

000414	016507	A	94	EX14	DATA	INPE		INPUT TWO ALPHA CHAR ROUTINE	
000415	016547	A	95	EX15	DATA	INPF		INPUT COMMA/PERIOD TERMINATOR ROUTINE	
000416	016627	A	96	EX16	DATA	INPG		INPUT OCTAL NUMBER ROUTINE	
000417	017136	A	97	EX17	DATA	TOUT		TIME-OUT ROUTINE	
000420	017122	A	98	EX20	DATA	TDLY		TIME DELAY ROUTINE	
000421	016325	A	99	EX21	DATA	SSWT		STANDARD SENSE SWITCH ROUTINE	
000422	014000	A	100	EX26	DATA	ELOC		LOWEST CORE LOCATION USED BY THE EXEC	
000423	015443	A	101	EX27	DATA	ESZC		DETERMINE MEMORY SIZE	
000424	016040	A	102	EX30	DATA	MSG3		MEMORY SIZE IS ... MESSAGE	
000425	016716	A	103	EX31	DATA	INPH		SENSE TTY BFR RDY	
000426	016730	A	104	EX32	DATA	INPI		INIT TTY (INPUT CHAR W/OUT SENSE BFR RDY)	
000427	017211	A	105	EX33	DATA	EDEX		HIGHEST LOCATION USED BY THE EXEC	
000430	000000	A	106	V75	DATA	0		V75 CPU FLAG	B
000431	000000	A	107	E3R1	DATA	0		PSEUDO REGISTER 3	B
000432	000000	A	108	E4R1	DATA	0		PSEUDO REGISTER 4	B
000433	000000	A	109	E5R1	DATA	0		PSEUDO REGISTER 5	B
000434	000000	A	110	E6R1	DATA	0		PSEUDO REGISTER 6	B
000435	000000	A	111	E7R1	DATA	0		PSEUDO REGISTER 7	B
			112	*					
			113	*					
			114	*					
000440			115	*	ORG	0440			
			116	*					
			117	*	EXECUTIVE DATA TABLE				
			118	*					
000440	000000	A	119	SFLG	DATA	0		LOOP ON ERROR FLAG, 0=DON'T LOOP 1=LOOP	
000441	000000	A	120	\$MEM	DATA	0		MEMORY SIZE (HIGHEST AVAIL CORE)	
000442	000000	A	121	\$CON	DATA	0		0=CONSOLE MODE 1=TTY MODE	
			122	*					
000443	000000	A	123	EAR1	DATA	0		PSEUDO A REG	
000444	000000	A	124	EBR1	DATA	0		PSEUDO B REG	
000445	000000	A	125	EXR1	DATA	0		PSEUDO X REG	
000446			126	ETS1	BSS	6		TEMPORARY STORAGE	
000454	000240	A	127	EK00	DATA	0240		ASCII BLANK(SPACE)	
000455	000215	A	128	EK01	DATA	0215		ASCII CARRIAGE RETURN	
000456	000212	A	129	EK02	DATA	0212		ASCII LINE FEED	
000457	000040	A	130	K40	DATA	040			
000460	000100	A	131	K100	DATA	0100			
000461	000200	A	132	K200	DATA	0200			
000462			133	FRST	BSS	1		INITIAL PUNCH ADDRESS	
000463			134	LAST	BSS	1		LAST PUNCH ADDRESS	
000464	000000	A	135	CKSM	DATA	0		CHECKSUM	
000465	000000	A	136	EXEC	DATA	0		EXECUTION ADDRESS	
000466	000224	A	137	TAPN	DATA	0224		PUNCH OFF CODE	
000467	000222	A	138	TAPE	DATA	0222		PUNCH ON CODE	
000470	014024	A	139	LOAD	DATA	LODE		ADDRESS OF BINARY LOADER	
000471	000000	A	140	TS04	DATA	0		DIGIT COUNTER FOR INPG	
000472	000000	A	141	PWRK	DATA	0		POWER FAIL COUNTER	
000473	000001	A	142	\$TTY	DATA	1			
000474			143	OADR	BSS	1		OBJECT MEDIA DEVICE ADDRESS	
000475	000221	A	144	XON	DATA	0221		READER ON	
000476	000223	A	145	XOFF	DATA	0223		READER OFF	
000477	177700	A	146	MASK	DATA	0177700		I/O INSTRUCTION MASK	
			147	*					
			148	*					
			149	*					
			150	*					
			151	*	*****				
			152	*					
014000			153	*	ORG	014000			
			154	*					
			155	*	*****				
			156	*					
			157	*					
			158	*					
			159	*					
014000	A		160	ELOC	EQU	*		LOWEST CORE LOCATION USED BY THE EXEC	
			161	*					
014000	007400	A	162	EBG0	ROF				
014001	007411	A	163		DATA	07411		A V75 SYSTEM ?	B
014002	001001	A	164		JOF	NOV75			B
014003	014007	A							
014004	006010	A	165		LDAI	-1		YES	B
014005	177777	A							
014006	050430	A	166		STA	V75			B
014007	001000	A	167	NOV75	JMP	EBG1		COLD START ENTRY	B
014010	015453	A							
			168	*					
014011	000000	A	169	SET	ENTR			SET IN DEVICE ADDRESS	
			170	*					
014012	025000	A	171		LDB	0,1			
014013	001020	A	172		JBZ*	SET			
014014	114011	A							
014015	016000	A	173		LDA	0,2			
014016	150477	A	174		ANA	MASK			
014017	110474	A	175		ORA	OADR			
014020	056000	A	176		STA	0,2			
014021	005144	A	177		IXR				
014022	001000	A	178		JMP	SET+1			
014023	014012	A							
			179	*					
			180	*				CARD BINARY LOADER	
			181	*					
			182	*					
			183	*	BINARY LOAD ROUTINE				

			184 *					
014024	014024	A	185	LODE	EQU	*		
014024	010474	A	186	LDA	OADR			
014025	006150	A	187	ANAI	020			
014026	000020	A						
014027	001010	A	188	JAZ	LOAT			
014030	014057	A						
			189 *					
			190 *					HIGH SPEED OBJECT TAPE LOAD
			191 *					
	014031	A	192	LOAP	EQU	*		
014031	014050	A	193	LDA	EXC4			MODIFY I/O INSTRUCTIONS
014032	120474	A	194	ADD	OADR			
014033	054061	A	195	STA	END+3			
014034	120460	A	196	ADD	K100			
014035	054077	A	197	STA	INP+2			
014036	124041	A	198	ADD	O1K			
014037	054177	A	199	STA	INPT+1			
014040	014045	A	200	LDA	OSK			
014041	054054	A	201	STA	END+4			
014042	054054	A	202	STA	END+5			
014043	054054	A	203	STA	END+6			
014044	054071	A	204	STA	INP+3			
014045	054071	A	205	STA	INP+4			
014046	014165	A	206	LOA	LDA	IN		
014047	150477	A	207	ANA	MASK			
014050	120474	A	208	ADD	OADR			
014051	054162	A	209	STA	IN			
014052	005101	A	210	INCR	1			LOAD AND GO
014053	002000	A	211	O2K	JMPM	INP		
014054	014133	A						
014055	001000	A	212	JMP	LOAW			
014056	015673	A						
			213 *					
			214 *					SLOW SPEED OBJECT TAPE LOAD
			215 *					
	014057	A	216	LOAT	EQU	*		
014057	014023	A	217	LDA	LXOF			MODIFY I/O INSTRUCTIONS
014060	054034	A	218	STA	END+3			
014061	005311	A	219	DAR				
014062	054052	A	220	STA	INP+2			
014063	014014	A	221	LDA	O1K			
014064	124013	A	222	ADD	O1K			
014065	054030	A	223	STA	END+4			
014066	054047	A	224	STA	INP+3			D
014067	006010	A	225	LDAI	OTPT			
014070	014245	A						
014071	054025	A	226	STA	END+5			
014072	054044	A	227	STA	INP+4			D
014073	014010	A	228	LDA	LCKS			
014074	054023	A	229	STA	END+6			
014075	014007	A	230	LDA	SEN2			
014076	120474	A	231	ADD	OADR			
014077	054137	A	232	STA	INPT+1			
014100	001000	A	233	O1K	JMP	LOA		
014101	014046	A						
014102	100400	A	234	EXC4	EXC	0400		
014103	010476	A	235	LXOF	LDA	XOFF		
014104	010464	A	236	LCKS	LDA	CKSM		
014105	101200	A	237	SEN2	SEN	0200,05000		
014106	005000	A						
	014106	A	238	OSK	EQU	SEN2+1		
014107	007400	A	239	ROF	ROF			
014110	005002	A	240	TZB	TZB			
014111	074002	A	241	STX	DATA	074002		* ,STX ,LOAD
014112	010464	A	242	END	LDA	CKSM		
014113	001011	A	243	JIF	011,LRCO			(GOOD LOAD RCD)
014114	014140	A						
014115	014116	A	244	DATA	**1,**1,**1			READER OFF
014116	014117	A						
014117	014120	A						
014120	014121	A	245	DATA	**1			
014121	005302	A	246	DECR	2			
014122	003010	A	247	XAZ	TZB			
014123	014110	A						
014124	014125	A	248	LDA	MODE			
014125	001010	A	249	JAZ	**4			
014126	014131	A						
014127	003022	A	250	XIF	022,STX			SET RETURN IF GOOD EXEC RCD
014130	014111	A						
014131	030462	A	251	LDX	FRST			SET LAST ADDR READ
014132	001000	A	252	JMP	*			RETURN,OR EXECUTE PROGRAM
014133	014132	A						
			253 *					INIT SET TO PRELIM TEST
014133			254	INP	BES	0		*ENTRY POINT
014134	054115	A	255	STA	MODE			SAVE LOAD MODE
014135	014136	A	256	DATA	**1,**1,IN			READER ON
014136	014137	A						
014137	014234	A						
014140	007401	A	257	LRCO	SOF			*LOAD A RCD
014141	002000	A	258	CALL	INPT			FIND RCD MARK
014142	014236	A						
014143	004547	A	259	LLSR	7			LOOK FOR LEADER
014144	001010	A	260	JAZ	**3			*
014145	014141	A						

014146	002000	A	261	CALL	INPT	*	
014147	014236	A					
014150	001010	A	262	JAZ	**4		
014151	014154	A					
014152	001000	A	263	JMP	**4	*	
014153	014146	A					
014154	050464	A	264	STA	CKSM	RESET CHECKSUM	
014155	002000	A	265	CALL	LWRD	GET RCD LENGTH	
014156	014204	A					
014157	064073	A	266	STB	RCDL	IF 0	
014160	003020	A	267	XBZ	ROF	SET EXEC FLAG	
014161	014107	A					
014162	002000	A	268	CALL	LWRD	GET ADDR	
014163	014204	A					
014164	005024	A	269	TBX			
014165	060462	A	270	STB	FRST	SAVE ADDR	
014166	002000	A	271	LDATA	CALL	LWRD	GET DATA OR CHECKSUM
014167	014204	A					
014170	014062	A	272	LDA	RCDL		
014171	001010	A	273	JAZ	END	(END OF RCD)	
014172	014112	A					
014173	005311	A	274	DAR			
014174	054056	A	275	STA	RCDL	COUNT WORDS READ	
014175	014054	A	276	LDA	MODE		
014176	001004	A	277	JAN	**3		
014177	014201	A					
014200	065000	A	278	STB	0,1		
014201	005144	A	279	IXR		SET NEXT ADDR	
014202	001000	A	280	JMP	LDATA		
014203	014166	A					
			281 *				
			282 *	READ AND CHECKSUM BINARY WORD			
			283 *				
014204	000007	A	284	LWRD	DATA	7	ENTR POINT, DATA FOR LOADING PURPOSES ONLY
014205	005103	A	285		INCR	3	
014206	005111	A	286		IAR		
014207	054023	A	287	LWR1	STA	TEMP	SET LOOP COUNTER
014210	002000	A	288	CALL	INPT		GET SIX BITS
014211	014236	A					
014212	140457	A	289	SUB	K40		REMOVE CODE
014213	130457	A	290	ERA	K40		
014214	004005	A	291		ASLB	5	
014215	004041	A	292		LRLB	1	
014216	005032	A	293		MERG	032	ASSEMBLE DATA WORD
014217	004346	A	294		LSRA	6	
014220	005311	A	295		DAR		
014221	001002	A	296		JAP	END+3	ERROR
014222	014115	A					
014223	124007	A	297		ADD	TEMP	
014224	001002	A	298		JAP	LWR1	
014225	014207	A					
014226	005021	A	299		TBA		
014227	130464	A	300		ERA	CKSM	CALCULATE CHECKSUM
014230	050464	A	301		STA	CKSM	
014231	001000	A	302		JMP*	LWRD	
014232	114204	A					
014233			303	TEMP	BSS	1	
			304 *				
			305 *	INPUT PAPER TAPE			
			306 *				
014234	102500	A	307	IN	CIA	0	CIA
014235	001000	A	308		JMP	*	RETURN
014236	014235	A					
014236			309	INPT	BES	0	*ENTRY
014237	000001	A	310		DATA	1,IN	SEN IBFR RDY
014240	014234	A					
014241	001000	A	311		JMP	**2	
014242	014237	A					
014243	103101	A	312	OUT	OAR	01	
014244	001000	A	313		JMP	*	
014245	014244	A					
014245			314	OTPT	BES	0	
014246	101101	A	315		SEN	0101,OUT	
014247	014243	A					
014250	001000	A	316		JMP	**2	
014251	014246	A					
			317 *				
014252			318	MODE	BSS	1	
014253			319	RCDL	BSS	1	RCD LENGTH
			320 *				
			321 *	EPUN==OUTPUT AN OBJECT PROGRAM			
			322 *	BEGINNING, ENDING, AND EXECUTION ADDRESSES			
			323 *	ARE SPECIFIED BY USER			
			324 *				
			325 *				
			326 *				
			327 *				
014254	005304	A	328	EPUN	DECR	04	PRESET EXEC ADDR TO =1
014255	070450	A	329		STX	ETS1+2	
014256	006020	A	330		LDBI	ETS1	ADDRS FOR STORING INPUT PARAMETERS
014257	000446	A					
014260	002000	A	331	CALL	INPG		INPUT OCTAL PARAMETER
014261	016627	A					
014262	001000	A	332	JMP	ETOP		TERMINATION EXIT VIA SS3
014263	015512	A					

