

CONTROL DATA[®] SMM17

Program Listings

TTY

CONTROL DATA
CORPORATION

CUSTOMER ENGINEERING MANUAL

0001 NAM TTY005 10154 COPYRIGHT CONTROL DATA CORP 1974 ***00001
 0002 * COSY 3.1 00002

0004 *****00004
 0005 * ****00005
 0006 * * * * * REVISION RECORD * * * * * ****00006
 0007 * ****00007
 0008 * MODAYR VERSION WHAT DONE , WHY , AND WHO DID IT ****00008
 0009 * ****00009
 0010 * 032074 V 3.1 SYSTEM RELEASED ****00010
 0011 * RECODED SECTIONS 5,6,7,8 TO EXECUTE ON ****00011
 0012 * A 1712 OR 1713 ****00012
 0013 * ADDED OPERATOR MESSAGE ****00013
 0014 * ****00014
 0015 *****00015

0017 *1711-12-13 FUNCTION CODES 00017
 0018 * A0=1- CLEAR CONTROLLER 00018
 0019 * A1=1- CLEAR INTERRUPTS 00019
 0020 * A2=1- DATA INTERRUPT REQUEST 00020
 0021 * A3=1- SELECT EOP INTERRUPT 00021
 0022 * A4=1- SELECT ALARM INTERRUPT 00022
 0023 * A5=1- START MOTION 00023
 0024 * A6=1- STOP MOTION 00024
 0025 * A8=1- SELECT WRITE MODE 00025
 0026 * A9=1- SELECT READ MODE 00026
 0027 * A10=1- SELECT (K) MODE 00027
 0028 * A11=1- SELECT (KT) MODE 00028
 0029 * A12=1- SELECT (T) MODE 00029
 0030 * A13=1- SELECT (TTR) MODE 00030
 0031 * A14=1- SELECT (TTS) MODE 00031

0033 *1711-12-13 STATUS - Q0=1 00033
 0034 * A0=1- READY 00034
 0035 * A1=1- BUSY 00035
 0036 * A2=1- INTERRUPT 00036
 0037 * A3=1- DATA INTERRUPT 00037
 0038 * A4=1- EOP STATUS (PRESENT WHENEVER NOT BUSY) 00038
 0039 * A5=1- ALARM INTERRUPT 00039
 0040 * A6=1- LOST DATA 00040
 0041 * A9=1- READ MODE 00041
 0042 * A10=1- READY 00042
 0043 * A11=1- MANUAL INTERRUPT 00043

0045	*ERROR CLASSIFICATION CODES (HEX)	00045
0046	* 1- TELETYPE NOT READY	00046
0047	* 2- REPLY ON INPUT-REJECT EXPECTED	00047
0048	* 3- INTERNAL REJECT ON STATUS REQUEST	00048
0049	* 4- INTERNAL REJECT ON DATA OUTPUT	00049
0050	* 7- INTERNAL REJECT ON FUNCTION SELECT	00050
0051	* 8- IMPROPER STATUS(OTHER THAN READY, READ MODE, MOTOR ON AND E	00051
0052	* 9- DATA INTERRUPT-REJECT ON DATA OUTPUT	00052
0053	* 10- NO READ MODE STATUS	00053
0054	* 11- WRITE MODE SELECTED, READ MODE STATUS UP	00054
0055	* 12- DATA INTERRUPT-REJECT ON DATA INPUT	00055
0056	* 13- BUSY STATUS NOT UP AFTER DATA OUTPUT	00056
0057	* 15- DATA COMPARE ERROR	00057
0058	* 16- FAILURE TO CLEAR INTERRUPTS	00058
0059	* 20- NO INTERRUPT STATUS	00059
0060	* 21- NON-REQUESTED INTERRUPT	00060
0061	* 22- INTERRUPT GENERATED BY RINGING BELL	00061
0062	* 24- ALARM INTERRUPT BUT NO ALARM CONDITIONS	00062
0063	* 27- LOST DATA	00063
0064	* 29- EOP INTERRUPT DID NOT OCCUR	00064
0065	* 30-DELAY ADJUSTMENT ERROR	00065
0066	* ADJUST DELAY ON BOTTOM EVEN SIDE	00066
0067	* OF Z20-4 CARD LOCATED AT C-15 SO THAT	00067
0068	* CONTROLLER NEVER GOES NOT BUSY WHEN	00068
0069	* READING CONTINUOUSLY FROM PAPER TAPE.	00069
0070	* ERROR SIGNIFIED BY SELECTIVE STOP IF SWITCH SET	00070
0071	* SELECTIVE STOP AT TAG (CLR12) WHEN INTERRUPT FAILS TO CLEAR	00071

0073	*ADDRESS TAGS	00073
0074	* RETURN-ADDRESS WHERE SMH RETURNS CONTROL TO TEST	00074
0075	* DLINE-	00075
0076	* ALINE-INTERRUPT LINE NUMBER FOR TELETYPE	00076
0077	* EOPL-	00077
0078	* INT-FIRST WORD ADDRESS OF INTERRUPT PROCESSING ROUTINE	00078
0079	* SECTNS-SECTION SELECTS PARAMETER	00079
0080	* COUNTR-COUNTER USED IN SECTIONS 1 AND 11 (NUMBER OF LINES	00080
0081	* TYPED IN SECTION 1 AND / OR NUMBER OF TIMES BELL IS RUNG	00081
0082	* IN SECTION 11)	00082
0083	* MOD-THIS BIT IS SET AT PARAMETER ENTRY TIME IF TELETYPE IS	00083
0084	* A 1713-MODE CHANGES WILL BE MADE BY THE PROGRAM.	00084
0085	* THIS PARAMETER IS NORMALLY ZERO WHICH INDICATES	00085
0086	* THE TELETYPE IS A 1712 OR IT IS A 1713 AND THE	00086
0087	* OPERATOR WISHES TO MANUALLY SELECT MODES.	00087
0088	* MOD1-THIS PARAMETER MUST BE SET TO A NONZERO VALUE IF THE TELET	00088
0089	* IS A 1712 AND SECTIONS 6 OR 8 ARE TO BE RUN. PRESTORED AS ZERO.	00089

0091	*CAUTIONS TO USER	00091
0092	* SECTIONS 4,5,6,7 AND 8 ARE NOT NORMALLY RUN	00092
0093	* BECAUSE THEY REQUIRE OPERATOR INTERVENTION.	00093
0094	* IF THESE SECTIONS ARE SELECTED THE TELETYPE TEST SHOULD	00094
0095	* BE RUN ALONE.	00095
0096	* *****	00096
0097	* *****	00097
0098	* *IF COMPUTER STOPS WITH *	00098
0099	* *OVERFLOW LIGHT FLASHING *	00099
0100	* *OPERATOR MUST SELECT (K) *	00100
0101	* *MODE AND PRESS MANUAL *	00101
0102	* *INTERRUPT TO CONTINUE. *	00102
0103	* *****	00103
0104	* *****	00104
0105	* SECTION 6 MAY BE RUN IN EITHER (KT) OR (T) MODE(MANUAL MODE SEL	00105

0107	P0000	180A	TTY005	JMP*	ENTERS		00107	
0108	P0001	5454		ALF	3,TTY005		00108	
	P0002	5930						
	P0003	3935						
0109	P0004	0031	P	PARADR	ADC	ENTRY+5	PARAMETER AREA FWA.	00109
0110	P0005	0831	P	RETURN	ADC	INIT05		00110
0111	P0006	0091		EQUIP	NUM	\$91		00111
0112	P0007	0002		OLINE	NUM	2	DATA INTERRUPT LINE	00112
0113	P0008	0002		ALINE	NUM	2	ALARM INTERRUPT LINE	00113
0114	P0009	0002		EOPL	NUM	2	END OF OPERATION INTERRUPT LINE	00114

0116							00116
0117			*				00117
0118			*SMM 1700 DIRECT LOCATIONS				00118
			*				
0119	0001		EQU	CONTROL(1)		RETURN SMM CONTROL ADDRESS.	00119
0120	0002		EQU	STOPX(CONTROL+1)		ALL STOPS AND ERROR TYPEOUTS	00120
0121	0003		EQU	EXIT(STOPX+1)		END OF TEST-PASS EXIT	00121
0122	0004		EQU	REQINT(EXIT+1)		REQUEST INTERRUPT ADDRESS	00122
0123	0005		EQU	FCLRINT(REQINT+1)		FAKE OLD -CLR INTRPT REQ- SUBRTN	00123
0124	0006		EQU	JUMP(REQINT+2)		CHECK SKIPSWITCH FOR PARAM ENTRY	00124
0125	0007		EQU	GENRAN(JUMP+1)		RANDOM NUMBER GENERATOR	00125
0126	0008		EQU	TYPEOUT(GENRAN+1)		MESSAGE TYPEOUT ROUTINE	00126
0127	0009		EQU	TTYBZY(TYPEOUT+1)		ROUTINE TO WAIT TTY NOT BUSY.	00127
0128	000A		EQU	HEXASC(TYPEOUT+2)		HEX TO ASCII CONVERSION	00128
0129	000B		EQU	OVPLAY(HEXASC+1)		OVERLAY CALL ROUTINE.	00129
0130	000C		EQU	RELPOS(OVRLAY+1)		A/Q RELATIVE POSITION TEST.	00130
0131	000D		EQU	MAINL(RELPOS+1)		MANUAL INTERRUPT ROUTINE.	00131
0132	0042		EQU	SETMASK(MAINL+53)		M-REG RESET VALUE	00132
0133	0043		EQU	STJP(SETMASK+1)		STOP/JUMP PARAMETER WORD.	00133
0134	0044		EQU	LASTVALU(STJP+1)		MONITOR AREA LWA+1	00134
0135	0045		EQU	LASTAD(STJP+2)		AVAILABLE LOAD CORE FWA.	00135
0136	0047		EQU	LDLCORE(LASTAD+2)		BANK0 LAST ADDR	00136
0137	0048		EQU	LDL1COR(LDLCORE+1)		BANK1 LAST ADDR	00137
0138	0049		EQU	INFORM(LDL1COR+1)		BK0 SIZE, MASK SIZE, BUSY SWITCH	00138
0139	0056		EQU	SMMCNT(INFORM+13)		SMM PARAMETER WORD.	00139
0140	006B		EQU	BIT00(SMMCNT+21)		*** CONSTANT TABLE ***	00140
0141	006B		EQU	BIT0(BIT00)			00141
0142	006C		EQU	BIT1(BIT0+1)			00142
0143	006D		EQU	BIT2(BIT1+1)			00143
0144	006E		EQU	BIT3(BIT2+1)			00144
0145	006F		EQU	BIT4(BIT3+1)			00145
0146	0070		EQU	BIT5(BIT4+1)			00146
0147	0071		EQU	BIT6(BIT5+1)			00147
0148	0072		EQU	BIT7(BIT6+1)			00148
0149	0073		EQU	BIT8(BIT7+1)			00149
0150	0074		EQU	BIT9(BIT8+1)			00150
0151	0075		EQU	BIT10(BIT9+1)			00151
0152	0076		EQU	BIT11(BIT10+1)			00152
0153	0077		EQU	BIT12(BIT11+1)			00153

0154	0078	EQU	BIT13(BIT12+1)	00154
0155	0079	EQU	BIT14(BIT13+1)	00155
0156	007A	EQU	BIT15(BIT14+1)	00156
0157	007B	EQU	H0000(BIT15+1)	00157
0158	007C	EQU	HFFFF(H0000+1)	00158
0159	007D	EQU	H000F(HFFFF+1)	00159
0160	007E	EQU	H00F0(H000F+1)	00160
0161	007F	EQU	H0F00(H00F0+1)	00161
0162	0080	EQU	HF000(H0F00+1)	00162
0163	0081	EQU	H00FF(HF000+1)	00163
0164	0082	EQU	HFF00(H00FF+1)	00164
0165	0083	EQU	HFFF0(HFF00+1)	00165
0166	0084	EQU	H0FFF(HFFF0+1)	00166
0167	0085	EQU	HFF0F(H0FFF+1)	00167
0168	0086	EQU	HFOFF(HFF0F+1)	00168
0169	0087	EQU	H7FFF(HF0FF+1)	00169
0170	0088	EQU	H7F00(H7FFF+1)	00170
0171	0089	EQU	H0780(H7F00+1)	00171
0172	008A	EQU	H007F(H0780+1)	00172
0173	008B	EQU	H2020(H007F+1)	00173
0174	0091	EQU	TSACTV(H2020+6)	00174
0175	0092	EQU	TSFREQ(TSACTV+1)	00175
0176	0068	EQU	CONST(BIT00)	00176
0177	0056	EQU	SMMPAR(SMMCNT)	00177
0178	0043	EQU	SJPAR(STJP)	00178
0179	0007	EQU	RANDOM(GENRAN)	00179
0180	000A	EQU	CONVERT(HEXASC)	00180
0181	0008	EQU	MESSAG(TYPEOUT)	00181
0182	0004	EQU	REQND(REQINT)	00182
0183	0005	EQU	CLRND(FCLRINT)	00183
0184	00FD	EQU	REQDI(I-2)	00184
0185	00FE	EQU	CLRDI(REQDI+1)	00185

TABLE INDEX TO TEST IN CONTROL.
TEST, FREQUENCY TABLE

PRIVATE TEST COMMUNICATION CELL
PRIVATE TEST COMMUNICATION CELL

0187	P000A	0844	ENTERS5	CLR	A	00187
0188	P000B	6841		STA*	SECX	00188
0189	P000C	C000		LDA	=XCHBSY	PTC2 00189
		P000D	0036 P			
0190	P000E	68F6		STA*	RETURN	PTC2 00190
0191	P000F	581D		RTJ*	ENTRY	00191
0192	P0010	5400		RTJ+	WNB	00192
		P0011	008C P			
0193	P0012	C820		LDA*	SECTNS	***00193
0194	P0013	A000		AND	=N\$1E0	***00194
		P0014	01E0			
0195	P0015	0105		SAZ	5	***00195
0196	P0016	C000		LDA	=XINTMSG	***00196
		P0017	0698 P			
0197	P0018	E000		LDQ	=XINTMGE-INTMSG+1	***00197
		P0019	0093			

0198	P001A	5408		RTJ-	(MESSAGE)		WARNING MSG TO OPERATOR	***00198
0199	P001B	0A01		ENA	1			00199
0200	P001C	586D		RTJ*	CON		CLEAR CONTROLLER	00200
0201	P001D	5400		RTJ+	REQ		REQUEST INTERRUPTS	00201
	P001E	0554	P					
0202	P001F	0A11		ENA	\$11			00202
0203	P0020	6400		STA+	INTREQ		REQUESTED INTERRUPTS	00203
	P0021	0536	P					
0204	P0022	C076		LDA-	BIT11		STATUS BITS	00204
0205	P0023	6400		STA+	INTST		FOR REQUESTED INTERRUPTS	00205
	P0024	0537	P					
0206	P0025	C06F		LDA-	BIT4			00206
0207	P0026	5400		RTJ+	SEL		SELECT ALARM INTERRUPTS	00207
	P0027	055A	P					
0208	P0028	C000		LDA	=XSECT0			00208
	P0029	0054	P					
0209	P002A	6821		STA*	PRGRET			00209
0210	P002B	5401		RTJ-	(CONTROL)		CONTROL TO SHM	00210
0212	P002C	0000	ENTRY	NUM	0		PERMANENT INITIALIZATION	00212
0213	P002D	C000		LDA-	0			00213
0214	P002E	0000	P XTTY005	ADC	TTY005		TEST IA	00214
0215	P002F	5402		RTJ-	(STOPX)			00215
0216	P0030	1CFB		JMP*	(ENTRY)			00216
0217		0031	P	ORG	*			00217
0218	P0031	0521		NUM	\$521			00218
0219	P0032	0E0F	SECTNS	NUM	\$E0F		SECTIONS SELECTED (0,1,2,3,9,10, AND 11)	00219
0220	P0033	0040	COUNTR	NUM	\$40		COUNTER FOR SECTIONS 1 AND 11	00220
0221	P0034	0000	MOD	NUM	0		MODEL FLAG-IF=1 TELETYPE IS A 1713	00221
0222			*				IF=0 TELETYPE IS A 1712 OR A 1713	00222
0223			*				USING MANUAL SELECTION OF MODES	00223
0224	P0035	0000	MOD1	NUM	0		MUST BE NONZERO FOR 1712(SEC 6 OR 8).	00224
0226			*					00226
0227			*CHECK TELETYPE BUSY SWITCH					00227
0228			*					00228
0229	P0036	C049	CHBSY	LDA-	INFORM			00229
0230	P0037	A068		AND-	CONST		IS TELETYPE BUSY SWITCH SET	00230
0231	P0038	0114		SAN	CHBSY3--1			PTC2 00231
0232	P0039	5800		RTJ	IPS			PTC2 00232
	P003A	0089						
0233	P003B	A06C		AND-	BIT1			PTC2 00233
0234	P003C	0101		SAZ	1			PTC2 00234
0235	P003D	5401	CHBSY3	RTJ-	(CONTROL)		RETURN CONTROL TO SHM	PTC2 00235
0236	P003E	C800		LDA	MRF			PTC2 00236
	P003F	02FD						
0237	P0040	0101		SAZ	1			PTC2 00237
0238	P0041	18FB		JMP*	CHBSY3			PTC2 00238
0239	P0042	EC07		LDQ*	(XERC)		ERROR CODE	00239
0240	P0043	0146		SQZ	CHBSY2--1			00240

