

AID III SYSTEM
RELEASE BULLETIN
92W0207-009C0
JULY 27, 1977

1. INTRODUCTION

This is to announce that a Revision of AID III is released. BLD II has been changed and the object media has been changed.

11. MAJOR REVISION CHANGES

A. BLD II

1. The program has been corrected for teletype punching and reading of object tapes.

B. OBJECT MEDIA

1. One paper tape is now available containing:
BLD II
AID III for 8K
AID III for 16K
AID III for 24K
AID III for 32K
2. One card deck is now available containing:
BLD II
AID III for 8K
AID III for 16K
AID III for 24K
AID III for 32K
3. Four Magnetic Tape objects are still available (AID III has been removed from the MAINTAIN III test system).

111. PARTS CHANGED OR ADDED (NEW NO.)

AID III SYSTEM
92()0207-009C 0
A, F, H, L, M, Q, U, W, J, and Y parts.

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1 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1971 BY VARIAN DATA MACHINES00 00001
2 * thru 50 00 00002
3 * V.D.M. PART NO. 92L0207-009C 0 00 00003
4 * 00 00004
5 * 00 00005
6 * 00 00006
7 * 620 BINARY LOADER AND DUMP BLD II 00 00007
8 * 00 00008
9 * 00 00009
10 * 00 00010
11 * RELOCATING PRE-LOADER 00 00011
12 * 007000 000201 A 12 ORG 07000 00 00012
13 IBFR SET 0201 INPUT BUFFER 00 00013
14 OBFR SET 0101 OUTPUT BUFFER 00 00014
15 RDR SET 1 TELETYPE LOAD 00 00015
16 PNCH SET 1 TELETYPE DUMP 00 00016
17 PLDS EQU * PRELIM. LOADER SETUP TRN 00 00017
18 EXC 0437 HSPT READER OFF 00 00018
19 LDAI 0223 00 00019
20 007000 100437 A 20 OAR PNCH TTY READER OFF 00 00020
21 LOBI 037 NORMAL HS PUNCH DA H 00 00021
22 007005 000037 A 22 JSS1 **5 TEST FOR RELOC. DATA 00 00022
23 007007 007013 A 23 TZA 00 00023
24 007011 001000 A 24 JMP **5 NORMAL RELOCATION H 00 00024
25 007012 007016 A 25 HLT 7 00 00025
26 007014 064305 A 26 STB PUDA HS PUNCH DA H 00 00026
27 007015 005111 A 27 IAR SAVE USER SPECIFIED 00 00027
28 007016 054305 A 28 STA ROTA RELOC. DATA 00 00028
29 007017 006010 A 29 LDAI 0102600 DUMMY SENSE COMMAND 00 00029
30 007020 102600 A 30 ORA DVAD 00 00030
31 007021 114304 A 31 STA DVIC DEVICE ID 00 00031
32 * CHECK FOR ABL OPTION 00 00032
33 * IF ABL, OVERRIDE USER RELOC. DATA 00 00033
34 007023 010200 A 34 LDA 0200 FIRST WORD OF ABL 00 00034
35 007024 134020 A 35 ERA DVIC 00 00035
36 007025 001010 A 36 JAZ PLDF ABL PRESENT 00 00036
37 007026 007042 A 37 ERAI 036 00 00037
38 007030 000036 A 38 JAZ PLDF ABL PRESENT 00 00038
39 007031 001010 A 39 LDA 800T 00 00039
40 007032 007042 A 40 PLDE EQU * 00 00040
41 007033 014722 A 41 SUB DVIC 00 00041
42 007034 007034 A 42 JAZ PLD 00 00042
43 007035 001010 A 43 STA DVAD 00 00043
44 007036 007155 A 44 JMP PLDG HSPT INPUT 00 00044
45 007037 054266 A 45 PLDF EQU * 00 00045
46 007040 001000 A 46 LDA 0200 00 00046
47 007041 007046 A 47 JMP PLDE 00 00047
48 * 00 00048
49 007045 A 49 DVIC EQU * 00 00049
50 007045 102600 A 50 DATA 0102600 TTY READER 00 00050
51 * ADJUST ALL I/O COMMANDS 00 00051
52 * IN BINARY LOAD/DUMP PROG. 00 00052
53 007046 A 53 PLDG EQU * 00 00053
54 * TEST 892 **IF SET, USER WANTS 00 00054
55 * HSPT READER INPUT AND TTY PUNCH OUT 00 00055
56 JSS2 PLD3 00 00056
57 007047 007106 A 57 LDAI 0103100 OAR INST H 00 00057
58 007050 006010 A 58 OAR PNCH PUNCH DA H 00 00058
59 007051 103100 A 59 STA OUT 00 00059
60 007052 114247 A 60 LDAI 0101500 SEN INST* HSPT BUF READY H 00 00060
61 007053 054664 A 61 ORA PUDA PUNCH DA H 00 00061
62 007054 006010 A 62 STA 07PT+1 00 00062
63 007055 101500 A 63 LOBI P0FF+5 00 00063
64 007056 114243 A 64 LDX PLD2 00 00064
65 007057 054663 A 65 LDA PRCD=1 NOP 00 00065
66 007060 006020 A 66 STA 0,2 00 00066
67 007061 007430 A 67 DBR 00 00067
68 007062 034013 A 68 DXR 00 00068
69 007063 014377 A 69 JXZ **4 00 00069
70 007064 056000 A 70 JMP **5 00 00070
71 007065 005322 A 71 LOBI DUMP+10 00 00071
72 007066 005344 A 72 LDXI 6 00 00072
73 007067 001040 A 73 PLD2 EQU **1 00 00073
74 007068 007073 A 74 STA 0,2 00 00074
75 007069 006020 A 75 DBR 00 00075
76 007070 001000 A 76 DXR 00 00076
77 007071 007064 A 77 PLD2 EQU **1 00 00077
78 007072 006020 A 78 STA 0,2 00 00078
79 007073 007446 A 79 DBR 00 00079
80 007074 006030 A 80 DXR 00 00080
81 007075 000006 A 81 PLD2 EQU **1 00 00081
82 007076 000006 A 82 STA 0,2 00 00082
83 007077 056000 A 83 DBR 00 00083
84 007100 005322 A 84 DXR 00 00084
85 007101 005344 A 85 00 00085

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007102	001040	A	77	JXZ	**4		00	00077
007103	007106	A						
007104	001000	A	78	JMP	**5		00	00078
007105	007077	A						
	007106	A	79	PLD3	EQU	*	00	00079
007106	014354	A	80	LDA	PRCD=1	NOP	00	00080
007107	006020	A	81	LDBI	END**6		00	00081
007110	007615	A						
007111	006030	A	82	LDXI	3		00	00082
007112	000003	A						
007113	056000	A	83	STA	0,2		00	00083
007114	005322	A	84	DBR			00	00084
007115	005344	A	85	DXR			00	00085
007116	001040	A	86	JXZ	**4		00	00086
007117	007122	A						
007120	001000	A	87	JMP	**5		00	00087
007121	007113	A						
007122	014200	A	88	LDA	PIOP		00	00088
007123	124202	A	89	ADD	DVAO		00	00089
007124	056000	A	90	STA	0,2		00	00090
007125	006020	A	91	LDBI	LOAD**4		00	00091
007126	007634	A						
007127	006030	A	92	LDXI	2		00	00092
007130	000002	A						
007131	014331	A	93	LDA	PRCD=1	NOP	00	00093
007132	056000	A	94	STA	0,2		00	00094
007133	005322	A	95	DBR			00	00095
007134	005344	A	96	DXR			00	00096
007135	001040	A	97	JXZ	**4		00	00097
007136	007141	A						
007137	001000	A	98	JMP	**5		00	00098
007140	007132	A						
007141	014161	A	99	LDA	PIOP		00	00099
007142	006110	A	100	ORAI	0100		00	00100
007143	000100	A						
007144	124161	A	101	ADD	DVAO		00	00101
007145	056000	A	102	STA	0,2		00	00102
007146	124563	A	103	ADD	IN+1		00	00103
007147	054564	A	104	STA	IN**1		00	00104
007150	124561	A	105	ADD	IN+1		00	00105
007151	054557	A	106	STA	IN		00	00106
007152	014153	A	107	LDA	DVAO		00	00107
007153	005111	A	108	IAR			00	00108
007154	054151	A	109	STA	DVAO		00	00109
			110	*			00	00110
			111	*			00	00111
			112	PLD	EQU	*	00	00112
			113	EXC	0545	DISABLE PARITY (IF ANY)	C	00 00113
007155	100545	A	114	TZA		INITIALIZE A REG		00 00114
007156	005001	A	115	STA	0	INITIALIZE LOC 0		00 00115
007157	050000	A	116	PLDA	ADD	4K		00 00116
007161	005014	A	117	TAX		USE VALUE AS STORE POINTER		00 00117
007162	055000	A	118	STA	0,1	STORE LOC		00 00118
007163	010000	A	119	LDAO	0	FETCH LOC 0		00 00119
007164	135000	A	120	ERA	0,1	COMPARE LOC 0 TO INDEXED STORE		00 00120
007165	001010	A	121	JAZ	PLDB	END OF MEMORY		00 00121
007166	007171	A						
007167	001000	A	122	JMP	PLDA	TRY 4K HIGHER		00 00122
007170	007160	A						
007171	074561	A	123	PLDB	STX	3MEM	SAVE FOR OTHER USERS	00 00123
007172	100445	A	124	EXC	0445	ENABLE PARITY (IF ANY)	C	00 00124
007173	014130	A	125	LDA	ROTA	CHECK FOR USER RELOC. DATA		00 00125
007174	001010	A	126	JAZ	PLDJ	NONE PRESENT		00 00126
007175	007200	A						
007176	004254	A	127	LRLA	12	DESIRED 4K MODULE		00 00127
007177	054553	A	128	STA	3MEM	UPPER MEM. BOUND		00 00128
007200	014552	A	129	PLDJ	LDA	3MEM		00 00129
007201	006140	A	130	SUBI	22			00 00130
007202	000026	A						
007203	005012	A	131	TAB		TOP OF RELOC AREA		00 00131
007204	006140	A	132	SUBI	0153			00 00132
007205	000153	A						
007206	054545	A	133	STA	3LOD	LOADER ENTRY		00 00133
007207	006140	A	134	SUBI	0177	ADJ FOR RELOC BASE ADDR		00 00134
007210	000177	A						
007211	054564	A	135	STA	TEMP			00 00135
007212	005311	A	136	DAR				00 00136
007213	054537	A	137	STA	3LOD=1			00 00137
007214	006030	A	138	LDXI	07747	TOP OF BLD II IN 4K		00 00138
007215	007747	A						
007216	006010	A	139	LDAI	0221			00 00139
007217	000221	A						
007220	005322	A	140	DBR				00 00140
007221	056000	A	141	STA	0,2	XON (0221)		00 00141
007222	005111	A	142	IAR				00 00142
007223	005322	A	143	DBR				00 00143
007224	056000	A	144	STA	0,2	TAPE (0222)		00 00144
007225	005111	A	145	IAR				00 00145
007226	005322	A	146	DBR				00 00146
007227	056000	A	147	STA	0,2	XOFF (0223)		00 00147
			148	*				00 00148
			149	*		RELOCATE BLD CONSTANTS		00 00149
007230	A	150	PLDL	EQU	*		00	00150

007232	056030	A	152	STA	24,2	BOOTSTRAP DUMP WORD COUNT	00	00152
007233	054070	A	153	STA	RDTA	SET TO NON ZERO SO NOT TO HALT DURING	00	00153
007234	005344	A	154	DXR		UPPER ADDR OF CARD LOADER IN 4K	00	00154
007235	005323	A	155	DECR	023	TEST IF ALL WORDS	00	00155
007236	144514	A	156	SUB	3L0D=1	ARE RELOCATED	00	00156
007237	007400	A	157	ROF			00	00157
007240	001010	A	158	JAZ	PLDN	RELOCATION COMPLETE	00	00158
007241	007256	A						
007242	015000	A	159	LDA	0,1	FETCH NXT WORD FOR RELOC	00	00159
007243	004350	A	160	LSRA	8		00	00160
007244	001010	A	161	JAZ	PLDM	RELOCATION NEEDED	00	00161
007245	007251	A						
007246	015000	A	162	LDA	0,1	NO ADJ NEEDED	00	00162
007247	001000	A	163	JMP	PLDM+2		00	00163
007250	007253	A						
007251	007251	A	164	PLDM EQU	*		00	00164
007251	015000	A	165	LDA	0,1	GET WORD	00	00165
007252	124523	A	166	ADD	TEMP	ADD RELOC. BASE	00	00166
007253	056000	A	167	STA	0,2	RELOCATE IT	00	00167
007254	001000	A	168	JMP	PLDL+4		00	00168
007255	007234	A						
007255	007256	A	169	PLDN EQU	*		00	00169
007256	005111	A	170	IAR		SET LOAD/DUMP HALTS NON=ZERO	D	00 00170
007257	056200	A	171	STA	0200,2	STORE HALT AT LOADER ENTR.	D	00 00171
007260	056004	A	172	STA	4,2	AND START OF DUMP PROG.	D	00 00172
			173	*		ACCOUNT FOR ANY INDIRECT ADDRESSES		00 00173
			174	*		AFTER RELOCATION IS FINISHED		00 00174
			175	*		DONT ADJ JMP* MORE THAN ONCE		00 00175
007261	016171	A	176	LDA	0171,2		00	00176
007262	006150	A	177	ANAI	077400		00	00177
007263	077400	A						
007264	001010	A	178	JAZ	**4		00	00178
007265	007270	A						
007266	001000	A	179	JMP	PLDP		00	00179
007267	007310	A						
007270	014505	A	180	LDA	TEMP		00	00180
007271	126171	A	181	ADD	0171,2	JMP* PLDR	00	00181
007272	056171	A	182	STA	0171,2	AT END OF PUNCH LEAD/TRAIL RTN(PLD1+3)	00	00182
007273	014502	A	183	LDA	TEMP		00	00183
007274	126331	A	184	ADD	0331,2	JMP* LWRD	00	00184
007275	056331	A	185	STA	0331,2		00	00185
007276	006010	A	186	LDAI	040		00	00186
007277	000040	A						
007300	056353	A	187	STA	0353,2		00	00187
007301	004241	A	188	LRLA	1		00	00188
007302	056176	A	189	STA	0176,2	K100	00	00189
007303	004241	A	190	LRLA	1		00	00190
007304	056175	A	191	STA	0175,2	K200	00	00191
007305	006010	A	192	LDAI	0224		00	00192
007306	000224	A						
007307	056177	A	193	STA	0177,2		00	00193
007310	007310	A	194	PLDP EQU	*		00	00194
007310	005007	A	195	ZERO	7		00	00195
007311	001400	A	196	JSSS	**4	TEST FOR LOAD AND GO OPTION	00	00196
007312	007315	A						
007313	001000	A	197	JMP*	3L0D	DONE= GO TO LOADER	00	00197
007314	107754	A						
007315	014436	A	198	LDA	3L0D	INCREMENT LOADER ENTRY ADDR	00	00198
007316	005111	A	199	IAR		TO IGNOR HALT AT ENTRY	00	00199
007317	054434	A	200	STA	3L0D	AND SET A REG NON ZERO	00	00200
007320	001000	A	201	JMP*	3L0D	TO GO INTO EXECUTION	00	00201
007321	107754	A						
007322	000037	A	202	PUDA	DATA	037	M	00 00202
007323	100401	A	203	PIOP	SEL	0401		00 00203
			204	*		MSPT READER OFF		00 00204
			205	*		FILL OUT SPACE WITH		00 00205
			206	DVAD	EQU	**2		00 00206
007324	000001	A	207	RDTA	DATA	1,1,1,1,1,1,1,1,1,1		00 00207
007325	000001	A						
007326	000001	A						
007327	000001	A						
007330	000001	A						
007331	000001	A						
007332	000001	A						
007333	000001	A						
007334	000001	A						
007335	000001	A						
007336	000001	A	208	DATA	1,1,1,1,1,1,1,1,1,1		00 00208	
007337	000001	A						
007340	000001	A						
007341	000001	A						
007342	000001	A						
007343	000001	A						
007344	000001	A						
007345	000001	A						
007346	000001	A						
007347	000001	A						
007350	000001	A	209	DATA	1,1,1,1,1,1,1,1,1,1		00 00209	
007351	000001	A						
007352	000001	A						
007353	000001	A						
007354	000001	A						
007355	000001	A						
007356	000001	A						

