

CONTROL DATA[®] SMM17

Program Listings

COM


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0001     NAM          COM001          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     *          ADDED ADDRESSING CHECK          *****00009
0010     *          IMPROVED REPEAT SECTION, CONDITIONS LOGIC          *****00010
0011     *          CORRECTED M REG INTREGRITY WGEN MULTIPKEXING          *****00011
0012     *          *****00012
0013     *****00013

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0015	0001	EQU	CONTROL(1)	RETURN SMM CONTROL ADDRESS.	00015
0016	0002	EQU	STOPX(CONTROL+1)	ALL STOPS AND ERROR TYPEOUTS	00016
0017	0003	EQU	EXIT(STOPX+1)	END OF TEST-PASS EXIT	00017
0018	0004	EQU	REQINT(EXIT+1)	REQUEST INTERRUPT ADDRESS	00018
0019	0005	EQU	FCLRINT(REQINT+1)	FAKE OLD -CLR INTRPT REQ- SUBRTN	00019
0020	0006	FQU	JUMP(REQINT+2)	CHECK SKIPSWITCH FOR PARAM ENTRY	00020
0021	0007	EQU	GENRAN(JUMP+1)	RANDOM NUMBER GENERATOR	00021
0022	0008	EQU	TYPEOUT(GENRAN+1)	MESSAGE TYPEOUT ROUTINE	00022
0023	0009	EQU	TTYBZY(TYPEOUT+1)	ROUTINE TO WAIT TTY NOT BUSY.	00023
0024	000A	EQU	HEXASC(TYPEOUT+2)	HEX TO ASCII CONVERSION	00024
0025	000B	EQU	OVRLAY(HEXASC+1)	OVERLAY CALL ROUTINE.	00025
0026	000C	EQU	RELPOS(OVRLAY+1)	A/Q RELATIVE POSITION TEST.	00026
0027	000D	EQU	MAINL(RELPOS+1)	MANUAL INTERRUPT ROUTINE.	00027
0028	0042	EQU	SETMASK(MAINL+53)	M-REG RESET VALUE	00028
0029	0043	EQU	STJP(SETMASK+1)	STOP/JUMP PARAMETER WORD.	00029
0030	0044	EQU	LASTVALU(STJP+1)	MONITOR AREA LWA+1	00030
0031	0045	EQU	LASTAD(STJP+2)	AVAILABLE LOAD CORE FWA.	00031
0032	0047	EQU	LDLCORE(LASTAD+2)	BANK0 LAST ADDR	00032
0033	0048	EQU	L0L1COR(LDLCORE+1)	BANK1 LAST ADDR	00033
0034	0049	EQU	INFORM(L0L1COR+1)	BKO SIZE, MASK SIZE, BUSY SWITCH	00034
0035	0056	EQU	SMMCNT(INFORM+13)	SMM PARAMETER WORD.	00035
0036	006B	EQU	BIT00(SMMCNT+21)	*** CONSTANT TABLE ***	00036
0037	006B	EQU	BIT0(BIT00)		00037
0038	006C	EQU	BIT1(BIT0+1)		00038
0039	006D	EQU	BIT2(BIT1+1)		00039
0040	006E	EQU	BIT3(BIT2+1)		00040
0041	006F	EQU	BIT4(BIT3+1)		00041
0042	0070	EQU	BIT5(BIT4+1)		00042
0043	0071	EQU	BIT6(BIT5+1)		00043
0044	0072	EQU	BIT7(BIT6+1)		00044
0045	0073	EQU	BIT8(BIT7+1)		00045
0046	0074	EQU	BIT9(BIT8+1)		00046
0047	0075	EQU	BIT10(BIT9+1)		00047
0048	0076	EQU	BIT11(BIT10+1)		00048
0049	0077	EQU	BIT12(BIT11+1)		00049

0050	0078	EQU	BIT13(BIT12+1)	00050
0051	0079	EQU	BIT14(BIT13+1)	00051
0052	007A	EQU	BIT15(BIT14+1)	00052
0053	007B	EQU	H0000(BIT15+1)	00053
0054	007C	EQU	HFFFF(H0000+1)	00054
0055	007D	EQU	H000F(HFFFF+1)	00055
0056	007E	EQU	H00F0(H000F+1)	00056
0057	007F	EQU	H0F00(H00F0+1)	00057
0058	0080	EQU	HF000(H0F00+1)	00058
0059	0081	EQU	H00FF(HF000+1)	00059
0060	0082	EQU	HFFF0(H00FF+1)	00060
0061	0083	EQU	HFFF0(HFFF0+1)	00061
0062	0084	EQU	H0FFF(HFFF0+1)	00062
0063	0085	EQU	HFF0F(H0FFF+1)	00063
0064	0086	EQU	HF0FF(HFF0F+1)	00064
0065	0087	EQU	H7FFF(HF0FF+1)	00065
0066	0088	EQU	H7F00(H7FFF+1)	00066
0067	0089	EQU	H0780(H7F00+1)	00067
0068	008A	EQU	H007F(H0780+1)	00068
0069	008B	EQU	H2020(H007F+1)	00069
0070	0091	EQU	TSACTV(H2020+6)	00070
0071	0092	EQU	TSFREQ(TSACTV+1)	00071
0072	006B	EQU	CONST(BIT00)	00072
0073	0056	EQU	SMMPAR(SMNCNT)	00073
0074	0043	EQU	SJPAR(STJP)	00074
0075	0007	EQU	RANDOM(GENRAN)	00075
0076	000A	EQU	CONVERT(HEXASC)	00076
0077	0008	EQU	MESSAG(TYPEOUT)	00077
0078	0004	EQU	REQND(REQINT)	00078
0079	0005	EQU	CLRND(FCLRINT)	00079
0080	0004	EQU	TEMPLOC(\$D4)	00080
0081	000D	EQU	S(TEMPLOC+9)	00081
0082	00DE	EQU	OP(\$+1)	00082

TABLE INDEX TO TEST IN CONTROL.
TEST, FREQUENCY TABLE

0084	P0000	1807	COM001	JMP*	ENTER1	00084
0085	P0001	434F		ALF	3,COM001	00085
	P0002	4030				
	P0003	3031				
0086	P0004	0011	P PARADR	ADC	PRMST+5	00086
0087	P0005	0938	P RETURN	ADC	INIT01	00087
0088	P0006	0000	EQUIP	NUM	0	00088
0089	P0007	5805	ENTER1	RTJ*	PRMST	00089
0090	P0008	C000		LDA	=XCNT	00090
	P0009	001E	P			
0091	P000A	68FA		STA*	RETURN	00091
0092	P0003	5401		RTJ-	(CONTROL)	00092
0094						00094
0095						00095

*PARAMETER ENTRY ROUTINE

PARAMETER AREA FWA.
DUMMY CELL FOR LOADER USE.
PARAMETER ENTRY.

0096		*						00096
0097	P000C	0000	PRMST	NUM	0			00097
0098	P000D	C000		LDA	=XCOM001			00098
	P000E	0000	P					
0099	P000F	5402		RTJ-	(STOPX)	PARAMETER STOP.		00099
0100	P0010	1CFB		JMP*	(PRMST)			00100
0101		0011	P	ORG	*			00101
0102	P0011	0111		NUM	\$111	STOP ID		00102
0103	P0012	0044	PARAM	NUM	\$0044		***00103	
0104	P0013	0899	ITERAT	NUM	3000			00104
0105	P0014	D805	ENDPASS	RAO*	PASSCNT			00105
0106	P0015	C8F8		LDA*	PRMST+2	(TEST IA)		00106
0107	P0016	5402		RTJ-	(STOPX)	STOP AT END OF TEST.		00107
0108	P0017	1803		JMP*	CKRPT			00108
0109	P0018	0104		NUM	\$104	ID		00109
0110	P0019	0000	PASSCNT	NUM	0	PASS COUNT.		00110
0111	P001A	0A40	CKRPT	ENA	\$40			00111
0112	P001B	5406		RTJ-	(JUMP)			00112
0113	P001C	1802		JMP*	CNT	REPEAT TEST.		00113
0114	P001D	5403		RTJ-	(EXIT)	REPEAT NOT SET, CHECK FREQ. CNT.		00114
0115	P001E	C8F3	CNT	LDA*	PARAM	BEGIN TEST.		00115
0116	P001F	A082		AND-	HFF00			00116
0117	P0020	0FC8		ALS	8			00117
0118	P0021	6839		STA*	SEC	CURRENT TEST SECTION NUMBER.		00118
0119	P0022	C8EF		LDA*	PARAM			00119
0120	P0023	A081		AND-	H00FF			00120
0121	P0024	6805		STA*	FINSEC	LAST SECTION TO BE TESTED.		00121
0122	P0025	C000		LDA	=XEN4			00122
	P0026	003E	P					
0123	P0027	6800		STA*	RETURN	MUX CONTROL RE-ENTRY ADDRESS.		00123
0124	P0028	1835		JMP*	SAMESEC	ENTER 1ST TEST SECTION.		00124
0126	P0029	0000	FINSEC	NUM	0	LAST TEST SECTION.		00126
0127	P002A	0000	SAVIR	NUM	0	I REG SAVE CELL.		00127
0128	P002B	0000	ENT1	NUM	0	SECTION REPEAT CONDITION ENT PT.		00128
0129	P002C	0000	ENT2	NUM	0	SECTION REITERATION ENTRY PT.		00129
0130	P002D	0000	ENT3	NUM	0	OPERAND COUNT	***00130	
0131	P002E	0000	IRTCNT	NUM	0	INTER-REG TEST PASS COUNT.		00131
0133	P002F	CODE	RPTCND	LDA-	OP			***00133
0134	P0030	1CFA		JMP*	(ENT1)	REPEAT CONDITIONS		***00134
0135	P0031	0800	ENDSEC	NOP	0			***00135
0136	P0032	0A10	SPCEND	ENA	\$10			***00136
0137	P0033	5406		RTJ-	(JUMP)			00137
0138	P0034	1CF6		JMP*	(ENT1)	REPEAT CONDITIONS		***00138
0139	P0035	C075		LDA-	BIT10			00139
0140	P0036	5406		RTJ-	(JUMP)			00140
0141	P0037	5804		RTJ*	PRMST	PARAMETER RE-ENTRY.		00141
0142	P0038	0A20		ENA	\$20			***00142
0143	P0039	5406		RTJ-	(JUMP)			***00143
0144	P003A	1CF1		JMP*	(ENT2)			***00144

0145	P003B	C0FF	MUX	LDA-	I			00145
0146	P003C	68FD		STA*	SAVIR	SAVE INDEX REGISTER		00146
0147	P003D	5401		RTJ-	(CONTROL)	MULTIPLEX WITH OTHER TESTS.		00147
0148	P003E	C8EB	EN4	LDA*	SAVIR			00148
0149	P003F	60FF		STA-	I	RESTORE I		00149
0150	P0040	C8D2	EN5	LDA*	ITERATE			00150
0151	P0041	D8EB		RAO*	ENT3			***00151
0152	P0042	98EA		SUB*	ENT3	CK INSTRUCTION ITERATION		***00152
0153	P0043	0111		SAN	1			00153
0154	P0044	1812		JMP*	ENDIT	JUMP AFTER LAST, AS PER PARAMS.		00154
0155	P0045	0A50		ENA	\$50			00155
0156	P0046	90FF		SUB-	I	HAVE FIXED OPERANDS BEEN USED-		00156
0157	P0047	0137		SAM	GENOPS-* -1	SKIP IF YES.		00157
0158	P0048	C96A		LDA*	CON1,I	NO. LOAD NEXT SET.		00158
0159	P0049	60DE		STA-	OP			00159
0160	P004A	C969		LDA*	CON1+1,I			00160
0161	P004B	60DF		STA-	OP+1			00161
0162	P004C	C968		LDA*	CON1+2,I			00162
0163	P004D	60E0		STA-	OP+2			00163
0164	P004E	1805		JMP*	OVGEN			00164
0165	P004F	C000	GENOPS	LDA	=XOP			00165
	P0050	00DE						
0166	P0051	0C03		ENQ	3			00166
0167	P0052	5407		RTJ-	(GENRAN)			00167
0168	P0053	01A0	OVGEN	SOV	0	KILL POSSIBLE OVERFLOW.		00168
0169	P0054	C0DE		LDA-	OP			***00169
0170	P0055	1C06		JMP*	(ENT2)	REPEAT SECTION WITH NEW OPERAND		***00170
0172	P0056	0844	ENDIT	CLR	A	END OF SECTION STOP		***00172
0173	P0057	5402		RTJ-	(STOPX)			00173
0174	P0058	1804		JMP*	NEXTSEC			***00174
0175	P0059	0102	SECEND	NUM	\$102	ID		00175
0176	P005A	0000	SEC	NUM	0	SECTION		00176
0177	P005B	0000	SECRTN	NUM	0	RTN ADDR		***00177
0179	P005C	08FD	NEXTSEC	RAO*	SEC	UPDATE SECTION NUMBER.		00179
0180	P005D	C8C9	SAMESEC	LDA*	FINSEC			00180
0181	P005E	0102		SAZ	TRMNT-* -1	(GUARD AGAINST ZERO PARAM ENTRY)		00181
0182	P005F	98FA		SUB*	SEC	COMPARE AGAINST FINAL,		00182
0183	P0060	0121		SAP	1			00183
0184	P0061	18B2	TRMNT	JMP*	ENDPASS	JUMP IF FINISHED, 1ST THRU LAST.		00184
0185	P0062	0944		CLR	A			00185
0186	P0063	60FF		STA-	I			00186
0187	P0064	60DD		STA-	S			00187
0188	P0065	68C7		STA*	ENT3			***00188
0189	P0066	C0DE	QENT2	LDA-	OP			00189
0190	P0067	ERF2		LDQ*	SEC	SECTION NUMBER INDEXES ADDR TBL.		00190
0191	P0068	EA05		LDQ*	SECPTR,Q			***00191
0192	P0069	48C1		STQ*	ENT1	SET REPEAT CONDITIONS ENTRY		***00192
0193	P006A	48C1		STQ*	ENT2	SET REPEAT SECTION ENTRY		***00193
0194	P006B	48EF		STQ*	SECRTN	SET RTN ADDR FOR END SECT MSG		***00194
0195	P006C	1CBF	SECA00	JMP*	(ENT2)	GO TO SELECTED SECTION		***00195
0196	P006D	00F8	P SECPTR	ADC	I REG			***00196

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0197 P006E 017B P ADC JMP,RTJ,LDA,STA,LDQ,STQ,SAZ,SAN,SAP,SAM,SQZ,SON,SQP,SQM,ALS 00197
P006F 018A P
P0070 019F P
P0071 01AB P
P0072 0106 P
P0073 01C7 P
P0074 01D2 P
P0075 01F4 P
P0076 020E P
P0077 0221 P
P0078 022C P
P0079 0239 P
P007A 0249 P
P007B 0256 P
P007C 0263 P
0198 P007D 028D P ADC QLS,ARSP,ARSN,RSHIF,LLS,LRS,ENA,ENQ,AND,ADD,EOR,ADQ,INA,INQ 00198
P007E 02A1 P
P007F 029C P
P0080 02D8 P
P0081 02F3 P
P0082 0323 P
P0083 0382 P
P0084 0399 P
P0085 03B4 P
P0086 03C1 P
P0087 040B P
P0088 0430 P
P0089 043B P
P008A 0454 P
0199 P008B 046C P ADC RAO,SUB,OVNO,MUI,DIV,SPA,SET,CLR,TRA,TRQ,TCA,TCQ,AAQ,EAQ 00199
P008C 0486 P
P008D 0494 P
P008E 04CC P
P008F 053C P
P0090 05E7 P
P0091 0603 P
P0092 0613 P
P0093 061E P
P0094 0625 P
P0095 062E P
P0096 0638 P
P0097 0641 P
P0098 064B P
0200 P0099 0655 P ADC LAQ,CAQ,SETM,TRAM,CLRM,TRQM,TCAM,TCQM,AAQM,EAQM,LAQM,CAQM ***00200
P009A 065F P
P009B 066F P
P009C 067A P
P009D 0683 P
P009E 068E P
P009F 0698 P
P00A0 06A5 P
P00A1 06B0 P
P00A2 068D P
P00A3 06C9 P

