

1 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1974 BY VARIAN DATA MACHINES 03 00001
 2 * 03 00002
 3 * V.D.M. PART NO. 92L0106-013B 03 00003
 4 * 03 00004
 5 * 03 00005
 6 * 03 00006
 7 * 03 00007
 8 * 03 00008
 9 * 03 00009

RELEASED 6-16-75

MAINTAIN III TEST EXECUTIVE FOR PAPER TAPE

10 * * * * *
 11 * * * * *
 12 * * * * *
 13 * * * * *
 14 * * * * *
 15 * * * * *
 16 * * * * *
 17 * * * * *
 18 * * * * *
 19 * * * * *
 20 * * * * *
 21 * * * * *
 22 * * * * *
 23 * * * * *
 24 * * * * *
 25 * * * * *
 26 * * * * *
 27 * * * * *
 28 * * * * *
 29 * * * * *
 30 * * * * *
 31 * * * * *
 32 * * * * *
 33 * * * * *
 34 * * * * *
 35 * * * * *
 36 * * * * *
 37 * * * * *
 38 * * * * *
 39 * * * * *

EJEC

41 * *****
 42 * *
 43 * * AREAS RESERVED BY EXECUTIVE *
 44 * *****
 45 * ORG 0 03 00045
 46 * JMP EXECUTIVE 03 00046
 47 * ORG 040 03 00047
 48 * JMPM POWER DOWN ROUTINE 03 00048
 49 * JMP POWER UP ROUTINE 03 00049
 50 * NOTE: THE TEST EXECUTIVE ALSO RESERVES LOCATIONS 0400 TO 0477 03 00050
 51 * FOR A POINTER TABLE TO STANDARD ROUTINES, AND AS AN AREA 03 00051
 52 * FOR EXECUTIVE DATA. ALL TEST PROGRAMS WORKING WITH THE 03 00052
 53 * EXECUTIVE MUST PRESERVE THIS BLOCK. 03 00053
 54 * STANDARD ROUTINES WILL BE CALLED INDIRECTLY THRU 03 00054
 55 * THIS TABLE 03 00055
 56 * 03 00056
 57 * ***** 03 00057
 58 * * 03 00058
 59 * ***** 03 00059

000000	A	R0	SET	0		B	03	00060
000001	A	R1	SET	1		B	03	00061
000002	A	R2	SET	2		B	03	00062
000003	A	R3	SET	3		B	03	00063
000004	A	R4	SET	4		B	03	00064
000005	A	R5	SET	5		B	03	00065
000006	A	R6	SET	6		B	03	00066
000007	A	R7	SET	7		B	03	00067
000000			ORG	0				
000000	001000	A	JMP	ETOP	CONSOLE INTERRUPT ENTRANCE		03	00069
000001	015513	A						
000040			ORG	040			03	00070
000040	002000	A	JMPM	PWDM	POWER DOWN		03	00071
000041	015706	A						
000042	001000	A	JMP	PWRU	POWER UP		03	00072
000043	015735	A						
000400			ORG	0400			03	00073
							03	00074
							03	00075
							03	00076
							03	00077
							03	00078
							03	00079
							03	00080
							03	00081
000400	016730	A	EX00	DATA	DATA		03	00082
000401	016761	A	EX01	DATA	DATA		03	00083
000402	016774	A	EX02	DATA	DATA		03	00084
000403	017035	A	EX03	DATA	DATA		03	00085
000404	017006	A	EX04	DATA	DATA		03	00086
000405	017046	A	EX05	DATA	DATA		03	00087
000406	017065	A	EX06	DATA	DATA		03	00088
000407	017112	A	EX07	DATA	DATA		03	00089
000410	016342	A	EX10	DATA	DATA		03	00090
000411	016356	A	EX11	DATA	DATA		03	00091
000412	016410	A	EX12	DATA	DATA		03	00092

PAGE	2	MAINTAIN III	MAINSPT					
000413	016444	A	93 EX13	DATA	INPD	INPUT ONE ALPHA CHAR ROUTINE	03	00093
000414	016505	A	94 EX14	DATA	INPE	INPUT TWO ALPHA CHAR ROUTINE	03	00094
000415	016545	A	95 EX15	DATA	INPF	INPUT COMMA/PERIOD TERMINATOR ROUTINE	03	00095
000416	016625	A	96 EX16	DATA	INPG	INPUT OCTAL NUMBER ROUTINE	03	00096
000417	017133	A	97 EX17	DATA	TOUT	TIME-OUT ROUTINE	03	00097
000420	017117	A	98 EX20	DATA	TDLY	TIME DELAY ROUTINE	03	00098
000421	016323	A	99 EX21	DATA	SSWT	STANDARD SENSE SWITCH ROUTINE	03	00099
000422	014000	A	100 EX26	DATA	ELDC	LOWEST CORE LOCATION USED BY THE EXEC	03	00100
000423	015444	A	101 EX27	DATA	ESZC	DETERMINE MEMORY SIZE	03	00101
000424	016041	A	102 EX30	DATA	MSG3	MEMORY SIZE IS ... MESSAGE	03	00102
000425	016713	A	103 EX31	DATA	INPH	SENSE TTY BFR RDY	03	00103
000426	016725	A	104 EX32	DATA	INPI	INIT TTY (INPUT CHAR W/OUT SENSE BFR RDY)	03	00104
000427	017206	A	105 EX33	DATA	EDEX	HIGHEST LOCATION USED BY THE EXEC	03	00105
000430	000000	A	106 V75	DATA	0	V75 CPU FLAG	B	03 00106
000431	000000	A	107 E3R1	DATA	0	PSEUDO REGISTER 3	B	03 00107
000432	000000	A	108 E4R1	DATA	0	PSEUDO REGISTER 4	B	03 00108
000433	000000	A	109 E5R1	DATA	0	PSEUDO REGISTER 5	B	03 00109
000434	000000	A	110 E6R1	DATA	0	PSEUDO REGISTER 6	B	03 00110
000435	000000	A	111 E7R1	DATA	0	PSEUDO REGISTER 7	B	03 00111
			112 *					03 00112
			113 *					03 00113
			114 *					03 00114
000440			115	DRG	0440			03 00115
			116 *					03 00116
			117 *	EXECUTIVE DATA TABLE				03 00117
			118 *					03 00118
000440	000000	A	119 \$FLG	DATA	0	LOOP ON ERROR FLAG. 0=DON'T LOOP 1=LOOP		03 00119
000441	000000	A	120 \$MEM	DATA	0	MEMORY SIZE (HIGHEST AVAIL CORE)		03 00120
000442	000000	A	121 \$CON	DATA	0	0=CONSOLE MODE 1=TTY MODE		03 00121
			122 *					03 00122
000443	000000	A	123 EAR1	DATA	0	PSEUDO A REG		03 00123
000444	000000	A	124 EBR1	DATA	0	PSEUDO B REG		03 00124
000445	000000	A	125 EXR1	DATA	0	PSEUDO X REG		03 00125
000446			126 ETS1	BSS	6	TEMPORARY STORAGE		03 00126
000454	000240	A	127 EK00	DATA	0240	ASCII BLANK(SPACE)		03 00127
000455	000215	A	128 EK01	DATA	0215	ASCII CARRIAGE RETURN		03 00128
000456	000212	A	129 EK02	DATA	0212	ASCII LINE FEED		03 00129
000457	000040	A	130 K40	DATA	040			03 00130
000460	000100	A	131 K100	DATA	0100			03 00131
000461	000200	A	132 K200	DATA	0200			03 00132
000462			133 FRST	BSS	1	INITIAL PUNCH ADDRESS		03 00133
000463			134 LAST	BSS	1	LAST PUNCH ADDRESS		03 00134
000464	000000	A	135 CKSM	DATA	0	CHECKSUM		03 00135
000465	000000	A	136 EXEC	DATA	0	EXECUTION ADDRESS		03 00136
000466	000224	A	137 TAPN	DATA	0224	PUNCH OFF CODE		03 00137
000467	000222	A	138 TAPE	DATA	0222	PUNCH ON CODE		03 00138
000470	014024	A	139 LOAD	DATA	LOAD	ADDRESS OF BINARY LOADER		03 00139
000471	000000	A	140 TS04	DATA	0	DIGIT COUNTER FOR INPG		03 00140
000472	000000	A	141 PWRK	DATA	0	POWER FAIL COUNTER		03 00141
000473	000001	A	142 STTY	DATA	1			03 00142
000474			143 OADR	BSS	1	OBJECT MEDIA DEVICE ADDRESS		03 00143
000475	000221	A	144 XON	DATA	0221	READER ON		03 00144
000476	000223	A	145 XOFF	DATA	0223	READER OFF		03 00145
000477	177700	A	146 MASK	DATA	0177700	I/O INSTRUCTION MASK		03 00146
			147 *					03 00147
			148 *					03 00148
			149 *					03 00149
			150 *					03 00150
			151	*****				03 00151
			152 *					03 00152
014000			153	DRG	014000			03 00153
			154 *					03 00154
			155	*****				03 00155
			156 *					03 00156
			157 *					03 00157
			158 *					03 00158
			159 *					03 00159
	014000	A	160 ELDC	EQU	*	LOWEST CORE LOCATION USED BY THE EXEC		03 00160
			161 *					03 00161
014000	007400	A	162 ERG0	RDF			B	03 00162
014001	007411	A	163	DATA	07411	A V75 SYSTEM ?	B	03 00163
014002	001001	A	164	JDF	NOV75		B	03 00164
014003	014007	A						
014004	006010	A	165	LDRI	-1	YES	B	03 00165
014005	177777	A						
014006	050430	A	166	STA	V75		B	03 00166
014007	001000	A	167 NOV75	JMP	ERG1	COLD START ENTRY	B	03 00167
014010	015454	A						
			168 *					03 00168
014011	000000	A	169 SET	ENTR		SET IN DEVICE ADDRESS		03 00169
			170 *					03 00170
014012	025000	A	171	LDB	0,1			03 00171
014013	001020	A	172	JBZ*	SET			03 00172
014014	114011	A						
014015	016000	A	173	LDA	0,2			03 00173
014016	150477	A	174	ANA	MASK			03 00174
014017	110474	A	175	ORA	OADR			03 00175
014020	056000	A	176	STA	0,2			03 00176
014021	005144	A	177	IXR				03 00177
014022	001000	A	178	JMP	SET+1			03 00178
014023	014012	A						
			179 *					03 00179
			180 *			CARD BINARY LOADER		03 00180
			181 *					03 00181
			182 *					03 00182

MAINTAIN III

MAINSPT

Address	Label	Operation	Comments	Page	Line
183	*	BINARY LOAD ROUTINE		03	00183
184	*			03	00184
014024	014024 A	LODE EQU *		03	00185
014025	010474 A	LDA DADR		03	00186
014026	006150 A	ANAI 020		03	00187
014027	000020 A				
014030	014057 A	JAZ LDAT		03	00188
189	*	HIGH SPEED OBJECT TAPE LOAD		03	00189
190	*			03	00190
191	*			03	00191
014031	014031 A	LOAP EQU *		03	00192
014032	014052 A	LDA EXC4	MODIFY I/O INSTRUCTIONS	03	00193
014033	120474 A	ADD DADR		03	00194
014034	054063 A	STA END+3		03	00195
014035	120460 A	ADD K100		03	00196
014036	054101 A	STA INP+2		03	00197
014037	124043 A	ADD 01K		03	00198
014040	054201 A	STA INPT+1		03	00199
014041	014047 A	LDA 05K		03	00200
014042	054056 A	STA END+4		03	00201
014043	054036 A	STA END+5		03	00202
014044	054073 A	STA END+6		03	00203
014045	054073 A	STA INP+3		03	00204
014046	014167 A	STA INP+4		03	00205
014047	150477 A	LDA LDA IN		03	00206
014050	120474 A	AND MACK		03	00207
014051	054164 A	ADD DADR		03	00208
014052	005101 A	STA IN		03	00209
014053	002000 A	INCR 1	LOAD AND GO	03	00210
014054	014135 A	02K JMPM INP		03	00211
014055	001000 A	JMP LDAN		03	00212
014056	015674 A				
210	*	SLOW SPEED OBJECT TAPE LOAD		03	00213
211	*			03	00214
212	*			03	00215
014057	014057 A	LDAT EQU *	MODIFY I/O INSTRUCTIONS	03	00216
014060	054036 A	LDA LXDF		03	00217
014061	005311 A	STA END+3		03	00218
014062	054054 A	DAR		03	00219
014063	014016 A	STA INP+2		03	00220
014064	124015 A	LDA 01K		03	00221
014065	054032 A	ADD 01K		03	00222
014066	006010 A	STA END+4		03	00223
014067	014247 A	LDAT DTPT		03	00224
014070	054030 A	STA END+5		03	00225
014071	014014 A	LDA LCK3		03	00226
014072	054027 A	STA END+6		03	00227
014073	014013 A	LDA SEN2		03	00228
014074	120474 A	ADD DADR		03	00229
014075	054042 A	STA INP+3		03	00230
014076	054142 A	STA INPT+1		03	00231
014077	006010 A	LDAT IN		03	00232
014100	014236 A				
014101	054037 A	STA INP+4		03	00233
014102	001000 A	01K JMP LDR		03	00234
014103	014016 A				
014104	100400 A	EXC4 EXC 0400		03	00235
014105	010476 A	LXDF LDA XDF		03	00236
014106	010464 A	LCK3 LDA CKSM		03	00237
014107	101200 A	SEN2 SLN 0200,05000		03	00238
014110	005000 A				
014111	014110 A	05K EQU 0500+1		03	00239
014112	007400 A	RDF RDF		03	00240
014113	005002 A	128 128		03	00241
014114	076000 A	STX DATA 074002 = ,STX ,LOAD		03	00242
014115	010400 A	END LDA CKSM	(GOOD LOAD RCD)	03	00243
014116	031011 A	01 ,LRCD		03	00244
014117	014120 A	DATA *+1,*+1,*+1	READER OFF	03	00245
014120	014121 A				
014121	014122 A				
014122	014123 A	DATA *+1		03	00246
014123	005330 A	DECK 0		03	00247
014124	003013 A	002 128		03	00248
014125	014112 A				
014126	014125 A	LDA MODE		03	00249
014127	001010 A	JAZ *+1		03	00250
014130	014133 A				
014131	003022 A	XIF 022,STX	SET RETURN IF GOOD EXEC RCD	03	00251
014132	014113 A				
014133	030467 A	LDX FRST	SET LAST ADDR READ	03	00252
014134	001000 A	JMP *	RETURN,OR EXECUTE PROGRAM	03	00253
014135	014135 A				
254	*	INIT SET TO PRELIM TEST		03	00254
014136	054115 A	INP SES 0	*ENTRY POINT	03	00255
014137	014140 A	STA MODE	SAVE LOAD MODE	03	00256
014140	014141 A	DATA *+1,*+1,IN	READER ON	03	00257
014141	014236 A				
014142	007401 A	LRCD SDF	*LOAD A RCD	03	00258
014143	002000 A	CALL	FIND RCD MARK	03	00259
014144	014240 A				

PAGE	4	MAINTAIN III	MAIN3PT					
014145	004547	A	260	LLSR	7	LOOK FOR LEADER	03	00260
014146	001010	A	261	JAZ	*-3	*	03	00261
014147	014143	A						
014150	002000	A	262	CALL	INPT	*	03	00262
014151	014240	A						
014152	001010	A	263	JAZ	*+4		03	00263
014153	014156	A						
014154	001000	A	264	JMP	*-4	*	03	00264
014155	014150	A						
014156	050464	A	265	STA	CKSM	RESET CHECKSUM	03	00265
014157	002000	A	266	CALL	LWRD	GET RCD LENGTH	03	00266
014160	014206	A						
014161	064073	A	267	STB	RCDL	IF 0	03	00267
014162	003020	A	268	XBZ	RDF	SET EXEC FLAG	03	00268
014163	014111	A						
014164	002000	A	269	CALL	LWRD	GET ADDR	03	00269
014165	014206	A						
014166	005024	A	270	TBX			03	00270
014167	060462	A	271	STB	FRST	SAVE ADDR	03	00271
014170	002000	A	272	LDATA	CALL	LWRD	03	00272
014171	014206	A						
014172	014062	A	273	LDA	RCDL		03	00273
014173	001010	A	274	JAZ	END	(END OF RCD)	03	00274
014174	014114	A						
014175	005311	A	275	DAR			03	00275
014176	054056	A	276	STA	RCDL	COUNT WORDS READ	03	00276
014177	014054	A	277	LDA	MODE		03	00277
014200	001004	A	278	JAN	*+3		03	00278
014201	014203	A						
014202	065000	A	279	STB	0,1		03	00279
014203	005144	A	280	IXR		SET NEXT ADDR	03	00280
014204	001000	A	281	JMP	LDATA		03	00281
014205	014170	A						
			282	*			03	00282
			283	*	READ AND CHECKSUM BINARY WORD		03	00283
			284	*			03	00284
014206	000007	A	285	LWRD	DATA	7	03	00285
014207	005103	A	286		INCR	3	03	00286
014210	005111	A	287		IAR		03	00287
014211	054023	A	288	LWR1	STA	TEMP	03	00288
014212	002000	A	289		CALL	INPT	03	00289
014213	014240	A						
014214	140457	A	290	SUB	K40	REMOVE CODE	03	00290
014215	130457	A	291	ERA	K40		03	00291
014216	004005	A	292	ASLB	5		03	00292
014217	004041	A	293	LRLB	1		03	00293
014220	005032	A	294	MERG	032	ASSEMBLE DATA WORD	03	00294
014221	004346	A	295	LSRA	6		03	00295
014222	005311	A	296	DAR			03	00296
014223	001002	A	297	JAP	END+3	ERROR	03	00297
014224	014117	A						
014225	124007	A	298	ADD	TEMP		03	00298
014226	001002	A	299	JAP	LWR1		03	00299
014227	014211	A						
014230	005021	A	300	TBA			03	00300
014231	130464	A	301	ERA	CKSM	CALCULATE CHECKSUM	03	00301
014232	050464	A	302	STA	CKSM		03	00302
014233	001000	A	303	JMP*	LWRD		03	00303
014234	114206	A						
014235			304	TEMP	BSS	1	03	00304
			305	*			03	00305
			306	*	INPUT PAPER TAPE		03	00306
			307	*			03	00307
014236	102500	A	308	IN	CIA	0	03	00308
014237	001000	A	309		JMF	*	03	00309
014240	014237	A						
014240			310	INPT	BES	0	03	00310
014241	000001	A	311		DATA	1, IN	03	00311
014242	014236	A						
014243	001000	A	312	JMP	*-2		03	00312
014244	014231	A						
014245	103101	A	313	OUT	DAR	01	03	00313
014246	001000	A	314		JMP	*	03	00314
014247	014246	A						
014247			315	DTPT	BES	0	03	00315
014250	101101	A	316		SEN	0101, OUT	03	00316
014251	014243	A						
014252	001000	A	317	JMP	*-2		03	00317
014253	014250	A						
			318	*			03	00318
014254			319	MODE	BSS	1	03	00319
014255			320	RCDL	BSS	1	03	00320
			321	*		RCD LENGTH	03	00321
			322	*	EPUN--OUTPUT AN OBJECT PROGRAM		03	00322
			323	*	BEGINNING, ENDING, AND EXECUTION ADDRESSES		03	00323
			324	*	ARE SPECIFIED BY USER		03	00324
			325	*			03	00325
			326	*			03	00326
			327	*			03	00327
			328	*			03	00328
014256	005304	A	329	EPUN	DECR	04	03	00329
014257	070450	A	330		STX	ETS1+2	03	00330
014260	006020	A	331		LDBI	ETS1	03	00331
014261	000440	A						
014262	002000	A	332		CALL	INPG	03	00332

MAINTAIN III			MAIN3PT			PAGE	5	
014263	016625	A						
014264	001000	A	333	JMP	ETDP	TERMINATION EXIT VIA SS3	03 00333	
014265	015513	A						
014266	001000	A	334	JMP	ETDP	ABORT	03 00334	
014267	015513	A						
014270	001000	A	335	JMP	EPU1	COMMA EXIT--GET NEXT PARAMETER	03 00335	
014271	014304	A						
			336 *	NORMAL RETURN FROM INPG			03 00336	
014272	056000	A	337	STA	0,2		03 00337	
014273	002000	A	338	CALL	DPDT	DETERMINE PUNCH OUTPUT	03 00338	
014274	017161	A						
014275	010446	A	339	LDA	ETS1	BEGINNING PUNCH ADDRESS	03 00339	
014276	020447	A	340	LDB	ETS1+1	ENDING PUNCH ADDRESS	03 00340	
014277	030450	A	341	LDX	ETS1+2	EXEC ADDR	03 00341	
014300	002000	A	342	CALL	DUMP		03 00342	
014301	014340	A						
014302	001000	P	343	JMP	ETDP	RETURN TO EXEC SUPERVISOR	03 00340	
014303	015513	A						
			344 *	EPU1			03 00344	
014304	056000	A	345	STA	0,2		03 00345	
014305	005021	A	346	TBA			03 00346	
014306	006140	A	347	SUBI	ETS1+2		03 00347	
014307	000450	A						
014310	001010	A	348	JAZ	EXIT	ERROR--TOO MANY INPUTS	03 00348	
014311	015632	A						
014312	005122	A	349	IBR			03 00349	
014313	001000	A	350	JMP	EPUN+4	GET NEXT PARAMETER	03 00350	
014314	014262	A						
			351 *	BINARY DUMP ROUTINE			03 00351	
			352 *				03 00352	
			353 *				03 00353	
			354 *				03 00354	
014315	010463	A	355	EOR	LAST	*END OF RCD	03 00355	
014316	001010	A	356	JAZ	PDFF-2	(BOOTSTRAP DUMP)	03 00356	
014317	014325	A						
014320	010464	A	357	LDA	CKSM		03 00357	
014321	002000	A	358	CALL	PRCD	PUNCH CHECKSUM	03 00358	
014322	014430	A						
014323	001001	A	359	JDF	PRCD	(NOT EXEC RCD)	03 00359	
014324	014356	A						
014325	002000	A	360	CALL	PLDR	PUNCH TRAILER	03 00360	
014326	014456	A						
014327	002000	A	361	PDFF	CALL	OUTH,0224	TURN PUNCH OFF	03 00361
014330	017112	A						
014331	000224	A						
014332	002000	A	362	CALL	OUTH,0201	PRINT ENABLE	03 00362	
014333	017112	A						
014334	000201	A						
014335	010462	A	363	LDA	FRST	RESTORE REGISTERS	03 00363	
014336	020460	A	364	LDB	LAST		03 00364	
014337	001000	A	365	JMP	*	RETURN	03 00365	
014340	014367	A						
			366	DUMP	REG	0	*ENTRY POINT	03 00366
014341	050462	P	367	STA	FRST	SAVE REGISTERS	03 00367	
014342	060463	A	368	STB	LAST		03 00368	
014343	070465	A	369	STX	EXEC		03 00369	
014344	005014	A	370	TAX		SET LOAD ADDR	03 00370	
014345	002000	A	371	CALL	OUTH,0203	PRINT OFF	03 00371	
014346	017112	A						
014347	000203	A						
014350	002000	A	372	CALL	OUTH,0222	TURN PUNCH ON	03 00372	
014351	017112	A						
014352	000220	A						
014353	002000	A	373	CALL	PLDR	PUNCH LEADER	03 00373	
014354	014403	A						
014355	050465	A	374	STB	CKSM	RESET CHECKSUM	03 00374	
014356	007401	A	375	SUB		21 2CH A RCD	03 00375	
014357	070465	A	376	STX	ETS1	ONLY RECORD LENGTH	03 00376	
014360	010463	A	377	LDB	FRST		03 00377	
014361	140464	A	378	SUB	ETS1		03 00378	
014362	003112	A	379	LDDB	ETS1		03 00379	
014363	001000	A	380	JMP	PRCD	(SHORT RECORD)	03 00380	
014364	014373	A						
014365	030465	A	381	LDB	EXEC	SET EXEC ADDR	03 00381	
014366	000711	A	382	TBA			03 00382	
014367	001000	A	383	JAN	PDFF	(NO EXEC RCD)	03 00383	
014370	014327	A						
014371	007600	A	384	ROF			03 00384	
014372	005001	A	385	YZP		SET RCD LENGTH = 0	03 00385	
014373	140460	A	386	SUB	K100	(SHORT RCD)	03 00386	
014374	001000	A	387	JAN	*+3		03 00387	
014375	014377	A						
014376	020460	A	388	LDB	K100	SET FOR MAX RCD	03 00388	
014377	000301	A	389	MPOR	1		03 00389	
014400	002000	A	390	CALL*	POHR	PUNCH ONE CHARACTER	03 00390	
014401	117171	A						
014402	002000	A	391	CALL*	POHR	PUNCH ONE CHARACTER	03 00391	
014403	117171	A						
014404	002000	A	392	CALL*	POHR	PUNCH ONE CHARACTER	03 00392	
014405	117171	A						
014406	005001	A	393	TZA			03 00393	
014407	002000	A	394	CALL*	POHR	PUNCH ONE CHARACTER	03 00394	
014410	117171	A						
014411	005021	A	395	TBA			03 00395	
014412	002000	A	396	CALL	PRCD	PUNCH RCD LENGTH	03 00396	

PAGE	6	MAINTAIN III	MAIN3PT		
014413	014430	A			
014414	005041	A	397	TXA	
014415	002000	A	398	PDATA CALL	PWRD PUNCH ADDR/DATA
014416	014430	A			
014417	001020	A	399	JBZ	EDR (END OF RCD)
014420	014315	A			
014421	005322	A	400	DBR	COUNT DOWN
014422	015000	A	401	PEDDT LDA	0,1 GET DATA
014423	005144	A	402	IXR	SET NEXT ADDR
014424	001000	A	403	JMP	PDATA
014425	014415	A			
			404	*	
			405	*	CHECKSUM AND PUNCH BINARY WORD
			406	*	
014426	020446	A	407	PWR1 LDR	ETS1
014427	001000	A	408	JMP	*
014430	014427	A			RETURN
	014430	A	409	PWRD EQU	*-1 ENTRY POINT
014431	060446	A	410	STB	ETS1
014432	005012	A	411	TAB	
014433	130464	A	412	ERA	CKSM CALCULATE CHECKSUM
014434	050464	A	413	STA	CKSM
014435	005021	A	414	TBA	
014436	005302	A	415	DECR	2
014437	004022	A	416	ASLB	18 B = MAX NEGATIVE NUMBER
014440	004554	A	417	LLSR	12 SHIFT IN FIRST SIX BITS
014441	130457	A	418	PWR2 ERA	K40 ENDOCE
014442	120457	A	419	ADD	K40
014443	001400	A	420	JSS3	ETOP S33 EXIT
014444	015513	A			
014445	002000	A	421	CALL*	PCHR PUNCH ONE CHARACTER
014446	117171	A			
014447	005001	A	422	TZA	
014450	004446	A	423	LLRL	6 SHIFT IN NEXT SIX BITS
014451	001020	A	424	JBZ	PWR1 ALL FINISHED
014452	014426	A			
014453	001000	A	425	JMP	PWR2
014454	014441	A			
014455	005000	A	426	NOP	
			427	*	
			428	*	PUNCH LEADER/TRAILER NULLS
			429	*	
014456	000000	A	430	PLDR ENTR	0
014457	020461	A	431	LDB	K200 SET FOR APPROX 12 INCHES
014460	010461	A	432	LDA	K200 ASCII NULL
014461	002000	A	433	PLD1 CALL*	PCHR PUNCH ONE CHARACTER
014462	117171	A			
014463	001020	A	434	JBZ*	PLDR
014464	114456	A			
014465	005322	A	435	DBR	COUNT
014466	001400	A	436	JSS3	ETOP S33 EXIT
014467	015513	A			
014470	001000	A	437	JMP	PLD1
014471	014461	A			
			438	*	
			439	*	
			440	*	
			441	*	
			442	*	INIT--INITIALIZE MEMORY.
			443	*	X=START ADDRESS
			444	*	Y=FINAL ADDRESS
			445	*	Z=INITIALIZING VALUE
			446	*	
			447	*	FORMAT: X,Y,Z.
			448	*	
			449	*	
014472	005020	A	450	INIT LDDI	ETS1 ADDRESS FOR STORING INPUT PARAMETERS
014473	000446	A			
014474	002000	A	451	CALL	INPG GET OCTAL PARAMETER
014475	016625	A			
014476	001020	A	452	JMP	STOP TERMINATION EXIT VIA S33
014477	015513	A			
014500	001000	A	453	JMP	STOP ABORT
014501	015513	A			
014502	001000	A	454	JMP	INIS COMMA EXIT--GET NEXT PARAMETER
014503	014522	A			
			455	*	NORMAL RETURN FROM INPG--A REG CONTAINS THIRD PARAMETER
014504	030446	A	456	LDR	ETS1 START ADDRESS
014505	050450	A	457	STA	ETS1+4 SAVE INITIALIZING VALUE
014506	005021	A	458	TBR	TEST NO. PARAMETERS
014507	006140	A	459	SUBI	ETS1+2 *
014510	000450	A			
014511	001010	A	460	JAZ	*+4 *
014512	014515	A			
014513	001000	A	461	JMP	EXIT *
014514	015632	A			
014515	010447	A	462	LDA	ETS1+1 TEST PARAMETER
014516	140446	A	463	SUB	ETS1 RANGE
014517	001000	A	464	JAN	EXIT ***
014520	015632	A			
014521	010452	A	465	INI2 LDA	ETS1+4 STORE VALUE Z
014522	055000	A	466	STA	0+1
014523	005041	A	467	TXA	
014524	140447	A	468	SUB	ETS1+1 FINAL ADDRESS
014525	001010	A	469	JAZ	ETOP YES

014526		015513		A				MAIN3PT		PAGE 7	
014526	015513	A									
014527	005144	A	470	IXR						03	00470
014530	001000	A	471	JMP	INI2		STORE Z AT NEXT LOCATION			03	00471
014531	014521	A									
			472	*						03	00472
014532	056000	A	473	INI3	STA	0,2	SAVE INPUT PARAMETER			03	00473
014533	005122	A	474		IZR					03	00474
014534	001000	A	475		JMP	INIT+2	GET NEXT PARAMETER			03	00475
014535	014474	A									
			476	*						03	00476
			477	*						03	00477
			478	*						03	00478
			479	*						03	00479
			480	*						03	00480
			481	*						03	00481
			482	*						03	00482
			483	*						03	00483
			484	*						03	00484
			485	*						03	00485
			486	*						03	00486
			487	*						03	00487
			488	*						03	00488
			489	*						03	00489
			490	*						03	00490
			491	*						03	00491
014536	006020	A	491	ETRP	LDBI	ETS1	(B) POINTS TO PARAMETER TBL			03	00491
014537	000446	A									
014540	010446	A	492		LDA	ETS1	X = PREVIOUS Y			03	00492
014541	050447	A	493		STA	ETS1+1				03	00493
014542	002000	A	494		CALL	INPG	INPUT OCTAL NUMBER			03	00494
014543	016625	A									
014544	001000	A	495		JMP	ETDP	TERMINATION EXIT VIA SS3			03	00495
014545	015513	A									
014546	001000	A	496		JMP	ETDP	ABORT			03	00496
014547	015513	A									
014550	001000	A	497		JMP	ETR1	COMMA EXIT--GET SECOND PARAMETER			03	00497
014551	014673	A									
			498	*						03	00498
			499	*						03	00499
014552	056000	A	499	*						03	00499
014553	006030	A	500		LDBI	ETS1+2	TEMP STORE ADDRESS			03	00500
014554	000450	A									
014555	020446	A	501		LDB	ETS1	X PARAMETER (TRAP LOCATION)			03	00501
014556	016000	A	502		LDA	0,2				03	00502
014557	055000	A	503		STA	0,1	SAVE CONTENTS OF LOCATION X AT TS02			03	00503
014560	016001	A	504		LDA	1,2				03	00504
014561	055001	A	505		STA	1,1	SAVE CONTENTS OF LOC. X+1 AT TS03			03	00505
014562	006010	A	506		LDAI	02000	OP CODE FOR JMPM			03	00506
014563	002000	A									
014564	056000	A	507		STA	0,2	STORE JMPM AT LOC X			03	00507
014565	006010	A	508		LDAI	ETR2				03	00508
014566	014703	A									
014567	056001	A	509		STA	1,2	STORE TRAP RETURN ADDRESS AT X+1			03	00509
014570	001000	A	510		JMP	EG01	LOAD PSEUDO REGISTERS AND GOTD LOC Y			03	00510
014571	015266	A									
			511	*						03	00511
014572	050443	A	512	ETR3	STA	EAR1	PUT A CONTENTS INTO PSEUDO A REG			03	00512
014573	060444	A	513		STB	EBR1	PUT B CONTENTS INTO PSEUDO B REG			03	00513
014574	070445	A	514		STX	EXR1	PUT X CONTENTS INTO PSEUDO X REG			03	00514
014575	010430	A	515		LDA	V75			B	03	00515
014576	001010	A	516		JAC	ETR3A			B	03	00516
014577	014612	A									
014600	007130	A	517		ST,R3	EBR1	PUT R3 CONTENTS INTO PSEUDO R3		B	03	00517
014601	000431	A									
014602	007140	A	518		ST,R4	EBR1	PUT R4 CONTENTS INTO PSEUDO R4		B	03	00518
014603	000432	A									
014604	007150	A	519		ST,R5	EBR1	PUT R5 CONTENTS INTO PSEUDO R5		B	03	00519
014605	000433	A									
014606	007160	A	520		ST,R6	EBR1	PUT R6 CONTENTS INTO PSEUDO R6		B	03	00520
014607	000434	A									
014610	007170	A	521		ST,R7	EBR1	PUT R7 CONTENTS INTO PSEUDO R7		B	03	00521
014611	000435	A									
014612	000436	A									
014613	000437	A	522	CTR3A	TZA				B	03	00522
014614	000438	A	523		ADPA					03	00523
014615	000439	A	524		OPA					03	00524
014616	000440	A	525		OPV					03	00525
014617	000441	A	526		OPB					03	00526
014618	000442	A	527		OPX					03	00527
014620	010450	A	528		LDA	ETS1+2	SET X REG TO TRAP LOCATION ADDRESS			03	00528
014621	020451	A	529		LDB	ETS1+3				03	00529
014622	055000	A	530		STA	3,1	RESTORE CONTENTS OF LOC X			03	00530
014623	065001	A	531		STB	1,1	RESTORE CONTENTS OF X+1			03	00531
014624	002000	A	532		CALL	OUTC	OUTPUT CR & LF			03	00532
014625	016774	A									
014626	005041	A	533		TXA		OUTPUT ADDR OF TRAP RETURN			03	00533
014627	002000	A	534		CALL	OUTF				03	00534
014630	017046	A									
014631	010443	A	535		LDA	EAR1	PRINT CONTENTS OF PSEUDO A			03	00535
014632	002000	A	536		CALL	OUTE				03	00536
014633	017006	A									
014634	010446	A	537		LDA	EBR1	PRINT CONTENTS OF PSEUDO B			03	00537
014635	002000	A	538		CALL	OUTE				03	00538
014636	017006	A									
014637	010445	A	539		LDA	EXR1	PRINT CONTENTS OF PSEUDO X			03	00539
014640	002000	A	540		CALL	OUTE				03	00540
014641	017006	A									
014642	010430	A	541		LDA	V75			B	03	00541

PAGE	8	MAINTAIN III	MAIN3PT				
014643	001010	A 542	JAZ	ETR3B	B 03 00542		
014644	014664	A					
014645	010431	A 543	LDA	E3R1	PRINT CONTENTS OF PSEUDO R3	B 03 00543	
014646	002000	A 544	CALL	OUTE		B 03 00544	
014647	017006	A					
014650	010432	A 545	LDA	E4R1	PRINT CONTENTS OF PSEUDO R4	B 03 00545	
014651	002000	A 546	CALL	OUTE		B 03 00546	
014652	017006	A					
014653	010433	A 547	LDA	E5R1	PRINT CONTENTS OF PSEUDO R5	B 03 00547	
014654	002000	A 548	CALL	OUTE		B 03 00548	
014655	017006	A					
014656	010434	A 549	LDA	E6R1	PRINT CONTENTS OF PSEUDO R6	B 03 00549	
014657	002000	A 550	CALL	OUTE		B 03 00550	
014660	017006	A					
014661	010435	A 551	LDA	E7R1	PRINT CONTENTS OF PSEUDO R7	B 03 00551	
014662	002000	A 552	CALL	OUTE		B 03 00552	
014663	017006	A					
014664	014430	A 553	ETR3B LDA	EDV1		B 03 00553	
014665	006120	A 554	ADDI	' 0 '		03 00554	
014666	120260	A					
014667	002000	A 555	CALL	OUTB	PRINT CONTENTS OF OVERFLOW	03 00555	
014670	016761	A					
014671	001000	A 556	JMP	ETOP	RETURN TO EXEC SUPERVISOR	03 00556	
014672	015513	A					
		557 *				03 00557	
014673	056000	A 558	ETR1 STA	0,2	STORE PARAMETER X	03 00558	
014674	005123	A 559	INCR	023	INC PARAMETER PTR	03 00559	
014675	006140	A 560	SUBI	ETS1+1	MORE THAN 1 X PARAMETER ?	03 00560	
014676	000447	A					
014677	001010	A 561	JAZ	ETRP+4	NO CONTINUE	03 00561	
014700	014542	A					
014701	001000	A 562	JMP	EXIT	YES PRINT INVALID AND GO TO ETOP	03 00562	
014702	015632	A					
		563 *				03 00563	
014703	000000	A 564	ETR2 ENTR	0		03 00564	
014704	001000	A 565	JMP	ETR3	PROCESS TRAP RETURN	03 00565	
014705	014572	A					
		566 *				03 00566	
		567 *				03 00567	
		568 *				03 00568	
		569 *	ESRC--SEARCH MEMORY FOR SPECIFIED VALUE.			03 00569	
		570 *	PRINT LOCATION AND CONTENTS WHERE MATCH IS FOUND			03 00570	
		571 *				03 00571	
		572 *	X=START ADDRESS			03 00572	
		573 *	Y=FINAL ADDRESS			03 00573	
		574 *	Z=SEARCH VALUE			03 00574	
		575 *	M=MASK WORD			03 00575	
		576 *				03 00576	
		577 *	FORMAT: SX,Y,Z,M.			03 00577	
		578 *				03 00578	
		579 *				03 00579	
014706	006020	A 580	ESRC	LDBI	ETS1	ADDRESS FOR STORING INPUT PARAMETERS	03 00580
014707	000446	A					
014710	002000	A 581	CALL	INPG	GET OCTAL PARAMETER	03 00581	
014711	016625	A					
014712	001000	A 582	JMP	ETOP	TERMINATION EXIT VIA SS3	03 00582	
014713	015513	A					
014714	001000	A 583	JMP	ETOP	ABORT	03 00583	
014715	015513	A					
014716	001000	A 584	JMP	ESR5	COMMA EXIT--GET NEXT PARAMETER	03 00584	
014717	014767	A					
		585 *	NORMAL RETURN FROM INPG--A REG CONTAINS FOURTH PARAMETER			03 00585	
014720	050451	A 586	STA	ETS1+3	SAVE MASK WORD	03 00586	
014721	150450	A 587	ANA	ETS1+2	MASK SEARCH VALUE	03 00587	
014722	050452	A 588	STA	ETS1+4	MASKED SEARCH VALUE	03 00588	
014723	005021	A 589	TBA		TEST NO. OF PARAMETERS	03 00589	
014724	006140	A 590	SUBI	ETS1+3	*	03 00590	
014725	000451	A					
014726	001010	A 591	JAZ	*+4	*	03 00591	
014727	014732	A					
014730	001000	A 592	JMP	EXIT	***	03 00592	
014731	015632	A					
014732	030445	A 593	ESR4	LDB	ETS1	START ADDRESS	03 00593
014733	015000	A 594	LDB	0,1		03 00594	
014734	150451	A 595	ANA	ETS1+3	MASK IT	03 00595	
014735	140452	A 596	SUB	ETS1+4		03 00596	
014736	001010	A 597	JAZ	ESR2	GOOD COMPARE	03 00597	
014737	014751	A					
014740	040446	A 598	ESR1	INR	ETS1	START ADDRESS	03 00598
014741	001400	A 599	JSS3	ETOP	RETURN TO SUPERVISOR	03 00599	
014742	015513	A					
014743	005041	A 600	TXA			03 00600	
014744	140447	A 601	SUB	ETS1+1	END ADDRESS	03 00601	
014745	001002	A 602	JAP	ETOP	RETURN TO SUPERVISOR	03 00602	
014746	015513	A					
014747	001000	A 603	JMP	ESR4	GET NEXT WORD	03 00603	
014750	014732	A					
014751	002000	A 604	ESR2	CALL	OUTC	CR/LF	03 00604
014752	016774	A					
014753	010446	A 605	LDA	ETS1	ADDRS OF WORD	03 00605	
014754	002000	A 606	CALL	OUTF	PRINT MEMORY ADDRESS	03 00606	
014755	017046	A					
014756	006010	A 607	LDAI	'-'	EQUAL SIGN	03 00607	
014757	000275	A					
014760	002000	A 608	CALL	OUTA		03 00608	

		MAINTAIN III	MAIN3PT	PAGE	9
014761	016730	A			
014762	015000	A	609 LDA 0+1		03 00609
014763	002000	A	610 CALL DUTE		03 00610
014764	017006	A			
014765	001000	A	611 JMP ESR1		03 00611
014766	014740	A			
014767	056000	A	612 ESR5 STA 0+2		03 00612
014770	005122	A	613 IER		03 00613
014771	001000	A	614 JMP ESRC+2		03 00614
014772	014710	A			
			615 *		03 00615
			616 *		03 00616
			617 *		03 00617
			618 *		03 00618
			619 * DISPLAY/CHANGE THE PSEUDO A REGISTER		03 00619
			620 *		03 00620
014773	006010	A	621 EARG LDAI 0240		03 00621
014774	000240	A			
014775	002000	A	622 CALL DUTA		03 00622
014776	016730	A			
014777	010443	A	623 LDA EAR1		03 00623
015000	002000	A	624 CALL DUTE		03 00624
015001	017006	A			
015002	002000	A	625 CALL INPG		03 00625
015003	016625	A			
015004	001000	A	626 JMP ETOP		03 00626
015005	015513	A			
015006	001000	A	627 JMP ETOP		03 00627
015007	015513	A			
015010	001000	A	628 JMP *+2		03 00628
015011	015012	A			
			629 * NORMAL RETURN FROM INPG		03 00629
015012	050446	A	630 STA ETS1		03 00630
015013	010471	A	631 LDA TS04		03 00631
015014	001010	A	632 JAZ ETOP		03 00632
015015	015513	A			
015016	010446	A	633 LDA ETS1		03 00633
015017	050443	A	634 STA EAR1		03 00634
015020	001000	A	635 JMP ETUP		03 00635
015021	015513	A			
			636 *		03 00636
			637 *		03 00637
			638 * DISPLAY/CHANGE THE PSEUDO B REGISTER		03 00638
			639 *		03 00639
			640 *		03 00640
015022	010454	A	641 EBRG LDA EK00		03 00641
015023	002000	A	642 CALL DUTA		03 00642
015024	016730	A			
015025	010444	A	643 LDA EBR1		03 00643
015026	002000	A	644 CALL DUTE		03 00644
015027	017006	A			
015030	002000	A	645 CALL INPG		03 00645
015031	016625	A			
015032	001000	A	646 JMP ETOP		03 00646
015033	015513	A			
015034	001000	A	647 JMP ETOP		03 00647
015035	015513	A			
015036	001000	A	648 JMP *+2		03 00648
015037	015040	A			
			649 * NORMAL RETURN FROM INPG		03 00649
015040	050446	A	650 STA ETS1		03 00650
015041	010471	A	651 LDA TS04		03 00651
015042	001010	A	652 JAZ ETOP		03 00652
015043	015513	A			
015044	010446	A	653 LDA ETS1		03 00653
015045	050443	A	654 STA EAR1		03 00654
015046	001000	A	655 JMP ETUP		03 00655
015047	015513	A			
			656 *		03 00656
			657 *		03 00657
			658 * DISPLAY/CHANGE THE PSEUDO X REGISTER		03 00658
			659 *		03 00659
			660 *		03 00660
015050	010454	A	661 EXRG LDA EK00		03 00661
015051	002000	A	662 CALL DUTA		03 00662
015052	016730	A			
015053	010443	A	663 LDA EXR1		03 00663
015054	002000	A	664 CALL DUTE		03 00664
015055	017006	A			
015056	002000	A	665 CALL INPG		03 00665
015057	016625	A			
015060	001000	A	666 JMP ETOP		03 00666
015061	015513	A			
015062	001000	A	667 JMP ETOP		03 00667
015063	015513	A			
015064	001000	A	668 JMP *+2		03 00668
015065	015066	A			
			669 * NORMAL RETURN FROM INPG		03 00669
015066	050446	A	670 STA ETS1		03 00670
015067	010471	A	671 LDA TS04		03 00671
015070	001010	A	672 JAZ ETOP		03 00672
015071	015513	A			
015072	010446	A	673 LDA ETS1		03 00673
015073	050443	A	674 STA EXR1		03 00674
015074	001000	A	675 JMP ETUP		03 00675