007621	014133	A	348	LDA	MODE			00	00348
007622	001010	A	349	JAZ	**4=SEGN			00	00349
007623	000226	A							
007624	003022	A	350	XIF	022,STX=SEGN	SET RETURN IF GOOD EXEC RCD		00	00350
007625	000206	A							
007626	034125	A	351	LDX	FRST	SET LAST ADDR READ		00	00351
007627	001000	A	352	JMP	**SEGN			00	00352
007630	000227	A							
007630			353	LOAD	BES	0	*ENTRY POINT	00	00353
007631	054123	A	354	STA	MODE	SAVE LOAD MODE		00	00354
007632	014116	A	355	LDA	XON	READER ON		00	00355
007633	002000	A	356	CALL	OTPT=SEGN			00	00356
007634	000342	A							
007635	007635	A	357	LRCO	EQU	*		00	00357
007635	007400	A	358	ROP	ROP			00	00358
007636	002000	A	359	CALL	INPT=SEGN	FIND RCD MARK		00	00359
007637	000333	A							
007640	001011	A	360	JIF	011,ROP2=SEGN	JUMP IF AND AND OVFL	J	00	00360
007641	000251	A							
007642	005111	A	361	IAR				00	00361
007643	004350	A	362	LSRA	8			00	00362
007644	001010	A	363	JAZ	LRCO=SEGN	START OVER IF NOT RO	J	00	00363
007645	000235	A							
007646	007401	A	364	SOF				00	00364
007647	001000	A	365	JMP	LRCO+1=SEGN	CHECK NEXT FRAME FOR ZERO	J	00	00365
007650	000236	A							
007651	007401	A	366	SOF2	SOF	FOUND RO FOLLOWED BY ZERO	J	00	00366
007652	054100	A	367	STA	CKSM	RESET CHECKSUM		00	00367
007653	002000	A	368	CALL	LWRD=SEGN	GET RCD LENGTH		00	00368
007654	000302	A							
007655	064064	A	369	STB	RCDL	IF 0		00	00369
007656	003020	A	370	XBZ	ROP=SEGN	SET EXEC FLAG		00	00370
007657	000235	A							
007660	002000	A	371	CALL	LWRD=SEGN	GET ADDR		00	00371
007661	000302	A							
007662	005024	A	372	TBX				00	00372
007663	064070	A	373	STB	FRST	SAVE ADDR		00	00373
007664	002000	A	374	LDATA	CALL	LWRD=SEGN	GET DATA OR CHECKSUM	00	00374
007665	000302	A							
007666	014053	A	375	LDA	RCDL			00	00375
007667	001010	A	376	JAZ	END=SEGN	(END OF RCD)		00	00376
007670	000207	A							
007671	005311	A	377	DAR				00	00377
007672	054047	A	378	STA	RCDL	COUNT WORDS READ		00	00378
007673	014061	A	379	LDA	MODE			00	00379
007674	001004	A	380	JAN	**3=SEGN			00	00380
007675	000277	A							
007676	065000	A	381	STB	0.1			00	00381
007677	005144	A	382	IXR		SET NEXT ADDR		00	00382
007700	001000	A	383	JMP	LDATA=SEGN			00	00383
007701	000264	A							
384	*							00	00384
385	*	READ AND CHECKSUM BINARY WORD						00	00385
386	*							00	00386
007702	000007	A	387	LWRD	DATA	7	ENTR POINT, DATA FOR LOADING PURPOSES ONLY	00	00387
007703	005103	A	388	INCR		3		00	00388
007704	005111	A	389	IAR				00	00389
007705	054070	A	390	LWR1	STA	TEMP	SET LOOP COUNTER	00	00390
007706	002000	A	391	CALL	INPT=SEGN		GET SIX BITS	00	00391
007710	144041	A	392	SUB	K40		REMOVE CODE	00	00392
007711	134040	A	393	ERA	K40			00	00393
007712	004005	A	394	ASLB	5			00	00394
007713	004041	A	395	LRLB	1			00	00395
007714	005032	A	396	MERG	032		ASSEMBLE DATA WORD	00	00396
007715	004346	A	397	LSRA	6			00	00397
007716	005311	A	398	DAR				00	00398
007717	001002	A	399	JAP	END+3=SEGN		ERROR	00	00399
007720	000212	A							
007721	124054	A	400	ADD	TEMP			00	00400
007722	001002	A	401	JAP	LWR1=SEGN			00	00401
007723	000305	A							
007724	005021	A	402	TBA				00	00402
007725	134025	A	403	ERA	CKSM		CALCULATE CHECKSUM	00	00403
007726	054024	A	404	STA	CKSM			00	00404
007727	001000	A	405	JMP	LWRD=SEGN			00	00405
007730	100302	A							
406	*							00	00406
407	*	INPUT PAPER TAPE						00	00407
408	*							00	00408
007731	102501	A	409	IN	CIA	ROR		00	00409
007732	001000	A	410	JMP	*		RETURN	00	00410
007733	007732	A							
007733			411	INPT	BES	0	*ENTRY	00	00411
007734	101201	A	412	SEN	IBFR,IN=SEGN			00	00412
007735	000331	A							
007736	001000	A	413	JMP	**2=SEGN			00	00413
007737	000334	A							
414	*							00	00414
415	*	OUTPUT PAPER TAPE						00	00415
416	*							00	00416
007740	103101	A	417	OUT	OAR	PNCH		00	00417
007741	001000	A	418	JMP	**SEGN			00	00418
007742	000341	A							


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1 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1972 BY VARIAN DATA MACHINES 01 00001
2 * 01 00002
3 * V,D,M, PART NO. 92L0207-009B 01 00003
4 * 01 00004
5 * 01 00005
6 * RELEASED 01 00006
7 * 01 00007
8 * 01 00008
9 * 01 00009
000040 A 10 K SET 32 MEMORY SIZE 8 01 00010
11 * MEMORY SIZE WITH WRAPAROUND: 4K/8K/16K/32K 01 00011
12 * WITHOUT WRAPAROUND: 32K 01 00012
13 * 01 00013
14 EJECT OPSY EJEC 01 00014
15 SPACE OPSY SPAC 01 00015
16 ENTRY OPSY ENTR 01 00016
17 * 01 00017
18 * 01 00018
076000 000001 A 19 STTD SET 1 01 00019
20 ORG (K=1)*1024 8 01 00020
076000 A 21 SAID EQU * 01 00021
077630 A 22 LOAD SET **01630 01 00022
077434 A 23 DUMP SET **01434 01 00023
24 * 01 00024
25 * MAGNETIC TAPE UNIT ASSIGNMENTS: 01 00025
000110 A 26 SU0 SET 0110 DA 10 UNIT 0 01 00026
000111 A 27 SU1 SET 0111 DA 11 UNIT 0 01 00027
000112 A 28 SU2 SET 0112 DA 12 UNIT 0 01 00028
000113 A 29 SU3 SET 0113 DA 13 UNIT 0 01 00029
000000 A 30 SU4 SET 0 NOT AVAILABLE 01 00030
000000 A 31 SU5 SET 0 NOT AVAILABLE 01 00031
32 SMRY 01 00032
34 * AID III 8 01 00034

37 * WORD LENGTH: 16 OR 18 01 00037

39 * MAGNETIC TAPE: DA 010 = 1X1 01 00039
40 * DA 011 = 1X1 01 00040
41 * DA 012 = 1X1 01 00041
42 * DA 013 = 1X1 01 00042
43 * OPERATION OF AID II 01 00043

45 * COMMAND LETTERS IMPLEMENTED: A,B,C,D,E,F,G,I,L,M,N,P,Q,R,S,T, 8 01 00045
46 * V,W,X 8 01 00046

48 * A, DISPLAY/CHANGE A PSEUDO REGISTER 01 00048
50 * B, DISPLAY/CHANGE B PSEUDO REGISTER 01 00050
52 * CX, DISPLAY/CHANGE LOCATION (X) 01 00052
54 * DX,Y,Z,, PUNCH A PROGRAM TAPE AND RETURN 01 00054
55 * X SETS BEGINNING ADDRESS 01 00055
56 * Y SETS ENDING ADDRESS 01 00056
57 * Z SETS EXECUTION ADDRESS 01 00057

59 * EU, WRITE A FILE MARK ON MAG TAPE UNIT (U). 01 00059
60 * THIS PERMITS SEPARATION OF PROGRAMS 01 00060
61 * THAT ARE DUMPED FROM CORE SINCE THE 01 00061
62 * COMMAND (W) DOES NOT WRITE ONE, 01 00062
63 * THIS WILL PERMIT DUMP OF NON-CONTIGUOUS 01 00063
64 * MEMORY AREAS. 01 00064

66 * FN,U, SKIP TO FILE (N) ON UNIT (U). 01 00066
67 * LOAD POINT IS DESIGNATED FILE 0. 01 00067

69 * GX, LOAD PSEUDO REGISTERS INTO A,B,X 01 00069
70 * REGISTERS AND START EXECUTION AT (X), 01 00070

72 * IX,Y,Z,, INITIALIZE MEMORY 01 00072
73 * X IS START ADDRESS 01 00073
74 * Y IS ENDING ADDRESS 01 00074
75 * Z IS VALUE TO STORE IN MEMORY 01 00075

77 * LM, LOAD AN OBJECT PAPER TAPE INTO CORE AND 01 00077
78 * RETURN, THE VALUE OF (M) CONTROLS THE 01 00078
79 * MODE OF LOADING, IF A CHECKSUM ERROR 01 00079
80 * IS CALCULATED DURING A LOAD THE (B) 01 00080
81 * REGISTER WILL BE =1 AND (X) REGISTER 01 00081
82 * WILL BE SET TO LOAD ADDRESS OF LAST 01 00082
83 * RECORD READ, A SUCCESSFUL LOAD WILL 01 00083
84 * HAVE (A) AND (B) REGISTERS ZERO, AND 01 00084
85 * (X) SET TO THE EXECUTION ADDRESS, 01 00085
86 * THERE IS NO PRINT-OUT AFTER A LOAD 01 00086
87 * AND EXECUTE. 01 00087

89 * M, LOCATION OF MAGTAPE BUFFER. 01 00089

91 * N, SKIP TO NEXT FILE ON MAG TAPE UNIT 01 00091
92 * PREVIOUSLY SELECTED. 01 00092

94 * PU, BACKSPACE 1 RECORD ON MAG TAPE UNIT (U), 01 00094

96 * QU, DISPLAY REGISTERS 00 THRU 97 01 00096

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98 *	RU	READ OBJECT MAG TAPE INTO MEMORY FROM	01 00098
99 *		UNIT (U), A TERMINAL (,) CAUSES RETURN	01 00099
100 *		TO AID, A TERMINAL (,) CAUSES A LOAD	01 00100
101 *		AND EXECUTE, AN UP ARROW TYPE OUT	01 00101
102 *		INDICATES A FILE MARK WAS READ, A	01 00102
103 *		NUMBER TYPE OUT INDICATES A BAD READ DUE	01 00103
104 *		TO PARITY ERRORS, THE NUMBER IS THE	01 00104
105 *		LOAD ADDRESS IN THE RECORD,	01 00105
107 *	SH,Y,Z,M	SEARCH MEMORY AND PRINTOUT WHERE MATCH	01 00107
108 *		IS FOUND, TYPING (N) IN PLACE OF A	01 00108
109 *		MASK CAUSES A SEARCH FOR THE NEGATIVE	01 00109
110 *		OF THE VALUE (Z),	01 00110
111 *		X IS BEGINNING ADDRESS	01 00111
112 *		Y IS END ADDRESS	01 00112
113 *		Z IS SEARCH VALUE,	01 00113
114 *		M IS SEARCH MASK OF BITS FOR COMPARISON,	01 00114
116 *	TY,X	TRAP TO LOCATION (Y) BEGINNING AT (X),	01 00116
118 *	VX	VISUAL CORE DUMP TO TTY BEGINNING	01 00118
119 *		AT (X), LEFT COLUMN IS LOCATION	01 00119
120 *		FOLLOWED BY CONTENTS OF SUCCESSIVE	01 00120
121 *		LOCATIONS, DUMP IS TERMINATED BY	01 00121
122 *		TYPING A RUBOUT CHARACTER,	01 00122
124 *	WX,Y,Z,U	WRITE OBJECT MAG TAPE FROM MEMORY WHERE	01 00124
125 *		X IS THE STARTING ADDRESS	01 00125
126 *		Y IS THE ENDING ADDRESS	01 00126
127 *		Z IS THE EXECUTION ADDRESS	01 00127
128 *		U IS THE UNIT NUMBER	01 00128
130 *	X	DISPLAY/CHANGE X PSEUDO REGISTER	01 00130
132 *		SPECIAL NOTE:	01 00132
133 *		TYPING A RUBOUT CHARACTER WILL TERMINATE TTY PRINTING OR	01 00133
134 *		THE MAG TAPE OPERATION IN PROGRESS.	01 00134
136	SHRY		01 00136
076000 006010 A	137	LDAX 0103601	01 00137
076001 103601 A			
076002 002000 A	138	CALL OCH2 PRINT ON, BELL	01 00138
076003 077224 A			
076004 007400 A	139	ROP	01 00139
076005 007411 A	140	DATA 07811 V75?	01 00140
076006 001007 A	141	JOPN 080 YES	01 00141
076007 076013 A			
076010 006010 A	142	LDAX END NO	01 00142
076011 077305 A			
076012 054040 A	143	STA TBL+16	01 00143
076013 002000 A	144	CALL ICH	01 00144
076014 076150 A			
076015 006140 A	145	SUBI 'A'	01 00145
076016 000301 A			
076017 001004 A	146	JAN END ILLEGAL COMAND	01 00146
076020 077305 A			
076021 006140 A	147	SUBI 032	01 00147
076022 000032 A			
076023 001002 A	148	JAP END ILLEGAL COMAND	01 00148
076024 077305 A			
076025 006120 A	149	ADDI (TBL+032)*	01 00149
076026 176065 A			
076027 054002 A	150	STA *+3	01 00150
076030 005007 A	151	ZERO 7	01 00151
076031 001000 A	152	JMP *	01 00152
076032 076031 A			
076033 076415 A	153	TBL DATA RGA A REGISTER	01 00153
076034 076414 A	154	DATA RGB B REGISTER	01 00154
076035 076103 A	155	DATA CNG CHANGE	01 00155
076036 076124 A	156	DATA DMP DUMP	01 00156
076037 077064 A	157	DATA EOP EOP WRITE	01 00157
076040 077016 A	158	DATA FIL FILE POSITION	01 00158
076041 076136 A	159	DATA GOT GOTO	01 00159
076042 077305 A	160	DATA END H	01 00160
076043 076175 A	161	DATA INI INITIALIZE CORE	01 00161
076044 077305 A	162	DATA END J	01 00162
076045 077305 A	163	DATA END K	01 00163
076046 074332 A	164	DATA LOD LOAD	01 00164
076047 076460 A	165	DATA MYAPE MAG TAPE BUFFER SELECT	01 00165
076050 077032 A	166	DATA FTL3 NEXT MAG TAPE FILE ON UNIT SELECTED	01 00166
076051 077305 A	167	DATA END 0	01 00167
076052 077071 A	168	DATA SCK P BACKSPACE 1 RECORD ON MAG TAPE	01 00168
076053 076428 A	169	DATA V75 V75 REGISTER ROUTINE	01 00169
076054 076710 A	170	DATA RMT READ MAG TAPE	01 00170
076055 076467 A	171	DATA SRC SEARCH CORE	01 00171
076056 076533 A	172	DATA TRP TRAP	01 00172
076057 077305 A	173	DATA END U	01 00173
076060 077264 A	174	DATA LIST VISUAL DUMP	01 00174
076061 076621 A	175	DATA WMT WRITE MAG TAPE	01 00175
076062 076413 A	176	DATA RGX X REGISTER	01 00176
076063 077305 A	177	DATA END Y	01 00177
076064 077305 A	178	DATA END Z	01 00178
076065 000000 A	180	CLC ENTR	01 00180
076066 036760 A	181	LDX TR	01 00181

076067	015000	A	182	LDA	0,1		01	00182	
076070	002000	A	183	JMPM	OLC	OUTPUT LOCATION	01	00183	
076071	076360	A							
076072	002000	A	184	JMPM	INN	INPUT NUMBER	01	00184	
076073	076211	A							
076074	001020	A	185	JBZ	**3		01	00185	
076075	076077	A							
076076	055000	A	186	STA	0,1		01	00186	
076077	002000	A	187	JMPM	OND	OUTPUT VALUE	01	00187	
076100	077311	A							
076101	001000	A	188	JMP*	CLC		01	00188	
076102	176065	A							
076103	002000	A	190	CNG	JMPM	ILC	CHANGE ROUTINE	01	00190
076104	076163	A							
076105	054741	A	191	STA	T2		01	00191	
076106	002000	A	192	JMPM	OND		01	00192	
076107	077311	A							
076110	014736	A	193	CNGA	LDA	T2		01	00193
076111	002000	A	194	JMPM	OCT	OUTPUT OCTAL	01	00194	
076112	076343	A							
076113	002000	A	195	JMPM	CLC		01	00195	
076114	076065	A							
076115	014742	A	196	LDA	TC		01	00196	
076116	144630	A	197	SUB	COMA		01	00197	
076117	044727	A	198	INR	T2		01	00198	
076120	001010	A	199	JAZ	CNGA		01	00199	
076121	076110	A							
076122	001000	A	200	JMP	DEBUG		01	00200	
076123	076000	A							
076124	002000	A	202	DMP	CALL	ISP		01	00202
076125	076271	A							
076126	014721	A	203	LDA	T3		01	00203	
076127	024721	A	204	LDB	T4		01	00204	
076130	034721	A	205	LDX	T5		01	00205	
076131	007401	A	206	SOP			01	00206	
076132	002000	A	207	CALL	QUMP		01	00207	
076133	077434	A							
076134	001000	A	208	JMP	END		01	00208	
076135	077305	A							
076136	002000	A	210	GOT	JMPM	ILC	GO TO ROUTINE	01	00210
076137	076163	A							
076140	054716	A	211	STA	L		01	00211	
076141	002000	A	212	JMPM	OND	OUTPUT END	01	00212	
076142	077311	A							
076143	014710	A	213	GO	LDA	A	GO ROUTINE	01	00213
076144	024710	A	214	LDB	B		01	00214	
076145	034710	A	215	LDX	X		01	00215	
076146	001000	A	216	JMP*	L		01	00216	
076147	177057	A							
076150	000000	A	218	*INPUT CHARACTER			01	00218	
076151	002000	A	219	ICH	ENTR		01	00219	
076152	077216	A	220	JMPM	RCH	READ CHARACTER	01	00220	
076153	054704	A	221	STA	TC		01	00221	
076154	006140	A	222	SUBI	'/'		01	00222	
076155	000257	A							
076156	001010	A	223	JAZ	END	ERROR END OF LINE	01	00223	
076157	077305	A							
076160	014677	A	224	LDA	TC		01	00224	
076161	001000	A	225	JMP*	ICH		01	00225	
076162	176150	A							
076163	000000	A	227	*INPUT LOCATION			01	00227	
076164	002000	A	228	ILC	ENTR		01	00228	
076165	076211	A	229	JMPM	INN	INPUT NUMBER	01	00229	
076166	001020	A	230	JBZ	END	NO NUMBER	01	00230	
076167	077305	A							
076170	024654	A	231	LDB	T0		01	00231	
076171	001020	A	232	JBZ*	ILC		01	00232	
076172	176163	A							
076173	001000	A	233	JMP	END	NEGATIVE	01	00233	
076174	077305	A							
076175	002000	A	235	INI	JMPM	ISP	INITIALIZE ROUTINE	01	00235
076176	076271	A							
076177	034650	A	236	LDX	T3		01	00236	
076200	014651	A	237	LDA	T5		01	00237	
076201	055000	A	238	STA	0,1	SET VALUE	01	00238	
076202	044645	A	239	INR	T3		01	00239	
076203	005041	A	240	TXA			01	00240	
076204	144644	A	241	SUB	T4		01	00241	
076205	001010	A	242	JAZ	DEBUG		01	00242	
076206	076000	A							
076207	001000	A	243	JMP	INI*2		01	00243	
076210	076177	A							
076211	000000	A	245	*INPUT NUMBER			01	00245	
076212	005001	A	246	INN	ENTR		01	00246	
076213	054645	A	247	TZA			01	00247	
			248	STA	V		01	00248	

