# /O&KC-D	JFAC*+H JF<E&EXU	a ADQ|E-JE&B&B&DU	a&ADPOH*H; LPADE#	K &K |EOC1630006 T+-*A C&HC:%111B
T+-,D;| OI H,P7	O |HABM4 /D|OHD	H677" <BAC&I"2-C	"&D_) &DEOH*H&(H	A 772 |HA 7MA X7	1 |H -.c1630007 T+-"a"HSYN_*PEI
T+-&V &U* JDQ %B	GB__8a C2DD? /O#	>C- JFAC*G HJE-H	#8ADMOH*|D&BGC2U	(/DODJ. -&, \$;Q	*K 13HC1630008 T+ / 7IKQXHBW>HS&
T+-_DJL2U -:HAD	MOH+ C&BG /, FFAB	|O&G /OHSO&G /OZ	30-E7 G7" |HA4M4	" AD|aYD(4-DC--a	O D ;H*c1630009 T+ /A2& H4_3H&
T+->B5X2/ #O* JD	Q HA aBGC>8* /D	O TS DJL2UEP /Oa	W+H JF|H&B&O DJM	JD-HGA-O DJQJD-O	ADJO 6T&c1630010 T+ /B_6*PAL+TE6)V
T+-?DQJQ+ AD*DJ3	2H Q+ ADMO(# &>	;+*4JE 8 DJ&JF" H	-A-8 DJ&E9< AB#M	#*JDM+ / JE|HGG-O	BDJ8 29-C1630011 T+ /CY Y-BD HQ -
T+-OJDJQ+ ADM+U	+ /D;DJ# Y 7RO D	.73?-DJL /O&KCH*	|I-4BDJQJD?HADCW	-D.H. U 83+S JE<B	GB"D -E4C1630012 TH1D<D * D .Q
T+-1KC- JFAC*4-D	C--a O D. \$_HA L&	ADJ88BAD)OI .K04	"DEa|, &BABV*2B/D	PI JFCOQDUaOJD	EO-D KH C1630013 T+ /FR4-DC- C&H
T+-2GD+a< /DOD(,	/O'+<*M&OAOADJQ	AOH*|LTGED.811JC	O<*H&1(HA X7" <	ACD&aA/DMC JEJD	R+Y 72*c1630014 T+ /GMa-DIC&E JF
T+-3BDJM&-ADOOH*	| (TOBDJ&< ADODJ-	/O&6+S JE&O DJQ	JF<BGC3Q< ADNDJY	< ADODJY+ ADNDJM	#&A& P&DC1630015 T+ /H|:<BG S.A:<B
T+-3*ELDADJP /Oa	6<*M&3TGED<Y& AB	+H HF-H&EACYPDH&	11JB&<*M&DT/ &L	U 3" < JCC6AD&?	-M 9 %C1630016 T+ /IHECO DJQ& AD
T+-48 TGED<- JD	QO D|D*BG S.A *B	G /H& AD.+D JAIH	&CC" DEO'-/D.OHE	" TGGDH8011D;+ D	JG7H G&*C1630017 T+ /HEE&BGC3Q+ AD
T+-53UCM8 /;OI	(DLS B/X2U T /4	BOH*(D*BG /, FFJB	Y0&D&B1DP| DJFCO	QDUaOJD&CH* <K36	CD& &H&C1630018 T+ /DHYa JDM|H
T+-6>OHE TG&D<H	O11D;C JC1D;<*M	&DTGED.Q"/D|OHD	(DL4 DE" -E6%OH*	H*aHAC:_"OG2 JE	aB1D)YMC1630019 T+ /.#-ADQOI K,CO
T+-7ZE30 DJ-aFAD	R|<DJF&BGC&*AA	-)HA _HA P7" <B	AC&R(JC& AC*T	/OHEJ/UEQ<D (ED	JC% PH&c1630020 T+ /<63PO (HA O4

C163 3340 MICRO-DIAGNOSTIC CONTROL PGM - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

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T+/(10HDLH04A -< L3@BAD6#K - 5 J| |?|H _ DB(GBH 3Q BD@W< - L3P0 (H A 84B A|(OHDLPH B <H B E *C1630043
T+ /+Z JE3?|H _ D BC JCO=>+Y JA 0 BD'DL3*BGDN"L5ZG D2)PG&+.EO=|I5_N 0*G98ZPC8@X05MC C@~U P30C1630044
TIA|J&(XEO*LY9+. E&<GLB@PR5*GT1MC IS'(|<PV**,** ** L4E ..... =-DC1630045
T+X*:..... *AMC1630046
T+X)5..... *IMC1630047
T+X;0..... =/UC1630049
T+X~,..... QJUC1630049
TD7~..... RIYC1630050
E***E7*=-DC*PH$ =*7M&F| | C FZ ASC K A SO Q ..... 17300630750 50476#YC1630051

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----- LAST PAGE -----

C171 3340 MICROCODE LCA DER - MOD 12

C171 3340 MICROCODE LOADER - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0000		2 *		DECK 4
		3		SEQ 0
		4		TREP
		5		START 0
		6 C171		*****
		7		*****
		8 *		SECTION PREFACE
		9 *		*****
		10 *		*****
		11		*****
0A00		12 *		ORG X'0A00'
		13		*****
		14 *		SECTION IDENTIFIER
		15 C17		EQU X'0C17'
		16 *		*****
0A00 C171	0A01	17 PID	DC	XL2'C171'
0A02 00	0A02	18	DC	XL1'00'
0A03 01	0A03	19 RTN	DC	XL1'01'
0A04 0000	0A05	20	DC	XL2'0000'
0A06 6C1E	0A07	21 PFC	DC	AL2(RTNPFC)
0A08 FFFF	0A09	22	DC	XL2'FFFF'
		23 *		*****
0A0A C15000	0A0C	24 UDT0	DC	XL3'C15000'
		25 *		*****
0A0D	0A18	26	DS	XL12
		27 *		*****
0A19 00	0A19	28 COM	DC	XL1'00'
0A1A	0A1A	29	DS	XL1
		30 *		*****
0A1B 0C17	0A1C	31 LDRID	DC	AL2(C17)
0A1D	0A1E	32 AMOPID	DS	AL2
0A1F	0A20	33 FA0ID	DS	AL2
		34 *		*****
0A21	0A39	35 SVPFC	DS	XL25
		36 *		*****

LAST CHG:09 18 75

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		38		*****
		39 *		*****
		40 *		LINKAGE FROM OTHER 3340 DIAGNOSTIC SECTIONS
		41 *		*****
		42		*****
		43 *		*****
6C00		44		ORG X'6C00'
		45 *		*****
6C00 0C17	6C01	46 LDR	DC	AL2(C17)
		47 *		*****
6C02 3A 08 6C1D		48 LDRLK	ST	LDRLKX+3.ARR
6C06 3A 80 72D3		49	SBN	IND.LINKSW
		50 *		*****
6C0A 38 40 72D3		51	TBN	IND.LOADSW
6C0E F2 10 11		52	JT	LDFAO
		53 *		*****
6C11 0C 18 0A18 0A39		54	MVC	CCM-1(25).SVPFC
6C17 F2 87 08		55	J	LDFAO
		56 *		*****
6C1A C0 87 0000		57 LDRLKX	B	***
		58 *		*****

C171 3340 MICROCODE LOADER - MOD 12

C171 3340 MICROCODE LOADER - MOD 12

ERR LCC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
60	*			*****
61	*			*
62	*			LOAD ATTACHMENT MICROCODE (SECTION FA0)
63	*			*
64	*			*****
65	*			*
6C1E 01	6C1E	66	RTNPF	DC XL1'01' ROUTINE 01
6C1F 00	6C1F	67	DC	XL1'00'
6C20 FFFF	6C21	68	DC	XL2'FFFF' ONLY ONE ROUTINE IN SECTION
6C22 3A 40 72D3		69	*	*
		70	LDFAO	SJN IND,LOADSW SET INITIAL ENTRY INDICATOR
6C26 0D 01 0A20 6C85		71	*	*
6C2C F2 01 22		72	CLC	FA0ID(2),FA0 BRANCH IF SECTION FA0
		73	JNE	LMSG HAS NOT YET BEEN LOADED
6C2F 0D 01 0203 72CF		74	*	*
6C35 C0 01 6C47		75	CLC	SIZE(2),X8000 BRANCH IF NOT
6C39 0D 01 3BFF 6C85		76	BNE	LD001 32K MEMORY
6C3F C0 81 6DE7		77	CLC	UCODE1-1(2),FA0 BRANCH IF MICROCODE
6C43 C0 87 6C51		78	BE	LOADER IS IN MAIN STORE
6C47 0D 01 8FFF 6C85		79	B	LMSG
6C4D C0 81 6DE7		80	LD001	CLC UCODE2-1(2),FA0 BRANCH IF MICROCODE
		81	BE	LOADER IN MAIN STORAGE
6C51 C0 87 021A		82	*	*
6C55 46	6C55	83	LMSG	B PRINT PRINT MESSAGE
6C56 13	6C56	84	DC	XL1'46' 'LOADING SECTION FA0'
6C57 71F7	6C58	85	DC	AL1(MSG02N-MSG02+1)
6C59 C100	6C5A	86	DC	AL2(MSG02N)
		87	DC	AL2(MLT00)
6C5P C2 01 3C00		88	*	*
6C5F 0D 01 0203 72CF		89	LA	UCODE1,XR1 POINT TO
6C65 C0 81 6C6D		90	CLC	SIZE(2),X8000 MICROCODE
6C69 C2 01 9000		91	BE	CLRSTG STORAGE
		92	LA	UCODE2,XR1 AREA
6C6D 7C 80 00		93	*	*
6C70 D2 01 03		94	CLRSTG	MVI 0(,XR1),X'80' FLAG ALL
6C73 34 01 72E6		95	LA	3(,XR1),XR1 UNUSED CONTROL
6C77 38 40 72EA		96	ST	WORKN,XR1 STORAGE AREAS
6C7B C0 90 6C6D		97	TBN	WORKN-1,BIT1 AS DATA AREAS
		98	BF	CLRSTG
		99	*	*
100	*			-----
101	*			READ ONE MICROCODE RECORD
102	*			*
6C7F C0 87 022A		103	RDREC	B LOAD READ FIRST
6C83 20	6C83	104	DC	XL1'20' MICROCODE RECORD
6C84 0FA0	6C85	105	FA0	DC XL2'0FA0'
6C86 0C 5F 755F 08DF		106	*	*
6C8C 0C 02 08DA 72A7		107	MVC	HDRSTG+95(96),REC+95 SAVE HEADER RECORD
		108	NXREC	MVC REC+90(3),NULLS
6C92 C0 87 022A		109	*	*
6C96 10	6C96	110	B	LOAD
		111	DC	XL1'10'
6C97 0D 02 08CA 71F7		112	*	*
6C9D C0 81 6CDE		113	CLC	REC+74(3),MSG02N
		114	BE	CKTYPE
		115	*	*
116	*			-----
117	*			COMPRESS ONE MICRO-CODE RECORD
118	*			*
6CA1 C2 01 08DA		119	CMPRS	LA REC,XR1 POINT TO MICROCODE RECORD
6CA5 3C 00 6CB9		120	*	*
6CA9 0C 00 6CBF 6CB9		121	MVI	S1+1,0 SETUP BYTE COUNT
		122	CMP01	MVC S2+1(1),S1+1 IN ALC INSTRUCTIONS
6CAF 7D 00 00		123	*	*
6CB2 F2 01 03		124	CLI	0(,XR1),X'D0' CHANGE ANY HEX 'D0'
6CB5 7C 2A 00		125	JNE	S1 BYTE IN MICROCODE
		126	MVI	0(,XR1),X'2A' RECORD TO HEX '2A'
		127	*	*

ERR LCC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
6CB8 0E 00 08D4 08D4		128	S1	ALC REC(+*),REC+*
6CBE 0E 00 08D4 08D4		129	S2	ALC REC(+*),REC+*
		130	*	*
6CC4 36 01 72B5		131	A	NEG1,XR1 UPDATE RECORD POINTER
		132	*	*
6CC8 0E 00 6CB9 72A9		133	ALC	S1+1(1),ONE UPDATE SHIFT BYTE COUNT
		134	*	*
6CCE 3D 54 6CB9		135	CLI	S1+1,REC+REC LOOP UNTIL ALL UNUSED BITS HAVE
6CD2 C0 82 6CA9		136	BL	CMP01 BEEN SHIFTED OUT OF RECORD
		137	*	*
138	*			-----
139	*			CHECK MICROCODE RECORD TYPE
140	*			*
6CD6 3D C5 0881		141	CKTYPE	CLI REC+1,C'E' BRANCH IF
6CDA C0 81 6D17		142	BE	REPFA0 END RECORD
		143	*	*
6CDE 3D E3 0881		144	CLI	REC+1,C'T' BRANCH IF
6CE2 F2 81 0A		145	JE	TEXT TEXT RECORD
		146	*	*
6CE5 C0 87 6C8C		147	B	NXREC GO TO READ NEXT RECORD
		148	*	*
149	*			-----
150	*			PROCESS MICRO-CODE TEXT RECORD
151	*			*
6CE9 3D 00 0886		152	TEXT	CLI REC+6,0 BRANCH IF NO DATA
6CED C0 81 6C8C		153	BE	NXREC BYTES IN TEXT RECORD
		154	*	*
6CF1 0C 01 72E4 0889		155	MVC	CSAR(2),REC+9 SETUP CONTROL STG ADDRESS
6CF7 C0 87 718A		156	B	GENADR GENERATE POINTER TO STG AREA
		157	*	*
6CFB C2 02 08BA		158	LA	REC+10,XR2 POINT TO DATA AREA OF RECORD
		159	*	*
6CFF 6C 02 02 02		160	TEXT01	MVC 2(3,XR1),2(,XR2) STORE MICROWORD
		161	*	*
6D03 D2 01 03		162	LA	3(,XR1),XR1 ADVANCE
6D06 E2 02 03		163	LA	3(,XR2),XR2 POINTERS
		164	*	*
6D09 0F 00 0886 72AD		165	SLC	REC+6,THREE(1) DECREMENT DATA BYTE COUNT
6D0F C0 01 6CFF		166	BNZ	TEXT01 BRANCH IF NOT YET ZERO
		167	*	*
6D13 C0 37 6C8C		168	B	NXREC GO TO READ NEXT RECORD
		169	*	*

C171 3340 MICROCODE LOADER - MOD 12

C171 3340 MICROCODE LOADER - MOD 12

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
171	*****		*****
172	*		*
173	*	MODIFY CONTROL STORE IMAGE WITH PATCH AREA DATA	*
174	*		*
175	*****		*****
176	*		*
6D17	C2 02 7600	177 REPFA0 LA	PATCH,XR2 POINT TO PATCH AREA
178	*		*
6D1B	BD FF 00	179 REF01 CLI	0(,XR2),X'FF' BRANCH IF PATCH
6D1E	F2 81 97	180 JE	REPX TERMINATOR BYTE
181	*		*
6D21	2C 01 72E4 01	182 REP02 MVC	CSAR,1(2,XR2) SAVE CONTROL STORE ADDRESS
6D26	C0 87 718A	183 B	GENADR GENERATE POINTER TO STG AREA
184	*		*
6D2A	E2 02 02	184 * LA	2(,XR2),XR2 ADVANCE PATCH AREA POINTER
185	*		*
6D2D	2C 02 72E2 02	186 * MVC	DPREG,2(3,XR2) GET CONTROL STORE DATA
187	REP05		
188	*		*
6D32	38 80 72E0	189 TBN	C,BIT0 BRANCH IF
6D36	F2 90 4F	190 JF	REP12 MICRO-INSTRUCTION PATCH
191	*		*
6D39	38 80 72E4	192 TBN	CSAR,BIT0 BRANCH IF
6D3D	F2 90 08	193 JF	REP06 LEFT CONTROL STORE PATCH
194	*		*
6D40	1C 00 72E1 01	194 * MVC	CR,1(1,XR1) RETAIN LEFT DATA BYTE
6D45	F2 87 05	195 J	REP07 SKIP NEXT INSTRUCTION
196	*		*
6D48	1C 00 72E2 02	196 * MVC	Y,2(1,XR1) RETAIN RIGHT DATA BYTE
197	REP06		
198	*		*
6D4D	0C 01 72E9 72E2	198 * MVC	WORK+1(2),Y DATA BYTES TO WORK AREA
199	REP07		
200	*		*
6D53	0E 00 72E9 72E9	201 * ALC	WORK+1(1),WORK+1 GENERATE
6D59	F2 20 06	202 REP08 JNOL	REP09 RIGHT DATA
6D5C	0E 00 72E0 72AB	203 ALC	C(1),TWO PARITY BIT
6D62	C0 01 6D53	204 ALC	REP08
205	REP09		
206	*		*
6D66	3B FD 72E0	206 * SBF	C,X'FD' RESET UNUSED BITS
207	REP10		
208	*		*
6D6A	0E 00 72E8 72E8	208 * ALC	WORK(1),WORK GENERATE
6D70	F2 20 06	209 REP10 JNOL	REP11 LEFT DATA
6D73	0E 00 72E0 72B1	210 ALC	C(1),EIGHT PARITY BIT
6D79	C0 01 6D6A	211 ALC	REP10
212	REP11		
213	*		*
6D7D	3B F5 72E0	213 * SBF	C,X'F5' RESET UNUSED BITS
6D81	3A 90 72E0	214 SBN	C,X'90' SET DATA AND PARITY BITS
215	REP12		
216	*		*
6D85	F2 87 1E	216 * J	REP15 GO TO SAVE CONTROL STORE DATA
217	REP12		
218	*		*
6D88	0C 02 72E8 72E2	218 * MVC	WORKN(3),OPREG CONTROL STORE DATA TO WORK AREA
219	REP12		
220	*		*
6D8E	0E 00 72E0 72B9	220 * ALC	C(1),X10 GENERATE
6D94	0E 02 72E8 72E8	221 REP13 ALC	WORKN(3),WORKN MICRO-WORD
6D9A	C0 A0 6D8E	222 REP14 BCL	REP13 PARITY BIT
6D9E	C0 01 6D9A	223 BCL	REP13
224	REP14		
225	*		*
6DA2	3B E0 72E0	225 * SBF	C,X'E0' RESET UNUSED BITS
226	REP15		
227	*		*
6DA6	4C 02 02 72E2	227 * MVC	2(3,XR1),OPREG SAVE PATCHED MICROWORD
228	REP15		
229	*		*
6DAB	D2 01 03	229 * LA	3(,XR1),XR1 ADVANCE
6DAE	E2 02 03	230 REP16 LA	3(,XR2),XR2 POINTERS
231	REP16		
232	*		*
6DF1	BD FF 00	232 * CLI	0(,XR2),X'FF' LOOP UNTIL
6D94	C0 01 6D2D	233 BNE	REP05 TERMINATOR FOUND
234	REP16		
235	*		*
6DBB	E2 02 01	235 * LA	1(,XR2),XR2 LOOP
6DBB	34 02 72E8	236 REPX ST	WORKN,XR2 UNTIL
6DBF	38 08 72EA	237 TBN	WORKN-1,BIT4 END OF
238	REPX		

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	PATCH AREA	
6DC3	C0 90 6D1B	239	BF	REP01	
240	*		*		
6DC7	0C 01 0A20 6C85	241	MVC	FA0 ID(2),FA0	SET 'FA0 LOADED' INDICATOR
6DCD	0D 01 0203 72CF	242	CLC	SIZE(2),X8000	SET 'FA0
6DD3	C0 81 6DE1	243	BE	REPXXX	IN STORAGE
6DD7	0C 01 8FFF 6C85	244	MVC	UCODE2-1(2),FA0	INDICATOR
6DDD	C0 87 6DE7	245	B	LOADER	
6DE1	0C 01 3BFF 6C85	246	REPXXX	MVC	UCODE1-1(2),FA0
247	*		*		

C171 3340 MICROCODE LOADER - MOD 12

C171 3340 MICROCODE LOADER - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
249	*			*****
250	*			*****
251	*			MICRO-PROCESSOR INITIALIZATION
252	*			*****
253	*			*****
254	*			*****
60E7 38 10 0A19		255	LOADER TBN	CCM,FAOFLG RESET 'LOAD FA0'
6DEB 38 10 0A19		256	SBF	COM,FAOFLG INDICATOR AND RETURN
6DEF 38 80 72D3		257	TBN	IND,LINKSW TO CALLING SECTION IF
6DF3 C0 10 6C1A		258	BT	LDRLKX 'LOAD FA0' OPERATION ONLY
		259	*	
6DF7 38 20 0A19		260	SBF	COM,MPLFLG RESET MPL COMPLETE INDICATOR
		261	*	
6DFB C0 87 021A		262	B	PRINT PRINT MESSAGE
6DFF 46	6DFF	263	DC	XL1'46' 'START 3340
6E00 1B	6E00	264	DC	AL1(MSG01N-MSG01+1) MICRO-CODE LOADER'
6E01 71E4	6E02	265	DC	AL2(MSG01N)
6E03 C100	6E04	266	DC	AL2(MLT00)
		267	*	
		268	-----	-----
		269	*	HALT MICROPROCESSOR
		270	*	
6E05 F3 C4 7E		271	MPLHT SID	X'7E',X'C4' RESET AND DISABLE 3340 INTRPS
		272	*	
6E08 31 C5 7275		273	LIO	K04,X'C5' SET K0 AND K4 (HALT IOP)
6E0C 31 C5 7279		274	LIO	K034,X'C5' SET K3 (CLOCK RESET)
		275	*	
		276	-----	-----
		277	*	RESET EXTERNAL REGISTERS
		278	*	
6E10 C2 01 72BA		279	LA	EXTBL,XR1 POINT TO EXT REG ADDR TABLE
		280	*	
6E14 3C 00 72E0		281	MVI	C,0 CLEAR OP REG
6E18 3C 00 72E2		282	MVI	Y,0 C AND Y FIELDS
		283	*	
6E1C 3C 00 72E1		284	EXTRST MVI	CR,0 CLEAR OP REG CR FIELD
6E20 C0 87 7108		285	B	LOP LOAP OP REG
		286	*	
6E24 31 C5 7289		287	LIO	LEXTZ,X'C5' R4-R7 --> EXTERNAL ZONE REG
		288	*	
6E28 1C 01 72E2 01		289	MVC	Y,1(2,XR1) EXT ADDR & DATA --> OP CR & Y
6E2D C0 87 7108		290	B	LCP LOAD OP REG
		291	*	
6E31 31 C5 7287		292	LIO	LEXTAR,X'C5' R3-R7 --> EXT ADDR REG (EXTAR)
6E35 31 C5 72A3		293	LIO	LALUD,X'C5' OP REG Y --> A REG --> D REG
6E39 31 C5 728D		294	LIO	LEXT,X'C5' D REG --> EXTERNAL REG
		295	*	
6E3D 02 01 02		296	LA	2(XR1),XR1 ADVANCE EXT ADDR TBL POINTER
		297	*	
6E40 7D FF 00		298	CLI	0(XR1),X'FF' LOOP UNTIL
6E43 C0 01 6E1C		299	BNE	EXTRST END OF ADDRESS TABLE
		300	*	
		301	-----	-----
		302	*	RESET MODE BUFFER
		303	*	
6E47 3C 06 72E0		304	MVI	C,X'06' BUILD
6E4B 3C 80 72E1		305	MVI	CR,X'80' 'SMODE'
6E4F 3C 80 72E2		306	MVI	Y,X'80' MICRO-INSTRUCTION
		307	*	
6E53 C0 87 70F4		308	MBRST B	LXOP EXECUTE 'SMODE' INSTRUCTION
		309	*	
6E57 0E 0C 72E1 72AF		310	ALC	CR(1),FOUR ADVANCE MODE BUFFER ADDRESS
		311	*	
6E5D 38 20 72E1		312	TBN	CR,BIT2 LOOP UNTIL ALL MODE BUFFER
6E61 C0 90 6E53		313	BF	MBRST LOCATIONS HAVE BEEN RESET
		314	*	
		315	-----	-----
		316	*	INITIALIZE ADDRESS LOCAL STORE (ALS)

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		317	*	
6E65 3C 02 72E0		318	MVI	C,X'02' BUILD 'SABI'
6E69 3C 80 72E1		319	MVI	CR,X'80' MICRO-INSTRUCTION
		320	*	
6E6D 3C 00 72E2		321	ALSLD MVI	Y,0 SET EVEN ALS LOCATIONS TO X'00'
6E71 C0 87 70F4		322	B	LXOP EXECUTE 'SABI' INSTRUCTION
		323	*	
6E75 3A 20 72E1		324	SBN	CR,BIT2 BUILD 'SADI' MICRO-INSTRUCTION
6E79 C0 87 70F4		325	B	LXOP EXECUTE 'SADI' INSTRUCTION
		326	*	
6E7D 3A 01 72E1		327	SBN	CR,BIT7 SETUP ODD ALS ADDRESS
		328	*	
6E81 3C BF 72E2		329	MVI	Y,X'BF' SET ODD ALS LOCATIONS TO X'BF'
6E85 C0 87 70F4		330	B	LXOP EXECUTE 'SADI' INSTRUCTION
		331	*	
6E89 38 20 72E1		332	SBF	CR,BIT2 BUILD 'SABI' MICRO-INSTRUCTION
6E8D C0 87 70F4		333	B	LXOP EXECUTE 'SABI' INSTRUCTION
		334	*	
6E91 0E 00 72E1 72A9		335	ALC	CR(1),ONE ADVANCE ALS ADDRESS
		336	*	
6E97 38 20 72E1		337	TBN	CR,BIT2 LOOP UNTIL ALL ALS LOCATIONS
6E9B C0 90 6E6D		338	BF	ALSLD HAVE BEEN INITIALIZED
		339	*	
		340	-----	-----
		341	*	INITIALIZE ZONE LOCAL STORAGE (ZLS)
		342	*	
6E9F 3C 03 72E0		343	MVI	C,X'03' BUILD
6EA3 3C 80 72E1		344	MVI	CR,X'80' 'SZI'
6EA7 3C 00 72E2		345	MVI	Y,X'00' MICRO-INSTRUCTION
		346	*	
6EAB C0 87 70F4		347	ZLSLD B	LXOP EXECUTE 'SZI' INSTRUCTION
		348	*	
6EAF 0E 00 72E1 72A9		349	ALC	CR(1),ONE ADVANCE ZLS ADDRESS
		350	*	
6EB5 38 20 72E1		351	TBN	CR,BIT2 LOOP UNTIL ALL ZLS
6EB9 C0 90 6EAB		352	BF	ZLSLD LOCATIONS HAVE BEEN RESET
		353	*	
		354	-----	-----
		355	*	INITIALIZE INDEX, CSAR, AND ADDRESS COMPARE REGS
		356	*	
6EBD 3C 00 72E0		357	MVI	C,0 X'00' --> OP REG C
6EC1 3C 00 72E1		358	MVI	CR,0 X'00' --> OPREG CR
6EC5 3C BF 72E2		359	MVI	Y,X'BF' INDEX VALUE --> OP REG Y
6EC9 C0 87 7108		360	B	LOP LOAD OP REGISTER
		361	*	
6ECD 31 C5 72A3		362	LIO	LALUD,X'C5' Y REG --> A REG --> D REG
6ED1 31 C5 729B		363	LIO	LINDEX,X'C5' D REG --> INDEX REG
		364	*	
6ED5 3C 00 72E2		365	MVI	Y,0 X'00' --> OP REG Y
6ED9 C0 87 7108		366	B	LOP LOAD OP REGISTER
		367	*	
6EDD 31 C5 72A3		368	LIO	LALUD,X'C5' Y REG --> A REG --> D REG
6EE1 31 C5 7291		369	LIO	LCSADR,X'C5' X'0000' --> CSAR & ADDR COMPARE
		370	*	
6EE5 31 C5 7275		371	LIO	K04,X'C5' RESET K2
6EE9 31 C5 7271		372	LIO	RSPCR,X'C5' RESET PCR LATCH AND X REG
		373	*	
		374	-----	-----
		375	*	CHECK FOR SUCCESSFULL INITIALIZATION
		376	*	
6EED 31 C7 7273		377	LIO	STDL,X'C7' SENSE IDLE STATUS
6EF1 30 C7 72EB		378	SNS	WORKN,X'C7'
		379	*	
6EF5 3D F7 72EB		380	CLI	WORKN,X'F7' GO TO ERROR HALT IF
6EF9 C0 01 7061		381	BNE	IOPERR INCORRECT IDLE SENSE
		382	*	
6EFD 31 C5 7277		383	LIO	K024,X'C5' SET K2 (SERVICE MODE)
6F01 31 C5 7299		384	LIO	SVACC,X'C5' SERVICE ACCESS CYCLE

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
6F05	31 C5	7279	385	LIO K034,X'C5*
6F09	31 C7	727D	386	LIO SPTR,X'C7*
6F0D	30 C7	72EB	387	SNS WORKN,X'C7*
			388 *	
6F11	3D A1	72EB	389	CLI WORKN,X'A1*
6F15	C0 01	7061	390	BNE IOPERR
			391 *	
6F19	31 C7	728B	392	LIO SALS,X'C7*
6F1D	30 C7	72E9	393	SNS WORKN-2,X'C7*
6F21	31 C7	727F	394	LIC SINDE,X'C7*
6F25	30 C7	72EB	395	SNS WORKN,X'C7*
			396 *	
6F29	0D 01	72EA 72A7	397	CLC WCRKN-1(2),NULLS
6F2F	C0 01	7061	398	BNE IOPERR
			399 *	
6F33	3D BF	72EB	400	CLI WCRKN,X'BF*
6F37	C0 01	7061	401	BNE IOPERR
			402 *	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
404				*****
405				*
406				LOAD CONTROL STORAGE WITH ATTACHMENT MICROCODE
407				*
408				*****
409				*
6F3B	0C 01	72E4 72A7	410	LDCS MVC CSAR(2),NULLS INITIALIZE CONTROL STORE ADDR
6F41	C0 87	7085	411	*
			412	LDCS01 B LCSAR LOAD CONTROL STORE ADDR REG
			413	*
6F45	7B 60	00	414	SBF 0(.XR1),X'60* RESET UNUSED BITS
			415	*
6F48	7B 80	00	416	TBN 0(.XR1),BIT0 BRANCH IF NOT
6F4B	F2 90	2E	417	JF LDCS02 CONTROL STORE DATA AREA
			418	*
6F4E	0C 02	72E2 72A7	419	MVC OPREG(3),NULLS MOVE ZEROS PATTERN TO OP REG
			420	*
6F54	C0 87	70AD	421	B WRCS WRITE ZEROS TO
6F58	C0 87	70C1	422	B RDCS CONTROL STORE AND READ BACK
			423	*
6F5C	0D 02	72E2 72DE	424	CLC OPREG(3),IOPIN+2 BRANCH IF
6F62	F2 01	82	425	JNE LDCS05 CONTROL STORE ERROR
			426	*
6F65	0C 02	72E2 728B	427	MVC OPREG(3),X3FFF MOVE ONES PATTERN TO OP REG
			428	*
6F6B	C0 87	70AD	429	B WRCS WRITE ONES TO
6F6F	C0 87	70C1	430	B RDCS CONTROL STORE AND READ BACK
			431	*
6F73	0D 02	72E2 72DE	432	CLC OPREG(3),IOPIN+2 BRANCH IF
6F79	F2 01	6B	433	JNE LDCS05 CONTRL STORE ERROR
			434	*
6F7C	1C 02	72E2 02	435	MVC OPREG(3),2(.XR1) GET MICROWORD FROM STG AREA
6F81	3B E0	72E0	436	SBF C,X'E0* RESET UNUSED BITS
			437	*
6F85	C0 87	70AD	438	B WRCS WRITE MICROWORD TO
6F89	C0 87	70C1	439	B RDCS CONTROL STORE AND READ BACK
			440	*
6F8D	0D 02	72E2 72DE	441	CLC OPREG(3),IOPIN+2 BYPASS ERROR CORRECTION
6F93	F2 81	11	442	JE LDCS03 IF NO CONTROL STORE ERROR
			443	*
6F96	7B 80	00	444	TBN 0(.XR1),BIT0 BRANCH IF ERROR
6F99	F2 10	4B	445	JT LDCS05 IN DATA AREA
			446	*
6F9C	7A 20	00	447	SBN 0(.XR1),BIT2 SET INVERT BIT AND
6F9F	3A 20	72E0	448	SBN C,BIT2 RE-WRITE CONTROL STORE
6FA3	C0 87	70AD	449	B WRCS
			450	*
6FA7	0E 00	72E4 72A9	451	LDCS03 ALC CSARD(1),ONE ADVANCE CONTROL STORE ADDR
			452	*
6FAD	3B 80	72E4	453	TBN CSARD,BIT0 LOOP UNTIL ENTIRE
6FB1	C0 90	6F41	454	BF LDCS01 BLOCK HAS BEEN LOADED
			455	*
6FB5	3B 80	72E4	456	SBF CSARD,BIT0 ADVANCE CONTROL STG
6FB9	0E 00	72E3 72A9	457	ALC CSARB(1),ONE ADDRESS TO NEXT BLOCK
			458	*
6FBF	3B 20	72E3	459	TBN CSARB,BIT2 LOOP UNTIL ALL
6FC3	C0 90	6F41	460	BF LDCS01 BLOCKS HAVE BEEN LOADED
			461	*
6FC7	0C 01	72E4 72A7	462	MVC CSAR(2),NULLS INITIALIZE CONTROL STORE ADDR
			463	*
6FCD	C0 87	7085	464	LDCS04 B LCSAR LOAD CONTROL STORE ADDR REG
			465	*
6FD1	1C 02	72E2 02	466	MVC OPREG(3),2(.XR1) GET MICROWORD FROM STG AREA
6FD6	3B C0	72E0	467	SBF C,X'C0* IGNORE UNUSED BITS
			468	*
6FDA	C0 87	70C1	469	B RDCS READ CONTROL STORE
			470	*
6FDE	0D 02	72E2 72DE	471	CLC OPREG(3),IOPIN+2 BRANCH IF NO

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
6FE4	F2 81 04	472	JE	LDCS06	CONTROL STORE ERROR
		473 *			
6FE7	C0 87 706E	474	LDCS05	E CSERR	GO TO ERROR HALT
		475 *			
6FEB	0E 00 72E4 72A9	476	LDCS06	ALC CSARD(1),ONE	ADVANCE CONTROL STORE ADDR
		477 *			
6FF1	38 80 72E4	478	TBN	CSARD,BIT0	LOOP UNTIL ENTIRE
6FF5	C0 90 6FCD	479	BF	LDCS04	BLOCK HAS BEEN TESTED
		480 *			
6FF9	3D 80 72E4	481	SBF	CSARD,BIT0	ADVANCE CONTROL STG
6FFD	0E 00 72E3 72A9	482	ALC	CSARB(1),ONE	ADDRESS TO NEXT BLOCK
		483 *			
7003	38 20 72E3	484	TBN	CSARB,BIT2	LOOP UNTIL ALL
7007	C0 90 6FCD	485	BF	LDCS04	BLOCKS HAVE BEEN TESTED
		486 *			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
		488		*****	
		489 *			
		490 *		START MICROPROGRAM EXECUTION	
		491 *			
		492		*****	
		493 *			
700B	31 C5 7295	494	GO	LIO INACC,X'C5'	INITIAL ACCESS CYCLE
700F	31 C5 7273	495		LIO RNMODE,X'C5'	RESET K REG (RUN MODE)
7013	31 C5 7293	496		LIO RUNIDP,X'C5'	START MICRO-PROCESSOR
		497 *			
7017	0C 01 72EB 72A9	498	MVC	WORKN(2),ONE	INITIALIZE TIMER COUNT
		499 *			
701D	0E 01 72EB 72A9	500	GOLP	ALC WORKN(2),ONE	LOOP UNTIL
7023	C0 A0 7047	501	BOL	GOPRT	MICRO-PROCESSOR
7027	30 C5 72DD	502	SNS	ICPIN+1,X'C5'	STARTS OR TIMER
702B	38 01 72DD	503	TBN	IOPIN+1,BIT7	COUNT OVERFLOWS
702F	C0 10 701D	504	BT	GOLP	
		505 *			
7033	C2 01 E5F6	506	LA	-6666,XR1	
7037	36 01 72A9	507	DELAY	A ONE,XR1	DELAY
703B	C0 20 7037	508	BNOL	DELAY	100 MSEC
		509 *			
703F	31 C5 7281	510	LIC	CEDM,X'C5'	SET 'CE DATA MODULE'
7043	31 C5 727B	511	LIO	SVPREQ,X'C5'	CONTROL BIT
		512 *			
7047	C0 87 021A	513	GOPRT	E PRINT	PRINT MESSAGE
704B	46	514	DC	XL1*46'	'3340 MICRO-CODE
704C	22	515	DC	AL1(MSG08N-MSG08+1)	SUCCESSFULLY LOADED'
704E	724E	516	DC	AL2(MSG08N)	
704F	C100	517	DC	AL2(HLT00)	
		518 *			
7051	3A 20 0A19	519	SBN	COM,MPLFLG	SET MPL COMPLETE INDICATOR
		520 *			
7055	38 80 72D3	521	TBN	IND,LINKSW	RETURN TO CALLING SECTION
7059	C0 10 6C1A	522	BT	LDRLKX	IF SECTION LINK IND IS ON
		523 *			
705D	C0 87 0216	524	B	LINK	TERMINATE SECTION
		525 *			

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	527	*	*****
	528	*	
	529	*	BUILD AND PRINT ERROR MESSAGES
	530	*	
	531	*	*****
	532	*	
	533	*	MICROPROCESSOR INITIALIZATION ERROR DETECTED
	534	*	
7061 C0 87 021A	535	IOPERR B	PRINT PRINT
7065 C6	536	DC	XL1'C6' 1001 ERROR MESSAGE
7066 1D	537	DC	AL1(MSG03N-MSG03+1)
7067 7214	538	DC	AL2(MSG03N)
7069 C101	539	DC	AL2(MLT01)
	540	*	
706B F2 87 0D	541	J	ERRHLT GO TO ERROR HALT
	542	*	
	543	*	-----
	544	*	CONTROL STORAGE ERROR DETECTED
	545	*	
706E C0 87 021A	546	CSERR B	PRINT PRINT
7072 C6	547	DC	XL1'C6' 6001 ERROR MESSAGE
7073 18	548	DC	AL1(MSG04N-MSG04+1) CONTROL STORE
7074 722C	549	DC	AL2(MSG04N)
7076 C101	550	DC	AL2(MLT01)
	551	*	
7078 F2 87 0D	552	J	ERRHLT
	553	*	
	554	*	-----
	555	*	COMMON ERROR HALT
	556	*	
707B C0 87 0222	557	ERRHLT B	HALT ERROR HALT 01
707F C101	558	DC	AL2(MLT01)
	559	DC	
	560	*	
7081 C0 87 6DE7	561	B	LOADER RESTART PROGRAM SECTION
	562	*	

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	564	*	*****
	565	*	
	566	*	SVP INTERFACE CONTROL SUBROUTINES
	567	*	
	568	*	*****
	569	*	
	570	*	LOAD CONTROL STORAGE ADDRESS REGISTER (CSAR)
	571	*	
	572	*	
7085 34 08 70AC	573	LCSAR ST	LCSARX+3,ARR SAVE RETURN ADDRESS
	574	*	
7089 3C 00 72E0	575	MVI	C,0 X'00' --> OP REG C FIELD
708D 0C 00 72E1 72E3	576	MVC	CR(1),CSARB CSAR(B) VALUE --> OP REG CR FLD
7093 0C 00 72E2 72E4	577	MVC	Y(1),CSARD CSAR(D) VALUE --> OP REG Y FLD
	578	*	
7099 C0 87 7108	579	B	LOP LOAD OP REG
	580	*	
709D 31 C5 72A3	581	LIO	LALUD,X'C5' OP REG Y --> A REG --> D REG
70A1 31 C5 72BF	582	LIO	LDCSAR,X'C5' CS ADDR --> CSAR
	583	*	
70A5 C0 87 718A	584	B	GENADR GENERATE STORAGE AREA POINTER
	585	*	
70A9 C0 87 0000	586	LCSARX B	*-* RETURN TO CALLING ROUTINE
	587	*	
	588	*	-----
	589	*	WRITE CONTROL STORAGE
	590	*	
70AD 34 08 70C0	591	WRCS ST	WRCSX+3,ARR SAVE RETURN ADDRESS
	592	*	
70B1 C0 87 7108	593	B	LOP LOAD OP REG
	594	*	
70B5 31 C5 729D	595	LIO	WRCSL,X'C5' WRITE CONTROL STORE LEFT
70B9 31 C5 729F	596	LIO	WRCSR,X'C5' WRITE CONTROL STORE RIGHT
	597	*	
70BD C0 87 0000	598	WRCSX B	*-* RETURN TO CALLING ROUTINE
	599	*	
	600	*	-----
	601	*	READ CONTROL STORAGE
	602	*	
70C1 34 08 70F3	603	RDCS ST	RDCSX+3,ARR SAVE RETURN ADDRESS
	604	*	
70C5 31 C5 727F	605	LIC	LCPC,X'C5' RESET OP REG C
70C9 31 C5 7283	606	LIO	LOPCR,X'C5' RESET OP REG CR
70CD 31 C5 7285	607	LIO	LOPY,X'C5' RESET OP REG Y
70D1 31 C5 7297	608	LIO	CSACC,X'C5' CONTROL STORE --> OP REG
	609	*	
70D5 C0 87 713E	610	B	SCP SENSE OP REGISTER
	611	*	
70D9 39 20 72E0	612	TBF	C,BIT2 GO TO
70DD 39 20 72DC	613	TBF	IOPIN,BIT2 EXIT IF
70E1 F2 10 0C	614	JT	RDCSX NO INVERT BITS ON
	615	*	
70E4 38 20 72E0	616	TBN	C,BIT2 ADJUST FOR
70E8 38 20 72DC	617	TBN	IOPIN,BIT2 HARDWARE INVERSION OF
70EC C0 90 7162	618	BF	INVERT OP REG BITS IF REQUIRED
	619	*	
70F0 C0 87 0000	620	RDCSX B	*-* RETURN TO CALLING ROUTINE
	621	*	
	622	*	-----
	623	*	LOAD OP REG AND EXECUTE MICRO-INSTRUCTION
	624	*	
70F4 34 08 7107	625	LXOP ST	LXOPX+3,ARR SAVE RETURN ADDRESS
	626	*	
70F8 C0 87 7108	627	B	LCP LOAD OP REG
	628	*	
70FC 31 C5 7275	629	LIC	K04,X'C5' RESET K2 (SERVICE MODE)
7100 31 C5 72A1	630	LIO	PROC,X'C5' SERVICE PROCESS CYCLE
	631	*	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
7104	C0 87 0000	632	LXCFX B	*--	RETURN TO CALLING ROUTINE
		633	*		
		634	*		
		635	*	LOAD OP REGISTER	
		636	*		
7108	34 08 713D	637	LOP ST	LOPX+3,ARR	SAVE RETURN ADDRESS
		638	*		
710C	31 C5 7277	639	LIO	K024,X'C5'	SET K4 (SERVICE MODE)
		640	*		
7110	3C 08 72EB	641	MVI	WORKN,X'08'	BUILD SVP
7114	0C 00 72EA 72E0	642	MVC	WORKN-1(1),C	INTERFACE CONTROL
711A	31 C5 72EB	643	LIO	WORKN,X'C5'	LOAD OP REG C
		644	*		
711E	3A 02 72EB	645	SBN	WORKN,BIT6	BUILD SVP
7122	0C 00 72EA 72E1	646	MVC	WORKN-1(1),CR	INTERFACE CONTROL
7128	31 C5 72EB	647	LIO	WORKN,X'C5'	LOAD OP REG CR
		648	*		
712C	3A 01 72EB	649	SBN	WORKN,BIT7	BUILD SVP
7130	0C 00 72EA 72E2	650	MVC	WORKN-1(1),Y	INTERFACE CONTROL
7136	31 C5 72EB	651	LIO	WORKN,X'C5'	LOAD OP REG Y
		652	*		
713A	C0 87 0000	653	LOPX B	*--	RETURN TO CALLING ROUTINE
		654	*		
		655	*		
		656	*		
		657	*	SENSE OP REG	
		658	*		
713E	34 08 7161	659	SOP ST	SOPX+3,ARR	SAVE RETURN ADDRESS
		660	*		
7142	31 C7 727F	661	LIO	SOPC,X'C7'	SENSE OP REG C
7146	30 C7 72EB	662	SNS	WORKN,X'C7'	
714A	31 C7 7283	663	LIO	SOPCR,X'C7'	SENSE OP REG CR AND Y
714E	30 C7 72DD	664	SNS	IOPIN+1,X'C7'	
		665	*		
7152	0C 00 72DE 72DC	666	MVC	IOPIN+2(1),IOPIN	MOVE VALUES SENSED TO INPUT WORK AREA
7158	0C 00 72DC 72EB	667	MVC	IOPIN(1),WORKN	
		668	*		
715E	C0 87 0000	669	SOPX B	*--	RETURN TO CALLING ROUTINE
		670	*		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
672	*			*****	
673	*				
674	*			DATA PROCESSING SUBROUTINES	
675	*				
676	*			*****	
677	*				
678	*			ADJUST FOR HARDWARE INVERTED OP REG BITS	
679	*				
7162	34 08 7189	680	INVERT ST	IVRTX+3,ARR	SAVE RETURN ADDRESS
		681	*		
7166	0C 02 72EB 72B5	682	MVC	WORKN(3),NEG1	
716C	0F 02 72EB 72DE	683	SLC	WORKN(3),IOPIN+2	RESTORE
7172	3B E0 72E9	684	SBF	WORKN-2,X'E0'	HARDWARE
7176	3B 1F 72DC	685	SBF	IOPIN,X'1F'	INVERTED
717A	0E 00 72DC 72E9	686	ALC	IOPIN(1),WORKN-2	OP REG BITS
7180	0C 01 72DE 72EB	687	MVC	IOPIN+2(2),WORKN	
		688	*		
7186	C0 87 0000	689	IVRTX B	*--	RETURN TO CALLING ROUTINE
		690	*		
		691	*		
		692	*	GENERATE MICROCODE STORAGE AREA ADDRESS	
		693	*		
718A	34 08 71C9	694	GENADR ST	GENAX+3,ARR	SAVE RETURN ADDRESS
		695	*		
718E	0C 01 72EB 72E4	696	MVC	WORKN(2),CSAR	CONTROL STG ADDR TO WORK AREA
7194	0E 00 72EB 72EB	697	ALC	WORKN(1),WORKN	DROP LEFT/RIGHT SELECT BIT
		698	*		
719A	C2 01 3C00	699	LA	UCODE1,XR1	POINT
719E	0D 01 0203 72CF	700	CLC	SIZE(2),X8000	TO
71A4	C0 81 71AC	701	BE	GENXXX	MICROCODE
71A8	C2 01 9000	702	LA	UCODE2,XR1	STG AREA
71AC	36 01 72EB	703	GENXXX A	WORKN,XR1	ADD ADJUSTED CONTROL STORE ADDR
		704	*		
71B0	3C FE 72E9	705	MVI	WORKN-2,X'FE'	SETUP SHIFT TERMINATOR
		706	*		
71B4	0E 02 72EB 72EB	707	GENALP ALC	WORKN(3),WORKN	SHIFT CONTROL STORE
71B8	38 80 72E9	708	TBN	WORKN-2,BIT0	ADDRESS LEFT UNTIL RIGHT
71BE	C0 10 7184	709	BT	GENALP	JUSTIFIED ON BYTE BOUNDARY
		710	*		
71C2	36 01 72EA	711	A	WORKN-1,XR1	ADD ADJUSTED CONTROL STG ADDR
		712	*		
71C6	C0 87 0000	713	GENAX B	*--	RETURN TO CALLING ROUTINE
		714	*		
		715	*		

C171 3340 MICROCODE LOADER - MOD 12

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
717	*			*****
718	*			*
719	*			PRINT MESSAGES
720	*			*
721	*			*****
722	*			*
71CA	E2E3C1D9E340F3F3	71CA	723	MSG01 EQU *
71D2	F4F040C4C9C3D9D6	71E4	724	MSG01N DC CL27*START 3340 MICROCODE LOADER*
71DA	C3D6C4C540D3D6C1		724	
71E2	C4C5D9		724	
			725	*
71E5	D3D6C1C4C9D5C740	71E5	726	MSG02 EQU *
71ED	E2C5C3E3C9D6D540	71F7	727	MSG02N DC CL19*LOADING SECTION FA0*
71F5	C6C1F0		727	
			728	*
71F8	CED9D940F1F0F0F1	71F8	729	MSG03 EQU *
7200	406040C1E3E3C1C3	7214	730	MSG03N DC CL29*ERR 1001 - ATTACHMENT FAILURE*
7208	C8D4C5D5E340C6C1		730	
7210	C9D3E4D9C5		730	
			731	*
7215	C5D9D940F6F0F0F1	7215	732	MSG04 EQU *
721D	40E040C3D6D5E3D9	722C	733	MSG04N DC CL24*ERR 6001 - CONTROL STORE*
7225	D6D340E2E3D6D9C5		733	
			734	*
722D	F3F3F4F040D4C9C3	722D	735	MSG08 EQU *
7235	D9D6C3D6C4C540E2	724E	736	MSG08N DC CL34*3340 MICROCODE SUCCESSFULLY LOADED*
723D	E4C3C3C5E2E2C6E4		736	
7245	D3D3E840D3D6C1C4		736	
724D	C5C4		736	
			737	*
724F	D9C560C9D7D3407A	724F	738	MSG09 EQU *
7257	40C1D4D6D740C8C1	726F	739	MSG09N DC CL33*RE-IPL : AMOP HAS OVERWRITTEN FA0*
725F	E240D6E5C5D9E6D9		739	
7267	C9E3E3C5D540C6C1		739	
726F	F0		739	
			740	*

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
742	*			*****
743	*			*
744	*			SVP INTERFACE CONTROL CONSTANTS
745	*			*
746	*			*****
747	*			*
7270	0001	7271	748	RSPCR DC XL2*0001*
7272	0002	7273	749	RNMODE DC XL2*0002*
		7273	750	SIDLE EQU RNMODE
7274	8802	7275	751	K04 DC XL2*8802*
7276	A802	7277	752	K024 DC XL2*A802*
7278	9802	7279	753	K034 DC XL2*9802*
727A	0003	727R	754	SVPREQ DC XL2*0003*
727C	0005	7270	755	SPTR DC XL2*0005*
727E	0008	727F	756	LOPC DC XL2*0008*
		727F	757	SOPC EQU LOPC
		727F	758	SINDEX EQU SOPC
7280	8009	7281	759	CEDM DC XL2*8009*
7282	000A	7283	760	LCPCR DC XL2*000A*
		7283	761	SOPCR EQU LOPCR
7284	000B	7285	762	LOPY DC XL2*000B*
7286	000C	7287	763	LEXTAR DC XL2*000C*
7288	010C	7289	764	LEXTZ DC XL2*010C*
728A	000D	728R	765	SALSB DC XL2*000D*
728C	020D	728D	766	LEXT DC XL2*020D*
728E	080D	728F	767	LDCSAR DC XL2*080D*
7290	0C0D	7291	768	LCSADR DC XL2*0C0D*
7292	000E	7293	769	RUNIOP DC XL2*000E*
7294	0C0E	7295	770	INACC DC XL2*0C0E*
7296	0E0E	7297	771	CSACC DC XL2*0E0E*
7298	8E0E	7299	772	SVACC DC XL2*8E0E*
729A	8B0E	729B	773	LINDEX DC XL2*8B0E*
729C	AE0E	729D	774	WRCSL DC XL2*AE0E*
729E	CE0E	729F	775	WRCSR DC XL2*CE0E*
72A0	000F	72A1	776	PROC DC XL2*000F*
72A2	020F	72A3	777	LALUD DC XL2*020F*
			778	*
				RESET PCR LATCH AND X REG
				RESET K REG (RUN MODE)
				SENSE IDLE STATUS
				SET K0 AND K4 (HALT IOP)
				SET K2 (SERVICE MODE)
				SET K3 (CLOCK RESET)
				SET SVP REQUEST
				SENSE ACCESS POINTER REG
				LOAD OP REG C
				SENSE OP REG C
				SENSE INDEX REG
				CE DM ENABLE --> X REG
				LOAD OP REG CR
				SENSE OP REG CR
				LOAD OP REG Y
				R3-R7 --> EXT ADDR REG (EXTAR)
				R4-R7 --> EXTERNAL ZONE REG
				SENSE ALSB
				D REG --> EXTERNAL REG
				LOAD CSAR
				LOAD CSAR AND ADDR COMPARE REG
				START MICRO-PROCESSOR
				INITIAL ACCESS CYCLE
				CONTROL STORE --> OP REG
				SERVICE ACCESS CYCLE
				LOAD INDEX REG
				WRITE CONTROL STORE LEFT
				WRITE CONTROL STORE RIGHT
				SERVICE PROCESS CYCLE
				OP REG Y --> A REG --> D REG

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
780	*			*****
781	*			*
782	*			CONSTANTS AND RESERVED STORAGE AREAS
783	*			*
784	*			*****
785	*			*
72A4	C0000000	72A7	786	NULLS DC 4XL1'00'
72A8	0001	72A9	787	ONE DC IL2'1'
72AA	0002	72AB	788	TWO DC IL2'2'
72AC	0003	72AD	789	THREE DC IL2'3'
72AE	0004	72AF	790	FOUR DC IL2'4'
72B0	0008	72B1	791	EIGHT DC IL2'8'
72B2	FFFFFFF	72B5	792	NEG1 DC IL4'-1'
793	*			*
72B6	03FFFF	72B8	794	X3FFF DC XL3'03FFFF'
72B9	10	72B9	795	X10 DC XL1'1J'
796	*			*
72BA	2080	72BA	797	EXTBL EQU *
72BC	2D00	72BB	798	FTR DC XL2'2D80'
72BE	2F00	72BD	799	DC XL2'2D00'
72C0	3300	72BF	800	SCN DC XL2'2F00'
72C2	2500	72C1	801	DXC DC XL2'3300'
72C4	238F	72C3	802	FTG DC XL2'2500'
72C6	2300	72C5	803	DST DC XL2'238F'
72C8	2780	72C7	804	DC XL2'2300'
72CA	2700	72C9	805	FHF DC XL2'2780'
72CC	3F00	72CB	806	DC XL2'2700'
72CE	8000	72CD	807	S80 DC XL2'3F00'
72D0	0C19	72CF	808	X8000 DC XL2'8000'
72D2	FF	72D1	809	C19 DC XL2'0C19'
72D3	00	72D2	810	DC XL1'FFF'
72D4		72D3	811	*
		72D3	812	IND DC XL1'0'
		72D3	813	*
		72D8	814	PFCSTG DS XL8
		72D8	815	*
		72DC	816	IOPIN EQU *
		72DF	817	DS XL4
		72E0	818	*
		72E2	819	OPREG DS XL3
		72E0	820	C EQU OPREG-2
		72E1	821	CR EQU OPREG-1
		72E2	822	Y EQU OPREG
		72E4	823	*
		72E4	824	CSAR DS XL2
		72E3	825	CSARB EQU CSAR-1
		72E4	826	CSARD EQU CSAR
		72E5	827	*
		72E5	828	PATRN EQU *
		72E7	829	DS XL3
		72E8	830	*
		72E8	831	WORK EQU *
		72EB	832	WORKN DS XL4
		750C	833	*
		750C	834	ORG X'7500'
		7500	835	HDRSTG EQU *
		7600	836	*
		7600	837	ORG X'7600'
		7600	838	PATCH EQU *
		77FF	839	DC 512XL1'FF'
7600	FFFFFFFFFFFF			
7608	FFFFFFFFFFFF			
7610	FFFFFFFFFFFF			
7612	FFFFFFFFFFFF			
7620	FFFFFFFFFFFF			
7628	FFFFFFFFFFFF			
7630	FFFFFFFFFFFF			
7638	FFFFFFFFFFFF			
7640	FFFFFFFFFFFF			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
7648	FFFFFFFFFFFF			839
7650	FFFFFFFFFFFF			839
7658	FFFFFFFFFFFF			839
7660	FFFFFFFFFFFF			839
7668	FFFFFFFFFFFF			839
7670	FFFFFFFFFFFF			839
7678	FFFFFFFFFFFF			839
7680	FFFFFFFFFFFF			839
7688	FFFFFFFFFFFF			839
7690	FFFFFFFFFFFF			839
7698	FFFFFFFFFFFF			839
76A0	FFFFFFFFFFFF			839
76A8	FFFFFFFFFFFF			839
76B0	FFFFFFFFFFFF			839
76B8	FFFFFFFFFFFF			839
76C0	FFFFFFFFFFFF			839
76C8	FFFFFFFFFFFF			839
76D0	FFFFFFFFFFFF			839
76D8	FFFFFFFFFFFF			839
76E0	FFFFFFFFFFFF			839
76E8	FFFFFFFFFFFF			839
76F0	FFFFFFFFFFFF			839
76F8	FFFFFFFFFFFF			839
7700	FFFFFFFFFFFF			839
7708	FFFFFFFFFFFF			839
7710	FFFFFFFFFFFF			839
7718	FFFFFFFFFFFF			839
7720	FFFFFFFFFFFF			839
7728	FFFFFFFFFFFF			839
7730	FFFFFFFFFFFF			839
7738	FFFFFFFFFFFF			839
7740	FFFFFFFFFFFF			839
7748	FFFFFFFFFFFF			839
7750	FFFFFFFFFFFF			839
7758	FFFFFFFFFFFF			839
7760	FFFFFFFFFFFF			839
7768	FFFFFFFFFFFF			839
7770	FFFFFFFFFFFF			839
7778	FFFFFFFFFFFF			839
7780	FFFFFFFFFFFF			839
7788	FFFFFFFFFFFF			839
7790	FFFFFFFFFFFF			839
7798	FFFFFFFFFFFF			839
77A0	FFFFFFFFFFFF			839
77A8	FFFFFFFFFFFF			839
77B0	FFFFFFFFFFFF			839
77B8	FFFFFFFFFFFF			839
77C0	FFFFFFFFFFFF			839
77C8	FFFFFFFFFFFF			839
77D0	FFFFFFFFFFFF			839
77D8	FFFFFFFFFFFF			839
77E0	FFFFFFFFFFFF			839
77E8	FFFFFFFFFFFF			839
77F0	FFFFFFFFFFFF			839
77F8	FFFFFFFFFFFF			839

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

841 *****
842 *
843 *           SYMBOL DEFINITIONS
844 *
845 *****
846 *
847 *           LOCAL STORE REGISTERS
848 *
0001 849 XR1      EQU  X'01'      INDEX REGISTER 1
0002 850 XR2      EQU  X'02'      INDEX REGISTER 2
0008 851 ARR      EQU  X'08'      ADDRESS RECALL REG (CURRENT LEVEL)
852 *
853 *-----*
854 *           MESSAGE / HALT IDENTIFIERS
855 *
C100 856 MLT00    EQU  X'C100'     NO HALT (PRINTOUT ONLY)
C101 857 MLT01    EQU  X'C101'     ERROR HALT (AFTER PRINT)
858 *
859 *-----*
860 *           PROGRAM INDICATORS
861 *
0080 862 LINKSW  EQU  X'80'      SECTION LINK INDICATOR
0040 863 LOADSW  EQU  X'40'      INITIAL ENTRY INDICATOR
0020 864 LEL      EQU  X'20'      LAST ERROR LEFT INDICATOR
0008 865 MBL      EQU  X'08'      CS ERR - MULTI-BIT LEFT
0004 866 MBR      EQU  X'04'      CS ERR - MULTI-BIT RIGHT
0002 867 SBL      EQU  X'02'      CS ERR - SINGLE BIT LEFT
0001 868 SBR      EQU  X'01'      CS ERR - SINGLE BIT RIGHT
869 *
870 *-----*
871 *           3340 PROGRAM COMMUNICATION AREA (COM) INDICATORS
872 *
0020 873 MPLFLG  EQU  X'20'      MICRO-PROGRAM LOAD COMPLETE
0010 874 FAOFLG  EQU  X'10'      LOAD SECTION FAO ONLY
875 *
876 *-----*
877 *           BIT POSITION SYMBOLS
878 *
0080 879 BIT0     EQU  X'80'
0040 880 BIT1     EQU  X'40'
0020 881 BIT2     EQU  X'20'
0008 882 BIT4     EQU  X'08'
0002 883 BIT6     EQU  X'02'
0001 884 BIT7     EQU  X'01'
885 *
886 *-----*
887 *           DCP SECTION REFERENCE TABLE
888 *
0216 889 LINK     EQU  X'0216'    LINK TO NEXT ROUTINE OR SECTION
021A 890 PRINT    EQU  X'021A'    PRINT A MESSAGE
0222 891 HALT     EQU  X'0222'    HALT AND DISPLAY HALT IDENTIFIER
0226 892 PACK     EQU  X'0226'    PACK DATA - EBCDIC TO HEX
022A 893 LOAD     EQU  X'022A'    LOAD NEXT SECTION OR RECORD
0203 894 SIZE     EQU  X'0203'    MAIN STORAGE SIZE
895 *
896 *-----*
897 *           OTHER REFERENCES EXTERNAL TO THIS SECTION
898 *
0880 899 REC      EQU  X'0880'    LOAD SUBROUTINE INPUT AREA
08D4 900 RECEN    EQU  REC+84     END OF MICROCODE TEXT RECORD
901 *
9000 902 UCODE2    EQU  X'9000'    ATTACHMENT MICROCODE
903 *
3C00 904 UCODE1    EQU  X'3C00'    FAO LOCATION IN 32K MACHINE
905 *
FFFF 906         END

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C171 3340 MICROCODE LCADER - MOD 12

CROSS-REFERENCE

```

SYMBOL T LEN VALUE DEFN REFERENCES
ALSLD A 004 6E6D 0321 0338
AMOPID A 002 0A1E 0032
ARR C 001 0008 0851 0048 0573 0591 0603 0625 0637 0659 0680 0694
BIT0 C 001 0080 0879 0189 0192 0416 0444 0453 0456 0478 0481 0708
BIT1 C 001 0040 0880 0097
BIT2 C 001 0020 0881 0312 0324 0332 0337 0351 0447 0448 0459 0484 0612 0613 0616
BIT4 C 001 0008 0882 0617
BIT6 C 001 0002 0883 0238
BIT7 C 001 0001 0884 0645
C A 003 72E0 0820 0327 0503 0645
CEDM A 002 7281 0759 0189 0204* 0207* 0211* 0214* 0215* 0221* 0226* 0281* 0304* 0318* 0343*
CKTYPE A 004 6C06 0141 0257* 0436* 0448* 0467* 0575* 0612 0616 0642
CLRSTG A 003 6C6C 0094 0510
CMPRS A 004 6CA1 0119 0114
CMP01 A 006 6CA9 0122 0091 0098
COM A 001 0A19 0028 0054* 0255 0256* 0260* 0519*
CR A 003 72E1 0821 0195* 0284* 0305* 0310* 0312 0319* 0324* 0327* 0332* 0335* 0337 0344*
CSACC A 002 7297 0771 0349* 0351 0358* 0576* 0646
CSAR A 002 72E4 0824 0608
CSARB A 002 72E3 0825 0155* 0182* 0410* 0462* 0696 0825 0826
CSARD A 002 72E4 0826 0457* 0459 0482* 0484 0576
CSERR A 004 706E 0546 0192 0451* 0453 0456* 0476* 0478 0481* 0577
C17 C 001 0C17 0015 0474
C171 A 001 0000 0006 0031 0046
C19 A 002 72D1 0809
DELAY A 004 7037 0507 0508
DST A 002 72CE 0803
DXC A 002 72C1 0801
EIGHT A 002 72B1 0791 0211
ERRHLT A 004 7078 0558 0541 0552
EXTBL A 001 72BA 0797 0279
EXTRST A 004 6E1C 0284 0299
FAO A 002 6C85 0105 0072 0077 0080 0241 0244 0246
FAOFLG C 001 0010 0874 0255 0256
FAOID A 002 0A20 0033 0072 0241*
FHF A 002 72C9 0805
FOUR A 002 72AF 0790 0310
FTG A 002 72C3 0802
FTR A 002 72BB 0798
GENADR A 004 718A 0694 0156 0183 0584
GENALP A 006 7184 0707 0709
GENAX A 004 71C6 0713 0694*
GENXXX A 004 71AC 0703 0701
GO A 004 700B 0494
GOLP A 006 701D 05C0 0504
GOPRT A 004 7047 0513 0501
HALT C 001 0222 0891 0558
HDRSTG A 001 7500 0835 0107*
HLT00 C 001 C100 0856 0087 0266 0517
HLT01 C 001 C101 0857 0539 0550 0559
INACC A 002 7295 0770 0494
IND A 001 72D3 0812 0049* 0051 0070* 0257 0521
INVERT A 004 7162 0680 0618
ICPERR A 004 7061 0535 0381 0390 0398 0401
IOPIN A 001 72DC 0816 0424 0432 0441 0471 0502* 0503 0613 0617 0664* 0666 0666* 0667*
IVRTX A 004 7186 0689 0680*
K024 A 002 7277 0752 0383 0639
K034 A 002 7279 0753 0274 0385
K04 A 002 7275 0751 0273 0371 0629
LALUD A 002 72A3 0777 0293 0362 0368 0581
LCSADR A 002 7291 0768 0369
LCSAR A 004 7085 0573 0412 0464

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C171 3340 MICROCODE LOADER - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
LCSARX	A	004	70A9	0586	0573*
LDCS	A	006	6F3B	0410	
LDCSAR	A	002	728F	0767	0582
LDCS01	A	004	6F41	0412	0454 0460
LDCS02	A	005	6F7C	0435	0417
LDCS03	A	006	6FA7	0451	0442
LDCS04	A	004	6FCD	0464	0479 0485
LDCS05	A	004	6FE7	0474	0425 0433 0445
LDCS06	A	006	6FEB	0476	0472
LDFAD	A	004	6C22	0070	0052 0055
LDMSG	A	004	6C51	0083	0073 0079
LDP	A	002	6C01	0046	
LDRID	A	002	0A1C	0031	
LDRLK	A	004	6C02	0048	
LDRLKX	A	004	6C1A	0057	0048* 0258 0522
LD001	A	006	6C47	0080	0076
LEL	C	001	0020	0864	
LEXT	A	002	728D	0766	0294
LEXTAR	A	002	7287	0763	0292
LEXTZ	A	002	7289	0764	0287
LINDEX	A	002	7298	0773	0363
LINK	C	001	0216	0889	0524
LINKSW	C	001	0080	0862	0049 0257 0521
LOAD	C	001	022A	0893	0103 0110
LCADER	A	004	6DE7	0255	0078 0081 0245 0561
LOADSW	C	001	0040	0863	0051 0070
LCP	A	004	7108	0637	0285 0290 0360 0366 0579 0593 0627
LOPC	A	002	727F	0756	0605 0757
LOPCR	A	002	7283	0760	0606 0761
LOPX	A	004	713A	0653	0637*
LOPY	A	002	72E5	0762	0607
LXOP	A	004	70F4	0625	0308 0322 0325 0330 0333 0347
LXOPX	A	004	7104	0632	0625*
NBL	C	001	0002	0865	
NBR	C	001	0004	0866	
NBRST	A	004	6E53	0308	0313
NPFLT	A	003	6E05	0271	
NPLFLG	C	001	0020	0873	0260 0519
MSG01	A	001	71CA	0723	0264
MSG01N	A	027	71E4	0724	0264 0268
MSG02	A	001	71E5	0726	0085
MSG02N	A	019	71F7	0727	0085 0086 0113
MSG03	A	001	71F8	0729	0537
MSG03N	A	029	7214	0730	0537 0538
MSG04	A	001	7215	0732	0548
MSG04N	A	024	722C	0733	0548 0549
MSG08	A	001	722D	0735	0515
MSG08N	A	034	724E	0736	0515 0516
MSG09	A	001	724F	0738	
MSG09N	A	033	726F	0739	
NEG1	A	004	72B5	0792	0131 0682
NULLS	A	001	72A7	0786	0108 0397 0410 0419 0462
NXREC	A	006	6C8C	0108	0147 0153 0168
ONE	A	002	72A9	0787	0133 0335 0349 0451 0457 0476 0482 0498 0500 0507
OPREG	A	003	72E2	0819	0187* 0219 0228 0419* 0424 0427* 0432 0435* 0441 0466* 0471 0820
PACK	C	001	0226	0892	0821 0822
PATCH	A	001	7600	0838	0177
PATRN	A	001	72E5	0828	
PFC	A	002	0A07	0021	
PFCSTG	A	008	72DB	0814	
PID	A	002	0A01	0017	
PRINT	C	001	021A	0890	0083 0262 0513 0535 0546
PROC	A	002	72A1	0776	0630
RDCS	A	004	70C1	0603	0422 0430 0439 0469
RDCSX	A	004	70F0	0620	0603* 0614

C171 3340 MICROCODE LOADER - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ROREC	A	004	6C7F	0103	
REC	C	001	0880	0899	0107 0108* 0113 0135 0141 0144 0152 0155 0158 0165* 0900
RECN	C	001	0804	0900	0119 0128 0128* 0129 0129* 0135
REPFAO	A	004	6D17	0177	0142
REPX	A	003	6DB8	0236	0180
REPXXX	A	006	6DE1	0246	0243
REP01	A	003	6D1B	0179	0239
REP02	A	005	6D21	0182	
REP05	A	005	6D2D	0187	0234
REP06	A	005	6D48	0198	0193
REP07	A	006	6D4D	0200	0196
REP08	A	006	6D53	0202	0205
REP09	A	004	6D62	0205	0203
REP10	A	006	6D6A	0209	0212
REP11	A	004	6D79	0212	0210
REP12	A	006	6D88	0219	0190
REP13	A	006	6D8E	0221	0223
REP14	A	006	6D94	0222	0224
REP15	A	005	6DA6	0228	0217
REP16	A	003	6DAB	0230	
RNMODE	A	002	7273	0749	0495 0750
RSPCR	A	002	7271	0748	0372
RTN	A	001	0A03	0019	
RTNPF	A	001	6C1E	0066	0021
RUNTOP	A	002	7293	0769	0496
SALSB	A	002	728B	0765	0392
SBL	C	001	0002	0867	
SBR	C	001	0001	0868	
SBO	A	002	72CD	0807	
SCN	A	002	728F	0800	
SIDLE	A	002	7273	0750	0377
SINDEX	A	002	727F	0758	0394
SIZE	C	001	0203	0894	0075 0090 0242 0700
SCP	A	004	713E	0659	0610
SOPC	A	002	727F	0757	0661 0758
SOPCR	A	002	7283	0761	0663
SOPX	A	004	715E	0669	0659*
SPTR	A	002	727D	0755	0386
SVACC	A	002	7299	0772	0384
SVPFC	A	025	0A39	0035	0054
SVPFEO	A	002	727B	0754	0511
S1	A	006	6C8B	0128	0121* 0122 0125 0133* 0135
S2	A	006	6C8E	0129	0122*
TEXT	A	004	6CE9	0152	0145
TEXT01	A	004	6CFF	0160	0166
THREE	A	002	72AD	0789	0165
TWO	A	002	72AB	0788	0204
UCODE1	C	001	3C00	0904	0077 0089 0246* 0699
UCODE2	C	001	9000	0902	0080 0092 0244* 0702
UDTO	A	003	0A0C	0024	
WORK	A	001	72E8	0831	0200* 0202 0202* 0209 0209*
WORKN	A	004	72EB	0832	0096* 0097 0219* 0222 0222* 0237* 0238 0378* 0380 0387* 0389 0393*
WRCS	A	004	70AD	0591	0421 0429 0438 0449
WRCSL	A	002	729D	0774	0595
WRCSR	A	002	729F	0775	0596
WRCSX	A	004	70BD	0598	0591*
XR1	C	001	0001	0849	0089* 0092* 0094 0095 0095* 0096 0119* 0124 0126 0131* 0160 0162
XR2	C	001	0002	0850	0162* 0195 0198 0228 0230 0230* 0279* 0289 0296 0296* 0298 0414
X10	A	001	72B9	0795	0416 0435 0444 0447 0466 0506* 0507* 0699* 0702* 0703* 0711*
X3FFF	A	003	7288	0794	0158* 0160 0163 0163* 0177* 0179 0182 0185 0185* 0187 0231 0231*
					0233 0236 0236* 0237

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C171 3340 MICROCODE LOADER - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
X8000	A	002	72CF	0808	0075 0090 0242 0700
Y	A	003	72E2	0822	0198* 0200 0282* 0289* 0306* 0321* 0329* 0345* 0359* 0365* 0577* 0650
ZLSLD	A	004	6EAB	0347	0352

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

OBJECT CARD LISTING

THE CHARACTER . INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

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. . . . . C1710000
GBK GBD PN 42 47610 EC 827827 3340 MICROCODE L OADER - MODEL 12 84888488
. . . . . 3YEC1710001
TC Y<OPD E SA# ""BEE
. . . . . LDYC1710002
T YR
. . . . . OTEC1710003
T EY*CA*
. . . . . HC1710004
T+W0:CA+4BFO)+YA 243/ * _ | 2DAD<F Y OBTX2/OT /O . EC ""3Z * _< ( EY-SHP 2 KH( EHC*X" OI GC6D E
. . . . . ESUC1710005
T+W15+""X/*BAS;~ /61JCEF/*62E0HE _98BG /ZFD7G70EC B LO C6DB 7. |OHE X$*HAU AB- CK E< 4 PH
. . . . . R26C1710006
T+W20:3/ *>. UF1 _OH*BHS |Y 1-)NB H700BB(Z2Z8BG SY 6C6HM2XG70HEX5XH AB(68 F29C AX762 9-)
. . . . . IDC1710007
T+W3. |HA 70D B B(6H5 B B(6H5CO A*.M+ F29*DU*NF2 90HIXDL7EBHG -04 P|:<H--HAA<BGSHO
. . . . . K3UC1710008
T+W4W/XBASHO< P. UBHX /7FHO-FHSWO E -.K E|S -<| S F*D7 O3*OH)XT<H B)-B*OC2-R*X P. U *
. . . . . KQMC1710009
T+W5//7FH8-HE. I 28-HB-G.-8ZA|+HA 25|HEBA0 *>DABY* EG A28-H< P.Z*>H + G.Z*>X2H Q+ G. -D%
. . . . . YFA #JQC1710010
T+W6*0 E_M3?'+> + G.Y*>T2H Q+ G. -+G O5D+*N28CD E*>C2/18< X..*>H + G.-*U+ X..*>?
. . . . . 6B<C1710011
T+W7PTX ASRE#BG. -L HB*>.K E|S -+ *OC O4_B-HA( I 2:3-H*>. UF4SC D HHF2EC6DB 7. |OHE
. . . . . PH O.UC1710012
T+W8K O""SHP /67 XC D#*62E+A MFLX EB/UB-G.LOAA*FTX -B/X /OHEJ/_19<D B8J=<*N2)LGE*XX
. . . . . 8-GH 8D*C1710013
T+W9(>TD *> B G. S| A28*BG+E-11PH IG E28-G /7DH<*N 2/3GE*D<11PH(4-D B->B O E>GC0F*>
. . . . . 71<C1710014
T+W:MBL2 *>. /7C 4C-A28PH7+BA28*B E8V<B X.-|HA28LO *>. /7C+SA28*B G*|E: P./|.*28XB
. . . . . 8 GH 81UC1710015
T+W#C+2A28*BG*|E + G./#DUBHG./OIA >8LOC*> B-G./| A 28*BG*|E+ G./#DU 8HG./OIA>D30 *>
. . . . . N1 C1710016
T+W#BL2**>. /7D H<*N2Y3GE*XZ8 G. 50H)1BCGE*D<11PH JK<*N2)LGE*XD117I 3<<12:377*>? PA /<*M
. . . . . PHR<*N 2:LGG*X4017..|EE 2:8 A*FD117H.<< 2:LGG*X2017..C&E 2:XXHO E0QL6**>? P
. . . . . 11PHR<*N 2:LGG*X4017..|EE 2:8 A*FD117H.<< 2:LGG*X2017..C&E 2:XXHO E0QL6**>? P
. . . . . MNWQ A8- C2UB8 < X.S+D- /7B_OH) 0064B*>I277HA--0 B*>I2><BG*H7 /7C AC6H K9UC1710018
. . . . . HB+=A28<BG*H7 /7CAC6I28X.:EYD J:H 8/A. |S +SA 28<BG*H4+ G.U*DU B-GH =HX<1710019
. . . . . UC-A287HZ+8A288B E$4D< P.U*D- /7B EG I28-H#OG.-OH) 0064B*>I277HAA<B G*F8 *KOC1710020

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OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+X VC-A29GHZ+HA	29<BESB4#-G.UC-A	257HZ+BA28BBSB4	11PHN<*N2*3GE*Z<	< P..*DU+ P..*DX	YG 05QC1710021
T+XA-J3CE*_4B P.	10AA0G*HA9-06 PH	Z0EA0(3GE*YD11PI	#0H*BFUGS*U#A CY	-B/U8-G.L04AXFXB	G /0 4EBc1710022
T+XB50H*BF3Q)*L	A -HGC*BG /,FFGH	X0EG2/0C /0HS0EG	/67X(/0.C0 *>	< G./#><< G.S*>L	/70 5R C1710023
T+XCDBCGE*D<11PH	{0H}1SXBG 4BGC	CH)1BCGE*Z411PH	~0H* C6H*{<11PI	*<*N2-3GE*YM11PH	POH* 2KMC1710024
T+XDJ*LB9HG.-+KA	27|H6CC--> BHG.	*0IA1QXEG 4EGD	G0H)1BCGE*XM11PH	/0H* C6H*L411PI	7| - 1ZDC1710025
T+XE<*>X< G.D*>	11P..+-I2:00 *>Z	28LGE*>X: P..C A	2: X.S<*N2:0EG	4BGE/<*)2-3CG*>X	117H ET4C1710026
T+XFG-3CG*_4< G.	!*_0< G.*>? /0	(/1SE0B*>_2_EB	B*>_27T?->U#G7.	*C-A27G.ZC E27X.	0H* 61DC1710027
T+XGB 4RGGIC E	2:7.UC-A2:7..0-D	8 4A -(238BA*E3	B R (-E2:33=>U	+ X..*>X8-G.Z0AA	1_C0 #.8C1710028
T+XG* P.DOH* +.	T0)XT&||3*|A 5<X	C6)SCXLEG(|00*L	E6){00*L15*} 8XP	C82X05MCF0-CE6)V	8- N1HC1710029
T+XHB|E QDCAB=|	A0BTM1)PT&<SA2|	UE*PE6)V *7C0DMA	-<< 05;|R5_(8>|	06*P3E*L06(LI0*X	00*0 K8UC1710030
T+XI31<N B>LC0BP	58X\$U4*|YE(|00*L	E1(XECCXP44A:EG	M5_) 2<GSE(SV1)X	M6*XTBPNL<SAR	A H 80 C1710031
T+XH>S HY Z-B <	AG M- U B- . 0	AC (-4HC60(8	<<-8+T-:..CDB+3-8	COM| ..... A H	0 SJ-C1710032
TIG.LA *****0|	**1_-B4 .0 3 BM	H8BT B; IO " H	CAX"	.....	: <C1710033
T+X0:*****	*****	*****	*****	*****	***2 1ZDC1710034
T+XR5*****	*****	*****	*****	*****	***2 =RDC1710035
T+XE0*****	*****	*****	*****	*****	***2 *ADC1710036
T+XS*****	*****	*****	*****	*****	***2 R1DC1710037
T+XW*****	*****	*****	*****	*****	***2 :/UC1710038
T+XJ)/*****	*****	*****	*****	*****	***2 \$JUC1710039
T+X;*****	*****	*****	*****	*****	***2 N1<C1710040
T+XP*****	*****	*****	*****	*****	***2 7A<C1710041
T17-*****	*****	*****	*****	*****	***2 :XC1710042

C171 3340 MICROCODE LOADER - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
E***E7*=-DC*PHS	=*7M6F	C	FX ASC R A S0 0	00180630750	10876*.UC1710043

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

0000 2 * DECK 4
3 SEQ 0
4 TREP
7 C182 START 0
8 *****
9 *
10 * SECTION PREFACE
11 *
12 *****
13 *
14 GRG X'0A00'
15 *
16 PID DC XL2'C182'
17 DC XL1'00'
18 RTN DC XL1'01'
19 DC XL2'0000'
20 PFC DC AL2(RTNPFC)
21 DC XL2'FFFF'
22 *
23 UDTO DC XL3'C14000'
24 UDT1 DC XL3'101000'
25 *
26 DS XL9
27 *
28 COM DC XL1'00'
29 DS XL1
30 *
31 LDRID DS AL2
32 AMOPID DS AL2
33 FAOID DS AL2
34 *
35 SVVPC DS XL25
36 *

SECTION ID AND REVISION LEVEL
SECTION FLAGS
CURRENT ROUTINE NUMBER
RESERVED
ADDRESS OF ROUTINE PREFACE
RESERVED
3340 UDT
5471 UDT
RESERVED
3340 PROGRAM COMMUNICATION AREA
RESERVED
MICROCODE LOADER (C17) IN STG IND
AMOP (C19) IN STG INDICATOR
ATTACHMENT MICRO-CODE (FAO) IN STG
SECTION PREFACE STORAGE AREA

LAST CHG:03 11 76

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C182 3340 FRIENDS TEST - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

38 *****
39 *
40 * SECTION INITIALIZATION
41 *
42 *****
43 *
44 RTNPFC DC XL1'01' ROUTINE 01
45 DC XL1'80' MANUAL INTERVENTION REQUIRED
46 DC XL2'FFFF' ONLY 1 ROUTINE IN THIS SECTION
47 *
48 BEGIN L IO,PSR INITIALIZE THE PGM STATUS REG
49 SBN SBYTE4,X'E0' PREVENT ACCIDENTAL WRITE
50 *
51 SIO X'7E',X'C4' RESET AND DISABLE INTERRUPTS
52 *
53 SBF FLAGS,X'3F' RESET PROGRAM INDICATORS
54 SBN FLAGS,BITO SET PROGRAM RESTART INDICATOR
55 CLC SIZE(2),X8000 SET
56 BE BGNX1 INITIAL
57 MVC IDDDR(2),IDDDR3 DDDR
58 B BGNX3 DEPENDING
59 BGNX1 TBN SBYTE5,SSW2F ON
60 BF BGNX2 CORE
61 MVC IDDDR(2),IDDDR2 SIZE
62 B BGNX3 & SSW
63 MVC IDDDR(2),IDDDR1 2F
64 *
65 BGNX3 TBN COM,MPLFLG RELOAD ATTACHMENT
66 BF MPL MICROCODE IF REQUIRED
67 *
68 *
69 *
70 BGN02 B PRINT
71 DC XL1'41' *TURN ON SNS
72 DC AL1(MSG02N-MSG02+1) SNS 05 FOR
73 DC AL2(MSG02N) PRINTING ON 5471
74 DC AL2(HLTEO)
75 *
76 B PRINT
77 DC XL1'01' *TURN OFF SNS SW 20
78 DC AL1(MSG75N-MSG75+1) TO ALLOW
79 DC AL2(MSG75N) WRITE HA OPERATIONS*
80 *
81 B PRINT
82 DC XL1'01' *TURN OFF SNS SNS 21&22
83 DC AL1(MSG73N-MSG73+1) TO ALLOW WRITE
84 DC AL2(MSG73N) OPERATIONS TO DRIVES 1&2
85 B PRINT
86 DC XL1'06' *TURN ON SNS SW 16
87 DC AL1(MSG74N-MSG74+1) FOR COMMAND ENTRY
88 DC AL2(MSG74N) THROUGH DATA SNS*
89 *
90 B HALT
91 DC AL2(HLTEO) HALT TO ALLOW
SENSE SWITCH CHANGES
92 *
93 *
94 *
95 *
96 BGN03 EQU *
97 *
98 TBN UDT1-1,X'20' CHECK FOR
99 JF BGN03A 5471 PRESENT
100 SBN DEVICE,X'80' SET ON INDICATOR
101 L PRKBIO,IAK1 LOAD INTERRUPT LEVEL 1 IAR
102 SIO X'01',KEY RESET 5471 INTERRUPTS
103 SIO X'06',KEY ENABLE 5471 INTERRUPTS
104 *
105 BGN03A TBN SBYTE2,SSW16 CHECK 5471 OVERRIDE

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
OAC6	F2 90 04	106	JF	**7	SWITCH ON
O1C9	3B 80 365E	107	SBF	DEVICE,X'80'	SET FOR DATA SWITCH ENTRY
OACD	OC 63 3790 3791	108 *			
OAD3	OC 1C 3749 276E	109	MVC	MSGN(100),MSGN+1	CLEAR MESSAGE AREA
OAD9	CO 87 021A	110 *			
OADD	O2	111	MVC	MSG+28(29),MSG03A	
OADE	1D	112 *			
OADF	3749	113	B	PRINT	PRINT
OAE1	38 80 365E	114	DC	XL1'02'	FRIENDS
OAE5	F2 90 47	115	DC	IL1'29'	TEST
OAE8	OC 05 3732 2774	116	DC	AL2(MSG+28)	READY
OAE9	OC 1D 3750 2792	117 *			
OAF4	CO 87 021A	118	TBN	DEVICE,X'80'	BRANCH IF
OAF8	O2	119	JF	BGN04	5471 NOT PRESENT
OAF9	28	120 *			
OAFB	3754	121	MVC	MSG+5(6),MSG03B	INITIAL
OAFD	3754	122	MVC	MSG+35(30),MSG03C	ENTRY
OAFG	38 40 37E5	123 *			
OAH0	F2 90 2C	124	B	PRINT	PRINT
OAH3	OC 2E 375B 3034	125	DC	XL1'02'	END KEY
OAH9	OC 26 3782 27B9	126	DC	IL1'40'	TO
OAHB	OC 26 3782 27B9	127	DC	AL2(MSG+39)	TERMINATE
OAHF	OC 26 3782 27B9	128 *			
OAI0	OC 26 3782 27B9	129	TBN	FLAGS,BIT1	BRANCH IF INITIAL
OAI3	OC 2E 375B 3034	130	JF	BGN04	ENTRY TO PROGRAM
OAI9	OC 26 3782 27B9	131 *			
OAI4	OC 26 3782 27B9	132	MVC	MSG+46(47),MSG65+46	
OAI8	OC 26 3782 27B9	133	MVC	MSG+85(39),MSG03E	
OAI9	OC 26 3782 27B9	134 *			
OAI4	OC 26 3782 27B9	135	B	PRINT	PRINT
OAI8	OC 26 3782 27B9	136	DC	XL1'02'	RESTART
OAI9	OC 26 3782 27B9	137	DC	IL1'86'	OR REUSE
OAI4	OC 26 3782 27B9	138	DC	AL2(MSG+85)	COMMAND SEQUENCE
OAI8	OC 26 3782 27B9	139 *			
OAI4	OC 26 3782 27B9	140	B	KEYIN	READ INPUT
OAI8	OC 26 3782 27B9	141	CLC	KIN+2(3),OPT	BRANCH IF
OAI9	OC 26 3782 27B9	142	BE	SELECT	OPTION REQUESTED
OAI4	OC 26 3782 27B9	143	CLC	KIN+2(3),BLANKS	BRANCH IF
OAI8	OC 26 3782 27B9	144	BNE	BGN03B	NOT RETURN
OAI9	OC 26 3782 27B9	145 *			
OAI4	OC 26 3782 27B9	146	MVC	MSG62+16(6),D000	RESET LOOP AND
OAI8	OC 26 3782 27B9	147	MVC	MSG62+36(6),D000	ERROR COUNTERS
OAI9	OC 26 3782 27B9	148	MVC	CMDCNT,DD1	RESET COMMAND COUNT
OAI4	OC 26 3782 27B9	149 *			
OAI8	OC 26 3782 27B9	150	SBF	FLAGS,BIT2	RESET 'IN EXECUTION' FLAG
OAI9	OC 26 3782 27B9	151	MVC	MESN(80),MESN+1	CLEAR MESSAGE AREA
OAI4	OC 26 3782 27B9	152 *			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
		154		*****		
		155 *				
		156 *		COMMAND ENTRY		
		157 *				
		158		*****		
		159 *				
38AD		160	USING	CMDBL,XR1	XR1 POINTS TO CMD STORAGE AREA	
3839		161	USING	DRVWK,XR2	XR2 POINTS TO DRIVE WORK AREA	
		162 *				
OB4B	C2 01 38AD	163	ENTCMD	LA	CMDBL,XR1	
OB4F	C2 02 3839	164	LA	DRVWK,XR2	POINT TO START OF CMD STG AREA	
		165 *				
OB53	3B C0 37E5	166	SBF	FLAGS,BIT0+BIT1	RESET PROGRAM INDICATORS	
OB57	3C 00 3702	167	MVI	KBSTAT,0	CLEAR K/B STATUS INDICATOR	
		168 *				
OB5B	BC 00 00	169	CLRSTG	MVI	O(,XR2),X'00'	CLEAR
OB5E	E2 02 01	170	LA		DRIVE	
OB61	34 02 3838	171	ST	WORKN,XR2	WORK	
OB65	0D 01 3838 3704	172	CLC	WORKN(2),IDDCR	AREAS	
OB6B	C0 82 0B5B	173	BL	CLRSTG		
		174 *				
OB6F	OC 63 3790 3791	175	MVC	MSGN(100),MSGN+1	CLEAR	
		176 *				
OB75	OC 11 373E 2763	177	MVC	MSG+17(18),MSG03+17	SETUP COMMAND	
OB7B	OC 11 3750 27C8	178	MVC	MSG+35(18),MSG04N	ENTRY HEADING LINE	
		179 *				
OB81	CO 87 021A	180	B	PRINT	PRINT	
OB85	O3	181	DC	XL1'03'	COMMAND	
OB86	24	182	DC	IL1'36'	ENTRY	
OB87	3750	183	DC	AL2(MSG+35)	HEADING	
		184 *				
OB89	CO 87 021A	185	B	PRINT	PRINT	
OB8D	O2	186	DC	XL1'02'	ENTER	
OB8E	0D	187	DC	IL1'13'	COMMAND	
OB8F	2860	188	DC	AL2(MSG0A+12)		
		189 *				
OB91	38 80 3702	190	NXCMD	EQU	*	
OB95	C0 10 13FC	191	TBN	KBSTAT,X'80'	BRANCH IF	
OB99	38 40 3702	192	BT	SELECT	CANCEL REQUESTED	
OB9D	C0 10 0216	193	TBN	KBSTAT,X'40'	BRANCH IF	
OB9E	38 20 3702	194	BT	LINK	END REQUESTED	
OB9F	C0 10 20A1	195	TBN	KBSTAT,X'20'	BRANCH IF	
		196	BT	AMOPRN	AMOP REQUESTED	
		197 *				
OB99	38 80 365E	198	TBN	DEVICE,X'80'	BRANCH IF	
OBAD	F2 90 10	199	JF	NXCMD2	NOT 5471 ENTRY	
		200 *				
OB80	C0 87 021A	201	B	PRINT	PRINT	
OB84	O1	202	DC	XL1'01'	ENTRY FIELD	
OB85	23	203	DC	IL1'35'	DESCRIPTION LINE	
OB86	27EE	204	DC	AL2(MSG05N)		
		205 *				
OB88	C0 87 021A	206	B	PRINT	PRINT	
OB8C	O1	207	DC	XL1'01'	INPUT	
OB8D	2F	208	DC	IL1'47'	FORMAT	
OB8E	281D	209	DC	AL2(MSG05A)		
		210 *				
OB80	3C 80 366B	211	NXCMD2	MVI	DATASH,MULTSW	MULTIPLE SWITCH ENTRIES REQD
		212 *				
OB84	OC 01 37E8 364F	213	MVC	CFLGN(2),I0	CLEAR FLAG FIELDS	
OB8A	OC 27 36AB 36AC	214	MVC	INPUTN(40),INPUTN+1	CLEAR INPUT AREA	
OB8D	OC 01 3686 3683	215	MVC	INPUT+2(2),CMDCNT	SET UP COMMAND COUNTER	
		216 *				
OB86	C0 87 1FAD	217	B	KEYIN	GET KEYBOARD INPUT	
OB8A	OC 22 36AB 36F7	218	MVC	INPUTN(35),KIN+34		
		219 *				
		220 *				
		221 *		PROCESS DRV FIELD ENTRY		

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT			
OBE0 OC 63 3790 3791	222 * EQU *	OC80 3C 40 3690	290 * MVI INPUT+12,C'			
OBE6 3C 00 3668	223 ENT01 MVC MSGN(100),MSGN+1	OC84 3C 00 381A	291 MVI R,X'00'			
	224 MVI DATASW,X'00'	OC88 3C 40 37E7	292 MVI CFLG,CBIT1			
OBEA 3D F1 368A	225 * 226 * 227 * 228 * 229 * 230 * 231 * 232 * 233 * 234 * 235 * 236 * 237 * 238 ENT03 LA DRVWK1,XR2	OC8C C0 87 0E9D	293 * 294 * 295 * 296 * 297 ENT14 CLC INPUT+9(2),MSGOA+29			
OBEF 3D F2 368A	239 MVI Q,X'CO'	OC90 0D 01 368D 2871	298 * 299 * 300 ENT15 CLC INPUT+9(2),MSGOA+33			
OBF5 F2 81 1F	240 MVI UCKMSK(,XR2),X'80'	OC96 F2 81 56	301 * 302 * 303 * 304 * 305 * 306 * 307 * 308 * 309 * 310 * 311 ENT15A CLC INPUT+9(2),MSGOA+37			
OBF8 0D 02 368B 2881	241 TBN SBYTE4,SSW21	OC99 0D 01 368D 2875	312 * 313 * 314 * 315 * 316 * 317 * 318 * 319 * 320 * 321 ENT16 B PRINT XL1'01'			
OBFE C0 81 0C57	242 J ENT08	OC9F F2 01 1B	322 * 323 * 324 * 325 * 326 * 327 * 328 * 329 * 330 * 331 * 332 * 333 * 334 ENT17 MVC MSGN(100),MSGN+1			
OCO2 F2 87 24	243 * 244 ENT04 LA DRVWK2,XR2	OCA2 B8 40 00	335 * 336 * 337 * 338 * 339 * 340 * 341 * 342 * 343 * 344 * 345 * 346 * 347 * 348 * 349 * 350 * 351 * 352 * 353 * 354 * 355 * 356 * 357 * 358 * 359 * 360 * 361 * 362 * 363 * 364 * 365 * 366 * 367 * 368 * 369 * 370 * 371 * 372 * 373 * 374 * 375 * 376 * 377 * 378 * 379 * 380 * 381 * 382 * 383 * 384 * 385 * 386 * 387 * 388 * 389 * 390 * 391 * 392 * 393 * 394 * 395 * 396 * 397 * 398 * 399 * 400 * 401 * 402 * 403 * 404 * 405 * 406 * 407 * 408 * 409 * 410 * 411 * 412 * 413 * 414 * 415 * 416 * 417 * 418 * 419 * 420 * 421 * 422 * 423 * 424 * 425 * 426 * 427 * 428 * 429 * 430 * 431 * 432 * 433 * 434 * 435 * 436 * 437 * 438 * 439 * 440 * 441 * 442 * 443 * 444 * 445 * 446 * 447 * 448 * 449 * 450 * 451 * 452 * 453 * 454 * 455 * 456 * 457 * 458 * 459 * 460 * 461 * 462 * 463 * 464 * 465 * 466 * 467 * 468 * 469 * 470 * 471 * 472 * 473 * 474 * 475 * 476 * 477 * 478 * 479 * 480 * 481 * 482 * 483 * 484 * 485 * 486 * 487 * 488 * 489 * 490 * 491 * 492 * 493 * 494 * 495 * 496 * 497 * 498 * 499 * 500 * 501 * 502 * 503 * 504 * 505 * 506 * 507 * 508 * 509 * 510 * 511 * 512 * 513 * 514 * 515 * 516 * 517 * 518 * 519 * 520 * 521 * 522 * 523 * 524 * 525 * 526 * 527 * 528 * 529 * 530 * 531 * 532 * 533 * 534 * 535 * 536 * 537 * 538 * 539 * 540 * 541 * 542 * 543 * 544 * 545 * 546 * 547 * 548 * 549 * 550 * 551 * 552 * 553 * 554 * 555 * 556 * 557 * 558 * 559 * 560 * 561 * 562 * 563 * 564 * 565 * 566 * 567 * 568 * 569 * 570 * 571 * 572 * 573 * 574 * 575 * 576 * 577 * 578 * 579 * 580 * 581 * 582 * 583 * 584 * 585 * 586 * 587 * 588 * 589 * 590 * 591 * 592 * 593 * 594 * 595 * 596 * 597 * 598 * 599 * 600 * 601 * 602 * 603 * 604 * 605 * 606 * 607 * 608 * 609 * 610 * 611 * 612 * 613 * 614 * 615 * 616 * 617 * 618 * 619 * 620 * 621 * 622 * 623 * 624 * 625 * 626 * 627 * 628 * 629 * 630 * 631 * 632 * 633 * 634 * 635 * 636 * 637 * 638 * 639 * 640 * 641 * 642 * 643 * 644 * 645 * 646 * 647 * 648 * 649 * 650 * 651 * 652 * 653 * 654 * 655 * 656 * 657 * 658 * 659 * 660 * 661 * 662 * 663 * 664 * 665 * 666 * 667 * 668 * 669 * 670 * 671 * 672 * 673 * 674 * 675 * 676 * 677 * 678 * 679 * 680 * 681 * 682 * 683 * 684 * 685 * 686 * 687 * 688 * 689 * 690 * 691 * 692 * 693 * 694 * 695 * 696 * 697 * 698 * 699 * 700 * 701 * 702 * 703 * 704 * 705 * 706 * 707 * 708 * 709 * 710 * 711 * 712 * 713 * 714 * 715 * 716 * 717 * 718 * 719 * 720 * 721 * 722 * 723 * 724 * 725 * 726 * 727 * 728 * 729 * 730 * 731 * 732 * 733 * 734 * 735 * 736 * 737 * 738 * 739 * 740 * 741 * 742 * 743 * 744 * 745 * 746 * 747 * 748 * 749 * 750 * 751 * 752 * 753 * 754 * 755 * 756 * 757 * 758 * 759 * 760 * 761 * 762 * 763 * 764 * 765 * 766 * 767 * 768 * 769 * 770 * 771 * 772 * 773 * 774 * 775 * 776 * 777 * 778 * 779 * 780 * 781 * 782 * 783 * 784 * 785 * 786 * 787 * 788 * 789 * 790 * 791 * 792 * 793 * 794 * 795 * 796 * 797 * 798 * 799 * 800 * 801 * 802 * 803 * 804 * 805 * 806 * 807 * 808 * 809 * 810 * 811 * 812 * 813 * 814 * 815 * 816 * 817 * 818 * 819 * 820 * 821 * 822 * 823 * 824 * 825 * 826 * 827 * 828 * 829 * 830 * 831 * 832 * 833 * 834 * 835 * 836 * 837 * 838 * 839 * 840 * 841 * 842 * 843 * 844 * 845 * 846 * 847 * 848 * 849 * 850 * 851 * 852 * 853 * 854 * 855 * 856 * 857 * 858 * 859 * 860 * 861 * 862 * 863 * 864 * 865 * 866 * 867 * 868 * 869 * 870 * 871 * 872 * 873 * 874 * 875 * 876 * 877 * 878 * 879 * 880 * 881 * 882 * 883 * 884 * 885 * 886 * 887 * 888 * 889 * 890 * 891 * 892 * 893 * 894 * 895 * 896 * 897 * 898 * 899 * 900 * 901 * 902 * 903 * 904 * 905 * 906 * 907 * 908 * 909 * 910 * 911 * 912 * 913 * 914 * 915 * 916 * 917 * 918 * 919 * 920 * 921 * 922 * 923 * 924 * 925 * 926 * 927 * 928 * 929 * 930 * 931 * 932 * 933 * 934 * 935 * 936 * 937 * 938 * 939 * 940 * 941 * 942 * 943 * 944 * 945 * 946 * 947 * 948 * 949 * 950 * 951 * 952 * 953 * 954 * 955 * 956 * 957 * 958 * 959 * 960 * 961 * 962 * 963 * 964 * 965 * 966 * 967 * 968 * 969 * 970 * 971 * 972 * 973 * 974 * 975 * 976 * 977 * 978 * 979 * 980 * 981 * 982 * 983 * 984 * 985 * 986 * 987 * 988 * 989 * 990 * 991 * 992 * 993 * 994 * 995 * 996 * 997 * 998 * 999 * 1000	OCAC 0C 0F 373C 292D	OCDE 50	OCDF 377C
OC05 C2 02 3839	245 MVI Q,X'CO'	OCB4 0C 1B 3758 2839	OCDD 01			
OC09 3C 00 3819	246 MVI UCKMSK(,XR2),X'40'	OCBA F2 87 1C	OCDE 50			
OC0D BC 80 1B	247 TBN SBYTE4,SSW22	OCBD 0D 01 368D 2879	OCDF 377C			
OC10 38 40 020C	248 J ENT08	OCB8 0D 01 368D 2879				
OC14 F2 87 28	249 * 250 ENT07 B PRINT XL1'01'	OCB3 C0 81 0E4D				
OC17 C2 02 3873	251 DC IL1'32'	OC27 0C 2F 375C 2883				
OC18 3C C8 3819	252 DC AL2(MSGOCN)	OC2C 0C 1E 377C 28A2				
OC1F BC 40 1B	253 * 254 * 255 * 256 * 257 * 258 * 259 * 260 * 261 * 262 * 263 ENT08 JT ENT09A	OC2D 01				
OC22 38 20 020C	264 * 265 * 266 * 267 * 268 * 269 ENT09A CLC CMDCNT,DO1	OC2E 20				
OC26 F2 87 16	270 * 271 * 272 * 273 * 274 * 275 ENT10 SBN FLAGS,BIT1	OC2F 28C2				
OC29 C0 87 021A	276 * 277 * 278 * 279 * 280 * 281 ENT11 CLC INPUT+12(5),MSGOA+19	OC30				
OC2D 01	282 * 283 * 284 * 285 * 286 * 287 * 288 ENT12 CLC INPUT+11(4),MSGOA+25					
OC2E 20	289 * 290 * 291 * 292 * 293 * 294 * 295 * 296 * 297 * 298 * 299 * 300 * 301 * 302 * 303 * 304 * 305 * 306 * 307 * 308 * 309 * 310 * 311 * 312 * 313 * 314 * 315 * 316 * 317 * 318 * 319 * 320 * 321 * 322 * 323 * 324 * 325 * 326 * 327 * 328 * 329 * 330 * 331 * 332 * 333 * 334 * 335 * 336 * 337 * 338 * 339 * 340 * 341 * 342 * 343 * 344 * 345 * 346 * 347 * 348 * 349 * 350 * 351 * 352 * 353 * 354 * 355 * 356 * 357 * 358 * 359 * 360 * 361 * 362 * 363 * 364 * 365 * 366 * 367 * 368 * 369 * 370 * 371 * 372 * 373 * 374 * 375 * 376 * 377 * 378 * 379 * 380 * 381 * 382 * 383 * 384 * 385 * 386 * 387 * 388 * 389 * 390 * 391 * 392 * 393 * 394 * 395 * 396 * 397 * 398 * 399 * 400 * 401 * 402 * 403 * 404 * 405 * 406 * 407 * 408 * 409 * 410 * 411 * 412 * 413 * 414 * 415 * 416 * 417 * 418 * 419 * 420 * 421 * 422 * 423 * 424 * 425 * 426 * 427 * 428 * 429 * 430 * 431 * 432 * 433 * 434 * 435 * 436 * 437 * 438 * 439 * 440 * 441 * 442 * 443 * 444 * 445 * 446 * 447 * 448 * 449 * 450 * 451 * 452 * 453 * 454 * 455 * 456 * 457 * 458 * 459 * 460 * 461 * 462 * 463 * 464 * 465 * 466 * 467 * 468 * 469 * 470 * 471 * 472 * 473 * 474 * 475 * 476 * 477 * 478 * 479 * 480 * 481 * 482 * 483 * 484 * 485 * 486 * 487 * 488 * 489 * 490 * 491 * 492 * 493 * 494 * 495 * 496 * 497 * 498 * 499 * 500 * 501 * 502 * 503 * 504 * 505 * 506 * 507 * 508 * 509 * 510 * 511 * 512 * 513 * 514 * 515 * 516 * 517 * 518 * 519 * 520 * 521 * 522 * 523 * 524 * 525 * 526 * 527 * 528 * 529 * 530 * 531 * 532 * 533 * 534 * 535 * 536 * 537 * 538 * 539 * 540 * 541 * 542 * 543 * 544 * 545 * 546 * 547 * 548 * 549 * 550 * 551 * 552 * 553 * 554 * 555 * 556 * 557 * 558 * 559 * 560 * 561 * 562 * 563 * 564 * 565 * 566 * 567 * 568 * 569 * 570 * 571 * 572 * 573 * 574 * 575 * 576 * 577 * 578 * 579 * 580 * 581 * 582 * 583 * 584 * 585 * 586 * 587 * 588 * 589 * 590 * 591 * 592 * 593 * 594 * 595 * 596 * 597 * 598 * 599 * 600 * 601 * 602 * 603 * 604 * 605 * 606 * 607 * 608 * 609 * 610 * 611 * 612 * 613 * 614 * 615 * 616 * 617 * 618 * 619 * 620 * 621 * 622 * 623 * 624 * 625 * 626 * 627 * 628 * 629 * 630 * 631 * 632 * 633 * 634 * 635 * 636 * 637 * 638 * 639 * 640 * 641 * 642 * 643 * 644 * 645 * 646 * 647 * 648 * 649 * 650 * 651 * 652 * 653 * 654 * 655 * 656 * 657 * 658 * 659 * 660 * 661 * 662 * 663 * 664 * 665 * 666 * 667 * 668 * 669 * 670 * 671 * 672 * 673 * 674 * 675 * 676 * 677 * 678 * 679 * 680 * 681 * 682 * 683 * 684 * 685 * 686 * 687 * 688 * 689 * 690 * 691 * 692 * 693 * 694 * 695 * 696 * 697 * 698 * 699 * 700 * 701 * 702 * 703 * 704 * 705 * 706 * 707 * 708 * 709 * 710 * 711 * 712 * 713 * 714 * 715 * 716 * 717 * 718 * 719 * 720 * 721 * 722 * 723 * 724 * 725 * 726 * 727 * 728 * 729 * 730 * 731 * 732 * 733 * 734 * 735 * 736 * 737 * 738 * 739 * 740 * 741 * 742 * 743 * 744 * 745 * 746 * 747 * 748 * 749 * 750 * 751 * 752 * 753 * 754 * 755 * 756 * 757 * 758 * 759 * 760 * 761 * 762 * 763 * 764 * 765 * 766 * 767 * 768 * 769 * 770 * 771 * 772 * 773 * 774 * 775 * 776 * 777 * 778 * 779 * 780 * 781 * 782 * 783 * 784 * 785 * 786 * 787 * 788 * 789 * 790 * 791 * 792 * 793 * 794 * 795 * 796 * 797 * 798 * 799 * 800 * 801 * 802 * 803 * 804 * 805 * 806 * 807 * 808 * 809 * 810 * 811 * 812 * 813 * 814 * 815 * 816 * 817 * 818 * 819 * 820 * 821 * 822 * 823 * 824 * 825 * 826 * 827 * 828 * 829 * 830 * 831 * 832 * 833 * 834 * 835 * 836 * 837 * 838 * 839 * 840 * 841 * 842 * 843 * 844 * 845 * 846 * 847 * 848 * 849 * 850 * 851 * 852 * 853 * 854 * 855 * 856 * 857 * 858 * 859 * 860 * 861 * 862 * 863 * 864 * 865 * 866 * 867 * 868 * 869 * 870 * 871 * 872 * 873 * 874 * 875 * 876 * 877 * 878 * 879 * 880 * 881 * 882 * 883 * 884 * 885 * 886 * 887 * 888 * 889 * 890 * 891 * 892 * 893 * 894 * 895 * 896 * 897 * 898 * 899 * 900 * 901 * 902 * 903 * 904 * 905 * 906 * 907 * 908 * 909 * 910 * 911 * 912 * 913 * 914 * 915 * 916 * 917 * 918 * 919 * 920 * 921 * 922 * 923 * 924 * 925 * 926 * 927 * 928 * 929 * 930 * 931 * 932 * 933 * 934 * 935 * 936 * 937 * 938 * 939 * 940 * 941 * 942 * 943 * 944 * 945 * 946 * 947 * 948 * 949 * 950 * 951 * 952 * 953 * 954 * 955 * 956 * 957 * 958 * 959 * 960 * 961 * 962 * 963 * 964 * 965 * 966 * 967 * 968 * 969 * 970 * 971 * 972 * 973 * 974 * 975 * 976 * 977 * 978 * 979 * 980 * 981 * 982 * 983 * 984 * 985 * 986 * 987 * 988 * 989 * 990 * 991 * 992 * 993 * 994 * 995 * 996 * 997 * 998 * 999 * 1000	OCDD 01	OCDE 50	OCDF 377C		
OC2D 01	251 DC XL1'01'	OCDD 01	OCDD 01			
OC2E 20	252 DC IL1'32'	OCDE 50	OCDE 50			
OC2F 28C2	253 DC AL2(MSGOCN)	OCDF 377C	OCDF 377C			
OC31 C0 87 1FAD	254 * 255 * 256 * 257 * 258 * 259 * 260 * 261 * 262 * 263 ENT08 JT ENT09A	OCDD 01	OCDD 01			
OC35 OC 01 368A 3606	264 * 265 * 266 * 267 * 268 * 269 ENT09A CLC CMDCNT,DO1	OCDE 50	OCDE 50			
OC38 C0 87 0BE0	270 * 271 * 272 * 273 * 274 * 275 ENT10 SBN FLAGS,BIT1	OCDF 377C	OCDF 377C			
	276 * 277 * 278 * 279 * 280 * 281 ENT11 CLC INPUT+12(5),MSGOA+19					
	282 * 283 * 284 * 285 * 286 * 287 * 288 ENT12 CLC INPUT+11(4),MSGOA+25					
	289 * 290 * 291 * 292 * 293 * 294 * 295 * 296 * 297 * 298 * 299 * 300 * 301 * 302 * 303 * 304 * 305 * 306 * 307 * 308 * 309 * 310 * 311 * 312 * 313 * 314 * 315 * 316 * 317 * 318 * 319 * 320 * 321 * 322 * 323 * 324 * 325 * 326 * 327 * 328 * 329 * 330 * 331 * 332 * 333 * 334 * 335 * 336 * 337 * 338 * 339 * 340 * 341 * 342 * 343 * 344 * 345 * 346 * 347 * 348 * 349 * 350 * 351 * 352 * 353 * 354 * 355 * 356 * 357 * 358 * 359 * 360 * 361 * 362 * 363 * 364 * 365 * 366 * 367 * 368 * 369 * 370 * 371 * 372 * 373 * 374 * 375 * 376 * 377 * 378 * 379 * 380 * 381 * 382 * 383 * 384 * 385 * 386 * 387 * 388 * 389 * 390 * 391 * 392 * 393 * 394 * 395 * 396 * 397 * 398 * 399 * 400 * 401 * 402 * 403 * 404 * 405 * 406 * 407 * 408 * 409 * 410 * 411 * 412 * 413 * 414 * 415 * 416 * 417 * 418 * 419 * 420 * 421 * 422 * 423 * 424 * 425 * 426 * 427 * 428 * 429 * 430 * 431 * 432 * 433 * 434 * 435 * 436 * 437 * 438 * 439 * 440 * 441 * 442 * 443 * 444 * 445 * 446 * 447 * 448 * 449 * 450 * 451 * 452 * 453 * 454 * 455 * 456 * 457 * 458 * 459 * 460 * 461 * 462 * 463 * 464 * 465 * 466 * 467 * 468 * 469 * 470 * 471 * 472 * 473 * 474 * 475 * 476 * 477 * 478 * 479 * 480 * 481 * 482 * 483 * 484 * 485 * 486 * 487 * 488 * 489 * 490 * 491 * 492 * 493 * 494 * 495 * 496 * 497 * 498 * 499 * 500 * 501 * 502 * 503 * 504 * 505 * 506 * 507 * 508 * 509 * 510 * 511 * 512 * 513 * 514 * 515 * 516 * 517 * 518 * 519 * 520 * 521 * 522 * 523 * 524 * 525 * 526 * 527 * 528 * 529 * 530 * 531 * 532 * 533 * 534 * 535 * 536 * 537 * 538 * 539 * 540 * 541 * 542 * 543 * 544 * 545 * 546 * 547 * 548 * 549 * 550 * 551 * 552 * 553 * 554 * 555 * 556 * 557 * 558 * 559 * 560 * 561 * 562 * 563 * 564 * 565 * 566 * 567 * 568 * 569 * 570 * 571 * 572 * 573 * 574 * 575 * 576 * 577 * 578 * 579 * 580 * 581 * 582 * 583 * 584 * 585 * 586 * 587 * 588 * 589 * 590 * 591 * 592 * 593 * 594 * 595 * 596 * 597 * 598 * 599 * 600 * 601 * 602 * 603 * 604 * 605 * 606 * 607 * 608 * 609 * 610 * 611 * 612 * 613 * 614 * 615 * 616 * 617 * 618 * 619 * 620 * 621 * 622 * 623 * 624 * 625 * 626 * 627 * 628 * 629 * 630 * 631 * 632 * 633 * 634 * 635 * 636 * 637 * 638 * 639 * 640 * 641 * 642 * 643 * 644 * 645 * 646 * 647 * 648 * 649 * 650 * 651 * 652 * 653 * 654 * 655 * 656 * 657 * 658 * 659 * 660 * 661 * 662 * 663 * 664 * 665 * 666 * 667 * 668 * 669 * 670 * 671 * 672 * 673 * 674 * 675 * 676 * 677 * 678 * 679 * 680 * 681 * 682 * 683 * 684 * 685 * 686 * 687 * 688 * 689 * 690 * 691 * 692 * 693 * 694 * 695 * 696 * 697 * 698 * 699 * 700 * 701 * 702 * 703 * 704 * 705 * 706 * 707 * 708 * 709 * 710 * 711 * 712 * 713 * 714 * 715 * 716 * 717 * 718 * 719 * 720 * 721 * 722 * 723 * 724 * 725 * 726 * 727 * 728 * 729 * 730 * 731 * 732 * 733 * 734 * 735 * 736 * 737 * 738 * 739 * 740 * 741 * 742 * 743 * 744 * 745 * 746 * 747 * 748 * 749 * 750 * 751 * 752 * 753 * 754 * 755 * 756 * 757 * 758 * 759 * 760 * 761 * 762 * 763 * 764 * 765 * 766 * 76					

C182 3340 FRIENDS TEST - MOD 12

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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358 *
OD3D 3C 02 381A          359      MVI R,X'02'      SETUP R BYTE FOR RDCKD
OD41 0D 02 3690 2900     360      CLC INPUT+12(3),MSGOF+39  BRANCH IF
OD47 C0 81 0E9D          361      BE ENT25          RDCKD COMMAND
362 *
OD4B 3C 00 37E7          363      MVI CFLG,0        SET CMD ENTRY CNTRLS FOR RDROO
OD4F 3C 08 381A          364      MVI R,X'08'      SETUP R BYTE FOR RDROO
OD53 0D 02 3690 28FB     365      CLC INPUT+12(3),MSGOF+34  BRANCH IF
OD59 C0 81 0E9D          366      BE ENT25          RDROO COMMAND
367 *
OD5D 3C 05 37E7          368      MVI CFLG,CBIT5+CBIT7  SET CMD ENTRY CNTRLS FOR RDVKD
OD61 3C 03 381A          369      MVI R,X'03'      SETUP R BYTE FOR RDVKD
OD65 0D 02 3690 2909     370      CLC INPUT+12(3),MSGOF+48  BRANCH IF
OD6B C0 81 0E9D          371      BE ENT25          RDVKD COMMAND
372 *
OD6F 3C 06 37E7          373      MVI CFLG,CBIT5+CBIT6  SET CMD ENTRY CNTRLS FOR RDDGN
OD73 3C 04 381A          374      MVI R,X'04'      SETUP R BYTE FOR RDDGN
OD77 0D 02 3690 290E     375      CLC INPUT+12(3),MSGOF+53  BRANCH IF
OD7D C0 81 0E9D          376      BE ENT25          RDDGN COMMAND
377 *
OD81 0D 01 368F 2904     378      CLC INPUT+11(2),MSGOF+43  BRANCH IF NOT
OD87 F2 01 10            379      JNE ENT18        RDCKD COMMAND
380 *
OD8A 3C 40 369D          381      MVI INPUT+12,C' '   CLEAR UNUSED DISPLAY POSITION
OD8E 3C 07 37E7          382      MVI CFLG,X'07'     SET CMD ENTRY CNTRLS FOR RDCKD
OD92 3C 00 381A          383      MVI R,X'00'      SETUP R BYTE FOR RDCKD
OD96 C0 87 0E9D          384      B ENT25          GO TO PROCESS FLAG FIELD
385 *
OD9A 0C 44 3771 291D     386 ENT18 MVC MSG+68(69),MSGOFN  MSG--SPECIFY READ TYPE
ODA0 F2 87 94            387      J ENT23          GO TO DISPLAY MESSAGE
388 *
389 *
390 *
391 *
ODA3 3C 0A 37E7          392 ENT19 MVI CFLG,CBIT4+CBIT6  CMD ENTRY CNTRLS FOR WRHAE/O
ODA7 3A 02 3819          393      SBN Q,X'02'      SETUP Q BYTE N FIELD FOR WRITE
394 *
ODAB 3C 01 381A          395      MVI R,X'01'      SETUP R BYTE FOR WRHAE
ODAF 0D 02 3690 2947     396      CLC INPUT+12(3),MSG11+25  BRANCH IF
ODB5 F2 81 0D            397      JE ENT20        WRHAE COMMAND
398 *
ODBB 3C 09 381A          399      MVI R,X'09'      SETUP R BYTE FOR WRHAD
ODBC 0D 02 3690 294C     400      CLC INPUT+12(3),MSG11+30  BRANCH IF NOT
ODC2 F2 01 1C            401      JNE ENT21        WRHAD COMMAND
402 *
ODC5 38 80 020C          403 ENT20 TBN SBYTE4,SSW20    BRANCH IF
ODC9 F2 90 D1            404      JF ENT25        WRITE HA IS ALLOWED
405 *
ODCC 0C 63 3790 3791     406      MVC MSGN(100),MSGN+1    CLEAR MESSAGE AREA
ODD2 0C 12 373F 29A2     407      MVC MSG+18(19),MSG12N  MSG--WRITE HA INHIBITED
ODD8 0C 18 375B 2839     408      MVC MSG+46(28),MSG06N  MSG--SEE USERS GUIDE
ODDE F2 87 56            409      J ENT23          GO TO DISPLAY MESSAGE
410 *
ODE1 3C 07 37E7          411 ENT21 MVI CFLG,X'07'     SET CMD ENT CNTRLS WRKD/CKD/REP
412 *
ODE5 0D 01 368F 2961     413      CLC INPUT+11(2),MSG11+51  BRANCH IF NOT
ODEB F2 01 0B            414      JNE ENT22        WRKD COMMAND
415 *
ODEE 3C 00 381A          416      MVI R,X'00'      SETUP R BYTE FOR WRKD
ODF2 3C 40 3690          417      MVI INPUT+12,C' '   CLEAR UNUSED CHARACTER POSITION
ODF6 F2 87 A4            418      J ENT25          GO TO PROCESS FLAG ENTRY
419 *
ODF9 3C 02 381A          420 ENT22 MVI R,X'02'      SETUP R BYTE FOR WRCKD
ODFD 0D 02 3690 295D     421      CLC INPUT+12(3),MSG11+47  BRANCH IF
OE03 F2 81 97            422      JE ENT25        WRCKD COMMAND
423 *
OE06 3C 08 381A          424      MVI R,X'08'      SETUP R BYTE FOR WRCCD
OE0A 0D 02 3690 2958     425      CLC INPUT+12(3),MSG11+42  BRANCH IF

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OE10 F2 81 8A            426      JE ENT25          WRCCD COMMAND
427 *
OE13 3C 03 381A          428      MVI R,X'03'      SETUP R BYTE FOR WRREP
OE17 0D 02 3690 2969     429      CLC INPUT+12(3),MSG11+59  BRANCH IF
OE1D F2 81 7D            430      JE ENT25        WRREP COMMAND
431 *
OE20 3C 02 37E7          432      MVI CFLG,CBIT6    SET CMD ENTRY CNTRLS FOR WRROO
OE24 3C 06 381A          433      MVI R,X'06'      SETUP R BYTE FOR WRROO
OE28 0D 02 3690 2951     434      CLC INPUT+12(3),MSG11+35  BRANCH IF
OE2E F2 81 6C            435      JE ENT25        WRROO COMMAND
436 *
OE31 0C 61 378E 298F     437      MVC MSG+97(98),MSG11N  MSG--SPECIFY WRITE TYPE
438 *
OE37 C0 87 021A          439 ENT23 B PRINT          PRINT
OE3B 01                  440      DC XL1'01'      SPECIFY TYPE
OE3C 64                  441      DC IL1'100'     OF WRITE
OE3D 3790                442      DC AL2(MSGN)
443 *
OE3F C0 87 1FAD          444      B KEYIN         READ RESPONSE
OE43 0C 02 3690 36D7     445      MVC INPUT+12(3),KIN+2  MOVE TO INPUT AREA
446 *
OE49 C0 87 0BEO          447      B ENT01         GO TO PROCESS RESPONSE
448 *
449 *
450 *
451 *
452 ENT24 MVI CFLG,CBIT5+CBIT7  CMD ENTRY CNTRL FOR SCAME/H
OE4D 3C 05 37E7          453      SBN Q,X'03'      SETUP Q BYTE N FIELD FOR SCAN
454 *
OE55 3C 0C 381A          455      MVI R,X'0C'      SETUP R BYTE FOR SCRE
OE59 0D 01 368F 29B7     456      CLC INPUT+11(2),MSG13N-9  BRANCH IF
OE5F F2 81 3B            457      JE ENT25        SCRE COMMAND
458 *
OE62 3C 0D 381A          459      MVI R,X'0D'      SETUP R BYTE FOR SCRHE
OE66 0D 02 3690 29BE     460      CLC INPUT+12(3),MSG13N-2  BRANCH IF
OE6C F2 81 2E            461      JE ENT25        SCANH COMMAND
462 *
OE6F 3C 00 381A          463      MVI R,X'00'      SET UP R BYTE FOR SCE
OE73 3D C5 368E          464      CLI INPUT+10,C'E'   BRANCH IF
OE77 F2 81 23            465      JE ENT25        SCE COMMAND
466 *
OE7A 3C 02 381A          467      MVI R,X'02'      SETUP R BYTE FOR SCHE
OE7E 0D 01 368F 29BA     468      CLC INPUT+11(2),MSG13N-6  BRANCH IF
OE84 F2 81 16            469      JE ENT25        SCHE COMMAND
470 *
471 *
472 *
473 *
OE87 C0 87 021A          474      B PRINT         PRINT
OE8B 01                  475      DC XL1'01'      MSG
OE8C 1E                  476      DC IL1'30'     ENTER
OE8D 29C0                477      DC AL2(MSG13N)  SCAN TYPE
478 *
OE8F C0 87 1FAD          479      B KEYIN         READ RESPONSE
OE93 0C 02 3690 36D7     480      MVC INPUT+12(3),KIN+2  MOVE TO INPUT AREA
481 *
482 *
483 *
484 *
485 ENT25 CLC INPUT+15(2),BLANKS  BRANCH IF
OE9D 0D 01 3693 3661     486      JNE ENT27        USER HAS ENTERED FLAG VALUE
487 *
488 ENT26 MVC INPUT+15(2),D000    DEFAULT FLAG TO '00'
OE9A 0C 01 3693 3630     489 *
490 *
491 *
492 *
OE9C 39 F0 37E7          493      TBF CFLG,X'F0'   GO TO PROCESS CYL ADDR
OE9D B8 80 02            494      TBN FFC(,XR2),X'80'  ENTRY IF FLAG DEFAULT
OE9E F2 90 55            495      JF ENT29        TO '00' WAS CORRECT

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
OEB6	2C 01 3693 02	494	MVC	INPUT+15(2),FFC(XR2)	DEFAULT TO CURRENT FLAG VALUE
OE9B	F2 87 4D	495	J	ENT29	GO TO PROCESS CYL ADDR ENTRY
		496 *			
OEBE	38 F0 3692	497	ENT27	TBN INPUT+14,C'0'	BRANCH IF FIRST FLAG
OEC2	F2 10 0E	498	JT	ENT27A	CHARACTER IS VALID
		499 *			
OEC5	3D C1 3692	500	CLI	INPUT+14,C'A'	BRANCH IF INVALID
OEC9	F2 82 15	501	JL	ENT28	CHARACTER IN FLAG ENTRY
		502 *			
OEC5	3D C1 3692	503	CLI	INPUT+14,C'F'	BRANCH IF INVALID
OED0	F2 84 0E	504	JH	ENT28	CHARACTER IN FLAG ENTRY
		505 *			
OED3	3D C1 3693	506	ENT27A	CLI INPUT+15,C'A'	BRANCH IF INVALID
OED7	F2 82 07	507	JL	ENT28	CHARACTER IN FLAG ENTRY
		508 *			
OEDA	3D C6 3693	509	CLI	INPUT+15,C'F'	BRANCH IF FLAG ENTRY CONTAINS
OEDE	F2 02 2A	510	JNL	ENT29	TWO VALID HEX CHARACTERS
		511 *			
OEE1	0C 16 3743 29D7	512	ENT28	MVC MSG+22(23),MSG14N	MSG--ENTER FLAG
OEE7	0C 1B 375F 2839	513	MVC	MSG+50(28),MSG06N	MSG--SEE USERS GUIDE
		514 *			
OEDD	C0 87 021A	515	B	PRINT	PRINT
OE11	01	516	DC	XL1'01'	ENTER
OE12	33	517	DC	IL1'51'	FLAG
OE13	375F	518	DC	AL2(MSG+50)	BYTE
		519 *			
OE15	3A 01 366B	520	SBN	DATASW,FFREQD	FLAG DATA SWITCH ENTRY REQD
OE16	C0 87 1FAD	521	B	KEYIN	READ RESPONSE
OE17	0C 01 3693 36D6	522	MVC	INPUT+15(2),KIN+1	MOVE TO INPUT AREA
OE18	3B 01 366B	523	SBF	DATASW,FFREQD	RESET DATA SW INDICATOR
		524 *			
OE19	C0 87 0E9D	525	B	ENT25	GO TO PROCESS RESPONSE
		526 *			
		527 *			
		528 *			
		529 *			
		530	ENT29	EQV *	PROCESS CC FIELD ENTRY
		531 *			
OF0B	C0 87 1EAA	532	B	CKDEC	CHECK CC FIELD ENTRY
OF0C	3695	533	DC	AL2(INPUT+17)	ADDRESS OF CC FIELD
OF0D	0F6B	534	DC	AL2(ENT33)	VALID ENTRY RETURN ADDRESS
OF0E	0F4F	535	DC	AL2(ENT32)	INVALID ENTRY RETURN ADDRESS
		536 *			
OF15	38 40 37E7	537	TBN	CFLG,CBIT1	BRANCH IF
OF16	F2 10 33	538	JT	ENT32	SEEK COMMAND
		539 *			
OF1C	39 80 37E7	540	TBF	CFLG,X'80'	BRANCH IF NOT RECAL, RDHA,
OF1D	F2 10 09	541	JT	ENT30	RDSNS, JR RDLOG COMMAND
		542 *			
OF23	0C 02 3697 3630	543	MVC	INPUT+19(3),D000	DEFAULT CC TO 000
OF24	F2 87 3F	544	J	ENT33	GO TO PROCESS HH FIELD
		545 *			
OF2C	38 08 37E7	546	ENT30	TBN CFLG,CBIT4	BRANCH IF
OF2D	F2 10 0E	547	JT	ENT31	WRHA COMMAND
		548 *			
OF33	88 80 08	549	TBN	CCL(XR2),X'80'	BRANCH IF CURRENT LOGICAL
OF34	F2 90 08	550	JF	ENT31	CYLINDER ADDRESS IS UNKNOWN
		551 *			
OF39	2C 02 3697 08	552	MVC	INPUT+19(3),CCL(XR2)	SET CC = CURRENT LOGICAL CYL
OF3A	F2 87 2A	553	J	ENT33	GO TO PROCESS HH ENTRY
		554 *			
OF41	88 80 05	555	ENT31	TBN CCP(XR2),X'80'	BRANCH IF CURRENT PHYSICAL
OF42	F2 90 08	556	JF	ENT32	CYLINDER ADDRESS IS UNKNOWN
		557 *			
OF47	2C 02 3697 05	558	MVC	INPUT+19(3),CCP(XR2)	SET CC = CURRENT PHYSICAL CYL
OF48	F2 87 1C	559	J	ENT33	GO TO PROCESS HH ENTRY
		560 *			
OF4F	0C 31 375E 2A09	561	ENT32	MVC MSG+49(50),MSG15+49	MSG--ENTER CYLINDER ADDR

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
		562 *			
OF55	C0 87 021A	563	B	PRINT	PRINT
OF56	01	564	DC	XL1'01'	ENTER
OF57	32	565	DC	IL1'50'	CYLINDER
OF58	375E	566	DC	AL2(MSG+49)	ADDRESS
		567 *			
OF5D	C0 87 1FAD	568	B	KEYIN	READ RESPONSE
OF5E	0C 02 3697 36D7	569	MVC	INPUT+19(3),KIN+2	MOVE TO INPUT AREA
		570 *			
OF67	C0 87 0F0B	571	B	ENT29	GO TO PROCESS RESPONSE
		572 *			
		573 *			
		574 *			
		575 *			
		576	ENT33	B CKDEC	CHECK HH FIELD ENTRY
OF68	C0 87 1EAA	577	DC	AL2(INPUT+21)	ADDRESS OF HH FIELD
OF69	3699	578	DC	AL2(ENT37)	VALID ENTRY RETURN ADDRESS
OF70	0FCB	579	DC	AL2(ENT36)	INVALID ENTRY RETURN ADDRESS
OF71	0FAF	580 *			
OF72		581	TBN	CFLG,CBIT1	BRANCH IF
OF73		582	JT	ENT36	SEEK COMMAND
		583 *			
OF75	38 40 37E7	584	TBF	CFLG,X'80'	BRANCH IF NOT RECAL, RDHA,
OF76	F2 10 33	585	JT	ENT3	RDSNS, OR RDLOG COMMAND
		586 *			
OF7C	39 80 37E7	587	MVC	INPUT+23(3),D000	DEFAULT HH TO 000
OF7D	F2 10 09	588	J	ENT37	GO TO PROCESS RR FIELD
		589 *			
OF83	0C 02 369B 3630	590	ENT34	TBN CFLG,CBIT4	BRANCH IF
OF84	F2 87 3F	591	JT	ENT35	WRHA COMMAND
		592 *			
OF83	0C 02 369B 3630	593	TBN	HHL(XR2),X'80'	BRANCH IF CURRENT LOGICAL
OF85	F2 87 3F	594	JF	ENT36	HEAD ADDRESS IS UNKNOWN
		595 *			
OF99	2C 02 369B 0E	596	MVC	INPUT+23(3),HHL(XR2)	SET HH = CURRENT LOGICAL HEAD
OF9A	F2 87 2A	597	J	ENT37	GO TO PROCESS RR ENTRY
		598 *			
OFA1	88 80 08	599	ENT35	TBN MHP(XR2),X'80'	BRANCH IF CURRENT PHYSICAL
OFA2	F2 90 08	600	JF	ENT36	HEAD ADDRESS IS UNKNOWN
		601 *			
OFA7	2C 02 369B 0B	602	MVC	INPUT+23(3),MHP(XR2)	SET HH = CURRENT PHYSICAL HEAD
OFA8	F2 87 1C	603	J	ENT37	GO TO PROCESS RR ENTRY
		604 *			
OFAF	0C 19 3746 2A63	605	ENT36	MVC MSG+25(26),MSG16N	MSG--ENTER HEAD ADDRESS
		606 *			
OFB5	C0 87 021A	607	B	PRINT	PRINT
OFB6	01	608	DC	XL1'01'	ENTER
OFB7	19	609	DC	IL1'25'	HEAD
OFB8	3745	610	DC	AL2(MSG+24)	ADDRESS
		611 *			
OFBD	C0 87 1FAD	612	B	KEYIN	READ RESPONSE
OFBE	0C 02 369B 36D7	613	MVC	INPUT+23(3),KIN+2	MOVE TO INPUT AREA
		614 *			
OF7C	C0 87 0F6B	615	B	ENT33	GO TO PROCESS RESPONSE
		616 *			
		617 *			
		618 *			
		619 *			
		620	ENT37	B CKDEC	CHECK RR FIELD ENTRY
OF7C	C0 87 1EAA	621	DC	AL2(INPUT+25)	ADDRESS OF RR FIELD
OF7D	369D	622	DC	AL2(ENT38A)	VALID ENTRY RETURN ADDRESS
OF7E	1022	623	DC	AL2(ENT38)	INVALID ENTRY RETURN ADDRESS
OF7F	0F5	624 *			
		625 *			
OFD5	38 04 37E7	626	TBN	CFLG,CBIT5	BRANCH IF RECORD
OFD6	F2 10 09	627	JT	ENT38	NUMBER ENTRY IS REQUIRED
		628 *			
OFDC	0C 02 369F 3630	628	MVC	INPUT+27(3),D000	DEFAULT RR TO 000
OFDE	F2 87 47	629	J	ENT39	GO TO PROCESS KL ENTRY

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
0FE5 OC 63 3790 3791		630 *	MVC MSGN(100),MSGN+1	CLEAR MESSAGE AREA
0FEB OC 1D 374A 2A81		631 ENT38	MVC MSG+29(30),MSG17N	MSG--ENTER RECORD NUMBER
		632		
		633 *		
OFF1 OD 02 3690 2958		634	CLC INPUT+12(3),MSG11+42	BRANCH IF NOT
OFF7 F2 01 12		635	JNE ENT388	WRCCD COMMAND
		636 *		
OFFA OC 1D 3771 30B5		637	MVC MSG+68(30),MSG67N	BUILD WRCCD
1000 OC 03 3757 30B9		638	MVC MSG+42(4),MSG68N	RR FIELD ENTRY
1006 OC 06 3748 30C0		639	MVC MSG+27(7),MSG69N	PROMPTING MESSAGE
		640 *		
100C CO 87 021A		641 ENT388	B PRINT	PRINT
1010 01	1010	642	DC XL1'01'	ENTER
1011 4D	1011	643	DC IL1'77'	RECORD
1012 3779	1013	644	DC AL2(MSG+76)	NUMBER
		645 *		
1014 CO 87 1FAD		646	B KEYIN	READ RESPONSE
1018 OC 02 369F 36D7		647	MVC INPUT+27(3),KIN+2	MOVE TO INPUT AREA
		648 *		
101E CO 87 0FCB		649	B ENT37	GO TO PROCESS RESPONSE
		650 *		
1022 OD 02 369F 3647		651 ENT38A	CLC INPUT+27(3),D256	BRANCH IF ENTRY
1028 CO 02 0FE5		652	BNL ENT38	IS GREATER THAN 255
		653 *		
		654 *		
		655 *		PROCESS KL FIELD ENTRY
		656 *		
102C B8 80 11		657 ENT39	TBN KLO(,XR2),X*80'	BRANCH IF RO KEY LENGTH
102F F2 10 0A		658	JT ENT40	WAS PREVIOUSLY INITIALIZED
		659 *		
1032 8C 02 11 3630		660	MVC KLO(3,XR2),D000	INITIALIZE RO KEY LENGTH TO 0
1037 8C 02 17 3635		661	MVC DLO(3,XR2),D008	INITIALIZE RO DATA LENGTH TO 8
		662 *		
103C B8 80 14		663 ENT40	TBN KLN(,XR2),X*80'	BRANCH IF RECORD N KEY LENGTH
103F F2 10 0A		664	JT ENT41	WAS PREVIOUSLY INITIALIZED
		665 *		
1042 8C 02 14 3630		666	MVC KLN(3,XR2),D000	INITIALIZE RECORD N KEY LENGTH
1047 8C 02 1A 3647		667	MVC DLN(3,XR2),D256	INITIALIZE REC'D N DATA LENGTH
		668 *		
104C CO 87 1EAA		669 ENT41	B CKDEC	CHECK KL FIELD ENTRY
1050 36A1	1051	670	DC AL2(INPUT+29)	ADDRESS OF KL FIELD
1052 10A5	1053	671	DC AL2(ENT42A)	VALID ENTRY RETURN ADDRESS
1054 10B9	1055	672	DC AL2(ENT42)	INVALID ENTRY RETURN ADDRESS
		673 *		
1056 OC 02 36A3 3630		674	MVC INPUT+31(3),D000	SET KL ENTRY TO 000
		675 *		
105C 38 02 37E7		676	TBN CFLG,CBIT6	BRANCH IF NO KEY
1060 F2 90 4C		677	JF ENT43	LENGTH ENTRY IS REQUIRED
		678 *		
1063 OD 02 3690 2958		679	CLC INPUT+12(3),MSG11+42	BRANCH IF
1069 F2 81 43		680	JE ENT43	WRCCD COMMAND
		681 *		
106C 2C 02 36A3 11		682	MVC INPUT+31(3),KLO(,XR2)	SET KL = RECORD 0 KEY LENGTH
		683 *		
1071 38 04 37E7		684	TBN CFLG,CBIT5	BRANCH IF NO RR ENTRY
1075 F2 90 37		685	JF ENT43	WAS REQUIRED
		686 *		
1078 OD 02 369F 3630		687	CLC INPUT+27(3),D000	BRANCH IF RECORD 0
107E F2 81 2E		688	JE ENT43	WAS SPECIFIED IN RR FIELD
		689 *		
1081 2C 02 36A3 14		690	MVC INPUT+31(3),KLN(,XR2)	SET KL = RECORD N KEY LENGTH
1086 F2 87 26		691	J ENT43	GO TO PROCESS DL FIELD
		692 *		
1089 OC 1A 3747 2A9C		693 ENT42	MVC MSG+26(27),MSG18N	MSG--ENTER KEY LENGTH
		694 *		
108F CO 87 021A		695	B PRINT	PRINT
1093 01	1093	696	DC XL1'01'	ENTER
1094 1B	1094	697	DC IL1'27'	KEY

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	LENGTH
1095 3747	1096	698	DC AL2(MSG+26)	
		699 *		
1097 CO 87 1FAD		700	B KEYIN	READ RESPONSE
109B OC 02 36A3 36D7		701	MVC INPUT+31(3),KIN+2	MOVE TO INPUT AREA
		702 *		
10A1 CO 87 102C		703	B ENT39	GO TO PROCESS RESPONSE
		704 *		
10A5 OD 02 36A3 3647		705 ENT42A	CLC INPUT+31(3),D256	BRANCH IF ENTRY
10AB CO 02 1089		706	BNL ENT42	IS GREATER THAN 255
		707 *		
		708 *		
		709 *		PROCESS DL FIELD ENTRY
		710 *		
10AF CO 87 1EAA		711 ENT43	B CKDEC	CHECK DL FIELD ENTRY
10B3 36A5	10B4	712	DC AL2(INPUT+33)	ADDRESS OF DL FIELD
10B5 1114	10B6	713	DC AL2(ENT45)	VALID ENTRY RETURN ADDRESS
10B7 10F2	10B8	714	DC AL2(ENT44)	INVALID ENTRY RETURN ADDRESS
		715 *		
10B9 OC 02 36A7 3630		716	MVC INPUT+35(3),D000	SET DL ENTRY TO 000
		717 *		
10BF 38 02 37E7		718	TBN CFLG,CBIT6	BRANCH IF NO DATA
10C3 F2 90 4E		719	JF ENT45	LENGTH ENTRY IS REQUIRED
		720 *		
10C6 OC 02 36A7 3647		721	MVC INPUT+35(3),D256	SET DL ENTRY TO 256
		722 *		
10CC OD 02 3690 2958		723	CLC INPUT+12(3),MSG11+42	BRANCH IF
10D2 F2 81 3F		724	JE ENT45	WRCCD COMMAND
		725 *		
10D5 2C 02 36A7 17		726	MVC INPUT+35(3),DLO(,XR2)	SET DL = RECORD 0 DATA LENGTH
		727 *		
10DA 38 04 37E7		728	TBN CFLG,CBIT5	BRANCH IF NO RR ENTRY
10DE F2 90 33		729	JF ENT45	WAS REQUIRED
		730 *		
10E1 OD 02 369F 3630		731	CLC INPUT+27(3),D000	BRANCH IF RECORD 0
10E7 F2 81 2A		732	JE ENT45	WAS SPECIFIED IN RR FIELD
		733 *		
10EA 2C 02 36A7 1A		734	MVC INPUT+35(3),DLN(,XR2)	SET DL = RECORD N DATA LENGTH
10EF F2 87 22		735	J ENT45	GO TO PROCESS NN FIELD
		736 *		
10F2 OC 1B 3748 2AB8		737 ENT44	MVC MSG+27(28),MSG19N	MSG--ENTER DATA LENGTH
10F8 OC 25 376E 2ADD		738	MVC MSG+65(38),MSG20N	MSG--KL+DL MUST NOT EXCEED 256
		739 *		
10FE CO 87 021A		740	B PRINT	PRINT
1102 01	1102	741	DC XL1'01'	ENTER
1103 42	1103	742	DC IL1'66'	DATA
1104 376E	1105	743	DC AL2(MSG+65)	LENGTH
		744 *		
1106 CO 87 1FAD		745	B KEYIN	READ RESPONSE
110A OC 02 36A7 36D7		746	MVC INPUT+35(3),KIN+2	MOVE TO INPUT AREA
		747 *		
1110 CO 87 10AF		748	B ENT43	GO TO PROCESS RESPONSE
		749 *		
		750 *		
		751 *		PROCESS NN FIELD ENTRY
		752 *		
1114 CO 87 1EAA		753 ENT45	B CKDEC	CHECK NN FIELD ENTRY
1118 36A9	1119	754	DC AL2(INPUT+37)	ADDRESS OF NN FIELD
111A 11A8	1118	755	DC AL2(ENT48)	VALID ENTRY RETURN ADDRESS
111C 1137	111D	756	DC AL2(ENT47)	INVALID ENTRY RETURN ADDRESS
		757 *		
111E OD 02 369F 3630		758	CLC INPUT+27(3),D000	BRANCH IF RR
1124 F2 81 07		759	JE ENT46	ENTRY WAS 000
		760 *		
1127 38 01 37E7		761	TBN CFLG,CBIT7	BRANCH IF
112B F2 10 09		762	JT ENT47	NN ENTRY IS REQUIRED
		763 *		
112E OC 02 36AB 3630		764 ENT46	MVC INPUT+39(3),D000	SET NN ENTRY TO 000
1134 F2 87 95		765	J ENT52	GO TO PROCESS DDDF ENTRY

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1137	OC 63	3790	3791	766 * MVC MSGN(100),MSGN+1
1130	OC 42	376F	2820	767 ENT47 MVC MSG+66(67),MSG21A
1143	38 01	37E7		768 * MVC MSG+66(67),MSG21A
1147	F2 90	6C		769 * MVC MSG+66(67),MSG21A
114A	OD 01	368F	2904	770 TBN CFLG,CBIT7
1150	F2 01	39		771 JF ENT51
1153	OC 1D	378D	284A	772 * CLC INPUT+11(2),MSGOF+43
1159	3D FF	0203		773 JNE ENT47A
115D	F2 81	56		774 * MVC MSG+96(30),MSG21N
1160	OC 02	378A	3641	775 * MVC MSG+96(30),MSG21N
1166	OD 01	0203	365D	776 * CLC SIZE,X'FF'
116C	F2 81	03		777 * JF ENT51
1172	38 01	020D		778 * MVC MSGN-6(3),D062
1176	CO 90	1183		779 * CLC SIZE(2),X8000
117A	OC 02	378A	3638	780 * JF ENT51
1180	F2 87	33		781 * MVC MSGN-6(3),D016
1183	OC 02	378A	363E	782 * J ENT51
1189	F2 87	2A		783 * MVC MSGN-6(3),D054
118C	OD 02	3690	2958	784 * J ENT51
1192	F2 01	21		785 ENTXX1 TBN SBYTE5,SSW2F
1195	3C F3	373F		786 * BF ENTXX2
1199	OC 02	3743	3638	787 * MVC MSGN-6(3),D016
119F	OC 1D	378D	3085	788 * J ENT51
11A5	F2 87	0E		789 ENTXX2 MVC MSGN-6(3),D054
11A8	OD 02	36AB	3647	790 * J ENT51
11AE	CO 02	1137		791 * CLC INPUT+12(3),MSG11+42
11B2	CO 87	11CC		792 ENT47A JNE ENT51
11B6	CO 87	021A		793 * MVC MSG+18,C'3'
11BA	01			794 * MVC MSG+22(3),D047
11BB	61			795 * MVC MSG+96(30),MSG67N
11BC	378D			796 * J ENT51
11BE	CO 87	1FAD		797 * CLC INPUTN(3),D256
11C2	OC 02	36AB	36D7	798 * BNL ENT47
11C8	CO 87	1114		799 * B ENT52
11D0	OC 01	3688	3661	800 ENT48 CLC INPUTN(3),D256
11D6	3C 40	3688		801 * BNL ENT47
11DA	3C 40	3691		802 * B ENT52
11DE	3C 40	3694		803 * B ENT52
11E2	3C 40	3698		804 * B ENT52
11E6	3C 40	369C		805 ENT51 B PRINT
11EA	3C 40	36A0		806 * DC XL1'01'
11EE	3C 40	36A4		807 * DC IL1'97'
11F2	3C 40	36A8		808 * DC AL2(MSG+96)
11F6	OC 27	36D4	36AB	809 * B KEYIN
11FC	38 02	3819		810 * MVC INPUT+39(3),KIN+2
1200	F2 90	A9		811 * MVC INPUT+39(3),KIN+2
				812 * B ENT45
				813 * B ENT45
				814 * B ENT45
				815 * B ENT45
				816 * B ENT45
				817 * B ENT45
				818 EN.52 MVI INPUT,C' '
				819 * MVC INPUT+4(2),BLANKS
				820 * MVI INPUT+7,C' '
				821 * MVI INPUT+13,C' '
				822 * MVI INPUT+16,C' '
				823 * MVI INPUT+20,C' '
				824 * MVI INPUT+24,C' '
				825 * MVI INPUT+28,C' '
				826 * MVI INPUT+32,C' '
				827 * MVI INPUT+36,C' '
				828 * MVC INSAVN,INPUTN
				829 * MVC INSAVN,INPUTN
				830 * MVC INSAVN,INPUTN
				831 * TBN Q,X'02'
				832 * JF ENT60
				833 * JF ENT60

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1203	834	ENT52A	EQU *	DATA SW ENTRY REQD
	835	TBN	DEVICE,X'80'	BRANCH IF YES
	836	JF	ENT52B	MSG--ENTER WR DATA
	837	MVC	MSG+16(17),MSG23A	MSG--SCAN ARGUMENT
	838	MVC	MSG+47(31),MSG23B	
	839 *			
	840	B	PRINT	PRINT
	121A	841	DC XL1'01'	ENTER
	121B	842	DC IL1'48'	WRITE DATA
	121D	843	DC AL2(MSG+47)	SCAN ARGUMENT
	844 *			
	845	MVC	MSG+78(79),MSG23N	MSG-FORMAT OF INPUT
	846 *			
	847	B	PRINT	PRINT
	1228	848	DC XL1'01'	FORMAT
	1229	849	DC IL1'79'	PARAMETERS
	122B	850	DC AL2(MSG+78)	
	851 *			
	852	ENT52B	SBN DATASW,SCNARG	SET ON SCAN/WRITE IND
	853	B	KEYIN	READ RESPONSE
	854	MVC	INPUTN(40),KIN+39	MOVE TO INPUT AREA
	855	SBF	DATASW,SCNARG	RESET SCAN/WRITE IND
	856 *			
	857	ST	LPXR1,XR1	SAVE INDEX REG 1
	858 *			
	859	LA	INPUT-1,XR1	XR1 POINTS TO DDDF ENTRY
	860 *			
	861	ENT53	LA 1(,XR1),XR1	INCREMENT FIELD POINTER
	862 *			
	863	MVI	WORKN,4	MAX DECIMAL CHARACTER COUNT
	864 *			
	865	ENT53A	TBN 0(,XR1),C'0'	BRANCH IF NOT
	866	JF	ENT53B	DECIMAL CHARACTER
	867 *			
	868	LA	1(,XR1),XR1	ADVANCE INPUT FIELD POINTER
	869	SLC	WORKN(1),11	DECREMENT CHARACTER COUNTER
	870	BNZ	ENT53A	LOOP IF NOT YET FOURTH CHAR
	871 *			
	872	ENT53B	CLI 0(,XR1),C'X'	BRANCH IF DECIMAL VALUE
	873	JNE	ENT57	IS NOT FOLLOWED BY AN 'X'
	874 *			
	875	LA	1(,XR1),XR1	ADVANCE INPUT POINTER
	876 *			
	877	ENT54	MVI WORKN,2	CHARACTER COUNT = 2
	878 *			
	879	ENT54A	TBN 0(,XR1),C'0'	BRANCH IF VALID
	880	JT	ENT55	HEX CHARACTERS 0-9
	881 *			
	882	CLI	0(,XR1),C'A'	BRANCH IF NOT
	883	JL	ENT57	VALID HEX CHARACTER
	884 *			
	885	CLI	0(,XR1),C'F'	BRANCH IF NOT
	886	JH	ENT57	VALID HEX CHARACTER
	887 *			
	888	ENT55	LA 1(,XR1),XR1	ADVANCE INPUT POINTER
	889	SLC	WORKN(1),11	DECREMENT CHARACTER COUNT
	890	BNZ	ENT54A	BRANCH IF ANOTHER CHAR TO CHECK
	891 *			
	892	CLI	0(,XR1),C'.'	BRANCH IF ANOTHER
	893	BE	ENT53	FIELD IS TO BE CHECKED
	894 *			
	895	CLI	0(,XR1),C'.'	BRANCH IF
	896	JE	ENT58	END OF INPUT
	897 *			
	898	B	ENT54	
	899 *			
	900	ENT57	L LPXR1,XR1	RESTORE INDEX REGISTER 1
	901 *			

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
12A1 C0 87 1203	902 * B ENT52A GO TO PROCESS RESPONSE
12A5 7C 4B 00	903 * 904 * 905 ENT58 MVI O(,XR1),C'. 906 L LPXR1,XR1 TERMINATE FIELD WITH A PERIOD
12A8 35 01 37EA	907 * 908 * 909 * SAVE NEW RESIDUAL VALUES
12AC BA 80 00	910 * 911 ENT60 SBN DFLG(,XR2),DBIT0 SET 'DRIVE IN USE' INDICATOR
12AF 38 1C 37E7	912 * 913 TBN CFLG,CBIT3 BRANCH IF
12B3 F2 10 89	914 JT ENT67 RDSNS OR RDLOG COMMAND
12B6 38 80 37E7	915 * 916 TBN CFLG,CBIT0 BRANCH IF NOT
12BA F2 90 20	917 JF ENT62 RECAL COMMAND
12BD 8C 02 0E 3630	918 * 919 MVC HHL(3,XR2),D000 SET CURRENT FF, CC, AND HH
12C2 AC 0A 0B 0E	920 MVC HHP(11,XR2),HHL(,XR2) VALUES ALL TO ZEROS
12C6 8C 02 11 3630	921 * 922 ENT61 MVC KLO(3,XR2),D000 INITIALIZE
12CB 8C 02 17 3635	923 MVC DLO(3,XR2),D008 DEFAULT KEY
12D0 8C 02 14 3630	924 MVC KLN(3,XR2),D000 AND DATA LENGTH
12D5 8C 02 1A 3647	925 MVC DLN(3,XR2),D256 VALUES
12DA F2 87 62	926 * 927 J ENT67 GO TO PRINT COMMAND ENTRY
12DD 8C 01 02 3630	928 * 929 ENT62 MVC FFC(2,XR2),D000 SET CURRENT FF TO 00
12E2 38 40 37E7	930 * 931 TBN CFLG,CBIT1 BRANCH IF
12E6 F2 10 05	932 JT ENT63 SEEK COMMAND
12E9 8C 01 02 3664	933 * 934 MVC FFC(2,XR2),XXX SET CURRENT FF TO XX
12EE 39 68 37E7	935 * 936 ENT63 TBF CFLG,CBIT1+CBIT2+CBIT4 BRANCH IF NOT SEEK,
12F2 F2 10 0A	937 JT ENT64 RDHA, OR WRHA COMMAND
12F5 8C 02 05 3664	938 * 939 MVC CCP(3,XR2),XXX SET CURRENT PHYSICAL CC TO XXX
12FA 8C 02 0B 3664	940 MVC HHP(3,XR2),XXX SET CURRENT PHYSICAL HH TO XXX
12FF 38 0B 37E7	941 * 942 ENT64 TBN CFLG,CBIT4 BRANCH IF
1303 F2 10 0A	943 JT ENT65 WRHA COMMAND
1306 8C 02 08 3664	944 * 945 MVC CCL(3,XR2),XXX SET CURRENT LOGICAL CC TO XXX
130B 8C 02 0E 3664	946 MVC HHL(3,XR2),XXX SET CURRENT LOGICAL HH TO XXX
1310 38 40 37E7	947 * 948 ENT65 TBN CFLG,CBIT1 BRANCH IF
1314 C0 10 12C6	949 BT ENT61 SEEK COMMAND
1318 38 04 37E7	950 * 951 TBN CFLG,CBIT5 BRANCH IF NO
131C F2 90 16	952 JF ENT66 RR ENTRY WAS REQUIRED
131F 0D 02 36C8 3630	953 * 954 CLC INSAVE+27(3),D000 BRANCH IF
1325 F2 81 0D	955 JE ENT66 RR ENTRY WAS 000
1328 8C 02 14 3664	956 * 957 MVC KLN(3,XR2),XXX SET RECORD N KEY LENGTH AND
132D 8C 02 1A 3664	958 MVC DLN(3,XR2),XXX DATA LENGTH TO XXX
1332 F2 87 0A	959 * 960 J ENT67 GO TO PRINT COMMAND ENTERED
1335 8C 02 11 3664	961 * 962 ENT66 MVC KLO(3,XR2),XXX SET RECORD O KEY LENGTH AND
133A 8C 02 17 3664	963 MVC DLO(3,XR2),XXX DATA LENGTH TO XXX
	964 * 965 * PRINT COMMAND AS ENTERED
133F 38 40 37E5	966 * 967 * 968 ENT67 EQU * 133F IS IT END COMMAND
	969 TBN FLAGS,BIT1

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
1343 C0 10 13FC	970 BT SELECT GO TO OPTION SELECT
1347 38 80 365E	971 * 972 TBN DEVICE,X'80' DATA SWITCH ENTRY?
1348 F2 10 08	973 JT ENT67A BRANCH IF NO
134E C0 87 021A	974 * 975 B PRINT
1352 02	976 DC XL1'02' COMMAND
1353 23	977 DC AL1(MSG05N-MSG05+1) ENTRY
1354 27EE	978 DC AL2(MSG05N) HEADING
1356 0C 63 3790 3791	979 * 980 ENT67A MVC MSGN(100),MSGN+1 CLEAR MESSAGE AREA
135C 0C 22 374F 36D4	981 MVC MSG+34(35),INSAVN SET UP TO PRINT COMMAND
1362 38 02 3819	982 * 983 TBN Q,X'02' BRANCH IF NO DDDF
1366 F2 90 06	984 JF ENT68 ENTRY REQUIRED
1369 0C 27 377D 36AB	985 MVC MSG+80(40),INPUTN
136F 0C 09 3787 3108	986 * 987 ENT68 MVC MSG+90(10),MSG72N SET UP MESSAGE POINTER
1375 0C 01 378A 3683	988 MVC MSG+93(2),CMDCNT SET UP COMMAND COUNT
1378 C0 87 021A	989 * 990 B PRINT
137F 02	991 DC XL1'02' COMMAND
1380 5E	992 DC IL1'94' ENTRY
1381 378A	993 DC AL2(MSG+93) VALUES
	994 * 995 * COMPRESS AND SAVE COMMAND IN COMMAND EXECUTION TABLE
1383 3D E7 368B	996 * 997 * 998 ENT69 CLI INSAVE+14,C'X' BRANCH IF FF FIELD
1387 F2 01 07	999 JNE ENT70 CONTAINS VALID HEX CHARACTERS
138A 3A 80 37E8	1000 * 1001 SBN CFLGN,CBIT8 SET FF=XX INDICATOR AND
138E F2 87 09	1002 J ENT71 ENT71 BYPASS HEX TO BINARY CONV
1391 C0 87 0226	1003 * 1004 ENT70 B PACK
1395 02	1005 DC IL1'2' CONVERT
1396 368C	1006 DC AL2(INSAVE+15) FF FIELD
1398 381F	1007 DC AL2(IDDCF) TO BINARY
139A C0 87 1F19	1008 * 1009 ENT71 B CNVRT
139E 00	1010 DC XL1'00' CONVERT
139F 36D4	1011 DC AL2(INSAVE+39) NN FIELD
13A1 3828	1012 DC AL2(IDDCFN) TO BINARY
13A3 C0 87 1F19	1013 * 1014 B CNVRT
13A7 08	1015 DC AL1(CBIT12) CONVERT
13A8 36D0	1016 DC AL2(INSAVE+35) DL FIELD
13AA 3827	1017 DC AL2(IDDCF+8) TO BINARY
13AC C0 87 1F19	1018 * 1019 B CNVRT
13B0 10	1020 DC AL1(CBIT11) CONVERT
13B1 36CC	1021 DC AL2(INSAVE+31) KL FIELD
13B3 3825	1022 DC AL2(IDDCF+6) TO BINARY
13B5 C0 87 1F19	1023 * 1024 B CNVRT
13B9 00	1025 DC XL1'00' CONVERT
13BA 36C8	1026 DC AL2(INSAVE+27) RR FIELD
13BC 3824	1027 DC AL2(IDDCF+5) TO BINARY
13BE C0 87 1F19	1028 * 1029 B CNVRT
13C2 20	1030 DC AL1(CBIT10) CONVERT
13C3 36C4	1031 DC AL2(INSAVE+23) HH FIELD
13C5 3823	1032 DC AL2(IDDCF+4) TO BINARY
13C7 C0 87 1F19	1033 * 1034 B CNVRT
13CB 40	1035 DC AL1(CBIT9) CONVERT
13CC 36C0	1036 DC AL2(INSAVE+19) CC FIELD
13CE 3821	1037 DC AL2(IDDCF+2) TO BINARY

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

1300 4C 01 01 37E8      1038 *      MVC  CFLGS(2,XR1),CFLGM
1305 4C 01 03 381A      1039      MVC  SIOR(2,XR1),R
13DA 4C 09 0D 3828      1040      MVC  DDCF(10,XR1),IDDCFN
                               1041
130F D2 01 10          1042 *      LA   16(,XR1),XR1
13E2 06 01 3683 3632    1043      AZ   CMDCNT,D01(2)
                               1044
13E8 38 02 3819        1045 *      TBN  Q,X'02'
13EC C0 90 0B91        1046      BF   NXCMD
                               1047
13F0 4C 27 27 36AB     1048 *      MVC  39(40,XR1),INPUTN
                               1049
13F5 D2 01 28          1050 *      LA   40(,XR1),XR1
                               1051
13F8 C0 87 0B91        1052 *      B    NXCMD
                               1053
                               1054 *
    
```

```

MOVE CMD EXECUTION CNTRLS,
SID Q AND R BYTES, AND
DDCF TO CMD EXECUTION TBL

ADVANCE COMMAND TABLE POINTER
ADVANCE COMMAND ID

GO TO ENTER NEXT COMMAND IF
NO DDDF ENTRY IS REQUIRED

SAVE DDDF FIELD ENTRY

ADVANCE COMMAND TABLE POINTER
GO TO PROCESS NEXT CMD ENTRY
    
```

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

1056 *****
1057 *
1058 *
1059 *
1060 *****
1061 *
13FC 1062 SELECT EQU *
1063 *
1064      MVI  KBSTAT,0          RESET K/B STATUS INDICATOR
1065 *
1066      MVC  MSG+39(40),MSG27A  MSG - ENTER OPTION
1067      B    PRNTAA
1068 *
1069      TBN  PRTFLG,BITO        FIRST TIME THROUGH?
1070      SBN  PRTFLG,BITO        SET FIRST TIME IND ON
1071      JT   SEL00             BRANCH IF FIRST TIME
1072 *
1073      MVC  MSG+39(40),MSG27+39  MSG-0-LOOP COMMAND SEQUENCE
1074      B    PRNTAA
1075      MVC  MSG+39(40),MSG27+79  MSG-1-BYPASS ERROR PRINTING
1076      B    PRNTAA
1077      MVC  MSG+39(40),MSG27+119  MSG-2-BYPASS ERROR HALTS
1078      B    PRNTAA
1079      MVC  MSG+39(40),MSG27+159  MSG-3-BYPASS HALTS AND PRINTING
1080      B    PRNTAA
1081      MVC  MSG+39(40),MSG27+199  MSG-4-EXECUTE AND PRINT RESULTS
1082      B    PRNTAA
1083 *
1084 SFLOO      SBF  FLAGS,X'BF'   RESET PROGRAM INDICATORS
1085 *
1086      CLC  MSG+2+16(6),D000     BRANCH IF LOOP
1087      JNE  SEL01               COUNTER IS NOT ZERO
1088 *
1089      SBN  IDDCR,1            START DDDF AND DDCF
1090      SBN  IDDDR,1            ON EVEN ADDRESS BOUNDARY
1091 *
1092      J    SEL02             GO TO DISPLAY MESSAGE
1093 *
1094 SEL01      MVC  MSG+39(40),MSG62N
1095      B    PRNTAA
1096 *
1097 SEL02      MVC  MSG62+16(6),D000  RESET LOOP AND
1098      MVC  MSG62+36(6),D000  ERROR COUNTERS
1099      SBN  DATASW,SELOPT     SET OPTION SWITCH ON
1100 *
1101 SEL03      B    KEYIN
1102 *
1103      CLI  KIN,C'0'          GO TO REPEAT
1104      BL  SEL04             DISPLAY IF
1105      CLI  KIN,C'4'          OPTION SELECTION
1106      BH  SEL04             IS INVALID
1107 *
1108      MVC  OPTION(1),KIN     SAVE OPTION SELECTION
1109      SBF  DATASW,SELOPT     SET OPTION SWITCH OFF
1110      B    XEQCMD
1111 *
1498 1112 SEL04 EQU *
1113      MVC  MSG+39(40),MSG71N
1114      B    PRNTAA
1115      B    SEL03
1116 *
    
```

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1118	*			*****
1119	*			
1120	*			PRINT ROUTINE
1121	*			
1122	*			*****
1123	*			
1449	34	08	1488	
1440	CO	87	021A	
1481	01			
1482	28			
1483	3754			
1485	CO	87	0000	
1124	PRNTAA	ST		SAVARR+3,ARR SAVE RETURN ADDRESS
1125	B			PRINT GO PRINT MESSAGE
1481	1126	DC		XL1*01' MESSAGE LENGTH
1482	1127	DC		IL1*40' MESSAGE ADDRESS
1484	1128	DC		AL2(MSG+39) RETURN
1129	SAVARR	B		*--*

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1131	*			*****
1132	*			
1133	*			COMMAND SEQUENCE EXECUTION
1134	*			
1135	*			*****
1136	*			
1489	1137	XEQCMD	EQU	*
1138	TBN			KBSTAT,X'80' BRANCH IF
1139	SBF			KBSTAT,X'80' CANCEL
1140	BT			END15C REQUESTED
1141	TBN			KBSTAT,X'40' BRANCH IF
1142	BT			LINK END REQUESTED
1143	TBN			KBSTAT,X'20' BRANCH IF
1144	BT			AMOPRN AMOP REQUESTED
1145	*			
1146	TBN			DEVICE,X'80' BRANCH IF
1147	JT			XEQO 5471 PRESENT
1148	*			
1149	SNS			SWITCH,X'00' READ DATA SWITCHES
1150	CLC			SWITCH,LPEND BRANCH IF
1151	BE			END15C LOOP END REQUESTED
1152	*			
1153	XEQO	MVI		K,0 INITIALIZE IOP K REG VALUE
1154	*			
1155	TBN			COM,ADRSTP BRANCH IF IOP
1156	JF			XEQO ADDRESS STOP IS NOT ENABLED
1157	*			
1158	MVI			K,X'04' SETUP K REG VALUE FOR ADDR STOP
1159	*			
1160	XEQO	LA		RESET,XR1 POINT TO SVP COMMAND STRING
1161	*			
1162	XEQO0A	MVC		WORKN(2),1(,XR1) EXECUTE
1163	LIO			WORKN,X'C5' SVP COMMAND
1164	LA			2(,XR1),XR1 SEQUENCE TO
1165	CLI			0(,XR1),X'FF' SIMULATE
1166	BNE			XEQO0A SYSTEM RESET
1167	*			
1168	LA			CMDTBL,XR1 POINT TO CMD EXECUTION TABLE
1169	*			
1170	MVC			CMDID(2),D000 INITIALIZE COMMAND ID
1171	*			
1172	SBN			FLAGS,BIT2+BIT4 SET PROGRAM INDICATORS
1173	*			
1174	CLC			MSG62+16(6),D999 BRANCH IF LOOP COUNTER
1175	JE			XEQO0B HAS REACHED ITS MAXIMUM VALUE
1176	*			
1177	SBF			FLAGS,BIT4 RESET 'LOOP CNT OVERFLOW' IND
1178	AZ			MSG62+16(6),D01(2) INCREMENT LOOP COUNTER
1179	*			
1180	XEQO0B	SIO		X'7E',X'C4' RESET ALL 3340 INTERRUPTS
1181	*			
1182	SBF			DRVWK1,X'17' RESET
1183	SBF			DRVWK2,X'17' INTERRUPT
1184	*			
1185	SBF			FLAGS,BIT3 RESET COMMON ERROR INDICATOR
1186	*			
1187	MVC			MSGN(100),MSGN+1 BUILD EXECUTION
1188	MVC			MSG+58(59),MSG63N IN PROGRESS DISPLAY
1189	*			
1190	TBN			FLAGS,BIT5 IS PRINT INHIBITED
1191	JT			XEQO0D
1192	*			
1193	TBN			DEVICE,X'80' BRANCH IF
1194	JT			XEQO1B 5471 REQUESTED
1195	*			
1196	MVC			MSG+90(56),MSG79N MSG-PUT OFF IN SWITCHES TO HAL
1197	B			PRINT
1198	DC			XL1*02' COMMAND EXECUTION
1489	38	80	3702	
1480	38	80	3702	
14C1	CO	10	10BE	
14C5	38	40	3702	
14C9	CO	10	0216	
14CD	38	20	3702	
14D1	CO	10	20A1	
14D5	38	80	365E	
14D9	F2	10	0E	
14DC	30	00	35B1	
14E0	0D	01	35B1	35BE
14E6	CO	81	10BE	
14EA	3C	00	371F	
14EE	38	80	0A19	
14F2	F2	90	04	
14F5	3C	04	371F	
14F9	C2	01	370F	
14FD	1C	01	3838	01
1502	31	C5	3838	
1506	D2	01	02	
1509	7D	FF	00	
150C	CO	01	14FD	
1510	C2	01	38AD	
1514	0C	01	37FE	3630
151A	3A	28	37E5	
151E	0D	05	2F8F	364D
1524	F2	81	0A	
1527	3B	08	37E5	
152B	06	41	2F8F	3632
1531	F3	C4	7E	
1534	3B	17	3839	
1538	3B	17	3873	
153C	3B	10	37E5	
1540	0C	63	3790	3791
1546	0C	3A	3767	2FE1
154C	38	04	37E5	
1550	F2	10	15	
1553	38	80	365E	
1557	F2	10	06	
155A	0C	37	3787	31E7
1560	CO	87	021A	
1564	02			

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1565 5C		1565 1199	DC	IL1'92'
1566 3788		1567 1200	DC	AL2(MSG+91)
		1201 *		IN PROGRESS
1568 3A 04 37E5		1202 XEQ00D	SBN	FLAGS,BIT5 INHIBIT PRINT
		1203 *		
156C 0C 63 3790 3791		1204	MVC	MSGN(100),MSGN+1 CLEAR
		1205 *		
1572 3C 00 3818		1206	MVI	RDSNS,0 CLEAR
1576 0C 16 3817 3818		1207	MVC	RDSNS-1(23),RDSNS DIAG SNS DATA AREA
		1208 *		
157C F3 C4 80		1209	SIO	X'80',X'C4' ENABLE 3340 INTERRUPTS
		1210 *		
157F 31 C5 372A		1211	LIO	CEMODE,X'C5' SET X REG CE MODE INDICATORS
		1212 *		
1583 38 04 020C		1213	TBN	SBYTE4,SSW25 SKIP IF NO OVERRIDE
1587 F2 90 04		1214	JF	XEQ00C ON WRHA PREREQUISITES
		1215 *		
158A 31 C5 372C		1216	LIO	CEWR,X'C5' SET X REG WRHA PREREQ OVERRIDE
		1217 *		
158E 31 C5 3724		1218 XEQ00C	LIO	SVPREQ,X'C5' SET SVP REQUEST
		1219 *		
1592 38 01 3704		1220	TBN	IDDCR,1 ALTERNATE
1596 3A 01 3704		1221	SBN	IDDCR,1 STARTING DDCF
159A 3A 01 3706		1222	SBN	IDDDR,1 AND DDDF ADDRESS
159E F2 90 08		1223	JF	XEQ01 (ODD / EVEN)
15A1 38 01 3704		1224	SBF	IDDCR,1 EACH PASS
15A5 38 01 3706		1225	SBF	IDDDR,1
		1226 *		
		1227 *		
		1228 *		SETUP DRIVE DEPENDANT WORK AREA ADDRESS
		1229 *		
15A9 06 01 37FE 3632		1230 XEQ01	AZ	CMDID(2),DOI(2) ADVANCE CURRENT COMMAND ID
		1231 *		
		1232 *		
15AF C2 02 3873		1233	LA	DRVWK2,XR2 POINT TO DRIVE 2 WORK AREA
15B3 78 08 02		1234	TBN	SIOQ(XR1),X'08' BRANCH IF COMMAND
15B6 F2 10 04		1235	JT	XEQ02 IS ADDRESSED TO DRIVE 2
		1236 *		
15B9 C2 02 3839		1237	LA	DRVWK1,XR2 POINT TO DRIVE 1 WORK AREA
		1238 *		
		1239 *		
		1240 *		SETUP SIO AND TIO INSTRUCTIONS
		1241 *		
158D 1C 01 37E8 01		1242 XEQ02	MVC	CFLGN(2),CFLGS(XR1) GET CONTROL BYTES FROM TABLE
		1243 *		
15C2 1C 01 1781 03		1244	MVC	SIO+2(2),SIO(XR1) MOVE Q AND R BYTES TO SIO
		1245 *		
15C7 1C 00 177C 02		1246	MVC	TIORDY+1(1),SIOQ(XR1) SETUP Q BYTE
15CC 38 07 177C		1247	SBF	TIORDY+1,X'07' IN TIO 'NOT RDY / UNIT CHECK'
15D0 0C 00 1788 177C		1248	MVC	TIOBSY+1(1),TIORDY+1 AND TIO 'SEEK BUSY'
15D6 3A 01 1788		1249	SBN	TIOBSY+1,X'01' INSTRUCTIONS
		1250 *		
		1251 *		
		1252 *		BUILD INITIAL DISK DRIVE CONTROL FIELD (DDCF)
		1253 *		
15DA 1C 09 3828 0D		1254 XEQ03	MVC	IDDCFN(10),DDCF(XR1) GET DDCF FROM COMMAND TABLE
		1255 *		
15DF 38 80 37E8		1256	TBN	CFLGN,CBIT8 BRANCH IF FF
15E3 F2 90 05		1257	JF	XEQ04 FIELD IS COMPLETE
		1258 *		
15E6 2C 00 381F 02		1259	MVC	IDDCF(1),FFC(XR2) USE CURRENT FLAG IN FF FIELD
		1260 *		
15E8 38 40 37E8		1261 XEQ04	TBN	CFLGN,CBIT9 BRANCH IF CC
15EF F2 90 11		1262	JF	XEQ05 FIELD IS COMPLETE
		1263 *		
15F2 2C 01 3821 08		1264	MVC	IDDCF+2(2),CCL(XR2) USE CURRENT LOGICAL CYLINDER
15F7 38 08 37E7		1265	TBN	CFLG,CBIT4 ADDRESS IN CC FIELD IF ANY
15FB F2 90 05		1266	JF	XEQ05 COMMAND OTHER THAN WRHA

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
15FE 2C 01 3821 05		1267 *		
		1268	MVC	IDDCF+2(2),CCP(XR2) USE CURRENT PHYSICAL CYL IN CC
		1269 *		
1603 38 20 37E8		1270 XEQ05	TBN	CFLGN,CBIT10 BRANCH IF HH
1607 F2 90 11		1271	JF	XEQ06 FIELD IS COMPLETE
		1272 *		
160A 2C 01 3823 0E		1273	MVC	IDDCF+4(2),HHL(XR2) USE CURRENT LOGICAL HEAD
160F 38 08 37E7		1274	TBN	CFLG,CBIT4 ADDRESS IN HH FIELD IF ANY
1613 F2 90 05		1275	JF	XEQ06 COMMAND OTHER THAN WRHA
		1276 *		
1616 2C 01 3823 08		1277	MVC	IDDCF+4(2),HHP(XR2) USE CURRENT PHYSICAL HEAD IN HH
		1278 *		
161B 38 10 37E8		1279 XEQ06	TBN	CFLGN,CBIT11 BRANCH IF KL
161F F2 90 18		1280	JF	XEQ07 FIELD IS COMPLETE
		1281 *		
1622 2C 00 3825 11		1282	MVC	IDDCF+6(1),KLO(XR2) USE CURRENT
1627 39 04 37E7		1283	TBF	CFLG,CBIT5 RECORD ZERO
162B F2 10 0C		1284	JT	XEQ07 KEY LENGTH IF
162E 39 FF 3824		1285	TBF	IDDCF+5,X'FF' ANY RECORD ZERO
1632 F2 10 05		1286	JT	XEQ07 COMMAND
		1287 *		
1635 2C 00 3825 14		1288	MVC	IDDCF+6(1),KLN(XR2) USE RECORD N KEY LENGTH
		1289 *		
163A 38 08 37E8		1290 XEQ07	TBN	CFLGN,CBIT12 BRANCH IF DL
163E F2 90 18		1291	JF	XEQ08 FIELD IS COMPLETE
		1292 *		
1641 2C 01 3827 17		1293	MVC	IDDCF+8(2),DLO(XR2) USE CURRENT
1646 39 04 37E7		1294	TBF	CFLG,CBIT5 RECORD ZERO
164A F2 10 0C		1295	JT	XEQ08 DATA LENGTH IF
164D 39 FF 3824		1296	TBF	IDDCF+5,X'FF' ANY RECORD ZERO
1651 F2 10 05		1297	JT	XEQ08 COMMAND
		1298 *		
1654 2C 01 3827 1A		1299	MVC	IDDCF+8(2),DLN(XR2) USE RECORD N DATA LENGTH
		1300 *		
1659 34 01 37EA		1301 XEQ08	ST	LPXR1,XR1 SAVE INDEX REGISTER 1
		1302 *		
165D 0C 09 3832 3828		1303	MVC	RDDCFN(10),IDDCFN SAVE INITIAL DDCF,
1663 0C 01 381C 3704		1304	MVC	RDDCR(2),IDDCR RDDCR, AND DDR
1669 0C 01 381E 3706		1305	MVC	RDDDR(2),IDDDR
		1306 *		
		1307 *		
		1308 *		BUILD INITIAL DISK DRIVE DATA FIELD (DDDF)
		1309 *		
166F 78 02 02		1310 XEQ09	TBN	SIOQ(XR1),X'02' BRANCH IF NOT
1672 F2 90 83		1311	JF	XEQ14 WRITE OR SCAN COMMAND
		1312 *		
1675 02 01 0F		1313	LA	15(XR1),XR1 POINT TO DDDF INPUT DATA
		1314 *		
1678 0C 01 170D 3706		1315	MVC	XEQ12+4(2),IDDDR MOVE DDDF ADDR TO PACK CALL
		1316 *		
167E 0C 01 3834 364F		1317 XEQ10	MVC	WORKA(2),IO INITIALIZE FIELD LENGTH COUNT
1684 0C 03 3838 3630		1318	MVC	WORKN(4),D000 INITIALIZE MULTIPLIER STG AREA
		1319 *		
168A 7D E7 01		1320	CLI	1(XR1),C'X' IF FIRST CHARACTER
168D F2 01 07		1321	JNE	XEQ10A IN FIELD IS AN 'X',
1690 3C F1 3838		1322	MVI	WORKN,C'1' MULTIPLIER DEFAULTS TO 1
1694 F2 87 21		1323	J	XEQ11
		1324 *		
1697 02 01 01		1325 XEQ10A	LA	1(XR1),XR1 CONSTRUCT
169A 0C 00 3835 3836		1326	MVC	WORKN-3(1),WORKN-2 FOUR DIGIT
16A0 0C 00 3836 3837		1327	MVC	WORKN-2(1),WORKN-1 DECIMAL
16A6 0C 00 3837 3838		1328	MVC	WORKN-1(1),WORKN MULTIPLIER
16AC 1C 00 3838 00		1329	MVC	WORKN,0(1,XR1) FROM INPUT
16B1 7D E7 01		1330	CLI	1(XR1),C'X' FIELD
16B4 C0 01 1697		1331	BNE	XEQ10A
		1332 *		
1688 02 01 02		1333 XEQ11	LA	2(XR1),XR1 ADVANCE
168B 7D 48 02		1334	CLI	2(XR1),C'.' POINTER

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
168E	F2 81 10	1335	JE	XEQ11A	TO END OF
16C1	7D 68 02	1336	CLI	2(,XR1),C','	HEX DATA AND
16C4	F2 81 0A	1337	JE	XEQ11A	DEVELOPE FIELD
16C7	0E 01 3834 3651	1338	ALC	WORKA(2),I1	LENGTH COUNT
16CD	C0 87 1688	1339	B	XEQ11	
16D1	D2 01 01	1340 *			
16D4	34 01 1708	1341 XEQ11A	LA	1(,XR1),XR1	STORE SOURCE ADDRESS
		1342	ST	XEQ12+2,XR1	IN PACK SUBROUTINE CALL
16D8	0C 00 1709 3834	1343 *			
16DE	0E 00 1709 3651	1344	MVC	XEQ12(1),WORKA	DEVELOPE SOURCE FIELD
16E4	0E 00 1709 1709	1345	ALC	XEQ12(1),I1	LENGTH AND STORE IN
		1346	ALC	XEQ12(1),XEQ12	PACK SUBROUTINE CALL
16EA	0D 03 3838 3630	1347 *			
16F0	F2 81 28	1348	CLC	WORKN(4),D000	BRANCH IF
		1349	JE	XEQ13	MULTIPLIER IS ZERO
16F3	0E 01 170D 3834	1350 *			
16F9	F2 A0 2C	1351 XEQ11B	ALC	XEQ12+4(2),WORKA	BRANCH IF ADDITIONAL
		1352	JOL	XEQ14	DATA WOULD EXCEED 64K OF STG
16FC	0D 01 170D 0203	1353 *			
1702	F2 02 23	1354	CLC	XEQ12+4(2),SIZE	BRANCH IF ADDITIONAL DATA
		1355	JNL	XEQ14	WOULD EXCEED STORAGE SIZE
1705	C0 87 0226	1356 *			
1709		1357	B	PACK	PACK
170A		1709 1358 XEQ12	DS	IL1	DATA
170C		1708 1359	DS	AL2	INTO
		170D 1360	DS	AL2	DDDF AREA
170E	0E 01 170D 3651	1361 *			
		1362	ALC	XEQ12+4(2),I1	ADVANCE DDDF AREA ADDRESS
1714	07 30 3838 3632	1363 *			
171A	C0 01 16F3	1364	SZ	WORKN(4),D01(1)	DECREMENT MULTIPLIER
		1365	BNZ	XEQ11B	AND BRANCH IF NOT YET ZERO
171E	D2 01 01	1366 *			
		1367 XEQ13	LA	1(,XR1),XR1	ADVANCE INPUT AREA POINTER
1721	7D 68 00	1368 *			
1724	C0 81 167E	1369	CLI	0(,XR1),C','	BRANCH IF ANOTHER INPUT
		1370	BE	XEQ10	FIELD IS TO BE PROCESSED
		1371 *			
		1372 *			
		1373 *			
		1374 *			
1728	35 01 3704	1375 XEQ14	L	IDDCR,XR1	MOVE INITIAL DDCF
172C	4C 09 09 3828	1376	MVC	9(10,XR1),IDDCFN	TO EXECUTION AREA
1731	35 01 37EA	1377 *			
		1378	L	LPXR1,XR1	RESTORE INDEX REGISTER 1
1735	C1 C2 1A34	1379 *			
		1380	TIO	ERR01,X'C2'	ERROR END IF ATTACHMENT BUSY
1739	31 C6 3704	1381 *			
		1382	LIO	IDDCR,X'C6'	LOAD DDCF ADDRESS IN DDCR
173D	30 C6 381C	1383 *			
		1384	SNS	RDDCR,X'C6'	SENSE DDCR
1741	0D 01 3704 381C	1385 *			
1747	C0 01 1A4A	1386	CLC	IDDCR(2),RDDCR	ERROR END IF
		1387	BNE	ERR02	DDCR INCORRECT
1748	31 C4 3706	1388 *			
		1389	LIO	IDDDR,X'C4'	LOAD DDDF ADDRESS IN DDDR
174F	30 C4 381E	1390 *			
		1391	SNS	RDDDR,X'C4'	SENSE DDDR
1753	0D 01 3706 381E	1392 *			
1759	C0 01 1A58	1393	CLC	IDDDR(2),RDDDR	ERROR END IF
		1394	BNE	ERR03	DDDR INCORRECT
175D	39 C0 37E7	1395 *			
1761	F2 10 08	1396	TBF	CFLG,CBIT0+CBIT1	BRANCH IF NOT
		1397	JT	XEQ15	RECAL OR SEEK COMMAND
1764	8E 00 00 3651	1398 *			
1769	F2 87 03	1399	ALC	DFLG(1,XR2),I1	INCREMENT 'SEEK COMPLETE
		1400	J	XEQ16	'EXPECTED' INDICATORS
176C	BA 04 00	1401 *			
		1402 XEQ15	SBN	DFLG(,XR2),DBIT5	SET 'OP END EXPECTED' INDICATOR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
176F	C1 C4 1E0F	1403 *			
1773	38 10 37E5	1404 XEQ16	TIO	DASDI,X'C4'	BRANCH IF INTERRUPT
1777	C0 10 1928	1405	TBN	FLAGS,BIT3	DETECTED IN
		1406	BT	ERREND	INTERRUPT ROUTINE
1778	C1 00 1A6B	1407 *			
		1408 TIORDY	TIO	ERROS,*--*	ERROR END IF DRIVE NOT READY
177F	F3 00 00	1409 *			
		1410 SIO	SIO	*--,*--*	ISSUE 3340 START I/O COMMAND
1782	C1 C2 178A	1411 *			
1786	C0 87 1A88	1412	TIO	TIOSY,X'C2'	ERROR END IF
		1413	B	ERR06	ATTACHMENT DID NOT GO BUSY
178A	C1 00 1798	1414 *			
		1415 TIOSY	TIO	XEQ17,*--*	BRANCH IF SEEK BUSY
178E	B9 03 00	1416 *			
1791	C0 90 1AAF	1417	TBF	DFLG(,XR2),DBIT6+DBIT7	ERROR END IF
		1418	BF	ERR07	SEEK IN PROGRESS
1795	F2 87 07	1419 *			
		1420	J	XEQ18	
1798	B9 03 00	1421 *			
1798	C0 10 1ABC	1422 XEQ17	TBF	DFLG(,XR2),DBIT6+DBIT7	ERROR END IF NO
		1423	BT	ERR08	SEEK IN PROGRESS
179F	9C 01 21 03	1424 *			
17A3	8C 09 2F 3828	1425 XEQ18	MVC	DRVRC(2,XR2),SIOR(,XR1)	MOVE SIO Q AND R BYTES AND
		1426	MVC	DRVICF(10,XR2),IDDCFN	INITIAL DDCF TO DRV STG
17A8	8C 01 1D 37FE	1427 *			
		1428	MVC	DRVCMD(2,XR2),CMDID	SAVE CMD ID IN DRV WORK AREA
17AD	0C 01 3834 3651	1429 *			
		1430	MVC	WORKA(2),I1	INITIALIZE BUSY TIMER
17B3	0E 01 3834 3651	1431 *			
17B9	C0 A0 1ADC	1432 XEQ19	ALC	WORKA(2),I1	ERROR END IF ATTACHMENT
17BD	C1 C4 1E0F	1433	BOL	ERR09	BUSY FAILS TO GO OFF
17C1	38 10 37E5	1434	TIO	DASDI,X'C4'	BRANCH IF INTERRUPT
17C5	C0 10 17D1	1435	TBN	FLAGS,BIT3	BRANCH IF ERROR
17C9	C1 C2 1783	1436	BT	XEQ19D	DETECTED IN INTERRUPT RTME
17CD	C1 C4 1E0F	1437	TIO	XEQ19,X'C2'	LOOP IF ATTACHMENT BUSY
		1438	TIO	DASDI,X'C4'	BRANCH IF INTERRUPT
17D1	30 C6 381C	1439 *			
17D5	30 C4 381E	1440 XEQ19D	SNS	RDDCR,X'C6'	SENSE DDCR
		1441	SNS	RDDDR,X'C4'	SENSE DDDR
17D9	8C 01 23 381C	1442 *			
17DE	8C 01 25 381E	1443 *			
		1444 XEQ19C	MVC	DRVRCR(2,XR2),RDDCR	SAVE RESIDUAL DDCR VALUE
17E3	34 01 37EA	1445	MVC	DRVDR(2,XR2),RDDDR	SAVE RESIDUAL DDDR VALUE
17E7	35 01 3704	1446 *			
17EB	1C 09 3832 09	1447	ST	LPXR1,XR1	GET RESIDUAL
17F0	35 01 37EA	1448	L	IDDCR,XR1	DDCF FROM
		1449	MVC	RDDCFN(10),9(,XR1)	EXECUTION AREA
17F4	8C 09 39 3832	1450	L	LPXR1,XR1	
		1451 *			
		1452	MVC	DRVRCF(10,XR2),RDDCFN	SAVE RESIDUAL DDCF
17F9	38 10 37E5	1453 *			
17FD	C0 10 1928	1454	TBN	FLAGS,BIT3	ERROR END IF ERROR CONDITION
		1455	BT	ERREND	DETECTED IN INTERRUPT RTN
1801	B9 04 00	1456 *			
1804	C0 90 1801	1457	TBF	DFLG(,XR2),DBIT5	ERROR END IF EXPECTED OP END
		1458	BF	ERR10	INTERRUPT DID NOT OCCUR
1808	39 C0 37E7	1459 *			
180C	F2 10 29	1460	TBF	CFLG,CBIT0+CBIT1	BRANCH IF NOT RECAL
		1461	JT	XEQ20B	OR SEEK COMMAND
180F	4D 00 12 1780	1462 *			
1814	F2 01 21	1463	CLC	SIOQ+16(1,XR1),SIO+1	BRANCH IF NEXT COMMAND IS NOT
		1464	JNE	XEQ20B	RECAL OR SEEK TO SAME DRIVE
1817	0C 01 3834 3651	1465 *			
181D	0E 01 3834 3651	1466	MVC	WORKA(2),I1	INITIALISE TIMER
1823	F2 A0 08	1467 XEQ19A	ALC	WORKA(2),I1	LOOP UNTIL
1826	C1 C4 1E0F	1468	JOL	XEQ19B	TIMEOUT
182A	B9 03 00	1469	TIO	DASDI,X'C4'	OR
		1470	TBF	DFLG(,XR2),DBIT6+DBIT7	SEEK COMPLETE

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ERR LOC OBJECT CODE	ADDR STMT	SOURCE STATEMENT	
182D C0 90 181D	1471	BF XEQ19A	OCCURS
	1472 *		
1831 B9 03 00	1473 XEQ19B	TBF DFLG(,XR2),DBIT6+DBIT7	ERROR END IF EXPECTED
1834 C0 90 180E	1474	BF ERR11	SEEK COMPLETE DID NOT OCCUR
	1475 *		
	1476 *		
1838 C1 C3 1847	1477 XEQ20B	TIO XEQ20C,X'C3'	BRANCH IF SCAN HIT
	1478 *		
	1479 *		
183C 38 03 1780	1480	TBN SIO+1,X'03'	ERROR END IF SCAN
1840 C0 10 182E	1481	BT ERR14	HIT WAS EXPECTED
	1482 *		
1844 F2 87 08	1483	J XEQ21	
	1484 *		
1847 36 03 1780	1485 XEQ20C	TBN SIO+1,X'03'	ERROR END IF NO
1848 C0 90 1838	1486	BF ERR15	SCAN HIT WAS EXPECTED
	1487 *		
	1488 *		
	1489 *		
	1490 *		
184F 38 10 37E7	1491 XEQ21	TBN CFLG,CBIT3	BRANCH IF RDLOG
1853 F2 10 90	1492	JT XEQ27	OR RDSNS COMMAND
	1493 *		
1856 8C 00 02 3829	1494	MVC FFC(1,XR2),RDDCF	SAVE RESIDUAL FF FIELD
	1495 *		
1858 39 C0 37E7	1496	TBF CFLG,CBIT0+CBIT1	BRANCH IF NOT RECAL
185F F2 10 10	1497	JT XEQ22	OR SEEK COMMAND
	1498 *		
1862 8C 00 0E 364F	1499	MVC HHL(1,XR2),IO	SET CURRENT FLAG, CYL,
1867 AC 0C 0D 0E	1500	MVC HHL-1(13,XR2),HHL(,XR2)	AND HEAD VALUES TO ZERO
	1501 *		
186B 38 80 37E7	1502	TBN CFLG,CBIT0	BRANCH IF
186F F2 10 74	1503	JT XEQ27	RECAL COMMAND
	1504 *		
1872 39 68 37E7	1505 XEQ22	TBF CFLG,CBIT1+CBIT2+CBIT4	BRANCH IF NOT SEEK,
1876 F2 10 0A	1506	JT XEQ23	RDHA, OR WRHA COMMAND
	1507 *		
1879 8C 01 05 3828	1508	MVC CCP(2,XR2),RDDCF+2	SET CURRENT PHYSICAL CYL AND
187E 8C 01 08 382D	1509	MVC HMP(2,XR2),RDDCF+4	HEAD FROM RESIDUAL DDCF
	1510 *		
1883 38 20 37E7	1511 XEQ23	TBN CFLG,CBIT2	BRANCH IF NOT
1887 F2 90 1F	1512	JF XEQ24	RDHA COMMAND
	1513 *		
188A 34 01 37EA	1514	ST LPXR1,XR1	SAVE INDEX REGISTER 1
188E 35 01 3706	1515	L IODDR,XR1	POINT TO DDDF AREA
	1516 *		
1892 9C 01 08 02	1517	MVC CCL(2,XR2),2(,XR1)	GET CURRENT LOGICAL
1896 9C 01 0E 04	1518	MVC HHL(2,XR2),4(,XR1)	CYL AND HEAD AND RECORD
189A 9C 00 11 06	1519	MVC KLO(1,XR2),6(,XR1)	ZERO KEY AND DATA LENGTHS
189E 9C 01 17 08	1520	MVC DLO(2,XR2),8(,XR1)	FROM RESIDUAL DDDF
	1521 *		
18A2 35 01 37EA	1522	L LPXR1,XR1	RESTORE INDEX REGISTER 1
18A6 F2 87 3D	1523	J XEQ27	GO TO EXECUTE NEXT COMMAND
	1524 *		
18A9 38 08 37E7	1525 XEQ24	TBN CFLG,CBIT4	BRANCH IF
18AD F2 10 0A	1526	JT XEQ25	WRITE HA COMMAND
	1527 *		
18B0 8C 01 08 3828	1528	MVC CCL(2,XR2),RDDCF+2	GET CURRENT LOGICAL CYL AND
18B5 8C 01 0E 382D	1529	MVC HHL(2,XR2),RDDCF+4	HEAD FROM RESIDUAL DDCF
	1530 *		
18BA 38 40 37E7	1531 XEQ25	TBN CFLG,CBIT1	BRANCH IF
18BE F2 10 25	1532	JT XEQ27	SEEK COMMAND
	1533 *		
18C1 38 04 37E7	1534	TBN CFLG,CBIT5	BRANCH IF
18C5 F2 90 14	1535	JF XEQ26	OPERATION
18C8 39 FF 3824	1536	TBF IODCF+5,X'FF'	WAS ONLY ON
18CC F2 10 0D	1537	JT XEQ26	RECORD ZERO
	1538 *		

ERR LOC OBJECT CODE	ADDR STMT	SOURCE STATEMENT	
18CF 8C 00 14 382F	1539	MVC KLN(1,XR2),RDDCF+6	GET RECORD N KEY AND DATA
18D4 8C 01 1A 3831	1540	MVC DLN(2,XR2),RDDCF+8	LENGTHS FROM RESIDUAL DDCF
	1541 *		
18D9 F2 87 0A	1542	J XEQ27	GO TO EXECUTE NEXT COMMAND
	1543 *		
18DC 8C 00 11 382F	1544 XEQ26	MVC KLO(1,XR2),RDDCF+6	GET RECORD ZERO KEY AND DATA
18E1 8C 01 17 3831	1545	MVC DLO(2,XR2),RDDCF+8	LENGTHS FROM RESIDUAL DDCF
	1546 *		
	1547 *		
	1548 *		
	1549 *		
18E6 D2 01 10	1550 XEQ27	LA 16(,XR1),XR1	CHECK FOR END OF COMMAND SEQUENCE
	1551 *		
18E9 38 02 1780	1552	TBN SIO+1,X'02'	ADVANCE CMD TABLE POINTER
18ED F2 90 03	1553	JF XEQ28	BRANCH IF LAST COMMAND
	1554 *		REQUIRED NO DDDF ENTRY
18F0 D2 01 28	1555	LA 40(,XR1),XR1	ADVANCE CMD TABLE POINTER
	1556 *		
	18F3 1557 XEQ28	EQU *	
	1558 *		
18F3 7D FF 00	1559	CLI O(,XR1),X'FF'	GO TO EXECUTE NEXT COMMAND IF
18F6 C0 01 15A9	1560	BNE XEQ01	NOT YET END COMMAND
	1561 *		
18FA 0C 01 3834 3651	1562 XEQ29	MVC WORKA(2),I1	INITIALIZE SEEK COMPLETE TIMER
	1563 *		
1900 0E 01 3834 3651	1564 XEQ30	ALC WORKA(2),I1	ERROR END IF EXPECTED SEEK
1906 C0 A0 180E	1565	BOL ERR11	COMPLETE FAILS TO OCCUR
190A C1 C4 1E0F	1566	TIO DASD1,X'C4'	BRANCH IF INTERRUPT PENDING
	1567 *		
190E 39 07 3839	1568	TBF DRVWK1,X'07'	WAIT FOR EXPECTED
1912 39 07 3873	1569	TBF DRVWK2,X'07'	SEEK COMPLETE INTERRUPT
1916 C0 90 1900	1570	BF XEQ30	
	1571 *		
191A 38 10 37E5	1572	TBN FLAGS,BIT3	BRANCH IF ERROR
191E C0 10 1928	1573	BT ERREND	DETECTED IN INTERRUPT RTN
	1574 *		
1922 2C 01 3800 1F	1575	MVC SNS(2),DRVSNS(,XR2,	RETRIEVE LAST CMD END STATUS
1927 C0 87 1860	1576	B ENDCMD	GO TO PRINT/DISPLAY IF REQ'D
	1577 *		

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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1579 *****
1580 *
1581 *           ERROR ENDING CONDITIONS
1582 *
1583 *****
1584 *
192B 1585 ERREND EQU *
1586 MVC MESN(80),MESN+1 CLEAR MESSAGE AREA
1587 LA DRVMK1,XR2 POINT TO DRIVE 1 WORK AREA
1588 MVI MSG37+4,C'1' SETUP MESSAGE FOR DRIVE 1
1589 TBN DFLG(,XR2),DBIT3 BRANCH IF
1590 JT ERRA ERROR ON DRIVE 1
1591 *
1592 LA DRVMK2,XR2 POINT TO DRIVE 2 WORK AREA
1593 MVI MSG37+4,C'2' SETUP MESSAGE FOR DRIVE 2
1594 *
1595 TBN DFLG(,XR2),DBIT3 BRANCH IF ERROR IS
1596 JF ERRE RELATED TO NO SPECIFIC DRIVE
1597 *
1598 ERRA MVC CMDID(2),DRVCHD(,XR2) RETRIEVE
1599 MVC SIO+2(2),DRVR(,XR2) INITIAL AND
1600 MVC RDDCR(2),DRVRCR(,XR2) RESIDUAL VALUES
1601 MVC RDDDR(2),DRVRDR(,XR2) FOR LAST COMMAND
1602 MVC IDDCFN(10),DRVICF(,XR2) EXECUTED AGAINST
1603 MVC RDDCFN(10),DRVRCF(,XR2) THE FAILING DRIVE
1604 *
1605 MVC **+6(1),UCKMSK(,XR2) BRANCH IF
1606 TBF SNS-1,*-# NO UNIT CHECK
1607 TBF SNS,X'08' OR NO-OP STATUS
1608 JT ERRO CONDITION
1609 *
1610 MVI ERRID,X'0A' ERROR CODE - 0A
1611 MVC MES+29(30),MSG37N MSG--UNIT CK OR NO-OP STATUS
1612 *
1613 ERRO MVC ERRC+1(1),SIO+1 DEVELOPE SIO
1614 SBN ERRC+1,X'01' INSTRUCTION TO
1615 SBF ERRC+1,X'02' READ DIAGNOSTIC SENSE INFO
1616 *
1617 LIO RDSNS,X'C4' LD DDR TO RD DIAG SNS AREA
1618 *
1619 ERRO SIO X'07',*-# READ DIAGNOSTIC STATUS
1620 *
1621 CLC *(255),* DELAY 400 MICROSECONDS
1622 TIO DASDI,X'C4' BRANCH IF INTERRUPT PENDING
1623 *
1624 SNS WORKN,X'C5' SENSE ADAPTER STATUS AND
1625 TBN WORKN,1 BRANCH IF NO ADAPTER CHECK
1626 BF ERRA
1627 *
1628 MVI RDSNS,0 CLEAR DIAG
1629 MVC RDSNS-1(23),RDSNS SENSE AREA
1630 *
1631 MVC RDSNS-22(2),WORKN SAVE SENSE BYTES
1632 *
1633 MVI ERRID,X'0F' ERROR CODE - 0F
1634 MVC MES+75(36),MSG64N MSG--ADAPTER CK ON DIAG SNS
1635 B ERRE2 GO TO PRINT/DISPLAY IF REQ'D
1636 *
1637 ERRO MVI ERRID,X'0B' ERROR CODE - 0B
1638 MVC MES+62(63),MSG38N MSG--NO INTERRUPT PENDING
1639 B ERRA GO TO PRINT/DISPLAY IF REQ'D
1640 *
1641 ERRE TBN SNS,X'01' BRANCH IF NO
1642 JF ERRF ADAPTER CHECK
1643 *
1644 MVI ERRID,X'0C' ERROR CODE - 0C
1645 MVC MES+13(14),MSG39N MSG--ADAPTER CHECK
1646 *

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

19ED 3C 00 3818 1647 ERRE1 MVI RDSNS,0 CLEAR DIAG
19F1 0C 16 3817 3818 1648 MVC RDSNS-1(23),RDSNS SENSE AREA
1649 *
19F7 0C 01 3802 3800 1650 MVC RDSNS-22(2),SNS DEVELOPE
19FD 3C 30 3808 1651 ERRE2 MVI RDSNS-16,X'30' FORMAT 3
1A01 31 C7 3658 1652 LIO SNS23,X'C7' DIAGNOSTIC
1A05 30 C7 3804 1653 SNS RDSNS-20,X'C7' SENSE DATA
1654 *
1A09 0C 07 184F 1655 B ERRNA GO TO PRINT/DISPLAY IF REQ'D
1656 *
1A0D 39 0F 37FF 1657 ERRF TBF SNS-1,X'0F' BRANCH IF NO
1A11 39 10 3800 1658 TBF SNS,X'10' INTERRUPT BITS
1A15 F2 10 0E 1659 JT ERRO IN ADAPTER SENSE
1660 *
1A18 3C 0D 37FC 1661 MVI ERRID,X'0D' ERROR CODE - 0D
1A1C 0C 13 37A5 2DD6 1662 MVC MES+19(20),MSG41N MSG--UNEXPECTED INTERRUPT
1A22 0C 07 184F 1663 B ERRNA GO TO PRINT/DISPLAY IF REQ'D
1664 *
1A26 3C 0E 37FC 1665 ERRO MVI ERRID,X'0E' ERROR CODE - 0E
1A2A 0C 25 3787 2DC2 1666 MVC MES+37(38),MSG40N MSG--SNS DOES NOT DEFINE INTRP
1A30 0C 07 184F 1667 B ERRA GO TO PRINT/DISPLAY IF REQ'D
1668 *
1A34 38 10 37E5 1669 * ATTACHMENT BUSY PRIOR TO COMMAND EXECUTION
1A38 0C 10 192B 1670 *
1671 *
1672 ERRO1 TBN FLAGS,BIT3 BRANCH IF ERROR DETECTED
1673 BT ERREND IN INTERRUPT SUBROUTINE
1674 *
1675 MVI ERRID,X'01' ERROR CODE - 01
1676 MVC MES+33(34),MSG42N MSG--ATTACHMENT BUSY
1677 B ERRA GO TO PRINT/DISPLAY IF REQ'D
1678 *
1679 *
1680 * DDCR FAILED TO LOAD CORRECTLY
1681 *
1682 ERRO2 MVI ERRID,X'02' ERROR CODE - 02
1683 MVC MES+26(27),MSG43N MSG--DDCR LOADED INCORRECTLY
1684 B ERRA GO TO PRINT/DISPLAY IF REQ'D
1685 *
1686 *
1687 * DDR FAILED TO LOAD CORRECTLY
1688 *
1689 ERRO3 MVI ERRID,X'03' ERROR CODE - 03
1690 MVC MES+26(27),MSG43N MSG--DDR LOADED INCORRECTLY
1691 MVC MES+3(4),MSG44N GO TO PRINT/DISPLAY IF REQ'D
1692 J ERRA
1693 *
1694 *
1695 * UNIT CHECK OR NOT READY PRIOR TO SIO
1696 *
1697 ERRO5 SIO X'02',X'C4' DISABLE 3340 INTERRUPTS
1698 *
1699 TBN FLAGS,BIT3 BRANCH IF ERROR DETECTED
1700 BT ERREND IN INTERRUPT SUBROUTINE
1701 *
1702 SNS SNS,X'C5' SENSE ADAPTER STATUS
1703 *
1704 MVI ERRID,X'05' ERROR CODE - 05
1705 MVC MES+37(38),MSG45N MSG--DRV NOT RDY OR UNIT CK
1706 B ERRA GO TO READ DIAGNOSTIC STATUS
1707 *
1708 *
1709 * ATTACHMENT DID NOT GO BUSY AFTER SIO
1710 *
1711 ERRO6 MVI ERRID,X'06' ERROR CODE - 06
1712 MVC MES+36(37),MSG46N MSG--CAN'T SET ATTACHMENT BUSY
1713 *
1714 MVC WORKN(2),IO INITIALIZE TIMER COUNT

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C182 3340 FRIENDS TEST - MOD 12

C182 3340 FRIENDS TEST - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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1715 *
1A98 OE 01 3838 3651 1716 ERRO6A ALC WORKN(2),I1 WAIT FOR
1A9E F2 A0 45 1717 JOL ERR09A EXPECTED
1AA1 C1 C4 1E0F 1718 TIO DASDI,X'C4' BRANCH IF INTERRUPT PENDING
1AA5 B9 07 00 1719 TBF DFLG(,XR2),X'07' INTERRUPTS
1AA8 CO 90 1A98 1720 BF ERRG6A OR PROGRAM TIMEOUT
1721 *
1AAC F2 87 3E 1722 J ERR09B GO TO PRINT/DISPLAY IF REQ'D
1723 *
1724 *
-----
1725 * SEEK COMMAND DID NOT SET SEEK BUSY
1726 *
1AAF 3C 07 37FC 1727 ERRO7 MVI ERRID,X'07' ERROR CODE - 07
1AB3 OC 23 37B5 2E86 1728 MVC MES+35(36),MSG47N MSG--CAN'T SET SEEK BUSY
1AB9 F2 87 0A 1729 J ERR08A GO TO WAIT FOR END OF OPERATION
1730 *
1731 *
-----
1732 * SEEK BUSY WITH NO SEEK IN PROGRESS
1733 *
1ABC 3C 08 37FC 1734 ERRO8 MVI ERRID,X'08' ERROR CODE - 08
1AC0 OC 27 37B9 2EAE 1735 MVC MES+39(40),MSG48N MSG--SEEK BUSY SHOULD NOT BE ON
1736 *
1AC6 OC 01 3838 364F 1737 ERRO8A MVC WORKN(2),I0 INITIALIZE TIMER COUNT
1738 *
1ACC OE 01 3838 3651 1739 ERRO8B ALC WORKN(2),I1 WAIT FOR
1AD2 F2 A0 11 1740 JOL ERR09A ATTACHMENT
1AD5 C1 C2 1ACC 1741 TIO ERR08B,X'C2' BUSY TO FALL
1AD9 F2 87 0A 1742 J ERR09A OR PROGRAM TIMEOUT
1743 *
1744 *
-----
1745 * ATTACHMENT BUSY FAILED TO GO OFF
1746 *
1ADC 3C 09 37FC 1747 ERRO9 MVI ERRID,X'09' ERROR CODE - 09
1AE0 OC 23 37B5 2ED2 1748 MVC MES+35(36),MSG49N MSG--ATTACHMENT BUSY HUNG ON
1749 *
1AE6 F3 C4 02 1750 ERRO9A SIO X'02',X'C4' DISABLE 3340 INTERRUPTS
1AE9 30 C5 3800 1751 SNS SNS,X'C5' SENSE ADAPTER STATUS
1752 *
1AED 30 C6 381C 1753 ERRO9B SNS RDDCR,X'C6' SENSE ODCR
1AF1 30 C4 381E 1754 SNS RDDDR,X'C4' SENSE DDR
1755 *
1AF5 35 01 3704 1756 ERRO9C L IDDCR,XR1 GET RESIDUAL ODCF
1AF9 1C 09 3832 09 1757 MVC RDDCFN(10),9(,XR1) FROM EXECUTION AREA
1758 *
1AFE F2 87 4E 1759 J ERRNA GO TO PRINT/DISPLAY IF REQ'D
1760 *
1761 *
-----
1762 * EXPECTED OP END INTERRUPT DID NOT OCCUR
1763 *
1801 3C 10 37FC 1764 ERR10 MVI ERRID,X'10' ERROR CODE - 10
1805 OC 26 37B8 2EF9 1765 MVC MES+38(39),MSG50N MSG--MISSING OP END INTERRUPT
1808 F2 87 3A 1766 J ERRN GO TO PRINT/DISPLAY IF REQ'D
1767 *
1768 *
-----
1769 * EXPECTED SEEK COMPLETE INTERRUPT DID NOT OCCUR
1770 *
180E 3C 11 37FC 1771 ERR11 MVI ERRID,X'11' ERROR CODE - 11
1812 OC 15 37A7 2F0F 1772 MVC MES+21(22),MSG51N MSG--MISSING SK COMP INTERRUPT
1818 OC 16 37D0 2EF9 1773 MVC MES+62(23),MSG50N
181E F2 87 27 1774 J ERRN GO TO PRINT/DISPLAY IF REQ'D
1775 *
1776 *
-----
1777 * INTERRUPT PENDING, BUT INTERRUPT DID NOT OCCUR
1778 *
1821 3C 12 37FC 1779 ERR12 MVI ERRID,X'12' ERROR CODE - 12
1825 OC 26 37B8 2F36 1780 MVC MES+38(39),MSG52N MSG--INTERRUPT PENDING S/B OFF
1828 F2 87 21 1781 J ERRNA GO TO PRINT/DISPLAY IF REQ'D
1782 *

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1783 *
1784 * EXPECTED SCAN HIT DID NOT OCCUR
1785 *
182E 3C 14 37FC 1786 ERR14 MVI ERRID,X'14' ERROR CODE - 14
1832 OC 24 37B6 2F5B 1787 MVC MES+36(37),MSG53N MSG--NO SCANHIT
1838 F2 87 14 1788 J ERRNA GO TO PRINT/DISPLAY IF REQ'D
1789 *
1790 *
-----
1791 * UNEXPECTED SCAN HIT CONDITION
1792 *
183B 3C 15 37FC 1793 ERR15 MVI ERRID,X'15' ERROR CODE - 15
183F OC 22 37B4 2F7E 1794 MVC MES+34(35),MSG54N MSG--UNEXPECTED SCAN HIT
1845 F2 87 07 1795 J ERRNA GO TO PRINT/DISPLAY IF REQ'D
1796 *
1797 *
-----
1798 * COMPLETE ERROR PROCESSING
1799 *
1848 F3 C4 02 1800 ERRN SIO X'02',X'C4' DISABLE 3340 INTERRUPTS
1848 30 C5 3800 1801 SNS SNS,X'C5' SENSE ADAPTER STATUS
1802 *
184F 3A 10 37E5 1803 ERRNA SBN FLAGS,BIT3 SET COMMON ERROR INDICATOR
1804 *
1853 38 08 37E5 1805 TBN FLAGS,BIT4 BRANCH IF LOOP
1857 F2 10 06 1806 JT ENDCMD COUNTER HAS OVERFLOWED
1807 *
185A 06 41 2FA3 3632 1808 AZ MSG62+36(6),D01(2) INCREMENT ERROR COUNTER
1809 *

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C182 3340 FRIENDS TEST - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1811	*			*****
1812	*			*
1813	*			PRINT / DISPLAY END RESULTS
1814	*			*
1815	*			*****
1816	*			*
1860	3D F3 37F9	1817	ENDCMD	CLI OPTION,C'3'
1864	C0 81 14B9	1818	BE	XEQCMD
		1819	*	
1868	3D F4 37F9	1820	CLI	OPTION,C'4'
186C	F2 81 0B	1821	JE	END01
		1822	*	
186F	38 10 37E5	1823	TBN	FLAGS,BIT3
1873	C0 90 14B9	1824	BF	XEQCMD
		1825	*	
1877	F3 C4 7E	1826	SIO	X'7E',X'C4'
		1827	*	
187A	OC 63 3790 3791	1828	END01	MVC MSGN(100),MSGN+1
1880	OC 01 3742 37FE	1829	MVC	MSG+21(2),CMDID
1886	OC 02 373F 3667	1830	MVC	MSG+18(3),CMD
188C	OC 0D 373A 2CC7	1831	MVC	MSG+13(14),MSG30N
		1832	*	
1892	38 01 37F9	1833	TBN	OPTION,X'01'
1896	C0 10 1DA6	1834	BT	END15B
189A	3C 41 18B3	1835	MVI	END01A+4,X'41'
		1836	*	
189E	38 10 37E5	1837	TBN	FLAGS,BIT3
1BA2	F2 90 0A	1838	JF	END01A
		1839	*	
1BA5	OC 0B 373A 2CD5	1840	MVC	MSG+13(12),MSG31N
1BA8	3C C1 18B3	1841	MVI	END01A+4,X'C1'
		1842	*	
1BAF	C0 87 021A	1843	END01A	B PRINT
1BB3	C1	1844	DC	XL1'C1'
1BB4	16	1845	DC	IL1'22'
1BB5	3742	1846	DC	AL2(MSG+21)
1BB7	C101	1847	DC	AL2(HLT01)
		1848	*	
1BB9	OC 21 374E 2CF7	1849	END02	MVC MSG+33(34),MSG32N
		1850	*	
1BBF	C0 87 021A	1851	B	PRINT
1BC3	01	1852	DC	XL1'01'
1BC4	22	1853	DC	IL1'34'
1BC5	374E	1854	DC	AL2(MSG+33)
		1855	*	
1BC7	OC 63 3790 3791	1856	MVC	MSGN(100),MSGN+1
1BCD	C0 87 021E	1857	B	UNPACK
1BD1	03	1858	DC	IL1'03'
1BD2	1781	1859	DC	AL2(SIQ+2)
1BD4	3733	1860	DC	AL2(MSG+6)
		1861	*	
1BD6	C0 87 021E	1862	B	UNPACK
1BDA	02	1863	DC	IL1'02'
1BDB	3800	1864	DC	AL2(SNS)
1BDD	3738	1865	DC	AL2(MSG+11)
		1866	*	
1BDF	C0 87 021E	1867	B	UNPACK
1BE3	04	1868	DC	IL1'04'
1BE4	3804	1869	DC	AL2(RDSNS-20)
1BE6	3741	1870	DC	AL2(MSG+20)
		1871	*	
1BE8	C0 87 021E	1872	B	UNPACK
1BEC	04	1873	DC	IL1'04'
1BED	3808	1874	DC	AL2(RDSNS-16)
1BEF	374A	1875	DC	AL2(MSG+29)
		1876	*	
1BF1	C0 87 021E	1877	B	UNPACK
1BF5	04	1878	DC	IL1'04'

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1BF6	380C	1877	DC	AL2(RDSNS-12)
1BF8	3753	1880	DC	AL2(MSG+38)
		1881	*	
1BFA	C0 87 14A9	1882	B	PRNTAA
		1883	*	
1BFE	OC 63 3790 3791	1884	MVC	MSGN(100),MSGN+1
1C04	C0 87 021E	1885	B	UNPACK
1C08	04	1886	DC	IL1'04'
1C09	3810	1887	DC	AL2(RDSNS-8)
1C0B	3741	1888	DC	AL2(MSG+20)
		1889	*	
1C0D	C0 87 021E	1890	B	UNPACK
1C11	04	1891	DC	IL1'04'
1C12	3814	1892	DC	AL2(RDSNS-4)
1C14	374A	1893	DC	AL2(MSG+29)
		1894	*	
1C16	C0 87 021E	1895	B	UNPACK
1C1A	04	1896	DC	IL1'04'
1C1B	3818	1897	DC	AL2(RDSNS)
1C1D	3753	1898	DC	AL2(MSG+38)
		1899	*	
1C1F	C0 87 14A9	1900	B	PRNTAA
1C23	OC 63 3790 3791	1901	MVC	MSGN(100),MSGN+1
1C29	OC 1D 3753 2D15	1902	MVC	MSG+38(30),MSG33N
		1903	*	
1C2F	C0 87 14A9	1904	B	PRNTAA
		1905	*	
1C33	OC 63 3790 3791	1906	MVC	MSGN(100),MSGN+1
1C3F	OC 06 3733 2D1C	1907	MVC	MSG+6(7),MSG34N
1C3F	C0 87 021E	1908	B	UNPACK
1C43	02	1909	DC	IL1'02'
1C44	3704	1910	DC	AL2(IDDCR)
1C46	3739	1911	DC	AL2(MSG+12)
		1912	*	
		1913	*	
1C48	C0 87 021E	1914	B	UNPACK
1C4C	02	1915	DC	IL1'02'
1C4D	3706	1916	DC	AL2(IDDDR)
1C4F	373E	1917	DC	AL2(MSG+17)
		1918	*	
		1919	*	
1C51	C0 87 021E	1920	B	UNPACK
1C55	0A	1921	DC	IL1'10'
1C56	3828	1922	DC	AL2(IDDCFN)
1C58	3753	1923	DC	AL2(MSG+38)
		1924	*	
1C5A	C0 87 14A9	1925	B	PRNTAA
		1926	*	
1C5E	OC 01 3736 3661	1927	MVC	MSG+9(2),BLANKS
1C64	OC 07 3734 2D24	1928	MVC	MSG+7(8),MSG35N
		1929	*	
1C6A	C0 87 021E	1930	B	UNPACK
1C6E	02	1931	DC	IL1'02'
1C6F	381C	1932	DC	AL2(RDDCR)
1C71	3739	1933	DC	AL2(MSG+12)
		1934	*	
1C73	C0 87 021E	1935	B	UNPACK
1C77	02	1936	DC	IL1'02'
1C78	381E	1937	DC	AL2(RDDDR)
1C7A	373E	1938	DC	AL2(MSG+17)
		1939	*	
1C7C	C0 87 021E	1940	B	UNPACK
1C80	0A	1941	DC	IL1'10'
1C81	3832	1942	DC	AL2(RDDCFN)
1C83	3753	1943	DC	AL2(MSG+38)
		1944	*	
1C85	C0 87 14A9	1945	B	PRNTAA
		1946	*	

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ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	BRANCH IF NO ERROR DETECTED
1C89 38 10 37E5 1C8D F2 90 1B	1947 TBN FLAGS,BIT3 1948 JF ENDO2A	
1C90 3A 80 1CBF 1C94 3A 80 1D0B 1C98 3A 80 1D8D 1C9C 3A 80 1DA5	1949 * 1950 * 1951 * 1952 SBN ENDO4A,X'80' 1953 SBN ENDO6A,X'80' 1954 SBN ENDO12B,X'80' 1955 SBN ENDO15A,X'80'	SET ERROR FLAG IN ALL PRINT ROUTINE CALLS
1CA0 CO 87 021A 1CA4 02 1CA5 50 1CA6 37E1	1956 * 1957 B PRINT 1958 DC XL1'02' 1959 DC IL1'80' 1960 DC AL2(MESN)	PRINT ERROR MESSAGE
1CA8 F2 87 10	1961 * J ENDO2B	
1CAB 38 80 1CBF 1CAF 38 80 1D0B 1CB3 38 80 1D8D 1CB7 38 80 1DA5	1962 * 1963 * 1964 ICAB ENDO2A EQU * 1965 * 1966 * 1967 SBF ENDO4A,X'80' 1968 SBF ENDO6A,X'80' 1969 SBF ENDO12B,X'80' 1970 SBF ENDO15A,X'80'	RESET ERROR FLAG IN ALL PRINT ROUTINE CALLS
1CBB CO 87 021A 1CBF 02 1CC0 28 1CC1 2FA6	1971 * 1972 ICBB ENDO2B EQU * 1973 * 1974 * 1975 ENDO4 B PRINT 1976 ENDO4A DC XL1'02' 1977 ICC0 DC IL1'40' 1978 ICC2 DC AL2(MSG62N)	PRINT PASS AND ERROR COUNTERS
1CC3 38 04 37E5	1979 * 1980 ENDO5 SBF FLAGS,BIT5	RESET PRINT INHIBITED
1CC7 38 03 1780 1CCB F2 90 06	1981 * 1982 ENDO6 EQU * 1983 * 1984 TBN SID+1,X'03' 1985 JF ENDO6B	SKIP IF NOT SCAN COMMAND
1CCE 0E 01 381E 3659	1986 * 1987 ALC RDDR(2),I258	FORCE 258 BYTE DDDF LENGTH
1CD4 0C 01 3838 381E 1CDA 0F 01 3838 3706 1CE0 CO 04 1DA6	1988 * 1989 ENDO6B MVC WORKN(2),RDDR 1990 SLC WORKN(2),IDDDR 1991 BNP ENDO15B	CALCULATE DDDF LENGTH, BRANCH IF ZERO
1CE4 38 01 1780 1CE8 CO 90 1DA6	1992 * 1993 TBN SID+1,X'01' 1994 BF ENDO15B	BRANCH IF NOT READ OR SCAN COMMAND
1CEC 38 80 020A 1CF0 CO 10 1DA6	1995 * 1996 TBN SBYTE2,SSW10 1997 BT ENDO15B	BRANCH IF DDDF PRINTOUTS ARE BYPASSED
1CF4 0C 63 3790 3791	1998 * 1999 MVC MSGN(100),MSGN+1	CLEAR MESSAGE AREA
1CFA 0C 0C 3739 2D31	2000 * 2001 MVC MSG+12(13),MSG636N	SET UP HEADING
1D00 38 01 37F9 1D04 F2 10 9F	2002 * 2003 TBN OPTION,X'01' 2004 JT ENDO15B	BRANCH IF PRINTOUTS ARE BYPASSED
1D07 CO 87 021A 1D0B 01 1D0C 0D 1D0D 3739	2005 * 2006 B PRINT 2007 DC XL1'01' 2008 DC IL1'13' 2009 DC AL2(MSG+12)	PRINT HEADING LINE
1D0F 0C 00 1D59 3653	2010 * 2011 ENDO7 MVC ENDO10A(1),I4	SETUP TO UNPACK 4 BYTES
1D15 35 01 3706 1D19 D2 01 03	2012 * 2013 L IDDDR,XR1 2014 LA 3(XR1),XR1	SETUP SOURCE ADDRESS FOR FIRST

BRANCH IF NO ERROR DETECTED

SET ERROR FLAG IN ALL PRINT ROUTINE CALLS

PRINT ERROR MESSAGE

RESET ERROR FLAG IN ALL PRINT ROUTINE CALLS

PRINT PASS AND ERROR COUNTERS

RESET PRINT INHIBITED

SKIP IF NOT SCAN COMMAND

FORCE 258 BYTE DDDF LENGTH

CALCULATE DDDF LENGTH, BRANCH IF ZERO

BRANCH IF NOT READ OR SCAN COMMAND

BRANCH IF DDDF PRINTOUTS ARE BYPASSED

CLEAR MESSAGE AREA

SET UP HEADING

BRANCH IF PRINTOUTS ARE BYPASSED

PRINT HEADING LINE

SETUP TO UNPACK 4 BYTES

SETUP SOURCE ADDRESS FOR FIRST

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	UNPACK SUBROUTINE CALL
1D1C 34 01 1D58	2015 ST ENDO10B,XR1	UNPACK SUBROUTINE CALL
1D20 C2 01 3734	2016 * 2017 ENDO8 LA MSG+7,XR1	SETUP OUTPUT AREA POINTER
1D24 0C 00 3834 3653	2018 * 2019 MVC WORKA(1),I4	INITIALISE COUNTER
1D2A 34 01 1D5D	2020 * 2021 ENDO9 ST ENDO10C,XR1	STORE 'TO' ADDR IN UNPACK CALL
1D2E 0F 01 3838 3653 1D34 F2 02 1E	2022 * 2023 SLC WORKN(2),I4 2024 JNM ENDO10	DECREMENT DDDF LENGTH BY 4 BRANCH IF NOT YET MINUS
1D37 0E 00 1D59 3838 1D3D 0E 01 1D5B 3838 1D43 0E 01 1D5D 3838 1D49 0E 01 1D5D 3838	2025 * 2026 ALC ENDO10A(1),WORKN 2027 ALC ENDO10B(2),WORKN 2028 ALC ENDO10C(2),WORKN 2029 ALC ENDO10C(2),WORKN	ADJUST UNPACK SUBROUTINE CALL FOR SHORT FIELD
1D4F 0C 01 3838 364F	2030 * 2031 MVC WORKN(2),I0	SET DDDF LENGTH CNT TO ZERO
1D55 CO 87 021E 1D59 1D5A 1D5C	2032 * 2033 ENDO10 B UNPACK 1D59 2034 ENDO10A DS IL1 1D5B 2035 ENDO10B DS AL2 1D5D 2036 ENDO10C DS AL2	UNPACK FOUR BYTES FROM DDDF TO OUTPUT AREA
1D5E 0E 01 1D5B 3653	2037 * 2038 ALC ENDO10B(2),I4	ADVANCE SOURCE AREA POINTER
1D64 0D 01 3838 364F 1D6A F2 81 10	2039 * 2040 CLC WORKN(2),I0 2041 JE ENDO12	BRANCH IF END OF DDDF AREA
1D6D 0F 00 3834 3651 1D73 F2 81 07	2042 * 2043 SLC WORKA(1),I1 2044 JZ ENDO12	DECREMENT END OF LINE COUNTER JUMP IF AT END OF LINE
1D76 02 01 09 1D79 CO 87 1D2A	2045 * 2046 ENDO11 LA 9(XR1),XR1 2047 B ENDO9	ADVANCE OUTPUT AREA POINTER GO TO UNPACK NEXT FOUR BYTES
1D7D 38 80 3702 1D81 38 80 3702 1D85 CO 10 1D8E	2048 * 1D7D 2049 ENDO12 EQU * 2050 * 2051 TBN KBSTAT,X'80' 2052 SBF KBSTAT,X'80' 2053 BT ENDO15C	BRANCH IF CANCEL IF REQUESTED
1D89 CO 87 021A 1D8D 01 1D8E 23 1D8F 374F	2054 * 2055 B PRINT 1D8D 2056 ENDO12B DC XL1'01' 1D8E 2057 DC IL1'35' 1D90 2058 ENDO12C DC AL2(MSG+34)	PRINT NEXT LINE OF DDDF
1D91 0C 63 3790 3791	2059 * 2060 MVC MSGN(100),MSGN+1	CLEAR MESSAGE AREA
1D97 0D 01 3838 364F 1D9D CO 01 1D20	2061 * 2062 ENDO13 CLC WORKN(2),I0 2063 BNE ENDO8	GO TO BUILD NEXT DDDF DISPLAY IF NOT YET END OF DDDF AREA
1DA1 CO 87 021A 1DA5 16	2064 * 2065 B PRINT 1DA5 2066 ENDO15A DC XL1'16'	SPACE PRINTER
1DA6 3D F2 37F9 1DAA CO 81 1489 1DAE 3D F4 37F9 1DB2 CO 81 1D8E 1DB6 38 10 37E5 1DBA CO 90 1489	2066 * 1DA6 2068 ENDO15B EQU * 2069 * 2070 CLI OPTION,C'2' 2071 BE XEQCMD 2072 CLI OPTION,C'4' 2073 BE ENDO15C 2074 TBN FLAGS,BIT3 2075 BF XEQCMD	BRANCH IF LOOPING COMMAND SEQUENCE WITH ERR PRINTING BRANCH IF EXECUTE AND PRINT RESULTS BRANCH IF NO 3340 ERROR WAS DETECTED
1DBE 38 20 37E5 1DC2 3A 10 366B 1DC6 38 80 365E 1DCA F2 90 14 1DCD 38 10 366B	2076 * 1DBE 2076 ENDO15C EQU * 2077 SBF FLAGS,BIT2 2078 SBN DATASW,MESIND 2079 TBN DEVICE,X'80' 2080 JF ENDO15E 2081 SBF DATASW,MESIND 2082 *	RESET 'IN EXECUTION' INDICATOR SET ON MESSAGE INDIC BRANCH IF NOT 5471 ENTRY TURN OFF MESSAGE INDIC

UNPACK SUBROUTINE CALL
SETUP OUTPUT AREA POINTER
INITIALISE COUNTER
STORE 'TO' ADDR IN UNPACK CALL
DECREMENT DDDF LENGTH BY 4
BRANCH IF NOT YET MINUS
ADJUST UNPACK SUBROUTINE CALL FOR SHORT FIELD
SET DDDF LENGTH CNT TO ZERO
UNPACK FOUR BYTES FROM DDDF TO OUTPUT AREA
ADVANCE SOURCE AREA POINTER
BRANCH IF END OF DDDF AREA
DECREMENT END OF LINE COUNTER
JUMP IF AT END OF LINE
ADVANCE OUTPUT AREA POINTER
GO TO UNPACK NEXT FOUR BYTES
BRANCH IF CANCEL IF REQUESTED
PRINT NEXT LINE OF DDDF
CLEAR MESSAGE AREA
GO TO BUILD NEXT DDDF DISPLAY IF NOT YET END OF DDDF AREA
SPACE PRINTER
BRANCH IF LOOPING COMMAND SEQUENCE WITH ERR PRINTING
BRANCH IF EXECUTE AND PRINT RESULTS
BRANCH IF NO 3340 ERROR WAS DETECTED
RESET 'IN EXECUTION' INDICATOR
SET ON MESSAGE INDIC
BRANCH IF NOT 5471 ENTRY
TURN OFF MESSAGE INDIC

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1DD1	CO 87 021A	2083	B	PRINT
1DD5	01	2084	DC	XL1'01'
1DD6	2C	2085	DC	IL1'44'
1DD7	3031	2086	DC	AL2(MSG65+43)
		2087 *		
1DD9	CO 87 021A	2088	B	PRINT
1DDD	01	2089	DC	XL1'01'
1DDE	47	2090	DC	IL1'71'
1DDF	3078	2091	DC	AL2(MSG65N)
		2092 *		
1DE1	CO 87 1FAD	2093	B	KEYIN
1DE5	OD 02 36D7 3661	2094	CLC	KIN+2(3),BLANKS
1DEB	CO 81 0B2F	2095	BE	BGN04
1DEF	OD 02 36D7 366A	2096	CLC	KIN+2(3),OPT
1DF5	CO 81 13FC	2097	BE	SELECT
1DF9	OD 02 36D7 2881	2098	CLC	KIN+2(3),MSG0A+45
1DFF	CO 81 0216	2099	BE	LINK
		2100 *		
1E03	CO 87 021A	2101	B	PRINT
1E07	01	2102	DC	XL1'01'
1E08	13	2103	DC	IL1'19'
1E09	30F8	2104	DC	AL2(MSG71+33)
		2105 *		
1E0E	CO 87 1DE1	2106	B	END15E
		2107 *		

PRINT
RETURN - TO CONTINUE
OR CNCL FOR OPT SELECTION
OR END KEY TO TERMINATE

PRINT

BRANCH TO
BEGINNING
IF RETURN KEY
BRANCH TO
OPTION SELECTION
BRANCH TO
END

PRINT
ENTER
CORRECT
VALUE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1E0F	34 08 1EA9			
1E13	34 02 37F6			
		1E17	30 C5 3800	
		1E18	38 01 3800	
		1E1F	F2 10 68	
		1E22	C2 02 3839	
		1E26	3C 40 1E9D	
		1E2A	38 08 37FF	
		1E2E	F2 10 34	
		1E31	C2 02 3873	
		1E35	3C 20 1E9D	
		1E39	38 04 37FF	
		1E3D	F2 10 25	
		1E40	38 10 3800	
		1E44	F2 90 43	
		1E47	3C 04 1E9D	
		1E4B	C2 02 3839	
		1E4F	B8 04 00	
		1E52	F2 10 0A	
		1E55	C2 02 3873	
		1E59	B8 04 00	
		1E5C	F2 90 28	
		1E5F	B8 04 00	
		1E62	F2 87 0B	
		1E65	B9 03 00	
		1E68	F2 10 1F	
		1E6B	8F 00 00 3651	
		1E70	2C 00 1E7D 1B	
		1E75	C1 C4 1E7C	
		1E79	F2 87 0B	
		1E7C	39 00 37FF	
		1E80	39 08 3800	
		1E84	F2 10 0F	
		1E87	BA 10 00	
		1E8A	3A 10 37E5	
		1E8E	3C 7E 1E9D	
		1E92	CO 87 1E9B	
		1E96	8C 01 1F 3800	
		1E9B	F3 C4 00	
		1E9E	35 02 37F6	
		1EA2	C1 C4 1E13	
		1EA6	CO 87 0000	

2109	*****		
2110	*		*
2111	*	3340 DEVICE END INTERRUPT SUBROUTINE	*
2112	*		*
2113	*****		
2114	*		*
2115	DASDI	ST	DASDIX+3,ARR
2116	DASDIA	ST	L5XR2,XR2
2117	*		*
2118	SNS		SNS,X'C5'
2119	*		*
2120	TBN		SNS,X'01'
2121	JT		DASIO6
2122	*		*
2123	LA		DRVWK1,XR2
2124	MVI		DASIRS+2,X'40'
2125	TBN		SNS-1,X'08'
2126	JT		DASIO2
2127	*		*
2128	LA		DRVWK2,XR2
2129	MVI		DASIRS+2,X'20'
2130	TBN		SNS-1,X'04'
2131	JT		DASIO2
2132	*		*
2133	TBN		SNS,X'10'
2134	JF		DASIO6
2135	*		*
2136	MVI		DASIRS+2,X'04'
2137	*		*
2138	LA		DRVWK1,XR2
2139	TBN		DFLG(,XR2),DBIT5
2140	JT		DASIO1
2141	*		*
2142	LA		DRVWK2,XR2
2143	TBN		DFLG(,XR2),DBIT5
2144	JF		DASIO6
2145	*		*
2146	DASIO1	SBF	DFLG(,XR2),DBIT5
2147	J		DASIO3
2148	*		*
2149	DASIO2	TBF	DFLG(,XR2),DBIT6+DBIT7
2150	JT		DASIO6
2151	*		*
2152	SLC		DFLG(,XR2),11
2153	*		*
2154	DASIO3	MVC	DASIO4+1(1),UCKMSK(,XR2)
2155	*		*
2156	TIO		DASIO4,X'C4'
2157	J		DASIO5
2158	*		*
2159	DASIO4	TBF	SNS-1,--*
2160	TBF		SNS,X'08'
2161	JT		DASIO8
2162	*		*
2163	DASIO5	SBN	DFLG(,XR2),DBIT3
2164	*		*
2165	DASIO6	SBN	FLAGS,BIT3
2166	*		*
2167	DASIO7	MVI	DASIRS+2,X'7E'
2168	B		DASIRS
2169	*		*
2170	DASIO8	MVC	DRVSNS(2,XR2),SNS
2171	*		*
2172	DASIRS	SIO	--*,X'C4'
2173	L		L5XR2,XR2
2174	TIO		DASDIA,X'C4'
2175	*		*
2176	DASDIX	B	--*

SETUP RETURN ADDRESS
SAVE INDEX REGISTER 2

SENSE ADAPTER STATUS

BRANCH IF
ADAPTER CHECK

POINT TO DRIVE 1 WORK AREA
PREPARE TO RESET DRV1 SK COMPL
BRANCH IF DRIVE 1
SEEK COMPLETE INTERRUPT

POINT TO DRIVE 2 WORK AREA
PREPARE TO RESET DRV2 SK COMPL
BRANCH IF DRIVE 2
SEEK COMPLETE INTERRUPT

BRANCH IF NOT
OP END INTERRUPT

PREPARE TO RESET OP END INTRPT

POINT TO DRIVE 1 WORK AREA
BRANCH IF OP END
EXPECTED FROM DRIVE 1

POINT TO DRIVE 2 WORK AREA
BRANCH IF OP END
EXPECTED FROM DRIVE 2

RESET OP END EXPECTED IND
GO TO CHECK FOR UNIT CHECK

BRANCH IF NO SEEK
COMPLETE INTERRUPT EXPECTED

DECREMENT SK COMPLETE EXP CNT

GET UNIT CK MASK FROM DRV AREA

BR IF NO INTERRUPT PENDING

BRANCH IF NO
UNIT CHECK OR
NO-OP STATUS

SET DRIVE ERROR DETECTED FLAG

SET COMMON ERROR DETECTED FLAG

RESET AND DISABLE INTERRUPTS

SAVE ADAPTER SENSE INFO

RESET INTERRUPT
RESTORE INDEX REGISTER 2
IS INTERRUPT PENDING

RETURN

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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2179 *****
2180 *
2181 *          CHECK DECIMAL KEYBOARD ENTRY SUBROUTINE
2182 *
2183 *****
2184 *
2185 CKDEC  ST  CKDR+3,ARR      SAVE RETURN ADDRESS
2186          ST  LPXR1,XR1      SAVE INDEX REG 1
2187          ST  LPXR2,XR2      SAVE INDEX REG 2
2188 *
2189          L   CKDR+3,XR1      XR1 POINTS TO PARAMETER LIST
2190          L   I(,XR1),XR2     XR2 POINTS TO FIELD TO BE CHECKED
2191 *
2192          CLC 2(3,XR2),XXX    BRANCH IF FIELD CONTAINS
2193          JE  CKD05           PROGRAM ENTERED DEFAULT VALUES
2194 *
2195          CLC 2(3,XR2),BLANKS BRANCH IF
2196          JE  CKD05           NO USER ENTRY
2197 *
2198          MVC WORKN,2(3,XR2)  SAVE VALUES ENTERED
2199 *
2200          MVC CKDR+3(2),5(,XR1) SETUP RETURN FOR INVALID ENTRY
2201 *
2202 CKD04  TBN WORKN,C'0'      RETURN TO CALLING
2203          TBN WORKN-1,C'0'    ROUTINE IF FIELD
2204          TBN WORKN-2,C'0'    BEING CHECKED DOES NOT CONTAIN
2205          JF  CKD06           VALID DECIMAL CHARACTERS
2206 *
2207          CLI WORKN,C'9'      RETURN TO
2208          BH  CKD06           CALLING ROUTINE
2209          CLI WORKN-1,C'9'    IF FIELD
2210          BH  CKD06           BEING CHECKED
2211          CLI WORKN-2,C'9'    IS NOT
2212          BH  CKD06           DECIMAL
2213 *
2214          MVC CKDR+3(2),3(,XR1) SETUP RETURN FOR VALID FIELD
2215          J   CKD06           RETURN TO CALLING ROUTINE
2216 *
2217 CKD05  LA  6(,XR1),XR1      NO USER ENTRY IN FIELD
2218          ST  CKDR+3,XR1      RETURN FOR DEFAULT PROCESSING
2219 *
2220 CKD06  L   LPXR1,XR1      RESTORE INDEX REG 1
2221          L   LPXR2,XR2      RESTORE INDEX REG 2
2222 *
2223 CKDR   B   *-*          RETURN TO CALLING ROUTINE
2224 *

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C182 3340 FRIENDS TEST - MOD 12

C182 3340 FRIENDS TEST - MOD 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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2226 *****
2227 *
2228 *          CONVERT DECIMAL ENTRY TO BINARY SUBROUTINE
2229 *
2230 *****
2231 *
1F19 34 08 1F67 2232 CNVRT ST CNVRTN+3,ARR SAVE RETURN ADDRESS
1F1D 34 01 37EA 2233 ST LPXR1,XR1 SAVE INDEX REGISTER 1
1F21 34 02 37EC 2234 ST LPXR2,XR2 SAVE INDEX REGISTER 2
2235 *
1F25 35 01 1F67 2236 L CNVRTN+3,XR1 POINT TO CALL PARAMETERS
2237 *
1F29 D2 02 05 2238 LA 5(,XR1),XR2 SETUP ADDRESS FOR
1F2C 34 02 1F67 2239 ST CNVRTN+3,XR2 RETURN TO CALLING ROUTINE
2240 *
1F30 1C 00 1F59 00 2241 MVC CNVOZ+1(1),O(,XR1) MOVE MASK PARAMETER TO SBN INST
2242 *
1F35 75 02 02 2243 L 2(,XR1),XR2 POINT TO INPUT AREA
1F38 75 01 04 2244 L 4(,XR1),XR1 POINT TO OUTPUT AREA
2245 *
1F3B 4C 01 00 364F 2246 MVC O(2,XR1),IO INITIALIZE OUTPUT AREA
2247 *
1F40 BD E7 09 2248 CLI O(,XR2),C'X' BRANCH IF INPUT AREA DOES
1F43 F2 81 12 2249 JE CNVOZ NOT CONTAIN DECIMAL CHAR
2250 *
1F46 87 11 00 3632 2251 CNVO1 SZ O(3,XR2),DO1(2) CONVERT
1F4B C0 82 1F5C 2252 BM CNVO3 DECIMAL
1F4F 4E 01 00 3651 2253 ALC O(2,XR1),I1 INPUT TO
1F54 C0 87 1F46 2254 B CNVO1 BINARY OUTPUT
2255 *
1F58 3A 00 37E8 2256 CNVO2 SBN CFLGN,*-* SET FLAG IF NOT DECIMAL INPUT
2257 *
1F5C 35 01 37EA 2258 CNVO3 L LPXR1,XR1 RESTORE INDEX REGISTER 1
1F60 35 02 37EC 2259 L LPXR2,XR2 RESTORE INDEX REGISTER 2
2260 *
1F64 C0 87 0000 2261 CNVRTN B *-* RETURN TO CALLING ROUTINE
2262 *

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```

2264 *****
2265 *
2266 *          INTERFACE TO MICROCODE LOADER PROGRAM (SECTION C17)
2267 *
2268 *****
2269 *
1F68 34 08 1FAC 2270 MPL ST MPLX+3,ARR SAVE RETURN ADDRESS
1F6C 34 01 1FA4 2271 ST MPLX1+3,XR1 SAVE INDEX REGISTER 1
1F70 34 02 1FA8 2272 ST MPLX2+3,XR2 SAVE INDEX REGISTER 2
2273 *
1F74 0D 01 0A1C 1F9C 2274 CLC LDRID(2),C17 GO TO LOAD LOADER
1F7A F2 01 09 2275 JNE LDRLD IF NOT ALREADY IN STG
2276 *
1F7D 0D 01 6C01 1F9C 2277 CLC LDR+1(2),C17 BRANCH IF SECTION C17
1F83 F2 81 17 2278 JE LDRGG IS ALREADY IN MAIN STORAGE
2279 *
1F86 C0 87 021A 2280 LDRLD B PRINT PRINT MESSAGE
1F8A 46 1F8A 2281 DC XL1'46' LOADING SECTION C17
1F8B 13 1F8B 2282 DC AL1(HSGOIN-HSGO1+1)
1F8C 2725 1F8D 2283 DC AL2(HSGOIN)
1F8E C100 1F8F 2284 DC AL2(HLT00)
2285 *
1F90 0C 18 0A39 0A18 2285 MVC SVPPFC(25),COM-1 SAVE SECTION PREFACE
2286 *
1F96 C0 87 022A 2288 B LOAD LOAD SECTION C17
1F9A 04 1F9A 2289 DC XL1'04'
1F9B 0C17 1F9C 2290 C17 DC XL2'0C17'
2291 *
1F9D C0 87 6C02 2292 LURGO B LDR+2 GO TO SECTION C17
2293 *
1FA1 C2 01 0000 2294 MPLX1 LA *-- ,XR1 RESTORE
1FA5 C2 02 0000 2295 MPLX2 LA *-- ,XR2 INDEX REGISTERS
2296 *
1FA9 C0 87 0000 2297 MPLX B *-- RETURN TO CALLING ROUTINE
2298 *

