

43

vidian data machine
00 000041
00 000050 4230

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 *	* AREAS RESERVED BY EXECUTIVE *	00 00055
56 *	*****	00 00056
57 *	ORG 0	00 00057
58 *	JMP EXECUTIVE	00 00058
59 *	ORG 040	00 00059
60 *	JMPM POWER DOWN ROUTINE	00 00060
61 *	JMP POWER UP ROUTINE	00 00061
62 *	NOTE: THE TEST EXECUTIVE ALSO RESERVES LOCATIONS 0400 TO 0477	00 00062
63 *	FOR A POINTER TABLE TO STANDARD ROUTINES, AND AS AN AREA	00 00063
64 *	FOR EXECUTIVE DATA. ALL TEST PROGRAMS WORKING WITH THE	00 00064
65 *	EXECUTIVE MUST PRESERVE THIS BLOCK.	00 00065
66 *	STANDARD ROUTINES WILL BE CALLED INDIRECTLY THRU	00 00066
67 *	THIS TABLE	00 00067
68 *		00 00068
69 *	*****	00 00069
70 *		*00 00070
71 *	*****	00 00071
72 *		00 00072
73 *	THE STARTING ADDRESS OF THE EXECUTIVE IS 07000	00 00073
74 *		00 00074
75 *	*****	00 00075
000000	76 ORG 0	00 00076
000000 001000 A	77 JMP ETUP 620/P CONSOLE INTERRUPT ENTRANCE	00 00077
000001 006221 A		
000040	78 ORG 040	00 00078
000040 002000 A	79 JMPM PWDN POWER DOWN	00 00079
000041 006358 A		
000042 001000 A	80 JMP PWRU POWER UP	00 00080
000043 006370 A		
81 *		00 00081



000400		82	ORG	0400		00 00082
		83 *				00 00083
		84 *	POINTER TABLE FOR EXEC STANDARD ROUTINES AND DATA			00 00084
		85 *	TEST PROGRAMS USING EXECUTIVE ROUTINES WILL CALL THEM			00 00085
		86 *	INDIRECTLY THRU THIS TABLE			00 00085
		87 *				00 00087
		88 *				00 00088
		89 *				00 00089
000400	007334	A	90 EX00	DATA	OUTA	00 00090
000401	007371	A	91 EX01	DATA	OUTB	00 00091
000402	007404	A	92 EX02	DATA	OUTC	00 00092
000403	007445	A	93 EX03	DATA	OUTD	00 00093
000404	007416	A	94 EX04	DATA	OUTE	00 00094
000405	007456	A	95 EX05	DATA	OUTF	00 00095
000406	007475	A	96 EX06	DATA	OUTG	00 00096
000407	007522	A	97 EX07	DATA	OUTH	00 00097
000410	006737	A	98 EX10	DATA	INPA	00 00098
000411	006753	A	99 EX11	DATA	INPB	00 00099
000412	007033	A	100 EX12	DATA	INPC	00 00100
000413	007067	A	101 EX13	DATA	INPD	00 00101
000414	007130	A	102 EX14	DATA	INPE	00 00102
000415	007170	A	103 EX15	DATA	INPF	00 00103
000416	007250	A	104 EX16	DATA	INPG	00 00104
000417	007543	A	105 EX17	DATA	TOUT	00 00105
000420	007527	A	106 EX20	DATA	TDLY	00 00105
000421	006720	A	107 EX21	DATA	SSWT	00 00107
000422	005100	A	108 EX26	DATA	ELOC	00 00108
000423	006161	A	109 EX27	DATA	ESZC	00 00109
000424	006447	A	110 EX30	DATA	MSG3	00 00110
000425	007317	A	111 EX31	DATA	INPH	00 00111
000426	007331	A	112 EX32	DATA	INPI	00 00112
		113 *				00 00113
		114 *				00 00114
		115 *				00 00115
000440		116	ORG	0440		00 00116
		117 *				00 00117
		118 *	EXECUTIVE DATA TABLE			00 00118
		119 *				00 00119
000440	000000	A	120 \$FLG	DATA	0	00 00120
000441	000000	A	121 \$MEM	DATA	0	00 00121
000442	000000	A	122 \$CON	DATA	0	00 00122
		123 *				00 00123

LOOP ON ERROR FLAG. 0=DON'T LOOP 1=LOOP
 MEMORY SIZE (HIGHEST AVAIL CORE)
 0=CONSOLE MODE 1=TTY MODE

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000443	000000	A	124	EAR1	DATA	0	PSEUDO A REG	00	00124
000444	000000	A	125	EBR1	DATA	0	PSEUDO B REG	00	00125
000445	000000	A	126	EXR1	DATA	0	PSEUDO X REG	00	00126
000446			127	ET81	BSS	6	TEMPORARY STORAGE	00	00127
000454	000240	A	128	EK00	DATA	0240	ASCII BLANK (SPACE)	00	00128
000455	000215	A	129	EK01	DATA	0215	ASCII CARRIAGE RETURN	00	00129
000456	000212	A	130	EK02	DATA	0212	ASCII LINE FEED	00	00130
000457	000040	A	131	K40	DATA	040		00	00131
000460	000100	A	132	K100	DATA	0100		00	00132
000461	000200	A	133	K200	DATA	0200		00	00133
000462			134	FRST	BSS	1	INITIAL PUNCH ADDRESS	00	00134
000463			135	LAST	BSS	1	LAST PUNCH ADDRESS	00	00135
000464	000000	A	136	CKSM	DATA	0	CHECKSUM	00	00136
000465	000000	A	137	EXEC	DATA	0	EXECUTION ADDRESS	00	00137
000466	000224	A	138	TAPN	DATA	0224	PUNCH OFF CODE	00	00138
000467	000222	A	139	TAPE	DATA	0222	PUNCH ON CODE	00	00139
000470	007630	A	140	LOAD	DATA	07630	ADDRS FOR BINARY LOADER	00	00140
000471	000000	A	141	TS04	DATA	0	DIGIT COUNTER FOR INPG	00	00141
000472	000000	A	142	PWRK	DATA	0	POWER FAIL COUNTER	D	*****
			143	*				00	00142
			144	*				00	00143
			145	*				00	00144
			146	*				00	00145
			147	*****				00	00146
			148	*				00	00147
005100			149		ORG	05100		00	00148
			150	*				00	00149
			151	*****				00	00150
			152	*				00	00151
			153	*				00	00152
			154	*				00	00153
			155	*				00	00154
005100	A		156	ELOC	EQU	*	LOWEST CORE LOCATION USED BY THE EXEC	00	00155
			157	*				00	00156
			158	*	EPUN--PUNCH A PROGRAM TAPE ON THE TTY PUNCH			00	00157
			159	*	BEGINNING, ENDING, AND EXECUTION ADDRESSES			00	00158
			160	*	ARE SPECIFIED BY USER			00	00159
			161	*				00	00160
			162	*				00	00161
			163	*				00	00162
007577	A		164	BLSA	SET	07577	BINARY LOADER START ADDRS	00	00163
007755	A		165	BLEA	SET	07755	BINARY LOADER END ADDRS	00	00164



005100	005304	A	166 *					00 00165
005101	070450	A	167	EPUN	DECR	04	PRESET EXEC ADDRS TO -1	00 00166
005102	006020	A	168		STX	ETS1+2		00 00167
005103	000446	A	169		LOBI	ETS1	ADDRES FOR STORING INPUT PARAMETERS	00 00168
005104	002000	A	170		CALL	INPG	INPUT OCTAL PARAMETER	00 00169
005105	007250	A						
005106	001000	A	171		JMP	ETOP	TERMINATION EXIT VIA SS3	00 00170
005107	006221	A						
005110	001000	A	172		JMP	ETOP	ABORT	00 00171
005111	006221	A						
005112	001000	A	173		JMP	EPUI	COMMA EXIT--GET NEXT PARAMETER	00 00172
005113	005125	A						
			174 *	NORMAL RETURN FROM INPG				00 00173
005114	050000	A	175		STA	0,2		00 00174
005115	010446	A	176		LOA	ETS1	BEGINNING PUNCH ADDRESS	00 00175
005116	020447	A	177		LOB	ETS1+1	ENDING PUNCH ADDRESS	00 00176
005117	030450	A	178		LOX	ETS1+2	EXEC ADDRS	00 00177
005120	007401	A	179		SQF			00 00178
005121	002000	A	180		CALL	DUMP		00 00179
005122	005237	A						
005123	001000	A	181		JMP	ETOP	RETURN TO EXEC SUPERVISOR	00 00180
005124	006221	A						
			182 *					00 00181
005125	056000	A	183	EPUI	STA	0,2		00 00182
005126	005021	A	184		TBA			00 00183
005127	006140	A	185		SUBI	ETS1+2		00 00184
005130	000450	A						
005131	001010	A	186		JAZ	EXIT	ERROR--TOO MANY INPUTS	00 00185
005132	006323	A						
005133	005122	A	187		TBR			00 00186
005134	001000	A	188		JMP	EPUN+4	GET NEXT PARAMETER	00 00187
005135	005104	A						
			189 *					00 00188
005136	006010	A	190	ERPUN	LOAI	BLSA	FIRST = BIN LOAD START ADDRS (PRESET)	00 00189
005137	007577	A						
005140	050446	A	191		STA	ETS1		00 00190
005141	006010	A	192		LOAI	BLEA	LAST = BIN LOAD END ADDRS (PRESET)	00 00191
005142	007755	A						
005143	000447	A	193		STA	ETS1+1		00 00192
005144	006020	A	194		LOBI	ETS1	ADDRES FOR STORING INPUT PARAMETERS	00 00193
005145	000446	A						00 00194

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005146	002000	A	195	CALL	INPG	INPUT OCTAL PARAMETERS	00 00194
005147	007250	A					
005150	001000	A	196	JMP	ETOP	SS3 EXIT	00 00195
005151	006221	A					
005152	001000	A	197	JMP	ETOP	ABORT EXIT	00 00196
005153	006221	A					
005154	001000	A	198	JMP	EBP1	, EXIT	00 00197
005155	005172	A					
005156	005014	A	199	TAX		SAVE INPUT (, EXIT)	00 00198
005157	010471	A	200	LDA	TS04	NUMBER INPUTED?	00 00199
005160	001010	A	201	JAZ	**3	NO	00 00200
005161	005163	A					
005162	076000	A	202	STX	0,2	YES, PUT INTO PARAMETER LIST	00 00201
005163	010446	A	203	LDA	ETS1	BINARY START ADDRS	00 00202
005164	020447	A	204	LOB	ETS1+1	BINARY END ADDRS	00 00203
005165	007400	A	205	ROP		SET BINARY DUMP INDICATOR	00 00204
005166	002000	A	206	CALL	DUMP	DUMP	00 00205
005167	005237	A					
005170	001000	A	207	JMP	ETOP	RETURN TO EXEC SUPERVISOR	00 00206
005171	006221	A					
005172	056000	A	208	EBP1 STA	0,2	STORE PARAMETER	00 00207
005173	005021	A	209	TBA		TOO MANY ?	00 00208
005174	006140	A	210	SUBI	ETS1+1		00 00209
005175	000447	A					
005176	001010	A	211	JAZ	EXIT	YES	00 00210
005177	005323	A					
005200	005122	A	212	IOR		NO	00 00211
005201	001000	A	213	JMP	EBPN+8	GET NEXT	00 00212
005202	005146	A					
			214 *				00 00213
			215 *				00 00214
			216 *				00 00215
			217 *		CONSOLE BOOTSTRAP DUMP DRIVER		00 00216
			218 *				00 00217
005203	007400	A	219	ROP		SET BOOTSTRAP FLAG	00 00218
005204	002000	A	220	CALL	DUMP	DUMP BOOTSTRAP	00 00219
005205	005237	A					
			221 *				00 00220
			222 *		CONSOLE PROGRAM DUMP DRIVER		00 00221
			223 *				00 00222
005206	000007	A	224	DHLT	HLT	7	00 00223
005207	007401	A	225	SOP		OPERATOR SETS REGISTERS SET PROGRAM FLAG	00 00224