076214	054630	A	249	STA	T0		01 00249
076215	054630	A	250	STA	T1		01 00250
076216	002000	A	251	JMPM	ICH	INPUT CHARACTER	01 00251
076217	076150	A					
076220	144161	A	252	SUB	SP	0260 'SP'	01 00252
076221	001010	A	253	JAZ	ICH+1	PASS SPACES	01 00253
076222	076151	A					
076223	006140	A	254	SUBI	015	NEGATIVE SIGN	01 00254
076224	000015	A					
076225	001010	A	255	JAZ	INN1		01 00255
076226	076286	A					
076227	014630	A	256	INN2	LDA	TC	01 00256
076230	144632	A	257	SUB	ZERO	0260 '0'	01 00257
076231	001004	A	258	JAN	INN3	NOT DIGIT	01 00258
076232	076253	A					
076233	144626	A	259	SUB	010		01 00259
076234	001002	A	260	JAP	INN3		01 00260
076235	076253	A					
076236	018622	A	261	LDA	V		01 00261
076237	008283	A	262	LRLA	J		01 00262
076240	144622	A	263	SUB	ZERO	'0'	01 00263
076241	124616	A	264	ADD	TC		01 00264
076242	054616	A	265	STA	V		01 00265
076243	044602	A	266	INR	T1	DIGIT COUNT	01 00266
076244	001000	A	267	JMP	++3		01 00267
076245	076247	A					
076246	044576	A	268	INN1	INR	T0	01 00268
076247	002000	A	269	JMPM	ICH	INPUT CHARACTER	01 00269
076250	076150	A					
076251	001000	A	270	JMP	INN2		01 00270
076252	076227	A					
076253	014572	A	271	INN3	LDA	T1	01 00271
076254	144503	A	272	SUB	07		01 00272
076255	001002	A	273	JAP	END	TO SIG	01 00273
076256	077305	A					
076257	014601	A	274	LDA	V		01 00274
076260	024564	A	275	LDB	T0		01 00275
076261	001020	A	276	JBZ	++5		01 00276
076262	076266	A					
076263	005211	A	277	CPA			01 00277
076264	005111	A	278	IAR			01 00278
076265	054573	A	279	STA	V		01 00279
076266	024557	A	280	LDB	T1		01 00280
076267	001000	A	281	JMP*	INN		01 00281
076270	176211	A					
			283	* INPUT SPECIAL			01 00283
076271	000000	A	284	ISP	ENTR		01 00284
076272	002000	A	285	JMPM	ILC	INPUT LOCATION	01 00285
076273	076163	A					
076274	054553	A	286	STA	T3		01 00286
076275	002000	A	287	JMPM	ILC		01 00287
076276	076163	A					
076277	054551	A	288	STA	T4		01 00288
076300	005001	A	289	TZA			01 00289
076301	054550	A	290	STA	T5		01 00290
076302	005311	A	291	DAR			01 00291
076303	054547	A	292	STA	T6	=1	01 00292
076304	002000	A	293	JMPM	INN	INPUT NUMBER	01 00293
076305	076211	A					
076306	001020	A	294	JBZ	ISP1		01 00294
076307	076316	A					
076310	054541	A	295	STA	T5	VALUE	01 00295
076311	002000	A	296	JMPM	INN		01 00296
076312	076211	A					
076313	001020	A	297	JBZ	ISP1		01 00297
076314	076316	A					
076315	054535	A	298	STA	T6	MASK	01 00298
076316	002000	A	299	ISP1	JMPM	OND	01 00299
076317	077311	A					
076320	014530	A	300	LDA	T4		01 00300
076321	144526	A	301	SUB	T3		01 00301
076322	001002	A	302	JAP*	ISP	PROPER ORDER	01 00302
076323	176271	A					
076324	014524	A	303	LDA	T4	CORRECT ORDERING	01 00303
076325	024522	A	304	LDB	T3		01 00304
076326	054521	A	305	STA	T3		01 00305
076327	064521	A	306	STB	T4		01 00306
076330	001000	A	307	JMP*	ISP		01 00307
076331	176271	A					
076332	006010	A	309	LOD	LDAI	T3	01 00309
076333	077050	A					
076334	054261	A	310	STA	TRP2	NOP TRAP FIX-UP	01 00310
076335	002000	A	311	CALL	INN	SET LOAD MODE	01 00311
076336	076211	A					
076337	002000	A	312	CALL	LOAD	LOAD	01 00312
076340	077630	A					
076341	001000	A	313	JMP	TRP1	DISPLAY INDICATORS	01 00313
076342	076560	A					
			315	*OUTPUT OCTAL			01 00315
076343	000000	A	316	OCT	ENTR	0	01 00316
076344	005002	A	317		T2B		01 00317
076345	004557	A	318		LLSR	15	01 00318

076346	005122	A	319	IBR			01	00319
076347	114513	A	320	OCT1	ORA	ZERO	01	00320
076350	002000	A	321		CALL	OCH	01	00321
076351	077236	A						
076352	005001	A	322		TZA		01	00322
076353	004443	A	323		LLRL	3	01	00323
076354	001020	A	324		JBZ*	OCT	01	00324
076355	176343	A						
076356	001000	A	325		JMP	OCT1	01	00325
076357	076347	A						
			327	*OUTPUT LOCATION			01	00327
076360	000000	A	328	OLC	ENTRY		01	00328
076361	054463	A	329		STA	T0	01	00329
076362	006010	A	330		LDAI	0124240	01	00330
076363	124240	A				SPACE, LEFT PAREN		
076364	002000	A	331		CALL	OCH2	01	00331
076365	077224	A						
076366	014456	A	332		LDA	T0	01	00332
076367	002000	A	333		JMPM	OCT	01	00333
076370	076343	A				OUTPUT OCTAL		
076371	006010	A	334		LDAI	0120251	01	00334
076372	120251	A				RIGHT PAREN, SPACE		
076373	002000	A	335		CALL	OCH2	01	00335
076374	077224	A						
076375	001000	A	336		JMP*	OLC	01	00336
076376	176360	A						
			338	*OUTPUT NUMBER			01	00338
076377	000000	A	339	ONB	ENTRY		01	00339
076400	054444	A	340		STA	T0	01	00340
076401	006010	A	341		LDAI	0240	01	00341
076402	000240	A				(A) IS NUMBER		
076402		A	342	SP	BES	0	01	00342
076403	002000	A	343		JMPM	OCH	01	00343
076404	077236	A				OUTPUT CHARACTER		
076405	014437	A	344		LDA	T0	01	00344
076406	002000	A	345		JMPM	OCT	01	00345
076407	076343	A				OUTPUT OCTAL		
076410	001000	A	346		JMP*	ONB	01	00346
076411	176377	A						
076412	005111	A	348	R75	IAR		01	00348
076413	005111	A	349	RGX	IAR		01	00349
076414	005111	A	350	RGB	IAR		01	00350
076415	006120	A	351	RG4	ADDI	A	01	00351
076416	077054	A				REGISTER A ROUTINE		
076417	054427	A	352		STA	T2	01	00352
076420	002000	A	353		JMPM	CLC	01	00353
076421	076065	A				CHANGE LOCATION		
076422	001000	A	354		JMP	DEBUG	01	00354
076423	076000	A						
			356				01	00356
076424	002000	A	357	V75	JMPM	INN	01	00357
076425	076211	A				INPUT NUMBER		
076426	006150	A	358		ANAI	07	01	00358
076427	000007	A						
076430	005012	A	359		TAB		01	00359
076431	006140	A	360		SUBI	03	01	00360
076432	000003	A				GIVE IT OT B ALSO		
076433	001004	A	361		JAN	R75	01	00361
076434	076412	A				IS IT A V75 REGISTER ?		
076435	014670	A	362		LDA	TR	01	00362
076436	005031	A	363		MERG	031	01	00363
076437	054013	A	364		STA	TAR	01	00364
076440	005021	A	365		TBA		01	00365
076441	004243	A	366		LRLA	03	01	00366
076442	114663	A	367		ORA	TR	01	00367
076443	054000	A	368		STA	TRA	01	00368
076444	005000	A	369	TRA	NOP		01	00369
076445	002000	A	370		JMPM	OLC	01	00370
076446	076360	A				GO TO CHANGE ROUTINE		
076447	002000	A	371		JMPM	INN	01	00371
076450	076211	A						
076451	001020	A	372		JBZ	**3	01	00372
076452	076454	A						
076453	005000	A	373	TAR	NOP		01	00373
076454	002000	A	374		JMPM	OND	01	00374
076455	077311	A				AC TO REGISTER		
076456	001000	A	375		JMP	DEBUG	01	00375
076457	076000	A						
			376	*			01	00376
076460	006120	A	377	MTAPE	ADDI	BUFR	01	00377
076461	077325	A						
076462	054364	A	378		STA	T2	01	00378
076463	002000	A	379		JMPM	CLC	01	00379
076464	076065	A						
076465	001000	A	380		JMP	DEBUG	01	00380
076466	076000	A						
			381	*			01	00381
076467	002000	A	382	SRC	JMPM	ISP	01	00382
076470	076271	A				SEARCH ROUTINE		
076471	014360	A	383		LDA	T5	01	00383
076472	154360	A	384		ANA	T6	01	00384

076473	054356	A	385		STA	T5		01	00385
076474	034353	A	386		LDX	T3		01	00386
076475	015000	A	387		LDA	0,1		01	00387
076476	154354	A	388		ANA	T6	MARK	01	00388
076477	144352	A	389		SUB	T5		01	00389
076500	005012	A	390		TAB			01	00390
076501	014356	A	391		LDA	TC		01	00391
076502	006140	A	392		SUBI	0316		01	00392
076503	000316	A							
076504	001030	A	393		JIF	030, SRC1		01	00393
076505	076512	A							
076506	001020	A	394		JBZ	SRC2		01	00394
076507	076521	A							
076510	001010	A	395		JAZ	SRC2		01	00395
076511	076521	A							
076512	044335	A	396	SRC1	INR	T3		01	00396
076513	005041	A	397		TXA			01	00397
076514	144334	A	398		SUB	T4		01	00398
076515	001010	A	399		JAZ	0806		01	00399
076516	076000	A							
076517	001000	A	400		JMP	SRC+2		01	00400
076520	076471	A							
076521	014326	A	401	SRC2	LDA	T3		01	00401
076522	002000	A	402		JMPM	OCT	OUTPUT OCTAL	01	00402
076523	076343	A							
076524	015000	A	403		LDA	0,1		01	00403
076525	002000	A	404		JMPM	OLC	OUTPUT LOCATION	01	00404
076526	076360	A							
076527	002000	A	405		JMPM	OND	OUTPUT END	01	00405
076530	077311	A							
076531	001000	A	406		JMP	SRC1		01	00406
076532	076512	A							
076533	002000	A	408	TRP	JMPM	ILC	TRAP ROUTINE	01	00408
076534	076163	A							
076535	034323	A	409		LDX	V		01	00409
076536	002000	A	410		JMPM	INN		01	00410
076537	076211	A							
076540	001020	A	411		JBZ	+3		01	00411
076541	076543	A							
076542	054314	A	412		STA	L	ENTRANCE	01	00412
076543	015000	A	413		LDA	0,1		01	00413
076544	025001	A	414		LDB	1,1		01	00414
076545	054302	A	415		STA	T3		01	00415
076546	064302	A	416		STB	T4		01	00416
076547	014051	A	417		LDA	WMP	CALL OF CODE	01	00417
076550	006020	A	418		LDI	TRP2		01	00418
076551	076616	A							
076552	055000	A	419		STA	0,1		01	00419
076553	065001	A	420		STB	1,1		01	00420
076554	002000	A	421		JMPM	OND	OUTPUT END	01	00421
076555	077311	A							
076556	001000	A	422		JMP	GO		01	00422
076557	076143	A							
076560	074275	A	423	TRP1	STX	X	SAVE REGISTER	01	00423
076561	064273	A	424		STB	B		01	00424
076562	054271	A	425		STA	A		01	00425
076563	034032	A	426		LDX	TRP2		01	00426
076564	005344	A	427		DXR			01	00427
076565	005344	A	428		DXR			01	00428
076566	074270	A	429		STX	L	EXIT POINT	01	00429
076567	014260	A	430		LDA	T3		01	00430
076570	024260	A	431		LDB	T4		01	00431
076571	055000	A	432		STA	0,1	RESOTRE COMMANDS	01	00432
076572	065001	A	433		STB	1,1		01	00433
076573	002000	A	434		JMPM	OND	OUTPUT END	01	00434
076574	077311	A							
076575	005041	A	435		TXA			01	00435
076576	002000	A	436		JMPM	OCT	OUTPUT OCTAL LOCATION	01	00436
076577	076343	A							
076600	014247	A	437		LDA	T3	ACTUAL COMMAND	01	00437
076601	002000	A	438		JMPM	OLC	OUTPUT LOCATION	01	00438
076602	076360	A							
076603	014250	A	439		LDA	A		01	00439
076604	002000	A	440		JMPM	OND	OUTPUT NUMBER	01	00440
076605	076377	A							
076606	014246	A	441		LDA	B		01	00441
076607	002000	A	442		JMPM	OND		01	00442
076610	076377	A							
076611	014244	A	443		LDA	X		01	00443
076612	002000	A	444	TRPX	JMPM	OND		01	00444
076613	076377	A							
076614	001000	A	445		JMP	END		01	00445
076615	077305	A							
076616	000000	A	446	TRP2	ENTR			01	00446
076617	001000	A	447		JMP	TRP1		01	00447
076620	076560	A							
449	*				DUMP PROGRAM ONTO MAG TAPE UNIT 0 TO 7			01	00449
450	*				WFIRST, LAST, EXECUTION, DRIVE.			01	00450
076621	002000	A	451	WMT	CALL	INN		01	00451
076622	076211	A							
076623	054224	A	452		STA	FRST		01	00452
076624	002000	A	453		CALL	INN		01	00453
076625	076211	A							

076626	054222	A	454	STA	LAST		01	00454
076627	002000	A	455	CALL	INN		01	00455
076630	076211	A						
076631	054220	A	456	STA	EXEC		01	00456
076632	002000	A	457	CALL	SET		01	00457
076633	076754	A						
076634	005001	A	458	WRI2	TZA		01	00458
076635	054463	A	459	STA	CNTR	RESET COUNTER	01	00459
076636	034211	A	460	LDX	FRST		01	00460
076637	024465	A	461	LDB	BUFR	BUFFER ADDRESS	01	00461
076640	076001	A	462	STX	1,2	SET ADDRESS CONTROL	01	00462
076641	005122	A	463	IBR			01	00463
076642	005122	A	464	WRI3	IBR		01	00464
076643	015000	A	465	LDA	0,1	PICK UP WORD	01	00465
076644	056000	A	466	STA	0,2	PUT IN BUFFER	01	00466
076645	044453	A	467	INR	CNTR	INCREMENT WORD COUNT	01	00467
076646	005041	A	468	TXA			01	00468
076647	144201	A	469	SUB	LAST	END OF RECORD	01	00469
076650	005144	A	470	IXR			01	00470
076651	001010	A	471	JAZ	WRI4	YES	01	00471
076652	076657	A						
076653	014445	A	472	LDA	CNTR		01	00472
076654	144445	A	473	SUB	K75	RECORD FULL	01	00473
076655	001004	A	474	JAN	WRI3	NO	01	00474
076656	076642	A						
076657	074170	A	475	WRI4	STX	FRST	01	00475
076660	024440	A	476	LDB	CNTR		01	00476
076661	034443	A	477	LDX	BUFR	GET POINTTER	01	00477
076662	065000	A	478	STB	0,1	SET RECORD LENGTH	01	00478
076663	005122	A	479	IBR			01	00479
076664	005122	A	480	IBR			01	00480
076665	002000	A	481	CALL	MTD		01	00481
076666	077150	A						
076667	014160	A	482	LDA	FRST		01	00482
076670	005311	A	483	DAR			01	00483
076671	144157	A	484	SUB	LAST		01	00484
076672	001004	A	485	JAN	WRI2	MORE	01	00485
076673	076634	A						
076674	034430	A	486	LDX	BUFR		01	00486
076675	055000	A	487	STA	0,1	SET FOR EXECUTION RECORD	01	00487
076676	014153	A	488	LDA	EXEC		01	00488
076677	001004	A	489	JAN	END	NO EXECUTION RECORD	01	00489
076700	077305	A						
076701	055001	A	490	STA	1,1		01	00490
076702	005102	A	491	INCR	2		01	00491
076703	005122	A	492	IBR			01	00492
076704	002000	A	493	CALL	MTD		01	00493
076705	077150	A						
076706	001000	A	494	JMP	END		01	00494
076707	077305	A						
			496 *		LOAD PROGRAM FROM MAG TAPE	UNIT 0 TO 7	01	00496
			497 *		RDRIVE.	LOAD AND GO IF	01	00497
076710	002000	A	498	RMT	CALL	SET	01	00498
076711	076754	A				SET DRIVE NUMBER		
076712	002000	A	499	CALL	MTI	INPUT RECORD	01	00499
076713	077076	A						
076714	005001	A	500	TZA			01	00500
076715	054403	A	501	STA	CNTR	RESET WORD COUNTER	01	00501
076716	034406	A	502	LDX	BUFR		01	00502
076717	015000	A	503	LDA	0,1	EXECUTION RECD ?	01	00503
076720	001010	A	504	JAZ	RMT2	YES	01	00504
076721	076743	A						
076722	001004	A	505	JAN	RMT2	HOW ABOUT A MAINTAIN 3 TAPE ?	01	00505
076723	076743	A						
076724	054123	A	506	STA	FRST		01	00506
076725	005144	A	507	IXR			01	00507
076726	025000	A	508	LDB	0,1	GET STORE POINTER	01	00508
076727	005144	A	509	IXR		SET LOAD POINTER	01	00509
076730	015000	A	510	RMT1	LDA	0,1	01	00510
076731	056000	A	511	STA	0,2	GET WORD	01	00511
076732	044366	A	512	INR	CNTR	STORE WORD	01	00512
076733	014365	A	513	LDA	CNTR	COUNT WORDS	01	00513
076734	144113	A	514	SUB	FRST	DONE YET	01	00514
076735	005144	A	515	IXR			01	00515
076736	005122	A	516	IBR			01	00516
076737	001004	A	517	JAN	RMT1	NO	01	00517
076740	076730	A						
076741	001000	A	518	JMP	RMT+2	READ ANOTHER RECORD	01	00518
076742	076712	A						
076743	015001	A	519	RMT2	LDA	1,1	01	00519
076744	054004	A	520	STA	RMT3	GET EXECUTION ADDRESS	01	00520
076745	014112	A	521	LDA	TC	SET UP JUMP	01	00521
076746	006140	A	522	SUB1	" , "	GET TERM CHAR	01	00522
076747	000254	A				WAS IT A LOAD AND GO " , "		
076747			523	COMA	BEB	0	01	00523
076750	001010	A	524	JAZ	"	YES	01	00524
076751	076750	A						
076751			525	RMT3	BEB	0	01	00525
076752	001000	A	526	JMP	END	NO	01	00526
076753	077305	A						
			528 *		SET UP MAG TAPE DEVICE ADDRESS		01	00528
076754	000000	A	529	SET	ENTRY	0	01	00529
076755	002000	A	530	CALL	INN	GET DRIVE NUMBER	01	00530

