

CONTROL DATA[®] SMM17

Program Listings

LP1


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0001      NAM      LP100C      10154 COPYRIGHT CONTROL DATA CORP 1974      ***00001
0002      *****00002
0003      *      *****00003
0004      * * * * * REVISION RECORD * * * * * *****00004
0005      *      *****00005
0006      * MODAYR VERSION  WHAT DONE , WHY , AND WHO DID IT      *****00006
0007      *      *****00007
0008      * 032074 V 3.1      SYSTEM RELEASED      *****00008
0009      *      CORRECTED INITIAL MESSAGE TYPEOUT      *****00009
0010      *      *****00010
0011      *****00011
0012      *1740/42 LINE PRINTER TEST NO. 0C      00012
    
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0014      *1742 DIRECTOR FUNCTION CODES (Q0 = 1, OUTPUT)      00014
    
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0016      *      FIRST GROUP (Q1 = 0)      00016
0017      *      A0      CLEAR PRINTER      00017
0018      *      A1      CLEAR INTERRUPT      00018
0019      *      A2      INTERRUPT ON DATA      00019
0020      *      A3      INTERRUPT ON END OF OPERATION      00020
0021      *      A4      INTERRUPT ON ALARM      00021
0022      *      A5 THRU NOT      00022
0023      *      A15      USED      00023
    
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0025      *      SECOND GROUP (Q1 = 1)      00025
0026      *      A0      PRINT      00026
0027      *      A1      SINGLE SPACE      00027
0028      *      A2      DOUBLE SPACE      00028
0029      *      A3      FORMAT TAPE LEVEL      1      00029
0030      *      A4      FORMAT TAPE LEVEL      2      00030
0031      *      A5      FORMAT TAPE LEVEL      3      00031
0032      *      A6      FORMAT TAPE LEVEL      4      00032
0033      *      A7      FORMAT TAPE LEVEL      5      00033
0034      *      A8      FORMAT TAPE LEVEL      6      00034
0035      *      A9      FORMAT TAPE LEVEL      7      00035
0036      *      A10     FORMAT TAPE LEVEL      8      00036
0037      *      A11     FORMAT TAPE LEVEL      9      00037
0038      *      A12     FORMAT TAPE LEVEL     10      00038
0039      *      A13     FORMAT TAPE LEVEL     11      00039
0040      *      A14     FORMAT TAPE LEVEL     12      00040
0041      *      A15     EIGHT LINE (PER INCH)      00041
0042      *      SELECT      00042
0043      ***      A10, A11, A12, A13, A15 ARE NOT USED ON THE 1740/501      00043
    
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0045      *1742 DIRECTOR STATUS CODES (Q0 = 1, INPUT)      00045
    
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0047      *      A0      READY      00047
0048      *      A1      BUSY      00048
0049      *      A2      INTERRUPT      00049
0050      *      A3      DATA      00050
    
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0061	*ERROR CODES AND ERROR TYPEOUTS	00061
0063	* ERROR CODE MEANING	00063
0065	* 01 EQUIPMENT ADDRESS ERROR (OPERATOR ERROR). TEST MUST	00065
0066	* BE CALLED AGAIN.	00066
0067	* 02 PARAMETER ERROR (OPERATOR ERROR). PARAMETERS MUST BE	00067
0068	* SELECTED AGAIN.	00068
0069	* 03 INTERNAL REJECT OF FUNCTION.	00069
0070	* A=CONTENTS OF A WHEN REJECT OCCURRED	00070
0071	* Q=CONTENTS OF Q WHEN REJECT OCCURRED	00071
0072	* 04 EXTERNAL REJECT OF FUNCTION.	00072
0073	* A=CONTENTS OF A WHEN REJECT OCCURRED.	00073
0074	* Q=CONTENTS OF Q WHEN REJECT OCCURRED	00074
0075	* 05 INTERNAL REJECT OF STATUS INPUT	00075
0076	* A=0 Q=CONTENTS OF Q WHEN REJECT OCCURRED	00076
0077	* 06 EXTERNAL REJECT OF STATUS INPUT	00077
0078	* A=0 Q=CONTENTS OF Q WHEN REJECT OCCURRED	00078
0079	* 07 INCORRECT STATUS	00079
0080	* A=ACTUAL STATUS Q=EXPECTED STATUS	00080
0081	* (ADDITIONAL INFORMATION IN SECTION 2, LOOP 1A)	00081
0082	* A=WORD COUNT Q=CURRENT WORD COUNT	00082
0083	* 08 NO DATA INTERRUPT WHEN EXPECTED AFTER SELECTING	00083
0084	* DATA INTERRUPT. (SECTION 1, LOOP 4 OR 5).	00084
0085	* A=STATUS Q=0	00085
0086	* 09 NO DATA INTERRUPT WHEN EXPECTED AFTER SELECTING	00086
0087	* DATA INTERRUPT AND INTERRUPT CLEAR SIMULTANOUSLY	00087
0088	* (SECTION 1, LOOP 6).	00088
0089	* A=STATUS Q=0	00089
0090	* 0A NO DATA INTERRUPT WHEN EXPECTED AFTER SELECTING	00090
0091	* DATA INTERRUPT AND CLEAR PRINTER SIMULTANOUSLY	00091
0092	* (SECTION 1, LOOP 7)	00092
0093	* A=STATUS Q=0	00093
0094	* 0B NO DATA INTERRUPT WHEN EXPECTED AFTER SELECTING	00094
0095	* DATA INTERRUPT OR AFTER SELECTING ALL INTERRUPTS.	00095
0096	* A=STATUS Q=0	00096
0097	* 0C NO ALARM INTERRUPT WHEN EXPECTED AFTER OUTPUT OF	00097
0098	* ILLEGAL CHARACTER OR AFTER "CAUSE ALARM ON 1742".	00098
0099	* A=STATUS Q=0	00099
0100	* 0D NO END OF OPERATION INTERRUPT WHEN EXPECTED	00100
0101	* (SECTION 4, LOOP 2 AND 5).	00101
0102	* A=STATUS Q=0	00102
0103	* 0E NO DATA INTERRUPT WHEN EXPECTED (SECTION 3, LOOP 5 AND	00103
0104	* SECTION 4, LOOPS 4 AND 5)	00104
0105	* A=STATUS Q=0	00105
0106	* 0F INTERRUPT BUT NO INTERRUPT STATUS	00106
0107	* A=STATUS Q=INTERRUPT LINE NUMBER, DECIMAL	00107
0108	* 10 UNREQUESTED INTERRUPT	00108
0109	* A=STATUS Q=INTERRUPT LINE NUMBER, DECIMAL	00109
0110	* 11 NO EXTERNAL REJECT OF DATA WHEN EXPECTED AFTER	00110
0111	* EXCEEDING MEMORY CAPACITY BY ONE WORD (69 WORDS)	00111
0112	* A=STATUS Q=0	00112
0113	* 12 EXTERNAL DATA REJECT	00113

0114	*		A=CONTENTS OF A WHEN REJECT OCCURRED	00114
0115	*		Q=CONTENTS OF Q WHEN REJECT OCCURRED	00115
0116	*	13	INTERNAL DATA REJECT	00116
0117	*		A=CONTENTS OF A WHEN REJECT OCCURRED	00117
0118	*		Q=CONTENTS OF Q WHEN REJECT OCCURRED	00118
0119	*	14	WRONG WORD COUNT	00119
0120	*		A=STATUS Q=0	00120
0121	*		A=ACTUAL WORD COUNT Q=EXPECTED WORD COUNT	00121
0122	*	15	INTERRUPT STATUS FAILED TO CLEAR	00122
0123	*		A=STATUS Q=INTERRUPT LINE NUMBER, DECIMAL	00123
0124	*	16	INTERNAL REJECT WHEN EXPECTING AN EXTERNAL REJECT	00124
0125	*		A=STATUS Q=0	00125
0126	*	17	NO EXTERNAL REJECT WHEN EXPECTED	00126
0127	*		(CLEAR, SPACE, DATA, OR DURING PRINT)	00127
0128	*		A=STATUS Q=0	00128
0129	*	18	NO END OF OPERATION STATUS OCCURRED ON BUFFER DATA	00129
0130	*		CHANNEL AFTER BUFFERED OUTPUT OF 69 OR 68 WORDS.	00130
0131	*		A= LINE PRINTER STATUS	00131
0132	*		Q=BDC STATUS BEFORE TERMINATION	00132
0133	*		A=CURRENT WORD ADDRESS	00133
0134	*		Q=EXPECTED WORD ADDRESS	00134
0135	*	19	END OF OPERATION STATUS OCCURRED ON BUFFER DATA	00135
0136	*		CHANNEL AFTER OUTPUT OF 67 OR 68 WORDS, BUT WORD	00136
0137	*		COUNT IS WRONG.	00137
0138	*		A= LINE PRINTER STATUS	00138
0139	*		Q=BDC STATUS BEFORE TERMINATION	00139
0140	*		A=CURRENT WORD ADDRESS	00140
0141	*		Q=EXPECTED WORD ADDRESS	00141
0142	*	1A	UNEXPECTED END OF OPERATION STATUS OCCURRED ON	00142
0143	*		AFTER BUFFERED OUTPUT OF 69 WORDS.	00143
0144	*		A= LINE PRINTER STATUS	00144
0145	*		Q=BDC STATUS BEFORE TERMINATION	00145
0146	*		A=CURRENT WORD ADDRESS	00146
0147	*		Q=EXPECTED WORD ADDRESS	00147
0148	*	1B	UNEXPECTED EXTERNAL REJECT AFTER AN	00148
0149	*		EXPECTED EXTERNAL REJECT DURING PRINT.	00149
0150	*		A=STATUS Q=0	00150
0151	*	1C	INTERNAL REJECT ON ATTEMPT TO INITIATE OUTPUT	00151
0152	*		ON BUFFER DATA CHANNEL	00152
0153	*		A=FIRST WORD ADDRESS MINUS ONE OF THE BUFFER AREA	00153
0154	*		Q=CONTENTS OF Q WHEN REJECT OCCURRED	00154
0155	*	1D	EXTERNAL REJECT ON ATTEMPT TO INITIATE OUTPUT	00155
0156	*		ON BUFFER DATA CHANNEL	00156
0157	*		A=FIRST WORD ADDRESS MINUS ONE OF THE BUFFER AREA	00157
0158	*		Q=CONTENTS OF Q WHEN REJECT OCCURRED	00158
0159	*	1E	INTERNAL REJECT ON ATTEMPT TO TERMINATE BUFFER	00159
0160	*		AND GET CURRENT ADDRESS	00160
0161	*		A=NOT APPLICABLE	00161
0162	*		Q=EQUIPMENT CODE	00162
0163	*	1F	EXTERNAL REJECT ON ATTEMPT TO TERMINATE BUFFER	00163
0164	*		AND GET CURRENT ADDRESS	00164
0165	*		A=NOT APPLICABLE	00165
0166	*		Q=EQUIPMENT CODE	00166

0168	*CAUTIONS TO USER	00168
0170	* THE CHARACTER CODE FOR USE IN SECTION 8 (CLARITY TEST) MUST BE	00170
0171	* I.E., FROM 20 (HEX.) THRU 5F (HEX.). THE INTERRUPT LINES A	00171
0172	* CHARACTER CODE MAY BE CHOSEN AT THE PARAMETER STOP.	00172
0173	* IN SECTIONS 3 THRU 9	00173
0174	* UNEXPECTED ALARM INTERRUPTS (ER	00174
0175	* 10) MAY OCCUR BECAUSE ALARM INTE	00175
0176	* IS SELECTED AT SEVERAL PLACES.	00176
0177	* PASS THE ALARM INTERRUPT SELECTI	00177
0178	* BIT 15 IN THE STOP/JUMP PARAMETE	00178
0179	* A STOP OCCURS AT WHICH THE OPERA	00179
0180	* SHOULD CAUSE AN ALARM CONDITION	00180
0181	* PRINTER, E.G., OPEN THE INTERLOC	00181
0182	* THE END OF THE SECTION THE OPERA	00182
0183	* CLEAR THE ALARM CONDITION FOR FU	00183
0184	* TESTING.	00184
0185	* IF STOP AT END OF SECTION BIT IS	00185
0186	* SET, THE ALARM CONDITION CAN BE	00186
0187	* CLEARED WHEN THE STOP OCCURS.	00187
0188	* IF STOP AT END OF SECTION BIT IS	00188
0189	* NOT SET, THE PROGRAM WILL LOOP	00189
0190	* UNTIL THE ALARM CONDITION IS	00190
0191	* CLEARED.	00191
0192	* A STOP OCCURS AT WHICH THE OPERA	00192
0193	* SHOULD SET THE PROTECT SWITCHES	00193
0194	* COMPUTER AND ON THE PRINTER. AT	00194
0195	* OF THE SECTION THE OPERATOR MUST	00195
0196	* THE PROTECT SWITCH ON THE COMPUT	00196
0197	* FURTHER TESTING.	00197
0198	* IF STOP AT END OF SECTION BIT	00198
0199	* IS SET, THE PROTECT SWITCHES CAN	00199
0200	* BE CLEARED WHEN STOP OCCURS.	00200
0201	* IF STOP AT END OF SECTION BIT IS	00201
0202	* NOT SET, THE PROGRAM WILL LOOP	00202
0203	* UNTIL PROTECT STATUS DROPS.	00203
0204	* CLEAR THE PROTECT SWITCH ON THE	00204
0205	* COMPUTER FIRST, THEN CLEAR THE	00205
0206	* PROTECT SWITCH ON THE LINE	00206
0207	* PRINTER.	00207
0208	* IT IS ASSUMED THAT THE FORMAT TA	00208
0209	* ALLOWS A CHANGE FROM 6 TO 8 LINE	00209
0210	* INCH WHEN STATUS BIT 9 IS SET.	00210
0211	* THIS SECTION SHOULD NOT BE RUN O	00211
	* 1740/501 LINE PRINTER	
0213	* IMPORTANT ADDRESSES	00213

LP100C

PAGE 6

DATE: 10/20/74

0215
0216
0217
0218

*
*
*
*

DATAL - PRESTORED DATA INTERRUPT LINE
EOPL - PRESTORED END OF OPERATION INTERRUPT LINE
ALARML - PRESTORED ALARM INTERRUPT LINE
CHAR8 - PRESTORED CHARACTER FOR CLARITY TEST

00215
00216
00217
00218

Address	Offset	Label	Description	Address
0220		*MONITOR	DIRECT LOCATIONS	00220
0221	0001	EQU	CONTROL(1)	00221
0222	0002	EQU	STOPX(CONTROL+1)	00222
0223	0003	EQU	EXIT(STOPX+1)	00223
0224	0004	EQU	REQINT(EXIT+1)	00224
0225	0005	EQU	FCLRINT(REQINT+1)	00225
0226	0006	EQU	JUMP(REQINT+2)	00226
0227	0007	EQU	GENRAN(JUMP+1)	00227
0228	0008	EQU	TYPEOUT(GENRAN+1)	00228
0229	0009	EQU	TTYBZY(TYPEOUT+1)	00229
0230	000A	EQU	HEXASC(TYPEOUT+2)	00230
0231	000B	FQU	OVRLAY(HEXASC+1)	00231
0232	000C	EQU	RELPOS(OVRLAY+1)	00232
0233	000D	EQU	MAINL(RELPOS+1)	00233
0234	0042	EQU	SETMASK(MAINL+53)	00234
0235	0043	EQU	STJP(SETMASK+1)	00235
0236	0044	EQU	LASTVALU(STJP+1)	00236
0237	0045	EQU	LASTAD(STJP+2)	00237
0238	0047	EQU	LDLCORE(LASTAD+2)	00238
0239	0048	EQU	LDL1COR(LDLCORE+1)	00239
0240	0049	EQU	INFORM(LDL1COR+1)	00240
0241	0056	EQU	SMMCNT(INFORM+13)	00241
0242	0068	EQU	BIT00(SMMCNT+21)	00242
0243	0068	EQU	BIT0(BIT00)	00243
0244	006C	EQU	BIT1(BIT0+1)	00244
0245	006D	EQU	BIT2(BIT1+1)	00245
0246	006E	EQU	BIT3(BIT2+1)	00246
0247	006F	FQU	BIT4(BIT3+1)	00247
0248	0070	EQU	BIT5(BIT4+1)	00248
0249	0071	EQU	BIT6(BIT5+1)	00249
0250	0072	EQU	BIT7(BIT6+1)	00250
0251	0073	EQU	BIT8(BIT7+1)	00251
0252	0074	EQU	BIT9(BIT8+1)	00252
0253	0075	EQU	BIT10(BIT9+1)	00253
0254	0076	FQU	BIT11(BIT10+1)	00254
0255	0077	EQU	BIT12(BIT11+1)	00255
0256	0078	EQU	BIT13(BIT12+1)	00256
0257	0079	EQU	BIT14(BIT13+1)	00257
0258	007A	EQU	BIT15(BIT14+1)	00258
0259	007B	EQU	H0000(BIT15+1)	00259
0260	007C	EQU	HFFFF(H0000+1)	00260
0261	007D	EQU	H000F(HFFFF+1)	00261
0262	007E	EQU	H00F0(H000F+1)	00262
0263	007F	EQU	H0F00(H00F0+1)	00263
0264	0080	EQU	HF000(H0F00+1)	00264
0265	0081	EQU	H00FF(HF000+1)	00265
0266	0082	EQU	HFF00(H00FF+1)	00266
0267	0083	EQU	HFFF0(HFF00+1)	00267
0268	0084	EQU	H0FFF(HFFF0+1)	00268
0269	0085	EQU	HFF0F(H0FFF+1)	00269
0270	0086	EQU	HFOFF(HFF0F+1)	00270
0271	0087	EQU	H7FFF(HFOFF+1)	00271
0272	0088	EQU	H7F00(H7FFF+1)	00272
			RETURN SMM CONTROL ADDRESS.	
			ALL STOPS AND ERROR TYPEOUTS	
			END OF TEST-PASS EXIT	
			REQUEST INTERRUPT ADDRESS	
			FAKE OLD -CLR INTRPT REQ- SUBRTN	
			CHECK SKIPSWITCH FOR PARAM ENTRY	
			RANDOM NUMBER GENERATOR	
			MESSAGE TYPEOUT ROUTINE	
			ROUTINE TO WAIT TTY NOT BUSY.	
			HEX TO ASCII CONVERSION	
			OVERLAY CALL ROUTINE.	
			A/Q RELATIVE POSITION TEST.	
			MANUAL INTERRUPT ROUTINE.	
			M-REG RESET VALUE	
			STOP/JUMP PARAMETER WORD.	
			MONITOR AREA LWA+1	
			AVAILABLE LOAD CORE FWA.	
			BANK0 LAST ADDR	
			BANK1 LAST ADDR	
			BK0 SIZE, MASK SIZE, BUSY SWITCH	
			SMM PARAMETER WORD.	
			*** CONSTANT TABLE ***	

0273	0089	EQU	H0780(H7F00+1)	00273
0274	008A	EQU	H007F(H0780+1)	00274
0275	008B	FQU	H2020(H007F+1)	00275
0276	0091	EQU	TSACTV(H2020+6)	00276
0277	0092	EQU	TSFREQ(TSACTV+1)	00277
0278	006B	EQU	CONST(BIT00)	00278
0279	0056	EQU	SMMPAR(SMMCNT)	00279
0280	0043	EQU	SJPAR(STJP)	00280
0281	0007	EQU	RANDOM(GENRAN)	00281
0282	000A	EQU	CONVERT(HEXASC)	00282
0283	0008	EQU	MESSAG(TYPEOUT)	00283
0284	0004	EQU	REQND(REQINT)	00284
0285	0005	FQU	CLRND(FCLRINT)	00285
0286	000A	EQU	CONV(HEXASC)	00286

TABLE INDEX TO TEST IN CONTROL.
TEST, FREQUENCY TABLE

0288			*EQUATED 1742 FUNCTION CODES	00288	
0289	006B	EQU	CLEAR(CONST)	CLEAR PRINTER	00289
0290	006C	EQU	CLINT(CONST+1)	CLEAR INTERRUPTS	00290
0291	006D	EQU	DIREQ(CONST+2)	DATA INTERRUPT REQUEST	00291
0292	006E	EQU	EOPREQ(CONST+3)	END OF OP. INTERRUPT REQUEST	00292
0293	006F	EQU	ALIREQ(CONST+4)	ALARM INTERRUPT REQUEST	00293
0294	006B	EQU	PRINTL(CONST)	PRINT LINE.	00294
0295	0001	EQU	SPACE(1)	SINGLE SPACE	00295
0296	0002	EQU	DSPACE(2)	DOUBLE SPACE	00296
0297	0003	EQU	TSPACE(3)		00297
0298	0003	EQU	LVL1(3)	FORMAT TAPE LEVEL 1	00298
0299	007A	EQU	EIGHT(CONST+15)	EIGHT LINES PER INCH	00299

0301	P0000	180C	LP100C	JMP*	START		00301
0302	P0001	4C50		ALF	3,LP100C		00302
	P0002	3130					
	P0003	3043					
0303	P0004	0012	P	PARADR	ADC	PARAMS	00303
0304	P0005	0750	P	RETURN	ADC	INITOC	00304
0305	P0006	0000		EQUIP	NUM	0	00305
						PARAMETER AREA FWA.	
						SMM RETURNS CONTROL HERE	
						EQUIPMENT ADDRESS FOR STATUS INP	
0307	P0007	0000		RIL	NUM	0	00307
0308	P0008	E9FD		LDQ*	EQUIP		00308
0309	P0009	5404		RTJ-	(REQINT)	REQUEST SYSTEM USE OF	00309
0310	P000A	06FA	P	ADC	INST	INTERRUPT LINE = AREG-BIT.	00310
0311	P000B	1CFB		JMP*	(RIL)		00311
0313	P000C	C000		START	LDA	=XSTART1	00313
	P000D	0039	P				
0314	P000E	68F6		STA*	RETURN		00314
0315	P000F	C856		LDA*	IA		00315
0316	P0010	5402		RTJ-	(STOPX)	PARAMETER STOP.	00316
0317	P0011	1808		JMP*	PARCHK		00317
0318		0012	P	ORG	*		00318
0319	P0012	0C31		PARAMS	NUM	\$0C31	00319
0320	P0013	33EA		SECTNS	NUM	\$33EA	00320
0321	P0014	0004		DATAL	NUM	4	00321
0322	P0015	0004		EOPL	NUM	4	00322
0323	P0016	0004		ALARML	NUM	4	00323
0324	P0017	0040		CHAR8	NUM	\$40	00324
0325	P0018	0000		LPTYPE	NUM	0	00325
						CLARITY TEST CHARACTER (M) 0=1740/42, ELSE 9322/X2	
0327	P0019	0844		PARCHK	CLR	A	00327
0328	P001A	60FF		STA-	I	CHECK FOR ILLEGAL PARAMETER.	00328
0329	P001B	0C0F		PARLOOP	ENQ	15	00329
0330	P001C	C9F7		PAR1	LDA*	DATAL,I	00330
0331	P001D	A268			AND-	BIT0,Q	00331
0332	P001E	0113			SAN	PAR2-*--1	00332
0333	P001F	0DFE			INQ	-1	00333
0334	P0020	0140			SQZ	PAR3-*--1	00334
0335	P0021	18FA			JMP*	PAR1	00335
0336	P0022	09F1		PAR2	EOR*	DATAL,I	00336
0337	P0023	011A			SAN	PAR3-*--1	00337
0338	P0024	C0FF			LDA-	I	00338
0339	P0025	09FD			INA	-2	00339
0340	P0026	0102			SAZ	CHARCK-*--1	00340
0341	P0027	D0FF			RAO-	I	00341
0342	P0028	18F2			JMP*	PARLOOP	00342
0343	P0029	C8ED		CHARCK	LDA*	CHAR8	00343
0344	P002A	09DF			INA	-32	00344
0345	P002B	0132			SAM	PAR3-*--1	00345
0346	P002C	09BF			INA	-64	00346
0347	P002D	0134			SAM	RILS-*--1	00347
0348	P002E	0A08		PAR3	ENA	8	00348
0349	P002F	0C02			ENQ	2	00349
0350	P0030	5879			RTJ*	STOP	00350
						*** ERROR 2 = PARAM ENTRY ERROR.	