MAINTAIN III

MAINSPT

Address	Label	Operation	Comments	Page
015224	015513	A		
739	*		DISPLAY/CHANGE THE PSEUDO R7 REGISTER	B 03 00739
015225	010434	A	740 E7RG LDA EK00 ASCII SPACE	B 03 00740
015226	002000	A	741 CALL OUTA	B 03 00741
015227	016730	A		
015230	010435	A	742 LDA E7R1 LOAD PSEUDO R7	B 03 00742
015231	002000	A	743 CALL OUTE PRINT CONTENTS	B 03 00743
015232	017006	A		
015233	002000	A	744 CALL INPG INPUT OCTAL AND/OR PERIOD	B 03 00744
015234	016625	A		
015235	001000	A	745 JMP ETOP TERMINATION EXIT VIA SS3	B 03 00745
015236	015513	A		
015237	001000	A	746 JMP ETOP ABORT EXIT	B 03 00746
015240	015513	A		
015241	001000	A	747 JMP *+2 COMMA EXIT--ACCEPT IT	B 03 00747
015242	015243	A		
748	*		NORMAL RETURN FROM INPG	B 03 00748
015243	050446	A	749 STA ETS1 SAVE INPUT	B 03 00749
015244	010471	A	750 LDA TS04 TS04=DIGIT COUNTER FOR INPG	B 03 00750
015245	001010	A	751 JAZ ETOP 0=NO OCTAL INPUT, RETURN TO SUPERVISOR	B 03 00751
015246	015513	A		
015247	010446	A	752 LDA ETS1	B 03 00752
015250	050435	A	753 STA E7R1 STORE NEW VALUE IN PSEUDO R7	B 03 00753
015251	001000	A	754 JMP ETOP RETURN TO SUPERVISOR	B 03 00754
015252	015513	A		
755	*			03 00755
756	*			03 00756
757	*			03 00757
758	*			03 00758
759	*			03 00759
760	*		EGOT--LOAD PSEUDO REGISTERS INTO A,B,X AND TRANSFER TO	03 00760
761	*		LOCATION SPECIFIED BY USER.	03 00761
762	*		THE PSEUDO REGISTERS CAN BE PRESET WITH THE A,B,X	03 00762
763	*		UTILITY FUNCTIONS.	03 00763
764	*			03 00764
765	*			03 00765
015253	002000	A	766 EGOT CALL INPG IPUT OCTAL NUMBER	03 00766
015254	016625	A		
015255	001000	A	767 JMP ETOP TERMINATION EXIT VIA SS3	03 00767
015256	015513	A		
015257	001000	A	768 JMP ETOP ABORT	03 00768
015260	015513	A		
015261	001000	A	769 JMP *+2 COMMA EXIT--ACCEPT IT	03 00769
015262	015263	A		
770	*		NORMAL RETURN FROM INPG	03 00770
015263	050447	A	771 STA ETS1+1	03 00771
015264	002000	A	772 CALL OUTC DO A CR + LF	03 00772
015265	016774	A		
015266	010443	A	773 EGD1 LDA EAR1 LOAD PSEUDO A REG.	03 00773
015267	020444	A	774 LDB EBR1 LOAD PSEUDO B REG.	03 00774
015270	030430	A	775 LDX V75 V75 SYSTEM ?	B 03 00775
015271	001040	A	776 JXZ RESDF NO	B 03 00776
015272	015305	A		
015273	007030	A	777 LD,R3 E3R1 YES, LOAD THE PSEUDO R3,	B 03 00777
015274	000431	A		
015275	007040	A	778 LD,R4 E4R1 R4,	B 03 00778
015276	000432	A		
015277	007050	A	779 LD,R5 E5R1 R5,	B 03 00779
015300	000433	A		
015301	007060	A	780 LD,R6 E6R1 R6,	B 03 00780
015302	000434	A		
015303	007070	A	781 LD,R7 E7R1 AND R7	B 03 00781
015304	000435	A		
015305	007400	A	782 RESDF RDF	B 03 00782
015306	034006	A	783 LDX EDV1	03 00783
015307	001010	A	784 JXZ *+3 SET/RESET OVERFLOW	03 00784
015310	015312	A		
015311	007401	A	785 SDF	03 00785
015312	030440	A	786 LDX EXR1 LOAD PSEUDO X REG.	03 00786
015313	001000	A	787 JMP* ETS1+1	03 00787
015314	100447	A		
015315	000000	A	788 EDV1 DATA 0 PSEUDO OVERFLOW	03 00788
789	*		DUMP CORE MEMORY TO TTY PRINTER	03 00789
790	*			03 00790
015316	002000	A	791 EDUM CALL INPG INPUT START LOCATION (OCTAL)	03 00791
015317	016625	A		
015320	001000	A	792 JMP ETOP TERMINATION EXIT VIA SS3	03 00792
015321	015513	A		
015322	001000	A	793 JMP ETOP ABORT	03 00793
015323	015513	A		
015324	001000	A	794 JMP *+2 COMMA EXIT--ACCEPT IT	03 00794
015325	015326	A		
795	*		NORMAL RETURN FROM INPG	03 00795
015326	050446	A	796 STA ETS1	03 00796
015327	002000	A	797 CALL OUTC OUTPUT CR & LF	03 00797
015330	016774	A		
015331	010446	A	798 LDA ETS1	03 00798
015332	005014	A	799 TAX	03 00799
015333	002000	A	800 EDU1 CALL OUTF OUTPUT MEMORY ADDRESS	03 00800
015334	017046	A		
015335	010454	A	801 LDA EK00 ASCII BLANK(SPACE)	03 00801
015336	002000	A	802 CALL OUTA	03 00802
015337	016730	A		
015340	015000	A	803 EDU2 LDA 0,1	03 00803
015341	002000	A	804 CALL OUTE PRINT LOCATION CONTENTS	03 00804

PAGE	12	MAINTAIN III	MAIN3PT	
015342	017006	A		
015343	001400	A	805	JSS3 ETOP 03 00805
015344	015513	A		
015345	005145	A	806	INCR 045 INCREMENT X AND PUT INTO A&X 03 00806
015346	005002	A	807	TZB 03 00807
015347	004543	A	808	LLSR 3 LINE LENGTH IS 8 LOCATIONS 03 00808
015350	001020	A	809	JBZ EDU4 NEXT LINE 03 00809
015351	015354	A		
015352	001000	A	810	JMP EDU2 NEXT WORD 03 00810
015353	015340	A		
015354	002000	A	811 *	
015355	016774	A	812 EDU4	CALL OUTC OUTPU CR & LF 03 00811
015356	002000	A	813	CALL INPI 03 00813
015357	016725	A		
015360	006140	A	814	SUBI 0377 03 00814
015361	000377	A		
015362	001010	A	815	JAZ ETOP TERMINATE DUMP ON RUBOUT 03 00815
015363	015513	A		
015364	005041	A	816	TXA 03 00816
015365	001000	A	817	JMP EDU1 03 00817
015366	015333	A		
			818 *	03 00818
			819 *	03 00819
			820 *	03 00820
			821 *	03 00821
			822 *	03 00822
			823 *	03 00823
			824 *	03 00824
			825 *	03 00825
			826 ECNG	CALL INPG INPUT OCTAL MEMORY ADDRESS 03 00826
015367	002000	A		
015370	016625	A		
015371	001000	A	827	JMP ETOP TERMINATION EXIT VIA SS3 03 00827
015372	015513	A		
015373	001000	A	828	JMP ETOP ABORT 03 00828
015374	015513	A		
015375	001000	A	829	JMP *+2 COMMA EXIT--ACCEPT IT 03 00829
015376	015377	A		
			830 *	03 00830
015377	005014	A	831	TAX 03 00831
015400	006010	A	832 ECN3	LDAI '=' EQUAL SIGN 03 00832
015401	000275	A		
015402	002000	A	833	CALL OUTA 03 00833
015403	016730	A		
015404	015000	A	834	LDA 0,1 03 00834
015405	002000	A	835	CALL OUTE OUTPUT OCTAL WORD 03 00835
015406	017006	A		
015407	002000	A	836	CALL INPG INPUT OCTAL WORD 03 00836
015410	016625	A		
015411	001000	A	837	JMP ETOP TERMINATION EXIT VIA SS3 03 00837
015412	015513	A		
015413	001000	A	838	JMP ETOP ABORT 03 00838
015414	015513	A		
015415	001000	A	839	JMP ECN2 COMMA EXIT--PRINT NEXT LOCATION & CONTENTS 03 00839
015416	015427	A		
			840 *	03 00840
015417	050446	A	841	STA ETS1 SAVE INPUT 03 00841
015420	010471	A	842	LDA TS04 TS04=DIGIT COUNTER FOR INPG 03 00842
015421	001010	A	843	JAZ *+4 03 00843
015422	015425	A		
015423	010446	A	844	LDA ETS1 GET LAST INPUT 03 00844
015424	055000	A	845	STA 0,1 03 00845
015425	001000	A	846	JMP ETOP 03 00846
015426	015513	A		
			847 *	03 00847
015427	050446	A	848 ECN2	STA ETS1 SAVE INPUT 03 00848
015430	010471	A	849	LDA TS04 TS04=DIGIT COUNTER FOR INPG 03 00849
015431	001010	A	850	JAZ *+4 03 00850
015432	015435	A		
015433	010446	A	851	LDA ETS1 GET LAST INPUT 03 00851
015434	055000	A	852	STA 0,1 STORE NEW VALUE IN LOCATION 03 00852
015435	002000	A	853	CALL OUTC CR & LF 03 00853
015436	016774	A		
015437	005145	A	854	INCR 045 INCREMENT X AND PUT INTO A AND X 03 00854
015440	002000	A	855	CALL OUTC PRINT NEXT MEMORY ADDRESS 03 00855
015441	017046	A		
015442	001000	A	856	JMP ECN3 PRINT CONTENTS 03 00856
015443	015400	A		
			857 *	03 00857
015444	000000	A	858 ESZC	ENTR 0 DETERMINE MEMORY SIZE 03 00858
015445	002000	A	859	CALL ESZA * 03 00859
015446	016104	A		
015447	050441	A	860	STA \$MEM * 03 00860
015450	002000	A	861	CALL ESZB * 03 00861
015451	016135	A		
015452	001000	A	862	JMP (ESZC)* ***** EXIT 03 00862
015453	115444	A		
015454	005101	A	863 EBG1	INCR 01 TTY MODE 03 00863
015455	050442	A	864	STA \$CON * \$CON = 01 03 00864
015456	002000	A	865	CALL ESZC * \$TTY = 01, UNLESS SET 03 00865
015457	015444	A		
015460	005101	A	866	INCR 01 * BY 03 00866
015461	000000	A	867	HLT * OPERATOR 03 00867
015462	006030	A	868	LDXI \$TTY 03 00868
015463	000473	A		

PAGE	14	MAINTAIN III	MAIN3PT					
015616	015632	A	928	DATA	EXIT	D NOT USED	03	00928
015617	014256	A	929	DATA	EPUN	P CREATE OBJECT	03	00929
015620	015632	A	930	DATA	EXIT	Q NOT USED	03	00930
015621	015636	A	931	DATA	V75REG		B	03 00931
015622	014706	A	932	DATA	ESRC	S SEARCH MEMORY	03	00932
015623	014536	A	933	DATA	ETRP	T TRAP	03	00933
015624	015632	A	934	DATA	EXIT	U NOT USED	03	00934
015625	015632	A	935	DATA	EXIT	V NOT USED	03	00935
015626	015632	A	936	DATA	EXIT	W NOT USED	03	00936
015627	015050	A	937	DATA	EXRG	X PRINT/CHANGE PSEUDO X REG	03	00937
015630	015632	A	938	DATA	EXIT	Y NOT USED	03	00938
015631	015632	A	939	DATA	EXIT	Z NOT USED	03	00939
			940	*			03	00940
			941	*			03	00941
			942	*			03	00942
			943	*			03	00943
015632	002000	A	944	EXIT	CALL	OUTG		03 00944
015633	017065	A				PRINT INVALID & CR/LF		
015634	001000	A	945	JMP	ETOP	RETURN TO TOP OF SUPERVISOR	03	00945
015635	015513	A						
	015632	A	946	FIL	EQU		03	00946
	015632	A	947	EDF	EQU		03	00947
			948	*			03	00948
			949	*			03	00949
015636	010430	A	950	V75REG	LDA	V75	B	03 00950
015637	001010	A	951		JAZ	EXIT	B	03 00951
015640	015632	A				NO V75 HERE		
015641	002000	A	952	CALL	INPB	GRAB THE REGISTER NUMBER	B	03 00952
015642	016356	A						
015643	001000	A	953	JMP	EXIT		B	03 00953
015644	015632	A						
015645	006150	A	954	ANAI	07	MAKE SURE ITS 0 THRU 7	B	03 00954
015646	000007	A						
015647	006120	A	955	ADDI	REGTBL		B	03 00955
015650	015636	A						
015651	006110	A	956	DRAI	0100000		B	03 00956
015652	100000	A						
015653	054001	A	957	STA	REGJMP+1		B	03 00957
015654	001000	A	958	REGJMP	JMP*	REGTBL	B	03 00958
015655	115656	A						
015656	014773	A	959	REGTBL	DATA	EARG	B	03 00959
015657	015022	A	960		DATA	EBRG	B	03 00960
015660	015050	A	961		DATA	EXRG	B	03 00961
015661	015076	A	962		DATA	ESRG	B	03 00962
015662	015124	A	963		DATA	E4RG	B	03 00963
015663	015152	A	964		DATA	E5RG	B	03 00964
015664	015200	A	965		DATA	E6RG	B	03 00965
015665	015223	A	966		DATA	E7RG	B	03 00966
015666	015632	A	967		DATA	EXIT	B	03 00967
			968	*			03	00968
			969	*			03	00969
			970	*			03	00970
			971	*			03	00971
			972	*			03	00972
015667	002000	A	973	ELOD	CALL	INN		03 00973
015670	016662	A				GET TERMINATOR		
			974	*			03	00974
015671	005101	A	975	INCR	01	SET A%0 FOR LOAD AND EXECUTE	03	00975
015672	001000	A	976	JMP	LODE	GO TO BINARY LOADER	03	00976
015673	014024	A						
015674	005042	A	977	LOADW	TXB	SAVE X	03	00977
015675	006030	A	978		LDXI	MSG2	03	00978
015676	016026	A				MESSAGE: CHECKSUM ERROR		
015677	002000	A	979	CALL	OUTD	PRINT MESSAGE	03	00979
015700	017035	A						
015701	005021	A	980	TBA		OUTPUT X	03	00980
015702	002000	A	981	CALL	OUTE		03	00981
015703	017006	A						
015704	001000	A	982	JMP	ETOP	EXEC SUPERVISOR	03	00982
015705	015513	A						
			983	*			03	00983
			984	*			03	00984
			985	*			03	00985
			986	*			03	00986
			987	*			03	00987
			988	*			03	00988
			989	*			03	00989
			990	*			03	00990
			991	*			03	00991
			992	*			03	00992
			993	*			03	00993
015706	000000	A	994	PWDN	ENTR	0	03	00994
015707	054060	A	995		STA	SAVE	03	00995
015710	064060	A	996		STB	SAVE	03	00996
015711	074060	A	997		STX	SAVE	03	00997
015712	010430	A	998		LDA	V75	B	03 00998
015713	001010	A	999		JAZ	PWDN1	B	03 00999
015714	015727	A						
015715	007130	A	1000	ST,R3	SAVR3	AND THE R3,	B	03 01000
015716	015773	A						
015717	007140	A	1001	ST,R4	SAVR4	R4,	B	03 01001
015720	015774	A						
015721	007150	A	1002	ST,R5	SAVR5	R5,	B	03 01002
015722	015775	A						
015723	007160	A	1003	ST,R6	SAVR6	R6,	B	03 01003

MAINTAIN III		MAIN3PT			
015724	015776	A			
015725	007170	R	1004	ST,R7	SAVR7 AND R7 IF ANY
015726	015777	A			
015727	005001	A	1005	PWDN1	TZA
015730	005511	A	1006		DATA 005511 INCREMENT A IF OVERFLOW SET
015731	054046	A	1007		STA SAVD
015732	044046	A	1008		INR HLTF SET POWER FAIL/RESTRT FLAG.
015733	040472	A	1009		INR PWRK STEP POWER FAIL COUNTER
015734	000000	A	1010	PHLT	HLT
			1011	*	
			1012	*	POWER UP PROCESSOR
			1013	*	
015735	014043	A	1014	PWRU	LDA HLTF CHECK IF POWERING UP FROM RUN CONDITION
015736	001010	A	1015	JAZ	PHLT
015737	015734	A			
015740	005001	A	1016	TZA	HLTF CLEAR POWER FAIL/RESTRT FLAG
015741	054037	A	1017	STA	HLTF
			1018	*	
			1019	**	CODING TO REINSTATE 620/F OPTIONAL HARDWARE AFTER A
			1020	**	POWER FAILURE, MUST BE DEFINED HERE. THE TOTAL EXECUTION
			1021	**	TIME NOT TO EXCEED A SPECIFIED TIME PERIOD. SEE PPS
			1022	**	FOR TIMING CONSTRAINTS.
015742	014035	A	1023	LDA	SAVD SETUP OVERFLOW FLAG
015743	001010	A	1024	JAZ	*+3
015744	015746	A			
015745	007401	A	1025	SDF	
015746	010430	A	1026	LDA	V75 IF V75
015747	001010	A	1027	JAZ	ABX
015750	015763	A			
015751	007030	A	1028	LD,R3	SAVR3 RETURN R3,
015752	015773	A			
015753	007040	A	1029	LD,R4	SAVR4 R4,
015754	015774	A			
015755	007050	A	1030	LD,R5	SAVR5 R5,
015756	015775	A			
015757	007060	A	1031	LD,R6	SAVR6 R6,
015760	015776	A			
015761	007070	A	1032	LD,R7	SAVR7 R7
015762	015777	A			
015763	014004	A	1033	ABX	LDA SAVA RETURN A,B,X REGISTERS
015764	024004	A	1034	LDB	SAVB
015765	034004	A	1035	LDX	SAVX
015766	001000	A	1036	JMP*	PWDN RETURN TO LOCATION INTERRUPTED FROM
015767	115706	A			
			1037	*	
015770	000000	A	1038	SAVA	DATA 0
015771	000000	A	1039	SAVB	DATA 0
015772	000000	A	1040	SAVX	DATA 0
015773	000000	A	1041	SAVR3	DATA 0
015774	000000	A	1042	SAVR4	DATA 0
015775	000000	A	1043	SAVR5	DATA 0
015776	000000	A	1044	SAVR6	DATA 0
015777	000000	A	1045	SAVR7	DATA 0
016000	000000	A	1046	SAVD	DATA 0
016001	000000	A	1047	HLTF	DATA 0
			1048	*	
			1049	*	
			1050	*	
			1051	*	
			1052	*	
			1053	*	MESSAGE TABLE
			1054	*	
016002	106612	A	1055	MSG1	DATA 0106612,'THIS IS THE V70/620 TEST EXECUTIVE',0106612,0
016003	152310	A			
016004	144723	A			
016005	120311	A			
016006	151640	A			
016007	152310	A			
016010	142640	A			
016011	153267	A			
016012	130257	A			
016013	133262	A			
016014	130240	A			
016015	152305	A			
016016	151724	A			
016017	120305	A			
016020	154305	A			
016021	141725	A			
016022	152311	A			
016023	153305	A			
016024	106612	A			
016025	000000	A			
016026	141710	A	1056	MSG2	DATA 'CHECKSUM ERROR X = ',0
016027	142703	A			
016030	145723	A			
016031	152715	A			
016032	120305	A			
016033	151322	A			
016034	147722	A			
016035	120240	A			
016036	154240	A			
016037	136640	A			
016040	000000	A			
016041	146703	A	1057	MSG3	DATA 'MEMORY SIZE IS '
016042	146717	A			

```

016043 151331 A
016044 120323 A
016045 144732 A
016046 142640 A
016047 144723 A
016050 120240 A
016051 126655 A 1058 MSG4 DATA '--K',0 03 01058
016052 145640 A
016053 000000 A
016054 120240 A 1059 MSG5 DATA ' INVALID',0 03 01059
016055 144716 A
016056 153301 A
016057 146311 A
016060 142240 A
016061 000000 A
016062 106612 A 1060 MSG6 DATA 0106612,'THIS IS THE V75 TEST EXECUTIVE',0106612,0 B 03 01060
016063 152310 A
016064 144723 A
016065 120311 A
016066 151640 A
016067 152310 A
016070 142640 A
016071 153267 A
016072 132640 A
016073 152305 A
016074 151724 A
016075 120305 A
016076 154305 A
016077 141725 A
016100 152311 A
016101 153305 A
016102 106612 A
016103 000000 A

1061 * 03 01061
1062 * 03 01062
1063 * ROUTINE FOR DETERMINING CORE SIZE 03 01063
1064 * 03 01064
016104 000000 A 1065 ESZA ENTR 0 03 01065
016105 100545 A 1066 EXC 0545 03 01066 DISABLE MEMORY PARITY INT.
016106 010000 A 1067 LDA 0 03 01067
016107 050002 A 1068 STA 2 03 01068 SAVE CONTENTS OF LOCATION ZERO
016110 005001 A 1069 TZA 0 03 01069
016111 050000 A 1070 STA 0 03 01070
016112 005311 A 1071 DAR A=-1 03 01071
016113 006120 A 1072 ESZ1 ADDI 4096 03 01072 NEXT 4K MEMORY ADDRESS
016114 010000 A
016115 005014 A 1073 TAX 03 01073
016116 025001 A 1074 LDB 1,1 03 01074 SAVE MEMORY CELL IN B REG
016117 055001 A 1075 STA 1,1 03 01075
016120 015001 A 1076 LDA 1,1 03 01076
016121 130000 A 1077 ERA 0 03 01077
016122 001010 A 1078 JAZ ESZ2 03 01078 JUMP IF END OF MEMORY
016123 016130 A
016124 065001 A 1079 STB 1,1 03 01079 RESTORE MEMORY CELL
016125 005041 A 1080 TXA 03 01080
016126 001000 A 1081 JMP ESZ1 03 01081
016127 016113 A
016130 010002 A 1082 ESZ2 LDA 2 03 01082 RESTORE CONTENTS OF
016131 050000 A 1083 STA 0 03 01083 LOCATION ZERO
016132 005041 A 1084 TXA 03 01084
016133 001000 A 1085 JMP* ESZA 03 01085
016134 116104 A

1086 * 03 01086
1087 * 03 01087
1088 * 03 01088
1089 * CONVERT MEMORY SIZE FOR ASCII PRINTOUT 03 01089
1090 * 03 01090
016135 000000 A 1091 ESZB ENTR 0 03 01091
016136 010441 A 1092 LDA #MEM 03 01092 GET CORE SIZE(X7777)
016137 004354 A 1093 LSRA 12 03 01093 TRUNCATE 7777
016140 006120 A 1094 ADDI ETAB 03 01094 ADDRESS OF THE ASCII EQUIV TABLE
016141 016151 A
016142 005014 A 1095 TAX 03 01095
016143 015000 A 1096 LDA 0,1 03 01096 GET ASCII EQUIV FROM TABLE ETAB
016144 006020 A 1097 LDBI MSG4 03 01097 SET MEMORY SIZE(04,08,ETC) INTO MSG4
016145 016051 A
016146 056000 A 1098 STA 0,2 03 01098
016147 001000 A 1099 JMP* ESZB 03 01099 RETURN
016150 116135 A
016151 120264 A 1100 ETAB DATA 0120264 03 01100 ASCII 04
016152 120270 A 1101 DATA 0120270 03 01101
016153 130662 A 1102 DATA 0130662 03 01102
016154 130666 A 1103 DATA 0130666 03 01103
016155 131260 A 1104 DATA 0131260 03 01104
016156 131264 A 1105 DATA 0131264 03 01105
016157 131270 A 1106 DATA 0131270 03 01106
016160 131662 A 1107 DATA 0131662 03 01107
1108 * 03 01108
1109 * 03 01109
1110 * 03 01110
1111 * 03 01111
1112 * 03 01112
1113 * 03 01113
1114 * ***** 03 01114
1115 * ***** 03 01115

```



```

1116 *          SENSE SWITCH SUBROUTINE
1117 *          THIS SUBROUTINE PROVIDES A STANDARD SENSE SWITCH INTERFACE.
1118 *          THE CALLING SEQUENCE IS AS FOLLOWS
1119 *          THE A, B, AND X REGISTERS CONTAIN ERROR HALT VALUES.
1120 *          CALL SSWT
1121 *          DATA (U REGISTER VALUE)
1122 *          DATA (ERROR MESSAGE ADDRESS) (IF NEG. ERROR SUB.)
1123 *          DATA (TERMINATION EXIT)
1124 *          DATA (LOOP ON ERROR EXIT)
1125 *          *          NORMAL EXIT RETURN
1126 *
1127 *          STANDARD SENSE SWITCH SETTINGS
1128 *          SS1 -(SET) SUPPRESS ERROR PRINTOUT
1129 *          (RESET) ALLOW ERROR PRINTOUTS
1130 *          SS2 (SET) HALT ON ERROR
1131 *          (IF SET AFTER HALT - CONTINUE )
1132 *          (RESET) DO NOT HALT ON ERROR
1133 *          (IF HALT ON ERROR SET FIRST THEN RESET ON
1134 *          HALT CONDITION - LOOP UNTIL SET )
1135 *          SS3 (SET) TERMINATE TEST - RETURN TO BEGINING OF TEST
1136 *          (RESET) CONTINUE TEST
1137 *          *****
1138 *
016161 054125 A 1139 SSWP STA SSWS SAVE VOLATILE REGISTERS
016162 064125 A 1140 STB SSWS+1
016163 074125 A 1141 STX SSWS+2
016164 001400 A 1142 JSS3 SSWE IF SS3 SET RETURN THROUGH TERMINATION EXIT
016165 016312 A
016166 001100 A 1143 JSS1 SSW1 CHECK IF TTY SUPPRESSED
016167 016211 A
016170 024102 A 1144 LDB SSWT GET 2ND PARAMETER
016171 005122 A 1145 IBR
016172 016000 A 1146 LDA 0+2
016173 001010 A 1147 JAZ SSW1
016174 016211 A
016175 005012 A 1148 TAB CHECK IF BIT 15 SET
016176 006150 A 1149 ANAI 0100000
016177 100000 A
016200 005014 A 1150 TAX
016201 005021 A 1151 TBA
016202 001040 A 1152 JXZ *+4
016203 016206 A
016204 001000 A 1153 JMP SSWR CALL ERROR SUBROUTINE
016205 016275 A
016206 005014 A 1154 TAX PRINT ERROR MESSAGE
016207 002000 A 1155 CALL DUTD
016210 017035 A
016211 001400 A 1156 SSW1 JSS3 SSWE IF SS3 SET - RETURN THROUGH TERMINATION EXT
016212 016312 A
016213 010440 A 1157 LDA #FLG CHECK IF LOOPING
016214 001010 A 1158 JAZ SSW4
016215 016206 A
016216 001200 A 1159 SSW2 JSS2 SSW3 LOOPING - CHECK IF TERMINATE LOOPING.
016217 016233 A
016220 024102 A 1160 SSWL LDB SSWT RETURN THROUGH LOOP EXIT
016221 005122 A 1161 IBR
016222 005122 A 1162 IBR
016223 005122 A 1163 IBR
016224 016000 A 1164 LDA 0+2
016225 054004 A 1165 STA *+5
016226 014060 A 1166 LDA SSWS RETURN VOLATILE REGISTERS.
016227 024060 A 1167 LDB SSWS+1
016230 034060 A 1168 LDX SSWS+2
016231 001000 A 1169 JMP *
016232 016231 A
016233 005001 A 1170 SSW3 TZA RETURN TO NORMAL EXIT (CONTINUATION EXIT)
016234 050440 A 1171 STA #FLG CLEAR LOOP FLAG.
016235 014060 A 1172 LDA SSWT
016236 006120 A 1173 ANAI 1
016237 002004 A
016240 004004 A 1174 STA *+5
016241 014060 A 1175 LDA SSWS RETURN VOLATILE REGISTERS.
016242 024060 A 1176 LDB SSWS+1
016243 004060 A 1177 LDX SSWS+2
016244 001000 A 1178 JMP *
016245 016244 A
016246 001200 A 1179 SSW4 JSS2 SSW5 CHECK IF HALT ON ERROR
016247 016233 A
016250 001000 A 1180 JMP SSW3 RETURN TO NORMAL EXIT LOC.
016251 016233 A
016252 024050 A 1181 SSW5 LDB SSWT GET FIRST PARAMETER
016253 016000 A 1182 LDA 0+2
016254 054003 A 1183 STA *+4
016255 014031 A 1184 LDA SSWS RETURNED SAVED PARAMETERS.
016256 024031 A 1185 LDB SSWS+1
016257 034031 A 1186 LDX SSWS+2
016260 005000 A 1187 NOP 1ST PARAMETER STORED HERE AND EXECUTED.
016261 001400 A 1188 SSW6 JSS3 SSWE IF SS3 SET RETURN THROUGH TERMINATION EXIT
016262 016312 A
016263 010440 A 1189 LDA #FLG CHECK IF LOOPING
016264 001010 A 1190 JAZ *+4
016265 016270 A
016266 001000 A 1191 JMP SSW2
016267 016216 A
016270 001200 A 1192 JSS2 SSW3 LOOP FLAG ZERD - CHECK IF LOOP REQUEST

```

PAGE	18	MAINTAIN III	MAIN3PT		
016271	016233	A			
016272	040440	A	1193	INR	\$FLG INCREMENT LOOP FLAG
016273	001000	A	1194	JMP	SSWL JUMP THROUGH LOOP EXIT
016274	016220	A			
016275	006150	A	1195	SSWR ANAI	077777 ERROR SUBROUTINE MASK OUT BIT 15
016276	077777	A			
016277	054004	A	1196	STA	*+5
016300	014006	A	1197	LDA	SSWS
016301	024006	A	1198	LDB	SSWS+1
016302	034006	A	1199	LDX	SSWS+2
016303	002000	A	1200	JMPM	* CALL ERROR SUBROUTINE
016304	016303	A			
016305	001000	A	1201	JMP	SSW1
016306	016211	A			
016307		A	1202	SSWS BSS	3
016312	005001	A	1203	SSWE TZA	
016313	050440	A	1204	STA	\$FLG JUMP THROUGH TERMINATION EXIT.
016314	024006	A	1205	LDB	SSWT CLEAR LOOP FLAG.
016315	005122	A	1206	IBR	
016316	005122	A	1207	IBR	SET UP TERMINATION EXIT
016317	016000	A	1208	LDA	0,2
016320	054001	A	1209	STA	*+2
016321	001000	A	1210	JMP	* CALL ERROR SUBROUTINE
016322	016321	A			
016323	000000	A	1211	SSWT ENTR	SENSE SWITCH SUBROUTINE ENTRANCE
016324	001000	A	1212	JMP	SSWP
016325	016161	A			
		A	1213	*	
		A	1214	*	INPUT ONE CHARACTER FROM TTY TO (A) REGISTER
		A	1215	*	
016326	002000	A	1216	INA1 CALL	INPH, INA2 SENSE BFR RDY
016327	016713	A			
016330	016335	A			
016331	001400	A	1217	JSS3	INA3
016332	016341	A			
016333	001000	A	1218	JMP	INA1
016334	016326	A			
016335	002000	A	1219	INA2 CALL	INPI INPUT CHARACTER
016336	016725	A			
016337	044002	A	1220	INR	INPA NORMAL EXIT
016340	044001	A	1221	INR	INPA
016341	001000	A	1222	INA3 JMP	000
016342	000000	A			
016342		A	1223	INPA BES	0 ENTER
016343	001000	A	1224	JMP	INA1
016344	016326	A			
		A	1225	*	
		A	1226	*	INPUT ONE CHARACTER + PRINT FROM TTY TO A REGISTER
		A	1227	*	
016345	002000	A	1228	INB1 CALL	INPA INPUT ONE CHARACTER
016346	016342	A			
016347	001000	A	1229	JMP*	INPB TERMINATE EXIT
016350	116356	A			
016351	002000	A	1230	CALL	OUTA OUTPUT ONE CHARACTER
016352	016730	A			
016353	044002	A	1231	INR	INPB
016354	044001	A	1232	INR	INPB
016355	001000	A	1233	JMP*	0 EXIT
016356	100000	A			
016356		A	1234	INPB BES	0
016357	001000	A	1235	JMP	INB1
016360	016343	A			
		A	1236	*	
		A	1237	*	
		A	1238	*	INPUT ONE CHARACTER (EDITED)
		A	1239	*	
016361	002000	A	1240	INC3 CALL	INPB
016362	016356	A			
016363	001000	A	1241	JMP*	INPC TERMINATE EXIT
016364	116410	A			
016365	006130	A	1242	ERAI	'\ ' BACKSLASH
016366	000334	A			
016367	001010	A	1243	JAZ	INC2 ABORT INPUT EXIT
016370	016405	A			
016371	006130	A	1244	ERAI	'\ ' RESTORE A
016372	000334	A			
016373	006130	A	1245	ERAI	0337 BACKARROW
016374	000337	A			
016375	001010	A	1246	JAZ	INC1 DELETE ONE CHARACTER EXIT
016376	016403	A			
016377	006130	A	1247	ERAI	0337 RESTORE A
016400	000337	A			
016401	044006	A	1248	INR	INPC
016402	044005	A	1249	INR	INPC
016403	044004	A	1250	INC1 INR	INPC
016404	044003	A	1251	INR	INPC
016405	044002	A	1252	INC2 INR	INPC
016406	044001	A	1253	INR	INPC
016407	001000	A	1254	JMP*	0 EXIT
016410	100000	A			
016410		A	1255	INPC BES	0
016411	001000	A	1256	JMP	INC3
016412	016361	A			
		A	1257	*	
		A	1258	*	INPUT ONE ALPHA CHARACTER FROM TTY KEYBOARD TO A REG

MAINTAIN III				MAIN3PT		
			1259 *			03 01259
016413	002000	A	1260 IND4	CALL	INPC	03 01260
016414	016410	A				
016415	001000	A	1261	JMP*	INPD	03 01261
016416	116444	A				
016417	001000	A	1262	JMP	IND2	03 01262
016420	016441	A				
016421	001000	A	1263	JMP	IND1	03 01263
016422	016437	A				
016423	006140	A	1264	SUBI	0301	03 01264
016424	000301	A				
016425	001004	A	1265	JAN	IND3	03 01265
016426	016447	A				
016427	006140	A	1266	SUBI	032	03 01266
016430	000032	A				
016431	001002	A	1267	JAP	IND3	03 01267
016432	016447	A				
016433	006120	A	1268	ADDI	0333	03 01268
016434	000333	A				
016435	044006	A	1269	INR	INPD	03 01269
016436	044005	A	1270	INR	INPD	03 01270
016437	044004	A	1271 IND1	INR	INPD	03 01271
016440	044003	A	1272	INR	INPD	03 01272
016441	044002	A	1273 IND2	INR	INPD	03 01273
016442	044001	A	1274	INR	INPD	03 01274
016443	001000	A	1275	JMP*	0	03 01275
016444	100000	A				
016444			1276 INPD	BES	0	03 01276
016445	001000	A	1277	JMP	IND4	03 01277
016446	016413	A				
016447	002000	A	1278 IND3	CALL	OUTG	03 01278
016450	017065	A				
016451	001000	A	1279	JMP	IND2	03 01279
016452	016441	A				
			1280 *			03 01280
			1281 *			03 01281
			1282 *			03 01282
			1283 *			03 01283
			1284 *			03 01284
			INPUT TWO LETTER CHARACTERS FROM TTY			
016453	002000	A	1284 INE3	CALL	INPD	03 01284
016454	016444	A				
016455	001000	A	1285	JMP*	INPE	03 01285
016456	116505	A				
016457	001000	A	1286	JMP	INE2	03 01286
016460	016502	A				
016461	001000	A	1287	JMP	INE1	03 01287
016462	016500	A				
016463	004250	A	1288	LRLA	8	03 01288
016464	054452	A	1289	STA	TS02	03 01289
016465	002000	A	1290	CALL	INPD	03 01290
016466	016444	A				
016467	001000	A	1291	JMP*	INPE	03 01291
016470	116505	A				
016471	001000	A	1292	JMP	INE2	03 01292
016472	016502	A				
016473	001000	A	1293	JMP	INE3	03 01293
016474	016453	A				
016475	114441	A	1294	ORA	TS02	03 01294
016476	044006	A	1295	INR	INPE	03 01295
016477	044005	A	1296	INR	INPE	03 01296
016500	044004	A	1297 INE1	INR	INPE	03 01297
016501	044003	A	1298	INR	INPE	03 01298
016502	044002	A	1299 INE2	INR	INPE	03 01299
016503	044001	A	1300	INR	INPE	03 01300
016504	001000	A	1301	JMP*	0	03 01301
016505	100000	A				
016505			1302 INPE	BES	0	03 01302
016506	001000	A	1303	JMP	INE3	03 01303
016507	016453	A				
			1304 *			03 01304
			1305 *			03 01305
			1306 *			03 01306
			1307 *			03 01307
			INPUT PERIOD, COMMA FOR MESSAGE TERMINATOR			
016510	002000	A	1307 INF5	CALL	INPC	03 01307
016511	016410	A				
016512	001000	A	1308	JMP*	INPF	03 01308
016513	116543	A				
016514	001000	A	1309	JMP	INF2	03 01309
016515	016502	A				
016516	001000	A	1310	JMP	INF1	03 01310
016517	016540	A				
016520	006140	A	1311	SUBI	0254	03 01311
016521	000254	A				
016522	001010	A	1312	JAZ	INF3	03 01312
016523	016506	A				
016524	006140	A	1313	SUBI	02	03 01313
016525	000002	A				
016526	001010	A	1314	JAZ	INF4	03 01314
016527	016534	A				
016530	002000	A	1315	CALL	OUTG	03 01315
016531	017065	A				
016532	001000	A	1316	JMP	INF2	03 01316
016533	016542	A				
016534	044010	A	1317 INF4	INR	INPF	03 01317
016535	044007	A	1318	INR	INPF	03 01318
016536	044006	A	1319 INF3	INR	INPF	03 01319
016537	044005	A	1320	INR	INPF	03 01320

PAGE 20		MAINTAIN III		MAIN3PT					
016540	044004	A	1321	INF1	INR	INPF	DELETE PREVIDS CHARACTER EXIT	03	01321
016541	044003	A	1322		INR	INPF		03	01322
016542	044002	A	1323	INF2	INR	INPF	ABORT INPUT EXIT	03	01323
016543	044001	A	1324		INR	INPF		03	01324
016544	001000	A	1325		JMP*	0	EXIT	03	01325
016545	100000	A							
016545			1326	INPF	BES	0		03	01326
016546	001000	A	1327		JMP	INF5		03	01327
016547	016510	A							
			1328	*				03	01328
			1329	*				03	01329
			1330	*	INPUT OCTAL NUMBER FROM TTY KEYBOARD			03	01330
			1331	*	ASSEMBLE AS 16 BIT NUMBER IN A REG			03	01331
			1332	*	ONLY OCTAL NUMBERS ACCEPTED			03	01332
			1333	*				03	01333
016550	005001	A	1333	ING7	TZA			03	01333
016551	054365	A	1334		STA	TS02	TEMP STORAGE FOR OCTAL NUMBER	03	01334
016552	050471	A	1335		STA	TS04	TEMP STORAGE FOR DIGIT COUNTER	03	01335
016553	064367	A	1336		STB	TS07		03	01336
016554	005002	A	1337		TZR			03	01337
016555	002000	A	1338	ING5	CALL	INPC	INPUT ONE CHARACTER	03	01338
016556	016410	A							
016557	001000	A	1339		JMP*	INPG	TERMINATE EXIT	03	01339
016560	116625	A							
016561	001000	A	1340		JMP	ING2	ABORT INPUT EXIT	03	01340
016562	016620	A							
016563	001000	A	1341		JMP	ING1	DELETE PREVIDS CHARACTER EXIT	03	01341
016564	016653	A							
016565	054353	A	1342		STA	TS05	SAVE INPUT	03	01342
016566	006140	A	1343		SUBI	0260		03	01343
016567	000260	A							
016570	001004	A	1344		JAN	ING6	INVALID IF NOT OCTAL NUMBER	03	01344
016571	016632	A							
016572	006140	A	1345		SUBI	010		03	01345
016573	000010	A							
016574	001002	A	1346		JAP	ING6	INVALID IF NOT OCTAL NUMBER	03	01346
016575	016632	A							
016576	006120	A	1347		ADDI	010	RESTORE DIGIT	03	01347
016577	000013	A							
016600	054337	A	1348		STA	TS03	SAVE CHARACTER	03	01348
016601	014335	A	1349		LDA	TS02	INSERT CHARACTER	03	01349
016602	004443	A	1350		LLRL	3	INTU	03	01350
016603	114334	A	1351		ORA	TS03	OCTAL NUMBER	03	01351
016604	001020	A	1352		JBZ	*+4	TOO MANY BITS ?	03	01352
016605	016610	A							
016606	001000	A	1353		JMP	ING8	YES	03	01353
016607	016647	A							
016610	054326	A	1354		STA	TS02	NO	03	01354
016611	040471	A	1355		INR	TS04	INCR # DIGITS	03	01355
016612	001000	A	1356		JMP	ING5	GET NEXT DIGIT	03	01356
016613	016555	A							
016614	044010	A	1357	ING3	INR	INPG	NORMAL EXIT	03	01357
016615	044007	A	1358		INR	INPG		03	01358
016616	044006	A	1359	ING4	INR	INPG	COMMA EXIT	03	01359
016617	044005	A	1360		INR	INPG		03	01360
016620	044004	A	1361	ING2	INR	INPG	ABORT INPUT EXIT	03	01361
016621	044003	A	1362		INR	INPG		03	01362
016622	024320	A	1363		LDB	TS07		03	01363
016623	014313	A	1364		LDA	TS02	GET ASSEMBLED OCTAL NUMBER	03	01364
016624	001000	A	1365		JMP	0	EXIT	03	01365
016625	000000	A							
016625			1366	INPG	BES	0		03	01366
016626	002000	A	1367		CALL	INPI	INIT TTY BFR	03	01367
016627	016725	A							
016630	001000	A	1368		JMP	ING7		03	01368
016631	016550	A							
016632	014306	A	1369	ING6	LDA	TS05	GET LAST INPUT	03	01369
016633	006140	A	1370		SUBI	0254	IS IT A COMMA	03	01370
016634	000254	A							
016635	001010	A	1371		JAZ	ING4	YES	03	01371
016636	016616	A							
016637	006140	A	1372		SUBI	02	IS IT A PERIOD	03	01372
016640	000002	A							
016641	001010	A	1373		JAZ	ING3	YES	03	01373
016642	016614	A							
016643	006140	A	1374		SUBI	0256-0215		03	01374
016644	000041	A							
016645	001010	A	1375		JAZ	ING3	RETURN IS AS GOOD AS PERIOD	03	01375
016646	016614	A							
016647	002000	A	1376	ING8	CALL	OUTG	PRINT INVALID MESSAGE	03	01376
016650	017065	A							
016651	001000	A	1377		JMP	ING2	ABORT	03	01377
016652	016620	A							
			1378	*				03	01378
016653	014263	A	1379	ING1	LDA	TS02	DELETE LAST CHARACTER	03	01379
016654	004343	A	1380		LSRA	3		03	01380
016655	054261	A	1381		STA	TS02		03	01381
016656	010471	A	1382		LDA	TS04		03	01382
016657	005311	A	1383		DAR		REDUCE DIGIT COUNT	03	01383
016660	001000	A	1384		JMP	ING5		03	01384
016661	016555	A							
			1385	*				03	01385
016662	000000	A	1386	INN	ENTR		INPUT TO TERMINATOR	03	01386
			1387	*				03	01387
016663	002000	A	1388		CALL	INPG		03	01388
016664	016625	A							