077077	005001	A	602	TZA			01	00602
077100	054217	A	603	STA	MGER		01	00603
077101	024221	A	604	MTI0	LDB	K100		01 00604
077102	034222	A	605		LDX	BUFR		01 00605
077103	002000	A	606		CALL	SMR		01 00606
077104	077205	A						
077105	100010	A	607	SEL	010	READ BIN	01	00607
077106	101110	A	608	MTI1	SEN	0110,MTI2		01 00608
077107	077114	A						
077110	101210	A	609		SEN	0210,MTI3		01 00609
077111	077124	A						
077112	001000	A	610		JMP	MTI1		01 00610
077113	077106	A						
077114	001020	A	611	MTI2	JBZ	MTI4		01 00611
077115	077132	A						
077116	102510	A	612		CIA	010		01 00612
077117	055000	A	613		STA	0,1		01 00613
077120	005144	A	614		IXR			01 00614
077121	005322	A	615		DBR			01 00615
077122	001000	A	616		JMP	MTI1		01 00616
077123	077106	A						
077124	101310	A	617	MTI3	SEN	0310,MTI4		01 00617
077125	077132	A						
077126	101010	A	618		SEN	010,MTI5		01 00618
077127	077140	A						
077130	001000	A	619		JMP*	MTI		01 00619
077131	177076	A						
077132	006010	A	620	MTI4	LDAI	0336		01 00620
077133	000336	A						
077134	002000	A	621		CALL	OCH		01 00621
077135	077236	A						
077136	001000	A	622		JMP	END		01 00622
077137	077305	A						
077140	044157	A	623	MTI5	INR	MGER		01 00623
077141	014156	A	624		LDA	MGER		01 00624
077142	144160	A	625		SUB	K100		01 00625
077143	001002	A	626		JAP	ERR		01 00626
077144	077176	A						
077145	100610	A	627	MTI6	EXC	0610		01 00627
077146	001000	A	628		JMP	MTI0		01 00628
077147	077101	A						
			630 *			MAG TAPE OUTPUT		01 00630
077150	000000	A	631	MT0	ENTRY			01 00631
077151	002000	A	632		CALL	SMR		01 00632
077152	077205	A						
077153	100210	A	633		SEL	0210		01 00633
077154	101110	A	634	MT01	SEN	0110,MT02=1		01 00634
077155	077160	A						
077156	001000	A	635		JMP	MT01		01 00635
077157	077154	A						
077160	015000	A	636		LDA	0,1		01 00636
077161	103110	A	637	MT02	OAR	010		01 00637
077162	005144	A	638		IXR			01 00638
077163	005322	A	639		DBR			01 00639
077164	001020	A	640		JBZ	**4		01 00640
077165	077170	A						
077166	001000	A	641		JMP	MT01		01 00641
077167	077154	A						
077170	002000	A	642		CALL	SMR		01 00642
077171	077205	A						
077172	101010	A	643	MT03	SEN	010,ERR		01 00643
077173	077176	A						
077174	001000	A	644		JMP*	MT0		01 00644
077175	177150	A						
077176	002000	A	646	ERR	JMPM	OND		B 01 00646
077177	077311	A						
077200	034124	A	647		LDX	BUFR		B 01 00647
077201	015001	A	648		LDA	1,1		01 00648
077202	001000	A	649		JMP	TRPX		01 00649
077203	076612	A						
077204	101210	A	651		SEN	0210,*		01 00651
077205	077204	A						
077205		A	652	SMR	BES	0		01 00652
077206	002000	A	653		CALL	BORT		01 00653
077207	077257	A						
077210	001000	A	654		JMP	SMR=1		01 00654
077211	077204	A						
077050		A	655	FRST	EQU	T3		01 00655
077051		A	656	LAST	EQU	T4		01 00656
077052		A	657	EXEC	EQU	T5		01 00657
			659	*INPUT		AND PRINT A CHARACTER		01 00659
077212	102501	A	660	RCHA	CIA	STTD		01 00660
077213	002000	A	661		CALL	OCH		01 00661
077214	077236	A						
077215	001000	A	662		JMP	*		01 00662
077216	077215	A						
077216		A	663	RCH	BES	0		01 00663
077217	101201	A	664		SEN	0200*STTD,RCHA		01 00664
077220	077212	A						
077221	005000	A	665		NOP			01 00665
077222	001000	A	666		JMP	**3		01 00666

077223 077217 A

077224	000000	A	668	*OUTPUT TWO CHARACTERS			01	00668
077225	002000	A	669	OCH2	ENTRY		01	00669
077226	077236	A	670		CALL	OCH		01 00670
077227	004350	A	671	LSRA	8		01	00671
077230	002000	A	672		CALL	OCH		01 00672
077231	077236	A						
077232	001000	A	673	JMP*	OCH2		01	00673
077233	177224	A						
077234	103101	A	675	OCHA	OAR	STTD	01	00675
077235	001000	A	676		JMP	.	01	00676
077236	077235	A						
077237	002000	A	677	OCH	SES	0	01	00677
077240	077257	A	678		CALL	BORT	01	00678
077241	101101	A	679		SEN	0100*STTD,OCHA	01	00679
077242	077234	A						
077243	005000	A	680		NOP	INTERRUPTABLE INSTR	01	00680
077244	001000	A	681		JMP	**3	01	00681
077245	077241	A						

077246	054006	A	683	*TEST FOR ABORT			01	00683
077247	102501	A	684	BORS	STA	**7	01	00684
077250	006130	A	685		CIA	STTD	01	00685
077251	000377	A	686		ERAI	0377	01	00686
077251	000377	A						
077252	001010	A	687	RUBO	SES	0	01	00687
077253	077305	A	688		JAZ	END	01	00688
077254	006010	A	689		LOAI	0	01	00689
077255	000000	A						
077256	001000	A	690		JMP	.	01	00690
077257	077256	A						
077257	077257	A	691	BORT	SES	0	01	00691
077260	101201	A	692		SEN	0200*STTD,BORS	01	00692
077261	077246	A						
077262	001000	A	693		JMP*	BORT	01	00693
077263	177257	A						

077264	002000	A	695	*VISUAL DUMP			01	00695
077265	076163	A	696	LIST	CALL	ILC		01 00696
077266	005014	A	697		TAX		01	00697
077267	002000	A	698	LISU	CALL	OND	01	00698
077270	077311	A						
077271	005041	A	699		TXA		01	00699
077272	002000	A	700		CALL	OCT	01	00700
077273	076343	A						
077274	015000	A	701	LISV	LDA	0.1	01	00701
077275	002000	A	702		CALL	ONB	01	00702
077276	076377	A						
077277	005145	A	703		INCR	045	01	00703
077300	004543	A	704		LLSR	3	01	00704
077301	001020	A	705		JBZ	LISU	01	00705
077302	077267	A						
077303	001000	A	706		JMP	LISV	01	00706
077304	077274	A						
077305	002000	A	708	END	JMP*	OND		01 00708
077306	077311	A						
077307	001000	A	709		JMP	ONB	01	00709
077310	076000	A						

077311	000000	A	711	*OUTPUT END			01	00711
077312	006010	A	712	OND	ENTR		01	00712
077313	105215	A	713		LOAI	0105215		01 00713
077314	002000	A	714		CALL	OCH2	01	00714
077315	077224	A						
077316	001000	A	715		JMP*	OND	01	00715
077317	177311	A						

077320	000000	A	717	MGER	DATA	0	01	00717
077321	000000	A	718	CNTR	DATA	0	01	00718
077322	000075	A	719	K75	DATA	075	01	00719
077323	000100	A	720	K100	DATA	0100	01	00720
077324	177700	A	721	MAJK	DATA	0177700	01	00721
077325	075700	A	722	SUPR	DATA	SAID=66	01	00722
077326	067700	A	723	TR	DATA	07700	01	00723

077327	000110	A	725	UTBL	DATA	SU0,SU1,SU2,SU3,SU4,SU5	01	00725
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077330	000111	A						
077331	000112	A						
077332	000113	A						
077333	000000	A						
077334	000000	A						
077335	077204	A	726	HTL	DATA	SMR=1,MYI1=1,MYI1,MYI1+2,MYI2=2,MYI3,MYI3+2	01	00726
077336	077105	A						
077337	077106	A						
077340	077110	A						
077341	077116	A						
077342	077124	A						

153	TBL	=ST=	143	=LD=	149					
583	TC	=ST=	221	=LD=	196	224	256	264	391	521
723	TR	=LD=	362	367						
369	TRA	=ST=	368							
408	TRP	=LD=	172							
423	TRP1	=LD=	313	447						
446	TRP2	=ST=	310	=LD=	418	426				
444	TRPX	=LD=	649							
725	UTBL	=LD=	533							
584	V	=ST=	248	265	279	=LD=	261	274	409	
357	V75	=LD=	169							
491	WMT	=LD=	175	417						
458	WR12	=LD=	485							
464	WR13	=LD=	474							
475	WR14	=LD=	471							
581	X	=ST=	423	=LD=	215	443				
586	ZERO	=LD=	257	263	320					

007000	1 *				00 00001
	2	ORG	07000		00 00002
	3 *				00 00003
007000 010213 A	4	BEGIN	LDA	0213	00 00004
007001 006150 A	5		ANAI	077	00 00005
007002 000077 A					
007003 054143 A	6		STA	0ADR	00 00006
007004 001000 A	7		JMP	LOAC	00 00007
007005 007022 A					
	8 *				00 00008
007006 000001 A	9	SET	DATA	1	00 00009
	10 *				00 00010
007007 025000 A	11		LDB	0,1	00 00011
007010 001020 A	12		JBZ	SET	00 00012
007011 107006 A					
007012 016000 A	13		LDA	0,2	00 00013
007013 006150 A	14		ANAI	0177700	00 00014
007014 177700 A					
007015 114131 A	15		ORA	0ADR	00 00015
007016 056000 A	16		STA	0,2	00 00016
007017 005144 A	17		IXR		00 00017
007020 001000 A	18		JMP	SET+1	00 00018
007021 007007 A					
	19 *				00 00019
	20 *			CARD BINARY LOADER	00 00020
	21 *				00 00021
	22	LOAC	EQU	*	00 00022
007022 006030 A	23		LDXI	C000	00 00023
007023 007142 A					
007024 002000 A	24		JMPH	SET	00 00024
007025 007006 A					
	25	AZ	EQU	010	A REG ZERO
	26	BZ	EQU	020	B REG ZERO
007026 005001 A	27	INC	TZA		INITIALIZE A REG
007027 054104 A	28		STA	CNT	INITIALIZE COUNT
007030 054107 A	29		STA	CKSM	INITIALIZE CHECK SUM
007031 054103 A	30		STA	CYCLE	
007032 101630 A	31	CO01	SEN	0630,2+4	READER READY
007033 007036 A					
007034 001000 A	32		JMP	**2	WAIT UNTIL IT IS READY
007035 007032 A					
007036 100230 A	33	CO02	EXC	0230	READ A CARD
007037 002000 A	34		CALL	LOAI	GET COLUMN 1
007040 007127 A					
007041 004284 A	35	LOAE	LRLA	4	POSITION TO HIGH ORDER
007042 054073 A	36		STA	PART	SAVE TO INCLUDE NEXT COLUMN
007043 002000 A	37		CALL	LOAI	GET NEXT COLUMN
007044 007127 A					
007045 004550 A	38		LLSR	8	ONLY 8 BITS NEEDED NOW
007046 002000 A	39		CALL	LOAM	PUT WORD AND GET NEXT COLUMN
007047 007070 A					
007050 004544 A	40		LLSR	4	ONLY NEED 4 BITS NOW
007051 002000 A	41		CALL	LOAM	PUT WORD AND GET NEXT COLUMN
007052 007070 A					
007053 002000 A	42		CALL	LOAM	PUT WORD AND GET NEXT COLUMN
007054 007070 A					
007055 001000 A	43		JMP	LOAE	DO AGAIN FOR NEXT THREE WORDS
007056 007041 A					
007057 054054 A	44	LOAF	STA	CNT	SAVE COUNT
007060 001010 A	45		JAZ	LOAM	BLANK CARD OR ILLEGAL
007061 007141 A					
007062 054044 A	46		LDX	LOAI	GET LAST WORD (LOAD/EXECUTION ADDR)
007063 074053 A	47		STX	EXEC	SAVE FOR EXECUTION
007064 044050 A	48	LOAG	INR	CYCLE	INCREMENT WORD IN RECORD COUNT
007065 002000 A	49		CALL	LOAI	GET NEXT COLUMN
007066 007127 A					
007067 001000 A	50		JMP	**	RETURN
007070 107067 A					
	51	LOAM	EQU	**1	ENTRY
007071 114044 A	52		ORA	PART	COMPLETE WORD
007072 064043 A	53		STB	PART	SAVE PARTIAL FOR NEXT WORD
007073 054033 A	54		STA	LOAI	SAVE INPUT WORD FOR STORE
007074 134043 A	55		ERA	CKSM	INCLUDE IN CHECKSUM
007075 054042 A	56		STA	CKSM	SAVE CHECKSUM
007076 024036 A	57		LDB	CYCLE	
007077 001020 A	58		JBZ	LOAF	FIRST WORD OF RECORD, GET NEXT COLUMN
007100 007057 A					
007101 005322 A	59		DBR		DECREMENT SUB CYCLE INDICATOR FOR TEST
007102 001020 A	60		JBZ	LOAF+3	SECOND WORD OF RECORD, GET NEXT COLUMN
007103 007062 A					
007104 024027 A	61		LDB	CNT	GET COUNT
007105 005122 A	62		IBR		
007106 001030 A	63		JIF	AZ+0Z,(EXEC)*	EXECUTION ADDRESS
007107 107137 A					
007110 005322 A	64		DBR		
007111 001030 A	65		JIF	AZ+0Z,INC	GOOD END OF RECORD, READ NEXT CARD
007112 007026 A					
007113 001020 A	66		JBZ	LOAM	BAD CHECKSUM
007114 007141 A					
007115 005322 A	67		DBR		REDUCE COUNT
007116 064015 A	68		STB	CNT	SAVE COUNT
007117 014007 A	69		LDA	LOAI	GET WORD TO STORE
007120 055000 A	70		STA	0,1	STORE WORD
007121 005144 A	71		IXR		INCREMENT STORE POINTER
007122 001000 A	72		JMP	LOAM	GO TO GET NEXT COLUMN


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1 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1972 BY VARIAN DATA MACHINES 00 00001
2 * 00 00002
3 * V,D,M, PART NO. 00 00003
4 * 00 00004
5 * RELEASED 00 00005
6 * 00 00006
7 * DEBUG UTILITY (AID III) 00 00007
8 * 00 00008
9 * 00 00009
000040 A 10 K SET 32 MEMORY SIZE 00 00010
11 * MEMORY SIZE WITH WRAPAROUND: 4K/8K/16K/32K 00 00011
12 * WITHOUT WRAPAROUND: 32K 00 00012
13 * 00 00013
14 EJECT OPSY EJEC 00 00014
15 SPACE OPSY SPAC 00 00015
16 ENTRY OPSY ENTR 00 00016
17 * 00 00017
18 * 00 00018
076000 000001 A 19 STTD SET 1 00 00019
20 * ORG (K-1)*1024 00 00020
22 * AID III 00 00022

25 * WORD LENGTH 16 00 00025

27 * OPERATION OF AID II 00 00027

29 * COMMAND LETTERS IMPLEMENTED: A,B,C,D,G,I,L,Q,S,T,V,X 00 00029

31 * A, DISPLAY/CHANGE A PSUEDO REGISTER 00 00031
33 * B, DISPLAY/CHANGE B PSUEDO REGISTER 00 00033
35 * CX, DISPLAY/CHANGE LOCATION (X) 00 00035
37 * DX,Y,Z,, PUNCH A PROGRAM TAPE AND RETURN 00 00037
38 * X SETS BEGINNING ADDRESS 00 00038
39 * Y SETS ENDING ADDRESS 00 00039
40 * Z SETS EXECUTION ADDRESS 00 00040

42 * GX, LOAD PSUEDO REGISTERS INTO A,B,X 00 00042
43 * REGISTERS AND START EXECUTION AT (X), 00 00043

45 * IX,Y,Z,, INITIALIZE MEMORY 00 00045
46 * X IS START ADDRESS 00 00046
47 * Y IS ENDING ADDRESS 00 00047
48 * Z IS VALUE TO STORE IN MEMORY 00 00048

50 * LM, LOAD AN OBJECT DECK INTO CORE AND 00 00050
51 * RETURN. THE VALUE OF (M) CONTROLS THE 00 00051
52 * MODE OF LOADING. IF A CHECKSUM ERROR 00 00052
53 * IS CALCULATED DURING A LOAD THE (B) 00 00053
54 * REGISTER WILL BE =1 AND (X) REGISTER 00 00054
55 * WILL BE SET TO LOAD ADDRESS OF LAST 00 00055
56 * RECORD READ. A SUCCESSFUL LOAD WILL 00 00056
57 * HAVE (A) AND (B) REGISTERS ZERO, AND 00 00057
58 * (X) SET TO THE EXECUTION ADDRESS, 00 00058
59 * THERE IS NO PRINT-OUT AFTER A LOAD 00 00059
60 * AND EXECUTE. 00 00060

62 * QU, DISPLAY REGISTERS 00 THRU 07 00 00062

64 * SX,Y,Z,M, SEARCH MEMORY AND PRINTOUT WHERE MATCH 00 00064
65 * IS FOUND. TYPING (N) IN PLACE OF A 00 00065
66 * MASK CAUSES A SEARCH FOR THE NEGATIVE 00 00066
67 * OF THE VALUE (Z). 00 00067
68 * X IS BEGINNING ADDRESS 00 00068
69 * Y IS END ADDRESS 00 00069
70 * Z IS SEARCH VALUE. 00 00070
71 * M IS SEARCH MASK OF BITS FOR COMPARISON. 00 00071

73 * TY,X, TRAP TO LOCATION (Y) BEGINNING AT (X), 00 00073

75 * VX, VISUAL CORE DUMP TO TTY BEGINNING 00 00075
76 * AT (X). LEFT COLUMN IS LOCATION 00 00076
77 * FOLLOWED BY CONTENTS OF SUCCESSIVE 00 00077
78 * LOCATIONS. DUMP IS TERMINATED BY 00 00078
79 * TYPING A RUBOUT CHARACTER. 00 00079

81 * X, DISPLAY/CHANGE X PSUEDO REGISTER 00 00081

076000 006010 A 84 DBUG LDAI 0103601 00 00084
076001 103601 A
076002 002000 A 85 CALL OCH2 PRINT ON, BELL 00 00085
076003 077256 A
076004 007400 A 86 ROP 00 00086
076005 007411 A 87 DATA 07411 V75? 00 00087
076006 001007 A 88 JOFN DBG YES 00 00088
076007 076013 A
076010 006010 A 89 LDAI END NO 00 00089
076011 077337 A
076012 054040 A 90 STA TBL+16 00 00090
076013 002000 A 91 DBG CALL ICH 00 00091
076014 076151 A
076015 006140 A 92 SUBI 'A' 00 00092