005210	002000	A	226	CALL	DUMP	DUMP PROGRAM TAPF	00 00225
005211	005237	A					
005212	001000	A	227	JMP	DHLT	HALT FOR OPERATOR	00 00225
005213	005205	A					
			228	*			00 00227
			229	*	BINARY DUMP ROUTINE		00 00228
			230	*			00 00229
005214	010463	A	231	EDR	LOA	LAST	*END OF RCD
005215	001010	A	232		JAZ	PQFF=2	(BOOTSTRAP DUMP)
005216	005224	A					
005217	010464	A	233		LOA	CKSM	
005220	002000	A	234		CALL	PWRD	PUNCH CHECKSUM
005221	005342	A					
005222	001001	A	235		JOF	PRCD	(NOT EXEC RCD)
005223	005270	A					
005224	002000	A	236		CALL	PLDR	PUNCH TRAILER
005225	005370	A					
005226	002000	A	237	PQFF	CALL	OUTH,0224	TURN PUNCH OFF
005227	007522	A					
005230	000224	A					
005231	002000	A	238		CALL	OUTH,0201	PRINT ENABLE
005232	007522	A					
005233	000201	A					
005234	010462	A	239		LOA	FRST	RESTORE REGISTERS
005235	020463	A	240		LOB	LAST	
005236	001000	A	241		JMP	*	RETURN
005237	005236	A					
005237			242	DUMP	BES	0	*ENTRY POINT
005240	050462	A	243		STA	FRST	SAVE REGISTERS
005241	060463	A	244		STB	LAST	
005242	070465	A	245		STX	EXEC	
005243	005014	A	246		TAX		SET LOAD ADDR
005244	002000	A	247		CALL	OUTH,0203	PRINT OFF
005245	007522	A					
005246	000203	A					
005247	002000	A	248		CALL	OUTH,0222	TURN PUNCH ON
005250	007522	A					
005251	000222	A					
005252	002000	A	249		CALL	PLDR	PUNCH LEADER
005253	005370	A					
005254	060464	A	250		STB	CKSM	RESET CHECKSUM
005255	091001	A	251		JOF	PRCD	(PROGRAM DUMP)



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005330	005342	A						
005331	001020	A	284	JBZ	EOR	(END OF RCD)		00 00283
005332	005214	A						
005333	005322	A	285	DBR		COUNT DOWN		00 00284
005334	015000	A	286	PBDDT	LOA	0,1	GET DATA	00 00285
005335	005144	A	287		IXR		SET NEXT ADDR	00 00286
005336	001000	A	288		JMP	PDATA		00 00287
005337	005327	A						
			289	*				00 00288
			290	*	CHECKSUM AND PUNCH BINARY WORD			00 00289
			291	*				00 00290
005340	020445	A	292	PWR1	LOB	ETS1		00 00291
005341	001000	A	293		JMP	*	RETURN	00 00292
005342	005341	A						
	005342	A	294	PWR0	EQU	*=1	ENTRY POINT	00 00293
005343	050445	A	295		STR	ETS1		00 00294
005344	005012	A	296		TAB			00 00295
005345	130464	A	297		ERA	CKSM	CALCULATE CHECKSUM	00 00296
005346	050464	A	298		STA	CKSM		00 00297
005347	005021	A	299		TBA			00 00298
005350	005302	A	300		DECR	2		00 00299
005351	004022	A	301		ASLB	18	B = MAX NEGATIVE NUMBER	00 00300
005352	004554	A	302		LLSR	12	SHIFT IN FIRST SIX BITS	00 00301
005353	130457	A	303	PWR2	ERA	K40	ENDOC	00 00302
005354	120457	A	304		ADD	K40		00 00303
005355	001400	A	305		JSS3	ETOP	SS3 EXIT	00 00304
005356	006221	A						
005357	002000	A	306		CALL	OUTA	OUTPUT ONE CHAR	00 00305
005360	007334	A						
005361	005001	A	307		TZA			00 00306
005362	004443	A	308		LLRL	6	SHIFT IN NEXT SIX BITS	00 00307
005363	001020	A	309		JBZ	PWR1	ALL FINISHED	00 00308
005364	005340	A						
005365	001000	A	310		JMP	PWR2		00 00309
005366	005353	A						
005367	005000	A	311		NOP			00 00310
			312	*				00 00311
			313	*	PUNCH LEADER/TRAILER NULLS			00 00312
			314	*				00 00313
005370	000000	A	315	PLUR	ENTR	0		00 00314
005371	020461	A	316		LOB	K200	SET FOR APPROX 12 INCHES	00 00315
005372	010461	A	317		LOA	K200	ASCII NULL	00 00316

005373	002000	A	318	PLD1	CALL	OUTA	PUNCH ONE CHAR	00	00317
005374	007334	A							
005375	001020	A	319		JBZ*	PLDR		00	00318
005376	105370	A							
005377	005322	A	320		OBR		COUNT	00	00319
005400	001400	A	321		JSS3	ETOP	SS3 EXIT	00	00320
005401	006221	A							
005402	001000	A	322		JMP	PLD1		00	00321
005403	005373	A							
			323	*				00	00322
			324	*				00	00323
			325	*				00	00324
			326	*				00	00325
			327	*	INIT--INITIALIZE MEMORY.			00	00326
			328	*	X=START ADDRESS			00	00327
			329	*	Y=FINAL ADDRESS			00	00328
			330	*	Z=INITIALIZING VALUE			00	00329
			331	*				00	00330
			332	*	FORMAT: IX,Y,Z.			00	00331
			333	*				00	00332
			334	*				00	00333
005404	006020	A	335	INIT	LOBI	ETS1	ADDRESS FOR STORING INPUT PARAMETERS	00	00334
005405	000446	A							
005406	002000	A	336		CALL	INPG	GET OCTAL PARAMETER	00	00335
005407	007250	A							
005410	001000	A	337		JMP	ETOP	TERMINATION EXIT VIA SS3	00	00336
005411	006221	A							
005412	001000	A	338		JMP	ETOP	ABORT	00	00337
005413	006221	A							
005414	001000	A	339		JMP	INI3	COMMA EXIT--GET NEXT PARAMETER	00	00338
005415	005444	A							
			340	*	NORMAL RETURN FROM INPG--A REG CONTAINS THIRD PARAMETER			00	00339
005416	030446	A	341		LOX	ETS1	START ADDRESS	00	00340
005417	050452	A	342		STA	ETS1+4	SAVE INITIALIZING VALUE	00	00341
005420	005021	A	343		T8A		TEST NO. PARAMETERS	00	00342
005421	006140	A	344		SUBI	ETS1+2	*	00	00343
005422	000450	A							
005423	001010	A	345		JAZ	**4	*	00	00344
005424	005427	A							
005425	001000	A	346		JMP	EXIT	*	00	00345
005426	006323	A							
005427	010447	A	347		LOA	ETS1+1	TEST PARAMETER	00	00346



005430	140446	A	348		SUB	ETS1	RANGE	00	00347
005431	001004	A	349		JAN	EXIT	***	00	00348
005432	006323	A							
005433	010452	A	350	INI2	LOA	ETS1+4	STORE VALUE Z	00	00349
005434	055000	A	351		STA	0,1		00	00350
005435	005041	A	352		TXA			00	00351
005436	140447	A	353		SUB	ETS1+1	FINAL ADDRESS	00	00352
005437	001010	A	354		JAZ	ETOP	YES	00	00353
005440	006221	A							
005441	005144	A	355		IXR			00	00354
005442	001000	A	356		JMP	INI2	STORE Z AT NEXT LOCATION	00	00355
005443	005433	A							
			357	*				00	00356
005444	056000	A	358	INI3	STA	0,2	SAVE INPUT PARAMETER	00	00357
005445	005122	A	359		IBR			00	00358
005446	001000	A	360		JMP	INIT+2	GET NEXT PARAMETER	00	00359
005447	005406	A							
			361	*				00	00360
			362	*				00	00361
			363	*				00	00362
			364	*				00	00363
			365	*	ETRP--TRAP TO LOCATION X STARTING FROM LOCATION Y.			00	00364
			366	*	IF LOCATION X IS REACHED: RESTORE LOCATIONS X & X+1, PRINT			00	00365
			367	*	THE CURRENT VALUES OF REGISTERS A,B,X, AND RETURN TO THE			00	00366
			368	*	EXEC SUPERVISOR			00	00367
			369	*				00	00368
			370	*	NOTE: CONTENTS OF LOCATIONS X AND X+1 MUST BE RESTORED BY			00	00369
			371	*	USER IF TRAP IS NOT REACHED BY THIS ROUTINE			00	00370
			372	*				00	00371
			373	*	FORMAT: TX,Y.			00	00372
			374	*				00	00373
			375	*				00	00374
005450	006020	A	376	ETRP	LOBI	ETS1	(B) POINTS TO PARAMETER TBL	00	00375
005451	000446	A							
005452	010446	A	377		LOA	ETS1	X = PREVIOUS Y	00	00376
005453	050447	A	378		STA	ETS1+1		00	00377
005454	002000	A	379		CALL	INPG	INPUT OCTAL NUMBER	00	00378
005455	007250	A							
005456	001000	A	380		JMP	ETOP	TERMINATION EXIT VIA SS3	00	00379
005457	006221	A							
005460	001000	A	381		JMP	ETOP	ABORT	00	00380
005461	006221	A							



005462	001000	A	382	JMP	ETR1	COMMA EXIT--GET SECOND PARAMETER	00	00381
005463	005535	A						
			383 *	NORMAL RETURN FROM INPG				00 00382
005464	058000	A	384	STA	0,2	STORE PARAMETER	00	00383
005465	006030	A	385	LOXI	ETS1+2	TEMP STORE ADDRESS	00	00384
005466	000450	A						
005467	020445	A	386	LOB	ETS1	X PARAMETER(TRAP LOCATION)	00	00385
005470	016000	A	387	LDA	0,2		00	00386
005471	055000	A	388	STA	0,1	SAVE CONTENTS OF LOCATION X AT TS02	00	00387
005472	016001	A	389	LDA	1,2		00	00388
005473	055001	A	390	STA	1,1	SAVE CONTENTS OF LOC. X+1 AT TS03	00	00389
005474	006010	A	391	LOAI	02000	OP CODE FOR JMPM	00	00390
005475	002000	A						
005476	056000	A	392	STA	0,2	STORE JMPM AT LOC X	00	00391
005477	006010	A	393	LOAI	ETR2		00	00392
005500	005545	A						
005501	056001	A	394	STA	1,2	STORE TRAP RETURN ADDRESS AT X+1	00	00393
005502	001000	A	395	JMP	EG01	LOAD PSEUDO REGISTERS AND GOTO LOC Y	00	00394
005503	005754	A						
			396 *					
005504	050443	A	397	ETR3	STA	EAR1	00	00395
005505	060444	A	398		STB	EBR1	00	00396
005506	070445	A	399		STX	EXR1	00	00397
005507	034036	A	400		LOX	ETR2	00	00398
005510	005344	A	401		DXR		00	00399
005511	005344	A	402		DXR		00	00400
005512	010450	A	403		LDA	ETS1+2	00	00401
005513	020451	A	404		LOB	ETS1+3	00	00402
005514	055000	A	405		STA	0,1	00	00403
005515	066001	A	406		STB	1,1	00	00404
005516	002000	A	407		CALL	OUTC	00	00405
005517	007404	A					00	00406
005520	005041	A	408		TXA		00	00407
005521	002000	A	409		CALL	OUTP	00	00408
005522	007456	A						
005523	010443	A	410		LDA	EAR1	00	00409
005524	002000	A	411		CALL	OUTE	00	00410
005525	007416	A						
005526	010444	A	412		LDA	EBR1	00	00411
005527	002000	A	413		CALL	OUTE	00	00412
005530	007416	A						
005531	010445	A	414		LDA	EXR1	00	00413