		MAINTAIN III	MAIN3PT		
016665	001000	A 1389	JMP	ETOP	03 01389
016666	015513	A			
016667	001000	A 1390	JMP	ETOP	03 01390
016670	015513	A			
016671	001000	A 1391	JMP*	INN	03 01391
016672	116662	A			
016673	001000	A 1392	JMP*	INN	03 01392
016674	116662	A			
		1393 *			03 01393
		1394 *			03 01394
		1395 *			03 01395
			SENSE TTY BFR RDY		
016675	054020	A 1396	INH1 STA	INH2	SAVE A
016676	014014	A 1397	LDA	INPH	MODIFY RETURN
016677	006110	A 1398	ORAI	0100000	
016700	100000	A			
016701	054006	A 1399	STA	INH3+1	
016702	010473	A 1400	LDA	STTY	ADJ SBR
016703	006110	A 1401	ORAI	0101200	
016704	101200	A			
016705	054001	A 1402	STA	*+2	
016706	014007	A 1403	LDA	INH2	RESTORE A
016707	101000	A 1404	INH3 SEN	0*	
016710	016707	A			
016711	044001	A 1405	INR	INPH	
016712	001000	A 1406	JMP		
016713	000000	A			
016713		A 1407	INPH BES	0	ENTER
016714	001000	A 1408	JMP	INH1	
016715	016675	A			
016716	000000	A 1409	INH2 DATA	0	
		1410 *			03 01409
		1411 *			03 01410
		1412 *			03 01411
			INPUT CHARACTER FROM TTY W/OUT SENSING BFR RDY		
016717	010473	A 1413	INI1 LDA	STTY	ADJ. CIA
016720	006110	A 1414	ORAI	0102500	
016721	102500	A			
016722	054000	A 1415	STA	*+1	
016723	102500	A 1416	CIA	0	INPUT
016724	001000	A 1417	JMP	0	
016725	000000	A			
016725		A 1418	INPI BES	0	ENTER
016726	001000	A 1419	JMP	INI1	
016727	016717	A			
		1420 *			03 01420
		1421 *			03 01421
		1422 *			03 01422
			OUTPUT ONE CHARACTER FROM A REG TO TTY		
016730	000000	A 1423	OUTA ENTR	0	
016731	074204	A 1424	STY	T001	SAVE X
016732	005014	A 1425	TXA		
016733	010473	A 1426	LDA	STTY	
016734	006110	A 1427	ORAI	0101100	ADJUST TTY DA
016735	101100	A			
016736	054006	A 1428	STA	*+7	
016737	006120	A 1429	ADDI	002000	
016740	002000	A			
016741	054013	A 1430	STA	OUT1	
016742	005041	A 1431	TXA		
016743	006030	A 1432	LDXI	-1	TIME - OUT CONSTANT
016744	177777	A			
016745	101000	A 1433	SEN	0,OUT1	WRITE REGISTER READY
016746	016755	A			
016747	002000	A 1434	CALL	TOUT	
016750	017133	A			
016751	005011	A 1435	MERG	011	
016752	000115	A 1436	HLT	ZZ	
016753	001000	A 1437	JMP	*-6	
016754	016745	A			
016755	103100	A 1438	OUT1 DAR	0	
016756	034107	A 1439	LDR	T001	RESTORE X
016757	001000	A 1440	JMP*	OUTA	RETURN
016760	116730	A			
		1441 *			03 01441
		1442 *			03 01442
		1443 *			03 01443
		1444 *			03 01444
		1445 *			03 01445
			OUTPUT TWO CHARACTERS FROM A REG TO TTY (HIGH ORDER FIRST) ENTER WITH CHARACTERS IN A REG		
016761	000000	A 1446	OUTB ENTR	0	
016762	064157	A 1447	STB	T006	SAVE B
016763	004550	A 1448	LLSR	0	
016764	002000	A 1449	CALL	OUTA	OUTPUT FIRST CHAR
016765	016730	A			
016766	004450	A 1450	LLRL	0	
016767	002000	A 1451	CALL	OUTA	OUTPUT SECOND CHAR
016770	016730	A			
016771	024130	A 1452	LDR	T006	RESTORE B
016772	001000	A 1453	JMP*	OUTB	RETURN
016773	116761	A			
		1454 *			03 01454
		1455 *			03 01455
		1456 *			03 01456
			OUTPUT CARRIAGE RETURN AND LINE FEED TO TTY		
016774	000000	A 1457	OUTC ENTR	0	
016775	054005	A 1458	STA	*+6	SAVE A
016776	006010	A 1459	ORAI	0106612	CR AND LF
016777	106612	A			
017000	002000	A 1460	CALL	OUTB	OUTPUT 2 CHAR

PAGE	22	MAINTAIN III	MAIN3PT	
017001	016761	A		
017002	006010	A	1461	LDAI 0 RESTORE A 03 01461
017003	000000	A		
017004	001000	A	1462	JMP* OUTC RETURN 03 01462
017005	116774	A		
			1463 *	03 01463
			1464 *	03 01464
			1465 *	03 01465
017006	000000	A	1466	OUTE ENTR 0 03 01466
017007	064022	A	1467	STB *+19 SAVE B 03 01467
017010	005002	A	1468	TZB 03 01468
017011	004557	A	1469	LLSR 15 03 01469
017012	005122	A	1470	IBR 03 01470
017013	006110	A	1471	OUT2 DRAI '0' MAKE DIGIT 03 01471
017014	000260	A		
017015	002000	A	1472	CALL OUTA OUTPUT ONE DIGIT 03 01472
017016	016730	A		
017017	005001	A	1473	TZA 03 01473
017020	004443	A	1474	LLRL 3 03 01474
017021	001020	A	1475	JBZ *+4 OCTAL OUTPUT COMPLETE 03 01475
017022	017025	A		
017023	001000	A	1476	JMP OUT2 03 01476
017024	017013	A		
017025	006010	A	1477	LDAI 0240 ASCII BLANK CODE 03 01477
017026	000240	A		
017027	002000	A	1478	CALL OUTA OUTPUT SPACE 03 01478
017030	016730	A		
017031	006020	A	1479	LDBI 0 RESTORE B 03 01479
017032	000000	A		
017033	001000	A	1480	JMP* OUTE RETURN 03 01480
017034	117006	A		
			1481 *	03 01481
			1482 *	03 01482
			1483 *	03 01483
017035	000000	A	1484	OUTD ENTR 0 03 01484
017036	015000	A	1485	LDA 0,1 03 01485
017037	001010	A	1486	JAZ* OUTD 03 01486
017040	117035	A		
017041	002000	A	1487	CALL OUTB 03 01487
017042	016761	A		
017043	005144	A	1488	IXR 03 01488
017044	001000	A	1489	JMP OUTD+1 03 01489
017045	017036	A		
			1490 *	03 01490
			1491 *	03 01491
			1492 *	03 01492
017046	000000	A	1493	OUTF ENTR 0 03 01493
017047	054007	A	1494	STA TS02 SAVE WORD 03 01494
017050	006010	A	1495	LDAI ' (' PAREN SPACE 03 01495
017051	124240	A		
017052	002000	A	1496	CALL OUTB PRINT CHAR 03 01496
017053	016761	A		
017054	014062	A	1497	LDA TS02 03 01497
017055	002000	A	1498	JMPM OUTE OUTPUT OCTAL WORD 03 01498
017056	017006	A		
017057	006010	A	1499	LDAI ') ' RIGHT PARENTHESIS AND SPACE 03 01499
017060	124640	A		
017061	002000	A	1500	CALL OUTB 03 01500
017062	016761	A		
017063	001000	A	1501	JMP* OUTF 03 01501
017064	117046	A		
			1502 *	03 01502
			1503 *	03 01503
			1504 *	03 01504
017065	000000	A	1505	OUTG ENTR 0 03 01505
017066	006030	A	1506	LXI MSG5 INVALID MESSAGE 03 01506
017067	016034	A		
017070	002000	A	1507	CALL OUTD OUTPUT MESSAGE 03 01507
017071	017035	A		
017072	001000	A	1508	JMP* OUTG 03 01508
017073	117035	A		
			1509 *	03 01509
			1510 *	03 01510
			1511 *	03 01511
017074	054020	A	1512	OUT3 STA OUTH+3 SAVE A 03 01512
017075	074020	A	1513	STX OUTH+4 SAVE X 03 01513
017076	034013	A	1514	LDX OUTH A=CONTROL 03 01514
017077	015000	A	1515	LDA 0+1 CHARACTER 03 01515
017100	002000	A	1516	CALL OUTA OUTPUT CHARACTER 03 01516
017101	016730	A		
017102	006030	A	1517	LXI 077777 INIT 03 01517
017103	077777	A		
017104	002000	A	1518	CALL TDLY TIME DELAY 03 01518
017105	017117	A		
017106	044003	A	1519	INR OUTH SET RETURN 03 01519
017107	014003	A	1520	LDA OUTH+3 RESTORE A 03 01520
017110	034003	A	1521	LXI OUTH+4 RESTORE X 03 01521
017111	001000	A	1522	JMP 0 RETURN 03 01522
017112	000000	A		
017112		A	1523	OUTH BES 0 ENTRY 03 01523
017113	001000	A	1524	JMP OUT3 LOOP 03 01524
017114	017074	A		
017115		A	1525	BSS 2 STORAGE FOR A + X 03 01525
			1526 *	03 01526
			1527 *	03 01527
			1527 *	03 01527

MAINTAIN III

MAIN3PT

017117	000000	A	1528	*						03	01528
017120	005344	A	1529	TDLY	ENTR	0				03	01529
017121	001040	A	1530		DXR					03	01530
017122	117117	A	1531		JXZ*	TDLY		RETURN		03	01531
017123	001000	A	1532		JMP	*-3				03	01532
017124	017120	A									
			1533	*						03	01533
			1534	*	I/O	TIME-OUT	SUBROUTINE			03	01534
			1535	*						03	01535
017125	005344	A	1536	TOUT	DXR					03	01536
017126	001040	A	1537		JXZ*	TOUT		TIME-OUT RETURN		03	01537
017127	117133	A									
017130	044002	A	1538		INR	TOUT		SET UP FOR		03	01538
017131	044001	A	1539		INR	TOUT		NORMAL EXIT		03	01539
017132	001000	A	1540		JMP	0				03	01540
017133	000000	A									
017133	000000	A	1541	TOUT	BES	0				03	01541
017134	001000	A	1542		JMP	TOUT				03	01542
017135	017125	A									
			1543	*						03	01543
			1544	*	DATA	TABLE				03	01544
			1545	*						03	01545
			1546	*						03	01546
017136	000000	A	1547	TS01	DATA	0		TEMPORARY STORAGE		03	01547
017137	000000	A	1548	TS02	DATA	0		TEMPORARY STORAGE		03	01548
017140	000000	A	1549	TS03	DATA	0		TEMPORARY STORAGE		03	01549
017141	000000	A	1550	TS05	DATA	0		TEMPORARY STORAGE		03	01550
017142	000000	A	1551	TS06	DATA	0		TEMPORARY STORAGE		03	01551
017143	000000	A	1552	TS07	DATA	0		TEMPORARY STORAGE		03	01552
			1553	*						03	01553
017144	017144	A	1554	PCHT	EQU	*				03	01554
017145	006010	A	1555		LDAI	DATA				03	01555
017146	054022	A	1556		STA	PCHR				03	01556
017147	001000	A	1557		JMP*	DPDT				03	01557
017150	117161	A									
017151	017151	A	1558	PCHP	EQU	*				03	01558
017152	006010	A	1559		LDAI	PDU				03	01559
017153	017175	A									
017154	054015	A	1560		STA	PCHR				03	01560
017155	006030	A	1561		LDXI	P000				03	01561
017156	017172	A									
017157	002000	A	1562		CALL	SET				03	01562
017157	014011	A									
017160	001000	A	1563		JMP*	DPDT				03	01563
017161	117161	A									
017162	017161	A	1564	DPDT	EQU	*-1				03	01564
017163	010474	A	1565		LDA	DADR				03	01565
017164	006130	A	1566		ANAI	020				03	01566
017165	000020	A									
017166	001010	A	1567		JAZ	PCHT				03	01567
017167	017144	A									
017167	001000	A	1568		JMP	PCHP				03	01568
017170	017151	A									
017171	000000	A	1569	PCHR	DATA	0				03	01569
017172	017176	A	1570	P000	DATA	P001,P002				03	01570
017173	017204	A									
017174	000000	A	1571		DATA	0				03	01571
017175	000000	A	1572	PDU	ENTR					03	01572
017176	101500	A	1573	P001	SEN	P000,P002				03	01573
017177	017204	A									
017200	001400	A	1574		JSSB	P000				03	01574
017201	014327	A									
017202	001000	A	1575		JMP	P001				03	01575
017203	017176	A									
017204	103100	A	1576	P002	CAR	000				03	01576
017205	001000	A	1577		JMP*	PDU				03	01577
017206	117175	A									
			1578	*						03	01578
	017205	A	1579	EDEX	EQU	*-1				03	01579
	014000	A	1580		END	EP00				03	01580

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

000442	A	\$CON	000440	A	\$FLG	000441	A	\$NEM	000473	A	\$TTY
015763	A	ABX	000464	A	CKSM	015503	A	DOMSG1	015507	A	DOMSG3
017161	A	DPDT	014373	A	DRCD	014340	A	DUMP	000431	A	E3R1
015076	A	E3RG	000432	A	E4R1	015124	A	E4RG	000433	A	E5R1
015152	A	E5RG	000434	A	E6R1	015200	A	E6RG	000435	A	E7R1
015225	A	E7RG	000443	A	EAR1	014773	A	EARG	014000	A	EBG0
015454	A	ERG1	015465	A	ERG2	000444	A	EBR1	015022	A	EPRG
015427	A	ECN2	015400	A	ECN3	015367	A	ECN0	017206	A	EDEX
015333	A	EDU1	015340	A	EDU2	015354	A	EDU4	015316	A	EDUM
015206	A	EGD1	015233	A	EGOT	000454	A	EK00	000400	A	EK01
000456	A	EK02	014000	A	EL00	015667	A	EL0B	014114	A	END
015632	A	EDF	014215	A	EDR	015315	A	EDV1	014304	A	EPU1
014256	A	EPUN	014740	A	ESR1	014751	A	ESPC	014732	A	ESR4
014767	A	ESR3	014706	A	ESR0	016113	A	ESZ1	016130	A	ESZ2
016104	A	ESZ0	016135	A	ESZB	015444	A	ESZC	016151	A	ETAB
015600	A	ETBL	015343	A	ETD4	015513	A	ETOP	014673	A	ETR1
014703	A	ETR2	014572	A	ETR3	014612	A	ETR3A	014604	A	ETR3B
014536	A	ETRP	000446	A	ET31	000400	A	EX00	000401	A	EX01
000402	A	EX02	000403	A	EX03	000404	A	EX04	000405	A	EX05
000406	A	EX06	000407	A	EX07	000410	A	EX10	000411	A	EX11

		MAINTAIN III			MAIN3PT					
947	EDF	918								
355	EOR	399								
788	EDV1	524	553	783						
345	EPU1	335								
329	EPUN	350	929							
598	ESR1	611								
604	ESR2	597								
593	ESR4	603								
612	ESR5	584								
580	ESRC	614	932							
1072	ESZ1	1081								
1082	ESZ2	1078								
1065	ESZA	859	1085							
1091	ESZB	861	1099							
858	ESZC	101	862	865						
1190	ETAB	1094								
914	ETBL	903								
898	ETD4	892								
886	ETDP	69	333	334	343	420	436	452	453	469
		493	496	556	582	583	599	602	626	627
		632	635	646	647	652	655	666	687	672
		675	682	683	688	691	692	699	704	707
		714	715	720	723	729	730	735	738	745
		746	751	754	757	768	792	793	805	815
		827	828	837	838	846	892	895	897	945
		982	1389	1390						
558	ETR1	497								
564	ETR2	508	525							
512	ETR3	565								
522	ETR3A	516								
553	ETR3B	542								
491	ETRP	561	932							
126	ETS1	330	331	339	340	341	347	376	378	407
		410	450	456	457	459	462	463	465	468
		491	492	493	500	501	528	529	560	580
		586	587	588	590	593	595	596	598	601
		605	630	632	650	653	670	673	686	689
		702	705	712	721	733	736	749	752	771
		787	796	798	841	844	848	851		
82	EX00	*								
83	EX01	*								
84	EX02	*								
85	EX03	*								
86	EX04	*								
87	EX05	*								
88	EX06	*								
89	EX07	*								
90	EX10	*								
91	EX11	*								
92	EX12	*								
93	EX13	*								
94	EX14	*								
95	EX15	*								
96	EX16	*								
97	EX17	*								
98	EX20	*								
99	EX21	*								
100	EX26	*								
101	EX27	*								
102	EX30	*								
103	EX31	*								
104	EX32	*								
105	EX33	*								
230	EX04	193								
106	EXFC	369	381							
914	EX17	340	461	464	502	592	900	902	921	923
		924	926	937	938	939	934	935	936	938
		939	946	947	951	953	967			
109	EX01	514	539	563	674	786				
667	EX06	937	961							
946	FIL	913								
1007	FRST	252	271	363	367					
1067	HLIF	1090	1014	1017						
308	IN	205	202	202	207	311				
1216	INA1	1218	1224							
1219	INA2	1216								
1222	INA3	1217								
1228	IND1	1235								
1230	INC1	1246								
1252	INC2	1243								
1240	INC3	1256								
1271	IND1	1263								
1273	IND2	1262	1279							
1278	IND3	1265	1267							
1260	IND4	1277								
1297	INE1	1287								
1299	INE2	1286	1292							
1284	INE3	1293	1303							
1321	INF1	1310								
1323	INF2	1309	1316							
1319	INF3	1312								
1317	INF4	1314								
1307	INF5	1327								
1379	ING1	1341								
1361	ING2	1340	1377							

1 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1974 BY VARIAN DATA MACHINES 03 00001
 2 * 03 00002
 3 * V.D.M. PART NO. 92L0106-013B 03 00003
 4 * 03 00004

RELEASED

MAINTAIN III TEST EXECUTIVE FOR CARD

5 * 03 00005
 6 * 03 00006
 7 * 03 00007
 8 * 03 00008
 9 * 03 00009
 10 * 03 00010
 11 * 03 00011
 12 * 03 00012
 13 * 03 00013
 14 * 03 00014
 15 * 03 00015
 16 * 03 00016
 17 * 03 00017
 18 * 03 00018
 19 * 03 00019
 20 * 03 00020
 21 * 03 00021
 22 * 03 00022
 23 * 03 00023
 24 * 03 00024
 25 * 03 00025
 26 * 03 00026
 27 * 03 00027
 28 * 03 00028
 29 * 03 00029
 30 * 03 00030
 31 * 03 00031
 32 * 03 00032
 33 * 03 00033
 34 * 03 00034
 35 * 03 00035
 36 * 03 00036
 37 * 03 00037
 38 * 03 00038
 39 * 03 00039
 40 * 03 00040

EJEC

41 * *****
 42 * *
 43 * * AREAS RESERVED BY EXECUTIVE *
 44 * *****
 45 * ORG 0 03 00045
 46 * JMP EXECUTIVE 03 00046
 47 * ORG 040 03 00047
 48 * JMPM POWER DOWN ROUTINE 03 00048
 49 * JMP POWER UP ROUTINE 03 00049
 50 * NOTE: THE TEST EXECUTIVE ALSO RESERVES LOCATIONS 0400 TO 0477 03 00050
 51 * FOR A POINTER TABLE TO STANDARD ROUTINES, AND AS AN AREA 03 00051
 52 * FOR EXECUTIVE DATA. ALL TEST PROGRAMS WORKING WITH THE 03 00052
 53 * EXECUTIVE MUST PRESERVE THIS BLOCK. 03 00053
 54 * STANDARD ROUTINES WILL BE CALLED INDIRECTLY THRU 03 00054
 55 * THIS TABLE 03 00055
 56 * 03 00056
 57 * ***** 03 00057
 58 * ***** 03 00058
 59 * ***** 03 00059

000000	A	60	R0	SET	0		B	03	00060
000001	A	61	R1	SET	1		B	03	00061
000002	A	62	R2	SET	2		B	03	00062
000003	A	63	R3	SET	3		B	03	00063
000004	A	64	R4	SET	4		B	03	00064
000005	A	65	R5	SET	5		B	03	00065
000006	A	66	R6	SET	6		B	03	00066
000007	A	67	R7	SET	7		B	03	00067
000000		68		ORG	0			03	00068
000000	001000	A	69	JMP	ETOP	CONSOLE INTERRUPT ENTRANCE		03	00069
000001	015224	A							
000040			70	ORG	040			03	00070
000040	002000	A	71	JMPM	PWDN	POWER DOWN		03	00071
000041	015417	A							
000042	001000	A	72	JMP	PWRU	POWER UP		03	00072
000043	015446	A							

000400

73 *
 74 * ORG 0400 03 00074
 75 * 03 00075
 76 * POINTER TABLE FOR EXEC STANDARD ROUTINES AND DATA 03 00076
 77 * TEST PROGRAMS USING EXECUTIVE ROUTINES WILL CALL THEM 03 00077
 78 * INDIRECTLY THRU THIS TABLE 03 00078
 79 * 03 00079
 80 * 03 00080
 81 * 03 00081

000400	016441	A	82	EX00	DATA	OUTA	OUTPUT ONE CHAR ROUTINE	03	00082
000401	016472	A	83	EX01	DATA	OUTB	OUTPUT TWO CHAR ROUTINE	03	00083
000402	016505	A	84	EX02	DATA	OUTC	OUTPUT CR & LF ROUTINE	03	00084
000403	016546	A	85	EX03	DATA	OUTD	OUTPUT MESSAGE ROUTINE	03	00085
000404	016517	A	86	EX04	DATA	OUTE	OUTPUT OCTAL WORD ROUTINE	03	00086
000405	016557	A	87	EX05	DATA	OUTF	OUTPUT OCTAL ADDRESS ROUTINE	03	00087
000406	016576	A	88	EX06	DATA	OUTG	OUTPUT ERROR MSG ROUTINE	03	00088
000407	016623	A	89	EX07	DATA	OUTH	OUTPUT CONTROL CHAR TO TTY	03	00089
000410	016053	A	90	EX10	DATA	INPA	INPUT ONE CHAR ROUTINE	03	00090
000411	016067	A	91	EX11	DATA	INPB	INPUT AND PRINT ONE CHAR ROUTINE	03	00091
000412	016121	A	92	EX12	DATA	INPC	INPUT ONE CHAR EDITED ROUTINE	03	00092

PAGE 2

MAINTAIN III

MAIN3C

Address	Hex	Label	Op	Op2	Op3	Description	Flags	
000413	016155	A	93	EX13	DATA	INPD	INPUT ONE ALPHA CHAR ROUTINE	03 00093
000414	016216	A	94	EX14	DATA	INPE	INPUT TWO ALPHA CHAR ROUTINE	03 00094
000415	016256	A	95	EX15	DATA	INPF	INPUT COMMA/PERIOD TERMINATOR ROUTINE	03 00095
000416	016336	A	96	EX16	DATA	INPG	INPUT OCTAL NUMBER ROUTINE	03 00096
000417	016644	A	97	EX17	DATA	TDUT	TIME-OUT ROUTINE	03 00097
000420	016630	A	98	EX20	DATA	TDLY	TIME DELAY ROUTINE	03 00098
000421	016034	A	99	EX21	DATA	SSWT	STANDARD SENSE SWITCH ROUTINE	03 00099
000422	014000	A	100	EX26	DATA	ELDC	LOWEST CORE LOCATION USED BY THE EXEC	03 00100
000423	015155	A	101	EX27	DATA	ESZC	DETERMINE MEMORY SIZE	03 00101
000424	015552	A	102	EX30	DATA	MSG3	MEMORY SIZE IS ... MESSAGE	03 00102
000425	016424	A	103	EX31	DATA	INPH	SENSE TTY BFR RDY	03 00103
000426	016436	A	104	EX32	DATA	INPI	INIT TTY (INPUT CHAR W/OUT SENSE BFR RDY)	03 00104
000427	017166	A	105	EX33	DATA	EDEX	HIGHEST LOCATION USED BY THE EXEC	03 00105
000430	000000	A	106	V75	DATA	0	V75 CPU FLAG	03 00106
000431	000000	A	107	E3R1	DATA	0	PSEUDO REGISTER 3	03 00107
000432	000000	A	108	E4R1	DATA	0	PSEUDO REGISTER 4	03 00108
000433	000000	A	109	E5R1	DATA	0	PSEUDO REGISTER 5	03 00109
000434	000000	A	110	E6R1	DATA	0	PSEUDO REGISTER 6	03 00110
000435	000000	A	111	E7R1	DATA	0	PSEUDO REGISTER 7	03 00111
			112	*				03 00112
			113	*				03 00113
			114	*				03 00114
000440			115	DRG	0440			03 00115
			116	*				03 00116
			117	*	EXECUTIVE DATA TABLE			03 00117
			118	*				03 00118
000440	000000	A	119	SFLG	DATA	0	LOOP ON ERROR FLAG. 0=DON'T LOOP 1=LOOP	03 00119
000441	000000	A	120	\$NEM	DATA	0	MEMORY SIZE (HIGHEST AVAIL CORE)	03 00120
000442	000000	A	121	\$CON	DATA	0	0=CONSOLE MODE 1=TTY MODE	03 00121
			122	*				03 00122
000443	000000	A	123	EAR1	DATA	0	PSEUDO A REG	03 00123
000444	000000	A	124	EBR1	DATA	0	PSEUDO B REG	03 00124
000445	000000	A	125	EXR1	DATA	0	PSEUDO X REG	03 00125
000446			126	ETS1	BSS	6	TEMPORARY STORAGE	03 00126
000454	000240	A	127	EK00	DATA	0240	ASCII BLANK(SPACE)	03 00127
000455	000215	A	128	EK01	DATA	0215	ASCII CARRIAGE RETURN	03 00128
000456	000212	A	129	EK02	DATA	0212	ASCII LINE FEED	03 00129
000457	000040	A	130	K40	DATA	040		03 00130
000460	000100	A	131	K100	DATA	0100		03 00131
000461	000200	A	132	K200	DATA	0200		03 00132
000462			133	FRST	BSS	1	INITIAL PUNCH ADDRESS	03 00133
000463			134	LAST	BSS	1	LAST PUNCH ADDRESS	03 00134
000464	000000	A	135	CKSM	DATA	0	CHECKSUM	03 00135
000465	000000	A	136	EXEC	DATA	0	EXECUTION ADDRESS	03 00136
000466	000224	A	137	TAPN	DATA	0224	PUNCH OFF CODE	03 00137
000467	000222	A	138	TAPE	DATA	0222	PUNCH ON CODE	03 00138
000470	014000	A	139	LOAD	DATA	LOAD	ADDRESS OF BINARY LOADER	03 00139
000471	000000	A	140	TS04	DATA	0	DIGIT COUNTER FOR INPG	03 00140
000472	000000	A	141	PNRK	DATA	0	PAPER FAIL COUNTER	03 00141
000473	000001	A	142	STTY	DATA	1		03 00142
000474			143	QADR	BSS	1	OBJECT MEDIA DEVICE ADDRESS	03 00143
000475	000221	A	144	XON	DATA	0221	READER ON	03 00144
000476	000223	A	145	XOFF	DATA	0223	READER OFF	03 00145
000477	177700	A	146	MASK	DATA	0177700	I/O INSTRUCTION MASK	03 00146
			147	*				03 00147
			148	*				03 00148
			149	*				03 00149
			150	*				03 00150
			151	*				03 00151
			152	*				03 00152
014000			153	DRG	014000			03 00153
			154	*				03 00154
			155	*				03 00155
			156	*				03 00156
			157	*				03 00157
			158	*				03 00158
			159	*				03 00159
	014000	A	160	ELDC	EQU	*	LOWEST CORE LOCATION USED BY THE EXEC	03 00160
			161	*				03 00161
014000	007400	A	162	ERGO	RDF			03 00162
014001	007411	A	163		DATA	07411	A V75 SYSTEM ?	03 00163
014002	001001	A	164		JCF	NDV75		03 00164
014003	014007	A						
014004	006010	A	165		LDRI	-1	YES	03 00165
014005	177777	A						
014006	050433	A	166		STA	V75		03 00166
014007	001000	A	167	NDV75	JMP	ERGI	COLD START ENTRY	03 00167
014010	015165	A						
			168	*				03 00168
014011	000000	A	169	SET	ENTR		SET IN DEVICE ADDRESS	03 00169
			170	*				03 00170
014012	025000	A	171		LDR	0+1		03 00171
014013	001020	A	172		JR2*	SET		03 00172
014014	114011	A						
014015	016000	A	173		LDA	0+2		03 00173
014016	150477	A	174		AND	MASK		03 00174
014017	110474	A	175		ORA	QADR		03 00175
014020	056000	A	176		STP	0+2		03 00176
014021	005144	A	177		IXR			03 00177
014022	001000	A	178		JMP	SET+1		03 00178
014023	014012	A						
	014024	A	179	LDDE	EQU	*		03 00179
			180	*				03 00180
			181	*			CARD BINARY LOADER	03 00181
			182	*				03 00182

MAINTAIN III		MAIN3C		PAGE	3				
014024	014024	A	183	LDAC	EQU	*		03	00183
014025	006030	A	184		LDXI	CD00		03	00184
014026	014032	A	185		JMPM	SET		03	00185
014027	002000	A	186		JMP	INC		03	00186
014030	014011	A	187	CD00	DATA	CD01,CD02,CD03,CD04,0		03	00187
014031	001000	A							
014032	014043	A							
014033	014047	A							
014034	014135	A							
014035	014141	A							
014036	000000	A							
	000010	A	188	AZ	EQU	010	A REG ZERO	03	00188
	000020	A	189	BZ	EQU	020	B REG ZERO	03	00189
014037	005001	A	190	INC	TZA		INITIALIZE A REG	03	00190
014040	054104	A	191		STA	CNT	INITIALIZE COUNT	03	00191
014041	050464	A	192		STA	CKSM	INITIALIZE CHECK SUM	03	00192
014042	054103	A	193		STA	CYCLE		03	00193
014043	101630	A	194	CD01	SEN	0630,*+4	READER READY	03	00194
014044	014047	A							
014045	001000	A	195		JMP	*-2	WAIT UNTIL IT IS READY	03	00195
014046	014043	A							
014047	100230	A	196	CD02	EXC	0230	READ A CARD	03	00196
014050	002000	A	197		CALL	LOAI	GET COLUMN 1	03	00197
014051	014149	A							
014052	004244	A	198	LOAE	LRLA	4	POSITION TO HIGH ORDER	03	00198
014053	054073	A	199		STA	PART	SAVE TO INCLUDE NEXT COLUMN	03	00199
014054	002000	A	200		CALL	LOAI	GET NEXT COLUMN	03	00200
014055	014140	A							
014056	004550	A	201		LLSR	8	ONLY 4 BITS NEEDED NOW	03	00201
014057	002000	A	202		CALL	LOAH	PUT WORD AND GET NEXT COLUMN	03	00202
014060	014101	A							
014061	004544	A	203		LLSR	4	ONLY NEED 8 BITS NOW	03	00203
014062	002000	A	204		CALL	LOAH	PUT WORD AND GET NEXT COLUMN	03	00204
014063	014101	A							
014064	002000	A	205		CALL	LOAH	PUT WORD AND GET NEXT COLUMN	03	00205
014065	014101	A							
014066	001000	A	206		JMP	LOAE	DO AGAIN FOR NEXT THREE WORDS	03	00206
014067	014052	A							
014070	054054	A	207	LOAF	STA	CNT	SAVE COUNT	03	00207
014071	001010	A	208		JAZ	INC	BLANK CARD, IGNORE	03	00208
014072	014037	A							
014073	034044	A	209		LDX	LOAI	GET LAST WORD (LOAD/EXECUTION ADR)	03	00209
014074	070465	A	210		STX	EXEC	SAVE FOR EXECUTION	03	00210
014075	044050	A	211	LOAG	INR	CYCLE	INCREMENT WORD IN RECORD COUNT	03	00211
014076	002000	A	212		CALL	LOAI	GET NEXT COLUMN	03	00212
014077	014140	A							
014100	001000	A	213		JMP	**	RETURN	03	00213
014101	114100	A							
	014101	A	214	LOAH	EQU	*-1	ENTRY	03	00214
014102	114044	A	215		ORA	PART	COMPLETE WORD	03	00215
014103	064043	A	216		STB	PART	SAVE PARTIAL FOR NEXT WORD	03	00216
014104	054033	A	217		STA	LOAI	SAVE INPUT WORD FOR STORE	03	00217
014105	130464	A	218		ERA	CKSM	INCLUDE IN CHECKSUM	03	00218
014106	050464	A	219		STA	CKSM	SAVE CHECKSUM	03	00219
014107	024036	A	220		LDB	CYCLE		03	00220
014110	001020	A	221		JBZ	LOAF	FIRST WORD OF RECORD, GET NEXT COLUMN	03	00221
014111	014070	A							
014112	005322	A	222		DBR		DECREMENT SUB CYCLE INDICATOR FOR TEST	03	00222
014113	001020	A	223		JBZ	LOAF+3	SECOND WORD OF RECORD, GET NEXT COLUMN	03	00223
014114	014073	A							
014115	024027	A	224		LDB	CNT	GET COUNT	03	00224
014116	005122	A	225		IBR			03	00225
014117	001030	A	226		JIF	AZ+BZ,(EXEC)*	EXECUTION ADDRESS	03	00226
014120	100465	A							
014121	005322	A	227		DBR			03	00227
014122	001030	A	228		JIF	AZ+BZ,INC	GOOD END OF RECORD, READ NEXT CARD	03	00228
014123	014037	A							
014124	001020	A	229		JBZ	LOAH	BAD CHECKSUM	03	00229
014125	015405	A							
014126	005322	A	230		DBR		REDUCE COUNT	03	00230
014127	064015	A	231		STB	CNT	SAVE COUNT	03	00231
014130	014007	A	232		LDA	LOAI	GET WORD TO STORE	03	00232
014131	055000	A	233		STA	0,1	STORE WORD	03	00233
014132	005144	A	234		IXF		INCREMENT STORE POINTER	03	00234
014133	001000	A	235		JMP	LOAG	GO TO GET NEXT COLUMN	03	00235
014134	014075	A							
014135	102530	A	236	CD03	CIA	030	INPUT COLUMN	03	00236
014136	005002	A	237		TZB		CLEAR REG	03	00237
014137	001000	A	238		JMP	**	RETURN	03	00238
014140	114137	A							
	014140	A	239	LOAI	EQU	*-1	ENTRY AND TEMPORARY SAVE	03	00239
014141	101130	A	240	CD04	SEN	0130,*-4	CHAR READY	03	00240
014142	014135	A							
014143	001000	A	241		JMP	*-2	WAIT FOR CHAR READY	03	00241
014144	014141	A							
014145	000000	A	242	CNT	DATA	0		03	00242
014146	000000	A	243	CYCLE	DATA	0		03	00243
014147	000000	A	244	PART	DATA	0		03	00244
		A	245	*				03	00245
		A	246	*	EPUN--OUTPUT AN OBJECT PROGRAM			03	00246
		A	247	*	BEGINNING,ENDING,AND EXECUTION ADDRESSES			03	00247
		A	248	*	ARE SPECIFIED BY USER			03	00248
		A	249	*				03	00249
		A	250	*				03	00250

		251 *				03 00251
		252 *				03 00252
014150	005304	A	253	EPUN	DECR 04	PRESET EXEC ADDRS TO -1
014151	070450	A	254		STX ETS1+2	
014152	006020	A	255		LDBI ETS1	ADDRES FOR STORING INPUT PARAMETERS
014153	000446	A				03 00255
014154	002000	A	256		CALL INPG	INPUT OCTAL PARAMETER
014155	016336	A				03 00256
014156	001000	A	257		JMP ETOP	TERMINATION EXIT VIA SS3
014157	015224	A				03 00257
014160	001000	A	258		JMP ETOP	ABORT
014161	015224	A				03 00258
014162	001000	A	259		JMP EPU1	COMMA EXIT--GET NEXT PARAMETER
014163	014172	A				03 00259
			260 *	NORMAL RETURN FROM INPG		03 00260
014164	056000	A	261		STA 0,2	03 00261
014165	010446	A	262		LDA ETS1	BEGINNING PUNCH ADDRESS
014166	020447	A	263		LDB ETS1+1	ENDING PUNCH ADDRESS
014167	030450	A	264		LDX ETS1+2	EXEC ADDRS
014170	001000	A	265		JMP DUMP	03 00264
014171	016655	A				03 00265
			266 *			03 00266
014172	056000	A	267	EPU1	STA 0,2	03 00267
014173	005021	A	268		TBA	03 00268
014174	006140	A	269		SUBI ETS1+2	03 00269
014175	000450	A				03 00269
014176	001010	A	270		JAZ EXIT	ERROR--TOO MANY INPUTS
014177	015343	A				03 00270
014200	005122	A	271		IBR	03 00271
014201	001000	A	272		JMP EPUN+4	GET NEXT PARAMETER
014202	014154	A				03 00272
			273 *			03 00273
			274 *			03 00274
			275 *			03 00275
			276 *			03 00276
			277 *			03 00277
			278 *	INIT--INITIALIZE MEMORY.		03 00278
			279 *	X=START ADDRESS		03 00279
			280 *	Y=FINAL ADDRESS		03 00280
			281 *	Z=INITIALIZING VALUE		03 00281
			282 *			03 00282
			283 *	FORMAT: IX,Y,Z.		03 00283
			284 *			03 00284
			285 *			03 00285
014203	006020	A	286	INIT	LDBI ETS1	ADDRESS FOR STORING INPUT PARAMETERS
014204	000446	A				03 00286
014205	002000	A	287		CALL INPG	GET OCTAL PARAMETER
014206	016336	A				03 00287
014207	001000	A	288		JMP ETOP	TERMINATION EXIT VIA SS3
014210	015224	A				03 00288
014211	001000	A	289		JMP ETOP	ABORT
014212	015224	A				03 00289
014213	001000	A	290		JMP INI3	COMMA EXIT--GET NEXT PARAMETER
014214	014243	A				03 00290
			291 *	NORMAL RETURN FROM INPG--A REG CONTAINS THIRD PARAMETER		03 00291
014215	030446	A	292		LDX ETS1	START ADDRESS
014216	050452	A	293		STA ETS1+4	SAVE INITIALIZING VALUE
014217	005021	A	294		TBA	TEST NO. PARAMETERS
014220	006140	A	295		SUBI ETS1+2	*
014221	000450	A				03 00295
014222	001010	A	296		JAZ **4	*
014223	014226	A				03 00296
014224	001000	A	297		JMP EXIT	*
014225	015343	A				03 00297
014226	010447	A	298		LDA ETS1+1	TEST PARAMETER
014227	140446	A	299		SUB ETS1	RANGE
014230	001004	A	300		JAN EXIT	***
014231	015343	A				03 00300
014232	010452	A	301	INI2	LDA ETS1+4	STORE VALUE Z
014233	055000	A	302		STA 0,1	
014234	005041	A	303		TXA	
014235	140447	A	304		SUB ETS1+1	FINAL ADDRESS
014236	001010	A	305		JAZ ETOP	YES
014237	015224	A				03 00305
014240	005144	A	306		IXR	
014241	001000	A	307		JMP INI2	STORE Z AT NEXT LOCATION
014242	014232	A				03 00307
			308 *			03 00308
014243	056000	A	309	INI3	STA 0,2	SAVE INPUT PARAMETER
014244	005122	A	310		IBR	
014245	001000	A	311		JMP INIT+2	GET NEXT PARAMETER
014246	014205	A				03 00311
			312 *			03 00312
			313 *			03 00313
			314 *			03 00314
			315 *			03 00315
			316 *	ETRP--TRAP TO LOCATION X STARTING FROM LOCATION Y.		03 00316
			317 *	IF LOCATION X IS REACHED: RESTORE LOCATIONS X & X+1, PRINT		03 00317
			318 *	THE CURRENT VALUES OF REGISTERS A,B,X, AND RETURN TO THE		03 00318
			319 *	EXEC SUPERVISOR		03 00319
			320 *			03 00320
			321 *	NOTE: CONTENTS OF LOCATIONS X AND X+1 MUST BE RESTORED BY		03 00321
			322 *	USER IF TRAP IS NOT REACHED BY THIS ROUTINE		03 00322
			323 *			03 00323
			324 *	FORMAT: TX,Y.		03 00324

MAINTAIN III

MAIN3C

PAGE 5

			325 *				03	00325
			326 *				03	00326
014247	006020	A	327	ETRP	LDBI	ETS1		03 00327
014250	000446	A				(B) POINTS TO PARAMETER TBL		
014251	010446	A	328		LDA	ETS1		03 00328
014252	050447	A	329		STA	ETS1+1		03 00329
014253	002000	A	330		CALL	INPG		03 00330
014254	016336	A				INPUT OCTAL NUMBER		
014255	001000	A	331		JMP	ETOP		03 00331
014256	015224	A				TERMINATION EXIT VIA SS3		
014257	001000	A	332		JMP	ETOP		03 00332
014260	015224	A				ABORT		
014261	001000	A	333		JMP	ETR1		03 00333
014262	014404	A				COMMA EXIT--GET SECOND PARAMETER		
			334 *	NORMAL RETURN FROM INPG				03 00334
014263	056000	A	335		STA	0,2		03 00335
014264	006030	A	336		LDXI	ETS1+2		03 00336
014265	000450	A				STORE PARAMETER TEMP STORE ADDRESS		
014266	020446	A	337		LDB	ETS1		03 00337
014267	016000	A	338		LDA	0,2		03 00338
014270	055000	A	339		STA	0,1		03 00339
014271	016001	A	340		LDA	1,2		03 00340
014272	055001	A	341		STA	1,1		03 00341
014273	006010	A	342		LDAI	02000		03 00342
014274	002000	A				SAVE CONTENTS OF LOCATION X AT TS02		
014275	056000	A	343		STA	0,2		03 00343
014276	006010	A	344		LDAI	ETR2		03 00344
014277	014414	A				STORE JMPM AT LOC X		
014300	056001	A	345		STA	1,2		03 00345
014301	001000	A	346		JMP	EGD1		03 00346
014302	014777	A				STORE TRAP RETURN ADDRESS AT X+1 LOAD PSEUDO REGISTERS AND GOTO LOC Y		
			347 *					03 00347
014303	050443	A	348	ETR3	STA	EAR1		03 00348
014304	060444	A	349		STB	EBR1		03 00349
014305	070445	A	350		STX	EXR1		03 00350
014306	010430	A	351		LDA	V75		B 03 00351
014307	001010	A	352		JAZ	ETR3A		B 03 00352
014310	014323	A						
014311	007130	A	353		ST,R3	E3R1		B 03 00353
014312	000431	A				PUT R3 CONTENTS INTO PSEUDO R3		
014313	007140	A	354		ST,R4	E4R1		B 03 00354
014314	000432	A				PUT R4 CONTENTS INTO PSEUDO R4		
014315	007150	A	355		ST,R5	E5R1		B 03 00355
014316	000433	A				PUT R5 CONTENTS INTO PSEUDO R5		
014317	007160	A	356		ST,R6	E6R1		B 03 00356
014320	000434	A				PUT R6 CONTENTS INTO PSEUDO R6		
014321	007170	A	357		ST,R7	E7R1		B 03 00357
014322	000435	A				PUT R7 CONTENTS INTO PSEUDO R7		
014323	005001	A	358	ETR3A	TZA			B 03 00358
014324	005511	A	359		ADFA			03 00359
014325	054500	A	360		STA	EDV1		03 00360
014326	034065	A	361		LDX	ETR2		03 00361
014327	005344	A	362		DXR			03 00362
014330	005344	A	363		DXR			03 00363
014331	010450	A	364		LDA	ETS1+2		03 00364
014332	020451	A	365		LDB	ETS1+3		03 00365
014333	055000	A	366		STA	0,1		03 00366
014334	065001	A	367		STB	1,1		03 00367
014335	002000	A	368		CALL	OUTC		03 00368
014336	016505	A				RESTORE CONTENTS OF LOC X RESTORE CONTENTS OF X+1 OUTPUT CR & LF		
014337	005041	A	369		TXA			03 00369
014340	002000	A	370		CALL	OUTF		03 00370
014341	016557	A				OUTPUT ADDR OF TRAP RETURN		
014342	010443	A	371		LDA	EAR1		03 00371
014343	002000	A	372		CALL	OUTE		03 00372
014344	016517	A				PRINT CONTENTS OF PSEUDO A		
014345	010444	A	373		LDA	EBR1		03 00373
014346	002000	A	374		CALL	OUTE		03 00374
014347	016517	A				PRINT CONTENTS OF PSEUDO B		
014350	010445	A	375		LDA	EXR1		03 00375
014351	002000	A	376		CALL	OUTE		03 00376
014352	016517	A				PRINT CONTENTS OF PSEUDO X		
014353	010430	A	377		LDA	V75		B 03 00377
014354	001010	A	378		JAZ	ETR3B		B 03 00378
014355	014375	A						
014356	010431	A	379		LDA	E3R1		B 03 00379
014357	002000	A	380		CALL	OUTE		B 03 00380
014360	016517	A				PRINT CONTENTS OF PSEUDO R3		
014361	010432	A	381		LDA	E4R1		B 03 00381
014362	002000	A	382		CALL	OUTE		B 03 00382
014363	016517	A				PRINT CONTENTS OF PSEUDO R4		
014364	010433	A	383		LDA	E5R1		B 03 00383
014365	002000	A	384		CALL	OUTE		B 03 00384
014366	016517	A				PRINT CONTENTS OF PSEUDO R5		
014367	010434	A	385		LDA	E6R1		B 03 00385
014370	002000	A	386		CALL	OUTE		B 03 00386
014371	016517	A				PRINT CONTENTS OF PSEUDO R6		
014372	010435	A	387		LDA	E7R1		B 03 00387
014373	002000	A	388		CALL	OUTE		B 03 00388
014374	016517	A				PRINT CONTENTS OF PSEUDO R7		
014375	014430	A	389	ETR3B	LDA	EDV1		B 03 00389
014376	006120	A	390		ADDI	' 0 '		03 00390
014377	120260	A						
014400	002000	A	391		CALL	OUTB		03 00391
014401	016472	A				PRINT CONTENTS OF OVERFLOW		