60220200 E

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0201	P00A4 06D5 P P00A5 06E2 P P00A6 06E0 P P00A7 06F8 P P00A8 070C P P00A9 071E P P00A4 072C P P00A9 0741 P P00AC 074F P P00AD 075F P P00AE 0760 P P00AF 0770 P P00B0 078C P			ADC TRM,TRB,TCH,TCB,AAM,AAB,EAM,EAB,LAM,LAB,CAM,CAB	00201
0202	P00B1 07A4 P			ADC ADR	***00202
0203	P00B2 0000 P00B3 0000 P00B4 FFFF P00B5 0000 P00B6 03FF	CON1	NUM	0,0,\$FFFF,0,\$FF	00203
0204	P00B7 8000 P00B8 C000 P00B9 A000 P00BA 9000 P00B3 9900 P00BC 8400 P00BD 8200 P00BE 8100 P00BF 8090	CON6	NUM	\$8000,\$C000,\$A000,\$9000,\$8800,\$8400,\$8200,\$8100,\$8080	00204
0205	P00C0 8040 P00C1 8020 P00C2 8010 P00C3 8008 P00C4 8004 P00C5 8002 P00C6 8001		NUM	\$8040,\$8020,\$8010,\$8008,\$8004,\$8002,\$8001	00205
0206	P00C7 8000 P00C8 4000 P00C9 2000 P00CA 1000 P00CB 0800 P00CC 0400 P00CD 0200 P00CE 0100 P00CF 0080 P00D0 0040	CON2	NUM	\$8000,\$4000,\$2000,\$1000,\$800,\$400,\$200,\$100,\$80,\$40	00206
0207	P00D1 0020 P00D2 0010 P00D3 0008 P00D4 0004 P00D5 0002 P00D6 0001 P00D7 0000		NUM	\$20,\$10,8,4,2,1,0	00207
0208	P00D8 8000 P00D9 C000	CON7	NUM	\$8000,\$C000,\$E000,\$F000,\$F800,\$FC00,\$FE00,\$FF00,\$FF80	00208

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P00DA	E000					
P00DB	F000					
P00DC	F800					
P00DD	FC00					
P00DE	FE00					
P00DF	FF00					
P00E0	FF80					
0209	P00E1	FFC0	NUM	\$FFC0, \$FFE0, \$FFF0, \$FFF8, \$FFFC, \$FFFE, \$FFFF	00209	
	P00E2	FFE0				
	P00E3	FFF0				
	P00E4	FFF8				
	P00E5	FFFC				
	P00E6	FFFE				
	P00E7	FFFF				
0210	P00E8	FFFF	NUM	\$FFFF	00210	
0211	P00E9	2000	CON10	NUM	\$2000, \$1000, \$800, \$400, \$200, \$100, \$80, \$40, \$20, \$10, 8, 4	00211
	P00EA	1000				
	P00EB	0800				
	P00EC	0400				
	P00ED	0200				
	P00EE	0100				
	P00EF	0080				
	P00F0	0040				
	P00F1	0020				
	P00F2	0010				
	P00F3	0008				
	P00F4	0004				
0212	P00F5	0002	NUM	2,1,0	00212	
	P00F6	0001				
	P00F7	0000				

0214

CHECK REGISTER BITS

****00214

0216	P00F8	0800	IPEG	NOP	0		***00216
0217	P00F9	0A01		ENA	1		***00217
0218	P00FA	687D		STA*	IREGE7	SET ERROR CODE	***00218
0219	P00FB	0804		SET	A		***00219
0220	P00FC	0844		CLR	A		***00220
0221	P00FD	0101		SAZ	1		***00221
0222	P00FE	595F		RTJ*	IREGE	A REG WOULD NOT CLEAR	***00222
0223	P00FF	D878		RAO*	IREGE7	UPDATE ERROR CODE	***00223
0224	P0100	0802		SET	Q		***00224
0225	P0101	0842		CLR	Q		***00225
0226	P0102	0142		SQZ	2		***00226
0227	P0103	0814		TRQ	A		***00227
0228	P0104	5859		RTJ*	IREGE	Q REG WOULD NOT CLEAR	***00228
0229	P0105	D872		RAO*	IREGE7	UPDATE ERROR COUNTER	***00229
0230	P0106	0844		CLR	A		***00230
0231	P0107	60FF		STA-	I	ZERO ALL I REGISTER BITS	***00231
0232	P0108	0804		SET	A		***00232
0233	P0109	C0FF		LDA-	I	COPY I REGISTER TO A REGISTER	***00233
0234	P010A	0101		SAZ	1		***00234
0235	P010B	5852		RTJ*	IREGE	COULD NOT CLEAR ALL I REG BITS	***00235
0236	P010C	D868		RAO*	IREGE7	UPDATE ERROR CODE	***00236
0237	P010D	0804		SET	A		***00237
0238	P010E	580E		RTJ*	IRFGA	CK A REG BITS TO SET	***00238
0239	P010F	D868		RAO*	IREGE7	UPDATE ERROR COUNT	***00239
0240	P0110	0844		CLR	A		***00240
0241	P0111	0802		SET	Q		***00241
0242	P0112	0814		TRQ	A		***00242
0243	P0113	5809		RTJ*	IRFGA	CK Q REG BITS TO SET	***00243
0244	P0114	0863		RAO*	IREGE7	UPDATE ERROR COUNT	***00244
0245	P0115	0804		SET	A		***00245
0246	P0116	60FF		STA-	I	SET ALL I REGISTER BITS	***00246
0247	P0117	0844		CLR	A		***00247
0248	P0118	C0FF		LDA-	I		***00248
0249	P0119	5803		RTJ*	IRFGA	CK I REG BITS TO SET	***00249
0250	P011A	1800		JMP	ENDSEC	SECTION COMPLETE	***00250
	P011B	FF15					
0252	P011C	0900	IREGA	NOP	0	CK REG BIT TO BE SET	***00252
0253	P011D	0C0F		ENQ	15		***00253
0254	P011E	0131		SAM	1		***00254
0255	P011F	583E		RTJ*	IREGE	BIT 15 DID NOT SET	***00255
0256	P0120	00FE		INQ	-1		***00256
0257	P0121	0FC1		ALS	1		***00257
0258	P0122	0131		SAM	1		***00258
0259	P0123	583A		RTJ*	IREGE	BIT 14 DID NOT SET	***00259

0260 P0124 00FE	INQ	-1		***00260
0261 P0125 0FC1	ALS	1		***00261
0262 P0126 0131	SAM	1		***00262
0263 P0127 5836	RTJ*	IREGE	BIT 13 DID NOT SET	***00263
0264 P0128 00FE	INQ	-1		***00264
0265 P0129 0FC1	ALS	1		***00265
0266 P012A 0131	SAM	1		***00266
0267 P012B 5832	RTJ*	IREGE	BIT 12 DID NOT SET	***00267
0268 P012C 00FE	INQ	-1		***00268
0269 P012D 0FC1	ALS	1		***00269
0270 P012E 0131	SAM	1		***00270
0271 P012F 582E	RTJ*	IREGE	BIT 11 DID NOT SET	***00271
0272 P0130 00FE	INQ	-1		***00272
0273 P0131 0FC1	ALS	1		***00273
0274 P0132 0131	SAM	1		***00274
0275 P0133 582A	RTJ*	IREGE	BIT 10 DID NOT SET	***00275
0276 P0134 00FE	INQ	-1		***00276
0277 P0135 0FC1	ALS	1		***00277
0278 P0136 0131	SAM	1		***00278
0279 P0137 5826	RTJ*	IREGE	BIT 9 DID NOT SET	***00279
0280 P0138 00FE	INQ	-1		***00280
0281 P0139 0FC1	ALS	1		***00281
0282 P013A 0131	SAM	1		***00282
0283 P013B 5822	RTJ*	IREGE	BIT 8 DID NOT SET	***00283
0284 P013C 00FE	INQ	-1		***00284
0285 P013D 0FC1	ALS	1		***00285
0286 P013E 0131	SAM	1		***00286
0287 P013F 581E	RTJ*	IREGE	BIT 7 DID NOT SET	***00287
0288 P0140 00FE	INQ	-1		***00288
0289 P0141 0FC1	ALS	1		***00289
0290 P0142 0131	SAM	1		***00290
0291 P0143 581A	RTJ*	IREGE	BIT 6 DID NOT SET	***00291
0292 P0144 00FE	INQ	-1		***00292
0293 P0145 0FC1	ALS	1		***00293
0294 P0146 0131	SAM	1		***00294
0295 P0147 5816	RTJ*	IREGE	BIT 5 DID NOT SET	***00295
0296 P0148 00FE	INQ	-1		***00296
0297 P0149 0FC1	ALS	1		***00297
0298 P014A 0131	SAM	1		***00298
0299 P014B 5812	RTJ*	IREGE	BIT 4 DID NOT SET	***00299
0300 P014C 00FE	INQ	-1		***00300
0301 P014D 0FC1	ALS	1		***00301
0302 P014E 0131	SAM	1		***00302
0303 P014F 580E	RTJ*	IREGE	BIT 3 DID NOT SET	***00303
0304 P0150 00FE	INQ	-1		***00304
0305 P0151 0FC1	ALS	1		***00305
0306 P0152 0131	SAM	1		***00306
0307 P0153 580A	RTJ*	IREGE	BIT 2 DID NOT SET	***00307
0308 P0154 00FE	INQ	-1		***00308
0309 P0155 0FC1	ALS	1		***00309
0310 P0156 0131	SAM	1		***00310
0311 P0157 5806	RTJ*	IREGE	BIT 1 DID NOT SET	***00311
0312 P0158 00FE	INQ	-1		***00312

0313 P0159 0FC1	ALS	1		***00313
0314 P015A 0131	SAM	1		***00314
0315 P015B 5802	RTJ*	IREGE	BIT 0 DID NOT SET	***00315
0316 P015C 1CBF	JMP*	(IREGA)	RETURN	***00316
0318 P015D 0009	IREGE	NUM	0	***00318
0319 P015E 6817		STA*	IREGE4	***00319
0320 P015F 4817		STQ*	IREGE5	***00320
0321 P0160 0844		CLP	A	***00321
0322 P0161 8816		ADD*	IREGE7	***00322
0323 P0162 680F		STA*	IREGE1	***00323
0324 P0163 C914		LDA*	IREGE7	***00324
0325 P0164 09FB		INA	-4	***00325
0326 P0165 0123		SAP	3	***00326
0327 P0166 C80F		LDA*	IREGE4	***00327
0328 P0167 680C		STA*	IREGE3	***00328
0329 P0168 1803		JMP*	*+3	***00329
0330 P0169 C260		LDA-	BIT0,Q	***00330
0331 P016A 6809		STA*	IREGE3	***00331
0332 P016B CAF1		LDA*	IREGE	***00332
0333 P016C 6806		STA*	IREGE2	***00333
0334 P016D 0844		CLP	A	***00334
0335 P016E 5402		RTJ-	(STOPX)	***00335
0336 P016F 1809		JMP*	IREGF6	***00336
0337 P0170 1C18		NUM	\$1C18	***00337
0338 P0171 0000	IREGE1	NUM	0	***00338
0339 P0172 0000	IREGE2	NUM	0	***00339
0340 P0173 0000	IREGE3	NUM	0	***00340
0341 P0174 0000		NUM	0	***00341
0342 P0175 0000	IREGE4	NUM	0	***00342
0343 P0176 0000	IREGE5	NUM	0	***00343
0344 P0177 0000	IREGE7	NUM	0	***00344
0345 P0178 C8FC	IREGE6	LDA*	IREGF4	***00345
0346 P0179 E8FC		LDA*	IREGE5	***00346
0347 P017A 1CE2		JMP*	(IREGE)	***00347

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0349          ***** SECTION 1-JUMP *****          00349

0351 P0170 C000   JMP      LDA      =N*108          00351
           P017C 0108
0352 P0170 1803           JMP*     JMP2          00352
0353 P017E 0000           SLS
0354 P017F 0000           SLS          00353
0355 P0180 1807   JMP2    JMP*     JMP3          00354
0356 P0181 0000           SLS          00355
0357 P0182 0000           SLS          00356
0358 P0183 1806   JMP4    JMP*     JMP5          00357
0359 P0184 0C04           ENQ      4          00358
0360 P0185 0000           SLS          00359
0361 P0186 0000           SLS          00360
0362 P0187 18FB   JMP3    JMP*     JMP4          00361
0363 P0188 0000           SLS          00362
0364 P0189 1C39   JMP5    JMP*     (END1)          00363
                                           00364

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0366          ***** SECTION 2-RETURN JUMP *****          00366

0368 P018A 5902   RTJ      RTJ*     RTJ4          00368
0369 P018B 1812           JMP*     RTJ3          00369
0370 P018C 0000   RTJ4    NUM      0          00370
0371 P018D C000   LDA      =XRTJ+1          00371
           P018E 0188 P
0372 P018F 680F           STA*     SAV          00372
0373 P0190 C8F8   LDA*     RTJ4          00373
0374 P0191 B800   EOR*     SAV          00374
0375 P0192 0103   SAZ     RTJ5--1          00375
0376 P0193 C8F8   LDA*     RTJ4          00376
0377 P0194 980A   SUB*     SAV          00377
0378 P0195 0111   SAN     RTJ7--1          00378
0379 P0196 1CF5   RTJ5    JMP*     (RTJ4)          00379
0380 P0197 C8F6   RTJ7    LDA*     RTJ4+2 (=XRTJ1+1) 00380
0381 P0198 6C2D           STA*     (ST11)          00381
0382 P0199 C8F2   LDA*     RTJ4          00382
0383 P019A 6C2A   STA*     (ST10)          00383
0384 P019B 0C11   ENQ     #11          00384
0385 P019C 0000           SLS      0          00385
0386 P019D 1C25   RTJ3    JMP*     (END1)          00386
0387 P019E 0000   SAV     NUM      0          00387

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Q=XY,X=ERROR NUMBER,Y=NUMBER OF

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0389          ***** SECTION 3-LOAD A *****          00389

0391 P019F 6C26   LDA     STA*     (ST11)          00391
0392 P01A0 E00E           LDQ-    OP          00392

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OPERAND IN A.