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076151	000000	A	166	*INPUT CHARACTER			00	00166
076152	002000	A	167	ICH	ENTR		00	00167
076153	077250	A	168	JMPM	RCH	READ CHARACTER	00	00168
076154	054447	A	169	STA	TC		00	00169
076155	006140	A	170	SUBI	'/'		00	00170
076156	000257	A						
076157	001010	A	171	JAZ	END	ERROR END OF LINE	00	00171
076160	077337	A						
076161	014442	A	172	LDA	TC		00	00172
076162	001000	A	173	JMP*	ICH		00	00173
076163	176151	A						
			175	*INPUT LOCATION			00	00175
076164	000000	A	176	ILC	ENTR		00	00176
076165	002000	A	177	JMPM	INN	INPUT NUMBER	00	00177
076166	076212	A						
076167	001020	A	178	JBZ	END	NO NUMBER	00	00178
076170	077337	A						
076171	024417	A	179	LDB	TO		00	00179
076172	001020	A	180	JBZ*	ILC		00	00180
076173	176164	A						
076174	001000	A	181	JMP	END	NEGATIVE	00	00181
076175	077337	A						
076176	002000	A	183	INI	JMPM	ISP	00	00183
076177	076272	A						
076200	034413	A	184	LDX	T1		00	00184
076201	014414	A	185	LDA	T5		00	00185
076202	055000	A	186	STA	0,1	SET VALUE	00	00186
076203	044410	A	187	INR	T1		00	00187
076204	005041	A	188	TXA			00	00188
076205	144407	A	189	SUB	T4		00	00189
076206	001010	A	190	JAZ	DEBUG		00	00190
076207	076000	A						
076210	001000	A	191	JMP	INI+2		00	00191
076211	076200	A						
			193	*INPUT NUMBER			00	00193
076212	000000	A	194	INN	ENTR		00	00194
076213	005001	A	195	TZA			00	00195
076214	054410	A	196	STA	V		00	00196
076215	054373	A	197	STA	TO		00	00197
076216	054373	A	198	STA	T1		00	00198
076217	002000	A	199	JMPM	ICH	INPUT CHARACTER	00	00199
076220	076151	A						
076221	144150	A	200	SUB	SP	0240 'SP'	00	00200
076222	001010	A	201	JAZ	ICH+1	PASS SPACES	00	00201
076223	076152	A						
076224	006140	A	202	SUBI	015	NEGATIVE SIGN	00	00202
076225	000015	A						
076226	001010	A	203	JAZ	INN1		00	00203
076227	076247	A						
076230	014373	A	204	INN2	LDA	TC	00	00204
076231	144375	A	205	SUB	ZERO	0260 '0'	00	00205
076232	001004	A	206	JAN	INN3	NOT DIGIT	00	00206
076233	076254	A						
076234	144371	A	207	SUB	010		00	00207
076235	001002	A	208	JAP	INN3		00	00208
076236	076254	A						
076237	014365	A	209	LDA	V		00	00209
076240	004243	A	210	LRLA	J		00	00210
076241	144365	A	211	SUB	ZERO	'0'	00	00211
076242	124361	A	212	ADD	TC		00	00212
076243	054361	A	213	STA	V		00	00213
076244	044345	A	214	INR	T1	DIGIT COUNT	00	00214
076245	001000	A	215	JMP	**3		00	00215
076246	076250	A						
076247	044341	A	216	INN1	INR	TO	00	00216
076250	002000	A	217	JMPM	ICH	INPUT CHARACTER	00	00217
076251	076151	A						
076252	001000	A	218	JMP	INN2		00	00218
076253	076230	A						
076254	014335	A	219	INN3	LDA	T1	00	00219
076255	144141	A	220	SUB	07		00	00220
076256	001002	A	221	JAP	END	TO 816	00	00221
076257	077337	A						
076260	014344	A	222	LDA	V		00	00222
076261	024327	A	223	LDB	TO		00	00223
076262	001020	A	224	JBZ	**5		00	00224
076263	076267	A						
076264	005211	A	225	CRA			00	00225
076265	005111	A	226	IAR			00	00226
076266	054336	A	227	STA	V		00	00227
076267	024322	A	228	LDB	T1		00	00228
076270	001000	A	229	JMP*	INN		00	00229
076271	176212	A						
			231	*INPUT SPECIAL			00	00231
076272	000000	A	232	ISP	ENTR		00	00232
076273	002000	A	233	JMPM	ILC	INPUT LOCATION	00	00233
076274	076164	A						
076275	054316	A	234	STA	T3		00	00234
076276	002000	A	235	JMPM	ILC		00	00235

076277	076164	A							
076300	054314	A	236	STA	T6			00	00236
076301	005001	A	237	TZA				00	00237
076302	054313	A	238	STA	T5			00	00238
076303	009311	A	239	DAR				00	00239
076304	054312	A	240	STA	T6	=1		00	00240
076305	002000	A	241	JMPM	INN		INPUT NUMBER	00	00241
076306	076212	A							
076307	001020	A	242	JBZ	ISP1			00	00242
076310	076317	A							
076311	054304	A	243	STA	T5		VALUE	00	00243
076312	002000	A	244	JMPM	INN			00	00244
076313	076212	A							
076314	001020	A	245	JBZ	ISP1			00	00245
076315	076317	A							
076316	054300	A	246	STA	T6		MASK	00	00246
076317	002000	A	247	ISP1	JMPM	OND	OUTPUT END	00	00247
076320	077343	A							
076321	014273	A	248	LDA	T6			00	00248
076322	144271	A	249	SUB	T3			00	00249
076323	001002	A	250	JAP*	ISP		PROPER ORDER	00	00250
076324	176272	A							
076325	014267	A	251	LDA	T6		CORRECT ORDERING	00	00251
076326	024265	A	252	LDL	T3			00	00252
076327	054264	A	253	STA	T3			00	00253
076330	064264	A	254	STB	T4			00	00254
076331	001000	A	255	JMP*	ISP			00	00255
076332	176272	A							

			258	*OUTPUT	OCTAL			00	00258
076333	000000	A	259	OCT	ENTR	0		00	00259
076334	005002	A	260		TZB			00	00260
076335	004557	A	261		LLSR	15		00	00261
076336	005122	A	262		IBR			00	00262
076337	114267	A	263	OCT1	ORA	ZERO		00	00263
076340	002000	A	264		CALL	OCH		00	00264
076341	077270	A							
076342	005001	A	265		TZA			00	00265
076343	004443	A	266		LLRL	3		00	00266
076344	001020	A	267		JBZ*	OCT		00	00267
076345	176333	A							
076346	001000	A	268		JMP	OCT1		00	00268
076347	076337	A							

			270	*OUTPUT LOCATION				00	00270
076350	000000	A	271	OLC	ENTRY			00	00271
076351	054237	A	272		STA	T0		00	00272
076352	006010	A	273		LDAI	0120260	SPACE, LEFT PAREN	00	00273
076353	124240	A							
076354	002000	A	274		CALL	OCH2		00	00274
076355	077256	A							
076356	014232	A	275		LDA	T0		00	00275
076357	002000	A	276		JMPM	OCT	OUTPUT OCTAL	00	00276
076360	076333	A							
076361	006010	A	277		LDAI	0120251	RIGHT PAREN, SPACE	00	00277
076362	120251	A							
076363	002000	A	278		CALL	OCH2		00	00278
076364	077256	A							
076365	001000	A	279		JMP*	OLC		00	00279
076366	176350	A							

			281	*OUTPUT NUMBER				00	00281
076367	000000	A	282	ONB	ENTRY			00	00282
076370	054220	A	283		STA	T0	(A) IS NUMBER	00	00283
076371	006010	A	284		LDAI	0240		00	00284
076372	000240	A							
076372	002000	A	285	SP	BES	0		00	00285
076373	077270	A	286		JMPM	OCH	OUTPUT CHARACTER	00	00286
076374	014213	A	287		LDA	T0		00	00287
076376	002000	A	288		JMPM	OCT	OUTPUT OCTAL	00	00288
076377	076333	A							
076400	001000	A	289		JMP*	ONB		00	00289
076401	176367	A							

076402	005111	A	291	R75	IAR			00	00291
076403	005111	A	292	RGX	IAR		REGISTER X ROUTINE	00	00292
076404	005111	A	293	RGB	IAR		REGISTER B ROUTINE	00	00293
076405	006120	A	294	RGA	ADDI	A	REGISTER A ROUTINE	00	00294
076406	076620	A							
076407	054203	A	295		STA	T2		00	00295
076410	002000	A	296		JMPM	CLC	CHANGE LOCATION	00	00296
076411	076065	A							
076412	001000	A	297		JMP	OBUS		00	00297
076413	076000	A							

			299					00	00299
076414	002000	A	300	V75	JMPM	INN	INPUT NUMBER	00	00300
076415	076212	A							
076416	006150	A	301		ANAI	07		00	00301
076417	000007	A							
076417	076417	A	302	07	EQU	=1		00	00302
076420	005012	A	303		TAB		GIVE IT 07 B ALSO	00	00303
076421	006140	A	304		SUBI	03	IS IT A V75 REGISTER ?	00	00304

076672	077001	A							
076673	000000	A							
	000010	A	449	AZ	EGU	010	A REG ZERO	00	00449
	000020	A	450	BZ	EGU	020	B REG ZERO	00	00450
076674	005001	A	451	INC	TZA		INITIALIZE A REG	00	00451
076675	054122	A	452		STA	CNT	INITIALIZE COUNT	00	00452
076676	054340	A	453		STA	CKSM	INITIALIZE CHECK SUM	00	00453
076677	054121	A	454		STA	CYCLE		00	00454
076700	101630	A	455	CD01	SEN	0630,++4	READER READY	00	00455
076701	076704	A							
076702	001000	A	456		JMP	==2	WAIT UNTIL IT IS READY	00	00456
076703	076700	A							
076704	100230	A	457	CD02	EXC	0230	READ A CARD	00	00457
076705	002000	A	458		CALL	LOAI	GET COLUMN 1	00	00458
076706	077000	A							
076707	004244	A	459	LOAE	LRLA	4	POSITION TO HIGH ORDER	00	00459
076710	054111	A	460		STA	PART	SAVE TO INCLUDE NEXT COLUMN	00	00460
076711	002000	A	461		CALL	LOAI	GET NEXT COLUMN	00	00461
076712	077000	A							
076713	004550	A	462		LLSR	8	ONLY 4 BITS NEEDED NOW	00	00462
076714	002000	A	463		CALL	LOAH	PUT WORD AND GET NEXT COLUMN	00	00463
076715	076736	A							
076716	004544	A	464		LLSR	4	ONLY NEED 8 BITS NOW	00	00464
076717	002000	A	465		CALL	LOAH	PUT WORD AND GET NEXT COLUMN	00	00465
076720	076736	A							
076721	002000	A	466		CALL	LOAH	PUT WORD AND GET NEXT COLUMN	00	00466
076722	076736	A							
076723	001000	A	467		JMP	LOAE	DO AGAIN FOR NEXT THREE WORDS	00	00467
076724	076707	A							
076725	054072	A	468	LOAF	STA	CNT	SAVE COUNT	00	00468
076726	001010	A	469		JAZ	INC	BLANK CARD, IGNORE	00	00469
076727	076674	A							
076730	034047	A	470		LDB	LOAI	GET LAST WORD (LOAD/EXECUTION ADR)	00	00470
076731	074311	A	471		STX	EXEC	SAVE FOR EXECUTION	00	00471
076732	044066	A	472	LOAG	INR	CYCLE	INCREMENT WORD IN RECORD COUNT	00	00472
076733	002000	A	473		CALL	LOAI	GET NEXT COLUMN	00	00473
076734	077000	A							
076735	001000	A	474		JMP	==	RETURN	00	00474
076736	176735	A							
	076736	A	475	LOAH	EGU	==1	ENTRY	00	00475
076737	114062	A	476		ORA	PART	COMPLETE WORD	00	00476
076740	064061	A	477		STB	PART	SAVE PARTIAL FOR NEXT WORD	00	00477
076741	054036	A	478		STA	LOAI	SAVE INPUT WORD FOR STORE	00	00478
076742	134274	A	479		ERA	CKSM	INCLUDE IN CHECKSUM	00	00479
076743	054273	A	480		STA	CKSM	SAVE CHECKSUM	00	00480
076744	024054	A	481		LDB	CYCLE		00	00481
076745	001020	A	482		JBZ	LOAF	FIRST WORD OF RECORD, GET NEXT COLUMN	00	00482
076746	076725	A							
076747	005322	A	483		DBR		DECREMENT SUB CYCLE INDICATOR FOR TEST	00	00483
076750	001020	A	484		JBZ	LOAF+3	SECOND WORD OF RECORD, GET NEXT COLUMN	00	00484
076751	076730	A							
076752	024045	A	485		LDB	CNT	GET COUNT	00	00485
076753	005122	A	486		IBR			00	00486
076754	001030	A	487		JIF	AZ+8Z,LOAX		00	00487
076755	077005	A							
076756	005322	A	488		DBR			00	00488
076757	001030	A	489		JIF	AZ+8Z,INC	GOOD END OF RECORD, READ NEXT CARD	00	00489
076760	076674	A							
076761	001020	A	490		JBZ	LOAH	BAD CHECKSUM	00	00490
076762	077023	A							
076763	005322	A	491		DBR		REDUCE COUNT	00	00491
076764	064033	A	492		STB	CNT	SAVE COUNT	00	00492
076765	024012	A	493		LDB	LOAI	GET WORD TO STORE	00	00493
076766	014252	A	494		LDA	FRST		00	00494
076767	001004	A	495		JAN	==3	DON'T STORE	00	00495
076770	076772	A							
076771	065000	A	496		STB	0.1	STORE WORD	00	00496
076772	005144	A	497		IXR		INCREMENT STORE POINTER	00	00497
076773	001000	A	498		JMP	LOAG	GO TO GET NEXT COLUMN	00	00498
076774	076732	A							
076775	102530	A	499	CD03	CIA	030	INPUT COLUMN	00	00499
076776	005002	A	500		TZB		CLEAR REG	00	00500
076777	001000	A	501		JMP	==	RETURN	00	00501
077000	176777	A							
	077000	A	502	LOAI	EGU	==1	ENTRY AND TEMPORARY SAVE	00	00502
077001	101130	A	503	CD04	SEN	0130,==4	CHAR READY	00	00503
077002	076775	A							
077003	001000	A	504		JMP	==2	WAIT FOR CHAR READY	00	00504
077004	077001	A							
077005	014233	A	505	LOAX	LDA	FRST		00	00505
077006	001004	A	506		JAN	==6	CHECK OBJECT	00	00506
077007	077014	A							
077010	001010	A	507		JAZ	==4	LOAD AND DON'T GO	00	00507
077011	077014	A							
077012	001000	A	508		JMP+	EXEC	LOAD AND GO	00	00508
077013	177243	A							
077014	034226	A	509		LDB	EXEC		00	00509
077015	005003	A	510		ZERO	3		00	00510
077016	001000	A	511		JMP	TRP1		00	00511
077017	076541	A							
077020	000000	A	512	CNT	DATA	0		00	00512
077021	000000	A	513	CYCLE	DATA	0		00	00513
077022	000000	A	514	PART	DATA	0		00	00514
077023	005302	A	515	LOAH	DECR	2		00	00515
077024	001000	A	516		JMP	TRP1		00	00516

077162	144057	A	587	SUB	LAST	END OF RECORD	00	00587	
077163	005144	A	588	IXR			00	00588	
077164	001010	A	589	JAZ	WRI4	YES	00	00589	
077165	077173	A							
077166	014164	A	590	LDA	CNTR		00	00590	
077167	006140	A	591	SUB	075	RECORD FULL	00	00591	
077170	000075	A							
077171	001004	A	592	JAN	WRI3	NO	00	00592	
077172	077153	A							
077173	074045	A	593	WRI4	FRST	SAVE POINTER	00	00593	
077174	005122	A	594	IXR			00	00594	
077175	014041	A	595	LDA	CKSM		00	00595	
077176	134134	A	596	ERA	CNTR		00	00596	
077177	056000	A	597	STA	0.2		00	00597	
077200	024152	A	598	LDB	CNTR		00	00598	
077201	064156	A	599	STB	MTBF	SET RECORD LENGTH	00	00599	
077202	005122	A	600	IBR			00	00600	
077203	005122	A	601	IBR			00	00601	
077204	034033	A	602	LDX	BUFR		00	00602	
077205	002000	A	603	CALL	CPO		00	00603	
077206	077044	A							
077207	002000	A	604	MCO1	EQU	**1	00	00604	
077210	077127	A	605	CALL	CBUF		00	00605	
077211	014027	A	606	LDA	FRST		00	00606	
077212	005311	A	607	DAR			00	00607	
077213	144026	A	608	SUB	LAST		00	00608	
077214	001004	A	609	JAN	WRI2	MORE	00	00609	
077215	077142	A							
077216	054141	A	610	STA	MTBF	SET FOR EXECUTION RECORD	00	00610	
077217	014023	A	611	LDA	EXEC		00	00611	
077220	001004	A	612	JAN	END	NO EXECUTION RECORD	00	00612	
077221	077337	A							
077222	054136	A	613	STA	MTBF+1		00	00613	
077223	005301	A	614	DECR	1		00	00614	
077224	054133	A	615	STA	MTBF		00	00615	
077225	134133	A	616	ERA	MTBF+1		00	00616	
077226	054133	A	617	STA	MTBF+2		00	00617	
077227	005102	A	618	INCR	2		00	00618	
077230	005122	A	619	IBR			00	00619	
077231	034006	A	620	LDX	BUFR		00	00620	
077232	002000	A	621	CALL	CPO		00	00621	
077233	077044	A							
077234	077233	A	622	MCO2	EQU	**1	00	00622	
077235	001000	A	623	JMP	END		00	00623	
077236	000000	A	624	OADR	DATA	0	00	00624	
077237	000000	A	625	CKSM	DATA	0	00	00625	
077240	077360	A	626	BUFR	DATA	MTBF	00	00626	
077241	000000	A	627	FRST	DATA	0	00	00627	
077242	000000	A	628	LAST	DATA	0	00	00628	
077243	000000	A	629	EXEC	DATA	0	00	00629	
			631	*INPUT AND PRINT A CHARACTER				00	00631
077244	102501	A	632	RCHA	CIA	STTD	00	00632	
077245	002000	A	633	CALL	OCH		00	00633	
077246	077270	A							
077247	001000	A	634	JMP	*		00	00634	
077250	077247	A							
077251	101201	A	635	RCH	BEB	0	00	00635	
077252	077244	A	636	SEN	0200+STTD,RCHA		00	00636	
077253	005000	A	637	NOP		INTERRUPTABLE INSTR,	00	00637	
077254	001000	A	638	JMP	**3		00	00638	
077255	077251	A							
			640	*OUTPUT TWO CHARACTERS				00	00640
077256	000000	A	641	OCH2	ENTRY		00	00641	
077257	002000	A	642	CALL	OCH		00	00642	
077260	077270	A							
077261	004350	A	643	LSRA	8		00	00643	
077262	002000	A	644	CALL	OCH		00	00644	
077263	077270	A							
077264	001000	A	645	JMP*	OCH2		00	00645	
077265	177256	A							
077266	103101	A	647	OCHA	DAR	STTD	00	00647	
077267	001000	A	648	JMP	*		00	00648	
077270	077267	A							
077271	002000	A	649	OCH	BEB	0	00	00649	
077272	077311	A	650	CALL	BORT		00	00650	
077273	101101	A	651	SEN	0100+STTD,OCHA		00	00651	
077274	077266	A							
077275	005000	A	652	NOP		INTERRUPTABLE INSTR	00	00652	
077276	001000	A	653	JMP	**3		00	00653	
077277	077273	A							
			655	*TEST FOR ABORT				00	00655
077300	054006	A	656	BORS	STA	**7	00	00656	
077301	102501	A	657	CIA	STTD		00	00657	
077302	006130	A	658	ERAI	0377		00	00658	
077303	000377	A							
077303		A	659	RUBO	BEB	0	00	00659	
077304	001010	A	660	JAZ	END		00	00660	

