

**CONTROL DATA® SMM17**

**Program Listings**

**QL**





0049	P0024	0141	T1B	SQZ	1		00049
0050	P0025	1803		JMP*	T2		00050
0051	P0026	0001		SLS	1	SKIP Q=0, OR ENQ FAILED	00051
0052	P0027	18FC		JMP*	T1B		00052
0054	P0028	0111	T2	SAN	1		00054
0055	P0029	1803		JMP*	T2A		00055
0056	P002A	0001		SLS	1	SKIP A 0 FAILED	00056
0057	P002B	18FC		JMP*	T2		00057
0059	P002C	0152	T2A	SQN	2		00059
0060	P002D	0001		SLS	1	SKIP Q 0 FAILED	00060
0061	P002E	18FD		JMP*	T2A		00061
0062	P002F	0C00		ENQ	0		00062
0063	P0030	0A01		ENA	1		00063
0064	P0031	0101	T3	SAZ	1		00064
0065	P0032	1803		JMP*	T3A		00065
0066	P0033	0001		SLS	1	SKIP A= 0 FAILED	00066
0067	P0034	18FC		JMP*	T3		00067
0069	P0035	0142	T3A	SQZ	2		00069
0070	P0036	0001		SLS	1	SKIP Q= 0 FAILED	00070
0071	P0037	18FD		JMP*	T3A		00071
0073	P0038	0112	T3B	SAN	2		00073
0074	P0039	0001		SLS	1	SKIP A 0 FAILED	00074
0075	P003A	18FD		JMP*	T3B		00075
0077	P003B	0151	T3C	SQN	1		00077
0078	P003C	1803		JMP*	T4		00078
0079	P003D	0001		SLS	1	SKIP Q 0 FAILED	00079
0080	P003E	18FC		JMP*	T3C		00080
0082	P003F	0CFF	T4	ENQ	-\$0		00082
0083	P0040	C000		LDA	=N\$7FFF		00083
	P0041	7FFF					
0084	P0042	0122	T4A	SAP	2		00084
0085	P0043	0001		SLS	1	SKIP A= + FAILED	00085
0086	P0044	18FD		JMP*	T4A		00086
0088	P0045	0161	T4B	SQP	1		00088
0089	P0046	1803		JMP*	T4C		00089

0090 P0047 0001		SLS	1		SKIP Q=+ FAILED	00090
0091 P0048 18FC		JMP*	T4B			00091
0093 P0049 0131	T4C	SAM	1			00093
0094 P004A 1803		JMP*	T4D			00094
0095 P004B 0001		SLS	1		SKIP A = - FAILED	00095
0096 P004C 18FC		JMP*	T4C			00096
0098 P004D 0172	T4D	SQM	2			00098
0099 P004E 0001		SLS	1		SKIP Q = - FAILED	00099
0100 P004F 18FD		JMP*	T4D			00100
0102 P0050 E000		LDQ	=N\$7FFF			00102
0103 P0052 0AFF		ENA	-\$0			00103
0104 P0053 0121	T5	SAP	1			00104
0105 P0054 1803		JMP*	T5A			00105
0106 P0055 0001		SLS	1		SKIP A= + FAILED	00106
0107 P0056 18FC		JMP*	T5			00107
0109 P0057 0162	T5A	SQP	2			00109
0110 P0058 0001		SLS	1		SKIP Q = + FAILED	00110
0111 P0059 18FD		JMP*	T5A			00111
0113 P005A 0132	T5B	SAM	2			00113
0114 P005B 0001		SLS	1		SKIP A = - FAILED	00114
0115 P005C 18FD		JMP*	T5B			00115
0117 P005D 0171	T5C	SQM	1			00117
0118 P005E 1803		JMP*	T6			00118
0119 P005F 0001		SLS	1		SKIP Q = - FAILED	00119
0120 P0060 18FC		JMP*	T5C			00120
0122 P0061 0AFF	T6	ENA	-\$0			00122
0123 P0062 B000		EOR	=N\$FFFF			00123
0124 P0064 0102		SAZ	2			00124
0125 P0065 0001		SLS	1		FOR FAILED	00125
0126 P0066 18FA		JMP*	T6			00126
0128 P0067 0AFF	T7	ENA	-\$0			00128

0129	P0068 8000		EOR	=NSAAAA		00129
	P0069 AAAA					
0130	P006A 8000		EOR	=NS5555		00130
	P006B 5555					
0131	P006C 0102		SAZ	2		00131
0132	P006D 0001		SLS	1	EOR FAILED	00132
0133	P006E 18F8		JMP*	T7		00133
0135	P006F C000	T8	LDA	=NSFFFF		00135
	P0070 FFFF					
0136	P0071 8000		EOR	=NSFFFF		00136
	P0072 FFFF					
0137	P0073 0102		SAZ	2		00137
0138	P0074 0001		SLS	1	LDA FAILED	00138
0139	P0075 18F9		JMP*	T8		00139
0141	P0076 0AFF	T9	ENA	-\$0		00141
0142	P0077 8000		EOR	=NS5555		00142
	P0078 5555					
0143	P0079 A000		AND	=NS5555		00143
	P007A 5555					
0144	P007B 0102		SAZ	2		00144
0145	P007C 0001		SLS	1	AND FAILED	00145
0146	P007D 18F8		JMP*	T9		00146
0148	P007E 0AFF	T9A	ENA	-\$0		00148
0149	P007F A000		AND	=NSAAAA		00149
	P0080 AAAA					
0150	P0081 8000		EOR	=NSAAAA		00150
	P0082 AAAA					
0151	P0083 0102		SAZ	2		00151
0152	P0084 0001		SLS	1	AND FAILED	00152
0153	P0085 18F8		JMP*	T9A		00153
0155	P0086 0AFF	T10	ENA	-\$0		00155
0156	P0087 9000		SUB	=NSFFFF		00156
	P0088 FFFF					
0157	P0089 0102		SAZ	2		00157
0158	P008A 0001		SLS	1	SUBTRACT FAILED	00158
0159	P008B 18FA		JMP*	T10		00159
0161	P008C 0A7F	T11	ENA	\$7F		00161
0162	P008D 9000		SUB	=NS3F4		00162
	P008E 03F4					
0163	P008F 8000		EOR	=NSFC8A		00163
	P0090 FC8A					
0164	P0091 0102		SAZ	2		00164
0165	P0092 0001		SLS	1	SUBTRACT FAILED	00165

QLOAFF

PAGE 5

DATE: 10/20/75

0166	P0093	18F8		JMP*	T11		00166
0168	P0094	0A2F	T12	ENA	\$2F		00168
0169	P0095	8000		ADD	=N\$4C83		00169
	P0096	4C83					
0170	P0097	9000		SUB	=N\$4C83		00170
	P0098	4C83					
0171	P0099	8000		EOR	=N\$2F		00171
	P009A	002F					
0172	P0098	0102		SAZ	2		00172
0173	P009C	0001		SLS	1	ADD FAILED	00173
0174	P009D	18F6		JMP*	T12		00174
0176	P009E	C000	T13	LDA	=N\$2A4E		00176
	P009F	2A4E					
0177	P00A0	8000		ADD	=N\$E4A2		00177
	P00A1	E4A2					
0178	P00A2	9000		SUB	=N\$2A4E		00178
	P00A3	2A4E					
0179	P00A4	8000		EOR	=N\$E4A2		00179
	P00A5	E4A2					
0180	P00A6	0102		SAZ	2		00180
0181	P00A7	0001		SLS	1	ADD FAILED	00181
0182	P00A8	18F5		JMP*	T13		00182
0184	P00A9	C000	T14	LDA	=N\$A259	ODD NUMBER OF BITS	00184
	P00AA	A259					
0185	P00AB	0C01		ENQ	1		00185
0186	P00AC	6807		STA*	T14A		00186
0187	P00AD	C806		LDA*	T14A		00187
0188	P00AE	8000		EOR	=N\$A259		00188
	P00AF	A259					
0189	P00B0	0103		SAZ	3		00189
0190	P00B1	0001		SLS	1	STA FAILED	00190
0191	P00B2	18F6		JMP*	T14		00191
0193	P00B3	0001	T14A	NUM	1		00193
0194	P00B4	C000	T15	LDA	=N\$6DF1	EVEN NUMBER OF BITS	00194
	P00B5	6DF1					
0195	P00B6	68FC		STA*	T14A		00195
0196	P00B7	C8FB		LDA*	T14A		00196
0197	P00B8	8000		EOR	=N\$6DF1		00197
	P00B9	6DF1					
0198	P00BA	0102		SAZ	2		00198
0199	P00BB	0001		SLS	1	STA FAILED	00199
0200	P00BC	18F7		JMP*	T15		00200
0202	P00BD	C000	T16	LDA	=N\$A259	ODD NUMBER OF BITS	00202
	P00BE	A259					

0203	P008F 7800		SPA	T14A		00203
	P00C0 FFF2					
0204	P00C1 0102		SAZ	2		00204
0205	P00C2 0001		SLS	1	SPA FAILED ODD PARITY	00205
0206	P00C3 18F9		JMP*	T16		00206
0208	P00C4 C8EE	T16A	LDA*	T14A		00208
0209	P00C5 8000		EOR	=NSA259		00209
	P00C6 A259					
0210	P00C7 0102		SAZ	2		00210
0211	P00C8 0001		SLS	1	SPA FAILED ON STORING	00211
0212	P00C9 18FA		JMP*	T16A		00212
0214	P00CA C000	T16B	LDA	=NS6DF1	EVEN NUMBER OF BITS	00214
	P00C8 60F1					
0215	P00CC 0C00		ENQ	0		00215
0216	P00CD 7800		SPA	T14A		00216
	P00CE FFE4					
0217	P00CF A000		AND	=NS1		00217
	P00D0 0001					
0218	P00D1 0112		SAN	2		00218
0219	P00D2 0001		SLS	1	SPA FAILED EVEN PARITY	00219
0220	P00D3 18F6		JMP*	T16B		00220
0222	P00D4 C800	T16C	LDA	T14A		00222
	P00D5 FFDD					
0223	P00D6 8000		EOR	=NS6DF1		00223
	P00D7 60F1					
0224	P00D8 0102		SAZ	2		00224
0225	P00D9 0001		SLS	1	SPA FAILED ON STORING	00225
0226	P00DA 18F9		JMP*	T16C		00226
0228	P00D8 0CFF	T17	ENQ	-\$0		00228
0229	P00D0 0814		TRQ	A		00229
0230	P00D0 8000		EOR	=NSFFFF		00230
	P00DE FFFF					
0231	P00DF 0102		SAZ	2		00231
0232	P00E0 0001		SLS	1	TRQ A FAILED	00232
0233	P00E1 18F9		JMP*	T17		00233
0235	P00E2 E000	T18	LQ0	=NSFFFF		00235
	P00E3 FFFF					
0236	P00E4 0814		TRQ	A		00236
0237	P00E5 8000		EOR	=NSFFFF		00237
	P00E6 FFFF					
0238	P00E7 0102		SAZ	2		00238
0239	P00E8 0001		SLS	1	LQ0 FAILED	00239
0240	P00E9 18F8		JMP*	T18		00240