0393	P01A1	4C23	STQ*	(ST10)		00393
0394	P01A2	0822	TRA	Q	A TO Q	00394
0395	P01A3	80DE	EOR-	OP		00395
0396	P01A4	0105	SAZ	LDA2--*-1		00396
0397	P01A5	0814	TRQ	A	Q TO A	00397
0398	P01A6	90DE	SUB-	OP		00398
0399	P01A7	0102	SAZ	LDA2--*-1		00399
0400	P01A8	0C11	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00400
0401	P01A9	5C1A	RTJ*	(STP1)		00401
0402	P01AA	1C18	LDA2	JMP*	(END1)	00402

0404 ***** SECTION 4-STORE A ***** 00404

0406	P01A9	6C1A	STA	STA*	(ST11)	OPERAND IN A.	00406
0407	P01AC	E0DE		LDQ-	OP		00407
0408	P01AD	4C17		STQ*	(ST10)		00408
0409	P01AE	BC17		EOR*	(ST11)	A=STORE+1	00409
0410	P01AF	0105		SAZ	STA2--*-1		00410
0411	P01B0	C0DE		LDA-	OP		00411
0412	P01B1	9C14		SUB*	(ST11)	A=STORE+1	00412
0413	P01B2	0102		SAZ	STA2--*-1		00413
0414	P01B3	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00414
0415	P01B4	5C0F		RTJ*	(STP1)		00415
0416	P01B5	1C00	STA2	JMP*	(END1)		00416

0418 ***** SECTION 5-LOAD Q ***** 00418

0420	P01B6	E0DE	LDQ	LDQ-	OP	OPERAND IN A.	00420
0421	P01B7	6C00		STA*	(ST10)		00421
0422	P01B8	4C00		STQ*	(ST11)		00422
0423	P01B9	0814		TRQ	A		00423
0424	P01BA	B0DE		EOR-	OP	Q TO A = OPERAND	00424
0425	P01BB	0105		SAZ	LDQ2--*-1		00425
0426	P01BC	0814		TRQ	A		00426
0427	P01BD	90DE		SUB-	OP	Q TO A = OPERAND	00427
0428	P01BE	0102		SAZ	LDQ2--*-1		00428
0429	P01BF	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00429
0430	P01C0	5C03		RTJ*	(STP1)		00430
0431	P01C1	1C01	LDQ2	JMP*	(END1)		00431

0433	P01C2	0031	P	END1	ADC	ENDSEC	00433
0434	P01C3	091C	P	STP1	ADC	STOP	00434
0435	P01C4	093B	P	ST10	ADC	STORE	00435
0436	P01C5	093C	P	ST11	ADC	STORE+1	00436

0437 P01C6 002B P ST12 ADC ENT1 ***00437

0439 ***** SECTION 6-STORE Q ***** 00439

0441	P01C7	E0DE	STQ	LDQ-	OP	OP IN A.	00441
0442	P01C8	6CFB		STA*	(ST10)		00442
0443	P01C9	4CFB		STQ*	(ST11)		00443
0444	P01CA	BCFA		EOR*	(ST11)	A=STORE+1	00444
0445	P01C9	0105		SAZ	STQ2--1		00445
0446	P01CC	C0DF		LDA-	OP+1		00446
0447	P01CJ	9CF7		SUB*	(ST11)	A=STORE+1	00447
0448	P01CE	0102		SAZ	STQ2--1		00448
0449	P01CF	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00449
0450	P01D0	5CF2		RTJ*	(STP1)		00450
0451	P01D1	1CF0	STQ2	JMP*	(END1)		00451

0453 ***** SECTION 7-SKIP IF A=0***** 00453

0455	P01D2	0A00	SAZ	ENA	0		00455
0456	P01D3	0102		SAZ	SAZ2A--1	SKIP SHOULD OCCUR	00456
0457	P01D4	0C10		ENQ	\$10	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00457
0458	P01D5	5CED		RTJ*	(STP1)		00458
0459	P01D6	C000	SAZ2A	LDA	=XSAZ5		***00459
	P01D7	01D9	P				
0460	P01D8	6CED		STA*	(ST12)		***00460
0461	P01D9	0AFF	SAZ5	ENA	-0	A=-0	00461
0462	P01DA	0101		SAZ	SAZ3--1	SKIP SHOULD NOT OCCUR	00462
0463	P01DB	1803		JMP*	SAZ4A		00463
0464	P01DC	0C20	SAZ3	ENQ	\$20	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00464
0465	P01DD	5CE5		RTJ*	(STP1)		00465
0466	P01DE	C000	SAZ4A	LDA	=XSAZ4A		***00466
	P01DF	01DE	P				
0467	P01E0	6CE5		STA*	(ST12)	SET RPT CONDITIONS POINTER	***00467
0468	P01E1	0A10		ENA	\$10		***00468
0469	P01E2	5406		RTJ-	(JUMP)		00469
0470	P01E3	18F5		JMP*	SAZ5		00470
0471	P01E4	C0DE	SAZ7	LDA-	OP		00471
0472	P01E5	E0DE		LDQ-	OP		00472
0473	P01E6	6CDD		STA*	(ST10)		00473
0474	P01E7	6CDD		STA*	(ST11)		00474
0475	P01E8	0101		SAZ	SAZ6--1		00475
0476	P01E9	1802		JMP*	SAZ7A		00476
0477	P01EA	1806	SAZ6	JMP*	SAZ7B		00477
0478	P01E3	0141	SAZ7A	SQZ	SAZ7C--1		00478
0479	P01EC	1807		JMP*	SAZ8	TO REPEAT CONDITIONS	00479

0480	P01E0	0C31	SAZ7C	ENQ	\$31	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00480
0481	P01EE	5C04		RTJ*	(STP1)		00481
0482	P01EF	1804		JMP*	SAZ8		00482
0483	P01F0	0142	SAZ73	SQZ	SAZ8-*--1		00483
0484	P01F1	0C41		ENQ	\$41	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00484
0485	P01F2	5C00		RTJ*	(STP1)		00485
0486	P01F3	1CCE	SAZ8	JMP*	(END1)	TO END OF SECTION	***00486

0488 ***** SECTION 8-SKIP IF A NOT =0 ***** 00488

0490	P01F4	0AFF	SAN	ENA	-0		00490
0491	P01F5	0112		SAN	SAN2-*--1		00491
0492	P01F6	0C10		ENQ	\$10	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00492
0493	P01F7	5C0B		RTJ*	(STP1)		00493
0494	P01F8	0000	SAN2	LDA	=XSAN4		***00494
	P01F9	01F3					
0495	P01FA	6CCB		STA*	(ST12)	SET RPT CONDITIONS PTR	***00495
0496	P01F9	0A00	SAN4	ENA	0	A=0	00496
0497	P01FC	0111		SAN	SAN5-*--1	SKIP SHOULD NOT OCCUR	00497
0498	P01FD	1803		JMP*	SAN6		00498
0499	P01FE	0C20	SAN5	ENQ	\$20	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00499
0500	P01FF	5CC3		RTJ*	(STP1)		00500
0501	P0200	0000	SAN6	LDA	=XSAN7		***00501
	P0201	0203					
0502	P0202	6CC3		STA*	(ST12)		***00502
0503	P0203	000E	SAN7	LDA-	OP		00503
0504	P0204	6C3F		STA*	(ST10)		00504
0505	P0205	0113		SAN	SAN8-*--1		00505
0506	P0206	0106		SAZ	SANEND-*--1		00506
0507	P0207	0C31		ENQ	\$31	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00507
0508	P0208	5C3E		RTJ*	(STP2)		00508
0509	P0209	0101	SAN8	SAZ	SAN10-*--1		00509
0510	P020A	1803		JMP*	SANEND		00510
0511	P020B	0C41	SAN10	ENQ	\$41	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00511
0512	P020C	5C3A		PTJ*	(STP2)		00512
0513	P020D	1C38	SANEND	JMP*	(END2)	TO END OF SECT	***00513

0515 ***** SECTION 9-SKIP IF A POSITIVE ***** 00515

0517	P020E	5C39	SAP	STA*	(ST20)	OP IN A.	00517
0518	P020F	0126		SAP	SAP11-*--1		00518
0519	P0210	0864		TCA	A	COMPLEMENT A	00519
0520	P0211	6C37		STA*	(ST21)		00520
0521	P0212	0122		SAP	SAP9-*--1	SHOULD SKIP	00521
0522	P0213	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00522
0523	P0214	5C32		RTJ*	(STP2)		00523
0524	P0215	180B	SAP9	JMP*	APEND		00524
0525	P0216	F000	SAP11	LQ	=XSAP11		***00525
	P0217	0216					

0526	P0218	4CAD	STQ*	(ST12)	SET RPT CONDT PTR	***00526
0527	P0219	0R64	TCA	A		***00527
0528	P021A	6C2E	STA*	(ST21)		00528
0529	P0213	0121	SAP	1		00529
0530	P021C	1R04	JMP*	APEND		00530
0531	P021D	0C21	ENQ	\$21	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00531
0532	P021E	5C28	RTJ*	(STP2)		00532
0533	P021F	1R05	JMP*	SAP9		00533
0534	P0220	1C25	APEND	JMP*	(END2)	00534

0536 ***** SECTION A-SKIP IF A NEGATIVE ***** 00536

0538	P0221	6C26	SAM	STA*	(ST20)	OP IN A.	00538
0539	P0222	0134		SAM	SAM2-* -1		00539
0540	P0223	0122		SAP	SAM3A-* -1		00540
0541	P0224	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00541
0542	P0225	5C21		RTJ*	(STP2)		00542
0543	P0226	1R05	SAM3A	JMP*	SAM3		00543
0544	P0227	0121	SAM2	SAP	SAM4-* -1		00544
0545	P0228	1R03		JMP*	SAM3		00545
0546	P0229	0C21	SAM4	ENQ	\$21	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00546
0547	P022A	5C1C		RTJ*	(STP2)		00547
0548	P022B	1C1A	SAM3	JMP*	(END2)		00548

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0550          ***** SECTION B-SKIP IF Q=+0 *****          00550

0552 P022C E0DE      SQZ      LOQ-      OP              OP IN A.          00552
0553 P022D 4C1A      STQ*     (ST20)           00553
0554 P022E 0145      SQZ      SQZ2A-*--1       00554
0555 P022F 0101      SAZ      1              00555
0556 P0230 1808      JMP*     ENDSQZ           00556
0557 P0231 0C11      ENQ     $11             Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00557
0558 P0232 5C14      RTJ*    (STP2)           00558
0559 P0233 1805      SQZ3    JMP*     ENDSQZ           00559
0560 P0234 0103      SQZ2A   SAZ      ENDSQZ-*--1       00560
0561 P0235 0C21      ENQ     $21             Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00561
0562 P0236 5C10      RTJ*    (STP2)           00562
0563 P0237 18F8      JMP*     SQZ3           00563
0564 P0238 1C0D      ENDSQZ  JMP*     (END2)           00564
    
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0566          ***** SECTION C-SKIP IF Q NON-ZERO *****          00566

0568 P0239 E0DE      SQN      LDQ-      OP              OP IN A.          00568
0569 P023A 4C0D      STQ*     (ST20)           00569
0570 P023B 0155      SQN      SQN2A-*--1       00570
0571 P023C 0111      SAN      1              00571
0572 P023D 1807      JMP*     ENDSN           00572
0573 P023E 0C11      ENQ     $11             Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00573
0574 P023F 5C07      RTJ*    (STP2)           00574
0575 P0240 1804      SQN3    JMP*     ENDSN           00575
0576 P0241 0112      SQN2A   SAN      ENDSN-*--1       00576
0577 P0242 0C21      ENQ     $21             Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00577
0578 P0243 5C03      RTJ*    (STP2)           00578
0579 P0244 1C01      ENDSN   JMP*     (END2)           00579
    
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0581 P0245 0031 P END2      ADC      ENDSEC           00581
0582 P0246 091C P STP2      ADC      STOP            00582
0583 P0247 093B P ST20      ADC      STORE           00583
0584 P0248 093C P ST21      ADC      STORE+1         00584
    
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0586          ***** SECTION D-SKIP IF Q POSITIVE *****          00586

0588 P0249 0864   SQP      TCA      A          OP IN A.          00588
0589 P024A E0DE   LDQ-     OP          00589
0590 P024B 4CFB   STQ*    (ST20)         00590
0591 P024C 0165   SQP      SQP2A-*--1    00591
0592 P024D 0131   SAM      1          00592
0593 P024E 1807   JMP*     ENDSM        00593
0594 P024F 0C11   ENQ      $11          Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00594
0595 P0250 5CF5   RTJ*    (STP2)         00595
0596 P0251 1804   SQP3     JMP*     ENDSM        00596
0597 P0252 0132   SQP2A    SAM      ENDSM-*--1    00597
0598 P0253 0C21   ENQ      $21          Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00598
0599 P0254 5CF1   RTJ*    (STP2)         00599
0600 P0255 1CFE   ENDSM    JMP*     (END2)        00600

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0602          ***** SECTION E-SKIP IF Q NEGATIVE *****          00602

0604 P0256 0864   SQM      TCA      A          OP IN A.          00604
0605 P0257 E0DE   LDQ-     OP          00605
0606 P0258 4CEE   STQ*    (ST20)         00606
0607 P0259 0175   SQM      SQM2A-*--1    00607
0608 P025A 0121   SAP      1          00608
0609 P025B 1807   JMP*     ENDSM        00609
0610 P025C 0C11   ENQ      $11          Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00610
0611 P025D 5CE8   RTJ*    (STP2)         00611
0612 P025F 1804   SQM3     JMP*     ENDSM        00612
0613 P025F 0122   SQM2A    SAP      ENDSM-*--1    00613
0614 P0260 0C21   ENQ      $21          Q=XY,X=ERROR NUMBER,Y=NUMBER OF 00614
0615 P0261 5CE4   RTJ*    (STP2)         00615
0616 P0262 1CE2   ENDSM    JMP*     (END2)        00616

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0618          ***** SECTION F-A LEFT SHIFT *****          00618

0620 P0263 0AF1   ALS      ENA      -SE          00620
0621 P0264 60D0   STA-     S          00621
0622 P0265 01A0   SOV      0          CLEAR OVERFLOW FAULT          00622
0623 P0266 C000   LDA      =N$FC1    00623
      P0267 0FC1
0624 P0268 6810   STA*     SH2          00624
0625 P0269 C0DE   LDA-     OP          00625
0626 P026A 6CDC   STA*    (ST20)         00626
0627 P026B 580C   RTJ*     SHA          00627
0628 P026C 0FC7   ALS      7          00628
0629 P026D 0800   NOP      0          00629
0630 P026E 6CD9   STA*    (ST21)         00630

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0631	P026F	BCD7	EOR*	(ST20)		00631
0632	P0270	0105	SAZ	ENDAL-**-1		00632
0633	P0271	CCD6	LDA*	(ST21)		00633
0634	P0272	9CD4	SUB*	(ST20)		00634
0635	P0273	0102	SAZ	ENDAL-**-1		00635
0636	P0274	0C11	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00636
0637	P0275	5CD0	RTJ*	(STP2)		00637
0638	P0276	1CCE	JMP*	(END2)		00638

0640			*			00640
0641			*	SHIFT A LEFT AND CHECK FOR OVERFLOW		00641
0642			*			00642
0643	P0277	0001		BZS	SHA(1)	00643
0644	P0278	0FC1	SH2	ALS	1	00644
0645	P0279	00D0		RA0-	S	00645
0646	P027A	E000		LD0-	S	00646
0647	P027B	0142		SQZ	2	00647
0648	P027C	08F9		RA0*	SH2	00648
0649	P027D	18FA		JMP*	SH2	00649
0650	P027E	01B2		SNO	2	00650
0651	P027F	0C21		ENQ	\$21	00651
0652	P0280	18F4		JMP*	ENDAL-1	00652
0653	P0281	1CF5		JMP*	(SHA)	00653

0655			*			00655
0656			*	SHIFT Q LEFT AND CHECK FOR OVERFLOW		00656
0657			*			00657
0658	P0282	0001		BZS	SHQ(1)	00658
0659	P0283	0FA1	SH1	QLS	1	00659
0660	P0284	00DD		RA0-	S	00660
0661	P0285	C0DD		LDA-	S	00661
0662	P0286	0102		SAZ	2	00662
0663	P0287	08FB		RA0*	SH1	00663
0664	P0288	18FA		JMP*	SH1	00664
0665	P0289	01B2		SNO	2	00665
0666	P028A	0C21		FNQ	\$21	00666
0667	P028B	1814		JMP*	ENDQL-1	00667
0668	P028C	1CF5		JMP*	(SHQ)	00668

0670 ***** SECTION 10-Q LEFT SHIFT ***** 00670

0672	P028D	0AF1	QLS	ENA	-\$E	00672
0673	P028E	60DD		STA-	S	00673
0674	P028F	01A0		SOV	0	00674
0675	P0290	C000		LDA	=NFA1	00675
	P0291	0FA1				

CLEAR OVERFLOW FAULT

0676	P0292	68F0	STA*	SH1		00676
0677	P0293	E00E	LDQ-	OP		00677
0678	P0294	4C45	STQ*	(ST30)		00678
0679	P0295	58EC	RTJ*	SHQ		00679
0680	P0296	0FA7	QLS	7		00680
0681	P0297	4C43	STQ*	(ST31)		00681
0682	P0298	CC42	LDA*	(ST31)		00682
0683	P0299	9C40	EOR*	(ST30)		00683
0684	P029A	0105	SAZ	ENDQL-*--1		00684
0685	P029B	CC3F	LDA*	(ST31)		00685
0686	P029C	9C3D	SUB*	(ST30)		00686
0687	P029D	0102	SAZ	ENDQL-*--1		00687
0688	P029E	0C11	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00688
0689	P029F	5C39	RTJ*	(STP3)		00689
0690	P02A0	1C37	JMP*	(END3)		00690

ENDQL

0692 ***** SECTION 11-A RIGHT SHIFT ***** 00692

0694	P02A1	0C00	ARSP	ENQ	0	00694
0695	P02A2	400D		STQ-	S	00695
0696	P02A3	C079		LDA-	CONST+14	00696
0697	P02A4	0F41	ARSP5	ARS	1	00697
0698	P02A5	6C35		STA*	(ST31)	00698
0699	P02A6	8A00		EO*	CON10,Q	00699
	P02A7	FE41				
0700	P02A8	0109		SAZ	ARSP2-*--1	00700
0701	P02A9	CC31		LDA*	(ST31)	00701
0702	P02AA	9A00		SUB	CON10,Q	00702
	P02AB	FE3D				
0703	P02AC	0105		SAZ	ARSP2-*--1	00703
0704	P02AD	CA00		LOA	CON10,Q	00704
	P02AE	FE3A				
0705	P02AF	6C2A		STA*	(ST30)	00705
0706	P02B0	0C11		ENQ	\$11	00706
0707	P02B1	5C27		RTJ*	(STP3)	00707
0708	P02B2	E00D	ARSP2	LDQ-	S	00708
0709	P02B3	0001		INQ	1	00709
0710	P02B4	400D		STQ-	S	00710
0711	P02B5	C000		LDA-	S	00711
0712	P02B6	907D		SUB-	H000F	00712
0713	P02B7	0103		SAZ	ARSP4-*--1	00713
0714	P02B8	400D		STQ-	S	00714
0715	P02B9	CC21		LDA*	(ST31)	00715
0716	P02BA	18E9		JMP*	ARSP5	00716
0717	P02BB	1C1C	ARSP4	JMP*	(END3)	00717