077305	077337	A							
077306	006010	A	661	LOAI	0			00	00661
077307	000000	A							
077310	001000	A	662	JMP	*			00	00662
077311	077310	A							
077311		A	663	BORT	BES	0		00	00663
077312	101201	A	664		SEN	0200+BTTO,BORS		00	00664
077313	077300	A							
077314	001000	A	665	JMP*	BORT			00	00665
077315	177311	A							
			667	*VISUAL DUMP				00	00667
077316	002000	A	668	LIST	CALL	ILC	INPUT LOCATION	00	00668
077317	076164	A							
077320	005014	A	669	TAX				00	00669
077321	002000	A	670	LISU	CALL	OND		00	00670
077322	077343	A							
077323	005041	A	671	TXA				00	00671
077324	002000	A	672	CALL	OCT		OUTPUT LOCATION	00	00672
077325	076333	A							
077326	015000	A	673	LISV	LDA	0,1		00	00673
077327	002000	A	674	CALL	ONB		OUTPUT CONTENTS	00	00674
077330	076367	A							
077331	009145	A	675	INCR	045			00	00675
077332	004543	A	676	LLSR	3			00	00676
077333	001020	A	677	JBZ	LISU			00	00677
077334	077321	A							
077335	001000	A	678	JMP	LISV			00	00678
077336	077326	A							
077337	002000	A	680	END	JMPH	OND	OUTPUT END	00	00680
077340	077343	A							
077341	001000	A	681	JMP	OSUG			00	00681
077342	076000	A							
			683	*OUTPUT END				00	00683
077343	000000	A	684	OND	ENTR			00	00684
077344	006010	A	685	LOAI	0105215	CR, LP		00	00685
077345	105215	A							
077346	002000	A	686	CALL	OCH2			00	00686
077347	077256	A							
077350	001000	A	687	JMP*	OND			00	00687
077351	177343	A							
077352	000000	A	689	MGER	DATA	0		00	00689
077353	000000	A	690	CNTR	DATA	0		00	00690
077354	000075	A	691	K75	DATA	075		00	00691
077355	000100	A	692	K100	DATA	0100		00	00692
077356	177700	A	693	MASK	DATA	0177700		00	00693
077357	007700	A	694	TR	DATA	07700		00	00694
077360			696	MTBF	BSS	64		00	00696
	076630	A	697	END	CARD			00	00697

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

000001	A	SYTD	076620	A	A	000010	A	AZ	076621	A	B
077300	A	BORS	077311	A	BORT	077240	A	BUFR	000020	A	BZ
077122	A	C000	077103	A	C001	077105	A	C002	077111	A	C003
077041	A	C004	076630	A	CARD	077131	A	CBU1	077127	A	CBUF
076667	A	CD00	076700	A	CD01	076704	A	CD02	076775	A	CD03
077001	A	CD04	077237	A	CKSM	076065	A	CLC	076103	A	CNG
076110	A	CNGA	077020	A	CNT	077353	A	CNTR	076124	A	COMA
077044	A	CPO	077050	A	CPO1	077102	A	CPOU	077021	A	CYCLE
076013	A	DBG	076000	A	DBUG	076125	A	DMP	077026	A	DUMP
077337	A	END	076602	A	EPUN	077243	A	EXEC	077241	A	FRST
076144	A	GO	076137	A	GOT	076151	A	ICH	076164	A	ILC
076674	A	INC	076176	A	INI	076212	A	INN	076247	A	INN1
076230	A	INN2	076254	A	INN3	076272	A	ISP	076317	A	ISP1
000040	A	K	077355	A	K100	077354	A	K75	076423	A	L
077242	A	LABT	077316	A	LIST	077321	A	LISU	077326	A	LISV
076651	A	LOAC	076707	A	LOAE	076725	A	LOAP	076732	A	LOAG
076736	A	LOAM	077000	A	LOAI	077023	A	LOAW	077005	A	LOAX
076651	A	LOD	076651	A	LODE	077356	A	MASK	077206	A	MCO1
077233	A	MCO2	077352	A	MGER	077360	A	MTBF	077114	A	MT14
076626	A	O10	076417	A	O7	077236	A	OADR	077270	A	OCH
077256	A	OCH2	077266	A	OCHA	076333	A	OCT	076337	A	OCT1
076350	A	OLC	076367	A	ONB	077343	A	ONB	077022	A	PART
077026	A	PCHC	076402	A	R75	077250	A	RCH	077244	A	RCHA
076405	A	RGA	076404	A	RGB	076403	A	RGX	077303	A	RUBO
076636	A	SET	076372	A	SP	076450	A	SRC	076473	A	SRC1
076502	A	SRC2	076611	A	T0	076612	A	T1	076613	A	T2
076614	A	T3	076615	A	T4	076616	A	T5	076617	A	T6
076443	A	TAR	076633	A	TBL	076624	A	TC	077357	A	TR
076434	A	TRA	076514	A	TRP	076541	A	TRP1	076577	A	TRP2
076573	A	TRPX	076625	A	V	076414	A	V75	076535	A	HMT
077142	A	WR12	077153	A	WR13	077173	A	WR14	076622	A	X
076627	A	ZERO									

0 ERRORS ASSEMBLY COMPLETE
* * PROGRAM / SUBROUTINE ENTRY POINTS * *

663	BORT	-LD=	650	663	
564	CBUF	-LD=	570	574	605
127	CLC	-LD=	135	142	296
530	CPO	-LD=	551	602	621

007000		1 *				00	00001
		2	ORG	07000		00	00002
		3 *				00	00003
	000213 A	4	MTDA	EQU	0213	00	00004
007000	005000 A	5		NOP		00	00005
007001	005000 A	6		NOP		00	00006
007002	010213 A	7	BEGIN	LDA	MTDA	00	00007
007003	006150 A	8		ANAI	077	00	00008
007004	000077 A						
007005	054077 A	9		STA	OADR	00	00009
007006	001000 A	10		JMP	LOAM	00	00010
007007	007024 A						
007010	000001 A	11	SET	DATA	1	00	00011
		12 *				00	00012
007011	025000 A	13		LDB	0,1	00	00013
007012	001020 A	14		JBZ*	SET	00	00014
007013	107010 A						
007014	016000 A	15		LDA	0,2	00	00015
007015	006150 A	16		ANAI	0177700	00	00016
007016	177700 A						
007017	114065 A	17		OAR	OADR	00	00017
007020	056000 A	18		STA	0,2	00	00018
007021	005144 A	19		IXR		00	00019
007022	001000 A	20		JMP	SET+1	00	00020
007023	007011 A						
	007024 A	21	LOAM	EQU	*	00	00021
007024	006030 A	22		LXI	MT00	00	00022
007025	007100 A						
007026	002000 A	23	RMT	CALL	SET	00	00023
007027	007010 A				SET DRIVE NUMBER		
007030	002000 A	24		CALL	MTI	00	00024
007031	007060 A				INPUT RECORD		
007032	005001 A	25		TZA		00	00025
007033	054042 A	26		STA	CNTR	00	00026
007034	014050 A	27		LDA	MTBF	00	00027
007035	001004 A	28		JAN	RMT2	00	00028
007036	007056 A						
007037	034037 A	29		LDX	BUFR	00	00029
007040	005144 A	30		IXR		00	00030
007041	025000 A	31		LDB	0,1	00	00031
007042	005144 A	32		IXR		00	00032
007043	015000 A	33	RMT1	LDA	0,1	00	00033
007044	056000 A	34		STA	0,2	00	00034
007045	044030 A	35		INR	CNTR	00	00035
007046	014027 A	36		LDA	CNTR	00	00036
007047	144035 A	37		SUB	MTBF	00	00037
007050	005144 A	38		IXR		00	00038
007051	005122 A	39		IBR		00	00039
007052	001004 A	40		JAN	RMT1	00	00040
007053	007043 A				NO		
007054	001000 A	41		JMP	RMT+2	00	00041
007055	007030 A				READ ANOTHER RECORD		
007056	001000 A	42	RMT2	JMP*	MTBF+1	00	00042
007057	107106 A				=EXECUTE=		
		43 *		MAG TAPE INPUT		00	00043
007060	000001 A	44	MTI	DATA	1	00	00044
007061	034015 A	45		LDX	BUFR	00	00045
007062	100010 A	46		SEL	010	00	00046
007063	101110 A	47	MTI1	SEN	0110,MTI2	00	00047
007064	007071 A				BFR RDY		
007065	101210 A	48		SEN*	0210,MTI	00	00048
007066	107060 A						
007067	001000 A	49		JMP	MTI1	00	00049
007070	007063 A				LOOP		
007071	102510 A	50	MTI2	CIA	010	00	00050
007072	053000 A	51		STA	0,1	00	00051
007073	005144 A	52		IXR		00	00052
007074	001000 A	53		JMP	MTI1	00	00053
007075	007063 A						
007076	000001 A	54	CNTR	DATA	1	00	00054
007077	007105 A	55	BUFR	DATA	MTBF	00	00055
007100	007062 A	56	MT00	DATA	MTI1=1,MTI1,MTI1+2,MTI2,0	00	00056
007101	007063 A						
007102	007065 A						
007103	007071 A						
007104	000000 A						
	007105 A	57	OADR	EQU	*	00	00057
	007105 A	58	MTBF	EQU	*	00	00058
007105	006030 A	60	DUMP	LXI	07001	00	00060
007106	007001 A						
007107	104110 A	61		EXC2	0110	00	00061
007110	100210 A	62		EXC	0210	00	00062
007111	101110 A	63	D1	SEN	0110,D2	00	00063
007112	007115 A						
007113	001000 A	64	JMP	JMP	D1	00	00064
007114	007111 A						
007115	015000 A	65	D2	LDA	0,1	00	00065
007116	103110 A	66		OAR	010	00	00066
007117	005145 A	67		INCR	045	00	00067
007120	006140 A	68		SUBI	DUMP	00	00068
007121	007105 A						
007122	001016 A	69		JANZ	D1	00	00069
007123	007111 A						
007124	000000 A	70		HLT		00	00070
		71 *				00	00071

007105 A 72

END

DUMP

00 00072

ENTRY NAMES

EXTERNAL NAMES

SYMBOLS

007002 A BEGIN	007077 A BUFR	007076 A CNTR	007111 A D1
007115 A D2	007105 A DUMP	007113 A JMP	007024 A LOAM
007100 A MT00	007105 A MTBF	000213 A MTOA	007060 A MTI
007063 A MTI1	007071 A MTI2	007105 A OADR	007026 A RMT
007043 A RMT1	007056 A RMT2	007010 A SET	