0242	P00EA E000	T19	LDQ	=N\$7FFF		00242
	P00EB 7FFF					
0243	P00EC 48C6		STQ*	T14A		00243
0244	P00ED C8C5		LDA*	T14A		00244
0245	P00EE 8000		EOR	=N\$7FFF		00245
	P00EF 7FFF					
0246	P00F0 0103		SAZ	3		00246
0247	P00F1 0001		SLS	1	STQ FAILED ODD NUMBER OF BITS	00247
0248	P00F2 18F7		JMP*	T19		00248
0250	P00F3 0180	AD1	ADC	AD2-QL		00250
0251	P00F4 C000	T20	LDA	=N\$6A76		00251
	P00F5 6A76					
0252	P00F6 680A		STA*	T20A		00252
0253	P00F7 0809		RAQ*	T20A		00253
0254	P00F8 C808		LDA*	T20A		00254
0255	P00F9 8000		EOR	=N\$6A77		00255
	P00FA 6A77					
0256	P00FB 0105		SAZ	T21-*-2		00256
0257	P00FC 0001		SLS	1	RAO FAILED	00257
0258	P00FD 18F6		JMP*	T20		00258
0259	P00FE 0B01		NOP	1	ALLOW FOR QL REPEAT CAPABILITY ***	00259
0260					*****	00260
0261	P00FF FFFF		NUM	-0	-INDEX- -INDEX- -INDEX-	00261
0262					*****	00262
0264	P0100 0001	T20A	NUM	1		00264
0265	P0101 68FE		STA*	T20A	CLEAR T20A	00265
0267	P0102 0C7F	T21	ENQ	\$7F		00267
0268	P0103 F000		ADQ	=N\$635		00268
	P0104 0635					
0269	P0105 0814		TRQ	A		00269
0270	P0106 8000		EOR	=N\$6B4		00270
	P0107 06B4					
0271	P0108 0102		SAZ	T22-*-1		00271
0272	P0109 0001		SLS	1	ADQ FAILED	00272
0273	P010A 18F7		JMP*	T21		00273
0275	P010B 0801	T22	SET	M		00275
0276	P010C 0A00		ENA	0		00276
0277	P010D 080C		TRM	A		00277
0278	P010E 8000		EOR	=N\$FFFF		00278
	P010F FFFF					
0279	P0110 0108		SAZ	T23-*-1	THIS IS THE FIRST CHECK OF THE	00279
0280		*			MASK REGISTER IF ALL BIT FROM	00280
0281		*			15 TO 4 FAIL THIS MACHINE MUST	00281

0282		*						
0283	P0111	8000		EOR	=N\$FFFF	BE A 1704 ONLY		00282
	P0112	FFFF						00283
0284	P0113	0113		SAN	3			00284
0285	P0114	0A0F		ENA	\$F	1704 SET T35B TO 000F		00285
0286	P0115	6868		STA*	T35B			00286
0287	P0116	1803		JMP*	T23			00287
0289	P0117	0001		SLS	1	SET M OR TRM A FAILED		00289
0290	P0118	18F2		JMP*	T22			00290
0292	P0119	0806	T23	SET	A,Q			00292
0293	P011A	8000		EOR	=N\$FFFF			00293
	P011B	FFFF						
0294	P011C	0102		SAZ	2			00294
0295	P011D	0001		SLS	1	SET A FAILED		00295
0296	P011E	18FA		JMP*	T23			00296
0298	P011F	F8E0	T24	ADQ*	T20A			00298
0299	P0120	0142		SQZ	2			00299
0300	P0121	0001		SLS	1			00300
0301	P0122	18FC		JMP*	T24	SET Q FAILED		00301
0303	P0123	0CFF	T25	ENQ	-80			00303
0304	P0124	0815		TRQ	A,M			00304
0305	P0125	8000		EOR	=N\$FFFF			00305
	P0126	FFFF						
0306	P0127	0102		SAZ	2			00306
0307	P0128	0001		SLS	1	TRQ A FAILED		00307
0308	P0129	18F9		JMP*	T25			00308
0310	P012A	0811	T26	TRQ	M			00310
0311	P012B	080C		TRM	A			00311
0312	P012C	8000		EOR	=N\$FFFF			00312
	P012D	FFFF						
0313	P012E	A84F		AND*	T35B	FFFF IF 1705, 000F IF 1704		00313
0314	P012F	0102		SAZ	2			00314
0315	P0130	0001		SLS	1	TRQ M FAILED		00315
0316	P0131	18F8		JMP*	T26			00316
0318	P0132	080A	T27	TRM	Q			00318
0319	P0133	F8CC		ADQ*	T20A			00319
0320	P0134	0144		SQZ	4			00320
0321	P0135	0DF0		INQ	-8F	COULD BE A 1704		00321
0322	P0136	0142		SQZ	2			00322
0323	P0137	0001		SLS	1			00323
0324	P0138	18F9		JMP*	T27	TRM Q FAILED		00324

0326	P0139	0AFF	T28	ENA	-\$0		00326
0327	P013A	0822		TRA	Q		00327
0328	P013B	F8C4		ADQ*	T20A		00328
0329	P013C	0142		SQZ	2		00329
0330	P013D	0001		SLS	1	TRA Q FAILED	00330
0331	P013E	18FA		JMP*	T28		00331
0333	P013F	0821	T29	TRA	M		00333
0334	P0140	080A		TRM	Q		00334
0335	P0141	F8BE		ADQ*	T20A		00335
0336	P0142	0144		SQZ	4		00336
0337	P0143	00F0		INQ	-\$F	COULD BE A 1704	00337
0338	P0144	0142		SQZ	2		00338
0339	P0145	0001		SLS	1		00339
0340	P0146	18F8		JMP*	T29	TRA M FAILED	00340
0342	P0147	0183	T30	SWS	3		00342
0343	P0148	0196		SWN	T31*-1		00343
0344	P0149	0001		SLS	1	SKIP SWITCH FAILED	00344
0345	P014A	18FC		JMP*	T30		00345
0347	P014B	0191		SWN	1		00347
0348	P014C	1803		JMP*	T31		00348
0349	P014D	0001		SLS	1	SKIP SWITCH FAILED	00349
0350	P014E	18F8		JMP*	T30		00350
0352	P014F	01A0	T31	SOV	0	CLEAR OVERFLOW IF SET	00352
0353	P0150	01A1		SOV	1		00353
0354	P0151	1803		JMP*	T31A		00354
0355	P0152	0001		SLS	1	SOV FAILED	00355
0356	P0153	18FB		JMP*	T31		00356
0358	P0154	0182	T31A	SNO	2		00358
0359	P0155	0001		SLS	1	SNO FAILED	00359
0360	P0156	18FD		JMP*	T31A		00360
0362	P0157	0AFE	T32	ENA	-\$1		00362
0363	P0158	8000		ADD	=N\$8000		00363
	P0159	8000					
0364	P015A	01A2		SOV	2		00364
0365	P015B	0001		SLS	1	SOV FAILED	00365
0366	P015C	18FA		JMP*	T32		00366
0368	P015D	0AFE	T33	ENA	-\$1		00368

0369	P015E 8000		ADD	=N\$8000		00369
	P015F 8000					
0370	P0160 0181		SNO	1		00370
0371	P0161 1803		JMP*	T34		00371
0372	P0162 0001		SLS	1	SNO FAILED	00372
0373	P0163 18F9		JMP*	T33		00373
0375	P0164 01C0	T34	SPE	0		00375
0376	P0165 01C3		SPE	3		00376
0377	P0166 01D6		SNP	T34A--1		00377
0378	P0167 0001		SLS	1	SPE OR SNP FAILED	00378
0379	P0168 18FB		JMP*	T34		00379
0380	P0169 01D1		SNP	1		00380
0381	P016A 1803		JMP*	T34A		00381
0382	P016B 0001		SLS	1		00382
0383	P016C 18F7		JMP*	T34		00383
0385	P016D 0C00	T34A	ENQ	0		00385
0386	P016E 0206	T34B	INP	T34E-*	SEARCH FOR NON-EXISTENT EQUIP.	00386
0387	P016F 0001	T34C	INQ	1		00387
0388	P0170 0162		SQP	T34D--1		00388
0389	P0171 0001		SLS	1	NO EQUIP ADDRESS WILL GIVE INT. REJ.	00389
0390	P0172 18FA		JMP*	T34A	ON INPUT INSTRUCTION. RUN=RE-SEARCH	00390
0391	P0173 18FA	T34D	JMP*	T34B		00391
0392	P0174 1802	T34E	JMP*	T35A (INT REJ ON INP) SEARCH SATISFIED.		00392
0393	P0175 18F9		JMP*	T34C (EXT REJ ON INPUT) CONTINUE SEARCH.		00393
0394	P0176 0A01	T35A	ENA	1		00394
0395	P0177 0303		OUT	T35C-*	ENSURE OUTPUT RECEIVES INT REJ.	00395
0396	P0178 0001		SLS	1	OUTPUT INSTRUCTION FAILED-NO REJECT. Q=EQ AD USED	00396
0397	P0179 18F3		JMP*	T34A		00397
0398	P017A 1804	T35C	JMP*	T36 (INT REJ ON OUT)		00398
0399	P017B 0001		SLS	1	EXT REJ ON OUTPUT. SHOULD HAVE RCVD INT REJ.	00399
0400	P017C 18F0		JMP*	T34A		00400
0402	P017D FFFF	T35B	NUM	-0	= FFFF OF 1705, OR 000F IF 1704	00402
0404	P017E C000	T36	LDA	=N\$CECE		00404
	P017F CECE					
0405	P0180 0863		TCA	Q,M		00405
0406	P0181 0A00		ENA	0		00406
0407	P0182 0814		TRQ	A		00407
0408	P0183 8000		EOR	=N\$3131		00408
	P0184 3131					
0409	P0185 A8F7		AND*	T35B	FFFF IF 1705, 000F IF 1704	00409
0410	P0186 0102		SAZ	2		00410

0411	P0187	0001		SLS	1		TCA Q FAILED	00411	
0412	P0188	18F5		JMP*	T36			00412	
0413	P0189	080C		TRM	A			00413	
0414	P018A	0000		EOR	=N\$3131			00414	
	P018B	3131							
0415	P018C	A8F0		AND*	T35B			00415	
0416	P018D	0102		SAZ	2			00416	
0417	P018E	0001		SLS	1		TCA M FAILED	00417	
0418	P018F	18EE		JMP*	T36			00418	
0420	P0190	C000	T37	LDA	=N\$CECE			00420	
	P0191	CECE							
0421	P0192	0821		TRA	M			00421	
0422	P0193	084E		TCM	A,Q			00422	
0423	P0194	0000		EOR	=N\$3131			00423	
	P0195	3131							
0424	P0196	A8C6		AND*	T35B		FFFF IF 1705, 000F IF 1704	00424	
0425	P0197	0102		SAZ	2			00425	
0426	P0198	0001		SLS	1		TCM A FAILED	00426	
0427	P0199	18F6		JMP*	T37			00427	
0428	P019A	000E		INQ	\$E			00428	
0429	P019B	0145		SQZ	5		1704	00429	
0430	P019C	F000		ADQ	=N-\$313F		CHECK FOR 1705	00430	
	P019D	CEC0							
0431	P019E	0142		SQZ	2			00431	
0432	P019F	0001		SLS	1		TCM Q FAILED	00432	
0433	P01A0	18EF		JMP*	T37			00433	
0435	P01A1	E000	T38	L0Q	=N\$CECE			00435	
	P01A2	CECE							
0436	P01A3	0855		TCQ	A,M			00436	
0437	P01A4	0000		EOR	=N\$3131			00437	
	P01A5	3131							
0438	P01A6	0102		SAZ	2			00438	
0439	P01A7	0001		SLS	1		TCQ A FAILED	00439	
0440	P01A8	18F8		JMP*	T38			00440	
0441	P01A9	080C	T39	TRM	A			00441	
0442	P01AA	0000		EOR	=N\$3131			00442	
	P01AB	3131							
0443	P01AC	A8D0		AND*	T35B		FFFF IF 1705, 000F IF 1704	00443	
0444	P01AD	0103		SAZ	3			00444	
0445	P01AE	0001		SLS	1		TCQ M FAILED	00445	
0446	P01AF	18F9		JMP*	T39			00446	