PAGE	6	MAINTAIN III	MAIN3C			
014402	001000	A 392	JMP	ETOP	RETURN TO EXEC SUPERVISOR	03 00392
014403	015224	A				
		393 *				03 00393
014404	056000	A 394	ETR1	STA 0,2	STORE PARAMETER X	03 00394
014405	005123	A 395		INCR 023	INC PARAMETER PTR	03 00395
014406	006140	A 396		SUBI ETS1+1	MORE THAN 1 X PARAMETER ?	03 00396
014407	000447	A				
014410	001010	A 397		JAZ ETRP+4	NO CONTINUE	03 00397
014411	014253	A				
014412	001000	A 398		JMP EXIT	YES PRINT INVALID AND GO TO ETOP	03 00398
014413	015343	A				
		399 *				03 00399
014414	000000	A 400	ETR2	ENTR 0		03 00400
014415	001000	A 401		JMP ETR3	PROCESS TRAP RETURN	03 00401
014416	014303	A				
		402 *				03 00402
		403 *				03 00403
		404 *				03 00404
		405 *				03 00405
		406 *				03 00406
		407 *				03 00407
		408 *				03 00408
		409 *				03 00409
		410 *				03 00410
		411 *				03 00411
		412 *				03 00412
		413 *				03 00413
		414 *				03 00414
		415 *				03 00415
014417	006020	A 416	ESRC	LDBI ETS1	ADDRESS FOR STORING INPUT PARAMETERS	03 00416
014420	000446	A				
014421	002000	A 417		CALL INPG	GET OCTAL PARAMETER	03 00417
014422	016336	A				
014423	001000	A 418		JMP ETOP	TERMINATION EXIT VIA SS3	03 00418
014424	015224	A				
014425	001000	A 419		JMP ETOP	ABORT	03 00419
014426	015224	A				
014427	001000	A 420		JMP ESR5	COMMA EXIT--GET NEXT PARAMETER	03 00420
014430	014500	A				
		421 *				03 00421
014431	050451	A 422		STA ETS1+3	SAVE MASK WORD	03 00422
014432	150450	A 423		ANA ETS1+2	MASK SEARCH VALUE	03 00423
014433	050452	A 424		STA ETS1+4	MASKED SEARCH VALUE	03 00424
014434	005021	A 425		TBA	TEST NO. OF PARAMETERS	03 00425
014435	006140	A 426		SUBI ETS1+3	*	03 00426
014436	000451	A				
014437	001010	A 427		JAZ *+4	*	03 00427
014440	014443	A				
014441	001000	A 428		JMP EXIT	***	03 00428
014442	015343	A				
014443	030456	A 429	ESR4	LDX ETS1	START ADDRESS	03 00429
014444	015000	A 430		LEA 0,1		03 00430
014445	150451	A 431		ANA ETS1+3	MASK IT	03 00431
014446	140452	A 432		SUB ETS1+4		03 00432
014447	001010	A 433		JAZ ESR2	GOOD COMPARE	03 00433
014450	014462	A				
014451	040445	A 434	ESR1	INR ETS1	START ADDRESS	03 00434
014452	001400	A 435		JSS3 ETOP	RETURN TO SUPERVISOR	03 00435
014453	015224	A				
014454	005041	A 436		TXA		03 00436
014455	140447	A 437		SUB ETS1+1	END ADDRESS	03 00437
014456	001002	A 438		JAP ETOP	RETURN TO SUPERVISOR	03 00438
014457	015224	A				
014460	001000	A 439		JMP ESR4	GET NEXT WORD	03 00439
014461	014443	A				
014462	002000	A 440	ESR2	CALL DUTC	CR/LF	03 00440
014463	015505	A				
014464	010435	A 441		LEA ETS1	ADDRS OF WORD	03 00441
014465	002000	A 442		CALL DUTF	PRINT MEMORY ADDRESS	03 00442
014466	016337	A				
014467	006010	A 443		LDAI *-*	EQUAL SIGN	03 00443
014470	000275	A				
014471	000000	A 444		CALL DUTA		03 00444
014472	016441	A				
014473	015000	A 445		LDA 0,1	CONTENTS OF ADDRESS	03 00445
014474	002000	A 446		CALL DUTE	PRINT CONTENTS	03 00446
014475	016517	A				
014476	001000	A 447		JMP ESR1	CONTINUE	03 00447
014477	014451	A				
014500	056000	A 448	ESR5	STA 0,2		03 00448
014501	005122	A 449		IBR		03 00449
014502	001000	A 450		JMP ESR5+2	GET NEXT PARAMETER	03 00450
014503	014421	A				
		451 *				03 00451
		452 *				03 00452
		453 *				03 00453
		454 *				03 00454
		455 *				03 00455
		456 *				03 00456
014504	006010	A 457	EARG	LDAI 0240	ASCII SPACE	03 00457
014505	000240	A				
014506	002000	A 458		CALL DUTA		03 00458
014507	016441	A				
014510	010443	A 459		LDA ESR1	LOAD PSEUDO A	03 00459
014511	002000	A 460		CALL DUTE	PRINT CONTENTS	03 00460

MAINTAIN III

MAIN3C

PAGE 7

Address	Label	Code	Op	Op2	Description	Page	Address
014512	016517	A					
014513	002000	A	461	CALL	INPG INPUT OCTAL AND/OR PERIOD	03	00461
014514	016336	A					
014515	001000	A	462	JMP	ETOP TERMINATION EXIT VIA SS3	03	00462
014516	015224	A					
014517	001000	A	463	JMP	ETOP ABORT EXIT	03	00463
014520	015224	A					
014521	001000	A	464	JMP	*+2 COMMA EXIT--ACCEPT IT	03	00464
014522	014523	A					
			465	*	NORMAL RETURN FROM INPG		03 00465
014523	050446	A	466	STA	ETS1 SAVE INPUT	03	00466
014524	010471	A	467	LDA	TS04 TS04=DIGIT COUNTER FOR INPG	03	00467
014525	001010	A	468	JAZ	ETOP 0=NO OCTAL INPUT,RETURN TO SUPERVISOR	03	00468
014526	015224	A					
014527	010446	A	469	LDA	ETS1		03 00469
014530	050443	A	470	STA	EAR1 STORE NEW VALUE IN PSEUDO A	03	00470
014531	001000	A	471	JMP	ETOP RETURN TO SUPERVISOR	03	00471
014532	015224	A					
			472	*			03 00472
			473	*			03 00473
			474	*	DISPLAY/CHANGE THE PSEUDO B REGISTER		03 00474
			475	*			03 00475
			476	*			03 00476
014533	010454	A	477	EXRG	LDA EK00 ASCII BLANK(SPACE)	03	00477
014534	002000	A	478	CALL	OUTA	03	00478
014535	016441	A					
014536	010444	A	479	LDA	EBR1 LOAD PSEUDO B	03	00479
014537	002000	A	480	CALL	OUTE PRINT CONTENTS	03	00480
014540	016517	A					
014541	002000	A	481	CALL	INPG INPUT OCTAL AND/OR PERIOD	03	00481
014542	016336	A					
014543	001000	A	482	JMP	ETOP TERMINATION EXIT VIA SS3	03	00482
014544	015224	A					
014545	001000	A	483	JMP	ETOP ABORT EXIT	03	00483
014546	015224	A					
014547	001000	A	484	JMP	*+2 COMMA EXIT--ACCEPT IT	03	00484
014550	014551	A					
			485	*	NORMAL RETURN FROM INPG		03 00485
014551	050446	A	486	STA	ETS1 SAVE INPUT	03	00486
014552	010471	A	487	LDA	TS04 TS04=DIGIT COUNTER FOR INPG	03	00487
014553	001010	A	488	JAZ	ETOP 0=NO OCTAL INPUT,RETURN TO SUPERVISOR	03	00488
014554	015224	A					
014555	010446	A	489	LDA	ETS1		03 00489
014556	050444	A	490	STA	EBR1 STORE NEW VALUE IN PSEUDO B	03	00490
014557	001000	A	491	JMP	ETOP RETURN TO SUPERVISOR	03	00491
014560	015224	A					
			492	*			03 00492
			493	*			03 00493
			494	*	DISPLAY/CHANGE THE PSEUDO X REGISTER		03 00494
			495	*			03 00495
			496	*			03 00496
014561	010454	A	497	EXRG	LDA EK00 ASCII BLANK(SPACE)	03	00497
014562	002000	A	498	CALL	OUTA	03	00498
014563	016441	A					
014564	010445	A	499	LDA	EXR1 LOAD PSEUDO X	03	00499
014565	002000	A	500	CALL	OUTE PRINT CONTENTS	03	00500
014566	016517	A					
014567	002000	A	501	CALL	INPG INPUT OCTAL AND/OR PERIOD	03	00501
014570	016336	A					
014571	001000	A	502	JMP	ETOP TERMINATION EXIT VIA SS3	03	00502
014572	015224	A					
014573	001000	A	503	JMP	ETOP ABORT	03	00503
014574	015224	A					
014575	001000	A	504	JMP	*+2 COMMA EXIT--ACCEPT IT	03	00504
014576	014577	A					
			505	*	NORMAL RETURN FROM INPG		03 00505
014577	050446	A	506	STA	ETS1 SAVE INPUT	03	00506
014600	010471	A	507	LDA	TS04 TS04=DIGIT COUNTER FOR INPG	03	00507
014601	001010	A	508	JAZ	ETOP 0=NO OCTAL INPUT,RETURN TO SUPERVISOR	03	00508
014602	015224	A					
014603	010445	A	509	LDA	ETS1		03 00509
014604	050445	A	510	STA	EXR1 STORE NEW VALUE IN PSEUDO X	03	00510
014605	001000	A	511	JMP	ETOP RETURN TO SUPERVISOR	03	00511
014606	015224	A					
			512	*	DISPLAY/CHANGE THE PSEUDO R3 REGISTER		B 03 00512
014607	010454	A	513	EXRG	LDA EK00 ASCII SPACE	B	03 00513
014610	002000	A	514	CALL	OUTA	B	03 00514
014611	016441	A					
014612	010431	A	515	LDA	EBR1 LOAD PSEUDO R3	B	03 00515
014613	002000	A	516	CALL	OUTE PRINT CONTENTS	B	03 00516
014614	016517	A					
014615	002000	A	517	CALL	INPG INPUT OCTAL AND/OR PERIOD	B	03 00517
014616	016336	A					
014617	001000	A	518	JMP	ETOP TERMINATION EXIT VIA SS3	B	03 00518
014620	015224	A					
014621	001000	A	519	JMP	ETOP ABORT EXIT	B	03 00519
014622	015224	A					
014623	001000	A	520	JMP	*+2 COMMA EXIT--ACCEPT IT	B	03 00520
014624	014625	A					
			521	*	NORMAL RETURN FROM INPG		B 03 00521
014625	050446	A	522	STA	ETS1 SAVE INPUT	B	03 00522
014626	010471	A	523	LDA	TS04 TS04=DIGIT COUNTER FOR INPG	B	03 00523
014627	001010	A	524	JAZ	ETOP 0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B	03 00524
014630	015224	A					
014631	010446	A	525	LDA	ETS1	B	03 00525

MAINTAIN III

MAIN3C

PAGE 9

Address	Code	Label	Op1	Op2	Description	Page	Line
014761	050435	A	589	STA	E7R1		B 03 00589
014762	001000	A	590	JMP	ETOP	STORE NEW VALUE IN PSEUDO R7 RETURN TO SUPERVISOR	B 03 00590
014763	015224	A					
			591	*			03 00591
			592	*			03 00592
			593	*			03 00593
			594	*			03 00594
			595	*			03 00595
			596	*			03 00596
			597	*			03 00597
			598	*			03 00598
			599	*			03 00599
			600	*			03 00600
			601	*			03 00601
			602	EGDT	CALL	INPG	03 00602
014764	002000	A				IPUT OCTAL NUMBER	
014765	016336	A					
014766	001000	A	603	JMP	ETOP	TERMINATION EXIT VIA SS3	03 00603
014767	015224	A					
014770	001000	A	604	JMP	ETOP	ABORT	03 00604
014771	015224	A					
014772	001000	A	605	JMP	*+2	COMMA EXIT--ACCEPT IT	03 00605
014773	014774	A					
			606	*		NORMAL RETURN FROM INPG	03 00606
014774	050447	A	607	STA	ETS1+1		03 00607
014775	002000	A	608	CALL	OUTC	DO A CR + LF	03 00608
014776	016505	A					
014777	010443	A	609	EGD1	LDA	EAR1	LOAD PSEUDO A REG.
015000	020444	A	610		LDB	EBR1	LOAD PSEUDO B REG.
015001	030430	A	611		LDX	V75	V75 SYSTEM ?
015002	001040	A	612		JXZ	RESOF	NO
015003	015016	A					
015004	007030	A	613		LD,R3	E3R1	YES, LOAD THE PSEUDO R3,
015005	000431	A					
015006	007040	A	614		LD,R4	E4R1	R4,
015007	000432	A					
015010	007050	A	615		LD,R5	E5R1	R5,
015011	000433	A					
015012	007060	A	616		LD,R6	E6R1	R6,
015013	000434	A					
015014	007070	A	617		LD,R7	E7R1	AND R7
015015	000435	A					
015016	007400	A	618	RESOF	RDF		B 03 00618
015017	034006	A	619		LDB	EDV1	
015020	001040	A	620		JXZ	*+3	SET/RESET OVERFLOW
015021	015023	A					
015022	007401	A	621		SDF		03 00621
015023	030445	A	622		LDB	EXR1	LOAD PSEUDO X REG.
015024	001000	A	623		JMP*	ETS1+1	03 00622
015025	100447	A					03 00623
015026	000000	A	624	EDV1	DATA	0	PSEUDO OVERFLOW
			625	*			03 00624
			626	*		DUMP CORE MEMORY TO TTY PRINTER	03 00625
			627	EDUM	CALL	INPG	03 00626
015027	002000	A				INPUT START LOCATION (OCTAL)	03 00627
015030	016336	A					
015031	001000	A	628	JMP	ETOP	TERMINATION EXIT VIA SS3	03 00628
015032	015224	A					
015033	001000	A	629	JMP	ETOP	ABORT	03 00629
015034	015224	A					
015035	001000	A	630	JMP	*+2	COMMA EXIT--ACCEPT IT	03 00630
015036	015037	A					
			631	*		NORMAL RETURN FROM INPG	03 00631
015037	050446	A	632	STA	ETS1		03 00632
015040	002000	A	633	CALL	OUTC	OUTPUT CR & LF	03 00633
015041	016505	A					
015042	010446	A	634		LDA	ETS1	03 00634
015043	005014	A	635		TAX		03 00635
015044	002000	A	636	EDU1	CALL	OUTF	OUTPUT MEMORY ADDRESS
015045	016537	A					03 00636
015046	010447	A	637		LDA	EK00	ASCII BLANK(SPACE)
015047	002000	A	638		CALL	OUTA	03 00637
015050	016441	A					03 00638
015051	015000	A	639	EDU2	LDA	0.1	03 00639
015052	002000	A	640		CALL	OUTE	PRINT LOCATION CONTENTS
015053	016517	A					03 00640
015054	001400	A	641		ISS3	ETOP	03 00641
015055	015224	A					
015056	005145	A	642		INCR	045	INCREMENT X AND PUT INTO A&X
015057	005002	A	643		T2B		03 00642
015060	004543	A	644		LLSR	3	LINE LENGTH IS 3 LOCATIONS
015061	001020	A	645		JBZ	EDU4	NEXT LINE
015062	015065	A					03 00644
015063	001000	A	646	JMP	EDU2	NEXT WORD	03 00645
015064	015051	A					03 00646
			647	*			03 00647
015065	002000	A	648	EDU4	CALL	OUTC	03 00648
015066	016505	A					
015067	002000	A	649		CALL	INPI	03 00649
015070	016436	A					
015071	006140	A	650		SUBI	0377	03 00650
015072	000377	A					
015073	001010	A	651		JAZ	ETOP	03 00651
015074	015224	A					
015075	005041	A	652		TXA		03 00652
015076	001000	A	653		JMP	EDU1	03 00653
015077	015044	A					

			654 *			03	00654
			655 *			03	00655
			656 *			03	00656
			657 *			03	00657
			658 *			03	00658
			659 *	PRINT/CHANGE CONTENTS OF MEMORY LOCATION SPECIFIED BY USER		03	00659
			660 *			03	00660
			661 *			03	00661
015100	002000	A	662	ECNG CALL INPG	INPUT OCTAL MEMORY ADDRESS	03	00662
015101	016336	A					
015102	001000	A	663	JMP ETOP	TERMINATION EXIT VIA SS3	03	00663
015103	015224	A					
015104	001000	A	664	JMP ETOP	ABORT	03	00664
015105	015224	A					
015106	001000	A	665	JMP *+2	COMMA EXIT--ACCEPT IT	03	00665
015107	015110	A					
			666 *	NORMAL RETURN FROM INPG		03	00666
015110	005014	A	667	TAX		03	00667
015111	006010	A	668	ECN3 LDAI '='	EQUAL SIGN	03	00668
015112	000275	A					
015113	002000	A	669	CALL DUTA		03	00669
015114	016441	A					
015115	015000	A	670	LDA 0,1		03	00670
015116	002000	A	671	CALL DUTE	OUTPUT OCTAL WORD	03	00671
015117	016517	A					
015120	002000	A	672	CALL INPG	INPUT OCTAL WORD	03	00672
015121	016336	A					
015122	001000	A	673	JMP ETOP	TERMINATION EXIT VIA SS3	03	00673
015123	015224	A					
015124	001000	A	674	JMP ETOP	ABORT	03	00674
015125	015224	A					
015126	001000	A	675	JMP ECN2	COMMA EXIT--PRINT NEXT LOCATION & CONTENTS	03	00675
015127	015140	A					
			676 *	NORMAL RETURN FROM INPG WITH PERIOD		03	00676
015130	050446	A	677	STA ETS1	SAVE INPUT	03	00677
015131	010471	A	678	LDA TS04	TS04=DIGIT COUNTER FOR INPG	03	00678
015132	001010	A	679	JAZ *+4		03	00679
015133	015136	A					
015134	010446	A	680	LDA ETS1	GET LAST INPUT	03	00680
015135	055000	A	681	STA 0,1		03	00681
015136	001000	A	682	JMP ETOP		03	00682
015137	015224	A					
			683 *			03	00683
015140	050446	A	684	ECN2 STA ETS1	SAVE INPUT	03	00684
015141	010471	A	685	LDA TS04	TS04=DIGIT COUNTER FOR INPG	03	00685
015142	001010	A	686	JAZ *+4		03	00686
015143	015146	A					
015144	010446	A	687	LDA ETS1	GET LAST INPUT	03	00687
015145	030000	A	688	STA 0,1	STORE NEW VALUE IN LOCATION	03	00688
015146	002000	A	689	CALL DUTC	CR & LF	03	00689
015147	016505	A					
015150	005145	A	690	INCR 045	INCREMENT X AND PUT INTO A AND X	03	00690
015151	002000	A	691	CALL DUTF	PRINT NEXT MEMORY ADDRESS	03	00691
015152	016557	A					
015153	001000	A	692	JMP ECN3	PRINT CONTENTS	03	00692
015154	015111	A					
			693 *			03	00693
015155	000000	A	694	ESZC ENTR 0	DETERMINE MEMORY SIZE	03	00694
015156	002000	A	695	CALL ESZA	*	03	00695
015157	015615	A					
015160	050441	A	696	STA 9MEM	*	03	00696
015161	002000	A	697	CALL ESZB	*	03	00697
015162	015646	A					
015163	001000	A	698	JMP (ESZC)*	***** EXIT	03	00698
015164	115105	A					
015165	005101	A	699	EBG1 INCR 01	TTY MODE	03	00699
015166	050442	A	700	STA 9CON	* 9CON = 01	03	00700
015167	002000	A	701	CALL 900C	* 9TTY = 01, UNLESS SET	03	00701
015170	015105	A					
015171	005101	A	702	INCR 01	* BY	03	00702
015172	000000	A	703	HLT	* OPERATOR	03	00703
015173	006030	A	704	LDXI 9TTY		03	00704
015174	003477	A					
015175	055000	A	705	STA 0,1		03	00705
015176	002000	A	706	EBG2 CALL DUTH,0201	PRINT ENABLE	03	00706
015177	016620	A					
015200	000201	A					
015201	002000	A	707	CALL DUTC	OUTPUT CR&LF	03	00707
015202	016505	A					
015203	010430	A	708	LDA V75		B	03 00708
015204	001010	A	709	JAZ DOMSG1		B	03 00709
015205	015214	A					
015206	006000	A	710	LDXI MSG6	THIS IS THE V75 TEST EXECUTIVE	B	03 00710
015207	015573	A					
015210	002000	A	711	CALL DUTD	OUTPUT MESSAGE	B	03 00711
015211	015546	A					
015212	001000	A	712	JMP DOMSG3	GO OUTPUT MSG3	B	03 00712
015213	015220	A					
015214	006030	A	713	DOMSG1 LDXI MSG1	THIS IS THE V70/620 TEST EXECUTIVE	B	03 00713
015215	015513	A					
015216	002000	A	714	CALL DUTD	OUTPUT MESSAGE	03	00714
015217	016546	A					
015220	006030	A	715	DOMSG3 LDXI MSG3	MEMORY SIZE IS --K	B	03 00715
015221	015532	A					
015222	002000	A	716	CALL DUTD	OUTPUT MESSAGE	03	00716

Address	Label	Op	Op2	Op3	Description	Page	Line
015223	016546	A					
			717	*		03	00717
			718	*		03	00718
			719	*		03	00719
			720	*	TEST EXECUTIVE SUPERVISOR	03	00720
			721	*		03	00721
015224	006010	A	722	ETOP	LDAI 0207 TTY BELL	03	00722
015225	000207	A					
015226	002000	A	723		CALL OUTA OUTPUT	03	00723
015227	016441	A					
015230	002000	A	724		CALL OUTH,0201 PRINT ENABLE	03	00724
015231	016623	A					
015232	000201	A					
015233	002000	A	725		CALL INPI INIT TTY	03	00725
015234	016436	A					
015235	002000	A	726		CALL OUTC	03	00726
015236	016505	A					
015237	002000	A	727		CALL INPB INPUT ONE CHARACTER	03	00727
015240	016067	A					
015241	001000	A	728		JMP ETOP ABORT EXIT	03	00728
015242	015224	A					
015243	054011	A	729		STA ETD4+1 SAVE INPUT	03	00729
015244	006140	A	730		SUBI 0212 LINE FEED CODE	03	00730
015245	000212	A					
015246	001010	A	731		JAZ ETOP YES	03	00731
015247	015224	A					
015250	006140	A	732		SUBI 3 CARRIAGE RETURN(0215)	03	00732
015251	000003	A					
015252	001010	A	733		JAZ ETOP YES	03	00733
015253	015224	A					
015254	006010	A	734	ETD4	LDAI 0 GET ORIGINAL INPUT	03	00734
015255	000000	A					
015256	006140	A	735		SUBI 'A'	03	00735
015257	000301	A					
015260	001004	A	736		JAN EXIT INVALID INPUT	03	00736
015261	015343	A					
015262	006140	A	737		SUBI 022 Z CHAR	03	00737
015263	000032	A					
015264	001002	A	738		JAP EXIT INVALID INPUT	03	00738
015265	015343	A					
015266	006120	A	739		ADDI (ETBL+032)* INDIRECT ADDRESS POINTER FOR UTILITY TABLE	03	00739
015267	115343	A					
015270	054017	A	740		STA PETBL+2	B	03 00740
015271	030430	A	741		LDX V75 IF	B	03 00741
015272	001040	A	742		JXZ PETBL	B	03 00742
015273	015306	A					
015274	007443	A	743		LDI,R3 0 V75 SYSTEM	B	03 00743
015275	000000	A					
015276	007444	A	744		LDI,R4 0 CLEAR R3	B	03 00744
015277	000000	A					
015300	007445	A	745		LDI,R5 0 R4	B	03 00745
015301	000000	A					
015302	007446	A	746		LDI,R6 0 R5	B	03 00746
015303	000000	A					
015304	007447	A	747		LDI,R7 0 R6,AND R7	B	03 00747
015305	000000	A					
015306	005007	A	748	PETBL	ZERD 7 CLEAR REGISTERS A,B,X ANYWAY	B	03 00748
015307	001000	A	749		JMP *	03	00749
015310	015307	A					
015311	014504	A	750	ETBL	DATA EARG A PRINT/CHANGE PSEUDO A REG	03	00750
015312	014523	A	751		DATA EBRG B PRINT/CHANGE PSEUDO B REG	03	00751
015313	015100	A	752		DATA EONG C PRINT/CHANGE MEMORY LOCATION	03	00752
015314	015027	A	753		DATA EDUM D DUMP CORE TO TTY PRINTER	03	00753
015315	015343	A	754		DATA EDF E WRITE END OF FILE	03	00754
015316	015343	A	755		DATA FIL F FILE POSITION	03	00755
015317	014764	A	756		DATA CGOT G TRANSFER TO SPECIFIED LOCATION	03	00756
015320	015343	A	757		DATA EXIT H NOT USED	03	00757
015321	014293	A	758		DATA INPI I INITIALIZE CORE	03	00758
015322	015343	A	759		DATA EXIT J NOT USED	03	00759
015323	015343	A	760		DATA EXIT K NOT USED	03	00760
015324	015400	A	761		DATA ELUD L LOAD OBJECT TAPE AND TRANSFER TO PROGRAM	03	00761
015325	015343	A	762		DATA EXIT M NOT USED	03	00762
015326	015343	A	763		DATA EXIT N NOT USED	03	00763
015327	015343	A	764		DATA EXIT O NOT USED	03	00764
015330	014150	A	765		DATA EPUN P CREATE OBJECT	03	00765
015331	015343	A	766		DATA EXIT Q NOT USED	03	00766
015332	015347	A	767		DATA V75REG S SEARCH MEMORY	B	03 00767
015333	014417	A	768		DATA ESRC T TRAP	03	00768
015334	014247	A	769		DATA ETRP U NOT USED	03	00769
015335	015343	A	770		DATA EXIT V NOT USED	03	00770
015336	015343	A	771		DATA EXIT W NOT USED	03	00771
015337	015343	A	772		DATA EXIT X NOT USED	03	00772
015340	014561	A	773		DATA EXRG Y PRINT/CHANGE PSEUDO X REG	03	00773
015341	015343	A	774		DATA EXIT Z NOT USED	03	00774
015342	015343	A	775		DATA EXIT	03	00775
			776	*		03	00776
			777	*		03	00777
			778	*		03	00778
			779	*		03	00779
015343	002000	A	780	EXIT	CALL OUTG PRINT INVALID & CR/LF	03	00780
015344	016576	A					
015345	001000	A	781		JMP ETOP RETURN TO TOP OF SUPERVISOR	03	00781
015346	015224	A					
	015343	A	782	FIL	EQU EXIT	03	00782
	015343	A	783	EDF	EQU EXIT	03	00783

PAGE 12

MAINTAIN III

MAIN3C

```

784 *
015347 010430 A 785 V75REG LDA V75
015350 001010 A 786 JAZ EXIT NO V75 HERE
015351 015343 A
015352 002000 A 787 CALL INPB GRAB THE REGISTER NUMBER
015353 016067 A
015354 001000 A 788 JMP EXIT
015355 015343 A
015356 006150 A 789 ANAI 07 MAKE SURE ITS 0 THRU 7
015357 000007 A
015360 006120 A 790 ADDI REGTBL
015361 015367 A
015362 006110 A 791 DRAI 0100000
015363 100000 A
015364 054001 A 792 STA REGJMP+1
015365 001000 A 793 REGJMP JMP* REGTBL
015366 115367 A
015367 014504 A 794 REGTBL DATA EARG R0 THRU R7
015370 014533 A 795 DATA EBRG DISPLAY/CHANGE
015371 014561 A 796 DATA ECRG ROUTINES.
015372 014607 A 797 DATA E3RG
015373 014635 A 798 DATA E4RG
015374 014663 A 799 DATA E5RG
015375 014711 A 800 DATA E6RG
015376 014736 A 801 DATA E7RG
015377 015343 A 802 DATA EXIT
803 *
804 *
805 *
806 * ELDD - LOAD OBJECT AND TRANSFER TO IT
807 *
808 *
015400 002000 A 809 ELDD CALL INN GET TERMINATOR
015401 016373 A
810 * NORMAL RETURN FROM INPF WITH PERIOD
015402 005101 A 811 INCR 01 SET A/D FOR LOAD AND EXECUTE
015403 001000 A 812 JMP LODD GO TO BINARY LOADER
015404 014024 A
015405 005042 A 813 LDAX TXB SAVE X
015406 006030 A 814 LDXI MSG2 MESSAGE: CHECKSUM ERROR
015407 015507 A
015410 002000 A 815 CALL OUTD PRINT MESSAGE
015411 016546 A
015412 005021 A 816 TBA OUTPUT X
015413 002000 A 817 CALL OUTE
015414 016517 A
015415 001000 A 818 JMP ETDG EXEC SUPERVISOR
015416 015224 A
819 *
820 *
821 *
822 *
823 *
824 * TYPICAL POWER UP/DOWN SUBROUTINE
825 * POWER DOWN INTERRUPT ADDRESS 040
826 * POWER UP INTERRUPT ADDRESS 042
827 *
828 *
829 *
830 * PWDN ENTR 0
015420 054060 A 831 STA SAVA SAVE A, B AND X REGISTERS
015421 064060 A 832 STB SAVE
015422 074060 A 833 STX SAVX
015423 010430 A 834 LDA V75
015424 001010 A 835 JAZ PWDN1
015425 015440 A
015426 007130 A 836 ST,R3 SAVR3 AND THE R3,
015427 015504 A 837 ST,R4 SAVR4 R4,
015430 007140 A 838 ST,R5 SAVR5 R5,
015431 015505 A 839 ST,R6 SAVR6 R6,
015432 007150 A 840 ST,R7 SAVR7 AND R7 IF ANY
015433 015506 A
015434 007160 A 841 PWDN1 TZA
015435 015507 A 842 DATA 005511 INCREMENT A IF OVERFLOW SET
015436 007170 A 843 STA SAVD
015437 015510 A 844 INR HLTF SET POWER FAIL/RESTR FLAG.
015440 005001 A 845 INR PWK STEP POWER FAIL COUNTER
015441 005511 A 846 PHLT HLT
015442 054046 A
015443 044046 A
015444 040472 A
015445 000000 A
847 *
848 * POWER UP PROCESSOR
849 *
015446 014043 A 850 PWRU LDA HLTF CHECK IF POWERING UP FROM RUN CONDITION
015447 001010 A 851 JAZ PHLT
015450 015445 A
015451 005001 A 852 TZA CLEAR POWER FAIL/RESTR FLAG
015452 054037 A 853 STA HLTF
854 *
855 * CODING TO REINSTATE 620/F OPTIONAL HARDWARE AFTER A
856 * POWER FAILURE, MUST BE DEFINED HERE. THE TOTAL EXECUTION
857 * TIME NOT TO EXCEED A SPECIFIED TIME PERIOD. SEE PPS
858 * FOR TIMING CONSTRAINTS.

```

		MAINTAIN III	MAIN3C	PAGE 13
015453	014035	A 859	LDA SAVD	03 00859
015454	001010	A 860	JAZ *+3	03 00860
015455	015457	A		
015456	007401	A 861	SDF	03 00861
015457	010430	A 862	LDA V75	B 03 00862
015460	001010	A 863	JAZ ABX	B 03 00863
015461	015474	A		
015462	007030	A 864	LD,R3 SAVR3	B 03 00864
015463	015504	A		
015464	007040	A 865	LD,R4 SAVR4	B 03 00865
015465	015505	A		
015466	007050	A 866	LD,R5 SAVR5	B 03 00866
015467	015506	A		
015470	007060	A 867	LD,R6 SAVR6	B 03 00867
015471	015507	A		
015472	007070	A 868	LD,R7 SAVR7	B 03 00868
015473	015510	A		
015474	014004	A 869	ABX LDA SAVA	B 03 00869
015475	024004	A 870	LDB SAVB	03 00870
015476	034004	A 871	LDX SAVX	03 00871
015477	001000	A 872	JMP* PWDN	03 00872
015500	115417	A		
015501	000000	A 873	* DATA 0	03 00873
015502	000000	A 874	SAVA DATA 0	03 00874
015503	000000	A 875	SAVB DATA 0	03 00875
015504	000000	A 876	SAVX DATA 0	03 00876
015505	000000	A 877	SAVR3 DATA 0	B 03 00877
015506	000000	A 878	SAVR4 DATA 0	B 03 00878
015507	000000	A 879	SAVR5 DATA 0	B 03 00879
015510	000000	A 880	SAVR6 DATA 0	B 03 00880
015511	000000	A 881	SAVR7 DATA 0	B 03 00881
015512	000000	A 882	SAVD DATA 0	03 00882
		A 883	HLTF DATA 0	03 00883
		A 884	* DATA 0	03 00884
		A 885	* DATA 0	03 00885
		A 886	* DATA 0	03 00886
		A 887	* DATA 0	03 00887
		A 888	* DATA 0	03 00888
		A 889	* MESSAGE TABLE	03 00889
		A 890	* DATA 0	03 00890
015513	106612	A 891	MSG1 DATA 0106612,'THIS IS THE V70/620 TEST EXECUTIVE',0106612,0	03 00891
015514	152310	A		
015515	144723	A		
015516	120311	A		
015517	151640	A		
015520	152310	A		
015521	142640	A		
015522	153267	P		
015523	130257	A		
015524	133262	A		
015525	130240	A		
015526	152305	A		
015527	151724	A		
015530	120305	A		
015531	154305	A		
015532	141725	A		
015533	152311	A		
015534	153305	A		
015535	106612	A		
015536	000000	A		
015537	141710	A 892	MSG2 DATA 'CHECKSUM ERROR X = ',0	03 00892
015540	142703	A		
015541	145723	A		
015542	152715	A		
015543	120305	A		
015544	151322	A		
015545	147722	A		
015546	120340	A		
015547	154240	A		
015550	136640	A		
015551	000000	A		
015552	146705	A 893	MSG3 DATA 'MEMORY SIZE IS '	03 00893
015553	146717	A		
015554	151331	A		
015555	120323	A		
015556	144732	A		
015557	142640	A		
015560	144722	A		
015561	120240	A		
015562	126655	A 894	MSG4 DATA '---K',0	03 00894
015563	145640	A		
015564	000000	A		
015565	120240	A 895	MSG5 DATA ' INVALID',0	03 00895
015566	144716	A		
015567	153301	A		
015570	146311	A		
015571	142240	A		
015572	000000	A		
015573	106612	A 896	MSG6 DATA 0106612,'THIS IS THE V75 TEST EXECUTIVE',0106612,0	B 03 00896
015574	152310	A		
015575	144723	A		
015576	120311	A		
015577	151640	A		
015600	152310	A		
015601	142640	A		

015602 153267 A
 015603 132640 A
 015604 152305 A
 015605 151724 A
 015606 120305 A
 015607 134305 A
 015610 141725 A
 015611 152311 A
 015612 153305 A
 015613 106612 A
 015614 000000 A

```

897 *
898 *
899 * ROUTINE FOR DETERMINING CORE SIZE
900 *
901 ESZA ENTR 0
902 EXC 0545 DISABLE MEMORY PARITY INT.
903 LDA 0
904 STA 2 SAVE CONTENTS OF LOCATION ZERO
905 TZA
906 STA 0
907 DAR A=-1
908 ESZ1 ADDI 4096 NEXT 4K MEMORY ADDRESS

909 TAX
910 LDB 1,1 SAVE MEMORY CELL IN B REG
911 STA 1,1
912 LDA 1,1
913 ERA 0
914 JAZ ESZ2 JUMP IF END OF MEMORY

915 STB 1,1 RESTORE MEMORY CELL
916 TXA
917 JMP ESZ1

918 ESZ2 LDA 2 RESTORE CONTENTS OF
919 STA 0 LOCATION ZERO
920 TXA
921 JMP* ESZA
  
```

015615 000000 A
 015616 100545 A
 015617 010000 A
 015620 050002 A
 015621 005001 A
 015622 050000 A
 015623 005311 A
 015624 006120 A
 015625 010000 A
 015626 005014 A
 015627 025001 A
 015630 055001 A
 015631 015001 A
 015632 130000 A
 015633 001310 A
 015634 015641 A
 015635 065001 A
 015636 005041 A
 015637 001000 A
 015640 015624 A
 015641 010002 A
 015642 050000 A
 015643 005041 A
 015644 001000 A
 015645 115615 A

```

922 *
923 *
924 *
925 * CONVERT MEMORY SIZE FOR ASCII PRINTOUT
926 *
927 ESZB ENTR 0
928 LDA 0MEM GET CORE SIZE(X7777)
929 LDBA 2 TRUNCATE 7777
930 ADDI ETAB ADDRESS OF THE ASCII EQUIV TABLE

931 TAX
932 LDA 0,1 GET ASCII EQUIV FROM TABLE ETAB
933 LDBI MSG4 SET MEMORY SIZE(04,08,ETC) INTO MSG4

934 STA 0,2
935 JMP* ESZB RETURN

936 ETAB DATA 0120264 ASCII 04
937 DATA 0120270
938 DATA 0130660
939 DATA 0130666
940 DATA 0131260
941 DATA 0131264
942 DATA 0131270
943 DATA 0131660
  
```

015646 000000 A
 015647 010441 A
 015650 004354 A
 015651 006120 A
 015652 015662 A
 015653 005014 A
 015654 015000 A
 015655 006020 A
 015656 015562 A
 015657 056000 A
 015660 001000 A
 015661 115646 A
 015662 120264 A
 015663 120270 A
 015664 120662 A
 015665 130666 A
 015666 131260 A
 015667 131264 A
 015670 131270 A
 015671 131662 A

```

944 *
945 *
946 *
947 *
948 *
949 *
950 * *****
951 *
952 * SENSE SWITCH SUBROUTINE
953 * THIS SUBROUTINE PROVIDES A STANDARD SENSE SWITCH INTERFACE.
954 * THE CALLING SEQUENCE IS AS FOLLOWS
955 * THE A, B, AND X REGISTERS CONTAIN ERROR HALT VALUES.
956 * CALL SSWT
957 * DATA (U REGISTER VALUE)
958 * DATA (ERROR MESSAGE ADDRESS) (IF NEG. ERROR SUB.)
959 * DATA (TERMINATION EXIT)
960 * DATA (LOOP ON ERROR EXIT)
961 * * NORMAL EXIT RETURN
962 *
963 * STANDARD SENSE SWITCH SETTINGS
964 * SSI (SET) SUPPRESS ERROR PRINTOUT
965 * (RESET) ALLOW ERROR PRINTOUTS
966 * SSP (SET) HALT ON ERROR
967 * (IF SET AFTER HALT - CONTINUE )
968 * (RESET) DO NOT HALT ON ERROR
969 * (IF HALT ON ERROR SET FIRST THEN RESET ON
970 * HALT CONDITION - LOOP UNTIL SET )
971 * SSS (SET) TERMINATE TEST - RETURN TO BEGINING OF TEST
972 * (RESET) CONTINUE TEST
973 * *****
  
```

MAINTAIN III						MAIN3C	PAGE 15
015672	054125	A	974	*			03 00974
015673	064125	A	975	SSWP	STA	SSWS	03 00975
015674	074125	A	976		STB	SSWS+1	03 00976
015675	001400	A	977		STX	SSWS+2	03 00977
015676	016023	A	978		JSS3	SSWE	03 00978
015677	001100	A					
015700	015722	A	979		JSS1	SSW1	03 00979
015701	024132	A	980		LDB	SSWT	03 00980
015702	005122	A	981		IBR		03 00981
015703	016000	A	982		LDA	0,2	03 00982
015704	001010	A	983		JAZ	SSW1	03 00983
015705	015722	A					
015706	005012	A	984		TAB		03 00984
015707	006150	A	985		ANAI	0100000	03 00985
015710	100000	A					
015711	005014	A	986		TAX		03 00986
015712	005021	A	987		TBA		03 00987
015713	001040	A	988		JXZ	*+4	03 00988
015714	015717	A					
015715	001000	A	989		JMP	SSWR	03 00989
015716	016006	A					
015717	005014	A	990		TAX		03 00990
015720	002000	A	991		CALL	OUTD	03 00991
015721	016546	A					
015722	001400	A	992	SSW1	JSS3	SSWE	03 00992
015723	016023	A					
015724	010440	A	993		LDA	\$FLG	03 00993
015725	001010	A	994		JAZ	SSW4	03 00994
015726	015737	A					
015727	001200	A	995	SSW2	JSS2	SSW3	03 00995
015730	015744	A					
015731	024102	A	996	SSWL	LDB	SSWT	03 00996
015732	005122	A	997		IBR		03 00997
015733	005122	A	998		IBR		03 00998
015734	005122	A	999		IBR		03 00999
015735	016000	A	1000		LDA	0,2	03 01000
015736	054004	A	1001		STA	*+5	03 01001
015737	014060	A	1002		LDA	SSWS	03 01002
015740	024060	A	1003		LDB	SSWS+1	03 01003
015741	034060	A	1004		LDX	SSWS+2	03 01004
015742	001000	A	1005		JMP	*	03 01005
015743	015742	A					
015744	005001	A	1006	SSW3	TZA		03 01006
015745	050440	A	1007		STA	\$FLG	03 01007
015746	014065	A	1008		LDA	SSWT	03 01008
015747	006120	A	1009		ADDI	4	03 01009
015750	000004	A					
015751	054004	A	1010		STA	*+5	03 01010
015752	014045	A	1011		LDA	SSWS	03 01011
015753	024045	A	1012		LDB	SSWS+1	03 01012
015754	034045	A	1013		LDX	SSWS+2	03 01013
015755	001000	A	1014		JMP	*	03 01014
015756	015755	A					
015757	001200	A	1015	SSW4	JSS2	SSW5	03 01015
015760	015763	A					
015761	001000	A	1016		JMP	SSW3	03 01016
015762	015744	A					
015763	024050	A	1017	SSW5	LDB	SSWT	03 01017
015764	016000	A	1018		LDA	0,2	03 01018
015765	054003	A	1019		STA	*+4	03 01019
015766	014031	A	1020		LDA	SSWS	03 01020
015767	024031	A	1021		LDB	SSWS+1	03 01021
015770	034031	A	1022		LDX	SSWS+2	03 01022
015771	005000	A	1023		NDP		03 01023
015772	001400	A	1024	SSW6	JSS3	SSWE	03 01024
015773	016023	A					
015774	010440	A	1025		LDA	\$FLG	03 01025
015775	001010	A	1026		JAZ	*+4	03 01026
015776	016001	A					
015777	001000	A	1027		JMP	SSW2	03 01027
016000	015727	A					
016001	001200	A	1028		JSS2	SSW3	03 01028
016002	015744	A					
016003	040440	A	1029		INR	\$FLG	03 01029
016004	001000	A	1030		JMP	SSHL	03 01030
016005	015731	A					
016006	006150	A	1031	SSWR	ANAI	077777	03 01031
016007	077777	A					
016010	054004	A	1032		STA	*+5	03 01032
016011	014006	A	1033		LDA	SSWS	03 01033
016012	024006	A	1034		LDB	SSWS+1	03 01034
016013	034006	A	1035		LDX	SSWS+2	03 01035
016014	002000	A	1036		JMPM	*	03 01036
016015	016014	A					
016016	001000	A	1037		JMP	SSW1	03 01037
016017	015722	A					
016020		A	1038	SSWS	BSS	3	03 01038
016023	005001	A	1039	SSWE	TZA		03 01039
016024	050440	A	1040		STA	\$FLG	03 01040
016025	024006	A	1041		LDB	SSWT	03 01041
016026	005122	A	1042		IBR		03 01042
016027	005122	A	1043		IBR		03 01043
016030	016000	A	1044		LDA	0,2	03 01044
016031	054001	A	1045		STA	*+2	03 01045