0 ERRORS ASSEMBLY COMPLETE

* * PROGRAM / SUBROUTINE ENTRY POINTS * *

44	MTI	-LD=	24	48			
11	SET	-LD=	14	20	23		

* * REFERENCED SYMBOLS * *

55	BUFR	-LD=	29	48			
54	CNTR	-ST=	26	35	-LD=	36	
63	D1	-LD=	64	69			
65	D2	-LD=	63				
60	DUMP	-LD=	68	72			
21	LOAM	-LD=	10				
56	MT00	-LD=	22				
58	MTBF	-LD=	27	37	42	55	
4	MTOA	-LD=	7				
44	MTI	-LD=	24	48			
47	MTI1	-LD=	49	53	56	56	56
50	MTI2	-LD=	47	56			
57	OADR	-ST=	9	-LD=	17		
23	RMT	-LD=	41				
33	RMT1	-LD=	40				
42	RMT2	-LD=	28				
11	SET	-LD=	14	20	23		

```

1 * THIS IS A COPYRIGHTED PROGRAM, COPYRIGHT 1972 BY VARIAN DATA MACHINES 00 00001
2 * 00 00002
3 * V.D.M. PART NO. 00 00003
4 * 00 00004
5 * 00 00005
6 * 00 00006
7 * 00 00007
8 * 00 00008
9 * 00 00009
000040 A 10 K SET 32 MEMORY SIZE 00 00010
11 * MEMORY SIZE WITH WRAPAROUND: 4K/8K/16K/32K 00 00011
12 * WITHOUT WRAPAROUND: 32K 00 00012
13 * 00 00013
14 EJECT OPSY EJEC 00 00014
15 SPACE OPSY SPAC 00 00015
16 ENTRY OPSY ENTR 00 00016
17 * 00 00017
18 * 00 00018
076000 000001 A 19 STTD SET 1 00 00019
20 * ORG (K=1)=1024 00 00020
21 * 00 00021
22 * MAGNETIC TAPE UNIT ASSIGNMENTS: 00 00022
000110 A 23 SU0 SET 0110 DA 10 UNIT 0 00 00023
000111 A 24 SU1 SET 0111 DA 11 UNIT 0 00 00024
000112 A 25 SU2 SET 0112 DA 12 UNIT 0 00 00025
000113 A 26 SU3 SET 0113 DA 13 UNIT 0 00 00026
000000 A 27 SU4 SET 0 NOT AVAILABLE 00 00027
000000 A 28 SU5 SET 0 NOT AVAILABLE 00 00028
29 SMRY 00 00029
31 * AID III 00 00031

34 * WORD LENGTH: 16 OR 18 00 00034

36 * MAGNETIC TAPE: DA 010 = 1X1 00 00036
37 * DA 011 = 1X1 00 00037
38 * DA 012 = 1X1 00 00038
39 * DA 013 = 1X1 00 00039
40 * OPERATION OF AID II 00 00040

42 * COMMAND LETTERS IMPLEMENTED: A,B,C,E,F,G,I,N,Q,R,S,T,V,W,X 00 00042
44 * A, DISPLAY/CHANGE A PSUEDO REGISTER 00 00044
46 * B, DISPLAY/CHANGE B PSUEDO REGISTER 00 00046
48 * CX, DISPLAY/CHANGE LOCATION (X) 00 00048
50 * EU, WRITE A FILE MARK ON MAG TAPE UNIT (U), 00 00050
51 * THIS PERMITS SEPARATION OF PROGRAMS 00 00051
52 * THAT ARE DUMPED FROM CORE SINCE THE 00 00052
53 * COMMAND (W) DOES NOT WRITE ONE, 00 00053
54 * THIS WILL PERMIT DUMP OF NON-CONTIGUOUS 00 00054
55 * MEMORY AREAS. 00 00055

57 * FN,U, SKIP TO FILE (N) ON UNIT (U), 00 00057
58 * LOAD POINT IS DESIGNATED FILE 0, 00 00058

60 * GX, LOAD PSUEDO REGISTERS INTO A,B,X 00 00060
61 * REGISTERS AND START EXECUTION AT (X), 00 00061

63 * IX,Y,Z,, INITIALIZE MEMORY 00 00063
64 * X IS START ADDRESS 00 00064
65 * Y IS ENDING ADDRESS 00 00065
66 * Z IS VALUE TO STORE IN MEMORY 00 00066

68 * N, SKIP TO NEXT FILE ON MAG TAPE UNIT 00 00068
69 * PREVIOUSLY SELECTED, 00 00069

71 * PU, BACKSPACE 1 RECORD ON MAG TAPE UNIT (U), 00 00071

73 * QU, DISPLAY REGISTERS Q0 THRU Q7 00 00073

75 * RU, READ OBJECT MAG TAPE INTO MEMORY FROM 00 00075
76 * UNIT (U), A TERMINAL (,) CAUSES RETURN 00 00076
77 * TO AID, A TERMINAL (,) CAUSES A LOAD 00 00077
78 * AND EXECUTE, AN UP ARROW TYPE OUT 00 00078
79 * INDICATES A FILE MARK WAS READ, A 00 00079
80 * NUMBER TYPE OUT INDICATES A BAD READ DUE 00 00080
81 * TO PARITY ERRORS, THE NUMBER IS THE 00 00081
82 * LOAD ADDRESS IN THE RECORD, 00 00082

84 * SX,Y,Z,M, SEARCH MEMORY AND PRINTOUT WHERE MATCH 00 00084
85 * IS FOUND, TYPING (N) IN PLACE OF A 00 00085
86 * MASK CAUSES A SEARCH FOR THE NEGATIVE 00 00086
87 * OF THE VALUE (Z), 00 00087
88 * X IS BEGINNING ADDRESS 00 00088
89 * Y IS END ADDRESS 00 00089
90 * Z IS SEARCH VALUE, 00 00090
91 * M IS SEARCH MASK OF BITS FOR COMPARISON, 00 00091

93 * TY,X, TRAP TO LOCATION (Y) BEGINNING AT (X), 00 00093

95 * VX, VISUAL CORE DUMP TO TTY BEGINNING 00 00095
96 * AT (X), LEFT COLUMN IS LOCATION 00 00096

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97 *				FOLLOWED BY CONTENTS OF SUCCESSIVE	00 00097
98 *				LOCATIONS. DUMP IS TERMINATED BY	00 00098
99 *				TYPING A RUBOUT CHARACTER,	00 00099
101 *	WX,Y,Z,U			WRITE OBJECT MAG TAPE FROM MEMORY WHERE	00 00101
102 *				X IS THE STARTING ADDRESS	00 00102
103 *				Y IS THE ENDING ADDRESS	00 00103
104 *				Z IS THE EXECUTION ADDRESS	00 00104
105 *				U IS THE UNIT NUMBER	00 00105
107 *	X ₁			DISPLAY/CHANGE X PSEUDO REGISTER	00 00107
109 *				SPECIAL NOTE:	00 00109
110 *				TYPING A RUBOUT CHARACTER WILL TERMINATE TTY PRINTING OR	00 00110
111 *				THE MAG TAPE OPERATION IN PROGRESS,	00 00111
113	SMRY				00 00113
114	DBUG	LOAD	0103601		00 00114
076000	006010	A			
076001	103601	A			
076002	002000	A	115	CALL OCM2 PRINT ON, BELL	00 00115
076003	077172	A			
076004	007400	A	116	ROP	00 00116
076005	007411	A	117	DATA 07611 V757	00 00117
076006	001007	A	118	JOPN 086 YES	00 00118
076007	076013	A			
076010	006010	A	119	LOAD END NO	00 00119
076011	077253	A			
076012	054040	A	120	STA TBL+16	00 00120
076013	002000	A	124	DBG CALL ICH	00 00121
076014	076136	A			
076015	006140	A	122	SUBI 'A'	00 00122
076016	000301	A			
076017	001004	A	123	JAN END ILLEGAL COMAND	00 00123
076020	077253	A			
076021	006140	A	124	SUBI 032	00 00124
076022	000032	A			
076023	001002	A	125	JAP END ILLEGAL COMAND	00 00125
076024	077253	A			
076025	006120	A	126	ADDI (TBL+032)*	00 00126
076026	176065	A			
076027	054002	A	127	STA **3	00 00127
076030	005007	A	128	ZERO 7	00 00128
076031	001000	A	129	JMP *	00 00129
076032	076031	A			
076033	076372	A	130	TBL DATA RGA A REGISTER	00 00130
076034	076371	A	131	DATA RGB B REGISTER	00 00131
076035	076103	A	132	DATA CNG CHANGE	00 00132
076036	077253	A	133	DATA END D	00 00133
076037	077032	A	134	DATA EOP EOP WRITE	00 00134
076040	076764	A	135	DATA FIL FILE POSITION	00 00135
076041	076124	A	136	DATA GOT GOTQ	00 00136
076042	077253	A	137	DATA END H	00 00137
076043	076163	A	138	DATA INI INITIALIZE CORE	00 00138
076044	077253	A	139	DATA END J	00 00139
076045	077253	A	140	DATA END K	00 00140
076046	077253	A	141	DATA END L	00 00141
076047	077253	A	142	DATA END M	00 00142
076050	077000	A	143	DATA FIL3 NEXT MAG TAPE FILE ON UNIT SELECTED	00 00143
076051	077253	A	144	DATA END O	00 00144
076052	077037	A	145	DATA BCK P BACKSPACE 1 RECORD ON MAG TAPE	00 00145
076053	076401	A	146	DATA V75 V75 REGISTER ROUTINE	00 00146
076054	076656	A	147	DATA RMT READ MAG TAPE	00 00147
076055	076435	A	148	DATA SRC SEARCH CORE	00 00148
076056	076501	A	149	DATA TRP TRAP	00 00149
076057	077253	A	150	DATA END U	00 00150
076060	077232	A	151	DATA LIST VISUAL DUMP	00 00151
076061	076567	A	152	DATA WMT WRITE MAG TAPE	00 00152
076062	076370	A	153	DATA RGX X REGISTER	00 00153
076063	077253	A	154	DATA END Y	00 00154
076064	077253	A	155	DATA END Z	00 00155
076065	000000	A	157	CLC ENTR	00 00157
076066	034726	A	158	LDX T2	00 00158
076067	015000	A	159	LDA 0,1	00 00159
076070	002000	A	160	JMPM OLC OUTPUT LOCATION	00 00160
076071	076535	A			
076072	002000	A	161	JMPM INN INPUT NUMBER	00 00161
076073	076177	A			
076074	001020	A	162	J8Z **3	00 00162
076075	076077	A			
076076	055000	A	163	STA 0,1	00 00163
076077	002000	A	164	JMPM ONO OUTPUT VALUE	00 00164
076100	077257	A			
076101	001000	A	165	JMP* CLC	00 00165
076102	176065	A			
076103	002000	A	167	CNG JMPM ILC CHANGE ROUTINE	00 00167
076104	076151	A			
076105	054707	A	168	STA T2	00 00168
076106	002000	A	169	JMPM ONO	00 00169
076107	077257	A			
076110	014704	A	170	CNGA LDA T2	00 00170
076111	002000	A	171	JMPM OCT OUTPUT OCTAL	00 00171
076112	076320	A			
076113	002000	A	172	JMPM CLC	00 00172
076114	076065	A			

076115	014710	A	173	LDA	TC		00	00173
076116	144576	A	174	SUB	COMA		00	00174
076117	044675	A	175	INR	T2		00	00175
076120	001010	A	176	JAZ	CNGA		00	00176
076121	076110	A						
076122	001000	A	177	JMP	DEBUG		00	00177
076123	076000	A						
076124	002000	A	180	GOT	JMPM	ILC	GO TO ROUTINE	00 00180
076125	076151	A						
076126	054676	A	181	STA	L		00	00181
076127	002000	A	182	JMPM	OND		OUTPUT END	00 00182
076130	077257	A						
076131	014670	A	183	GO	LDA	A	GO ROUTINE	00 00183
076132	024670	A	184		LDB	B		00 00184
076133	034670	A	185		LDX	X		00 00185
076134	001000	A	186		JMP*	L		00 00186
076135	177025	A						
076136	000000	A	188	*INPUT	CHARACTER			00 00188
076137	002000	A	189	ICH	ENR			00 00189
076140	077164	A	190	JMPM	RCH		READ CHARACTER	00 00190
076141	054664	A	191	STA	TC			00 00191
076142	006140	A	192	SUBI	'/'			00 00192
076143	000257	A						
076144	001010	A	193	JAZ	END		ERROR END OF LINE	00 00193
076145	077253	A						
076146	014657	A	194	LDA	TC			00 00194
076147	001000	A	195	JMP*	ICH			00 00195
076150	176136	A						
076151	000000	A	197	*INPUT	LOCATION			00 00197
076152	002000	A	198	ILC	ENR			00 00198
076153	076177	A	199	JMPM	INN		INPUT NUMBER	00 00199
076154	001020	A	200	JBZ	END		NO NUMBER	00 00200
076155	077253	A						
076156	024634	A	201	LDB	T0			00 00201
076157	001020	A	202	JBZ*	ILC			00 00202
076160	176151	A						
076161	001000	A	203	JMP	END		NEGATIVE	00 00203
076162	077253	A						
076163	002000	A	205	INI	JMPM	ISP	INITIALIZE ROUTINE	00 00205
076164	076257	A						
076165	034630	A	206	LDX	T3			00 00206
076166	014631	A	207	LDA	T5			00 00207
076167	055000	A	208	STA	0,1		SET VALUE	00 00208
076170	044625	A	209	INR	T3			00 00209
076171	005041	A	210	TXA				00 00210
076172	144624	A	211	SUB	T4			00 00211
076173	001010	A	212	JAZ	DEBUG			00 00212
076174	076000	A						
076175	001000	A	213	JMP	INI+2			00 00213
076176	076165	A						
076177	000000	A	215	*INPUT	NUMBER			00 00215
076200	005001	A	216	INN	ENR			00 00216
076201	054625	A	217	TZA				00 00217
076202	054610	A	218	STA	V			00 00218
076203	054610	A	219	STA	T0			00 00219
076204	002000	A	220	STA	T1			00 00220
076205	076136	A	221	JMPM	ICH		INPUT CHARACTER	00 00221
076206	144150	A	222	SUB	SP	0240	'SP'	00 00222
076207	001010	A	223	JAZ	ICH+1		PASS SPACES	00 00223
076210	076137	A						
076211	006140	A	224	SUBI	015		NEGATIVE SIGN	00 00224
076212	000015	A						
076213	001010	A	225	JAZ	INN1			00 00225
076214	076234	A						
076215	014610	A	226	INN2	LDA	TC		00 00226
076216	144612	A	227	SUB	ZERO	0260	'0'	00 00227
076217	001004	A	228	JAN	INN3		NOT DIGIT	00 00228
076220	076241	A						
076221	144606	A	229	SUB	010			00 00229
076222	001002	A	230	JAP	INN3			00 00230
076223	076241	A						
076224	014602	A	231	LDA	V			00 00231
076225	004243	A	232	LRLA	3			00 00232
076226	144602	A	233	SUB	ZERO	'0'		00 00233
076227	124576	A	234	ADD	TC			00 00234
076230	054576	A	235	STA	V			00 00235
076231	044562	A	236	INR	T1		DIGIT COUNT	00 00236
076232	001000	A	237	JMP	**3			00 00237
076233	076235	A						
076234	044536	A	238	INN1	INR	T0		00 00238
076235	002000	A	239	JMPM	ICH		INPUT CHARACTER	00 00239
076236	076136	A						
076237	001000	A	240	JMP	INN2			00 00240
076240	076215	A						
076241	014552	A	241	INN3	LDA	T1		00 00241
076242	144463	A	242	SUB	07			00 00242

076243	001002	A	243	JAP	END	TO 818	00	00243
076244	077253	A						
076245	014561	A	244	LDA	V		00	00244
076246	024544	A	245	LDB	T0		00	00245
076247	001020	A	246	JBZ	**5		00	00246
076250	076254	A						
076251	005211	A	247	CFA			00	00247
076252	005111	A	248	IAR			00	00248
076253	054553	A	249	STA	V		00	00249
076254	024537	A	250	LDB	T1		00	00250
076255	001000	A	251	JMP*	INN		00	00251
076256	176177	A						
253 * INPUT SPECIAL								00 00253
076257	000000	A	253	ISP	ENTR		00	00254
076260	002000	A	255	JMPM	ILC	INPUT LOCATION	00	00255
076261	076151	A						
076262	054533	A	256	STA	T3		00	00256
076263	002000	A	257	JMPM	ILC		00	00257
076264	076151	A						
076265	054531	A	258	STA	T4		00	00258
076266	005001	A	259	TZA			00	00259
076267	054530	A	260	STA	T5		00	00260
076270	005311	A	261	DAR			00	00261
076271	054527	A	262	STA	T6	=1	00	00262
076272	002000	A	263	JMPM	INN	INPUT NUMBER	00	00263
076273	076177	A						
076274	001020	A	264	JBZ	ISP1		00	00264
076275	076304	A						
076276	054521	A	265	STA	T5	VALUE	00	00265
076277	002000	A	266	JMPM	INN		00	00266
076300	076177	A						
076301	001020	A	267	JBZ	ISP1		00	00267
076302	076304	A						
076303	054515	A	268	STA	T6	MARK	00	00268
076304	002000	A	269	ISP1	JMPM	OND	00	00269
076305	077257	A				OUTPUT END		
076306	014510	A	270	LDA	T6		00	00270
076307	144506	A	271	SUB	T3		00	00271
076310	001002	A	272	JAP*	ISP	PROPER ORDER	00	00272
076311	176257	A						
076312	014504	A	273	LDA	T6	CORRECT ORDERING	00	00273
076313	024502	A	274	LDB	T3		00	00274
076314	054501	A	275	STA	T3		00	00275
076315	064501	A	276	STB	T4		00	00276
076316	001000	A	277	JMP*	ISP		00	00277
076317	176257	A						
280 *OUTPUT OCTAL								00 00280
076320	000000	A	281	OCT	ENTR	0	00	00281
076321	005002	A	282	TZB			00	00282
076322	004557	A	283	LLSR	19		00	00283
076323	005122	A	284	IBR			00	00284
076324	114504	A	285	OCT1	ORA	ZERO	00	00285
076325	002000	A	286	CALL	OCH		00	00286
076326	077204	A						
076327	005001	A	287	TZA			00	00287
076330	004443	A	288	LLRL	3		00	00288
076331	001020	A	289	JBZ*	OCT		00	00289
076332	176320	A						
076333	001000	A	290	JMP	OCT1		00	00290
076334	076324	A						
292 *OUTPUT LOCATION								00 00292
076335	000000	A	293	OLC	ENTRY		00	00293
076336	054454	A	294	STA	T0		00	00294
076337	006010	A	295	LDAI	0124240	SPACE, LEFT PAREN	00	00295
076340	124240	A						
076341	002000	A	296	CALL	OCH2		00	00296
076342	077172	A						
076343	014447	A	297	LDA	T0		00	00297
076344	002000	A	298	JMPM	OCT	OUTPUT OCTAL	00	00298
076345	076320	A						
076346	006010	A	299	LDAI	0120291	RIGHT PAREN, SPACE	00	00299
076347	120251	A						
076350	002000	A	300	CALL	OCH2		00	00300
076351	077172	A						
076352	001000	A	301	JMP*	OLC		00	00301
076353	176335	A						
303 *OUTPUT NUMBER								00 00303
076354	000000	A	304	OND	ENTRY		00	00304
076355	054435	A	305	STA	T0	(A) IS NUMBER	00	00305
076356	006010	A	306	LDAI	0240		00	00306
076357	000240	A						
076357		A	307	SP	BSB	0	00	00307
076360	002000	A	308	JMPM	OCH	OUTPUT CHARACTER	00	00308
076361	077204	A						
076362	014430	A	309	LDA	T0		00	00309
076363	002000	A	310	JMPM	OCT	OUTPUT OCTAL	00	00310
076364	076320	A						
076365	001000	A	311	JMP*	OND		00	00311
076366	176354	A						

076367	005111	A	313	R75	IAR				00	00313
076370	005111	A	314	RQX	IAR		REGISTER X ROUTINE		00	00314
076371	005111	A	315	RGB	IAR		REGISTER B ROUTINE		00	00315
076372	006120	A	316	RGA	ADDI	A	REGISTER A ROUTINE		00	00316
076373	077022	A								
076374	054420	A	317		STA	T2			00	00317
076375	002000	A	318		JMPM	CLC	CHANGE LOCATION		00	00318
076376	076065	A								
076377	001000	A	319		JMP	DEBUG			00	00319
076400	076000	A								
			321							
076401	002000	A	322	V75	JMPM	INN	INPUT NUMBER		00	00321
076402	076177	A							00	00322
076403	006150	A	323		ANAI	07			00	00323
076404	000007	A								
076405	005012	A	324		TAB		GIVE IT QT B ALSO		00	00324
076406	006140	A	325		SUBI	03	IS IT A V75 REGISTER ?		00	00325
076407	000003	A								
076410	001004	A	326		JAN	R75	NO, A,B, OR X		00	00326
076411	076367	A								
076412	014661	A	327		LDA	TR	YES, GRAB REGISTER INSTRUCTION		00	00327
076413	005031	A	328		MERG	031			00	00328
076414	054013	A	329		STA	TAR	AND PLACE IT		00	00329
076415	005021	A	330		TBA		GRAB SOURCE REGISTER		00	00330
076416	004243	A	331		LRLA	03	AND FONDLE IT		00	00331
076417	114654	A	332		ORA	TR	MERGE WITH REGISTER CODE		00	00332
076420	054000	A	333		STA	TRA	AND PLACE IT TOO		00	00333
076421	005000	A	334	TRA	NOP				00	00334
076422	002000	A	335		JMPM	OLC	GO TO CHANGE ROUTINE		00	00335
076423	076335	A								
076424	002000	A	336		JMPM	INN			00	00336
076425	076177	A								
076426	001020	A	337		JBZ	++3			00	00337
076427	076431	A								
076430	005000	A	338	TAR	NOP		AC TO REGISTER		00	00338
076431	002000	A	339		JMPM	OND			00	00339
076432	077257	A								
076433	001000	A	340		JMP	DEBUG			00	00340
076434	076000	A								
			341 *							
076435	002000	A	342	SRC	JMPM	ISP	SEARCH ROUTINE		00	00341
076436	076257	A							00	00342
076437	014360	A	343		LDA	T5			00	00343
076440	154360	A	344		ANA	T6			00	00344
076441	054356	A	345		STA	T5			00	00345
076442	034353	A	346		LDX	T3			00	00346
076443	015000	A	347		LDA	0,1			00	00347
076444	154354	A	348		ANA	T6	MASK		00	00348
076445	144352	A	349		SUB	T5			00	00349
076446	005012	A	350		TAB				00	00350
076447	014356	A	351		LDA	TC			00	00351
076450	006140	A	352		SUBI	0316			00	00352
076451	000316	A								