0241	P0044	6C05		STA*	(XERC)		CLEAR ERROR CODE	00241
0242	P0045	0A18		ENA	\$18			00242
0243	P0046	585C		RTJ*	STOP		ERROR STOP.	00243
0244	P0047	0844		CLR	A			00244
0245	P0048	6400		STA-	(0)			00245
0246	P0049	0534	P	XERC	ERC			00246
0247	P004A	1C01		CHBSY2	JMP*	(PRGRET)		00247
0248	P004B	000A	P	PRGRET	ADC	ENTER5		00248
0250	P004C	0000		SECX	NUM	0	HEX SECTION ADDR. TABLE INDEX.	00250
0252	P004D	0A02		END	ENA	2	END OF SECTION ROUTINE	00252
0253	P004E	0842			CLR	Q		00253
0254	P004F	5853			RTJ*	STOP	END OF SECTION STOP	00254
0255	P0050	0A20			ENA	\$20		00255
0256	P0051	5406			RTJ-	(JUMP)	CHECK REPEAT SECTION	00256
0257	P0052	1802			JMP*	SECT0		00257
0258	P0053	D8F8		SECT	RAO*	SECX		00258
0259	P0054	E8F7		SECT0	LDQ*	SECX		00259
0260	P0055	0A0C			ENA	12		00260
0261	P0056	0874			EAQ	A		00261
0262	P0057	0111			SAN	1		00262
0263	P0058	1813			JMP*	ENDTST	JUMP AFTER LAST SECTION.	00263
0264	P0059	C268			LDA-	BIT0,Q		00264
0265	P005A	A8D7			AND*	SECTNS		00265
0266	P005B	0111			SAN	SECT1--1	SKIP IF SECTION SELECTED,	00266
0267	P005C	18F6			JMP*	SECT	OR CHECK NEXT SECTION SELECT.	00267
0268	P005D	0DF5		SECT1	INQ	-\$A		00268
0269	P005E	0172			SQM	SECT2--1		00269
0270	P005F	0D10			INQ	\$10		00270
0271	P0060	1802			JMP*	SECT3		00271
0272	P0061	E8EA		SECT2	LDQ*	SECX		00272
0273	P0062	0FA8		SECT3	QLS	8		00273
0274	P0063	482B			STQ*	SEC		00274
0275	P0064	582B			RTJ*	PAR	CHECK PARAM RE-ENTRY.	00275
0276	P0065	5824			RTJ*	CON	CONNECT.	00276
0277	P0066	0844			CLR	A		00277
0278	P0067	6C68			STA*	(XF1)		00278
0279	P0068	E8E3			LDQ*	SECX		00279
0280	P0069	EA14			LDQ*	SECAD,Q		00280
0281	P006A	1678			JMP-	(H0000),Q	GO RUN SECTION	00281
0283	P006B	68E0		ENDTST	STA*	SECX		00283
0284	P006C	0805			RAO*	PASS	UPDATE PASS COUNT.	00284
0285	P006D	C3C0			LDA*	TTY005	(TEST IA)	00285
0286	P006E	5402			RTJ-	(STOPX)		00286
0287	P006F	1803			JMP*	ET1		00287
0288	P0070	0504			NUM	\$504		00288
0289	P0071	0000		PASS	NUM	0		00289

0290	P0072	0A40	ET1	ENA	\$40		00290
0291	P0073	5406		RTJ-	(JUMP)	CHECK FOR REPEAT TEST.	00291
0292	P0074	1805		JMP*	ET2	REPEAT TEST.	00292
0293	P0075	C888		LDA*	XTTY005	TEST IA.	00293
0294	P0076	5403		RTJ-	(EXIT)		00294
0295	P0077	5400		RTJ+	REQ		00295
	P0078	0554	P				
0296	P0079	5816	ET2	RTJ*	PAR	CHECK FOR PARAM RE-ENTRY.	00296
0297	P007A	583E		RTJ*	RCM	GO TO MONITOR	00297
0298	P007B	0842		CLR	Q		00298
0299	P007C	1806		JMP*	SECT		00299
0300	P007D	00F5	P	SECAD	ADC	SEC0,SEC1,SEC2,SEC3,SEC4,SEC5,SEC6,SEC7,SEC8,SEC9	00300
	P007E	015C	P				
	P007F	0180	P				
	P0080	01AF	P				
	P0081	01FE	P				
	P0082	025F	P				
	P0083	02E7	P				
	P0084	034E	P				
	P0085	038F	P				
	P0086	03FC	P				
0301	P0087	042F	P	ADC	SEC10,SEC11		00301
	P0088	046C	P				
0303			*				00303
0304			*CONNECT	ROUTINE			00304
0305			*				00305
0306	P0089	0000	CON	NUM	0		00306
0307	P008A	5832		RTJ*	WNB		00307
0308	P008B	0A01		ENA	1	CLEAR CONTROLLER	00308
0309	P008C	580A		RTJ*	OPF	OUTPUT FUNCTION	00309
0310	P008D	1CFB		JMP*	(CON)		00310
0311	P008E	0000	SEC	NUM	0		00311
0313			*				00313
0314			*CHECK FOR RE-ENTRY OF PARAMETERS				00314
0315			*				00315
0316	P008F	0000	PAR	NUM	0		00316
0317	P0090	C075		LDA-	BIT10	(\$400)	00317
0318	P0091	5406		RTJ-	(JUMP)		00318
0319	P0092	1802		JMP*	PAR1	RE-ENTER PARAMETERS	00319
0320	P0093	1CFB		JMP*	(PAR)	DO NOT RE-ENTER PARAMETERS	00320
0321	P0094	5897	PAR1	RTJ*	ENTRY		00321
0322	P0095	1CF9		JMP*	(PAR)		00322

0324	*				00324
0325	*OUTPUT FUNCTIONS				00325
0326	*A=FUNCTION				00326
0327	*				00327
0328	P0096 0000	OPF	NUM	0	00328
0329	P0097 681F		STA*	DATA1	00329
0330	P0098 081E	01	LOA*	DATA1	00330
0331	P0099 E85B		LDQ*	DIP1	00331
0332	P009A 0302	02	OUT	03*-1	00332
0333	P009B 1CFA		JMP*	(OPF)	EXIT ON REPLY
0334	P009C 1802		JMP*	04	00334
0335	P009D 18FA	03	JMP*	01	RESELECT FUNCTION
0336	P009E 0A18	04	ENA	\$18	00336
0337	P009F 0C07		ENQ	7	INT. REJECT ON FUNCTION SELECT
0338	P00A0 5802		RTJ*	STOP	00338
0339	P00A1 18F6		JMP*	01	RESELECT FUNCTION
					00339

0341	*				00341
0342	*ERROR STOP ROUTINE				00342
0343	*				00343
0344	P00A2 0000	STOP	NUM	0	00344
0345	P00A3 8000		EOR	=N\$500	FORM IDENT WORD
	P00A4 0500				00345
0346	P00A5 680C		STA*	ID	00346
0347	P00A6 F8E7		ADQ*	SEC	00347
0348	P00A7 480B		STQ*	SECERR	SECTION AND ERROR NUMBERS
0349	P00A8 C8F9		LOA*	STOP	00349
0350	P00A9 E043		LDQ-	STJP	STOP-JUMP PARAMETER
0351	P00AA 0FA6		QLS	6	00351
0352	P00AB 0171		SQM	STOADR	***00352
0353	P00AC 9881		SUB*	XTTY005	TEST IA.
0354	P00AD 6806	STOADR	STA*	RETADR	***00354
0355	P00AE 0A00		ENA	0	00355
0356	P00AF 5402		RTJ-	(STOPX)	00356
0357	P00B0 1CF1		JMP*	(STOP)	00357
0358	P00B1 0000	ID	NUM	0	00358
0359	P00B2 0000	SECERR	NUM	0	00359
0360	P00B3 0000	RETADR	NUM	0	00360
0361	P00B4 0000	ACT	NUM	0	00361
0362	P00B5 0000	EXP	NUM	0	00362
0363	P00B6 0000	DATA1	NUM	0	***00363
0364	P00B7 0000	DATA2	NUM	0	***00364

0366	*				00366
0367	*RETURN CONTROL TO MONITOR				00367
0368	*				00368
0369	P00B8 0000	RCM	NUM	0	00369

0370	P00B9	C8FE	LD4*	RCM		00370
0371	P00BA	6890	STA*	PRGRET		00371
0372	P00B8	5401	RTJ-	(CONTROL)	CONTROL TO SHM	00372

0374			*			00374
0375			*WAIT NOT BUSY ROUTINE			00375
0376			*			00376
0377	P00BC	0000	WNB	NUM	0	00377
0378	P00BD	5806		RTJ*	IPS	00378
0379	P00BE	A06C		AND-	CONST+1	00379
0380	P00BF	0111		SAN	1	00380
0381	P00C0	1CFB		JMP*	(WNB)	00381
0382	P00C1	58F6		RTJ*	RCM	00382
0383	P00C2	18FA		JMP*	WNB+1	00383
					RECHECK BUSY	

0385			*			00385
0386			*INPUT STATUS ROUTINE			00386
0387			*			00387
0388	P00C3	0000	IPS	NUM	0	00388
0389	P00C4	E830		LQ*	DIR1	00389
0390	P00C5	0202		INP	IPS1--1	00390
0391	P00C6	1807		JMP*	IPS3	00391
0392	P00C7	1802		JMP*	IPS2	00392
0393	P00C8	18FB	IPS1	JMP*	IPS+1	00393
0394	P00C9	0A18	IPS2	ENA	\$18	00394
0395	P00CA	0C03		ENQ	3	00395
0396	P00CB	58D6		RTJ*	STOP	00396
0397	P00CC	18F7		JMP*	IPS+1	00397
0398	P00CD	6C44	IPS3	STA*	(XSTAT1)	00398
0399	P00CE	68E5		STA*	ACT	00399
0400	P00CF	1CF3		JMP*	(IPS)	00400
					INT. REJECT-STATUS REQUEST	
					RECHECK STATUS	
					STORE ACT STATUS FOR DISPLAU	

0402			*			00402
0403			*OUTPUT DATA ROUTINE			00403
0404			*DATA IN A UPON ENTRY			00404
0405			*			00405
0406	P00D0	0000	OUT	NUM	0	00406
0407	P00D1	E400		LQ*	(0)	00407
0408	P00D2	018C	P XF1	ADC	F1	00408
0409	P00D3	0155		SQN	OUT1A--1	00409
0410	P00D4	0FC8		ALS	8	00410
0411	P00D5	681D		STA*	PAT	00411
0412	P00D6	0AFD		ENA	-2	00412
0413	P00D7	681A		STA*	CHAR	00413

0414	P00D8	1804		JMP*	OUT1		00414
0415	P00D9	0CFE	OUT1A	ENQ	-1		00415
0416	P00DA	4817		STQ*	CHAR		00416
0417	P00DB	6817		STA*	PAT		00417
0418	P00DC	58DF	OUT1	RTJ*	WNR		00418
0419	P00DD	C073		LDA-	CONST+8		00419
0420	P00DE	5887		RTJ*	OPF	SELECT WRITE MODE	00420
0421	P00DF	C813	OUT2	LDA*	PAT		00421
0422	P00E0	E813		LDQ*	DIR0		00422
0423	P00E1	0302		OUT	OUT3--*-1		00423
0424	P00E2	1807		JMP*	OUT5		00424
0425	P00E3	1802		JMP*	OUT4		00425
0426	P00E4	18F7	OUT3	JMP*	OUT1		00426
0427	P00E5	0A18	OUT4	ENA	\$18		00427
0428	P00E6	0C04		ENQ	4		00428
0429	P00E7	588A		RTJ*	STOP	INTERNAL REJECT -DATA OUTPUT	00429
0430	P00E8	18F3		JMP*	OUT1		00430
0431	P00E9	D808	OUT5	RA0*	CHAR		00431
0432	P00EA	C807		LDA*	CHAR		00432
0433	P00EB	0104		SAZ	OUT6--*-1		00433
0434	P00EC	C806		LDA*	PAT		00434
0435	P00ED	0FC8		ALS	8		00435
0436	P00EE	6804		STA*	PAT		00436
0437	P00EF	18EC		JMP*	OUT1		00437
0438	P00F0	1CDF	OUT6	JMP*	(OUT)		00438
0439	P00F1	0000	CHAR	NUM	0		00439
0440	P00F2	0000	PAT	NUM	0		00440
0441	P00F3	0090	DIR0	NUM	\$90		00441
0442	P00F4	0091	DIR1	NUM	\$91		00442

0444			*				00444
0445			*SEC0				00445
0446			*				00446
0447			*CHECK READY, READ MODE AND BUSY STATUS				00447
0448			*				00448
0449	P00F5	5400	SEC0	RTJ+	CRLF		00449
	P00F6	0580	P				
0450	P00F7	C000		LDA	=N-\$1F4		00450
	P00F8	FE08					
0451	P00F9	6800		STA	CNT		00451
	P00FA	0083					
0452	P00FB	5880	SEC0A	RTJ*	CON	CLEAR CONTROLLER	00452
0453	P00FC	58C6	SEC03	RTJ*	IPS	INPUT STATUS	00453
0454	P00FD	A000		AND	=N\$F9EE	CHECK FOR IMPROPER STATUS	00454
	P00FE	F9EE					
0455	P00FF	0104		SAZ	SEC0C--*-1		00455
0456	P0100	0A18		ENA	\$18		00456
0457	P0101	0C08		ENQ	8	ECC-IMPROPER STATUS	00457
0458	P0102	589F		RTJ*	STOP		00458
0459	P0103	18F7		JMP*	SEC0A	REGCHECK STATUS	00459

0460	P0104	CC00	SEC0C	LDA*	(XSTAT1)		00460
0461	P0105	8000		FOR	=N\$201	CHECK READY AND READ MODE STATUS	00461
	P0106	0201					
0462	P0107	0111		SAN	1		00462
0463	P0108	1810		JMP*	SEC0F		00463
0464	P0109	CC08		LDA*	(XSTAT1)		00464
0465	P010A	A06B		AND-	CONST	CHECK FOR READY STATUS	00465
0466	P010B	0114		SAN	SEC0D-*--1		00466
0467	P010C	0A18		ENA	\$18		00467
0468	P010D	0C01		ENQ	1	ECC-TELETYPE NOT READY	00468
0469	P010E	5893		RTJ*	STOP		00469
0470	P010F	18EB		JMP*	SEC0A		00470
0471	P0110	C400	SEC0D	LDA-	(0)		00471
0472	P0111	0188	P XSTAT1	ADC	STAT1		00472
0473	P0112	A074		AND-	CONST+9	CHECK FOR READ MODE STATUS	00473
0474	P0113	0114		SAN	SEC0F-*--1		00474
0475	P0114	0A18		ENA	\$18		00475
0476	P0115	0C10		ENQ	\$10	ECC-NO READ MODE STATUS	00476
0477	P0116	588B		RTJ*	STOP		00477
0478	P0117	18E3		JMP*	SEC0A		00478
0479	P0118	0A10	SEC0F	ENA	\$10		00479
0480	P0119	5406		RTJ-	(JUMP)	CHECK FOR REPEAT CONDITIONS	00480
0481	P011A	18E0		JMP*	SEC0A		00481
0482	P011B	C073		LDA-	CONST+8	SELECT WRITE MODE	00482
0483	P011C	5800		RTJ	OPF		00483
	P011D	FF78					
0484	P011E	58A4	SEC0G	RTJ*	IPS	INPUT STATUS	00484
0485	P011F	A074		AND-	CONST+9	CHECK FOR READ MODE STATUS	00485
0486	P0120	0105		SAZ	SEC0H-*--1		00486
0487	P0121	0A18		ENA	\$18		00487
0488	P0122	0C11		ENQ	\$11	ECC-READ MODE STATUS ON WRITE SELECT	00488
0489	P0123	5800		RTJ	STOP		00489
	P0124	FF7D					
0490	P0125	18F8		JMP*	SEC0G		00490
0491	P0126	C074	SEC0H	LDA-	CONST+9		00491
0492	P0127	5800		RTJ	OPF	SELECT READ MODE	00492
	P0128	FF6D					
0493	P0129	5899		RTJ*	IPS	INPUT STATUS	00493
0494	P012A	A074		AND-	CONST+9		00494
0495	P012B	0115		SAN	SEC0J-*--1		00495
0496	P012C	0A18		ENA	\$18		00496
0497	P012D	0C10		ENQ	\$10	ECC-READ MODE STATUS NOT SET	00497
0498	P012E	5800		RTJ	STOP		00498
	P012F	FF72					
0499	P0130	18F5		JMP*	SEC0H	RESELECT READ MODE	00499
0500	P0131	0A10	SEC0J	ENA	\$10		00500
0501	P0132	5406		RTJ-	(JUMP)	CHECK FOR REPEAT CONDITIONS	00501
0502	P0133	18F2		JMP*	SEC0H		00502
0503	P0134	0879		RAO*	CNT	UPDATE COUNTER	00503
0504	P0135	C878		LDA*	CNT		00504
0505	P0136	0101		SAZ	SEC0K-*--1		00505
0506	P0137	18C4		JMP*	SEC0B	LOOP 500 TIMES	00506
0507	P0138	0AF9	SEC0K	ENA	-6		00507