0351	P0031	180A		JMP*	START	TRY AGAIN	00351
0353	P0032	C8E1	RILS	LDA*	DATAL		00353
0354	P0033	5803		RTJ*	RIL	REQUEST DATA INTERRUPT LINE.	00354
0355	P0034	C8E0		LDA*	EOP		00355
0356	P0035	5801		RTJ*	RIL	* EOP LINE.	00356
0357	P0036	C8DF		LDA*	ALARML		00357
0358	P0037	58CF		RTJ*	RIL	* ALARM LINE.	00358
0359	P0038	5401		RTJ-	(CONTROL)		00359
0360	P0039	C000	START1	LDA	=XSMMR		00360
	P003A	00C7	P				
0361	P003B	68C9		STA*	RETURN		00361
0363	P003C	C806	RESTART	LDA*	SECTNS		00363
0364	P003D	681E		STA*	SECTOT	SECTIONS TO TEST	00364
0365			*	GO TO	NEXT SELECTED SECTION OR	ENDTEST.	00365
0366	P003E	0C01	TEST	ENQ	1		00366
0367	P003F	C81C		LDA*	SECTOT	SECTIONS TO TEST	00367
0368	P0040	A26B		AND-	CONST,Q		00368
0369	P0041	0115		SAN	NEXT1-*--1	RUN NEXT SECTION	00369
0370	P0042	00F2		INQ	-13		00370
0371	P0043	0151		SNQ	1		00371
0372	P0044	1818		JMP*	ENDTEST	NO MORE SECTIONS SELECTED.	00372
0373	P0045	000E		INQ	14		00373
0374	P0046	18F8		JMP*	TEST+1		00374
0375	P0047	8814	NEXT1	EOR*	SECTOT	CLEAR SECTION BIT.	00375
0376	P0048	6813		STA*	SECTOT		00376
0377	P0049	0FA8		QLS	8		00377
0378	P004A	4822		STO*	SEC		00378
0379	P004B	0FA8	NEXT2	QLS	8		00379
0380	P004C	EA01		LDQ*	NEXT3,Q		00380
0381	P004D	167B	NEXT3	JMP-	(H0000),Q		00381
0382	P004E	012E	P	ADC	SEC1	FMA OF FIRST SECTION	00382
0383	P004F	0180	P	ADC	SEC2		00383
0384	P0050	030C	P	ADC	SEC3		00384
0385	P0051	039C	P	ADC	SEC4		00385
0386	P0052	0414	P	ADC	SEC5		00386
0387	P0053	0446	P	ADC	SEC6		00387
0388	P0054	0478	P	ADC	SEC7		00388
0389	P0055	0490	P	ADC	SEC8		00389
0390	P0056	04AC	P	ADC	SEC9		00390
0391	P0057	04AF	P	ADC	SEC10		00391
0392	P0058	0510	P	ADC	SEC11		00392
0393	P0059	0587	P	ADC	SEC12		00393
0394	P005A	05F1	P	ADC	SEC13		00394
0395	P005B	0000	SECTOT	NUM	0	SECTIONS TO BE TESTED	00395

0397
0398

*
*

END OF TEST STOP IF BIT 2 OF S/J WORD SET.

00397
00398

0399		*	REPEAT TEST IF BIT 6 OF S/J WORD SET, EXIT TEST IF NOT.	00399
0400	P005C 6810	ENDTEST	STA* SEC	00400
0401	P005D 080E		RAO* PASSCT	00401
0402	P005E E80D		LDO* PASSCT	00402
0403	P005F 0A04		ENA 4	00403
0404	P0060 5849		RTJ* STOP	00404
0405	P0061 0A40		ENA \$40	00405
0406	P0062 5406		RTJ- (JUMP)	00406
0407	P0063 1804		JMP* REPEAT	00407
0408	P0064 C000		LDA- 0	00408
0409	P0065 0000 P IA		ADC LP100C	00409
0410	P0066 5403		RTJ- (EXIT)	00410
			COUNT OF PASSES THRU TEST	
			END OF TEST STOP	
			REPEAT TEST	
			TEST IA.	
			EXIT FROM TEST	

0412		*	REPEAT TEST.	00412
0413		*	RE-ENTER PARAMETERS IF BITS 0 AND 10 OF S/J WORD SET.	00413
0414		*		00414
0415	P0067 C075	REPEAT	LDA- CONST*10	00415
0416	P0068 5406		RTJ- (JUMP)	00416
0417	P0069 18A2		JMP* START	00417
0418	P006A 18D1		JMP* RESTART	00418
0419	P006B 0000	PASSCT	NUM 0	00419
0420	P006C 0000	SEC	NUM 0	00420
			NUMBER OF PASSES THRU TEST	
			CURRENT SECTION SHIFTED 8	

0422	P006D 0000	REPCON	NUM 0	00422
0423	P006E 0A10		ENA \$10	00423
0424	P006F 5406		RTJ- (JUMP)	00424
0425	P0070 1CFC		JMP* (REPCON)	00425
0426		*	END OF SECTION STOP IF BIT 1 OF S/J WORD SET.	00426
0427		*	REPEAT SECTION IF BIT 5 OF S/J WORD SET, NEXT SECTION IF NOT.	00427
0428	P0071 0A02	ENDSEC	ENA 2	00428
0429	P0072 0C00		END 0	00429
0430	P0073 5836		RTJ* STOP	00430
0431	P0074 E8F7		LQ* SEC	00431
0432	P0075 0A20		ENA \$20	00432
0433	P0076 5406		RTJ- (JUMP)	00433
0434	P0077 18D3		JMP* NEXT2	00434
0435	P0078 18C5		JMP* TEST	00435
			CHECK REPEAT LAST CONDITION BEFORE END-OF-SECTION.	
			END OF SECTION	
			END OF SECTION STOP	
			REPEAT SECTION NEXT SECTION	

0437	P0079 0000	SDATA	NUM 0	00437
0438	P007A E87B		LQ* SEL0	00438
0439	P007B 0152		SQN 2	00439
			(POSSIBLE ERROR SOURCE ADD)	

0440 P007C E8FC		LDQ*	S0ATA		00440
0441 P007D 4878		STQ*	SELO	(POSSIBLE ERROR PREP)	00441
0442 P007E 0CFE		ENO	-1		00442
0443 P007F 5803		RTJ*	OUTPUT		00443
0444 P0080 0000		NUM	\$0	(USED TO CALC CODE ON ERROR)	00444
0445 P0081 1CF7		JMP*	(S0ATA)		00445
0447 P0082 0000	OUTPUT	NUM	0		00447
0448 P0083 FC5B		ADQ*	(XFQUIP)		00448
0449 P0084 483A		STQ*	EXP	(ADJUSTED EQUIP ADD)	00449
0450 P0085 68E7		STA*	REPCON	(DATA OR FUNCTION TEMP STORAGE)	00450
0451 P0086 583E	DATA1	RTJ*	SMM		00451
0452 P0087 C8E5		LDA*	REPCON		00452
0453 P0088 E836		LDQ*	EXP		00453
0454 P0089 0302		OUT	DATRAN--1		00454
0455 P008A 180E		JMP*	XOUT		00455
0456 P008B 1803		JMP*	*+3		00456
0457 P008C 0C13	DATRAN	ENQ	\$13	*** ERROR 13 EXTERNAL DATA REJ.	00457
0458 P008D 1802		JMP*	*+2		00458
0459 P008E 0C12		ENQ	\$12	*** ERROR 12 INTERNAL DATA REJ.	00459
0460 P008F FCF2		ADQ*	(OUTPUT)	ADJUST CODE TO 4/3 ON FUNCTIONS.	00460
0461 P0090 682D		STA*	ACT		00461
0462 P0091 C864		LDA*	SELO	(ERROR SOURCE ADD)	00462
0463 P0092 682A		STA*	RETAD		00463
0464 P0093 0A18		ENA	\$18		00464
0465 P0094 5815		RTJ*	STOP	REPORT REJECT ON DATA/FCN OUTPUT	00465
0466 P0095 0A10		ENA	\$10		00466
0467 P0096 5406		RTJ-	(JUMP)		00467
0468 P0097 18EE		JMP*	DATA1	REPEAT CONDITIONS	00468
0469 P0098 0844	XOUT	CLR	A		00469
0470 P0099 E85C		LDQ*	SELO		00470
0471 P009A 685B		STA*	SELO		00471
0472 P009B C8D1		LDA*	REPCON		00472
0473 P009C D8E5		RAQ*	OUTPUT		00473
0474 P009D 1CF4		JMP*	(OUTPUT)		00474
0476 P009E 0000	DATA	NUM	0		00476
0477 P009F E8FE		LDQ*	DATA		00477
0478 P00A0 4855		STQ*	SELO	(POSSIBLE ERROR PREP)	00478
0479 P00A1 E400		LDQ*	LPTYPE		00479
0480 P00A2 0018	P				
0481 P00A3 0143		SQZ	LP1740--1		00480
0482 P00A4 0FC8		ALS	8		00481
0483 P00A5 58D3		RTJ*	S0ATA		00482
0484 P00A6 0FC8		ALS	8		00483
0485 P00A7 58D1	LP1740	RTJ*	S0ATA		00484
0485 P00A8 1CF5		JMP*	(DATA)		00485

0487	*				00487
0488	*				00488
0489	*				00489
0490	P00A9	0000	STOP	NUM 0	00490
0491	P00AA	8000		ADD =N\$0C00	00491
	P00AB	0C00			
0492	P00AC	680E		STA* ID	00492
0493	P00AD	F8BE		ADQ* SEC	00493
0494	P00AE	4800		STQ* SECERR	00494
0495	P00AF	C800		LOA* RETAD	00495
0496	P00B0	0111		SAN 1	00496
0497	P00B1	C8F7		LOA* STOP	00497
0498	P00B2	E043		LDQ- STJP	00498
0499	P00B3	0FA6		QLS 6	00499
0500	P00B4	0171		SQM 1	00500
0501	P00B5	98AF		SUB* IA	00501
0502	P00B6	6806		STA* RETAD	00502
0503	P00B7	0844		CLR A	00503
0504	P00B8	5402		RTJ- (STOPX)	00504
0505	P00B9	1808		JMP* STOPGO	00505
0506	P00BA	0000	ID	NUM 0	00506
0507	P00BB	0000	SECERR	NUM 0	00507
0508	P00BC	0000	RETAD	NUM 0	00508
0509	P00BD	0000	ACT	NUM 0	00509
0510	P00BE	0000	EXP	NUM 0	00510
0511	P00BF	0000	ACT1	NUM 0	00511
0512	P00C0	0000	EXP1	NUM 0	00512
0513	P00C1	0844	STOPGO	CLR A	00513
0514	P00C2	68F9		STA* RETAD	00514
0515	P00C3	1CE5		JMP* (STOP)	00515
0517	*				00517
0518	*				00518
0519	*				00519
0520	P00C4	0000	SMM	NUM 0	00520
0521	P00C5	C0FF		LDA- I	00521
0522	P00C6	68F9		STA* EXP1	00522
0523	P00C7	5803	SMMR	RTJ* SMM1	00523
0524	P00C8	5401		RTJ- (CONTROL)	00524
0525	P00C9	1CFA		JMP* (SMM)	00525
0527	P00CA	0000	SMM1	NUM 0	00527
0528	P00CB	CC13		LDA* (XEQUIP)	00528
0529	P00CC	0822		TRA Q	00529
0530	P00CD	A000		AND =N\$F800	00530
	P00CE	F800			
0531	P00CF	0104		SAZ SMMR1*-1	00531
0532	P00D0	F077		ADQ- CONST+12	00532

0533	P00D1	5810		RTJ*	STAT0	CHECK CHANNEL BUSY	00533
0534	P00D2	A06C		AND-	BIT1		00534
0535	P00D3	0117		SAN	SMM2--*-1	SKIP IF BUSY.	00535
0536	P00D4	5808	SMMR1	RTJ*	STAT	NO CHECK EQUIP BUSY	00536
0537	P00D5	A06C		AND-	BIT1		00537
0538	P00D6	0114		SAN	SMM2--*-1	SKIP OUT IF BUSY.	00538
0539	P00D7	5805		RTJ*	STAT		00539
0540	P00D8	E8E7		LDQ*	EXP1		00540
0541	P00D9	40FF		STQ-	I	RESTORE INDEX	00541
0542	P00DA	D8EF		RAO*	SMM1		00542
0543	P00DB	1CEE	SMM2	JMP*	(SMM1)		00543

0545			*				00545
0546			*		GET STATUS AND STORE AT ACT. DROP BITS 7 AND 9 IF SET.		00546
0547	P00DC	0000		STAT	NUM	0	00547
0548	P00DD	E400		LDQ-	(0)		00548
0549	P00DE	0006	P XEQUIP	ADC	EQUIP		00549
0550	P00DF	5802		RTJ*	STAT0		00550
0551	P00E0	1CF8		JMP*	(STAT)		00551
0552	P00E1	0000		STAT0	NUM	0	00552
0553	P00E2	4812		STQ*	STAT2	SAVE EQUIP ADDR	00553
0554	P00E3	ER11	STAT0A	LDQ*	STAT2		00554
0555	P00E4	0205		INP	STAT1--*-1	GET STATUS	00555
0556	P00E5	68D7		STA*	ACT	SAVE ACTUAL STATUS	00556
0557	P00E5	A000		AND	=N\$F07F	DROP BITS 7 AND 9	00557
	P00E7	F07F					
0558	P00E8	1CF8		JMP*	(STAT0)		00558
0559	P00E9	1804		JMP*	**4		00559
0560	P00EA	48D3	STAT1	STQ*	EXP		00560
0561	P00EB	0C06		ENQ	\$6	***ERROR 6 EXTERNAL REJECT OF STATU	00561
0562	P00EC	1803		JMP*	**3		00562
0563	P00ED	48D0		STQ*	EXP		00563
0564	P00EE	0C05		ENQ	\$5	***ERROR 5 INTERNAL REJECT OF STAT	00564
0565	P00EF	0844		CLR	A		00565
0566	P00F0	68CC		STA*	ACT		00566
0567	P00F1	0A18		ENA	\$18		00567
0568	P00F2	58B6		RTJ*	STOP		00568
0569	P00F3	18EF		JMP*	STAT0A		00569
0570	P00F4	0000	STAT2	NUM	0	EQUIP ADDR IS STORED HERE	00570

0572			*				00572
0573			*		SELECT FUNCTION WITH Q0 = 1, Q1 = 0.		00573
0574	P00F5	0000		SEL0	NUM	0	00574
0575	P00F6	E8FE		LDQ*	SEL0		00575
0576	P00F7	5802	SEL02	RTJ*	SELECT		00576

0577 P00F8 0000		NUM	0		00577
0579 P00F9 0000	SELECT	NUM	0		00579
0580 P00FA 48FA		STQ*	SELO		00580
0581 P00FB ECFD		LDQ*	(SELECT)		00581
0582 P00FC 5885		RTJ*	OUTPUT		00582
0583 P00FD FFFD		NUM	-\$F	(USED TO CALC CODE ON ERROR)	00583
0584 P00FE 167B		JMP-	(H0000),0	RETURN TO SELX CALLER	00584
0586	*				00586
0587	*				00587
0588 P00FF 0000	SEL1		SELECT FUNCTION WITH Q0 = 1, Q1 = 1.		00588
0589 P0100 E8FE		NUM	0		00589
0590 P0101 58F7		LDQ*	SEL1		00590
0591 P0102 0002		RTJ*	SELECT		00591
		NUM	2		
0593	*				00593
0594	*		SELECT ALARM INT. SIMULTANEOUSLY WITH OTHER FUNCTIONS UNLESS		00594
0595	*		BIT 15 OF THE STOP/JUMP WORD IS SET, IN WHICH CASE THE OTHER		00595
0596	*		FUNCTIONS ARE SELECTED BUT THE ALARM INTERRUPT IS NOT SELECTED.		00596
0597 P0103 0000	SEL2	NUM	0		00597
0598 P0104 E043		LDQ-	STJP	STOP/JUMP PARAMETER	00598
0599 P0105 0161		SQP	1		00599
0600 P0106 B06F		EOR-	CONST+4	CLEAR ALARM REQUEST	00600
0601 P0107 6C74		STA*	(XRF)	CLEAR ALARM REQUEST FLAG.	00601
0602 P0108 F8FA		LDQ*	SEL2		00602
0603 P0109 18ED		JMP*	SEL02		00603
0605	*				00605
0606	*		ERROR CODE \$07, UNEXPECTED STATUS		00606
0607	*		A = ACTUAL STATUS, Q= EXPECTED STATUS		00607
0608 P010A 0000	ERR1	NUM	0		00608
0609 P0109 B8B1		EOR*	ACT		00609
0610 P010C 68B1		STA*	EXP		00610
0611 P010D C8FC		LDA*	ERR1		00611
0612 P010E 689A		STA*	STOP		00612
0613 P010F B000		EOR	=XSEC2ER7		00613
0614 P0111 0116		SAN	NOTSEC2-*	SKIP IF NOT SECTION 2.	00614
0615 P0112 48AD		STQ*	EXP1	OTHERWISE, ADD CURRENT WORD	00615


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0660          *
0661          *
0662 P0133 C06C LOOP13 LDA-   CLINT          SECTION 1, LOOP 3 - CLEAR INTERRUPTS, GET STATUS, EXPECT $0019
0663 P0134 58C0          RTJ*   SEL0          SET BIT 1 FOR CLEAR INTERRUPT
0664 P0135 58E8          RTJ*   SUB11         SELECT CLEAR INTERRUPT FUNCTION
0665 P0136 18FC          JMP*   LOOP13          00660
00661          00661
00662          00662
00663          00663
00664          00664
00665          00665