014264	001000	A	333	JMP	ETOP	ABORT
014265	015512	A				
014266	001000	A	334	JMP	EPUI	COMMA EXIT--GET NEXT PARAMETER
014267	014302	A				
			335 *	NORMAL RETURN FROM INPG		
014270	056000	A	336	STA	0,2	
014271	002000	A	337	CALL	DPOT	DETERMINE PUNCH OUTPUT
014272	017164	A				
014273	010446	A	338	LDA	ETS1	BEGINNING PUNCH ADDRESS
014274	020447	A	339	LDB	ETS1+1	ENDING PUNCH ADDRESS
014275	030450	A	340	LDX	ETS1+2	EXEC ADDR
014276	002000	A	341	CALL	DUMP	
014277	014336	A				
014300	001000	A	342	JMP	ETOP	RETURN TO EXEC SUPERVISOR
014301	015512	A				
			343 *			
014302	056000	A	344	EPUI	STA	0,2
014303	005021	A	345	TBA		
014304	006140	A	346	SUBI	ETS1+2	
014305	000450	A				
014306	001010	A	347	JAZ	EXIT	ERROR--TOO MANY INPUTS
014307	015631	A				
014310	005122	A	348	IBR		
014311	001000	A	349	JMP	EPUN+4	GET NEXT PARAMETER
014312	014260	A				
			350 *			
			351 *			
			352 *	BINARY DUMP ROUTINE		
			353 *			
014313	010463	A	354	EOR	LDA	LAST
014314	001010	A	355	JAZ	POFF=2	*END OF RCD (BOOTSTRAP DUMP)
014315	014323	A				
014316	010464	A	356	LDA	CKSM	
014317	002000	A	357	CALL	PWRD	PUNCH CHEKSUM
014320	014426	A				
014321	001001	A	358	JOF	PRCD	(NOT EXEC RCD)
014322	014354	A				
014323	002000	A	359	CALL	PLDR	PUNCH TRAILER
014324	014454	A				
014325	002000	A	360	POFF	CALL	OUTH,0224
014326	017115	A				
014327	000224	A				
014330	002000	A	361	CALL	OUTH,0201	PRINT ENABLE
014331	017115	A				
014332	000201	A				
014333	010462	A	362	LDA	FRST	RESTORE REGISTERS
014334	020463	A	363	LDB	LAST	
014335	001000	A	364	JMP	*	RETURN
014336	014335	A				
014336			365	DUMP	BES	0
014337	050462	A	366	STA	FRST	*ENTRY POINT SAVE REGISTERS
014340	060463	A	367	STB	LAST	
014341	070465	A	368	STX	EXEC	
014342	005014	A	369	TAX		SET LOAD ADDR
014343	002000	A	370	CALL	OUTH,0203	PRINT OFF
014344	017115	A				
014345	000203	A				
014346	002000	A	371	CALL	OUTH,0222	TURN PUNCH ON
014347	017115	A				
014350	000222	A				
014351	002000	A	372	CALL	PLDR	PUNCH LEADER
014352	014454	A				
014353	060464	A	373	STB	CKSM	RESET CHECKSUM
014354	007401	A	374	PRCD	SOB	*PUNCH A RCD
014355	070446	A	375	STX	ETS1	CALC RECORD LENGTH
014356	010463	A	376	LDA	LAST	
014357	140446	A	377	SUB	ETS1	
014360	005112	A	378	INCR	012	
014361	001002	A	379	JAP	DRCD	(DATA RECORD)
014362	014371	A				
014363	030465	A	380	LDX	EXEC	SET EXEC ADDR
014364	005041	A	381	TXA		
014365	001004	A	382	JAN	POFF	(NO EXEC RCD)
014366	014325	A				
014367	007400	A	383	ROF		
014370	005001	A	384	TZA		SET RCD LENGTH = 0
014371	140460	A	385	DRCD	SUB	K100
014372	001004	A	386	JAN	++3	(SHORT RCD)
014373	014375	A				
014374	020460	A	387	LDB	K100	SET FOR MAX RCD
014375	005301	A	388	DECR	1	
014376	002000	A	389	CALL*	PCHR	PUNCH ONE CHARACTER
014377	117174	A				
014400	002000	A	390	CALL*	PCHR	PUNCH ONE CHARACTER
014401	117174	A				
014402	002000	A	391	CALL*	PCHR	PUNCH ONE CHARACTER
014403	117174	A				
014404	005001	A	392	TZA		
014405	002000	A	393	CALL*	PCHR	PUNCH ONE CHARACTER
014406	117174	A				
014407	005021	A	394	TBA		
014410	002000	A	395	CALL	PWRD	PUNCH RCD LENGTH
014411	014426	A				
014412	005041	A	396	TXA		
014413	002000	A	397	PDATA	CALL	PWRD
						PUNCH ADDR/DATA

014414	014426	A							
014415	001020	A	398	JBZ	EOR			(END OF RCD)	
014416	014313	A							
014417	005322	A	399	DBR				COUNT DOWN	
014420	015000	A	400	PROQT	LDA	0,1		GET DATA	
014421	005144	A	401	IXR				SET NEXT ADDR	
014422	001000	A	402	JMP	PDATA				
014423	014413	A							
			403	*					
			404	*	CHECKSUM AND PUNCH BINARY WORD				
			405	*					
014424	020446	A	406	PWR1	LDB	ETS1			
014425	001000	A	407	JMP	*			RETURN	
014426	014425	A							
	014426	A	408	PWRD	EQU	**1		ENTRY POINT	
014427	060446	A	409	STB	ETS1				
014430	005012	A	410	TAB					
014431	130464	A	411	ERA	CKSM			CALCULATE CHECKSUM	
014432	050464	A	412	STA	CKSM				
014433	005021	A	413	TBA					
014434	005302	A	414	DECR	2				
014435	004022	A	415	ASLB	18			B = MAX NEGATIVE NUMBER	
014436	004554	A	416	LLSR	12			SHIFT IN FIRST SIX BITS	
014437	130457	A	417	PWR2	ERA	K40		ENDOCCE	
014440	120457	A	418	ADD	K40				
014441	001400	A	419	JSS3	ETOP			SS3 EXIT	
014442	015512	A							
014443	002000	A	420	CALL*	PCHR			PUNCH ONE CHARACTER	
014444	117174	A							
014445	005001	A	421	TZA					
014446	004446	A	422	LLRL	6			SHIFT IN NEXT SIX BITS	
014447	001020	A	423	JBZ	PWR1			ALL FINISHED	
014450	014424	A							
014451	001000	A	424	JMP	PWR2				
014452	014437	A							
014453	005000	A	425	NOP					
			426	*					
			427	*	PUNCH LEADER/TRAILER NULLS				
			428	*					
014454	000000	A	429	PLDR	ENTR	0			
014455	020461	A	430	PLDR	LDB	K200		SET FOR APPROX 12 INCHES	
014456	010461	A	431	PLDR	LDA	K200		ASCII NULL	
014457	002000	A	432	PLD1	CALL*	PCHR		PUNCH ONE CHARACTER	
014460	117174	A							
014461	001020	A	433	JBZ*	PLDR				
014462	114454	A							
014463	005322	A	434	DBR				COUNT	
014464	001400	A	435	JSS3	ETOP			SS3 EXIT	
014465	015512	A							
014466	001000	A	436	JMP	PLD1				
014467	014457	A							
			437	*					
			438	*					
			439	*					
			440	*					
			441	*	INIT--INITIALIZE MEMORY.				
			442	*	X=START ADDRESS				
			443	*	Y=FINAL ADDRESS				
			444	*	Z=INITIALIZING VALUE				
			445	*					
			446	*	FORMAT: IX,Y,Z.				
			447	*					
			448	*					
014470	006020	A	449	INIT	LDBI	ETS1		ADDRESS FOR STORING INPUT PARAMETERS	
014471	000446	A							
014472	002000	A	450	CALL	INPG			GET OCTAL PARAMETER	
014473	016627	A							
014474	001000	A	451	JMP	ETOP			TERMINATION EXIT VIA SS3	
014475	015512	A							
014476	001000	A	452	JMP	ETOP			ABORT	
014477	015512	A							
014500	001000	A	453	JMP	INI3			COMMA EXIT--GET NEXT PARAMETER	
014501	014530	A							
			454	*	NORMAL RETURN FROM INPG--A REG CONTAINS THIRD PARAMETER				
014502	030446	A	455	LDX	ETS1			START ADDRESS	
014503	050452	A	456	STA	ETS1+4			SAVE INITIALIZING VALUE	
014504	005021	A	457	TBA				TEST NO. PARAMETERS	
014505	006140	A	458	SUBI	ETS1+2			*	
014506	000450	A							
014507	001010	A	459	JAZ	**4			*	
014510	014513	A							
014511	001000	A	460	JMP	EXIT			*	
014512	015631	A							
014513	010447	A	461	LDA	ETS1+1			TEST PARAMETER	
014514	140446	A	462	SUB	ETS1			RANGE	
014515	001004	A	463	JAN	EXIT			***	
014516	015631	A							
014517	010452	A	464	INI2	LDA	ETS1+4		STORE VALUE Z	
014520	055000	A	465	STA	0,1				
014521	005041	A	466	TXA					
014522	140447	A	467	SUB	ETS1+1			FINAL ADDRESS	
014523	001010	A	468	JAZ	ETOP			YES	
014524	015512	A							
014525	005144	A	469	IXR					
014526	001000	A	470	JMP	INI2			STORE Z AT NEXT LOCATION	

014527	014517	A	471	*				
014530	056000	A	472	INI3	STA	0,2	SAVE INPUT PARAMETER	
014531	005122	A	473		IBR			
014532	001000	A	474		JMP	NTI+2	GET NEXT PARAMETER	
014533	014472	A	475	*				
			476	*				
			477	*				
			478	*				
			479	*			ETRP--TRAP TO LOCATION X STARTING FROM LOCATION Y.	
			480	*			IF LOCATION X IS REACHED: RESTORE LOCATIONS X & X+1, PRINT	
			481	*			THE CURRENT VALUES OF REGISTERS A,B,X, AND RETURN TO THE	
			482	*			EXEC SUPERVISOR	
			483	*				
			484	*			NOTE: CONTENTS OF LOCATIONS X AND X+1 MUST BE RESTORED BY	
			485	*			USER IF TRAP IS NOT REACHED BY THIS ROUTINE	
			486	*				
			487	*			FORMAT: TX,Y.	
			488	*				
			489	*				
014534	006020	A	490	ETRP	LDBI	ETS1	(B) POINTS TO PARAMETER TBL	
014535	000446	A						
014536	010446	A	491		LDA	ETS1	X # PREVIOUS Y	
014537	050447	A	492		STA	ETS1+1		
014540	002000	A	493		CALL	INPG	INPUT OCTAL NUMBER	
014541	016627	A						
014542	001000	A	494		JMP	ETOP	TERMINATION EXIT VIA S93	
014543	015512	A						
014544	001000	A	495		JMP	ETOP	ABORT	
014545	015512	A						
014546	001000	A	496		JMP	ETR1	COMMA EXIT--GET SECOND PARAMETER	
014547	014671	A						
			497	*			NORMAL RETURN FROM INPG	
014550	056000	A	498		STA	0,2	STORE PARAMETER	
014551	006030	A	499		LDXI	ETS1+2	TEMP STORE ADDRESS	
014552	000450	A						
014553	020446	A	500		LDB	ETS1	X PARAMETER (TRAP LOCATION)	
014554	016000	A	501		LDA	0,2		
014555	055000	A	502		STA	0,1	SAVE CONTENTS OF LOCATION X AT T802	
014556	016001	A	503		LDA	1,2		
014557	055001	A	504		STA	1,1	SAVE CONTENTS OF LOC. X+1 AT T803	
014560	006010	A	505		LDAI	02000	OP CODE FOR JMPM	
014561	002000	A						
014562	056000	A	506		STA	0,2	STORE JMPM AT LOC X	
014563	006010	A	507		LDAI	ETR2		
014564	014701	A						
014565	056001	A	508		STA	1,2	STORE TRAP RETURN ADDRESS AT X+1	
014566	001000	A	509		JMP	EGO1	LOAD PSEUDO REGISTERS AND GOTO LOC Y	
014567	015265	A						
			510	*				
014570	050443	A	511	ETR3	STA	EAR1	PUT A CONTENTS INTO PSEUDO A REG	
014571	060444	A	512		STB	EBR1	PUT B CONTENTS INTO PSEUDO B REG	
014572	070445	A	513		STX	EXR1	PUT X CONTENTS INTO PSEUDO X REG	
014573	010430	A	514		LDA	V75		B
014574	001010	A	515		JAZ	ETR3A		B
014575	014610	A						
014576	007130	A	516		ST,R3	E3R1	PUT R3 CONTENTS INTO PSEUDO R3	B
014577	000431	A						
014600	007140	A	517		ST,R4	E4R1	PUT R4 CONTENTS INTO PSEUDO R4	B
014601	000432	A						
014602	007150	A	518		ST,R5	E5R1	PUT R5 CONTENTS INTO PSEUDO R5	B
014603	000433	A						
014604	007160	A	519		ST,R6	E6R1	PUT R6 CONTENTS INTO PSEUDO R6	B
014605	000434	A						
014606	007170	A	520		ST,R7	E7R1	PUT R7 CONTENTS INTO PSEUDO R7	B
014607	000435	A						
014610	005001	A	521	ETR3A	TZA			B
014611	005511	A	522		ADPA			
014612	054501	A	523		STA	EDV1	PUT OVERFLOW IN PSEUDO OV	
014613	034065	A	524		LDX	ETR2		
014614	005344	A	525		DXR			
014615	005344	A	526		DXR		SET X REG TO TRAP LOCATION ADDRESS	
014616	010450	A	527		LDA	ETS1+2		
014617	020451	A	528		LDB	ETS1+3		
014620	055000	A	529		STA	0,1	RESTORE CONTENTS OF LOC X	
014621	065001	A	530		STB	1,1	RESTORE CONTENTS OF X+1	
014622	002000	A	531		CALL	OUTC	OUTPUT CR & LF	
014623	016777	A						
014624	005041	A	532		TXA		OUTPUT ADDR OF TRAP RETURN	
014625	002000	A	533		CALL	OUTF		
014626	017051	A						
014627	010443	A	534		LDA	EAR1		
014630	002000	A	535		CALL	OUTE	PRINT CONTENTS OF PSEUDO A	
014631	017011	A						
014632	010444	A	536		LDA	EBR1		
014633	002000	A	537		CALL	OUTE	PRINT CONTENTS OF PSEUDO B	
014634	017011	A						
014635	010445	A	538		LDA	EXR1		
014636	002000	A	539		CALL	OUTE	PRINT CONTENTS OF PSEUDO X	
014637	017011	A						
014640	010430	A	540		LDA	V75		B
014641	001010	A	541		JAZ	ETR3B		B
014642	014662	A						
014643	010431	A	542		LDA	E3R1	PRINT CONTENTS OF PSEUDO R3	B