```

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		2300	*	*****
		2301	*	
		2302	*	PRINTER KEYBOARD (5471) ENTRY ROUTINE
		2303	*	
		2304	*	*****
		2305	*	
1FAD 34 08 2066		IFAD 2306	KEYIN EQU *	SAVE RETURN ADDRESS
		2307	ST	ENDIN+3,ARR
		2308	*	
1FB1 38 04 0208		2309	TBN	SBYTEO,SSW05
1FB5 F2 10 05		2310	JT	NOSKIP
		2311	*	
1FB8 C0 87 021A		2312	B	PRINT
1FBC 16		IFBC 2313	DC	XL1'16'
		2314	*	
		IFBD 2315	NOSKIP EQU *	KEYBOARD ENTRY?
1FB0 38 80 365E		2316	TBN	DEVICE,X'80'
1FC1 C0 90 20F7		2317	BF	SWCHIN
1FC5 34 01 37EA		2318	ST	LPXR1,XR1
1FC9 34 02 37EC		2319	ST	LPXR2,XR2
1FCD 31 18 3661		2320	LIO	BLANKS,PRT
1FD1 F3 18 80		2321	SIO	PRINT1,PRT
		2322	*	
1FD4 C2 01 36D5		2323	LA	KIN,XR1
1FD8 OC 27 36FC 36FD		2324	MVC	KINEND(40),KINEND+1
		2325	*	
1FDE F3 10 11		2326	NEXKEY SIO	X'11',KEY
1FE1 30 11 3701		2327	SNS	KYSTAT,X'11'
1FE5 38 80 37C1		2328	TBN	KYSTAT,X'80'
1FE9 C0 10 20A1		2329	BT	AMOPRN
1FED 39 40 3701		2330	TBF	KYSTAT,X'40'
1FF1 F2 10 12		2331	JT	NOEC
1FF4 38 20 3701		2332	TBN	KYSTAT,X'20'
1FF8 F3 18 41		2333	SIO	RET1,PRT
1FFB C0 10 1FCD		2334	BT	CANHIT
1FFF F3 10 07		2335	SIO	X'07',KEY
2002 C0 87 0216		2336	B	LINK
		2337	*	
		2006 2338	NOEC EQU *	TEST CONSOLE SWITCHES
2006 C0 87 0212		2339	B	TEST
200A 38 08 3701		2340	TBN	KYSTAT,X'08'
200E C0 90 1FE1		2341	BF	NEXKEY+3
2012 38 04 3701		2342	TBN	KYSTAT,X'04'
2016 C0 10 2052		2343	BT	ENDIN1
201A 39 03 3701		2344	TBF	KYSTAT,X'03'
201E F2 10 10		2345	JT	NOCK
2021 C0 87 021A		2346	B	PRINT
2025 C6		2025 2347	DC	XL1'C6'
2026 15		2026 2348	DC	AL1(MSG70N-MSG70)
2027 30D6		2028 2349	DC	AL2(MSG70N)
2029 C171		202A 2350	DC	XL2'C171'
202B C0 87 0222		2351	B	HALT
202F C171		2030 2352	DC	XL2'C171'
		2353	*	
		2031 2354	NOCK EQU *	SAVE INPUT
2031 4C 00 00 3700		2355	MVC	O(1,XR1),KYSTAT-1
2036 31 18 3701		2356	LIO	KYSTAT,PRT
203A F3 18 80		2357	SIO	PRINT1,PRT
203D 02 01 01		2358	LA	I(,XR1),XR1
2040 34 01 36FF		2359	ST	SAVXR1,XR1
2044 0D 01 36FF 3673		2360	CLC	SAVXR1(2),AIN
204A C0 81 2052		2361	BE	ENDIN1
204E C0 87 1FDE		2362	B	NEXKEY
		2363	*	
2052 F3 18 41		2364	ENDIN1 SIO	RET1,PRT
2055 F3 10 01		2365	SIO	X'01',KEY
2058 F3 10 06		2366	SIO	X'06',KEY
		2367	*	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		205B 35 01 37EA		2368 L LPXR1,XR1
		205F 35 02 37EC		2369 L LPXR2,XR2
		2063 C0 87 0000		2370 * 2371 ENDIN B *- 2372 *

RESTORE INDEX REG 1
RESTORE INDEX REG 2
LAST ENTRY-RETURN

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

2374 *****
2375 *
2376 *      PRINTER KEYBOARD (5471) INTERRUPT HANDLING ROUTINE
2377 *
2378 *****
2379 *
2067 2380 PRKBI EQU *
      2381 MVI KBSTAT,0 CLEAR STATUS INDICATOR
      2382 SNS KYSTAT,X'11' SAVE STATUS
      2383 TBN KYSTAT,X'80' CHECK FOR REQUEST INTERRUPT
      2384 JF KBENDB BRANCH IF ON
      2385 SBN KBSTAT,X'20' SET AMOP REQUESTED
      2386 J KBEND
207D 2387 KBENDB EQU *
      2388 TBF KYSTAT,X'40' CHECK FOR END
      2389 JT KBEND OR CANCEL KEY
      2390 TBN KYSTAT,X'20' CANCEL KEY INTERRUPT PENDING?
      2391 JF KBENDA BRANCH IF NO
      2392 SBN KBSTAT,X'80' SET CANCEL INDICATOR ON
      2393 KBENDA TBN KYSTAT,X'10' END KEY INTERRUPT PENDING?
      2394 JF KBEND BRANCH IF NO
      2395 SBN KBSTAT,X'40' SET END INDICATOR ON
      2396 KBEND SIO X'07',KEY RESET AND ENABLE INTERRUPTS
      2397 B PRKBI

```

```

2067 3C 00 3702
2068 30 11 3701
206F 38 80 3701
2073 F2 90 07
2076 3A 20 3702
207A F2 87 1D
207D 39 40 3701
2081 F2 10 16
2084 38 20 3701
2088 F2 90 04
208B 3A 80 3702
208F 38 10 3701
2093 F2 90 04
2096 3A 40 3702
209A F3 10 07
209D C0 87 2067

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

2399 *****
2400 *
2401 *      SUBROUTINE TO LOAD AMOP
2402 *
2403 *****
2404 *
20A1 2405 AMOPRN EQU *
      2406 ST AMOPEN+3,ARR SAVE RETURN ADDRESS
      2407 TBN FLAGS,BIT2 IGNORE INTERRUPT IF 3340
      2408 BT AMOPEN CMD EXECUTION IS IN PROGRESS
      2409 *
      2410 TBN SBYTE5,SSW2F IGNORE INTERRUPT IF
      2411 BF AMOPEN SENSE SWITCH 2F IS OFF
      2412 *
      2413 MVC SVPFC(25),COM-1 SAVE SECTION PREFACE
      2414 *
      2415 CLC AMOPID(2),C19 BRANCH IF SECTION C19
      2416 JNE AMOPLD HAS NOT YET BEEN LOADED
      2417 *
      2418 CLC AMOP+1(2),C19 BRANCH IF AMOP
      2419 BE KBAMOP IS ALREADY IN STORAGE
      2420 *
      2421 AMOPLD B PRINT
      2422 DC XL1'02' SECTION C19
      2423 DC IL1'31' IS BEING
      2424 DC AL2(MSG66N) LOADED
      2425 *
      2426 SIO X'00',KEY DISABLE K/B INTERRUPTS
      2427 *
      2428 B LOAD
      2429 DC XL1'04' SECTION
      2430 C19 C19
      2431 *
      2432 KBAMOP B AMOP+2
      2433 *
      2434 SIO X'06',KEY
      2435 TBN FLAGS,BIT1 RETURN TO OPTION MENU
      2436 BT SELECT IF COMMAND ENTRY IS COMPLETE
      2437 B BGN04 ELSE RESTART SECTION
      2438 *
      2439 AMOPEN B *-* RETURN TO CALLING ROUTINE

```

```

20A1 34 08 20F6
20A5 38 20 37E5
20A9 C0 10 20F3
20AD 38 01 020D
20B1 C0 90 20F3
20B5 0C 18 0A39 0A18
20BB 0D 01 0A1E 20DF
20C1 F2 01 0A
20C4 0D 01 4001 20DF
20CA C0 81 20E0
20CE C0 87 021A
20D2 02
20D3 1F
20D4 3097
20D6 F3 10 00
20D9 C0 87 022A
20DD 04
20DE 0C19
20E0 C0 87 4002
20E4 F3 10 06
20E7 38 40 37E5
20EB C0 10 13FC
20EF C0 87 0B2F
20F3 C0 87 0000

```

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C182 3340 FRIENDS TEST - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2441	*			*****
2442	*			
2443	*			DATA SWITCH ENTRY ROUTINE
2444	*			
2445	*			*****
2446	*			
20F7	OC 27 36FC 36FD	2447	SWCHIN EQU *	
		2448	MVC KINEND(40),KINEND+1	BLANK INPUT BUFFER
		2449	*	
		2450	*****OPTION ENTRY*****	
		2451	*	
20FD	38 40 3668	2452	OPTENT TBN	DATASW,SELOPT OPTION ENTRY ?
2101	CO 90 2131	2453	BF	SWARGO
		2454	*	
2105	CO 87 021A	2455	B	PRINT
2109	06	2109 2456	DC	XL1'06'
210A	23	210A 2457	DC	AL1(MSG89N-MSG89+1)
210B	342C	210C 2458	DC	AL2(MSG89N)
210D	CO 87 0222	2459	B	HALT
2111	C1E0	2112 2460	DC	XL2'C1E0'
		2461	*	
2113	30 00 3581	2462	SNS	SWITCH,X'00'
2117	0D 01 3581 35C0	2463	CLC	SWITCH(2),X8181
211D	CO 81 20A1	2464	BE	AMOPRN
2121	08 02 3605 3580	2465	MNZ	KIN,SWITCH-1
2127	08 01 3605 3587	2466	MZN	KIN,F
212D	CO 87 270F	2467	B	ENDSW
		2468	*	
		2469	*****SCAN ARG/WRITE DATA ENTRY*****	
		2470	*	
2131	38 20 3668	2471	SWARGO TBN	DATASW,SCNARG SCAN ARG/WRITE DATA ?
2135	CO 90 222B	2472	BF	SWO
2139	CO 87 021A	2473	B	PRINT
213D	01	213D 2474	DC	XL1'01'
213E	23	213E 2475	DC	AL1(MSG90N-MSG90+1)
213F	344F	2140 2476	DC	AL2(MSG90N)
		2477	*	
2141	CO 87 021A	2478	B	PRINT
2145	06	2145 2479	DC	XL1'06'
2146	29	2146 2480	DC	AL1(MSG91N-MSG91+1)
2147	3478	2148 2481	DC	AL2(MSG91N)
2149	CO 87 0222	2482	B	HALT
214D	C1E0	214E 2483	DC	XL2'C1E0'
		2484	*	
214F	30 00 3581	2485	SNS	SWITCH,X'00'
2153	08 02 3605 3580	2486	MNZ	KIN,SWITCH-1
2159	08 03 3606 3580	2487	MNN	KIN+1,SWITCH-1
215F	08 02 3607 3581	2488	MNZ	KIN+2,SWITCH
2165	08 03 3608 3581	2489	MNN	KIN+3,SWITCH
2168	08 01 3605 3587	2490	MZN	KIN,F
2171	08 01 3606 3587	2491	MZN	KIN+1,F
2177	08 01 3607 3587	2492	MZN	KIN+2,F
217D	08 01 3608 3587	2493	MZN	KIN+3,F
2183	CO 87 021A	2494	B	PRINT
2187	01	2187 2495	DC	XL1'01'
2188	38	2188 2496	DC	AL1(MSG92N-MSG92+1)
2189	3483	218A 2497	DC	AL2(MSG92N)
218B	CO 87 021A	2498	B	PRINT
218F	02	218F 2499	DC	XL1'02'
2190	33	2190 2500	DC	AL1(MSG93N-MSG93+1)
2191	34E6	2192 2501	DC	AL2(MSG93N)
2193	CO 87 021F	2502	B	PRINT
2197	06	2197 2503	DC	XL1'06'
2198	4C	2198 2504	DC	AL1(MSG94N-MSG94+1)
2199	3532	219A 2505	DC	AL2(MSG94N)
219B	34 01 3585	2506	ST	XR1SAV,XR1
219F	OC 00 3609 3588	2507	MVC	KIN+4(1),X
21A5	C2 01 36DA	2508	LA	KIN+5,XR1

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21A9	CO 87 0222	2509	SWARG	B HALT
21AD	C1E0	21AE 2510	DC	XL2'C1E0'
21AF	30 00 3581	2511	SNS	SWITCH,X'00'
21B3	3D 00 3580	2512	CLI	SWITCH-1,X'00'
21B7	CO 04 21C3	2513	BNH	SWXXX
21BB	35 01 3585	2514	L	XR1SAV,XR1
21BF	CO 87 270F	2515	B	ENDSW
		2516	*	
21C3	48 03 01 3581	2517	SWXXX	MNN 1(,XR1),SWITCH
21C8	48 02 00 3581	2518	MNZ	0(,XR1),SWITCH
21CD	48 01 00 3587	2519	MZN	0(,XR1),F
21D2	48 01 01 3587	2520	MZN	1(,XR1),F
21D7	3C 00 3586	2521	MVI	STORE,X'00'
21DB	08 02 3586 3581	2522	MNZ	STORE,SWITCH
21E1	3D 09 3586	2523	CLI	STORE,X'09'
21E5	CO 04 21F9	2524	BNH	SWXX1
21E9	48 01 00 3588	2525	MZN	0(,XR1),C
21EE	0F 00 3586 358C	2526	SLC	STORE(1),NINE
21F4	48 03 00 3586	2527	MNN	0(,XR1),STORE
21F9	3C 00 3586	2528	SWXX1	MVI STORE,X'00'
21FD	08 03 3586 3581	2529	MNN	STORE,SWITCH
2203	3D 09 3586	2530	CLI	STORE,X'09'
2207	CO 04 221B	2531	BNH	SWXX2
2208	48 01 01 3588	2532	MZN	1(,XR1),C
2210	0F 00 3586 358C	2533	SLC	STORE(1),NINE
2216	48 03 01 3586	2534	MNN	1(,XR1),STORE
2218	36 01 358A	2535	SWXX2	A TWO,XR1
221F	CO 87 021A	2536	B	PRINT
2223	06	2223 2537	DC	XL1'06'
2224	04	2224 2538	DC	AL1(MSG95N-MSG95+1)
2225	3536	2226 2539	DC	AL2(MSG95N)
2227	CO 87 21A9	2540	B	SWARG
		2541	*	
		2542	***** SINGLE (CORRECTION) ENTRY *****	
		2543	*	
222B	38 80 3668	2544	SWO	TBN DATASW,MULTSW
222F	CO 10 231B	2545	BT	SW1
2233	38 10 3668	2546	TBN	DATASW,MESIND
2237	CO 90 2243	2547	BF	SINGSW
2238	CO 87 021A	2548	B	PRINT
223F	01	223F 2549	DC	XL1'01'
2240	39	2240 2550	DC	AL1(MSG96N-MSG96+1)
2241	356F	2242 2551	DC	AL2(MSG96N)
2243	CO 87 021A	2552	SINGSW	B PRINT
2247	06	2247 2553	DC	XL1'06'
2248	20	2248 2554	DC	AL1(MSG88N-MSG88+1)
2249	3409	224A 2555	DC	AL2(MSG88N)
224B	CO 87 0222	2556	B	HALT
224F	C1E0	2250 2557	DC	XL2'C1E0'
		2558	*	
2251	30 00 3581	2559	SNS	SWITCH,X'00'
2255	08 02 3605 3580	2560	MNZ	KIN,SWITCH-1
2258	08 03 3606 3580	2561	MNN	KIN+1,SWITCH-1
2261	08 02 3607 3581	2562	MNZ	KIN+2,SWITCH
2267	08 03 3608 3581	2563	MNN	KIN+3,SWITCH
226D	08 01 3605 3587	2564	MZN	KIN,F
2273	08 01 3606 3587	2565	MZN	KIN+1,F
2279	08 01 3607 3587	2566	MZN	KIN+2,F
227F	08 01 3608 3587	2567	MZN	KIN+3,F
		2568	*	
2285	38 10 3668	2569	TBN	DATASW,MESIND
2289	CO 90 22C3	2570	BF	SINGFY
228D	3D F0 3605	2571	CLI	KIN,X'F0'
2291	CO 01 229F	2572	BNE	SINGOP
2295	OC 02 3607 3661	2573	MVC	KIN+2(3),BLANKS
229B	CO 87 270F	2574	B	ENDSW
229F	3D F1 3605	2575	SINGOP	CLI KIN,X'F1'
22A3	CO 01 2281	2576	BNE	SINGN

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
22A7	OC 02 3607	366A	2577	MVC KIN+2(3),OPT	IF YES PUT OPT IN KEYIN BUFFER
22AD	CO 87 270F		2578	B ENDSW	& RETURN
22B1	3D F2 3605		2579	SINGN CLI KIN,X'F2'	TERMINATE ?
22B5	CO 01 2243		2580	BNE SINGSW	
22B9	OC 02 3607	362A	2581	MVC KIN+2(3),END	IF YES PUT END IN KEYIN BUFFER
22BF	CO 87 270F		2582	B ENDSW	& RETURN
			2583	*	
22C3	38 01 3668		2584	SINGFY TBN DATASW,FFREQD	FLAG FIELD ENTRY ?
22C7	CO 10 22CF		2585	BT SINGFF	
22CB	CO 87 270F		2586	B ENDSW	RETURN
22CF	3C 00 3586		2587	SINGFF MVI STORE,X'00'	
22D3	08 03 3586	36D5	2588	MNN STORE,KIN	
22D9	3D 09 3586		2589	CLI STORE,X'09'	AN ALPHA CHARACTER ?
22DD	CO 04 22F3		2590	BNH SINGFX	CHECK OTHER ENTRY IF NOT
22E1	08 01 36D5	358B	2591	MZN KIN,C	ELSE CONVERT
22E7	0F 00 3586	358C	2592	SLC STORE(1),NINE	TO
22ED	08 03 36D5	3586	2593	MNN KIN,STORE	EBCDIC CHAR.
22F3	3C 00 3586		2594	SINGFX MVI STORE,X'00'	
22F7	08 03 3586	36D6	2595	MNN STORE,KIN+1	
22FD	3D 09 3586		2596	CLI STORE,X'09'	ALPHA CHAR FROM 2ND SW ?
2301	CO 04 270F		2597	BNH ENDSW	RETURN IF NOT
2305	08 01 36D6	358B	2598	MZN KIN+1,C	ELSE CONVERT
2308	0F 00 3586	358C	2599	SLC STORE(1),NINE	TO
2311	08 03 36D6	3586	2600	MNN KIN+1,STORE	EBCDIC CHAR.
2317	CO 87 270F		2601	B ENDSW	RETURN
			2602	*	
			2603	*****FULL COMMAND ENTRY*****	
			2604	*	
2318	CO 87 021A		2605	SW1 B PRINT	PRINT
231F	06	231F	2606	DC XLI'06'	'SET CMND IN SW'S 1,2:
2320	44	2320	2607	DC AL1(MSG80N-MSG80+1)	DRV # IN SW 3
2321	322B	2322	2608	DC AL2(MSG80N)	& RST HALT'
2323	CO 87 0222		2609	B HALT	HALT (1ST SW ENTRY)
2327	C1E0	2328	2610	DC XL2'C1E0'	EO
			2611	*	
2329	30 00 3581		2612	SRETRY SNS SWITCH,X'00'	READ DATA SWITCHES
232D	0D 01 3581	35C0	2613	CLC SWITCH(2),X8181	BRANCH IF ANOP
2333	CO 81 20A1		2614	BE AMOPRN	
2337	08 02 36D6	3581	2615	MNZ BUFDRV-1,SWITCH	PUT THE DRIVE ENTRY
233D	08 01 36D6	3587	2616	MZN BUFDRV-1,F	INTO THE BUFFER
			2617	*	
2343	3D 60 3580		2618	S60CHK CLI SWITCH-1,X'60'	END COMMAND
2347	CO 01 2355		2619	BNE S10CHK	
2348	OC 02 36D7	362A	2620	MVC BUFDRV(3),END	
2351	CO 87 270F		2621	B ENDSW	
			2622	*	
2355	3D 10 3580		2623	S10CHK CLI SWITCH-1,X'10'	SEEK CMD ?
2359	CO 01 2367		2624	BNE S20CHK	
235D	OC 03 36DB	35C4	2625	MVC BUFCMD-2(4),SEEK	
2363	CO 87 24F3		2626	B SW2	
			2627	*	
2367	3D 20 3580		2628	S20CHK CLI SWITCH-1,X'20'	RECAL CMD ?
236B	CO 01 2379		2629	BNE S31CHK	
236F	OC 04 36DC	35C9	2630	MVC BUFCMD-1(5),RECAL	
2375	CO 87 24F3		2631	B SW2	
			2632	*	
2379	3D 31 3580		2633	S31CHK CLI SWITCH-1,X'31'	READ KEY DATA CMD ?
237D	CO 01 2388		2634	BNE S32CHK	
2381	OC 03 36DB	35CD	2635	MVC BUFCMD-2(4),RDKD	
2387	CO 87 24F3		2636	B SW2	
			2637	*	
2388	3D 32 3580		2638	S32CHK CLI SWITCH-1,X'32'	READ HA & RO EVEN CMD ?
238F	CO 01 239D		2639	BNE S33CHK	
2393	OC 04 36DC	35D2	2640	MVC BUFCMD-1(5),RDHAE	
2399	CO 87 24F3		2641	B SW2	
			2642	*	
239D	3D 33 3580		2643	S33CHK CLI SWITCH-1,X'33'	READ COUNT-KEY-DATA CMD ?
23A1	CO 01 23AF		2644	BNE S34CHK	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
23A5	OC 04 36DC	35D7	2645	MVC BUFCMD-1(5),RDCKD	
23AB	CO 87 24F3		2646	B SW2	
			2647	*	
23AF	3D 34 3580		2648	S34CHK CLI SWITCH-1,X'34'	READ VERIFY KEY-DATA CMD ?
23B3	CO 01 23C1		2649	BNE S35CHK	
23B7	OC 04 36DC	35DC	2650	MVC BUFCMD-1(5),RDVKD	
23BD	CO 87 24F3		2651	B SW2	
			2652	*	
23C1	3D 35 3580		2653	S35CHK CLI SWITCH-1,X'35'	RD COUNT-KEY-DATA DIAGNOSTIC ?
23C5	CO 01 23D3		2654	BNE S36CHK	
23C9	OC 04 36DC	35E1	2655	MVC BUFCMD-1(5),RDDGN	
23CF	CO 87 24F3		2656	B SW2	
			2657	*	
23D3	3D 36 3580		2658	S36CHK CLI SWITCH-1,X'36'	RD & RESET BUFFERED LOG?
23D7	CO 01 23E5		2659	BNE S37CHK	
23DB	OC 04 36DC	35E6	2660	MVC BUFCMD-1(5),RDLOG	
23E1	CO 87 24F3		2661	B SW2	
			2662	*	
23E5	3D 37 3580		2663	S37CHK CLI SWITCH-1,X'37'	RD DIAGNOSTIC SENSE ?
23E9	CO 01 23F7		2664	BNE S38CHK	
23ED	OC 04 36DC	35EB	2665	MVC BUFCMD-1(5),RDXXS	
23F3	CO 87 24F3		2666	B SW2	
			2667	*	
23F7	3D 38 3580		2668	S38CHK CLI SWITCH-1,X'38'	RD RO KEY-DATA ODD ?
23FB	CO 01 2409		2669	BNE S39CHK	
23FF	OC 04 36DC	35FO	2670	MVC BUFCMD-1(5),RDROO	
2405	CO 87 24F3		2671	B SW2	
			2672	*	
2409	3D 39 3580		2673	S39CHK CLI SWITCH-1,X'39'	RD HA & RO ODD ?
240D	CO 01 2418		2674	BNE S41CHK	
2411	OC 04 36DC	35F5	2675	MVC BUFCMD-1(5),RDHAD	
2417	CO 87 24F3		2676	B SW2	
			2677	*	
241B	3D 41 3580		2678	S41CHK CLI SWITCH-1,X'41'	WRITE KEY-DATA CMD?
241F	CO 01 242D		2679	BNE S42CHK	
2423	OC 03 36DB	35F9	2680	MVC BUFCMD-2(4),WRKD	
2429	CO 87 24F3		2681	B SW2	
			2682	*	
242D	3D 42 3580		2683	S42CHK CLI SWITCH-1,X'42'	WRITE HA & RO EVEN ?
2431	CO 01 243F		2684	BNE S43CHK	
2435	OC 04 36DC	35FE	2685	MVC BUFCMD-1(5),WRHAE	
243B	CO 87 24F3		2686	B SW2	
			2687	*	
243F	3D 43 3580		2688	S43CHK CLI SWITCH-1,X'43'	WRITE COUNT KEY-DATA ?
2443	CO 01 2451		2689	BNE S44CHK	
2447	OC 04 36DC	3603	2690	MVC BUFCMD-1(5),WRCKD	
244D	CO 87 24F3		2691	B SW2	
			2692	*	
2451	3D 44 3580		2693	S44CHK CLI SWITCH-1,X'44'	WRITE REPEAT KEYDATA
2455	CO 01 2463		2694	BNE S45CHK	
2459	OC 04 36DC	3608	2695	MVC BUFCMD-1(5),WRREP	
245F	CO 87 24F3		2696	B SW2	
			2697	*	
2463	3D 45 3580		2698	S45CHK CLI SWITCH-1,X'45'	WRITE RO ODD ?
2467	CO 01 2475		2699	BNE S46CHK	
246B	OC 04 36DC	360D	2700	MVC BUFCMD-1(5),WRROO	
2471	CO 87 24F3		2701	B SW2	
			2702	*	
2475	3D 46 3580		2703	S46CHK CLI SWITCH-1,X'46'	WRITE COUNT COMPRESSED DATA ?
2479	CO 01 2487		2704	BNE S47CHK	
247D	OC 04 36DC	3612	2705	MVC BUFCMD-1(5),WRCCD	
2483	CO 87 24F3		2706	B SW2	
			2707	*	
2487	3D 47 3580		2708	S47CHK CLI SWITCH-1,X'47'	WRITE HA & RO ODD ?
248B	CO 01 2499		2709	BNE S51CHK	
248F	OC 04 36DC	3617	2710	MVC BUFCMD-1(5),WRHAD	
2495	CO 87 24F3		2711	B SW2	
			2712	*	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
2499	3D 51 3580	2713	S51CHK	CLI SWITCH-1,X'51'	SCAN READ OR EQUAL ?
249D	CO 01 24AB	2714	BNE S52CHK		
24A1	OC 03 36DB 361B	2715	MVC BUFCMD-2(4),SCRE		
24A7	CO 87 24F3	2716	B SW2		
24AB	3D 52 3580	2717	*		
24AF	CO 01 24BD	2718	S52CHK	CLI SWITCH-1,X'52'	SCAN RD OR HIGH OR EQUAL ?
24B3	OC 04 36DC 3620	2719	BNE S53CHK		
24B9	CO 87 24F3	2720	MVC BUFCMD-1(5),SCRHE		
24BD	3D 53 3580	2721	B SW2		
24C1	CO 01 24CF	2722	*		
24C5	OC 02 36DA 3623	2723	S53CHK	CLI SWITCH-1,X'53'	SCAN EQU ?
24CB	CO 87 24F3	2724	BNE S54CHK		
24CF	3D 54 3580	2725	MVC BUFCMD-3(3),SCE		
24D3	CO 01 24E1	2726	B SW2		
24D7	OC 03 36DB 3627	2727	*		
24DD	CO 87 24F3	2728	S54CHK	CLI SWITCH-1,X'54'	SCAN HIGH OR EQUAL ?
24E1	CO 87 021A	2729	BNE SWERR		
24E5	06	2730	MVC BUFCMD-2(4),SCHE		
24E6	26	2731	B SW2		
24E7	3251	2732	*		
24E9	CO 87 0222	2733	SWERR	B PRINT	PRINT
24ED	C1E0	2734	DC XL1'06'	DC 'INVALID COMMAND	'INVALID COMMAND
24EF	CO 87 2329	2735	DC AL1(MSG81N-MSG81+1)	DC ENTRY ;	ENTRY ;
24F3	CO 87 021A	2736	DC AL2(MSG81N)	DC RE-ENTER & RESET HALT'	RE-ENTER & RESET HALT'
24F7	01	2737	B HALT	B HALT (1ST SW ENTRY)	HALT (1ST SW ENTRY)
24F8	40	2738	DC XL2'C1E0'	DC EO	EO
24F9	35AF	2739	B SRETRY	B TRY AGAIN	TRY AGAIN
24FB	CO 87 021A	2740	*		
24FF	06	2741	SW2	B PRINT	PRINT
2500	59	2742	DC XL1'01'	DC XL1'06'	'SET FF (HEX) & HH (DEC)
2501	32AA	2743	DC AL1(MSG97N-MSG97+1)	DC INTO THE SW'S	INTO THE SW'S
2503	CO 87 0222	2744	DC AL2(MSG97N)	DC & RESET HALT'	& RESET HALT'
2507	C1E0	2745	*	B HALT	HALT (2ND SW ENTRY)
2509	3D 00 3581	2746	B PRINT	B EO	EO
250D	3D 0E 3580	2747	DC XL1'06'		
2511	CO 01 2521	2748	DC AL1(MSG82N-MSG82+1)		
2515	3D 0C 3581	2749	DC AL2(MSG82N)		
2519	CO 01 2521	2750	B HALT		
251D	CO 87 270F	2751	DC XL2'C1E0'		
2521	08 02 36DE 3580	2752	*		
2527	08 03 36DF 3580	2753	SNS SWITCH,X'00'		READ DATA SWITCHES
252D	08 02 36E6 3581	2754	CLI SWITCH-1,X'0E'		END OF ENTRY ?
2533	08 03 36E7 3581	2755	BNE SW2A		
2539	08 01 36DE 3587	2756	CLI SWITCH,X'0C'		
253F	08 01 36DF 3587	2757	BNE SW2A		
2545	08 01 36E6 3587	2758	B ENDSW		
254B	08 01 36E7 3587	2759	*		
2551	3C F0 36E5	2760	SW2A	MNZ BUFFFFX-2,SWITCH-1	PUT THE FLAG & HEAD ENTRY(S) INTO THE BUFFER
2555	3C 00 3586	2761	MNN BUFFFFX-1,SWITCH-1		
2559	08 03 3586 36E5	2762	MNZ BUFHFX-2,SWITCH		
255F	3D 09 3586	2763	MNN BUFHFX-1,SWITCH		
2563	CO 04 2579	2764	MZN BUFFFFX-2,F		
2567	08 01 36E5 358B	2765	MZN BUFFFFX-1,F		
256D	0F 00 3586 358C	2766	MZN BUFHFX-2,F		
2573	08 03 36E5 3586	2767	MZN BUFHFX-1,F		
2579	3C 00 3586	2768	MVI BUFHFX-3,X'FO'		
257D	08 03 3586 36E6	2769	*		
2583	3D 09 3586	2770	MVI STORE,X'00'		
2587	CO 04 259D	2771	MNN STORE,BUFHFX-3		
		2772	CLI STORE,X'09'		
		2773	BNH SW2B		
		2774	MZN BUFHFX-3,C		
		2775	SLC STORE(1),NINE		
		2776	MNN BUFHFX-3,STORE		
		2777	MVI STORE,X'00'		
		2778	MNN STORE,BUFHFX-2		
		2779	CLI STORE,X'09'		
		2780	BNH SW3		

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258B	08 01 36E6 358B	2781	MZN BUFHFX-2,C		ELSE CONVERT
2591	0F 00 3586 358C	2782	SLC STORE(1),NINE		TO
2597	08 03 36E6 3586	2783	MNN BUFHFX-2,STORE		EBCDIC CHAR.
		2784	*		
259D	CO 87 021A	2785	SW3	B PRINT	PRINT
25A1	06	2786	DC XL1'06'	DC 'SET CC (DEC)	'SET CC (DEC)
25A2	3E	2787	DC AL1(MSG83N-MSG83+1)	DC IN SW'S123	IN SW'S123
25A3	32E8	2788	DC AL2(MSG83N)	DC & RESET HALT'	& RESET HALT'
25A5	CO 87 0222	2789	B HALT	B HALT (3RD SW ENTRY)	HALT (3RD SW ENTRY)
25A9	C1E0	2790	DC XL2'C1E0'	DC EO	EO
25AB	3D 00 3581	2791	*		
25AF	3D 0E 3580	2792	SNS SWITCH,X'00'		READ DATA SWITCHES
25B3	CO 01 25C3	2793	CLI SWITCH-1,X'0E'		END OF ENTRY ?
25B7	3D 0C 3581	2794	BNE SW3A		
25BB	CO 01 25C3	2795	CLI SWITCH,X'0C'		
25BF	CO 87 270F	2796	BNE SW3A		
		2797	B ENDSW		
		2798	*		
25C3	08 02 36E1 3580	2799	SW3A	MNZ BUFCCX-3,SWITCH-1	PUT THE CYLINDER ENTRY(S) INTO THE BUFFER
25C9	08 03 36E2 3580	2800	MNN BUFCCX-2,SWITCH-1		
25CF	08 02 36E3 3581	2801	MNZ BUFCCX-1,SWITCH		
		2802	*		
25D5	08 01 36E1 3587	2803	MZN BUFCCX-3,F		
25D8	08 01 36E2 3587	2804	MZN BUFCCX-2,F		
25E1	08 01 36E3 3587	2805	MZN BUFCCX-1,F		
		2806	*		
25E7	CO 87 021A	2807	SW4	B PRINT	PRINT
25EB	06	2808	DC XL1'06'	DC 'SET RR (DEC)	'SET RR (DEC)
25EC	3F	2809	DC AL1(MSG84N-MSG84+1)	DC IN SW'S123	IN SW'S123
25ED	3327	2810	DC AL2(MSG84N)	DC & RESET HALT'	& RESET HALT'
25EF	CO 87 0222	2811	B HALT	B HALT (4TH SW ENTRY)	HALT (4TH SW ENTRY)
25F3	C1E0	2812	DC XL2'C1E0'	DC EO	EO
		2813	*		
25F5	3D 00 3581	2814	SNS SWITCH,X'00'		READ DATA SWITCHES
25F9	3D 0E 3580	2815	CLI SWITCH-1,X'0E'		END OF ENTRY ?
25FD	CO 01 2600	2816	BNE SW4A		
2601	3D 0C 3581	2817	CLI SWITCH,X'0C'		
2605	CO 01 2600	2818	BNE SW4A		
2609	CO 87 270F	2819	B ENDSW		
		2820	*		
260D	08 02 36E9 3580	2821	SW4A	MNZ BUFRRX-3,SWITCH-1	PUT THE RECORD # ENTRY(S) INTO THE BUFFER
2613	08 03 36EA 3580	2822	MNN BUFRRX-2,SWITCH-1		
2619	08 02 36EB 3581	2823	MNZ BUFRRX-1,SWITCH		
		2824	*		
261F	08 01 36E9 3587	2825	MZN BUFRRX-3,F		
2625	08 01 36EA 3587	2826	MZN BUFRRX-2,F		
262B	08 01 36EB 3587	2827	MZN BUFRRX-1,F		
		2828	*		
2631	CO 87 021A	2829	SW5	B PRINT	PRINT
2635	06	2830	DC XL1'06'	DC 'SET KL (DEC)	'SET KL (DEC)
2636	3F	2831	DC AL1(MSG85N-MSG85+1)	DC IN SW'S123	IN SW'S123
2637	3366	2832	DC AL2(MSG85N)	DC & RESET HALT'	& RESET HALT'
2639	CO 87 0222	2833	B HALT	B HALT (5TH SW ENTRY)	HALT (5TH SW ENTRY)
263D	C1E0	2834	DC XL2'C1E0'	DC EO	EO
		2835	*		
263F	3D 00 3581	2836	SNS SWITCH,X'00'		READ DATA SWITCHES
2643	3D 0E 3580	2837	CLI SWITCH-1,X'0E'		END OF ENTRY ?
2647	CO 01 2657	2838	BNE SW5A		
2648	3D 0C 3581	2839	CLI SWITCH,X'0C'		
264F	CO 01 2657	2840	BNE SW5A		
2653	CO 87 270F	2841	B ENDSW		
		2842	*		
2657	08 02 36ED 3580	2843	SW5A	MNZ BUFKLX-3,SWITCH-1	PUT THE KEY LENGTH ENTRY(S) INTO THE
265D	08 03 36EE 358C	2844	MNN BUFKLX-2,SWITCH-1		
2663	08 02 36EF 3581	2845	MNZ BUFKLX-1,SWITCH		
		2846	*		
2669	08 01 36ED 3587	2847	MZN BUFKLX-3,F		
266F	08 01 36EE 3587	2848	MZN BUFKLX-2,F		

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	BUFFER
2675	08 01 36EF 35B7	2849	MZN	BUF	FLX-1,F	BUFFER
2678	CO 87 021A	2850 *				
267F	06	2851 SW6	B	PRINT	PRINT	
2680	40	267F 2852	DC	XL1'06'	'SET DL (DEC)	
2681	33A6	2680 2853	DC	AL1(MSG86N-MSG86+1)	IN SW'S123	
2683	CO 87 0222	2682 2854	DC	AL2(MSG86N)	& RESET HALT'	
2687	C1E0	2855	B	HALT	HALT (6TH SW ENTRY)	
		2688 2856	DC	XL2'C1E0'	EO	
		2857 *				
2689	30 00 35B1	2858	SNS	SWITCH,X'00'	READ DATA SWITCHES	
268D	3D 0E 35B0	2859	CLI	SWITCH-1,X'0E'	END OF ENTRY ?	
2691	CO 01 26A1	2860	BNE	SW6A		
2695	3D 0C 35B1	2861	CLI	SWITCH,X'0C'		
2699	CO 01 26A1	2862	BNE	SW6A		
269D	CO 87 270F	2863	B	ENDSW		
		2864 *				
26A1	08 02 36F1 35B0	2865 SW6A	MNZ	BUFDLX-3,SWITCH-1	PUT	
26A7	08 03 36F2 35B0	2866	MNN	BUFDLX-2,SWITCH-1	THE	
26AD	08 02 36F3 35B1	2867	MNZ	BUFDLX-1,SWITCH	DATA LENGTH	
		2868 *			ENTRY(S)	
26B3	08 01 36F1 35B7	2869	MZN	BUFDLX-3,F	INTO	
26B9	08 01 36F2 35B7	2870	MZN	BUFDLX-2,F	THE	
26BF	08 01 36F3 35B7	2871	MZN	BUFDLX-1,F	BUFFER	
		2872 *				
26C5	CO 87 021A	2873 SW7	B	PRINT	PRINT	
26C9	06	26C9 2874	DC	XL1'06'	'SET NN (DEC)	
26CA	43	26CA 2875	DC	AL1(MSG87N-MSG87+1)	IN SW'S123	
26CB	33E9	26CC 2876	DC	AL2(MSG87N)	& RESET HALT'	
26CD	CO 87 0222	2877	B	HALT	HALT (7TH SW ENTRY)	
26D1	C1E0	26D2 2878	DC	XL2'C1E0'	EO	
		2879 *				
26D3	30 00 35B1	2880	SNS	SWITCH,X'00'	READ DATA SWITCHES	
26D7	3D 0E 35B0	2881	CLI	SWITCH-1,X'0E'	END OF ENTRY ?	
26DB	CO 01 26EB	2882	BNE	SW7A		
26DF	3D 0C 35B1	2883	CLI	SWITCH,X'0C'		
26E3	CO 01 26EB	2884	BNE	SW7A		
26E7	CO 87 270F	2885	B	ENDSW		
		2886 *				
26EB	08 02 36F5 35B0	2887 SW7A	MNZ	BUFNNX-2,SWITCH-1	PUT	
26F1	08 03 36F6 35B0	2888	MNN	BUFNNX-1,SWITCH-1	THE	
26F7	08 02 36F7 35B1	2889	MNZ	BUFNNX,SWITCH	# OF RECORDS	
		2890 *			ENTRY(S)	
26FD	08 01 36F5 35B7	2891	MZN	BUFNNX-2,F	INTO	
2703	08 01 36F6 35B7	2892	MZN	BUFNNX-1,F	THE	
2709	08 01 36F7 35B7	2893	MZN	BUFNNX,F	BUFFER	
270F	CO 87 2063	2894 ENDSW	B	ENDIN	RETURN	
		2895 *				
		2896 *				

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		2898			*****
		2899 *			
		2900 *			PRINT / DISPLAY MESSAGES
		2901 *			
		2902			*****
		2903 *			
2713	D3D6C1C4C9D5C740	2713 2904	MSG01	EQU *	
2718	E2C5C3E3C9D6D540	2725 2905	MSG01N	DC	CL19'LOADING SECTION C17'
2723	C3F1F7	2905			
		2906 *			
		2726 2907	MSG02	EQU *	
2726	C6D6D940D6E4E3D7	2751 2908	MSG02N	DC	CL44'FOR OUTPUT ON 5471 PRINTER SET SNS SW 05 ON'
272E	E4E340D6D540F5F4	2908			
2736	F7F140D7D9C9D5E3	2908			
273E	C5D940E2C5E340E2	2908			
2746	D5E240E2E640F0F5	2908			
274E	40D6D540	2908			
		2909 *			
		2752 2910	MSG03	EQU *	
2752	F3F3F4F040C6D9C9	276E 2911	MSG03A	DC	CL29'3340 FRIENDS TEST - READY'
275A	C5D5C4E240E3C5E2	2911			
2762	E340404060404040	2911			
276A	D9C5C1C4E8	2911			
276F	D7D9C5E2E27A	2774 2912	MSG03B	DC	CL6'PRESS:'
2775	C5D5C440D2C5E840	2792 2913	MSG03C	DC	CL30'END KEY - TO TERMINATE SECTION'
277D	6040E3D640E3C5D9	2913			
2785	D4C9D5C1E3C540E2	2913			
278D	C5C3E3C9D6D5	2913			
2793	E4E2C540C3D6D4D4	2789 2914	MSG03E	DC	CL39'USE COMMAND SEQUENCE PREVIOUSLY ENTERED'
279B	C1D5C440E2C5D8E4	2914			
27A3	C5D5C3C540D7D9C5	2914			
27AB	E5C9D6E4E2D3E840	2914			
27B3	C5D5E3C5D9C5C4	2914			
		2915 *			
		278A 2916	MSG04	EQU *	
27BA	6040404040C3D6D4	27CB 2917	MSG04N	DC	CL18'-- COMMAND ENTRY'
27C2	D4C1D5C440C5D5E3	2917			
27CA	D9E8	2917			
		2918 *			
		27CC 2919	MSG05	EQU *	
27CC	C4D9E540C3D4C440	27EE 2920	MSG05N	DC	CL35'DRV.CMD FF CC HH RR KL DL NN'
27D4	40C6C640C3C34040	2920			
27DC	C8C84040D9D94040	2920			
27E4	D2D34040C4D34040	2920			
27EC	D5D540	2920			
27EF	6060E26060606060	281D 2921	MSG05A	DC	CL47'---S---S---S---S---S---S---S---S--- (S = SPACE)'
27F7	E26060E2606060E2	2921			
27FF	606060E2606060E2	2921			
2807	606060E2606060E2	2921			
280F	6060604040E2407E	2921			
2817	40E2D7C1C3C55D	2921			
		2922 *			
		281E 2923	MSG06	EQU *	
281E	E2C5C540E4E2C5D9	2839 2924	MSG06N	DC	CL28'SEE USERS GUIDE FOR DETAILS.'
2826	E240C7E4C9C4C540	2924			
282E	C6D6D940C4C5E3C1	2924			
2836	C9D3E24B	2924			
		2925 *			
		2926 *			
		283A 2927	MSG09	EQU *	
283A	E6D9C9E3C540C4C1	2853 2928	MSG09N	DC	CL26'WRITE DATA / SCAN ARGUMENT'
2842	E3C1406140E2C3C1	2928			
284A	D540C1D9C7E4D4C5	2928			
2852	D5E3	2928			
		2929 *			
		2854 2930	MSG0A	EQU *	
2854	C5D5E3C5D940C3D6	2877 2931		DC	CL36'ENTER COMMAND (RECAL, SEEK, RD, WR,)

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285C	D4D4C1D5C4404DD9	2931		
2864	C5C3C1D36840E2C5	2931		
286C	C5D26840D9C46840	2931		
2874	E6D96840	2931		
2878	E2C36840D6D940C5	2883	2932	MSGOAN DC CL12'SC, OR END).'
2880	D5C45D48	2932		
		2933	*	
2884	D9C5C3D6D4D4C5D5	2884	2934	MSGOB EQU *
288C	C440D9C5C3C1D340	28A2	2935	MSGOBN DC CL31'RECOMMEND RECAL OR SEEK FIRST '
2894	D6D940E2C5C5D240	2935		
289C	C6C9D9E2E34040	2935		
		2936	*	
28A3	E2D7C5C3C9C6E840	28A3	2937	MSGOC EQU *
28AB	C4D9C9E5C540E3D6	28C2	2938	MSGOCN DC CL32'SPECIFY DRIVE TO BE USED (01-02)'
28B3	40C2C540E4E2C5C4	2938		
28BB	404DF0F160F0F25D	2938		
		2939	*	
28C3	C4D9E540D5D6E340	28C3	2940	MSGOD EQU *
28CB	C4C5C6C9D5C5C440	28D8	2941	MSGODN DC CL22'DRV NOT DEFINED IN UDT'
28D3	C9D540E4C4E3	2941		
		2942	*	
28D9	E2D7C5C3C9C6E840	28D9	2943	MSGOF EQU *
28E1	E3E8D7C540D6C640	28FD	2944	DC CL37'SPECIFY TYPE OF READ (HAE, HAO, ROO, ')
28E9	D9C5C1C4404DC8C1	2944		
28F1	C56840C8C1D66840	2944		
28F9	D9F0D66840	2944		
28FE	C3D2C46840D2C46B	291D	2945	MSGOFN DC CL32'CKD, KD, VKD, DGN, SNS, OR LOG).'
2906	40E5D2C46840C4C7	2945		
290E	D56840E2D5E26840	2945		
2916	D6D940D3D6C75D48	2945		
		2946	*	
291E	E6D9C9E3C540C9D5	291E	2947	MSG10 EQU *
2926	C8C9C2C9E3C5C44B	292D	2948	MSG10N DC CL16'WRITE INHIBITED.'
		2948		
		2949	*	
292E	E2D7C5C3C9C6E840	292E	2950	MSG11 EQU *
2936	E3E8D7C540D6C640	2955	2951	DC CL40'SPECIFY TYPE OF WRITE (HAE, HAO, ROO, ')
293E	E6D9C9E3C5404DC8	2951		
2946	C1C56840C8C1D668	2951		
294E	40D9F0D668404040	2951		
2956	C3C3C46840C3D2C4	296C	2952	DC CL23'CCD, CKD, KD, OR REP).'
295E	6840D2C46840D6D9	2952		
2966	40D9C5D75D4840	2952		
296D	E2C5C540E4E2C5D9	297C	2953	DC CL16'SEE USERS GUIDE '
2975	E240C7E4C9C4C540	2953		
297D	C2C5C6D6D9C540E4	298F	2954	MSG11N DC CL19'BEFORE USE OF WRHA.'
2985	E2C540D6C640E6D9	2954		
298D	C8C148	2954		
		2955	*	
2990	E6D9C8C140C9E240	2990	2956	MSG12 EQU *
2998	C9D5C8C9C2C9E3C5	29A2	2957	MSG12N DC CL19'WRHA IS INHIBITED. '
29A0	C44840	2957		
		2958	*	
29A3	C5D5E3C5D940E2C3	29A3	2959	MSG13 EQU *
29AB	C1D540E3E8D7C540	29C0	2960	MSG13N DC CL30'ENTER SCAN TYPE (E,RE,HE,RHE).'
29B3	40C5C8D9C568C8C5	2960		
29BB	68D9C8C55D48	2960		
		2961	*	
29C1	C5D5E3C5D940C6D3	29C1	2962	MSG14 EQU *
29C9	C1C740C2E8E3C540	29D7	2963	MSG14N DC CL23'ENTER FLAG BYTE IN HEX.'
		2963		

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29D1	C9D540C8C5E748	2963		
		2964	*	
29D8	C5D5E3C5D940C3E8	29D8	2965	MSG15 EQU *
29E0	D340C1C4C4D9404D	29F0	2966	DC CL25'ENTER CYL ADDR (000-209).'
29E8	F0F0F060F2F0F95D	2966		
29F0	68	2966		
29F1	404DF0F0F060F0F3	2A09	2967	DC CL25' (000-034) FOR CE MODULE.'
29F9	F45D40C6D6D940C3	2967		
2A01	C540D4D6C4E4D3C5	2967		
2A09	4B	2967		
2A0A	40C3F1F240D9E3D5	2A23	2968	DC CL26' C12 RTN-10 MUST BE RUN IF'
2A12	60F1F040D4E4E2E3	2968		
2A1A	40C2C540D9E4D540	2968		
2A22	C9C6	2968		
2A24	40E3C8C540D7D9C5	2A3A	2969	DC CL23' THE PRE-RECORDED DATA '
2A2C	60D9C5C3D6D9C4C5	2969		
2A34	C440C4C1E3C140	2969		
2A3B	C9E240D6E5C5D9E6	2A49	2970	MSG15N DC CL15'IS OVERWRITTEN.'
2A43	D9C9E3E3C5D548	2970		
		2971	*	
2A4A	C5D5E3C5D940C8C5	2A4A	2972	MSG16 EQU *
2A52	C1C440C1C4C4D940	2A63	2973	MSG16N DC CL26'ENTER HEAD ADDR (000-019).'
2A5A	4DF0F0F060F0F1F9	2973		
2A62	5D48	2973		
		2974	*	
2A64	C5D5E3C5D940D9C5	2A64	2975	MSG17 EQU *
2A6C	C3D6D9C440D5E4D4	2A81	2976	MSG17N DC CL30'ENTER RECORD NUMBER (000-255).'
2A74	C2C5D9404DF0F0F0	2976		
2A7C	60F2F5F55D48	2976		
		2977	*	
2A82	C5D5E3C5D940D2C5	2A82	2978	MSG18 EQU *
2A8A	E840D3C5D5C7E3C8	2A9C	2979	MSG18N DC CL27'ENTER KEY LENGTH (000-255).'
2A92	404DF0F0F060F2F5	2979		
2A9A	F55D48	2979		
		2980	*	
2A9D	C5D5E3C5D940C4C1	2A9D	2981	MSG19 EQU *
2AA5	E3C140D3C5D5C7E3	2A88	2982	MSG19N DC CL28'ENTER DATA LENGTH (000-256).'
2AAD	C8404DF0F0F060F2	2982		
2AB5	F5F65D48	2982		
		2983	*	
2AB9	D2D34EC4D340E2C8	2ADD	2984	MSG20N DC CL37'KL+DL SHOULD NOT BE GREATER THAN 256.'
2AC1	D6E4D3C440D5D6E3	2984		
2AC9	40C2C540C7D9C5C1	2984		
2AD1	E3C5D940E3C8C1D5	2984		
2AD9	40F2F5F648	2984		
		2985	*	
2ADE	C5D5E3C5D940D5D5	2ADE	2986	MSG21 EQU *
2AE6	40E5C1D3E4C5404D	2805	2987	DC CL40'ENTER NN VALUE (000-255). NN+1 = NUMBER '
2AEE	F0F0F060F2F5F55D	2987		
2AF6	4B40D5D54EF1407E	2987		
2AFE	40D5E4D4C2C5D940	2987		
2B06	D6C640D9C5C3D6D9	2B20	2988	MSG21A DC CL27'OF RECORDS TO BE PROCESSED.'
2B0E	C4E240E3D640C2C5	2988		
2B16	40D7D9D6C3C5E2E2	2988		
2B1E	C5C44B	2988		
2B21	40C3C1E4E3C9D6D5	2B2C	2989	DC CL12' CAUTION= '
2B29	7A404040	2989		
2B2D	E2C5C540E4E2C5D9	2B4A	2990	MSG21N DC CL30'SEE USERS GUIDE IF NN > 126. '
2B35	E240C7E4C9C4C540	2990		
2B3D	C9C640D5D540E640	2990		
2B45	F1F2F6484040	2990		
		2991	*	

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2B4B	C5D5E3C5D940E6D9	2B4B	2992	MSG23 EQU *
2B53	C9E3C540C4C1E3C1	2B5B	2993	MSG23A DC CL17'ENTER WRITE DATA-'
2B58	60		2993	
2B5C	E2C3C1D540C1D9C7	2B7A	2994	MSG23B DC CL31'SCAN ARGUMENT (DXYY,DXYY,ETC.) '
2B64	E4D4C5D5E3404DC4		2994	
2B6C	E7E8E868C4E7E8E8		2994	
2B74	68C5E3C3485D40		2994	
2B7B	E6C8C5D9C540C440	2BA2	2995	DC CL40'WHERE D IS 1-4 DIGIT DECIMAL MULTIPLIER '
2B83	C9E240F160F440C4		2995	
2B8B	C9C7C9E340C4C5C3		2995	
2B93	C9D4C1D340D4E4D3		2995	
2B9B	E3C9D7D3C9C5D940		2995	
2BA3	C1D5C440E8E840C9	2BC9	2996	MSG23N DC CL39'AND YY IS AN EVEN NUMBER OF HEX DIGITS.'
2BA8	E240C1D540C5E5C5		2996	
2BB3	D540D5E4D4C2C5D9		2996	
2BB8	40D6C640C8C5E740		2996	
2BC3	C4C9C7C9E3E248		2996	
			2997	*
2BCA	F04840D3D6D6D740	2BCA	2998	MSG27 EQU *
2BD2	C3D6D4D4C1D5C440	2BF1	2999	DC CL40'0. LOOP COMMAND SEQUENCE(NORMAL) '
2BDA	E2C5D8E4C5D5C3C5		2999	
2BE2	4DD5D6D9D4C1D35D		2999	
2BEA	4040404040404040		2999	
2BF2	F14840D3D6D6D740	2C19	3000	DC CL40'1. LOOP - BYPASS ERROR PRINTING '
2BFA	6040C2E8D7C1E2E2		3000	
2C02	40C5D9D9D6D940D7		3000	
2C0A	D9C9D9E3C9D5C740		3000	
2C12	4040404040404040		3000	
2C1A	F24840D3D6D6D740	2C41	3001	DC CL40'2. LOOP - BYPASS ERROR HALTS '
2C22	6040C2E8D7C1E2E2		3001	
2C2A	40C5D9D9D6D940C8		3001	
2C32	C1D3E3E240404040		3001	
2C3A	4040404040404040		3001	
2C42	F34840D3D6D6D740	2C69	3002	DC CL40'3. LOOP - BYPASS ALL HALTS AND PRINTING '
2C4A	6040C2E8D7C1E2E2		3002	
2C52	40C1D3D340C8C1D3		3002	
2C5A	E3E240C1D5C440D7		3002	
2C62	D9C9D5E3C9D5C740		3002	
2C6A	F44840C5E7C5C3E4	2C91	3003	MSG27N DC CL40'4. EXECUTE AND PRINT RESULTS '
2C72	E3C540C1D5C440D7		3003	
2C7A	D9C9D5E340D9C5E2		3003	
2C82	E4D3E3E240404040		3003	
2C8A	4040404040404040		3003	
2C92	C5D5E3C5D940C5E7	2CB9	3004	MSG27A DC CL40'ENTER EXECUTION OPTION (0-4)'
2C9A	C5C3E4E3C9D6D540		3004	
2CA2	D6D7E3C9D6D5404D		3004	
2CAA	F060F45D40404040		3004	
2CB2	4040404040404040		3004	
			3005	*
2CBA	6040D5D6D9D4C1D3	2CBA	3006	MSG30 EQU *
2CC2	40C5D5C44060	2CC7	3007	MSG30N DC CL14'-- NORMAL END --'
			3008	*
2CC8	6040C5D9D9D6D940	2CD5	3009	MSG31N DC CL14'-- ERROR --'
2CD0	604040404040		3009	
			3010	*
2CD6	40E2C9D640404040	2CD6	3011	MSG32 EQU *
2CDE	E2D5E24040C4C9C1	2CF7	3012	MSG32N DC CL34' SIO SNS DIAGNOSTIC SENSE DATA'
2CE6	C7D5D6E2E3C9C340		3012	
2CEE	E2C5D5E2C540C4C1		3012	
2CF6	E3C1		3012	
			3013	*
2CF8	C4C4C3D940C4C4C4	2CF8	3014	MSG33 EQU *
2D00	D940C6C6C3C3C3C3	2D15	3015	MSG33N DC CL30'DDCR DDR FFFCCCHHHRRKLDLNLN'

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2D08	C8C8C8C8D9D9D2D3		3015	
2D10	C4D3C4D3D5D5		3015	
			3016	*
2D16	C9D5C9E3C9C1D3	2D16	3017	MSG34 EQU *
		2D1C	3018	MSG34N DC CL7'INITIAL'
			3019	*
2D1D	D9C5E2C9C4E4C1D3	2D1D	3020	MSG35 EQU *
		2D24	3021	MSG35N DC CL8'RESIDUAL'
			3022	*
2D25	D9C5E2C9C4E4C1D3	2D25	3023	MSG36 EQU *
2D2D	40C4C4C4C6	2D31	3024	MSG36N DC CL13'RESIDUAL DDDF'
			3024	
			3025	*
2D32	C4D9E540E740E4D5	2D32	3026	MSG37 EQU *
2D3A	C9E340C3D240D6D9	2D4F	3027	MSG37N DC CL30'DRV X UNIT CK OR NO-OP STATUS.'
2D42	40D5D660F0D740E2		3027	
2D4A	E3C1E3E4E248		3027	
			3028	*
2D50	C9D5E3C5D9D9E4D7	2D50	3029	MSG38 EQU *
2D58	E340C4C9C440D5D6	2D77	3030	DC CL40'INTERRUPT DID NOT CAUSE INTERRUPT '
2D60	E340C3C1E4E2C540		3030	
2D68	C9D5E3C5D9D9E4D7		3030	
2D70	E340404040404040		3030	
2D78	D7C5D5C4C9D5C740	2D8E	3031	MSG38N DC CL23'PENDING -TIO- CONDITION'
2D80	60E3C9D66040C3D6		3031	
2D88	D5C4C9E3C9D6D5		3031	
			3032	*
2D8F	C1C4C1D7E3C5D940	2D8F	3033	MSG39 EQU *
2D97	C3C8C5C3D248	2D9C	3034	MSG39N DC CL14'ADAPTER CHECK.'
			3034	
			3035	*
2D9D	C9D5E3C5D9D9E4D7	2D9D	3036	MSG40 EQU *
2DA5	E340E6C9E3C840D5	2DC2	3037	MSG40N DC CL38'INTERRUPT WITH NO INTERRUPT BIT IN SNS'
2DAD	D640C9D5E3C5D9D9		3037	
2DB5	E4D7E340C2C9E340		3037	
2DBD	C9D540E2D5E2		3037	
			3038	*
2DC3	E4D5C5E7D7C5C3E3	2DC3	3039	MSG41 EQU *
2DCB	C5C440C9D5E3C5D9	2DD6	3040	MSG41N DC CL20'UNEXPECTED INTERRUPT'
2DD3	D9E4D7E3		3040	
			3041	*
2DD7	C1E3E3C1C3C8D4C5	2DD7	3042	MSG42 EQU *
2DDF	D5E340C2E4E2E840	2DF8	3043	MSG42N DC CL34'ATTACHMENT BUSY -TIO- PRIOR TO SIO'
2DE7	60E3C9D66040D7D9		3043	
2DEF	C9D6D940E3D640E2		3043	
2DF7	C9D6		3043	
			3044	*
2DF9	C4C4C3D940C4C9C4	2DF9	3045	MSG43 EQU *
2E01	40D5D6E340D3D6C1	2E13	3046	MSG43N DC CL27'DDCR DID NOT LOAD CORRECTLY'
2E09	C440C3D6D9D9C5C3		3046	
2E11	E3D3E8		3046	
			3047	*
2E14	C4C4C4D9	2E14	3048	MSG44 EQU *
		2E17	3049	MSG44N DC CL4'DDDR'
			3050	*
2E18	C4D9E540D5D6E340	2E18	3051	MSG45 EQU *
2E20	D9C5C1C4E840D4D9	2E3D	3052	MSG45N DC CL38'DRV NOT READY OR UNIT CK PRIOR TO SIO.'
2E28	40E4D5C9E340C3D2		3052	
2E30	40D7D9C9D6D940E3		3052	
2E38	D640E2C9D648		3052	
			3053	*

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2E3E	E2C9D640C4C9C440	2E3E	3054	MSG46	EQU *
2E46	D5D6E340E2C5E340	2E62	3055	MSG46N	DC CL37'SIO DID NOT SET ATTACHMENT BUSY -TIO-
2E4E	C1E3E3C1C3C8D4C5		3055		
2E56	D5E340C2E4E2E840		3055		
2E5E	60E3C9D660		3055		
			3056	*	
2E63	E2C5C5D240C3D4C4	2E63	3057	MSG47	EQU *
2E6B	40C4C9C440D5D6E3	2E86	3058	MSG47N	DC CL36'SEEK CMD DID NOT SET SEEK BUSY -TIO-
2E73	40E2C5E340E2C5C5		3058		
2E7B	D240C2E4E2E84060		3058		
2E83	E3C9D660		3058		
			3059	*	
2E87	E2C5C5D240C2E4E2	2E87	3060	MSG48	EQU *
2E8F	E84060E3C9D66040	2EAE	3061	MSG48N	DC CL40'SEEK BUSY -TIO- WITH NO SK IN PROGRESS
2E97	E6C9E3C840D5D640		3061		
2E9F	E2D240C9D540D7D9		3061		
2EA7	D6C7D9C5E2E24040		3061		
			3062	*	
2EAF	C1E3E3C1C3C8D4C5	2EAF	3063	MSG49	EQU *
2EB7	D5E340C2E4E2E840	2ED2	3064	MSG49N	DC CL36'ATTACHMENT BUSY -TIO- DID NOT GO OFF
2FBF	60E3C9D66040C4C9		3064		
2EC7	C440D5D6E340C7D6		3064		
2ECF	40D6C6C6		3064		
			3065	*	
2ED3	C5E7D7C5C3E3C5C4	2ED3	3066	MSG50	EQU *
2EDB	40D6D740C5D5C440	2EF9	3067	MSG50N	DC CL39'EXPECTED OP END INTERRUPT DID NOT OCCUR
2EE3	C9D5E3C5D9D9E4D7		3067		
2EEB	E340C4C9C440D5D6		3067		
2EF3	E340D6C3C3E4D9		3067		
			3068	*	
2EFA	C5E7D7C5C3E3C5C4	2EFA	3069	MSG51	EQU *
2F02	40E2C5C5D240C3D6	2F0F	3070	MSG51N	DC CL22'EXPECTED SEEK COMPLETE
2F0A	D4D7D3C5E3C5		3070		
			3071	*	
2F10	C6C1D3E2C540C9D5	2F10	3072	MSG52	EQU *
2F18	E3C5D9D9E4D7E340	2F36	3073	MSG52N	DC CL39'FALSE INTERRUPT PENDING -TIO- CONDITION
2F20	D7C5D5C4C9D5C740		3073		
2F28	60E3C9D66040C3D6		3073		
2F30	D5C4C9E3C9D6D5		3073		
			3074	*	
2F37	C5E7D7C5C3E3C5C4	2F37	3075	MSG53	EQU *
2F3F	40E2C3C1D540C8C9	2F5B	3076	MSG53N	DC CL37'EXPECTED SCAN HIT -TIO- DID NOT OCCUR
2F47	E34060E3C9D66040		3076		
2F4F	C4C9C440D5D6E340		3076		
2F57	D6C3C3E4D9		3076		
			3077	*	
2F5C	E4D5C5E7D7C5C3E3	2F5C	3078	MSG54	EQU *
2F64	C5C440E2C3C1D540	2F7E	3079	MSG54N	DC CL35'UNEXPECTED SCAN HIT -TIO- CONDITION
2F6C	C8C9E34060E3C9D6		3079		
2F74	6040C3D6D5C4C9E3		3079		
2F7C	C9D6D5		3079		
			3080	*	
2F7F	D3D6D6D740L3D5E3	2F7F	3081	MSG62	EQU *
2F87	407E40E7E7E7E7E7	2FA6	3082	MSG62N	DC CL40'LOOP CNT = XXXXXX, ERROR CNT = XXXXXX
2F8F	E76B40C5D9D9D6D9		3082		
2F97	40C3D5E3407E40E7		3082		
2F9F	E7E7E7E7E7484040		3082		
			3083	*	

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2FA7	C3D6D4D4C1D5C440	2FA7	3084	MSG63	EQU *
2FAF	C5E7C5C3E4E3C9D6	2FCE	3085		DC CL40'COMMAND EXECUTION IS IN PROGRESS.
2FB7	D540C9E240C9D540		3085		
2FBF	D7D9D6C7D9C5E2E2		3085		
2FC7	4B40404040404040		3085		
2FCF	D7D9C5E2E240C3D5	2FE1	3086	MSG63N	DC CL19'PRESS CNCL TO HALT.
2FD7	C3D340E3D640C8C1		3086		
2FDF	D3E34B		3086		
			3087	*	
2FE2	C1C4C1D7E3C5D940	2FE2	3088	MSG64	EQU *
2FEA	C3D240D6D540D9C5	3005	3089	MSG64N	DC CL36'ADAPTER CK ON READ DIAGNOSTIC SENSE.
2FF2	C1C440C4C9C1C7D5		3089		
2FFA	D6E2E3C9C340E2C5		3089		
3002	D5E2C54B		3089		
			3090	*	
3006	D7D9C5E2E240D9C5	3006	3091	MSG65	EQU *
300E	E3E4D9D540D2C5E8	3031	3092		DC CL44'PRESS RETURN KEY TO RETURN TO COMMAND ENTRY
3016	40E3D640D9C5E3E4		3092		
301E	D9D540E3D640C3D6		3092		
3026	D4D4C1D5C440C5D5		3092		
302E	E3D9E840		3092		
3032	D6D940E3E8D7C540	305F	3093		DC CL46'OR TYPE OPTION TO GO TO OPTION SELECTION MENU.
303A	D6D7E3C9D6D540E3		3093		
3042	D640C7D640E3D640		3093		
304A	D6D7E3C9D6D540E2		3093		
3052	C5D3C5C3E3C9D6D5		3093		
305A	40D4C5D5E46B		3093		
3060	D6D940E3E8D7C540	3078	3094	MSG65N	DC CL25'OR TYPE END TO TERMINATE.
3068	C5D5C440E3D640E3		3094		
3070	C5D9D4C9D5C1E3C5		3094		
3078	4B		3094		
			3095	*	
3079	5C40E2C5C3E3C9D6	3079	3096	MSG66	EQU *
3081	D540C3F1F940C9E2	3097	3097	MSG66N	DC CL31'* SECTION C19 IS BEING LOADED *
3089	40C2C5C9D5C740D3		3097		
3091	D6C1C4C5C4405C		3097		
			3098	*	
3098	D5D54EF140E2C8D6	3098	3099	MSG67	EQU *
30A0	E4D3C440C2C540C4	30B5	3100	MSG67N	DC CL30'NN+1 SHOULD BE DIVISIBLE BY 4.
30A8	C9E5C9E2C9C2D3C5		3100		
30B0	40C2E840F44B		3100		
			3101	*	
30B6	D9D960F1	30B6	3102	MSG68	EQU *
		30B9	3103	MSG68N	DC CL4'RR-1
			3104	*	
30BA	F0F0F160F0F4F3	30BA	3105	MSG69	EQU *
		30C0	3106	MSG69N	DC CL7'001-043
			3107	*	
30C1	C3D6D5E2D6D3C540	30C1	3108	MSG70	EQU *
30C9	D2C5E8C2D6C1D9C4	30D6	3109	MSG70N	DC CL22'CONSOLE KEYBOARD ERROR
30D1	40C5D9D9D6D9		3109		
			3110	*	
30D7	C9D5E5C1D3C9C440	30D7	3111	MSG71	EQU *
30DF	D6D7E3C9D6D568C5	30FE	3112	MSG71N	DC CL40'INVALID OPTION, ENTER CORRECT VALUE
30E7	D5E3C5D940C3D6D9		3112		
30EF	D9C5C3E340E5C1D3		3112		
30F7	E4C5404040404040		3112		
			3113	*	
30FF	4C60606060606060	30FF	3114	MSG72	EQU *
3107	6060	3108	3115	MSG72N	DC CL10'←-----
			3115		

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3109	E3E409D540D6C6C6	3109	3116 *		
3111	40E2D5E240E2E6E2	3109	3117 MSG73	EQU	*
3119	40F2F150F2F240E3	3139	3118	DC	CL49*TURN OFF SNS SWS 21&22 TO ALLOW WRITE OPERATIONS *
3121	0540C1D3D3D6E640		3118		
3129	E609C9E3C540D6D7		3118		
3131	C509C1E3C9D6D5E2		3118		
3139	40		3118		
313A	E3D640C4D9C9E5C5	3146	3119 MSG73N	DC	CL13*TO DRIVES 1&2*
3142	E240F150F2		3119		
			3120 *		
			3121 MSG74	EQU	*
3147	E3E409D540D6D540	3147	3122	DC	CL44*TURN ON SNS SW 16 FOR COMMAND ENTRY THROUGH *
314F	E2D5E240E2E640F1		3122		
3157	F640C6D6D940C3D6		3122		
315F	D4D4C1D5C440C5D5		3122		
3167	E3D9E840E3C8D9D6		3122		
316F	E4C7C840		3122		
3173	C4C1E3C140E2E6C9	3180	3123 MSG74N	DC	CL14*DATA SWITCHES*
3178	E3C3C8C5E240		3123		
			3124 *		
			3125 MSG75	EQU	*
3181	E3E409D540D6C6C6	31AF	3126 MSG75N	DC	CL47*TURN OFF SNS SW 20 TO ALLOW WRITE HA OPERATIONS*
3189	40E2D5E240E2E640		3126		
3191	F2F040E3D640C1D3		3126		
3199	D3D6E640E6D9C9E3		3126		
31A1	C540C8C140D6D7C5		3126		
31A9	D9C1E3C9D6D5E2		3126		
			3127 *		
			3128 MSG79	EQU	*
3180	E2C5E340F0C6C6C6	31D1	3129	DC	CL34*SET OFFF IN DATA SWITCHES TO HALT *
3188	40C9D540C4C1E3C1		3129		
31C0	40E2E6C9E3C3C8C5		3129		
31C8	E240E3D640C8C1D3		3129		
31D0	E340		3129		
31D2	D6D7E3C9D6D5E240	31E7	3130 MSG79N	DC	CL22*OPTIONS 0, 1, 2, AND 3*
31DA	F06840F16840F268		3130		
31E2	40C1D5C440F3		3130		
			3131 *		
			3132 MSG80	EQU	*
31E8	E2C5E340C3D6D4D4	3211	3133	DC	CL42*SET COMMAND IN SWITCHES 1 AND 2 AND DRIVE *
31F0	C1D5C440C9D540E2		3133		
31F8	E6C9E3C3C8C5E240		3133		
3200	F140C1D5C440F240		3133		
3208	C1D5C440C4D9C9E5		3133		
3210	C540		3133		
3212	C9D540E2E6C9E3C3	322B	3134 MSG80N	DC	CL26*IN SWITCH 3 AND RESET HALT*
321A	C840F340C1D5C440		3134		
3222	D9C5E2C5E340C8C1		3134		
322A	D3E3		3134		
			3135 *		
			3136 MSG81	EQU	*
322C	C9D5E5C1D3C9C440	3251	3137 MSG81N	DC	CL38*INVALID ENTRY. RE-ENTER AND RESET HALT*
3234	C5D5E3D9E84840D9		3137		
323C	C560C5D5E3C5D940		3137		
3244	C1D5C440D9C5E2C5		3137		
324C	E340C8C1D3E3		3137		
			3138 *		
			3139 MSG82	EQU	*
3252	E2C5E340C6D3C1C7	327E	3140	DC	CL45*SET FLAG -HEX- IN SWITCHES 1 AND 2 AND HEAD *
325A	4060C8C5E76040C9		3140		
3262	D540E2E6C9E3C3C8		3140		
326A	C5E240F140C1D5C4		3140		
3272	40F240C1D5C44040		3140		
327A	C8C5C1C440		3140		
327F	60C4C5C3C9D4C1D3	32AA	3141 MSG82N	DC	CL44*-DECIMAL- IN SWITCHES 3 AND 4 AND RESET HALT*
3287	6040C9D540E2E6C9		3141		

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328F	E3C3C8C5E240F340		3141		
3297	C1D5C440F440C1D5		3141		
329F	C440D9C5E2C5E340		3141		
32A7	C8C1D3E3		3141		
			3142 *		
			32AB 3143 MSG83	EQU	*
32AB	E2C5E340C3E8D3C9	32C5	3144	DC	CL27*SET CYLINDER -DECIMAL- IN *
32B3	D5C4C5D9404060C4		3144		
32B8	C5C3C9D4C1D36040		3144		
32C3	C9D540		3144		
32C6	E2E6C9E3C3C8C5E2	32E8	3145 MSG83N	DC	CL35*SWITCHES 1, 2, AND 3 AND RESET HALT*
22CE	40F16840F26840C1		3145		
32D6	D5C440F340C1D5C4		3145		
32DE	40D9C5E2C5E340C8		3145		
32E6	C1D3E3		3145		
			3146 *		
			32E9 3147 MSG84	EQU	*
32E9	E2C5E340D9C5C3D6	3304	3148	DC	CL28*SET RECORD NO. -DECIMAL- IN *
32F1	D9C440D5D6484060		3148		
32F9	C4C5C3C9D4C1D360		3148		
3301	40C9D540		3148		
3305	E2E6C9E3C3C8C5E2	3327	3149 MSG84N	DC	CL35*SWITCHES 1, 2, AND 3 AND RESET HALT*
330D	40F16840F26840C1		3149		
3315	D5C440F340C1D5C4		3149		
331D	40D9C5E2C5E340C8		3149		
3325	C1D3E3		3149		
			3150 *		
			3328 3151 MSG85	EQU	*
3328	E2C5E340D2C5E840	3343	3152	DC	CL28*SET KEY LENGTH -DECIMAL- IN *
3330	D3C5D5C7E3C84060		3152		
3338	C4C5C3C9D4C1D360		3152		
3340	40C9D540		3152		
3344	E2E6C9E3C3C8C5E2	3366	3153 MSG85N	DC	CL35*SWITCHES 1, 2, AND 3 AND RESET HALT*
334C	40F16840F26840C1		3153		
3354	D5C440F340C1D5C4		3153		
335C	40D9C5E2C5E340C8		3153		
3364	C1D3E3		3153		
			3154 *		
			3367 3155 MSG86	EQU	*
3367	E2C5E340C4C1E3C1	3383	3156	DC	CL29*SET DATA LENGTH -DECIMAL- IN *
336F	40D3C5D5C7E3C840		3156		
3377	60C4C5C3C9D4C1D3		3156		
337F	6040C9D540		3156		
3384	E2E6C9E3C3C8C5E2	33A6	3157 MSG86N	DC	CL35*SWITCHES 1, 2, AND 3 AND RESET HALT*
338C	40F16840F26840C1		3157		
3394	D5C440F340C1D5C4		3157		
339C	40D9C5E2C5E340C8		3157		
33A4	C1D3E3		3157		
			3158 *		
			33A7 3159 MSG87	EQU	*
33A7	E2C5E340D5D64840	33C6	3160	DC	CL32*SET NO. OF RECORDS -DECIMAL- IN *
33AF	D6C640D9C5C3D6D9		3160		
33B7	C4E24060C4C5C3C9		3160		
33BF	D4C1D36040C9D540		3160		
33C7	E2E6C9E3C3C8C5E2	33E9	3161 MSG87N	DC	CL35*SWITCHES 1, 2, AND 3 AND RESET HALT*
33CF	40F16840F26840C1		3161		
33D7	D5C440F340C1D5C4		3161		
33DF	40D9C5E2C5E340C8		3161		
33E7	C1D3E3		3161		
			3162 *		
			33EA 3163 MSG88	EQU	*
33EA	E4E2C540D3C5C6E3	3409	3164 MSG88N	DC	CL32*USE LEFT SWITCHES AND RESET HALT*
33F2	40E2E6C9E3C3C8C5		3164		
33FA	E240C1D5C440D9C5		3164		
3402	E2C5E340C8C1D3E3		3164		
			3165 *		
			340A 3166 MSG89	EQU	*
340A	E4E2C540E2E6C9E3	342C	3167 MSG89N	DC	CL35*USE SWITCH NO. 1 -LEFT HAND SWITCH-

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3412	C3C840D5D64840F1		3167		
341A	4060D3C5C6E340C8		3167		
3422	C1D5C440E2E6C9E3		3167		
342A	C3C860		3167		
			3168	*	
		342D	3169	MSG90	EQU *
342D	C5D5E3C5D940E2C3	344F	3170	MSG90N	DC CL35*ENTER SCAN ARGUMENT OR WRITE DATA, *
3435	C1D540C1D9C7E4D4		3170		
343D	C5D5E340D6D940E6		3170		
3445	D9C9E3C540C4C1E3		3170		
344D	C16840		3170		
			3171	*	
		3450	3172	MSG91	EQU *
3450	D4E4D3E3C9D7D3C9	3478	3173	MSG91N	DC CL41*MULTIPLIER -DECIMAL-. USE ALL 4 SWITCHES*
3458	C5D94060C4C5C3C9		3173		
3460	D4C1D3604B4040E4		3173		
3468	E2C540C1D3D340F4		3173		
3470	40E2E6C9E3C3C8C5		3173		
3478	E2		3173		
			3174	*	
		3479	3175	MSG92	EQU *
3479	C5D5E3C5D940E2C3	3498	3176	DC	CL32*ENTER SCAN ARGUMENT/WRITE DATA, *
3481	C1D540C1D9C7E4D4		3176		
3489	C5D5E361E6D9C9E3		3176		
3491	C540C4C1E3C16840		3176		
3499	E3E6D640C2E8E3C5	3483	3177	MSG92N	DC CL27*TWO BYTES -HEX- AT A TIME; *
34A1	E24060C8C5E76040		3177		
34A9	C1E340C140E3C9D4		3177		
34B1	C55E40		3177		
			3178	*	
		3484	3179	MSG93	EQU *
3484	C9D540E2E6C9E3C3	34C8	3180	DC	CL21*IN SWITCHES 3 AND 4. *
348C	C8C5E240F340C1D5		3180		
34C4	C440F44B40		3180		
34C9	D7E4E340C140E9C5	34E6	3181	MSG93N	DC CL30*PUT A ZERO IN SWITCHES 1 AND 2*
34D1	D9D640C9D540E2E6		3181		
34D9	C9E3C3C8C5E240F1		3181		
34E1	40C1D5C440F2		3181		
			3182	*	
		34E7	3183	MSG94	EQU *
34E7	E2E6C9E3C3C840F1	3509	3184	DC	CL35*SWITCH 1 NON ZERO TERMINATES ENTRY *
34EF	40D5D6D540E9C5D9		3184		
34F7	D640E3C5D9D4C9D5		3184		
34FF	C1E3C5E240C5D5E3		3184		
3507	D9E840		3184		
350A	C1D5C440C3C1E4E2	3532	3185	MSG94N	DC CL41*AND CAUSES SWITCHES 3 AND 4 TO BE IGNORED*
3512	C5E240E2E6C9E3C3		3185		
351A	C8C5E240F340C1D5		3185		
3522	C440F440E3D640C2		3185		
352A	C540C9C7D5D6D9C5		3185		
3532	C4		3185		
			3186	*	
		3533	3187	MSG95	EQU *
3533	D5C5E7E3	3536	3188	MSG95N	DC CL4*NEXT*
			3189	*	
		3537	3190	MSG96	EQU *
3537	F07EC3D6D5E3C9D5	355C	3191	DC	CL38*0=CONTINUE COMMAND ENTRY, 1=RETURN TO *
353F	E4C540C3D6D4D4C1		3191		
3547	D5C440C5D5E3D9E8		3191		
354F	6840F17ED9C5E3E4		3191		
3557	D9D540E3D640		3191		
355D	D6D7E3C9D6D5406B	356F	3192	MSG96N	DC CL19*OPTION ,2=TERMINATE*
3565	F27EE3C5D9D4C9D5		3192		
356D	C1E3C5		3192		
			3193	*	
		3570	3194	MSG97	EQU *
3570	E3D640C1E5D6C9C4	358A	3195	DC	CL27*TO AVOID ALL 7 ENTRIES PER *
3578	40C1D3D340F740C5		3195		

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3580	D5E3D9C9C5E240D7		3195		
3588	C5D940		3195		
358B	C3D6D4D4C1D5C440	35AF	3196	MSG97N	DC CL37*COMMAND , ENTER -OE0C- NOW. OTHERWISE*
3593	6840C5D5E3C5D940		3196		
359B	60F0C5F0C36040D5		3196		
35A3	D6E64B40D6E3C8C5		3196		
35AB	D9E6C9E2C5		3196		
			3197	*	

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3199 *
3200 *****
3201 *
3202 *
3203 *
3204 *****
3205 *
3206 *
3207 *-----SWITCH ENTRY CONSTANTS AND STORAGE-----
3208 *
3209 *
3580 3581 3210 SWITCH DS XL2
3582 3583 3211 CNTR DS XL2
3584 3585 3212 XRISAV DS XL2
3586 3586 3213 STORE DS XL1
3587 OF 3587 3214 F DC XL1'0F'
3588 E7 3588 3215 X DC CL1'X'
3589 0002 358A 3216 TMO DC IL2'2'
358B OC 358B 3217 C DC XL1'0C'
358C 09 358C 3218 NINE DC XL1'09'
358D OFFF 358E 3219 LPEND DC XL2'OFFF'
358F 8181 35C0 3220 X8181 DC XL2'8181'
3221 *
3222 *
3223 *
3224 *
3225 *
35C1 E2C5C5D2 35C4 3226 SEEK DC CL4'SEEK'
35C5 D9C5C3C1D3 35C9 3227 RECAL DC CL5'RECAL'
35CA D9C4D2C4 35CD 3228 RDKD DC CL4'RDKD'
35CE D9C4C8C1C5 35D2 3229 RDHAE DC CL5'RDHAE'
35D3 D9C4C3D2C4 35D7 3230 RDCKD DC CL5'RDCKD'
35D8 D9C4E5D2C4 35DC 3231 RDVKD DC CL5'RDVKD'
35D0 D9C4C4C7D5 35E1 3232 RDDGN DC CL5'RDDGN'
35E2 D9C4D3D6C7 35E6 3233 RDLOG DC CL5'RDLOG'
35E7 D9C4E2D5E2 35EB 3234 RDXNS DC CL5'RDXNS'
35EC D9C4D9F0D6 35F0 3235 RDR00 DC CL5'RDR00'
35F1 D9C4C8C1D6 35F5 3236 RDHA0 DC CL5'RDHA0'
3237 *
35F6 E6D9D2C4 35F9 3238 WRKD DC CL4'WRKD'
35FA E6D9C8C1C5 35FE 3239 WRHAE DC CL5'WRHAE'
35FF E6D9C3D2C4 3603 3240 WRCKD DC CL5'WRCKD'
3604 E6D9D9F5D7 3608 3241 WRREP DC CL5'WRREP'
3609 E6D9D9F0D6 360D 3242 WRR0D DC CL5'WRR0D'
360E E6D9C3C3C4 3612 3243 WRCCD DC CL5'WRCCD'
3613 E6D9C8C1D6 3617 3244 WRHA0 DC CL5'WRHA0'
3245 *
3618 E2C3D9C5 3618 3246 SCRE DC CL4'SCRE'
361C E2C3D9C8C5 3620 3247 SCRHE DC CL5'SCRHE'
3621 E2C3C5 3623 3248 SCE DC CL3'SCE'
3624 E2C3C8C5 3627 3249 SCHE DC CL4'SCHE'
3628 C5D5C4 362A 3250 END DC CL3'END'
3251 *-----
3630 3252 D000 DC CL6'000000'
3631 F0F1 3632 3253 D01 DC CL2'01'
3633 F0F0F8 3635 3254 D008 DC CL3'008'
3636 F0F1F6 3638 3255 D016 DC CL3'016'
3639 F0F4F7 363B 3256 D047 DC CL3'047'
363C F0F5F4 363E 3257 D054 DC CL3'054'
363F F0F6F2 3641 3258 D062 DC CL3'062'
3642 F2F0F9 3644 3259 D209 DC CL3'209'
3645 F2F5F6 3647 3260 D256 DC CL3'256'
3648 F9F9F9F9F9F9 364D 3261 D999 DC CL6'999999'
364E 0000 364F 3262 I0 DC IL2'0'
3650 0001 3651 3263 I1 DC IL2'1'
3652 0004 3653 3264 I4 DC IL2'4'
3654 0014 3655 3265 I20 DC IL2'20'
3656 0028 3657 3266 I40 DC IL2'40'

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3658 0102 3659 3267 I258 DC IL2'258'
365A 0002 365B 3268 SNS23 DC IL2'2'
365C 8000 365D 3269 X8000 DC XL2'8000'
365E 00 365E 3270 DEVICE DC XL1'00'
365F 404040 3661 3271 BLANKS DC CL3' '
3662 E7E7E7 3664 3272 KXX DC CL3'KXX'
3665 C3D4C4 3667 3273 CMD DC CL3'CMD'
3668 D6D7E3 366A 3274 OPT DC CL3'OPT'
366B 00 366B 3275 DATASW DC XL1'00'
366C 2067 366D 3276 PRKBIA DC AL2'(PRKBIA)
3277 *
366E 1E0F 366F 3278 DASDI0 DC AL2'(DASDI)
3670 3801 3671 3279 RDSNS0 DC AL2'(RDSNS-23)
3672 36FC 3673 3280 AIN DC AL2'(KINEND)
3674 3790 3675 3281 MSGN0 DC AL2'(MSGN)
3676 F0F0F0F0F0F0 3678 3282 LOOPCT DC CL6'000000'
367C F0F0F0F0F0F0 3681 3283 ERRCNT DC CL6'000000'
3682 F0F0 3683 3284 CMDCNT DC XL2'F0F0'
3684 3684 3285 INPUT EQU *
3688 4040404040404040 3687 3286 CL4
3690 4040404040404040 36A8 3287 INPUTN DC 36XL1'40'
3698 4040404040404040 3287
36A0 4040404040404040 3287
36A8 4040404040 3287
36AC 40 36AC 3288 DC XL1'40'
36AD 36AD 3289 INSAVE EQU *
36D5 4040404040404040 36D4 3290 INSAVN DS CL40
36DD 4040404040404040 36D5 3291 KIN EQU *
36E5 4040404040404040 36FC 3292 KINEND DC 40XL1'40'
36ED 4040404040404040 3292
36F5 4040404040404040 3292
36FD 40 36FD 3293 DC XL1'40'
36D7 3294 BUFDRV EQU KIN+2
36DD 3295 BUFCHD EQU KIN+8
36E0 3296 BUFFFFX EQU KIN+11
36E4 3297 BUFCX EQU KIN+15
36E8 3298 BUFBHX EQU KIN+19
36EC 3299 BUFRRX EQU KIN+23
36F0 3300 BUFLX EQU KIN+27
36F4 3301 BUFOLX EQU KIN+31
36F7 3302 BUFNX EQU KIN+34
36FF 3303 SAVXR1 DC XL2'0000'
3700 0000 3701 3304 KYSTAT DC XL2'0000'
3702 00 3702 3305 KBSTAT DC XL1'00'
3703 3F00 3704 3306 IDDCR DC XL2'3F00'
3705 3706 3307 IDDDR DS XL2
3707 4000 3708 3308 IDDDR1 DC XL2'4000'
3709 6800 370A 3309 IDDDR2 DC XL2'6800'
370B 8000 370C 3310 IDDDR3 DC XL2'8000'
3311 *
370D 0008 370E 3312 PRIV DC XL2'0008'
3313 *
370F 0802 370F 3314 RESET EQU *
3711 1802 3710 3315 DC XL2'0802'
3713 2802 3712 3316 DC XL2'1802'
3715 A802 3714 3317 DC XL2'2802'
3717 BF0B 3716 3318 DC XL2'A802'
3719 020F 3718 3319 DC XL2'BF0B'
371B 80E 371A 3320 DC XL2'020F'
371D 080E 371C 3321 DC XL2'80E'
3720 02 371E 3322 DC XL2'080E'
3721 2009 371F 3323 K DS XL1
3723 0003 3720 3324 DC XL1'02'
3722 3325 DC XL2'2009'
3724 3326 SVPREQ DC SET SVP REQUEST

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
3725	000E	3726	3327	DC	XL2'000E'
3727	FFFF	3728	3328	DC	XL2'FFFF'
3729	C009	372A	3330	DC	XL2'C009'
372B	C809	372C	3331	DC	XL2'C809'
		372D	3335	EQU	*
		3790	3336	DS	CL100
372D		3791	3337	DC	XL1'40'
3791	40	3792	3339	EQU	*
		37E1	3340	DS	CL80
3792		37E2	3341	DC	XL1'40'
37E2	40	37E3	3343	DC	AL2(MSG-1)
37E3	372C	37E4	3344		
		37E5	3348	EQU	*
		37E5	3350	DC	XL1'0'
37E5	00	37E6	3351	DC	XL1'0'
37E6	00	37E7	3353	DS	XL1
37E7		37E8	3354	DS	XL1
37E8		37EA	3356	DS	AL2
37E9		37EC	3357	DS	AL2
37EB		37EE	3359	DS	AL2
37ED		37F0	3360	DS	AL2
37EF		37F2	3361	DS	AL2
37F1		37F4	3362	DS	AL2
37F3		37F6	3364	DS	AL2
37F5		37F8	3365	DS	AL2
37F7		37F9	3367	DS	CL1
37F9		37FA	3368	DS	CL2
37FA		37FC	3369	DS	XL1
37FC		37FE	3371	DS	XL2
37FD		3800	3373	DS	XL2
37FF		3818	3374	DS	XL24
3801		3819	3376	DS	XL1
3819		381A	3377	DS	XL1
381A		381C	3379	DS	AL2
381B		381E	3380	DS	AL2
381D		381F	3382	EQU	*
381F		3828	3383	DS	XL10
3829		3829	3385	EQU	*
3829		3832	3386	DS	XL10
3833		3834	3388	DS	XL2
3835		3838	3389	DS	XL4
		3839	3394	EQU	*

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		3839	3396	EQU	*
		3839	3398	DS	XL1
3839		383B	3400	DS	CL2
383A		383E	3401	DS	CL3
383C		3841	3402	DS	CL3
383F		3844	3403	DS	CL3
3842		3847	3404	DS	CL3
3845		384A	3405	DS	CL3
3848		384D	3406	DS	CL3
384B		3850	3407	DS	CL3
384E		3853	3408	DS	CL3
3851		3854	3410	DS	XL1
3854		3856	3412	DS	XL2
3855		3858	3414	DS	XL2
3857		3859	3416	DS	XL1
3859		385A	3417	DS	XL1
385A		385C	3419	DS	XL2
385B		385E	3420	DS	XL2
385D		3868	3422	DS	XL10
385F		3872	3423	DS	XL10
3869		3873	3425	EQU	*
3873		38AC	3426	DS	CL(DRVWK2-DRVWK1)
		38AD	3431	EQU	*
38AD		38AE	3432	DS	XL2
38AF		38AF	3433	DS	XL1
3880		38B0	3434	DS	XL1
3881		38BA	3435	DS	XL10
388B		38BC	3436	DS	XL2
388D		38E4	3437	DS	XL40

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ERR LOC OBJECT CODE

ADDR STMT SOURCE STATEMENT

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3440 *****
3441 *
3442 *
3443 *
3444 *****
3445 *
3446 *
3447 *
0001 3448 XR1 EQU X'01' INDEX REGISTER 1
0002 3449 XR2 EQU X'02' INDEX REGISTER 2
3450 *
0004 3451 PSR EQU X'04' PROGRAM STATUS REGISTER
0040 3452 PMR EQU X'40' PROGRAM MODE REGISTER
3453 *
0008 3454 ARR EQU X'08' CURRENT LEVEL ADDRESS RECALL REG
3455 *
0020 3456 PIAR EQU X'20' PROGRAM LEVEL INSTRUCTION ADDR REG
00C0 3457 IAR1 EQU X'C0' INTERRUPT LEVEL 1 IAR - CRT/KYBD
0084 3458 IARS EQU X'84' INTERRUPT LEVEL 5 IAR - DEV OP END
3459 *
3460 *
3461 *
3462 *
0004 3463 SSM05 EQU X'04' USE ALTERNATE PRINTER - 5471
3464 *
3465 *
3466 *
3467 *
0080 3468 SSM10 EQU X'80' BYPASS RESIDUAL DDDF PRINT/DISPLAY
3469 *
0002 3470 SSM16 EQU X'02' FORCE DATA SWITCH ENTRY
0080 3471 SSM20 EQU X'80' INHIBIT WRITE HA OPERATIONS
0040 3472 SSM21 EQU X'40' INHIBIT WRITE ON DISK DRIVE 1
0020 3473 SSM22 EQU X'20' INHIBIT WRITE ON DISK DRIVE 2
0004 3474 SSM25 EQU X'04' OVERRIDE WRITE HA PREREQUISITES
3475 *
0001 3476 SSM2F EQU X'01' ENABLE AMOP (SECTION C19)
3477 *
3478 *
3479 *
3480 *
0080 3481 ADRSTP EQU X'80' MICROPROCESSOR ADDR STOP ENABLED
0020 3482 MPLFLG EQU X'20' MICROPROGRAM LOADED INDICATOR
3483 *
3484 *
3485 *
3486 *
0080 3487 BIT0 EQU X'80' 0 - PROGRAM RESTART
0040 3488 BIT1 EQU X'40' 1 - COMMAND ENTRY COMPLETE
0020 3489 BIT2 EQU X'20' 2 - CMD EXECUTION IN PROGRESS
0010 3490 BIT3 EQU X'10' 3 - 3340 ERROR DETECTED
0008 3491 BIT4 EQU X'08' 4 - LOOP COUNTER OVERFLOW
0004 3492 BIT5 EQU X'04' 5 - CRT WRITE INHIBITED
0002 3493 BIT6 EQU X'02' 6 - CRT DISPLAY CHANGED
0080 3494 MULTSM EQU X'80' MULTIPLE DATA SW ENTRIES
0001 3495 FFREQD EQU X'01' FLAG FIELD REQD(DATA SW)
0040 3496 SELOPT EQU X'40' OPTION SELECTION INDIC
0020 3497 SCNARG EQU X'20' SCAN-WRITE ARG INDIC
0010 3498 RESIND EQU X'10' MESSAGE INDICATOR
3499 *
3500 *
3501 *
3502 *
0041 3503 RET1 EQU X'41' CARRIER RETURN
0010 3504 KEY EQU X'10' CONSOLE KEYBOARD
0018 3505 PRT EQU X'18' CONSOLE PRINTER
0080 3506 PRINT1 EQU X'80' PRINT ONE CHARACTER
3507 *

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3508 *
3509 *
3510 *
0080 3511 CBIT0 EQU X'80' 0 - RECAL COMMAND
0040 3512 CBIT1 EQU X'40' 1 - SEEK COMMAND
0020 3513 CBIT2 EQU X'20' 2 - RDHA COMMAND
0010 3514 CBIT3 EQU X'10' 3 - RDSNS/RDLOG COMMAND
0008 3515 CBIT4 EQU X'08' 4 - WRHA COMMAND
0004 3516 CBIT5 EQU X'04' 5 - RR REQUIRED
0002 3517 CBIT6 EQU X'02' 6 - KLDL REQUIRED
0001 3518 CBIT7 EQU X'01' 7 - MULTI-RECORD COMMAND
0080 3519 CBIT8 EQU X'80' 8 - FF = XX
0040 3520 CBIT9 EQU X'40' 9 - CC = XXX
0020 3521 CBIT10 EQU X'20' 10 - MH = XXX
0010 3522 CBIT11 EQU X'10' 11 - KL = XXX
0008 3523 CBIT12 EQU X'08' 12 - CL = XXX
3524 *
3525 *
3526 *
3527 *
0080 3528 DBIT0 EQU X'80' 0 - DRIVE IN USE
0040 3529 DBIT1 EQU X'40' 1 - WRITE ALLOWED
0020 3530 DBIT2 EQU X'20' 2 -
0010 3531 DBIT3 EQU X'10' 3 - DRIVE ERROR DETECTED
0008 3532 DBIT4 EQU X'08' 4 -
0004 3533 DBIT5 EQU X'04' 5 - OP END INTERRUPT EXPECTED
0002 3534 DBIT6 EQU X'02' 6 - SEEK COMMAND STACKED
0001 3535 DBIT7 EQU X'01' 7 - SEEK COMPLETE EXPECTED
3536 *
3537 *
3538 *
3539 *
C1E0 3540 HLTE0 EQU X'C1E0' HALT FOR USER RESPONSE
C101 3541 HLTO1 EQU X'C101' 3340 ERROR HALT
C177 3542 HLT77 EQU X'C177' 3277 ERROR HALT
C100 3543 HLTO0 EQU X'C100'
3544 *
3545 *
3546 *
3547 *
0203 3548 SIZE EQU X'0203' MAIN STORAGE SIZE
3549 *
0208 3550 SBYTE0 EQU X'0208' COMMON SENSE SWITCHES 00-07
0209 3551 SBYTE1 EQU X'0209' COMMON SENSE SWITCHES 08-0F
020A 3552 SBYTE2 EQU X'020A' SECTION SENSE SWITCHES 10-17
020C 3553 SBYTE4 EQU X'020C' SECTION SENSE SWITCHES 20-27
020D 3554 SBYTE5 EQU X'020D' SECTION SENSE SWITCHES 28-2F
3555 *
0212 3556 TEST EQU X'0212' TEST CONSOLE SWITCHES
0216 3557 LINK EQU X'0216' LINK TO NEXT ROUTINE OR SECTION
021A 3558 PRINT EQU X'021A' PRINT A MESSAGE
021E 3559 UNPACK EQU X'021E' UNPACK DATA - HEX TO EBCDIC
0222 3560 HALT EQU X'0222' HALT AND DISPLAY HALT IDENTIFIER
0226 3561 PACK EQU X'0226' PACK DATA - EBCDIC TO HEX
022A 3562 LOAD EQU X'022A' LOAD NEXT SECTION OR RECORD
3563 *
3564 *
3565 *
3566 *
0879 3567 CRTFLG EQU X'0879' 3277 MICROCODE FLAG
3568 *
4000 3569 AMOP EQU X'4000' ADAPTER MANUAL OPERATIONS PROGRAM
6C00 3570 LDR EQU X'6C00' 3340 ATTACHMENT MICROCODE LOADER
3571 *
FFFF 3572 END

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CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ADRSTP	C	001	0080	3481	1155
AIN	A	002	3673	3280	2360
AMOP	C	001	4000	3569	2418 2432
AMOPEN	A	004	20F3	2439	2406* 2408 2411
AMOPID	A	002	0A1E	0032	2415
AMOPLD	A	004	20CE	2421	2416
AMOPRN	A	001	20A1	2405	0196 1144 2329 2464 2614
ARR	C	001	0008	3454	1124 2115 2185 2232 2270 2307 2406
BEGIN	A	004	0A3E	0048	
BGNX1	A	004	0A65	0059	0056
BGNX2	A	006	0A77	0063	0060
BGNX3	A	004	0A7D	0065	0058 0062
BGNO2	A	004	0A85	0070	
BGNO3	A	001	0AAD	0096	
BGNO3A	A	004	0AC2	0105	0099
BGNO3B	A	004	080F	0135	0144
BGNO4	A	006	082F	0146	0119 0130 2095 2437
BIT0	C	001	0080	3487	0054 0166 1069 1070
BIT1	C	001	0040	3488	0129 0166 0275 0969 2435
BIT2	C	001	0020	3489	0150 1172 2077 2407
BIT3	C	001	0010	3490	1185 1405 1435 1454 1572 1672 1699 1803 1823 1837 1947 2074
BIT4	C	001	0008	3491	2165
BIT5	C	001	0004	3492	1172 1177 1805
BIT6	C	001	0002	3493	1190 1202 1980
BLANKS	A	003	3661	3271	0143 0485 0819 1927 2094 2195 2320 2573
BUFCCX	A	001	36E4	3297	2799* 2800* 2801* 2803* 2804* 2805*
BUFCMD	A	001	36DD	3295	2625* 2630* 2635* 2640* 2645* 2650* 2655* 2660* 2665* 2670* 2675* 2680*
BUFDLX	A	001	36F4	3301	2685* 2690* 2695* 2700* 2705* 2710* 2715* 2720* 2725* 2730*
BUFDRV	A	001	36D7	3294	2865* 2866* 2867* 2869* 2870* 2871*
BUFFFX	A	001	36E0	3296	2615* 2616* 2620*
BUFHXX	A	001	36E8	3298	2760* 2761* 2764* 2765*
BUFKX	A	001	36F0	3300	2762* 2763* 2766* 2767* 2769* 2771 2774* 2776* 2778 2781* 2783*
BUFNXX	A	001	36F7	3302	2843* 2844* 2845* 2847* 2848* 2849*
BUFRXX	A	001	36EC	3299	2887* 2888* 2889* 2891* 2892* 2893*
C	A	001	3589	3217	2821* 2822* 2823* 2825* 2826* 2827*
CANHIT	A	004	1FCD	2320	2525 2532 2591 2598 2774 2781
CBIT0	C	001	0080	3511	2334
CBIT1	C	001	0040	3512	0284 0916 1396 1460 1496 1502
CBIT10	C	001	0020	3521	0293 0537 0581 0931 0936 0948 1396 1460 1496 1505 1531
CBIT11	C	001	0010	3522	1030 1270
CBIT12	C	001	0008	3523	1020 1279
CBIT2	C	001	0020	3513	1015 1290
CBIT3	C	001	0010	3514	0337 0936 1505 1511
CBIT4	C	001	0008	3515	0347 0913 1491
CBIT5	C	001	0004	3516	0392 0546 0590 0936 0942 1265 1274 1505 1525
CBIT6	C	001	0002	3517	0357 0368 0373 0452 0625 0684 0728 0951 1283 1294 1534
CBIT7	C	001	0001	3518	0373 0392 0432 0676 0718
CBIT8	C	001	0080	3519	0368 0452 0761 0770
CBIT9	C	001	0040	3520	1001 1256
CCL	A	003	3841	3402	1035 1261
CCP	A	003	383E	3401	0549 0552 0945* 1264 1517* 1528*
CEMODE	A	002	372A	3330	0555 0558 0939* 1268 1508*
CENR	A	002	372C	3331	1211
CFLG	A	001	37E7	3353	1216
CFLGN	A	001	37E8	3354	0284* 0293* 0337* 0347* 0357* 0363* 0368* 0373* 0382* 0392* 0411* 0432*
CFLGS	A	002	38AE	3432	0452* 0490 0537 0540 0546 0581 0584 0590 0625 0676 0684 0718
CKDEC	A	004	1EAA	2185	0728 0761 0770 0913 0916 0931 0936 0942 0948 0951 1265 1274
CKDR	A	004	1F15	2223	1283 1294 1396 1460 1491 1496 1502 1505 1511 1525 1531 1534
CKD04	A	004	1ED7	2202	0213* 1001* 1039 1242* 1256 1261 1270 1279 1290 2256*
CKD05	A	003	1F06	2217	2185* 2189 2200* 2214* 2218*
CKD06	A	004	1F0D	2220	2193 2196
					2205 2208 2210 2212 2215

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
CLRSTG	A	003	0858	0169	0173
CMO	A	003	3667	3273	1830
CMOCNT	A	002	3683	3284	0148* 0215 0269 0988 1044*
CMODID	A	002	37FE	3371	1170* 1230* 1428 1598* 1829
CMOTBL	A	001	38AD	3431	0160 0163 1168
CNTR	A	002	3583	3211	
CNVRT	A	004	1F19	2232	1009 1014 1019 1024 1029 1034
CNVRTN	A	004	1F64	2261	2232* 2236 2239*
CNV01	A	005	1F46	2251	2254
CNV02	A	004	1F58	2256	2241* 2249
CNV03	A	004	1F5C	2258	2252
COM	A	001	0A19	0028	0065 1155 2286 2413
CRTFLG	C	001	0879	3567	
C17	A	002	1F9C	2290	2274 2277
C162	A	001	0000	0007	
C19	A	002	20DF	2430	2415 2418
DASDI	A	004	1E0F	2115	1404 1434 1438 1469 1566 1622 1718 3278
DASDI0	A	002	366F	3278	
DASDIA	A	004	1E13	2116	2174
DASDIX	A	004	1EA6	2176	2115*
DASIRS	A	003	1E98	2172	2124* 2129* 2136* 2167* 2168
DASIO1	A	003	1E5F	2146	2140
DASIO2	A	003	1E65	2149	2126 2131
DASIO3	A	005	1E70	2154	2147
DASIO4	A	004	1E7C	2159	2154* 2156
DASIO5	A	003	1E87	2163	2157
DASIO6	A	004	1E8A	2165	2121 2134 2144 2150
DASIO7	A	004	1E8E	2167	
DASIO8	A	005	1E96	2170	2161
DATA	A	040	38E4	3437	
DATASW	A	001	3668	3275	0211* 0225* 0520* 0523* 0852* 0855* 1099* 1109* 2078* 2081* 2452 2471
DBIT0	C	001	0080	3528	2544 2546 2569 2584
DBIT1	C	001	0040	3529	0316 0911
DBIT2	C	001	0020	3530	0265 0303
DBIT3	C	001	0010	3531	1589 1595 2163
DBIT4	C	001	0008	3532	
DBIT5	C	001	0004	3533	1402 1457 2139 2143 2146
DBIT6	C	001	0002	3534	1417 1422 1470 1473 2149
DBIT7	C	001	0001	3535	1417 1422 1470 1473 2149
DDCF	A	010	388A	3435	1041* 1254
DEVICE	A	001	365E	3270	0100* 0107* 0118 0198 0835 0972 1146 1193 2079 2316
DFLG	A	001	3839	3398	0265* 0303 0316 0911* 1399* 1402* 1417 1422 1457 1470 1473 1589
DLN	A	003	3853	3408	1595 1719 2139 2143 2146* 2149 2152* 2163*
DLO	A	003	3850	3407	0667* 0734 0925* 0958* 1299 1540*
DRVCMD	A	002	3856	3412	0661* 0726 0923* 0963* 1293 1520* 1545*
DRVICF	A	010	3868	3422	1428* 1598
DRVQ	A	001	3859	3416	1426* 1602
DRVR	A	001	385A	3417	1425* 1599
DRVRCF	A	010	3872	3423	1452* 1603
DRVRCR	A	002	385C	3419	1444* 1600
DRVRDR	A	002	385E	3420	1445* 1601
DRVSNS	A	002	3858	3414	1575 2170*
DRVMK	A	001	3839	3394	0161 0164
DRVMK1	A	001	3839	3396	0238 1182* 1237 1568 1587 2123 2138 3426
DRVMK2	A	001	3873	3425	0244 1183* 1233 1569 1592 2128 2142 3426
D000	A	006	3630	3252	0146 0147 0488 0543 0587 0628 0660 0665 0674 0687 0716 0731
D008	A	003	3635	3254	0758 0764 0919 0922 0924 0929 0954 1086 1097 1098 1170 1318
D01	A	002	3632	3253	0661 0923
D016	A	003	3638	3255	0148 0269 1044 1178 1230 1364 1808 2251
D047	A	003	3638	3256	0787
D054	A	003	363E	3257	0796
D062	A	003	3641	3258	0789 0781

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
D209	A	003	3644	3259	
D256	A	003	3647	3260	0651 0667 0705 0721 0800 0925
D999	A	006	364D	3261	1174
END	A	003	362A	3250	2581 2620
ENDCMD	A	004	1860	1817	1576 1806
ENDIN	A	004	2063	2371	2307* 2894
ENDIN1	A	003	2052	2364	2343 2361
ENDSW	A	004	270F	2894	2467 2515 2574 2578 2582 2586 2597 2601 2621 2758 2797 2819
END01	A	006	187A	1828	1821
END01A	A	004	18AF	1843	1835* 1838 1841*
END02	A	006	18B9	1849	
END02A	A	001	1CA8	1964	1948
END02B	A	001	1C88	1972	1962
END04	A	004	1C88	1975	
END04A	A	001	1CBF	1976	1952* 1967*
END05	A	004	1CC3	1980	
END06	A	001	1CC7	1982	
END06A	A	001	1D08	2007	1953* 1968*
END06B	A	006	1CD4	1989	1985
END07	A	006	1DOF	2011	
END08	A	004	1D20	2017	2063
END09	A	004	1D2A	2021	2047
END10	A	004	1D55	2033	2024
END10A	A	001	1D59	2034	2011* 2026*
END10B	A	002	1D56	2035	2015* 2027* 2038*
END10C	A	002	1D5D	2036	2021* 2028* 2029*
END11	A	003	1D76	2046	
END12	A	001	1D7D	2049	2041 2044
END12B	A	001	1D8D	2056	1954* 1969*
END12C	A	002	1D90	2058	
END13	A	006	1D97	2062	
END15A	A	001	1DA5	2066	1955* 1970*
END15B	A	001	1DA6	2068	1834 1991 1994 1997 2004
END15C	A	001	1DBE	2076	1140 1151 2053 2073
END15E	A	004	1DE1	2093	2080 2106
ENTCMD	A	004	0848	0163	
ENTXX1	A	004	1172	0785	0783
ENTXX2	A	006	1183	0789	0786
ENT01	A	001	08E0	0223	0258 0329 0447
ENT03	A	004	0C05	0238	0228
ENT04	A	004	0C17	0244	0231
ENT07	A	004	0C29	0250	0236
ENT08	A	003	0C3F	0263	0242 0248
ENT09A	A	006	0C45	0269	0263
ENT10	A	004	0C57	0275	0234
ENT11	A	006	0C62	0281	0270 0273
ENT12	A	006	0C77	0288	0282
ENT14	A	006	0C90	0297	0289
ENT15	A	006	0C99	0300	
ENT15A	A	006	0CBD	0311	0301
ENT16	A	004	0CD9	0321	0309 0317
ENT17	A	006	0CEF	0334	0298
ENT18	A	006	0D9A	0386	0379
ENT19	A	004	0DA3	0392	0304
ENT20	A	004	0DC5	0403	0397
ENT21	A	004	0DE1	0411	0401
ENT22	A	004	0DF9	0420	0414
ENT23	A	004	0E37	0439	0387 0409
ENT24	A	004	0E4D	0452	0312 0480
ENT25	A	006	0E5D	0485	0286 0295 0341 0345 0351 0355 0361 0366 0371 0376 0384 0404
ENT26	A	006	0EA6	0488	0418 0422 0426 0430 0435 0457 0461 0465 0469 0525
ENT27	A	004	0EBE	0497	0486
ENT27A	A	004	0E03	0506	0498
ENT28	A	006	0EE1	0512	0501 0504 0507

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ENT29	A	001	0F0B	0530	0492 0495 0510 0571
ENT29A	A	004	0F0B	0532	
ENT30	A	004	0F2C	0546	0541
ENT31	A	003	0F41	0555	0547 0550
ENT32	A	006	0F4F	0561	0535 0538 0556
ENT33	A	004	0F6B	0576	0534 0544 0553 0559 0615
ENT34	A	004	0F8C	0590	0585
ENT35	A	003	0FA1	0599	0591
ENT36	A	006	0FAF	0605	0579 0582 0594 0600
ENT37	A	004	0FCB	0620	0578 0588 0597 0603 0649
ENT38	A	006	0FE5	0631	0623 0626 0652
ENT38A	A	006	1022	0651	0622
ENT38B	A	004	100C	0641	0635
ENT39	A	003	102C	0657	0629 0703
ENT40	A	003	103C	0663	0658
ENT41	A	004	104C	0669	0664
ENT42	A	006	1089	0693	0672 0706
ENT42A	A	006	10A5	0705	0671
ENT43	A	004	10AF	0711	0677 0680 0685 0688 0691 0748
ENT44	A	006	10F2	0737	0714
ENT45	A	004	1114	0753	0713 0719 0724 0729 0732 0735 0813
ENT46	A	006	112E	0764	0759
ENT47	A	006	1137	0767	0756 0762 0801
ENT47A	A	006	118C	0792	0774
ENT48	A	006	11A8	0800	0755
ENT51	A	004	11B6	0805	0771 0779 0784 0788 0790 0793 0798
ENT52	A	004	11CC	0818	0765 0803
ENT52A	A	001	1203	0834	0903
ENT52B	A	004	122C	0852	0836
ENT53	A	003	1246	0861	0893
ENT53A	A	003	124D	0865	0870
ENT53B	A	003	1260	0872	0866
ENT54	A	004	1269	0877	0898
ENT54A	A	003	126D	0879	0890
ENT55	A	003	127F	0888	0880
ENT57	A	004	129D	0900	0873 0883 0886
ENT58	A	003	12A5	0905	0896
ENT60	A	003	12AC	0911	0832
ENT61	A	005	12C6	0922	0949
ENT62	A	005	12DD	0929	0917
ENT63	A	004	12EE	0936	0932
ENT64	A	004	12FF	0942	0937
ENT65	A	004	1310	0948	0943
ENT66	A	005	1335	0962	0952 0955
ENT67	A	001	133F	0968	0279 0914 0927 0960
ENT67A	A	006	1356	0980	0973
ENT68	A	006	136F	0987	0984
ENT69	A	004	1383	0998	
ENT70	A	004	1391	1004	0999
ENT71	A	004	139A	1009	1002
ERRA	A	005	194D	1598	1590
ERRB	A	006	1985	1613	1706
ERRC	A	003	1997	1615	1613* 1614* 1615*
ERRCNT	A	006	3681	3283	
ERRD	A	004	19CE	1637	1608
ERRE	A	004	19DC	1641	1596
ERREND	A	001	192B	1585	1406 1455 1573 1673 1700
ERRE1	A	004	19ED	1647	
ERRE2	A	004	19FD	1651	1635
ERRF	A	004	1A0D	1657	1642
ERRG	A	004	1A26	1665	1659
ERRID	A	001	37FC	3369	1610* 1633* 1637* 1644* 1661* 1665* 1675* 1682* 1689* 1704* 1711* 1727*
ERRN	A	003	1848	1800	1734* 1747* 1764* 1771* 1779* 1786* 1793*
ERRNA	A	004	184F	1803	1677 1684 1692 1766 1774
ERR01	A	004	1A34	1672	1626 1639 1655 1663 1667 1759 1781 1788 1795

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ERRO2	A	004	1A4A	1682	1387
ERRO3	A	004	1A58	1689	1394
ERRO5	A	003	1A68	1697	1408
ERRO6	A	004	1A88	1711	1413
ERRO6A	A	006	1A98	1716	1720
ERRO7	A	004	1AAF	1727	1418
ERRO8	A	004	1ABC	1734	1423
ERRO8A	A	006	1AC6	1737	1729
ERRO8B	A	006	1ACC	1739	1741
ERRO9	A	004	1ADC	1747	1433
ERRO9A	A	003	1AE6	1750	1717 1740 1742
ERRO9B	A	004	1AED	1753	1722
ERRO9C	A	004	1AF5	1756	
ERR10	A	004	1801	1764	1458
ERR11	A	004	180E	1771	1474 1565
ERR12	A	004	1821	1779	
ERR14	A	004	182E	1786	1481
ERR15	A	004	183B	1793	1486
F	A	001	3587	3214	2466 2490 2491 2492 2493 2519 2520 2564 2565 2566 2567 2616 2764 2765 2766 2767 2803 2804 2805 2825 2826 2827 2847 2848 2849 2869 2870 2871 2891 2892 2893
FAOID	A	002	0A20	0033	
FFC	A	002	3838	3400	0491 0494 0929* 0934* 1259 1494*
FFREQD	C	001	0001	3495	0520 0523 2584
FLAGS	A	001	37E5	3350	0053* 0054* 0129 0150* 0166* 0275* 0969 1084* 1172* 1177* 1185* 1190 1202* 1405 1435 1454 1572 1672 1699 1803* 1805 1823 1837 1947 1980* 2074 2077* 2165* 2407 2435
HALT	C	001	0222	3560	0090 2351 2459 2482 2509 2556 2609 2737 2750 2789 2811 2833 2855 2877
HML	A	003	3847	3404	0593 0596 0919* 0920 0946* 1273 1499* 1500 1500* 1518* 1529*
HMP	A	003	3844	3403	0599 0602 0920* 0940* 1277 1509*
HLTEO	C	001	C1E0	3540	0074 0091
HLT00	C	001	C100	3543	2284
HLT01	C	001	C101	3541	1847
HLT77	C	001	C177	3542	
IARI	C	001	00C0	3457	0101*
IARS	C	001	0084	3458	
IDDCF	A	001	381F	3382	1007 1017 1022 1027 1032 1037 1255* 1264* 1268* 1273* 1277* 1282* 1285 1288* 1293* 1296 1299* 1536
IDDCFN	A	010	3828	3383	1012 1041 1254* 1303 1376 1426 1602* 1922
IDDCR	A	002	3704	3306	0172 1089* 1220 1221* 1224* 1304 1375 1382 1386 1448 1756 1910
IDDDR	A	002	3706	3307	0057* 0061* 0063* 1090* 1222* 1225* 1305 1315 1389 1393 1515 1916
IDDDR1	A	002	3708	3308	1990 2013
IDDDR2	A	002	370A	3309	0063
IDDDR3	A	002	370C	3310	0061
INPUT	A	001	3684	3285	0057
INPUTM	A	001	36A8	3287	0215* 0227 0230 0233 0256* 0272 0281 0288 0291* 0297 0300 0311 0327* 0340 0344 0350 0354 0360 0370 0375 0378 0381* 0396
INSAVE	A	001	36A0	3289	0400 0413 0417* 0421 0425 0429 0445* 0456 0460 0464 0468
INSAVN	A	040	36D4	3290	0478* 0485 0488* 0494* 0497 0500 0506 0509 0522* 0533 0543* 0552* 0558* 0569* 0577 0587* 0596* 0602* 0613* 0621 0628* 0634 0647* 0651 0670 0674* 0679 0682* 0687 0690* 0701* 0705 0712 0716* 0721* 0723 0726* 0731 0734* 0746* 0754 0758 0764* 0773 0792 0811* 0818* 0819* 0820* 0821* 0822* 0823* 0824* 0825* 0826* 0827* 0859
IO	A	002	364F	3262	0214 0214* 0218* 0800 0829 0854* 0985 1049
I1	A	002	3651	3263	0954 0998 1006 1011 1016 1021 1026 1031 1036
I20	A	002	3655	3265	0048 0213 1317 1499 1714 1737 2031 2040 2062 2246
I258	A	002	3659	3267	0869 0889 1338 1345 1362 1399 1430 1432 1466 1467 1562 1564 1716 1739 2043 2152 2253
I4	A	002	3653	3264	1987
I40	A	002	3657	3266	2011 2019 2023 2038
K	A	001	371F	3323	
KBAMOP	A	004	20E0	2432	1153* 1158* 2419

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
KBEND	A	003	209A	2396	2386 2389 2394
KBENDA	A	004	208F	2393	2391
KBENDB	A	001	207D	2387	2384
KBSTAT	A	001	3702	3305	0167* 0191 0193 0195 1064* 1138 1139* 1141 1143 2051 2052* 2381* 2385* 2392* 2395*
KEY	C	001	0010	3504	0102 0103 2326 2335 2365 2366 2396 2426 2434
KEYIN	A	001	1FAD	2306	0140 0217 0255 0326 0444 0477 0521 0568 0612 0646 0700 0745
KIN	A	001	36D5	3291	0810 0853 1101 2093 0141 0143 0218 0256 0327 0445 0478 0522 0569 0613 0647 0701 0746 0811 0854 1103 1105 1108 2094 2096 2098 2323 2465* 2466* 2486* 2487* 2488* 2489* 2490* 2491* 2492* 2493* 2507* 2508 2560* 2561* 2562* 2563* 2564* 2565* 2566* 2567* 2571 2573* 2575 2577* 2579 2581* 2588 2591* 2593* 2595 2598* 2600* 3294 3295 3296 3297 3298 3299
KINEND	A	001	36FC	3292	3300 3301 3302
KLN	A	003	384D	3406	2324 2324* 2448 2448* 3280
KLO	A	003	384A	3405	0663 0666* 0690 0924* 0957* 1288 1539*
KYSTAT	A	002	3701	3304	0657 0660* 0682 0922* 0962* 1282 1519* 1544* 2327* 2328 2330 2332 2340 2342 2344 2355 2356 2382* 2383 2388 2390 2393
LDR	C	001	6C00	3570	2277 2292
LDRGO	A	004	1F9D	2292	2278
LDRID	A	002	0A1C	0031	2274
LDRPLD	A	004	1F86	2280	2275
LINK	C	001	0216	3557	0194 1142 2099 2336
LOAD	C	001	022A	3562	2288 2428
LOOPCT	A	006	3678	3282	
LPEND	A	002	358E	3219	1150
LPXR1	A	002	37EA	3356	0857* 0900 0906 1301* 1378 1447* 1450 1514* 1522 2186* 2220 2233* 2258 2318* 2368 2187* 2221 2234* 2259 2319* 2369
LPXR2	A	002	37EC	3357	
LPIAR	A	002	37F4	3362	
LIPSR	A	002	37F2	3361	
LIXR1	A	002	37EE	3359	
LIXR2	A	002	37FO	3360	
LSPSR	A	002	37F8	3365	
L5XR2	A	002	37F6	3364	
MES	A	001	3792	3339	2116* 2173 1611* 1634* 1638* 1645* 1662* 1666* 1676* 1683* 1690* 1691* 1705* 1712* 1728* 1735* 1748* 1765* 1772* 1773* 1780* 1787* 1794*
MESIND	C	001	0010	3498	2078 2081 2546 2569
MESN	A	080	37E1	3340	0151 0151* 1586 1586* 1960
MPL	A	004	1F68	2270	0066
MPLFLG	C	001	0020	3482	0065
MPLX	A	004	1FA9	2297	2270*
MPLX1	A	004	1FA1	2294	2271*
MPLX2	A	004	1FA5	2295	2272*
MSG	A	001	372D	3335	0111* 0116 0121* 0122* 0127 0132* 0133* 0138 0177* 0178* 0183 0307* 0308* 0314* 0319* 0324 0386* 0407* 0408* 0437* 0512* 0513* 0518 0561* 0566 0605* 0610 0632* 0637* 0638* 0639* 0644 0693* 0698 0737* 0738* 0743 0768* 0776* 0795* 0796* 0797* 0808 0837* 0838* 0843 0845* 0850 0981* 0985* 0987* 0988* 0993 1066* 1073* 1075* 1077* 1079* 1081* 1094* 1113* 1128 1188* 1196* 1200 1829* 1830* 1831* 1840* 1846 1849* 1854 1860 1865 1870 1875 1880 1888 1893 1898 1902* 1907* 1911 1917 1923 1927* 1928* 1933 1938 1943 2001* 2009 2017 2058 3343
MSGAD	A	002	37E4	3343	
MSGN	A	100	3790	3336	0109 0109* 0175 0175* 0224 0224* 0306 0306* 0334 0334* 0406 0406* 0442 0631 0631* 0767 0767* 0781* 0787* 0789* 0980 0980* 1187 1187* 1204 1204* 1828 1828* 1856 1856* 1884 1884* 1901 1901* 1906 1906* 1999 1999* 2062 2060* 3281
MSGN2	A	002	3675	3281	
MSGOA	A	001	2854	2930	0188 0233 0272 0281 0288 0297 0300 0311 2098
MSGOAN	A	012	2883	2932	0314
MSGOB	A	001	2884	2934	
MSGOBN	A	031	28A2	2935	0319
MSGOC	A	001	28A3	2937	
MSGOCN	A	032	28C2	2938	0253
MSGOD	A	001	28C3	2940	

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
MSG0DN	A	022	28D8	2941	
MSG0F	A	001	28D9	2943	0340 0344 0350 0354 0360 0365 0370 0375 0378 0773
MSG0FN	A	032	291D	2945	0386
MSG01	A	001	2713	2904	2282
MSG01N	A	019	2725	2905	2282 2283
MSG02	A	001	2726	2907	0072
MSG02M	A	044	2751	2908	0072 0073
MSG03	A	001	2752	2910	0177
MSG03A	A	029	276E	2911	0111
MSG03B	A	006	2774	2912	0121
MSG03C	A	030	2792	2913	0122
MSG03E	A	039	2789	2914	0133
MSG04	A	001	278A	2916	
MSG04N	A	018	27CB	2917	0178
MSG05	A	001	27CC	2919	0977
MSG05A	A	047	281D	2921	0209
MSG05N	A	035	27EE	2920	0204 0977 0978
MSG06	A	001	281E	2923	
MSG06N	A	028	2839	2924	0308 0408 0513
MSG09	A	001	283A	2927	
MSG09N	A	026	2853	2928	
MSG10	A	001	291E	2947	
MSG10N	A	016	292D	2948	0307
MSG11	A	001	292E	2950	0396 0400 0413 0421 0425 0429 0434 0634 0679 0723 0792
MSG11N	A	019	298F	2954	0437
MSG12	A	001	2990	2956	
MSG12N	A	019	29A2	2957	0407
MSG13	A	001	29A3	2959	
MSG13N	A	030	29C0	2960	0456 0460 0468 0475
MSG14	A	001	29C1	2962	
MSG14N	A	023	29D7	2963	0512
MSG15	A	001	29D8	2965	0561
MSG15N	A	015	2A49	2970	
MSG16	A	001	2A4A	2972	
MSG16N	A	026	2A63	2973	0605
MSG17	A	001	2A64	2975	
MSG17N	A	030	2A81	2976	0632
MSG18	A	001	2A82	2978	
MSG18N	A	027	2A9C	2979	0693
MSG19	A	001	2A9D	2981	
MSG19N	A	028	2AB8	2982	0737
MSG20N	A	037	2ADD	2984	0738
MSG21	A	001	2ADE	2986	
MSG21A	A	027	2B20	2988	0768
MSG21N	A	030	2B4A	2990	0776
MSG23	A	001	2B4B	2992	
MSG23A	A	017	2B5B	2993	0837
MSG23B	A	031	2B7A	2994	0838
MSG23N	A	039	2B99	2996	0845
MSG27	A	001	2B9A	2998	1073 1075 1077 1079 1081
MSG27A	A	040	2CB9	3004	1066
MSG27N	A	040	2C91	3003	
MSG30	A	001	2C8A	3006	
MSG30N	A	014	2CC7	3007	1831
MSG31N	A	014	2CD5	3009	1840
MSG32	A	001	2CD6	3011	
MSG32N	A	034	2CF7	3012	1849
MSG33	A	001	2CF8	3014	
MSG33N	A	030	2D15	3015	1902
MSG34	A	001	2D16	3017	
MSG34N	A	007	2D1C	3018	1907
MSG35	A	001	2D1D	3020	
MSG35N	A	008	2D24	3021	1928
MSG36	A	001	2D25	3023	
MSG36N	A	013	2D31	3024	2001
MSG37	A	001	2D32	3026	1588* 1593*

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
MSG37N	A	030	2D4F	3027	1611
MSG38	A	001	2D50	3029	
MSG38N	A	023	2D8E	3031	1638
MSG39	A	001	2D8F	3033	
MSG39N	A	014	2D9C	3034	1645
MSG40	A	001	2D9D	3036	
MSG40N	A	038	2DC2	3037	1666
MSG41	A	001	2DC3	3039	
MSG41N	A	020	2DD6	3040	1662
MSG42	A	001	2DD7	3042	
MSG42N	A	034	2DF8	3043	1676
MSG43	A	001	2DF9	3045	
MSG43N	A	027	2E13	3046	1683 1690
MSG44	A	001	2E14	3048	
MSG44N	A	004	2E17	3049	1691
MSG45	A	001	2E18	3051	
MSG45N	A	038	2E3D	3052	1705
MSG46	A	001	2E3E	3054	
MSG46N	A	037	2E62	3055	1712
MSG47	A	001	2E63	3057	
MSG47N	A	036	2E86	3058	1728
MSG48	A	001	2E87	3060	
MSG48N	A	040	2EAE	3061	1735
MSG49	A	001	2EAF	3063	
MSG49N	A	036	2ED2	3064	1748
MSG50	A	001	2ED3	3066	
MSG50N	A	039	2EF9	3067	1765 1773
MSG51	A	001	2EFA	3069	
MSG51N	A	022	2F0F	3070	1772
MSG52	A	001	2F10	3072	
MSG52N	A	039	2F36	3073	1780
MSG53	A	001	2F37	3075	
MSG53N	A	037	2F58	3076	1787
MSG54	A	001	2F5C	3078	
MSG54N	A	035	2F7E	3079	1794
MSG62	A	001	2F7F	3081	0146* 0147* 1086 1097* 1098* 1174 1178* 1808*
MSG62N	A	040	2FA6	3082	1094 1978
MSG63	A	001	2FA7	3084	
MSG63N	A	019	2FE1	3086	1188
MSG64	A	001	2FE2	3088	
MSG64N	A	036	3005	3089	1634
MSG65	A	001	3006	3091	0132 2086
MSG65N	A	025	3078	3094	2091
MSG66	A	001	3079	3096	
MSG66N	A	031	3097	3097	2424
MSG67	A	001	3098	3099	
MSG67N	A	030	30B5	3100	0637 0797
MSG68	A	001	30B6	3102	
MSG68N	A	004	30B9	3103	0638
MSG69	A	001	30BA	3105	
MSG69N	A	007	30C0	3106	0639
MSG70	A	001	30C1	3108	2348
MSG70N	A	022	30D6	3109	2348 2349
MSG71	A	001	30D7	3111	2104
MSG71N	A	040	30FE	3112	1113
MSG72	A	001	30FF	3114	
MSG72N	A	010	3108	3115	0987
MSG73	A	001	3109	3117	0083
MSG73N	A	013	3146	3119	0083 0084
MSG74	A	001	3147	3121	0087
MSG74N	A	014	3180	3123	0087 0088
MSG75	A	001	3181	3125	0078
MSG75N	A	047	31AF	3126	0078 0079
MSG79	A	001	3180	3128	
MSG79N	A	022	31E7	3130	1196
MSG80	A	001	31E8	3132	2607

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
MSG80N	A	026	322B	3134	2607 2608
MSG81	A	001	322C	3136	2735
MSG81N	A	038	3251	3137	2735 2736
MSG82	A	001	3252	3139	2748
MSG82N	A	044	32AA	3141	2748 2749
MSG83	A	001	32AB	3143	2787
MSG83N	A	035	32E8	3145	2787 2788
MSG84	A	001	32E9	3147	2809
MSG84N	A	035	3327	3149	2809 2810
MSG85	A	001	3328	3151	2831
MSG85N	A	035	3366	3153	2831 2832
MSG86	A	001	3367	3155	2853
MSG86N	A	035	33A6	3157	2853 2854
MSG87	A	001	33A7	3159	2875
MSG87N	A	035	33E9	3161	2875 2876
MSG88	A	001	33EA	3163	2554
MSG88N	A	032	3409	3164	2554 2555
MSG89	A	001	340A	3166	2457
MSG89N	A	035	342C	3167	2457 2458
MSG90	A	001	342D	3169	2475
MSG90N	A	035	344F	3170	2475 2476
MSG91	A	001	3450	3172	2480
MSG91N	A	041	3478	3173	2480 2481
MSG92	A	001	3479	3175	2496
MSG92N	A	027	3483	3177	2496 2497
MSG93	A	001	3484	3179	2500
MSG93N	A	030	34E6	3181	2500 2501
MSG94	A	001	34E7	3183	2504
MSG94N	A	041	3532	3185	2504 2505
MSG95	A	001	3533	3187	2538
MSG95N	A	004	3536	3188	2538 2539
MSG96	A	001	3537	3190	2550
MSG96N	A	019	356F	3192	2550 2551
MSG97	A	001	3570	3194	2743
MSG97N	A	037	35AF	3196	2743 2744
MULTSW	C	001	0080	3494	0211 2544
NEXKEY	A	003	1FDE	2326	2341 2362
NINE	A	001	358C	3218	2526 2533 2592 2599 2775 2782
NOCY	A	001	2031	2354	2345
NOEC	A	001	2006	2338	2331
NOSKIP	A	001	1F8D	2315	2310
NXCMD	A	001	0891	0190	1047 1053
NXCMD2	A	004	08C0	0211	0199
OPT	A	003	366A	3274	0141 2096 2577
OPTENT	A	004	20FD	2452	
OPTION	A	001	37F9	3367	1108* 1817 1820 1833 2003 2070 2072
PACK	C	001	0226	3561	1004 1357
PFC	A	002	0A07	0020	
PIAR	C	001	0020	3456	
PID	A	002	0A01	0016	
PMR	C	001	0040	3452	
PRINT	C	001	021A	3558	0070 0076 0081 0085 0113 0124 0135 0180 0185 0201 0206 0250
					0321 0439 0472 0515 0563 0607 0641 0695 0740 0805 0840 0847
					0975 0990 1125 1197 1843 1851 1957 1975 2006 2055 2065 2083
					2088 2101 2280 2312 2346 2421 2455 2473 2478 2494 2498 2502
					2536 2548 2552 2605 2733 2741 2746 2785 2807 2829 2851 2873
PRINT1	C	001	0080	3506	2321 2357
PRIV	A	002	370E	3312	
PRKBI	A	001	2067	2380	2397 3276
PRKBI2	A	002	366D	3276	0101
PRNTAA	A	004	14A9	1124	1067 1074 1076 1078 1080 1082 1095 1114 1882 1900 1904 1925
					1945
PRT	C	001	0018	3505	2320* 2321 2333 2356* 2357 2364
PRTFLG	A	001	37E6	3357	1069 1070*
PSR	C	001	0004	3451	0048*
Q	A	001	3819	3376	0239* 0245* 0335* 0393* 0453* 0831 0983 1046

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
R	A	001	381A	3377	0285* 0292* 0339* 0343* 0349* 0353* 0359* 0364* 0369* 0374* 0383* 0395* 0399* 0416* 0420* 0424* 0428* 0433* 0455* 0459* 0463* 0467* 1040
R0CKD	A	005	3507	3230	2645
R0DCF	A	001	3829	3385	1494 1508 1509 1528 1529 1539 1540 1544 1545
R0DCFN	A	010	3832	3386	1303* 1449* 1452 1603* 1757* 1942
R0DCR	A	002	381C	3379	1304* 1384* 1386 1440* 1444 1600* 1753* 1932
R0DDR	A	002	381E	3380	1305* 1391* 1393 1441* 1445 1601* 1754* 1937 1987* 1989
R0DGN	A	005	35E1	3232	2655
R0HAE	A	005	35D2	3229	2640
R0HAD	A	005	35F5	3236	2675
R0KD	A	004	35C0	3228	2635
R0LOG	A	005	35E6	3233	2660
R0ROO	A	005	35F0	3235	2670
R0SNS	A	024	3818	3374	1206* 1207 1207* 1628* 1629 1629* 1631* 1647* 1648 1648* 1650* 1651* 1653* 1869 1874 1879 1887 1892 1897 3279
R0SNS2	A	002	3671	3279	1617
R0VKD	A	005	350C	3231	2650
R0XNS	A	005	35E8	3234	2665
RECAL	A	005	35C9	3227	2630
RESET	A	001	370F	3314	1160
RET1	C	001	0041	3503	2333 2364
RTN	A	001	0A03	0018	
RTNPF0	A	001	0A3A	0044	0020
SAVARR	A	004	1485	1129	1124*
SAVXR1	A	002	36FF	3303	2359* 2360
SBYTE0	C	001	0208	3550	2309
SBYTE1	C	001	0209	3551	
SBYTE2	C	001	020A	3552	0105 1996
SBYTE4	C	001	020C	3553	0049* 0241 0247 0403 1213
SBYTE5	C	001	020D	3554	0059 0785 2410
SCE	A	003	3623	3248	2725
SCHE	A	004	3627	3249	2730
SCNARG	C	001	0020	3497	0852 0855 2471
SCRE	A	004	3618	3246	2715
SCRHE	A	005	3620	3247	2720
SEEK	A	004	35C4	3226	2625
SELECT	A	001	13FC	1062	0142 0192 0970 2097 2436
SELID	A	002	37FB	3368	
SELOPT	C	001	0040	3496	1099 1109 2452
SELO0	A	004	1447	1084	1071
SELO1	A	006	145F	1094	1087
SELO2	A	006	1469	1097	1092
SELO3	A	004	1479	1101	1115
SELO4	A	001	1498	1112	1104 1106
SINGFF	A	004	22CF	2587	2585
SINGFX	A	004	22F3	2594	2590
SINGFY	A	004	22C3	2584	2570
SINGN	A	004	22B1	2579	2576
SINGOP	A	004	229F	2575	2572
SINGSW	A	004	2243	2552	2547 2580
SIO	A	003	177F	1410	1244* 1463 1480 1485 1552 1599* 1613 1859 1984 1993
SIOQ	A	001	38AF	3433	1234 1246 1310 1463
SIOR	A	001	38B0	3434	1040* 1244 1425
SIZE	C	001	0203	3548	0055 0778 0782 1354
SNS	A	002	3800	3373	1575* 1606 1607 1641 1650 1657 1658 1702* 1751* 1801* 1864 2118* 2120 2125 2130 2133 2159 2160 2170
SNS23	A	002	365B	3268	1652
SRETRY	A	004	2329	2612	2739
SSW05	C	001	0004	3463	2309
SSW10	C	001	0080	3468	1996
SSW16	C	001	0002	3470	0105
SSW2F	C	001	0001	3476	0059 0785 2410
SSW20	C	001	0080	3471	0403
SSW21	C	001	0040	3472	0241
SSW22	C	001	0020	3473	0247
SSW25	C	001	0004	3474	1213

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
STORE	A	001	3586	3213	2521* 2522* 2523 2526* 2527 2528* 2529* 2530 2533* 2534 2587* 2588* 2589 2592* 2593 2594* 2595* 2596 2599* 2600 2770* 2771* 2772 2775* 2776 2777* 2778* 2779 2782* 2783 2286* 2413*
SVPFC	A	025	0A39	0035	1218
SVPREQ	A	002	3724	3326	2540
SWARG	A	004	21A9	2509	2453
SWARGO	A	004	2131	2471	2317
SWCHIN	A	001	20F7	2447	2729
SWERR	A	004	24E1	2733	1149* 1150 2462* 2463 2465 2485* 2486 2487 2488 2489 2511* 2512 2517 2518 2522 2529 2559* 2560 2561 2562 2563 2612* 2613 2615 2618 2623 2628 2633 2638 2643 2648 2653 2658 2663 2668 2673 2678 2683 2688 2693 2698 2703 2708 2713 2718 2723 2728 2753* 2754 2756 2760 2761 2762 2763 2792* 2793 2795 2799 2800 2801 2814* 2815 2817 2821 2822 2823 2836* 2837 2839 2843 2844 2845 2858* 2859 2861 2865 2866 2867 2880* 2881 2883 2887 2888 2889
SWITCH	A	002	3581	3210	2513
SWXXX	A	005	21C3	2517	2524
SWXX1	A	004	21F9	2528	2531
SWXX2	A	004	2218	2535	2472
SW0	A	004	2228	2544	2545
SW1	A	004	2318	2605	2626 2631 2636 2641 2646 2651 2656 2661 2666 2671 2676 2681 2686 2691 2696 2701 2706 2711 2716 2721 2726 2731
SW2	A	004	24F3	2741	2755 2757
SW2A	A	006	2521	2760	2773
SW2B	A	004	2579	2777	2780
SW3	A	004	259D	2785	2794 2796
SW3A	A	006	25C3	2799	2796
SW4	A	004	25E7	2807	2816 2818
SW4A	A	006	260D	2821	2838 2840
SW5	A	004	2631	2829	2860 2862
SW5A	A	006	2657	2843	2882 2884
SW6	A	004	267B	2851	2882 2884
SW6A	A	006	26A1	2865	2882 2884
SW7	A	004	26C5	2873	2882 2884
SW7A	A	006	26E8	2887	2882 2884
S10CHK	A	004	2355	2623	2619
S20CHK	A	004	2367	2628	2624
S31CHK	A	004	2379	2633	2629
S32CHK	A	004	2388	2638	2634
S33CHK	A	004	239D	2643	2639
S34CHK	A	004	23AF	2648	2644
S35CHK	A	004	23C1	2653	2649
S36CHK	A	004	23D3	2658	2654
S37CHK	A	004	23E5	2663	2659
S38CHK	A	004	23F7	2668	2664
S39CHK	A	004	2409	2673	2669
S41CHK	A	004	2418	2678	2674
S42CHK	A	004	242D	2683	2679
S43CHK	A	004	243F	2688	2684
S44CHK	A	004	2451	2693	2689
S45CHK	A	004	2463	2698	2694
S46CHK	A	004	2475	2703	2699
S47CHK	A	004	2487	2708	2704
S51CHK	A	004	2499	2713	2709
S52CHK	A	004	24AB	2718	2714
S53CHK	A	004	24BD	2723	2719
S54CHK	A	004	24CF	2728	2724
S60CHK	A	004	2343	2618	2339
TEST	C	001	0212	3556	2339
TIOBSY	A	004	178A	1415	1248* 1249* 1412
TIORDY	A	004	177B	1408	1246* 1247* 1248
TWO	A	002	358A	3216	2535
UCKMSK	A	001	3854	3410	0240* 0246* 1605 2154
UDTO	A	003	0A0C	0023	
UDT1	A	003	0A0F	0024	0098
UNPACK	C	001	021E	3559	1857 1862 1867 1872 1877 1885 1890 1895 1908 1914 1920 1930

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C182 3340 FRIENDS TEST - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
WORK	A	001	37E5	3348	1935 1940 2033
WORKA	A	002	3834	3388	1317* 1338* 1344 1351 1430* 1432* 1466* 1467* 1562* 1564* 2019* 2043* 0171* 0172 0863* 0869* 0877* 0889* 1162* 1163 1318* 1322* 1326 1326* 1327 1327* 1328 1328* 1329* 1348 1364* 1624* 1625 1631 1714* 1716* 1737* 1739* 1989* 1990* 2023* 2026 2027 2028 2029 2031* 2040 2062 2198* 2202 2203 2204 2207 2209 2211
WORKN	A	004	3838	3389	2705
WRCCD	A	005	3612	3243	2690
WRCKD	A	005	3603	3240	2685
WRHAE	A	005	35FE	3239	2710
WRHAD	A	005	3617	3244	2680
WRKD	A	004	35F9	3238	2695
WRREP	A	005	3608	3241	2700
WRROD	A	005	360D	3242	2507
X	A	001	3588	3215	1110 1818 1824 2071 2075
XEQCMD	A	001	1489	1137	1147
XEQ0	A	004	14EA	1153	1156
XEQ00	A	004	14F9	1160	1166
XEQ00A	A	005	14FD	1162	1175
XEQ00B	A	003	1531	1180	1214
XEQ00C	A	004	158E	1218	1191
XEQ00D	A	004	1568	1202	1223 1560
XEQ01	A	006	15A9	1230	1194
XEQ01B	A	004	1560	1197	1235
XEQ02	A	005	158D	1242	1254
XEQ03	A	005	15DA	1254	1257
XEQ04	A	004	15EB	1261	1262 1266
XEQ05	A	004	1603	1270	1271 1275
XEQ06	A	004	161B	1279	1280 1284 1286
XEQ07	A	004	163A	1290	1291 1295 1297
XEQ08	A	004	1659	1301	1310
XEQ09	A	003	166F	1310	1317
XEQ10	A	006	167E	1317	1325
XEQ10A	A	003	1697	1325	1321 1331
XEQ11	A	003	1688	1333	1323 1339
XEQ11A	A	003	16D1	1341	1335 1337
XEQ11B	A	006	16F3	1351	1365
XEQ12	A	001	1709	1358	1315* 1342* 1344* 1345* 1346 1346* 1351* 1354 1362*
XEQ13	A	003	171E	1367	1349
XEQ14	A	004	1728	1375	1311 1352 1355
XEQ15	A	003	176C	1402	1397
XEQ16	A	004	176F	1404	1400
XEQ17	A	003	1798	1422	1415
XEQ18	A	004	179F	1425	1420
XEQ19	A	006	1783	1432	1437
XEQ19A	A	006	181D	1467	1471
XEQ19B	A	003	1831	1473	1468
XEQ19C	A	005	17D9	1444	1436
XEQ19D	A	004	17D1	1440	1461 1464
XEQ20B	A	004	1838	1477	1477
XEQ20C	A	004	1847	1485	1483
XEQ21	A	004	184F	1491	1497
XEQ22	A	004	1872	1505	1506
XEQ23	A	004	1883	1511	1512
XEQ24	A	004	18A9	1525	1526
XEQ25	A	004	18BA	1531	1535 1537
XEQ26	A	005	18DC	1544	1492 1503 1523 1532 1542
XEQ27	A	003	18E6	1550	1553
XEQ28	A	001	18F3	1557	1570
XEQ29	A	006	18FA	1562	0160 0163* 0277 0857 0859* 0861 0861* 0865 0868 0868* 0872 0875 0875* 0879 0882 0885 0888 0888* 0892 0895 0900* 0905 0906* 1039 1040 1041 1043 1043* 1049 1051 1051* 1160* 1162 1164 1164* 1165 1168* 1234 1242 1244 1246 1254 1301 1310 1313 1313* 1320 1325
XEQ30	A	006	1900	1564	
XFF	A	002	3728	3328	
XR1	C	001	0001	3448	

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
					1325* 1329 1330 1333 1333* 1334 1336 1341 1341* 1342 1367 1367*
					1369 1375* 1376 1378* 1425 1447 1448* 1449 1450* 1463 1514 1515*
					1517 1518 1519 1520 1522* 1550 1550* 1555 1555* 1559 1756* 1757
					2013* 2014 2014* 2015 2017* 2021 2046 2046* 2186 2189* 2190 2200
					2214 2217 2217* 2218 2220* 2233 2236* 2238 2241 2243 2244 2244*
					2246 2253 2256* 2271 2294* 2318 2323* 2355 2358 2358* 2359 2368*
					2506 2508* 2514* 2517 2518 2519 2520 2525 2527 2532 2534 2535*
					2506* 2514
XRISAV	A	002	3585	3212	0161 0164* 0169 0170 0170* 0171 0238* 0240 0244* 0246 0265 0303
XR2	C	001	0002	3449	0316 0491 0494 0549 0552 0555 0558 0593 0596 0599 0602 0657
					0660 0661 0663 0666 0667 0682 0690 0726 0734 0911 0919 0920
					0920 0922 0923 0924 0925 0929 0934 0939 0940 0945 0946 0957
					0958 0962 0963 1233* 1237* 1259 1264 1268 1273 1277 1282 1288
					1293 1299 1399 1402 1417 1422 1425 1426 1428 1444 1445 1452
					1457 1470 1473 1494 1499 1500 1500 1508 1509 1517 1518 1519
					1520 1528 1529 1539 1540 1544 1545 1575 1587* 1589 1592* 1595
					1598 1599 1600 1601 1602 1603 1605 1719 2116 2123* 2128* 2138*
					2139 2142* 2143 2146 2149 2152 2154 2163 2170 2173* 2187 2190*
					2192 2195 2198 2221* 2234 2238* 2239 2243* 2248 2251 2259* 2272
					2295* 2319 2369*
XXX	A	003	3664	3272	0934 0939 0940 0945 0946 0957 0958 0962 0963 2192
X8000	A	002	365D	3269	0055 0782
X8181	A	002	35C0	3220	2463 2613

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

OBJECT CARD LISTING

THE CHARACTER INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

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CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96
GBK GBD PM 42 47612 EC 827879 3340 FRIENDS TES T-----MODEL 12 84228422 C1820000
TCOY10QH & BT, **AE A & ..... 7-HC1820001
T YR ..... EUC1820002
T+-Z4 QC**3MD(Ua :B H<22J+=3279LD (=M( &HC(V7 -EZ VC D7AT*COH*H-L- A -7 U Z7C D7AT* HOH* 8L2C1820003
T+-D?BX4< L*F(0- 8H YROI -E<BG /Z A.B)JO;C /OHE K2 1,2BG /YA|TEFOH* BF-Q:<QC /OHSO; 8H Y 00 C1820004
T+-,DC?H&CTD (V8 50CR_21 A2: F+ H 8B?H&AC) (V8<Q3; &(9D<GC)II6# /OH E /47KLS (V#2UD* <AL* 42-C1820005
T+-3V<S)4CA47MB; KOH*BF-HY(5&8&C- V2Z %CB8703 4CBQ 7-S;9OH*BF-IO(8. /1=C&H653RD0HD L* 4 0:4C1820006
T+- T&P(WG &X IC M?T3QOC M?Y3Q OC D6-3Q2+2 79&1 ((=D78XHA+H7B T- 9+2 79LO (OH2 C S -D O 2C1820007
T+->S( H8+ 4A+C- 7A<BBB5X<Q3;&(9D <DL*+=16<DL)E12? /OHE 2&7M<BG /Y BCK/-+H 7 % ED*O 8&C* NKUC1820008
T+-70 % & /Q8HC* BOA -YLS (V#2UAC /OHE K<X#2BG /Y A.2-))H 6E00A(= 6LOOX(D%6, 0A(YQ 6-2 %.*C1820009
T+-0J/1=C&H6D3$ 7CF<7UC;J| 6E37 1(Y,2-J&'2TEH2YD -C&H6S2SAOHD<N*H GI<HB+CU2OC-R?H $+D %Y*1820010
T+-1< -32/2TB T/ 3|<-8F$1 F3-- -3 2/1$ /OHE K Y08B 6G:4< LEM($ /O? -2/ C>U C&D6-3Q 22YD ;8MC1820011
T+-2GE 4B(Y8Y--H AB3Z (=N2*OC /1< *C&6UB/X2-D<|H 7930A+A, /O:JC&< 6T2/_2-D&|D 6UCO +AY 0S4C1820012
T+-3B|D 792BGCZ4 (LE(HGG2-NQ( LE (HGP2 J>8& C2D|X <Q3;&(9D<C3*2HK4 <F3)QH<X2/10( LE (HGU #38C1820013
T+-3'0HD+LE07(50 Y-8S 'H&A-0:(70 YY2BG /YAMC)2OH* -,EOD(Z 66*8GB= <Q3;&(9D: L-R|B 7930 2C-C1820014
T+-48 L-EC&H6UBT 10HD+XLOI+AY( TE &H|S -&:))A 7930 6+AY( TE&HJ| -&: )) M8F-4B(Z ZF&B AC24 M3QC1820015
T+-53| 67930B+AY ( TE&H&C -&:)) 7930H+AY( TE&H|? -&:)) M7930C+AY ( TE&H&X -&:)) Q 7930 *-MC1820016
T+-6>AC-EC&H6UBU +OHD+X&4A(Y2ZA|H ADC1 (Z 2A3-X| 8F2BGCZ4<JC)IHJ7 2/9&2BT-X+-H8FLO A+AY 41-C1820017
T+-7ZC&H6UBV62YD (|UBF-4B(Z ZI'H AGCS --32U(D<Q3; &(9D<DT*H&H<F3) $HCX2/5Q2A3-XC&D 6T2U PT4C1820018
T+-8UQ-HAB30 +AY 2&CE&2Y;UI H8F-4 B(Z ZP-HAV3OH+AY ( TE&HMT2-QY2 3- EC&H6UBV22Y2E+|H 7930 9H C1820019
T+-9-AT-EC&H6UBV J2Y&CFD7TSM10H* BF-EU(9C /1=C H 6UC$POH*.8COE(=* : 3-R| 08F-4A(Y2 Z_2H )HMC1820020

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C182 3340 FRIENDS TEST - MOD 12

C182 3340 FRIENDS TEST - MOD 12

OBJECT CARD LISTING

OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+-E-L2@CL-EC&H 6UBW=2YD>| 8FT7 E(Y#2-K@ T-EC&D 6T2W:2YD00H*BF-D ;H*C /1=_C H6UC\$ P0H* J#QC1820021

T+-#NCU4(LEL(WG 2 J-< LEL(T 92C- X>H B2ZAN. D6U0. 2/448@CEK@/ +I#D 6U?HBEL7F(Z.2/ 8 'OLQ R/3C1820022

T+-@EU#HBA37F(ZI 2 SY<ET)CH)*<F3) -HCX /OHE L<7P3Y A(W? /1=_C D6U3\$ 0+0D6E@BGCZ7 /1: D(ZM & <C1820023

T+-'C6X(L3/ (= 2DC<9XC-X@/ IC H 6V3Q02Y**+ -79MH &C,S B I#&BB0B(Z* H2Y*D>H E2Z H. H 6V0M ->2C1820024

T+-F2Y**CCD7PSY 10H*BF-D2(5# /1=_C H6V3\$POH*|B2B GG DY6WC#.C:28&C- X2/ 3+5 79MH&B&0 B(Z% ;EQC1820025

T+-A(TC2/3288C- X2/ +>H +2Z O. H 6W0#2/2D8- ?2U- 2 T&S#HGG OR(4Q DQ2BG /YAFLE)E0H* -,80 1A8C1820026

T+-2 T&S(- /O' ,OH*DT&D)DBH|9L- D(=-2D U< T&T-TC 2/4+<Q3;&(9D<GL) HHYD(T&EHNT2 JH <GL* P#HC1820027

T+/ 7*LB5C <7N38 9C Q7KCC OH*BF-E ((7X /1=_C H6X3\$ P0H*|2048(Z26J2 BC=08-AG2D D< /D 6<HO 33 C1820028

T+/A2 /*6(\$S EIH &BY0BECQOT HE(U- /1:D(DD&ZJ8IC H 6Y3Q0+ H79MH&L 4 BIZ ZOIHA&20B(D< J+ & 5I<C1820029

T+/B(-=2UC*(T&E -TC2-K8% T&TE|H GI-O&E(4*D&X<BG /Y AF3)G0H*-,80B(D< 652BGBD0(T&T(U- / 7\$2C1820030

T+/CYS+BGGDY6ZJD MD|H< T&X(T 8 T- X2ZA+C H6Z3RGC&H 6UBVQ2YD#. H6Z1* 8AC-X2Z 3C&H6X3Q 02YD *HMC1820031

T+/DTHSOB(D*E2Y* SCA27KBD8CBM7\$S, 10H*BF-EB(6# /1=_C H6Z3\$POH*6,2B GG DY6DJFYDL*(T&E -(T 4-QC1820032

T+/E:2YDG+ D79MH &B&OB(D&6<|HGV&1 T(9 7U&1B(62,HC- A(=-2UF0(L&E|H&L 2 LUKGL:(H4Y*OH C2YD 'J4C1820033

T+/FRN-0B(8Y6&64 A -<6P-HA *HGC- A -7 UAFCC H7STQ 82Y*3C H7STQ=2Y* DC&H6UBVQ2-D/|I< 7100 7/YC1820034

T+/GM T)C(T&GL: (<P2/08(T&E, (U- /D70H*J3<BG /Y AQL:(OH*-,80B(D& 652BBDJ&2&CEDC D 65CQ EZMC1820035

T+/HIQL1 (Y&2&CE J|D 6VC1 (Z-2&CE *|D 6YCI (D&2&CE YCB*65CE,+ H8F-H &DLS (V#2UBH<DC* 'H5% J1 C1820036

T+/IHCA87PB_0H* BF-DO(50<LT)@H2X /OHE M27:3Y-(W? /1=_CB*6D3\$2+2 6E3&A(=,B L&C4-D A| & OK2C1820037

T+/HE+C/82 C2U 7 K &D| C-8(VG JI (-:2-D74-DA| H 8+GTO |H&CG7A |H BIG7F |H DG_HA &2 +C- *1HC1820038

T+/ (VG JI_02 OHDKJX5 |HAC<B GDUW5 L-DOH*K 7I .CMA(=D:- 8DC- X2/BI+H 79MH&HMO BCTQ 2I&C1820039

T+/&H0H80:< /D 6<H0BE3Q5T HMITB < /Y6J*HGQYOA TQ 0+D 79MH&AQOA TR U+D-79MH&BYOBALR UT H 7YUC1820040

T+/<6B3RU+ -79MH &BY0B8CRUT H+(W& 8&C-XOA KIT-D(=- 2UAQ(T&H(TC2-66 < /&6RH0BFTRU2Y* HT H 53MC1820041

T+/IIDLRT HP(W& 8&C-VOA L*CS (V# 2D T /OHE S<X#-1 T(9 7U&0S(42&65C- B+AX2U Q<I3)'(D& <BL* -3QC1820042

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+/+%/3DHC D7STE COH*BF-I:(8Y'93E #2-DG+Y 7:|HGB*B G SQB(,08G2BGG1U (-&H<BGG1UH(- 8I2 6 -C1820043

T+/IX/12RDC\$<+BP /12R C\$H+BL /12 RHC\$D+B| /12R&C\$ +BE< &D7:DOA 3- EL U(+BTK J F LE C(TH 9.2C1820044

T+/&S+ H8F*B&B9E <I2*6D'HAH<BGB9D 2 C*B&CB*7NB290H* MDLS (=Q:-C-W2/ 2CB*7NB?10H*MD&0 X(5& 0YQC1820045

T+/J).AX /1KZCB* 7NB1A0H*MD&0X(5& X&E*BGEHU<I3)M.IG /1KZ+#279&4E.82 6<|HAB3YA(0&: L* F2Y* 2TYC1820046

T+/KQB-0X(5&7Z&B GEHU<AK=| (T <AK= T(T :&CR,OH*-,L7 0(L_P -/K\$|-&65*B DEI&C-C-9(L_M&E&R ,OH* = 8C1820047

T+/LLE.U<I3)M<|# /1KZOH*M;L&HE.T /OHE K-7N<BG 8-C*B+8 7 % &G\$8 8&C*BOA BET--(O. DB 22&C1820048

T+/M+YLS (V#2D 8 0 COIC&D5&LO=0HD)?TO (128- YR2Z D| &7G2HA(02* L- 8 LGE+CTK &I'OC J6 2I&C1820049

T+/NI**HA+H4< L- =(T :HC-VC&H?T3R (2YDH+0-79&RA.82 6<?|D-T&P+CU#E3/ 3+1 79&1T(9 7U&0 :6* J08C1820050

T+/OD.=0BAC-V2/ N+H 6P?H&A-07(8* 192BG /YBPC;H+& 79&1T(9 7ULO +A- <ET-P+AT31H 11L* D+ & :. *C1820051

T+/O* -32U &11L# &C*H7IC-A(0&: L* C+-D7A7H&B&C&A(0& # L*FA-D7*TQ20-H 8*7-H ?H&A<H&+CU * L* 030C1820052

T+/P:: D* J;A 10 E70B+0*P- 0 E8Z P-CYAE8Z*BL-YCLS (=T2U M& C-- T/ (=T2UAD& L-/BC- H(=* *#*C1820053

T+/Q52Z E. D8H&M 8HC-Y2Z J. D8H0B 88C-X2Z E. D8H0& 8DC-Y2Z J. 8IJD 9AC-X2/ <+-281|H &AKO 1:DC1820054

T+/RO C-VEC-H(=T 2UA-Z L-XE3UD(=- 2D 09*3-U2/ E. D 811Y4 L-DC U8<T- YC D8GC*DC D8GT* F; H :/QC1820055

T+/E, ?H&Z*HAC00 AE047A-0A+C&6L00 C+C-6<G7X -HAA33 1+CT2/2GK &D< C- 5+CQ< C-6+C< C- 7+C- 'R&C1820056

T+/&WG *B* A*90G JEP4-DB-H2B2YD &-D&B2YDHC-D8(CR JOH*O)(HA L&AE0& < A*I+C&+ A*I(VD + A* 0DQC1820057

THJ*H8J*IC&<8+CQ 02YD,C-DPCL-42D X&C&DPC&HC2-HTOH* BI- ***** NEMC1820058

T+/)HC-DPCLRJA3 8+CQ20 D02'HA P5 , <BAEX85 L*DL U I+8-5 L-DO*HE(CG F(0&01T-*C&D7AC- *0 D 782C1820059

T+/CFUY11C*F<<E 8G-4A(0Q8G& AFV- 90C-X2/ HT- (VG 2/0+:A CA1A8|+A 79* &FK?A AZ,20 0*H 48QC1820060

T+/;=E8, /1DHO& PW.UC <B&FD*2/0; 9 OC DAD&X D/ 80 I.3-YT D)(#8< L- 4(VD+ L-4(VG YA, *0&E 72QC1820061

T+/ 9G-28DC-VOA P4*GBE#|A1A8|<<Q 8GCCD+A:< K<8GHO AIL-; (97:TMA(0& *BL-2BLMA(=D<BLU 8<T- RA2C1820062

T+/ -4DC-VOA FH&U D <B&FOD90C-X2/ ZLE KE8C2 KDC L- 4(VD+ L-4(VG2Y ? A1A8|>&< OI QG&U C < &9MC1820063

T+/?UA&+0*QJ3- CE8C D2&2Y*H+ < P-<B&F3&8DC-X2/B &T *B+BU90C-X2/ &T *(U=2C 4++H 79MH 2&8C1820064

C182 3340 FRIENDS TEST - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/SDDG&9EC-XA/	HT DE+B>< &X8.L-	-(=2UA&4 L-D(ED	7A2OAB H* &8DX	JAZOAE0-5 L-D&Y*	+ - 6L-C1820065
T+/TV(=2D D< &-	BH8OACT-_D 79MH	&IL-D(=2UA&9*3-	UA/ (T M+B=< JY	B<-HG8YO DL-?T D	P+CD :YHC1820066
T+/U-4-DE+ HP-|H	& HAHG7* < AEEU	< L-4(VD+ L-4(VG	YAZ+0*E;C3UG+CU	9A3/30I R C-E(=P	DAU K&QC1820067
T+/VSH20A+ -OH*	\$Q 1|(=D78XHB+CU	2&K46:A 2/ +0-H	8*332.L&8D C2UH&	& L->GK0AE8D/. D	8GB< *20C1820068
T+/WO. D8GSM&BL-	Y.20I+CH9. R*J&	9 C-+&8-8 IH&M30	H(=0<GL;?M&< AW	QE8 : JNQ+OHRWCG	D(XD E,2C1820069
T+/XJ&0 GC-8RW/W	E0*E;C3CE+C-8 L-	80I \$L30 +A-<ET-	P+A-< L-B+C-2C3-	2&C<77L EOH*R*LO	.(=0 Q DC1820070
T+/YCC87486+0H*	\$L3-A+ C2UBV2CC-	2C 47X26*| BF 0	O+A*8F OA+ H8 CO	O+ -113R&<<*8ACB	GF4& 3T4C1820071
T+/ZG+&27*3UE+ C	2D 8&CL-2CA<7ZK7	00H*8L30+(=0<IL;	7.*. /1_|+A 79*	&FK&2 L-2&C8D7&27	80H* ;K-C1820072
T+/DBF4-2 T-2CAY	7,88LOH*SKCOC(=0	<FT;2./<< 3;N./-	2/'731 H8DC-VOA	RH3CE+ 2AL-2&CBM	7_28 4KQC1820073
T+/D+|*8GFQ&AT-	2&C&7_S9SC D8+CR	IC-D8+CRJ&DAEO*E	;C&UG <B&FZT2/38	2&3-2&CB<7_K:F&Y*	H| - 19HC1820074
T+/B(=0<13;9.D8	< L-8(U&+ L-8(VG	2YAGA0/, <2Y*H| U	7* OT(=H)4?|D TC	E+ 0IT-*<<<E8GTM	A(0&)I4C1820075
T+/X3G U8<-X2/48	2&C-2&CBQ7>8#9&Y*	:IAD7* ON(=*?C00	O(' >=>HG130K(=0	<IT;8.3&2/2D&EC-	2&CB& 8C<C1820076
T+/_>I&Q?0H&GECO	N(=0<HT;4.7&2/0-	3I H01L- +/ 79L-	H(=P2D QF&K=T(TH	'23-90NDM>L74(=X	2-&X #0&C1820077
T+/>?+A 79*8&E.X	3168<Q3;E(9D< L)	B(=8< T*(M*CL*	:.<*8 L-90A)2T1	AF&<8DC-V&2 HC X	7+S0 1Z0C1820078
T+/2U5L3AF#| /OH	E0JQ7&ZDACBD7LS3	7OH*BF-DS(48<Q3;	E(9G /OH; 1;A(3|	/OH; T- (3T /OH	;AC- 9/XC1820079
T+/O-AC)A0H*8G-E	8BC)H0H*8G-&8CC)	LOH*MD&IT(9 7U*8	G /8D+A 7&*BG /8	D+A&7K&8G /8D+A-	7H& 4AQC1820080
T+/1E/1KZCF<7UC;	JCA47M24NOH*MD&I	T(9 7U&OF(3<_G<B	G /8B(0&7+*8G /8	B(0Q7|X&BG /8H+8-	7H& 2L*C1820081
T+/2N/1KZC D7(TR	/C *7(B4UOH*8G-H	8GC*90H*8G-H8GT*	=OH*8G-Y8<T)LOH*	MDL-&(=P2UA&=-A2	*+Y Q#XC1820082
T+/3EG&E;-A6(+Y	1Z*8G /YBMC-/2Y*	E+8 *73> G&E&-A6	(+8)2*8G /YBHB=	M+0&79L-CE8C2U Q	+ L- 0& C1820083
T+/4.GTRRC D8+C-	:COD8+C*F0 &)ZT-	AEBC UA6W+H 8B&	E&EQ<Q3;&(9D<CC*	9.LDB L-9&/8-OH*	BF-D MKDC1820084
T+/5FCL*9C IOLR	L(ED7A_HA 3&AGN?	B L*4C 8(CRL(D	1P&2A+C-6M*H8G-8	GNUM+ 8AGN&8+ 8	AGN4 M UC1820085
TDJ5Q+C-+ J5)C-	< L-8(U* /OH;				TYC1820086

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OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/6QC-D)O3RLC&D	8+CR|2YD&C0 8(CR	J&YDG4-DIOH*|HTS	(OH#-C*BOA)2&B	G /YAH3|CF<7UC;	JC&D 4HOC1820087
T+/7L+C-6L& AGKC	/OHEET72(=X -JK	91-&7=*BAG&88DC-	VOI M>L&- (=M:DCR	,+H 6P?H&EC&E(=7	/OH 8-C1820088
T+/8+F-D&CG /OH	E M*0;<BGG;4' T&	P(WG -&X?C&H653R	DQHDL* 4B(=Y=*B	A /& /OHE J<0=<CB	GG:D 5I-C1820089
T+/9I(-;DL&B(=Q	O1L- + D8 |H&E<H	8+CU&6A:)+ -7**H	E(=H+B<2HA:)+ &	7**H&IL-&+ C2UD<	2AA8 0&4C1820090
T+/:DX*HB+CW8A C	2D ,B T/3> & 2Z	,>0& 2Y*.>&< 2/	-TO (VD& A9*F&G	DGX32/0&9 C-+&-	8 |H 1B4C1820091
T+/:=D =:D :DC-	VIG8;X*8GGZ>< J&	8 IID CMB(=A1A8	LOH* C&HG1-4 L-	DI H7#CMAG1/5 -F	(-H ;IMC1820092
T+/:#:(W2-MF(-H	6Q-HA+KOB+C-8G D	-F M8&C-8+| 8(3T	O+C&2UB*+L-80H&	-CL79+C- /A&(1-U	8(= :D*C1820093
T+/25/A&IG D-F |	2/O-K &Q4 J&Q(ED	7:TMB(=3 /O (-	-R3&A(=Y4 T-2(ED	-R'MBAL&8G6** A*	R GM P=MC1820094
T+/O -15 &J< &	6L#7X IHADY*J CQ	2OHM-PO8A CRJOH*	-JTY (=-5 L-D(=H	7#<BG 48A=2(D	-ZC& 8IYC1820095
T+/:=, /-YC&DHGA=	*2-DIC&E& J=*2YD	POH*BFUQLI2PA 0	0BTUHF<BG SYDCA-	/60B0-D <MB C	/O 20-C1820096
T+/:M C&HMFQ8A H	H& /EOM*BF/Q8-CR	:OI -13&A(=Y4 T-	X<J-6Q-<Q-<HAI_M	<I3&2(773DADODL*	A+H E1&C1820097
T+S /1OG DBB/+M	7 -H&DT--(OG3FDG	DA*(2I GOH*BE&B	G /H8BC*AOI -8L-	D:OG DBAK+&<7 -H	ED< &. <C1820098
T+SA*/OHE1/MO&E	1OH*8H&EIL (O	IFC*AAIS 4-DAI D	6*04A(2&6+2&BAHE.	/1*;&1/A&1 A&1	F(ED 89QC1820099
T+SBP(=Y5 T-2OH*	CO (OHODL*A+H	7 -H&A3Y-(O.2/14	9&C*AA/ O+8 7 -H	&ACD (OH8DC+AAZ	D+U 5YDC1820100
T+SCK(0.3D -/2A	X(---T--(=P DBC	3+ DBC*8&H|<<F Y	9B/-I &Y;H(=2 &Y	(M AH(= -KC-OH*	BF-H KZOC1820101
T+SD(63BP&1 OH*	8H-&<F*8G& .3D Q	8&C-VOA L=<8GB2*	/O CB*6*CS*+D	6E&B&HLG /OHEAS<	4.< PZMC1820102
T+SEH/OHS0; O CO	1C&D5&LP OHD-Y&-	B(M5& -A(M5_2B	G1O&8HCR,OI SH&B	G /YAH3|OH*BF-Q	Z(G- Q/&C1820103
T+SFCOH*8H&G-<	5&E-B(M5& -C(O	5& -B(*5&E-C(-	5&E-A(M5_0-A(O	5_0-A(*5_0-A(-	5_2 5-4C1820104
T+SF=/OHE L&X&2&	G /YB<3LWOH*BF-R	<(LH4 LO5C 66LO	80-D66&8G S.ABC	(SD* C000 &/O3M	A(=H *SDC1820105
T+SG9OH*XC4-C LO	1K H (SEH & 5_4-	4 L07| 5 --B(8Q	5&L4I(8& ABG9K D	(8&| C06(81H O	5_TO KQHC1820106
T+SH4 C06B <5_TO	1|&U5_X DH/_H &D	5>0& (8Q5?D-C LO	6(-D5>XBG /YFACH	6OH*/DLS (W7 DB<	\$+A KL&C1820107
T+SI? (W? UBICOH*	BF-D9(0* /OHEAS	48*8G S.ABC (SD	H T&N(8 H 3&Q(8	H T&P(8DH 3&Q(8D	H LQ -I&C1820108

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OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+SHD5L078 D65TD 7B D653078 D66CO 7+A 6E2B&HZ<^2C\$ NO DSX00B1_*6Q*B G102^2L\$NO DS&EO B(_* JT0C1820109
T+S.V(W, /2+||-H 65* AHJ<< T&P(S, /2*|+ D6E2 &HZ^ /2*|| 5--C(\$Q 65L4I(\$\$ AB.3B D 65LM 594C1820110
T+S<->02 (\$Q5? - C(M5_TO (\$QH 30 6(Q^BLO60 &XC0- A(Q5>02 (\$Q5? - C(Q5_28G10^ /OH EAUE &HMC1820111
T+S(\$<S? /OHS0; 0 COIC&D5ZLP OHD -Y&-B(Q5&E-A(Q 5_35-((\$C K(INC H 653Q00H*XC346(\$C K^ 3Y* C1820112
T+S+DRJOC(L_251<B GII<^MCO00 DT; &O DI_052*BGII<^<L0 00 DTS00C(L_253*B GII<^<T000 DTX&O DI_0 &J8C1820113
T+S|J(I, /2L3|L< 5&< AH:2CAC\$*(I- /2L3|L&5&< AH&D <ACS*(I)3 /2L3|LM 5&< AH^<<CAC\$*(I;G /2& O&EUC1820114
T+S&<2346(\$C KI VC &67CPMOH*U234 7(\$C K|TC &67CP ,OH*U2348(\$C K& IC &67CP00H*U234 9(\$ OZMC1820115
T+SJG0 DUF00D(L_0 5^*BGII<^&L000 D U.60C(L_25=*BGII< ^&T000 DU|00D(L_0 5^*BGII<^&3000 D UM&O LJDC1820116
T+SKBAC\$*(I /2L 3|H&5&< AIF<<CAC\$ *(I-T /2L3|H&5&< AIGH<ACS*(I-7 /2L 3|H&5&< AIH^<CAC\$ *(I/H 4HYC1820117
T+SK^OH*U235G(\$C KKRC &67CQPOH* U235J(\$C KK,C < 663Q60H*U235K(\$C KK^C &67CQ-OH* U234 \$KYC1820118
T+SL0M3000 DU300 B(L_Y6H2BGII<^MCO 00 DUB60C(L_2612B GIII /OHEASQ2M^B G S.AB<BGH2X /OH E M E-2C1820119
T+SM3(E^ /OHEAVU 2D28G S.ABC (\$D ^CT000 DVHL4<(\$G KM/OH*XC0-B(L_B 5&-C(L_25&-B(I>Q 5&&- N12C1820120
T+SM> 3&X(\$DH L& :(\$^H L&-(\$^H L& W(\$^H L&X(\$^22C& VI 5--C(\$Q69L4 I(\$\$ ABN9B D69LO #CO \$A2C1820121
T+SOZ(\$Q5? -C(I>M 5_TO (\$QH 306(I>Q ^BLO60 &VX&-A(I>Q 5>02 (\$Q5? -C(I>Q 5_28G /YF|T.YOH* 8H&D #H-C1820122
T+SPUBC (\$D^CTO 00 DV034<(\$G KP COH*XC0-B(I>D5&- C(I>H5&-B(I><5&&- A(I>D5_0-A(I>H5_0- A(I>< &ZMC1820123
T+SQ-((\$ /OHEAT2 3I28G S.ABC (\$D ^CT000 DWCL4<(\$G KQIOH*XC0-B(I>U 5&-C(I>Y5&-B(I>2 5&&- OY4C1820124
T+SRE L&Z(\$^H L& D(\$^H L&,(\$^ /OH EAT2328G S.ABC (\$D^CT000 DWN34 <(\$G KRPOM*XC0- B(I>4 K UC1820125
T+S&EN(\$ H 3&>(\$ H T&?(\$DH L&(\$^ H L&?(\$^H L&?(\$^ /OHEAU 3228G S. ABC (\$D^CT000 D WYL4 -R&C1820126
T+S&ECC010 DMY^B G102H T&1(\$ H 3& 2(\$ H T&3(\$DH L& 1(\$^H L&2(\$^H L& 3(\$^ /OHEAU<3^*B G SH *2DC1820127
T+S^0; 0 COI1&8 5&< AI>2^CC010 D W:28G102H T&5(\$ H 3&6(\$ H T&7(\$D H L&5(\$^H L&6(\$^ H LQ 12QC1820128
T+SIF^3070H^Q^I 00^L I5^I 82PC2&X OSMCC2^F5_V 5>L T5=LTE(\$N&I^P4^PE 5^X I5;|E6MCS1; (B_M 2^C1820129
T+S;A8UCS9UC0^MC OSMC32^MLO&<R2^*P N1+I 2&PS84A &FA &DCR1^GD:(-R1; S;2PN1DCK1;/ QDC T5U QJYC1820130

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OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+S;282PR5<XNO;| E&+.E0=|I5_PUB&N 0^\$M5<GN1DCS1|T U1)PC1MCP6^PV2|8 U8_|Y&<PN82PR1^J -SD KC C1820131
T+S-T&DCC5_LHO)P D&<PN8^XY1(I^XV&<I MIDA 1&R 02(&<T H&DCR6MA 4_(&<L L&DCN5MA-Q+I-QFA -Q+H 7KMC1820132
T+S-2QFC5QFA-8WA -Q+I-QFCSQFA-8WA -Q+I-QFA L;I -UC S52GC1N7S1^N 9+. E6;I 1=LI1<N 1_\$ R&<& N8DC1820133
T+S/_1;|A2|)SK=\$ R2;|E&<LA82E^QMC S02GN&<GR1=LM1)P T1)PT1)V 0^\$M5<G NIDA(6^PC0)(, &+. E1)H OTYC1820134
T+SSYE4CRIF_ 9_V ,&+.CE4C06MCE5^J 1K^XEO^\$M5<PN1DC R1^|A44^O6MCS1^P K&<(\$I6; T&DC552P C2^Q #A-C1820135
T+STT:DCD6^XV1MC T5UCB1MCU8&PD&D7 020C02V7D6;N 5|8 T&<LE1&XN1^J 2)M 9<LT8_-EO2XF:DC T:(^ 79DC1820136
T+SU:1MCO1UCR1^G D&D7H0^N, &<TA5M 6-COE4CC4&J, &<I. DE4CV4&J, &<LG5Q 8_PSE4C06MCL5&| 1K=Q LS&C1820137
T+SVR6^XT1MC15^T IO&XT1^J_8_-FO&X F:DCT:(-E&<(\$F&+\$ R2;|E6D7H0^N, &<T A5M 6-COE4A &<I C1F& M^*C1820138
T+SHM&<|KIF_ 4&J , &<(\$R&<(XE555, &+. E1MCU8&PR8UCG9<X DIMCB1^\$06^N 9+. E&<(\$F&<R2<E.9_X HOM 5 YC1820139
T+SX|2;I 2)PH2^, I2&PDK4CE5;|E6MC S02GN&+|Y52N L^N ,6^N,2<N,6^TEPH? E5;|E6MCF42GG&<. Y2&H -RDC1820140
T+SYH&<XN&<TE94? E5;|E6MCC:(I 0^L D6MA|2|COQ|.0=N5 ,&D702|A-2|14PMC F5_V 02M 5|SD9|I EK4 -&8C1820141
T+SZE0^G2&|XT50C 12DCM9+.T&<.E&<(X USMC11UCT2^N 5^X EQ(XEO^\$R1<PD&<L A82E 2;I 5>PE6; \$ R2;< ^Q^C1820142
T+SD 2&PNK2PN82P R&<TE0^J 0^LD6MA (2|COQ|C1=N5.1)P T1)V 6^PCS_XD&|P U5<.E6MA|2|COQ|. 5^N4 \$IUC1820143
T+SD^K2PN82PR&|. E:DCL1)PG22/ L-C 02FC2^N1K2PN82P R&<LA82E 42PN1=I H&D702|A-2?P6PH? K448 ;:6C1820144
T+S,61((2)T09|I D&<(PG84CB1MCG6^P A2&PR&+|H0)N 2?P 6K2PN82PR&(PNE+P A4=LE&D702|A-2?P 5PN& 12MC1820145
T+S&1&|PNL?E -UC N9(LB1)V 5&R 6^P C5_XD8UCT5UCB1MC P6|&C1;S1^J, &<I A9+|I5_N:EDA 2&P E&< &:CMC1820146
T+S_282PR8UCG9<X DIMC11UCN5MA>&|G 2^U_ &<PN82PR&+\$ R2;|E&<LA82E-2&| A5MCA6^U5<PN84A (1+^ LHDC1820147
T+S>X:+/ ,1+~Y:F? E82(.PMCW2<PR1MC D&<X&|E-^DCD2^~ I84CD1+|I5<GL&|L U4=|I5^|I1)V 0)P D&<+ 53&C1820148
T+S7S:DC18UCA5MC E9^PNE|PU5<.E6MC 01UCHI;| 1<XG2;I SK^A. &<|O5_) 0^\$ M5<GN1DCS1)TU1)P C1M4 \$^*C1820149
T+SO15|S&5<GLPHA EDA EDA 2M_ 4^\$ 054A-&<.Y52G58UC E6)X06MCP6^XN82X N14A EDA EDA &<I I .&<|< KC2C1820150
T+S1Q5_2P&FA 0>T P0;S&<PR6)S&<R&CT A4=|S&DA EDA EDA EDA 2^ 4^\$054A -&<.Y52G58UCA4^I 2<D ;18C1820151
T+S2L4=|S&<GN1DC P6^XN82XN14C4K4C E92PC9+|E&<GN1DC P6^XN84CR1;-U4=| S&DA EDA EDA EDA 1)M 2,0C1820152

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OBJECT CARD LISTING

OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+S3+8@PR&<PX1*| U8@X05MCO5=|I5_N L-A-E5 &DA &DA &DA &DA-&(PO6)L A44CE5*J QFA 1)X R5_U ESOC1820153

T+S4I&FA &DA &DC S2)R &DA 8_PSEDC D2*GG5)S8@XC&+. E5;E&<LA8@GD1<| R&<LD1(V 1&SC0@| C2<-)/YC1820154

T+S5D2<TR6).L1(| D4*PN2)PI8@XA4*X E8%XD9<GL6*PS2*L U0(| 1<LD1&LR9MC X&+LM2;(| 0*I 5_V 5)Q =TYC1820155

T+S5*Q|CP&+.TO;| U8U7I5;|E6)XU5=(1<XD&(PO84CCO:L S1MCI5;|E6)XU5=(&DA &DA 5@PN1<X M14 8:UC1820156

T+S6:Q+|I5WA 0'S N1<XT2)SNO*LA5=| E6MCC2<PC4U?I5;| E6)XU5=(9%XT2DC N5UCI5;|E6)XU5=(0%U 91MC1820157

T+S7584C15MCS5;. U5*PX5@PC8@PD&<X N8@PR6;LP8@GT8@G C2(LE5;(| 0>LS:DA -8@XQDCP6*X06MC T5U L QC1820158

T+S808&X01<LC6MC D2*J 5)ST&(|00*J 0'SR6*PC8*|Y1<L D6*LR9MCN5>(| 6*P A1+/ 5_V 9(PI84C C4U ;:8C1820159

T+S9,5*X15_V 8'R 8%XOK=.I5UCD2*J 5)STE+.E84CA8=| A0@TM1)PT&<.U8>/ Q+|I5WCS1*PK&<| M1D *HHC1820160

T+S:W1<XD&(PO84C S1;(| 8%PE4UCB9+. Y&FCT2)R-8%PE4UC B9+.Y&FCT2)R-&+& I8@/ 5)R 8_I 2)M 5'U EZ-C1820161

T+S#|5&-R1;.S&DC A8=|A0@TM1)PT&<. U8>/ Q+|I5WA 1<X D&(PO84CG5UC01& E9'-EO=|E1DC054C E5*E 61&C1820162

T+S@*E<XN8@PR6;L P84CD2*J 5)ST&(|S C0=LR1;~P1*|T1*J 8%PE4UCC5_LP4@P T1*\$A4=.E&<XN8@P R6;E :10C1820163

T+S'P5=(5@PN1<X N14A-8@XQDC5_P D2;|I5_PE9'-EO=| E1DC50&N&<T184A -8@XQDCD2*J 5)S T&(Q 4D*C1820164

T+S=K0@|U6;LN1;~ P1*|T1*J 8%|A5MC H2;(| Q+|I5WA 0'S N1<XT2)S4'8054C C5;(| ~UCX9=-X9=) ,&<M 52@C1820165

T+S*(6)X06MCC5;(| ~UCX9=-X9=).&DC C5_LMO)PD&<PX1*| U8@X05MCI8UCI5MC P6)S66*PS8U_ &DA &D *K C1820166

T+T H&(-R1;.S&<| NO*(8'R 2<GL84? A1<GP8@PR&<|K&(|S N&(XEO*J 1<XA1'P 08>|I04C51)PS1M? P6*M)KYC1820167

T+TAC8>I 6*PT9IX N&(E:DC25UCR1;| U6)N 8'R 0'SM5<G N1DCE5;|R:DC06MC T:(-E&(|\$P8@X05MC T5U J80C1820168

T+TA=1'R 8'R 5_~ T2)SNE+.E4@PC8@X 05MCM1)PU&'SR&+| Y5@N 1)PD&+|0&+| E6)LI5+GT1M_*&+. EO=< 0H4C1820169

T+TB92)SNE<|I=MC I8UCB1*XN14CL5&G D1*J P(PNL7E 8XT 09(|D&<.E&<LI9*X S2*.L1MCB:DC4K*X RQID 9E8C1820170

T+TC4@|C10|C4@@| 05;.04@N 4&PYQ_& A6*J 1)XR5_XI5;P A4@XD&(|\$P8@X050? E5;|E6MCC5_XR1*| T&+M KTM1820171

T+TD70)U1MA &DA &D1-QFA-QFA-QFC T9(XN&(|\$F1UC55;I 8)S&(|.1M|.2&+| 0&<GL4*SN&+SR2;| E&(Q Q-2C1820172

T+TED5@PRO;|I5_P S&+|0&<LR2;PE8UC 1M|.T9(XN&(|SN&+. N8UC59UC1'UCF5_V 0'SM5<GN1DCE5;| R:D 2:HC1820173

T+TFV8@TR5>LG2DC D0;|A&+.W2;|C2<P S&+|U6)M 5&SF&+. N8UC59UC2@DCT5UC A4' |09UCM6*XT1MC HOM 6:4C1820174

T+TG-5_-E6*GT2)S N8>.E84C01&F&<X N&<LA8@E 8>S18@| H1;I 8'R 2<GL84C 05=|I5_PS&|A,&IE ,&|H NI C1820175

T+TH&E4CA5*J @=. E84CC5_LMO)PD&<X N&+.W2;|C2<PS&|E 0)PD&|I 0)PD&<L R2;PE&<XN&+.W2;| C2D 1-2C1820176

T+TI0@4CA5*J 6*P S1;(| 2<GL8@XN9*G L2*J 1)PT6;/.&(|X EQ<PN8@PR&<GN1DC R1;.E84CHO)IT8&P T&<Q 1:UC1820177

T+THJ4@GG&FCH1;| -&<XN&+.W2;|C2<P S&|E 0)PD&|I 0)P D&DCH1*GD&FCD1*| I5<GLQDCI5MCS9&X TO@- *B<C1820178

T+T.<1;I 24CA5*J 0CA5*J 6*PS1;(| 2<GL8=.E84CC:(| I5*LE6MA Q<LE0@X M0) (-&<XN&+.W2;| C2<M 6HMC1820179

T+TG8UCI&E4C2&E4C A5*J 24CA5*J 6*P S1;(| 2<GL8=.E84C R1*|06*J 5)R.&FC D1*|I5<GLQDCI5MC S9&U 4L8C1820180

T+T(B8@|H1;I @D_ @W_ 0)PD&|(| 0)P D&(XEB&PT&<TA4=| S1;(| 4&PY&(|E5*~ T2DA-1<PC2)LA46A 2)M 00@C1820181

T+T(*&+.W2;|C2<P S&|E,&|I,&<GN1DC 3&<GN1DCR1;.E84C H0)|T8&PT&<LA8@E 4@PN1=|H&FCD1*| I5<D PHHC1820182

T+T+846A 2)N 8>S I8@|H1;I @D_ @W_ 0)PD&|(| 0)PD&(X E8&PT&<TA4=|S1;(| 5)R.&(|\$F&(|XEO'S R1+H 9&OC1820183

T+T|3&FCD1*|I5<G LQDCI5MCS9&XT0@T E8UCI&E4C2&E4CA5*J 24CA5*J 6*PS1;(| 2<GL8=LS1MCL1*~ T&+H 03@C1820184

T+T&@9&XT0@TE8UC A5*J 6*PS1;(| 2<G L8=LS1MCS9&XT0@/ 5)R.&|E Q(|E1>(| 2<GN1DCS9&XT0@/ -1)M --YC1820185

T+TJZ8@PR&+.CO)N 0)XG9(|E5;(| 5_V 9_XI8@N 1<GT00_ 5+LL8@XP4@XE6MA -1<PC2)LA46A.&DC U8&M /;+C1820186

T+TKU&<GL44C4&+. W2;|C2<PS1)PT1)V 8%|A5MCA6*~U5<P N86GW6*XT1MCD0;| A&E4CT9_R 0>TT1;I Q<- S 3C1820187

T+TL-1;|)-&<GT&E 8@XM1N9 2)M 8>S I8@|H1;I 24CA5*J 'D_ 5=LT&E :*P R5UCI5MCS9&XT0@T E8U @ MC1820188

T+TME@MCA5*J @>. W2;|C2DC1&(PO5MC Z1)X0&+|E6)LI5*G T1;I 1)PT6;/ 0)P D&<|A9+.E8UCS9&X TO@- 0E-C1820189

T+TNN1;I 24CA5*J 'DCT5UCB1MC11'P 06*PD5*PX8'A=0'S N8@XN9<N 0'SM5<G N1DCE5;|R:F_ @P# R1;< E.-C1820190

T+TO&9(XN&+|0&(|S P8@X05MA,@X#T1)X M2)PA8@PT5UCA9)S I10CA4'(|'4CE5;| R2*PS&(|-E6MCC5_L M0)M 6E*C1820191

TGT07IDA,&<PN8@P R&FC01-CCQDCN5>R .&(|\$T2<PR9&XS1& 'R8C1820192

T+TPIC=* -0IC=* A-;.E1).R1*|A4*X D4&LR1<TA1)XDO'. D6*LV4&LR1<LG5)X D4'S66*LS5;.R1(X 05_U 1H@C1820193

T+TQ&1<TA5>SR4&L W6*TA1;SR0'.D9_X R1)~W6;X05>SR0@| D9_XH0)S0'XE8&| R2<PS0@PS0@TE1)P D@| :HDC1820194

T+TRX@|CO@|C1@|C 8@|G6@|L7@|P4@|S 2@?C9@?P6=-X9=-X 9 & D A& H D B H A &DCX9=- C5<E \$SQC1820195

TF&E5_~T BAXG-@ 8 L&@9C0@|C0@|C 0@|C0@|C0@ HDC1820196

C182 3340 FRIENDS TEST - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

TIC&EDA EDA EDA	EDA EDA EDA EDA	EDA EDA EDA EDA	EDA EDA EDA EDA	EDA E	.....	-YQC1820197
T.3*DEDA EDA EDA	EDA EDA EDA EDA	EDA EDA EDA EDA	EDA EDA ED	CA	.....	RE C1820198
TE3*E AY H	H /-BH HY	..	.C--+		.....	=DHC1820199
TCC+S I < C?	NO XHBE				.....	5.8C1820200
T C:JE					.....	2-8C1820201
TAC-M&C*					.....	MZDC1820202
E***E7*=-DC*PH&	=*7MEFI	I C	F& ASC R A SO Q		14470630750 31876*,4C1820203

LAST PAGE

DATE	15AUG75	05NOV75	24MAR76
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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

2 *
3 DECK 4
4 SEQ 0
5 TREP
6 BEGIN START 0
7 *****
8 *
9 *
10 *
11 *****
12 *
13 ORG X'0A00'
14 *
15 C19 EQU X'0C19' SECTION IDENTIFIER
16 *
17 PID DC XL2'C192' SECTION ID AND REVISION LEVEL
18 DC XL1'00' SECTION FLAGS
19 RTN DC XL1'01' CURRENT ROUTINE NUMBER
20 DC XL2'0000' RESERVED
21 PFC DC AL2(RTNPFC) ADDRESS OF ROUTINE PREFACE
22 DC XL2'FFFF' RESERVED
23 *
24 UDT0 DC XL3'C14000' 3340 UDT
25 UDT1 DC XL3'101000' 5471 UDT
26 *
27 DS XL9 RESERVED
28 *
29 COM DC XL1'00' 3340 PROGRAM COMMUNICATION AREA
30 DS XL1 RESERVED
31 *
32 LDRID DS AL2 MICROCODE LDR (C17) IN STG INDICATOR
33 AMOPID DC AL2(C19) AMOP (C19) IN STG INDICATOR
34 FAOID DS AL2 ATTACHMENT MICRO-CODE (FAO) IN STG
35 *
36 SVPFC DS XL25 SECTION PREFACE STORAGE AREA
37 *
38
39 *****
40 *
41 * LINKAGE FROM OTHER 3340 DIAGNOSTIC SECTIONS
42 *
43 *****
44 *
45 ORG X'4000'
46 *
47 AMOP DC AL2(C19) SECTION IDENTIFIER
48 *
49 ST AMOPX+3,ARR SAVE RETURN ADDRESS
50 *
51 TBN COM,AMOPSW BRANCH IF AMOP
52 BT TCMD WAS ABNORMALLY TERMINATED
53 *
54 SBN COM,AMOPSW SET PROGRAM LINK INDICATOR
55 *
56 TBN IND,LDSW BRANCH IF THIS IS NOT
57 JT AMOP1 FIRST ENTRY TO AMOP
58 *
59 HVC COM-1(25),SVPFC RESTORE CALLING SECTION PREFACE
60 *
61 AMOP1 HVC SENSE(2),PID GET ID OF CALLING PGM
62 SBF SENSE,X'0F' MASK OUT LEVEL IND
63 CLC SENSE(2),C18 WAS IT C18(FRIEND)?
64 JNE **7 GO IF NOT
65 *
66 ST SIAR,IAR1 SAVE INTERRUPT LEV 1 IAR

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

67 *
68 J AMOPGO GO TO START AMOP
69 *
70 LKRTRN SBF COM,AMOPSW RESET PROGRAM LINK INDICATOR
71 *
72 L SIAR1,IAR1 RESTORE INTERRUPT LEV 1 IAR
73 AMOPX B ** RETURN TO CALLING SECTION
74 *