0667          *
0668          *
0669          *
0670          *
0671 P0137 E06D          LDQ+   DIREQ          SECTION 1, LOOP 4 - SELECT DATA INTERRUPT, EXPECT INTERRUPT,
0672 P0138 4812          STQ*   FC              EXPECT INTERRUPT STATUS $0010, CLEAR INTERRUPT
0673 P0139 0844          CLR    A              EXPECT STATUS $0019
0674 P013A 6400          STA-   (0)           CLEAR DATA INT FLAG.
0675 P013B 02DB P XDF   ADC    DF
0676 P013C 0A04          ENA    $4
0677 P013D 6C3E          STA*   (XRF)
0678 P013E C80C          LDA*   FC
0679 P013F 58B5          RTJ*   SEL0          SELECT DATA INTERRUPT
0680 P0140 5883          RTJ*   SMM
0681 P0141 CCF9          LDA*   (XDF)        CHECK DATA INT FLAG.
0682 P0142 011C          SAN    S14A-*--1    OKAY IF INTERRUPT OCCURRED
0683 P0143 0C08          ENQ    8             *** CODE 8 = NO DATA INTERRUPT.
0684 P0144 F8D7          ADQ*   LOOP6F       MAYBE CODE 9.
0685 P0145 C8D7          LDA*   LOOP7F
0686 P0146 0101          WDIRG  SAZ    1
0687 P0147 0C0A          ENQ    $A           OR CODE A.
0688 P0148 583E          RTJ*   ERRX
0689 P0149 180A          JMP*   S14B          00667
00668          00668
00669          00669
00670          00670
00671          00671
00672          00672
00673          00673
00674          00674
00675          00675
00676          00676
00677          00677
00678          00678
00679          00679
00680          00680
00681          00681
00682          00682
00683          00683
00684          00684
00685          00685
00686          00686
00687          00687
00688          00688
00689          00689

0691 P014A 0000          FC    NUM    0          00691
00692          00692
0693 P014B 0000          CLRP   NUM    0          00693
0694 P014C 0A01          ENA    1           00694
0695 P014D 58A7          RTJ*   SEL0          00695
0696 P014E 1CFC          JMP*   (CLRP)       00696

0698 P014F 5400          S14A  RTJ+   SUB42         CHECK INTERRUPT STATUS
0699 P0150 037B P          NUM    $10         EXPECT EOP, DATA, INTRPT, RDY.
0700 P0151 0010          JMP*   LOOP14       P+1 RETURN = REPEAT COND, P+2 IF NOT
0701 P0152 18E6          S14B  RTJ*   CLRP        FUNCTION CLEAR PRINTER.
0702 P0153 58F7          ENA    $10         00701
0703 P0154 0A10          RTJ-   (JUMP)      CHECK BIT 4 OF S/J WORD
0704 P0155 5406          JMP*   LOOP14-2    REPEAT CONDITIONS IF SET
00702          00702
00703          00703
00704          00704

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0706	*				00706	
0707	*				00707	
0708	*				00708	
0709	*				00709	
0710		LOOP15	LDA*	LOOP5F	CHECK LOOP 5 FLAG	00710
0711			SAN	S15A--*-1		00711
0712			LDA*	LOOP6F	CHECK LOOP 6 FLAG	00712
0713			SAN	S16A--*-1		00713
0714			LDA*	LOOP7F	CHECK LOOP 7 FLAG	00714
0715			SAN	S17A--*-1		00715
0716			RAO*	LOOP5F	SET LOOP 5 FLAG	00716
0717			JMP*	LOOP14	GO TO LOOP 4	00717
0718		S15A	CLR	A		00718
0719			STA*	LOOP5F	CLEAR LOOP 5 FLAG	00719

0721	*				00721	
0722	*				00722	
0723	*				00723	
0724	*				00724	
0725	*				00725	
0726		LOOP16	RAO*	LOOP6F	SET LOOP 6 FLAG	00726
0727			ENQ	\$6	SELECT DATA INT PLUS CLEAR INT.	00727
0728			JMP*	LOOP14-1		00728
0729		S16A	CLR	A		00729
0730			STA*	LOOP6F	CLEAR LOOP 6 FLAG	00730

0732	*				00732	
0733	*				00733	
0734	*				00734	
0735	*				00735	
0736	*				00736	
0737		LOOP17	RAO*	LOOP7F	SET LOOP 7 FLAG	00737
0738			ENQ	\$5	SELECT DATA INT PLUS CLR PRNTR.	00738
0739			JMP*	LOOP14-1		00739
0740		S17A	CLR	A		00740
0741			STA*	LOOP7F	CLEAR LOOP 7 FLAG	00741

0743	*				00743
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0744 * SECTION 1, LOOP 8 - SELECT EOP INTERRUPT, EXPECT NO INTERRUPT, 00744
0745 * EXPECT STATUS $0019, 00745
0746 P016B 0A08 LOOP18 ENA $8 00746
0747 P016C 6C0F STA* (XPF) 00747
0748 P016D C06E LDA- EOPREQ 00748
0749 P016E 5800 RTJ SEL0 SELECT EOP INTERRUPT 00749
      P016F FF85
0750 P0170 58AD RTJ* SUB11 00750
0751 P0171 0800 NOP 0 00751
0752 P0172 0844 CLR A 00752
0753 P0173 6800 STA INTF 00753
      P0174 0503
0754 P0175 5805 RTJ* CLRP FUNCTION CLEAR. 00754
0755 P0176 0A10 ENA $10 00755
0756 P0177 5406 RTJ- (JUNP) CHECK BIT 4 OF S/J WORD 00756
0757 P0178 18F2 JMP* LOOP18 REPEAT CONDITIONS IF SET 00757
    
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0759 * SECTION 1, LOOP 9 - SELECT ALARM INTERRUPT, EXPECT NO INTERRUPT 00759
0760 * EXPECT STATUS $0019 00760
0761 * 00761
0762 P0179 0A10 LOOP19 ENA $10 00762
0763 P017A 6400 STA- (0) 00763
0764 P017B 074F P XRF ADC RF 00764
0765 P017C C06F LDA- ALIREQ 00765
0766 P017D 5800 RTJ SEL0 SELECT ALARM INTERRUPT 00766
      P017E FF76
0767 P017F 589E RTJ* SUB11 00767
0768 P0180 0800 NOP 0 00768
0769 P0181 58C9 RTJ* CLRP FUNCTION CLEAR. 00769
0770 P0182 5400 RTJ+ REPCON END SECTION. 00770
      P0183 006D P
0771 P0184 18F4 JMP* LOOP19 RETURN FOR CONDITION REPEAT. 00771
0773 P0185 0019 NINETEEN NUM $19 STATUS MASK = EOP, DATA, READY. 00773
    
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0775	P0186	0000	ERRX	NUM	0		00775
0776	P0187	C8FE		LDA*	ERRX		00776
0777	P0188	6400		STA+	ERRSUB		00777
	P0189	0200	P				
0778	P018A	0A18		ENA	\$18		00778
0779	P0189	1400		JMP+	ERRSUB+1		00779
	P018C	020E	P				

0781							00781
0782							00782
0783							00783
0785							00785
0786							00786
0787							00787
0788							00788
0789							00789
0790							00790
0791							00791
0792	P0180	5800	SEC2	RTJ*	CLRP	CLEAR PRINTER.	00792
0793	P018E	0844		CLR	A		00793
0794	P018F	6C35		STA*	(XWDCNT)	INITIALIZE WORD COUNT.	00794
0795	P0190	5800	S21AA	RTJ	SMM		00795
	P0191	FF32					
0796	P0192	B8F2		EOR*	NINETEEN		00796
0797	P0193	0104		SAZ	WORD--2		00797
0798	P0194	E805		LDD*	WORD		00798
0799	P0195	5400		RTJ+	ERR1	*** ERROR 7 = UNEXPECTED STATUS.	00799
	P0196	010A	P				
0800	P0197	181E	SEC2ER7	JMP*	S21AC		00800
0801	P0198	C000		LDA-	0		00801
0802	P0199	2020	WORD	NUM	\$2020		00802
0803	P019A	0500		IIN	0	INHIBIT INTERRUPTS	00803
0804	P019B	5400		RTJ+	S21AA	(SINGLE WORD OUTPUT)	00804
	P019C	0079	P				
0805	P019D	5800		RTJ	STAT		00805
	P019E	FF3D					
0806	P019F	0400		EIN	0	ENABLE INTERRUPTS	00806
0807	P01A0	6800	S21AB	STA	ACT		00807
	P01A1	FF1B					
0808	P01A2	5846		RTJ*	CHKCNT	CHECK OUTPUT COUNT	00808
0809	P01A3	18EC		JMP*	S21AA	LOOP FOR 136 PRINT CHARACTERS.	00809
0810	P01A4	5800		RTJ	SMM		00810
	P01A5	FF1E					
0811	P01A6	8837		EOR*	ELEVEN	EXPECT NO DATA STATUS	00811
0812	P01A7	0103		SAZ	3		00812
0813	P01A8	5800		RTJ	ERR1	ERROR CODE 7, UNEXPECTED STATUS	00813
	P01A9	FF60					
0814	P01AA	180B		JMP*	S21AC		00814

0815	P01AB E400		LDQ*	EQIO		00815
	P01AC 032B P					
0816	P01AD C000		LDA-	0		00816
0817	P01AE 2020	IWD	NUM	\$2020		00817
0818	P01AF 0305		OUT	S21AC-*--1		00818
0819	P01B0 0C11	S21ER	ENQ	\$11	*** CODE 11 = NO EXT REJ OF DATA	00819
0820	P01B1 5400		RTJ*	ERSUB2		00820
	P01B2 02EE P					
0821	P01B3 1802		JMP*	*+2		00821
0822	P01B4 18FB		JMP*	S21ER		00822
0823	P01B5 0A10	S21AC	ENA	\$10		00823
0824	P01B6 5406		RTJ-	(JUMP)		00824
0825	P01B7 13D5		JMP*	SEC2	REPEAT CONDITIONS	00825
0826	P01B8 C8E0		LDA*	WORD		00826
0827	P01B9 888C		ADD*	WDINC		00827
0828	P01BA E000		LDQ	=N\$6060		00828
	P01B9 6060					
0829	P01BC 0872		EAQ	Q		00829
0830	P01BD 68DB		STA*	WORD		00830
0831	P01BE 0141		SQZ	1		00831
0832	P01BF 18CD		JMP*	SEC2	NEXT CHARACTER	00832
0833	P01CJ E3ED		LDQ*	IWD		00833
0834	P01C1 4807		STQ*	WORD		00834

0836		*				00836
0837		*				00837
0838		*	SECTION 2, LOOP 1,		SELECT CLEAR PRINTER AND DATA IN	00838
0839		*			EXPECT 68 DATA INTERRUPTS, GET S	00839
		*			EXPECT \$0011	00840
0840	P01C2 0844	LOOP21	CLR	A		00840
0841	P01C3 6400		STA-	(0)		00841
0842	P01C4 0460 P	XWDCNT	ADC	WDCNT		00842
0843	P01C5 5885		RTJ*	CLRP	CLEAR PRINTER.	00843
0844	P01C6 0844	LP21A	CLP	A		00844
0845	P01C7 6800		STA	0F		00845
	P01C8 0113					
0846	P01C9 0A04		ENA	\$4		00846
0847	P01CA 6CB0		STA*	(XRF)		00847
0848	P01CB 5800		RTJ	SELO	SELECT DATA INTERRUPT	00848
	P01CC FF28					
0849	P01CD 5800		RTJ	SHM		00849
	P01CE FEF5					
0850	P01CF C800		LDA	DF		00850
	P01D0 010B					
0851	P01D1 0113		SAN	3		00851
0852	P01D2 0C0B		ENQ	\$B	*** ERROR B = NO DATA INTERRUPT	00852
0853	P01D3 5882		RTJ*	ERRX		00853
0854	P01D4 180D		JMP*	S21B		00854
0855	P01D5 C308		LDA*	IWD (= \$2020)		00855
0856	P01D6 5400		RTJ*	SDATA		00856
	P01D7 0079 P					

0857	P01D8	5810		RTJ*	CHKCNT		CHECK OUTPUT COUNT.	00857
0858	P01D9	18EC		JMP*	LP21A		LOOP FOR 136 PRINT CHARACTERS.	00858
0859	P01DA	5900	S21A	RTJ	SMM			00859
		P01DB						
0860	P01DC	0000		EOR-	0			00860
0861	P01DD	0011	ELEVEN	NUM	\$0011		EXPECT NO DATA STATUS	00861
0862	P01DE	0102		SAZ	2			00862
0863	P01DF	5800		RTJ	ERR1		ERROR CODE 7, UNEXPECTED STATUS	00863
		P01E0						
0864	P01E1	0A10	S21B	ENA	\$10			00864
0865	P01E2	5406		PTJ-	(JUMP)			00865
0866	P01E3	18DE		JMP*	LOOP21		REPEAT CONDITIONS	00866
0867	P01E4	C000		LDA-	0			00867
0868	P01E5	0000	CHAN	NUM	0			00868
0869	P01E6	0119		SAN	LOOP22--*-1			00869
0870	P01E7	185F		JMP*	LOOP25		SKIP LOOPS 2/3 IF NO BDC.	00870
0872	P01E8	0000	CHKCNT	NUM	0			00872
0873	P01E9	DCDA		RAQ*	(XWDCNT)			00873
0874	P01EA	5832		RTJ*	CNT		GET WORD/CHAR OUTPUT COUNT.	00874
0875	P01EB	0854		TCQ	A			00875
0876	P01EC	8CD7		ADD*	(XWDCNT)			00876
0877	P01ED	0111		SAN	1			00877
0878	P01EE	D8F9		RAQ*	CHKCNT			00878
0879	P01EF	1CF8		JMP*	(CHKCNT)			00879
0881			*					00881
0882			*					00882
0883			*	SECTION 2, LOOP 2			CLEAR PRINTER, ATTEMPT BUFFERED	00883
0884			*				OUTPUT OF 68 WORDS. TERMINATE I	00884
0885			*				STATUS DOES NOT OCCUR ON BDC AFT	00885
0886			*				GETTING BDC STATUS \$8000 TIMES	00886
0887			*				CHECK CURRENT WORD ADDRESS AND	00887
			*				LINE PRINTER STATUS	00887
0888	P01F0	C8BD	LOOP22	LDA*	IWD (\$2020)			00888
0889	P01F1	582B		RTJ*	CNT		GET WORD/CHAR OUTPUT COUNT.	00889
0890	P01F2	6F6B	LP22	STA*	(FWAM1),Q			00890
0891	P01F3	0DFE		INQ	-1			00891
0892	P01F4	0141		SQZ	1			00892
0893	P01F5	18FC		JMP*	LP22			00893
0894	P01F6	585F		RTJ*	INITR0			00894
0895	P01F7	1803		JMP*	S22C			00895
0896	P01F8	580F		RTJ*	CKER19			00896
0897	P01F9	180A		JMP*	S22G			00897
0899	P01FA	CC63	S22C	LDA*	(FWAM1)		EXPECTED ADDRESS	00899
0900	P01FB	6800		STA	EXP1			00900
		P01FC						
0901	P01FD	5800		RTJ	STAT		GET STATUS	00901
		P01FE						

0902	P01FF	0A28		ENA	\$28			00902
0903	P0200	0C18		ENQ	\$18	***ERROR 18	NO EOP ON BOC	00903
0904	P0201	5800		RTJ	STOP			00904
		P0202	FEA6					
0905	P0203	0A10	S22G	ENA	\$10			00905
0906	P0204	5406		RTJ-	(JUMP)			00906
0907	P0205	18FA		JMP*	LOOP22	REPEAT CONDITIONS.		00907
0908	P0206	181D		JMP*	LOOP23			00908
0910	P0207	0000	CKR19	NUM	0			00910
0911	P0208	FC55		LDQ*	(FWAM1)			00911
0912	P0209	4800		STQ	EXP1			00912
		P020A	FE85					
0913	P020B	0874		EAQ	A			00913
0914	P020C	0107		SAZ	S22E-*--1	SKIP IF WORD COUNT OKAY		00914
0915	P020D	5800		RTJ	STAT			00915
		P020E	FECD					
0916	P020F	0A28		ENA	\$28			00916
0917	P0210	0C19		ENQ	\$19	***ERROR 19	WORD COUNT ERROR	00917
0918	P0211	5300		RTJ	STOP			00918
		P0212	FE96					
0919	P0213	1808		JMP*	S22F			00919
0920	P0214	5800	S22E	RTJ	SMM			00920
		P0215	FEAF					
0921	P0216	8000		FOR-	0			00921
0922	P0217	0011	S23E	NUM	\$0011	EXPECTED STATUS		00922
0923	P0218	0102		SAZ	S22F-*--1			00923
0924	P0219	5800		RTJ	FRR1	***ERROR 7	UNEXPECTED STATUS	00924
		P021A	FEFF					
0925	P021B	1CEB	S22F	JMP*	(CKR19)			00925
0927	P021C	0900	CNT	NUM	0			00927
0928	P021D	E400		LDQ+	LPTYPE			00928
		P021E	0018 P					
0929	P021F	0141		SQZ	1			00929
0930	P0220	0C45		ENQ	69			00930
0931	P0221	0044		INQ	68			00931
0932	P0222	1CF9		JMP*	(CNT)			00932

0934			*					00934
0935			*	SECTION 2, LOOP 3		SAME AS LOOP 2 EXCEPT 67 WORDS		00935
0936			*			RATHER THAN 68 WORDS		00936
0937	P0223	C818	LOOP23	LDA*	LP23F			00937
0938	P0224	0117		SAN	S23B-*--1			00938
0939	P0225	D819		RAO*	LP23F			00939
0940	P0226	C833		LOA*	S22A			00940
0941	P0227	09FE		INA	-1			00941
0942	P0228	6831		STA*	S22A			00942
0943	P0229	0A19		ENA	\$19			00943

0944	P022A	68EC		STA*	S23E		00944
0945	P022B	18C4		JMP*	LOOP22		00945
0946	P022C	D82D	S23B	RAO*	S22A		00946
0947	P022D	0A11		ENA	\$11		00947
0948	P022E	68E8		STA*	S23E		00948
0949	P022F	0844		CLR	A		00949
0950	P0230	680E		STA*	LP23F		00950

0952			*				00952
0953			*	SECTION 2, LOOP 4		CLEAR PRINTER, ATTEMPT BUFFERED	00953
0954			*			OF 69 WORDS, EXPECT EOP NOT TO 0	00954
0955			*			TERMINATE AND CHECK CURRENT WORD	00955
0956			*			AND LINE PRINTER STATUS	00956
0957			*				00957

0958	P0231	D328	LOOP24	RAO*	S22A		00958
0959	P0232	5823		RTJ*	INITB0		00959
0960	P0233	180C		JMP*	S24C		00960
0961	P0234	C825		LDA*	S22A		00961
0962	P0235	6800		STA	EXP1		00962

0963	P0236	FE89					
0963	P0237	5800		PTJ	STAT		00963
	P0238	FEA3					

0964	P0239	0A28		ENA	\$28		00964
0965	P023A	0C1A		ENQ	\$1A	***ERROR 1A EOP OCCURED ON BDC	00965
0966	P023B	5800		RTJ	STOP		00966
	P023C	FE6C					

0967	P023D	1803		JMP*	S24G		00967
0969	P023E	0000	LP23F	NUM	0		00969

0971	P023F	58C7	S24C	RTJ*	CKER19		00971
0972	P0240	C819	S24G	LDA*	S22A		00972
0973	P0241	09FE		INA	-1		00973
0974	P0242	6817		STA*	S22A		00974
0975	P0243	0A10		ENA	\$10		00975
0976	P0244	5406		RTJ-	(JUMP)		00976
0977	P0245	18E8		JMP*	LOOP24		00977
0978						REPEAT CONDITIONS	00978

0979			*	SECTION 2, LOOP 5		CLEAR PRINTER, OUTPUT ILLEGAL CH	00979
0980			*			GET STATUS, EXPECT \$0039	00980
0981			*				00981

0982	P0245	5C57	LOOP25	RTJ*	(XCLRP)	CLEAR PRINTER, OUTPUT ILLEG CHAR	00982
0983	P0247	0A00		ENA	0		00983
0984	P0248	5800		RTJ	DATA		00984
	P0249	FE54					
0985	P024A	5800		RTJ	SMM		00985
	P024B	FE78					
0986	P024C	B000		EOR	=N\$0039	EXPECT ALARM STATUS	00986
	P024D	0039					