014644	002000	A	543	CALL	OUTE		B
014645	017011	A					
014646	010432	A	544	LDA	E4R1	PRINT CONTENTS OF PSEUDO R4	B
014647	002000	A	545	CALL	OUTE		B
014650	017011	A					
014651	010433	A	546	LDA	ESR1	PRINT CONTENTS OF PSEUDO R5	B
014652	002000	A	547	CALL	OUTE		B
014653	017011	A					
014654	010434	A	548	LDA	E6R1	PRINT CONTENTS OF PSEUDO R6	B
014655	002000	A	549	CALL	OUTE		B
014656	017011	A					
014657	010435	A	550	LDA	E7R1	PRINT CONTENTS OF PSEUDO R7	B
014660	002000	A	551	CALL	OUTE		B
014661	017011	A					
014662	014431	A	552	ETR3B	LDA	EOV1	B
014663	006120	A	553	ADDI	' 0'		
014664	120260	A					
014665	002000	A	554	CALL	OUTB	PRINT CONTENTS OF OVERFLOW	
014666	016764	A					
014667	001000	A	555	JMP	ETOP	RETURN TO EXEC SUPERVISOR	
014670	015512	A					
			556 *				
014671	056000	A	557	ETR1	STA	0,2	STORE PARAMETER X
014672	005123	A	558	INCR	023	INC PARAMETER PTR	
014673	006140	A	559	SUBI	ETS1+1	MORE THAN 1 X PARAMETER ?	
014674	000447	A					
014675	001010	A	560	JAZ	ETRP+4	NO CONTINUE	
014676	014540	A					
014677	001000	A	561	JMP	EXIT	YES PRINT INVALID AND GO TO ETOP	
014700	015631	A					
			562 *				
014701	000000	A	563	ETR2	ENTR	0	
014702	001000	A	564	JMP	ETR3	PROCESS TRAP RETURN	
014703	014570	A					
			565 *				
			566 *				
			567 *				
			568 *		ESRC--SEARCH MEMORY FOR SPECIFIED VALUE.		
			569 *		PRINT LOCATION AND CONTENTS WHERE MATCH IS FOUND		
			570 *				
			571 *		X=START ADDRESS		
			572 *		Y=FINAL ADDRESS		
			573 *		Z=SEARCH VALUE		
			574 *		M=MASK WORD		
			575 *				
			576 *		FORMAT: SX,Y,Z,M.		
			577 *				
			578 *				
014704	006020	A	579	ESRC	LOBI	ETS1	ADDRESS FOR STORING INPUT PARAMETERS
014705	000446	A					
014706	002000	A	580	CALL	INPG		GET OCTAL PARAMETER
014707	016627	A					
014710	001000	A	581	JMP	ETOP		TERMINATION EXIT VIA SS3
014711	015512	A					
014712	001000	A	582	JMP	ETOP		ABORT
014713	015512	A					
014714	001000	A	583	JMP	ESR5		COMMA EXIT--GET NEXT PARAMETER
014715	014765	A					
			584 *		NORMAL RETURN FROM INPG--A REG CONTAINS FOURTH PARAMETER		
014716	050451	A	585	STA	ETS1+3		SAVE MASK WORD
014717	150450	A	586	ANA	ETS1+2		MASK SEARCH VALUE
014720	050452	A	587	STA	ETS1+4		MASKED SEARCH VALUE
014721	005021	A	588	TBA			TEST NO. OF PARAMETERS
014722	006140	A	589	SUBI	ETS1+3		*
014723	000451	A					
014724	001010	A	590	JAZ	**4		*
014725	014730	A					
014726	001000	A	591	JMP	EXIT		***
014727	015631	A					
014730	030446	A	592	ESR4	LDX	ETS1	START ADDRESS
014731	015000	A	593	LDA	0,1		
014732	150451	A	594	ANA	ETS1+3		MASK IT
014733	140452	A	595	SUB	ETS1+4		
014734	001010	A	596	JAZ	ESR2		GOOD COMPARE
014735	014747	A					
014736	040446	A	597	ESR1	INR	ETS1	START ADDRESS
014737	001400	A	598	JSS3	ETOP		RETURN TO SUPERVISOR
014740	015512	A					
014741	005041	A	599	TXA			
014742	140447	A	600	SUB	ETS1+1		END ADDRESS
014743	001002	A	601	JAP	ETOP		RETURN TO SUPERVISOR
014744	015512	A					
014745	001000	A	602	JMP	ESR4		GET NEXT WORD
014746	014730	A					
014747	002000	A	603	ESR2	CALL	OUTC	CR/LF
014750	016777	A					
014751	010446	A	604	LDA	ETS1		ADDRS OF WORD
014752	002000	A	605	CALL	OUTF		PRINT MEMORY ADDRESS
014753	017051	A					
014754	006010	A	606	LDAI	'='		EQUAL SIGN
014755	000275	A					
014756	002000	A	607	CALL	OUTA		
014757	016733	A					
014760	015000	A	608	LDA	0,1		CONTENTS OF ADDRESS
014761	002000	A	609	CALL	OUTE		PRINT CONTENTS

014762	017011	A						
014763	001000	A	610	JMP	ESR1		CONTINUE	
014764	014736	A						
014765	056000	A	611	ESR5	STA	0,2		
014766	005122	A	612		IBR			
014767	001000	A	613	JMP	ESRC+2		GET NEXT PARAMETER	
014770	014706	A						
			614	*				
			615	*				
			616	*				
			617	*				
			618	*	DISPLAY/CHANGE THE PSEUDO A REGISTER			
			619	*				
014771	006010	A	620	EARG	LDAI	0240	ASCII SPACE	
014772	000240	A						
014773	002000	A	621	CALL	OUTA			
014774	016733	A						
014775	010443	A	622	LDA	EAR1		LOAD PSEUDO A	
014776	002000	A	623	CALL	OUTE		PRINT CONTENTS	
014777	017011	A						
015000	002000	A	624	CALL	INPG		INPUT OCTAL AND/OR PERIOD	
015001	016627	A						
015002	001000	A	625	JMP	ETOP		TERMINATION EXIT VIA 883	
015003	015512	A						
015004	001000	A	626	JMP	ETOP		ABORT EXIT	
015005	015512	A						
015006	001000	A	627	JMP	**2		COMMA EXIT--ACCEPT IT	
015007	015010	A						
			628	*	NORMAL RETURN FROM INPG			
015010	050446	A	629	STA	ETS1		SAVE INPUT	
015011	010471	A	630	LDA	T804		T804=DIGIT COUNTER FOR INPG	
015012	001010	A	631	JAZ	ETOP		0=NO OCTAL INPUT,RETURN TO SUPERVISOR	
015013	015512	A						
015014	010446	A	632	LDA	ETS1		STORE NEW VALUE IN PSEUDO A	
015015	050443	A	633	STA	EAR1		RETURN TO SUPERVISOR	
015016	001000	A	634	JMP	ETOP			
015017	015512	A						
			635	*				
			636	*				
			637	*	DISPLAY/CHANGE THE PSEUDO B REGISTER			
			638	*				
			639	*				
015020	010454	A	640	EBRG	LDA	EK00	ASCII BLANK(SPACE)	
015021	002000	A	641	CALL	OUTA			
015022	016733	A						
015023	010444	A	642	LDA	EBR1		LOAD PSEUDO B	
015024	002000	A	643	CALL	OUTE		PRINT CONTENTS	
015025	017011	A						
015026	002000	A	644	CALL	INPG		INPUT OCTAL AND/OR PERIOD	
015027	016627	A						
015030	001000	A	645	JMP	ETOP		TERMINATION EXIT VIA 883	
015031	015512	A						
015032	001000	A	646	JMP	ETOP		ABORT EXIT	
015033	015512	A						
015034	001000	A	647	JMP	**2		COMMA EXIT--ACCEPT IT	
015035	015036	A						
			648	*	NORMAL RETURN FROM INPG			
015036	050446	A	649	STA	ETS1		SAVE INPUT	
015037	010471	A	650	LDA	T804		T804=DIGIT COUNTER FOR INPG	
015040	001010	A	651	JAZ	ETOP		0=NO OCTAL INPUT,RETURN TO SUPERVISOR	
015041	015512	A						
015042	010446	A	652	LDA	ETS1		STORE NEW VALUE IN PSEUDO B	
015043	050444	A	653	STA	EBR1		RETURN TO SUPERVISOR	
015044	001000	A	654	JMP	ETOP			
015045	015512	A						
			655	*				
			656	*				
			657	*	DISPLAY/CHANGE THE PSEUDO X REGISTER			
			658	*				
			659	*				
015046	010454	A	660	EXRG	LDA	EK00	ASCII BLANK(SPACE)	
015047	002000	A	661	CALL	OUTA			
015050	016733	A						
015051	010445	A	662	LDA	EXR1		LOAD PSEUDO X	
015052	002000	A	663	CALL	OUTE		PRINT CONTENTS	
015053	017011	A						
015054	002000	A	664	CALL	INPG		INPUT OCTAL AND/OR PERIOD	
015055	016627	A						
015056	001000	A	665	JMP	ETOP		TERMINATION EXIT VIA 883	
015057	015512	A						
015060	001000	A	666	JMP	ETOP		ABORT	
015061	015512	A						
015062	001000	A	667	JMP	**2		COMA EXIT--ACCEPT IT	
015063	015064	A						
			668	*	NORMAL RETURN FROM INPG			
015064	050446	A	669	STA	ETS1		SAVE INPUT	
015065	010471	A	670	LDA	T804		T804=DIGIT COUNTER FOR INPG	
015066	001010	A	671	JAZ	ETOP		0=NO OCTAL INPUT,RETURN TO SUPERVISOR	
015067	015512	A						
015070	010446	A	672	LDA	ETS1		STORE NEW VALUE IN PSEUDO X	
015071	050445	A	673	STA	EXR1		RETURN TO SUPERVISOR	
015072	001000	A	674	JMP	ETOP			
015073	015512	A						
			675	*	DISPLAY/CHANGE THE PSEUDO R3 REGISTER			
015074	010454	A	676	E3RG	LDA	EK00	ASCII SPACE	

015075	002000	A	677	CALL	OUTA		B
015076	016733	A					
015077	010431	A	678	LDA	E3R1	LOAD PSEUDO R3	B
015100	002000	A	679	CALL	OUTE	PRINT CONTENTS	B
015101	017011	A					
015102	002000	A	680	CALL	INPG	INPUT OCTAL AND/OR PERIOD	B
015103	016627	A					
015104	001000	A	681	JMP	ETOP	TERMINATION EXIT VIA S93	B
015105	015512	A					
015106	001000	A	682	JMP	ETOP	ABORT EXIT	B
015107	015512	A					
015110	001000	A	683	JMP	**2	COMMA EXIT==ACCEPT IT	B
015111	015112	A					
			684 *	NORMAL RETURN FROM INPG			B
015112	050446	A	685	STA	ETS1	SAVE INPUT	B
015113	010471	A	686	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	B
015114	001010	A	687	JAZ	ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B
015115	015512	A					
015116	010446	A	688	LDA	ETS1		B
015117	050431	A	689	STA	E3R1	STORE NEW VALUE IN PSEUDO R3	B
015120	001000	A	690	JMP	ETOP	RETURN TO SUPERVISOR	B
015121	015512	A					
			691 *	DISPLAY/CHANGE THE PSEUDO R4 REGISTER			B
015122	010454	A	692	E4RG	LDA	EK00	ASCII SPACE
015123	002000	A	693	CALL	OUTA		B
015124	016733	A					
015125	010432	A	694	LDA	E4R1	LOAD PSEUDO R4	B
015126	002000	A	695	CALL	OUTE	PRINT CONTENTS	B
015127	017011	A					
015130	002000	A	696	CALL	INPG	INPUT OCTAL AND/OR PERIOD	B
015131	016627	A					
015132	001000	A	697	JMP	ETOP	TERMINATION EXIT VIA S93	B
015133	015512	A					
015134	001000	A	698	JMP	ETOP	ABORT EXIT	B
015135	015512	A					
015136	001000	A	699	JMP	**2	COMMA EXIT==ACCEPT IT	B
015137	015140	A					
			700 *	NORMAL RETURN FROM INPG			B
015140	050446	A	701	STA	ETS1	SAVE INPUT	B
015141	010471	A	702	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	B
015142	001010	A	703	JAZ	ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B
015143	015512	A					
015144	010446	A	704	LDA	ETS1		B
015145	050432	A	705	STA	E4R1	STORE NEW VALUE IN PSEUDO R4	B
015146	001000	A	706	JMP	ETOP	RETURN TO SUPERVISOR	B
015147	015512	A					
			707 *	DISPLAY/CHANGE THE PSEUDO R5 REGISTER			B
015150	010454	A	708	E5RG	LDA	EK00	ASCII SPACE
015151	002000	A	709	CALL	OUTA		B
015152	016733	A					
015153	010433	A	710	LDA	E5R1	LOAD PSEUDO R5	B
015154	002000	A	711	CALL	OUTE	PRINT CONTENTS	B
015155	017011	A					
015156	002000	A	712	CALL	INPG	INPUT OCTAL AND/OR PERIOD	B
015157	016627	A					
015160	001000	A	713	JMP	ETOP	TERMINATION EXIT VIA S93	B
015161	015512	A					
015162	001000	A	714	JMP	ETOP	ABORT EXIT	B
015163	015512	A					
015164	001000	A	715	JMP	**2	COMMA EXIT==ACCEPT IT	B
015165	015166	A					
			716 *	NORMAL RETURN FROM INPG			B
015166	050446	A	717	STA	ETS1	SAVE INPUT	B
015167	010471	A	718	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	B
015170	001010	A	719	JAZ	ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B
015171	015512	A					
015172	010446	A	720	LDA	ETS1		B
015173	050433	A	721	STA	E5R1	STORE NEW VALUE IN PSEUDO R5	B
015174	001000	A	722	JMP	ETOP	RETURN TO SUPERVISOR	B
015175	015512	A					
			723 *	DISPLAY/CHANGE THE PSEUDO R6 REGISTER			B
015176	010454	A	724	E6RG	LDA	EK00	ASCII SPACE
015177	002000	A	725	CALL	OUTA		B
015200	016733	A					
015201	010434	A	726	LDA	E6R1	LOAD PSEUDO R6	C
015202	002000	A	727	CALL	OUTE	PRINT CONTENTS	B
015203	017011	A					
015204	002000	A	728	CALL	INPG	INPUT OCTAL AND/OR PERIOD	B
015205	016627	A					
015206	001000	A	729	JMP	ETOP	TERMINATION EXIT VIA S93	B
015207	015512	A					
015210	001000	A	730	JMP	ETOP	ABORT EXIT	B
015211	015512	A					
015212	001000	A	731	JMP	**2	COMMA EXIT==ACCEPT IT	B
015213	015214	A					
			732 *	NORMAL RETURN FROM INPG			B
015214	050446	A	733	STA	ETS1	SAVE INPUT	B
015215	010471	A	734	LDA	TS04	TS04=DIGIT COUNTER FOR INPG	B
015216	001010	A	735	JAZ	ETOP	0=NO OCTAL INPUT,RETURN TO SUPERVISOR	B
015217	015512	A					
015220	010446	A	736	LDA	ETS1		B
015221	050434	A	737	STA	E6R1	STORE NEW VALUE IN PSEUDO R6	B
015222	001000	A	738	JMP	ETOP	RETURN TO SUPERVISOR	B
015223	015512	A					
			739 *	DISPLAY/CHANGE THE PSEUDO R7 REGISTER			B