PAGE	16	MAINTAIN III	MAIN3C	
016032	001000	A 1046	JMP *	03 01046
016033	016032	A		
016034	000000	A 1047	SSWT ENTR	03 01047
016035	001000	A 1048	JMP SSWP	03 01048
016036	015672	A		
		1049 *		03 01049
		1050 *	INPUT ONE CHARACTER FROM TTY TO (A) REGISTER	03 01050
		1051 *		03 01051
016037	002000	A 1052	INA1 CALL INPH,INA2	03 01052
016040	016424	A		
016041	016046	A		
016042	001400	A 1053	JSS3 INA3	03 01053
016043	016052	A		
016044	001000	A 1054	JMP INA1	03 01054
016045	016037	A		
016046	002000	A 1055	INA2 CALL INPI	03 01055
016047	016436	A		
016050	044002	A 1056	INR INPA	03 01056
016051	044001	A 1057	INR INPA	03 01057
016052	001000	A 1058	INA3 JMP 000	03 01058
016053	000000	A		
016053		1059	INPA BES 0	03 01059
016054	001000	A 1060	JMP INA1	03 01060
016055	016037	A		
		1061 *		03 01061
		1062 *	INPUT ONE CHARACTER + PRINT FROM TTY TO A REGISTER	03 01062
		1063 *		03 01063
016056	002000	A 1064	INB1 CALL INPA	03 01064
016057	016053	A		
016060	001000	A 1065	JMP* INPB	03 01065
016061	116067	A		
016062	002000	A 1066	CALL JUTA	03 01066
016063	016441	A		
016064	044002	A 1067	INR INPB	03 01067
016065	044001	A 1068	INR INPB	03 01068
016066	001000	A 1069	JMP* 0	03 01069
016067	100000	A		
016067		1070	INPB BES 0	03 01070
016070	001000	A 1071	JMP INB1	03 01071
016071	016056	A		
		1072 *		03 01072
		1073 *		03 01073
		1074 *	INPUT ONE CHARACTER (EDITED)	03 01074
		1075 *		03 01075
016072	002000	A 1076	INC3 CALL INPB	03 01076
016073	016067	A		
016074	001000	A 1077	JMP* INPC	03 01077
016075	116121	A		
016076	006130	A 1078	ERAI '\'	03 01078
016077	000334	A		
016100	001010	A 1079	JAZ INC2	03 01079
016101	016116	A		
016102	006130	A 1080	ERAI '\'	03 01080
016103	000334	A		
016104	006130	A 1081	ERAI 0337	03 01081
016105	000337	A		
016106	001010	A 1082	JAZ INC1	03 01082
016107	016114	A		
016110	006130	A 1083	ERAI 0337	03 01083
016111	000337	A		
016112	044006	A 1084	INR INPC	03 01084
016113	044005	A 1085	INR INPC	03 01085
016114	044004	A 1086	INC1 INR INPC	03 01086
016115	044003	A 1087	INR INPC	03 01087
016116	044002	A 1088	INC2 INR INPC	03 01088
016117	044001	A 1089	INR INPC	03 01089
016120	001000	A 1090	JMP* 0	03 01090
016121	100000	A		
016121		1091	INPC BES 0	03 01091
016122	001000	A 1092	JMP INC3	03 01092
016123	016072	A		
		1093 *		03 01093
		1094 *	INPUT ONE ALPHA CHARACTER FROM TTY KEYBOARD TO A REG	03 01094
		1095 *		03 01095
016124	002000	A 1096	IND4 CALL INPC	03 01096
016125	016121	A		
016126	001000	A 1097	JMP* INPD	03 01097
016127	116135	A		
016130	001010	A 1098	JMP IND2	03 01098
016131	016152	A		
016132	001000	A 1099	JMP IND1	03 01099
016133	016150	A		
016134	006140	A 1100	SUBI 0301	03 01100
016135	000301	A		
016136	001004	A 1101	JAN INDS	03 01101
016137	016160	A		
016140	006140	A 1102	SUBI 032	03 01102
016141	000032	A		
016142	001002	A 1103	JAP INDS	03 01103
016143	016160	A		
016144	006120	A 1104	ADDI 0333	03 01104
016145	000333	A		
016146	044006	A 1105	INR INPD	03 01105
016147	044005	A 1106	INR INPD	03 01106
016150	044004	A 1107	IND1 INR INPD	03 01107

MAINTAIN III					MAIN3C	PAGE	17
016151	044003	A	1108	INR	INPD	03	01108
016152	044002	A	1109	IND2	INR	03	01109
016153	044001	A	1110	INR	INPD	03	01110
016154	001000	A	1111	JMP*	0	03	01111
016155	100000	A					
016156	001000	A	1112	INPD	BES	03	01112
016157	016124	A	1113	JMP	IND4	03	01113
016160	002000	A	1114	IND3	CALL	03	01114
016161	016576	A			OUTG		
016162	001000	A	1115	JMP	IND2	03	01115
016163	016152	A					
			1116	*		03	01116
			1117	*		03	01117
			1118	*		03	01118
			1119	*		03	01119
			1120	INE3	CALL	03	01120
016164	002000	A			INPD		
016165	016155	A					
016166	001000	A	1121	JMP*	INPE	03	01121
016167	116216	A					
016170	001000	A	1122	JMP	INE2	03	01122
016171	016213	A					
016172	001000	A	1123	JMP	INE1	03	01123
016173	016211	A					
016174	004250	A	1124	LRLA	8	03	01124
016175	054452	A	1125	STA	TS02	03	01125
016176	002000	A	1126	CALL	INPD	03	01126
016177	016155	A					
016200	001000	A	1127	JMP*	INPE	03	01127
016201	116216	A					
016202	001000	A	1128	JMP	INE2	03	01128
016203	016213	A					
016204	001000	A	1129	JMP	INE3	03	01129
016205	016164	A					
016206	114441	A	1130	ORA	TS02	03	01130
016207	044006	A	1131	INR	INPE	03	01131
016210	044005	A	1132	INR	INPE	03	01132
016211	044004	A	1133	INE1	INR	03	01133
016212	044003	A	1134	INR	INPE	03	01134
016213	044002	A	1135	INE2	INR	03	01135
016214	044001	A	1136	INR	INPE	03	01136
016215	001000	A	1137	JMP*	0	03	01137
016216	100000	A					
016216			1138	INPE	BES	03	01138
016217	001000	A	1139	JMP	INE3	03	01139
016220	016164	A					
			1140	*		03	01140
			1141	*		03	01141
			1142	*		03	01142
			1143	INF5	CALL	03	01143
016221	002000	A			INPC		
016222	016121	A					
016223	001000	A	1144	JMP*	INPF	03	01144
016224	116256	A					
016225	001000	A	1145	JMP	INF2	03	01145
016226	016253	A					
016227	001000	A	1146	JMP	INF1	03	01146
016230	016251	A					
016231	006140	A	1147	SUBI	0254	03	01147
016232	000254	A					
016233	001010	A	1148	JAZ	INF3	03	01148
016234	016247	A					
016235	006140	A	1149	SUBI	02	03	01149
016236	000002	A					
016237	001010	A	1150	JAZ	INF4	03	01150
016240	016243	A					
016241	002000	A	1151	CALL	OUTG	03	01151
016242	016576	A					
016243	001000	A	1152	JMP	INF2	03	01152
016244	016253	A					
016245	044010	A	1153	INF4	INR	03	01153
016246	044007	A	1154	INR	INPF	03	01154
016247	044006	A	1155	INF3	INR	03	01155
016250	044005	A	1156	INR	INPF	03	01156
016251	044004	A	1157	INF1	INR	03	01157
016252	044003	A	1158	INR	INPF	03	01158
016253	044002	A	1159	INF2	INR	03	01159
016254	044001	A	1160	INR	INPF	03	01160
016255	001000	A	1161	JMP*	0	03	01161
016256	100000	A					
016256			1162	INPF	BES	03	01162
016257	001000	A	1163	JMP	INF5	03	01163
016260	016221	A					
			1164	*		03	01164
			1165	*		03	01165
			1166	*		03	01166
			1167	*		03	01167
			1168	*		03	01168
			1169	ING7	TZA	03	01169
016261	005001	A					
016262	054365	A	1170	STA	TS02	03	01170
016263	050471	A	1171	STA	TS04	03	01171
016264	064367	A	1172	STB	TS07	03	01172
016265	005002	A	1173	YZB		03	01173
016266	002000	A	1174	ING5	CALL	03	01174
016267	016121	A			INPC		
016270	001000	A	1175	JMP*	INPG	03	01175

INPUT TWO LETTER CHARACTERS FROM TTY

INPUT PERIOD, COMMA FOR MESSAGE TERMINATOR

INPUT OCTAL NUMBER FROM TTY KEYBOARD
 ASSEMBLE AS 16 BIT NUMBER IN A REG
 ONLY OCTAL NUMBERS ACCEPTED

TEMP STORAGE FOR OCTAL NUMBER
 TEMP STORAGE FOR DIGIT COUNTER

ABORT INPUT EXIT

EXIT

INVALID INPUT--PRINT MESSAGE

ABORT

INPUT ALPHA CHAR

TERMINATE EXIT

ABORT INPUT EXIT

DELETE PREVIOUS CHARACTER EXIT

INPUT ALPHA CHAR

TERMINATE EXIT

ABORT INPUT EXIT

DELETE PREVIOUS CHARACTER EXIT

NORMAL EXIT

DELETE PREVIOUS CHARACTER EXIT

ABORT INPUT EXIT

EXIT

INPUT ONE CHARACTER

TERMINATE EXIT

ABORT INPUT EXIT

DELETE PREVIOUS CHARACTER EXIT

COMMA

COMMA EXIT

PERIOD

PERIOD EXIT

PRINT INVALID MESSAGE

ABORT

NORMAL EXIT

COMMA EXIT

DELETE PREVIOUS CHARACTER EXIT

ABORT INPUT EXIT

EXIT

Address	Instruction	Operand	Comment	Page	Line	
016271	JMP	ING2	ABORT INPUT EXIT	03	01176	
016272	JMP	ING1	DELETE PREVIOUS CHARACTER EXIT	03	01177	
016273	STA	TS05	SAVE INPUT	03	01178	
016274	SUBI	0860		03	01179	
016275	JAN	ING6	INVALID IF NOT OCTAL NUMBER	03	01180	
016276	SUBI	010		03	01181	
016277	JAP	ING6	INVALID IF NOT OCTAL NUMBER	03	01182	
016300	ADDI	010	RESTORE DIGIT	03	01183	
016301	STA	TS03	SAVE CHARACTER	03	01184	
016302	LDA	TS02	INSERT CHARACTER	03	01185	
016303	LLRL	3	INTO	03	01186	
016304	DRA	TS03	OCTAL NUMBER	03	01187	
016305	JBZ	*+4	TWO MANY BITS ?	03	01188	
016306	JMP	ING8	YES	03	01189	
016307	STA	TS02	NO	03	01190	
016308	INR	TS04	INCR # DIGITS	03	01191	
016309	JMP	ING5	GET NEXT DIGIT	03	01192	
016325	ING3	INR	INPG	03	01193	
016326	ING4	INR	INPG	03	01194	
016327	ING2	INR	INPG	03	01195	
016328	ING2	INR	INPG	03	01196	
016329	ING2	INR	INPG	03	01197	
016330	LDS	TS07		03	01198	
016331	LDA	TS02	GET ASSEMBLED OCTAL NUMBER	03	01199	
016332	JMP	0	EXIT	03	01200	
016333	BES	0		03	01201	
016334	CALL	UNPI	INIT TTY BFR	03	01202	
016335	JMP	ING7		03	01203	
016336	ING6	LDA	TS05	GET LAST INPUT	03	01204
016337	SUBI	0254	IS IT A COMMA	03	01205	
016338	JAZ	ING4	YES	03	01206	
016339	SUBI	02	IS IT A PERIOD	03	01207	
016340	JAZ	ING3	YES	03	01208	
016341	SUBI	0256-0215		03	01209	
016342	JAZ	ING3	RETURN IS AS GOOD AS PERIOD	03	01210	
016343	ING8	CALL	OUTG	03	01211	
016344	JMP	ING2	PRINT INVALID MESSAGE	03	01212	
016345	JMP	ING2	ABORT	03	01213	
016346	ING1	LDA	TS02	DELETE LAST CHARACTER	03	01214
016347	LLRA	3		03	01215	
016348	STA	TS02		03	01216	
016349	LDA	TS04		03	01217	
016350	DAD		REDUCE DIGIT COUNT	03	01218	
016351	JMP	ING5		03	01219	
016352	ING3			03	01220	
016353	ING3	ENTR	INPUT TO TERMINATOR	03	01221	
016354	CALL	INPG		03	01222	
016355	JMP	STOP		03	01223	
016356	JMP	STOP		03	01224	
016400	JMP*	INN		03	01225	
016401	JMP*	INN		03	01226	
016402	JMP*	INN		03	01227	
016403	JMP*	INN		03	01228	
016404	JMP*	INN		03	01229	
016405	JMP*	INN		03	01230	
016406	SENSE	TTY BFR RDY		03	01231	
016407	INH1	STA	INN2	SAVE A	03	01232
016408	INH1	LDA	INN2	MODIFY RETURN	03	01233
016409	INH1	DRAI	0100000		03	01234
016410	INH1	STA	INN3+1		03	01235
016411	INH1	LDA	STTY	ADJ SBR	03	01236
016412	INH1	DRAI	0101200		03	01237
016413	INH1	STA	*+2		03	01238
016414	INH1	LDA	INN2	RESTORE A	03	01239
016415	INH1	SEN	0+5		03	01240

MAINTAIN III		MAIN3C		
016421	016420	A		
016422	044001	A	1241	INR INPH
016423	001000	A	1242	JMP 0
016424	000000	A		
016424			1243	INPH BES 0 ENTER
016425	001000	A	1244	JMP INH1
016426	016406	A		
016427	000000	A	1245	INH2 DATA 0
			1246	*
			1247	* INPUT CHARACTER FROM TTY W/OUT SENSING BFR RDY
			1248	*
016430	010473	A	1249	INI1 LDA \$TTY ADJ. CIA
016431	006110	A	1250	ORAI 0102500
016432	102500	A		
016433	054000	A	1251	STA *+1
016434	102500	A	1252	CIA 0 INPUT
016435	001000	A	1253	JMP 0
016436	000000	A		
016436			1254	INPI BES 0 ENTER
016437	001000	A	1255	JMP INI1
016440	016430	A		
			1256	*
			1257	* OUTPUT ONE CHARACTER FROM A REG TO TTY
			1258	*
016441	000000	A	1259	OUTA ENTR 0
016442	074204	A	1260	STX TS01 SAVE X
016443	005014	A	1261	TAX
016444	010473	A	1262	LDA \$TTY
016445	006110	A	1263	ORAI 0101100 ADJUST TTY DA
016446	101100	A		
016447	054006	A	1264	STA *+7
016450	006120	A	1265	ADDI 002000
016451	002000	A		
016452	054013	A	1266	STA OUT1
016453	005041	A	1267	TXA
016454	006030	A	1268	LDXI -1 TIME - OUT CONSTANT
016455	177777	A		
016456	101000	A	1269	SEN 0,OUT1 WRITE REGISTER READY
016457	016466	A		
016460	002000	A	1270	CALL TOUT
016461	016644	A		
016462	005011	A	1271	MERG 011
016463	000115	A	1272	HLT 77
016464	001000	A	1273	JMP *-6
016465	016456	A		
016466	103100	A	1274	OUT1 OAR 0
016467	034157	A	1275	LDX TS01 RESTORE X
016470	001000	A	1276	JMP* OUTA RETURN
016471	116441	A		
			1277	*
			1278	*
			1279	* OUTPUT TWO CHARACTERS FROM A REG TO TTY (HIGH ORDER FIRST)
			1280	* ENTER WITH CHARACTERS IN A REG
			1281	*
016472	000000	A	1282	OUTB ENTR 0
016473	064157	A	1283	STB TS06 SAVE B
016474	004550	A	1284	LLSR 8
016475	002000	A	1285	CALL OUTA OUTPUT FIRST CHAR
016476	016441	A		
016477	004450	A	1286	LLRL 8
016500	002000	A	1287	CALL OUTA OUTPUT SECOND CHAR
016501	016441	A		
016502	024150	A	1288	LDB TS06 RESTORE B
016503	001000	A	1289	JMP* OUTB RETURN
016504	116472	A		
			1290	*
			1291	* OUTPUT CARRIAGE RETURN AND LINE FEED TO TTY
			1292	*
016505	000000	A	1293	OUTC ENTR 0
016506	054005	A	1294	STA *+6 SAVE A
016507	006010	A	1295	LDAI 0106612 CR AND LF
016510	106612	A		
016511	002000	A	1296	CALL OUTB OUTPUT 2 CHAR
016512	016472	A		
016513	006010	A	1297	LDAI 0 RESTORE A
016514	000000	A		
016515	001000	A	1298	JMP* OUTC RETURN
016516	116505	A		
			1299	*
			1300	* OUTPUT OCTAL WORD AND A SPACE TO TTY
			1301	*
016517	000000	A	1302	OUTE ENTR 0
016520	064022	A	1303	STB *+19 SAVE B
016521	005002	A	1304	TZB
016522	004557	A	1305	LLSR 15
016523	005122	A	1306	YBR
016524	006110	A	1307	ORAI '0' MAKE DIGIT
016525	000260	A		
016526	002000	A	1308	CALL OUTA OUTPUT ONE DIGIT
016527	016441	A		
016530	005001	A	1309	TZA
016531	004443	A	1310	LLRL 3
016532	001020	A	1311	JRZ *+4 OCTAL OUTPUT COMPLETE
016533	016536	A		
016534	001000	A	1312	JMP OUT2

PAGE	20	MAINTAIN III	MAIN3C	
016535	016524	A		
016536	006010	A	1313	LDAI 0240 ASCII BLANK CODE 03 01313
016537	000240	A		
016540	002000	A	1314	CALL DUTA OUTPUT SPACE 03 01314
016541	016441	A		
016542	006020	A	1315	LDBI 0 RESTORE B 03 01315
016543	000000	A		
016544	001000	A	1316	JMP* DUTE RETURN 03 01316
016545	116517	A		
			1317	* 03 01317
			1318	* OUTPUT MESSAGE TO TTY (X REG CONTAINS ADDRESS OF MESSAGE) 03 01318
			1319	* 03 01319
016546	000000	A	1320	OUTD ENTR 0 03 01320
016547	015000	A	1321	LDA 0+1 03 01321
016550	001010	A	1322	JAZ* OUTD 03 01322
016551	116546	A		
016552	002000	A	1323	CALL OUTB 03 01323
016553	016472	A		
016554	005144	A	1324	IXR 03 01324
016555	001000	A	1325	JMP OUTD+1 03 01325
016556	016547	A		
			1326	* 03 01326
			1327	* OUTPUT OCTAL MEMORY ADDRESS TO TTY PRINTER 03 01327
			1328	* 03 01328
016557	000000	A	1329	OUTF ENTR 0 03 01329
016560	054067	A	1330	STA TS02 SAVE WORD 03 01330
016561	006010	A	1331	LDAI 'C' PAREN SPACE 03 01331
016562	124240	A		
016563	002000	A	1332	CALL OUTB PRINT CHAR 03 01332
016564	016472	A		
016565	014062	P	1333	LDA TS02 03 01333
016566	002000	A	1334	JMPM DUTE OUTPUT OCTAL WORD 03 01334
016567	016517	A		
016570	006010	A	1335	LDAI ') ' RIGHT PARENTHESIS AND SPACE 03 01335
016571	124640	A		
016572	002000	A	1336	CALL OUTB 03 01336
016573	016472	A		
016574	001000	A	1337	JMP* OUTF 03 01337
016575	116557	A		
			1338	* 03 01338
			1339	* INVALID INPUT--PRINT MESSAGE 03 01339
			1340	* 03 01340
016576	000000	A	1341	OUTG ENTR 0 03 01341
016577	006030	A	1342	LDXI MSG5 INVALID MESSAGE 03 01342
016600	015565	A		
016601	002000	A	1343	CALL OUTD OUTPUT MESSAGE 03 01343
016602	016546	A		
016603	001000	A	1344	JMP* OUTG 03 01344
016604	116576	A		
			1345	* 03 01345
			1346	* OUTPUT CONTROL CHARACTER SUBROUTINE 03 01346
			1347	* 03 01347
016605	054020	A	1348	OUT3 STA DUTH+3 SAVE A 03 01348
016606	074020	A	1349	STX DUTH+4 SAVE X 03 01349
016607	034013	A	1350	LDX DUTH A=CONTROL 03 01350
016610	015000	A	1351	LDA 0+1 CHARACTER 03 01351
016611	002000	A	1352	CALL DUTA OUTPUT CHARACTER 03 01352
016612	016441	A		
016613	006030	A	1353	LDXI 077777 INIT 03 01353
016614	077777	A		
016615	002000	A	1354	CALL TDLY TIME DELAY 03 01354
016616	015630	A		
016617	044003	A	1355	INR DUTH SET RETURN 03 01355
016620	014005	A	1356	LDA DUTH+3 RESTORE A 03 01356
016621	034003	A	1357	LDX DUTH+4 RESTORE X 03 01357
016622	001000	A	1358	JMP 0 RETURN 03 01358
016623	000000	A		
016623	001000	A	1359	DUTH BES 0 ENTRY 03 01359
016624	001000	A	1360	JMP OUT3 LOOP 03 01360
016625	016605	A		
016626			1361	BSS 0 STORAGE FOR A + X 03 01361
			1362	* 03 01362
			1363	* TIME DELAY SUBROUTINE 03 01363
			1364	* 03 01364
016630	000000	A	1365	TDLY ENTR 0 03 01365
016631	005343	A	1366	DXR 03 01366
016632	001040	A	1367	JXZ* TDLY RETURN 03 01367
016633	116630	A		
016634	001000	A	1368	JMP *-3 03 01368
016635	016631	A		
			1369	* 03 01369
			1370	* I/O TIME-OUT SUBROUTINE 03 01370
			1371	* 03 01371
016636	005304	A	1372	TOU1 DXR 03 01372
016637	001040	A	1373	JXZ* TOUT TIME-OUT RETURN 03 01373
016640	116644	A		
016641	044002	A	1374	INR TOUT SET UP FOR 03 01374
016642	044001	A	1375	INR TOUT NORMAL EXIT 03 01375
016643	001000	A	1376	JMP 0 03 01376
016644	000000	A		
016644	000000	A	1377	TOUT BES 0 03 01377
016645	001000	A	1378	JMP TOU1 03 01378
016646	016636	A		
			1379	* 03 01379
			1380	* DATA TABLE 03 01380

017000	070464	A	1452		STX	CKSM				03	01452
017001	005122	A	1453		IBR					03	01453
017002	005122	A	1454	WR13	IBR					03	01454
017003	015000	A	1455		LDA	0,1		PICK UP WORD		03	01455
017004	056000	A	1456		STA	0,2		PUT IN BUFFER		03	01456
017005	130464	A	1457		ERA	CKSM				03	01457
017006	050464	A	1458		STA	CKSM				03	01458
017007	044035	A	1459		INR	CNTR		INCREMENT WORD COUNT		03	01459
017010	005041	A	1460		TXP					03	01460
017011	140463	A	1461		SUB	LAST		END OF RECORD		03	01461
017012	005144	A	1462		IXR					03	01462
017013	001010	A	1463		JAZ	WR14		YES		03	01463
017014	017022	A									
017015	014047	A	1464		LDA	CNTR				03	01464
017016	006140	A	1465		SUBI	375		RECORD FULL		03	01465
017017	000075	A									
017020	001004	A	1466		JAN	WR13		NO		03	01466
017021	017002	A									
017022	070462	A	1467	WR14	STX	FRST		SAVE POINTER		03	01467
017023	005122	A	1468		IBR					03	01468
017024	010464	A	1469		LDA	CKSM				03	01469
017025	134037	A	1470		ERA	CNTR				03	01470
017026	056000	A	1471		STA	0,2				03	01471
017027	024035	A	1472		LDB	CNTR				03	01472
017030	064036	A	1473		STB	MTBF		SET RECORD LENGTH		03	01473
017031	005122	A	1474		IBR					03	01474
017032	005122	A	1475		IBR					03	01475
017033	034032	A	1476		LDX	BUFR				03	01476
017034	002030	A	1477		CALL	CPD				03	01477
017035	016673	A									
	017035	A	1478	MCD1	EQU	*-1				03	01478
017036	002000	A	1479		CALL	CBUF				03	01479
017037	016753	A									
017040	010462	A	1480		LDA	FRST				03	01480
017041	005311	A	1481		DAR					03	01481
017042	140463	A	1482		SUB	LAST				03	01482
017043	001004	A	1483		JAN	WR12		MORE		03	01483
017044	016771	A									
017045	054021	A	1484		STA	MTBF		SET FOR EXECUTION RECORD		03	01484
017046	010465	A	1485		LDA	EXEC				03	01485
017047	001004	A	1486		JAN	END		NO EXECUTION RECORD		03	01486
017050	015224	A									
017051	054016	A	1487		STA	MTBF+1				03	01487
017052	005301	A	1488		DECR	1				03	01488
017053	054013	A	1489		STA	MTBF				03	01489
017054	134013	A	1490		ERA	MTBF+1				03	01490
017055	054013	A	1491		STA	MTBF+2				03	01491
017056	005102	A	1492		INCR	2				03	01492
017057	005122	A	1493		IBR					03	01493
017060	034005	A	1494		LDX	BUFR				03	01494
017061	002030	A	1495		CALL	CPD				03	01495
017062	016673	A									
	017062	A	1496	MCD2	EQU	*-1				03	01496
017063	001030	A	1497		JMP	END				03	01497
017064	015224	A									
017065		A	1498	CNTR	RSS	1				03	01498
017066	017067	A	1499	BUFR	DATA	MTBF				03	01499
017067		A	1500	MTBF	RSS	64				03	01500
		A	1501	*						03	01501
	017166	A	1502	EDEX	EQU	*-1				03	01502
	014000	A	1503		END	ERGO				03	01503

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

000442	A	\$COIN	000440	A	\$FLG	000441	A	\$MEM	000473	A	\$TTY
015474	A	ABR	000016	A	AZ	017055	A	BUFR	000020	A	BZ
016751	A	CO00	015732	A	CO01	016734	A	CO02	016740	A	CO03
016679	A	CO04	016700	A	CBU1	016755	A	CBUF	014732	A	CD00
014043	A	CO01	014047	A	CO02	014105	A	CO03	014141	A	CO04
000454	A	CKSM	014145	A	CNT	017065	A	CNTR	016673	A	CPD
016677	A	CPD1	016731	A	CPDU	014116	A	CYCLE	015214	A	DONCG1
015220	A	DD403G3	016653	A	BUMP	000431	A	ERR1	014087	A	ERR5
000432	A	E4R1	014635	A	E4RC	000430	A	ERR1	014043	A	ERR6
000434	A	E4R1	014711	A	E4RC	000435	A	E4P1	014730	A	E4R3
000443	A	E4R1	014304	A	E4RC	014000	A	ERR0	015105	A	ERR1
015176	A	ERR2	000444	A	ERR1	014030	A	ERR0	015140	A	ERR2
015111	A	ERR3	015100	A	ERR0	017166	A	EDEX	015044	A	ERU1
015051	A	ERU2	015065	A	ERU4	015007	A	ERU7	014077	A	ESS01
014764	A	ECUT	000454	A	EK30	000435	A	EK01	000456	A	EK02
014000	A	ELDC	015400	A	ELDD	015224	A	END	015343	A	EDF
015026	A	EDV1	014172	A	ERU1	014150	A	ERUN	014451	A	ERR1
014462	A	ESR2	014443	A	ESR4	014500	A	ESR5	014417	A	ESR6
015624	A	ESZ1	015641	A	ESZ2	015615	A	ESZ4	015646	A	ESZ3
015155	A	ESZC	015662	A	ETAS	015311	A	ETPL	015054	A	ETD4
015224	A	ETUP	014404	A	ETR1	014414	A	ETR2	014300	A	ETR3
014323	A	ETR3A	014375	A	ETR3B	014247	A	ETRF	000446	A	ETS1
000400	A	EX00	000401	A	EX01	000402	A	EX02	000403	A	EX03
000404	A	EX04	000405	A	EX05	000406	A	EX06	000407	A	EX07
000410	A	EX10	000411	A	EX11	000412	A	EX12	000413	A	EX13
000414	A	EX14	000415	A	EX15	000416	A	EX16	000417	A	EX17
000420	A	EX20	000421	A	EX21	000422	A	EX22	000423	A	EX23
000424	A	EX30	000425	A	EX31	000426	A	EX32	000427	A	EX33
000465	A	EXEC	015343	A	EXIT	000445	A	EXR1	014561	A	EXRG
015343	A	FIL	000462	A	FRST	015512	A	HLTF	016037	A	IN01
016046	A	INA2	016052	A	:NAB	016056	A	INB1	014037	A	INC

B

MAINTAIN III

MAIN3C

016114	A	INC1	016116	A	INC2	016072	A	INC3	016150	A	IND1
016152	A	IND2	016160	A	IND3	016124	A	IND4	016211	A	INE1
016213	A	INE2	016164	A	INE3	016251	A	INF1	016253	A	INF2
016247	A	INF3	016245	A	INF4	016221	A	INF5	016364	A	ING1
016331	A	ING2	016325	A	ING3	016327	A	ING4	016266	A	ING5
016343	A	ING6	016261	A	ING7	016360	A	ING8	016406	A	INH1
016427	A	INH2	016420	A	INH3	016430	A	INI1	014232	A	INI2
014243	A	INI3	014203	A	INIT	016373	A	INN	016053	A	INPA
016067	A	INPB	016121	A	INPC	016155	A	INPD	016216	A	INPE
016256	A	INPF	016336	A	INPG	016424	A	INPH	016436	A	INPI
000460	A	K100	000461	A	K200	000457	A	K40	000463	A	LAST
014024	A	LDAC	000470	A	LOAD	014052	A	LOAE	014070	A	LOAF
014075	A	LDAG	014101	A	LOAH	014140	A	LOAI	015405	A	LDAN
014024	A	LDDE	000477	A	MASK	017035	A	MCD1	017062	A	MCD2
015513	A	MSG1	015537	A	MSG2	015552	A	MSG3	015562	A	MSG4
015565	A	MSG5	015573	A	MSG6	017067	A	MTBF	016743	A	MTI4
014007	A	NOV75	000474	A	DADR	016466	A	DUT1	016524	A	DUT2
016605	A	DUT3	016441	A	DUTA	016472	A	DUTB	016505	A	DUTC
016546	A	DUTD	016517	A	DUTE	016557	A	DUTF	016576	A	DUTG
016623	A	DUTH	014147	A	PART	016633	A	PCHC	015306	A	PETBL
015445	A	PHLT	015417	A	PWDM	015440	A	PWDM1	000472	A	PWRK
015446	A	PWRU	000000	A	R0	000001	A	R1	000002	A	R2
000003	A	R3	000004	A	R4	000005	A	R5	000006	A	R6
000007	A	R7	015365	A	REGJMP	015367	A	REGTBL	015016	A	RESOF
015301	A	SAVA	015302	A	SAVB	015311	A	SAVD	015304	A	SAVR3
015505	A	SAVR4	015506	A	SAVR5	015507	A	SAVR6	015510	A	SAVR7
015503	A	SAVX	014011	A	SET	015722	A	SSW1	015727	A	SSW2
015744	A	SSW3	015757	A	SSW4	015753	A	SSW5	015772	A	SSW6
016023	A	SSWE	015731	A	SSWL	015672	A	SSWP	016006	A	SSWR
016020	A	SSWS	016034	A	SSWT	000467	A	TAPE	000466	A	TAPN
016630	A	TDLY	016636	A	TDU1	016644	A	TOUT	016647	A	TS01
016650	A	TS02	016651	A	TS03	000471	A	TS04	016652	A	TS05
016653	A	TS06	016654	A	TS07	000430	A	V75	015347	A	V75REG
016771	A	WR12	017002	A	WR13	017022	A	WR14	000476	A	XOFF
000475	A	XDN									

0 ERRORS ASSEMBLY COMPLETE

LITERALS

POINTERS

121	\$CDN	700								
119	\$FLG	993	1007	1025	1029	1040				
120	\$MEM	696	928							
142	\$TTY	704	1236	1249	1262					
869	ABX	863								
188	AZ	226	228							
1499	BUFR	1439	1451	1476	1494					
189	BZ	226	228							
1438	C000	1396								
1428	C001	1430	1436							
1429	C002	1436								
1431	C003	1428	1436							
1402	C004	1436								
1440	CBU1	1445								
1438	CBUF	1444	1448	1479						
187	CD00	184								
194	CD01	187								
196	CD02	187								
236	CD03	187								
240	CD04	187								
135	CKSM	192	218	219	1452	1457	1458	1469		
242	CNT	191	207	224	231					
1498	CNTR	1406	1423	1424	1447	1459	1464	1470	1472	
1404	CPD	1425	1477	1495						
1407	CPD1	1426								
1427	CPDU	1409	1413	1417	1419	1432				
243	CYCLE	193	211	220						
713	D0MSG1	709								
715	D0MSG3	712								
1392	DUMP	265								
107	E3R1	379	515	526						
313	E3RG	797								
108	E4R1	381	531	542						
529	E4RG	798								
109	E5R1	383	547	558						
545	E5RG	799								
110	E6R1	385	573							
561	E6RG	800								
111	E7R1	387	578	589						
576	E7RG	801								
123	EAR1	348	371	459	470	609				
457	EARG	750	794							
162	EBG0	1503								
699	EBG1	167								
706	EBG2	*								
124	EBR1	349	373	479	490	610				
477	EBRG	751	795							
684	ECN2	675								
668	ECN3	692								
662	ECNG	752								
1502	EDEX	103								
636	EDU1	653								
639	EDU2	646								
648	EDU4	645								
627	EDUM	753								
609	EGD1	346								
602	EGDT	756								

MAINTAIN III

MAIN3C

1153	INF4	1150								
1143	INF5	1163								
1215	ING1	1177								
1197	ING2	1176	1213							
1193	ING3	1209	1211							
1195	ING4	1207								
1174	ING5	1192	1220							
1205	ING6	1180	1182							
1169	ING7	1204								
1212	ING8	1189								
1232	INH1	1244								
1245	INH2	1232	1239							
1240	INH3	1235								
1249	INI1	1255								
301	INI2	307								
309	INI3	290								
286	INIT	311	758							
1222	INN	809	1227	1228						
1059	INPA	90	1056	1057	1064					
1070	INPB	91	727	787	1065	1067	1068	1076		
1091	INPC	92	1077	1084	1085	1086	1087	1088	1089	1096
		1143	1174							
1112	INPD	93	1097	1105	1106	1107	1108	1109	1110	1120
		1126								
1138	INPE	94	1121	1127	1131	1132	1133	1134	1135	1136
1162	INPF	95	1144	1153	1154	1155	1156	1157	1158	1159
		1160								
1202	INPG	96	256	287	330	417	461	481	501	517
		533	549	564	580	602	627	662	672	1175
		1193	1194	1195	1196	1197	1198	1224		
1243	INPH	103	1052	1233	1241					
1254	INPI	104	649	725	1055	1203				
131	K100	*								
132	K200	*								
130	K40	*								
134	LAST	1394	1461	1482						
183	LDAC	*								
139	LOAD	*								
198	LOAE	206								
207	LOAF	221	223							
211	LOADG	235								
214	LOAH	202	204	205						
239	LOAI	197	200	209	212	217	232			
813	LOAW	229								
179	LODE	139	812							
146	MASK	174								
1478	MCD1	*								
1496	MCD2	*								
891	MSG1	713								
892	MSG2	814								
893	MSG3	102	715							
894	MSG4	933								
895	MSG5	1342								
896	MSG6	710								
1500	MTBF	1443	1450	1473	1484	1487	1489	1490	1491	1499
1433	MTI4	1429								
167	NDV75	164								
143	OADR	175	1397	1399	1401					
1274	OUT1	1266	1269							
1387	OUT2	1312								
1348	OUT3	1360								
1259	OUTA	82	444	458	478	498	514	530	546	562
		577	638	669	723	1066	1276	1285	1287	1308
		1314	1352	1434						
1282	OUTB	83	391	1289	1206	1323	1332	1336		
1293	OUTC	84	368	440	608	632	648	689	707	726
		1298								
1320	OUTD	85	711	714	716	815	991	1322	1325	1343
1302	OUTE	86	372	374	376	380	382	384	386	388
		446	460	480	500	516	532	548	563	579
		640	671	817	1316	1334				
1329	OUTF	87	370	442	636	691	1337			
1341	OUTG	88	780	1114	1151	1212	1344			
1359	OUTH	89	706	724	1348	1349	1350	1355	1356	1357
244	PART	199	215	216						
1391	PCHC	*								
748	PETBL	740	742							
846	PHLT	851								
830	PWDN	71	872							
841	PWDN1	835								
141	PWRK	845								
850	PWRU	72								
60	R0	*								
61	R1	*								
62	R2	*								
63	R3	353	613	743	836	864				
64	R4	354	614	744	837	865				
65	R5	355	615	745	838	866				
66	R6	356	616	746	839	867				
67	R7	357	617	747	840	868				
793	REGJMP	792								
794	REGTBL	790	793							
618	RESDF	612								
874	SAVA	831	869							
875	SAVB	832	870							


```

1 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1974 BY VARIAN DATA MACHINES 04 00001
2 * 04 00002
3 * V.D.M. PART NO. 92L0106-013B 04 00003
4 * 04 00004
5 * 04 00005
6 * 04 00006
7 * MAINTAIN III TEST EXECUTIVE FOR MAG TAPE 04 00007
8 * 04 00008
9 * 04 00009
10 * * * * * 04 00010
11 * * * * * 04 00011
12 * * * * * 04 00012
13 * * * * * 04 00013
14 * * * * * 04 00014
15 * * * * * 04 00015
16 * * * * * 04 00016
17 * * * * * 04 00017
18 * * * * * 04 00018
19 * * * * * 04 00019
20 * * * * * 04 00020
21 * * * * * 04 00021
22 * * * * * 04 00022
23 * * * * * 04 00023
24 * * * * * 04 00024
25 * * * * * 04 00025
26 * * * * * 04 00026
27 * * * * * 04 00027
28 * * * * * 04 00028
29 * * * * * 04 00029
30 * * * * * 04 00030
31 * * * * * 04 00031
32 * * * * * 04 00032
33 * * * * * 04 00033
34 * * * * * 04 00034
35 * * * * * 04 00035
36 * * * * * 04 00036
37 * * * * * 04 00037
38 * * * * * 04 00038
39 * * * * * 04 00039
40 * EJEC 04 00040
41 * ***** 04 00041
42 * * 04 00042
43 * * AREAS RESERVED BY EXECUTIVE * 04 00043
44 * ***** 04 00044
45 * ORG 0 04 00045
46 * JMP EXECUTIVE 04 00046
47 * ORG 040 04 00047
48 * JMPM POWER DOWN ROUTINE 04 00048
49 * JMP POWER UP ROUTINE 04 00049
50 * NOTE: THE TEST EXECUTIVE ALSO RESERVES LOCATIONS 0400 TO 0477 04 00050
51 * FOR A POINTER TABLE TO STANDARD ROUTINES, AND AS AN AREA 04 00051
52 * FOR EXECUTIVE DATA. ALL TEST PROGRAMS WORKING WITH THE 04 00052
53 * EXECUTIVE MUST PRESERVE THIS BLOCK. 04 00053
54 * STANDARD ROUTINES WILL BE CALLED INDIRECTLY THRU 04 00054
55 * THIS TABLE 04 00055
56 * ***** 04 00056
57 * ***** 04 00057
58 * ***** 04 00058
59 * ***** 04 00059
60 * 000000 A 60 R0 SET 0 B 04 00060
61 * 000001 A 61 R1 SET 1 B 04 00061
62 * 000002 A 62 R2 SET 2 B 04 00062
63 * 000003 A 63 R3 SET 3 B 04 00063
64 * 000004 A 64 R4 SET 4 B 04 00064
65 * 000005 A 65 R5 SET 5 B 04 00065
66 * 000006 A 66 R6 SET 6 B 04 00066
67 * 000007 A 67 R7 SET 7 B 04 00067
68 * 000000 68 ORG 0 04 00068
69 * 000001 001000 A 69 JMP ETOP CONSOLE INTERRUPT ENTRANCE 04 00069
70 * 000040 70 ORG 040 04 00070
71 * 000040 002000 A 71 JMPM PWDN POWER DOWN 04 00071
72 * 000041 015220 A 72 JMP PWRU POWER UP 04 00072
73 * 000043 015247 A 73 * 04 00073
74 * 000400 74 ORG 0400 04 00074
75 * 75 * 04 00075
76 * 76 * POINTER TABLE FOR EXEC STANDARD ROUTINES AND DATA 04 00076
77 * 77 * TEST PROGRAMS USING EXECUTIVE ROUTINES WILL CALL THEM 04 00077
78 * 78 * INDIRECTLY THRU THIS TABLE 04 00078
79 * 79 * 04 00079
80 * 80 * 04 00080
81 * 81 * 04 00081
82 * 000400 016242 A 82 EX00 DATA OUTA OUTPUT ONE CHAR ROUTINE 04 00082
83 * 000401 016273 A 83 EX01 DATA OUTB OUTPUT TWO CHAR ROUTINE 04 00083
84 * 000402 016306 A 84 EX02 DATA OUTC OUTPUT CR & LF ROUTINE 04 00084
85 * 000403 016347 A 85 EX03 DATA OUTD OUTPUT MESSAGE ROUTINE 04 00085
86 * 000404 016320 A 86 EX04 DATA OUTE OUTPUT OCTAL WORD ROUTINE 04 00086
87 * 000405 016360 A 87 EX05 DATA OUTF OUTPUT OCTAL ADDRESS ROUTINE 04 00087
88 * 000406 016377 A 88 EX06 DATA OUTG OUTPUT ERROR MSG ROUTINE 04 00088
89 * 000407 016424 A 89 EX07 DATA OUTH OUTPUT CONTROL CHAR TO TTY 04 00089
90 * 000410 015654 A 90 EX10 DATA INPA INPUT ONE CHAR ROUTINE 04 00090
91 * 000411 015670 A 91 EX11 DATA INPB INPUT AND PRINT ONE CHAR ROUTINE 04 00091
92 * 000412 015722 A 92 EX12 DATA INPC INPUT ONE CHAR EDITED ROUTINE 04 00092

```

PAGE	2	MAINTAIN III	MAIN3MT	
000413	015756	A	93 EX13 DATA INPD	INPUT ONE ALPHA CHAR ROUTINE 04 00093
000414	016017	A	94 EX14 DATA INPE	INPUT TWO ALPHA CHAR ROUTINE 04 00094
000415	016057	A	95 EX15 DATA INPF	INPUT COMMA/PERIOD TERMINATOR ROUTINE 04 00095
000416	016137	A	96 EX16 DATA INPG	INPUT OCTAL NUMBER ROUTINE 04 00096
000417	016445	A	97 EX17 DATA TOUT	TIME-OUT ROUTINE 04 00097
000420	016431	A	98 EX20 DATA TDLY	TIME DELAY ROUTINE 04 00098
000421	015635	A	99 EX21 DATA SSWT	STANDARD SENSE SWITCH ROUTINE 04 00099
000422	014000	A	100 EX26 DATA ELDC	LOWEST CORE LOCATION USED BY THE EXEC 04 00100
000423	014763	A	101 EX27 DATA ESZC	DETERMINE MEMORY SIZE 04 00101
000424	015353	A	102 EX30 DATA MSG3	MEMORY SIZE IS ... MESSAGE 04 00102
000425	016225	A	103 EX31 DATA INPH	SENSE TTY BFR RDY 04 00103
000426	016237	A	104 EX32 DATA INPI	INIT TTY (INPUT CHAR W/OUT SENSE BFR RDY) 04 00104
000427	017172	A	105 EX33 DATA EDEX	HIGHEST LOCATION USED BY THE EXEC 04 00105
000430	000000	A	106 V75 DATA 0	V75 CPU FLAG B 04 00106
000431	000000	A	107 E3R1 DATA 0	PSEUDO REGISTER 3 B 04 00107
000432	000000	A	108 E4R1 DATA 0	PSEUDO REGISTER 4 B 04 00108
000433	000000	A	109 E5R1 DATA 0	PSEUDO REGISTER 5 B 04 00109
000434	000000	A	110 E6R1 DATA 0	PSEUDO REGISTER 6 B 04 00110
000435	000000	A	111 E7R1 DATA 0	PSEUDO REGISTER 7 B 04 00111
			112 *	04 00112
			113 *	04 00113
			114 *	04 00114
000440			115 ORG 0440	04 00115
			116 *	04 00116
			117 EXECUTIVE DATA TABLE	04 00117
			118 *	04 00118
000440	000000	A	119 \$FLG DATA 0	LOOP ON ERROR FLAG. 0=DON'T LOOP 1=LOOP 04 00119
000441	000000	A	120 \$MEM DATA 0	MEMORY SIZE (HIGHEST AVAIL CORE) 04 00120
000442	000000	A	121 \$CON DATA 0	0=CONSOLE MODE 1=TTY MODE 04 00121
			122 *	04 00122
000443	000000	A	123 EAR1 DATA 0	PSEUDO A REG 04 00123
000444	000000	A	124 EBR1 DATA 0	PSEUDO B REG 04 00124
000445	000000	A	125 EXR1 DATA 0	PSEUDO X REG 04 00125
000446			126 ETS1 BSS 6	TEMPORARY STORAGE 04 00126
000454	000240	A	127 EK00 DATA 0240	ASCII BLANK(SPACE) 04 00127
000455	000215	A	128 EK01 DATA 0215	ASCII CARRIAGE RETURN 04 00128
000456	000212	A	129 EK02 DATA 0212	ASCII LINE FEED 04 00129
000457	000040	A	130 K40 DATA 040	04 00130
000460	000100	A	131 K100 DATA 0100	04 00131
000461	000200	A	132 K200 DATA 0200	04 00132
000462			133 FRST BSS 1	INITIAL PUNCH ADDRESS 04 00133
000463			134 LAST BSS 1	LAST PUNCH ADDRESS 04 00134
000464	000000	A	135 CKSM DATA 0	CHECKSUM 04 00135
000465	000000	A	136 EXEC DATA 0	EXECUTION ADDRESS 04 00136
000466	000224	A	137 TAPM DATA 0224	PUNCH OFF CODE 04 00137
000467	000222	A	138 TAPE DATA 0222	PUNCH ON CODE 04 00138
000470	016366	A	139 LOAD DATA LOAD	ADDRESS OF BINARY LOADER 04 00139
000471	000000	A	140 T304 DATA 0	DIGIT COUNTER FOR INPG 04 00140
000472	000000	A	141 PWRK DATA 0	POWER FAIL COUNTER 04 00141
000473	000000	A	142 \$TTY DATA 1	04 00142
000474			143 \$ADR BSS 1	OBJECT MEDIA DEVICE ADDRESS 04 00143
000475	000221	A	144 XON DATA 0221	READER ON 04 00144
000476	000223	A	145 XOFF DATA 0223	READER OFF 04 00145
000477	177700	A	146 MASK DATA 0177700	I/O INSTRUCTION MASK 04 00146
			147 *	04 00147
			148 *	04 00148
			149 *	04 00149
			150 *	04 00150
			151 *****	04 00151
			152 *	04 00152
014000			153 ORG 014000	04 00153
			154 *	04 00154
			155 *****	04 00155
			156 *	04 00156
			157 *	04 00157
			158 *	04 00158
			159 *	04 00159
	014000	A	160 ELDC EQU *	LOWEST CORE LOCATION USED BY THE EXEC 04 00160
			161 *	04 00161
014000	007400	A	162 EDG0 RDF	A V75 SYSTEM ? B 04 00162
014001	007411	A	163 DATA 07411	B 04 00163
014002	001001	A	164 JDF 00V75	B 04 00164
014003	014007	A		
014004	006010	A	165 LDAI -1	YES B 04 00165
014005	177777	A		
014006	050430	A	166 STA V75	B 04 00166
014007	001000	A	167 NOV75 JMP E3G1	COLD START ENTRY B 04 00167
014010	014773	A		
			168 *	04 00168
			169 *	04 00169
			170 INIT--INITIALIZE MEMORY.	04 00170
			171 X=START ADDRESS	04 00171
			172 Y=FINAL ADDRESS	04 00172
			173 Z=INITIALIZING VALUE	04 00173
			174 *	04 00174
			175 FORMAT: X,Y,Z.	04 00175
			176 *	04 00176
			177 *	04 00177
014011	006020	A	178 INIT LDBI ETS1	ADDRESS FOR STORING INPUT PARAMETERS 04 00178
014012	000446	A		
014013	002000	A	179 CALL INPG	GET OCTAL PARAMETER 04 00179
014014	016137	A		
014015	001000	A	180 JMP ETOP	TERMINATION EXIT VIA SS3 04 00180
014016	015032	A		
014017	001000	A	181 JMP ETOP	ABORT 04 00181