005532	002000	A	415	CALL	OUTE	PRINT CONTENTS OF PSEUDO X	00	00414
005533	007416	A						
005534	001000	A	418	JMP	ETOP	RETURN TO EXEC SUPERVISOR	00	00415
005535	006221	A						
			417 *				00	00416
005536	056000	A	418	ETR1	STA 0,2	STORE PARAMETER X	00	00417
005537	005123	A	419		INCR 023	INC PARAMETER PTR	00	00418
005540	006140	A	420		SUBI ETS1+1	MORE THAN 1 X PARAMETER ?	00	00419
005541	000447	A						
005542	001010	A	421		JAZ ETRP+4	NO CONTINUE	00	00420
005543	005454	A						
005544	001000	A	422		JMP EXIT	YES PRINT INVALID AND GO TO ETOP	00	00421
005545	006323	A						
			423 *				00	00422
005546	000000	A	424	ETR2	ENTR 0		00	00423
005547	001000	A	425		JMP ETR3	PROCESS TRAP RETURN	00	00424
005550	005504	A						
			426 *				00	00425
			427 *				00	00426
			428 *				00	00427
			429 *		ESRC--SEARCH MEMORY FOR SPECIFIED VALUE.		00	00428
			430 *		PRINT LOCATION AND CONTENTS WHENR MATCH IS FOUND		00	00429
			431 *				00	00430
			432 *		X=START ADDRESS		00	00431
			433 *		Y=FINAL ADDRESS		00	00432
			434 *		Z=SEARCH VALUE		00	00433
			435 *		M=MASK WORD		00	00434
			436 *				00	00435
			437 *		FORMAT: SX,Y,Z,M.		00	00436
			438 *				00	00437
			439 *				00	00438
005551	006020	A	440	ESRC	LOBI ETS1	ADDRESS FOR STORING INPUT PARAMETERS	00	00439
005552	000446	A						
005553	002000	A	441		CALL INPG	GET OCTAL PARAMETER	00	00440
005554	007250	A						
005555	001000	A	442		JMP ETOP	TERMINATION EXIT VIA SS3	00	00441
005556	006221	A						
005557	001000	A	443		JMP ETOP	ABORT	00	00442
005560	006221	A						
005561	001000	A	444		JMP ESR5	COMMA EXIT--GET NEXT PARAMETER	00	00443
005562	005632	A						
			445 *		NORMAL RETURN FROM INPG--A REG CONTAINS FOURTH PARAMETER		00	00444



005563	050451	A	446		STA	ETS1+3	SAVE MASK WORD	00	00445
005564	150450	A	447		ANA	ETS1+2	MASK SEARCH VALUE	00	00446
005565	050452	A	448		STA	ETS1+4	MASKED SEARCH VALUE	00	00447
005566	005021	A	449		T3A		TEST NO. OF PARAMETERS	00	00448
005567	006140	A	450		SUBI	ETS1+3	*	00	00449
005570	000451	A							
005571	001010	A	451		JAZ	**4	*	00	00450
005572	005575	A							
005573	001000	A	452		JMP	EXIT	***	00	00451
005574	006323	A							
005575	030446	A	453	ESR4	LDX	ETS1	START ADDRESS	00	00452
005576	015000	A	454		LDA	0,1		00	00453
005577	150451	A	455		ANA	ETS1+3	MASK IT	00	00454
005600	140452	A	456		SUB	ETS1+4		00	00455
005601	001010	A	457		JAZ	ESR2	GOOD COMPARE	00	00456
005602	005614	A							
005603	040446	A	458	ESR1	INR	ETS1	START ADDRESS	00	00457
005604	001400	A	459		JSS3	ETOP	RETURN TO SUPERVISOR	00	00458
005605	006221	A							
005606	005041	A	460		TXA			00	00459
005607	140447	A	461		SUB	ETS1+1	END ADDRESS	00	00460
005610	001002	A	462		JAP	ETOP	RETURN TO SUPERVISOR	00	00461
005611	006221	A							
005612	001000	A	463		JMP	ESR4	GET NEXT WORD	00	00462
005613	005575	A							
005614	002000	A	464	ESR2	CALL	OUTC	CR/LF	00	00463
005615	007404	A							
005616	010446	A	465		LDA	ETS1	ADDRS OF WORD	00	00464
005617	002000	A	466		CALL	OUTP	PRINT MEMORY ADDRESS	00	00465
005620	007456	A							
005621	006010	A	467		LDAI	1=1	EQUAL SIGN	00	00466
005622	000275	A							
005623	002000	A	468		CALL	OUTA		00	00467
005624	007334	A							
005625	015000	A	469		LDA	0,1	CONTENTS OF ADDRESS	00	00468
005626	002000	A	470		CALL	OUTE	PRINT CONTENTS	00	00469
005627	007416	A							
005630	001000	A	471		JMP	ESR1	CONTINUE	00	00470
005631	005603	A							
005632	056000	A	472	ESR5	STA	0,2		00	00471
005633	005122	A	473		IOR			00	00472
005634	001000	A	474		JMP	ESRC+2	GET NEXT PARAMETER	00	00473

005635 005553 A

475 * 00 00474
 476 * 00 00475
 477 * 00 00476
 478 * 00 00477
 479 * DISPLAY/CHANGE THE PSEUDO A REGISTER 00 00478
 480 * 00 00479

005636 006010 A 481 EARG LOAI 0240 ASCII SPACE 00 00480

005637 000240 A

005640 002000 A 482 CALL OUTA 00 00481

005641 007334 A

005642 010443 A 483 LOA EAR1 LOAD PSEUDO A 00 00482

005643 002000 A 484 CALL OUTE PRINT CONTENTS 00 00483

005644 007415 A

005645 002000 A 485 CALL INPG INPUT OCTAL AND/OR PERIOD 00 00484

005646 007250 A

005647 001000 A 486 JMP ETOP TERMINATION EXIT VIA SS3 00 00485

005650 006221 A

005651 001000 A 487 JMP ETOP ABORT EXIT 00 00486

005652 006221 A

005653 001000 A 488 JMP *+2 COMMA EXIT--ACCEPT IT 00 00487

005654 005655 A

489 * NORMAL RETURN FROM INPG 00 00488

005655 050446 A 490 STA ETS1 SAVE INPUT 00 00489

005656 010471 A 491 LOA TS04 TS04=DIGIT COUNTER FOR INPG 00 00490

005657 001010 A 492 JAZ ETOP 0=NO OCTAL INPUT, RETURN TO SUPERVISOR 00 00491

005660 006221 A

005661 010446 A 493 LOA ETS1 00 00492

005662 050443 A 494 STA EAR1 STORE NEW VALUE IN PSEUDO A 00 00493

005663 001000 A 495 JMP ETOP RETURN TO SUPERVISOR 00 00494

005664 006221 A

496 * 00 00495

497 * 00 00496

498 * DISPLAY/CHANGE THE PSEUDO B REGISTER 00 00497

499 * 00 00498

500 * 00 00499

005665 010454 A 501 EBRG LOA EK00 ASCII BLANK(SPACE) 00 00500

005666 002000 A 502 CALL OUTA 00 00501

005667 007334 A

005670 010444 A 503 LOA EBR1 LOAD PSEUDO B 00 00502

005671 002000 A 504 CALL OUTE PRINT CONTENTS 00 00503

005672 007415 A

005673	002000	A	505	CALL	INPG	INPUT OCTAL AND/OR PERIOD	00 00504
005674	007250	A					
005675	001000	A	506	JMP	ETOP	TERMINATION EXIT VIA SS3	00 00505
005676	006221	A					
005677	001000	A	507	JMP	ETOP	ABORT EXIT	00 00506
005700	006221	A					
005701	001000	A	508	JMP	**2	COMMA EXIT--ACCEPT IT	00 00507
005702	005703	A					
			509 *	NORMAL RETURN FROM INPG			00 00508
005703	050446	A	510	STA	ETS1	SAVE INPUT	00 00509
005704	010471	A	511	LOA	TS04	TS04=DIGIT COUNTER FOR INPG	00 00510
005705	001010	A	512	JAZ	ETOP	0=NO OCTAL INPUT, RETURN TO SUPERVISOR	00 00511
005706	006221	A					
005707	010446	A	513	LOA	ETS1		00 00512
005710	050444	A	514	STA	EBR1	STORE NEW VALUE IN PSEUDO 8	00 00513
005711	001000	A	515	JMP	ETOP	RETURN TO SUPERVISOR	00 00514
005712	006221	A					
			516 *				00 00515
			517 *				00 00516
			518 *	DISPLAY/CHANGE THE PSEUDO X REGISTER			00 00517
			519 *				00 00518
			520 *				00 00519
005713	010454	A	521	EXRG	LOA	ASCII BLANK(SPACE)	00 00520
005714	002000	A	522	CALL	OUTA		00 00521
005715	007334	A					
005716	010445	A	523	LOA	EXR1	LOAD PSEUDO X	00 00522
005717	002000	A	524	CALL	OUTE	PRINT CONTENTS	00 00523
005720	007416	A					
005721	002000	A	525	CALL	INPG	INPUT OCTAL AND/OR PERIOD	00 00524
005722	007250	A					
005723	001000	A	526	JMP	ETOP	TERMINATION EXIT VIA SS3	00 00525
005724	006221	A					
005725	001000	A	527	JMP	ETOP	ABORT	00 00526
005726	006221	A					
005727	001000	A	528	JMP	**2	COMA EXIT--ACCEPT IT	00 00527
005730	005731	A					
			529 *	NORMAL RETURN FROM INPG			00 00528
005731	050446	A	530	STA	ETS1	SAVE INPUT	00 00529
005732	010471	A	531	LOA	TS04	TS04=DIGIT COUNTER FOR INPG	00 00530
005733	001010	A	532	JAZ	ETOP	0=NO OCTAL INPUT, RETURN TO SUPERVISOR	00 00531
005734	006221	A					
005735	010446	A	533	LOA	ETS1		00 00532



005735	050445	A	534	STA	EXR1	STORE NEW VALUE IN PSEUDO X	00	00533
005737	001000	A	535	JMP	ETOP	RETURN TO SUPERVISOR	00	00534
005740	006221	A						
			536	*			00	00535
			537	*			00	00536
			538	*			00	00537
			539	*			00	00538
			540	*			00	00539
			541	*	EGOT--LOAD PSEUDO REGISTERS INTO A,B,X AND TRANSFER TO		00	00540
			542	*	LOCATION SPECIFIED BY USER.		00	00541
			543	*	THE PSEUDO REGISTERS CAN BE PRESET WITH THE A,B,X		00	00542
			544	*	UTILITY FUNCTIONS.		00	00543
			545	*			00	00544
			546	*			00	00545
005741	002000	A	547	EGOT	CALL	INPG	00	00546
						INPUT OCTAL NUMBER		
005742	007250	A						
005743	001000	A	548	JMP	ETOP	TERMINATION EXIT VIA SS3	00	00547
005744	006221	A						
005745	001000	A	549	JMP	ETOP	ABORT	00	00548
005746	006221	A						
005747	001000	A	550	JMP	**2	COMMA EXIT--ACCEPT IT	00	00549
005750	005751	A						
			551	*	NORMAL RETURN FROM INPG		00	00550
005751	050447	A	552	STA	ETS1+1		00	00551
005752	002000	A	553	CALL	OUTC	OO A CR + LF	00	00552
005753	007404	A						
005754	010443	A	554	EG01	LOA	EAR1	00	00553
						LOAD PSEUDO A REG,		
005755	020444	A	555	LOB	EBR1	LOAD PSEUDO B REG,	00	00554
005756	030445	A	556	LOX	EXR1	LOAD PSEUDO X REG,	00	00555
005757	001000	A	557	JMP*	ETS1+1		00	00556
005760	100447	A						
			558	*	DUMP CORE MEMORY TO TTY PRINTER		00	00557
			559	*			00	00558
005761	002000	A	560	EDUM	CALL	INPG	00	00559
						INPUT START LOCATION (OCTAL)		
005762	007250	A						
005763	001000	A	561	JMP	ETOP	TERMINATION EXIT VIA SS3	00	00560
005764	006221	A						
005765	001000	A	562	JMP	ETOP	ABORT	00	00561
005766	006221	A						
005767	001000	A	563	JMP	**2	COMMA EXIT--ACCEPT IT	00	00562
005770	005771	A						
			564	*	NORMAL RETURN FROM INPG		00	00563