015224	010454	A	740	E7RG	LDA	EK00	ASCII SPACE	B
015225	002000	A	741		CALL	OUTA		B
015226	016733	A						
015227	010435	A	742		LDA	E7R1	LOAD PSEUDO R7	B
015230	002000	A	743		CALL	OUTE	PRINT CONTENTS	B
015231	017011	A						
015232	002000	A	744		CALL	INPG	INPUT OCTAL AND/OR PERIOD	B
015233	016627	A						
015234	001000	A	745		JMP	ETOP	TERMINATION EXIT VIA 883	B
015235	015512	A						
015236	001000	A	746		JMP	ETOP	ABORT EXIT	B
015237	015512	A						
015240	001000	A	747		JMP	**2	COMMA EXIT==ACCEPT IT	B
015241	015242	A						
			748 *				NORMAL RETURN FROM INPG	B
015242	050446	A	749		STA	ETS1	SAVE INPUT	B
015243	010471	A	750		LDA	TS04	TS04=DIGIT COUNTER FOR INPG	B
015244	001010	A	751		JAZ	ETOP	0=NO OCTAL INPUT, RETURN TO SUPERVISOR	B
015245	015512	A						
015246	010446	A	752		LDA	ETS1		B
015247	050435	A	753		STA	E7R1	STORE NEW VALUE IN PSEUDO R7	B
015250	001000	A	754		JMP	ETOP	RETURN TO SUPERVISOR	B
015251	015512	A						
			755 *					
			756 *					
			757 *					
			758 *					
			759 *					
			760 *				EGOT==LOAD PSEUDO REGISTERS INTO A,B,X AND TRANSFER TO	
			761 *				LOCATION SPECIFIED BY USER.	
			762 *				THE PSEUDO REGISTERS CAN BE PRESET WITH THE A,B,X	
			763 *				UTILITY FUNCTIONS.	
			764 *					
			765 *					
015252	002000	A	766	EGOT	CALL	INPG	IPUT OCTAL NUMBER	
015253	016627	A						
015254	001000	A	767		JMP	ETOP	TERMINATION EXIT VIA 883	
015255	015512	A						
015256	001000	A	768		JMP	ETOP	ABORT	
015257	015512	A						
015260	001000	A	769		JMP	**2	COMMA EXIT==ACCEPT IT	
015261	015262	A						
			770 *				NORMAL RETURN FROM INPG	
015262	050447	A	771		STA	ETS1+1		
015263	002000	A	772		CALL	OUTC	DO A CR + LF	
015264	016777	A						
015265	010443	A	773	EGO1	LDA	EAR1	LOAD PSEUDO A REG.	
015266	020444	A	774		LDB	EBR1	LOAD PSEUDO B REG.	
015267	030430	A	775		LDX	V75	V75 SYSTEM ?	B
015270	001040	A	776		JXZ	RESOF	NO	B
015271	015304	A						
015272	007030	A	777		LD,R3	E3R1	YES, LOAD THE PSEUDO R3,	B
015273	000431	A						
015274	007040	A	778		LD,R4	E4R1	R4,	B
015275	000432	A						
015276	007050	A	779		LD,R5	E5R1	R5,	B
015277	000433	A						
015300	007060	A	780		LD,R6	E6R1	R6,	B
015301	000434	A						
015302	007070	A	781		LD,R7	E7R1	AND R7	B
015303	000435	A						
015304	007400	A	782	RESOF	ROF			B
015305	034006	A	783		LDX	EOV1		
015306	001040	A	784		JXZ	**3	SET/RESET OVERFLOW	
015307	015311	A						
015310	007401	A	785		SOF			
015311	030445	A	786		LDX	EXR1	LOAD PSEUDO X REG.	
015312	001000	A	787		JMP*	ETS1+1		
015313	100447	A						
015314	000000	A	788	EOV1	DATA	0	PSEUDO OVERFLOW	
			789 *		DUMP CORE	MEMORY TO TTY	PRINTER	
			790 *					
015315	002000	A	791	EDUM	CALL	INPG	INPUT START LOCATION (OCTAL)	
015316	016627	A						
015317	001000	A	792		JMP	ETOP	TERMINATION EXIT VIA 883	
015320	015512	A						
015321	001000	A	793		JMP	ETOP	ABORT	
015322	015512	A						
015323	001000	A	794		JMP	**2	COMMA EXIT==ACCEPT IT	
015324	015325	A						
			795 *				NORMAL RETURN FROM INPG	
015325	050446	A	796		STA	ETS1		
015326	002000	A	797		CALL	OUTC	OUTPUT CR & LF	
015327	016777	A						
015330	010446	A	798		LDA	ETS1		
015331	005014	A	799		TAX			
015332	002000	A	800	EDU1	CALL	OUTF	OUTPUT MEMORY ADDRESS	
015333	017051	A						
015334	010454	A	801		LDA	EK00	ASCII BLANK(SPACE)	
015335	002000	A	802		CALL	OUTA		
015336	016733	A						
015337	015000	A	803	EDU2	LDA	0,1		
015340	002000	A	804		CALL	OUTE	PRINT LOCATION CONTENTS	
015341	017011	A						
015342	001400	A	805		JSS3	ETOP		

015343	015512	A					
015344	005145	A	806	INCR	045	INCREMENT X AND PUT INTO A&X	
015345	005002	A	807	TZB			
015346	004543	A	808	LLSR	3	LINE LENGTH IS 8 LOCATIONS	
015347	001020	A	809	JBZ	EDU4	NEXT LINE	
015350	015353	A					
015351	001000	A	810	JMP	EDU2	NEXT WORD	
015352	015337	A					
			811 *				
015353	002000	A	812	EDU4	CALL	OUTC	OUTPU CR & LF
015354	016777	A					
015355	002000	A	813		CALL	INPI	
015356	016730	A					
015357	006140	A	814		SUBI	0377	
015360	000377	A					
015361	001010	A	815		JAZ	ETOP	TERMINATE DUMP ON RUBOUT
015362	015512	A					
015363	005041	A	816		TXA		
015364	001000	A	817		JMP	EDU1	
015365	015332	A					
			818 *				
			819 *				
			820 *				
			821 *				
			822 *				
			823 *			PRINT/CHANGE CONTENTS OF MEMORY LOCATION SPECIFIED BY USER	
			824 *				
			825 *				
015366	002000	A	826	ECNG	CALL	INPG	INPUT OCTAL MEMORY ADDRESS
015367	016627	A					
015370	001000	A	827		JMP	ETOP	TERMINATION EXIT VIA 883
015371	015512	A					
015372	001000	A	828		JMP	ETOP	ABORT
015373	015512	A					
015374	001000	A	829		JMP	**2	COMMA EXIT--ACCEPT IT
015375	015376	A					
			830 *			NORMAL RETURN FROM INPG	
015376	005014	A	831		TAX		
015377	006010	A	832	ECN3	LDAI	"#"	EQUAL SIGN
015400	000275	A					
015401	002000	A	833		CALL	OUTA	
015402	016733	A					
015403	015000	A	834		LDA	0,1	
015404	002000	A	835		CALL	OUTE	OUTPUT OCTAL WORD
015405	017011	A					
015406	002000	A	836		CALL	INPG	INPUT OCTAL WORD
015407	016627	A					
015410	001000	A	837		JMP	ETOP	TERMINATION EXIT VIA 883
015411	015512	A					
015412	001000	A	838		JMP	ETOP	ABORT
015413	015512	A					
015414	001000	A	839		JMP	ECN2	COMMA EXIT--PRINT NEXT LOCATION & CONTENTS
015415	015426	A					
			840 *			NORMAL RETURN FROM INPG WITH PERIOD	
015416	050446	A	841		STA	ETS1	SAVE INPUT
015417	010471	A	842		LDA	TS04	TS04=DIGIT COUNTER FOR INPG
015420	001010	A	843		JAZ	**4	
015421	015424	A					
015422	010446	A	844		LDA	ETS1	GET LAST INPUT
015423	055000	A	845		STA	0,1	
015424	001000	A	846		JMP	ETOP	
015425	015512	A					
			847 *				
015426	050446	A	848	ECN2	STA	ETS1	SAVE INPUT
015427	010471	A	849		LDA	TS04	TS04=DIGIT COUNTER FOR INPG
015430	001010	A	850		JAZ	**4	
015431	015434	A					
015432	010446	A	851		LDA	ETS1	GET LAST INPUT
015433	055000	A	852		STA	0,1	STORE NEW VALUE IN LOCATION
015434	002000	A	853		CALL	OUTC	CR & LF
015435	016777	A					
015436	005145	A	854		INCR	045	INCREMENT X AND PUT INTO A AND X
015437	002000	A	855		CALL	OUTF	PRINT NEXT MEMORY ADDRESS
015440	017051	A					
015441	001000	A	856		JMP	ECN3	PRINT CONTENTS
015442	015377	A					
			857 *				
015443	000000	A	858	ESZC	ENTR	0	DETERMINE MEMORY SIZE
015444	002000	A	859		CALL	ESZA	*
015445	016103	A					
015446	050441	A	860		STA	SMEM	*
015447	002000	A	861		CALL	ESZB	*
015450	016137	A					
015451	001000	A	862		JMP	(ESZC)*	***** EXIT
015452	115443	A					
015453	005101	A	863	EBG1	INCR	01	TTY MODE
015454	050442	A	864		STA	SCON	* SCON = 01
015455	002000	A	865		CALL	ESZC	* STTY = 01, UNLESS SET
015456	015443	A					
015457	005101	A	866		INCR	01	* BY
015460	000000	A	867		MLT		* OPERATOR
015461	006030	A	868		LDXI	STTY	
015462	000473	A					
015463	055000	A	869		STA	0,1	
015464	002000	A	870	EBG2	CALL	OUTH,0201	PRINT ENABLE

015465	017115	A						
015466	000201	A						
015467	002000	A	871	CALL	OUTC	OUTPUT CR&LF		
015470	016777	A						
015471	010430	A	872	LDA	V75		B	
015472	001010	A	873	JAZ	DOMSG1		B	
015473	015502	A						
015474	006030	A	874	LDXI	MSG6	THIS IS THE V75 TEST EXECUTIVE	B	
015475	016061	A						
015476	002000	A	875	CALL	OUTD	OUTPUT MESSAGE	B	
015477	017040	A						
015500	001000	A	876	JMP	DOMSG3	GO OUTPUT MSG3	B	
015501	015506	A						
015502	006030	A	877	DOMSG1	LDXI	MSG1	THIS IS THE V70/620 TEST EXECUTIVE	B
015503	016001	A						
015504	002000	A	878	CALL	OUTD	OUTPUT MESSAGE		
015505	017040	A						
015506	006030	A	879	DOMSG3	LDXI	MSG3	MEMORY SIZE IS --K	B
015507	016040	A						
015510	002000	A	880	CALL	OUTD	OUTPUT MESSAGE		
015511	017040	A						
			881 *					
			882 *					
			883 *					
			884 *	TEST EXECUTIVE SUPERVISOR				
			885 *					
015512	006010	A	886	ETOP	LDAI	0207	TTY BELL	
015513	000207	A						
015514	002000	A	887	CALL	OUTA		OUTPUT	
015515	016733	A						
015516	002000	A	888	CALL	OUTH,0201		PRINT ENABLE	
015517	017115	A						
015520	000201	A						
015521	002000	A	889	CALL	INPI		INIT TTY	
015522	016730	A						
015523	002000	A	890	CALL	OUTC			
015524	016777	A						
015525	002000	A	891	CALL	INPB		INPUT ONE CHARACTER	
015526	016360	A						
015527	001000	A	892	JMP	ETOP		ABORT EXIT	
015530	015512	A						
015531	054011	A	893	STA	ETO4+1		SAVE INPUT	
015532	006140	A	894	SUBI	0212		LINE FEED CODE	
015533	000212	A						
015534	001010	A	895	JAZ	ETOP		YES	
015535	015512	A						
015536	006140	A	896	SUBI	3		CARRIAGE RETURN(0215)	
015537	000003	A						
015540	001010	A	897	JAZ	ETOP		YES	
015541	015512	A						
015542	006010	A	898	ETO4	LDAI	0	GET ORIGINAL INPUT	
015543	000000	A						
015544	006140	A	899	SUBI	'A'			
015545	000301	A						
015546	001004	A	900	JAN	EXIT		INVALID INPUT	
015547	015631	A						
015550	000000	A	901	EXIT	032		Z CHAR	
015551	000032	A						
015552	001002	A	902	JAP	EXIT		INVALID INPUT	
015553	015631	A						
015554	006120	A	903	ADDI	(ETBL+032)*		INDIRECT ADDRESS POINTER FOR UTILITY TABLE	
015555	015631	A						
015556	054017	A	904	STA	PETBL+2			B
015557	030430	A	905	LDX	V75		IF	B
015560	001040	A	906	JXZ	PETBL			B
015561	015574	A						
015562	007443	A	907	LDI,R3	0		V75 SYSTEM	B
015563	000000	A						
015564	007444	A	908	LDI,R4	0		CLEAR R3	B
015565	000000	A						
015566	007445	A	909	LDI,R5	0		R4	B
015567	000000	A						
015570	007446	A	910	LDI,R6	0		R5	B
015571	000000	A						
015572	007447	A	911	LDI,R7	0		R6,AND R7	B
015573	000000	A						
015574	005007	A	912	PETBL	ZERO	7	CLEAR REGISTERS A,B,X ANYWAY	B
015575	001000	A	913	JMP	*			
015576	015575	A						
015577	014771	A	914	ETBL	DATA	EARG	A PRINT/CHANGE PSEUDO A REG	
015600	015020	A	915	DATA	EBRG		B PRINT/CHANGE PSEUDO B REG	
015601	015366	A	916	DATA	ECNG		C PRINT/CHANGE MEMORY LOCATION	
015602	015315	A	917	DATA	EDUM		D DUMP CORE TO TTY PRINTER	
015603	015631	A	918	DATA	EOF		E WRITE END OF FILE	
015604	015631	A	919	DATA	FIL		F FILE POSITION	
015605	015252	A	920	DATA	EGOT		G TRANSFER TO SPECIFIED LOCATION	
015606	015631	A	921	DATA	EXIT		H NOT USED	
015607	014470	A	922	DATA	INIT		I INITIALIZE CORE	
015610	015631	A	923	DATA	EXIT		J NOT USED	
015611	015631	A	924	DATA	EXIT		K NOT USED	
015612	015666	A	925	DATA	ELOD		L LOAD OBJECT TAPE AND TRANSFER TO PROGRAM	
015613	015631	A	926	DATA	EXIT		M NOT USED	
015614	015631	A	927	DATA	EXIT		N NOT USED	
015615	015631	A	928	DATA	EXIT		O NOT USED	
015616	014254	A	929	DATA	EPUN		P CREATE OBJECT	