MAINTAIN III

MAIN3MT

PAGE 3

014020	015032	A							
014021	001000	A	182	JMP	INI3	COMMA EXIT--GET NEXT PARAMETER		04	00182
014022	014051	A							
			183	*	NORMAL RETURN FROM INPG--	A REG CONTAINS THIRD PARAMETER		04	00183
014023	030446	A	184	LDX	ETS1	START ADDRESS		04	00184
014024	050452	A	185	STA	ETS1+4	SAVE INITIALIZING VALUE		04	00185
014025	005021	A	186	TBA		TEST NO. PARAMETERS		04	00186
014026	006140	A	187	SUBI	ETS1+2	*		04	00187
014027	000450	A							
014030	001010	A	188	JAZ	*+4	*		04	00188
014031	014034	A							
014032	001000	A	189	JMP	EXIT	*		04	00189
014033	015202	A							
014034	010447	A	190	LDA	ETS1+1	TEST PARAMETER		04	00190
014035	140446	A	191	SUB	ETS1	RANGE		04	00191
014036	001004	A	192	JAN	EXIT	***		04	00192
014037	015202	A							
014040	010452	A	193	INI2	LDA	ETS1+4	STORE VALUE Z	04	00193
014041	055000	A	194	STA	0,1			04	00194
014042	005041	A	195	TXA				04	00195
014043	140447	A	196	SUB	ETS1+1	FINAL ADDRESS		04	00196
014044	001010	A	197	JAZ	ETOP	YES		04	00197
014045	015032	A							
014046	005144	A	198	IXR				04	00198
014047	001000	A	199	JMP	INI2	STORE Z AT NEXT LOCATION		04	00199
014050	014040	A							
			200	*				04	00200
014051	056000	A	201	INI3	STA	0,2	SAVE INPUT PARAMETER	04	00201
014052	005122	A	202		IBR			04	00202
014053	001000	A	203	JMP	INIT+2	GET NEXT PARAMETER		04	00203
014054	014013	A							
			204	*				04	00204
			205	*				04	00205
			206	*				04	00206
			207	*				04	00207
			208	*	ETRP--TRAP TO LOCATION X STARTING FROM LOCATION Y.			04	00208
			209	*	IF LOCATION X IS REACHED: RESTORE LOCATIONS X & X+1, PRINT			04	00209
			210	*	THE CURRENT VALUES OF REGISTERS A,B,X, AND RETURN TO THE			04	00210
			211	*	EXEC SUPERVISOR			04	00211
			212	*				04	00212
			213	*	NOTE: CONTENTS OF LOCATIONS X AND X+1 MUST BE RESTORED BY			04	00213
			214	*	USER IF TRAP IS NOT REACHED BY THIS ROUTINE			04	00214
			215	*				04	00215
			216	*	FORMAT: TX,Y.			04	00216
			217	*				04	00217
			218	*				04	00218
014055	006020	A	219	ETRP	LDBI	ETS1	(2) POINTS TO PARAMETER TBL	04	00219
014056	000446	A							
014057	010446	A	220	LDA	ETS1	X = PREVIOUS Y		04	00220
014060	050447	A	221	STA	ETS1+1			04	00221
014061	002000	A	222	CALL	INPG	INPUT OCTAL NUMBER		04	00222
014062	016137	A							
014063	001000	A	223	JMP	ETOP	TERMINATION EXIT VIA SS3		04	00223
014064	015032	A							
014065	001000	A	224	JMP	ETOP	ABORT		04	00224
014066	015032	A							
014067	001000	A	225	JMP	ETR1	COMMA EXIT--GET SECOND PARAMETER		04	00225
014070	014212	A							
			226	*	NORMAL RETURN FROM INPG			04	00226
014071	056000	A	227	STA	0,2	STORE PARAMETER		04	00227
014072	006030	A	228	LDXI	ETS1+2	TEMP STORE ADDRESS		04	00228
014073	000450	A							
014074	020446	A	229	LDB	ETS1	X PARAMETER (TRAP LOCATION)		04	00229
014075	016000	A	230	LDA	0,2			04	00230
014076	055000	A	231	STA	0,1	SAVE CONTENTS OF LOCATION X AT TS02		04	00231
014077	016001	A	232	LDA	1,2			04	00232
014100	055001	A	233	STA	1,1	SAVE CONTENTS OF LOC. X+1 AT TS03		04	00233
014101	006010	A	234	LDAI	02000	OP CODE FOR JMPM		04	00234
014102	002000	A							
014103	056000	A	235	STA	0,2	STORE JMPM AT LOC X		04	00235
014104	006010	A	236	LDAI	ETR2			04	00236
014105	014222	A							
014106	056001	A	237	STA	1,2	STORE TRAP RETURN ADDRESS AT X+1		04	00237
014107	001000	A	238	JMP	ES01	LOAD PSEUDO REGISTERS AND GOTO LOC Y		04	00238
014110	014605	A							
			239	*				04	00239
014111	050443	A	240	ETR3	CTA	EAR1	PUT A CONTENTS INTO PSEUDO A REG	04	00240
014112	060444	A	241		STB	EBR1	PUT B CONTENTS INTO PSEUDO B REG	04	00241
014113	070445	A	242		STX	EKR1	PUT X CONTENTS INTO PSEUDO X REG	04	00242
014114	010430	A	243		LDA	V75		04	00243
014115	001010	A	244	JAZ	ETR3A			B	04 00244
014116	014131	A							
014117	007130	A	245	ST,R3	E3R1	PUT R3 CONTENTS INTO PSEUDO R3		B	04 00245
014120	000431	A							
014121	007140	A	246	ST,R4	E4R1	PUT R4 CONTENTS INTO PSEUDO R4		B	04 00246
014122	000432	A							
014123	007150	A	247	ST,R5	E5R1	PUT R5 CONTENTS INTO PSEUDO R5		B	04 00247
014124	000433	A							
014125	007160	A	248	ST,R6	E6R1	PUT R6 CONTENTS INTO PSEUDO R6		B	04 00248
014126	000434	A							
014127	007170	A	249	ST,R7	E7R1	PUT R7 CONTENTS INTO PSEUDO R7		B	04 00249
014130	000435	A							
014131	005001	A	250	ETR3A	TZA			B	04 00250
014132	005511	A	251		ADFA			04	00251
014133	054500	A	252		STA	EOV1	PUT OVERFLOW IN PSEUDO OV	04	00252

PAGE	4	MAINTAIN III	MAIN3MT	
014134	034065	A 253	LDX ETR2	04 00253
014135	005344	A 254	DXR	04 00254
014136	005344	A 255	DXR	04 00255
014137	010450	A 256	LDA ETS1+2	04 00256
014140	020451	A 257	LDR ETS1+3	04 00257
014141	055000	A 258	STA 0+1	04 00258
014142	065001	A 259	STB 1+1	04 00259
014143	002000	A 260	CALL JUTC	04 00260
014144	016306	A		
014145	005041	A 261	TXA	04 00261
014146	002000	A 262	CALL DUTF	04 00262
014147	016360	A		
014150	010443	A 263	LDA EBR1	04 00263
014151	002000	A 264	CALL DUTE	04 00264
014152	016320	A		
014153	010444	A 265	LDA EBR1	04 00265
014154	002000	A 266	CALL DUTE	04 00266
014155	016320	A		
014156	010445	A 267	LDA EXR1	04 00267
014157	002000	A 268	CALL DUTE	04 00268
014160	016320	A		
014161	010430	A 269	LDA V75	B 04 00269
014162	001010	A 270	JAZ ETR3B	B 04 00270
014163	014203	A		
014164	010431	A 271	LDA E3R1	B 04 00271
014165	002000	A 272	CALL DUTE	B 04 00272
014166	016320	A		
014167	010432	A 273	LDA E4R1	B 04 00273
014170	002000	A 274	CALL DUTE	B 04 00274
014171	016320	A		
014172	010433	A 275	LDA E5R1	B 04 00275
014173	002000	A 276	CALL DUTE	B 04 00276
014174	016320	A		
014175	010434	A 277	LDA E6R1	B 04 00277
014176	002000	A 278	CALL DUTE	B 04 00278
014177	016320	A		
014200	010435	A 279	LDA E7R1	B 04 00279
014201	002000	A 280	CALL DUTE	B 04 00280
014202	016320	A		
014203	014430	A 281	LDA EDV1	B 04 00281
014204	006120	A 282	ADDI '0'	04 00282
014205	120260	A		
014206	002000	A 283	CALL DUTB	04 00283
014207	016273	A		
014210	001000	A 284	JMP ETOP	04 00284
014211	015032	A		
014212	056000	A 285	* ETR1 STA 0+2	04 00285
014213	005123	A 286	INCR 023	04 00286
014214	006140	A 287	SUBI ETS1+1	04 00287
014215	000447	A 288		04 00288
014216	001010	A 289	JAZ ETRP+4	04 00289
014217	014061	A		
014220	001000	A 290	JMP EXIT	04 00290
014221	015202	A		
014222	000000	A 291	* ETR2 ENTR 0	04 00291
014223	001000	A 292	JMP ETR3	04 00292
014224	014111	A 293		04 00293
014225	006020	A 294	* ESRC	04 00294
014226	000440	A 295		04 00295
014227	002000	A 296		04 00296
014230	016137	A 297	ESRC--SEARCH MEMORY FOR SPECIFIED VALUE.	04 00297
014231	001000	A 298	PRINT LOCATION AND CONTENTS WHERE MATCH IS FOUND	04 00298
014232	015032	A 299		04 00299
014233	001000	A 300	X=START ADDRESS	04 00300
014234	015032	A 301	Y=FINAL ADDRESS	04 00301
014235	001000	A 302	Z=SEARCH VALUE	04 00302
014236	014306	A 303	M=MASK WORD	04 00303
014237		A 304	FORMAT: SX,Y,Z,M.	04 00304
014238		A 305		04 00305
014239		A 306		04 00306
014240	050451	A 307		04 00307
014241	150450	A 308		04 00308
014242	050452	A 309	ESRC LDBI ETS1	04 00309
014243	005021	A 310	CALL INPG	04 00310
014244	006140	A 311	JMP ETOP	04 00311
014245	000451	A 312	JMP ETOP	04 00312
014246	001010	A 313	JMP ESR5	04 00313
014247	014251	A 314	* NORMAL RETURN FROM INPG--A REG CONTAINS FOURTH PARAMETER	04 00314
014248	001000	A 315	STA ETS1+3	04 00315
014249	001000	A 316	ANA ETS1+2	04 00316
014250	015202	A 317	STA ETS1+4	04 00317
014251	030446	A 318	TBA	04 00318
014252		A 319	SUBI ETS1+3	04 00319
014253		A 320	JAZ *+4	04 00320
014254		A 321	JMP EXIT	04 00321
014255		A 322	ESR4 LDX ETS1	04 00322
014256		A 323		04 00323
014257		A 324		04 00324
014258		A 325		04 00325
014259		A 326		04 00326
014260		A 327		04 00327
014261		A 328		04 00328
014262		A 329		04 00329
014263		A 330		04 00330
014264		A 331		04 00331
014265		A 332		04 00332
014266		A 333		04 00333
014267		A 334		04 00334
014268		A 335		04 00335
014269		A 336		04 00336
014270		A 337		04 00337
014271		A 338		04 00338
014272		A 339		04 00339
014273		A 340		04 00340
014274		A 341		04 00341
014275		A 342		04 00342
014276		A 343		04 00343
014277		A 344		04 00344
014278		A 345		04 00345
014279		A 346		04 00346
014280		A 347		04 00347
014281		A 348		04 00348
014282		A 349		04 00349
014283		A 350		04 00350
014284		A 351		04 00351
014285		A 352		04 00352
014286		A 353		04 00353
014287		A 354		04 00354
014288		A 355		04 00355
014289		A 356		04 00356
014290		A 357		04 00357
014291		A 358		04 00358
014292		A 359		04 00359
014293		A 360		04 00360
014294		A 361		04 00361
014295		A 362		04 00362
014296		A 363		04 00363
014297		A 364		04 00364
014298		A 365		04 00365
014299		A 366		04 00366
014300		A 367		04 00367
014301		A 368		04 00368
014302		A 369		04 00369
014303		A 370		04 00370
014304		A 371		04 00371
014305		A 372		04 00372
014306		A 373		04 00373
014307		A 374		04 00374
014308		A 375		04 00375
014309		A 376		04 00376
014310		A 377		04 00377
014311		A 378		04 00378
014312		A 379		04 00379
014313		A 380		04 00380
014314		A 381		04 00381
014315		A 382		04 00382
014316		A 383		04 00383
014317		A 384		04 00384
014318		A 385		04 00385
014319		A 386		04 00386
014320		A 387		04 00387
014321		A 388		04 00388
014322		A 389		04 00389
014323		A 390		04 00390
014324		A 391		04 00391
014325		A 392		04 00392
014326		A 393		04 00393
014327		A 394		04 00394
014328		A 395		04 00395
014329		A 396		04 00396
014330		A 397		04 00397
014331		A 398		04 00398
014332		A 399		04 00399
014333		A 400		04 00400

MAINTAIN III			MAIN3MT			PAGE	5	
014252	015000	A	322	LDA	0,1		04 00322	
014253	150451	A	323	ANA	ETS1+3	MASK IT	04 00323	
014254	140452	A	324	SUB	ETS1+4		04 00324	
014255	001010	A	325	JAZ	ESR2	GOOD COMPARE	04 00325	
014256	014270	A						
014257	040446	A	326	ESR1	INR	ETS1	START ADDRESS	04 00326
014260	001400	A	327	JSS3	ETOP	RETURN TO SUPERVISOR	04 00327	
014261	015032	A						
014262	005041	A	328	TXA			04 00328	
014263	140447	A	329	SUB	ETS1+1	END ADDRESS	04 00329	
014264	001002	A	330	JAP	CTOP	RETURN TO SUPERVISOR	04 00330	
014265	015032	A						
014266	001000	A	331	JMP	ESR4	GET NEXT WORD	04 00331	
014267	014251	A						
014270	002000	A	332	ESR2	CALL	OUTC	CR/LF	04 00332
014271	016306	A						
014272	010446	A	333	LDA	ETS1	ADDRS OF WORD	04 00333	
014273	002000	A	334	CALL	OUTF	PRINT MEMORY ADDRESS	04 00334	
014274	016360	A						
014275	006010	A	335	LDAI	'='	EQUAL SIGN	04 00335	
014276	000273	A						
014277	002000	A	336	CALL	OUTA		04 00336	
014300	016242	A						
014301	015000	A	337	LDA	0,1	CONTENTS OF ADDRESS	04 00337	
014302	002000	A	338	CALL	OUTE	PRINT CONTENTS	04 00338	
014303	016320	A						
014304	001000	A	339	JMP	ESR1	CONTINUE	04 00339	
014305	014257	A						
014306	056000	A	340	ESR5	STA	0,2	04 00340	
014307	005122	A	341	IBR			04 00341	
014310	001000	A	342	JMP	ESRC+2	GET NEXT PARAMETER	04 00342	
014311	014227	A						
			343	*			04 00343	
			344	*			04 00344	
			345	*			04 00345	
			346	*			04 00346	
			347	*	DISPLAY/CHANGE THE PSEUDO A REGISTER		04 00347	
			348	*			04 00348	
			349	EARG	LDAI	0240	ASCII SPACE	04 00349
014312	006010	A						
014313	000240	A						
014314	002000	A	350	CALL	OUTA		04 00350	
014315	016242	A						
014316	010443	A	351	LDA	EAR1	LOAD PSEUDO A	04 00351	
014317	002000	A	352	CALL	OUTE	PRINT CONTENTS	04 00352	
014320	016320	A						
014321	002000	A	353	CALL	INPG	INPUT OCTAL AND/OR PERIOD	04 00353	
014322	016137	A						
014323	001000	A	354	JMP	ETOP	TERMINATION EXIT VIA SS3	04 00354	
014324	015032	A						
014325	001000	A	355	JMP	ETOP	ABORT EXIT	04 00355	
014326	015032	A						
014327	001000	A	356	JMP	*+2	COMMA EXIT--ACCEPT IT	04 00356	
014330	014331	A						
			357	*	NORMAL RETURN FROM INPG		04 00357	
014331	050446	A	358	STA	ETS1	SAVE INPUT	04 00358	
014332	010471	A	359	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	04 00359	
014333	001010	A	360	JAZ	ETOP	0=NO OCTAL INPUT, RETURN TO SUPERVISOR	04 00360	
014334	015032	A						
014335	010446	A	361	LDA	ETS1		04 00361	
014336	050443	A	362	STA	EAR1	STORE NEW VALUE IN PSEUDO A	04 00362	
014337	001000	A	363	JMP	ETOP	RETURN TO SUPERVISOR	04 00363	
014340	015032	A						
			364	*			04 00364	
			365	*			04 00365	
			366	*	DISPLAY/CHANGE THE PSEUDO B REGISTER		04 00366	
			367	*			04 00367	
			368	*			04 00368	
014341	010454	A	369	EARG	LDA	EK00	ASCII BLANK(SPACE)	04 00369
014342	002000	A	370	CALL	OUTA		04 00370	
014343	016242	A						
014344	010444	A	371	LDA	EBR1	LOAD PSEUDO B	04 00371	
014345	002000	A	372	CALL	OUTE	PRINT CONTENTS	04 00372	
014346	016320	A						
014347	002000	A	373	CALL	INPG	INPUT OCTAL AND/OR PERIOD	04 00373	
014350	016137	A						
014351	001000	A	374	JMP	ETOP	TERMINATION EXIT VIA SS3	04 00374	
014352	015032	A						
014353	001000	A	375	JMP	ETOP	ABORT EXIT	04 00375	
014354	015032	A						
014355	001000	A	376	JMP	*+2	COMMA EXIT--ACCEPT IT	04 00376	
014356	014357	A						
			377	*	NORMAL RETURN FROM INPG		04 00377	
014357	050446	A	378	STA	ETS1	SAVE INPUT	04 00378	
014360	010471	A	379	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	04 00379	
014361	001010	A	380	JAZ	ETOP	0=NO OCTAL INPUT, RETURN TO SUPERVISOR	04 00380	
014362	015032	A						
014363	010446	A	381	LDA	ETS1		04 00381	
014364	050444	A	382	STA	EBR1	STORE NEW VALUE IN PSEUDO B	04 00382	
014365	001000	A	383	JMP	ETOP	RETURN TO SUPERVISOR	04 00383	
014366	015032	A						
			384	*			04 00384	
			385	*			04 00385	
			386	*	DISPLAY/CHANGE THE PSEUDO X REGISTER		04 00386	
			387	*			04 00387	
			388	*			04 00388	

PAGE	6	MAINTAIN III	MAIN3MT		
014367	010454	A 389	EXRG LDA EK00	ASCII BLANK(SPACE)	04 00389
014370	002000	A 390	CALL DUTA		04 00390
014371	016242	A			
014372	010445	A 391	LDA EXR1	LOAD PSEUDO X	04 00391
014373	002000	A 392	CALL DUTE	PRINT CONTENTS	04 00392
014374	016320	A			
014375	002000	A 393	CALL INPG	INPUT OCTAL AND/OR PERIOD	04 00393
014376	016137	A			
014377	001000	A 394	JMP ETOP	TERMINATION EXIT VIA SS3	04 00394
014400	015032	A			
014401	001000	A 395	JMP ETOP	ABORT	04 00395
014402	015032	A			
014403	001000	A 396	JMP *+2	COMMA EXIT--ACCEPT IT	04 00396
014404	014405	A			
014405	050446	A 397	* NORMAL RETURN FROM INPG		04 00397
014406	010471	A 398	STA ETS1	SAVE INPUT	04 00398
014407	001010	A 399	LDA TS04	TS04=DIGIT COUNTER FOR INPG	04 00399
014410	015032	A 400	JAZ ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	04 00400
014411	010446	A 401	LDA ETS1		04 00401
014412	050445	A 402	STA EXR1	STORE NEW VALUE IN PSEUDO X	04 00402
014413	001000	A 403	JMP ETOP	RETURN TO SUPERVISOR	04 00403
014414	015032	A			
014415	010454	A 404	* DISPLAY/CHANGE THE PSEUDO R3 REGISTER		B 04 00404
014416	002000	A 405	E3RG LDA EK00	ASCII SPACE	B 04 00405
014417	016242	A 406	CALL DUTA		B 04 00406
014420	010431	A 407	LDA E3R1	LOAD PSEUDO R3	B 04 00407
014421	002000	A 408	CALL DUTE	PRINT CONTENTS	B 04 00408
014422	016320	A			
014423	002000	A 409	CALL INPG	INPUT OCTAL AND/OR PERIOD	B 04 00409
014424	016137	A			
014425	001000	A 410	JMP ETOP	TERMINATION EXIT VIA SS3	B 04 00410
014426	015032	A			
014427	001000	A 411	JMP ETOP	ABORT EXIT	B 04 00411
014430	015032	A			
014431	001000	A 412	JMP *+2	COMMA EXIT--ACCEPT IT	B 04 00412
014432	014433	A			
014433	050446	A 413	* NORMAL RETURN FROM INPG		B 04 00413
014434	010471	A 414	STA ETS1	SAVE INPUT	B 04 00414
014435	001010	A 415	LDA TS04	TS04=DIGIT COUNTER FOR INPG	B 04 00415
014436	015032	A 416	JAZ ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B 04 00416
014437	010446	A 417	LDA ETS1		B 04 00417
014440	050431	A 418	STA E3R1	STORE NEW VALUE IN PSEUDO R3	B 04 00418
014441	001000	A 419	JMP ETOP	RETURN TO SUPERVISOR	B 04 00419
014442	015032	A			
014443	010454	A 420	* DISPLAY/CHANGE THE PSEUDO R4 REGISTER		B 04 00420
014444	002000	A 421	E4RG LDA EK00	ASCII SPACE	B 04 00421
014445	016242	A 422	CALL DUTA		B 04 00422
014446	010432	A 423	LDA E4R1	LOAD PSEUDO R4	B 04 00423
014447	002000	A 424	CALL DUTE	PRINT CONTENTS	B 04 00424
014450	016320	A			
014451	002000	A 425	CALL INPG	INPUT OCTAL AND/OR PERIOD	B 04 00425
014452	016137	A			
014453	001000	A 426	JMP ETOP	TERMINATION EXIT VIA SS3	B 04 00426
014454	015032	A			
014455	001000	A 427	JMP ETOP	ABORT EXIT	B 04 00427
014456	015032	A			
014457	001000	A 428	JMP *+2	COMMA EXIT--ACCEPT IT	B 04 00428
014460	014461	A			
014461	050446	A 429	* NORMAL RETURN FROM INPG		B 04 00429
014462	010471	A 430	STA ETS1	SAVE INPUT	B 04 00430
014463	001010	A 431	LDA TS04	TS04=DIGIT COUNTER FOR INPG	B 04 00431
014464	015032	A 432	JAZ ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B 04 00432
014465	010446	A 433	LDA ETS1		B 04 00433
014466	050432	A 434	STA E4R1	STORE NEW VALUE IN PSEUDO R4	B 04 00434
014467	001000	A 435	JMP ETOP	RETURN TO SUPERVISOR	B 04 00435
014470	015032	A			
014471	010454	A 436	* DISPLAY/CHANGE THE PSEUDO R5 REGISTER		B 04 00436
014472	002000	A 437	E5RG LDA EK00	ASCII SPACE	B 04 00437
014473	016242	A 438	CALL DUTA		B 04 00438
014474	010433	A 439	LDA E5R1	LOAD PSEUDO R5	B 04 00439
014475	002000	A 440	CALL DUTE	PRINT CONTENTS	B 04 00440
014476	016320	A			
014477	002000	A 441	CALL INPG	INPUT OCTAL AND/OR PERIOD	B 04 00441
014500	016137	A			
014501	001000	A 442	JMP ETOP	TERMINATION EXIT VIA SS3	B 04 00442
014502	015032	A			
014503	001000	A 443	JMP ETOP	ABORT EXIT	B 04 00443
014504	015032	A			
014505	001000	A 444	JMP *+2	COMMA EXIT--ACCEPT IT	B 04 00444
014506	014507	A			
014507	050446	A 445	* NORMAL RETURN FROM INPG		B 04 00445
014510	010471	A 446	STA ETS1	SAVE INPUT	B 04 00446
014511	001010	A 447	LDA TS04	TS04=DIGIT COUNTER FOR INPG	B 04 00447
014512	015032	A 448	JAZ ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B 04 00448
014513	010446	A 449	LDA ETS1		B 04 00449
014514	050433	A 450	STA E5R1	STORE NEW VALUE IN PSEUDO R5	B 04 00450
014515	001000	A 451	JMP ETOP	RETURN TO SUPERVISOR	B 04 00451
014516	015032	A			

MAINTAIN III

MAIN3MT

PAGE 7

014517	010454	A	452 *	DISPLAY/CHANGE THE PSEUDO R6 REGISTER	B	04	00452
014520	002000	A	453 E6RG	LDA EK00	B	04	00453
014521	016242	A	454	CALL OUTA	B	04	00454
014522	002000	A	455	CALL QUTE	B	04	00455
014523	016320	A	456	CALL INPG	B	04	00456
014524	002000	A	457	JMP ETOP	B	04	00457
014525	016137	A	458	JMP ETOP	B	04	00458
014526	001000	A	459	JMP *+2	B	04	00459
014527	015032	A	460 *	NORMAL RETURN FROM INPG	B	04	00460
014530	001000	A	461	STA ETS1	B	04	00461
014531	015032	A	462	LDA TS04	B	04	00462
014532	001000	A	463	JAZ ETOP	B	04	00463
014533	014534	A	464	LDA ETS1	B	04	00464
014534	050446	A	465	STA E6R1	B	04	00465
014535	010471	A	466	JMP ETOP	B	04	00466
014536	001010	A	467 *	DISPLAY/CHANGE THE PSEUDO R7 REGISTER	B	04	00467
014537	015032	A	468 E7RG	LDA EK00	B	04	00468
014540	010446	A	469	CALL OUTA	B	04	00469
014541	050434	A	470	LDA E7R1	B	04	00470
014542	001000	A	471	CALL QUTE	B	04	00471
014543	015032	A	472	CALL INPG	B	04	00472
014544	010454	A	473	JMP ETOP	B	04	00473
014545	002000	A	474	JMP ETOP	B	04	00474
014546	016242	A	475	JMP *+2	B	04	00475
014547	010435	A	476 *	NORMAL RETURN FROM INPG	B	04	00476
014550	002000	A	477	STA ETS1	B	04	00477
014551	016320	A	478	LDA TS04	B	04	00478
014552	002000	A	479	JAZ ETOP	B	04	00479
014553	016137	A	480	LDA ETS1	B	04	00480
014554	001000	A	481	STA E7R1	B	04	00481
014555	015032	A	482	JMP ETOP	B	04	00482
014556	001000	A	483 *		B	04	00483
014557	015032	A	484 *		B	04	00484
014560	001000	A	485 *		B	04	00485
014561	014562	A	486 *		B	04	00486
014562	050446	A	487 *		B	04	00487
014563	010471	A	488 *	EGDT--LOAD PSEUDO REGISTERS INTO A,B,X AND TRANSFER TO	B	04	00488
014564	001010	A	489 *	LOCATION SPECIFIED BY USER.	B	04	00489
014565	015032	A	490 *	THE PSEUDO REGISTERS CAN BE PRESET WITH THE A,B,X	B	04	00490
014566	010446	A	491 *	UTILITY FUNCTIONS.	B	04	00491
014567	050435	A	492 *		B	04	00492
014570	001000	A	493 *		B	04	00493
014571	015032	A	494 *		B	04	00494
014572	002000	A	494 EGDT	CALL INPG	B	04	00494
014573	016137	A	495	JMP ETOP	B	04	00495
014574	001000	A	496	JMP ETOP	B	04	00496
014575	015032	A	497	JMP *+2	B	04	00497
014576	001000	A	498 *	NORMAL RETURN FROM INPG	B	04	00498
014577	015032	A	499	STA ETS1+1	B	04	00499
014600	001000	A	500	CALL OUTC	B	04	00500
014601	014602	A	501 EGD1	LDA EAR1	B	04	00501
014602	050447	A	502	LDB EBR1	B	04	00502
014603	002000	A	503	LDB V75	B	04	00503
014604	016305	A	504	JXZ RESDF	B	04	00504
014605	010443	A	505	LD,R3 E3R1	B	04	00505
014606	020444	A	506	LD,R4 E4R1	B	04	00506
014607	030430	A	507	LD,R5 E5R1	B	04	00507
014610	001040	A	508	LD,R6 E6R1	B	04	00508
014611	014624	A	509	LD,R7 E7R1	B	04	00509
014612	007030	A	510 RESDF	RDF	B	04	00510
014613	000431	A	511	LDB EDV1	B	04	00511
014614	007040	A	512	JXZ *+3	B	04	00512
014615	000432	A	513	SDF	B	04	00513
014616	007050	A	514	LDB EXR1	B	04	00514
014617	000433	A	515	JMP* ETS1+1	B	04	00515
014620	007060	A	516 EDV1	DATA 0	B	04	00516
014621	000434	A	517 *	DUMP CORE MEMORY TO TTY PRINTER	B	04	00517
014622	007070	A					
014623	000435	A					
014624	007400	A					
014625	034006	A					
014626	001040	A					
014627	014631	A					
014630	007401	A					
014631	030445	A					
014632	001000	A					
014633	100447	A					
014634	000000	A					

PAGE	8	MAINTAIN III	MAIN3MT	
014635	002000	A	518 *	04 00518
014636	016137	A	519 EDUM CALL INPG	04 00519
014637	001000	A	520 JUMP ETOP	04 00520
014640	015032	A	521 JUMP ETOP	04 00521
014641	001000	A	522 JUMP *+2	04 00522
014642	015032	A	523 * NDRMAL RETURN FROM INPG	04 00523
014643	001000	A	524 STA ETS1	04 00524
014644	014645	A	525 CALL OUTC	04 00525
014645	050446	A	526 LDA ETS1	04 00526
014646	002000	A	527 TAX	04 00527
014647	016306	A	528 EDU1 CALL OUTF	04 00528
014650	010446	A	529 LDA EK00	04 00529
014651	005014	A	530 CALL OUTA	04 00530
014652	002000	A	531 EDU2 LDA 0+1	04 00531
014653	016360	A	532 CALL OUTE	04 00532
014654	010454	A	533 JSS3 ETOP	04 00533
014655	002000	A	534 INCR 045	04 00534
014656	016242	A	535 TZB	04 00535
014657	015000	A	536 LLSR 3	04 00536
014660	002000	A	537 JNZ EDU4	04 00537
014661	016320	A	538 JUMP EDU2	04 00538
014662	001400	A	539 * EDU4 CALL OUTC	04 00539
014663	015032	A	540 CALL INPI	04 00540
014664	005145	A	541 SUBI 0377	04 00541
014665	005002	A	542 JAZ ETOP	04 00542
014666	004543	A	543 TXA	04 00543
014667	001020	A	544 JUMP EDU1	04 00544
014670	014673	A	545 *	04 00545
014671	001000	A	546 *	04 00546
014672	014657	A	547 *	04 00547
014673	002000	A	548 *	04 00548
014674	016306	A	549 *	04 00549
014675	002000	A	550 *	04 00550
014676	016237	A	551 * PRINT/CHANGE CONTENTS OF MEMORY LOCATION SPECIFIED BY USER	04 00551
014677	006140	A	552 *	04 00552
014700	000377	A	553 *	04 00553
014701	001010	A	554 ECNG CALL INPG	04 00554
014702	015032	A	555 JUMP ETOP	04 00555
014703	005041	A	556 JUMP ETOP	04 00556
014704	001000	A	557 JUMP *+2	04 00557
014705	014652	A	558 * NDRMAL RETURN FROM INPG	04 00558
014706	002000	A	559 TAX	04 00559
014707	016137	A	560 ECN3 LDAI '='	04 00560
014710	001000	A	561 CALL OUTA	04 00561
014711	015032	A	562 LDA 0+1	04 00562
014712	001000	A	563 CALL OUTE	04 00563
014713	015032	A	564 CALL INPG	04 00564
014714	001000	A	565 JUMP ETOP	04 00565
014715	014716	A	566 JUMP ETOP	04 00566
014716	005014	A	567 JUMP ECN2	04 00567
014717	006010	A	568 * NDRMAL RETURN FROM INPG WITH PERIOD	04 00568
014720	000275	A	569 STA ETS1	04 00569
014721	002000	A	570 LDA T004	04 00570
014722	016242	A	571 JAZ *+4	04 00571
014723	015000	A	572 LDA ETS1	04 00572
014724	002000	A	573 STA 0+1	04 00573
014725	016320	A	574 JUMP ETOP	04 00574
014726	000377	A	575 * ECN2 STA ETS1	04 00575
014727	016137	A	576 LDA T004	04 00576
014730	001000	A	577 JAZ *+4	04 00577
014731	015032	A	578 LDA ETS1	04 00578
014732	001000	A	579 STA 0+1	04 00579
014733	015032	A	580 CALL OUTC	04 00580
014734	001000	A	581 *	04 00581
014735	014746	A	582 *	04 00582
014736	050446	A	583 *	04 00583
014737	010471	A	584 *	04 00584
014740	001010	A	585 *	04 00585
014741	014744	A	586 *	04 00586
014742	010446	A	587 *	04 00587
014743	055000	A	588 *	04 00588
014744	001000	P	589 *	04 00589
014745	015032	A	590 *	04 00590
014746	050446	A	591 *	04 00591
014747	010471	A	592 *	04 00592
014750	001010	A	593 *	04 00593
014751	014754	A	594 *	04 00594
014752	010446	A	595 *	04 00595
014753	055000	A	596 *	04 00596
014754	002000	A	597 *	04 00597
014755	016306	A	598 *	04 00598

MAINTAIN III				MAIN3MT				PAGE	9
014756	005145	A	582	INCR	045	INCREMENT X AND PUT INTO A AND X	04	00582	
014757	002000	A	583	CALL	OUTF	PRINT NEXT MEMORY ADDRESS	04	00583	
014760	016360	A							
014761	001000	A	584	JMP	ECN3	PRINT CONTENTS	04	00584	
014762	014717	A							
			585	*			04	00585	
014763	000000	A	586	ESZC	ENTR	0	04	00586	
014764	002000	A	587	CALL	ESZA	DETERMINE MEMORY SIZE	04	00587	
014765	015416	A				*			
014766	050441	A	588	STA	\$MEM	*	04	00588	
014767	002000	A	589	CALL	ESZB	*	04	00589	
014770	015447	A							
014771	001000	A	590	JMP	(ESZC)*	***** EXIT	04	00590	
014772	114763	A							
014773	005101	A	591	EBG1	INCR	01	04	00591	
014774	050442	A	592	STA	\$CON	TTY MODE	04	00592	
014775	002000	A	593	CALL	ESZC	* \$CON = 01	04	00593	
014776	014763	A				* \$TTY = 01, UNLESS SET	04	00593	
014777	005101	A	594	INCR	01	* BY	04	00594	
015000	000000	A	595	HLT		* OPERATOR	04	00595	
015001	006030	A	596	LDXI	\$TTY		04	00596	
015002	000473	A							
015003	055000	A	597	STA	0,1		04	00597	
015004	002000	A	598	EBG2	CALL	OUTH,0201	04	00598	
015005	016424	A				PRINT ENABLE			
015006	000201	A							
015007	002000	A	599	CALL	OUTC	OUTPUT CR&LF	04	00599	
015010	016306	A							
015011	010430	A	600	LDA	V75		B	04 00600	
015012	001010	A	601	JAZ	DOMSG1		B	04 00601	
015013	015022	A							
015014	006030	A	602	LDXI	MSG6	THIS IS THE V75 TEST EXECUTIVE	B	04 00602	
015015	015374	A							
015016	002000	A	603	CALL	OUTD	OUTPUT MESSAGE	B	04 00603	
015017	016347	A							
015020	001000	A	604	JMP	DOMSG3	GO OUTPUT MSG3	B	04 00604	
015021	015026	A							
015022	006030	A	605	DOMSG1	LDXI	MSG1	B	04 00605	
015023	015314	A				THIS IS THE V70/620 TEST EXECUTIVE			
015024	002000	A	606	CALL	OUTD	OUTPUT MESSAGE	04	00606	
015025	016347	A							
015026	006030	A	607	DOMSG3	LDXI	MSG3	B	04 00607	
015027	015353	A				MEMORY SIZE IS --K			
015030	002000	A	608	CALL	OUTD	OUTPUT MESSAGE	04	00608	
015031	016347	A							
			609	*			04	00609	
			610	*			04	00610	
			611	*			04	00611	
			612	*	TEST EXECUTIVE SUPERVISOR		04	00612	
			613	*			04	00613	
			614	ETOP	LDAI	0207	04	00614	
015032	006010	A				TTY BELL			
015033	000207	A							
015034	002000	A	615	CALL	OUTA	OUTPUT	04	00615	
015035	016242	A							
015036	002000	A	616	CALL	OUTH,0201	PRINT ENABLE	04	00616	
015037	016424	A							
015040	000201	A							
015041	002000	A	617	CALL	INPI	INIT TTY	04	00617	
015042	016237	A							
015043	002000	A	618	CALL	OUTC		04	00618	
015044	016306	A							
015045	002000	A	619	CALL	INPB	INPUT ONE CHARACTER	04	00619	
015046	015670	A							
015047	001000	A	620	JMP	ETOP	ABORT EXIT	04	00620	
015050	015032	A							
015051	054011	A	621	STA	ETD4+1	SAVE INPUT	04	00621	
015052	006140	A	622	SUBI	0212	LINE FEED CODE	04	00622	
015053	000212	A							
015054	001010	A	623	JAZ	ETOP	YES	04	00623	
015055	015032	A							
015056	006140	A	624	SUBI	3	CARRIAGE RETURN(0215)	04	00624	
015057	000003	A							
015060	001010	A	625	JAZ	ETOP	YES	04	00625	
015061	015032	A							
015062	006010	A	626	ETD4	LDAI	0	04	00626	
015063	000000	A				GET ORIGINAL INPUT			
015064	006140	A	627	SUBI	'A'		04	00627	
015065	000301	A							
015066	001004	A	628	JAN	EXIT	INVALID INPUT	04	00628	
015067	015202	A							
015070	006140	A	629	SUBI	032	Z CHAR	04	00629	
015071	000032	A							
015072	001002	A	630	JAP	EXIT	INVALID INPUT	04	00630	
015073	015202	A							
015074	006120	A	631	ADDI	(ETBL+032)*	INDIRECT ADDRESS POINTER FOR UTILITY TABLE	04	00631	
015075	115151	A							
015076	054017	A	632	STA	PETBL+2		B	04 00632	
015077	030430	A	633	LDX	V75	IF	B	04 00633	
015100	001040	A	634	JXZ	PETBL		B	04 00634	
015101	015114	A							
015102	007443	A	635	LDI,R3	0	V75 SYSTEM	B	04 00635	
015103	000000	A							
015104	007444	A	636	LDI,R4	0	CLEAR R3	B	04 00636	
015105	000000	A							
015106	007445	A	637	LDI,R5	0	R4	B	04 00637	

PAGE	10	MAINTAIN III			MAIN3MT		
015107	000000	A					
015110	007446	A	638	LDI,R6	0	R5	B 04 00638
015111	000000	A					
015112	007447	A	639	LDI,R7	0	R6, AND R7	B 04 00639
015113	000000	A					
015114	005007	A	640	PETBL	ZERO	CLEAR REGISTERS A,B,X ANYWAY	B 04 00640
015115	001000	A	641	JMP	*		04 00641
015116	015115	A					
015117	014312	A	642	ETBL	DATA	A PRINT/CHANGE PSEUDO A REG	04 00642
015120	014341	A	643		DATA	B PRINT/CHANGE PSEUDO B REG	04 00643
015121	014708	A	644		DATA	C PRINT/CHANGE MEMORY LOCATION	04 00644
015122	014635	A	645		DATA	D DUMP CORE TO TTY PRINTER	04 00645
015123	016712	A	646		DATA	E WRITE END OF FILE	04 00646
015124	016665	A	647		DATA	F FILE POSITION	04 00647
015125	014572	A	648		DATA	G TRANSFER TO SPECIFIED LOCATION	04 00648
015126	015202	A	649		DATA	H NOT USED	04 00649
015127	014011	A	650		DATA	I INITIALIZE CORE	04 00650
015130	015202	A	651		DATA	J NOT USED	04 00651
015131	015202	A	652		DATA	K NOT USED	04 00652
015132	016566	A	653		DATA	L LOAD OBJECT TAPE AND TRANSFER TO PROGRAM	04 00653
015133	015202	A	654		DATA	M NOT USED	04 00654
015134	015202	A	655		DATA	N NOT USED	04 00655
015135	015202	A	656		DATA	O NOT USED	04 00656
015136	016456	A	657		DATA	P CREATE OBJECT	04 00657
015137	015202	A	658		DATA	Q NOT USED	04 00658
015140	015151	A	659		DATA	V75REG	B 04 00659
015141	014225	A	660		DATA	S SEARCH MEMORY	04 00660
015142	014055	A	661		DATA	T TRAP	04 00661
015143	015202	A	662		DATA	U NOT USED	04 00662
015144	015202	A	663		DATA	V NOT USED	04 00663
015145	015202	A	664		DATA	W NOT USED	04 00664
015146	014367	A	665		DATA	X PRINT/CHANGE PSEUDO X REG	04 00665
015147	015202	A	666		DATA	Y NOT USED	04 00666
015150	015202	A	667		DATA	Z NOT USED	04 00667
			668	*			04 00668
			669	*			04 00669
015151	010430	A	670	V75REG	LDA	V75	B 04 00670
015152	001010	A	671		JAZ	EXIT	B 04 00671
015153	015202	A				NO V75 HERE	
015154	002000	A	672	CALL	IMPB	GRAB THE REGISTER NUMBER	B 04 00672
015155	015670	A					
015156	001000	A	673	JMP	EXIT		B 04 00673
015157	015202	A					
015160	006150	A	674	ANAI	07	MAKE SURE ITS 0 THRU 7	B 04 00674
015161	000007	A					
015162	006120	A	675	ADDI	REGTBL		B 04 00675
015163	015171	A					
015164	006110	A	676	ORAI	0100000		B 04 00676
015165	100000	A					
015166	054001	A	677	STA	REGJMP+1		B 04 00677
015167	001000	A	678	REGJMP	JMP*	REGTBL	B 04 00678
015170	115171	A					
015171	014312	A	679	REGTBL	DATA	R0 THRU R7	B 04 00679
015172	014341	A	680		DATA	DISPLAY/CHANGE	B 04 00680
015173	014367	A	681		DATA	ROUTINES.	B 04 00681
015174	014415	A	682		DATA		B 04 00682
015175	014443	A	683		DATA		B 04 00683
015176	014471	A	684		DATA		B 04 00684
015177	014517	A	685		DATA		B 04 00685
015200	014544	A	686		DATA		B 04 00686
015201	015202	A	687		DATA	EXIT	B 04 00687
			688	*			04 00688
			689	*			04 00689
015202	002000	A	690	EXIT	CALL	OUTG	04 00690
015203	016377	A				PRINT INVALID & CR/LF	
015204	001000	A	691	JMP	ETDP	RETURN TO TOP OF SUPERVISOR	04 00691
015205	015032	A					
015206	005042	A	692	LOAD	TMB	SAVE X	04 00692
015207	006030	A	693		LDMI	MESSAGE: CHECKSUM ERROR	04 00693
015210	015340	A					
015211	002000	A	694	CALL	OUTG	PRINT MESSAGE	04 00694
015212	016347	A					
015213	005021	A	695	TMB		OUTPUT X	04 00695
015214	002000	A	696	CALL	OUTE		04 00696
015215	016320	A					
015216	001000	A	697	JMP	ETDP	EXEC SUPERVISOR	04 00697
015217	015032	A					
			698	*			04 00698
			699	*			04 00699
			700	*			04 00700
			701	*			04 00701
			702	*			04 00702
			703	*			04 00703
			704	*		TYPICAL POWER UP/DOWN SUBROUTINE	04 00704
			705	*		POWER DOWN INTERRUPT ADDRESS 040	04 00705
			706	*		POWER UP INTERRUPT ADDRESS 042	04 00706
			707	*			04 00707
			708	*		POWER DOWN PROCESSOR	04 00708
015220	000000	A	709	PWDN	ENTR	0	04 00709
015221	054060	A	710		STA	SAVE A, B AND X REGISTERS	04 00710
015222	064060	A	711		STB		04 00711
015223	074060	A	712		STX		04 00712
015224	010430	A	713		LDA	V75	B 04 00713
015225	001010	A	714		JAZ	PWDN1	B 04 00714
015226	015241	A					