005771	050446	A	565	STA	ETS1		00	00564
005772	002000	A	566	CALL	OUTC	OUTPUT CR & LF	00	00565
005773	007404	A						
005774	010446	A	567	LOA	ETS1		00	00566
005775	005014	A	568	TAX			00	00567
005776	002000	A	569	EDU1	CALL	OUTF	OUTPUT MEMORY ADDRESS	00 00568
005777	007456	A						
006000	010454	A	570	LOA	EK00	ASCII BLANK(SPACE)	00	00569
006001	002000	A	571	CALL	OUTA		00	00570
006002	007334	A						
006003	015000	A	572	EDU2	LOA	0,1	00	00571
006004	002000	A	573	CALL	OUTE	PRINT LOCATION CONTENTS	00	00572
006005	007416	A						
006006	001400	A	574	JSS3	ETOP		00	00573
006007	006221	A						
006010	005146	A	575	INCR	045	INCREMENT X AND PUT INTO A&X	00	00574
006011	005002	A	576	TZB			00	00575
006012	004543	A	577	LLSR	3	LINE LENGTH IS 8 LOCATIONS	00	00576
006013	001020	A	578	JBZ	EDU4	NEXT LINE	00	00577
006014	006017	A						
006015	001000	A	579	JMP	EDU2	NEXT WORD	00	00578
006016	006003	A						
			580 *				00	00579
006017	002000	A	581	EDU4	CALL	OUTC	OUTPU CR & LF	00 00580
006020	007404	A						
006021	005041	A	582	TXA			00	00581
006022	001000	A	583	JMP	EDU1		00	00582
006023	005776	A						
			584 *				00	00583
			585 *				00	00584
			586 *				00	00585
			587 *				00	00586
			588 *				00	00587
			589 *			PRINT/CHANGE CONTENTS OF MEMORY LOCATION SPECIFIED BY USER	00	00588
			590 *				00	00589
			591 *				00	00590
006024	002000	A	592	ECNG	CALL	INPG	INPUT OCTAL MEMORY ADDRESS	00 00591
006025	007250	A						
006026	001000	A	593	JMP	ETOP	TERMINATION EXIT VIA SS3	00	00592
006027	006221	A						
006030	001000	A	594	JMP	ETOP	ABORT	00	00593
006031	006221	A						

006032	001000	A	595	JMP	**2	COMMA EXIT--ACCEPT IT	00	00594
006033	006034	A						
			596 *	NORMAL RETURN FROM INPG			00	00595
006034	005014	A	597	TAX			00	00596
006035	006010	A	598	ECN3	LOAI	1=1	00	00597
006036	000275	A						
006037	002000	A	599	CALL	OUTA		00	00598
006040	007334	A						
006041	015000	A	600	LDA	0,1		00	00599
006042	002000	A	601	CALL	OUTE	OUTPUT OCTAL WORD	00	00600
006043	007416	A						
006044	002000	A	602	CALL	INPG	INPUT OCTAL WORD	00	00601
006045	007250	A						
006046	001000	A	603	JMP	ETOP	TERMINATION EXIT VIA SS3	00	00602
006047	006221	A						
006050	001000	A	604	JMP	ETOP	ABORT	00	00603
006051	006221	A						
006052	001000	A	605	JMP	ECN2	COMMA EXIT--PRINT NEXT LOCATION & CONTENTS	00	00604
006053	006064	A						
			606 *	NORMAL RETURN FROM INPG WITH PERIOD			00	00605
006054	050446	A	607	STA	ETS1	SAVE INPUT	00	00606
006055	010471	A	608	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	00	00607
006056	001010	A	609	JAZ	**4		00	00608
006057	006062	A						
006060	010446	A	610	LDA	ETS1	GET LAST INPUT	00	00609
006061	055000	A	611	STA	0,1		00	00610
006062	001000	A	612	JMP	ETOP		00	00611
006063	006221	A						
			613 *				00	00612
006064	050446	A	614	ECN2	STA	ETS1	00	00613
006065	010471	A	615	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	00	00614
006066	001010	A	616	JAZ	**4		00	00615
006067	006072	A						
006070	010446	A	617	LDA	ETS1	GET LAST INPUT	00	00616
006071	055000	A	618	STA	0,1	STORE NEW VALUE IN LOCATION	00	00617
006072	002000	A	619	CALL	OUTC	CR & LF	00	00618
006073	007404	A						
006074	005145	A	620	INCR	045	INCREMENT X AND PUT INTO A AND X	00	00619
006075	002000	A	621	CALL	OUTF	PRINT NEXT MEMORY ADDRESS	00	00620
006076	007456	A						
006077	001000	A	622	JMP	ECN3	PRINT CONTENTS	00	00621
006100	006035	A						



			623 *			00 00622
			624 *			00 00623
			625 *			00 00624
			626 *			00 00625
			627 *			00 00626
			628 *****			00 00627
			629 *			00 00628
006150			630 DRG 06150			00 00629
			631 *			00 00630
			632 *****			00 00631
			633 *			00 00632
006150	001000	A	634 EBG1 JMP EBG1	TTY ENTRY		00 00633
006151	006171	A				
006152	005001	A	635 TZA	CONSOLE ENTRY		00 00634
006153	050442	A	636 STA SCON	* SCON = 0		00 00635
006154	002000	A	637 CALL ESZC	*		00 00636
006155	006161	A				
006156	000000	A	638 HLT	*		00 00637
006157	001000	A	639 JMP **1	*****		00 00638
006160	006156	A				
006161	000000	A	640 ESZC ENTR 0	DETERMINE MEMORY SIZE		00 00639
006162	002000	A	641 CALL ESZA	*		00 00640
006163	006471	A				
006164	050441	A	642 STA SMEM	*		00 00641
006165	002000	A	643 CALL ESZB	*		00 00642
006166	006522	A				
006167	001000	A	644 JMP (ESZC)*	***** EXIT		00 00643
006170	106161	A				
006171	005101	A	645 EBG1 INCR 01	TTY MODE		00 00644
006172	050442	A	646 STA SCON	* SCON = 01		00 00645
006173	002000	A	647 CALL ESZC	* STTY = 01, UNLESS SET		00 00646
006174	006161	A				
006175	005101	A	648 INCR 01	* BY		00 00647
006176	000000	A	649 HLT	* OPERATOR		00 00648
006177	006030	A	650 LOXI STTY			00 00649
006200	007370	A				
006201	055000	A	651 STA 0,1			00 00650
006202	001004	A	652 JAN 06152	CONSOLE MODE IF TTY DA =		00 00651
006203	006152	A				
			653 *	USER MUST LOAD AND EXECUTE TESTS FROM CPU CONSOLE		00 00652
006204	002000	A	654 EBG2 CALL OUTH,0201	PRINT ENABLE		00 00653
006205	007522	A				

006206	000201	A					
006207	002000	A	655	CALL	OUTC	OUTPUT CR&LF	00 00654
006210	007404	A					
006211	006030	A	656	LOXI	MSG1	THIS IS THE 620 TEST EXECUTIVE	00 00655
006212	006413	A					
006213	002000	A	657	CALL	OUTD	OUTPUT MESSAGE	00 00656
006214	007445	A					
006215	006030	A	658	LOXI	MSG3	MESSAGE: MEMORY SIZE IS --K	00 00657
006216	006447	A					
006217	002000	A	659	CALL	OUTD	OUTPUT MESSAGE	00 00658
006220	007445	A					
			660 *				00 00659
			661 *				00 00660
			662 *				00 00661
			663 *	TEST EXECUTIVE SUPERVISOR			00 00662
			664 *				00 00663
006221	006010	A	665	ETOP	LOAI	0207	TTY BELL
006222	000207	A					00 00664
006223	002000	A	666	CALL	OUTA	OUTPUT	00 00665
006224	007334	A					
006225	002000	A	667	CALL	OUTH,0201	PRINT ENABLE	00 00666
006226	007522	A					
006227	000201	A					
006230	002000	A	668	CALL	INPI	INIT TTY	00 00667
006231	007331	A					
006232	002000	A	669	CALL	OUTC		00 00668
006233	007404	A					
006234	002000	A	670	CALL	INPB	INPUT ONE CHARACTER	00 00669
006235	006753	A					
006236	001000	A	671	JMP	ETOP	ABORT EXIT	00 00670
006237	006221	A					
006240	054011	A	672	STA	ET04+1	SAVE INPUT	00 00671
006241	006140	A	673	SUBI	0212	LINE FEED CODE	00 00672
006242	000212	A					
006243	001010	A	674	JAZ	ETOP	YES	00 00673
006244	006221	A					
006245	006140	A	675	SUBI	3	CARRIAGE RETURN(0215)	00 00674
006246	000003	A					
006247	001010	A	676	JAZ	ETOP	YES	00 00675
006250	006221	A					
006251	006010	A	677	ET04	LOAI	0	GET ORIGINAL INPUT
006252	000000	A					



006253	006140	A	678	SUBI	IAI		00	00677
006254	000301	A						
006255	001004	A	679	JAN	EXIT	INVALID INPUT	00	00678
006256	006323	A						
006257	006140	A	680	SUBI	032	Z CHAR	00	00679
006260	000032	A						
006261	001002	A	681	JAP	EXIT	INVALID INPUT	00	00680
006262	006323	A						
006263	006120	A	682	ADDI	(ETBL+032)*	INDIRECT ADDRESS POINTER FOR UTILITY TABLE	00	00681
006264	106323	A						
006265	054002	A	683	STA	**3		00	00682
006266	005007	A	684	ZERO	7	CLEAR REGISTERS A,B,X	00	00683
006267	001000	A	685	JMP	*		00	00684
006270	006267	A						
006271	005636	A	686	ETBL	DATA	EARG A PRINT/CHANGE PSEUDO A REG	00	00685
006272	005665	A	687		DATA	EBRG B PRINT/CHANGE PSEUDO B REG	00	00686
006273	006024	A	688		DATA	ECNG C PRINT/CHANGE MEMORY LOCATION	00	00687
006274	005761	A	689		DATA	EDUM D DUMP CORE TO TTY PRINTER	00	00688
006275	005136	A	690		DATA	EBPN E BINARY DUMP	00	00689
006276	006323	A	691		DATA	EXIT F NOT USED	00	00690
006277	005741	A	692		DATA	EGOT G TRANSFER TO SPECIFIED LOCATION	00	00691
006300	006323	A	693		DATA	EXIT H NOT USED	00	00692
006301	005404	A	694		DATA	INIT I INITIALIZE CORE	00	00693
006302	006323	A	695		DATA	EXIT J NOT USED	00	00694
006303	006323	A	696		DATA	EXIT K NOT USED	00	00695
006304	006327	A	697		DATA	ELOD L LOAD OBJECT TAPE AND TRANSFER TO PROGRAM	00	00696
006305	006323	A	698		DATA	EXIT M NOT USED	00	00697
006306	006323	A	699		DATA	EXIT N NOT USED	00	00698
006307	006323	A	700		DATA	EXIT O NOT USED	00	00699
006310	005100	A	701		DATA	EPUN P PUNCH A PAPER TAPE ON TTY PUNCH	00	00700
006311	006323	A	702		DATA	EXIT Q NOT USED	00	00701
006312	006323	A	703		DATA	EXIT R NOT USED	00	00702
006313	005551	A	704		DATA	ESRC S SEARCH MEMORY	00	00703
006314	005450	A	705		DATA	ETRP T TRAP	00	00704
006315	006323	A	706		DATA	EXIT U NOT USED	00	00705
006316	006323	A	707		DATA	EXIT V NOT USED	00	00706
006317	006323	A	708		DATA	EXIT W NOT USED	00	00707
006320	005713	A	709		DATA	EXRG X PRINT/CHANGE PSEUDO X REG	00	00708
006321	006323	A	710		DATA	EXIT Y NOT USED	00	00709
006322	006323	A	711		DATA	EXIT Z NOT USED	00	00710
			712 *				00	00711
			713 *				00	00712