Q=XY,X=ERROR NUMBER,Y=NUMBER OF

0719 ***** SECTION 12-A RIGHT SHIFT ***** 00719

0721	P02BC	C07A	ARSN	LDA-	BIT15	(\$8000)	00721
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0722	P028D	0C00		ENQ	0				
0723	P028E	40DD		STQ-	S				00722
0724	P028F	0F41	ARSN5	ARS	1				00723
0725	P02C0	6C1A		STA*	(ST31)				00724
0726	P02C1	8A00		EOR	CON7+1,Q				00725
	P02C2	FE16							00726
0727	P02C3	0109		SAZ	ARSN2-*--1				00727
0728	P02C4	CC16		LDA*	(ST31)				00728
0729	P02C5	9A00		SUB	CON7+1,Q				00729
	P02C6	FE12							
0730	P02C7	0105		SAZ	ARSN2-*--1				00730
0731	P02C8	CA00		LDA	CON7+1,Q				00731
	P02C9	FE0F							
0732	P02CA	6C0F		STA*	(ST30)				00732
0733	P02CB	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF			00733
0734	P02CC	5C0C		RTJ*	(STP3)				00734
0735	P02CD	E0DD	ARSN2	LDQ-	S				00735
0736	P02CE	0001		INQ	1				00736
0737	P02CF	40DD		STQ-	S				00737
0738	P02D0	C0DD		LDA-	S				00738
0739	P02D1	907D		SUB-	H000F				00739
0740	P02D2	0103		SAZ	ARSN4-*--1				00740
0741	P02D3	40DD		STQ-	S				00741
0742	P02D4	CC06		LDA*	(ST31)				00742
0743	P02D5	18E9		JHP*	ARSN5				00743
0744	P02D6	1C01	ARSN4	JHP*	(END3)				00744
0746	P02D7	0031	P	END3	ADC	ENDSEC			00746
0747	P02D8	091C	P	STP3	ADC	STOP			00747
0748	P02D9	093B	P	ST30	ADC	STORE			00748
0749	P02DA	093C	P	ST31	ADC	STORE+1			00749

0751	***** SECTION 13-A RIGHT, Q RIGHT SHIFTS *****								00751
0753	P02DB	0C00	RSHIF	ENQ	0				00753
0754	P02DC	0A1F	RSHIF4	ENA	\$1F				00754
0755	P02DD	A0DE		AND-	OP				00755
0756	P02DE	0822		TRA	Q				00756
0757	P02DF	8000		ADD	=N\$0F40	MAKE SHIF INSTRUCTIONS			00757
	P02E0	0F40							
0758	P02E1	F000		ADQ	=N\$0F20				00758
	P02E2	0F20							
0759	P02E3	6804		STA*	RSHIF1				00759
0760	P02E4	4804		STQ*	RSHIF2				00760
0761	P02E5	C0DE	RSHIF3	LDA-	OP				00761
0762	P02E6	E0DE		LDQ-	OP				00762
0763	P02E7	0B00	RSHIF1	NOP	0	WILL CONTAIN A RIGHT SHIFT INST			00763
0764	P02E8	0B00	RSHIF2	NOP	0	WILL CONTAIN Q RIGHT SHIFT INST.			00764
0765	P02E9	4CF0		STQ*	(ST31)				00765
0766	P02EA	6CEE		STA*	(ST30)				00766

0767	P02E0	BCEE	EOR*	(ST31)		00767
0768	P02EC	0105	SAZ	RSHIF7--*-1		00768
0769	P02ED	CCEB	LDA*	(ST30)		00769
0770	P02EE	9CEB	SUB*	(ST31)		00770
0771	P02EF	0102	SAZ	RSHIF7--*-1		00771
0772	P02F0	0C11	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00772
0773	P02F1	5CE6	RTJ*	(STP3)		00773
0774	P02F2	1CE4	RSHIF7	JMP*	(END3)	***00774

0776 ***** SECTION 14-LONG LEFT SHIFT ***** 00776

0778	P02F3	0A01	LLS	ENA	1		00778
0779	P02F4	600D		STA-	S	S=1	00779
0780	P02F5	8000		ADD	=N\$FE0		00780
		P02F6					
0781	P02F7	6803		STA*	LLS2		00781
0782	P02F8	C00E		LDA-	OP		00782
0783	P02F9	E0DF		LDQ-	OP+1		00783
0784	P02FA	0B00	LLS2	NOP	0		00784
0785	P02FB	6C26		STA*	(ST32)		00785
0786	P02FC	D0DD		RAO-	S		00786
0787	P02FD	C0DD		LDA-	S		00787
0788	P02FE	8000		ADD	=N\$0FE0		00788
		P02FF					
0789	P0300	68F9		STA*	LLS2		00789
0790	P0301	C0DD		LDA-	S		00790
0791	P0302	9070		SUB-	CONST+5	0020	00791
0792	P0303	0102		SAZ	LLS3--*-1		00792
0793	P0304	CC1D		LDA*	(ST32)		00793
0794	P0305	18F4		JMP*	LLS2		00794
0795	P0306	01B2	LLS3	SNO	2		00795
0796	P0307	0C21		ENQ	*21	OVERFLOW SET ON LLS	00796
0797	P0308	1817		JMP*	ENDLL-1		00797
0798	P0309	CC18		LDA*	(ST32)		00798
0799	P030A	0FF0		LLS	16		00799
0800	P030B	4C17		STQ*	(ST33)		00800
0801	P030C	B0DE		EOR-	OP		00801
0802	P030D	0104		SAZ	LLS4A--*-1		00802
0803	P030E	CC13		LDA*	(ST32)		00803
0804	P030F	90DE		SUB-	OP		00804
0805	P0310	0101		SAZ	LLS4A--*-1		00805
0806	P0311	1809		JMP*	LLS4		00806
0807	P0312	CC10	LLS4A	LDA*	(ST33)		00807
0808	P0313	B0DF		EOR-	OP+1		00808
0809	P0314	0104		SAZ	LLS6--*-1		00809
0810	P0315	CC0D		LDA*	(ST33)		00810
0811	P0316	90DF		SUB-	OP+1		00811
0812	P0317	0101		SAZ	LLS6--*-1		00812
0813	P0318	1802		JMP*	LLS4		00813
0814	P0319	1807	LLS6	JMP*	ENDLL		00814
0815	P031A	C0DE	LLS4	LDA-	OP		00815

0816	P0318	6C8D		STA*	(ST30)		00816
0817	P031C	C0DF		LDA-	OP+1		00817
0818	P031D	6C8C		STA*	(ST31)		00818
0819	P031E	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00819
0820	P031F	5C88		RTJ*	(STP3)		00820
0821	P0320	1C86	ENDLL	JMP*	(END3)		00821
0822	P0321	093D	P	ADC	STORE+2		00822
0823	P0322	093E	P	ADC	STORE+3		00823

0825 ***** SECTION 15-LONG RIGHT SHIFT ***** 00825

0827	P0323	0A00	LRS	ENA	0		00827
0828	P0324	60DD		STA-	S	S=0	00828
0829	P0325	6800		STA	CON7-1		00829
		P0326					
0830	P0327	C07A		LDA-	CONST+15	8000	00830
0831	P0328	E079		LQ-	CONST+14	4000	00831
0832	P0329	0F61	LRS9	LRS	1		00832
0833	P032A	6CF6		STA*	(ST32)		00833
0834	P032B	4CF6		STQ*	(ST33)		00834
0835	P032C	E0DD		LQ-	S		00835
0836	P032D	8A00		EOR	CON2+1,Q		00836
		P032E					
0837	P032F	0105		SAZ	LRS2--1	TEST SHIFTED A	00837
0838	P0330	CCF0		LDA*	(ST32)		00838
0839	P0331	9A00		SUB	CON2+1,Q		00839
		P0332					
0840	P0333	0101		SAZ	LRS2--1	TEST SHIFTED A	00840
0841	P0334	18DE		JMP*	LRS3	ERROR	00841
0842	P0335	CCEC	LRS2	LDA*	(ST33)		00842
0843	P0336	8A00		EOR	CON2+2,Q		00843
		P0337					
0844	P0338	0105		SAZ	LRS4--1		00844
0845	P0339	CCE8		LDA*	(ST33)		00845
0846	P033A	9A00		SUB	CON2+2,Q		00846
		P033B					
0847	P033C	0101		SAZ	1		00847
0848	P033D	1805		JMP*	LRS3	ERROR	00848
0849	P033E	0A10	LRS4	ENA	\$10		00849
0850	P033F	5406		RTJ-	(JUMP)		00850
0851	P0340	18E2		JMP*	LRS	REPEAT CONDITIONS	00851
0852	P0341	180C		JMP*	LRS8		00852
0853	P0342	CA00	LRS3	LDA	CON2+2,Q		00853
		P0343					
0854	P0344	6C95		STA*	(ST31)		00854
0855	P0345	CA00		LDA	CON2+1,Q		00855
		P0346					
0856	P0347	6C00		STA	(ST30)		00856
		P0348					
0857	P0349	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00857
0858	P034A	5C00		RTJ	(STP4)		00858
		P034B					

0859	P034C	18F1		JMP*	LRS4		00859
0860	P034D	C00D	LRS8	LDA-	S		00860
0861	P034E	9000		SUB	=N13		00861
	P034F	000D					
0862	P0350	0104		SAZ	LRS10-*--1		00862
0863	P0351	CCCC		LDA*	(ST32)		00863
0864	P0352	D00D		RAO-	S		00864
0865	P0353	ECCE		LDQ*	(ST33)		00865
0866	P0354	18D4		JMP*	LRS9		00866
0867	P0355	0C00	LRS10	ENQ	0	S=0	00867
0868	P0356	400D		STQ-	S		00868
0869	P0357	E07A		LDQ-	CONST+15	8000	00869
0870	P0358	4800		STQ	CON7-1		00870
	P0359	F07D					
0871	P035A	C07A		LDA-	CONST+15	8000	00871
0872	P035B	0F61	LRS11	LRS	1		00872
0873	P035C	6CC4		STA*	(ST32)		00873
0874	P035D	4CC4		STQ*	(ST33)		00874
0875	P035E	E0DD		LDQ-	S		00875
0876	P035F	8A00		EOR	CON2+1,Q		00876
	P0360	F067					
0877	P0361	0105		SAZ	LRS12-*--1		00877
0878	P0362	CGBE		LDA*	(ST32)		00878
0879	P0363	9A00		SUB	CON2+1,Q		00879
	P0364	F063					
0880	P0365	0101		SAZ	LRS12-*--1		00880
0881	P0366	180B		JMP*	LRS15		00881
0882	P0367	CCBA	LRS12	LDA*	(ST33)		00882
0883	P0368	8A00		EOR	CON7+1,Q		00883
	P0369	F06F					
0884	P036A	0111		SAN	1		00884
0885	P036B	180E		JMP*	LRS16		00885
0886	P036C	CCB5		LDA*	(ST33)		00886
0887	P036D	9A00		SUB	CON7+1,Q		00887
	P036E	F06A					
0888	P036F	0109		SAZ	LRS16-*--1		00888
0889	P0370	1801		JMP*	LRS15	ERROR	00889
0890	P0371	CA00	LRS15	LDA	CON2+1,Q		00890
	P0372	F055					
0891	P0373	6C3F		STA*	(ST40)		00891
0892	P0374	CA00		LDA	CON7+1,Q		00892
	P0375	F063					
0893	P0376	6C3D		STA*	(ST41)		00893
0894	P0377	0C22		ENQ	\$22	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00894
0895	P0378	5C39		RTJ*	(STP4)		00895
0896	P0379	C07D	LRS16	LDA-	H000F		00896
0897	P037A	900D		SUB-	S		00897
0898	P037B	0105		SAZ	ENDLR-*--1		00898
0899	P037C	40DD		STQ-	S		00899
0900	P037D	D0DD		RAO-	S		00900
0901	P037E	CCA2		LDA*	(ST32)		00901
0902	P037F	ECA2		LDQ*	(ST33)		00902
0903	P0380	18DA		JMP*	LRS11		00903

0904 P0381 1C2F ENDLR JMP* (END4) ***00904

0906 ***** SECTION 16-ENTER A ***** 00906

0908	P0382	A081	ENA	AND-	H00FF	OP IN A.	00908
0909	P0383	6C2F		STA*	(ST40)		00909
0910	P0384	6C2F		STA*	(ST41)		00910
0911	P0385	A072		AND-	CONST+7	0080	00911
0912	P0386	0103		SAZ	ENA8-*--1		00912
0913	P0387	C082		LDA-	HFF00		00913
0914	P0388	8C2A		ADD*	(ST40)		00914
0915	P0389	6C29		STA*	(ST40)		00915
0916	P038A	CC29	ENA8	LDA*	(ST41)		00916
0917	P038B	8000		ADD	=N\$0A00		00917
	P038C	0A00					
0918	P038D	6801		STA*	ENA2		00918
0919	P038E	0800	ENA2	NOP			00919
0920	P038F	6C24		STA*	(ST41)		00920
0921	P0390	CC22	ENA5	LDA*	(ST40)		00921
0922	P0391	BC22		EOR*	(ST41)		00922
0923	P0392	0105		SAZ	ENDEA-*--1		00923
0924	P0393	CC1F		LDA*	(ST40)		00924
0925	P0394	9C1F		SUB*	(ST41)		00925
0926	P0395	0102		SAZ	ENDEA-*--1		00926
0927	P0396	0C11	ENA7	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00927
0928	P0397	5C1A		RTJ*	(STP4)		00928
0929	P0398	1C18	ENDEA	JMP*	(END4)		00929

0931 ***** SECTION 17-ENTER Q ***** 00931

0933	P0399	A081	ENQ	AND-	H00FF	OP IN A.	00933
0934	P039A	6809		STA*	FNQ2		00934
0935	P039B	8000		ADD	=N\$0C00		00935
	P039C	0C00					
0936	P039D	6808		STA*	ENQ3		00936
0937	P039E	C805		LDA*	ENQ2		00937
0938	P039F	8000		ADD	=N\$0A00		00938
	P03A0	0A00					
0939	P03A1	6803		STA*	ENQ4		00939
0940	P03A2	1802		JMP*	ENQ4		00940
0941	P03A3	0001		BSS	ENQ2(1)		00941
0942	P03A4	0800	ENQ4	NOP	0	ENTER 4	00942
0943	P03A5	0800	ENQ3	NOP	0	ENTER Q	00943
0944	P03A6	6C0C		STA*	(ST40)		00944
0945	P03A7	4C0C		STQ*	(ST41)		00945
0946	P03A8	8C0B		EOR*	(ST41)		00946
0947	P03A9	0105		SAZ	ENOEQ-*--1		00947

0948	P03AA	CC08		LDA*	(ST40)		00948
0949	P03AB	9C08		SUB*	(ST41)		00949
0950	P03AC	0102		SAZ	ENDEQ-*--1		00950
0951	P03AD	0C11	ENQ6	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00951
0952	P03AE	5C03		RTJ*	(STP4)		00952
0953	P03AF	1C01	ENDEQ	JMP*	(END4)		00953

0955	P0380	0031	P	END4	ADC	ENDSEC	00955
0956	P0381	091C	P	STP4	ADC	STOP	00956
0957	P0382	0938	P	ST40	ADC	STORE	00957
0958	P0383	093C	P	ST41	ADC	STORE+1	00958