0488	P01E2	A89A		AND*	T35B	FFFF IF 1705, 000F IF 1704	00488
0489	P01E3	0102		SAZ	2		00489
0490	P01E4	0001		SLS	1	EAM M FAILED	00490
0491	P01E5	18E6		JMP*	T41		00491
0493	P01E6	C000	T42	LOA	=N\$5555		00493
	P01E7	5555					
0494	P01E8	E000		LDQ	=N\$9999		00494
	P01E9	9999					
0495	P01EA	0877		EAQ	A,Q,M		00495
0496	P01EB	B000		EOR	=N\$CCCC		00496
	P01EC	C000					
0497	P01ED	0102		SAZ	2		00497
0498	P01EE	0001		SLS	1	EAQ A FAILED	00498
0499	P01EF	18F6		JMP*	T42		00499
0500	P01F0	F000		ADQ	=N-\$CCCC		00500
	P01F1	3333					
0501	P01F2	0102		SAZ	2		00501
0502	P01F3	0001		SLS	1	EAQ Q FAILED	00502
0503	P01F4	18F1		JMP*	T42		00503
0504	P01F5	080C		TRM	A		00504
0505	P01F6	B000		EOR	=N\$CCCC		00505
	P01F7	C000					
0506	P01F8	A884		AND*	T35B	FFFF IF 1705, 000F IF 1704	00506
0507	P01F9	0102		SAZ	2		00507
0508	P01FA	0001		SLS	1	EAQ M FAILED	00508
0509	P01FB	18EA		JMP*	T42		00509
0511	P01FC	C000	T43	LOA	=N\$5555		00511
	P01FD	5555					
0512	P01FE	0821		TRA	M		00512
0513	P01FF	C000		LOA	=N\$3333		00513
	P0200	3333					
0514	P0201	E000		LOQ	=N\$9999		00514
	P0202	9999					
0515	P0203	087F		EAB	A,Q,M		00515
0516	P0204	B000		EOR	=N\$EEEE		00516
	P0205	EEEE					
0517	P0206	A800		AND	T35B	FFFF IF 1705, 000F IF 1704	00517
	P0207	FF75					
0518	P0208	0102		SAZ	2		00518
0519	P0209	0001		SLS	1	EAB A FAILED	00519
0520	P020A	18F1		JMP*	T43		00520
0521	P020B	F000		ADQ	=N-\$AAAE		00521
	P020C	5551					
0522	P020D	0145		SQZ	5	1704	00522
0523	P020E	F000		ADQ	=N-\$4440	CHECK FOR 1705	00523
	P020F	BBBF					

0524	P0210	0142		SQZ	2			00524
0525	P0211	0001		SLS	1		EAB Q FAILED	00525
0526	P0212	18E9		JMP*	T43			00526
0527	P0213	080C		TRM	A			00527
0528	P0214	B000		EOR	=N\$EEEE			00528
		P0215						
0529	P0216	A800		AND	T35B		FFFF IF 1705, 000F IF 1704	00529
		P0217						
0530	P0218	0102		SAZ	2			00530
0531	P0219	0001		SLS	1		EAB M FAILED	00531
0532	P021A	18E1		JMP*	T43			00532
0534	P0219	0805	T44	SET	M,A			00534
0535	P021C	08AF		LAM	A,Q,M			00535
0536	P021D	B000		EOR	=N\$FFFF			00536
		P021E						
0537	P021F	A800		AND	T35B		FFFF IF 1705, 000F IF 1704	00537
		P0220						
0538	P0221	0102		SAZ	2			00538
0539	P0222	0001		SLS	1		LAM A FAILED	00539
0540	P0223	18F7		JMP*	T44			00540
0541	P0224	0000		INQ	0			00541
0542	P0225	0144		SQZ	4		1705	00542
0543	P0226	0DF0		INQ	-\$F		NO COULD BE A 1704	00543
0544	P0227	0142		SQZ	2			00544
0545	P0228	0001		SLS	1		LAM Q FAILED	00545
0546	P0229	18F1		JMP*	T44			00546
0547	P022A	084C		TCM	A			00547
0548	P022B	A800		AND	T35B		FFFF IF 1705, 000F IF 1704	00548
		P022C						
0549	P022D	0102		SAZ	2			00549
0550	P022E	0001		SLS	1		LAM M FAILED	00550
0551	P022F	18EB		JMP*	T44			00551
0553	P0230	C000	T45	LDA	=N\$9999			00553
		P0231						
0554	P0232	0821		TRA	M			00554
0555	P0233	C000		LDA	=N\$5555			00555
		P0234						
0556	P0235	08AF		LAM	A,Q,M			00556
0557	P0236	B000		EOR	=N\$1111			00557
		P0237						
0558	P0238	A800		AND	T35B		FFFF IF 1705, 000F IF 1704	00558
		P0239						
0559	P023A	0102		SAZ	2			00559
0560	P023B	0001		SLS	1		LAM A FAILED	00560
0561	P023C	18F3		JMP*	T45			00561



0562	P023D	00FE		INQ	-1		00562
0563	P023E	0145		SQZ	5	1704	00563
0564	P023F	F000		ADQ	=N-\$1110	NO COULD BE A 1705	00564
	P0240	EEEE					
0565	P0241	0142		SQZ	2		00565
0566	P0242	0001		SLS	1	LAM Q FAILED	00566
0567	P0243	18EC		JMP*	T45		00567
0568	P0244	080C		TRM	A		00568
0569	P0245	8000		EOR	=N\$1111		00569
	P0246	1111					
0570	P0247	A800		AND	T358	FFFF IF 1705, 000F IF 1704	00570
	P0248	FF34					
0571	P0249	0102		SAZ	2		00571
0572	P024A	0001		SLS	1	LAM M FAILED	00572
0573	P0248	18E4		JMP*	T45		00573
0575	P024C	0806	T46	SET	A,Q		00575
0576	P0240	0887		LAQ	A,Q,M		00576
0577	P024E	0864		TCA	A		00577
0578	P024F	0102		SAZ	2		00578
0579	P0250	0001		SLS	1	LAQ A FAILED	00579
0580	P0251	18FA		JMP*	T46		00580
0581	P0252	0852		TCQ	Q		00581
0582	P0253	0142		SQZ	2		00582
0583	P0254	0001		SLS	1	LAQ Q FAILED	00583
0584	P0255	18F6		JMP*	T46		00584
0585	P0256	084C		TCM	A		00585
0586	P0257	A800		AND	T358	FFFF IF 1705, 000F IF 1704	00586
	P0258	FF24					
0587	P0259	0102		SAZ	2		00587
0588	P025A	0001		SLS	1	LAQ M FAILED	00588
0589	P025B	18F0		JMP*	T46		00589
0591	P025C	C000	T47	LDA	=N\$9999		00591
	P025D	9999					
0592	P025E	E000		LQD	=N\$5555		00592
	P025F	5555					
0593	P0260	0887		LAQ	A,Q,M		00593
0594	P0261	8000		EOR	=N\$1111		00594
	P0262	1111					
0595	P0263	0102		SAZ	2		00595
0596	P0264	0001		SLS	1	LAQ A FAILED	00596
0597	P0265	18F6		JMP*	T47		00597
0598	P0266	F000		ADQ	=N-\$1111		00598
	P0267	EEEE					
0599	P0268	0142		SQZ	2		00599
0600	P0269	0001		SLS	1	LAQ Q FAILED	00600

0601	P026A 18F1		JMP*	T47		00601
0602	P026B 080C		TRM	A		00602
0603	P026C 8000		EOR	=N\$1111		00603
	P026D 1111					
0604	P026E A800		AND	T35B	FFFF IF 1705, 000F IF 1704	00604
	P026F FF00					
0605	P0270 0102		SAZ	2		00605
0606	P0271 0001		SLS	1	LAQ M FAILED	00606
0607	P0272 18E9		JMP*	T47		00607
0609	P0273 C000	T48	LDA	=N\$5555		00609
	P0274 5555					
0610	P0275 0821		TRA	M		00610
0611	P0276 E000		LDQ	=N\$9999		00611
	P0277 9999					
0612	P0278 0AFF		ENA	-\$0		00612
0613	P0279 08BF		LAB	A,Q,M		00613
0614	P027A 8000		EOR	=N\$0000		00614
	P027B D000					
0615	P027C A800		AND	T35B	FFFF IF 1705, 000F IF 1704	00615
	P027D FEFF					
0616	P027E 0102		SAZ	2		00616
0617	P027F 0001		SLS	1	LAB A FAILED	00617
0618	P0280 18F2		JMP*	T48		00618
0619	P0281 F000		ADQ	=N-\$9990		00619
	P0282 6662					
0620	P0283 0145		SQZ	5	1704	00620
0621	P0284 F000		ADQ	=N-\$4440	CHECK FOR 1705	00621
	P0285 B8BF					
0622	P0286 0142		SQZ	2		00622
0623	P0287 0001		SLS	1	LAB Q FAILED	00623
0624	P0288 18EA		JMP*	T48		00624
0625	P0289 080C		TRM	A		00625
0626	P028A 8000		EOR	=N\$0000		00626
	P028B D000					
0627	P028C A800		AND	T35B	FFFF IF 1705, 000F IF 1704	00627
	P028D FEEF					
0628	P028E 0102		SAZ	2		00628
0629	P028F 0001		SLS	1	LAB M FAILED	00629
0630	P0290 18E2		JMP*	T48		00630
0632	P0291 C000	T49	LDA	=N\$5555		00632
	P0292 5555					
0633	P0293 0821		TRA	M		00633
0634	P0294 C000		LDA	=N\$9999		00634
	P0295 9999					
0635	P0296 08EF		CAM	A,Q,M		00635

0636	P0297	B000		EOR	=N\$EEEE		00636
	P0298	EEEE					
0637	P0299	A800		AND	T35B	FFFF IF 1705, 000F IF 1704	00637
	P029A	FEE2					
0638	P029B	0102		SAZ	2		00638
0639	P029C	0001		SLS	1	CAM A FAILED	00639
0640	P029D	18F3		JMP*	T49		00640
0641	P029E	0001		INQ	1		00641
0642	P029F	0145		SQZ	5	1704	00642
0643	P02A0	F000		ADQ	=N-\$EEEF	CHECK FOR 1705	00643
	P02A1	1110					
0644	P02A2	0142		SQZ	2		00644
0645	P02A3	0001		SLS	1	CAM Q FAILED	00645
0646	P02A4	18EC		JMP*	T49		00646
0647	P02A5	080C		TRM	A		00647
0648	P02A6	B000		EOR	=N\$EEEE		00648
	P02A7	EEEE					
0649	P02A8	A800		AND	T35B	FFFF OR 000F	00649
	P02A9	FED3					
0650	P02AA	0103		SAZ	3		00650
0651	P02AB	0001		SLS	1	CAM M FAILED	00651
0652	P02AC	18E4		JMP*	T49		00652
0654	P02AD	03C5	AD3	ADC	AD4-QL		00654
0655	P02AE	C000	T50	LDA	=N\$5555		00655
	P02AF	5555					
0656	P02B0	E000		LOQ	=N\$9999		00656
	P02B1	9999					
0657	P02B2	08F7		CAQ	A,Q,M		00657
0658	P02B3	B000		EOR	=N\$EEEE		00658
	P02B4	EEEE					
0659	P02B5	0102		SAZ	2		00659
0660	P02B6	0001		SLS	1	CAQ A FAILED	00660
0661	P02B7	18F6		JMP*	T50		00661
0662	P02B8	F000		ADQ	=N-\$EEEF		00662
	P02B9	1111					
0663	P02BA	0142		SQZ	2		00663
0664	P02BB	0001		SLS	1	CAQ Q FAILED	00664
0665	P02BC	18F1		JMP*	T50		00665
0666	P02BD	080C		TRM	A		00666
0667	P02BE	B000		EOR	=N\$EEEE		00667
	P02BF	EEEE					
0668	P02C0	A800		AND	T35B	FFFF OR 000F	00668
	P02C1	FE8B					
0669	P02C2	0102		SAZ	2		00669
0670	P02C3	0001		SLS	1	CAQ M FAILED	00670
0671	P02C4	18E9		JMP*	T50		00671