0987	P024E	0102		SAZ	2				00987
0988	P024F	5800		RTJ	ERR1			ERROR CODE 7, UNEXPECTED STATUS	00988
	P0250	FEB9							
0989	P0251	0A10		ENA	\$10				00989
0990	P0252	5406		RTJ-	(JUMP)				00990
0991	P0253	18F2		JMP*	LOOP25			REPEAT CONDITIONS	00991
0992	P0254	1846		JMP*	LOOP26				00992
0994	P0255	0000	INITB0	NUM	0			INITIATE BUFFERED OUTPUT	00994
0995	P0256	5C47		RTJ*	(XCLRP)			CLEAR PRINTER.	00995
0996	P0257	58C4		RTJ*	CNT				00996
0997	P0258	0814		TRQ	A				00997
0998	P0259	0901	S22A	INA	1				00998
0999	P025A	8803		ADD*	FWAM1				00999
1000	P025B	6C02		STA*	(FWAM1)				01000
1001	P025C	C000		LDA-	0				01001
1002	P025D	0750	P FWAM1	ADC	FWA-1				01002
1003	P025E	E000		LQ-	0				01003
1004	P025F	0000	EQHRT	NUM	0				01004
1005	P0260	6800		STA	ACT				01005
	P0261	FE5B							
1006	P0262	4800		STQ	EXP				01006
	P0263	FE5A							
1007	P0264	0302	B0C1	OUT	B0C2--1				01007
1008	P0265	1807		JMP*	B0C03				01008
1009	P0266	1803		JMP*	*+3				01009
1010	P0267	0C10	B0C2	ENQ	\$10			***ERROR 10 EXT REJ ON ATTEMPT TO	01010
1011	P0268	1802		JMP*	*+2			TO INITIATE OUTPUT ON B0C	01011
1012	P0269	0C1C		ENQ	\$1C			***ERROR 1C INT REJ	01012
1013	P026A	5815		RTJ*	B0CERR				01013
1014	P026B	18F8		JMP*	B0C1				01014
1015	P026C	0844	B0C03	CLR	A				01015
1016	P026D	60FF		STA-	I			CLEAR COUNTER.	01016
1017	P026E	581E	B0CSTAT	RTJ*	INBDC			GET B0C STATUS.	01017
1018	P026F	6400		STA+	EXP				01018
	P0270	008E	P						
1019	P0271	A06F		AND-	CONST+4			CHECK EOP.	01019
1020	P0272	0115		SAN	X80--1				01020
1021	P0273	00FF		RAO-	I			INCREMENT COUNTER.	01021
1022	P0274	C0FF		LDA-	I				01022
1023	P0275	3074		EOR-	CONST+9				01023
1024	P0276	0102		SAZ	EQTERM--2				01024
1025	P0277	18F6		JMP*	B0CSTAT			LOOP FOR SUFFICIENT TIME,	01025
1026	P0278	D8DC	X80	RAO*	INITB0				01026
1027	P0279	E000		LQ-	0				01027
1028	P027A	0000	EQTERM	NUM	0				01028
1029	P027B	5811		RTJ*	INBDC			TERMINATE AND GET CURRENT ADDR.	01029
1030	P027C	6400		STA+	ACT1				01030
	P027D	008F	P						
1031	P027E	1C06		JMP*	(INITB0)			EXIT	01031

1033	P027F 0000	BDCERR	NUM	0		01033
1034	P0280 0A18		ENA	\$18		01034
1035	P0281 5800		RTJ	STOP		01035
	P0282 FE26					
1036	P0283 0A10		ENA	\$10		01036
1037	P0284 5406		RTJ-	(JUMP)		01037
1038	P0285 1802		JMP*	**2	REPEAT CONDITIONS.	01038
1039	P0286 08F8		RAO*	BDCERR		01039
1040	P0287 E400		LQO+	EXP		01040
	P0288 00BE P					
1041	P0289 C800		LDA	ACT		01041
	P028A FE32					
1042	P028B 1CF3		JMP*	(BDCERR)		01042
1044	P028C 0000	INBDC	NUM	0		01044
1045	P028D 6800		STA	ACT		01045
	P028E FE2E					
1046	P028F 4800		STQ	EXP		01046
	P0290 FE20					
1047	P0291 0202	BDC3	INP	BDC4--*-1		01047
1048	P0292 1CF9		JMP*	(INBDC)		01048
1049	P0293 1803		JMP*	**3		01049
1050	P0294 0C1F	BDC4	ENQ	\$1F	***ERROR 1F EXT REJ ON ATTEMPT TO TERMINATE BUFFER AND GET CURRENT	01050
1051	P0295 1802		JMP*	**2	***ERROR 1E INT REJ	01051
1052	P0296 0C1E		ENQ	\$1E		01052
1053	P0297 58E7		RTJ*	BDCERR		01053
1054	P0298 18F8		JMP*	BDC3	REPEAT CONDITIONS.	01054
1055	P0299 1CF2		JMP*	(INBDC)		01055
1057		*				01057
1058		*	SECTION 2, LOOP 6,		SELECT CLEAR PRINTER AND ALARM I	01058
1059		*			OUTPUT ILLEGAL CHARACTER, EXPECT	01059
1060		*			INTERRUPT, EXPECT INTERRUPT STAT	01060
1061		*			\$0030	01061
1062	P029A 0844	LOOP26	CLR	A		01062
1063	P029B 6841		STA*	AF	CLEAR ALARM INTERRUPT FLAG	01063
1064	P029C 5400		RTJ-	(0)	CLEAR PRINTER.	01064
1065	P029D 014B P	XCLPP	ADG	CLRP		01065
1066	P029E 0844		CLR	A		01066
1067	P029F 6800		STA	INTF		01067
	P02A0 04A7					
1068	P02A1 0A00		ENA	0	OUTPUT ILLEGAL CHARACTER.	01068
1069	P02A2 5800		RTJ	DATA		01069
	P02A3 FDFA					
1070	P02A4 0A10		ENA	\$10		01070
1071	P02A5 6800		STA	RF		01071
	P02A6 04A9					
1072	P02A7 C06F		LDA-	ALIREQ		01072
1073	P02A8 5800		RTJ-	SELO	REQUEST ALARM INTERRUPT	01073
	P02A9 FE48					

1074	P02AA 5800	RTJ	SMM		01074
	P02AB FE18				
1075	P02AC 6830	LDA*	AF		01075
1076	P02AD 0113	SAN	3		01076
1077	P02AE 0C0C	ENQ	\$C	*** ERROR C = NO ALARM INTERRUPT	01077
1078	P02AF 5C18	RTJ*	(XERRX)		01078
1079	P02B0 1805	JMP*	S26A		01079
1080	P02B1 5CE9	RTJ*	(XCLRP)	CLEAR PRINTER.	01080
1081	P02B2 5C22	RTJ*	(XSUB42)		01081
1082	P02B3 003D	NUM	\$3D		01082
1083	P02B4 0800	NOP	0		01083
1084	P02B5 0A10	ENA	\$10		01084
1085	P02B6 5406	RTJ-	(JUMP)		01085
1086	P02B7 18E2	JMP*	LOOP26	REPEAT CONDITIONS	01086

1088		*			01088
1089		*	SECTION2, LOOP 7,	SELECT BOTH CLEARS AND ALL INTER	01089
1090		*		SIMULTANEOUSLY, EXPECT DATA INTE	01090
1091		*		OUTPUT ILLEGAL CHARACTER, EXPECT	01091
1092		*		INTERRUPT, EXPECT INTERRUPT STAT	01092
1093	P02B8 0844	LOOP27	CLP	A	01093
1094	P02B9 6822		STA*	DF	01094
1095	P02BA 6822		STA*	AF	01095
1096	P02BB 0A04		ENA	4	01096
1097	P02BC 6800		STA	RF	01097
	P02BD 0492				
1098	P02BE 0A0F		ENA	\$F	01098
1099	P02BF 5800		RTJ	SELO	01099
	P02C0 FF34				
1100	P02C1 5800		RTJ	SMM	01100
	P02C2 FE01				
1101	P02C3 C818		LDA*	DF	01101
1102	P02C4 0113		SAN	3	01102
1103	P02C5 0C09		ENQ	\$B	01103
1104	P02C6 5400		RTJ-	(0)	01104
1105	P02C7 0186	P XERRX	ADC	ERRX	01105
1106	P02C8 180F		JMP*	S27C	01106
1107	P02C9 0A10		ENA	\$10	01107
1108	P02CA 6800		STA	RF	01108
	P02CB 0484				
1109	P02CC 5800		RTJ	SELO	01109
	P02CD FE27				
1110	P02CE 0A90		ENA	0	01110
1111	P02CF 5800		RTJ	DATA	01111
	P02D0 F0C0				
1112	P02D1 C808		LDA*	AF	01112
1113	P02D2 0C0C		ENQ	\$C	01113
1114	P02D3 5400		RTJ-	(0)	01114
1115	P02D4 0379	P XSUB42	ADC	SUB42	01115

1116	P0205	0030		NUM	\$3D			01116
1117	P0206	0800		NOP	0			01117
1118	P0207	5005	S27C	RTJ*	{XCLRP}		CLEAR PRINTER.	01118
1119	P0208	5400		RTJ+	REPCON		END SECTION.	01119
	P0209	006D	P					
1120	P020A	180D		JMP*	LOOP27		RETURN FOR CONDITION REPEAT.	01120
1121	P020B	0000	DF	NUM	0			01121
1122	P020C	0000	AF	NUM	0			01122
1124	P020D	0000	ERRSUB	NUM	0			01124
1125	P020E	680B		STA*	STPCNT			01125
1126	P020F	480F		STQ*	ERSUB2	(TEMP STORAGE)		01126
1127	P02E0	5400		RTJ+	STAT			01127
	P02E1	00DC	P					
1128	P02E2	C8FA		LDA*	ERRSUB			01128
1129	P02E3	6400	ES2	STA+	RETAD			01129
	P02E4	00BC	P					
1130	P02E5	0844		CLR	A			01130
1131	P02E6	6400		STA+	EXP			01131
	P02E7	00BE	P					
1132	P02E8	C000		LDA-	0			01132
1133	P02E9	0000	STPCNT	NUM	0			01133
1134	P02EA	E804		LDQ*	ERSUR2			01134
1135	P02EB	5400		RTJ+	STOP			01135
	P02EC	00A9	P					
1136	P02ED	1CEF		JMP*	{ERRSUB}			01136
1138	P02EE	0000	ERSUB2	NUM	0			01138
1139	P02EF	0A18		ENA	\$18			01139
1140	P02F0	68F8		STA*	STPCNT			01140
1141	P02F1	C8FC		LDA*	ERSUB2			01141
1142	P02F2	68EA		STA*	ERRSUB			01142
1143	P02F3	48FA		STQ*	ERSUB2	(TEMP STORAGE)		01143
1144	P02F4	18EE		JMP*	ES2			01144
1146	P02F5	0000	SUB31	NUM	0			01146
1147	P02F6	5400		RTJ+	SPACE	FUNCTION LINE SPACE.		01147
	P02F7	06C2	P					
1148	P02F8	5400		RTJ+	SEL211	FCN CLR, ALRM INT IF S/J WORD POSITIVE.		01148
	P02F9	012A	P					
1149	P02FA	C400		LDA+	LPTYPE			01149
	P02FB	0018	P					
1150	P02FC	0103		SAZ	3			01150
1151	P02FD	0844		CLP	A			01151
1152	P02FE	5400		RTJ+	SDATA	OUTPUT CONTROL CHARACTER.		01152
	P02FF	0079	P					

1191	*				01191			
1192	*				01192			
1193	*				01193			
1194	*				01194			
1195		P0321	5803	LOOP33	RTJ*	SUB31		01195
1196		P0322	5CF0		RTJ*	(XPRINT)	PRINT.	01196
1197		P0323	5800		RTJ	SMM		01197
		P0324	FD9F					
1198		P0325	0844		CLR	A		01198
1199		P0326	6800		STA	WDCNT	CLEAR WORD COUNT	01199
		P0327	0139					
1200		P0328	C000	S33B	LDA	=NS2020		01200
		P0329	2020					
1201		P032A	E000		LDQ-	0		01201
1202		P032B	0000	EQIO	NUM	0		01202
1203		P032C	0302		OUT	2		01203
1204		P032D	180F		JMP*	S33A		01204
1205		P032E	0800		NOP	0		01205
1206		P032F	5400		RTJ+	CNT		01206
		P0330	021C	P				
1207		P0331	C400		LDA+	WDCNT		01207
		P0332	0460	P				
1208		P0333	6400		STA+	ACT1		01208
		P0334	00BF	P				
1209		P0335	4400		STQ+	EXP1		01209
		P0336	00C0	P				
1210		P0337	0A28		ENA	\$28		01210
1211		P0338	0C14		ENQ	\$14		01211
1212		P0339	5400		RTJ+	ERRSUB		01212
		P033A	02DD	P				
1213		P033B	1806		JMP*	S33C		01213
1214		P033C	5800	S33A	RTJ	SMM		01214
		P033D	F086					
1215		P033E	5400		RTJ+	CHKCNT		01215
		P033F	01E8	P				
1216		P0340	18E7		JMP*	S33B	LOOP FOR 136 PRINT CHARACTERS.	01216
1217		P0341	0A10	S33C	ENA	\$10		01217
1218		P0342	5406		RTJ-	(JUMP)		01218
1219		P0343	18DD		JMP*	LOOP33	REPEAT CONDITIONS	01219
1221	*							01221
1222	*							01222
1223	*							01223
1224	*							01224
1225		P0344	5880	LOOP34	RTJ*	SUB31		01225
1226		P0345	0A1A		ENA	\$1A		01226
1227		P0346	5400		RTJ+	SEL2		01227
		P0347	0103	P				
1228		P0348	0842		CLR	Q		01228

1229	P0349 4800	STQ	EF		01229
	P034A 0404				
1230	P034B 5CC7	RTJ*	(XPRINT)	PRINT.	01230
1231	P034C 5800	RTJ	SMM		01231
	P034D FD76				
1232	P034E C800	LDA	EF		01232
	P034F 03FF				
1233	P0350 0C0D	ENQ	\$D	*** ERROR D = NO EOP INTERRUPT	01233
1234	P0351 582A	RTJ*	SUB42		01234
1235	P0352 001D	NUM	\$1D		01235
1236	P0353 18F0	JMP*	LOOP34	REPEAT CONDITIONS	01236

1238		*			01238
1239		*			01239
1240		*	SECTION 3, LOOP 5, CLEAR PRINTER, INITIATE PRINT OPERATION,		01240
1241		*	SELECT DATA INT. AND CLEAR INTERRUPT,		01241
		*	EXPECT DATA INTERRUPT, EXPECT INTERRUPT STATUS \$001D		01242
1242	P0354 58A0	LOOP35	RTJ*	SUB31	01242
1243	P0355 4800		STQ	DF	01243
	P0356 FF84			CLEAR DATA INTERRUPT FLAG	
1244	P0357 5CB8		RTJ*	(XPRINT)	01244
1245	P0358 0A16		ENA	\$16	01245
1246	P0359 5800		RTJ	SEL2 DO NOT SELECT ALARM INT. IF S/J WORD IS MINUS	01246
	P035A FDA8				
1247	P035B 5800		RTJ	SMM	01247
	P035C FD67				
1248	P035D C800		LDA	DF	01248
	P035E FF7C				
1249	P035F 0C0E		ENQ	\$E	01249
1250	P0360 5818		RTJ*	SUB42	01250
1251	P0361 001D		NUM	\$1D	01251
1252	P0362 18F1		JMP*	LOOP35	01252

1254		*			01254
1255		*	SECTION 3, LOOP 6	OUTPUT ILLEGAL CHARACTER, EXPECT	01255
1256		*		STATUS, PRINT, WAIT NOT BUSY, EX	01256
1257		*		ALARM STATUS	01257
1258		*			01258
1259	P0363 5C17	LOOP36	RTJ*	(XSPACE)	01259
1260	P0364 5C6C		RTJ*	(YCLRP)	01260
1261	P0365 C400		LDA*	LPTYPE	01261
	P0366 0018 P			FUNCTION LINE SPACE.	
1262	P0367 0101		SAZ	1	01262
1263	P0368 180B		JMP*	XSUB11-1	01263
1264	P0369 5800		RTJ	DATA	01264
	P036A FD33				

1265	P036B 5800		RTJ	SMM		01265
	P036C F057					
1266	P036D 8000		EOR	=N\$0039	EXPECT ALARM STATUS	01266
	P036E 0039					
1267	P036F 0102		SAZ	2		01267
1268	P0370 5800		RTJ	ERR1	ERROR CODE 7, UNEXPECTED STATUS	01268
	P0371 F098					
1269	P0372 5CA0		RTJ*	(XPRINT)	PRINT.	01269
1270	P0373 5400		RTJ-	(0)		01270
1271	P0374 011E P	XSUB11	ADC	SUB11		01271
1272	P0375 0800		NOP	0		01272
1273	P0376 5C5A		RTJ*	(YCLRP)	CLEAR PRINTER.	01273
1274	P0377 5400		RTJ+	REPCON	END SECTION.	01274
	P0378 005D P					
1275	P0379 18E9		JMP*	LOOP36	RETURN FOR CONDITION REPEAT.	01275
1277	P037A 06C2 P	XSPACEL	ADC	SPACEL		01277
1279	P037B 0000	SUB42	NUM	0		01279
1280	P037C 011C		SAN	SUB42A-*--1	SKIP IF NO ERROR,	01280
1281	P037D C000		LDA	=XENDS42		01281
	P037E 0396 P					
1282	P037F 6400		STA+	ERRSUB		01282
	P0380 02DD P					
1283	P0381 4400		STQ+	ERSUB2		01283
	P0382 02EE P					
1284	P0383 0A18		ENA	\$18		01284
1285	P0384 6400		STA+	STPCNT		01285
	P0385 02E9 P					
1286	P0386 C8F4		LDA*	SUB42		01286
1287	P0387 1400		JMP+	ES2		01287
	P0388 02E3 P					
1288	P0389 C400	SUB42A	LDA+	INISTAT		01288
	P038A 074D P					
1289	P038B 6400		STA+	ACT		01289
	P038C 008D P					
1290	P038D A000		AND	=N\$F07F	DROP BITS 7 AND 9	01290
	P038E F07F					
1291	P038F BCE8		EOR*	(SUB42)		01291
1292	P0390 0105		SAZ	ENDS42-*--1		01292
1293	P0391 E8E9		LDQ*	SUB42	REPORT UNEXPECTED STATUS, CODE 7	01293
1294	P0392 4400		STQ+	ERR1		01294
	P0393 010A P					
1295	P0394 1400		JMP+	ERR1+1		01295
	P0395 0108 P					
1296	P0396 D8E4	ENDS42	RAQ*	SUB42		01296
1297	P0397 0A10		ENA	\$10		01297
1298	P0398 5406		RTJ-	(JUMP)	CHECK S/J REPEAT CONDITION BIT.	01298
1299	P0399 1CE1		JMP*	(SUB42)		01299
1300	P039A D8E0		RAQ*	SUB42	NOT SET.	01300
1301	P039B 1CDF		JMP*	(SUB42)		01301

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1303 ***** 01303
1304 * SECTION 4 - OPERATIONS 01304
1305 * 01305
*****
1307 * 01307
1308 * SECTION 4, LOOP 1 CLEAR PRINTER, SINGLE SPACE, GET 01308
1309 * EXPECT $0019 01309
1310 P039C 0A11 SEC4 ENA $11 01310
1311 P039D 5864 RTJ* SUB41 01311
1312 P039E 5C05 RTJ* (XSUB11) 01312
1313 P039F 18FC JMP* SEC4 01313

1315 * 01315
1316 * SECTION 4, LOOP 2 CLEAR PRINTER, SELECT EOP INTERR 01316
1317 * SPACE, EXPECT INTERRUPT WITH STA 01317
1318 * $001D 01318
1319 P03A0 0844 LOOP42 CLP A 01319
1320 P03A1 6400 STA+ EF 01320
      P03A2 074E P
1321 P03A3 0A19 ENA $19 01321
1322 P03A4 585D RTJ* SUB41 01322
1323 P03A5 5800 RTJ SMM 01323
      P03A6 FD1D
1324 P03A7 C800 LDA EF 01324
      P03A8 03A6
1325 P03A9 0C0D ENQ $D *** ERROR D = NO EOP INTERRUPT 01325
1326 P03AA 580D RTJ* SUB42 01326
1327 P03AB 001D NUM $1D 01327
1328 P03AC 18F3 JMP* LOOP42 01328

1330 * 01330
1331 * SECTION 4, LOOP 3 CLEAR PRINTER, SPACE, SELECT CLE 01331
1332 * TER, EXPECT EXTERNAL REJECT 01332
1333 P03AD 0A11 LOOP43 ENA $11 01333
1334 P03AE 5853 RTJ* SUB41 01334
1335 P03AF 0A01 ENA 1 01335
1336 P03B0 E800 LQJ EQUIP 01336
      P03B1 FC54
1337 P03B2 0301 OUT 1 01337
1338 P03B3 090D NOP 0 01338
1339 P03B4 5800 RTJ SMM 01339
      P03B5 FD0E
1340 P03B6 0A1D ENA $10 01340
1341 P03B7 5406 RTJ- (JUMP) 01341
1342 P03B8 18F4 JMP* LOOP43 01342

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1344	*				01344		
1345	*	SECTION 4, LOOP 4		CLEAR PRINTER, SPACE, SELECT DAT	01345		
1346	*			UPT EXPECT INTERRUPT WITH STATUS	01346		
1347	*			\$0010	01347		
1348	P03B3	0A11	LOOP44	EVA	\$11	01348	
1349	P03BA	5847		RTJ*	SUB41	01349	
1350	P03BB	0844		CLR	A	01350	
1351	P03BC	6800		STA	DF	CLEAR DATA INTERRUPT FLAG	01351
	P03BD	FF1D					
1352	P03BE	C06D		LDA-	DIPEO	01352	
1353	P03BF	6800		STA	RF	01353	
	P03C0	038F					
1354	P03C1	5800		RTJ	SELO	01354	
	P03C2	F032					
1355	P03C3	5800		RTJ	SMM	01355	
	P03C4	FCFF					
1356	P03C5	C800		LDA	INTF	01356	
	P03C6	0381					
1357	P03C7	0C0E		ENQ	\$E	*** ERROR E = NO DATA INTERRUPT	01357
1358	P03C8	5882		RTJ*	SUB42	01358	
1359	P03C9	001D		NUM	\$10	01359	
1360	P03CA	18EE		JMP*	LOOP44	01360	