0960	***** SECTION 18-AND WITH A *****						00960
0961	P0384	0AFF	AND	ENA	-0		00961
0962	P0385	E0DE		LDQ-	OP		00962
0963	P0386	4CFB		STQ*	(ST40)		00963
0964	P0387	A0DE		AND-	OP		00964
0965	P0388	6CFA		STA*	(ST41)		00965
0966	P0389	B0DE		EOR-	OP		00966
0967	P038A	0105		SAZ	ENDAN-*--1		00967
0968	P038B	CCF7		LDA*	(ST41)		00968
0969	P038C	90DE		SUB-	OP		00969
0970	P038D	0102		SAZ	ENDAN-*--1		00970
0971	P038E	0C11		ENO	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	00971
0972	P038F	5CF1		RTJ*	(STP4)		00972
0973	P03C0	1CEF	ENDAN	JMP*	(END4)		00973

0975	***** SECTION 19-ADD TO A *****						00975
0977	P03C1	0A00	ADD	ENA	0		00977
0978	P03C2	6846		STA*	CARR	CARR=0	00978
0979	P03C3	6CEE		STA*	(ST40)		00979
0980	P03C4	60DD		STA-	S		00980
0981	P03C5	C0DE		LDA-	OP		00981
0982	P03C6	0114		SAN	AGAIN-*--1		00982
0983	P03C7	C0DF		LDA-	OP+1		00983
0984	P03C8	B07C		EOR-	HFFFF		00984
0985	P03C9	0105		SAZ	THIS-*--1		00985
0986	P03CA	180C		JMP*	OK		00986
0987	P03CB	B07C	AGAIN	EOR-	HFFFF		00987
0988	P03CC	0119		SAN	OK-*--1		00988
0989	P03CD	C0DF		LDA-	OP+1		00989
0990	P03CE	0112		SAN	DAM-*--1		00990
0991	P03CF	6CE2	THIS	STA*	(ST40)		00991
0992	P03D0	182D		JMP*	ADD8A		00992
0993	P03D1	C0DF	DAM	LDA-	OP+1		00993
0994	P03D2	B07C		EOR-	HFFFF		00994

0995	P03D3	0112		SAN	OK--*-1		00995
0996	P03D4	0AFF		ENA	-0		00996
0997	P03D5	18F9		JMP*	THIS		00997
0998	P03D6	C0DE	OK	LDA-	OP		00998
0999	P03D7	E0DF		LQ-	OP+1		00999
1000	P03D8	0FCF		ALS	15		01000
1001	P03D9	0FAF		QLS	15		01001
1002	P03DA	682F	ADD12	STA*	AA		01002
1003	P03DB	482F		STQ*	QQ		01003
1004	P03DC	0125		SAP	ADD2--*-1	A=+	01004
1005	P03DD	0165		SQP	ADD3--*-1	Q	01005
1006	P03DE	C82A		LDA*	CARR		01006
1007	P03DF	0115		SAN	ADD4--*-1		01007
1008	P03E0	D828		RAO*	CARR	CARR + 1	01008
1009	P03E1	180C		JMP*	ADD5A		01009
1010	P03E2	0165	ADD2	SQP	ADD11--*-1		01010
1011	P03E3	C825	ADD3	LDA*	CARR		01011
1012	P03E4	0118		SAN	ADD5A--*-1		01012
1013	P03E5	CCCC	ADD4	LDA*	(ST40)		01013
1014	P03E6	0C01		ENQ	1		01014
1015	P03E7	1808		JMP*	ADD6		01015
1016	P03E8	C820	ADD11	LDA*	CARR		01016
1017	P03E9	0103		SAZ	ADD5A--*-1		01017
1018	P03EA	0A00		ENA	0		01018
1019	P03EB	681D		STA*	CARR		01019
1020	P03EC	18F8		JMP*	ADD4		01020
1021	P03ED	CCC4	ADD5A	LDA*	(ST40)		01021
1022	P03EE	0C00		ENQ	0		01022
1023	P03EF	0F61	ADD6	LRs	1		01023
1024	P03F0	6CC1	ADD7	STA*	(ST40)		01024
1025	P03F1	0A0F		ENA	15		01025
1026	P03F2	90DD		SUB-	S		01026
1027	P03F3	0106		SAZ	ADD8--*-1		01027
1028	P03F4	D0DD		RAO-	S	S=1	01028
1029	P03F5	C814		LDA*	AA		01029
1030	P03F6	E814		LQ*	QQ		01030
1031	P03F7	0FCF		ALS	15		01031
1032	P03F8	0FAF		QLS	15		01032
1033	P03F9	18E0		JMP*	ADD12		01033
1034	P03FA	C80E	ADD8	LDA*	CARR		01034
1035	P03FB	0101		SAZ	ADD8A--*-1		01035
1036	P03FC	DCB5		RAO*	(ST40)		01036
1037	P03FD	C0DE	ADD8A	LDA-	OP		01037
1038	P03FE	80DF		ADD-	OP+1		01038
1039	P03FF	6CB3		STA*	(ST41)		01039
1040	P0400	BCB1		EOR*	(ST40)		01040
1041	P0401	0105		SAZ	ENDAO--*-1		01041
1042	P0402	CCB0		LDA*	(ST41)		01042
1043	P0403	9CAE		SUB*	(ST40)		01043
1044	P0404	0102		SAZ	ENDAO--*-1		01044
1045	P0405	0C11	ADD10	ENQ	\$11	Q=XY, X=ERROR NUMBER, Y=NUMBER OF	01045
1046	P0406	5CAA		RTJ*	(STP4)		01046
1047	P0407	1CA8	ENDAO	JMP*	(END4)		01047

1048 P0408 0001 BSS CARR(1),AA(1),QQ(1) 01048
 P0409 0001
 P040A 0001

1050 ***** SECTION 1A-EXCLUSIVE OR WITH A ***** 01050

1052	P0408	0A00	EOR	ENA	0			01052
1053	P040C	60DD		STA-	S			01053
1054	P040D	6CA4		STA*	(ST40)			01054
1055	P040E	C9DE		LDA-	OP			01055
1056	P040F	E0DF		LDQ-	OP+1			01056
1057	P0410	68F8	EOR7	STA*	AA			01057
1058	P0411	48F8		STQ*	QQ			01058
1059	P0412	0122		SAP	EOR2--1	A=POS.		01059
1060	P0413	0162		SQP	EOR3--1	Q=POS.		01060
1061	P0414	1806		JMP*	EOR9			01061
1062	P0415	0164	EOR2	SQP	EOR9--1			01062
1063	P0416	CC98	EOR3	LDA*	(ST40)			01063
1064	P0417	0C01		ENQ	1			01064
1065	P0418	0874		EAQ	A			01065
1066	P0419	1802		JMP*	EOR4			01066
1067	P041A	CC50	EOR9	LDA*	(ST50)			01067
1068	P041B	6C4F	EOR4	STA*	(ST50)			01068
1069	P041C	D0DD		RAO-	S			01069
1070	P041D	C0DD		LDA-	S			01070
1071	P041E	906F		SUB-	CONST+4	0010		01071
1072	P041F	0107		SAZ	EOR6A--1			01072
1073	P0420	CC4A		LDA*	(ST50)			01073
1074	P0421	0FC1		ALS	1			01074
1075	P0422	6C48		STA*	(ST50)			01075
1076	P0423	C8E5		LDA*	AA			01076
1077	P0424	E8E5		LDQ*	QQ			01077
1078	P0425	0FE1		LLS	1			01078
1079	P0426	18E9		JMP*	EOR7			01079
1080	P0427	C0DE	EOR6A	LDA-	OP			01080
1081	P0428	80DF		EOR-	OP+1			01081
1082	P0429	6C42		STA*	(ST51)			01082
1083	P042A	9C40		SUB*	(ST50)			01083
1084	P042B	0103		SAZ	EOR8--1			01084
1085	P042C	0C11		ENQ	11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01085
1086	P042D	5C3C		RTJ*	(STP5)			01086
1087	P042E	1801		JMP*	EOR8			01087
1088	P042F	1C39	EOR8	JMP*	(EN05)			01088

1090 ***** SECTION 1B-ADD TO Q ***** 01090

1092 P0430 80DF ADQ ADD- OP+1 OP IN A. 01092

1093	P0431	6C39		STA*	(ST50)			01093
1094	P0432	E0DE	ADQ2	LDQ-	OP			01094
1095	P0433	F0DF		ADQ-	OP+1			01095
1096	P0434	4C37		STQ*	(ST51)			01096
1097	P0435	CC36		LDA*	(ST51)			01097
1098	P0436	8C34		EOR*	(ST50)			01098
1099	P0437	0102		SAZ	ADQ3--1			01099
1100	P0438	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01100
1101	P0439	5C30		RTJ*	(STP5)			01101
1102	P043A	1C2E	ADQ3	JMP*	(END5)			01102

1104 ***** SECTION 1C-INCREASE A ***** 01104

1106	P043B	A081	INA	AND-	H00FF	OP IN A.		01106
1107	P043C	6C2E		STA*	(ST50)			01107
1108	P043D	A072		AND-	CONST+7	0080		01108
1109	P043E	0103		SAZ	INA3--1			01109
1110	P043F	CC2B		LDA*	(ST50)			01110
1111	P0440	8082		EOR-	HFF00			01111
1112	P0441	1802		JMP*	INA2			01112
1113	P0442	CC28	INA3	LDA*	(ST50)			01113
1114	P0443	6807	INA2	STA*	INA4+1	THE AMOUNT A WILL BE INCREASED		01114
1115	P0444	CC26		LDA*	(ST50)			01115
1116	P0445	8000		ADD	=N\$900			01116
	P0446	0900						
1117	P0447	6806		STA*	INA5	STORE INCREASE A INSTRUCTION		01117
1118	P0448	C0DF		LDA-	OP+1			01118
1119	P0449	8000	INA4	ADD	=N0-			01119
	P044A	0000						
1120	P044B	6C1F		STA*	(ST50)			01120
1121	P044C	C0DF		LDA-	OP+1			01121
1122	P044D	0800	INA5	NOP				01122
1123	P044E	6C1D		STA*	(ST51)			01123
1124	P044F	8C1B		EOR* (ST50)				01124
1125	P0450	0102		SAZ	INA6--1			01125
1126	P0451	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01126
1127	P0452	5C17		RTJ*	(STP5)			01127
1128	P0453	1C15	INA6	JMP*	(END5)			01128

1130 ***** SECTION 1D-INCREASE Q ***** 01130

1132	P0454	A081	INQ	AND-	H00FF	OP IN A.		01132
1133	P0455	6C15		STA* (ST50)				01133
1134	P0456	8000		ADD	=N\$900			01134
	P0457	0900						

1135	P0458	6808		STA*	INQ2		01135
1136	P0459	EC11		LDQ*	(ST50)		01136
1137	P045A	F000		ADQ	=N8000		01137
		P045B	0000				
1138	P045C	4803		STQ*	INQ3		01138
1139	P045D	C0DF		LDA-	OP+1		01139
1140	P045E	E0DF		LDQ-	OP+1		01140
1141	P045F	0B00	INQ3	NOP			01141
1142	P0460	0B00	INQ2	NOP			01142
1143	P0461	6C09		STA*	(ST50)		01143
1144	P0462	4C09		STQ*	(ST51)		01144
1145	P0463	8C08		EOR*	(ST51)		01145
1146	P0464	0102		SAZ	INQ4--*-1		01146
1147	P0465	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01147
1148	P0466	5C03		RTJ*	(STP5)		01148
1149	P0467	1C01	INQ4	JMP*	(END5)		01149
1151	P0468	0031	P	END5	ADC	ENDSEC	01151
1152	P0469	091C	P	STP5	ADC	STOP	01152
1153	P046A	093B	P	ST50	ADC	STORE	01153
1154	P046B	093C	P	ST51	ADC	STORE+1	01154
1156	***** SECTION 1E-REPLACE ADD ONE IN STORAGE *****						01156
1158	P046C	0A00	RA0	ENA	0		01158
1159	P046D	6CFC		STA*	(ST50)		01159
1160	P046E	6CFC		STA*	(ST51)		01160
1161	P046F	01A0	RA01	SOV	0		01161
1162	P0470	CCF9		LDA*	(ST50)		01162
1163	P0471	8068		ADD-	CONST	0001	01163
1164	P0472	6CF7		STA*	(ST50)		01164
1165	P0473	0CF7		RAO*	(ST51)		01165
1166	P0474	BCF6		EOR*	(ST51)		01166
1167	P0475	0102		SAZ	RA02--*-1		01167
1168	P0476	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01168
1169	P0477	5CF1		RTJ*	(STP5)		01169
1170	P0478	01B4	RA02	SNO	4		01170
1171	P0479	CCF0		LDA*	(ST50)		01171
1172	P047A	0132		SAH	2		01172
1173	P047B	0C21		ENQ	\$21		01173
1174	P047C	5CEC		RTJ*	(STP5)	OVERFLOW SET ON A RAO INSTRUCTIO	01174
1175	P047D	0A13		ENA	RA03-RA0		01175
1176	P047E	1CE9		JMP*	(END5)		***01176
1177	P047F	CCEA	RA03	LDA*	(ST50)		01177
1178	P0480	09FE		INA	-1		01178
1179	P0481	6CE8		STA*	(ST50)		01179
1180	P0482	CCE8		LDA*	(ST51)		01180
1181	P0483	09FE		INA	-1		01181
1182	P0484	6CE6		STA*	(ST51)		01182
1183	P0485	18E9		JMP*	RA01	REPEAT CONDITIONS	01183

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1185          ***** SECTION 1F-SUBTRACT FROM A *****          01185
1187 P0486 0864   SUB      TCA      A              OP IN A.          01187
1188 P0487 6803   SUB4     STA*    SUB4+1           01188
1189 P0488 C0DF   SUB4     LDA-    OP+1             01189
1190 P0489 8000   SUB4     ADD     =N$0              01190
        P048A 0000
1191 P048B 6CDE   SUB2     STA*    (ST50)           01191
1192 P048C C0DF   SUB2     LDA-    OP+1             01192
1193 P048D 90DE   SUB2     SUB-    OP              01193
1194 P048E 6C0C   SUB2     STA*    (ST51)           01194
1195 P048F 8C0A   SUB2     EOR*    (ST50)           01195
1196 P0490 0102   SUB2     SAZ    SUB3-*--1         01196
1197 P0491 0C11   SUB2     ENQ     $11              Q=XY,X=ERROR NUMBER,Y=NUMBER OF 01197
1198 P0492 5C06   SUB2     RTJ*    (STP5)           01198
1199 P0493 1C04   SUB3     JMP*    (END5)            01199

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1201          ***** SECTION 20-SKIP ON OVERFLOW, SKIP ON NO OVERFLOW *****          01201
1203 P0494 0A00   OVNO    ENA      0              01203
1204 P0495 6835   OVNO    STA*    OVERF            01204
1205 P0496 0181   OVNO    SNO     1              01205
1206 P0497 0833   OVNO    RAO*    OVERF            SET FLAG          01206
1207 P0498 C087   OVNO3   LDA-    H7FFF           01207
1208 P0499 0901   OVNO3   INA     1              GENERATE OVERFLOW 01208
1209 P049A 01A3   OVNO3   SOV     OVNO1-*--1         SHOULD SKIP        01209
1210 P049B 0C10   OVNO3   ENQ     $10              Q=XY,X=ERROR NUMBER,Y=NUMBER OF 01210
1211 P049C 5CC0   OVNO3   RTJ*    (STP5)           01211
1212 P049D 1805   OVNO3   JMP*    OVNO2           01212
1213 P049E 01A1   OVNO1   SOV     1              SHOULD NOT SKIP   01213
1214 P049F 1803   OVNO1   JMP*    OVNO2           01214
1215 P04A0 0C20   OVNO1   ENQ     $20              Q=XY,X=ERROR NUMBER,Y=NUMBER OF 01215
1216 P04A1 5CC7   OVNO1   RTJ*    (STP5)           01216
1217 P04A2 0A10   OVNO2   ENA     $10              01217
1218 P04A3 5406   OVNO2   RTJ-   (JUMP)           01218
1219 P04A4 18F3   OVNO2   JMP*    OVNO3           REPEAT COND)      01219
1220 P04A5 C000   OVNO4   LDA     =N$8001         01220
        P04A6 8001
1221 P04A7 09FD   OVNO4   INA     -2           GENERATE OVERFLOW 01221
1222 P04A8 01A2   OVNO4   SOV     OVNO5-*--1         SHOULD SKIP        01222
1223 P04A9 0C30   OVNO4   ENQ     $30              Q=XY,X=ERROR NUMBER,Y=NUMBER OF 01223
1224 P04AA 5CBE   OVNO4   RTJ*    (STP5)           01224
1225 P04AB 0A10   OVNO5   ENA     $10              01225
1226 P04AC 5406   OVNO5   RTJ-   (JUMP)           01226