0673	P02C5 C000	T51	LOA	=N\$5555		00673
	P02C6 5555					
0674	P02C7 0821		TRA	M		00674
0675	P02C8 E000		LDQ	=N\$9999		00675
	P02C9 9999					
0676	P02CA 0804		SET	A		00676
0677	P02C8 08FF		CAB	A,Q,M		00677
0678	P02CC B000		EOR	=N\$2222		00678
	P02CD 2222					
0679	P02CE A800		AND	T35B	FFFF OR 000F	00679
	P02CF FEAD					
0680	P02D0 0102		SAZ	2		00680
0681	P02D1 0001		SLS	1	CAB A FAILED	00681
0682	P02D2 18F2		JMP*	T51		00682
0683	P02D3 F000		ADQ	=N-\$6662		00683
	P02D4 9990					
0684	P02D5 0145		SQZ	5	1704	00684
0685	P02D6 F000		ADQ	=N\$4440	CHECK FOR 1705	00685
	P02D7 4440					
0686	P02D8 0142		SQZ	2		00686
0687	P02D9 0001		SLS	1	CAB Q FAILED	00687
0688	P02DA 18EA		JMP*	T51		00688
0689	P02DB 080C		TRM	A		00689
0690	P02DC B000		EOR	=N\$2222		00690
	P02DD 2222					
0691	P02DE A800		AND	T35B	FFFF OR 000F	00691
	P02DF FE90					
0692	P02E0 0102		SAZ	2		00692
0693	P02E1 0001		SLS	1	CAB M FAILED	00693
0694	P02E2 18E2		JMP*	T51		00694
0696	P02E3 0807	T52	SET	A,Q,M		00696
0697	P02E4 0847		CLR	A,Q,M		00697
0698	P02E5 0102		SAZ	2		00698
0699	P02E6 0001		SLS	1	CLR A FAILED	00699
0700	P02E7 18F8		JMP*	T52		00700
0701	P02E8 0142		SQZ	2		00701
0702	P02E9 0001		SLS	1	CLR Q FAILED	00702
0703	P02EA 18F8		JMP*	T52		00703
0704	P02EB 080C		TRM	A		00704
0705	P02EC 0102		SAZ	2		00705
0706	P02ED 0001		SLS	1	CLR M FAILED	00706
0707	P02EE 18F4		JMP*	T52		00707
0709	P02EF C000	T53	LOA	=N\$5555		00709
	P02F0 5555					
0710	P02F1 0821		TRA	M		00710

0711	P02F2 E000		LDQ	=N\$9999		00711
	P02F3 9999					
0712	P02F4 081F		TRB	A,Q,M		00712
0713	P02F5 8000		EOR	=N\$DDDD		00713
	P02F6 0000					
0714	P02F7 A800		AND	T35B	FFFF OR 000F	00714
	P02F8 FE84					
0715	P02F9 0102		SAZ	2		00715
0716	P02FA 0001		SLS	1	TRB A FAILED	00716
0717	P02FB 18F3		JMP*	T53		00717
0718	P02FC F000		ADQ	=N-\$999D		00718
	P02FD 6662					
0719	P02FE 0145		SQZ	5	1704	00719
0720	P02FF F000		ADQ	=N-\$4440		00720
	P0300 888F					
0721	P0301 0142		SQZ	2		00721
0722	P0302 0001		SLS	1	TRB Q FAILED	00722
0723	P0303 18E9		JMP*	T53		00723
0724	P0304 080C		TRM	A		00724
0725	P0305 8000		EOR	=N\$DDDD		00725
	P0306 0000					
0726	P0307 A800		AND	T35B	FFFF OR 000F	00726
	P0308 FE74					
0727	P0309 0102		SAZ	2		00727
0728	P030A 0001		SLS	1	TRB M FAILED	00728
0729	P030B 18E3		JMP*	T53		00729
0731	P030C 01E1	T54	SPF	1		00731
0732	P030D 0801		NOP	1		00732
0733	P030E 01F2		SNF	T54A-*-1		00733
0734	P030F 0001		SLS	1	SNF FAILED	00734
0735	P0310 18FB		JMP*	T54		00735
0737	P0311 01E1	T54A	SPF	1		00737
0738	P0312 1803		JMP*	T55		00738
0739	P0313 0001		SLS	1	SPF FAILED	00739
0740	P0314 18FC		JMP*	T54A		00740
0742	P0315 C000	T55	LDA	=N\$8000		00742
	P0316 8000					
0743	P0317 0F4F		ARS	15		00743
0744	P0318 8000		EOR	=N\$FFFF		00744
	P0319 FFFF					
0745	P031A 0102		SAZ	2		00745
0746	P031B 0001		SLS	1	ARS FAILED	00746
0747	P031C 18F8		JMP*	T55		00747

0749	P031D	E000	T56	LDQ	=N\$8000		00749
	P031E	8000					
0750	P031F	0A00		ENA	0		00750
0751	P0320	0F7F		LRS	31		00751
0752	P0321	0852		TCQ	0		00752
0753	P0322	0864		TCA	A		00753
0754	P0323	0111		SAN	1		00754
0755	P0324	0142		SQZ	2		00755
0756	P0325	0001		SLS	1	LRS FAILED	00756
0757	P0326	18F6		JMP*	T56		00757

0759	P0327	E000	T57	LDQ	=N\$8000		00759
	P0328	8000					
0760	P0329	0F2F		QRS	15		00760
0761	P032A	0852		TCQ	0		00761
0762	P032B	0142		SQZ	2		00762
0763	P032C	0001		SLS	1	QRS FAILED	00763
0764	P032D	18F9		JMP*	T57		00764

0766	P032E	C000	T58	LDA	=N\$FFFE		00766
	P032F	FFFE					
0767	P0330	0FCF		ALS	15		00767
0768	P0331	8000		EOR	=N\$7FFF		00768
	P0332	7FFF					
0769	P0333	0102		SAZ	2		00769
0770	P0334	0001		SLS	1		00770
0771	P0335	18F8		JMP*	T58	ALS FAILED	00771

0773	P0336	E000	T59	LDQ	=N\$FFFE		00773
	P0337	FFFE					
0774	P0338	0FAF		QLS	15		00774
0775	P0339	F000		ADQ	=N-\$7FFF		00775
	P033A	8000					
0776	P033B	0142		SQZ	2		00776
0777	P033C	0001		SLS	1	QLS FAILED	00777
0778	P033D	18F8		JMP*	T59		00778

0780	P033E	E000	T60	LDQ	=N\$7FFF		00780
	P033F	7FFF					
0781	P0340	0804		SET	A		00781
0782	P0341	0FF0		LLS	16		00782
0783	P0342	8000		EOR	=N\$7FFF		00783
	P0343	7FFF					
0784	P0344	0112		SAN	2		00784
0785	P0345	0852		TCQ	Q		00785
0786	P0346	0142		SQZ	2		00786
0787	P0347	0001		SLS	1	LLS FAILED	00787
0788	P0348	18F5		JMP*	T60		00788

0790	P0349	C000	T61	LDA	=N\$D5C3		00790
	P034A	D5C3					
0791	P0348	2000		MUI	=N\$B698		00791
	P034C	B698					
0792	P034D	B000		EOR	=N\$1A24		00792
	P034E	1A24					
0793	P034F	0113		SAN	3		00793
0794	P0350	F000		ADQ	=N-\$0C1C		00794
	P0351	F3E3					
0795	P0352	0142		SQZ	2		00795
0796	P0353	0001		SLS	1	MUI FAILED	00796
0797	P0354	18F4		JMP*	T61		00797
0798	P0355	C000	T62	LDA	=N\$2D46		00798
	P0356	2D46					
0799	P0357	2000		MUI	=N\$628C		00799
	P0358	628C					
0800	P0359	B000		EOR	=N\$0868		00800
	P035A	0868					
0801	P035B	0113		SAN	3		00801
0802	P035C	F000		ADQ	=N-\$1176		00802
	P035D	EE89					
0803	P035E	0142		SQZ	2		00803
0804	P035F	0001		SLS	1	MUI FAILED	00804
0805	P0360	18F4		JMP*	T62		00805
0807	P0361	0CFE	T63	ENQ	-\$1		00807
0808	P0362	3000		DVI	=N\$26DB		00808
	P0363	26DB					
0809	P0364	B000		EOR	=N\$FFF2		00809
	P0365	FFF2					
0810	P0366	0113		SAN	3		00810
0811	P0367	F000		ADQ	=N-\$F91F		00811
	P0368	06E0					
0812	P0369	0142		SQZ	2		00812
0813	P036A	0001		SLS	1	DVI FAILED	00813
0814	P036B	18F5		JMP*	T63		00814
0816	P036C	0A2F	T64	ENA	\$2F		00816
0817	P036D	09D0		INA	-\$2F		00817
0818	P036E	0102		SAZ	2		00818
0819	P036F	0001		SLS	1	INA FAILED	00819
0820	P0370	18FB		JMP*	T64		00820
0822	P0371	0C2F	T65	ENQ	\$2F		00822

0823	P0372	0000	INQ	-\$2F		00823
0824	P0373	0142	SQZ	2		00824
0825	P0374	0001	SLS	1	INQ FAILED	00825
0826	P0375	18F8	JMP*	T65		00826
0828	P0376	C000	T66 LDA	=N5678		00828
	P0377	162E				
0829	P0378	0821	TRA	M		00829
0830	P0379	082F	AAM	A,Q,M		00830
0831	P037A	8000	EOR	=N\$2C5C		00831
	P037B	2C5C				
0832	P037C	A800	AND	T35B	FFFF OR 000F	00832
	P037D	FOFF				
0833	P037E	0102	SAZ	2		00833
0834	P037F	0001	SLS	1	AAM A FAILED	00834
0835	P0380	18F5	JMP*	T66		00835
0836	P0381	0814	TRQ	A		00836
0837	P0382	8000	EOR	=N\$2C5C		00837
	P0383	2C5C				
0838	P0384	A800	AND	T35B	FFFF OR 000F	00838
	P0385	F0F7				
0839	P0386	0102	SAZ	2		00839
0840	P0387	0001	SLS	1	AAM Q FAILED	00840
0841	P0388	18ED	JMP*	T66		00841
0842	P0389	080C	TRM	A		00842
0843	P038A	8000	EOR	=N\$2C5C		00843
	P038B	2C5C				
0844	P038C	A800	AND	T35B	FFFF OR 000F	00844
	P038D	F0EF				
0845	P038E	0102	SAZ	2		00845
0846	P038F	0001	SLS	1	AAM N FAILED	00846
0847	P0390	18E5	JMP*	T66		00847
0849	P0391	0A7F	T67 ENA	\$7F		00849
0850	P0392	0CD2	ENQ	-\$2D		00850
0851	P0393	0837	AAQ	A,Q,M		00851
0852	P0394	8000	EOR	=N\$52		00852
	P0395	0052				
0853	P0396	0102	SAZ	2		00853
0854	P0397	0001	SLS	1	AAQ A FAILED	00854
0855	P0398	18F8	JMP*	T67		00855
0856	P0399	F000	ADQ	=N-\$52		00856
	P039A	FFAD				
0857	P039B	0142	SQZ	2		00857
0858	P039C	0001	SLS	1	AAQ FAILED	00858
0859	P039D	18F3	JMP*	T67		00859
0860	P039E	080C	TRM	A		00860