```

```

4036 F2 87 10
4039 3B 01 0A19
403D 35 C0 5DE6
4041 C0 87 0000

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

76 *****
77 * AAAAAAAAAA MM MM 0000000000 P P P P P P P P P P *
78 * AAAAAAAAAA MM MM 0000000000 P P P P P P P P P P *
79 * AA AA MMMM MMMM 00 00 PP PP PP PP *
80 * AA AA MM MM MM MM 00 00 PP PP PP PP *
81 * AA AA MM MMMM MM 00 00 PP PP PP PP *
82 * AAAAAAAAAA MM MM MM 00 00 P P P P P P P P P P *
83 * AAAAAAAAAA MM MM MM 00 00 P P P P P P P P P P *
84 * AA AA MM MM MM 00 00 PP PP PP PP *
85 * AA AA MM MM MM 00 00 PP PP PP PP *
86 * AA AA MM MM MM 00 00 PP PP PP PP *
87 * AA AA MM MM MM 0000000000 PP PP PP PP *
88 * AA AA MM MM 0000000000 PP PP PP PP *
89 *
90 *****

4045 01
4046 80
4047 FFFF

4045
4046
4048

92 RTNPF C XLI'01' ROUTINE NUMBER
93 DC XLI'80' MANUAL INTERVENTION REQUIRED
94 DC XL2'FFFF' ONLY ONE ROUTINE IN THIS SECTION
95 *
96 *
97 * PRINT HEADING *
98 *
99 *

4049 C0 87 021A
404D 46
404E 28
404F 6368
4051 C100

404D
4050
4052

101 AMOPGO B PRINT PRINT HEADING
102 DC XLI'46' SPACE 6 LINES AFTER PRINT
103 DC AL1(HDNGN-HDNG+1) 'ADAPTOR
104 DC AL2(HDNGN) MANUAL OPERATIONS
105 DC AL2(HLTOO) PROGRAM'
106 *
107 TBN IND,LDSW JUMP IF THIS IS NOT
108 JT RTN1A FIRST ENTRY TO AMOP
109 *
110 CLC SIZE(2),K8000 IS THIS A 32K MACHINE
111 JNE RTN1 JUMP IF NOT
112 *
113 HVC FAOID(2),K0000 INDICATE FAO IS OVERRITTEN BY AMOP
114 *
115 CLI UTAB,X'C1' WAS IPL FROM 3340?
116 JNE RTN1 GO IF NOT
117 *
118 B PRINT PRINT WARNING MESSAGE
119 DC XLI'01'
120 DC AL1(WARN3N-WARN3+1)
121 DC AL2(WARN3N)
122 B PRINT
123 DC XLI'06'
124 DC AL1(WARN4N-WARN4+1)
125 DC AL2(WARN4N)

4053 38 01 5E8A
4057 F2 10 2E
405A 0D 01 0203 5DF4
4060 F2 01 21
4063 0C 01 0A20 5DE8
4069 3D C1 0232
406D F2 01 14
4070 C0 87 021A
4074 01
4075 37
4076 63C5
4078 C0 87 021A
407C 06
407D 45
407E 640A

4074
4075
4077
407C
407D
407F

126 *
127 SBN COM,NOMPL INHIBIT 'MPL' COMMAND ON 32K
128 *
129 RTN1 SBN IND,LDSW
130 *
131 *
132 * INITIALIZE THE IOP REGISTERS STORAGE AREA *
133 *
134 *
135 RTN1A MVI REGTBN,C' ' CLEAR REG STORAGE AREA
136 MVC REGTBN-1(REGTBN-REGTBL),REGTBN TO BLANKS
137 *
138 RTN1C MVI RUNSW,1 SET ATTACHMENT RUNNING INDICATOR
139 LIO SMHALT,X'C7' CHECK TO SEE
140 SNS SVPTEM,X'C7' IF IOP IS RUNNING
141 *
142 TBN SVPTEM,X'02' IOP HALTED?
143 JT RTN1B IF SO, SKIP PRINTING 'RUNNING' MSG

4080 3A 40 0A19
4084 3A 01 5E8A

126 *
128 *
129 RTN1

4088 3C 40 6165
408C 0C 58 6164 6165
4092 3C 01 5E84
4096 31 C7 5E25
409A 30 C7 586D

132 *
133 *
134 *
135 RTN1A
136
137 *
138 RTN1C
139
140
141 *

409E 38 02 586D
40A2 F2 10 08

142
143

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

40A5 C0 87 021A
40A9 06
40AA 0F
40AB 6419
40AD 3C 00 5E94
40B1 3B 80 5E8A
40B5 38 02 020A
40B9 C0 10 4C92
40BD 39 20 0A0E
40C1 C0 10 4C92
40C5 C0 87 488E
40C9 C2 01 61DC
40CD 7D 40 00
40DD C0 81 4174
40D4 7D C1 00
40D7 C0 81 4485
40DB 7D C4 00
40DE C0 81 4670
40E2 7D C7 00
40E5 C0 81 4478
40E9 7D C8 00
40EC C0 81 421A
40F0 7D C9 00
40F3 C0 81 422E
40F7 7D E3 00
40FA C0 81 4164
40FE 38 40 0A19
4102 F2 10 09
4105 4D 02 02 5E44
410A C0 81 411A
410E C0 87 021A
4112 06
4113 1F
4114 6564
4116 C0 87 40AD

40A9
40AA
40AC

144 *
145 B PRINT PRINT 'IOP IS RUNNING'
146 DC XLI'06' SPACE 6 LINES AFTER PRINT
147 DC AL1(MSG2N-MSG2+1) LENGTH OF MSG
148 DC AL2(MSG2N) ADDRESS OF MSG
149 *
150 RTN1B MVI DCMSW,0 CLEAR 'D' COMMAND SWITCH
151 *
152 *
153 * DETERMINE WHETHER TO USE 5471 KEYBOARD OR DATA SWITCHES *
154 * FOR INPUT *
155 *
156 SBF IND,SWCNTL RESET DATA SW CTRL INDICATOR
157 *
158 TBN SBYTE2,SSW16 IS SENSE SW16 ON? REH
159 BT SWENT GO TO SWITCH ENTRY IF IT IS REH
160 *
161 TBF UDT1-1,X'20' IS 5471 ON SYSTEM?
162 BT SWENT GO TO SWITCH ENTRY IF NOT
163 *
164 *
165 * READ THE 5471 KEYBOARD FOR COMMAND INPUT *
166 *
167 *
168 KYBENT B READKB READ 5471 KEYBOARD
169 *
170 *
171 * BEGIN SCANNING THE INPUT BUFFER TO DETERMINE WHAT *
172 * OPERATION IS TO BE PERFORMED. *
173 *
174 *
175 KYBDEC LA INPUT,XR1 SET UP INPUT BUFFER POINTER
176 *
177 CLI O(XR1),C' ' WAS A 'BLANK' COMMAND DETECTED?
178 BE CYCLE BRANCH IF YES.
179 *
180 CLI O(XR1),C'A' WAS AN 'A' COMMAND DETECTED?
181 BE ACMD BRANCH IF YES.
182 *
183 CLI O(XR1),C'D' WAS A 'D' COMMAND DETECTED?
184 BE DCMD BRANCH IF YES.
185 *
186 CLI O(XR1),C'G' WAS A 'G' COMMAND DETECTED?
187 BE GCMD BRANCH IF YES.
188 *
189 CLI O(XR1),C'H' WAS AN 'H' COMMAND DETECTED?
190 BE HCMD BRANCH IF YES.
191 *
192 CLI O(XR1),C'I' WAS AN 'I' COMMAND DETECTED?
193 BE ICMD BRANCH IF YES.
194 *
195 CLI O(XR1),C'T' WAS A 'T' COMMAND DETECTED?
196 BE TCMD BRANCH IF YES.
197 *
198 TBN COM,NOMPL BRANCH IF MPL
199 JT CMDERR COMMAND IS INHIBITED
200 *
201 CLC 2(3,XR1),MPL WAS AN 'MPL' COMMAND DETECTED?
202 BE MPLCMD BRANCH IF YES
203 *
204 CMDERR B PRINT PRINT 'INVALID COMMAND'
205 DC XLI'06' SPACE 6 LINES AFTER PRINT
206 DC AL1(ERRIN-ERR1+1) LENGTH OF MSG
207 DC AL2(ERRIN) ADDRESS OF MSG
208 B RTN1B RETURN TO AWAIT NEXT COMMAND
209 *
210 *
211 * MPL (MICRO-PROGRAM LOAD) COMMAND ENTERED. SECTION C17 *

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		212 *		WILL BE LOADED AND EXECUTED. *
		213 *		
		214 *		
411A	C0 87 021A	215	MPLCMD B	PRINT 'MPL IN PROGRESS'
411E	02	216	DC	XL1'02'
411F	0F	217	DC	AL1(MSG6N-MSG6+1)
4120	6433	4121 218	DC	AL2(MSG6N)
		219 *		
4122	38 01 0A19	220	TBN	COM,ANOPSW
4126	F2 10 06	221	JT	MPL01
		222 *		
4129	0C 18 0A39 0A18	223	MVC	SVPFC(25),COM-1
		224 *		
412F	0D 01 0A1C 4155	225	MPL01 CLC	LDRID(2),C17
4135	F2 01 09	226	JNE	LDRPRT
		227 *		
4138	0D 01 6C01 4155	228	CLC	LDR+1(2),C17
413E	F2 81 1B	229	JE	LDRGO
		230 *		
4141	C0 87 021A	231	LDRPRT B	PRINT
4145	06	4145 232	DC	XL1'06'
4146	13	4146 233	DC	IL1'19'
4147	6446	4148 234	DC	AL2(MSG7+18)
		235 *		
4149	0C 00 5E8B 0A19	236	MVC	SVCOM(1),COM
		237 *		
414F	C0 87 022A	238	B	LOAD
4153	04	4153 239	DC	XL1'04'
4154	0C17	4155 240	DC	XL2'0C17'
		241 *		
4156	0C 00 0A19 5E8B	242	MVC	COM(1),SVCOM
		243 *		
415C	C0 87 6C02	244	LDRGO B	LDR+2
		245 *		
4160	C0 87 4088	246	B	RTN1A
		247 *		
		248 *		
		249 *		COME HERE IF THE COMMAND IS A 'T' (TERMINATE 'AMOP'). TEST *
		250 *		TO SEE IF 'AMOP' WAS INVOKED BY ANOTHER PROGRAM. IF THE ANSWER *
		251 *		IS YES, THEN RETURN TO THE CALLING PROGRAM ,ELSE TERMINATE *
		252 *		'AMOP'. *
		253 *		
		254 *		
4164	C0 87 0212	255	TCMD B	TEST
		256 *		
4168	38 01 0A19	257	TBN	COM,AMOPSW
416C	C0 10 4039	258	BT	LKTRM
		259 *		
4170	C0 87 0216	260	B	LINK
		261 *		
		262 *		
		263 *		COME HERE IF THE COMMAND DETECTED WAS A 'BLANK'. THIS *
		264 *		COMMAND TELLS THE PROGRAM THAT THE ADAPTER MICROPROCESSOR IS *
		265 *		TO BE RUN FOR 1 CYCLE AND THEN HALT. FOLLOWING THE HALT THE *
		266 *		IOP EXTERNAL REGISTERS WILL BE DISPLAYED ON THE SCREEN. *
		267 *		
		268 *		
4174	3C 01 5E80	269	CYCLE MVI	VAL1A,1
4178	C2 02 586E	270	CYCLE1 LA	IPHALT,XR2
417C	C0 87 5803	271	B	SVPCTL
		272 *		
4180	0C 00 5987 590A	273	MVC	CYCK(1),IPKREG
4186	3A 08 5987	274	SBN	CYCK,8
418A	C2 02 5973	275	CYCLE3 LA	IPSTEP,XR2
418E	C0 87 5803	276	B	SVPCTL
		277 *		
4192	0F 00 5E80 5E8C	278	SLC	VAL1A,K1
4198	C0 01 418A	279	BNZ	CYCLE3

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		280 *		
419C	C0 87 4268	281	B	HSIOP
		282 *		
41A0	C0 87 428C	283	B	IOPREG
		284 *		
41A4	3D 01 5E82	285	CLI	CYCSW,1
41A8	F2 81 12	286	JE	CYCLE4
		287 *		
41AB	0C 02 6532 5DFB	288	MVC	RANMSG+6(3),ZONE
		289 *		
41B1	C0 87 021A	290	B	PRINT
41B5	01	4185 291	DC	XL1'01'
41B6	0D	4186 292	DC	IL1'13'
41B7	6538	4188 293	DC	AL2(SSIOP)
		294 *		
41B9	C0 87 5877	295	B	CMPRT
		296 *		
41BD	3C 00 5E82	297	CYCLE4 MVI	CYCSW,0
		298 *		
		299 *		
		300 *		CONVERT THE HEX VALUE ENTERED FOLLOWING THE 'G' COMMAND TO *
		301 *		DECIMAL AND STORE IT IN THE DISPLAY MESSAGE. THE HEX NUMBER *
		302 *		IS ONE BYTE LONG AND RESIDES IN 'VAL1'. THE CONVERTED RESULT *
		303 *		WILL BE STORED IN 'CONV3'. *
		304 *		
		305 *		
41C1	0C 02 5E16 5E0D	306	MVC	CONV3(3),BLANK
41C7	3C 00 5E86	307	MVI	CICTR,0
41CB	C2 01 5E16	308	LA	CONV3,XR1
		309 *		
41CF	3D 0A 5E7F	310	CVD2	CLI VAL1,X'0A'
41D3	F2 82 10	311	JL	CVD1
		312 *		
41D6	0E 00 5E86 5E8C	313	ALC	CICTR,K1
41DC	0F 00 5E7F 5E8E	314	SLC	VAL1,K10
41E2	C0 87 41CF	315	B	CVD2
		316 *		
41E6	3A F0 5E7F	317	CVD1	SBN VAL1,X'F0'
41EA	4C 00 00 5E7F	318	MVC	01,XR1,VAL1
41EF	36 01 50D8	319	A	NEG1,XR1
41F3	3D 00 5E86	320	CLI	CICTR,0
41F7	F2 81 0E	321	JE	CVD3
		322 *		
41FA	0C 00 5E7F 5E86	323	MVC	VAL1(1),CICTR
4200	3C 00 5E86	324	MVI	CICTR,0
4204	C0 87 41CF	325	B	CVD2
		326 *		
4208	0C 02 6532 5E16	327	CVD3	MVC RANMSG+6(3),CONV3
		328 *		
420E	C0 87 021A	329	B	PRINT
4212	01	4212 330	DC	XL1'01'
4213	1A	4213 331	DC	AL1(RANMSN-RANMSG+1)
4214	6545	4215 332	DC	AL2(RANMSN)
		333 *		
4216	C0 87 5877	334	CYCLE2 B	CMPRT
		335 *		
		336 *		
		337 *		COME HERE IF THE COMMAND DETECTED WAS AN 'H' TYPE COMMAND. THIS *
		338 *		COMMAND TELLS THE PROGRAM THAT THE ADAPTER MICROPROCESSOR IS *
		339 *		TO BE HALTED. FOLLOWING THE HALT THE PROGRAM WILL DISPLAY THE *
		340 *		IOP INTERNAL REGISTERS. *
		341 *		
		342 *		
421A	C0 87 4268	343	HCMD B	HSIOP
		344 *		
421E	C0 87 021A	345	B	PRINT
4222	01	4222 346	DC	XL1'01'
4223	0B	4223 347	DC	AL1(MSG3N-MSG3+1)

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
4224	6424	4225	348	DC AL2(MSG3N)
			349	*
4226	CO 87 428C		350	B IOPREG GENERATE IOP REGS FOR PRINTING.
			351	*
422A	CO 87 5B77		352	B CMPRT GO PRINT REGISTERS
			353	*
			354	*
			355	* COME HERE IF THE COMMAND DETECTED WAS AN 'I' TYPE COMMAND. THIS
			356	* COMMAND TELLS THE PROGRAM TO INHIBIT ADDRESS COMPARE STOP IN
			357	* THE 'IOP'.
			358	*
			359	*
422E	3C 40 6340		360	ICMD MVI PTBUFN,C' ' CLEAR PRINT BUFFER TO BLANKS
4232	OC 84 633F 6340		361	MVC PTBUFN-1(PTBUFN-L4),PTBUFN CLEAR L4 TO L6
4238	OC 9C 628A 628B		362	MVC L4-1(L4-L1),L4 CLEAR L1 TO L3
423E	3C 00 5EAB		363	MVI L6N0,0 CLEAR PRINT LINE END ADDRESS AREA
4242	OC 0A 5EAT 5EAB		364	MVC L6N0-1(L6N0-PRTN0),L6N0 TO ZEROS
			365	*
4248	3B 80 0A19		366	SBF COM,ADRSTP RESET ADDRESS STOP ENABLED INDICATOR
424C	3B 04 590A		367	SBF IPKREG,4 INHIBIT ADDRESS COMPARE STOP.
4250	C2 02 5904		368	LA RSKREG,XR2 RESTORE K-REG STRING ADDRESS.
			369	*
4254	CO 87 5803		370	B SVPCTL BRANCH TO 'CONTROL/EXECUTOR' SUB.
			371	*
4258	CO 87 5108		372	B SUBAC1 GO CLEAR ADDR COMP INDICATOR
			373	*
			374	*
			375	*** RUNADP SUBROUTINE ***
			376	* THIS SUBROUTINE IS ENTERED TO START THE ADAPTER AND ALLOW IT
			377	* TO RUN INDEFINTELY.
			378	*
			379	*
425C	C2 02 5961		381	RUNADP LA RUNIOP,XR2 'RUN IOP' STRING ADDRESS.
			382	*
4260	CO 87 5803		383	B SVPCTL BRANCH TO 'CONTROL/EXECUTOR' SUB.
			384	*
4264	CO 87 4092		385	B RTN1C GO PRINT 'IOP IS RUNNING'
			386	*
			387	*
			388	*** HALT AND SAVE IOP REGISTERS ***
			389	* THIS SUBROUTINE WILL HALT THE ADAPTER MICROPROCESSOR AND SAVES
			390	* ALL OF THE IOP REGISTERS.
			391	*
			392	*
4268	34 08 428B		393	HSIOP ST HRET+3,ARR SAVE RETURN ADDRESS
426C	34 02 4287		394	ST XR2SV1+3,XR2 SAVE XR2
4270	3C 00 5E84		395	MVI RUNSM,0 CLEAR RUN SW.
4274	C2 02 586E		396	LA IPHALT,XR2 POINT TO HALT IOP STRING
4278	CO 87 5803		397	B SVPCTL SUBRTN TO EXECUTE STRING
			398	*
427C	C2 02 5872		399	LA IPSTAT,XR2 POINT TO SAVE IOP STATUS STRING
4280	CO 87 5803		400	B SVPCTL EXECUTE
			401	*
4284	C2 02 0000		402	XR2SV1 LA *-*,XR2 RESTORE XR2
4288	CO 87 0000		403	HRET B *-* RETURN
			404	*
			405	*
			406	*** IOPREG SUBROUTINE ***
			407	* THIS SUBROUTINE IS ENTERED TO DISPLAY THE EXTERNAL IOP
			408	* REGISTERS. THE SUBROUTINE IS ENTERED AFTER HALTING THE IOP.
			409	* THE FOLLOWING REGISTERS ARE DISPLAYED:
			410	* (1) MIAR. MAIN INSTRUCTION ADDRESS REGISTER.
			411	* (2) SIAR. SUBROUTINE INSTRUCTION ADDRESS REGISTER.
			412	* (3) DSAR. DATA STORE ADDRESS REGISTER.
			413	* (4) FBO. FILE BUS OUT REGISTER.
			414	* (5) FTO. FILE TAG OUT REGISTER.
			415	* (6) FBI. FILE BUS IN REGISTER.

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
			416	* (7) FTI. FILE TAGS IN REGISTER.
			417	* (8) FHF. FILE HARDWARE TAGS REGISTER.
			418	* (9) FTR. FILE TRAP REGISTER.
			419	* (10) FTG. FILE TAG GATE REGISTER.
			420	* (11) DXC. DATA XFER CONTROL REGISTER.
			421	* (12) SBO. SENSE BYTE 0 REGISTER.
			422	* (13) SCN. SCAN CONTROL REGISTER.
			423	* (14) DST. DEVICE STATUS REGISTER.
			424	* (15) HES. HARDWARE ERROR SENSE.
			425	* (16) ADS. ADAPTER DIAGNOSTIC SENSE.
			426	* (17) CO2. CHANNEL OUT TWO.
			427	* (18) DLS. DATA LOCAL REGISTERS 0-8.
			428	* IN ADDITION TO THE ABOVE REGISTER DISPLAY, THE SUBROUTINE
			429	* WILL SHOW IF ADDRESS COMPARE IS ACTIVE OR INACTIVE AS WELL
			430	* AS THE VALUE OF INDEX LEVEL POINTER, PROGRAM LEVEL POINTER,
			431	* X-REGISTER, AND SENSE BYTES 0 AND 1.
			432	*
			433	*
428C	34 08 441C		434	IOPREG ST IRET+3,ARR SAVE RETURN ADDRESS
4290	34 02 4418		435	ST XR2SV2+3,XR2 SAVE XR2
4294	34 01 4414		436	ST XR1SV2+3,XR1 SAVE XR1
			437	*
4298	OC 5C 61C2 6165		438	MVC HSTBLN(REGTBN-REGTBL+1),REGTBN STORE LAST VALUES
429E	3C 40 6165		439	MVI REGTBN,C' ' CLEAR STORAGE AREA FOR
42A2	OC 5B 6164 6165		440	MVC REGTBN-1(REGTBN-REGTBL),REGTBN NEW REGISTER VALUES
			441	*
			442	*
			443	* GENERATE CHECK STOP VALUE TO BE PLACED IN IOP REG. STORAGE.
			444	*
			445	*
42AB	CO 87 021E		446	B UNPACK UNPACK IOP CHECK REG
42AC	01	42AC	447	DC XL1'1' LENGTH
42AD	590F	42AE	448	DC AL2(IPCHK) AREA TO BE CONVERTED
42AF	615B	42B0	449	DC AL2(CHK) CONVERTED RESULT
			450	*
42B1	3C 40 6109		451	MVI MIARA,C' ' REMOVE '0' IN FRONT OF MIAR
42B5	3C 40 610E		452	MVI SIARA,C' ' REMOVE '0' IN FRONT OF SIAR
42B9	3C 40 6113		453	MVI DSARA,C' ' REMOVE '0' IN FRONT OF DSAR
			454	*
			455	*
			456	* UNPACK BITS 0-2 OF 'IPAPTR' AND PLACE IN 'APTR' ENTRY IN
			457	* THE IOP REGISTER STORAGE.
			458	*
			459	*
42BD	OC 01 586D 590C		460	MVC SVPTM(2),IPAPTR MOVE ACC PTR TO TEMP AREA
42C3	OE 01 586D 586D		461	ALC SVPTM(2),SVPTM SHIFT LEFT 4 TIMES,THUS, MOVING
42C9	OE 01 586D 586D		462	ALC SVPTM(2),SVPTM * BITS 0-2 TO BITS 4-7.
42CF	OE 01 586D 586D		463	ALC SVPTM(2),SVPTM *
			464	*
42D5	CO 87 021E		465	B UNPACK UNPACK APTR
42D9	01	42D9	466	DC XL1'1' LENGTH
42DA	586C	42DB	467	DC AL2(SVPTM-1) AREA TO BE CONVERTED
42DC	615D	42DD	468	DC AL2(APTR) CONVERTED RESULT
			469	*
			470	*
			471	* GENERATE PPTR, X-REG, AND SENSE 1 AND 2.
			472	*
			473	*
42DE	OC 00 586D 58D8		474	MVC SVPTM(1),RSPPTR-1 MOVE PROC PTR TO TEMP AREA
42E4	3C 00 586C		475	MVI SVPTM-1,0 CLEAR LEFT BYTE OF TEMP AREA
42E8	OE 01 586D 586D		476	ALC SVPTM(2),SVPTM SHIFT LEFT 4 TIMES, THUS, MOVING
42EE	OE 01 586D 586D		477	ALC SVPTM(2),SVPTM * BITS 0-2 TO BITS 4-7
42F4	OE 01 586D 586D		478	ALC SVPTM(2),SVPTM *
			479	*
42FA	CO 87 021E		480	B UNPACK CONVERT 'PPTR' FROM HEX TO EBCDIC.
42FE	01	42FE	481	DC XL1'1' LENGTH.
42FF	586C	4300	482	DC AL2(SVPTM-1) AREA TO BE CONVERTED.
4301	615F	4302	483	DC AL2(PPTR) CONVERTED RESULTS

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
4303	CO 87 021E		484 *	B UNPACK
4307	01	4307	485	DC XL1'1'
4308	5902	4309	486	DC AL2(RSXREG-1)
430A	6163	430B	487	DC AL2(XR)
			488	DC
			489 *	B UNPACK
430C	CO 87 021E		490	DC XL1'2'
4310	02	4310	491	DC AL2(SNSAVE)
4311	5911	4312	492	DC AL2(SNS)
4313	6165	4314	493	DC
			494 *	B UNPACK
			495	DC XL1'1'
			496 *	DC AL2(RSAPTR-1)
			497 *	DC AL2(IDX)
			498 *	B UNPACK
			499	DC XL1'1'
			500	DC AL2(RSAPTR-1)
			501 *	DC AL2(IDX)
			502	DC
			503	DC
			504 *	B UNPACK
			505	DC XL1'1'
			506	DC AL2(RSAPTR-1)
			507	DC AL2(IDX)
			508	DC
			509 *	B UNPACK
			510	DC XL1'1'
			511	DC AL2(RSAPTR-1)
			512	DC AL2(IDX)
			513	DC
			514 *	B UNPACK
			515	DC XL1'1'
			516 *	DC AL2(RSAPTR-1)
			517 *	DC AL2(IDX)
			518 *	B UNPACK
			519	DC XL1'1'
			520	DC AL2(RSAPTR-1)
			521 *	DC AL2(IDX)
			522	DC
			523	DC
			524 *	B UNPACK
			525	DC XL1'1'
			526	DC AL2(RSAPTR-1)
			527 *	DC AL2(IDX)
			528	DC
			529	DC
			530 *	B UNPACK
			531	DC XL1'1'
			532	DC AL2(RSAPTR-1)
			533 *	DC AL2(IDX)
			534 *	B UNPACK
			535	DC XL1'1'
			536 *	DC AL2(RSAPTR-1)
			537	DC AL2(IDX)
			538	DC
			539	DC
			540	DC
			541	DC
			542 *	B UNPACK
			543	DC XL1'1'
			544	DC AL2(RSAPTR-1)
			545 *	DC AL2(IDX)
			546	DC
			547	DC
			548	DC
			549	DC
			550	DC
			551	DC

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
439D	592A	439E	552	DC AL2(ALSBD)
439F	610D	43A0	553	DC AL2(MIAR)
			554 *	B UNPACK
			555	DC XL1'1'
			556	DC AL2(RSAPTR-1)
			557	DC AL2(IDX)
			558	DC
			559	DC
			560 *	B UNPACK
			561	DC XL1'1'
			562 *	DC AL2(RSAPTR-1)
			563 *	DC AL2(IDX)
			564 *	B UNPACK
			565	DC XL1'1'
			566	DC AL2(RSAPTR-1)
			567	DC AL2(IDX)
			568	DC
			569	DC
			570	DC
			571 *	B UNPACK
			572	DC XL1'1'
			573	DC AL2(RSAPTR-1)
			574	DC AL2(IDX)
			575	DC
			576 *	B UNPACK
			577	DC XL1'1'
			578	DC AL2(RSAPTR-1)
			579	DC AL2(IDX)
			580 *	B UNPACK
			581	DC XL1'1'
			582 *	DC AL2(RSAPTR-1)
			583 *	DC AL2(IDX)
			584 *	B UNPACK
			585	DC XL1'1'
			586	DC AL2(RSAPTR-1)
			587	DC AL2(IDX)
			588	DC
			589 *	B UNPACK
			590	DC XL1'1'
			591	DC AL2(RSAPTR-1)
			592	DC AL2(IDX)
			593	DC
			594 *	B UNPACK
			595	DC XL1'1'
			596	DC AL2(RSAPTR-1)
			597	DC AL2(IDX)
			598 *	B UNPACK
			599	DC XL1'1'
			600	DC AL2(RSAPTR-1)
			601 *	DC AL2(IDX)
			602	DC
			603	DC
			604	DC
			605 *	B UNPACK
			606	DC XL1'1'
			607 *	DC AL2(RSAPTR-1)
			608 *	DC AL2(IDX)
			609 *	B UNPACK
			610	DC XL1'1'
			611	DC AL2(RSAPTR-1)
			612	DC AL2(IDX)
			613	DC
			614	DC
			615	DC
			616	DC
			617	DC
			618	DC
			619	DC

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	CONVERTED RESULT
442A	6121	442B	620	DC	AL2(FHF)	CONVERTED RESULT
442C	2D	442C	621	DC	XL1'2D'	FTR
442D	6123	442E	622	DC	AL2(FT'1)	CONVERTED RESULT
442F	25	442F	623	DC	XL1'25'	FTG
4430	6125	4431	624	DC	AL2(FTG)	CONVERTED RESULT
			625 *			
4432	33	4432	626	DC	XL1'33'	DXC
4433	6127	4434	627	DC	AL2(DXC)	CONVERTED RESULT
4435	3F	4435	628	DC	XL1'3F'	SBO
4436	6129	4437	629	DC	AL2(SBO)	CONVERTED RESULT
4438	2F	4438	630	DC	XL1'2F'	SCN
4439	612B	443A	631	DC	AL2(SCN)	CONVERTED RESULT
443B	23	443B	632	DC	XL1'23'	DST
443C	612D	443D	633	DC	AL2(DST)	CONVERTED RESULT
443E	28	443E	634	DC	XL1'28'	HES
443F	612F	4440	635	DC	AL2(HES)	CONVERTED RESULT
4441	29	4441	636	DC	XL1'29'	ADS
4442	6131	4443	637	DC	AL2(ADS)	CONVERTED RESULT
4444	3B	4444	638	DC	XL1'3B'	CO2
4445	6133	4446	639	DC	AL2(CO2)	CONVERTED RESULT
			640 *			
4447	00	4447	641	DC	XL1'0'	L0
4448	6135	4449	642	DC	AL2(DLS01-2)	CONVERTED RESULT
444A	01	444A	643	DC	XL1'1'	L1
444B	6137	444C	644	DC	AL2(DLS01)	CONVERTED RESULT
444D	02	444D	645	DC	XL1'2'	L2
444E	6139	444F	646	DC	AL2(DLS03-2)	CONVERTED RESULT
4450	03	4450	647	DC	XL1'3'	L3
4451	613B	4452	648	DC	AL2(DLS03)	CONVERTED RESULT
4453	04	4453	649	DC	XL1'4'	L4
4454	613D	4455	650	DC	AL2(DLS05-2)	CONVERTED RESULT
4456	05	4456	651	DC	XL1'5'	L5
4457	613F	4458	652	DC	AL2(DLS05)	CONVERTED RESULT
4459	06	4459	653	DC	XL1'6'	L6
445A	6141	445B	654	DC	AL2(DLS07-2)	CONVERTED RESULT
445C	07	445C	655	DC	XL1'7'	L7
445D	6143	445E	656	DC	AL2(DLS07)	CONVERTED RESULT
445F	08	445F	657	DC	XL1'8'	L8
4460	6145	4461	658	DC	AL2(DLS09-2)	CONVERTED RESULT
4462	09	4462	659	DC	XL1'9'	L9
4463	6147	4464	660	DC	AL2(DLS09)	CONVERTED RESULT
4465	0A	4465	661	DC	XL1'A'	L0
4466	6149	4467	662	DC	AL2(DLS0B-2)	CONVERTED RESULT
4468	0B	4468	663	DC	XL1'B'	L1
4469	614B	446A	664	DC	AL2(DLS0B)	CONVERTED RESULT
446B	0C	446B	665	DC	XL1'C'	L2
446C	614D	446D	666	DC	AL2(DLS0D-2)	CONVERTED RESULT
446E	0D	446E	667	DC	XL1'D'	L3
446F	614F	4470	668	DC	AL2(DLS0D)	CONVERTED RESULT
4471	0E	4471	669	DC	XL1'E'	L4
4472	6151	4473	670	DC	AL2(DLS0F-2)	CONVERTED RESULT
4474	0F	4474	671	DC	XL1'F'	L5
4475	6153	4476	672	DC	AL2(DLS0F)	CONVERTED RESULT
4477	00	4477	673	DC	XL1'0'	END OF TABLE

674 *
675 *
676 * COME HERE IF THE COMMAND DETECTED WAS A 'G' COMMAND. THIS *
677 * COMMAND TELLS THE PROGRAM THAT THE ADAPTER MICROPROCESSOR IS *
678 * TO BE RUN FOR N CYCLES OR INDEFINITELY. AFTER RUNNING N CYCLES, *
679 * IOP INTERNAL REGISTERS WILL BE DISPLAYED ON THE SCREEN. *
680 *

4478	7D 40 01	682	GCMD	CLI	1(,XR1),C','	DOES A BLANK FOLLOW 'G' CMD?
447B	CO 81 425C	683		BE	RUNADP	IF YES, RUN ADAPTER.
		684 *				
447F	7D 68 01	685		CLI	1(,XR1),C','	DOES A COMMA FOLLOW 'G' COMMAND?
4482	F2 81 0C	686		JE	GCMD1	BRANCH IF YES.
		687 *				

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	CONVERTED RESULT
4485	CO 87 021A	683	GCMDX	B	PRINT	PRINT 'NO COMMA/BLANK
4489	06	4489	689	DC	XL1'06'	FOLLOWING COMMAND'
448A	26	448A	690	DC	AL1(ERR2M-ERR2+1)	
448B	658A	448C	691	DC	AL2(ERR2N)	
448D	CO 87 40AD	692		B	RTN1B	RETURN FOR NEXT ENTRY
		693 *				
4491	1C 01 5E01 03	694	GCMD1	MVC	VAL2(2),3(,XR1)	MOVE VALUE TO BE CONVERTED.
4496	CO 67 0226	695		B	PACK	CONVERT EBCDIC TO PACKED HEX.
449A	02	449A	696	DC	XL1'2'	LENGTH.
449B	5E01	449C	697	DC	AL2(VAL2)	ADDRESS OF DATA TO BE CONVERTED.
449D	5E7F	449E	698	DC	AL2(VAL1)	ADDRESS OF DATA CONVERTED.
		699 *				
449F	0C 00 5E80 5E7F	700		MVC	VAL1A(1),VAL1	MOVE TO ANOTHER LOCATION.
44A5	3D 00 5E7F	701		CLI	VAL1,0	WAS ZERO ENTERED BY USER?
44A9	CO 81 4174	702		BE	CYCLE	IF YES, DEFAULT TO 1 CYCLE.
		703 *				
44AD	3C 01 5E82	704		MVI	CYCSW,1	TURN ON MULTI-CYCLE SW.
44B1	CO 87 4178	705		B	CYCLE1	ELSE RUN NUMBER OF CYCLES SPECIFIED.
		706 *				
		707 *				
		708 *				
		709 *				
		710 *				
		711 *				
		712 *				
		713 *				
44B5	7D 68 01	714	ACMD	CLI	1(,XR1),C','	DOES A COMMA FOLLOW AN 'A' COMMAND
		715 *				OR A 'D' COMMAND?
44B8	F2 81 07	716		JE	ACMD1	BRANCH IF YES.
		717 *				
44B8	7D 40 01	718		CLI	1(,XR1),C','	DOES A BLANK FOLLOW COMMAND?
44BE	CO 01 4485	719		BNE	GCMDX	BRANCH IF NO.
		720 *				
44C2	7D 68 04	721	ACMD1	CLI	4(,XR1),C','	IS IT A 2-CHAR OPERAND ?
44C5	CO 81 44F8	722		BE	CHAR2	BRANCH IF YES.
		723 *				
44C9	7D 40 04	724		CLI	4(,XR1),C','	DOES A BLANK FOLLOW?
44CC	CO 81 44F8	725		BE	CHAR2	BRANCH IF YES.
		726 *				
44D0	7D 68 05	727		CLI	5(,XR1),C','	IS IT A 3-CHAR OPERAND ?
44D3	CO 81 480E	728		BE	CHAR3	BRANCH IF YES.
		729 *				
44D7	7D 40 05	730		CLI	5(,XR1),C','	DOES A BLANK FOLLOW?
44DA	CO 81 480E	731		BE	CHAR3	BRANCH IF YES.
		732 *				
44DE	7D 68 06	733		CLI	6(,XR1),C','	IS IT A 4-CHAR OPERAND ?
44E1	CO 81 499E	734		BE	CHAR4	BRANCH IF YES.
		735 *				
44E5	7D 40 06	736		CLI	6(,XR1),C','	DOES A BLANK FOLLOW?
44E8	CO 81 499E	737		BE	CHAR4	BRANCH IF YES.
		738 *				
44EC	CO 87 021A	739		B	PRINT	PRINT 'ILLEGAL OPERAND
44F0	06	44F0	740	DC	XL1'06'	FOLLOWING CMD.'
44F1	24	44F1	741	DC	AL1(ERR12N-ERR12+1)	
44F2	66CD	44F3	742	DC	AL2(ERR12N)	
44F4	CO 87 40AD	743		B	RTN1B	RETURN FOR NEXT ENTRY
		744 *				
		745 *				
		746 *				
		747 *				
		748 *				
		749 *				
		750 *				
		751 *				
		752 *				
		753 *				
		754 *				
44F8	0C 03 5E21 5E0D	755	CHAR2	MVC	LOC(4),BLANK	CLEAR LOCATION TO BLANKS.

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
44FE	1C 01 5E21 03	756	MVC	LOC(2),3(,XR1)	SAVE CURRENT OPERAND.
4503	0D 01 5E21 6082	757	CLC	LOC(2),AC	IS OPERAND = 'AC' ?
4509	F2 81 28	758	JE	CHAR2A	BRANCH IF YES.
		759 *			
450C	0D 01 5E21 6088	760	CLC	LOC(2),MB	IS OPERAND = 'MB' ?
4512	CO 81 45B5	761	BE	MBFOND	BRANCH IF YES.
		762 *			
4516	0D 01 5E21 6084	763	CLC	LOC(2),CI	IS OPERAND = 'CI' ?
451C	F2 81 72	764	JE	CHAR2F	BRANCH IF YES.
		765 *			
451F	0D 01 5E21 6086	766	CLC	LOC(2),MS	IS OPERAND = 'MS' ?
4525	F2 81 71	767	JE	CHAR2G	BRANCH IF YES.
		768 *			
4528	CO 87 021A	769	CHAR2W B	PRINT	PRINT 'UNDEFINED OPERAND FIELD'
452C	06	452C 770	DC	XL1'06'	
452D	1D	452D 771	DC	AL1(ERR7N-ERR7+1)	
452E	6617	452F 772	DC	AL2(ERR7N)	
4530	CO 87 40AD	773	B	RTN1B	RETURN FOR NEXT ENTRY
		774 *			
4534	3D 01 5E94	775	CHAR2A CLI	DCMDSW,1	DID WE COME FROM A 'D' COMMAND?
4538	F2 01 04	776	CHAR2D JNE	CHAR2D	BRANCH IF 'A' COMMAND.
453B	CO 87 4F4F	777	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE
		778 *			
453F	38 80 5E6A	779	CHAR2D TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
4543	CO 10 4E38	780	BT	DTSW4	IF YES, GO TO GET ADDRESS
		781 *			
4547	7D 68 09	782	CLI	9(,XR1),C','	DOES A COMMA FOLLOW ADDRESS FIELD?
454A	F2 81 12	783	JE	CHAR2E	BRANCH IF YES.
		784 *			
454D	7D 40 09	785	CLI	9(,XR1),C' '	DOES A BLANK FOLLOW ADDRESS FIELD?
4550	F2 81 0C	786	JE	CHAR2E	BRANCH IF YES.
		787 *			
4553	CO 87 021A	788	ACMD4 B	PRINT	PRINT 'NO COMMA/BLANK
4557	06	4557 789	DC	XL1'06'	FOLLOWING OPERAND'
4558	26	4558 790	DC	AL1(ERR6N-ERR6+1)	
4559	65FA	455A 791	DC	AL2(ERR6N)	
455B	CO 87 40AD	792	B	RTN1B	RETURN FOR NEXT ENTRY
		793 *			
455F	4D 03 08 5E0D	794	CHAR2E CLC	8(4,XR1),BLANK	ADDRESS FIELD BLANK?
4564	F2 81 42	795	JE	ADRERR	ERROR IF YES.
		796 *			
4567	1C 03 5E1D 08	797	MVC	ADRS(4),8(,XR1)	MOVE ADDRESS OR VALUE TO CONVERT.
456C	CO 87 0226	798	CIRCHD B	PACK	CONVERT EBCDIC TO HEX (MONITOR).
4570	04	4570 799	DC	XL1'4'	LENGTH OF FIELD TO BE CONVERTED.
4571	5E1D	4572 800	DC	AL2(ADRS)	AREA TO BE CONVERTED -RIGHTMOST BYTE
4573	5E01	4574 801	DC	AL2(VAL2)	CONVERTED RESULTS-RIGHTMOST BYTE
		802 *			
4575	3D 01 5E92	803	CLI	CISW,1	'CI' COMMAND SWITCH ON?
4579	CO 81 45E7	804	BE	CIFOND	GO PROCESS 'CI' OPERAND
		805 *			
457D	3D 01 5E94	806	CLI	DCMDSW,1	DID WE COME FROM A 'D' COMMAND?
4581	CO 81 4F4F	807	BE	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE.
		808 *			
4585	3D 01 5E93	809	CLI	MSSW,1	'MS' COMMAND SWITCH ON?
4589	CO 81 477F	810	BE	MSFOND	GO PROCESS 'MS' OPERAND.
		811 *			
458D	CO 87 4F4F	812	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE.
		813 *			
4591	3C 01 5E92	814	CHAR2F MVI	CISW,1	SET 'CI' OPERAND SWITCH.
4595	CO 87 453F	815	B	CHAR2D	GO PROCESS STRING.
		816 *			
4599	3D 01 5E94	817	CHAR2G CLI	DCMDSW,1	WAS IT A 'D' COMMAND?
459D	CO 81 453F	818	BE	CHAR2D	GO PROCESS STRING.
		819 *			
45A1	3C 01 5E93	820	MVI	MSSW,1	SET 'MS' OPERAND SWITCH.
45A5	CO 87 453F	821	B	CHAR2D	GO PROCESS STRING.
		822 *			
45A9	CO 87 021A	823	ADRERR B	PRINT	PRINT 'OPERAND/ADDRESS FIELD

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
45AD	06	45AD 824	DC	XL1'06'	IS BLANK.
45AE	25	45AE 825	DC	AL1(ERR14N-ERR14+1)	
45AF	6717	4580 826	DC	AL2(ERR14N)	
45B1	CO 87 40AD	827	B	RTN1B	RETURN FOR NEXT ENTRY
		828 *			
		829 *			
		830 *			COME HERE IF THE OPERAND IS 'MB' MODE BUFFER.
		831 *			
		832 *			
45B5	3D 01 5E94	833	MBFOND CLI	DCMDSW,1	DID WE COME FROM A 'D' COMMAND?
45B9	CO 81 4F4F	834	BE	ALTDIS	BRANCH IF YES.
		835 *			
45BD	38 80 5E8A	836	TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
45C1	CO 10 4E31	837	BT	DTSW2	IF YES, GO TO GET DATA
		838 *			
45C5	7D 40 07	839	CLI	7(,XR1),C' '	BLANK FOLLOWING VALUE?
45C8	CO 01 4553	840	BNE	ACMD4	ERROR IF NO BLANK.
		841 *			
45CC	4D 01 06 5E0D	842	CLC	6(2,XR1),BLANK	VALUE WITH 'A' CMD BLANK?
45D1	CO 81 45A9	843	BE	ADRERR	ERROR IF YES.
		844 *			
45D5	1C 01 5E01 06	845	MVC	VAL2(2),6(,XR1)	SAVE MB VALUE.
45DA	CO 87 0226	846	B	PACK	CONVERT EBCDIC TO PACKED HEX.
45DE	02	45DE 847	DC	XL1'2'	LENGTH.
45DF	5E01	45E0 848	DC	AL2(VAL2)	AREA TO BE CONVERTED.
45E1	5E7F	45E2 849	DC	AL2(VAL1)	CONVERTED RESULTS.
		850 *			
45E3	CO 87 4F4F	851	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE.
		852 *			
		853 *			
		854 *			*** SCAN 'CI' OPERAND ***
		855 *			THIS PORTION OF THE CODE IS ENTERED AFTER ENCOUNTERING A
		856 *			'CI' (CONTROL STORAGE MICROINSTRUCTION) OPERAND. THE STRING
		857 *			WILL BE SCANNED FOR DATA FIELDS -UP TO 8- UNTIL A BLANK IS
		858 *			ENCOUNTERED TO TERMINATE THE SEARCH. THE OPERAND CAN APPEAR
		859 *			WITH AN 'ALTER' OR DISPLAY COMMANDS. THE FOLLOWING FORMAT
		860 *			IS EXPECTED :
		861 *			A,CI,YYYY,XXXXXX,XXXXXX,XXXXXX,XXXXXX,XXXXXX,.....ETC
		862 *			OR
		863 *			D,CI,YYYY
		864 *			WHERE YYYY = ADDRESS TO BE ALTERED/DISPLAYED,
		865 *			XXXXXX = VALUE TO BE PLACED AT THAT ADDRESS.
		866 *			OR
		867 *			D,CI,YYYY,ZZZZ
		868 *			WHERE YYYY,ZZZZ IS THE RANGE OF ADDRESSES TO BE DISPLAYED
		869 *			
		870 *			
		871 *			EACH DATA FIELD IS EXAMINED TO DETERMINE THE PARITY BIT NEEDED.
		872 *			THE BITS IN ALL 3 BYTES OF DATA WILL BE CONDENSED INTO A
		873 *			BYTE BY EXCLUSIVE ORING TWO BYTES AT A TIME. THE RESULTANT
		874 *			BYTE IS THEN TESTED FOR 'ODD' OR 'EVEN'. IF THE RESULT IS EVEN,
		875 *			THEN THE LEFT MOST BYTE (HIGH ORDER) IS OR'ED WITH X'10' TO
		876 *			GENERATE ODD PARITY. NOTHING IS DONE IF THE RESULT IS ODD.
		877 *			
		878 *			
45E7	3C 00 5E92	879	CIFOND MVI	CISW,0	RESET 'CI' OPERAND SWITCH.
		880 *			
45EB	D2 01 09	881	LA	9(,XR1),XR1	ADVANCE DATA STRING ADDRESS
		882 *			
45EE	3D 01 5E94	883	CLI	DCMDSW,1	DID WE COME FROM A 'D' COMMAND?
45F2	CO 81 4731	884	BE	SCNCS1	GO TO CONVERT ADDRESS 2
		885 *			
45F6	38 80 5E8A	886	TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
45FA	CO 10 4E3F	887	BT	DTSW6	IF YES, GO TO GET FIRST DATA
		888 *			
45FE	4D 05 06 5E0D	889	CLC	6(6,XR1),BLANK	DATA FIELD BLANK?
4603	CO 81 45A9	890	BE	ADRERR	ERROR IF YES.
		891 *			

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
4607	3C 00 5E86	892	SCNC10	MVI CICTR,0	CLEAR COUNTER TO ZERO.
4608	C2 02 5EC7	893	LA	CSTBL,XR2	LOAD ADDRESS OF CS TABLE.
460F	7D 68 07	894 *			
4612	F2 81 12	895	SCNC11	CLI 7(,XR1),C','	DOES A COMMA SEPERATE DATA FIELDS?
4615	7D 40 07	896	JE	SCNC12	SAVE THE DATA IF YES.
4618	F2 81 0C	897 *			
461B	CO 87 021A	898	CLI	7(,XR1),C' '	DOES A BLANK FOLLOW DATA FIELD?
461F	06	899	JE	SCNC12	ERROR IF NOT A BLANK
4620	22	900 *			
4621	665D	901	B	PRINT	PRINT 'NO COMMA/BLANK
4622	665D	461F 902	DC	XL1'06'	IN DATA FIELD'
4623	CO 87 40AD	4620 903	DC	AL1(ERR9N-ERR9+1)	
4627	D2 01 01	4622 904	DC	AL2(ERR9N)	
462A	1C 05 5E13 05	905	B	RTN1B	RETURN FOR NEXT ENTRY
462F	0E 00 5E86 5E8C	906 *			
4635	CO 87 0226	907	SCNC12	LA 1(,XR1),XR1	ADVANCE PAST THE COMMA
4639	06	908	MVC	CONV6(6),5(,XR1)	MOVE VALUE FROM STRING
463A	5E13	909	ALC	CICTR,K1	ADD ONE TO DATA ENTRY COUNTER
463C	5E16	910 *			
		911	B	PACK	CONVERT EBCDIC TO PACKED HEX.
		4639 912	DC	XL1'6'	LENGTH OF FIELD TO BE CONVERTED.
		4638 913	DC	AL2(CONV6)	AREA TO BE CONVERTED.
		463D 914	DC	AL2(CONV3)	CONVERTED DATA ADDRESS.
		915 *			
		916 *			
		917 *			
		918 *			
		919 *			
		920 *			
		921 *			
		922 *			
463E	34 01 46E9	923	ST	R1SAVE+3,XR1	SAVE CURRENT VALUE OF XR1.
4642	0C 02 5E19 5E16	924	MVC	CONV(3),CONV3	TRANSFER RESULT OF PACKING.
4648	C2 01 5E17	925	LA	CONV-2,XR1	LOAD ADDRESS OF LEFT MOST BYTE.
464C	34 01 466D	926	ST	S2+3,XR1	STORE ADDRESS CONTAINED IN XR1
4650	1C 00 4667 00	927	MVC	S1+1(1),0(,XR1)	MOVE CONTENT OF ADDRESS AS 'Q'
4655	C2 01 5E18	928 *			
4659	34 01 4669	929	LA	CONV-1,XR1	GET ADDRESS OF BYTE TO BE EOR'ED.
465D	34 01 467A	930	ST	S1+3,XR1	STORE IN INSTRUCTION BELOW.
4661	1C 00 4668 00	931	ST	S3+3,XR1	REPEAT ABOVE.
4666	38 00 0000	932	MVC	S2+1(1),0(,XR1)	STORE CONTENT OF ADDRESS AS 'Q'
466A	38 00 0000	933 *			
466E	35 01 466D	934 S1	SBF	*-*,X'00'	TO BE MODIFIED BY ABOVE OPERATIONS
4672	1C 00 4678 00	935 *			
4677	3A 00 0000	936 S2	SBF	*-*,X'00'	TO BE MODIFIED BY ABOVE OPERATIONS
		937	L	S2+3,XR1	LOAD REG 1 WITH AREA ADDRESS.
		938	MVC	S3+1(1),0(,XR1)	MOVE CONTENT TO 'Q' FIELD.
		939 *			
		940 S3	SBN	*-*,X'00'	RESULT IS IN CONV-1.
		941 *			
		942 *			
		943 *			
		944 *			
		945 *			
		946 *			
467B	C2 01 5E18	947	LA	CONV-1,XR1	GET ADDRESS OF 2ND BYTE.
467F	34 01 46A0	948	ST	S5+3,XR1	STORE ADDRESS CONTAINED IN XR1
4683	1C 00 469A 00	949	MVC	S4+1(1),0(,XR1)	MOVE CONTENT OF ADDRESS AS 'Q'
4688	C2 01 5E19	950 *			
468C	34 01 469C	951	LA	CONV,XR1	GET ADDRESS OF BYTE TO BE EOR'ED.
4690	34 01 46AD	952	ST	S4+3,XR1	STORE IN INSTRUCTION BELOW.
4694	1C 00 469E 00	953	ST	S6+3,XR1	REPEAT ABOVE.
4699	38 00 0000	954	MVC	S5+1(1),0(,XR1)	STORE CONTENT OF ADDRESS AS 'Q'
469D	38 00 0000	955 *			
46A1	35 01 46A0	956 S4	SBF	*-*,X'00'	TO BE MODIFIED BY ABOVE OPERATIONS
		957 *			
		958 S5	SBF	*-*,X'00'	TO BE MODIFIED BY ABOVE OPERATIONS
		959	L	S5+3,XR1	LOAD REG 1 WITH AREA ADDRESS.

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
46A5	1C 00 46AB 00	960	MVC	S6+1(1),0(,XR1)	MOVE CONTENT TO 'Q' FIELD.
46AA	3A 00 0000	961 *			
		962 S6	SBN	*-*,X'00'	RESULT IS IN CONV (RIGHT MOST BYTE)
		963 *			
		964 *			
		965 *			
		966 *			
		967 *			
		968 *			
		969 *			
		970 *			
		971 *			
46AE	0C 00 5E7F 5E19	972	MVC	VAL1(1),CONV	MOVE CONVERTED BYTE.
46B4	3C 00 5E88	973	MVI	CDCTR1,0	SET CARRY COUNTER TO ZERO.
46B8	3C 08 5E89	974	MVI	CDCTR2,8	SET LOOP COUNTER TO 8.
46BC	3D 00 5E7F	975	CLI	VAL1,0	VALUE EQUAL ZERO?
46C0	F2 81 1A	976	JE	ZERVAL	BYPASS CODE IF YES.
46C3	0E 00 5E7F 5E7F	977 *			
46C9	F2 84 37	978 C11	ALC	VAL1,VAL1(1)	ADD THE BYTE TO ITSELF.
46CC	0F 00 5E89 5E8C	979	JM	C12	BRANCH IF CARRY RESULTS.
46D0	C0 01 46C3	980 *			
46D6	38 01 5E88	981	SLC	CDCTR2,K1	SUBTRACT LOOP COUNTER BY 1.
46DA	F2 90 04	982	BNZ	C11	LOOP IF NOT ZERO.
46DD	3A 10 5E14	983 *			
46E1	8C 02 02 5E16	984	TBN	CDCTR1,X'01'	TEST RESULT FOR ODD/EVEN.
46E6	C2 01 0000	985	JF	EVEN2	BRANCH IF BIT 7 OFF.
46EA	3D 7F 5E01	986 *			
46EE	F2 04 1C	987 ZERVAL	SBN	CONV3-2,X'10'	'OR' IN X'10' IN LEFT MOST BYTE.
46F1	0C 01 66A2 6084	988 EVEN2	MVC	2(3,XR2),CONV3	MOVE TO CI TABLE.
46F7	C0 87 021A	989 R1SAVE	LA	*-*,XR1	RELOAD XR1.
46FB	06	990	CLI	VAL2,X'7F'	RIGHTMOST BYTE OF ADDRESS=X'7F'?
46FC	26	991	JMH	SCNC15	ERROR IF HIGH.
46FD	66A9	992 *			
46FF	C0 87 4F4F	993	MVC	ERR11+30(2),CI	ALTER ERROR MESSAGE FOR 'CI'
4703	0E 00 5E88 5E8C	994	B	PRINT	PRINT 'BOUNDARY ALIGNMENT
4709	C0 87 46C3	995	DC	XL1'06'	ON (XX) ADRS.'
470D	8C 01 04 5E01	46FB 996	DC	AL1(ERR11N-ERR11+1)	
4712	0E 01 5E01 5DEA	46FC 997	DC	AL2(ERR11N)	
4718	E2 02 05	46FE 998	B	ALTDIS	GO TO DATA SW ERROR ROUT
471B	D2 01 06	999 *			
471E	38 80 5E8A	1000 C12	ALC	CDCTR1,K1	INCREMENT COUNTER IF CARRY.
4722	C0 10 4E3F	1001	B	C11	LOOP BACK.
4726	7D 40 00	1002 *			
4729	C0 01 460F	1003 SCNC15	MVC	4(2,XR2),VAL2	MOVE ADDRESS OF LOC TO BE ALTERED.
472D	C0 87 4F4F	1004	ALC	VAL2,K0001	ADD TO IT X'0001'
		1005	LA	5(,XR2),XR2	ADVANCE STORAGE ADDRESS POINTER.
		1006	LA	6(,XR1),XR1	MOVE POINTER TO NEXT ENTRY IN STR.
		1007 *			
		1008	TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
		1009	BT	DTSW6	IF YES, GET NEXT DATA FIELD
		1010 *			
		1011	CLI	0(,XR1),C' '	END OF DATA IN THE STRING?
		1012	BNE	SCNC11	CONTINUE SCANNING IF NO
		1013 *			
		1014	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE.
		1015 *			
		1016 *			
		1017 *			
		1018 *			
		1019 *			
		1020 *			
		1021 *			
4731	38 80 5E8.	1022 SCNC15	TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
4735	C0 10 4E38	1023	BT	DTSW4	IF YES, GO TO GET ADDRESS 2
4739	7D 40 00	1024 *			
473C	F2 01 0A	1025	CLI	0(,XR1),C' '	DOES A BLANK FOLLOW ADDRESS 1?
		1026	JNE	SCNC12	JUMP IF NO
		1027 *			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
473F	OC 01 5E03	1028	MVC	VAL2A(2),VAL2	SET END ADDR = FIRST ADDR
4745	CO 87 4F4F	1029	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE
		1030	*		
4749	7D 40 05	1031	SCNCS2	CLI 5(,XR1),C'	DOES A BLANK FOLLOW ADDRESS 2?
474C	CO 01 4553	1032	BNE	ACMD4	ERROR IF NO
		1033	*		
4750	4D 03 04 5E0D	1034	CLC	4(,XR1),BLANK	IS ADDRESS 2 FIELD BLANK?
4755	CO 81 45A9	1035	BE	ADRERR	ERROR IF YES
		1036	*		
4759	D2 01 04	1037	LA	4(,XR1),XR1	STORE ADDRESS FOR
475C	34 01 4766	1038	ST	SCSADR,XR1	DCP 'PACK' ROUTINE
		1039	*		
4760	CO 87 0226	1040	B	PACK	CONVERT ADDRESS 2 TO HEX
4764	04	4764 1041	DC	XL1'4'	LENGTH OF FIELD TO BE CONVERTED
4765		4766 1042	SCSADR DS	AL2	AREA TO BE CONVERTED
4767	5E03	4768 1043	DC	AL2(VAL2A)	CONVERTED RESULTS
		1044	*		
4769	0D 01 5E03	1045	CLC	VAL2A(2),VAL2	IS ADDR 2 LESS THAN ADDR 1?
476F	CO 02 4F4F	1046	BNL	ALTDIS	IF NO, GO TO ALTER/DISPLAY ROUTINE
		1047	*		
4773	CO 87 021A	1048	B	PRINT	PRINT 'INVALID ADDR RANGE'
4777	06	4777 1049	DC	XL1'6'	
4778	18	4778 1050	DC	AL1(ERR18N-ERR18+1)	
4779	679E	477A 1051	DC	AL2(ERR18N)	
477B	CO 87 40AD	1052	B	RTN1B	RETURN FOR NEXT ENTRY
		1053	*		
		1054	*		
		1055	*	COME HERE TO PROCESS MAIN STORAGE 'MS' DATA STRING.	
		1056	*		
		1057	*		
477F	3C 00 5E93	1058	MSFOND MVI	MSSW,0	RESET 'MS' OPERAND SWITCH.
		1059	*		
4783	38 8C 5E8A	1060	TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
4787	CO 10 4E31	1061	BT	DTSM2	IF YES, GO TO GET FIRST DATA FIELD
		1062	*		
478B	7D 40 0A	1063	CLI	10(,XR1),C'	DATA FIELD BEGINS WITH A BLANK?
478E	CO 81 45A9	1064	BE	ADRERR	ERROR IF YES.
		1065	*		
4792	D2 01 0A	1066	LA	10(,XR1),XR1	ADV TO STARTING ADDRESS OF STRING
4795	OC 01 5DF6	1067	MVC	STRCTR(2),K0001	INITIALIZE COUNTER TO 0001.
479B	3C 01 47EC	1068	MVI	CVMSLN,1	INITIALIZE LENGTH COUNT.
		1069	*		
479F	38 80 5E8A	1070	SCNMS1	TBN IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
47A3	39 01 47EC	1071	TBF	CVMSLN,X'01'	WAS THIS AN EVEN NO. OF CHARS?
47A7	CO 10 4E2D	1072	BT	DTSM2N	IF BOTH YES, GET NEXT TWO CHARS
		1073	*		
47AB	7D 40 01	1074	CLI	1(,XR1),C'	END OF STRING?
47AE	F2 81 1A	1075	JE	MSSAVE	EXIT IF YES.
		1076	*		
47B1	3D 20 47EC	1077	CLI	CVMSLN,X'20'	COUNT EXCEEDS 32 BYTES?
47B5	F2 81 13	1078	JE	MSSAVE	TERMINATE SEARCH AT 32.
		1079	*		
47B8	D2 01 01	1080	LA	1(,XR1),XR1	INCREMENT DATA STRING POINTER.
47BB	0E 01 5DF6	1081	ALC	STRCTR,K0001	INCREMENT COUNTER.
47C1	0E 00 47EC	1082	ALC	CVMSLN,K1	INCREMENT LENGTH COUNT BY 1.
47C7	CO 87 479F	1083	B	SCNMS1	ELSE CONTINUE SCANNING DATA STRING.
		1084	*		
47C8	38 01 47EC	1085	MSSAVE	TBN CVMSLN,X'01'	COUNTER CONTAINS ODD # OF DIGITS?
47CF	F2 90 0C	1086	JF	SCNMS2	GO PACK DATA READ.
		1087	*		
47D2	CO 87 021A	1088	B	PRINT	PRINT 'ODD # OF DIGITS
47D6	06	47D6 1089	DC	XL1'06'	IN (MS) STRING.'
47D7	25	47D7 1090	DC	AL1(ERR13N-ERR13+1)	
47D8	66F2	47D9 1091	DC	AL2(ERR13N)	
47DA	CO 87 40AD	1092	B	RTN1B	RETURN FOR NEXT ENTRY
		1093	*		
47DE	34 01 47EE	1094	SCNMS2	ST CVMSA1,XR1	STORE AS 'FROM AREA' ADDRESS.
47E2	0E 01 47F0	1095	ALC	CVMSA2,STRCTR	ADD LENGTH TO 'TO AREA' ADDRESS.

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
				1096 *	
47E8	CO 87 0226	1097	B	PACK	CONVERT EBCDIC TO PACKED HEX.
47EC	00	47EC 1098	CVMSLN DC	XL1'0'	LENGTH.
47ED	0000	47EE 1099	CVMSA1 DC	XL2'00'	ADDRESS OF AREA TO BE CONVERTED.
47EF	5F3F	47FO 1100	CVMSA2 DC	AL2(MSSSTR)	ADDRESS OF CONVERTED AREA.
		1101	*		
47F1	OC 01 52D9	47FO 1102	MVC	ALTM5+5(2),CVMSA2	MODIFY 'MVC' INSTRUCTION.
47F7	OF 01 47F0	5DF6 1103	SLC	CVMSA2,STRCTR	RESTORE 'DC' ABOVE.
47FD	C2 02 5F5F	1104	LA	MSTBL,XR2	SETUP TABLE LOOKUP ADDRESS.
4801	36 02 5DF6	1105	A	STRCTR,XR2	INCREMENT TO 'HALF' VALUE LOC.
4805	2C 00 52D5	00 1106	MVC	ALTM5+1(1),0(,XR2)	STORE IN 'MVC' INSTRUCTION.
480A	CO 87 4F4F	1107	B	ALTDIS	GO TO ALTER/DISPLAY ROUTINE.
		1108	*		
		1109	*		
		1110	*	COME HERE TO PROCESS THREE-CHARACTER OPERANDS. THE FOLLOWING	
		1111	*	OPERANDS ARE VALID FOLLOWING AN 'ALTER' (A) OR 'DISPLAY' (D)	
		1112	*	COMMANDS :	
		1113	*	(1) DLS DATA LOCAL STORE.	
		1114	*	(2) ZLS ZONE LOCAL STORE.	
		1115	*	(3) CDL CONTROL STORAGE DATA LEFT.	
		1116	*	(4) COR CONTROL STORAGE DATA RIGHT.	
		1117	*		
		1118	*		
		1119	*		
480E	1C 02 5E21	04 1120	CHAR3 MVC	LOC(3),4(,XR1)	SAVE OPERAND.
4813	0D 02 5E21	608E 1121	CLC	LOC(3),ZLS	OPERAND = 'ZLS'?
4819	F2 01 66	1122	JNE	CHAR3C	BRANCH IF NO.
		1123	*		
481C	3D 01 5E94	1124	CLI	DCMDSW,1	IS THIS A 'DISPLAY' COMMAND?
4820	CO 81 4F4F	1125	BE	ALTDIS	BYPASS CHECKS IF YES.
		1126	*		
4824	38 80 5E8A	1127	CHAR3A TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
4828	CO 10 4E31	1128	BT	DTSM2	IF YES, GO GET ADDRESS
		1129	*		
482C	7D 6B 08	1130	CLI	8(,XR1),C'	DOES A COMMA FOLLOW OPERAND?
482F	F2 81 07	1131	JE	CHAR3B	BRANCH IF YES.
		1132	*		
4832	7D 40 08	1133	CLI	8(,XR1),C'	DOES A BLANK FOLLOW OPERAND?
4835	CO 01 4553	1134	BNE	ACMD4	ERROR IF NO.
		1135	*		
4839	4D 01 07 5E0D	1136	CHAR3B CLC	7(2,XR1),BLANK	ADDRESS FIELD BLANK?
483E	CO 81 45A9	1137	BE	ADRERR	ERROR IF YES.
		1138	*		
4842	1C 01 5E01	07 1139	MVC	VAL2(2),7(,XR1)	MOVE ADDRESS VALUE.
4847	CO 87 0226	1140	B	PACK	CONVERT EBCDIC TO HEX.
4848	02	4848 1141	DC	XL1'2'	LENGTH.
484C	5E01	484D 1142	DC	AL2(VAL2)	ADDRESS OF AREA TO BE CONVERTED.
484E	5E7F	484F 1143	DC	AL2(VAL1)	CONVERTED AREA.
		1144	*		
4850	3D 01 5E94	1145	CLI	DCMDSW,1	DID WE COME FROM A 'D' COMMAND?
4854	CO 81 4F4F	1146	BE	ALTDIS	BRANCH TO ALTER/DISPLAY SUBROUTINE.
		1147	*		
4858	38 80 5E8A	1148	TBN	IND,SWCNTL	IS THIS SWITCH ENTRY MODE?
485C	CO 10 4E31	1149	BT	DTSM2	IF YES, GO GET DATA
		1150	*		
4860	7D 40 08	1151	CLI	11(,XR1),C'	BLANK FOLLOWING DATA FIELD?
4863	CO 01 4553	1152	BNE	ACMD4	ERROR IF NO.
		1153	*		
4867	4D 01 0A 5E0D	1154	CLC	10(2,XR1),BLANK	DATA FIELD BLANK?
486C	CO 81 45A9	1155	BE	ADRERR	ERROR IF YES.
		1156	*		
4870	1C 01 5DFD	0A 1157	MVC	CONV2(2),10(,XR1)	MOVE DATA FIELD.
4875	CO 87 0226	1158	B	PACK	CONVERT EBCDIC TO HEX.
4879	02	4879 1159	DC	XL1'2'	LENGTH.
487A	5DFD	487B 1160	DC	AL2(CONV2)	ADDRESS OF AREA TO BE CONVERTED.
487C	5E80	487D 1161	DC	AL2(VAL1A)	CONVERTED AREA.
		1162	*		
487E	CO 87 4F4F	1163	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE.

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT	
4882 0D 02 5E21 608B	1164 * 1165 CHAR3C CLC LOC(3),DLS	48FD 00 87 4F4F	1232 B ALTDIS	
4888 00 81 4824	1166 BE CHAR3A	4901 7D 68 03	1233 * 1234 SCNCD2 CLI 3(,XR1),C,'	
488C 0D 02 5E21 6091	1167 * 1168 CLC LOC(3),CDL	4904 F2 81 12	1235 JE SCNCD4	
4892 F2 81 0A	1169 JE CHAR3E	4907 7D 40 03	1236 * 1237 CLI 3(,XR1),C,'	
4895 0D 02 5E21 6094	1170 * 1171 CLC LOC(3),CDR	490A F2 81 0C	1238 JE SCNCD4	
489B 00 01 4528	1172 BNE CHAR2W	490D 00 87 021A	1239 * 1240 B PRINT	
489F 38 80 5E8A	1173 * 1174 CHAR3E TBN IND,SWCNTL	4911 06	1241 DC XL1'06'	
48A3 00 10 4E38	1175 BT DTSW4	4912 22	1242 DC AL1(ERR9N-ERR9+1)	
48A7 4D 03 09 5E0D	1176 * 1177 CLC 9(4,XR1),BLANK	4913 665D	1243 DC AL2(ERR9N)	
48AC 00 81 45A9	1178 BE ADRERR	4915 00 87 40AD	1244 B RTN1B	
48B0 1C 03 5E1D 09	1179 * 1180 MVC ADRS(4),9(,XR1)	4919 D2 01 01	1245 * 1246 SCNCD4 LA 1(,XR1),XR1	
48B5 00 87 0226	1181 CHAR3D B PACK	491C 1C 01 5DFD 01	1247 MVC CONV2(2),1(,XR1)	
48B9 04	1182 DC XL1'4'	4921 00 87 0226	1248 * 1249 B PACK	
48BA 5E1D	1183 DC AL2(ADRS)	4925 02	1250 DC XL1'2'	
48BC 5E01	1184 DC AL2(VAL2)	4927 5DFD	1251 DC AL2(CONV2)	
	1185 * 1186 * 1187 * 1188 * 1189 * 1190 * 1191 * 1192 * 1193 * 1194 * 1195 * 1196 * 1197 * 1198 * 1199 * 1200 * 1201 * 1202 * 1203 * 1204 * 1205 * 1206 * 1207 * 1208 * 1209 * 1210 * 1211 * 1212 * 1213 * 1214 * 1215 * 1216 * 1217 * 1218 * 1219 * 1220 * 1221 * 1222 * 1223 * 1224 * 1225 * 1226 * 1227 * 1228 * 1229 * 1230 * 1231 *	4889 1182 488B 1183 488D 1184	4928 5E85 4929 1252	
	*** SCAN 'CDL' OR 'CDR' OPERAND *** THIS PORTION OF THE CODE IS ENTERED AFTER ENCOUNTERING A 'CDL' OR 'CDR' (CONTROL STORAGE DATA) OPERANDS. THE STRING WILL BE SCANNED FOR DATA FIELDS -UP TO 10- UNTIL A BLANK IS ENCOUNTERED TO TERMINATE THE SEARCH. THE OPERAND CAN APPEAR WITH AN 'ALTER' OR DISPLAY COMMANDS. THE FOLLOWING FORMAT IS EXPECTED : A,CDR,YYYY,XX,XX,XX,XX,XX,XX,XX,XX,XX,XX,ETC OR D,CDL,YYYY WHERE YYYY = ADDRESS TO BE ALTERED, XX = VALUE TO BE PLACED AT THAT ADDRESS. OR D,CDL,YYYY,ZZZZ WHERE YYYY,ZZZZ = RANGE OF ADDRESSES TO BE DISPLAYED EACH BYTE OF DATA WILL HAVE ANOTHER BYTE ATTACHED TO IT BEFORE IT GET SHIPPED TO THE IOP. THE LEFT MOST BYTE WILL BE X'90' IF THE PARITY IS ODD; AND X'9A' IF THE PARITY IS EVEN.	492A 0C 00 5E7F 5E85 4930 3C 00 5E88 4934 0E 00 5E7F 5E7F 493A F2 A0 50 493D 00 01 4934 4941 38 01 5E88 4945 F2 10 4F 4948 BC 90 00 494B BC 00 01 5E85 4950 3D 7F 5E01 4954 F2 01 12 4957 0C 01 66A2 5E3E 495D 00 87 021A 4961 06 4962 26 4963 66A9 4965 00 87 4F4F 4969 8C 01 03 5E01 496E 0E 01 5E01 5DEA 4974 E2 02 04 4977 D2 01 02 497A 38 80 5E8A 497E 00 10 4E31 4982 7D 40 00 4985 00 01 48E2 4989 00 87 4F4F 498D 0E 00 5E88 5E8C 4993 00 87 4934	1253 * 1254 * 1255 * 1256 * 1257 * 1258 * 1259 * 1260 * 1261 * 1262 * 1263 * 1264 * 1265 CD1 1266 JOL 1267 BNZ 1268 * 1269 TBN 1270 JT 1271 * 1272 MVI 1273 * 1274 SCNCD6 1275 MVI 1276 CLI 1277 * 1278 MVI 1279 B 1280 DC 1281 DC 1282 DC 1283 B 1284 * 1285 SCNCD5 1286 MVI 1287 ALC 1288 LA 1289 * 1290 TBN 1291 BT 1292 * 1293 CLI 1294 BNE 1295 * 1296 B 1297 * 1298 CD2 1299 B	GO TO ALTER/DISPLAY SUBROUTINE. DOES A COMMA SEPERATE DATA FIELDS? SAVE THE DATA IF YES. DOES A BLANK FOLLOW DATA FIELD? ERROR IF NOT A BLANK PRINT 'NO COMMA/BLANK IN DATA FIELD' RETURN FOR NEXT ENTRY ADVANCE PAST THE COMMA MOVE VALUE FROM STRING CONVERT EBCDIC TO PACKED HEX. LENGTH OF FIELD TO BE CONVERTED. AREA TO BE CONVERTED. CONVERTED DATA ADDRESS. DETERMINE IF THE BYTE IS ODD OR EVEN PARITY. THIS IS DONE BY * ADDING THE BYTE TO ITSELF 8 TIMES INCREMENTING A 'CARRY' * COUNTER EVERYTIME A CARRY IS GENERATED. AT THE END OF THIS * OPERATION, THE RESULTANT BYTE CARRY COUNTER IS TESTED FOR * ODD OR EVEN VALUE. MOVE CONVERTED BYTE. SET CARRY COUNTER TO ZERO. ADD THE BYTE TO ITSELF. BRANCH IF CARRY RESULTS. LOOP IF NOT ZERO. TEST RESULT FOR ODD/EVEN. BRANCH IF BIT 7 ON SET LEFT MOST BYTE TO X'90'. MOVE TO CD TABLE. RIGHTMOST BYTE OF ADDRESS=X'FF'? BRANCH AROUND IF NO. ALTER ERROR MESSAGE PRINT 'BOUNDARY ALIGNMENT ON (XX) ADRS.' GO TO DATA SW ERROR ROUT MOVE ADDRESS OF LOC TO BE ALTERED. ADD TO IT X'0001' ADVANCE STORAGE ADDRESS POINTER. MOVE POINTER TO NEXT ENTRY IN STR. IS THIS SWITCH ENTRY MODE? IF YES, GO GET NEXT DATA BYTE END OF DATA IN THE STRING? CONTINUE SCANNING IF NO GO TO ALTER/DISPLAY SUBROUTINE. INCREMENT COUNTER IF CARRY. LOOP BACK.

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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1300 *
1301 EVEN1 MVI 0(,XR2),X'9A' OR IN X'9A' FOR EVEN BITS.
1302 B SCNC06
1303 *
1304 *
1305 * COME HERE TO PROCESS FOUR-CHARACTER OPERANDS. THE FOLLOWING
1306 * OPERANDS ARE VALID FOLLOWING AN 'ALTER' (A) OR 'DISPLAY' (D)
1307 * COMMANDS :
1308 * (1) CSTP CHECK STOP.
1309 * (2) ALSB ADDRESS LOCAL STORE LEFT SIDE.
1310 * (3) ALSD ADDRESS LOCAL STORE RIGHT SIDE.
1311 * (4) EXXX EXTERNAL REGISTERS, WHERE XXX IS THE NAME OF THE REG.
1312 *
1313 * *** IMPORTANT NOTE ***
1314 * WHEN DISPLAYING 'ADDRESS LOCAL STORE' VIA THE 'D' COMMAND, THE
1315 * USER MUST CODE 'ALSU' FOR THE UPPER 32 BYTES AND 'ALSL' FOR
1316 * THE LOWER 32 BYTES OF ALS.
1317 *
1318 *
1319 *
1320 CHAR4 MVC LOC(4),5(,XR1) SAVE OPERAND.
1321 CLI 6(,XR1),C', ' DOES A COMMA FOLLOW OPERAND?
1322 JE CHAR4A BRANCH IF YES.
1323 *
1324 CLI 6(,XR1),C', ' DOES A BLANK FOLLOW OPERAND?
1325 BNE ACMD4 ERROR IF NO.
1326 *
1327 CHAR4A CLC LOC(4),CSTP IS OPERAND = 'CSTP' ?
1328 JNE CHAR4B BRANCH IF NO.
1329 *
1330 CLI DCMDSW,1 DID WE COME FROM A 'D' COMMAND?
1331 JE CHAR4E BRANCH IF YES.
1332 *
1333 TBN IND,SWCNTL IS THIS SWITCH ENTRY MODE?
1334 BT DTSW1 IF YES, GO GET ONE CHAR
1335 *
1336 CLI 7(,XR1),X'F0' WAS ZERO DETECTED FOLLOWING OPER
1337 JE CHAR4C BRANCH IF YES.
1338 *
1339 CLI 7(,XR1),X'F1' WAS ONE DETECTED FOLLOWING OPERAND
1340 JE CHAR4D BRANCH IF YES.
1341 *
1342 B PRINT PRINT 'CSTP OPERAND NOT FOLLOWED
1343 DC XL1'06' BY 0/1'
1344 DC AL1(ERR10N-ERR10+1)
1345 DC AL2(ERR10N)
1346 B RTN1B GO TO DATA SW ERROR ROUT
1347 *
1348 CHAR4C SBF IPKREG,X'80' INHIBIT CHECK STOP BIT IN K-REG.
1349 MVI IPCSTP,C'2' MOVE SPECIAL SYMBOL.
1350 J CHAR4E BRANCH AROUND.
1351 *
1352 CHAR4D SBN IPKREG,X'80' DO NOT INHIBIT CHECK STOP BIT.
1353 MVI IPCSTP,C'0' REMOVE ANY SPECIAL SYMBOL.
1354 *
1355 CHAR4E MVI CSTOP,0 FORCE PRINTING OF 'CSTP' BY CMPRPT
1356 B ALTDIS GO TO ALTER/DISPLAY SUBROUTINE.
1357 *
1358 CHAR4B CLC LOC(4),ALSB OPERAND = 'ALSB' ?
1359 JNE CHAR4F BRANCH IF NO.
1360 *
1361 CHAR4I CLI DCMDSW,1 DID WE COME FROM A 'D' COMMAND?
1362 JE CHAR4X ERROR IF YES
1363 *
1364 TBN IND,SWCNTL IS THIS SWITCH ENTRY MODE?
1365 BT DTSW2 IF YES, GO GET ADDRESS
1366 *
1367 CLI 9(,XR1),C', ' DOES A COMMA FOLLOW ADDRESS FIELD?
    
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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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4A16 F2 81 07 1368 JE CHAR4G BRANCH IF YES.
1369 *
4A19 7D 40 09 1370 CLI 9(,XR1),C', ' DOES A BLANK FOLLOW ADDRESS FIELD?
4A1C C0 01 4553 1371 BNE ACMD4 ERROR IF NO.
1372 *
4A20 4D 01 08 5E0D 1373 CHAR4G CLC 8(2,XR1),BLANK ADDRESS FIELD BLANK?
4A25 C0 81 45A9 1374 BE ADRERR ERROR IF YES.
1375 *
4A29 1C 01 5E01 08 1376 MVC VAL2(2),8(,XR1) MOVE ADDRESS VALUE.
4A2E C0 87 0226 1377 B PACK CONVERT EBCDIC TO HEX.
4A32 02 4A32 1378 DC XL1'2' LENGTH.
4A33 5E01 4A34 1379 DC AL2(VAL2) ADDRESS OF AREA TO BE CONVERTED.
4A35 5E7F 4A36 1380 DC AL2(VAL1) CONVERTED AREA ADDRESS.
1381 *
4A37 38 80 5E8A 1382 TBN IND,SWCNTL IS THIS SWITCH ENTRY MODE?
4A38 C0 10 4E31 1383 BT DTSW2 IF YES, GO GET DATA CHARS
1384 *
4A3F 7D 6B 0C 1385 CLI 12(,XR1),C', ' DOES A COMMA FOLLOW DATA?
4A42 F2 81 07 1386 JE CHAR4H BRANCH IF YES.
1387 *
4A45 7D 40 0C 1388 CLI 12(,XR1),C', ' DOES A BLANK FOLLOW DATA?
4A48 C0 01 4553 1389 BNE ACMD4 ERROR IF NO.
1390 *
4A4C 4D 01 08 5E0D 1391 CHAR4H CLC 11(2,XR1),BLANK DATA FIELD BLANK?
4A51 C0 81 45A9 1392 BE ADRERR ERROR IF YES.
1393 *
4A55 1C 01 5DFD 08 1394 MVC CONV2(2),11(,XR1) MOVE DATA FIELD.
4A5A C0 87 0226 1395 B PACK CONVERT EBCDIC TO HEX.
4A5E 02 4A5E 1396 DC XL1'2' LENGTH.
4A5F 5DFD 4A60 1397 DC AL2(CONV2) ADDRESS OF AREA TO BE CONVERTED.
4A61 5E80 4A62 1398 DC AL2(VAL1A) CONVERTED AREA ADDRESS.
1399 *
4A63 C0 87 4F4F 1400 B ALTDIS GO TO ALTER/DISPLAY SUBROUTINE.
1401 *
4A67 0D 03 5E21 60AE 1402 CHAR4F CLC LOC(4),ALSD OPERAND = 'ALSD' ?
4A6D F2 01 08 1403 JNE CHAR4Z BRANCH IF NO.
1404 *
4A70 3A 20 5E7F 1405 SBN VAL1,X'20' OR IN BIT 2.
4A74 C0 87 4A04 1406 B CHAR4I GO PROCESS STRING.
1407 *
4A78 0D 03 5E21 609E 1408 CHAR4Z CLC LOC(4),ALSU OPERAND = 'ALSU' ?
4A7E F2 81 0C 1409 JE CHAR4V GO CHECK 'D' CMD SW.
1410 *
4A81 0D 03 5E21 60A2 1411 CLC LOC(4),ALSL OPERAND = 'ALSL' ?
4A87 F2 81 03 1412 JE CHAR4V GO CHECK 'D' CMD SW.
1413 *
4A8A F2 87 14 1414 J CHAR4Y GO CHECK OTHER OPERANDS.
1415 *
4A8D 3D 01 5E94 1416 CHAR4V CLI DCMDSW,1 DID WE COME FROM A 'D' COMMAND?
4A91 C0 81 4F4F 1417 BE ALTDIS GO TO ALTER/DISPLAY SUBROUTINE
1418 *
4A95 C0 87 021A 1419 CHAR4X B PRINT PRINT 'ILLEGAL OPERAND
4A99 06 4A99 1420 DC XL1'06' FOLLOWING CMD.'
4A9A 24 4A9A 1421 DC AL1(ERR12N-ERR12+1)
4A9B 66CD 4A9C 1422 DC AL2(ERR12N)
4A9D C0 87 40AD 1423 B RTW1B RETURN FOR NEXT ENTRY
1424 *
4AA1 3D C5 5E1E 1425 CHAR4Y CLI LOC-3,C'E' OPERAND BEGINS WITH AN 'E' ?
4AA5 C0 01 4528 1426 BNE CHAR2W ERROR IF NO.
1427 *
1428 *
1429 * BEGIN PROCESSING IOP EXTERNAL REGISTERS.
1430 *
1431 *
1432 *
1433 *
1434 *
1435 *
4AA9 3D 01 5E94 1432 CLI DCMDSW,1 DID WE COME FROM A 'D' COMMAND?
4AAD F2 81 89 1433 JE CHAR4P SKIP AROUND IF YES.
1434 *
4AB0 C2 01 5F81 1435 LA ROTBL,XR1 SETUP ADDRESS OF 'READ ONLY' REGS.
    
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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	
4AB4	C2 02 0006	1436	LA	6, XR2	LOOP COUNTER = 6.	
4AB8	4D 03 03 5E21	1437 *				
4ABD	F2 01 0C	1438	CHAR4K	CLC 3(4, XR1), LOC	DOES REG VALUE MATCH ANY IN TABLE?	
		1439	JNE	CHAR4L	BRANCH IF NO.	
		1440 *				
4AC0	C0 87 021A	1441	B	PRINT	PRINT 'REG SPECIFIED CAN'T	
4AC4	06	4AC4 1442	DC	XL1'06'	BE ALTERED'	
4AC5	24	4AC5 1443	DC	AL1(ERR5N-ERR5+1)		
4AC6	6504	4AC7 1444	DC	AL2(ERR5N)		
4AC8	C0 87 40AD	1445	B	RTN1B	RETURN FOR NEXT ENTRY	
		1446 *				
4ACC	D2 01 04	1447	CHAR4L	LA 4(, XR1), XR1	INCREMENT TABLE POINTER BY 4.	
4ACF	36 02 50D8	1448	A	NEG1, XR2	DECREMENT LOOP COUNTER BY 1.	
4AD3	C0 01 4AB8	1449	BNZ	CHAR4K	LOOP TIL COUNT GOES TO ZERO.	
		1450 *				
4AD7	38 80 5E8A	1451	TBN	IND, SWCNTL	IS THIS SWITCH ENTRY MODE?	
4ADB	C0 10 4E31	1452	BT	DTSW2	IF YES, GO GET DATA	
		1453 *				
4ADF	3D 68 61E5	1454	CLI	INPUT+9, C'	DOES A COMMA FOLLOW DATA FIELD?	
4AE3	F2 81 08	1455	JE	CHAR4J	CONTINUE IF YES.	
		1456 *				
4AE6	3D 40 61E5	1457	CLI	INPUT+9, C'	DOES A BLANK FOLLOW DATA FIELD?	
4AEA	C0 01 4553	1458	BNE	ACMD4	ERROR IF NO.	
		1459 *				
4AEE	C2 01 5FAD	1460	CHAR4J	LA LRTBL, XR1	LOAD ADRS OF 'ALTER/READ' TABLE.	
4AF2	C2 02 0014	1461	LA	20, XR2	SETUP LOOP COUNTER.	
		1462 *				
4AF6	4D 03 03 5E21	1463	CHAR4K	CLC 3(4, XR1), LOC	REGISTER SPECIFIED MATCHES TABLE?	
4AFB	F2 81 17	1464	JE	CHAR4N	BRANCH IF YES.	
		1465 *				
4AFE	D2 01 04	1466	LA	4(, XR1), XR1	INCREMENT TABLE POINTER	
4B01	36 02 50D8	1467	A	NEG1, XR2	DECREMENT LOOP COUNTER.	
4B05	C0 01 4AF6	1468	BNZ	CHAR4M	CONTINUE SEARCHING.	
		1469 *				
4B09	C0 87 021A	1470	B	PRINT	PRINT 'INVALID EXTERNAL REG	
4B0D	06	4B0D 1471	DC	XL1'06'	SPECIFIED'	
4B0E	24	4B0E 1472	DC	AL1(ERR8N-ERR8+1)		
4B0F	6638	4B10 1473	DC	AL2(ERR8N)		
4B11	C0 87 40AD	1474	B	RTN1B	RETURN FOR NEXT ENTRY	
		1475 *				
4B15	3D 01 5E94	1476	CHAR4N	CLI DCMD5W, 1	DID WE COME FROM A 'D' CMD?	
4B19	C0 81 4F4F	1477	BE	ALTDIS	IF YES, GO TO ALTER/DISPLAY SUB.	
		1478 *				
4B1D	0C 01 5E01 61E4	1479	MVC	VAL2(2), INPUT+8	GET STARTING ADDRESS OF STRING.	
4B23	0D 01 5E01 5E0D	1480	CLC	VAL2(2), BLANK	USER FORGOT REGISTER VALUE?	
4B29	F2 81 38	1481	JE	CHAR4R	ERROR IF YES.	
		1482 *				
4B2C	C0 87 0226	1483	B	PACK	CONVERT EBCDIC TO HEX (MONITOR)	
4B30	02	4B30 1484	DC	XL1'2'	LENGTH OF FIELD TO BE CONVERTED.	
4B31	5E01	4B32 1485	DC	AL2(VAL2)	AREA TO BE CONVERTED -RIGHTMOST BYTE	
4B33	5E7F	4B34 1486	DC	AL2(VAL1)	CONVERTED RESULTS-RIGHTMOST BYTE	
		1487 *				
4B35	C0 87 4F4F	1488	B	ALTDIS	GO TO ALTER/DISPLAY SUBROUTINE.	
		1489 *				
4B39	C2 01 5F99	1490	CHAR4P	LA LOTBL, XR1	SETUP ADDRESS OF 'LOAD ONLY' REGS.	
4B3D	C2 02 0005	1491	LA	5, XR2	LOOP COUNTER = 5.	
		1492 *				
4B41	4D 03 03 5E21	1493	CHAR4S	CLC 3(4, XR1), LOC	DOES REG VALUE MATCH ANY IN TABLE?	
4B46	F2 01 0C	1494	JNE	CHAR4Q	BRANCH IF NO.	
		1495 *				
4B49	C0 87 021A	1496	B	PRINT	PRINT 'REG SPECIFIED CAN'T	
4B4D	06	4B4D 1497	DC	XL1'06'	BE DISPLAYED'	
4B4E	26	4B4E 1498	DC	AL1(ERR4N-ERR4+1)		
4B4F	65B0	4B50 1499	DC	AL2(ERR4N)		
4B51	C0 87 40AD	1500	B	RTN1B	RETURN FOR NEXT ENTRY	
		1501 *				
4B55	D2 01 04	1502	CHAR4Q	LA 4(, XR1), XR1	INCREMENT TABLE POINTER BY 4.	
4B58	36 02 50D8	1503	A	NEG1, XR2	DECREMENT LOOP COUNTER BY 1.	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	
485C	C0 01 4841	1504	BNZ	CHAR4S	LOOP TIL COUNT GOES TO ZERO.	
4860	C0 87 4AEE	1505	B	CHAR4J	GO CHECK OTHER TABLE.	
		1506 *				
4864	C0 87 021A	1507	CHAR4R	B PRINT	PRINT 'NO VALUE FOLLOWING	
4868	06	4868 1508	DC	XL1'06'	ALTER REG CMD'	
4869	26	4869 1509	DC	AL1(ERR15N-ERR15+1)		
486A	673D	4868 1510	DC	AL2(ERR15N)		
486C	C0 87 40AD	1511	B	RTN1B	RETURN FOR NEXT ENTRY	
		1512 *				
		1513 *				
		1514 *			COME HERE IF A 'D' (DISPLAY) TYPE OF COMMAND IS DETECTED.	
		1515 *			THIS COMMAND WILL ONLY DISPLAY A REGISTER VALUE OR CORE	
		1516 *			LOCATION IN THE IOP. MOST OF THE CHECKING FOR VALID ENTRIES	
		1517 *			ARE DONE USING THE 'A' COMMAND CODE.	
		1518 *			IF 'D' IS FOLLOWED BY AT LEAST 3 BLANKS, THE STANDARD	
		1519 *			REGISTER DISPLAY WILL BE PRINTED IN ITS ENTIRETY.	
		1520 *				
4870	4D 02 03 5E0D	1521	DCMD	CLC 3(3, XR1), BLANK	IS OPERAND FIELD BLANK?	
4875	F2 81 08	1522	JE	DCMD1	GO IF YES	
		1523 *				
4878	3C 01 5E94	1524	MVI	DCMD5W, 1	SET 'D' TYPE COMMAND SW ON.	
487C	C0 87 4485	1525	B	ACMD	GO TO PROCESS 'A' TYPE COMMAND.	
		1526 *				
4880	3C 40 6165	1527	DCMD1	MVI REGTBN, C'	FORCE FULL REGISTER PRINT	
4884	0C 58 6164 6165	1528	MVC	REGTBN-1(REGTBN-REGTBL), REGTBN	BY CLEARING OUT HISTORY	
		1529 *				
488A	C0 87 421A	1530	B	HCMD	BRANCH TO 'H' COMMAND ROUTINE	
		1531 *				
		1532 *				
		1533 *				
		1534 *			*** READ 5471 KEYBOARD SUBROUTINE ***	
		1535 *				
		1536 *				
488E	34 08 4C49	1537	READKB	ST RDSAV+3, ARR	STORE RETURN ADDRESS.	
4892	34 01 4C41	1538	ST	XR1D+3, XR1	SAVE XR1.	
4896	34 02 4C45	1539	ST	XR2D+3, XR2	SAVE XR2.	
		1540 *				
489A	C2 01 61DC	1541	READO	LA INPUT, XR1	SET POS CTR TO INPUT AREA	
489E	7C 40 41	1542	MVI	65(, XR1), X'40'	CLEAR	
48A1	5C 40 40 41	1543	MVC	64(65, XR1), 65(, XR1)	INPUT AREA	
		1544 *				
48A5	F3 18 41	1545	READO8	SIO RET1, PRT	RETURN CARRIER	
48A8	F3 10 11	1546	READOC	SIO X'11', KEY	RESET AND TURN PROCEED ON	
		1547 *				
		1548 *				
		1549 *			THE 'READ' SUBROUTINE WILL NOW EXAMINE SEVERAL CONDITIONS IN	
		1550 *			THE 'IOP' TO DETERMINE WHAT TOOK PLACE PRIOR TO ISSUING THE	
		1551 *			NEXT COMMAND. IT SHOULD BE NOTED HERE THAT IF THE 'END' KEY	
		1552 *			OF THE 5471 KEYBOARD IS ACTIVATED, THE CHECKS WILL BE BYPASSED	
		1553 *			AND PROCESSING WILL PROCEED NORMALLY.	
		1554 *				
		1555 *			-END- OR -RETURN- KEY ENTERS COMMAND	
		1556 *			-CANCEL- KEY CAUSES INPUT TO BE ERASED	
		1557 *				
		1558 *				
48AB	3D 01 5E84	1559	READO8	CLI RUNSW, 1	HAS A 'G' COMMAND BEEN ISSUED?	
48AF	F2 01 16	1560	JNE	TSTSW	IF NO, GO WAIT FOR INTERRUPT	REM
		1561 *			FROM KEYBOARD OR DATA SWITCHES.	REM
		1562 *				REM
48B2	31 C7 5E25	1563	READ1	LIO SMHALT, X'C7'	CHECK TO SEE IF 'IOP' IS HALTED.	
48B6	30 C7 586D	1564	SNS	SVPTEN, X'C7'	**	
		1565 *				
48BA	38 02 586D	1566	TBN	SVPTEN, X'02'	'IOP' HALTED?	
48BE	F2 90 07	1567	JF	TSTSW	IF NO, GO WAIT FOR INTERRUPT	REM
		1568 *			FROM KEYBOARD OR DATA SWITCHES.	REM
		1569 *				
48C1	F3 10 01	1570	SIO	X'01', KEY	TURN PROCEED OFF	
		1571 *				

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	
4BC4	C0 87 4C4A	1572	B	IOPHLT	GO TO DETERMINE REASON FOR HALT	
4BC8	C0 87 0212	1573 *				
4BCC	38 02 020A	1574	TSTSW	B	TEST	
4BD0	F2 90 07	1575	TBN	SBYTE2,SSW16	IF SENSE SWITCH 16	
4BD3	F3 10 01	1576	JF	KBLOOP	IS ON, GO TO	
4BD6	C0 87 4C92	1577	SIO	X'01',KEY	SWITCH ENTRY.	
		1578	B	SWENT	OTHERWISE,	
		1579 *			CONTINUE.	
4BDA	30 11 61C4	1580	KBLOOP	SNS	KYSTAT,X'11'	
		1581 *			SENSE KEYBOARD STATUS	
4BDE	39 40 61C4	1582	TBF	KYSTAT,X'40'	CHECK FOR END OR CANCEL KEY	
4BE2	F2 10 11	1583	JT	TSTDAT	GO IF NO	
		1584 *				
4BE5	38 20 61C4	1585	TBN	KYSTAT,X'20'	CHECK FOR CANCEL KEY	
4BE9	C0 10 489A	1586	BT	READO	GO IF YES	
		1587 *				
4BED	F3 18 41	1588	READN	SIO	RETURN CARRIER	
4BF0	F3 10 01	1589	SIO	X'01',KEY	TURN PROCEED OFF	
		1590 *				
4BF3	F2 87 48	1591	J	XR1D	GO TO RELOAD IDX REGS	
		1592 *				
4BF6	38 08 61C4	1593	TSTDAT	TBN	KYSTAT,X'08'	
4BFA	C0 90 48A8	1594	BF	READOA	CHECK FOR RETURN OR DATA KEY	
		1595 *			GO IF NO	
4BFE	38 04 61C4	1596	TBN	KYSTAT,X'04'	CHECK FOR RETURN KEY	
4C02	C0 10 48ED	1597	BT	READN	GO IF YES	
		1598 *				
4C06	39 03 61C4	1599	TBF	KYSTAT,X'03'	CHECK FOR TRANSLATOR	
4COA	F2 10 10	1600	JT	NOCK	AND DATA CHECKS OFF	
		1601 *				
4C0D	C0 87 021A	1602	B	PRINT	PRINT	
4C11	C6	4C11 1603	DC	XL1'C6'	'CONSOLE	
4C12	16	4C12 1604	DC	AL1(ERR71N-ERR71+1)	KEYBOARD	
4C13	6784	4C14 1605	DC	AL2(ERR71N)	ERROR'	
4C15	C171	4C16 1606	DC	AL2(HLT71)		
		1607 *				
4C17	C0 87 0222	1608	B	HALT	ERROR	
4C18	C171	4C1C 1609	DC	AL2(HLT71)	HALT	
		1610 *				
4C1D	4C 00 00 61C3	1611	NOCK	MVC	O(1,XR1),KYSTAT-1	
4C22	31 18 61C4	1612	LIO	KYSTAT,PRT	SAVE INPUT	
4C26	F3 18 80	1613	SIO	PRINT1,PRT	LOAD CHARACTER TO BE PRINTED	
		1614 *			PRINT ONE CHARACTER	
4C29	D2 01 01	1615	LA	1(,XR1),XR1	INCREMENT COUNTER	
		1616 *				
4C2C	34 01 5DE0	1617	ST	XR1S4,XR1	ALLOW ONLY	
4C30	00 01 5DE0 61C6	1618	CLC	XR1S4,AIN	65 BYTES	
4C36	C0 81 48ED	1619	BE	READN	OF INPUT	
		1620 *				
4C3A	C0 87 48A8	1621	B	READOC	WAIT FOR NEXT ENTRY	
		1622 *				
4C3E	C2 01 0000	1623	XR1D	LA	*-*,XR1	
4C42	C2 02 0000	1624	XR2D	LA	*-*,XR2	
4C46	C0 87 0000	1625	RDSAV	B	*-*	
		1626 *			RELOAD XR1.	
		1627 *			RELOAD XR2.	
		1628 *			RETURN TO MAIN LINE.	
		1629 *				
		1630 *			COME HERE IF IOP HALTS DURING AMOP COMMAND ENTRY PHASE	
		1631 *				
4C4A	C0 87 4268	1631	IOPHLT	B	HSIOP	GO SAVE IOP STATUS.
4C4E	C0 87 428C	1632	B	IOPREG	GO GENERATE 'IOP' REGS.	
		1633 *				
4C52	38 90 590A	1634	TBN	IPKREG,X'80'	IS CHECK STOP ACTIVE?	
4C56	F2 10 13	1635	JT	IOPHL2	BRANCH IF BIT 0 OF IPKREG =1.	
		1636 *				
4C59	3D FF 590F	1637	CLI	IPCHK,X'FF'	ANY 'IOP' CHECKS?	
4C5D	F2 81 0C	1638	JE	IOPHL2	BRANCH IF NO IOP CHECKS.	
		1639 *				

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
4C60	C0 87 021A	1640	B	PRINT	'IOP HALTED DUE TO CHECK STOP'
4C64	02	4C64 1641	DC	XL1'02'	
4C65	23	4C65 1642	DC	AL1(ERR16N-ERR16+1)	
4C66	6760	4C67 1643	DC	AL2(ERR16N)	
4C68	C0 87 5B77	1644	B	CMPRT	GO PRINT REGISTERS
		1645 *			
4C6C	38 04 590A	1646	IOPHL2	TBN	IPKREG,X'04'
4C70	F2 90 13	1647	JF	IOPHL3	IS ADDRESS COMPARE ACTIVE?
		1648 *			ERROR IF BIT 5 OF IPKREG = 0
4C73	38 01 590C	1649	TBN	IPAPTR,X'01'	ADDRESS COMPARE STOP?
4C77	F2 90 0C	1650	JF	IOPHL3	IF YES, OUTPUT ERROR MSG.
		1651 *			
4C7A	C0 87 021A	1652	B	PRINT	'IOP HALTED DUE TO ADRS COMP STOP'
4C7E	02	4C7E 1653	DC	XL1'02'	
4C7F	26	4C7F 1654	DC	AL1(ERR17N-ERR17+1)	
4C80	6786	4C81 1655	DC	AL2(ERR17N)	
4C82	C0 87 5B77	1656	B	CMPRT	GO PRINT REGISTERS
		1657 *			
4C86	C0 87 021A	1658	IOPHL3	B	PRINT
4C8A	01	4C8A 1659	DC	XL1'01'	PRINT 'IOP HALTED'
4C8B	08	4C8B 1660	DC	AL1(MSG3N-MSG3+1)	
4C8C	6424	4C8D 1661	DC	AL2(MSG3N)	
4C8E	C0 87 5B77	1662	B	CMPRT	GO PRINT REGISTERS
		1663 *			
		1664 *			
		1665 *			*** ROUTINE TO READ DATA SWITCHES ***
		1666 *			
		1667 *			
		1668 *			THIS ROUTINE WILL BUILD AMOP COMMANDS BY READING
		1669 *			INPUT AT THE DATA SWITCHES AFTER A SERIES OF HALTS
		1670 *			IF DATA SW 1 IS AT -8--.
		1671 *			
		1672 *			DATA SW 1
		1673 *			C - CANCEL COMMAND
		1674 *			B - BUILD COMMAND
		1675 *			A - TAKE ACTION ON COMMAND
		1676 *			
		1677 *			HALT D0 - ENTER COMMAND CODE IN SW 2 & FIRST OPERAND
		1678 *			CODE(IF REQUIRED) IN SWITCHES 3 & 4
		1679 *			HALT D1 - ENTER 1 DIGIT OPERAND IN SW 4
		1680 *			HALT D2 - ENTER DIGITS 1 & 2 OF OPERAND IN SW 3 & 4
		1681 *			HALT D4 - ENTER DIGITS 3 & 4 OF OPERAND IN SW 3 & 4
		1682 *			HALT D6 - ENTER DIGITS 5 & 6 OF OPERAND IN SW 3 & 4
		1683 *			
		1684 *			PARTIALLY COMPLETE COMMAND WILL BE PRINTED AFTER EACH ENTRY
		1685 *			
4C92	3A 80 5E8A	1686	SWENT	SBN	IND,SMCNTL
		1687 *			TURN ON DATA SW CNTL INDICATOR
4C96	C0 87 4F2D	1688	B	TSTIOP	GO TO TEST FOR IOP HALTED
		1689 *			
4C9A	C0 87 021A	1690	B	PRINT	PRINT
4C9E	06	4C9E 1691	DC	XL1'06'	'ENTER COMMAND
4C9F	2E	4C9F 1692	DC	AL1(MSG8N-MSG8+1)	'IN DATA SWITCHES'
4CA0	6474	4CA1 1693	DC	AL2(MSG8N)	
		1694 *			
4CA2	C0 87 0222	1695	B	HALT	HALT FOR COMMAND INPUT
4CA6	C1D0	4CA7 1696	DC	XL2'C1D0'	
		1697 *			
4CAB	30 00 5E30	1698	SNS	DATASW,0	READ DATA SWITCHES
4CAC	08 02 5E32 5E2F	1699	MNZ	SWTEMP,DATASW-1	STORE SWITCH 1
4CB2	3B F0 5E32	1700	SBF	SWTEMP,X'F0'	AND MASK
		1701 *			
4CB6	3D 0A 5E32	1702	CLI	SWTEMP,X'0A'	IS SW 1 = A ?
4CBA	F2 01 08	1703	JNE	SWNT1	GO IF NO
		1704 *			
4CB8	38 80 5E8A	1705	SBF	IND,SMCNTL	TURN OFF SWITCH CNTRL INDICATOR
4CC1	C0 87 40C9	1706	B	KYBDEC	GO TO DECODE COMMAND IN BUFFER
		1707 *			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
4CC5	3D 0C 5E32	1708	SWNT1	CLI	SWTEMP,X'0C'
4CC9	CO 81 4EE8	1709		BE	SWCANC
		1710	*		
4CCD	3D 08 5E32	1711		CLI	SWTEMP,X'0B'
4CD1	CO 01 40AD	1712		BNE	RTN1B
		1713	*		
4CD5	OC 00 5E32 5E2F	1714		MVC	SWTEMP(1),DATASW-1
4CDB	3B F0 5E32	1715		SBF	SWTEMP,X'F0'
		1716	*		
4CDF	3C 40 621D	1717		MVI	INPUT+65,C'
4CE3	OC 40 621C 621D	1718		MVC	INPUT+64(65),INPUT+65
		1719	*		
4CE9	3B 40 5E8A	1720		SBF	IND,NCOMMA
		1721	*		
4CED	3D 00 5E32	1722		CLI	SWTEMP,0
4CF1	CO 81 4174	1723		BE	CYCLE
		1724	*		
4CF5	C2 01 6063	1725		LA	SWCMD,XR1
4CF9	C2 02 6070	1726		LA	CMORT2,XR2
		1727	*		
4CFD	1D 00 5E32 00	1728	SWNT1A	CLC	SWTEMP(1),0(XR1)
4D02	F2 81 21	1729		JE	SWNT1B
		1730	*		
4D05	D2 01 01	1731		LA	1(XR1),XR1
4D08	E2 02 02	1732		LA	2(XR2),XR2
4D0B	7D FF 00	1733		CLI	0(XR1),X'FF'
4D0E	CO 01 4CFD	1734		BNE	SWNT1A
		1735	*		
4D12	3B 40 0A19	1736		TBN	COM,NOMPL
4D16	CO 10 410E	1737		BT	CMDERR
		1738	*		
4D1A	3D 08 5E32	1739		CLI	SWTEMP,X'0B'
4D1E	CO 81 411A	1740		BE	MPLCND
		1741	*		
4D22	CO 87 410E	1742		B	CMDERR
		1743	*		
4D26	1C 00 61DC 07	1744	SWNT1B	MVC	INPUT(1),CMDTBL-SWCMD(XR1)
4D2B	2C 01 4E21 01	1745		MVC	SWNTX+3(2),1(XR2)
		1746	*		
4D30	C2 01 61DC	1747		LA	INPUT,XR1
		1748	*		
4D34	7D C7 00	1749		CLI	0(XR1),C'G'
4D37	F2 01 19	1750		JNE	SWNT1C
		1751	*		
4D3A	3D 00 5E30	1752		CLI	DATASW,X'00'
4D3E	F2 81 CE	1753		JE	SWPRT5
		1754	*		
4D41	7C 6B 01	1755		MVI	1(XR1),C','
		1756	*		
4D44	CO 87 021E	1757		B	UNPACK
4D48	01	4D48 1758		DC	XL1'01'
4D49	5E30	4D4A 1759		DC	AL2(DATASW)
4D4B	61DF	4D4C 1760		DC	AL2(INPUT+3)
		1761	*		
4D4D	D2 01 03	1762		LA	3(XR1),XR1
4D50	F2 87 BC	1763		J	SWPRT5
		1764	*		
4D53	7D C4 00	1765	SWNT1C	CLI	0(XR1),C'D'
4D56	F2 01 07	1766		JNE	SWNT2
		1767	*		
4D59	3D 00 5E30	1768		CLT	DATASW,0
4D5D	F2 01 06	1769		JNE	SWNT2A
		1770	*		
4D60	7D C1 00	1771	SWNT2	CLI	0(XR1),C'A'
4D63	F2 01 A9	1772		JNE	SWPRT5
		1773	*		
4D66	7C 6B 01	1774	SWNT2A	MVI	1(XR1),C','
4D69	08 02 5E32 5E30	1775		MNZ	SWTEMP,DATASW

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
4D6F	3B F0 5E32	1776		SBF	SWTEMP,X'F0'
		1777	*		TO TEMP STORAGE
4D73	3D 02 5E32	1778		CLI	SWTEMP,X'02'
4D77	F2 01 0A	1779		JNE	SWNT3
		1780	*		IS IT 2 CHAR OPERAND GO IF NOT
4D7A	C2 02 6082	1781		LA	OP2TBL+1,XR2
4D7E	D2 01 03	1782		LA	3(XR1),XR1
4D81	F2 87 0E	1783		J	SWNT3A
		1784	*		POINT TO 2 CHAR TABLE ADV INPUT POS PTR TO END OF OP CONTINUE
4D84	3D 03 5E32	1785	SWNT3	CLI	SWTEMP,X'03'
4D88	F2 01 16	1786		JNE	SWNT4
		1787	*		IS IT 3 CHAR OPERAND GO IF NOT
4D8B	C2 02 608B	1788		LA	OP3TBL+2,XR2
4D8F	D2 01 04	1789		LA	4(XR1),XR1
4D92	34 01 5E36	1790	SWNT3A	ST	INPOS,XR1
4D96	C2 01 607C	1791		LA	SWOP23,XR1
4D9A	3B F0 5E30	1792		SBF	DATASW,X'F0'
4D9E	F2 87 3B	1793		J	SWNT5
		1794	*		POINT TO 3 CHAR TABLE ADV INPUT POS PTR TO END OF OP STORE INPUT POS POINTER POINT TO SWITCH CODE TABLE MASK SWITCH 4 GO TO SEARCH CODE TABLE
4DA1	D2 01 05	1795	SWNT4	LA	5(XR1),XR1
4DA4	34 01 5E36	1796		ST	INPOS,XR1
4DA8	3C 04 4DEF	1797		MVI	SWIXR2+2,X'04'
4DAC	3D 04 5E32	1798		CLI	SWTEMP,X'04'
4DB0	F2 82 44	1799		JL	SWNT5C
4DB3	3D 05 5E32	1800		CLI	SWTEMP,X'05'
4DB7	F2 84 3D	1801		JH	SWNT5C
		1802	*		IS IT 4 CHAR OPERAND? GO IF SWITCH 3 LESS THAN 4 GO TO PRINT ERROR IF SW 3 GREATER THAN 5
4DBA	39 03 5E30	1803		TBF	DATASW,X'03'
4DBE	F2 90 0B	1804		JF	SWNT4A
		1805	*		ARE BITS 6 & 7 OFF? IF NOT GO SEARCH EXT REG TABLE
4DC1	C2 01 6095	1806		LA	SWOP4,XR1
4DC5	C2 02 609E	1807		LA	OP4TBL+3,XR2
4DC9	F2 87 0B	1808		J	SWNT4B
		1809	*		POINT TO 4 CHAR NON-EXT CODES POINT TO NON-EXT REG OPERANDS CONTINUE
4DCC	C2 01 604D	1810	SWNT4A	LA	ERDTBL,XR1
4DD0	C2 02 6000	1811		LA	ERDNAM+3,XR2
4DD4	3B E0 5E30	1812	SWNT4B	SBF	DATASW,X'E0'
4DD8	3B 01 5E32	1813		SBF	SWTEMP,X'01'
		1814	*		MASK SWITCH 3
4DDC	0C 00 4DEF 5E32	1815	SWNT5	MVC	SWIXR2+2(1),SWTEMP
		1816	*		SET NUMBER OF CHARS
4DE2	1D 00 5E30 00	1817	SWNT5A	CLC	DATASW(1),0(XR1)
4DE7	F2 81 11	1818		JE	SWNT5B
		1819	*		COMPARE SW 4 TO CODE TABLE GO IF MATCH FOUND
4DEA	D2 01 01	1820		LA	1(XR1),XR1
4DED	E2 02 00	1821	SWIXR2	LA	*-(XR2),XR2
4DF0	7D FF 00	1822		CLI	0(XR1),X'FF'
4DF3	CO 01 4DE2	1823		BNE	SWNT5A
		1824	*		ADVANCE SWITCH CODE POINTER ADVANCE OPERAND NAME POINTER END OF TABLE? LOOP IF NO
4DF7	C2 02 5E3C	1825	SWNT5C	LA	ASTRSK,XR2
		1826	*		POINT TO ASTERISK IF CODE NOT FOUND
4DFB	35 01 5E36	1827	SWNT5B	L	INPOS,XR1
4DFF	0C 00 4E0C 4DEF	1828		MVC	SWMV5+1(1),SWIXR2+2
4E05	0F 00 4E0C 5E8C	1829		SLC	SWMV5+1(1),K1
4E0B	6C 00 00 00	1830	SWNV5	MVC	0(*-*,XR1),0(XR2)
4E0F	D2 01 01	1831	SWPRT5	LA	1(XR1),XR1
4E12	34 01 5E36	1832		ST	INPOS,XR1
4E16	CO 87 4F03	1833		B	PRINTP
		1834	*		ADV INPUT BUFF POS POINTER TO NEXT STORE POS FOR ANY FOLLOWING ENTRIES PRINT INPUT BUFFER SUBROUTINE
4E1A	C2 01 61DC	1835		LA	INPUT,XR1
		1836	*		RESTORE INPUT POS PTR TO POS 1
4E1E	CO 87 0000	1837	SWNTX	B	*-*
		1838	*		EXIT TO PROCESS CMD & FIRST OPERAND
		1839	*		
		1840	*		THIS ROUTINE IS ENTERED TO READ IN FROM THE DATA SWITCHES
		1841	*		OPERANDS OF 1, 2, 4, OR 6 DIGITS AFTER THE COMMAND
		1842	*		AND FIRST OPERAND HAS BEEN READ BY THE 'SWENT' ROUTINE
		1843	*		

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
4E22	3C 01 5E9B	1844 *			
4E26	3C D1 4E65	1845 DTSW1 MVI	SWDIGT,1	INDICATE 1 DIGIT TO BE ENTERED	
4E2A	F2 87 1A	1846 DTSW1B MVI	SWHALT,X'D1'	SET UP FOR HALT 'D1'	
		1847	J	DTSW6B	GO TO SAVE RETURN ADDRESS & XR1
		1848 *			
4E2D	3A 40 5E8A	1849 DTSW2M SBN	IND,NCOMMA	INDICATE COMMA NOT REQUIRED	
4E31	3C 02 5E9B	1850 DTSW2 MVI	SWDIGT,2	INDICATE 2 DIGITS TO BE ENTERED	
4E35	F2 87 0B	1851	J	DTSW6A	GO TO SET UP HALT
		1852 *			
4E38	3C 04 5E9B	1853 DTSW4 MVI	SWDIGT,4	INDICATE 4 DIGITS TO BE ENTERED	
4E3C	F2 87 04	1854	J	DTSW6A	GO TO SET UP HALT
		1855 *			
4E3F	3C 06 5E9B	1856 DTSW6 MVI	SWDIGT,6	INDICATE 6 DIGITS TO BE ENTERED	
4E43	3C D2 4E65	1857 DTSW6A MVI	SWHALT,X'D2'	SET UP FOR HALT 'D2'	
		1858 *			
4E47	34 08 4EE7	1859 DTSW6B ST	DTSWX+3,ARR	SAVE RETURN ADDRESS	
4E4B	34 01 4EE3	1860	ST	DTSWXR+3,XR1	SAVE INDEX REG 1
		1861 *			
4E4F	35 01 5E36	1862	L	INPOS,XR1	RESTORE INPUT POSITION COUNTER
		1863 *			
4E53	0D 01 5E36 61C6	1864	CLC	INPOS(2),AIN	ALLOW ONLY
4E59	F2 81 7C	1865	JE	DTSW2B	65 BYTES OF INPUT
		1866 *			
4E5C	CO 87 4F2D	1867	B	TSTIOP	GO TEST FOR IOP HALTED
		1868 *			
4E60	CO 87 0222	1869 DTSW1A B	HALT	HALT FOR DATA SWITCH SETUP	
4E64	C100	4E65 1870 SWHALT DC	XL2'C100'	HALT CODE IS STORED HERE	
		1871 *			
4E66	30 00 5E30	1872	SNS	DATASW,0	READ DATA SWITCHES
		1873 *			
4E6A	08 02 5E32 5E2F	1874	MNZ	SWTEMP,DATASW-1	MOVE DATA SW 1 TO TEMP STORAGE
4E70	3B F0 5E32	1875	SBF	SWTEMP,X'F0'	MASK
		1876 *			
4E74	3D 0A 5E32	1877	CLI	SWTEMP,X'0A'	IS 'A' IN SWITCH?
4E78	F2 81 5D	1878	JE	DTSW2B	GO IF YES
		1879 *			
4E7B	3D 0C 5E32	1880	CLI	SWTEMP,X'0C'	IS 'C' IN SWITCH?
4E7F	CO 81 4EE8	1881	BE	SWCANC	GO IF YES
		1882 *			
4E83	38 40 5E8A	1883	TBN	IND,NCOMMA	IS COMMA REQUIRED?
4E87	F2 10 06	1884	JT	DTSW2C	JUMP IF NOT REQUIRED
		1885 *			
4E8A	7C 6B 00	1886	MVI	0(,XR1),C','	STORE COMMA BEFORE DIGITS
4E8D	D2 01 01	1887	LA	1(,XR1),XR1	ADVANCE INPUT POSITION COUNTER
		1888 *			
4E90	CO 87 021E	1889 DTSW2C B	UNPACK	UNPACK DATA SW 3 & 4 INTO TEMP LOC	
4E94	01	4E94 1890	DC	XL1'01'	LENGTH
4E95	5E30	4E96 1891	DC	AL2(DATASW)	FROM LOCATION
4E97	5E34	4E98 1892	DC	AL2(SWVAL)	TO LOCATION
		1893 *			
4E99	3D 01 5E9B	1894	CLI	SWDIGT,1	IS ONLY ONE DIGIT TO BE ENTERED?
4E9D	F2 01 0F	1895	JNE	DTSW2A	GO IF MORE THAN ONE
		1896 *			
4EA0	4C 00 00 5E34	1897	MVC	0(1,XR1),SWVAL	MOVE DIGIT TO INPUT BUFFER
4EA5	D2 01 01	1898	LA	1(,XR1),XR1	ADVANCE INPUT POSITION
4EA8	CO 87 4F03	1899	B	PRINPT	GO TO PRINT INPUT BUFFER
4EAC	F2 87 29	1900	J	DTSW2B	GO TO EXIT FROM SUBROUTINE
		1901 *			
4EAF	4C 01 01 5E34	1902 DTSW2A MVC	1(2,XR1),SWVAL	MOVE 2 DIGITS TO INPUT BUFFER	
4EB4	D2 01 02	1903	LA	2(,XR1),XR1	ADVANCE INPUT POSITION
4EB7	CO 87 4F03	1904	B	PRINPT	GO TO PRINT INPUT BUFFER
		1905 *			
4EBB	08 03 5E32 4E65	1906	MNN	SWTEMP,SWHALT	GET DIGIT COUNT
4EC1	0D 00 5E9B 5E32	1907	CLC	SWDIGT(1),SWTEMP	IS THIS THE LAST 2 DIGITS?
4EC7	F2 81 0E	1908	JE	DTSW2B	GO IF YES
		1909 *			
4ECA	0E 00 4E65 5E8D	1910	ALC	SWHALT(1),K2	ADD 2 TO HALT CODE
4ED0	3A 40 5E8A	1911	SBN	IND,NCOMMA	TURN ON 'NO COMMA' FOR REM DIGITS

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4ED4	CO 87 4E60	1912	B	DTSW1A	LOOP BACK FOR MORE DIGITS
		1913 *			
4ED8	3B 40 5E8A	1914 DTSW2B SBF	IND,NCOMMA	RESET 'NO COMMA' INDICATOR	
4EDC	34 01 5E36	1915	ST	INPOS,XR1	STORE INPUT POSITION
4EE0	C2 01 0000	1916 DTSWXR LA	*-*,XR1	RESTORE INDEX REG 1	
4EE4	CO 87 0000	1917 DTSWX B	*-*	RETURN TO MAINLINE	
		1918 *			
		1919 *			
		1920 *		COME HERE IF 'C' IS ENTERED IN DATA SW 1.	
		1921 *		CANCEL AMOP COMMAND AND RETURN TO RESTART DATA SWITCH ENTRY.	
		1922 *			
		1923 *			
4EE8	CO 87 021A	1924 SWCANC B	PRINT	PRINT 'COMMAND CANCELLED'	
4EEC	02	4EEC 1925	DC	XL1'02'	
4EED	20	4EED 1926	DC	AL1(MSG9M-MSG9+1)	
4EEE	6494	4EEF 1927	DC	AL2(MSG9N)	
		1928 *			
4EF0	C2 01 61DC	1929	LA	INPUT,XR1	RESTORE INPUT POS CTR
4EF4	34 01 5E36	1930	ST	INPOS,XR1	TO START OF INPUT BUFFER
4EF8	7C 40 41	1931	MVI	65(,XR1),C' '	CLEAR OUT
4EFB	5C 40 40 41	1932	MVC	64(65,XR1),65(,XR1)	LAST COMMAND
		1933 *			
4EFF	CO 87 4C92	1934	B	SWENT	RETURN TO START OF SWITCH ENTRY
		1935 *			
		1936 *			
		1937 *		SUBROUTINE TO PRINT INPUT BUFFER AFTER DATA SWITCH ENTRY	
		1938 *			
		1939 *			
4F03	34 08 4F2C	1940 PRINPT ST	PRINPX+3,ARR	SAVE RETURN ADDRESS	
		1941 *			
4F07	34 01 4F28	1942	ST	INPN@,XR1	STORE ADDR FOR PRINT
4F0B	34 01 5EC4	1943	ST	PTTEMP,XR1	CALCULATE LENGTH
4F0F	0F 01 5EC4 5EC6	1944	SLC	PTTEMP(2),INMSG@	OF LINE
4F15	0C 00 4F26 5EC4	1945	MVC	INPLG(1),PTTEMP	STORE LENGTH FOR PRINT
4F1B	0F 01 4F28 5DEA	1946	SLC	INPN@ (2),K0001	ADJUST PRINT ADDR
		1947 *			
4F21	CO 87 021A	1948	B	PRINT	GO TO DCP PRINT SUB
4F25	06	4F25 1949	DC	XL1'06'	
4F26		4F26 1950	INPLG DS	IL1	SET UP ABOVE
4F27		4F28 1951	INPN@ DS	AL2	SET UP ABOVE
		1952 *			
4F29	CO 87 0000	1953 PRINPX B	*-*	RETURN TO CALLING ROUTINE	
		1954 *			
		1955 *			
		1956 *		SUBROUTINE TO TEST IF IOP HAS HALTED	
		1957 *			
		1958 *			
4F2D	34 08 4F4E	1959 TSTIOP ST	TSTIEX+3,ARR	STORE RETURN ADDRESS	
		1960 *			
4F31	3D 01 5E84	1961	CLI	RUNSW,1	HAS A 'G' COMMAND BEEN ISSUED?
4F35	F2 01 13	1962	JNE	TSTIEX	EXIT IF NO
		1963 *			
4F38	31 C7 5E25	1964	LIO	SWHALT,X'C7'	CHECK TO SEE
4F3C	30 C7 586D	1965	SNS	SVPTEN,X'C7'	IF 'IOP' IS HALTED
		1966 *			
4F40	38 02 586D	1967	TBN	SVPTEN,X'02'	'IOP' HALTED?
4F44	F2 90 04	1968	JF	TSTIEX	EXIT IF NO
		1969 *			
4F47	CO 87 4C4A	1970	B	IOPHLT	GO CHECK REASON FOR HALT
		1971 *			
4F4B	CO 87 0000	1972 TSTIEX B	*-*	RETURN TO CALLING ROUTINE	
		1973 *			
		1974 *			
		1975 *			
		1976 *		*** ALTER/DISPLAY SUBROUTINE ***	
		1977 *		THIS SUBROUTINE IS ENTERED THROUGHOUT THE PROGRAM TO ALTER OR	
		1978 *		DISPLAY CORE OR ANY VALID REGISTER IN THE IOP. THE SUBROUTINE	
		1979 *		WILL BRANCH TO UNIQUE SUBROUTINES TO PERFORM THE DESIRED	

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1980 * OPERATION.
1981 *
1982 *
1983 *
4F4F 3C 40 6340 1984 ALTDIS MVI PTBUFN,C' ' CLEAR PRINT BUFFER TO BLANKS
4F53 0C 84 633F 6340 1985 MVC PTBUFN-1(PTBUFN-L4),PTBUFN CLEAR L4 TO L6
4F59 0C 9C 628A 628B 1986 MVC L4-1(L4-L1),L4 CLEAR L1 TO L3
4F5F 3C 00 5EAB 1987 MVI L6N0,0 CLEAR PRINT LINE END ADDRESS AREA
4F63 0C 0A 5EA7 5EA8 1988 MVC L6N0-1(L6N0-PRTN0),L6N0 TO ZEROS
1989 *
4F69 0D 01 5E21 6082 1990 CLC LOC(2),AC ADDRESS COMPARE?
4F6F 0C 81 50EA 1991 BE SUBAC BRANCH TO 'AC' SUBROUTINE.
1992 *
4F73 0D 01 5E21 6084 1993 CLC LOC(2),CI CONTROL STORAGE MICROINSTRUCTIONS?
4F79 0C 81 513C 1994 BE SUBCI BRANCH TO 'CI' SUBROUTINE.
1995 *
4F7D 0D 01 5E21 6086 1996 CLC LOC(2),MS MAIN STORAGE?
4F83 0C 81 52A6 1997 BE SUBMS BRANCH TO 'MS' SUBROUTINE.
1998 *
4F87 0D 01 5E21 6088 1999 CLC LOC(2),MB MODE BUFFER?
4F8D 0C 81 4FD1 2000 BE SUBMB BRANCH TO 'MB' SUBROUTINE.
2001 *
4F91 0D 02 5E21 608B 2002 CLC LOC(3),DLS DATA LOCAL STORE?
4F97 0C 81 532F 2003 BE SUBDLS BRANCH TO 'DLS' SUBROUTINE.
2004 *
4F9B 0D 02 5E21 608E 2005 CLC LOC(3),ZLS ZONE LOCAL STORE?
4FA1 0C 81 5464 2006 BE SUBZLS BRANCH TO 'ZLS' SUBROUTINE.
2007 *
4FA5 0D 02 5E21 6091 2008 CLC LOC(3),CDL CONTROL STORAGE DATA LEFT?
4FAB 0C 81 546C 2009 BE SUBCD BRANCH TO 'CD' SUBROUTINE.
2010 *
4FAF 0D 02 5E21 6094 2011 CLC LOC(3),CDR CONTROL STORAGE DATA RIGHT?
4FB5 0C 81 546C 2012 BE SUBCD BRANCH TO 'CD' SUBROUTINE.
2013 *
4FB9 0D 03 5E21 60A6 2014 CLC LOC(4),CSTP CHECK STOP?
4FBF 0C 81 421A 2015 BE HCMD BRANCH TO 'H' COMMAND SUBROUTINE.
2016 *
4FC3 0D 02 5E20 60A9 2017 CLC LOC-1(3),ALS0-1 ADDRESS LOCAL STORE?
4FC9 0C 81 55F0 2018 BE SUBALS BRANCH TO 'ALS' SUBROUTINE.
2019 *
4FCD 0C 87 5779 2020 B SUBREG GO TO 'REG' SUBROUTINE.
2021 *
2022 *
2023 * THIS SUBROUTINE IS ENTERED TO PROCESS ALTER OR DISPLAY 'MB'
2024 * MODE BUFFER OPERAND. THE ALTER COMMAND WILL CHANGE THE MODE
2025 * BUFFER TO THE VALUE SPECIFIED. THE ALTER VALUE IS ENTERED IN
2026 * THE FORM 'XY' WHERE X IS THE POINTER VALUE (0-7) AND Y IS THE
2027 * MODE (0-3). THE DISPLAY COMMAND WILL DISPLAY 8 VALUES OF MB.
2028 *
2029 *
4FD1 0C 87 4268 2030 SUBMB B HSIOP HALT & SAVE IOP STATUS SUBROUTINE.
4FD5 0C 0A 6228 649F 2031 MVC L1+10(11),MBMSG+10 MOVE SPECIAL MSG TO BUFFER.
4FDB 3D 01 5E94 2032 CLI DCMDSW,1 DID WE COME FROM A 'D' COMMAND?
4FDF F2 81 8B 2033 JE SUBMB1 BRANCH IF YES.
2034 *
4FE2 3C 00 5E00 2035 MVI VAL2-1,0 CLEAR LEFTMOST BYTE
4FE6 3B 8C 5E7F 2036 SBF VAL1,X'8C' REMOVE BITS 0,4, AND 5.
2037 *
4FEA 0C 87 021E 2038 B UNPACK
4FEE 01 4FEE 2039 DC XL1'1'
4FEF 5E7F 4FF0 2040 DC AL2(VAL1)
4FF1 622C 4FF2 2041 DC AL2(L1+14)
2042 *
4FF3 0C 01 5E9E 4FF2 2043 MVC L1N0(2),*-1 STORE LINE END ADDR FOR PRIBUF SUB
4FF9 3C C1 6244 2044 MVI L2,C'A' MOVE 'ALTER' CHAR TO BUFFER.
2045 *
4FFD 0C 00 5E01 5E7F 2046 MVC VAL2(1),VAL1 MOVE VALUE TO A 2-BYTE FIELD.
5003 0E 00 5E01 5E01 2047 ALC VAL2(1),VAL2 ADD IT TO ITSELF.

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5009 0C 00 5E91 5E01 2048 MVC MBIDX(1),VAL2 MOVE TO ANOTHER LOCATION.
500F 3B 1F 5E91 2049 SBF MBIDX,X'1F' REMOVE BITS 1, 4-7.
5013 3C 04 5E00 2050 MVI VAL2-1,4 SET 4 IN LEFT MOST BYTE.
5017 0E 01 5E01 5E01 2051 ALC VAL2(2),VAL2 ADD IT TO ITSELF.
501D 0E 01 5E01 5E01 2052 ALC VAL2(2),VAL2 ADD IT TO ITSELF.
5023 0E 01 5E01 5E01 2053 ALC VAL2(2),VAL2 ADD IT TO ITSELF.
5029 0E 01 5E01 5E01 2054 ALC VAL2(2),VAL2 ADD IT TO ITSELF.
502F 0E 01 5E01 5E01 2055 ALC VAL2(2),VAL2 ADD IT TO ITSELF.
2056 *
5035 0C 00 5E01 5E7F 2057 MVC VAL2(1),VAL1 REFRESH VAL2.
503B 3B FC 5E01 2058 SBF VAL2,X'FC' REMOVE BITS 0-5.
503F 0E 00 5E00 5E01 2059 ALC VAL2-1(1),VAL2 RESULT IS X'100PPPM'
2060 LA AMB,XR2 ALTER 'MB' STRING ADDRESS.
2061 *
5049 0C 87 5803 2062 B SVPCTL CONTROL/SENSE EXECUTOR SUBROUTINE.
2063 *
504D 0E 00 5E90 5E90 2064 ALC MODE(1),MODE SHIFT LEFT
5053 3B CF 5E90 2065 SBF MODE,X'CF' RESET UNUSED BITS
2066 *
5057 0C 87 021E 2067 B UNPACK CONVERT PACKED HEX TO EBCDIC.
5058 01 505B 2068 DC XL1'1' LENGTH.
505C 5E90 505D 2069 DC AL2(MODE) AREA TO BE CONVERTED.
505E 6248 505F 2070 DC AL2(L2+4) CONVERTED RESULTS.
2071 *
5060 0C 01 5EA0 505F 2072 MVC L2N0(2),*-1 STORE LINE END ADDR FOR PRIBUF SUB
5066 3C 40 6248 2073 MVI L2+4,C' ' CLEAR UNUSED DIGIT
2074 *
506A F2 87 71 2075 J SUBMB4 GO PRINT RESULTS.
2076 *
506D 3C 00 5E94 2077 SUBMB1 MVI DCMDSW,0 CLEAR 'D' COMMAND SW.
5071 3C C4 6244 2078 MVI L2,C'D' MOVE 'DISPLAY' CHAR TO BUFFER.
5075 C2 02 6229 2079 LA L1+11,XR2 STORE PRINT LINE END ADDRESS
5079 34 02 5E9E 2080 ST L1N0,XR2 FOR PRIBUF SUBROUTINE
507D C2 01 5F17 2081 LA MBTBL,XR1 MB TABLE ADDRESS.
5081 3C 00 5E91 2082 MVI MBIDX,0 SET COUNTER TO ZERO.
2083 *
5085 C2 02 59F8 2084 SUBMB2 LA DMB,XR2 DISPLAY 'MB' STRING ADDRESS.
5089 0C 87 5803 2085 B SVPCTL CONTROL/SENSE EXECUTOR SUBROUTINE.
2086 *
508D 0E 00 5E90 5E90 2087 ALC MODE(1),MODE SHIFT LEFT
5093 3B CF 5E90 2088 SBF MODE,X'CF' RESET UNUSED BITS
2089 *
5097 4C 00 00 5E90 2090 MVC O(1,XR1),MODE MOVE TO MB TABLE.
509C D2 01 01 2091 LA L(,XR1),XR1 ADVANCE TABLE POINTER.
509F 0E 00 5E91 5E8F 2092 ALC MBIDX,K20 ADD X'20' TO COUNTER.
50A5 39 E0 5E91 2093 TBF MBIDX,X'ED' COUNTER WENT BACK TO ZERO?
50A9 0C 90 5085 2094 BF SUBMB2 LOOP TIL DONE.
2095 *
50AD 0C 87 021E 2096 B UNPACK CONVERT PACKED HEX TO EBCDIC.
50B1 08 50B1 2097 DC XL1'8' LENGTH.
50B2 5F1E 50B3 2098 DC AL2(MBTBL+7) AREA TO BE CONVERTED.
50B4 5F4E 50B5 2099 DC AL2(MSSTR+15) CONVERTED RESULTS.
2100 *
50B6 3C 08 5E86 2101 MVI CICTR,8 SETUP A COUNTER.
50BA C2 02 5F3F 2102 LA MSSTR,XR2 ADDRESS OF CONVERTED RESULTS.
50BE C2 01 6246 2103 LA L2+2,XR1 ADDRESS OF OUTPUT AREA.
2104 *
50C2 6C 00 01 00 2105 SUBMB3 MVC I(1,XR1),O(,XR2) MOVE TO OUTPUT AREA.
50C6 D2 01 03 2106 LA 3(,XR1),XR1 BUMP OUTPUT AREA POINTER.
50C9 E2 02 02 2107 LA 2(,XR2),XR2 BUMP OTHER POINTER.
50CC 0F 00 5E86 5E8C 2108 SLC CICTR,K1 DECREMENT LOOP COUNTER BY 1.
50D2 0C 01 50C2 2109 SUBMB3 BNZ LOOP TIL DONE.
50D6 36 01 50DA 2110 A NEG2,XR1 STORE PRINT LINE END ADDRESS
50DA 34 01 5EA0 2111 ST L2N0,XR1 FOR PRIBUF SUBROUTINE
2112 *
50DE 0C 87 5C57 2113 SUBMB4 B PRIBUF GO TO PRINT BUFFER SUBROUTINE
2114 *
50E2 0C 87 428C 2115 SUBMB5 B IOPREG GATHER IOP REGS

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50E6 C0 87 5B77      2116      B      CMPRPT      GO TO PRINT REGISTERS
2117 *
2118 *
2119 * *** 'AC' ADDRESS COMPARE STOP SUBROUTINE. *** *
2120 * THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER) *
2121 * OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'AC' OPERAND. *
2122 * THIS SUBROUTINE IS RESPONSIBLE FOR ISSUING THE PROPER SEQUENCE *
2123 * OF COMMANDS TO THE SVP IN THE 115 IOP. *
2124 * THE FOLLOWING FORMAT IS EXPECTED : *
2125 * A,AC,YYYY WHERE YYYY = TWO-BYTE ADDRESS RESIDING IN *
2126 * LOCATION 'VAL2' AS PACKED HEX. *
2127 *
2128 *
2129 *
50EA C0 87 4268      2130 SUBAC B      HSIOP      BRANCH TO 'HALT & DISPLAY IOP' IOP
2131 *
50EE 3D 01 5E94      2132      CLI      DCMSW,1      DID WE COME FROM A 'D' COMMAND
50F2 F2 81 16        2133      JE      SUBAC1      SKIP AROUND IF YES
2134 *
50F5 0C 03 5E28 5E1D 2135      MVC      ADRCMP(4),ADRS      MOVE ADDRESS TO PERM STORAGE
50FB 3A 04 590A      2136      SBN      IPKREG,4      SET BIT 5 IN K-REG ON.
50FF 3A 80 0A19      2137      SBN      COM,ADRSTP      SET ADDRESS STOP ENABLED INDICATOR
2138 *
5103 C2 02 5988      2139      LA      AACP,XR2      ADDRESS COMPARE STRING ADDRESS.
5107 C0 87 5803      2140      B      SVPCTL      BRANCH TO 'CONTROL/EXECUTOR' SUB.
2141 *
5108 0C 1C 623A 64BC 2142 SUBAC1 MVC      L1+28(29),ACMSG+28      MOVE SPECIAL MESSAGE.
5111 0C 03 623F 5E28 2143 MVC      L1+33(4),ADRCMP      MOVE 'ADDRESS' OF CI TO MESSAGE.
5117 0C 01 5E9E 5114 2144 MVC      L1n(2),*-3      STORE PRINT LINE END ADDR
2145 *
5110 3C 7C 5E27      2146      MVI      CMPFLG,C'0'      PRESET ADDR STOP ENABLED IND
5121 0C 07 6237 5E51 2147 MVC      L1+25(8),NABLED      PRESET ADDR STOP ENABLED MSG
2148 *
5127 38 80 0A19      2149      TBN      COM,ADRSTP      IS ADDR STOP ENABLED?
5128 F2 10 0A        2150      JT      SUBAC2      JUMP IF YES
2151 *
512E 3C 40 5E27      2152      MVI      CMPFLG,C'1'      CLEAR ADDR STOP ENABLED IND
5132 0C 07 6237 5E59 2153 MVC      L1+25(8),INACTV      SET ADDR STOP INACTIVE MSG
2154 *
5138 C0 87 50DE      2155 SUBAC2 B      SUBMB4      GO OUTPUT IOP REGS.
2156 *
2157 *
2158 * *** 'CI' CONTROL STORAGE MICROINSTRUCTIONS SUBROUTINE. *** *
2159 * THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER) *
2160 * OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'CI' OPERAND. *
2161 * THIS SUBROUTINE IS RESPONSIBLE FOR ISSUING THE PROPER SEQUENCE *
2162 * OF COMMANDS TO THE SVP IN THE 115 IOP. *
2163 * THE FOLLOWING FORMAT IS EXPECTED : *
2164 * A,CI,YYYY,XXXXXX,XXXXXX,XXXXXX,XXXXXX,.... ETC. *
2165 * OR *
2166 * D,CI,YYYY *
2167 * OR *
2168 * D,CI,YYYY,ZZZZ *
2169 * WHERE YYYY = TWO-BYTE ADDRESS WHERE DATA IS TO BE ENTERED/DISPL *
2170 * RESIDING IN LOCATION 'VAL2' AS PACKED HEX. *
2171 * XXXXXX = THREE-BYTE DATA FIELD TO BE ENTERED AT ABOVE *
2172 * LOCATION RESIDING IN 'CSTBL' AS PACKED HEX AND *
2173 * WITH THE PROPER PARITY IN THE LEFT MOST 4 BITS. *
2174 * ZZZZ = TWO-BYTE LAST ADDRESS TO BE DISPLAYED *
2175 * RESIDING IN LOCATION 'VAL2A' AS PACKED HEX. *
2176 *
2177 *
2178 *
513C C0 87 4268      2179 SUBCI B      HSIOP      BRANCH TO 'HALT & DISPLAY' IOP REGS
5140 0C 1A 6238 64D7 2180 MVC      L1+26(27),C1MSG+26      MOVE SPECIAL MESSAGE.
5146 0C 03 623D 5E1D 2181 MVC      L1+31(4),ADRS      MOVE ADDRESS OF 'CI' OPERAND.
514C 0C 01 5E9E 5149 2182 MVC      L1n(2),*-3      STORE PRINT LINE END ADDR
5152 3C 00 5E97      2183      MVI      DCISW,0      DISPLAY 'CI' OPERATION SWITCH.

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5156 3D 01 5E94      2184      CLI      DCMSW,1      DID WE COME FROM A 'D' COMMAND?
515A F2 81 8F        2185      JE      SUBCI1      BRANCH IF YES.
2186 *
515D 3C C1 6244      2187      MVI      L2,C'A'      MOVE THE LETTER 'A' FOR ALTER.
5161 C2 02 6247      2188      LA      L2+3,XR2      LOAD BUFFER ADDRESS FOR OUTPUT.
5165 34 02 5DE2      2189      ST      XR2S1,XR2      SAVE THAT ADDRESS.
5169 3C 00 5E96      2190      MVI      CICTR1,0      CLEAR TABLE ENTRIES COUNTER
516D C2 02 5EC7      2191      LA      CSTBL,XR2      ADDRESS OF ENTERED DATA WITH 'CI'
5171 C2 01 5EEF      2192      LA      CSTBL1,XR1      ADDRESS OF DATA READ
2193 *
5175 2C 04 5AB8 04 2194 SUBCI5 MVC      CIBUF(5),4(,XR2)      MOVE VALUE OF CI AND ADDRESS
517A 34 02 5189      2195      ST      XR2SA+3,XR2      SAVE CURRENT XR2 VALUE.
517E C2 02 5AB9      2196      LA      ACS,XR2      'ALTER/DISPLAY' STRING ADDRESS.
2197 *
5182 C0 87 5803      2198      B      SVPCTL      BRANCH TO 'CONTROL/SENSE EXECUTOR'
2199 *
5186 C2 02 0000      2200 XR2SA LA      *-*,XR2      RELOAD XR2.
518A 4C 02 02 5AB8 2201 MVC      2(3,XR1),CIBUF      PLACE VALUE READ IN CSTBL1.
518F 6D 02 02 02 2202 CLC      2(3,XR1),2(,XR2)      NEW = OLD DATA ?
5193 F2 01 6F        2203      JNE      SUBCI2      ERROR IF NO.
2204 *
5196 34 02 51D1      2205 SUBCI7 ST      XR2S2+3,XR2      SAVE CURRENT VALUE OF XR2.
519A 35 02 5DE2      2206      L      XR2S1,XR2      GET STARTING ADDRESS OF BUFFER.
519E 1C 02 5E16 02 2207 SUBCI4 MVC      CONV3(3),2(,XR1)      MOVE 'READ' CI TABLE TO CONVERT
51A3 C0 87 021E      2208      B      UNPACK      CONVERT PACKED HEX TO EBCDIC.
51A7 03        2209      DC      XL1'3'      LENGTH.
51A8 5E16      51A9 2210      DC      AL2(CONV3)      AREA TO BE CONVERTED.
51AA 5E13      51AB 2211      DC      AL2(CONV6)      RESULT OF CONVERSION.
2212 *
51AC 8C 05 05 5E13 2213      MVC      5(6,XR2),CONV6      MOVE TO BUFFER FOR OUTPUTTING.
51B1 0E 00 5E96 5E8C 2214      ALC      CICTR1,K1      INCREMENT COUNTER BY 1.
51B7 E2 02 07        2215      LA      7(,XR2),XR2      ADVANCE BUFFER ADDRESS POINTER
51BA 0D 00 5E96 5E86 2216      CLC      CICTR1(1),CICTR      TABLE ENTRIES COUNTERS EQUAL?
51C0 F2 81 19        2217      JE      SUBCI9      EXIT SUBROUTINE WHEN DONE.
2218 *
51C3 3D 01 5E97      2219      CLI      DCISW,1      SWITCH ON?
51C7 F2 81 05        2220      JE      SUBCI8      BRANCH IF YES.
2221 *
51CA 34 02 5DE2      2222      ST      XR2S1,XR2      SAVE CURRENT ADDRESS OF BUFFER.
51CE C2 02 0000      2223 XR2S2 LA      *-*,XR2      RELOAD ORIGINAL VALUE OF XR2.
51D2 D2 01 05        2224      LA      5(,XR1),XR1      INCREMENT NEW 'CI' TABLE POINTER.
51D5 E2 02 05        2225      LA      5(,XR2),XR2      INCREMENT OLD 'CI' TABLE POINTER.
51D8 C0 87 5175      2226      B      SUBCI5      LOOP TIL DONE.
2227 *
51DC 36 02 5DDA      2228 SUBCI9 A      NEG2,XR2      ADJUST TO RIGHT END ADDR
51E0 34 02 5EA0      2229      ST      L2n,XR2      STORE LINE 2 END ADDR
51E4 C0 87 5D57      2230      B      PRTBUF      GO TO PRINT BUFFER SUBROUTINE
2231 *
51E8 0C 01 5E9E 5DE8 2232      MVC      L1n(2),K0000      PREVENT REPRINTING SPEC MESSAGE
51EE 3C 40 6244      2233      MVI      L2,C' '      BLANK OUT 'D' OR 'A'
51F2 38 01 5E92      2234      TBN      C1SW,1      ARE THERE MORE LINES TO BE PRINTED?
51F6 39 01 5E9C      2235      TBF      PRTEMD,1      ON IF REQ KEY HAS BEEN PRESSED
51FA F2 10 2F        2236      JT      DCI1      GO BACK FOR NEXT LINE
2237 *
51FD 3C 00 5E97      2238      MVI      DCISW,0      RESET DISPLAY CI SW
2239 *
5201 C0 87 50E2      2240      B      SUBMB5      GO TO GATHER IOP REGS
2241 *
2242 *
2243 * COME HERE IF THE DATA ENTERED BY THE USER WITH THE 'CI' *
2244 * OPERAND DOES NOT MATCH THE VALUE READ WHEN CONTROL STORAGE *
2245 * WAS ALTERED. PLACE AN ASTERISK TO THE LEFT OF THE DATA FIELD *
2246 * IN THE OUTPUT BUFFER. *
2247 *
2248 *
5205 34 01 5217      2249 SUBCI2 ST      XR1S+3,XR1      SAVE CURRENT VALUE OF XR1.
5209 35 01 5DE2      2250      L      XR2S1,XR1      GET CURRENT BUFFER ADDRESS.
520D 36 01 50D8      2251      A      NEG1,XR1      DECREMENT ADDRESS BY 1.

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
5211	7C 5C 00	2252	MVI	O(,XR1),C**	MOVE AN ASTERISK TO BUFFER
5214	C2 01 0000	2253 *			
5218	CO 87 5196	2254 XR1S1	LA	*-,XR1	RELOAD XR1.
		2255	B	SUBCI7	RETURN TO MAIN FLOW.
		2256 *			
		2257 *			
		2258 *			COME HERE IF THE DISPLAY COMMAND 'D' IS DETECTED WITH THE
		2259 *			'CI' OPERAND. READ DATA FROM CONTROL STORAGE AND PLACE IN
		2260 *			THE OUTPUT BUFFER. NO COMPARE WITH ENTERED DATA IS DONE HERE.
		2261 *			
		2262 *			
521C	3C 00 5E94	2263 SUBCI1	MVI	DCMDSW,0	CLEAR 'D' COMMAND SWITCH.
5220	3C C4 6244	2264	MVI	L2,C'D'	MOVE THE LETTER 'D' FOR DISPLAY.
5224	3C 01 5E97	2265	MVI	DCISW,1	SET SWITCH ON.
5228	3C 01 5E92	2266	MVI	CISW,1	SET SW FOR MULTIPLE LINE OUTPUT
		2267 *			
522C	CO 87 021E	2268 DC11	B	UNPACK	UNPACK CS ADDR TO LEFT OF LINE
5230	02	2269	DC	XL1'2'	LENGTH
5231	5E01	5232	2270	OC	AL2(VAL2)
5233	624A	5234	2271	DC	AL2(L2+6)
		2272 *			
5235	3C 00 5E86	2273	MVI	CICTR,0	CLEAR TABLE ENTRIES COUNTER
5239	3C 00 5E96	2274	MVI	CICTR1,0	CLEAR TABLE ENTRIES COUNTER
523D	C2 01 5EEF	2275	LA	CSTBL1,XR1	LOAD ADDRESS OF DATA 'READ' TABLE.
		2276 *			
		2277 *			
		2278 *			BUILD CSTBL1 WITH UP TO 8 ENTRIES THEN GO SUBROUTINE 'SVPCTL'
		2279 *			TO READ VALUES AT THE ADDRESSES SPECIFIED IN THE TABLE.
		2280 *			
		2281 *			
5241	4C 01 04 5E01	2282 CMOVE	MVC	4(2,XR1),VAL2	MOVE PRESENT ADDRESS.
5246	1C 01 5A88 04	2283	MVC	CIBUF(2),4(,XR1)	MOVE ADDRESS TO CIBUF.
5248	C2 02 5A92	2284	LA	DCS,XR2	DISPLAY CONTROL STORE STRING ADRS.
524F	CO 87 5803	2285	B	SVPCTL	CONTROL/SENSE EXECUTOR SUBROUTINE.
		2286 *			
5253	4C 02 02 5A86	2287	MVC	2(3,XR1),CIBUF-2	MOVE VALUE READ TO CSTBL1.
5258	D2 01 05	2288	LA	5(,XR1),XR1	INCREMENT TABLE POINTER.
525B	0E 00 5E86 5E8C	2289	ALC	CICTR,K1	ADD 1 TO TABLE ENTRY COUNTER
		2290 *			
5261	0D 01 5E01 5E03	2291	CLC	VAL2(2),VAL2A	COMPARE CI ADDR WITH END ADDR
5267	F2 82 07	2292	JL	DCI2	GO IF LESS THAN END ADDR
526A	3C 00 5E92	2293	MVI	CISW,0	TURN OFF MULTIPLE LINE SW
526E	F2 87 22	2294	J	DCI4	GO TO END OF LOOP
		2295 *			
5271	3D 7F 5E01	2296 DC12	CLI	VAL2,X'7F'	IS THE LOW ORDER BYTE = '7F'
5275	F2 01 0D	2297	JNE	DCI3	GO IF NOT
		2298 *			
5278	0E 00 5E00 5E8C	2299	ALC	VAL2-1(1),K1	INCREMENT CI ADDRESS
527E	3C 00 5E01	2300	MVI	VAL2,0	TO NEXT BLOCK
5282	F2 87 0E	2301	J	DCI4	GO TO END OF LOOP
		2302 *			
5285	0E 01 5E01 5DEA	2303 DC13	ALC	VAL2,K0001	ADD 1 TO CI ADDRESS
528B	3D 08 5E86	2304	CLI	CICTR,8	ARE THERE 8 ENTRIES IN TABLE
528F	CO 01 5241	2305	BNE	CIMOVE	LOOP UNTIL THERE ARE 8 ENTRIES
		2306 *			
5293	C2 01 5EEF	2307 DC14	LA	CSTBL1,XR1	RELOAD STARTING ADDRESS OF CSTBL1
5297	C2 02 624E	2308	LA	L2+10,XR2	LOAD ADDRESS OF OUTPUT BUFFER.
529B	CO 87 519E	2309	B	SUBCI4	GO TRANSFER DATA TO OUTPUT BUFFER.
		2310 *			
529F	D2 01 05	2311 SUBCI8	LA	5(,XR1),XR1	BUMP TABLE POINTER.
52A2	CO 87 519E	2312	B	SUBCI4	LOOP TIL DONE.
		2313 *			
		2314 *			
		2315 *			*** 'MS' MAIN STORAGE SUBROUTINE. ***
		2316 *			THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER)
		2317 *			OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'MS' OPERAND.
		2318 *			THE FOLLOWING FORMAT IS EXPECTED :
		2319 *			A,MS,YYYY,XXXXXXXX...ETC UP TO 32 CHARACTERS (16 PACKED HEX

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		2320 *			BYTES) ARE ALLOWED. THE ALTER CMD
		2321 *			WILL AUTOMATICALLY DISPLAY 16 BYTES.
		2322 *			WHERE YYYY = TWO-BYTE ADDRESS WHERE DATA IS TO BE ENTERED
		2323 *			RESIDING IN LOCATION 'VAL2' AS PACKED HEX.
		2324 *			XXXXXX = UP TO 32 BYTES OF DATA TO BE ENTERED IN ABOVE
		2325 *			LOCATION RESIDING IN 'MSSTR' AS PACKED HEX.
		2326 *			
		2327 *			D,MS,YYYY 16 BYTES OF DATA WILL BE DISPLAYED STARTING AT
		2328 *			LOCATION SPECIFIED BY YYYY.
		2329 *			
		2330 *			
52A6	OC 13 6231 64E8	2331 SUBMS	MVC	L1+19(20),MSMSG+19	MOVE SPECIAL MSG TO OUTPUT BUFFER
52AC	OC 03 6236 5E1D	2332	MVC	L1+24(4),ADRS	MOVE ADDRESS VALUE.
52B2	OC 01 5E9E 52AF	2333	MVC	L1N(2),*-3	STORE LINE END ADDR FOR PRIBUF SUB
52B8	3D 01 5E94	2334	CLI	DCMDSW,1	DID WE COME FROM A 'D' COMMAND?
52BC	F2 81 18	2335	JE	SUBMS1	BRANCH IF YES.
		2336 *			
52BF	3C C1 6244	2337	MVI	L2,C'A'	MOVE THE LETTER 'A' FOR ALTER.
52C3	OC 01 5DFF 5E01	2338	MVC	SENSE(2),VAL2	MOVE ADDRESS TO TEMP LOCATION.
52C9	2E 01 5DFF 00	2339	ALC	SENSE(2),0(,XR2)	INCREMENT ADDRESS.
52CE	OC 01 52D7 5DFF	2340	MVC	ALTN+3(2),SENSE	INSERT OPERAND 1 ADDRESS OF 'MVC'
		2341 *			
52D4	OC 00 52D4 52D4	2342 ALTMS	MVC	*(0),*	INSTRUCTION MODIFIED AS SHOWN ABOVE.
		2343 *			
52DA	3C 00 5E94	2344 SUBMS1	MVI	DCMDSW,0	CLEAR 'D' COMMAND SWITCH.
52DE	0E 01 5E01 5DFF	2345	ALC	VAL2,KOF	ALIGN ADRS OF AREA TO RIGHT MOST.
52E4	OC 01 52F0 5E01	2346	MVC	SUBMS2(2),VAL2	MOVE CONTENTS OF VAL2
		2347 *			
52EA	CO 87 021E	2348	B	UNPACK	CONVERT PACKED HEX TO EBCDIC.
52EE	'0	52EE	2349	DC	XL1'10'
52EF	5E01	52F0	2350	DC	AL2(VAL2)
52F1	5F5E	52F2	2351	DC	AL2(MSSTR+31)
		2352 *			
52F3	3C 08 5E86	2353	MVI	CICTR,8	SETUP A LOOP COUNTER.
52F7	C2 02 5F3F	2354	LA	MSSTR,XR2	SETUP ADDRESS OF CONVERTED RESULTS
52FB	C2 01 6247	2355	LA	L2+3,XR1	SETUP OUTPUT AREA ADDRESS.
		2356 *			
52FF	6C 03 03 03	2357 MSOUT	MVC	3(4,XR1),3(,XR2)	MOVE TO OUTPUT AREA.
5303	E2 02 04	2358	LA	4(,XR2),XR2	BUMP STRING POINTER.
5306	D2 01 05	2359	LA	5(,XR1),XR1	BUMP OUTPUT AREA LEAVING A BLANK.
5309	0F 00 5E86 5E8C	2360	SLC	CICTR,K1	DECREMENT LOOP COUNTER.
530F	CO 01 52FF	2361	BNZ	MSOUT	LOOP TIL DONE.
		2362 *			
5313	36 01 5DDA	2363	A	NEG2,XR1	STORE PRINT LINE END ADDR
5317	34 01 5EAO	2364	ST	L2N,XR1	FOR LINE 2
		2365 *			
531B	CO 87 5D57	2366	B	PRIBUF	GO TO PRINT BUFFER SUBROUTINE
		2367 *			
531F	38 04 0208	2368	TBN	SBYTE0,SSW05	DO NOT SPACE PRINTER
5323	F2 10 05	2369	JT	SUBMS3	IF USING ALTERNATE PRINTER
		2370 *			
5326	CO 87 021A	2371	B	PRINT	SPACE PRINTER 6 LINES
532A	16	532A	2372	DC	XL1'16'
		2373 *			
532B	CO 87 40AD	2374 SUBMS3	B	RTN18	RETURN FOR NEXT COMMAND ENTRY
		2375 *			
		2376 *			
		2377 *			*** 'DLS'/'ZLS' DATA/ZONE LOCAL STORE SUBROUTINE. ***
		2378 *			THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER)
		2379 *			OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'DLS'/'ZLS' OPERAND.
		2380 *			THIS SUBROUTINE IS RESPONSIBLE FOR ISSUING THE PROPER SEQUENCE
		2381 *			OF COMMANDS TO THE SVP IN THE 115 IOP.
		2382 *			THE FOLLOWING FORMAT IS EXPECTED :
		2383 *			A,DLS,YY,XX
		2384 *			WHERE YY = ONE BYTE ADDRESS FIELD WHERE DATA IS TO BE ENTERED
		2385 *			RESIDING IN LOCATION 'VAL1' AS PACKED HEX.
		2386 *			XX = ONE BYTE OF DATA TO BE ENTERED IN ABOVE
		2387 *			LOCATION RESIDING IN 'VAL1A' AS PACKED HEX.

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2388 *				D,DLS,YY
2389 *				THE 'ZLS' FORMAT IS SIMILAR TO 'DLS'.
2390 *				A,ZLS,YY,XX
2391 *				WHERE YY = ONE BYTE ADDRESS FIELD WHERE DATA IS TO BE ENTERED
2392 *				RESIDING IN LOCATION 'VAL1' AS PACKED HEX.
2393 *				XX = ONE BYTE OF DATA TO BE ENTERED IN ABOVE
2394 *				LOCATION RESIDING IN 'VAL1A' AS PACKED HEX.
2395 *				D,ZLS,YY
2396 *				
2397 *				
2398 *				
532F C0 87 4268				
5333 OC 05 6223 64F1				
5339 OC 01 6226 5E01				
533F OC 01 5E9E 533C				
5345 3D 01 5E95				
5349 F2 81 DA				
534C C2 02 5A4A				
5350 3D 01 5E94				
5354 F2 81 36				
5357 3C C1 6244				
535B 3A 80 5E7F				
535F C0 87 5803				
2399 SUBDL5 B	MSIOP			'HALT & DISPLAY' IOP REGS.
2400	MVC	L1+5(6),DLSMSG+5		MOVE PRINT MSG TO BUFFER.
2401	MVC	L1+8(2),VAL2		MOVE ADDRESS VALUE.
2402	MVC	L1+8(2),*-3		STORE PRINT LINE END ADDR
2403	CLI	ZLSW,1		ZLS OPERATION ?
2404	JE	SUBDL3		BRANCH IF YES.
2405 *				
2406	LA	ADLS,XR2		ALTER/DISPLAY ALS STRING ADDRESS.
2407	CLI	DCMDSW,1		DID WE COME FROM A 'D' COMMAND?
2408	JE	SUBDL1		BRANCH IF YES.
2409 *				
2410 SUBDL4 MVI	L2,C'A'			MOVE THE LETTER 'A' FOR ALTER.
2411	SBN	VAL1,X'80'		MODIFY ZLS ADDR
2412	B	SVPCTL		CONTROL/SENSE EXECUTOR SUBROUTINE.
2413 *				
2414 *				
2415 *				VAL1B WILL CONTAIN THE VALUE READ. HOWEVER, FOR THE TIME
2416 *				BEING AN ARBITRARY VALUE WILL BE SET IN THAT LOCATION.
2417 *				
2418 *				
5363 OD 00 5E81 5E80				
5369 F2 81 04				
2419	CLC	VAL1B(1),VAL1A		VALUE READ MATCHES ENTERED?
2420	JE	SUBDL2		BRANCH IF YES.
2421 *				
536C 3C 5C 6246				
5370 C0 87 021E				
5374 01				
5375 5E81				
5377 5E01				
2422	MVI	L2+2,C'*		MOVE AN ASTERISK FOR ERROR.
2423 SUBDL2 B	UNPACK			CONVERT PACKED HEX TO EBCDIC.
2424	DC	XL1'1'		LENGTH.
2425	DC	AL2(VAL1B)		AREA TO BE CONVERTED.
2426	DC	AL2(VAL2)		RESULT OF CONVERSION.
2427 *				
2428	MVC	L2+4(2),VAL2		MOVE TO BUFFER AREA.
2429	MVC	L2+8(2),*-3		STORE PRINT LINE END ADDR
2430	MVI	ZLSW,0		CLEAR 'ZLS' SWITCH.
2431	B	SUBR84		GO PRINT IOP REGS.
2432 *				
538D 3C 00 5E94				
5391 3B 1F 5E7F				
2433 SUBDL1 MVI	DCMDSW,0			ZERO 'D' COMMAND SWITCH.
2434	SBF	VAL1,X'1F'		REMOVE BITS 3-7.
2435 *				
5395 C0 87 021E				
5399 01				
539A 5E7F				
539C 6226				
2436	B	UNPACK		CONVERT PACKED HEX TO EBCDIC.
2437	DC	XL1'1'		LENGTH.
2438	DC	AL2(VAL1)		AREA TO BE CONVERTED.
2439	DC	AL2(L1+8)		CONVERTED RESULTS.
2440 *				
539E 3D 00 5E7F				
53A2 F2 81 A3				
2441	CLI	VAL1,0		WAS VAL1 = ZERO?
2442	JE	SUBDL6		BRANCH IF YES.
2443 *				
53A5 OC 01 6226 5E73				
53AB OC 02 6247 5E74				
53B1 OC 02 624F 5E77				
53B7 OC 02 6257 5E7A				
53BD OC 02 625F 5E7D				
2444	MVC	L1+8(2),V20-1		MOVE '20' TO BUFFER.
2445	MVC	L2+3(3),V20		MOVE '20' TO BUFFER.
2446	MVC	L2+11(3),V28		MOVE '28' TO BUFFER.
2447	MVC	L2+19(3),V30		MOVE '30' TO BUFFER.
2448	MVC	L2+27(3),V38		MOVE '38' TO BUFFER.
2449 *				
2450 *				
2451 *				NOTE THAT WHEN DISPLAYING 'DLS' ONLY THIS SUBROUTINE WILL USE
2452 *				SOME OF THE EXISTING CODE FOUND IN 'SUBALS'. THEREFORE,
2453 *				'ALSTBL' WILL BE USED BY THE DISPLAY DLS COMMAND.
2454 *				
2455 *				

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
53C3 C2 01 5F1F				
53C7 3D 01 5E95				
53CB F2 81 50				
2456 SUBDL7 LA	ALSTBL,XR1			SETUP ADDRESS OF TABLE.
2457 DLSLOP CLI	ZLSW,1			DISPLAY ZLS OPERATION?
2458	JE	STRZLS		IF YES, GO LOAD DZLS STRING.
2459 *				
2460	LA	DDLS,XR2		SETUP IOP STRING ADDRESS.
2461 EXEC B	SVPCTL			CONTROL/SENSE EXECUTOR SUBROUTINE.
2462 *				
53D6 4C 00 00 5E81				
53D8 0E 00 5E7F 5E8C				
53E1 D2 01 01				
53E4 39 1F 5E7F				
53E8 C0 90 53C7				
2463	MVC	O(1,XR1),VAL1B		MOVE RESULT TO ALSTBL
2464	ALC	VAL1,K1		INCREMENT 'DLS' ADDRESS BY 1.
2465	LA	I(XR1),XR1		INCREMENT ALSTBL ADDRESS BY 1.
2466	TBF	VAL1,X'1F'		PROCESSED 32 ENTERIES?
2467	BF	DLSLOP		LOOP IF NO.
2468 *				
2469	B	DLSENT		BRANCH TO A POINT IN 'SUBALS'.
2470 *				
53F0 3C 00 5E94				
53F4 3C E9 621E				
53F8 OC 01 6226 5DF8				
53FE OC 02 6247 5E5C				
5404 OC 02 624F 5E62				
540A OC 02 6257 5E68				
5410 OC 02 625F 5E6E				
5416 3C 00 5E7F				
541A C0 87 53C3				
2471 SUBDL5 MVI	DCMDSW,0			RESET SW.
2472	MVI	L1,C'Z'		MOVE THE LETTER 'Z' FOR DISPLAY.
2473	MVC	L1+8(2),ZERO		FORCE LOCATION TO ZERO.
2474	MVC	L2+3(3),V00		MOVE '00' TO BUFFER.
2475	MVC	L2+11(3),V08		MOVE '08' TO BUFFER.
2476	MVC	L2+19(3),V10		MOVE '10' TO BUFFER.
2477	MVC	L2+27(3),V18		MOVE '18' TO BUFFER.
2478	MVI	VAL1,0		FORCE ADDRESS TO 0.
2479	B	SUBDL7		BRANCH TO EXECUTE 32 DISPLAYS.
2480 *				
541E C2 02 5988				
5422 C0 87 53D2				
2481 STRZLS LA	DZLS,XR2			DISPLAY 'ZLS' STRING ADDRESS.
2482	B	EXEC		GO EXECUTE.
2483 *				
5426 3D 01 5E94				
542A C0 81 53F0				
2484 SUBDL3 CLI	DCMDSW,1			IS IT DISPLAY ZLS OPERATION?
2485	BE	SUBDL5		BRANCH IF YES.
2486 *				
542E OC 12 6230 6504				
5434 OC 01 6233 5E01				
543A OC 01 5E9E 5437				
5440 C2 02 5A12				
5444 C0 87 5357				
2487	MVC	L1+18(19),ZLSMSG+18		MOVE 'ZLS' MSG TO BUFFER.
2488	MVC	L1+21(2),VAL2		MOVE ADDRESS VALUE.
2489	MVC	L1+8(2),*-3		STORE PRINT LINE END ADDR
2490	LA	AZLS,XR2		ALTER ZLS STRING ADDRESS.
2491	B	SUBDL4		BRANCH.
2492 *				
5448 OC 02 6247 5E5C				
544E OC 02 624F 5E62				
5454 OC 02 6257 5E68				
545A OC 02 625F 5E6E				
5460 C0 87 53C3				
2493 SUBDL6 MVI	L2+3(3),V00			MOVE '00' TO BUFFER.
2494	MVC	L2+11(3),V08		MOVE '08' TO BUFFER.
2495	MVC	L2+19(3),V10		MOVE '10' TO BUFFER.
2496	MVC	L2+27(3),V18		MOVE '18' TO BUFFER.
2497	B	SUBDL7		GO PROCESS TABLE.
2498 *				
2499 *				
2500 *				*** 'ZLS' ZONE LOCAL STORE SUBROUTINE. ***
2501 *				THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER)
2502 *				OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'ZLS' OPERAND.
2503 *				THIS SUBROUTINE WILL SET A SWITCH AND BRANCHES TO 'DLS'
2504 *				SUBROUTINE ABOVE.
2505 *				
2506 *				
5464 3C 01 5E95				
5468 C0 87 532F				
2507 *				
2508 SUBZLS MVI	ZLSW,1			SET 'ZLS' SWITCH ON.
2509	B	SUBDL5		BRANCH TO 'DLS' SUBROUTINE.
2510 *				
2511 *				
2512 *				*** 'CDL'/'CDR' CONTROL STORAGE DATA SUBROUTINE. ***
2513 *				THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER)
2514 *				OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'CDL'/'CDR' OPERAND.
2515 *				THIS SUBROUTINE IS RESPONSIBLE FOR ISSUING THE PROPER SEQUENCE
2516 *				OF COMMANDS TO THE ATTACHMENT.
2517 *				THE FOLLOWING FORMAT IS EXPECTED :
2518 *				A,CDL,YYYY,XX,XX,XX,XX,.....ETC. OR
2519 *				A,CDR,YYYY,XX,XX,XX,XX,.....ETC. OR
2520 *				D,CDL,YYYY OR
2521 *				D,CDR,YYYY OR
2522 *				D,CDL,YYYY,ZZZZ OR
2523 *				D,CDR,YYYY,ZZZZ

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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2524 * WHERE YYYY= TWO-BYTE ADDRESS FIELD WHERE DATA IS TO BE
2525 * ENTERED/DISPLAYED RESIDING IN LOCATION 'VAL2'
2526 * AS PACKED HEX.
2527 * XX = ONE BYTE OF DATA TO BE ENTERED IN ABOVE
2528 * LOCATION RESIDING IN 'CSTBL' AS PACKED HEX.
2529 * ZZZZ = TWO-BYTE LAST ADDRESS TO BE DISPLAYED
2530 * RESIDING IN LOCATION 'VAL2A' AS PACKED HEX.
2531 *
2532 *
-----
546C CO 87 4268 2533 *
5470 OC 17 6235 651C 2534 SUBCD B HSIOP 'HALT & DISPLAY' IOP REGS SUB.
5476 3C 00 5E98 2535 MVC L1+23(24),CDMSG+23 MOVE SPECIAL MESSAGE.
547A 3D 09 5E21 2536 MVI DCDSW,0 CLEAR SWITCH.
547E CO 81 55DF 2537 CLI LOC,C'R' WAS OPERAND A 'CDR'?
2538 BE SUBCD8 BRANCH IF YES.
2539 *
5482 OC 03 623A 5E1D 2540 SUBCD6 MVC L1+28(4),ADRS MOVE ADDRESS OF 'CD' OPERAND.
5488 OC 01 5E9E 5485 2541 MVC LINA(2),*-3 STORE PRINT LINE END ADDR
548E 3D 01 5E94 2542 CLI DCMSW,1 DID WE COME FROM A 'D' COMMAND?
5492 F2 81 C0 2543 JE SUBCD1 BRANCH IF YES.
2544 *
5495 3C C1 6244 2545 MVI L2,C'A' MOVE THE LETTER 'A' FOR ALTER.
5499 C2 02 6247 2546 LA L2+3,XR2 LOAD BUFFER ADDRESS FOR OUTPUT.
549D 34 02 5DE4 2547 ST XR2S3,XR2 SAVE THAT ADDRESS.
54A1 C2 02 5E57 2548 LA CSTBL,XR2 ADDRESS OF ENTERED DATA WITH 'CD'
54A5 C2 01 5EEF 2549 LA CSTBL1,XR1 ADDRESS OF DATA READ
2550 *
54A9 2C 03 5AB8 03 2551 SUBCD5 MVC CIBUF(4),3(XR2) MOVE ADDRESS OF CD OPERAND.
54AE 34 02 54C8 2552 ST XR2S8+3,XR2 SAVE CURRENT VALUE OF XR2.
54B2 C2 02 584F 2553 LA ACDR,XR2 ALTER/DISPLAY CD RIGHT STRING ADRS.
54B6 3D 09 5E21 2554 CLI LOC,C'R' OPERAND FOR CD LEFT OR RIGHT?
54BA F2 81 04 2555 JE ACDSKP BRANCH AROUND IF 'RIGHT'.
2556 *
54BD C2 02 5809 2557 LA ACDL,XR2 ALTER/DISPLAY CD LEFT STRING ADRS.
54C1 CO 87 5803 2558 ACDSKP B SVPCTL CONTROL/SENSE EXECUTOR SUBROUTINE.
2559 *
54C5 C2 02 0000 2560 XR2SB LA *-*,XR2 RELOAD XR2.
54C9 4C 00 01 5AB6 2561 MVC I(1,XR1),CIBUF-2 MOVE TO CSTBL1
54CE 6D 00 01 01 2562 CLC I(1,XR1),I(1,XR2) NEW = OLD DATA ?
54D2 F2 01 69 2563 JNE SUBCD2 ERROR IF NO.
2564 *
54D5 34 02 550A 2565 SUBCD7 ST XR2S4+3,XR2 SAVE CURRENT VALUE OF XR2.
54D9 35 02 5DE4 2566 L XR2S3,XR2 GET STARTING ADDRESS OF BUFFER.
54DD 1C 00 5E85 01 2567 SUBCD4 MVC CONV1(1),I(1,XR1) MOVE 'READ' CD TABLE TO CONVERT
54E2 CO 87 021E 2568 B UNPACK CONVERT PACKED HEX TO EBCDIC.
54E6 01 54E6 2569 DC XL1'1' LENGTH.
54E7 5E85 54E8 2570 DC AL2(CONV1) AREA TO BE CONVERTED.
54E9 5DFD 54EA 2571 DC AL2(CONV2) RESULT OF CONVERSION.
2572 *
54EB 8C 01 01 5DFD 2573 MVC I(2,XR2),CONV2 MOVE TO BUFFER FOR OUTPUTTING.
2574 *
54F0 E2 02 03 2575 LA 3(XR2),XR2 ADVANCE BUFFER ADDRESS POINTER
54F3 0F 00 5E87 5E8C 2576 SLC COUNTER,K1 DECREMENT COUNTER BY 1.
54F9 F2 81 19 2577 JZ SUBCD3 EXIT TO DISPLAY IOP REGS.
2578 *
54FC 3D 01 5E98 2579 CLI DCDSW,1 DID WE COME FROM A 'D' OPERATION?
5500 F2 81 E6 2580 JE SUBCD9 DON'T COMPARE IF YES.
2581 *
5503 34 02 5DE4 2582 ST XR2S3,XR2 SAVE CURRENT ADDRESS OF BUFFER.
5507 C2 02 0000 2583 XR2S4 LA *-*,XR2 RELOAD ORIGINAL VALUE OF XR2.
5508 D2 01 04 2584 LA 4(XR1),XR1 INCREMENT NEW 'CD' TABLE POINTER.
550E E2 02 04 2585 LA 4(XR2),XR2 INCREMENT OLD 'CD' TABLE POINTER.
5511 CO 87 54A9 2586 B SUBCD5 LOOP TIL DONE.
2587 *
5515 36 02 5DDA 2588 SUBCD3 A NEG2,XR2 ADJUST TO END OF PRINT LINE
5519 34 02 5EAD 2589 ST L2N,XR2 STORE END OF LINE 2
2590 *
551D CO 87 5D57 2591 B PRTBUF GO TO PRINT BUFFER SURROUTINE

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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5521 OC 01 5E9E 5DE8 2592 *
5527 3C 40 6244 2593 MVC LINA(2),K0000 PREVENT REPRINTING SPEC MESSAGE
5528 38 01 5E83 2594 MVI L2,C' ' BLANK 'D' OR 'A'
552F 39 01 5E9C 2595 TBN CDSW,1 ARE THERE MORE LINES TO BE PRINTED?
5533 F2 10 2F 2596 TBF PRTEM,1 ON IF REQ KEY HAS BEEN PRESSED
2597 JT DCD1 GO BACK TO PRINT NEXT LINE
2598 *
5536 3C 00 5E98 2599 MVI DCDSW,0 RESET DISPLAY CD SWITCH
2600 *
553A CO 87 50E2 2601 B SUBM85 GO TO GATHER IOP REGS
2602 *
-----
2603 *
2604 * COME HERE IF THE DATA ENTERED BY THE USER WITH THE CDR/CDL
2605 * OPERAND DOES NOT MATCH THE VALUE READ WHEN CONTROL STORAGE
2606 * WAS ALTERED. PLACE AN ASTERISK TO THE LEFT OF THE DATA FIELD
2607 * IN THE OUTPUT BUFFER.
2608 *
-----
2609 *
2610 SUBCD2 ST XR1S3+3,XR1 SAVE CURRENT VALUE OF XR1.
2611 L XR2S3,XR1 GET CURRENT BUFFER ADDRESS.
2612 A NEG1,XR1 DECREMENT ADDRESS BY 1.
2613 MVI OI,XR1),C'*' MOVE AN ASTERISK TO BUFFER
2614 *
2615 XR1S3 LA *-*,XR1 RELOAD XR1.
2616 B SUBCD7 RETURN TO MAIN FLOW.
2617 *
2618 *
2619 * COME HERE IF THE DISPLAY COMMAND 'D' IS DETECTED WITH THE
2620 * 'CD' OPERAND. READ DATA FROM CONTROL STORAGE AND PLACE IN
2621 * THE OUTPUT BUFFER. NO COMPARE WITH ENTERED DATA IS DONE HERE.
2622 *
-----
2623 *
2624 SUBCD1 MVI DCMSW,0 CLEAR 'D' COMMAND SW.
2625 MVI DCDSW,1 TURN SWITCH ON.
2626 MVI L2,C'D' MOVE THE LETTER 'D' FOR DISPLAY.
2627 MVI CDSW,1 SET SW FOR MULTIPLE LINE OUTPUT
2628 *
2629 DCD1 B UNPACK UNPACK CS ADDR TO LEFT OF LINE
2630 DC XL1'2' LENGTH
2631 DC AL2(VAL2) AREA TO BE CONVERTED
2632 DC AL2(L2+6) DESTINATION ADDR
2633 *
2634 MVI COUNTER,0 SETUP COUNTER FOR 8 ENTRIES.
2635 LA CSTBL1,XR1 LOAD ADDRESS OF DATA 'READ' TABLE.
2636 *
2637 *
2638 * BUILD CSTBL1 WITH UP TO 8 ENTRIES THEN GO SUBROUTINE 'SVPCTL'
2639 * TO READ VALUES AT THE ADDRESSES SPECIFIED IN THE TABLE.
2640 *
-----
2641 *
2642 CONMOVE MVC 3(2,XR1),VAL2 MOVE PRESENT ADDRESS.
2643 MVC CIBUF(2),3(XR1) MOVE ADDRESS TO CIBUF.
2644 LA DCDR,XR2 DISPLAY CD RIGHT STRING ADDRESS.
2645 CLI LOC,C'R' WAS THE OPERAND CDL 'RIGHT' ?
2646 JE DCDSKP SKIP AROUND IF YES.
2647 *
2648 LA DCCL,XR2 DISPLAY CD 'LEFT' STRING ADDRESS.
2649 DCOSKP B SVPCTL CONTROL/SENSE EXECUTOR SUBROUTINE.
2650 *
2651 MVC I(2,XR1),CIBUF-2 MOVE VALUE READ TO CSTBL1.
2652 LA 4(XR1),XR1 INCREMENT TABLE POINTER.
2653 ALC COUNTER,K1 ADD 1 TO TABLE ENTRIES COUNTER
2654 *
2655 CLC VAL2(2),VAL2A COMPARE CD ADDR WITH END ADDR
2656 JL DCD2 GO IF LESS THAN END ADDR
2657 MVI CDSW,0 TURN OFF MULTIPLE LINE SW
2658 J DCD4 GO TO END OF LOOP
2659 *

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
5581	3D 7F 5E01	2660	DCD2	CLI	VAL2,X'7F'
5585	F2 01 0D	2661		JNE	DCD3
		2662	*		
5588	0E 00 5E00 5E8C	2663	ALC	VAL2-1(1),K1	INCREMENT CD ADDRESS
558E	3C 00 5E01	2664	MVI	VAL2,0	TO NEXT BLOCK
55C2	F2 87 0E	2665	J	DCD4	GO TO END OF LOOP
		2666	*		
55C5	0E 01 5E01 5DEA	2667	DCD3	ALC	VAL2,K0001
55CB	3D 08 5E87	2668	CLI	CDCTR,8	ADD 1 TO CD ADDRESS
55CF	CO 01 5576	2669	BNE	CDMOVE	ARE THERE 8 ENTRIES IN TABLE?
		2670	*		LOOP UNTIL THERE ARE 8 ENTRIES
55D3	C2 01 5EEF	2671	DCD4	LA	CSTBL1,XR1
55D7	C2 02 624E	2672	LA	L2+10,XR2	RELOAD STARTING ADDRESS OF CDTBL1
55DB	CO 87 54DD	2673	B	SUBCD4	LOAD ADDRESS OF OUTPUT BUFFER.
		2674	*		GO TRANSFER DATA TO OUTPUT BUFFER.
55DF	OC 04 6232 5E49	2675	SUBCD8	MVC	L1+20(5),RIGHT
55E5	CO 87 5482	2676	B	SUBCD6	MOVE 'RIGHT' MSG TO BUFFER.
		2677	*		LOOP TIL DONE.
55E9	D2 01 04	2678	SUBCD9	LA	4(XR1),XR1
55EC	CO 87 54DD	2679	B	SUBCD4	INCREMENT TABLE POINTER.
		2680	*		CONTINUE MOVING.
		2681	*		
		2682	*		*** ADDRESS LOCAL STORE SUBROUTINE. ***
		2683	*		THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER)
		2684	*		OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'ALS' OPERAND.
		2685	*		THIS SUBROUTINE IS RESPONSIBLE FOR ISSUING THE PROPER SEQUENCE
		2686	*		OF COMMANDS TO THE SVP IN THE SYSTEM 3 MOD 15 IOP.
		2687	*		
		2688	*		THE FOLLOWING FORMAT IS EXPECTED FOR THE 'ALTER' COMMAND :
		2689	*		A,ALSB,YY,XX
		2690	*		A,ALSD,YY,XX
		2691	*		WHERE YY = TWO-BYTE ADDRESS FIELD WHERE DATA IS TO BE ENTERED
		2692	*		RESIDING IN LOCATION 'VAL1' AS PACKED HEX.
		2693	*		XX = ONE BYTE OF DATA TO BE ENTERED IN ABOVE
		2694	*		LOCATION RESIDING IN 'VAL1A' AS PACKED HEX.
		2695	*		
		2696	*		THE FOLLOWING FORMAT IS EXPECTED FOR THE 'ALTER' COMMAND :
		2697	*		D,ALSU TO DISPLAY 32 BYTES OF UPPER ALS.
		2698	*		D,ALSL TO DISPLAY 32 BYTES OF LOWER ALS.
		2699	*		
		2700	*		
		2701	*		
55F0	CO 87 4268	2702	SUBALS	B	HSIOP
55F4	OC 03 6221 6520	2703	MVC	L1+3(4),ALSMG+3	'HALT & DISPLAY' IOP REG SUB-
55FA	OC 01 5E9E 55F7	2704	MVC	L1+2(2),*-3	MOVE SPECIAL DISPLAY MSG.
5600	3D C4 5E21	2705	CLI	LOC,C'D'	STORE PRINT LINE END ADDRESS
5604	F2 81 53	2706	JE	SUBAL3	WAS COMMAND A 'ALSD'?
5607	3C 6E 5A43	2707	MVI	SVPALS,X'6E'	BRANCH IF YES.
		2708	*		CHANGE AALSB SEQ TO READ ALS-B
5608	3D 01 5E94	2709	SUBAL4	CLI	DCMDSW,1
560F	F2 81 58	2710	JE	SUBAL1	DID WE COME FROM A 'D' COMMAND?
		2711	*		BRANCH IF YES.
5612	OC 02 6224 5E41	2712	MVC	L1+6(3),BAT	MOVE BLANK AND 'AT' CHAR.
5618	OC 01 6227 5E01	2713	MVC	L1+9(2),VAL2	MOVE ADDRESS VALUE.
561E	OC 01 5E9E 5618	2714	MVC	L1+2(2),*-3	STORE PRINT LINE END ADDR
		2715	*		
5624	3C C1 6244	2716	MVI	L2,C'A'	MOVE THE LETTER 'A' FOR ALTER.
5628	3A 80 5E7F	2717	SBN	VAL1,X'80'	CHANGE VAL1 TO GIVE PROPER CR FIELD
562C	C2 02 5A30	2718	LA	AALSB,XR2	ALTER ALSB STRING ADDRESS.
5630	CO 87 5803	2719	B	SVPCTL	CONTROL/SENSE EXECUTOR SUBROUTINE.
		2720	*		
		2721	*		
		2722	*		VAL1B WILL CONTAIN THE VALUE READ.
		2723	*		
		2724	*		
5634	OD 00 5E81 5E80	2725	CLC	VAL1B(1),VAL1A	VALUE READ MATCHES ENTERED?
563A	F2 81 04	2726	JE	SUBAL2	BRANCH IF YES.
		2727	*		

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
563D	3C 5C 6246	2728	MVI	L2+2,C'*	MOVE AN ASTERISK FOR ERROR.
5641	CO 87 021E	2729	SUBAL2	B	UNPACK
5645	01	5645	2730	DC	XL1'1'
5646	5E81	5647	2731	DC	AL2(VAL1B)
5648	5E01	5649	2732	DC	AL2(VAL2)
		2733	*		LENGTH.
564A	OC 01 6248 5E01	2734	MVC	L2+4(2),VAL2	AREA TO BE CONVERTED.
5650	CO 01 5EAO 564D	2735	MVC	L2+2(2),*-3	RESULT OF CONVERSION.
5656	CO 87 50DE	2736	B	SUBMB4	
		2737	*		
565A	3C C4 6221	2738	SUBAL3	MVI	L1+3,C'D'
565E	3A 20 5E7F	2739	SBN	VAL1,X'20'	MOVE 'D' LETTER IN MSG.
5662	3C 6A 5A43	2740	MVI	SVPALS,X'6A'	CHANGE VAL1 TO GIVE PROPER CR FIELD
5666	CO 87 560B	2741	B	SUBAL4	CHANGE AALSB SEQ TO READ ALS-D
		2742	*		GO MOVE ADDRESS TO BUFFER.
566A	3C 00 5E94	2743	SUBAL1	MVI	DCMDSW,0
566E	C2 01 5F1F	2744	LA	ALSTBL,XR1	CLEAR 'D' CMD SWITCH.
5672	3C 00 5928	2745	MVI	ALSADR,0	ALS STRING ADDRESS.
5676	3D E4 5E21	2746	CLI	LOC,C'U'	ZERO OUT ALS ADDRESS.
567A	F2 81 DC	2747	JE	ALSP2	UPPER 'ALS' TO BE DISPLAYED?
		2748	*		BRANCH AROUND IF YES.
567D	OC 02 6247 5E68	2749	MVC	L2+3(3),V10	MOVE '10=' TO BUFFER.
5683	OC 02 624F 5E68	2750	MVC	L2+11(3),V14	MOVE '14=' TO BUFFER
5689	OC 02 6257 5E6E	2751	MVC	L2+19(3),V18	MOVE '18=' TO BUFFER
568F	OC 02 625F 5E71	2752	MVC	L2+27(3),VIC	MOVE '1C=' TO BUFFER
		2753	*		
5695	3C 10 5928	2754	MVI	ALSADR,X'10'	INIT ALS ADDR TO READ LOWER HALF
5699	3C D3 6221	2755	MVI	L1+3,C'L'	MOVE LETTER 'L' TO DISPLAY.
569D	C2 02 5912	2756	ALSP	LA	RDALS,XR2
56A1	CO 87 5803	2757	B	SVPCTL	READ ALS STRING ADDRESS.
		2758	*		CONTROL/SENSE EXECUTOR SUBROUTINE.
56A5	4C 01 01 592A	2759	MVC	1(2,XR1),ALSB	MOVE ALS B/D BUFFER TO TABLE.
56AA	OE 00 5928 5E8C	2760	ALC	ALSADR,K1	INCREMENT ALS ADDRESS BY 1.
56B0	D2 01 02	2761	LA	2(XR1),XR1	INCREMENT XR1 BY 2.
56B3	39 0F 5928	2762	TBF	ALSADR,X'0F'	REACHED END OF TABLE?
56B7	CO 90 569D	2763	BF	ALSP	LOOP IF NO.
		2764	*		
56BB	3C 00 5E87	2765	DLSNT	MVI	CDCTR,0
56BF	3C 04 5E86	2766	MVI	CICTR,4	RESET LINE COUNTER.
56C3	3C 00 5E95	2767	MVI	ZLSW,0	SETUP ENTERIES COUNTER.
56C7	C2 01 6248	2768	LA	L2+4,XR1	CLEAR 'ZLS' OPERAND SWITCH.
56CB	C2 02 5F1F	2769	LA	ALSTBL,XR2	SETUP LINE 0 ADDRESS.
		2770	*		SETUP ADDRESS OF 'MIAR' ENTERIES.
56CF	2C 01 5E01 01	2771	SUBAL6	MVC	VAL2(2),1(XR2)
		2772	*		MOVE TABLE VALUE TO 'VAL2'
56D4	CO 87 021E	2773	B	UNPACK	CONVERT PACKED HEX TO EBCDIC.
56D8	02	56D8	2774	DC	XL1'2'
56D9	5E01	56DA	2775	DC	AL2(VAL2)
56DB	5E07	56DC	2776	DC	AL2(VAL4)
		2777	*		CONVERTED RESULTS.
56DD	4C 03 03 5E07	2778	MVC	3(4,XR1),VAL4	MOVE TO OUTPUT BUFFER.
56E2	D2 01 08	2779	LA	8(XR1),XR1	BUMP OUTPUT AREA POINTER.
56E5	E2 02 08	2780	LA	8(XR2),XR2	BUMP 'ALS' TABLE POINTER.
56E8	0F 00 5E86 5E8C	2781	SLC	CICTR,K1	BUMP 'ALS' TABLE POINTER.
56EE	CO 01 56CF	2782	BNZ	SUBAL6	DECREMENT COUNTER.
		2783	*		LOOP TIL DONE.
56F2	3C 04 5E86	2784	MVI	CICTR,4	REFRESH COUNTER.
56F6	0E 00 5E87 5E8C	2785	ALC	CDCTR,K1	ADD 1 TO LINE COUNTER.
56FC	3D 01 5E87	2786	CLI	CDCTR,1	IS IT LINE 1?
5700	F2 81 1A	2787	JE	L81	BRANCH IF YES.
		2788	*		
5703	3D 02 5E87	2789	CLI	CDCTR,2	IS IT LINE 2?
5707	F2 81 27	2790	JE	L82	BRANCH IF YES.
		2791	*		
570A	3D 03 5E87	2792	CLI	CDCTR,3	IS IT LINE 3?
570E	F2 81 34	2793	JE	L83	BRANCH IF YES.
5711	36 01 5DDE	2794	A	NEG5,XR1	STORE END OF
5715	34 01 5EA6	2795	ST	L5N0,XR1	LINE 3 ADDR

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
5719	CO 87	50DE	2796	B	SUBMB4
			2797	*	GO OUTPUT RESULTS.
571D	36 01	5DDE	2798	LB1	A
5721	34 01	5EAO	2799	ST	NEG5,XR1
5725	C2 01	6289	2800	LA	L2N0,XR1
5729	C2 02	5F21	2801	LA	L3+4,XR1
572D	CO 87	56CF	2802	LA	ALSTBL+2,XR2
			2803	B	SUBAL6
			2804	*	GO MOVE LINE 1.
5731	36 01	5DDE	2804	LB2	A
5735	34 01	5EA2	2805	ST	NEG5,XR1
5739	C2 01	628F	2806	LA	L3N0,XR1
573D	C2 02	5F23	2807	LA	L4+4,XR1
5741	CO 87	56CF	2808	LA	ALSTBL+4,XR2
			2809	B	SUBAL6
			2810	*	GO MOVE LINE 1.
5745	36 01	5DDE	2810	LB3	A
5749	34 01	5EA4	2811	ST	NEG5,XR1
574D	C2 01	6305	2812	LA	L4N0,XR1
5751	C2 02	5F25	2813	LA	L5+4,XR1
5755	CO 87	56CF	2814	LA	ALSTBL+6,XR2
			2815	B	SUBAL6
			2816	*	GO MOVE LINE 1.
5759	3C E4	6221	2816	ALSP2	MVI
575D	0C 02	6247	2817	MVC	L1+3,C'U'
5763	0C 02	624F	2818	MVC	L2+3(3),V00
5769	0C 02	6257	2819	MVC	L2+11(3),V04
576F	0C 02	625F	2820	MVC	L2+19(3),V08
			2821	MVC	L2+27(3),V0C
			2822	*	MOVE THE LETTER 'U' TO DISPLAY
			2823	*	MOVE '00=' TO BUFFER.
			2824	*	MOVE '04=' TO BUFFER.
			2825	*	MOVE '08=' TO BUFFER.
			2826	*	MOVE '0C=' TO BUFFER.
5775	CO 87	569D	2822	B	ALSP
			2823	*	RETURN TO MAIN FLOW.
			2824	*	*** 'REG' EXTERNAL REGISTERS SUBROUTINE. ***
			2825	*	THIS SUBROUTINE IS ENTERED AFTER ENCOUNTERING AN 'A' (ALTER)
			2826	*	OR 'D' (DISPLAY) COMMAND FOLLOWED BY A 'EXXX' OPERAND, WHERE
			2827	*	XXX IS ANY VALID EXTERNAL REGISTER IN THE IOP.
			2828	*	THIS SUBROUTINE IS RESPONSIBLE FOR ISSUING THE PROPER SEQUENCE
			2829	*	OF COMMANDS TO THE SVP.
			2830	*	THE FOLLOWING FORMAT IS EXPECTED :
			2831	*	A,EFB0,XX
			2832	*	WHERE XX IS ONE BYTE OF DATA TO BE PLACED IN THE REGISTER
			2833	*	SPECIFIED. THE VALUE IS STORED IN LOCATION 'VAL1' IN PACKED
			2834	*	HEX.
			2835	*	D,EFB0
			2836	*	
			2837	*	
			2838	*	
			2839	*	
5779	CO 87	4268	2840	SUBREG	B
577D	C2 01	604D	2841	LA	HSIOP
5781	C2 02	5FFD	2842	LA	ERDTBL,XR1
			2843	LA	ERDNAM,XR2
			2844	*	'HALT & DISPLAY' IOP REG SUB.
			2845	*	EXTERNAL REG DISPLAY TABLE
			2846	*	EXTERNAL REGISTER NAME TABLE.
5785	8D 03	03 5E21	2844	SUBRG1	CLC
578A	F2 81	0A	2845	JE	3(4,XR2),LOC
			2846	*	NAME IN TABLE = SPECIFIED NAME?
			2847	*	BRANCH IF YES.
578D	D2 01	01	2847	LA	1(,XR1),XR1
5790	E2 02	04	2848	LA	4(,XR2),XR2
5793	CO 87	5785	2849	B	SUBRG1
			2850	*	ADVANCE NUMBER TABLE POINTER.
5797	1C 00	6062 00	2851	SUBRG2	MVC
579C	0C 0A	6228 6528	2852	MVC	FROTB(1),0(,XR1)
57A2	0C 02	622C 5E21	2853	MVC	L1+10(11),REGMSG+10
57AB	0C 01	5E9E 57A5	2854	MVC	L1+14(3),LOC
57AE	3D 01	5E94	2855	CLI	L1N(2),*-3
57B2	F2 81	36	2856	JE	DCMDSW,1
			2857	*	DID WE COME FROM A 'D' COMMAND?
			2858	*	BRANCH IF YES.
5785	3C C1	6244	2858	MVI	L2,C'A'
5789	3A 2C	6062	2859	SBN	FRDTBL,X'20'
578D	C2 02	5A6C	2860	LA	AEXT,XR2
57C1	CO 87	5803	2861	B	SVPCTL
			2862	*	MOVE LETTER 'A' FOR ALTER.
			2863	*	TURN ON BIT 2.
				*	ALTER EXTERNAL REG STRING ADDRESS
				*	CONTROL/SENSE EXECUTOR SUBROUTINE.

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
			2864	*	REGISTER VALUE READ WILL RESIDE AT 'VAL1B'.
			2865	*	
			2866	*	
57C5	0D 00	5E81 5E7F	2867	CLC	VAL1B(1),VAL1
57C8	F2 81	04	2868	JE	SUBRG4
			2869	*	REGISTER READ = ENTERED VALUE?
			2870	*	BRANCH IF YES.
57CE	3C 5C	6246	2870	MVI	L2+2,C'*
57D2	CO 87	021E	2871	SUBRG4	B
57D6	01		2872	DC	UNPACK
57D7	5E81		2873	DC	XL1'1'
57D9	5E01		2874	DC	AL2(VAL1B)
			2875	*	AREA TO BE CONVERTED.
			2876	*	RESULT OF CONVERSION.
57D8	0C 01	6248 5E01	2876	MVC	L2+4(2),VAL2
57E1	0C 01	5EAO 57DE	2877	MVC	L2N(2),*-3
57E7	CO 87	50DE	2878	B	SUBMB4
			2879	*	MOVE TO BUFFER AREA.
			2880	*	STORE PRINT LINE END ADDR
			2881	*	GO OUTPUT IOP REGS.
57EB	3C 00	5E94	2880	SUBRG3	MVI
57EF	3C C4	6244	2881	MVI	DCMDSW,0
57F3	3A 20	6062	2882	SBN	L2,C'D'
57F7	C2 02	59CC	2883	LA	FRDTBL,X'20'
57FB	CO 87	5803	2884	B	TURN ON BIT 2.
			2885	*	DISPLAY EXTERNAL REG STRING ADDRESS
			2886	*	CONTROL/SENSE EXECUTOR SUBROUTINE.
57FF	CO 87	57D2	2887	B	SUBRG4
			2888	*	GO CONVERT DATA.
			2889	*	
			2890	*	SVP CONTROL/SENSE EXECUTOR SUBROUTINE
			2891	*	
			2892	*	
5803	34 08	5868	2893	SVPCTL	ST
5807	B8 80	01	2894	SVPCTU	TBN
580A	F2 90	28	2895	JF	NTR+3,ARR
			2896	*	1(,XR2),X'80'
			2897	*	SVPSMS
580D	2C 01	586D 01	2897	MVC	SVPTM,1(2,XR2)
5812	3B F0	586D	2898	SBF	SVPTM,X'FO'
			2899	*	MOVE TABLE ENTRY
			2900	*	ZERO OUT EB1 BITS 0-3
5816	B8 40	01	2900	TBN	1(,XR2),X'40'
5819	F2 90	0E	2901	JF	DOLIO1
			2902	*	CHECK FOR EXTENDED TYPE
			2903	*	GO IF NOT
581C	E2 02	02	2903	LA	2(,XR2),XR2
581F	2C 01	5829 01	2904	MVC	ABLE1+5,1(2,XR2)
5824	0C 00	586C 5824	2905	ABLE1	MVC
			2906	*	SVPTM-1(1),*
			2907	*	
			2908	*	
582A	31 C5	586D	2907	DOLIO1	LIO
			2908	*	SVPTM,X'C5'
			2909	*	
582E	E2 02	02	2909	DONEXT	LA
5831	CO 87	5807	2910	B	2(,XR2),XR2
			2911	*	SVPCTU
			2912	*	INCR POINTER BY 2
			2913	*	REPEAT
5835	B8 40	01	2912	SVPSMS	TBN
5838	F2 90	2A	2913	JF	1(,XR2),X'40'
			2914	*	SVPOUT
			2915	*	TEST FOR SENSE TYPE
			2916	*	GO TO END IF NOT
583B	2C 01	586D 01	2915	MVC	SVPTM,1(2,XR2)
5840	3B F0	586D	2916	SBF	SVPTM,X'FO'
5844	31 C7	586D	2917	LIO	SVPTM,X'C7'
5848	30 C7	586D	2918	SNS	SVPTM,X'C7'
			2919	*	MOVE TABLE ENTRY
			2920	*	ZERO OUT EB1 BITS 0-3
584C	B8 20	01	2920	TBN	1(,XR2),X'20'
584F	CO 90	582E	2921	BF	DONEXT
			2922	*	LIO-2
			2923	*	SENSE DIAGNOSTIC
5853	E2 02	02	2923	LA	2(,XR2),XR2
5856	2C 01	585E 01	2924	MVC	ABLE2+3,1(2,XR2)
5858	0C 00	5858 586D	2925	ABLE2	MVC
5861	CO 87	582E	2926	B	*,SVPTM(1)
			2927	*	DONEXT
			2928	*	
5865	E2 02	02	2928	SVPOUT	LA
5868	CO 87	0000	2929	NTR	B
			2930	*	2(,XR2),XR2
			2931	*	INCR INDEX REG BY 2
			2932	*	RETURN TO CALLINE ROUTINE
			2933	*	
586C	0000		586D	2931	SVPTM
				2932	DC
				2933	XL2'0000'
					TEMP BUFFER FOR SVP EXECUTOR

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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2932 *
2933 *-----*
2934 * SVP STRING -- HALT IOP AND READ IOP STATUS *
2935 *-----*
2936 *
586E 0882 586E 2937 IPHALT EQU *
5870 0000 586F 2938 DC XL2'0882' K4 -- STOP IOP
5871 2939 5871 2939 DC XL2'0000' END
2940 *
5872 0063 5872 2941 IPSTAT EQU *
5874 590F 5873 2942 DC XL2'0063' SENSE CHECK REG
5876 006D 5875 2943 DC AL2(IPCHK) AND SAVE
5878 5902 5877 2944 DC XL2'006D' SENSE X-REG
587A 0060 5879 2945 DC AL2(RSXREG-1) AND SAVE
587C 5911 5878 2946 DC XL2'0060' SENSE 0.
587E 0061 587D 2947 DC AL2(SMSAVE) SAVE.
5880 5910 587E 2948 DC XL2'0061' SENSE 1.
5882 A882 5881 2949 DC AL2(SMSAVE-1) SAVE.
5884 0068 5883 2950 DC XL2'A882' K0,K2,K4
5886 58FC 5885 2951 DC XL2'0068' SENSE OPREG C
5888 006A 5887 2952 DC AL2(RSOPRC-1) AND SAVE
588A 58FE 5888 2953 DC XL2'006A' SENSE OPREG CR
588C 006B 5889 2954 DC AL2(RSOPRR-1) AND SAVE
588E 5900 588C 2955 DC XL2'006B' SENSE OPREG Y
5890 0085 588F 2956 DC AL2(RSOPRY-1) AND SAVE
5892 006D 5891 2957 DC XL2'0085' D-REG --> X-REG
5894 58F0 5892 2958 DC XL2'006D' SENSE D-REG
5896 038F 5895 2959 DC AL2(RSDREG-1) AND SAVE
5898 0085 5897 2960 DC XL2'038F' A-REG --> D-REG
589A 006D 5899 2961 DC XL2'0085' --> X-REG
589C 58F4 5898 2962 DC XL2'006D' SENSE A-REG
589E 0288 589D 2963 DC AL2(RSAREG-1) AND SAVE
58A0 C08A 589E 2964 DC XL2'0288'
58A2 008B 58A1 2965 DC XL2'C08A' 'EORI' IN OPREG. I='00'
58A4 028F 58A3 2966 DC XL2'008B'
58A6 0F8F 58A5 2967 DC XL2'028F' '00' --> A-REG
58A8 0085 58A7 2968 DC XL2'0F8F' B-REG 'EOR' A-REG --> D-REG
58AA 006C 58A9 2969 DC XL2'0085' --> X-REG
58AC 58F8 58AB 2970 DC XL2'006C' SENSE B-REG
58AE B082 58AD 2971 DC AL2(RSBREG-1) AND SAVE
58B0 0067 58AE 2972 DC XL2'B082' K0,K2,K3 -- ALS DISPLAY MODE
58B2 58D8 58B1 2973 DC XL2'0067' SENSE PROC PTR/MODE
58B4 0065 58B3 2974 DC AL2(RSPPTR-1) AND SAVE
58B6 590C 58B5 2975 DC XL2'0065' SENSE ACCESS PTR/MODE
58B8 0064 58B7 2976 DC AL2(IPAPTR) AND SAVE
58BA 590E 58B8 2977 DC XL2'0064' SENSE LINK
58BC 8882 58B9 2978 DC AL2(IPLINK) AND SAVE
58BE A882 58BD 2979 DC XL2'B882'
58C0 FF80 58BF 2980 DC XL2'A882' K0,K2,K4
58C2 008B 58C1 2981 DC XL2'FF80' SETUP X-REG.DON'T RESET 'PCR'
58C4 028F 58C3 2982 DC XL2'008B'
58C6 888E 58C5 2983 DC XL2'028F'
58C8 0000 58C7 2984 DC XL2'888E' '00' --> INDEX REG
58C9 2985 58C9 2985 DC XL2'0000' END
2986 *
2987 *-----*
2988 * SVP STRING -- IOP RESTORE *
2989 *-----*
2990 *
58CA A882 58CA 2991 RSIOP EQU *
58CC 0688 58CB 2992 DC XL2'A882' K0,K2,K4
58CE 808A 58CD 2993 DC XL2'0688'
58D0 808B 58CF 2994 DC XL2'808A' 'SHODE' PTR=0; MODE=0
58D2 8882 58D1 2995 DC XL2'808B'
58D4 008F 58D3 2996 DC XL2'8882' K0,K4
58D6 A882 58D5 2997 DC XL2'008F' EXEC SHODE INSTRUCTION
58D8 008B 58D7 2998 DC XL2'A882' K0,K2,K4
58D9 2999 58D9 2999 RSPPTR DC XL2'008B' Y-REG=PROC PTR (PPPXXXX)

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58DA 028F 58DB 3000 DC XL2'028F' Y-REG --> D-REG
58DC 888E 58DD 3001 DC XL2'888E' --> INDEX REG
58DE 008B 58DF 3002 RSAPTR DC XL2'008B' Y-REG=ACCS PTR (PPPLLLLL)
58E0 028F 58E1 3003 DC XL2'028F' Y-REG --> D-REG
58E2 888E 58E3 3004 DC XL2'888E' --> INDEX REG
58E4 0088 58E5 3005 DC XL2'0088' X'00' --> OP REG C
58E6 208A 58E7 3006 DC XL2'208A' X'20' --> OP REG CR
58E8 008B 58E9 3007 DC XL2'008B' X'00' --> OP REG Y
58EA 018C 58EB 3008 DC XL2'018C' R4-R7 --> EXTERNAL ZONE
58EC 008C 58ED 3009 DC XL2'008C' R3-R7 --> EXTERNAL ADDRESS REG
58EE 8E8E 58EF 3010 DC XL2'8E8E' SERVICE ACCESS CYCLE
58F0 008B 58F1 3011 RSDREG DC XL2'008B' Y-REG = D-REG VALUE
58F2 028F 58F3 3012 DC XL2'028F' --> D-REG
58F4 008B 58F5 3013 RSAREG DC XL2'008B' Y-REG = A-REG VALUE
58F6 008F 58F7 3014 DC XL2'008F' --> A-REG
58F8 008B 58F9 3015 RSBREG DC XL2'008B' Y-REG = B-REG VALUE
58FA 018F 58FB 3016 DC XL2'018F' --> B-REG
58FC 0088 58FD 3017 RSOPRC DC XL2'0088' -C
58FE 008A 58FF 3018 RSOPRR DC XL2'008A' LOAD OP-REG -CR
5900 008B 5901 3019 RSOPRY DC XL2'008B' -Y
5902 0089 5903 3020 RSXREG DC XL2'0089' RESTORE X-REG
3021 *
5904 00C2 5904 3022 RSKREG EQU *
5906 590A 5905 3023 DC XL2'00C2' RESTORE K-REG
5908 0000 5907 3024 DC AL2(IPKREG)
5909 3025 DC XL2'0000'
3026 *
590A 00 590A 3027 IPKREG DC XL1'00' K-REG BUFFER
590B 0000 590C 3028 IPAPTR DC XL2'0000' ACCESS PTR/MODE BUFFER
590D 0000 590E 3029 IPLINK DC XL2'0000' LINK
590F 00 590F 3030 IPCHK DC XL1'00' IOP CHECK-REG
5910 0000 5911 3031 SMSAVE DC XL2'0000' SENSE 0 AND 1.
3032 *
3033 *-----*
3034 * SVP STRING -- READ ALS FOR IDLE DISPLAY *
3035 *-----*
3036 *
5912 A882 5912 3037 RDALS EQU *
5913 0088 5913 3038 DC XL2'A882' K0,K2,K4
5916 00CA 5915 3039 DC XL2'0088'
5918 5928 5917 3040 DC XL2'00CA' LOAD CR-REG WITH
591A B082 5918 3041 DC AL2(ALSADR) ALS ADDRESS (00-3F)
591C 006E 5919 3042 DC XL2'B082' K0,K2,K3 -- ALS DISPLAY MODE
591E 5929 591C 3043 DC XL2'006E' READ ALS-B
5920 006A 591E 3044 DC AL2(ALSBD-1) AND SAVE
5922 592A 5921 3045 DC XL2'006A' READ ALS-D
5924 A882 5922 3046 DC AL2(ALSBD) AND SAVE
5926 0000 5925 3047 DC XL2'A882' K0,K2,K4
5927 3048 5927 3048 DC XL2'0000' END
3049 *
3050 *
5928 00 5928 3051 ALSADR DC XL1'00' ALS ADDRESS
5929 0000 592A 3052 ALSBD DC XL2'0000' ALS B/D READ BUFFER
3053 *
3054 *
3055 *
3056 *-----*
3057 * SVP STRING -- READ EXTERNAL REGISTER FOR IDLE DISPLAY *
3058 *-----*
3059 *
592B A882 592B 3059 RDEXT EQU *
592C 0088 592C 3060 DC XL2'A882' K0,K2,K4
592F 008A 592E 3061 DC XL2'0088' RESET C-REG
5931 018C 5930 3062 DC XL2'008A' LOAD CR-REG WITH EXT ZONE
5933 00CA 5932 3063 DC XL2'018C' R-BUS --> EXT ZONE
5935 5945 5934 3064 DC XL2'00CA' CR-REG = EXTAR (001EEEE)
5937 008C 5936 3065 DC AL2(EXTADR)
5939 088F 5938 3066 DC XL2'008C' R-BUS --> EXTAR
593A 3067 593A 3067 DC XL2'088F' EXTIN --> D-REG

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593B 0085	593C 3068	DC	XL2'0085'	→ X-REG
593D 0069	593E 3069	DC	XL2'006D'	READ EXTIN
593F 5946	5940 3070	DC	AL2(EXTIN)	AND SAVE
5941 A882	5942 3071	DC	XL2'A882'	K0,K2,K4
5943 0000	5944 3072	DC	XL2'0000'	END
	3073 *			
	3074 *			
5945 00	5945 3075	EXTADR DC	XL1'00'	EXT ADDRESS
5946 00	5946 3076	EXTIN DC	XL1'00'	EXT-REG READ BUFFER
	3077 *			
	3078 *			
	3079 *			
	3080 *			
	3081 *			
	3082 *			
	5947 3083	RDDLS EQU *		
5947 A882	5948 3084	DC	XL2'A882'	K0,K2,K4
5949 0088	594A 3085	DC	XL2'0088'	K0,K2,K4
594B 00CA	594C 3086	DC	XL2'00CA'	CR-REG = DLSAR (00ZZDDDD)
594D 595F	594E 3087	DC	AL2(DLSADR)	
594F 008C	5950 3088	DC	XL2'008C'	R-BUS → DLSAR
5951 088F	5952 3089	DC	XL2'088F'	DLS → A-REG
5953 038F	5954 3090	DC	XL2'038F'	
5955 0085	5956 3091	DC	XL2'0085'	→ D-REG → X-REG
5957 006D	5958 3092	DC	XL2'006D'	READ DLS
5959 5960	595A 3093	DC	AL2(DLSIN)	AND SAVE
595B A882	595C 3094	DC	XL2'A882'	K0,K2,K4
595D 0000	595E 3095	DC	XL2'0000'	END
	3096 *			
	3097 *			
595F 00	595F 3098	DLSADR DC	XL1'00'	DLS ADDRESS
5960 00	5960 3099	DLSIN DC	XL1'00'	DLS-REG READ BUFFER
	3100 *			
	3101 *			
	3102 *			
	3103 *			
	3104 *			
	5961 3105	RUNIOP EQU *		
5961 0882	5962 3106	DC	XL2'0882'	
5963 8882	5964 3107	DC	XL2'8882'	
5965 A882	5966 3108	DC	XL2'A882'	
5967 008A	5968 3109	DC	XL2'008A'	
5969 0C8E	596A 3110	DC	XL2'0C8E'	
596B 00C2	596C 3111	DC	XL2'00C2'	LOAD K-REG
596D 590A	596E 3112	DC	AL2(IPKREG)	FROM IOP K-REG BUFFER
596F 008E	5970 3113	DC	XL2'008E'	RUN IOP
5971 0000	5972 3114	DC	XL2'0000'	END
	3115 *			
	3116 *			
	3117 *			
	3118 *			
	3119 *			
	5973 3120	IPSTEP EQU *		
5973 8882	5974 3121	DC	XL2'8882'	
5975 A882	5976 3122	DC	XL2'A882'	
5977 008A	5978 3123	DC	XL2'008A'	
5979 0C8E	597A 3124	DC	XL2'0C8E'	
597B 00C2	597C 3125	DC	XL2'00C2'	LOAD K-REG
597D 5987	597E 3126	DC	AL2(CYCK)	FOR SINGLE STEP
597F 008E	5980 3127	DC	XL2'008E'	RUN IOP FOR ONE CYCLE
5981 8882	5982 3128	DC	XL2'8882'	K0,K2,K3
5983 A882	5984 3129	DC	XL2'A882'	READ ACC PTR/NODE/ADDR COMP
5985 0000	5986 3130	DC	XL2'0000'	END
	3131 *			
5987 00	5987 3132	CYCK DC	XL1'00'	K-REG FOR SINGLE STEP
	3133 *			
	3134 *			
	3135 *			

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
	3136 *			
	3137 *			
	3138 *			
	5988 3139	AACMP EQU *		
5988 A882	5989 3140	DC	XL2'A882'	K0,K2,K4
598A 0088	5988 3141	DC	XL2'0088'	
598C 00CA	598D 3142	DC	XL2'00CA'	LOAD CR-REG = BLOCK ADDR
598E 5E00	598F 3143	DC	AL2(VAL2-1)	
5990 00CB	5991 3144	DC	XL2'00CB'	LOAD Y-REG = DISPL ADDR
5992 5E01	5993 3145	DC	AL2(VAL2)	
5994 028F	5995 3146	DC	XL2'028F'	DISPL ADDR → D-REG
5996 048D	5997 3147	DC	XL2'048D'	R2...R7/D-REG → ADDR COMP REG
5998 208A	5999 3148	DC	XL2'208A'	????
599A 0C8E	5998 3149	DC	XL2'0C8E'	????
599C A882	599D 3150	DC	XL2'A882'	K0,K2,K4.
599E 0000	599F 3151	DC	XL2'0000'	END
	3152 *			
	3153 *			
	3154 *			
	3155 *			
	3156 *			
	59A0 3157	DDLS EQU *		
59A0 A882	59A1 3158	DC	XL2'A882'	K0,K2,K4
59A2 0088	59A3 3159	DC	XL2'0088'	
59A4 00CA	59A5 3160	DC	XL2'00CA'	CR-REG = DLSAR (00ZZDDDD)
59A6 5E7F	59A7 3161	DC	AL2(VAL1)	
59A8 008C	59A9 3162	DC	XL2'008C'	R-BUS → DLSAR
59AA 088F	59AB 3163	DC	XL2'088F'	DLS → A-REG
59AC 038F	59AD 3164	DC	XL2'038F'	→ D-REG → X-REG
59AE 0085	59AF 3165	DC	XL2'0085'	
59B0 006D	59B1 3166	DC	XL2'006D'	READ DLS
59B2 5E81	59B3 3167	DC	AL2(VAL1B)	AND SAVE
59B4 A882	59B5 3168	DC	XL2'A882'	K0,K2,K4
59B6 0000	59B7 3169	DC	XL2'0000'	END
	3170 *			
	3171 *			
	3172 *			
	3173 *			
	3174 *			
	3175 *			
	59B8 3176	DZLS EQU *		
59B8 A882	59B9 3177	DC	XL2'A882'	K0,K2,K4
59BA 0388	59BB 3178	DC	XL2'0388'	OP REG SET TO SZI OP
59BC 00CA	59BD 3179	DC	XL2'00CA'	CR-REG = ZLS ADDR
59BE 5E7F	59BF 3180	DC	AL2(VAL1)	ADDR TO BE DISPLAYED
59C0 028C	59C1 3181	DC	XL2'028C'	ZLS → ZLSOUT REG
59C2 0086	59C3 3182	DC	XL2'0086'	→ X-REG
59C4 006D	59C5 3183	DC	XL2'006D'	READ ZLS
59C6 5E81	59C7 3184	DC	AL2(VAL1B)	AND SAVE
59C8 A882	59C9 3185	DC	XL2'A882'	K0,K2,K4
59CA 0000	59CB 3186	DC	XL2'0000'	END
	3187 *			
	3188 *			
	3189 *			
	3190 *			
	3191 *			
	59CC 3192	DZXT EQU *		
59CC A882	59CD 3193	DC	XL2'A882'	K0,K2,K4
59CE 0088	59CF 3194	DC	XL2'0088'	RESET C-REG
59D0 008A	59D1 3195	DC	XL2'008A'	LOAD CR-REG WITH EXT ZONE
59D2 018C	59D3 3196	DC	XL2'018C'	R-BUS → EXT ZONE
59D4 00CA	59D5 3197	DC	XL2'00CA'	CR-REG = EXTAR (001EEEEEE)
59D6 6062	59D7 3198	DC	AL2(FRDTBL)	
59D8 008C	59D9 3199	DC	XL2'008C'	R-BUS → EXTAR
59DA 0E8E	59DB 3200	DC	XL2'0E8E'	
59DC 0C87	59DD 3201	DC	XL2'0C87'	EXTIN → D-REG
59DE 0085	59DF 3202	DC	XL2'0085'	→ X-REG
59E0 006D	59E1 3203	DC	XL2'006D'	READ EXTIN

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59E2	5E81	59E3	3204	DC AL2(VAL1B)	
59E4	A882	59E5	3205	DC XL2'A882'	KO,K2,K4 AND SAVE
59E6	0000	59E7	3206	DC XL2'0000'	END
		3207	*		
		3208	*		
		3209	*	SVP STRING -- ALTER AND DISPLAY MODE BUFFER.	
		3210	*		
		3211	*		
59E8	A882	59E8	3212	EQU * ANB	
59E9	1688	59E9	3213	DC XL2'A882'	KO,K2,K4
59EC	00CA	59E8	3214	DC XL2'1688'	
59EE	5E00	59ED	3215	DC XL2'00CA'	
59F0	00CB	59EF	3216	DC AL2(VAL2-1)	
59F2	5E00	59F1	3217	DC XL2'00CB'	
59F4	8882	59F3	3218	DC AL2(VAL2-1)	
59F6	008F	59F5	3219	DC XL2'8882'	
		59F7	3220	DC XL2'008F'	
		59F8	3221	EQU * DMB	
59F8	A882	59F9	3222	DC XL2'A882'	
59FA	0088	59FB	3223	DC XL2'0088'	
59FC	008A	59FD	3224	DC XL2'008A'	
59FE	00CB	59FF	3225	DC XL2'00CB'	
5A00	5E91	5A01	3226	DC AL2(MBIDX)	
5A02	028F	5A03	3227	DC XL2'028F'	Y-REG --> D-REG
5A04	888E	5A05	3228	DC XL2'888E'	
5A06	8E8E	5A07	3229	DC XL2'8E8E'	
5A08	8882	5A09	3230	DC XL2'8882'	
5A0A	0065	5A08	3231	DC XL2'0065'	
5A0C	5E90	5A0D	3232	DC AL2(MODE)	
5A0E	A882	5A0F	3233	DC XL2'A882'	
5A10	0000	5A11	3234	DC XL2'0000'	END
		3235	*		
		3236	*		
		3237	*	SVP STRING -- ALTER AND DISPLAY ZLS	
		3238	*		
		3239	*		
5A12	A882	5A12	3240	EQU * AZLS	
5A14	0388	5A13	3241	DC XL2'A882'	KO,K2,K4
5A16	00CA	5A15	3242	DC XL2'0388'	OP REG SET TO SZI OP
5A18	5E7F	5A17	3243	DC XL2'00CA'	CR-REG = ZLS ADDR
5A1A	00CB	5A19	3244	DC AL2(VAL1)	ADDR TO BE DISPLAYED
5A1C	5E80	5A18	3245	DC XL2'00CB'	Y-REG = ZLS DATA
5A1E	8882	5A1D	3246	DC AL2(VAL1A)	
5A20	008F	5A1E	3247	DC XL2'8882'	KO,K4 -- NOT SERVICE MODE
5A22	A882	5A21	3248	DC XL2'008F'	EXEC SZI INSTRUCTION
5A24	028C	5A23	3249	DC XL2'A882'	KO,K2,K4
5A26	0086	5A25	3250	DC XL2'028C'	ZLS --> ZLSOUT REG --> X-REG
5A28	006D	5A27	3251	DC XL2'0086'	
5A2A	5E81	5A29	3252	DC XL2'006D'	READ ZLS
5A2C	A882	5A28	3253	DC AL2(VAL1B)	AND SAVE
5A2E	0000	5A2D	3254	DC XL2'A882'	KO,K2,K4
		5A2F	3255	DC XL2'0000'	END
		3256	*		
		3257	*		
		3258	*		
		3259	*	SVP STRING -- ALTER AND DISPLAY ALD-B/D	
		3260	*		
		3261	*		
5A30	A882	5A30	3262	EQU * AALS	
5A32	0288	5A31	3263	DC XL2'A882'	KO,K2,K4
		5A33	3264	DC XL2'0288'	'SABI' OR 'SADI' INSTRUCTION
		3265	*		R2=0 IS SABI, R2=1 IS SADI
5A34	00CA	5A35	3266	DC XL2'00CA'	LOAD CR-REG WITH
5A36	5E7F	5A37	3267	DC AL2(VAL1)	ALS ADDRESS (00-3F)
5A38	00CB	5A39	3268	DC XL2'00CB'	LOAD Y-REG WITH
5A3A	5E80	5A38	3269	DC AL2(VAL1A)	ALS DATA
5A3C	8882	5A3D	3270	DC XL2'8882'	KO,K4 -- NOT SERVICE MODE
5A3E	008F	5A3F	3271	DC XL2'008F'	EXECUTE SABI/SADI INSTRUCTION

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
5A40	B082	5A41	3272	DC XL2'B082'	KO,K2,K3 -- ALS DISPLAY MODE
5A42	006E	5A43	3273	SVPALS DC XL2'006E'	READ ALS-B/D
5A44	5E81	5A45	3274	DC AL2(VAL1B)	AND SAVE
5A46	A882	5A47	3275	DC XL2'A882'	KO,K2,K4
5A48	0000	5A49	3276	DC XL2'0000'	END
		3277	*		
		3278	*		
		3279	*		
		3280	*	SVP STRING -- ALTER AND DISPLAY DLS	
		3281	*		
		3282	*		
5A4A	A882	5A4A	3283	ADLS EQU * 5A4A	
5A4C	0088	5A4B	3284	DC XL2'A882'	KO,K2,K4
5A4E	00CA	5A4D	3285	DC XL2'0088'	'00' TO C-REG
5A50	5E7F	5A4E	3286	DC XL2'00CA'	LOAD CR-REG WITH
5A52	00CB	5A51	3287	DC AL2(VAL1)	DLS ADDRESS (00-3F)
5A54	5E80	5A53	3288	DC XL2'00CB'	LOAD Y-REG WITH
5A56	008C	5A55	3289	DC AL2(VAL1A)	DLS DATA
5A58	028F	5A57	3290	DC XL2'008C'	R2...7 --> DLSAR
5A5A	018D	5A59	3291	DC XL2'028F'	Y-REG --> A-REG --> D-REG
5A5C	008C	5A58	3292	DC XL2'018D'	FORCE DLS WRITE
5A5E	088F	5A5D	3293	DC XL2'008C'	R2...7 --> DLSAR
5A60	038F	5A5F	3294	DC XL2'088F'	DLS --> A-REG --> D-REG
5A62	0085	5A61	3295	DC XL2'038F'	
5A64	006D	5A63	3296	DC XL2'0085'	
5A66	5E81	5A65	3297	DC XL2'006D'	READ DLS --> X-REG
5A68	A882	5A67	3298	DC AL2(VAL1B)	AND SAVE
5A6A	0000	5A69	3299	DC XL2'A882'	KO,K2,K4
		5A6B	3300	DC XL2'0000'	END
		3301	*		
		3302	*		
		3303	*		
		3304	*	SVP STRING -- ALTER AND DISPLAY EXTERNAL REGISTER	
		3305	*		
		3306	*		
5A6C	A882	5A6C	3307	AEXT EQU * 5A6C	
5A6E	0088	5A6D	3308	DC XL2'A882'	KO,K2,K4
5A70	008A	5A6E	3309	DC XL2'0088'	'00' TO C-REG
5A72	018C	5A71	3310	DC XL2'008A'	'00' TO CR-REG
5A74	00CA	5A73	3311	DC XL2'018C'	R4...7 --> EXT ZONE
5A76	6062	5A75	3312	DC XL2'00CA'	LOAD CR-REG WITH
5A78	008C	5A77	3313	DC AL2(FRDTBL)	EXT ADDRESS (001EEEE)
5A7A	00CB	5A79	3314	DC XL2'008C'	R3...7 --> EXTAR
5A7C	5E7F	5A78	3315	DC XL2'00CB'	LOAD Y-REG WITH
5A7E	028F	5A7D	3316	DC AL2(VAL1)	EXT DATA
5A80	028D	5A7E	3317	DC XL2'028F'	Y-REG --> A-REG --> D-REG
5A82	008C	5A81	3318	DC XL2'028D'	FORCE EXT WRITE
5A84	0E8E	5A83	3319	DC XL2'008C'	R3...7 --> EXTAR
5A86	088F	5A85	3320	DC XL2'0E8E'	
5A88	0085	5A87	3321	DC XL2'088F'	EXTIN --> D-REG --> X-REG
5A8A	006D	5A89	3322	DC XL2'0085'	
5A8C	5E81	5A88	3323	DC XL2'006D'	READ EXT
5A8E	A882	5A8D	3324	DC AL2(VAL1B)	AND SAVE
5A90	0000	5A8E	3325	DC XL2'A882'	KO,K2,K4
		5A91	3326	DC XL2'0000'	END
		3327	*		
		3328	*		
		3329	*	SVP STRING -- DISPLAY CONTROL STORE	
		3330	*		
		3331	*		
5A92	A882	5A92	3332	DCS EQU * 5A92	
5A94	0088	5A93	3333	DC XL2'A882'	KO,K2,K4
5A96	00CA	5A95	3334	DC XL2'0088'	'00' TO C-REG
5A98	5A87	5A97	3335	DC XL2'00CA'	LOAD CR-REG WITH
5A9A	00CB	5A99	3336	DC AL2(CIBUF-1)	CS ADDRESS BLOCK
5A9C	5A88	5A98	3337	DC XL2'00CB'	LOAD Y-REG WITH
5A9E	028F	5A9D	3338	DC AL2(CIBUF)	CS ADDRESS DISPL
		5A9F	3339	DC XL2'028F'	Y-REG --> A-REG --> D-REG

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
5AA0	088D	5AA1	3340	DC XL2'088D' R2..7/D-REG --> CSAR-B/D
5AA2	0E8E	5AA3	3341	DC XL2'0E8E' SERVICE ACCESS CYCLE
5AA4	0068	5AA5	3342	DC XL2'0068' READ C-REG
5AA6	5AB4	5AA7	3343	DC AL2(CIBUF-4) AND SAVE
5AAB	006A	5AA9	3344	DC XL2'006A' READ CR-REG
5AAA	5AB5	5AAB	3345	DC AL2(CIBUF-3) AND SAVE
5AAC	006B	5AAF	3346	DC XL2'006B' READ Y-REG
5AAE	5AB6	5AA7	3347	DC AL2(CIBUF-2) AND SAVE
5AB0	A882	5AB1	3348	DC XL2'A882' KO,K2,K4
5AB2	0000	5AB3	3349	DC XL2'0000' END
3350	*			
5AB4	0000000000	5AB8	3351	CIBUF DC XL5'0000000000' CONTROL STORE BUFF...DATA(3)/ADDR(2)
3352	*			
3353	*			
3354	*			
3355	*			
3356	*			
3357	*			
5AB9	A882	5AB9	3358	ACS EQU * KO,K2,K4
5AB8	0088	5ABA	3359	DC XL2'A882' '00' TO C-REG
5ABD	00CA	5ABC	3360	DC XL2'0088' LOAD CR-REG WITH
5ABF	5AB7	5ABE	3361	DC XL2'00CA' CS ADDRESS BLOCK
5AC1	00CB	5AC0	3362	DC AL2(CIBUF-1) LOAD Y-REG WITH
5AC3	5AB8	5AC2	3363	DC XL2'00CB' CS ADDRESS DISPL
5AC5	028F	5AC4	3364	DC AL2(CIBUF) Y-REG --> A-REG --> D-REG
5AC7	088D	5AC6	3365	DC XL2'028F' R2..7/D-REG --> CSAR-B/D
5AC9	00C8	5AC8	3366	DC XL2'088D' LOAD C-REG
5ACB	5AB4	5ACA	3367	DC XL2'00C8' LOAD CR-REG
5ACD	00CA	5ACC	3368	DC AL2(CIBUF-4) LOAD Y-REG
5ACF	5AB5	5ACE	3369	DC XL2'00CA' WRITE CS LEFT
5AD1	00CB	5AD0	3370	DC AL2(CIBUF-3) WRITE CS RIGHT
5AD3	5AB6	5AD2	3371	DC XL2'00CB' SERVICE ACCESS CYCLE
5AD5	AE8E	5AD4	3372	DC AL2(CIBUF-2) READ C-REG
5AD7	CE8E	5AD6	3373	DC XL2'AE8E' AND SAVE
5AD9	0E8E	5AD8	3374	DC XL2'CE8E' READ CR-REG
5ADB	0068	5ADA	3375	DC XL2'0E8E' AND SAVE
5ADD	5AB6	5ADC	3376	DC XL2'0068' READ Y-REG
5ADF	006A	5ADE	3377	DC AL2(CIBUF-2) AND SAVE
5AE1	5AB7	5AED	3378	DC XL2'006A' KO,K2,K4
5AE3	006B	5AE2	3379	DC AL2(CIBUF-1) END
5AE5	5AB8	5AE4	3380	DC XL2'006B' END
5AE7	A882	5AE6	3381	DC AL2(CIBUF) END
5AE9	0000	5AE8	3382	DC XL2'A882' END
		5AEA	3383	DC XL2'0000' END
3384	*			
3385	*			
3386	*			
3387	*			
3388	*			
3389	*			
5AEB	A882	5AEB	3390	DCDL EQU * KO,K2,K4
5AED	0088	5AEC	3391	DC XL2'A882' '00' TO C-REG
5AEF	00CA	5AEE	3392	DC XL2'0088' LOAD CR-REG WITH
5AF1	5AB7	5AEF	3393	DC XL2'00CA' CS ADDRESS BLOCK
5AF3	00CB	5AF2	3394	DC AL2(CIBUF-1) LOAD Y-REG WITH
5AF5	5AB8	5AF4	3395	DC XL2'00CB' CS ADDRESS DISPL
5AF7	028F	5AF6	3396	DC AL2(CIBUF) Y-REG --> A-REG --> D-REG
5AF9	088D	5AF8	3397	DC XL2'028F' R2..7/D-REG --> CSAR-B/D
5AFB	0E8E	5AFA	3398	DC XL2'088D' SERVICE ACCESS CYCLE
5AFD	0068	5AF9	3399	DC XL2'0E8E' READ C-REG (PARITY)
5AFF	5AB5	5AFE	3400	DC XL2'0068' AND SAVE
5B01	006A	5B00	3401	DC AL2(CIBUF-3) AND SAVE
5B03	5AB6	5B02	3402	DC XL2'006A' READ CR-REG (CDL)
5B05	A882	5B04	3403	DC AL2(CIBUF-2) AND SAVE
5B07	0000	5B06	3404	DC XL2'A882' KO,K2,K4
		5B08	3405	DC XL2'0000' END
3406	*			
3407	*			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
3408	*			SVP STRING -- ALTER AND DISPLAY CONTROL STORE DATA LEFT
3409	*			
3410	*			
5B09	A882	5B09	3411	ACDL EQU * KO,K2,K4
5B0B	0088	5B0A	3412	DC XL2'A882' '00' TO C-REG
5B0D	00CA	5B0C	3413	DC XL2'0088' LOAD CR-REG WITH
5B0F	5AB7	5B0E	3414	DC XL2'00CA' CS ADDRESS BLOCK
5B11	00CB	5B10	3415	DC AL2(CIBUF-1) LOAD Y-REG WITH
5B13	5AB8	5B12	3416	DC XL2'00CB' CS ADDRESS DISPL
5B15	028F	5B14	3417	DC AL2(CIBUF) Y-REG --> A-REG --> D-REG
5B17	088D	5B16	3418	DC XL2'028F' R2..7/D-REG --> CSAR-B/D
5B19	00C8	5B18	3419	DC XL2'088D' LOAD C-REG (PARITY)
5B1B	5AB5	5B1A	3420	DC XL2'00C8' LOAD CR-REG (CDL)
5B1D	00CA	5B1C	3421	DC AL2(CIBUF-3) WRITE CS LEFT
5B1F	5AB6	5B1E	3422	DC XL2'00CA' SERVICE ACCESS CYCLE
5B21	AE8E	5B20	3423	DC AL2(CIBUF-2) READ C-REG (PARITY)
5B23	0E8E	5B22	3424	DC XL2'AE8E' AND SAVE
5B25	0068	5B24	3425	DC XL2'0E8E' READ CR-REG (CDL)
5B27	5AB5	5B26	3426	DC XL2'0068' AND SAVE
5B29	006A	5B28	3427	DC AL2(CIBUF-3) KO,K2,K4
5B2B	5AB6	5B2A	3428	DC XL2'006A' END
5B2E	A882	5B2C	3429	DC AL2(CIBUF-2) END
5B2F	0000	5B2E	3430	DC XL2'A882' END
		5B30	3431	DC XL2'0000' END
3432	*			
3433	*			
3434	*			
3435	*			
3436	*			
3437	*			
3438	*			
5B31	A882	5B31	3439	DCDR EQU * KO,K2,K4
5B33	0088	5B32	3440	DC XL2'A882' '00' TO C-REG
5B35	00CA	5B34	3441	DC XL2'0088' LOAD CR-REG WITH
5B37	5AB7	5B36	3442	DC XL2'00CA' CS ADDRESS BLOCK
5B39	00CB	5B38	3443	DC AL2(CIBUF-1) LOAD Y-REG WITH
5B3B	5AB8	5B3A	3444	DC XL2'00CB' CS ADDRESS DISPL
5B3D	028F	5B3C	3445	DC AL2(CIBUF) Y-REG --> A-REG --> D-REG
5B3F	088D	5B3E	3446	DC XL2'028F' R2..7/D-REG --> CSAR-B/D
5B41	0E8E	5B40	3447	DC XL2'088D' SERVICE ACCESS CYCLE
5B43	0068	5B42	3448	DC XL2'0E8E' READ C-REG (PARITY)
5B45	5AB5	5B44	3449	DC XL2'0068' AND SAVE
5B47	006B	5B46	3450	DC AL2(CIBUF-3) READ Y-REG (CDR)
5B49	5AB6	5B48	3451	DC XL2'006B' AND SAVE
5B4B	A882	5B4A	3452	DC AL2(CIBUF-2) KO,K2,K4
5B4D	0000	5B4C	3453	DC XL2'A882' END
		5B4E	3454	DC XL2'0000' END
3455	*			
3456	*			
3457	*			
3458	*			
3459	*			
3460	*			
5B4F	A882	5B4F	3461	ACDR EQU * KO,K2,K4
5B51	0088	5B50	3462	DC XL2'A882' '00' TO C-REG
5B53	00CA	5B52	3463	DC XL2'0088' LOAD CR-REG WITH
5B55	5AB7	5B54	3464	DC XL2'00CA' CS ADDRESS BLOCK
5B57	00CB	5B56	3465	DC AL2(CIBUF-1) LOAD Y-REG WITH
5B59	5AB8	5B58	3466	DC XL2'00CB' CS ADDRESS DISPL
5B5B	028F	5B5A	3467	DC AL2(CIBUF) Y-REG --> A-REG --> D-REG
5B5D	088D	5B5C	3468	DC XL2'028F' R2..7/D-REG --> CSAR-B/D
5B5F	00C8	5B5E	3469	DC XL2'088D' SERVICE ACCESS CYCLE
5B61	5AB5	5B5F	3470	DC XL2'00C8' READ C-REG (PARITY)
5B63	00CB	5B60	3471	DC AL2(CIBUF-3) AND SAVE
5B65	5AB6	5B61	3472	DC XL2'00CB' LOAD Y-REG (CDR)
5B67	CE8E	5B66	3473	DC AL2(CIBUF-2) WRITE CS RIGHT
5B69	0E8E	5B68	3474	DC XL2'CE8E' SERVICE ACCESS CYCLE
		5B6A	3475	DC XL2'0E8E' END

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
5868	0068	586C	3476	DC XL2'0068' READ C-REG (PARITY)
586D	5AB5	586E	3477	DC AL2(CIBUF-3) AND SAVE
586F	006B	5870	3478	DC XL2'006B' READ Y-REG (CDR)
5871	5AB6	5872	3479	DC AL2(CIBUF-2) AND SAVE
5873	A882	5874	3480	DC XL2'A882' KO,K2,K4
5875	0000	5876	3481	DC XL2'0000' END
			3482 *	
			3483 *	
			3484 *	
			3485 *	THIS SUBROUTINE COMPARES OLD AND NEW REGISTER VALUES
			3486 *	AND INSERTS CHANGED VALUES ONLY INTO THE PRINT BUFFER
			3487 *	
			3488 *	
5877	3C 40 6340	3489	CMPRT MVI PTBUFN,C' CLEAR PRINT BUFFER TO BLANKS	
5878	0C 84 633F 6340	3490	MVC PTBUFN-1(PTBUFN-L4),PTBUFN CLEAR L4 TO L6	
5881	0C 9C 628A 628B	3491	MVC L4-1(L4-L1),L4 CLEAR L1 TO L3	
			3492 *	
5887	3C 00 5EA8	3493	MVI L6N@,0 CLEAR PRINT LINE END ADDRESS AREA	
5888	0C 0A 5EA7 5EA8	3494	MVC L6N@-1(L6N@-PRTN@),L6N@ TO ZEROS	
			3495 *	
			3496 *	
			3497 *	SET UP LINE ONE - IAR VALUES
			3498 *	
			3499 *	
5891	C2 01 621E	3500	CLIN1 LA L1,XR1 SET PRINT POINTER TO LINE 1	
5895	0C 01 58B6 5EB6	3501	MVC MOVNM1+4(2),MIARN@ SET TO FIRST REG NAME	
5898	C2 02 610D	3502	LA MIAR,XR2 SET TABLE POINTER TO FIRST VALUE	
589F	3C 03 5E99	3503	MVI VLCNT,3 SET FOR 3 ENTRIES	
			3504 *	
58A3	AD 04 5D 00	3505	CIAR1 CLC HSTBL-REGTBL(5,XR2),O(XR2) COMPARE OLD AND NEW VALUE	
58A7	F2 81 10	3506	JE CIAR2 JUMP IF EQUAL	
			3507 *	
58AA	6C 04 09 00	3508	MVC 9(5,XR1),O(XR2) MOVE NEW VALUE TO PRINT AREA	
58AE	5C 00 00 05	3509	MVC O(1,XR1),5(1,XR1) MOVE @ POS TO LEFT OF NAME	
58B2	4C 04 05 0000	3510	MOVNM1 MVC 5(5,XR1),*-* MOVE REG NAME TO PRINT AREA	
			3511 *	
58B7	D2 01 08	3512	LA 11(,XR1),XR1 ADVANCE PRINT AREA POINTER	
			3513 *	
58BA	E2 02 05	3514	CIAR2 LA 5(,XR2),XR2 ADVANCE TO NEXT VALUE	
58BD	0E 01 58B6 5DF0	3515	ALC MOVNM1+4(2),K0005 ADVANCE TO NEXT REG NAME	
58C3	0F 00 5E99 5E8C	3516	SLC VLCNT(1),K1 DECREMENT COUNTER	
58C9	C0 01 5BA3	3517	BNZ CIAR1 GO IF NOT LAST VALUE	
			3518 *	
58CD	36 01 5DDA	3519	A NEG2,XR1 STORE ADDRESS OF	
58D1	34 01 5E9E	3520	ST L1N@,XR1 END OF LINE	
			3521 *	
			3522 *	
			3523 *	SET UP LINES TWO AND THREE - EXTERNAL REGS
			3524 *	
			3525 *	
58D5	C2 01 6244	3526	CLIN2 LA L2,XR1 SET PRINT POINTER TO LINE 2	
58D9	0C 01 5C0A 5EB8	3527	MVC MOVNM2+4(2),FBONM@ SET TO FIRST REG NAME	
58DF	C2 02 6119	3528	LA FBO,XR2 SET TO FIRST EXTERNAL REG	
58E3	F2 87 0E	3529	J CEXT1	
			3530 *	
58E6	C2 01 6285	3531	CLIN3 LA L3,XR1 SET PRINT POINTER TO LINE 3	
58EA	0C 01 5C0A 5EBA	3532	MVC MOVNM2+4(2),DXCNM@ SET TO FIRST NAME IN LINE 3	
58F0	C2 02 6127	3533	LA DXC,XR2 SET TO FIRST EXT REG IN LINE 3	
			3534 *	
58F4	3C 07 5E99	3535	CEXT1 MVI VLCNT,7 SET FOR 7 ENTRIES	
			3536 *	
58F8	AD 01 5D 00	3537	CEXT2 CLC HSTBL-REGTBL(2,XR2),O(XR2) COMPARE OLD AND NEW VALUE	
58FC	F2 81 0F	3538	JE CEXT3 JUMP IF EQUAL	
			3539 *	
58FF	6C 01 05 00	3540	MVC 5(2,XR1),O(,XR2) MOVE NEW VALUE TO PRINT AREA	
5C03	7C 7E 03	3541	MVI 3(,XR1),C'=' MOVE IN '='	
5C06	4C 02 02 0000	3542	MOVNM2 MVC 2(3,XR1),*-* MOVE REG NAME TO PRINT AREA	
			3543 *	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
5C0B	D2 01 08	3544	LA 8(,XR1),XR1 ADVANCE PRINT AREA POINTER	
		3545 *		
5C0E	E2 02 02	3546	CEXT3 LA 2(,XR2),XR2 ADVANCE TO NEXT VALUE	
5C11	0E 01 5C0A 5DEC	3547	ALC MOVNM2+4(2),K0003 ADVANCE TO NEXT REG NAME	
5C17	0F 00 5E99 5E8C	3548	SLC VLCNT(1),K1 DECREMENT COUNTER	
5C1D	C0 01 5BF8	3549	BNZ CEXT2 GO IF NOT LAST VALUE	
			3550 *	
5C21	36 01 5DDC	3551	A NEG3,XR1 ADJUST TO ADDR OF LAST CHAR PRINTED	
			3552 *	
5C25	3D 00 5EA0	3553	CLI L2N@,0 IS LINE 2 FINISHED?	
5C29	F2 01 08	3554	JNZ CEXT4 JUMP IF YES	
			3555 *	
5C2C	34 01 5EA0	3556	ST L2N@,XR1 STORE LAST ADDR OF LINE 2	
5C30	C0 87 5BE6	3557	B CLIN3 GO DO LINE 3	
			3558 *	
5C34	34 01 5EA2	3559	CEXT4 ST L3N@,XR1 STORE LAST ADDR OF LINE 3	
			3560 *	
			3561 *	
			3562 *	
			3563 *	
			3564 *	
			3565 *	
5C38	C2 01 62C3	3565	CLIN4 LA L4+8,XR1 SET PRINT POINTER TO LINE 4	
5C3C	3C 00 5E26	3566	MVI DLSAD,0 SET DLS ADDR CTR TO ZERO	
5C40	C2 02 6137	3567	LA DLSO1,XR2 SET TO FIRST PAIR OF REGS	
			3568 *	
5C44	3C 08 5E99	3569	CDLS1 MVI VLCNT,8 SET TO 8 ENTRIES	
			3570 *	
5C48	AD 03 5D 00	3571	CDLS2 CLC HSTBL-REGTBL(4,XR2),O(,XR2) COMPARE OLD AND NEW	
5C4C	F2 81 17	3572	JE CDLS3	
			3573 *	
5C4F	6C 03 05 00	3574	MVC 5(4,XR1),O(,XR2) MOVE NEW VALUE TO PRINT AREA	
5C53	7C 7E 01	3575	MVI 1(,XR1),C'=' MOVE IN '='	
5C56	34 01 5C62	3576	ST DLSADN,XR1 STORE ADDR OF UNPACKED DLS ADDR	
			3577 *	
5C5A	C0 87 021E	3578	B UNPACK	
5C5E	01	3579	DC XL1'1' CONVERT PACKED HEX TO EBCDIC	
5C5F	5E26	3580	DC AL2(DLSAD) AREA TO CONVERTED	
5C61	0000	3581	DC DLSADN DC XL2'00' ADDR OF CONVERTED VALUE	
			3582 *	
5C63	D2 01 08	3583	LA 8(,XR1),XR1 ADVANCE PRINT AREA POINTER	
			3584 *	
5C66	E2 02 04	3585	CDLS3 LA 4(,XR2),XR2 ADVANCE TO NEXT VALUE	
5C69	0E 00 5E26 5E8D	3586	ALC DLSAD(1),K2 UPDATE DLS ADDRESS	
5C6F	0F 00 5E99 5E8C	3587	SLC VLCNT(1),K1 DECREMENT COUNTER	
5C75	C0 01 5C48	3588	BNZ CDLS2 GO IF NOT LAST VALUE	
			3589 *	
5C79	36 01 5DDC	3590	A NEG3,XR1 STORE ADDRESS OF	
5C7D	34 01 5EA4	3591	ST L4N@,XR1 LAST CHAR PRINTED	
5C81	0D 01 5EA4 5EC2	3592	CLC L4N@,L4P@@ CHECK IF ANY ENTRIES	
5C87	F2 04 09	3593	JNH CDLS4 GO IF NONE	
			3594 *	
5C8A	0C 02 628D 60EA	3595	MVC L4+2(3),DLSNM MOVE 'DLS' TO START OF LINE	
5C90	F2 87 08	3596	J CLIN5	
			3597 *	
5C93	C2 01 628A	3598	CDLS4 LA L4-1,XR1 STORE ZERO LENGTH LINE	
5C97	34 01 5EA4	3599	ST L4N@,XR1	
			3600 *	
			3601 *	
			3602 *	
			3603 *	
			3604 *	
			3605 *	
5C9B	C2 01 6301	3605	CLIN5 LA L5,XR1 SET PRINT POINTER TO LINE 5	
5C9F	C2 02 6158	3606	LA COMP,XR2 SET TABLE POINTER TO ADDR COMP	
			3607 *	
5CA3	0C 04 6158 5E28	3608	MVC COMP(5),ADRCMP MOVE IN ADDRESS COMPARE VALUE	
5CA9	AD 04 5D 00	3609	CLC HSTBL-REGTBL(5,XR2),O(,XR2) COMPARE OLD AND NEW VALUE	
5CAD	F2 81 10	3610	JE CCHK JUMP IF EQUAL	
			3611 *	

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5C80	6C 04 09 00	3612	MVC	9(5,XR1),0(,XR2) MOVE IN NEW ADDR COMP VALUE
5C84	5C 00 00 05	3613	MVC	0(1,XR1),5(,XR1) MOVE @ TO LEFT OF NAME
5C88	4C 04 05 60EF	3614	MVC	5(5,XR1),COMPNN INSERT NAME
5C8D	D2 01 0C	3615 *		
		3616	LA	12(,XR1),XR1 ADVANCE PRINT AREA POINTER
5CC0	C2 02 6159	3617 *		
		3618	CCHK LA	CSTOP,XR2 SET TABLE POINTER TO CHK STOP
5CC4	0C 00 6159 5E2C	3619 *		
5CCA	AD 00 5D 00	3620	MVC	CSTOP(1),IPCSTP MOVE IN CHECK STOP INDICATOR
5CCE	F2 81 10	3621	CLC	HSTBL-REGTBL(1,XR2),0(,XR2) COMPARE OLD AND NEW
5CD1	6C 02 06 02	3622	JE	CCHK1 JUMP IF EQUAL
5CD5	5C 00 00 04	3623 *		
5CD9	4C 03 04 60F3	3624	MVC	6(3,XR1),2(,XR2) MOVE NEW VALUE TO PRT AREA
5CDE	D2 01 09	3625	MVC	0(1,XR1),4(,XR1) MOVE @ TO LEFT OF NAME
		3626	MVC	4(4,XR1),CHKNM INSERT NAME
5CE1	36 01 5DDC	3627 *		
5CE5	34 01 5EA6	3628	LA	9(,XR1),XR1 ADVANCE PRINT AREA POINTER
		3629 *		
		3630	CCHK1 A	NEG3,XR1 STORE ADDRESS OF
		3631	ST	L5N@,XR1 LAST CHAR ENTERED
		3632 *		
		3633 *		
		3634 *		SET UP LINE SEVEN
		3635 *		
		3636 *		
5CE9	C2 01 6314	3637	CLIN6 LA	L6,XR1 SET PRINT POINTER TO LINE 6
5CED	0C 01 5D0D 5E8C	3638	MVC	MOVNM7+4(2),APTRN@ SET TO FIRST REGISTER NAME
5CF3	C2 02 615D	3639	LA	APTR,XR2 SET TABLE POINTER TO ACCESS POINTER
5CF7	3C 04 5E99	3640	MVI	VLCNT,4 SET FOR 4 ENTRIES
5CFB	AD 01 5D 00	3641 *		
5CFF	F2 81 0F	3642	CPTR1 CLC	HSTBL-REGTBL(2,XR2),0(,XR2) COMPARE OLD AND NEW
		3643	JE	CPTR2 JUMP IF EQUAL
5D02	6C 01 06 00	3644 *		
5D06	7C 7E 04	3645	MVC	6(2,XR1),0(,XR2) MOVE NEW VALUE TO PRT AREA
5D09	4C 03 03 0000	3646	MVI	4(,XR1),C'=' MOVE IN '='
		3647	MOVNM7 MVC	3(4,XR1),*-* MOVE REG NAME TO PRT AREA
5D0E	D2 01 09	3648 *		
		3649	LA	9(,XR1),XR1 ADVANCE PRINT AREA POINTER
5D11	E2 02 02	3650 *		
5D14	0E 01 5D0D 5DEE	3651	CPTR2 LA	2(,XR2),XR2 ADVANCE TABLE POINTER TO NEXT VALUE
5D1A	0F 00 5E99 5E8C	3652	ALC	MOVNM7+4(2),K0004 STEP TO NEXT NAME
5D20	C0 01 5CFB	3653	SLC	VLCNT(1),K1 DECREMENT COUNTER
		3654	BNZ	CPTR1 GO IF NOT LAST VALUE
5D24	C2 02 6165	3655 *		
		3656	LA	SNS,XR2 SET TABLE POINTER TO SNS
5D28	AD 03 5D 00	3657 *		
5D2C	F2 81 0C	3658	CLC	HSTBL-REGTBL(4,XR2),0(,XR2) COMPARE OLD AND NEW
		3659	JE	CSNS2 JUMP IF EQUAL
5D2F	6C 03 08 00	3660 *		
5D33	4C 04 04 6108	3661	MVC	8(4,XR1),0(,XR2) MOVE NEW VALUE TO PRT AREA
		3662	MVC	4(5,XR1),SNSNM INSERT FIELD NAME
5D38	D2 01 08	3663 *		
		3664	LA	11(,XR1),XR1 ADVANCE PRINT AREA POINTER
5D3B	36 01 5DDC	3665 *		
5D3F	34 01 5EA8	3666	CSNS2 A	NEG3,XR1 STORE ADDRESS OF
		3667	ST	L6N@,XR1 LAST CHAR INSERTED
		3668 *		
		3669 *		
		3670 *		PRINT LINES ONE TO SEVEN AS PREVIOUSLY SET UP
		3671 *		
5D43	C0 87 5D57	3672 *		
		3673	PRTREG B	PRTBUF GO TO PRINT BUFFER SUBROUTINE
5D47	38 04 0208	3674 *		
5D48	F2 10 05	3675	TBN	SBYTE0,SSW05 DO NOT SPACE PRINTER
		3676	JT	PRTRGX IF USING ALTERNATE PRINTER
5D4E	C0 87 021A	3677 *		
5D52	16	3678	B	PRINT SPACE PRINTER 6 LINES
		3679	DC	XL1'16'

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
5D53	C0 87 40AD	3680 *		
		3681	PRTRGX B	RTN18 RETURN FOR NEXT COMMAND ENTRY
		3682 *		
		3683 *		
		3684 *		
		3685 *		SUBROUTINE TO PRINT FROM THE PRINT BUFFER
		3686 *		
		3687 *		
5D57	34 08 5DBF	3688	PRTBUF ST	PRTBX+3,ARR SAVE RETURN ADDRESS
5D5B	34 01 5DB7	3689	ST	PRBXR1+3,XR1 SAVE XR1
5D5F	34 02 5DBB	3690	ST	PRBXR2+3,XR2 SAVE XR2
5D63	39 20 0A0E	3691 *		
5D67	F2 10 08	3692	TBF	UDT1-1,X'20' IS 5471 ON SYSTEM?
		3693	JT	PRTB3 JUMP IF NOT
5D6A	35 C0 5EBE	3694 *		
5D6E	F3 10 05	3695	L	KYBDIA,IARI SET LEV 1 IAR TO REQ KEY INT ROUT
5D71	3C 00 5E9C	3696	SIO	X'05',KEY ENABLE & RESET REQ KEY INTERRUPTS
		3697	MVI	PRTEND,0 CLEAR 'ABORT' INDICATOR
5D75	3C 06 5E9A	3698 *		
5D79	C2 01 5E9E	3699	PRTB3 MVI	LINCTR,6 SET COUNTER TO 6 LINES
		3700	LA	LIN@,XR1 SET TO ADDRESSES FOR FIRST LINE
5D7D	1C 01 5EC4 00	3701 *		
5D82	1F 01 5EC4 CC	3702	PRTB1 MVI	PTTEMP(2),0(,XR1) CALCULATE LENGTH
5D87	F2 04 13	3703	SLC	PTTEMP(2),PRT@-PRTN@,XR1) OF LINE
		3704	JNP	PRTB2 SKIP PRINTING IF NOT POSITIVE
5D8A	0C 00 5D9A 5EC4	3705 *		
5D90	1C 01 5D9C 00	3706	MVC	PTLENG(1),PTTEMP STORE LENGTH IN PRINT PARAMETERS
		3707	MVC	PTADDR(2),0(,XR1) STORE ADDRESS OF LAST CHAR
5D95	C0 87 021A	3708 *		
5D99	01	3709	B	PRINT *DCP* PRINT ROUTINE
5D9A		3710	DC	XL1'01' SPACE 1 BETWEEN LINES
5D9B		3711	PTLENG DS	1L1 LENGTH OF LINE TO BE PRINTED
		3712	PTADDR DS	AL2 ADDRESS OF LINE TO BE PRINTED
5D9D	D2 01 02	3713 *		
5DA0	0F 00 5E9A 5E8C	3714	PRTB2 LA	2(,XR1),XR1 STEP TO NEXT LINE
5DA6	C0 84 5D7D	3715	SLC	LINCTR(1),K1 DECREMENT LINE COUNTER
		3716	BP	PRTB1 GO IF NOT LAST LINE
5DAA	39 20 0A0E	3717 *		
5DAE	F2 10 03	3718	TBF	UDT1-1,X'20' IS 5471 ON SYSTEM?
		3719	JT	PRBXR1 JUMP IF NOT
5DB1	F3 10 00	3720 *		
		3721	RSIARI SIO	X'00',KEY DISABLE REQ KEY INTERRUPTS
5DB4	C2 01 0000	3722 *		
5DB8	C2 02 0000	3723	PRBXR1 LA	*-,XR1 RESTORE XR1
5DBC	C0 87 0000	3724	PRBXR2 LA	*-,XR2
		3725	PRTBX B	*-* RETURN TO MAINLINE
		3726 *		
		3727 *		
		3728 *		5471 REQUEST KEY INTERRUPT ROUTINE
		3729 *		THIS ROUTINE FORCES TERMINATION OF PRINTING BY PRTBUF
		3730 *		SUBROUTINE WHEN REQUEST KEY IS PRESSED
		3731 *		
		3732 *		
5DC0	35 04 5DE8	3733	KYBDI L	K0000,PSR ZERO OUT PROG STATUS REG
5DC4	3C 01 5E9C	3734	MVI	PRTEND,1 SET 'ABORT' INDICATOR
5DC8	35 20 5E0C	3735	L	RIARI@,PIIAR FORCE EXIT TO PRTBUF SUBROUTINE
5DCC	F3 10 01	3736	SIO	X'01',KEY RESET REQUEST KEY INTERRUPT
5DCF	C0 87 5D0C	3737	B	KYBDI BRANCH BACK
		3738 *		
		3739 *		
		3740 *		
		3741 *		*** CONSTANTS AND ERROR MESSAGES ***
		3742 *		
		3743 *		
		3744 *		
		3745 *		
		3746 *		*** MULTI-BYTE CONSTANTS ***
		3747 *		

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

3748 *
5003 0005 5004 3749 DEC5 DC IL2'5'
5005 000F 5006 3750 DEC15 DC IL2'15'
3751 *
5007 FFFF 5008 3752 NEG1 DC XL2'FFFF'
5009 FFFE 500A 3753 NEG2 DC IL2'-2'
500B FFFD 500C 3754 NEG3 DC IL2'-3'
500D FFFB 500E 3755 NEG5 DC IL2'-5'
500F 0000 50E0 3756 XR1S4 DC XL2'0000'
50E1 0000 50E2 3757 XR2S1 DC XL2'0000'
50E3 0000 50E4 3758 XR2S3 DC XL2'0000'
50E5 0000 50E6 3759 SIAR1 DC XL2'0000'
50E7 0000 50E8 3760 K0000 DC XL2'0000'
50E9 0001 50EA 3761 K0001 DC XL2'0001'
50EB 0003 50EC 3762 K0003 DC XL2'0003'
50ED 0004 50EE 3763 K0004 DC XL2'0004'
50EF 0005 50F0 3764 K0005 DC XL2'0005'
50F1 000F 50F2 3765 K0F DC XL2'000F'
50F3 8000 50F4 3766 K8000 DC XL2'8000'
50F5 0000 50F6 3767 STRCTR DC XL2'0000'
50F7 F0F0 50F8 3768 ZERO DC CL2'00'
50F9 4040F1 50FB 3769 ZONE DC CL3' 1'
50FC 0000 50FD 3770 CONV2 DC 2XL1'0'
50FE 0000 50FF 3771 SENSE DC XL2'0000'
5E00 4040 5E01 3772 VAL2 DC CL2' '
5E02 4040 5E03 3773 VAL2A DC CL2' '
5E04 40404040 5E07 3774 VAL4 DC 4CL1' '
5E08 404040404040 5E0D 3775 BLANK DC 6CL1' '
5E0E 404040404040 5E13 3776 CONV6 DC 6CL1' '
5E14 000000 5E16 3777 CONV3 DC 3XL1'0'
5E17 000000 5E19 3778 CONV DC 3XL1'0'
5E1A 00000000 5E1D 3779 ADRS DC 4XL1'00'
5E1E 40404040 5E21 3780 LOC DC 4CL1' '
5E22 0001 5E23 3781 BIN1 DC XL2'0001'
5E24 0002 5E25 3782 SNHALT DC XL2'0002'
5E26 00 5E26 3783 DLSAD DC XL1'00'
5E27 40E7E7E7E7 5E27 3784 CMPFLG EQU *
5E28 3785 ADRCMP DC CL5' XXXX'
5E2C 7C 5E2C 3786 IPCSTP DC CL1'0'
5E2D C180 5E2E 3787 C18 DC XL2'C180'
5E2F 0000 5E30 3788 DATASW DC XL2'0000'
5E31 0000 5E32 3789 SWTEMP DC XL2'0000'
5E33 0000 5E34 3790 SWVAL DC XL2'0000'
5E35 0000 5E36 3791 INPOS DC XL2'0000'
5E37 5C5C5C5C5C5C 5E3C 3792 ASTRSK DC CL6'*****
3793 *
3794 *
3795 *
3796 *
3797 *
*** CHARACTER CONSTANTS ***
3798 *
5E3D C3C4 5E3E 3798 CD DC CL2'CD'
5E3F 40C1E3 5E41 3799 BAT DC CL3' AT'
5E42 D4D7D3 5E44 3800 MPL DC CL3'MPL'
5E45 D9C9C7C8E3 5E49 3801 RIGHT DC CL5'RIGHT'
3802 *
5E4A 40C5D5C1C2D3C5C4 5E51 3803 NABLED DC CL8' ENABLED'
5E52 C9D5C1C3E3C9E5C5 5E59 3804 INACTV DC CL8' INACTIVE'
3805 *
5E5A F0F07E 5E5C 3806 V00 DC CL3'00-'
5E5D F0F47E 5E5F 3807 V04 DC CL3'04-'
5E60 F0F87E 5E62 3808 V08 DC CL3'08-'
5E63 F0C37E 5E65 3809 V0C DC CL3'0C-'
5E66 F1F07E 5E68 3810 V10 DC CL3'10-'
5E69 F1F47E 5E6B 3811 V14 DC CL3'14-'
5E6C F1F87E 5E6E 3812 V18 DC CL3'18-'
5E6F F1C37E 5E71 3813 V1C DC CL3'1C-'
5E72 F2F07E 5E74 3814 V20 DC CL3'20-'
5E75 F2F87E 5E77 3815 V28 DC CL3'28-'

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ADDRESS STOP INDICATOR
CHECK COMPARE VALUE
ADDRESS STOP INDICATOR

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5E78 F3F07E 5E7A 3816 V30 DC CL3'30-'
5E7B F3F87E 5E7D 3817 V38 DC CL3'38-'
3818 *
3819 *
3820 *
3821 *
3822 *
*** ONE-BYTE CONSTANTS ***
5E7E 00 5E7E 3823 MCNT DC XL1'00'
5E7F 00 5E7F 3824 VAL1 DC XL1'0'
5E80 00 5E80 3825 VAL1A DC XL1'0'
5E81 00 5E81 3826 VAL1B DC XL1'0'
5E82 00 5E82 3827 CYCSW DC XL1'0'
5E83 00 5E83 3828 CDSW DC XL1'0'
5E84 00 5E84 3829 RUNSW DC XL1'0'
5E85 00 5E85 3830 CONV1 DC XL1'0'
5E86 00 5E86 3831 CICTR DC XL1'0'
5E87 00 5E87 3832 CDCTR DC XL1'0'
5E88 08 5E88 3833 CDCTR1 DC XL1'8'
5E89 00 5E89 3834 CDCTR2 DC XL1'0'
5E8A 00 5E8A 3835 IND DC XL1'0'
0001 3836 LDSW EQU X'01'
0080 3837 SWCNTL EQU X'80'
0040 3838 NCOMMA EQU X'40'
5E8B 3839 SVCOM DS XL1'
5E8C 01 5E8C 3840 K1 DC XL1'1'
5E8D 02 5E8D 3841 K2 DC XL1'2'
5E8E 0A 5E8E 3842 K10 DC XL1'0A'
5E8F 20 5E8F 3843 K20 DC XL1'20'
5E90 00 5E90 3844 MODE DC XL1'00'
5E91 00 5E91 3845 MBIDX DC XL1'00'
5E92 00 5E92 3846 CISW DC XL1'0'
5E93 00 5E93 3847 MSSW DC XL1'0'
5E94 00 5E94 3848 DCMSW DC XL1'0'
5E95 00 5E95 3849 ZLSW DC XL1'0'
5E96 00 5E96 3850 CICTR1 DC XL1'0'
5E97 00 5E97 3851 DCISW DC XL1'0'
5E98 00 5E98 3852 DCDSW DC XL1'0'
5E99 00 5E99 3853 VLCNT DC XL1'0'
5E9A 00 5E9A 3854 LINCTR DC XL1'0'
5E9B 00 5E9B 3855 SWDIGT DC XL1'0'
5E9C 00 5E9C 3856 PRTEND DC XL1'0'
3857 *
3858 *
3859 *
3860 *
3861 *
*** ADDRESS CONSTANTS ***
5E9D 0000 5E9D 3862 PRTN EQU *
5E9E 0000 5E9E 3863 L1N DC XL2'0000'
5EA0 0000 5EA0 3864 L2N DC XL2'0000'
5EA1 0000 5EA1 3865 L3N DC XL2'0000'
5EA2 0000 5EA2 3866 L4N DC XL2'0000'
5EA3 0000 5EA3 3867 L5N DC XL2'0000'
5EA4 0000 5EA4 3868 L6N DC XL2'0000'
5EA5 0000 5EA5 3869 PRT EQU *
5EA6 0000 5EA6 3870 EQU *
5EA7 0000 5EA7 3871 EQU *
5EA8 0000 5EA8 3872 EQU *
5EA9 621D 5EAA 3870 DC AL2(L1P)
5EAB 6243 5EAB 3871 DC AL2(L2P)
5EAD 6284 5EAD 3872 DC AL2(L3P)
5EAF 628A 5EAF 3873 DC AL2(L4P)
5EB1 6300 5EB1 3874 DC AL2(L5P)
5EB3 6313 5EB3 3875 DC AL2(L6P)
3876 *
5EB5 6083 5EB5 3877 MIARN DC AL2(MIARN)
5EB7 60C0 5EB7 3878 FBONM DC AL2(FBONM)
5EB9 60D5 5EB9 3879 DXCNM DC AL2(DXCNM)
5EBB 60F7 5EBB 3880 APTRN DC AL2(APTRN)
3881 *
5EBD 5DC0 5EBE 3882 KYBDI DC AL2(KYBDI)
5EBF 5DB1 5EBF 3883 RIARI DC AL2(RSIARI)

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PRINT BUFFER LINE END ADDR STORAGE

PRINT BUFFER LEFT ADDRESSES

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
SEC1	62C0	3884 *		
SEC3		SEC2 3885 L4P62 DC	AL2(L4+5)	
		SEC4 3886 PTTEMP DS	AL2	
		3887 *		
SEC5	61C7	SEC6 3888 INMSG2 DC	AL2(INMSG)	
		3889 *		
		3890 *		
		3891 *	*** STORAGE TABLES FOR 'CI', 'CD', 'MS', AND 'ALS' ***	
		3892 *		
		3893 *		
		SEC7 3894 CSTBL EQU *		
SEC7	4040404040404040	5EEE 3895 DC	8CL5'	
SEC9	4040404040404040	3895		
5ED7	4040404040404040	3895		
5EDF	4040404040404040	3895		
5EE7	4040404040404040	3895		
		5EEF 3896 CSTBL1 EQU *		
5EEF	0000000000000000	5F16 3897 DC	8XL5'0000000000'	
5EF7	0000000000000000	3897		
5EFF	0000000000000000	3897		
5F07	0000000000000000	3897		
5F0F	0000000000000000	3897		
		3898 *		
		5F17 3899 MBTBL EQU *		
5F17	0000000000000000	5F1E 3900 DC	8XL1'0'	
		3901 *		
		5F1F 3902 ALSTBL EQU *		
5F1F	0000000000000000	5F3E 3903 DC	32XL1'0'	
5F27	0000000000000000	3903		
5F2F	0000000000000000	3903		
5F37	0000000000000000	3903		
		3904 *		
		5F3F 3905 MSSTR EQU *		
5F3F	0000000000000000	5F5E 3906 DC	32XL1'0'	
5F47	0000000000000000	3906		
5F4F	0000000000000000	3906		
5F57	0000000000000000	3906		
		3907 *		
		5F5F 3908 MSTBL EQU *		
5F5F	0000	5F60 3909 DC	XL2'0000'	
5F61	0000	5F62 3910 DC	XL2'0000'	
5F63	0100	5F64 3911 DC	XL2'0100'	
5F65	0200	5F66 3912 DC	XL2'0200'	
5F67	0300	5F68 3913 DC	XL2'0300'	
5F69	0400	5F6A 3914 DC	XL2'0400'	
5F6B	0500	5F6C 3915 DC	XL2'0500'	
5F6D	0600	5F6E 3916 DC	XL2'0600'	
5F6F	0700	5F70 3917 DC	XL2'0700'	
5F71	0800	5F72 3918 DC	XL2'0800'	
5F73	0900	5F74 3919 DC	XL2'0900'	
5F75	0A00	5F76 3920 DC	XL2'0A00'	
5F77	0B00	5F78 3921 DC	XL2'0B00'	
5F79	0C00	5F7A 3922 DC	XL2'0C00'	
5F7B	0D00	5F7C 3923 DC	XL2'0D00'	
5F7D	0E00	5F7E 3924 DC	XL2'0E00'	
5F7F	0F00	5F80 3925 DC	XL2'0F00'	
		3926 *		
		3927 *		
		3928 *	*** EXTERNAL REGISTER NUMBER/NAME TABLES ***	
		3929 *		
		3930 *		
		5F81 3931 ROTBL EQU *		
5F81	C5C6C2C9	5F84 3932 DC	CL4'EFB1'	FILE BUS IN REG.
5F85	C5C6C9F1	5F88 3933 DC	CL4'EF11'	FILE IN 1 REG.
5F89	C5C1C4E2	5F8C 3934 DC	CL4'EADS'	ADAPTER DIAGNOSTIC SENSE REG.
5F8D	C5C6E3C9	5F90 3935 DC	CL4'EFT1'	FILE TAGS IN REG.
5F91	C5C3D6F2	5F94 3936 DC	CL4'ECO2'	CHANNEL OUT 2 REG.
5F95	C5C8C5E2	5F98 3937 DC	CL4'EHES'	HARDWARE ERROR SENSE REG.

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		3936 *		
		5F99 3939 LOTBL EQU *		
5F99	C5C3C3C8	5F9C 3940 DC	CL4'ECCH'	CHANNEL COUNT HIGH.
5F9D	C5C3C3D3	5FA0 3941 DC	CL4'ECCL'	CHANNEL COUNT LOW.
5FA1	C5E2C2F1	5FA4 3942 DC	CL4'ESB1'	SENSE BYTE 1.
5FA5	C5C6C3E3	5FA8 3943 DC	CL4'EFCT'	FILE TRANSFER COUNTER.
5FA9	C5C2D6F0	5FAC 3944 DC	CL4'EB00'	BUFFER OUT 0.
		3945 *		
		5FAD 3946 LRTBL EQU *		
5FAD	C5C6C2D6	5FB0 3947 DC	CL4'EFB0'	FILE BUS OUT REG.
5FB1	C5C6C2C9	5FB4 3948 DC	CL4'EFB1'	FILE BUS IN REG.
5FB5	C5C1C4E2	5FB8 3949 DC	CL4'EADS'	FILE ADAPTER DIAG SENSE.
5FB9	C5C6E3C9	5FBC 3950 DC	CL4'EFT1'	FILE TAGS IN REG.
5FBD	C5C3D6F2	5FC0 3951 DC	CL4'ECO2'	FILE CHANNEL OUT 2 REG.
5FC1	C5C6C9F1	5FC4 3952 DC	CL4'EF11'	FILE IN 1 REG.
5FC5	C5C8C5E2	5FC8 3953 DC	CL4'EHES'	FILE HARDWARE SENSE REG.
5FC9	C5C6E3D6	5FCC 3954 DC	CL4'EFT0'	FILE TAG OUT REG.
5FCD	C5C6E3C7	5FD0 3955 DC	CL4'EFTG'	FILE TAG OUT REG.
5FD1	C5C3C3C8	5FD4 3956 DC	CL4'ECCH'	CHANNEL COUNT HIGH REG.
5FD5	C5C3C3D3	5FD8 3957 DC	CL4'ECCL'	CHANNEL COUNT LOW REG.
5FD9	C5C6E3D9	5FDC 3958 DC	CL4'EFTR'	FILE TRAP REGISTER.
5FDD	C5E2C2F0	5FE0 3959 DC	CL4'ESB0'	SENSE BYTE 0 REG.
5FE1	C5C4E2E3	5FE4 3960 DC	CL4'EDST'	DEVICE STATUS REG.
5FE5	C5C6C8C6	5FE8 3961 DC	CL4'EFHF'	FILE HARDWARE FLAGS REG.
5FE9	C5E2C3D5	5FEC 3962 DC	CL4'ESCN'	SCAN CONTROL REG.
5FED	C5C4E7C3	5FF0 3963 DC	CL4'EDXC'	DATA XFER CONTROL REG.
5FF1	C5E2C2F1	5FF4 3964 DC	CL4'ESB1'	SENSE BYTE 1 REG.
5FF5	C5C6C3E3	5FF8 3965 DC	CL4'EFCT'	FILE XFER COUNTER REG.
5FF9	C5C2D6F0	5FFC 3966 DC	CL4'EB00'	BUFFER BUS OUT REG.
		3967 *		
		5FFD 3968 FRDNAM EQU *		
5FFD	C5C3C3C8	6000 3969 DC	CL4'ECCH'	01 CHANNEL COUNT HIGH
6001	C5C6C2C9	6004 3970 DC	CL4'EFB1'	02 FILE BUS IN.
6005	C5C4E2E3	6008 3971 DC	CL4'EDST'	03 DEVICE STATUS.
6009	C5C6E3C7	600C 3972 DC	CL4'EFTG'	05 FILE TAG GATE.
600D	C5C6E3D6	6010 3973 DC	CL4'EFTD'	06 FILE TAG OUT.
6011	C5C6C8C6	6014 3974 DC	CL4'EFHF'	07 FILE HARDWARE FLAGS.
6015	C5C1C4E2	6018 3975 DC	CL4'EADS'	09 ADAPTER DIAGNOSTIC SENSE.
6019	C5C6C9F1	601C 3976 DC	CL4'EF11'	0A FILE IN 1.
601D	C5C8C5E2	6020 3977 DC	CL4'EHES'	0B HARDWARE ERROR SENSE.
6021	C5C6E3D9	6024 3978 DC	CL4'EFTR'	0D FILE TRAP.
6025	C5C6C2D6	6028 3979 DC	CL4'EFB0'	0E FILE BUS OUT.
6029	C5E2C3D5	602C 3980 DC	CL4'ESCN'	0F SCAN CONTROL.
602D	C5C3C3D3	6030 3981 DC	CL4'ECCL'	11 CHANNEL COUNT LOW.
6031	C5C4E7C3	6034 3982 DC	CL4'EDXC'	13 DATA TRANSFER CONTROL.
6035	C5C6E3C9	6038 3983 DC	CL4'EFT1'	15 FILE TAG IN.
6039	C5C6C3E3	603C 3984 DC	CL4'EFCT'	16 FILE TRANSFER COUNTER.
603D	C5E2C2F1	6040 3985 DC	CL4'ESB1'	17 SENSE BYTE 1.
6041	C5C2D6F0	6044 3986 DC	CL4'EB00'	19 BUFFER OUT 0.
6045	C5C3D6F2	6048 3987 DC	CL4'ECO2'	1B CHANNEL OUT 2.
6049	C5E2C2F0	604C 3988 DC	CL4'ESB0'	1F SENSE BYTE 0.
		3989 *		
		604D 3990 ERDTBL EQU *		
604D	01	6040 3991 DC	XL1'01'	01 CHANNEL COUNT HIGH
604E	02	604E 3992 DC	XL1'02'	02 FILE BUS IN.
604F	03	604F 3993 DC	XL1'03'	03 DEVICE STATUS.
6050	05	6050 3994 DC	XL1'05'	05 FILE TAG GATE.
6051	06	6051 3995 DC	XL1'06'	06 FILE TAG OUT.
6052	07	6052 3996 DC	XL1'07'	07 FILE HARDWARE FLAGS.
6053	09	6053 3997 DC	XL1'09'	09 ADAPTER DIAGNOSTIC SENSE.
6054	0A	6054 3998 DC	XL1'0A'	0A FILE IN 1.
6055	0B	6055 3999 DC	XL1'0B'	0B HARDWARE ERROR SENSE.
6056	0D	6056 4000 DC	XL1'0D'	0D FILE TRAP.
6057	0E	6057 4001 DC	XL1'0E'	0E FILE BUS OUT.
6058	0F	6058 4002 DC	XL1'0F'	0F SCAN CONTROL.
6059	11	6059 4003 DC	XL1'11'	11 CHANNEL COUNT LOW.
605A	13	605A 4004 DC	XL1'13'	13 DATA TRANSFER CONTROL.
605B	15	605B 4005 DC	XL1'15'	15 FILE TAG IN.

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
605C 16	605C 4006 DC XL1'16'
605D 17	605D 4007 DC XL1'17'
605E 19	605E 4008 DC XL1'19'
605F 18	605F 4009 DC XL1'18'
6060 1F	6060 4010 DC XL1'1F'
6061 FF	6061 4011 DC XL1'FF'
6062 00	4012 * 6062 4013 FRDTBL DC XL1'00'
	4014 * 4015 * 4016 * DATA SW ENTRY COMMAND LOOKUP TABLES
	4017 * 4018 * 6063 4019 SWCMD EQU * 6063 4020 DC XL1'01'
6064 02	6064 4021 DC XL1'02'
6065 03	6065 4022 DC XL1'03'
6066 09	6066 4023 DC XL1'09'
6067 0A	6067 4024 DC XL1'0A'
6068 0D	6068 4025 DC XL1'0D'
6069 FF	6069 4026 DC XL1'FF'
	4027 * 606A 4028 CMDTBL EQU * 606A 4029 DC CL1'G'
606B C7	606B 4030 DC CL1'H'
606C C8	606C 4031 DC CL1'I'
606C C9	606C 4032 DC CL1'T'
606E E3	606E 4033 DC CL1'A'
606E C1	606E 4034 DC CL1'D'
606F C4	4035 * 6070 4036 CMDRTA EQU * 6071 4037 DC AL2(GCMD)
6070 4478	6071 4038 DC AL2(HCMD)
6072 421A	6072 4039 DC AL2(ICMD)
6074 422E	6074 4040 DC AL2(ICMD)
6076 4164	6076 4041 DC AL2(ACMD)
6078 4485	6078 4042 DC AL2(OCMD)
607A 4870	4043 * 607C 4044 SWOP23 EQU * 607C 4045 DC XL1'01'
607C 01	607D 4046 DC XL1'02'
607D 02	607E 4047 DC XL1'03'
607E 03	607F 4048 DC XL1'04'
607F 04	6080 4049 DC XL1'FF'
6080 FF	4050 * 6081 4051 OP2TBL EQU * 6082 4052 AC DC CL2'AC'
6081 C1C3	6083 4053 CI DC CL2'CI'
6083 C3C9	6084 4054 MS DC CL2'MS'
6085 D4E2	6085 4055 HB DC CL2'HB'
6087 D4C2	4056 * 6089 4057 OP3TBL EQU * 608B 4058 DLS DC CL3'DLS'
6089 C4D3E2	608C 4059 ZLS DC CL3'ZLS'
608C E9D3E2	6091 4060 CDL DC CL3'CDL'
608F C3C4D3	6094 4061 CDR DC CL3'CDR'
6092 C3C4D9	4062 * 6095 4063 SWOP4 EQU * 6095 4064 DC XL1'04'
6095 04	6096 4065 DC XL1'08'
6096 08	6097 4066 DC XL1'10'
6097 10	6098 4067 DC XL1'14'
6098 14	6099 4068 DC XL1'18'
6099 18	609A 4069 DC XL1'FF'
609A FF	4070 * 609B 4071 OP4TBL EQU * 609E 4072 ALSU DC CL4'ALSU'
609B C1D3E2E4	60A2 4073 ALSL DC CL4'ALSL'
609F C1D3E2D3	

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

ERR LOC OBJECT CODE	ADDR STMT SOURCE STATEMENT
60A3 C3E2E3D7	60A6 4074 CSTP DC CL4'CSTP'
60A7 C1D3E2C2	60AA 4075 ALSB DC CL4'ALSB'
60AB C1D3E2C4	60AE 4076 ALSD DC CL4'ALSD'
	4077 * 4078 * 4079 * 4080 * 4081 * 60AF D4C9C1D97E 60B3 4082 MIARNM DC CL5'MIAR=*
	60B4 4083 E2C9C1D97E DC CL5'SIAR=*
	60B8 4084 DC CL5'DSAR=*
	60B9 C4E2C1D97E DC CL3'FBO'
	60BE C6C2D6 DC CL3'FTO'
	60C1 C6E3D6 DC CL3'FBI'
	60C4 C6C2C9 DC CL3'FTI'
	60C7 C6E3C9 DC CL3'FHI'
	60CA C6C8C6 DC CL3'FTR'
	60CD C6E3D9 DC CL3'FTG'
	60D0 C6E3C7 DC CL3'DXC'
	60D3 C4E7C3 DC CL3'SBO'
	60D5 4092 DXCNM DC CL3'SCN'
	60D6 E2C2F0 DC CL3'DST'
	60D9 E2C3D5 DC CL3'HES'
	60DC C4E2E3 DC CL3'ADS'
	60DF C8C5E2 DC CL3'CO2'
	60E2 C1C4E2 DC CL3'DLS'
	60E5 C3D6F2 DC CL5'COMP=*
	60E8 C4D3E2 DC CL4'CHK=*
	60EB C3D6D4D77E DC CL4'APTR'
	60F0 C3C8D27E DC CL4'PPTR'
	60F4 C1D7E3D9 DC CL4'IDX'
	60F8 07C7E3D9 DC CL4'XR'
	60FC 40C9C4E7 DC CL5'SMS=*
	6100 4040E7D9 DC 6104 40E2D5E27E 6108 4106 SNSNM DC 4107 * 4108 * 4109 * 4110 * 4111 * 6109 4112 REGTBL EQU * 6109 4113 MIARA EQU * 610D 4114 MIAR DS CL5 610E 4115 SIARA EQU * 6112 4116 SIAR DS CL5 6113 4117 DSARA EQU * 6117 4118 DSAR DS CL5 6119 4119 FBO DS CL2 611A 4120 FTO DS CL2 611C 4121 FBI DS CL2 611E 4122 FTI DS CL2 6120 4123 FHF DS CL2 6122 4124 FTR DS CL2 6124 4125 FTG DS CL2 6126 4126 DXC DS CL2 6128 4127 SBO DS CL2 612A 4128 SCN DS CL2 612C 4129 DST DS CL2 612E 4130 HES DS CL2 6130 4131 ADS DS CL2 6132 4132 CO2 DS CL2 6134 4133 DLS01 DS CL4 6138 4134 DLS03 DS CL4 613C 4135 DLS05 DS CL4 6140 4136 DLS07 DS CL4 6144 4137 DLS09 DS CL4 6148 4138 DLS08 DS CL4 614C 4139 DLS00 DS CL4 6150 4140 DLS0F DS CL4 6154 4141 COMP DS CL5

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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4234 *
4235 *
6495 D4D6C4C540C2E4C6 6495 4236 MBMSG EQU *
649D C6C5D9 649F 4237 MBMSGN DC CL11'MODE BUFFER'
4237 *
4238 *
64A0 C1C4C4D940C3D6D4 64A0 4239 ACMMSG EQU *
64A8 D740E2E3D6D740C9 64BC 4240 ACMSGN DC CL29'ADDR COMP STOP IS AT'
64B0 E240404040404040 4240 *
64B8 404040C1E3 4240 *
4241 *
64BD C3D6D5E3D9D6D340 64BD 4242 CIMSG EQU *
64C5 E2E3D6D9C540D4C9 64D7 4243 CIMSGN DC CL27'CONTROL STORE MICROINSTR AT'
64CD C3D9D6C9D5E2E3D9 4243 *
64D5 40C1E3 4243 *
4244 *
64D8 E2E8E2E361F340D4 64D8 4245 MMSG EQU *
64E0 C1C9D540E2E3D6D9 64EB 4246 MMSGN DC CL20'SYST/3 MAIN STORE AT'
64E8 C540C1E3 4246 *
4247 *
64EC C4D3E240C1E3 64EC 4248 DLSMSG EQU *
64F1 4249 DLSMSN DC CL6'DLS AT'
4250 *
64F2 E9D6D5C540D3D6C3 64F2 4251 ZLSMSG EQU *
64FA C1D340E2E3D6D9C5 6504 4252 ZLSMSN DC CL19'ZONE LOCAL STORE AT'
6502 40C1E3 4252 *
4253 *
6505 C3E3D9D340E2E3D6 6505 4254 CDMSG EQU *
650D D9C540C4C1E3C140 651C 4255 CDMSGN DC CL24'CTRL STORE DATA LEFT AT'
6515 D3C5C6E34040C1E3 4255 *
4256 *
651D C1D3E2C2 651D 4257 ALSMSG EQU *
6520 4258 ALSMSN DC CL4'ALS8'
4259 *
6521 C9D6D740C5E7E340 6521 4260 REGMSG EQU *
6529 D9C5C7 652B 4261 REGMSN DC CL11'IOP EXT REG'
4261 *
4262 *
652C D9C1D5404040F140 652C 4263 RANMSG EQU *
6534 C3E8C3D3C5E240E3 6545 4264 RANMSN DC CL26'RAN 1 CYCLES THEN HALTED'
653C C8C5D540C8C1D3E3 4264 *
6544 C5C4 4264 *
4264 *
6538 4265 SSIOP EQU RANMSG+12
4266 *
4267 *
4268 *
4269 *
4270 *
6546 C5D9D9F17AC9D5E5 6546 4271 ERR1 EQU *
654E C1D3C9C440C3D6D4 6564 4272 ERR1N DC CL31'ERR1:INVALID COMMAND SPECIFIED.'
6556 D4C1D5C440E2D7C5 4272 *
655E C3C9C6C9C5C44B 4272 *
4273 *
6565 C5D9D9F27AD5D640 6565 4274 ERR2 EQU *
656D C3D6D4D4C161C2D3 658A 4275 ERR2N DC CL38'ERR2:NO COMMA/BLANK FOLLOWING COMMAND.'
6575 C1D5D240C6D6D3D3 4275 *
657D D6E6C9D5C740C3D6 4275 *
6585 D4D4C1D5C44B 4275 *
4276 *
658B 4277 ERR4 EQU *

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

658B C5D9D9F47AD9C5C7 65B0 4278 ERR4N DC CL38'ERR4:REG SPECIFIED CAN'T BE DISPLAYED.'
6593 40E2D7C5C3C9C6C9 4278 *
659B C5C440C3C1D57DE3 4278 *
65A3 40C2C540C4C9E2D7 4278 *
65AB D3C1E8C5C44B 4278 *
4279 *
65B1 C5D9D9F57AD9C5C7 65B1 4280 ERR5 EQU *
65B9 40E2D7C5C3C9C6C9 65D4 4281 ERR5N DC CL36'ERR5:REG SPECIFIED CAN'T BE ALTERED.'
65C1 C5C440C3C1D57DE3 4281 *
65C9 40C2C540C1D3E3C5 4281 *
65D1 D9C5C44B 4281 *
4282 *
65D5 C5D9D9F67AD5D640 65D5 4283 ERR6 EQU *
65DD C3D6D4D4C161C2D3 65FA 4284 ERR6N DC CL38'ERR6:NO COMMA/BLANK FOLLOWING OPERAND.'
65E5 C1D5D240C6D6D3D3 4284 *
65ED D6E6C9D5C740D6D7 4284 *
65F5 C5D9C1D5C44B 4284 *
4285 *
65FB C5D9D9F77AE4D5C4 65FB 4286 ERR7 EQU *
6603 C5C6C9D5C5C440D6 6617 4287 ERR7N DC CL29'ERR7:UNDEFINED OPERAND FIELD.'
660B D7C5D9C1D5C440C6 4287 *
6613 C9C5D3C44B 4287 *
4288 *
6618 C5D9D9F87AC9D5E5 6618 4289 ERR8 EQU *
6620 C1D3C9C440C5E7E3 663B 4290 ERR8N DC CL36'ERR8:INVALID EXTERNAL REG SPECIFIED.'
6628 C5D9D5C1D340D9C5 4290 *
6630 C740E2D7C5C3C9C6 4290 *
6638 C9C5C44B 4290 *
4291 *
663C C5D9D9F97AD5D640 663C 4292 ERR9 EQU *
6644 C3D6D4D4C161C2D3 665D 4293 ERR9N DC CL34'ERR9:NO COMMA/BLANK IN DATA FIELD.'
664C C1D5D240C9D540C4 4293 *
6654 C1E3C140C6C9C5D3 4293 *
665C C44B 4293 *
4294 *
665E C5D9D9F1F07AC3E2 665E 4295 ERR10 EQU *
6666 E3D740D6D7C5D9C1 6683 4296 ERR10N DC CL38'ERR10:CSTP OPERAND NOT FOLLOWED BY 0/1.'
666E D5C440D5D6E340C6 4296 *
6676 D6D3D3D6E6C5C440 4296 *
667E C2E840F061F1 4296 *
4297 *
6684 C5D9D9F1F17AC2D6 6684 4298 ERR11 EQU *
668C E4D5C4C1D9E840C1 66A9 4299 ERR11N DC CL38'ERR11:BOUNDARY ALIGNMENT ON (XX) ADRS.'
6694 D3C9C7D5D4C5D5E3 4299 *
669C 40D6D5404DE7E75D 4299 *
66A4 40C1C4D9E24B 4299 *
4300 *
66AA C5D9D9F1F27AC9D3 66AA 4301 ERR12 EQU *
66B2 D3C5C7C1D340D6D7 66CD 4302 ERR12N DC CL36'ERR12:ILLEGAL OPERAND FOLLOWING CMD.'
66BA C5D9C1D5C440C6D6 4302 *
66C2 D3D3D6E6C9D5C740 4302 *
66CA C3D4C44B 4302 *
4303 *
66CE C5D9D9F1F37AD6C4 66CE 4304 ERR13 EQU *
66D6 C4407B40D6C640C4 66F2 4305 ERR13N DC CL37'ERR13:ODD # OF DIGITS IN (MS) STRING.'
66DE C9C7C9E3E240L9D5 4305 *
66E6 404DD4E25D40E2E3 4305 *
66EE D9C9D5C74B 4305 *
4306 *