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1227	P04AD	18F7	JMP*	OVNO4				
1228	P04AE	C087	LDA-	H7FFF		REPEAT, COND.		01227
1229	P04AF	0901	INA	1				01228
1230	P04B0	01B1	SNO	1				01229
1231	P04B1	1804	JMP*	OVNO7				01230
1232	P04B2	0C40	ENQ	\$40		Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01231
1233	P04B3	5C85	RTJ*	(STP5)				01232
1234	P04B4	1804	JMP*	OVNO8				01233
1235	P04B5	01B2	SNO	OVNO8--1				01234
1236	P04B6	0C50	ENQ	\$50		Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01235
1237	P04B7	5C81	RTJ*	(STP5)				01236
1238	P04B8	0A10	ENA	\$10				01237
1239	P04B9	5406	RTJ-	(JUMP)				01238
1240	P04BA	18F3	JMP*	OVNO6		REPEAT COND.		01239
1241	P04BB	C000	LDA	=N\$8001				01240
	P04BC	8001						01241
1242	P04BD	09FD	INA	-2				01242
1243	P04BE	01B1	SNO	1				01243
1244	P04BF	1803	JMP*	OVNOA				01244
1245	P04C0	0C60	ENQ	\$60		Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01245
1246	P04C1	5CA7	RTJ*	(STP5)				01246
1247	P04C2	0A10	ENA	\$10				01247
1248	P04C3	5406	RTJ-	(JUMP)				01248
1249	P04C4	18F6	JMP*	OVNO9		REPEAT COND.		01249
1250	P04C5	C805	LDA*	OVERF				01250
1251	P04C6	0102	SAZ	OVNOW--1				01251
1252	P04C7	C087	LDA-	H7FFF				01252
1253	P04C8	0901	INA	1				01253
1254	P04C9	1C9E	JMP*	(END5)				01254
1255	P04CA	0001	BSS	OVERF(1)				01255
1256	P04CB	0001	BSS	CARRY(1)				01256

1258

***** SECTION 21-MULTIPLY INTEGER *****

01258

1260	P04CC	0A00	MUI	ENA	0			01260
1261	P04CD	683C	STA*	PROD1				01261
1262	P04CE	683C	STA*	PROD2				01262
1263	P04CF	683D	STA*	MULT2				01263
1264	P04D0	60DD	STA-	S		S=0		01264
1265	P04D1	683E	STA*	NEG				01265
1266	P04D2	C0DE	LDA-	OP				01266
1267	P04D3	0111	SAN	1				01267
1268	P04D4	1867	JMP*	MUI12		OPERAND 1 = +0		01268
1269	P04D5	807C	EOR-	HFFFF				01269
1270	P04D6	0111	SAN	1				01270
1271	P04D7	1864	JMP*	MUI12		OPERAND 1 --0		01271
1272	P04D8	C0DF	LDA-	OP+1				01272
1273	P04D9	0111	SAN	1				01273
1274	P04DA	1861	JMP*	MUI12		OPERAND 2 = +0		01274

1275	P04DB	907C	EOR-	HFFFF		01275
1276	P04DC	0111	SAN	1		01276
1277	P04DD	185E	JMP*	MUI12	OPERAND 2 ==-0	01277
1278	P04DE	C0DE	LDA-	OP	OPERAND 1	01278
1279	P04DF	0122	SAP	2		01279
1280	P04E0	0864	TCA	A		01280
1281	P04E1	082E	RAO*	NEG		01281
1282	P04E2	6829	STA*	MULT1		01282
1283	P04E3	E0DF	LDQ-	OP+1	OPERAND 2	01283
1284	P04E4	0162	SQP	2		01284
1285	P04E5	0852	TCQ	Q		01285
1286	P04E6	0829	RAO*	NEG		01286
1287	P04E7	4827	STQ*	OPER		01287
1288	P04E8	E826	LDQ*	OPER		01288
1289	P04E9	0F61	LRS	1		01289
1290	P04EA	4824	STQ*	OPER		01290
1291	P04EB	0131	SAM	1		01291
1292	P04EC	1825	JMP*	SHIF2A		01292
1293	P04ED	C81E	LDA*	MULT1	ADD,SHIFT AND STORE	01293
1294	P04EE	A822	AND*	N1		01294
1295	P04EF	681E	STA*	M1		01295
1296	P04F0	C819	LDA*	PROD1		01296
1297	P04F1	A81F	AND*	N1		01297
1298	P04F2	881B	ADD*	M1		01298
1299	P04F3	A81D	AND*	N1		01299
1300	P04F4	6819	STA*	M1		01300
1301	P04F5	C816	LOA*	MULT1		01301
1302	P04F6	8813	ADD*	PROD1	MAKE PRODUCT 1	01302
1303	P04F7	6812	STA*	PROD1		01303
1304	P04F8	0115	SAN	ATLAST*-1	DETERMINE IF -0 WENT TO +0	01304
1305	P04F9	C814	LDA*	M1		01305
1306	P04FA	010A	SAZ	MUI1*-1	IS CARRY AROUND = +0	01306
1307	P04FB	0AFF	ENA	-0	NO,THEN SET TO -0	01307
1308	P04FC	680D	STA*	PROD1		01308
1309	P04FD	1808	JMP*	MUI1		01309
1310	P04FE	A812	AND*	N1		01310
1311	P04FF	980E	SUB*	M1		01311
1312	P0500	0104	SAZ	MUI1*-1	GO TO SECOND WORD	01312
1313	P0501	C808	LDA*	PROD1		01313
1314	P0502	09FE	INA	-1		01314
1315	P0503	6806	STA*	PROD1		01315
1316	P0504	D806	RAO*	PROD2		01316
1317	P0505	C807	LDA*	MULT2		01317
1318	P0506	8804	ADD*	PROD2		01318
1319	P0507	6803	STA*	PROD2		01319
1320	P0508	1809	JMP*	SHIF2A		01320
1321	P0509	0001	BSS	PROD1(1),PROD2(1)		01321
	P050A	0001				
1322	P050B	0001	BSS	MULT1(1),MULT2(1)		01322
	P050C	0001				
1323	P050D	0000	M1	NUM	0	01323
1324	P050E	0001	BSS	OPER(1)		01324
1325	P050F	0001	BSS	NEG(1)		01325

1326	P0510	0001	N1	NUM	1		01326
1327	P0511	C8F9	SHIF2A	LOA*	MULT1		01327
1328	P0512	E8F9		LDQ*	MULT2		01328
1329	P0513	0FE1		LLS	1		01329
1330	P0514	69F6		STA*	MULT1		01330
1331	P0515	48F6		STO*	MULT2		01331
1332	P0516	0000	MUI2	RAO-	S		01332
1333	P0517	0A10		ENA	16		01333
1334	P0518	9000		SUB-	S		01334
1335	P0519	0101		SAZ	1		01335
1336	P051A	18CD		JMP*	MULT4		01336
1337	P051B	C8F3		LOA*	NEG		01337
1338	P051C	0108		SAZ	MUI5-*--1		01338
1339	P051D	A06C		AND-	CONST+1		01339
1340	P051E	0116		SAN	MUI5-*--1		01340
1341	P051F	C8E9		LOA*	PROD1		01341
1342	P0520	0864		TCA	A		01342
1343	P0521	68E7		STA*	PROD1		01343
1344	P0522	C8E7		LOA*	PROD2		01344
1345	P0523	0864		TCA	A		01345
1346	P0524	68E5		STA*	PROD2		01346
1347	P0525	C8E3	MUI5	LOA*	PROD1		01347
1348	P0526	6C00		STA	(ST60)		01348
	P0527	008E					
1349	P0528	C8E1		LOA*	PROD2		01349
1350	P0529	6C00		STA	(ST61)		01350
	P052A	008C					
1351	P052B	CODE	MUI3	LOA-	OP	OPERAND 1	01351
1352	P052C	200F		MUI-	OP+1		01352
1353	P052D	6C70		STA*	(ST62)		01353
1354	P052E	4C70		STQ*	(ST63)		01354
1355	P052F	BC00		EOR	(ST60)		01355
	P0530	0085					
1356	P0531	0104		SAZ	MUI11-*--1		01356
1357	P0532	0C12	MUIEE	ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01357
1358	P0533	5C00		RTJ	(STP6)		01358
	P0534	0080					
1359	P0535	1806		JMP*	MUI12		01359
1360	P0536	CC68	MUI11	LOA*	(ST63)		01360
1361	P0537	BC00		EOR	(ST61)		01361
	P0538	00AE					
1362	P0539	0101		SAZ	MUI12-*--1		01362
1363	P053A	18F7		JMP*	MUIEE		01363
1364	P053B	188D	MUI12	JMP*	OVNOW	GO TO END SECTION ROUTINE.	01364

1366

***** SECTION 22-DIVIDE INTEGER *****

01366

1368 P053C 0A00
1369 P053D 685B

DIV ENA 0
STA* FLG1

01368
01369

1370	P053E	685B	STA*	FLG2		01370
1371	P053F	6857	STA*	POS11		01371
1372	P0540	6854	STA*	QUOT1		01372
1373	P0541	6854	STA*	QUOT2		01373
1374	P0542	6850	STA*	FIND		01374
1375	P0543	60DD	STA-	S		01375
1376	P0544	C0E0	LDA-	OP+2	OPERAND 3	01376
1377	P0545	0112	SAN	2		01377
1378	P0546	1800	JMP	ENDDI	+0 00 NOT ATTEMPT SIM.	01378
	P0547	009B				
1379	P0548	807C	EOR-	HFFFF		01379
1380	P0549	0112	SAN	2		01380
1381	P054A	1800	JMP	ENDDI	-0 00 NOT ATTEMPT SIM.	01381
	P054B	0097				
1382	P054C	C00F	LDA-	OP+1		01382
1383	P054D	0113	SAN	DIV1B-*--1		01383
1384	P054E	C0DE	LDA-	OP	OPERAND 1	01384
1385	P054F	0106	SAZ	DIV1-*--1		01385
1386	P0550	1808	JMP*	DIV2		01386
1387	P0551	807C	EOR-	HFFFF		01387
1388	P0552	0115	SAN	DIV2-*--1		01388
1389	P0553	C0DE	LDA-	OP		01389
1390	P0554	807C	EOR-	HFFFF		01390
1391	P0555	0112	SAN	DIV2-*--1		01391
1392	P0556	1800	JMP	ENDDI	BOTH REGISTERS = -0	01392
	P0557	008B				
1393	P0558	C0DE	LDA-	OP		01393
1394	P0559	E00F	LDQ-	OP+1		01394
1395	P055A	0163	SQP	DIV4-*--1		01395
1396	P055B	D83D	RAO*	FLG1		01396
1397	P055C	0864	TCA	A	COMPLEMENT DIVIDEND	01397
1398	P055D	0852	TCQ	Q		01398
1399	P055E	683E	STA*	DVND1		01399
1400	P055F	483C	STQ*	DVND2		01400
1401	P0560	C0E0	LDA-	OP+2		01401
1402	P0561	0122	SAP	DIV5-*--1		01402
1403	P0562	D837	RAO*	FLG2		01403
1404	P0563	0864	TCA	A	COMPLEMENT DIVISOR	01404
1405	P0564	6836	STA*	DIVIS		01405
1406	P0565	0C01	ENQ	1		01406
1407	P0566	0139	SAM	DIV6-*--1	FIND THE LEFT MOST BIT.	01407
1408	P0567	0FA1	QLS	1		01408
1409	P0568	0FC1	ALS	1		01409
1410	P0569	6831	STA*	DIVIS		01410
1411	P056A	C0DD	LDA-	S	NUMBER OF TIMES TO SHIFT	01411
1412	P056B	09FE	INA	-1		01412
1413	P056C	60DD	STA-	S		01413
1414	P056D	6825	STA*	FIND		01414
1415	P056E	C82C	LDA*	DIVIS		01415
1416	P056F	18F6	JMP*	DIV8		01416
1417	P0570	0FCF	ALS	15		01417
1418	P0571	0FAF	QLS	15		01418
1419	P0572	6828	STA*	DIVIS		01419

1420	P0573	4824		STQ*	POSI2		01420
1421	P0574	C827	DIV11	LDA*	DVND2		01421
1422	P0575	9825		SUB*	DIVIS		01422
1423	P0576	0121		SAP	1		01423
1424	P0577	1828		JMP*	DIV10		01424
1425	P0578	6823		STA*	DVND2		01425
1426	P0579	C810		LDA*	POSI1		01426
1427	P057A	B81A		EOR*	QUOT1		01427
1428	P057B	6819		STA*	QUOT1		01428
1429	P057C	C819		LDA*	POSI2		01429
1430	P057D	B818		EOR*	QUOT2		01430
1431	P057E	6817		STA*	QUOT2		01431
1432	P057F	0A0F		ENA	15		01432
1433	P0580	9000		SUB-	S		01433
1434	P0581	0111		SAN	1		01434
1435	P0582	1821		JMP*	XXX		01435
1436	P0583	C819	DIV12	LDA*	DVND1		01436
1437	P0584	E817		LDQ*	DVND2		01437
1438	P0585	0FE1		LLS	1		01438
1439	P0586	A000		AND	=N\$FFFE		01439
	P0587	FFFE					
1440	P0588	6814		STA*	DVND1		01440
1441	P0589	4812		STQ*	DVND2		01441
1442	P058A	C80C		LDA*	POSI1		01442
1443	P058B	E80C		LDQ*	POSI2		01443
1444	P058C	0FF0		LLS	16		01444
1445	P058D	0FEF		LLS	15	*****	01445
1446	P058E	4809		STQ*	POSI2		01446
1447	P058F	6807		STA*	POSI1		01447
1448	P0590	D000		RAO-	S		01448
1449	P0591	18E2		JMP*	DIV11		01449
1450	P0592	0001		BSS	FIND(1)		01450
1451	P0593	0001		BSS	DIVFAU(1)		01451
1452	P0594	0001		BSS	QUOT1(1),QUOT2(1)		01452
	P0595	0001					
1453	P0596	0001		BSS	POSI1(1),POSI2(1)		01453
	P0597	0001					
1454	P0598	0001		BSS	FLG1(1),FLG2(1)		01454
	P0599	0001					
1455	P059A	0001		BSS	DIVIS(1),DVND2(1),DVND1(1)		01455
	P059B	0001					
	P059C	0001					
1456	P059D	093D	P ST62	ADC	STORE+2		01456
1457	P059E	093E	P ST63	ADC	STORE+3		01457
1458	P059F	0A0F	DIV10	ENA	15		01458
1459	P05A0	9000		SUB-	S		01459
1460	P05A1	0101		SAZ	1		01460
1461	P05A2	18E0		JMP*	DIV12		01461
1462	P05A3	E8F7	XXX	LDQ*	DVND2	STORE REMAINDER	01462
1463	P05A4	C9E0		LDA*	FIND		01463
1464	P05A5	0901		INA	1		01464
1465	P05A6	0103	FIND3	SAZ	FIND2--1		01465
1466	P05A7	0FAF		QLS	15		01466