015617	015631	A	930	DATA	EXIT	Q	NOT USED	
015620	015635	A	931	DATA	V75REG			
015621	014704	A	932	DATA	ESRC	S	SEARCH MEMORY	B
015622	014534	A	933	DATA	ETRP	T	TRAP	
015623	015631	A	934	DATA	EXIT	U	NOT USED	
015624	015631	A	935	DATA	EXIT	V	NOT USED	
015625	015631	A	936	DATA	EXIT	W	NOT USED	
015626	015046	A	937	DATA	EXRG	X	PRINT/CHANGE PSEUDO X REG	
015627	015631	A	938	DATA	EXIT	Y	NOT USED	
015630	015631	A	939	DATA	EXIT	Z	NOT USED	
			940 *					
			941 *					
			942 *					
			943 *					
015631	002000	A	944	EXIT	CALL	OUTG	PRINT INVALID & CR/LF	
015632	017070	A						
015633	001000	A	945	JMP	ETOP		RETURN TO TOP OF SUPERVISOR	
015634	015512	A						
	015631	A	946	FIL	EQU	EXIT		
	015631	A	947	EQF	EQU	EXIT		
			948 *					
			949 *					
015635	010430	A	950	V75REG	LDA	V75		B
015636	001010	A	951	JAZ	EXIT		NO V75 HERE	B
015637	015631	A						
015640	002000	A	952	CALL	INPB		GRAB THE REGISTER NUMBER	B
015641	016360	A						
015642	001000	A	953	JMP	EXIT			B
015643	015631	A						
015644	006150	A	954	ANAI	07		MAKE SURE ITS 0 THRU 7	B
015645	000007	A						
015646	006120	A	955	ADDI	REGTBL			B
015647	015655	A						
015650	006110	A	956	DRAI	0100000			B
015651	100000	A						
015652	054001	A	957	REGTBL	STA	REGJMP+1		B
015653	001000	A	958	REGJMP	JMP*	REGTBL		B
015654	115655	A						
015655	014771	A	959	REGTBL	DATA	EARG	R0 THRU R7	B
015656	015020	A	960	DATA	EBRG		DISPLAY/CHANGE	B
015657	015046	A	961	DATA	EXRG		ROUTINES.	B
015660	015074	A	962	DATA	E3RG			B
015661	015122	A	963	DATA	E4RG			B
015662	015150	A	964	DATA	E5RG			B
015663	015176	A	965	DATA	E6RG			B
015664	015224	A	966	DATA	E7RG			B
015665	015631	A	967	DATA	EXIT			B
			968 *					
			969 *					
			970 *				ELOD - LOAD OBJECT AND TRANSFER TO IT	
			971 *					
			972 *					
015666	002000	A	973	ELOD	CALL	INN	GET TERMINATOR	
015667	016665	A						
			974 *				NORMAL RETURN FROM INPF WITH PERIOD	
015670	005101	A	975	INCR	01		SET A10 FOR LOAD AND EXECUTE	
015671	001000	A	976	JMP	LODE		GO TO BINARY LOADER	
015672	014024	A						
015673	005042	A	977	LOAW	TXB		SAVE X	
015674	006030	A	978	LDXI	MSG2		MESSAGE1 CHECKSUM ERROR	
015675	016025	A						
015676	002000	A	979	CALL	QUTD		PRINT MESSAGE	
015677	017040	A						
015700	005021	A	980	TBA			OUTPUT X	
015701	002000	A	981	CALL	QUTE			
015702	017011	A						
015703	001000	A	982	JMP	ETOP		EXEC SUPERVISOR	
015704	015512	A						
			983 *					
			984 *					
			985 *					
			986 *					
			987 *					
			988 *				TYPICAL POWER UP/DOWN SUBROUTINE	
			989 *				POWER DOWN INTERRUPT ADDRESS 040	
			990 *				POWER UP INTERRUPT ADDRESS 042	
			991 *					
			992 *				POWER DOWN PROCESSOR	
			993 *					
015705	000000	A	994	PHDN	ENTR	0		
015706	054060	A	995	STA	SAVA		SAVE A, B AND X REGISTERS	
015707	064060	A	996	STB	SAVB			
015710	074060	A	997	STX	SAVX			
015711	010430	A	998	LDA	V75			B
015712	001010	A	999	JAZ	PHDN1			B
015713	015726	A						
015714	007130	A	1000	ST,R3	SAVR3		AND THE R3,	B
015715	015772	A						
015716	007140	A	1001	ST,R4	SAVR4		R4,	B
015717	015773	A						
015720	007150	A	1002	ST,R5	SAVR5		R5,	B
015721	015774	A						
015722	007160	A	1003	ST,R6	SAVR6		R6,	B
015723	015775	A						
015724	007170	A	1004	ST,R7	SAVR7		AND R7 IF ANY	B

015725	015776	A							
015726	005001	A	1005	PWDN1	TZA				B
015727	005511	A	1006		DATA	005511	INCREMENT A IF OVERFLOW SET		
015730	054046	A	1007		STA	SAVD			
015731	044046	A	1008		INR	HLTF	SET POWER FAIL/RESTRI FLAG.		
015732	040472	A	1009		INR	PWRK	STEP POWER FAIL COUNTER		
015733	000000	A	1010	PHLT	HLT				
			1011	*					
			1012	*			POWER UP PROCESSOR		
			1013	*					
015734	014043	A	1014	PWRU	LDA	HLTF	CHECK IF POWERING UP FROM RUN CONDITION		
015735	001010	A	1015		JAZ	PHLT			
015736	015733	A							
015737	005001	A	1016		TZA		CLEAR POWER FAIL/RESTRI FLAG		
015740	054037	A	1017		STA	HLTF			
			1018	*					
			1019	*					
			1020	*			CODING TO REINSTATE 620/P OPTIONAL HARDWARE AFTER A POWER FAILURE, MUST BE DEFINED HERE. THE TOTAL EXECUTION TIME NOT TO EXCEED A SPECIFIED TIME PERIOD. SEE PPS FOR TIMING CONSTRAINTS.		
			1021	*					
			1022	*					
015741	014035	A	1023		LDA	SAVD	SETUP OVERFLOW FLAG		
015742	001010	A	1024		JAZ	**3			
015743	015745	A							
015744	007401	A	1025		SOF				
015745	010430	A	1026		LDA	V75	IF V75		B
015746	001010	A	1027		JAZ	ABX			B
015747	015762	A							
015750	007030	A	1028		LD,R3	SAVR3	RETURN R3,		B
015751	015772	A							
015752	007040	A	1029		LD,R4	SAVR4	R4,		B
015753	015773	A							
015754	007050	A	1030		LD,R5	SAVR5	R5,		B
015755	015774	A							
015756	007060	A	1031		LD,R6	SAVR6	R6,		B
015757	015775	A							
015760	007070	A	1032		LD,R7	SAVR7	R7		B
015761	015776	A							
015762	014004	A	1033	ABX	LDA	SAVA	RETURN A,B,X REGISTERS		B
015763	024004	A	1034		LDB	SAVB			
015764	034004	A	1035		LDX	SAVX			
015765	001000	A	1036		JMP*	PWDN	RETURN TO LOCATION INTERRUPTED FROM		
015766	115705	A							
			1037	*					
015767	000000	A	1038	SAVA	DATA	0			
015770	000000	A	1039	SAVB	DATA	0			
015771	000000	A	1040	SAVX	DATA	0			
015772	000000	A	1041	SAVR3	DATA	0			B
015773	000000	A	1042	SAVR4	DATA	0			B
015774	000000	A	1043	SAVR5	DATA	0			B
015775	000000	A	1044	SAVR6	DATA	0			B
015776	000000	A	1045	SAVR7	DATA	0			B
015777	000000	A	1046	SAVD	DATA	0			
016000	000000	A	1047	HLTF	DATA	0			
			1048	*					
			1049	*					
			1050	*					
			1051	*					
			1052	*					
			1053	*	MESSAGE TABLE				
			1054	*					
016001	106612	A	1055	MSG1	DATA	0106612,'THIS IS THE V70/620 TEST EXECUTIVE',0106612,0			
016002	152310	A							
016003	144723	A							
016004	120311	A							
016005	151640	A							
016006	152310	A							
016007	142640	A							
016010	153267	A							
016011	130257	A							
016012	133262	A							
016013	130240	A							
016014	152305	A							
016015	151724	A							
016016	120305	A							
016017	154305	A							
016020	141725	A							
016021	152311	A							
016022	153305	A							
016023	106612	A							
016024	000000	A							
016025	141710	A	1056	MSG2	DATA	'CHECKSUM ERROR X = ',0			
016026	142703	A							
016027	145723	A							
016030	152715	A							
016031	120305	A							
016032	151322	A							
016033	147722	A							
016034	120240	A							
016035	154240	A							
016036	136640	A							
016037	000000	A							
016040	146705	A	1057	MSG3	DATA	'MEMORY SIZE IS '			
016041	146717	A							
016042	151331	A							
016043	120323	A							

```

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

```

```

1061 *
1062 *
1063 * ROUTINE FOR DETERMINING CORE SIZE
1064 *

```

```

016103 000000 A 1065 ESZA ENTR 0
016104 100545 A 1066 EXC 0545 DISABLE MEMORY PARITY INT.
016105 006010 A 1067 LDAI 014000 DISABLE D
016106 014000 A
016107 103146 A 1068 OAR 046 CACHE D
016110 010000 A 1069 LDA 0
016111 050002 A 1070 STA 2 SAVE CONTENTS OF LOCATION ZERO
016112 005001 A 1071 TZA
016113 050000 A 1072 STA 0
016114 005311 A 1073 DAR A=-1
016115 006120 A 1074 ESZ1 ADDI 4096 NEXT 4K MEMORY ADDRESS
016116 010000 A
016117 005014 A 1075 TAX
016120 025001 A 1076 LDB 1,1 SAVE MEMORY CELL IN B REG
016121 055001 A 1077 STA 1,1
016122 015001 A 1078 LDA 1,1
016123 130000 A 1079 ERA 0
016124 001010 A 1080 JAZ ESZ2 JUMP IF END OF MEMORY
016125 016132 A
016126 065001 A 1081 STB 1,1 RESTORE MEMORY CELL
016127 005041 A 1082 TXA
016130 001000 A 1083 JMP ESZ1
016131 016115 A
016132 010002 A 1084 ESZ2 LDA 2 RESTORE CONTENTS OF
016133 050000 A 1085 STA 0 LOCATION ZERO
016134 005041 A 1086 TXA
016135 001000 A 1087 JMP* ESZA
016136 116103 A

```

```

1088 *
1089 *
1090 *
1091 * CONVERT MEMORY SIZE FOR ASCII PRINTOUT
1092 *

```

```

016137 000000 A 1093 ESZB ENTR 0
016140 010441 A 1094 LDA SMEM GET CORE SIZE(X7777)
016141 004354 A 1095 LSRA 12 TRUNCATE 7777
016142 006120 A 1096 ADDI ETAB ADDRESS OF THE ASCII EQUIV TABLE
016143 016153 A
016144 005014 A 1097 TAX
016145 015000 A 1098 LDA 0,1 GET ASCII EQUIV FROM TABLE ETAB
016146 006020 A 1099 LDBI MSG4 SET MEMORY SIZE(04,08,ETC) INTO MSG4
016147 016050 A
016150 056000 A 1100 STA 0,2
016151 001000 A 1101 JMP* ESZB RETURN
016152 116137 A
016153 120264 A 1102 ETAB DATA 0120264 ASCII 04
016154 120270 A 1103 DATA 0120270
016155 130662 A 1104 DATA 0130662
016156 130666 A 1105 DATA 0130666
016157 131260 A 1106 DATA 0131260
016160 131264 A 1107 DATA 0131264
016161 131270 A 1108 DATA 0131270
016162 131662 A 1109 DATA 0131662