```


ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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66F3 4307 ERR14 EQU *
66FB C5D9D9F1F47AD6D7 6717 4308 ERR14N DC CL37'ERR14:OPERAND/ADDRESS FIELD IS BLANK.'
66FB C5D9C1D5C461C1C4 4308
6703 C4D9C5E2E240C6C9 4308
670B C5D3C440C9E240C2 4308
6713 D3C1D5D248 4308
4309 *
6718 4310 ERR15 EQU *
6720 40E5C1D3E4C540C6 673D 4311 ERR15N DC CL38'ERR15:NO VALUE FOLLOWING ALTER REG CMD'
6728 D6D3D3D6E6C9D5C7 4311
6730 40C1D3E3C5D940D9 4311
6738 C5C740C3D4C4 4311
4312 *
673E 4313 ERR16 EQU *
6746 D740C8C1D3E3C5C4 6760 4314 ERR16N DC CL35'ERR16:IOP HALTED DUE TO CHECK STOP.'
674E 40C4E4C540E3D640 4314
6756 C3C8C5C3D240E2E3 4314
675E D6D74B 4314
4315 *
6761 4316 ERR17 EQU *
6769 D740C8C1D3E3C5C4 6786 4317 ERR17N DC CL38'ERR17:IOP HALTED DUE TO ADRS COMP STOP'
6771 40C4E4C540E3D640 4317
6779 C1C4D9E240C3D6D4 4317
6781 D740E2E3D6D7 4317
4318 *
6787 4319 ERR18 EQU *
678F E5C1D3C9C440C1C4 679E 4320 ERR18N DC CL24'ERR18:INVALID ADDR RANGE'
6797 C4D940D9C1D5C7C5 4320
4321 *
679F 4322 ERR71 EQU *
67AF D2C5E8C2D6C1D9C4 6784 4323 ERR71N DC CL22'CONSOLE KEYBOARD ERROR'
67AF 40C5D9D9D6D9 4323
4324 *

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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4326 *****
4327 *
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4387 *

```

SYMBOL DEFINITIONS

LOCAL STORE REGISTERS

```

0001 4334 XR1 EQU X'01' INDEX REGISTER 1
0002 4335 XR2 EQU X'02' INDEX REGISTER 2
0008 4337 ARR EQU X'08' CURRENT LEVEL ADDRESS RECALL REG
0004 4338 PSR EQU X'04' CURRENT LEVEL PROGRAM STATUS REG
0020 4339 PIIAR EQU X'20' PROGRAM LEVEL 1 INSTR ADDR REG
00C0 4340 IAR1 EQU X'CO' INTERRUPT LEVEL 1 IAR

```

MESSAGE / HALT IDENTIFIERS

```

C100 4345 HLT00 EQU X'C100' NO HALT
C171 4346 HLT71 EQU X'C171' 5471 KEYBOARD ERROR

```

3340 PROGRAM COMMUNICATION AREA (COM) INDICATORS

```

0080 4351 ADRSTP EQU X'80' MICROPROCESSOR ADDR STOP ENABLED
0040 4352 NOMPL EQU X'40' MPL COMMAND INHIBITED
0001 4353 AMOPSW EQU X'01' AMOP CALLED FROM ANOTHER SECTION

```

54/1 KEYBOARD PRINTER UNIT EQUATES

```

0018 4358 PRT EQU X'18' CONSOLE PRINTER
0010 4359 KEY EQU X'10' CONSOLE KEYBOARD
0080 4360 PRINT1 EQU X'80' PRINT ONE CHARACTER
0041 4361 RET1 EQU X'41' CARRIER RETURN

```

DCP SECTION REFERENCE TABLE

```

0212 4366 TEST EQU X'0212' CHECK CONSOLE SWITCHES
0216 4367 LINK EQU X'0216' LINK TO NEXT ROUTINE OR SECTION
021A 4368 PRINT EQU X'021A' PRINT A MESSAGE
021E 4369 UNPACK EQU X'021E' UNPACK DATA - HEX TO EBCDIC
0222 4370 HALT EQU X'0222' HALT AND DISPLAY HALT IDENTIFIER
0226 4371 PACK EQU X'0226' PACK DATA - EBCDIC TO HEX
022A 4372 LOAD EQU X'022A' LOAD NEXT SECTION OR RECORD
4373 *
0203 4374 SIZE EQU X'0203' MAIN STORAGE SIZE
0232 4375 UTAB EQU X'0232' UDT ENTRIES
4376 *
0208 4377 SBYTE0 EQU X'0208' COMMON SENSE SWITCHES 00-07. REH
020A 4378 SBYTE2 EQU X'020A' COMMON SENSE SWITCHES 10-17. REH
0004 4379 SSW05 EQU X'04' USE ALT PRINTER - 5471 KYBD PRTR.REH
0002 4380 SSW16 EQU X'02' ENTER VIA CONSOLE DATA SWITCHES. REH
4381 *
4382 *
4383 *
4384 *

```

OTHER REFERENCES EXTERNAL TO THIS SECTION

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6C00 4385 LDR EQU X'6C00' 3340 MICROCODE LOADER PGM - MOD 12
4386 *
FFFF 4387 END

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
AACMP	A	001	5988	3139	2139
AALSB	A	001	5A30	3262	2718
ABLE1	A	006	5824	2905	2904*
ABLE2	A	006	5858	2925	2924*
4C	A	002	6082	4052	0757 1990
ACDL	A	001	5809	3411	2557
ACDR	A	001	584F	3461	2553
ACDSKP	A	004	54C1	2558	2555
ACMD	A	003	4485	0714	0181 1526 4041
ACMD1	A	003	44C2	0721	0716
ACMD4	A	004	4553	0788	0840 1032 1134 1152 1325 1371 1389 1458
ACMSG	A	001	64A0	4239	2142
ACMSGN	A	029	648C	4240	
ACS	A	001	5A89	3358	2196
ADLS	A	001	5A4A	3283	2406
ADRCMP	A	005	5E2B	3785	2135* 2143 3608
ADRERR	A	004	45A9	0823	0795 0843 0890 1035 1064 1137 1155 1178 1218 1374 1392
ADRS	A	001	5E1D	3779	0797* 0800 1180* 1183 2135 2181 2332 2540
ADRSTP	C	001	0080	4351	0366 2137 2149
ADS	A	002	6131	4131	0637
AEXT	A	001	5A6C	3307	2860
AIN	A	002	61C6	4160	1618 1864
ALSADR	A	001	5928	3051	0537* 0539* 0540 0540* 0541 0541* 0555* 0557 2745* 2754* 2760* 2762 3041
ALSB	A	004	60AA	4075	1358 2017
ALSBD	A	002	592A	3052	0548* 0552 2759 3044 3046
ALSD	A	004	60AE	4076	1402
ALSL	A	004	60A2	4073	1411
ALSMG	A	001	651D	4257	2703
ALSMN	A	004	6520	4258	
ALSP	A	004	569D	2756	2763 2822
ALSP2	A	004	5759	2816	2747
ALSTBL	A	001	5F1F	3902	2456 2744 2769 2801 2807 2813
ALSU	A	004	609E	4072	1408
ALTDIS	A	004	4F4F	1984	0777 0807 0812 0834 0851 0998 1014 1029 1046 1107 1125 1146 1163 1232 1283 1296 1356 1400 1417 1477 1488
ALTMS	A	006	52D4	2342	1102* 1106* 2340*
AMB	A	001	59E8	3212	2060
AMOP	A	002	4001	0047	
AMOPGO	A	004	4049	0101	0068
AMOPID	A	002	0A1E	0033	
AMOPSW	C	001	0001	4353	0051 0054 0070 0220 0257
AMOPX	A	004	4041	0073	0049*
AMOP1	A	006	401F	0061	0057
APTR	A	002	615D	4144	0468 0537 3639
APTRN	A	002	5EBC	3880	3638
APTRNM	A	004	60F7	4102	3880
ARR	C	001	0008	4337	0049 0393 0434 1537 1859 1940 1959 2893 3688
ASTRSK	A	006	5E3C	3792	1825
AZLS	A	001	5A12	3240	2490
BAT	A	003	5E41	3799	2712
BEGIN	A	001	0000	0006	
BINI	A	002	5E23	3781	0555
BLANK	A	001	5E0D	3775	0306 0755 0794 0842 0889 1034 1136 1154 1177 1217 1373 1391 1480 1522
CCHK	A	004	5CCD	3618	3610
CCHK1	A	004	5CE1	3630	3622
CD	A	002	5E3E	3798	1278
CDCTR	A	001	5E87	3832	1220* 1223* 1224 1231* 2576* 2634* 2653* 2668 2765* 2785* 2786 2789 2792
CDCTR1	A	001	5E88	3833	0973* 0984 1000* 1263* 1269 1298*
CDCTR2	A	001	5E89	3834	0974* 0981*
CDL	A	0C3	6091	4060	1168 2008
CDLS1	A	004	5C44	3569	
CDLS2	A	004	5C48	3571	3588
CDLS3	A	003	5C66	3585	3572

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
CDLS4	A	004	5C93	3598	3593
CDMOVE	A	005	5576	2642	2669
CDMSG	A	001	6505	4254	2535
CDMSGN	A	024	651C	4255	
CDR	A	003	6094	4061	1171 2011
CDSW	A	001	5E83	3828	2595 2627* 2657*
CD1	A	006	4934	1265	1267 1299
CD2	A	006	498D	1298	1266
CEXT1	A	004	5BF4	3535	3529
CEXT2	A	004	5BF8	3537	3549
CEXT3	A	003	5C0E	3546	3538
CEXT4	A	004	5C34	3559	3554
CHAR2	A	006	44F8	0755	0722 0725
CHAR2A	A	004	4534	0775	0758
CHAR2D	A	004	453F	0779	0776 0815 0818 0821
CHAR2E	A	005	455F	0794	0783 0786
CHAR2F	A	004	4591	0814	0764
CHAR2G	A	004	4599	0817	0767
CHAR2W	A	004	4528	0769	1172 1426
CHAR3	A	005	480E	1120	0728 0731
CHAR3A	A	004	4824	1127	1166
CHAR3B	A	005	4839	1136	1131
CHAR3C	A	006	4882	1165	1122
CHAR3D	A	004	4885	1181	
CHAR3E	A	004	489F	1174	1169
CHAR4	A	005	499E	1320	0734 0737
CHAR4A	A	006	4980	1327	1322
CHAR4B	A	006	49F8	1358	1328
CHAR4C	A	004	49E0	1348	1337
CHAR4D	A	004	49E8	1352	1340
CHAR4E	A	004	49F3	1355	1331 1350
CHAR4F	A	006	4A67	1402	1359
CHAR4G	A	005	4A20	1373	1368
CHAR4H	A	005	4A4C	1391	1386
CHAR4I	A	004	4A04	1361	1406
CHAR4J	A	004	4AEE	1460	1455 1505
CHAR4K	A	005	4AB8	1438	1449
CHAR4L	A	003	4ACC	1447	1439
CHAR4M	A	005	4AF6	1463	1468
CHAR4N	A	004	4B15	1476	1464
CHAR4P	A	004	4B39	1490	1433
CHAR4Q	A	003	4B55	1502	1494
CHAR4R	A	004	4B64	1507	1481
CHAR4S	A	005	4B41	1493	1504
CHAR4V	A	004	4A8D	1416	1409 1412
CHAR4X	A	004	4A95	1419	1362
CHAR4Y	A	004	4AA1	1425	1414
CHAR4Z	A	006	4A78	1408	1403
CHK	A	002	6158	4143	0449
CHKNM	A	004	60F3	4101	3626
CI	A	002	6084	4053	0763 0993 1993
CIAR1	A	004	5BA3	3505	3517
CIAR2	A	003	5B8A	3514	3506
CIBUF	A	005	5A88	3351	2194* 2201 2283* 2287 2551* 2561 2643* 2651 3336 3338 3343 3345 3347 3362 3364 3368 3370 3372 3377 3379 3381 3394 3396 3401 3403 3415 3417 3421 3423 3427 3429 3443 3445 3450 3452 3465 3467 3471 3473 3477 3479
CICTR	A	001	5E86	3831	0307* 0313* 0320 0323 0324* 0892* 0909* 2101* 2108* 2216 2273* 2289* 2304 2353* 2360* 2766* 2781* 2784*
CICTR1	A	001	5E96	3850	2190* 2214* 2216 2274*
CIFOND	A	004	45E7	0879	0804
CIMOVE	A	005	5241	2282	2305
CIMSG	A	001	648D	4242	2180
CIMSGN	A	027	64D7	4243	
CIRCMD	A	004	456C	0798	
CISW	A	001	5E92	3846	0803 0814* 0879* 2234 2266* 2299*

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
C11	A	006	46C3	0978	0982 1001
C12	A	006	4703	1000	0979
CLIN1	A	004	5891	3500	
CLIN2	A	004	5805	3526	
CLIN3	A	004	58E6	3531	3557
CLIN4	A	004	5C38	3565	
CLIN5	A	004	5C98	3605	3596
CLIN6	A	004	5CE9	3637	
CMDERR	A	004	410E	0204	0199 1737 1742
CMDRTO	A	001	6070	4036	1726
CMPTBL	A	001	606A	4028	1744
CMPFLG	A	001	5E27	3784	2146* 2152*
CMPPRT	A	004	5B77	3489	0295 0334 0352 1644 1656 1662 2116
COM	A	001	0A19	0029	0051 0054* 0059* 0070* 0127* 0198 0220 0223 0236 0242* 0257 0366*
					1736 2137* 2149
					3606 3608*
COMP	A	005	6158	4141	3614
COMPNM	A	005	60EF	4100	
CONV	A	001	5E19	3778	0924* 0925 0929 0947 0951 0972
CONV1	A	001	5E85	3830	1252 1262 1274 2567* 2570
CONV2	A	001	5DFD	3770	1157* 1160 1247* 1251 1394* 1397 2571 2573
CONV3	A	001	5E16	3777	0306* 0308 0327 0914 0924 0987* 0988 2207* 2210
CONV6	A	001	5E13	3776	0908* 0913 2211 2213
CO2	A	002	6133	4132	0639
CPTR1	A	004	5CF8	3642	3654
CPTR2	A	003	5D11	3651	3643
CSNS2	A	004	5D38	3666	3659
CSTBL	A	001	5EC7	3894	0893 1221 2191 2548
CSTBL1	A	001	5EEF	3896	2192 2275 2307 2549 2635 2671
CSTOP	A	001	6159	4142	1355* 3618 3620*
CSTP	A	004	60A6	4074	1327 2014
CVD1	A	004	41E6	0317	0311
CVD2	A	004	41CF	0310	0315 0325
CVD3	A	006	4208	0327	0321
CVMSA1	A	002	47EE	1099	1094*
CVMSA2	A	002	47F0	1100	1095* 1102 1103*
CVMSLN	A	001	47EC	1098	1068* 1071 1077 1082* 1085
CYCK	A	001	5987	3132	0273* 0274* 3126
CYCLE	A	004	4174	0269	0178 0702 1723
CYCLE1	A	004	4178	0270	0705
CYCLE2	A	004	4216	0334	
CYCLE3	A	004	418A	0275	0279
CYCLE4	A	004	418D	0297	0286
CYCSW	A	001	5E82	3827	0285 0297* 0704*
C17	A	002	4155	0240	0225 0228
C18	A	002	5E2E	3787	0063
C19	C	001	0C19	0015	0033 0047
DATASW	A	002	5E30	3788	1698* 1699 1714 1752 1759 1768 1775 1792* 1803 1812* 1817 1872*
					1874 1891
DCDL	A	001	5AEB	3390	2648
DCDR	A	001	5831	3439	2644
DCDSKP	A	004	558F	2649	2646
DCDSW	A	001	5E98	3852	2536* 2579 2599* 2625*
DCD1	A	004	5565	2629	2597
DCD2	A	004	5581	2660	2656
DCD3	A	006	55C5	2667	2661
DCD4	A	004	55D3	2671	2658 2665
DCISW	A	001	5E97	3851	2183* 2219 2238* 2265*
DC11	A	004	522C	2268	2236
DC12	A	004	5271	2296	2292
DC13	A	006	5285	2303	2297
DC14	A	004	5293	2307	2294 2301
DCMD	A	005	4870	1522	0184 4042
DCMDSW	A	001	5E94	3848	0150* 0775 0806 0817 0833 0883 1124 1145 1211 1330 1361 1416
					1432 1476 1525* 2032 2077* 2132 2184 2263* 2334 2344* 2407 2433*
					2471* 2484 2542 2624* 2709 2743* 2855 2880*
DCMD1	A	004	4880	1528	1523

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
DCS	A	001	5A92	3332	2284
DDLS	A	001	59A0	3157	2460
DEC15	A	002	5DD6	3750	0559
DEC5	A	002	5DD4	3749	0556
DEXT	A	001	59CC	3192	2883
DLS	A	003	6088	4058	1165 2002
DLSAD	A	001	5E26	3783	3566* 3580 3586*
DLSADR	A	002	5C62	3581	3576*
DLSADR	A	001	595F	3098	0585* 3087
DLSENT	A	004	5688	2765	2469
DLSIN	A	001	5960	3099	0592 3093
DLSLOP	A	004	53C7	2457	2467
DLSMSG	A	001	64EC	4248	2400
DLSMSW	A	006	64F1	4249	
DLSNM	A	003	60EA	4099	3595
DLSOB	A	004	6148	4138	0662 0664
DLSOD	A	004	614F	4139	0666 0668
DLSOF	A	004	6153	4140	0670 0672
DLSO1	A	004	6137	4133	0593 0642 0644 3567
DLSO3	A	004	6138	4134	0646 0648
DLSO5	A	004	613F	4135	0650 0652
DLSO7	A	004	6143	4136	0654 0656
DLSO9	A	004	6147	4137	0658 0660
DMB	A	001	59F8	3221	2084
DOALS	A	004	437F	0543	0558
DODLS	A	005	43E4	0585	0597
DOLIO1	A	004	582A	2907	2901
DONEXT	A	003	582E	2909	2921 2926
DSAR	A	005	6117	4118	
DSARA	A	001	6113	4117	0453* 0522*
DST	A	002	612D	4129	0633
DTSWX	A	004	4EE4	1917	1859*
DTSWXR	A	004	4EE0	1916	1860*
DTSW1	A	004	4E22	1845	1334
DTSW1A	A	004	4E60	1869	1912
DTSW1B	A	004	4E26	1846	
DTSW2	A	004	4E31	1850	0837 1061 1128 1149 1215 1291 1365 1383 1452
DTSW2A	A	005	4EAF	1902	1895
DTSW2B	A	004	4E08	1914	1865 1878 1900 1908
DTSW2C	A	004	4E90	1889	1884
DTSW2N	A	004	4E2D	1849	1072
DTSW4	A	004	4E38	1853	0780 1023 1175
DTSW6	A	004	4E3F	1856	0887 1009
DTSW6A	A	004	4E43	1857	1851 1854
DTSW6B	A	004	4E47	1859	1847
DXC	A	002	6127	4126	0627 3533
DXCNM	A	003	60D5	4092	3879
DXCNMA	A	002	5E8A	3879	3532
DZLS	A	001	5988	3176	2481
ERDNAM	A	001	5FFD	3968	1811 2842
ERDTBL	A	001	6040	3990	1810 2841
ERR1	A	001	6546	4271	0206
ERR1N	A	031	6564	4272	0206 0207
ERR10	A	001	665E	4295	1344
ERR10N	A	038	6683	4296	1344 1345
ERR11	A	001	6684	4298	0993* 0996 1278* 1281
ERR11N	A	038	66A9	4299	0996 0997 1281 1282
ERR12	A	001	66AA	4301	0741 1421
ERR12N	A	036	66CD	4302	0741 0742 1421 1422
ERR13	A	001	66CE	4304	1090
ERR13N	A	037	66F2	4305	1090 1091
ERR14	A	001	66F3	4307	0825
ERR14N	A	037	6717	4308	0825 0826
ERR15	A	001	6718	4310	1509
ERR15N	A	038	673D	4311	1509 1510
ERR16	A	001	673E	4313	1642

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ERR16N	A	035	6760	4314	1642 1643
ERR17	A	001	6761	4316	1654
ERR17N	A	038	6786	4317	1654 1655
ERR18	A	001	6787	4319	1050
ERR18N	A	024	679E	4320	1050 1051
ERR2	A	001	6565	4274	0690
ERR2N	A	038	658A	4275	0690 0691
ERR4	A	001	6588	4277	1498
ERR4N	A	038	6580	4278	1498 1499
ERR5	A	001	6581	4280	1443
ERR5N	A	036	65D4	4281	1443 1444
ERR6	A	001	65D5	4283	0790
ERR6N	A	038	65FA	4284	0790 0791
ERR7	A	001	65FB	4286	0771
ERR7N	A	029	6617	4287	0771 0772
ERR71	A	001	679F	4322	1604
ERR71N	A	022	6784	4323	1604 1605
ERR8	A	001	6618	4289	1472
ERR8N	A	036	6638	4290	1472 1473
ERR9	A	001	663C	4292	0903 1242
ERR9N	A	034	665D	4293	0903 0904 1242 1243
EVEN1	A	003	4997	1301	1270
EVEN2	A	005	46E1	0988	0985
EXEC	A	004	53D2	2461	2482
EXTADR	A	001	5945	3075	0547* 3065
EXTIN	A	001	5946	3076	0574 3070
FAOID	A	002	0A20	0034	0113*
FBI	A	002	611D	4121	0616
FBO	A	002	6119	4119	0575 0612 3528
FBDNM	A	003	60C0	4085	3878
FBDNMA	A	0J2	5E88	3878	3527
FHF	A	002	6121	4123	0620
FRDTBL	A	001	6062	4013	2851* 2859* 2882* 3198 3313
FTG	A	002	6125	4125	0624
FTI	A	002	611F	4122	0618
FTO	A	002	6118	4120	0614
FTR	A	002	6123	4124	0622
GCMD	A	003	4478	0682	0187 4037
GCMDX	A	004	4485	0688	0719
GCMD1	A	005	4491	0694	0686
GETALS	A	006	4365	0537	0523 0529
GETEXT	A	005	438F	0547	0579
HALT	C	001	0222	4370	1608 1695 1869
HCHD	A	004	421A	0343	0190 1531 2015 4038
HONG	A	001	6341	4200	0103
HONGM	A	040	6368	4201	0103 0104
HES	A	002	612F	4130	0635
HLT00	C	001	C100	4345	0105
HLT71	C	001	C171	4346	1606 1609
HRET	A	004	4288	0403	0393*
HSIOP	A	004	4268	0353	0281 0343 1631 2030 2130 2179 2399 2534 2702 2840
HSTBL	A	001	6166	4152	3505 3537 3571 3609 3621 3642 3658
HSTBLN	A	093	61C2	4153	0438*
IAR1	A	002	43A0	0553	0556* 0559*
IAR1	C	001	00C0	4340	0066 0072* 3695*
ICMD	A	004	422E	0360	0193 4039
IDX	A	002	6161	4146	0513
INACTV	A	008	5E59	3804	2153
IND	A	001	5E8A	3835	0056 0107 0129* 0156* 0779 0836 0886 1008 1022 1060 1070 1127 1148 1174 1214 1290 1333 1364 1382 1451 1686* 1705* 1720* 1849*
					1883 1911* 1914*
					3888
INMSG	A	001	61C7	4166	1944
INMSG2	A	032	5EC6	3888	
INMSGN	A	021	61D8	4167	
INPLG	A	001	4F26	1950	1945*
INPNA	A	002	4F28	1951	1942* 1946*

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
INPOS	A	002	5E36	3791	1790* 1796* 1827 1832* 1862 1864 1915* 1930*
INPUT	A	001	610C	4169	0175 1454 1457 1479 1541 1717* 1718 1718* 1744* 1747 1760 1835
					1929 4160
IOPHL1	A	004	4C4A	1631	1572 1970
IOPHL2	A	004	4C6C	1646	1635 1638
IOPHL3	A	004	4C86	1658	1647 1650
IOPREG	A	004	428C	0434	0283 0350 1632 2115
IPAPTR	A	002	590C	3028	0460 0506 0519 0525 1649 2976
IPCHK	A	001	590F	3030	0448 1637 2943
IPCSTP	A	001	5E2C	3786	1349* 1353* 3620
IPHALT	A	001	586E	2937	0270 0396
IPKREG	A	001	590A	3027	0273 0367* 1348* 1352* 1634 1646 2136* 3024 3112
IPLINK	A	002	590E	3029	0499 0502 2978
IPSTAT	A	001	5872	2941	0399
IPSTEP	A	001	5973	3120	0275
IRET	A	004	4419	0604	0434*
KBLOOP	A	004	48DA	1580	1576
KEY	C	001	0010	4359	1546 1570 1577 1589 3696 3721 3736
KYBDEC	A	004	40C9	0175	1706
KYBDI	A	004	5DC0	3733	3737 3882
KYBDI2	A	002	5EBE	3882	3695
KYBENT	A	004	40C5	0168	
KYSTAT	A	002	61C4	4159	1580* 1582 1585 1593 1596 1599 1611 1612
KOF	A	002	5DF2	3765	2345
K0000	A	002	5DE8	3760	0113 2232 2593 3733
K0001	A	002	5DEA	3761	1004 1067 1081 1286 1946 2303 2667
K0003	A	002	5DEC	3762	3547
K0004	A	002	5DEE	3763	3652
K0005	A	002	5DFO	3764	3515
KI	A	001	5E8C	3840	0278 0313 0549 0909 0981 1000 1082 1223 1231 1298 1829 2108
					2214 2289 2299 2360 2464 2576 2653 2663 2760 2781 2785 3516
					3548 3587 3653 3715
K10	A	001	5E8E	3842	0314
K2	A	001	5E8D	3841	1910 3586
K20	A	001	5E8F	3843	2092
K8000	A	002	5DF4	3766	0110
LB1	A	004	571D	2798	2787
LB2	A	004	5731	2804	2790
LB3	A	004	5745	2810	2793
LDR	C	001	6C00	4385	0228 0244
LDRGO	A	004	415C	0244	0229
LDRID	A	002	0A1C	0032	0225
LDRPRT	A	004	4141	0231	0226
LDSW	C	001	0001	3836	0056 0107 0129
LINCTR	A	001	5E9A	3854	3699* 3715*
LINK	C	001	0216	4367	0260
LKRTRM	A	004	4039	0070	0258
LNKSKP	A	006	432A	0506	0503
LOAD	C	001	022A	4372	0238
LOC	A	001	5E21	3780	0755* 0756* 0757 0760 0763 0766 1120* 1121 1165 1168 1171 1320*
					1327 1358 1402 1408 1411 1425 1438 1463 1493 1990 1993 1996
					1999 2002 2005 2008 2011 2014 2017 2537 2554 2645 2705 2746
					2844 2853
LOTBL	A	001	5F99	3939	1490
LRTBL	A	001	5FAD	3946	1460
L1	A	001	621E	4177	0362 1986 2031* 2041 2079 2142* 2143* 2147* 2153* 2180* 2181* 2331*
					2332* 2400* 2401* 2439 2444* 2472* 2473* 2487* 2488* 2535* 2540* 2675*
					2703* 2712* 2713* 2738* 2755* 2816* 2852* 2853* 3491 3500
L1N2	A	002	5E9E	3863	2043* 2080* 2144* 2182* 2232* 2333* 2402* 2489* 2541* 2593* 2704* 2714*
					2854* 3520* 3700
L1P	A	001	621D	4176	3870
L2	A	001	6244	4180	2044* 2070 2073* 2078* 2103 2187* 2188 2233* 2264* 2271 2308 2337*
					2355 2410* 2422* 2428* 2445* 2446* 2447* 2448* 2474* 2475* 2476* 2477*
					2493* 2494* 2495* 2496* 2545* 2546 2594* 2626* 2632 2672 2716* 2728*
					2734* 2749* 2750* 2751* 2752* 2768 2817* 2818* 2819* 2820* 2858* 2870*
					2876* 2881* 3526

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
L2N2	A	002	5EA0	3864	2072* 2111* 2229* 2364* 2429* 2589* 2735* 2799* 2877* 3553 3556*
L2P	A	001	6243	4179	3871
L3	A	001	6285	4183	2800 3531
L3N2	A	002	5EA2	3865	2805* 3559*
L3P	A	001	6284	4182	3872
L4	A	001	628B	4186	0361 0362 0362 0362* 1985 1986 1986 1986* 2806 3490 3491 3491
L4N2	A	002	5EA4	3866	3491* 3565 3595* 3598 3885
L4P	A	001	628A	4185	2811* 3591* 3592 3599*
L4P62	A	002	5EC2	3885	3873
L5	A	001	6301	4189	3592
L5N2	A	002	5EA6	3867	2812 3605
L5P	A	001	6300	4188	2795* 3631*
L6	A	001	6314	4192	3874
L6N2	A	002	5EA8	3868	3637
L6P	A	001	6313	4191	0363* 0364 0364 0364* 1987* 1988 1988 1988* 3493* 3494 3494 3494*
MB	A	002	6088	4055	3667*
MBFOND	A	004	4585	0833	3875
MBIDX	A	001	5E91	3845	0760 1999
MBMSG	A	001	6495	4236	0761
MBMSGN	A	011	649F	4237	2048* 2049* 2082* 2092* 2093 3226
MBT6L	A	001	5F17	3899	2031
MCNT	A	001	5E7E	3823	2081 2098
MIAR	A	005	610D	4114	0538* 0546 0549*
MIAR2	A	001	6109	4113	0553 3502
MIARN2	A	002	5EB6	3877	0451* 0531*
MIARNH	A	005	6083	4082	3501
MODE	A	001	5E90	3844	3877
MOVNM1	A	005	5882	3510	2064 2064* 2065* 2069 2087 2087* 2088* 2090 3232
MOVNM2	A	005	5C06	3542	3501* 3515*
MOVNM7	A	005	5D09	3647	3527* 3532* 3547*
MPL	A	003	5E44	3800	3638* 3652*
MPLCMD	A	004	411A	0215	0201
MPL01	A	006	412F	0225	0202 1740
MS	A	002	6086	4054	0221
MSFOND	A	004	477F	1058	0766 1996
MSG2	A	001	640B	4214	0810
MSG2N	A	015	6419	4215	0147 0148
MSG3	A	001	641A	4217	0147 0148
MSG3N	A	011	6424	4218	0347 1660
MSG6	A	001	6425	4220	0347 0348 1660 1661
MSG6M	A	015	6433	4221	0217
MSG7	A	001	6434	4223	0217 0218
MSG7N	A	019	6446	4224	0234
MSG8	A	001	6447	4226	1692
MSG8N	A	046	6474	4227	1692 1693
MSG9	A	001	6475	4229	1926
MSG9N	A	032	6494	4230	1926 1927
MSMSG	A	001	6408	4245	2331
MSMSGN	A	020	64EB	4246	
MSOUT	A	004	52FF	2357	2361
MSSAVE	A	004	47C8	1085	1075 1078
MSSTR	A	001	5F3F	3905	1100 2099 2102 2351 2354
MSSW	A	001	5E93	3847	0809 0820* 1058*
MSTBL	A	001	5F5F	3908	1104
MOFF	A	004	4352	0525	0520
MIOFF	A	004	4361	0531	0526
NABLED	A	008	5E51	3803	2147
NCOMMA	C	001	0040	3838	1720 1849 1883 1911 1914
NEG1	A	002	5DD8	3752	0319 1448 1467 1503 2251 2612
NEG2	A	002	5DDA	3753	2110 2228 2363 2588 3519
NEG3	A	002	5DDC	3754	3551 3590 3630 3666
NEG5	A	002	5DDE	3755	2794 2798 2804 2810
NOCK	A	005	4C1D	1611	1600
NOMPL	C	001	0040	4352	0127 0198 1736

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
NTR	A	004	5868	2929	2893*
OP2TBL	A	001	6081	4051	1781
OP3TBL	A	001	6089	4057	1788
OP4TBL	A	001	6098	4071	1807
PACK	C	001	0226	4371	0695 0798 0846 0911 1040 1097 1140 1158 1181 1249 1377 1395
PFC	A	002	0A07	0021	1483
PID	A	002	0A01	0017	0061
PPTR	A	002	615F	4145	0483
PRBXR1	A	004	5D84	3723	3689* 3719
PRBXR2	A	004	5D88	3724	3690*
PRINPT	A	004	4F03	1940	1833 1899 1904
PRINPX	A	004	4F29	1953	1940*
PRINT	C	001	021A	4368	0101 0118 0122 0145 0204 0215 0231 0290 0329 0345 0688 0739
PRINT1	C	001	0080	4360	0769 0788 0823 0901 0994 1048 1088 1227 1240 1279 1342 1415
PRT	C	001	0018	4358	1441 1470 1496 1507 1602 1640 1652 1658 1690 1924 1948 2371
PRT2	A	001	5EA9	3869	3678 3709
PRTBUF	A	004	5D57	3688	1613
PRTB1	A	005	5D7D	3702	1545 1588 1612* 1613
PRTB2	A	003	5D9D	3714	3703
PRTB3	A	004	5D75	3699	2113 2230 2366 2591 3673
PRTEND	A	001	5E9C	3856	3688*
PRTN2	A	001	5F9D	3862	3716
PRTREG	A	004	5D43	3673	3704
PRTRGX	A	004	5D53	3681	3693
PSR	C	001	0004	4338	2235 2596 3697* 3734*
PTADDR	A	002	5D9C	3712	0364 1988 3494 3703
PTBUFN	A	001	6340	4194	3676
PTLENG	A	001	5D9A	3711	3733*
PTTEMP	A	002	5EC4	3886	3707*
PLIAR	C	001	0020	4339	0360* 0361 0361 0361* 1984* 1985 1985 1985* 3489* 3490 3490 3490*
RANMSG	A	001	652C	4263	3706*
RANMSN	A	026	6545	4264	1943* 1944* 1945 3702* 3703* 3706
RDALS	A	001	5912	3037	3735*
RDDL5	A	001	5947	3083	0288* 0327* 0331 4265
RDEXT	A	001	5928	3059	0331 0332
RDSAV	A	004	4C46	1625	0543 2756
READKB	A	004	48BE	1537	0587
READN	A	003	48ED	1588	0569
READO	A	004	489A	1541	1537*
READOA	A	004	48AB	1559	0168
READOB	A	003	48A5	1545	1597 1619
READOC	A	003	48A8	1546	1586
READ1	A	004	48B2	1563	1594
REGMSG	A	001	6521	4260	1621
REGMSN	A	011	652B	4261	
REGTBL	A	001	6109	4112	2852
REGTBN	A	001	6165	4149	0136 0438 0440 1529 3505 3537 3571 3609 3621 3642 3658 4153
REGX	A	002	43D9	0575	0135* 0136 0136 0136* 0438 0438 0439* 0440 0440 0440* 1528* 1529
REGY	A	002	43FE	0593	1529 1529* 4153
RET1	C	001	0041	4361	0568*
RIAR12	A	002	5EC0	3883	0586*
RIGHT	A	005	5E49	3801	1545 1588
ROTBL	A	001	5F81	3931	3735
RSAPTR	A	002	58DF	3002	2675
RSAREG	A	002	58F5	3013	1435
RSBREG	A	002	58F9	3015	0506* 0507* 0508* 0512
RSDREG	A	002	58F1	3011	2963
RSIAR1	A	003	5D81	3721	2971
RSIOP	A	001	58CA	2991	2959
RSKREG	A	001	5904	3022	3883

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
RSOPRC	A	002	58FD	3017	2952
RSOPRR	A	002	58FF	3018	2954
RSOPRY	A	002	5901	3019	2956
RSPPTR	A	002	58D9	2999	0474 2974
RSTAB	A	001	441D	0610	0566
RSXREG	A	002	5903	3020	0487 2945
RTN	A	001	0A03	0019	
RTNPFCA	A	001	4045	0092	0021
RTN1	A	004	4084	0129	0111 0116
RTN1A	A	004	4088	0135	0108 0246
RTN1B	A	004	40AD	0150	0143 0208 0692 0743 0773 0792 0827 0905 1052 1092 1244 1346
					1423 1445 1474 1500 1511 1712 2374 3661
RTNIC	A	004	4092	0138	0385
RUNADP	A	004	425C	0381	0683
RUN1OP	A	001	5961	3105	0381
RUNSW	A	001	5E84	3829	0138* 0395* 1559 1961
R1SAVE	A	004	46E6	0989	0923*
SBYTE0	C	001	0208	4377	2368 3675
SBYTE2	C	001	020A	4378	0158 1575
SBO	A	002	6129	4127	0629
SCN	A	002	6128	4128	0631
SCNCD0	A	004	48DA	1220	
SCNCD1	A	006	48E2	1223	1294
SCNCD2	A	003	4901	1234	1225
SCNCD4	A	003	4919	1246	1235 1238
SCNCD5	A	005	4969	1285	1276
SCNCD6	A	005	4948	1274	1302
SCNC10	A	004	4607	0892	
SCNC11	A	003	460F	0895	1012
SCNC12	A	003	4627	0907	0896 0899
SCNC15	A	005	470D	1003	0991
SCNCS1	A	004	4731	1022	0884 1212
SCNCS2	A	003	4749	1031	1026
SCNMS1	A	004	479F	1070	1083
SCNMS2	A	004	47DE	1094	1086
SCSADR	A	002	4766	1042	1038*
SENSE	A	002	50FF	3771	0061* 0062* 0063 2338* 2339* 2340
SIAR	A	005	6112	4116	0066*
SIAR0	A	001	610E	4115	0452* 0528*
SIAR1	A	002	5DE6	3759	0072
SIZE	C	001	0203	4374	0110
SNHALT	A	002	5E25	3782	0139 1563 1964
SNS	A	002	6165	4148	0493 3656
SNSAVE	A	002	5911	3031	0492 2947 2949
SNSNM	A	005	6108	4106	3662
SS1OP	A	001	6538	4265	0293
SSW05	C	001	0004	4379	2368 3675
SSW16	C	001	0002	4380	0158 1575
STRCTR	A	002	50F6	3767	1067* 1081* 1095 1103 1105
STRZLS	A	004	541E	2481	2458
SUBAC	A	004	50EA	2130	1991
SUBAC1	A	006	5108	2142	0372 2133
SUBAC2	A	004	5138	2155	2150
SUBALS	A	004	55F0	2702	2018
SUBAL1	A	004	566A	2743	2710
SUBAL2	A	004	5641	2729	2726
SUBAL3	A	004	565A	2738	2706
SUBAL4	A	004	5608	2709	2741
SUBAL6	A	005	56CF	2771	2782 2802 2808 2814
SUBCD	A	004	546C	2534	2009 2012
SUBCD1	A	004	5555	2624	2543
SUBCD2	A	004	553E	2610	2563
SUBCD3	A	004	5515	2588	2577
SUBCD4	A	005	54DD	2567	2673 2679
SUBCD5	A	005	54A9	2551	2586
SUBCD6	A	006	5482	2540	2676

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
SUBCD7	A	004	54D5	2565	2616
SUBCD8	A	006	55DF	2675	2538
SUBCD9	A	003	55E9	2678	2580
SUBCI	A	004	513C	2179	1994
SUBCI1	A	004	521C	2263	2185
SUBCI2	A	004	5205	2249	2203
SUBCI4	A	005	519E	2207	2309 2312
SUBCI5	A	005	5175	2194	2226
SUBCI7	A	004	5196	2205	2255
SUBCI8	A	003	529F	2311	2220
SUBCI9	A	004	51DC	2228	2217
SUBDLS	A	004	532F	2399	2003 2509
SUBDL1	A	004	538D	2433	2408
SUBDL2	A	004	5370	2423	2420
SUBDL3	A	004	5426	2484	2404
SUBDL4	A	004	5357	2410	2491
SUBDL5	A	004	53F0	2471	2485
SUBDL6	A	006	5448	2493	2442
SUBDL7	A	004	53C3	2456	2479 2497
SUBMB	A	004	4F01	2030	2000
SUBMB1	A	004	506D	2077	2033
SUBMB2	A	004	5085	2084	2094
SUBMB3	A	004	50C2	2105	2109
SUBMB4	A	004	50DE	2113	2075 2155 2431 2736 2796 2878
SUBMB5	A	004	50E2	2115	2240 2601
SUBMS	A	006	52A6	2331	1997
SUBMS1	A	004	52DA	2344	2335
SUBMS2	A	002	52F0	2350	2346*
SUBMS3	A	004	5328	2374	2369
SUBREG	A	004	5779	2840	2020
SUBRG1	A	005	5785	2844	2849
SUBRG2	A	005	5797	2851	2845
SUBRG3	A	004	57E8	2880	2856
SUBRG4	A	004	57D2	2871	2868 2886
SUBZLS	A	004	5464	2508	2006
SVCOM	A	001	5E88	3839	0236* 0242
SVPALS	A	002	5A43	3273	2707* 2740*
SVPCTL	A	004	5803	2893	0271 0276 0370 0383 0397 0400 0544 0570 0588 0600 2062 2085
					2140 2198 2285 2412 2461 2558 2649 2719 2757 2861 2884
SVPCTU	A	003	5807	2894	2910
SVPFCA	A	025	0A39	0036	0059 0223*
SVPOUT	A	003	5865	2928	2913
SVPSNS	A	003	5835	2912	2895
SVPTM	A	002	586D	2931	0140* 0142 0460* 0461 0461* 0462 0462* 0463 0463* 0467 0474* 0475*
					0476 0476* 0477 0477* 0478 0478* 0482 0499* 0500* 0505* 0508 1564*
					1566 1965* 1967 2897* 2898* 2905* 2907 2915* 2916* 2917 2918* 2925
SWCAMC	A	004	4EE8	1924	1709 1881
SWCMD	A	001	6063	4019	1725 1744
SWCNTL	C	001	0080	3837	0156 0779 0836 0886 1008 1022 1060 1070 1127 1148 1174 1214
					1290 1333 1364 1382 1451 1686 1705
SWDIGT	A	001	5E98	3855	1845* 1850* 1853* 1856* 1894 1907
SWENT	A	004	4C92	1686	0159 0162 1578 1934
SWHALT	A	002	4E65	1870	1846* 1857* 1906 1910*
SWIXR2	A	003	4DED	1821	1797* 1815* 1828
SWHV5	A	004	4E0B	1830	1828* 1829*
SWNTX	A	004	4E1E	1837	1745*
SWNT1	A	004	4CC5	1708	1703
SWNT1A	A	005	4CFD	1728	1734
SWNT1B	A	005	4D26	1744	1729
SWNT1C	A	003	4D53	1765	1750
SWNT2	A	003	4D60	1771	1766
SWNT2A	A	003	4D66	1774	1769
SWNT3	A	004	4D84	1785	1779
SWNT3A	A	004	4D92	1790	1783
SWNT4	A	003	4DA1	1795	1786
SWNT4A	A	004	4DCC	1810	1804

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
SWNT4B	A	004	4DD4	1812	1808
SWNT5	A	006	4DDC	1815	1793
SWNT5A	A	005	4DE2	1817	1823
SWNT5B	A	004	4DFB	1827	1818
SWNT5C	A	004	4DF7	1825	1799 1801
SWOP23	A	001	607C	4044	1791
SWOP4	A	001	6095	4063	1806
SWPRT5	A	003	4E0F	1831	1753 1763 1772
SWTEMP	A	002	5E32	3789	1699* 1700* 1702 1708 1711 1714* 1715* 1722 1728 1739 1775* 1776*
SWVAL	A	002	5E34	3790	1892 1897 1902
S1	A	004	4666	0934	0927* 0930*
S2	A	004	466A	0936	0926* 0932* 0937
S3	A	004	4677	0940	0931* 0938*
S4	A	004	4699	0956	0949* 0952*
S5	A	004	469D	0958	0948* 0954* 0959
S6	A	004	46AA	0962	0953* 0960*
TCMD	A	004	4164	0255	0052 0196 4040
TEST	C	001	0212	4366	0255 1574
TSTDAT	A	004	4BF6	1593	1583
TSTIEX	A	004	4F4B	1972	1959* 1962 1968
TSTIOP	A	004	4F2D	1959	1688 1867
TSTSW	A	004	4BC8	1574	1560 1567
UDTO	A	003	0A0C	0024	
UDT1	A	003	0A0F	0025	0161 3692 3718
UNPACK	C	001	021E	4369	0446 0465 0480 0485 0490 0510 0550 0572 0590 1757 1889 2038
UTAB	C	001	0232	4375	2067 2096 2208 2268 2348 2423 2436 2568 2629 2729 2773 2871
VAL1	A	001	5E7F	3824	3578 0115 0310 0314* 0317* 0318 0323* 0698 0700 0701 0849 0972* 0975 0978
VAL1A	A	001	5E80	3825	0978* 1143 1262* 1265 1265* 1380 1405* 1486 2036* 2040 2046 2057
VAL1B	A	001	5E81	3826	2411* 2434* 2438 2441 2464* 2466 2478* 2717* 2739* 2867 3161 3180
VAL2	A	002	5E01	3772	3244 3267 3287 3316 0269* 0278* 0700* 1161 1398 2419 2725 3246 3269 3289
VAL2A	A	002	5E03	3773	2419 2425 2463 2725 2731 2867 2873 3167 3184 3204 3253 3274
VAL4	A	001	5E07	3774	3298 3324 0694* 0697 0801 0845* 0848 0990 1003 1004* 1028 1045 1139* 1142
VLCNT	A	001	5E99	3853	1184 1275 1285 1286* 1376* 1379 1479* 1480 1485 2035* 2046* 2047
VOC	A	003	5E65	3809	2047* 2048 2050* 2051 2051* 2052 2052* 2053 2053* 2054 2054* 2055
V00	A	003	5E5C	3806	2055* 2057* 2058* 2059 2059* 2270 2282 2291 2296 2299* 2300* 2303*
V04	A	003	5E5F	3807	2338 2345* 2346 2350 2401 2426 2428 2488 2631 2642 2655 2660
V08	A	003	5E62	3808	2663* 2664* 2667* 2713 2732 2734 2771* 2775 2874 2876 3143 3145
V10	A	003	5E71	3813	3216 3218 1028* 1043 1045 2291 2655
V14	A	003	5E68	3811	2776 2778 2776 2778
V18	A	003	5E6E	3812	3503* 3516* 3535* 3548* 3569* 3587* 3640* 3653*
V20	A	003	5E74	3814	2820 2820 2474 2493 2817
V28	A	003	5E77	3815	2818 2475 2494 2819
V30	A	003	5E7A	3816	2752 2476 2495 2749
V38	A	003	5E7D	3817	2750 2750 2477 2496 2751
WARN1	A	001	6369	4203	2444 2445 2446 2447 2448
WARNIN	A	038	638E	4204	1229 1229 1230 0120
WARN3	A	001	638F	4206	0120 0120 0121 0124
WARN3N	A	011	63C5	4208	0120 0121 0124 0125
WARN4	A	001	63C6	4210	0124 0125 0488
WARN4N	A	023	640A	4212	0175* 0177 0180 0183 0186 0189 0192 0195 0201 0308* 0318 0319*
XR	A	002	6163	4147	
XRI	C	001	0001	4334	

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
0436			0566*	0567 0568 0577 0577* 0578 0585 0586 0595 0595* 0596	
0602*			0682 0685 0694 0714 0718 0721 0724 0727 0730 0733 0736		
0756			0782 0785 0794 0797 0839 0842 0845 0881 0881* 0889 0895		
0898			0907 0907* 0908 0923 0925* 0926 0927 0929* 0930 0931 0932		
0937*			0938 0947* 0948 0949 0951* 0952 0953 0954 0959* 0960 0989*		
1006			1006* 1011 1025 1031 1034 1037 1037* 1038 1063 1066 1066*		
1074			1080 1080* 1094 1120 1130 1133 1136 1139 1151 1154 1157		
1177			1180 1209 1209* 1217 1234 1237 1246 1246* 1247 1288 1288*		
1293			1320 1321 1324 1336 1339 1367 1370 1373 1376 1385 1388		
1391			1394 1435* 1438 1447 1447* 1460* 1463 1466 1466* 1490* 1493		
1502			1502* 1522 1538 1541* 1542 1543 1543 1611 1615 1615* 1617		
1623*			1725* 1728 1731 1731* 1733 1744 1747* 1749 1755 1762 1762*		
1765			1771 1774 1782 1782* 1789 1789* 1790 1791* 1795 1795* 1796		
1806*			1810* 1817 1820 1820* 1822 1827* 1830 1831 1831* 1832 1835*		
1860			1862* 1886 1887 1887* 1897 1898 1898* 1902 1903 1903* 19.5		
1916*			1929* 1930 1931 1932 1932 1942 1943 2081* 2090 2091 2091*		
2103*			2105 2106 2106* 2110* 2111 2192* 2201 2202 2207 2224 2224*		
2249			2250* 2251* 2252 2254* 2275* 2282 2283 2287 2288 2288* 2307*		
2311			2311* 2355* 2357 2359 2359* 2363* 2364 2456* 2463 2465 2465*		
2549*			2561 2562 2567 2584 2610 2611* 2612* 2613 2615* 2635*		
2642			2643 2651 2652 2652* 2671* 2678 2678* 2744* 2759 2761 2761*		
2768*			2778 2779 2794* 2795 2798* 2799 2800* 2804* 2805 2806*		
2810*			2811 2812* 2841* 2847 2847* 2851 3500* 3508 3509 3509 3510		
3512			3512* 3519 3520 3526* 3531* 3540 3541 3542 3544 3544* 3551*		
3556			3559 3565* 3574 3575 3576 3583 3583* 3590* 3591 3598* 3599		
3605*			3612 3613 3613 3614 3616 3616* 3624 3625 3625 3626 3628		
3628*			3630* 3631 3637* 3645 3646 3647 3649 3649* 3661 3662 3664		
3664*			3666* 3667 3689 3700* 3702 3703 3707 3714 3714* 3723*		
XR1D	A	004	4C3E	1623	1538* 1591
XR1SV2	A	004	4411	0602	0436*
XR1S1	A	004	5214	2254	2249*
XR1S3	A	004	5540	2615	2610*
XR1S4	A	002	5DE0	3756	1617* 1618
XR2	C	001	0002	4335	0270* 0275* 0368* 0381* 0394 0396* 0399* 0402* 0435 0543* 0569* 0587*
0599*			0603* 0893* 0988 1003 1005 1005* 1104* 1105* 1106 1221* 1272		
1274			1285 1287 1287* 1301 1436* 1448* 1461* 1467* 1491* 1503* 1539		
1624*			1726* 1732 1732* 1745 1781* 1788* 1807* 1811* 1821 1821* 1825*		
1830			2060* 2079* 2080 2084* 2102* 2105 2107 2107* 2139* 2188* 2189		
2191*			2194 2195 2196* 2200* 2202 2205 2206* 2213 2215 2215* 2222		
2223*			2225 2225* 2228* 2229 2284* 2308* 2339 2354* 2357 2358 2358*		
2406*			2460* 2481* 2490* 2546* 2547 2548* 2551 2552 2553* 2557* 2560*		
2562			2565 2566* 2573 2575 2575* 2582 2583* 2585 2585* 2588* 2589		
2644*			2648* 2672* 2718* 2756* 2769* 2771 2780 2780* 2801* 2807* 2813*		
2842*			2844 2848 2848* 2860* 2883* 2894 2897 2900 2903 2903* 2904		
2909			2909* 2912 2915 2920 2923 2923* 2924 2928 2928* 3502* 3505		
3505			3508 3514 3514* 3528* 3533* 3537 3537 3540 3546 3546* 3567*		
3571			3571 3574 3585 3585* 3606* 3609 3609 3612 3618* 3621 3621		
3624			3639* 3642 3642 3645 3651 3651* 3656* 3658 3658 3661 3690		
3724*					
XR2D	A	004	4C42	1624	1539*
XR2SA	A	004	5186	2200	2195*
XR2SB	A	004	54C5	2560	2552*
XR2SV1	A	004	4284	0402	0394*
XR2SV2	A	004	4415	0603	0435*
XR2S1	A	002	5DE2	3757	2189* 2206 2222* 2250
XR2S2	A	004	51CE	2223	2205*
XR2S3	A	002	5DE4	3758	2547* 2566 2582* 2611
XR2S4	A	004	5507	2583	2565*
ZERO	A	002	5DF8	3768	2473
ZERVAL	A	004	46DD	0987	0976
ZLS	A	003	608E	4059	1121 2005
ZLSMSG	A	001	64F2	4251	2487
ZLSMSN	A	019	6504	4252	
ZLSW	A	001	5E95	3849	2403 2430* 2457 2508* 2767*
ZONE	A	003	5DFB	3769	0288

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IBM MAINTENANCE DIAGNOSTIC PROGRAM

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

CROSS-REFERENCE

SYMBOL T LEN VALUE DEFN REFERENCES

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

PART NO. 4247615
PAGE 41

IBM MAINTENANCE DIAGNOSTIC PROGRAM

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

OBJECT CARD LISTING

PART NO. 4247615
PAGE 41A

THE CHARACTER INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

GBK GBD PN 42 47614 EC 827879 3340 ADAPTER MAN UAL OPS -MOD 12 84228422 C1920000

TCOYIORH & &DP "AE A & =KOC1920001

T YR &HUC1920002

T &Y;CAU NY2C1920003

T+U :CAU4BDAD+ D HF* &&D&: &YR+ E :S?H&A-OQB/-H+&O AP-2H LZ|P-2| N7 "PS#2 &&40FDK2Y* &+OD :#OC1920004

T+UA5B/U50E7MOH* " F " " /OHEJS/ TE<D + E:S?H&.4 A -()|HAH&OABSA 1:C7A T.2 JL /OH E L* 2L-C1920005

T+UBOQAP /OHEAUN UBTZ B/U: N:H|DA /R&1\$QOJ/RLOAPY& 1158V<<|Q&L-BOF7 2D T /OHEA-1UFLO PZ& 680C1920006

T+UC,+8A;ST-B -, DD2K+K HC& &LI. /4>+0-E/7G5 "CB A&PJ*O&C -MK5-&E OHE.*67G <BAJG/ *2 " KB* C1920007

T+UDWOHEBFX7I <B A&S9*80C -MEU+D HF-H&BM4B V9DOHE AFZBG /YFG6NUOH) ,*BG /YBC6&3+ D HF-H SH2C1920008

T+UE/D QCF Y9B/- (&Y*&NP2 &U(DO A&NP2-J? /OHEA/(UJ-O PY&HF*BG SY DCA* < YRPY? /60 BOM* &-<C1920009

T+UF*&HT /OHK+ D HF* &&CX /OHO| E :-<HBOF# /5-CC A R/5UH+ /R/2HBOPI /5-CCOA:-E:<O E ASS &1&C1920010

T+UGP/4IYOH)BTC4 APY.2-JH< WM2P-? /OHE &5V+<BG07* @ E:BC I:EV8(| A /SHAP/Q*BV9*2YH &C- " *HC1920011

T+UHKPYR:T @ PX: :T&BG&*@:2E9=L " PX26 N7Q|&A:/?H AC-O PX:/TO PYS /46|C IV<V80OH* BF-D *20C1920012

T+UI(FWNEOH)S)2B G&NT /OHE &_UI<B G&Y3 /5_7|DATE 2 DQ3*TE 2*Q,ZS>30 PD-<BV:XP0-#- Y R+0& EZ2C1920013

T+UHHO&.B VUDOH) Q @BGM&7B VV/OH) Q @BGEIH4BDH.(I B/30 PYLB V/>OH) Q @HBOG. /5-CO-H " < " &HMC1920014

T+U.C/O (/DG& BJA-4 H&MCE1/OWE VIDA/R&1\$QOJ/R*8 G /8A0&*/O31 Q&U @&FD+IDA/D00A0F5 RC 8 5#MC1920015

T+U.= N/_OF4+ N/ _OF4+ N/_OF7 /OH : N/3ON4< E/_O(- @ E/&C-EQ&N/_C-E Q&N/_C-EQ&N/_OH* BG-D :HDC1920016

T+UK90F1/P28G /B A0&I/Q28G /8BOJE /R&-BOF5RCT?00F4 8AEU+2Z D+/AQ&60 0|9RCCZ-0|8+ ET :0F4 OK&C1920017

T+U(4OH*BG-EQ7WE /+AARC|H&BC12QJ| /4|V+ /RC|H&BC1 @Q&# /4|V|G1/B&0 OK//PLO PX8#-EU YC- " -SYC1920018

T+U+2OK/RH 8 OK/ RH<HBOJ. /5-C|&E :-?HDAC> OKY+ E9 =PY3 /OH: VUDQ&4 + EUYPS<+ M+-P|& 8 5U *0QC1920019

T+U|DH<B&&72| M+ -P|&B M&|G ARJ& * M|R 2HBOK? /5- COH*BG-ERJWDR4-D C-& " O EC710 OMA " G D 80&C1920020

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C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+UBNK-O L:;</4	PT 2YDJA-DAB-H	0 E(8SHBPTO	5 NB6C A+CD77COA	+CE:CS (HA LE	APTQ 4Y4C1920065
T+U9E0H)I 2HAQ13	/0 I E:W33JLWP	2/1Y:6E:H I:W	GB30DPZ72/062AV:	8(11+RL&HL)+4 NB	T(ED 384C1920066
T+U:PTQI N86Q*8	2-P3 /42_0H*8H2D	< A:;<-BPTI:..37	OPTH*BV822VE)161	:<EBAL>-8LE:HA/	F-F2 *Y8C1920067
T+U#F (HA *BG /B	APTA:(C4APZ72 &	< A:(HA *BGL0I	2/2V< 6E:(HA 2B	GLOCH 582LMMI E:	SPTH 182C1920068
T+UBA2YD+C-A+RN:	(+UA:58BGLM 8&E:	H(E:(2HA C /O	OM*BF-H-RILB OG	*I E:(X1 &M) EDG	/40 -K&C1920069
TH49VUT&ML204 MB	Y(E:1 2APEJ:1-0	L2R:1 2AL2/):2B	G /YF	.....	7L3C1920070
T+U*TON* C&ML48	* N:D2-DL<*)ILC	GOF48 V/_2Z DOM)	<K286 2&F(CHJ	T(6(C11S>WH0) A	5D 0 P -C1920071
T+U:5V:XPD-(MB	/OH. -NCD&E:1HOB	DOHEJ1 4APSE-/2B	ANDQI MB/OMT -M	JC&I:MBB-OMEL-04	BPSD 500C1920072
T+U*RON* -NJUC&I	1HOBJOHENS 4BPSE	-V<BANFOI 5B/OH8	-MHECCI:1HFBZOME	MB<BGN7X /41YC Z	SHF& QJ8C1920073
T+V MX34APZL2-QZ	8 EB *81:-286 /B	APX'S. OAPZ9)2T3	AQUE< EBAPX2+ EB	AP-DC E:JP-D8G5:	J) & PC2C1920074
T+VAIP+ *NBAP-D	+ NBAP-D+ NBAP-D	+ NBAP-D+ NBAP-D	+ NBAP-D+ NBAP-D	< EBAPX2*E8AC-A	: EBAD-IR:<BGO <
T+V8HUE:6+2*UCB	G /8APZASK OAPDA	6P31 QUT2/7D2 E:	M|<JSJQMBQSU4 V:	30-E-E30 PZCB VX	80H* RB C1920076
T+VCE0 <+ E:6PZ	835:6L PZCK &D	+ E:JPY298E:JOIA	&/*8G /8HP19-L7D	HPY8B V2*0-ESJMO	8 3HCC1920077
T+VD 4-DCB-HBCOA	1/V:<0 E&OTQAP)Y	4 N:-(OH)1MB8GEY3	/5_7OH)B&C4APZL	2-JQC 5B,P/4:AEU	H+Y =9YC1920078
T+VDBB/XB VNH0H)	Q 00*QTZU? OCQT*	1H00APZ9JEC12PS*	<A6N7PVD8- YR2/	H)DA:100GQT):0*8	GM(8 :9YC1920079
T+VE6OH)B&E Q&QY/	US00CQT5:G&OAPZ9	JKLO PZ* N:MBYF	*|<ESJQMBQSU4 V7	S) A:V2HBP2-B NB	? . & 2HMC1920080
T+VF10,-DI IJS*H	80,X /5-CO-H DO	B V088&HB 7HA83&	BH)D5 V75G I:E-	/OH: 580P/+<A&M	:D08 OK4C1920081
T+VGE E:OPY35 -0	(E:OPY&2-JU* N:	PBYGHI I182HB C	K EPS -P /SE5(-I	16T&DPDC /55PC E	:XV4 MA4C1920082
T+VHX:C1 QU&8 N:	K+6E:XIHE-30 PZ-	/5CS(EKE3MAP:H	6 N7Q-E0 0-D <B	GMRQB E:M|<JSJCO	APZ* 3E C1920083
T+VISI E:U28G /8	BP-ESKTO PYQ& E:	00-E:840AA&BAG E	E> LB VUKOH)Q 40	B VD64-DEC-A:V:	<C&D 4RYC1920084
T+VH)P-E: *HBA30	PZ.2/2H*-58AB-D	(C-A: E:<I A: -H	GC-8AP-E):T4HPY5	MIAO-E:12H8QUB	/5D -93C1920085
T+V.QX_HAA*8GMR8	<D6H1R+2< 6H6P/4	< N:;NDB* N:MBYD	S|<ESJ OAP*): KB	AP-2 C EK557*C A	K5EH 728C1920086

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+V<L5CO PZ&+ NB	AP-HC N-OP-G /OH	1DE8AP582BE:FO-I	-|2HAQU)3 0<CB-H	D4-DECOA:V:<0 E	K*3Q *80C1920087
T+V(+ N7E(E:Y<B	CPN*8A HMB/ EOH*	BF/8 /48_0H)B&E 0	EQS(U8&OASR: &O	APZ9LIC4APZP2-),	B VY *:-C1920088
T+V+IKT4APZL2-LQ	800ID+YA:-2BGO <	(E:APYC2-&8&PFI	FOH*BG-E:-NBAC E	SKE8AC E:YE(2) A	:V* E.<C1920089
T+V|D/5C:I A:VCS	-PX* /OH: N9*QSQ	* E9*2YFTC ESIV9	3C 1SJ594C 1SL59	7C 1SM59:C 1SP59	*O-D 1J8C1920090
T+V|P12* N:NBVE	EO-IRY<BGO (< A	:<8 PX*:T(HA LU	-PX* UE|GON)O>30	PZ&:OH:C ESIV7	8C H P&UC1920091
T+VE:QU):P O&QU*	:Q-O&QV):E O&QV*	:&TO PX*/5|CO-I	R><BGM*H* N:MOHE	L2 OKQTAVA O&QT(	: &O L9 C1920092
T+VJ5 N:;NC-B VY	KOH)LN008QU):P O	BQU*:Q-O&QV):E O	BQV*:828GM2<2 N:	NOH)L.28G&M-<E6H	5RJO 1&EDC1920093
T+VKO) A:NC7RPS6	-NP-C (S+V8)C E	:XVKE|6E:V|HAOC3	AQULB MIGI 119CH	BP2-B NB7. (E> <	4 V& 1C8C1920094
T+VL.2CH8D42*6NB	/2YDDO-18B*BGO I	B - L *AQ,R_ D	A2-EZ(INBTHBP:&	* E:E *8G /8APYH	1*QO *88C1920095
T+VNM &E)M:1H8 OB	*PY):T|HAFL4APZT	2-1Q4 V7UO-H (H	AA+HBA<BGM*U6 V7	E(I:Y<BGM*+< N:	:P:- OK8C1920096
T+VN|DASJC-APYK	9 N:*2/ ?| A:HK<B	GM+H4 NNE(LE19CQ	AP)2P CB & OH)	M5LO PZ&B N:Q|<J	SJC0 2.2C1920097
T+V0* N:COH*8G-I	: OIH) A:2HAP>	< &(: JOAO-<CO-I	8<L7RPS62-6LB V.	OH)Q 40A ND64-D	DC- P3 C1920098
T+VPPPY):T 4AP-E	: *HBA30 PY|2/2H	*-58A2-D(C-A: E:	<I A: -HCC-8AP-E	:T4HPY- NM60-E	:82H RYUC1920099
T+VQK MI+OH)H7&O	DOTI:K*8GMH.K &L	/5L)OH)B&E OCQE	VH OAPZ9M*37DPS6	2-N<28VZC|E:E:V|H	AD 0 H&HC1920100
T+VR(MHUPUD< OH	XP-D< N:;N/2200I	D+YA:2H8OTC /5-	CC&A: N: 2YDD|E1	SJ28G /8APYE: &O	AQU- 184C1920101
T+VEHP-D< N:NU7	/5C:|<JSMLY-PX2	2&EVZCOH)OB30 PZL	B NB-I ARHCTUPSG	2-10< MIGPN-< MI	|PW& *&C1920102
T+V8CC 1SN59< I	SP5911AARHC3LQSG	B VUKOH)Q 40A NU	DC-ARHE:<4-DB+&	RH<B&NZ4B E:G| J	:/TO *Y8C1920103
T+V8 E:NO-ESK<H	BP128 N8A *8G /B	BP-E:A40C 58G4-D	H8-HHC0A:V:<0 E	O330DPYQ+ E:GPYO	* N8 5TDC1920104
T+V9*HHAFT48PY-	2-K* 5:G2YD4(-E	17T&APD& /5C:(-E	17T&APDCB OH)O-I	-H*8GN226 N7:(E	:Y2H *H&C1920105
T+V)4 OH*O-I-N8B	GN226 N7:(E:Z<H	AQOPB V2VON)O333	UQSD< MIGPVD< MI	|PV8< HIPPWH< MI	-PMM *Y8C1920106
T+V:7OH)OX*8G&MT	B QA(O-I-*Q4C 58	/2YDH4-DAB-HDOH)	P/JC QFH C ZSHFM	,C 1S-EB/C E:YV:	V|GD *&-C1920107
T+V-2PZL2-LQ30DI	D+SA-Q2H8ON3 /5-	CC&A:-N9*2YDD|E1	SJ28G /8APYE: &O	AQU: &OAPDAPZ2B	GM(8 *8* C1920108

C192 3340 ADAPTER MANUAL OPERATIONS PGM - MOD 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+W+60MCF2*PL1+I	2)N 8>|R2)PGK=\$	A6)P|5*)-E<GM5_)	2<G5E(\$V1)XW6*X	T8@PNE<\$A@DCB0*|	K9(* \$/4C1920153
T+W|1E<XNE(LA2)N	8>|06*N,&DA &DA	&DA 0)N 0;|T1)L	P84CT5UCL5XGD&<\$	A@DCF6)\$M<LI8_I	5<D 2 OC1920154
T+W&Z:DCCO:LSIMC	A<<TA5*) 0*\$N1<X	T2)\$NK@X054C18UC	R9(PN2)PGK@X054C	H0|T1*J.5(-L&<X	N&(* ;0 C1920155
T+WJX6)\$G6*PS8_I	00*LI5*) 8XPC8@X	05MCC@-E5;|E6MC	A5(\$P&< 05(LA5*J	2)N 1<GTOMCS9WA	8XN MO&C1920156
T+WKS1MCUBXPR8UC	G9<XD1*LA8@E 8>R	1)PT6;/-&< 05(L	A5*J 0@GNO@PL4@P	D5(\$D1MCB9<\$F1)X	A1<E 2HUC1920157
T+WL)6MCC5_LPE+. T5_)	2;I &DA &DA	&DA 0;|C5_PT6)\$	L&+.T5_XE&(LI0*X	02)PS8*V 0;|S:+.	TQ-< :1MC1920158
T+WMQ&(LA2)N 8>|	06*N 0;|D4=I 0;|	Z5_PEE(|00@GL&+. T5_XE&<GT0=|R44C	S8*\$R1MCD0;|A&(|	E1>< 3-0C1920159	
T+WNL&DCA8@GL8X.	I5_) 1;-T&(XE1*X	A5MA &|E 0=TC4@P	S&+|H1)N 2<GL8@P	D1)XR@P, I5;PA4@X	D&<< :.4C1920160
T+W0+5_LMO)PD&+.	P1*|I1XEXE1D7E6)X	Z;_PO&< 05(LAQ*.	L0)PK&<\$04*|09X	N14CC5_LMO)PDK@P	K6-& 510C1920161
T+WPI;_XE14C5@P	C2*\$I1*J 0@GN-;|	0XN 1<XS5*|A:<P	DK@PR6-N:6*PGE+.	P1*|I1XEXE1DCCO)N	'84 NH<C1920162
T+WQD0XN 0|T1)X	E1D7E6)X6;_PO&<	05(LAQ*.L0)PK&<\$	04*|09XN14C05@P	R0)PDK@PR6-):9(P	D1+Q *: C1920163
T+WQ=2)PE1DC05@P	R0)PDE<\$I1|DK@P	R6-/:2)PVO)|I1DC	E9=|E6)PA44CR1*)	8_-E0@XF2*PDK@P	R6-U R8<C1920164
T+WR;:_PO&< 05(L	AQ*.L0)PK&<XN&<L	A8@E 1XEXE4@J.1)X	R@-A:0=.T54C05@P	R0)PDE(P084CF5_I	L5>Q 6:QC1920165
T+W&51*J 0>| @FG	11)XR@-E:Q \$U5*L	A6;| 0)|I1*PH1)P	TE(\$N&D7X955 0*L	R8U?E6)X1@X, I4'|	E1@D LQOC1920166
T+W\$044C05@PRO)P	D&<\$04*|09XN14C	C5<J.1)XR@-(;5&L	D&G_ 5X 1<XG2;|	S&<XN&D7M8V5 8>|	R2)M -H4C1920167
T+W*,147E6)X1'G,	05@PRO)PDQ*GD1(X	E8>I 1XEXE4@J 2;I	0_|A5)I.1)XR@-N	:5)R 9*GL9<N 1_\$	L4*0 ML C1920168
T+W)W9XN14CA4=|	E6MCR1*) 0*LD1)X	R@-R:2)\$PE<TA4=|	E1DCD9<N 8'R 0@T	E0'I 8>|054?E6)X	1*7Y :ZXC1920169
T+W:/2)\$PE<TA4=|	E1DCD9<N 8'R 0*L	R8UCC5_LPE+.T5_	E6)X1=G, I5;PA4@X	D&<GD1(V 6*GN1@P	C5_M 4Y<C1920170
TDN:48_\$L1MCK1;T	B5XGR1DCE6)X06&	.....	.....	.....	..... 1#4C1920171
E***E7*=-DC*PH&	=*7M&F| I C	.. .. .	.. .. .	.. .. .	.. .. .
		F& ASC R A S0 Q		19500630750	31876=,8C1920172

LAST PAGE

DATE 23AUG75 05NOV75 24MAR76
EC NO. 827785 827827 827879

PROG ID C19-2
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PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJECT CODE	ADDR	SYMT	SOURCE STATEMENT
0A16	01	0A16	56	RIM1 DC XL1*01*
0A17	00	0A17	57	DC XL1*00*
0A18	0DF0	0A19	58	DC AL2(RTN2)
0A1A	C0 87 021A		62	B PRINT1 PRINT SSW
0A1E	43	0A1E	63	DC XL1*03*
0A1F	000000FF00	0A23	64	DC XL5*FF00*
0A24	3C 88 134C		65	MVI DSKDEV,I*AO*
0A28	C0 87 021A		66	B PRINT1 PRINT
0A2C	07	0A2C	67	DC XL1*07*
0A2D	4F	0A2D	68	DC AL1(DSK33-DSK32) TO
0A2E	0A87	0A2F	69	DC AL2(DSK33) LOAD
0A30	C0 87 0222		70	B HALT DRIVE 2
0A34	FFFF	0A35	71	DC XL2*FFFF*
0A36	F2 87 4F		72	J DSKM33*1 JUMP DC'S
0A39	40D4C1D2C540E2E8	0A38	73	DSKM32 EQU *-1
0A41	E2E3C5D440D7C1C3	0A55	74	DC CL29* MAKE SYSTEM PACK CONTAINING *
0A49	D240C3D6D5E3C1C9		74	
0A51	D5C9D5C740		74	
0A56	C5D9D4D6D940C9D5	0A70	75	DC CL27* ERROR INFORMATION READY ON *
0A5E	C6D6D9D4C1E3C9D6		75	
0A66	D540D9C5C1C4E840		75	
0A6E	D6D540		75	
0A71	C4D9C9E5C540F24B	0A87	76	DSKM33 DC CL23* DRIVE 2. REPELSS START.*
0A79	40C4C5D7D9C5E2E2		76	
0A81	40E2E3C1D9E134B		76	
0A86	C2 02 0001	0A88	77	MODEL6 EQU *
0A8C	C0 87 1311		78	LA I,XR2 SYNC PT 1
0A90	C0 87 0EFC	0A88	79	ONL EQU *-1
			80	B SYMBOV
			81	B SCAR
			82	*
			83	PRINT HEADERS OF ERR TABLE
			84	SET UP COLUMN TABS
			85	READ FIRST HALF OF ERR IN DBUF
0A94	0C FF 2622 2722		86	NVC DBUF-1(256),DBUF+255
			87	MOVE FIRST HALF
			88	READ SECOND HALF INTO DBUF
0A9A	C0 87 0EFC		89	B SCAR
0A9E	0C 5F 24FB 06DF		90	NVC DBUF+95(96),DBUF+95
			91	SAVE FETBUF
			92	LOCATE TABLE DOWN UNTIL LAST ENTRY IS AT BOTTOM
0AA4	0C 01 2513 0D95		93	NVC TEMP,OBRT
0AA8	0F 01 2513 2524		94	SIC TEMP,DBUF+1-256
0AB0	F2 81 24		95	JZ RTN103
0AB3	39 07 2513		96	TBF TEMP,X*07*
0AB7	C0 90 0D05		97	BF ERMSG
			98	*
0ABB	0C 07 252A 2722		99	RTN102 NVC DBUF+7-256(8),DBUF+255
0AC1	0C F7 2722 271A		100	NVC DBUF+255(256-8),DBUF+255-8
0AC7	0C FF 262A 2622		101	NVC DBUF+7(256),DBUF-1
0ACD	0F 01 2513 259B		102	SIC TEMP,EIGHT
0AD3	C0 01 0ABB		103	BNZ RTN102
			104	*
0AD7	0C 01 251A 238F	0AD7	105	RTN103 EQU * WORK FROM BOTTOM UP TO FIND OLDEST ENTRY
0ADD	3C 00 2523		106	NVC OBRNT(2),OBRND*
0AE1	35 01 251A		107	MVI DBUF-256,0
0AEA	7C 00 2513 00		108	NVC OBRNT,XR1
0AEE	3B 0F 2513		109	MVC TEMP,(1),O(XR1)
0AF2	3D 30 2513		110	SBF TEMP,X*0F*
0AF5	3D 80 2513		111	JE RTN106
0AF9	F2 82 07		112	CLI TEMP,X*AO*
				JL LABEL

ERR LOC	OBJECT CODE	ADDR	SYMT	SOURCE STATEMENT
0AF0	3D 00 2513		113	CLI TEMP,X*00*
0B00	F2 04 14		114	JNH RTN105
0B03	3C 08 23AD		115	LBL LABEL
0B07	0E 07 2522 2522		116	MVI OBRTYP,8
0B0D	0F 01 251A 23AD		117	ALC ENTADD,ENTADD
0B13	C0 67 0AE1		118	SIC OBRNT,OBRTYP
			119	B RTN104
		0B17	119	RTN105 EQU *
0B17	0D 01 251A 238D		120	CLC OBRNT,OBRT*
0B1D	F2 81 12		121	JE HALFMT
0B20	3C 10 23AD		122	MVI OBRTYP,16
0B24	0E 07 2522 2522		123	ALC ENTADD,ENTADD
0B2A	3A 01 2522		124	SBM ENTADD,1
0B2E	C0 87 0B0D		125	B RTN109
		0B32	126	HALFMT EQU *
		0B32	127	RTN106 EQU *
0B32	0E 01 251A 23AD		128	ALC OBRNT,OBRTYP
			129	*
			130	*
0B38	0D 01 251A 238F		131	CLC OBRNT,OBRT*
0B3E	C0 84 0D10		132	BH EMPTY
			133	*
			134	*
0B42	0C 01 0CD5 2397		134	MVC BYTE,ENTADD
0B48	3C 01 0CD3		135	MVI MASK,X*01*
			136	EQU *
0B4C	0C 5F 08DF 24FB	0B4C	136	RTN108
0B52	0C 01 2513 23A1		137	MVC DBUF+95(96),DBUF+95
0B58	35 01 251A		138	MVC TEMP,ZERO
0B5C	18 02 2513 00		139	L OBRNT,XR1
0B61	0E 01 2513 2513		140	MZ TEMP,O(XR1)
0B67	C2 02 0D95		141	ALC TEMP,TEMP
0B6E	36 02 2513		142	LA BRTBL-2,XR2
0B6F	R5 02 00		143	A TEMP,XR2
0B72	34 02 0BB9		144	L O(XR2),XR2
			145	ST BR2+3,XR2
			146	*
			147	MOVE DEVICE # INTO HISTORY TABLE
0B76	0E 01 2513 2513		147	ALC TEMP,TEMP
0B7C	C2 02 0D83		148	LA DBTBL-1,XR2
0B80	36 02 2513		149	A TEMP-XR2
0B84	7D 89 00		150	CLI O(XR1),X*89*
0B87	F2 01 04		151	JNE *-7
0B8A	C2 02 0D04		152	LA LACON,XR2
0B8E	2C 03 0885 00		153	MVC DBUF+5(4),O(XR2)
0B93	3C 01 238B		154	MVI TABDIX,1
0B97	34 01 2387		155	ST CTR0FS,XR1
0B9E	0F 01 2387 1354		156	SIC CTR0FS,DBUF*
			157	SAVE O,R,MSBYTES O,1
0BA1	1C 03 24FC 03		158	MVC OASMS+3(4),3(XR1)
0BA6	C0 87 1273		159	B HALT
0BA8	C0 87 1273		160	B HALT
0BAE	C0 87 12AF		161	B CTRBL
0BB2	C0 87 12AF		162	B CTRBL
0BB6	C0 87 0000		163	B *-6
			164	*
			164	*
			164	*
			164	*
0BB8	3A 20 0D90	0BB8	165	Q80 EQU * BSCA
0BBE	C0 87 1273		166	SBM DVFLG-1,X*20*
0BC2	3C 02 238B		167	B HALT
			168	MVI TABDIX,2
			169	*
0BC6	C2 02 2623		170	LA DBUF,XR2
0BCA	36 02 2387		171	A CTR0FS,XR2
0BCE	8C 00 00 24FA		172	MVC O(XR2),OASMS*
0BD3	C0 87 11C2		173	B HEADMC
0BD7	C0 87 0C72		174	B RTN107
			175	*
0BDB	3A 80 0D90	0BDB	176	Q10 EQU *
			177	SBM DVFLG-1,X*80*

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

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ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT
OBDP	35 01 238F	178		L	OBEND0,IR1
OBK3	38 08 24F9	179		TBN	QRSNS,X'08'
OBE7	C0 90 OCA2	180		BF	RTN107
OBEB	C0 87 1273	181		B	HEXHEX
OBEP	C0 87 OCA2	182		B	RTN107
OBP3	3A 40 OD90	183	Q5G	EQU	*
OBP7	C0 87 OCA2	184		SBN	DVPLG-1,X'40'
		185		B	RTN107
		186			
OBFB	3A 04 OD90	187	QEO	EQU	*
OBFP	38 20 0A0E	188		SBN	DVPLG-1,X'04'
OC03	F2 90 08	189		TBN	FLG14,X'20'
OC06	3C F1 0882	190		JP	P1403
OC0A	3C F4 0883	191		MVI	PHIBUF+2,C'1'
OC0E	38 04 24FB	192		MVI	PHIBUF+3,C'4'
OC12	C0 90 OCA2	193	P1403	TBN	QRSNS+2,X'04'
OC16	0E 01 23B7 0A8B	194		BF	RTN107
OC1C	C2 02 2623	195		ALC	CNTOPS,ONE
OC20	36 02 23B7	196		LA	DBUF,IR2
OC24	BD 7C 00	197		A	CNTOPS,IR2
OC27	F2 82 65	198		CLI	O(,IR2),X'7C'
OC2A	38 20 0A0E	199		JL	INVALID
OC2E	F2 10 39	200		TBN	FLG14,X'20'
OC31	8F 00 00 23BC	201		JT	PT1403
OC36	BD 18 00	202		SLC	O(,IR2),1123
OC39	F2 84 22	203		CLI	O(,IR2),24
OC3C	BD 10 00	204		JH	S21
OC3F	F2 84 14	205		CLI	O(,IR2),16
OC42	BD 0C 00	206		JH	A107
OC45	F2 84 06	207		CLI	O(,IR2),12
OC48	BD 05 00	208		JH	A119
		209		CLI	O(,IR2),5
OC4B	F2 02 08	210	15	EQU	*-2
OC4E	8E 00 00 23BE	211		JHL	A107
OC53	F2 87 0D	212	A119	ALC	O(,IR2),1119
OC56	8E 00 00 23BD	213		J	DIVBY4
OC5E	F2 87 05	214	A107	ALC	O(,IR2),1107
OC5E	8F 00 00 23C0	215		J	DIVBY4
OC63	C0 87 1199	216	S21	SLC	O(,IR2),121
OC67	F2 87 1E	217	DIVBY4	B	RSHIPT
		218		J	BOTH
OC6A	F2 81 0E	219	PT1403	EQU	*
OC6D	BD 7E 00	220		JE	ADD8
OC70	F2 84 10	221		CLI	O(,IR2),X'7E'
OC73	8E 00 00 OC49	222		JH	SUB126
OC78	F2 87 0D	223		ALC	O(1,IR2),15
OC7B	8E 00 00 239B	224		J	BOTH
OC80	F2 87 05	225	ADD8	ALC	O(1,IR2),EIGHT
OC83	8F 00 00 23BF	226		J	BOTH
		227	SUB126	SLC	O(1,IR2),1126
		228			
OC8B	C0 87 11C2	229	BOTH	B	HEXDEC
OC8C	F2 87 13	230		J	RTN107
OC8F	C0 87 12F4	231	INVALID	EQU	*
OC93	4C 06 00 23C7	232		B	PH1POS
OC98	F2 87 07	233		MVC	O(7,IR1),INV
		234		J	RTN107
		235			
OC9B	3A 08 OD90	236	QFO	EQU	*
OC9F	F2 87 00	237		SBN	DVPLG-1,X'08'
		238		J	RTN107
		239			
OCA2	C0 87 021A	240	RTN107	EQU	*
OCA6	21	241		B	PRINT
OCA7	0D 01 238F 251A	242		DC	XL1'21'
OCA8	F2 81 6C	243		CLC	OBEND0,OBEND0
OCB0	0E 01 251A 239B	244		JE	RTN11X
		245		ALC	OBEND0,EIGHT

ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT
UCB6	0D 01 238F 251A	246		CLC	OBEND0,OBEND0
OCBC	F2 81 20	247		JE	RTN11X
OCBF	0E 00 0CD3 0CD3	248		ALC	MASK,MASK
UCC5	F2 01 0A	249		JNZ	TBN
OCC8	0F 01 0CD5 0A8B	250		SLC	BYTE0,ONE
UCC2	3C 01 0CD3	251		MVI	MASK,X'01'
		252	MASK	EQU	*+1
0CD2	38 00 0000	253	TBN	TBN	*-*,*--*
UCD6		254	BYTE0	DS	QAL2
0CD6	F2 90 06	255		JP	RTN11X
0CD9	0E 01 251A 239B	256		ALC	OBEND0,EIGHT
0CDF	C0 87 0B4C	257		B	RTN108
UCE3	C5D9D9D9D940C8C9	258	MSGX	DC	CL30'ERROR HISTORY TABLE IS INVALID'
0CEB	E2E3D6D9E840E3C1	258			
0CF3	C2D3C540C9E240C9	258			
0CFB	D5E5C1D3C9C4	258			
0D01	40C4C140	259	DACON	DC	CL4' DA *
		260	Q20	EQU	*
		261	Q30	EQU	*
		262	Q40	EQU	*
		263	Q60	EQU	*
		264	Q70	EQU	*
		265	Q90	EQU	*
		266	QAU	EQU	*
		267	QBU	EQU	*
		268	QCO	EQU	*
		269	QDO	EQU	*
UD05	C0 87 021A	270	ERRMSG	B	PRINT
UD09	07	271		DC	XL1'07'
UD0A	1E	272		DC	IL1'30'
UD0B	UD00	273		DC	AL2(ESG3)
UD0D	F2 87 1F	274		J	RTN11X
		275			
UD10	C2 02 0C03	276	EMPTY	EQU	*
UD14	3A 10 0EP5	277		LA	3,IR2
UD16	C0 87 0EP6	278		SBN	SCMFLG,SPLG
UD1C	C2 02 0004	279		B	SCAN
UD20	3A 10 0EP5	280	RTN1X	LA	4,IR2
UD24	C0 87 0EP6	281		SBN	SCMFLG,SPLG
		282		B	SCAN
		283	*		
		284	*		
UD2B	39 80 020C	285		TBF	SBYTE0,SSW20
UD2C	F2 90 2E	286		JP	RTN11X
UD2F	3C 00 2722	287	RTN11X	EQU	*
UD33	0C F2 2721 2722	288		MVI	DBUF+255,X'00'
UD39	C0 87 1333	289		MVC	DBUF+254(255),DBUF+255
UD3D	02	290		B	DISK10
UD3E	3C 1C 134F	291		DC	XL1'02' WRITE
UD42	0C 03 2626 OD95	292		MVI	DSKSEC,X'1C'
UD48	C0 87 1333	293		MVC	DBUF+3(4),OBR1
UD4C	02	294		B	DISK10
		295		DC	XL1'02' WRITE
		296			
		297	*		
		298	*		
		299			
UD4D	C0 87 021A	300	RTN334	B	PRINT
UD51	02	301		DC	XL1'02'
UD52	14	302		DC	AL1(ESG3-ESG5B)
UD53	13A2	303		DC	AL2(ESG3)
		304			
UD55	C0 87 021A	305		B	PRINT
UD59	06	306		DC	XL1'06'
UD5A	50	307		DC	AL1(ESG4-ESG4B)
UD5B	13F2	308		DC	AL2(ESG4)
		309	RTN11X	EQU	*
		310	*		

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT	
0D5D	0C 01	23AF	23A4	311	MVC	SYNCE,FIVE
0D63	3C 10	2514		312	MVI	CNT,16
0D67	0E 01	0D91	0D91	313	R1N111	ALC
0D6D	F2 20	0C		314	JNOL	R1N112
0D70	35 02	23AF		315	L	SYNCE,XR2
0D74	3A 10	0EF5		316	SEN	SCNPLG,SPLG
0D78	CO 87	0EF6		317	B	SCAN
0D7C	0E 01	23AF	0A8B	318	R1N112	ALC
0D82	0F 00	2514	0A8B	319	SLC	CNT,ONE
0D88	CO 01	0D67		320	BNZ	R1N111
0D8C	CO 87	0216		321	B	LINK

SYNCP PT 5

END ROUTINE 1

ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT	OBR DEVICE FLAGS	SYNCP PT	
0D90	0000			0D91	323 *	DC XL2*0*		
0D92	01FF01FF			0D95	324 DVFLG	DC XL4*01FF01FF*		
					325 OBR1	DC		
					326 *	DEVICE BIT	BITB	
					327 *	5471	0	5
					328 *	1442	1	6
					329 *	BSCA	2	7
					330 *		3	8
					331 *	5424	4	9
					332 *	5203/1403	5	10
					333 *		6	11
					334 *		7	12
					335 *		8	13
					336 *		9	14
					337 *		10	15
					338 *		11	16
0D96	08DB			0D97	339	BHTBL	DC	AL2 (010)
0D98	0D05			0D99	340		DC	AL2 (020)
0D9A	0D05			0D9B	341		DC	AL2 (030)
0D9C	0D05			0D9D	342		DC	AL2 (040)
0D9E	0BF3			0D9F	343		DC	AL2 (050)
0DA0	0D05			0DA1	344		DC	AL2 (060)
0DA2	0D05			0DA3	345		DC	AL2 (070)
0DA4	0BBA			0DA5	346		DC	AL2 (080)
0DA6	0D05			0DA7	347		DC	AL2 (090)
0DA8	0D05			0DA9	348		DC	AL2 (0A0)
0DAA	0D05			0DAB	349		DC	AL2 (0B0)
0DAC	0D05			0DAD	350		DC	AL2 (0C0)
0DAE	0D05			0DAF	351		DC	AL2 (0D0)
0DB0	0BFB			0DB1	352		DC	AL2 (0E0)
0DB2	0C9B			0DB3	353		DC	AL2 (0F0)
				0DB4	354	DVTBL	EQU	*
0DB4	F5F4F7F1			0DB7	355		DC	CL4*5471*
0DB8	40404040			0DBB	356		DC	CL4*
				0DBE	357	BLANK	EQU	*-1
0DBC	40404040			0DBF	358		DC	CL4*
0DC0	40404040			0DC3	359		DC	CL4*
0DC4	F1F4F4F2			0DC7	360		DC	CL4*1442*
0DC8	40404040			0DCB	361		DC	CL4*
0DCC	40404040			0DCF	362		LC	CL4*
0DD0	C2E2C3C1			0DD3	363		DC	CL4*BSCA*
0DD4	40404040			0DD7	364		DC	CL4*
0DD8	40404040			0DDB	365		DC	CL4*
0DDC	40404040			0DDF	366		DC	CL4*
0DE0	40404040			0DE3	367		DC	CL4*
0DE4	40404040			0DE7	368		LC	CL4*
0DE8	F5F2F0F3			0DEB	369		DC	CL4*5203*
0DEC	F5F4F2F4			0DEF	370		DC	CL4*5424*

KEYBOARD

FF72 DISK ERROR RECORDING ANALYSIS PROGRAM

'72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	372		***** ROUTINE 2 *****	0EB2	C0	87	0EF6
	373		*****	0EB6	3C	01	23BB
	374	*	*	0EBA	0F	00	23A2 0E26
ODF0 02	ODF0	375	RIN2 DC XL1*2*	* ROUTINE #	0EC0	3D	16 23A2
ODF1 00	ODF1	376	DC XL1*0*	* FLAG	0EC4	C0	01 0E9B
ODF2 1770	ODF3	377	DC ALZ(\$RIN3)	* NEXT ROUTINE			
	378	*	*		0EC8	39	80 020C
	379		*****	0ECC	F2	90	05
	380		*****	0ECF	C0	87	1333
ODF4 C0 87 021A		381	B PRINT PRINT SSW	0ED3	02		
ODF8 41	ODF6	382	DC XL1*4*	0ED4	0E	01 23AF 0A8B	0ED3 449
ODF9 000000FF00	ODFD	383	DC XL5*FF00*	0ED4	0E	01 2518 0A8B	450 SDR1
ODFE 38 20 0A0E		384	TBN FLG14,X*20*	0EEO	0F	00 2514 0A8B	451
OE02 F2 90 04		385	JF **7	0EE6	C0	01 0E3B	452
OE05 3C E1 0EFO		386	MVI L1,X*E1*	0EEA	C0	87 0216	453
OE09 39 20 0A14		387	ISF D51-1,X*20*				454
OE0D F2 10 04		388	JT **7				455
OE10 3C 51 0EFP		389	MVI DD51,X*51*				455
OE14 38 20 0A11		390	TBN FLGDA,X*20*	DA ATTACHED?			
OE18 F2 90 04		391	JF **7	NO			
OE1B 3C 89 0EFP3		392	MVI DA89,X*89*	YES			
OE1F 3C 86 134C		393	MVI DSKDRV,X*AB*	YES			
OE23 C2 02 0002		394	LA 2,XR2				
OE27 C0 87 1311	OE26	395	TWO EQU *-1				
		396	B SYNMOV SYNC P1 # 2				
OE28 3C 07 2514	OE2B	397	SDRNX1 EQU *				
OL2P 3C 03 25AF		398	MVI CNT,SDRLEN-SDR1BL NUMBER OF DEVICES IN SDR TABLE				
OE33 C2 02 0EEE		399	MVI SYNC#,3				
OE37 34 02 2518		400	LA SDR1BL,XR2				
OL3b 35 01 2518		401	ST SDR1DX,XR2				
OE3F C2 02 0232		402	L SDR1DX,XR1				
OE43 6D 00 00 00		403	LA OUT,XR2				
OE47 F2 81 0D	SDR2	404	CLC 0(,XR1),0(,XR2) SEARCH ULI FOR CODE				
OE4A B8 10 01		405	JE SDRPND				
OE4D F2 10 84		406	TBN 1(,XR2),X*10* CHECK FOR END				
OE50 E2 02 03		407	JT SDR1				
OE53 C0 87 0E43		408	LA 3(,XR2),XR2				
		409	B SDR2				
		410	*				
OE57 35 02 23AF	OE57	411	SDRPN1 EQU *				
OE5B 3A 10 0EFP5		412	L SYNC#,XR2				
OE5F C0 87 0EFP6		413	SBN SCNFPLG,SPLG				
OE63 3B 02 0EFP5		414	B SCAN				
OE67 35 01 2518		415	SBF SCNFPLG,BSPLG				
OE6B 7D 80 00		416	L SDR1DX,XR1				
OE6E F2 81 26		417	CLI 0(,XR1),X*80* CHECK FOR BSCA				
OE71 7D 88 00		418	JE SDRBSC				
OE74 F2 81 20		419	CLI 0(,XR1),X*89* CHECK FOR DA				
OE77 7D 89 00		420	JE SDRBSC				
OE7A F2 81 1A		421	CLI 0(,XR1),X*89*				
		422	JE SDRBSC				
OE7D C0 87 11C2	OE7D	423	SDR5 EQU *				
OE81 0F 00 2428 0ABJ		424	SDR3 B HEXDEC				
OE87 C0 01 0E7D		425	SLC TABTBL(1),ONE				
OLBB C0 87 021A		426	BNZ SDR3				
OE8F 21		427	B PRINT				
OE90 C0 87 0EFP6	OE8F	428	DC XL1*21*				
OE94 F2 87 31		429	B SCAN				
		430	J SDR4				
		431	*				
OE97 3C 30 23A2	OE97	432	SDRBSC EQU *				
OE9B C0 87 11C2		433	MVI CCNT,48				
OE9F 3C 02 23B9		434	SDRBS B HEXDEC				
OEAB 0E 01 23B7 23A2		435	MVI CNTLNG,2				
OEAB C0 87 11C2		436	ALC CNTOPS,CCNT				
OEAD C0 87 021A		437	B HEXDEC				
OEAB 21	OEAB	438	B PRINT				
		439	DC XL1*21*				

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
469	*			*****
470	*			* SCAN *
471	*			*****
472	*			* CONTROL CHAN
473	*			(PRINT LINE 7-BLANKS, EXCH-ASTERISK
474	*			< DISK INF.
475	*			CEN1 COUNTRM INF
476	*			> TAB INF.
477	*			% RETURN
478	*			+ LINE SPACL
479	*			*****
0LP5 80	0LP5	480	SCNPLG DC	XL1*80*
481	*			*BIT* *MEANING
0080	482	PFLG	EQU	X*80* 0 FIRST FLAG
483	*			EQU X*80* 1
0020	484	BFLG	EQU	X*20* 2 NON-STANDARD PACK
0010	485	SFLG	EQU	X*10* 3 SYNC FLAG
0008	486	ZFLG	EQU	X*08* 4 ZERO FLAG
0004	487	BFLG	EQU	X*04* 5 USED FLAG
0002	488	BSFLG	EQU	X*02* 6 PRINTER FOR SDR TABLES
489	*			EQU X*01* 7
0LP6	490	SCAN	EQU	*
491		ST	SCNEX1,ARR	
492		LA	SYMTBL-6, XH1	
493	SC1	A	SIX, XH1	
494		A	FFFF, XH2	
495		BMZ	SC1	
496		TBN	SCNPLG, SPLG	TEST SYNC FLAG ON
497		JP	SC3	
498		TBN	SCNPLG, PFLG	
499		J1	SC2	
500	SYN1	CLC	CRDNMB(4), 3(, XH1)	
501		JL	SYN2	
502		JH	RELOAD	
0P23	503	SC2	EQU	*
504		B	READ	
505		B	SYN1	
506	SYN2	MZN	5(, XH1), 4(, XH1)	
507		MVC	H24(1), 5(, XH1)	BRING OFFSET TOGETHER
508		L	H24, XH2	
509		A	CBUPF, XH2	
510		ST	CSTR, XH2	SET UP COLUMN START ADDRESS
511		J	NEXT	
0P43	512	RELOAD	EQU	*
513		CLI	X*232*, X*01*	TEST FOR DISK DCP
514		JE	SC4	
515		B	PRINT	
0P4E	516	DC	XL1*87*	
0P4F	517	DC	IL1*17*	
0P50	518	DC	AL2(5LDMSG)	
0P52	519	B	HALT	
0P56	520	DC	XL2*00EA*	RELOAD DATA CARDS
0P58	521	SC4	EQU	*
522		SBN	SCNPLG, PFLG	
523		B	SC2	
0P60	524	ALDMSG	DC	CL17*RELOAD DATA CARDS*
0P68	525			
0P70	526			
0P71	527	SC3	EQU	*
0P71	528	NEXT	EQU	*
529		LA	PBUF-1, XH1	
530		L	CSTR, XH2	
531		ST	PENDE, XH1	
532		ST	CSTR, XH2	
533		CLC	CSTR, CLNDE	
0P68	534	CHKSW	EQU	*+1
535		JL	NXT2	
536		B	RLAD	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT					
0P8E	35	02	2502	535	L	CSTR, XH2			
0P92	BD	00	00	536	NXT2	CLI	0(, XH2), X*0*		
0P95	F2	81	83	537		JE	MSG		
0P96	BD	4C	00	538		CLI	0(, XH2), C*0*		
0P98	F2	81	4C	539		JE	DSK		
0P9E	BD	4A	00	540		CLI	0(, XH2), C*0*		
0FA1	F2	81	63	541		JE	CHTR		
0FA4	BD	6E	00	542		CLI	0(, XH2), C*0*		
0FA7	F2	81	28	543		JE	TAB		
0FAA	BD	6C	00	544		CLI	0(, XH2), C*0*		
0FAD	F2	81	14	545		JE	RETURN		
0FBU	BD	4E	00	546		CLI	0(, XH2), C*0*		
0FB3	F2	81	47	547		JE	LINE		
0FB6	D2	01	01	548		LA	1(, XH1), XH1		
0FB9	6C	00	00	549		MVC	0(, XH1), 0(, XH2)		
0FBD	E2	02	01	550		LA	1(, XH2), XH2		
0PC0	CO	87	0F79	551		B	NXT1		
552				552					
0PC4	0E	01	2502	0A8B	0PC4	553	RETURN	EQU	*
0PCA	3B	10	0LP5	555		ALC	CSTR, ONE		
0PCL	CO	87	0000	556		SBP	SCNPLG, SPLG		
557				557		B	*-*		
558				558		B	*-1		
0PD1	557	SCNEX1	EQU						
0PD2	559	TAB	EQU						
560				560		B	PACK		
0PL6	0C	10	243E	24A9	561	MVC	TABTBL+16(17), PBUF+16		
0PDC	3C	01	23BB	562		MVI	TABIDX, 1		
0PE0	0E	01	2502	0A8B	563	IMC	CSTR, ONE		
0PE6	CJ	87	0F71	564		B	NEXT		
565				565					
0PEA	566	DSK	EQU						
567				567		B	PACK		
0PEE	0C	00	134F	2499	568	MVC	DSASEC(1), PBUF		
0PF4	CO	87	1333	569		B	LISKIO		
0PFB	01			570		DC	XL1*01*		
0PFB	01			571		B	INC		
572				572					
0PFD	08	03	107D	2499	0PFD	573	LINE	EQU	*
1003	CO	87	0PE0	574		MNH	SPCNT, PBUF		
575				575		B	INC		
1007	CO	87	116D	577	1007	576	CHTR	EQU	*
100B	0C	00	23B7	2499	578			B	PACK
1011	0C	00	23B9	249A	579	MVC	CHTOPS(1), PBUF		
1017	CO	87	0PE0	580		MVC	CHTLNG(1), PBUF+1		
581				581		B	INC		
101B	C2	01	0880	582	101B	582	MSG	EQU	*
101F	7C	40	5F	583		LA	PRTBUF, XH1		
1022	5C	5E	5E	5F	584	MVI	95(, XH1), C*0*		
1026	C2	02	2499	585		MVC	94(95, XH1), 95(, XH1)		
586				586		LA	PBUF, XH2		
102A	587	MSG1	EQU						
588				588		CLI	0(, XH2), C*0*		
589				589		JE	SPACL		
1030	BD	5A	00	590		CLI	0(, XH2), C*0*		
1033	F2	81	4C	591		JE	ASIEH		
1036	6C	00	00	00	592	MVC	0(, XH1), 0(, XH2)		
103A	D2	01	01	593		LA	1(, XH1), XH1		
103D	E2	02	01	594		LA	1(, XH2), XH2		
1040	34	02	2500	595	MSGCN	ST	PSTR, XH2		
1044	0D	01	2500	24FE	596	CLC	PSTR, PENDE		
104A	CO	04	102A	597		MNH	MSG1		
104E	0E	01	2502	0A8B	598	ALC	CSTR, ONE		
1054	0D	01	2502	2393	599	CLC	CSTR, CENDE		
600				600	105B	600	CHKSW1	EQU	*+1
105A	CO	82	106E	601		BL	MSG2		
105E	0C	5F	24FE	08DF	602	MVC	PBUF+95(96), PRTBUF+95		



PPP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC OBJECT CODE ADDR SMT SOURCE STATEMENT