0508	P0139	6875		STA*	CNT1		LOOP COUNTER	00508
0509	P013A	C000		LDA	=XMESS			00509
			P					
0510	P013C	681F		STA*	IND5			00510
0511	P013D	5C6E		RTJ*	(XCRLF)		CARRIAGE RETURN, LINE FEED.	00511
0512	P013E	5800		RTJ	WNB			00512
0513	P0140	0AF5	SECOL	ENA	-10			00513
0514	P0141	686C		STA*	CNT			00514
0515	P0142	CC19	SFCOM	LDA*	(IND5)			00515
0516	P0143	588C		RTJ*	OUT			00516
0517	P0144	5800	SECON	RTJ	IPS		INPUT STATUS	00517
0518	P0145	FF7D						
0518	P0146	A06C		AND-	CONST+1		CHECK BUSY STATUS	00518
0519	P0147	0115		SAN	SECO P--*-1			00519
0520	P0148	0A18		ENA	\$18			00520
0521	P0149	0C13		ENQ	\$13		ECC-NO BUSY STATUS AFTER OUTPUT	00521
0522	P014A	5800		RTJ	STOP			00522
0523	P014B	FF56						
0523	P014C	18F5		JMP*	SECOM			00523
0524	P014D	0860	SECO P	RAO*	CNT		UPDATE COUNTER.	00524
0525	P014E	C85F		LDA*	CNT			00525
0526	P014F	0101		SAZ	1			00526
0527	P0150	18F3		JMP*	SECON			00527
0528	P0151	080A		RAO*	IND5			00528
0529	P0152	085C		RAO*	CNT1			00529
0530	P0153	C85B		LDA*	CNT1			00530
0531	P0154	0101		SAZ	1			00531
0532	P0155	18EA		JMP*	SECOL			00532
0533	P0156	0A10		ENA	\$10			00533
0534	P0157	5406		RTJ-	(JUMP)		CHECK FOR REPEAT CONDITIONS	00534
0535	P0158	18DF		JMP*	SECO K			00535
0536	P0159	1400	END0	JMP+	END		GO TO END SECTION ROUTINE.	00536
0537	P015A	004D	P					
0537	P015B	0000	IND5	NUM	0			00537
0539				*				00539
0540				*SEC1				00540
0541				*				00541
0542				*RIPPLE PATTERN				00542
0543				*				00543
0544	P015C	5C4F	SEC1	RTJ*	(XCRLF)		CARRIAGE RETURN, LINE FEED.	00544
0545	P015D	0A01		ENA	1			00545
0546	P015E	6A2E		STA*	F1			00546
0547	P015F	E800		LDD	COUNTR		NUMBER OF LINES	00547
0548	P0160	FED2						
0548	P0161	0854		TCQ	A			00548
0549	P0162	6828		STA*	LINE			00549
0550	P0163	0A20		ENA	\$20			00550
0551	P0164	6823		STA*	CH1			00551

0552	P0165	6824	SEC1A	STA*	CH2			00552
0553	P0166	0A87		ENA	-\$48	CHARACTERS PER LINE		00553
0554	P0167	6824		STA*	C1			00554
0555	P0168	C821	SEC1B	LDA*	CH2			00555
0556	P0169	5C5D		RTJ*	(XOUT)	OUTPUT ONE CHARACTER.		00556
0557	P016A	D821		PAO*	C1			00557
0558	P0163	CA20		LDA*	C1			00558
0559	P016C	0108		SAZ	SEC1D-*--1			00559
0560	P016D	DA1C		RAO*	CH2	NEXT CHARACTER		00560
0561	P016E	C81B		LDA*	CH2			00561
0562	P016F	099F		INA	-\$60			00562
0563	P0170	0101		SAZ	SEC1C-*--1			00563
0564	P0171	18F6		JMP*	SEC1B			00564
0565	P0172	0A20	SEC1C	ENA	\$20			00565
0566	P0173	6A16		STA*	CH2			00566
0567	P0174	18F3		JMP*	SEC1B			00567
0568	P0175	0A15	SEC1D	RAO*	LINE	UPDATE LINE COUNT		00568
0569	P0176	C814		LDA*	LINE			00569
0570	P0177	010A		SAZ	SEC1E-*--1			00570
0571	P0178	0A44		CLR	A			00571
0572	P0179	6813		STA*	F1			00572
0573	P017A	5C31		RTJ*	(XCRLF)	CARRIAGE RETURN, LINE FEED.		00573
0574	P017B	0A11		RAO*	F1			00574
0575	P017C	0A10		ENA	\$10			00575
0576	P017D	5406		RTJ-	(JUMP)	CHECK FOR REPEAT CONDITIONS		00576
0577	P017E	1802		JMP*	SEC1F	REPEAT		00577
0578	P017F	0A08		RAO*	CH1			00578
0579	P0180	CA07	SEC1F	LDA*	CH1			00579
0580	P0181	18E3		JMP*	SEC1A	NEXT LINE		00580
0581	P0182	0344	SEC1E	CLR	A			00581
0582	P0183	6809		STA*	F1			00582
0583	P0184	5C27		RTJ*	(XCRLF)	CARRIAGE RETURN, LINE FEED.		00583
0584	P0185	0A07		RAO*	F1			00584
0585	P0186	1802	END1	JMP*	END0	END SECTION ROUTINE.		00585
0586	P0187	0000	CH1	NUM	0			00586
0587	P0188	0000	STAT1	NUM	0			00587
0588	P0189	0000	CH2	NUM	0			00588
0589	P018A	0000	LINE	NUM	0			00589
0590	P018B	0000	C1	NUM	0			00590
0591	P018C	0000	F1	NUM	0			00591
0593			*					00593
0594			*SEC2					00594
0595			*CHECK CARRIAGE RETURN AND LINE FEED					00595
0596			*TYPE A CHARACTER, CARRIAGE RETURN, LINE FEED					00596
0597			*SPACE TO END OF TYPE.					00597
0598			*REPEAT TILL ONE LINE TYPED					00598
0599			*					00599
0600	P018D	6820	SEC2	STA*	CNT	(A=ZERO)		00600
0601	P018E	C073		LDA-	CONST+8			00601

0602	P018F 5800		RTJ	OPF		00602
	P0190 FF05					
0603	P0191 E800		LDQ	DIR0		00603
	P0192 FF60					
0604	P0193 C000	SEC2A	LDA	=N\$4352		00604
	P0194 4352					
0605	P0195 5C31		RTJ*	(XOUT)		00605
0606	P0196 D817		RAO*	CNT	UPDATE COUNTER	00606
0607	P0197 5C14		RTJ*	(XCRLF)	CARRIAGE RETURN, LINE FEED.	00607
0608	P0198 E815		LDQ*	CNT		00608
0609	P0199 0854		TCQ	A		00609
0610	P019A 6814		STA*	CNT1		00610
0611	P019B E800		LDR	DIR0		00611
	P019C FF56					
0612	P019D C088	SEC2B	LDA-	H2020	(=\$2020)	00612
0613	P019E 5C28		RTJ*	(XOUT)		00613
0614	P019F D80F		RAO*	CNT1	UPDATE SPACE COUNT	00614
0615	P01A0 C80E		LDA*	CNT1		00615
0616	P01A1 0101		SAZ	1		00616
0617	P01A2 18FA		JMP*	SEC2B	REPEAT SPACING	00617
0618	P01A3 0A10		ENA	\$10		00618
0619	P01A4 5406		RTJ-	(JUMP)	CHECK FOR REPEAT CONDITIONS	00619
0620	P01A5 18E0		JMP*	SEC2A		00620
0621	P01A6 C807		LDA*	CNT		00621
0622	P01A7 09EB		INA	-\$14		00622
0623	P01A8 0101		SAZ	1		00623
0624	P01A9 18E9		JMP*	SEC2A	LOOP TILL ONE LINE TYPED	00624
0625	P01AA 5400		RTJ-	(0)	CARRIAGE RETURN, LINE FEED	00625
0626	P01AB 0580	P XCRLF	ADC	CRLF		00626
0627	P01AC 18D9	END2	JMP*	END1	GO END SECTION.	00627
0628	P01AD 0000	CNT	NUM	0		00628
0629	P01AE 0000	CNT1	NUM	0		00629
0631		*				00631
0632		*SEC3				00632
0633		*				00633
0634		*CHECK HORIZONTAL AND VERTICAL TABS				00634
0635		*AND TOP OF FORM				00635
0636		*				00636
0637	P01AF 6400	SEC3	STA+	FL1	(A=ZERO)	00637
	P01B0 025B P					
0638	P01B1 6800		STA	FL2		00638
	P01B2 00AA					
0639	P01B3 C000		LDA	=N\$897F		00639
	P01B4 897F					
0640	P01B5 6846		STA*	MCODE	STORE HORIZONTAL TAB CODE	00640
0641	P01B6 C000		LDA	=N\$4854		00641
	P01B7 4854					
0642	P01B8 6844		STA*	F2		00642
0643	P01B9 C000		LDA	=N\$4142		00643
	P01BA 4142					

0644	P01B9	6842		STA*	L2		00644
0645	P01B0	0AF8	SEC3A	ENA	-4		00645
0646	P01B0	68F0		STA*	CNT1	LOAD LOOP COUNTER	00646
0647	P01B0	0AF8	SEC3B	ENA	-4		00647
0648	P01B0	68ED		STA*	CNT	LOAD TAB COUNTER	00648
0649	P01C0	C839	SEC3C	LDA*	MCODE		00649
0650	P01C1	5C05		RTJ*	(XOUT)	OUTPUT MOTION CODE.	00650
0651	P01C2	C83A	SEC3D	LDA*	F2		00651
0652	P01C3	5C03		RTJ*	(XOUT)		00652
0653	P01C4	C839		LDA*	L2		00653
0654	P01C5	5400		RTJ-	(0)		00654
0655	P01C6	0000	P XOUT	ADC	OUT		00655
0656	P01C7	08E5		RAO*	CNT		00656
0657	P01C8	C8E4		LDA*	CNT		00657
0658	P01C9	0101		SAZ	SEC3E--1		00658
0659	P01CA	18F5		JMP*	SEC3C		00659
0660	P01C3	5CDF	SEC3E	RTJ*	(XCRLF)	CARRIAGE RETURN, LINE FEED.	00660
0661	P01CC	08E1		RAO*	CNT1	UPDATE LOOP COUNT	00661
0662	P01CD	C8E0		LDA*	CNT1		00662
0663	P01CE	0101		SAZ	SEC3F--1		00663
0664	P01CF	18EE		JMP*	SEC3B		00664
0665	P01D0	0A10	SEC3F	ENA	\$10		00665
0666	P01D1	5406		RTJ-	(JUMP)	CHECK FOR REPEAT CONDITIONS	00666
0667	P01D2	18E9		JMP*	SEC3A	REPEAT	00667
0668	P01D3	C800		LDA	FL1		00668
	P01D4	0087					
0669	P01D5	011C		SAN	SEC3G--1		00669
0670	P01D6	0A01		ENA	1		00670
0671	P01D7	6800		STA	FL1		00671
	P01D8	0083					
0672	P01D9	C000		LDA	=N\$8800		00672
	P01DA	8800					
0673	P01D8	6820		STA*	MCODE	STORE VERTICAL TAB CODE	00673
0674	P01DC	C000		LDA	=N\$5654		00674
	P01DD	5654					
0675	P01DE	681E		STA*	F2		00675
0676	P01DF	0AFD		ENA	-2		00676
0677	P01E0	68C0		STA*	CNT1		00677
0678	P01E1	18DC		JMP*	SEC3B		00678
0679	P01E2	C87A	SEC3G	LDA*	FL2		00679
0680	P01E3	0101		SAZ	1		00680
0681	P01E4	1811		JMP*	SEC3H		00681
0682	P01E5	0A01		ENA	1		00682
0683	P01E6	6876		STA*	FL2		00683
0684	P01E7	C000		LDA	=N\$8C00		00684
	P01E8	8C00					
0685	P01E9	6812		STA*	MCODE		00685
0686	P01EA	0AFE		ENA	-1		00686
0687	P01EB	68C2		STA*	CNT1		00687
0688	P01EC	0AFD		ENA	-2		00688
0689	P01ED	68BF		STA*	CNT		00689
0690	P01EE	C000		LDA	=N\$464F		00690
	P01EF	464F					

0691	P01F0	680C	STA*	F2		00691
0692	P01F1	C000	LDA	=N\$524D		00692
	P01F2	524D				
0693	P01F3	680A	STA*	L2		00693
0694	P01F4	18C8	JMP*	SEC3C		00694
0695	P01F5	0844	CLR	A		00695
0696	P01F6	6865	STA*	FL1		00696
0697	P01F7	6865	STA*	FL2		00697
0698	P01F8	5CB2	RTJ*	(XCRLF)	CARRIAGE RETURN, LINE FEED.	00698
0699	P01F9	1882	JMP*	END2	GO TO END SECTION ROUTINE	00699
0700	P01FA	0000	IND	NUM	0	00700
0701	P01FB	0000	MCODE	NUM	0	00701
0702	P01FC	0000	F2	NUM	0	00702
0703	P01FD	0000	L2	NUM	0	00703

0705			*			00705
0706			*SEC4			00706
0707			*			00707
0708			*TYPE OUT RANDOM DATA TYPED IN BY OPERATOR			00708
0709			*			00709
0710	P01FE	6400	SEC4	STA+	INTFLG (A=ZERO)	00710
	P01FF	02E0	P			
0711	P0200	C000		LDA	=X8M1 FIRST WORD ADDRESS OF	00711
	P0201	0616	P			
0712	P0202	0C22		ENQ	\$22	00712
0713	P0203	5800		RTJ	INTO INSTRUCTION TO OPERATOR	00713
	P0204	0295				
0714	P0205	0844		CLR	A	00714
0715	P0206	68A7		STA*	CNT1	00715
0716	P0207	C000	SEC4B	LDA	=XBLOCK FIRST WORD ADDRESS	00716
	P0208	072E	P			
0717	P0209	6850		STA*	IND1	00717
0718	P020A	5800	SEC4B1	RTJ	CON CLEAR CONTROLLER-SELECT READ MODE	00718
	P020B	FE7D				
0719	P020C	0DFE		INQ	-1	00719
0720	P020D	0206		INP	SEC4B2--*-1 INPUT FUNCTION SHOULD BE REJECTED	00720
0721	P020E	0A18		ENA	\$18 ERROR IF REPLY	00721
0722	P020F	0C02		ENQ	2	00722
0723	P0210	5800		RTJ	STOP ERROR ROUTINE	00723
	P0211	FE90				
0724	P0212	18F7		JMP*	SEC4B1 REPEAT INPUT	00724
0725	P0213	0800		NOP	0	00725
0726	P0214	C826	SEC402	LDA*	H808 (=808)	00726
0727	P0215	6800		STA	INTST	00727
	P0216	0321				
0728	P0217	0844		CLR	A	00728
0729	P0218	683F		STA*	DF SET DATA FLAG FOR INPUT	00729
0730	P0219	0A01		ENA	1	00730
0731	P021A	6800		STA	INTFLG	00731
	P021B	00C5				

0732	P021C 683C		STA*	S4		00732
0733	P021D 6800		STA	MRF	SET MANUAL INTERRUPT REQUEST FLAG	00733
	P021E 011E					
0734	P021F 0A16		ENA	\$16		00734
0735	P0220 6800		STA	INTREQ	REQUESTED INTERRUPTS	00735
	P0221 0315					
0736	P0222 0A14		ENA	\$14		00736
0737	P0223 5800		RTJ	SEL	SELECT DATA AND ALARM INTERRUPTS	00737
	P0224 0336					
0738	P0225 5800	SEC4C	RTJ	RCH		00738
	P0226 FE91					
0739	P0227 0844		CLR	A		00739
0740	P0228 6800		STA	MRF	CLEAR FLAGS	00740
	P0229 0113					
0741	P022A 6800		STA	MOF		00741
	P022B 0303					
0742	P022C C881		LDA*	CNT1	YES WAS DATA TYPED IN	00742
0743	P022D 0111		SAN	1	YES	00743
0744	P022E 1825		JMP*	SEC4D	NO, GO TO END SECTION	00744
0745	P022F C000		LDA	=X8LOCK		00745
	P0230 072E P					
0746	P0231 6828		STA*	IND1		00746
0747	P0232 E800		LDQ	CNT1		00747
	P0233 FF7A					
0748	P0234 0854		TCQ	A		00748
0749	P0235 6800		STA	CNT		00749
	P0236 FF76					
0750	P0237 5800		RTJ	CRLF	CARRIAGE RETURN, LINE FEED	00750
	P0238 0378					
0751	P0239 C000		LDA-	0		00751
0752	P023A 0808	H808	NUM	\$808		00752
0753	P023B 6800		STA	INTST		00753
	P023C 02FB					
0754	P023D 0A16		ENA	\$16		00754
0755	P023E 6800		STA	INTREQ		00755
	P023F 02F7					
0756	P0240 0A01		ENA	1		00756
0757	P0241 6800		STA	INTFLG		00757
	P0242 009E					
0758	P0243 6814		STA*	OF	SET DATA FLAG FOR OUTPUT	00758
0759	P0244 0A14		ENA	\$14		00759
0760	P0245 5800		RTJ	SEL	SELECT DATA AND ALARM INTERRUPTS	00760
	P0246 0314					
0761	P0247 C000		LDA	=XSEC4F	CHANGE RETURN ADDR FOR SEC. 4	00761
	P0248 0248 P					
0762	P0249 6800		STA	RETURN		00762
	P024A FD8A					
0763	P024B C800	SEC4F	LDA	CNT		00763
	P024C FF60					
0764	P024D 0101		SAZ	SEC4G-*--1	SKIP IF TYPEOUT IS COMPLETED	00764
0765	P024E 5401		RTJ-	(CONTROL)	RETURN TO MONITOR	00765
0766	P024F C000	SEC4G	LDA	=XCHBSY	RESTORE RETURN ADDR FOR OTHERS	00766
	P0250 0036 P					