0861	P039F 8000		EOR	=N\$52		00861
	P03A0 0052					
0862	P03A1 8000		AND	T35B	FFFF OR 000F	00862
	P03A2 F0DA					
0863	P03A3 0102		SAZ	2		00863
0864	P03A4 0001		SLS	1	AAQ FAILED	00864
0865	P03A5 18EB		JMP*	T67		00865
0867	P03A6 C000	T68	LDA	=N\$5555		00867
	P03A7 5555					
0868	P03A8 0821		TRA	M		00868
0869	P03A9 E000		LDQ	=N\$9999		00869
	P03AA 9999					
0870	P03AB C000		LDA	=N\$2222		00870
	P03AC 2222					
0871	P03AD 083F		AAB	A,Q,M		00871
0872	P03AE 0106		SAZ	6	1705	00872
0873	P03AF A800		AND	T35B	FFFF OR 000F	00873
	P03B0 F0CC					
0874	P03B1 09F0		INA	-\$F	NO-1704	00874
0875	P03B2 0102		SAZ	2		00875
0876	P03B3 0001		SLS	1	AAB A FAILED	00876
0877	P03B4 18F1		JMP*	T68		00877
0878	P03B5 0814		TRQ	A		00878
0879	P03B6 0106		SAZ	6	1705	00879
0880	P03B7 A800		AND	T35B	FFFF OR 000F	00880
	P03B8 F0C4					
0881	P03B9 09F0		INA	-\$F	NO 1704	00881
0882	P03BA 0102		SAZ	2		00882
0883	P03BB 0001		SLS	1	AAB Q FAILED	00883
0884	P03BC 18E9		JMP*	T68		00884
0885	P03BD 080C		TRM	A		00885
0886	P03BE 0107		SAZ	T69-*-1		00886
0887	P03BF A800		AND	T35B	FFFF OR 000F	00887
	P03C0 F0BC					
0888	P03C1 09F0		INA	-\$F		00888
0889	P03C2 0103		SAZ	3		00889
0890	P03C3 0001		SLS	1	AAB M FAILED	00890
0891	P03C4 18E1		JMP*	T68		00891
0893	P03C5 FFFF	AD4	NUM	-0		00893
0894	P03C6 C808	T69	LDA*	T70	SQUARE - SQUARE ROOT TEST	00894
0895	P03C7 0109		SAZ	9		00895
0896	P03C8 2806		MUI*	T70		00896
0897	P03C9 3805		DVI*	T70	((A*A)/A)-A = 0.	00897
0898	P03CA 9804		SUB*	T70		00898
0899	P03CB 0103		SAZ	3		00899

0900	P03CC	0001		SLS	1	SQUARE-SQUARE FAILED	00900
0901	P03CO	18F8		JMP*	T69		00901
0902	P03CE	0001	T70	NUM	1		00902
0903	P03CF	D8FE		RAO*	T70		00903
0904	P03D0	18F5		JMP*	T69		00904
0906	P03D1	01A4		SOV	T73-*--1		00906
0907	P03D2	0001		SLS	1	SOU FAILED	00907
0908	P03D3	0A01		ENA	1		00908
0909	P03D4	68F9		STA*	T70		00909
0910	P03D5	18F0		JMP*	T69		00910
0912	P03D6	C8F7	T73	LDA*	T70	ADDER BIT TEST	00912
0913	P03D7	88F6		ADU*	T70		00913
0914	P03D8	98F5		SUB*	T70	A+A-A = A	00914
0915	P03D9	88F4		EOR*	T70		00915
0916	P03DA	0102		SAZ	2		00916
0917	P03DB	0001		SLS	1	ADDER FAILED	00917
0918	P03DC	18F9		JMP*	T73		00918
0919	P03DD	D8F0		RAO*	T70		00919
0920	P03DE	C8EF		LDA*	T70		00920
0921	P03DF	B000		EOR	=N\$4000		00921
	P03E0	4000					
0922	P03E1	0101		SAZ	1		00922
0923	P03E2	18F3		JMP*	T73		00923
0925				*****			00925
0926	P03E3	5803	T74	RTJ*	T75	CHECK RETURN JUMP INSTRUCTION	00926
0927	P03E4	0001	T74A	SLS	1	RETURN JUMP FAILED. DID NOT JUMP.	00927
0928	P03E5	18F0		JMP*	T74		00928
0929	P03E6	FFFF	T75	NUM	-0		00929
0930	P03E7	C000		LDA	=XT74A-QL		00930
	P03E8	03E4					
0931	P03E9	88FC		EOR*	T75		00931
0932	P03EA	0103		SAZ	T76-*--1		00932
0933	P03EB	0001		SLS	1	RETURN JUMP FAILED	00933
0934	P03EC	18F6		JMP*	T74		00934
0935	P03ED	FFFF	SAVE	NUM	-0		00935
0936	P03EE	C806	T76	LDA*	H0F00	CHECK FOR PRESENCE OF 2ND BANK.	00936
0937	P03EF	6C05		STA*	(H0F00)	0F00 TO P0F00.	00937
0938	P03F0	C802		LDA*	H8F00		00938
0939	P03F1	6400		STA-	(0)	8F00 TO P8F00 IF BANK EXISTS,	00939
0940	P03F2	8F00	H8F00	NUM	\$8F00	8F00 TO P0F00 IF NOT.	00940
0941	P03F3	C400		LDA-	(0)		***00941
0942	P03F4	0F00	H0F00	NUM	\$0F00		00942
0943	P03F5	EC40		LDQ*	(PT1)		00943
0944	P03F6	0138		SAM	T77-*--1	ANEG = 2ND BANK NOT PRESENT.	00944
0945	P03F7	4C00		STQ	(A03)	APOS. BYPASS MULTI-INDIRECT TEST	00945
	P03F8	FEB4					

0946	P03F9 4C00		STQ	(AD2)		00946
	P03FA F0B5					
0947	P03FB 4C00		STQ	(AD1)		00947
	P03FC FCF6					
0948	P03FD 4C39		STQ*	(RT)		00948
0949	P03FE 1806		JMP*	T78		00949
0950	P03FF CC35	T77	LDA*	(PT)	EXTENDED INDIRECT	00950
0951	P0400 4C34		STQ*	(PT)	ADDRESSING TEST	00951
0952	P0401 0132		SAN	2		00952
0953	P0402 6C36		STA*	(PT2)		00953
0954	P0403 18FB		JMP*	T77		00954
0955	P0404 C000	T78	LDA	=XAD-QL		00955
	P0405 0439					
0956	P0406 6833		STA*	AD		00956
0957	P0407 C800		LDA	AD1		00957
	P0408 FCEA					
0958	P0409 B830		EOR*	AD		00958
0959	P040A 0101		SAZ	1		00959
0960	P040B 180E		JMP*	T79		00960
0961	P040C C800		LDA	AD2		00961
	P040D FDA2					
0962	P040E B82B		EOR*	AD		00962
0963	P040F 0119		SAN	T79-*-1		00963
0964	P0410 C800		LDA	AD3		00964
	P0411 FE9B					
0965	P0412 B827		EOR*	AD		00965
0966	P0413 0115		SAN	T79-*-1		00966
0967	P0414 C880		LDA*	AD4		00967
0968	P0415 B824		EOR*	AD		00968
0969	P0416 0112		SAN	T79-*-1		00969
0970	P0417 6823		STA*	ERAD	NO ERROR	00970
0971	P0418 1802		JMP*	*+2		00971
0972	P0419 0001	T79	SLS	1	INDIRECT ADDRESSING TEST FAILED	00972
0973	P041A C000		LDA	=XAD2-QL		00973
	P041B 0180					
0974	P041C 6800		STA	AD1		00974
	P041D FCD5					
0975	P041E C000		LDA	=XAD3-QL		00975
	P041F 02AD					
0976	P0420 6800		STA	AD2		00976
	P0421 F08E					
0977	P0422 C000		LDA	=XAD4-QL	RESTORE ADDRESSES FOR	00977
	P0423 03C5					
0978	P0424 6800		STA	AD3	REPEAT OF INDIRECT ADDRESSING TE	00978
	P0425 FE87					
0979	P0426 0804		SET	A		00979
0980	P0427 6890		STA*	AD4		00980
0981	P0428 C000		LDA	=XRT1-QL		00981
	P0429 0437					
0982	P042A 680B		STA*	PT1		00982
0983	P042B C000		LDA	=XAD1-QL		00983
	P042C 00F3					
0984	P042D 6809		STA*	RT		00984

0985	P042E	C80C		LDA*	ERAD		00985
0986	P042F	0113		SAN	3	ERROR-REPEAT SECTION	00986
0987	P0430	0804		SET	A		00987
0988	P0431	6809		STA*	ERAD		00988
0989	P0432	1809		JMP*	T80		00989
0990	P0433	188A		JMP*	T76		00990
0991	P0434	8436	PT	ADC	(RT-QL)		00991
0992	P0435	0437	PT1	ADC	RT1-QL		00992
0993	P0436	00F3	RT	ADC	AD1-QL		00993
0994	P0437	0439	RT1	ADC	AD-QL		00994
0995	P0438	0436	PT2	ADC	RT-QL		00995
0996	P0439	0066	AD	NUM	\$66		00996
0997	P043A	FFFF	ERAD	NUM	-0		00997
0998	P043B	0AFE	T80	ENA	-1		00998
0999	P043C	0824		TRA	A		00999
1000	P043D	0901		INA	1		01000
1001	P043E	0102		SAZ	2		01001
1002	P043F	0001		SLS	1	TRA A FAILED	01002
1003	P0440	18FA		JMP*	T80		01003
1004	P0441	0CFE	T81	ENQ	-1		01004
1005	P0442	0812		TRQ	Q		01005
1006	P0443	0D01		INQ	1		01006
1007	P0444	0142		SQZ	2		01007
1008	P0445	0001		SLS	1	TRQ Q FAILED	01008
1009	P0446	18FA		JMP*	T81		01009
1010	P0447	0AFF	T82	ENA	-0		01010
1011	P0448	0821		TRA	M		01011
1012	P0449	0809		TRM	M		01012
1013	P044A	080C		TRM	A		01013
1014	P044B	8800		EOR	T35B	FFFF IF 1705, 000F IF 1704	01014
	P044C	FD30					
1015	P044D	0102		SAZ	2		01015
1016	P044E	0001		SLS	1	TRM M FAILED	01016
1017	P044F	18F7		JMP*	T82		01017
1018	P0450	0A01	T83	ENA	1		01018
1019	P0451	0864		TCA	A		01019
1020	P0452	0901		INA	1		01020
1021	P0453	0102		SAZ	2		01021
1022	P0454	0001		SLS	1	TCA A FAILED	01022
1023	P0455	18FA		JMP*	T83		01023
1024	P0456	0C01	T84	ENQ	1		01024
1025	P0457	0852		TCQ	Q		01025
1026	P0458	0D01		INQ	1		01026
1027	P0459	0142		SQZ	2		01027
1028	P045A	0001		SLS	1	TCQ Q FAILED	01028
1029	P045B	18FA		JMP*	T84		01029
1030	P045C	0844	T85	CLR	A		01030
1031	P045D	0821		TRA	M		01031
1032	P045E	0849		TCM	M		01032
1033	P045F	080C		TRM	A		01033
1034	P0460	8800		EOR	T35B	FFFF IF 1705, 000F IF 1704	01034
	P0461	FD18					
1035	P0462	0102		SAZ	2		01035