```

2 *
3      DLCK 4
4      SEQ 6
5      COM THIS PREVENTS GENERATION OF OBJECT DECK
6 PEP START X'0'
7 *****
8 *      BOOTSTRAP - FIRST CARD *
9 *****
10 *****
11 * LOADER FOR MFCU *
12 * THIS ONE CARD PROGRAM IS CONTAINED IN THE FIRST CARD OF THE *
13 * DIAGNOSTIC CONTROL PROGRAM. IT IS READ INTO LOCATIONS 0-95 BY *
14 * INITIAL PROGRAM LOAD. WHEN GIVEN CONTROL, THE BOOTSTRAP ROUTINE *
15 * READS THE SECOND CARD OF THE DCP OBJECT DECK INTO X'200' AND *
16 * BRANCHES TO IT. *
17 *
18 * NOTE - THE SECOND TIER OF THIS CARD CONTAINS THE PART NUMBER AND *
19 * EC LEVEL OF DCP. *
20 *****
21 USING BOO11,XR1
22 BOO11 LA 0,XR1 LOAD BASE REGISTER
23 TIO BOO11E(,XR1),X'F0' GO HALT IF MFCU ERROR OR NOT READY
24 LIO BOO111(,XR1),X'F5' LOAD READ ADDRESS REGISTER
25 SIO IPL,READ READ 2 CARD INTO LOCATIONS 512-607
26 BOO11A TIC BOO11A(,XR1),X'F1' LOOP UNTIL DONE
27 TIO BOO11E(,XR1),X'F0' GO HALT IF ERROR
28 B BOO12 GO TO BOOTSTRAP ROUTINE
29
30 BOO11E HPL 85,8H *MFCU NOT READY OR ERROR
31 B BOO11(,XR1) GO TRY AGAIN
32
33 BOO111 DC AL2(512)
34
35 DC CL29' PN 4248230 EC 571671 L'
36 *

```

0000 C2 01 0000
0004 D1 F0 17
0007 71 F5 1E
000A F3 F1 40
000D D1 F1 05
0010 D1 F0 17
0013 C0 E7 0200

0017 F0 38 5D
001A D0 87 00

001D 0200 001E

001F 40D7D540F4F2F4F8 003B
0027 F2F3F4040405C340
002F F5F7F1F3F7F14040
0037 40404040D3

LAST CbG :06/03/76

ACTUAL VALUES ARE IN ACTUAL CARD.

PPP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC OBJECT CODE ADDR SMT SOURCE STATEMENT

```

38 *****
39 *      BOOTSTRAP - SECOND CARD *
40 *****
41 *
42 * THIS ONE CARD PROGRAM IS CONTAINED IN THE SECOND CARD OF THE *
43 * DIAGNOSTIC CONTROL PROGRAM. IT IS READ INTO LOCATIONS 512-565 *
44 * BY THE IPL CARD. THIS ROUTINE READS THREE IPL FORMAT CARDS INTO *
45 * LOW CORE TO BUILD ENOUGH OF THE DIAGNOSTIC LOADER TO HANDLE THE *
46 * CARDS. THEN THE BOOTSTRAP ROUTINE BRANCHES TO THIS PORTION OF *
47 * THE DIAGNOSTIC LOADER, WHICH LOADS THE REMAINDER OF THE LOADER *
48 * AND DCP. *
49 *
50 *****
51 ORG 512
52 USING BOOT2,XR1
53 USING BOOT2,XR2
54 BOO12 LA BOO12,XR2 LOAD BASE REGISTERS
55 512 LA 96(,XR1),XR1
56 J BOO12A
57 BOO12E HPL 85,8H *MFCU NOT READY OR ERROR
58 BOO12A TIO BOO12E(,XR2),X'F0' GO HALT IF MFCU NOT READY OR ERROR
59 LIO BOO125(,XR2),X'F5' LOAD READ LSH FOR ADDR 0000
60 SIO IPL,READ READ 3 CARD
61 BOO12B TIO BOO12B(,XR2),X'F1' LOOP UNTIL DONE
62 TIO BOO12E(,XR2),X'F0' GO HALT IF ERROR
63 MVC 59(00,XR1),59 MOVE DATA TO CORE
64 LA 60(,XR1),XR1 INCREMENT POINTERS FOR NEXT CARD
65 SLC BOO122(1,XR2),BOO121(,XR2) CONTINUE UNTIL 4 CARDS HANDLED
66 BNZ BOO12A(,XR2)
67 MVI X'8FF',C' CLEAR PRINT FIELD
68 MVC X'8FE'(255),X'8FF'
69 B NEXT GO TO DIAGNOSTIC LOADER
70
71 BOO121 EQU BT*1
72 BOO122 DC IL1'3'
73 BOO123 DC AL2(0)

```

0200 C2 02 0200
0204 D2 01 60
0207 F2 87 03
020A F0 38 5D
020D E1 F0 0A
0210 B1 F5 3E
0213 F3 F1 40
0216 E1 F1 76
0219 E1 F0 0A
021C 4C 38 38 003B
0221 D2 01 3C
0224 AF 00 39 05
0228 E0 01 03
022E 3C 40 08FF
022F 0C FE 08FE 08FF
0235 C0 87 008B

0205 71 BOO121 EQU BT*1
0239 72 BOO122 DC IL1'3'
023B 73 BOO123 DC AL2(0)

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0060		75	ORG	X'00'
		76	*****	
		77	*	DIAGNOSTIC LOADER
		78	*****	
		79	*****	
		80	*	
		81	*	A ONE CARD BOOTSTRAP READS THIS LOADER INTO CORE AND BRANCHES TO
		82	*	IT. THE DIAGNOSTIC LOADER THEN LOADS THE CONTROL PROGRAM,
		83	*	INCLUDING ITS SECTION REFERENCE TABLE. AFTER DCP IS LOADED, THIS
		84	*	MODULE ITSELF TRANSFORMS ITSELF INTO A SECTION LOADER BY ALIGNING A
		85	*	BRANCH ADDRESS. OBJECT CARDS RECOGNIZED BY BOTH PHASES INCLUDE
		86	*	
		87	*	TEXT
		88	*	REPLACE
		89	*	COMMENT
		90	*	SENSE SWITCH
		91	*	END
		92	*	
		93	*	THE DCP LOADER PORTION ALSO RECOGNIZES THE FOLLOWING CARDS--
		94	*	CPU
		95	*	UDI
		96	*	CHAIN IMAGE CONTROL AND IMAGE CARDS
		97	*	
		98	*	OTHER CARDS ARE IGNORED.
		99	*****	
		100		
		101	*	
		102	**	SUBROUTINE TO READ ONE CARD.
		103	*	
		104	005C	USING CDREAD-4,XR2
		105	CDREAD	LA CDREAD-4,XR2 LOAD BASE ADDRESS
		106	LA	INPUT,XR1 SET
		107	0067	ALMPUT EQU *-1
		108	ST	CDEXIT+3(,XR2),ARR SET UP RETURN ADDRESS
		109	LIO	LRK(,XR2),A'P0' GO HALT IF MPCU NOT READY OR ERROR
		110	DOLIO	LIO ALMPUT(,XR2),X'P5' LOAD LSK TO START LOADING AT X'880'
		111	SIO	NORM,READ READ A CARD - NORMAL MODE
		112	BUSY	TIO BUSY(,XR2),X'P1' LOOP UNTIL READ DONE
		113	SNS	STATUS(,XR2),X'P3' GO HALT IF FIELD OR READ CHECK
		114	TBF	STATUS(,XR2),X'80'
		115	CDEXIT	BT EXIT SUBROUTINE IF NO ERRORS
		116	ARR	HPL H5,HH *MPCU NOT READY OR ERROR
		117	B	DOLIO(,XR2) GO TRY START I/O
		118		
		119	0088	M1 DC XL2'0001'
		120	008A	REG4 DC XL2'PPFC'
		121		
		122		
		123	008B	CO 87 0060
		124	008F	7D E3 00
		125	0092	F2 81 06
		126	0095	7D C5 00
		127	0098	F2 01 71
		128	009B	7D D0 01
		129	009E	F2 01 03
		130	00A1	7C 2A 01
		131	00A4	D2 01 01
		132	00A7	B4 01 01
		133	00AA	BD D8 01
		134	00AD	E0 82 3F
		135	00B0	C2 01 08D7
		136	00B4	C2 02 005C
		137	00B8	BC 01 7A
		138	00BB	BC 00 67
		139	00BE	AC 00 68 67
		140	00C2	5E 00 01 01
		141	00C6	5E 00 01 01
		142	00CA	AE 00 67 2C

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		143	CLI	S1+1(,XR2),4 CONTINUE UNTIL 4 BYTES COMPRESSED
		144	BNE	CHLOOP(,XR2)
		145	LABEL	MVC *-*(3,XR1),0(,XR1) MOVE 3 COMPRESSED BYTES TO TEMPORARY
		146	ALC	LABEL+2(1,XR2),S1+2(,XR2)
		147	A	NEG4(,XR2),XR1 DECREMENT BY 4
		148	CLI	LABEL+2(,XR2),23
		149	BL	LENGTH(,XR2) CONTINUE UNTIL CARD DONE
		150	*	XR1 = X'87F' AT THIS POINT
		151	CLI	1(,XR1),C'E' IF THIS IS END CARD, GO ON
		152	JL	CRREP
		153		
		154	MVC	MOVE+3(3,XR2),20(,XR1) SET UP TO MOVE TEXT DATA TO CORE
		155	LPTOML	MVC MOVE+4(1,XR2),24(,XR1)
		156	LA	27(,XR1),XR1
		157	CLI	MOVE+2(,XR2),X'20' SEE IF TOO BIG FOR BK
		158		
		159	*	ADDRESS OF NEXT INSTRUCTION MUST NOT CHANGE. IF IT DOES, THE
		160	*	REFERENCE TO IT WILL NOT WORK WITH THE 1442 OR OTHER CARD
		161	*	LOADERS.
		162		
		163	108D	JC TOUCH,X'07' *JNL TOUCH* PATCHED IN IF BK DEFINED
		164	MOVE	MVC *-*(*-*),*-*(,XR1) INSTRUCTION TO MOVE TEXT DATA
		165	1011	TOUCH EQU *
		166	B	X'108' SEVEN BYTES
		167	DC	XL3'0' OF FILLER.
		168		
		169	*	IF FIRST 5 CARDS OF DCP ARE USED AS A LOADER, ADDR IN END
		170	*	CARD WILL BE BRANCHED TO FROM HERE.
		171	*	LOADER REQUIREMENTS-- FROM X'60' TO X'10F' AND
		172	*	X'880' - 8DF AS BUFFER.
		173	*	SPACE
		174	*	THE NEXT INSTRUCTION BELOW MUST STAY AT X'108'
		175	*	IN ORDER TO REMAIN COMPATIBLE WITH 1442 LOADER ETC.
		176		
		177	B	TEXT
		178	L	INPUT+2,XR1 (NOTE -- ADDRESS OF THIS INSTRUCTION
		179	B	0(,XR1) IS THE SAME AS THAT OF CRREP)
		180		
		181	*	THE ABOVE 3 INSTRUCTIONS ARE OVERLAPPED DURING NORMAL DCP LOADING.
		182	*	FIRST THE CLEAR CORE ROUTINE OVERLAYS THEM. THEN THE REST OF THE
		183	*	LOADER OVERLAYS THAT ROUTINE.
		184	*	IF THESE FIRST 5 CARDS ARE USED AS A GENERAL LOADER, THESE LAST TWO
		185	*	INSTRUCTIONS CAUSE A BRANCH TO THE END CARD ADDRESS, WHEN END CARD
		186	*	IS READ
		187		
		188		
		189	**	ALL ABOVE INSTRUCTIONS ARE CONTAINED IN IPL FORMAT BOOTSTRAP
		190	**	CARDS AT THE BEGINNING OF THE DCP OBJECT DECK. THE CODE IS CAPABLE
		191	**	OF HANDLING TEXT AND END CARDS AND IS USED TO GET THE REMAINDER OF
		192	**	THE DCP LOADER INTO CORE.
		193		
		194	*	*****
		195		
		196	LCOM	BEGIN GENERATING TEXT CARDS
		197	ORG	*-11
		198		
		199	*	THE FOLLOWING IS A ROUTINE TO CLEAR CORE FROM BK DOWN TO ITSELF.
		200	*	IT IS CONTAINED IN THE FIRST TEXT CARD OF DCP, AND IS EXECUTED
		201	*	AS SOON AS IT IS MOVED TO CORE.
		202		
		203	CLRCON	MVI X'1FFF',C' * CLEAR UPPER 256 BYTES OF
		204	MVC	X'1FF2(255),X'1FFF' FIRST BK WITH BLANKS
		205	ZRO	MVC X'1FFF(256),X'1FFF' CLEAR NEXT 256 BYTE SEGMENT
		206	SBC	ZRO+3(2),NUMZ50 POINT TO NEXT 256 BYTE SEGMENT DOWN
		207	CLI	ZRO+2,X'01' CONTINUE UNTIL READY FOR 100-1FF
		208	BH	ZRO

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0126	0C	CD	01FF 1FFF
012C	CO	87	008B
0139	0100		
0200			
0108			
0108	CO	87	008B
010C	C2	01	0880
0110	7D	D9	00
0113	CO	01	0A0F
0117	CO	87	0226
0115	04		
011C	0865		
011E	013A		
0120	7D	C5	01
0125	F2	01	06
0126	B5	01	DE
0129	D0	87	00
012C	D2	01	08
012F	B4	01	DC
0132	CO	87	0226
0136	02		
0137	0000		
0139	0000		
013B	AE	01	DE 2C
013F	7D	40	01
0142	EO	81	2F
0145	D2	01	01
0148	7D	6B	00
014B	EO	81	E3
014E	D2	01	01
0151	EO	87	D3
0154	7D	5C	00
0157	F2	01	0F
015A	38	01	020B
015E	EO	10	2F
0161	CO	87	021A
0165	21		
0166	LO	87	2F
0169	4D	02	02 05D0
016E	CO	01	019A
0172	CF	03	020D 020D
0176	D2	01	05
0178	34	01	0185
017F	CO	87	0226
0183	02		
0184	0000		
0186	0410		
0188	CO	87	0411
209	MVC		X'1FFF'(X200-ENDCLR),X'1FFF' CLEAR REST OF THIS SEGMENT
210	B		NEXTX RE-ENTER LOADER
211	MUM256	DC	XL2*0100*
212	ENDCLR	EQU	*
213	ORG		X'200*
214	X200	EQU	*
215			
216	ORG		CLRCOR
217	B		NEXTX
218	CAREP	LA	INPUT,XR1 CONTINUE LOADING, GET NEXT RECORD
219	CLI		0(,XR1),C'E' RELOAD XR1 TO BUFFER BEGINNING
220	CKCOM1	BNE	CKCONA BRANCH IF NOT REPLACE CARD
221	**		NOTE - BRANCH ADDRESS OF PREVIOUS BRANCH IS ALTERED AFTER DCP
222	**		LOADING COMPLETE. THIS OVERLAY PREPARES THE LOADER FOR
223	**		HANDLING SECTIONS.
224	B		PACK GO PACK ADDRESS
225	DC		IL1*4*
226	DC		AL2(IMPUR*5)
227	DC		AL2(DEST)
228	CLI		1(,XR1),C'E' BRANCH IF NOT PATCH EXECUTE CARD
229	JNE		ADDEST
230	L		DEST(,XR2),XR1 BRANCH TO CARD ADDRESS IF IT IS
231	B		0(,XR1)
232	ADDEST	LA	8(,XR1),XR1 POINT AT FIRST BYTE
233	NEXT	ST	SRC(,XR2),XR1 SET UP SOURCE ADDRESS
234	B		PACK GO PACK THIS BYTE
235	DC		IL1*2*
236	SRC	DC	AL2(*-*)
237	DEST	DC	AL2(*-*)
238	ALC		DEST(2,XR2),X1(,XR2) INCREMENT DESTINATION ADDRESS
239	CKBLK	CLI	1(,XR1),C'E' GO READ NEXT CARD IF BLANK FOUND
240	EE		NEXTX(,XR2)
241	LA		1(,XR1),XR1 INCREMENT TO NEXT COLUMN
242	CLI		0(,XR1),C'E' JUMP OVER ANY CORRAS
243	BE		CKBLK(,XR2)
244	LA		1(,XR1),XR1 POINT AT 2ND DIGIT
245	B		NEXT(,XR2) GO PACK THIS BYTE
246			
247	**		THE FOLLOWING CODING COMPLETES THE SECTION LOADER. IT IS
248	**		BYPASSED DURING DCP LOADING. ONCE THE CONTROL PROGRAM IS LOADED,
249	**		LINKAGES ARE SET UP SO THAT THIS ROUTINE WILL BE SUBSTI-
250	**		TUTED FOR THE DCP LOADER ROUTINE RESIDING AT HEX -A06-.
251			
252	CKCOB	CLI	0(,XR1),C'E' BRANCH IF THIS IS NOT A COMMENT
253	JNE		CHKSSW CARD
254	TBN		SBYTE0,SSW07 BYPASS PRINTING IF SSW07 IS ON
255	B1		NEXTX(,XR2)
256	B		PRINT PRINT CONTENTS OF THIS CARD
257	DC		XL1*21*
258	B		NEXTX(,XR2) GO READ NEXT CARD
259			
260	CHKSSW	CLC	2(3,XR1),SSW BRANCH IF NOT SENSE SWITCH CARD
261	BNE		CHKEND
262	SLC		SBYTE5(4),SBYTE5 CLEAN SECTION SENSE SWITCHES
263	ISSSW	LA	5(,XR1),XR1 POINT XR1 AT FIRST SSW NUM
264	CHKSSW	ST	SADDR,XR1 SET UP POINTER TO THIS NUMBER
265	B		PACK GO PACK THIS NUMBER
266	DC		IL1*2*
267	SADDR	DC	AL2(*-*)
268	DC		AL2(DATSW5)
269	B		SEISSW

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
016C	7D	6B	01
018F	D2	01	03
0192	CO	81	017B
0196	CO	87	008B
019A	7D	C5	01
019D	EO	01	2F
01A0	38	04	01FD
01A4	D0	90	81
01A7	CO	87	0000
01AA			
01AB	34	08	01AA
01AF	CO	87	0060
01B3	39	AC	01FD
01B7	EO	10	33
01BA	CO	87	021E
01BE	02		
01BF	01FF		
01C1	C05E		
01C3	1D	02	005D 5A
01C8	F2	01	10
01CB	1D	03	01F4 5F
01D0	F2	81	13
01D3	1D	03	01F5 5F
01D8	F2	81	0B
01DB	35	08	01FF
01DF	F0	3B	73
01E2	CO	87	01AF
01E6	38	20	01FD
01EA	CO	10	01A7
01EE	EO	87	33
01F1	POPOFOFO		
01F5	F1		
PPF9			
01FC	0060		
01FE	01AB		
270	CLI		1(,XR1),C'E' CHECK FOR MORE ENTRIES
271	LA		5(,XR1),XR1 POINT TO NEXT NUMBER
272	BE		CHKSSW CONTINUE UNTIL CARD DONE
273	B		NEXTX WHEN DONE, GO READ NEXT CARD
274	CHKEND	CLI	0(,XR1),C'E' GO READ NEXT CARD IF NOT END
275	BNE		NEXTX(,XR2)
276	TBN		FLAG,BIT5
277	BF		129(,XR1) BRANCH TO X'901*
278	LDX	B	*-*
279	LDX	EQU	*-1
280	LDPT2	ST	LDX,ARR
281	B		CDREAD
282	TBF		FLAG,BIT0+BIT2+BIT4+BIT5
283	BT		RED(,XR2)
284	B		UNPACK
285	DC		XL1*2*
286	DC		AL2(DTABLE+1)
287	DC		AL2(LDWORR)
288	CLC		IPWORR(5),90(,XR1) CHECK ID (COL. 89-91)
289	JNE		HL4RD
290	CLC		DECO(4),95(,XR1) CHECK FOR CARD 0
291	JE		OK
292	CLC		DECI(4),95(,XR1) CHECK FOR CARD 1
293	JE		OK
294	DLTAB	L	DTABLE+1,ARR
295	HPL		HD,HH
296	B		LDPT2+4
297	OK		TBN FLAG,BIT2
298	BT		LDI
299	B		RED(,XR2)
300	DECO	DC	DL4*0* DECO MUST START AT X'1F1*
301	DECI	DC	DL1*1*
302	ORG		X'FFFF'-X'1FC** IF THIS ORG FLAGGED, ORG OVERLAPPED
303	ORG		X'1FC*
304	DC		AL2(CDREAD) MUST BE AT X'1FC*
305	DC		AL2(LDPT2) MUST BE AT X'1F2*

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0A00		307	ORG	X'400'
		308	*	THESE INSTRUCTIONS AND CONSTANTS ARE USED ONLY BY THE DCP LOADER.
		309	*	THE UNIQUE SECTIONS OF THE SECTION LOADER ARE LOADED INTO THE
		310	*	LOADER AREA, X'000' - X'1FF'.
		311		
		312		
0A00 F0F4FE	0A02	312	D048	DC DL3'048'
0A03 F1F2F0	0A05	313	D120	DC DL3'120'
0A06 18	0A06	314	B24	DC IL1'24'
0A07 C3C8C1C9D5	0A08	315	CHAIN	DC CL5'CHAIN'
0A0C 0C01	0A0D	316	JNEA	DC XL2'0001'
0A0E 09	0A0E	317	CHCTR	DC XL1'0'
		318		
0A0F 7D 5C 00	319	CRCPMA	CLI	0(,XR1),C'*
0A12 F2 01 29	320	JNE	CRCPU	
0A15 3D 00 0232	321	CLI	UIAB,0	
0A19 C0 81 0A2A	322	BE	UOK	
0A1D 3D F0 0232	323	CLI	UTAB,X'FO'	
0A21 F2 81 06	324	JE	UOK	
0A24 F0 3B 0F	325	HPL	H0,HH	
0A27 F0 6F 5D	326	HPL	H5,H0	
0A2A C0 87 13BE	327	UOK	B	
0A2E 38 01 0208	328	TBN	SEY1E0,SSW07	
0A32 E0 10 2F	329	BT	NEXTR(,XR2)	
0A35 C0 87 021A	330	E	PRINT	
0A39 21	0A39	331	DC	XL1'21'
0A3A E0 87 2F	332	B	NEXTR(,XR2)	
		333		
0A3D 7D C3 00	334	CRCPU	CLI	0(,XR1),C'C'
0A40 F2 01 65	335	JNE	CRUDT	
0A43 10 C0 0200 04	336	SALLY	MVC	SMO(1),4(,XR1)
0A48 7D C6 0A	337	CLI	10(,XR1),C'F'	
0A4B F2 81 07	338	JE	NOX	
0A4E 5C 18 1F 1E	339	MVC	31(25,XR1),30(,XR1)	
0A52 7C F0 06	340	HVI	6(,XR1),C'0'	
	0A55	341	NOX	
0A55 7C F0 05	342	MVI	5(,XR1),C'0'	
0A58 C0 87 0226	343	B	PACK	
0A5C 06	0A5C	344	DC	IL1'0'
0A5D 086A	0A5E	345	DC	AL2(INPU1+10)
0A5F 0203	0A60	346	DC	AL2(SIZE)
		347	*	CPU MODEL AND STORAGE IS DONE, NOW DO OPTIONS
0A61 3C 00 0204	348	MVI	CPU,0	
0A65 3C 01 0A7F	349	CRUOP	MVI	MASC+1,X'01'
0A69 40 00 0A9B	350	CRULP	AZ	12(,XR1),XP1
0A6E 7D F9 0C	351	CLI	12(,XR1),X'P9'	
0A71 F2 81 0A	352	JE	MASC	
0A74 0E 00 0A7F 0A7F	353	ALC	MASC+1(1),MASC+1	
0A7A C0 87 0A69	354	B	CRULP	
0A7E 3A 00 0204	355	MASC	SRN	CPU,*--
0A82 D2 01 01	356	LA	1(,XR1),XR1	
0A85 7D 40 0C	357	CLI	12(,XR1),C'*	
0A88 F2 81 04	358	JE	OPDON	
0A8B C0 87 0A65	359	B	CRUOP	
0A8F C2 01 0860	360	OPDON	LA	INPU1,XR1
0A93 F2 87 01	361	J	**4	
0A96 F1	0A96	362	XP1	DC XL1'F1'
0A97 7D C7 04	363	CLI	4(,XR1),C'G'	
0A9A E0 81 2F	364	BE	NEXTR(,XR2)	
0A9D F0 3B 0F	365	CDLRK0	HPL	H0,HH
0AA0 F0 6F 7D	366	HPL	H0,HH	
0AA3 E0 87 2F	367	B	NEXTR(,XR2)	
		368		
0AA6 09	0AA6	369	NY	DC XL1'09'
0AA7 06	0AA7	370	DEV	DC XL1'0'
0AA8 7D 14 00	371	CRU01	CLI	0(,XR1),C'0'
0AA9 F2 01 AD	372	JNE	CRDCPS	
0AAE 7D 40 03	373	CLI	5(,XR1),C'*	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0AB1	F2 01 0A	374	JNE	PPFDC
0AB4	3C 00 025F	375	MVI	UIAB+45,X'0'
0AB8	0C 2C 025E 025F	376	MVC	UIAB+44(45),UIAB+45
0ABE	D2 01 05	377	PIFDC	LA
0AC1	34 01 0ACE	378	ULP1	'S1
0AC5	C0 87 0226	379	B	PACK
0AC9	02	380	DC	IL1'2'
0ACA	0000	381	UPTR	DC
0ACC	0AA7	382	DC	AL2(DEV)
0ACE	C2 02 022F	383	LA	UIAB-3,XR2
0AD2	E2 02 03	384	ULP2	LA
0AD5	B8 10 01	385	TBN	1(,XR2),BITS
0ADB	F2 90 0A	386	JF	UDTA
0ADB	F0 3B 6F	387	HPL	H0,HH
0ADE	F0 6F 57	388	HPL	H5,H0
0AE1	C0 87 008B	389	B	NEXTR
0AE5	8D 00 00 0AA7	390	ULTA	CLC
0AEA	F2 81 07	391	JE	LDUD1
0AED	BD 00 00	392	CLI	0(,XR2),X'0'
0AF0	C0 01 0AD2	393	BNE	ULP2
0AF4	8C 00 00 0AA7	394	LDUD1	MVC
0AF9	BB 0F 01	395	SBF	0(1,XR2),DEV
0AFC	BC 00 02	396	MVI	2(,XR2),X'0'
0AFP	D2 01 01	397	LA	1(,XR1),XR1
0B02	7D 60 00	398	CLI	0(,XR1),C'--
0B05	F2 01 03	399	JNE	**6
0B08	D2 01 01	400	ULP4	LA
0B09	7D 40 00	401	CLI	0(,XR1),C'*
0B0E	C0 81 008B	402	BE	NEXTR
0B12	7D 6B 00	403	CLI	0(,XR1),C'*
0B15	F2 01 07	404	JNE	UD1B
0B18	D2 01 02	405	LA	2(,XR1),XR1
0B1B	C0 87 0AC1	406	B	ULP1
0B1F	7D F0 00	407	UL1B	CLI
0B22	F2 02 05	408	JNL	UD1C
0B25	4E 00 00 0AA6	409	ALC	0(1,XR1),M9
0B2A	7B F0 00	410	UD1C	SBF
0B2D	0C 01 1201 0A0D	411	MVC	MASK(2),ONEA
0B33	4F 00 00 0A0D	412	ULP3	SBC
0B38	F2 82 0A	413	JL	UD1D
0B3B	0E 01 1201 1201	414	ALC	MASK(2),MASC
0B41	C0 87 0B33	415	B	ULP3
0B45	0C 00 0B52 1200	416	UD1D	MVC
0B48	0C 00 0B55 1201	417	MVC	USER+1(1),MASC
0B51	5A 00 01	418	USER1	SRN
0B54	5A 00 02	419	USER2	SRN
0B57	C0 87 0B08	420	B	ULP4
		421		
0B58	4D 02 02 0BF7	422	CRDCPS	CLC
0B60	F2 01 0C	423	JNE	CRCHN
0B63	3C 00 0208	424	HVI	SBYTE0,X'0'
0B67	3C 00 0209	425	HVI	SBYTE1,X'0'
0B6B	C0 87 0178	426	B	ISSSW
		427		
0B6F	428	CRCHN	LCU	*
0B74	F2 01 30	429	CLC	7(5,XR1),CHAIN
0B77	3C 17 0BDD	430	JNE	CRKND
0B7B	3C 02 0A0E	431	ISCRN	HVI
0B7F	3C 00 0B78	432	MVI	INBADR,23
0B83	4D 02 0B 0A05	433	MVI	CRCTR,2
0B86	F2 81 11	434	MVI	LPIMAG+120,X'0'
0B88	4D 02 0B 0A02	435	CLC	11(3,XR1),B120
0B90	F2 81 11	436	JE	IS120
0B93	F0 3B 6F	437	CLC	11(3,XR1),D048
0B96	F0 6F 07	438	JE	NOCHG
0B99	E0 87 2F	439	HPL	H0,HH
0B9C	3C 05 0A0E	440	HPL	H7,H0
		441	B	NEXTR(,XR2)
		442	MVI	CRCTR,5

COLUMN 4 IS NOT BLANK
IF BLANK - CLEAR UDT TABLE FOR ALL
NEW ENTRIES
POINT AT FIRST DEVICE CODE
SET UP DEVICE CODE POINTER
PACK DEVICE CODE

POINT AT DCP UNIT TABLE
INCREMENT UNIT TABLE POINTER
BRANCH IF NOT LAST DCP ENTRY

*HAR OUT ROOM IN UDT TABLE
SECONDARY HALT- MORE THEN 15 UDT ENTRIES
GO READ NEXT CARD
BRANCH TO OVERLAY IF THIS IS SAME AS
PREVIOUS ENTRY
IS THIS AN UNUSED ENTRY
IF NOT UNUSED, GO CHECK NEXT
SET UP THIS UDT ENTRY DEVICE CODE
CLEAR OPTION BITS

POINT AT FIRST OPTION NUMBER, ALLOW
FOR DASH

POINT AT NEXT OPTION NUMBER
IF BLANK ENCOUNTERED, CARD IS DONE

IF COMMA ENCOUNTERED, GO TO NEXT
DEVICE CODE

CHANGE EBCDIC 0-B TO BINARY

SHIFT BIT TO PROPER POSITION TO

LOAD MASK INTO SET BITS ON
INSTRUCTIONS
TURN ON PROPER OPTION BIT

GO LOOK AT NEXT OPTION NUMBER

BRANCH IF NOT SSW CARD

CLEAR COMMON SENSE SWITCHES

GO SET PROPER SENSE SWITCHES

CHECK IF '//' CHAIN' CARD
BRANCH IF NOT
INITIALIZE IMAGE FIELD POINTER
SET UP FOR 48 POSITION LINE - 2 CDS
SET FLAG FOR 48 CHAR CHAIN
BRANCH IF NOT 120 POSITION PRINTER

HAS EITHER 120 OR 048 IN IT
OTHERWISE HALT
BAD CHAIN CARD
SECONDARY HALT -- CHAIN MUST BE 120 OR 048

CHANGE TO 5 CARD COUNTER

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
0BA0	3C FF 0878	442		MVI	LPIMAG+120,X'FF'
0BA4	F2 87 46	443		NOCHG	J RDCD
		444			
0BA7	7D C5 00	445		CKEND	CLI 0(XR1),C'E'
0BAA	C0 81 08BB	446		BE	ISEND
0BAE	F0 3B 6F	447		HPL	H0,HH
0BB1	F0 6F 03	448		HPL	H1,H0
0BB4	C0 87 08BB	449		B	NEATR
		0BB8	450	ISEND	LQD *
0BDB	3D A0 0232	451		HGO	CLI DTAB,X'AO'
0BBC	F2 01 0A	452		JNE	LDRCK
0BBF	F0 3B 6F	453		HPL	H0,HH
0BC2	F0 6F 5D	454		HPL	H5,H0
0BC5	C0 87 08BB	455		B	HGO
		0BC9	456	LDRCK	LCU *
		457			
0BC9	C2 01 0154	458		LA	CKCOM,XR1
0BCE	34 01 0116	459		ST	CKCOM1+5,XR1
0BD1	C0 87 0E8A	460		B	BEGIN
		461			
0BD5	C0 87 0226	462		OKCTR	B PACK
0BD9	30	0BD9	463	DC	IL1'4E'
0BDA	08AF	0BD8	464	DC	AL2(INPUT+47)
0BDC	0800	0BDD	465	DC	AL2'800'
0BDE	0E 00 08DD 0A06	466		ALC	INGADR(1),M24
0BE4	0F 00 0A0E 039D	467		SLL	CHCR(1),ONE
0BEA	E0 04 2F	468		BNH	NEXT(XR2)
0BED	C0 87 0060	469		RDCD	B
0BF1	C0 87 08B5	470		B	OKCTR
0BF5	E2E216	0BF7	471	SSWL	DC CL3'SSW'
0BF8	0889	0BF9	472	INADR1	DC AL2(INPUT+9)
		473			
		473			
		473			
		474			
		475			
		476			
0880	477	INPUT	EQU	X'880'	
005F	478	STATUS	EQU	CDREAD-1	
005D	479	LDWORK	EQU	CDREAD-3	
0249	480	UDT1	EQU	X'249'	
0261	481	UDT2	EQU	X'261'	
0040	482	IPL	EQU	X'40'	
0000	483	NORM	EQU	X'0'	
00F1	484	READ	EQU	X'F1'	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
0200		488		ORG	X'200'
		487			*****
		488			SECTION REFERENCE TABLE *
		489			*****
		490			*
		491			* THE DATA IN THIS TABLE PROVIDES THE DIAGNOSTIC SECTIONS/CONTROL *
		492			* PROGRAM INTERFACE. IT IS LOADED BY THESE METHODS-- *
		493			*
		494			* CONTROL PROGRAM EXECUTION *
		495			* CONTROL PROGRAM ASSEMBLY *
		496			* UDT CARDS *
		497			*
		498			*****
		499			*
		500			*
		501	**	SRT DATA	
		502			*
0200 00		503	SMOD	DC	XL1'00'
0201 00		504		DC	XL1'00'
0202 0000		505	SIZE	DC	XL2'00'
0204 00		506	CPU	DC	XL1'00'
0205 00		507		DC	XL1'00'
0206 0000		508	PGCK	DC	XL2'00'
		509		*	
		510	LBASE	EQU	*
0208 00		511	SBYTE0	DC	XL1'00'
0209 00		512	SBYTE1	DC	XL1'00'
020A 00		513	SBYTE2	DC	XL1'00'
020B 00		514	SBYTE3	DC	XL1'00'
020C 00		515	SBYTE4	DC	XL1'00'
020D 00		516	SBYTE5	DC	XL1'00'
020E 00000000		517	PPFX	DC	XL4'00'
		518			CURRENT ROUTINE PREFIX
		519		*	
		520	**	ASSEMBLED TRANSFER TABLE	
		521		*	
0212 35 10 0535		522	TEST	L	TR1,IAR
0216 35 10 0787		523	LINK	L	TR2,IAR
021A 35 10 02CA		524	PRINT	L	TR3,IAR
021E 35 10 067E		525	UNPACK	L	TR4,IAR
0222 35 10 0789		526	HALT	L	TR5,IAR
0226 35 10 0231		527	PACK	L	TR6,IAR
022A 35 10 055A		528	LOAD	L	TR7,IAR
022E 05B3		529	LMSG	DC	AL2(LMSG)
0230 03B8		530	ITR6	DC	AL2(UNPACK)
		531		*	
		532	**	UNIT DEFINITION TABLE	
		533		*	
0234 0000000000000000		534	UTAB	EQU	*
023A 0000000000000000		535		DC	XL54'00'
0242 0000000000000000		535			16 x 3 = 54 USABLE UDT ENTRIES
024A 0000000000000000		535			
0252 0000000000000000		535			
025A 0000000000000000		535			
0262 0000000000000000		535			
0268 0070		0269	536	DC	XL2'0070'

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PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
538 *****
539 * LOAD ***** LOAD *
540 *****
541 *
542 * SUBROUTINE TO LOAD PROGRAMS OR DATA RECORDS FROM THE LOADING
543 * DEVLCL. ENTRY TO THIS SUBROUTINE IS MADE AS FOLLOWS--
544 *
545 * B LOAD WHERE LOAD IS EQUATED TO X'22A'
546 * *DC XL1*FLAGS*
547 * **DC XL2*DXXX* XXX - PROGRAM ID (OR DISK ADDR)
548 *
549 * FLAG BIT ON
550 * NONE - NORMAL TERMINATION
551 * 0 - BE HALT, LOAD XXX, SA HALT AND GIVE XXX CONTROL
552 * 1 - ABNORMAL TERMINATION
553 * IF BIT 3 - - - 2 - READ FIRST RECORD OF XXX INTO X'880' AND
554 * IS ON WITH RETURN CONTROL
555 * 2,4,OR 5, . . . 3 - READ NEXT SEQUENTIAL RECORD INTO X'880'
556 * THEN PARM AND RETURN CONTROL
557 * IS DISK - - - 4 - LOAD XXX AND GIVE XXX CONTROL
558 * ADDR NOT - - - 5 - LOAD XXX AND RETURN CONTROL
559 * PGM ID. 6 - SEEK TO VIOL AND RETURN CONTROL
560 *
561 * *NOTE FLAG BYTE, NOT MORE THAN ONE BIT CAN BE SET ON *
562 * A CALL TO THE LOAD ROUTINE IN DCP
563 * **NOTE PROGRAM ID IS ONLY INCLUDED IF BIT 0,2,4, OR 5 *
564 * IS ON
565 *
566 *****
0206 567 USING LBASE,XR2
00PD 568 F0 EQU X*FD*
00FA 569 F1 EQU X*FA*
00F1 570 F4 EQU X*F1*
026A 34 02 02A2 571 RLOAD ST LODEM+7,XR2 SAVE XR2
026E C2 02 0208 572 LA LBASE,XR2
0272 B4 08 9E 573 RLDA+3(,XR2),ARR SET UP RETURN ADDRESS
0275 C0 87 7F64 574 B DPFIX RETURN DPF TO PROG LVL1
0279 B5 01 9E 575 RTNPIX L RLDA+3(,XR2),XR1 POINT AT FLAGS
027C 8E 01 9E 039D 576 ALC RLDA+3(2,XR2),ONE ADJUST RETURN #
027D 577 LONE EQU *-4
0281 1C 02 01FF 02 578 MVC DTABLE+1(3),2(,XR1) MOVE FLAG AND DXXX PARAMETER
0286 79 24 00 579 TBF 0(,XR1),BIT2+BIT5 IF 2 OR 5 ON, THEN BUMP RTN ADR
0289 F2 10 05 580 J% NOBEP .. TO MISS PARAMETERS
028C BE 01 9E 033F 581 ALC RLDA+3(2,XR2),TWO ADJUST RETURN #
0291 78 10 00 582 NOBEP TBN 0(,XR1),BIT3 LAST *REAL ONE RECORD* BIT
0294 F2 90 10 583 JF LD1
0297 C0 87 0000 584 B *-# GO TO LOADER TO READ A RECORD
029A 585 ENTRY1 EQU *-1
029B C2 01 0000 586 LODEM LA *-*,XR1 RESTORE REGISTERS (THIS CODE MUST
029F C2 02 0000 587 LA *-*,XR2 FOLLOW BRANCH TO LOADER, ENTRY1)
02A3 C0 87 0000 588 RLDA B *-#
02A7 589 LD1 EQU *
02A7 79 2E 00 590 TBF 0(,XR1),BIT2+BIT4+BIT5+BIT6 FLAG BIT 2,4,5, OR 6 ON?
02AA F2 90 85 591 JF LB2 IF ANY ON, GO ENTER LOADER
02AD BA 80 C3 592
02B0 78 40 00 593 SBN RLPLGS(,XR2),BIT0 SET ERROR BIT IF ABNORMAL
02B3 F2 10 11 594 TBN 0(,XR1),BIT1 TERMINATION
02B6 B8 60 C3 595 JT PMSG
02B9 B8 40 00 596 SBF RLPLGS(,XR2),BIT0 OTHERWISE, TURN IT OFF
02BC C0 10 053D 597 TBN SBYTE0(,XR2),SSW01 LOOP ON ROUTINE IF CSW 01 IS ON
02C0 B8 80 00 598 BT LMK1A
02C3 C0 10 0000 599 TBN SBYTE0(,XR2),SSW00 LOOP ON SECTION IF SSW00 SET
02C7 C0 87 0566 600 PIZERO BT 0
601 PMSG B RPRINT PRINT SECTION TERMINATE MSG
02CA 602 ITR3 EQU *-1
02CB C7 603 RLPLGS DC XL1*C7*
02CC 12 604 DC IL1*18*
02CD 05A5 02CE 605 DC AL2(THSG)

```

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
02D0 606 DC XL2*PF00*
607 MVI LBASE+1,X'07* SET UP TO ERASE ON CR1
608 TBN SBYTE0(,XR2),SSW07 BYPASS DATA IF SSW07 ON
609 JT RLD2
610 HLTP HPL BE,HH HALL TO INDICATE SECTION COMPLETED
611 B TEST(,XR2) GO CHECK DATA SWITCHES
612 RLD2 TBN SBYTE1(,XR2),SSW09 IF SSW09 IS ON,
613 LB1 J% THEN DON'T CLR SECT. SWITCHES
614 SLC SBYTES(4,XR2),SBYTE5(,XR2) CLEAR SECTION SSW
02EB 615 THREE EQU *-3
616 LB1 TBN 0(,XR1),BIT0 FLAG BIT 0 ON
617 J% LB2 IF ON
618 ITRF1 LA LBASE,XR2
619 B TEST(,XR2) FOR -RD- HALT
620 LX1 LA DTABLE-1,XR1 INSTRUCTION MAY BE ALTERED
02FB 621 PTR EQU *-1
622 TBN 0(,XR1),BIT7 FOR CARD SYS (J LB2) ....
02FF 623 LX2 EQU *- THIS REFERS TO PREVIOUS INSTRUCTION
624 JF CNF4
625 ALC 2(1,XR1),LONE(,XR2)
626 TBN 2(,XR1),X'0F*
627 JF MOVID
628 SBF 2(,XR1),X'0F*
629 CNF4 CLI PTR(,XR2),P4
630 JNE STEP
631 HLTC1 HPL HC,HH
632 B TEST(,XR2)
633 MVI PTR(,XR2),P0
634 STEP SLC PTR(1,XR2),THREE(,XR2)
635 MOVID L PTR(,XR2),XR1
636 CLC 2(2,XR1),PIZERO+3(,XR2)
637 BE HLTC1
638 EVC DTABLE+1(3),2(,XR1)
639 LB2 B *-#
640 ENTRY2 EQU *-1
641 B LODEM

```

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ERR LOC OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT
	0000	643	BZZ	EQU 00
	0001	644	BZN	EQU 01
	0002	645	BNZ	EQU 02
	0003	646	BNN	EQU 03
033A 00	033A	647	C1R	DC XL1'0'
033B FFFF	033C	648	NEG1	DC XL2'FFFF'
033D 00	033D	649		DC XL1'00'
033E 0002	033F	650	1#0	DC 112'2'
		651	*	
0340 34 08 0366		652	CMFK	ST CMFKX@,ARR
0344 C0 87 03A4		653	B	SAVE@
0348 35 02 0406		654	L	ARRSAV,IR2
034C C2 01 031A		655	LA	CTR,IR1
	033A	656	USING	CTR,IR1
0350 5E 01 CC 8D		657	ALC	ARRSAV(2,IR1),FIVE(,IR1) ADJUST RETURN @
0354 6C 00 00 00		658	MVC	C1R(1,IR1),00(,IR2) MOVE LENGTH BYTE
0358 6C 01 4C 04		659	MVC	DEST1(2,IR1),4(,IR2) MOVE 10 @
035C 6C 01 A5 04		660	MVC	DEST2(2,IR1),4(,IR2) MOVE 10 @
0360 B5 02 02		661	L	Z(,IR2),IR2 PICK UP FROM @
0363 C0 87 0000		662	B	*-*
	0366	663	CMFKX	EQU *-1
	0366	664	TEMP	EQU *-1

SPARE BYTE NOT USED, MUST BE
LOCATED HERE TO GENERATE
THE CONSTANT FIVE

SAVE REGISTERS
PICK UP RETURN @
LOAD BASE @

ADJUST RETURN @
MOVE LENGTH BYTE
MOVE 10 @
MOVE 10 @
PICK UP FROM @

ERR LOC OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT
	666			*****
	667	*	UNPACK	***** UNPACK *
	668			*****
	669	*		*
	670	*		SUBROUTINE TO CONVERT PACKED HEXADECIMAL DATA TO PRINTABLE *
	671	*		EBCLIC. TWO PRINT CHARACTERS, 0-F, RESULT FROM EACH SOURCE BYTE. *
	672	*		LINKAGE TO THIS SUBROUTINE IS AS FOLLOWS-- *
	673	*		*
	674	*	B	UNPACK WHERE UNPACK IS EQUATED TO X'21E' *
	675	*	DC	XL1'LENGTH OF HEX FIELD IN BYTES' *
	676	*	DC	AL2(PROM ADDRESS -RIGHTMOST BYTE-) *
	677	*	DC	AL2(10 ADDRESS -RIGHTMOST BYTE-) *
	678	*		*
	679			*****
	680	RUNPK	ST	ARRSAV,ARR
	681	B		CMFK
	682	UNPK1	MVI	HVX1(,IR1),NNN DO NUMERIC
	683	UNPK2	MVI	TEMP1(0,IR1),0(,IR2)
	684	HVX1	EQU	*-3
	685	SDN		TEMP1(,IR1),X'FO' SET FOR 0-9
	686	CLI		TEMP1(,IR1),X'FA' CHECK FOR A-F
	687	JL		UNPK3
	688	SLC		TEMP1(1,IR1),X39(,IR1) SUBTRACT X'39' IF A-F
	689	UNPK3	MVI	*-*,0
	690	TEMP1	EQU	*-3
	691	DEST1	EQU	*-1
	692	ALC		DEST1(2,IR1),NEG1(,IR1) DECREMENT TO ADDRESS
	693	CLI		HVX1(,IR1),NNZ CHECK FOR ZONE DONE
	694	X39	EQU	*-1
	695	JE		UNPK4
	696	MVI		HVX1(,IR1),NNZ DO ZONE
	697	B		UNPK2(,IR1)
	698	UNPK4	A	NEG1(,IR1),IR2 DECREMENT FROM @
	699	ALC		C1R(1,IR1),NEG1-1(,IR1) DECREMENT LENGTH & CHECK FOR 0
	700	ONE	EQU	*-1
	701	BNZ		UNPK1(,IR1) NO
	702	B		LDREG(,IR1) YES
	703	*		*
	704	SAVE@	ST	SR1+3,ARR SAVE RETURN @
	705	ST		LDREG+3,IR1 SAVE IR1
	706	ST		SR2+3,IR2 IR2
	707	B		RTEST CHECK DATA SWITCHES
	708	SR1	B	*-*
0367 34 08 0406				
0368 C0 87 0340				
036F 7C 03 39				
0372 68 00 4A 00				
0373 684 HVX1				
0376 7A F0 4A				
0379 7D FA 4A				
037C F2 82 04				
037F 5F 00 4A 53				
0383 3C 00 0000				
0387 5E 01 4C 02				
038B 7D 02 39				
038E F2 81 06				
0391 7C 02 39				
0394 D0 87 38				
0397 76 02 02				
039A 5E 00 00 01				
039E D0 01 35				
03A1 D0 87 C1				
03A4 34 08 03E7				
03A8 34 01 03FE				
03AC 34 02 0402				
03B0 C0 87 0442				
03B4 C0 87 0000				

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PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

710 *****
711 * PACK *****
712 *****
713 *
714 * SUBROUTINE TO CONVERT EBCDIC DIGITS 0-F TO PACKED HEXADECIMAL
715 * DATA. LINKAGE TO THIS SUBROUTINE IS AS FOLLOWS--
716 *
717 * B PACK
718 * DC XL1'LENGTH'
719 * DC AL2(FROM ADDRESS -RIGHTMOST BYTE-)
720 * DC AL2(TO ADDRESS -RIGHTMOST BYTE-)
721 *****
722 BPACK ST ARRSV,ARR *****
723 B CPM *****
724 TBN CTR(,XR1),X'01' CHECK FOR ODD LENGTH
725 JF PK1 OKAY IF EVEN LENGTH
726 SLC CTR(,XR1),ONE SUBTRACT 1 IF ODD LENGTH
727 PK1 MVI MVX2(,XR1),MNM DO NUMERIC
728 PK2 MVC TEMP(,XR1),0(1,XR2) PACK BYTE INTO HIGH HALF BYTE
729 CLI TEMP(,XR1),X'F0' CHECK FOR 0-9
730 JNL PK3 JUMP IF 0-9
731 ALC TEMP(1,XR1),NINE(,XR1) ADJUST FOR A-F
732 PK3 MVX *-*(0),TEMP(,XR1) MOVE HALF BYTE TO *
733 MVX2 EQU *-4
734 DEST2 EQU *-2
735 A NEG1(,XR1),XR2 DECREMENT FROM *
736 CLI MVX2(,XR1),M2M CHECK FOR ZONE DONE
737 JE PK4 JUMP IF DONE
738 MVI MVX2(,XR1),M2M DO ZONE
739 B PK2(,XR1)
740 PK4 ALC DEST2(2,XR1),NEG1(,XR1) DECREMENT TO *
741 SLC CTR(1,XR1),TWO(,XR1) CHECK FOR END
742 FIVE EQU *-1
743 BNZ PK1(,XR1) IF NOT DO NEXT BYTE
744 LDREG LA *-*,XR1 RESTORE XR1
745 SHZ LA *-*,XR2
746 B *-*
747 ARRSV EQU *-1 RETURN TO SECTION

```

```

03B8 34 08 0406
03BC 00 87 0340
03C0 78 01 00
03C3 F2 90 05
03C6 4F 00 00 039D
03CB 7C 03 A3
03CE 6C 00 2C 00
03D2 7D F0 2C
03D5 F2 02 04
03D8 5E 00 2C E5
03DC 18 00 0000 2C

```

```

03E1 76 02 02
03E4 7D 01 A3
03E7 F2 81 06
03EA 7C 01 A3
03ED 00 87 94
03F0 5E 01 A5 02
03F4 5F 00 00 05

```

```

03F8 00 01 91
03FE C2 01 0000
03FF C2 02 0000
0403 C0 87 0000

```

03DD 733

03DF 734

03F7 742

0406 747

```

749 *****
750 * TEST *****
751 *****
752 *
753 * SUBROUTINE USED TO READ CONSOLE SWITCHES AND TEST FOR VALIDITY
754 * POSITIONS. ONCE ONE OF THE FOLLOWING VALIDITY CONDITIONS IS
755 * ENCOUNTERED, ENTRIES ARE ACCEPTED UNTIL THE VALIDITY SWITCH IS
756 * CHANGED.
757 *
758 *
759 * POXX - TURN OFF SSW XX.
760 * PXX - TURN ON SSW XX.
761 * PZX - GO TO ROUTINE XX.
762 * EXX - TERMINATE SECTION.
763 * DXX - EXECUTE ALL PROGRAMS FOR DEVICE XX -DISK-.
764 *
765 *****
766 IBASE EQU *
767 SETU DC XL1'80'
768 DC XL0'402010080402' . ALL TOGETHER
769 DC XL1'01'
770 DATSW DC XL2'0' . READIN AREA FOR DATA SWITCHES
771 USING SETU,XR1
772 IGNE EQU *-1
773 XREF5 EQU DATSW
774 XREF4 EQU *
775 SETSW ST VXR1+3,XR1
776 LA SETU,XR1
777 ST SETSW(,XR1),ARR
778 MNM CHKSS1+3(,XR1),DATSW(,XR1) FORCE CORRECT BIT PATTERN
779 NIME EQU *-1
780 SBF CHKSS1+3(,XR1),X'F0' TO SET A BIT ON IN
781 CHKSS1 MVC CHKSS2+1(1,XR1),*-*(,XR1) SBYTE INTO SBYTES
782 ALC DATSW(,XR1),DATSW(,XR1)
783 MNZ CHKSS2+2(,XR1),DATSW(,XR1)
784 LA SBYTE0,XR1
785 MODIFY EQU *
786 CHKSS2 SBN *-*(,XR1),*-*
787 SBF MODIFY,X'01'
788 VXR1 LA *-*,XR1
789 B *-*
790 SBTX EQU *-1
791 DROP XR1
792 USING DATSW-1,XR2
793 RTEST ST TEXIT1+3,XR2 SAVE INDEX REGS AND SET UP BASE
794 LA DATSW-1,XR2
795 ST TEXIT1+3(,XR2),XR1
796 ST TESTE+3(,XR2),ARR LOAD RETURN BRANCH
797 B TRIFDD SEE IF FDD LOADED
798 TSTOVL J TEXIT ( SWS DATSW(,XR2),0 ) READ SWITCH
799 CLI DATSW-1(,XR2),X'ED'
800 JH TEST1
801 TBN DATSW-1(,XR2),X'D0'
802 JI TEST1 FOR CARD SYS ( JT 0 )
803 TSTDSN EQU *-1
804 TEXIT JA *-*,XR1 RESTORE INDEX REGS AND EXIT
805 TEXIT1 LA *-*,XR2 SUBROUTINE
806 TESTE B *-*
807 DC XL1'40' ABNORMAL TERMINATION
808 TEST1 EQU *
809
810 HLIA MVI THLT+2(,XR2),RP HALT TO NOTE VALID SW ENTRY
811 J THLT
812
813 TEST2 CLI THLT+2(,XR2),RP FORCE ALTERNATING HALT CODES OF
814 JE TEST3 -RP- AND -RJ- (RP FIRST)
815 HLIB MVI THLT+2(,XR2),RP
816 J THLT

```

```

0407 80
040E 402010080402
040E 01
040F 0000

```

```

0411 34 01 043D
0415 C2 01 0407
0419 74 06 3A
041C 58 03 1F 09

```

```

0420 78 F8 1F
0423 5C 00 2D 00
0427 5E 01 09 09
042B 58 02 2E 09
042F C2 01 0208

```

```

0433 7A 00 00
0436 3B 01 0433
043A C2 01 0000
043E C0 87 0000

```

```

0442 34 02 046A
0446 C2 02 040F
044A B4 01 57
044D B4 08 5F
0450 C0 87 7800
0454 F2 87 0C
0457 BD ED 00
045A F2 84 13
045D BB D0 00
0460 F2 10 0D

```

```

0463 C2 01 0000
0467 C2 02 0000
046B C0 87 0000
046F 40

```

```

0470 BC 3C 78
0473 F2 87 0F

```

```

0476 BD 3E 78
0479 F2 81 06
047C BC 3E 78
047F F2 87 03

```

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ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	0461	817	TS EQU *-1
0482 BC 6b 78		818	TEST3 MVI IHLI+2(,XR2),HU
0485 PU 3B 00		819	IHLT HPL *-*,BH HALT -RP- OR -BU- FOR SWITCH ENTRY
		820	
0486 BU 00 01		821	SNS DATSWS(,XR2),X'0' READ DATA SWITCHES
	046D	822	TESTCRL EQU **2
0488 BB 00 00		823	TBN DATSWS-1(,XR2),X'D0' FOR CARD SYS (J TEST7)
048E B9 20 00		824	TBF DATSWS-1(,XR2),X'20'
0491 P2 90 23		825	JF TEST7
		826	
		827	* D FOUND IN LEFTMOST SWITCH SO ZERO TABLE
0494 C2 01 01FA		828	LA FLAG-3,XR1 POINT AT TABLE
0498 3C PD 02FB		829	MVI PTR,PU
049C 5F 0B 02 02		830	SLC OZ(12,XR1),OZ(,XR1)
04A0 B4 01 97		831	ST DADDR(,XR2),XR1
04A3 C2 01 0000		832	TEST15A LA *-*,XR1 LOAD DISK LOAD TABLE POINTER
	04A6	833	DADDR EQU *-1
04A7 6C 02 02 01		834	TEST16 MVC Z(3,XR1),DATSWS(,XR2) MOVE DATA TO DISK LOAD TABLE
04AB 79 0F 02		835	TBF Z(,XR1),X'0F' CHECK FOR DXXU
04AE P2 10 03		836	JT TEST16A
04B1 7B 01 00		837	SBF O(,XR1),X'01' TURN BIT7 OFF
	04B4	838	TEST16A EQU *
04B4 E0 87 67		839	B TEST12(,XR2) GO ALLOW NEXT ENTRY
04B7 ED EE 00		840	TEST17 CLI DATSWS-1(,XR2),X'ED'
04BA P2 01 08		841	JNE TEST17A
04BD 6C 01 5F 055A		842	MVC TESTE+3(2,XR2),ITR7
04C2 E0 87 67		843	B TEST12(,XR2) GO ALLOW NEXT ENTRY
	04C5	844	TEST17A EQU *
04C5 BD F1 00		845	CLI DATSWS-1(,XR2),X'F1'
04C8 P2 81 09		846	JE TEST18
04CB BD F0 00		847	CLI DATSWS-1(,XR2),X'F0'
04CE P2 01 15		848	JNE TEST11
04D1 BA 01 24		849	SBN MODIFY(,XR2),X'01' CHANGE TO SET BITS OFF
04D4 BD 30 01		850	TEST16 CLI D/T SWS(,XR2),X'30' MAKE SURE SSW NUM IS 00-2F
04D7 P2 82 06		851	JL TEST9
04DA PU 3B 76		852	IHLT HPL HZ,BH *ERROR-SSW # HIGHER THAN X-2F- OR *INVALID RIN SELECT OPTION
		853	*
04DD E0 87 67		854	B TEST12(,XR2) GO ALLOW NEXT ENTRY
	04E0	855	TEST9 EQU *
04E0 E0 87 02		856	B SETSSW(,XR2)
04E3 E0 87 67		857	B TEST12(,XR2) GO ALLOW NEXT ENTRY
04E6 BD F2 00		858	TEST11 CLI DATSWS-1(,XR2),X'F2'
04E9 E0 01 54		859	ENE TESTIT(,XR2)
04EC 35 01 0A07		860	L PTR,XR1
04F0 1C 00 0A03 00		861	MVC RNUM(1),O(,XR1) START CHECKING WITH FIRST ROUTINE
04F5 1D 00 0A03 00		862	TEST12 CLC RNUM(1),O(,XR1) LOAD CURRENT RIN NUM WITH FIRST ONE
04FA P2 81 06		863	JE TEST14 IS THIS RIN PREFIX CORRECT
04FD PU 3E 57		864	TEST13 HPL H3,BH YES - BRANCH
0500 E0 87 67		865	B TEST12(,XR2) *RIN NUMBER OUT OF SEQUENCE
0503 5D 00 01 00		866	TEST14 CLC DATSWS(1,XR2),O(,XR1) GO ALLOW ENTRY AGAIN
0507 P2 81 12		867	JE TEST16 BRANCH IF THIS IS SELECTED
050A 7D FF 02		868	CLI Z(,XR1),X'FF' ROUTINE
050D C0 81 04DA		869	BE IHLT CHECK FOR LAST ROUTINE INDICATION
0511 2E 00 0A03 03		870	ALC RNUM(1),ONE(,XR2) YES, BRANCH TO ERROR HALT
0516 75 01 03		871	L J(,XR1),XR1 INCREMENT ROUTINE NUMBER
0519 E0 87 66		872	B TEST12(,XR2) LOAD ADDRESS OF NEXT RIN PREFIX
051C 1C 03 0211 03		873	TEST16 MVC RPPFI(4),J(,XR1) GO CHECK THIS RIN NUM
0521 D2 01 04		874	LA 4(,XR1),XR1 SAVE ROUTINE PREFIX
0524 B4 01 5F		875	SI TESTE+3(,XR2),XR1 LOAD ADDRESS OF FIRST INSTRUCTION
0527 34 01 0593		876	SI LNK6+3,XR1 IN SUBROUTINE EXIT
052B E0 87 67		877	B SET UP LINK EXIT IN CASE LOOPING
		878	DROP IXL2 GO ALLOW NEXT ENTRY

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	880	*****	*****
	881	* LINK *****	***** LINK *
	882	*****	*****
	883	*	*
	884	* SUBROUTINE TO PROVIDE ROUTINE TO ROUTINE AND SECTION TO SECTION	*
	885	* LINKAGE. THE CONTROL PROGRAM USES THE ROUTINE PREFIX AS A	*
	886	* INTERFACE BETWEEN DIAGNOSTIC SECTION AND CONTROL PROGRAM.	*
	887	*	*
	888	*****	*****
	889		
052E 34 01 058F	890	BLINK ST LNK5+3,XR1	SAVE IXL2
	891		
0532 C0 87 0442	892	LNK1 B RTEST	GC CHECK DATA SWITCHES
	893	ILR1 EQU *-1	
0536 3B 40 0208	894	TBN SBYTE,SSW01	PROVIDE LOOP ON ROUTINE IF SSW01 ON
053A P2 90 0B	895	JF LNK2	
053D 3D 01 0A03	896	LNK1A CLI RNUM,X'01'	IF FIRST RIN BLINK RUN, GO TO
0541 C0 81 0000	897	BE 0	PROGRAM RESTART
0545 P2 87 44	898	J LNK5	
	899		
0548 3D FF 0210	900	LNK2 CLI RPPFI-1,X'FF'	IS THIS LAST ROUTINE
054C P2 01 0D	901	JNE LNK3	NO, GO ON TO CHECK FURTHER
	902		
054F 38 80 0208	903	TBN SBYTE,SSW00	TEST FOR LOOP ON SECTION
0553 C0 10 0000	904	BT 0	YES, GO RESTART PROGRAM
0557 C0 87 026A	905	B RLOAD	NO, GO LOAD NEXT SECTION
	906		
	907	ITR7 EQU *-1	
055B 00	908	DC XL1'0'	
	909		
055C 35 01 0211	909	LNK3 L RPPFI,XR1	SET UP TO GO TO NEXT ROUTINE
0560 0E 00 0A03 039D	910	ALC RNUM(1),ONE	INCREMENT ROUTINE NUMBER AND
0566 1D 00 0A03 00	911	CLC RNUM(1),O(,XR1)	CHECK AGAINST RIN PREFIX
056B P2 81 07	912	JE LNK4	
056E PU 3B 57	913	HLTE HPL H3,BH	*RIN NUM IN RIN PREFIX OUT OF ORDER
0571 C0 87 0532	914	B LNK1	GO CHECK FOR DATA SWITCH VALIDIFICATION
	915	*	
	916		
0575 1C 03 0211 03	917	LNK4 MVC RPPFI(4),J(,XR1)	SET UP CURRENT ROUTINE PREFIX
057A 38 20 0208	918	TBN SBYTE,SSW02	CHECK FOR BYPASS MANUAL INTERV RINS
057E 78 80 01	919	TBN 1(,XR1),BIT0	CHK RIN PREFIX MANUAL INTERV FLAG
0581 C0 10 0548	920	BT LNK2	SKIP ROUTINE IF BOTH CONDITIONS TRUE
	921		
0585 D2 01 04	922	LA 4(,XR1),XR1	
0588 34 01 0593	923	SI LNK6+3,XR1	LOAD ROUTINE STARTING ADDR
058C C2 01 0000	924	LNK5 LA *-*,XR1	RESTORE INDEX REGS
0590 C0 87 0000	925	LNK6 B *-*	EXIT SUBROUTINE
	926		

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

928 *****
929 * PRINT ***** PRINT *
930 *****
931 * LINKAGE TO PRINT IS AS FOLLOWS--
932 *
933 * B PRINT WHERE PRINT IS EQUATED TO 1304
934 * DC IL1*FLAGS*
935 * 1*DC IL1*LENGTH -MAXIMUM OF 91-
936 * 1*DC AL2(ADDRESS OF LAST CHARACTER OF PRINT FIELD)
937 * 2,1*DC XL2*MESSAGE IDENTIFICATION*
938 * FLAGS
939 * BIT 0 - DEFINES THIS AS AN ERROR PRINTOUT
940 * 1 - FIRST LINE OF MESSAGE -HEADING PRINTED-
941 * 2 - PRINT FROM DCP PRINT AREA.
942 * 3 - SPACE ONLY
943 * 4 - RESERVED
944 * 5 - BITS 5-7 MUST CONTAIN THE NUMBER OF
945 * 6 - SPACES DESIRED. FOR A PRINT, -001-
946 * 7 - MUST BE ENTERED TO PRINT AND SPACE TO
947 * THE NEXT LINE. -000- MAY BE ENTERED
948 * TO PROVIDE FOR MULTIPLE OPERATIONS ON
949 * THE SAME LINE.
950 *
951 * 1*NOTE - THESE PARAMETERS MUST BE ABSENT FOR SPACE
952 * ONLY OPERATIONS.
953 *
954 * 2*NOTE - THE MESSAGE IDENTIFICATION IS INCLUDED
955 * ONLY FOR A FIRST LINE PRINTOUT. THE FOUR
956 * DIGIT IDENTIFICATION REFERS TO A TABLE OF
957 * ERROR DESCRIPTIONS OR PRINTOUT DEFINITION.
958 *
959 * OPTIONS-- SSW03 - BYPASS ERROR PRINT.
960 * SSW04 - BYPASS NON-ERROR PRINT.
961 * SSW05 - USE ALTERNATE PRINTER
962 *
963 *****
964 USING PR3, XR2
965 THSG DC CL16*SECTION TERMINATED*
966
967 LMSG DC CL14*SECTION LOADED*
968
969 PR3 DC AL2(PLINE)
970 HDG1 EQU *
971 HDG DC CL28* ID XXXX. PROG UUXI-RR. SWS*
972
973 SSW EQU *-2
974 NSPACE DC XL1*0* SPACE COUNTER
975 SNUM DC XL2*0*
976 FLAGS DC XL1*0*
977 RPRINT ST PR1E2+3, XR2 SAVE UNDER REGS AND SET UP BASE
978 LA PR3, XR2
979 RPHONE ST PR1E1+3, XR1
980 SI PR1E+3, ARR LOAD RETURN ADDRESS
981 L PR1E+3, XR1 POINT AT PARAMETER LIST WITH XR1
982 NVI LPDATA+132, C* * SET BLANK CHAR INTO X900 ONCE
983
984 MVC PLAGS(1, XR2), 0(, XR1)
985 MVI HDG1(, XR2), C* * PUT NON-ERR PRINT INDICATION IN HDG1
986 TBN 0(, XR1), BIT0 BRANCH IF THIS IS NON-ERROR PRINT
987 JF PRT2
988 MVI HDG1(, XR2), C*** PUT ERROR * IN PRINT LINE
989 TBF SBYTE0, SSW05
990 J PRT2A
991 TBF SBYTE0, SSW04 EXIT IF SENSE SW TO BYPASS THIS TYPE
992 JF PRT2A PRINTOUT IS ON

990 MVC NSPACE(1, XR2), 0(, XR1) LOAD SPACE COUNTER
991 SBF NSPACE(, XR2), X*P8* LINE1 TO SEVEN
992 MVI PR1E+1, 96 SET UP COUNT FOR CONSOLE I/O
993
994 TBN 0(, XR1), BIT3 BRANCH IF THIS IS SPACE ONLY OP
995 JI PR17
996 TBN 0(, XR1), BIT2 SKIP SETUP IF DATA FIELD READY
997 JI PR16A
998 B PRTM DUMMY COMMAND TO MAKE SURE NO EUSY
999 DUNCOM DC XL2*E000*
1000 MVC LPDATA+131(132), LPDATA+132 BLANK PRINT BUF
1001 TBN 0(, XR1), BIT1 SKIP HDG PRINT IF NOT CALLED FOR
1002 JF PRT5
1003 LA 5(, XR1), XR1 SET UP TO UNPACK MESSAGE
1004 SI IDADDR(, XR2), XR1 IDENTIFIER
1005 B UNPACK UNPACK IT FOR PRINTING
1006 DC IL1*2*
1007 LDADDE DC XL2*0*
1008 DC AL2(HDG1+7)
1009 B UNPACK PUT PROG IDENT IN PRINTOUT
1010 DC IL1*2*
1011 DC AL2(PROGID)
1012 DC AL2(HDG1+16)
1013 B UNPACK PUT ROUTINE NUM IN HEADING LINE
1014 DC IL1*1*
1015 DC AL2(RNUM)
1016 DC AL2(HDG1+21)
1017 B PRTM SPACE BEFORE PRINTING HEADING
1018 SPBF8G UC XL2*E001*
1019 NVI PLINE+27(26), HDG(, XR2) MOVE HEADER LINE TO PRINT FIELD
1020
1021 ** SLI UP SENSE SWITCH PRINTOUT
1022 LA PLINE+28, XR1 SET UP PRINT FIELD POINTER
1023 MVI SNUM(, XR2), 0 SET SWITCH # TO 0
1024 CHR8WS ALC SBYTES(0), SBYTES ADD SENSE BYTES
1025 JNOL NEXTSS TEST FOR NO OVERFLOW
1026 SBN SBYTES, X*01*
1027 LA 3(, XR1), XR1 SET UP PRINT FIELD #
1028 SI SSD=ST(, XR2), XR1
1029 B RUMPK UNPACK SSW # INTO PRINT FIELD
1030 EQU *-1
1031 IONE DC IL1*1*
1032 DC AL2(SNUM)
1033 SSDEST DC XL2*009A*
1034 MVI 1(, XR1), C* * PLACE , INTO PRINT FIELD
1035 NEXTSS ALC SNUM(1, XR2), IONE(, XR2) UP SWITCH #
1036 CLI SNUM(, XR2), X*30* CHECK FOR LAST SSW
1037 BL CHR8WS(, XR2) BRANCH IF LOW
1038 MVI 1(, XR1), C* * CLEAR THE LAST COMM
1039 CRICHG MVI PR1E+1, X*7F* - PUT ACTUAL LENGTH OF LINE INTO
1040 ALC PR1E+1(1), SSDEST(, XR2) - PRT0+1 FOR THE KEYBOARD PRINTER
1041 B PRTM GO PRINT THIS HEADING
1042 PRT0G DC XL2*E200*
1043 B PRTM
1044 LC XL2*L001*
1045
1046 PRT5 MVC PR1E+1(1), 1(, XR1) SET UP HOWE WHICH WILL LOAD THE
1047 SLC PR1E+1(1), ONE PRINTOUT POINTED TO BY PARAMETER
1048 JL PR17 SKIP PRINTING IF COUNT IS ZERO
1049 MVC PR1E+5(2), 3(, XR1)
1050 MVC PR1E+3(2), PR3(, XR2)
1051 ALC PR1E+3(1), 1(, XR1)
1052 PRT6 MVI *-*(0-), 0- SET . PRINT LINE
1053 PRT6A B PRTM PRINT THE LINE
1054 DC XL2*E200*
1055
1056 PRT7 SLC NSPACE(1, XR2), RPHONE+1(, XR2) SPACE PRINTER DESIRED
1057 JL PRT2A NUMBER OF LINES

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
06D9	C0 87 0715	1058	B		PRIN
06DD	E001	06DE 1059	SPAPRI	DC	XL2*E001*
06DF	C0 87 06D2	1060	B		PRT7
06E3	OC 84 08FF 0900	1061			
06E9	35 01 0714	1062	PRESIT	MVC	LPDATA+131(133),LPDATA+132 CLEAR PRINT BUF DOWN TO X'87B' FOR PIR SYSTEM TEST
06ED	D2 02 00	1063	*		
06F0	78 40 00	1064	L		PRINT*3,XR1 ADJUST EXIT ADDR TO MISS
06F3	F2 90 03	1065	LA		0(,XR1),XR2
06F6	E2 02 02	1066	TBN		0(,XR1),BIT1 PARAMETER LIST
06F9	79 30 00	1067	JF		PR18
06FC	F2 90 03	1068	LA		2(,XR2),XR2
06FF	E2 02 03	1069	PRT8	TBF	0(,XR1),X'30'
0702	E2 02 01	1070	JF		PRT9
0705	34 02 0714	1071	LA		3(,XR2),XR2
0709	C2 01 0000	1072	PRT9	LA	1(,XR2),XR2
070D	C2 02 0000	1073	SI		PRINT*3,XR2
0711	C0 87 0000	1074			
		1075	PRT1	LA	**-,XR1 RESTORE INDEX REGS AND EXIT
		1076	PRT2	LA	**-,XR2
		1077	PRINT	B	**-
		1078			
		1079	**		
		1080	**		STANDARD INPUT/OUTPUT SUBROUTINE USED BY THE PRINT ROUTINE.
		1081	**		THIS SUBROUTINE SUPPORTS THE 5203/1403 PRINTER AND THE ALTERNATE
		1082	**		OUTPUT DEVICE UNDER CONTROL OF SENSE SWITCH 05. CODING FOR
		1083	**		ALTERNATE PRINTERS FOLLOWS THIS SUBROUTINE. THE LOADER SELECTS
		1084	**		THE PROPER SUBROUTINE.
		1085	**		
		1086	**		
0715	C2 02 0715	0715 1087	USING	PRTN,XR2	
0719	B4 08 70	1088	PRTN	LA	PRTN,XR2 SET UP COMMAND AND LOAD BASE
		1089	SI		PRTN+3(,XR2),XR2
		071D 1090	ZONE	EQU	**1
071C	B5 01 70	1091	L		PRTN+3(,XR2),XR1
071F	9C 01 5E 01	1092	MVC		PR10+2(2,XR2),1(,XR1)
0723	8E 01 70 033F	1093	ALC		PRTN+3(2,XR2),TWO
0726	C0 87 0212	1094	PRTN1	B	YES1
072C	38 80 05D5	1095	TBN		PRTN,BIT0
0730	F2 90 07	1096	JF		PRTN2
0733	39 10 0208	1097	TBF		SBYTE0,SSW03
0737	F2 87 04	1098	J		PRT9
073A	39 08 0208	1099	PRT2	TBF	SBYTE0,SSW04
073E	C0 90 06E3	1100	PRT0	BF	PREXIT
		1101			
0742	39 04 0208	1102	TBF		SBYTE0,SSW05
0746	F2 90 41	1103	JF		ALTPRT
0749	38 04 0208	1104	NOALT	TBN	SBYTE0,SSW05
074D	C0 10 077A	1105	BT		PRTN1
0751	F2 87 06	1106	J		PRIME
		1107			
0754	0000	0755 1108	HSTAT	DC	XL2*0*
		00E6 1109	LEBUSY	EQU	X'E6*
		00E0 1110	LEPRDY	EQU	X'E0*
0756	0800	0757 1111	PR1	DC	AL2(LPIMAG)
0758	087C	0759 1112	PR2	DC	AL2(LPDA1A)
075A	7070	075B 1113	PR4	DC	XL2*7070*
		1114	*		
		1115	*		
075C	F0 38 7D	1116	LEPRR2	HPL	H6,HH *PRINTER NOT READY OR ERROR
075F	E0 87 13	1117	B		PRTN1(,XR2)
0762	E1 E0 47	1118	PRIME	TIO	LEPRR2(,XR2),LEPRDY GO BALT IF NOT READY OR ERROR
0765	B1 E0 46	1119	LIO		PR4(,XR2),X'E0*
0768	B1 E4 42	1120	LIO		PR1(,XR2),X'E4*
076B	E1 E6 44	1121	LIO		PR2(,XR2),X'E6*
076E	BB 00 5D	1122	SBP		PR10+1(,XR2),X'E0*
0771	F3 00 00	1123	PR10	SIO	**-,**
0774	E1 E6 5F	1124	BSYLP	TIO	BSYLP(,XR2),LEPRDY WAIT FOR BUSY TO DROP
0777	E1 E0 47	1125	TIO		LEPRR2(,XR2),LEPRDY GO BALT IF ANY ERROR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
077A	C2 02 0585	1126	PREXIT	LA	PR3,XR2 RESTORE XR2
077E	35 01 0714	1127	L		PRINT*3,XR1 RESTORE PARAMETER POINTER
0782	C0 87 0000	1128	PRIME	B	**
		1129			EXIT SUBROUTINE
0786	052E	0787 1130	IR2	DC	AL2(RLINK)
0788	0990	0789 1131	IR5	DC	AL2(RHAL1)
		1132			
078A	C2 01 0791	078A 1133	ALIPRT	EQU	*
078E	F2 87 06	1134	LA		ALTPRT+7,XR1 SET UP INDEX REG FOR ALT PRINTER
		1135	J		**9 GET TO THE START OF THE ALT PRINTER
		1136	*		ALTERNATE PRINTER DEVICE CODE BEGINS HERE
		1137	*****		*****
		1138	*		5471 AS PRIMARY ALTERNATE
		1139	*****		*****
		1140			
0715	1141	0715 1141	USING	PRTN,XR2	
0791	1142	0791 1142	PRTNA	EQU	*
		1143			
0791	F0 3B 5F	1144	HPL		H9,HH *KEYBOARD PRINTER ERROR
0794	E0 87 13	1145	B		PRTN1(,XR2)
0797	2E 00 06C7 08	1146	PIC10	ALC	PR16+1(1),ZONE(,XR2) ADJUST LENGTH OF PRINT
079C	3B 80 06C7	1147	SBP		PR16+1,X'E0*
07A0	BC 81 B5	1148	MVI		CIO2X+2(,XR2),X'E1*
07A3	BD E0 5E	1149	CLI		PR10+1(,XR2),X'E0*
07A6	F2 01 18	1150	JNE		CIO1 ONLY
07A9	BD 00 5E	1151	CLI		PR10+2(,XR2),0
07AC	E0 81 05	1152	BE		PREXIT(,XR2) SKIP CARR RETURN IF SPACE 0
07AF	3D 02 05D2	1153	CLI		HSPACE,2
07B3	F2 32 04	1154	JL		**7
07B6	3C 02 05D2	1155	MVI		HSPACE,2
07BA	3C 00 06C7	1156	MVI		PR16+1,0
07BE	BC 41 B5	1157	MVI		CIO2X+2(,XR2),X'E1*
07C1	C2 01 0880	1158	CIO1	LA	X'E80*,XR1 POINT XR1 AT PRINT FIELD
07C5	71 18 01	1159	CIO1B	LIO	1(,XR1),X'E1*
07C6	F3 18 00	1160	CIO2X	SIO	**-,X'E1*
07CB	B0 19 40	1161	SNS		CIOSTS(,XR2),X'E19*
07CE	B9 03 40	1162	TBF		CIOSTS(,XR2),X'E03*
07D1	E0 90 7C	1163	BF		CIOHLT(,XR2)
07D4	7C 40 00	1164	MVI		0(,XR1),C*
07D7	D2 01 01	1165	LA		1(,XR1),XR1 CLEAR OUT THIS CHARACTER
07DA	2F 00 06C7 08	1166	SLC		PR16+1(1),ZONE(,XR2) INCREMENT PRINT FIELD POINTER
07DF	E0 02 B0	1167	BNL		CIO1B(,XR2)
07E2	E0 87 65	1168	B		PREXIT(,XR2) CONTINUE UNTIL WHOLE LINE PRINTED
		1169			
0755	1170	0755 1170	CIO1S1	EQU	HSTAT
07E4	1171	07E4 1171	LAS1	EQU	*-1 MUST BE LAST STATEMENT OF OVERLAY
07BE	1172	07BE 1172	CIO1A	EQU	ALTPRT+CIO1B-PRTNA
0791	1173	0791 1173	CIO1B1	EQU	PRTNA
07C1	1174	07C1 1174	CIO2	EQU	ALTPRT+CIO2X-PRTNA
		1175			
PF24	1176	PF24 1176	ORG		X'FFFF*-X'800** IF FLAGGED, X'800* BEING OVERLAYED
		1177			
0800	1178	0800 1178	ORG		X'800*
		0800 1179	LPIMAG	EQU	*
0800	1180	0800 1180	DC		AL6*F1F2F3F4F5F6*
0806	1181	0806 1181	DC		AL6*F7F8F9F0F7F6*
080C	1182	080C 1182	DC		AL6*61E2E3E4E5E6*
0812	1183	0812 1183	DC		AL6*E7E8E9E0E8E6*
0818	1184	0818 1184	DC		AL6*D1D2D3D4D5D6*
081E	1185	081E 1185	DC		AL6*D7D8D9D0D8D6*
0824	1186	0824 1186	DC		AL6*C1C2C3C4C5C6*
082A	1187	082A 1187	DC		AL6*C7C8C9C4E5E7D*
		1188	*		
0830	0000000000000000	0830 1189	DC		XL72*0* TO FILL OUT IMAGE IN CASE UCS IS MOUNTED
0838	0000000000000000	0838 1189			BUT IMAGE IS 48. (120-48=72)
0840	0000000000000000	0840 1189			
0848	0000000000000000	0848 1189			
0850	0000000000000000	0850 1189			

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
0858 0000000000000000 1189
0860 0000000000000000 1189
0868 0000000000000000 1189
0870 0000000000000000 1189
1190
1191 **
1192 ** THE FOLLOWING INSTRUCTIONS COMPLETE THE SECTION LOADER BY
1193 ** HANDLING LND CARDS. IT IS IN AN AREA THAT IS READ INTO BY
1194 ** THE DISK LOADER.
0A03 1195 ORG X'A03'
087F 1196 RNUM EQU *
1197 ORG X'87F'
087F 1198 X87F EQU *
087F 1199 USING X87F,XR1
0900 1200 ORG X'900'
0900 40 0900 1201 DC CL1' '
0901 1202 ENDRTM EQU *
1203 MVC 22(23),RESTART+2 PROGRAM RESTART
1204 TBM SPFLGS,B110 BRANCH IF NO UDI ENTRIES
1205 JT LDEND
1206 LA SPODT,XR2 POINT XR2 AT SECTION PREFACE UDI
1207 UFIND1 LA UTAB,XR1 POINT XR1 AT DCP UNIT TABLE
1208 CLC 0(1,XR1),0(,XR2) BRANCH IF NOT PROPER UDI
1209 JNE UFIND4
1210 MVC 2(1,XR2),2(,XR1) LOAD SECTION PREFACE OPTION
1211 MNN 1(,XR2),1(,XR1)
1212 SEN 1(,XR2),BIT2 SET ASSIGNED FLAG
1213 UFIND3 TBM 1(,XR2),BIT3
1214 LA 3(,XR2),XR2 INCREMENT SPOI POINTER
1215 BF UFIND1 IF NOT LAST ENTRY, GO LOAD NEXT
1216 J LDEND OTHERWISE - GO START SECTION
1217 UFIND4 TBM 1(,XR1),BIT3 CHECK FOR LAST DCP ENTRY
1218 LA 3(,XR1),XR1 INCREMENT TO NEXT ENTRY
1219 BF UFIND2 CONTINUE IF NOT LAST ENTRY
1220 TBP 1(,XR2),BIT1 SKIP ERROR HALT IF REQUIRED FLAG
1221 JT *+6 NOT ON
1222 HPL H1,HH *UDI CANNOT BE SATISFIED
1223 B UFIND3 BYPASS ERROR IF HALT RESET
1224 LDEND B PRINT PRINT DCP HEADING AND SKIP UP
0950 1225 DC XL1'47'
0951 1226 DC LL1'14'
0952 05B3 0953 1227 LMS DC AL2(LMSG)
0954 PF00 0955 1228 DC XL2'PF00'
1229
1230 TBP SBYTE0,SSW07 BYPASS HALT AFTER LOADING SECTION
1231 TBP FLAG,BIT4
1232 JF *+06
1233 HPL HA,HH HALT TO ALLOW DATA SWITCH ENTRY
1234 **
1235 ** THE FOLLOWING FIVE INSTRUCTIONS ARE STORED AT LOCATION ZERO
1236 ** (0000) AFTER LOADING OF EACH SECTION IS COMPLETED TO PROVIDE
1237 ** A PROGRAM RESTART (SYSTEM RESET/START).
0A03 1239 USING RNUM,XR2
1240 JA RNUM,XR2 SAVE FIRST ROUTINE PREFIX AND
1241 L 4(,XR2),XR1
1242 MVC RNUM(1,XR2),0(,XR1) LOAD CURRENT ROUTINE NUMBER
1243 BVC RPPX(4),3(,XR1)
1244 B TEST CHECK DATA SWITCHES
1245 RESTART B 4(,XR1) START FIRST ROUTINE
097F 1246 DC XL5'0' FILLER

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
PPF3 1248 ORG X'FFFF'-X'980'+ IF FLAGGED, CODE IS OVERLAYING ITSELF
0980 1249 ORG X'980'
1250 * ***** HALT MUST START AT X'980' *****
1251
1252 *****
1253 * HALT ***** HALT *
1254 *****
1255 *
1256 * SUBROUTINE USED TO PROVIDE A COMMON HALT FUNCTION. ENTRY TO THIS *
1257 * ROUTINE IS ACCOMPLISHED BY BRANCHING-- *
1258 *
1259 * B HALT WHERE HALT IS EQUATED TO 1312 *
1260 * DC XL2'UUXI' HEX ERROR IDENTIFIABLE *
1261 *
1262 *
1263 * NORMALLY, ONLY A HALT WITH CODE 'XX' WILL OCCUR. BUT WHEN THE *
1264 * SYSTEM TEST IS RUNNING, HALT 'UU' WILL PRECEDE HALT 'XX' TO *
1265 * IDENTIFY THE DEVICE IN ERROR. *
1266 *
1267 * UU - UNIT IDENTIFICATION *
1268 * XX - INDEX NUMBER *
1269 *
1270 * IF THE INDEX NUMBER IS 01-9F, THE HALT WILL OCCUR UNLESS SENSE *
1271 * SWITCH 06 IS ON. HALTS WITH INDICES 00-CF ARE PERFORMED ONLY *
1272 * WHEN NON-ERROR PRINTOUTS ARE BEING BYPASSED -SSW 04-. HALTS *
1273 * DG-PF ARE ALWAYS PERFORMED. *
1274 *****
0980 1274 USING HLTTAB,XR2
0980 1275 HLTTAB EQU *
0985 1276 DC XL6'6F0376571B5D' TABLE OF HALTS 0-F
0986 1277 DC XL6'7D077F5F3F79'
098F 1278 DC XL4'6C737C3C'
1279
1280 HHALT ST ARRSAV,AHR SAVE RETURN ADDRESS
1281 B SAVREG GO SAVE REGISTERS
1282 LA HLTTAB,XR2 LOAD BASE
1283 L ARRSAV,XR1 POINT XR1 AT PARAMETER LIST
1284 ALC ARRSAV(2),TWO ADJUST RETURN ADDRESS
1285 CLI 1(,XR1),X'A0' BRANCH IF THIS IS ERROR HALT PAIR
1286 JL HALT2
1287 CLI 1(,XR1),X'CF' DO HALT IF CODE 'D0'-'FF'
1288 JH HALT3
1289 TBM SBYTE0,SSW04 EXIT IF NOT BYPASSING NON-LND PRINT
1290 JF HEXIT
1291 J HALT3
1292 HALT2 TBM SBYTE0,SSW06 EXIT IF BYPASS ERROR HALT SET
1293 JT HEXIT
1294
1295 HALT3 MNZ LHLT1+3(,XR2),0(,XR1) SET UP TO LOAD CODES FOR 1ST HALT
1296 MNN LHLT1+3(,XR2),0(,XR1)
1297 MNZ LHLT2+3(,XR2),1(,XR1) SET UP FOR SECOND HALT
1298 MNN LHLT2+3(,XR2),1(,XR1)
1299 BVI EXSSW+1,X'07' SET UP TO ERASE ON CRT
1300 CLI X'A00',X'FF' PERFORM FIRST HALT ONLY IF SYSTEM TEST.
1301 TBP X'A01',X'CO' (ACTUALLY PGMS PF0,1,2,3)
1302 JC LHLT2,X'96' JUMP FALSE OR HIGH OR LO
1303 LHLT1 MVC HALTA+1(1,XR2),0(,XR2) LOAD FIRST HALT
1304 LHLT1A MVC HALTA+2(1,XR2),0(,XR2)
1305 HALTA HPL *+*,*+* HALT TO INDICATE DEVICE
1306 LHLT2 MVC HALTB+1(1,XR2),0(,XR2) LOAD SECOND HALT
1307 LHLT2A MVC HALTB+2(1,XR2),0(,XR2)
1308 HALTB HPL *+*,*+* HALT TO DISPLAY INDEX NUMBER
1309 HEXIT B BTEST GO CHECK FOR SWITCH ENTRY
1310 B LDREG GO RE-INITIALIZE REGS & EXIT SUBROUTINE
1311 *****
1312 * TRANSFER TABLE CONSTANTS *****
1313 *****
0535 1314 TMI EQU ITR1
0767 1315 TRZ EQU ITR2

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ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
			02CA	1316	TR3	EQU ITR3
			067L	1317	TR4	EQU ITR4
			0789	1318	TR5	EQU ITR5
			0231	1319	TR6	EQU ITR6
			055A	1320	TR7	EQU ITR7

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
			FFPF	1322	ORG	X'FFFF'-X'A00' ** IF FLAGGED, X'A00' BEING OVERLAYED
				1323	*****	
				1324	* XREF	*****
				1325	*****	
			1FEE	1326	ORG	X'1FEE'
			1FEE	0000	DC	XL2'0000' USED TO PASS DISK ADDR OF 'PCU' TO '143' FOR THE CL TO CHANGE UDT AND CPU
				1328	*	
				1329		
			1FPO	C0 87 0E8A	B	BEGIN IN CORE AT IPL TIME, AND THEN START AT THIS ADDRESS TO GET A NEW PRINT OUT OF THE SYSTEM DATA. THIS ADDRESS SHOULD NOT BE CHANGED, SINCE OTHER RELEASE DOCUMENTATION TELL THE CL TO USE THIS ADDRESS.
				1330	*	
				1331	*	
				1332	*	
				1333	*	
				1334	*	
				1335	*	
			1FF4	0000	DC	XL2'0000' ADDRESS TO LINK FROM DCP CALLED PROGRAMS
			1FF6	0410	DC	AL2(XREF5) LOCATION FOR SSM VALUE
			1FF8	0411	DC	AL2(XREF4) SUBRIN TO SET SSM
			1FFA	0E8A	DC	AL2(XREF3) LOADER BRANCH # WHEN DCP IS LOADED
			1FFC	13BE	DC	AL2(XREF2) LOADER BRANCH # WHEN LOADING DCP
			1FFE	02F1	DC	AL2(XREF1) LOADER RETURN IF NOT IN VIOC
				1342		
			0E8A	1343	ORG	AL1PRT+X'700' THIS ORG TIED TO ORG AT END OF ROUTINE
				1344		
				1345	*****	
				1346	* EQUATES	*****
				1347	*****	
			0010	1348	IAR EQU	X'10' INSTRUCTION ADDRESS REGISTER
			0006	1349	ARR EQU	X'06' ADDRESS RECALL REGISTER
			0004	1350	PSR EQU	X'04' PROGRAM STATUS REGISTER
			0020	1351	P1IAR EQU	X'20' PROG LVL 1 IAR ALW
			0081	1352	P7IAR EQU	X'81' PROGRAM CHECK REGISTER
			0001	1353	IR1 EQU	1 INDEX REGISTER 1
			0002	1354	IR2 EQU	2 INDEX REGISTER 2
			087C	1355	LPDATA EQU	X'67C' 22LC PRINT DATA AREA
			0880	1356	PLINE EQU	X'880' START OF DCP PRINT LINE
			0A00	1357	SPT EQU	X'A00' SECTION PREFACE TABLE
			0A01	1358	PROGID EQU	X'A01' SPT - 2ND BYT OF PGM IDENTIFICATION
			0A02	1359	SPFLGS EQU	X'A02' SPT - FLAGS
			0A07	1360	PKIN EQU	X'A07' SPT - ADDR OF 1ST RTN PREFIX
			0A0A	1361	SPUDT EQU	X'A0A' SPT - UNIT DEFN TABLE
			0018	1362	SIOI EQU	X'18' SIO IMMEDIATE TO CRT
			0879	1363	CRIFLG EQU	X'0879' FLAG SAYS 32XX MICRO LOADED OK
				1364		
				1365	** COMMON SENSE SWITCHES	
				1366		
			0080	1367	SSW00 EQU	X'80' LOOP ON SECTION
			0040	1368	SSW01 EQU	X'40' LOOP ON ROUTINE
			0020	1369	SSW02 EQU	X'20' BYPASS MANUAL INTRV RTNS
			0010	1370	SSW03 EQU	X'10' BYPASS ERR08 PRINT
			0008	1371	SSW04 EQU	X'08' BYPASS NON-ERROR PRINT
			0004	1372	SSW05 EQU	X'04' USE HPCU AS PRINT DEVICE
			0002	1373	SSW06 EQU	X'02' HALT ON ERR08
			0001	1374	SSW07 EQU	X'01' LICKELY SPLIT
			0080	1375	SSW08 EQU	X'80' USE 5203 RIGHT CARRIAGE
			0040	1376	SSW09 EQU	X'40' INHIBIT S2C1. SSM CLEARING
			0020	1377	SSW0A EQU	X'20'
			0010	1378	SSW0B EQU	X'10'
			0008	1379	SSW0C EQU	X'08'
			0004	1380	SSW0D EQU	X'04'
			0002	1381	SSW0E EQU	X'02'
			0001	1382	SSW0F EQU	X'01'
			0001	1383	SSW2F EQU	X'01'
				1384		
			0080	1385	BIT0 EQU	X'80'
			0040	1386	BIT1 EQU	X'40'
			0020	1387	BIT2 EQU	X'20'
			0010	1388	BIT3 EQU	X'10'
			0008	1389	BIT4 EQU	X'08'

FFF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

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ERR LOC	OBJECT CODE	ADDR	SYN1	SOURCE	STATEMENT
0004	1390	BIT5	EQU	X'04'	
0002	1391	BIT6	EQU	X'02'	
0001	1392	BIT7	EQU	X'01'	
		1393			
006F	1394	H0	EQU	X'6F'	
0003	1395	H1	EQU	X'03'	
0076	1396	H2	EQU	X'76'	
0057	1397	H3	EQU	X'57'	
001b	1398	H4	EQU	X'1B'	
005D	1399	H5	EQU	X'5D'	
007b	1400	H6	EQU	X'7D'	
0007	1401	H7	EQU	X'07'	
007F	1402	H8	EQU	X'7F'	
005F	1403	H9	EQU	X'5F'	
003F	1404	HA	EQU	X'3F'	
0079	1405	HB	EQU	X'79'	
006C	1406	HC	EQU	X'6C'	
0075	1407	HD	EQU	X'75'	
007C	1408	HE	EQU	X'7C'	
003C	1409	HF	EQU	X'3C'	
003B	1410	HH	EQU	X'3B'	
0068	1411	HL	EQU	X'68'	
0068	1412	HU	EQU	X'68'	
003E	1413	HP	EQU	X'3E'	
		1414			
01FD	1415	FLAG	EQU	X'1FD'	
01FE	1416	DTABLE	EQU	X'1FE'	

TABLE OF HALT CODES - O-F & H

HALT DISPLAY CODE -5-

HALT DISPLAY CODE -L-
HALT DISPLAY CODE -U-
HALT DISPLAY CODE -P-

ERR LOC OBJECT CODE ADDR SYN1 SOURCE STATEMENT

1418	**	THE FOLLOWING INSTRUCTIONS ARE PERFORMED AFTER INITIAL DCP
1419	**	LOADING ONLY. THEY ARE OVERLAID BY THE PROGRAM SECTIONS.
0E8A	1420	X'F3 EQU *
0E8A	1421	BEGIN EQU *
1422	MVC	16(17),GOLOAD+16 STORE A PROGRAM RESTART AT 0000
1423	B	FIXHOB
0E94	1424	BEGINA EQU *
1425		
1426	*****	*****
1427	*	
1428	*	PRINT CPU AND UDT INFORMATION
1429	*	
1430	*	
1431	*****	*****
1432		
0E94	C0 87 021A	
0E98	11	B PRINT SPACE PRINTER
0E99	0C 00 121F 0200	DC XL1'11'
0E9F	3C 00 033A	MVC LINE1-16(1),SHOW PUT MODEL ID IN PRINTOUT
0EA3	3D FF 0202	MVI CTR,X'0'
0EA7	P2 01 07	CLI SIZE-1,X'FF'
0EAA	3C 10 033A	JNE NOT64
0EAE	P2 87 06	MVI CTR,16
0EB1	08 02 033A 0202	J DOSZ
		1441 NOT64 MNZ CTR,SIZE-1 PUT CORE SIZE IN PRINTOUT
		1442
0EB7	04 20 122E 1203	1443 DOSZ ZAZ LINE1-1(3),DFOUR-1(1)
0EBD	06 11 122E 1204	1444 FINDSZ AZ LINE1-1(3),DFOUR(2)
0EC3	0F 00 033A 039D	1445 SLC CTR(1),ONE
0EC9	C0 01 0EBD	1446 BNZ FINDSZ
		1447 * SET UP CPU OPTIONS IF ANY.
0ECD	0C 0F 1253 1254	1448 MVC LINE1A(16),LINE1A+1 CLEAR OPTIONS IN LINE FOR 1PPO ENTRY
0ED3	0C 00 1358 0204	1449 MVC OPBUF(1),CPU PUT CPU OPTIONS IN WORK AREA
0ED9	3C 87 0F08	1450 MVI POP+1,X'67'
0EDD	C2 02 1244	1451 LA LINE1A-15,XR2 ASSUME NO OPTIONS, THUS NO OPT PRINT
0EE1	C2 01 134F	1452 LA OPTAB,XR1 POINT AT OPT NUMBERS.
0EE5	0E 00 1358 1358	1453 OPLOOP ALC OPBUF(1),OPBUF SHIFT LEFT 1
0EEB	C0 20 0EFA	1454 BNOL NOTOP JUMP IF NO OPTION BIT
0EEF	9C 00 00 00	1455 MVC 0(1,XR2),0(,XR1) MOVE OPT NUMBER INTO LINE
0EF3	E2 02 02	1456 LA 2(,XR2),XR2 BUMP TO NEXT LINE POSITION
0EF6	3C 07 0F08	1457 MVI POP+1,X'67'
		1458 * CAUSE NO-OP JUMP FOR PRINTING
0EFA	D2 01 01	0EFA 1458 NOTOP EQU *
0EPD	7D D8 00	1459 LA 1(,XR1),XR1 BUMP TO NEXT OPTION NUMBER IN TAB
0F00	P2 81 04	1460 CLI 0(,XR1),C'Q' IF IT IS A 'C', QUIT
0F03	C0 87 0EE5	1461 JE POP
0F07	P2 00 0B	1462 B OPLOOP DO ALL 8
0FOA	C0 87 021A	1463 POP JC NOPOP,+-> JUMP TO REGULAR ONLY OR FALL TO OPT
0FOE	02	1464 B PRINT PRINT CPU LINE WITH OPTIONS
0F0F	3B	0F0E 1465 DC XL1'02'
0F10	1253	0F0F 1466 DC IL1'59'
0F12	P2 87 0B	0F10 1467 DC AL2(LINE1A)
		1468 J WASPOP
0F15	C0 87 021A	0F15 1469 NOPOP EQU *
0F19	01	1470 B PRINT
0F1A	17	0F19 1471 DC XL1'01'
0F1B	122F	0F1A 1472 DC IL1'23'
		0F1C 1473 DC AL2(LINE1)
		1474
0F1D	C0 87 021A	0F1D 1475 WASPOP EQU *
0F21	01	1476 B PRINT
0F22	33	0F21 1477 DC XL1'01'
0F23	12P5	0F22 1478 DC IL1'51'
0F25	C0 87 021A	0F24 1479 DC AL2(DASH)
0F29	01	1480 B PRINT
0F2A	33	0F29 1481 DC XL1'01'
0F2B	1287	0F2A 1482 DC IL1'51'
0F2D	C0 87 021A	0F2C 1483 LC AL2(LINE2)
0F31	01	1484 B PRINT
		0F31 1485 DC XL1'01'

PRINT ---PS

PRINT UNIT DEFINITION TABLE HEADING

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
0F32	33	0F32	1486	DC	IL1'51'
0F33	12F5	0F34	1487	DC	AL2(DASH)
			1488		
0F35	C2 01 0232		1489	LA	UTAB,XR1
0F39	3C 01 1205		1490	MVI	FLAGS,1
0F3D	7D 00 00		1491	UDILP	CL1 0(,XR1),X'0'
0F40	F2 81 8E		1492	JE	NOUNIT
0F43	34 01 0F4D		1493	ST	UADDR,XR1
0F47	C0 87 021E		1494	B	UNPACK
0F4E	01	0F4E	1495	DC	IL1'1'
0F4C	0000	0F4D	1496	UADDR	DC AL2(*-*)
0F4E	0883	0F4F	1497	DC	AL2(PLINE+3)
0F50	C2 02 0884		1498	LA	PLINE+4,XR2
0F54	8C 60 00		1499	MVI	0(,XR2),C'-'
0F57	0C 01 1201 039D		1500	MVC	MASK(2),ONE
0F5D	3C 00 1202		1501	MVI	OPNUM,0
0F61	0C 00 0F6E 1200		1502	UDTLP1	MVC CHK1+1(1),MASK-1
0F67	0C 00 0F71 1201		1503	MVC	CHK2+1(1),MASK
0F6D	79 00 01		1504	CHK1	TBF 1(,XR1),*--
0F70	79 00 02		1505	CHK2	TBF 2(,XR1),*--
0F73	F2 10 16		1506	J1	NEXTOP
0F76	8C 00 01 1202		1507	MVC	1(1,XR2),OPNUM
0F7E	BA F0 01		1508	SBN	1(,XR2),X'F0'
0F7E	BD FA 01		1509	CLI	1(,XR2),X'FA'
0F81	F2 82 05		1510	JL	*+8
0F84	8E 00 01 11F9		1511	ALC	1(1,XR2),XC7
0F89	E2 02 01		1512	LA	1(,XR2),XR2
0F8C	0E 01 1201 1201		1513	NEXTOP	ALC MASK(2),MASK
0F92	0E 00 1202 039D		1514	ALC	OPNUM(1),ONE
0F96	3D 0C 1202		1515	CLI	OPNUM,X'0C'
0F9C	C0 82 0F61		1516	BL	UDTLP1
			1517		
0FA0	3D 01 1205		1518	CLI	FLAGS,1
0FA4	F2 01 0C		1519	JNE	CKPTM
0FA7	8C 05 09 1211		1520	MVC	9(6,XR2),LDR
0FAC	3C 02 1205		1521	MVI	FLAGS,2
0FB0	F2 87 10		1522	J	PRDUT
			1523		
0FB3	3D 02 1205		1524	CKPTM	CLI FLAGS,2
0FB7	F2 01 09		1525	JNE	PRDUT
0FBA	8C 06 0A 1218		1526	MVC	10(7,XR2),PRDTR
0FBF	3C 00 1205		1527	MVI	FLAGS,0
			1528		
0FC3	0C 19 12A1 089A		1529	PRDUT	MVC LINE3(26),PLINE+26
0FC9	C0 87 021A		1530	B	PRINT
0FCD	01	0FCL	1531	DC	XL1'01'
0FCE	1A	0FCE	1532	DC	IL1'26'
0FCF	12A1	0FDO	1533	DC	AL2(LINE3)
			1534		
0FD1	78 10 01		1535	NOUNIT	TBN 1(,XR1),X'10'
0FD4	D2 01 03		1536	LA	3(,XR1),XR1
0FD7	C0 90 0F3D		1537	BF	UDILP
			1538		
			1539		*****
			1540	*	
			1541	*	DO MISCELLANEOUS DCP PRINTOUTS
			1542	*	
			1543	*	
			1544	*	*****
			1545		
0FDB	C0 87 021A		1546	B	PRINT
0FDF	11	0FDF	1547	DC	XL1'11'
0FE0	C0 87 021A		1548	B	PRINT
0FE4	05	0FE4	1549	DC	XL1'05'
0FEL	21	0FE5	1550	DC	IL1'33'
0FE6	12C2	0FE7	1551	DC	AL2(LINE4)
0FE8	C0 87 138B		1552	B	CHKID

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
0FEC	70	0FEC	1553	DC	IL1'70'
0FED	F2 01 27		1554	JNE	TS107
			1555		JUMP IF IT IS NOT
0FF0	C0 87 138B		1556	B	CHKID
0FF4	A0	0FF4	1557	DC	XL1'A0'
0FF5	F2 01 1F		1558	JNE	TS107
			1559		TEST FOR 5444 ON SYSTEM
0FF8	C2 01 0232		1560	LA	UTAB,XR1
0FFC	7D A0 00		1561	CLI	0(,XR1),X'A0'
0FFP	F2 01 15		1562	JNE	TS107
			1563		JUMP IF IT IS NOT
			1564	Xb	POINT AT X'232'
1002	C0 87 1365		1564	B	PTX
1006	C0 87 021A		1565	B	PRINT
100A	01	100A	1566	DC	XL1'01'
100B	3C	100B	1567	DC	IL1'60'
100C	1330	100D	1568	DC	AL2(XR1)
100E	C0 87 1365		1569	B	PTX
1012	C0 87 021A		1570	B	PRINT
1016	14	1016	1571	DC	XL1'14'
					PRINT LINE OF *--
					PRINT MESSAGE TO DUMP TAPE ERROR ST.
					PRINT LINE OF *--
					SPACE 4

FFP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

FFP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
1573 *****
1574 *
1575 * CHECK FOR MODEL G
1576 *
1577 *****
1578
1017 3D C7 0200 1017 1579 1ST07 EQU *
101B CO 01 11C7 1580 CLI SMOD,C'G' TEST FOR RUNNING ON MODEL 'G'
101F 3D 40 0232 1581 BNE DOHA BRANCH IF NOT
1023 F2 81 3A 1582 CLI UTAB,X'40' TEST FOR LOADING FROM 3741
1026 38 80 0233 1583 JE FD6D IF TRUE GO SET UP FOR LOADING
102A CO 90 11C7 1584 TBN UTAB+1,X'80' TEST FOR LOADING FROM DISK
1585 BF DOHA IF NOT, HALT BA
1586
1587 *****
1588 *
1589 * LOAD AND EXECUTE ANY PROGRAMS WHICH MUST BE
1590 *
1591 * RUN AT LCP LOAD TIME
1592 *
1593 * FD6 - RUNS ON ALL MODEL G SYSTEMS
1594 *
1595 *****
1596
102E C2 01 0232 1597 ISAO LA X'0232',XR1 SET-UP XR1 ADDRESS FOR UTAB TABLE *GC*
1032 7D A0 00 1598 CLI O(,XR1),X'AO' SEE IF DISK IS A 5444 *GC*
1035 F2 01 04 1599 JNE ISA1 JUMP IF NOT A 5444 DISK *GC*
1038 3C A0 1139 1600 MVI DRFLAG,X'AO' IDENTIFY IT A 5444 DISK *GC*
1601
103C CO 87 10A2 1602 ISA1 B SEARCH GO GET DISK ADDR OF PROGRAMS *GC*
1603
1040 38 20 113A 1604 TBN SRFLAG,BIT2 SEE IF FD6 FOUND ON DISK
1044 F2 90 2C 1605 JF FD6HIN IF NOT, DON'T RUN
1606 *****
1607 * TEST UDT TABLE FOR DISK FILE 3340 OR DISK FILE 5444
1608 *****
1047 3D A0 1139 1609 CLI DRFLAG,X'AO' SEE IF DISK IS A 5444
104B F2 81 12 1610 JE FD6D JUMP IF IS
104E OC 01 1095 11F0 1611 MVC ADH143(2),CCHH03 MOVE IN ADDRESS OF 3340 CCHHR (143)
1054 OC 01 1FEP 11F2 1612 MVC X'1FEP'(2),CCHH13 MOVE IN ADDRESS OF 3340 CCHHR (FC0)
105A OC 01 1070 11F4 1613 MVC FD60(2),CCHH20 MOVE IN ADDRESS OF 3340 CCHHR (FD6)
1060 1614 FD6L EQU *
1615 *****
1060 OC 01 1FF5 1072 1616 MVC X'1FF5'(2),FD6ADR SET UP FOR FD6 TO COME BACK
1066 3A 01 020D 1617 SBN SBYT15,SSWZF SET ON SSW ZF TO SHOW FD6 TO LINK BACK
106A CO 87 022A 1618 B LOAD LOAD AND RUN LSK TESTS
106E 08 106E 1619 PLG1 DC XL1'08'
106F DFD6 1070 1620 FD60 DC XL2'DFD6' DISK ADDRESS FILLED IN BY 'SEARCH' RTN
1071 1073 1072 1621 FD6ADR DC AL2(FD6RTN)
1073 1622 FD6RTN EQU * RETURN HERE FROM FD6
1623 MVC 16(17),GOLOAD+16 STORE A PROGRAM RESTART AT 0000
1073 OC 10 0010 11E1 1624 TSTFD6 MVI X'1FD',X'10' RESET FLAG BIT FOR LOAD RTN
1079 3C 10 01FD

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
1626 *****
1627 *
1628 * R U N 1 4 3 ( MICRO CODE LOADER )
1629 *
1630 *****
1631
107D 38 CO 113A 1632 TBN SRFLAG,BIT0+BIT1 IF 143 OR PC0 NOT FOUND DON'T RUN 143
1081 CO 90 11C7 1633 BF DOHA IF NOT, DON'T RUN
1085 OC 01 1FF5 1097 1634 MVC X'1FF5'(2),RTN143 SET UP FOR 143 TO COME BACK
108B 3A 01 020D 1635 SBN SBYT15,SSWZF SET ON SSW ZF TO SHOW 143 TO LINK BACK
1636
108F CO 87 022A 1637 B LOAD LOAD 143 AND EXECUTE
1093 18 1093 1638 DC XL1'18' LOAD PGM AT SPECIFIED ADDR AND GIVE CONTROL
1094 0000 1095 1639 ADH143 DC AL2(+0) DISK ADDR OF 143 FILLED IN ABOVE
1096 1098 1097 1640 RTN143 DC AL2(MICRTN)
1098 1641 MICRTN EQU * RETURN HERE FROM 143
1642 MVC 16(17),GOLOAD+16 STORE A PROGRAM RESTART AT 0000
1643 B BLKCR1 TO BLANK CRT
1644
1645 *****
1646 *
1647 * S E A R C H SEARCH VTIOC FOR FD6,143,PC0 AND INSERT
1648 * DISK ADDRESSES IN 'B' LOAD'
1649 *****
1650
10A2 34 08 1109 1651 SEARCH S1 SRX+3,ARE
10A6 3C 18 106E 1652 MVI PLG1,X'18' SET BRANCH TO LOAD FLAG BITS
10AA 3C 00 1FEE 1653 MVI X'1FEE',0 SET TO ZERO AS FLAG
10AE 3C 00 113A 1654 MVI SRFLAG,0 SET FLAG TO ZERO (SUPPORT INSTE AD '1FF0')
10B2 CO 87 022A 1655 B LOAD SEEK TO VTIOC AND CHECK FOR PROGRAM 143
10B6 02 10B6 1656 DC XL1'02'
10B7 C2 01 0880 1657 LA X'880',XR1 LOAD XR1 AS POINTER TO VTIOC RECORD
1658
10BB CO 87 022A 1659 READRC B LOAD TO READ NEXT RECORD INTO X'880'
10BF 7D 10BF 1660 DC XL1'10'
10C0 7D FF 00 1661 CLI O(,XR1),X'FF' TEST FOR END OF VTIOC
10C3 CO 81 1165 1662 BE NE2 JUMP IF YES
10C7 7D 00 00 1663 CLI O(,XR1),0 TEST FOR END OF VTIOC
10CA CO 81 1165 1664 BE NE2 JUMP IF YES
10CE 4D 02 02 1361 1665 CLC 2(3,XR1),ACTCON TEST FOR AN ACTIVE VTIOC ENTRY
10D3 CO 01 1165 1666 BNE NE2 JUMP IF NOT 'ACT'
1667
10D7 3D C1 0232 1668 CLI UTAB,X'C1' CHANGE DISPLACEMENT OF ID IN VTIOC
10DB F2 81 04 1669 JE ISWIN ENAB IF THIS IS 5444
10DE 3C 07 10E6 1670 MVI MVID+4,ID5444 IF 3340, LEAVE DISPLACEMENT AS IS
10E2 1C 02 11DF 06 10E2 1671 ISWIN EQU *
1672 MVID MVC VTID(3),ID3340(,XR1) MOVE ID INTO TEMP AREA
1673
1674 TRYPD6 CLC VTID(3),FD6CON LOOK FOR ID OF FD6 *GCDP
1675 JNE TRYOUT
1676 MVC FD60(2),VIAD(,XR1) MOVE IN DISK ADDR OF FD6 (5444)
1677 MVC CCHH2(5),V133(,XR1) MOVE IN CCHHR ADDR FROM VTIOC (3340)
1678 SBN SRFLAG,BIT2 INDICATE FD6 FOUND
10FE 1679 TRYOUT EQU *
1680 TBN SRFLAG,BIT2 SEE IF FOUND YET
1681 BF READRC GO LOAD 143 L1C
1682 SKI B RETURN TO CALLER SECTION
1683 TRY143 CLC VTID(3),M1CLDR ID OF MICROCODE LOADER (143) *GCDP
1684 JNE TRYFCO READ AGAIN IF ID NOT FOUND
1685 MVC ADH143(2),VIAD(,XR1) MOVE IN DISK ADDR FROM VTIOC (5444)
1686 MVC CCHH0(5),V133(,XR1) MOVE IN CCHHR ADDR FROM VTIOC (3340)
1687 SBN SRFLAG,BIT0 INDICATE 143 FOUND
1688
1121 0D 02 11DF 135E 1689 TRYFCO CLC VTID(3),MICDAT % OF MICROCODE DATA (FC0) *GCDP
1127 CO 01 10E7 1690 BNE TRYFD6 READ AGAIN IF ID NOT FOUND
112B 1C 01 1FEP 04 1691 MVC X'1FEP'(2),VIAD(,XR1) MOVE IN DISK ADDR FROM VTIOC (5444)
1130 1C 04 11E9 0E 1692 MVC CCHH1(5),V133(,XR1) MOVE IN CCHHR ADDR FROM VTIOC (3340)

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FFF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

FFF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
1135 3A 40 113A          1693      SBN  SRFLAG,BIT1      INDICATE PCO FOUND
                                0007 1694 EQU  7      DISPLACEMENT OF ID IN 5444 VIOC
                                0006 1695 EQU  6      DISPLACEMENT OF ID IN 3340 VIOC
                                0004 1696 EQU  4      LOCATION IN VIOC OF 5444 ADDRESS
                                000L 1697 EQU  14     LOCATION IN VIOC OF 3340 ADDRESS CCHRR
1139 PF                  1139 1698 DC  XL1'PF'
113A 00                  113A 1699 DC  XL1'00'      BIT 0 - 143
                                1700 *      BIT 1 - PCO
                                1701 *      BIT 2 - PDb
                                1702
113B 3B 80 113A          113B 1703 EQU  *      ENTER HERE ON LAST VIOC AND NOT ALL PGMS FOUND
                                1704      TBN  SRFLAG,BIT0      DID 143 GET IN ?
113F P2 10 0E            1705      JT   ME1
1142 0C 02 133B 135B     1706      MVC  IDLOST(3),MICLDR  MOVE '143' INTO MESSAGE
1148 C0 87 021A          1707      B    PRINT
114C 02                  114C 1708 DC  XL1'02'
114D 1E                  114D 1709 DC  IL1'30'      PROGRAM XXX NOT FOUND ON DISK
114E 134E                114F 1710 DC  AL2(NOTFND)
                                1711
1150 3B 40 113A          1150 1712 TBN  SRFLAG,BIT1      DID PCO GET IN ?
1154 P2 10 0E            1713      JT   ME2
1157 0C 02 133B 135E     1714      MVC  IDLOST(3),MICDAT  MOVE 'PCO' INTO MESSAGE
115D C0 87 021A          1715      B    PRINT
1161 02                  1161 1716 DC  XL1'02'
1162 1E                  1162 1717 DC  IL1'30'      PROGRAM XXX NOT FOUND ON DISK
1163 134E                1164 1718 DC  AL2(NOTFND)
                                1719
1165 3B 20 113A          1165 1720 TBN  SRFLAG,BIT2      DID PDb GET IN
1169 P2 10 0E            1721      JT   DOH0
116C 0C 02 133B 1364     1722      MVC  IDLOST(3),PDbKON  MOVE 'PDb' INTO MESSAGE
1172 C0 87 021A          1723      B    PRINT
1176 02                  1176 1724 DC  XL1'02'
1177 1E                  1177 1725 DC  IL1'30'      PROGRAM XXX NOT FOUND ON DISK
1178 134E                1179 1726 DC  AL2(NOTFND)
                                117A 1727 EQU  *
117A C0 87 021A          117A 1728 B    PRINT
117E 17                  117E 1729 DC  XL1'17'      SPACE 7 TIMES
117F P0 3B 6F            1730      HPL  H0,HH          NO HALT TO SHOW PGM'S MISSING
1182 F0 6F 1B            1731      HPL  H0,40         SECONDARY HALT SAYS PGM'S MISSING
                                1732
1185 C0 87 1106          1733      B    SBY          RETURN TO CALLER
1734 *****
1735 *
1736 * WRITE ON CRT      ( TO GET RID OF ATTRIBUTE CHARACTERS )
1737 *
1738 *****
1189 3D PF 0679          1189 1739 EQU  *
118D C0 01 11C7          1740      CLI  CR1PLG,X'PF'    IS CRT MICRO LOADED
                                1741      BNE  DOHA          IF LDT, DON'T BLANK
                                1742
1191 3C 07 7ECP          1743      MVI  ERSSW+1,X'07'    SET UP TO ERASE ON CRT
1195 F3 1B 80            1744      SIO  X'80',SIO1      DISABLE MICRO PROCESSOR
1198 F3 1B E0            1745      SIO  X'E0',SIO1      ENABLE/START MICRO PROCESSOR
119B 0D PF 119B 119B     1746      CLC  *(256),*        WAIT FOR MICRO PROCESSOR
1191 C1 4B 14C7          1747      TIO  DOHA,X'16'     READY ?
11A5 31 10 1207          1748      LIO  X0000,X'10'    LOAD CRT BUFF ADDR
11A9 31 1B 1209          1749      LIO  PRS10,X'1B'    LOAD MAIN STORAGE BUFFER ADR
11AD 31 12 120B          1750      LIO  D0480,X'12'    LOAD LENGTH OF WRITE TO 480
11B1 0C C7 15C8 15C9     1751      MVC  LB(200),LB+1    PROPAGATE BLANK THRU 5 CRT LINES
11B7 F3 10 91            1752      SIO  X'91',X'10'    WRITE BEGINNING MSG
11BA C1 1F 11BA          1753      TIO  *,X'1F'        HANG ON BUSY
11BE 0D 31 11BE 11BE     1754      CLC  *(50),*        DELAY FOR INTERRUPT
11C4 F3 1B 02            1755      SIO  X'02',SIO1    RESET PENDING INTERRUPT

```

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
11C7 3B 01 0208          1757 DCHA  TBN  SBY110,SSW07
11CB P2 10 03            1758      JT   GOLOAD
1759
1760 *****
1761 *      H    H      AAAAAAAAAA
1762 *      H    H      A    A
1763 *      H    H      A    A
1764 *      HHHHHHHHH  AAAAAAAAAA
1765 *      H    H      A    A
1766 *      H    H      A    A
1767 *      H    H      A    A
1768 *****
1769
11CE P0 3B 3F            1770 HLTG  HPL  HA,HH          DCP LOADING COMPLETE
11D1 C0 87 0212          11D1 1771 GOLOAD EQU  *
1772      B    TEST          CHECK DATA SWITCHES
1773      B    XREF1        GO LOAD SECTION
0002 1774              1774      DROP  XR2
1775 *****
1776 *
1777 *      STORAGE  DC'S  FOR  DCP
1778 *
1779 *****
1780
11D9 00                  11D9 1781 TEMPA  DC  XL1'00'
11DA 08                  11DA 1782 X08    DC  XL1'08'
11DB 0800                11DB 1783 TWOK   DC  XL2'0800'
11DD 000000              11DD 1784 VTID   DC  XL3'000000' TEMP STORAGE FOR ID FROM VIOC
11E0 0000300000          11E0 1785 CCHH0  DC  XL5'000000000'  CYL HED REC FOR 143 (3340)
11E5 0000000000          11E5 1786 CCHH1  DC  AL5'000000000'  CYL HED REC FOR PCO
11EA 0000000000          11EA 1787 CCHH2  DC  XL5'000000000'  CYL HED REC FOR PDb
11EF 11E4                11EF 1788 CCHH0  DC  AL2(CCHH0)
11F1 11E9                11F1 1789 CCHH1  DC  AL2(CCHH1)
11F3 11EE                11F3 1790 CCHH2  DC  AL2(CCHH2)
11F6 0100                11F6 1791 X100   DC  XL2'100'
11F7 0008                11F7 1792 PRIV   DC  XL2'0008'  PRIVILEGE CODE ONLY
11F9 C7                  11F9 1793 XC7    DC  XL1'C7'
11FA P2 87 29            11FA 1794 J      J    TEST17-TSTCRD-1
11FD P2 87 33            11FD 1795 J1     J    LE2-LI2
1200 0000                1200 1796 BASK   DC  XL2'0'
1202 00                  1202 1797 OPNUM  DC  XL1'0'
1203 P0P4                1203 1798 DFOUR  DC  DL2'4'
1205 00                  1205 1799 FLAGS  DC  XL1'0'
1206 0000                1206 1800 X0000  DC  XL2'0000'
1208 1489                1208 1801 PRST0  DC  AL2(PRST)
120A 01E0                120A 1802 D0480  DC  IL2'480'

```

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

```

ERR LOC OBJECT CODE      ADDR SIM1 SOURCE STATEMENT
1804 *****
1805 * PRINTOUTS *****
1806 *****
1807
120C D3D6C1C4C5D9      1211 180C LDR      DC      CL6*LOADER*
1212 D7D9C9D5E3C5D9      1218 1809 FRNTR  DC      CL7*PRINTER*
1219 D4D6C4C5D340E74B  122F 1810 LINE1  DC      CL23*MODEL X. STORAGE  XXXX*
1221 4040E2E3B6D9C1C7      1810
1229 C54040E7E7L7D2      1810
1230 404040C3E7E440D6      1253 1811 LINE1A DC      CL36* CPU OPTIONS ARE X
1238 D7E3C9D6D5E240C1      1811
1240 D9C54040E7404040      1811
1248 4040404040404040      1811
1250 40404040      1811
1254 40      1254 1812      DC      CL1* *
1255 E4D5C9E340C4C5C6      126A 1813      DC      CL22*UNIT DEFINITION TABLE *
125D C9D5C9E3C9D6D540      1813
1265 E3C1C2D3C540      1813
126B 4B4B4B4B40D4E4E2      1287 1814 LINE2  DC      CL29*.... MUST BE CORRECT -VERIFY-*
1273 E340C2C540C3D6D9      1814
127B D9C5C3E34060E5C5      1814
1283 D9C9C6E860      1814
1288 4040404040404040      12A1 1815 LINE3  DC      CL26* *
1290 4040404040404040      1815
1298 4040404040404040      1815
12A0 4040      1815
12A2 4040404040404040      12C2 1816 LINE4  DC      CL33*          DCP IS LOADED*
12AA 4040404040404040      1816
12B2 40404040C4C3D740      1816
12BA C9E240D3D6C1C4C5      1816
12C2 C4      1816
12C3 4040404040404040      12D8 1817      DC      CL22* *
12CB 4040404040404040      1817
12D3 404040404040      1817
12D9 6060606060606060      12F5 1818 DASH  DC      29CL1*--
12E1 6060606060606060      1818
12E9 6060606060606060      1818
12F1 6060606060      1818
12F6 C4E4E4D740E3C1D7      1323 1819      DC      CL46*DUMP TAPE L&R&H STATISTICS BEFORE BEGINNING DISK*
12F1 C540C5D9D9D6D940      1819
1306 E2E3C1E3C9E2E3C9      1819
130E C3E240C2C5C6D6D9      1819
1316 C540D9E4D5D5C9D5      1819
131L C740C4C9E2D2      1819
1324 40C4C9C1C7D5D6E2      1330 1820 XB1  DC      CL13* DIAGNOSTICS--*
132C E3C9C3E260      1820
1331 D7D9D6C7D9C1B440      133B 1821 IDLOST DC      CL11*PROGRAM XXX* ---- | MUST BE TOGETHER
1339 E7E7E7      1821
133C 40D5D6E340C6D6E4      134E 1822 NOTFND DC      CL19* NOT FOUND ON DISK * ---- |
1344 D5C440D6D540C4C9      1822
134C E2D240      1822
134F 1823 OPTTAB EQU *          TABLE FOR CPU OPTIONS
1357 1824      DC      CL9*12345678Q*          Q SIGNALS END
1358 00      1358 1825 OPBUF  DC      XL1*00*
1359 F1F4F3      135E 1826 MICLDR DC      CL03*143*
135C C6C3F0      135E 1827 MICDAT DC      CL03*FC0*
135F C1C3E3      1361 1828 AC1KON DC      CL03*ACT*
1362 C6C4F6      1364 1829 PD6KON DC      CL03*PD6*
1830
1831 *****
1832 *          SUBROUTINE TO PRINT
1833 *****
1834
1365 34 08 1389      1835 PTX   ST      PTX+3,ARR
1369 3C 02 138A      1836      MVI      CNT,2
136D 3C 60 08BC      1837 X21  MVI      X*880*+60,C*--*
1371 0C 3A 08BB 08BC      1838      SVC      X*880*+59(59),X*880*+60

```

```

ERR LOC OBJECT CODE      ADDR STET SOURCE STATEMENT
1377 C0 87 021A      1839      B      PRINT
137B 21      137B 1840      LC      XL1*21*
137C 0F 00 138A 039D      1841      SLC     CNT,ONE
1382 C0 01 136D      1842      BNZ    XZ1
1386 C0 87 0000      1843 PTX   B      *-*
138A 00      138A 1844 CNT  DC      IL1*0*
1845
1846 *****
1847 *          CHECK IF PASSED ID IS IN UDT          ( SUBROUTINE )
1848 *****
1849
138B 1850 CHKID EQU *
1851      SI      CHKX+3,ARR
1852      SI      CHKSR1+3,XR1
1853      L      CHKX+3,XR1
1854      ALC     CHKX+3(2),OME
1855      MVC     SID(1),0(XR1)
1856      LA      UTAB,XR1
1857 XTCHKL CLI 0(XR1),0
13A7 1858 SID  EQU *-2
1859      JE      CHKSR1
1860      TBM    1(XR1),X*10*
1861      LA      3(XR1),XR1
1862      BF      XTCHKL
1863 CHKSR1 LA *-*,XR1
1864 CHKX  B      *-*

```

```

SUBROUTINE TO CHECK IF A PASSED
ID IS IN THE UDT TABLE. ON EXIT
THE CONDITION CODE WILL BE SET
TO EQUAL IF ID IS PRESENT, NOT EQUAL
IF ID IS NOT PRESENT

```

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
1866 *****
1867 *
1868 * -- O V E R L A Y S --
1869 *
1870 * PERFORM VARIOUS OVERLAYS AND SET UP VARIOUS
1871 *
1872 * LINKAGES NECESSARY BASED ON MODEL AND PRINTERS
1873 *
1874 * ATTACHED FOR PROPER FUNCTIONING OF DCP
1875 *
1876 * THIS SUBROUTINE IS EXECUTED ONLY ONCE-- WHEN THE
1877 * FIRST COMMENT (*) CARD IS ENCOUNTERED OR WHEN
1878 * DCP'S END (E) CARD IS READ.
1879 *
1880 *****
1881
13BE 1882 XHLP2 EQU *
1883 FIXMOB ST LEXIT+3,ARR
1884
1885 CLI X'880',C'0'
1886 JE TRYCPU
1887 CLI X'880',C'E'
1888 BNE LVMOB
1889 TRYCPU CLI X'200',X'00' IF A CPU CARD PROCESSED, THEN DO FIXMOB
1890 BNE TSTUDI -NO- HALT * CARD FOUND BEFORE CPU/UDT CARDS
1891 HOB HPL H0,HH
1892 HPL H2,H0 SECONDARY HALT. * COMMENT OR END FOUND BUT NO CPU
1893 B LVMOB
13E3 1894 TSTUDI EQU *
1895 CLI JTAB,0 IF NO UDT CARD THEN HALT
1896 BE HOB
1897 ONCEXX BC LVMOB,X'07' DO THIS ROUTINE ONLY ONCE
1898 MVI ONCEXX+1,X'87'
1899
1900 MVC ENTRY1(2),X'1FD'
1901 MVC ENTRY2(2),X'1FF' MOVE ENTRIES POINTS @ INTO LOAD RTN
1902 MVC TSIOVL+2(3),1STINS+2
1903 TBM UTAB+1,X'80' IS THIS A DISK SYSTEM
1904 JT DSKSYS
1905 MVC LI2-1(5),J1+2
1906 MVI TSIDSK,0
1907 MVC TSICRD(3),J+2
1908 SLC DTABLE+1(4),DTABLE+1 CLEAR CARD LOADER FLAGS.
1909 J NOID NO TABLE CLEAR ON CARD SYS
1425 1910 DSKSYS EQU *
1911 SLC DTABLE+1(6),DTABLE+1 CLEAR DTABLE FOR DISK SYS
1912 NOID CLI SMOD,C'E' TEST FOR MODEL E
1913 JNE CKCIO JUMP IF NOT
1914 *
1915 * OLD MOVL OF CRT OVERLAY WAS HERE
1916 J LVMOB
1435 1917 CKCIO EQU *
1918 ST SAVE1+3,XR1 SAVE XR1
1919 B CHKID
143D 1920 DC XL1'10' ALT. PRINT RIN. WITH 5471 MODULE
1921 JNE TR5424 JUMP IF NOT 5471
1922 J SAVE1 IF 5471, THEN NO MORE CHECKING
1923 TR5424 B CHKID CHECK FOR A 5424 ATTACHED
1448 1924 DC XL1'FD' 5424 DEVICE CODE
1925 JNE TR3741 GO TO CHECK NEXT DEVICE
1926 MVC PRINA+59(60),MHL12+59 OVERLAY ALT. CODE WITH 5424 CODE
1927 J SAVE1 EXIT THIS ROUTINE
1928 TR3741 B CHKID CHECK FOR A 3741 ATTACHED
1459 1929 DC XL1'40' 3741 DEVICE CODE
1930 JNE TR1442 GO CHECK NEXT DEVICE
1931 MVC PRINA+66(67),DHALT+66 OVERLAY ALT. CODE WITH 3741 CODE
1932 J SAVE1 EXIT THIS ROUTINE
1933 TR1442 B CHKID CHECK FOR A 1442 ATTACHED

```