```

```

1110 *
1111 *
1112 *
1113 *
1114 *
1115 *
1116 *****

```



```

1117 *
1118 *          SENSE SWITCH SUBROUTINE
1119 *          THIS SUBROUTINE PROVIDES A STANDARD SENSE SWITCH INTERFACE.
1120 *          THE CALLING SEQUENCE IS AS FOLLOWS
1121 *          THE A, B, AND X REGISTERS CONTAIN ERROR HALT VALUES.
1122 *          CALL SSWT
1123 *          DATA (U REGISTER VALUE)
1124 *          DATA (ERROR MESSAGE ADDRESS) (IF NEG. ERROR SUB.)
1125 *          DATA (TERMINATION EXIT)
1126 *          DATA (LOOP ON ERROR EXIT)
1127 *          *          NORMAL EXIT RETURN
1128 *
1129 *          STANDARD SENSE SWITCH SETTINGS
1130 *          SS1 =(SET) SUPPRESS ERROR PRINTOUT
1131 *          (RESET) ALLOW ERROR PRINTOUTS
1132 *          SS2 (SET) HALT ON ERROR
1133 *          (IF SET AFTER HALT - CONTINUE )
1134 *          (RESET) DO NOT HALT ON ERROR
1135 *          (IF HALT ON ERROR SET FIRST THEN RESET ON
1136 *          HALT CONDITION - LOOP UNTIL SET )
1137 *          SS3 (SET) TERMINATE TEST - RETURN TO BEGINING OF TEST
1138 *          (RESET) CONTINUE TEST
1139 *          *****
1140 *
016163 054125 A 1141 SSWP STA SWS SAVE VOLATILE REGISTERS
016164 064125 A 1142 STB SWS+1
016165 074125 A 1143 STX SWS+2
016166 001400 A 1144 JSS3 SWE IF SS3 SET RETURN THROUGH TERMINATION EXIT
016167 016314 A
016170 001100 A 1145 JSS1 SSW1 CHECK IF TTY SUPPRESSED
016171 016213 A
016172 024132 A 1146 LDB SSWT GET 2ND PARAMETER
016173 005122 A 1147 IBR
016174 016000 A 1148 LDA 0,2
016175 001010 A 1149 JAZ SSW1
016176 016213 A
016177 005012 A 1150 TAB CHECK IF BIT 15 SET
016200 006150 A 1151 ANAI 010000
016201 100000 A
016202 005014 A 1152 TAX
016203 005021 A 1153 TRA
016204 001040 A 1154 JXZ ++4
016205 016210 A
016206 001000 A 1155 JMP SSWR CALL ERROR SUBROUTINE
016207 016277 A
016210 005014 A 1156 TAX PRINT ERROR MESSAGE
016211 002000 A 1157 CALL OUTD
016212 017040 A
016213 001400 A 1158 SSW1 JSS3 SWE IF SS3 SET - RETURN THROUGH TERMINATION EXT
016214 016314 A
016215 010440 A 1159 LDA SFLG CHECK IF LOOPING
016216 001010 A 1160 JAZ SSW4
016217 016250 A
016220 001200 A 1161 SSW2 JSS2 SSW3 LOOPING - CHECK IF TERMINATE LOOPING.
016221 016235 A
016222 024102 A 1162 SSWL LDB SSWT RETURN THROUGH LOOP EXIT
016223 005122 A 1163 IBR
016224 005122 A 1164 IBR
016225 005122 A 1165 IBR
016226 016000 A 1166 LDA 0,2
016227 054004 A 1167 STA ++5
016230 014060 A 1168 LDA SWS RETURN VOLATILE REGISTERS.
016231 024060 A 1169 LDB SWS+1
016232 034060 A 1170 LDX SWS+2
016233 001000 A 1171 JMP *
016234 016233 A
016235 005001 A 1172 SSW3 TZA RETURN TO NORMAL EXIT (CONTINUATION EXIT)
016236 050440 A 1173 STA SFLG CLEAR LOOP FLAG.
016237 014065 A 1174 LDA SSWT
016240 006120 A 1175 ADDI 4
016241 000004 A
016242 054004 A 1176 STA ++5
016243 014045 A 1177 LDA SWS RETURN VOLATILE REGISTERS.
016244 024045 A 1178 LDB SWS+1
016245 034045 A 1179 LDX SWS+2
016246 001000 A 1180 JMP *
016247 016246 A
016250 001200 A 1181 SSW4 JSS2 SSW5 CHECK IF HALT ON ERROR
016251 016254 A
016252 001000 A 1182 JMP SSW3 RETURN TO NORMAL EXIT LOC.
016253 016235 A
016254 024050 A 1183 SSW5 LDB SSWT GET FIRST PARAMETER
016255 016000 A 1184 LDA 0,2
016256 054003 A 1185 STA ++4
016257 014031 A 1186 LDA SWS RETURNED SAVED PARAMETERS.
016260 024031 A 1187 LDB SWS+1
016261 034031 A 1188 LDX SWS+2
016262 005000 A 1189 NOP
016263 001400 A 1190 SSW6 JSS3 SWE 1ST PARAMETER STORED HERE AND EXECUTED.
IF SS3 SET RETURN THROUGH TERMINATION EXIT
016264 016314 A
016265 010440 A 1191 LDA SFLG CHECK IF LOOPING
016266 001010 A 1192 JAZ ++4
016267 016272 A
016270 001000 A 1193 JMP SSW2
016271 016220 A

```

016272	001200	A	1194	JSS2	SSW3	LOOP FLAG ZERO - CHECK IF LOOP REQUEST
016273	016235	A				
016274	040440	A	1195	INR	SFLG	INCREMENT LOOP FLAG
016275	001000	A	1196	JMP	SSWL	JUMP THROUGH LOOP EXIT
016276	016222	A				
016277	006150	A	1197	SSWR	ANAI	077777 ERROR SUBROUTINE MASK OUT BIT 15
016300	077777	A				
016301	054004	A	1198	STA	++5	
016302	014006	A	1199	LDA	SSWS	
016303	024006	A	1200	LDB	SSWS+1	
016304	034006	A	1201	LDX	SSWS+2	
016305	002000	A	1202	JMPM	*	CALL ERROR SUBROUTINE
016306	016305	A				
016307	001000	A	1203	JMP	SSW1	
016310	016213	A				
016311			1204	SSWS	BSS	3
016314	005001	A	1205	SSWF	TZA	JUMP THROUGH TERMINATION EXIT.
016315	050440	A	1206	STA	SFLG	CLEAR LOOP FLAG.
016316	024006	A	1207	LDB	SSWT	
016317	005122	A	1208	IBR		SET UP TERMINATION EXIT
016320	005122	A	1209	IBR		
016321	016000	A	1210	LDA	0,2	
016322	054001	A	1211	STA	++2	
016323	001000	A	1212	JMP	*	
016324	016323	A				
016325	000000	A	1213	SSWT	ENTR	SENSE SWITCH SUBROUTINE ENTRANCE
016326	001000	A	1214	JMP	SSWP	
016327	016163	A				
			1215 *			
			1216 *			INPUT ONE CHARACTER FROM TTY TO (A) REGISTER
			1217 *			
016330	002000	A	1218	INA1	CALL	INPH,INA2 SENSE BFR RDY
016331	016716	A				
016332	016337	A				
016333	001400	A	1219	JSS3	INA3	
016334	016343	A				
016335	001000	A	1220	JMP	INA1	
016336	016330	A				
016337	002000	A	1221	INA2	CALL	INPI INPUT CHARACTER
016340	016730	A				
016341	044002	A	1222	INR	INPA	NORMAL EXIT
016342	044001	A	1223	INR	INPA	
016343	001000	A	1224	INA3	JMP	000
016344	000000	A				
016344			1225	INPA	BES	0 ENTER
016345	001000	A	1226	JMP	INA1	
016346	016330	A				
			1227 *			
			1228 *			INPUT ONE CHARACTER + PRINT FROM TTY TO A REGISTER
			1229 *			
016347	002000	A	1230	INB1	CALL	INPA INPUT ONE CHARACTER
016350	016344	A				
016351	001000	A	1231	JMP*	INPB	TERMINATE EXIT
016352	116360	A				
016353	002000	A	1232	CALL	OUTA	OUTPUT ONE CHARACTER
016354	016733	A				
016355	044002	A	1233	INR	INPB	
016356	044001	A	1234	INR	INPB	
016357	001000	A	1235	JMP*	0	EXIT
016360	100000	A				
016360			1236	INPB	BES	0
016361	001000	A	1237	JMP	INB1	
016362	016347	A				
			1238 *			
			1239 *			
			1240 *			INPUT ONE CHARACTER (EDITED)
			1241 *			
016363	002000	A	1242	INC3	CALL	INPB
016364	016360	A				
016365	001000	A	1243	JMP*	INPC	TERMINATE EXIT
016366	116412	A				
016367	006130	A	1244	ERAI	"\ "	BACKSLASH
016370	000334	A				
016371	001010	A	1245	JAZ	INC2	ABORT INPUT EXIT
016372	016407	A				
016373	006130	A	1246	ERAI	"\ "	RESTORE A
016374	000334	A				
016375	006130	A	1247	ERAI	0337	BACKARROW
016376	000337	A				
016377	001010	A	1248	JAZ	INC1	DELETE ONE CHARACTER EXIT
016400	016405	A				
016401	006130	A	1249	ERAI	0337	RESTORE A
016402	000337	A				
016403	044006	A	1250	INR	INPC	
016404	044005	A	1251	INR	INPC	
016405	044004	A	1252	INC1	INR	INPC
016406	044003	A	1253	INR	INPC	
016407	044002	A	1254	INC2	INR	INPC
016410	044001	A	1255	INR	INPC	
016411	001000	A	1256	JMP*	0	EXIT
016412	100000	A				
016412			1257	INPC	BES	0
016413	001000	A	1258	JMP	INC3	
016414	016363	A				
			1259 *			

1260 * INPUT ONE ALPHA CHARACTER FROM TTY KEYBOARD TO A REG

1261 *

016415	002000	A	1262	IND4	CALL	INPC	INPUT ONE CHAR
016416	016412	A					
016417	001000	A	1263		JMP*	INPD	TERMINATE EXIT
016420	116446	A					
016421	001000	A	1264		JMP	IND2	ABORT INPUT EXIT
016422	016443	A					
016423	001000	A	1265		JMP	IND1	DELETE PREVIOUS CHARACTER EXIT
016424	016441	A					
016425	006140	A	1266		SUBI	0301	CHAR A
016426	000301	A					
016427	001004	A	1267		JAN	IND3	INVALID INPUT
016430	016451	A					
016431	006140	A	1268		SUBI	032	CHAR Z
016432	000032	A					
016433	001002	A	1269		JAP	IND3	INVALID INPUT
016434	016451	A					
016435	006120	A	1270		ADDI	0333	RESTORE A
016436	000333	A					
016437	044006	A	1271		INR	INPD	NORMAL EXIT
016440	044005	A	1272		INR	INPD	
016441	044004	A	1273	IND1	INR	INPD	DELETE PREVIOUS CHARACTER EXIT
016442	044003	A	1274		INR	INPD	
016443	044002	A	1275	IND2	INR	INPD	ABORT INPUT EXIT
016444	044001	A	1276		INR	INPD	
016445	001000	A	1277		JMP*	0	EXIT
016446	100000	A					
016446		A	1278	INPD	BES	0	
016447	001000	A	1279		JMP	IND4	
016450	016415	A					
016451	002000	A	1280	IND3	CALL	OUTG	INVALID INPUT--PRINT MESSAGE
016452	017070	A					
016453	001000	A	1281		JMP	IND2	ABORT
016454	016443	A					

1282 *

1283 *

1284 * INPUT TWO LETTER CHARACTERS FROM TTY

1285 *

016455	002000	A	1286	INE3	CALL	INPD	INPUT ALPHA CHAR
016456	016446	A					
016457	001000	A	1287		JMP*	INPE	TERMINATE EXIT
016460	116507	A					
016461	001000	A	1288		JMP	INE2	ABORT INPUT EXIT
016462	016504	A					
016463	001000	A	1289		JMP	INE1	DELETE PREVIOUS CHARACTER EXIT
016464	016502	A					
016465	004250	A	1290		LRLA	8	
016466	054453	A	1291		STA	T802	
016467	002000	A	1292		CALL	INPD	INPUT ALPHA CHAR
016470	016446	A					
016471	001000	A	1293		JMP*	INPE	TERMINATE EXIT
016472	116507	A					
016473	001000	A	1294		JMP	INE2	ABORT INPUT EXIT
016474	016504	A					
016475	001000	A	1295		JMP	INE3	DELETE PREVIOUS CHARACTER EXIT
016476	016455	A					
016477	114442	A	1296		ORA	T802	
016500	044006	A	1297		INR	INPE	NORMAL EXIT
016501	044005	A	1298		INR	INPE	
016502	044004	A	1299	INE1	INR	INPE	DELETE PREVIOUS CHARACTER EXIT
016503	044003	A	1300		INR	INPE	
016504	044002	A	1301	INE2	INR	INPE	ABORT INPUT EXIT
016505	044001	A	1302		INR	INPE	
016506	001000	A	1303		JMP*	0	EXIT
016507	100000	A					
016507		A	1304	INPE	BES	0	
016510	001000	A	1305		JMP	INE3	
016511	016455	A					

1306 *

1307 * INPUT PERIOD, COMMA FOR MESSAGE TERMINATOR

1308 *

016512	002000	A	1309	INF5	CALL	INPC	INPUT ONE CHARACTER
016513	016412	A					
016514	001000	A	1310		JMP*	INPF	TERMINATE EXIT
016515	116547	A					
016516	001000	A	1311		JMP	INF2	ABORT INPUT EXIT
016517	016544	A					
016520	001000	A	1312		JMP	INF1	DELETE PREVIOUS CHARACTER EXIT
016521	016542	A					
016522	006140	A	1313		SUBI	0254	COMMA
016523	000254	A					
016524	001010	A	1314		JAZ	INF3	COMMA EXIT
016525	016540	A					
016526	006140	A	1315		SUBI	02	PERIOD
016527	000002	A					
016530	001010	A	1316		JAZ	INF4	PERIOD EXIT
016531	016536	A					
016532	002000	A	1317		CALL	OUTG	PRINT INVALID MESSAGE
016533	017070	A					
016534	001000	A	1318		JMP	INF2	ABORT
016535	016544	A					
016536	044010	A	1319	INF4	INR	INPF	NORMAL EXIT
016537	044007	A	1320		INR	INPF	
016540	044006	A	1321	INF3	INR	INPF	COMMA EXIT