0767	P0251 6800		STA	RETURN	SECTIONS.	00767
	P0252 F0B2					
0768	P0253 0A10	SEC4D	ENA	\$10		00768
0769	P0254 5800		RTJ	OPF	RE-SELECT ALARM INTERRUPT	00769
	P0255 FE40					
0770	P0256 18A2	END4	JMP*	END3	GO TO END SECTION ROUTINE	00770
0771	P0257 0000	DF	NUM	0		00771
0772	P0258 0000	S4	NUM	0		00772
0773	P0259 0000	IND1	NUM	0		00773
0774	P025A 0000	CNT2	NUM	0		00774
0775	P025B 0000	FL1	NUM	0		00775
0776	P025C 0000	FL2	NUM	0		00776
0778	P025D 1800	SEC5K	JMP	SEC6		00778
	P025E 0089					
0780		*				00780
0781		*SEC5				00781
0782		*				00782
0783		*CHECK OUTPUT IN (KT) MODE				00783
0784		*				00784
0785	P025F 6400	SEC5	STA+	FL3	(A=ZERO)	00785
	P0260 02E4 P					
0786	P0261 6800		STA	S68		00786
	P0262 02CE					
0787	P0263 5800		RTJ	CNGST	CHANGE STOP/JUMP WORD	***00787
	P0264 000B					
0788	P0265 C076		LDA-	BIT11	(*800)	00788
0789	P0266 6800		STA	INTST	STATUS BITS FOR REQUESTED INTERRUPTS	00789
	P0267 02D0					
0790	P0268 C800		LDA	MOD	IS TELETYPE A 1713	00790
	P0269 FDCA					
0791	P026A 0104		SAZ	SEC5A2-* -1	NO	00791
0792	P026B C076		LDA-	CONST+11	SELECT (KT) MODE	00792
0793	P026C 5800		RTJ	SELKM		00793
	P026D 0355					
0794	P026E 1815		JMP*	SEC5A3		00794
0795	P026F C000	SEC5A2	LDA	=XRM2		00795
	P0270 0637 P					
0796	P0271 0C17		ENQ	\$17		00796
0797	P0272 5800		RTJ	INTO	INSTRUCTION TO OPERATOR	00797
	P0273 0226					
0798	P0274 0A01		ENA	1		00798
0799	P0275 6800		STA	MRF		00799
	P0276 00C6					
0800	P0277 6869		STA*	INTFLG		00800
0801	P0278 5800	SEC5A1	RTJ	RCM	RETURN CONTROL TO MONITOR	00801
	P0279 FE3E					

0802	P027A C800		LDA	MOF		00802
	P027B 02B3					
0803	P027C 0111		SAN	1		00803
0804	P027D 18FA		JMP*	SEC5A1		00804
0805	P027E 0844		CLR	A		00805
0806	P027F 6900		STA	MOF		00806
	P0280 02AE					
0807	P0281 6800		STA	MRF		00807
	P0282 00BA					
0808	P0283 5800	SEC5A3	RTJ	LDR	PUNCH TAPE LEADER	00808
	P0284 0332					
0809	P0285 C000		LDA	=XRAN		00809
	P0286 02E6 P					
0810	P0287 685A		STA*	RANADD		00810
0811	P0288 C000	SEC5A	LDA	=XBLOCK	FIRST WORD ADDRESS OF STORAGE	00811
	P0289 072E P					
0812	P028A 685B		STA*	IND2		00812
0813	P028B C000		LDA	=N-\$D9	WORD COUNT	00813
	P028C FF26					
0814	P028D 6C22		STA*	(XHCNT)		00814
0815	P028E C000		LDA	=N\$1F00	UPPER BOUND	00815
	P028F 1F00					
0816	P0290 0821		TRA	M		00816
0817	P0291 0C01		END	1		00817
0818	P0292 C84F	SEC5B	LDA*	RANADD	STORAGE ADDRESS	00818
0819	P0293 5407	SEC5C	RTJ-	(GENRAN)	GENERATE RANDOM NUMBER	00819
0820	P0294 E000		LDO	=N\$5F00		00820
	P0295 5F00					
0821	P0296 C850		LDA*	RAN		00821
0822	P0297 A082		AND-	HFF00	(\$FF00) KEEP UPPER CHARACTER	00822
0823	P0298 0828		AAH	0		00823
0824	P0299 01B1		SNO	1		00824
0825	P029A 18F6		JMP*	SEC5B-1		00825
0826	P029B 0830		AAQ	0		00826
0827	P029C 01A1		SOV	1		00827
0828	P029D 18F3		JMP*	SEC5B-1		00828
0829	P029E 6844		STA*	T1		00829
0830	P029F C845		LDA*	FL3		00830
0831	P02A0 0118		SAN	SEC5D1-*--1		00831
0832	P02A1 C841		LDA*	T1		00832
0833	P02A2 0FC8		ALS	8		00833
0834	P02A3 6C42		STA*	(IND2)		00834
0835	P02A4 DC0B	SEC5D	RAO*	(XHCNT)		00835
0836	P02A5 CC0A		LDA*	(XHCNT)		00836
0837	P02A6 010B		SAZ	SEC5E-*--1		00837
0838	P02A7 D83E		RAO*	IND2	UPDATE STORAGE ADDRESS	00838
0839	P02A8 18E8		JMP*	SEC5B-1	GENERATE ANOTHER NUMBER	00839
0840	P02A9 C839	SEC5D1	LDA*	T1		00840
0841	P02AA 8C3B		ADD*	(IND2)	FILL UPPER 8 BITS OF STORAGE ADDRESS	00841
0842	P02AB 6C3A		STA*	(IND2)		00842
0843	P02AC D839		RAO*	IND2		00843
0844	P02AD DC02		RAO*	(XHCNT)		00844
0845	P02AE C400		LDA-	(0)		00845

0846	P02AF	0338	P	XHCNT	ADC	WCNT:			00846
0847	P0280	0105			SAZ	SEC5F--1			00847
0848	P0281	18DF			JMP*	SEC5B-1			00848
0849	P0282	C832		SEC5E	LDA*	FL3			00849
0850	P0283	0112			SAN	SEC5F--1			00850
0851	P0284	D830			RAO*	FL3			00851
0852	P0285	18D2			JMP*	SEC5A			00852
0853	P0286	0AFA		SEC5F	ENA	-7			00853
0854	P0287	682C			STA*	RCNT			00854
0855	P0288	C000			LDA	=XBLOCK			00855
	P0289	072E		P					
0856	P028A	682B			STA*	IND2			00856
0857	P028B	C000		SEC5F1	LDA	=N800A	CARRIAGE, RETURN		00857
	P028C	800A							
0858	P028D	6C28			STA*	(IND2)	AT END		00858
0859	P028E	D825			RAO*	RCNT	OF EACH		00859
0860	P028F	C824			LDA*	RCNT	LINE		00860
0861	P02C0	0104			SAZ	SEC5G--1			00861
0862	P02C1	0A24			ENA	\$24			00862
0863	P02C2	8823			ADD*	IND2			00863
0864	P02C3	6822			STA*	IND2			00864
0865	P02C4	18F6			JMP*	SEC5F1			00865
0866	P02C5	C000		SEC5G	LDA	=XBLOCK	FIRST WORD ADDRESS OF BUFFER		00866
	P02C6	072E		P					
0867	P02C7	681E			STA*	IND2			00867
0868	P02C8	C000			LDA	=N-\$09			00868
	P02C9	FF26							
0869	P02CA	6871			STA*	WCNT			00869
0870	P02CB	CC1A		SEC5H	LDA*	(IND2)			00870
0871	P02CC	5800			RTJ	OUT	OUTPUT ONE WORD		00871
	P02CD	FE02							
0872	P02CE	D817			RAO*	IND2	UPDATE STORAGE ADDRESS		00872
0873	P02CF	D86C			RAO*	WCNT	UPDATE WORD COUNT		00873
0874	P02D0	C868			LDA*	WCNT			00874
0875	P02D1	0101			SAZ	SEC5J--1			00875
0876	P02D2	18F8			JMP*	SEC5H			00876
0877	P02D3	5800		SEC5J	RTJ	LDR	PUNCH TAPE LEADER		00877
	P02D4	02E2							
0878	P02D5	0844			CLR	A			00878
0879	P02D6	680E			STA*	FL3	CLEAR FLAG		00879
0880	P02D7	C075			LDA-	CONST+10	SELECT (K) MODE		00880
0881	P02D8	5800			RTJ	SELKM			00881
	P02D9	02E9							
0882	P02DA	5800			RTJ	WAITINT	OPERATOR SELECTS (K) MODE		00882
	P02DB	0300							
0883	P02DC	5800			RTJ	RSTJP	RESTORE STOP/JUMP WORD	***	00883
	P02DD	006D							
0884	P02DE	1400		END5	JMP+	END	GO TO END SECTION ROUTINE		00884
	P02DF	004D		P					
0885	P02E0	0000		INTFLG	NUM	0			00885
0886	P02E1	0000		RANADD	NUM	0			00886
0887	P02E2	0000		T1	NUM	0			00887
0888	P02E3	0000		RCNT	NUM	0			00888

0889	P02E4 0000	FL3	NUM	0		00889
0890	P02E5 0000	IND2	NUM	0		00890
0891	P02E6 0000	RAN	NUM	0		00891
0893		*				00893
0894		*SEC6				00894
0895		*				00895
0896		*CHECK INPUT IN (T) OR (KT) MODE.				00896
0897		*				00897
0898	P02E7 6400	SEC6	STA+	EOT	(A=ZERO)	00898
	P02E8 0538	P				
0899	P02E9 5800		RTJ	CNGST	CHANGE STOP/JUMP WORD	***00899
	P02EA 0055					
0900	P02EB 0A02		ENA	\$2		00900
0901	P02EC 6800		STA	INTREQ		00901
	P02ED 0249					
0902	P02EE 6800		STA	S68	SET FLAG	00902
	P02EF 0241					
0903	P02F0 684E		STA*	S6		00903
0904	P02F1 E800		LDQ	MOD	IS TELETYPE 'A 1713	00904
	P02F2 FD41					
0905	P02F3 0158		SQN	SEC6A5--*-1 YES		00905
0906	P02F4 C000		LDA	=XBH4		00906
	P02F5 0664	P				
0907	P02F6 0C0F		ENQ	15		00907
0908	P02F7 5C09		RTJ*	(XINT0)		00908
0909	P02F8 C000		LDA	=XBH5		00909
	P02F9 068C	P				
0910	P02FA 0C0F		ENQ	15		00910
0911	P02FB 5C05		RTJ*	(XINT0)		00911
0912	P02FC C000	SEC6A5	LDA	=XBH4A		00912
	P02FD 067F	P				
0913	P02FE 0C00		ENQ	13		00913
0914	P02FF 5400		RTJ-	(0)		00914
0915	P0300 0499	P XINT0	ADC	INT0		00915
0916	P0301 C077		LDA-	CONST+12	SELECT (T) MODE	00916
0917	P0302 5800		RTJ	SELKM		00917
	P0303 028F					
0918	P0304 C000	SEC6A1	LDA	=XBLOCK1		00918
	P0305 0807	P				
0919	P0306 6837		STA*	IND4	FIRST WORD ADDRESS OF STORAGE	00919
0920	P0307 E800	SEC6A	LDQ	DIR1		00920
	P0308 F0EB					
0921	P0309 C074		LDA-	CONST+9		00921
0922	P030A 03FE		OUT	-1	SELECT READ MODE	00922
0923	P030B 6833		STA*	S6		00923
0924	P030C C800		LDA	MOD1	1712 ONLY	00924
	P030D F027					
0925	P030E 0113		SAN	3		00925
0926	P030F 0A10		ENA	\$10		00926

0927	P0310 5800		RTJ	SEL	SELECT ALARM INTERRUPT	00927
	P0311 0249					
0928	P0312 5800	SEC6D	RTJ	INPA	INPUT DATA	00928
	P0313 024F					
0929	P0314 0844		CLR	A		00929
0930	P0315 6800		STA	EOT		00930
	P0316 0222					
0931	P0317 02FE	SEC601	INP	-1	STATUS	00931
0932	P0318 A06F		AND-	CONST+4	CHECK FOR EOP STATUS	00932
0933	P0319 0111		SAN	1		00933
0934	P031A 18FC		JMP*	SEC6D1		00934
0935	P031B C075		LDA-	CONST+10	SELECT (K) MODE	00935
0936	P031C 5800		RTJ	SELKM		00936
	P031D 02A5					
0937	P031E 5800		RTJ	WAITINT	OPERATOR SELECTS (K) MODE	00937
	P031F 029C					
0938	P0320 C000		LDA	=XBLOCK	FIRST WORD ADDRESS OF BUFFER	00938
	P0321 072E P					
0939	P0322 6868		STA*	IND3		00939
0940	P0323 C000		LDA	=XBLOCK1	COMPARE ACTUAL	00940
	P0324 0807 P					
0941	P0325 6818		STA*	IND4	AND EXPECTED DATA	00941
0942	P0326 C000		LDA	=N-\$D9	WORD COUNT	00942
	P0327 FF26					
0943	P0328 6813		STA*	WCNT	WORD COUNT	00943
0944	P0329 CC14	SEC6A2	LDA*	(IND4)		00944
0945	P032A 9C63		SUB*	(IND3)		00945
0946	P032B 0102		SAZ	SEC6B--1		00946
0947	P032C 5800		RTJ	CERR	DATA COMPARE ERROR	00947
	P032D 015F					
0948	P032E D80D	SEC6B	RAO*	WCNT	UPDATE WORD COUNT	00948
0949	P032F C80C		LDA*	WCNT		00949
0950	P0330 0103		SAZ	SEC6C--1		00950
0951	P0331 D80C		RAO*	IND4	UPDATE STORAGE ADDRESS	00951
0952	P0332 D85B		RAO*	IND3		00952
0953	P0333 18F5		JMP*	SEC6A2		00953
0954	P0334 0844	SEC6C	CLR	A		00954
0955	P0335 6809		STA*	S6		00955
0956	P0336 6800		STA	S68		00956
	P0337 01F9					
0957	P0338 5800		RTJ	RSTJP	RESTORE STOP/JUMP WORD	***00957
	P0339 0011					
0958	P033A 18A3	END6	JMP*	END5	GO TO END SECTION ROUTINE	00958
0959	P033B 0000	WCNT	NUM	0		00959
0960	P033C 0000	HRF	NUM	0		00960
0961	P033D 0000	IND4	NUM	0		00961
0962	P033E 0000	S6	NUM	0		00962
0964	P033F 0000	CNGST	NUM	0	CHANGE SYSTEM STOP JUMP WORD	***00964
0965	P0340 CC08		LDA*	(MSTJP)		***00965