```

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
146A 51
146B F2 01 09
146E 0C 4B 07DC 18D3
1474 F2 87 03
1477 F0 3B 3B
147A C2 01 0000
147E C0 87 0212
1482 C0 87 0000
1486 50 00 01
146A 1934 DC XL1'51'
1935 JNE HHHALT
1936 MVC PRINA+75(76),PHALT+75 1442 DEVICE CODE
1937 J SAVE1 GO HALT IF NO ALT. FOUND
1938 HHHALT HPL HH,HH OVERLAY ALT. CODE WITH 1442 CODE
1939 SAVE1 LA *-0,XR1 EXIT THIS ROUTINE
147E 1940 LVMOB EQU * HALT TO INDICATE NO ALT. FOUND
1941 B TEST RESTORE XR1
1942 LEXIT B *-0
1943
1943
040F 1944 USING DATSW5-1,XR2
1945 1STINS SNS DATSW5(,XR2),0

```

FPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

Table with columns: ERR LOC, OBJECT CODE, ADDR, STMT, SOURCE, STATEMENT. Contains program code for loading and testing micro-code.

FPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

Table with columns: ERR LOC, OBJECT CODE, ADDR, STMT, SOURCE, STATEMENT. Contains program code for alternate codes and various diagnostic tests.

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	
1897	71 50 4A	2029	LIO	PUNNUM(,XR1),X'50'	LOAD PUNCH COUNT REGISTER (128-B)	
189A	D1 50 00	2030	PUNERR	TIO PHALI(,XR1),X'50'	TEST FOR NOT READY OR ERROR	
189D	F3 54 00	2031	SIO	X'00',X'54'	PUNCH ONLY	
18A0	D1 52 18	2032	BIZZLE	TIO BIZZLE(,XR1),X'52'	WAIT FOR BUSY TO DROP	
18A3	B0 53 40	2033	SNS	MSTAT(,XR2),X'53'	GET STATUS BYTES	
18A6	B9 36 40	2034	TBF	MSTAT(,XR2),X'36'	CHECK FOR ANY ERRORS	
18A9	B9 0F 40	2035	TBF	MSTAT(,XR2),X'0F'	MORE ERRORS?	
18AC	B0 90 12	2036	BF	PUNERR(,XR1)	REPUNCH THE CARD	
18AF	7D FF 4B	2037	CL1	PLGTWO(,XR1),X'FF'	CHECK IF 2ND CARD FLAG IS SET	
18B2	F2 81 16	2038	JE	PUNDUM	IF SET, THEN GO EXIT THIS RTN	
18B5	3C 40 08CB	2039	MVI	LPDATA+79,X'40'	MOVE IN FIRST BLANK	
18B9	0C 1F 08CA 08CB	2040	MVC	LPDATA+78(32),LPDATA+79	BLANK OUT REST OF INPUT AREA	
18BF	0C 2E 08AA 08FA	2041	MVC	LPDATA+46(47),LPDATA+126	MOVE IN THE REST OF THE DATA	
18C5	7C FF 4B	2042	MVI	PLGTWO(,XR1),X'FF'	SET THE 2ND CARD FLAG	
18C8	B0 87 12	2043	B	PUNERR(,XR1)	GO PUNCH THE SECOND DATA CARD	
18CB	7C 00 4B	2044	PUNDUM	MVI PLGTWO(,XR1),X'0'	RESET 2ND CARD FLAG	
18CE	E0 87 65	2045	B	PRTEXT(,XR2)	RETURN TO RETURN ROUTINE	
18D1	0030	18D2	2046	PUNNUM	DC XL2'0030'	PUNCH COUNT FOR 142
18D3	00	18D3	2047	PLGTWO	DC XL1'0'	FLAG FOR 2ND CARD PUNCHED
		2048				
		2049				
		2050	*			
		2051	*	BEGINNING OF DCP RESERVED STORAGE.	X'7800'-X'7FFF' (2K)	*
		2052	*			*
		2053	*			*
		2054	*			*
7800		2055	ORG	X'7800'		
7800	CO 87 0454	2056	TRYPDD	B TSTOVL	THIS INST OVERLAYED BY PDD	
		2057				
		2057				
		2057				
		2057				
		2058				
		2059	*			
		2060	*	SPACE 1403 34 TIMES RATHER THAN 6 OR 7		
		2061	*			
		2062	*			
FB03		2063	ORG	X'FFFF'-X'7D00'+*	IF FLAGGED, OVER LAY PROBLEM	
7D00		2064	ORG	X'7D00'		
		2065	SPC34	EQU *		
7D00	38 04 0209	2066	TBM	SBYTE1,X'04'	SSWOD ** THESE INSTRUCTIONS	
7D04	F2 90 08	2067	JF	GWM	** FOR LUMP ONLY	
7D07	3E 04 0209	2068	SBF	SBYTE1,X'04'	GET SSWOD OFF NOW **	
7D0B	CO 87 7D46	2069	B	DODUMP	**	
		2070	GWM	EQU *	**	
7D0F	38 01 0209	2071	TBM	SBYTE1,X'01'	IF SSW OF ON, AND SP 6 OR MORE DO 34	
7D13	3E 06 05D2	2072	TBM	MSPACE,X'06'		
7D17	F2 90 18	2073	JF	DOREG		
7D1A	3C 0D 05D2	2074	MVI	MSPACE,13	12 X 3 = 36	
7D1E	0F 00 05D2	2075	DOREG1	SLC MSPACE(1),OWN1	SPACE 36 LOOP	
7D24	CO 82 06E3	2076	BL	PREXIT		
7D28	CO 87 0715	2077	B	PRTN		
7D2C	E003	7D2D	2078	DC	XL2'E003' SPACE 3	
7D2E	CO 87 7D1E	2079	B	DOREG1		
7D32	0F 00 05D2	7DFO	2080	DOREG	SLC MSPACE(1),OWN1	SPACE LOOP LIKE DCP
7D38	CO 82 06E3	2081	BL	PREXIT		
7D3C	CO 87 0715	2082	B	PRTN		
7D40	E001	7D41	2083	DC	XL2'E001'	
7D42	CO 87 7D32	2084	B	DOREG		
		2085				
		2086	*			
		2087	*			
		2088	*	DUMP STORAGE ROUTINE		
		2089	*			

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		2090			*****
		2091			*****
		2092			*****
		2093	DODUMP	EQU *	
		2094	B	PRINT	SPACE
7D46	CO 87 021A	2095	DC	XL1'11'	
7D4A	11	2096	B	PRINT	CLEAR BUP
7D4B	CO 87 021A	2097	DC	XL1'81'	
7D4F	81	2098	DC	IL1'40'	CLEAR BUP
7D50	28	2099	DC	AL2(DPMG)	
7D51	7E25	2100	MVC	X'087C'+120(116),DPMG1	MOVE HEADINGS FOR DUMP
7D53	0C 73 08F4	2101	B	PRINT	
7D59	CO 87 021A	2102	DC	XL1'A1'	OWN AREA
7D5D	A1	2103	MVI	SRC,X'0F'	BEGIN DUMPING AT 0000
7D5E	3C 0F 7DA6	2104	MVI	SRC-1,X'00'	
7D62	3C 00 7DA5	2105	SNS	OWNOLD,X'00'	MAKE OLD = PRESENT (SENSE SWITCHES)
7D66	30 00 7DF8	2106			
		2107			
		2108	DPLP	EQU *	TOP OF DUMP LOOP
7D6A	30 00 7DF6	2109	SNS	OWNSW,X'00'	GET SWITCHES
7D6E	0D 01 7DF6	2110	CLC	OWNSW(2),OWNOLD	IF NO CHG TO SSW, GO ON
7D74	F2 81 10	2111	JE	CONTU	
		2112	*		MUST BE NEW VAL IN SW, SO INSERT IT
7D77	0C 01 7DA6	2113	MEND	MVC SRC(2),OWNSW	
7D7D	3C 0F 7DA6	2114	MVI	SRC,X'0F'	START AT 256 BYTE BOUNDARY
7D81	0C 01 7DF8	2115	MVC	OWNOLD(2),OWNSW	PUI NEW IN OLD
		2116	*		BEFORE PRINT SEE IF WE'VE CHANGED TO NEXT X'400' BYTES
		2117	CONTU	EQU *	
7D87	0E 00 7DFB	2118	ALC	BDC1R(1),OWN16	BUMP CIA
7D8D	F2 20 10	2119	JNOL	MODPRG	CAUSES HEADING ABOUT EVERY 16 LINES
		2120			
7D90	CO 87 021A	2121	B	PRINT	SPACE
7D94	11	2122	DC	XL1'11'	
7D95	0C 73 08F4	2123	MVC	X'087C'+120(116),DPMG1	MOVE HEADINGS FOR DUMP
7D9B	CO 87 021A	2124	B	PRINT	
7D9F	A1	2125	DC	XL1'A1'	OWN AREA
		2126			
		2127	MODPRG	EQU *	
		2128	*		
		2129	*		
		2130	*		SET UP DUMP PRINT LINE (3 UNPACKS AND THE ADDRESS)
7DA0	CO 87 021E	2131	B	UNPACK	
7DA4	10	2132	DC	IL1'16'	
7DA5	0000	2133	SRC	DC	AL2(*-*)
7DA7	08A6	2134	DC	AL2(LPDATA+4+6+32)	
7DA9	0C 01 7DBB	2135	MVC	SRC1(2),SRC	
7DAF	0E 01 7DBB	2136	ALC	SRC1(2),OWN16	
7DB5	CO 87 021E	2137	B	UNPACK	
7DB9	10	2138	DC	IL1'16'	
7DBA	0000	2139	SRC1	DC	AL2(*-*)
7DBC	08CE	2140	DC	AL2(LPDATA+4+6+32+6+32)	
7DBE	0C 01 7DD0	2141	MVC	SRC2(2),SRC1	
7DC4	0E 01 7DD0	2142	ALC	SRC2(2),OWN16	
7DCA	CO 87 021E	2143	B	UNPACK	
7DCE	10	2144	DC	IL1'16'	
7DCF	0000	2145	SRC2	DC	AL2(*-*)
7DD1	08F6	2146	DC	AL2(LPDATA+4+6+32+6+32+6+32)	
7DD3	CO 87 021E	2147	B	UNPACK	PACK THE SOURCE ADDRESS
7DD7	02	2148	DC	IL1'2'	
7DD8	7DA6	2149	DC	AL2(SRC)	
7DDA	08B4	2150	DC	AL2(LPDATA+4+4)	
7DDC	3C 0F 08B4	2151	MVI	LPDATA+4+4,C'0'	ELIMINATE THE F FROM ADDRESS
7DE0	CO 87 021A	2152	B	PRINT	--- PRINT THE LINE OF DUMP ---
7DE4	A2	2153	DC	XL1'A2'	OWN AREA
7DE5	0E 01 7DA6	2154	ALC	SRC(2),OWN48	
7DEB	CO 87 7D6A	2155	B	DPLP	CONTINUE DUMP
		2156			

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
7DF0	0001	7DF0	2157	OWN1 DC	XL2'0001'
7DF1	0010	7DF2	2158	OWN16 DC	XL2'0010'
7DF3	0030	7DF4	2159	OWN48 DC	XL2'0030'
7DF5	0000	7DF6	2160	OWN5M DC	XL2'0000'
7DF7	0000	7DF8	2161	OWNOLD DC	XL2'0000'
7DF9	00	7DF9	2162	OLDSHC DC	XL1'00'
7DFA	00	7DFA	2163	OLDIP DC	XL1'00'
7DFB	00	7DFB	2164	ADCTR DC	XL1'00'
7DFC	0000	7DFD	2165	DC	XL2'0000' EXTRA
7DFE	C3C8C1D5C7C540E2	7E25	2166	DPHG DC	CL40'CHANGE SWITCH 1 AND 2 FOR NLM DUMP ADDR *
7E00	E6C9E3C3C840F140		2166		
7E0E	C1D5C440F240C5D6		2166		
7E16	D940D5C5E640C4E4		2166		
7E1E	D4D740C1C4C4D940		2166		
7E26	4040404040C4C4C4	7E54	2167	DC	CL47' ADDR 00 02 04 06 08 0A 0C 0E *
7E2E	D94040F0F04040F0		2167		
7E36	F24040F0F44040F0		2167		
7E3E	F64040F0F84040F0		2167		
7E46	C14040F0C34040F0		2167		
7E4E	C5404040404040		2167		
7E55	40404040F0F04040	7E76	2168	DC	CL36' 00 02 04 06 08 0A 0C 0E *
7E5D	F0F24040F0F44040		2168		
7E65	F0F64040F0F84040		2168		
7E6D	F0C14040F0C34040		2168		
7E75	F0C54040C		2168		
7E79	4040404040404040	7E9E	2169	DPHG1 DC	CL36' 00 02 04 06 08 0A 0C 0E *
7E81	F0F04040F0F24040		2169		
7E89	F0F44040F0F64040		2169		
7E91	F0F84040F0C14040		2169		
7E99	F0C34040F0C5		2169		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
2171	*				*****
2172	*				3270 I/O OVERLAY BEGINS HERE
2173	*				*****
2174					
0715	2175				USING PRTE,IR2
7E9F	2177	BGN327	2177	LD	BGN327 EQU *
7EA2	2178	ERR327	2178	HPL	H8,H8 ERROR HALT FOR 3270
7EA5	2180	SECDRY	2179	B	PRIN1(,IR2) SHOULD GO CHECK SSW ETC
2181	2181	ST	2180	ST	RTM327+3,ARR ROUTINE IS ALWAYS ENTERED HERE
2182	2182	SIO	2181	SIO	X'40',X'16' SET UP LINK BACK
2183	2183	SIO	2182	SIO	X'E0',X'13' DISABLE
2184	2184	CLI	2183	CLI	PRSI0+1(,IR2),X'E0' ENABLE, TO CLEAR ERRORS AND INTERRUPTS
2185	2185	BE	2184	BE	RTM327 TEST FOR SPACE ONLY
2186	2186	CLI	2185	CLI	CRTPLG,X'FF' EXIT IF IT IS
2187	2187	HVI	2186	HVI	CRTPFG,X'FF' CHECK IF MICRO LOADED
2188	2188	BNE	2187	BNE	ERR527 EVEN IF NOT, TELL CE ONLY ONCE
2189	2189	TIO	2188	TIO	ERR327,X'18' DO HALT BECAUSE ERROR OR NO MICRO
2190	2190	LIO	2189	LIO	PH3,MSDATA TEST 3270 FOR ATTACHMENT READY
2191	*		2190		LOAD MAIN STORAGE DATA ADDRESS (800)
2192	2192	LIO	2191	LIO	LIODC,BUFADR CURSOR IS LOADED BY ERASE
2193	2193	BRSSM	2192	BRSSM	JC NOERS,X'07' LOAD CRT BUFFER REG.
2194	2194	HVI	2193	HVI	ERR5M+1,X'87' ALTERED JUMP TO ERASE OR NOT.
2195	2195	SLC	2194	SLC	LIODC(2),LIODC DON'T ERASE NEXT TIME THROUGH
2196	2196	LIO	2195	LIO	LIODC,BUFADR SET UP TO PRINT ON LINE 1
2197	2197	SIO	2196	SIO	X'CO',X'10' LOAD CRT BUFFER REG.
2198	2198	BSY32X	2197	BSY32X	TIO BSY32X,X'1F' ERASE & UNLOCK CRT
7EE6	2199	NOERS	2198	NOERS	EQU * DELAY WHILE BUST
2200	2200	LIO	2199	LIO	DC128,LNGREG LOAD LEM REG FOR 128 CHAR WRITE
2201	2201	SIO	2200	SIO	X'92',X'10' WRITE LINE
2202	2202	BSY327	2201	BSY327	TIO BSY327,X'1F' WAIT FOR BUSY TO DROP
2203	2203	SNS	2202	SNS	MSTAT(,IR2),X'16' SENSE STATUS FOR ERROR
2204	2204	TBN	2203	TBN	MSTAT(,IR2),X'08' 'ANY ERROR' BIT ON?
2205	2205	BT	2204	BT	ERR327 HALT IF SO
2206	2206				
7EFB	2207	ALC	2205	ALC	LIODC(2),M40 BUMP TO NEXT CRT LINE
7F01	2208	HVI	2206	HVI	LN+129,C' * SEE IF CHAR 41-128=BLANK
7F05	2209	CLC	2207	CLC	LN+128(88),LN+129
7F0B	2210	JE	2208	JE	NIC
2211	2211				
7F0E	2212	ALC	2209	ALC	LIODC(2),M40 BUMP TO NEXT CRT LINE
7F14	2213	CLC	2210	CLC	LN+128(48),LN+129 81-128=BLANK?
7F1A	2214	JE	2211	JE	NIC
7F1D	2215	ALC	2212	ALC	LIODC(2),M40 BUMP TO NEXT CRT LINE
7F23	2216	CLC	2213	CLC	LN+128(8),LN+129 121-128=BLANK?
7F29	2217	JE	2214	JE	NIC
7F2C	2218	ALC	2215	ALC	LIODC(2),M40 BUMP TO NEXT CRT LINE
7F32	2219	NIC	2216	NIC	EQU *
7F38	2220	CLC	2217	CLC	LIODC(2),LN9
7F3B	2221	JNH	2218	JNH	FLYON
7F3F	2222	HVI	2219	HVI	BRSSM+1,X'07' SET UP TO ERASE NEXT TIME.
7F43	2223	TBN	2220	TBN	SBY110,SSW05 HALT ONLY IF SSW 05 IS ON
7F46	2224	JF	2221	JF	FLYON
7F49	2225	HPL	2222	HPL	X'71',H8 H - LITTLE ZERO HALT
7F49	2226	EQU	2223	EQU	*
7F49	2227	TBN	2224	TBN	SBY110,SSW05 CLEAR BUFFER ONLY IF SSW05 IS ON
7F4D	2228	JF	2225	JF	RTM327
7F50	2229	HVC	2226	HVC	X'6FF'(133),X'900' BLANK BFR BEFORE LEAVING (DO I87B)
7F56	2230	RTM327	2227	RTM327	B *-*
2231	2231				
2232	2232				*****
2233	2233	*			*
2234	2234	* 1			40 * <--- CRT SCREEN.
2235	2235	* 41			80 * POSSIBLE # LINES
2236	2236	* 81			120 * OF 1 CRT PRINT
2237	2237	* 121 . . 128			LINE

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ACTKON	A	003	1361	1828	1665
ADR143	A	002	1095	1639	1611* 1685*
AINPUT	A	001	0067	0107	0110
AJDELT	A	003	012C	0232	0229
ALTPRT	A	001	078A	1133	1103 1134 1172 1174 1343
AL5424	A	003	168E	1970	
ASR	C	001	0008	1349	0108 0280 0294* 0573 0652 0680 0704 0722 0777 0796 0977 1089
ARRSAV	A	001	0406	0747	1280 1651 1835 1851 1883 2161
BEGIN	A	001	0E8A	1421	0654 0657* 0680* 0722* 1280* 1283 1284*
BEGINA	A	001	0E94	1424	0460 1330 2308
BGN327	A	001	7E9F	2177	
BIT0	C	001	0080	1385	0282 0593 0596 0616 0919 0983 1095 1204 1632 1667 1704
BIT1	C	001	0040	1386	0594 1001 1006 1220 1632 1693 1712
BIT2	C	001	0020	1387	0282 0297 0579 0590 0996 1212 1604 1678 1680 1720
BIT3	C	001	0010	1388	0365 0562 0994 1213 1217
BIT4	C	001	0008	1389	0282 0590 1231
BIT5	C	001	0004	1390	0276 0282 0579 0590
BIT6	C	001	0002	1391	0590
BIT7	C	001	0001	1392	0622
BLZLE	A	003	18A0	2032	2032
BLKCR1	A	001	1189	1739	1643
BOOT1	A	004	0000	0022	0021 0031
BOOT1A	A	003	0000	0026	0026
BOOT1L	A	003	0017	0030	0023 0027
BOOT1H	A	002	001E	0033	0024
BOOT2	A	004	0200	0054	0028 0052 0053 0054
BOOT2A	A	003	020D	0058	0056 0066
BOOT2B	A	003	0216	0061	0061
BOOT2E	A	003	020A	0057	0056 0062
BOOT2I	A	003	0205	0071	0065
BOOT2Z	A	001	0239	0072	0065*
BOOT23	A	002	023B	0073	0059
BSYLP	A	003	0774	1124	1124
BSYLP0	A	003	16A3	1977	1977
BSYLP1	A	003	16AF	1981	1983
BSY32X	A	004	7EE2	2198	2198
BSY327	A	004	7EED	2202	2202
BT2	A	003	0204	0055	0071
BUFADR	C	001	0010	2250	2192* 2196*
BUSY	A	003	0074	0112	0112
CCH0	A	005	11E4	1785	1686* 1788
CCH00	A	002	11F0	1788	1611
CCH1	A	005	11E9	1786	1692* 1789
CCH10	A	002	11F2	1789	1612
CCH2	A	005	11EE	1787	1677* 1790
CCH20	A	002	11F4	1790	1613
CDLKR0	A	003	0A9D	0365	
CDLKIT	A	004	007D	0115	0106*
CLREAD	A	004	0060	0105	0104 0105 0123 0136 0281 0304 0469 0478 0479
CHAIN	A	005	0A0E	0315	0429
CHCTR	A	001	0A0E	0317	0432* 0441* 0467*
CHKEND	A	003	019A	0274	0261
CHKF4	A	003	030F	0629	0624
CHKIL	A	001	138B	1850	1552 1556 1919 1923 1928 1933
CHKSR1	A	004	13B6	1863	1852* 1859
CHKSSW	A	005	0169	0260	0253
CHKSS0	A	004	017B	0264	0272
CHKSS1	A	004	0423	0781	0776* 0780*
CHKSS2	A	003	0433	0786	0781* 0783*
CHKSHS	A	006	0668	1024	1037
CHKX0	A	004	13BA	1864	1851* 1853 1854*
CHK1	A	003	0F0D	1504	1502*
CHK2	A	003	0F70	1505	1503*
CIOBLT	A	001	0791	1173	1163
CIOSTS	A	002	0755	1170	1161* 1162

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
CIO1	A	004	07C1	1158	1150
CIO1A	A	001	07BE	1172	
CIO1B	A	003	07C5	1159	1167 1172
CIO2	A	001	07C1	1174	
CIO2X	A	003	07C8	1160	1146* 1157* 1174
CKBLK	A	003	013F	0239	0243
CKCHN	A	001	036F	0428	0423
CKCIO	A	001	1435	1917	1913
CKCOM	A	003	0154	0252	0458
CKCOMA	A	003	0A0F	0319	0220
CKCOM1	A	004	0113	0220	0459*
CKCPU	A	003	0A5D	0334	0320
CKDCPS	A	005	055B	0422	0372
CKEND	A	003	0BA7	0445	0430
CKFIR	A	004	0FB3	1524	1519
CKREP	A	004	016C	0218	0127 0152
CKJDT	A	003	0AA8	0371	0335
CLRRCR	A	004	0108	0203	0216
CMLOOP	A	004	00BE	0139	0144
CMFK	A	004	0340	0652	0681 0723
CMFKX0	A	001	0366	0663	0652*
CNT	A	001	138A	1844	1836* 1841*
CONTU	A	001	7DB7	2117	2110
CPU	A	001	0204	0506	0348* 0355* 1449
CPULP	A	005	0A69	0350	0354
CPUPP	A	004	0A65	0349	0359
CRCHG	A	004	0694	1039	
CRTPLG	C	001	0879	1363	1740 2186 2167*
CTR	A	001	033A	0647	0655 0656 0658* 0699* 0724 0726* 0741* 1436* 1439* 1441* 1445*
CURSOR	C	001	0015	2251	
DADDR	A	001	04A6	0833	0831*
DASH	A	001	12F5	1818	1479 1487
DATSW5	A	002	0410	0770	0268 0773 0778 0782 0782* 0783 0792 0794 0799 0601 0821* 0823
DC128	A	002	7F61	2244	0824 0834 0840 0845 0847 0850 0858 0866 1944 1945*
DEC0	A	004	01F4	0300	2200
DEC1	A	001	01F5	0301	0290
DEST	A	002	013A	0237	0292
DEST1	A	001	0386	0691	0227 0230 0238*
DEST2	A	001	03DF	0734	0659* 0692*
LEV	A	001	0AA7	0370	0660* 0740*
DFOUR	A	002	1204	1798	0382 0390 0394
DHAL1	A	003	1788	1994	1443 1444
DISDFP	A	002	7F7F	2264	1931 1993 2001 2011
DKFLAG	A	001	1139	1698	2257
DODUMP	A	001	7D46	2093	1600* 1609
DOHA	A	004	11C7	1757	2069
DOR0	A	001	117A	1727	1581 1585 1633 1741 1747
DOIT	A	003	16A6	1978	1721
DOLIO	A	003	006E	0110	1974
DOR0G	A	006	7D32	2080	0117
DOR0G1	A	006	7D1E	2075	2073 2084
DOSZ	A	006	0EB7	1443	2079
DPPFX	A	001	7F64	2256	1440
DPLP	A	001	7D6A	2107	1443
DPHG	A	040	7E25	2166	0574
DPHG1	A	038	7E9E	2169	2155
DSKSYS	A	001	1425	1910	2099
DIABLE	C	001	01FE	1416	2100 2123
DUMCOM	A	002	0628	0999	2104
D048	A	003	0A02	0312	1904
D0480	A	002	120B	1802	0286 0294 0578* 0620 0638* 1908 1908* 1911 1911*
L120	A	003	0A05	0313	0436
ENDCLR	A	001	0132	0212	1750
ENDRTN	A	001	0901	1202	0434
END327	A	001	7F63	2253	0209

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ENTRY1	A	001	029A	0585	1900*
ENTRY2	A	001	0335	0540	1901*
ERR	A	003	0081	0116	0109
ERR327	A	003	7E9F	2178	2188 2189 2205
ERSSW	A	003	7ECE	2193	0607* 1299* 1743* 2194* 2222*
FD6a	A	002	1070	1620	1613* 1676*
FD6ADR	A	002	1072	1621	1616
FD6D	A	001	1060	1614	1583 1610
FD6AON	A	003	1364	1629	1674 1722
FD6RTN	A	001	1073	1622	1605 1621
FINDSZ	A	006	0EBD	1444	1446
FIVE	A	001	03F7	0742	0657
FIXMOB	A	004	13BE	1883	0327 1823
FLAG	C	001	01FD	1415	0276 0282 0297 0828 1231
FLAGS	A	001	1205	1799	1490* 1518 1521* 1524 1527*
PLGTWO	A	001	18D3	2047	2037 2042* 2044*
PLG1	A	001	10CE	1619	1652*
FLYON	A	001	7F49	2226	2221 2224
PKST	A	001	1489	1947	1801
PKSTa	A	002	1209	1801	1749
PRIN	C	001	0A07	1360	0860
FUNCSH	A	002	17C6	2014	1996
FC	C	001	00FD	0568	0633 0829
F1	C	001	00FA	0569	
F4	C	001	00F1	0570	0629
GOLOAD	A	001	11D1	1771	1422 1623 1642 1758
GWN	A	001	7D0F	2070	2067
HA	C	001	003F	1404	1233 1770
HALT	A	004	0222	0526	
HALTA	A	003	09EA	1305	1303* 1304*
HALTB	A	003	09F5	1308	1306* 1307*
HALT2	A	004	09BC	1292	1286
HALT3	A	004	09C3	1295	1288 1291
HB	C	001	0079	1405	
HC	C	001	006C	1406	0631
HD	C	001	0073	1407	0295
HDCIR	A	001	7DFB	2164	2118*
HDC	A	028	05D1	0969	1019
HDC1	A	001	05B6	0968	0982* 0985* 1008 1012 1016
HE	C	001	007C	1408	0610
HEXIT	A	004	09FC	1309	1290 1293
HF	C	001	003C	1409	0810
HGO	A	004	08BB	0451	0455
HH	C	001	003B	1410	0030 0057 0116 0295 0325 0365 0387 0438 0447 0453 0610 0631 0819 0852 0864 0913 1116 1144 1222 1233 1730 1770 1891 1938 1938 1968 1994 2024 2178 2225 1935
HHHAL1	A	003	1477	1938	
HL	C	001	0068	1411	
HLTA	A	003	0470	0810	
HLTB	A	003	047C	0815	
HLTC1	A	003	0315	0631	0637
HLTD	A	003	04DA	0852	0869
HLTE	A	003	056E	0913	
HLTF	A	003	02DB	0610	
HLTG	A	003	11CE	1770	
HLTHD	A	004	01DB	0294	0269
HLTTAB	A	001	0980	1275	1274 1282
HP	C	001	003E	1413	0813 0815
HU	C	001	006B	1412	0818
HO	C	001	006F	1394	0325 0326 0365 0366 0387 0388 0438 0439 0447 0448 0453 0454 1730 1731 1691 1892
HOB	A	003	13D9	1891	1896
H1	C	001	0003	1395	0448 1222
H2	C	001	0076	1396	0852 1892
H3	C	001	0057	1397	0388 0864 0913
H4	C	001	001B	1398	1731

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
H5	C	001	005D	1399	0030 0057 0116 0326 0454
H6	C	001	007D	1400	0366 1116
H7	C	001	0007	1401	0439
H8	C	001	007F	1402	2178
H9	C	001	005F	1403	1144 1968 1994 2024
IAR	C	001	0010	1348	0522* 0523* 0524* 0525* 0526* 0527* 0528*
IDADDR	A	002	0641	1007	1004*
IDLOST	A	011	133B	1821	1706* 1714* 1722*
ID3340	C	001	0006	1695	1672
ID5444	C	001	0007	1694	1670
IMGADR	A	002	08DD	0465	0431* 0466*
INADDR1	A	002	08F9	0472	
INPUT	C	001	0680	0477	0106 0135 0178 0218 0226 0345 0360 0464 0472
IPL	C	001	0040	0482	0025 0060
ISAO	A	004	102E	1597	
ISA1	A	004	103C	1602	1599
ISBIZ	A	003	17B3	2008	2008
ISCHN	A	004	0E77	0431	
ISEND	A	001	06B8	0450	0446
ISSSW	A	003	0178	0263	0426
ISWIN	A	001	10E2	1671	1669
IS120	A	004	089C	0441	0435
ITR1	A	001	0535	0893	1314
ITR2	A	002	0787	1130	1315
ITR3	A	001	02CA	0602	1316
ITR4	A	001	067E	1030	1317
ITR5	A	002	0789	1131	1318
ITR6	A	002	0231	0530	1319
ITR7	A	001	055A	0906	0842 1320
J	A	003	11FA	1794	1907
J1	A	003	11FD	1795	1905
LABEL	A	004	00D4	0145	0137* 0146* 0148
LABEL1	A	003	7F6B	2259	2264
LAST	A	001	07E4	1171	
LB	A	040	15C8	1955	1751 1751*
LBASE	A	001	0208	0510	0567 0572 0618 2260
LDEKD	A	004	094C	1224	1205 1216
LDPT2	A	004	01AB	0280	0296 0305
LDR	A	006	1211	1808	1520
LDREG	A	004	03FB	0744	0702 0705* 1310
LDROK	A	001	0BC9	0456	0452
LDUDT	A	005	0AF4	0394	0391
LDWORK	A	004	005D	0479	0132* 0133 0287 0288
LDX	A	004	01A7	0278	0298
LDXa	A	001	01AA	0279	0280*
LD1	A	001	02A7	0589	0563
LENGTH	A	003	00BB	0138	0149
LEXIT	A	004	1482	1942	1883*
LE1	A	003	02EB	0616	0613
LE2	A	004	0332	0639	0591 0617 1795
LHLT1	A	004	09E2	1303	1295*
LHLT1A	A	004	09E6	1304	1296*
LHLT2	A	004	09ED	1306	1297* 1302
LHLT2A	A	004	09F1	1307	1298*
LINE1	A	023	122F	1810	1435* 1443* 1444* 1473
LINE1A	A	036	1253	1811	1448 1448* 1451 1467
LINE2	A	029	1287	1814	1483
LINE3	A	026	12A1	1815	1529* 1533
LINE4	A	033	12C2	1816	1551
LINK	A	004	0216	0523	
LIN9	A	002	7F5B	2241	2220
LIODC	A	002	7F5F	2243	2192 2195 2195* 2196 2207* 2212* 2215* 2218* 2220
LMa	A	002	0953	1227	
LMSG	A	014	05B3	0966	0529 1227
LMSGa	A	002	022F	0529	
LN	C	001	087F	2248	2208* 2209 2209 2213 2213 2216 2216

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
LNGREG	C	001	0012	2249	2200*
LNA1	A	004	0532	0892	0914
LNA1A	A	004	053D	0896	0598
LNA2	A	004	0548	0900	0895 0920
LNA3	A	004	055C	0909	0901
LNA4	A	005	0575	0917	0912
LNA5	A	004	058C	0924	0890* 0898
LNA6	A	004	0590	0925	0876* 0923*
LOAD	A	004	022A	0528	1618 1637 1655 1659
LODEM	A	004	029B	0586	0571* 0641 2261*
LONE	A	001	027D	0577	0625
LOOP	A	003	009B	0126	0125 0134
LPSBUSY	C	001	00E6	1109	1124
LPDATA	C	001	087C	1355	0979* 1000 1000* 1062 1062* 1112 1985 1985* 2039* 2040 2040* 2041
LPERR2	A	003	075C	1116	2041* 2134 2140 2146 2150 2151*
LPIMAG	A	001	0800	1179	1118 1125
LPNEDI	C	001	00E0	1110	0435* 0442* 1111
LPIONE	A	004	00EF	0155	1118 1125
LYMOB	A	001	147E	1940	1888 1893 1897 1916
LX1	A	004	02F8	0620	
LX2	A	001	02FF	0623	1795 1905*
MASC	A	004	0A7E	0355	0349* 0352 0353 0353*
MASK	A	002	1201	1796	0411* 0414 0414* 0416 0417 1500* 1502 1503 1513 1513*
MBLTZ	A	003	1588	1968	1926 1967 1975 1978 1984
MICLAT	A	003	135E	1827	1689 1714
MICLDR	A	003	135B	1826	1683 1706
MICRIN	A	001	1098	1641	1640
MNN	C	001	0003	0646	0682 0727
MNZ	C	001	0002	0645	0693 0696
MODIFY	A	001	0433	0785	0757* 0849*
MOVE	A	005	00FC	0164	0154* 0155* 0157
MOVID	A	003	0322	0535	0627
MSDMA	C	001	001B	2247	2190*
MSIAT	A	002	0755	1106	1170 1972* 1973 1981* 1982 2009* 2010 2033* 2034 2035 2203* 2204
MVCID	A	005	10E2	1872	1670*
MVX1	A	001	0373	0684	0632* 0693 0696*
MVX2	A	001	03DD	0733	0727* 0736 0738*
MZM	C	001	0001	0644	0736 0738
MZZ	C	001	0000	0643	
NEG1	A	002	033C	0648	0692 0698 0699 0735 0740
NEG4	A	002	008A	0120	0147
NEMD	A	006	7D77	2113	
NEXT	A	003	012F	0233	0245
NEXTOP	A	006	0F8C	1513	1506
NEXTR	A	004	008B	0123	0069 0177 0210 0217 0240 0255 0258 0273 0275 0329 0332 0364
NEXTSS	A	004	0887	1035	0367 0369 0402 0440 0449 0468
NE1	A	004	1150	1712	1025
NE2	A	004	1165	1720	1705
NIC	A	001	7F32	2219	1662 1664 1666 1713
NINE	A	001	041F	0779	2210 2214 2/17
NOALT	A	004	0749	1104	0731
NOBMP	A	003	0291	0582	
NOCHG	A	003	0BA4	0443	0580
NODPHG	A	001	7DA0	2127	0437
NOERS	A	001	7EE6	2199	2119
NOPOP	A	001	0F15	1469	2193
NORM	C	001	0000	0483	1463
NOTD	A	004	142B	1912	0111
NOTFND	A	019	134E	1822	1909
NOTOP	A	001	0EFA	1458	1710 1718 1726
NOT64	A	006	0EB1	1441	1454
NOUNIT	A	003	0FD1	1535	1438
NOX	A	001	0A55	0341	1492
NSPACE	A	001	05D2	0971	0338
					0990* 0991* 1056* 1153 1155* 2072 2074* 2075* 2080*

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
NUM256	A	002	0131	0211	0206
N1	A	002	0088	0119	0142 0238
N24	A	001	0A06	0314	0466
N40	A	002	7F5D	2242	2207 2212 2215 2218
N80	A	002	7F63	2245	
N9	A	001	0AA6	0369	0409
OK	A	004	01E6	0297	0291 0293
OKCTR	A	004	0BD5	0462	0470
OLDSRC	A	001	7DF9	2162	
OLDTP	A	001	7DFA	2163	
ONCEIX	A	004	13EB	1897	1898*
ONE	A	001	039D	0700	0467 0576 0726 0910 1047 1445 1500 1514 1841 1854
ONEA	A	002	0A0D	0316	0411 0412
OPBUP	A	001	1358	1825	1449* 1453 1453*
OPDON	A	004	0A8F	0360	0358
OPLOOP	A	006	02E5	1453	1462
OPNUM	A	001	1202	1797	1501* 1507 1514* 1515
OPTTAB	A	001	134F	1823	1452
OWNOLD	A	002	7DF8	2161	2105* 2109 2115*
OWNSW	A	002	7DF6	2160	2108* 2109 2113 2115
OWN1	A	002	7DF0	2157	2075 2080
OWN16	A	002	7DF2	2158	2118 2136 2142
OWN48	A	002	7DF4	2159	2154
PACK	A	004	0226	0527	0224 0234 0265 0343 0379 0462
PAP	A	001	0000	0006	
PGCKA	A	002	0207	0508	
PHALT	A	003	1888	2024	1936 2023 2030
PK1	A	003	03CB	0727	0725 0743
PK2	A	004	03CE	0728	0739
PK3	A	005	03DC	0732	0730
PK4	A	004	03F0	0740	0737
PLINE	C	001	0E80	1356	0967 1019* 1022 1497 1496 1529
POP	A	003	0F07	1463	1450* 1457* 1461
PREXIT	A	006	06E3	1062	0989 1057 1100 2076 2081
PRIME	A	003	0762	1118	1106
PRINT	A	004	021A	0524	0256 0330 1224 1413 1464 1470 1476 1480 1484 1530 1546 1548
					1565 1570 1707 1715 1723 1726 1839 2094 2096 2101 2121 2126
					2152
PRINIE	A	004	0719	1077	0977* 0978 1064 1073* 1127
PRIV	A	002	11F8	1792	
PRNTH	A	007	1218	1809	1526
PROGID	C	001	0A01	1358	1011
PRS10	A	003	0771	1123	1092* 1122* 1149 1151 1970 1997 2026 2184
PRTEXT	A	004	077A	1126	1105 1152 1166 1971 1986 1998 2013 2027 2045
PRTEL1	A	004	0769	1075	0976*
PRTEL2	A	004	070D	1076	0974*
PRTHG	A	002	06A2	1042	
PRTH	A	004	0715	1088	0996 1017 1041 1043 1053 1058 1087 1088 1141 1966 1992 2022
					2077 2082 2175
PRINA	A	001	0791	1142	1172 1173 1174 1926* 1931* 1936*
PRINE	A	004	0782	1128	1089* 1091 1093*
PRIN1	A	004	0728	1094	1117 1145 1969 1995 2025 2179
PRIN2	A	004	073A	1099	1096
PRIT2	A	004	0605	0988	0984
PRIZA	A	003	0609	0989	0967
PR15	A	005	06A9	1046	1002
PR16	A	006	06C6	1052	0992* 1039* 1040* 1046* 1047* 1049* 1050* 1051* 1146* 1147* 1156* 1166*
PR16A	A	004	06CC	1053	0997
PR17	A	004	06D2	1056	0995 1048 1060 2269
PR18	A	003	06F9	1069	1067
PR19	A	003	0702	1072	1070
PRUDT	A	006	0FC3	1529	1522 1525
PR1	A	002	0757	1111	1120 1979
PR2	A	002	0759	1112	1121 2005 2026
PR3	A	002	05B5	0967	0964 0975 1050 1126 2190
PR4	A	002	075B	1113	1119

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CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
PSR	C	001	0004	1350	
PLAGS	A	001	05D5	0973	0981* 1095
PTC10	A	005	0797	1146	
PTPDC	A	003	0ABE	0377	0374
PMSG	A	004	02C7	0601	0595
PTK	A	001	02FB	0621	0629 0633* 0634* 0635 0629*
PTX	A	004	1365	1835	1564 1569
PTX*	A	004	1386	1843	1835*
PTZLRO	A	004	02C3	0600	0636
PT90	A	004	073E	1100	1058
PUNDUN	A	003	18CB	2044	2038
PUNLHR	A	003	189A	2030	2036 2043
PUNNUM	A	002	18D2	2046	2029
PUN42	A	003	188E	2026	
P1IAR	C	001	0020	1351	2257*
P7IAR	C	001	0081	1352	
RDCD	A	004	0BED	0469	0443
HEAD	C	001	00F1	0484	0025 0060 0111
HEADRC	A	004	10BB	1659	1681
RECLEN	A	002	17CA	2016	2006
RED	A	003	008F	0124	0283 0299
RESTR1	A	003	0978	1245	1203
RHALT	A	004	0990	1280	1131
RITREC	A	003	1791	1997	
RLDA	A	004	02A3	0588	0573* 0575 0576* 0581*
RLDZ	A	003	02E1	0612	0609
RLPLGS	A	001	02CB	0603	0593* 0596*
RLNK	A	004	052E	0890	1130
RLOAD	A	004	026A	0571	0905
RNUM	A	001	0A03	1196	0861* 0862 0870* 0896 0910* 0911 1015 1239 1240 1242*
RPACK	A	004	03DB	0722	0530
RPFY	A	004	0211	0517	0873* 0900 0909 0917* 1243*
RPONE	A	004	05DE	0976	1056
RPRIM1	A	004	05D6	0974	0601
RTEST	A	004	0442	0793	0707 0892 1309
RTNFX	A	003	0279	0575	2263
RTN143	A	002	1097	1640	1634
RTN327	A	004	7F56	2230	2181* 2185 2228
RUNPK	A	004	0367	0680	1029
SADDR	A	002	0185	0267	0264*
SALLY	A	005	0A43	0336	
SAVE1	A	004	147A	1939	1918* 1922 1927 1932 1937
SAVRLG	A	004	03A4	0704	0653 1281
SBYTE0	A	001	0208	0511	0254 0328 0424* 0597 0599 0608 0784 0894 0903 0918 0986 0988 1097 1099 1102 1104 1230 1289 1292 1757 2223 2227
SBYTE1	A	001	0209	0512	0425* 0612 2066 2068* 2071
SBYTE2	A	001	020A	0513	
SBYTE3	A	001	020B	0514	
SBYTE4	A	001	020C	0515	
SBYTE5	A	001	020D	0516	
SLARCH	A	004	10A2	1651	0262 0262* 0614 0614* 1024 1024* 1026* 1617* 1635*
SECLAY	A	001	7EAS	2180	1602
SETSSW	A	004	0411	0775	0269 0856
SLTSX*	A	001	0441	0790	0777*
SL10	A	001	0407	0767	0771 0776
SIL	A	001	13A7	1858	1855*
SI01	C	001	0018	1362	1744 1745 1755
SIZE	A	002	0203	0505	0346 1437 1441
SMOD	A	001	0200	0503	0336* 1435 1580 1912
SNUM	A	002	05D4	0972	1025* 1032 1035* 1036
SPAPRT	A	002	06DE	1059	
SPBPHG	A	002	065B	1018	
SPC34	A	001	7D00	2065	2270
SPPLGS	C	001	0A02	1359	1204
SPT	C	001	0A00	1357	
SPULT	C	001	0A0A	1361	1206

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
SRC	A	002	7DA6	2133	2103* 2104* 2113* 2114* 2135 2149 2154*
SRCE	A	002	0138	0236	0233*
SRC1	A	002	7DBB	2139	2135* 2136* 2141
SRC2	A	002	7DD0	2145	2141* 2142*
ShPLAG	A	001	11JA	1649	1604 1632 1654* 1678* 1680 1687* 1693* 1704 1712 1720
SKX	A	004	1106	1682	1651* 1733
SR1	A	004	03B4	0708	0704*
SR2	A	004	03FF	0745	0706*
SSDL51	A	002	0683	1033	1028* 1040
SSW	A	001	05D0	0970	0260
SSWD	A	003	0BF7	0471	0422
SSW0A	C	001	0020	1377	
SSW0B	C	001	0010	1378	
SSW0C	C	001	0008	1379	
SSW0D	C	001	0004	1380	
SSW0E	C	001	0002	1381	
SSW0F	C	001	0001	1382	
SSW00	C	001	0080	1367	0599 0903
SSW01	C	001	0040	1368	0597 0694
SSW02	C	001	0020	1369	0918
SSW03	C	001	0010	1370	0986 1097
SSW04	C	001	0008	1371	0988 1099 1289
SSW05	C	001	0004	1372	1102 1104 2223 2227
SSW06	C	001	0002	1373	1292
SSW07	C	001	0001	1374	0254 0328 0608 1230 1757
SSW08	C	001	0080	1375	
SSW09	C	001	0040	1376	0612
SSW2P	C	001	0001	1383	1617 1635
STAIUS	A	004	005F	0478	0113* 0118
STEP	A	004	031E	0634	0630
S1	A	004	00C2	0140	0138* 0139 0142* 0143 0146
S2	A	004	00C6	0141	0139*
TBASE	A	001	0407	0766	
TEMP	A	001	0366	0664	0728* 0729 0731* 0732
TEMPA	A	001	11D9	1781	
TEMP1	A	001	0384	0690	0683* 0685* 0686 0688*
TES1	A	004	0212	0522	0611 0619 0632 1094 1244 1772 1941 2262
TESTE	A	004	046B	0806	0796* 0842* 0875*
TEST1	A	001	0470	0808	0800 0802
TEST11	A	003	04E6	0858	0848
TEST12	A	005	04F5	0862	0872
TEST13	A	003	04FD	0864	
TEST14	A	004	0503	0866	0863
TEST16	A	005	051C	0873	0857
TEST2	A	003	0476	0813	0859 0843 0854 0857 0865 0877
TEST3	A	003	0482	0818	0614
TEST5A	A	004	04A3	0832	
TEST6	A	004	04A7	0834	
TEST6A	A	001	04B4	0838	0836
TEST7	A	003	04B7	0840	0825 1794
TEST7A	A	001	04C5	0844	0841
TEST8	A	003	04D4	0850	0846
TEST9	A	001	04E0	0855	0851
TEXT	A	004	0463	0804	0795* 0798 0859
TEXT1	A	004	0467	0805	0793*
THL1	A	003	0485	0819	0810* 0811 0813 0815* 0816 0818*
THREE	A	001	02E8	0615	0634
TMSG	A	018	05A5	0965	0605
TOMU	A	003	00F9	0163	
TOMUCH	A	001	0101	0165	0163
TONE	A	001	0412	0772	0870
TRYCPU	A	004	13D1	1889	1886
TRYPCO	A	006	1121	1689	1684
TRYFDD	A	004	7800	2056	0797
TRYFDD	A	006	10E7	1674	1690
TRYOUT	A	001	10FE	1679	1675

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
TRY143	A	006	110A	1683	
TRY64	A	004	0EA3	1437	
TR1	A	001	0535	1314	0522
TR1442	A	004	1466	1933	1930
TR2	A	002	0787	1315	0523
TR3	A	001	02CA	1316	0524
TR3741	A	004	1455	1928	1925
TR4	A	001	067E	1317	0525
TR5	A	002	0789	1318	0526
TR5424	A	004	1444	1923	1921
TR6	A	002	0231	1319	0527
TR7	A	001	055A	1320	0528
TSTCRD	A	001	048D	0822	1794 1907*
TSTDSK	A	001	0462	0803	1906*
TSTFD6	A	004	1079	1624	
TSTINS	A	003	1486	1945	1902
TSTOVL	A	003	0454	0798	1902* 2056
TSTUD1	A	001	13E3	1894	1890
TST07	A	001	1017	1579	1554 1558 1562
TWO	A	002	033F	0650	0561 0741 1093 1284
TWOK	A	002	11DC	1783	
T3	A	001	0481	0817	
UADDR	A	002	0F4D	1496	1493*
UDTA	A	005	0AE5	0390	0386
UDTB	A	003	0E1F	0407	0404
UDTC	A	003	0B2A	0410	0408
UDTD	A	006	0B45	0416	0413
UDTLP	A	003	0F3D	1491	1537
UDTLP1	A	006	0F61	1502	1516
UDT1	C	001	0249	0480	
UDT2	C	001	0261	0481	
UFIND1	A	004	0912	1207	1215
UFIND2	A	004	0916	1208	1219
UFIND3	A	003	0928	1213	1223
UFIND4	A	003	0935	1217	1209
ULP1	A	004	0AC1	0378	0406
ULP2	A	003	0AL2	0384	0393
ULP3	A	005	0B33	0412	0415
ULP4	A	003	0B08	0400	0420
UNPACK	A	004	021E	0525	0264 1005 1009 1013 1494 2131 2137 2143 2147
UNPK1	A	003	036F	0682	0701
UNPK2	A	004	0372	0683	0697
UNPK3	A	004	0383	0689	0687
UNPK4	A	003	0397	0696	0695
UOK	A	004	0A2A	0327	0322 0324
UPTR	A	002	0ACB	0381	0378*
USE11	A	003	0B51	0418	0416*
USE12	A	003	0B54	0419	0417*
UTAB	A	001	0232	0534	0321 0323 0375* 0376 0376* 0383 0451 1207 1469 1560 1582 1584
VTAD	C	001	0004	1696	1666 1656 1695 1903
VIEND	A	001	113B	1703	1676 1685 1691
VTID	A	003	11DF	1784	1672* 1674 1683 1689
V133	C	001	000E	1697	1677 1686 1692
VXR1	A	004	043A	0788	0775*
WASPOP	A	001	0F1D	1475	1468
XC7	A	001	11F9	1793	1511
XPRLLN	A	002	17C8	2015	1999* 2000 2002
XFRSWS	A	003	1797	1999	2003
XF1	A	001	0A96	0362	0350
XB	A	004	1002	1564	
XM1	A	013	1330	1820	1566
XONE	A	001	067F	1031	1035
XREF1	A	004	02F1	0618	1341 1773
XREF2	A	001	13BE	1882	1340
XREF3	A	001	0L8A	1420	1339

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
XREF4	A	001	0411	0774	1338
XREF5	A	002	0410	0773	1337
XRT	C	001	0001	1353	
0021		0022*	0023	0024	0026 0027 0031 0052 0055 0055* 0063 0064
0064*		0106*	0124	0126 0128 0130 0131 0131* 0132 0135* 0140 0140	
0141		0141	0145 0147* 0151 0154 0155 0156 0156* 0164 0178*		
0179		0216*	0219 0228 0230* 0231 0232 0232* 0233 0239 0241 0241*		
0242		0244	0244* 0252 0260 0263 0263* 0264 0270 0271 0271* 0274		
0277		0288	0290 0292 0319 0334 0336 0337 0339 0339 0340 0342		
0350		0351	0356 0356* 0357 0360* 0363 0371 0373 0377 0377* 0378		
0397		0397*	0398 0400 0400* 0401 0403 0405 0405* 0407 0409 0410		
0412		0422	0429 0434 0436 0445 0450* 0459 0575* 0578 0579 0582		
0586*		0590	0594 0616 0620* 0622 0625 0626 0626 0635* 0636 0638		
0655*		0656	0657 0657 0658 0659 0660 0682 0683 0685 0686 0688		
0688		0692	0692 0693 0696 0697 0698 0699 0701 0702 0705		
0724		0726	0727 0726 0729 0731 0731 0732 0735 0736 0738 0739		
0740		0740	0741 0741 0743 0744* 0771 0775 0776* 0777 0778 0778		
0780		0781	0781 0782 0782 0783 0783 0784* 0786 0788* 0791 0795		
0804*		0828*	0830 0830 0831 0832* 0834 0835 0860* 0861 0862		
0866		0868	0871 0873 0874 0874* 0875 0876 0890 0909* 0911		
0917		0919	0922 0922* 0923 0924* 0976 0976* 0981 0983 0990 0994		
0996		1001	1003 1003* 1004 1022* 1027 1027* 1028 1034 1038 1046		
1049		1051	1064* 1065 1066 1069 1075* 1091* 1092 1127* 1134* 1158*		
1159		1164	1165 1165* 1199 1207* 1208 1210 1211 1217 1218 1218*		
1241*		1242	1243 1245 1283* 1285 1287 1295 1296 1297 1298 1452*		
1455		1459	1459* 1460 1489* 1491 1493 1504 1505 1535 1536 1536*		
1560*		1561	1597* 1598 1657* 1661 1663 1665 1672 1676 1677 1685		
1686		1691	1692 1852 1853* 1855 1856* 1857 1860 1861 1861* 1863*		
1918		1939*	1967 1975 1977 1978 1983 1984 1993 1996 1999 2000		
2001		2002	2003 2006 2008 2011 2023 2029 2030 2032 2036 2037		
2042		2043	2044 2261		
0053		0054*	0058 0059 0061 0062 0065 0065 0066 0104 0105* 0108		
0109		0110	0112 0113 0114 0117 0132 0133 0134 0136* 0137 0138		
0139		0139	0142 0142 0143 0144 0146 0146 0147 0148 0149 0154		
0155		0157	0230 0233 0238 0238 0240 0243 0245 0255 0258 0275		
0283		0299	0329 0332 0364 0367 0383* 0384 0384* 0385 0390 0392		
0394		0395	0396 0418 0419 0440 0468 0567 0571 0572* 0573 0575		
0576		0581	0587* 0593 0596 0597 0599 0608 0611 0612 0614 0614		
0616*		0619	0625 0629 0632 0633 0634 0634 0635 0636 0654* 0658		
0659		0660	0661 0661* 0683 0698* 0706 0723 0735* 0745* 0792 0793		
0794*		0795	0796 0799 0801 0805* 0810 0813 0815 0818 0821 0823		
0824		0831	0834 0839 0840 0842 0843 0845 0847 0849 0850 0854		
0856		0857	0858 0859 0865 0866 0870 0872 0875 0877 0878 0964		
0974		0975*	0981 0982 0985 0990 0991 1004 1019 1023 1028 1035		
1035		1036	1037 1040 1050 1056 1056 1065* 1066 1068* 1071 1071*		
1072		1072*	1073 1076* 1087 1088* 1089 1091 1092 1093 1117 1118		
1119		1120	1121 1122 1124 1125 1126* 1141 1145 1146 1148 1149		
1151		1152	1157 1161 1162 1163 1166 1167 1168 1206* 1208 1210		
1211		1212	1215 1214 1214* 1220 1239 1240* 1241 1242 1274 1282*		
1295		1296	1297 1298 1303 1303 1304 1304 1306 1306 1307 1307		
1451*		1455	1456 1456* 1496* 1499 1507 1508 1509 1511 1512 1512*		
1520		1526	1774 1944 1945 1966 1969 1970 1971 1972 1973 1979		
1981		1982	1986 1992 1995 1997 1998 2009 2010 2013 2022 2025		
2026		2027	2028 2033 2034 2035 2045 2175 2179 2184 2203 2204		
2260*					
X1CHKL	A	003	13A6	1857	1862
X21	A	004	136L	1837	1842
X0000	A	002	1207	1800	1748
X08	A	001	11DA	1782	
X100	A	002	11F6	1791	
X200	A	001	0200	0214	0209
X39	A	001	038D	0694	0688
X87F	A	001	087F	1198	1199
ZONE	A	001	071D	1090	1146 1166
Z80	A	006	0112	0205	0206* 0207 0208

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

CROSS-REFERENCE

OBJECT CARD LISTING

SYMBOL T LEN VALUE DEFN REFERENCES

THE CHARACTER INDICATES A BLANK COLUMN AND THE CHARACTERS D L H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
THGD1|D ~*03=G*B	~*03*G7e~*0eA JH	A<L4A JL / DKC<4	A*1**0H* SOD	.....	.....09HFFF30006
T+-LBOH* S@HABHA	*66C EX|OH*B1-0	H/ED:~*MA@-DF_EG	;4H* 4-DH_ G*OH*	BI-H ,G;.G5	;;**05HFFF30007
T+-E*-K*K EL*EUC	--;|K 06-/*P C	2 008 8HHBA 70H*	BPSG-/2* (-HE4<	A RY| OH (-7K 0H	4 6D BK<FFF30008
T+-PB/*BG SQB	DD<BGAAE*EOGK &|	-6E*OH* S77E +	A..J-D ~780HG /0	(-ADXBG F 9, G	*BA ** ,QFFF30009
T+-GJ<@BG /8B ~e	PJ4B E5E@-DEGG<	A'E*2-J<) OG5P*H	AB3HB ~*0+7| /OP	?*B A** & E~/3|	0e| ** 7Z&FFF30010
T 6G5@|D	.....	.....	.....	.....	.....K XFFF30011
T OG* F ADO	.....	.....	.....	.....	.....6S FFF30012
T+-Y:0|L8@~.OF<	H0*YH D ~*0 e-D	Y|0 B<KBABSY*0 H	Z@YDF@C_?@P*)OH*	L?T-A ~T-DB* /OH	EH; ** *B-FFF30013
T+-25/2**00C2 OH	* ** H AG7PB7HAA50	GG19@0 Red P /OH	HA-SH <@ ** HD| D	H~4Q C LO~<@eYD	HC- ** FX&FFF30014
T+-DOBX@H~@BGBWU	: ** HD4-DA~b <eYD	DOH*KA*HABHC2/UG	1~*DBHD?@C_?@P*	*@H*7B&A*9 C2 E5	*6 < ; ,HFFF30015
T+-.,e-DH| ** BP00	% V8BP*HAALCABX?	/OHM - ** BD~B -H	?8-HC>A A@Z H@C_	?@P*POH* 584 ** D	X@YD 4&DFFF30016
T+-XWA*4 < AB_H	< ** HZ4%| 30 **_H	A P5- |HA *HA P5	**<BA H_*EUC2 @~	K 0. /0, A ** @-H	EL- ** EO FFF30017
T+- / DM; ** C D	K 0Y(L0 B-72--Y	+ JHAD-G /0%3C **	.H/H C ** .NJHA>-	A>- 3OH*.BD4B -?	7e-D 2&XFFF30018
T+->*CCO ** -@ ** H	IOH*A;D4DAUY.e-D	0|A*.7L0EB-8@ ** /	8LE@.B-P2-JE(- ?	H ?HAD~ 03*APA=B	G.30 ;1&FFF30019
T+-7PA@Y+||@H;|H	GJX7E <HAB@10+@*	030| /0b. |L b<?H	AB? 05*AP*BG81	B 0EH (DALXB@CY,	/OH 2.6FFF30020
THG79IT H,0- C-	.7&YFCU HC->) @ &	?OH* (<BGB*PS@>Q	H56	.....	.....8 YFFF30021
T+-H:	.....	(J E(LH&A@5D .H(J	F~XHEABU>D H1(J	LO-03 e-	.....3&HFFF30022
T+-15	.....	.....	.....	** A 4 ~H50-HBB.0	HIX ** 3,0FFF30023
T+-HO/7*U EP;T-F	; 94* -G* XUU |H	EAQBAA-<*;A ** @Z	6OH* **<HA ** CB -	OH* **@U> |H@/3L	U7- **80FFF30024
T+-.,& C2DAF@-<+	8& C D H*>H UA	**<BG@)3GD-OV*0	@A7@|> D @/ P@C_	@@H*H>D 4e/ D,0<	EAP- O&FFF30025
T+-<@- C2DDGb -H	H8H*HO-DA*P-A |H	8CO8 ** XH8CO.2UAR	8COH*@~|2 6X0+63	-/0L@~*+| |1-6G	3&L MZ&FFF30026

FFP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

FFP3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

OBJECT CARD LISTING

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96	CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96	
T+/G=21-B+ DBB|H	6 * #|@BG / . / 0 .	1 -H	AG	UD;UJ*-D	TG@Y* 2@Y* 9/QFFF30071	T+/1B3C_8H*17;A	)BHEVXND*MAH*AN	@56 4NHQ%L (>LR	>8* 41 K--* .BYD	O|D H200~B<YH200	>BHY 1' 4FFF30093
T+/H9<O	|C4	EHUA8 (100*LE6) ~	R2) PT1) XH5XLE44C	XK4A 6>|06*GG1MA	9=-X4UA 8< P9DC	05=< *HYFFF30072	TLATLB|Z@*478/11	e D7-/6E <			aA<FFF30094	
T+/I42) 3MBUCA6*M	6+) EDA EDA EDA	EDA EDA 9 (PIB4C	D1*\$15*XT2) 3N6+|	AO_|EEB_-K4_ 5+L	584 08EFFF30073	T 7-COH*DN					4SEFFF30095	
T+/H?J5N 0*SR6*P	C84A-9*PR2*3YQDA	EDA EDA EDA EDA	EDA EDA EDA EDA	EDA EDA EDA EDA	ED 0B4FFF30074	T+X4:4 8BB-86BCA	D -X /75P+ DBBL-	FA).ZUA-@CEPKC 0	E4X700HHP8@BGA1P	- @B6~J8| PA~C	--Q 83EFFF30096	
T+/.DEDA EDA 1<	PE<XS6 (100*LE1DA	EDA EDA EDA EDA	EDA EDA EDA-QPA	-QPA-QPA-QPA-QPA	-QP QS PFF30075	T+X558@BGA1P- *B	G-L. /OHED*BG /D	AHG8VCG<H*G::OH*	BFLD@C7@M| A*ZL	~U 67@CEE**X7	8@YL 81QFFF30097	
T+/ <vqfa-qpa-qpa< td=""> <td>-QPCD9 (LP6+ A55N</td> <td>1) XH5_V 8> A8@X</td> <td>S8@XC8UCB1*506*M</td> <td>6;LH5*XM14CDZ;</td> <td>K8<6 21UFFF30076</td> <td>T+X60D 0A~ER**10</td> <td> -ZQ< P78~Q+ G7</td> <td>*~.2HAC /OHED@1</td> <td>3B J=XXBG /D/VA*</td> <td>BG/ S@C E*>76</td> <td>WC-D P@FFF30098</td> </vqfa-qpa-qpa<>	-QPCD9 (LP6+ A55N	1) XH5_V 8> A8@X	S8@XC8UCB1*506*M	6;LH5*XM14CDZ;	K8<6 21UFFF30076	T+X60D 0A~ER**10	-ZQ< P78~Q+ G7	*~.2HAC /OHED@1	3B J=XXBG /D/VA*	BG/ S@C E*>76	WC-D P@FFF30098	
T+ /(-2*GG5) 3SB@X	C8WCP6) 3G6*GM6+>	X94CH5> (1_3U5*J	S_N 1<X54UC1@?|	4*-X7= (- @-L31@|	00*< :.QFFF30077	T+X7,-\$ _@XB@ /8	6 *** H3-0A~) A*>08	A~) A*d*XBG /@E ***	H*5BG /BB~E@/C3	0BHL /OHET-8A~ER	**< 4K<FFF30099	
T+ /+38@3D T@HDBU	@ /+H|F H? 0:BL~	H?<BG /Y/C@ LS->) 0 DLX*BG (-	L7LEAD#U5 J+*C-D	L78< 2C0FFF30078	T+X8W/75D D D	0	0@1	A5@~LE+.W2;|CZDC	18<GN1DC26<30@BC	H1;E 1+LE54CA1<L	86D 1E4FFF30100
T+ /|OXJO D:* 0-L	B<X4 |HABX-6) H	A @BGD:3B 6 OH*	CGHEHH*P S @YL	H|*6H-< AEG8* H	0 L 80UFFF30079	T+X9/EDA 8<GD1(V	8|C@LDC0@UA @|J	8|C@LDC0=DA @<E	8|CC@LDC01NA EDA	EDA EDCU@DA @|I	8| 7L4FFF30101	
T+ /8JD=|0+@*0578	/1J=|6 B<XBAD*X	A1J=|E*L@ OA ZY	A*80A 3MA*00B@EC	MSCS 1|2DAU< -.	=D~@ K,HFFF30080	T+X:***DA @|R 8|C	8@DC00HA @< (8|C	8EDA EDA EDA 8|C	08DC00UA @|J 8|C	8@DC0=DA @<E 8|C	8@D :80FFF30102	
T+ /J< DQ-0B@B4	J* @C ~@A**HGA-@	E ~@A*37E -C2 6|	2/404 JJ*0H*LS1C	2 8|2/33 /1+.@|H	AB80 BC<FFF30081	T+X#P@<P0+7*-/1<	486*4@15 @1T-7;A	)0BZ*NT7*BGU@=0/	90 2=λ@DQ~Z@1F00	5<JA*P*HGLL2@~@	| P@ 8AMFFF30103
T+ /KG+0~<E%|2/2P	/1+.6|HAB@1BA*0<	#2?HGK<86D8_J@-L	ICD@G|ATL@T*CC@X	@U-L <B@ / . / U	% 2/YFFF30082	T+X@KP7* <JA*P*0<	8@C@~>H1DX*/@1B	KOJ*=@\$ 08.-8@<	6~Z+ P*~5@3@ U	CH*H*0U @YDUC-E	*P7@ 110FFF30104	
T+ /LB MA EDA-QPA	-QPA-QPA-QPA-QPA	-QPA-QPA-QPA-QPA	-QPA-QPA-QPA-QPA	-QPA-EDA EDA EDA	L4A 8DCD6< (54A	8D)IHFFF30083	T+X' (P@47B|@I |H	AL@BA~5*P@84GB|@	I |HAA-8A~5**P@E4	A~5*0@HDK10G~@	6A H@Z C@C_1+ 8	BB|H 7CUFFF30105
T+ /L444COB<E 1DC	EE<J EDA ED@ EDA	EDA EDA-QPA-QPA	-QPA-QPA-QPA-QPA	-QPA-QPA-QPA-QPA	8D **H PFF30084	1<P'@U Q</ T*8@C	/0 H H H	HCH~7*1 C3 C	B ~@H (LBX@B@ / .	/019~6%	LO<FFF30106	
T /K EDA					1IHFFF30085	T USNOH) *					*8HFFF30107	
T+ /QC@DA EDA @*.	7@DCH2*|R5MCC5XL	EE (100*LE1DA EDA	EDA EDA EDA EDA	EDA EDA EDA EDA	ED P-4FFF30086	T@E410*-08 (XEO*3	R1				4- PP FFF30108	
T+ /Q=EDA EDA EDA	EDA EDA EDA EDA	EDA 8+LS1MCC5_P	SS_|E@+.W2;|C2<P	SE+|06+.E4@PC84A	ED 30 PFF30087	T@E419<LT@ (XEO*3	R1				=CQFF FFF30109	
T@JRY@DA EDA 1<P	S2) XE1DCP@) 366*G	HK4A EDA EDA EDA	EDA EDA EDA		MH PFF30088	T@E42QOGC2<G1@MC	X9=) QDC05=|I5_P	A40			*HXFF FFF30110	
T+ /5B@C_8H*17;A	) BHEVX| (>A *@/	14~@ ~ 4~D@4~	*~JB@*20%| (>D	*4@ Y4~< CH<H*0U	8H* *.0FFF30089	T@E5G2) LA1@N 0@G	R1DC1E<XN6<TE94A	-8 (\$P8@I05*GL			@/YFF FFF30111
T ASCH@					=. *FFF30090	T@E5V2) LA1@N 0@G	R1DC2E<XN6<TE94A	-8 (\$P8@I05*GL			H/XFF FFF30112	
T+ /~B@C_8H*1*MD	=?;A) BHEV*D (; 6	*41 ; D*41 |@4<	H<H@G@P@E@7 (B (L	BH*AB@.UH| *B@ | (	CB+ 3Y6FFF30091	T@E6C2) LA1@N 0@G	R1DC3E<XN6<TE94A	-8 (\$P8@I05*GL			*/XFF FFF30113
TA1~H/oN	G@				C@DFFF30092	T@E6/2) LA1@N 0@G	R1DC4E<XN6<TE94A	-8 (\$P8@I05*GL			O/YFF FFF30114	

PPF3 DIAGNOSTIC CONTROL PROGRAM - MODEL 12

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
TG-7 2) LA108 006	R1DC58<XNG<TE94A	-8 (\$P8@A05*GLG			;/6FF PFF30115
TG67;5<XS04CR1*	06*J 1_5R8 (-A8@)	H1;1,6<PT04A			6:1FF PFF30116
TF07;5<XS04CR1*	06*J 1_5R8 (-A8@)	H1;1,6<PT00			8 MFF PFF30117
* DIAGNOSTIC CONTROL PROGRAM					* PFF30118
*****					***** PFF30119
* COMMON SENSE SWITCHES	*		DATA SWITCH ENTR Y		* PFF30120
* PFF30121					* PFF30121
* 00-LOOP ON SECTION.		* 1 2 3 4			* PFF30122
* 01-LOOP ON ROUTINE.		* *** ** *	**		* PFF30123
* 02-SKIP INTERVENTION ROUTINES.		* P 0 X	X - TURN OFF SENSE SWITCH XX.		* PFF30124
* 03-BYPASS ERROR PRINT.		* P 1 X	X - TURN ON SENSE SWITCH XX.		* PFF30125
* 04-BYPASS NON-ERROR PRINT.		* P 2 X	X - GO TO ROUTINE XX.		* PFF30126
* 05-PRINT ON ALTERNATE DEVICE.		*			* PFF30127
* 06-BYPASS ERROR HALTS.		* E E X	X - TERMINATE SECTION.		* PFF30128
* 07-LOAD AND GO		*			* PFF30129
* 08-NOT USED.		* D X X	X - DISK-RUN SECTION XXI.		* PFF30130
* 09-LEAVE SECTION SWITCHES ON.		* D X X	0 - DISK-RUN DEVICE XX SECTIONS		* PFF30131
* 0D-SPEC. PURPOSE STORAGE DUMP.		*			* PFF30132
* 0F-SPACE 36 TIMES INSTEAD OF 6		*			* PFF30133
*****					***** PFF30134
ECYZ*E7*-DC*PHS	=7HEP1	| C	FX ASC R A SO Q	11320608730	610760DH PFF30135

----- LAST PAGE -----

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
      2          DECK 4
      3          SEQ 0
      4 T32701 START X'A00'
      5          TRFP
      6 *
      7 *****
      8 *
      9 *          3270 REQUEST FOR TESTS
     10 *
     11 *
     12 *****
     13 OA00 8716      OA01      DC      XL2'8716'      PROGRAM ID AND REVISION LEVEL
     14 OA02 00      OA02      DC      XL1'00'      SECTION FLAGS
     15 OA03 00      OA03      DC      XL1'00'      CURRENT ROUTINE NUMBER
     16 OA04 0000     OA05      DC      XL2'00'      RESERVED
     17 OA06 0A10     OA07      DC      AL2(RTN01)     ADDRESS OF FIRST ROUTINE
     18 OA08 FFFF     OA09      DC      XL2'FFFF'     RESERVED
     19 OA0A 800000   OA0C      19 BSCUDT DC  XL3'800000'     BSCA ENTRY
     20 OA0D 875000   OA0F      20 TRNUDT DC  XL3'875000'     CONSOLE SPUT ENTRY
     21 *
     22 *
     23 *****
     24 *
     25 *          UDT ENTRIES (BYTE 0A0C)
     26 *
     27 *          BIT 0
     28 *          BIT 1
     29 *          BIT 2
     30 *          BIT 3      AUTO CALL
     31 *          BIT 4      SWITCHED
     32 *          BIT 5      1920 CHARACTER BUFFER
     33 *          BIT 6      ASCII
     34 *          BIT 7      PRINTER
     35 *****
     36 * RTN01 *
     37 *****
     38 *          ROUTINE PREFIX
     39 OA10 01      OA10      39 RTN01 DC  XL1'01'     ROUTINE PREFIX
     40 OA11 00      OA11      DC      XL1'00'     NO INTERVENTION REQUIRED
     41 OA12 0A77     OA13      41 DC      AL2(RTN02)     ADDRESS OF NEXT ROUTINE
     42 *
     43 OA14 C0 87 0BD6      B      SETUP      CLEAR ERRORS
     44 OA18 C0 87 1026     B      XLATE      TRANSLATE
     45 OA1C 171B      OA1D      DC      AL2(ORD1-1)     MESSAGE 1
     46 OA1E 0C 03 17FE 190B      MVC     A1(4),DIAL     SET FOR AUTO CALL
     47 OA24 38 10 0A0F      TBM     TRNUDT,X'10'
     48 OA28 F2 10 06      JT      **9
     49 OA2B 0C 03 17FE 1907      MVC     A1(4),SAVPMT     USE CORRECT CU AND TERM ADDRESS
     50 OA31 3C F1 19CF      MVI     COUNT,X'F1'     INITIALIZE COUNTER
     51 OA35 3C F1 1949      MVI     DISPNO,X'F1'
     52 OA39 C0 87 111F     LOOP1   B      CLRTR      CLEAR T-R FIELD
     53 OA3D 3C 04 19D6     MVI     LCCHK1,CKACK2     EXPECT ACK0 TO COMMAND
     54 *
     55 OA41 0C E6 16FC 1802      MVC     START+ETEXT1-1(ETEXT1),EORD1 SET FOR FIRST MESSAGE
     56 OA47 C0 87 1EC3      B      $$IO      TRANSMIT
     57 OA4B 19EA      OA4C      DC      AL2(ASTRT)     FIRST
     58 OA4D 19EC      OA4E      DC      AL2(END1)     MESSAGE
     59 OA4F 19DC      OA50      DC      AL2(ASTOP)
     60 OA51 19DE      OA52      DC      AL2(ATANDBR)
     61 OA53 C0 87 0E00      B      CHECK      CHECK FOR CORRECT RESPONSE
     62 OA57 C0 87 0A6B      B      LOOPR1     PRINT ERROR AND RETRY COUNT
     63 *
     64 OA5B C0 87 1308      B      CERSEFN     WAIT FOR INTERRUPT KEY
     65 OA5F C0 87 0A6B      B      LOOPR1     CHECK RETRY COUNTER
     66 OA63 C0 87 0A39      B      LOOP1      RETRY
     67 OA67 C0 87 1137     B      $EOT      GO TO NEXT ROUTINE
     68
     69 OA6B C0 87 119E     LOOPR1   B      PRINT2     PRINT DISPLAY ERROR

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
      70          B      LOOP1      RETRY 3 TIMES-THEN
      71          B      $EOT      GO TO NEXT ROUTINE
      72
      73 *****
      74 * RTN02 *
      75 *****
      76 *          ROUTINE PREFIX
      77 OA77 02      OA77      77 RTN02 DC  XL1'02'     ROUTINE PREFIX
      78 OA78 00      OA78      DC      XL1'00'     NO INTERVENTION REQUIRED
      79 OA79 0ADE     OA7A      79 DC      AL2(RTN03)     ADDRESS OF NEXT ROUTINE
      80 *
      81 OA7B C0 87 0BD6      B      SETUP      SETUP FOR NEXT DISPLAY
      82 OA7F C0 37 1026     B      XLATE      TRANSLATE
      83 OA83 152D      OA84      DC      AL2(ORD2-1)     MESSAGE 2
      84 *
      85 OA85 0C 03 1610 190B      MVC     A2(4),DIAL     SET FOR AUTO CALL
      86 OA8B 38 10 0A0F      TBM     TRNUDT,X'10'
      87 OA8F F2 10 06      JT      **9
      88 OA92 0C 03 1610 1907      MVC     A2(4),SAVPMT     USE CORRECT CU AND TERM ADDRESS
      89 OA98 3C F1 19CF      MVI     COUNT,X'F1'     INITIALIZE COUNTER
      90 OA9C 3C F2 1949      MVI     DISPNO,X'F2'     INDICATE DISPLAY 2
      91 *
      92 OAA0 C0 87 111F     LOOP2   B      CLRTR      CLEAR T-R FIELD
      93 OAA4 3C 04 19D6     MVI     LCCHK1,CKACK2     SET TO EXPECT ACK0 TO COMMAND
      94 *
      95 OAA8 0C E5 16FB 1613      MVC     START+ETEST2-1(ETEST2),EORD2 SET FOR RPT 1
      96 OAAE C0 87 1EC3      B      $$IO      DISPLAY
      97 OAB2 19EA      OA83      DC      AL2(ASTRT)     SECOND
      98 OAB4 19EE      OA85      DC      AL2(END2)     MESSAGE
      99 OAB6 19DC      OA87      DC      AL2(ASTOP)
      100 OAB8 19DE      OA89      DC      A'2(ATANDBR)
      101 OABA C0 87 0E00      B      CHECK      CHECK FOR CORRECT RESPONSE
      102 OABF C0 87 0AD2     B      LOOPR2     PRINT ERROR AND RETRY COUNT
      103 *
      104 OAC2 C0 87 1308      B      GOOD RETURN     WAIT FOR INTERRUPT KEY
      105 OAC6 C0 87 0AD2     B      CERSEFN     ERROR RETURN
      106 OACA C0 87 0AA0      B      LOOPR2
      107 OACE C0 87 1137     B      LOOP2
      108 OAD2 C0 87 119E     LOOPR2   B      PRINT2     PRINT DISPLAY ERROR
      109 OAD6 C0 87 0AA0      B      LOOP2     RETRY 3 TIMES-THEN
      110 OADA C0 87 1137     B      $EOT      GO TO NEXT ROUTINE
      111
      112 *****
      113 * RTN03 *
      114 *****
      115 *          ROUTINE PREFIX
      116 OADE 03      OADE      116 RTN03 DC  XL1'03'     ROUTINE PREFIX
      117 OADF 00      OADF      DC      XL1'00'     NO INTERVENTION REQUIRED
      118 OAE0 0B5A     OAE1      118 DC      AL2(RTN04)     ADDRESS OF NEXT ROUTINE
      119 *
      120 OAE2 38 40 19AE      TBM     UDTOPT,X'40'     IS IT A 1920
      121 OAE6 F2 90 0E      JF      GOSET3     CHARACTER BUFFER?
      122 OAE9 C0 87 021A     B      PRINT      PRINT
      123 OAE D 46      OAED      DC      XL1'46'     INCORRECT
      124 OAE E 10      OAE E 124 DC  IL1'16'     BUFFER
      125 CAEF 1980      OAF0      DC      AL2(MSG09)     SIZE
      126 OAF1 87A1      OAF2      DC      XL2'87A1'
      127 OAF3 C0 87 0216     B      LINK      GO TO NEXT ROUTINE
      128 *
      129 OAF7 C0 87 0BD6     GOSET3   B      SETUP      CLEAR ERRORS
      130 OAFB C0 87 1026     B      XLATE      TRANSLATE
      131 OAFP 144B      OB00      DC      AL2(ORD4-1)     MESSAGE 3
      132 *
      133 OB01 0C 03 14F1 190B      MVC     EFOR3-5(4),DIAL     SET FOR AUTO CALL
      134 OB07 38 10 0A0F      TBM     TRNUDT,X'10'
      135 OB0B F2 10 06      JT      **9

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8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
OB0E	0C 03 14F1	1907	136	MVC EF0R3-5(4),SAVPNT USE CORRECT CU AND TERM ADDRESS
OB14	3C F1 19CF		137	MVI COUNT,X'F1' INITIALIZE COUNTER
OB18	3C F3 1949		138	MVI DISPNO,X'F3' INDICATE DISPLAY 3
			139	*
OB1C	C0 87 111F		140	LOOP3 B CLRTR CLEAR T-R FIELD
OB20	3C 04 19D6		141	MVI LCCHK1,CKACK2 SET TO EXPECT ACK0 TO COMMAND
			142	*
OB24	0C A8 16RE	14F4	143	MVC START+ETEXT3-1(ETEXT3),EF0R3-2 SET FOR RPT 2
OB2A	C0 87 1EC3		144	B \$SIO DISPLAY
OB2E	19EA	OB2F	145	DC AL2(ASTRT) THIRD
OB30	19F0	OB31	146	DC AL2(END3) MESSAGE
OB32	19DC	OB33	147	DC AL2(ASTOP)
OB34	19DE	OB35	148	DC AL2(ATANDR)
OB36	C0 87 0E00		149	B CHECK
OB3A	C0 87 0B4E		150	B LOOPR3 CHECK FOR CORRECT RESPONSE
			151	* GOOD RETURN PRINT ERROR AND RETRY COUNT
OB3E	C0 87 1308		152	B CERSPN WAIT FOR INTERRUPT KEY
OB42	C0 87 CB4E		153	B LOOPR3 ERROR RETURN
OB46	C0 87 0B1C		154	B LOOP3
OB4A	C0 87 1137		155	B \$EOT GO TO NEXT ROUTINE
OB4E	C0 87 119E		156	LOOPR3 B PRINT2 PRINT DISPLAY ERROR
OB52	C0 87 0B1C		157	B LOOP3 RETRY 3 TIMES-THEN
OB56	C0 87 1137		158	B \$EOT GO TO NEXT ROUTINE
			159	
			160	*****
			161	* RTN04 *
			162	*****
			163	*
OB5A	04	OB5A	164	DC XL1'04' ROUTINE PREFIX
OB5B	00	OB5B	165	DC XL1'00' ROUTINE PREFIX
OB5C	FFFF	OB5D	166	DC XL2'FFFF' NO INTERVENTION REQUIRED
			167	* ADDRESS OF NEXT ROUTINE
OB5E	38 40 19AE		168	TBM UDTOPT,X'40' IS IT A 1920
OB62	F2 10 0E		169	JT GOSET4 CHARACTER BUFFER?
OB65	C0 87 021A		170	B PRINT PRINT
OB69	46	OB69	171	DC XL1'46' INCORRECT
OB6A	10	OB6A	172	DC IL1'16' BUFFER
OB6B	1980	OB6C	173	DC AL2(MSG09) SIZE
OB6D	87A1	OB6E	174	DC XL2'87A1' TERMINATE THIS SECTION
OB6F	C0 87 0216		175	B LINK
			176	*
OB73	C0 87 0BD6		177	GOSET4 B SETUP SETUP FOR NEXT DISPLAY
OB77	C0 87 1026		178	B XLATE TRANSLATE
OB7B	144B	OB7C	179	DC AL2(ORD4-1) MESSAGE 4
			180	*
OB7D	0C 03 1527	190B	181	MVC A4(4),DIAL SET FOR AUTO CALL
OB83	38 10 0A0F		182	TBM TRMUPT,X'10'
OB87	F2 10 06		183	JT *+9
OB8A	0C 03 1527	1907	184	MVC A4(4),SAVPNT USE CORRECT CU AND TERM ADDRESS
OB90	3C F1 19CF		185	MVI COUNT,X'F1' INITIALIZE COUNTER
OB94	3C F4 1949		186	MVI DISPNO,X'F4' INDICATE DISPLAY 4
			187	*
OB98	C0 87 111F		188	LOOP4 B CLRTR CLEAR T-R FIELD
OB9C	3C 04 19D6		189	MVI LCCHK1,CKACK2 SET TO EXPECT ACK0 TO COMMAND
			190	*
OBAA	0C DE 16F4	152A	191	MVC START+ETEXT4-1(ETEXT4),EORD4 SET FOR RPT 3
OBAA	C0 87 1EC3		192	B \$SIO DISPLAY
OBAA	19EA	OBAB	193	DC AL2(ASTRT) FOURTH
OBAC	19F2	OBAD	194	DC AL2(END4) MESSAGE
OBAA	19DC	OBAA	195	DC AL2(ASTOP)
OBBO	19DE	OBBA	196	DC AL2(ATANDR)
OB22	C0 87 0E00		197	B CHECK
OB26	C0 87 0BCA		198	B LOOPR4 CHECK FOR CORRECT RESPONSE
			199	* GOOD RETURN PRINT ERROR AND RETRY COUNT
OBBA	C0 87 1308		200	B CERSPN WAIT FOR INTERRUPT KEY
OB2E	C0 87 0BCA		201	B LOOPR4 ERROR RETURN
OB22	C0 87 CB98		202	B LOOP4

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
OB6C	C0 87 1137		203	B \$EOT TERMINATE THIS SECTION
OB6A	C0 87 119E		204	LOOPR4 B PRINT2 PRINT DISPLAY ERROR
OBCE	C0 87 0B98		205	B LOOP4 RETRY 3 TIMES-THEN
OB22	C0 87 1137		206	B \$EOT TERMINATE THIS SECTION
			207	
			208	*****
			209	* SETUP *
			210	*****
			211	*
			212	SETUP EQU * THIS SUBROUTINE IS USED TO SETUP FOR EACH TEST
OB26	34 08 0DFF	OB26	213	ST ENDSET+3,ARR SAVE RETURN ADDRESS
OBDA	38 20 020A		214	TBM SBYTE2,SSW12 TERMINATE SECTION?
OBDE	C0 10 1A1D		215	BT \$DISCT
OB2E	38 01 18C0		216	TBM FLAG,FLAG7 FIRST
OB26	F2 10 8C		217	JT NOTFR PASS?
OB29	3A 01 18C0		218	SBM FLAG,FLAG7 SET FLAG
OB2D	38 04 0A0F		219	TBM TRMUPT,X'04' 1920
OB2F	F2 10 06		220	JT PPROGT CHAR
OB24	0C AB 14F6	16C1	221	MVC EF0R3(172),EORD3+2 BUFFER
OBFA	C0 87 021A		222	PPROGT B PRINT PRINT
OBFE	06	OBFE	223	DC XL1'06' PROGRAM
OBFF	21	OBFF	224	DC IL1'33' TITLE
OC00	16E2	OC01	225	DC AL2(HSG01)
			226	*
			227	* CHECK UDT OPTIONS HERE
OC02	38 02 0A0F		228	TBM TRMUPT,X'02' CHECK FOR AN
OC06	F2 90 04		229	JF *+7 ASCII TERMINAL
OC09	3A 80 19AE		230	SBM UDTOPT,X'80'
OC0D	38 04 0A0F		231	TBM TRMUPT,X'04' CHECK FOR A
OC11	F2 90 04		232	JF *+7 1920 CHARACTER BUFFER
OC14	3A 40 19AE		233	SBM UDTOPT,X'40'
OC18	38 10 0A0F		234	TBM TRMUPT,X'10' SWITCHED
OC1C	F2 10 29		235	JT ADRBK NETWORK?
OC1F	0D 07 1FF7	1A08	236	KEPCHK CLC RPAPOL(8),BLANK CHECK FOR POLL AND SELECTING
OC25	F2 01 20		237	JHE ADRBK ADDRESS AVAILABLE
			238	* PRINT ERROR
OC28	3C 00 1FE0		239	MVI MUKID,X'00'
OC2C	C0 87 021A		240	NOPRT B PRINT
OC30	C1	OC30	241	DC XL1'C1' PRINT
OC31	20	OC31	242	DC IL1'32' NO
OC32	1702	OC33	243	DC AL2(HSG07) ADDR
OC34	8706	OC35	244	DC XL2'8706' AVAILABLE
OC36	C0 87 021A		245	B PRINT
OC3A	86	OC3A	246	DC XL1'86'
OC3B	14	OC3B	247	DC IL1'20'
OC3C	1716	OC3D	248	DC AL2(HSG08)
OC3E	C0 87 0222		249	B HALT
OC42	8706	OC43	250	DC XL2'8706' HALT
OC44	C0 87 0C1F		251	B KEPCHK OF -06-
			252	* SAVE ADDRESSES
			253	ADROK EQU *
OC48	0C 03 18E2	1FF3	254	MVC ADRSEL-1(4),REPSL SAVE SELECTING ADDRESS
OC4E	0C 03 18E7	1FF7	255	MVC POLSEL-1(4),RPAPOL SAVE ADDRESS FOR POLLING
OC54	0C 07 1FFF	1FF7	256	MVC SAVADR(8),RPAPOL SAVE FOR NEXT SECTION
OC5A	0C 01 18DB	18E6	257	MVC STXDC(2),POLSEL-2 SETUP FIXED ADDRESS
OC60	C0 87 1026		258	B XLATE TRANSLATE
OC64	18C1	OC65	259	DC AL2(DATCON-1) CONTROL CODES
OC66	C0 87 021E		260	B UNPACK SAVE FOR
OC6A	02	OC6A	261	DC XL'02' DISPLAYING
OC6B	18E1	OC6C	262	DC AL2(ADRSEL-2)
OC6D	1907	OC6E	263	DC AL2(SAVPNT)
OC6F	C0 87 1026		264	B XLATE TRANSLATE
OC73	18F9	OC74	265	DC AL2(STGL-1) COMMON COMMANDS
			266	* NOTFR EQU *
OC75	38 20 020B		267	TBM SBYTE3,SSW1A SECOND
OC79	F2 90 04		268	JF *+7 BSCA?
OC7C	3A 08 0C81		269	SBM SIGEBB+1,X'08'

8716 3270 REQUEST FOR TESTS (RPIS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPIS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
OC80	F3 80 C0	270	SIOENB SIO	X'C0',X'80'	ENABLE BSCA
OC93	35 A0 1A5F	271	L	\$INT0,IAR2	LOAD INTERRUPT LEVEL 2 IAR
		272	*		
		273	*	EXTRA RESET FUNCTIONS HERE	
		274	*		
OC87	3B FE 18C0	275	RESELL SBF	FLAG,X'FE'	RESET PROGRAM FLAGS
		276			
OC8B	3C 01 19D6	277	HVI	LCCHK1,CKACK0	SET FOR TESTING ACK0
		278	*****		
		279	* CALL *		
		280	*****		
		281	* CALL		
OC8F	38 18 0A0F	282	LOOPON TBN	TRMUPT,X'18'	CHECK FOR AUTO CALL
OC93	F2 90 B5	283	JF	NOACAL	AND SWITCHED
OC96	3D FF 1FDC	284	CLI	CALMAD,X'FF'	HAS CALL ALREADY
OC9A	F2 81 AE	285	JE	NOACAL	BEEN COMPLETED?
OC9D	3D 00 1FDC	286	CLI	NUMDIG,X'00'	ANY TEL NO
OCA1	F2 81 A7	287	JE	NOACAL	IN CORE?
OCA4	3D 0B 1FDC	288	CLI	NUMDIG,X'0B'	IS TEL NO
OCA8	F2 84 94	289	JH	ILNUM	TOO LARGE?
		290			
OCAB	C2 01 1FCF	291	LA	NUMDIG-1,XR1	
OCAF	36 01 1FDC	292	A	NUMDIG,XR1	
OCB3	C2 02 161C	293	LA	START+6,XR2	
OCB7	98 03 00 01	294	LOOPQZ MNH	0(,XR2),1(,XR1)	SAVE ONLY
OCBB	98 01 00 00	295	MZN	0(,XR2),0(,XR1)	NUMERIC DIGITS
OCBF	36 01 0D66	296	A	HTWO,XR1	ALTER
OCC3	36 02 19AC	297	A	HEXFF,XR2	COUNTERS
OCC7	34 02 0D71	298	ST	PNUM,XR2	
OCCB	0D 01 0D71 19DA	299	CLC	PNUM(2),ASTART	CHECK FOR JOB
OCD1	C0 84 0CB7	300	BH	LOOPQZ	COMPLETED
		301			
OCDS	C0 87 021E	302	B	UNPACK	UNPACK
OCDB	161C	303	DC	XL1'06'	TELEPHONE
OCDC	162A	304	DC	AL2(START+6)	NUMBER
OCDE	0C 0A 0D71 0D72	305	DC	AL2(START+20)	
OCE4	0C 00 0CF1 1FDC	306	MVC	PNUM(1),PNUM+1	CLEAR PRINT AREA
OCEA	0F 00 0CF1 19D5	307	MVC	MLNOX+1,NUMDIG(1)	
OCFO	0C 0A 0D71 162A	308	SLC	MLNOX+1(1),ONE	PUT TEL NO INTO
		309	MLNOX MVC	PNUM(1),START+20	PRINT MESSAGE
		310			
OCF6	C0 87 021A	311	B	PRINT	PRINT
OCFA	06	312	DC	XL1'06'	TELEPHONE
OCFB	1F	313	DC	XL1'31'	NUMBER
OCFC	0D85	314	DC	AL2(TNUMX)	
OCFE	C2 01 1FD1	315	LA	TELNUM-10,XR1	SETUP FOR
OD02	36 01 1FDC	316	A	NUMDIG,XR1	ISSUING
OD06	34 01 0D99	317	ST	Y6,XR1	THE CALL
OD0A	3C 03 1FDD	318	HVI	MAXCAL,X'03'	SET FOR 3 RETRYS
		319			
OD0E	3C FF 1B8B	320	HVI	\$NOTIM,X'FF'	NO TIMEOUT MESSAGE
OD12	C0 87 1EC3	321	SIOCAL B	\$SIO	ISSUE
OD16	0D97	322	DC	AL2(ACAL)	THE
OD18	1A0C	323	DC	AL2(ZERO)	CALL
OD1A	0D99	324	DC	AL2(Y6)	
OD1C	1306	325	DC	AL2(SACAL)	
		326			
OE1E	3C FF 1FDC	327	HVI	CALMAD,X'FF'	INDICATE CALL MADE
OD22	38 20 1B86	328	TBN	\$ERPLG,X'20'	TIMEOUT
OD26	F2 90 22	329	JF	NOACAL	ERROR?
OD29	0F 00 1FDD 19D5	330	SLC	MAXCAL(1),ONE	IF SO,
OD2F	C0 01 0D0E	331	BNZ	SIOCAL-4	RETRY 3 TIMES
OD33	C0 87 021A	332	B	PRINT	PRINT
OD37	86	333	DC	XL1'86'	CALL
OD38	0C	334	DC	IL1'12'	ABORTED
OD39	0D64	335	DC	AL2(ABORT)	
ODEB	C0 87 0C8F	336	B	LOOPON	KEEP TRYING

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
		337			
OD3F	C0 87 021A	338	ILNUM B	PRINT	PRINT
OD43	86	339	DC	XL1'86'	TELEPHONE
OD44	1C	340	DC	IL1'28'	NUMBER
OD45	0D95	341	DC	AL2(NTLRGE)	TOO LARGE
OD47	C0 87 0C8F	342	B	LOOPON	KEEP TRYING
		343	NOACAL EQU	*	
OD4B	38 10 0A0F	344	TBN	TRMUPT,X'10'	SWITCHED
OD4F	F2 90 48	345	JF	ESD	NETWORK?
OD52	C0 87 11D0	346	B	PPENQ	ENQ
OD56	F2 87 6B	347	J	REERSE	CONTINUE
		348			
OD59	C3C1D3D340C1C2D6	349	ABORT DC	CL12'CALL ABORTED'	
ODE1	D9E3C5C4	349			
OD65	FFFE	350	HTWO DC	XL2'FFFE'	
OD67	E7E7E7E7E7E7E7E7	351	PNUM DC	CL11'XXXXXXXXXX'	
OD6F	E7E7E7	351			
OD72	40C9E240E3C8C540	352	TNUMX DC	CL20' IS THE TELEPHONE NO'	
OD7A	E3C5L3C5D7C8D6D5	352			
OD82	C540D5D6	352			
OD86	40C5E7C3C4E240F1	353	NTLRGE DC	CL16' EXCDS 11 DIGITS'	
OD8E	F140C4C9C7C9E3E2	353			
OD96	1FD1	354	ACAL DC	AL2(NUMDIG+1)	
OD98	0000	355	Y6 DC	XL2'00'	
		356	ESD EQU	*	
		357		*** END OF EXPANSION **	
OD9A	0C 03 1A19 18E2	358	HVC	SELECT-3(4),ADRSEL-1	
ODA0	C0 87 1026	359	B	XLATE	TRANSLATE TO
ODA4	1A11	360	DC	AL2(SELECT-11)	CORRECT CODE
ODA6	C0 87 111F	361	B	CLRTR	CLEAR T-R FIELD
ODAA	0C 08 161E 1A1A	362	HVC	START+8(9),SELECT-2	USE CORRECT SELECT SEQUENCE
		363			
ODE0	C0 87 1EC3	364	B	\$SIO	TRANSMIT
ODE4	19DA	365	DC	AL2(ASTART)	SELECT
ODE6	19E0	366	DC	AL2(START6)	
ODE8	19DC	367	DC	AL2(ASTOP)	
ODEA	19DE	368	DC	AL2(ATANDR)	T-R
ODEC	C0 87 0E00	369	B	CHECK	CHECK FOR CORRECT RESPONSE
ODE0	C0 87 0C87	370	B	RESELL	KEEP TRYING
		371			
		372	*		
		373	*	GOOD RETURN ON SELECT	
ODC4	3C 02 19D6	374	REERSE HVI	LCCHK1,CKACK1	SET TO EXPECT ACK1
ODC8	C0 87 111F	375	B	CLRTR	CLEAR T-R FIELD
ODCC	0C 04 161A 18ED	376	HVC	START+4(5),EVRTCD+3	
		377			
ODD2	C0 87 1EC3	378	B	\$SIO	TRANSMIT STX,EXC
ODD6	19DA	379	DC	AL2(ASTART)	ERASE/WRITE,
ODD8	19E6	380	DC	AL2(START5)	RESET KYBD,
ODDA	19DC	381	DC	AL2(ASTOP)	ETX
ODDC	19DE	382	DC	AL2(ATANDR)	T-R
ODDE	C0 87 0E00	383	B	CHECK	CHECK RESPONSE
ODE2	C0 87 0DEE	384	B	**12	ERROR RETURN
		385	*		
		386	*	GOOD RETURN	
ODE6	3A 10 18C0	387	SBM	FLAG,FLAG3	
ODEA	C0 87 0DFC	388	B	ENDSET	GO RETURN TO CURRENT ROUTINE
ODEE	C0 87 021A	389	B	PRINT	PRINT
ODF2	C6	390	DC	XL1'C6'	ERASE/WRITE
ODF3	11	391	DC	IL1'17'	ERROR
ODF4	1940	392	DC	AL2(MSG04)	
ODF6	8701	393	DC	XL2'8701'	
ODF8	C0 87 0C87	394	B	RESELL	RETRY
		395			
ODFC	C0 87 0000	396	ENDSET B	**	RETURN
		397	*****		
		398	* CHECK *		
		399	*****	THIS SUBROUTINE CHECKS FOR T-R ERRORS	

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0E00	34 08 1025	400	*	
0E04	0C 01 1A0B 1A00	401	CHECK	ST ECHECK+3,ARR SAVE RETURN ADDRESS
0E0A	3C 00 19D8	402	MVC	SSSAVE(2),ZERO CLEAR S&S FIELD
0E0E	34 01 19B4	403	MVI	POLLSW,0 CLEAR POLL SWITCH
0E12	34 02 19B6	404	ST	SAVXR1,XR1 SAVE
0E16	3B 0E 18C0	405	ST	SAVXR2,XR2 REGISTERS
0E1A	38 01 19D6	406	SBP	FLAG,FLAG6+FLAG5+FLAG4 RESET FLAGS USED BY SUBROUTINE
0E1E	F2 90 0B	407	TBN	LCCHK1,CKACKO ACKO FROM
0E21	C2 01 18C3	408	JF	CKF SELECTION?
0E25	3C 06 19D8	409	LA	ACKO,XR1 SET FOR TESTING
0E29	F2 87 4F	410	MVI	POLLSW,ONWACK+ONRVI POLL ON WACK OR RVI
		411	J	LCCOMP GO CHECK LINE CONTROL RESPONSE
		412	****	
0E2C	38 02 19D6	413	CKP	TBN LCCHK1,CKACK1 ACK1
0E30	F2 90 0B	414	JF	EXPECTED?
0E33	C2 01 18C5	415	LA	ACK1,XR1 SET FOR TESTING
0E37	3C 40 19D8	416	MVI	POLLSW,ONEOT POLL ON EOT
0E3B	F2 87 3D	417	J	LCCOMP
		418	****	
0E3E	38 04 19D6	419	CKG	TBN LCCHK1,CKACK2 ACKO TO
0E42	F2 90 0B	420	JF	CKH COMMAND?
0E45	C2 01 18C3	421	LA	ACKO,XR1 TEST FOR ACKO
0E49	3C 40 19D8	422	MVI	POLLSW,ONEOT POLL ON EOT
0E4D	F2 87 2B	423	J	LCCOMP
		424	****	
0E50	38 40 19D6	425	CKH	TBN LCCHK1,CKEOT TEST FOR
0E54	F2 90 11	426	JF	CKI EOT?
0E57	C2 01 18D1	427	LA	EOT,XR1 SET FOR EOT CHECK
0E5B	3A 02 18C0	428	SBN	FLAG,FLAG6 INDICATE ONLY ONE BYTE
0E5F	0F 01 1F93 19D5	429	SLC	\$STOP(2),ONE ADJUST ADDRESS FOR PAD
0E65	F2 87 13	430	J	LCCOMP
		431	****	
0E68	38 20 19D6	432	CKI	TBN LCCHK1,CKSTXA TEST FOR
0E6C	F2 90 44	433	JF	CKP STX,ADDRESS?
0E6F	C2 01 18DB	434	LA	STIDC,XR1 SET FOR STX,CU ADDR,DVC ADDR
0E73	3A 04 18C0	435	SBN	FLAG,FLAG5 SET 3 CHAR CHECK
0E77	3C 40 19D8	436	MVI	POLLSW,ONEOT POLL ON EOT RESPONSE
		437	****	
0E7B	35 02 1F99	438	*	TEST LINE CONTROL RESPONSE
0E7F	3D FF 1FDE	439	LCCOMP	L STRAN,XR2 GET TRANSITION FIELD ADDRESS
0E83	F2 81 04	440	CLI	ADDER,X'FF' ADJUST
0E86	36 02 1FE0	441	JE	**7 FOR
0E8A	38 04 18C0	442	A	HUMID,XR2 ID
0E8E	F2 90 0A	443	TBN	FLAG,FLAG5 CHECK FOR
0E91	9D 02 02 00	444	JF	**13 3 CHAR COMPARE
0E95	F2 01 41	445	CLC	2(3,XR2),0(,XR1) CHECK 3 BYTES
0E98	F2 87 18	446	JNE	LCCOMP WHICH WERE TRANSMITTED
0E9B	38 02 18C0	447	J	CKP FIELD WAS CORRECT
0E9F	F2 90 0A	448	TPN	FLAG,FLAG6 CHECK FOR
0EA2	9D 00 00 00	449	JF	**13 1 CHAR COMPARE
0EA6	F2 01 30	450	CLC	0(1,XR2),0(,XR1) CHECK ONE BYTE
0EA9	F2 87 07	451	JNE	LCCOMP
0EAC	9D 01 01 00	452	J	CKP FIELD WAS CORRECT
0EB0	F2 01 26	453	CLC	1(2,XR2),0(,XR1) CHECK TWO BYTES RECEIVED
		454	JNE	LCCOMP
		455	*	FIELD WAS CORRECT
		456	****	
0EB3	38 08 19D6	457	CKP	TBN LCCHK1,CKETX TEST
0EB7	F2 90 07	458	JF	CKR ETX?
0EBA	C2 01 18CC	459	LA	ETX,XR1 SET FOR ETX
0EBE	F2 87 0C	460	J	LCCOMP6
		461	****	
0EC1	38 10 19D6	462	CKR	TBN LCCHK1,CKETB TEST
0EC5	C0 90 1009	463	BF	CKS ETB?
0EC9	C2 01 18CF	464	LA	ETB,XR1 SET FOR ETB
0ECD	35 02 1F93	465	LCCOMP6	L \$STOP,XR2
0ED1	6D 00 00 00	466	CLC	0(1,XR1),0(,XR2) CHECK
0ED5	C0 81 1009	467	BE	CKS RESPONSE

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		468	*	
		469	*	ERROR
0ED9	3B 02 19C0	470	LCCOMP1	SBF FLAG,FLAG6 RESET COMPARE FLAG
		471	*	
		472	*	
		473	*	XPAC
		474	*	CALL MACRO BY XPAC
		475	*	
		476	*	IF A PRINTER IS BEING TESTED, MODIFY ERROR CHECK
		477	*	
0EDD	38 01 0A0F	478	TBN	TRMUdT,X'01' PRINTER *****
0EE1	38 10 18C0	479	TBN	FLAG,FLAG3
0EE5	F2 90 93	480	JF	SFLAG4
0EE8	8D 01 01 18C9	481	CLC	1(2,XR2),WACK IS PRINTER BUSY?
0EF1	C2 02 1616	482	BNE	STRPNT
0EF5	C0 87 111F	483	LA	START,XR2 USE XR2 FOR TRANS COUNTER
0EF9	38 10 0A0F	484	B	CLRTR
0EPD	F2 90 10	485	TBN	TRMUdT,X'10' SWITCHED
		486	JF	NOSWCH NETWORK?
		487		
0F00	0C 00 1616 18D0	488	MVC	START(1),ENQ MOVE IN ENQ
0F06	C2 01 0F7A	489	LA	START1,XR1 USE CORRECT TRANSITION ADDRESS
0F0A	E2 02 01	490	LA	1(,XR2),XR2
0F0D	F2 87 13	491	J	ASIO
0F10	0C 03 1A19 18E2	492	NOSWCH	MVC SELECT-3(4),ADRSEL-1 USE CORRECT
0F16	0C 08 161E 1A1A	493	MVC	START+8(9),SELECT-2 SELECT ADDRESS
0F1C	C2 01 19E0	494	LA	START6,XR1 USE CORRECT TRANSITION ADDRESS
0F20	E2 02 09	495	LA	9(,XR2),XR2
0F23	34 01 0F32	496	ASIO	ST ASIO1,XR1 SAVE TRANSITION ADDRESS
0F27	C2 01 005A	497	LA	90,XR1 WAIT UP TO 90 SECONDS
		498		
0F2B	C0 87 18C3	499	B	\$SIO
0F2F	19DA	500	DC	AL2(ASRT) TRANSHIT
0F31	0000	501	ASIO1	DC AL2(*-*) SELECT
0F33	19DC	502	DC	AL2(ASSTOP)
0F35	19DE	503	DC	AL2(ATANDR)
		504		
0F37	8D 01 01 18C9	505	CLC	1(2,XR2),WACK WACK RECEIVED?
0F3C	F2 81 0C	506	JE	W111 KEEP WAITING IF WACK
0F3F	8D 01 01 18C3	507	CLC	1(2,XR2),ACKO IF ACKO, PRINTING
0F44	F2 81 C2	508	JE	CKS HAS COMPLETED
0F47	C0 87 1CDC	509	W112	B STRPNT
0F4B	0C 02 19CE 0F78	510	W111	MVC COUNTR(3),WAIT1 WAIT
0F51	0D FF 0F51 0F51	511	W15EC	CLC *(256),* ONE
0F57	0D 3A 0F57 0F57	512	CLC	*(59),* SECOND
0F5D	0F 02 19CE 19D5	513	SLC	COUNTR(3),ONE
0F63	C0 01 0F51	514	BNE	W15EC
0F67	36 01 19AC	515	A	HEXFF,XR1
0F6B	C0 01 0F2B	516	BNZ	ASIO+8
0F6F	35 02 1F99	517	L	STRAN,XR2 RELOAD TRANSITION ADDRESS
0F73	F2 87 05	518	J	SFLAG4
		519		
0F76	0003E8	520	WAIT1	DC XL3'0003E8'
0F79	1617	521	START1	DC AL2(START+1)
		522	***	END OF EXPANSION **
0F7B	3A 08 18C0	523	SFLAG4	SBN FLAG,FLAG4 INDICATE LC ERROR
0F7F	C0 87 021A	524	B	PRINT PRINT
0F83	C3	525	DC	IL1'C3' LINE ERROR
0F84	0A	526	DC	IL1'10'
0F85	1917	527	DC	AL2(HSGC2)
0F87	8702	528	DC	XL2'8702'
0F89	C0 87 1CDC	529	B	STRPNT
0F8D	38 02 19D8	530	TBN	POLLSW,ONRVI
0F91	F2 90 07	531	JF	LCCOMP2
0F94	C2 01 18C7	532	LA	RVI,XR1 SET FOR RVI
0F98	F2 87 1D	533	J	LCCOMP4
0F9B	38 04 19D8	534	LCCOMP2	TBN POLLSW,ONWACK POLL
0F9F	F2 90 07	535	JF	LCCOMP3 ON WACK?

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
110E	4C 00 00 19AA	672	MVC	0(1, XR1), XLTSW+1	INDICATE WHICH TRANSLATION WAS DONE	
1113	35 01 19B4	673	XLATE7	L SAVXR1, XR1	RESTORE XR1	
1117	35 02 19B6	674	L	SAVXR2, XR2	RESTORE XR2	
111B	C0 87 0000	675	ENDXL	B **	RETURN	
		676	*			
		677	*	CLEAR TRANSMIT AND RECEIVE FIELD		
111F	34 08 1136	678	CLRTR	ST ECLRTR+3, ARR		
1123	3C 00 171A	679	MVI	STOP, 0	CLEAR	
1127	0C FF 1719 171A	680	MVC	START+259 (256), STOP	TR	
112D	0C 04 161A 161B	681	MVC	START+4 (5), START+5	FIELD	
1133	C0 87 0000	682	ECLRTR	B **	RETURN	
		683				
		684	*	THIS SUBROUTINE TRANSMITS EOT TO SELECTED TERMINAL		
		685	*			
1137	34 08 1175	686	\$EOT	ST E\$EOT+3, ARR		
113B	3C 00 19CB	687	MVI	DUMMY+17, 0	CLEAR	
113F	0C 10 19CA 19CB	688	MVC	DUMMY+16 (17), DUMMY+17 T-R FIELD		
1145	0C 00 19BA 18D1	689	MVC	DUMMY (1), EOT		
114B	3C FF 188B	690	MVI	\$NOTIM, X'FF'	NO TIMEOUT MESSAGE WANTED	
114F	C0 87 1EC3	691	B	\$SIO	TRANSMIT	
1153	19F6	692	DC	AL2 (ADUM1)	EOT	
1155	19FA	1154	693	DC	AL2 (ADUM3)	
1157	19FA	1156	694	DC	AL2 (ADUM3)	
1159	19DE	1158	695	DC	AL2 (ATANDR)	
115B	38 20 020A	1159	696	TBN	SBYTE2, SSW12	
115F	C0 10 1A1D	697	BT	\$DISCT	TERMINATE SECTION?	
1163	38 01 1307	698	TBN	SWITCH, X'01'	GO DISABLE AND TERMINATE	
1167	F2 10 04	699	JT	**7	BYPASS LINKING?	
116A	C0 87 0216	700	B	LINK		
116E	3B 01 1307	701	SBF	SWITCH, X'01'		
1172	C0 87 0000	702	\$EOT	B **	RETURN	
		703				
		704	*			
		705	*			
		706	*	ACK1		
		707	*			
		708	*	THIS SUBROUTINE TRANSMITS ACK1 TO THE TERMINAL BEING TESTED.		
		709	*			
1176	34 08 119D	710	\$ACK1	ST E\$ACK+3, ARR	SAVE RETURN ADDRESS	
117A	3C FF 188B	711	MVI	\$NOTIM, X'FF'	BYPASS TIMEOUT	
117E	3C 00 19CB	712	MVI	DUMMY+17, 0	CLEAR	
1182	0C 10 19CA 19CB	713	MVC	DUMMY+16 (17), DUMMY+17	T-R FIELD	
1188	0C 01 19BB 18C5	714	MVC	DUMMY+1 (2), ACK1	SET FOR ACK1	
118E	C0 87 1EC3	715	B	\$SIO	TRANSMIT	
1192	19F6	1193	716	DC	AL2 (ADUM1)	
1194	19F8	1195	717	DC	AL2 (ADUM2)	
1196	19F4	1197	718	DC	AL2 (ADUM8)	
1198	19DE	1199	719	DC	AL2 (ATANDR)	
119A	C0 87 0000	720	\$SACK	B **		
		721	*	*** END OF EXPANSION **		
		722	*			
		723	*	THIS SUBROUTINE PRINTS DISPLAY ERRORS		
		724	*			
119E	34 08 11CF	119E	725	PRINT2	EQU *	
11A2	0C 00 195E 19CF	726	ST	ENDPT2+3, ARR	SAVE RETURN ADDRESS	
11A8	C0 87 021A	727	MVC	MSG05 (1), COUNT	CLEAR	
11AC	C6	728	B	PRINT	T-R FIELD	
11AD	1E	11AC	729	DC	XL1'C6'	SWITCHED
11AE	195E	11AD	730	DC	IL1'30'	NETWORK?
11B0	8703	11AE	731	DC	AL2 (MSG05)	GET POLLING ADDRESS
11B2	F2 87 04	11AF	732	DC	XL2'8703'	TRANSLATE
11B5	34 08 11CF	11B1	733	J	INCNT	IF NECESSARY
11B9	06 00 19CF 19B9	734	PRINT3	ST	ENDPT2+3, ARR	SET FOR POLLING
11BF	3D F4 19CF	735	INCNT	AZ	COUNT (1), FONE (1)	
11C3	F2 01 06	736	CLI	COUNT, X'F4'	INCREMENT RETRY COUNTER	
		737	JNE	ENDPT2	HAVE 3 RETRY	
					BEEN COMPLETED?	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
11C6	0E 01 11CF 1A10	738	ALC	ENDPT2+3 (2), FOUR		
11CC	C0 87 0000	739	ENDPT2	B **	RETURN	
		740				
		741	*	*****		
		742	*	* XENQ *		
		743	*	*****		
		744	*			
		745	*	XENQ		
		746	*			
		747	*	THIS SUBROUTINE IS USED TO GAIN CONTROL OF THE LINE--		
		748	*	USED FOR THE SWITCHED FEATURE ONLY.		
		749	*			
11D0	34 08 1237	750	PPENQ	ST	ENDENQ+3, ARR	
11D4	38 10 020A	751	TBN	SBYTE2, SSW13	SAVE RETURN ADDRESS	
11D8	F2 90 08	752	JF	**11	IF SSW13	
11DB	3C 00 1FDE	753	MVI	ADDR, 0	IS ON, ALLOW	
11DF	3B 10 020A	754	SBF	SBYTE2, SSW13	FOR RECONNECTION	
11E3	C2 02 1615	755	LA	START-1, XR2		
		756				
11E7	3D 00 1FE0	757	CLI	NUMID, X'00'	IS THERE	
11EB	F2 81 22	758	JE	SENQ1	AN ID?	
11EE	C2 01 1FE0	759	LA	ID-15, XR1		
11F2	36 02 1FE0	760	A	NUMID, XR2	USE RH ADDRESS FOR SET FIELD	
11F6	36 01 1FE0	761	A	NUMID, XR1	USE RH ADDRESS OF IC FIELD	
11FA	0C 00 0D99 1FE0	762	MVC	Y6 (1), NUMID		
1200	0F 00 0D99 19D5	763	SLC	Y6 (1), ONE		
1206	0C 00 120D 0D99	764	MVC	MVC5+1 (1), Y6		
		765				
120C	9C 00 00 00	766	MVC5	MVC	0 (, XR2), 0 (1, XR1)	
1210	8C 00 01 18D0	767	SENQ1	MVC	1 (1, XR2), ENQ	
1215	E2 02 02	768	LA	2 (, XR2), XR2	MOVE IN ENQ	
1218	34 02 0D99	769	ST	Y6, XR2	GET CORRECT	
		770			TRANSITION ADDRESS	
121C	C0 87 1EC3	771	SENQ	B	\$SIO	
1220	19DA	1221	772	DC	AL2 (ASTART)	
1222	0D99	1223	773	DC	AL2 (Y6)	
1224	19DC	1225	774	DC	AL2 (ASTOP)	
1226	19DE	1227	775	DC	AL2 (ATANDR)	
		776				
1228	C0 87 0E00	777	B	CHECK	GO CHECK FOR ACK0	
122C	C0 87 121C	778	B	RENQ	REPEAT IF IN ERROR	
1230	3C FF 1FDE	779	MVI	ADDR, X'FF'		
1234	C0 87 0000	780	ENDENQ	B	**	
		781	*	*** END OF EXPANSION **	RETURN	
		782	*	*****		
		783	*	* XPOLL *		
		784	*	*****		
		785	*			
		786	*	XPOLL		
		787	*			
		788	*	THIS SUBROUTINE IS USED TO PERFORM POLLING FOR MULTIPPOINT		
		789	*	OR TO RECEIVE ONLY FOR THE SWITCHED FEATURE.		
		790	*			
1238	34 08 1302	1238	791	POLL	EQU *	
123C	3C 00 19CB	792	ST	ENPOLL+3, ARR	SAVE RETURN ADDRESS	
1240	0C 10 19CA 19CB	793	MVI	DUMMY+17, 0	CLEAR	
1246	38 10 0A0F	794	MVC	DUMMY+16 (17), DUMMY+17	T-R FIELD	
124A	F2 10 21	795	TBN	TRMPT, X'10'	SWITCHED	
124D	0C 03 1A19 18E7	796	JT	DOREC	NETWORK?	
1253	C0 87 102E	797	MVC	SELECT-3 (*), POLSEL-1	GET POLLING ADDRESS	
1257	1A11	798	B	XLATE	TRANSLATE	
1259	0C 08 19C2 1A1A	1258	799	DC	AL2 (SELECT-11)	
		800	MVC	DUMMY+8 (9), SELECT-2	IF NECESSARY	
		801			SET FOR POLLING	
125F	C0 87 1EC3	802	B	\$SIO	POLL	
1263	19F6	1264	803	DC	AL2 (ADUM1)	THE
1265	19FC	1266	804	DC	AL2 (ADUM9)	DISPLAY

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8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	
1267	19F4	1268	805	DC	AL2 (ADUM8)	STATION
1269	19DE	126A	806	DC	AL2 (ATANDR)	
126B	F2 87 66		807	J	CKSW	
			808			
		126E	809	DOREC	EQU *	COMP HERE FOR THE RECEIVE
126E	3A 01 1307		810	SBN	SWITCH,X'01'	SEND EOT
1272	C0 87 1137		811	B	\$EOT	
1276	3C FF 1B8B		812	MVI	\$NOTIM,X'FF'	BYPASS THE TIMEOUT MESSAGE
127A	3C 1E 19AD		813	MVI	C16,30	ALLOW 90 SEC FOR THE RESPONSE
			814			
127E	C0 87 1EC3		815	RECAGN	B \$SIO	ISSUE
1282	19F6	1283	816	DC	AL2 (ADUM1)	THE
1284	1A00	1285	817	DC	AL2 (ZERO)	RECEIVE
1286	19F4	1287	818	DC	AL2 (ADUM8)	COMMAND
1288	1304	1289	819	DC	AL2 (AREC)	
128A	38 40 1307		820	TBN	SWITCH,X'40'	SHOULD TIMEOUT
128E	F2 10 09		821	JT	XMTAO	BE BYPASSED?
1291	0D 00 19BA 18D0		822	CLC	DUMMY(1),ENQ	WAS ENQ RECEIVED
1297	F2 01 19		823	JNE	GOGOGO	
129A	C0 87 111F		824	XMTAO	B CLRTR	
129E	0C 01 1617 18C3		825	MVC	START+1(2),ACKO	TRANSMIT
12A4	C0 87 1EC3		826	B	\$SIO	ACKO
12A8	19DA	12A9	827	DC	AL2 (ASTART)	
12AA	19E2	12AB	828	DC	AL2 (START2)	
12AC	19DC	12AD	829	DC	AL2 (ASTOP)	
12AE	19DE	12AF	830	DC	AL2 (ATANDR)	
12B0	F2 87 15		831	J	NOTHE	CONTINUE
12B3	38 20 1B86		832	GOGOGO	TBN \$ERFLG,X'20'	WAS THE TIMEOUT RECEIVED?
12B7	F2 90 0E		833	JF	NOTHE	
12BA	0F 00 19AD 19D5		834	SLC	C16(1),ONE	REPEAT FOR 90 SEC
12C0	C0 01 127E		835	BNZ	RECAGN	
12C4	C0 87 1321		836	B	NDISP	PRINT NO INTERRUPT AFTER ONE MIN
12C8	0C 03 19C6 161B		837	NOTHE	MVC DUMMY+12(4),START+5	MOVE SOH % XI FIELD
12CE	0C 01 19CA 161D		838	MVC	DUMMY+16(2),START+7	MOVE IN SSO AND SS1
12D4	38 80 1307		839	CKSW	TBN SWITCH,X'80'	SHOULD DATA
12D8	F2 90 1C		840	JF	ENPOLL-8	BE MOVED TO
12DB	38 10 0A0F		841	TBN	TRMUOT,X'10'	SWITCHED?
12DF	F2 90 0F		842	JF	CKSS	
12E2	0C 03 1622 161B		843	MVC	START+12(4),START+5	SAVE IN
12E8	0C 01 1626 161D		844	MVC	START+16(2),START+7	CORRECT
12EE	F2 87 06		845	J	ENPOLL-8	ORDER
12F1	0C 11 1627 19CB		846	CKSS	MVC START+17(18),DUMMY+17	THE -START- FIELD
12F7	3C 00 1307		847	MVI	SWITCH,0	RESET SWITCH
12FB	3C 40 1A09		848	MVI	SSSAVE-2,X'40'	ALLOW TO RETRANSLATE
12FF	C0 87 0000		849	ENPOLL	B **	
			850			
1303	8102	1304	851	AREC	DC XL2*8102'	
1305	8402	1306	852	SACAL	DC XL2*8402'	
1307	00	1307	853	SWITCH	DC XL1'00'	
			854		*** END OF EXPANSION **	
			855		**	
			856	*	THIS SUBROUTINE IS USED TO SEE IF THE RFT KEY HAS BEEN	
			857	**	PRESSED--IF IT HAS, NEXT ROUTINE IS STARTED	
		1308	858	CERSFN	EQU *	
1308	34 08 144A		859	ST	ENDCER+3,ARR	SAVE
130C	34 01 1442		860	ST	CER1+3,XR1	REGISTERS
1310	34 02 1446		861	ST	CER2+3,XR2	
1314	3C 18 19AD		862	MVI	C16,24	SET FOR WAITING 90 SECONDS
1318	0F 00 19AD 19D5		863	REPP1	SLC C16(1),ONE	
131E	F2 01 0E		864	JNZ	REPP1	
1321	C0 87 021A		865	NDISP	B PRINT	PRINT
1325	46	1325	866	DC	XL1'46'	NO INTERRUPT
1326	28	1326	867	DC	IL1'40'	AFTER ONE MIN-
1327	19A8	1328	868	DC	AL2 (MSG0A)	NEXT DISPLAY
1329	87A2	132A	869	DC	XL2*87A2'	WILL BEGIN
132B	C0 87 0216		870	B	LINK	GO TO NEXT ROUTINE
132F	3A 80 1307		871	REPP1	SBN SWITCH,X'80'	SET FLAG FOR MOVING POLL DATA
1333	C0 87 1238		872	B	POLL	DO THE POLL

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT	
			873	*		
1337	CD 02 1621 18D8		874	CLC	START+11(3),HEADER	SOH,%R
133D	F2 01 2D		875	JNE	CKKRPT	
1340	0C 01 1A0B 1626		876	MVC	SSSAVE(2),START+16	SAVE S&S
1346	38 80 19AE		877	TBN	UDTOFT,ASCII	
134A	F2 90 06		878	JF	NXLTE	
134D	C0 87 1026		879	B	XLATE	FORCE XLATE
1351	1A09	1352	880	DC	AL2(SSSAVE-2)	TO EBCDIC
1353	CC 87 021E		881	NXLTE	B UNPACK	UNPACK
1357	02	1357	882	DC	XL1'02'	S&S
1358	1ACB	1359	883	DC	AL2(SSSAVE)	FOR
135A	192F	135B	884	DC	AL2(MSG03)	PRINTING
135C	C0 87 021A		885	B	PRINT	PRINT
1360	C2	1360	886	DC	XL1'02'	SENSE
1361	18	1361	887	DC	IL1'24'	AND
1362	192F	1363	888	DC	AL2(MSG03)	STATUS
1364	8704	1365	889	DC	XL2*8704'	
1366	CC 87 1CDC		890	B	\$TRPNT	PRINT XHT AND RCV DATA
136A	F2 87 D2		891	J	CER1	
			892	*		
136D	0D 02 1621 18D5		893	CKKRPT	CLC START+11(3),TSTR	IF RFT (SOH % /)
1373	F2 01 1E		894	JNE	CKKSTX	PRESSED, GO TO NEXT ROUTINE
1376	38 10 0A0F		895	TBN	TRMUOT,X'10'	IF SWITCHED
137A	C0 90 0216		896	BF	LINK	
137E	C0 87 1176		897	RACK1	B \$ACK1	RESET TEST REQUEST
			898			
1382	0D 00 19BC 18D1		899	CLC	DUMMY+2(1),EOT	EXPECT EOT
1388	C0 81 0216		900	BE	LINK	TO RESET
138C	C0 87 1CDC		901	B	\$TRPNT	
1390	C0 87 137E		902	B	RACK1	
			903	*		
139A	0D 00 161F 18CB		904	CKKSTX	CLC START+9(1),STX	START OF
139A	F2 01 8A		905	JNE	CKKECT	TEXT?
139D	0D 00 1622 18FA		906	CLC	START+12(1),CNCL	WAS CANCEL
13A3	F2 81 0A		907	JE	**13	DESIRED?
13A6	0D 00 1620 18FA		908	CLC	START+10(1),CNCL	
13AC	C0 01 1407		909	BNE	REPPOL	
13B0	38 10 0A0F		910	TBN	TRMUOT,X'10'	SWITCHED
13B4	F2 90 0B		911	JF	**14	NETWORK?
13B7	C0 87 1176		912	B	\$ACK1	RESPOND
13BB	C0 87 11D0		913	B	PPENQ	ENQ
13BF	F2 87 22		914	J	XMRST	GO RESET KEYBOARD
13C2	0C 03 1A19 18E2		915	MVC	SELECT-3(4),ADRSEL-1	
13C8	C0 87 1026		916	B	XLATE	TRANSLATE TO
13CC	1A11	13CD	917	DC	AL2(SELECT-11)	CORRECT CODE
13CE	C0 87 111F		918	B	CLRTR	CLEAR T-R FIELD
13D2	0C 08 161E 1A1A		919	MVC	START+8(9),SELECT-2	USE CORRECT SELECT SEQUENCE
			920			
13D8	C0 87 1EC3		921	B	\$SIO	TRANSMIT
13DC	19DA	13DD	922	DC	AL2(ASTART)	SELECT
13DE	19E0	13DF	923	DC	AL2(START6)	
13E0	19DC	13E1	924	DC	AL2(ASTOP)	
13E2	19DE	13E3	925	DC	AL2(ATANDR)	T-R
			926	*		
13E4	C0 87 111F		927	XMRST	B CLRTR	CLEAR T-R FIELD
13E8	0C 04 161A 1903		928	MVC	START+4(5),RSTKBD+3	
13EE	C0 87 1EC3		929	B	\$SIO	TRANSMIT
13F2	19DA	13F3	930	DC	AL2(ASTART)	RESET
13F4	19E6	13F5	931	DC	AL2(START5)	KEYBOARD
13F6	19DC	13F7	932	DC	AL2(ASTOP)	
13F8	19DE	13F9	933	DC	AL2(ATANDR)	
13FA	3C 01 1307		934	MVI	SWITCH,X'01'	
13FE	C0 87 1137		935	B	\$EOT	XHT EOT TO ALLOW DATA ENTRY
1402	C0 87 022A		936	B	LOAD	LOAD NEXT
1406	40	1406	937	DC	XL1'40'	SECTION (ABNORMAL TERMINATION)
			938	*		
1407	0C 02 19CE 19D2		939	REPPOL	MVC COUNTER(3),WAIT4	WAIT
140D	0D FF 140D 140D		940	W4SEC	CLC *(256),*	FOUR

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
1413	0D 3A 1413 1413	941	CLC	*(59),*	SECONDS	
1419	0F 02 19CE 19D5	942	SLC	COUNT(3),ONE		
141F	C0 01 140D	943	BNE	#4SEC		
1423	C0 87 1318	944	B	REPPL1		
		945	*			
1427	0D 00 161F 18D1	946	CKKEOT	CLC START+9(1),EOT	WAS EOT	
142D	C0 81 1407	947	BE	REPPOL	RESPONSE?	
		948	*	ERROR		
1431	C0 87 021A	949	B	PRINT	PRINT	
1435	C2	1435	950	DC	IL1'C2'	INCORRECT
1436	12	1436	951	DC	IL1'18'	RESPONSE
1437	1970	1438	952	DC	AL2(HSG06)	TO THE POLL
1439	8705	143A	953	DC	XL2'8705'	
143B	C0 87 1CDC		954	B	\$TRPNT	
			955	*		
143F	C2 01 0000		956	CER1 LA	**-,XR1	RESTORE
1443	C2 02 0000		957	CER2 LA	**-,XR2	REGISTERS
1447	C0 87 0000		958	FNDCER B	**-	RETURN
			959	*****		
			960	*		
			961	*	MESSAGES FOR TEST 4	
			962	*		
144B	00	144B	963	DC	XL1'00'	CONTROL CHARACTER
		144C	964	ORD4 EQU	*	ORDERS FOR TEST 4 BEGIN HERE
144C	0227	144D	965	DC	XL2'0227'	STX-ESC
144E	F5	144E	966	DC	XL1'F5'	CMD-ERASE,WRITE
144F	7F	144F	967	DC	XL1'7F'	WCC - SOUND ALARM/RESTORE KEYBOARD?
			968	*		START PRINT/80 CHARS PER LINE
1450	3CC150	1452	969	DC	XL3'3CC150'	REPEAT TO ADDR
1453	C5	1453	970	DC	CL1'E'	80 E CHARACTERS
1454	C8	1454	971	DC	CL1'H'	CHAR 81=H
			972	*		
1455	11	1455	973	DC	XL1'11'	SBA
1456	C25F	1457	974	DC	XL2'C25F'	ADR--159
1458	C8C8	1459	975	DC	CL2'HH'	
			976	*		
145A	11	145A	977	DC	XL1'11'	SBA
145B	C36F	145C	978	DC	XL2'C36F'	ADR--239
145D	C8C8	145E	979	DC	CL2'HH'	
			980	*		
145F	11	145F	981	DC	XL1'11'	SBA
1460	C47F	1461	982	DC	XL2'C47F'	ADR--319
1462	C8C8	1463	983	DC	CL2'HH'	
			984	*		
1464	11	1464	985	DC	XL1'11'	SBA
1465	C64F	1466	986	DC	XL2'C64F'	ADR--399
1467	C8C8	1468	987	DC	CL2'HH'	
			988	*		
1469	11	1469	989	DC	XL1'11'	SBA
146A	C75F	146B	990	DC	XL2'C75F'	ADR--479
146C	C8C8	146D	991	DC	CL2'HH'	
			992	*		
146E	11	146E	993	DC	XL1'11'	SBA
146F	C7E5	1470	994	DC	XL2'C7E5'	ADR--485
1471	E3C5E2E340D7C1E3	148E	995	DC	CL30'TEST PATTERN FOR 3275-2/3277-2'	
1479	E3C5D9I540C6D6D9		995			
1481	40F3F2F7F560F261		995			
1489	F3F2F7F760F2		995			
			996	*		
148F	11	148F	997	DC	XL1'11'	SBA
1490	C86F	1491	998	DC	XL2'C86F'	ADR--559
1492	C8C8	1493	999	DC	CL2'HH'	
			1000	*		
1494	11	1494	1001	DC	XL1'11'	SBA
1495	C87E	1496	1002	DC	XL2'C87E'	ADR--574
1497	C1D3C9C7D5D4C5D5	149F	1003	DC	CL9'ALIGNMENT'	
149F	E3		1003			
			1004	*		

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
14A0	11	14A0	1005	DC	XL1'11'	SBA
14A1	C97F	14A2	1006	DC	XL2'C97F'	ADR--639
14A3	C8C8	14A4	1007	DC	CL2'HH'	
			1008	*		
14A5	11	14A5	10C9	DC	XL1'11'	SBA
14A6	4B4F	14A7	1010	DC	XL2'4B4F'	ADR--719
14A8	C8C8	14A9	1011	DC	CL2'HH'	
			1012	*		
14AA	11	14AA	1013	DC	XL1'11'	SBA
14AB	4C5F	14AC	1014	DC	XL2'4C5F'	ADR--799
14AD	C8C8	14AE	1015	DC	CL2'HH'	
			1016	*		
14AF	11	14AF	1017	DC	XL1'11'	SBA
14B0	4CE7	14B1	1018	DC	XL2'4CE7'	ADR--807
14B2	5C	14B2	1019	DC	CL1'*	
			1020	*		
14B3	1D40	14B4	1021	DC	XL2'1D40'	UNPROTECTED,NORMAL INTENSITY
14B5	13	14B5	1022	DC	XL1'13'	INSERT CURSOR
14B6	E4D5D7D9D6E3C5C3	14C9	1023	DC	CL20'UNPROTECTED AREA	
14BE	E3C5C440C1D9C5C1		1023			
14C6	40404040		1023			
14CA	1D60	14CE	1024	DC	XL2'1D60'	PROTECTED,NORMAL INTENSITY
14CC	5C	14CC	1025	DC	CL1'*	
			1026	*		
14CD	11	14CD	1027	DC	XL1'11'	SBA
14CE	4D6F	14CF	1028	DC	XL2'4D6F'	ADR--879
14D0	C8C8	14D1	1029	DC	CL2'HH'	
			1030	*		
14D2	11	14D2	1031	DC	XL1'11'	SBA
14D3	4ED7	14D4	1032	DC	XL2'4ED7'	ADR--919
14D5	D6D6	14D6	1033	DC	CL2'00'	
			1034	*		
14D7	11	14D7	1035	DC	XL1'11'	SBA
14D8	4E7F	14D9	1036	DC	XL2'4E7F'	ADR--959
14DA	C8C8	14DB	1037	DC	CL2'HH'	
			1038	*		
14DC	11	14DC	1039	DC	XL1'11'	SBA
14DD	4FE7	14DE	1040	DC	XL2'4FE7'	ADR--999
14DF	D6D6	14E0	1041	DC	CL2'00'	
			1042	*		
14E1	11	14E1	1043	DC	XL1'11'	SBA
14E2	504F	14E3	1044	DC	XL2'504F'	ADR--1039
14E4	C8C8	14E5	1045	DC	CL2'HH'	
			1046	*		
14E6	11	14E6	1047	DC	XL1'11'	SBA
14E7	D15F	14E8	1048	DC	XL2'D15F'	ADR--1119
14E9	C8C8	14EA	1049	DC	CL2'HH'	
			1050	*		
14EB	11	14EB	1051	DC	XL1'11'	SBA
14EC	D26F	14ED	1052	DC	XL2'D26F'	ADR--1199
14EE	C8C8	14EF	1053	DC	CL2'HH'	
			1054	*		
14F0	11	14F0	1055	DC	XL1'11'	SBA
14F1	D37F	14F2	1056	DC	XL2'D37F'	ADR--1279
14F3	C8C8	14F4	1057	DC	CL2'HH'	
			1058	*		
14F5	11	14F5	1059	DC	XL1'11'	SBA
		14F6	1060	EFOR3 EQU	*	
14F6	D54F	14F7	1061	DC	XL2'D54F'	ADR--1359
14F8	C8C8	14F9	1062	DC	CL2'HH'	
			1063	*		
14FA	11	14FA	1064	DC	XL1'11'	SBA
14FB	D65F	14FC	1065	DC	XL2'D65F'	ADR--1439
14FD	C8C8	14FE	1066	DC	CL2'HH'	
			1067	*		
14FF	11	14FF	1068	DC	XL1'11'	SBA
1500	D76F	1501	1069	DC	XL2'D76F'	ADR--1519
1502	C8C8	1503	1070	DC	CL2'HH'	

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
				1071 *		
1504	11		1504	1072	DC	XL1'11'
1505	D87F		1506	1073	DC	XL2'D87F'
1507	C8C8		1508	1074	DC	CL2'HH'
				1075 *		
1509	11		1509	1076	DC	XL1'11'
150A	5A4F		150B	1077	DC	XL2'5A4F'
150C	C8C8		150D	1078	DC	CL2'HH'
				1079 *		
150E	11		150E	1080	DC	XL1'11'
150F	5B5F		1510	1081	DC	XL2'5B5F'
1511	C8C8		1512	1082	DC	CL2'HH'
				1083 *		
1513	11		1513	1084	DC	XL1'11'
1514	5C6F		1515	1085	DC	XL2'5C6F'
1516	C8		1516	1086	DC	CL1'H'
				1087 *		
1517	3C4040		1519	1088	DC	XL3'3C4040'
151A	C5		151A	1089	DC	CL1'E'
				1090 *		
151B	11		151B	1091	DC	XL1'11'
151C	5CE5		151D	1092	DC	XL2'5CE5'
151E	1DE8		151F	1093	DC	XL2'1DE8'
1520	C1C4D960		1523	1094	DC	CL4'ADR-'
1524	00000000		1527	1095	DC	XL4'00000000'
1528	1D60		1529	1096	DC	XL2'1D60'
				1097 *		
152A	03		152A	1098	EORD4 DC	XL1'03'
			00DF	1099	ETEXT4 EQU	*-ORD4
152B	FFFF		152C	1100	DC	XL2'FFFF'
				1101 *		
				1102 *		
				1103 *		
				1104 *		
						MESSAGES FOR TEST 2
152D	00		152D	1105	DC	XL1'00'
				1106	ORD2 EQU	*
152E	0227		152F	1107	DC	XL2'0227'
1530	F5		1530	1108	DC	XL1'F5'
1531	5F		1531	1109	DC	XL1'5F'
				1110 *		
1532	11		1532	1111	DC	XL1'11'
1533	C150		1534	1112	DC	XL2'C150'
1535	1D60		1536	1113	DC	XL2'1D60'
1537	C1C2C3C4C5C6C7C8		1551	1114	DC	CL27'ABCDEFGHIJKLMNPOQRSTUVWXYZ ' BEGIN MESSAGE
153F	C9D1D2D3D4D5D6D7			1114		
1547	D8D9E2E3E4E5E6E7			1114		
154F	E8E940			1114		
				1115 *		
1552	1D6C		1553	1116	DC	XL2'1D6C'
1554	D5D6D540C4C9E2D7		155E	1117	DC	CL11'NON DISPLAY'
155C	D3C1E8			1117		
				1118 *		
155F	11		155F	1119	DC	XL1'11'
1560	C260		1561	1120	DC	XL2'C260'
1562	1D40		1563	1121	DC	XL2'1D40'
1564	13		1564	1122	DC	XL1'13'
1565	C3D6D7E840C1C2D6		157F	1123	DC	CL27'COPY ABOVE IN THIS LINE
156D	E5C540C9D540E3C8			1123		
1575	C9E240D3C9D5C540			1123		
157D	404040			1123		
				1124 *		
1580	1D40		1581	1125	DC	XL2'1D40'
1582	C9D5E2C5D9E340C3		158A	1126	DC	CL9'INSERT CK'
158A	D2			1126		
158B	0C00		158C	1127	DC	XL2'0000'
				1128 *		
158D	1D60		158E	1129	DC	XL2'1D60'
158F	11		158F	1130	DC	XL1'11'

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
				1590	C3F0	
				1592	1DE8	
				1594	4F7C7B5B6C	
				1599	4A	
				159A	505C4D5D6D4E	
				15A0	5A	
				15A1	7A	
				15A2	7F	
				15A3	4C6E6F607E5F5E7D	
				15AB	61	
						1139
						1140 *
				15AC	1DF8	
				15AE	F0F1F2F3F4F5F6F7	
				15B6	F8F96B4B60C1	
						1142
						1143 *
				15BC	11	
				15BD	C540	
				15BF	1DC8	
				15C1	C3D6D7E840C1C2D6	
				15C9	E5C540C9D540E3C8	
				15D1	C9E240D3C9D5C540	
				15D9	1DD8	
						1147
						1148
				15DA	1148	
						1149 *
				15DB	11	
				15DC	C5E8	
				15DE	1D60	
						1153 *
				15E0	11	
				15E1	C650	
				15E3	1DE4	
						1157 *
				15E5	6FE2C5D340D7C5D5	
				15E8	40E3C5E2E3	
				15F2	000000	
				15F5	1DE8	
				15F7	6EE2C5D340D7C5D5	
				15FF	40E3C5E2E3	
						1161
						1162 *
				1604	11	
				1605	C7D6	
						1163
						1164
						1165 *
				1607	1DE8	
				1609	C1C4D960	
				160D	00000000	
				1611	1DE8	
				1613	03	
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8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1626	C8C8	1627	1193	DC	CL2'HH'
			1194 *		
1628	11	1628	1195	DC	XL1'11'
1629	C1P7	162A	1196	DC	XL2'C1P7'
162B	C8C8	162C	1197	DC	CL2'HH'
			1198 *		
162D	11	162D	1199	DC	XL1'11'
162E	C25P	162F	1200	DC	XL2'C25P'
1630	C8C8	1631	1201	DC	CL2'HH'
			1202 *		
1632	11	1632	1203	DC	XL1'11'
1633	C3C7	1634	1204	DC	XL2'C3C7'
1635	C8C8	1636	1205	DC	CL2'HH'
			1206 *		
1637	11	1637	1207	DC	XL1'11'
1638	C36P	1639	1208	DC	XL2'C36P'
163A	C8C8	163B	1209	DC	CL2'HH'
			1210 *		
163C	11	163C	1211	DC	XL1'11'
163D	C4D7	163E	1212	DC	XL2'C4D7'
163F	C8C8	1640	1213	DC	CL2'HH'
			1214 *		
1641	11	1641	1215	DC	XL1'11'
1642	C47P	1643	1216	DC	XL2'C47P'
1644	C8C8	1645	1217	DC	CL2'HH'
			1218 *		
1646	11	1646	1219	DC	XL1'11'
1647	C5E7	1648	1220	DC	XL2'C5E7'
1649	C8C8	164A	1221	DC	CL2'HH'
			1222 *		
164B	11	164B	1223	DC	XL1'11'
164C	C64P	164D	1224	DC	XL2'C64P'
164E	C8C8	164F	1225	DC	CL2'HH'
			1226 *		
1650	11	1650	1227	DC	XL1'11'
1651	C6F7	1652	1228	DC	XL2'C6F7'
1653	C8	1653	1229	DC	CL1'H'
			1230 *		
1654	11	1654	1231	DC	XL1'11'
1655	C35B	1656	1232	DC	XL2'C35B'
1657	D6D6	1658	1233	DC	CL2'OO'
			1234 *		
1659	11	1659	1235	DC	XL1'11'
165A	C4C3	165B	1236	DC	XL2'C4C3'
165C	D6D6	165D	1237	DC	CL2'OO'
			1238 *		
165E	11	165E	1239	DC	XL1'11'
165F	C45D	1660	1240	DC	XL2'C45D'
1661	E3C5E2E340D7C1E3	167E	1241	DC	CL30'TEST PATTERN FOR 3277-1/3275-1' TEST MESSAGE
1669	E3C5D9E540C6D6D9		1241		
1671	40F3F2F7F760F161		1241		
1679	F3P2F7F560P1		1241		
			1242 *		
167F	11	167F	1243	DC	XL1'11'
1680	C54P	1681	1244	DC	XL2'C54P'
1682	C1D3C9C7D5E4C5D5	168A	1245	DC	CL9'ALIGNMENT'
168A	E3		1245		
			1246 *		
168B	11	168B	1247	DC	XL1'11'
168C	C5P0	168D	1248	DC	XL2'C5P0'
168E	5C	168E	1249	DC	CL1'*'
			1250 *		
168F	1D40	1690	1251	DC	XL2'1D40'
1691	13	1691	1252	DC	XL1'13'
1692	E4D5D7D9D6E3C5C3	16A1	1253	DC	CL16'UNPROTECTED DATA'
169A	E3C5C440C4C1E3C1		1253		
			1254 *		
16A2	11	16A2	1255	DC	XL1'11'

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
16A3	C6C6	16A4	1256	DC	XL2'C6C6'
16A5	1D60	16A6	1257	DC	XL2'1D60'
16A7	5C	16A7	1258	DC	CL1'*'
			1259 *		
16A8	11	16A8	1260	DC	XL1'11'
16A9	C6F8	16AA	1261	DC	XL2'C6F8'
16AB	3C	16AB	1262	DC	XL1'3C'
16AC	C75P	16AD	1263	DC	XL2'C75P'
16AE	C5	16AE	1264	DC	CL1'E'
16AF	C5	16AF	1265	DC	CL1'E'
			1266 *		
16B0	11	16B0	1267	DC	XL1'11'
16B1	C66D	16B2	1268	DC	XL2'C66D'
16B3	1DE8	16B4	1269	DC	CL2'1DE8'
16B5	C1C4D960	16B8	1270	DC	CL4'ADR'
16B9	00000000	16BC	1271 A3	DC	XL4'00000000'
16BD	1D60	16BE	1272	DC	XL2'1D60'
16BF	03	16BF	1273	DC	XL1'03'
		00A9	1274	DC	*-ORD3
16C0	FFFF	00A9	1274	EQU	ETEXT3
16C2	F3P2F7F040D9C5D8	16C1	1275	DC	XL2'FFFF'
16CA	E4C5E2E340C6D6D9	16E2	1276	DC	CL33'3270 REQUEST FOR TESTS, SECTION 1'
16D2	40E3C5E2E3E26B40		1276		
16DA	E2C5C3E3C9D6D540		1276		
16E2	F1		1276		
16E3	D5D64CE2C5D3C5C3	1702	1277	MSG07	DC
16EB	E340D6D940D7D6D3		1277		
16F3	D340C1C4C4D940C1		1277		
16FB	E5C1C9D3C1C2D3C5		1277		
1703	E3C8C9E240D4E4E2	1716	1278	MSG08	DC
170B	E340C2C540C5D5E3		1278		
1713	C5D9C5C4		1278		
1717		1719	1279	DS	CL3
171A		171A	1280	DS	CL1
			1281 *		
			1282 *		
			1283 *		
			1284 *		
			1285 *		
			1286 *		
			1287 *		
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			1290 *		
			1291 *		
			1292 *		
			1293 *		
			1294 *		
			1295 *		
			1296 *		
171B	00	171B	1287	DC	XL1'00'
171C	0227	171C	1288	DC	XL2'0227'
171E	P5	171E	1290	DC	XL1'P5'
171F	5P	171F	1291	DC	XL1'5P'
			1292 *		
1720	11	1720	1293	DC	XL1'11'
1721	40C6	1722	1294	DC	XL2'40C6'
1723	E3C5E2E340D7C1E3	1739	1295	DC	CL23'TEST PATTERN SEQUENCING' BEGIN MESSAGE
172B	E3C5D9D540E2C5D8		1295		
1733	E4C5D5C3C9D5C7		1295		
			1296 *		
173A	11	173A	1297	DC	XL1'11'
173B	C150	173C	1298	DC	XL2'C150'
173D	F14B40D7D9C5E2E2	175E	1299	DC	CL34'1. PRES. TEST REQUEST TO CALL NEXT'
1745	40E3C5E2E340D9C5		1299		
174D	D8E4C5E2E340E3D6		1299		
1755	40C3C1D3D340D5C5		1299		
175D	E7E3		1299		
			1300 *		
175P	11	175P	1301	DC	XL1'11'
1760	C2E2	1761	1302	DC	XL2'C2E2'
1762	E2C5D8E4C5D5E3C9	1781	1303	DC	CL32'SEQUENTIAL PATTERN. SECTION WILL'
176A	C1D340D7C1E3E3C5		1303		
1772	D9D54B40E2C5C3E3		1303		
177A	C9D6D540E2C6C9D3D3		1303		
			1304 *		
1782	11	1782	1305	DC	XL1'11'

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1783	C3F2		1784	1306	DC XL2'C3F2' ADDRESS--242
1785	E3C5D9D4C9E5C1E3		179E	1307	DC CL26*TERMINATE ON LAST PATTERN.*
178D	C540D6E540D3C1E2			1307	
1795	E340D7C1E3E3C5D9			1307	
179D	D54B			1307	
				1308 *	
179F	11		179F	1309	DC XL1'11' SBA
17A0	C540		17A1	1310	DC XL2'C540' ADDRESS--320
17A2	F24B40D7D9C5E2E2		17C9	1311	DC CL40*2. PRESS CANCEL (OR PA2) TO DISCONNECT CPU'
17AA	40C3C1D5C3C5D34D			1311	
17B2	D6D940D7C1E25D23			1311	
17BA	D640C4C9E2C3D6D5			1311	
17C2	D5C5C3E340C3D7E4			1311	
				1312 *	
17CA	11		17CA	1313	DC XL1'11' SBA
17CB	C6D2		17CC	1314	DC XL2'C6D2' ADDRESS--402
17CD	C1D5C440D3C5C1E5		17F1	1315	DC CL37*AND LEAVE PATTERN FOR OFF-LINE USAGE.*
17D5	C540D7C1E3E3C5D9			1315	
17DD	E540C6D6D940D6C6			1315	
17E5	C660D3C9D5C540E4			1315	
17ED	E2C1C7C54B			1315	
				1316 *	
17F2	11		17F2	1317	DC XL1'11' SBA
17F3	C7D6		17F4	1318	DC XL2'C7D6' ADDRESS--470
				1319 *	
17F5	1DE8		17F6	1320	DC XL2'1DE8' SF-HIGH INTENSITY/PROTECTED
17F7	C1C4D960		17FA	1321	DC CL4'ADR-' ADDRESS OF DVC WILL FOLLOW
17FB	00000000		17FE	1322 A1	DC XL4'00000000' RESERVE SPACE FOR SELECTION ADDR
				1323 *	
17FF	1D40		1800	1324	DC XL2'1D40' SF-NORMAL INT/UNPROTECTED
				1325 *	
1801	19		1801	1326	DC XL1'19'
1802	03		1802	1327 EORD1	DC XL1'03' ETX
				1328 *	
1803	FFFF		00E7	1329 ETEXT1	EQU *-ORD1 LENGTH OF TEST 1
			1804	1330	DC XL2'FFFF' END OF MESSAGE
				1331 *	
				1332 *	
				1333 *	
				1334 *	TABLE FOR TRANSLATING LEGAL GRAPHICS BETWEEN EBCDIC AND USASCII
				1335 *	
1805	0202		1806	1336 EBCTBL	EQU * CHARACTER
1807	0F0F		1808	1340	DC XL2'0202' STX
1809	271B		180A	1341	DC XL2'0F0F' PAD
180B	0303		180C	1342	DC XL2'271B' ESC
180D	1111		180E	1343	DC XL2'0303' ETX
180F	1313		1810	1344	DC XL2'1111' SBA
1811	1D1D		1812	1345	DC XL2'1313' DC3 - IC (INSERT CURSOR)
1813	4020		1814	1346	DC XL2'1D1D' START FLD (SF)
1815	F030		1816	1347	DC XL2'4020' SPACE
1817	F131		1818	1348	DC XL2'F030' 0
1819	F232		181A	1349	DC XL2'F131' 1
181B	F333		181C	1350	DC XL2'F232' 2
181D	F434		181E	1351	DC XL2'F333' 3
181F	F535		1820	1352	DC XL2'F434' 4
1821	F636		1822	1353	DC XL2'F535' 5
1823	F737		1824	1354	DC XL2'F636' 6
1825	F838		1826	1355	DC XL2'F737' 7
1827	F939		1828	1356	DC XL2'F838' 8
1829	C141		182A	1357	DC XL2'F939' 9
182B	C242		182C	1358	DC XL2'C141' A
182D	C343		182E	1359	DC XL2'C242' B
182F	C444		1830	1360	DC XL2'C343' C
1831	C545		1832	1361	DC XL2'C444' D
1833	C646		1834	1362	DC XL2'C545' E
					XL2'C646' F

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
1835	C747		183E	1363	DC XL2'C747'	G
1837	C848		1838	1364	DC XL2'C848'	H
1839	C949		183A	1365	DC XL2'C949'	I
183B	D14A		183C	1366	DC XL2'D14A'	J
183D	D24B		183E	1367	DC XL2'D24B'	K
183F	D34C		1840	1368	DC XL2'D34C'	L
1841	D44D		1842	1369	DC XL2'D44D'	M
1843	D54E		1844	1370	DC XL2'D54E'	N
1845	D64F		1846	1371	DC XL2'D64F'	O
1847	D750		1848	1372	DC XL2'D750'	P
1849	D851		184A	1373	DC XL2'D851'	Q
184B	D952		184C	1374	DC XL2'D952'	R
184D	E253		184E	1375	DC XL2'E253'	S
184F	E354		1850	1376	DC XL2'E354'	T
1851	E455		1852	1377	DC XL2'E455'	U
1853	E556		1854	1378	DC XL2'E556'	V
1855	E657		1856	1379	DC XL2'E657'	W
1857	E758		1858	1380	DC XL2'E758'	X
1859	E859		185A	1381	DC XL2'E859'	Y
185B	E95A		185C	1382	DC XL2'E95A'	Z
185D	1212		185E	1383	DC XL2'1212'	DC2 - EUA PHASE UNPROTECTED TO ADDR
185F	0509		1860	1384	DC XL2'0509'	RT - PGH TAB
1861	3C14		1862	1385	DC XL2'3C14'	DC4 - RA
1863	1010		1864	1386	DC XL2'1010'	DLE
1865	0000		1866	1387	DC XL2'0000'	NULL
1867	0101		1868	1388	DC XL2'0101'	SOH
1869	3704		186A	1389	DC XL2'3704'	EOT
186B	7F22		186C	1390	DC XL2'7F22'	QUOTE (GENERAL POLL)
186D	4A5B		186E	1391	DC XL2'4A5B'	CENT
186F	4B2E		1870	1392	DC XL2'4B2E'	PERIOD
1871	4C3C		1872	1393	DC XL2'4C3C'	LESS THAN
1873	4D28		1874	1394	DC XL2'4D28'	LEFT PAREN
1875	4E2B		1876	1395	DC XL2'4E2B'	PLUS
1877	4F21		1878	1396	DC XL2'4F21'	*
1879	5026		187A	1397	DC XL2'5026'	AMPERSAND
187B	5A5D		187C	1398	DC XL2'5A5D'	EXCLAMATION MARK
187D	5B24		187E	1399	DC XL2'5B24'	DOLLAR
187F	5C2A		1880	1400	DC XL2'5C2A'	ASTERISK
1881	5D29		1882	1401	DC XL2'5D29'	RIGHT PAREN
1883	5E3B		1884	1402	DC XL2'5E3B'	SEMI-COLON
1885	5F5E		1886	1403	DC XL2'5F5E'	~
1887	602D		1888	1404	DC XL2'602D'	DASH
1889	612F		188A	1405	DC XL2'612F'	SLASH
188B	6A5C		188C	1406	DC XL2'6A5C'	*
188D	6B2C		188E	1407	DC XL2'6B2C'	COMMA
188F	6C25		1890	1408	DC XL2'6C25'	PERCENT
1891	6D5F		1892	1409	DC XL2'6D5F'	UNDEFNSCORE
1893	6E3E		1894	1410	DC XL2'6E3E'	GREATER THAN
1895	6F3F		1896	1411	DC XL2'6F3F'	QUESTION MARK
1897	7A3A		1898	1412	DC XL2'7A3A'	COLON
1899	7B23		189A	1413	DC XL2'7B23'	POUND
189B	7C40		189C	1414	DC XL2'7C40'	AT
189D	7D27		189E	1415	DC XL2'7D27'	APOSTROPHE
189F	7E3D		18A0	1416	DC XL2'7E3D'	EQUAL
18A1	2617		18A2	1417	DC XL2'2617'	ETB
18A3	3216		18A4	1418	DC XL2'3216'	SYN
18A5	150A		18A6	1419	DC XL2'150A'	NL - LF (NEW LINE)
18A7	1919		18A8	1420	DC XL2'1919'	EH - EOH (END OF MESSAGE)
18A9	1C1C		18AA	1421	DC XL2'1C1C'	IFS - DUP
18AB	1E1E		18AC	1422	DC XL2'1E1E'	PH (FIELD MARK)
18AD	1F1F		18AE	1423	DC XL2'1F1F'	ITB
18AF	2D05		18B0	1424	DC XL2'2D05'	ENQ
18B1	3D15		18B2	1425	DC XL2'3D15'	NAK
18B3	3F1A		18B4	1426	DC XL2'3F1A'	SUB
18B5	FFFF		18B6	1427	DC XL2'FFFF'	END OF TABLE
			18B7	1428	DC TBLEND EQU *	
				1429 *		
				1430 *	SPECIAL CHARACTERS TO BE TRANSLATED	

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
18B7	70	18B7	1431 *	
18B8	61	18B7	1432	ESPCAL DC XL1'70' ACK 0 EBCDIC
18B9	7C	18B8	1433	DC XL1'61' ACK 1 *
18BA	6B	18B9	1434	DC XL1'7C' RVI *
18BB	30	18BA	1435	DC XL1'6B' WACK *
18BC	31	18BB	1436	DC XL1'30' ACK 0 ASCII
18BD	3C	18BC	1437	DC XL1'31' ACK 1 *
18BE	3B	18BD	1438	DC XL1'3C' RVI *
18BF	FF	18BE	1439	DC XL1'3B' WACK *
		18BF	1440	DC XL1'FF' END OF TABLE
			1441	*****
			1442	* FLAG *
			1443	*****
			1444	* PROGRAM FLAGS
18C0	00	18C0	1445	FLAG DC XL1'00'
		G080	1446	FLAG0 EQU X'80'
		0040	1447	FLAG1 EQU X'40'
		0020	1448	FLAG2 EQU X'20'
		0010	1449	FLAG3 EQU X'10'
		0008	1450	FLAG4 EQU X'08'
		0004	1451	FLAG5 EQU X'04'
		0002	1452	FLAG6 EQU X'02'
		0001	1453	FLAG7 EQU X'01'
			1454	*
			1455	**
			1456	* CONSTANTS (IN EBCDIC, WILL BE TRANSLATED WHEN RUNNING ASCII)
			1457	**
18C1	00	18C1	1458	DC XL1'00'
		18C2	1459	DATCON EQU *
18C2	1070	18C3	1460	ACK0 DC XL2'1070' ACK 0
18C4	1061	18C5	1461	ACK1 DC XL2'1061' ACK 1
18C6	107C	18C7	1462	RVI DC XL2'107C' REVERSE INTERRUPT
18C8	106B	18C9	1463	WACK DC XL2'106B' WACK
18CA	01	18CA	1464	SOH DC XL1'01' START OF HEADING
18CB	02	18CB	1465	STX DC XL1'02' START OF TEXT
18CC	03	18CC	1466	ETX DC XL1'03' END OF TEXT
18CD	10	18CD	1467	DLE DC XL1'10' DATA LINK ESCAPE
18CE	70	18CE	1468	DC XL1'70' PAD
18CF	26	18CF	1469	ETB DC XL1'26'
18D0	2D	18D0	1470	ENQ DC XL1'2D'
18D1	37	18D1	1471	EOT DC XL1'37'
18D2	3D	18D2	1472	NAK DC XL1'3D'
			1473	
18D3	016C61	18D5	1474	TSTR DC XL3'016C61' SOH, %, /
18D6	016CD9	18D8	1475	HEADER DC XL3'016CD9' SOH, %, R
18D9	020000	18DE	1476	STXDC DC XL3'020000' STX, FIXED ADDRESS
18DC	0000	18DD	1477	SSHERE DC XL2'0000' S650, S651
18DE	03	18DE	1478	SASEND DC XL1'03' ETX
			1479	
18DF	000000002D	18E3	1480	ADRSEL DC XL5'000000002D' DATA FOR ADDRESSING
18E4	000000002D	18E8	1481	POLSEL DC XL5'000000002D' DATA FOR POLLING
			1482	
18E9	0227	18EA	1483	EMRTCD DC XL2'0227' STX-ESC
18EB	F5	18EB	1484	DC XL1'F5' CHD,EWRT
18EC	C2	18EC	1485	DC XL1'C2' WCC,
18ED	03	18ED	1486	DC XL1'03' ETX
			1487	
18EE	0227	18EF	1488	DCD40 DC XL2'0227' STX-ESC
18F0	F9	18F0	1489	DC XL1'F9' CHD,DWA?
18F1	40	18F1	1490	DC XL1'40' WCC
18F2	03	18F2	1491	DC XL1'03' ETX
			1492	
18F3	0227	18F4	1493	DREAD DC XL2'0227' STX-ESC
18F5	7A	18F5	1494	DC XL1'7A' CHD,DRDS
18F6	03	18F6	1495	DC XL1'03' ETX
			1496	* DREADL EQU
			1497	* DATEND EQU
18F7	FFFF	18F8	1498	DC XL2'FFFF' END OF TABLE

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
			1499 *	
			1500 *	COMMON COMMANDS
			1501 *	
18F9	00	18F9	1502	DC XL1'00' CONTROL BYTE
		18FA	1503	STBL EQU * BEGINNING OF TABLE
18FA	6E	18FA	1504	CNCL DC XL1'6E' AID FOR CANCEL
18FB	00000000	18FE	1505	SELADR DC XL4'00' TEMP STORAGE FOR SELADDR
18FF	0227	1900	1506	RSTKBD DC XL2'0227' STX-ESC
1901	F1	1901	1507	DC XL1'F1' CHD,WRITE
1902	4F	1902	1508	DC XL1'4F' WCC-RESTORE KYBRD/SOUND ALARM/START PRINT
			1509 *	
1903	03	1903	1510	DC XL1'03' ETX
1904	00000000	1907	1511	SAVPNT DC XL4'00'
1908	C4C9C1D3	190B	1512	DIAL DC CL4'DIAL'
190C	FFFF	190D	1513	DC XL2'FFFF' END
			1514	*****
			1515 *	
			1516 *	MESSAGES (OUTPUT TO A PRINTER)
			1517 *	
190E	D3C9D5C540C5D9D9	1917	1518	MSG02 DC CL10'LINE ERROR'
1916	D6D9		1518	
1918	E2E3C1E3E4E240C1	192B	1519	DC CL20'STATUS AND SENSE IS '
1920	D5C440E2C5D5E2C5		1519	
1928	40C9E240		1519	
192C	E7E7E7E7	192F	1520	MSG03 DC CL4'XXXX'
1930	C5D9C1E2C561E6D9	1940	1521	MSG04 DC CL17'ERASE/WRITE ERROR'
1938	C9E3C540C5D9D9D6		1521	
1940	D9		1521	
1941	C4C9E2D7D3C1E840	1948	1522	DC CL8'DISPLAY '
1949	E7	1949	1523	DISPNO DC CL1'X'
194A	40C5D9D9D6D960D9	195D	1524	DC CL20' ERROR-RETRY NUMBER'
1952	C5E3D9E840D5E4D4		1524	
195A	C2C5D940		1524	
195E	E7	195E	1525	MSG05 DC CL1'X'
195F	C9D5C3D6D9D9C5C3	1970	1526	MSG06 DC CL18'INCORRECT RESPONSE'
1967	E340D9C5E2D7D6D5		1526	
196F	E2C5		1526	
1971	D9D6E4E3C9D5C540	1980	1527	MSG09 DC CL16'ROUTINE BYPASSED'
1979	C2E8D7C1E2E2C5C4		1527	
1981	D5D640C9D5E3C5D9	19A8	1528	MSG0A DC CL40'NO INTERRUPT-WAIT TEST PATTERN INITIATED'
1989	D9E4D7E360D5C5E7		1528	
1991	E340E3C5E2E340D7		1528	
1999	C1E3E3C5D9D540C9		1528	
19A1	D5C9E3C9C1E3C5C4		1528	
			1529	
			1529	
			1529	
			1530 *	CONSTANTS
			1531 *	
19A9	0000	19A9	1532	ILTSW EQU * CURRENT, NEW VALUES FOR TRANSLATE
19AA	FFFF		1533	DC XL2'00'
19AB	FFFF	19AC	1534	HEXFF DC XL2'FFFF'
19AD	00	19AD	1535	C16 DC XL1'00'
19AE	00	19AE	1536	UDTOPT DC XL1'00' TYPE OF TERMINAL (FROM UDT TABLE)
			1537 *	BIT 0 ON INDICATES ASCII TERMINAL
			1538 *	BIT 1 ON INDICATES 1920 CHARACTER BUFFER
19AF	0000	19B0	1539	SAVENL DC XL2'00'
19B1	0002	19B2	1540	TWO DC XL2'0002'
19B3	0000	19B4	1541	SAVXR1 DC XL2'00'
19B5	0000	19B6	1542	SAVXR2 DC XL2'00'
19B8	FFFC	19B8	1543	NEG4 DC XL2'FFFC'
19B9	F1	19B9	1544	PHONE DC XL1'F1'
		19BA	1545	DUHMY EQU *
19BA	0000000000000000	19CB	1546	DC XL18'00'
19C2	0000000000000000		1546	
19CA	0000		1546	
19CC	000000	19CE	1547	CCUNTR DC XL3'00'
19CF	00	19CF	1548	COUNT DC XL1'00'
19D0	000FA0	19D2	1549	WAIT4 DC XL3'000FA0'

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
19D3 000001             19D5 1550 CNE      DC      XL3'000001'
19D6 00                 19D6 1551 LCCHK1  DC      XL1'00'
                                0040 1552 CKEOT   EQU     X'40'
                                0020 1553 CKSTXA  EQU     X'20'
                                001C 1554 CKETB  EQU     X'10'
                                0008 1555 CKETY  EQU     X'08'
                                0004 1556 CKACK2 EQU     X'04'
                                0002 1557 CKACK1 EQU     X'02'
                                0001 1558 CKACK0 EQU     X'01'
19D7 00                 19D7 1559 LCCHK2  DC      XL1'00'
                                0010 1560 CKENQ  EQU     X'10'
                                0008 1561 CKNAK  EQU     X'08'
                                0004 1562 CKWACK EQU     X'04'
                                0002 1563 CKRVI  EQU     X'02'
                                0001 1564 CKSTX  EQU     X'01'
19D8 00                 19D8 1565 FOLLSW  DC      XL1'00'
                                0040 1566 ONEOT  EQU     CKEOT
                                0004 1567 ONWACK EQU     CKWACK
                                0002 1568 ONRVI  EQU     CKRVI
19D9 1616             19DA 1569 ASTART  DC      AL2 (START)
19DB 171A             19DC 1570 ASTOP   DC      AL2 (STOP)
19DD 8202             19DE 1571 ATANDR  DC      XL2'8202'
19DF 161F             19E0 1572 START6  DC      AL2 (START+9)
19E1 1618             19E2 1573 START2  DC      AL2 (START+2)
19E3 161A             19E4 1574 START4  DC      AL2 (START+4)
19E5 161B             19E6 1575 START5  DC      AL2 (START+5)
19E7 1A12             19E8 1576 ASELECT DC      AL2 (SELECT-10)
19E9 1616             19EA 1577 ASTRT   DC      AL2 (START)
19EB 16FD             19EC 1578 END1    DC      AL2 (START+ETEXT1)
19ED 16FC             19EE 1579 END2    DC      AL2 (START+ETEXT2)
19EF 16BF             19F0 1580 END3    DC      AL2 (START+ETEXT3)
19F1 16F5             19F2 1581 END4    DC      AL2 (START+ETEXT4)
19F3 19CD             19F4 1582 ADUM8   DC      AL2 (DUMHY+19)
19F5 19BA             19F6 1583 ADUM1   DC      AL2 (DUMHY)
19F7 19BC             19F8 1584 ADUM2   DC      AL2 (DUMHY+2)
19F9 19BB             19FA 1585 ADUM3   DC      AL2 (DUMHY+1)
19FB 19C3             19FC 1586 ADUM9   DC      AL2 (DUMHY+9)
19FD 00000000         1A00 1587 ZERO    DC      XL4'00'
1A01 4040404040404040 1A08 1588 ELANK   DC      8XL1'40'
1A09 40                 1A09 1589          DC      XL1'40'
1A0A 0000             1A0B 1590 SSSAVE  DC      XL2'00'
1A0C PFFF             1A0D 1591          DC      XL2'FFFF'
1A0E 00                 1A0E 1592 ERRSW   DC      XL1'00'
1A0F 0004             1A10 1593 FOUR    DC      XL2'0004'
1A11 00                 1A11 1594          DC      XL1'00'
1A12 370F323200000000 1A1C 1595 SELECT  DC      XL11'370F3232000000002DFFFF'
1A1A 2DFFFF
                                1596 *
                                1597 *
                                1598 *
                                EQUATES
0080 1599 ASCII    EQU     X'80'
0040 1600 FOREBC  EQU     X'40'
0020 1601 FORASC  EQU     X'20'
1602 *
1603 *
1604 *
1605 *
1606 *
1607 *
1608 *
1609 *
1610 *
1611 *
1A1D F3 80 80         1612 $DISCT SIO   X'80',X'80'
1613 *
1A20 C0 87 022A       1614          B      LOAD
1A24 40                 1A24 1615          DC      XL1'40'
1616
                                END SECTION
                                ABNORMAL TERMINATION

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
1617 *****
1618 * - INTERRUPT ROUTINE -
1619 * AT BEGINING OF THE PROGRAM
1620 *
1621 *
1622 *
1623 *****
1624 *****
1A25 34 01 1A4B
1A29 34 02 1A4F
1A2D 34 04 1A5C
1A31 35 04 1A61
1A35 3C 09 1A5D
1A39 C1 83 1A44
1A3D C0 87 1A62
1A41 F2 87 04
1A44 3C 8D 1A5D
1A48 C2 01 0000
1A4C C2 02 0000
1A50 35 04 1A5C
1A54 F3 80 03
1A57 C0 87 1A25
1A5B 0000
1A5D 00
1A5E 1A25
1A60 0000
1625 $INT ST $Y1+3,XB1
1626 ST $Y2+3,XB2
1627 ST $Y3,PSR
1628 L $0,PSR
1629 HVI $INTID,X'09'
1630 $INT12 TIO $$Y1,X'83'
1631 B $T10
1632 J $Y1
1633 $$Y1 HVI $INTID,X'8D'
1634 $Y1 LA ***,XB1
1635 $Y2 LA ***,XB2
1636 L $Y3,PSR
1637 $RESET SIO X'03',X'80'
1638 B $INT
1A5C 1639 $Y3 DC XL2'0'
1A5D 1640 $INTID DC XL1'00'
1A5F 1641 $INT0 DC AL2($INT)
1A61 1642 $0 DC XL2'0'
                                ZERO CONDITION REG FOR INT ROUTI
                                TEST FOR ITB INTERRUPT
                                CHECK DIAG AND STATUS CONDITIONS
                                ITB INTERRUPT FLAG 81
                                RESET INT AND ENABLE INT

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8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1644	*			*****
1645	*			SUBROUTINE *
1646	*			\$TIO * SUBROUTINE CALLED BY B \$TIO *
1647	*			***** USES TIO TO CHECK CONDITIONS* *
1648	*			* PRINTS OUT ERROR IF CONDITS *
1649	*			B \$TIO * NOT AS EXPECTED. *
1650	*			* ALSO CHECKS STATUS AND DIAG *
1651	*			*****
1652	*			\$NOTIM = FF NO TIME OUT M\$EAGE
1653	*			
1654	*			
1655	*			ERROR RETURN CODES
1656	*			
1657	*			SERPLG = 80 HARDWARE ERROR
1658	*			40 ADAPTER CHECK
1659	*			20 TIMEOUT
1660	*			10 BCC CHECK
1661	*			08 ABORTIVE DISCONNECT
1662	*			04 DISCONNECT TIMEOUT
1663	*			02 DATA SET READY DROPPED
1664	*			01 INVALID ASCII
1665	*			
1A62	34	08	1A89	1666 \$TIO ST \$B101+3,ARR
1A66	3C	00	1B86	1667 MVI \$SERPLG,X'0'
1A6A	C1	81	1A76	1668 \$V1 TIO \$B104,X'81'
1A6E	C0	87	021A	1669 B PRINT
1A72	86			1A72 1670 DC XL1'86'
1A73	0E			1A73 1671 DC IL1'14'
1A74	1B99			1A75 1672 DC AL2(\$I0R1)
1A76	C1	84	1A82	1673 \$B104 TIO \$B105,X'84'
				1674
1A7A	C0	87	021A	1675 B PRINT
1A7E	86			1A7E 1676 DC XL1'86'
1A7F	13			1A7F 1677 DC IL1'19'
1A80	1BAC			1A81 1678 DC AL2(\$I0R4)
1A82	C1	80	1A8A	1679 \$B105 TIO \$B120,X'80'
1A86	C0	87	0000	1680 \$B101 B **
				1681
1A8A	30	83	1B88	1682 \$B120 SNS \$SI,X'83'
1A8E	30	80	1B8A	1683 SNS \$DI,X'80'
				1684
1A92	39	80	1B87	1685 TBF \$SI-1,X'80'
1A96	F2	10	17	1686 JT \$I1
1A99	3D	FF	1B8B	1687 CLI \$NOTIM,X'FF'
1A9D	F2	81	08	1688 JE \$T1XX
1AA0	C0	87	021A	1689 B PRINT
1AA4	86			1AA4 1690 DC XL1'86'
1AA5	07			1AA5 1691 DC IL1'07'
1AA6	1BB3			1AA7 1692 DC AL2(\$S0)
1AA8	3A	20	1B86	1693 \$T1XX SBN \$SERPLG,X'20'
1AAC	3C	00	1B8B	1694 MVI \$NOTIM,X'00'
				1695
1AB0	39	40	1B87	1696 \$I1 TBF \$SI-1,X'40'
1AB4	F2	10	0C	1697 JT \$I2
1AB7	C0	87	021A	1698 B PRINT
1ABB	86			1ABE 1699 DC XL1'86'
1ABC	11			1ABC 1700 DC IL1'17'
1ABD	1BC4			1ABE 1701 DC AL2(\$S1)
1ABF	3A	10	1B86	1702 SBN \$SERPLG,X'10'
				1703
1AC3	39	20	1B87	1704 \$I2 TBF \$SI-1,X'20'
1AC7	F2	10	0C	1705 JT \$I3
1ACA	C0	87	021A	1706 B PRINT
1ACE	86			1ACE 1707 DC XL1'86'
1ACF	19			1ACF 1708 DC IL1'25'
1AD0	1BDD			1AD1 1709 DC AL2(\$S2)
1AD2	3A	40	1B86	1710 SBN \$SERPLG,X'40'
				1711

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1AD6	39	10	1B87	1712 \$I3 TBF \$SI-1,X'10'
1ADA	F2	10	0C	1713 JT \$I4
1ADD	C0	87	021A	1714 B PRINT
1AE1	86			1AE1 1715 DC XL1'86'
1AE2	18			1AE2 1716 DC IL1'24'
1AE3	1BP5			1AE4 1717 DC AL2(\$S3)
1AE5	3A	40	1B86	1718 SBN \$SERPLG,X'40'
				1719
1AE9	39	08	1B87	1720 \$I4 TBF \$SI-1,X'08'
1AED	F2	10	0C	1721 JT \$I5
1AF0	C0	87	021A	1722 B PRINT
1AF4	86			1AF4 1723 DC XL1'86'
1AF5	0D			1AF5 1724 DC IL1'13'
1AF6	1C02			1AF7 1725 DC AL2(\$S4)
				1726
1AF8	3A	01	1B86	1727 SBN \$SERPLG,X'01'
1APC	39	04	1B87	1728 \$I5 TBF \$SI-1,X'04'
1B00	F2	10	0C	1729 JT \$I6
1B03	C0	87	021A	1730 B PRINT
1B07	86			1B07 1731 DC XL1'86'
1B08	13			1B08 1732 DC IL1'19'
1B09	1C15			1B0A 1733 DC AL2(\$S5)
				1734
1B0B	3A	08	1B86	1735 SBN \$SERPLG,X'08'
1B0F	39	02	1B87	1736 \$I6 TBF \$SI-1,X'02'
1B13	F2	10	0C	1737 JT \$I7
1B16	C0	87	021A	1738 B PRINT
1B1A	86			1B1A 1739 DC XL1'86'
1B1B	12			1B1B 1740 DC IL1'18'
1B1C	1C27			1B1D 1741 DC AL2(\$S6)
				1742
1B1E	3A	04	1B86	1743 SBN \$SERPLG,X'04'
1B22	38	02	1B88	1744 \$I7 TBN \$SI,X'02'
1B26	F2	10	0C	1745 JT \$S1
1B29	C0	87	021A	1746 B PRINT
1B2D	86			1B2D 1747 DC XL1'86'
1B2E	0E			1B2E 1748 DC IL1'14'
1B2F	1C35			1B30 1749 DC AL2(\$S8)
1B31	3A	02	1B86	1750 SBN \$SERPLG,X'02'
1B35	39	08	1B8A	1751 \$S1 TBF \$DI,X'08'
1B39	F2	10	0C	1752 JT \$S2
1B3C	C0	87	021A	1753 B PRINT
1B40	86			1B40 1754 DC XL1'86'
1B41	0F			1B41 1755 DC IL1'15'
1B42	1C44			1B43 1756 DC AL2(\$DH4)
1B44	3A	80	1B86	1757 SBN \$SERPLG,X'80'
				1758
1B48	39	04	1B8A	1759 \$S2 TBF \$DI,X'04'
1B4C	F2	10	0C	1760 JT \$S3
1B4F	C0	87	021A	1761 B PRINT
1B53	86			1B53 1762 DC XL1'86'
1B54	12			1B54 1763 DC IL1'18'
1B55	1C56			1B56 1764 DC AL2(\$DH5)
1B57	3A	80	1B86	1765 SBN \$SERPLG,X'80'
1B5B	39	02	1B8A	1766 \$S3 TBF \$DI,X'02'
1B5F	F2	10	0C	1767 JT \$S4
1B62	C0	87	021A	1768 B PRINT
1B66	86			1B66 1769 DC XL1'86'
1B67	17			1B67 1770 DC IL1'23'
1B68	1C6D			1B69 1771 DC AL2(\$DH6)
1B6A	3A	80	1B86	1772 SBN \$SERPLG,X'80'
1B6E	39	01	1B8A	1773 \$S4 TBF \$DI,X'01'
1B72	C0	10	1A86	1774 BT \$B101
1B76	C0	87	021A	1775 B PRINT
1B7A	86			1B7A 1776 DC XL1'86'
1B7B	10			1B7B 1777 DC IL1'16'
1B7C	1C7D			1B7D 1778 DC AL2(\$DH7)
1B7E	3A	80	1B86	1779 SBN \$SERPLG,X'80'

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1B82	C0 87 1A86		1780	B	\$B101 RETURN TO INTERRUPT ROUTINE
1B86	00	1B86	1781	\$ERPLG DC	XL1'0'
1B87	0000	1B88	1782	\$SI DC	XL2'0'
1B89	0000	1B8A	1783	\$DI DC	XL2'0'
1B8B	00	1B8B	1784	\$NO:IM DC	XL1'00'
1B8C	D6D760C5D5C440C9	1B99	1785	\$IOR1 DC	CL14'OP-END INT ERR'
1B94	D5E340C5D9D9		1785		
1B9A	C9D5E340D9C5D840	1BAC	1786	\$IOR4 DC	CL19'INT REQ PENDING ERR'
1EA2	D7C5D5C4C9D5C740		1786		
1EAA	C5D9D9		1786		
1EAD	E3C9D4C5D6E4E3	1BB3	1787	\$S0 DC	CL07'TIMEOUT'
1BB4	C3D9C361D3D9C361	1BC4	1788	\$S1 DC	CL17'CRC/LRC/WRC CHECK'
1BBC	E5D9C340C3C8C5C3		1788		
1BC4	D2		1788		
1BC5	C1C4C1D7E3C5D940	1BDD	1789	\$S2 DC	CL25'ADAPTER CHECK ON TRANSHIT'
1BCD	C3C8C5C3D240D6D5		1789		
1BD5	40E3D9C1D5E2D4C9		1789		
1BDD	E3		1789		
1BDE	C1C4C1D7E3C5D940	1BF5	1790	\$S3 DC	CL24'ADAPTER CHECK ON RECEIVE'
1BE6	C3C8C5C3D240D6D5		1790		
1BEE	40D9C5C3C5C9E5C5		1790		
1EF6	C9D5E5C1D3C9C440	1C02	1791	\$S4 DC	CL13'INVALID ASCII'
1BFE	C1E2C3C9C9		1791		
1C03	C1C2D6D9E3C9E5C5	1C15	1792	\$S5 DC	CL19'ABORTIVE DISCONNECT'
1C0B	40C4C9E2C3D6D5D5		1792		
1C13	C5C3E3		1792		
1C16	C4C9E2C3D6D5D5C5	1C27	1793	\$S6 DC	CL18'DISCONNECT TIMEOUT'
1C1E	C3E340E3C9I4C5D6		1793		
1C26	E4E3		1793		
1C28	C4C1E3C140E2C5E3	1C35	1794	\$SH6 DC	CL14'DATA SET READY'
1C30	40D9C5C1C4E8		1794		
1C36	C2D3D6C3D240C3E2	1C44	1795	\$DH4 DC	CL15'BLOCK CSR CHECK'
1C3E	D940C3C8C5C3D2		1795		
1C45	D3E2D940D6D940E2	1C56	1796	\$DH5 DC	CL18'LSR OR S-REG CHECK'
1C4D	60D9C5C740C3C8C5		1796		
1C55	C3D2		1796		
1C57	D6E5C5D9D9E4D561	1C6D	1797	\$DH6 DC	CL23'OVERRUN/UNDERFLOW CHECK'
1C5F	E4D5C4C5D9C6D3D6		1797		
1C67	E640C3C8C5C3D2		1797		
1C6E	C4C2C940D7C1D9C9	1C7D	1798	\$DH7 DC	CL16'DBI PARITY CHECK'
1C76	E3E840C3C8C5C3D2		1798		

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		1800			*****
		1801	*		SUBROUTINE TO DELAY FOR 90 SECONDS
		1802	*		B \$DELAY
		1803			*****
1C7E	34 08 1CB9	1804	\$DELAY ST		D\$LAY3+3,ARR
1C82	34 01 1CB5	1805	ST		\$DL1+3,XR1
1C86	0C 02 1CBC 1CBF	1806	HVC		\$TIM,\$000(3)
1C8C	0E 02 1CBC 1CC0	1807	D\$LAY1 ALC		\$TIM,\$000(J) INCREMENT TIME COUNTER
1C92	0D 02 1CBC 1CDB	1808	CLC		\$TIM,\$90(3)
1C98	F2 84 0B	1809	JH		\$PTM30
1C9B	39 F3 1A5D	1810	TEF		\$INTID,X'F3' SEE IF INTERRUPT OCCURRED
1C9F	F2 90 0C	1811	JF		D\$LAY2
1CA2	C0 87 1C8C	1812	B		D\$LAY1
1CA6	C0 87 021A	1813	SPTM30 B		PRINT
1CAA	86	1CAA	1814	DC	XL1'86'
1CAB	18	1CAB	1815	DC	IL1'24'
1CAC	1CD8	1CAD	1816	DC	AL2(\$NREPL) NO RESPONSE AFTER 90 SECONDS
1CAE	3B F3 1A5D	1817	D\$LAY2 SBF		\$INTID,X'F3'
1CB2	C2 01 0000	1818	\$DL1 LA		*-*,XR1
1CB6	C0 87 0000	1819	E\$LAY3 B		*-*
1CBA	000000	1CBC	1820	\$TIM DC	XL3'0'
1CBD	000000	1CBF	1821	\$000 DC	XL3'0'
1CC0	01	1CC0	1822	\$ONE DC	XL1'01'
1CC1	D5D640D9C5E2D7D6	1CD8	1823	\$NREPL DC	CL24'NO RESPONSE AFTER 90 SEC'
1CC9	D5E2C540C1C6E3C5		1823		
1CD1	D940F9F040E2C5C3		1823		
1CD9	180000	1CDE	1824	\$90 DC	XL3'180000'

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
			1826		*****
			1827	*	ROUTINE TO PRINT DATA TRANSMITTED AND RECEIVED
			1828	*	B \$TRPNT
			1829	*	THIS ROUTINE SHOULD ONLY BE CALLED AFTER \$SIO
			1830	*	
			1831	*	SSW11 ON BYPASS PRINT
			1832		*****
1CDC	34	08	1E3D		
1CE0	34	01	1E39		
1CE4	C0	87	0212		
1CE8	38	40	020A		
1CEC	C0	10	1E3A		
1CF0	0C	01	1EC2	1F93	
1CF6	0E	01	1EC2	1CC0	
1CFC	0D	01	1EC2	1F93	
1D02	F2	01	10		
1D05	C0	87	021A		
1D09	01			1D09	1844
1D0A	07			1D0A	1845
1D0B	1E44			1D0C	1846
1D0D	3C	00	1F97		
1D11	C0	87	1E29		
1D15	0C	01	1F9D	1F9B	
1D1B	0F	01	1F9D	1CC0	
1D21	35	01	1F9D		
1D25	0C	01	1F95	1EC2	
1D28	0F	01	1F95	1F9B	
1D31	3D	03	1F97		
1D35	F2	01	2A		
1D38	0D	01	1EC2	1F99	
1D3E	C0	81	1D05		
1D42	3C	00	1F97		
1D46	0C	01	1F9F	1F99	
1D4C	0F	01	1F9F	1CC0	
1D52	35	01	1F9F		
1D56	0C	01	1F95	1EC2	
1D5C	0F	01	1F95	1F99	
1D62	C0	87	021A		
1D66	01			1D66	1866
1D67	1A			1D67	1867
1D68	1E5E			1D69	1868
1D6A	0D	01	1F95	1CBF	
1D70	F2	04	B6		
1D73	0D	01	1F95	1EC0	
1D79	F2	E4	3E		
1D7C	0C	00	1D8E	1F95	
1D82	36	01	1F95		
1D86	34	01	1D90		
1D8A	C0	87	021E		
1D8E	00			1D8E	1878
1D8F	0000			1D90	1879
1D91	1EBC			1D92	1880
1D93	0C	00	1DA4	1D8E	
1D99	0E	00	1DA4	1DA4	
1D9F	C0	87	021A		
1DA3	01			1DA3	1885
1DA4	00			1DA4	1886
1DA5	1EBC			1DA6	1887
1DA7	0C	00	1EBE	1D8E	
1DAD	0F	01	1F95	1EBE	
1DB3	C0	87	1D6E		
1DB7	0C	00	1D8E	1EC0	
			1826		*****
			1827	*	ROUTINE TO PRINT DATA TRANSMITTED AND RECEIVED
			1828	*	B \$TRPNT
			1829	*	THIS ROUTINE SHOULD ONLY BE CALLED AFTER \$SIO
			1830	*	
			1831	*	SSW11 ON BYPASS PRINT
			1832		*****
			1833	\$TRPNT	ST \$E+3,ARR SAVE RETURN ADDRESS
			1834	ST	\$E1+3,XR1
			1835	B	TEST
			1836	TRN	SBYTE2,\$SW11
			1837	BT	\$E
			1838	\$PRING	HVC \$WRK,\$STOP(2)
			1839	ALC	\$WRK,\$ONE(2)
			1840	CLC	\$WRK,\$ASTRT(2) SEE IF ANY DATA RECEIVED
			1841	JNE	\$REC
			1842		
			1843	\$ORY	B PRINT PRINT ERROR
			1844	DC	XL1'01'
			1845	DC	IL1'07'
			1846	DC	AL2(\$NDATA) NO DATA RECEIVED
			1847	HVI	\$COD,X'0'
			1848		ZERO T+R INDICATOR
			1849	B	\$ENDSB EXIT SUBROUTINE
			1850		
			1851	\$REC	HVC \$SSTRT,\$ASTRT(2) GET ADDRESS-1 OF BUFFER
			1852	SLC	\$SSTRT,\$ONE(2)
			1853	L	\$SSTRT,XR1
			1854	HVC	\$Y,\$WRK(2) SAVE CURRENT
			1855	SLC	\$Y,\$ASTRT(2) GET NUMBER OF BYTES TO PRINT
			1856	CLI	\$COD,X'03'
			1857	JNE	\$GGG TEST IF T+R OPERATION
			1858	CLC	\$WRK,\$STRAN(2) TEST IF ANY DATA RECEIVED
			1859	BE	\$ORY
			1860	HVI	\$COD,X'0'
			1861	HVC	\$H,\$STRAN(2) ZERO FLAG
			1862	SLC	\$H,\$ONE(2) GET TRANSITION ADDRESS -1
			1863	L	\$H,XR1
			1864	HVC	\$Y,\$WRK(2)
			1865	SLC	\$Y,\$STRAN(2) GET NO. BYTES RECEIVED
			1866	\$GGG	B PRINT HEADING PRINT
			1867	DC	XL1'01'
			1868	DC	IL1'26'
			1869	1969	DC AL2(\$RDATA) DATA T AND R WAS
			1870	CLC	\$Y,\$000(2) TEST IF ALL BYTES PRINTED
			1871	JNE	\$ENDSB
			1872	\$LX1	CIC \$Y,\$N32(2) TEST IF 32 BYTES TO BE PRINTED
			1873	JH	\$LX2
			1874	HVC	\$L1,\$Y(1) PUT LENGTH OF DATA IN
			1875	A	\$Y,XR1
			1876	ST	\$A1,XR1
			1877	\$U1	B UNPACK
			1878	\$L1	DC XL1'0'
			1879	\$A1	DC XL2'0'
			1880	DC	AL2(\$TRBF)
			1881	HVC	\$LGM,\$L1(1)
			1882	ALC	\$LGM,\$LGM(1) GET PRINT COUNT
			1883		
			1884	B	PRINT
			1885	DC	XL1'01'
			1886	\$LGM	DC XL1'0'
			1887	DC	AL2(\$TRBF)
			1888		
			1889	HVC	\$LZZ,\$L1(1) DECREMENT PRINT COUNT
			1890	SLC	\$Y,\$LZZ(2)
			1891	B	\$LPP
			1892		
			1893	\$LX2	HVC \$L1,\$N32(1) PUT COUNT OF 32 IN

ERR	LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
			1894	A	\$N32,XR1
			1895	ST	\$A1,XR1 GET RH ADDRESS OF DATA
			1896	B	\$U1 GO TO PRINT DATA
			1897		*****
			1898	*	
			1899	*	ROUTINE TO PRINT DATA TRANSMITTED *
			1900	*	B \$TRPNT
			1901	*	
			1902	*	THIS ROUTINE SHOULD ONLY BE CALLED AFTER \$SIO
			1903	*	SSW11 ON BYPASS PRINT
			1904		*****
			1905	\$TPNT	ST \$E+3,ARR SAVE RETURN ADDRESS
			1906	ST	\$E1+3,XR1
			1907	B	TEST
			1908	TBN	SBYTE2,\$SW11
			1909	BT	\$E
			1910	HVI	\$COD,X'03'
			1911	\$V3	HVC \$WRK,\$STOP(2) FLAG FOR T+R OPERATION
			1912	ALC	\$WRK,\$ONE(2)
			1913	CLC	\$WRK,\$ASTRT(2) SEE IF ANY DATA TRANSMITTED
			1914	JNE	\$T1L
			1915		
			1916	B	PRINT PRINT ERROR
			1917	DC	XL1'01'
			1918	DC	IL1'15'
			1919	DC	AL2(\$NTRAN) NO DATA TRANSMITTED
			1920	J	\$ENDSB
			1921		
			1922	\$T1L	HVC \$SSTRT,\$ASTRT(2) GET ADDRESS-1 OF BUFFER
			1923	SLC	\$SSTRT,\$ONE(2)
			1924	L	\$SSTRT,XR1
			1925	HVC	\$Y,\$STRAN(2) SAVE TRANSITION
			1926	\$LCM	SLC \$Y,\$ASTRT(2) GET NUMBER OF BYTES TO PRINT
			1927	\$DTA	B PRINT HEADING PRINT
			1928	DC	XL1'01'
			1929	DC	IL1'15'
			1930	DC	AL2(\$TDATA) TRANSMITTED DATA WAS
			1931	B	\$LPP
			1932		
			1933	\$ENDSB	B PRINT SPACE 6 LINES
			1934	DC	XL1'26'
			1935	CII	\$COD,X'03'
			1936	BE	\$PRING
			1937	\$E1	LA *-*,XR1 EXIT
			1938	\$E	B *-*
			1939		
			1940	\$NDATA	DC CL7'NO DATA'
			1941	\$RDATA	DC CL26'TRANSMITTED & RECEIVED WAS'
			1942		
			1943		
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			2000		

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1949				*****
1950	*		SIO	LUBROUTINE
1951	*		B	SSIO
1952	*		DC AL2()	ADDRESS CONTAINS STARTING ADDRESS
1953	*		DC AL2()	ADDRESS CONTAINS TRANSITION ADDRESS
1954	*		DC AL2()	ADDRESS CONTAINS STOP ADDRESS
1955	*		DC AL2()	ADDRESS CONTAINS SIO INSTRUCTIONS
1956	*			EXAMPLE 8202
1957	*		AFTER EXEC	\$STOP CONTAINS ADDRESS POINT TO THE LAST
1958	*			CHAR RECEIVED
1959	*			\$TRAN CONTAINS TRANSITION ADDRESS
1960	*			NOTE \$NCTIM = X'FF' THEN NO TIME OUT MESSAGE
1961				*****
1962	\$SIO	ST	\$OAD+3,ALR	
1963		ST	\$DS1+3,XR2	
1964	\$OAD	LA	*-*,XR2	
1965	MVC	\$IO1+3,1(2,XR2)		
1966	MVC	\$IO2+3,3(2,XR2)		
1967	MVC	\$IO3+3,5(2,XR2)		
1968	MVC	\$ETSIO+5,7(2,XR2)		
1969	\$ETSIO	MVC	\$IOALL+2,*-*(2)	SETUP PROPER SIO
1970	TBN	\$BYTE3,SSW1A		
1971	JF	\$Y6		
1972	SBN	\$H12+1,X'08'		
1973	SBN	\$DISCT+1,X'08'		
1974	SBN	\$RESET+1,X'08'		
1975	SBN	\$V1+1,X'08'		
1976	SEN	\$B104+1,X'08'		
1977	SBN	\$B105+1,X'08'		
1978	SBN	\$B120+1,X'08'		
1979	SBN	\$IO1+1,X'08'		
1980	SBN	\$IO2+1,X'08'		
1981	SBN	\$IO3+1,X'08'		
1982	SBN	\$IOALL+1,X'08'		
1983	SBN	\$USY+1,X'08'		
1984	SBN	\$USY+5,X'08'		
1985	SBN	\$B120+5,X'08'		
1986	\$Y6	MVC	\$X+5,3(2,XR2)	SAVE THE
1987	MVC	\$Z+5,3(2,XR2)		TRANSITION,
1988	MVC	\$Q+5,1(2,XR2)		STOP, AND
1989	\$X	MVC	\$TRAN(2),*-*	STARTING
1990	\$Z	MVC	\$STOP(2),*-*	ADDRESSES
1991	\$Q	MVC	\$ASTRT(2),*-*	
1992	SLC	\$STOP,\$ONE(2)		
1993	LA	8(,XR2),XR2		INCREMENT RETURN ADDRESS
1994	ST	\$ETOUT+3,XR2		STORE RETURN ADDRESS
1995	L	\$STOP,XR2		
1996	\$IO1	LIO	*-*,X'84'	LOAD CURRENT
1997	\$IO2	LIO	*-*,X'82'	LOAD TRANSITION
1998	\$IO3	LIO	*-*,X'81'	LOAD STOP
1999	\$IOALL	SIO	*-*,*-*	ISSUE START I/O
2000	B	\$DELAY		
2001	CLC	\$ASTRT,\$STOP		
2002	JNE	\$USY		
2003	CLI	0(,XR2),X'37'		
2004	JE	\$DS1		
2005	\$USY	TIO	\$USY,X'82'	LOOP ON BUSY
2006	SNS	\$STOP,X'84'		SENSE THE CURRENT ADDRESS REG
2007	SLC	\$STOP,\$ONE(2)		WHICH CONTAINS THE ENDING ADDRESS
2008	\$DS1	LA	*-*,XR2	
2009	\$ETOUT	B	*-*	
2010	\$STOP	DC	XL2'0'	BRANCH BACK TO MAINLINE
2011	\$Y	DC	XL2'0'	
2012	\$COD	DC	XL2'0'	
2013	\$TRAN	DC	XL2'0'	
2014	\$ASTRT	DC	XL2'0'	
2015	\$STRT	DC	XL2'0'	
2016	\$H	DC	XL2'00'	

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
2018				*****
2019	*		EQUATES	*****
2020				*****
2021				
0001	2022	XR1	EQU	X'01'
0002	2023	XR2	EQU	X'02'
0008	2024	ARR	EQU	X'08'
0010	2025	IAR	EQU	X'10'
0004	2026	PSR	EQU	X'04'
0020	2027	P1IAR	EQU	X'20'
0040	2028	P2IAR	EQU	X'40'
008C	2029	IAR0	EQU	X'80'
00C0	2030	IAR1	EQU	X'C0'
00AC	2031	IAR2	EQU	X'A0'
0090	2032	IAR3	EQU	X'90'
0088	2033	IAR4	EQU	X'88'
0222	2034	HALT	EQU	X'222'
0212	2035	TEST	EQU	X'212'
0216	2036	LINK	EQU	X'216'
021A	2037	PRINT	EQU	X'21A'
021E	2038	UNPACK	EQU	X'21E'
0226	2039	PACK	EQU	X'226'
022A	2040	LOAD	EQU	X'22A'
0208	2041	SBYTE0	EQU	X'208'
020A	2042	SBYTE2	EQU	X'20A'
020B	2043	SBYTE3	EQU	X'20B'
020C	2044	SBYTE4	EQU	X'20C'
0001	2045	SSW07	EQU	X'01'
0080	2046	SSW10	EQU	X'80'
0040	2047	SSW11	EQU	X'40'
0020	2048	SSW12	EQU	X'20'
0010	2049	SSW13	EQU	X'10'
0008	2050	SSW14	EQU	X'08'
0004	2051	SSW15	EQU	X'04'
0002	2052	SSW16	EQU	X'02'
0001	2053	SSW17	EQU	X'01'
0080	2054	SSW18	EQU	X'80'
0040	2055	SSW19	EQU	X'40'
0020	2056	SSW1A	EQU	X'20'
0010	2057	SSW1B	EQU	X'10'
0008	2058	SSW1C	EQU	X'08'
0004	2059	SSW1D	EQU	X'04'
0002	2060	SSW1E	EQU	X'02'
0001	2061	SSW1F	EQU	X'01'
0080	2062	SSW20	EQU	X'80'

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
	2064	***	END OF EXPANSION **
	2065	*	
	2066	*	END OF MACROS
	2067	*	%ORG
1FCF	2068	ORG	X'1FCF'
	2069		
1FCF 00	1FCF 2070	DC	XL1'00'
	2071		
1FD0 00	1FD0 2072	NUMDIG DC	XL1'00'
1FD1	1FDE 2073	TELNUM DS	CL11
1FDC 00	1FDC 2074	CALMAD DC	XL1'00'
1FDD 00	1FDD 2075	MAXCAL DC	XL1'00'
1FDE 00	1FDE 2076	ADDER DC	XL1'00'
1FDF 00	1FDF 2077		DC
1FEC 00	1FEC 2078	NUMID DC	XL1'00'
1FE1	1FEF 2079	ID DS	CL15
	2080		
1FF0	1FF3 2081	REPSEL DS	CL4
1FF4	1FF7 2082	RP@POL DS	CL4
1FF8	1FFF 2083	SAVADR DS	CL8
	2084	***	END OF EXPANSION **
	FFFF 2085		END

REQUIRED PAD CHARACTER
 NUMBER OF DIGITS IN TEL NUMBER
 TELEPHONE NUMBER
 FLAG FOR CALL MADE
 RETRY FLAG
 PAD
 NUMBER OF CHARACTERS IN THE ID
 ID
 SELECTING ADDRESS
 POLLING ADDRESS

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
\$\$Y1	A	004	1A44	1633	1630
\$ACK1	A	004	1176	0710	0562 0897 0912
\$ASTRT	A	002	1F9B	2014	1840 1851 1855 1913 1922 1926 1991* 2001
\$A1	A	002	1D90	1879	1876* 1895*
\$B101	A	004	1A86	1680	1666* 1774 1780
\$B104	A	004	1A76	1673	1668 1976*
\$B105	A	004	1A82	1679	1673 1977*
\$B120	A	004	1A8A	1682	1679 1978* 1985*
\$COD	A	002	1F97	2012	1847* 1856 1860* 1910* 1935
\$DELAY	A	004	1C7E	1804	2000
\$DH4	A	015	1C44	1795	1756
\$DH5	A	018	1C56	1796	1764
\$DH6	A	023	1C6D	1797	1771
\$DH7	A	016	1C7D	1798	1778
\$DI	A	002	1B8A	1783	1683* 1751 1759 1766 1773
\$DISCT	A	003	1A1D	1612	C215 0697 1973*
\$DL1	A	004	1CB2	1818	1805*
\$DS1	A	004	1F8A	2008	1963* 2004
\$DTA	A	004	1E1D	1927	
\$E	A	004	1E3A	1938	1833* 1837 1905* 1909
\$ENDSB	A	004	1E29	1933	1849 1871 1920
\$EOT	A	004	1137	0686	0067 0071 0107 0110 0155 0158 0203 0206 0811 0935
\$ERFLG	A	001	1B86	1781	0328 C832 1667* 1693* 1702* 1710* 1718* 1727* 1735* 1743* 1750* 1757*
\$ETOUT	A	004	1F8E	2009	1765* 1772* 1779*
\$ETSIO	A	006	1EE3	1969	1994*
\$E1	A	004	1E36	1937	1968*
\$GGG	A	004	1D62	1866	1834* 1906*
\$H	A	002	1F9F	2016	1857
\$INT	A	004	1A25	1625	1861* 1862* 1863
\$INT2	A	002	1A5F	1641	1638 1641
\$INTID	A	001	1A5D	1640	0271
\$IOALL	A	003	1F66	1999	1629* 1633* 1810 1817*
\$IOR1	A	014	1B99	1785	1969* 1932*
\$IOR4	A	019	1BAC	1786	1672
\$IO1	A	004	1F5A	1996	1678
\$IO2	A	004	1F5E	1997	1965* 1979*
\$IO3	A	004	1F62	1998	1966* 1980*
\$I1	A	004	1AB0	1696	1967* 1981*
\$I2	A	004	1AC3	1704	1686
\$I3	A	004	1AD6	1712	1697
\$I4	A	004	1AE9	1720	1705
\$I5	A	004	1AFC	1728	1713
\$I6	A	004	1B0F	1736	1721
\$I7	A	004	1B22	1744	1729
\$LCN	A	006	1E17	1926	1737
\$LGH	A	001	1DA4	1886	1881* 1882 1882*
\$LOP	A	006	1D6A	1870	1891 1931
\$LX1	A	006	1D75	1872	
\$LX2	A	006	1DB7	1893	1873
\$LZZ	A	002	1EBE	1945	1889* 1890
\$L1	A	001	1D8E	1878	1874* 1881 1889 1893*
\$NDATA	A	007	1E44	1940	1846
\$NOTIM	A	001	1B8B	1784	0320* 0690* 0711* 0812* 1687 1694*
\$NREPL	A	024	1CD8	1823	1816
\$NTRAN	A	015	1E6D	1942	1919
\$NT12	A	004	1A39	1630	1972*
\$N32	A	002	1EC0	1946	1872 1893 1894
\$OAD	A	004	1ECB	1964	1962*
\$ONE	A	001	1CC0	1822	1807 1839 1852 1862 1912 1923 1992 2007
\$ORY	A	004	1D05	1843	1859
\$PRING	A	006	1CF0	1838	1936
\$PTM30	A	004	1CA6	1813	1809
\$Q	A	006	1F43	1991	1988*
\$RDATA	A	026	1E5E	1941	1869
\$REC	A	006	1D15	1851	1841

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
\$RESET	A	003	1A54	1637	1974*
\$SH6	A	014	1C35	1794	1749
\$SI	A	002	1B88	1782	1682* 1685 1696 1704 1712 1720 1728 1736 1744
\$SIO	A	004	1EC3	1962	0056 0096 0144 0192 0321 0364 0378 0499 0691 0715 0771 0802
					C815 0826 0921 0929
\$STOP	A	002	1F93	2010	0429* 0465 1838 1911 1990* 1992* 1995 2001 2006* 2007*
\$START	A	002	1F9D	2015	1851* 1852* 1853 1922* 1923* 1924
\$S0	A	007	1BB3	1787	1692
\$S1	A	017	1BC4	1788	1701
\$S2	A	025	1BDD	1789	1709
\$S3	A	024	1BF5	1790	1717
\$S4	A	013	1C02	1791	1725
\$S5	A	019	1C15	1792	1733
\$S6	A	018	1C27	1793	1741
\$TDATA	A	015	1E7C	1943	1930
\$TIM	A	003	1CBC	1820	1806* 1807* 1808
\$TIO	A	004	1A62	1666	1631
\$TPNT	A	004	1DC9	1905	
\$TRAM	A	002	1F99	2013	C439 0517 1858 1861 1865 1925 1989*
\$TRBF	A	064	1EBC	1944	1880 1887
\$TRPNT	A	004	1CDC	1833	C482 0509 0529 0890 0901 0954
\$T1L	A	006	1E01	1922	1914
\$T1XX	A	004	1AA8	1693	1688
\$USY	A	004	1F7C	2005	1983* 1984* 2002 2005
\$U1	A	004	1D8A	1877	1896
\$V1	A	004	1A6A	1668	1975*
\$V3	A	006	1DE1	1911	
\$WRK	A	002	1EC2	1947	1836* 1839* 1840 1854 1858 1864 1911* 1912* 1913
\$X	A	006	1F37	1989	1986*
\$Y	A	002	1F95	2011	1854* 1855* 1864* 1865* 1870 1872 1874 1875 1890* 1925* 1926*
\$Y1	A	004	1A48	1634	1625* 1632
\$Y2	A	004	1A4C	1635	1626*
\$Y3	A	002	1A5C	1639	1627* 1636
\$Y6	A	005	1F28	1986	1971
\$Z	A	006	1F3D	1990	1987*
\$0	A	002	1A61	1642	1628
\$000	A	003	1CBF	1821	1806 1870
\$90	A	003	1CDB	1824	1808
ABORT	A	012	0D64	0349	0335
ACAL	A	002	0D97	0354	0322
ACK0	A	002	18C3	1460	0409 0421 0507 0825
ACK1	A	002	18C5	1461	C415 0714
ADDR	A	001	1FDE	2076	0440 0753* 0779*
ADROK	A	001	0C48	0253	0235 0237
ADRSEL	A	005	18E3	1480	0254* 0262 0358 0492 0915
ADUM1	A	002	19F6	1583	C692 0716 0803 0816
ADUM2	A	002	19F8	1584	C717
ADUM3	A	002	19FA	1585	C693 0694
ADUM8	A	002	19F4	1582	0718 0805 0818
ADUM9	A	002	19FC	1586	C804
AREC	A	002	1304	0851	0819
ARR	C	001	0008	2024	0213 0401 0587 0678 0686 0710 0726 0734 0750 0792 0859 1666
					1804 1833 1905 1962
					0558 0601 0604 0617 0643 0877
ASCII	C	001	0080	1599	0610
ASCTBL	A	001	1806	1337	
ASELCT	A	002	19E8	1576	
ASIO	A	004	0F23	0496	0491 0516
ASIO1	A	002	0F32	0501	0496*
ASTART	A	002	19DA	1569	0299 0365 0379 0500 0772 0827 0922 0930
ASTOP	A	002	19DC	1570	0059 0099 0147 0195 0367 0381 0502 0774 0829 0924 0932
ASTRT	A	002	19EA	1577	0057 0097 0145 0193
ATANDR	A	002	19DE	1571	0060 0100 0148 0196 0368 0382 0503 0695 0719 0775 0806 0830
					0925 0933
A1	A	004	17FE	1322	0046* 0049*
A2	A	004	1610	1168	0085* 0088*
A3	A	004	16BC	1271	

8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
A4	A	004	1527	1095	0181* 0184*
BLANK	A	001	1A09	1588	0236
BSCUDT	A	003	0A0C	0019	
CALNAD	A	001	1FDC	2074	0284 0327*
CERSPN	A	001	1308	0858	0064 0104 0152 0200
CER1	A	004	143F	0956	C860* C891
CER2	A	004	1443	0957	0861*
CHECK	A	004	0E00	0401	0061 0101 0149 0197 0369 0383 0777
CKACK0	C	001	0001	1558	0277 0407
CKACK1	C	001	0002	1557	0374 0413
CKACK2	C	001	0004	1556	0053 0093 0141 0189 0419
CKENQ	C	001	0010	1560	
CKEOT	C	001	0040	1552	0425 1566
CKETB	C	001	0010	1554	0462
CKETX	C	001	0008	1555	0457
CKP	A	004	0E2C	0413	0408
CKG	A	004	0E3E	0419	0414
CKH	A	004	0E50	0425	0420
CKI	A	004	0E68	0432	0426
CKKEOT	A	006	1427	0946	0905
CKKRPT	A	006	136D	0893	0875
CKKSTX	A	006	1394	0904	C894
CKNAK	C	001	0008	1561	
CKP	A	004	0EB3	0457	0433 0447 0452
CKP	A	004	0EC1	0462	0458
CKRVI	C	001	0002	1563	1568
CKS	A	001	1009	0572	0463 0467 0508 0539
CKSS	A	006	12P1	0846	C842
CKSTX	C	001	0001	1564	
CKSTXA	C	001	0020	1553	0432
CKSW	A	004	12D4	0839	C807
CKWACK	C	001	0004	1562	1567
CLCETA	A	004	10B1	0638	0634
CLRTR	A	004	111F	0678	0052 0092 0140 0188 0361 0375 0484 0824 0918 0927
CNCL	A	001	18FA	1504	0506 0908
COUNT	A	001	19CF	1548	0050* 0089* 0137* 0185* 0727 0735* 0736
COUNTR	A	003	19CE	1547	0510* 0513* 0939* 0942*
C16	A	001	19AD	1535	0813* 0834* 0862* 0863*
DSLAY1	A	006	1C8C	1807	1812
DSLAY2	A	004	1CAE	1817	1811
DSLAY3	A	004	1CB6	1819	1804*
DS1	A	004	1B35	1751	1745
DS2	A	004	1B48	1759	1752
DS3	A	004	1B5B	1766	1760
DS4	A	004	1B6E	1773	1767
DATCON	A	001	18C2	1459	0259
DATEND	A	001	18F7	1497	
DCD40	A	002	18EF	1488	
DIAL	A	004	190B	1512	0046 0085 0133 0181
DISPNO	A	001	1949	1523	0051* 0090* 0138* 0186*
DLE	A	001	18CD	1467	
DOREC	A	001	126E	0809	0796
DREAD	A	002	18F4	1493	
EREADL	A	001	18F7	1496	
DUMMY	A	001	19BA	1545	0555 0557 0687* 0688 0688* 0689* 0712* 0713 0713* 0714* 0793* 0794
					C794* 0800* 0822 0837* 0838* 0846 0899 1582 1583 1584 1585 1586
ESACK	A	004	119A	0720	0710*
ESD	A	001	0D9A	0356	0345
ESEOT	A	004	1172	0702	0686*
EBCTBL	A	001	1805	1336	0621 1337
ECHECK	A	004	1022	0579	0401* 0578*
ECLRTR	A	004	1133	0682	0678*
EPOR3	A	001	14F6	1060	0133* 0136* 0143 0221*
ENDCER	A	004	1447	0958	0859*
ENDENQ	A	004	1234	0780	0750*
ENDPT2	A	004	11CC	0739	0726* 0734* 0737 0738*

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8716 3270 REQUEST FOR TESTS (RPTS)--SECTION 1--

CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ENDSET	A	004	0DFC	0396	0213* 0388
ENDXL	A	004	111B	0675	0587* 0590 0591*
END1	A	002	19EC	1578	0058
END2	A	002	19EE	1579	0098
END3	A	002	19FO	1580	0146
END4	A	002	19F2	1581	0194
ENPOLL	A	004	12FF	0849	0792* 0840 0845
ENQ	A	001	18D0	1470	0488 0767 0822
EORD1	A	001	1802	1327	0055
EORD2	A	001	1613	1170	0095
EORD3	A	001	16BF	1273	0221
EORD4	A	001	152A	1098	0191
EOT	A	001	18D1	1471	0427 0540 0689 0899 0946
ERRSW	A	001	1A0E	1592	
ESPCAL	A	001	18B7	1432	0646 0649
ETB	A	001	18CP	1469	0464
ETEST2	C	001	00E6	1171	0095 0095* 1579
ETEXT1	C	001	00E7	1329	0055 0055* 1578
ETEXT3	C	001	00A9	1274	0143 0143* 1580
ETEXT4	C	001	00DF	1099	0197 0191* 1581
ETX	A	001	18CC	1466	0459
EMRTCD	A	002	18EA	1483	0376
FLAG	A	001	18C0	1445	0216 0218* 0275* 0387* 0406* 0428* 0435* 0443 0448 0470* 0479 0523* 0541* 0542 0576 0596* 0611* 0633 0650* 0660
FLAG0	C	001	0080	1446	0611 0632
FLAG1	C	001	0040	1447	0650 0660
FLAG2	C	001	0020	1448	
FLAG3	C	001	0010	1449	0387 0479
FLAG4	C	001	0008	1450	0406 0523 0576
FLAG5	C	001	0004	1451	0406 0435 0443
FLAG6	C	001	0002	1452	0406 0426 0448 0470 0541 0542
FLAG7	C	001	0001	1453	0216 0218
FOHE	A	001	19B9	1544	0735
FORASC	C	001	0020	1601	0599
FOREBC	C	001	0040	1600	0597
FOUR	A	002	1A10	1593	0578 0738
GOGOGO	A	004	12B3	0832	0823
GOSET3	A	004	0AF7	0129	0121
GOSET4	A	004	0B73	0177	0169
HALT	C	001	0222	2034	0249
HEADER	A	003	18D8	1475	0555 0874
HEXFF	A	002	19AC	1534	0297 0515 0626 0635 0669
IAR	C	001	0010	2025	
IAR0	C	001	0080	2029	
IAR1	C	001	00C0	2030	
IAR2	C	001	00A0	2031	0271*
IAR3	C	001	0090	2032	
IAR4	C	001	0088	2033	
ID	A	015	1PEF	2079	0759
ILNUM	A	004	0D3F	0338	0289
INCNT	A	006	11B9	0735	0733
KFPCHK	A	006	0C1F	0236	0251
LCCHK1	A	001	13D6	1551	0053* 0093* 0141* 0189* 0277* 0374* 0407 0413 0419 0425 0432 0457 0462
LCCHK2	A	001	19D7	1559	
LCCOMP	A	004	0E7B	0439	0411 0417 0423 0430
LCCOMP1	A	004	0ED9	0470	0446 0451 0454
LCCOMP2	A	004	0F9B	0534	0531
LCCOMP3	A	004	0FA9	0538	0535
LCCOMP4	A	004	0FB8	0542	0533 0537
LCCOMP5	A	001	1009	0571	0545 0548 0556
LCCOMP6	A	004	0ECD	0465	0460
LCCOMP7	A	001	0FDO	0551	0546
LINK	C	001	0216	2036	0127 0175 0700 0870 0896 0900
LOAD	C	001	022A	2040	0936 1614
LOOPON	A	004	0C8F	0282	0336 0342

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
LOOPCZ	A	004	0CB7	0294	0300
LOOPF1	A	004	0A6B	0069	0062 0065
LOOPF2	A	004	0A12	0108	0102 0105
LOOPF3	A	004	0B4E	0156	0150 0153
LOOPF4	A	004	0BCA	0204	0198 0201
LOOP1	A	004	0A39	0052	0066 0070
LOOP2	A	004	0AA0	0092	0106 0109
LOOP3	A	004	0B1C	0140	0154 0157
LOOP4	A	004	0B98	0188	0202 0205
MAXCAL	A	001	1PDD	2075	0318* 0330*
MIMOX	A	006	0CF0	0309	0307* 0308*
MSG0A	A	040	19A8	1528	0868
MSG01	A	033	16E2	1276	0225
MSG02	A	010	1917	1518	0527
MSG03	A	004	192F	1520	0566 0570 0884 0888
MSG04	A	017	1940	1521	0392
MSG05	A	001	195E	1525	0727* 0731
MSG06	A	018	1970	1526	0952
MSG07	A	032	1702	1277	0243
MSG08	A	020	1716	1278	0248
MSG09	A	016	1980	1527	0125 0173
MTWO	A	032	0D66	0350	0296
MVC5	A	004	120C	0766	0764*
NAK	A	001	18D2	1472	
NDISP	A	004	1321	0865	0836
NEG4	A	002	19B8	1543	0664
NOACAL	A	001	0D4B	0343	0283 0285 0287 0329
NOPRT	A	004	0C2C	0240	
NGSWCH	A	006	0F10	0492	0486
NOTPR	A	001	0C75	0266	0217
NOTME	A	006	12C8	0837	0831 0833
NTLRGE	A	016	0D95	0353	0341
NUMDIG	A	001	1FD0	2072	0286 0288 0291 0292 0307 0316 0354
NUMID	A	001	1FE0	2078	0239* 0442 0757 0760 0761 0762
NXLTE	A	004	1353	0881	0878
ONF	A	003	19D5	1550	0308 0330 0429 0513 0763 0834 0863 0942
ONEOT	C	001	0040	1566	0416 0422 0436 0538
ONRVI	C	001	0002	1568	0410 0530
ONWACK	C	001	0004	1567	0410 0534
ORD1	A	001	171C	1288	0045 1329
ORD2	A	001	152E	1106	0083 1171
ORD3	A	001	1617	1179	1274
ORD4	A	001	144C	0964	0131 0179 1099
PACK	C	001	0226	2039	
PNUM	A	011	0D71	0351	0298* 0299 0306 0306* 0309*
POLL	A	001	1238	0791	0553 0872
POLLSW	A	001	19D8	1565	0403* 0410* 0416* 0422* 0436* 0530 0534 0538
POLSEL	A	005	18E8	1481	0255* 0257 0797
PPENQ	A	004	11D0	0750	0346 0913
PPROGT	A	004	0BFA	0222	0220
PRER	A	004	0FF4	0562	0559
PRINT	C	001	021A	2037	0122 0170 0222 0240 0245 0311 0332 0338 0389 0524 0567 0728 0865 0885 0949 1669 1675 1689 1698 1706 1714 1722 1730 1738 1746 1753 1761 1768 1775 1813 1843 1866 1884 1916 1927 1933
PRINT2	A	001	119E	0725	
PRINT3	A	004	11B5	0734	
PSR	C	001	0004	2026	1627 1628* 1636*
P1IAR	C	001	0020	2027	
P2IAR	C	001	0040	2028	
RACK1	A	004	137E	0897	0902
RECAGN	A	004	127E	0815	0835
REERSE	A	004	0DC4	0374	0347
RENQ	A	004	121C	0771	0778
REPL1	A	006	1318	0863	0944
REPPOL	A	006	1407	0939	0909 0947
REPP1	A	004	132F	0871	0864

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
REPSL	A	004	1FF3	2081	0254
RESELL	A	004	0C87	0275	0370 0394
RPAPOL	A	004	1FF7	2082	0236 0255 0256
RSTKED	A	002	1900	1506	0928
RTN01	A	001	0A10	0039	0017
RTN02	A	001	0A77	0077	0041
RTN03	A	001	0ADE	0116	0079
RTN04	A	001	0B5A	0164	0118
RVI	A	002	18C7	1462	0532
SACAL	A	002	1306	0852	0325
SASEND	A	001	18DE	1478	
SAVADR	A	008	1FFF	2083	0256*
SAVEND	A	002	19B0	1539	C594* 0671
SAVPNT	A	004	1907	1511	C049 0088 0136 0184 0263
SAVXR1	A	002	19B4	1541	0404* 0574 0588* 0673
SAVXR2	A	002	19B6	1542	0405* 0575 0589* 0674
SBYTE0	C	001	0208	2041	
SBYTE2	C	001	020A	2042	0214 0696 0751 0754* 1836 1908
SBYTE3	C	001	020B	2043	0267 1970
SBYTE4	C	001	020C	2044	
SELADR	A	004	18PE	1505	
SELECT	A	011	1A1C	1595	0358* 0360 0362 0492* 0493 0797* 0799 0800 0915* 0917 0919 1576
SEQ01	A	005	1210	0767	0758
SETUP	A	001	0BD6	0212	0043 C081 0129 0177
SFLAG4	A	004	0F7B	0523	0480 0518
SIOCAL	A	004	0D12	0321	0331
SIOENB	A	003	0C80	0270	0269*
SOH	A	001	18CA	1464	
SSPERE	A	002	18DD	1477	
SSSAVE	A	002	1A0B	1590	0402* 0557* 0561 0565 0848* 0876* 0880 0883
SSW07	C	001	0001	2045	
SSW1A	C	001	0020	2056	0267 1970
SSW1B	C	001	0010	2057	
SSW1C	C	001	0008	2058	
SSW1D	C	001	0004	2059	
SSW1E	C	001	0002	2060	
SSW1F	C	001	0001	2061	
SSW10	C	001	0080	2046	
SSW11	C	001	0040	2047	1836 1908
SSW12	C	001	0020	2048	0214 0696
SSW13	C	001	0010	2049	0751 0754
SSW14	C	001	0008	2050	
SSW15	C	001	0004	2051	
SSW16	C	001	0002	2052	
SSW17	C	001	0001	2053	
SSW18	C	001	0080	2054	
SSW19	C	001	0040	2055	
SSW20	C	001	0080	2062	
START	A	001	1616	1177	0055* 0095* 0143* 0191* 0293 0304 0305 0309 0362* 0376* 0483 0488* 0493* 0521 0680* 0681 0681* 0755 0825* 0837 0838 0843 0843* 0844 0844* 0846* 0874 0876 0893 0904 0906 0908 0919* 0928* 0946 1569 1572 1573 1574 1575 1577 1578 1579 1580 1581
START1	A	002	0F7A	0521	0489
START2	A	002	19E2	1573	0828
START4	A	002	19E4	1574	
START5	A	002	19E6	1575	0380 0931
START6	A	002	19E0	1572	0366 0494 0923
STBL	A	001	18FA	1503	0265
STOP	A	001	171A	1280	0679* 0680 1570
STX	A	001	18CB	1465	0904
STXDC	A	003	18DB	1476	0257* 0434
SUB4	A	004	10F6	0664	0661
SWITCH	A	001	1307	0853	0552* 0698 0701* 0810* 0820 0839 0847* 0871* 0934*
TELEND	A	001	18B7	1428	
TELENUM	A	011	1FDB	2073	0315
TEST	C	001	0212	2035	1835 1907

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
TNUMX	A	020	0D85	0352	0314
TRMUDT	A	003	0A0F	0020	0047 0086 0134 0182 0219 0228 0231 0234 0282 0344 0478 0485 0795 0841 0895 0910
TSTR	A	003	18D5	1474	0893
TWO	A	002	19B2	1540	0591
T32701	A	001	0A00	0004	
UDTOPT	A	001	19AE	1536	0120 0168 0230* 0233* 0558 0601 0643 0877
UNPACK	C	001	021E	2038	0260 0302 0563 0881 1877
WACK	A	002	18C9	1463	0481 0505 0536
WAIT1	A	003	0F78	0520	0510
WAIT4	A	003	19D2	1549	0939
W1SEC	A	006	0F51	0511	0514
W111	A	006	0F4B	0510	0506
W112	A	004	0F47	0509	
W4SEC	A	006	140D	0940	0943
XLATE	A	001	1026	0586	0044 0082 0130 0178 0258 0264 0359 0560 0798 0879 0916
XLATE3	A	001	107A	0616	0602
XLATE5	A	001	1089	0622	0612 0627
XLATE6	A	001	10FE	0667	0628 0642 0657
XLATE7	A	004	1113	0673	0605 0610
XLT5W	A	001	19A9	1532	0593* 0597 0599 0604 0609* 0617 0620* 0672
XLT1A	A	004	104F	0597	0670
XLT2A	A	004	106B	0609	0598
XLT3A	A	001	1081	0619	0600
XLT5A	A	001	109F	0632	0624
XLT5E	A	004	10C9	0649	0644
XLT5G	A	003	10D1	0651	0647 0656
XLT5H	A	004	10E8	0660	0653
XMTA0	A	004	129A	0824	0821
XMRST	A	004	13E4	0927	0914
XR1	C	001	0001	2022	0291* 0292* 0294 0295 0296* 0315* 0316* 0317 0404 0409* 0415* 0421* 0427* 0434* 0445 0450 0453 0459* 0464* 0466 0489* 0494* 0496 0497* 0515* 0532* 0536* 0540* 0544 0547 0574* 0588 0592* 0593 0594 0595 0595* 0623 0636 0638 0641 0651 0651* 0652 0662 0665 0668 0668* 0669 0671* 0672 0673* 0759* 0761* 0766 0860 0956* 1625 1634* 1805 1818* 1834 1853* 1863* 1875* 1876 1894* 1895 1906 1924* 1937* 0293* 0294 0295 0297* 0298 0405 0439* 0442* 0445 0450 0453 0465* 0466 0481 0483* 0490 0490* 0495 0495* 0505 0507 0517* 0544 0547 0575* 0589 0590* 0592 0610* 0621* 0623 0625 0625* 0626 0635* 0636 0638 0646* 0649* 0652 0654 0654* 0655 0662 0664* 0665 0674* 0755* 0760* 0766 0767 0768 0768* 0769 0861 0957* 1626 1635* 1963 1964* 1965 1966 1967 1968 1986 1987 1988 1993 1993* 1994 1995* 2003 2008*
Y6	A	002	0D99	0355	0317* 0324 0762* 0763* 0764 0769* 0773
ZERO	A	004	1A00	15H7	0323 0402 0817

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

OBJECT CARD LISTING

THE CHARACTER ' INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+--80 /T @Z HXG ' ' |HAC|HGA9*4 6C 2 KQ8BA102E GO-D Q3|HGCC-6F|S UA IO-DQ33MBG9|... 'OND Q' 887160021

T+--BJD U@ /T + D HC3-EPCC2UI+(' ED Q2* AG(3B /QOOH* JG3-6B-2UA < AQ OP(CB * :8-H2BY* LC < *H<87160022

T+--<P/UQ8-0HE/8 EPZHAF;CS -U4 6@ 20-D OXBGGX<R6- ' F)OR7I4A JTI8YD <T6DAP<|2-@. /13 *C H OIY87160023

T+--GP*8|: 7*CS5D |H84:C5*|H02BP*8 R5* AC5D6 JH40 D |H3HBG9X2/0H -- OE3YHF<C /OH800Y E88* *HQ87160024

T+--B %BGG(08 /E Q2Z GO-DQ1*HGGI- DF)Y2U -B JTI8Y* |+D R6|H80*HAF(D : /T + HQ0|H8BZ4 A *S *H%87160025

T+--@-EC@Y*GX8 ' ' |HA*L1 DO- /1H 8C6HRIJYQ2-DYC D EB1XH+H R,7H8AZB GDBQEB*BGDP\$ /OH : /Y =S 87160026

T+ / 8B1U7OH*BF-H QPK* *1 (|6DR CB BPSQ8BAT @ / FC-D 8IJY6OH* C6HDJ8 4 JH@ (HR THBDJ8 + JD -DD87160027

T+ /A3G/H2 EDAG ' ' RD6 4 JH04-DA+@ QOC5 FEX2-JH*HAM Z8YDU+H R,7H8YTS FEX2UH-@ AWDO-H QATY 61287160028

T+ /B>-AT @Y*|+H HD-H8UT2 FE,B /- E88 ' ' |HAC=H8 Y4 A JH%0 DES-HGP3S *FC2U %6 /H%8 ' ' |H 16<87160029

T+ /CZ/OJ% ' ' A-J @-EC+Q R,7H828H BP.-2/OTB /S@+U QU(HA O4 ' ' C2-E7 S -P*OC ' ' JCH8Y* O+D ' ' E8Q87160030

T+ /DUF<C2D) % ' ' D8Y*H(-HR)FO ' ' C K 6E(6DR.< ADD8 5 JH0Z ' ' FEY5 JW 4(6HR_E8G ' ' 4BAD 6| ' ' 5EH87160031

T+ /E-E1Y<*1*RE1Y <AAQEE/? /0 (- J)LO P*%<DAXHP*% < AH:F(D@*1).OH* :01X6P-YE-/X;+B B8K ' ' KH887160032

T+ /FEDAY) + DLA*H 8A<BG /Q8 J<GOH* ' ' C6H8R4@*1>. | ' ' R2006P*YR200AP\$% Q1*BGGX<R' /X8P-E R7% ' ' =B*87160033

T+ /GH/0 ' ' (-J300 ' PNR328G /,FG/V : /0|2/084BAG|A- R31H9+-ER3*HAA-8 AD*2ED<BG ' ' 4BAH 7+L ' ' 3E087160034

T+ /H8 - ,2U -@ A* ;+1 B8XHBE/H' A* -2YDS0-D-8CQBG= 6 J*-C ' (WJ*-CO (WJX8C ' ' EC668X ' ' H0 8/H87160035

T+ /I. ' ' DQ4+HB T6 BCEX /18CF)Y(HJX *P)8 /08 OH*KG3 *G*8 /0 ' ' (-L TO *P*%<DAXHP*%8D Y |2/ ' ' R9Q87160036

T+ /HPH80CF/UQ9@B GDBQED8OHF*FEF\$B GGX<R' /X2P-6R77H GRTYADQ- /1D7| |2 8S30;FE7 /18CF-Q E AU } Q687160037

T+ /A*A<D+D LA*H 8B64 F8YQ4|HAF*8 GDJ8< JQPP<| /18 CF)YR8/X*F) 82/1H 8HA>P8Z +CO R,JX H0 D 1LD87160038

T+ /@DX* /1</C < R1/Q5C DR2/Q) +H LA*H8GC-8B-2U @ < 1QSE/%< JQWE/7 2/OQ<DQXFP*%A < G|D ' ' LY687160039

T+ /<7P-X /0 -8H D - 4BAJH(D8E T6 BEDQ@PAW_CO R,JX 88-D+OH*BFUQYFES GY8BG /C:-A<GOH* K+ 4 *S=87160040

T+ / (2 /Q/P(T2 K4 < JY.ESQ8-AH>8Z FOR*EI/YI0H*BG-H EB1U7OH*BFH8QFK= GA<BGG(32/*H /Q /P(H Q <87160041

T+ /+ _8-D;+A HC8B 6 /% /126C8 R7AT JONDBE8BGG(3 /1(=CE OG1T.-FHC6 OH/T:8YDH86 OHAT :0 D @6887160042

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

T+--80 /T @Z HXG ' ' |HAC|HGA9*4 6C 2 KQ8BA102E GO-D Q3|HGCC-6F|S UA IO-DQ33MBG9|... 'OND Q' 887160021

T+--BJD U@ /T + D HC3-EPCC2UI+(' ED Q2* AG(3B /QOOH* JG3-6B-2UA < AQ OP(CB * :8-H2BY* LC < *H<87160022

T+--<P/UQ8-0HE/8 EPZHAF;CS -U4 6@ 20-D OXBGGX<R6- ' F)OR7I4A JTI8YD <T6DAP<|2-@. /13 *C H OIY87160023

T+--GP*8|: 7*CS5D |H84:C5*|H02BP*8 R5* AC5D6 JH40 D |H3HBG9X2/0H -- OE3YHF<C /OH800Y E88* *HQ87160024

T+--B %BGG(08 /E Q2Z GO-DQ1*HGGI- DF)Y2U -B JTI8Y* |+D R6|H80*HAF(D : /T + HQ0|H8BZ4 A *S *H%87160025

T+--@-EC@Y*GX8 ' ' |HA*L1 DO- /1H 8C6HRIJYQ2-DYC D EB1XH+H R,7H8AZB GDBQEB*BGDP\$ /OH : /Y =S 87160026

T+ / 8B1U7OH*BF-H QPK* *1 (|6DR CB BPSQ8BAT @ / FC-D 8IJY6OH* C6HDJ8 4 JH@ (HR THBDJ8 + JD -DD87160027

T+ /A3G/H2 EDAG ' ' RD6 4 JH04-DA+@ QOC5 FEX2-JH*HAM Z8YDU+H R,7H8YTS FEX2UH-@ AWDO-H QATY 61287160028

T+ /B>-AT @Y*|+H HD-H8UT2 FE,B /- E88 ' ' |HAC=H8 Y4 A JH%0 DES-HGP3S *FC2U %6 /H%8 ' ' |H 16<87160029

T+ /CZ/OJ% ' ' A-J @-EC+Q R,7H828H BP.-2/OTB /S@+U QU(HA O4 ' ' C2-E7 S -P*OC ' ' JCH8Y* O+D ' ' E8Q87160030

T+ /DUF<C2D) % ' ' D8Y*H(-HR)FO ' ' C K 6E(6DR.< ADD8 5 JH0Z ' ' FEY5 JW 4(6HR_E8G ' ' 4BAD 6| ' ' 5EH87160031

T+ /E-E1Y<*1*RE1Y <AAQEE/? /0 (- J)LO P*%<DAXHP*% < AH:F(D@*1).OH* :01X6P-YE-/X;+B B8K ' ' KH887160032

T+ /FEDAY) + DLA*H 8A<BG /Q8 J<GOH* ' ' C6H8R4@*1>. | ' ' R2006P*YR200AP\$% Q1*BGGX<R' /X8P-E R7% ' ' =B*87160033

T+ /GH/0 ' ' (-J300 ' PNR328G /,FG/V : /0|2/084BAG|A- R31H9+-ER3*HAA-8 AD*2ED<BG ' ' 4BAH 7+L ' ' 3E087160034

T+ /H8 - ,2U -@ A* ;+1 B8XHBE/H' A* -2YDS0-D-8CQBG= 6 J*-C ' (WJ*-CO (WJX8C ' ' EC668X ' ' H0 8/H87160035

T+ /I. ' ' DQ4+HB T6 BCEX /18CF)Y(HJX *P)8 /08 OH*KG3 *G*8 /0 ' ' (-L TO *P*%<DAXHP*%8D Y |2/ ' ' R9Q87160036

T+ /HPH80CF/UQ9@B GDBQED8OHF*FEF\$B GGX<R' /X2P-6R77H GRTYADQ- /1D7| |2 8S30;FE7 /18CF-Q E AU } Q687160037

T+ /A*A<D+D LA*H 8B64 F8YQ4|HAF*8 GDJ8< JQPP<| /18 CF)YR8/X*F) 82/1H 8HA>P8Z +CO R,JX H0 D 1LD87160038

T+ /@DX* /1</C < R1/Q5C DR2/Q) +H LA*H8GC-8B-2U @ < 1QSE/%< JQWE/7 2/OQ<DQXFP*%A < G|D ' ' LY687160039

T+ /<7P-X /0 -8H D - 4BAJH(D8E T6 BEDQ@PAW_CO R,JX 88-D+OH*BFUQYFES GY8BG /C:-A<GOH* K+ 4 *S=87160040

T+ / (2 /Q/P(T2 K4 < JY.ESQ8-AH>8Z FOR*EI/YI0H*BG-H EB1U7OH*BFH8QFK= GA<BGG(32/*H /Q /P(H Q <87160041

T+ /+ _8-D;+A HC8B 6 /% /126C8 R7AT JONDBE8BGG(3 /1(=CE OG1T.-FHC6 OH/T:8YDH86 OHAT :0 D @6887160042

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/I YE *8D Y|AZ	.0H*J) %BGD) C2/2H	< 1YRF+. /1 WF/G	/1D-C -OG/YE0H*	:01YEP; R7AX;0H*	JG00 LY487160043
T+/ETAQAQEPF| /1*	CP) YR9/X*P) 8@ J<	GOH*J(@BG SZ C H	R3/YKC-@MCHJ@ (CLY	MD16LCOHR3/XN0 D	HC* NT487160044
T+/J; /1QCCE OG1T	JOHDMA@EG /,BD/V	0/OP /13*0-D <H	B C /0 HX*P@	@0NCE2AGBP@THD*(	?2<- P.Q@7160045
T+/KRD*J*2<-J1U*	H2AGGP@THD*-V8@P	S84CP0; |T1) XN@<\$	06HC3@?~5Q|I/@*	7*6C2D*/?2<-J2G@	A4@U WZ887160046
T+/LH1*PM1) PTD*V	*2<-JK4*H2AE<P@T	HDM3XPA5 D=LN5*X	08@PC8@PD@<GR1*E	*6DA GOA*DM5?2<-	JL_* 3Y887160047
T+/H15_QJLX*H2AE	|9*SODNA|2<-J4N*	H2AGK@THD) (*2<-	J5M*H2AGOP@THD))	?2<-J6G*H2AEEL@T	HDX 4E87160048
T+/NH@P@THDN1?2C1	*@<HJ?+M) :<GD60	***** GO C**@ S-	5P1GANA5-0*.C1<P	F1@TI4) .L5 (PO5* T	R8>< K0*87160049
T+/OE9+PM9=Z&A5	X5) \$N@<LI8_-L0;-	J0N)6A|C5_-Y@<G	B5>PE@<XN@+|H2;I	*4@XN1M@ ED)@<X	H8XN @I097160050
T+/P 6; (0*H A5	-D*|0G; /1-G_S\$DZ	@PD5) \$N9E; X*@\$W*	--V'; -OD) =|C1@?|	4*-S7=|V,K6CAD*M	G*-\$EY87160051
T+/P40*3P:DCA0_\$	V1EC15MCT2<XS@ (I	I5*M G) -J1;-) QAG	FMA7US=-.E44CP1) H	*8@PS80 ***A7Y\$>.	E44 **Y 87160052
T+/Q65@PNE+|E8><	J1*Q) :<GD60 *****	G;-C**@ S-5P1E	*@C1 :<PHD*E|2<-	J0--H2AGBP@THD*|	G2<- 8\$887160053
T+/R1D*{?2<-J1 (~	H2AGD-@THD*PX2<-	J1U*H2AGP*@-J05?	05/GD0*\$OD*J) 8@P	S84CP0; |T1) XN@<\$	06H *9Y87160054
T+/E@M.7*6C1Q-|	2**N-@JGEL@GL2*~	N5<PN81GE@E0) &A|	U5)~R5>|E0=|E1DC	D0; |AD*\$FG0A*D*\$	8|<* L/487160055
T+/XP@P@ED*R_G;T	A1(V- ***** A5- **	*@M.7@DCR1) TU1;.	T@<@06MCT1;.T8W_	*8XPC8@X05MC15) R	*XN 1HH87160056
T./*04@PC@C06MC	P5_|L@<GD1(V 0;P	A2) |A0_|E8@T18UC	H9+.T@<.E@<PN8@P	R1*@*****	***** 5: 87160057
T+/) N HX*N@J@<\$	T1;.T@ (-A8=|E6) N	*8XPQ9<PN0@XN11G	AN|E.@ (-R1;.S@+|	E8) (6*PQ9<PS84C	T5U **EAQ87160058
T+/;60@GL44CN1;~	TD*.S8XPQ9<PN8@X	A44CP0; |T1) XN@<C	S1*|T2) \$N@+\$I4* <	J0M.*1) XH2) PA8@N	*5_M JB-87160059
T+/~.@ (|A8> (5@G	T8@PR5M*J1NC2K4C	P6*PS8UCC0) PC1) (	(5_V 5@G2P;|0@<L	I8X|05) PE0=(0*-	UD*Q -T887160060
T+/-P4XGN1DCL1*G	V1MCP0; |T1) XN@<\$	06MCO1XR-4@XN1MC	U8XGG1M*J1*Q) :<G	D6@***** GM R **	*-H 6-887160061
T+//AC0@XFO<CDJD	LD14) @BCO< D1@T.	3<*@4*LP6 (?*7=CT	S+*EA0U.C@@JD1MP	FJX) G2DTIK) EH4U?	LL (3Y87160062
T+//@L) N+5U*PH (/	J6N.SH=(H9EPVN>R	P95TYO; VED/HEBLO	HDA ***** DA (0J*HUZ	\$K29< D4YLS_|H*	WOV4 *E087160063
T+/5702J*HV4ZPT_	-PN _OK*DPF**\$BN	_P68=\$3*:+XIT~DA	*I78*I/*2E/NHFJU	*GA8;G1@_AL4N|1,	**7 **52887160064

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/T2QP1,<CD@+*@	AA0DFDE~AA, @H	CDG W.L* 01/ 03	R -***** C***** B4	***** .6HX*HC S~	9@ <~.487160065
T+/U_ S) : *** P8	***** S~1L0<****	*1XA4****4@XN1MC	E6) X06;.T0;|U8UC	A5*J 8XPN8XN 2;I	9=* EI87160066
T+/V Y9=-E6*GS10G	W6*XT1MCE6) X06*L	I8_-L0; / 94CE6) X	06OCR1; |R:DCN9 (L	B1) V 9@XN0*\$R6*P	C84 **52Q87160067
T+/MT6*PS5*\$N8XP	H5>LT2) PE@<.Y5@G	S8XPD5) R 2) PT1) X	R9 (~TQ (PE9=(8@P	S84CP0; |T1) XN@<X	H2;< ;.H87160068
T+/X;2*GT1*@ |"	***** B***** |"	@@@*****	C: ***** D*****	OE/* E--H	NT887160069
T+/YRE/@OFAQE@/X	ED/QOE?40*AE*E?H	R3JW:FS@R>1XC***	***** E@ GDA GDA E**	***** @ (0@2<-	***** 1DH87160070
T+/ZM.~**@8B 0H*	BHU 4 JZ. (HEL3@	DFV05AAZ/| UEP*P	CFUL /12S@Y*D|H4	EP*HA CB*** (6@	EP|< E9087160071
T+/D| - | /1YV***	PSM C@HFYU@ A>	F0QDE) %BG /DFC/>	R0Q@E-XBG /DFD1>	X0Q ESXBG*** 0-1>	H<H ** 8 U87160072
T+/,HF8Y9-A>G@/	F1~@SS*HAB<BG /D	PA1>3+S S/T0 P8X	9@A>G@/ <0H*BFYQ	JF@@:DA>P+K S*/H	EC< **K087160073
T+/X@/OH@//U\$7LZ	F8Q9DA>G@/ <0H*	BFYQQF*M:SA>P+@-	S*/H@C<BG /DFCJO	B+~DS/TUDF@-2D 3	/0H 9K887160074
T+/_ P*QLGAM:BA>	P+@HS*/H@C<BG /D	PD/OX+~@S/T-BF8T	2D 3 /OH@/-8* (LY	BF8Q9BA>H@/ <0H*	BFYQ M:-87160075
T+/_@C11D+Y S/TU	DF8,2D 3 /OH@//H	*HTD F8Q9 />H@/	<0H*BFYQPF4:-A>	P+@DSSX @FY\$ /OH	E// ** \$087160076
T+/>6GG4:-A>P0H*	E/-*****	(\$PQ<P H1DC15; (1) X2) P	T@ (XE6DCP1) PD2) P	G@<P@6; |I5<P09+|	C6* < 2EY87160077
T+/?1Q) |R06GV6* (	0@TE0*.A1<GP8@P	R@< H1*|K@ (\$N@+|	R0) PS5<XT0*LA5=|	E6HCC2<PC4UC05HC	R1* < JL*87160078
T+/0X1*YV1*XN9*G	L2*J 0;.C2*XA0_\$	R8@XV1MCD2;.C5_P	H1*|T1<XS0*\$N5*P	C8@CT2) LE5>LT1<G	T0H **JH<87160079
T+/1X8XPT@ (XEO*L	Y0_|00*I 0=.R@<	H1*|K4=.R@ (\$R@+I	-6*P@@< H1*|K5>P	E6) XU50GU5*LE6*\$	L5>Q EI<87160080
T+/2S@< H1*|K1<.	I@ (-A6*XT:DCC2<P	C4T@HG.U4 J25C H	*?A2*C-H*?A3 C@H	*?A3@Y@.~<~EP~H	@C< ** 2SQ87160081
T+/3) /12<0H*BFYQ	QG (-@@12) 0-D ** <B	G***** A5) R	*6*PS5*\$N8XN 0*\$	T1) V ~-A 8XPCP**	(- 7AD87160082
T+/4QGT44 J890H*	BDT/ - , DA8:C D	:0/=LC-D;0/3 C@D	:0/=S@-D@0H*BF-D	GGU@@ A=POH*;H@0	AG9@ ~. <87160083
T+/5LG9X| J=) G<	5 J=) C D-VJ@BCOD	-VJ=\$|@<~V*H@H-4	AGX@~M*BAG@H@ A=	PC D-Y1=RCOD-X13	(@D 20H87160084
T+/6+G9@< J=NGXH	| J=NG9X /OH@ JY	:P-4AG9M*?HD_-4	AG9M;0|HD+00 GQ8	~VLQAG9M4 J6@0H*	B@- ** ,087160085
T+/7I *** ;? C G@E	)T-8 G@E) Z<BG /Y	A A:@C ** ;?/6+C0D	~VJ:=0H*) E-0 G@	:0CQAGX 4 J6@0H*	)ST@ 3L@87160086

8716 3270 REQUEST FOR TESTS (RFTS)--SECTION 1--

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/8DEAS*(D;+*B	G/H8E HHOA;+TO	CG9* <j#bg9<+j#< td=""> <td>BG<(J#BG972 &7</td> <td>/OHE &#;S-HGH 0</td> <td>AG94 PS*87160087</td> </j#bg9<+j#<>	BG<(J#BG972 &7	/OHE &#;S-HGH 0	AG94 PS*87160087
T+/8*G9%|J=)G<	5 J=C D-VJ=RCOD	-VJ=\$OH*BF-D|GX3	/15DOH*BFSQ* 1=	POHD*2<HA C /0	5)Q RJ887160088
T+/9:ELAS@GT6*G	N8_LI8=|E1EA&&(X	EO@FI9*PD&+SA8_P	OE+|R0)PS5<XS&X	OS;|R0)PS5<XT8@P	D&+Q RJ87160089
T+/:50;I &DA &DA	&DA &EA &EA &EA	&EA &DA &DA &DA	&DA &DA &DA &DA	&DA &DA &DA &DA	SD**#J087160090
T+/#0&DA &DA &	B C&HG%84 /	(0-H BOAG54A. D	-Q&<% J'VAKOAG>-	GC D-E +B BB"H	&+CY J-H87160091
T+/@,BAY:+-E-GTY	HFVH:BAZ,+--E)3Y	HFY<:BAD,+--O3Y	HG5@:BA*T+---R3Y	HG74:BA=A+--ET20	AG30 *E887160092
T+/'W 20AG4HC. D	-K D< J=R < J=	L < J=\$ | J=	LG<CS --4 /-J(6H	-U3PD 1-- <QD	|< K-887160093
T+A=- C /11=C&D	-W1=L@-DF7L* @YD	+0QH--CBDG9< J=	LG<CB - OH*		PTB87160094
T J*6					QT%87160095
TAAH-					&,U87160096
E**1*E7*=-DC*PH\$	=*7H&P C	F% ASC R A	SO Q		14310520750 707750.887160097

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DATE	01MAR72	21APR72	24JUL72	15SEP72	01FEB74	15FEB75	07JUL75	PROG ID	871-6
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8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
		2	DECK	4
		3	SEQ	0
0A00		4	T32702	START X'A00'
		5	TREP	
		6	*	
		7	*****	
		8	*	
		9	*	3270 REQUEST FOR TESTS
		10	*	
		11	*	
		12	*****	
0A00 8725	0A01	13	DC	XL2'8725' PROGRAM ID AND REVISION LEVEL
0A02 00	0A02	14	DC	XL1'00' SECTION FLAGS
0A03 00	0A03	15	DC	XL1'00' CURRENT ROUTINE NUMBER
0A04 0000	0A05	16	DC	XL2'00' RESERVED
0A06 CA10	0A07	17	DC	AL2(RTN01) ADDRESS OF FIRST ROUTINE
0A08 FFFF	0A09	18	DC	XL2'FFFF' RESERVED
0A0A 800000	0A0C	19	BSCUDT DC	XL3'800000' BSCA ENTRY
0A0D 875000	0A0F	20	TRNUDT LC	XL3'875000' CONSOLE SPUT ENTRY
		21	*	
		22	*	
		23	*****	
		24	*	
		25	*	UDT ENTRIES (BYTE 0A0C)
		26	*	
		27	*	BIT 0
		28	*	BIT 1
		29	*	BIT 2
		30	*	BIT 3 AUTO CALL
		31	*	BIT 4 SWITCHED
		32	*	BIT 5 1920 CHARACTER BUFFER
		33	*	BIT 6 ASCII
		34	*	BIT 7 PRINTER
		35	*****	
		36	*	RTN01 *
		37	*****	
		38	*	ROUTINE PREFIX
0A10 01	0A10	39	RTN01 DC	XL1'01' ROUTINE PREFIX
0A11 00	0A11	40	DC	XL1'00' NO INTERVENTION REQUIRED
0A12 0A77	0A13	41	DC	AL2(RTN02) ADDRESS OF NEXT ROUTINE
		42	*	
0A14 C0 87 0B78		43	B	SETUP CLEAR ERRORS
0A18 C0 87 0FC8		44	B	XLATE TRANSLATE
0A1C 13ED	0A1D	45	DC	AL2(ORD5-1) MESSAGE 5
0A1E 0C 03 14A7 18F4		46	MVC	A5(4),DIAL SET FOR DIAL UP
0A24 38 10 0A0F		47	TBN	TRNUDT,X'10'
0A28 F2 10 06		48	JT	**9
0A2B 0C 03 14A7 18F0		49	MVC	A5(4),SAVPNT USE CORRECT CU AND TERM ADDRESS
0A31 3C F1 19A8		50	MVI	COUNT,X'F1' INITIALIZE COUNTER
0A35 3C F5 1932		51	MVI	DISPNO,X'F5' INDICATE DISPLAY 6
0A39 C0 87 10C1		52	LOOP1 B	CLRTR CLEAR T-R FIELD
0A3D 3C 04 19AF		53	MVI	LCCHK1,CKACK2 EXPECT ACK0 TO COMMAND
		54	*	
0A41 0C BC 177C 14AA		55	MVC	START+ETEXT5-1(ETEXT5),EORD5 SET FOR RPT 4
0A47 C0 87 1EA1		56	B	\$\$SIO TRANSMIT
0A4E 19C3	0A4C	57	DC	AL2(ASTRT) FIFTH
0A4D 19C5	0A4E	58	DC	AL2(END5) MESSAGE
0A4F 19B5	0A50	59	DC	AL2(ASTOP)
0A51 19B7	0A52	60	DC	AL2(ATANDR)
0A53 C0 87 0DA2		61	B	CHECK CHECK FOR CORRECT RESPONSE
0A57 C0 87 0A6B		62	B	LOOPR1 PRINT ERROR AND RETRY COUNT
		63	*	GOOD RETURN
0A5B C0 87 12AA		64	B	CERSPN WAIT FOR INTERRUPT KEY
0A5F C0 87 0A6B		65	B	LCOPR1 CHECK RETRY COUNTER
0A63 C0 87 CA39		66	B	LOOP1 RETRY
0A67 C0 87 10D9		67	B	\$EOT GO TO NEXT ROUTINE
		68	*	
0A6B C0 87 1240		69	LOOPR1 B	PRINT2 PRINT DISPLAY ERROR

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0A6F C0 87 0A39		70	B	LOOP1 RETRY 3 TIMES-THEM
0A73 C0 87 10D9		71	B	\$EOT GO TO NEXT ROUTINE
		72	*	
		73	*****	
		74	*	RTN02 *
		75	*****	
		76	*	ROUTINE PREFIX
0A77 02	0A77	77	RTN02 DC	XL1'02' ROUTINE PREFIX
0A78 00	0A78	78	DC	XL1'00' NO INTERVENTION REQUIRED
0A79 0B11	0A7A	79	DC	AL2(RTN03) ADDRESS OF NEXT ROUTINE
		80	*	
0A7B C0 87 0B78		81	B	SETUP SETUP FOR NEXT DISPLAY
		82	*	
0A7F C2 01 19C7		83	LA	END6,XR1 SETUP FOR UNIVERSAL
0A83 34 01 0AEB		84	ST	MODIFY,XR1 CHARACTER SET MESSAGE
0A87 0C 03 15C2 18F4		85	MVC	A6(4),DIAL SET FOR DIAL UP
0A8D 38 10 0A0F		86	TBN	TRNUDT,X'10'
0A91 F2 10 06		87	JT	**9
0A94 0C 03 15C2 18F0		88	MVC	A6(4),SAVPNT USE CORRECT CU AND TERM ADDRESS
0A9A 3C F1 19A8		89	MVI	COUNT,X'F1' INITIALIZE COUNTER
0A9E 3C F6 1932		90	MVI	DISPNO,X'F6' INDICATE DISPLAY 6
		91	*	
0AA2 C0 87 10C1		92	LOOP2 B	CLRTR CLEAR T-R FIELD
0AA6 38 80 1987		93	TBN	UDTOPT,ASCII IS IT AN
0AAA F2 90 24		94	JF	GO2 ASCII TERMINAL
0AAD C2 01 19C9		95	LA	END6A,XR1 YES-SETUP FOR
0AB1 34 01 0AEB		96	ST	MODIFY,XR1 ASCII CHARACTER SET
0AB5 0C 03 1562 18F4		97	MVC	MOR6-5(4),DIAL
0ABB 38 10 0A0F		98	TBN	TRNUDT,X'10'
0ABF F2 10 06		99	JT	**9
0AC2 0C 03 1562 18F0		100	MVC	MOR6-5(4),SAVPNT USE CORRECT CU AND TERM ADDRESS
0AC8 0C B6 1776 1565		101	MVC	START+LENASC-1(LENASC),MOR6-2 SET FOR RPT 5 (ASCII)
0ACE F2 87 0C		102	J	GOON CONTINUE
		103	*	
0AD1 0C 71 1731 151F		104	GO2 MVC	START+L16-1(L16),MOR6-1 SET FOR
0AD7 0C A9 17EB 15C9		105	MVC	START+ETEXT6-1(L26),EORD6 RPT 5 (EBCDIC)
		106	*	
0ADD 3C 04 19AF		107	GOON MVI	LCCHK1,CKACK2 SET TO EXPECT ACK0 TO COMMAND
		108	*	
0AE1 C0 87 1EA1		109	B	\$\$SIO DISPLAY
0AE5 19C3	0AE6	110	DC	AL2(ASTRT) SIXTH
0AE7 19C7	0AE8	111	MODIFY DC	AL2(END6) MESSAGE
0AE9 19B5	0AEA	112	DC	AL2(ASTOP)
0AEB 19B7	0AEC	113	DC	AL2(ATANDR)
0AED C0 87 0DA2		114	B	CHECK CHECK FOR CORRECT RESPONSE
0AF1 C0 87 0B05		115	B	LOOPR2 PRINT ERROR AND RETRY COUNT
		116	*	GOOD RETURN
0AF5 C0 87 12AA		117	B	CERSPN WAIT FOR INTERRUPT KEY
0AF9 C0 87 0B05		118	B	LOOPR2 ERROR RETURN
0AFD C0 87 0AA2		119	B	LOOP2
0B01 C0 87 10D9		120	B	\$EOT GO TO NEXT ROUTINE
0B05 C0 87 1140		121	LOOPR2 B	PRINT2 PRINT DISPLAY ERROR
0B09 C0 87 0AA2		122	B	LOOP2 RETRY 3 TIMES-THEM
0B0D C0 87 10D9		123	B	\$EOT GO TO NEXT ROUTINE
		124	*	
		125	*****	
		126	*	RTN03 *
		127	*****	
		128	*	ROUTINE PREFIX
0B11 03	0B11	129	RTN03 DC	XL1'03' ROUTINE PREFIX
0B12 00	0B12	130	DC	XL1'00' NO INTERVENTION REQUIRED
0B13 FFFF	0B14	131	DC	XL2'FFFF' LAST ROUTINE
		132	*	
0B15 C0 87 0B78		133	B	SETUP CLEAR ERRORS
		134	*	
0B19 C0 87 0FC8		135	B	XLATE TRANSLATE

3725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDB	STMT	SOURCE STATEMENT	
OB1D	15CC				
OB1E	136	DC		AL2(ORD7-1)	MESSAGE 7
OB1F	0C 03 16BA 18F4	MVC		A7(4),DIAL	SET FOR DIAL UP
OB25	38 10 0A0F	138	TBN	TRMUOT,X'10'	
OB29	F2 10 06	139	JT	**9	
OB2C	0C 03 16BA 18F0	140	MVC	A7(4),SAVPNT	USE CORRECT CU AND TERM ADDRESS
OB32	3C F1 19A8	141	MVI	COUNT,X'F1'	INITIALIZP COUNTER
OB36	3C F7 1932	142	MVI	DISPNO,X'F7'	INDICATE DISPLAY 7
		143 *			
OE3A	C0 87 10C1	144	LOOP3	B CLRTR	CLEAR T-R FIELD
OB3E	3C 04 19AF	145	MVI	LCCHK1,CKACK2	SET TO EXPECT ACKO TO COMMAND
		146 *			
OB42	0C F0 17B0 16BD	147	MVC	START+ETEXT*7-1(ETEXT7),EORD7	SET FOR RPT 7
OB48	C0 87 1EA1	148	B	SSIO	DISPLAY
OB4C	19C3	149	DC	AL2(ASTRT)	SEVENTH
OB4E	19CB	150	DC	AL2(END7)	MESSAGE
OB50	19B5	151	DC	AL2(ASTOP)	
OB52	19B7	152	DC	AL2(ATANDR)	
OB54	C0 87 0DA2	153	B	CHECK	CHECK FOR CORRECT RESPONSE
OB58	C0 87 0B6C	154	B	LOOPR3	PRINT ERROR AND RETRY COUNT
		155 *		GOOD RETURN	
OB5C	C0 87 12AA	156	B	CERSPN	WAIT FOR INTERRUPT KEY
OB60	C0 87 0B6C	157	B	LOOPR3	ERROR RETURN
OB64	C0 87 0B3A	158	B	LOOP3	
OB68	C0 87 10D9	159	B	\$EOT	GO TO NEXT ROUTINE
OB6C	C0 87 1140	160	LOOPR3	B PRINT2	PRINT DISPLAY ERROR
OB70	C0 87 0B3A	161	B	LOOP3	RETRY 3 TIMES-THEN
OB74	C0 87 10D9	162	B	\$EOT	GO TO NEXT ROUTINE
		163			
		164	*****		*****
		165	* SETUP *		* SETUP *
		166	*****	THIS SUBROUTINE IS USED TO SETUP FOR EACH TEST	*****
		167	*	PER ROUTINE-ERRORS WILL BE RESET.	*****
		168	OB78	SETUP EQU *	
OB78	34 08 0DA1	169	ST	ENDSET+3,ARR	SAVE RETURN ADDRESS
OB7C	38 20 020A	170	TBN	SBYTE2,SSW12	TERMINATE SECTION?
OB80	C0 10 19FB	171	BT	\$DISCT	
OB84	38 01 18A9	172	TBN	FLAG,FLAG7	FIRST
OB88	F2 10 8C	173	JT	NOTFR	PASS?
OB8B	3A 01 18A9	174	SBN	FLAG,FLAG7	SET FLAG
OB8F	38 02 0A0F	175	TBN	TRMUOT,X'02'	ASCII
OB93	F2 90 06	176	JF	PPEOGT	
OB96	0C 39 1567 1779	177	MVC	MOR6(186),EASCI+2	
OB9C	C0 87 021A	178	FPROGT	B PRINT	PRINT PROGRAM
OBA0	06	179	DC	XL1'06'	TITLE
OBA1	21	180	DC	IL1'33'	
OBA2	179A	181	DC	AL2(MSGO1)	
		182 *			
OB44	38 02 0A0F	183 *		CHECK UDT OPTIONS HERE	
OB48	F2 90 04	184	TBN	TRMUOT,X'02'	CHECK FOR AN
OBAB	3A 80 1987	185	JF	**7	ASCII TERMINAL
OBAP	38 04 0A0F	186	SBN	UDTOPT,X'80'	
OB83	F2 90 04	187	TBN	TRMUOT,X'04'	CHECK FOR A
OB86	3A 40 1987	188	JF	**7	1920 CHARACTER BUFFER
OB8A	38 10 0A0F	189	SBN	UDTOPT,X'40'	
OB8E	F2 10 29	190	TBN	TRMUOT,X'10'	SWITCHED
OB8F	0D 07 1FF7 19DF	191	JT	ADROK	NETWORK?
OB87	F2 01 20	192	KEPCHK	CLC RP@POL(8),BLANK	ADDRESS
		193	JYE	ADROK	AVAILABLE
		194 *		PRINT ERROR	
OB8A	3C 00 1FE0	195	MVI	NUMID,X'00'	
OB8E	C0 87 021A	196	NOPRT	B PRINT	PRINT NO
OB82	C1	197	DC	XL1'C1'	ADDR
OB83	20	198	DC	IL1'32'	AVAILABLE
OB84	17BA	199	DC	AL2(MSGO7)	
OB86	8706	200	DC	XL2'8706'	
OB8D	C0 87 021A	201	B	PRINT	
OB8C	86	202	DC	XL1'86'	

ERR LOC	OBJECT CODE	ADDB	STMT	SOURCE STATEMENT		
OEDD	26					
OBDE	17E0	OBDD	203	DC	IL1'38'	
OBEO	C0 87 0222	OBDF	204	DC	AL2(HSGO8)	
OB24	8706	205	B	HALT	HALT	
OB26	C0 87 0BC1	OBES	206	DC	XL2'8706'	OF -06-
		207	B	KEPCHK		
		208 *		SAVE ADDRESSES		
OB2A	0C 03 18CB 1FF3	OB2A	209	ADROK EQU *		
OB2F	0C 03 18D0 1FF7	210	MVC	ADRSEL-1(4),REPSSEL	SAVE SELECTING ADDRESS	
OB2F	0C 07 1FF7 1FF7	211	MVC	POLSEL-1(4),RP@POL	SAVE ADDRESS FOR POLLING	
OB2F	0C 01 18C4 18CF	212	MVC	SAVADR(8),RP@POL	SAVE ADDRESSES	
OC02	C0 87 0FC8	213	MVC	STXDC(2),POLSEL-2	SETUP FIXED ADDRESS	
OC06	18AA	214	B	XLATE	TRANSLATE	
OC08	C0 87 021E	OC07	215	DC	AL2(DATCON-1)	CONTROL CODES
OC0C	02	216	B	UNPACK	SAVE FOR	
OC0D	18CA	OC0C	217	DC	XL1'02'	DISPLAYING
OC0F	18F0	OC0E	218	DC	AL2(ADRSEL-2)	
OC11	C0 87 0FC8	OC10	219	DC	AL2(SAVPNT)	
OC15	18E2	220	B	XLATE	TRANSLATE	
		OC16	221	DC	AL2(STBL-1)	COMMON COMMANDS
		OC17	222	NOTFR EQU *		
OC17	38 20 020B	223	TBN	SBYTE3,SSW1A	SECOND	
OC1B	F2 90 04	224	JF	**7	BSCA?	
OC1E	3A 08 0C23	225	SBN	SIOENB+1,X'08'		
OC22	F3 80 C0	226	SIOENB	SIO X'CO',X'20'	ENABLE BSCA	
OC25	35 A0 1A3D	227	L	SINTA,IAR2	LOAD INTERRUPT LEVEL 2 IAR	
		228 *				
		229 *		EXTRA RESET FUNCTIONS HERE		
		230 *				
OC29	3B FE 18A9	231	RESELL	SBF FLAG,X'FE'	RESET PROGRAM FLAGS	
OC2D	3C 01 19AF	232	MVI	LCCHK1,CKACKO	SET FOR TESTING ACKO	
		233				
		234	*****		*****	
		235	* CALL *			
		236	*****		*****	
		237 *		CALL		
OC31	38 18 0A0F	238	LOOPON	TBN TRMUOT,X'18'	CHECK FOR AUTO CALL	
OC35	F2 90 B5	239	JF	NOACAL	AND SWITCHED	
OC38	3D FF 1FDC	240	CLI	CALHAD,X'FF'	HAS CALL ALREADY	
OC3C	F2 81 AE	241	JE	NOACAL	BEEN COMPLETED?	
OC3F	3D 00 1FDO	242	CLI	NUMDIG,X'00'	ANY TEL NO	
OC43	F2 81 A7	243	JE	NOACAL	IN CORE?	
OC46	3D 0B 1FDO	244	CLI	NUMDIG,X'0B'	IS TEL NO	
OC4A	F2 84 94	245	JH	ILNUM	TOO LARGE?	
		246				
OC4D	C2 01 1FCF	247	LA	NUMDIG-1,XR1		
OC51	36 01 1FDO	248	A	NUMDIG,XR1		
OC55	C2 02 16C6	249	LA	START+6,XR2		
OC59	98 03 00 01	250	LOOPQZ	HNM 0(,XR2),1(,XR1)	SAVE ONLY	
OC5D	98 01 00 00	251	HZN	0(,XR2),0(,XR1)	NUMERIC DIGITS	
OC61	36 01 0D08	252	A	HTWO,XR1	ALTER	
OC65	36 02 1985	253	A	HEXFF,XR2	COUNTERS	
OC69	34 02 0D13	254	ST	PNUM,XR2		
OC6D	0D 01 0D13 19B3	255	CLC	PNUM(2),ASTART	CHECK FOR JOB	
OC73	C0 84 0C59	256	BH	LOOPQZ	COMPLETED	
		257				
OC77	C0 87 021E	258	B	UNPACK	UNPACK	
OC7B	06	OC7B	259	DC	XL1'06'	TELEPHONE
OC7C	16C6	OC7D	260	DC	AL2(START+6)	NUMBER
OC7E	16D4	OC7F	261	DC	AL2(START+20)	
OC80	0C 0A 0D13 0D14	262	MVC	PNUM(11),PNUM+1	CLEAR PRINT AREA	
OC86	0C 00 0C93 1FDO	263	MVC	MLMOX+i,NUMDIG(1)		
OC8C	0F 00 0C93 19AE	264	SLC	MLMOX+1(1),ONE	PUT TEL NO INTO	
OC92	0C 0A 0D13 16D4	265	MLMOX	MVC PNUM(11),START+20	PRINT MESSAGE	
		266				
OC98	C0 87 021A	267	B	PRINT	PRINT	
OC9C	06	OC9C	268	DC	XL1'06'	TELEPHONE
OC9D	1F	OC9D	269	DC	IL1'31'	NUMBER

8725 3270 REQUEST FOR TESTS (RFTS)---SECTION 2---

Table with columns: ERR LOC, OBJECT CODE, ADDR, STMT, SOURCE STATEMENT. Contains assembly code for error 8725, including instructions like DC, LA, AL2, and comments such as 'SETUP FOR ISSUING THE CALL' and 'NO TIMEOUT MESSAGE'.

8725 3270 REQUEST FOR TESTS (RFTS)---SECTION 2---

Table with columns: ERR LOC, OBJECT CODE, ADDR, STMT, SOURCE STATEMENT. Contains assembly code for error 8725, including instructions like DC, LA, AL2, and comments such as 'TRANSMIT STX,EXC' and 'CHECK FOR CORRECT RESPONSE'.

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
OE33	9D 02 02 00	401	CLC	2(3, XR2), 0(, XR1)	CHECK 3 BYTES
OE37	F2 01 41	402	JNE	LCCMP1	WHICH WERE TRANSMITTED
OE3A	F2 87 18	403	J	CKP	FIELD WAS CORRECT
OE3D	38 02 18A9	404	TBN	FLAG, FLAG6	CHECK FOR
OE41	F2 90 0A	405	JF	**13	1 CHAR COMPARE
OE44	9D 00 00 00	406	CLC	0(1, XR2), 0(, XR1)	CHECK ONE BYTE
OE48	F2 01 30	407	JNE	LCCMP1	
OE4B	F2 87 07	408	J	CKP	FIELD WAS CORRECT
OE4E	9D 01 01 00	409	CLC	1(2, XR2), 0(, XR1)	CHECK TWO BYTES RECEIVED
OE52	F2 01 26	410	JNE	LCCMP1	
		411	*	FIELD WAS CORRECT	
		412	****		
OE55	38 08 19AF	413	CKP	TBN LCCHK1, CKETX	TEST
OE59	F2 90 07	414	JF	CKR	ETX?
OE5C	C2 01 18B5	415	LA	ETX, XR1	SET FOR ETX
OE60	F2 87 0C	416	J	LCCMP6	
		417	****		
OE63	38 10 19AF	418	CKR	TBN LCCHK1, CKETB	TEST
OE67	C0 90 OFAB	419	BF	CKS	ETB?
OE6B	C2 01 18B8	420	LA	ETB, XR1	SET FOR ETB
OE6F	35 02 1F71	421	LCCMP6	L SSTOP, XR2	
OE73	6D 00 00 00	422	CLC	0(1, XR1), 0(, XR2)	CHECK
OE77	C0 81 OFAB	423	BE	CKS	RESPONSE
		424	*		
		425	*	ERROR	
OE7B	3B 02 18A9	426	LCCMP1	SBF FLAG, FLAG6	RESET COMPARE FLAG
		427	*		
		428	*		
		429	*	XPHAC	
		430	*	CALL MACRO BY XPHAC	
		431	*		
		432	*	IF A PRINTER IS BEING TESTED, MODIFY ERROR CHECK	
		433	*		
OE7F	38 01 0A0F	434	TBN	TRHDT, X'01'	PRINTER *****
OE83	38 10 18A9	435	TBN	FLAG, FLAG3	
OE87	F2 90 93	436	JF	SFLAG4	
OE8A	8D 01 01 18B2	437	CLC	1(2, XR2), WACK	IS PRINTER BUSY?
OE8F	C0 01 1CBA	438	BNE	STRPNT	
OE93	C2 02 16C0	439	LA	START, XR2	USE XR2 FOR TRANS COUNTER
OE97	C0 87 10C1	440	B	CLRTR	
OE9B	38 10 0A0F	441	TBN	TRHDT, X'10'	SWITCHED
OE9F	F2 90 10	442	JF	NOSWCH	NETWORK?
		443			
OEAA	0C 00 16C0 18B9	444	MVC	START(1), ENQ	MOVE IN ENQ
OEAB	C2 01 0F1C	445	LA	START1, XR1	USE CORRECT TRANSITION ADDRESS
OEAC	E2 02 01	446	LA	1(, XR2), XR2	
OEAF	F2 87 13	447	J	ASIO	
OEBA	0C 03 19F7 18CB	448	NOSWCH	MVC SELECT-3(4), ADESEL-1	USE CORRECT
OEBC	0C 08 16C8 19F8	449	MVC	START+8(9), SELECT-2	SELECT ADDRESS
OEBE	C2 01 19B9	450	LA	START6, XR1	USE CORRECT TRANSITION ADDRESS
OEC2	E2 02 09	451	LA	9(, XR2), XR2	
OEC5	34 01 0ED4	452	ASIO	ST ASIO1, XR1	SAVE TRANSITION ADDRESS
OEC9	C2 01 005A	453	LA	90, XR1	WAIT UP TO 90 SECONDS
		454			
OEDC	C0 87 1EA1	455	B	SSIO	TRANSMIT
OED1	19B3	456	DC	AL2 (ASTART)	SELECT
OED3	0000	457	ASIO1	DC AL2 (***)	
OED5	19B5	458	DC	AL2 (ASTOP)	
OED7	19B7	459	DC	AL2 (ATANDR)	
		460			
OEDE	9D 01 01 18B2	461	CLC	1(2, XR2), WACK	WACK RECEIVED?
OEDE	F2 81 0C	462	JE	#111	KEEP WAITING IF WACK
OEEl	8D 01 01 18AC	463	CLC	1(2, XR2), ACK0	IF ACK0, PRINTING
OEEl	F2 81 C2	464	JE	CKS	HAS COMPLETED
OEEl	C0 87 1CBA	465	#112	B STRPNT	
OEED	0C 02 19A7 0F1A	466	MVC	COUNTR(3), WAIT1	WAIT
OEEl	0D FF 0EF3 0EF3	467	W1SEC	CIC *(256), *	ONE
OEEl	0D 3A 0EF9 0EF9	468	CIC	*(59), *	SECOND

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
OEFF	0F 02 19A7 19AE	469	SLC	COUNTR(3), ONE	
OF05	C0 01 0EF3	470	BNE	W1SEC	
OF09	36 01 1985	471	A	HEXFF, XR1	
OF0D	C0 01 0ECD	472	BNE	ASIO+8	
OF11	35 02 1F77	473	L	\$STRAN, XR2	RELOAD TRANSITION ADDRESS
OF15	F2 87 05	474	J	SFLAG4	
		475			
OF18	0003E8	OP1A	476	WAIT1 DC	XL3'0003E8'
OF1B	16C1	OP1C	477	START1 DC	AL2(START+1)
			478	*** END OF EXPANSION **	
OF1D	3A 08 18A9		479	SFLAG4 SBN	FLAG, FLAG4
OF21	C0 87 021A		480	B	PRINT
OF25	C3	OP25	481	DC	XL1'C3'
OF26	0A	OP26	482	DC	IL1'10'
OF27	1900	OP28	483	DC	AL2(MSG02)
OF29	8702	OP2A	484	DC	XL2'8702'
OF2B	C0 87 1CBA		485	B	STRPNT
OF2F	38 02 19B1		486	TBN	POLLSW, ONRVI
OF33	F2 90 07		487	JF	LCCMP2
OF36	C2 01 18B0		488	LA	RVI, XR1
OF3A	F2 87 1D		489	J	LCCMP4
OF3D	38 04 19B1		490	LCCMP2	TBN POLLSW, ONWACK
OF41	F2 90 C7		491	JF	LCCMP3
OF44	C2 01 18B2		492	LA	WACK, XR1
OF48	F2 07 0F		493	J	LCCMP4
OF4B	38 04 19B1		494	LCCMP3	TBN POLLSW, ONEOT
OF4F	F2 90 59		495	JF	CKS
OF52	C2 01 18B1		496	LA	EOT, XR1
OF56	3A 02 18A9		497	SBN	FLAG, FLAG6
OF5A	38 02 18A9		498	LCCMP4	TBN FLAG, FLAG6
OF5E	F2 10 0A		499	JT	**13
OF61	9D 01 01 00		500	CLC	1(2, XR2), 0(, XR1)
OF65	F2 01 43		501	JNE	LCCMP5
OF68	F2 87 07		502	J	LCCMP7
OF6B	9D 00 00 00		503	CLC	0(1, XR2), 0(, XR1)
OF6F	F2 01 39		504	JNE	LCCMP5
		505	*		
		506	*	POLL FOR SENSE AND STATUS	
OF72	3C 40 12A9	OP72	507	LCCMP7	EQU *
OF76	C0 87 11DA		508	MVI	SWITCH, X'40'
			509	B	POLL
			510		
OF7A	0D 02 199E 18C1		511	CLC	DUMMY+11(3), HEADER
OF80	F2 01 28		512	JNE	LCCMP5
OF83	0C 01 19EA 19A3		513	MVC	SSSAVE(2), DUMMY+16
OF89	38 80 1987		514	TBN	UDTOPT, ASCII
OF8D	F2 90 06		515	JF	PRER
OF90	C0 87 0FC8		516	B	XLATE
OF94	19E8	OP95	517	DC	AL2(SSSAVE-2)
OF96	C0 87 1118		518	PRER	B SACK1
OF9A	C0 87 021E		519	B	UNPACK
OF9E	02	OP9E	520	DC	XL1'02'
OF9F	19EA	OPA0	521	DC	AL2(SSSAVE)
OPA1	1918	OPA2	522	DC	AL2(MSG03)
OPA3	C0 87 021A		523	B	PRINT
OPA7	05	OPA7	524	DC	XL1'05'
OPA8	18	OPA8	525	DC	IL1'24'
OPA9	1918	OPAA	526	DC	AL2(MSG03)
		OPAB	527	LCCMP5	EQU *
		OPAB	528	CKS	EQU *
			529	BC	**4, X'FF'
OPAB	C0 FF 0FAP		530	L	SAVIR1, XR1
OPAF	35 01 198D		531	L	SAVIR2, XR2
OPB3	35 02 198F		532	TBN	FLAG, FLAG4
OPB7	38 08 18A9		533	JT	**9
OPBB	F2 10 06		534	ALC	ECHECK+3(2), FOUR
OPBE	0E 01 0FC7 19EE		535	ECHECK	B *-*
OPC4	C0 87 0000		536	*****	*****

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
			537 *	* XLATE *	* XLATE *
			538 *****		*****
			539 *	THIS SUBROUTINE IS USED TO CONVERT FROM EBCDIC	
			540 *	TO ASCII OR ASCII TO EBCDIC.	
			541 *		
		OPC8	542 XLATE	EQU *	
OPC8	34 08 10C0		543	ST ENDXL+3,ARR	SAVE FOR RETURNING
OPCC	34 01 198D		544	ST SAVXR1,XR1	SAVE
OFD0	34 02 198F		545	ST SAVXR2,XR2	REGISTERS
OPD4	35 02 10C0		546	L ENDXL+3,XR2	
OPD8	0E 01 10C0 198B		547	ALC ENDXL+3(2),TWO	
OFDE	B5 01 01		548	L 1(,XR2),XR1	USE XR1 FOR TABLE TO BE TRANSLATED
OFE1	1C 00 1982 00		549	MVC XLTSW(1),0(,XR1)	
OFE6	34 01 1989		550	ST SAVEND,XR1	SAVE BEGINNING ADDRESS OF TABLE
OFEA	D2 01 01		551	LA 1(,XR1),XR1	
OPED	3B C0 18A9		552	SBP FLAG,X'CO'	RESET PROGRAM FLAGS USED BY SUB
OFF1	3D 40 1982		553	XLT'A CLI XLTSW,FOREBC	FORCE
OFF5	F2 81 15		554	JE XLT2A	EBCDIC?
OFF8	3D 20 1982		555	CLI XLTSW,FORASC	FORCE
OPFC	F2 81 24		556	JE XLT3A	ASCII?
OFFP	38 80 1987		557	TBN UDTOPT,ASCII	IS IT A
1003	F2 10 16		558	JT XLATE3	ASCII TERMINAL?
			559 *	EBCDIC TRANSLATE NEEDED	
1006	38 80 1982		560	TBN XLTSW,ASCII	IS IT ASCII
100A	F2 90 A8		561	JF XLATE7	NOW?
			562 *		
			563 *	CCNVERT ASCII TO EBCDIC	
			564 *		
100D	3C 00 1983		565	XLT2A MVI XLTSW+1,0	INDICATE TABLE IS NOW EBCDIC
1011	C2 02 17EF		566	LA ASCTBL,XR2	USE XR2 FOR ASCII TABLE POINTER
1015	3A 80 18A9		567	SBN FLAG,FLAGO	INDICATE CONVERTING TO EBCDIC
1019	F2 87 0F		568	J XLATE5	
			569 *		
			570 *	CCNVERT EBCDIC TO ASCII	
			571 *		
		101C	572 XLATE3	EQU *	
101C	38 80 1982		573	TBN XLTSW,ASCII	IS IT ASCII ALREADY?
1020	F2 10 92		574	JT XLATE7	YES--SKIP TRANSLATION
		1023	575 XLT3A	EQU *	
1023	3C 80 1983		576	MVI XLTSW+1,X'80'	INDICATE TABLE IS NOW ASCII
1027	C2 02 17EE		577	LA EBCTBL,XR2	USE XR2 FOR EBCDIC TABLE POINTER
		102B	578 XLATE5	EQU *	
102B	6D 00 00 00		579	CLC 0(1,XR1),0(,XR2)	CHECK FOR
102F	F2 81 0F		580	JE XLT5A	CORRECT CHARACTER
1032	E2 02 02		581	LA 2(,XR2),XR2	CHECK ALL
1035	8D 01 01 1985		582	CLC 1(2,XR2),HEXFF	ENTRIES
103A	C0 01 102B		583	BNE XLATE5	
103E	F2 87 5F		584	J XLATE6	
			585 *		
			586 *	MATCH WAS MADE	
			587 *		
		1041	588 XLT5A	EQU *	
1041	38 80 18A9		589	TBN FLAG,FLAGO	IS IT
1045	F2 90 0B		590	JF CLCETA	ASCII TO EBCDIC
1048	36 C2 1985		591	A HEXFF,XR2	
104C	6C 00 00 00		592	MVC 0(1,XR1),0(,XR2)	SAVE NEW CHARACTER
1050	F2 87 04		593	J *+7	
1053	6C 00 00 01		594	CLCETA MVC 0(1,XR1),1(,XR2)	SAVE NEW CHARACTER
			595 *		
			596 *	SPECIALS (ACK 0, ACK 1, WACK, RVI)	
1057	7D 10 00		597	CLI 0(,XR1),X'10'	IS IT
105A	F2 01 43		598	JNE XLATE6	A -DLE-?
105D	39 80 1987		599	TBP UDTOPT,ASCII	IS IT
1061	F2 10 07		600	JT XLT5E	AN ASCII TERMINAL?
			601 *	EBCDIC	
1064	C2 02 18A0		602	LA ESPCAL,XR2	USE CORRECT TABLE
1068	F2 87 08		603	J XLT5G	
			604 *	ASCII	

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
			605	XLT5E LA ESPCAL+4,XR2	
			606	SBN FLAG,FLAG1	
			607	XLT5G LA 1(,XR1),XR1	
			608	CLC 0(1,XR1),0(,XR2)	CHECK EACH
			609	JE XLT5H	SPECIAL
			610	LA 1(,XR2),XR2	CHARACTER
			611	CLI 0(,XR2),X'FF'	IN THE
			612	BNE XLT5G+3	TABLE
			613	J XLATE6	
			614 *		
			615 *	SPECIAL FOUND	
			616	XLT5H TBN FLAG,FLAG1	CHECK FOR
			617	JT SUB8	HCD FLAG
			618	MVC 0(1,XR1),4(,XR2)	CHANGE EBCDIC
			619	J *+11	TO ASCII
			620	SUB4 A NEG4,XR2	CHANGE ASCII
			621	MVC 0(1,XR1),0(,XR2)	TO EBCDIC
			622 *		
		10A0	623 XLATE6	EQU *	
			624	LA 1(,XR1),XR1	CHECK FOR
			625	CLC 1(2,XR1),HEXFF	END
			626	BNE XLT1A	OF TABLE
			627	L SAVEND,XR1	
			628	MVC 0(1,XR1),XLTSW+1	INDICATE WHICH TRANSLATION WAS DONE
			629	XLTAE7 L SAVXR1,XR1	RESTORE XR1
			630	L SAVXR2,XR2	RESTORE XR2
			631	ENDXL S *--*	RETURN
			632 *		
			633 *	CLEAR TRANSMIT AND RECEIVE FIELD	
			634	CLRTR ST ECLRTR+3,ARR	
			635	MVI STOP,0	CLEAR
			636	MVC START+300(256),STOP	TR
			637	MVC START+49(50),START+50	FIELD
			638	ECLRTR B *--*	RETURN
			639		
			640 *	THIS SUBROUTINE TRANSMITS EOT TO SELECTED TERMINAL	
			641 *		
			642	ESEOT ST ESEOT+3,ARR	
			643	MVI DUMMY+17,0	CLEAR
			644	MVC DUMMY+16(17),DUMMY+17	T-R FIELD
			645	MVC DUMMY(1),EOT	
			646	MVI SNOTIN,X'FF'	NO TIMEOUT MESSAGE WANTED
			647	B SSIO	TRANSMIT
			648	DC AL2(ADUM1)	EOT
		10F6	648	DC AL2(ADUM3)	
		10F8	649	DC AL2(ADUM3)	
		10FA	650	DC AL2(ADUM3)	
		10FC	651	DC AL2(ATANDR)	
			652	TBN SBYTE2,SSW12	TERMINATE SECTION?
			653	BT SDISCT	
			654	TBN SWITCH,X'01'	BYPASS LINKING?
			655	JT *+7	
			656	B LINK	
			657	SBP SWITCH,X'01'	
			658	ESEOT B *--*	RETURN
			659		
			660 *		
			661 *		
			662 *	XACK1	
			663 *		
			664 *	THIS SUBROUTINE TRANSMITS ACK1 TO THE TERMINAL BEING TESTED.	
			665 *		
			666	SACK1 ST E\$ACK+3,ARR	SAVE RETURN ADDRESS
			667	MVI SNOTIN,X'FF'	BYPASS TIMEOUT
			668	MVI DUMMY+17,0	CLEAR
			669	MVC DUMMY+16(17),DUMMY+17	T-R FIELD
			670	MVC DUMMY+1(2),ACK1	SET FOR ACK1
			671		
			1118	34 08 113P	
			111C	3C FF 1B69	
			1120	3C 00 19A4	
			1124	0C 10 19A3 19A4	
			112A	0C 01 1994 18AE	

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
1130	C0 87 1EA1	671	B	\$\$SIO	TRANSMIT
1134	19D1	1135	672	DC AL2(ADUM1)	ACK1
1136	19D3	1137	673	DC AL2(ADUM2)	RESPONSE
1138	19CF	1139	674	DC AL2(ADUM8)	
113A	19B7	113B	675	DC AL2(ATANDR)	
113C	C0 87 0000	676	E\$ACK B	**	
		677	*** END OF EXPANSION **		
		678	*		
		679	* THIS SUBROUTINE PRINTS DISPLAY ERRORS		
		680	*		
1140	34 08 1171	1140	681	PRINT2 EQU *	
1144	0C 00 1947 19A8	682	ST ENDP2+3,ARR		
114A	C0 87 021A	683	MVC MSG05(1),COUNT	SAVE FOR RETURNING	
114E	C6	684	B PRINT	PRINT	
114F	1E	114E	685	DC XL1'C6'	DISPLAY
1150	1947	114F	686	DC IL1'30'	ERROR
1152	8703	1151	687	DC AL2(MSG05)	
1154	F2 87 04	1153	688	DC XL2'8703'	
1157	34 08 1171	689	J INCNT		
115B	06 00 19A8 1992	690	PRINT3 ST ENDP2+3,ARR		
1161	3D F4 19A8	691	INCNT AZ COUNT(1),FONE(1)	INCREMENT RETRY COUNTER	
1165	F2 01 06	692	CLI COUNT,X'F4'	HAVE 3 RETRYS	
1168	0E 01 1171 19EE	693	JNE ENDP2	BEEN COMPLETED?	
116E	C0 87 0000	694	ALC ENDP2+3(2),FOUR		
		695	ENDPT2 B **	RETURN	
		696	*		
		697	*****		
		698	* XENQ *		
		699	*****		
		700	*		
		701	* XENQ		
		702	*		
		703	* THIS SUBROUTINE IS USED TO GAIN CONTROL OF THE LINE--		
		704	* USED FOR THE SWITCHED FEATURE ONLY.		
		705	*		
1172	34 08 11D9	706	PFENQ ST ENDEM0+3,ARR	SAVE RETURN ADDRESS	
1176	38 10 02JA	707	TBN SBYTE2,SSW13	IF SSW13	
117A	F2 90 08	708	JF **11	IS ON, ALLOW	
117D	3C 00 1FDE	709	MVI ADDE0,0	FOR RECONNECTION	
1181	3B 10 020A	710	SBF SBYTE2,SSW13		
1185	C2 02 16BF	711	LA START-1,XP2		
		712	*		
1189	3D 00 1FE0	713	CLI NUMID,X'00'	IS THERE	
118D	F2 81 22	714	JE SENQ1	AN ID?	
1190	C2 01 1FE0	715	LA ID-15,XR1		
1194	36 02 1FE0	716	A NUMID,XR2	USE RH ADDRESS FOR SMT FIELD	
1198	36 01 1FE0	717	A NUMID,XR1	USE RH ADDRESS OF ID FIELD	
119C	0C 00 0D3B 1FE0	718	MVC Y6(1),NUMID		
11A2	0F 00 0D3B 19AE	719	SLC Y6(1),ONE		
11A8	0C 00 11AF 0D3B	720	MVC MVC5+1(1),Y6		
		721	*		
11AE	9C 00 00 00	722	MVC5 MVC 0(,XR2),0(1,XR1)	MOVE ID TO XMT FIELD	
11B2	8C 00 01 18B9	723	SENQ1 MVC 1(1,XR2),ENQ	MOVE IN ENQ	
11B7	E2 02 02	724	LA 2(,XR2),XR2	GET CORRECT	
11BA	34 02 0D3B	725	ST Y6,XR2	TRANSITION ADDRESS	
		726	*		
11BE	C0 87 1EA1	727	RENQ B \$\$SIO	TRANSMIT	
11C2	19B3	11C3	728	DC AL2(A\$TART)	(ID)
11C4	0D3B	11C5	729	DC AL2(Y6)	ENQ
11C6	19B5	11C7	730	DC AL2(A\$T0P)	
11C8	19B7	11C9	731	DC AL2(ATANDR)	
		732	*		
11CA	C0 87 0DA2	733	B CHECK	GO CHECK FOR ACK0	
11CE	C0 87 11BE	734	B RENQ	REPEAT IF IN ERROR	
11D2	3C FF 1FDE	735	MVI ADDE0,X'FF'		
11D6	C0 87 0000	736	ENDEM0 B **	RETURN	
		737	*** END OF EXPANSION **		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
		738	*****		
		739	* XPCLL *		
		740	*****		
		741	*		
		742	*	X\$POLL	
		743	*		
		744	*	THIS SUBROUTINE IS USED TO PERFORM POLLING FOR MULTIPOINT	
		745	*	OR TO RECEIVE ONLY FOR THE SWITCHED FEATURE.	
		746	*		
		11DA	747	POLL EQU *	
		748	ST ENPCLL+3,ARR	SAVE RETURN ADDRESS	
		749	MVI DUMHY+17,0	CLEAR	
		11DE	3C 00 19A4	DUMHY+16(17),DUMHY+17	T-R FIELD
		11E2	0C 10 19A3 19A4	TBN TRNUDT,X'10'	SWITCHED
		11E8	38 10 0A0F	JT DOREC	NETWORK?
		11EC	F2 10 21	MVC SELECT-3(4),POLSEL-1	GET POLLING ADDRESS
		11EF	0C 03 19F7 18D0	B XLATE	TRANSLATE
		11F5	C0 87 0FC8	DC AL2(SELECT-11)	IF NECESSARY
		11F9	19EF	MVC DUMHY+8(9),SELECT-2	SET FOR POLLING
		11FB	0C 08 199B 19FB		
		757	*		
		758	B \$\$SIO	POLL	
		1201	C0 87 1EA1	DC AL2(ADUM1)	THE
		1205	19D1	DC AL2(ADUM9)	DISPLAY
		1207	19D7	DC AL2(ADUM8)	STATION
		1209	19CF	DC AL2(ATANDR)	
		120B	19B7	J CKSW	
		120D	F2 87 66		
		763	*		
		764	*		
		1210	3A 01 12A9	DOREC EQU *	COME HERE FOR THE RECEIVE
		766	SBN SWITCH,X'01'	SEND EOT	
		1214	C0 87 19D9	B SEOT	
		1218	3C FF 1869	MVI \$NOTIN,X'FF'	BYPASS THE TIMEOUT MESSAGE
		121C	3C 1E 1986	MVI C16,30	ALLOW 90 SEC FOR THE RESPONSE
		769	*		
		770	*		
		1220	C0 87 1EA1	RECAGN B \$\$SIO	ISSUE
		1224	19D1	DC AL2(ADUM1)	THE
		1226	19E7	DC AL2(ZERO)	RECEIVE
		1228	19CF	DC AL2(ADUM8)	COMMAND
		122A	12A6	DC AL2(AREC)	
		122C	38 40 12A9	TBN SWITCH,X'40'	SHOULD TIMEOUT
		1230	F2 10 09	JT XMTA0	BE BYPASSED?
		1233	0D 00 1993 18B9	CLC DUMHY(1),ENQ	WAS ENQ RECEIVED
		1239	F2 01 19	JNE GOGOGO	
		123C	C0 87 10C1	B CLRTR	
		1240	0C 01 16C1 18AC	MVC START+1(2),ACK0	TRANSMIT
		1246	C0 87 1EA1	B \$\$SIO	ACK0
		124A	19B3	DC AL2(A\$TART)	
		124C	19B8	DC AL2(A\$TART2)	
		124E	19B5	DC AL2(A\$T0P)	
		1250	19B7	DC AL2(ATANDR)	
		1252	F2 87 15	J NOTHE	CONTINUE
		1255	38 20 1864	GOGOGO TBN SE\$FLG,X'20'	WAS THE TIMEOUT RECEIVED?
		1259	F2 90 0E	JF NOTHE	
		125C	0F 00 1986 19AE	SLC C16(1),ONE	REPEAT FOR 90 SEC
		1262	C0 01 1220	B \$Z	RECAGN
		1266	C0 87 12C3	B \$DISP	PRINT NO INTERRUPT AFTER ONE MIN
		126A	0C 03 199F 16C5	MVC DUMHY+12(4),START+5	MOVE SON X IX FIELD
		1270	0C 01 19A3 16C7	MVC DUMHY+16(2),START+7	MOVE IN SSO AND SS1
		1276	38 80 12A9	TBN SWITCH,X'80'	SHOULD DATA
		127A	F2 90 1C	JF ENPOLL-8	BE MOVED TO
		127D	38 10 0A0F	TBN TRNUDT,X'10'	SWITCHED?
		1281	F2 90 0F	JF CKSS	
		1284	0C 03 16CC 16C5	MVC START+12(4),START+5	SAVE IN
		128A	0C 01 16D0 16C7	MVC START+16(2),START+7	CORRECT
		1290	F2 87 06	J ENPOLL-8	ORDER
		1293	0C 11 16D1 19A4	MVC START+17(18),DUMHY+17	THE -START- FIELD
		1299	3C 00 12A9	MVI SWITCH,0	RESET SWITCH
		129D	3C 40 19E8	MVI S\$SAVE-2,X'40'	ALLOW TO TRANSLATE
		12A1	CC 87 0000	B **	

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
12A5	8102	12A6	806	
12A7	8402	12A8	807 AREC DC	XL2'8102'
12A9	00	12A9	808 SACAL DC	XL2'8402'
			809 SWITCH DC	XL1'00'
			810	*** END OF EXPANSION **
			811	
			812	**
			813	* THIS SUBROUTINE IS USED TO SEE IF THE RPT KEY HAS BEEN
			814	** PRESSED--IF IT HAS, NEXT ROUTINE IS STARTED
		12AA	815 CERSPN EQU *	
12AA	34 08 13EC		816	ST ENDCEL+3,ARR SAVE
12AE	34 01 13E4		817	ST CER1+3,XR1 REGISTERS
12B2	34 02 13E8		818	ST CER2+3,XR2
12B6	3C 18 1986		819	HVI C16,24 SET FOR WAITING A TOTAL OF 90 SECONDS
12BA	0F 00 1986 19AE		820	REPPL1 SLC C16(1),ONE
12C0	F2 01 0E		821	JNZ REPP1
12C3	C0 87 021A		822	NDISP B PRINT
12C7	46	12C7	823	DC IL1'46'
12C8	28	12C8	824	DC IL1'40'
12C9	1981	12CA	825	DC AL2(MSG09)
12CB	87A2	12CC	826	DC IL2'87A2'
12CD	C0 87 0216		827	B LINK
12D1	3A 80 12A9		828	REPP1 SBN SWITCH,X'80'
12D5	C0 87 11DA		829	B POLL
			830	*
12D9	0D 02 16CB 18C1		831	CLC START+11(3),HEADER SOH,X,R
12DF	F2 01 2D		832	JNE CKKRFT
12E2	0C 01 19EA 16D0		833	HVC SSSAVE(2),START+16 SAVE S&S
12E8	38 80 1987		834	TBN UDTOPT,ASCII
12EC	F2 90 06		835	JF NXLTE
12EF	C0 87 0FC8		836	B XLATE
12F3	19E8	12F4	837	DC AL2(SSSAVE-2) FORCE XLATE TO EBCDIC
12F5	C0 87 021E		838	NXLTE B UNPACK
12F9	02	12F9	839	DC XL1'02'
12FA	19EA	12FB	840	DC AL2(SSSAVE) FOR
12FC	1918	12FD	841	DC AL2(MSG03) PRINTING
12FE	C0 87 021A		842	B PRINT
1302	C2	1302	843	DC XL1'C2'
1303	18	1303	844	DC IL1'24'
1304	1918	1305	845	DC AL2(MSG03) AND
1306	8704	1307	846	DC XL2'8704' STATUS
130A	C0 87 1CBA		847	B \$TRPNT
130C	F2 87 D2		848	J CER1
			849	*
130F	0D 02 16CB 18BE		850	CKKRFT CLC START+11(3),TSTR IF RPT (SOH X /)
1315	F2 01 1E		851	JNE CKKRFT PRESSED, GO TO NEXT ROUTINE
1318	38 10 0A0F		852	TBN TRMUPT,X'10'
131C	C0 90 0216		853	BF LINK
1320	C0 87 1118		854	RACK1 B \$ACK1
1324	0D 00 1995 18BA		855	CLC DUMMY+2(1),EOT TRANSMIT ACK1
132A	C0 81 0216		856	BE LINK IF SWITCHED
132E	C0 87 1CBA		857	B \$TRPNT NETWORK
1332	C0 87 1320		858	B RACK1
			859	*
1336	0D 00 16C9 18B4		860	CKKRFT CLC START+9(1),STX
133C	F2 01 8A		861	JNE CKKEOT TEXT?
133F	0D 00 16CC 18E3		862	CLC START+12(1),CNCL WAS CANCEL
1345	F2 81 0A		863	JE **13 DECIRED?
1348	0D 00 16CA 18E3		864	CLC START+10,CNCL
134E	C0 01 13A9		865	BNE REPPOL
1352	38 10 0A0F		866	TBN TRMUPT,X'10'
1356	F2 90 0B		867	JF **14
1359	C0 87 1118		868	B \$ACK1
135D	C0 87 1172		869	B PPEHQ RESPOND
1361	F2 87 22		870	J XNTRST ENQ
1364	0C 03 1927 18CB		871	HVC SELECT-3(4),ADRSEL-1 GO RESET KEYBOARD
136A	C0 87 0FC8		872	B XLATE TRANSLATE TO

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
136E	19EF	136F	873	DC AL2(SELECT-11) CORRECT CODE	
1370	C0 87 10C1		874	B CLRTR CLEAR T-R FIELD	
1374	0C 08 16C8 19F8		875	HVC START+8(9),SELECT-2 USE CORRECT SELECT SEQUENCE	
			876		
137A	C0 87 1EA1		877	B \$SIO TRANSMIT	
137E	19B3	137F	878	DC AL2(ASTART) SELECT	
1380	19B9	1381	879	DC AL2(START6)	
1382	19B5	1383	880	DC AL2(ASTOP)	
1384	19B7	1385	881	DC AL2(ATANDB) T-R	
			882	*	
1386	C0 87 10C1		883	XNTRST B CLRTR CLEAR T-R FIELD	
138A	0C 04 16C4 18EC		884	HVC START+4(5),RSTKBU+3	
1390	C0 87 1EA1		885	B \$SIO TRANSMIT	
1394	19B3	1395	886	DC AL2(ASTART) RESET	
1396	19BF	1397	887	DC AL2(START5) KEYBOARD	
1398	19B5	1399	888	DC AL2(ASTOP)	
139A	19B7	139B	889	DC AL2(ATANDB)	
139C	3C 01 12A9		890	HVI SWITCH,X'01'	
13A0	C0 87 10D9		891	B \$EOT	
13A4	C0 87 022A		892	B LOAD	
13A8	40	13A8	893	DC XL1'40' INT EOT TO ALLOW DATA ENTRY	
			894	*	
13A9	0C 02 19A7 19AB		895	REPPOL HVC COUNTR(3),WAIT4 WAIT	
13AF	0D FF 13AF 13AF		896	H4SEC CLC *(256),* FOUR	
13B5	0D 3A 13B5 13B5		897	CLC *(59),* SECONDS	
13BB	0F 02 19A7 19AE		898	SIC COUNTR(3),ONE	
13C1	C0 01 13AF		899	BNE H4SEC	
13C5	C0 87 123A		900	B REPPL1	
			901	*	
13C9	0D 00 16C9 18BA		902	CKKEOT CLC START+9(1),EOT WAS EOT	
13CF	C0 81 13A9		903	BE REPPOL RESPONSE?	
			904	* ERROR RESPONSE	
13D3	C0 87 021A		905	B PRINT	
13D7	C2	13D7	906	DC XL1'C2' INCORRECT	
13D8	12	13D8	907	DC IL1'18' RESPONSE	
13D9	1959	13DA	908	DC AL2(MSG06) TO THE POLL	
13DB	8705	13DC	909	DC XL2'8705'	
13DD	C0 87 1CBA		910	B \$TRPNT	
			911	*	
13E1	C2 01 0000		912	CER1 LA ***,XR1 RESTORE	
13E5	C2 02 0000		913	CER2 LA ***,XR2 REGISTERS	
13E9	C0 87 0000		914	ENDCER B *** RETURN	
			915	*****	
			916	*****	
			917	* MESSAGES FOR TEST 5	
			918	*****	
13ED	00	13ED	919	DC XL1'00' PAD	
			13EE	920	ORD5 EQU *
13EE	0227	13EF	921	DC XL2'0227' STX-ESC	
13F0	F5	13F0	922	DC XL1'F5' CHD-ERASE,WRITE	
13F1	6F	13F1	923	DC XL1'6F' WCC-START PRINT/64 CHARS PER LINE/	
			924	* SOUND ALARM/RESTORE KEYBOARD	
13F2	1D60	13F3	925	DC XL2'1D60' SP/NORMAL INT/PROTECTED	
13F4	C6D61940C3D3E4E2	1415	926	DC CL34*FOR CLUSTERED PRINTERS DATA SHOULD*	
13FC	E3C5D9C5C440D7D9		926		
1404	C9D5E3C5D9E240C4		926		
140C	C1E3C140E2C8D6E4		926		
1414	D3C4		926		
1416	40E2E3C1D9E340D5	1432	927	DC CL29' START NEXT LINE HERE ----->*	
141E	C5E7E340D3C9D5C5		927		
1426	40C8C5D9C5406060		927		
142E	606060606E		927		
1433	C3C8C5C3D2C9D5C7	1458	928	DC CL38*CHECKING PROGRAM TAB/ERASE UNPROT. TO *	
143B	40E7D916C7E9C1D4		928		
1443	40E3C1C261C5D9C1		928		
144E	E2C540E4D5D7D9D6		928		
1453	E34B40E3D640		928		
1459	C1C4C4D961C4E4D7	1472	929	DC CL26*ACDR/DUP/FIELD MARK ORDERS*	

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

Table with columns: ERR LOC OBJECT CODE, ADDR, STMT, SOURCE, STATEMENT. Contains diagnostic test data for various error codes and addresses, including statements like 'SBA 240', 'INSERT CURSOR', 'AUTOSKIP, PROTECTED, HIGH INTENSITY'.

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

Table with columns: ERR LOC OBJECT CODE, ADDR, STMT, SOURCE, STATEMENT. Contains diagnostic test data for various error codes and addresses, including statements like 'SBA 79', 'SF-ATTR UNPROTECTED/NORMAL INTENSITY', 'SBA 119'.

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
15B5	13	15B5	1049	DC	XL1'13'
15B6	11	15B6	1050	DC	XL1'11'
15B7	C7D6	15B8	1051	DC	XL2'C7D6'
15B9	1DE8	15BA	1052	DC	XL2'1DE8'
15EB	C1C4D960	15BE	1053	DC	CL4'ADR-'
15BF	00000000	15C2	1054	DC	XL4'00000000'
			1055	*	
15C3	1D40	15C4	1056	DC	XL2'1D40'
15C5	11	15C5	1057	DC	XL1'11'
15C5	C4C7	15C7	1058	DC	XL2'C4C7'
15C8	FF	15C8	1059	DC	XL1'FF'
15C9	03	15C9	1060	DC	XL1'03'
		011C	1061	EQU	*-ORD6
		00AA	1062	EQU	*-MIDOE6
15CA	FFFF	15CB	1063	DC	XL2'FFFF'
			1064		
			1064		
			1065		*****
			1066	*	MESSAGES FOR TEST 7
			1067		*****
15CC	00	15CC	1068	DC	XL1'00'
		15CD	1069	CRD7	EQU *
15CD	0227	15CE	1070	DC	XL2'0227'
15CF	F5	15CF	1071	DC	XL1'F5'
15D0	4F	15D0	1072	DC	XL1'4F'
15D1	D5C5E640D3C9D5C5	15E7	1073	DC	CL23'NEW LINE FUNCTION CHECK'
15D9	40C6E4D5C3E3C9D6		1073		
15E1	D540C3C8C5C3D2		1073		
			1074	*	
15E8	15	15E8	1075	DC	XL1'15'
15E9	D5C5E640D3C9D5C5	15F9	1076	DC	CL17'NEW LINE FUNCTION'
15F1	40C6E4D5C3E3C9D6		1076		
15F9	D5		1076		
			1077	*	
15FA	15	15FA	1078	DC	XL1'15'
15FB	D5C5E640D3C9D5C5	1602	1079	DC	CL8'NEW LINE'
			1080	*	
1603	15	1603	1081	DC	XL1'15'
1604	D5C5E6	1606	1082	DC	CL3'NEW'
			1083	*	
1607	15	1607	1084	DC	XL1'15'
1608	D5C5E640D3C9D5C5	160F	1085	DC	CL8'NEW LINE'
			1086	*	
1610	15	1610	1087	DC	XL1'15'
1611	D5C5E640D3C9D5C5	1621	1088	DC	CL17'NEW LINE FUNCTION'
1619	40C6E4D5C3E3C9D6		1098		
1621	D5		1088		
			1089	*	
1622	15	1622	1090	DC	XL1'15'
1623	D5C5E640D3C9D5C5	1639	1091	DC	CL23'NEW LINE FUNCTION CHECK'
162B	40C6E4D5C3E3C9D6		1091		
1633	D540C3C8C5C3D2		1091		
			1092	*	
163A	15	163A	1093	DC	XL1'15'
163B	1D4C	163C	1094	DC	XL2'1D4C'
163D	E3C8C9E240C4C1E3	1665	1095	DC	CL41'THIS DATA NOT VISIBLE/EOM AND N/L IGNORED'
1645	C140D5D6E340E5C9		1095		
164D	E2C9C2D3C561C5D6		1095		
1655	D440C1D5C440D561		1095		
165D	D340C9C7D5D6D9C5		1095		
1665	C4		1095		
			1096	*	
1666	1519	1667	1097	DC	XL2'1519'
1668	1D40	1669	1098	DC	XL2'1D40'
			1099	*	
166A	C5D5C460D6C660D4	1688	1100	DC	CL31'END-OF-MESSAGE-TERMINATES PRINT'
1672	C5E2E2C1C7C560E3		1100		
167A	C5D9D4C9D5C1E3C5		1100		

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1682	E240D7E9C9D5E3		1100		
1689	19	1689	1101	DC	XL1'19'
			1102	*	END OF MESSAGE
168A	15	168A	1103	DC	XL1'15'
168B	E2D5C440C5D6D440	16AC	1104	DC	CL34'2ND EOM LINE NOT ON PRINTER OUTPUT'
1693	D3C9D5C540D5D6E3		1104		
169B	40D6D540D7D9C9D5		1104		
16A3	E3C5D940D6E4E3D7		1104		
16AB	E4E3		1104		
16AD	19	16AD	1105	DC	XL1'19'
			1106	*	END OF MESSAGE
16AE	11	16AE	1107	DC	XL1'11'
16AF	C7D6	16BC	1108	DC	XL2'C7D6'
16B1	1DE8	16B2	1109	DC	XL2'1DE8'
			1110	*	SF-ATTR HIGH INT/PROTECT'D
16B3	C1C4D960	16B6	1111	DC	CL4'ADR-'
16B7	00000000	16BA	1112	DC	XL4'00000000'
			1113	*	STORAGE AREA FOR SELECTION ADDR
16BB	1D40	16BC	1114	DC	XL2'1D40'
16BD	03	16ED	1115	DC	XL1'03'
		00F1	1116	EQU	*-ORD7
16BE	FFFF	16BF	1117	DC	XL2'FFFF'
			1118	*	LENGTH OF ORDERS FOR TEST 7
			1119	*	END OF MESSAGE 7
			1120	*	MESSAGES FOR TEST 7 IF AN ASCII TERMINAL
			1120	*	*****
16C0	00	16C0	1121	EQU	*
		16CC	1122	DC	XL1'00'
16C1	1123	16C1	1123	ASCICD	EQU *
16C1	021B	16C2	1124	DC	XL2'021B'
16C3	35	16C3	1125	DC	XL1'35'
			1126	*	STX-ESC
16C4	21	16C4	1127	DC	CL2'UNIVERSAL 3270 TEST PATTERN (RPT MESSAGE)
			1128	*	WCC SOUND ALARM/RESTORE KEYBOARD/
16C5	4041424344454647	16D4	1129	DC	XL16'404142434445464748494A4B4C4D4E4F'
16CD	48494A4B4C4D4E4F		1129		
			1130	*	START PRINT/132 CHARS PER LINE
16D5	11	16D5	1131	DC	XL1'11'
16D6	2058	16D7	1132	DC	XL2'2058'
16D8	1D2D	16D9	1133	DC	XL2'1D2D'
			1134	*	SF-ATTR PROTECTED/NORMAL INTENSITY
16DA	5051525354555657	16E9	1135	DC	XL16'505152535455565758595A5B5C5D5E5F'
16E2	58595A5B5C5D5E5F		1135		
			1136	*	
16EA	11	16EA	1137	DC	XL1'11'
16EB	4121	16EC	1138	DC	XL2'4121'
16ED	1D20	16EE	1139	DC	XL2'1D20'
			1140	*	SF-ATTR UNPROTECTED/NORMAL INTENSITY
16EF	6061626364656667	16FE	1141	DC	XL16'606162636465666768696A6B6C6D6E6F'
16F7	68696A6B6C6D6E6F		1141		
			1142	*	
16FF	11	16FF	1143	DC	XL1'11'
1700	4137	1701	1144	DC	XL2'4137'
1702	1D2D	1703	1145	DC	XL2'1D2D'
			1146	*	SF-ATTR PROTECTED/NORMAL INTENSITY
1704	7071727374757677	1713	1147	DC	XL16'707172737475767778797A7B7C7D7E7F'
170C	78797A7B7C7D7E7F		1147		
			1148	*	
1714	11	1714	1149	DC	XL1'11'
1715	425E	1716	1150	DC	XL2'425E'
1717	1D20	1718	1151	DC	XL2'1D20'
			1152	*	SF-ATTR UNPROTECTED/NORMAL INTENSITY
1719	3031323334353637	1728	1153	DC	XL16'303132333435363738393A3B3C3D3E3F'
1721	38393A3B3C3D3E3F		1153		
			1154	*	
1729	11	1729	1155	DC	XL1'11'
172A	4347	172B	1156	DC	XL2'4347'
172C	1D2D	172D	1157	DC	XL2'1D2D'
			1158	*	SF-ATTR PROTECTED/NORMAL INTENSITY

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
172E	2021222324252627	173D	1159	DC	XL16*202122232425262728292A2B2C2D2E2F*
1736	28292A2B2C2D2E2F		1159		
			1160	*	
173E	11	173E	1161	DC	XL1*11* SBA
173F	433F	1740	1162	DC	XL2*433F* 239
1741	1D20	1742	1163	DC	XL2*1D20* SF-ATTR UNPROTECTED/NORMAL INTENSITY
			1164	*	
1743	4E2F4C2043484548	174C	1165	DC	XL10*4E2F4C20434845484B20* NEW LINE CHAR TO FOLLOW
174B	4B20		1165		
			1166	*	
174D	0A0A0A0A0A	1751	1167	DC	XL5*0A0A0A0A0A*
			1168	*	
1752	11	1752	1169	DC	XL1*11* SBA
1753	4450	1754	1170	DC	XL2*4450* 279
1755	1D2D	1756	1171	DC	XL2*1D2D* SP-60
			1172	*	
1757	454F4D2043484543	1760	1173	DC	XL10*454F4D20434845434B20*
175F	4B20		1173		
1761	19	1761	1174	DC	XL1*19*
			1175	*	
1762	11	1762	1176	DC	XL1*11* SBA
1763	4621	1764	1177	DC	XL2*4621* 399
1765	1D20	1766	1178	DC	XL2*1D20* SF-40
			1179	*	
1767	13	1767	1180	DC	XL1*13* INSERT CURSOR
			1181	*	
1768	11	1768	1182	DC	XL1*11* SBA
1769	4745	176A	1183	DC	XL2*4745* 470
176B	1D59	176C	1184	DC	XL2*1D59* SF-E8
			1185	*	
176D	4144522D	1770	1186	DC	XL4*4144522D* ADR-
1771	00C00000	1774	1187	DC	XL4*00C00000* NULLS
1775	1D2D	1776	1188	DC	XL2*1D2D* SF-60
1777	03	1777	1189	DC	XL1*03* ETX
		00B7	1190	EQU	*-ASCICD LENGTH OF TABLE
1778	FFFF	1779	1191	DC	XL2*FFFF* END OF TABLE
177A	F3F2F7F040D9C5D8	179A	1192	DC	CL33*3270 REQUEST FOR TESTS, SECTION 2*
1782	E4C5E2E340C6D6D9		1192		
178A	40E3C5E2E3E26B40		1192		
1792	E2C5C3E3C9D6D540		1192		
179A	F2		1192		
179B	D5D640E2C5D3C5C3	17BA	1193	DC	CL32*NO SELECT OR POLL ADDR AVAILABLE*
17A3	E340D6D940D7D6D3		1193		
17AB	D340C1C4C4D940C1		1193		
17B3	E5C1C9D3C1C2D3C5		1193		
17BB	E3C8C9E240D4E4E2	17E0	1194	DC	CL38*THIS MUST BE ENTERED BEFORE CONTINUING*
17C3	E340C2C540C5D5E3		1194		
17CB	C5D9C5C440C2C5C6		1194		
17D3	D6D9C540C3D6D5E3		1194		
17DB	C9D5E4C9D5C7		1194		
17E1		17EC	1195	DS	CL12
17ED		17ED	1196	DS	CL1
			1197		
			1197		
			1198	*	*****
			1199	*	
			1200	*	TABLE FOR TRANSLATING LEGAL GRAPHICS BETWEEN EBCDIC AND USASCII
			1201	*	
17EE	1202	EBCFBL	EQU	*	
17EF	1203	ASCTBL	EQU	*	EBCFBL+1
			1204	*	EBCDIC, ASCII CHARACTER
17EE	0202	17EF	1205	DC	XL2*0202* STX
17F0	0F0F	17F1	1206	DC	XL2*0F0F* PAD
17F2	271B	17F3	1207	DC	XL2*271B* ESC
17F4	0303	17F5	1208	DC	XL2*0303* ETX
17F6	1111	17F7	1209	DC	XL2*1111* SBA
17F8	1313	17F9	1210	DC	XL2*1313* DC3 - IC (INSERT CURSOR)
17FA	1D1D	17FB	1211	DC	XL2*1D1D* START FLD (SF)

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
17FC	4020	17FD	1212	DC	XL2*4020* SPACE
17FE	F030	17FF	1213	DC	XL2*F030* 0
1800	F131	1801	1214	DC	XL2*F131* 1
1802	F232	1803	1215	DC	XL2*F232* 2
1804	F333	1805	1216	DC	XL2*F333* 3
1806	F434	1807	1217	DC	XL2*F434* 4
1808	F535	1809	1218	DC	XL2*F535* 5
180A	F636	180B	1219	DC	XL2*F636* 6
180C	F737	180D	1220	DC	XL2*F737* 7
180E	F838	180F	1221	DC	XL2*F838* 8
1810	F939	1811	1222	DC	XL2*F939* 9
1812	C141	1813	1223	DC	XL2*C141* A
1814	C242	1815	1224	DC	XL2*C242* B
1816	C343	1817	1225	DC	XL2*C343* C
1818	C444	1819	1226	DC	XL2*C444* D
181A	C545	181B	1227	DC	XL2*C545* E
181C	C646	181D	1228	DC	XL2*C646* F
181E	C747	181F	1229	DC	XL2*C747* G
1820	C848	1821	1230	DC	XL2*C848* H
1822	C949	1823	1231	DC	XL2*C949* I
1824	D14A	1825	1232	DC	XL2*D14A* J
1826	D24B	1827	1233	DC	XL2*D24B* K
1828	D34C	1829	1234	DC	XL2*D34C* L
182A	D44D	182B	1235	DC	XL2*D44D* M
182C	D54E	182D	1236	DC	XL2*D54E* N
182E	D64F	182F	1237	DC	XL2*D64F* O
1830	D750	1831	1238	DC	XL2*D750* P
1832	D851	1833	1239	DC	XL2*D851* Q
1834	D952	1835	1240	DC	XL2*D952* R
1836	E253	1837	1241	DC	XL2'E253* S
1838	E354	1839	1242	DC	XL2'E354* T
183A	E455	183B	1243	DC	XL2'E455* U
183C	E556	183D	1244	DC	XL2'E556* V
183E	E657	183F	1245	DC	XL2'E657* W
1840	E758	1841	1246	DC	XL2'E758* X
1842	E859	1843	1247	DC	XL2'E859* Y
1844	E95A	1845	1248	DC	XL2'E95A* Z
1846	1212	1847	1249	DC	XL2*1212* DC2 - EUA ERASE UNPROTECTED TO ADDR
1848	0509	1849	1250	DC	XL2*0509* HT - PGM TAB
184A	3C14	184B	1251	DC	XL2*3C14* DC4 - RA
184C	1010	184D	1252	DC	XL2*1010* DLE
184E	0000	184F	1253	DC	XL2*0000* NULL
1850	0101	1851	1254	DC	XL2*0101* SOH
1852	3704	1853	1255	DC	XL2*3704* EOT
1854	7F22	1855	1256	DC	XL2*7F22* QUOTE (GENERAL POLL)
1856	4A5B	1857	1257	DC	XL2*4A5B* CENT
1858	4B2E	1859	1258	DC	XL2*4B2E* PERIOD
185A	4C3C	185B	1259	DC	XL2*4C3C* LESS THAN
185C	4D2B	185D	1260	DC	XL2*4D2B* LEFT PAREN
185E	4E2B	185F	1261	DC	XL2*4E2B* PLUS
1860	4F21	1861	1262	DC	XL2*4F21* *
1862	5026	1863	1263	DC	XL2*5026* AMPERSAND
1864	5A5D	1865	1264	DC	XL2*5A5D* EXCLAMATION MARK
1866	5B24	1867	1265	DC	XL2*5B24* DOLLAR
1868	5C2A	1869	1266	DC	XL2*5C2A* ASTERISK
186A	5D29	186B	1267	DC	XL2*5D29* RIGHT PAREN
186C	5E3B	186D	1268	DC	XL2*5E3B* SEMI-COLON
186E	5F5E	186F	1269	DC	XL2*5F5E* ~
1870	602D	1871	1270	DC	XL2*602D* DASH
1872	612F	1873	1271	DC	XL2*612F* SLASH
1874	6A5C	1875	1272	DC	XL2*6A5C* *
1876	6B2C	1877	1273	DC	XL2*6B2C* COMMA
1878	6C25	1879	1274	DC	XL2*6C25* PERCENT
187A	6D5F	187B	1275	DC	XL2*6D5F* UNDERSCORE
187C	6E3E	187D	1276	DC	XL2*6E3E* GREATER THAN
187E	6F3F	187F	1277	DC	XL2*6F3F* QUESTION MARK
1880	7A3A	1881	1278	DC	XL2*7A3A* @
1882	7B23	1883	1279	DC	XL2*7B23* #

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
1884	7C40	1885	1280	DC XL2'7C40'	AT
1886	7D27	1887	1281	DC XL2'7D27'	APOSTROPHE
1888	7E3D	1889	1282	DC XL2'7E3D'	EQUAL
188A	2617	188B	1283	DC XL2'2617'	ETB
188C	3216	188D	1284	DC XL2'3216'	SYN
188E	150A	188F	1285	DC XL2'150A'	NL - LF (NEW LINE)
1890	1919	1891	1286	DC XL2'1919'	EM - EOM (END OF MESSAGE)
1892	1C1C	1893	1287	DC XL2'1C1C'	IFS - DUP
1894	1E1E	1895	1288	DC XL2'1E1E'	FM (FIELD MARK)
1896	1F1F	1897	1289	DC XL2'1F1F'	ITB
1898	2D05	1899	1290	DC XL2'2D05'	ENQ
189A	3D15	189B	1291	DC XL2'3D15'	NAK
189C	3F1A	189D	1292	DC XL2'3F1A'	SUB
189E	FFFF	189F	1293	DC XL2'FFFF'	END OF TABLE
		18A0	1294	TBLEND EQU *	
		1295	*		
		1296	*	SPECIAL CHARACTERS TO BE TRANSLATED	
		1297	*		
18A0	70	18A0	1298	ESPCAL DC XL1'70'	ACK 0 EBCDIC
18A1	61	18A1	1299	DC XL1'61'	ACK 1 *
18A2	7C	18A2	1300	DC XL1'7C'	RVI *
18A3	6B	18A3	1301	DC XL1'6B'	WACK *
18A4	30	18A4	1302	DC XL1'30'	ACK 0 ASCII
18A5	31	18A5	1303	DC XL1'31'	ACK 1 *
18A6	3C	18A6	1304	DC XL1'3C'	RVI *
18A7	3B	18A7	1305	DC XL1'3B'	WACK *
18A8	FF	18A8	1306	DC XL1'FF'	END OF TABLE
		1307	*****		
		1308	* FLAG *		
		1309	*****		
		1310	*	PROGRAM FLAGS	
18A9	00	18A9	1311	FLAG DC XL1'00'	
		0080	1312	FLAG0 EQU X'80'	CONVERTING ASCII TO EBCDIC
		0040	1313	FLAG1 EQU X'40'	SUBTRACT 4
		0020	1314	FLAG2 EQU X'20'	AUTO CALL
		0010	1315	FLAG3 EQU X'10'	*
		0008	1316	FLAG4 EQU X'08'	LC ERROR
		0004	1317	FLAG5 EQU X'04'	THREE CHAR COMPARE
		0002	1318	FLAG6 EQU X'02'	ONE CHAR COMPARE
		0001	1319	FLAG7 EQU X'01'	FIRST PASS FLAG
		1320	*		
		1321	**		
		1322	*	CONSTANTS (IN EBCDIC, WILL BE TRANSLATED WHEN RUNNING ASCII)	
		1323	**		
18AA	00	18AA	1324	DC XL1'00'	
		18AB	1325	DATCON EQU *	
18AB	1070	18AC	1326	ACK0 DC XL2'1070'	ACK 0
18AD	1061	18AE	1327	ACK1 DC XL2'1061'	ACK 1
18AF	107C	18B0	1328	RVI DC XL2'107C'	REVERSE INTERRUPT
18B1	106B	18B2	1329	WACK DC XL2'106B'	WACK
18B3	01	18B3	1330	SOH DC XL1'01'	START OF HEADING
18B4	02	18B4	1331	STX DC XL1'02'	START OF TEXT
18B5	03	18B5	1332	ETX DC XL1'03'	END OF TEXT
18B6	10	18B6	1333	DLE DC XL1'10'	DATA LINK ESCAPE
18B7	70	18B7	1334	DC XL1'70'	PAD
18B8	26	18B8	1335	ETB DC XL1'26'	
18B9	2D	18B9	1336	ENQ DC XL1'2D'	
18BA	37	18EA	1337	EOT DC XL1'37'	
18BB	3D	18BB	1338	NAK DC XL1'3D'	
		1339	*		
18BC	016C61	18BE	1340	ISTR DC XL3'016C61'	SOH, %, /
18BF	016CD9	18C1	1341	HEADER DC XL3'016CD9'	SOH, %, R
18C2	020000	18C4	1342	STXDC DC XL3'020000'	STX, FIXED ADDRESS
18C5	0000	18C6	1343	SSHERE DC XL2'0000'	S&S0, S&S1
18C7	03	18C7	1344	SASEND DC XL1'03'	ETX
		1345	*		
18C8	000000002D	18CC	1346	ADRSEL DC XL5'000000002D'	DATA FOR ADDRESSING
18CD	000000002D	18D1	1347	POLSEL DC XL5'000000002D'	DATA FOR POLLING

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
					1348
18D2	0227	18D3	1349	EWRTCD DC XL2'0227'	STX-ESC
18D4	F5	18D4	1350	DC XL1'F5'	CHD,EWRT
18D5	C2	18D5	1351	DC XL1'C2'	WCC,
18D6	03	18D6	1352	DC XL1'03'	ETX
					1353
18D7	0227	18D8	1354	DCD40 DC XL2'0227'	STX-ESC
18D9	F9	18D9	1355	DC XL1'F9'	CHD,DWRT
18DA	40	18DA	1356	DC XL1'40'	WCC
18DB	03	18DB	1357	DC XL1'03'	ETX
					1358
18DC	0227	18DD	1359	DREAD DC XL2'0227'	STX-ESC
18DE	7A	18DE	1360	DC XL1'7A'	CHD,DRDS
18DF	03	18DF	1361	DC XL1'03'	ETX
		18E0	1362	DREADL EQU *	
		18E0	1363	DATEND EQU *	
18E0	FFFF	18E1	1364	DC XL2'FFFF'	END OF TABLE
					1365 *
					1366 *
					1367 *
18E2	00	18E2	1368	DC XL1'00'	COMMON COMMANDS
		18E3	1369	STBL EQU *	CONTROL BYTE
18E3	6E	18E3	1370	CNCL DC XL1'6E'	BEGINNING OF TABLE
18E4	00000000	18E4	1371	SELADR DC XL4'00'	AID FOR CANCEL
18E8	0227	18E9	1372	RSTKBD DC XL2'0227'	TEMP STORAGE FOR SELADDR
18EA	F1	18EA	1373	DC XL1'F1'	STX-ESC
18EB	4F	18EB	1374	DC XL1'4F'	CHD,WRITE
					1375 *
18EC	03	18EC	1376	DC XL1'03'	WCC-RESTORE KYBRD/SOUND ALARM/START
18ED	00000000	18F0	1377	SAVPNT DC XL4'00'	PRINT
18F1	C4C9C1D3	18F4	1378	DIAL DC CL4'DIAL'	
18F5	FFFF	18F6	1379	DC XL2'FFFF'	END
					1380 *****
					1381 *
					1382 *
					1383 *
					1384 *****
18F7	D3C9D5C540C5D9D9	1900	1384	HSG02 DC CL10'LINE ERROR'	
18FF	D6D9		1384		
1871	E2E3C1E3E4E240C1	1914	1385	DC CL20'STATUS AND SENSE IS '	
1909	D5C440E2C5D5E2C5		1385		
1911	40C9E240		1385		
1915	E7E7E7E7	1918	1386	HSG03 DC CL4'XXXX'	
1919	C5P9C1E2C561E6D9	1929	1387	HSG04 DC CL17'ERASE/WRITE ERROR'	
1921	C9E3C540C5D9D9D6		1387		
1929	D9		1387		
192A	C4C9E2D7D3C1E840	1931	1388	DC CL8'DISPLAY '	
1932	E7	1932	1389	DISPNO DC CL1'X'	
1943	40C5D9D9D6D960D9	1946	1390	DC CL20' ERROR-RETRY NUMBER'	
193B	C5E3D9E840E5E4D4		1390		
1943	C2C5D940		1390		
1947	E7	1947	1391	HSG05 DC CL1'X'	
1948	C9D5C3D6D9D9C5C3	1959	1392	HSG06 DC CL18'INCORRECT RESPONSE'	
1950	E340D9C5E2E7D6D5		1392		
1958	E2C5		1392		
195A	D5D640C9D5E3C5D9	1981	1393	HSG09 DC CL40'NO INTERRUPT-NEXT TEST PATTERN INITIATED'	
1962	D9E4D7E360D5C5E7		1393		
196A	E340E3C5E2E340D7		1393		
1972	C1E3E3C5D9D540C9		1393		
197A	D5C9E3C9C1E3C5C4		1393		
					1394
					1394
					1395 *
					1396 *
					1397 *****
1982	0000	1982	1397	XLTSW EQU *	CURRENT, NEW
1984	FFFF	1983	1398	DC XL2'00'	VALUES FOR TRANSLATE
1986	00	1985	1399	HEXFF DC XL2'FFFF'	
1987	00	1986	1400	C16 DC XL1'00'	
		1987	1401	UDTOPT DC XL1'00'	TYPE OF TERMINAL (FROM UDT TABLE)

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

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ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
      1402 *          BIT 0 ON INDICATES ASCII TERMINAL
      1403 *          BIT 1 ON INDICATES 1920 CHARACTER BUFFER
1988 0000      1989 1404 SAVEND DC      XL2'00'
198A 0002      198B 1405 TWO DC       XL2'0002'
198C 0000      198D 1406 SAVXR1 DC     XL2'00'
198E 0000      198F 1407 SAVXR2 DC     XL2'00'
1990 FFFC      1991 1408 NEG4 DC      XL2'FFFC'
1992 F1        1992 1409 PONE DC      XL1'F1'
      1993 1410 DUMMY EQU      *
1993 0000000000000000 19A4 1411 DC      XL18'00'
199B 0000000000000000 1411
19A3 0000      1411
19A5 000000      19A7 1412 COUNTR DC     XL3'00'
19A8 00        19A8 1413 COUNT DC     XL1'00'
19A9 000FA0      19AB 1414 WAIT4 DC     XL3'000FA0'
19AC 000001      19AE 1415 ONE DC       XL3'000001'
19AF 00        19AF 1416 LCCHK1 DC     XL1'00'
0040 1417 CKEOT EQU      X'40'
0020 1418 CKSTYA EQU     X'20'
0010 1419 CKETB EQU     X'10'
0008 1420 CKETX EQU     X'08'
0004 1421 CKACK2 EQU    X'04'
0002 1422 CKACK1 EQU    X'02'
0001 1423 CKACK0 EQU    X'01'
19B0 00        19B0 1424 LCCHK2 DC     XL1'00'
0010 1425 CKENQ EQU     X'10'
0008 1426 CKNAK EQU     X'08'
0004 1427 CKWACK EQU    X'04'
0002 1428 CKRVI EQU     X'02'
0001 1429 CKSTX EQU     X'01'
19B1 00        19B1 1430 POLLSW DC     XL1'00'
0040 1431 CKEOT EQU     CKECT
0004 1432 ONWACK EQU    CKWACK
0002 1433 ONRVI EQU     CKRVI
19B3 1434 ASTART DC     AL2(START)
19B5 1435 ASTOP DC      AL2(STOP)
19B7 1436 ATANDR DC     XL2'8202'
19B9 1437 START6 DC     AL2(START+9)
19BE 1438 START2 DC     AL2(START+2)
19BC 16C4      19BD 1439 START4 DC     AL2(START+4)
19BE 16C5      19BF 1440 START5 DC     AL2(START+5)
19C0 19F0      19C1 1441 ASELECT DC     AL2(SELECT-10)
19C2 16C0      19C3 1442 ASTRT DC      AL2(START)
19C4 177D      19C5 1443 END5 DC      AL2(START+ETEXT5)
19C6 17DC      19C7 1444 END6 DC      AL2(START+ETEXT6)
19C8 1777      19C9 1445 END6A DC     AL2(START+LENASC)
19CA 17B1      19CB 1446 END7 DC      AL2(START+ETEXT7)
19CC 16C1      19CD 1447 ANESG8 DC     AL2(ASCICD)
19CE 19A6      19CF 1448 ADUM8 DC      AL2(DUMMY+19)
19D0 1993      19D1 1449 ADUM1 DC      AL2(DUMMY)
19D2 1995      19D3 1450 ADUM2 DC      AL2(DUMMY+2)
19D4 1994      19D5 1451 ADUM3 DC      AL2(DUMMY+1)
19D6 199C      19D7 1452 ADUM9 DC      AL2(DUMMY+9)
19D8 4040404040404040 19DF 1453 BLANK DC     8XL1'40'
19E0 0000000000000000 19E7 1454 ZERO DC      XL8'00'
19E8 40        19E8 1455 DC      XL1'40'
19E9 0000      19EA 1456 SSSAVE DC     XL2'00'
19EB FFFF      19EC 1457 DC      XL2'FFFF'
19ED 0004      19EE 1458 FOUR DC     XL2'0004'
19EF 00        19EF 1459 DC      XL1'00'
19F0 370F323200000000 19FA 1460 SELECT DC     XL11'370F3232000000002DFFFF'
19F8 2DFFFF      1460
      1461 *
      1462 *
      1463 *
0080 1464 ASCII EQU     X'80'
0040 1465 FORBEC EQU    X'40'
0020 1466 FORASC EQU    X'20'