1467	P05A8	0901		INA	1			01467
1468	P05A9	18FC		JMP*	FIND3			01468
1469	P05AA	4C3C	FIND2	STQ*	(ST61)			01469
1470	P05AB	0A00		ENA	0			01470
1471	P05AC	68E6		STA*	DIVFAU			01471
1472	P05AD	C8E7	DIVB3	LDA*	QUOT2			01472
1473	P05AE	E8E5		LDQ*	QUOT1			01473
1474	P05AF	4C36		STQ*	(ST60)			01474
1475	P05B0	0171		SQN	1			01475
1476	P05B1	0102		SAZ	2			01476
1477	P05B2	D8E0		RAO*	DIVFAU			01477
1478	P05B3	1815		JMP*	DIV3			01478
1479	P05B4	C8E3		LDA*	FLG1			01479
1480	P05B5	0117		SAN	DIVB--1	FLG1=0, NO		01480
1481	P05B6	C8E2		LDA*	FLG2	YES		01481
1482	P05B7	0111		SAN	1	FLG2=1, YES		01482
1483	P05B8	1810		JMP*	DIV3	NO,GO DIVID		01483
1484	P05B9	CC2C		LDA*	(ST60)			01484
1485	P05BA	0864		TCA	A	COMPLEMENT QUOTIENT		01485
1486	P05BB	6C2A		STA*	(ST60)			01486
1487	P05BC	180C		JMP*	DIV3			01487
1488	P05BD	88DB	DIVB	EOR*	FLG2			01488
1489	P05BE	0113		SAN	DIVB2--1			01489
1490	P05BF	CC27		LDA*	(ST61)			01490
1491	P05C0	0864		TCA	A	COMPLEMENT REMAINDER		01491
1492	P05C1	1806		JMP*	DIVB1			01492
1493	P05C2	EC23	DIVB2	LDQ*	(ST60)			01493
1494	P05C3	0852		TCQ	Q	COMPLEMENT QUOTIENT		01494
1495	P05C4	4C21		STQ*	(ST60)			01495
1496	P05C5	CC21		LDA*	(ST61)			01496
1497	P05C6	0864		TCA	A	COMPLEMENT REMAINDER		01497
1498	P05C7	6C1F	DIVB1	STA*	(ST61)			01498
1499	P05C8	CCDE	DIV3	LDA-	OP	OPERAND 1		01499
1500	P05C9	E0DF		LDQ-	OP+1	OPERAND 2		01500
1501	P05CA	01A0		SOV	0			01501
1502	P05CB	30ED		DVI-	OP+2	DIVID WITH OPERAND 3		01502
1503	P05CC	6C00		STA*	(ST62)			01503
1504	P05CD	4C00		STQ*	(ST63)			01504
1505	P05CE	C8C4		LDA*	DIVFAU			01505
1506	P05CF	0104		SAZ	DIV3X--1			01506
1507	P05D0	01A2		SOV	DIV3W--1			01507
1508	P05D1	0C22	DIV3Z	ENQ	\$22	Q=XY, X=ERROR NUMBER, Y=NUMBER OF		01508
1509	P05D2	5C12		RTJ*	(STP6)			01509
1510	P05D3	180F	DIV3W	JMP*	ENDDI			01510
1511	P05D4	01B3	DIV3X	SNO	DIV3Y--1			01511
1512	P05D5	E000		LDQ	=N\$2203	ERROR		01512
	P05D6	2203						
1513	P05D7	18F9		JMP*	DIV3Z			01513
1514	P05D8	CCC5	DIV3Y	LDA*	(ST63)			01514
1515	P05D9	8C00		EOR*	(ST61)	CHECK REMAINDER		01515
1516	P05DA	Q103		SAZ	DIV3B--1			01516
1517	P05DB	0C12	DIV4A	ENQ	\$12	Q=XY, X=ERROR NUMBER, Y=NUMBER OF		01517
1518	P05DC	5C08		RTJ*	(STP6)			01518

1519	P0500	1805		JMP*	ENDDI		01519
1520	P050E	CC8E	DIV4B	LDA*	(ST62)		01520
1521	P050F	BC06		EOR*	(ST60)	CHEC QUOTIENT	01521
1522	P05E0	0101		SAZ	1		01522
1523	P05E1	18F9		JMP*	DIV4A		01523
1524	P05E2	1C01	ENDDI	JMP*	(END6)		01524

1526	P05E3	0031	P	END6	ADC	ENDSEC	01526
1527	P05E4	091C	P	STP6	ADC	STOP	01527
1528	P05E5	093B	P	ST60	ADC	STORE	01528
1529	P05E6	093C	P	ST61	ADC	STORE+1	01529

1531	***** SECTION 23-STORE PARITY TO A *****						01531
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1533	P05E7	0C00	SPA	ENQ	0		01533
1534	P05E8	4822		STQ*	CARRR		01534
1535	P05E9	4820		STQ*	COUNT		01535
1536	P05EA	0121	SPA2	SAP	SPA1-*--1	A== DERERMINE NUMBER OF DITS SET	01536
1537	P05EB	081F		RAO*	CARRR		01537
1538	P05EC	0FC1	SPA1	ALS	1		01538
1539	P05ED	6CF7		STA*	(ST60)		01539
1540	P05EE	D81B		RAO*	COUNT		01540
1541	P05EF	C81A		LDA*	COUNT		01541
1542	P05F0	906F		SUB-	CONST+4	0010	01542
1543	P05F1	0102		SAZ	SPA7-*--1		01543
1544	P05F2	CCF2		LDA*	(ST60)		01544
1545	P05F3	18F6		JMP*	SPA2		01545
1546	P05F4	C816	SPA7	LDA*	CARRR		01546
1547	P05F5	0FCF		ALS	15		01547
1548	P05F6	0133		SAM	SPA3-*--1		01548
1549	P05F7	0A01		ENA	1		01549
1550	P05F8	6CEC		STA*	(ST60)		01550
1551	P05F9	1803		JMP*	SPA4		01551
1552	P05FA	0A00	SPA3	ENA	0		01552
1553	P05FB	6CE9		STA*	(ST60)	CLEAR PARITY BIT	01553
1554	P05FC	C0DE	SPA4	LDA-	OP		01554
1555	P05FD	6C9F		STA*	(ST62)		01555
1556	P05FE	7C9F		SPA*	(ST63)		01556
1557	P05FF	6CE6		STA*	(ST61)		01557
1558	P0600	BCE4		EOR*	(ST60)	COMPARE PARITY	01558
1559	P0601	0101		SAZ	SPA5B-*--1		01559
1560	P0602	1804		JMP*	SPA5A		01560
1561	P0603	C0DE	SPA5B	LDA-	OP		01561
1562	P0604	BC99		EOR*	(ST63)		01562
1563	P0605	0102		SAZ	ENDSPA-*--1	COMPARE DATA STORED	01563
1564	P0606	0C12	SPA5A	ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01564
1565	P0607	5C0C		RTJ*	(STP6)		01565
1566	P0608	1CDA	ENDSPA	JMP*	(END6)		01566

1567 P0609 0001	BSS	COUNT(1)		01567
1568 P060A 0001	BSS	CARRR(1)		01568

1570 ***** SECTION 24-SET TO ONES A,Q ***** 01570

1572 P0608 0AFF	SET	ENA	-0		01572
1573 P060C 6C08		STA*	(ST60)		01573
1574 P060D 0806	SET1	SET	A,Q		01574
1575 P060E 5C29		RTJ*	(INTRZ)		01575
1576 P060F 1803		JMP*	SET2		01576
1577 P0610 0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01577
1578 P0611 5C02		RTJ*	(STP6)		01578
1579 P0612 1C00	SET2	JMP*	(END6)		***01579

1581 ***** SECTION 25-CLEAR TO ZERO A,Q ***** 01581

1583 P0613 0A00	CLR	ENA	0		01583
1584 P0614 6C00		STA*	(ST60)		01584
1585 P0615 C0DE		LOA-	OP		01585
1586 P0616 E0DF		LDQ-	OP+1		01586
1587 P0617 0846	CLR1	CLR	A,Q		01587
1588 P0618 5C1F		RTJ*	(INTRZ)		01588
1589 P0619 1803		JMP*	CLR2		01589
1590 P061A 0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01590
1591 P061B 5CC8		RTJ*	(STP6)		01591
1592 P061C 0A04	CLR2	ENA	CLR1-CLR		01592
1593 P061D 1CC5	CLR3	JMP*	(END6)		***01593

1595 ***** SECTION 26-TRANSFER A TO A,Q ***** 01595

1597 P061E 6CC6	TRA	STA*	(ST60)	OP IN A.	01597
1598 P061F 0826		TRA	A,Q		01598
1599 P0620 5C17		RTJ*	(INTRZ)		01599
1600 P0621 1803		JMP*	TRA2		01600
1601 P0622 0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01601
1602 P0623 5CC0		RTJ*	(STP6)		01602
1603 P0624 1C8E	TRA2	JMP*	(END6)		01603

1605	***** SECTION 27-TRANSFER Q TO A,Q *****				01605	
1607	P0625	E0DE	TRQ	LDQ-	OP	01607
1608	P0626	0844		CLR	A	01608
1609	P0627	4C8D		STQ*	(ST60)	01609
1610	P0628	0816		TRQ	A,Q	01610
1611	P0629	5C0E		RTJ*	(INTRZ)	01611
1612	P062A	1803		JMP*	TRQ2	01612
1613	P062B	0C12		ENQ	\$12	01613
1614	P062C	5C87		RTJ*	(STP6)	01614
1615	P062D	1C85	TRQ2	JMP*	(END6)	01615
					Q=XY,X=ERROR NUMBER,Y=NUMBER OF	
1617	***** SECTION 28-TRANSFER COMPLEMENT A TO A,Q *****				01617	
1619	P062E	807C	TCA	EOR-	HFFF	01619
1620	P062F	6C3D		STA*	(ST70)	01620
1621	P0630	C0DE	TCA2	LDA-	OP	01621
1622	P0631	0866		TCA	A,Q	01622
1623	P0632	5C05		RTJ*	(INTRZ)	01623
1624	P0633	1803		JMP*	TCA3	01624
1625	P0634	0C12		ENQ	\$12	01625
1626	P0635	5C36		RTJ*	(STP7)	01626
1627	P0636	1C34	TCA3	JMP*	(END7)	01627
1628	P0637	08EF	P INTRZ	ADC	INTREG	01628
					Q=XY,X=ERROR NUMBER,Y=NUMBER OF	
1630	***** SECTION 29-TRANSFER COMPLEMENT Q TO A,Q *****				01630	
1632	P0638	807C	TCQ	EOR-	HFFF	01632
1633	P0639	6C33		STA*	(ST70)	01633
1634	P063A	E0DE	TCQ2	LDQ-	OP	01634
1635	P063B	0856		TCQ	A,Q	01635
1636	P063C	5CFA		RTJ*	(INTRZ)	01636
1637	P063D	1803		JMP*	TCQ3	01637
1638	P063E	0C12		ENQ	\$12	01638
1639	P063F	5C2C		RTJ*	(STP7)	01639
1640	P0640	1C2A	TCQ3	JMP*	(END7)	01640
					Q=XY,X=ERROR NUMBER,Y=NUMBER OF	
1642	***** SECTION 2A-TRANSFER THE ARITHMETIC SUM OF A,Q TO A,Q *****				01642	
1644	P0641	80DF	AAQ	ADD-	OP+1	01644
1645	P0642	6C2A		STA*	(ST70)	01645
1646	P0643	C0DE	AAQ2	LDA-	OP	01646
1647	P0644	E0DF		LDQ-	OP+1	01647
1648	P0645	0836		AAQ	A,Q	01648

1649	P0646	5CF0		RTJ*	(INTRZ)			01649
1650	P0647	1803		JMP*	AAQ3			01650
1651	P0648	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01651
1652	P0649	5C22		RTJ*	(STP7)			01652
1653	P064A	1C20	AAQ3	JMP*	(END7)			01653

1655 ***** SECTION 2B-TRANSFER EXCLUSIVE OR OF A,Q TO A,Q ***** 01655

1657	P064B	80DF	EAQ	EOR-	OP+1	OP IN A.		01657
1658	P064C	6C20		STA*	(ST70)			01658
1659	P064D	C0DE	EAQ2	LDA-	OP			01659
1660	P064E	E0DF		LDQ-	OP+1			01660
1661	P064F	0876		EAQ	A,Q			01661
1662	P0650	5CE6		RTJ*	(INTRZ)			01662
1663	P0651	1803		JMP*	EAQ3			01663
1664	P0652	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01664
1665	P0653	5C18		RTJ*	(STP7)			01665
1666	P0654	1C16	EAQ3	JMP*	(END7)			01666

1668 ***** SECTION 2C-TRANSFER LOGICAL PRODUCT OF A,Q TO A,Q ***** 01668

1670	P0655	A0DF	LAQ	AND-	OP+1	OP IN A.		01670
1671	P0656	6C16		STA*	(ST70)			01671
1672	P0657	C0DE	LAQ2	LDA-	OP			01672
1673	P0658	E0DF		LDQ-	OP+1			01673
1674	P0659	0806		LAQ	A,Q			01674
1675	P065A	5C0C		RTJ*	(INTRZ)			01675
1676	P065B	1803		JMP*	LAQ3			01676
1677	P065C	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01677
1678	P065D	5C0E		RTJ*	(STP7)			01678
1679	P065E	1C0C	LAQ3	JMP*	(END7)			01679

1681 ***** SECTION 2D-TRANSFER COMPLEMENT LOGICAL PRODUCT A,Q TO A,Q ***** 01681

1683	P065F	A0DF	CAQ	AND-	OP+1	OP IN A.		01683
1684	P0660	807C		EOR-	HFFF			01684
1685	P0661	6C0B		STA*	(ST70)			01685
1686	P0662	C0DE	CAQ2	LDA-	OP			01686
1687	P0663	E0DF		LDQ-	OP+1			01687
1688	P0664	08F6		CAQ	A,Q			01688
1689	P0665	5C01		RTJ*	(INTRZ)			01689
1690	P0666	1803		JMP*	CAQ3			01690
1691	P0667	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01691
1692	P0668	5C03		RTJ*	(STP7)			01692
1693	P0669	1C01	CAQ3	JMP*	(END7)			01693

1695	P066A	0031	P	END7	ADC	ENDSEC		01695
1696	P066B	091C	P	STP7	ADC	STOP		01696
1697	P066C	0939	P	ST70	ADC	STORE		01697
1698	P066D	08C7	P	ST71	ADC	ININT	INH INT, SAVE H REG	***01698
1699	P066E	08CE	P	ST72	ADC	ENINT	ENT INT, RESTORE H REG	***01699

1701 ***** SECTION 2E-SET TO ONES-M ***** 01701

1703	P066F	5CFD	SETM	RTJ*	(ST71)			***01703
1704	P0670	0AFF		ENA	-0			***01704
1705	P0671	5C33		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)		01705
1706	P0672	0801	SETM1	SET	H			01706
1707	P0673	5C30		RTJ*	(INTRY)			01707
1708	P0674	1803		JMP*	SETM2			01708
1709	P0675	0C11		ENQ	\$11	Q=XV,X=ERROR NUMBER,Y=NUMBER OF		01709
1710	P0676	5CF4		RTJ*	(STP7)			01710
1711	P0677	0A03	SETM2	ENA	SETM1-SETM			01711
1712	P0678	5CF5	SETM3	RTJ*	(ST72)			***01712
1713	P0679	1CF0		JMP*	(END7)			***01713

1715 ***** SECTION 2F-TRANSFER A TO H ***** 01715

1716			*					01716
1717			*					01717
1718	P067A	5CF2	TRAM	RTJ*	(ST71)			***01718
1719	P0673	5C29		RTJ*	(CHMSK1)	CK MASK REGISTER, STORE DATA		***01719
1720	P067C	0821		TRA	H			01720
1721	P067D	5C26		RTJ*	(INTRY)			01721
1722	P067E	1803		JMP*	TRAM2			01722
1723	P067F	0C11		ENQ	\$11	Q=XV,X=ERROR NUMBER,Y=NUMBER OF		01723
1724	P0680	5CEA		RTJ*	(STP7)			01724
1725	P0681	5CEC	TRAM2	RTJ*	(ST72)			***01725
1726	P0682	1CE7		JMP*	(END7)			***01726
1727			*					01727
1728			*					01728
1729			*****	SECTION 30-CLEAR TO ZERO-M	*****			01729

1731	P0683	5CE9	CLRM	RTJ*	(ST71)			***01731
1732	P0684	0821		TRA	H			***01732
1733	P0685	0A00		ENA	0			01733
1734	P0686	5C1E		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)		01734
1735	P0687	0841	CLRM1	CLR	H			01735
1736	P0688	5C1B		RTJ*	(INTRY)			01736
1737	P0689	1803		JMP*	CLRM2			01737

1738 P068A 0C11	ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01738
1739 P068B 5CDF	RTJ*	(STP7)		01739
1740 P068C 5CE1	CLRM2 RTJ*	(ST72)		***01740
1741 P068D 1C0C	JMP*	(END7)		***01741

1743 ***** SECTION 31-TRANSFER Q TO M ***** 01743

1745 P068E 5CDE	TRQM	RTJ*	(ST71)		***01745
1746 P068F 5C15		RTJ*	(CHMSK1)	CK M REG, STORE DATA	***01746
1747 P0690 0822		TRA	Q		01747
1748 P0691 0811		TRQ	M		01748
1749 P0692 5C11		RTJ*	(INTRY)		01749
1750 P0693 1803		JMP*	TRQM2		01750
1751 P0694 0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01751
1752 P0695 5C05		RTJ*	(STP7)		01752
1753 P0696 5C07	TRQM2	RTJ*	(ST72)		***01753
1754 P0697 1C02		JMP*	(END7)		***01754