		MAINTAIN III	MAIN3MT	PAGE	11
015227	007130	A 715	ST,R3 SAVR3	AND THE R3,	B 04 00715
015230	015305	A			
015231	007140	A 716	ST,R4 SAVR4	R4,	B 04 00716
015232	015306	A			
015233	007150	A 717	ST,R5 SAVR5	R5,	B 04 00717
015234	015307	A			
015235	007160	A 718	ST,R6 SAVR6	R6,	B 04 00718
015236	015310	A			
015237	007170	A 719	ST,R7 SAVR7	AND R7 IF ANY	B 04 00719
015240	015311	A			
015241	005001	A 720	PWDN1 TZA		B 04 00720
015242	005511	A 721	DATA 005511	INCREMENT A IF OVERFLOW SET	04 00721
015243	054046	A 722	STA SAVD		04 00722
015244	044046	A 723	INR HLTF	SET POWER FAIL/RESTR FLAG.	04 00723
015245	040472	A 724	INR PWRK	STEP POWER FAIL COUNTER	04 00724
015246	000000	A 725	PHLT HLT		04 00725
		726	*		04 00726
		727	*	POWER UP PROCESSOR	04 00727
		728	*		04 00728
015247	014043	A 729	PWRU LDA HLTF	CHECK IF POWERING UP FROM RUN CONDITION	04 00729
015250	001010	A 730	JAZ PHLT		04 00730
015251	015246	A			
015252	005001	A 731	TZA	CLEAR POWER FAIL/RESTR FLAG	04 00731
015253	054037	A 732	STA HLTF		04 00732
		733	*		04 00733
		734	*	CODING TO REINSTATE 620/F OPTIONAL HARDWARE AFTER A	04 00734
		735	*	POWER FAILURE, MUST BE DEFINED HERE. THE TOTAL EXECUTION	04 00735
		736	*	TIME NOT TO EXCEED A SPECIFIED TIME PERIOD. SEE PPS	04 00736
		737	*	FOR TIMING CONSTRAINTS.	04 00737
015254	014035	A 738	LDA SAVD	SETUP OVERFLOW FLAG	04 00738
015255	001010	A 739	JAZ *+3		04 00739
015256	015260	A			
015257	007401	A 740	SDF		04 00740
015260	010430	A 741	LDA V75	IF V75	B 04 00741
015261	001010	A 742	JAZ ABX		B 04 00742
015262	015275	A			
015263	007030	A 743	LD,R3 SAVR3	RETURN R3,	B 04 00743
015264	015305	A			
015265	007040	A 744	LD,R4 SAVR4	R4,	B 04 00744
015266	015306	A			
015267	007050	A 745	LD,R5 SAVR5	R5,	B 04 00745
015270	015307	A			
015271	007060	A 746	LD,R6 SAVR6	R6,	B 04 00746
015272	015310	A			
015273	007070	A 747	LD,R7 SAVR7	R7	B 04 00747
015274	015311	A			
015275	014004	A 748	ABX LDA SAVA	RETURN A,B,X REGISTERS	B 04 00748
015276	024004	A 749	LDB SAVB		04 00749
015277	034004	A 750	LDX SAVX		04 00750
015300	001000	A 751	JMP* PWDN	RETURN TO LOCATION INTERRUPTED FROM	04 00751
015301	115220	A			
		752	*		04 00752
015302	000000	A 753	SAVA DATA 0		04 00753
015303	000000	A 754	SAVB DATA 0		04 00754
015304	000000	A 755	SAVX DATA 0		04 00755
015305	000000	A 756	SAVR3 DATA 0		B 04 00756
015306	000000	A 757	SAVR4 DATA 0		B 04 00757
015307	000000	A 758	SAVR5 DATA 0		B 04 00758
015310	000000	A 759	SAVR6 DATA 0		B 04 00759
015311	000000	A 760	SAVR7 DATA 0		B 04 00760
015312	000000	A 761	SAVD DATA 0		04 00761
015313	000000	A 762	HLTF DATA 0		04 00762
		763	*		04 00763
		764	*		04 00764
		765	*		04 00765
		766	*		04 00766
		767	*		04 00767
		768	*	MESSAGE TABLE	04 00768
		769	*		04 00769
015314	106612	A 770	MSG1 DATA 0106612,'THIS IS THE V70/620 TEST EXECUTIVE',0106612,0		04 00770
015315	152310	A			
015316	144723	A			
015317	120311	A			
015320	151640	A			
015321	152310	A			
015322	142640	A			
015323	153267	A			
015324	130257	A			
015325	133262	A			
015326	130240	A			
015327	152305	A			
015330	151724	A			
015331	120305	A			
015332	154305	A			
015333	141725	A			
015334	152311	A			
015335	153305	A			
015336	106612	A			
015337	000000	A			
015340	141710	A 771	MSG2 DATA *CHECKSUM ERROR X = ',0		04 00771
015341	142703	A			
015342	145723	A			
015343	152715	A			
015344	120305	A			
015345	151322	A			


```

015346 147722 A
015347 120240 A
015350 154240 A
015351 138640 A
015352 000000 A
015353 146705 A 772 MSG3 DATA 'MEMORY SIZE IS ' 04 00772
015354 146717 A
015355 151331 A
015356 120323 A
015357 144732 A
015360 142640 A
015361 144723 A
015362 120240 A
015363 126655 A 773 MSG4 DATA '---K',0 04 00773
015364 145640 A
015365 000000 A
015366 120240 A 774 MSG5 DATA ' INVALID',0 04 00774
015367 144716 A
015370 153301 A
015371 146311 A
015372 142240 A
015373 000000 A
015374 106612 A 775 MSG6 DATA 0106612,'THIS IS THE V75 TEST EXECUTIVE',0106612,0 B 04 00775
015375 152310 A
015376 144723 A
015377 120311 A
015400 151640 A
015401 152310 A
015402 142640 A
015403 153267 A
015404 132640 A
015405 152305 A
015406 151724 A
015407 120305 A
015410 154305 A
015411 141725 A
015412 152311 A
015413 153305 A
015414 106612 A
015415 000000 A

776 * 04 00776
777 * 04 00777
778 * ROUTINE FOR DETERMINING CORE SIZE 04 00778
779 * 04 00779
015416 000000 A 780 ESZA ENTR 0 04 00780
015417 100545 A 781 EXC 0545 DISABLE MEMORY PARITY INT. 04 00781
015420 010000 A 782 LDA 0 04 00782
015421 050002 A 783 STA 2 SAVE CONTENTS OF LOCATION ZERO 04 00783
015422 005001 A 784 TZA 0 04 00784
015423 050000 A 785 STA 0 04 00785
015424 005311 A 786 DAB A=-1 04 00786
015425 006120 A 787 ESZ1 ADDI 4096 NEXT 4K MEMORY ADDRESS 04 00787
015426 010000 A
015427 005014 A 788 TAX 04 00788
015430 025001 A 789 LDB 1,1 SAVE MEMORY CELL IN B REG 04 00789
015431 055001 A 790 STA 1,1 04 00790
015432 015001 A 791 LDA 1,1 04 00791
015433 130000 A 792 ERA 0 04 00792
015434 001010 A 793 JAZ ESZ2 JUMP IF END OF MEMORY 04 00793
015435 015442 A
015436 065001 A 794 STB 1,1 RESTORE MEMORY CELL 04 00794
015437 005041 A 795 TXA 04 00795
015440 001000 A 796 JMP ESZ1 04 00796
015441 015425 A
015442 010002 A 797 ESZ2 LDA 2 RESTORE CONTENTS OF 04 00797
015443 050000 A 798 STA 0 LOCATION ZERO 04 00798
015444 005041 A 799 TXA 04 00799
015445 001000 A 800 JMP* ESZA 04 00800
015446 115416 A

801 * 04 00801
802 * 04 00802
803 * 04 00803
804 * CONVERT MEMORY SIZE FOR ASCII PRINTOUT 04 00804
805 * 04 00805
015447 000000 A 806 ESZB ENTR 0 04 00806
015450 010441 A 807 LDA 8MEM GET CORE SIZE(X7777) 04 00807
015451 004354 A 808 LSRA 12 TRUNCATE 7777 04 00808
015452 006120 A 809 ADDI ETAB ADDRESS OF THE ASCII EQUIV TABLE 04 00809
015453 015463 A
015454 005014 A 810 TAX 04 00810
015455 015000 A 811 LDA 0,1 GET ASCII EQUIV FROM TABLE ETAB 04 00811
015456 006020 A 812 LDBI MSG4 SET MEMORY SIZE(04,08,ETC) INTO MSG4 04 00812
015457 015363 A
015460 056000 A 813 STA 0,2 04 00813
015461 001000 A 814 JMP* ESZB RETURN 04 00814
015462 115447 A
015463 120264 A 815 ETAB DATA 0120264 ASCII 04 04 00815
015464 120270 A 816 DATA 0120270 04 00816
015465 130662 A 817 DATA 0130662 04 00817
015466 130666 A 818 DATA 0130666 04 00818
015467 131260 A 819 DATA 0131260 04 00819
015470 131264 A 820 DATA 0131264 04 00820
015471 131270 A 821 DATA 0131270 04 00821
015472 131662 A 822 DATA 0131662 04 00822
823 * 04 00823

```

```

824 *
825 *
826 *
827 *
828 *
829 *****
830 *
831 *          SENSE SWITCH SUBROUTINE
832 * THIS SUBROUTINE PROVIDES A STANDARD SENSE SWITCH INTERFACE.
833 * THE CALLING SEQUENCE IS AS FOLLOWS
834 * THE A, B, AND X REGISTERS CONTAIN ERROR HALT VALUES.
835 * CALL SSWT
836 * DATA (U REGISTER VALUE)
837 * DATA (ERROR MESSAGE ADDRESS) (IF NEG. ERROR SUB.)
838 * DATA (TERMINATION EXIT)
839 * DATA (LOOP ON ERROR EXIT)
840 *          *
841 *          NORMAL EXIT RETURN
842 *
843 * STANDARD SENSE SWITCH SETTINGS
844 * SS1 -(SET) SUPPRESS ERROR PRINTOUT
845 *      (RESET) ALLOW ERROR PRINTOUTS
846 * SS2 (SET) HALT ON ERROR
847 *      (IF SET AFTER HALT - CONTINUE )
848 *      (RESET) DO NOT HALT ON ERROR
849 *      (IF HALT ON ERROR SET FIRST THEN RESET ON
850 *       HALT CONDITION - LOOP UNTIL SET )
851 * SS3 (SET) TERMINATE TEST - RETURN TO BEGINING OF TEST
852 *      (RESET) CONTINUE TEST
853 *****
854 SSWP STA SSWS SAVE VOLATILE REGISTERS
855 STB SSWS+1
856 STX SSWS+2
857 JSS3 SSWE IF SS3 SET RETURN THROUGH TERMINATION EXIT
858 JSS1 SSW1 CHECK IF TTY SUPPRESSED
859 LDB SSWT GET 2ND PARAMETER
860 IBR
861 LDA 0,2
862 JAZ SSW1
863 TAB CHECK IF BIT 15 SET
864 ANAI 0100000
865 TAX
866 TBA
867 JXZ *+4
868 JMP SSWR CALL ERROR SUBROUTINE
869 TAX PRINT ERROR MESSAGE
870 CALL OUTD
871 SSW1 JSS3 SSWE IF SS3 SET - RETURN THROUGH TERMINATION EXT
872 LDA $FLG CHECK IF LOOPING
873 JAZ SSW4
874 SSW2 JSS2 SSW3 LOOPING - CHECK IF TERMINATE LOOPING.
875 SSWL LDB SSWT RETURN THROUGH LOOP EXIT
876 IBR
877 IBR
878 IBR
879 LDA 0,2
880 STA *+5
881 LDA SSWS RETURN VOLATILE REGISTERS.
882 LDB SSWS+1
883 LDX SSWS+2
884 JMP *
885 SSW3 TZA RETURN TO NORMAL EXIT (CONTINUATION EXIT)
886 STA $FLG CLEAR LOOP FLAG.
887 LDA SSWT
888 ADDI 4
889 STA *+5
890 LDA SSWS RETURN VOLATILE REGISTERS.
891 LDB SSWS+1
892 LDX SSWS+2
893 JMP *
894 SSW4 JSS2 SSW5 CHECK IF HALT ON ERROR
895 JMP SSW3 RETURN TO NORMAL EXIT LOC.
896 SSW5 LDB SSWT GET FIRST PARAMETER
897 LDA 0,2
898 STA *+4
899 LDA SSWS RETURNED SAVED PARAMETERS.
900 LDB SSWS+1
901 LDX SSWS+2
902 NOP 1ST PARAMETER STORED HERE AND EXECUTED.
903 SSW6 JSS3 SSWE IF SS3 SET RETURN THROUGH TERMINATION EXIT

```

PAGE	14	MAINTAIN III	MAIN3MT	
015574	015624	A		
015575	010440	A	904	LDA \$FLG
015576	001010	A	905	JAZ *+4
015577	015600	A		CHECK IF LOOPING
015600	001000	A	906	JMP SSW2
015601	015530	A		
015602	001200	A	907	JSS2 SSW3
015603	015545	A		LOOP FLAG ZERO - CHECK IF LOOP REQUEST
015604	040440	A	908	INR \$FLG
015605	001000	A	909	JMP SSWL
015606	015532	A		INCREMENT LOOP FLAG
015607	006150	A	910	SSWR ANAI 077777
015610	077777	A		JUMP THROUGH LOOP EXIT
015611	054004	A	911	STA *+5
015612	014006	A	912	LDA SSW5
015613	024006	A	913	LDB SSW5+1
015614	034006	A	914	LDB SSW5+2
015615	002000	A	915	JMPM *
015616	015615	A		CALL ERROR SUBROUTINE
015617	001000	A	916	JMP SSW1
015620	015523	A		
015621		A	917	SSWS BSS 0
015624	005001	A	918	SSWE TZA
015625	050440	A	919	STA \$FLG
015626	024006	A	920	LDB SSWT
015627	005122	A	921	IBR
015630	005122	A	922	IBR
015631	016000	A	923	LDA 0+2
015632	054001	A	924	STA *+2
015633	001000	A	925	JMP *
015634	015633	A		
015635	000000	A	926	SSWT ENTR
015636	001000	A	927	JMP SSWP
015637	015473	A		SENSE SWITCH SUBROUTINE ENTRANCE
		A	928	*
		A	929	*
		A	930	*
		A	931	INA1 CALL INPH, INAE
015640	002000	A		INPUT ONE CHARACTER FROM TTY TO (A) REGISTER
015641	016225	A		SENSE BFR RDY
015642	015647	A		
015643	001400	A	932	JSS3 INAS
015644	015653	A		
015645	001000	A	933	JMP INA1
015646	015640	A		
015647	002000	A	934	INA2 CALL INPI
015650	016237	A		INPUT CHARACTER
015651	044002	A	935	INR INPA
015652	044001	A	936	INR INPA
015653	001000	A	937	INA3 JMP 000
015654	000000	A		NORMAL EXIT
015654	000000	A	938	INPA BEQ 0
015655	001000	A	939	JMP INA1
015656	015640	A		ENTER
		A	940	*
		A	941	*
		A	942	*
015657	002000	A	943	INB1 CALL INPA
015660	015654	A		INPUT ONE CHARACTER
015661	001000	A	944	JMP* INPB
015662	115670	A		TERMINATE EXIT
015663	002000	A	945	CALL OUTA
015664	016242	A		OUTPUT ONE CHARACTER
015665	044002	A	946	INR INPB
015666	044001	A	947	INR INPB
015667	001000	A	948	JMP* 0
015670	100000	A		EXIT
015670		A	949	INPB BEQ 0
015671	001000	A	950	JMP INB1
015672	015667	A		
		A	951	*
		A	952	*
		A	953	*
		A	954	*
		A	955	*
015673	002000	A	956	INC3 CALL INPB
015674	015670	A		INPUT ONE CHARACTER (EDITED)
015675	001000	A	957	JMP* INPC
015676	115722	A		TERMINATE EXIT
015677	006120	A	958	ERA1 '\'
015700	000334	A		BACKSLASH
015701	001010	A	959	JAZ INC2
015702	015717	A		ABORT INPUT EXIT
015703	006130	A	960	ERA1 '\'
015704	000334	A		RESTORE A
015705	006130	A	961	ERA1 0337
015706	000337	A		BACKARROW
015707	001010	A	962	JAZ INC1
015710	015715	A		DELETE ONE CHARACTER EXIT
015711	006130	A	963	ERA1 0337
015712	000337	A		RESTORE A
015713	044006	A	964	INR INPC
015714	044005	A	965	INR INPC
015715	044004	A	966	INR INPC
015716	044003	A	967	INR INPC
015717	044002	A	968	INR INPC
015720	044001	A		

MAINTAIN III				MAIN3MT		PAGE 15
015721	001000	A	969	JMP*	0	04 00969
015722	100000	A				
015722			970	INPC	BES	04 00970
015723	001000	A	971	JMP	INC3	04 00971
015724	015673	A				
			972	*		04 00972
			973	*		04 00973
			974	*		04 00974
			975	IND4	CALL	04 00975
015725	002000	A				
015726	015722	A				
015727	001000	A	976	JMP*	INPD	04 00976
015730	115756	A				
015731	001000	A	977	JMP	IND2	04 00977
015732	015753	A				
015733	001000	A	978	JMP	IND1	04 00978
015734	015751	A				
015735	006140	A	979	SUBI	0301	04 00979
015736	000301	A				
015737	001004	A	980	JAN	IND3	04 00980
015740	015761	A				
015741	006140	A	981	SUBI	032	04 00981
015742	000032	A				
015743	001002	A	982	JAP	IND3	04 00982
015744	015761	A				
015745	006120	A	983	ADDI	0333	04 00983
015746	000333	A				
015747	044006	A	984	INR	INPD	04 00984
015750	044005	A	985	INR	INPD	04 00985
015751	044004	A	986	IND1	INR	04 00986
015752	044003	A	987	INR	INPD	04 00987
015753	044002	A	988	IND2	INR	04 00988
015754	044001	A	989	INR	INPD	04 00989
015755	001000	A	990	JMP*	0	04 00990
015756	100000	A				
015756			991	INPD	BES	04 00991
015757	001000	A	992	JMP	IND4	04 00992
015760	015725	A				
015761	002000	A	993	IND3	CALL	04 00993
015762	016377	A				
015763	001000	A	994	JMP	IND2	04 00994
015764	015753	A				
			995	*		04 00995
			996	*		04 00996
			997	*		04 00997
			998	*		04 00998
			999	INE3	CALL	04 00999
015765	002000	A				
015766	015756	A				
015767	001000	A	1000	JMP*	INPE	04 01000
015770	116017	A				
015771	001000	A	1001	JMP	INE2	04 01001
015772	016014	A				
015773	001000	A	1002	JMP	INE1	04 01002
015774	016012	A				
015775	004250	A	1003	LRLA	8	04 01003
015776	054452	A	1004	STA	TS02	04 01004
015777	002000	A	1005	CALL	INPD	04 01005
016000	015756	A				
016001	001000	A	1006	JMP*	INPE	04 01006
016002	116017	A				
016003	001000	A	1007	JMP	INE2	04 01007
016004	016014	A				
016005	001000	A	1008	JMP	INE3	04 01008
016006	015765	A				
016007	114441	A	1009	DRA	TS02	04 01009
016010	044006	A	1010	INR	INPE	04 01010
016011	044005	A	1011	INR	INPE	04 01011
016012	044004	A	1012	INE1	INR	04 01012
016013	044003	A	1013	INR	INPE	04 01013
016014	044002	A	1014	INE2	INR	04 01014
016015	044001	A	1015	INR	INPE	04 01015
016016	001000	A	1016	JMP*	0	04 01016
016017	100000	A				
016017			1017	INPE	BES	04 01017
016020	001000	A	1018	JMP	INE3	04 01018
016021	015763	A				
			1019	*		04 01019
			1020	*		04 01020
			1021	*		04 01021
			1022	INF5	CALL	04 01022
016022	002000	A				
016023	015722	A				
016024	001000	A	1023	JMP*	INPF	04 01023
016025	116057	A				
016026	001000	A	1024	JMP	INF2	04 01024
016027	016054	A				
016030	001000	A	1025	JMP	INF1	04 01025
016031	016052	A				
016032	006140	A	1026	SUBI	0254	04 01026
016033	000254	A				
016034	001010	A	1027	JAZ	INF3	04 01027
016035	016050	A				
016036	006140	A	1028	SUBI	02	04 01028
016037	000002	A				
016040	001010	A	1029	JAZ	INF4	04 01029
016041	016046	A				
016042	002000	A	1030	CALL	OUTG	04 01030

MAINTAIN III

MAIN3MT

016172	001000	A	1099	JMP	ING5					04	01099
016173	016067	A									
			1100	*						04	01100
016174	000000	A	1101	INN	ENTR		INPUT TO TERMINATOR			04	01101
			1102	*						04	01102
			1103	*						04	01103
016175	002000	A	1103	CALL	INPG					04	01103
016176	016137	A									
016177	001000	A	1104	JMP	ETOP					04	01104
016200	015032	A									
016201	001000	A	1105	JMP	ETOP					04	01105
016202	015032	A									
016203	001000	A	1106	JMP*	INN					04	01106
016204	116174	A									
016205	001000	A	1107	JMP*	INN					04	01107
016206	116174	A									
			1108	*						04	01108
			1109	*	SENSE TTY BFR RDY					04	01109
			1110	*						04	01110
016207	054020	A	1111	INH1	STA	INH2	SAVE A			04	01111
016210	014014	A	1112		LDA	INPH	MODIFY RETURN			04	01112
016211	006110	A	1113		DRAI	0100000				04	01113
016212	100000	A									
016213	054006	A	1114		STA	INH3+1				04	01114
016214	010473	A	1115		LDA	STTY	ADJ SBR			04	01115
016215	006110	A	1116		DRAI	0101200				04	01116
016216	101200	A									
016217	054001	A	1117		STA	*+2				04	01117
016220	014007	A	1118		LDA	INH2	RESTORE A			04	01118
016221	101000	A	1119	INH3	SEN	0,*				04	01119
016222	016221	A									
016223	044001	A	1120		INR	INPH				04	01120
016224	001000	A	1121		JMP	0				04	01121
016225	000000	A									
016225			1122	INPH	BES	0	ENTER			04	01122
016226	001000	A	1123		JMP	INH1				04	01123
016227	016207	A									
016230	000000	A	1124	INH2	DATA	0				04	01124
			1125	*						04	01125
			1126	*	INPUT CHARACTER FROM TTY W/OUT SENSING BFR RDY					04	01126
			1127	*						04	01127
016231	010473	A	1128	INI1	LDA	STTY	ADJ. CIA			04	01128
016232	006110	A	1129		DRAI	0102500				04	01129
016233	102500	A									
016234	054000	A	1130		STA	*+1				04	01130
016235	102500	A	1131		CIA	0	INPUT			04	01131
016236	001000	A	1132		JMP	0				04	01132
016237	000000	A									
016237			1133	INPI	BES	0	ENTER			04	01133
016240	001000	A	1134		JMP	INI1				04	01134
016241	016231	A									
			1135	*						04	01135
			1136	*	OUTPUT ONE CHARACTER FROM A REG TO TTY					04	01136
			1137	*						04	01137
016242	000000	A	1138	OUTA	ENTR	0				04	01138
016243	074204	A	1139		STX	TS01	SAVE X			04	01139
016244	005014	A	1140		TXA					04	01140
016245	010473	A	1141		LDA	STTY				04	01141
016246	006110	A	1142		DRAI	0101100	ADJUST TTY DA			04	01142
016247	101100	A									
016250	054006	A	1143		STA	*+7				04	01143
016251	006120	A	1144		ADDI	002000				04	01144
016252	002000	A									
016253	054013	A	1145		STA	OUT1				04	01145
016254	005041	A	1146		TXA					04	01146
016255	006030	A	1147		LDXI	-1	TIME - OUTCONSTANT			04	01147
016256	177777	A									
016257	101000	A	1148		SEN	0,OUT1	WRITE REGISTER READY			04	01148
016260	016267	A									
016261	002000	A	1149		CALL	TOUT				04	01149
016262	016445	A									
016263	005011	A	1150		MERG	011				04	01150
016264	00015	A	1151		MLT	77				04	01151
016265	001000	A	1152		JMP	*-6				04	01152
016266	016257	A									
016267	103100	A	1153	OUT1	DAR	0				04	01153
016270	034157	A	1154		LDX	TS01	RESTORE X			04	01154
016271	001000	A	1155		JMP*	OUTA	RETURN			04	01155
016272	116242	A									
			1156	*						04	01156
			1157	*						04	01157
			1158	*	OUTPUT TWO CHARACTERS FROM A REG TO TTY (HIGH ORDER FIRST)					04	01158
			1159	*	ENTER WITH CHARACTERS IN A REG					04	01159
			1160	*						04	01160
016273	000000	A	1161	OUTB	ENTR	0				04	01161
016274	064157	A	1162		STB	TS06	SAVE B			04	01162
016275	004550	A	1163		LLSR	8				04	01163
016276	002000	A	1164		CALL	OUTA	OUTPUT FIRST CHAR			04	01164
016277	016242	A									
016300	004450	A	1165		LLRL	8				04	01165
016301	002000	A	1166		CALL	OUTA	OUTPUT SECOND CHAR			04	01166
016302	016242	A									
016303	024150	A	1167		LDB	TS06	RESTORE B			04	01167
016304	001000	A	1168		JMP*	OUTB	RETURN			04	01168
016305	116273	A									
			1169	*						04	01169

			1170	*	OUTPUT CARRIAGE RETURN AND LINE FEED TO TTY				04	01170
			1171	*					04	01171
016306	000000	A	1172	OUTC	ENTR	0			04	01172
016307	054005	A	1173		STA	*+6	SAVE A		04	01173
016310	006010	A	1174		LDAI	0106612	CR AND LF		04	01174
016311	106612	A								
016312	002000	A	1175		CALL	OUTB	OUTPUT 2 CHAR		04	01175
016313	016273	A								
016314	006010	A	1176		LDAI	0	RESTORE A		04	01176
016315	000000	A								
016316	001000	A	1177		JMP*	OUTC	RETURN		04	01177
016317	116306	A								
			1178	*					04	01178
			1179	*	OUTPUT OCTAL WORD AND A SPACE TO TTY				04	01179
			1180	*					04	01180
016320	000000	A	1181	OUTE	ENTR	0			04	01181
016321	064022	A	1182		STB	*+19	SAVE B		04	01182
016322	005002	A	1183		TZB				04	01183
016323	004557	A	1184		LLSR	15			04	01184
016324	005122	A	1185		IBR				04	01185
016325	006110	A	1186	OUT2	ORAI	'0'	MAKE DIGIT		04	01186
016326	000260	A								
016327	002000	A	1187		CALL	OUTA	OUTPUT ONE DIGIT		04	01187
016330	016242	A								
016331	005001	A	1188		TZA				04	01188
016332	004043	A	1189		LLRL	3			04	01189
016333	001020	A	1190		JBZ	*+4	OCTAL OUTPUT COMPLETE		04	01190
016334	016337	A								
016335	001000	A	1191		JMP	OUT2			04	01191
016336	016325	A								
016337	006010	A	1192		LDAI	0240	ASCII BLANK CODE		04	01192
016340	000240	A								
016341	002000	A	1193		CALL	OUTA	OUTPUT SPACE		04	01193
016342	016242	A								
016343	006020	A	1194		LDBI	0	RESTORE B		04	01194
016344	000000	A								
016345	001000	A	1195		JMP*	OUTE	RETURN		04	01195
016346	116320	A								
			1196	*					04	01196
			1197	*	OUTPUT MESSAGE TO TTY (X REG CONTAINS ADDRESS OF MESSAGE)				04	01197
			1198	*					04	01198
016347	000000	A	1199	OUTD	ENTR	0			04	01199
016350	015000	A	1200		LDA	0,1			04	01200
016351	001010	A	1201		JAZ*	OUTD			04	01201
016352	116347	A								
016353	002000	A	1202		CALL	OUTB			04	01202
016354	016273	A								
016355	005144	A	1203		IXR				04	01203
016356	001000	A	1204		JMP	OUTD+1			04	01204
016357	016350	A								
			1205	*					04	01205
			1206	*	OUTPUT OCTAL MEMORY ADDRESS TO TTY PRINTER				04	01206
			1207	*					04	01207
016360	000000	A	1208	OUTF	ENTR	0			04	01208
016361	054067	A	1209		STA	TS02	SAVE WORD		04	01209
016362	006010	A	1210		LDAI	'<'	PAREN SPACE		04	01210
016363	124240	A								
016364	002000	A	1211		CALL	OUTB	PRINT CHAR		04	01211
016365	016273	A								
016366	014032	A	1212		LDA	TS02			04	01212
016367	002000	A	1213		JMPM	OUTE	OUTPUT OCTAL WORD		04	01213
016370	016320	A								
016371	006010	A	1214		LDAI	'>'	RIGHT PARENTHESIS AND SPACE		04	01214
016372	124640	A								
016373	002000	A	1215		CALL	OUTB			04	01215
016374	016273	A								
016375	001030	A	1216		JMP*	OUTF			04	01216
016376	116360	A								
			1217	*					04	01217
			1218	*	INVALID INPUT--PRINT MESSAGE				04	01218
			1219	*					04	01219
016377	000000	A	1220	OUTG	ENTR	0			04	01220
016400	006030	A	1221		LDXI	MSG5	INVALID MESSAGE		04	01221
016401	015366	A								
016402	002000	A	1222		CALL	OUTD	OUTPUT MESSAGE		04	01222
016403	016347	A								
016404	001000	A	1223		JMP*	OUTG			04	01223
016405	116377	A								
			1224	*					04	01224
			1225	*	OUTPUT CONTROL CHARACTER SUBROUTINE				04	01225
			1226	*					04	01226
016406	054020	A	1227	OUT3	STA	OUTH+3	SAVE A		04	01227
016407	074020	A	1228		STX	OUTH+4	SAVE X		04	01228
016410	034013	A	1229		LDX	OUTH	A=CONTROL		04	01229
016411	015000	A	1230		LDA	0,1	CHARACTER		04	01230
016412	002000	A	1231		CALL	OUTA	OUTPUT CHARACTER		04	01231
016413	016242	A								
016414	006030	A	1232		LDXI	077777	INIT		04	01232
016415	077777	A								
016416	002000	A	1233		CALL	TDLY	TIME DELAY		04	01233
016417	016431	A								
016420	044003	A	1234		INR	OUTH	SET RETURN		04	01234
016421	014005	A	1235		LDA	OUTH+3	RESTORE A		04	01235
016422	034005	A	1236		LDX	OUTH+4	RESTORE X		04	01236
016423	001000	A	1237		JMP	0	RETURN		04	01237

PAGE	20	MAINTAIN III	MAIN3MT	
016542	005311	A 1317	DAR	04 01317
016543	140463	A 1318	SUB LAST	04 01318
016544	001004	A 1319	JAN WR12	04 01319
016545	016475	A		
016546	054262	A 1320	STA MTBF	04 01320
016547	010465	A 1321	LDA EXEC	04 01321
016550	001004	A 1322	JAN END	04 01322
016551	015032	A		
016552	054257	A 1323	STA MTBF+1	04 01323
016553	005301	A 1324	DECR 1	04 01324
016554	054254	A 1325	STA MTBF	04 01325
016555	134254	A 1326	ERA MTBF+1	04 01326
016556	054254	A 1327	STA MTBF+2	04 01327
016557	006020	A 1328	LDBI 3	04 01328
016560	000003	A		
016561	034244	A 1329	LDX BUFR	04 01329
016562	002000	A 1330	CALL MTC	04 01330
016563	016771	A		
	016563	A 1331	MCD2 EQU *-1	04 01331
016564	001000	A 1332	JMP END	04 01332
016565	015032	A		
		1333	* LOAD PROGRAM FROM MAG TAPE UNIT 0 TO 7	04 01333
		1334	* RDRIVE. LOAD AND GO IF ,	04 01334
	016566	A 1335	LDB EQU *	04 01335
	016566	A 1336	ELOD EQU *	04 01336
016566	002000	A 1337	RMT CALL SETM	04 01337
016567	016620	A		
016570	002000	A 1338	CALL MT1	04 01338
016571	016717	A		
016572	005001	A 1339	TZA	04 01339
016573	054233	A 1340	STA CNTR	04 01340
016574	014234	A 1341	LDA MTBF	04 01341
016575	001004	A 1342	JAN RMT2	04 01342
016576	016616	A		
016577	034226	A 1343	LDX BUFR	04 01343
016600	005144	A 1344	IXR	04 01344
016601	025000	A 1345	LDB 0,1	04 01345
016602	005144	A 1346	IXR	04 01346
016603	015000	A 1347	RMT1 LDA 0,1	04 01347
016604	056000	A 1348	STA 0,2	04 01348
016605	044221	A 1349	INR CNTR	04 01349
016606	014220	A 1350	LDA CNTR	04 01350
016607	144221	A 1351	SUB MTBF	04 01351
016610	005144	A 1352	INR	04 01352
016611	005122	A 1353	IBR	04 01353
016612	001004	A 1354	JAN RMT1	04 01354
016613	016603	A		
016614	001000	A 1355	JMP RMT+2	04 01355
016615	016570	A		
016616	001000	A 1356	RMT2 JMP* MTBF+1	04 01356
016617	117032	A		
		1357	* SET UP MAG TAPE DEVICE ADDRESS	04 01357
016620	000000	A 1358	SETM ENTR 0	04 01358
016621	002000	A 1359	CALL INN	04 01359
016622	016174	A		
016623	004542	A 1360	LLSR 2	04 01360
016624	004341	A 1361	LSRA 1	04 01361
016625	004442	A 1362	LLRL 2	04 01362
016626	006150	A 1363	ANAI 017	04 01363
016627	000017	A		
016630	006120	A 1364	ADDI UTBL	04 01364
016631	017131	A		
016632	005012	A 1365	TAB	04 01365
016633	026000	A 1366	LDB 0,2	04 01366
016634	006010	A 1367	LDAI 0104000	04 01367
016635	104000	A		
016636	005001	A 1368	MERGE 031	04 01368
016637	054000	A 1369	STA 0,1	04 01369
016640	104000	A 1370	SEL2 0	04 01370
016641	006130	A 1371	ANAI 077	04 01371
016642	000077	A		
016643	054012	A 1372	STA SET2	04 01372
016644	006000	A 1373	LDBI 07L	04 01373
016645	017151	A		
016646	025000	A 1374	SET1 LDB 0,1	04 01374
016647	001000	A 1375	JBE SET3	04 01375
016650	016631	A		
016651	016000	A 1376	LDA 0,2	04 01376
016652	150477	A 1377	ANA MASK	04 01377
016653	006110	A 1378	DRAI *	04 01378
016654	016653	A		
016654		1379	SET2 BES 0	04 01379
016655	056000	A 1380	STA 0,2	04 01380
016656	005144	A 1381	IXR	04 01381
016657	001000	A 1382	JMP SET1	04 01382
016660	016646	A		
016661	002000	A 1383	SET3 CALL SMR	04 01383
016662	017023	A		
016663	001000	A 1384	JMP* SETM	04 01384
016664	116620	A		
		1385	* SKIP TO FILE (X) UNIT 0 TO 7	04 01385
		1386	* FNUMBER, DRIVE.	04 01386
016665	002000	A 1387	FIL CALL INN	04 01387
016666	016174	A		
016667	050465	A 1388	STA EXEC	04 01388
			SAVE	

MAINTAIN III				MAIN3MT				PAGE 21
016670	002000	A	1389	CALL	SETM			04 01389
016671	016620	A						
016672	101610	A	1390	SEN	0610,*+3	SENSE LOAD POINT		04 01390
016673	016675	A						
016674	100710	A	1391	FIL1	SEL	0710	REWIND	04 01391
016675	010465	A	1392		LDA	EXEC	GET FILE NO.	04 01392
016676	001010	A	1393	FIL2	JAZ	END	DONE	04 01393
016677	015032	A						
016700	005311	A	1394		DAR			04 01394
016701	002000	A	1395	FIL3	CALL	SMR		04 01395
016702	017023	A						
016703	100510	A	1396		SEL	0510	FORWARD 1 RECORD	04 01396
016704	002000	A	1397		CALL	SMR		04 01397
016705	017023	A						
016706	101310	A	1398	FIL4	SEN	0310,FIL2	FILE MARK	04 01398
016707	016676	A						
016710	001000	A	1399		JMP	FIL3	NO, KEEP GOING	04 01399
016711	016701	A						
			1400	*		WRITE FILE MARK	UNIT 0 TO 7	04 01400
			1401	*		EDRIVE.		04 01401
016712	002000	A	1402	EDF	CALL	SETM		04 01402
016713	016620	A						
016714	100410	A	1403	EDF1	SEL	0410	WRITE FILE MARK	04 01403
016715	001000	A	1404		JMP	END		04 01404
016716	015032	A						
			1405	*		MAG TAPE INPUT		04 01405
016717	000000	A	1406	MTI	ENTR		MAG TAPE INPUT	04 01406
016720	005001	A	1407		TZA			04 01407
016721	054106	A	1408		STA	MGER		04 01408
016722	020460	A	1409	MTI0	LDB	K100	BUFFER SIZE	04 01409
016723	034102	A	1410		LDX	BUFR	BUFFER ADDRESS	04 01410
016724	002000	A	1411		CALL	SMR	MT RDY	04 01411
016725	017023	A						
016726	100010	A	1412		SEL	010	READ BIN	04 01412
016727	101110	A	1413	MTI1	SEN	0110,MTI2	BFR RDY	04 01413
016730	016735	A						
016731	101210	A	1414		SEN	0210,MTI3	MT RDY	04 01414
016732	016745	A						
016733	001000	A	1415		JMP	MTI1	LOOP	04 01415
016734	016727	A						
016735	001020	A	1416	MTI2	JBZ	MTI4	RCD TOO LONG	04 01416
016736	016753	A						
016737	102510	A	1417		CIA	010	INPUT	04 01417
016740	055000	A	1418		STA	0,1	STORE	04 01418
016741	005144	A	1419		IXR		COUNT	04 01419
016742	005322	A	1420		DBR			04 01420
016743	001000	A	1421		JMP	MTI1		04 01421
016744	016727	A						
016745	101310	A	1422	MTI3	SEN	0310,MTI4	FLAG, IF FILE MARK	04 01422
016746	016753	A						
016747	101010	A	1423		SEN	010,MTI5	PARITY TEST	04 01423
016750	016761	A						
016751	001000	A	1424		JMP*	MTI	RETURN	04 01424
016752	116717	A						
016753	006010	A	1425	MTI4	LDAI	0336		04 01425
016754	000336	A						
016755	002000	A	1426		CALL	OUTA		04 01426
016756	016242	A						
016757	001000	A	1427		JMP	END		04 01427
016760	015032	A						
016761	044046	A	1428	MTI5	INR	MGER		04 01428
016762	014045	A	1429		LDA	MGER		04 01429
016763	140460	A	1430		SUB	K100		04 01430
016764	001002	A	1431		JAP	ERR		04 01431
016765	017017	A						
016766	100610	A	1432	MTI6	EXC	0610	BACKSPACE	04 01432
016767	001000	A	1433		JMP	MTI0		04 01433
016770	016742	A						
			1434	*		MAG TAPE OUTPUT		04 01434
016771	000000	A	1435	MTD	ENTR		MAG TAPE OUTPUT	04 01435
016772	002000	A	1436		CALL	SMR		04 01436
016773	017023	A						
016774	100210	A	1437		SEL	0210	WRITE BINARY	04 01437
016775	101110	A	1438	MTD1	SEN	0110,MTD2-1	BFR READY	04 01438
016776	017001	A						
016777	001000	A	1439		JMP	MTD1		04 01439
017000	016775	A						
017001	015000	A	1440		LDA	0,1	GET WORD	04 01440
017002	103110	A	1441	MTD2	DAR	010	OUTPUT	04 01441
017003	005144	A	1442		IXR		COUNT	04 01442
017004	005322	A	1443		DBR			04 01443
017005	001020	A	1444		JBZ	*+4	DONE	04 01444
017006	017011	A						
017007	001000	A	1445		JMP	MTD1		04 01445
017010	016775	A						
017011	002000	A	1446		CALL	SMR	MT RDY	04 01446
017012	017023	A						
017013	101010	A	1447	MTD3	SEN	010,ERR	PARITY ERR	04 01447
017014	017017	A						
017015	001000	A	1448		JMP*	MTD	RETURN	04 01448
017016	116771	A						
017017	034012	A	1449	ERR	LDX	MTBF+1	MAG TAPE ERROR	04 01449
017020	001000	A	1450		JMP	LDWA		04 01450
017021	015206	A						
017022	101210	A	1451		SEN	0210,*	RETURN IF MT RDY	04 01451

MAINTAIN III

MAINSMT

134	LAST	1279	1297	1318						
139	LOAD	*								
692	LOADW	1450								
1335	LODE	139								
146	MASK	1377								
1315	MCD1	1274								
1331	MCD2	1275								
1456	MGER	1408	1428	1429						
770	MSG1	605								
771	MSG2	693								
772	MSG3	102	607							
773	MSG4	812								
774	MSG5	1221								
775	MSG6	602								
1457	MTBF	1286	1309	1320	1323	1325	1326	1327	1341	1351
		1356	1449	1454						
1406	MTI	1338								
1409	MTI0	1433								
1413	MTI1	1415	1421	1462	1462	1462				
1416	MTI2	1413	1462							
1422	MTI3	1414	1462	1462						
1425	MTI4	1416	1422							
1428	MTI5	1423								
1432	MTI6	1463								
1462	MTL	1373								
1435	MTO	1273	1314	1330	1448					
1438	MTO1	1439	1445	1463	1463					
1441	MTO2	1438	1463							
1447	MTO3	1463								
167	NOV75	164								
143	OADR	*								
1153	OUT1	1145	1148							
1186	OUT2	1191								
1227	OUT3	1239								
1138	OUTA	82	336	350	370	390	406	422	438	454
		469	530	561	615	945	1155	1164	1166	1187
		1193	1231	1426						
1161	OUTB	83	283	1168	1175	1202	1211	1215		
1172	OUTC	84	260	332	500	525	540	581	599	618
		1177								
1199	OUTD	85	603	606	608	694	870	1201	1204	1222
1181	OUTE	86	264	266	268	272	274	276	278	280
		338	352	372	392	408	424	440	455	471
		532	563	696	1195	1213				
1208	OUTF	87	262	334	528	583	1216			
1220	OUTG	88	690	993	1030	1091	1223			
1238	OUTH	89	398	616	1227	1228	1229	1234	1235	1236
1272	PCHM	*								
640	PETBL	632	634							
725	PHLT	730								
709	PWDN	71	751							
720	PWDN1	714								
141	PWRK	724								
729	PWRU	72								
60	R0	*								
61	R1	*								
62	R2	*								
63	R3	245	505	635	715	743				
64	R4	246	506	636	716	744				
65	R5	247	507	637	717	745				
66	R6	248	508	638	718	746				
67	R7	249	509	639	719	747				
678	REGJMP	677								
679	REGTBL	675	678							
510	RESDF	504								
1337	RMT	1333								
1347	RMT1	1354								
1356	RMT2	1342								
753	SAVA	710	748							
754	SAVB	711	749							
761	SAVD	722	738							
756	SAVR3	*								
757	SAVR4	*								
758	SAVR5	*								
759	SAVR6	*								
760	SAVR7	*								
755	SAVX	712	750							
1374	SET1	1382								
1379	SET2	1372								
1383	SET3	1375								
1358	SETM	1282	1337	1384	1389	1402				
1452	SMR	1383	1395	1397	1411	1436	1446	1453	1462	
871	SSW1	858	862	916						
874	SSW2	906								
885	SSW3	874	895	907						
894	SSW4	873								
896	SSW5	894								
903	SSW6	*								
918	SSWE	857	871	903						
875	SSWL	909								
854	SSWP	927								
910	SSWR	868								
917	SSWS	854	855	856	881	882	883	890	891	892
		899	900	901	912	913	914			
926	SSWT	99	859	875	887	896	920			


```

1 * THIS IS A COPYRIGHTED PROGRAM; COPYRIGHT 1974 BY VARIAN DATA MACHINES 00 00001
2 * V.D.M. PART NO. 00 00002
3 * 00 00003
4 * 00 00004
5 * 00 00005
6 * 00 00006
7 * 00 00007
8 * 00 00008
9 * 00 00009
10 * 00 00010
11 * 00 00011
12 * 00 00012
13 * 00 00013
14 * 00 00014
15 * 00 00015
16 * 00 00016
17 * 00 00017
18 * 00 00018
19 * 00 00019
20 * 00 00020
21 * 00 00021
22 * 00 00022
23 * 00 00023
24 * 00 00024
25 * 00 00025
26 * 00 00026
27 * 00 00027
28 * 00 00028
29 * 00 00029
30 * 00 00030
31 * 00 00031
32 * 00 00032
33 * 00 00033
34 * 00 00034
35 * 00 00035
36 * 00 00036
37 * 00 00037
38 * 00 00038
39 * 00 00039
40 * 00 00040
41 * 00 00041
42 * 00 00042
43 * 00 00043
44 * 00 00044
45 * 00 00045
46 * 00 00046
47 * 00 00047
48 * 00 00048
49 * 00 00049
50 * 00 00050
51 * 00 00051
52 * 00 00052
53 * 00 00053
54 * 00 00054
55 * 00 00055
56 * 00 00056
57 * 00 00057
58 * 00 00058
59 * 00 00059
60 * 00 00060
61 * 00 00061
62 * 00 00062
63 * 00 00063
64 * 00 00064
65 * 00 00065
66 * 00 00066
67 * 00 00067
68 * 00 00068
69 * 00 00069
70 * 00 00070
71 * 00 00071
72 * 00 00072
73 * 00 00073
74 * 00 00074
75 * 00 00075
76 * 00 00076
77 * 00 00077
78 * 00 00078
79 * 00 00079
80 * 00 00080
81 * 00 00081
82 * 00 00082
83 * 00 00083

```

THIS LISTING CONTAINS A PRELIMINARY INSTRUCTION TEST AND A
 PRELIMINARY MEMORY TEST FOR THE 70/620 COMPUTER.