```

```

LINE CONTROL CHECK CHARACTER
CHECK FOR EOT
CHECK FOR STX, CU ADDR, DVC ADDR
CHECK FOR ETB
CHECK FOR ETX
CHECK FOR ACK0 TO COMMAND
CHECK FOR ACK1
CHECK FOR ACK0 TO SELECTION
LINE CONTROL CHECK CHARACTER 2
CHECK FOR EMQ
CHECK FOR NAK
CHECK FOR WACK
CHECK FOR RVI
CHECK FOR STX
FORCE POLL FOR SENSE AND STATUS

```

T AND R, INT ENABLED

```

FORCE EBCDIC
STATUS AND SENSE FIELD

```

EQUATES

```

ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
      1467 *
      1468 *          BEGIN MACRO
      1469 *
      1470 *          %BLOC SETL=NO
      1471 *****
      1472 *          ROUTINE TO TERMINATE ON-LINE TEST AND DISABLE BSCA
      1473 *          CALL SEQ
      1474 *          B $DISC
      1475 *****
      1476
19FB F3 80 80      1477 $DISCT SIO X'80',X'80'
      1478
19FE C0 87 022A    1479 B LOAD END SECTION
1A02 40            1A02 1480 DC XL1'40' ABNORMAL TERMINATION
      1481
      1482 *****
      1483 *          - INTERRUPT ROUTINE -
      1484 *          AT BEGINING OF THE PROGRAM
      1485 *
      1486 *          L SINTB,IAR2
      1487 *          SIO X'03',X'80' ENABLE AND RESET INTERRUPT
      1488 *****
      1489
1A03 34 01 1A29    1490 SINT ST SY1+3,XR1
1A07 34 02 1A2D    1491 ST SY2+3,XR2
1A0B 34 04 1A3A    1492 ST SY3,PSR
1A0F 35 04 1A3F    1493 L $0,PSR ZERO CONDITION REG FOR INT ROUTI
1A13 3C 09 1A3B    1494 MVI SINTID,X'09'
1A17 C1 83 1A22    1495 SINT12 TIO $$Y1,X'83' TEST FOR ITB INTERRUPT
1A1B C0 87 1A40    1496 B STIO CHECK DIAG AND STATUS CONDITIONS
1A1F F2 87 04      1497 J SY1
1A22 3C 8D 1A3B    1498 $$Y1 MVI SINTID,X'8D' ITB INTERRUPT FLAG 81
1A26 C2 01 0000    1499 SY1 LA *-*,XR1
1A2A C2 02 0000    1500 SY2 LA *-*,XR2
1A2E 35 04 1A3A    1501 L SY3,PSR
1A32 F3 80 03      1502 $RESET SIO X'03',X'80' RESET INT AND ENABLE INT
1A35 C0 87 1A03    1503 B SINT
1A39 0000          1A3A 1504 SY3 DC XL2'0'
1A3B 00            1A3B 1505 SINTID DC XL1'00'
1A3C 1A03          1A3D 1506 SINTB DC AL2(SINT)
1A3E 0000          1A3F 1507 $0 DC XL2'0'

```


8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
1509				*****		
1510	*		SUBROUTINE	*		
1511	*		\$TIO	* SUBROUTINE CALLED BY B \$TIO *		
1512	*****			*****		
1513	*			USES TIO TO CHECK CONDITIONS*		
1514	*			PRINTS OUT ERROR IF CONDITS *		
1515	*		B \$TIO	* NOT AS EXPECTED. *		
1516	*****			*****		
1517	*		\$NOTIM = PP	NO TIME OUT MSEEAGE		
1518	*					
1519	*					
1520	*			ERROR RETURN CODES		
1521	*					
1522	*		\$SERPLG = 80	HARDWARE ERROR		
1523	*		40	ADAPTER CHECK		
1524	*		20	TIMEOUT		
1525	*		10	BCC CHECK		
1526	*		08	ABORTIVE DISCONNECT		
1527	*		04	DISCONNECT TIMEOUT		
1528	*		02	DATA SET READY DROPPED		
1529	*		01	INVALID ASCII		
1530	*					
1A40	34 08 1A67	1531	\$TIO ST	\$B1C1+3,ARR		
1A44	3C 00 1B64	1532	MVI	\$SERPLG,X'0'	ZERO ERROR FLAG	
1A48	C1 81 1A54	1533	\$V1 TIO	\$B104,X'81'	TEST FOR OP-END INTERRUPT	
1A4C	C0 87 021A	1534	B	PRINT	ERROR PRINT	
1A50	86	1A50	1535	DC	XL1'86'	
1A51	0E	1A51	1536	DC	IL1'14'	
1A52	1B77	1A53	1537	DC	AL2(\$IOR1)	OP-END ERROR
1A54	C1 84 1A60	1538	\$B104 TIO	\$B105,X'84'	TEST INTERRUPT REQUEST PENDING	
		1539				
1A58	C0 87 021A	1540	B	PRINT	ERROR PRINT	
1A5C	86	1A5C	1541	DC	XL1'86'	
1A5D	13	1A5D	1542	DC	IL1'19'	
1A5E	1B8A	1A5F	1543	DC	AL2(\$IOR4)	INTERRUPT REQUEST PENDING ERROR
1A60	C1 80 1A68	1544	\$B105 TIO	\$B120,X'80'	TEST FOR UNIT CHECK/NOT READY	
1A64	C0 87 0000	1545	\$B101 B	***	RETURN TO INTERRUPT ROUTINE	
		1546				
1A68	30 83 1B66	1547	\$B120 SNS	\$SI,X'83'	SENSE STATUS INFORMATION	
1A6C	30 80 1B68	1548	SNS	\$DI,X'80'	SENSE DIAGNOSTIC INFORMATION	
		1549				
1A70	39 80 1B65	1550	TBF	\$SI-1,X'80'	TIMEOUT	
1A74	F2 10 17	1551	JT	\$I1		
1A77	3D FF 1B69	1552	CLI	\$NOTIM,X'PP'	TEST IF NO TIMEOUT WANTED	
1A7B	F2 81 08	1553	JE	\$T1XX		
1A7E	C0 87 021A	1554	B	PRINT	ERROR PRINT	
1A82	86	1A82	1555	DC	XL1'86'	
1A83	07	1A83	1556	DC	IL1'07'	
1A84	1B91	1A85	1557	DC	AL2(\$S0)	'TIMEOUT'
1A86	3A 20 1B64	1558	\$T1XX SBN	\$SERPLG,X'20'	TIMEOUT OCCURRED	
1A8A	3C 00 1B69	1559	MVI	\$NOTIM,X'00'		
		1560				
1A8E	39 40 1B65	1561	\$I1 TBF	\$SI-1,X'40'	CRC/LRC/VRC CHECK	
1A92	F2 10 0C	1562	JT	\$I2		
1A95	C0 87 021A	1563	B	PRINT	ERROR PRINT	
1A99	86	1A99	1564	DC	XL1'86'	
1A9A	11	1A9A	1565	DC	IL1'17'	
1A9B	1BA2	1A9C	1566	DC	AL2(\$S1)	'CRC/LRC/VRC CHECK'
1A9D	3A 10 1B64	1567	SBN	\$SERPLG,X'10'	CRC CHECK OCCURRED	
		1568				
1AA1	39 20 1B65	1569	\$I2 TBF	\$SI-1,X'20'	ADAPTER CHECK ON TRANSMIT	
1AA5	F2 10 0C	1570	JT	\$I3		
1AA8	C0 87 021A	1571	B	PRINT	ERROR PRINT	
1AAC	86	1AAC	1572	DC	XL1'86'	
1AAD	19	1AAD	1573	DC	IL1'25'	
1AAE	1BEB	1AAP	1574	DC	AL2(\$S2)	'ADAPTER CHECK ON TRANSMIT'
1AB0	3A 40 1B64	1575	SBN	\$SERPLG,X'40'	ADAPTER CHECK OCCURRED	
		1576				

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT		
1AB4	39 10 1B65	1577	\$I3 TBF	\$SI-1,X'10'	ADAPTER CHECK ON RECEIVE	
1AB8	F2 10 0C	1578	JT	\$I4		
1ABB	C0 87 021A	1579	B	PRINT	ERROR PRINT	
1ABF	86	1ABF	1580	DC	XL1'86'	
1AC0	18	1AC0	1581	DC	IL1'24'	
1AC1	1BD3	1AC2	1582	DC	AL2(\$S3)	'ADAPTER CHECK ON RECEIVE'
1AC3	3A 40 1B64	1583	SBN	\$SERPLG,X'40'	ADAPTER CHECK OCCURRED	
		1584				
1AC7	39 08 1B65	1585	\$I4 TBF	\$SI-1,X'08'	INVALID ASCII	
1ACB	F2 10 0C	1586	JT	\$I5		
1ACE	C0 87 021A	1587	B	PRINT	ERROR PRINT	
1AD2	86	1AD2	1588	DC	XL1'86'	
1AD3	0D	1AD3	1589	DC	IL1'13'	
1AD4	1BE0	1AD5	1590	DC	AL2(\$S4)	'INVALID ASCII'
		1591				
1AD6	3A 01 1B64	1592	SBN	\$SERPLG,X'01'		
1ADA	39 04 1B65	1593	\$I5 TBF	\$SI-1,X'04'	ABORTIVE DISCONNECT	
1ADE	F2 10 0C	1594	JT	\$I6		
1AE1	C0 87 021A	1595	B	PRINT	ERROR PRINT	
1AE5	86	1AE5	1596	DC	XL1'86'	
1AE6	13	1AE6	1597	DC	IL1'19'	
1AE7	1BF3	1AE8	1598	DC	AL2(\$S5)	'ABORTIVE DISCONNECT'
		1599				
1AE9	3A 08 1B64	1600	SBN	\$SERPLG,X'08'		
1AED	39 02 1B65	1601	\$I6 TBF	\$SI-1,X'02'	DISCONNECT TIMEOUT	
1AF1	F2 10 0C	1602	JT	\$I7		
1AF4	C0 87 021A	1603	B	PRINT	ERROR PRINT	
1AF8	86	1AF8	1604	DC	XL1'86'	
1AFP	12	1AFP	1605	DC	IL1'18'	
1AFA	1C05	1AFB	1606	DC	AL2(\$S6)	'DISCONNECT TIMEOUT'
		1607				
1APC	3A 04 1B64	1608	SBN	\$SERPLG,X'04'		
1B00	38 02 1B66	1609	\$I7 TBN	\$SI,X'02'	DATA SET READY	
1B04	F2 10 0C	1610	JT	\$S1		
1B07	C0 87 021A	1611	B	PRINT	ERROR PRINT	
1B0B	86	1B0B	1612	DC	XL1'86'	
1B0C	0E	1B0C	1613	DC	IL1'14'	
1B0D	1C13	1B0E	1614	DC	AL2(\$S6)	DATA SET READY STATUS BIT
1B0F	3A 02 1B64	1615	SBN	\$SERPLG,X'02'		
1B13	39 08 1B68	1616	\$I1 TBF	\$DI,X'08'	BLOCK CYCLE STEAL REQUEST	
1B17	F2 10 0C	1617	JT	\$S2		
1B1A	C0 87 021A	1618	B	PRINT	ERROR PRINT	
1B1E	86	1B1E	1619	DC	XL1'86'	
1B1F	0F	1B1F	1620	DC	IL1'15'	
1B20	1C22	1B21	1621	DC	AL2(\$S4)	'BLOCK CSR'
1B22	3A 80 1B64	1622	SBN	\$SERPLG,X'80'	HARDWARE ERROR	
		1623				
1B26	39 04 1B68	1624	\$I2 TBF	\$DI,X'04'	LSR OR S-REG CHECK	
1B2A	F2 10 0C	1625	JT	\$S3		
1B2D	C0 87 021A	1626	B	PRINT	ERROR PRINT	
1B31	86	1B31	1627	DC	XL1'86'	
1B32	12	1B32	1628	DC	IL1'18'	
1B33	1C34	1B34	1629	DC	AL2(\$S5)	'LSR OR S-REG CHECK'
1B35	3A 80 1B64	1630	SBN	\$SERPLG,X'80'	HARDWARE ERROR	
1B39	39 02 1B68	1631	\$I3 TBF	\$DI,X'02'	OVERRUN/UNDERFLOW	
1B3D	F2 10 0C	1632	JT	\$S4		
1B40	C0 87 021A	1633	B	PRINT	ERROR PRINT	
1B44	86	1B44	1634	DC	XL1'86'	
1B45	17	1B45	1635	DC	IL1'23'	
1B46	1C4B	1B47	1636	DC	AL2(\$S6)	'OVERRUN/UNDERFLOW'
1B48	3A 80 1B64	1637	SBN	\$SERPLG,X'80'	HARDWARE ERROR	
1B4C	39 01 1B68	1638	\$I4 TBF	\$DI,X'01'	D3I P CHECK	
1B50	C0 10 1A64	1639	BT	\$B101	RETURN TO INTERRUPT ROUTINE	
1B54	C0 87 021A	1640	B	PRINT	ERROR PRINT	
1B58	86	1B58	1641	DC	XL1'86'	
1B59	10	1B59	1642	DC	IL1'16'	
1B5A	1C5B	1B5B	1643	DC	AL2(\$S7)	'D3I P CHECK'
1B5C	3A 80 1B64	1644	SBN	\$SERPLG,X'80'	HARDWARE ERROR	

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1B60	C0 87 1A64		1645	B	SB101
1B64	00	1B64	1646	\$ERPLG DC	XL1'0'
1B65	0000	1B66	1647	\$SI DC	XL2'0'
1B67	0000	1B68	1648	\$DI DC	XL2'0'
1B69	00	1B69	1649	\$NOTIM DC	XL1'00'
1B6A	D6D760C5D5C440C9	1B77	1650	\$IOR1 DC	CL14'OP-END INT ERR'
1B72	D5E340C5D9D9		1650		
1E78	C9D5E340D9C5D840	1B8A	1651	\$IOR4 DC	CL19'INT REQ PENDING ERR'
1B80	D7C5D5C4C9D5C740		1651		
1B88	C5D9D9		1651		
1E8B	E3C9D4C5D6E4E3	1B91	1652	\$S0 DC	CL07'TIMEOUT'
1E92	C3D9C361D3D9C361	1BA2	1653	\$S1 DC	CL17'CFC/LRC/VRC CHECK'
1E9A	E5D9C340C3C8C5C3		1653		
1EAA	D2		1653		
1BA3	C1C4C1D7E3C5D940	1BBB	1654	\$S2 DC	CL25'ADAPTER CHECK ON TRANSMIT'
1EAB	C3C8C5C3D240D6D5		1654		
1BB3	40E3E9C1D5E2D4C9		1654		
1BBB	E3		1654		
1BBC	C1C4C1D7E3C5D940	1BD3	1655	\$S3 DC	CL24'ADAPTER CHECK ON RECEIVE'
1BC4	C3C8C5C3D240D6D5		1655		
1BCC	40D9C5C3C5C9E5C5		1655		
1ED4	C9D5E5C1D3C9C440	1BE0	1656	\$S4 DC	CL13'INVALID ASCII'
1BDC	C1E2C3C9C9		1656		
1BE1	C1C2D6D9E3C9E5C5	1BF3	1657	\$S5 DC	CL19'ABORTIVE DISCONNECT'
1BE9	40C4C9E2C3D6D5D5		1657		
1BF1	C5C3E3		1657		
1BF4	C4C9E2C3D6D5D5C5	1C05	1658	\$S6 DC	CL18'DISCONNECT TIMEOUT'
1BFC	C3E340E3C9D4C5D6		1658		
1C04	E4E3		1658		
1C06	C4C1E3C140E2C5E3	1C13	1659	\$SH6 DC	CL14'DATA SET READY'
1C0E	40D9C5C1C4E8		1659		
1C14	C2D3D6C3D240C3E2	1C22	1660	\$DH4 DC	CL15'BLOCK CSR CHECK'
1C1C	D940C3C8C5C3D2		1660		
1C23	D3E2D940D6D940E2	1C34	1661	\$DH5 DC	CL18'LSR OR S-BEG CHECK'
1C2B	60D9C5C740C3C8C5		1661		
1C33	C3D2		1661		
1C35	D6E5C5D9D9E4D561	1C4B	1662	\$DH6 DC	CL23'OVERRUN/UNDERFLOW CHECK'
1C3E	E4D5C4C5D9C6D3D6		1662		
1C45	E640C3C8C5C3D2		1662		
1C4C	C4C2C940D7C1D9C9	1C5B	1663	\$DH7 DC	CL16'DBI PARITY CHECK'
1C54	E3E840C3C8C5C3D2		1663		

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
			1665		*****
			1666	*	SUBROUTINE TO DELAY FOR 90 SECONDS
			1667	*	B \$DELAY
			1668		*****
1C5C	34 08 1C97		1669	\$DELAY ST	D\$LAY3+3,ARR
1C60	34 01 1C93		1670	ST	\$DL1+3,XR1
1C64	0C 02 1C9A 1C9D		1671	MVC	\$TIM,\$000 (3)
1C6A	0E 02 1C9A 1C9E		1672	D\$LAY1 ALC	\$TIM,\$00E (3) INCREMENT TIME COUNTER
1C70	0D 02 1C9A 1CB9		1673	CLC	\$TIM,\$90 (3)
1C76	F2 84 0B		1674	JH	\$PTH30
1C79	39 F3 1A3B		1675	TBP	\$INTID,X'F3' SEE IF INTERRUPT OCCURRED
1C7D	F2 90 0C		1676	JF	D\$LAY2
1C80	C0 87 1C6A		1677	B	D\$LAY1
1C84	C0 87 021A		1678	\$PTH30 B	PRINT
1C88	86	1C88	1679	DC	XL1'86'
1C89	18	1C89	1680	DC	IL1'24'
1C8A	1CB6	1C8B	1681	DC	AL2(\$HREPL) NO RESPONSE AFTER 90 SECONDS
1C8C	3B F3 1A3B		1682	D\$LAY2 SBP	\$INTID,X'F3'
1C90	C2 01 0000		1683	\$DL1 LA	*--*,XR1
1C94	C0 87 0000		1684	D\$LAY3 B	*--*
1C98	000000	1C9A	1685	\$TIM DC	XL3'0'
1C9B	000000	1C9D	1686	\$000 DC	XL3'0'
1C9E	01	1C9E	1687	\$ONE DC	XL1'01'
1C9F	D5D640D9C5E2D7D6	1CB6	1688	\$HREPL DC	CL24'NO RESPONSE AFTER 90 SEC'
1CA7	D5E2C540C1C6E3C5		1688		
1CAF	D940F9F040E2C5C3		1688		
1CB7	180000	1CB9	1689	\$90 DC	XL3'180000'

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

6725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1691	*****			*****
1692	*			ROUTINE TO PRINT DATA TRANSMITTED AND RECEIVED
1693	*			B STPNT
1694	*			THIS ROUTINE SHOULD ONLY BE CALLED AFTER \$\$IO
1695	*			
1696	*			SSW11 ON BYPASS PRINT
1697	*****			*****
1CBA	34 08 1E1B			
1CBE	34 01 1E17			
1CC2	C0 87 0212			
1CC6	38 40 020A			
1CCA	C0 10 1E18			
1CCE	0C 01 1EAO 1F71			
1CD4	0E 01 1EAO 1C9E			
1CDA	0D 01 1EAO 1F79			
1CE0	F2 01 10			
1CE3	C0 87 021A			
1CE7	01	1CE7	1709	DC PRINT
1CE8	07	1CE8	1710	DC XL1'01'
1CE9	1E22	1CEA	1711	DC IL1'07'
1CEB	3C 00 1F75			DC AL2(\$NDATA)
				HVI \$COD,X'0'
1CEP	C0 87 1E07			B \$ENDSB
1CF3	0C 01 1F7B 1F79			
1CF9	0F 01 1F7B 1C9E			
1CFE	35 01 1F7B			
1D03	0C 01 1F73 1EAO			
1D09	0F 01 1F73 1F79			
1D0F	3D 03 1F75			
1D13	F2 01 2A			
1D16	0D 01 1EAO 1F77			
1D1C	C0 81 1CE3			
1D20	3C 00 1F75			
1D24	0C 01 1F7D 1F77			
1D2A	0F 01 1F7D 1C9E			
1D30	35 01 1F7D			
1D34	0C 01 1F73 1EAO			
1D3A	0F 01 1F73 1F77			
1D40	C0 87 021A			
1D44	01	1D44	1732	DC PRINT
1D45	1A	1D45	1733	DC XL1'01'
1D46	1E3C	1D47	1734	DC IL1'26'
1D48	0D 01 1F73 1C9D			DC AL2(\$RDATA)
1D4E	F2 04 B6			CLC \$Y,\$000(2)
1D51	0D 01 1F73 1E9E			JNH \$ENDSB
1D57	F2 34 3B			CLC \$Y,\$N32(2)
1D5A	0C 00 1D6C 1F73			JH \$LX2
1D60	36 01 1F73			HVC \$L1,\$Y(1)
1D64	34 01 1D6E			A \$Y,XR1
1D68	C0 87 021E			ST \$A1,XR1
1D6C	00	1D6C	1742	B UNPACK
1D6D	0000	1D6E	1743	DC XL1'0'
1D6F	1E9A	1D70	1744	DC XL2'0'
1D71	0C 00 1D82 1D6C			DC AL2(\$TRBF)
1D77	0E 00 1D82 1D82			HVC \$LGH,\$L1(1)
				ALC \$LGH,\$LGH(1)
1D7D	C0 87 021A			
1D81	01	1D81	1749	B PRINT
1D82	00	1D82	1750	DC XL1'01'
1D83	1E9A	1D84	1751	DC XL1'0'
				DC AL2(\$TRBF)
1D85	0C 00 1E9C 1D6C			
1D8B	0F 01 1F73 1E9C			
1D91	C0 87 1D48			
				HVC \$LZZ,\$L1(1)
				SLC \$Y,\$LZZ(2)
				B \$LOP
1D95	0C 00 1D6C 1E9E			
				HVC \$L1,\$N32(1)
				PUT COUNT OF 32 IN

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1D9B	36 01 1E9E			
1D9F	34 01 1D6E			
1DA3	C0 87 1D68			
1759	A			\$N32,XR1
1760	ST			\$A1,XR1
1761	B			\$U1
1762	*****			*****
1763	*			
1764	*			ROUTINE TO PRINT DATA TRANSMITTED
1765	*			B STPNT
1766	*			
1767	*			THIS ROUTINE SHOULD ONLY BE CALLED AFTER \$\$IO
1768	*			SSW11 ON BYPASS PRINT
1769	*****			*****
1DA7	34 08 1E1B			
1DAB	34 01 1E17			
1DAF	C0 87 0212			
1DB3	33 40 020A			
1DB7	C0 10 1E18			
1DBB	3C 03 1F75			
1DBF	0C 01 1EAO 1F71			
1DC5	0E 01 1EAO 1C9E			
1DCB	0D 01 1EAO 1F79			
1DD1	F2 01 0B			
1DD4	C0 87 021A			
1DD8	01	1DD8	1782	B PRINT
1DD9	0F	1DD9	1783	DC XL1'01'
1DDA	1E4B	1DDB	1784	DC IL1'15'
1DDC	F2 87 28			DC AL2(\$NTRAW)
				J \$ENDSB
1DDF	0C 01 1F7B 1F79			
1DE5	0F 01 1F7B 1C9E			
1DEB	35 01 1F7B			
1DEF	0C 01 1F73 1F77			
1DF5	0F 01 1F73 1F79			
1DFB	C0 87 021A			
1DFP	01	1DFP	1793	DC XL1'01'
1E00	0F	1E00	1794	DC IL1'15'
1E01	1E5A	1E02	1795	DC AL2(\$TDATA)
1E03	C0 87 1D48			B \$LOP
1E07	C0 87 021A			
1E0B	26	1E0B	1798	B \$ENDSB
1E0C	3D 03 1F75			DC PRINT
1E10	C0 81 1CCE			DC XL1'26'
1E14	C2 01 0000			DC \$COD,X'03'
1E18	C0 87 0000			BE \$SPRING
				LA \$E1,IR1
				B \$E
1E1C	D5D640C4C1E3C1	1E22	1805	DC \$NDATA
1E23	E3E9C1D5E2D4C9E3	1E3C	1806	DC \$RDATA
1E2B	E3C5C4405040D9C5		1806	
1E33	C3C5C9E5C5C440E6		1806	
1E3B	C1E2		1806	
1E3D	D5D640E2D9C1D5E2	1E4B	1807	DC \$NTRAW
1E45	D4C9E2E2C9D6D5		1807	
1E4C	E3E9C1D5E2D4C9E3	1E5A	1808	DC \$TDATA
1E54	E3C5C440E6C1E2		1808	
1E5B	4040404040404040	1E9A	1809	DC \$TRBF
1E63	4040404040404040		1809	
1E6B	4040404040404040		1809	
1E73	4040404040404040		1809	
1E7B	4040404040404040		1809	
1E83	4040404040404040		1809	
1E8B	4040404040404040		1809	
1E93	4040404040404040		1809	
1E9B	0000			
1E9D	0020	1E9C	1810	DC \$LZZ
1E9F	0000	1E9E	1811	DC \$N32
		1EA0	1812	DC \$WBK
				DC XL2'0'
				DC IL2'32'
				DC XL2'0'
				DC CL7'NO DATA'
				DC CL26'TRANSMITTED & RECEIVED WAS'
				DC CL15'NO TRANSMISSION'
				DC CL15'TRANSMITTED WAS'
				DC CL6A'
				DC CL7'NO DATA'
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				DC CL6A'
				DC CL7'NO DATA'
				DC CL26'TRANSMITTED & RECEIVED WAS'
				DC CL15'NO TRANSMISSION'
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				DC CL15'TRANSMITTED WAS'
				DC CL6A'
				DC CL7'NO DATA'
				DC CL26'TRANSMITTED & RECEIVED WAS'

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

1814 *****
1815 * SIO SUBROUTINE
1816 * B $SIO
1817 * DC AL2( ) ADDRESS CONTAINS STARTING ADDRESS
1818 * DC AL2( ) ADDRESS CONTAINS TRANSITION ADDRESS
1819 * DC AL2( ) ADDRESS CONTAINS STOP ADDRESS
1820 * DC AL2( ) ADDRESS CONTAINS SIO INSTRUCTIONS
1821 * EXAMPLE 8202
1822 * AFTER EXEC $STOP CONTAINS ADDRESS POINT TO THE LAST
1823 * CHAR RECEIVED
1824 * $STRAN CONTAINS TRANSITION ADDRESS
1825 * NOTE $NOTIM = X'FF' TREN NO TIME OUT MESSAGE
1826 *****
1827 $SIO ST $OAD*3,ARR
1828 ST $DS1+3,XR2
1829 $OAD LA *-*,XR2
1830 MVC $IO1+3,1(2,XR2)
1831 MVC $IO2+3,3(2,XR2)
1832 MVC $IO3+3,5(2,XR2)
1833 MVC $SETSIO+5,7(2,XR2)
1834 $SETSIO MVC $IOALL+2,*-(2) SETUP PROPER SIO
1835 TBN SBYTE3,SSW1A
1836 JF $Y6
1837 SBN $NT12+1,X'08'
1838 SBN $DISCT+1,X'08'
1839 SBN $RESET+1,*'08'
1840 SBN $V1+1,X'08'
1841 SBN $B104+1,X'08'
1842 SBN $B105+1,X'08'
1843 SBN $B120+1,X'08'
1844 SBN $IO1+1,X'08'
1845 SBN $IO2+1,X'08'
1846 SBN $IO3+1,X'08'
1847 SBN $IOALL+1,X'08'
1848 SBN $SUSY+1,X'08'
1849 SBN $SUSY+5,X'08'
1850 SBN $B120+5,X'08'
1851 $Y6 MVC $Y+5,3(2,XR2)
1852 HVC $Z+5,3(2,XR2)
1853 HVC $Q+5,1(2,XR2)
1854 $X HVC $STRAN(2),*-*
1855 $Z HVC $STOP(2),*-*
1856 $Q HVC $ASTRT(2),*-*
1857 SLC $STOP,$ONE(2)
1858 LA 8(,XR2),XR2 INCREMENT RETURN ADDRESS
1859 ST $SETOUT+3,XR2 STORE RETURN ADDRESS
1860 L $STOP,XR2
1861 $IO1 LIO *-*,X'84' LOAD CURRENT
1862 $IO2 LIO *-*,X'82' LOAD TRANSITION
1863 $IO3 LIO *-*,X'81' LOAD STOP
1864 $IOALL SIO *-*,*-* ISSUE START I/O
1865 B $DELAY
1866 CLC $ASTRT,$STOP
1867 JNE $SUSY
1868 CLI 0(,XR2),X'37'
1869 JE $DS1
1870 $SUSY TIO $SUSY,X'82' LOOP ON BUSY
1871 SNS $STOP,X'84' SENSE THE CURRENT ADDRESS REG
1872 SIC $STOP,$ONE(2) WHICH CONTAINS THE ENDING ADDRESS
1873 $DS1 LA *-*,XR2
1874 $SETOUT B *-* BRANCH BACK TO MAINLINE
1875 $STOP DC XL2'0'
1876 $Y DC XL2'0'
1877 $COD DC XL2'0'
1878 $STRAN DC XL2'0'
1879 $ASTRT DC XL2'0'
1880 $STRT DC XL2'0'
1881 $H DC XL2'00'

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1883 *****
1884 * EQUATES *****
1885 *****
1886
0001 1887 XR1 EQU X'01'
0002 1888 XR2 EQU X'02'
0008 1889 ARR EQU X'08'
0010 1890 IAR EQU X'10'
0004 1891 PSB EQU X'04'
0020 1892 P1IAR EQU X'20'
0040 1893 P2IAR EQU X'40'
0080 1894 IAR0 EQU X'80'
00C0 1895 IAR1 EQU X'C0'
00A0 1896 IAR2 EQU X'A0'
0090 1897 IAR3 EQU X'90'
0088 1898 IAR4 EQU X'88'
0222 1899 HALT EQU X'22'
0212 1900 TEST EQU X'212'
0216 1901 LINK EQU X'216'
021A 1902 PRINT EQU X'21A'
021E 1903 UNPACK EQU X'21E'
0226 1904 PACK EQU X'226'
022A 1905 LOAD EQU X'22A'
0208 1906 SBYTE0 EQU X'208'
020A 1907 SBYTE2 EQU X'20A'
020B 1908 SBYTE3 EQU X'20B'
020C 1909 SBYTE4 EQU X'20C'
0001 1910 SSW07 EQU X'01'
0080 1911 SSW10 EQU X'80'
0040 1912 SSW11 EQU X'40'
0020 1913 SSW12 EQU X'20'
0010 1914 SSW13 EQU X'10'
0008 1915 SSW14 EQU X'08'
0004 1916 SSW15 EQU X'04'
0002 1917 SSW16 EQU X'02'
0001 1918 SSW17 EQU X'01'
0080 1919 SSW18 EQU X'80'
0040 1920 SSW19 EQU X'40'
0020 1921 SSW1A EQU X'20'
0010 1922 SSW1B EQU X'10'
0008 1923 SSW1C EQU X'08'
0004 1924 SSW1D EQU X'04'
0002 1925 SSW1E EQU X'02'
0001 1926 SSW1F EQU X'01'
0080 1927 SSW20 EQU X'80'

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8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
			1929	***	END OF EXPANSION **
			1930	*	
			1931	*	END OF MACROS
			1932	*	%ORG
1FCF			1933	ORG	X'1FCF'
			1934		
1FCF 00		1FCF	1935	DC	XL1'00'
			1936		
1PDO 00		1PDO	1937	NUMDIG	DC XL1'00'
1FD1		1FDE	1938	TELNUM	DS CL11
1FDC 00		1FDC	1939	CALHAD	DC XL1'00'
1PDD 00		1FDD	1940	MAXCAL	DC XL1'00'
1FEDE 00		1FDE	1941	ADDER	DC XL1'00'
1FDF 00		1FDF	1942		DC XL1'00'
1FEO 00		1FEG	1943	NUMID	DC XL1'00'
1FE1		1FEF	1944	ID	DS CL15
			1945		
1FF0		1FF3	1946	REPSEL	DS CL4
1FF4		1FF7	1947	RPAPOL	DS CL4
1FF8		1FFF	1948	SAVADR	DS CL8
			1949	***	END OF EXPANSION **
			FFFF		END

REQUIRED PAD CHARACTER
NUMBER OF DIGITS IN TEL NUMBER
TELEPHONE NUMBER
FLAG FOR CALL MADE
RETRY FLAG
PAD
NUMBER OF CHARACTERS IN THE ID
ID
SELECTING ADDRESS
POLLING ADDRESS

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
\$\$Y1	A	004	1A22	1498	1495
\$ACK1	A	004	1118	0666	0518 0854 0868
\$ASTRT	A	002	1F79	1879	1705 1716 1720 1778 1787 1791 1856* 1866
\$A1	A	002	1D6E	1744	1741* 1760*
\$B101	A	004	1A64	1545	1531* 1639 1645
\$B104	A	004	1A54	1538	1533 1841*
\$B105	A	004	1A60	1544	1538 1842*
\$B120	A	004	1A68	1547	1544 1843* 1850*
\$COD	A	002	1F75	1877	1712* 1721 1725* 1775* 1800
\$DELAY	A	004	1C5C	1669	1865
\$DH4	A	015	1C22	1660	1621
\$DH5	A	018	1C34	1661	1629
\$DH6	A	023	1C4B	1662	1636
\$DH7	A	016	1C5B	1663	1643
\$DI	A	002	1B68	1646	1548* 1616 1624 1631 1638
\$DISCT	A	003	19FB	1477	0171 0653 1838*
\$DL1	A	004	1C90	1683	1670*
\$DS1	A	004	1F68	1873	1828* 1869
\$DTA	A	004	1DFB	1792	
\$E	A	004	1E18	1803	1698* 1702 1770* 1774
\$ENDSB	A	004	1E07	1798	1714 1736 1785
\$EOT	A	004	10D9	0642	0067 0071 0120 0123 0159 0162 0767 0891
\$EFLG	A	001	1B64	1646	0284 0788 1532* 1558* 1567* 1575* 1583* 1592* 1600* 1608* 1615* 1622* 1630* 1637* 1644*
\$EOUT	A	004	1F6C	1874	1859*
\$ETSIO	A	006	1EC1	1834	1833*
\$E1	A	004	1E14	1802	1699* 1771*
\$GGG	A	004	1D40	1731	1722
\$H	A	002	1F7D	1881	1726* 1727* 1728
\$INT	A	004	1A03	1490	1503 1506
\$INT@	A	002	1A3D	1506	0227
\$IHTID	A	001	1A3B	1505	1494* 1498* 1675 1682*
\$IOALL	A	003	1F44	1864	1634* 1647*
\$IOR1	A	014	1B77	1650	1537
\$IOE4	A	019	1B8A	1651	1543
\$IO1	A	004	1F38	1861	1830* 1844*
\$IO2	A	004	1F3C	1862	1831* 1845*
\$IO3	A	004	1F40	1863	1832* 1846*
\$I1	A	004	1ABE	1561	1551
\$I2	A	004	1AA1	1569	1562
\$I3	A	004	1AB4	1577	1570
\$I4	A	004	1AC7	1585	1578
\$I5	A	004	1ADA	1593	1586
\$I6	A	004	1AED	1601	1594
\$I7	A	004	1B00	1609	1602
\$LCN	A	006	1DF5	1791	
\$LGM	A	001	1D82	1751	1746* 1747 1747*
\$LOP	A	006	1D48	1735	1756 1796
\$LX1	A	006	1D51	1737	
\$LX2	A	006	1D95	1758	1738
\$LZZ	A	002	1E9C	1810	1754* 1755
\$L1	A	001	1D6C	1743	1739* 1746 1754 1758*
\$NDATA	A	007	1E22	1805	1711
\$NOTIM	A	001	1B69	1649	0276* 0646* 0667* 0768* 1552 1553*
\$NREPL	A	024	1CB6	1688	1681
\$NTRAM	A	015	1E4B	1807	1784
\$NT12	A	004	1A17	1495	1837*
\$N32	A	002	1E9E	1811	1737 1758 1759
\$OAD	A	004	1EA9	1829	1827*
\$ONE	A	001	1C9E	1687	1672 1704 1717 1727 1777 1788 1857 1872
\$ORY	A	004	1CE3	1708	1724
\$PRING	A	006	1CCE	1703	1801
\$PTM30	A	004	1C84	1678	1674
\$Q	A	006	1F21	1856	1853*
\$RDATA	A	025	1E3C	1806	1734
\$REC	A	006	1CF3	1716	1706

DATE	01MAR72	21APR72	24JUL72	15SEP72	15FEB75	07JUL75
EC NO.	818693	818395	577058	818397	572250	571781

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8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
\$RESET	A	003	1A32	1502	1839*
\$SH6	A	014	1C13	1659	1614
\$SI	A	002	1B66	1647	1547* 1550 1561 1569 1577 1585 1593 1601 1609
\$SIO	A	004	1EA1	1827	0056 0109 0148 0277 0320 0334 0455 0647 0671 0727 0758 0771
\$STOP	A	002	1F71	1875	0782 0877 0885
\$STRT	A	002	1F7B	1880	0385* 0421 1703 1776 1855* 1857* 1860 1866 1871* 1872*
\$S0	A	007	1B91	1652	1716* 1717* 1718 1787* 1788* 1789
\$S1	A	017	1BA2	1653	1557
\$S2	A	025	1BBB	1654	1566
\$S3	A	024	1BD3	1655	1574
\$S4	A	013	1BE0	1656	1582
\$S5	A	019	1BF3	1657	1590
\$S6	A	018	1C05	1658	1598
\$TDATA	A	015	1E5A	1808	1606
\$TIM	A	003	1C9A	1685	1795
\$TIO	A	004	1A40	1531	1671* 1672* 1673
\$TPNT	A	004	1DA7	1770	1496
\$TRAN	A	002	1F77	1878	0395 0473 1723 1726 1730 1790 1854*
\$TRBF	A	064	1E9A	1809	1745 1752
\$TRPNT	A	004	1CBA	1698	0438 0465 0485 0847 0857 0910
\$T1L	A	006	1DDF	1787	1779
\$T1YX	A	004	1A86	1558	1553
\$USY	A	004	1F5A	1870	1848* 1849* 1867 1870
\$U1	A	004	1D68	1742	1761
\$V1	A	004	1A48	1533	1840*
\$V3	A	006	1DBF	1776	
\$WRK	A	002	1EA0	1812	1703* 1704* 1705 1719 1723 1729 1776* 1777* 1778
\$X	A	006	1F15	1854	1851*
\$Y	A	002	1F73	1876	1719* 1720* 1729* 1730* 1735 1737 1739 1740 1755* 1790* 1791*
\$Y1	A	004	1A26	1499	1490* 1497
\$Y2	A	004	1A2A	1500	1491*
\$Y3	A	002	1A3A	1504	1492* 1501
\$Y6	A	005	1FC6	1851	1836
\$Z	A	006	1F1B	1855	1852*
\$0	A	002	1A3F	1507	1493
\$000	A	003	1C9D	1686	1671 1735
\$90	A	003	1CB9	1689	1673
AASC	A	004	1774	1187	
ABORT	A	012	0D06	0305	0291
ACAL	A	002	0D39	0310	0278
ACK0	A	002	18AC	1326	0365 0377 0463 0781
ACK1	A	002	18AE	1327	0371 0670
ADDER	A	001	1FDE	1941	0396 0709* 0735*
ADROK	A	001	0BEA	0209	0191 0193
ADRSEL	A	005	18CC	1346	0210* 0218 0314 0448 0871
ADUM1	A	002	19D1	1449	0648 0672 0759 0772
ADUM2	A	002	19D3	1450	0673
ADUM3	A	002	19D5	1451	0649 0650
ADUM8	A	002	19CF	1448	0674 0761 0774
ADUM9	A	002	19D7	1452	0760
AMESG8	A	002	19CD	1447	
AREC	A	002	12A6	0807	0775
ARR	C	001	0008	1889	0169 0357 0543 0634 0642 0666 0682 0690 0706 0748 0816 1531
ASCICD	A	001	16C1	1123	1669 1698 1770 1827
ASCII	C	001	0080	1464	1190 1447
ASCTBL	A	001	17EF	1203	0093 0514 0557 0560 0573 0599 0834
ASELCT	A	002	19C1	1441	0566
ASIO	A	004	0EC5	0452	0447 0472
ASIO1	A	002	0ED4	0457	0452*
ASTART	A	002	19B3	1434	0255 0321 0335 0456 0728 0783 0878 0886
ASTOP	A	002	19B5	1435	0059 0112 0151 0323 0337 0458 0730 0785 0880 0888
ASTRT	A	002	19C3	1442	0057 0110 0149
ATANDR	A	002	19B7	1436	0060 0113 0152 0324 0338 0459 0651 0675 0731 0762 0786 0881
					0889

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
A5	A	004	14A7	0960	0046* 0049*
A6	A	004	15C2	1054	0085* 0088*
A7	A	004	16BA	1112	0137* 0140*
BLANK	A	001	19DF	1453	0192
BSCUDT	A	003	0A0C	0019	
CALMAD	A	001	1FDC	1939	0240 0283*
CERSPN	A	001	12AA	0815	0064 0117 0156
CER1	A	004	13E1	0912	0817* 0848
CER2	A	004	13E5	0913	0818*
CHECK	A	004	0DA2	0357	0061 0114 0153 0325 0339 0733
CKACK0	C	001	0001	1423	0232 0363
CKACK1	C	001	0002	1422	0330 0369
CKACK2	C	001	0004	1421	0053 0107 0145 0375
CKENO	C	001	0010	1425	
CKEOT	C	001	0040	1417	0381 1431
CKETB	C	001	0010	1419	0418
CKETX	C	001	0008	1420	0413
CKF	A	004	0DCE	0369	0364
CKG	A	004	0DE0	0375	0370
CKH	A	004	0DF2	0381	0376
CKI	A	004	0E0A	0388	0382
CKKEOT	A	006	13C9	0902	0861
CKKRFT	A	006	130F	0850	0832
CKKSTX	A	006	1336	0660	0851
CKNAK	C	001	0003	1426	
CKP	A	004	0E55	0413	0389 0403 0408
CKR	A	004	0E63	0418	0414
CKRVI	C	001	0002	1428	1433
CKS	A	001	0FAB	0528	0419 0423 0464 0495
CKSS	A	006	1293	0802	0798
CKSTX	C	001	0001	1429	
CKSTXA	C	001	0020	1418	0388
CKSW	A	004	1276	0795	0763
CKWACK	C	001	0004	1427	1432
CLCETA	A	004	1053	0594	0590
CLRTR	A	004	10C1	0634	0052 0092 0144 0317 0331 0440 0780 0874 0883
CNCL	A	001	18E3	1370	0862 0864
COUNT	A	001	19A8	1413	0050* 0089* 0141* 0683 0691* 0692
COUNTB	A	003	19A7	1412	0466* 0469* 0895* 0898*
C16	A	001	1986	1400	0769* 0790* 0819* 0820*
D\$LAY1	A	006	1C6A	1672	1677
D\$LAY2	A	004	1C8C	1682	1676
D\$LAY3	A	004	1C94	1684	1669*
D\$1	A	004	1B13	1616	1610
D\$2	A	004	1B26	1624	1617
D\$3	A	004	1B39	1631	1625
D\$4	A	004	1B4C	1638	1632
DATCON	A	001	18AB	1325	0215
DATEND	A	001	18E0	1363	
DCD40	A	002	18D8	1354	
DIAL	A	004	18F4	1378	0046 0085 0097 0137
DISPNO	A	001	1932	1389	0051* 0090* 0142*
DLE	A	001	18B6	1333	
DOREC	A	001	1210	0765	0752
DREAD	A	002	18DD	1359	
DREADL	A	001	18E0	1362	
DUMHY	A	001	1993	1410	0511 0513 0643* 0644 0644* 0645* 0668* 0669 0669* 0670* 0749* 0750
E\$ACK	A	004	113C	0676	0666*
E\$D	A	001	0D3C	0312	0301
E\$EOT	A	004	1114	0658	0642*
EASCI	A	001	1777	1189	0177
EBCTBL	A	001	17EE	1202	0577 1203
ECHECK	A	004	0FC4	0535	0357* 0534*
ECLRTR	A	004	10D5	0638	0634*
ENDCER	A	004	13E9	0914	0816*

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

CROSS-REFERENCE

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ENDENQ	A	004	11D6	0736	C706*
ENDPT2	A	004	116E	0695	0682* 0690* 0693 0694*
ENDSET	A	004	0D9E	0352	0169* 0344
ENDXL	A	004	10BD	0631	0543* 0546 0547*
END5	A	002	19C5	1443	0058
END6	A	002	19C7	1444	C083 0111
END6A	A	002	19C9	1445	C095
END7	A	002	19CB	1446	C150
ENPOLL	A	004	12A1	0805	0748* 0796 0801
ENQ	A	001	1889	1336	0444 0723 0778
EORD5	A	001	14AA	0963	0055
EORD6	A	001	15C9	1060	0105
EORD7	A	001	16BD	1115	0147
EOT	A	001	18BA	1337	0383 0496 0645 0855 0902
ESPCAL	A	001	18A0	1298	0602 0605
ETB	A	001	18BB	1335	0420
ETEXT5	C	001	00BD	0964	0055 0055* 1443
ETEXT6	C	001	011C	1061	0105* 1444
ETEXT7	C	001	00F1	1116	0147 0147* 1446
ETX	A	001	18B5	1332	0415
EWRTCD	A	002	18D3	1349	0332
FLAG	A	001	18A9	1311	0172 0174* 0231* 0343* 0362* 0384* 0391* 0399 0404 0426* 0435 0479*
					0497* 0498 0532 0552* 0567* 0589 0606* 0616
FLAG0	C	001	0080	1312	0567 0589
FLAG1	C	001	0040	1313	0606 0616
FLAG2	C	001	0020	1314	
FLAG3	C	001	0010	1315	0343 0435
FLAG4	C	001	0008	1316	0362 0479 0532
FLAG5	C	001	0004	1317	0362 0391 0399
FLAG6	C	001	0002	1318	C362 0384 0404 0426 0497 0498
FLAG7	C	001	0001	1319	0172 0174
FOHE	A	001	1992	1409	C691
FORASC	C	001	0020	1466	0555
FOREBC	C	001	0040	1465	0553
FOUR	A	002	19EE	1458	0534 0694
GOGOGO	A	004	1255	0788	0779
GOON	A	004	0ADD	0107	0102
GO2	A	006	0AD1	0104	0094
HALT	C	001	0222	1899	0205
HEADER	A	003	18C1	1341	0511 0831
HEXFF	A	002	1985	1399	0253 0471 0582 0591 0625
IAR	C	001	0010	1890	
IAR0	C	001	0080	1894	
IAR1	C	001	00C0	1895	
IAR2	C	001	00A0	1896	0227*
IAR3	C	001	0090	1897	
IAR4	C	001	0088	1898	
ID	A	015	1FEF	1944	C715
ILNUM	A	004	0CE1	0294	0245
INCNT	A	006	115E	0691	C689
KEPCHK	A	006	0BC1	0192	0207
LCCHK1	A	001	19AF	1416	0053* 0107* 0145* 0232* 0330* 0363 0369 0375 0381 0388 0413 0418
LCCHK2	A	001	1980	1424	
LCCOMP	A	004	0E1D	0395	0367 0373 0379 0386
LCOMP1	A	004	0E7B	0426	0402 0407 0410
LCOMP2	A	004	0F3D	0490	0487
LCOMP3	A	004	0F4B	0494	0491
LCOMP4	A	004	0F5A	0498	0489 0493
LCOMP5	A	001	0FAB	0527	0501 0504 0512
LCOMP6	A	004	0E6F	0421	0416
LCOMP7	A	001	0F72	0507	0502
LENASC	C	001	00B7	1190	0101 0101* 1445
LINK	C	001	0216	1901	C656 0827 0853 0856
LOAD	C	001	022A	1905	C892 1479
LOOPON	A	004	0C31	0238	0292 0298
LOOPCZ	A	004	0C59	0250	C256

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
LOOPF1	A	004	0A6B	0069	0062 0065
LOOPF2	A	004	0B05	0121	0115 0118
LOOPF3	A	004	0B6C	0160	0154 0157
LOOP1	A	004	0A39	0052	0066 0070
LOOP2	A	004	0AA2	0092	0119 0122
LOOP3	A	004	0B3A	0144	0158 0161
L16	C	001	0072	0998	0104 0104*
L26	C	001	00AA	1062	0105
MAXCAL	A	001	1FDD	1940	0274* 0286*
MIDORE6	A	001	1520	0997	0104 1062
MLOX	A	006	0C92	0265	0263* 0264*
MODIFY	A	002	0AEB	0111	0084* 0096*
MOR6	A	001	1567	1021	0097* 0100* 0101 0177*
MSG01	A	033	179A	1192	0181
MSG02	A	010	1900	1384	0483
MSG03	A	004	1918	1386	0522 0526 0841 0845
MSG04	A	017	1929	1387	0348
MSG05	A	001	1947	1391	0683* 0687
MSG06	A	018	1959	1392	0908
MSG07	A	032	17BA	1193	0199
MSG08	A	038	17E0	1194	0204
MSG09	A	040	1981	1393	C825
MTWO	A	002	0D08	0306	0252
MVC5	A	004	11AE	0722	0720*
NAK	A	001	18BB	1338	
NDISP	A	004	12C3	0822	0792
NEG4	A	002	1991	1408	0620
NOACAL	A	001	0CED	G299	0239 0241 0243 0285
NOPT	A	004	0BCE	0196	
NOSRCH	A	006	0EB2	0448	0442
NOTFR	A	001	0C17	0222	0173
NOTHE	A	006	126A	0793	C787 C789
NT.LRGE	A	016	0D37	0309	C297
NJMDIG	A	001	1FD0	1937	0242 0244 0247 0248 0263 0272 0310
NUMID	A	001	1FE0	1943	0195* 0398 0713 0716 0717 0718
NXLTE	A	004	12F5	0838	C835
ONE	A	003	19AE	1415	0264 0286 0385 0469 0719 0790 0820 0898
ONEOT	C	001	0040	1431	C372 C378 0392 0494
ONRVI	C	001	0002	1433	0366 0486
ONWACK	C	001	0004	1432	C366 0490
ORD5	A	001	13EE	0920	0045 0964
ORD6	A	001	14AE	0971	C998 1061
ORD7	A	001	15CD	1069	0136 1116
PACK	C	001	0226	1904	
PMUM	A	011	0D13	0307	0254* 0255 0262 0262* 0265*
POLL	A	001	11DA	0747	0509 0829
POLLSW	A	001	19B1	1430	0359* 0366* 0372* 0378* 0392* 0486 0490 0494
POLSEL	A	005	18D1	1347	0211* 0213 0753
PPENQ	A	004	1172	0706	0302 0869
PPROGT	A	004	0B9C	0178	0176
PRER	A	004	0F96	0518	0515
PRINT	C	001	021A	1902	0178 0196 0201 0267 0288 0294 0345 0480 0523 0684 0822 0842
					0905 1534 1540 1554 1563 1571 1579 1587 1595 1603 1611 1618
					1626 1633 1640 1678 1708 1731 1749 1781 1792 1798
PRINT2	A	001	1140	0681	0069 0121 0160
PRINT3	A	004	1157	0690	
PSR	C	001	0004	1891	1492 1493* 1501*
P1IAR	C	001	0020	1892	
P2IAR	C	001	0040	1893	
RACK1	A	004	1320	0854	0858
RECAGN	A	004	1220	0771	0791
REERSE	A	004	0D66	0330	0303
RENQ	A	004	11BE	0727	0734
REPPL1	A	006	12BA	0820	0900
REPPOL	A	006	13A9	0895	0865 0903
REPP1	A	004	12D1	0828	0821

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
REPSEL	A	004	1FF3	1946	0210
RESELL	A	004	0C29	0231	0326 0350
RP@POL	A	004	1FF7	1947	C192 0211 0212
RSTKED	A	002	18E9	1372	C884
RTN01	A	001	0A10	0039	0017
RTN02	A	001	0A77	0077	0041
RTN03	A	001	0B11	0129	0079
RVI	A	002	18B0	1328	0488
SACAL	A	002	12A8	0808	0281
SASEND	A	001	18C7	1344	
SAVADR	A	008	1FFF	1948	0212*
SAVEND	A	002	1989	1404	0550* C627
SAVPNT	A	004	18F0	1377	CC49 0088 0100 0140 0219
SAVXR1	A	002	198D	1406	0360* 0530 0544* 0629
SAVXR2	A	002	198F	1407	0361* 0531 0545* 0630
SBYTE0	C	001	0208	1906	
SBYTE2	C	001	020A	1907	0170 0652 0707 0710* 1701 1773
SBYTE3	C	001	020B	1908	0223 1835
SBYTE4	C	001	020C	1909	
SELADR	A	004	18E7	1371	
SELECT	A	011	19FA	1460	0314* 0316 0318 0448* 0449 0753* 0755 0756 0871* 0873 0875 1441
SENQ1	A	005	11B2	0723	C714
SETUP	A	001	0B78	0168	0043 0081 0133
SFLAG4	A	004	0F1D	0479	0436 0474
SIOCAL	A	004	0CB4	0277	0287
SIOENB	A	003	0C22	0226	0225*
SOH	A	001	1833	1330	
SSHERE	A	002	18C6	1343	
SSSAVE	A	002	19EA	1456	0358* 0513* 0517 0521 0804* 0833* 0837 0840
SSW07	C	001	0001	1910	
SSW1A	C	001	0020	1921	0223 1835
SSW1B	C	001	0010	1922	
SSW1C	C	001	0008	1923	
SSW1D	C	001	0304	1924	
SSW1E	C	001	0002	1925	
SSW1F	C	001	0001	1926	
SSW10	C	001	0080	1911	
SSW11	C	001	0040	1912	1701 1773
SSW12	C	001	0020	1913	0170 0652
SSW13	C	001	0010	1914	07C7 0710
SSW14	C	001	0008	1915	
SSW15	C	001	0004	1916	
SSW16	C	001	0002	1917	
SSW17	C	001	0001	1918	
SSW18	C	001	0080	1919	
SSW19	C	001	0040	1920	
SSW20	C	001	0080	1927	
START	A	001	16C0	1121	0055* 0101* 0104* 0105* 0147* 0249 0260 0261 0265 0318* 0332* 0439 0444* 0449* 0477 0636* 0637 0637* 0711 0781* 0793 0794 0799 0799* 0800 0800* 0802* 0831 0833 0850 0860 0862 0864 0875* 0884* 0902 1434 1437 1438 1439 1440 1442 1443 1444 1445 1446 0445 C784
START1	A	002	0F1C	0477	
START2	A	002	19BB	1438	
START4	A	002	19BD	1439	
START5	A	002	19BF	1440	0336 C887
START6	A	002	19B9	1437	0322 0450 C879
STBL	A	001	18E3	1369	0221
STOP	A	001	17ED	1196	0635* 0636 1435
STX	A	001	18B4	1331	C860
STXDC	A	003	18C4	1342	0213* 0390
SUB4	A	004	1098	0620	0617
SWITCH	A	001	12A9	0809	0508* 0654 0657* 0766* 0776 0795 0803* 0828* 0890*
TBLEND	A	001	18A0	1294	
TELNUM	A	011	12DB	1938	0271
TEST	C	001	0212	1900	1700 1772
TNUMX	A	020	0D27	0308	0270

8725 3270 REQUEST FOR TESTS (RPTS)--SECTION 2--

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
TRNUDT	A	003	0A0F	0020	0047 0086 0098 0138 0175 0184 0187 0190 0238 0300 0434 0441 0751 0797 0852 0866
TSTR	A	003	18BE	1340	0850
TWO	A	002	198B	1405	0547
T?2702	A	001	0A00	0004	
UDTOPT	A	001	1987	1401	0093 0186* 0189* 0514 0557 0599 0834
UNPACK	C	001	021E	1903	0216 0258 0519 0838 1742
WACK	A	002	18B2	1329	0437 0461 0492
WAIT1	A	003	0F1A	0476	0466
WAIT4	A	003	19AB	1414	0895
W1SEC	A	006	0EF3	0467	C470
W111	A	006	0EED	0466	0462
W112	A	004	0EE9	0465	
W4SEC	A	006	13AF	0896	0899
XLATE	A	001	0FC8	0542	C044 0135 0214 0220 0315 0516 0754 0836 0872
XLATE3	A	001	101C	0572	0558
XLATE5	A	001	102B	0578	0568 0583
XLATE6	A	001	10A0	0623	0584 0598 0613
XLATE7	A	004	10B5	0629	C561 0574
XLT5W	A	001	1982	1397	C549* 0553 0555 0560 0565* 0573 0576* 0628
XLT1A	A	004	0FF1	0553	0626
XLT2A	A	004	100D	0565	0554
XLT3A	A	001	1023	0575	0556
XLT5A	A	001	1041	0588	0580
XLT5E	A	004	106B	0605	C600
XLT5G	A	003	1073	0607	0603 0612
XLT5H	A	004	108A	0616	C609
XMTA0	A	004	123C	0780	C777
XMTBST	A	004	1386	0883	C870
XR1	C	001	0001	1887	C083* 0084 0095* 0096 0247* 0248* 0250 0251 0252* 0271* 0272* 0273 0360 0365* 0371* 0377* 0383* 0390* 0401 0406 0409 0415* 0420* 0422 0445* 0450* 0452 0453* 0471* 0488* 0492* 0496* 0500 0503 0530* 0544 0548* 0549 0550 0551 0551* 0579 0592 0594 0597 0607 0607* 0608 0618 0621 0624 0624* 0625 0627* 0628 0629* 0715* 0717* 0722 0817 0912* 1490 1499* 1670 1683* 1699 1718* 1728* 1740* 1741 1759* 1760 1771 1789* 1802*
XR2	C	001	0002	1888	0249* 0250 0251 0253* 0254 0361 0395* 0398* 0401 0406 0409 0421* 0422 0437 0439* 0446 0446* 0451 0451* 0461 0463 0473* 0500 0503 0531* 0545 0546* 0548 0565* 0577* 0579 0581 0581* 0582 0581* 0592 C594 0602* 0605* 0608 0610 0610* 0611 0618 0620* 0621 0630* 0711* 0716* 0722 0723 0724 0724* 0725 0818 0913* 1491 1500* 1828 1829* 1830 1831 1832 1833 1851 1852 1853 1858 1858* 1859 1860* 1869 1873*
Y6	A	002	0D3B	0311	0273* 0280 0718* 0719* 0720 0725* 0729
ZERO	A	008	19E7	1454	0279 0358 0773

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

OBJECT CARD LISTING

THE CHARACTER INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96
GBK GBD PM 25 88495 EC 571781 3270 PATTERN TES T 84008400 87250000
T+-Y:/2H B/C H)E D BX /0_80H*12A1_C < M:1T4+A HC*H&A-0 CEH*Q@C31FE-a'JU 20H* <87250001
T+-Z5D<D@AAW?C.0 P-AKD0H*;YJXCF*M R_JW70H*(Y%BGBW? /1HD0H*HE@BGBTX /1CROH*J&<BGBTX /1 48487250002
T+-D06EH B1G /0_ 80-DR13&AB>-< 1P BF|&8D Y|a/ FC < NO/TO|DRDC36FL. /1CA+H R/H&E|KH AF*U *Z<87250003
T+., (DH: OCEOH C'C-EB-*2D Q< 1M SF| <_/) 6EOP2/00 <*J1EJ@<DJ~SE*U @AAW?OH*;YJXCF** R_JU P, D87250004
T+-XW @BGC. /0% EOH*KD%BGBOP /OD SOH*E6*BGDMC /OD SOH*E6&< "" /0_ 80H*|2AP<C <O>/T 4+A OD&87250005
T+_/B-"2D Q< 1E :F| @@JWY|*R<XB GD<D@AAW?C| P%AE 'OH*;YJXCF*XR_JW 70H*(Y%BGB63 /1H D0H* RT487250006
T+->*B63 /0%:OH* E6*BGDMC /0%:OH* E6L&HCED8H HHOA R=3-APFX2DH0: JS Z+ HNC*HEA-29EO* P;* RS&87250007
T+-?P/OHEASDPWT- BB-"2U E:-AWG+ & HC*HEACZ FQ*8D Y |a/ ZC&*~1X~a-D -| ~8<BG /,AHA: :/GQ 4L*87250008
T+-OKOH*BFYQWE=C /OHS/O\$ /O?AC < Q21*3C <Q4A*7C * ~*1*7C DQ1AT|OH* |2ASD0H*BG-HQ2/T 00H* .H87250009
T+-1(C@-Q8T-- -? 2U E:B OT@8C (E E|L?~PHU@ JH?+A- HC*HE L7*G*32-E8 'A*E@YFX|E%~4|H DV<H 0Z487250010
T+-2H J*| (-D~4<H BEXEQ 0 AW D CQ AC&-6 /WE(H(D04 ACJ<R%@BDCEX /OH ;A/\$FE_E<B-4LCJ& < 0 9JQ87250011
T+-3CU1*E0 <U1W >C Y(D1\$H0H*BT-Q ~CK-B J*J(-D~4C& ACL%a 1m) |@SE*B GGDD(+JXXCLXKDC3 *G*0 P-H87250012
T+-3+B \$R|HGh-a G*4R,% AC.C /0E E/-0(A%FGCCG /0E E//O((@BGCDD8D Y |@ZAH0H*J*?HGEB| A4* < 9H&87250013
T+-49E<GB5_XT1*L ""~X9=-X9=-X9=- X6<XSE+|H1MCT1| E5@T05*M 5) R 1;~ C1+I @~E 1<XG2;| SG*D :B&87250014
T+-54 < 1X7F? /0*HF; /1CAC - 02AX80H*;YJW3FSU R_JW70H*(Y%BGCBU @ /W?OH*E0&ODE%E Q5% 6QD87250015
T+-6?/1:/FS<R?1W 5FS /06S0H*(UCY EFHX /06;OH*BFXQ JPKWG *BGCBI /0 (-|100AF;YR930 PSD MH 87250016
T+-7D(DRTL&BFQ@ #C/SZ+ DR,*HEB@H AFHO@A/R1@Y|) + H R,*HEB@HAFH@EAW 1@Y*+ EP,*HEB@H AFHO EHY87250017
T+-8V|D RX~HGh3/ FE*2UAGB JS:+-H QD&@AG7DR,?HGd3- -FE*2UDLB JTD+-E QDL1 PSD5 /'7|~a ~72H 8 87250018
T+-9--EE6 /"-+ & QD~HEBZ4B -C2 MG 2/1-8 /SZ@Z HX& "" |HA<|HGA94A &C 2 KQ8BAW?@Z GO-D Q~H 9A&87250019
T+-:S/008DAW?0I |D@HAF.-5 /'1\$E "" <BAC:X# /SZ+ D HC3-6PHX2UI+(&D QX% AG.,B /\$ OH* EOL- RH<87250020

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

OBJECT CARD LISTING

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96
T+-#OD Y|@Z &C"" 00AS90-D|G+HB ~H GD00CF~*Q200HEX- R=<HAF\$XS -U4' &# NO-D OXBGGDDR%O "F\$H KZY87250021
T+-@JPF; (&DQ%?H ACH4A JSX@YGB0H* *>-OBFE*|F-7*?C< +@04:C?U+~&@BF* R,% AC?<6 JWE0 D +3LH #/Q87250022
T+-' < /'7@Y+E "" | YEXD: BASZ0H*BFX< HF&BG %BGG.Y8 /W 1@Z GO-DQX|HGGL- DFG2U ~B JS2@Y* |+D"" =9*87250023
T+-=GF\$G2UEXB JS :+~HQDL-BFH2D D) &D @-EC@Y*GX& "" |HA+L1 DD' /1G EC&HRX/TA@-DYC D R:/J ' ,<87250024
T+-BY3S FQ~2U \$ /0*HF;T /1EQ0H* BG-HR:/UQ0H*BF-M QFJT "0=?(&DRTLH BFQ@BBASZ@/ FC-D |1TU 0BU87250025
T+-" *%BG "" 4BAC (DRTL&PFQ@5 /C C-DE0AW. EDAG "" R-- 4 JWI4-DA+@ QDL5 FQ.2-JM*HAW B@XD EQ<87250026
T+ / 8ICS FQ~2DAQ 8-AWB@ZBY| "" R-@H BE=@-ASZ@Y*|+H R-?HEUT2 FQ|B /- >\$E "" |HAC=HB Y4 A JU L-487250027
T+ /A3/* ADB?2/5@ 8-ASZ@Z .(-HR/00 "" C2/OJX "" A-J @-EC+Q R/*HSA@H BFHC2/OTB /SU+U QE) H P# 87250028
T+ /B> &E "" @YD (8-HA?~@ 0 D6) ?H GET/ FHX2D)X "" D@Y*H(-HRU00 "" C K &E(&DR/* AC*D 5 JU J/*87250029
T+ /CZSH0 AWC(&D HTLMBFQ "" /0 "" (- E6C0 E=4<*1-XE=4 <<J\$;E?." /0 "" (- JE30 FE&<DANTFE& < AU)C 87250030
T+ /D@U1S: |@SE*B GGDDR4JXNF) NR_3- - , DAX*+ DKD~H SA<BG /Q# JHZ0H* "" C&HDL@@"1_Z| "" EZ 0 *S 87250031
T+ /E-DAWTFE&< JW HPH# /1:/F)DR41X |FS~ /0 "" (-J=60 PH*RD<BG /,FG/V G/0|2/064BAE1A- RDAU 9T&87250032
T+ /FEUT74PET2 &Q + JE1F;# /0 "" (- J6L-E -,2U -@ A" ;+1 BBXHE, @' A" -@YDSO-D-8CQBG= 6 J@ 6Y 87250033
T+ /GN@ 0 CLX~8 @ CLXR,-0 DE@(+90 "" B< DQ>;HB T6 BCL? /1:/FS<(+1W 5FS~ /06S0H*J?T3 *G*8 74T87250034
T+ /HE0H* "" C&HDD& @ AWUCA RY1WU+A HC*HEHEOCF~*Q4<B GC@-R#00HFRXR=<B GCDDR4JXPF*@R_~H GBTY QID87250035
T+ /I. JHZ0H*E6L3 *F6U@G/WF0H*;YJX JF;*R31HW+D KD~H SB&@ FR<Q>~HAF*B GD<D< JSAPH3 /1: /FS< ;1687250036
T+ /HFF\$XR JW7@Y* N+B \$R|HGc-a FQQ R,% ADSC /1.CC < RXISEC DRY1\$G+H KD~HEGC-EB-"2U @ < 1Q 9L<87250037
T+ /A3ASEC D04AS G@Y*PCAD04JWU| "" KDL1 F;T /0 "" -5H D - 4BA|X(DL9C6 BD=-@PAWFC0 R//W >@-D 6E@87250038
T+ /@C%BG /ZPHAW A/: /0HO+Y KD*B GD)Y (/\$.P<G2 K4 < JXDE_ 8-AWG@Z POH*|ZAYTOH*BG-H R:/J 76&87250039
T+ /<7F<BG /,BPAU Q/OL /12:@Y-KCEH 021S=@-D;+A HC@B & /\$ /1DQC& RVJS :ORDBEXBGG., /1< -C& "" 6D-87250040
T+ / (2EXUQ |HAS-4 EXOQ8*HAB-4 EXY Q8@ AD:USD Y|@Z .OH*JF<BGDP.2/2H < 1X7F? /0*HF; "" /1 "" H 87250041
T+ /+ 0E0HEX-R=<B GGDDR41W9F\$NR_@B GD<D<AASDF+3 /1: /FS<R?1W5FS*@ JH ZOH*E6*BG SZ C H RZ1W *C487250042

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/YD07MD:AL,04	:D#ML_@BFE*R,%	AD:"/1H:CE O2JS	:OHDLB*BG /,BD/V	R/OP /12:0-D <H	B **** L-Q87250043
T+/6TOH* ****	BI"MN 7GOCF5_V 0' |U8>|	E6*PDE (-R2) PT1) X	S6<LA8@E 8XTO9(|	DE+.T0) XTE (PE9=(	4@U \$IM87250044
T+/J;5*N 2<PR1MA	-QFA-QFA>02TE0.	I5*) 5*X01*XA5DC	T0*I/1) XA8XN 9 (P	P6) \$TK4CT5UCA1<I.	RQ*E 4Z<87250045
T+/KR9 (1)/1X4E4@J	5<GR4UC06*LE6;H	J0" LG--@1MC1G*-	@1VCAGO @15"BD*L	P@EJ1;-K1V J1UY	*G/M JL487250046
T+/LMPJGC9/7Y0*L	BQ ****) Q |"M0	BI"MN|-QHC/HOP/8S	ISY2(TY=EURHLVIO	OV9SRWZ6;X1E 915	-YD< \$E87250047
T+/M|ZHOWZ:SZDD2	_,D=:>#2'?,= S9>	*YHP,%.P2X#J5_;	8;JGAL15 \$MICJDN	PJ4/IMNILENENOR5/	RQW< @C*87250048
T+/NBRFNR6/Z*GE	2*7J5) X) 8;JGA'15	-0*.C1<PF1@TI4).	L5 (PO5*TR8>|U9;\$	X:+X0@-.3' |P6"MT	9D*H E:H87250049
T+/OEP15 &EA-Q*C	68+DJ0@*) QDZ.LD5	+L5Z\$PE5;P6Z,\$F5	>\$7Z#-G5=-1CC\$15	2X?<3*#|6_?#7) #	-:>X *0H87250050
T+/P #+7>#",#*|7	=D*LPGOCNQ) (0@T	EO"EY JOSEJGE<P	O5DCC2<PC4,URD*R	|GM LD*-OG;TA1(V	- **** 8B@87250051
T+/P# ****) &AGD1*@	C"MA S-5L*PE9UC	L2) PEE<\$U5*|T2) \$	N6< H1*|KE) PE9UC	L2) PEE<\$U5*|T2) \$	NE) M LL087250052
T+/Q61;R 4@XN1JP	M1;QNS*PW6 (|I5*M	N5*PW6 (|I5*M 1>L	N0=|I5_HN5*PW6 (|	I5*M 1>LNO=|I5_H	0@- PK887250053
T+/R11*|KEJ5<8@T	I8UCD0;|A6 (P084C	V2;_IO_ |EQ*PO5DC	A5*J 5OGL6<YG5) \$	R1*8WJ5 1) PDQ(\$	FQ(6 L,<87250054
T+/E1;.S0*-EQ+|	E6) LI5*GT1;I 5*X	I5;<RE-.N1DCE5_J	4@XN1HCN5> (5_N	5*XI5;|E6HC09+|	P9+< "DY87250055
T+/\$XFGG5/7Y0*L	RQ **** ) & |"M0	BF3M/EDEB64JEJU)	HKHZ.LD5+L1D-OA4	_HEEKH5JHNV) QONZ	\$PE4 0H%87250056
T+/*SPV@J6KD) HFA	/QH (URORXEPVDE61	_SW@J&L*).PA1*X(	4) PR7;GV;:71*-X@	J&V8) HC 1<T<4(LQ	7+CU 0,087250057
T+/) +T%@|L8"DH(	GGK4-HKHTIBHWI2-	ZHS%K.87DH<MGKA	+ .40-@4/EKD%-B-Y	HB-YJJE).HN|LKA	CKDN J.Q87250058
T+/:Q64%-PJEPHJ4	-D1EGJJ5REBJK.6	**** ).&|"M" |2"MA	6*PQ9<PS84CF5_V	8@PS8=I, &+.E0=|	I5_H QH 87250059
T+/-L@|.N5UCS1) |	EO=(5_V 5*\$L44C	A1<LR6<GV0*XLO*.	L1;|H2;I 5+LS84C	B1HCE5;|E6*PD6<.	E1_Q KE887250060
TCA--6*N 0'SN8@X	N9<XN10	*****	*****	*****	***** ;D*87250061
T+/-Y -H|C2*\$ 0<	JDJ<LGJ5 H| 0@LG	2<?<3*CL5(-Q6'3-	8+|U90MGB6% (C1DL	EJ*F14-HK<VI4M,	KK'< 4Z*87250062
T+//TL (J(5M*OL')	66EGRM>IL85LUN;M	O9V-XO>/R: NYKD-H	I|A&E D **** &D7AG@	SEV...U0@*X/+H4@	/MBQ #9Q87250063
T+/S:OV5\$IE0DPKV	;+5';QB5/.6Z*E21	XIO5-ST9?|7Y;:2(	@EG4X-T4WE3HOE&Y	RFJO*G/8-G24E|JM	*F7@ EQ%87250064

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

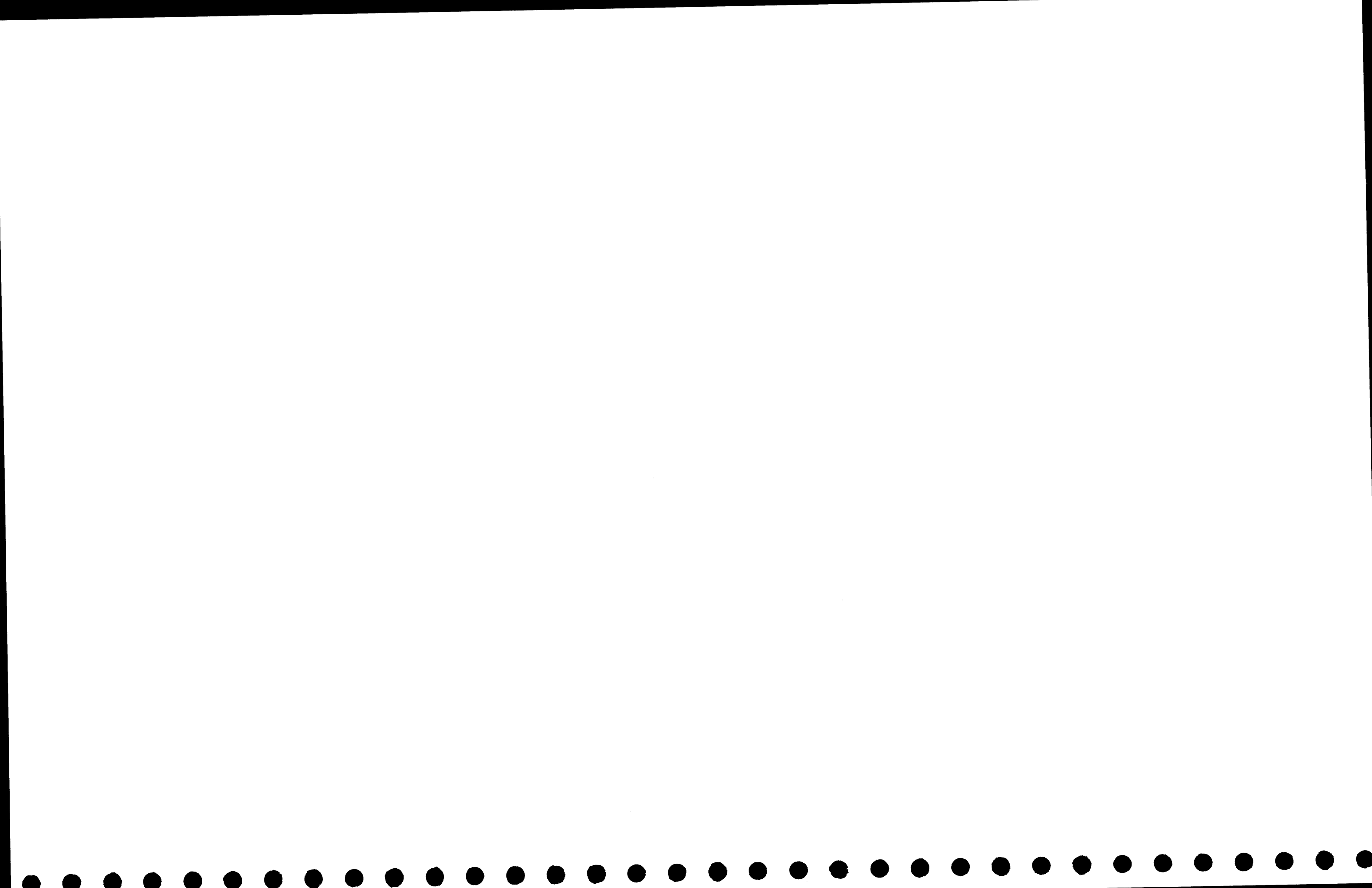
OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/TR7A/~P%0<L0	#*0 DG 6QJA@DFX	A -<6*BQ_(34A\$FD	A\$(UB ***** < ****	.6 ***** _S-50-<	BI"U & U87250065
T+/UNE <BI7YC"MA	\$- ***** BI"ME| 0	**** CD*GL"MM" L2) P	E6<PR6) \$R8>|A8=L	S6<GM1DCS1) PS1MC	I8U "NE%87250066
T+/V|9--X9@PRO;.	EQ;\$R2;|E6<PR6) \$	R1<XS5' |A:DCX6<E	R6) \$RQ (IE8'XY6 (P	U5<.E6HCX2) PC5_X	R1* < *1 87250067
T+/WH84CR1;.P5_P	S1) P0E<XN8@PR6;L	P86CH1;-TE+|E8>(	5@GT8@PR5HCIS*X	T2*GT1*6 " |"M" ****	81*87250068
T+/XE - **** C"MA|D	*****	*****	*****	*****	*****
T+/Y E'OP) 1;1E1D	RZ/WLPRHEVAM*E1A	6DA &D *****	***** |"M" & (0@	2<- ***** "M"3-HC	/OH) H87250070
T+/Y@HU 4 JYZ(H	E.LEDPTY5AAY" | U	E+@PCFS. /1Z @Y*	D|H4E+@HA "CB -	(6E+?+ " @BGP-<	***** 4C<87250071
T+/Z6P-< " C&HFW*	@_A_UOQDEN<BG /D	FC/_70Q6EQ<BG /D	FD1>H0Q EE<BG ***	0-1_H<H \$ECW P6P	2DA* =0%87250072
T+/D1|-@SE-HAB<B	G /DFA1>J+S \$RC0	P6U96A_V@/ <OH*	BFYQJF:H:DA_U+F	\$R-H6C<BG /DFFJ>	#+U "R,Y87250073
T+/,X6&9DA_V@/	<OH*BFYQQF'<:E_A	U+@-SR-H6C<BG /D	FCJ?+-D\$RCDUF6P	2D 3 /OH//<\$@3Y	HF6E &L 87250074
T+/%X+&H\$R-H6C<B	G /DFD/OE+-F\$RC-	BF6\$2D 3 /OH/-8	*D3YBF669BA_Y@/	<OH*BFYQ|GBH:-A_	U+@E WD487250075
T+/_SP6T2D 3 /OH	E//H*(CD P669 /_	Y@/ <OH*BFYQPGD%	:-A_U+@DS'E< EPWL	/OH// *O3D F6L	/1Y :D087250076
T+/>) R *****	(\$ PQ<PN1DCI5; (1) X	E2) PT6 (XE6DCP1) P	D2; PGE<PR6; |I5<P	O9+|C6*(/4'XCQ;P	R04 "1K487250077
T+/?Q0@TE0'.A1<G	P8@PR6< H1*|K6(\$	N6+|R0) PS5<XT6*L	A5=|E6HCC2<PC4UC	O5MCR1*|E2;PE2) P	V0) < P9 87250078
T+/0L2*J 0;.C2*X	A0_\$R8@XV1HCD2;.	C5_PN1*|T1<XS0*\$	N5+PC84CT2) LE5>L	T1<GT0HCS1; (6*P	A1+- ECD87250079
T+/1+0_100'I 0=.	RE< H1*|P.4=.R6(\$	R6+I-6*PG6< H1*|	K5>PE6) XU5OGU5*L	E6*\$L5>R 0@TE0'.	D0XU PRQ87250080
T+/2IE (-A6*YT:DC	C2<PC4TEHGI*4 J2	LC H*W/2) C-H*W/2	:C&H*W/29@YE. +-<	E+H6C<BGGF, /OH	E// - PY 87250081
T+/3DG.Q#@1Y#0-D	" <BG *****	A5) R 6*PS5*\$N8XM	0*\$T1) V --A 8XP	CF " (-;F36AG/~	/OH PB487250082
T+/3"DT/ " , DA8	QC D;YA'1C-D;YA2	:C&D;YA'9@-DE0H*	BF-DGGSH@ A'50H*	:A00AG7%-;@AG7%	*XTH -S%87250083
T+/4: J'@C D-*1:	-COD-*1'9|&<-)~H	AH-4AGD ~) @BAG<	@ A'5C D~J'7COD	--J2; (6D--@0AG7<	:Y @ H#Q87250084
T+/55 J'3G7~/OH	E JY;| 4AG7<*X~H	D_-4AG7<;X?HD+00	G00-*3QAG7<4 J5	>OH*BG- " A:EC "	)-/4 #Q487250085
T+/60\$ 8 GQH) -X&B	G /YA A:EC " ;XA5	XCOD-*1:*OH*) K 0	G00;XTQAGZ84 J5	>OH*) EC&HG/4 J8	P0H* 3HM87250086

8725 3270 REQUEST FOR TESTS (RFTS)--SECTION 2--

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/7./H8& HH0A	:PCOCG7M< J:-G7D	+ J:-CI8(J:-G7X	2 67 /OHĒ 6&:K*H	GĒ OAG7X~;6&AG7X	*XTH ĒERQ87250087
T+/8M J' #C D~*1*	7COD~*1*90H*BF-D	!GV, /15H0H*BFSQ	• 1*50HD*3XHA C	/0 5)R 1<GT0;|	RO)H =#687250088
T+/9/8_LI8=|E1DA	&& {XE0&E19*PD&+S	A8_PO&+|RO) PS5<X	S8XX05;|RO) PS5<X	T8&PD&+S&8UA *EDA	ED 0:087250089
T+/:*EDA EDA EDA	EDA EEA EIA EIA	EDA EDA EDA EDA	EDA EDA EDA EDA	EDA EDA EDA EDA	..... OE*87250090
T+/#P B C&HGDO	4 /,0-H B0AG3X	A. D~|0<X J*CAK0	AGXQGC D~J- +B	BB*ĒE+CYHF/--:BAK	@+--- NHX87250091
T+/&KFT<:BAZI+---	ĒNLYHPWD:PAZZ+---	~+LYHG34:BA*A+---	~JLYHG5X:BA'~+---	ĒSKOAG1YC. D~H<	X J&)T<87250092
T+/'(I-D< J'7	< J'1 < J'9	| J'1GI&S --4 /	7(6H~*LFD 1--	<QD |< <BGGE0	(J& 7H087250093
T.1'';J'1&-DF7L*	ayD+0QH~OTBES7D	| J'1GI&B - OH*	.....	.....	..... JBH87250094
T J'8	.....	.....	.....	.....	..... QL-87250095
TAA-	.....	.....	.....	.....	..... 6\$Y87250096
E***E7*=-DC*P&S	=*7H&P| | C	FX ASC R A SO Q	.....	.....	..... 1431052075G 7077504487250097



PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1064	C0 87 10A9	603	B	READ
1068	0C 5F 08DF 24F8	604	BVC	PR1BUF+95(96),PBUF+95
106E	35 02 2502	605	MSGZ	L
1072	BD 6C 00	606	CLI	0(,XR2),C'X'
1075	C0 81 0F71	607	BE	NEXT
1079	C0 87 021A	608	B	PRINT
107D	20	107D 609	SPCNI	DC
107E	C0 87 0F71	610	B	NEXT
		108L 611	ASTER	EQU *
1082	A8 01 02 01	612	MZN	2(,XR2),1(,XR2)
1086	7C 5C 00	613	AST1	MVI 0(,XR1),C'*
1089	D2 01 01	614	LA	1(,XR1),XR1
108C	8F 00 02 0A6B	615	SIC	2(1,XR2),ONK
1091	C0 01 1086	616	BNZ	AS11
1095	F2 87 0A	617	J	SP1
		618		
		1098 619	SPACE	EQU *
1098	A8 01 02 01	620	MZN	2(,XR2),1(,XR2)
109C	BC 00 01	621	MVI	1(,XR2),X'00'
109F	B6 01 02	622	A	2(,XR2),XR1
10A2	E2 02 03	623	SP1	LA 3(,XR2),XR2
10A5	C0 87 1040	624	B	MSGCK

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
626				*****
627	* READ *			1. HEADS DATA CARDS INTO PR1BUF *
628	*****			2. CHECK SEQUENCE OF DATA CARDS *
629	*			4. MOVES DATA CARD FROM PR1BUF TO CBUF *
630	*			5. RESETS CS1E *
631	*			6. PROVIDE A MESSAGE AND HALT TO USER IF DATA CARDS ARE *
632	*			NOT IN ORDER *
633	*			*
634				*****
10A9	34 08 1112	635	HEAD	EQU *
10AD	38 80 0EF5	636	ST	REXT0,ANR
10B1	F2 90 25	637	RS1	TBN SCNPLG,PPLG
		638	JF	MD1
		639	*	READ HEADER CARD
10B4	04 30 2498 239C	640	ZAZ	CRDNMB(4),DZLRO SET CNDNMB TO 0
10BA	3D C1 0232	641	CLI	X'232',X'C1' TEST FOR DISK DCP
10BE	F2 01 0A	642	JNE	RD2
10C1	C0 87 022A	643	B	LOAD
10C5	20	10C5 644	DC	XL1'20'
10C6	D0CF	10C7 645	DC	XL2'LOCF' POSITION DISK HEAD
10C8	F2 87 05	646	J	RD4
10CB	C0 87 022A	647	RD2	B
10CF	10	10CF 648	DC	XL1'10'
10D0	0D 03 08DF 2498	649	RD4	CLC PR1BUF+95(4),CRDNMB TEST FOR HEADER CARD
10D6	F2 01 05	650	JNE	RD3
		10D9 651	RD1	EQU *
10D9	C0 87 022A	652	B	LOAD
10DD	10	10DD 653	DC	XL1'10'
		10DE 654	RD3	EQU *
10DE	C0 87 021E	655	B	UNPACK
10E2	01	10E2 656	DC	XL1'01'
10E3	0A01	10E4 657	DC	AL2(PID)
10E5	115B	10E6 658	DC	AL2(LEVEL)
10E7	0D 00 08DB 115B	659	CLC	PR1BUF+91(1),LEVEL CHECK LEVEL OF OCF (DATA CARDS)
10ED	F2 01 58	660	JNE	MSLEV
10F0	06 30 2498 239D	661	AZ	CRDNMB(4),DONE
10F6	0D 03 2498 08DF	662	CLC	CRDNMB(4),PR1BUF+95
10FC	F2 01 14	663	JNE	UNORD
10FF	0C 5F 2498 08DF	664	MVC	CBUF+95(96),PR1BUF+95
1105	0C 01 2502 2391	665	MVC	CS1E,CBUF
110B	3B 80 0EF5	666	SBF	SCNPLG,PPLG
110F	C0 87 0000	667	B	*--*
		1112 668	REXT0	EQU *--1
1113	C0 87 021A	669	UNORD	B
1117	87	1117 670	DC	XL1'87'
1118	23	1118 671	DC	IL1'35'
1119	1147	111A 672	DC	AL2(RMSG)
111B	C0 87 0222	673	B	HALT
111F	00EC	1120 674	DC	XL2'00EC' DATA CARDS NOT IN ORDER
1121	C0 87 1113	675	B	UNORD
1125	C4C1E3C140C3C1D9	1147 676	RMSG	DC CL35'DATA CARDS NOT IN ORDER,RL-RUN ERAP'
112D	C4E240D5D6E340C9	676		
1135	D540D6D9C4C5D96B	676		
113D	D9C560D9E4D540C5	676		
1145	D9C1D7	676		
1146	C0 87 021A	677	MSLEV	B
114C	87	114C 678	DC	PRINT
114D	12	114D 679	DC	XL1'87'
114E	116C	114F 680	DC	IL1'18'
1150	C0 87 0222	681	DC	AL2(LVLMMSG)
1154	00EE	681	B	HALT
1156	C0 87 10AD	1155 682	DC	XL2'00EE'
115A	0000	683	B	RST
115C	60D7D9D6D7C5D940	115B 684	LEVEL	DC XL2'00'
1164	D3C5E5C5D340F0C3	116C 685	LVLMSG	DC CL17'-PROPER LEVEL OC:'
116C	C6	685		

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

687 *****
688 * PACK * PACKS DATA IN PBUF BACK INTO PBUF FROM LEFT TO RIGHT *
689 *****
690 *
691 *****
692
116D 34 08 1198 693 PACK ST PEXT@,ARR
1171 35 01 2395 694 L PBUF@,XR1
1175 35 02 2395 695 L PBUF@,XR2
1179 98 01 00 00 696 PCK1 MZM 0(,XR2),0(,XR1)
117D 98 03 00 01 697 MNN 0(,XR2),1(,XR1)
1181 D2 01 02 698 LA 2(,XR1),XR1
1184 E2 02 01 699 LA 1(,XR2),XR2
1187 34 01 2513 700 ST TEMP,XR1
118B 0D 01 2513 24PE 701 CLC TEMP,PEND@
1191 C0 82 1179 702 BL PCK1
1195 C0 87 0000 703 B *-
1198 704 PEXT@ EQU *-1
705
705
705
705
705
705
705
705
705
705
706 *****
707 * RSHIFT * SHIFTS A BYTE 2 BINARY PLACES TO THE RIGHT *
708 ***** END OPF *
709 *
710 *****
1199 711 RSHIFT EQU *
712 ST RSHFX@,ARR
713 LA DBUF,XR2
714 A CNTOPS,XR2
715 LA 6,XR1
716 RSHF1 ALC 0(1,XR2),0(,XR2)
717 JNOL RSHF2
718 SBN 0(,XR2),X'01'
719 RSHF2 A FFFF,XR1
720 BNZ RSHF1
721 SBP 0(,XR2),X'CO'
722 B *-
11C1 723 RSHFX@ EQU *-1

```

```

725 *****
726 * HEXDEC * CONVERTS A HEX # TO A PRINTABLE DECIMAL # IN PRTBUF *
727 ***** WITH LEADING ZEROS SUPPRESSED *
728 *
729 *
730 * LENGTH OF HEX # IS CONTAINED IN CNTLNG *
731 * LOCATION OF RIGHT BYTE POSITION OF THE HEX # IS *
732 * @ (DBUF)+CNTPOS+CNTLNG-1 *
733 * LOCATION OF PRINT POSITION (RIGHT MOST) IS *
734 * @ (PRTBUF-1) + TABIDL (TABIDIX) *
735 * ON EXIT *
736 * HEX # WILL BE ZERO *
737 * CNTOPS IS INCREASED BY (CNTLNG) *
738 * TABIDIX IS INCREASED BY 1 *
739 *****
11C2 739 HEXDEC EQU *
740 ST CVTXX@,ARR SAVE RETURN #
741 LA LENGIBL-1,XR2
742 A CNTLNG,XR2
743 MVC MVCL(1),0(,XR2) SET LRG OF DEC #
744 * SET LOOP COUNT (CNTLNG*8)
745
745 LA CVTCNT,XR1
746 MVC 0(2,XR1),CNTLNG
747 ALC 0(2,XR1),0(,XR1)
748 ALC 0(2,XR1),0(,XR1)
749 ALC 0(2,XR1),0(,XR1)
750 * SET LENGTH OF HEX # INSTR.
751 MVC TEMP,CNTLNG
752 SLC TEMP,ONE
753 MVC ALCL(1),TEMP
754 MVC CLCL(1),TEMP
755 * SET XR2 TO RGT POS OF HEX #
756 LA DBUF,XR2
757 A CNTOPS,XR2
758 A TEMP,XR2
759 ZAZ D@C,DZERO ZERO DEC #
760 *
1213 761 CLCL EQU **1
762 CLC 0(1,XR2),@ZERO TEST FOR ZERO
763 JE HEXD0
764 HEXD1 AZ DEC,DEC DOUBLE DEC #
1221 765 ALCL EQU **1
766 ALC 0(1,XR2),0(,XR2) SHIFTS HEX NUM
767 JNOL HEXD2 TEST FOR OVFLOW
768 AZ DEC,DONE ADD 1 TO DEC #
769 HEXD2 SLC CVTCNT,ONE TEST FOR END
770 HEXD1 BNZ HEXD1
771 HEXD5 ITC DEC-14(15),BLANK
772 IBN SCNPLG,2PLG
773 BF HEXD3
774 EVI DEC,C'0'
775 HEXD3 SBP SCNPLG,2PLG
776 * SET XR1 TO RIGHT POS OF PRINT POS.
777 B PRTPOS
778 EQU **1
1252 778 MVCL EQU **1
779 MVC 0(1,XR1),DEC MOVE DEC # TO PRTBUF
780 ALC CNTOPS,CNTLNG
781 J CVIX
782 HEXD0 SBN SCNPLG,2PLG
783 B HEXD5
1267 784 LENGIBL EQU * CNTLNG
1267 785 DC IL1'2' 1
1268 786 DC IL1'4' 2
1269 787 DC IL1'7' 3
126A 788 DC IL1'9' 4
126B 789 DC IL1'12' 5
126C 790 DC IL1'14' 6
126D 000000000000 1272 791 $ZERO DC XL6'00'
792

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FF72 DISK ERROR RECORDING ANALYSIS PROGRAM

FF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC OBJECT CODE ADDR SIMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR SIMT SOURCE STATEMENT

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878
879 *****
880 * DISKIO *          CALLING SEQUENCE
881 *                   B DISKIO
882 *                   DC XL1*AL*   XX=01 - READ
883 *                   XX=02 - WRITE
884 * DISKIO *          *READ OR WRITE A SECTION ON CYL 0 OF DRIVE THAT IS
885 *                   *CONTAINED IN DSKDEV, THE SECTION NUMBER IS CONTAINED
886 *                   *IN DSKSEC.
887 *                   *A FX (X=1-4) HALT WILL OCCUR IF DISK IS NOT READY OR ERROR*
888 *                   *OCCURS ON A READ OR WRITE. TEN REATYS ARE MADE BEFORE
889 *                   *A HALT IS GIVEN. A RESET HALT WILL REPLY THE FUNCTION.
890 *
891 *
892 *****
1333 C2 01 1333      1333 893 DISKIO EQU *
                        894 LA DISKIO, XR1
1337 74 08 16       1333 895 USING DISKIO, XR1
133A 75 02 16       896 ST DISKIO(, XR1), ARR STORE ARR ADDRESS INTO DISKIO *GC*
133D 6C 00 13 00    897 L DISKIO(, XR1), XR2 LOAD ARR VALUE INTO XR2 *GC*
1341 C0 87 13F3     898 MVC DSKFC1(1, XR1), 0(, XR2) MOVE (READ/WRITE) FUN N BITS *GC*
                        899 B DISK33 BRANCH TO 3340 SECTION FOR TEST *GC*
1345 F3 00 00       1340 900 DSKFC1 EQU **1
                        901 SIO2 SIO 0,0 READ OR WRITE DATA
1346 0000           1349 902 DISKIO DC AL2(**) SAVE CALLERS ARR VALUE
903
904 *****
905 * DISK FLAG IN SLEA
906 * BIT 0 = 0 HEAD 0 UPPER SURFACE
907 * = 1 HEAD 1 LOWER SURFACE
908 * BIT 1 = 6 NOT USED
909 * BIT 7 = 0 SELECT DIRECTION TOWARD DECREASING CYL *
910 * = 1 SELECT DIRECTION TOWARD INCREASING CYL *
911 * DISK FLAG FOR ALL OTHER OPERATIONS
912 * BIT 0 - 5 HOLD THE BINARY REPRESENTATION OF THE SECTOR
913 * ID NUMBER
914 * BIT 6 , 7 NOT USED ** MUST BE 00 **
915 *****
134A 0000           134B 916 STATUS DC XL2*0*
134C AB             134C 917 DSKDEV EQU *
134D 00             134D 918 DC XL1*AR* DA & M BIT FOR DISK
134E 00             134E 919 DSKPLG DC XL1*0* FLAG *****
134F 00             134E 920 DSKCYL DC XL1*0* CYLINDER * DISK CONTROL FIELD *
1350 00             134F 921 DSKSEC DC XL1*0* SECTOR *
1351 134D           1350 922 DSKNUM DC XL1*0* # TO MOVL *****
1353 2623           1351 923 DCR DC AL2(DSKPLG) DISK CONTROL ADDRESS REG FOR RD/WRT
1354 0000           1354 924 DBUP DC AL2(DBUF) START ADDRESS OF DATA BUFFER
1355 F2             1354 925 DAR EQU *-1
1356 F1             1355 926 *
1357 F4             1355 927 HLTBL EQU * HALT CODE VOLUME DEVICE ADDR.
1358 F3             1355 928 DC XL1*P2* 2 A0
1359 40C6C1D3E34060C6 135A 929 DC XL1*P1* 1 A6
1361 E76040E77EF160F4 932 1356 930 DC XL1*P4* 4 B0
1369 6B40E5D6D340E740 932 1357 931 DC XL1*P3* 3 B8
1371 C9E240D5D6E340D9 932 1358 932 DC CL50* HALT -FA- X=1-4, VOL X IS NOT READY OR ERROR ON V*
1379 C5C1C4E840D6D940 932
1387 C5D9D9D6D940D6D5 932
1389 40E5 932
138B D6D340E7 138E 933 DSKMSG LC CL04*OL X*
138E 934 MSG3B EQU *-1
138F 404060606040P3F3 13A2 935 MSG3 DC CL20* --- 3340 ---
1397 F4F0406060604040 935
139F 40404040 935
13A3 40404040P3F3P4F0 13A2 936 MSG4B EQU *-1
13CA 937 DC CL40* 3340 ERROR HISTORY AND OTHER ERROR D*

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CL40*ATA WILL BE PRINTED BY LATER ROUTINES.

DROP XR1

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJLCT CODE	ADDR	SMT	SOURCE STATEMENT
150E	4C 00 02 1414	1059	EX11	MVC IOBCEN-1(1,XR1),HEADWA MOVE RECORD COUNT TO IOB
1513	0C 00 16FD 1415	1060	MVC DDCP+2(1),IOBCEN-3	MOVE CYLINDER NUMBER
1519	0C 00 16FF 1416	1061	MVC DDCP+4(1),IOBCEN-2	MOVE HEAD NUMBER
151F	0C 00 1700 1417	1062	MVC DDCP+5(1),IOBCEN-1	MOVE RECORD NUMBER
		1063	*****	
		1064	* END OF 5444 TO 5340 SIMULATION CONVERSION ROUTINE *	
		1065	*****	
		1066		
		1067	MVC RDER1+1(1),DSKPCF	MOVE DISK FUNCTION READ/WRITE INTO SIO *GC*
1525	0C 00 157B 1346	1068	ALC RDWRT+1(1),DRV32	INSERT DRIVE NUMBER INTO SIO *GC*
152E	0E 00 157B 171B	1069	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*
1531	C1 CA 1531	1070	LIO LDCF,X*CE*	LOAD DDCH WITH ADDRESS OF DDCF *GC*
1535	31 CE 16F2	1071	LIO LDDP,X*CC*	LOAD DDDR WITH ADDRESS OF DDDP *GC*
1539	31 CC 16F4	1072	SIO 0,X*CB*	SEEK COMMAND PRIMARY TRACK *GC*
153D	F3 C8 00	1073	TIO *,X*CY*	SEEK BUSY (WAIT) *GC*
1540	C1 C9 1540	1074	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*
1544	C1 CA 1544	1075	TIO DKER9,X*CB*	NOT READY / UNIT CHECK AFTER SEEK CMD *GC*
1546	C1 C8 15C4	1076	MVC DDCZ(10),DDCFE	*GC*
154C	0C 09 171B 1704	1077	MVC DDCZ-1(2),DDZL	*GC*
1552	0C 01 1717 171A	1078	LIO LDCX,X*CE*	LOAD DDCH WITH ADDRESS OF DDCX (DDCF) *GC*
1556	31 CE 16F0	1079	LIO LDDP,X*CC*	LOAD DDDR WITH ADDRESS OF DDDP *GC*
155C	31 CC 16F4	1080	SIO X*01,X*CB*	RD HA & NO LEVEL COMMAND *GC*
1560	F3 C9 01	1081	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*
1563	C1 CA 1563	1082	TIO DKER2,X*CB*	NOT READY/UNIT CHECK ??? *GC*
1567	C1 C8 15E2	1083		
		1084	TBM DDDP,X*02*	CHECK FOR DEFECTIVE PRIMARY TRACK *GC*
156B	38 02 1705	1085	JT PRIDEF	JUMP TO ALTERNATE TRACK *GC*
156F	F2 10 1A	1086		
		1087	EQU *	*GC*
1572	31 CE 16F2	1088	LIO LDCF,X*CE*	LOAD DDCH WITH ADDRESS OF DDCF *GC*
1576	31 CC 16F8	1089	LIO LBUP,X*CC*	LOAD DDDR WITH ADDRESS OF DBUP *GC*
157A	F3 C9 00	1090	RWRT SIO 0,X*CB*	RD/WRT KEY DATA (C9/CA) *GC*
157D	C1 CA 157D	1091	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*
1581	C1 C8 158B	1092	TIO DKER4,X*CB*	NOT READY/UNIT CHECK *GC*
1585	35 02 1349	1093	L DISKX,XR2	SET-UP INZ FOR RETURN TO CALLER *GC*
1589	E0 87 01	1094	B 1(XR2)	RETURN TO CALLER *GC*
		1095		
		1096	EQU *	*GC*
158C	3C 01 1705	1097	MVI DDDP,X*01*	SET-UP FLAG BYTE FOR ALTERNATE *GC*
1590	3C 01 167B	1098	MVI DDCP,X*01*	SET-UP FLAG BYTE FOR ALTERNATE *GC*
1594	C1 CA 1594	1099	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*
1598	31 CE 16F4	1100	LIO LDDP,X*CC*	LOAD DDDR WITH ADDRESS OF DDDP *GC*
159C	F3 C8 00	1101	SIO 0,X*CB*	SEEK COMMAND ON ALTERNATE *GC*
159F	C1 C9 159F	1102	TIO *,X*CY*	SEEK BUSY ??? (WAIT) *GC*
15A3	C1 CA 15A3	1103	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*
15A7	C1 C8 15C4	1104	TIO DKER9,X*CB*	NOT READY / UNIT CHECK AFTER SEEK CMD *GC*
15AB	CU 87 1560	1105	B SIO33	GO TO RD HA & NO ALTERNATE *GC*
		1106		
		1107	JAMB J PRTR	* PRINT NOT READY / UNIT CHECK *GC*
15B2	0C 13 16A0 16B4	1108		
15B6	F2 87 18	1109	MVC PD31(20),PD35	* MOVE AFTER READ HA & NO *GC*
		1110	J PRTR	* NOT READY / UNIT CHECK *GC*
		1111		
15B5	0C 13 16A0 16C0	1112	MVC PD31(20),PD43	* MOVE AFTER READ RD/WRT CMD *GC*
15C1	F2 87 0F	1113	J PRTR	* NOT READY / UNIT CHECK *GC*
		1114		
		1115	MVC PD31(20),PD46	* MOVE AFTER SEEK COMMAND *GC*
15C4	0C 13 16A0 16DC	1116	J PRTR	* NOT READY / UNIT CHECK *GC*
15CA	F2 87 06	1117		
		1118		

ERR LOC	OBJLCT CODE	ADDR	SMT	SOURCE STATEMENT	
15CD	0C 13 16A0 16F0	1118	MVC PD31(20),PD48	* MOVE AFTER READ DIAG CMD *GC*	
		1119			
		1120	PRTR B PRINT	* PRINT WHAT UNIT *GC*	
15D3	C0 87 021A	15D7	1121	DC XL1*87*	* NOT READY / UNIT CHECK OCCURRED *GC*
15D7	87	15D8	1122	DC AL1(PD31-PD30)	* DRIVE *GC*
15D8	3A	15DA	1123	DC AL2(PD31)	* IS *GC*
15D9	16A0	1124	MVI PD31,X*40*	* PLACE " " *GC*	
15DB	3C 40 16A0	1125	MVC PD31-1(19),PD31	* BLANK PD31 WORK AREA *GC*	
15DF	0C 12 169F 16A0	1126	SMS STATUS,X*CD*	SMSK STATUS BYTES 0,1 *GC*	
15E5	30 CD 134B	1127	B UNPACK	* UNPACK *GC*	
15E9	CU 87 021E	15ED	1128	DC XL1*02*	* STATUS *GC*
15ED	02	15EF	1129	DC AL2(STATUS)	* BYTES *GC*
15EE	134B	15F1	1130	DC AL2(STATOT)	* 0,1 *GC*
15F0	1649	1131	B PRINT	* PRINT *GC*	
15F2	C0 87 021A	15F6	1132	DC XL1*82*	* STATUS *GC*
15F6	82	15F7	1133	DC AL1(STATOT-STATST)	* BYTES *GC*
15F7	1A	15F9	1134	DC AL2(STATOT)	* 0,1 *GC*
15F8	1649	1135	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*	
15FA	C1 CA 15FA	1136	LIO LSNS,X*CC*	LOAD DDDR WITH ADDRESS OF DSMS *GC*	
15FE	31 CC 16FA	1137	SIO 7,X*CB*	RD DIAG BYTES *GC*	
1602	F3 C9 07	1138	TIO *,X*CA*	ATTACHMENT BUSY (WAIT) *GC*	
1605	C1 CA 1605	1139	TIO DKER4,X*CB*	NOT READY / UNIT CHECK AFTER READ DIAG CMD *GC*	
1609	C1 C8 15CD	1140	B UNPACK	* UNPACK *GC*	
160D	C0 87 021E	1611	1141	DC IL1*24*	* READ DIAG *GC*
1611	1B	1613	1142	DC AL2(DSNSE)	* BYTES *GC*
1612	173F	1615	1143	DC AL2(PSNS)	* 0-23 *GC*
1614	176F	1616	1144	B PRINT	* PRINT HEADING FOR *GC*
1616	C0 87 021A	161A	1145	DC XL1*83*	* READ DIAG *GC*
161A	83	161B	1146	DC AL1(RDDGE-RDDGS)	* BYTES *GC*
161B	1D	161D	1147	DC AL2(RDDGE)	* 0-23 *GC*
161C	1665	1622	1148	B PRINT	* PRINT *GC*
161E	C0 87 021A	1622	1149	DC XL1*82*	* READ DIAG *GC*
1622	82	1623	1150	DC IL1*48*	* BYTES *GC*
1623	30	1625	1151	DC AL2(PSNS)	* 0-23 *GC*
1624	176F	1152	B HALT	*GC*	
1626	C0 87 0222	162B	1153	DC XL2*PFOP*	*GC*
162A	PFOP	1154	B LINK	*GC*	
162C	C0 87 0216	1155			
		1156	STATST EQU *-1	*GC*	
		1157	STATOT DC CL26*	STATUS BYTES 0,1 ARE XXIX* *GC*	
1630	40E2E3C1E3E4E240	1636	C2E8E3C5E240F06B		
1636	C2E8E3C5E240F06B	1640	F140C1D9C540E7E7		
1640	F140C1D9C540E7E7	1648	E7E7		
		1649	1158	RDDGS EQU *-1 *GC*	
164A	40D9C5C1C440C4C9	1666	1159	RDDGE DC CL29*	HEAD DIAG STATUS BYTES ARE * *GC*
1652	C1C740E2E3C1E3E4	1654	E240C2E8E3C5E240		
1654	E240C2E8E3C5E240	1662	C1D9C54040		
1662	C1D9C54040	1666	1160	PD30 EQU *-1 *GC*	
1667	40C4C9E2D240C4D9	1674	1161	DC CL14*	DISK DRIVE 2* *GC*
166F	C9E5C54040F2	1675	40D5D6E340D9C5C1		
1675	40D5D6E340D9C5C1	167D	C4E8406140E4D5C9		
167D	C4E8406140E4D5C9	1685	E340C3C8C5C3D240		
1685	E340C3C8C5C3D240	168D	4040404040404040		
168D	4040404040404040	1695	4040404040404040		
1695	4040404040404040	169D	40404040		
169D	40404040	16A1	40C1C6E3C5D940D9		
16A1	40C1C6E3C5D940D9	16A9	C5C1C440C8C14050		
16A9	C5C1C440C8C14050	16B1	40D9F04B		
16B1	40D9F04B	16B5	40C1C6E3C5D940D9		
16B5	40C1C6E3C5D940D9	16BD	C461E6D9E340C4C1		
16BD	C461E6D9E340C4C1	16C5	E3C1404B		
16C5	E3C1404B	16C9	40C1C6E3C5D940E2		
16C9	40C1C6E3C5D940E2	16D1	C5C5D240C3D6D4D4		
16D1	C5C5D240C3D6D4D4	16D9	C1D5C44B		
16D9	C1D5C44B	1166			

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
16DD 40C1C6E5C5D940D9 16F0 1167 PD48 DC CL20* AFTER READ DIAG CMD*
16E5 C5C1C440C4C9C1C7 1167
16ED 40C3D4C4 1167
1168
1168
16F1 16FB 16F2 1169 DDCP DC AL2 (DDCP) ADDRESS LEFT-MOST BYTE OF DDCP *GC*
16F3 1705 16F4 1170 DDDP DC AL2 (DDDP) ADDRESS LEFT-MOST BYTE OF DDDP *GC*
16F5 170F 16F6 1171 LDCX DC AL2 (LDCX) ADDRESS LEFT-MOST BYTE OF LDCX (DDCP) *GC*
16F7 2625 16F8 1172 LBUF DC AL2 (LBUF) ADDRESS LEFT-MOST BYTE OF LBUF *GC*
16F9 1728 16FA 1173 LSNS DC AL2 (LSNS) ADDRESS LEFT-MOST BYTE OF LSNS *GC*
1174 *****HEAD/WHITE KEY-DATA***** *GC*
1175 * DDCF * P * CC * HH * R * RL * DL * M * DISK DRIVE *GC*
1176 *****CONTROL FIELD***** *GC*
16FB 1177 DDCP EQU *
16FB 00 1178 DC XL1'00' FLAG R M *GC*
16FC 0000 16FD 1179 DC XL2'00' CYLINDER E H *GC*
16FE 0000 16FF 1180 DC XL2'00' HEAD ADDRESS A I *GC*
1700 00 1701 1181 DC XL1'00' RECORD D T *GC*
1701 00 1701 1182 DC XL1'00' KEY LENGTH E *GC*
1702 0000 1703 1183 DC XL2'00' DATA LENGTH CONTROL *GC*
1704 00 1704 1184 DC XL1'00' COUNT FILLD *GC*
1704 1185 DDCPE EQU *-1 *GC*
1186 *****READ HA & RO ***** *GC*
1705 0000000000000000 170E 1187 DDDP EQU * *GC*
170E 0000 170E 1188 DC XL1'00' * DISK DRIVE DATA FIELD FOR READ HA & RO *GC*
1189 ***** *GC*
170F 00 170F 1190 DDCX EQU * * DISK DRIVE *GC*
170F 0000 170F 1191 DC XL1'00' FLAG C *GC*
1710 0000 1711 1192 DC XL2'00' CYLINDER G *GC*
1712 0000 1713 1193 DC XL2'00' HEAD ADDRESS H P *GC*
1714 00 1714 1194 DC XL1'00' RECORD I I *GC*
1715 00 1715 1195 DC XL1'00' KEY LENGTH R L *GC*
1716 0000 1717 1196 DC XL2'00' DATA LENGTH O L *GC*
1718 00 1718 1197 DC XL1'00' COUNT L D *GC*
1718 1198 DDCZ EQU *-1 * FOR READ HA & RO *GC*
1719 0008 171A 1199 DDZL DC XL2'0008 * DATA LENGTH** FOR READ HA & RO *GC*
1200 ***** *GC*
171B C8 171B 1201 DRV32 DC XL1'08' * DISK DRIVE ADDRESS BITS DRIVE 2 *GC*
171C 0000000000000000 1725 1202 DDCPB DC XL1'0000000000000000 * INITIAL VALUE FOR DDCP *GC*
1724 0000 1202
1726 170A 1727 1203 AREC# DC AL2 (DDDP+5) * ADDRESS FOR ALTERNATE RECORD # USED. *GC*
1204 ***** *GC*
1205
1205
1205
1728 1206 DSNS EQU * *GC*
173F 1207 DSNS DS XL24 *GC*
1740 1208 PSNS DS XL48 *GC*
1209 ***** END OF DISK I/O FOR 3340 ***** *GC*

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT
1211 *****
1212 *
1213 * ROUTINE 3 - PRINT 3340 USAGE AND ERROR SUMMARY TABLE
1214 *
1215 *****
1216 *
1217 * ROUTINE PREFACE
1218 *
1770 03 1770 1219 $RTN3 DC XL1'03' ROUTINE NUMBER
1771 00 1771 1220 DC XL1'00' ROUTINE FLAGS
1772 1B0E 1773 1221 DC AL2 ($RTN4) ADDRESS OF NEXT ROUTINE
1222 *
1223 *
1224 *
1225 * ROUTINE INITIALIZATION
1226 *
MVI 1226 * $IND,0 RESET ALL PROGRAM INDICATORS
1774 3C 00 2188
1227 *
1778 C0 87 1D2D 1228 $M5 B $BEGIN PERFORM COMMON INITIALIZATIONS
1229 *
177C 0C 01 218C 21A9 1230 MVC $CYL(2), $P209 INITIALIZE 3340 CYLINDER ADDRESS
1782 0C 01 218E 21A6 1231 MVC $HD(2), $P1 INITIALIZE 3340 HEAD ADDRESS
1788 3C 00 218F 1232 MVI $PTR,0 INITIALIZE LOG RECORD POINTERS
1233 *
178C C0 87 1D15 1234 B $IO READ FIRST LOG RECORD FROM 3340
1235 *
1790 C2 01 2201 1236 LA $PBUP, $IR1 PRINT BUFFER ADDRESS TO INDEX REG 1
1237 *
1238 *
1239 *
1240 * PRINT SUMMARY TABLE TITLE AND INPUT DRIVE IDENTIFIERS
1241 *
MVC 1241 * 35(36, $IR1), $M04M BUILD
MVC 1242 * 57(22, $IR1), $M06M TITLE
MVC 1243 * 57(1, $IR1), $DRVID LINE
1244 *
17A5 C0 87 021A 1245 B $PRINT PRINT
17A7 42 17A7 1246 DC XL1'42' TITLE
17A8 3A 17A8 1247 DC XL1'58' LINE
17A9 223A 17AA 1248 DC AL2 ($PBUP+57)
17AB FF00 17AC 1249 DC AL2 ($L100)
1250 *
1251 *
1252 *
1253 * PRINT SUMMARY TABLE HEADING LINES
1254 *
MVI 1254 * 104(, $IR1), C*** BUILD FIRST
MVC 1255 * 103(104, $IR1), 104(, $IR1) LINE OF SUMMARY TABLE
1256 *
17B4 C0 87 021A 1257 B $PRINT PRINT FIRST
17B8 01 17B8 1258 DC XL1'01' LINE OF SUMMARY TABLE
17B9 69 17B9 1259 DC XL1'105'
17BA 2269 17BB 1260 DC AL2 ($PBUP+104)
1261 *
1262 *
MVI 1262 * 105(, $IR1), C*** CLEAR
MVC 1263 * 102(102, $IR1), 103(, $IR1) PRINT BUFFER
1264 *
1265 *
MVI 1265 * 6(, $IR1), C*** BUILD
MVI 1266 * 15(, $IR1), C*** SECOND
MVI 1267 * 24(, $IR1), C*** LINE OF
MVI 1268 * 50(, $IR1), C*** SUMMARY
MVI 1269 * 63(, $IR1), C*** TABLE
MVI 1270 * 82(, $IR1), C***
MVI 1271 * 92(, $IR1), C***
MVC 1272 * 21(5, $IR1), $M07M
MVC 1273 * 44(16, $IR1), $M06M
MVC 1274 * 53(4, $IR1), $M09+3
MVC 1275 * 74(4, $IR1), $M10M
MVC 1276 * 89(5, $IR1), $M11M
MVC 1277 * 100(5, $IR1), $M11M
1278 *

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
17F6	CO 87 021A		1279	B \$PRINT	PRINT SECOND
17FA	01	17FA	1280	DC XL1'01'	LINE OF SUMMARY TABLE
17FB	69	17FB	1281	DC IL1'105'	
17FC	2269	17FD	1282	DC AL2(\$PBUF+104)	
			1283 *		
17FE	4C 02 04 2114		1284	MVC 4(3,\$XR1), \$E12N	BUILD
1803	4C 05 04 211A		1285	MVC 13(6,\$XR1), \$E13N	THIRD
1808	4C 05 16 2120		1286	MVC 22(6,\$XR1), \$E14N	LINE OF
180D	4C 16 30 2137		1287	MVC 48(23,\$XR1), \$E15N	SUMMARY
1812	4C 05 3B 2103		1288	MVC 59(6,\$XR1), \$E08N	TABLE
1817	4C 05 4B 2103		1289	MVC 75(6,\$XR1), \$E08N	
181C	4C 04 59 2108		1290	MVC 89(5,\$XR1), \$E09N	
1821	4C 06 66 2140		1291	MVC 102(9,\$XR1), \$E16N	
			1292 *		
1826	CO 87 021A		1293	B \$PRINT	PRINT THIRD
182A	01	182A	1294	DC XL1'01'	LINE OF SUMMARY TABLE
182B	69	182B	1295	DC IL1'105'	
182C	2269	182D	1296	DC AL2(\$PBUF+104)	
			1297 *		
182E	5C 02 04 05		1298	MVC 4(3,\$XR1), \$E(,\$XR1)	BUILD
1832	5C 05 04 0E		1299	MVC 13(6,\$XR1), \$E(,\$XR1)	FOURTH
1836	4C 05 16 2146		1300	MVC 22(6,\$XR1), \$E17N	LINE OF
183B	4C 09 23 2156		1301	MVC 35(10,\$XR1), \$E18N	SUMMARY
1840	4C 09 30 2156		1302	MVC 48(10,\$XR1), \$E18N	TABLE
1845	4C 09 3B 2156		1303	MVC 61(10,\$XR1), \$E18N	
184A	4C 0F 50 2156		1304	MVC 86(16,\$XR1), \$E18N	
184F	4C 06 5A 215D		1305	MVC 90(7,\$XR1), \$E19N	
1854	5C 06 66 67		1306	MVC 102(9,\$XR1), \$E(,\$XR1)	
1858	4C 03 63 2161		1307	MVC 99(4,\$XR1), \$E20N	
			1308 *		
185D	CO 87 021A		1309	B \$PRINT	PRINT FOURTH
1861	01	1861	1310	DC XL1'01'	LINE OF SUMMARY TABLE
1862	69	1862	1311	DC IL1'105'	
1863	2269	1864	1312	DC AL2(\$PBUF+104)	
			1313 *		
1865	5C 06 07 08		1314	MVC 103(103,\$XR1), \$E(,\$XR1)	BUILD LAST HEADING LINE
			1315 *		
1869	CO 87 021A		1316	B \$PRINT	PRINT LAST LINE
186D	01	186D	1317	DC XL1'01'	OF SUMMARY TABLE HEADING
186E	69	186E	1318	DC IL1'105'	
186F	2269	1870	1319	DC AL2(\$PBUF+104)	
			1320 *		
1871	3C P1 2193		1321	MVI \$DRV,C'1'	INITIALIZE DRIVE IDENTIFIER
			1322 *		
			1323 *		
			1324 *		PRINT SUMMARY TABLE SPACE LINES
			1325 *		
1875	7C 40 67		1326	MVI 103(,\$XR1), C' '	CLEAR
1878	5C 05 06 07		1327	MVC 102(102,\$XR1), \$E(,\$XR1)	PRINT BUFFER
			1328 *		
187C	7C 5C 06		1329	MVI 6(,\$XR1), C'*	POSITION
187F	7C 5C 0F		1330	MVI 15(,\$XR1), C'*	ASTERISKS
1882	7C 5C 18		1331	MVI 24(,\$XR1), C'*	IN PRINT
1885	7C 5C 25		1332	MVI 37(,\$XR1), C'*	BUFFER
1888	7C 5C 32		1333	MVI 50(,\$XR1), C'*	
188B	7C 5C 3F		1334	MVI 63(,\$XR1), C'*	
188E	7C 5C 52		1335	MVI 82(,\$XR1), C'*	
1891	7C 5C 5C		1336	MVI 92(,\$XR1), C'*	
			1337 *		
1894	CO 87 021A		1338	B \$PRINT	PRINT SPACE LINE
1898	01	1898	1339	DC XL1'01'	
1899	69	1899	1340	DC IL1'105'	
189A	2269	189B	1341	DC AL2(\$PBUF+104)	
			1342 *		
			1343 *		
			1344 *		BEGIN / END SUMMARY PRINTOUTS
			1345 *		
189C	4C 00 03 2193		1346	MVC 3(1,\$XR1), \$DRV	MOVE DRIVE ID TO PRINT BUFFER

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT	
18A1	3D P2 2193		1347 *		
18A5	P2 04 10		1348	CLI \$DRV,C'2'	CONTINUE PRINTOUT IF DRIVE 4
			1349	JNH \$R5B	SUMMARY HAS NOT YET BEEN PRINTED
			1350 *		
18A8	5C 06 07 08		1351	MVC 103(103,\$XR1), \$E(,\$XR1)	BUILD LAST LINE OF SUMMARY ISL
			1352 *		
18AC	CO 87 021A		1353	B \$PRINT	PRINT LAST LINE
18B0	06	18B0	1354	DC XL1'06'	OF SUMMARY TABLE
18B1	69	18B1	1355	DC IL1'105'	
18B2	2269	18B3	1356	DC AL2(\$PBUF+104)	
			1357 *		
18B4	CO 87 1778		1358	B \$R5	GO CHECK FOR MORE INPUT DRIVES
			1359 *		
			1360 *		LOCATE AN UNUSED LOG ENTRY FIELD
			1361 *		
			1362 *		
18B8	3C 00 218F		1363	MVI \$R5B	POINT TO FIRST LOG ENTRY FIELD
			1364 *		
18BC	CO 87 1DD5		1365	B \$I0	READ LOG ENTRY
			1366 *		
18C0	3D 00 21C1		1367	CLI \$REC,0	BRANCH IF
18C4	P2 81 12		1368	JE \$R5C	ENTRY IS UNUSED
			1369 *		
18C7	0E 00 218F 21A6		1370	ALC \$PTR(1), \$P1	ADVANCE LOG ENTRY POINTER
			1371 *		
18CD	3D BF 218F		1372	CLI \$PTR,191	BRANCH IF NOT
18D1	CO 82 185C		1373	BL \$R5B1	YET END OF LOG AREA
			1374 *		
18D5	3C 00 218F		1375	MVI \$PTR,0	ASSUME LOG AREA IS FULL
			1376 *		
			1377 *		LOCATE OLDEST LOG ENTRY
			1378 *		
			1379 *		
18D9	3C 00 2198		1380	MVI \$R5C	INITIALIZE LOG ENTRY COUNTER
			1381 *		
18DD	CO 87 1DD5		1382	B \$R5C1	READ LOG ENTRY
			1383 *		
18E1	3D 00 21C1		1384	CLI \$REC,0	BRANCH IF
18E5	P2 01 30		1385	JNE \$R5C3	ENTRY IS USED
			1386 *		
18E8	0E 00 218F 21A6		1387	ALC \$PTR(1), \$P1	ADVANCE LOG ENTRY POINTER
18EE	0E 00 2198 21A6		1388	ALC \$CTR(1), \$P1	ADVANCE LOG ENTRY COUNTER
			1389 *		
18F4	3D BF 218F		1390	CLI \$PTR,191	BRANCH IF NOT
18F8	P2 82 04		1391	JL \$R5C2	YET END OF LOG AREA
			1392 *		
18FB	3C 00 218F		1393	MVI \$PTR,0	WRAP BACK TO FIRST LOG ENTRY
			1394 *		
18FF	3D BF 2198		1395	CLI \$CTR,191	GO TO CHECK NEXT LOG IF ALL
1903	CO 82 18DD		1396	BL \$R5C1	ENTRIES HAVE NOT YET BEEN CHECKED
			1397 *		
1907	4C 05 0D 2167		1398	MVC 13(6,\$XR1), \$E21N	BUILD 'NO LOG' MESSAGE
			1399 *		
190C	CO 87 021A		1400	B \$PRINT	PRINT 'NO LOG'
1910	01	1910	1401	DC XL1'01'	MESSAGE IN TABLE
1911	69	1911	1402	DC IL1'105'	
1912	2269	1913	1403	DC AL2(\$PBUF+104)	
			1404 *		
1914	CO 87 1AF4		1405	B \$R5B	GO TO PROCESS DATA FOR NEXT DRIVE
			1406 *		
1918	0C 00 2194 218F		1407	MVC \$R5C3	SAVE POINTER TO OLDEST LOG ENTRY
			1408 *		
			1409 *		
			1410 *		CHECK FOR NEW VOLUME IDENTIFIER
			1411 *		
191E	0C 00 2195 218F		1412	MVC \$R5D	SAVE CURRENT LOG ENTRY POINTER
			1413 *		
1924	4C 05 0D 21C6		1414	MVC 13(6,\$XR1), \$R5C5	MOVE VOLUME ID TO PRINT BUFFER

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ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT
1929	OC 00	218F	2194	1415 *	
				1416	MVC \$PTR(1), \$PTRF POINT TO OLDEST LOG ENTRY
192F	OD 00	218F	2195	1417 *	
1935	F2 81	23		1418	MVC \$B5D1 CLC \$PTR(1), \$PTRX BRANCH IF
				1419	JL \$R5E2 NEW VOLUME ID
1936	CO 67	1DD5		1420 *	
				1421	B \$IO READ LOG ENTRY
193C	4D 05	0D	21C6	1422 *	
1941	CO 81	1ABB		1423	CLC 13(6, \$XR1), \$R2C+5 BRANCH IF VOLUME
				1424	BE \$R5F WAS PREVIOUSLY PROCESSED
1945	OL 00	218F	21A6	1425 *	
				1426	ALC \$PTR(1), \$P1 ADVANCE LOG ENTRY POINTER
194B	3D BF	218F		1427 *	
194F	CO 82	192F		1428	CLI \$PTR, 191 BRANCH IF NOT
				1429	BL \$R5D1 YET END OF LOG AREA
1953	3C 00	218F		1430 *	
1957	CO 87	192F		1431	MVI \$PTR, 0 WRAP BACK TO FIRST LOG ENTRY
				1432	B \$R5D1 GO TO CHECK NEXT LOG ENTRY
				1433 *	
				1434 *	
				1435 *	-----
				1436 *	COMPILE AND PRINT SUMMARY DATA LINE
195B	7C F0	64		1437	\$R5L MVI 100(, \$XR1), C'0' INITIALIZE
195E	5C 03	63	64	1438	MVC 99(4, \$XR1), 100(, \$XR1) ALL SUMMARY
1962	5C 04	59	64	1439	MVC 89(5, \$XR1), 100(, \$XR1) LINE SUMMERS
1966	5C 03	50	64	1440	MVC 60(4, \$XR1), 100(, \$XR1) TO ZERO
196A	5C 03	4A	50	1441	MVC 74(4, \$XR1), 60(, \$XR1)
196E	5C 03	44	50	1442	MVC 68(4, \$XR1), 60(, \$XR1)
1972	5C 09	3D	50	1443	MVC 61(10, \$XR1), 60(, \$XR1)
1976	5C 16	30	4A	1444	MVC 46(23, \$XR1), 74(, \$XR1)
197A	5C 03	15	50	1445	MVC 21(4, \$XR1), 60(, \$XR1)
				1446 *	
197E	CO 87	1DD5		1447	B \$IO READ LOG ENTRY
1982	3C 00	219E		1448	MVI \$RDCNT, 0 CLEAR
1986	OC 04	219D	219E	1449	MVC \$RDCNT-1(5), \$RDCN1 HEAD AND SEEK
198C	OC 03	21A2	219E	1450	MVC \$SKCNT(4), \$RDCNT USAGE COUNTERS
				1451 *	
1992	OE 05	219E	21CC	1452	\$R5E1 ALC \$RDCNT(6), \$R2C+11 UPDATE READ AND
1998	OE 03	21A2	21D0	1453	ALC \$SKCNT(4), \$R2C+15 SEEK USAGE COUNTERS
				1454 *	
199E	3B 0F	21D8		1455	SBF \$R2C+23, X'0F' CLEAR MSG BITS IN SNS BYTE 7
				1456 *	
19A2	D2 02	15		1457	LA 21(, \$XR1), \$XR2 POINT TO 'PHY 0' COUNTER
				1458 *	
19A5	3D 10	21D8		1459	CLI \$R2C+23, X'10' CHECK LOGGED SENSE BYTE 7
19A9	F2 82	37		1460	JL \$R5E4 BRANCH IF SNS FORMAT 0
19AC	F2 84	10		1461	JH \$R5E2 BRANCH IF NOT SNS FORMAT 1
				1462 *	
19AF	D2 02	2A		1463	LA 42(, \$XR1), \$XR2 POINT TO 'EQUIP CK' COUNTER
				1464 *	
19B2	3B 01	21D1		1465	TBN \$R2C+16, \$BIT7 BRANCH IF NOT
19B6	F2 90	20		1466	JF \$R5E3 SEEK CHECK
				1467 *	
19B9	D2 02	37		1468	LA 55(, \$XR1), \$XR2 POINT TO 'SEEK CK' COUNTER
19BC	F2 87	1A		1469	J \$R5E3 GO TO INCREMENT COUNTER
				1470 *	
19BF	D2 02	44		1471	\$R5E2 LA 66(, \$XR1), \$XR2 POINT TO 'CORR DATA CK' COUNTER
				1472 *	
19C2	3D 50	21D8		1473	CLI \$R2C+23, X'50' CHECK LOGGED SENSE BYTE 7
19C6	F2 81	1A		1474	JE \$R5E4 BRANCH IF SNS FORMAT 5
19C9	F2 84	1C		1475	JH \$R5E5 BRANCH IF SNS FORMAT 6
				1476 *	
19CC	D2 02	1D		1477	LA 29(, \$XR1), \$XR2 POINT TO 'EQUIP CK' COUNTER
				1478 *	
19CF	3D 40	21D8		1479	CLI \$R2C+23, X'40' CHECK LOGGED SNS BYTE 7
19D3	F2 01	03		1480	JHE \$R5E3 BRANCH IF NOT SNS FORMAT 4
				1481 *	
19D6	D2 02	4A		1482	LA 74(, \$XR1), \$XR2 POINT TO 'DATA CK' COUNTER

ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE	STATEMENT
19D9	3B 80	21D2		1483 *	
19DD	F2 90	03		1484	\$R5E3 TBN \$R2C+17, \$BIT0 CHECKED LOGGED SNS BYTE 1
				1485	JF \$R5E4 BRANCH IF NOT PERMANENT ERROR
				1486 *	
19E0	E2 02	06		1487	LA 6(, \$XR2), \$XR2 ADVANCE POINTER TO 'PERM' COUNTER
				1488 *	
19E3	86 30	00	21AD	1489	\$R5E4 AZ 0(4, \$XR2), \$D1(1) INCREMENT ERROR COUNTER
				1490 *	
19E8	OE 00	218F	21A6	1491	\$R5E5 ALC \$PTR(1), \$P1 ADVANCE LOG ENTRY POINTER
				1492 *	
19EE	3D BF	218F		1493	CLI \$PTR, 191 BRANCH IF NOT
19F2	F2 82	04		1494	JL \$R5E6 YET END OF LOG AREA
				1495 *	
19F5	3C 00	218F		1496	MVI \$PTR, 0 WRAP BACK TO FIRST LOG ENTRY
				1497 *	
19F9	OD 00	218F	2194	1498	\$R5E6 CLC \$PTR(1), \$PTRF BRANCH IF ALL LOG
19FF	F2 81	19		1499	JL \$R5E7 ENTRIES HAVE BEEN CHECKED
				1500 *	
1A02	CO 87	1DD5		1501	B \$IO READ NEXT LOG ENTRY
				1502 *	
1A06	3D 00	21C1		1503	CLI \$R2C, 0 BRANCH IF
1A0A	CO 81	19E8		1504	BE \$R5E5 UNUSED ENTRY
				1505 *	
1A0E	4D 05	0D	21C6	1506	CLC 13(6, \$XR1), \$R2C+5 BRANCH IF ENTRY CONTAINS
1A13	CO 01	19E8		1507	BNE \$R5E5 A DIFFERENT VOLUME ID
				1508 *	
1A17	CO 87	1992		1509	B \$R5E1 GO TO UPDATE SUMMARY COUNTERS
				1510 *	
				1A1B	1511 \$R5E7 EQU * SETUP TABLE FOR OUTPUT
1A1B	3C 0F	2428		1512	MVI TABIBL, 15
1A1F	OC 01	23B8	23A1	1513	MVC TABLDX(2), ZERO
1A25	3C 04	23B9		1514	MVI CNTLNG, X'04'
1A29	OC 01	23B7	23A1	1515	MVC CNTOFS(2), ZERO
1A2F	34 01	1A0A		1516	SI \$\$AVR1+3, XR1 SAVE XR1
1A33	34 02	1A0E		1517	SI \$\$AVR2+3, XR2 SAVE XR2
1A37	OC 03	2626	21A2	1518	MVC D0UP*3(4), \$SKCNT PUT SEEK COUNT INTO BUFFER
1A3D	CO 87	11C2		1519	B HEADC FOR THE HEX TO DEC SUBROUTINE
1A41	OC 04	1B08	088B	1520	MVC SAVSEK(5), PRIBUP+11 DIVIDE SEEK COUNT BY 1000
				1521	
1A47	3C 06	23B9		1522	MVI CNTLNG, X'06'
1A4B	OC 01	23B8	23A1	1523	MVC TABLDX(2), ZERO
1A51	OC 01	23B7	23A1	1524	MVC CNTOFS(2), ZERO
1A57	OC 05	2628	219E	1525	MVC D0UP+5(6), \$RDCNT HEAD COUNT IS NOW CONVERTED TO DEC
1A5D	CO 87	11C2		1526	B HEADC
1A61	OC 04	1B0D	088B	1527	MVC SAVRD(5), PRIBUP+8 DIVIDE READ COUNT BY 1000000
				1528	
1A67	C2 01	0000		1529	\$SAVE1 LA *-*, XR1 RESTORE XR1
1A6B	C2 02	0000		1530	\$SAVE2 LA *-*, XR2 RESTORE XR2
1A6F	4C 04	59	1B0B	1531	MVC 89(5, XR1), SAVSEK PUT THE SEEK COUNT IN MSG BUFFER
1A74	4C 04	64	1B0D	1532	MVC 100(5, XR1), SAVRD PUT THE READ COUNT IN MSG BUFFER
1A79	7D 40	59		1533	CLI 69(, XR1), X'40' IF THERE IS A BLANK
1A7C	F2 01	03		1534	JNE *+0 IN THE SEEK COUNT,
1A7F	7C F0	59		1535	MVI 89(, XR1), X'F0' PUT A ZERO THERE
				1536 *	
1A82	7D 40	64		1537	CLI 100(, XR1), X'40' CHECK THE HEAD FIELD FOR BLANKS ALSO
1A85	F2 01	03		1538	JNE *+6
1A88	7C F0	64		1539	MVI 100(, XR1), X'F0'
				1540 *	
				1541 *	
				1542 *	
				1543 *	NOTE THAT THE FIRST 15 LOCATIONS OF PRIBUP FIELD CONTAIN DECIMAL
				1544 *	VALUE FOR THE SEEK COUNT AND THEN IT WILL CONTAIN THE READ
				1545 *	VALUE--THUS THE MVC INSTRUCTIONS MAY BE USED FOR THE DIVIDE.
				1546 *	
				1547 *	
1A8B	CO 87	1AB3		1548	B \$R5E9 SKIP THIS FOR DEBUG
1A8F	OF 03	21A2	21B2	1549	SLC \$SKCNT(4), \$KILO CONVERT SEEK
1A95	F2 82	09		1550	JH \$R5E8 USAGE COUNT TO