			714 *			00 00713
			715 *			00 00714
006323	002000	A	716	EXIT CALL	OUTG PRINT INVALID & CR/LF	00 00715
006324	007475	A				
006325	001000	A	717	JMP	ETOP RETURN TO TOP OF SUPERVISOR	00 00716
006326	006221	A				
			718 *			00 00717
			719 *			00 00718
			720 *			00 00719
			721 *			00 00720
			722 *	ELUD--LOAD OBJECT TAPE AND TRANSFER TO TEST PROGRAM		00 00721
			723 *			00 00722
			724 *			00 00723
006327	002000	A	725	ELUD CALL	INPF INPUT PERIOD	00 00724
006330	007170	A				
006331	001000	A	726	JMP	ETOP TERMINATE EXIT	00 00725
006332	006221	A				
006333	001000	A	727	JMP	ETOP ABORT EXIT	00 00726
006334	006221	A				
006335	001000	A	728	JMP	ETOP DELETE PREVIOUS CHAR EXIT	00 00727
006336	006221	A				
006337	001000	A	729	JMP	**2 COMMA RETURN--ACCEPT IT	00 00728
006340	006341	A				
			730 *	NOEMAL RETURN FROM INPF WITH PERIOD		00 00729
006341	005101	A	731	INCR	01 SET A10 FOR LOAD AND EXECUTE	00 00730
006342	002000	A	732	JMP*	LOAD GO TO BINARY LOADER	00 00731
006343	100470	A				
006344	005042	A	733	TXB	SAVE X	00 00732
006345	006030	A	734	LDXI	MSG2 MESSAGE: CHECKSUM ERROR	00 00733
006346	006434	A				
006347	002000	A	735	CALL	OUTD PRINT MESSAGE	00 00734
006350	007445	A				
006351	005021	A	736	TBA	OUTPUT X	00 00735
006352	002000	A	737	CALL	OUTE	00 00736
006353	007416	A				
006354	001000	A	738	JMP	ETOP EXEC SUPERVISOR	00 00737
006355	006221	A				
			739 *			00 00738
			740 *			00 00739
			741 *			00 00740
			742 *			00 00741
			743 *			00 00742



			744 *			TYPICAL POWER UP/DOWN SUBROUTINE	00	00743
			745 *			POWER DOWN INTERRUPT ADDRESS 040	00	00744
			746 *			POWER UP INTERRUPT ADDRESS 042	00	00745
			747 *				00	00746
			748 *			POWER DOWN PROCESSOR	00	00747
			749 *				00	00748
006356	000000	A	750	PWON	ENTR	0	00	00749
006357	054026	A	751		STA	SAVA	00	00750
006358	054026	A	752		STB	SAVB	00	00751
006359	074026	A	753		STX	SAVX	00	00752
006362	005001	A	754		TZA		00	00753
006363	005511	A	755		DATA	005511	00	00754
006364	054024	A	756		STA	SAVD	00	00755
006365	044024	A	757		INR	HLTF	00	00756
006366	040472	A	758		INR	PWRK	0	*****
006367	000000	A	759	PHLT	HLT		00	00757
			760 *				00	00758
			761 *			POWER UP PROCESSOR	00	00759
			762 *				00	00760
006370	014021	A	763	PWRU	LDA	HLTF	00	00761
006371	001010	A	764		JAZ	PHLT	00	00762
006372	006367	A						
006373	005001	A	765		TZA		00	00763
006374	054015	A	766		STA	HLTF	00	00764
			767 *				00	00765
			768 *			CODING TO REINSTATE 620/F OPTIONAL HARDWARE AFTER A	00	00766
			769 *			POWER FAILURE, MUST BE DEFINED HERE. THE TOTAL EXECUTION	00	00767
			770 *			TIME NOT TO EXCEED A SPECIFIED TIME PERIOD. SEE PPS	00	00768
			771 *			FOR TIMING CONSTRAINTS.	00	00769
006375	014013	A	772		LDA	SAVD	00	00770
006376	001010	A	773		JAZ	*+3	00	00771
006377	006401	A						
006400	007401	A	774		SJF		00	00772
006401	014004	A	775		LDA	SAVA	00	00773
006402	024004	A	776		LDB	SAVB	00	00774
006403	034004	A	777		LDX	SAVX	00	00775
006404	001000	A	778		JMP*	PWON	00	00776
006405	106356	A						
			779 *				00	00777
006406	000000	A	780	SAVA	DATA	0	00	00778
006407	000000	A	781	SAVB	DATA	0	00	00779
006410	000000	A	782	SAVX	DATA	0	00	00780



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006411	000000	A	783	SAVD	DATA	0	00	00781
006412	000000	A	784	HLTF	DATA	0	00	00782
			785	*			00	00783
			786	*			00	00784
			787	*			00	00785
			788	*			00	00786
			789	*			00	00787
			790	*	MESSAGE TABLE		00	00788
			791	*			00	00789
006413	152310	A	792	MSG1	DATA	'THIS IS THE 620 TEST EXECUTIVE',0106612,0	00	00790
006414	144723	A						
006415	120311	A						
006416	151640	A						
006417	152310	A						
006420	142640	A						
006421	133262	A						
006422	130240	A						
006423	152305	A						
006424	151724	A						
006425	120305	A						
006426	154305	A						
006427	141725	A						
006430	152311	A						
006431	153305	A						
006432	106612	A						
006433	000000	A						
006434	141710	A	793	MSG2	DATA	'CHECKSUM ERROR X = 1,0	00	00791
006435	142703	A						
006436	145723	A						
006437	152715	A						
006440	120305	A						
006441	151322	A						
006442	147722	A						
006443	120240	A						
006444	154240	A						
006445	136640	A						
006448	000000	A						
006447	146705	A	794	MSG3	DATA	'MEMORY SIZE IS 1	00	00792
006450	146717	A						
006451	151331	A						
006452	120323	A						
006453	144732	A						



006454	142640	A							
006455	144723	A							
006456	120240	A							
006457	126655	A	795	MSG4	DATA	'=K',0106612,0		00	00793
006460	145640	A							
006461	106612	A							
006462	000000	A							
006463	120240	A	796	MSG5	DATA	' INVALID',0		00	00794
006464	144716	A							
006465	153301	A							
006466	146311	A							
006467	142240	A							
006470	000000	A							

797	*							00	00795
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798	*							00	00796
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799	*	ROUTINE FOR DETERMINING CORE SIZE						00	00797
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800	*							00	00798
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006471	000000	A	801	ESZA	ENTR	0		00	00799
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006472	100545	A	802		EXC	0545	DISABLE MEMORY PARITY INT,	00	00800
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006473	010000	A	803		LDA	0		00	00801
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006474	050002	A	804		STA	2	SAVE CONTENTS OF LOCATION ZERO	00	00802
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006475	005001	A	805		TZA			00	00803
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006476	050000	A	806		STA	0		00	00804
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006477	005311	A	807		DAR		A=1	00	00805
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006500	006120	A	808	ESZ1	ADDI	4096	NEXT 4K MEMORY ADDRESS	00	00806
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006501	010000	A							
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006502	005014	A	809		TAX			00	00807
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006503	025001	A	810		LDB	1,1	SAVE MEMORY CELL IN B REG	00	00808
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006504	055001	A	811		STA	1,1		00	00809
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006505	015001	A	812		LDA	1,1		00	00810
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006506	130000	A	813		ERA	0		00	00811
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006507	001010	A	814		JAZ	ESZ2	JUMP IF END OF MEMORY	00	00812
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006510	006515	A							
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006511	065001	A	815		STB	1,1	RESTORE MEMORY CELL	00	00813
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006512	005041	A	816		TXA			00	00814
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006513	001000	A	817		JMP	ESZ1		00	00815
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006514	006500	A							
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006515	010002	A	818	ESZ2	LDA	2	RESTORE CONTENTS OF	00	00816
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006516	050000	A	819		STA	0	LOCATION ZERO	00	00817
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006517	005041	A	820		TXA			00	00818
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006520	001000	A	821		JMP*	ESZA		00	00819
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006521	106471	A						00	00820
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	822	*				00	00820	
	823	*				00	00821	
	824	*				00	00822	
	825	*	CONVERT MEMORY SIZE FOR ASCII PRINTOUT				00	00823
	826	*				00	00824	
006522	000000	A	827	ESZB	ENTR 0	00	00825	
006523	010441	A	828		LOA 3MEM GET CORE SIZE(X7777)	00	00826	
006524	004354	A	829		LSRA 12 TRUNCATE 7777	00	00827	
006525	006120	A	830		ADDI ETAB ADDRESS OF THE ASCII EQUIV TABLE	00	00828	
006526	006536	A						
006527	005014	A	831		TAX	00	00829	
006530	015000	A	832		LOA 0,1 GET ASCII EQUIV FROM TABLE ETAB	00	00830	
006531	006020	A	833		LOBI MSG4 SET MEMORY SIZE(04,08,ETC) INTO MSG4	00	00831	
006532	006457	A						
006533	056000	A	834		STA 0,2	00	00832	
006534	001000	A	835		JMP* ESZB RETURN	00	00833	
006535	106522	A						
006536	120264	A	836	ETAB	DATA 0120264 ASCII 04	00	00834	
006537	120270	A	837		DATA 0120270	00	00835	
006540	130662	A	838		DATA 0130662	00	00836	
006541	130666	A	839		DATA 0130666	00	00837	
006542	131260	A	840		DATA 0131260	00	00838	
006543	131264	A	841		DATA 0131264	00	00839	
006544	131270	A	842		DATA 0131270	00	00840	
006545	131662	A	843		DATA 0131662	00	00841	
	844	*				00	00842	
	845	*				00	00843	
	846	*				00	00844	
	847	*				00	00845	
	848	*				00	00846	
	849	*				00	00847	
	850	*	*****				00	00848
	851	*				*00	00849	
	852	*	SENSE SWITCH SUBROUTINE				*00	00850
	853	*	THIS SUBROUTINE PROVIDES A STANDARD SENSE SWITCH INTERFACE.				*00	00851
	854	*	THE CALLING SEQUENCE IS AS FOLLOWS				*00	00852
	855	*	THE A, B, AND X REGISTERS CONTAIN ERROR HALT VALUES.				*00	00853
	856	*	CALL SSWT				*00	00854
	857	*	DATA (U REGISTER VALUE)				*00	00855
	858	*	DATA (ERROR MESSAGE ADDRESS) (IF NEG, ERROR SUB.)				*00	00856
	859	*	DATA (TERMINATION EXIT)				*00	00857
	860	*	DA A (LOOP ON ERROR EXIT)				*00	00858