0966	P0341	6808	STA*	MSTJP+1	SAVE ORIGINAL STOP/JUMP WORD	***00966
0967	P0342	A000	AND	=N\$FEF7		***00967
	P0343	FEF7				
0968	P0344	R000	EOR	=N\$108	ADD OMIT TYPEOUTS,SOOP ON ERRORS	***00968
	P0345	0108				
0969	P0346	6C02	STA*	(MSTJP)		***00969
0970	P0347	1CF7	JMP*	(CNGST)		***00970
0972	P0348	00BA	MSTJP	NUM	\$BA	LOCATION OF MONITORS STJPHRD
0973	P0349	0000		NUM	0	ORIGINAL STOP/JUMP WORD
						***00972
						***00973
0975	P034A	0000	RSTJP	NUM	0	***00975
0976	P0348	C8FD	LDA*	MSTJP+1		***00976
0977	P034C	6CFB	STA*	(MSTJP)	RESTORE ORIGINAL STOP/JUMP TO MONITO	***00977
0978	P034D	1CFC	JMP*	(RSTJP)		***00978
0980			*			00980
0981			*SEC7			00981
0982			*			00982
0983			*CHECK OUTPUT-(TTR) MODE			00983
0984			*			00984
0985	P034E	6400	SEC7	STA+	S68	(A=ZERO)
	P034F	0530				00985
0986	P0350	5800	RTJ	CNGST	CHANGE STOP/JUMP WORD	***00986
	P0351	FFED				
0987	P0352	C076	LDA-	BIT11	(*800)	00987
0988	P0353	6800	STA	INTST	STATUS BITS FOR REQUESTED INTERRUPTS	00988
	P0354	01E3				
0989	P0355	C800	LDA	MO0	IS TELETYPE A 1713	00989
	P0356	FCDD				
0990	P0357	0104	SAZ	SEC7A2--*-1	NO	00990
0991	P0358	C079	LDA-	CONST+14	SELECT(TTR) MODE	00991
0992	P0359	5800	RTJ	SELKH		00992
	P035A	0268				
0993	P035B	1813	JMP*	SEC7A3		00993
0994	P035C	C000	SEC7A2	LDA	=XBH3	***00994
	P035D	0640				
0995	P035E	0C18	ENQ	\$18	WORD COUNT	00995
0996	P035F	5CA0	RTJ*	(XINT0)	INSTRUCTION TO OPERATOR	00996
0997	P0360	0A01	ENA	1		00997
0998	P0361	6800	STA	INTFLG		***00998
	P0362	FF7D				
0999	P0363	6808	STA*	MRF		***00999
1000	P0364	5800	SEC7A1	RTJ	RCH	RETURN CONTROL TO MONITOR
	P0365	FD52				01000
1001	P0366	C800	LDA	MOF	CHECK FOR MANUAL INTERRUPT	01001
	P0367	01C7				

1002	P0368	0111		SAN	1			01002
1003	P0369	18FA		JMP*	SEC7A1			01003
1004	P036A	0844		CLR	A			01004
1005	P036B	6800		STA	MOF			01005
	P036C	01C2						
1006	P036D	68CE		STA*	MRF			01006
1007	P036E	5800	SEC7A3	RTJ	LDR			01007
	P036F	0247						
1008	P0370	C000		LDA	=XSECO			01008
	P0371	00F5	P					
1009	P0372	6818		STA*	IND3	FIRST WORD ADDRESS OF TEST		01009
1010	P0373	C000		LDA	=XBLOCK			01010
	P0374	072E	P					
1011	P0375	68C7		STA*	IND4			01011
1012	P0376	E000		LQJ	=N-\$09	WORD COUNT		01012
	P0377	FF26						
1013	P0378	48C2		STQ*	WCNT	WORD COUNT		01013
1014	P0379	CC14	SEC7A	LDA*	(IND3)			01014
1015	P037A	6CC2		STA*	(IND4)			01015
1016	P037B	5800		RTJ	OUT			01016
	P037C	FD53						
1017	P037D	D8BD		RAO*	WCNT	UPDATE WORD COUNT		01017
1018	P037E	C8BC		LDA*	WCNT			01018
1019	P037F	0103		SA7	SEC7B--1			01019
1020	P0380	D8DD		RAO*	IND3	UPDATE STORAGE ADDRESS		01020
1021	P0381	D8DB		RAO*	IND4			01021
1022	P0382	18F6		JMP*	SEC7A			01022
1023	P0383	5800	SEC7B	RTJ	LDR	PUNCH OUT TAPE LEADER		01023
	P0384	0232						
1024	P0385	C075		LDA-	CONST+10	SELECT (K) MODE		01024
1025	P0386	5800		RTJ	SELKM			01025
	P0387	023B						
1026	P0388	5800		RTJ	WAITINT	OPERATOR SELECTS (K) MODE		01026
	P0389	0252						
1027	P038A	5800		RTJ	RSTJP	RESTORE STOP/JUMP WORD	***	01027
	P038B	FFBE						
1028	P038C	18AD	END7	JMP*	ENN6	GO TO END SECTION ROUTINE		01028
1029	P038D	0000	IND3	NUM	0			01029
1030	P038E	0000	TEMP	NUM	0			01030
1032			*					01032
1033			*SEC8					01033
1034			*					01034
1035			*CHECK INPUT-(TTS) MODE					01035
1036			*					01036
1037	P038F	6400	SEC8	STA+	EOT	(A=ZERO)		01037
	P0390	0538	P					
1038	P0391	68AC		STA*	S6			01038
1039	P0392	5800		RTJ	CNGST	CHANGE STOP/JUMP WORD	***	01039
	P0393	FFAB						

1040	P0394	0A02		ENA	\$2			01040
1041	P0395	6800		STA	INTREQ			01041
	P0396	01A0						
1042	P0397	6864		STA*	S8			01042
1043	P0398	6800		STA	S68	SET FLAG		01043
	P0399	0197						
1044	P039A	C800		LDA	SECTNS			01044
	P039B	FC96						
1045	P039C	A072		AND-	CONST+7	WAS SECTION 7 SELECTED		01045
1046	P039D	0115		SAN	SEC8A4--1	YES		01046
1047	P039E	C075		LDA-	CONST+10	SELECT (K) MODE		01047
1048	P039F	5800		RTJ	SELKM			01048
	P03A0	0222						
1049	P03A1	5800		RTJ	WAITINT	OPERATOR SELECTS (K) MODE		01049
	P03A2	0239						
1050	P03A3	C000	SEC8A4	LDA	=XBH4			01050
	P03A4	0664	P					
1051	P03A5	0C11		ENQ	17	LOAD TAPE PUNCHED IN SECTION 7 MSG	***01051	
1052	P03A6	5800		RTJ	INTO	INSTRUCTION TO OPERATOR		01052
	P03A7	00F2						
1053	P03A8	C000		LDA	=XBH4A			***01053
	P03A9	067F	P					
1054	P03AA	0C0C		ENQ	12	RUN PAPER TAPE READER MSG	***01054	
1055	P03AB	5800		RTJ	INTO	INSTRUCTION TO OPERATOR		01055
	P03AC	00ED						
1056	P03AD	E800		LDQ	MOD	IS A 1713 UNDER TEST		***01056
	P03AE	FC85						
1057	P03AF	015C		SQN	SEC8D	SKIP IF YES	***01057	
1058	P03B0	C000		LDA	=XBH4+17	HERE IF 1712 OR 1713 MANUAL MODE	***01058	
	P03B1	0675	P					
1059	P03B2	0C0B		ENQ	11	SELECT TTS MODE MSG	***01059	
1060	P03B3	5800		RTJ	INTO			***01060
	P03B4	00E5						
1061	P03B5	C000		LDA	=XBH1+22			***01061
	P03B6	062C	P					
1062	P03B7	0C0B		ENQ	11	PRESS MANULL INTERRUPT MSG	***01062	
1063	P03B8	5800		RTJ	INTO			***01063
	P03B9	00E0						
1064	P03BA	5800		RTJ	WAITINT	WAIT FOR OPERATOR RESPONSE		***01064
	P03BB	0220						
1065	P03BC	C078	SEC8D	LDA-	CONST+13	SELECT TTS MODE- 1713 ONLY	***01065	
1066	P03BD	5800		RTJ	SELKM			***01066
	P03BE	0204						
1067	P03BF	C000		LDA	=XBLOCK1			***01067
	P03C0	0807	P					
1068	P03C1	6800		STA	IND4			***01068
	P03C2	FF7A						
1069	P03C3	E800	SEC8A	LDQ	DIR1			01069
	P03C4	F02F						
1070	P03C5	C074		LDA-	CONST+9			01070
1071	P03C6	03FE		OUT	-1	SELECT READ MODE		01071
1072	P03C7	C800		LDA	MOD1	1712 ONLY		01072
	P03C8	FC6C						

1073	P03C9	0113	SAN	3			01073
1074	P03CA	0A10	ENA	\$10			01074
1075	P03CB	5800	RTJ	SEL	SELECT ALARM INTERRUPT		01075
	P03CC	018E					
1076	P03CD	5800	SEC8A5	RTJ	INPA	INPUT DATA	01076
	P03CE	0194					
1077	P03CF	0844		CLR	A		01077
1078	P03D0	6800		STA	EOT		01078
	P03D1	0167					
1079	P03D2	02FE	SEC8A7	INP	-1	STATUS	01079
1080	P03D3	A06F		AND-	CONST+4	CHECK FOR EOP STATUS	01080
1081	P03D4	0111		SAN	1		01081
1082	P03D5	18FC		JMP*	SEC8A7		01082
1083	P03D6	C000	SEC8A6	LDA	=XBLOCK1		01083
	P03D7	0807	P				
1084	P03D8	6800		STA	IND4		***01084
	P03D9	FF63					
1085	P03DA	C000		LDA	=XBLOCK		01085
	P03DB	072E	P				
1086	P03DC	6880		STA*	IND3		01086
1087	P03DD	E000		LDQ	=N-\$09	WORD COUNT	01087
	P03DE	FF26					
1088	P03DF	4800		STQ	WCNT		01088
	P03E0	FF5A					
1089	P03E1	C075		LDA-	CONST+10	SELECT (K) MODE	01089
1090	P03E2	5800		RTJ	SELKM		01090
	P03E3	010F					
1091	P03E4	5800		RTJ	WAITINT	OPERATOR RE-SELECTS (K) MODE	01091
	P03E5	01F6					
1092	P03E6	CC00	SEC8A3	LDA	(IND4)	COMPARE ACTUAL AND EXPECTED DATA	01092
	P03E7	FF55					
1093	P03E8	9CA4		SUB*	(IND3)		01093
1094	P03E9	0102		SAZ	SEC8B-*--1		01094
1095	P03EA	5800		RTJ	CERR	DATA COMPARE ERROR	01095
	P03EB	00A1					
1096	P03EC	0800	SEC8B	RAO	IND4	UPDATE STORAGE ADDRESS	01096
	P03ED	FF4F					
1097	P03EE	089E		RAO*	IND3		01097
1098	P03EF	0800		RAO	WCNT	UPDATE WORD COUNT	01098
	P03F0	FF4A					
1099	P03F1	C800		LDA	WCNT		01099
	P03F2	FF48					
1100	P03F3	0101		SAZ	SEC8C-*--1		01100
1101	P03F4	18F1		JMP*	SEC8A3		01101
1102	P03F5	6806	SEC8C	STA*	S8	CLEAR FLAG	01102
1103	P03F6	6800		STA	S68		01103
	P03F7	0139					
1104	P03F8	5800		RTJ	RSTJP	RESTORE STOP/JUMP WORD	***01104
	P03F9	FF50					
1105	P03FA	1891	END8	JMP*	END7	GO TO END SECTION ROUTINE	01105
1106	P03FB	0000	S8	NUM	0		01106

1108		*				01108
1109		*SEC9				01109
1110		*				01110
1111		*WORST PATTERNS (2)				01111
1112		*				01112
1113	P03FC 5400	SEC9	RTJ+	CRLF	CARRIAGE RETURN, LINE FEED.	01113
	P03FD 0580 P					
1114	P03FE C82E		LDA*	PAT1		01114
1115	P03FF 682C		STA*	CODE		01115
1116	P0400 C000	SEC9A	LDA	=N-\$B4		01116
	P0401 FF48					
1117	P0402 6826		STA*	CNT3		01117
1118	P0403 0ADB	SEC9B	ENA	-\$24		01118
1119	P0404 6825		STA*	CNT4	WORDS PER LINE	01119
1120	P0405 C826	SEC9C	LDA*	CODE		01120
1121	P0406 0FC8		ALS	8		01121
1122	P0407 5800		RTJ	OUT		01122
	P0408 FCC7					
1123	P0409 D81F		RAO*	CNT3		01123
1124	P040A C81E		LDA*	CNT3		01124
1125	P040B 0109		SAZ	SEC9D-*--1		01125
1126	P040C D81D		RAO*	CNT4		01126
1127	P040D C81C		LDA*	CNT4		01127
1128	P040E 0101		SAZ	1		01128
1129	P040F 18F5		JMP*	SEC9C		01129
1130	P0410 5CEC		RTJ*	(SEC9+1) (=CRLF)	CARRIAGE RETURN, LINE FEED	01130
1131	P0411 0A10		ENA	\$10		01131
1132	P0412 5406		RTJ-	(JUMP)	CHECK FOR REPEAT CONDITIONS	01132
1133	P0413 18EC		JMP*	SEC9A	REPEAT	01133
1134	P0414 18EE		JMP*	SEC9B		01134
1135	P0415 C815	SEC9D	LDA*	FL4		01135
1136	P0416 0115		SAN	SEC9E-*--1		01136
1137	P0417 C816		LD4*	PAT2		01137
1138	P0418 6813		STA*	CODE		01138
1139	P0419 D811		RAO*	FL4		01139
1140	P041A 5CE2		RTJ*	(SEC9+1) (=CRLF)	CARRIAGE RETURN, LINE FEED	01140
1141	P041B 18E4		JMP*	SEC9A		01141
1142	P041C 0844	SEC9E	CLR	A		01142
1143	P041D 680D		STA*	FL4		01143
1144	P041E C073		LDA-	CONST+8		01144
1145	P041F 680D		STA	INTST		01145
	P0420 0117					
1146	P0421 0A12		ENA	\$12	REQUESTED INTERRUPTS	01146
1147	P0422 680D		STA	INTREQ		01147
	P0423 0113					
1148	P0424 5800		RTJ	CLRINT	CLEAR INTERRUPTS	01148
	P0425 0114					
1149	P0426 5CD6		RTJ*	(SEC9+1) (=CRLF)	CARRIAGE RETURN, LINE FEED	01149
1150	P0427 18D2	END9	JMP*	END8	GO TO END SECTION ROUTINE.	01150
1151	P0428 0000	CNT3	NUM	0		01151
1152	P0429 0000	CNT4	NUM	0		01152
1153	P042A 0000	FL4	NUM	0		01153

1154	P042B	0000	CODE	NUM	0		01154
1155	P042C	552A	PAT1	NUM	\$552A		01155
1156	P042D	463D	PAT2	NUM	\$463D		01156
1157	P042E	0707	PAT3	NUM	\$707		01157

1160			*				01160
1161			*SEC10				01161
1162			*				01162
1163			*CHECK END OF OPERATION INTERRUPT				01163
1164			*				01164
1165	P042F	0A01	SEC10	ENA	1		01165
1166	P0430	6800		STA	INTREQ		01166
	P0431	0105					
1167	P0432	6800		STA	F1		01167
	P0433	FD58					
1168	P0434	5800		RTJ	CLRINT	CLEAR INTERRUPTS	01168
	P0435	0104					
1169	P0436	0ACD		ENA	-\$32		01169
1170	P0437	6800		STA	CNT1		01170
	P0438	FD75					
1171	P0439	C000		LDA-	0		01171
1172	P043A	0810	H810	NUM	\$810		01172
1173	P043B	6800		STA	INTST		01173
	P043C	00FB					
1174	P043D	0844	SEC10M	CLR	A		01174
1175	P043E	6800		STA	EOF	CLEAR FLAG	01175
	P043F	00F4					
1176	P0440	C073		LDA-	BIT8		01176
1177	P0441	5800		RTJ	OPF	SELECT WRITE MODE	01177
	P0442	FC53					
1178	P0443	0A45	SEC10B	ENA	\$45	CHARACTER CODE(E)	01178
1179	P0444	E800		LDQ	OIRO		01179
	P0445	FCAD					
1180	P0446	0302		OUT	SEC10C--*-1		01180
1181	P0447	1808		JMP*	SEC10F	REPLY	01181
1182	P0448	1802		JMP*	SEC100	INTERNAL REJECT	01182
1183	P0449	18F9	SEC10C	JMP*	SEC10B	EXTERNAL REJECT	01183
1184	P044A	0A18	SEC10D	ENA	\$18		01184
1185	P044B	0C04		ENO	4	ECC-INTERNAL REJECT ON DATA OUTPUT	01185
1186	P044C	5400		RTJ-	(0)	ERROR STOP	01186
1187	P044D	00A2	P XSTOP	ADC	STOP		01187
1188	P044E	18F4		JMP*	SEC103		01188
1189	P044F	0A01	SEC10F	ENA	1		01189
1190	P0450	6800		STA	INTFLG		01190
	P0451	FE8E					
1191	P0452	6800		STA	S10		01191
	P0453	00DC					