076452	001030	A	353		JIF	030, SRC1			00	00353
076453	076460	A								
076454	001020	A	354		JBZ	SRC2			00	00354
076455	076467	A								
076456	001010	A	355		JAZ	SRC2			00	00355
076457	076467	A								
076460	044335	A	356	SRC1	INR	T3			00	00356
076461	005041	A	357		TXA				00	00357
076462	144334	A	358		SUB	T4			00	00358
076463	001010	A	359		JAZ	DEBUG			00	00359
076464	076000	A								
076465	001000	A	360		JMP	SRC+2			00	00360
076466	076437	A								
076467	014326	A	361	SRC2	LDA	T3			00	00361
076470	002000	A	362		JMPM	OCT	OUTPUT OCTAL		00	00362
076471	076320	A								
076472	015000	A	363		LDA	0,1			00	00363
076473	002000	A	364		JMPM	OLC	OUTPUT LOCATION		00	00364
076474	076335	A								
076475	002000	A	365		JMPM	OND	OUTPUT END		00	00365
076476	077257	A								
076477	001000	A	366		JMP	SRC1			00	00366
076500	076460	A								
			368	TRP	JMPM	ILC	TRAP ROUTINE		00	00368
076501	002000	A								
076502	076151	A								
076503	034323	A	369		LDX	V			00	00369
076504	002000	A	370		JMPM	INN			00	00370
076505	076177	A								
076506	001020	A	371		JBZ	++3			00	00371
076507	076511	A								
076510	054314	A	372		STA	L	ENTRANCE		00	00372
076511	015000	A	373		LDA	0,1			00	00373
076512	025001	A	374		LDB	1,1			00	00374
076513	054302	A	375		STA	T3			00	00375
076514	064302	A	376		STB	T4			00	00376
076515	014051	A	377		LDA	NMT	CALL OP CODE		00	00377
076516	006020	A	378		LDBI	TRP2			00	00378
076517	076564	A								
076520	055000	A	379		STA	0,1			00	00379
076521	065001	A	380		STB	1,1			00	00380

076522	002000	A	381	JMPM	OND	OUTPUT END	00	00381
076523	077257	A						
076524	001000	A	382	JMP	GO		00	00382
076525	076131	A						
076526	074275	A	383	TRP1	STX	X	SAVE REGISTER	00 00383
076527	064273	A	384		STB	B		00 00384
076530	054271	A	385		STA	A		00 00385
076531	034032	A	386		LDX	TRP2		00 00386
076532	005344	A	387		DXR			00 00387
076533	005344	A	388		DXR			00 00388
076534	074270	A	389		STX	L	EXIT POINT	00 00389
076535	014260	A	390		LDA	T3		00 00390
076536	024260	A	391		LDB	T8		00 00391
076537	055000	A	392		STA	0,1	REQOTRE COMMANDS	00 00392
076540	065001	A	393		STB	1,1		00 00393
076541	002000	A	394		JMPM	OND	OUTPUT END	00 00394
076542	077257	A						
076543	005041	A	395		TXA			00 00395
076544	002000	A	396		JMPM	OCT	OUTPUT OCTAL LOCATION	00 00396
076545	076320	A						
076546	014247	A	397		LDA	T3	ACTUAL COMMAND	00 00397
076547	002000	A	398		JMPM	OLC	OUTPUT LOCATION	00 00398
076550	076335	A						
076551	014250	A	399		LDA	A		00 00399
076552	002000	A	400		JMPM	ONB	OUTPUT NUMBER	00 00400
076553	076354	A						
076554	014246	A	401		LDA	B		00 00401
076555	002000	A	402		JMPM	ONB		00 00402
076556	076354	A						
076557	014244	A	403		LDA	X		00 00403
076560	002000	A	404	TRPX	JMPM	ONB		00 00404
076561	076354	A						
076562	001000	A	405		JMP	END		00 00405
076563	077253	A						
076564	000000	A	406	TRP2	ENTR			00 00406
076565	001000	A	407		JMP	TRP1		00 00407
076566	076526	A						
			409 *			DUMP PROGRAM ONTO MAG TAPE UNIT 0 TO 7		00 00409
			410 *			WFIRST, LAST, EXECUTION, DRIVE,		00 00410
076567	002000	A	411	WMT	CALL	INN		00 00411
076570	076177	A						
076571	054224	A	412		STA	FRST		00 00412
076572	002000	A	413		CALL	INN		00 00413
076573	076177	A						
076574	054222	A	414		STA	LAST		00 00414
076575	002000	A	415		CALL	INN		00 00415
076576	076177	A						
076577	054220	A	416		STA	EXEC		00 00416
076600	002000	A	417		CALL	SET		00 00417
076601	076722	A						
076602	005001	A	418	NR12	TZA			00 00418
076603	054463	A	419		STA	CNTR	RESET COUNTER	00 00419
076604	034211	A	420		LOX	FRST		00 00420
076605	024465	A	421		LDB	BUFR	BUFFER ADDRESS	00 00421
076606	076001	A	422		STX	1,2	SET ADDRESS CONTROL	00 00422
076607	005122	A	423		IBR			00 00423
076610	005122	A	424	NR13	IBR			00 00424
076611	015000	A	425		LDA	0,1	PICK UP WORD	00 00425
076612	056000	A	426		STA	0,2	PUT IN BUFFER	00 00426
076613	044453	A	427		INR	CNTR	INCREMENT WORD COUNT	00 00427
076614	005041	A	428		TXA			00 00428
076615	144201	A	429		SUB	LAST	END OF RECORD	00 00429
076616	005144	A	430		IXR			00 00430
076617	001010	A	431		JAZ	NR14	YES	00 00431
076620	076625	A						
076621	014445	A	432		LDA	CNTR		00 00432
076622	144445	A	433		SUB	NR5	RECORD FULL	00 00433
076623	001004	A	434		JAN	NR13	NO	00 00434
076624	076610	A						
076625	074170	A	435	NR14	STX	FRST	SAVE POINTER	00 00435
076626	024440	A	436		LDB	CNTR		00 00436
076627	034443	A	437		LOX	BUFR	GET POINTTER	00 00437
076630	065000	A	438		STB	0,1	SET RECORD LENGTH	00 00438
076631	005122	A	439		IBR			00 00439
076632	005122	A	440		IBR			00 00440
076633	002000	A	441		CALL	MTQ		00 00441
076634	077116	A						
076635	014160	A	442		LDA	FRST		00 00442
076636	005311	A	443		DAR			00 00443
076637	144157	A	444		SUB	LAST		00 00444
076640	001004	A	445		JAN	NR12	MORE	00 00445
076641	076602	A						
076642	034430	A	446		LOX	BUFR		00 00446
076643	055000	A	447		STA	0,1	SET FOR EXECUTION RECORD	00 00447
076644	014153	A	448		LDA	EXEC		00 00448
076645	001004	A	449		JAN	END	NO EXECUTION RECORD	00 00449
076646	077253	A						
076647	055001	A	450		STA	1,1		00 00450
076650	005102	A	451		INCR	2		00 00451
076651	005122	A	452		IBR			00 00452
076652	002000	A	453		CALL	MTQ		00 00453
076653	077116	A						
076654	001000	A	454		JMP	END		00 00454
076655	077253	A						

	456 *		LOAD PROGRAM FROM MAG TAPE UNIT 0 TO 7	00	00456
	457 *		RDRIVE. LOAD AND GO IF	00	00457
076656	002000	A	458 RMT CALL SET SET DRIVE NUMBER	00	00458
076657	076722	A			
076660	002000	A	459 CALL MTI INPUT RECORD	00	00459
076661	077044	A			
076662	005001	A	460 TZA	00	00460
076663	054403	A	461 STA CNTR RESET WORD COUNTER	00	00461
076664	034406	A	462 LOX BUPR	00	00462
076665	015000	A	463 LOA 0,1 EXECUTION RECD ?	00	00463
076666	001010	A	464 JAZ RMT2 YES	00	00464
076667	076711	A			
076670	001004	A	465 JAN RMT2 HOW ABOUT A MAINTAIN 3 TAPE ?	00	00465
076671	076711	A			
076672	054123	A	466 STA FRST	00	00466
076673	005144	A	467 IXR	00	00467
076674	025000	A	468 LOB 0,1 GET STORE POINTER	00	00468
076675	005144	A	469 IXR SET LOAD POINTER	00	00469
076676	015000	A	470 RMT1 LDA 0,1 GET WORD	00	00470
076677	056000	A	471 STA 0,2 STORE WORD	00	00471
076700	044366	A	472 INR CNTR COUNT WORDS	00	00472
076701	014365	A	473 LDA CNTR	00	00473
076702	144113	A	474 SUB FRST DONE YET	00	00474
076703	005144	A	475 IXR	00	00475
076704	005122	A	476 IBM	00	00476
076705	001004	A	477 JAN RMT1 NO	00	00477
076706	076676	A			
076707	001000	A	478 JMP RMT+2 READ ANOTHER RECORD	00	00478
076710	076660	A			
076711	015001	A	479 RMT2 LDA 1,1 GET EXECUTION ADDRESS	00	00479
076712	054004	A	480 STA RMT3 SET UP JUMP	00	00480
076713	014112	A	481 LDA TC GET TERM CHAR	00	00481
076714	006140	A	482 SUBI ',,' WAS IT A LOAD AND GO ',,'	00	00482
076715	000254	A			
076715		A	483 COMA BES 0	00	00483
076716	001010	A	484 JAZ *	00	00484
076717	076716	A			
076717		A	485 RMT3 BES 0	00	00485
076720	001000	A	486 JMP END NO	00	00486
076721	077253	A			
	488 *		SET UP MAG TAPE DEVICE ADDRESS	00	00488
076722	000000	A	489 SET ENTRY 0	00	00489
076723	002000	A	490 CALL INN GET DRIVE NUMBER.	00	00490
076724	076177	A			
076725	006150	A	491 ANAI 7	00	00491
076726	000007	A			
076726		A	492 07 BES 0	00	00492
076727	006120	A	493 ADDI UTBL	00	00493
076730	077275	A			
076731	005012	A	494 TAB	00	00494
076732	026000	A	495 LOB 0,2	00	00495
076733	006010	A	496 LDAI 0104000 SELECT COMMAND	00	00496
076734	104000	A			
076735	005031	A	497 MERGE 031 NEW SELECT COMMAND	00	00497
076736	054000	A	498 STA *+1	00	00498
076737	104000	A	499 SEL2 0	00	00499
076740	006150	A	500 ANAI 077 DA	00	00500
076741	000077	A			
076742	054010	A	501 STA SET2	00	00501
076743	006030	A	502 LOXI MTL	00	00502
076744	077303	A			
076745	025000	A	503 SET1 LOB 0,1	00	00503
076746	001020	A	504 JBZ SET3	00	00504
076747	076760	A			
076750	016000	A	505 LDA 0,2 GET COMMAND	00	00505
076751	154320	A	506 ANA MASK	00	00506
076752	006110	A	507 ORAI *	00	00507
076753	076752	A			
076753		A	508 SET2 BES 0	00	00508
076754	056000	A	509 STA 0,2	00	00509
076755	005144	A	510 IXR	00	00510
076756	001000	A	511 JMP SET1	00	00511
076757	076745	A			
076760	002000	A	512 SET3 CALL SMR	00	00512
076761	077193	A			
076762	001000	A	513 JMP* SET	00	00513
076763	176722	A			
	515 *		SKIP TO FILE (X) UNIT 0 TO 7	00	00515
	516 *		FNUMBER, DRIVE,	00	00516
076764	002000	A	517 FIL CALL INN	00	00517
076765	076177	A			
076766	054031	A	518 STA EXEC SAVE	00	00518
076767	002000	A	519 CALL SET	00	00519
076770	076722	A			
076771	101610	A	520 SEN 0610,*+3 SENSE LOAD POINT	00	00520
076772	076774	A			
076773	100710	A	521 FIL1 SEL 0710 REWIND	00	00521
076774	014023	A	522 LDA EXEC GET FILE NO.	00	00522
076775	001010	A	523 FIL2 JAZ END DONE	00	00523
076776	077253	A			
076777	005311	A	524 DAR	00	00524
077000	002000	A	525 FIL3 CALL SMR	00	00525

077001	077153	A							
077002	100510	A	526	SEL	0510	FORWARD 1 RECORD		00	00526
077003	002000	A	527	CALL	BORT			00	00527
077004	077225	A							
077005	002000	A	528	CALL	SMR			00	00528
077006	077153	A							
077007	101310	A	529	FIL4	SEN	0310,FIL2	FILE MARK	00	00529
077010	076775	A							
077011	001000	A	530	JMP	FIL3		NO, KEEP GOING	00	00530
077012	077000	A							
077013	000000	A	532	T0	DATA	0		00	00532
077014	000000	A	533	T1	DATA	0		00	00533
077015	000000	A	534	T2	DATA	0		00	00534
077016	000000	A	535	T3	DATA	0		00	00535
077017	000000	A	536	T4	DATA	0		00	00536
077020	000000	A	537	T5	DATA	0		00	00537
077021	000000	A	538	T6	DATA	0		00	00538
077022	000000	A	539	A	DATA	0		00	00539
077023	000000	A	540	B	DATA	0		00	00540
077024	000000	A	541	X	DATA	0		00	00541
077025	000000	A	542	L	DATA	0	LOCATION COUNTER	00	00542
077026	000000	A	543	TC	DATA	0	TERM CM	00	00543
077027	000000	A	544	V	DATA	0	VALUE	00	00544
077030	000010	A	545	O10	DATA	010		00	00545
077031	000260	A	546	ZERO	DATA	0260		00	00546
			548 *			WRITE FILE MARK	UNIT 0 TO 7	00	00548
			549 *			EDRIVE.		00	00549
077032	002000	A	550	EOP	CALL	SET		00	00550
077033	076722	A							
077034	100410	A	551	EOP1	SEL	0410	WRITE FILE MARK	00	00551
077035	001000	A	552	JMP	END			00	00552
077036	077253	A							
			554 *			BACKSPACE ONE RECORD	UNIT 0 TO 7	00	00554
			555 *			FORIVE.		00	00555
077037	002000	A	556	BCK	CALL	SET		00	00556
077040	076722	A							
077041	100610	A	557	BCK1	SEL	0610	BACKSPACE	00	00557
077042	001000	A	558	JMP	END			00	00558
077043	077253	A							
			560 *			MAG TAPE INPUT		00	00560
077044	000000	A	561	MTI	ENTRY		MAG TAPE INPUT	00	00561
077045	005001	A	562	TZA				00	00562
077046	054217	A	563	STA	MGER			00	00563
077047	024221	A	564	MTI0	LDB	K100	BUFFER SIZE	00	00564
077050	034222	A	565	LDX	BUFR		BUFFER ADDRESS	00	00565
077051	002000	A	566	CALL	SMR		MT RDY	00	00566
077052	077153	A							
077053	100010	A	567	SEL	010		READ BIN	00	00567
077054	101110	A	568	MTI1	SEN	0110,MTI2	BFR RDY	00	00568
077055	077062	A							
077056	101210	A	569	SEN	0210,MTI3		MT RDY	00	00569
077057	077072	A							
077060	001000	A	570	JMP	MTI1		LOOP	00	00570
077061	077054	A							
077062	001020	A	571	MTI2	JBZ	MTI4	RCD TOO LONG	00	00571
077063	077100	A							
077064	102510	A	572	CIA	010		INPUT	00	00572
077065	055000	A	573	STA	011		STORE	00	00573
077066	005144	A	574	IXR			COUNT	00	00574
077067	005322	A	575	OSR				00	00575
077070	001000	A	576	JMP	MTI1			00	00576
077071	077054	A							
077072	101310	A	577	MTI3	SEN	0310,MTI4	FLAG, IF FILE MARK	00	00577
077073	077100	A							
077074	101010	A	578	SEN	010,MTI5		PARITY TEST	00	00578
077075	077106	A							
077076	001000	A	579	JMP	MTI		RETURN	00	00579
077077	177044	A							
077100	006010	A	580	MTI4	LDAI	0336		00	00580
077101	006336	A							
077102	002000	A	581	CALL	GCH			00	00581
077103	077204	A							
077104	001000	A	582	JMP	END			00	00582
077105	077253	A							
077106	044157	A	583	MTI5	INR	MGER		00	00583
077107	014156	A	584	LDA	MGER			00	00584
077110	144160	A	585	SUB	K100			00	00585
077111	001002	A	586	JAP	ERR			00	00586
077112	077144	A							
077113	100610	A	587	MTI6	EXC	0410	BACKSPACE	00	00587
077114	001000	A	588	JMP	MTI0			00	00588
077115	077047	A							
			590 *			MAG TAPE OUTPUT		00	00590
077116	000000	A	591	MT0	ENTRY		MAG TAPE OUTPUT	00	00591
077117	002000	A	592	CALL	SMR			00	00592
077120	077153	A							
077121	100210	A	593	SEL	0210		WRITE BINARY	00	00593
077122	101110	A	594	MT01	SEN	0110,MT02=1	BFR READY	00	00594
077123	077126	A							
077124	001000	A	595	JMP	MT01			00	00595

077241	076320	A							
077242	015000	A	661	LISV	LDA	0,1			00 00661
077243	002000	A	662		CALL	ONB	OUTPUT CONTENTS		00 00662
077244	076354	A							
077245	005145	A	663		INCR	095			00 00663
077246	004543	A	664		LLSR	3			00 00664
077247	001020	A	665		JBZ	LISU			00 00665
077250	077235	A							
077251	001000	A	666		JMP	LISV			00 00666
077252	077242	A							
077253	002000	A	668	END	JMPH	OND	OUTPUT END		00 00668
077254	077257	A							
077255	001000	A	669		JMP	DBUG			00 00669
077256	076000	A							
077257	000000	A	671	OUTPUT END					00 00671
077260	006010	A	672	OND	ENTR				00 00672
077261	105215	A	673		LDAI	0105215	CR, LP		00 00673
077262	002000	A	674		CALL	OCM2			00 00674
077263	077172	A							
077264	001000	A	675		JMP	OND			00 00675
077265	177257	A							
077266	000000	A	677	MGER	DATA	0			00 00677
077267	000000	A	678	CNTR	DATA	0			00 00678
077270	000075	A	679	K75	DATA	075			00 00679
077271	000100	A	680	K100	DATA	0100			00 00680
077272	177700	A	681	MASK	DATA	0177700			00 00681
077273	077326	A	682	BUFR	DATA	MTBP			00 00682
077274	007700	A	683	TR	DATA	07700			00 00683
077275	000110	A	685	UTBL	DATA	SU0,SU1,SU2,SU3,SU4,SU5			00 00685
077276	000111	A							
077277	000112	A							
077300	000113	A							
077301	000000	A							
077302	000000	A							
077303	077152	A	686	MTL	DATA	SMR=1,MTI1=1,MTI1,MTI1+2,MTI2+2,MTI3,MTI3+2			00 00686
077304	077053	A							
077305	077054	A							
077306	077056	A							
077307	077064	A							
077310	077072	A							
077311	077074	A							
077312	077121	A	687		DATA	MYO1=1,MYO1,MYO2,MYO3,MYI6			00 00687
077313	077122	A							
077314	077127	A							
077315	077140	A							
077316	077113	A							
077317	076771	A	688		DATA	FIL1=2,FIL1,FIL3+2,FIL4,EOP1,BCK1,0			00 00688
077320	076773	A							
077321	077002	A							
077322	077007	A							
077323	077034	A							
077324	077041	A							
077325	000000	A							
077326	076000	A	689	MTBP	SSS	66			00 00689
			690	END	END	DBUG			00 00690

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

000001	A	STTD	000110	A	SU0	000111	A	SU1	000112	A	SU2
000113	A	SU3	000000	A	SU4	000000	A	SU5	077022	A	A
077023	A	B	077037	A	BCK	077041	A	BCK1	077214	A	BOM3
077225	A	BORT	077273	A	BUFR	076065	A	CLC	076103	A	CNG
076110	A	CNGA	077267	A	CNTR	076715	A	COMA	076013	A	DBG
076000	A	DBUG	077253	A	END	077032	A	EOP	077034	A	EOP1
077144	A	ERR	077020	A	EXEC	076764	A	FIL	076773	A	FIL1
076775	A	FIL2	077000	A	FIL3	077007	A	FIL4	077016	A	FRST
076131	A	GO	076124	A	GOT	076136	A	ICH	076151	A	ILC
076163	A	INI	076177	A	INN	076234	A	INN1	076215	A	INN2
076241	A	INN3	076257	A	ISP	076304	A	ISP1	000040	A	K
077271	A	K100	077270	A	K75	077025	A	L	077017	A	LAST
077232	A	L1ST	077235	A	LISU	077242	A	LISV	077272	A	MASK
077266	A	MGER	077326	A	MTBP	077064	A	MTI	077047	A	MTIO
077054	A	MTI1	077042	A	MTI2	077072	A	MTI3	077100	A	MTI4
077106	A	MTI5	077113	A	MTI6	077303	A	MTL	077116	A	MYO
077122	A	MYO1	077127	A	MYO2	077140	A	MYO3	077030	A	Q10
076726	A	O7	077204	A	OCM	077172	A	OCM2	077203	A	OCHA
076320	A	OCT	076324	A	OCT1	076335	A	OLC	076354	A	ONB
077257	A	OND	076367	A	R75	077164	A	RCH	077160	A	RCHA
076372	A	RG4	076371	A	RGB	076370	A	RGX	076454	A	RMT
076676	A	RMT1	076711	A	RMT2	076717	A	RMT3	077217	A	RUBO
076722	A	SET	076745	A	SET1	076753	A	SET2	076760	A	SET3
077153	A	SMR	076357	A	SP	076435	A	SRC	076440	A	SRC1
076467	A	SRC2	077013	A	T0	077014	A	T1	077015	A	T2
077014	A	T3	077017	A	T4	077020	A	T5	077021	A	T6
076430	A	TAR	076033	A	TBL	077026	A	TC	077274	A	TR
076421	A	TRA	076501	A	TRP	076526	A	TRP1	076564	A	TRP2
076560	A	TRPX	077275	A	UTBL	077027	A	V	076401	A	V75
076567	A	WMT	076602	A	WR12	076610	A	WR13	076625	A	WR14
077024	A	X	077031	A	ZERO						

0 ERRORS ASSEMBLY COMPLETE