861 *	*	NORMAL EXIT RETURN	*00 00859
862 *			*00 00860
863 *		STANDARD SENSE SWITCH SETTINGS	*00 00861
864 *		SS1 - (SET) SUPPRESS ERROR PRINTOUT	*00 00862
865 *		(RESET) ALLOW ERROR PRINTOUTS	*00 00863
866 *		SS2 (SET) HALT ON ERROR	*00 00864
867 *		(IF SET AFTER HALT - CONTINUE)	*00 00865
868 *		(RESET) DO NOT HALT ON ERROR	*00 00866
869 *		(IF HALT ON ERROR SET FIRST THEN RESET ON	*00 00867
870 *		HALT CONDITION - LOOP UNTIL SET)	*00 00868
871 *		SS3 (SET) TERMINATE TEST - RETURN TO BEGINING OF TEST	*00 00869
872 *		(RESET) CONTINUE TEST	*00 00870
873 *	*****		*00 00871
874 *			00 00872
006545 054135 A	875 SSWP	STA SSWS	00 00873
006547 054135 A	876	STB SSWS+1	00 00874
006550 074135 A	877	SIX SSWS+2	00 00875
006551 001400 A	878	JSS3 SSWE	00 00876
006552 006707 A			
006553 010442 A	879	LJA SCON	00 00877
006554 001010 A	880	JAZ SSWN	00 00878
006555 005642 A			
006556 001100 A	881	JSS1 SSW1	00 00879
006557 006801 A			
006560 024137 A	882	LDB SSWT	00 00880
006561 005122 A	883	IDR	00 00881
006562 016000 A	884	LJA 0,2	00 00882
006563 001010 A	885	JAZ SSW1	00 00883
006564 006601 A			
006565 005012 A	886	TAB	00 00884
006566 006150 A	887	ANAI 0100000	00 00885
006567 100000 A			
006570 005014 A	888	TAX	00 00886
006571 005021 A	889	TBA	00 00887
006572 001040 A	890	JXZ **4	00 00888
006573 008576 A			
006574 001000 A	891	JMP SSWR	00 00889
006575 006672 A			
006576 005014 A	892	TAX	00 00890
006577 002000 A	893	CALL OUTD	00 00891
006600 007445 A			
006601 001400 A	894 SSW1	JSS3 SSWE	00 00892

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Address	Description	Operation	Comments
006602	006707 A		
006603	010440 A 895	LDA SFLG	CHECK IF LOOPING
006604	001010 A 896	JAZ SSW4	
006605	006535 A		
006606	001200 A 897 SSW2 JSS2 SSW3		LOOPING = CHECK IF TERMINATE LOOPING.
006607	006523 A		
006610	024107 A 898 SSWL LDB SSWT		RETURN THROUGH LOOP EXIT
006611	005122 A 899	IBR	
006612	005122 A 900	IBR	
006613	005122 A 901	IBR	
006614	016000 A 902	LDA 0,2	
006615	054004 A 903	STA **5	
006616	014055 A 904	LDA SSWS	RETURN VOLATILE REGISTERS,
006617	024055 A 905	LDB SSWS+1	
006620	034055 A 906	LOX SSWS+2	
006621	001000 A 907	JMP *	
006622	006521 A		
006623	005001 A 908 SSW3 TZA		RETURN TO NORMAL EXIT (CONTINUATION EXIT)
006624	050440 A 909	STA SFLG	CLEAR LOOP FLAG,
006625	014072 A 910	LDA SSWT	
006626	006120 A 911	ADDI 4	
006627	000004 A		
006630	054004 A 912	STA **5	
006631	014052 A 913	LDA SSWS	RETURN VOLATILE REGISTERS,
006632	024052 A 914	LDB SSWS+1	
006633	034052 A 915	LOX SSWS+2	
006634	001000 A 916	JMP *	
006635	006534 A		
006636	001200 A 917 SSW4 JSS2 SSW5		CHECK IF HALT ON ERROR
006637	006547 A		
006640	001000 A 918	JMP SSW3	RETURN TO NORMAL EXIT LOC,
006641	006523 A		
006642	010440 A 919 SSWN LDA SFLG		CHECK IF LOOP FLAG ZERO
006643	001010 A 920	JAZ SSW4	
006644	006535 A		
006645	001100 A 921	JSS1 SSW6	
006646	006555 A		
006647	024050 A 922 SSW5 LDH SSWT		GET FIRST PARAMETER
006650	016000 A 923	LDA 0,2	
006651	054003 A 924	STA **4	
006652	014031 A 925	LDA SSWS	RETURNED SAVED PARAMETERS,
006653	024031 A 926	LDB SSWS+1	

006654	034031	A	927	LOX	SSWS+2		00 00925
006655	005000	A	928	NOP		1ST PARAMETER STORED HERE AND EXECUTED.	00 00926
006656	001400	A	929	SSW6	JSS3	SSWE	IF SS3 SET RETURN THROUGH TERMINATION EXIT 00 00927
006657	006707	A					
006660	010440	A	930	LDA	SFLG	CHECK IF LOOPING	00 00928
006661	001010	A	931	JAZ	**4		00 00929
006662	006665	A					
006663	001000	A	932	JMP	SSW2		00 00930
006664	006606	A					
006665	001200	A	933	JSS2	SSW3	LOOP FLAG ZERO - CHECK IF LOOP REQUEST	00 00931
006666	006623	A					
006667	040440	A	934	INR	SFLG	INCREMENT LOOP FLAG	00 00932
006670	001000	A	935	JMP	SSWL	JUMP THROUGH LOOP EXIT	00 00933
006671	006610	A					
006672	006150	A	936	SSWR	ANAI	077777	ERROR SUBROUTINE MASK OUT BIT 15 00 00934
006673	077777	A					
006674	054004	A	937	STA	**5		00 00935
006675	014006	A	938	LDA	SSWS		00 00936
006676	024006	A	939	LDB	SSWS+1		00 00937
006677	034006	A	940	LOX	SSWS+2		00 00938
006700	002000	A	941	JMPM	*	CALL ERROR SUBROUTINE	00 00939
006701	006700	A					
006702	001000	A	942	JMP	SSW1		00 00940
006703	006601	A					
006704			943	SSWS	SSS	3	00 00941
006707	005001	A	944	SSWE	TZA	JUMP THROUGH TERMINATION EXIT.	00 00942
006710	050440	A	945	STA	SFLG	CLEAR LOOP FLAG.	00 00943
006711	024006	A	946	LDB	SSWT		00 00944
006712	005122	A	947	IBR		SET UP TERMINATION EXIT	00 00945
006713	005122	A	948	IBR			00 00946
006714	016000	A	949	LDA	0,2		00 00947
006715	054001	A	950	STA	**2		00 00948
006716	001000	A	951	JMP	*		00 00949
006717	006716	A					
006720	000000	A	952	SSWT	ENTR	SENSE SWITCH SUBROUTINE ENTRANCE	00 00950
006721	001000	A	953	JMP	SSWP		00 00951
006722	006546	A					
			954	*			00 00952
			955	*	INPUT ONE CHARACTER FROM TTY TO (A) REGISTER		00 00953
			956	*			00 00954
006723	002000	A	957	INAI	CALL	INPH,INA2	SENSE BFR RDY 00 00955
006724	007317	A					

006725	006732	A							
006726	001400	A	958	JSS3*	INPA			00	00955
006727	106737	A							
006730	001000	A	959	JMP	INA1			00	00957
006731	006723	A							
006732	002000	A	960	INA2	CALL	INPI	INPUT CHARACTER	00	00958
006733	007331	A							
006734	044002	A	961	INR	INPA		NORMAL EXIT	00	00959
006735	044001	A	962	INR	INPA			00	00960
006736	001000	A	963	JMP	0			00	00961
006737	000000	A							
006737			964	INPA	BES	0	ENTER	00	00962
006740	001000	A	965	JMP	INA1			00	00963
006741	005723	A							
			966 *					00	00964
			967 *		INPUT ONE CHARACTER + PRINT FROM TTY TO A REGISTER			00	00965
			968 *					00	00966
006742	002000	A	969	INB1	CALL	INPA	INPUT ONE CHARACTER	00	00967
006743	006737	A							
006744	001000	A	970	JMP*	INPB		TERMINATE EXIT	00	00968
006745	106753	A							
006746	002000	A	971		CALL	OUTA	OUTPUT ONE CHARACTER	00	00969
006747	007334	A							
006750	044002	A	972	INR	INPB			00	00970
006751	044001	A	973	INR	INPB			00	00971
006752	001000	A	974	JMP*	0		EXIT	00	00972
006753	100000	A							
006753			975	INPB	BES	0		00	00973
006754	001000	A	976	JMP	INB1			00	00974
006755	006742	A							
			977 *					00	00975
007000			978	ORG	07000			00	00976
007000	001000	A	979	EBGX	JMP	EBGN	COMMON ENTRY POINT (TTY), (CONSOLE IF DA==)	00	00977
007001	006150	A							
007002	001000	A	980	JMP	EBGN+2		(CONSOLE)	00	00978
007003	006152	A							
			981 *					00	00979
			982 *					00	00980
			983 *		INPUT ONE CHARACTER (EDITED)			00	00981
			984 *					00	00982
007004	002000	A	985	INCS	CALL	INPB		00	00983
007005	006753	A						00	00984

007006	001000	A	986	JMP*	INPC	TERMINATE EXIT	00	00984
007007	107033	A						
007010	006130	A	987	ERAI	INI	BACKSLASH	00	00985
007011	000334	A						
007012	001010	A	988	JAZ	INC2	ABORT INPUT EXIT	00	00986
007013	007030	A						
007014	006130	A	989	ERAI	INI	RESTORE A	00	00987
007015	000334	A						
007016	006130	A	990	ERAI	0337	BACKARROW	00	00988
007017	000337	A						
007020	001010	A	991	JAZ	INC1	DELETE ONE CHARACTER EXIT	00	00989
007021	007026	A						
007022	006130	A	992	ERAI	0337	RESTORE A	00	00990
007023	000337	A						
007024	044006	A	993	INR	INPC		00	00991
007025	044005	A	994	INR	INPC		00	00992
007026	044004	A	995	INC1	INR	INPC	00	00993
007027	044003	A	995	INR	INPC		00	00994
007030	044002	A	997	INC2	INR	INPC	00	00995
007031	044001	A	998	INR	INPC		00	00996
007032	001000	A	999	JMP*	0	EXIT	00	00997
007033	100000	A						
007033			1000	INPC	BES	0	00	00998
007034	001000	A	1001	JMP	INC3		00	00999
007035	007004	A						
			1002	*			00	01000
			1003	*	INPUT ONE ALPHA CHARACTER FROM TTY KEYBOARD TO A REG		00	01001
			1004	*			00	01002
007036	002000	A	1005	IND4	CALL	INPC	00	01003
007037	007033	A						
007040	001000	A	1006	JMP*	INPC	TERMINATE EXIT	00	01004
007041	107067	A						
007042	001000	A	1007	JMP	IND2	ABORT INPUT EXIT	00	01005
007043	007064	A						
007044	001000	A	1008	JMP	IND1	DELETE PREVIOUS CHARACTER EXIT	00	01006
007045	007062	A						
007046	006140	A	1009	SUBI	0301	CHAR A	00	01007
007047	000301	A						
007050	001004	A	1010	JAN	IND3	INVALID INPUT	00	01008
007051	007072	A						
007052	006140	A	1011	SUBI	032	CHAR Z	00	01009
007053	000032	A						

007054	001002	A	1012	JAP	IND3	INVALID INPUT	00	01010
007055	007072	A						
007056	006120	A	1013	ADDI	0333	RESTORE A	00	01011
007057	000333	A						
007060	044006	A	1014	INR	INPD	NORMAL EXIT	00	01012
007061	044005	A	1015	INR	INPD		00	01013
007062	044004	A	1016	IND1	INR	INPD	00	01014
007063	044003	A	1017	INR	INPD	DELETE PREVIOUS CHARACTER EXIT	00	01015
007064	044002	A	1018	IND2	INR	INPD	00	01016
007065	044001	A	1019	INR	INPD	ABORT INPUT EXIT	00	01017
007066	001000	A	1020	JMP*	0	EXIT	00	01018
007067	100000	A						
007067			1021	INPD	BES	0	00	01019
007070	001000	A	1022	JMP	IND4		00	01020
007071	007036	A						
007072	002000	A	1023	IND3	CALL	OUTG	00	01021
007073	007475	A				INVALID INPUT--PRINT MESSAGE		
007074	001000	A	1024	JMP	IND2	ABORT	00	01022
007075	007064	A						
			1025	*			00	01023
			1026	*			00	01024
			1027	*	INPUT TWO LETTER CHARACTERS FROM TTY		00	01025
			1028	*			00	01026
007076	002000	A	1029	INE3	CALL	INPD	00	01027
007077	007067	A						
007100	001000	A	1030	JMP*	INPE	TERMINATE EXIT	00	01028
007101	107130	A						
007102	001000	A	1031	JMP	INE2	ABORT INPUT EXIT	00	01029
007103	007125	A						
007104	001000	A	1032	JMP	INE1	DELETE PREVIOUS CHARACTER EXIT	00	01030
007105	007123	A						
007106	004250	A	1033	LRLA	8		00	01031
007107	054441	A	1034	STA	T802		00	01032
007110	002000	A	1035	CALL	INPD	INPUT ALPHA CHAR	00	01033
007111	007067	A						
007112	001000	A	1036	JMP*	INPE	TERMINATE EXIT	00	01034
007113	107130	A						
007114	001000	A	1037	JMP	INE3	ABORT INPUT EXIT	00	01035
007115	007125	A						
007116	001000	A	1038	JMP	INE1	DELETE PREVIOUS CHARACTER EXIT	00	01036
007117	007076	A						
007120	114430	A	1039	JMP	T802		00	01037