1192	P0454	0A08	ENA	\$8		01192	
1193	P0455	5800	RTJ	SEL	SELECT EOP INTERRUPT	01193	
	P0456	0104					
1194	P0457	5800	RTJ	RCM	GO TO MONITOR	01194	
	P0458	FC5F					
1195	P0459	C800	LDA	EOF	CHECK FOR EOP INTERRUPT	01195	
	P045A	00D9					
1196	P045B	0113	SAN	SEC10G--*-1		01196	
1197	P045C	0A18	ENA	\$18		01197	
1198	P045D	0C29	ENQ	\$29	ECC-EOP INTERRUPT DID NOT OCCUR	01198	
1199	P045E	5CEE	RTJ*	(XSTOP)	ERROR STOP	01199	
1200	P045F	D800	SEC10G	RAO	CNT1	UPDATE COUNTER	01200
	P0460	FD4D					
1201	P0461	C800	LDA	CNT1		01201	
	P0462	FD48					
1202	P0463	0101	SAZ	1		01202	
1203	P0464	18D8	JMP*	SEC10M	REPEAT 50 TIMES	01203	
1204	P0465	0844	SEC10H	CLR	A	01204	
1205	P0466	6800	STA	F1		01205	
	P0467	FD24					
1206	P0468	6800	STA	S10		01206	
	P0469	00C6					
1207	P046A	5C92	RTJ*	(SEC9+1)	(=CRLF) CARRIAGE RETURN, LINE FEED	01207	
1208	P046B	1888	END10	JMP*	END9	GO TO END SECTION ROUTINE.	01208

1211			*			01211	
1212			*SEC11			01212	
1213			*			01213	
1214			*RING BELL TO CHECK FOR ELECTRONIC NOISE			01214	
1215			*			01215	
1216	P046C	E400	SEC11	LDQ*	COUNTR	01216	
	P046D	0033	P				
1217	P046E	0854		TCQ	A	01217	
1218	P046F	6888		STA*	CNT3	01218	
1219	P0470	C8C9		LDA*	H810	01219	
1220	P0471	6800		STA	INTST	STATUS BITS FOR REQUESTED INTERRUPTS	01220
	P0472	00C5					
1221	P0473	0A11		ENA	\$11	REQUESTED INTERRUPTS	01221
1222	P0474	6800		STA	INTREQ		01222
	P0475	00C1					
1223	P0476	0844		CLR	A	01223	
1224	P0477	6800		STA	STAT2	01224	
	P0478	009A					
1225	P0479	0A10		ENA	\$10	01225	
1226	P047A	5900		RTJ	SEL	01226	
	P047B	00DF					

1227	P047C	C891	SEC11B	LDA*	PAT3		01227
1228	P047D	5800		RTJ	OUT		01228
	P047E	FC51					
1229	P047F	D8A8		RAQ*	CNT3		01229
1230	P0480	C8A7		LDA*	CNT3		01230
1231	P0481	0101		SAZ	SEC11C--*-1		01231
1232	P0482	18F9		JMP*	SEC11B		01232
1233	P0483	C800	SEC11C	LDA	STAT?		01233
	P0484	00AE					
1234	P0485	A000		AND	=N\$864	CHECK FOR MANUAL AND ALARM INTERRUPTS	01234
	P0486	0864					
1235	P0487	0103		SAZ	END11--*-1		01235
1236	P0488	0A18		FNA	\$18		01236
1237	P0489	0C22		ENQ	\$22	ECC-INTERRUPT GENERATED BY RINGING BELL	01237
1238	P048A	5CC2		RTJ*	(XSTOP)		01238
1239	P048B	18DF	END11	JMP*	END10	GO TO END SECTION ROUTINE.	01239

1242			*				01242
1243			*DATA COMPARE ERROR				01243
1244			*				01244
1245	P048C	0000	CFRR	NUM	0		01245
1246	P048D	CC00		LDA	(IND4)		01246
	P048E	FEAE					
1247	P048F	6800		STA	ACT	ACTUAL DATA	01247
	P0490	FC23					
1248	P0491	CC00		LDA	(IND3)		01248
	P0492	FEFA					
1249	P0493	6800		STA	EXP	EXPECTED DATA	01249
	P0494	FC20					
1250	P0495	0A18		ENA	\$18		01250
1251	P0496	0C15		ENQ	\$15	ECC-DATA COMPARE ERROR	01251
1252	P0497	5CB5		RTJ*	(XSTOP)	ERROR STOP	01252
1253	P0498	1CF3		JMP*	(CERP)		01253

1255			*				01255
1256			*TYPE OUT INSTRUCTIONS TO OPERATOR				01256
1257			*A=FIRST WORD ADDRESS OF MESSAGE				01257
1258			*Q=WORD COUNT				01258
1259			*				01259
1260	P0499	0000	INTO	NUM	0		01260
1261	P049A	6811		STA*	FW		01261
1262	P049B	0854		TCQ	A		01262
1263	P049C	680E		STA*	WC		01263

1264	P049D	CC0E	INT0A	LDA*	(FW)			01264
1265	P049E	5800		RTJ	OUT			01265
	P049F	FC30						
1266	P04A0	D80B		RAO*	FW	UPDATE STORAGE ADDRESS		01266
1267	P04A1	D809		RAO*	WC	UPDATE WORD COUNT		01267
1268	P04A2	C808		LDA*	WC			01268
1269	P04A3	0101		SAZ	INT0R-*--1			01269
1270	P04A4	18F8		JMP*	INT0A			01270
1271	P04A5	C000	INT03	LOA	=N3707			01271
	P04A6	0707						
1272	P04A7	5800		RTJ	OUT	BELL		01272
	P04A8	FC27						
1273	P04A9	1GEF		JMP*	(INT0)			01273
1274	P04AA	0000	WC	NUM	0			01274
1275	P04AB	0000	FW	NUM	0			01275

1277			*					01277
1278			*INTERRUPT PROCESSING ROUTINE					01278
1279			*					01279
1280	P04AC	0000	INT	NUM	0			01280
1281	P04AD	4800		STQ	EX		PTC2	01281
	P04AE	0083						
1282	P04AF	E400		LDQ-	(0)	SAXE ENTRY ADDRESS	PTC2	01282
1283	P04B0	00C3	P XIPS	ADC	IPS		PTC2	01283
1284	P04B1	4000		STQ-	0		PTC2	01284
1285	P04B2	0000	XIPSAV	NUM	0		PTC2	01285
1286	P04B3	5800		PTJ	IPS	STATUS		01286
	P04B4	FC0E						
1287	P04B5	E8FC		LDQ*	XIPSAV	RESTORE STATUS ENTRY	PTC2	01287
1288	P04B6	4CF9		STQ*	(XIPS)		PTC2	01288
1289	P04B7	6878		STA*	STAT2			01289
1290	P04B8	C87A	INT1	LDA*	STAT2			01290
1291	P04B9	A06D		AND-	CONST+2	CHECK INTERRUPT STATUS BIT		01291
1292	P04BA	0113		SAN	INT2-*--1	OK		01292
1293	P04BB	0C20		FNQ	\$20	ECC-NO INTERRUPT STATUS		01293
1294	P04BC	4878		STQ*	ERC			01294
1295	P04BD	1869		JMP*	INT7			01295
1296	P04BE	C871	INT2	LDA*	S10			01296
1297	P04BF	0101		SAZ	INT2A-*--1			01297
1298	P04C0	1861		JMP*	INT6F			01298
1299	P04C1	C871	INT2A	LOA*	STAT2			01299
1300	P04C2	A070		AND-	CONST+5	CHECK FOR ALARM INTERRUPT		01300
1301	P04C3	0111		SAN	1			01301
1302	P04C4	1818		JMP*	INT5			01302
1303	P04C5	0A41		ENA	\$41			01303
1304	P04C6	A86C		AND*	STAT2			01304
1305	P04C7	B06B		EOR-	CONST			01305
1306	P04C8	0117		SAN	INT3-*--1			01306
1307	P04C9	C867		LOA*	S68			01307
1308	P04CA	0102		SAZ	2			01308

1309	P04CB	686D	STA*	EOT	SET END OF TAPE FLAG		01309
1310	P04CC	185A	JM*	INT7			01310
1311	P04CD	0C24	ENQ	\$24	ECC-ALARM INT. BUT NO ALARM CONDITIONS		01311
1312	P04CE	4866	STQ*	ERC			01312
1313	P04CF	1857	JMP*	INT7			01313
1314	P0400	C862	INT3	LDA*	STAT2		01314
1315	P04D1	A068	AND-	CONST	CHECK READY STATUS		01315
1316	P04D2	0113	SAN	INT4--1			01316
1317	P04D3	0C01	ENQ	\$1	ECC-TELETYPE NOT READY		01317
1318	P04D4	4860	STQ*	ERC			01318
1319	P04D5	1851	JMP*	INT7			01319
1320	P04D6	C85C	INT4	LDA*	STAT2		01320
1321	P04D7	A071	AND-	CONST+6	CHECK FOR LOST DATA		01321
1322	P04D8	0103	SAZ	INT5--1			01322
1323	P04D9	0C27	ENQ	\$27	ECC-LOST DATA		01323
1324	P04DA	485A	STQ*	ERC			01324
1325	P04DB	1848	JMP*	INT7			01325
1326	P04DC	C856	INT5	LDA*	STAT2		01326
1327	P04DD	A85A	AND*	INTST	CHECK FOR REQUESTED INTERRUPT		01327
1328	P04DE	0113	SAN	INT6--1	DATA OR MANUAL		01328
1329	P04DF	0C21	ENQ	\$21	ECC-NON-REQUESTED INTERRUPT		01329
1330	P04E0	4854	STQ*	ERC			01330
1331	P04E1	1845	JMP*	INT7			01331
1332	P04E2	A076	INT6	AND-	CONST+11	WAS IT A MANUAL INTERRUPT	01332
1333	P04E3	0111	SAN	1		PTC2	01333
1334	P04E4	1812	JMP*	INT6A		PTC2	01334
1335	P04E5	C800	LDA	MRF	WAS MANUAL INTERRUPT REQUESTED		01335
	P04E6	FE55					
1336	P04E7	010C	SAZ	INT6B--1	NO, GO TO MONITOR		01336
1337	P04E8	6846	STA*	MOF	SET MANUAL INT. OCCUR FLAG		01337
1338	P04E9	0A00	ENA	0		PTC2	01338
1339	P04EA	6400	STA+	MRF	CLEAR M.I. REQ FLAG	PTC2	01339
	P04EB	033C					
1340	P04EC	C800	LDA	S4			01340
	P04ED	FD6A					
1341	P04EE	0111	SAN	1			01341
1342	P04EF	1837	JMP*	INT7			01342
1343	P04F0	0844	CLR	A			01343
1344	P04F1	6800	STA	S4			01344
	P04F2	FD65					
1345	P04F3	1818	JMP*	INT6A1			01345
1346	P04F4	5400	INT6B	RTJ-	(MAINL)		01346
1347	P04F5	1831	JMP*	INT7			01347
1348	P04F6	C83C	INT6A	LDA*	STAT2		01348
1349	P04F7	A06E	AND-	CONST+3	WAS IT DATA INTERRUPT		01349
1350	P04F8	0111	SAN	1			01350
1351	P04F9	1828	JMP*	INT6F			01351
1352	P04FA	C800	LDA	OF	OUTPUT OR INPUT REQUESTED		01352
	P04FB	FD5B					
1353	P04FC	0111	SAN	1			01353
1354	P04FD	1817	JMP*	INT6D			01354
1355	P04FE	E800	LOQ	OIRO	OUTPUT DATA		01355
	P04FF	FBF3					

1356	P0500	CC00	LDA	(IND1)		01356
	P0501	FD57				
1357	P0502	030E	OUT	INT6C--1		01357
1358	P0503	D800	RAO	IND1	UPDATE STORAGE ADDRESS	01358
	P0504	FD54				
1359	P0505	D800	RAO	CNT	UPDATE COUNTER	01359
	P0506	FCA6				
1360	P0507	C800	LDA	CNT		01360
	P0508	FCA4				
1361	P0509	0101	SAZ	1		01361
1362	P050A	1821	JMP*	INT7B		01362
1363	P050B	0C02	INT6A1	ENQ	2 CLEAR INTERRUPTS	01363
1364	P050C	482A	STQ*	INTREQ		01364
1365	P050D	C076	LDA-	CONST+11		01365
1366	P050E	6829	STA*	INTST		01366
1367	P050F	592A	RTJ*	CLRINT		01367
1368	P0510	1816	JMP*	INT7		01368
1369	P0511	0C09	INT6C	ENQ	\$9	01369
1370	P0512	4822	STQ*	ERC		01370
1371	P0513	1813	JMP*	INT7		01371
1372	P0514	E800	INT6D	LDQ	DIR0 INPUT DATA	01372
	P0515	FB0D				
1373	P0516	0207	INP	INT6E--1	ERROR IF REJECTED	01373
1374	P0517	6C00	STA	(IND1)		01374
	P0518	FD40				
1375	P0519	D800	RAO	IND1	UPDATE STORAGE ADDRESS	01375
	P051A	FD3E				
1376	P051B	D800	RAO	CNT1	UPDATE COUNTER	01376
	P051C	FC91				
1377	P051D	180D	JMP*	INT7A		01377
1378	P051E	0C12	INT6E	ENQ	\$12	01378
1379	P051F	4815	STQ*	ERC		01379
1380	P0520	1806	JMP*	INT7		01380
1381	P0521	C811	INT6F	LDA*	STAT2	01381
1382	P0522	A06F	AND-	CONST+4	CHECK FOR EOP INTERRUPT	01382
1383	P0523	0101	SAZ	1		01383
1384	P0524	680F	STA*	EOF	SET FLAG	01384
1385	P0525	5814	RTJ*	CLRINT	CLR INTERRUPTS	01385
1386	P0526	0844	INT7	CLR	A	01386
1387	P0527	6800	STA	INTFLG		01387
	P0528	FD87				
1388	P0529	6806	STA*	S10		01388
1389	P052A	580F	INT7A	RTJ*	CLRINT	01389
1390	P052B	E806	INT7B	LDQ*	EX	01390
1391	P052C	1C00	JMP (INT)		EXIT INTERRUPT STATE	PTC2 01391
	P052D	FF7E				
1392	P052E	0000	MOF	NUM	0	01392
1393	P052F	0000	S10	NUM	0	01393
1394	P0530	0000	S68	NUM	0	01394
1395	P0531	0000	EX	NUM	0	01395
1396	P0532	0000	STAT2	NUM	0	01396
1397	P0533	0000	EOF	NUM	0	01397
1398	P0534	0000	ERC	NUM	0	01398

1399	P0535	0000	IOF	NUM	0		01399
1400	P0536	0000	INTREQ	NUM	0		01400
1401	P0537	0000	INTST	NUM	0		01401
1402	P0538	0000	EOT	NUM	0		01402

1404			*				01404
1405			*CLEAR INTERRUPTS				01405
1406			*				01406
1407	P0539	0000	CLRINT	NUM	0		01407
1408	P053A	C000		LDA	=N\$E000	PTC2	01408
		P053B					
1409	P053C	6817		STA*	CLCK		01409
1410	P053D	C8F8	CLRI1	LDA*	INTREQ		01410
1411	P053E	6400		STA+	EXP	DISPLAY DIR FCN BITS USED ON ERR	01411
		P053F					
1412	P0540	EC1E		LQO*	(XDIR1)		01412
1413	P0541	03FE		OUT	-1		01413
1414	P0542	0800		NOP			01414
1415	P0543	02FE		INP	-1		01415
1416	P0544	6400		STA+	ACT	SAVE FOR POSSIBLE ERROR STOP A3	01416
		P0545					
1417	P0546	A000		AND	=N\$844	DID INTERRUPTS CLEAR	01417
		P0547					
1418	P0548	0111		SAN	1		01418
1419	P0549	1CEF		JMP*	(CLRINT)		01419
1420	P054A	0809		RAO*	CLCK		01420
1421	P054B	C808		LDA*	CLCK		01421
1422	P054C	0101		SAZ	CLRI2-*--1		01422
1423	P054D	18EF		JMP*	CLRI1	RE-TRY	01423
1424	P054E	0A18	CLRI2	ENA	\$18	***	01424
1425	P054F	0C16		ENQ	\$16		01425
1426	P0550	5400		RTJ+	STOP	REPORT FAILURE TO CLR INTERRUPTS	01426
		P0551					
1427	P0552	18E7		JMP*	CLRINT+1	TRY AGAIN TO CLEAR	01427
1428	P0553	0000	CLCK	NUM	0		01428

1430			*				01430
1431			*REQUEST INTERRUPTS				01431
1432			*				01432
1433	P0554	0000	REQ	NUM	0		01433
1434	P0555	0A02	REQ2	ENA	2		01434
1435	P0556	EC08		LQO*	(XDIR1)		01435
1436	P0557	5404		RTJ-	(REQINT)	REQUEST INTERRUPTS.	01436
1437	P0558	04AC	P INTSUB	ADC	INT		01437
1438	P0559	1CFA		JMP*	(REQ)		01438