1036	P0463	0001	SLS	1	TRM M FAILED	01036
1037	P0464	18F7	JMP*	T85		01037
1038			*		CHECK ADDRESSING MODES WITH DELTA = 0 AND NOT = 0	01038
1039			*		SOME HAVE ALREADY BEEN TESTED WITHIN QUICK LOOK	01039
1040			*		AND WILL NOT BE REPEATED	01040
1041	P0465	0A01	T86	ENA	1	01041
1042	P0466	60FE		STA-	I-1	01042
1043	P0467	6400		STA+	I-1	01043
	P0468	00FE				
1044	P0469	6400		STA	I-1	01044
	P046A	00FE				
1045	P046B	C0FE		LDA-	I-1	01045
1046	P046C	09FE		INA	-1	01046
1047	P046D	0102		SAZ	2	01047
1048	P046E	0001		SLS	1	01048
1049	P046F	18F5		JMP*	T86	01049
1050	P0470	C000	T87	LDA	=NS50	01050
	P0471	0050				
1051	P0472	09AF		INA	-\$50	01051
1052	P0473	0102		SAZ	2	01052
1053	P0474	0001		SLS	1	01053
1054	P0475	18FA		JMP*	T87	01054
1055	P0476	C4FE	T88	LDA-	(I-1)	01055
1056	P0477	9001		SUB-	\$1	01056
1057	P0478	0102		SAZ	2	01057
1058	P0479	0001		SLS	1	01058
1059	P047A	18FB		JMP*	T88	01059
1060	P047B	C400	T89	LDA+	I-1	01060
	P047C	00FE				
1061	P047D	09FE		INA	-1	01061
1062	P047E	0102		SAZ	2	01062
1063	P047F	0001		SLS	1	01063
1064	P0480	18FA		JMP*	T89	01064
1065	P0481	0C04	T90	ENQ	4	01065
1066	P0482	C2FA		LDA-	I-5,Q	01066
1067	P0483	09FE		INA	-1	01067
1068	P0484	0102		SAZ	2	01068
1069	P0485	0001		SLS	1	01069
1070	P0486	18FA		JMP*	T90	01070
1071	P0487	0C05	T91	ENQ	5	01071
1072	P0488	C200		LDA	=XT1A-T1,Q	01072
	P0489	0002				
1073	P048A	09F8		INA	-7	01073
1074	P048B	0102		SAZ	2	01074
1075	P048C	0001		SLS	1	01075
1076	P048D	18F9		JMP*	T91	01076
1077	P048E	0A04	T92	ENA	4	01077
1078	P048F	60FF		STA-	I	01078
1079	P0490	C1FA		LDA-	I-5,I	01079
1080	P0491	09FE		INA	-1	01080
1081	P0492	0102		SAZ	2	01081
1082	P0493	0001		SLS	1	01082
1083	P0494	18F9		JMP*	T92	01083

1084	P0495	0A05	T93	ENA	5		01084
1085	P0496	60FF		STA-	I		01085
1086	P0497	C100		LDA	=XT1A-T1,I		01086
	P0498	0002					
1087	P0499	09F8		INA	-7		01087
1088	P049A	0102		SAZ	2		01088
1089	P049B	0001		SLS	1	I INDEX, D > 0 FAILED	01089
1090	P049C	18F8		JMP*	T93		01090
1091	P049D	CC00	T94	LDA	(DATA00)	DATA 2	01091
	P049E	0032					
1092	P049F	09DF		INA	-\$20		01092
1093	P04A0	0102		SAZ	2		01093
1094	P04A1	0001		SLS	1	REL, INDR, D > 0 FAILED	01094
1095	P04A2	18FA		JMP*	T94		01095
1096	P04A3	0C03	T95	ENQ	3		01096
1097	P04A4	C6FE		LDA-	(I-1),Q		01097
1098	P04A5	9004		SUB-	\$4		01098
1099	P04A6	0102		SAZ	2		01099
1100	P04A7	0001		SLS	1	INDR, Q INDEX, D NOT > 0 FAILED	01100
1101	P04A8	18FA		JMP*	T95		01101
1102	P04A9	0C03	T96	ENQ	3		01102
1103	P04AA	C600		LDA+	DATA20-QL,Q		01103
	P04AB	04D2					
1104	P04AC	09AF		INA	-\$50		01104
1105	P04AD	0102		SAZ	2		01105
1106	P04AE	0001		SLS	1	INDR, Q INDEX, D > 0 FAILED	01106
1107	P04AF	18F9		JMP*	T96*		01107
1108	P04B0	0C03	T97	ENQ	3		01108
1109	P04B1	0A01		ENA	1		01109
1110	P04B2	60FF		STA-	I		01110
1111	P04B3	C3FA		LDA-	I-5,B		01111
1112	P04B4	09FE		INA	-1		01112
1113	P04B5	0102		SAZ	2		01113
1114	P04B6	0001		SLS	1	I AND Q INDEX, D NOT > 0 FAILED	01114
1115	P04B7	18F8		JMP*	T97		01115
1116	P04B8	0C02	T98	ENQ	2		01116
1117	P04B9	0A03		ENA	3		01117
1118	P04BA	60FF		STA-	I		01118
1119	P04BB	C300		LDA	=XT1A-T1,B		01119
	P04BC	0002					
1120	P04BD	09F8		INA	-7		01120
1121	P04BE	0102		SAZ	2		01121
1122	P04BF	0001		SLS	1	I AND Q INDEX, D > 0 FAILED	01122
1123	P04C0	18F7		JMP*	T98		01123
1124	P04C1	0A05	T99	ENA	5		01124
1125	P04C2	60FF		STA-	I		01125
1126	P04C3	C90D		LDA*	DATA00,I		01126
1127	P04C4	09AF		INA	-\$50		01127
1128	P04C5	0102		SAZ	2		01128
1129	P04C6	0001		SLS	1	REL, I INDEX, D NOT > 0 FAILED	01129
1130	P04C7	18F9		JMP*	T99		01130
1131	P04C8	0A04	T100	ENA	4		01131
1132	P04C9	60FF		STA-	I		01132

1133	P04CA C900	LDA	DATA00,I		01133
	P04CB 0005				
1134	P04CC 098F	INA	-\$40		01134
1135	P04CD 010A	SAZ	T101--1		01135
1136	P04CE 0001	SLS	1	REL, I INDEX, D=0 FAILED.	01136
1137	P04CF 18F8	JMP*	T100		01137
1138	P04D0 04D2	DATA00 ADC	DATA20-QL		01138
1139	P04D1 FFFF	DATA10 NUM	-0		01139
1140	P04D2 0020	DATA20 NUM	\$20		01140
1141	P04D3 0030	DATA30 NUM	\$30		01141
1142	P04D4 0040	DATA4 NUM	\$40		01142
1143	P04D5 0050	DATA5 NUM	\$50		01143
1144	P04D6 0060	DATA6 NUM	\$60		01144
1145	P04D7 04D6	DATA7 ADC	DATA6-QL		01145
1146	P04D8 0A03	T101 ENA	3		01146
1147	P04D9 60FF	STA-	I		01147
1148	P04DA C5FE	LDA-	(I-1),I		01148
1149	P04DB 9004	SUB-	\$4		01149
1150	P04DC 0102	SAZ	2		01150
1151	P04DD 0001	SLS	1	INDR, I INDEX, D NOT > 0 FAILED	01151
1152	P04DE 18F9	JMP*	T101		01152
1153	P04DF 0AFC	T102 ENA	-3		01153
1154	P04E0 60FF	STA-	I		01154
1155	P04E1 C500	LDA+	DATA6-QL,I		01155
	P04E2 04D6				
1156	P04E3 09CF	INA	-\$30		01156
1157	P04E4 0102	SAZ	2		01157
1158	P04E5 0001	SLS	1	INDR, I INDEX, D > 0 FAILED	01158
1159	P04E6 18F8	JMP*	T102		01159
1160	P04E7 0C06	T103 ENQ	6		01160
1161	P04E8 CAF6	LDA*	T102,Q		01161
1162	P04E9 09FE	INA	-1		01162
1163	P04EA 0102	SAZ	2		01163
1164	P04EB 0001	SLS	1	REL, Q INDEX, D NOT > 0 FAILED	01164
1165	P04EC 18FA	JMP*	T103		01165
1166	P04ED 0CFC	T104 ENQ	-\$3		01166
1167	P04EE CA00	LDA	DATA6,Q		01167
	P04EF FFE6				
1168	P04F0 09CF	INA	-\$30		01168
1169	P04F1 0102	SAZ	2		01169
1170	P04F2 0001	SLS	1	REL, Q INDEX, D > 0 FAILED	01170
1171	P04F3 18F9	JMP*	T104		01171
1172	P04F4 0C03	T105 ENQ	3		01172
1173	P04F5 CEDA	LDA*	(DATA00),Q		01173
1174	P04F6 09AF	INA	-\$50		01174
1175	P04F7 0102	SAZ	2		01175
1176	P04F8 0001	SLS	1	REL, INDR, Q, D NOT > 0 FAILED	01176
1177	P04F9 18FA	JMP*	T105		01177
1178	P04FA 0CFC	T106 ENQ	-3		01178
1179	P04FB CE00	LDA	(DATA7),Q		01179
	P04FC FFOA				
1180	P04FD 09CF	INA	-\$30		01180
1181	P04FE 0102	SAZ	2		01181