016541	044005	A	1322		INR	INPF		
016542	044004	A	1323	INF1	INR	INPF	DELETE PREVIOUS CHARACTER	EXIT
016543	044003	A	1324		INR	INPF		
016544	044002	A	1325	INF2	INR	INPF	ABORT INPUT	EXIT
016545	044001	A	1326		INR	INPF		
016546	001000	A	1327		JMP*	0	EXIT	
016547	100000	A						
016547			1328	INPF	BES	0		
016550	001000	A	1329		JMP	INFS		
016551	016512	A						
			1330	*				
			1331	*			INPUT OCTAL NUMBER FROM TTY KEYBOARD	
			1332	*			ASSEMBLE AS 16 BIT NUMBER IN A REG	
			1333	*			ONLY OCTAL NUMBERS ACCEPTED	
			1334	*				
016552	005001	A	1335	ING7	TZA			
016553	054366	A	1336		STA	T802	TEMP STORAGE FOR OCTAL NUMBER	
016554	050471	A	1337		STA	T804	TEMP STORAGE FOR DIGIT COUNTER	
016555	064370	A	1338		STB	T807		
016556	005002	A	1339		TZB			
016557	002000	A	1340	ING5	CALL	INPC	INPUT ONE CHARACTER	
016560	016412	A						
016561	001000	A	1341		JMP*	INPG	TERMINATE	EXIT
016562	116627	A						
016563	001000	A	1342		JMP	ING2	ABORT INPUT	EXIT
016564	016622	A						
016565	001000	A	1343		JMP	ING1	DELETE PREVIOUS CHARACTER	EXIT
016566	016655	A						
016567	054354	A	1344		STA	T805	SAVE INPUT	
016570	006140	A	1345		SUBI	0260		
016571	000260	A						
016572	001004	A	1346		JAN	ING6	INVALID IF NOT OCTAL NUMBER	
016573	016634	A						
016574	006140	A	1347		SUBI	010		
016575	000010	A						
016576	001002	A	1348		JAP	ING6	INVALID IF NOT OCTAL NUMBER	
016577	016634	A						
016600	006120	A	1349		ADDI	010	RESTORE DIGIT	
016601	000010	A						
016602	054340	A	1350		STA	T803	SAVE CHARACTER	
016603	014336	A	1351		LDA	T802	INSERT CHARACTER	
016604	004443	A	1352		LLRL	3	INTO	
016605	114333	A	1353		ORA	T803	OCTAL NUMBER	
016606	001020	A	1354		JBZ	**4	TOO MANY BITS ?	
016607	016612	A						
016610	001000	A	1355		JMP	ING8	YES	
016611	016651	A						
016612	054327	A	1356		STA	T802	NO	
016613	040471	A	1357		INR	T804	INCR # DIGITS	
016614	001000	A	1358		JMP	ING5	GET NEXT DIGIT	
016615	016557	A						
016616	044010	A	1359	ING3	INR	INPG	NORMAL EXIT	
016617	044007	A	1360		INR	INPG		
016620	044006	A	1361	ING4	INR	INPG	COMMA EXIT	
016621	044005	A	1362		INR	INPG		
016622	044004	A	1363	ING2	INR	INPG	ABORT INPUT	EXIT
016623	044003	A	1364		INR	INPG		
016624	024321	A	1365		LOB	T807		
016625	014314	A	1366		LDA	T802	GET ASSEMBLED OCTAL NUMBER	
016626	001000	A	1367		JMP	0	EXIT	
016627	000000	A						
016627			1368	INPG	BES	0		
016630	002000	A	1369		CALL	INPI	INIT TTY BFR	
016631	016730	A						
016632	001000	A	1370		JMP	ING7		
016633	016552	A						
016634	014307	A	1371	ING6	LDA	T805	GET LAST INPUT	
016635	006140	A	1372		SUBI	0254	IS IT A COMMA	
016636	000254	A						
016637	001010	A	1373		JAZ	ING4	YES	
016640	016620	A						
016641	006140	A	1374		SUBI	02	IS IT A PERIOD	
016642	000002	A						
016643	001010	A	1375		JAZ	ING3	YES	
016644	016616	A						
016645	006140	A	1376		SUBI	0256-0215		
016646	000041	A						
016647	001010	A	1377		JAZ	ING3	RETURN IS AS GOOD AS PERIOD	
016650	016616	A						
016651	002000	A	1378	ING8	CALL	OUTG	PRINT INVALID MESSAGE	
016652	017070	A						
016653	001000	A	1379		JMP	ING2	ABORT	
016654	016622	A						
			1380	*				
016655	014264	A	1381	ING1	LDA	T802	DELETE LAST CHARACTER	
016656	004343	A	1382		LSRA	3		
016657	054262	A	1383		STA	T802		
016660	010471	A	1384		LDA	T804		
016661	005311	A	1385		DAR		REDUCE DIGIT COUNT	
016662	050471	A	1386		STA	T804		
016663	001000	A	1387		JMP	ING5		
016664	016557	A						
			1388	*				
016665	000000	A	1389	INN	ENTR		INPUT TO TERMINATOR	
			1390	*				

016666	002000	A	1391	CALL	INPG		
016667	016627	A					
016670	001000	A	1392	JMP	ETOP		
016671	015512	A					
016672	001000	A	1393	JMP	ETOP		
016673	015512	A					
016674	001000	A	1394	JMP*	INN		
016675	116665	A					
016676	001000	A	1395	JMP*	INN		
016677	116665	A					
			1396 *				
			1397 *	SENSE TTY BFR RDY			
			1398 *				
016700	054020	A	1399	INH1 STA	INH2	SAVE A	
016701	014014	A	1400	LDA	INPH	MODIFY RETURN	
016702	006110	A	1401	ORAI	0100000		
016703	100000	A					
016704	054006	A	1402	STA	INH3+1		
016705	010473	A	1403	LDA	STTY	ADJ SBR	
016706	006110	A	1404	ORAI	0101200		
016707	101200	A					
016710	054001	A	1405	STA	**2		
016711	014007	A	1406	LDA	INH2	RESTORE A	
016712	101000	A	1407	INH3 SEN	0,*		
016713	016712	A					
016714	044001	A	1408	INR	INPH		
016715	001000	A	1409	JMP	0		
016716	000000	A					
016716			1410	INPH BES	0	ENTER	
016717	001000	A	1411	JMP	INH1		
016720	016700	A					
016721	000000	A	1412	INH2 DATA	0		
			1413 *				
			1414 *	INPUT CHARACTER FROM TTY W/OUT SENSING BFR RDY			
			1415 *				
016722	010473	A	1416	INI1 LDA	STTY	ADJ. CIA	
016723	006110	A	1417	ORAI	0102500		
016724	102500	A					
016725	054000	A	1418	STA	**1		
016726	102500	A	1419	CIA	0	INPUT	
016727	001000	A	1420	JMP	0		
016730	000000	A					
016730			1421	INPI BES	0	ENTER	
016731	001000	A	1422	JMP	INI1		
016732	016722	A					
			1423 *				
			1424 *	OUTPUT ONE CHARACTER FROM A REG TO TTY			
			1425 *				
016733	000000	A	1426	OUTA ENTR	0		
016734	074204	A	1427	STX	TS01	SAVE X	
016735	005014	A	1428	TAX			
016736	010473	A	1429	LDA	STTY		
016737	006110	A	1430	ORAI	0101100	ADJUST TTY DA	
016740	101100	A					
016741	054006	A	1431	STA	**7		
016742	006120	A	1432	ADDI	002000		
016745	002000	A					
016744	054013	A	1433	STA	OUT1		
016745	005041	A	1434	TXA			
016746	006030	A	1435	LDXI	-1	TIME = OUT CONSTANT	
016747	177777	A					
016750	101000	A	1436	SEN	0,OUT1	WRITE REGISTER READY	
016751	016760	A					
016752	002000	A	1437	CALL	TOUT		
016753	017136	A					
016754	005011	A	1438	MERG	011		
016755	000115	A	1439	HLT	77		
016756	001000	A	1440	JMP	**6		
016757	016750	A					
016760	103100	A	1441	OUT1 OAR	0		
016761	034157	A	1442	LDX	TS01	RESTORE X	
016762	001000	A	1443	JMP*	OUTA	RETURN	
016763	116733	A					
			1444 *				
			1445 *				
			1446 *	OUTPUT TWO CHARACTERS FROM A REG TO TTY (HIGH ORDER FIRST)			
			1447 *	ENTER WITH CHARACTERS IN A REG			
			1448 *				
016764	000000	A	1449	OUTB ENTR	0		
016765	064157	A	1450	STB	TS06	SAVE B	
016766	004550	A	1451	LLSR	8		
016767	002000	A	1452	CALL	OUTA	OUTPUT FIRST CHAR	
016770	016733	A					
016771	004450	A	1453	LLRL	8		
016772	002000	A	1454	CALL	OUTA	OUTPUT SECOND CHAR	
016773	016733	A					
016774	024150	A	1455	LDB	TS06	RESTORE B	
016775	001000	A	1456	JMP*	OUTB	RETURN	
016776	116764	A					
			1457 *				
			1458 *	OUTPUT CARRIAGE RETURN AND LINE FEED TO TTY			
			1459 *				
016777	000000	A	1460	OUTC ENTR	0		
017000	054005	A	1461	STA	**6	SAVE A	
017001	006010	A	1462	LDAI	0106612	CR AND LF	

017002	106612	A					
017003	002000	A	1463	CALL	OUTB	OUTPUT 2 CHAR	
017004	016764	A					
017005	006010	A	1464	LDAI	0	RESTORE A	
017006	000000	A					
017007	001000	A	1465	JMP*	OUTC	RETURN	
017010	116777	A					
			1466 *				
			1467 *	OUTPUT	OCTAL WORD AND A SPACE TO TTY		
			1468 *				
017011	000000	A	1469	OUTE	ENTR	0	
017012	064022	A	1470	STB	**+19	SAVE B	
017013	005002	A	1471	TZB			
017014	004557	A	1472	LLSR	15		
017015	005122	A	1473	IBR			
017016	006110	A	1474	OUT2	ORAI	'0'	MAKE DIGIT
017017	000260	A					
017020	002000	A	1475	CALL	OUTA	OUTPUT ONE DIGIT	
017021	016733	A					
017022	005001	A	1476	TZA			
017023	004443	A	1477	LLRL	3		
017024	001020	A	1478	JBZ	**+4	OCTAL OUTPUT COMPLETE	
017025	017030	A					
017026	001000	A	1479	JMP	OUT2		
017027	017016	A					
017030	006010	A	1480	LDAI	0240	ASCII BLANK CODE	
017031	000240	A					
017032	002000	A	1481	CALL	OUTA	OUTPUT SPACE	
017033	016733	A					
017034	006020	A	1482	LDBI	0	RESTORE B	
017035	000000	A					
017036	001000	A	1483	JMP*	OUTE	RETURN	
017037	117011	A					
			1484 *				
			1485 *	OUTPUT	MESSAGE TO TTY (X REG CONTAINS ADDRESS OF MESSAGE)		
			1486 *				
017040	000000	A	1487	OUTD	ENTR	0	
017041	015000	A	1488	LDA	0.1		
017042	001010	A	1489	JAZ*	OUTD		
017043	117040	A					
017044	002000	A	1490	CALL	OUTB		
017045	016764	A					
017046	005144	A	1491	IXR			
017047	001000	A	1492	JMP	OUTD+1		
017050	017041	A					
			1493 *				
			1494 *	OUTPUT	OCTAL MEMORY ADDRESS TO TTY PRINTER		
			1495 *				
017051	000000	A	1496	OUTF	ENTR	0	
017052	054067	A	1497	STA	TS02	SAVE WORD	
017053	006010	A	1498	LDAI	'('	PAREN SPACE	
017054	124240	A					
017055	002000	A	1499	CALL	OUTB	PRINT CHAR	
017056	016764	A					
017057	014062	A	1500	LDA	TS02		
017060	002000	A	1501	JMPM	OUTE	OUTPUT OCTAL WORD	
017061	017011	A					
017062	006010	A	1502	LDAI	')'	RIGHT PARENTHESIS AND SPACE	
017063	124640	A					
017064	002000	A	1503	CALL	OUTB		
017065	016764	A					
017066	001000	A	1504	JMP*	OUTF		
017067	117051	A					
			1505 *				
			1506 *	INVALID	INPUT==PRINT MESSAGE		
			1507 *				
017070	000000	A	1508	OUTG	ENTR	0	
017071	006030	A	1509	LDXI	M9G5	INVALID MESSAGE	
017072	016053	A					
017073	002000	A	1510	CALL	OUTD	OUTPUT MESSAGE	
017074	017040	A					
017075	001000	A	1511	JMP*	OUTG		
017076	117070	A					
			1512 *				
			1513 *	OUTPUT	CONTROL CHARACTER SUBROUTINE		
			1514 *				
017077	054020	A	1515	OUT3	STA	OUTH+3	SAVE A
017100	074020	A	1516	STX	OUTH+4	SAVE X	
017101	034013	A	1517	LDX	OUTH	A=CONTROL	
017102	015000	A	1518	LDA	0.1	CHARACTER	
017103	002000	A	1519	CALL	OUTA	OUTPUT CHARACTER	
017104	016733	A					
017105	006030	A	1520	LDXI	077777	INIT	
017106	077777	A					
017107	002000	A	1521	CALL	TOLY	TIME DELAY	
017110	017122	A					
017111	044003	A	1522	INR	OUTH	SET RETURN	
017112	014005	A	1523	LDA	OUTH+3	RESTORE A	
017113	034005	A	1524	LDX	OUTH+4	RESTORE X	
017114	001000	A	1525	JMP	0	RETURN	
017115	000000	A					
017115			1526	OUTH	BES	0	ENTRY
017116	001000	A	1527	JMP	OUT3	LOOP	
017117	017077	A					
017120			1528	BSS	2	STORAGE FOR A + X	

```

1529 *
1530 * TIME DELAY SUBROUTINE
1531 *
017122 000000 A 1532 TDLY ENTR 0
017123 005344 A 1533 DXR
017124 001040 A 1534 JXZ* TDLY RETURN
017125 117122 A
017126 001000 A 1535 JMP *-3
017127 017123 A

1536 *
1537 * I/O TIME-OUT SUBROUTINE
1538 *
017130 005344 A 1539 TDU1 DXR
017131 001040 A 1540 JXZ* TOUT TIME-OUT RETURN
017132 117136 A
017133 044002 A 1541 INR TOUT SET UP FOR
017134 044001 A 1542 INR TOUT NORMAL EXIT
017135 001000 A 1543 JMP 0
017136 000000 A
017136 1544 TOUT BES 0
017137 001000 A 1545 JMP TOUT1
017140 017130 A

1546 *
1547 * DATA TABLE
1548 *
1549 *
017141 000000 A 1550 TS01 DATA 0 TEMPORARY STORAGE
017142 000000 A 1551 TS02 DATA 0 TEMPORARY STORAGE
017143 000000 A 1552 TS03 DATA 0 TEMPORARY STORAGE
017144 000000 A 1553 TS05 DATA 0 TEMPORARY STORAGE
017145 000000 A 1554 TS06 DATA 0 TEMPORARY STORAGE
017146 000000 A 1555 TS07 DATA 0 TEMPORARY STORAGE

1556 *
017147 A 1557 PCHT EQU *
017147 006010 A 1558 LDAI QUTA
017150 016733 A
017151 054022 A 1559 STA PCHR
017152 001000 A 1560 JMP* DPOT
017153 117164 A
017154 A 1561 PCHP EQU *
017154 006010 A 1562 LDAI POUT
017155 017200 A
017156 054015 A 1563 STA PCHR
017157 006030 A 1564 LDXI P000
017160 017175 A
017161 002000 A 1565 CALL SET
017162 014011 A
017163 001000 A 1566 JMP* DPOT
017164 117164 A
017164 A 1567 DPOT EQU *-1
017165 010474 A 1568 LDA DADR
017166 006150 A 1569 ANAI 020
017167 000020 A
017170 001010 A 1570 JAZ PCHT
017171 017147 A
017172 001000 A 1571 JMP PCHP
017173 017134 *
017174 000000 A 1572 PCHR DATA 0
017175 017201 A 1573 P000 DATA P001,P002
017176 017207 A
017177 000000 A 1574 DATA 0
017200 000000 A 1575 POUT ENTR
017201 101500 A 1576 P001 SEN 0500,P002
017202 017207 A
017203 001400 A 1577 JSB3 PQFF
017204 014325 A
017205 001000 A 1578 JMP P001
017206 017201 A
017207 103100 A 1579 P002 OAR 000
017210 001000 A 1580 JMP* POUT
017211 117200 A

1581 *
017211 A 1582 EDEX EQU *-1
014000 A 1583 END EBG0
    
```