1440		*				01440
1441		*SELECT INTERRUPTS				01441
1442		*				01442
1443		*A=INTERRUPT TO BE SELECTED				01443
1444		*				01444
1445	P055A 0000	SEL	NUM	0		01445
1446	P055B 0C02		ENQ	2		01446
1447	P055C 0811		TRQ	M	SET INTERRUPT MASK	01447
1448	P055D E400		LDQ-	(0)		01448
1449	P055E 00F4 P XDIR1		ADC	DIR1		01449
1450	P055F 03FE		OUT	-1	SELECT INTERRUPTS	01450
1451	P0560 0400		EIN	0	ENABLE INTERRUPTS	01451
1452	P0561 1CF8		JMP*	(SEL)		01452
1454		*				01454
1455		*INPUT ROUTINE FOR PAPER TAPE				01455
1456		*				01456
1457	P0562 0000	INPA	NUM	0		01457
1458	P0563 5C18		RTJ*	(XSTRMTN)	START TAPE MOTION IF 1713	01458
1459	P0564 E800		LDQ	DIR0		01459
	P0565 F88D					
1460	P0566 02FE		INP	-1		01460
1461	P0567 0B00	IN1A	NOP	0		01461
1462	P0568 0B00	IN1B	NOP	0		01462
1463	P0569 5C12	IN1	RTJ*	(XSTRMTN)	START TAPE MOTION IF 1713	01463
1464	P056A 0844		CLR	A		***01464
1465	P056B 02FE		INP	-1		01465
1466	P056C 6833		STA*	SAVE		01466
1467	P056D 9833		SUB*	FIRST		01467
1468	P056E 0111		SAN	1		***01468
1469	P056F 18F9		JMP*	IN1	LOOP DURING RUBOUTS	***01469
1470	P0570 5C0B		RTJ*	(XSTRMTN)	START TAPE MOTION IF 1713	01470
1471	P0571 C82E		LDA*	SAVE	GET BACK FIRST DATA FRAME	***01471
1472	P0572 0FC8		ALS	8		01472
1473	P0573 02FE		INP	-1	INPUT 2ND HALF OF FIRST WORD	***01473
1474	P0574 130F		JMP*	IN3		01474
1475	P0575 5C06	IN2	RTJ*	(XSTRMTN)	START TAPE MOTION IF 1713	01475
1476	P0576 0844		CLR	A		***01476
1477	P0577 02FE		INP	-1	INPUT UPPER HALF OF DATA WORDS	***01477
1478	P0578 0FC8		ALS	8		01478
1479	P0579 6826		STA*	SAVE		01479
1480	P057A 5400		RTJ-	(0)	START TAPE MOTION IF 1713	01480
1481	P057B 05F9 P XSTRMTN		ADC	STRMTN		01481
1482	P057C C323		LDA*	SAVE		01482
1483	P057D 02FE		INP	-1	INPUT LOWER HALF OF DATA WORDS	***01483
1484	P057E 6821		STA*	SAVE		01484
1485	P057F 807C		EOR-	HFFFF	\$FFFF	01485
1486	P0580 0111		SAN	1		01486
1487	P0581 1807		JMP*	IN4		01487

1488	P0582	C910		LDA*	SAVE		01488
1489	P0583	6C00	IN3	STA	(IND4)		01489
	P0584	F088					
1490	P0585	D900		RAO	IND4		01490
	P0586	F086					
1491	P0587	18ED		JMP*	IN2		01491
1492	P0588	EC05	IN4	LDQ*	{XDIR1}		01492
1493	P0589	C973		LDA-	CONST+8	SELECT WRITE MODE	01493
1494	P058A	0304		OUT	IN6-*--1	CONTINUE IF EXTERNAL REJECT	01494
1495	P0583	0A18		ENA	\$18	ERROR IF REPLY	01495
1496	P058C	0C30		ENQ	\$30	ECC-DELAY ADJUSTMENT ERROR	01496
1497	P058D	5800		RTJ	STOP		01497
	P058E	F813					
1498	P058F	586A	IN6	RTJ*	STRMTN	START TAPE MOTION	01498
1499	P0590	C900		LDA	MOD1	1712 ONLY	01499
	P0591	FAA3					
1500	P0592	0101		SAZ	1		01500
1501	P0593	180E		JMP*	IN12	TELETYPE IS A 1712	01501
1502	P0594	0202	IN6B	INP	IN6A-*--1		01502
1503	P0595	18F9		JMP*	IN6		01503
1504	P0596	0B00		NOP	0		01504
1505	P0597	C8A0	IN6A	LDA*	EOT	CHECK FOR END OF TAPE INTERRUPT	01505
1506	P0598	0111		SAN	1		01506
1507	P0599	18FA		JMP*	IN6B		01507
1508	P059A	E000	IN7	LDQ	=N\$91		01508
	P059D	0091					
1509	P059C	0A01		ENA	1		01509
1510	P059D	03FE		OUT	-1		01510
1511	P059E	1CC3		JMP*	(INPA)		01511
1512	P059F	0000	SAVE	NUM	0		01512
1513	P05A0	00FF	FIRST	NUM	\$FF		***01513
1514	P05A1	02FE	IN12	INP	-1		01514
1515	P05A2	0844		CLR	A		01515
1516	P05A3	68FB		STA*	SAVE		01516
1517	P05A4	0203	IN12A	INP	IN12C-*--1		01517
1518	P05A5	0844		CLR	A		01518
1519	P05A6	68F8		STA*	SAVE		01519
1520	P05A7	18FC		JMP*	IN12A		01520
1521	P05A8	08F6	IN12C	RAO*	SAVE		01521
1522	P05A9	C8F5		LDA*	SAVE		01522
1523	P05AA	0131		SAM	1		01523
1524	P05AB	18F8		JMP*	IN12A		01524
1525	P05AC	0D01		INQ	1		01525
1526	P05AD	0A01	IN12B	ENA	1		01526
1527	P05AE	03FE		OUT	-1	CLEAR CONTROLLER	01527
1528	P05AF	1CB2		JMP*	(INPA)		01528

1530	*		01530
1531	*CARRIAGE RETURN, LINE FEED		01531
1532	*		01532

1533	P0580	0000	CRLF	NUM	0			01533
1534	P0581	C000		LDA	=N\$800A	CARRIAGE RETURN,LINE FEED		01534
		P0582						
1535	P0583	5800		RTJ	OUT			01535
		P0584						
1536	P0585	1CFA		JMP*	(CRLF)			01536
1538			*					01538
1539			*PUNCH OUT PAPER TAPE LEADER					01539
1540			*					01540
1541	P0586	0000	LDR	NUM	0			01541
1542	P0587	0AEB		ENA	-\$14			01542
1543	P0588	6809		STA*	CNT8	WORD COUNT		01543
1544	P0589	0AFF	LDR1	ENA	-0	(=ASCII RUB-OUT CODES)		01544
1545	P058A	5800		RTJ	OUT			01545
		P058B						
1546	P058C	0805		RAO*	CNT8	UPDATE COUNTER		01546
1547	P058D	C804		LDA*	CNT8			01547
1548	P058E	0101		SAZ	1			01548
1549	P058F	18F9		JMP*	LDR1			01549
1550	P05C0	1CF5		JMP*	(LDR)			01550
1551	P05C1	0000	CNT8	NUM	0			01551
1552			*					01552
1553			*SELECT TELETYPE MODES. (1713 ONLY.)					01553
1554			*					01554
1555	P05C2	0000	SELKM	NUM	0			01555
1556	P05C3	6817		STA*	MODE			01556
1557	P05C4	C800		LDA	MOD	IS TELETYPE A 1713		01557
		P05C5						
1558	P05C6	0111		SAN	1	YES		01558
1559	P05C7	1CFA		JMP*	(SELKM)	NO, EXIT		01559
1560	P05C8	EC95	SEL1	LDQ*	(XDIR1)			01560
1561	P05C9	02FE		INP	-1			01561
1562	P05CA	A06C		AND-	CONST+1			01562
1563	P05CB	0101		SAZ	1			01563
1564	P05CC	18FB		JMP*	SEL1			01564
1565	P05CD	C800		LDA*	MODE			01565
1566	P05CE	03FE		OUT	-1			01566
1567	P05CF	02FE	SEL2	INP	-1			01567
1568	P05D0	A06C		AND-	CONST+1	CHECK FOR BUSY		01568
1569	P05D1	0101		SAZ	1			01569
1570	P05D2	18FC		JMP*	SEL2			01570
1571	P05D3	C807		LDA*	MODE			01571
1572	P05D4	A075		AND-	CONST+10			01572
1573	P05D5	0111		SAN	1			01573
1574	P05D6	1CEB		JMP*	(SELKM)			01574
1575	P05D7	08EA		RAO*	SELKM			01575
1576	P05D8	08E9		RAO*	SELKM			01576
1577	P05D9	1CE8		JMP*	(SELKM)			01577
1578	P05DA	0000	MODE	NUM	0			01578


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1580
1581 *
1582 *THIS ROUTINE FLASHES THE OVERFLOW LIGHT
1583 *(OPERATOR SHOULD SELECT (K) MODE ON TELETYPE AND
1584 *PRESS MANUAL INTERRUPT TO CONTINUE)
1585 *
1586 WAITINT NUM 0
1587 LDA- MAINL
1588 STA* SAVINL
1589 LDA =XMANINT REQUEST SMM MANUAL INTERRUPTS
1590
1591 STA- MAINL
1592 CLR A
1593 STA* MANINT
1594 INA 1 FLASH OVERFLOW LIGHT UNTIL MANUAL INTERRUPT
1595 SAM 1 IS PRESSED
1596 JMP* W1
1597 LDA* W2
1598 TCA A
1599 STA* W2
1600 SAN 1
1601 SOV 0
1602 LDA* MANINT
1603 SAN 1
1604 JMP* W1
1605 LDA* SAVINL CLEAR MANUAL INTERRUPT REQUEST
1606 STA- MAINL
1607 JMP* (WAITINT)
1608
1609
1610
1611
1612
1613
1614
1615
1616
1617 *
1618 *THIS ROUTINE CHECKS FOR MANUAL SELECTION OF MODES (1713 ONLY)
1619 *AND IF PRESENT EXITS THE ROUTINE. IF NOT PRESENT TAPE MOTION
1620 *IS STARTED.
1621 *
1622 STRMTN NUM 0

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1623	P05FA E800		LDQ	DIR1		01623
	P05FB FAF8					
1624	P05FC C800		LDA	MOD	IS TELETYPE A 1713	01624
	P05FD FA36					
1625	P05FE 0115		SAN	SM-*--1	YES	01625
1626	P05FF C800		LDA	S8	IS THIS SECTION 8 (1713 MANUAL SELECTION OF	01626
	P0600 FOFA					
1627	P0601 0117		SAN	SM1-*--1	YES-START TAPE MOTION	01627
1628	P0602 00FE		INQ	-1		01628
1629	P0603 1CF5		JMP*	(STRMTN)	EXIT	01629
1630	P0604 C800	SM	LDA	S6		01630
	P0605 FD38					
1631	P0606 0102		SAZ	2	NOT SECTION 6	01631
1632	P0607 00FE		INQ	-1		01632
1633	P0608 1CF0		JMP*	(STRMTN)		01633
1634	P0609 C070	SM1	LDA-	CONST+5		01634
1635	P060A 03FE		OUT	-1	START TAPE MOTION	01635
1636	P060B 00FE		INQ	-1		01636
1637	P060C 0844		CLR	A		01637
1638	P060D 1CEB		JMP*	(STRMTN)		01638
1640	P060E 5354	MESS	ALF	8,STATUS CHECK		01640
	P060F 4154					
	P0610 5553					
	P0611 2043					
	P0612 4845					
	P0613 434B					
	P0614 2020					
	P0615 2020					
1641	P0616 800A	BM1	NUM	\$800A		01641
1642	P0617 5459		ALF	21,TYPE IN RANDOM DATA (200 CHARACTERS MAX.),		01642
	P0618 5045					
	P0619 2049					
	P061A 4E20					
	P061B 5241					
	P061C 4E44					
	P061D 4F4D					
	P061E 2044					
	P061F 4154					
	P0620 4120					
	P0621 2832					
	P0622 3030					
	P0623 2043					
	P0624 4841					
	P0625 5241					
	P0626 4354					
	P0627 4552					
	P0628 5320					
	P0629 4041					
	P062A 582E					
	P062B 292C					

1643	P062C 5052		ALF	11,PRESS MANUAL INTERRUPT	01643
	P062D 4553				
	P062E 5320				
	P062F 4041				
	P0630 4E55				
	P0631 414C				
	P0632 2049				
	P0633 4E54				
	P0634 4552				
	P0635 5255				
	P0636 5054				
1644	P0637 800A	BM2	NUM	\$800A	01644
1645	P0638 5345		ALF	21,SELECT (KT) MODE. PRESS MANUAL INTERRUPT.	01645
	P0639 4C45				
	P063A 4354				
	P063B 2028				
	P063C 4B54				
	P063D 2920				
	P063E 404F				
	P063F 4445				
	P0640 2E20				
	P0641 5052				
	P0642 4553				
	P0643 5320				
	P0644 4041				
	P0645 4E55				
	P0646 414C				
	P0647 2049				
	P0648 4E54				
	P0649 4552				
	P064A 5255				
	P064B 5054				
	P064C 2E20				
1646	P064D 800A	BM3	NUM	\$800A	01646
1647	P064E 5345		ALF	22,SELECT TTR MODE. PRESS MANUAL INTERRUPT.	01647
	P064F 4C45				
	P0650 4354				
	P0651 2054				
	P0652 5452				
	P0653 2040				
	P0654 4F44				
	P0655 452E				
	P0656 2050				
	P0657 5245				
	P0658 5353				
	P0659 2040				
	P065A 414E				
	P065B 5541				
	P065C 4C20				
	P065D 494E				
	P065E 5445				
	P065F 5252				
	P0660 5550				
	P0661 542E				

	P0662	2020				
	P0663	2020				
1648	P0664	800A	BM4	NUM	\$800A	01648
1649	P0665	4C4F		ALF	16,LOAD TAPE PUNCHED IN SECTION 7,	01649
	P0666	4144				
	P0667	2054				
	P0668	4150				
	P0669	4520				
	P066A	5055				
	P066B	4E43				
	P066C	4845				
	P066D	4420				
	P066E	494E				
	P066F	2053				
	P0670	4543				
	P0671	5449				
	P0672	4F4E				
	P0673	2037				
	P0674	2020				
1650	P0675	800A		NUM	\$800A	01650
1651	P0676	5345		ALF	9,SELECT (TTS) MODE,	01651
	P0677	4C45				
	P0678	4354				
	P0679	2028				
	P067A	5454				
	P067B	5329				
	P067C	2040				
	P067D	4F44				
	P067E	452C				
1652	P067F	800A	BM4A	NUM	\$800A	01652
1653	P0680	5255		ALF	11,RUN PAPER TAPE READER.	01653
	P0681	4E20				
	P0682	5041				
	P0683	5045				
	P0684	5220				
	P0685	5441				
	P0686	5045				
	P0687	2052				
	P0688	4541				
	P0689	4445				
	P068A	522E				
1654	P068B	800A		NUM	\$800A	01654
1655	P068C	2035	BM5	ALF	2, 5,	01655
	P068D	2020				
1656	P068E	800A		NUM	\$800A	01656
1657	P068F	5345		ALF	12,SELECT (T) OR (KT) MODE,	01657
	P0690	4C45				
	P0691	4354				
	P0692	2028				
	P0693	5429				
	P0694	204F				
	P0695	5220				
	P0696	284B				
	P0697	5429				

	P0698	204D				
	P0699	4F44				
	P069A	452C				
1658	P069B	8D0A	INTMSG	NUM	\$800A	***01658
1659	P069C	4F50		ALF	X,OPERATING CONDITIONS WITH SECTIONS 5,6,7 OR 8 X	***01659
	P069D	4552				
	P069E	4154				
	P069F	494E				
	P06A0	4720				
	P06A1	434F				
	P06A2	4F44				
	P06A3	4954				
	P06A4	494F				
	P06A5	4E53				
	P06A6	2057				
	P06A7	4954				
	P06A8	4820				
	P06A9	5345				
	P06AA	4354				
	P06AB	494F				
	P06AC	4E53				
	P06AD	2035				
	P06AE	2C36				
	P06AF	2C37				
	P06B0	204F				
	P06B1	5220				
	P06B2	3820				
1660	P06B3	5345		ALF	X,SELECTED- X	***01660
	P06B4	4C45				
	P06B5	4354				
	P06B6	4544				
	P06B7	2020				
1661	P06B8	8D0A		NUM	\$800A	***01661
1662	P06B9	2020		ALF	X, 1.MONITORS STOP JUMP IS CHANGED TO OMIT X	***01662
	P06BA	2020				
	P06BB	2020				
	P06BC	2020				
	P06BD	312E				
	P06BE	4D4F				
	P06BF	4E49				
	P06C0	544F				
	P06C1	5253				
	P06C2	2053				
	P06C3	544F				
	P06C4	5020				
	P06C5	4A55				
	P06C6	4D50				
	P06C7	2049				
	P06C8	5320				
	P06C9	4348				
	P06CA	414E				
	P06CB	4745				
	P06CC	4420				
	P06CJ	544F				