1182	P04FF	0001	SLS	1	REL, INDR, Q, D > 0 FAILED	01182
1183	P0500	18F9	JMP*	T106		01183
1184	P0501	0C60	ENQ	\$60		01184
1185	P0502	0AA2	ENA	-\$50		01185
1186	P0503	60FF	STA-	I		01186
1187	P0504	C7FE	LDA-	(I-1),B		01187
1188	P0505	9004	SUB-	\$4		01188
1189	P0506	0102	SAZ	2		01189
1190	P0507	0001	SLS	1	INDR, I, Q, D NOT > 0 FAILED	01190
1191	P0508	18F8	JMP*	T107		01191
1192	P0509	0C9F	ENQ	-\$60		01192
1193	P050A	0A5D	ENA	\$5D		01193
1194	P050B	60FF	STA-	I		01194
1195	P050C	C700	LDA+	DATA6-QL,B		01195
	P050D	0406				
1196	P050E	09CF	INA	-\$30		01196
1197	P050F	0102	SAZ	2		01197
1198	P0510	0001	SLS	1		01198
1199	P0511	18F7	JMP*	T108	INDR, Q, I, D > 0 FAILED	01199
1200	P0512	0A03	ENQ	3		01200
1201	P0513	60FF	STA-	I		01201
1202	P0514	C088	LDA*	(DATA00),I		01202
1203	P0515	09AF	INA	-\$50		01203
1204	P0516	0102	SAZ	2		01204
1205	P0517	0001	SLS	1	REL, INDR, I, D NOT > 0 FAILED	01205
1206	P0518	18F9	JMP*	T109		01206
1207	P0519	0AFC	ENQ	-3		01207
1208	P051A	60FF	STA-	I		01208
1209	P051B	CD00	LDA	(DATA7),I		01209
	P051C	FF8A				
1210	P051D	09CF	INA	-\$30		01210
1211	P051E	0102	SAZ	2		01211
1212	P051F	0001	SLS	1	REL, INDR, I, D > 0 FAILED	01212
1213	P0520	18F8	JMP*	T110		01213
1214	P0521	0C06	ENQ	6		01214
1215	P0522	0AFC	ENA	-3		01215
1216	P0523	60FF	STA-	I		01216
1217	P0524	CBAB	LDA*	DATA00,B		01217
1218	P0525	09CF	INA	-\$30		01218
1219	P0526	0102	SAZ	2		01219
1220	P0527	0001	SLS	1		01220
1221	P0528	18F8	JMP*	T111	REL, Q, I, D NOT > 0 FAILED	01221
1222	P0529	0CF9	ENQ	-6		01222
1223	P052A	0A03	ENA	3		01223
1224	P052B	60FF	STA-	I		01224
1225	P052C	CB00	LDA	DATA7,B		01225
	P052D	FFA9				
1226	P052E	09BF	INA	-\$40		01226
1227	P052F	0102	SAZ	2		01227
1228	P0530	0001	SLS	1	REL, Q, I, D > 0 FAILED	01228
1229	P0531	18F7	JMP*	T112		01229
1230	P0532	0C50	ENQ	\$50		01230
1231	P0533	0AB2	ENA	-\$40		01231



1232	P0534	60FF	STA-	I		01232	
1233	P0535	CF9A	LDA*	(DATA00),B		01233	
1234	P0536	09AF	INA	-\$50		01234	
1235	P0537	0102	SAZ	2		01235	
1236	P0538	0001	SLS	1	REL, INDR, Q, I, D NOT = 0 FAILED	01236	
1237	P0539	18F8	JMP*	T113		01237	
1238	P053A	0CAF	T114	ENQ	-\$50	01238	
1239	P053B	0A40	ENA	\$40		01239	
1240	P053C	60FF	STA-	I		01240	
1241	P053D	CF00	LDA	(DATA7),B		01241	
	P053E	FF98					
1242	P053F	09CF	INA	-\$30		01242	
1243	P0540	0102	SAZ	2		01243	
1244	P0541	0001	SLS	1	REL, INDR, Q, I, D > 0 FAILED	01244	
1245	P0542	18F7	JMP*	T114		01245	
1246	P0543	0CFC	T115	ENQ	-3	01246	
1247	P0544	EA00	LDQ	DATA7,Q		01247	
	P0545	FF91					
1248	P0546	008F	INQ	-\$40		01248	
1249	P0547	0142	SQZ	2		01249	
1250	P0548	0001	SLS	1	LDQ, Q INDEX D > 0 FAILED	01250	
1251	P0549	18F9	JMP*	T115		01251	
1252	P054A	C400	QL100	LDA+	QL100-QL	DETERMINE QL CALLER	01252
	P054B	054A					
1253	P054C	88FD	EOR*	QL100		01253	
1254	P054D	0105	SAZ	QL101-*--1	SKIP IF FROM BOOTSTRAP	01254	
1255	P054E	0844	CLR	A		01255	
1256	P054F	5406	RTJ-	(JUMP)	CHECK MONITOR PARAM STOP.	01256	
1257	P0550	0B00	NOP	0		01257	
1258	P0551	C0B0	LDA-	STJPIX	(SMM STOP/JUMP PARAM)	01258	
1259	P0552	181B	JMP*	QL106+1	CHECK FOR REPEAT QL.	01259	
1260	P0553	C000	QL101	LDA	=N\$7FFF	01260	
	P0554	7FFF					
1261	P0555	0905	INA	5	SET OVERFLOW LIGHT	01261	
1262	P0556	0A21	ENA	\$21	SMM ID WORD	01262	
1263	P0557	E829	LDQ*	SMMSJ	STOP-JUMP WORD	01263	
1264	P0558	0191	SWN	1	CHECK SKIP SWITCH	01264	
1265	P0559	0001	SLS	1	DISPLAY	01265	
1266	P055A	01A0	SOV	0	CLEAR OVERFLOW	01266	
1267	P055B	4400	STQ+	PASSJ	SMM STOP/JUMP PARAM FOR MONITOR.	01267	
	P055C	0FDE					
1268	P055D	4823	STQ*	SMMSJ		01268	
1269	P055E	CA23	LDA*	SMHPAR		01269	
1270	P055F	E825	LDQ*	BOOTEQ	(FROM BOOT, OR \$181 IF AUTOLOAD)	01270	
1271	P0560	A000	AND	=N\$0FFF		01271	
	P0561	0FFF					
1272	P0562	0FC4	ALS	4		01272	
1273	P0563	8822	ADD*	BOOTEQ+1	INSERT PRE-LOADER DEVICE TYPE.	01273	
1274	P0564	0FCC	ALS	12		01274	
1275	P0565	0191	QL104	SWN	1	CHECK SKIP SWITCH	01275
1276	P0566	0008	QL105	SLS	8	AND LOADER EQUIP ADDR	01276
1277	P0567	6400	STA+	PASSMM	SMM PARAMETER WORD FOR MONITOR	01277	
	P0568	0FDD					

1278	P0569	6818		STA*	SMMPAR			01278
1279	P056A	4400		STQ+	PASEQ	LOADER EQUIPMENT ADDRESS.		01279
	P056B	0FDF						
1280	P056C	4816	QL106	STQ*	SMMQ			01280
1281	P056D	0FCE		ALS	14			01281
1282	P056E	0122		SAP	QL107-*--1	BIT1 = REPEAT Q. L.		01282
1283	P056F	1800		JMP	T1	YES-REPEAT QL		01283
	P0570	FAAE						
1284	P0571	C400	QL107	LDA+	QL107-QL			01284
	P0572	0571						
1285	P0573	88FD		EOR*	QL107			01285
1286	P0574	0102		SAZ	MOVEPL-*--2			01286
1287	P0575	5403		RTJ-	(EXIT)	QL CALLED BY SMH		01287
1288	P0576	18F8		JMP*	QL107-2			01288
1289	P0577	0842		CLR	Q			01289
1290	P0578	CA0C	MOVEPL	LDA*	BOOTEQ,Q			01290
1291	P0579	6E06		STA*	(XPRELDR),Q			01291
1292	P057A	0102		SAZ	2			01292
1293	P057B	0001		INQ	1			01293
1294	P057C	18FB		JMP*	MOVEPL			01294
1295	P057D	0C02		ENQ	2			01295
1296	P057E	1600		JMP-	(0),Q			01296
1297	P057F	0EAO	XPRELDR	ADC	PRELDR			01297
1298		0580	P	ORG	*			01298
1299	P0580	0200	SMMSJ	NUM	\$200	SMH, OR MASTER, STOP/JUMP WORD.		01299
1300	P0581	00F0	SMMPAR	NUM	\$F0	SMH PARAMETER WORD	***	01300
1301			*			CHANGE ROUTINE AND CONTROLS		01301
1302			*			BOOTEQ FOR AUTOLOAD DEVICES		01302
1303	P0582	0181	SMMQ	NUM	\$181	Q FOR PRELOADER (DISK)		01303
1304	P0583	FFFF	LENGTH	NUM	-0	FOR BIN CKSM AT ENTRY, PLUGGED.		01304
1305	P0584	FFFF	BOOTEQ	NUM	-0			01305
1307		0FDD		EQU	PASSMH(\$FFF-\$22)			01307
1308		0FDE		EQU	PASSJ(\$FFF-\$21)			01308
1309		0FDF		EQU	PASEQ(\$FFF-\$20)			01309
1310				END				01310

L

QLDAFF

PAGE 33

DATE: 10/20/75

PGM= 0585 ( 1413) COM = 0000 ( 0) DAT = 0000 ( 0)

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

M	DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	, 1042, 1043, 1044, 1045, 1055, 1060 , 1066, 1078, 1079, 1085, 1097, 1110 , 1111, 1118, 1125, 1132, 1147, 1148 , 1154, 1186, 1187, 1194, 1201, 1208 , 1216, 1224, 1232, 1240
0013	CONTR0	0002	(000002)	
0014	EXIT	0003	(000003)	, 1287
0015	JUMP	0006	(000006)	, 1256
0016	STJPX	0080	(000176)	, 1258
0017	PRELDR	0EAD	(003744)	, 1297
1307	PASSMH	0F00	(004061)	, 1277
1308	PASSJ	0FDE	(004062)	, 1267
1309	PASEQ	0FDF	(004063)	, 1279

## M S Y M B O L S

M	DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0012	QL		0000	, 0023, 0036, 0250, 0448, 0654, 0930 , 0955, 0973, 0975, 0977, 0981, 0983 , 0991, 0992, 0993, 0994, 0995, 1103 , 1138, 1145, 1155, 1195, 1252, 1284
0020	PARADR		0004	
0021	RETURN		0005	
0022	LDREQ		0006	, 0028
0023	ENTRY		0007	, 0012, 0023, 0024, 0042
0029	E1		000E	, 0027
0036	E3		0018	, 0039
0040	E4		001C	, 0037
0043	T1		001F	, 0021, 0026, 0040, 1072, 1086, 1119 , 1283
0045	T1A		0021	, 0047, 1072, 1086, 1119
0049	T1B		0024	, 0052
0054	T2		0028	, 0050, 0057
0059	T2A		002C	, 0055, 0061
0064	T3		0031	, 0067
0069	T3A		0035	, 0065, 0071
0073	T3B		0038	, 0075
0077	T3C		003B	, 0080
0082	T4		003F	, 0078
0084	T4A		0042	, 0086
0088	T4B		0045	, 0091
0093	T4C		0049	, 0089, 0096
0098	T4D		004D	, 0094, 0100
0104	T5		0053	, 0107
0109	T5A		0057	, 0105, 0111
0113	T5B		005A	, 0115
0117	T5C		005D	, 0120
0122	T6		0061	, 0118, 0126
0128	T7		0067	, 0133
0135	T8		006F	, 0139
0141	T9		0076	, 0146
0148	T9A		007E	, 0153
0155	T10		0086	, 0159
0161	T11		008C	, 0166
0168	T12		0094	, 0174
0176	T13		009E	, 0182
0184	T14		00A9	, 0191
0193	T14A		00B3	, 0186, 0187, 0195, 0196, 0203, 0208 , 0216, 0222, 0243, 0244
0194	T15		00B4	, 0200
0202	T16		00B0	, 0206