007121	044006	A	1040	INR	INPE	NORMAL EXIT	00	01038
007122	044005	A	1041	INR	INPE		00	01039
007123	044004	A	1042	INE1	INR	DELETE PREVIOUS CHARACTER EXIT	00	01040
007124	044003	A	1043	INR	INPE		00	01041
007125	044002	A	1044	INE2	INR	ABORT INPUT EXIT	00	01042
007126	044001	A	1045	INR	INPE		00	01043
007127	001000	A	1046	JMP*	0	EXIT	00	01044
007130	100000	A						
007130			1047	INPE	RES	0	00	01045
007131	001000	A	1048	JMP	INE3		00	01046
007132	007076	A						
			1049	*			00	01047
			1050	*	INPUT PERIOD, COMMA	FOR MESSAGE TERMINATOR	00	01048
			1051	*			00	01049
007133	002000	A	1052	INF5	CALL	INPC	00	01050
007134	007033	A						
007135	001000	A	1053	JMP*	INPF	TERMINATE EXIT	00	01051
007136	107170	A						
007137	001000	A	1054	JMP	INF2	ABORT INPUT EXIT	00	01052
007140	007165	A						
007141	001000	A	1055	JMP	INF1	DELETE PREVIOUS CHARACTER EXIT	00	01053
007142	007163	A						
007143	006140	A	1056	SUBI	0254	COMMA	00	01054
007144	000254	A						
007145	001010	A	1057	JAZ	INF3	COMMA EXIT	00	01055
007146	007161	A						
007147	006140	A	1058	SUBI	02	PERIOD	00	01056
007150	000002	A						
007151	001010	A	1059	JAZ	INF4	PERIOD EXIT	00	01057
007152	007157	A						
007153	002000	A	1060	CALL	OUTG	PRINT INVALID MESSAGE	00	01058
007154	007475	A						
007155	001000	A	1061	JMP	INF2	ABORT	00	01059
007156	007165	A						
007157	044010	A	1062	INF4	INR	NORMAL EXIT	00	01060
007160	044007	A	1063		INR		00	01061
007161	044006	A	1064	INF3	INR	COMMA EXIT	00	01062
007162	044005	A	1065		INR		00	01063
007163	044004	A	1066	INF1	INR	DELETE PREVIOUS CHARACTER EXIT	00	01064
007164	044003	A	1067		INR		00	01065
007165	044002	A	1068	INF2	INR	ABORT INPUT EXIT	00	01066
007166	044001	A	1069		INR		00	01067

007167	001000	A	1070	JMP*	0	EXIT	00	01068
007170	100000	A						
007170			1071	INPF	BES	0		00 01069
007171	001000	A	1072	JMP	INF5			00 01070
007172	007133	A						
			1073	*				00 01071
			1074	*	INPUT OCTAL NUMBER FROM TTY KEYBOARD			00 01072
			1075	*	ASSEMBLE AS 16 BIT NUMBER IN A REG			00 01073
			1076	*	ONLY OCTAL NUMBERS ACCEPTED			00 01074
			1077	*				00 01075
007173	005001	A	1078	ING7	TZA			00 01075
007174	054354	A	1079		STA	TS02	TEMP STORAGE FOR OCTAL NUMBER	00 01077
007175	050471	A	1080		STA	TS04	TEMP STORAGE FOR DIGIT COUNTER	00 01078
007176	064356	A	1081		STB	TS07		00 01079
007177	005002	A	1082		TZB			00 01080
007200	002000	A	1083	ING5	CALL	INPC	INPUT ONE CHARACTER	00 01081
007201	007033	A						
007202	001000	A	1084	JMP*	INPG		TERMINATE EXIT	00 01082
007203	107250	A						
007204	001000	A	1085	JMP	ING2		ABORT INPUT EXIT	00 01083
007205	007243	A						
007206	001000	A	1086	JMP	ING1		DELETE PREVIOUS CHARACTER EXIT	00 01084
007207	007272	A						
007210	054342	A	1087		STA	TS05	SAVE INPUT	00 01085
007211	006140	A	1088		SUBI	0260		00 01086
007212	000260	A						
007213	001004	A	1089	JAN	ING6		INVALID IF NOT OCTAL NUMBER	00 01087
007214	007255	A						
007215	006140	A	1090		SUBI	010		00 01088
007216	000010	A						
007217	001002	A	1091	JAP	ING6		INVALID IF NOT OCTAL NUMBER	00 01089
007220	007255	A						
007221	006120	A	1092	ADDI	010		RESTORE DIGIT	00 01090
007222	000010	A						
007223	054326	A	1093		STA	TS03	SAVE CHARACTER	00 01091
007224	014324	A	1094		LDA	TS02	INSERT CHARACTER	00 01092
007225	004443	A	1095		LLRL	3	INTO	00 01093
007226	114323	A	1096		ORA	TS03	OCTAL NUMBER	00 01094
007227	001020	A	1097		BSZ	**4	TOO MANY BITS ?	00 01095
007230	007233	A						
007231	001000	A	1098	JMP	IN 1	YES		00 01096
007232	007266	A						



007233	054315	A	1099	STA	TS02	NO	00	01097
007234	040471	A	1100	INR	TS04	INCR # DIGITS	00	01098
007235	001000	A	1101	JMP	ING5	GET NEXT DIGIT	00	01099
007236	007200	A						
007237	044010	A	1102	ING3	INR	INPG	NORMAL EXIT	00 01100
007240	044007	A	1103		INR	INPG		00 01101
007241	044006	A	1104	ING4	INR	INPG	COMMA EXIT	00 01102
007242	044005	A	1105		INR	INPG		00 01103
007243	044004	A	1106	ING2	INR	INPG	ABORT INPUT EXIT	00 01104
007244	044003	A	1107		INR	INPG		00 01105
007245	024307	A	1108		LOB	TS07		00 01106
007246	014302	A	1109		LDA	TS02	GET ASSEMBLED OCTAL NUMBER	00 01107
007247	001000	A	1110		JMP	0	EXIT	00 01108
007250	000000	A						
007250			1111	INPG	BES	0		00 01109
007251	002000	A	1112		CALL	INPI	INIT TTY BFR	00 01110
007252	007331	A						
007253	001000	A	1113		JMP	ING7		00 01111
007254	007173	A						
007255	014275	A	1114	ING6	LDA	TS05	GET LAST INPUT	00 01112
007256	006140	A	1115		SUBI	0254	IS IT A COMMA	00 01113
007257	000254	A						
007260	001010	A	1116		JAZ	ING4	YES	00 01114
007261	007241	A						
007262	006140	A	1117		SUBI	02	IS IT A PERIOD	00 01115
007263	000002	A						
007264	001010	A	1118		JAZ	ING3	YES	00 01116
007265	007237	A						
007266	002000	A	1119	ING8	CALL	OUTG	PRINT INVALID MESSAGE	00 01117
007267	007475	A						
007270	001000	A	1120		JMP	ING2	ABORT	00 01118
007271	007243	A						
			1121	*				00 01119
007272	014255	A	1122	ING1	LDA	TS02	DELETE LAST CHARACTER	00 01120
007273	004343	A	1123		LSRA	3		00 01121
007274	054254	A	1124		STA	TS02		00 01122
007275	010471	A	1125		LDA	TS04		00 01123
007276	005311	A	1126		DAR		REDUCE DIGIT COUNT	00 01124
007277	001000	A	1127		JMP	ING5		000 01125
007300	007200	A						
			1128	*				000 01126
			1129	*	SENSE TTY BFR RDY			000 01127

			1130	*					B00 01128
007301	054020	A	1131	INH1	STA	INH2	SAVE A		B00 01129
007302	014014	A	1132		LDA	INPH	MODIFY RETURN		B00 01130
007303	006110	A	1133		DRAI	0100000			B00 01131
007304	100000	A							
007305	054006	A	1134		STA	INH3+1			B00 01132
007306	014061	A	1135		LDA	STTY	ADJ SBR		B00 01133
007307	006110	A	1136		DRAI	0101200			B00 01134
007310	101200	A							
007311	054001	A	1137		STA	*+2			B00 01135
007312	014007	A	1138		LDA	INH2	RESTORE A		B00 01136
007313	101000	A	1139	INH3	SEN	0,*			B00 01137
007314	007313	A							
007315	044001	A	1140		INR	INPH			00 01138
007316	001000	A	1141		JMP	0			00 01139
007317	000000	A							
007317			1142	INPH	BES	0	ENTER		00 01140
007320	001000	A	1143		JMP	INH1			00 01141
007321	007301	A							
007322	000000	A	1144	INH2	DATA	0			00 01142
			1145	*					00 01143
			1146	*	INPUT CHARACTER FROM TTY W/OUT SENSING BFR RDY				00 01144
			1147	*					00 01145
007323	014044	A	1148	INI1	LDA	STTY	ADJ. CIA		00 01146
007324	006110	A	1149		DRAI	0102500			00 01147
007325	102500	A							
007326	054000	A	1150		STA	*+1			00 01148
007327	102500	A	1151		CIA	0	INPUT		00 01149
007330	001000	A	1152		JMP	0			00 01150
007331	000000	A							
007331			1153	INPI	BES	0	ENTER		00 01151
007332	001000	A	1154		JMP	INI1			00 01152
007333	007323	A							
			1155	*					00 01153
			1156	*	OUTPUT ONE CHARACTER FROM A REG TO TTY				00 01154
			1157	*					00 01155
007334	000000	A	1158	OUTA	ENTR	0			00 01156
007335	074212	A	1159		STX	TS01	SAVE X		00 01157
007336	005014	A	1160		TAX				00 01158
007337	014030	A	1161		LDA	STTY			00 01159
007340	006110	A	1162		DRAI	0101100	ADJUST TTY DA		00 01160
007341	101100	A							

007342	054005	A	1163	STA	**7		00	01161
007343	005120	A	1164	ADDI	002000		00	01162
007344	002000	A						
007345	054013	A	1165	STA	OUT1		00	01163
007346	005041	A	1166	TXA			00	01164
007347	006030	A	1167	LOXI	32767	TIME-OUT CONSTANT	0	*****
007350	077777	A						
007351	101000	A	1168	SEN	0,OUT1	WRITE REGISTER READY	00	01166
007352	007361	A						
007353	002000	A	1169	CALL	TOUT		00	01167
007354	007543	A						
007355	005011	A	1170	MERG	011		00	01168
007356	000115	A	1171	HLT	77		00	01169
007357	001000	A	1172	JMP	**6		00	01170
007360	007351	A						
007361	103100	A	1173	OUT1	DAR	0	00	01171
007362	034165	A	1174	LDX	TS01	RESTORE X	00	01172
007363	001000	A	1175	JMP*	OUTA	RETURN	00	01173
007364	107334	A						
			1176 *				00	01174
			1177 *				00	01175
007370			1178	ORG	07370		00	01176
007370	000001	A	1179	STTY	DATA	01	00	01177
			1180 *				00	01178
			1181 *				00	01179
			1182 *				00	01180
			1183 *	OUTPUT TWO CHARACTERS FROM A REG TO TTY (HIGH ORDER FIRST)				00 01181
			1184 *	ENTER WITH CHARACTERS IN A REG				00 01182
			1185 *				00	01183
007371	000000	A	1186	OUTB	ENTR	0	00	01184
007372	064161	A	1187	STB	TS06	SAVE B	00	01185
007373	004550	A	1188	LLSR	8		00	01186
007374	002000	A	1189	CALL	OUTA	OUTPUT FIRST CHAR	00	01187
007375	007334	A						
007376	004450	A	1190	LLRL	8		00	01188
007377	002000	A	1191	CALL	OUTA	OUTPUT SECOND CHAR	00	01189
007400	007334	A						
007401	024152	A	1192	LOB	TS06	RESTORE B	00	01190
007402	001000	A	1193	JMP*	OUTB	RETURN	00	01191
007403	107371	A						
			1194 *				00	01192
			1195 *	OUTPUT CARRIAGE RETURN AND LINE FEED TO TTY				00 01193