1362	*					01362	
1363	*	SECTION 4, LOOP 5		CLEAR PRINTER, SPACE,		01363	
1364	*			SELECT DATA, EOP, ALARM INTS, EX		01364	
1365	*			DATA INTERRUPT WITH STATUS \$0010		01365	
1366	*			INTERRUPTS AND SELECT EOP AND AL		01366	
1367	*			ERRUPTS, OUTPUT ILLEGAL CHARACTE		01367	
1368	*			EXPECT ALARM INTERRUPT WITH STAT		01368	
1369	*			\$0030, SELECT END OF OP		01369	
1370	*			INTERRUPT, EXPECT EOP INT. WITH		01370	
1371	*			\$0030		01371	
1372	*					01372	
1373	P03C8	C800	LOOP45	LDA	LPTYPE	01373	
	P03CC	FC48					
1374	P03CD	0101		SAZ	1	SKIP IF 1742.	01374
1375	P03CE	1830		JMP*	S45B+1	01375	
1376	P03CF	5400		RTJ-	(0)	01376	
1377	P03D0	0148	P YCLRP	ADC	CLRP	01377	
1378	P03D1	0844		CLR	A	01378	
1379	P03D2	6800		STA	INTF	01379	
	P03D3	0374					
1380	P03D4	6800		STA	DF	CLEAR DATA INTERRUPT FLAG	01380
	P03D5	FF05					

1381	P03D6 6800		STA	EF	CLEAR EOP INTERRUPT FLAG	01381
	P03D7 0377					
1382	P03D8 6400		STA+	AF	CLEAR ALARM INTERRUPT FLAG.	01382
	P03D9 020C P					
1383	P03DA 5C9F		RTJ*	(XSPACEL)	FUNCTION LINE SPACE.	01383
1384	P03DB 0A1C		ENA	\$1C		01384
1385	P03DC 6800		STA	RF		01385
	P03DD 0372					
1386	P03DE 0A0E		ENA	\$E		01386
1387	P03DF 5800		RTJ	SEL0		01387
	P03E0 FD14					
1388	P03E1 5800		RTJ	SMM		01388
	P03E2 FCE1					
1389	P03E3 C800		LDA	DF		01389
	P03E4 FEF6					
1390	P03E5 0C0E		ENQ	\$E	*** ERROR E = NO DATA INTERRUPT	01390
1391	P03E6 5894		RTJ*	SUB42		01391
1392	P03E7 001D		NUM	\$1D		01392
1393	P03E8 0800		NOP	0		01393
1394	P03E9 0A10		ENA	\$10	SELECT ALARM INTERRUPT	01394
1395	P03EA 6800		STA	RF		01395
	P03EB 0364					
1396	P03EC 5800		RTJ	SEL0		01396
	P03ED FD07					
1397	P03EE 0A00		ENA	0	OUTPUT ILLEGAL CHARACTER.	01397
1398	P03EF 5800		RTJ	DATA		01398
	P03F0 FCAD					
1399	P03F1 C800		LDA	AF		01399
	P03F2 FEE9					
1400	P03F3 0C0C		ENQ	\$C		01400
1401	P03F4 5886		RTJ*	SUB42		01401
1402	P03F5 003D		NUM	\$3D		01402
1403	P03F6 0800		NOP	0		01403
1404	P03F7 C800	S45A	LDA	EF		01404
	P03F8 0356					
1405	P03F9 0C0D		ENQ	\$D	*** ERROR D = NO EOP INTERRUPT	01405
1406	P03FA 5880		RTJ*	SUB42		01406
1407	P03FB 003D		NUM	\$3D		01407
1408	P03FC 0800		NOP	0		01408
1409	P03FD 5C02	S45B	RTJ*	(YCLRP)		01409
1410	P03FE 5400		RTJ+	REPCON	END SECTION.	01410
	P03FF 006D P					
1411	P0400 18CA		JMP*	LOOP45	RETURN FOR CONDITION REPEAT.	01411
1413	P0401 0000	SUB41	NUM	0		01413
1414	P0402 5400		RTJ+	SEL2	(ALARM INT NOT SELECTED IF S/J BIT 15 IS SET)	01414
	P0403 0103 P					
1415	P0404 5C00		RTJ (XSPACEL)		FUNCTION LINE SPACE	01415
	P0405 FF74					
1416	P0406 1CFA		JMP*	(SUB41)		01416

1509	P045D	5804	S63	RTJ*	SUB71	PRINT AND SPACE.	01509
1510	P045E	18F4		JMP*	S61	RETURN HERE FOR REPEAT CONDITION	01510
1511	P045F	1CF2		JMP*	(SUB60)		01511
1512	P0460	0000	WDCNT	NUM	0		01512
1514	P0461	0000	SUB71	NUM	0		01514
1515	P0462	5400		RTJ+	PRNTSPC	PRINT LINE AND SINGLE SPACE.	01515
		P0463 05E8	P				
1516	P0464	5406		RTJ-	(JUMP)		01516
1517	P0465	1802		JMP*	*+2	REPEAT CONDITIONS,	01517
1518	P0466	D8FA		RAO*	SUB71	OR CONTINUE TO NEXT.	01518
1519	P0467	1CF9		JMP*	(SUB71)		01519
1521	P0468	0000	SUB72	NUM	0		01521
1522	P0469	0844		CLR	A		01522
1523	P046A	68F5		STA*	WDCNT		01523
1524	P046B	C8F4	S71B	LDA*	WDCNT		01524
1525	P046C	B0FF		EOR-	I		01525
1526	P046D	0106		SAZ	S71C-*--1		01526
1527	P046E	C0FF		LDA-	I		01527
1528	P046F	540A		RTJ-	(CONV)		01528
1529	P0470	5400		RTJ+	DATA	LOAD PRINT BUFFER.	01529
		P0471 009E	P				
1530	P0472	08ED		RAO*	WDCNT		01530
1531	P0473	18F7		JMP*	S71B		01531
1532	P0474	58EC	S71C	RTJ*	SUB71		01532
1533	P0475	18F3		JMP*	SUB72+1	REPEAT CONDITION.	01533
1534	P0476	C0FF		LDA-	I		01534
1535	P0477	1CF0		JMP*	(SUB72)		01535
1537							01537
1538							01538
1539							01539
1541	P0478	5400	SEC7	RTJ-	(0)	FCN CLR, ALRM INT IF S/J WORD POSITIVE.	01541
1542	P0479	012A	P XSEL211	ADC	SEL211		01542
1543	P047A	0844		CLR	A		01543
1544	P047B	60FF		STA-	I		01544
1545	P047C	58EB	LOOP71	RTJ*	SUB72		01545
1546	P047D	D0FF		RAO-	I		01546
1547	P047E	09BC		INA	-67		01547
1548	P047F	0101		SAZ	LOOP72-*--1		01548
1549	P0480	18E8		JMP*	SUB72+1		01549
1551	P0481	58E6	LOOP72	RTJ*	SUB72		01551
1552	P0482	0103		SAZ	3		01552
1553	P0483	09FE		INA	-1		01553
1554	P0484	60FF		STA-	I		01554
1555	P0485	18E3		JMP*	SUB72+1		01555
1556	P0486	68BE		STA*	TEMP		01556

1601	P04AC C000	SEC9	LDA	=N\$2D2D		HYPHENS		01601
	P04AD 2D2D							
1602	P04AF 18F2		JMP*	S81-1				01602
1604	*****							01604
1605	* SECTION 10 - ALARM WITH NOT READ							01605
1606	*AA							01606
1608	P04AF 5400	SEC10	RTJ+	CLRP		CLEAR PRINTER.		01608
	P04B0 014B P							
1609	P04B1 5400		RTJ+	LVL10P				01609
	P04B2 06BA P							
1610	P04B3 0A0B		ENA	MESSA-LPM1				01610
1611	P04B4 0C0E		ENQ	MESSB-MESSA-1				01611
1612	P04B5 5400		RTJ+	LPMSG				01612
	P04B6 064D P							
1613	P04B7 5850		RTJ*	SUP101				01613
1614	P04B8 C000		LDA	=XMESSA-1				01614
	P04B9 065E P							
1615	P04BA 0C10		ENQ	MESSB-MESSA+1				01615
1616	P04BB 540B		RTJ-	(MESSAG)				01616
1617	P04BC 0A10		ENA	\$10				01617
1618	P04BD 6800		STA	RF				01618
	P04BE 0291							
1619	P04BF C05F		LDA-	ALIREQ				01619
1620	P04C0 5800		RTJ	SELO		SELECT ALARM INTERRUPT		01620
	P04C1 FC33							
1621	P04C2 0A01		ENA	1				01621
1622	P04C3 A049		AND-	INFORM				01622
1623	P04C4 0101		SAZ	1				01623
1624	P04C5 18FD		JMP*	*-2		WAIT TTY NOT BUSY.		01624
1625	P04C6 C000		LDA	=N\$1742				01625
	P04C7 1742							
1626	P04C8 0822		TRA	Q				01626
1627	P04C9 0000		SLS	0		STOP		01627
1628	P04CA 5800	LOOPA1	RTJ	STAT		GET STATUS		01628
	P04CB FC10							
1629	P04CC 8000		EOR	=N\$38		EXPECT 38		01629
	P04CD 0038							
1630	P04CE 0102		SAZ	2				01630
1631	P04CF 5800		RTJ	ERR1		ERROR CODE 7, UNEXPECTED STATUS		01631
	P04D0 FC39							
1632	P04D1 0A10		ENA	\$10				01632
1633	P04D2 5406		RTJ-	(JUMP)				01633
1634	P04D3 18F6		JMP*	LOOPA1		REPEAT CONDITIONS		01634
1635	P04D4 0844	LOOPA2	CLR	A				01635
1636	P04D5 6800		STA	INTF		CLEAR INTERRUPT FLAG		01636
	P04D6 0271							
1637	P04D7 5800		RTJ	SHH				01637
	P04D8 FBEB							
1638	P04D9 C800		LDA	AF		CHECK ALARM FLAG		01638
	P04DA FE01							

1639	P040B	0C0C	ENQ	%C	*** ERROR C = NO ALARM INTERRUPT	01639
1640	P040C	5400	RTJ+	SUB42		01640
	P040D	0378	P			
1641	P040E	003C	NUM	\$3C		01641
1642	P040F	18F4	JMP*	LOOPA2	REPEAT CONDITIONS	01642
1643	P04E0	C068	LDA-	CLEAR		01643
1644	P04E1	E800	LDQ	EQUIP		01644
	P04E2	F823				
1645	P04E3	0301	OUT	1		01645
1646	P04E4	0800	NOP	0		01646
1647	P04E5	0A10	ENA	\$10		01647
1648	P04E6	5406	RTJ-	(JUMP)		01648
1649	P04E7	18F8	JMP*	LOOPA3		01649
1650	P04E8	C400	LDA+	LPTYPE		01650
	P04E9	0018	P			
1651	P04EA	0113	SAN	LPA4A-*--1		01651
1652	P04EB	0A02	ENA	2		01652
1653	P04EC	0C02	ENQ	2		01653
1654	P04ED	1803	JMP*	*+3	OUTPUT SPACE FUNCTION	01654
1655	P04EE	0A01	ENA	1		01655
1656	P04EF	0CFE	ENQ	-1	OUTPUT SPACE CONTROL CHAR.	01656
1657	P04F0	F400	ADQ+	EQUIP		01657
	P04F1	0006	P			
1658	P04F2	0301	OUT	1		01658
1659	P04F3	0800	NOP	0		01659
1660	P04F4	0A10	ENA	\$10		01660
1661	P04F5	5406	RTJ-	(JUMP)		01661
1662	P04F6	18F1	JMP*	LOOPA4		01662
1663	P04F7	C000	LDA	=NS2020		01663
	P04F8	2020				
1664	P04F9	E800	LDQ	EQUIP		01664
	P04FA	FE30				
1665	P04FB	0301	OUT	1		01665
1666	P04FC	0800	NOP	0		01666
1667	P04FD	0A02	ENA	2		01667
1668	P04FE	A043	AND-	STJP	CHECK END-OF-SECTION STOP BIT.	01668
1669	P04FF	0115	SAN	LPA51-*--1		01669
1670	P0500	5400	RTJ+	STAT		01670
	P0501	00DC	P			
1671	P0502	A06B	AND-	BIT00	CHECK READY-	01671
1672	P0503	0111	SAN	1		01672
1673	P0504	18FB	JMP*	LPA50	LOOP TIL READY.	01673
1674	P0505	5C52	RTJ*	(XREPCON)	END SECTION.	01674
1675	P0506	18F0	JMP*	LOOPA5	RETURN FOR CONDITION REPEAT.	01675
1677	P0507	0000	SUB101	NUM	0	01677
1678	P0508	586D	RTJ*	MUXPRNT	GO TO SHM WHILE PRINTING.	01678
1679	P0509	5400	RTJ+	LVL10P		01679
	P050A	068A	P			
1680	P050B	0A01	ENA	1		01680
1681	P050C	A049	AND-	INFORM		01681
1682	P050D	0101	SAZ	1		01682

1683 P050E 18FD
1684 P050F 1CF7

JMP* *-2
JMP* (SUB101)

01683
01684

1686 *****
1687 * SECTION 11 - PROTECTION TEST
1688 *BBBBBBBBBBB999888877776666555544443333222211110000999888877776666555544443333222211110000

1690	P0510 5C64	SEC11	RTJ*	(ZCLRP)	CLEAR PRINTER.	01690
1691	P0511 5400		RTJ+	LVL10P		01691
	P0512 068A P					
1692	P0513 5400		RTJ+	CNT		01692
	P0514 021C P					
1693	P0515 F000		ADQ	=XFWA		01693
	P0516 0751 P					
1694	P0517 00FE		INQ	-1		01694
1695	P0518 0700		CPB	0		01695
1696	P0519 0141		SQZ	1		01696
1697	P051A 18FC		JMP*	*-3		01697
1698	P051B 0A1A		ENA	MESSB-LPM1		01698
1699	P051C 0C14		ENO	MESS46-MESSB-1		01699
1700	P051D 5400		RTJ+	LPMSG		01700
	P051E 064D P					
1701	P051F 58E7		RTJ*	SUB101		01701
1702	P0520 C000		LDA	=XMESSB-1		01702
	P0521 066D P					
1703	P0522 0C16		FNQ	MESS46-MESSB+1		01703
1704	P0523 5408		RTJ-	(MESSAG)		01704
1705	P0524 0A01		ENA	1		01705
1706	P0525 A049		AND-	INFORM		01706
1707	P0526 0101		SAZ	1		01707
1708	P0527 18FD		JMP*	*-2		01708
1709	P052B C000		LDA	=N*1742		01709
	P0529 1742					
1710	P052A 0822		TRA	0		01710
1711	P052B 0000		SLS	0		01711
1712	P052C 5800	LOOPB1	RTJ	STAT		01712
	P052D F8AE					
1713	P052E C800		LDA	ACT		01713
	P052F F88D					
1714	P0530 A072		AND-	CONST+7		01714
1715	P0531 8072		EOR-	CONST+7		01715
1716	P0532 0102		SAZ	2		01716
1717	P0533 5800		RTJ	ERR1	ERROR CODE 7, UNEXPECTED STATUS	01717
	P0534 F805					
1718	P0535 0A10		ENA	\$10		01718
1719	P0536 5406		RTJ-	(JUMP)		01719
1720	P0537 18F4		JMP*	LOOPB1		01720
1722	P0538 0842	LOOPB2	CLR	Q		01722
1723	P0539 C06B		LDA-	CLEAR		01723
1724	P053A 581F		RTJ*	CHKIO		01724

1725	P053B	5406		RTJ-	(JUMP)		01725
1726	P053C	18F8		JMP*	LOOPB2		01726
1728	P053D	C400	LOOPB3	LDA+	LPTYPE		01728
	P053E	0018	P				
1729	P053F	0103		SAZ	LPB3--1		01729
1730	P0540	0A20		ENA	\$20		01730
1731	P0541	0CFE		ENQ	-1		01731
1732	P0542	1803		JMP*	LPR31		01732
1733	P0543	0A02	LPB3	ENA	2	SPACE	01733
1734	P0544	0C02		ENQ	2		01734
1735	P0545	5814	LPB31	RTJ*	CHKIO		01735
1736	P0546	5406		RTJ-	(JUMP)		01736
1737	P0547	18F5		JMP*	LOOPB3		01737
1739	P0548	C000	LOOPB4	LDA	=N\$2020		01739
	P0549	2020					
1740	P054A	0CFE		ENQ	-1		01740
1741	P054B	580E		RTJ*	CHKIO		01741
1742	P054C	0A02		ENA	2		01742
1743	P054D	A043		AND-	STJP	CHECK END-OF-SECTION STOP BIT.	01743
1744	P054E	0117		SAN	XREPCON--2		01744
1745	P054F	5400	LPB4	RTJ+	STAT		01745
	P0550	000C	P				
1746	P0551	C072		LDA-	BIT7		01746
1747	P0552	A400		AND+	ACT	CHECK PROTECT STATUS.	01747
	P0553	0080	P				
1748	P0554	0101		SAZ	1	NO	01748
1749	P0555	18F9		JMP*	LPB4		01749
1750	P0556	5400		RTJ-	(0)	END SECTION.	01750
1751	P0557	0060	P XREPCON	ADC	REPCON		01751
1752	P0558	18EF		JMP*	LOOPB4	RETURN FOR CONDITION REPEAT.	01752
1754	P0559	0000	CHKIO	NUM	0		01754
1755	P055A	F400		ADQ+	EQUIP		01755
	P055B	0006	P				
1756	P055C	1803		JMP*	*+3		01756
1757	P055D	1807		JMP*	ERR16 (INT REJ)	*** ERROR 16 = INTERNAL REJECT,	01757
1758	P055E	1804		JMP*	XCHK (EXT REJ)	EXPECTING EXTERNAL.	01758
1759	P055F	03FD		OUT	-2		01759
1760	P0560	0C17		ENQ	\$17	*** ERROR 17 = NO EXT REJ.	01760
1761	P0561	1804		JMP*	ERR16+1		01761
1762	P0562	0A10	XCHK	ENA	\$10		01762
1763	P0563	1CF5		JMP*	(CHKIO)		01763
1765	P0564	0C16	ERR16	ENQ	\$16		01765
1766	P0565	C8F3		LOA*	CHKIO		01766
1767	P0566	1400		JMP+	ERRX+2		01767
	P0567	0188	P				
1769	P0568	0000	PRINT	NUM	0		01769
1770	P0569	C400		LDA+	LPTYPE		01770
	P056A	0018	P				

1771	P0568	0104	SAZ	NOTCR*-1	SKIP IF 1740/42	01771
1772	P056C	0A20	ENA	\$20		01772
1773	P056D	5400	RTJ+	SEL0		01773
	P056E	00F5	P			
1774	P056F	1CF8	JMP*	(PRINT)		01774
1775	P0570	0A01	NOTCR	ENA	1	01775
1776	P0571	5400	RTJ+	SEL1		01776
	P0572	00FF	P			
1777	P0573	1CF4	JMP*	(PRINT)		01777
1779	P0574	014B	P ZCLRP	ADC	CLRP	01779
1781	P0575	0000	MUXPRNT	NUM	0	01781
1782	P0576	58F1	RTJ*	PRINT		01782
1783	P0577	5400	RTJ+	SMM		01783
	P0578	00C4	P			
1784	P0579	1CFB	JMP*	(MUXPRNT)		01784

1786	P057A	0000	SUB12	NUM	0	01786
1787	P057B	58F9	RTJ*	MUXPRNT	GO TO SMM WHILE PRINTING.	01787
1788	P057C	C872	LDA*	COUNT		01788
1789	P057D	09F6	INA	-9		01789
1790	P057E	D870	RAO*	COUNT		01790
1791	P057F	0113	SAN	SUB12A		01791
1792	P0580	686E	STA*	COUNT		01792
1793	P0581	0A10	ENA	\$10		01793
1794	P0582	5406	RTJ-	(JUMP)		01794
1795	P0583	1CF6	SUB12A	JMP*	(SUB12)	01795
1796	P0584	D8F5	RAO*	SUB12		01796
1797	P0585	1CF4	JMP*	(SUB12)		01797
1798	P0586	1FFE	LVLS	NUM	\$1FFE	01798

**** **** FORMAT LEVELS 1 THRU 12 ENABLED.

1801	*****					01801
1802	* SECTION 12 - SPACE, FORMAT TAPE LE					01802
1803	*CC					01803
1805	*					01805
1806	* SECTION 12, LOOP 1					01806
1807	* CLEAR PRINTER, PRINT, SINGLE SPACE					01807
1808	P0587	5400	SEC12	RTJ+	SEL211 FCN CLR, ALRM INT IF S/J WORD POSITIVE.	01808
	P0588	012A	P			
1809	P0589	0844	CLR	A		01809
1810	P058A	6864	STA*	COUNT		01810
1811	P058B	6864	STA*	LEVEL		01811
1812	P058C	5400	S46A	RTJ+	SPACE LINE.	01812
	P058D	06C2	P			
1813	P058E	0A2F	ENA	MESS46-LPM1		01813
1814	P058F	0C06	ENQ	MESS47-MESS46		01814