0208	T16A	00C4	, 0212
0214	T16B	00CA	, 0220
0222	T16C	00D4	, 0226
0228	T17	00D8	, 0233
0235	T18	00E2	, 0240
0242	T19	00EA	, 0248
0250	AD1	00F3	, 0947, 0957, 0974, 0983, 0993
0251	T20	00F4	, 0258
0264	T20A	0100	, 0252, 0253, 0254, 0265, 0298, 0319
			, 0328, 0335
0267	T21	0102	, 0256, 0273
0275	T22	0108	, 0271, 0290
0292	T23	0119	, 0279, 0287, 0296
0298	T24	011F	, 0301
0303	T25	0123	, 0308
0310	T26	012A	, 0316
0318	T27	0132	, 0324
0326	T28	0139	, 0331
0333	T29	013F	, 0340
0342	T30	0147	, 0345, 0350
0352	T31	014F	, 0343, 0348, 0356
0358	T31A	0154	, 0354, 0360
0362	T32	0157	, 0366
0368	T33	015D	, 0373
0375	T34	0164	, 0371, 0379, 0383
0385	T34A	016D	, 0377, 0381, 0390, 0397, 0400
0386	T34B	016E	, 0391
0387	T34C	016F	, 0393
0391	T34D	0173	, 0388
0392	T34E	0174	, 0386
0394	T35A	0176	, 0392
0398	T35C	017A	, 0395
0402	T35B	017D	, 0286, 0313, 0409, 0415, 0424, 0443
			, 0454, 0466, 0476, 0482, 0488, 0506
			, 0517, 0529, 0537, 0548, 0558, 0570
			, 0586, 0604, 0615, 0627, 0637, 0649
			, 0668, 0679, 0691, 0714, 0726, 0832
			, 0838, 0844, 0862, 0873, 0880, 0887
			, 1014, 1034
0404	T36	017E	, 0398, 0412, 0418
0420	T37	0190	, 0427, 0433
0435	T38	01A1	, 0440
0441	T39	01A9	, 0446
0448	AD2	01B0	, 0250, 0946, 0961, 0973, 0976
0449	T40	01B1	, 0457, 0463, 0469
0471	T41	01C0	, 0479, 0485, 0491
0493	T42	01E6	, 0499, 0503, 0509
0511	T43	01FC	, 0520, 0526, 0532
0534	T44	021B	, 0540, 0546, 0551
0553	T45	0230	, 0561, 0567, 0573
0575	T46	024C	, 0580, 0584, 0589
0591	T47	025C	, 0597, 0601, 0607
0609	T48	0273	, 0618, 0624, 0630

0632	T49	0291	, 0640, 0646, 0652
0654	AD3	02AD	, 0448, 0945, 0964, 0975, 0978
0655	T50	02AE	, 0661, 0665, 0671
0673	T51	02C5	, 0682, 0688, 0694
0696	T52	02E3	, 0700, 0703, 0707
0709	T53	02EF	, 0717, 0723, 0729
0731	T54	030C	, 0735
0737	T54A	0311	, 0733, 0740
0742	T55	0315	, 0738, 0747
0749	T56	031D	, 0757
0759	T57	0327	, 0764
0766	T58	032E	, 0771
0773	T59	0336	, 0778
0780	T60	033E	, 0788
0790	T61	0349	, 0797
0798	T62	0355	, 0805
0807	T63	0361	, 0814
0816	T64	036C	, 0820
0822	T65	0371	, 0826
0828	T66	0376	, 0835, 0841, 0847
0849	T67	0391	, 0855, 0859, 0865
0867	T68	03A6	, 0877, 0884, 0891
0893	AD4	03C5	, 0654, 0967, 0977, 0980
0894	T69	03C6	, 0886, 0901, 0904, 0910
0902	T70	03CE	, 0894, 0896, 0897, 0898, 0903, 0909
			, 0912, 0913, 0914, 0915, 0919, 0920
0912	T73	03D6	, 0906, 0918, 0923
0926	T74	03E3	, 0928, 0934
0927	T74A	03E4	, 0930
0929	T75	03E6	, 0926, 0931
0935	SAVE	03ED	
0936	T76	03EE	, 0932, 0990
0940	H8F00	03F2	, 0938
0942	H0F00	03F4	, 0936, 0937
0950	T77	03FF	, 0944, 0954
0955	T78	0404	, 0949
0972	T79	0419	, 0960, 0963, 0966, 0969
0991	PT	0434	, 0950, 0951
0992	PT1	0435	, 0943, 0982
0993	RT	0436	, 0948, 0984, 0991, 0995
0994	RT1	0437	, 0981, 0992
0995	PT2	0438	, 0953
0996	AD	0439	, 0955, 0956, 0958, 0962, 0965, 0968
			, 0994
0997	ERAD	043A	, 0970, 0985, 0988
0998	T80	043B	, 0989, 1003
1004	T81	0441	, 1009
1010	T82	0447	, 1017
1018	T83	0450	, 1023
1024	T84	0456	, 1029
1030	T85	045C	, 1037
1041	T86	0465	, 1049

1050	T87	0470	, 1054
1055	T88	0476	, 1059
1060	T89	0478	, 1064
1065	T90	0481	, 1070
1071	T91	0487	, 1076
1077	T92	048E	, 1083
1084	T93	0495	, 1090
1091	T94	049D	, 1095
1096	T95	04A3	, 1101
1102	T96	04A9	, 1107
1108	T97	04B0	, 1115
1116	T98	04B8	, 1123
1124	T99	04C1	, 1130
1131	T100	04C8	, 1137
1138	DATA00	04D0	, 1091, 1126, 1133, 1173, 1202, 1217
			, 1233
1139	DATA10	04D1	
1140	DATA20	04D2	, 1103, 1138
1141	DATA30	04D3	
1142	DATA4	04D4	
1143	DATA5	04D5	
1144	DATA6	04D6	, 1145, 1155, 1167, 1195
1145	DATA7	04D7	, 1179, 1209, 1225, 1241, 1247
1146	T101	04D8	, 1135, 1152
1153	T102	04DF	, 1159, 1161
1160	T103	04E7	, 1165
1166	T104	04ED	, 1171
1172	T105	04F4	, 1177
1178	T106	04FA	, 1183
1184	T107	0501	, 1191
1192	T108	0509	, 1199
1200	T109	0512	, 1206
1207	T110	0519	, 1213
1214	T111	0521	, 1221
1222	T112	0529	, 1229
1230	T113	0532	, 1237
1238	T114	053A	, 1245
1246	T115	0543	, 1251
1252	QL100	054A	, 1252, 1253
1260	QL101	0553	, 1254
1275	QL104	0565	
1276	QL105	0566	
1280	QL106	056C	, 1259
1284	QL107	0571	, 1282, 1284, 1285, 1288
1290	MOVEPL	0578	, 1286, 1294
1297	XPRELD	057F	, 1291
1299	SMMSJ	0580	, 0020, 1263, 1268
1300	SMMPAR	0581	, 1269, 1278
1303	SMMQ	0582	, 1280
1304	LENGTH	0583	, 0035
1305	BOOTEQ	0584	, 0032, 1270, 1273, 1290



\*\*\* ALPHABETICAL SORT OF SYMBOLS \*\*\* MMMH

AD	0996	AD1	0250	AD2	0448	AD3	0654	AD4	0893
BOOTEQ	1305	CONTRO	0013	DATA00	1138	DATA10	1139	DATA20	1140
DATA30	1141	DATA4	1142	DATA5	1143	DATA6	1144	DATA7	1145
E1	0029	E3	0036	E4	0040	ENTRY	0023	ERAD	0997
EXIT	0014	H0F00	0942	H8F00	0940	I	0000	JUMP	0015
LDREQ	0022	LENGTH	1304	MOVEPL	1290	PARADR	0020	PASEQ	1309
PASSJ	1308	PASSMM	1307	PRELDR	0017	PT	0991	PT1	0992
PT2	0995	QL	0012	QL100	1252	QL101	1260	QL104	1275
QL105	1276	QL106	1280	QL107	1284	RETURN	0021	RT	0993
RT1	0994	SAVE	0935	SMMPAR	1300	SMHQ	1303	SMMSJ	1299
STJPX	0016	T1	0043	T10	0155	T100	1131	T101	1146
T102	1153	T103	1160	T104	1166	T105	1172	T106	1178
T107	1184	T108	1192	T109	1200	T11	0161	T110	1207
T111	1214	T112	1222	T113	1230	T114	1238	T115	1246
T12	0168	T13	0176	T14	0184	T14A	0193	T15	0194
T16	0202	T16A	0208	T16B	0214	T16C	0222	T17	0228
T18	0235	T19	0242	T1A	0045	T1B	0049	T2	0054
T20	0251	T20A	0264	T21	0267	T22	0275	T23	0292
T24	0298	T25	0303	T26	0310	T27	0318	T28	0326
T29	0333	T2A	0059	T3	0064	T30	0342	T31	0352
T31A	0358	T32	0362	T33	0368	T34	0375	T34A	0385
T34B	0386	T34C	0387	T34D	0391	T34E	0392	T35A	0394
T35B	0402	T35C	0398	T36	0404	T37	0420	T38	0435
T39	0441	T3A	0069	T3B	0073	T3C	0077	T4	0082
T40	0449	T41	0471	T42	0493	T43	0511	T44	0534
T45	0553	T46	0575	T47	0591	T48	0609	T49	0632
T4A	0084	T4B	0088	T4C	0093	T40	0098	T5	0104
T50	0655	T51	0673	T52	0696	T53	0709	T54	0731
T54A	0737	T55	0742	T56	0749	T57	0759	T58	0766
T59	0773	T5A	0109	T5B	0113	T5C	0117	T6	0122
T60	0780	T61	0790	T62	0798	T63	0807	T64	0816
T65	0822	T66	0828	T67	0849	T68	0867	T69	0894
T7	0128	T70	0902	T73	0912	T74	0926	T74A	0927
T75	0929	T76	0936	T77	0950	T78	0955	T79	0972
T8	0135	T80	0998	T81	1004	T82	1010	T83	1018
T84	1024	T85	1030	T86	1041	T87	1050	T88	1055
T89	1060	T9	0141	T90	1065	T91	1071	T92	1077
T93	1084	T94	1091	T95	1096	T96	1102	T97	1108
T98	1116	T99	1124	T9A	0148	XPRELD	1297		

STAPLE

STAPLE

FOLD

FOLD

FIRST CLASS  
PERMIT NO. 8241  
  
MINNEAPOLIS, MINN.

**BUSINESS REPLY MAIL**  
NO POSTAGE STAMP NECESSARY IF MAILED IN U.S.A.

POSTAGE WILL BE PAID BY  
**CONTROL DATA CORPORATION**  
Technical Publications Department  
4201 North Lexington Avenue  
Arden Hills, Minnesota 55112



CUT ALONG LINE

FOLD

FOLD

# COMMENT SHEET

MANUAL TITLE CONTROL DATA® SMMJ

Customer Engineering

PUBLICATION NO. 60411300 REV \_\_\_\_\_

**FROM:** NAME: \_\_\_\_\_  
BUSINESS ADDRESS: \_\_\_\_\_

## COMMENTS:

This form is not intended to be used as an order blank. Your evaluation of this manual will be welcomed by Control Data Corporation. Any errors, suggested additions or deletions, or general comments may be made below. Please include page number references and fill in publication revision level as shown by the last entry on the Record of Revision page at the front of the manual. Customer engineers are urged to use the TAR.

CUT ALONG LINE

PRINTED IN U.S.A.

AA3419 REV. 11/69

NO POSTAGE STAMP NECESSARY IF MAILED IN U. S. A.

FOLD ON DOTTED LINES AND STAPLE

▶ ▶ CUT OUT FOR USE AS LOOSE-LEAF BINDER TITLE TAB

**CONTROL DATA**

CORPORATION

8100 34th AVE. SO., MINNEAPOLIS, MINN. 55440

PRINTED IN U.S.A.