			1198 *				00 01194
007404	000000	A	1197	OUTC	ENTR	0	00 01195
007405	054005	A	1198		STA	*+6	00 01195
007406	006010	A	1199		LDAI	0106512	00 01197
007407	106612	A					
007410	002000	A	1200		CALL	OUTB	00 01198
007411	007371	A					
007412	006010	A	1201		LDAI	0	00 01199
007413	000000	A					
007414	001000	A	1202		JMP*	OUTC	00 01200
007415	107404	A					
			1203 *				00 01201
			1204 *	OUTPUT OCTAL WORD AND A SPACE TO TTY			00 01202
			1205 *				00 01203
007416	000000	A	1206	OUTE	ENTR	0	00 01204
007417	064022	A	1207		STR	*+19	00 01205
007420	005002	A	1208		TZB		00 01206
007421	004557	A	1209		LLSR	15	00 01207
007422	005122	A	1210		IBR		00 01208
007423	006110	A	1211	OUT2	DRAI	'0'	00 01209
007424	000260	A					
007425	002000	A	1212		CALL	OUTA	00 01210
007426	007334	A					
007427	005001	A	1213		TZA		00 01211
007430	004443	A	1214		LLRL	3	00 01212
007431	001020	A	1215		JBZ	*+4	00 01213
007432	007435	A					
007433	001000	A	1216		JMP	OUT2	00 01214
007434	007423	A					
007435	006010	A	1217		LDAI	0240	00 01215
007436	000240	A					
007437	002000	A	1218		CALL	OUTA	00 01216
007440	007334	A					
007441	006020	A	1219		LDRI	0	00 01217
007442	000000	A					
007443	001000	A	1220		JMP*	OUTE	00 01218
007444	107416	A					
			1221 *				00 01219
			1222 *	OUTPUT MESSAGE TO TTY (X REG CONTAINS ADDRESS OF MESSAGE)			00 01220
			1223 *				00 01221
007445	000000	A	1224	OUTD	ENTR	0	00 01222
007446	015000	A	1225		LDI	0	00 01223



007447	001010	A	1226	JAZ*	OUTD		00	01224
007450	107445	A						
007451	002000	A	1227	CALL	OUTB		00	01225
007452	007371	A						
007453	005144	A	1228	IXR			00	01226
007454	001000	A	1229	JMP	OUTD+1		00	01227
007455	007446	A						
			1230	*			00	01228
			1231	*	OUTPUT OCTAL MEMORY ADDRESS TO TTY PRINTER		00	01229
			1232	*			00	01230
007456	000000	A	1233	OUTF	ENTR	0	00	01231
007457	054071	A	1234	STA	T902	SAVE WORD	00	01232
007458	005010	A	1235	LOAI	'('	PAREN SPACE	00	01233
007459	124240	A						
007462	002000	A	1236	CALL	OUTB	PRINT CHAR	00	01234
007463	007371	A						
007464	014054	A	1237	LDA	T902		00	01235
007465	002000	A	1238	J4PM	OUTE	OUTPUT OCTAL WORD	00	01236
007466	007416	A						
007467	005010	A	1239	LOAI	') '	RIGHT PARENTHESIS AND SPACE	00	01237
007470	124540	A						
007471	002000	A	1240	CALL	OUTB		00	01238
007472	007371	A						
007473	001000	A	1241	JMP*	OUTF		00	01239
007474	107455	A						
			1242	*			00	01240
			1243	*	INVALID INPUT--PRINT MESSAGE		00	01241
			1244	*			00	01242
007475	000000	A	1245	OUTG	ENTR	0	00	01243
007476	005030	A	1246	LOXI	MSG5	INVALID MESSAGE	00	01244
007477	005453	A						
007500	002000	A	1247	CALL	OUTD	OUTPUT MESSAGE	00	01245
007501	007445	A						
007502	001000	A	1248	JMP*	OUTG		00	01246
007503	107475	A						
			1249	*			00	01247
			1250	*	OUTPUT CONTROL CHARACTER SUBROUTINE		00	01248
			1251	*			00	01249
007504	054020	A	1252	OUT3	STA	OUTH+3	00	01250
007505	074020	A	1253	STX	OUTH+4	SAVE X	00	01251
007506	034013	A	1254	LUX	OUTH	A=CONTROL	00	01252
007507	015000	A	1255	LDA	0,1	CHARACTER	00	01253

007510	002000	A	1256	CALL	OUTA	OUTPUT CHARACTER	00	01254
007511	007334	A						
007512	006030	A	1257	LXI	077777	INIT	00	01255
007513	077777	A						
007514	002000	A	1258	CALL	TDLY	TIME DELAY	00	01256
007515	007527	A						
007516	044003	A	1259	INR	OUTH	SET RETURN	00	01257
007517	014005	A	1260	LDA	OUTH+3	RESTORE A	00	01258
007520	034005	A	1261	LIX	OUTH+4	RESTORE X	00	01259
007521	001000	A	1262	JMP	0	RETURN	00	01260
007522	000000	A						
007522			1263	OUTH	BES	0	00	01261
007523	001000	A	1264	JMP	OUT3	LOOP	00	01262
007524	007504	A						
007525			1265	BSS	2	STORAGE FOR A + X	00	01263
			1266	*			00	01264
			1267	*	TIME DELAY SUBROUTINE		00	01265
			1268	*			00	01266
007527	000000	A	1269	TDLY	ENTR	0	00	01267
007530	005344	A	1270	DXR			00	01268
007531	001040	A	1271	JXZ*	TDLY	RETURN	00	01269
007532	107527	A						
007533	001000	A	1272	JMP	*-3		00	01270
007534	007530	A						
			1273	*			00	01271
			1274	*	I/O TIME-OUT SUBROUTINE		00	01272
			1275	*			00	01273
007535	005344	A	1276	TOU1	DXR		00	01274
007536	001040	A	1277	JXZ*	TOUT	TIME-OUT RETURN	00	01275
007537	107543	A						
007540	044002	A	1278	INR	TOUT	SET UP FOR	00	01276
007541	044001	A	1279	INR	TOUT	NORMAL EXIT	00	01277
007542	001000	A	1280	JMP	0		00	01278
007543	000000	A						
007543			1281	TOUT	BES	0	00	01279
007544	001000	A	1282	JMP	TOU1		00	01280
007545	007535	A						
			1283	*			00	01281
			1284	*	DATA TABLE		00	01282
			1285	*			00	01283
007546	000002	A	1286	DATA	2		00	01284
007547	000254	A	1287	DATA	0854		00	01285

			1288 *						00 01286
007550	000000	A	1289 TS01	DATA	0		TEMPORARY STORAGE		00 01287
007551	000000	A	1290 TS02	DATA	0		TEMPORARY STORAGE		00 01288
007552	000000	A	1291 TS03	DATA	0		TEMPORARY STORAGE		00 01289
007553	000000	A	1292 TS05	DATA	0		TEMPORARY STORAGE		00 01290
007554	000000	A	1293 TS06	DATA	0		TEMPORARY STORAGE		00 01291
007555	000000	A	1294 TS07	DATA	0		TEMPORARY STORAGE		00 01292
			1295 *						00 01293
007000	A	1296		EVD		EBGX			00 01294

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

000442 A SCON	000440 A SFLG	000441 A SMEN	007370 A STTY
007755 A BLEA	007577 A BLSA	000464 A CKSM	007546 A D2
007547 A D254	005206 A DHLT	005305 A DRCD	005237 A DUMP
000443 A EAR1	005636 A EARG	006171 A EBG1	006204 A EBG2
005150 A EBGN	007000 A EBGX	005172 A EBP1	005136 A EBPX
000444 A EBR1	005665 A EBRG	006064 A ECN2	006035 A ECN3
006024 A ECNG	005776 A EDU1	006003 A EDU2	006017 A EDU4
005761 A EDUM	005754 A EGD1	005741 A EGOT	000454 A EK00
000455 A EK01	000456 A EK02	005100 A ELDC	006327 A ELDD
005214 A EDR	005125 A EPU1	005100 A EPUN	005603 A ESR1
005614 A ESR2	005575 A ESR4	005632 A ESR5	005551 A ESRC
006500 A ESZ1	006515 A ESZ2	006471 A ESZA	006522 A ESZB
006161 A ESZC	006536 A ETAB	006271 A ETBL	006251 A ET04
006221 A ETOP	005536 A ETR1	005546 A ETR2	005504 A ETR3
005450 A ETRP	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 EX26	000423 A EX27	000424 A EX30	000425 A EX31
000426 A EX32	000465 A EXEC	006323 A EXIT	000445 A EXR1
005713 A EXRG	000462 A FRST	006412 A HLTP	006723 A INA1
006732 A INA2	006742 A INB1	007026 A INC1	007030 A INC2
007004 A INC3	007062 A IND1	007064 A IND2	007072 A IND3
007036 A IND4	007123 A INE1	007125 A INE2	007076 A INE3
007163 A INF1	007165 A INF2	007161 A INF3	007157 A INF4
007133 A INF5	007272 A ING1	007243 A ING2	007237 A ING3
007241 A ING4	007200 A ING5	007255 A ING6	007173 A ING7
007266 A INGB	007301 A INH1	007322 A INH2	007313 A INH3
007323 A INI1	005433 A INI2	005444 A INI3	005404 A INIT



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005737	A	INPA	006753	A	INPB	007033	A	INPC	007067	A	INPD
007130	A	INPE	007170	A	INPF	007250	A	INPG	007317	A	INPH
007331	A	INPI	000460	A	K100	000461	A	K200	000457	A	K40
000463	A	LAST	000470	A	LOAD	006413	A	MSG1	006434	A	MSG2
006447	A	MSG3	006457	A	MSG4	006463	A	MSG5	007361	A	OUT1
007423	A	OUT2	007504	A	OUT3	007334	A	OUTA	007371	A	OUTB
007404	A	OUTC	007445	A	OUTD	007416	A	OUTE	007456	A	OUTF
007475	A	OUTG	007522	A	OUTH	005334	A	PBOOT	005327	A	PDATA
006367	A	PHLT	005373	A	PLD1	005370	A	PLDR	005226	A	Pdff
005270	A	PRCD	006356	A	PWON	005340	A	PWR1	005353	A	PWR2
005342	A	PWRD	000472	A	PWRK	006370	A	PWRU	006406	A	SAVA
006407	A	SAVB	006411	A	SAVO	006410	A	SAVX	006601	A	SSW1
006606	A	SSW2	006623	A	SSW3	006636	A	SSW4	006647	A	SSW5
006656	A	SSW6	006707	A	SSWE	006610	A	SSWL	006642	A	SSWN
006546	A	SSWP	006672	A	SSWR	006704	A	SSWS	006720	A	SSWT
000467	A	TAPE	000466	A	TAPN	007527	A	TDLY	007535	A	TDU1
007543	A	TOUT	007550	A	TS01	007551	A	TS02	007552	A	TS03
000471	A	TS04	007553	A	TS05	007554	A	TS06	007555	A	TS07

0 ERRORS ASSEMBLY COMPLETE