1815	P0590	5400		RTJ-	(0)	PRINT MESSAGE.	01815
1816	P0591	0640	P XLPMSG	ADC	LPMSG		01816
1817	P0592	58E7		RTJ*	SUR12		01817
1818	P0593	18F8		JMP*	S46A		01818

1820			*				01820
1821			*		SECTION 12, LOOP 2	SAME AS LOOP 1 EXCEPT DOUBLE SPA	01821
1822	P0594	0C02	LOOPC2	ENQ	DSPACE		01822
1823	P0595	5400		RTJ+	FFORM	DOUBLE SPACE.	01823
	P0596	06E3	P				
1824	P0597	0A35		ENA	MESS47-LPM1		01824
1825	P0598	0C06		ENQ	MSS47A-MESS47		01825
1826	P0599	5CF7		RTJ*	(XLPMSG)	PRINT MESSAGE.	01826
1827	P059A	58DF		RTJ*	SUB12		01827
1828	P059B	18F8		JMP*	LOOPC2		01828
1829	P059C	C800	LPC2A	LDA	LPTYPE		01829
	P059D	FA7A					
1830	P059E	0111		SAN	LPC2B--1	IS THIS A 93X2	01830
1831	P059F	180F		JMP*	LOOPC3	NO	01831
1832	P05A0	0A03	LPC2B	ENA	TSPACE	YES	01832
1833	P05A1	5800		RTJ	SDATA	OUTPUT SPACE CONTROL CHARACTER	01833
	P05A2	FA06					
1834	P05A3	5800		RTJ	FPRINT	GIVE PRINT FUNCTION TO SPACE	01834
	P05A4	0138					
1835	P05A5	0844		CLR	A		01835
1836	P05A6	5800		RTJ	SDATA	SUPPRESS SPACE IN ACTUAL PRINT	01836
	P05A7	FAD1					
1837	P05A8	0A3B		ENA	MSS47A-LPM1		01837
1838	P05A9	0C06		ENQ	MESS48-MSS47A		01838
1839	P05AA	5CE6		RTJ*	(XLPMSG)	PRINT MESSAGE- TRIPLE SPACE	01839
1840	P05AB	58CE		RTJ*	SUB12	CHECK FOR LOOP COUNT EXPIRED	01840
1841	P05AC	18EF		JMP*	LPC2A	NOT EXPIRED - REPEAT	01841
1842	P05AD	5C45		RTJ*	(YSEL211)	FCN CLR, ALRM INT IF S/J WORD POSITIVE.	01842

1844			*				01844
1845	P05AE	D841	LOOPC3	RAO*	LEVEL		01845
1846	P05AF	E840		LDQ*	LEVEL		01846
1847	P05B0	C26B		LDA-	BIT00,Q		01847
1848	P05B1	A8D4		AND*	LVLS		01848
1849	P05B2	D111		SAN	1		01849
1850	P05B3	18FA		JMP*	LOOPC3		01850
1851	P05B4	C83B		LDA*	LEVEL		01851
1852	P05B5	09F5		INA	-\$A		01852
1853	P05B6	0131		SAM	1	CONVERT TO DECIMAL.	01853
1854	P05B7	0906		INA	\$10-\$A		01854

1855	P0588	090A		INA	\$A		01855
1856	P0589	540A		RTJ-	(CONV)		01856
1857	P058A	6400		STA+	M48A		01857
	P058B	069E	P				
1858	P058C	F833	S48A	LDQ*	LEVEL		01858
1859	P058D	0062		INQ	2		01859
1860	P058E	5400		RTJ+	FFORM	SELECT FORMAT TAPE LEVEL.	01860
	P058F	06E3	P				
1861	P05C0	0A41		ENA	MESS48-LPM1		01861
1862	P05C1	0C0B		ENQ	L1MESS-MESS48		01862
1863	P05C2	5CCE		RTJ*	(XLPMSG)	PRINT MESSAGE.	01863
1864	P05C3	C82C		LDA*	LEVEL		01864
1865	P05C4	09FE		INA	-1		01865
1866	P05C5	0113		SAN	LPC3A-* -1		01866
1867	P05C6	0A4C	TOF	ENA	L1MESS-LPM1		01867
1868	P05C7	0C06		ENQ	LXMESS-L1MESS		01868
1869	P05C8	1814		JMP*	LPC3C		01869
1870	P05C9	E400	LPC3A	LDQ+	LPTYPE		01870
	P05CA	0018	P				
1871	P05C8	0142		SQZ	LPC3B-* -1		01871
1872	P05C0	09FE		INA	-1		01872
1873	P05C0	010C		SAZ	BOF-* -1		01873
1874	P05CE	09F9	LPC3B	INA	-6		01874
1875	P05CF	0133		SAM	LEVX-* -1		01875
1876	P05D0	09FA		INA	-5		01876
1877	P05D1	0151		SQN	1		01877
1878	P05D2	0107		SAZ	BOF-* -1		01878
1879	P05D3	0906	LEVX	INA	6		01879
1880	P05D4	540A		RTJ-	(HFXASC)		01880
1881	P05D5	6400		STA+	LXMESS		01881
	P05D6	06A6	P				
1882	P05D7	0A52		ENA	LXMESS-LPM1		01882
1883	P05D8	0C03		ENQ	LCMESS-LXMESS		01883
1884	P05D9	1803		JMP*	LPC3C		01884
1885	P05DA	0A55	BOF	ENA	LCMESS-LPM1		01885
1886	P05DB	0C09		ENQ	MESSD-LCMESS		01886
1887	P05DC	5871	LPC3C	RTJ*	LPMSG		01887
1888	P05DD	5897		RTJ*	MUXPRNT		01888
1889	P05DE	0A10		ENA	\$10		01889
1890	P05DF	5406		RTJ-	(JUMP)		01890
1891	P05E0	180B		JMP*	S48A	REPEAT CONDITIONS.	01891
1892	P05E1	C80E		LDA*	LEVEL		01892
1893	P05E2	09F3		INA	-12		01893
1894	P05E3	0101		SAZ	1		01894
1895	P05E4	18C9		JMP*	LOOPC3		01895
1896	P05E5	5C8E		RTJ*	(ZCLRP)	CLEAR PRINTER.	01896
1897	P05E6	1800		JMP	ENDSEC	END OF SECTION	01897
	P05E7	FA89					
1899	P05E8	0000	PRNTSPC	NUM	0		01899
1900	P05E9	588B		RTJ*	MUXPRNT	PRINT AND GO TO SHM.	01900
1901	P05EA	5400		RTJ-	(0)	SPACE LINE.	01901
1902	P05EB	068E	P XSPACOP	ADC	SPACOP		01902

1944	P060E	A074	AND-	BIT9		01944
1945	P060F	D8E0	RAO*	LINE		01945
1946	P0610	E8DF	LDO*	LINE		01946
1947	P0611	00FC	INQ	-3		01947
1948	P0612	0144	SQZ	SD2B-*--1		01948
1949	P0613	0102	SAZ	2		01949
1950	P0614	5800	RTJ	ERR1	ERROR CODE 7, UNEXPECTED STATUS	01950
	P0615	FAF4				
1951	P0615	18F2	JMP*	SD2A		01951
1952	P0617	48D8	SD2B	STQ*	LINE	01952
1953	P0618	8074	EOP-	CONST+9		01953
1954	P0619	0102	SAZ	2		01954
1955	P061A	5800	RTJ	ERR1	ERROR CODE 7, UNEXPECTED STATUS	01955
	P061B	FAEE				
1956	P061C	0A10	ENA	\$10		01956
1957	P061D	5406	RTJ-	(JUMP)		01957
1958	P061E	18E7	JMP*	LOOPD2	REPEAT CONDITIONS	01958

1960			*			01960
1961			*	SECTION 13, LOOP 3	CLEAR PRINTER, SELECT 8 LINES PE	01961
1962			*		PRINT ON 8 LINES.	01962
1963	P061F	5CD2	LOOPD3	RTJ*	(YSEL211)	01963
1964	P0620	C000	SIXOR8	LDA-	0	01964
1965	P0621	0008		NUM	8	01965
1966	P0622	540A		RTJ-	(CONV)	01966
1967	P0623	6400		STA+	MESSD	01967
	P0624	06B2	P			
1968	P0625	0844		CLR	A	01968
1969	P0626	60FF		STA-	I	01969
1970	P0627	C8F9		LDA*	SIXOR8	01970
1971	P0628	09F9		INA	-6	01971
1972	P0629	0103		SAZ	SD3A-*--1	01972
1973	P062A	C07A		LDA-	EIGHT	01973
1974	P062B	5800		RTJ	SEL1	01974
	P062C	FAD2				
1975	P062D	0A5E	SD3A	ENA	MESSD-LPM1	01975
1976	P062E	0C08		ENQ	LVL10P-MESSD	01976
1977	P062F	581E		RTJ*	LPMSG	01977
1978	P0630	58B7		RTJ*	PRNTSPC	01978
1979	P0631	08BE		RAO*	LINE	01979
1980	P0632	C8BD		LDA*	LINE	01980
1981	P0633	09EF		INA	-16	01981
1982	P0634	0101		SAZ	1	01982
1983	P0635	18F7		JMP*	SD3A	01983
1984	P0636	68B9		STA*	LINE	01984
1985	P0637	0A10		ENA	\$10	01985
1986	P0638	5406		RTJ-	(JUMP)	01986
1987	P0639	18E5		JMP*	LOOPD3	01987
					REPEAT CONDITIONS	

1989		*				01989
1990		*	SECTION 13, LOOP 4		SAME AS LOOP 3 EXCEPT SELECT 6 L	01990
1991	P063A C800	LOOPD4	LDA	MESSD		01991
	P063B 0077					
1992	P063C 9000		SUB	=N*3036		01992
	P063D 3036					
1993	P063E 0105		SAZ	5		01993
1994	P063F 0A06		ENA	6		01994
1995	P0640 68E0		STA*	SIXOR8		01995
1996	P0641 5800		RTJ	SMM		01996
	P0642 FA81					
1997	P0643 1808		JMP*	LOOPD3		01997
1998	P0644 0A08		ENA	8		01998
1999	P0645 68DB		STA*	SIXOR8		01999
2000	P0646 5CAB		RTJ*	(YSEL211)	FCN CLR, ALRM INT IF S/J WORD POSITIVE.	02000
2001	P0647 5800		RTJ	LVL10P	PAGE EJECT	02001
	P0648 0072					
2002	P0649 5400		RTJ+	FPRINT		02002
	P064A 06DC P					
2003	P064B 1800		JMP	ENDSEC	END OF SECTION	02003
	P064C FA24					
2005	P064D 0000	LPM5G	NUM	0	TRANSFER MESSAGE TO PRINTER BFR	02005
2006	P064E 8090		ADD-	0	A= MESSAGE FWA, Q=WORD COUNT.	02006
2007	P064F C900		LDA*	*,I		02007
2008	P0650 6804		STA*	LPM1		02008
2009	P0651 4808		STQ*	LPM2		02009
2010	P0652 0844		CLR	A		02010
2011	P0653 60FF		STA-	I		02011
2012	P0654 C90B	LPM1	LDA*	MESSA,I		02012
2013	P0655 5400		RTJ+	DATA		02013
	P0656 009E P					
2014	P0657 00FF		RAO-	I		02014
2015	P0658 C000		LDA-	0		02015
2016	P0659 0000	LPM2	NUM	0		02016
2017	P065A 90FF		SUB-	I		02017
2018	P065B 0101		SAZ	1		02018
2019	P065C 18F7		JMP*	LPM1		02019
2020	P065D 1CFE		JMP*	(LPM5G)		02020
2022	P065E 8D0A		NUM	\$8D0A		02022
2023	P065F 4341	MESSA	ALF	X,CAUSE ALARM ON LINE PRINTERX		02023
	P0660 5553					
	P0661 4520					
	P0662 414C					
	P0663 4152					
	P0664 4020					
	P0665 4F4E					
	P0666 204C					
	P0667 494E					

	P0668	4520				
	P0669	5052				
	P066A	494E				
	P066B	5445				
	P066C	5220				
2024	P066D	800A				
2025	P066E	5345	MESS3	ALF	800A X,SET PROTECT SWITCHES ON 1700 AND PRINTERX	02024 02025
	P066F	5420				
	P0670	5052				
	P0671	4F54				
	P0672	4543				
	P0673	5420				
	P0674	5357				
	P0675	4954				
	P0676	4348				
	P0677	4553				
	P0678	204F				
	P0679	4E20				
	P067A	3137				
	P067B	3030				
	P067C	2041				
	P067D	4E44				
	P067E	2050				
	P067F	5249				
	P0680	4E54				
	P0681	4552				
2026	P0682	800A				
2027	P0683	5349	MESS46	ALF	800A X,SINGLE SPACEX	02026 02027
	P0684	4E47				
	P0685	4C45				
	P0686	2053				
	P0687	5041				
	P0688	4345				
2028	P0689	444F	MFSS47	ALF	X,DOUBLE SPACEX	02028
	P068A	5542				
	P068B	4C45				
	P068C	2053				
	P068D	5041				
	P068E	4345				
2029	P068F	5452	MSS47A	ALF	X,TRIPLE SPACEX	02029
	P0690	4950				
	P0691	4C45				
	P0692	2053				
	P0693	5041				
	P0694	4345				
2030	P0695	464F	MFSS48	ALF	X,FORMAT TAPE LEVELX	02030
	P0696	5240				
	P0697	4154				
	P0698	2054				
	P0699	4150				
	P069A	4520				
	P069B	4C45				
	P069C	5645				
	P069D	4C20				

2031	P069E	0000	M48A	NUM	0		02031
2032	P069F	2020		ALF	1,,		02032
2033	P06A0	544F	L1MESS	ALF	X, TOP OF FORMX		02033
	P06A1	5020					
	P06A2	4F46					
	P06A3	2046					
	P06A4	4F52					
	P06A5	4020					
2034	P06A6	0000	LXMESS	NUM	0		02034
2035	P06A7	2020		ALF	X, X		02035
	P06A8	2020					
2036	P06A9	4C41	LCMESS	ALF	X, LAST LINE OF FORMX		02036
	P06AA	5354					
	P06AB	204C					
	P06AC	494E					
	P06AD	4520					
	P06AE	4F46					
	P06AF	2046					
	P06B0	4F52					
	P06B1	4020					
2037	P06B2	0000	MESS0	NUM	0		02037
2038	P06B3	4C49		ALF	X, LINES PER INCHX		02038
	P06B4	4E45					
	P06B5	5320					
	P06B6	5045					
	P06B7	5220					
	P06B8	494E					
	P06B9	4348					
2041	P06BA	0000	LVL10P	NUM	0		02041
2042	P06BB	0C03		ENQ	LVL1		02042
2043	P06BC	580A		RTJ*	FORMAT		02043
2044	P06BD	1CFC		JHP*	(LVL10P)		02044
2046	P06BE	0000	SPACOP	NUM	0		02046
2047	P06BF	0C01		ENQ	SPACE		02047
2048	P06C0	5806		RTJ*	FORMAT		02048
2049	P06C1	1CFC		JHP*	(SPACOP)		02049
2051	P06C2	0000	SPACEL	NUM	0		02051
2052	P06C3	0C01		ENQ	SPACE		02052
2053	P06C4	581F		RTJ*	FFORM		02053
2054	P06C5	1CFC		JHP*	(SPACEL)		02054
2056	P06C6	0000	FORMAT	NUM	0		02056
2057	P06C7	C400		LDA+	LPTYPE		02057
	P06C8	0018 P					

2058	P06C9	0114		SAN	F1--1	IS THIS A 1740/42	02058
2059	P06CA	0269		LDA-	BIT00,Q	YES	02059
2060	P06CB	5800		RTJ	SEL1	OUTPUT SPACING FUNCTION	02060
	P06CC	FA32					
2061	P06CD	1CF8		JMP*	(FORMAT)		02061
2063	P06CE	0814	F1	TRQ	A		02063
2064	P06CF	09FC		INA	-3		02064
2065	P06D0	0121		SAP	1		02065
2066	P06D1	09C2		INA	-\$40*3		02066
2067	P06D2	0940		INA	\$40		02067
2068	P06D3	6000		STA-	0		02068
2069	P06D4	0000	F1A	NUM	0		02069
2070	P06D5	0A01		ENA	1	CLR CONTROLLER FIRST	02070
2071	P06D6	5800		RTJ	SEL0		02071
	P06D7	FA10					
2072	P06D8	C9FB		LDA*	F1A		02072
2073	P06D9	5400		RTJ+	SDATA	OUTPUT CONTROL CHARACTER.	02073
	P06DA	0079	P				
2074	P06DB	1CEA		JMP*	(FORMAT)		02074
2076	P06DC	0000	FPRINT	NUM	0		02076
2077	P06DD	C400		LDA+	LPTYPE		02077
	P06DE	0018	P				
2078	P06DF	0102		SAZ	EXITFP--1		02078
2079	P06E0	5400		RTJ+	PRINT		02079
	P06E1	0568	P				
2080	P06E2	1CF9	EXITFP	JMP*	(FPRINT)		02080
2082	P06E3	0000	FFORM	NUM	0	FORCE FORMAT.	02082
2083	P06E4	58E1		RTJ*	FORMAT	SPACING(1740/42),SETUP(93X2)	02083
2084	P06E5	58F6		RTJ*	FPRINT	DUMMY PRINT FOR SPACING (93X2)	02084
2085	P06E6	E400		LQO+	LPTYPE		02085
	P06E7	0018	P				
2086	P06E8	0143		SQZ	ENDFF--1		02086
2087	P06E9	0844		CLR	A	SUPPRESS SPACE ON ACTUAL PRINT	02087
2088	P06EA	5400		RTJ+	SDATA		02088
	P06EB	0079	P				
2089	P06EC	1CF6	ENDFF	JMP*	(FFORM)		02089
2091	P06ED	0000	INTERR	NUM	0		02091
2092	P06EE	C85B		LDA*	EV		02092
2093	P06EF	0F42		ARS	2	CALCULATE	02093
2094	P06F0	09F5		INA	-\$A	DECIMAL	02094
2095	P06F1	0131		SAM	1	LINE	02095
2096	P06F2	0906		INA	\$10-\$A	NUMBER.	02096
2097	P06F3	090A		INA	\$A		02097
2098	P06F4	6400		STA+	EXP		02098
	P06F5	00BE	P				
2099	P06F6	0A18		ENA	\$18		02099

2100	P06F7 5400		RTJ*	STOP		02100
	P06F8 00A9	P				
2101	P06F9 1CF3		JMP*	(INTERR)		02101
2102		*				02102
2103		*	INTERRUPT	PROCESSOR		02103
2104		*				02104
2105	P06FA 0800		INST	NOP	0	02105
2106	P06FB 484E			STQ*	EV	02106
2107	P06FC 1804			JMP*	INST0	02107
2108	P06FD 0800			NOP	0 (INT REJ)	02108
2109	P06FE 5400		STATER	RTJ*	SMM (EXT REJ)	02109
	P06FF 00C4	P				
2110	P0700 E800		INST0	LDQ	EQUIP	02110
	P0701 F904					
2111	P0702 02FA			INP	STATER*-1	02111
2112	P0703 684A			STA*	INTSTAT	02112
2113	P0704 E800			LDQ	EQIO	02113
	P0705 FC25					
2114	P0706 0001			INQ	1	02114
2115	P0707 0A02			ENA	2	02115
2116	P0708 03FE			OU	-1	02116
2117	P0709 0800			NOP	0	02117
2118	P070A 1804			JMP*	**+4	02118
2119	P070B 0800			NOP	0	02119
2120	P070C 5800		INST1	RTJ	SMM	02120
	P070D F986					
2121	P070E E800			LDQ	EQUIP	02121
	P070F F8F6					
2122	P0710 02FA			INP	INST1*-1	02122
2123	P0711 6800			STA	ACT	02123
	P0712 F9AA					
2124	P0713 A060			AND-	CONST+2	02124
2125	P0714 0105			SAZ	INST2*-1	02125
2126	P0715 0C15			ENQ	\$15	02126
2127	P0716 5806			RTJ*	INTERR	02127
2128	P0717 5800			RTJ	SMM	02128
	P0718 F9AB					
2129	P0719 18F2			JMP*	INST1	02129
2130	P071A C82F		INST2	LDA*	EV	02130
2131	P071B 8073			ADD-	CONST+8	02131
2132	P071C 682F			STA*	TRAP	02132
2133	P071D CC2E			LDA*	(TRAP)	02133
2134	P071E 682E			STA*	STRAP	02134
2135	P071F C000			LDA	=XINT	02135
	P0720 0724	P				
2136	P0721 6C2A			STA*	(TRAP)	02136
2137	P0722 E827			LDQ*	EV	02137
2138	P0723 1CD6			JMP*	(INST)	02138
2139	P0724 C828		INT	LDA*	STRAP	02139
2140	P0725 6C26			STA*	(TRAP)	02140
2141	P0726 0821			RAO*	INTF	02141
2142	P0727 C826			LDA*	INTSTAT	02142
2143	P0728 A060			AND-	CONST+2	02143