	P06CE 204F			
	P06CF 4049			
	P06D0 5420			
1663	P06D1 5459	ALF	X,TYPEOUTS,AND X	***01663
	P06D2 5045			
	P06D3 4F55			
	P06D4 5453			
	P06D5 2C41			
	P06D6 4E44			
	P06D7 2020			
1664	P06D8 800A	NUM	\$800A	***01664
1665	P06D9 2020	ALF	X, STOP ON ERRORS DURING THESE SECTIONS X	***01665
	P06DA 2020			
	P06DB 2020			
	P06DC 2020			
	P06DD 2020			
	P06DE 5354			
	P06DF 4F50			
	P06E0 204F			
	P06E1 4E20			
	P06E2 4552			
	P06E3 524F			
	P06E4 5253			
	P06E5 2044			
	P06E6 5552			
	P06E7 494E			
	P06E8 4720			
	P06E9 5448			
	P06EA 4553			
	P06EB 4520			
	P06EC 5345			
	P06ED 4354			
	P06EE 494F			
	P06EF 4E53			
	P06F0 2020			
1666	P06F1 800A	NUM	\$800A	***01666
1667	P06F2 2020	ALF	X, 2.THE OPERATOR IS TO SELECT K MODE AND X	***01667
	P06F3 2020			
	P06F4 2020			
	P06F5 2020			
	P06F6 322E			
	P06F7 5448			
	P06F8 4520			
	P06F9 4F50			
	P06FA 4552			
	P06FB 4154			
	P06FC 4F52			
	P06FD 2049			
	P06FE 5320			
	P06FF 544F			
	P0700 2053			
	P0701 454C			
	P0702 4543			
	P0703 5420			

	P0704 4B20				
	P0705 4D4F				
	P0706 4445				
	P0707 2041				
	P0708 4E44				
	P0709 2020				
1668	P070A 5052	ALF	X,PRESS MANUAL INTERRUPT X		***01668
	P070B 4553				
	P070C 5320				
	P070D 4D41				
	P070E 4E55				
	P070F 414C				
	P0710 2049				
	P0711 4E54				
	P0712 4552				
	P0713 5255				
	P0714 5054				
	P0715 2020				
1669	P0716 800A	NUM	\$800A		***01669
1670	P0717 2020	ALF	X, WHEN THE X		***01670
	P0718 2020				
	P0719 2020				
	P071A 2020				
	P071B 2020				
	P071C 5748				
	P071D 454E				
	P071E 2054				
	P071F 4845				
	P0720 2020				
1671	P0721 4F56	ALF	X,OVERFLOW LIGHT FLASHES X		***01671
	P0722 4552				
	P0723 464C				
	P0724 4F57				
	P0725 204C				
	P0726 4947				
	P0727 4854				
	P0728 2046				
	P0729 4C41				
	P072A 5348				
	P072B 4553				
	P072C 2020				
1672	P072D 800A	INTMGE	NUM \$800A		***01672
1673	P072E 0009		BZS RLOCK(217)		01673
1674	P0807 00AA		BZS RLOCK1(\$AA) (=217-ENDTYP+INIT05-1)		01674
1676	P0891 C000	INIT05	LDA =XCHBSY		01676
	P0892 0036	P			
1677	P0893 6400		STA+ RETURN		01677
	P0894 0005	P			
1678	P0895 09C9		INA TTY005-CHBSY FORM IA IN AREG		01678

1679	P0886	540A	RTJ-	(HEXASC)		01679
1680	P0887	682C	STA*	FREQCNT-2		01680
1681	P0888	482A	STQ*	FREQCNT-3		01681
1682	P0889	E091	LDR-	TSACTV		01682
1683	P088A	C291	LDA-	TSFREQ-1,Q		01683
1684	P088B	540A	RTJ-	(HEXASC)		01684
1685	P088C	682C	STA*	FREQCNT+3	PTC2	01685
1686	P088D	C000	LOA	=XTYPEIA		01686
	P088E	08C2	P			
1687	P088F	0C28	ENQ	ENDTYP-TYPEIA+1		01687
1688	P08C0	5408	RTJ-	(TYPEOUT)	TYPE TITLE	01688
1689	P08C1	5401	RTJ-	(CONTROL)	CONTROL TO SMM	01689
1690	P08C2	800A	NUM	\$800A		01690
1691	P08C3	5454	ALF	X,TTY005 1711/12/13	TELETYPE TEST.X	01691
	P08C4	5930				
	P08C5	3035				
	P08C6	2020				
	P08C7	3137				
	P08C8	3131				
	P08C9	2F31				
	P08CA	322F				
	P08CB	3133				
	P08CC	2054				
	P08CD	454C				
	P08CE	4554				
	P08CF	5950				
	P08D0	4520				
	P08D1	5445				
	P08D2	5354				
	P08D3	2E20				
1692	P08D4	800A	NUM	\$800A		***01692
1693	P08D5	4350	ALF	X,CP2F, VER. 3.1-1	X	***01693
	P08D6	3246				
	P08D7	2C20				
	P08D8	5645				
	P08D9	522E				
	P08DA	2033				
	P08DB	2E31				
	P08DC	2D31				
	P08DD	2020				
1694	P08DF	800A	NUM	\$800A		01694
1695	P08DF	2049	ALF	6, IA =	,	01695
	P08E0	4120				
	P08E1	3020				
	P08E2	2020				
	P08E3	2020				
	P08E4	2C20				
1696	P08E5	2046	FREQCNT	ALF	4, FC =	01696
	P08E6	4320				
	P08E7	3020				
	P08E8	2020				
1697	P08E9	800A	ENDTYP	NUM	\$800A	01697
1698			END			01698

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TTY005

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PGM= 08EA (2282) COM = 0000 (0) DAT = 0000 (0)

ME Q U I V A L E N C E S

M	DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	, 0184
0119	CONTRO	0001	(000001)	, 0120, 0210, 0235, 0372, 0765, 1689
0120	STOPX	0002	(000002)	, 0121, 0215, 0286, 0356
0121	EXIT	0003	(000003)	, 0122, 0294
0122	REQINT	0004	(000004)	, 0123, 0124, 0182, 1436
0123	FCLRIN	0005	(000005)	, 0183
0124	JUMP	0006	(000006)	, 0125, 0256, 0291, 0318, 0480, 0501 , 0534, 0576, 0619, 0666, 1132
0125	GENRAN	0007	(000007)	, 0126, 0179, 0819
0126	TYPEOU	0008	(000008)	, 0127, 0128, 0181, 1688
0127	TTYBZY	0009	(000009)	
0128	HEXASC	000A	(000010)	, 0129, 0180, 1679, 1684
0129	OVLAY	000B	(000011)	, 0130
0130	RELPOS	000C	(000012)	, 0131
0131	MAINL	000D	(000013)	, 0132, 1346, 1586, 1589, 1604
0132	SETMAS	0042	(000066)	, 0133
0133	STJP	0043	(000067)	, 0134, 0135, 0178, 0350
0134	LASTVA	0044	(000068)	
0135	LASTAD	0045	(000069)	, 0136
0136	LDLCOR	0047	(000071)	, 0137
0137	LDLICO	0048	(000072)	, 0138
0138	INFORM	0049	(000073)	, 0139, 0229
0139	SMMCNT	0056	(000096)	, 0140, 0177
0140	BIT00	006B	(000107)	, 0141, 0176
0141	BIT0	006B	(000107)	, 0142, 0264
0142	BIT1	006C	(000108)	, 0143, 0233
0143	BIT2	006D	(000109)	, 0144
0144	BIT3	006E	(000110)	, 0145
0145	BIT4	006F	(000111)	, 0146, 0206
0146	BIT5	0070	(000112)	, 0147
0147	BIT6	0071	(000113)	, 0148
0148	BIT7	0072	(000114)	, 0149
0149	BIT8	0073	(000115)	, 0150, 1176
0150	BIT9	0074	(000116)	, 0151
0151	BIT10	0075	(000117)	, 0152, 0317
0152	BIT11	0076	(000118)	, 0153, 0204, 0788, 0987
0153	BIT12	0077	(000119)	, 0154
0154	BIT13	0078	(000120)	, 0155
0155	BIT14	0079	(000121)	, 0156
0156	BIT15	007A	(000122)	, 0157
0157	H0000	0079	(000123)	, 0158, 0281

0158	HFFFF	007C	(000124)	, 0159, 1485
0159	H000F	007D	(000125)	, 0160
0160	H00F0	007E	(000126)	, 0161
0161	H0F00	007F	(000127)	, 0162
0162	HF000	0080	(000128)	, 0163
0163	H00FF	0081	(000129)	, 0164
0164	HFF00	0082	(000130)	, 0165, 0822
0165	HFFFF	0083	(000131)	, 0166
0166	H0FFF	0084	(000132)	, 0167
0167	HFF0F	0085	(000133)	, 0168
0168	HF0FF	0086	(000134)	, 0169
0169	H7FFF	0087	(000135)	, 0170
0170	H7F00	0088	(000136)	, 0171
0171	H0780	0089	(000137)	, 0172
0172	H007F	008A	(000138)	, 0173
0173	H2020	008B	(000139)	, 0174, 0612
0174	TSACTV	0091	(000145)	, 0175, 1682
0175	TSFREQ	0092	(000146)	, 1683
0176	CONST	0068	(000107)	, 0230, 0379, 0419, 0465, 0473, 0482
				, 0485, 0491, 0494, 0518, 0601, 0792
				, 0880, 0916, 0921, 0932, 0935, 0991
				, 1024, 1045, 1047, 1065, 1070, 1080
				, 1089, 1144, 1291, 1300, 1305, 1315
				, 1321, 1332, 1349, 1365, 1382, 1493
				, 1562, 1568, 1572, 1634
0177	SMMPAR	0056	(000086)	
0178	SJPAR	0043	(000067)	
0179	RANDOM	0007	(000007)	
0180	CONVER	000A	(000010)	
0181	MESSAG	0008	(000008)	, 0198
0182	REQND	0004	(000004)	
0183	CLRND	0005	(000005)	
0184	REQDI	00FD	(000253)	, 0185
0185	CLRDI	00FE	(000254)	

M S Y M B O L S

M	DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0107	TTY005	0000		, 0214, 1678
0109	PARADR	0004		
0110	RETURN	0005		, 0190, 0762, 0767, 1677
0111	EQUIP	0006		
0112	DLINE	0007		
0113	ALINE	0008		
0114	EOPL	0009		
0187	ENTER5	000A		, 0107, 0248
0212	ENTRY	002C		, 0109, 0191, 0216, 0321
0214	XTTY00	002E		, 0285, 0293, 0353
0219	SECTNS	0032		, 0193, 0265, 1044
0220	COUNTR	0033		, 0547, 1216
0221	MOD	0034		, 0790, 0904, 0989, 1056, 1557, 1624
0224	MOD1	0035		, 0924, 1072, 1499
0229	CHBSY	0036		, 0189, 0766, 1676, 1678
0235	CHBSY3	003D		, 0231, 0238
0246	XERC	0049		, 0239, 0241
0247	CHBSY2	004A		, 0240
0248	PRGRET	0048		, 0209, 0247, 0371
0250	SECX	004C		, 0188, 0258, 0259, 0272, 0279, 0283
0252	END	004D		, 0536, 0884
0258	SECT	0053		, 0267, 0299
0259	SECT0	0054		, 0208, 0257
0268	SECT1	005D		, 0266
0272	SECT2	0061		, 0269
0273	SECT3	0062		, 0271
0283	ENDTST	0068		, 0263
0289	PASS	0071		, 0284
0290	ET1	0072		, 0287
0296	ET2	0079		, 0292
0300	SECAD	007D		, 0280
0306	CON	0089		, 0200, 0276, 0310, 0452, 0718
0311	SEC	008E		, 0274, 0347
0316	PAR	008F		, 0275, 0296, 0320, 0322
0321	PAR1	0094		, 0319
0328	OPF	0096		, 0309, 0333, 0420, 0483, 0492, 0602
				, 0769, 1177
0330	01	0098		, 0335, 0339
0332	02	009A		
0335	03	009D		, 0332
0336	04	009E		, 0334
0344	STOP	00A2		, 0243, 0254, 0338, 0349, 0357, 0396
				, 0429, 0458, 0469, 0477, 0489, 0498

0354	STOADR	00AD	, 0522, 0723, 1187, 1426, 1497
0358	ID	00B1	, 0352
0359	SECERR	00B2	, 0346
0360	RETADR	00B3	, 034A
0361	ACT	00B4	, 0354
0362	EXP	00B5	, 0399, 1247, 1416
0363	DATA1	00B6	, 1249, 1411
0364	DATA2	00B7	, 0329, 0330
0369	RCM	00B8	, 0297, 0370, 0382, 0738, 0801, 1000
0377	WNB	00B0	, 1194
0388	IPS	00C3	, 0192, 0307, 0381, 0383, 0418, 0512
0393	IPS1	00C8	, 0232, 0378, 0393, 0397, 0400, 0453
0394	IPS2	00C9	, 0484, 0493, 0517, 1283, 1286
0398	IPS3	00C0	, 0390
0406	OUT	00D0	, 0392
0408	XF1	00D2	, 0391
0415	OUT1A	00D9	, 0438, 0516, 0655, 0871, 1016, 1122
0418	OUT1	00D0	, 1228, 1265, 1272, 1535, 1545
0421	OUT2	00D0	, 0278
0426	OUT3	00E4	, 0409
0427	OUT4	00E5	, 0414, 0426, 0430, 0437
0431	OUT5	00E9	, 0423
0438	OUT6	00F0	, 0425
0439	CHAR	00F1	, 0424
0440	PAT	00F2	, 0433
0441	DIR0	00F3	, 0413, 0416, 0431, 0432
0442	DIR1	00F4	, 0411, 0417, 0421, 0434, 0436
0449	SEC0	00F5	, 0422, 0603, 0611, 1179, 1355, 1372
0452	SEC0A	00FB	, 1459
0453	SEC0B	00FC	, 0331, 0389, 0920, 1069, 1449, 1623
0460	SEC0C	0104	, 0300, 1008
0471	SFC00	0110	, 0459, 0470, 0478, 0481
0472	XSTAT1	0111	, 0506
0479	SEC0F	0118	, 0455
0484	SEC0G	011E	, 0466
0491	SEC0H	0126	, 0398, 0460, 0464
0500	SEC0J	0131	, 0463, 0474
0507	SEC0K	0138	, 0490
0513	SEC0L	0140	, 0486, 0499, 0502
0515	SEC0M	0142	, 0495
0517	SEC0N	0144	, 0505, 0535
0524	SEC0P	0140	, 0532
0536	END0	0159	, 0523
0537	IND5	0158	, 0527
0544	SEC1	015C	, 0519
0552	SEC1A	0165	, 0585
			, 0510, 0515, 0528
			, 0300
			, 0580

0555	SEC1B	0168	, 0564, 0567
0565	SEC1C	0172	, 0563
0568	SEC1D	0175	, 0559
0579	SEC1F	0180	, 0577
0581	SEC1E	0182	, 0570
0585	END1	0186	, 0627
0586	CH1	0187	, 0551, 0578, 0579
0587	STAT1	0188	, 0472
0588	CH2	0189	, 0552, 0555, 0560, 0561, 0566
0589	LINE	018A	, 0549, 0568, 0569
0590	C1	018B	, 0554, 0557, 0558
0591	F1	018C	, 0408, 0546, 0572, 0574, 0582, 0584
			, 1167, 1205
0600	SEC2	018D	, 0300
0604	SEC2A	0193	, 0620, 0624
0612	SEC2B	0190	, 0617
0626	XCRLF	01AB	, 0511, 0544, 0573, 0583, 0607, 0660
			, 0698
0627	END2	01AC	, 0699
0628	CNT	01AD	, 0451, 0503, 0504, 0514, 0524, 0525
			, 0600, 0606, 0608, 0621, 0648, 0656
			, 0657, 0689, 0749, 0763, 1359, 1360
0629	CNT1	01AE	, 0508, 0529, 0530, 0610, 0614, 0615
			, 0646, 0661, 0662, 0677, 0687, 0715
			, 0742, 0747, 1170, 1200, 1201, 1376
0637	SEC3	01AF	, 0300
0645	SEC3A	018C	, 0667
0647	SEC3B	018E	, 0664, 0678
0649	SEC3C	01C0	, 0659, 0694
0651	SEC3D	01C2	
0655	XOUT	01C6	, 0556, 0605, 0613, 0650, 0652
0660	SEC3E	01C8	, 0658
0665	SEC3F	01D0	, 0663
0679	SEC3G	01E2	, 0669
0695	SEC3H	01F5	, 0681
0699	END3	01F9	, 0770
0700	IND	01FA	
0701	MCODE	01FB	, 0640, 0649, 0673, 0685
0702	F2	01FC	, 0642, 0651, 0675, 0691
0703	L2	01FD	, 0644, 0653, 0693
0710	SEC4	01FE	, 0300
0716	SEC4B	0207	
0718	SEC4B1	020A	, 0724
0726	SEC4B2	0214	, 0720
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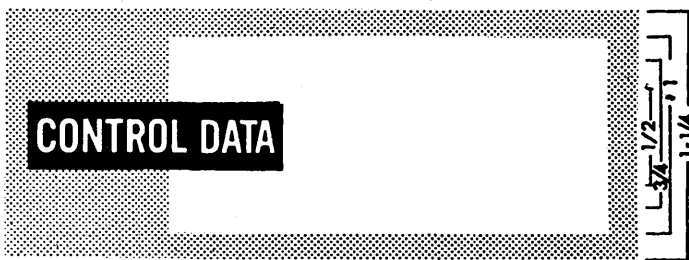


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