INSTRUCTION TEST
 ONLY A BASIC SET OF INSTRUCTIONS ARE TESTED TO GAIN CONFIDENCE
 THAT STANDARD TEST PROGRAMS CAN BE LOADED.
 MOST OF THE SUBTESTS BUILT FROM PRECEDING SUBTESTS AND ASSUME
 THAT THE INSTRUCTIONS USED PREVIOUSLY ARE WORKING.

MEMORY TEST
 LOCATIONS EMDB - 017777 ARE EXERCISED WITH THE
 ORIGINAL CONTENTS RESTORED. LOCATIONS 0 - EMDB
 ARE DESTROYED BY THE MEMORY TEST ROUTINE.

SWITCHES
 USE SS2 TO LOOP ON ERROR AFTER HALT
 USE SS3 TO LOOP ON BOTH PRELIMINARY TESTS

LOADER
 THE BINARY LOADER WILL ADAPT TO THE BOOTSTRAP
 AND LOAD/EXEC THE NEXT PROGRAM.

```

007000
007000 001000 A
007001 007711 A
007002 005001 A
007003 001010 A
007004 007012 A
007005 001200 A
007006 007002 A
007007 000001 A
007010 001000 A
007011 007027 A
007012 005311 A
007013 054612 A
007014 001004 A
007015 007020 A
007016 001000 A
007017 007005 A
007020 014605 A
007021 005111 A
007022 001010 A
007023 007027 A
007024 001200 A
007025 007020 A
007026 000002 A
57 ENST TZA
58 JAZ ENA1
59 ENA0 JSS2 ENST
60 HLT 01 ERROR--TZA/DAR/JAZ/JAN
61 JMP ENB0
62 ENA1 DAR
63 STA ONES
64 JAN ENA2
65 JMP ENA0
66 ENA2 LDA ONES
67 IAR
68 JAZ ENB0
69 JSS2 ENA2
70 HLT 02 ERROR--LDA/IAR/STA
74 ENB0 LDB ONES
75 JBZ ENB1
76 TZB
77 JBZ ENB2
78 ENB1 JSS2 ENB0
79 HLT 3 ERROR--LDB/JBZ/TZB
80 ENB2 IBR
81 JBZ ENB3
82 DBR
83 JBZ ENC0

```


PAGE	4	MAINTAIN III	PREL3PT
007277	001001	A 228 JDF ENM1	00 00228
007300	007304	A 229 SDF	00 00229
007301	007401	A 230 JDF ENM2	00 00230
007302	001001	A 231 ENM1 JSS2 ENM0	00 00231
007303	007307	A 232 HLT 023	ERROR--ROF/SDF/JDF 00 00232
007304	001200	A 233 *	00 00233
007305	007276	A 234 ENM2 ROF	00 00234
007306	000023	A 235 JDF ENM3	00 00235
007307	007400	A 236 JMP ENN0	CONTINUE 00 00236
007310	001001	A 237 ENM3 JSS2 ENM2	00 00237
007311	007314	A 238 HLT 024	ERROR--ROF/JDF/JMP 00 00238
007312	001000	A 239 *	00 00239
007313	007317	A 240 *	00 00240
007314	001200	A 241 *	00 00241
007315	007307	A 242 ENN0 LDA ONES	00 00242
007316	000024	A 243 JMPM ENN1	00 00243
007317	014306	A 244 JAZ END5	CONTINUE 00 00244
007320	002000	A 245 JSS2 ENN0	00 00245
007321	007331	A 246 HLT 025	ERROR--JMPM/JMP* 00 00246
007322	001010	A 247 JMP END5	00 00247
007323	007336	A 248 *	00 00248
007324	001200	A 249 ENN1 DATA 7	ENTR - NONZERO 00 00249
007325	007317	A 250 TZA	00 00250
007326	000025	A 251 JMP* ENN1	00 00251
007327	001000	A 252 HLT 026	ERROR--JMP* 00 00252
007330	007336	A 253 *	00 00253
007331	000007	A 254 ENN5 LDA D052	A=125252 00 00254
007332	005001	A 255 LRLA 17	00 00255
007333	001000	A 256 ERA D125	00 00256
007334	107331	A 257 JAZ END6	00 00257
007335	000026	A 258 JSS2 END5	00 00258
007336	014265	A 259 HLT 027	ERROR--LRLA 00 00259
007337	004261	A 260 *	00 00260
007340	134264	A 261 ENN6 TZA	00 00261
007341	001010	A 262 LDA D052	A=0 B=125252 00 00262
007342	007346	A 263 LLSR 15	00 00263
007343	001200	A 264 JAZ END7	00 00264
007344	007336	A 265 JSS2 END6	00 00265
007345	000027	A 266 HLT 030	ERROR--LLSR 00 00266
007346	005002	A 267 ENN7 TBA	00 00267
007347	014254	A 268 ERA D125	00 00268
007350	004557	A 269 JAZ END8	CONTINUE 00 00269
007351	001010	A 270 JSS2 END6	00 00270
007352	007356	A 271 HLT 031	ERROR--LLSR 00 00271
007353	001200	A 272 *	00 00272
007354	007346	A 273 ENN8 LLRL 15	A=052525 B=0 00 00273
007355	000030	A 274 *	00 00274
007356	005021	A 275 ENN8 ERA D052	00 00275
007357	134245	A 276 JAZ END9	00 00276
007360	001010	A 277 JSS2 END6	00 00277
007361	007365	A 278 HLT 032	ERROR--LLRL 00 00278
007362	001200	A 279 *	00 00279
007363	007346	A 280 ENN9 TBA	00 00280
007364	000031	A 281 JAZ ENP0	00 00281
007365	004457	A 282 JSS2 END6	00 00282
007366	134235	A 283 HLT 033	ERROR--LLRL 00 00283
007367	001010	A 284 *	00 00284
007370	007374	A 285 ENN0 LDA D001	00 00285
007371	001200	A 286 *	00 00286
007372	007346	A 287 *	00 00287
007373	000032	A 288 ENP0 ADD ONES	00 00288
007374	005021	A 289 JAZ ENP1	OK 00 00289
007375	001010	A 290 JSS2 ENP0	00 00290
007376	007402	A 291 HLT 034	ERROR--ADD 00 00291
007377	001200	A 292 ENP1 ADDI 0177777	00 00292
007400	007346	A 293 ORAI 0177777	00 00293
007401	000033	A 294 ERAI 0177777	00 00294
007402	014220	A 295 JAZ ENQ0	CONTINUE 00 00295
007403	124222	A 296	00 00296
007404	001010	A	
007405	007411	A	
007406	001200	A	
007407	007402	A	
007410	000034	A	
007411	006120	A	
007412	177777	A	
007413	006110	A	
007414	177777	A	
007415	006130	A	
007416	177777	A	
007417	001010	A	

PAGE	S	MAINTAIN III	PREL3PT	
007766	005341	A 521	DECR	041
007767	001010	A 522	JAZ	BEG1
007770	007776	A		
007771	016000	A 523	LDA	0,2
007772	055000	A 524	STA	0,1
007773	005122	A 525	IBR	
007774	001000	A 526	JMP	*-10
007775	007762	A		
007776	006010	A 527	BEG1 LDAI	LOAD
007777	010057	A		
010000	054027	A 528	STA	LHLT+2
010001	005101	A 529	INCR	01
010002	001000	A 530	JMP	LHLT+1
010003	010027	A		
	010004	A 531	CONT EQU	*
		A 532	*	
010026		A 533	ORG	CONT+18
010026	000007	A 534	LHLT HLT	7
010027	002000	A 535	CALL	ROFF-1
010030	007710	A		
010031	001000	A		
010032	010026	A 536	JMP	*-3
		A 537	*	
		A 538	* BINARY LOAD ROUTINE	
		A 539	*	
010033	007400	A 540	ROF	ROF
010034	005002	A 541	TZB	TZB
010035	074002	A 542	STX	DATA 074002 = ,STX,LOAD
010036	014142	A 543	END	LDA CKSM
010037	001011	A 544	JIF	011,LRCB <GOOD LOAD RCD>
010040	010064	A		
010041	010042	A 545	DATA	*+1,*+1,*+1 READER OFF
010042	010043	A		
010043	010044	A		
010044	010061	A 546	DATA	LOAD+2
010045	005302	A 547	DECR	2
010046	003010	A 548	XAZ	TZB
010047	010034	A		
010050	014132	A 549	LDA	MODE
010051	001010	A 550	JAZ	*+4
010052	010055	A		
010053	003022	A 551	XIF	022,STX SET RETURN IF GOOD EXEC RCD
010054	010035	A		
010055	034124	A 552	LDX	FRST
010056	001000	A 553	JMP	*
010057	010056	A		
		A 554	* LOAD	INIT SET TO PRELIM TEST
010060	054122	A 555	BES	0 *ENTRY POINT
010061	010062	A 556	STA	MODE SAVE LOAD MODE
010062	010063	A 557	DATA	*+1,*+1,IN READER ON
010063	010157	A		
010064	007401	A 558	LRCB	SOF *LOAD A RCD
010065	002000	A 559	CALL	INPT FIND RCD MARK
010066	010161	A		
010067	004547	A 560	LLSR	7 LOOK FOR LEADER
010070	001010	A 561	JAZ	*-3 *
010071	010065	A		
010072	002000	A 562	CALL	INPT *
010073	010161	A		
010074	001010	A 563	JAZ	*+4
010075	010100	A		
010076	001000	A 564	JMP	*-4 *
010077	010072	A		
010100	054100	A 565	STA	CKSM RESET CHECKSUM
010101	002000	A 566	CALL	LWRD GET RCD LENGTH
010102	010130	A		
010103	064100	A 567	STB	RCDL IF 0
010104	003020	A 568	XBZ	ROF SET EXEC FLAG
010105	010033	A		
010106	002000	A 569	CALL	LWRD GET ADDR
010107	010130	A		
010110	005024	A 570	TBX	
010111	064070	A 571	STB	FRST SAVE ADDR
010112	002000	A 572	LDATA CALL	LWRD GET DATA OR CHECKSUM
010113	010130	A		
010114	014067	A 573	LDA	RCDL
010115	001010	A 574	JAZ	END <END OF RCD>
010116	010036	A		
010117	005311	A 575	DAR	
010120	054063	A 576	STA	RCDL COUNT WORDS READ
010121	014061	A 577	LDA	MODE
010122	001004	A 578	JAN	*+3
010123	010125	A		
010124	065000	A 579	STB	0,1
010125	005144	A 580	IXR	SET NEXT ADDR
010126	001000	A 581	JMP	LDATA
010127	010112	A		
		A 582	*	
		A 583	* READ AND CHECKSUM BINARY WORD	
		A 584	*	
010130	000007	A 585	LWRD DATA	7 ENTR POINT. DATA FOR LOADING PURPOSES ONLY
010131	005103	A 586	INCR	3
010132	005111	A 587	IAR	
010133	054044	A 588	LWR1 STA	TEMP SET LOOP COUNTER


```

1 * THIS IS A COPYRIGHTED PROGRAM; COPYRIGHT 1974 BY VARIAN DATA MACHINES
2 *
3 * V.D.M. PART NO.
4 *
5 *
6 *
7 *
8 * 70/620 TEST EXECUTIVE-PRELIM. TESTS
9 * AND CARD LOADER

```

```

10 *
11 *
12 *
13 *
14 *
15 *
16 *
17 *
18 *
19 *

```

```

20 * THIS LISTING CONTAINS A PRELIMINARY INSTRUCTION TEST AND A
21 * PRELIMINARY MEMORY TEST FOR THE 70/620 COMPUTER.

```

```

22 *
23 * INSTRUCTION TEST
24 * ONLY A BASIC SET OF INSTRUCTIONS ARE TESTED TO GAIN CONFIDENCE
25 * THAT STANDARD TEST PROGRAMS CAN BE LOADED.
26 * MOST OF THE SUBTESTS BUILT FROM PRECEDING SUBTESTS AND ASSUME
27 * THAT THE INSTRUCTIONS USED PREVIOUSLY ARE WORKING.

```

```

28 *
29 * MEMORY TEST
30 * LOCATIONS EMDB - 017777 ARE EXERCISED WITH THE
31 * ORIGINAL CONTENTS RESTORED. LOCATIONS 0 - EMDB
32 * ARE DESTROYED BY THE MEMORY TEST ROUTINE.

```

```

33 *
34 * SWITCHES
35 * USE SS2 TO LOOP ON ERROR AFTER HALT
36 * USE SS3 TO LOOP ON BOTH PRELIMINARY TESTS

```

```

37 *
38 * LOADER
39 * THE BINARY LOADER WILL ADAPT TO THE BOOTSTRAP
40 * AND LOAD/EXEC THE NEXT PROGRAM.

```

```

41 *
42 *
43 *
44 *
45 *
46 *
47 *
48 *
49 *
50 *

```

```

51 *
52 * INSTRUCTION TEST

```

```

53 *
54 * 007000 ORG 07000 ORIGIN FOR ABL
55 *
56 * JMP *+2
57 ENST TZA
58 JAZ ENA1
59 ENA0 JSS2 ENST
60 HLT 01 ERROR--TZA/DAR/JAZ/JAN
61 JMP ENB0
62 ENA1 DAR
63 STA ONES
64 JAN ENA2
65 JMP ENA0
66 ENA2 LDA ONES
67 IAR
68 JAZ ENB0
69 JSS2 ENA2
70 HLT 02 ERROR--LDA/IAR/STA
71 *
72 *
73 *
74 ENB0 LDB ONES
75 JBZ ENB1
76 TZB
77 JBZ ENB2
78 ENB1 JSS2 ENB0
79 HLT 3 ERROR--LDB/JBZ/TZB
80 ENB2 IBR
81 JBZ ENB3
82 DBR
83 JBZ ENC0

```

```

007000 001000 A
007001 007002 A
007002 005001 A
007003 001010 A
007004 007012 A
007005 001200 A
007006 007002 A
007007 000001 A
007010 001000 A
007011 007027 A
007012 005311 A
007013 054612 A
007014 001004 A
007015 007020 A
007016 001000 A
007017 007005 A
007020 014605 A
007021 005111 A
007022 001010 A
007023 007027 A
007024 001200 A
007025 007020 A
007026 000002 A
007027 024576 A
007030 001020 A
007031 007035 A
007032 005002 A
007033 001020 A
007034 007040 A
007035 001200 A
007036 007027 A
007037 000003 A
007040 005122 A
007041 001020 A
007042 007046 A
007043 005322 A
007044 001020 A

```

PAGE	2	MAINTAIN III	PREL3C	
007045	007051	A	84 ENB3 JSS2 ENB0	00 00084
007046	001200	A		
007047	007027	A		
007050	000004	A	85 HLT 4	ERROR--IBR/DBR 00 00085
			86 *	00 00086
			87 *	00 00087
			88 *	00 00088
007051	034554	A	89 ENCO LDX ONES	00 00089
007052	001040	A	90 JXZ ENC1	00 00090
007053	007057	A		
007054	005004	A	91 TZX	00 00091
007055	001040	A	92 JXZ ENC2	CONTINUE 00 00092
007056	007062	A		
007057	001200	A	93 ENC1 JSS2 ENCO	00 00093
007060	007051	A		
007061	000005	A	94 HLT 5	ERROR--LDX/JXZ/TZX 00 00094
007062	005144	A	95 ENC2 IXR	00 00095
007063	001040	A	96 JXZ ENC3	00 00096
007064	007070	A		
007065	005344	A	97 DXR	00 00097
007066	001040	A	98 JXZ ENDO	CONTINUE 00 00098
007067	007073	A		
007070	001200	A	99 ENC3 JSS2 ENCO	00 00099
007071	007051	A		
007072	000006	A	100 HLT 6	ERROR--IXR/DXR 00 00100
			101 *	00 00101
			102 *	00 00102
			103 *	00 00103
007073	014532	A	104 ENDO LDA ONES	00 00104
007074	054002	A	105 STA *+3	00 00105
007075	005001	A	106 TZA	00 00106
007076	006010	A	107 LDAI 1	(ALL ONES) 00 00107
007077	000001	A		
007100	001010	A	108 JAZ END1	00 00108
007101	007104	A		
007102	001004	A	109 JAN END2	CONTINUE 00 00109
007103	007107	A		
007104	001200	A	110 END1 JSS2 ENDO	00 00110
007105	007073	A		
007106	000007	A	111 HLT 7	ERROR--LDAI/JAN 00 00111
			112 *	00 00112
007107	134516	A	113 END2 ERA ONES	00 00113
007110	001004	A	114 JAN END3	00 00114
007111	007114	A		
007112	001010	A	115 JAZ ENE0	CONTINUE 00 00115
007113	007117	A		
007114	001200	A	116 END3 JSS2 ENDO	00 00116
007115	007073	A		
007116	000010	A	117 HLT 010	ERROR--LDAI/ERA/JAN 00 00117
			118 *	00 00118
			119 *	00 00119
			120 *	00 00120
007117	014506	A	121 ENE0 LDA ONES	00 00121
007120	054002	A	122 STA *+3	00 00122
007121	005001	A	123 TZA	00 00123
007122	006130	A	124 ERAI 1	(ALL ONES) 00 00124
007123	000001	A		
007124	001002	A	125 JAP ENE1	00 00125
007125	007131	A		
007126	134477	A	126 ERA ONES	00 00126
007127	001002	A	127 JAP ENF0	CONTINUE 00 00127
007130	007134	A		
007131	001200	A	128 ENE1 JSS2 ENE0	00 00128
007132	007117	A		
007133	000011	A	129 HLT 011	ERROR--ERAI/JAP 00 00129
			130 *	00 00130
			131 *	00 00131
			132 *	00 00132
007134	014471	A	133 ENF0 LDA ONES	00 00133
007135	054002	A	134 STA *+3	00 00134
007136	005002	A	135 TZA	00 00135
007137	006020	A	136 LDBI 1	(ALL ONES) 00 00136
007140	000001	A		
007141	005021	A	137 TBA	00 00137
007142	001002	A	138 JAP ENF1	00 00138
007143	007147	A		
007144	134461	A	139 ERA ONES	00 00139
007145	001010	A	140 JAZ ENGO	CONTINUE 00 00140
007146	007152	A		
007147	001200	A	141 ENF1 JSS2 ENF0	00 00141
007150	007134	A		
007151	000012	A	142 HLT 012	ERROR--LDBI/TBA 00 00142
			143 *	00 00143
			144 *	00 00144
			145 *	00 00145
007152	014453	A	146 ENGO LDA ONES	00 00146
007153	054002	A	147 STA *+3	00 00147
007154	005001	A	148 TZA	00 00148
007155	006030	A	149 LDXI 1	(ALL ONES) 00 00149
007156	000001	A		
007157	005041	A	150 TXA	00 00150
007160	001002	A	151 JAP ENG1	00 00151
007161	007165	A		
007162	134443	A	152 ERA ONES	00 00152
007163	001010	A	153 JAZ ENHO	CONTINUE 00 00153

		MAINTAIN III			PREL3C	PAGE 3
007164	007170	A				
007165	001200	A	154	ENG1	JSS2	ENG0
007166	007152	A				
007167	000013	A	155		HLT	013
			156	*		
			157	*		
			158	*		
007170	024434	A	159	ENH0	LDB	D125
007171	005024	A	160		TBX	
007172	001040	A	161		JXZ	ENH1
007173	007200	A				
007174	005041	A	162		TXA	
007175	134427	A	163		ERA	D125
007176	001010	A	164		JAZ	ENI0
007177	007203	A				
007200	001200	A	165	ENH1	JSS2	ENH0
007201	007170	A				
007202	000014	A	166		HLT	014
			167	*		
			168	*		
			169	*		
007203	014420	A	170	ENI0	LDA	D052
007204	134417	A	171		ERA	D052
007205	001010	A	172		JAZ	ENI1
007206	007212	A				
007207	001200	A	173		JSS2	ENI0
007210	007203	A				
007211	000015	A	174		HLT	015
			175	*		
007212	014412	A	176	ENI1	LDA	D125
007213	054413	A	177		STA	TS01
007214	005001	A	178		TZA	
007215	014411	A	179		LDA	TS01
007216	001010	A	180		JAZ	ENI2
007217	007223	A				
007220	134404	A	181		ERA	D125
007221	001010	A	182		JAZ	ENJ0
007222	007226	A				
007223	001200	A	183	ENI2	JSS2	ENI1
007224	007212	A				
007225	000016	A	184		HLT	016
			185	*		
			186	*		
			187	*		
007226	024375	A	188	ENJ0	LDB	D052
007227	064377	A	189		STB	TS01
007230	024376	A	190		LDB	TS01
007231	005021	A	191		TBA	
007232	134371	A	192		ERA	D052
007233	001010	A	193		JAZ	ENK0
007234	007240	A				
007235	001200	A	194		JSS2	ENJ0
007236	007226	A				
007237	000017	A	195		HLT	017
			196	*		
			197	*		
			198	*		
007240	034363	A	199	ENK0	LDX	D052
007241	074365	A	200		STX	TS01
007242	034364	A	201		LDX	TS01
007243	005041	A	202		TXA	
007244	134357	A	203		ERA	D052
007245	001010	A	204		JAZ	ENL0
007246	007252	A				
007247	001200	A	205		JSS2	ENK0
007250	007240	A				
007251	000020	A	206		HLT	020
			207	*		
			208	*		
			209	*		
007252	005111	A	210	ENL0	IAR	
007253	005001	A	211		TZA	
007254	005002	A	212		TZB	
007255	003010	A	213		XAZ	ENL0
007256	007252	A				
007257	006130	A	214		ERAI	1
007260	000001	A				
007261	001010	A	215		JAZ	ENL1
007262	007266	A				
007263	001200	A	216		JSS2	ENL0
007264	007252	A				
007265	000021	A	217		HLT	021
			218	*		
007266	014337	A	219	ENL1	LDA	DNES
007267	003020	A	220		XBZ	ENL0
007270	007252	A				
007271	001010	A	221		JAZ	ENM0
007272	007276	A				
007273	001200	A	222		JSS2	ENL0
007274	007252	A				
007275	000022	A	223		HLT	022
			224	*		
			225	*		
			226	*		
007276	007400	A	227	ENM0	ROF	

PAGE	4	MAINTAIN III	PREL3C
007277	001001	A 228 JDF ENM1	00 00228
007300	007304	A 229 SOF	00 00229
007301	007401	A 230 JDF ENM2	00 00230
007302	001001	A 231 ENM1 JSS2 ENM0	00 00231
007303	007307	A 232 HLT 023	ERROR--ROF/SOF/JDF 00 00232
007304	001200	A 233 *	00 00233
007305	007276	A 234 ENM2 ROF	00 00234
007306	000023	A 235 JDF ENM3	00 00235
007307	007400	A 236 JMP ENN0	CONTINUE 00 00236
007310	001001	A 237 ENM3 JSS2 ENM2	00 00237
007311	007314	A 238 HLT 024	ERROR--ROF/JDF/JMP 00 00238
007312	001000	A 239 *	00 00239
007313	007317	A 240 *	00 00240
007314	001200	A 241 *	00 00241
007315	007307	A 242 ENN0 LDA ONES	00 00242
007316	000024	A 243 JMPM ENN1	00 00243
007317	014306	A 244 JAZ END5	CONTINUE 00 00244
007320	002000	A 245 JSS2 ENN0	00 00245
007321	007331	A 246 HLT 025	ERROR--JMPM/JMP* 00 00246
007322	001010	A 247 JMP END5	00 00247
007323	007336	A 248 *	00 00248
007324	001200	A 249 ENN1 DATA 7	ENTR - NONZERO 00 00249
007325	007317	A 250 TZA	00 00250
007326	000025	A 251 JMP* ENN1	00 00251
007327	001000	A 252 HLT 026	ERROR--JMP* 00 00252
007330	007336	A 253 *	00 00253
007331	000007	A 254 ENN5 LDA D052	00 00254
007332	005001	A 255 LRLA 17	A=125252 00 00255
007333	001000	A 256 ERA D125	00 00256
007334	107331	A 257 JAZ END6	00 00257
007335	000026	A 258 JSS2 END5	00 00258
007336	014265	A 259 HLT 027	ERROR--LRLA 00 00259
007337	004261	A 260 *	00 00260
007340	134264	A 261 ENN6 TZA	00 00261
007341	001010	A 262 LDA D052	00 00262
007342	007346	A 263 LLSR 15	A=0 B=125252 00 00263
007343	001200	A 264 JAZ END7	00 00264
007344	007336	A 265 JSS2 END6	00 00265
007345	000027	A 266 HLT 030	ERROR--LLSR 00 00266
007346	005002	A 267 *	00 00267
007347	014254	A 268 ENN7 TZA	00 00268
007350	004557	A 269 ERA D125	00 00269
007351	001010	A 270 JAZ END8	CONTINUE 00 00270
007352	007356	A 271 JSS2 END6	00 00271
007353	001200	A 272 HLT 031	ERROR--LLSR 00 00272
007354	007346	A 273 *	00 00273
007355	000030	A 274 *	00 00274
007356	005021	A 275 ENN8 LLRL 15	A=052525 B=0 00 00275
007357	134245	A 276 ERA D052	00 00276
007360	001010	A 277 JAZ END9	00 00277
007361	007365	A 278 JSS2 END6	00 00278
007362	001200	A 279 HLT 032	ERROR--LLRL 00 00279
007363	007346	A 280 *	00 00280
007364	000031	A 281 ENN9 TZA	00 00281
007365	004457	A 282 JAZ ENP0	00 00282
007366	134235	A 283 JSS2 END6	00 00283
007367	001010	A 284 HLT 033	ERROR--LLRL 00 00284
007370	007374	A 285 *	00 00285
007371	001200	A 286 *	00 00286
007372	007346	A 287 *	00 00287
007373	000032	A 288 ENP0 LDA D001	00 00288
007374	005021	A 289 ADD ONES	00 00289
007375	001010	A 290 JAZ ENP1	OK 00 00290
007376	007402	A 291 JSS2 ENP0	00 00291
007377	001200	A 292 HLT 034	ERROR--ADD 00 00292
007400	007346	A 293 ENP1 ADDI 0177777	00 00293
007401	000033	A 294 DRAI 0177777	00 00294
007402	014220	A 295 ERAI 0177777	00 00295
007403	124222	A 296 JAZ ENQ0	CONTINUE 00 00296
007404	001010	A	
007405	007411	A	
007406	001200	A	
007407	007402	A	
007410	000034	A	
007411	006120	A	
007412	177777	A	
007413	006110	A	
007414	177777	A	
007415	006130	A	
007416	177777	A	
007417	001010	A	

MAINTAIN III

PREL3C

007420	007424	A									
007421	001200	A	297	JSS2	ENP0					00	00297
007422	007402	A									
007423	000035	A	298	HLT	035		ERROR--ADDI/DRAI			00	00298
			299	*						00	00299
			300	*						00	00300
007424	014177	A	301	ENQ0	LDA	D052	CONSTANT=052525			00	00301
007425	144176	A	302		SUB	D052				00	00302
007426	001010	A	303		JAZ	ENR0	CONTINUE			00	00303
007427	007433	A									
007430	001200	A	304	JSS2	ENQ0					00	00304
007431	007424	A									
007432	000036	A	305	HLT	036		ERROR--SUB			00	00305
			306	*						00	00306
			307	*						00	00307
			308	*						00	00308
007433	005001	A	309	ENR0	TZA					00	00309
007434	054172	A	310		STA	TS01				00	00310
007435	014171	A	311		LDA	TS01				00	00311
007436	005000	A	312		NOP					00	00312
007437	001010	A	313		JAZ	ENS0				00	00313
007440	007444	A									
007441	001200	A	314	JSS2	ENR0					00	00314
007442	007433	A									
007443	000037	A	315	HLT	037		ERROR--NOP			00	00315
			316	*						00	00316
			317	*						00	00317
			318	*						00	00318
007444	014161	A	319	ENS0	LDA	ONES				00	00319
007445	024160	A	320		LDB	ONES				00	00320
007446	005103	A	321		INCR	03				00	00321
007447	005311	A	322		DAR					00	00322
007450	005322	A	323		DBR					00	00323
007451	001010	A	324		JAZ	ENS2				00	00324
007452	007460	A									
007453	001200	A	325	ENS1	JSS2	ENS0				00	00325
007454	007444	A									
007455	000040	A	326	HLT	040		ERROR--INCR 03			00	00326
007456	001000	A	327		JMP	ENT0				00	00327
007457	007464	A									
007460	001020	A	328	ENS2	JBZ	ENT0				00	00328
007461	007464	A									
007462	001000	A	329		JMP	ENS1				00	00329
007463	007453	A									
			330	*						00	00330
			331	*						00	00331
			332	*						00	00332
007464	005002	A	333	ENT0	TZB					00	00333
007465	005302	A	334		DECR	02				00	00334
007466	005021	A	335		TBA					00	00335
007467	134136	A	336		ERA	ONES				00	00336
007470	001010	A	337		JAZ	ENU0				00	00337
007471	007475	A									
007472	001200	A	338	JSS2	ENT0					00	00338
007473	007464	A									
007474	000041	A	339	HLT	041		ERROR--DECR 02			00	00339
			340	*						00	00340
			341	*						00	00341
			342	*						00	00342
007475	005103	A	343	ENU0	INCR	03				00	00343
007476	005122	A	344		IBR					00	00344
007477	005032	A	345		MERG	032				00	00345
007500	005021	A	346		TBA					00	00346
007501	006130	A	347		ERAI	03				00	00347
007502	000003	A									
007503	001010	A	348		JAZ	ENV0				00	00348
007504	007510	A									
007505	001200	A	349	JSS2	ENU0					00	00349
007506	007475	A									
007507	000042	A	350	HLT	042		ERROR--MERG 032			00	00350
			351	*						00	00351
			352	*						00	00352
			353	*						00	00353
007510	006010	A	354	ENV0	LDAI	0100				00	00354
007511	000100	A									
007512	004346	A	355		LSRA	6				00	00355
007513	005311	A	356		DAR					00	00356
007514	001010	A	357		JAZ	ENV0				00	00357
007515	007521	A									
007516	001200	A	358	JSS2	ENV0					00	00358
007517	007510	A									
007520	000043	A	359	HLT	043		ERROR--LSRA 6			00	00359
			360	*						00	00360
			361	*						00	00361
			362	*						00	00362
007521	006030	A	363	ENV0	LDXI	D125				00	00363
007522	007625	A									
007523	005001	A	364		TZA					00	00364
007524	015000	A	365		LDA	0,1				00	00365
007525	134077	A	366		ERA	D125				00	00366
007526	001010	A	367		JAZ	ENV0				00	00367
007527	007533	A									
007530	001200	A	368	JSS2	ENV0					00	00368
007531	007521	A									
007532	000044	A	369	HLT	044		ERROR--LDA 0,1			00	00369

007533	005001	A	370	*				00	00370
007534	054072	A	371	*				00	00371
007535	006030	A	372	*				00	00372
007536	007627	A	373	ENX0	TZA			00	00373
007537	014065	A	374		STA	TS01		00	00374
007540	055000	A	375		LDXI	TS01		00	00375
007541	134065	A	376		LDA	D125		00	00376
007542	001010	A	377		STA	0,1		00	00377
007543	007547	A	378		ERA	TS01		00	00378
007544	001200	A	379		JAZ	ENY0		00	00379
007545	007533	A	380		JSS2	ENX0		00	00380
007546	000045	A	381		HLT	045	ERROR--STA 0,1	00	00381
			382	*				00	00382
			383	*				00	00383
			384	*				00	00384
007547	014056	A	385	ENY0	LDA	DNES		00	00385
007550	006150	A	386		ANAI	0125252		00	00386
007551	125252	A							
007552	134052	A	387		ERA	D125		00	00387
007553	001010	A	388		JAZ	ENZ0		00	00388
007554	007560	A							
007555	001200	A	389		JSS2	ENY0		00	00389
007556	007547	A							
007557	000046	A	390		HLT	046	ERROR--ANAI	00	00390
			391	*				00	00391
			392	*				00	00392
			393	*				00	00393
007560	014044	A	394	ENZ0	LDA	D125		00	00394
007561	006050	A	395		STAI	01		00	00395
007562	000001	A							
007563	006030	A	396		LDXI	*-1		00	00396
007564	007562	A							
007565	015000	A	397		LDA	0,1		00	00397
007566	134036	A	398		ERA	D125		00	00398
007567	001010	A	399		JAZ	EN10		00	00399
007570	007574	A							
007571	001200	A	400		JSS2	ENZ0		00	00400
007572	007560	A							
007573	000047	A	401		HLT	047	ERROR--STAI	00	00401
			402	*				00	00402
			403	*				00	00403
			404	*				00	00404
007574	005003	A	405	EN10	MERG	03		00	00405
007575	003022	A	406		XIF	022,EN11		00	00406
007576	007604	A							
007577	001004	A	407		JAN	EN20		00	00407
007600	007605	A							
007601	001200	A	408		JSS2	EN10		00	00408
007602	007574	A							
007603	000050	A	409		HLT	050	ERROR--XIF 022	00	00409
007604	005311	A	410	EN11	DAR			00	00410
			411	*				00	00411
			412	*				00	00412
			413	*				00	00413
007605	005001	A	414	EN20	TZA			00	00414
007606	007401	A	415		SDF			00	00415
007607	001011	A	416		JIF	011,EN22		00	00416
007610	007616	A							
007611	001200	A	417	EN21	JSS2	EN20		00	00417
007612	007605	A							
007613	000051	A	418		HLT	051	ERROR--JIF 011	00	00418
007614	001000	A	419		JMP	EMEM		00	00419
007615	007630	A							
007616	007400	A	420	EN22	RDF			00	00420
007617	001011	A	421		JIF	011,EN21		00	00421
007620	007611	A							
007621	001000	A	422		JMP	EMEM	START OF PRELIMINARY MEMORY TEST	00	00422
007622	007630	A							
			423	*				00	00423
			424	*				00	00424
			425	*				00	00425
			426	*		DATA TABLE		00	00426
			427	*				00	00427
007623	000001	A	428	D001	DATA	1		00	00428
007624	052525	A	429	D052	DATA	052525		00	00429
007625	125252	A	430	D125	DATA	0125252		00	00430
007626	000001	A	431	DNES	DATA	1		00	00431
007627	000007	A	432	TS01	DATA	7	WILL BE MADE ALL ONES TEMP. STORAGE. 7 FOR NON-ZERO BOOTSTRAP FORMAT	00	00432
			433	*				00	00433
			434	*				00	00434
			435	*		PRELIMINARY MEMORY TEST		00	00435
			436	*				00	00436
			437	*		TESTS LOCS. EMDB - 017777 WITH 052525 AND 0125252 PATTERNS		00	00437
			438	*		ORIGINAL CONTENTS ARE SAVED AND RESTORED.		00	00438
			439	*				00	00439
007630	006030	A	440	EMEM	LDXI	MEM2+2	START OF TEST ROUTINE	00	00440
007631	007645	A							
007632	005002	A	441		TZB		TARGET LOCATION	00	00441
007633	015000	A	442	MEM1	LDA	0,1		00	00442
007634	056000	A	443		STA	0,2		00	00443
007635	005144	A	444		IXR			00	00444
007636	005123	A	445		INCR	023		00	00445


```

1
2 *
3 *
4 *   V.D.M. PART NO.
5 *
6 *
7 *
8 *   70/620 TEST EXECUTIVE-PRELIM. TESTS
9 *   AND MAGNETIC TAPE LOADER
10 *
11 *
12 *   *****
13 *   * * * * *
14 *   * * * * *
15 *   * * * * *
16 *   * * * * *
17 *   * * * * *
18 *
19 *
20 *   THIS LISTING CONTAINS A PRELIMINARY INSTRUCTION TEST AND A
21 *   PRELIMINARY MEMORY TEST FOR THE 70/620 COMPUTER.
22 *
23 *   INSTRUCTION TEST
24 *   ONLY A BASIC SET OF INSTRUCTIONS ARE TESTED TO GAIN CONFIDENCE
25 *   THAT STANDARD TEST PROGRAMS CAN BE LOADED.
26 *   MOST OF THE SUBTESTS BUILT FROM PRECEDING SUBTESTS AND ASSUME
27 *   THAT THE INSTRUCTIONS USED PREVIOUSLY ARE WORKING.
28 *
29 *   MEMORY TEST
30 *   LOCATIONS EMDB - 017777 ARE EXERCISED WITH THE
31 *   ORIGINAL CONTENTS RESTORED. LOCATIONS 0 - EMDB
32 *   ARE DESTROYED BY THE MEMORY TEST ROUTINE.
33 *
34 *   SWITCHES
35 *   USE SS2 TO LOOP ON ERROR AFTER HALT
36 *   USE SS3 TO LOOP ON BOTH PRELIMINARY TESTS
37 *
38 *   LOADER
39 *   THE BINARY LOADER WILL ADAPT TO THE BOOTSTRAP
40 *   AND LOAD/EXEC THE NEXT PROGRAM.
41 *
42 *
43 *
44 *
45 *
46 *
47 *
48 *
49 *
50 *
51 *
52 *   INSTRUCTION TEST
53 *
54 *   007000   ORG      07000   ORIGIN FOR ABL
55 *
56 *   007000 001000 A   56   JMP      *+2
57 *   007001 007002 A   57 ENST  TZA
58 *   007002 005001 A   58   JAZ      ENA1
59 *   007003 001010 A   59 ENA0  JSS2   ENST
60 *   007004 007012 A
61 *   007005 001200 A   60   HLT      01      ERROR--TZA/DAR/JAZ/JAN
62 *   007006 007002 A   61   JMP      ENB0
63 *   007007 000001 A
64 *   007010 001000 A   62 ENA1  DAR
65 *   007011 007027 A   63   STA      ONES
66 *   007012 005311 A   64   JAN      ENA2
67 *   007013 054612 A
68 *   007014 001004 A   65   JMP      ENA0
69 *   007015 007020 A
70 *   007016 001000 A   66 ENA2  LDA      ONES
71 *   007017 007005 A   67   IAR
72 *   007020 014605 A   68   JAZ      ENB0
73 *   007021 005111 A
74 *   007022 001010 A   69   JSS2   ENA2
75 *   007023 007027 A
76 *   007024 001200 A   70   HLT      02      ERROR--LDA/IAR/STA
77 *   007025 007020 A
78 *   007026 000002 A   71 *
79 *   007027 024576 A   72 *
80 *   007030 001020 A   73 *
81 *   007031 007035 A   74 ENB0  LDB      ONES
82 *   007032 005002 A   75   JBZ      ENB1
83 *   007033 001020 A
84 *   007034 007040 A   76   TZB
85 *   007035 001200 A   77   JBZ      ENB2
86 *   007036 007027 A   78 ENB1  JSS2   ENB0
87 *   007037 000003 A   79   HLT      3      ERROR--LDB/JBZ/TZB
88 *   007040 005122 A   80 ENB2  IBR
89 *   007041 001020 A   81   JBZ      ENB3
90 *   007042 007046 A
91 *   007043 005322 A   82   DBR
92 *   007044 001020 A   83   JBZ      ENCO

```



```

PAGE      8           MAINTAIN III           PREL3MT
007763 001000 A 519      JMP      RMT+2      READ ANOTHER RECORD      00 00519
007764 007737 A           RMT2      JMP*     MTBF+1      -EXECUTE-                00 00520
007765 001000 A           *           MAG TAPE INPUT            00 00521
007766 110015 A           521 *           DATA 1                   00 00522
007767 000001 A           522 MTI      LDX   BUFR      BUFFER ADDRESS          00 00523
007770 034015 A           523          SEL   010      READ BIN                00 00524
007771 100010 A           524          SEN   0110,MTI2  BFR RDY                00 00525
007772 101110 A           525          SEN*  0210,MTI                00 00526
007773 010000 A           526          JMP   MTI1      LOOP                  00 00527
007774 101210 A           527          CIA   010      INPUT                   00 00528
007775 107767 A           528 MTI2     STA   0,1      STORE                   00 00529
007776 001000 A           529          IXR                   COUNT                   00 00530
007777 007772 A           530          JMP   MTI1                00 00531
010000 102510 A           531          DATA 1                    00 00532
010001 055000 A           532 CNTR     DATA MTBF                    00 00533
010002 005144 A           533 BUFR     DATA MTI1-1,MTI1,MTI1+2,MTI2,0 00 00534
010003 001000 A           534 MT00
010004 007772 A           535 ELDR    EQU   *                00 00535
010005 000001 A           536 MTBF    EQU   *                00 00536
010006 010014 A           537          EJEC                    00 00537
010007 007771 A           538 DUMP    LDXI  07001           00 00538
010008 007772 A           539          EXC2  0110           00 00539
010009 007774 A           540          EXC   0210           00 00540
010010 010000 A           541 D1     SEN   0110,D2          00 00541
010011 007774 A           542 JMP     JMP   D1                00 00542
010012 010000 A           543 D2     LDA   0,1                00 00543
010013 000000 A           544          DAR   010             00 00544
010014 006030 A           545          INCR  045             00 00545
010015 007001 A           546          SUBI  DUMP            00 00546
010016 104110 A           547          JANZ  D1                00 00547
010017 100210 A           548          HLT                                     00 00548
010018 101110 A           549 *
010019 010020 A           550          END   DUMP            00 00549
010020 000000 A           551

```

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

```

007711 A BEGIN 010006 A BUFR 010005 A CNTR 007623 A D001
007624 A D052 010020 A D1 007625 A D125 010024 A D2
010014 A DUMP 010014 A ELDR 000043 A EMDB 000042 A EMDC
000002 A EME1 000004 A EME2 000006 A EME3 000035 A EME4
007630 A EMEM 000000 A EMTS 007574 A EN10 007604 A EN11
007605 A EN20 007611 A EN21 007616 A EN22 007005 A ENA0
007012 A ENA1 007020 A ENA2 007027 A ENB0 007035 A ENB1
007040 A ENB2 007046 A ENB3 007051 A ENC0 007057 A ENC1
007062 A ENC2 007070 A ENC3 007073 A END0 007104 A END1
007107 A END2 007114 A END3 007117 A ENE0 007131 A ENE1
007134 A ENF0 007147 A ENF1 007152 A ENG0 007165 A ENG1
007170 A ENH0 007200 A ENH1 007203 A ENI0 007212 A ENI1
007223 A ENI2 007226 A ENJ0 007240 A ENK0 007252 A ENL0
007266 A ENL1 007276 A ENM0 007304 A ENM1 007307 A ENM2
007314 A ENM3 007317 A ENN0 007331 A ENN1 007336 A ENO5
007346 A END6 007356 A END7 007365 A END8 007374 A END9
007402 A ENP0 007411 A ENP1 007424 A ENQ0 007433 A ENR0
007444 A ENS0 007453 A ENS1 007460 A ENS2 007002 A ENST
007464 A ENT0 007475 A ENU0 007510 A ENV0 007521 A ENW0
007533 A ENX0 007547 A ENY0 007560 A ENZ0 010022 A JMP
007733 A LDAM 007633 A MEM1 007643 A MEM2 010007 A MT00
010014 A MTBF 000213 A MTDA 007767 A MTI 007772 A MTI1
010000 A MTI2 000474 A OADR 007626 A ONES 007735 A RMT
007752 A RMT1 007765 A RMT2 007717 A SET 007627 A TS01

```

0 ERRORS ASSEMBLY COMPLETE

LITERALS
POINTERS

```

1
485 BEGIN 470
533 BUFR 507 523
532 CNTR 504 513 514
428 D001 288
429 D052 170 171 188 192 199 203 254 262 276
301 302
541 D1 542 547
430 D125 159 163 176 181 256 269 363 366 376
387 394 398
543 D2 541
538 DUMP 546 550
535 ELDR *
476 EMDB 446 452 471 477
475 EMDC 455 459 472
452 EME1 474
453 EME2 467
455 EME3 461

```