***ERROR 15 INTERRUPT FAILED TO CL REPORT ERROR.

ADDRESS OF INTERRUPT PROCESSOR

EXIT

IS INTERRUPT STATUS BIT SET

2144	P0729	0112		SAN	IN1--1	YES	02144
2145	P072A	0C0F		ENQ	\$F	***ERROR F INTERRUPT BUT NO	02145
2146	P072B	58C1		RTJ*	INTERR	REPORT ERROR.	02146
2147	P072C	0A1C	IN1	ENA	\$1C		02147
2148	P072D	A822		AND*	PF	CHECK INTERRUPT REQUEST FLAG.	02148
2149	P072E	0116		SAN	IN2--1		02149
2150	P072F	C800		LOA	INTSTAT		02150
	P0730	0010					
2151	P0731	6800		STA	ACT		02151
	P0732	F98A					
2152	P0733	0C10		ENQ	\$10	***ERROR 10 UNREQUESTED INTERRUPT	02152
2153	P0734	58B8		RTJ*	INTERR	REPORT ERROR.	02153
2154	P0735	C818	IN2	LOA*	INTSTAT		02154
2155	P0736	A96E		AND-	CONST+3	IS IT A DATA INTERRUPT	02155
2156	P0737	0102		SAZ	2	NO	02156
2157	P0738	D800		RAO	0F		02157
	P0739	F9A1					
2158	P073A	C813		LOA*	INTSTAT		02158
2159	P073B	A06F		AND-	CONST+4	IS IT AN E.O.P. INTERRUPT	02159
2160	P073C	0101		SAZ	1	NO	02160
2161	P073D	D811		RAO*	EF	SET EOP INTERRUPT FLAG	02161
2162	P073E	C80F		LOA*	INTSTAT		02162
2163	P073F	A070		AND-	CONST+5	IS IT AN ALARM INTERRUPT	02163
2164	P0740	0102		SAZ	2	NO	02164
2165	P0741	D800		RAO	AF		02165
	P0742	F899					
2166	P0743	0844		CLR	A		02166
2167	P0744	680B		STA*	RF		02167
2168	P0745	E804		LDQ*	EV		02168
2169	P0746	1CB3		JMP*	(INST)		02169
2170	P0747	0000	INTF	NUM	0		02170
2171	P0748	0000	ISR	NUM	0		02171
2172	P0749	0000	EV	NUM	0		02172
2173	P074A	0000	IRCH	NUM	0		02173
2174	P074B	0000	TRAP	NUM	0		02174
2175	P074C	0000	STRAP	NUM	0		02175
2176	P074D	0000	INTSTAT	NUM	0		02176
2177	P074E	0000	EF	NUM	0		02177
2178	P074F	0000	RF	NUM	\$0		02178

2180	P0750 C000	INIT0C	LDA	=XSTART		02180
	P0751 000C P					
2181	P0752 6400		STA+	RETURN		02181
	P0753 0005 P					
2182	P0754 09F3		INA-	LP100C-START	FORM IA IN AREG	02182
2183	P0755 540A		RTJ-	(HEXASC)		02183
2184	P0756 6867		STA*	FREQCNT-2		02184
2185	P0757 4865		STQ*	FREQCNT-3		02185
2186	P0758 E091		LDA-	TSACTV		02186
2187	P0759 C291		LDA-	TSFREQ-1,Q		02187
2188	P075A 540A		RTJ-	(HEXASC)		02188
2189	P075B 6867		STA*	ENOTYP-1		02189
2190	P075C C000		LDA	=XTYPEIA		02190
	P075D 079B P					
2191	P075E 0C28		ENQ	ENOTYP-TYPEIA		02191
2192	P075F 5408		RTJ-	(TYPEOUT)	TYPE TITLE	02192
2193	P0760 C400	INIT1	LDA+	EQUIP		02193
	P0761 0006 P					
2194	P0762 A08A		AND-	H007F		02194
2195	P0763 B06B		EOR-	BIT00		02195
2196	P0764 0105		SAZ	INIT2-*-1		02196
2197	P0765 0A08		ENA	8		02197
2198	P0766 0C01		ENQ	\$1	***ERROR 1 EQ ADDRESS ERROR	02198
2199	P0767 5800		RTJ	STOP		02199
	P0768 F940					
2200	P0769 18F6		JMP*	INIT1		02200
2201	P076A C800	INIT2	LDA	EQUIP		02201
	P076B F89A					
2202	P076C A000		AND	=N\$FF80		02202
	P076D FF80					
2203	P076E 6800		STA	EQIO	EQUIPMENT ADDRESS FOR DATA TRANS	02203
	P076F F8BB					
2204	P0770 A000		AND	=N\$F800		02204
	P0771 F800					
2205	P0772 6800		STA	CHAN	ZERO IF AQ CHANNEL	02205
	P0773 FA71					
2206	P0774 0111		SAN	1		02206
2207	P0775 1819		JMP*	INIT3		02207
2208	P0776 0822		TRA	Q		02208
2209	P0777 B077		EOR-	BIT12	CHECK FOR LEGAL W	02209
2210	P0778 0100		SAZ	INIT2A-*-1		02210
2211	P0779 0814		TRQ	A		02211
2212	P077A B000		EOR	=N\$3800		02212
	P077B 3800					
2213	P077C 0109		SAZ	INIT2A-*-1		02213
2214	P077D 0814		TRQ	A		02214
2215	P077E B000		EOR	=N\$6000		02215
	P077F 6000					
2216	P0780 0105		SAZ	INIT2A-*-1		02216
2217	P0781 0A08		ENA	8		02217
2218	P0782 0C01		ENQ	\$1	***ERROR 1 EQ ADDRESS ERROR	02218
2219	P0783 5800		RTJ	STOP	ERROR, W IS NOT 02,07,OR 0C	02219
	P0784 F924					

2220	P0785	180A	JMP*	INIT1		02220
2221	P0786	C800	INIT2A LDA	EQIO	W=02 FOR DIRECT INPUT OR OUTPUT	02221
	P0787	F8A3				
2222	P0788	8076	ADD-	RIT11		02222
2223	P0789	6800	STA	EQTERM	W=03 FOR TERMINATE BUFFER	02223
	P078A	FAEF				
2224	P078B	8076	ADD-	BIT11		02224
2225	P078C	6800	STA	EQWRT	W=04 FOR BUFFERED OUTPUT OR BOC	02225
	P078D	FA01				
2226	P078E	5800	INIT3 RTJ	STAT		02226
	P078F	F94C				
2227	P0790	8800	EOR	ACT		02227
	P0791	F92B				
2228	P0792	A072	AND-	BIT7		02228
2229	P0793	0C01	ENQ	1		02229
2230	P0794	0102	SAZ	INIT5-*+1		02230
2231	P0795	0AF3	ENA	ENDTYP-EPRO		02231
2232	P0796	0C00	ENQ	EPRO-ENDTYP+1		02232
2233	P0797	8000	INIT5 ADD	=XEPRO		02233
	P0798	07CF	P			
2234	P0799	5408	RTJ-	(MESSAG)		02234
2235	P079A	5401	RTJ-	(CONTROL)		02235
2236	P079B	800A	TYPEIA NUM	\$800A		02236
2237	P079C	4C50	ALF	Z,LP100C 1740/42/93X2 LINE PRINTER TEST Z		02237
	P079D	3130				
	P079E	3043				
	P079F	2020				
	P07A0	3137				
	P07A1	3430				
	P07A2	2F34				
	P07A3	322F				
	P07A4	3933				
	P07A5	5832				
	P07A6	204C				
	P07A7	494E				
	P07A8	4520				
	P07A9	5052				
	P07AA	494E				
	P07AB	5445				
	P07AC	5220				
	P07AD	5445				
	P07AE	5354				
	P07AF	2020				
2238	P07B0	800A	NUM	\$800A		***02238
2239	P07B1	4350	ALF	X,CP2F, VER. 3.1X		***02239
	P07B2	3246				
	P07B3	2C20				
	P07B4	5645				
	P07B5	522E				
	P07B6	2033				
	P07B7	2E31				
2240	P07B8	800A	NUM	\$800A		02240
2241	P07B9	2049	ALF	6, IA =		02241
	P07BA	4120				

	P07B8	3D20					
	P07B0	2020					
	P07B0	2020					
	P07BE	2C20					
2242	P07BF	2046	FREQCNT	ALF	4, FC =		02242
	P07C0	4320					
	P07C1	3D20					
	P07C2	2020					
2243	P07C3	2020	ENDTYP	ALF	X, PROTECT STATUS SET.X		02243
	P07C4	2020					
	P07C5	5052					
	P07C6	4F54					
	P07C7	4543					
	P07C8	5420					
	P07C9	5354					
	P07CA	4154					
	P07CB	5553					
	P07CC	2053					
	P07CD	4554					
	P07CE	2E20					
2244	P07CF	800A	EPRO	NUM	\$800A		02244
2245		0751	P	EQU	FWA(INIT0C+1)		02245
2246	P07D0	000A		BZS	IOBFR(68+69-EPRO+FWA-1)		02246
2247		0000	D	DAT	AIDDLDR(68+69-EPRO+FWA-1)		02247
2248				END			02248

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LP100C

PAGE 58

DATE: 10/20/74

PGM= 07DA (2010) CQM = 0000 (0) DAT = 000A (10)

EQUIVALENCES

M	DEF.LINE	NAME	VALUF	REFERENCED AT LINE NUMBER
0000	I		00FF (000255)	, 0328, 0338, 0341, 0521, 0541, 1016 , 1021, 1022, 1438, 1442, 1445, 1501 , 1504, 1505, 1525, 1527, 1534, 1544 , 1546, 1554, 1557, 1568, 1569, 1573 , 1969, 2011, 2014, 2017
0221	CONTR0	0001	(000001)	, 0222, 0359, 0524, 2235
0222	STOPX	0002	(000002)	, 0223, 0316, 0504
0223	EXIT	0003	(000003)	, 0224, 0410
0224	REQINT	0004	(000004)	, 0225, 0226, 0284, 0309
0225	FCLRIN	0005	(000005)	, 0285
0226	JUMP	0006	(000006)	, 0227, 0406, 0416, 0424, 0433, 0467 , 0635, 0703, 0756, 0824, 0865, 0906 , 0976, 0990, 1037, 1085, 1188, 1218 , 1298, 1341, 1516, 1633, 1648, 1661 , 1719, 1725, 1736, 1794, 1890, 1931 , 1957, 1986
0227	GENRAN	0007	(000007)	, 0228, 0281
0228	TYPEOU	0008	(000008)	, 0229, 0230, 0283, 2192
0229	TTYBZY	0009	(000009)	
0230	HEXASC	000A	(000010)	, 0231, 0282, 0286, 1880, 2183, 2188
0231	OVRLAY	000B	(000011)	, 0232
0232	RELPOS	000C	(000012)	, 0233
0233	MAINL	000D	(000013)	, 0234
0234	SETMAS	0042	(000065)	, 0235
0235	STJP	0043	(000067)	, 0236, 0237, 0280, 0498, 0598, 1668 , 1743
0236	LASTVA	0044	(000068)	
0237	LASTAD	0045	(000069)	, 0238
0238	LDLCOR	0047	(000071)	, 0239
0239	LDL1CO	0048	(000072)	, 0240
0240	INFORM	0049	(000073)	, 0241, 1622, 1681, 1706
0241	SMMCNT	0056	(000086)	, 0242, 0279
0242	BIT00	0068	(000107)	, 0243, 0278, 1671, 1847, 2059, 2195
0243	BIT0	006B	(000107)	, 0244, 0331
0244	BIT1	006C	(000108)	, 0245, 0534, 0537
0245	BIT2	006D	(000109)	, 0246
0246	BIT3	006E	(000110)	, 0247
0247	BIT4	006F	(000111)	, 0248
0248	BIT5	0070	(000112)	, 0249
0249	BIT6	0071	(000113)	, 0250, 1428

0250	BIT7	0072	(000114)	, 0251, 1746, 2228
0251	BIT8	0073	(000115)	, 0252
0252	BIT9	0074	(000116)	, 0253, 1944
0253	BIT10	0075	(000117)	, 0254
0254	BIT11	0076	(000118)	, 0255, 2222, 2224
0255	BIT12	0077	(000119)	, 0256, 2209
0256	BIT13	0078	(000120)	, 0257
0257	BIT14	0079	(000121)	, 0258, 1423
0258	BIT15	007A	(000122)	, 0259
0259	H0000	007B	(000123)	, 0260, 0381, 0584
0260	HFFFF	007C	(000124)	, 0261
0261	H000F	007D	(000125)	, 0262
0262	H00F0	007E	(000126)	, 0263
0263	H0F00	007F	(000127)	, 0264
0264	HF000	0080	(000128)	, 0265
0265	H00FF	0081	(000129)	, 0266, 1424
0266	HFF00	0082	(000130)	, 0267, 1419
0267	HFFF0	0083	(000131)	, 0268
0268	H0FFF	0084	(000132)	, 0269
0269	HFF0F	0085	(000133)	, 0270
0270	HFOFF	0086	(000134)	, 0271
0271	H7FFF	0087	(000135)	, 0272
0272	H7F00	0088	(000136)	, 0273
0273	H0780	0089	(000137)	, 0274
0274	H007F	008A	(000138)	, 0275, 2194
0275	H2020	008B	(000139)	, 0276
0276	TSACTV	0091	(000145)	, 0277, 2186
0277	TSFREQ	0092	(000146)	, 2187
0278	CONST	006B	(000107)	, 0289, 0290, 0291, 0292, 0293, 0294, 0299, 0368, 0415, 0532, 0600, 1019, 1023, 1565, 1714, 1715, 1926, 1927, 1953, 2124, 2131, 2143, 2155, 2159, 2163
0279	SMHPAR	0056	(000096)	
0280	SJPAR	0043	(000067)	
0281	RANDOM	0007	(000007)	
0282	CONVER	000A	(000010)	
0283	MESSAG	0008	(000008)	, 1616, 1704, 2234
0284	REQND	0004	(000004)	
0285	CLRND	0005	(000005)	
0286	CONV	000A	(000010)	, 1528, 1856, 1966
0289	CLEAR	005B	(000107)	, 1643, 1723
0290	CLINT	006C	(000108)	, 0662, 1180
0291	DIREQ	006D	(000109)	, 0671, 1352
0292	EOPREQ	006E	(000110)	, 0748
0293	ALIREQ	006F	(000111)	, 0765, 1072, 1619
0294	PRINTL	006B	(000107)	
0295	SPACE	0001	(000001)	, 2047, 2052
0296	DSPACE	0002	(000002)	, 1822
0297	TSPACE	0003	(000003)	, 1832
0298	LVL1	0003	(000003)	, 2042
0299	EIGHT	007A	(000122)	, 1973

M S Y M B O L S

M	DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
	0301	LP100C	0000	, 0409, 2182
	0303	PARADR	0004	
	0304	RETURN	0005	, 0314, 0361, 2181
	0305	EQUIP	0006	, 0308, 0549, 1179, 1336, 1644, 1657
				, 1755, 2110, 2121, 2193, 2201
	0307	RIL	0007	, 0311, 0354, 0356, 0358
	0313	START	000C	, 0301, 0351, 0417, 2180, 2182
	0319	PARAMS	0012	, 0303
	0320	SECTNS	0013	, 0363
	0321	DATAL	0014	, 0330, 0336, 0353
	0322	EOPL	0015	, 0355
	0323	ALARML	0016	, 0357
	0324	CHAR8	0017	, 0343, 1586
	0325	LPTYPE	0018	, 0479, 0928, 1149, 1251, 1373, 1650
				, 1728, 1770, 1829, 1870, 1919, 2057
				, 2077, 2085
	0327	PARCHK	0019	, 0317
	0329	PARLOO	0018	, 0342
	0330	PAR1	001C	, 0335
	0336	PAR2	0022	, 0332
	0343	CHARCK	0029	, 0340
	0348	PAR3	002E	, 0334, 0337, 0345
	0353	RILS	0032	, 0347
	0360	START1	0039	, 0313
	0363	RESTAR	003C	, 0418
	0366	TEST	003E	, 0374, 0435
	0375	NEXT1	0047	, 0369
	0379	NEXT2	0048	, 0434
	0381	NEXT3	004D	, 0380
	0395	SECTOT	005B	, 0364, 0367, 0375, 0376
	0400	ENDTES	005C	, 0372
	0409	IA	0065	, 0315, 0501
	0415	REPEAT	0067	, 0407
	0419	PASSCT	0068	, 0401, 0402
	0420	SEC	006C	, 0378, 0400, 0431, 0493
	0422	REPCON	006D	, 0425, 0450, 0452, 0472, 0770, 1119
				, 1274, 1410, 1751
	0428	ENDSEC	0071	, 1463, 1497, 1577, 1595, 1897, 1921
				, 2003
	0437	SDATA	0079	, 0440, 0445, 0482, 0484, 0804, 0856
				, 1152, 1833, 1836, 2073, 2888
	0447	OUTPUT	0082	, 0443, 0460, 0473, 0474, 0582
	0451	DATA1	0086	, 0468
	0457	DATRAN	008C	, 0454
	0469	XOUT	0098	, 0455

0476	DATA	009E	, 0477, 0485, 0984, 1069, 1111, 1154
			, 1264, 1398, 1441, 1503, 1529, 2013
0484	LP1740	00A7	, 0480
0490	STOP	00A9	, 0350, 0404, 0430, 0465, 0497, 0515
			, 0568, 0612, 0622, 0904, 0918, 0966
			, 1035, 1135, 2100, 2199, 2219
0506	ID	00RA	, 0492
0507	SECERR	008B	, 0494
0508	RETAD	00BC	, 0463, 0495, 0502, 0514, 1129
0509	ACT	008D	, 0461, 0556, 0566, 0609, 0807, 1005
			, 1041, 1045, 1289, 1713, 1747, 1925
			, 1943, 2123, 2151, 2227
0510	EXP	008E	, 0449, 0453, 0560, 0563, 0610, 1006
			, 1018, 1040, 1046, 1131, 2098
0511	ACT1	00BF	, 0617, 1030, 1208
0512	EXP1	00C0	, 0522, 0540, 0615, 0900, 0912, 0962
			, 1209
0513	STOPGO	00C1	, 0505
0520	SHM	00C4	, 0451, 0525, 0628, 0680, 0795, 0810
			, 0849, 0859, 0920, 0985, 1074, 1100
			, 1186, 1197, 1214, 1231, 1247, 1265
			, 1323, 1339, 1355, 1388, 1462, 1496
			, 1576, 1594, 1637, 1783, 1924, 1942
			, 1996, 2109, 2120, 2128
0523	SHMR	00C7	, 0360
0527	SHM1	00CA	, 0523, 0542, 0543
0536	SHMR1	00D4	, 0531
0543	SHM2	00DB	, 0535, 0538
0547	STAT	00DC	, 0536, 0539, 0551, 0805, 0901, 0915
			, 0963, 1127, 1628, 1670, 1712, 1745
			, 2226
0549	XEQUIP	00DE	, 0448, 0528
0552	STAT0	00E1	, 0533, 0550, 0558
0554	STAT0A	00E3	, 0569
0560	STAT1	00EA	, 0555
0570	STAT2	00F4	, 0553, 0554
0574	SEL0	00F5	, 0438, 0441, 0462, 0470, 0471, 0478
			, 0575, 0580, 0663, 0679, 0695, 0749
			, 0766, 0848, 1073, 1099, 1109, 1354
			, 1387, 1396, 1620, 1773, 2071
0576	SEL02	00F7	, 0603
0579	SELECT	00F9	, 0576, 0581, 0590
0588	SEL1	00FF	, 0589, 1776, 1974, 2060
0597	SEL2	0103	, 0602, 0642, 1227, 1246, 1414
0608	ERR1	010A	, 0611, 0632, 0633, 0799, 0813, 0863
			, 0924, 0988, 1268, 1294, 1295, 1631
			, 1717, 1929, 1950, 1955
0619	NOTSEC	0117	, 0614
0623	LOOP5F	011B	, 0710, 0716, 0719
0624	LOOP6F	011C	, 0684, 0712, 0726, 0730
0625	LOOP7F	011D	, 0685, 0714, 0737, 0741
0627	SUB11	011E	, 0631, 0636, 0637, 0638, 0651, 0657