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1A98	46 40 59 21AD	1551	AZ	89(5,3X1),3D1(1)	DECIMAL AND MOVE
1A9L	CO 87 1A1B	1552	B	3R5E7	TO PRINT BUFFER
1AA1	0F 05 219E 21B8	1554	SLC	3R5LE8	CONVERT READ
1AA7	F2 82 09	1555	JM	3R5E9	USAGE COUNT TO
1AAA	46 40 64 21AD	1556	AZ	100(5,3X1),3D1(1)	DECIMAL AND MOVE
1AAF	CO 67 1AA1	1557	B	3R5E8	TO PRINT BUFFER
1AB3	CO 87 021A	1559	B	3R5E9	PRINT
1AB7	01	1AB7	DC	XL1'01'	SUMMARY LINE
1AB8	69	1AB8	DC	IL1'105'	
1AB9	2269	1ABA	DC	ALZ(3R5UF+104)	
1563	*				
1564	*				
1565	*				SEARCH FOR NEXT VOLUME ID TO BE PROCESSED
1566	*				
1AB5	0C 00 218F 2195	1567	MVC	3R5F	RESTORE LOG ENTRY POINTER
1AC1	0E 00 218F 21A6	1569	ALC	3R5F1	ADVANCE LOG ENTRY POINTER
1AC7	3D BF 218F	1571	CLI	3R5R,191	BRANCH IF NOT
1ACB	F2 82 04	1572	JL	3R5P2	YES END OF LOG AREA
1ACE	3C 06 218F	1574	EVI	3R5R,0	WRAP BACK TO FIRST LOG ENTRY
1AD2	0D 00 218F 2194	1576	CLC	3R5P2	BRANCH IF ALL LOG
1AD6	F2 81 19	1577	JE	3R5M	ENTRIES HAVE BEEN CHECKED
1AD6	CO 87 1DD5	1579	B	3I0	LOAD NEXT LOG ENTRY
1ADP	3D 00 21C1	1581	CLI	3REC,0	BRANCH IF
1AE3	CO 81 1AC1	1582	BE	3R5F1	UNUSED ENTRY
1AE7	4D 05 0D 21C6	1584	CLC	13(6,3X1),3REC+5	BRANCH IF ENTRY
1AEC	CO 81 1AC1	1585	BE	3R5F1	CONTAINS SAME VOLUME ID
1AF0	CO 87 191E	1587	B	3R5D	GO TO CHECK IF NEW VOLUME ID
1589	*				
1590	*				PREPARE TO PRINT SUMMARY FOR NEXT DRIVE ID
1591	*				
1AF4	0E 00 218E 21A6	1592	ALC	3R5M	ADVANCE HEAD ADDRESS
1AFP	06 00 2193 21AD	1593	AZ	3DRV(1),3D1(1)	ADVANCE DRIVE IDENTIFIER
1B00	CO 87 1875	1595	B	3R5A	GO TO COMPLETE SUMMARY TABLE
1B04	0000000000	1B06	DC	XL5'00'	
1B09	0000000000	1B0D	DC	XL5'00'	

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1600	*				ROUTINE 4 - PRINT 3340 ERROR HISTORY TABLE
1601	*				
1602	*				
1603	*				
1604	*				
1605	*				
1606	*				ROUTINE PREFACE
1607	*				
1B0E	04	1B0E	DC	3R5IN4	MODLINE NUMBER
1B0F	00	1B0F	DC	XL1'00'	ROUTINE FLAGS
1B10	FFFF	1B11	DC	XL2'FFFF'	LAST ROUTINE
1611	*				
1612	*				
1613	*				ROUTINE INITIALIZATION
1614	*				
1615	*				
1B12	3C 00 2188	1615	MVI	3IND,0	RESET ALL PROGRAM INDICATORS
1B16	CO 87 1D2D	1617	B	3R5G	PERFORM COMMON INITIALIZATION
1618	*				
1619	*				
1E1A	0C 01 218C 21A9	1619	MVC	3CYL(2),3P209	INITIALIZE 3340 CYLINDER ADDRESS
1B20	0C 01 218E 21A6	1620	MVC	3HD(2),3P1	INITIALIZE 3340 HEAD ADDRESS
1B26	3C 00 218F	1621	MVI	3PTR,0	INITIALIZE LOG RECORD POINTER
1622	*				
1623	*				
1B2A	CO 87 1DD5	1623	B	3I0	HEAD FIRST LOG RECORD FROM 3340
1624	*				
1625	*				
1B2E	C2 01 2201	1625	LA	3R5UF,3R5I	PRINT BUFFER ADDRESS TO INDEX REG 1
1626	*				
1627	*				
1628	*				PRINT HISTORY TABLE TITLE AND INPUT DRIVE IDENTIFIER
1629	*				
1630	*				
1B32	4C 15 15 20D8	1630	MVC	21(22,3X1),3R505M	BUILD
1B37	4C 15 2B 20E	1631	MVC	43(22,3X1),3R506M	TITLE
1B3C	4C 00 2B 2189	1632	MVC	45(1,3X1),3R5VID	LINE
1633	*				
1634	*				
1B41	CO 87 021A	1634	B	3PRINT	PRINT
1B45	42	1B45	DC	XL1'42'	TITLE
1B46	2C	1B46	DC	IL1'44'	LINE
1B47	222C	1B48	DC	AL2(3R5UF+43)	
1B49	FF00	1B4A	DC	AL2(3R5UF)	
1639	*				
1640	*				
1641	*				PRINT HISTORY TABLE HEADING LINES
1642	*				
1643	*				
1B45	7C 5C 5D	1643	MVI	93(3,3X1),C'''	BUILD FIRST
1B4E	5C 5C 5C 5D	1644	MVC	92(93,3X1),93(3,3X1)	LINE OF HISTORY TABLE
1645	*				
1646	*				
1B52	CO 87 021A	1646	B	3PRINT	PRINT FIRST
1B56	01	1B56	DC	XL1'01'	LINE OF HISTORY TABLE
1B57	5E	1B57	DC	IL1'94'	
1B58	225E	1B59	DC	AL2(3R5UF+93)	
1650	*				
1651	*				
1B5A	7C 40 5C	1651	EVI	92(3,3X1),C''	CLEAR
1B5D	5C 5A 5B 5C	1652	MVC	91(91,3X1),92(3,3X1)	PRINT BUFFER
1653	*				
1654	*				
1B61	7C 5C 06	1654	MVI	6(3,3X1),C'''	BUILD
1B64	7C 5C 0F	1655	MVI	15(3,3X1),C'''	SECOND
1B67	7C 5C 1A	1656	MVI	26(3,3X1),C'''	LINE OF
1B6A	7C 5C 25	1657	MVI	37(3,3X1),C'''	HISTORY TABLE
1658	*				
1659	*				
1B6D	CO 87 021A	1659	B	3PRINT	PRINT SECOND
1B71	01	1B71	DC	XL1'01'	LINE OF HISTORY TABLE
1B72	5E	1B72	DC	IL1'94'	
1B73	225E	1B74	DC	AL2(3R5UF+93)	
1663	*				
1664	*				
1B75	4C 02 04 2114	1664	MVC	4(3,3X1),3R52M	BUILD
1B7A	4C 05 0D 211A	1665	MVC	13(6,3X1),3R53M	THIRD
1B7F	4C 03 16 216B	1666	MVC	22(4,3X1),3R522M	LINE OF
1B84	4C 03 21 216F	1667	MVC	33(4,3X1),3R523M	HISTORY

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1B89	4C 1A 4E 2069	1668	MVC	78(27,1XN1),2N02N TABLE
1B8E	CO 87 021A	1669 *		
1B92	01	1670	B	\$PRINT PRINT THIRD
1B93	5E	1671	DC	XL1'01' LINE OF HISTORY TABLE
1B94	225E	1672	DC	IL1'94'
		1673	DC	AL2(\$PBUF+93)
		1674 *		
1B96	5C 02 04 05	1675	MVC	4(5,1XN1),5(,1XN1) BUILD
1B9A	5C 05 0D 0E	1676	MVC	13(6,1XN1),14(,1XN1) FORTH
1B9E	4C 07 13 217F	1677	MVC	24(8,1XN1),2225E LINE OF
1BA3	4C 07 23 2187	1678	MVC	35(8,1XN1),2220N HISTORY
1BA8	4C 34 5B 209E	1679	MVC	91(53,1XN1),2203N TABLE
		1680 *		
1BA4	CO 87 021A	1681	B	\$PRINT PRINT FORTH
1BB1	01	1682	DC	XL1'01' LINE OF HISTORY TABLE
1BB2	5E	1683	DC	IL1'94'
1BB3	225E	1684	DC	AL2(\$PBUF+93)
		1685 *		
1BB5	5C 5B 5C 5D	1686	MVC	92(92,1XN1),93(,1XN1) BUILD LAST HEADING LINE
		1687 *		
1BB9	CO 87 021A	1688	B	\$PRINT PRINT LAST LINE
1BBD	01	1689	DC	XL1'01' OF HISTORY TABLE HEADING
1BBE	5E	1690	DC	IL1'94'
1BBF	225E	1691	DC	AL2(\$PBUF+93)
		1692 *		
1BC1	3C F1 2193	1693	MVI	\$DRV,C'1' INITIALIZE DRIVE IDENTIFIER
		1694 *		
		1695 *		
		1696 *		PRINT HISTORY TABLE SPACE LINES
		1697 *		
1BC5	7C 40 5C	1698	MVI	92(,1XN1),C' ' CLEAR
1BC6	5C 5A 5B 5C	1699	MVC	91(91,1XN1),92(,1XN1) PRINT BUFFER
		1700 *		
1BC8	7C 5C 06	1701	MVI	6(,1XN1),C'**' POSITION
1BCF	7C 5C 0F	1702	MVI	15(,1XN1),C'**' ASTERISKS
1BD2	7C 5C 1A	1703	MVI	26(,1XN1),C'**' IN PRINT
1BD5	7C 5C 25	1704	MVI	37(,1XN1),C'**' BUFFER
		1705 *		
1BD6	CO 87 021A	1706	B	\$PRINT PRINT SPACE LINE
1BDC	01	1707	DC	XL1'01'
1BDD	5E	1708	DC	IL1'94'
1BDE	225E	1709	DC	AL2(\$PBUF+93)
		1710 *		
		1711 *		
		1712 *		BEGIN / END HISTORY PRINTOUTS
		1713 *		
1BE0	4C 00 03 2193	1714	MVC	3(1,1XN1),1DRV MOVE DRIVE ID TO PRINT BUFFER
		1715 *		
1BE5	3D F2 2193	1716	CLI	\$DRV,C'2' CONTINUE PRINTOUT IF DRIVE 4
1BE9	F2 04 10	1717	JNE	\$ROB HISTORY HAS NOT YET BEEN PRINTED
		1718 *		
1BEC	5C 5B 5C 5D	1719	MVC	92(92,1XN1),93(,1XN1) BUILD LAST LINE OF HISTORY TABLE
		1720 *		
1BF0	CO 87 021A	1721	B	\$PRINT PRINT LAST LINE
1BF4	06	1722	DC	XL1'06' OF HISTORY TABLE
1BF5	5E	1723	DC	IL1'94'
1BF6	225E	1724	DC	AL2(\$PBUF+93)
		1725 *		
1BF8	CO 87 1816	1726	B	\$RB GO CHECK FOR MORE INPUT DRIVES
		1727 *		
		1728 *		
		1729 *		LOCATE AN UNUSED LOG ENTRY FIELD
		1730 *		
1BFC	3C 00 218F	1731	MVI	\$PTR,0 POINT TO FIRST LOG ENTRY FIELD
		1732 *		
1C00	CO 87 1DD5	1733	B	\$IO READ LOG ENTRY
		1734 *		
1C04	3D 00 21C1	1735	CLI	\$REC,0 BRANCH IF

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
1C08	F2 81 12	1736	JE	\$R6C ENTRY IS UNUSED
		1737 *		
1C0B	0E 00 218F 21A6	1738	ALC	\$PTR(1),\$P1 ADVANCE LOG ENTRY POINTER
		1739 *		
1C11	3D BF 218F	1740	CLI	\$PTR,191 BRANCH IF NOT
1C15	CO 82 1C00	1741	BL	\$R6B1 YET END OF LOG AREA
		1742 *		
1C19	3C 00 218F	1743	MVI	\$PTR,0 ASSUME LOG AREA IS FULL
		1744 *		
		1745 *		
		1746 *		LOCATE OLDEST LOG ENTRY
		1747 *		
1C1D	3C 00 2198	1748	MVI	\$CTR,0 INITIALIZE LOG ENTRY COUNTER
		1749 *		
1C21	CO 87 1DD5	1750	B	\$IO READ LOG ENTRY
		1751 *		
1C25	3D 00 21C1	1752	CLI	\$REC,0 BRANCH IF
1C29	F2 01 30	1753	JNE	\$R6C3 ENTRY IS USED
		1754 *		
1C2C	0E 00 218F 21A6	1755	ALC	\$PTR(1),\$P1 ADVANCE LOG ENTRY POINTER
1C32	0E 00 2198 21A6	1756	ALC	\$CTR(1),\$P1 ADVANCE LOG ENTRY COUNTER
		1757 *		
1C38	3D BF 218F	1758	CLI	\$PTR,191 BRANCH IF NOT
1C3C	F2 82 04	1759	JL	\$R6C2 YET END OF LOG AREA
		1760 *		
1C3F	3C 00 218F	1761	MVI	\$PTR,0 WRAP BACK TO FIRST LOG ENTRY
		1762 *		
1C43	3D BF 2198	1763	CLI	\$CTR,191 GO TO CHECK NEXT LOG IF ALL
1C47	CO 82 1C21	1764	BL	\$R6C1 ENTRIES HAVE NOT YET BEEN CHECKED
		1765 *		
1C4B	4C 03 0D 2167	1766	MVC	13(6,1XN1),2N21E BUILD 'NO LOG' MESSAGE
		1767 *		
1C50	CO 87 021A	1768	B	\$PRINT PRINT 'NO LOG'
1C54	01	1769	DC	XL1'01' MESSAGE IN TABLE
1C55	5E	1770	DC	IL1'94'
1C56	225E	1771	DC	AL2(\$PBUF+93)
		1772 *		
1C58	CO 87 1DD5	1773	B	\$R6N GO TO PROCESS DATA FOR NEXT DRIVE
		1774 *		
1C5C	0C 00 2194 218F	1775	MVC	\$PTRP(1),\$PTR SAVE POINTER TO OLDEST LOG ENTRY
		1776 *		
		1777 *		
		1778 *		FORMAT AND PRINT LOG ENTRY
		1779 *		
1C62	3D 60 21D8	1780	CLI	\$REC+23,X'60' BRANCH IF ONLY
1C66	CO 81 1CE3	1781	BE	\$R6E USAGE DATA IN LOG ENTRY
		1782 *		
1C6A	4C 05 0D 21C6	1783	MVC	13(6,1XN1),2N24E MOVE VOLUME ID TO PRINT BUFFER
		1784 *		
1C6F	4C 07 18 2177	1785	MVC	24(8,1XN1),2N24E INITIALIZE DATE AND
1C74	4C 07 23 2177	1786	MVC	35(8,1XN1),2N24E TIME FIELDS IN PRINT BUFFER
		1787 *		
1C79	3D 00 21EA	1788	CLI	\$REC+41,0 BRANCH IF NO
1C7D	F2 81 0F	1789	JA	\$R6D1 DATE WAS RECORDED
		1790 *		
1C80	4C 01 12 21EB	1791	MVC	18(2,1XN1),2N24E MOVE DATE
1C85	4C 01 15 21ED	1792	MVC	21(2,1XN1),2N24E TO PRINT
1C8A	4C 01 18 21EF	1793	MVC	24(2,1XN1),2N24E BUFFER
		1794 *		
1C8F	3D 00 21F0	1795	CLI	\$REC+47,0 BRANCH IF NO
1C93	F2 81 0F	1796	JE	\$R6D2 TIME WAS RECORDED
		1797 *		
1C96	4C 01 1D 21F1	1798	MVC	29(2,1XN1),2N24E MOVE LINE
1C9B	4C 01 20 21F3	1799	MVC	32(2,1XN1),2N24E TO PRINT
1CA0	4C 01 23 21F5	1800	MVC	35(2,1XN1),2N24E BUFFER
		1801 *		
1CA5	CO 87 021E	1802	B	\$UNPK UNPACK
1CA9	04	1803	DC	IL1'04' FOUR SENSE

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ERR LOC OBJECT CODE	ADDR	SYMT	SOURCE STATEMENT	
1CAA 21D4	1CAD 1804	DC	AL2(\$REC+19)	BYTES TO
1CAC 222F	1CAL 1805	DC	AL2(\$BBUF+40)	PRINT BUFFER
	1806 *			
1CAE C0 87 021E	1807	B	\$UNPK	UNPACK
1CB2 04	1CB2 1806	DC	IL1*4*	FOUR SENSE
1CB3 21E8	1CB4 1809	DC	AL2(\$REC+23)	BYTES TO
1CB5 2238	1CB6 1810	DC	AL2(\$BBUF+55)	PRINT BUFFER
	1811 *			
1CB7 C0 87 021E	1812	B	\$UNPK	UNPACK
1CBB 04	1CBB 1813	DC	IL1*4*	FOUR SENSE
1CBC 21DC	1CBD 1814	DC	AL2(\$REC+27)	BYTES TO
1CBE 2241	1CBF 1815	DC	AL2(\$BBUF+64)	PRINT BUFFER
	1816 *			
1CC0 C0 87 021E	1817	B	\$UNPK	UNPACK
1CC4 04	1CC4 1818	DC	IL1*4*	FOUR SENSE
1CC5 21E0	1CC6 1819	DC	AL2(\$REC+31)	BYTES TO
1CC7 224A	1CC6 1820	DC	AL2(\$BBUF+75)	PRINT BUFFER
	1821 *			
1CC9 C0 87 021E	1822	B	\$UNPK	UNPACK
1CCD 04	1CCD 1823	DC	IL1*4*	FOUR SENSE
1CCE 21E4	1CCF 1824	DC	AL2(\$REC+35)	BYTES TO
1CD0 2253	1CD1 1825	DC	AL2(\$BBUF+82)	PRINT BUFFER
	1826 *			
1CD2 C0 87 021E	1827	B	\$UNPK	UNPACK
1CD6 04	1CD6 1828	DC	IL1*4*	FOUR SENSE
1CD7 21E8	1CD8 1829	DC	AL2(\$REC+39)	BYTES TO
1CD9 225C	1CDA 1830	DC	AL2(\$BBUF+91)	PRINT BUFFER
	1831 *			
1CD5 C0 87 021A	1832	B	\$PRINT	PRINT
1CDF 01	1CDF 1833	DC	XL1*01*	LOG ENTRY
1CE0 5E	1CE0 1834	DC	IL1*94*	
1CE1 225E	1CE2 1835	LC	AL2(\$BBUF+93)	
	1836 *			
	1837 *			
	1838 *			
	1839 *			
1CE3 0L 00 218F 21A6	1840 \$R6E	ALC	\$PTR(1), \$P1	ADVANCE LOG ENTRY POINTER
	1841 *			
1CE9 3D BF 218F	1842	CLI	\$PTR, 191	BRANCH IF NOT
1CED F2 82 04	1843	JL	\$R6E1	Y&T END OF LOG AREA
	1844 *			
1CF0 3C 00 218F	1845	MVI	\$PTR, 0	WRAP BACK TO FIRST LOG ENTRY
	1846 *			
1CF4 0D 00 218F 2194	1847 \$R6E1	CLC	\$PTR(1), \$PIRF	BRANCH IF ALL LOG
1CFA F2 81 10	1848	JL	\$R6N	ENTRIES HAVE BEEN PROCESSED
	1849 *			
1CFD C0 87 1DD5	1850	B	\$10	READ NEXT LOG ENTRY
	1851 *			
1D01 3D 00 21C1	1852	CLI	\$REC, 0	BRANCH IF
1D05 C0 81 1CE3	1853	BE	\$R6E	UNUSED ENTRY
	1854 *			
1D09 C0 87 1C62	1855	B	\$R6D	GO TO FORMAT AND PRINT LOG ENTRY
	1856 *			
	1857 *			
	1858 *			
	1859 *			
1D0D 3A 08 2188	1860 \$R6N	SEN	\$IND, \$CLEAR	SET 'CLEAR LOG' INDICATOR
	1861 *			
1D11 38 80 020C	1862	TBN	\$SBYT4, \$SSW20	CLEAR LOG AREA IF
1D15 C0 9C 1DD5	1863	BF	\$10	SENSE SWITCH 20 IS OFF
	1864 *			
1D19 3B 08 2188	1865	S&F	\$IND, \$CLEAR	RESET 'CLEAR LOG' INDICATOR
	1866 *			
	1867 *			
	1868 *			
	1869 *			
1D1D 0E 0C 218E 21A6	1870	ALC	\$HD(1), \$P1	ADVANCE HEAD ADDRESS
1D23 06 00 2193 21AD	1871	AZ	\$DRV(1), \$DI(1)	ADVANCE DRIVE IDENTIFIER

ERR LOC OBJECT CODE	ADDR	SYMT	SOURCE STATEMENT
1D29 C0 87 1BC5	1872 *		
	1873 *	B	\$R6A
	1874 *		

GO TO COMPLETE HISTORY TABLE

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ERR LOC OBJECT CODE	ADDR STMT	SOURCE STATEMENT
	1876	*****
	1877	*
	1878	ROUTINES 3 AND 4 - COMMON INITIALIZATION PROCEDURES
	1879	*
	1880	*****
	1881	*
1D2D 34 08 1DD4	1882	\$BEGIN ST \$BGNX+3,\$ARR SAVE RETURN ADDRESS
	1883	*
1D31 3C 00 2273	1884	MVI \$NN,0 CLEAR
1D35 0C 08 2272 2273	1885	MVC \$NN-1(9),\$NN DDCP AREA
	1886	*
1D3B C2 01 0A07	1887	LA \$UDT-3,\$XR1 POINT TO SECTION UDT
	1888	*
1D3F D2 01 03	1889	\$BGN01 LA 3(,\$XR1),\$XB1 LOCATE
1D42 7D C1 00	1890	CLI 0(,\$XR1),\$XC1 3340 UDT ENTRY
1D45 C0 01 1D3F	1891	BNE \$BGN01
	1892	*
1D49 76 20 01	1893	TBN 1(,\$XR1),\$BIT2 END ROUTINE IF 3340
1D4C C6 90 0216	1894	BF \$LINK NOT DEFINED IN DCP UDT
	1895	*
1D50 39 78 020A	1896	\$BGN02 TBF \$SBY12,\$SSW11+\$SSW12+\$SSW13+\$SSW14 SKIP IF ANY SMS
1D54 F2 90 04	1897	JF \$BGN03 SW 11 THRU 14 ON
	1898	*
1D57 3A 20 020A	1899	SBM \$SBY12,\$SSW12 SET SMS SW 12 (DEFAULT TO DRV 2)
	1900	*
1D5B 38 40 020A	1901	\$BGN03 TBN \$SBY12,\$SSW11 BRANCH IF DRIVE 1 NOT
1D51 39 80 2188	1902	TBF \$IND,\$DRV1 SELECTED OR IF DATA FROM
1D63 F2 90 13	1903	JF \$BGN04 DRV 1 HAS ALREADY BEEN PRINTED
	1904	*
1D66 3A 80 2188	1905	SBM \$IND,\$DRV1 SET 'DRV 1 USED' INDICATOR
	1906	*
1D6A 3C F1 2189	1907	MVI \$DRVID,C'1' SETUP DRIVE IDENTIFIER,
1D6E 3C C0 218A	1908	MVI \$DRVAD,X'CO' DRIVE ADDRESS, AND ERROR
1D72 3C 81 2182	1909	MVI \$CKMSK,X'81' SENSE BYTE MASK FOR DRIVE 1
	1910	*
1D76 F2 87 56	1911	J \$BGNX RETURN TO CALLING ROUTINE
	1912	*
1D79 38 20 020A	1913	\$BGN04 TBN \$SBY12,\$SSW12 BRANCH IF DRIVE 2 NOT
1D7D 39 40 2188	1914	TBF \$IND,\$DRV2 SELECTED OR IF DATA FROM
1D81 F2 90 13	1915	JF \$BGN05 DRV 2 HAS ALREADY BEEN PRINTED
	1916	*
1D84 3A 40 2188	1917	SBM \$IND,\$DRV2 SET 'DRV 2 USED' INDICATOR
	1918	*
1D88 3C F2 2189	1919	MVI \$DRVID,C'2' SETUP DRIVE IDENTIFIER,
1D8C 3C C6 218A	1920	MVI \$DRVAD,X'C6' DRIVE ADDRESS, AND ERROR
1D90 3C 41 2192	1921	MVI \$CKMSK,X'41' SENSE BYTE MASK FOR DRIVE 2
	1922	*
1D94 F2 87 3A	1923	J \$BGNX RETURN TO CALLING ROUTINE
	1924	*
1D97 38 10 020A	1925	\$BGN05 TBN \$SBY12,\$SSW13 BRANCH IF DRIVE 3 NOT
1D9B 39 20 2188	1926	TBF \$IND,\$DRV3 SELECTED OR IF DATA FROM
1D9F F2 90 13	1927	JF \$BGN06 DRV 3 HAS ALREADY BEEN PRINTED
	1928	*
1DA2 3A 20 2188	1929	SBM \$IND,\$DRV3 SET 'DRV 3 USED' INDICATOR
	1930	*
1DA6 3C F3 2189	1931	MVI \$DRVID,C'3' SETUP DRIVE IDENTIFIER,
1DAA 3C D0 218A	1932	MVI \$DRVAD,X'D0' DRIVE ADDRESS, AND ERROR
1DAE 3C 21 2192	1933	MVI \$CKMSK,X'21' SENSE BYTE MASK FOR DRIVE 3
	1934	*
1DB2 F2 87 1C	1935	J \$BGNX RETURN TO CALLING ROUTINE
	1936	*
1DB5 38 08 020A	1937	\$BGN06 TBN \$SBY12,\$SSW14 END ROUTINE IF DRV 4 NOT
1DB9 39 10 2188	1938	TBF \$IND,\$DRV4 SELECTED OR IF DATA FROM
1DBD C0 90 0216	1939	BF \$LINK DRV 4 HAS ALREADY BEEN PRINTED
	1940	*
1DC1 3A 10 2188	1941	SBM \$IND,\$DRV4 SET 'DRV 4 USED' INDICATOR
	1942	*
1DC5 3C F4 2189	1943	MVI \$DRVID,C'4' SETUP DRIVE IDENTIFIER,

ERR LOC OBJECT CODE	ADDR STMT	SOURCE STATEMENT
1DC9 3C D6 218A	1944	MVI \$DRVAD,X'D6' DRIVE ADDRESS, AND ERROR
1DCD 3C 11 2192	1945	MVI \$CKMSK,X'11' SENSE BYTE MASK FOR DRIVE 4
	1946	*
1DD1 C0 67 0000	1947	\$BGNX B *-*
	1948	*
		RETURN TO CALLING ROUTINE

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC OBJECT CODE

ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE

ADDR STMT SOURCE STATEMENT

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1950 *****
1951 *
1952 *      ROUTINES 5 AND 6 - COMMON 3340 I/O SUBROUTINES
1953 *
1954 *****
1955 *
1956 *      HEAD OR CLEAR 3340 LOG ENTRIES
1957 *
1DD5 34 08 12C4 1958 $IO ST $IOX+3,$ABR SAVE RETURN ADDRESS
1DD9 34 01 12C0 1959 ST $IOX1+3,$ABR1 SAVE INDEX REG 1
1960 *
1DD1 3C 0A 2196 1961 MVI $RETRY,10 INITIALIZE ERROR REPLY COUNT
1962 *
1DE1 0D 01 218C 226C 1963 CLC $CYL(2),ACC BRANCH IF ACCESS
1DE7 F2 01 0D 1964 JNE $RECAL NOT YET AT REQUIRED CYLINDER
1965 *
1DEA 0D 01 218E 226E 1966 CLC $HD(2),$RH BRANCH IF ACCESS
1DF0 F2 81 42 1967 JL $RDWR ALREADY AT REQUIRED LOCATION
1968 *
1DF3 3C 00 226F 1969 MVI $RH,0 RESET RECORD NUMBER
1970 *
1DF7 3C 00 2190 1971 $RECAL MVI $Q,0 SETUP Q AND R BYTES
1DFB 3C 01 2191 1972 MVI $R,1 FOR RECALIBRATE COMMAND
1973 *
1DPP C0 87 12C5 1974 B $XEQ GO TO EXECUTE RECALIBRATE COMMAND
1975 *
1E03 0C 01 226C 218C 1976 MVC $CC(2),$CYL MOVE CYLINDER AND
1E09 0C 01 226E 218E 1977 MVC $RH(2),$HD HEAD VALUES TO DDCF
1978 *
1E0F 3C 00 2190 1979 $SEEK MVI $Q,0 SETUP Q AND R
1E13 3C 00 2191 1980 MVI $R,0 BYTES FOR SEEK COMMAND
1981 *
1E17 C0 87 12C5 1982 B $XEQ GO TO EXECUTE SEEK COMMAND
1983 *
1E1E 3C 01 2190 1984 $RDHA MVI $Q,1 SETUP Q AND R BYTES FOR
1E1F 3C 01 2191 1985 MVI $R,1 READ HA (EVEN) COMMAND
1986 *
1E23 C0 87 12C5 1987 B $XEQ GO TO EXECUTE READ HA COMMAND
1988 *
1E27 0C 03 226E 2290 1989 MVC $RH(4),$DDDF+4 MOVE RECORD 0 CCH TO DDCF
1990 *
1E2D 36 02 226A 1991 TBN $FF,$B116 GO TO SEEK TO ASSIGNED
1E31 C0 10 1E0F 1992 BI $SEEK ALTERNATE IF DEFLCIIVE TRACK
1993 *
1E35 0C 01 226C 218C 1994 $RDWR MVC $CC(2),$CYL MOVE CYLINDER AND
1E3E 0C 01 226E 218E 1995 MVC $RH(2),$HD HEAD VALUES TO DDCF
1996 *
1E41 0C 02 2272 21AC 1997 MVC $DL(3),$P256 MOVE KL AND DL TO DDCF
1998 *
1E47 38 08 2168 1999 TBN $IND,$CLEAR GO TO CLEAR LOG AREA
1E48 F2 10 4D 2000 JT $WRREP IF 'CLEAR' INDICATOR IS ON
2001 *
1E4E 3C 04 21A3 2002 $RDKD MVI $RDWK,4 DEVELOPE
1E52 0C 00 21A4 218F 2003 MVC $RDWK+1(1),$P1R RECORD NUMBER
1E56 0E 00 21A4 21A7 2004 ALC $RDWK+1(3),$P5 FROM LOG AREA POINTER
1E5E 0E 01 21A4 21A4 2005 $RDKD1 ALC $RDWK+1(2),$RDWK+1
1E64 C0 20 1E5E 2006 BNOL $RDKD1
2007 *
1E68 0D 00 21A3 226F 2008 CLC $RDWK(1),$RH BRANCH IF REQUIRED
1E6E F2 81 16 2009 JL $RDKD2 RECORD IS ALREADY IN MAIN STORE
2010 *
1E71 0C 00 226F 21A3 2011 MVC $RH(1),$RDWK MOVE RECORD NUMBER TO DDCF
1E77 3C 00 2273 2012 MVI $NN,0 SETUP NN VALUE TO READ ONE RECORD
2013 *
1E7E 3C 01 2190 2014 MVI $Q,$'01' SETUP Q AND R BYTES
1E7F 3C 00 2191 2015 MVI $R,$'00' FOR READ KEY-DATA COMMAND
2016 *
1E83 C0 87 12C5 2017 B $XEQ GO TO EXECUTE READ KEY-DATA COMMAND

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2018 *
2019 $RDKD2 LA $DDDF,$XN1 LOCAL REQUIRED
2020 MVI $RDWK,0 LOG ENTRY VIA OFFSET
2021 A $RDWK+1,$XN1 DEVELOPED FROM LOG ENTRY POINTER
2022 *
2023 MVC $RH(64),63($XN1) GET REQUIRED LOG ENTRY
2024 *
2025 J $IOX1 RETURN TO CALLING ROUTINE
2026 *
2027 $WRREP MVI $RH,1 SETUP RE AND NN VALUES
2028 MVI $NN,47 IN DDCF TO WRITE RECORDS 1 THRU 46
2029 *
2030 MVI $DDDF+255,0 CLEAR
2031 MVC $DDDF+254(255),$DDDF+255 DDDF AREA
2032 *
2033 MVI $Q,$'02' SETUP Q AND R BYTES
2034 MVI $R,$'03' FOR WRITE REPEAT COMMAND
2035 *
2036 B $XEQ GO TO EXECUTE WRITE REPEAT COMMAND
2037 *
2038 SBF $IND,$CLEAR RESET 'CLEAR LOG' INDICATOR
2039 *
2040 $IOX1 LA *-$, $R1 RESTORE INDEX REG 1
2041 $IOX B *-* RETURN TO CALLING ROUTINE
2042 *
-----
2043 *
2044 *      COMMON 3340 I/O COMMAND EXECUTION SUBROUTINE
2045 *
2046 $XEQ SI $XEQX+3,$ABR SAVE RETURN ADDRESS
2047 *
2048 B $TEST CHECK FOR USLA INTERVENTION
2049 *
2050 MVC $SIO+1(1),$DADVAD SETUP
2051 ALC $SIO+1(1),$Q ( AND R BYTES
2052 MVC $SIO+2(1),$R IN SIO INSTRUCTION
2053 *
2054 SNS $SNS+1,$'C5' SENSE ATTACHMENT STATUS
2055 *
2056 MVC *+7(1),$CKRESK GO TO ERROR
2057 TBP $SNS,*-* HANDLING SUBROUTINE IF
2058 BF $ERR ADAPTER OR UNIT CHECK
2059 *
2060 LIO $DDCR,$'C6' LOAD DDCR
2061 LIO $DDDR,$'C4' AND DDDR
2062 *
2063 $SIO SIG *-*,*-* EXECUTE 3340 I/O COMMAND
2064 *
2065 MVC $SIO+1(1),$DADVAD BUILD 'SEEK BUSY'
2066 SBN $SIO+1,$B17 110 INSTRUCTION
2067 *
2068 110 *,$'C2' LOOP ON 'ATTACHMENT BUSY'
2069 *
2070 $TIO TIO *,*-* LOOP ON 'SEEK BUSY'
2071 *
2072 SNS $SNS+1,$'C5' SENSE ATTACHMENT STATUS
2073 *
2074 MVC *+7(1),$CKRESK GO TO ERROR
2075 TBP $SNS,*-* HANDLING SUBROUTINE IF
2076 BF $ERR ADAPTER OR UNIT CHECK
2077 *
2078 $XEQ B *-* RETURN TO CALLING ROUTINE
2079 *
-----
2080 *
2081 *      3340 ERROR HANDLING SUBROUTINE
2082 *
2083 $ERR ST $REX+3,$ABR SAVE RETURN ADDRESS
2084 *
2085 TBN $SNS+1,$B17 BRANCH IF NOT

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PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
1F2C F2 90 1A	2086	JF	\$UCK	ADAPTER CHECK CONDITION
1F2F 3C 00 228B	2087 *			
1F33 0C 14 228A 228B	2088 \$ACK	MVI	\$SNS+23,0	BUILD
1F39 31 C7 216A	2089	MVC	\$SNS+22(21), \$SNS+23	FORMAT 3
1F3D 30 C7 2277	2090	LLO	\$SNS23,X'C7'	HEAD DIAG
1F41 3C 30 227B	2091	SMS	\$SNS+3,X'C7'	SENSE BYTES
	2092	MVI	\$SNS+7,X'30'	
	2093 *			
1F45 C0 87 1FC4	2094	B	\$ERRP	GO TO PRINT ERROR MESSAGE AND HALT
	2095 *			
1F49 0C 00 1F58 218A	2096 \$UCK	MVC	\$SNSIO+1(1), \$DRVAD	BUILD *HEAD DIAG
1F4F 3A 01 1F58	2097	SBN	\$SNSIO+1, \$B117	SENSE DATA* COMMAND
	2098 *			
1F53 31 C4 21C0	2099	LLO	\$SNSDR,X'C4'	LOAD DDDR
	2100 *			
1F57 F3 00 07	2101 \$SNSIO	SIO	X'07',+--	READ DIAGNOSTIC SENSE DATA
	2102 *			
1F5A C1 C2 1F5A	2103	LLO	*,X'C2'	LOOP ON ATTACHMENT BUSY
	2104 *			
1F5E 0F 00 2196 21A6	2105	SLC	\$RETRY(1), \$P1	DECREMENT RETRY COUNTER AND GO TO
1F64 C0 81 1FC4	2106	BZ	\$ERRP	ERR PRINT AND HALT IF LAST RETRY
	2107 *			
1F66 3B 0F 227B	2108 \$ERP	SBP	\$SNS+7,X'0F'	RESET MSG BITS IN SENSE BYTE 7
	2109 *			
1F6C 3D 50 227B	2110	CLI	\$SNS+7,X'50'	BRANCH IF
1F70 C0 81 1F6A	2111	EE	\$ECC	CORRECTABLE DATA CHECK
	2112 *			
1F74 3C 00 2273	2113	MVI	\$NN,0	CLEAR
1F78 0C 08 2272 2273	2114	MVC	\$NN-1(9), \$NN	DDCF AREA
	2115 *			
1F7E 3D 40 227B	2116	CLI	\$SNS+7,X'40'	BRANCH IF
1F82 C0 81 1E35	2117	BE	\$RDWL	DATA CHECK
	2118 *			
1F86 C0 87 1DF7	2119	B	\$RCAL	GO TO RECALIBRATE AGAIN
	2120 *			
1F8A 0E 01 2285 21BE	2121 \$ECC	ALC	\$SNS+17(2), \$DDDR	DEVELOPE
1F90 0F 01 2285 2287	2122	SLC	\$SNS+17(2), \$SNS+19	ADDRESS OF
1F96 35 01 2285	2123	L	\$SNS+17, \$IR1	FIRST ERROR BYTE
	2124 *			
1F9A 3C 18 2197	2125	MVI	\$BITCT,24	INITIALIZE ERROR BIT COUNTER
	2126 *			
1F9E 0E 02 228A 228A	2127 \$ECC01	ALC	\$SNS+22(3), \$SNS+22	EXCLUSIVE OR
1FA4 F2 20 05	2128	JNOL	\$ECC02	ERROR PATTERN
1FA7 4E 00 00 21AE	2129	ALC	0(1, \$XR1), \$X60	WITH ERROR BYTES
1FAC 5E 02 02 02	2130 \$ECC02	ALC	2(3, \$XR1), 2(, \$XR1)	
1FB0 F2 20 03	2131	JNOL	\$ECC03	
1FB3 7A 01 02	2132	SBN	2(, \$XR1), \$B117	
1FB6 0F 00 2197 21A6	2133 \$ECC03	SLC	\$BITCT(1), \$P1	
1FBC C0 01 1F9E	2134	LNZ	\$ECC01	
	2135 *			
1FC0 C0 87 0000	2136 \$ERRI	B	*--	RETURN TO CALLING ROUTINE
	2137 *			
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P772 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOG OBJECT CODE ADDR SRTS SOURCE STATEMENT

P772 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOG OBJECT CODE ADDR SRTS SOURCE STATEMENT

DATE	LC NO.	29A675	07NOV75	04MAR76	DATE	LC NO.	29A675	07NOV75	04MAR76
2038	CD954027405D6	2048	2212	2001	2038	CD954027405D6	2048	2212	2001
2043	F340D9C41840B0D9	2048	2213	2001	2043	F340D9C41840B0D9	2048	2213	2001
2048	40C5D9D9	2048	2214	2001	2048	40C5D9D9	2048	2214	2001
2048	40C5D9D9	2048	2215	2002	2048	40C5D9D9	2048	2215	2002
2048	D9C5C1C440C4C9C1	2048	2216	2002	2048	D9C5C1C440C4C9C1	2048	2216	2002
2057	C7D5D6E213C9C340	2048	2217	2002	2057	C7D5D6E213C9C340	2048	2217	2002
2057	F2C5D5E2C540C4C1	2048	2218	2002	2057	F2C5D5E2C540C4C1	2048	2218	2002
2067	F3C140	2048	2219	2002	2067	F3C140	2048	2219	2002
2068	F0F060606060F0F3	2084	2220	2003	2068	F0F060606060F0F3	2084	2220	2003
2072	40E4060606060F0	2084	2221	2003	2072	40E4060606060F0	2084	2221	2003
2074	F740E0F060606060	2084	2222	2003	2074	F740E0F060606060	2084	2222	2003
2077	40E4060606060F0	2084	2223	2003	2077	40E4060606060F0	2084	2223	2003
2078	D5C440C5D9D9D9D9D9	2084	2224	2003	2078	D5C440C5D9D9D9D9D9	2084	2224	2003
2087	40D3D6C740E2E4D4	2084	2225	2003	2087	40D3D6C740E2E4D4	2084	2225	2003
2088	D4C1D9F8	2084	2226	2003	2088	D4C1D9F8	2084	2226	2003
20C3	00606060F3F3F3F0	2084	2227	2003	20C3	00606060F3F3F3F0	2084	2227	2003
20C8	40C5D9D9D9D9D9D9	2084	2228	2003	20C8	40C5D9D9D9D9D9D9	2084	2228	2003
20D3	C9E2E3D6D9E8	2084	2229	2003	20D3	C9E2E3D6D9E8	2084	2229	2003
20D9	4060606040C4C1E3	2084	2230	2003	20D9	4060606040C4C1E3	2084	2230	2003
20E1	C140E6D9D6D440C8	2084	2231	2003	20E1	C140E6D9D6D440C8	2084	2231	2003
20E9	4060606040C4C1E3	2084	2232	2003	20E9	4060606040C4C1E3	2084	2232	2003
20F9	D9C9E5C540E7	2084	2233	2003	20F9	D9C9E5C540E7	2084	2233	2003
20F9	60606060F3F3F3F0	2084	2234	2003	20F9	60606060F3F3F3F0	2084	2234	2003
20F9	60606060F3F3F3F0	2084	2235	2003	20F9	60606060F3F3F3F0	2084	2235	2003
20F9	60606060F3F3F3F0	2084	2236	2003	20F9	60606060F3F3F3F0	2084	2236	2003
20F9	60606060F3F3F3F0	2084	2237	2003	20F9	60606060F3F3F3F0	2084	2237	2003
20F9	60606060F3F3F3F0	2084	2238	2003	20F9	60606060F3F3F3F0	2084	2238	2003
20F9	60606060F3F3F3F0	2084	2239	2003	20F9	60606060F3F3F3F0	2084	2239	2003
20F9	60606060F3F3F3F0	2084	2240	2003	20F9	60606060F3F3F3F0	2084	2240	2003
20F9	60606060F3F3F3F0	2084	2241	2003	20F9	60606060F3F3F3F0	2084	2241	2003
20F9	60606060F3F3F3F0	2084	2242	2003	20F9	60606060F3F3F3F0	2084	2242	2003
20F9	60606060F3F3F3F0	2084	2243	2003	20F9	60606060F3F3F3F0	2084	2243	2003
20F9	60606060F3F3F3F0	2084	2244	2003	20F9	60606060F3F3F3F0	2084	2244	2003
20F9	60606060F3F3F3F0	2084	2245	2003	20F9	60606060F3F3F3F0	2084	2245	2003
20F9	60606060F3F3F3F0	2084	2246	2003	20F9	60606060F3F3F3F0	2084	2246	2003
20F9	60606060F3F3F3F0	2084	2247	2003	20F9	60606060F3F3F3F0	2084	2247	2003
20F9	60606060F3F3F3F0	2084	2248	2003	20F9	60606060F3F3F3F0	2084	2248	2003
20F9	60606060F3F3F3F0	2084	2249	2003	20F9	60606060F3F3F3F0	2084	2249	2003
20F9	60606060F3F3F3F0	2084	2250	2003	20F9	60606060F3F3F3F0	2084	2250	2003
20F9	60606060F3F3F3F0	2084	2251	2003	20F9	60606060F3F3F3F0	2084	2251	2003
20F9	60606060F3F3F3F0	2084	2252	2003	20F9	60606060F3F3F3F0	2084	2252	2003
20F9	60606060F3F3F3F0	2084	2253	2003	20F9	60606060F3F3F3F0	2084	2253	2003
20F9	60606060F3F3F3F0	2084	2254	2003	20F9	60606060F3F3F3F0	2084	2254	2003
20F9	60606060F3F3F3F0	2084	2255	2003	20F9	60606060F3F3F3F0	2084	2255	2003
20F9	60606060F3F3F3F0	2084	2256	2003	20F9	60606060F3F3F3F0	2084	2256	2003
20F9	60606060F3F3F3F0	2084	2257	2003	20F9	60606060F3F3F3F0	2084	2257	2003
20F9	60606060F3F3F3F0	2084	2258	2003	20F9	60606060F3F3F3F0	2084	2258	2003
20F9	60606060F3F3F3F0	2084	2259	2003	20F9	60606060F3F3F3F0	2084	2259	2003
20F9	60606060F3F3F3F0	2084	2260	2003	20F9	60606060F3F3F3F0	2084	2260	2003
20F9	60606060F3F3F3F0	2084	2261	2003	20F9	60606060F3F3F3F0	2084	2261	2003
20F9	60606060F3F3F3F0	2084	2262	2003	20F9	60606060F3F3F3F0	2084	2262	2003
20F9	60606060F3F3F3F0	2084	2263	2003	20F9	60606060F3F3F3F0	2084	2263	2003
20F9	60606060F3F3F3F0	2084	2264	2003	20F9	60606060F3F3F3F0	2084	2264	2003
20F9	60606060F3F3F3F0	2084	2265	2003	20F9	60606060F3F3F3F0	2084	2265	2003
20F9	60606060F3F3F3F0	2084	2266	2003	20F9	60606060F3F3F3F0	2084	2266	2003
20F9	60606060F3F3F3F0	2084	2267	2003	20F9	60606060F3F3F3F0	2084	2267	2003
20F9	60606060F3F3F3F0	2084	2268	2003	20F9	60606060F3F3F3F0	2084	2268	2003
20F9	60606060F3F3F3F0	2084	2269	2003	20F9	60606060F3F3F3F0	2084	2269	2003
20F9	60606060F3F3F3F0	2084	2270	2003	20F9	60606060F3F3F3F0	2084	2270	2003
20F9	60606060F3F3F3F0	2084	2271	2003	20F9	60606060F3F3F3F0	2084	2271	2003
20F9	60606060F3F3F3F0	2084	2272	2003	20F9	60606060F3F3F3F0	2084	2272	2003
20F9	60606060F3F3F3F0	2084	2273	2003	20F9	60606060F3F3F3F0	2084	2273	2003
20F9	60606060F3F3F3F0	2084	2274	2003	20F9	60606060F3F3F3F0	2084	2274	2003
20F9	60606060F3F3F3F0	2084	2275	2003	20F9	60606060F3F3F3F0	2084	2275	2003
20F9	60606060F3F3F3F0	2084	2276	2003	20F9	60606060F3F3F3F0	2084	2276	2003
20F9	60606060F3F3F3F0	2084	2277	2003	20F9	60606060F3F3F3F0	2084	2277	2003
20F9	60606060F3F3F3F0	2084	2278	2003	20F9	60606060F3F3F3F0	2084	2278	2003
20F9	60606060F3F3F3F0	2084	2279	2003	20F9	60606060F3F3F3F0	2084	2279	2003
20F9	60606060F3F3F3F0	2084	2280	2003	20F9	60606060F3F3F3F0	2084	2280	2003
20F9	60606060F3F3F3F0	2084	2281	2003	20F9	60606060F3F3F3F0	2084	2281	2003
20F9	60606060F3F3F3F0	2084	2282	2003	20F9	60606060F3F3F3F0	2084	2282	2003
20F9	60606060F3F3F3F0	2084	2283	2003	20F9	60606060F3F3F3F0	2084	2283	2003
20F9	60606060F3F3F3F0	2084	2284	2003	20F9	60606060F3F3F3F0	2084	2284	2003
20F9	60606060F3F3F3F0	2084	2285	2003	20F9	60606060F3F3F3F0	2084	2285	2003
20F9	60606060F3F3F3F0	2084	2286	2003	20F9	60606060F3F3F3F0	2084	2286	2003
20F9	60606060F3F3F3F0	2084	2287	2003	20F9	60606060F3F3F3F0	2084	2287	2003
20F9	60606060F3F3F3F0	2084	2288	2003	20F9	60606060F3F3F3F0	2084	2288	2003
20F9	60606060F3F3F3F0	2084	2289	2003	20F9	60606060F3F3F3F0	2084	2289	2003
20F9	60606060F3F3F3F0	2084	2290	2003	20F9	60606060F3F3F3F0	2084	2290	2003

ROUTINES 5 AND 6 - PRINT MESSAGES

CL20'DAY X NOT HDY OR ERR'

CL27'BAD DIAGNOSTIC SERVE DATA'

CL26'12----15 16----19 20----23'

CL36'---- 3340 USAGE AND ERROR LOG SUMMARY'

CL22'---- 3340 ERROR HISTORY'

CL22'---- DATA FROM DATA X'

CL25'FMT 0'

CL10'EQUIPMENT CHECKS'

CL5'SERKS'

CL4'DATA'

CL5'LOGVAL'

CL3'DATA'

CL6'VOLUNT'

CL6'-USFB-'

CL9'ERRORS'

CL7'-X1000-'

CL4'HEAD'

CL6'NO LOG'

CL4'DATA'

CL4'TIME'

CL8'00.00.00'

CL8'NR.DD.II'

CL8'RR.BM.SS'

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		2292	*		*****
		2293	*		
		2294	*		ROUTINES 5 AND 6 - CONSTANTS AND RESERVED STORAGE AREAS
		2295	*		
		2296	*		*****
		2297	*		
2188		2188	2298	\$IND DS XL1	PROGRAM INDICATORS
			2299	*	
2189		2189	2300	\$DAVID DS CL1	INPUT DRIVE IDENTIFIER
218A		218A	2301	\$DAVAD DS XL1	INPUT DRIVE ADDRESS
			2302	*	
218B		218C	2303	\$CYL DS XL2	CURRENT CYLINDER ADDRESS
218D		218E	2304	\$HD DS XL2	CURRENT HEAD ADDRESS
218F		218F	2305	\$PIR DS XL1	CURRENT LOG ENTRY POINTER
			2306	*	
2190		2190	2307	\$C DS XL1	SIO 'C' BYTE
2191		2191	2308	\$R DS XL1	SIO 'R' BYTE
			2309	*	
2192		2192	2310	\$CKRISK DS XL1	ATTACHMENT SENSE BYTE ERROR MASK
			2311	*	
2193		2193	2312	\$DRV DS XL1	DRIVE IDENTIFIER (TABLE PRINTOUT)
			2313	*	
2194		2194	2314	\$PIRPF DS XL1	POINTER TO FIRST (OLDEST) LOG ENTRY
2195		2195	2315	\$PIRFX DS XL1	CURRENT POINTER TEMP STORAGE
			2316	*	
2196		2196	2317	\$RETRY DS XL1	ERROR REPLY COUNTER
2197		2197	2318	\$BITCT DS XL1	ECC BIT COUNTER
2198		2198	2319	\$CTR DS XL1	GENERAL PURPOSE COUNTER
			2320	*	
2199		219E	2321	\$RDCNT DS XL6	READ USAGE COUNTER
219F		21A2	2322	\$SACNT DS XL4	SEEK USAGE COUNTER
			2323	*	
21A3		21A3	2324	\$RDWK EQU *	READ SUBROUTINE
			2325	DS XL2	WORK AREA
			2326	*	
21A5 0001		21A6	2327	\$PI DC IL2'1'	
21A7 05		21A7	2328	\$P5 DC IL1'5'	
21A8 00D1		21A9	2329	\$P209 DC IL2'209'	
21AA 000100		21AC	2330	\$P256 DC IL3'256'	
21AD P1		21AD	2331	\$L1 DC CL1'1'	
21AE 80		21AE	2332	\$X80 DC XL1'80'	
21AF 00000388		21B2	2333	\$KILO DC IL4'1000'	
21B5 000000PF4240		21B8	2334	\$MFC DC XL6'000000PF4240'	
21B9 0002		21BA	2335	\$SAS23 DC XL2'0002'	
			2336	*	
21BB 226A		21BC	2337	\$DDCF DC AL2(\$DDCF)	DDCF ADDRESS (INITIAL DDCF)
21BD 228C		21BE	2338	\$DDDF DC AL2(\$DDDF)	DDDF ADDRESS (INITIAL DDDF)
21BF 2274		21C0	2339	\$SASDR DC AL2(\$SAS)	DDDF ADDRESS FOR READ DIAG SMS
			2340	*	
21C1		21C1	2341	\$REC EQU *	LOG ENTRY
			2342	\$RECH DS XL64	FROM SYSTEM ERROR LOG
			2343	*	
2201		2201	2344	\$PBUF EQU *	PRINT BUFFER
			2345	DS XL105	
			2346	*	
226A		226A	2347	\$DDCF EQU *	DISK DRIVE CONTROL FIELD
226B		226A	2348	\$PF DS XL1	FLAG BYTE
226D		226C	2349	\$CC DS XL2	CYLINDER ADDRESS
226F		226E	2350	\$HH DS XL2	HEAD ADDRESS
2270		226F	2351	\$NR DS XL1	RECORD NUMBER
2271		2270	2352	\$KL DS XL1	KEY LENGTH
2273		2272	2353	\$DL DS XL2	DATA LENGTH
			2354	\$NM DS XL1	RECORD COUNT
			2355	*	
2274		2274	2356	\$SNS EQU *	SENSE DATA FIELD
			2357	DS XL24	
			2358	*	
		228C	2359	\$DDDF EQU *	READ / WRITE DATA FIELD

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		228C			
		238B	2360	DS XL256	
			2361	*	

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE STATEMENT
2363	*			*****
2364	*			*
2365	*			ROUTINES 5 AND 6 - SYMBOL DEFINITIONS
2366	*			*
2367	*			*****
2368	*			*
2369	*			LOCAL STORE REGISTERS
2370	*			*
0001	2371	\$X11	EQU	X'01' INDEX REGISTER 1
0002	2372	\$X12	EQU	X'02' INDEX REGISTER 2
0008	2373	\$X18	EQU	X'08' ADDRESS RECALL REGISTER
2374	*			*
2375	*			-----
2376	*			SECTION SENSE SWITCHES
2377	*			*
0040	2378	\$SSW11	EQU	X'40' LOG DATA ON DRIVE 1
0020	2379	\$SSW12	EQU	X'20' LOG DATA ON DRIVE 2
0010	2380	\$SSW13	EQU	X'10' LOG DATA ON DRIVE 3
0008	2381	\$SSW14	EQU	X'08' LOG DATA ON DRIVE 4
0080	2382	\$SSW20	EQU	X'80' CLEAR LOG AFTER PRINT (IF OFF)
2383	*			*
2384	*			-----
2385	*			MESSAGE / HALT IDENTIFIERS
2386	*			*
FF00	2387	\$HLT00	EQU	X'FF00' NO HALT
FF06	2388	\$HLT06	EQU	X'FF06' 3340 NOT READY OR ERROR
2389	*			*
2390	*			-----
2391	*			PROGRAM INDICATORS (\$IND)
2392	*			*
0080	2393	\$DRV1	EQU	X'80' DRIVE 1 INPUT USED
0040	2394	\$DRV2	EQU	X'40' DRIVE 2 INPUT USED
0020	2395	\$DRV3	EQU	X'20' DRIVE 3 INPUT USED
0010	2396	\$DRV4	EQU	X'10' DRIVE 4 INPUT USED
0008	2397	\$CLEAR	EQU	X'08' CLEAR ERROR LOG
2398	*			*
2399	*			-----
2400	*			BIT POSITION SYMBOLS
2401	*			*
0080	2402	\$BIT0	EQU	X'80'
0020	2403	\$BIT2	EQU	X'20'
0002	2404	\$BIT6	EQU	X'02'
0001	2405	\$BIT7	EQU	X'01'
2406	*			*
2407	*			-----
2408	*			DCP SECTION REFERENCE TABLE
2409	*			*
020A	2410	\$SBIT2	EQU	X'020A' SECTION SENSE SWITCHES 10-17
020C	2411	\$SBIT4	EQU	X'020C' SECTION SENSE SWITCHES 20-27
2412	*			*
0212	2413	\$TEST	EQU	X'0212' CHECK CB CONSOLE SWITCHES
0216	2414	\$LINK	EQU	X'0216' LINK TO NEXT ROUTINE OR SECTION
021E	2415	\$PRINT	EQU	X'021E' PRINT A MESSAGE
021E	2416	\$UNPK	EQU	X'021E' UNPACK DATA - HEX TO EBCDIC
0222	2417	\$HALT	EQU	X'0222' HALT AND DISPLAY HALT IDENTIFIER
2418	*			*
040A	2419	\$UDT	EQU	X'040A' SECTION UDT ADDRESS
2420	*			*
2421	*			CONSTANTS
2422	*			*
2423	*			*
2424	*			*
2425	*			*
238C	252B			
238L	271B			
2390	2439			
2392	2491			
2394	2499			
238D	2426	\$OBH510	DC	AL2 (DBUF-256+8)
238F	2427	\$OBH5D0	DC	AL2 (DBUF+256-0)
2391	2428	\$CBUF0	DC	AL2 (CBUF)
2393	2429	\$CLND0	DC	AL2 (CBUF+86)
2395	2430	\$PBUF0	DC	AL2 (PBUF)

ERR LOC	OBJECT CODE	ADDR	SMT	SOURCE STATEMENT
2396	2522			
2398	0010			
239A	0008			
239C	F0			
239D	F1			
239E	00000000			
23A2	00			
23A3	00G5			
23A5	0006			
23A7	000E			
23A9	FF			
23AA	FF09			
23AC	0008			
23AE	0000			
23B0	0000			
23B2	0000			
23B4	0000			
23B6	0000			
23B8	0000			
23BA	0000			
23BC	7B			
23BD	6B			
23BE	77			
23BF	7E			
23C0	15			
23C1	CSD5E5C7D3C9C4			
23C3	F0F0F0F1F0F0			
23C4	F0F0F0F7F0F0			
23D4				
2428				
2439				
2499				
24F9				
24FD				
24FF				
2501				
2503				
2509				
250B				
250C				
2512				
2514				
2515				
2515				
2515				
2517				
2519				
251B				
2523				
2623				
2623				
2714				
2714				
271A				
271A				
271A				
2720				
2397	2431	\$NTADD	DC	AL2 (\$NTADD)
2399	2432	\$NTEN	DC	IL2'10'
239B	2433	\$NIGHT	DC	IL2'8'
239C	2434	\$ZERO	DC	DL1'0'
239D	2435	\$DONE	DC	DL1'1'
23A1	2436	\$ZERO	DC	XL4'0'
23A2	2437	\$CNT	DC	XL3'0'
23A4	2438	\$FIVE	DC	IL2'5'
23A6	2439	\$SIX	DC	IL2'6'
23A8	2440	\$IOE	DC	XL2'000E'
23A9	2441		DC	XL1'FF'
23AA	2442	\$FFF	EQU	*
23AB	2443	\$B67	DC	IL2'-7'
23AD	2444	\$OBRTYP	DC	XL2'8'
23AF	2445	\$SYNCS	DC	XL2'0'
2446	*			* H24 IS ALWAYS X'00X1'
23B1	2447	\$H24	DC	XL2'0'
23B3	2448	\$DSKOPS	DC	XL2'0'
23B5	2449	\$VTCMT	DC	XL2'0'
23B7	2450	\$CNTOPS	DC	XL2'0'
23B9	2451	\$CNILNG	DC	XL2'0'
23BB	2452	\$TABIDY	DC	XL2'0'
23BC	2453	\$1123	DC	IL1'123'
23BD	2454	\$1107	DC	IL1'107'
23BE	2455	\$1119	DC	IL1'119'
23BF	2456	\$1126	DC	IL1'126'
23C0	2457	\$121	DC	IL1'21'
23C7	2458	\$INV	DC	CL7'INVALID'
23C8	2459	\$SYMTBL	EQU	*
23CD	2460		DC	DL6'000100' RTM1 SYNC PT CARD 1 COL 0
23D3	2461		DC	DL6'005700' RTM2 SYN PT
2427	2462		DS	14XL6 CARD 6, COL 6
2428	2463	\$TAB1BL	EQU	*
2430	2464		DS	17XL1 CMI,TAB1,TAB2,...,TAB76
2439	2465	\$CBUF	EQU	*
2498	2466		DS	96XL1 CONTROL CARD BUFFER
2498	2467	\$CRDNBB	EQU	CBUF+95 CONTROL RECORD BUFFER
2499	2468	\$PBUF	EQU	*
24F8	2469		DS	96XL1
24F9	2470	\$QRSNS	EQU	*
24FC	2471		DS	IL4
24FE	2472	\$PEBDO	DS	AL2
2500	2473	\$PSTAO	DS	AL2
2502	2474	\$CSTR0	DS	AL2
2503	2475		DS	XL6
250A	2476	\$PROG0	DS	AL2
250B	2477	\$PROG1	DS	XL1
2511	2478	\$PROG1	DS	XL6
2511	2479	\$DEC	DS	ODL15
2513	2480	\$TEMP	DS	AL2
2514	2481	\$CNT	DS	XL1
2514	2482	\$CNTN	DS	OXL1
2516	2483	\$SVCSTH	DS	AL2
2518	2484	\$SDRIDX	DS	AL2
251A	2485	\$OBHNT0	DS	AL2
2522	2486	\$NTADD	DS	XL8
2523	2487	\$END	EQU	*
2622	2488		DS	XL256
2623	2489	\$DBUF	EQU	*
2722	2490		DS	XL256
2523	2491	\$PBUF	EQU	DBUF-256
2523	2492	\$PCBUF	EQU	DBUF-256
25A3	2493	\$RBUF	EQU	DBUF-256+X'80'
2494			ORG	DBUF+241
2713	2495	\$HACH0	DS	OCL5
2496			ORG	DBUF+267
2719	2497	\$SINDA1	DS	OCL6
2498			ORG	DL3F+253

* NOTE THAT THIS DS MUST CHANGE
 * IF THE LENGTH OF DEC CHANGES
 * BECAUSE LENGTH OF DEC EQUALS
 * PROG0+PROG1+PROG2+THIS DS

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
2720		271F	2499	BLWDA1	DS OCL6
2720		2725	2500		DS CL6
			2501	*	
		FFFF	2502		END

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
\$ACK	A	004	1F2F	2088	
\$AAR	C	001	0008	2373	1882 1958 2046 2083
\$BEGIN	A	004	1D2D	1882	1228 1617
\$BGM1	A	004	1DD1	1947	1882* 1911 1923 1935 2203
\$BGN01	A	003	1D3F	1889	1891
\$BGN02	A	004	1D50	1896	
\$BGN03	A	004	1D5B	1901	1897
\$BGN04	A	004	1D79	1913	1903
\$BGN05	A	004	1D97	1925	1915
\$BGN06	A	004	1DB5	1937	1927
\$BL1CT	A	001	2197	2316	2125* 2133*
\$BIT0	C	001	0080	2402	1484
\$BIT2	C	001	0020	2403	1893
\$BIT6	C	001	0002	2404	1991
\$BIT7	C	001	0001	2405	1465 2066 2085 2097 2132
\$CC	A	002	226C	2349	1963 1976* 1994*
\$CHECK	A	001	2192	2310	1909* 1921* 1933* 1945* 2056 2074
\$CLEAR	C	001	0008	2397	1860 1865 1999 2038
\$CTR	A	001	2198	2319	1380* 1388* 1395 1746* 1756* 1763
\$CYL	A	002	218C	2303	1230* 1619* 1963 1976 1994
\$DDCF	A	001	226A	2347	2337
\$DDCK	A	002	21BC	2337	2060
\$DDDF	A	001	228C	2359	1969 2019 2030* 2031 2031* 2338
\$DDDR	A	002	21BE	2338	2061 2121
\$DL	A	002	2272	2353	1997*
\$DAV	A	001	2193	2312	1321* 1346 1348 1593* 1693* 1714 1716 2671*
\$DRVAD	A	001	218A	2301	1908* 1920* 1932* 1944* 2050 2065 2096
\$DRVID	A	001	2189	2300	1243 1632 1907* 1919* 1931* 1943* 2144
\$DRV1	C	001	0080	2393	1902 1905
\$DRV2	C	001	0040	2394	1914 1917
\$DRV3	C	001	0020	2395	1926 1929
\$DRV4	C	001	0010	2396	1938 1941
\$D1	A	001	21AD	2331	1489 1551 1556 1593 1671
\$ECC	A	006	1F6A	2121	2111
\$ECC01	A	006	1F9E	2127	2134
\$ECC02	A	004	1FAC	2130	2126
\$ECC03	A	006	1FB6	2133	2131
\$ERP	A	004	1F68	2166	
\$ERR	A	004	1F24	2083	2058 2076
\$ERRP	A	004	1FC4	2141	2094 2166
\$ERRX	A	004	1FC0	2136	2083*
\$FF	A	001	226A	2346	1991
\$HALT	C	001	0222	2417	2200
\$HD	A	002	218E	2304	1231* 1592* 1620* 1870* 1966 1977 1995
\$hd	A	002	220E	2350	1966 1977* 1989* 1995*
\$HLTP6	C	001	FFFF	2388	2150 2261
\$HLT00	C	001	FFFF	2387	1249 1638
\$IND	A	001	218B	2298	1226* 1615* 1860* 1865* 1902 1905* 1914 1917* 1926 1929* 1936 1941*
					1999 2038*
\$IO	A	004	1DB5	1958	1234 1365 1382 1421 1447 1501 1579 1623 1733 1750 1850 1863
\$IOX	A	004	1EC1	2041	1958*
\$IOX1	A	004	1EBD	2040	1959* 2025
\$KILO	A	004	21B2	2333	1549
\$KL	A	001	2270	2352	
\$LINK	C	001	0216	2414	1894 1939
\$ME6	A	006	21B6	2334	1554
\$M01	A	001	203B	2212	2144* 2146
\$M01N	A	020	204E	2213	2148 2149
\$M02	A	001	204F	2215	2154
\$M02N	A	027	2069	2216	1666 2154 2155
\$M03	A	001	206A	2218	2159
\$M03N	A	026	209E	2220	1679 2159 2160
\$M04	A	001	209F	2222	
\$M04N	A	036	20C2	2223	1241
\$M05	A	001	20C3	2225	
\$M05N	A	022	20DB	2226	1636

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
\$M06	A	001	20D9	2228	
\$M06H	A	022	20E	2229	1242 1631
\$M07	A	001	20EF	2231	
\$M07N	A	005	20F3	2232	1272
\$M08	A	001	20F4	2234	
\$M08H	A	016	2103	2235	1273 1288 1289
\$M09	A	001	2104	2237	1274
\$M09N	A	005	2108	2238	1290
\$M10	A	001	2109	2240	
\$M10M	A	004	210C	2241	1275
\$M11	A	001	210D	2243	
\$M11H	A	005	2111	2244	1276 1277
\$M12	A	001	2112	2246	
\$M12H	A	003	2114	2247	1284 1664
\$M13	A	001	2115	2249	
\$M13M	A	006	211A	2250	1285 1665
\$M14	A	001	211B	2252	
\$M14M	A	006	2120	2253	1286
\$M15	A	001	2121	2255	
\$M15M	A	023	2137	2256	1287
\$M16	A	001	2138	2258	
\$M16M	A	009	2140	2259	1291
\$M17	A	001	2141	2261	
\$M17M	A	006	2146	2262	1300
\$M18	A	001	2147	2264	
\$M18M	A	016	2156	2265	1301 1302 1303 1304
\$M19	A	001	2157	2267	
\$M19M	A	007	215D	2268	1305
\$M20	A	001	215E	2270	
\$M20M	A	004	2161	2271	1307
\$M21	A	001	2162	2273	
\$M21M	A	006	2167	2274	1398 1766
\$M22	A	001	2168	2276	
\$M22M	A	004	2168	2277	1666
\$M23	A	001	216C	2279	
\$M23A	A	004	216F	2280	1667
\$M24	A	001	2170	2282	
\$M24M	A	008	2177	2283	1785 1786
\$M25	A	001	2178	2285	
\$M25M	A	008	217F	2286	1677
\$M26	A	001	2180	2288	
\$M26M	A	008	2187	2289	1678
\$M27	A	001	2273	2354	1884* 1885 1885* 2012* 2028* 2113* 2114 2114*
\$PBUP	A	001	2201	2344	1236 1248 1260 1282 1296 1312 1319 1341 1356 1403 1502 1625 1637 1649 1662 1673 1684 1691 1709 1724 1771 1805 1810 1815 1820 1825 1830 1835 2162* 2163 2163* 2168 2173 2178 2183 2188 2193 2196 1245 1257 1279 1293 1309 1316 1338 1353 1400 1559 1634 1646 1659 1670 1681 1688 1706 1721 1766 1832 2141 2146 2152 2157 2195 1232* 1363* 1370* 1372 1375* 1387* 1390 1393* 1407 1412 1416* 1418 1426* 1428 1431* 1491* 1493 1496* 1498 1507* 1509* 1571 1574* 1576 1621* 1731* 1738* 1740 1743* 1755* 1758 1761* 1775 1840* 1842 1845* 1847 2003 1407* 1416 1498 1576 1775* 1847 1412* 1418 1567 1231 1370 1387 1368 1426 1491 1509 1592 1620 1738 1755 1756 1840 1870 2105 2133 1230 1619 1971* 1975* 1984* 2014* 2033* 2051 1972* 1980* 1985* 2015* 2034* 2052 1445* 1449 1449* 1450 1452* 1525 1554*

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
\$BKAD1	A	006	1E5E	2005	2006
\$BKAD2	A	004	1E67	2019	2009
\$BKDW	A	001	21A3	2324	2002* 2003* 2004* 2005 2005* 2008 2011 2020* 2021
\$BKDW	A	006	1E35	1994	1907 2117
\$KLC	A	001	21C1	2341	1367 1364 1414 1423 1452 1453 1455* 1459 1465 1473 1479 1484 1503 1506 1581 1584 1735 1752 1786 1783 1788 1791 1792 1793 1795 1796 1799 1800 1804 1809 1814 1819 1824 1829 1852
\$KLCAL	A	004	1DF7	1971	1964 2119
\$KLCN	A	004	2200	2342	2023*
\$KLETRY	A	001	2196	2317	1961* 2105*
\$KRA	A	001	226F	2351	1909* 2008 2011* 2027*
\$KIM3	A	001	1770	1219	0377
\$KIM4	A	001	180E	1608	1221
\$K5	A	004	1778	1228	1358
\$K5A	A	003	1875	1326	1595
\$K5B	A	004	1888	1363	1349
\$K5B1	A	004	188C	1365	1373
\$K5C	A	004	18D9	1380	1368
\$K5C1	A	004	18DD	1382	1396
\$K5C2	A	004	18FF	1395	1391
\$K5C3	A	006	1918	1407	1385
\$K5D	A	006	191E	1412	1587
\$K5D1	A	006	192F	1418	1429 1432
\$K5E	A	003	195B	1437	1419
\$K5E1	A	006	1992	1452	1509
\$K5E2	A	003	196F	1471	1461
\$K5E3	A	004	19D9	1484	1466 1469 1480
\$K5E4	A	005	19E3	1489	1460 1474 1485
\$K5E5	A	006	19E8	1491	1475 1504 1507
\$K5E6	A	006	19F9	1498	1494
\$K5E7	A	001	1A1B	1511	1499 1552
\$K5E8	A	006	1AA1	1554	1550 1557
\$K5E9	A	004	1AB3	1559	1548 1555
\$K5F	A	006	1AB8	1567	1424
\$K5F1	A	006	1AC1	1569	1582 1585
\$K5F2	A	006	1AD2	1576	1572
\$K5M	A	006	1AP4	1592	1405 1577
\$K6	A	004	1B16	1617	1726
\$K6A	A	003	1BC5	1698	1873
\$K6B	A	004	1BFC	1731	1717
\$K6B1	A	004	1C00	1733	1741
\$K6C	A	004	1C1D	1748	1736
\$K6C1	A	004	1C21	1750	1764
\$K6C2	A	004	1C43	1763	1759
\$K6C3	A	006	1C5C	1775	1753
\$K6D	A	004	1C62	1780	1855
\$K6D1	A	004	1C8F	1795	1789
\$K6D2	A	004	1CA5	1802	1796
\$K6E	A	006	1CE3	1840	1761 1853
\$K6E1	A	006	1CF4	1847	1643
\$K6H	A	004	1D0D	1860	1773 1848
\$SAVH1	A	004	1A67	1529	1516*
\$SAVH2	A	004	1A6B	1530	1517*
\$SBY12	C	001	020A	2410	1896 1899* 1901 1913 1925 1937
\$SEY14	C	001	020C	2411	1862
\$SEEN	A	004	1E0F	1979	1992
\$SIO	A	003	1E09	2063	2050* 2051* 2052*
\$SKCNT	A	004	21A2	2322	1450* 1453* 1518 1549*
\$SAS	A	001	2274	2356	2054* 2057 2072* 2075 2085 2088* 2089 2089* 2091* 2092* 2108* 2110 2116 2121* 2122 2122* 2123 2127 2127* 2167 2172 2177 2182 2187 2192 2339 2099 2096* 2097* 2090 1896 1901 1896 1899 1913
\$SNSDA	A	002	21C0	2339	
\$SNSIO	A	003	1F57	2101	
\$SNS23	A	002	21BA	2335	
\$SSW11	C	001	0040	2378	
\$SSW12	C	001	0020	2379	

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SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
\$SSW13	C	001	0010	2380	1896 1925
\$SSW14	C	001	0008	2381	1896 1937
\$SSW20	C	001	0080	2382	1862
\$1EST	C	001	0212	2413	2048
\$110	A	004	1F0A	2070	2065* 2066*
\$DCK	A	006	1P49	2096	2086
\$DCL	C	001	0A0A	2419	1887
\$UNPK	C	001	0212	2416	1802 1807 1812 1817 1822 1827 2165 2170 2175 2180 2185 2190
\$WRREP	A	004	1E9E	2027	2000
\$XLC	A	004	1EC5	2046	1974 1982 1987 2017 2036
\$ALQA	A	004	1F20	2078	2046*
\$AR1	C	001	0001	2571	1256* 1241 1242 1243 1254 1255 1255 1262 1263 1263 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1284 1285 1286 1287 1288 1289 1290 1291 1298 1298 1299 1299 1300 1301 1302 1303 1304 1305 1306 1306 1307 1314 1314 1326 1327 1327 1329 1330 1331 1332 1333 1334 1335 1336 1340 1351 1351 1398 1414 1423 1437 1438 1438 1439 1439 1440 1441 1441 1442 1442 1443 1443 1444 1444 1445 1445 1457 1463 1466 1471 1477 1482 1500 1551 1556 1584 1625* 1630 1631 1632 1643 1644 1644 1651 1652 1652 1654 1655 1656 1657 1664 1665 1666 1667 1668 1675 1675 1676 1676 1677 1678 1679 1686 1686 1699 1699 1699 1701 1702 1703 1704 1714 1719 1719 1766 1765 1766 1791 1792 1793 1798 1799 1800 1887* 1889 1889* 1890 1893 1939 2019* 2021* 2023 2040* 2123* 2129 2130 2130 2132 1457* 1463* 1466* 1471* 1477* 1482* 1487 1487* 1489 2129 0762 1025 1033 0220 0753* 0491 0636 0693 0712 0740 0799 0832 0856 0867 0896 0591 0616 0206 0211 0208 0771 0216 0224 0226 0145* 0142 0415 1050 1057 0154* 0250* 0664* 0673 2426 2429 2467 0509 0665 0433* 0436 0442* 0443 0531 0599 0876* 0869* 1020 0999 1034 0754* 0312* 0319* 0396* 0452* 0435* 0579* 0742 0746 0751 0760 1514* 1522* 0155* 0156* 0171 0195* 0197 0436* 0578* 0714 0757 0760* 0801 0834 0849* 1515* 1524* 0541 0500 0640* 0649 0661* 0662 0510* 0528 0530* 0531 0535 0554* 0563* 0590* 0599 0605 0665* 0161 0162 0642 0846 0745 0769* 0839* 0845* 1015

SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
CVTSTR	A	004	1423	1046	1036 1041
CV1X	A	001	122A	0851	0781
CV1X2	A	001	12F3	0854	0740* 0799* 0832*
CV1X1	A	001	12E1	0847	0813
CYS161	A	001	149E	1018	1010*
DALCON	A	004	0D04	0259	0152
DAL	A	001	1354	0925	
DAG9	A	001	0EF3	0462	0392*
DBUF	A	001	2623	2489	0086 0086* 0092 0097 0097* 0098 0098* 0099 0099* 0105* 0170 0196 0268* 0269 0269* 0293* 0713 0756 0800 0833 0924 1172 1518* 1525* 2426 2427 2491 2492 2493 2494 2496 2496
DBUFA	A	002	1354	0924	0156
DCR	A	002	1352	0923	
DDCF	A	001	16FB	1177	0948* 1060* 1061* 1062* 1098* 1169
DDCFB	A	010	1725	1202	0945
DDCFE	A	001	1704	1185	0945* 1076
DDCL	A	001	170F	1190	1171
DDCZ	A	001	1718	1198	1076* 1077*
DDLF	A	001	1705	1187	1084 1097* 1170 1203
DDZL	A	002	171A	1199	1077
DUS1	A	001	0E2F	0458	0389*
DEC	A	015	2511	2479	0759* 0764 0764* 0768* 0771* 0774* 0779
DISK10	A	001	1333	0893	0290 0294 0448 0569 0694 0895
DISK12	A	002	1349	0902	0896* 0897 1093
DISK33	A	006	13F3	0945	0899
DIVBY4	A	004	0C63	0217	0213 0215
DKL2A	A	006	15CD	1116	1139
DKL2B	A	006	1552	1109	1082
DKL2R	A	006	15E8	1112	1092
DKL2Y	A	006	15C4	1115	1075 1104
DKLR	A	003	15AF	1107	0947
DONE	A	001	239D	2435	0661 0768
DEV32	A	001	171B	1201	1066
DSK	A	001	0F2A	0566	0539
DSKCYL	A	001	134E	0920	
DSKDRV	A	001	134C	0917	0065* 0393* 0994
DSAFCT	A	001	1346	0900	0898* 1067
DSKPLG	A	001	134D	0919	0923
DSKMSG	A	004	138E	0933	
DSKH32	A	001	0A38	0073	0068
DSKH33	A	023	0A87	0076	0068 0069 0072
DSKNUM	A	001	1350	0922	
DSKOPS	A	002	23B3	2448	
DSKSEC	A	001	134F	0921	0292* 0568* 0993
DSNS	A	001	1728	1206	1173
DSNSL	A	024	173F	1207	1142
DBUF	C	001	2020	0035	
DVPLG	A	002	0D91	0324	0166* 0177* 0184* 0186* 0237* 0313 0313*
DV16L	A	001	0D84	0354	0748
DZLRO	A	001	239C	2434	0640 0759
D51	A	003	0A15	0049	0387
EIGHT	A	002	239B	2433	0700 0225 0245 0256
EMPIY	A	001	0D16	0276	0132
ENR	A	001	2523	2487	
ENTADD	A	002	2397	2431	0134
ENTALL	A	008	2522	2486	0116 0116* 0123 0123* 0124* 2431
ENAP	A	001	0A00	0018	
ERRMSG	A	004	0D05	0270	0095
ERRMSG	A	004	141A	0981	1022 1037 1054
ERRMSL	A	051	145E	0988	0984
EXIT	A	005	150E	1059	1046
E1	A	001	0EFO	0459	0386*
FFFP	A	001	23AA	2442	0494 0719 0803
PFLG	C	001	0080	0482	0498 0522 0637 0666
FIVE	A	002	23A4	2438	0311
FLGDA	A	001	0A11	0048	0390

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CROSS-REFERENCE

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SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
RMSG	A	035	1147	0676	0672
RSHF1	A	001	11C1	0723	0712*
RSHF1	A	004	11A9	0716	0720
RSHF2	A	004	11B3	0719	0717
RSHIPT	A	001	1199	0711	0217
RST	A	004	10AD	0637	0683
RTN1	A	001	0A16	0056	0042
RTN1X	A	004	0D1C	0280	0244
RTN1X	A	001	0D2F	0287	027*
RTN1X1	A	001	0D5D	0309	0266
RTN102	A	006	0ABB	0097	0101
RTN103	A	001	0AB7	0103	0093
RTN104	A	004	0AE1	0106	0118
RTN105	A	001	0B17	0119	0114
RTN106	A	001	0E32	0127	0110
RTN107	A	001	0CA2	0240	0174 0180 0182 0185 0194 0230 0234 0236
RTN108	A	001	054C	0136	0257
RTN109	A	006	080D	0117	0125
RTN11X	A	004	0CDF	0257	0247 0255
RTN111	A	006	0D67	0313	0320
RTN112	A	006	0D7C	0318	0314
RTN2	A	001	0DF0	0375	0058
RTN334	A	004	0L4D	0300	
SAVAD	A	005	1B0D	1598	1527* 1532
SAVSEK	A	005	1B08	1597	1520* 1531
SBIFF4	C	001	020C	0027	0285 0446
SCAN	A	001	0EP6	0490	0081 0088 0279 0282 0317 0414 0429 0440 0872
SCHEX1	A	001	0FD1	0557	0491*
SCHPLG	A	001	0EP5	0480	0278* 0281* 0316* 0413* 0415* 0496 0498 0522* 0555* 0637 0666* 0772 0775* 0782* 0871*
SC1	A	004	0EPE	0493	0495
SC2	A	001	0F23	0503	0499 0523
SC3	A	001	0F71	0525	0497
SC4	A	001	0F58	0521	0514
SDRBS	A	004	0E9E	0434	0444
SDRBS0	A	001	0E97	0432	0478 0420 0422
SDRFB	A	001	0E57	0411	0405
SDRIDX	A	002	2518	2484	0401* 0402 0416 0451*
SDRLEN	A	001	0EF5	0465	0398
SDRNI	A	001	0E2B	0397	
SDRIBL	A	001	0EE2	0456	0396 0400
SDR1	A	006	0ED4	0450	0467 0447
SDR2	A	004	0E43	0404	0409
SDR3	A	004	0E7D	0424	0426
SDR4	A	001	0EC8	0445	0430
SDR5	A	001	0E7E	0423	
SDR6	A	004	0E38	0402	0453
SFLG	C	001	0010	0485	0276 0281 0316 0413 0496 0555 0871
SIO2	A	003	1345	0901	
SIO33	A	003	1566	1080	1165
SII	A	002	23A6	2439	0493
SIXTEN	A	002	2395	2432	
SPACE	A	001	1098	0619	0589
SPCNT	A	001	107E	0609	0574*
SP1	A	003	10A2	0623	0617
SSW20	C	001	0080	0023	0285 0446
SSW23	C	001	0010	0024	
SSW24	C	001	0008	0025	
STARTN	A	001	1415	0976	0991 0992
STAT01	A	026	1649	1157	1136 1133 1134
STAT1	A	001	162F	1156	1133
STATUS	A	002	134B	0916	0966* 1126* 1129
STBDAT	A	006	2719	2497	
SUB126	A	005	0C83	0227	0222
SVC518	A	002	2516	2483	
SVNTLN	A	001	140B	0969	1023

SYMBOL	T	LEN	VALUE	DEPN	REFERENCES
SWITCH	A	001	128C	0805	0804* 0812 0814*
SYNC*	A	002	25AF	2445	0311* 0315 0318* 0399* 0412 0450*
SYMMOV	A	001	1311	0865	0080 0396
SYMMIX	A	001	1332	0876	0667*
SYMR	A	001	1315	0868	
SYNIBL	A	001	23C8	2459	0492 0873*
SYN1	A	005	0F18	0500	0505
SYN2	A	004	0F2B	0506	0501
SZ1	A	005	0C5E	0216	0204
TAB	A	001	0FD2	0559	0543
TABIDX	A	002	23BB	2452	0154* 0168* 0441* 0562* 0852* 0858 1513* 1523*
TALLES	A	001	140C	0970	0996 0997
TABTBL	A	001	2428	2463	0425* 0561* 0857 1512*
TBN	A	004	0CD2	0253	0249
TEMP	A	002	2513	2480	0091* 0092* 0094 0100* 0107* 0108* 0109 0111 0113 0136* 0140* 0141 0141* 0143 0147 0147* 0149 0700* 0701 0751* 0752* 0753 0754 0758
TWO	A	001	0E26	0395	0442
UDF	C	001	0232	0053	0403
UFLG	C	001	0004	0487	
UNORD	A	004	1113	0669	0663 0675
UNPACK	C	001	021E	0030	0655 1127 1140
UPCYLN	A	005	14DC	1040	1028
X&1	C	001	0001	0020	0106* 0107 0139* 0140 0150 0155 0158 0176* 0233 0402* 0404 0416* 0417 0419 0421 0492* 0493* 0500 0506 0506 0507 0527* 0529 0548 0548* 0549 0583* 0584 0585 0585 0592 0593 0593* 0613 0614 0614* 0622* 0694* 0696 0697 0698 0698* 0700 0715* 0719* 0745* 0746 0747 0747 0748 0748 0749 0749 0779 0803* 0806 0807 0808 0810 0811 0811* 0837* 0840 0843 0844 0844* 0857* 0858* 0859 0860* 0861* 0894* 0895 0896 0897 0898 0939 0991 0992* 0994 0995 0998 1001 1012 1014 1016 1017 1019 1021 1023 1027 1030 1031 1036 1040 1043 1047 1049 1051 1053 1056 1059 1516 1529* 1531 1532 1533 1535 1537 1539
X&2	C	001	0002	0021	0076* 0142* 0143* 0144 0144* 0145 0146* 0149* 0152* 0153 0170* 0171* 0172 0196* 0197* 0198 0202 0203 0205 0207 0209 0212 0214 0216 0221 0223 0225 0227 0277* 0260* 0315* 0394* 0400* 0401 0403* 0404 0406 0408 0408* 0412* 0494* 0508* 0509* 0510 0528* 0530 0535* 0536 0538 0540 0542 0544 0546 0549 0550 0550* 0586* 0588 0590 0592 0594 0594* 0595 0605* 0606 0612 0612 0615 0620 0620 0621 0622 0623 0623* 0695* 0696 0697 0699 0699* 0713* 0714* 0716 0716 0718 0721 0741* 0742* 0743 0756* 0757* 0758* 0762 0766 0766 0800* 0801* 0806 0833* 0834* 0841 0841 0848 0897* 0898 0996 0997* 1000 1000*
X02	A	002	23AB	2440	
X39	A	004	12A0	0812	0810
ZERO	A	004	23A1	2436	0158 1513 1515 1523 1524
ZFLG	C	001	0008	0486	0772 0775 0782

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

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OBJECT CARD LISTING

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THE CHARACTER INDICATES A BLANK COLUMN AND THE CHARACTERS D E H INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16 CL 17 THROUGH 32 CL 33 THROUGH 48 CL 49 THROUGH 64 CL 65 THROUGH 80 CL 81 THROUGH 96

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
1+-: _ |HANGOI |H	APABGD*H| EBYBY7	89*0H*BPSG /0#	00Y*1|C TXKGD*H	S+9C-DT_2+S0#	JUN** 53PPF720021
GBK GBD P# 42 48240 EC 571871	DISK ERROR RECOR	DING ANALYSIS	64003400	PF720000 1+-#Y/OHEH*BGC7Q	K*#C0 TX-0W|JQ
1+-Y:7H & B/E	**AD +D HU ED	6 D C-C /OHEA0	** |H-LL<0G /Y	6L0D60H*5H?***0Y)	|E (6 600PF720001 1+-01+00G /00#;C
1+-250) .EE+.Y8>|	E5DCPU*|K6< 05;|	A2) P15*) 1)XR5_V	2) PFB_XMO; |15_M	6*PA1+/ 5_M 1(X	19*H 5K<PF720002 1+-; /1BZOH*|PE-
T+-D00|1.8<LE5*Y	E8>I 0>|A0; (-0-H	**BGD1G /0#0C|0	MHS*SOE**+ -1-1|-	H700A1J<(V80A1J<	V1|H -0HPP720003 T+-=H#*XE4*3A1DC
T+-,-K89AZEL01	(A80G1KXH-3712H	XF-3*ISYMH-0A1J<	1W0 AB,X< KMEH00	0 BH1(6LVP/0 1J<	+00 *LXPP720004 T+-*M |HAL.5H |H
T+-XW1J0* FHL3YD	*|E VD*HBA3701J|	ZAA605B+_C-*V8SH	SC0DVFS+_03*H804	A1JY1T-HADT06H:4	+A2H ;L0PP720005 T+ / |30061C-UDLO
T+-/H8MS+-DVH0B	GB04+ MNEH:4(KM	LHB* / 46C D<5K+	P| D<401-B(0U= 0	A1J<IYLHAIJYQ SH	L 8 J/<PP720006 1+/AH00 H0U0WXB
T+->* KMLIJ|B -6	N(-HVD08B C6BB#U	+ KMLIJ|B -63(-H	VD70I |HAA<HBC00	X 0SL C0AH*34 K+	7C0D EDYPP720007 1+/BAAA DC-DV -D
T+-?PH*LN00C1|0	C0H*K*0B0DX| /1H	70H*K,00G :H 0	00H*K*3000+7B SQ	1(-HT_00 BL:0H*	J0X)R0PP720008 T+/C -EO 4-DAT0
T+-0K/02S+Y (UCM	AB008BBL901 <YX0	GDX| /02S+U (U<B	GLH:H A 00+5 H0PH	00C31BHH0* SC+ 8	U=0 FJ8PP720009 1+/C0H*0HSC03*H
T+-1(0 2SC-DT_0D	.0-HMH3QBH0; *-C	2-WH00 1+0/ 910	H02*P C2/BH*L C	Z/AK*C CZ/ B*0EC	2 -- N0*PP720010 T+/060-DMCL00H T
T+-2BT- H#2/06	+ T7-HGA00 BI	0H*JH-HG07HAC,5	= |HDDH0 110Y*	(T- H972/001	170 H10PP720011 T+/E15_ID1)V,6*H
T+-3C/1GB0Y*LUH*	K*00P B|G0Y*0+--	(U|HG <BG /Y/C0D	T1ZH00Y2XC-DVFS+	3C0DT2H0YD-C-	<400 2H PP720012 T+/P# K+A(0H1VH-
TD03N4*HAB-0AC(H	H530AC (08				20-PP720013 T+/G10S C>-D (-D
T+-400Z FC-DVFS+	X0H*.1<PR6)3R0<T	10>|00; / 00GB40H	2;1 2) PVO) |11DC	00MC /OHEA10 ( |H	GG0H 100PP720014 T+/HSC DVD2+9C0D
T+-5. - C+ / +*B	GC70B - L+ / +*B	GC70Y- H<0Z >|	XH-3=12DXH0B0D3<	B|A0LL00C1SQ(V*0	GLJ< 700PP720015 T+/I) |H-A-2-1JD
T+-0P X0G /YB00+	SOH*BF-H0D*H< K+	PH:00DBEMC-D(006	J0S <(0HT,310C?P	/0#0C-DT,0D.CO	VE 1 0BLPP720016 T+/H053YHC?P /1H
T+-7AS0 ACO- /0H	0 ** A*0G*0*% (A04	EC0H.004EC0H.>-4	EC0H (A04EC0H.=02	3*-L70HA 0Da 0DA	0D 110PP720017 T+/.L ** NY (HA LU
T+-700LC1*|L20DA	0DA 0DC00*|00DA	0DA 0DA 0DA 0DA	0DA 0DC00?C3*-L	2* H 07C /OHE00	|0 0S-PP720018 T+ /<+4-DACODT_0D
T+-87 C--B+2U 0	08000K HE|H0AC1	JC>00H YJ0Z D|HU	+032YD43B - B0H*	LDL0G1J00 2+70-H	+0T0 03PP720019 T+ /|I *** 0BA<2|HH
T+-92 SHQ (0DVPCH	B TI_ **** 0YD(>A	A0/B08-HCOH*+03H	BH:0:D 050H*+*1%	BC?H5 KHQ-Q 0YD	H-Q- N00PP720020 T+ /+D BY ***** A(

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

OBJECT CARD LISTING

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96	CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96		
T+/*MCM05MVC5_	94A QPA-011301A	QPA-0DA EDA GDA	011301A 1)YH5_V	2<XSB*2R:DCAS*J	5><*,DFF720043	T+/UC-/S01	T/30	HRT/17M16/0-8	A<B HCS/2-8 H-	/216*HQ*2--60	BF 1130/MCB5F(5<A64	/H0 6D PFF720065	
T+/1:2<PRC<PR0)3	R0<LAB0E 9)XL44C	B1MCP0*AN00P00<	Y0(1A00P00(109+1	15*P5K4A C UPAA*	V<<4 B0PFF720044	T+/VG/0HE OUSL*0	GF70< BFMHQ0< LF	ME0<A04/1-0 HQ0	/V 4 HQ0/V-HA000	GG)M(A04/1)00AF,X	+ BD ASDFF720066		
T+/05D4?A2A0?1	0=*HGN2 DEAR L*B	32HXH%0	0	6 /0<1J;00*BH70	10H*0E>LEU*.L1HC	T50	6H0PFF720045	T+/WB12FM10/1+0	BFK00 BP100*0.73	0HEUCQ0J*AEVUP (0ELOCKVA* 4J0P U	*E100<D2* 1HE0H*	510 JLPFF720067
T+/J00*EN9*PR84C	5*1L40<GD1(XL0>1	2)P15UC0011301A	0*LD0*P50070 J0	0C D0E1(1L DD41	* < 5A4PFF720040	T+/W* BF;C 0/XAF	;C </Y5F;C-M/X50	<C-</Y5G0+00/0(H	BEL400)T2-T2/2C	A SY0 AGJ0Z -4-H	70Y0 91HFF720068		
T+/K,AKHBE 10D 1	2U 15 -J0B 12D 1	5 -H0 AK; 0- A B	00 A:0 L2D (0B J	0 A*0 G2-0R*200	0/0 00PFF720047	T+/X6P_H0J0500)T	2-0,2/03K/4*000	00-DC4-10+H/47H	0 =00AY00 BF_C-	/T2P+100/1*00L00	H00) 50PFF720069		
T+/LWF00 00.0Y0	2-0 A0Y00L- BY_	1 LMB?H000000.LN	0 00 J000Y*(L-	BY72/00+ LMB10	AE00 ASDFF720040	T+/Y300 /T2P00YD	H00*)5L4 H*0 -J1	Y000(H*0 J1Y00*	H010100-< K*0H:0	000+9C D1_2+/(D	0000 N0PFF720070		
T+/0/00 00YD/;H	H0Z ELO 0E /0*	/A000- ME D.L0	02 X J00L 00E00	< A3*0000 A0*000	< A* 00PFF720049	T+/2> /200 <M10P	000*J0-0D00-0000	FH00< K*0H:0K K+	7H:0<AK0Y000 /10	0C 0100000-D <H	0 0000 10PFF720071		
T+/N* A0PC 00;1(	PC- N;1*10*Y0<L0	+L7H13A0400- 0*0	H0<000000L0A0P0C U	PFA*0C DPL1*0<0*	0*1D 0/Y0PFF720050	T+/DZL J0P0/<A00	0CP5 0-0A 730005	H10A 7300<00P<	1 2F000.2--VF000	/0*00P/0AKP;H0T	2--U 00-PFF720072	
T+/0P0A10000A0*Y	N000H00000 /0*00/	0<000000<071320C	A2/0*0*-N>00004X	-/0D0 J*0E1 DC=00	0000 00PFF720051	T+/0J0A00007 /10	/0H*0P-0Z000< 0P	10000+ BF1000*72P	10Y001 /104 H00	/V1000*000)0* 00	0000 J.0PFF720073		
T+/0K<00*110 <0	100*02/010*010<0	02002/2D<010-0,1	2/1-<010-0012/00	<010-0_32/00<010	-0? 00PFF720052	T+/0-000(004/100	0P00 /10;C- /Y0P	0A- /02P_000)0	000000000000000000	0 0 0 /<000000< 0P	<000 00PFF720074		
T+/0(0H*0P0*00	0000-0A00100-<<4	10000 /000400*0*	0 /00P/010*Y0=10	<L?_320-02/000*-	H00* 10PFF720053	T+/000 D/10P01	/T0000)P0 00000	0H(/<000-000 H2P	10000P0000000000	000*0007 /000 00	0000 00PFF720075		
T+/0H/00;FA*000	/000-1400000 /0	0<A) 000*000000*	0EUC0000T9+1 0>T	11;1 0P710<0010C	Y9=0* 0PFF720054	T+/>0001*0V_0-00	P-101-000-00000*	0P-0;H00< -0/000	000000 <000_< 20	/0400000000*0P-0	0000 20PFF720076		
T+/0C94001*000<L	10*) 0>100=000<	Y00P00<00100 0<L	10_1 1(119*0 011	5)010(X00*100P0	9(M 00PFF720055	T+/000 H00000000	<A1-/0000000000	0010 /000 000P01	0P07 /000 000P03	100(0001*0V_0-00	P-00 00PFF720077		
T+/0=2; (00000*1	0LA 0DA 0DA 0DA	0DA 0DA 0DA 0*0	T1) V 0*00100000	00(X0040A1>10000	01P0 20PFF720056	T+/0.C71*0Y1*1*0*	0 /Y0P01;L 000<	00P00-0000*0*0*	0 /Y0P01;00*0110	000 /1700 /0-0	00-0 00PFF720078		
T+/099_Y00<L000E	040A1>100P001*P	00<100(L05*J.0<0	P00P00(X00*J 1<X	010000<00=1*000	H01* 00PFF720057	T+/1P 0P100*72P	1000* 00 H000 0P	000*)5L4 H*0G2 L	+ 0P1000+ 0P0000	02P10Y001 /130	000- = Y0PFF720079		
T.J*00	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	0000000000000000	
T+/0;D 0 0010 HQ1	/14_C D/10P0C D	/T0P01 /T0000)P	0 KH000<00<0000	-000 +K0100*0P00	001Y 00-PFF720059	T+/20000,L D00;0	< J-/034 H<02-0*	< J4/0000000000 D	Y00 /00;000000*	/00;000000T /00	000 /0PFF720081		
T+/0V*000PFF*00	Y00*0P-0Z00000P)	*0001-00P-001-00	0-002-000-000001	0L 0001(<020/ 40	0+0L 0(Q0PFF720060	T+/07701000*00-0	/001000*00-0/001	100*00-0;01*00*	0P-0;H00+ 0P1000	02P10Y001 /104	000 00PFF720082		
T+/00000000000000	0000<000/0*00 /Y	000000 00000000	/P000000-000000	<000/ 00000000 J	000- 00 PFF720061	T+/020002-0C /17	H10 /0*000+1 /11	0+--/SCS --3 0A7	000-/0 0 000/0-0	000/0*0000000A7	01 0000T-PFF720083		
T+/0/0L /00*0 /00	0 OUSE000A N*004	+L 00000<000/000	1<000L U*000000	/000000)P /0000	002D 00PFF720062	T+/05_0X<000000X1	0 0Y04-00000 0 0	)17--000 /09; H	000 D+0 001/ --0	0-0P000 L+1 /000	1000 00PFF720084	
T+/0Q0*00 /Y0001	0P0000000 /Y0001	211D/071 001000	0P 00P *0P0/0P00	0P010P0*0P010P03	/00 0/P0PFF720063	T+/0Y1< /010000.	2/5-00 000+0 /010	000Z H0-000P11<-	/010000.2/0Y00 H	000 /010000Y-H0-	0000 :00PFF720085		
T+/0P-0Z0000< 0	/037200(2000*00)	Y00*0P-0Z000 /1)	01 /T0000)0* 00	00Y000- /12P0100	/00 00PFF720064	T+/7100000000000	00Y00+ -00100001	U H00+ /SC00000	000P0100/0000	00000(D;0000000	(00 110PFF720086		

PF72 DISK ERROR RECORDING ANALYSIS PROGRAM

OBJECT CARD LISTING

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
T+/8;TB1%>-D(C&D /TSI>BYEB| S330	HR 3 KFOJH*;160	ABW0/T OAHW8/T10	HR 3 BFOJH*;110	AHK 2E*PF720087	
T+/9R| D/U*BG6% < 2I>HZ 8 SIDUA	;COOAHW0/T OAHW8	/1-0BHX/C-HEQT	ZDD4ABFIC /ZBF	IC- ; 8PF720088	
T+/:LHEE/ZOBAHEE /Z< -GV8(BP1HW	Z-JC< BI?HE< BI	3| D/UCU HRG /18	LU-DSTCU HE< K P	UGC 79*PF720089	
T+/#|n- "BY*SI D S3307HX< B+.C|e	YSS+.| H/UCOCJHG	/1#L+0-/S<HA C	/0 (-H&DG /H	< AB 8E<PF720090	
T+/#H=SFHC- ;=SP 6C ;=2PJ<<MS) 60	G>Y/U1U HXL UAA	U<*C/2CGDH\$43	< A0.HQY: J0.0*H	-A7D ;,6PF720091	
T+/#E A0H<<MS) 60	G1U/U1U HXL UAA	UOH* C0HG0<8 KI	50Z E| SS00HEYY	SS3G0H4YU1217|C	S;0 Q30PF720092
T+/= /1*DC -OBP H+-D-OCGDH*03	A0/ECU /VSPW0HD	-1C|BX)*B1#0HD	-ST0 HX<<BB1ZHX<	*6BH 184PF720093	
T+/#;#BAG1P /17 7C-DS/KF=COOS/HH	G(6DS/L0QH*+ SH	HBY,2H N+ /,V8	B-.2H (: 6H| BF	PHEQ 7H4PF720094	
T+/#60 D-X&BG C /OHEU-0 HC0/S*8	G /,BEB&+**5 /OH	E-J&-E*BG /DA(KB	:|D S(005HTQS (0B	6 /b LU*PF720095	
T+S 1AB17H-T /OH ;AB1#H/G /OH;AB1	H/, /OH;ABHC0S|	/OH;AB0GAS3 /OH	;AB0.H1P /OHE/TM	S(* *S<PF720096	
T+SA%/OHS**5 /17 J1(XV6+) 5)5T6(X	D:DC06RCE6)XR1*G	DE<L10*-N5>.T2*(	H&PN0&N 1<6T0HC	00P 41-PF720097	
T+SBAQFA-0| ( 0|J -QFA-0|) 0|/-QFA	-0-2 0-I-QFA-0-N	0-0-QFA-0-V 0?A	-QFA-0? (-QFA 0=|	40D KA<PF720098	
T+SCS9+.A10H 0)P DE<PR6)SRE (101+0	S9 (LH0)XYQFA-0||	5*|A 1)XRE_V 2<X	S8*SR:DA-QFA 1<G	10E #/HFF720099	
T+SD) X05DCD0*X V1HCX1_LT6|CE6+L	15*LE5; (00TE0.	S8XPL4>.D0; |A0*0	10) |D0;PV5_1U5<N	-9+H 5E*PF720100	
T+SEQ1)V-0;|T0*| H5<PN84A*0+.U0WC	S;+.X1)LM1*-A0>T	T1;.00)X00;.C5_X	H0DC11)LP0DCP1)X	HQ+* 00HFF720101	
T.SPG0-C00PCR1*6 D5)H 4*5G1<GT1;|	15<P00D?00D700(L	HK0LDR=1Y2</.5(J	.0>H	H.4PF720102	
1P2G DE (D 8C 1- =- 160	SILBYOS)			9 -PF720103	
T+S|FIA&XF269IID UNKMS A B|C1	Ab P *****U	S	:0_7~/P15;P	A40J)/*PF720104	
TCS|L1|C00|G00|C 0*-00				496PF720105	
E***E7*=-DC*PH\$ =*7H0P| | C	FX ASC R A	SU 0		11320008730 61070*8-PF720106	

----- LAST PAGE -----

7160 DATA FORMAT PRCG (3340) FOR SECT 711, 712, 713, AND 714

7160 DATA FCPMAT PRCG (3340) FOR SECT 711, 712, 713, AND 714

```

ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
0000      2      DECK 4
          3      PRINT DATA.CN
          4      SEQ 0
          5 BGN  START 0
          6      TREP
          7
          8 *****
          9 *LOCAL STORAGE REGS *****
         10
0008     11 ARR  EQU  X'08'      ADDR RECALL REG
0001     12 XR1  EQU  X'01'      INDEX REG 1
0002     13 XR2  EQU  X'02'      INDEX REG 2
         14
         15 *****
         16 * CONTROL PROGRAM SERVICE ROUTINES AND SECTION REFERENCE TABLE
         17 *****
         18
0203     19 SIZE EQU  X'203'     ADDR 1ST CORE LOCATION
0216     20 LINK EQU  X'216'     ENTRY TO DCP LINK ROUTINE
021A     21 PRINT EQU X'21A'     ENTRY TO PRINT ROUTINE
021E     22 UNPACK EQU X'21E'    ENTRY TO UNPACK HEX TO EBCDIC
0222     23 HALT EQU  X'222'     ENTRY TO HALT ROUTINE
022A     24 LOAD EQU  X'22A'     ENTRY TO TERMINATE SECTION
         25
         26 ***** PREFACE SECTION *****
         27
CACC      28      ORG  **X'A00'
CA0C 7160 0A01 29      DC  XL2'7160'      PROGRAM ID
CA02 0001 0A03 30      DC  XL2'0001'      SECTION FLAG AND CURRENT ROUTINE #
CA04 0C00 0A05 31      DC  XL2'0000'      N/A
CA0E 0A10 0A07 32      DC  AL2(PREPER-1)  FIRST ROUTINE
CA0E FFFF 0A09 33      DC  XL2'FFFF'      ERROR RECORDING
CA0A 7C5000 0A0C 34      DC  XL3'705000'    3410/3411 TAPE REQUIRED / LAST ENTRY
CA0C 15FF 0A0E 35 STDATA DC  AL2(CNTIX)    INDEX PASSING FIELD
CA0F CD 0A0F 36 INTLCK DC XL1'CD'      THIS CONSTANT IS PASSED TO EACH LA
         37 *      SECTION TO VERIFY THAT 710 HAS JUST BEEN
         38 *      RUN SINCE ANY OTHER TAPE DIAGNOSTICS.
         39 *      THIS IS NECESSARY BECAUSE 710 BUILDS
         40 *      THE TABLES FOR 711,712,713, AND 714 TO
         41 *      OPERATE ON.

```

```

ERR LOC OBJECT CODE      ADDR STMT SOURCE STATEMENT
43 *****
44 *
45 *      THIS SECTION READS LCG DATA FROM THE 3340 SYSTEM PACK
46 *      AND STORES IT IN CORE IN A FORMAT THAT FACILITATES
47 *      EASY ACCESS BY THE LCG ANALYSIS SECTIONS (711 & 712) AND PRO-
48 *      GRAM, "STEP" SECTIONS (713 & 714).
49 *      SIX SPECIFIC DATA AREAS EXIST IN CORE: 1) OBR(PERMANENT ERROR)
50 *      DATA AREA, 2) TVES DATA AREA, 3-6) SDR DATA AREAS FOR UNITS 0-3
51 *      DATA IS STORED CONTIGUOUSLY BUT DATA AREAS ARE SEPERATED
52 *      BY TWO SLASHES (//).
53 *
54 *      DATA CORE IMAGE
55 *
56 *BYTES|  e  6  1  1  10
57 *O D A|//DATE-VCLID1-CEYTE-RBYTE-SENSE DATA
58 *B A R| DATE-VCLID2-CEYTE-RBYTE-SENSE DATA
59 *R T E| . . . . .
60 *A A| . . . . .
61 * | . . . . .
62 *
63 *BYTES|  6  1  e  11
64 *T D A|//VCLID1-ENTRY COUNT-DATE-TVES DATA
65 *V A R| -DATE-TVES DATA
66 *E T E| . . . . .
67 *S A A| . . . . .
68 *
69 *      VCLID2-ENTRY COUNT-DATE-TVES DATA
70 *      -DATE-TVES DATA
71 *      . . . . .
72 *      . . . . .
73 *      . . . . .
74 *
75 *BYTES|  1  6  30
76 *UNIT0|//ENTRY COUNT-DATE-SDR DATA
77 *S D A| -DATE-SDR DATA
78 *D A R| . . . . .
79 *R T E| . . . . .
80 *A A| . . . . .
81 *
82 *UNIT1|//ENTRY COUNT-DATE-SDR DATA
83 *
84 *UNIT2|//ENTRY COUNT-DATE-SDR DATA
85 *
86 *UNIT3|//ENTRY COUNT-DATE-SDR DATA
87 *
88 *****

```

7160 DATA FORMAT PROG (3340) FOR SECT 711, 712, 713, AND 714

7160 DATA FORMAT PROG (3340) FOR SECT 711, 712, 713, AND 714

ERR LCC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0A10 0100	90	*****	
0A12 FFFF	91	PREPER DC	XL2'0100' ROUTINE PREFACE # AND FLAG
	92	CA13 DC	XL2'FFFF' LAST ROUTINE
	93	*****	
	94		
	94		
0A14 C0 87 1820	95	INITBR B	INITAL GO INITIALIZE PGM
	96	*	THIS INSTR MOD TO B TO READLP
	97		
0A18 C0 87 CCF1	98	READLP EQU	*
0A1C 3D E5 0880	99	B	DISKRD
CA20 F2 81 49	100	PROC CLI	RDAREA.C*V* ER TO DISKPD
0A23 3D D6 C880	101	JE	VESCRD IF RECCRD IS TVES
0A27 C0 01 0A1E	102	CLI	RDAREA.C*C' GO TO TVES SECTION
0A2E 0C C1 11B7 C203	103	BNE	READLP IF RECCRD IS NOT OBR'OR TVES
0A31 0F 01 11B7 18CD	104	MVC	WOFK04(2).SIZE SKIP THE RECORD
0A37 CD 01 11B7 11EF	105	SLC	WOFK04(2).ENDATA PUT MAX SIZE OF CORE IN WORK04
0A3D CC 04 1104	106	CLC	WOFK04(2).SIXTY4 SUBTRACT LAST ENTRY ADDR FROM IT
0A41 0C 0B 08DF 089E	107	BNH	COFPRT CHECK IF ENOUGH CORE LEFT FOR THIS 1
0A47 0C 01 088E 08D5	108	MVC	RDAREA+55(12).RDAREA+24 IF NOT, GO PRINT FULL CORE MESSAGE
0A4D 0C 07 C8E6 C8DF	109	MVC	RDAREA+14(2).RDAREA+85 MOVE DISK DATA UP FOR SORT
0A53 0C 01 0898 08D7	110	MVC	RDAREA+22(2).RDAREA+95 MOVE AND AT SAME TIME SORT
0A59 3C 01 11D3	111	MVC	RDAREA+24(2).RDAREA+97 DATA BACK DOWN
	112	MVI	VALFLG.X'01' IN READ AREA
	113		SET VALID DATA FLAG
0A5D 35 01 1801	114	L	OBREND.XR1 POINT TO THE END OF
0A61 C0 87 0C36	115	B	INSERT THE OBR FIELD W/ XR1
0A6E 1E	116	DC	IL1'24' AND INSERT THE RECORD
0A6E 0E5E	117	DC	AL2(RDAREA+24) IN THE OBR AREA
0A6E C0 87 0A1E	118	E	READLP DONE - GO GET NEXT RECORD
	119		
0A6C 0C 01 11B7 0203	120	VESCRD MVC	WOFK04(2).SIZE PUT MAX SIZE OF CORE IN WORK04
0A72 0F 01 11B7 180D	121	SLC	WOFK04(2).ENDATA SUBTRACT LAST ENTRY ADDR FROM IT
0A78 0C 01 11B7 11EF	122	CLC	WOFK04(2).SIXTY4 CHECK IF ENOUGH CORE LEFT FOR THIS 1
0A7E C0 04 1104	123	BNH	COFPRT IF NOT, GO PRINT FULL CORE MESSAGE
0A82 C2 01 C8E6	124	LA	RDAREA.XR1 POINT TO READ DATA W/ XR1
0A86 3E 02 1809	125	L	SDRE2.XR2 TEST Q-BYTE
0A8A 7D C6 13	126	CLI	19(.XR1).X'C6' FOR UNIT 3
0A8D F2 81 1E	127	JE	SDRIN IF FOR UNIT 3 GO MOVE DATA
0A90 35 02 1807	128	L	SDRE1.XR2 TEST Q-BYTE
0A94 7D C6 13	129	CLI	19(.XR1).X'C5' FOR UNIT 2
0A97 F2 81 0E	130	JE	SDRIN IF FOR UNIT 2 GO MOVE DATA
0A9A 3E 02 1805	131	L	SDRE0.XR2 TEST Q-BYTE
0AA5 7C C4 13	132	CLI	19(.XR1).X'C4' FOR UNIT 1
0AA1 F2 81 04	133	JE	SDRIN IF FOR UNIT 1 GO MOVE DATA
0AA4 3E 02 1803	134	L	VESEND.XR2 MUST BE UNIT 0-SET UP FOR 0
	135		
0AAB E2 01 03	136	SDRIN LA	3(.XR2).XR1 PUT 1ST BYTE OF PROPER SDR INTO XR1
CAAB 34 01 0ACA	137	ST	ADDCU1+3.XR1 PUT ADDRESS OF SDR ENTRY COUNT IN
0AAF 7C 00 C0	138	CLI	0(.XR1).0 CHECK ENTRY COUNT FOR 0
0AE2 F2 81 12	139	JE	ADDCU1 IN NO ENTRIES YET GO MAKE 1ST ONE
0AE5 1C 00 11B1 00	140	MVC	WOFK01.0(1.XR1) PUT ENTRY COUNT INTO WORK01
0AEA C2 01 24	141	SKPMOR LA	36(.XR1).XR1 BUMP XR1 TO POINT TO 1ST BYTE OF
0AED 0F 00 11B1 11EA	142	SLC	WOFK01(1).ONE NEXT ENTRY UNTIL ALL
CAE3 C0 C1 0ABA	143	BAZ	SKPMOR ENTRIES HAVE BEEN SKIPPED
	144		
CAE7 0E 00 0000 11EA	145	ADDUP1 ALC	*-1(1).ONE ADD ONE TO THE SDR ENTRY COUNTER
	146		
0ACC C0 87 0C36	147	B	INSERT
0AD1 0E	148	DC	IL1'6' PUT THE
0AD2 C8E6	149	DC	AL2(RDAREA+6) DATE INTO
	150		SDR AREA
0AD4 C0 87 0C36	151	B	INSERT
0ACE 01	152	DC	IL1'1' PUT THE VOLUME BITS
0ADS C8E7	153	DC	AL2(RDAREA+23) INTO THE SDR AREA
	154		
0ACE C0 87 0C36	155	B	INSERT
			PUT THE DEVICE TYPE

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ERR LCC OBJECT CODE	ADDR	STMT	SOURCE STATEMENT
0ACF 01	0ADF 156	DC	IL1'1' INTO THE SDR AREA
0AE0 0894	0AE1 157	DC	AL2(RDAREA+20)
	158		
0AE2 C0 87 0C36	159	B	INSERT
0AEE 02	0AE6 160	DC	IL1'2' PUT THE BLOCK LENGTH
0AE7 0896	0AE8 161	DC	AL2(RDAREA+22) INTO THE SDR AREA
	162		
0AE9 C0 87 0C36	163	B	INSERT
0AED 1A	0AED 164	DC	IL1'26' PUT THE ACCUMULATED SNS DATA
0AEE 08B8	0AEF 165	DC	AL2(RDAREA+56) COUNTERS INTO THE SDR AREA
	166		
0AF0 35 01 1801	167	L	OBREND.XR1
0AF4 D2 01 03	168	LA	3(.XR1).XR1 POINT TO BEGINNING OF
0AF7 C2 02 0880	169	LA	RDAREA.XR2 TVES DATA W/ XR1
0AFB 3B C4 11C0	170	SBF	STATFG.VOL1BT+VOL2BT+MULTBT POINT TO START OF READ IN DATA - XR2
0AFF 3D 02 C897	171	CLI	RDAREA+23.X'02' TEST TO SEE IF ONE OR TWO
0B03 F2 01 1C	172	JNE	NOTTWO VOLUME WAS LOGGED FOR THIS JOB
	173		
0B06 3A 40 11C0	174	SBN	STATFG.VCL2BT SET THE 2 VOL INDICATOR BIT ON
	175		
0B0A AF 00 21 1A	176	SLC	33(.XR2).26(1.XR2)
0B0E AF 00 22 1B	177	SLC	34(.XR2).27(1.XR2)
0B12 AF 01 20 19	178	SLC	32(.XR2).25(2.XR2)
0B1E AF 00 23 1C	179	SLC	35(.XR2).28(1.XR2)
0B1A AF 00 24 1D	180	SLC	36(.XR2).29(1.XR2)
0B1E AF 00 25 1E	181	SLC	37(.XR2).30(1.XR2)
	182		
0E22 3A 80 11C0	183	NOTTWO SBN	STATFG.VCL1BT SET FIRST VOLUME INDICATOR BIT ON
0E26 3D 02 0897	184	CLI	RDAREA+23.X'02' CHECK FOR MORE THAN 2 VOLUMES
0E2A F2 04 C8	185	JNE	LKLFLE IF NO, GO CHECK FOR MATCH
0E2C 3B 80 11C0	186	SBF	STATFG.VCL1BT ELSE, SET FIRST VOL INDICATOR BIT OFF
0E31 3A 04 11C0	187	SBN	STATFG.MULTBT SET MULTI VOL INDICATOR BIT ON
0E35 3A 01 11DE	188	LKUPLP ST	LKXR1.XR1 SAVE XR1 POINTER TO 1ST TVES RECORD
0E39 3E 40 11C0	189	RECHK TBN	STATFG.VOL2BT TEST IF THIS IS A 2 VOL JOB
0E3D F2 10 16	190	JT	CHKTWO IF YES, GO CHECK FOR MATCH FOR LAST
0E40 3B 80 11C0	191	TBN	STATFG.VOL1BT ELSE, TEST FOR A 1 VOL JOB
0E44 F2 10 03	192	JT	CHKONE IF YES, GO CHK FOR MATCH FOR FIRST
0E47 F2 87 0C	193	J	CHKTWO ELSE=MULT-GO CHK FOR MATCH FOR LAST
	194		
0E4A 4D 05 05 C88C	195	CHKONE CLC	5(6.XR1).RDAREA+12 CHK FOR MATCH FOR FIRST VOL ID
0E4F C0 81 08B8	196	BE	SKFENT IF YES, GO SKIP ENTRIES FOR THIS VOL
0E53 F2 87 08	197	J	CHKVOL ELSE, GO CONTINUE CHK FOR MATCH
	198		
0E5E 4D 05 05 C892	199	CHKTWO CLC	5(6.XR1).RDAREA+18 CHK FOR MATCH FOR LAST VOL ID
0E5F F2 81 2A	200	JE	SKPENT IF YES, GO SKIP ENTRIES FOR THIS VOL
	201		
0E5E 34 01 11B1	202	CHKVOL ST	WOFK01.XR1 PUT 1ST TVES REC ADDR IN WORK01
0E62 0D 01 11B1 1803	203	CLC	WOFK01(2).VESEND COMPARE IT TO TVES END POINTER
0E68 C0 02 08EA	204	ENL	NCMACH IF NOT LOW-NO TVES MATCH-GO DO FIRST
	205	*	ENTRY FOR THIS VOLUME ID
0E6C 1C 00 11B1 06	206	MVC	WOFK01.C(1.XR1) ELSE, PUT 1ST TVES ENTRY CNT-WORK01
0E71 D2 01 06	207	LA	6(.XR1).XR1 SKIP XR1 AROUND VOLID AND ENTRY CNT
0E74 C2 01 11	208	SKPCNT LA	17(.XR1).XR1 SKIP XR1 AROUND THE DATA ENTRY
0E77 0F 00 11B1 11EA	209	SLC	WOFK01(1).ONE DECREMENT ENTRY COUNT BY ONE
0E7D C0 01 0B74	210	BNZ	SKFCNT IF NOT ZERO YET, GO SKIP AGAIN
0E81 D2 01 01	211	LA	1(.XR1).XR1 BUMP INDEX UP BY ONE MORE
0E84 C0 87 0C36	212	B	RECHK GO RECHECK FOR A MATCH
	213		
0E8E 1C 02 11B1 06	214	SKPENT MVC	WOFK01.C(1.XR1) MOVE RESENT ENTRY COUNT INTO WORK01
0E8D 4E 00 06 11D4	215	ALC	6(.XR1).PLLS1 ADD 1 TO ENTRY COUNT IN CORE
0E92 D2 01 06	216	LA	6(.XR1).XR1 BUMP INDEX UP TO ENTRY COUNT
0E9E D2 01 11	217	SKPAGN LA	17(.XR1).XR1 SKIP AGAIN OVER THIS DATA
0E9F 0F 00 11B1 11EA	218	SLC	WOFK01(1).ONE SUBTRACT ONE FROM OLD ENTRY COUNT
0E9E C0 01 0B95	219	BNZ	SKPAGN IF NOT ZERO GO SKIP AGAIN
0EA2 3E 04 11C0	220	TEN	STATFG.MULTBT CHECK IF THIS IS A MULTI VOL JOB
0EA6 C0 10 08B8	221	BT	INSLST IF YES, GO INSERT DATA FOR LAST
0EAA 3B 40 11C0	222	TBN	STATFG.VOL2BT CHECK IF THIS IS A 2 VOL JOB
0EAE C0 10 08B8	223	BT	INSLST IF YES, GO INSERT DATA FOR LAST

7160 DATA FORMAT PFCG (3340) FOR SECT 711, 712, 713, AND 714

7160 DATA FORMAT PFCG (3340) FOR SECT 711, 712, 713, AND 714

ERR LCC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
0BE2	CC 07 0C1D	224	B	INSALL	ELSE, GO INSERT "ALL" DATA
		225			
0BBE	CC 07 0C3E	226	INSLST	B INSERT	INSERT
0BEA	0E	0BBA	227	DC IL1'6'	THE
0BBE	0BEE	0BBC	228	DC AL2(RDAREA+6)	DATE
		229			
0BEC	CC 07 0C3E	230	B	INSERT	INSERT THE
0BC1	04	0BC1	231	DC IL1'4'	BLOCK LENGTH
0BC2	0B9E	0BC3	232	DC AL2(RDAREA+22)	DENSITY & UNIT ADDRESS
		233			
0BC4	CC 07 0C3E	234	B	INSERT	INSERT THE LAST
0BC8	07	0BC8	235	DC IL1'7'	VOLUME ID'S
0BC9	0B9E	0PCA	236	DC AL2(RDAREA+30)	ERROR COUNTERS
		237			
0BCE	38 04 11C0	238	TBN	STATFG,MLLTBT	CHK FOR IND OF MORE THAN 2 VOLS
0BCF	CC 10 0A18	239	BT	READLP	IF YES-DONE-GO GET NEXT RECORD
0BD3	38 40 11C0	240	TBN	STATFG,VCL2BT	ELSE, CHK FOR 2 VOLUME JOB
0BC7	F2 10 04	241	JT	DCMORE	IF YES, GO DC FIRST VOLUME
0BDA	CC 07 0A1E	242	B	READLP	ELSE-DONE-GO GET NEXT RECORD
		243			
0BDE	3E 40 11C0	244	DOMORE	SEF STATFG,VOL2BT	SET LAST VOLUME INDICATOR BIT OFF
0BE2	35 01 11D6	245	L	LKRP1,XR1	RESTORE XR1 TO START OF TVES FIELD
0EE6	CC 07 0B35	246	B	LKPLP	GO LOCK FOR MATCH FOR FIRST VOL ID
		247			
0BEA	35 01 1803	248	NOMACH	L VESEND,XR1	PUT ADDR OF END OF TVES DATA IN XR1
0EEE	38 80 11C0	249	TBN	STATFG,VOL1BT	CHK IF FIRST VOL INDICATOR BIT IS ON
0BF2	F2 10 12	250	JT	TSYTW	IF YES, GO TEST FOR A 2 VOL JOB
0BF5	CC 07 0C3E	251	DDLAST	B INSERT	ELSE THIS MUST BE MULT VOL JOB
0BF9	0E	0BF9	252	DC IL1'6'	SO INSERT THE
0BFA	CB92	0BFB	253	DC AL2(RDAREA+18)	LAST VOL ID AND GO
		254			
0BFC	CC 07 0C3E	255	B	INSERT	INSERT AN
0C00	01	0C00	256	DC IL1'1'	ENTRY COUNT
0C01	11BA	0C02	257	DC AL2(CNE)	OF ONE
		258			
0C03	CC 07 0B8E	259	B	INSLST	INSERT LAST DATA
		260			
0C07	38 40 11C0	261	TSYTW	TEN STATFG,VOL2BT	TEST FOR A 2 VOLUME JOB
0C0F	CC 10 0BF5	262	BT	DCLAST	IF SD, GO INSERT LAST VOL ID
0C0E	CC 07 0C3E	263	B	INSERT	ELSE, THIS IS 2ND TIME THROUGH
0C13	0E	0C13	264	DC IL1'6'	SO INSERT THE
0C14	CB8C	0C15	265	DC AL2(RDAREA+12)	FIRST VOLUME ID
		266			
0C16	CC 07 0C3E	267	B	INSERT	INSERT AN
0C1A	01	0C1A	268	DC IL1'1'	ENTRY COUNT
0C1E	11BA	0C1C	269	DC AL2(CNE)	OF ONE
		270			
0C1D	CC 07 0C3E	271	INSALL	B INSERT	INSERT
0C21	0E	0C21	272	DC IL1'6'	THE
0C22	0BEE	0C23	273	DC AL2(RDAREA+6)	DATE
		274			
0C24	CC 07 0C3E	275	B	INSERT	INSERT THE
0C28	04	0C28	276	DC IL1'4'	BLOCK LENGTH
0C29	CB96	0C2A	277	DC AL2(RDAREA+22)	DENSITY & UNIT ADDRESS
		278			
0C2E	CC 07 0C3E	279	B	INSERT	AND INSERT THE
0C2F	07	0C2F	280	DC IL1'7'	(ALL-LAST) DATA
0C30	CEA5	0C31	281	DC AL2(RDAREA+37)	UNDER FIRST VOL ID
0C32	CC 07 0A18	282	B	READLP	DONE 2 VOLS - GO GET THE NEXT RECORD

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
		284			*****
		285			SUBROUTINE INSERT
		286			*****
		287			
		288			CALLING SEQUENCE
		289			
		290			B INSERT
		291			DC IL1'XX'
		292			DC AL2(AAAAAA)
		293			
		294			THIS SUBROUTINE INSERTS XX BYTES FOUND AT AAAAAA TO AAAAAA-X
		295			BETWEEN THE BYTE POINTED TO BY XR1 AND THE ADJACENT(RIGHT)
		296			BYTE. IT DOES NOT DESTROY ANY EXISTING DATA. IT ALSO UPDATES
		297			ALL DATA AREA POINTERS.
		298			
		299			*****
		300			
		300			
		300			
		301	INSERT	ST RTFNIN+3,ARR	SAVE ARR
		302		ST TXF1,XR1	SAVE XR1
		303		ST TXF2,XR2	SAVE XR2
		304	L	PTFNIN+3,XR1	PCINT TO ADD CON W/ XR1
		305	ALC	RTFNIN+3(2),THREE	SET UP RETURN BRANCH
		306			
		307	MVI	WORK01-1,0	CHECK TO SEE THAT
		308	MVC	WORK01,0(1,XR1)	ENOUGH CORE EXISTS
		309	ALC	ENCATA(2),WORK01	TO CONTAIN THIS
		310	CLC	ENCATA(2),SIZE	INSERT
		311	JL	RCCM	
		312			
		313	B	PRINT	CORE EXHAUSTED
		314	DC	XL1'07'	PRINT DEVICE
		315	DC	IL1'4E'	INPUT DECK AND
		316	DC	AL2(FULMSG-44)	RELOAD PROGRAM MESSAGE
		317	B	LINK	
		318			
		319	ROOM	MVC WORK02,2(2,XR1)	SAVE ADDRESS OF DATA TO BE INSERTED
		320	MVI	WORK03,6	
		321	LA	GBREND,XR2	
		322			
		323	UPDTLP	CLC TXF1,0(2,XR2)	UPDATE ALL POINTERS
		324	JH	NCUPDT	TO INCLUDE THIS
		325	ALC	0(2,XR2),WORK01	INSERT IN ITS
		326	NOUPDT	LA 2(,XR2),XR2	VALUE
		327	SLC	WORK03(1),CNE	
		328	BHZ	UFCTLP	
		329			
		330	SLC	ENCATA(2),WORK01	PCINT TO LAST DATA BYTE W/ XR1
		331	L	ENCATA,XR1	ADJUST LAST DATA BYTE POINTER
		332	ALC	ENCATA(2),WORK01	SET UP DISPLACEMENT IN MVC INSTR
		333	MVC	NEXTMV+2(1),WORK01	
		334			
		335	NEXTMV	MVC 0(1,XR1),0(,XR1)	MOVE 1 DATA BYTE
		336	A	FCXFCX,XR1	DECREMENT DATA POINTER
		337	ST	WORK03,XR1	CHECK TO SEE IF THE INSERT
		338	CLC	WORK03(2),XR1	ADDRESS HAS BEEN REACHED
		339	BNE	NEXTMV	IF NOT MOVE ANOTHER BYTE
		340	L	WORK02,XR2	LOAD XR2 WITH ADDR OF DATA TO BE MVC
		341			
		342	A	WORK01,XR1	PCINT TO LAST DATA
		343	ST	TXF1,XR1	BYTE TO BE INSERTED
		344			
		345	INSRTR	MVC 0(1,XR1),0(,XR2)	MOVE 1 DATA BYTE
		346	A	FCXFCX,XR1	DECREMENT BYTE POINTER
		347	A	FCXFCX,XR2	DECREMENT DATA POINTER
		348	SLC	WORK01(1),CNE	DECREMENT LENGTH TAG UNTIL
		349	BNZ	INSRTR	IT GOES TO ZERO-ALL DATA INSERTED

7160 DATA FORMAT PRCG (3340) FOR SECT 711, 712, 713, AND 714

7160 DATA FORMAT PRCG (3340) FOR SECT 711, 712, 713, AND 714

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

OCES 35 01 11C2	350				
OCE9 35 02 11C4	351	L	TXR1,XR1	RESTORE XR1 TO POINT TO NEXT LOC	
OCED C0 87 0000	352	L	TXR2,XR2	RESTORE XR2	
	353	RTRNIN B	**	RETURN TO CALLING PGM	

	355	*****			
	356	*****			
	357	*****			
	358	* DISKRD **			
	359	*****			
	360				
	360				
	360				
	OCF1 34 01 11C2	361	DISKRD EQU *		
	OCF2 3D 01 11D0	362	ST TXR1,XR1	SAVE THE MAIN INDEX PNTR	
	OCF9 C0 81 0D9E	363	CLI PRCCBT,X*01*	CHK IF PROCESS BIT IS ON	
	OCFC 0C 04 1487 14A8	364	BE CNTCHK	IF YES, GO PROC'SS EXISTING DATA	
	ODC3 C0 87 129E	365	MVC RECD(5),RECN	CC,HH,R BYTES FOR TAPE POINTER	
		366	B DISK33	ELSE, GO GET THE TAPE TRK POINTERS	
		367	*****	RETURN TC HERE FROM DISK READ OF TAPE POINTERS	
		368			
	OD07 3D 00 160A	369	CLI DSKEUF+10,X*00*	TEST IF DISK POINTER IS 00	
	OD08 C0 81 116F	370	BE VALCLR	IF YES, DISK HAS BEEN CLEARED,GO PRT	
	ODCF 3C 00 14AD	371	MVI REC#0	ZERO RECORD NUMBER	
	OD13 3C 00 11D1	372	RDHORE MVI SECCNT,X*00*	ZERO SECTOR DISPL COUNT	
	OD17 0E 00 14AD 11D4	373	ALC REC#,PLUS1	ADD ONE TO RECORD CCUNT	
	OD1C 3D 31 14AD	374	CLI REC#,49	ALL RECCRD READ	
	OD21 C0 81 0CE9	375	BE BLCTBL	IF EQUAL, GO BUILD TABLES	
	OD25 0C 04 1487 14AD	376	MVC RECD(5),REC#	CC,HH,R BYTES FOR TAPE POINTER	
	OC2B C0 87 129E	377	B DISK33	GO READ THE NEXT TAPE ERROR RECORD	
		378	*****	RETURN TC HERE FROM DISK READ	
	OD2F C2 01 160C	379	LA DSKEUF,XR1	LD ADDR OF DSK RD IN AREA IN XR1	
	OD33 3C 00 11D2	380	MVI RECTYP,X*00*	ZERO RECORD TYPE INDICATOR	
	OD37 3C 01 11D0	381	CHK1ST MVI PRCCBT,X*01*	SET PROCESSING INDICATOR BIT	
	OD3B 7D E5 00	382	CLI 0(.XR1),C*V*	CHECK FIRST CHAR FOR V	
	OD3E F2 81 0A	383	JE CHK2ND	IF YES, GO VAL CHK 2ND CHAR	
	OD41 7D 06 00	384	CLI 0(.XR1),C*C*	ELSE, CHK FOR FIRST CHAR OF 0	
	OD44 F2 01 5D	385	JNE CHKCNT	IF NOT V OR 0 THE RECORD NOT VAL	
	OD47 3C 01 11D2	386	MVI RECTYP,X*01*	ELSE, MARK THE REC TYPE AS 0	
	OD4B 7D F0 01	387	CHK2ND CLI 1(.XR1),X*F0*	CHK 2ND BYTE FOR VALIDITY = (F0)	
	OD4E F2 81 06	388	JE RECVAL	IF YES, REC IS VALID - GO CHK	
	OD51 7D F1 01	389	CLI 1(.XR1),X*F1*	ELSE CHK FOR VALIDITY = (F1)	
	OD54 F2 01 4D	390	JNE CHKCNT	GO CHECK FOR DATA	
		OD57	RECVAL EQU *		
	OD57 3C 01 11D3	392	MVI VALFLG,X*01*	SET VALID DATA FLAG	
	OD5B 3D 00 11D2	393	CLI RECTYP,X*00*	CHECK IF THIS NOT PERM ERR RECORD	
	OD5F F2 81 1E	394	JE MOVTHP	IF SC, GO MOVE TEMP ERR RECORD	
	OD62 7D 05 20	395	CLI 32(.XR1),C*N*	CHK IF NULL RECORD IN 2ND HALF	
	OD65 F2 01 04	396	JNE MCVONE	IF NO, GO MOVE LOW RECORD	
	OD68 3C 00 11D2	397	MVI RECTYP,X*00*	ELSE, ZERO RECORD TYPE INDICATOR AND	
	OD6C 1C 1F C89F 1F	398	MCVONE MVC RCAREA+31(32),31(.XR1)	MOVE LOW RECORD	
	OD71 F2 87 11	399	J RSTREG	GO RESTORE THE MAIN INDEX REGISTER	
	OD74 1C 1F 089F 3F	400	MOVTHP MVC RDAREA+31(32),31(.XR1)	MVE TOP ONE OF TWO PERM TYP RECS	
	OD76 3C 00 11D2	401	MVI RECTYP,X*00*	ZERO THE RECORD TYPE INDICATOR	
	OD7C F2 87 05	402	J RSTREG	GO RESTORE THE MAIN INDEX REGISTER	
	OD80 1C 3F 089F 3F	403	MOVTHP MVC RDAREA+31(32),31(.XR1)	MVE TEMP ERR RECORD	
	OCES 34 01 11D8	404	RSTREG ST XRISAV,XR1	GO SAVE THIS ROUTINE INDEX	
	OD89 35 01 11C2	405	L TXR1,XR1	RESTORE MAIN INDEX REGISTER	
	OD8C 3C 01 11D0	406	MVI PRCCBT,X*01*	SET PROCESS BIT ON	
	OD91 C0 87 0A1C	407	B PRCC	GO PUT RECCRD INTO PROPER PLACE	
		408	*	IN FORMAT CORE AREA	
		LD55	409 CNTCHK EQU *		
		410	*****	RETURN PCINT FROM RECORD INSERTION INTO FORMATTED CORE	
		411	L XRISAV,XR1	RESTORE THIS ROUTINE INDEX	
		412	CLI RECTYP,X*01*	CHK IF THIS RETURN FROM PERM TYP REC	
		413	JNE CHKCNT	IF NO, GO CHK SECTOR DISPL COUNT	
		414	B MCVTHP	GO MOVE 2ND OF PERM RECORD PAIR	
		415			
		ODA4	416 CHKCNT EQU *		
		417	CLI SECCNT,X*03*	ELSE, CHK IF SECTR DISPL CNT = 3	
		418	BE RDHORE	IF SC, GO READ NEXT SECTOR	
		419	ALC SECCNT,PLLS1	ELSE, ADD ONE TO SECTR DISPL CNT	
		420	LA 64(.XR1),XR1	BUMP INDEX TO NEXT RECORD	

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ODE5 C0 87 0D37 421 B CHK1ST

GO VALIDITY CHECK 1ST BYTE-NEW REC

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

```

423 *****
424 ** BUILD THE DATA TABLE **
425 *****
426
427 ODB9 BLOTBL EQU *
428 CLI VALFLG,X'00' CHECK IF ANY VALID DATA WAS PROCESSED
429 BE VALPRT IF NOT, GO PRINT THE INVAL MESSAGE
430 MVI FNLWRY,X'00' ZERO THE PORTION
431 MVC FNLWRY-1(180),PWLWRY OF THE TABLE AREA THAT WAS
432 MVC ADFTAB(120),ADPTAB+1 USED AS THE DISK BUFFER
433
434 LA ENCAT4+3,XR1 PUT ADDR OF 1ST PERM REC IN XR1
435 CLC C(2,XR1),SLASHES CHECK IF ANY PERM RECORD ENTRIES
436 EE CHKVES IF NOT,GO CHECK THE TEMP ERR RECORDS
437 ST STCAT4,XR1 SAVE THIS START OF DATA ADDRESS
438 LA S(XR1),XR1 BUMP XR1 TO POINT TO DATA
439 L STCAT4,XR2 COND XR2 TO POINT
440 LA 23(XR2),XR2 TO END OF FIRST RECORD
441
442 CHKADP TBF 17(XR1),X'FF' SEE IF ALL ADAPTER CHECK BITS OFF
443 JT CHKEQP IF YES GO CHECK FOR EQUIP. CHECK
444 TBF 17(XR1),X'01' CHECK IF A0 SENSE IS VALID
445 JF CHKEQP IF NO, GO CHECK FOR EQUIP. CHECK
446 TBN 17(XR1),X'40' CHECK IF A0 BIT 1 ON
447 JT ADPHIT IF YES, GO ENTER IN ADAPTER TABLE
448 TEN 17(XR1),X'20' CHECK IF A0 BIT 2 ON
449 JF CHKA03 IF NOT, GO CHECK IF A0 BIT 3 ON
450 ADPHIT CLC ADPCNT(1),THIRTY CHECK IF ADP CHK TABLE IS FULL
451 BE CVFLW1 IF YES, GO PRINT OVERFLOW MSG
452 MVC TBLPTR(2),ADAPIX SET UP TABLE POINTER FOR MARK ROUTN.
453 B PRKTAB JUMP TO MARK TABLE ROUTINE
454 MVC ADAPIX(2),TBLPTR SAVE TABLE POINTER
455 ALC ADPCNT,CNE ADD ONE TO THIS TABLE CCUNT
456 B CHKREC GO CHECK FOR LAST RECORD
457
458 CHKA03 TBF 17(XR1),X'1A' CHECK IF A0 BITS 3, 4, OR 6 ON
459 JT CHKEQP IF NOT, GO CHECK FOR EQUIPMENT CHKS
460 CLC HDWCNT(1),THIRTY ELSE, CHK IF HDW ERR TABLE IS FULL
461 BE CVFLW2 IF YES, GO PRINT OVERFLOW MSG
462 MVC TBLPTR(2),HDWIX SET UP TABLE POINTER FOR MARK ROUTN.
463 B PRKTAB JUMP TO MARK TABLE ROUTINE
464 MVC HDWIX(2),TBLPTR RETURN POINT, SAVE TABLE POINTER
465 ALC HDWCNT,PLUS1 ADD ONE TO THIS TABLE CCUNT
466 B CHKREC GO CHECK FOR LAST RECORD
467
468 CHKEQP TEN S(XR1),X'01' CHECK IF S0 SENSE IS VALID
469 EF CHKREC IF NOT, IGNORE THIS RECORD
470 TBF S(XR1),X'02' CHECK IF EQUIP. CHK BIT OFF
471 JT TUCHK IF YES GO CHECK FOR T.U. CHECK
472 EOPHIT CLC EQPCNT(1),THIRTY CHECK IF EQP CHK TABLE IS FULL
473 BE CVFLW3 IF YES, GO PRINT OVERFLOW MSG
474 MVC TBLPTR(2),EQPIX SET UP TABLE POINTER FOR MARK ROUTN
475 B PRKTAB BRANCH TO MARK TABLE ROUTINE
476 MVC EQPIX(2),TBLPTR RETURN POINT - SAVE TABLE POINTER
477 ALC EQPCNT,PLUS1 ADD ONE TO THIS TABLE CCUNT
478 J CHKREC GO CHECK FOR LAST RECORD
479
480 TUCHK TEN 11(XR1),X'02' TEST FOR T.U. CHK BIT IN S2
481 JF CHK05 IF OFF, GO CHECK FOR 0 BYT BIT 5
482 B EOPHIT E.O. GO PUT IN EQP CHK TABLE
483
484 CHK05 TEN 7(XR1),X'04' CHECK IF 0 BYTE BIT 5 ON
485 JT CKDIAG IF YES = DIAGN CMD, GO CHECK IT
486 TEN 7(XR1),X'02' CHECK IF 0 BYTE BIT 6 ON
487 JT CHKWRT IF YES = WRT OR RDB CMD-GO SEE WHICH
488 TBN 7(XR1),X'01' CHECK IF 0 BYTE BIT 7 ON
489 JT FDCMD IF YES=RDF CMD GO LOG IN RDF TABLE

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7160 DATA FORMAT PROG (3340) FOR SECT 711, 712, 713, AND 714

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

0E9E 0D 00 15F1 11C9 490 CONTRL CLC CNTCNT(1),THIRTY
0EA4 C0 01 0FB2 491 BE CVFLW7
0EAE 0C 01 11CF 15FF 492 MVC TELPTR(2),CNTIX
0EAE C0 07 0F3F 493 B MKRTAE
0EB2 0C 01 15FF 11CF 494 MVC CNTIX(2),TBLPTR
0EB8 0E 00 15F1 11D4 495 ALC CNTCNT,FLUS1
0EBE F2 07 A7 496 J CHKREC
0EBE F2 07 A7 497
0EC1 4D 03 04 11DF 498 CKDIAG CLC 4(4,XR1),DIAG
0EC6 F2 01 9F 499 JNE CHKREC
0EC9 C0 07 0E9E 500 B CONTRL
0EC9 C0 07 0E9E 501
0ECD 78 01 07 502 CHKWRT TEN 7(.XR1),X*01*
0ED0 F2 10 28 503 JT RDCMD
0ED3 78 08 09 504 TEN 5(.XR1),X*08*
0ED6 F2 10 44 505 JT LWRPAL
0ED9 0D 00 15EF 11C9 506 CLC FWYCNT(1),THIRTY
0EDF F2 01 BE 507 JE CVFLW5
0EE2 0C 01 11CF 15FE 508 MVC TBLPTR(2),PWYIX
0EE8 C0 07 0F3F 509 B MKRTAE
0EEC 0C 01 15FE 11CF 510 MVC FWYIX(2),TBLPTR
0EF2 0F C0 15EF 11D4 511 ALC FWYCNT,FLUS1
0EF8 F2 07 6D 512 J CHKREC
0EF8 F2 07 6D 513
0EF8 0D 00 15F0 11C9 514 RDCMD CLC FDCNT(1),THIRTY
0F01 F2 01 A5 515 JE CVFLW6
0F04 0C 01 11CF 15FC 516 MVC TELPTR(2),READIX
0F0A C0 07 0F3F 517 B MKRTAE
0F0E 0C 01 15FC 11CF 518 MVC READIX(2),TBLPTR
0F14 0E 00 15F0 11D4 519 ALC FDCNT,FLUS1
0F1A F2 07 4B 520 J CHKREC
0F1A F2 07 4B 521
0F1C 0D 00 15EE 11C9 522 LWRPAL CLC FWYCNT(1),THIRTY
0F23 F2 01 71 523 JE CVFLW4
0F26 0C 01 11CF 15F9 524 MVC TBLPTR(2),PWYIX
0F2C C0 07 0F3F 525 B MKRTAE
0F30 0C 01 15F9 11CF 526 MVC FWYIX(2),TBLPTR
0F36 0E 00 15EE 11D4 527 ALC FWYCNT,FLUS1
0F3C F2 07 29 528 J CHKREC
0F3C F2 07 29 529
0F3F 34 08 0F67 530 MKRTAB ST RETURN+3,ARR
0F43 34 01 11C2 531 ST TXR1,XR1
0F47 34 02 11C4 532 ST TXR2,XR2
0F4B 35 01 11CF 533 L TELPTR,XR1
0F4F 4C 01 00 11C4 534 MVC (2,XR1),TXR2
0F54 36 01 11CF 535 A CCMF02,XR1
0F59 34 01 11CF 536 ST TBLPTR,XR1
0F5C 35 01 11C2 537 L TXR1,XR1
0F60 35 02 11C4 538 L TXR2,XR2
0F64 C0 07 0000 539 RETURN B 0-0
0F64 C0 07 0000 540
0F68 0D 01 02 11CD 541 CHKREC CLC 2(2,XR2),SLASHS
0F6D F2 01 80 542 JE SUMPRT
0F70 36 01 11CB 543 A TWNTY4,XR1
0F74 36 02 11CB 544 A TWNTY4,XR2
0F78 C0 07 0DEC 545 B CHKADP
0F78 C0 07 0DEC 546
0F7C 0C 0C 0FE9 11F9 547 OVFLW1 MVC CVFMSC-6(13),ADP
0F82 F2 07 33 548 J CVFPRT
0F85 0C 0C 0FE9 11EC 549 OVFLW2 MVC CVFMSC-6(13),HDW
0F88 F2 07 2A 550 J CVFPRT
0F8F 0C 0C 0FE9 120E 551 OVFLW3 MVC CVFMSC-6(13),EQP
0F94 F2 07 21 552 J CVFPRT
0F97 0C 0C 0FE9 1213 553 OVFLW4 MVC CVFMSC-6(13),LWRP
0F9D F2 07 18 554 J CVFPRT
0FA0 0C 0C 0FE9 1220 555 OVFLW5 MVC CVFMSC-6(13),LWRP
0FA6 F2 07 0F 556 J CVFPRT
0FA9 0C 0C 0FE9 122C 557 OVFLW6 MVC CVFMSC-6(13),PRMRD

CHECK IF CONTROL COMMAND TABLE FULL
IF YES, GO PRINT OVERFLOW MSG
ELSE=CONTR CMD-SET UP TABLE POINTER
BRANCH TO MARK TABLE ROUTINE
RETURN POINT - SAVE TABLE POINTER
ADD ONE TO THIS TABLE COUNT
GO CHECK FOR LAST RECORD
CHK IF THIS DIAGN CD FROM 701
IF NO, IGNORE - GO GET NEXT REC
ELSE, GO PUT IT IN CONTROL CMD TABLE
CHECK IF 0 BYTE BIT 7 ON
IF YES=RDB CMD-GO LOG IN RDB TABLE
ELSE, CHECK IF DTE BIT ON IN S0
IF YES=PERM WRT LWR FAILED-GO LOG
CHECK IF PERM WRT TABLE IS FULL
IF YES, GO PRINT OVERFLOW MSG
SET UP WRT/LWR OK TABLE POINTER
BRANCH TO MARK TABLE ROUTINE
RETURN POINT - SAVE TABLE POINTER
ADD ONE TO THIS TABLE COUNT
GO CHECK FOR LAST RECORD
CHECK IF PERM RD TABLE IS FULL
IF YES, GO PRINT OVERFLOW MSG
SET POINTER TO READ TABLE
BRANCH TO MARK TABLE ROUTINE
RETURN POINT - SAVE TABLE POINTER
ADD ONE TO THIS TABLE COUNT
GO CHECK FOR LAST RECORD
CHECK IF LWR FAIL TABLE IS FULL
IF YES, GO PRINT OVERFLOW MSG
SET UP WRT/LWR FAIL TABLE POINTER
BRANCH TO MARK TABLE ROUTINE
RETURN POINT - SAVE TABLE POINTER
ADD ONE TO THIS TABLE COUNT
GO CHECK FOR LAST RECORD
SET UP RETURN ADDRESS
SAVE DATA RECORD
INDEX POINTERS
LOAD TABLE POINTER INTO XR1
MOVE RECCRD ADDRESS TO PROPER TABLE
POINT TO NEXT AVAIL CELL THIS TABLE
SAVE TABLE POINTER
RESTORE DATA RECORD
INDEX POINTERS
RETURN TO CALLING POINT
TEST FOR LAST RECORD
IF YES, GO DO TABLE SUMMARY PRINT
OTHERWISE INCREMENT
DATA POINTERS TO NEXT RECORD
GO CHECK FOR ADAPTER CHECKS
MOVE ATTACHMENT INTO OVERFLOW MESSAGE
AND GO PRINT IT
MOVE HARDWARE INTO OVERFLOW MESSAGE
AND GO PRINT IT
MOVE EQUIPMENT INTO OVERFLOW MESSAGE
AND GO PRINT IT
MOVE LWR FAIL INTO OVERFLOW MSG
AND GO PRINT IT
MOVE LWR PASS INTO OVERFLOW MSG
AND GO PRINT IT
MOVE PERM RD INTO OVERFLOW MESSAGE

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ERR LCC OBJECT CODE ADDR STMT SOURCE STATEMENT

0FAF F2 07 06 558 J CVFPRT
0FB2 0C 0C 0FE9 123A 559 OVFLW7 MVC CVFMSC-6(13),CCNCHD
0FB2 0C 0C 0FE9 123A 560 *
0FB2 0C 07 021A 561 OVFPRT B FRINT
0FBC 01 562 OFBC DC XL1*01*
0FBD 2C 563 OFBD CC IL1*44*
0FBE 0FEF 564 CFBF DC AL2(OVFMSC)
0FC0 C0 07 0F68 565 B CHKREC
0FC0 C0 07 0F68 566
0FC4 D4D6D9C540E3C8C1 0FEF 567 OVFMSC DC CL44*MCRE THAN 30 ENTRIES FOR
0FCC D540F3F040C5D5E3 567
0FC4 C9C9CEE240C6D6E5 567
0FCC 40606060606060E0 567
0FE4 EC6C6C6C6C6C40E3 567
0FEC C1C2D2C5 567
0FF0 3C 01 11B1 568 SUMPRT MVI WORK01,X*01*
0FF4 3C F8 10CE 569 MVI BYPASS-13,X*F8*
0FF8 C2 01 15EB 570 LA HDWCNT,XR1
0FFC C2 02 11EC 571 LA HDW,XR2
100C 1C 00 11B3 00 572 SETSUM MVC WORK02(1),C(.XR1)
1005 2C 0C 10B4 00 573 MVC SUMMSG-6(13),O(.XR2)
100A C0 07 021E 574 B UNPACK THIS
100E 01 100E 575 DC XL1*01*
100F 11B3 1010 DC AL2(WORK02)
1011 1C9B 1012 DC AL2(SUMMSG-31)
1012 C0 07 021A 578 B PRINT
1017 01 1017 579 DC XL1*01*
101E 3A 1018 580 DC IL1*58*
1019 10D3 101A 581 DC AL2(BYPASS)
101B 3D 07 11B1 582 CLI WORK01,X*07*
101F F2 01 24 583 JE SCTICN
1022 3D F9 10CE 584 CLI BYPASS-13,X*F9*
1026 F2 01 07 585 JNE STEP1
1029 3C C1 10CE 586 MVI BYPASS-13,X*C1*
102D F2 07 06 587 J STEP2
1030 CE 00 10CE 11BA 588 STEP1 ALC BYPASS-13(1),ONE
1036 D2 01 01 589 STEP2 LA 1(.XR1),XR1
1039 E2 02 0D 590 LA 13(.XR2),XR2
103C 0E 00 11B1 11BA 591 ALC WORK01(1),CNE
1042 C0 07 1000 592 B SETSUM
1042 C0 07 1000 593
1046 0D 02 15ED 11DB 594 SECTION CLC ECFCNT(3),ZERCS
104C F2 01 08 595 JNE NXTSEC
104F 3C 12 1072 596 MVI LCGMSG-39,X*12*
1053 3C F2 1058 597 MVI LOGMSG-1,X*F2*
1057 C0 07 021A 598 NXTSEC B PRINT
105B 15 105B 599 DC XL1*15*
105C C0 07 021A 600 B PR'NT
1060 07 1060 601 DC XL1*07*
1061 27 1061 602 DC IL1*39*
1062 1099 1063 DC AL2(LOGMSG)
1064 C2 01 15FF 604 LA CNTIX,XR1
1068 34 01 0A0E 605 ST STCATA,XR1
106C C0 07 022A 606 B LOAD
1070 80 1070 607 DC XL1*80*
1071 D711 1072 608 DC XL2*D711*
1071 D711 609
1073 D3D6C1C440C1DEC4 1099 610 LCGMSG DC CL39*LOAD AND RUN LOG ANALYSIS SECTION (711)*
1078 40C9E4D5A0D3DEC7 610
1082 40C1DEC1D2E8E2C6 610
108B E240E2C5C2E3C5DE 610
1093 C5404CF7F1F15D 610
109A 8C040C5D0E3D9C9 108A 611 SUMPRT DC CL33*-- ENTRIES IN ----- TABLE*
10A2 CEE240C9D24C6CE0 611
10AA 6C606C606C6060E0 611
10B2 406C6C40E3C1C2C3 611
10EA C3 611
10EB 6E40E2C5E340E2E2 1003 612 BYPASS DC CL25*, SET SSW IS ON TO BYPASS*

AND GO PRINT IT
MOVE CONTROL INTO OVERFLOW MESSAGE
AND
GC PRINT
THE
OVERFLOW
MESSAGE
AND RETURN
CL44*MCRE THAN 30 ENTRIES FOR ----- TABLE*
SET TABLE SUMMARY PRINT COUNT TO ONE
INITIALIZE SENSE SWITCH
PUT ADDR OF HDW ERR COUNT IN XR1
PUT ADDR OF HDW TABLE IDENT IN XR2
MOVE COUNT TO WORK02 FOR UNPACKING
MOVE TABLE IDENT TO TABLE SUM MSG
UNPACK THIS
TABLE'S COUNT
AND PUT IT IN
THE TABLE SUMMARY MESSAGE
PRINT
THE
TABLE SUMMARY
AND BYPASS SSW MESSAGES
CHK IF LAST TABLE SUMMARY PRINTED
IF YES, GO CALL NEXT SECTION
CHECK FOR "F9" IN BYPASS MESSAGE
IF NO, GO ADD ONE TO SSW DESIGNATION
ELSE, MOVE CHAR "A" INTO DESIGNATION
AND GO GET NEXT COUNT
BUMP SSW DESIG TO NEXT NUMB OF CHAR
BUMP XR1 TO POINT TO NEXT COUNT
BUMP XR2 TO POINT TO NXT TBL IDENT
ADD ONE TO SUMMARY PRINT COUNT
AND SET UP FOR, AND PRINT NXT SUM
CHK IF ANY ENTRIES IN EQP,ADP & HDW
IF YES, GO CALL FOR LOAD OF 711
ELSE, SET UP CALL MESSAGE TO
CALL FOR LOAD AND RUN OF 712
SKIP
5 LINES
PRINT NEXT
SECTION
LOAD AND
RUN MESSAGE
LOAD ADDRESS OF TABLE INDEXES IN XR1
STORE IT IN THE INDEX PASS FIELD
BRANCH TO
LOAD LOG ANALYSIS
SECTION 711 (OR 712)

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ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

10C3	E440F1F840D6D540	612							
10CB	E2D640C2EED7C1E2	612							
10D3	E2	612							
10D4	C0 87 021A	613	CHKVES	B	PRINT	PRINT THE			
10C8	07	10DB	614	DC	XL1'07'	LOAD AND RUN			
10D9	21	10D9	615	DC	IL1'22'	TEMPORARY ERROR "STATISTICAL TAPE			
10DA	1103	10DB	616	DC	AL2(VESMSG)	ERROR PRINTOUT" MESSAGE			
10DC	C0 87 022A	617		B	LCAD	BRANCH TO			
10E0	08	10E0	618	DC	XL1'08'	LOAD "STEP"			
10E1	0714	10E2	619	DC	XL2'714'	SECTION 714			
		620							
10E3	D3D6C1C440C1D5C4	1103	621	VESMSG	DC	CL33'LOAD AND RUN "STEP" SECTION (714)'			
10EB	4CD9E4D5407FE2E2	621							
10F3	C5D77F40E2C5C3E2	621							
10FB	C5D6DE404DF7F1F4	621							
1102	5D	621							
1104	C0 87 021A	622	CORPRT	B	PRINT	PRINT			
110E	07	1108	623	DC	XL1'07'	THE CORE FULL			
1109	5B	1109	624	DC	IL1'91'	DIVIDE DECK AND			
110A	1295	1108	625	DC	AL2(FULMSG)	RELOAD OR RESET HALT TO CONT.			
110C	F0 3B 3F	626	HPL	X'3F',X'3E'	MSG. AND HALT WITH "HA" IN LITES				
110F	C0 87 0DB9	627	B	BLDTBL	IF HALT RESET, GO BUILD TABLES				
		628							
		628							
		628							
		628							
		628							
1113	C0 87 021A	629	VALPRT	B	PRINT	PRINT			
1117	07	1117	630	DC	XL1'07'	THE INVALID DATA			
1118	50	1118	631	DC	IL1'80'	ON THE CE TRACK			
1119	116E	111A	632	DC	AL2(VALMSG)	MESSAGE			
111E	C0 87 0216	633	B	LINK	LINK OUT				
		634							
111F	C4C1E2C140D5D6E3	114D	635	DC	CL47'DATA NOT VALID TAPE ERROR RECORDS. LOG ANALYSIS'				
1127	40E5C1D3C9C440E2	635							
112F	C1D7C540CED9D9C6	635							
1137	D940D9C5C2D6D9C4	635							
113F	E24B40D3D6C740C1	635							
1147	D5C1D3E8E2C9E2	635							
114E	40E6C9D3D340D5D6	116E	636	VALMSG	DC	CL33' WILL NOT RUN. RETURN TO TU MAPS.'			
1156	E340C9E4D54B40C9	636							
115E	C5E3E4D9D540E3D6	636							
1166	40E3E440C4C1D7E2	636							
116E	4B	636							
116F	C0 87 021A	637	VALCLR	B	PRINT	PRINT			
1173	07	1173	638	DC	XL1'07'	THE TAPE POINTERS			
1174	34	1174	639	DC	IL1'52'	ARE CLEARED			
117E	11AE	1176	640	DC	AL2(VALMCL)	MESSAGE			
1177	C0 87 0216	641	B	LINK	LINK OUT				
		642							
117B	E3C1D7C540D7D6C9	11AE	643	VALMCL	DC	CL52'TAPE FCINTERS FOR TAPE ERROR DATA ARE FOUND CLEARED.'			
1183	D5E3C5D9E240C6D6	643							
118B	D540E2C1D7C540C5	643							
1193	D9D9D6D940C4C1E3	643							
119E	C140C1D9C540C6D6	643							
11A3	E4D5C440C3D3C5C1	643							
11AE	C9C5C44B	643							

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ERR LCC CEJECT CODE ADDR STMT SOURCE STATEMENT

		645	*****						
		646	*			CONSTANTS AND BUFFERS FOR ALL ROUTINES			
		647	*****						
		648							
		648							
11AF	G00000	11B1	649	WORK01	DC	XL3'0'			
11B2	0000	11B3	650	WORK02	DC	XL2'0'			
11B4	0000	11B5	651	WORK03	DC	XL2'0'			
11B6	0000	11B7	652	WORK04	DC	XL2'0'			
11B8	000001	11BA	653	ONE	DC	XL3'1'			
11BE	OFFFFF	11B0	654	FOXFOX	DC	XL3'OFFFFF'			
11BE	0040	11BF	655	SIXTY4	DC	XL2'0040'			
11C0	00	11C0	656	STATFG	DC	XL1'0' VCL2BT=80 VOL1ET=40 DISK=20 MULTBT=04			
11C1		11C2	657	TXR1	DS	XL2			
11C3		11C4	658	TXR2	DS	XL2			
11C5	0003	11C6	659	THREE	DC	XL2'3'			
11C7	FFFE	11C8	660	COMP02	DC	XL2'FFFE'			
11C9	1E	11C9	661	THIRTY	DC	XL1'1E'			
11CA	0018	11CB	662	TWNTY4	DC	XL2'0018'			
11CC	E1E1	11CD	663	SLASHS	DC	CL2'///'			
11CE		11CF	664	TBLPTR	DS	XL2			
11D0	00	11D0	665	PROCBT	DC	XL1'0'			
11D1	00	11D1	666	SECNT	DC	XL1'0'			
11D2	00	11D2	667	RECTYP	DC	XL1'0'			
11D3	00	11D3	668	VALFLG	DC	XL1'0'			
11D4	01	11D4	669	PLUS1	DC	XL1'01'			
11D5	0000	11D6	670	LKXRI	DC	XL2'00'			
11D7	0000	11D8	671	XN1SAV	DC	XL2'00'			
11D9	000000	11DB	672	ZEROS	DC	XL3'000000'			
11DC	C4C9C1C7	11DF	673	DIAG	DC	CL4'DIAG'			
11E0	C8C1C9CAE6C1D9C5	11EC	674	HDW	DC	CL13'HAFCWARE ERR'			
11E8	4040C5D9D9	674							
11EC	C1E3E3C1C3C8D4D5	11F9	675	ADP	DC	CL13'ATTACHMNT CMK'			
11FE	E340C3C8D2	675							
11FA	C5D8E4C9D7D4C5D5	1206	676	EOP	DC	CL13'EQUIPMENT CMK'			
1202	E340C3C8D2	676							
1207	E6D5E340D3E6D940	1213	677	LWRP	DC	CL13'WRT LWR FAILD'			
120F	C6C1C9D3C4	677							
1214	E6D5E340D3E6D940	1220	678	LWRP	DC	CL13'WRT LWR PASSD'			
121C	D7C1E2E2C4	678							
1221	D7C5D9D4C1C5C5C5	122D	679	PRMRD	DC	CL13'PERMANENT RD'			
1229	E3404CD9C4	679							
122E	C3D6C5E3D9D60340	123A	680	CONCMD	DC	CL13'CCNTRCL CCMND'			
123E	C3D6D4D5C4	680							
123B	C3D6D9C540C6E4D3	126B	681		DC	CL49'CORE FULL-DIVIDE LOG DATA INPUT AND RELOAD JOB OR'			
1243	D360C4C9E5C9C4C5	681							
124E	40D3D6C740C4C1E3	681							
1253	C140C9C5D7E4E340	681							
125B	C1D5C440D9C5D3C6	681							
1263	C1C440D1D6C240D6	681							
126E	D9	681							
126C	40D9C5E2C5E340E3	1295	682	FULMSG	DC	CL42' RESET THE HALT TO CONTINUE WITH THIS DATA'			
1274	C8C540C8C1D3E340	682							
127C	E3D640C3D6D5E3C9	682							
1284	D5E4CE40E6C5E3C2	682							
128C	40E3C8C9E24D3C4C1	682							
1294	E3C1	682							

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7160 DATA FORMAT PRG (3340) FOR SECT 711, 712, 713, AND 714

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

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684 *****J***** *GC*
685 ***** TITLE * DISK TYPE 3340 I/O ROUTINE ***** *GC*
686 *****J***** *GC*
687
1296 34 C8 130F 688 DISK33 ST EXIT33+3.ARR STORE RETURN ADDRESS *GC*
129A 3C 00 1482 689 MVI DDCF,X'00' CLEAR FLAG BYTE *GC*
129E 0C 03 148B 1481 690 MVI DDCF(4),DDCFB INITIAL DDCF FIELD K,DD,C BYTES *GC*
12A4 30 CD 14C9 691 SNS DSNSE,X'CD' RESET HISTORY UNIT CHECK BITS *GC*
12A8 C1 C8 1333 692 TIO DKNR,X'CB' NOT READY/UNIT CHECK ERROR TEST *GC*
693
694 *****J***** *GC*
695 * * * * *
696 * INPUT: DSKDRV --> DRV32 *GC*
697 * DSKCYL --> DDCF+2 *GC*
698 * DISKHD --> DDCF+4 *GC*
699 * RD/WRT --> DSKFCT READ=01,WRITE=02,SEEK=00(NO-OP) *GC*
700 * * * * *
701 * * * * *
702
703
704
12AC 0C 00 1302 14A2 703 MVC RDWRT+1(1),DSKFCT MOVE DISK FUNCTION READ/WRITE INTO SIO *GC*
12B2 0E 00 1302 14A3 704 ALC RDWRT+1(1),CRV32 INSERT DRIVE NUMBER INTO SIO *GC*
12B8 C1 CA 12E8 705 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
12BC 31 CE 1479 706 LIO LDCF,X'CE' LOAD DDCR WITH ADDRESS OF DDCF *GC*
12C0 31 CC 147B 707 LIO LDDF,X'CC' LOAD DDR WITH ADDRESS OF DDDF *GC*
12C4 F3 C8 00 708 SIO 0,X'CB' SEEK COMMAND PRIMARY TRACK *GC*
12C7 C1 C9 12C7 709 TIO *,X'CB' SEEK BUSY (WAIT) *GC*
12CE C1 CA 12CE 710 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
12CF C1 C8 134E 711 TIO DKERS,X'CB' NOT READY / UNIT CHECK AFTER SEEK CMD *GC*
12D3 0C 09 149F 148B 712 MVC DDC2(10),DDCFE *GC*
12D9 0C 01 149E 14A1 713 MVC DDC2-1(2),DDZL *GC*
12DF 31 CE 147D 714 LIC LDCX,X'CE' LOAD DDCR WITH ADDRESS OF DDCX (DDCF) *GC*
12E3 31 CC 147B 715 LIC LDDF,X'CC' LOAD DDR WITH ADDRESS OF DDDF *GC*
12E7 F3 C9 01 716 SIO33 SIO X'01',X'CB' RD HA & RD EVEN COMMAND *GC*
12EA C1 CA 12EA 717 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
12EE C1 C8 133E 718 TIO DKER2,X'CB' NOT READY/UNIT CHECK ??? *GC*
719
12F2 3E 02 148C 720 TBA DDDF,X'02' CHECK FOR DEFECTIVE PRIMARY TRACK *GC*
12F6 F2 10 17 721 JT PRIDEF JUMP TO ALTERNATE TRACK *GC*
722
12F9 31 CE 1479 723 LIC LDCF,X'CE' LOAD DDCR WITH ADDRESS OF DDCF *GC*
12FD 31 CC 147F 724 LIO LBUF,X'CC' LOAD DDR WITH ADDRESS OF DBUF *GC*
1301 F3 C9 00 725 RDWRT SIO 0,X'CB' RD/WRT KEY DATA (C9/CA) *GC*
1304 C1 CA 1304 726 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
1308 C1 C8 133F 727 TIO DKER4,X'CB' NOT READY/UNIT CHECK *GC*
130C C0 E7 0000 728 EXIT33 B *-- RETURN TO CALLER *GC*
729
1310 3C 01 148C 1310 PRIDEF EQU * *GC*
1314 3C 01 1482 731 MVI DDDF,X'01' SET-UP FLAG BYTE FOR ALTERNATE *GC*
1318 C1 CA 1318 732 MVI DDCF,X'01' SET-UP FLAG BYTE FOR ALTERNATE *GC*
131C 31 CE 147B 733 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
1320 F3 C8 00 734 LIC LDDF,X'CE' LOAD DDCR WITH ADDRESS OF DDDF *GC*
1322 C1 C9 1323 735 SIO 0,X'CB' SEEK COMMAND ON ALTERNATE *GC*
1327 C1 CA 1327 736 TIO *,X'CB' SEEK BUSY ??? (WAIT) *GC*
132E C1 C8 1348 737 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
132F C0 E7 12E7 738 TIO DKERS,X'CB' NOT READY / UNIT CHECK AFTER SEEK CMD *GC*
739 B SIO33 GO TO RD HA & RD ALTERNATE *GC*
740
1333 F2 E7 24 741 DKNR J PRTRF * PRINT *GC*
742
1336 0C 13 1427 1438 743 DKER2 MVC PD31(20),PD3E * PRINT NOT/READY AFTER READ HA & RD *GC*
133C F2 E7 1B 744 J PRTRF * NOT READY / UNIT CHECK *GC*
745
133F 0C 13 1427 144F 746 DKER4 MVC PD31(20),PD43 * PRINT ERROR AFTER RD/WRT CMD *GC*
1345 F2 E7 12 747 J PRTRF * PRINT OUT *GC*

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748
1348 0C 13 1427 1463 749 DKER9 MVC PD31(20),PD4E * PRINT UNIT CHECK AFTER SEEK CMD *GC*
134E F2 E7 09 750 J PRTRF * NOT *GC*
751
1351 0C 13 1427 1477 752 DKERA MVC PD31(20),PD4E * PRINT NOT READY / UNIT CHECK *GC*
1357 F2 E7 00 753 J PRTRF * *GC*
754
135A C0 87 021A 755 PRTRF B PRINT * PRINT *GC*
135E 87 135E 756 DC XL1'87' * THAT *GC*
135F 3A 135F 757 DC AL1(FD31-PD30) * DRIVE *GC*
1360 1427 1361 758 DC AL2(PD31) * IS *GC*
1362 3C 40 1427 759 MVI FD31,X'40' * PLACE * *GC*
1366 0C 12 1426 1427 760 MVC FD31-1(19),FD31 * BLANK PD31 WORK AREA *GC*
136C 30 CD 14C9 761 SNS DSNSE,X'CD' SENSE STATUS BYTES 0.1 *GC*
1370 C0 E7 021E 762 B UNPACK * UNPACK *GC*
1374 02 1374 763 DC XL1'02' * STATUS *GC*
1375 14C9 1376 764 DC AL2(CSNSE) * BYTES *GC*
1377 13D0 1378 765 DC AL2(STATCT) * 0.1 *GC*
1379 C0 87 021A 766 B PRINT * PRINT *GC*
137D E2 137D 767 DC XL1'82' * STATUS *GC*
137E 1A 137E 768 DC AL1(STATCT-STATST) * BYTES *GC*
137F 1390 1380 769 DC AL2(STATOT) * 0.1 *GC*
1381 C1 CA 1381 770 TIO *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
1385 31 CC 1481 771 LIO LSNS,X'CC' LCAD DDDF WITH ADDRESS OF DSNS *GC*
1389 F3 C9 07 772 SIO 7,X'CB' RD DIAG BYTES *GC*
138C C1 CA 138C 773 TIC *,X'CA' ATTACHMENT BUSY (WAIT) *GC*
1390 C1 C8 1351 774 YIO DKERA,X'CB' NOT READY / UNIT CHECK AFTER READ DIAG CMD *GC*
1394 C0 E7 021E 775 B UNPACK * UNPACK *GC*
1398 18 1398 776 DC IL1'24' * READ DIAG *GC*
1399 14C9 1399 777 DC AL2(CSNSE) * BYTES *GC*
139B 14F9 139C 778 DC AL2(FSNS) * 0-23 *GC*
139D C0 87 021A 779 B PRINT * PRINT HEADING FOR *GC*
13A1 E3 13A1 780 DC XL1'E3' * READ DIAG *GC*
13A2 1D 13A2 781 DC AL1(FDDGE-RDDGS) * BYTES *GC*
13A3 13ED 13A4 782 DC AL2(RDDGE) * 0-23 *GC*
13A5 C0 E7 021A 783 B PRINT * PRINT *GC*
13A9 82 13A9 784 DC XL1'82' * READ DIAG *GC*
13AA 30 13AA 785 DC IL1'48' * BYTES *GC*
13AB 14F9 13AC 786 DC AL2(FSNS) * 0-23 *GC*
13AC C0 87 0222 787 B HALT *GC*
13B1 700F 13B2 788 DC XL2'700F' *GC*
13B3 C0 E7 021E 789 B LINK *GC*
1386 790 STATST EQU *-1 *GC*
1387 40E2E3C1E3E4E240 13D0 791 STATOT DC CL26' STATUS BYTES 0.1 ARE XXXX' *GC*
138F C2E8E3C5E240FC6B 791
13C7 F140C1C9C540E7E7 791
13CF E7E7 791
13D0 792 RDDGS EQU *-1 *GC*
13D1 40D9C5C1C440C4C9 13ED 793 RDDGE DC CL29' READ DIAG STATUS BYTES ARE * *GC*
13D9 C1C740E2E3C1E3E4 793
13E1 E240C2E8E3C5E240 793
13E9 C1D9C54040 793
13EE 40C4C9E2D240C4D9 13FB 794 PD30 EQU *-1 *GC*
13FE C5E5C54040F2 795 DC CL14' DISK DRIVE 2' *GC*
13FC 40D9C5C340D9C5C1 1413 796 DC CL24' NOT READY / UNIT CHECK * *GC*
1404 C4E4ACE140E4D5C9 796
140C E340C3C8C5C3D240 796
1414 4040404040404040 1427 797 PD31 DC CL20' * *GC*
141C 4040404040404040 797
1424 40404040 797
1428 40C1C6E3C5D540C9 143B 798 PD35 DC CL20' AFTER READ HA & RD * *GC*
1420 C5C1C440C8C14050 798
1432 4CD9FC48 798
142C 40C1C6E3C5D940D9 144F 799 PD43 DC CL20' AFTER RD/WRT DATA * *GC*
1444 C461E6D9E340C4C1 799
144C E3C1404B 799
1450 40C1C6E3C5D940E2 1463 800 PD46 DC CL20' AFTER SEEK COMMAND * *GC*

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7160 DATA FORMAT PRG (3340) FOR SECT 711, 712, 713, AND 714

7160 DATA FORMAT PRG (3340) FOR SECT 711, 712, 713, AND 714

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

145E	C5C5D240C3DED4D4	800	
1460	C1D5C44B	800	
1464	40C1C6E3C5D540D9	1477	801 PD48 DC CL20* AFTER READ DIAG CMD*
146C	C5C1C440C4C5C1C7	801	
1474	40C3C4C4	801	

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

147E	1482	1479	803	LDCF	DC	AL2(DCCF)	ADDRESS LEFT-MOST BYTE OF DDCF	*GC*	
147A	148C	147B	804	LDDF	DC	AL2(DDDF)	ADDRESS LEFT-MOST BYTE OF DDDF	*GC*	
147C	1496	147D	805	LDCX	DC	AL2(DCCX)	ADDRESS LEFT-MOST BYTE OF DDCX (DCCF)	*GC*	
147F	1600	147F	806	LBLF	DC	AL2(CSKEUF)	ADDRESS LEFT-MOST BYTE OF DISK INPUT BUFF	*GC*	
1480	1482	1481	807	LSNS	DC	AL2(DENS)	ADDRESS LEFT-MOST BYTE OF DSNS	*GC*	
		808	*****READ/WRITE KEY-DATA*****					*GC*	
		809	*	DDCF		* F * CC * HM * R * KL * CL * N *	DISK DRIVE	*GC*	
		810	***** CONTROL FIELD *****					*GC*	
		1482	811	DDCF	EGU	*		*GC*	
1482	00	1482	812	DC	XL1*0*	FLAG	R W	*CC*	
1483	0000	1484	813	DC	XL2*00*	CYLINDER	E R	*GC*	
148E	00C0	1486	814	DC	XL2*00*	HEAD ADDRESS	A I	*GC*	
1487	00	1487	815	RECD	DC	XL1*0*	RECORD	D T	*GC*
148E	00	1488	816	DC	XL1*0*	KEY LENGTH	E	*GC*	
1489	0C00	148A	817	DC	XL2*00*	DATA LENGTH	CONTROL	*GC*	
148B	00	148B	818	DDCFE	DC	XL1*0*	COUNT	FIELD	*GC*
		819	***** READ MA & RO *****					*GC*	
		148C	820	DDDF	EGU	*		*GC*	
148C	0000000000000000	1495	821	DC	XL10*0*	* DISK DRIVE DATA FIELD FOR READ MA & RO		*GC*	
1494	0000		821						
			822	*****					*GC*
		1496	823	DDCX	EGU	*	* DISK DRIVE	*GC*	
1496	00	1496	824	DC	XL1*0*	FLAG	C	*GC*	
1497	0000	1498	825	DC	XL2*00*	CYLINDER	G	*GC*	
1498	0000	149A	826	DC	XL2*00*	HEAD ADDRESS	N F	*GC*	
149B	00	149B	827	DC	XL1*0*	RECORD	T I	*GC*	
149C	00	149C	828	DC	XL1*0*	KEY LENGTH	R E	*GC*	
149D	0000	149E	829	DC	XL2*00*	DATA LENGTH	O L	*GC*	
149F	00	149F	830	DDCZ	DC	XL1*0*	COUNT	L D	*GC*
14A0	000E	14A1	831	DDZL	DC	XL2*000E*	*DATA LENGTH* FOR READ MA & RO	*GC*	
		832	*****					*GC*	
14A2	01	14A2	833	DSKFCT	DC	XL1*01*	SET TO READ FOR THIS PCUTIME	*GC*	
14A3	C8	14A3	834	DRV32	DC	XL1*C8*	* DISK DRIVE ADDRESS BITS DRIVE 2	*GC*	
		14A4	835	DDCINT	EGU	*	* DISK DRIVE	*GC*	
14A4	00A9	14A5	836	DC	XL2*00A9*	CYLINDER # FOR TAPE POINTER		*GC*	
14A6	0000	14A7	837	DC	XL2*00*	HEAD ADDRESS # FOR TAPE POINTER		*GC*	
14A8	07	14A8	838	RECN	DC	XL1*07*	RECORD # FOR TAPE POINTER I	*GC*	
		14A9	839	DDRDWR	EGU	*	* DISK DRIVE	*GC*	
14A9	00D1	14AA	840	DC	XL2*00D1*	CYLINDER # FOR TAPE DATA		*GC*	
14AB	0000	14AC	841	DC	XL2*00*	HEAD ADDRESS # FOR TAPE DATA		*GC*	
14AD	00	14AD	842	REC#	DC	XL1*0*	RECORD # FOR TAPE DATA	*GC*	
14AE	00C10000	14B1	843	DDCFE	DC	XL04*00010000*	INITIAL VALUE FOR K.DD.C BYTES	*GC*	
		844	*****					*GC*	
14B2		14B2	845	DSNS	EGU	*		*GC*	
14C9		14C9	846	DENSE	DS	XL24		*GC*	
14FA		14F9	847	PSNS	DS	XL48		*GC*	
		848	***** END OF DISK I/O FOR 3340 *****					*GC*	

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ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
15EE		850		ORG	X'15EB'
15EB 00		15EB 851	HDWCNT	DC	XL1'0'
15EC 00		15EC 852	ADPCNT	DC	XL1'0'
15ED 00		15ED 853	EOPCNT	DC	XL1'0'
15EE 00		15EE 854	PWNCNT	DC	XL1'0'
15EF 00		15EF 855	PWYCNT	DC	XL1'0'
15F0 00		15F0 856	RDCNT	DC	XL1'0'
15F1 00		15F1 857	CNTCNT	DC	XL1'0'
15F2 163B		15F3 858	HDWIX	DC	AL2(HDWERR)
15F4 1677		15F5 859	ADAPIX	DC	AL2(ADPTAB)
15FE 1683		15F7 860	EQPIX	DC	AL2(EQPTAB)
15FB 16EF		15F9 861	PWNIX	DC	AL2(PWLWRN)
15FA 172B		15FB 862	PWYIX	DC	AL2(PWLWRY)
15FC 1767		15FD 863	READIX	DC	AL2(FERMRD)
15FE 17A3		15FF 864	CNTIX	DC	AL2(CNTCMD)
1600	0000000000000000	1600 865	DSKBUF	EGU	*
160E	0000000000000000	163B 866	HDWERR	DC	XL60'00'
161C	0000000000000000	866			
161E	0000000000000000	866			
1620	0000000000000000	866			
162E	0000000000000000	866			
1630	0000000000000000	866			
163B	00000000	866			
163C	0000000000000000	1677 867	ADPTAB	DC	XL60'00'
1644	0000000000000000	867			
164C	0000000000000000	867			
1654	0000000000000000	867			
165C	0000000000000000	867			
1664	0000000000000000	867			
166C	0000000000000000	867			
1674	00000000	867			
167E	0000000000000000	1683 868	EQPTAB	DC	XL60'00'
1680	0000000000000000	868			
168B	0000000000000000	868			
169C	0000000000000000	868			
169E	0000000000000000	868			
16A0	0000000000000000	868			
16A8	0000000000000000	868			
16B0	00000000	868			
16B4	0000000000000000	16EF 869	PWLWRN	DC	XL60'00'
16BC	0000000000000000	869			
16C4	0000000000000000	869			
16CC	0000000000000000	869			
16D4	0000000000000000	869			
16DC	0000000000000000	869			
16E4	0000000000000000	869			
16EC	00000000	869			
16F0	0000000000000000	172B 870	PWLWRY	DC	XL60'00'
16F8	0000000000000000	870			
1700	0000000000000000	870			
170E	0000000000000000	870			
1710	0000000000000000	870			
1718	0000000000000000	870			
1720	0000000000000000	870			
172E	00000000	870			
172C	0000000000000000	1767 871	PERMRD	DC	XL60'00'
1734	0000000000000000	871			
172C	0000000000000000	871			
1744	0000000000000000	871			
174C	0000000000000000	871			
1754	0000000000000000	871			
175C	0000000000000000	871			
1764	00000000	871			
1768	0000000000000000	17A3 872	CNTCMD	DC	XL60'00'
1770	0000000000000000	872			
1778	0000000000000000	872			
1780	0000000000000000	872			

ORG TO PUT DSKBUF ON 256 BYT BNDRY
 PRECEDED
 BY
 THE
 TABLE
 COUNTS
 AND
 INDEXES
 TO BE
 PASSED
 TO
 SECTIONS
 711
 AND
 712

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7160 DATA FORMAT PRG (3340) FOR SECT 711, 712, 713, AND 714

ERR LOC	OBJECT CODE	ADDR	STMT	SOURCE	STATEMENT
172E	0000000000000000	872			
1790	0000000000000000	872			
179E	0000000000000000	872			
17A0	00000000	872			

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7160 DATA FORMAT PROG (3340) FOR SECT 711, 712, 713, AND 714

ERR LOC OBJECT CODE ADDR STMT SOURCE STATEMENT

1932 D940F7F1F64B 954
 FFFF 955 END 000057

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CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
ADAPIX	A	002	15FE	0E59	04E2 0454*
ADDUP1	A	006	0AC7	014E	0127* 0139
ADP	A	013	11F9	0675	0547
ADPCNT	A	001	15EC	0E52	04E0 0455*
ADPHIT	A	006	0E04	04E0	0447
ADPTAB	A	060	1677	0E67	0432 0432* 0859
ALLCTA	A	001	1E0C	CE5E	
ARR	C	001	0008	0011	0301 0530 0E2E
BGN	A	001	00CC	0005	
ELDTBL	A	001	0DB9	0427	037E 0627
BYPASS	A	025	10D3	0E12	05E9* 0581 05E4 0E26* 0588*
CHKADP	A	003	0DEC	0442	0545
CHKAD2	A	003	0E2E	04E2	0449
CHKCNT	A	001	0CA4	0416	03E5 0390 0413
CHKEQP	A	003	0E52	046E	0443 0445 0459
CHKENF	A	005	0B4A	015E	0192
CHKGS	A	003	0E8C	04E4	0481
CHKREC	A	005	0F6E	0541	0456 0466 0469 0478 0496 0499 0512 0520 0528 0565
CHKTWC	A	005	0B56	0199	0190 0193
CHKVES	A	004	10D4	0613	0426
CHKVOL	A	004	0B5E	0202	0167
CHKVRT	A	003	0ECD	0502	0427
CHK15V	A	004	0D37	03E1	0421
CHK2ND	A	003	0D4B	03E7	0383
CKDIAG	A	005	0EC1	0458	04E5
CNTCHK	A	001	0D95	04C9	03E4
CNTCMD	A	060	17A3	0E72	0E44
CNTCNT	A	001	15F1	0E57	0490 0495*
CNTIX	A	002	1EFF	CEE4	0035 0492 0494* 0E04
CCMF02	A	002	11C8	06C0	0525
CCNCMD	A	013	123A	0E80	0559
CONTRL	A	006	0E9E	0490	0500
CCRPRY	A	004	1104	0622	0107 0123
DDCF	A	001	14B2	CE11	06E9* 0732* 0803
DDCFB	A	004	14E1	0E43	0650
DDCFE	A	001	14E2	0818	0690* 0712
DDCINT	A	001	14A4	0835	
DDCX	A	001	1496	0E23	0805
DDCZ	A	001	149F	0830	0712* 0713*
DDCF	A	001	14EC	0E20	0720 0731* 0804
DDREWR	A	001	14A9	0839	
DCZL	A	002	14A1	0831	0713
DIAG	A	004	11DF	0E73	0498
DISKBT	C	001	0020	0E89	0923
DISKRD	A	001	CCF1	03E1	0099
DISK33	A	004	129E	0E88	0366 0377
DKERA	A	006	13E1	07E2	0774
DKER2	A	006	133E	0743	0718
DKER4	A	006	133F	074E	0727
DKER9	A	006	134E	0749	0711 0738
DKNR	A	003	1333	0741	0E52
DCLAST	A	004	0BF5	02E1	0262
DGMCRE	A	004	0BDE	0244	0241
DRV32	A	001	14A3	0E34	07C4
DSKBUF	A	001	1E00	08E5	0369 0379 080E
DSKFACT	A	001	14A2	0833	0703
DSKM31	A	000	1937	09E4	0940 0941
DSKM32	A	001	18BE	0949	0944
DSKM33	A	003	1E2B	0E52	0940 0944 0948
DSNS	A	001	14B2	0E45	0E07
DENSE	A	024	14C9	0E4E	0661* 07E1* 07E4 0777
ENCATA	A	002	180D	0E59	0105 0121 0309* 0310 0330* 0331 0332* 0434
ECP	A	013	1206	0676	0551
EQPCNT	A	001	15ED	0E53	0472 0477* 0594
EQPHIT	A	006	0E5F	0472	0482
EQPIX	A	002	15F7	0E60	0474 0476*

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7160 DATA FORMAT PROG (3340) FOR SECT 711, 712, 713, AND 714

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
EGFTAE	A	060	16B3	0868	0860
EXIT33	A	004	130C	0728	0688*
FOXFOX	A	003	118D	0654	0326 0346 0147
FULMSG	A	042	1295	0682	0316 0625
HALT	C	001	0222	0023	0787 0931 0946
HDM	A	013	11EC	0674	0549 0571
HDMCNT	A	001	15EE	0851	0460 0465* 0570
HDMERR	A	060	163E	0866	0858
HDMIX	A	002	15F3	0858	0462 0464*
INITAL	A	001	1820	0919	0095
INITBR	A	004	0A14	0055	0925*
INS	A	004	1875	0938	0926
INSALL	A	004	0C1D	0271	0224
INSERT	A	004	0C36	0301	0115 0147 0151 0155 0159 0163 0226 0230 0234 0251 0255 0263 0267 0271 0275 0279 0221 0223 0259 0349
INSLST	A	004	08B6	0226	0221 0223 0259
INSRTR	A	004	0CCF	0345	0349
INTLCK	A	001	0A0F	0036	
LRUF	A	002	147F	0806	0724
LDCF	A	002	1479	0803	0706 0723
LDCX	A	002	147D	0805	0714
LDDF	A	002	147B	0804	0707 0715 0734
LINK	C	001	0216	0020	0317 0633 0641 0789 0933
LKUPLP	A	004	0B35	0188	0185 0246
LKXRI	A	002	11D6	0670	0188* 0245
LCAD	C	001	022A	0024	0606 0617
LOGMSG	A	039	1099	0610	0556* 0597* 0603
LSNS	A	002	1481	0807	0771
LWRF	A	013	1213	0677	0553
LWRFAL	A	006	0F1D	0522	0505
LWRF	A	013	1220	0678	0555
MUCVNE	A	005	0D6C	0398	0396
MOVTKP	A	005	0D80	0403	0394
MCVTWO	A	005	0D74	0400	0414
MRKTAB	A	004	0F3F	0530	0453 0463 0475 0493 0509 0517 0525
MULTBT	C	001	0004	0850	0170 0187 0220 0238
NEXTMV	A	004	0CAD	0335	0333* 0339
NOIO	A	040	1874	0535	0930
NCMACH	A	004	0BEA	0248	0204
NGTWO	A	004	0B22	0183	0172
NOUPDT	A	003	0C8A	0326	0324
NC3340	A	004	183B	0927	0922
NXTSEC	A	004	1057	0558	0555
DER	A	002	180F	0900	0880
DERENC	A	002	1801	0880	0114 0167 0321
ONE	A	003	112A	0653	0142 0145 0209 0218 0257 0269 0327 0348 0455 0588 0591
OVFLW1	A	006	0F7C	0547	0451
OVFLW2	A	006	0F25	0549	0461
OVFLW3	A	006	0F8E	0551	0473
OVFLW4	A	006	0F97	0553	0523
OVFLW5	A	006	0FA0	0555	0507
OVFLW6	A	006	0FA9	0557	0515
OVFLW7	A	006	0FB2	0559	0491
OVFLW8	A	006	0FEF	0567	0547* 0549* 0551* 0553* 0555* 0557* 0559* 0564
OVFPRT	A	004	0FB8	0561	0548 0550 0552 0554 0556 0558
PD30	A	001	13ED	0794	0757
PD31	A	020	1427	0757	0743* 0746* 0749* 0752* 0757 0758 0759* 0760 0760*
PC35	A	020	143B	0758	0743
PD42	A	020	144F	0759	0746
PD46	A	020	1463	0800	0749
PC48	A	020	1477	0801	0752
PERMRD	A	060	1767	0871	0863
PLUS1	A	001	11D4	0669	0215 0373 0419 0465 0477 0495 0511 0519 0527
PREFER	A	002	0A11	0091	0032
PRIDEF	A	001	1310	0730	0721
PRINT	C	001	021A	0021	0313 0561 0578 0598 0600 0613 0622 0629 0637 0755 0766 0779

7160 DATA FORMAT PROG (3340) FOR SECT 711, 712, 713, AND 714

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
PRMRD	A	013	122D	0679	0783 0927 0938 0942 0557
PFOC	A	004	0A1C	0100	0407
PROCBT	A	001	11D0	0665	0363 0381* 0406*
PRTAR	A	004	135A	0755	0741 0744 0747 0750 0753
PSNS	A	048	14F9	0847	0778 0786
PWLWRN	A	060	16EF	0869	0861
PWLWRY	A	060	172B	0870	0420* 0431 0431* 0862
PWNCNT	A	001	15EE	0854	0522 0527*
PWNIX	A	002	15F9	0861	0524 0526*
PWYCNT	A	001	15EF	0855	0506 0511*
PWYIX	A	002	15FB	0862	0508 0510*
RDCMD	A	006	0EFC	0514	0100 0102 0108 0108* 0109 0109* 0110 0110* 0111 0111* 0117 0124 0149 0153 0157 0161 0165 0169 0171 0184 0185 0199 0228 0232 0236 0253 0265 0273 0277 0281 0398* 0400* 0403*
RDCNT	A	001	15F0	0856	0489 0503 0514 0519*
RDCGE	A	029	13FD	0753	0721 0782
RDCES	A	001	13D0	0792	0781
RDWCRE	A	004	0D13	0372	0418
RDWRT	F	003	1301	0725	0703* 0704*
REACTX	A	002	15FD	0663	0516 0518*
READLP	A	001	0A1E	0C98	0103 0118 0239 0242 0282 0924 0948
REC#	A	001	14AD	0842	0371* 0373* 0374 0376
RECD	A	001	1487	0815	0255* 0376*
RECMK	A	004	0B39	0189	0212
RECN	A	001	14A8	0838	0365
RECTYP	A	001	11D2	0667	0380* 0386* 0393 0397* 0401* 0412
RECVL	A	001	0D57	0351	0388
RETURN	A	004	0F64	0539	0520*
ROOV	A	005	0C70	0319	0311
RSTREG	A	004	0DEE	0404	0399 0402
RTRNIN	A	004	0CED	0353	0301* 0304 0305*
SECTION	A	006	104E	0554	0523
SDRE0	A	002	1805	0882	0121
SDRE1	A	002	1807	0883	0128
SDRE2	A	002	1809	0884	0125
SDRE3	A	002	180B	0885	
SDRIN	A	003	0AA8	0136	0127 0130 0133
SDRO	A	002	1813	0902	0882
SDR1	A	002	1816	0904	0883
SDR2	A	002	1819	0906	0884
SDR3	A	002	181C	0908	0885
SECCNT	A	001	11D1	0666	0372* 0417 0419*
SETSUM	A	005	1000	0572	0592
SIX33	A	003	12E7	0716	0739
SIXTY4	A	002	118F	0655	0106 0122
SIZE	C	001	0203	0C19	0104 0120 0310
SKPAGN	A	003	0B95	0217	0219
SKPCNT	A	003	0B74	0208	0210
SKPENT	A	005	0B88	0214	0156 0200
SKPMOR	A	003	0ABA	0141	0143
SLASH5	A	002	11CD	0663	0435 0541
STATFG	A	001	11C0	0656	0170* 0174* 0183* 0186* 0187* 0189 0191 0220 0222 0238 0240 0244* 0249 0261 0920* 0923*
STATOT	A	026	1300	0751	0765 0768 0769
STATST	A	001	138E	0750	0768
STDATA	A	002	0A0E	0035	0437* 0439 0605*
STEP1	A	006	1030	0588	0585
STEP2	A	003	1036	0589	0587
SUMMSG	A	033	10BA	0611	0573* 0577
SUMPRT	A	004	0FF0	0568	0542
TELPTR	A	002	11CF	0664	0452* 0454 0462* 0464 0474* 0476 0492* 0494 0508* 0510 0516* 0518 052* 0526 0533 0536*
THIRTY	A	001	11C9	0661	0450 0460 0472 0490 0506 0514 0522
THREE	A	002	11C6	0659	0305

7160 DATA FORMAT PRG (3340) FOR SECT 711, 712, 713, AND 714

CROSS-REFERENCE

SYMBOL	T	LEN	VALUE	DEFN	REFERENCES
TSTWD	A	004	0C07	0261	0250
TUCHK	A	003	0E82	0480	0471
TWNTY4	A	002	11C8	06E2	0543 0544
TXR1	A	002	11C2	0657	0302* 0323 0338 0343* 0351 0362* 0405 0531* 0537
TXR2	A	002	11C4	0658	0303* 0352 0532* 0534 0538
UNPACK	C	001	021E	0022	0574 0762 077E
UPDTLP	A	005	0C7D	0323	0328
VALCLR	A	004	116F	0F37	0370
VALFLG	A	001	11D3	06E8	0112* 0392* 0428
VALMCL	A	052	11AE	0643	0640
VALMSG	A	033	116E	0E3E	0632
VALFRT	A	004	1113	0E29	0429
VES	A	002	1811	0901	0881
VESCRD	A	006	CA6C	0120	0101
VESENC	A	002	1803	08E1	0134 0203 024E
VESMSG	A	033	1103	0621	0616
VOL1BT	C	001	0080	0E87	0170 0183 018E 0191 0249
VOL2BT	C	001	0040	0E88	0170 0174 0189 0222 0240 0244 0261
WRK01	A	003	11B1	0E49	0140* 0142* 0202* 0203 02C6* 0209* 0214* 0218* 0307* 0308* 0309 0325
					0330 0332 0333 0342 0348* 0568* 0582 0591*
WRK02	A	002	11B3	0E50	0319* 0340 0572* 0576
WRK03	A	002	11B5	0E51	0320* 0327* 0337* 0338
WRK04	A	002	11B7	0E52	0104* 0105* 0106 0120* 0121* 0122
XR1	C	001	0001	0012	0114* 0124* 0126 0129 0132 0136* 0137 0138 0140 0141 0141* 0167*
					0168 0168* 0188 0195 0199 0202 0206 0207 0207* 0208 0208* 0211
					0211* 0214 0215 0216 0216* 0217 0217* 0245* 0248* 0302 0304* 0308
					0319 0331* 0335 0335 0336* 0337 0342* 0343 0345 0346* 0351* 0362
					0379* 0382 0384 0387 0389 0395 0398 0400 0403 0404 0405* 0411*
					0420 0420* 0434* 0435 0437 0438 0438* 0442 0444 0446 0448 0458
					0468 0470 0480 0484 048C 0488 0498 0502 0504 0531 0533* 0534
					0535* 0536 0537* 0543* 0570* 0572 0589 0589* 0604* 0605
XR1SAV	A	002	11DB	0671	0404* 0411
XR2	C	001	0002	0013	0125* 0128* 0131* 0134* 0136 0169* 0176 0176 0177 0177 0178 0178
					0179 0179 0180 0180 0181 0181 0303 0321* 0323 0325 0326 0326*
					0340* 0345 0347* 0352* 0439* 0440 0440* 0532 0538* 0541 0544* 0571*
					0573 0590 0590* 0924* 0925
ZEROS	A	003	11DB	0672	0594

TOTAL STATEMENTS FLAGGED IN THIS ASSEMBLY = 0

7160 DATA FORMAT PRG (3340) FOR SECT 711, 712, 713, AND 714

OBJECT CARD LISTING

THE CHARACTER INDICATES A BLANK COLUMN AND THE CHARACTERS D E M INDICATE NUMERIC SHIFT.

CL 1 THROUGH 16	CL 17 THROUGH 32	CL 33 THROUGH 48	CL 49 THROUGH 64	CL 65 THROUGH 80	CL 81 THROUGH 96
GBK GBD PN 55 52914 EC 824829 3410/3411 ERAP C ATA FORMAT(716) 84888488 7160000C					
T+Y: *C E E/C "7AE AP"3ED "" /1--DM* <u>KL7VBF</u> C 2-MU*5-S 0 DMF 0 ADS* <u>B</u> 0BADS* <u>QCE4</u> ADS* <u>PM</u> 71600001					
T+-ZSDS" AACCC X H70SCC DMT-TNC * HV-T-C D-W TP| D J42MAF G /006F S QOH* <u>HF</u> 0ADS* <u>B</u> 0B ADS* <u>4CK</u> 71600002					
T+-D0F 4(JF7D8" AACCO-DM-CMBF V *1/2-J-E /-G-*M LBYD+(<u>EHGAP</u> 7DD* <u>M</u> AACMBF |S <u>E</u> <4 <u>E</u> , <u>M</u> -C 00D71600003					
T+... |FAC/O DSD 4-DUCO JXJF:0 D H>-8 J>XBGCCO FBHS /006 ESF0M* <(-DMV<BGCC0BBIS /00 6*U71600004					
T+XW(YH>CHAF G K E|B -S +8EJ0C4 BBI-2 J0:8AG .C /FCE H/?? K R.0 TGH8 IAG7 BM:4Y J0C4 I3<71600005					
T+ - /-SP8-CH+8 J0CYCD* 4 JGC+D J0|HETS C* <u>C2D</u> | 2/0/(AEMHT<BAR8T 2/0/(AEMHU?HAHTC ADSD E 071600006					
T+>*C6DJXJ-CO H .:/0 DSD4-DF4-D JCO JXJF:0 D.) (H A *EGB3U* /F1AUB A/GM4-DF4-DJCO JXJC 85D71600007					
T+TP>2 ABSM8AAG 0A .T/ D* <u>C</u> D > 60M* <u>G</u> *BGCC0FBHS /00C6A SCOH* <u><</u> (-HXT-DC* <u>C</u> D Y0+D J0|H 8-U71600008					
T -OXD L /OY0+4 J0CMAD)8 /0X5(ED 0 3S D* <u>C2DA</u> /CO EA- <u>EMOH</u> * <u><</u> (-DJ>X8 GB#0EAG 0A .* <u>B</u> GCCQ :FD71600009					
T+-1(A-S<OH* <u><</u> (-D J>XBGCC0FBHS /00 6A 500M* <u><</u> (-M* <u>Z</u> *E GE/-4B 30(DJ0T6 BD* <u>ES</u> 630C-D<BAG F| 0P071600010					
T+-2M8 * AF1 8 AF 4JX84AF 4E "H BC<BG /YG /IZ0F* BE/0ADS<B| 0J_*H BF D_JGB |HDA08 A AD |CS71600011					
T+-3CX:1B -8 D8M J>X ACG*| J-(D8D 5 J-(C-DCCJFIC <.1FIF CQAC84 4 JF5C6DJ_JGB0 D <.LM 8071600012					
T+-3= /F3(-DJXL6 AD*IX (-DJ7L0 BCS4| AF1C9, 83 |(E6J0T*ED* <u>L</u> /0 (DJ0T4AD)C -EE NC E 00D71600013					
T+-49EH* <u>M</u> D<BGDZ0 * AQHMDJ830 EHA 8 AGJC- P.JGM|LD M.*EAC8U<AAKGEH7 /1H00-DO CO DJH 8 JD 8-471600014					
T+-544G7V |HABX7 C |HAPLOAD)I* <u>B</u> G 2-ER*8EG2 N48 JG L|8 J4THAGX7NH|M AACQ DJH*G0S-G* <u>M</u> GOJO NYX71600015					
T+-67G05-|30 D). 2/CM*|0S*|3EAD)- 5 JGB| DJ4<EGE/0 E J3C|E6J4THAA<B GCPE* 1GJ0HD(D08 DID)E871600016					
T+-7DD|LK MC /04 7|8 J48BAJKB A* .C.<PH/*CG*0)1R 80-ECDD8A AG(OH 85CEAB-8K 8M5 -Y +8-M KCB71600017					
T+-8VE7X* <u>D</u> -H6CGU AD-H6CX/ D-H6AX- -D-H6I 4 E10J24E AC7E< JG|E-P /08 *C DN*JG|C- N6AF :OH* 2/871600018					
T+-9-CE/SF/G2DB6 (AP.D*X -b=EC D J31P30H*|00AE-< J30E E12J5<BGCE/ 8 EX U *Y:SHIB/ YCE *8E71600019					
T+-:8E:4J2*8AC88 < JG|E- /08 *C D N*IG|C- N6JGM8Y- M: 8-BZ D0H*+P7- DA* <u>H</u> 6.7-BA* <u>H</u> C(P- AA* <u>H</u> EJ 71600020					