ENTRY NAMES
EXTERNAL NAMES
SYMBOLS

```

000442 A $CON 000440 A $FLG 000441 A $MEM 000473 A $TTY
015762 A ABX 000464 A CKSM 015502 A DOMSG1 015506 A DOMSG3
017164 A DPOT 014371 A DRCD 014336 A DUMP 000431 A E3R1
015074 A E3RG 000432 A E4R1 015122 A E4RG 000433 A ESR1
015150 A E5RG 000434 A E6R1 015176 A E6RG 000435 A E7R1
015224 A E7RG 000443 A EAR1 014771 A EARG 014000 A EBG0
015453 A EBG1 015464 A EBG2 000444 A EBR1 015020 A EBRG
015426 A ECN2 015377 A ECN3 015366 A ECNG 017211 A EDEX
015332 A EDU1 015337 A EDU2 015353 A EDU4 015315 A EDUM
015265 A EG01 015252 A EG0T 000454 A EK00 000455 A EK01
000456 A EK02 014000 A ELOC 015666 A ELOD 014112 A END
015631 A EQF 014313 A EOR 015314 A EQV1 014302 A EPU1
014254 A EPUN 014736 A ESR1 014747 A ESR2 014730 A ESR4
014765 A ESR5 014704 A ESR6 016115 A ESZ1 016132 A ESZ2
016103 A ESZA 016137 A ESZB 015443 A ESZC 016153 A ETAB
015577 A ETBL 015542 A ETO4 015512 A ETOP 014671 A ETR1
014701 A ETR2 014570 A ETR3 014610 A ETR3A 014662 A ETR3B
014534 A ETRP 000446 A ETS1 000400 A EX00 000401 A EX01
    
```

B

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	EX24	000425	A	EX25
000426	A	EX26	000427	A	EX27	014102	A	EXC4	000465	A	EXEC
015631	A	EXIT	000445	A	EXR1	015046	A	EXRG	015631	A	FIL
000462	A	FRST	016000	A	HLTF	014234	A	IN	016330	A	INA1
016337	A	INA2	016343	A	INA3	016347	A	INB1	016405	A	INC1
016407	A	INC2	016363	A	INC3	016441	A	IND1	016443	A	IND2
016451	A	IND3	016415	A	IND4	016502	A	INE1	016504	A	INE2
016455	A	INE3	016542	A	INF1	016544	A	INF2	016540	A	INF3
016536	A	INF4	016512	A	INF5	016655	A	ING1	016622	A	ING2
016616	A	ING3	016620	A	ING4	016557	A	ING5	016634	A	ING6
016552	A	ING7	016651	A	ING8	016700	A	INH1	016721	A	INH2
016712	A	INH3	016722	A	INI1	014517	A	INI2	014530	A	INI3
014470	A	INIT	016665	A	INN	014133	A	INP	016344	A	INPA
016360	A	INPB	016412	A	INPC	016446	A	INPD	016507	A	INPE
016547	A	INPF	016627	A	INPG	016716	A	INPH	016730	A	INPI
014236	A	INPT	000460	A	K100	000461	A	K200	000457	A	K40
000463	A	LAST	014104	A	LCKS	014166	A	LDATA	014046	A	LOA
000470	A	LOAD	014031	A	LOAP	014057	A	LOAT	015673	A	LOAW
014024	A	LODE	014140	A	LRCO	014207	A	LWR1	014204	A	LWRD
014103	A	LXOF	000477	A	MASK	014252	A	MODE	016001	A	MSG1
016025	A	MSG2	016040	A	MSG3	016050	A	MSG4	016053	A	MSG5
016061	A	MSG6	014007	A	NOV75	014100	A	O1K	014053	A	O2K
014106	A	OSK	000474	A	OADR	014245	A	OTPT	014243	A	OUT
016760	A	OUT1	017016	A	OUT2	017077	A	OUT3	016733	A	OUTA
016764	A	OUTB	016777	A	OUTC	017040	A	OUTD	017011	A	OUTE
017051	A	OUTF	017070	A	OUTG	017115	A	OUTH	017175	A	P000
017201	A	P001	017207	A	P002	014420	A	PBOOT	017154	A	PCHP
017174	A	PCHR	017147	A	PCHT	014413	A	PDATA	015574	A	PETBL
015733	A	PHLT	014457	A	PLD1	014454	A	PLDR	014325	A	POFF
017200	A	POUT	014354	A	PRCD	015705	A	PWDN	015726	A	PWDN1
014424	A	PWR1	014437	A	PWR2	014426	A	PWRD	000472	A	PWRK
015734	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	014253	A	RCOL	015653	A	REGJMP	015655	A	REGTBL
015304	A	RESOF	014107	A	ROF	015767	A	SAVA	015770	A	SAVB
015777	A	SAVO	015772	A	SAVR3	015773	A	SAVR4	015774	A	SAVR5
015775	A	SAVR6	015776	A	SAVR7	015771	A	SAVX	014105	A	SEN2
014011	A	SET	016213	A	SSW1	016220	A	SSW2	016235	A	SSW3
016250	A	SSW4	016254	A	SSW5	016263	A	SSW6	016314	A	SSW7
016222	A	SSWL	016163	A	SSWP	016277	A	SSWR	016311	A	SSW8
016325	A	SSWT	014111	A	STX	000467	A	TAPE	000466	A	TAPN
017122	A	TOLY	014233	A	TEMP	017130	A	TOUT	017136	A	TOUT
017141	A	TS01	017142	A	TS02	017143	A	TS03	000471	A	TS04
017144	A	TS05	017145	A	TS06	017146	A	TS07	014110	A	TZB
000430	A	V75	015635	A	V75REG	000476	A	XOFF	000475	A	XON

0 ERRORS ASSEMBLY COMPLETE

LITERALS
POINTERS

* * UNREFERENCED SYMBOLS * *

870	EBG2	128	EK01	129	EK02	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	139	LOAD	192	LOAP	211	O2K
400	PBOOT	60	R0	61	R1	62	R2	1190	SSW6	138	TAPE
137	TAPN	144	XON								

* * PROGRAM / SUBROUTINE ENTRY POINTS * *

1567	DPQT	-LD-	337	1560	1566						
365	QUMP	-LD-	341								
1065	ESZA	-LD-	859	1087							
1093	ESZB	-LD-	861	1101							
858	ESZC	-LD-	101	862	865						
1389	INN	-LD-	973	1394	1395						
254	INP	-ST-	197	204	205	220	224	227	-LD-	211	
1225	INPA	-ST-	1222	1223	-LD-	90	1230				
1236	INPB	-ST-	1233	1234	-LD-	91	891	952	1231	1242	
1257	INPC	-ST-	1250	1251	1252	1253	1254	1255	-LD-	92	1243
1278	INPD	-ST-	1271	1272	1273	1274	1275	1276	-LD-	93	1263
1368	INPE	-ST-	1359	1360	1361	1362	1363	1364	-LD-	96	331
			644	664	680	696	712	728	744	766	791
1410	INPH	-ST-	1408	-LD-	103	1218	1400				
1421	INPI	-LD-	104	813	889	1221	1369				
309	INPT	-ST-	199	232	-LD-	258	261	288			
284	LWRD	-LD-	265	268	271	302					
1426	OUTA	-LD-	82	607	621	641	661	677	693	709	725
			1232	1443	1452	1454	1475	1481	1519	1558	741
1449	OUTB	-LD-	83	554	1456	1463	1490	1499	1503		802
1460	OUTC	-LD-	84	531	603	772	797	812	853	871	890
1487	OUTD	-LD-	85	875	878	880	979	1157	1489	1492	1510
1469	OUTE	-LD-	86	535	537	539	543	545	547	549	551
			679	711	727	743	804	835	981	1483	1501
1496	OUTF	-LD-	87	533	605	800	855	1504			609
1508	OUTG	-LD-	88	944	1280	1317	1378	1511			623
1526	OUTH	-ST-	1515	1516	1522	-LD-	89	360	361	370	371
			1524								870
1572	PCHR	-ST-	1559	1563	-LD-	389	390	391	393	420	432
429	PLDR	-LD-	359	372	433						888
994	PWDN	-LD-	71	1036							1517

408	PWRD	-LD-	357	395	397															
169	SET	-LD-	172	178	1565															
1532	TOLY	-LD-	98	1521	1534															
1544	TOUT	-ST-	1541	1542	-LD-	97	1437	1540												

* * REFERENCED SYMBOLS * *

121	SCUN	-ST-	864																	
119	SFLG	-ST-	1173	1195	1206	-LD-	1159	1191												
120	S MEM	-ST-	860	-LD-	1094															
142	SITY	-LD-	868	1403	1416	1429														
1033	ABX	-LD-	1027																	
135	CKSM	-ST-	264	301	373	412	-LD-	236	242	300	356	411								
877	DOMSG1	-LD-	873																	
879	DOMSG3	-LD-	876																	
1567	DPOT	-LD-	337	1560	1566															
385	ORCO	-LD-	379																	
365	DUMP	-LD-	341																	
107	E3R1	-ST-	689	-LD-	516	542	678	777												
676	E3RG	-LD-	962																	
108	E4R1	-ST-	705	-LD-	517	544	694	778												
692	E4RG	-LD-	963																	
109	E5R1	-ST-	721	-LD-	518	546	710	779												
708	E5RG	-LD-	964																	
110	E6R1	-ST-	737	-LD-	519	548	726	780												
724	E6RG	-LD-	965																	
111	E7R1	-ST-	753	-LD-	520	550	742	781												
740	E7RG	-LD-	966																	
123	E8R1	-ST-	511	633	-LD-	534	622	773												
620	E8RG	-LD-	914	959																
162	E8G0	-LD-	1583																	
863	E8G1	-LD-	167																	
124	E8R1	-ST-	512	653	-LD-	536	642	774												
640	E8RG	-LD-	915	960																
848	ECN2	-LD-	839																	
832	ECN3	-LD-	856																	
826	ECNG	-LD-	916																	
1582	EDEX	-LD-	105																	
800	EDU1	-LD-	817																	
803	EDU2	-LD-	810																	
812	EDU4	-LD-	809																	
791	EDUM	-LD-	917																	
773	EG01	-LD-	509																	
766	EG0T	-LD-	920																	
127	EK00	-LD-	640	660	676	692	708	724	740	801										
160	ELOC	-LD-	100																	
973	ELOD	-LD-	925																	
242	END	-ST-	195	201	202	203	218	223	226	229	-LD-	273	296							
947	EOF	-LD-	918																	
354	EOR	-LD-	398																	
788	EOV1	-ST-	523	-LD-	552	783														
344	EPU1	-LD-	334																	
328	EPUN	-LD-	349	929																
597	E8R1	-LD-	610																	
603	E8R2	-LD-	596																	
592	E8R4	-LD-	602																	
611	E8R3	-LD-	565																	
579	E8RC	-LD-	613	932																
1074	E8Z1	-LD-	1083																	
1084	E8Z2	-LD-	1080																	
1065	E8ZA	-LD-	859	1087																
1093	E8ZB	-LD-	861	1101																
858	E8ZC	-LD-	101	862	865															
1102	ETAB	-LD-	1096																	
914	ETBL	-LD-	903																	
898	ET04	-ST-	893																	
886	ETOP	-LD-	69	332	333	342	419	435	451	452	468	494	495	555	581					
			582	598	601	625	626	631	634	645	646	651	654	665	666	671				
			674	681	682	687	690	697	698	703	706	713	714	719	722	729				
			730	735	738	745	746	751	754	767	768	792	793	805	815	827				
			828	837	838	846	892	895	897	945	982	1392	1393							
557	ETR1	-LD-	496																	
563	ETR2	-LD-	507	524																
511	ETR3	-LD-	564																	
521	ETR3A	-LD-	515																	
552	ETR3B	-LD-	541																	
490	ETRP	-LD-	560	933																
126	ETS1	-ST-	329	375	409	456	492	585	587	597	629	649	669	685	701					
			717	733	749	771	796	841	848	-LD-	330	338	339	340	346	377				
			406	449	455	458	461	462	464	467	490	491	499	500	527	528				
			559	579	586	589	592	594	595	600	604	632	652	672	688	704				
			720	736	752	787	798	844	851											
234	EXC4	-LD-	193																	
136	EXEC	-ST-	368	-LD-	380															
944	EXIT	-LD-	347	460	463	561	591	900	902	921	923	924	926	927	928					
			930	934	935	936	938	939	946	947	951	953	967							
125	EXR1	-ST-	513	673	-LD-	538	662	786												
660	EXRG	-LD-	937	961																
946	FIL	-LD-	919																	
133	FRST	-ST-	270	366	-LD-	251	362													
1047	HLTF	-ST-	1008	1017	-LD-	1014														
307	IN	-ST-	209	-LD-	206	256	310													
1218	INA1	-LD-	1220	1226																