0640	SEL211	012A	, 0664, 0750, 0767, 1271
0651	SEC1	012E	, 0643, 1148, 1542, 1808, 1918
0656	LOOP12	0130	, 0382, 0652
0662	LOOP13	0133	, 0658
0673	LOOP14	0139	, 0665
0675	XDF	013B	, 0700, 0704, 0717, 0728, 0739
0676	S14C	013C	, 0681
0686	WDINC	0146	, 0827
0691	FC	014A	, 0672, 0678
0693	CLRP	014B	, 0656, 0696, 0701, 0754, 0769, 0792
			, 0843, 1065, 1377, 1608, 1779
0698	S14A	014F	, 0682
0701	S14B	0153	, 0689
0710	LOOP15	0157	
0718	S15A	015F	, 0711
0726	LOOP16	0161	
0729	S16A	0164	, 0713
0737	LOOP17	0166	
0740	S17A	0169	, 0715
0746	LOOP18	0168	, 0757
0762	LOOP19	0179	, 0771
0764	XRF	017B	, 0601, 0677, 0747, 0847
0773	NINETE	0185	, 0629, 0796
0775	ERRX	0186	, 0688, 0776, 0853, 1105, 1767
0792	SEC2	018D	, 0383, 0825, 0832
0795	S21AA	0190	, 0809
0800	SEC2ER	0197	, 0613
0802	WORD	0199	, 0797, 0798, 0826, 0830, 0834
0807	S21A9	01A0	
0817	IWD	01AE	, 0833, 0855, 0888
0819	S21ER	01B0	, 0822
0823	S21AC	01B5	, 0800, 0814, 0818
0840	LOOP21	01C2	, 0866
0842	XWOCNT	01C4	, 0794, 0873, 0876
0844	LP21A	01C6	, 0858
0859	S21A	01DA	
0861	ELEVEN	01DD	, 0811
0864	S21B	01E1	, 0854
0868	CHAN	01E5	, 2205
0872	CHKCNT	01E8	, 0808, 0857, 0878, 0879, 1215
0888	LOOP22	01F0	, 0869, 0907, 0945
0890	LP22	01F2	, 0893
0899	S22C	01FA	, 0895
0905	S22G	0203	, 0897
0910	CKER19	0207	, 0896, 0925, 0971
0920	S22E	0214	, 0914
0922	S23E	0217	, 0944, 0948
0925	S22F	021B	, 0919, 0923
0927	CNT	021C	, 0874, 0889, 0932, 0996, 1206, 1692
0937	LOOP23	0223	, 0908
0946	S23B	022C	, 0938

0958	LOOP24	0231	, 0977
0969	LP23F	023E	, 0937, 0939, 0950
0971	S24C	023F	, 0960
0972	S24G	0240	, 0967
0982	LOOP25	0246	, 0870, 0991
0994	INIT80	0255	, 0894, 0959, 1026, 1031
0998	S22A	0259	, 0940, 0942, 0946, 0958, 0961, 0972
			, 0974
1002	FWAM1	025D	, 0890, 0899, 0911, 0999, 1000
1004	EQWRT	025F	, 2225
1007	BDC1	0264	, 1014
1010	BDC2	0267	, 1007
1015	BDC03	026C	, 1008
1017	BDCSTA	026E	, 1025
1026	X80	0278	, 1020
1028	EQTERM	027A	, 1024, 2223
1033	BDCERR	027F	, 1013, 1039, 1042, 1053
1044	INBDC	028C	, 1017, 1029, 1048, 1055
1047	BDC3	0291	, 1054
1050	BDC4	0294	, 1047
1062	LOOP26	029A	, 0992, 1086
1065	XCLRP	029D	, 0982, 0995, 1080, 1118
1084	S26A	0285	, 1079
1093	LOOP27	0288	, 1120
1105	XERRX	02C7	, 1078
1115	XSUB42	02D4	, 1081
1118	S27C	02D7	, 1106
1121	DF	02D8	, 0675, 0845, 0850, 1094, 1101, 1243
			, 1248, 1351, 1380, 1389, 2157
1122	AF	02DC	, 1063, 1075, 1095, 1112, 1382, 1399
			, 1638, 2165
1124	ERRSUB	02DD	, 0777, 0779, 1128, 1136, 1142, 1212
			, 1282
1129	ES2	02E3	, 1144, 1287
1133	STPCNT	02E9	, 1125, 1140, 1285
1138	ERSUB2	02EE	, 0820, 1126, 1134, 1141, 1143, 1185
			, 1283
1146	SUR31	02F5	, 1160, 1169, 1176, 1195, 1225, 1242
1154	RDATA	0302	, 1159
1169	SEC3	030C	, 0384, 1172
1176	LOOP32	0310	, 1189
1178	XPRINT	0313	, 1170, 1196, 1230, 1244, 1269
1180	S32A	0316	
1184	S32ER	031A	, 1181
1186	S32B	031C	, 1182
1195	LOOP33	0321	, 1219
1200	S33B	0328	, 1216
1202	EQIO	032B	, 0815, 1664, 2113, 2203, 2221
1214	S33A	033C	, 1204
1217	S33C	0341	, 1213
1225	LOOP34	0344	, 1236
1242	LOOP35	0354	, 1252

1259	LOOP36	0363	, 1275
1271	XSUB11	0374	, 1171, 1263, 1312
1277	XSPACE	037A	, 1259, 1383, 1415
1279	SUR42	037B	, 0698, 1115, 1234, 1250, 1286, 1291
			, 1293, 1296, 1299, 1300, 1301, 1326
			, 1358, 1391, 1401, 1406, 1640
1288	SUR42A	0389	, 1280
1296	ENDS42	0396	, 1281, 1292
1310	SEC4	039C	, 0385, 1313
1319	LOOP42	03A0	, 1328
1333	LOOP43	03AD	, 1342
1348	LOOP44	0389	, 1360
1373	LOOP45	03CB	, 1411
1377	YCLRP	03DD	, 1250, 1273, 1409
1404	S45A	03F7	
1409	S45B	03FD	, 1375
1413	SUR41	0401	, 1311, 1322, 1334, 1349, 1416
1418	CHARCH	0407	, 1429, 1440, 1477
1434	SFC5	0414	, 0386
1435	S2021	0415	
1437	S51	0417	, 1450, 1461
1440	S52	041A	, 1448
1444	S202	041F	
1449	S54	0424	, 1447
1458	S55	042D	, 1455
1459	S57	042E	, 1457
1465	SUB50	0435	, 1436, 1471, 1490, 1587
1470	S50	043A	, 1458
1473	SUR51	043D	, 1451, 1479, 1492
1476	S101	0440	
1481	CHAR	0444	, 1439, 1466, 1474, 1478, 1502
1482	TFMP	0445	, 1452, 1453, 1468, 1556, 1560, 1561
			, 1564, 1571, 1589, 1590
1488	SEC6	0446	, 0387
1489	S5959	0447	, 1493
1496	S61B	044E	
1499	SUB60	0452	, 1491, 1511, 1588
1500	S61	0453	, 1495, 1510, 1593
1503	S62	0456	, 1508
1509	S63	045D	, 1507
1512	WDCNT	0460	, 0616, 0842, 1199, 1207, 1523, 1524
			, 1530
1514	SUB71	0461	, 1449, 1509, 1518, 1519, 1532
1521	SUB72	0468	, 1533, 1535, 1545, 1549, 1551, 1555
			, 1559, 1570, 1574
1524	S71B	046B	, 1531
1532	S71C	0474	, 1526
1541	SEC7	0478	, 0388
1542	XSEL21	0479	, 1469
1545	LOOP71	047C	
1551	LOOP72	0481	, 1548
1559	LOOP73	0488	
1576	S74	0499	, 1563

1583	SEC8	049D	, 0389
1586	XCHAR8	04A0	, 1583
1588	S81	04A2	, 1602
1601	SEC9	04AC	, 0390
1608	SEC10	04AF	, 0391
1628	LOOPA1	04CA	, 1634
1635	LOOPA2	04D4	, 1642
1643	LOOPA3	04E0	, 1649
1650	LOOPA4	04E8	, 1662
1655	LPA4A	04EE	, 1651
1663	LOOPA5	04F7	, 1675
1670	LPA50	0500	, 1673
1674	LPA51	0505	, 1669
1677	SUB101	0507	, 1613, 1684, 1701
1690	SEC11	0510	, 0392
1712	LOOPB1	052C	, 1720
1722	LOOPB2	0538	, 1726
1728	LOOPB3	053D	, 1737
1733	LPB3	0543	, 1729
1735	LPB31	0545	, 1732
1739	LOOPB4	0548	, 1752
1745	LPB4	054F	, 1749
1751	XREPCO	0557	, 1674, 1744
1754	CHK10	0559	, 1724, 1735, 1741, 1763, 1766
1762	XCHK	0562	, 1758
1765	ERR16	0564	, 1757, 1761
1769	PRINT	0568	, 1178, 1774, 1777, 1782, 2079
1775	NOTCR	0570	, 1771
1779	ZCLRP	0574	, 1690, 1896
1781	MUXPRN	0575	, 1678, 1784, 1787, 1888, 1900
1786	SUB12	057A	, 1795, 1796, 1797, 1817, 1827, 1840
1795	SUB12A	0583	, 1791
1798	LVL5	0586	, 1848
1808	SEC12	0587	, 0393
1812	S46A	058C	, 1818
1816	XLPM5G	0591	, 1826, 1839, 1863
1822	LOOPC2	0594	, 1828
1829	LPC2A	059C	, 1841
1832	LPC2B	05A0	, 1830
1845	LOOPC3	05AF	, 1831, 1850, 1895
1858	S48A	05BC	, 1891
1867	TOF	05C6	
1870	LPC3A	05C9	, 1866
1874	LPC3B	05CE	, 1871
1879	LEVX	05D3	, 1875
1885	BOF	05DA	, 1873, 1878
1887	LPC3C	05DC	, 1869, 1884
1899	PRINTSP	05E8	, 1515, 1904, 1978
1902	XSPACO	05EB	, 1941
1906	COUNT	05EE	, 1788, 1790, 1792, 1810
1907	LEVEL	05EF	, 1811, 1845, 1846, 1851, 1858, 1864, 1892

1908	LINE	05F0	, 1940, 1945, 1946, 1952, 1979, 1980
			, 1984
1917	SEC13	05F1	, 0394, 1932
1918	YSEL21	05F2	, 1842, 1938, 1963, 2000
1923	XLVL10	05F9	
1938	LOOP02	0606	, 1958
1941	SD2A	0609	, 1951
1952	SD2B	0617	, 1948
1963	LOOP03	061F	, 1987, 1997
1965	SIXOR8	0621	, 1970, 1995, 1999
1975	SD3A	0620	, 1972, 1983
1991	LOOP04	063A	
2005	LPMSG	064D	, 1612, 1700, 1816, 1887, 1977, 2020
2012	LPM1	0654	, 1610, 1698, 1813, 1824, 1837, 1861
			, 1867, 1882, 1885, 1975, 2008, 2019
2016	LPM2	0659	, 2009
2023	MESSA	065F	, 1610, 1611, 1614, 1615, 2012
2025	MESSB	066E	, 1611, 1615, 1698, 1699, 1702, 1703
2027	MESS46	0683	, 1699, 1703, 1813, 1814
2028	MESS47	0689	, 1814, 1824, 1825
2029	MSS47A	068F	, 1825, 1837, 1838
2030	MESS48	0695	, 1838, 1861, 1862
2031	M48A	069E	, 1857
2033	L1MESS	06A0	, 1862, 1867, 1868
2034	LXMESS	06A6	, 1868, 1881, 1882, 1883
2036	LCMESS	06A9	, 1883, 1885, 1886
2037	MESSD	0682	, 1886, 1967, 1975, 1976, 1991
2041	LVL10P	068A	, 1470, 1609, 1679, 1691, 1923, 1976
			, 2001, 2044
2046	SPACOP	068E	, 1902, 2049
2051	SPACEL	06C2	, 1147, 1277, 1812, 2054
2056	FORMAT	06C6	, 2043, 2048, 2061, 2074, 2083
2063	F1	06CE	, 2058
2069	F1A	06D4	, 2072
2076	FPRINT	06DC	, 1834, 2002, 2080, 2084
2080	EXITFP	06E2	, 2078
2082	FFORM	06E3	, 1823, 1860, 2053, 2089
2089	ENDFF	06EC	, 2086
2091	INTERR	06ED	, 2101, 2127, 2146, 2153
2105	INST	06FA	, 0310, 2138, 2169
2109	STATER	06FE	, 2111
2110	INST0	0700	, 2107
2120	INST1	070C	, 2122, 2129
2130	INST2	071A	, 2125
2139	INT	0724	, 2135
2147	IN1	072C	, 2144
2154	IN2	0735	, 2149
2170	INTF	0747	, 0753, 1067, 1356, 1379, 1636, 2141
2171	ISR	0748	

2172	EV	0749	, 2092, 2106, 2130, 2137, 2168
2173	IRCH	074A	
2174	TRAP	074B	, 2132, 2133, 2136, 2140
2175	STRAP	074C	, 2134, 2139
2176	INTSTA	074D	, 1288, 2112, 2142, 2150, 2154, 2158
			, 2162
2177	EF	074E	, 1229, 1232, 1320, 1324, 1381, 1404
			, 2161
2178	RF	074F	, 0764, 1071, 1097, 1108, 1353, 1385
			, 1395, 1618, 2148, 2167
2180	INIT0C	0750	, 0304, 2245
2193	INIT1	0760	, 2200, 2220
2201	INIT2	076A	, 2196
2221	INIT2A	0786	, 2210, 2213, 2216
2226	INIT3	078E	, 2207
2233	INIT5	0797	, 2230
2236	TYPEIA	079B	, 2190, 2191
2242	FREQCN	07BF	, 2184, 2185
2243	ENDTYP	07C3	, 2189, 2191, 2231, 2232
2244	EPRO	07CF	, 2231, 2232, 2233, 2246, 2247
2245	FWA	0751	, 1002, 1693, 2246, 2247
2246	IOBFR	07D9	
2247	AIDDP	0000	

*** ALPHABETICAL SORT OF SYMBOLS *** MMM

ACT	0509	ACT1	0511	AF	1122	AIDOP	2247	ALARML	0323
ALIREQ	0293	BDC1	1007	BDC2	1010	BDC3	1047	BDC4	1050
BDCERR	1033	BDC03	1015	BDCSTA	1017	BIT0	0243	BIT00	0242
BIT1	0244	BIT10	0253	BIT11	0254	BIT12	0255	BIT13	0256
BIT14	0257	BIT15	0258	BIT2	0245	BIT3	0246	BIT4	0247
BIT5	0248	BIT6	0249	BIT7	0250	BIT8	0251	BIT9	0252
BOF	1885	CHAN	0868	CHAR	1481	CHAR8	0324	CHARCH	1418
CHARCK	0343	CHKCNT	0872	CHKIO	1754	CKER19	0910	CLEAR	0289
CLINT	0290	CLRND	0285	CLRP	0693	CNT	0927	CONST	0278
CONTR0	0221	CONV	0286	CONVER	0282	COUNT	1906	DATA	0476
DATA1	0451	DATAL	0321	DATRAN	0457	DF	1121	DIREQ	0291
DSPACE	0296	EF	2177	EIGHT	0299	ELEVEN	0861	ENDFF	2089
ENDS42	1296	ENDSEC	0428	ENDTES	0400	ENOTYP	2243	EOPL	0322
EOPREQ	0292	EPRO	2244	EQIO	1202	EQTERM	1028	EQUIP	0305
EQWRT	1004	ERR1	0608	ERR16	1765	ERRSUB	1124	ERRX	0775
ERSUB2	1138	ES2	1129	EV	2172	EXIT	0223	EXITFP	2080
EXP	0510	EXP1	0512	F1	2063	F1A	2069	FC	0691
FCLRIN	0225	FFORM	2082	FORMAT	2056	FPRINT	2076	FREQCN	2242
FWA	2245	FWA1	1002	GENRAN	0227	H0000	0259	H000F	0261
H007F	0274	H00F0	0262	H00FF	0265	H0780	0273	H0F00	0263
H0FFF	0268	H2020	0275	H7F00	0272	H7FFF	0271	HEXASC	0230
HF000	0264	HFOFF	0270	HFF00	0266	HFF0F	0269	HFFF0	0267
HFFFF	0260	I	0000	IA	0409	ID	0506	IN1	2147
IN2	2154	INBDC	1044	INFORM	0240	INIT0C	2180	INIT1	2193
INIT2	2201	INIT2A	2221	INIT3	2226	INIT5	2233	INITB0	0994
INST	2105	INST0	2110	INST1	2120	INST2	2130	INT	2139
INTERR	2091	INTF	2170	INTSTA	2176	IOBFR	2246	IRCH	2173
ISR	2171	IWD	0817	JUMP	0226	L1MESS	2033	LASTAD	0237
LASTVA	0236	LCMESS	2036	L0L100	0239	LDLCOR	0238	LEVEL	1907
LEVX	1879	LINE	1908	LOOP12	0656	LOOP13	0662	LOOP14	0673
LOOP15	0710	LOOP16	0726	LOOP17	0737	LOOP18	0746	LOOP19	0762
LOOP21	0840	LOOP22	0888	LOOP23	0937	LOOP24	0958	LOOP25	0982
LOOP26	1062	LOOP27	1093	LOOP32	1176	LOOP33	1195	LOOP34	1225
LOOP35	1242	LOOP36	1259	LOOP42	1319	LOOP43	1333	LOOP44	1348
LOOP45	1373	LOOP5F	0623	LOOP6F	0624	LOOP71	1545	LOOP72	1551
LOOP73	1559	LOOP7F	0625	LOOPA1	1628	LOOPA2	1635	LOOPA3	1643
LOOPA4	1650	LOOPA5	1663	LOOPB1	1712	LOOPB2	1722	LOOPB3	1728
LOOPB4	1739	LOOPC2	1822	LOOPC3	1845	LOOPD2	1938	LOOPD3	1963
LOOPD4	1991	LP100C	0301	LP1740	0484	LP21A	0844	LP22	0890
LP23F	0969	LPA4A	1655	LPA50	1670	LPA51	1674	LPB3	1733
LPB31	1735	LPB4	1745	LPC2A	1829	LPC2B	1832	LPC3A	1870
LPC3B	1874	LPC3C	1887	LPM1	2012	LPM2	2016	LPHSG	2005
LPTYPE	0325	LVL1	0298	LVL10P	2041	LVL5	1798	LXMESS	2034
M48A	2031	MAINL	0233	MESS46	2027	MESS47	2028	MESS48	2030
MESSA	2023	MESSAG	0283	MESSB	2025	MESS0	2037	MSS47A	2029
MUXPRN	1781	NEXT1	0375	NEXT2	0379	NEXT3	0381	NINETE	0773
NOTCR	1775	NOTSEC	0619	OUTPUT	0447	OVRLAY	0231	PAR1	0330
PAR2	0336	PAR3	0348	PARADR	0303	PARAMS	0319	PARCHK	0327
PARL00	0329	PASSCT	0419	PRINT	1769	PRINTL	0294	PRNTSP	1899
RANDOM	0281	RDATA	1154	RELPOS	0232	REPCON	0422	REPEAT	0415

REQINT	0224	REQND	0284	RESTAR	0363	RETA0	0508	RETURN	0304
RF	2178	RIL	0307	RILS	0353	S101	1476	S14A	0698
S14B	0701	S14C	0676	S15A	0718	S16A	0729	S17A	0740
S202	1444	S2021	1435	S21A	0859	S21AA	0795	S21AB	0807
S21AC	0823	S21B	0864	S21ER	0819	S22A	0998	S22C	0899
S22E	0920	S22F	0925	S22G	0905	S23B	0946	S23E	0922
S24C	0971	S24G	0972	S26A	1084	S27C	1118	S32A	1180
S32B	1186	S32ER	1184	S33A	1214	S33B	1200	S33C	1217
S45A	1404	S45B	1409	S46A	1812	S48A	1858	S50	1470
S51	1437	S52	1440	S54	1449	S55	1458	S57	1459
S5959	1489	S61	1500	S61B	1496	S62	1503	S63	1509
S71R	1524	S71C	1532	S74	1575	S81	1588	S02A	1941
SD2B	1952	SD3A	1975	SDATA	0437	SEC	0420	SEC1	0651
SFC10	1608	SEC11	1690	SEC12	1808	SEC13	1917	SEC2	0792
SEC2ER	0800	SEC3	1169	SFC4	1310	SEC5	1434	SEC6	1488
SEC7	1541	SEC8	1583	SEC9	1601	SECERR	0507	SECTNS	0320
SECTOT	0395	SEL0	0574	SEL02	0576	SEL1	0588	SEL2	0597
SEL211	0640	SELECT	0579	SETMAS	0234	SIXOR8	1965	SJPAR	0280
SMM	0520	SMM1	0527	SMM2	0543	SMMCNT	0241	SMPAP	0279
SMMR	0523	SMMR1	0536	SPACE	0295	SPACEL	2051	SPACOP	2046
START	0313	START1	0360	STAT	0547	STAT0	0552	STAT0A	0554
STAT1	0560	STAT2	0570	STATER	2109	STJP	0235	STOP	0490
STOPGO	0513	STOPX	0222	STPCNT	1133	STRAP	2175	SUB101	1677
SUB11	0627	SUB12	1786	SUB12A	1795	SUB31	1146	SUB41	1413
SUB42	1279	SUB42A	1288	SUB50	1465	SUB51	1473	SUB60	1499
SUB71	1514	SUB72	1521	TEMP	1482	TEST	0366	TOF	1867
TRAP	2174	TSACTV	0276	TSPPEQ	0277	TSPACE	0297	TTYBZY	0229
TYPEIA	2236	TYPFOU	0228	WDCNT	1512	WDINC	0686	WORD	0802
X80	1026	XCHAR8	1586	XCHK	1762	XCLRP	1065	XDF	0675
XEQUIP	0549	XERRX	1105	XLPH56	1816	XLVL10	1923	XOUT	0469
XPRINT	1178	XREPC0	1751	XPF	0764	XSEL21	1542	XSPACE	1277
XSPACO	1902	XSUB11	1271	XSUB42	1115	XWDCNT	0842	YCLRP	1377
YSEL21	1918	ZCLRP	1779						

COMMENT SHEET

MANUAL TITLE CONTROL DATA SMM17 PROGRAM LISTING LP1

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