1756 ***** SECTION 32-TRANSFER COMPLEMENT A TO M ***** 01756

1758 P0698 5C04	TCAM	RTJ*	(ST71)		***01758
1759 P0699 807C		EOR-	HFFFF		***01759
1760 P069A 5C0A		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)	01760
1761 P069B CODE	TCAM2	LDA-	OP		01761
1762 P069C 0861		TCA	M		01762
1763 P069D 5C06		RTJ*	(INTRY)		01763
1764 P069E 1803		JMP*	TCAM3		01764
1765 P069F 0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01765
1766 P06A0 5CCA		RTJ*	(STP7)		01766
1767 P06A1 5CCC	TCAM3	RTJ*	(ST72)		***01767
1768 P06A2 1CC7		JMP*	(END7)		***01768
1769 P06A3 08F8 P	INTRY	ADC	INTM		01769
1770 P06A4 0902 P	CHMSK1	ADC	CHMSK		01770

1772 ***** SECTION 33-TRANSFER COMPLEMENT Q TO M ***** 01772

1774 P06A5 5CC7	TCQM	RTJ*	(ST71)		***01774
1775 P06A6 807C		EOR-	HFFFF		***01775
1776 P06A7 5CFC		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)	01776
1777 P06A8 E0DE	TCQM2	LDQ-	OP		01777
1778 P06A9 0851		TCQ	M		01778
1779 P06AA 5CF8		RTJ*	(INTRY)		01779
1780 P06AB 1803		JMP*	TCQM3		01780

1781	P06AC	0C11	ENQ	\$11	Q=XY, X=ERROR NUMBER, Y=NUMBER OF	01781
1782	P06AD	5C8D	RTJ*	(STP7)		01782
1783	P06AE	5C8F	TCQM3	RTJ*	(ST72)	***01783
1784	P06AF	1CBA	JMP*	(END7)		***01784

1786 ***** SECTION 34-TRANSFER ARITHMETIC SUM A,Q TO M ***** 01786

1788	P0680	5C8C	AAQM	RTJ*	(ST71)	SAVE M, IIN	***01788
1789	P0681	80DF		ADD-	OP+1	OP IN A	***01789
1790	P0682	5CF1		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)	01790
1791	P0683	C0DE	AAQM2	LDA-	OP		01791
1792	P0684	E0DF		LDQ-	OP+1		01792
1793	P0685	0831		AAQ	M		01793
1794	P0686	5CEC		RTJ*	(INTRY)		01794
1795	P0687	1804		JMP*	AAQM3		01795
1796	P0688	0C11		ENQ	\$11	Q=XY, X=ERROR NUMBER, Y=NUMBER OF	01796
1797	P0689	5C00		RTJ	(STP7)		01797
	P068A	FF80					
1798	P068B	5C82	AAQM3	RTJ*	(ST72)	RESTORE M, EIN	***01798
1799	P068C	1CAD	JMP*	(END7)			***01799

1801 ***** SECTION 35-TRANSFER EXCLUSIVE OR A,Q TO M ***** 01801

1803	P068D	5CAF	EAQM	RTJ*	(ST71)	SAVE M	***01803
1804	P068E	80DF		EOR-	OP+1	OP IN A	***01804
1805	P068F	5CE4		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)	01805
1806	P06C0	C0DE	EAQM2	LDA-	OP		01806
1807	P06C1	E0DF		LDQ-	OP+1		01807
1808	P06C2	0871		EAQ	M		01808
1809	P06C3	5CDF		RTJ*	(INTRY)		01809
1810	P06C4	1803		JMP*	EAQM3		01810
1811	P06C5	0C11		ENQ	\$11	Q=XY, X=ERROR NUMBER, Y=NUMBER OF	01811
1812	P06C6	5C43		RTJ*	(STP8)		01812
1813	P06C7	5CA6	EAQM3	RTJ*	(ST72)	RESTORE M	***01813
1814	P06C8	1CA1	JMP*	(END7)			***01814

1816 ***** SECTION 36-TRANSFER LOGICAL PRODUCT OF A,Q TO M ***** 01816

1818	P06C9	5CA3	LAQM	RTJ*	(ST71)	SAVE M	***01818
1819	P06CA	A0DF		AND-	OP+1	OP IN A	***01819
1820	P06CB	5CD8		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)	01820
1821	P06CC	C0DE	LAQM2	LDA-	OP		01821
1822	P06CD	E0DF		LDQ-	OP+1		01822
1823	P06CE	0881		LAQ	M		01823
1824	P06CF	5CD3		RTJ*	(INTRY)		01824

1825	P0600	1803		JMP*	LAQM3			01825
1826	P0601	0C11		ENQ	\$11		Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01826
1827	P0602	5C37		RTJ*	(STP8)			01827
1828	P0603	5C9A	LAQM3	RTJ*	(ST72)			***01828
1829	P0604	1C34		JMP*	(END8)			***01829

1831 ***** SECTION 37-TRANSFER COMPLEMENT LOGICAL PRODUCT A,Q TO M ***** 01831

1833	P0605	5C97	CAQM	RTJ*	(ST71)	SAVE M		***01833
1834	P0606	A0DF		AND-	OP+1	OP IN A		***01834
1835	P0607	B07C		EOR-	HFFFF			01835
1836	P0608	5CCB		RTJ*	(CHMSK1)	CHECK MASK REGISTER (STORE DATA)		01836
1837	P0609	C0DE	CAQM2	LDA-	OP			01837
1838	P060A	E0DF		LDD-	OP+1			01838
1839	P060B	08F1		CAQ	M			01839
1840	P060C	5CC6		RTJ*	(INTRY)			01840
1841	P060D	1803		JMP*	CAQM3			01841
1842	P060E	0C11		ENQ	\$11	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01842
1843	P060F	5C2A		RTJ*	(STP8)			01843
1844	P06E0	5C8D	CAQM3	RTJ*	(ST72)	RESTORE M		***01844
1845	P06E1	1C27		JMP*	(END8)			***01845

1847 ***** SECTION 38-TRANSFER M TO A,Q,M ***** 01847

1849	P06E2	5C8A	TRM	RTJ*	(ST71)	SAVE M		***01849
1850	P06E3	5C5A		RTJ*	(CHMSK2)	CK M REG, DATA NOT STORED		***01850
1851	P06E4	0821		TRA	M			01851
1852	P06E5	5C5A		RTJ*	(STD)	STORE DATA		01852
1853	P06E6	080F		TRM	A,Q,M			01853
1854	P06E7	5C55		RTJ*	(IAQM)			01854
1855	P06E8	1803		JMP*	TRM2			01855
1856	P06E9	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01856
1857	P06EA	5C1F		RTJ*	(STP8)			01857
1858	P06E9	5C82	TRM2	RTJ*	(ST72)	RESTORE M		***01858
1859	P06EC	1C1C		JMP*	(END8)			***01859

1861 ***** SECTION 39-TRANSFER Q+M TO A,Q,M ***** 01861

1863	P06E0	5C1D	TRB	RTJ*	(STP81)	SAVE M		***01863
1864	P06EE	5C4F		RTJ*	(CHMSK2)	CK M REG, DATA NOT STORED		***01864
1865	P06EF	5C51		RTJ*	(OR1)			01865
1866	P06F0	5C4F		RTJ*	(STD)	STORE DATA		01866
1867	P06F1	C0DE	TRB2	LDA-	OP			01867
1868	P06F2	0821		TRA	M			01868
1869	P06F3	E0DF		LDD-	OP+1			01869

1870	P06F4	081F		TRB	A,Q,M			01870
1871	P06F5	5C47		RTJ*	(IAQM)			01871
1872	P06F6	1803		JMP*	TRB3			01872
1873	P06F7	0C12		ENQ	\$12		Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01873
1874	P06F8	5C11		RTJ*	(STP8)			01874
1875	P06F9	5C12	TRB3	RTJ*	(STP82)	RESTORE M		***01875
1876	P06FA	1C0E		JMP*	(END8)			***01876

1878 ***** SECTION 3A-TRANSFER COMPLEMENT M TO A,Q,M ***** 01878

1880	P06F8	5C0F	TCM	RTJ*	(STP81)	SAVE M		***01880
1881	P06FC	5C41		RTJ*	(CHMSK2)	CK M D		***01881
1882	P06FD	807C		EOR-	HFFFF			01882
1883	P06FE	5C41		RTJ*	(STD)	STORE DATA		01883
1884	P06FF	C0DE	TCM2	LDA-	OP			01884
1885	P0700	0821		TRA	M			01885
1886	P0701	084F		TCM	A,Q,M			01886
1887	P0702	5C3A		RTJ*	(IAQM)			01887
1888	P0703	1803		JMP*	TCM3			01888
1889	P0704	0C12		ENQ	\$12		Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01889
1890	P0705	5C04		RTJ*	(STP8)			01890
1891	P0706	5C05	TCM3	RTJ*	(STP82)	RESTORE M		***01891
1892	P0707	1C01		JMP*	(END8)			***01892

1894	P0708	0031	P	END8	ADC	ENDSEC		01894
1895	P0709	091C	P	STP8	ADC	STOP		01895
1896	P070A	08C7	P	STP81	ADC	ININT	SAVE M REG., INHIBIT INTERRUPTS	***01896
1897	P070B	08CE	P	STP82	ADC	ENINT	RESTORE M REG, ENABLE INTERRUPTS	***01897

1899 ***** SECTION 3B-TRANSFER COMPLEMENT Q+M TO A,Q,M ***** 01899

1901	P070C	5CF0	TCB	RTJ*	(STP81)			***01901
1902	P070D	5C31		RTJ*	(CHMSK3)	CK M REGISTER SIZE		***01902
1903	P070E	C0DE	TCB1	LDA-	OP			01903
1904	P070F	5C31		RTJ*	(OR1)			01904
1905	P0710	807C		EOR-	HFFFF			01905
1906	P0711	5C2E		RTJ*	(STD)	STORE DATA		01906
1907	P0712	E0DE	TCB2	LQ-	OP			01907
1908	P0713	C0DF		LDA-	OP+1			01908
1909	P0714	0821		TRA	M			01909
1910	P0715	085F		TCB	A,Q,M			01910
1911	P0716	5C26		RTJ*	(IAQM)			01911
1912	P0717	1803		JMP*	TCB3			01912
1913	P0718	0C12		ENQ	\$12		Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01913

1914	P0719	5CEF		RTJ*	(STP8)			01914
1915	P071A	5CF0	TCB3	RTJ*	(STP82)	RESTORE M REG		***01915
1916	P0713	1CEC		JMP*	(END8)			***01916
1917	P071C	1400		JMP*	SPCEND			01917
	P071D	0032	P					

1919 ***** SECTION 3C-TRANSFER ARITHMETIC SUM A,M TO A,Q,M ***** 01919

1921	P071E	5CEB	AAM	RTJ*	(STP81)	SAVE M		***01921
1922	P071F	5C1E		RTJ*	(CHMSK2)	CK M REG, DATA NOT STORED		***01922
1923	P0720	800F		ADD-	OP+1			01923
1924	P0721	5C1E		RTJ*	(STD)	STORE DATA		01924
1925	P0722	C0DE	AAM2	LDA-	OP			01925
1926	P0723	0821		TRA	M			01926
1927	P0724	C0DF		LDA-	OP+1			01927
1928	P0725	082F		AAM	A,Q,M			01928
1929	P0726	5C16		RTJ*	(IAQM)			01929
1930	P0727	1803		JMP*	AAM3			01930
1931	P0728	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01931
1932	P0729	5C0F		RTJ*	(STP8)			01932
1933	P072A	5CE0	AAM3	RTJ*	(STP82)	RESTORE M		***01933
1934	P072B	1C0C		JMP*	(END8)			***01934

1936 ***** SECTION 3D-TRANSFER ARITHMETIC SUM A,Q+M TO A,Q,M ***** 01936

1938	P072C	5C0D	AAB	RTJ*	(STP81)	SAVE M		***01938
1939	P072D	5C10		RTJ*	(CHMSK2)	CK M REG, DATA NOT STORED		***01939
1940	P072E	5C12		RTJ*	(OR1)			01940
1941	P072F	80E0		ADD-	OP+2			01941
1942	P0730	5C0F		RTJ*	(STD)	STORE DATA		01942
1943	P0731	C0DE	AAB2	LDA-	OP			01943
1944	P0732	0821		TRA	M			01944
1945	P0733	E0DF		LQ-	OP+1			01945
1946	P0734	C0E0		LDA-	OP+2			01946
1947	P0735	083F		AAB	A,Q,M			01947
1948	P0736	5C06		RTJ*	(IAQM)			01948
1949	P0737	1803		JMP*	AAB3			01949
1950	P0738	0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF		01950
1951	P0739	5CCF		RTJ*	(STP8)			01951
1952	P073A	5C0D	AAB3	RTJ*	(STP82)	RESTORE M		***01952
1953	P073B	1CCC		JMP*	(END8)			***01953
1954	P073C	08D6	P	IAQM	ADC	INAQM		01954
1955	P073D	0909	P	CHMSK2	ADC	CHMSKA		01955
1956	P073E	090E	P	CHMSK3	ADC	CHMSKB		***01956
1957	P073F	0915	P	STD	ADC	STDATA		01957
1958	P0740	08E7	P	OR1	ADC	OR		01958


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1960          ***** SECTION 3E-TRANSFER EXCLUSIVE OR A,M TO A,Q,M *****          01960

1962 P0741 5CC8   EAM   RTJ*   (STP81)           SAVE M           ***01962
1963 P0742 5CFA   EAM   RTJ*   (CHMSK2)        CK M REG, DATA NOT STORED   ***01963
1964 P0743 B0DF           EOR-   OP+1                               01964
1965 P0744 5CFA   EAM2  RTJ*   (STD)           STORE DATA      01965
1966 P0745 C0DE           LDA-   OP                               01966
1967 P0746 0821           TRA    M                               01967
1968 P0747 C0DF           LDA-   OP+1                              01968
1969 P0748 086F           EAM   A,Q,M                              01969
1970 P0749 5CF2           RTJ*   (IAQM)                             01970
1971 P074A 1803           JMP*   EAM3                               01971
1972 P074B 0C12           ENQ   $12           Q=XY,X=ERROR NUMBER,Y=NUMBER OF 01972
1973 P074C 5CBC           RTJ*   (STP8)                             01973
1974 P074D 5CBD   EAM3  RTJ*   (STP82)        RESTORE M        ***01974
1975 P074E 1CB9           JMP*   (END8)                               ***01975

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1977

***** SECTION 3F-TRANSFER EXCLUSIVE OR A,Q,M TO A,Q,M *****

01977

1979 P074F 5CBA	EAB	RTJ*	(STP81)	SAVE M	***01979
1980 P0750 5CEC		RTJ*	(CHMSK2)	CK M REG, DATA NOT STORED	***01980
1981 P0751 5CEE		RTJ*	(OR1)		01981
1982 P0752 B0E0		EOR-	OP+2		01982
1983 P0753 5CEB		RTJ*	(STD)	STORE DATA	01983
1984 P0754 C0DE	EAB2	LDA-	OP		01984
1985 P0755 0821		TRA	M		01985
1986 P0756 E0DF		LQ-	OP+1		01986
1987 P0757 C0E0		LDA-	OP+2		01987
1988 P0758 087F		EAB	A,Q,M		01988
1989 P0759 5CE2		RTJ*	(IAQM)		***01989
1990 P075A 1803		JMP*	EAB3		01990
1991 P075B 0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	01991
1992 P075C 5C42		RTJ*	(STP9)		01992
1993 P075D 5CA0	EAB3	RTJ*	(STP82)	RESTORE M	***01993
1994 P075E 1CA9		JMP*	(END8)		***01994

1996

***** SECTION 40-TRANSFER LOGICAL PRODUCT A,M TO A,Q,M *****

01996

1998 P075F 5CAA	LAM	RTJ*	(STP81)	SAVE M	***01998
1999 P0760 5CDC		RTJ*	(CHMSK2)	CK M REG, DATA NOT STORED	***01999
2000 P0761 A0DF		AND-	OP+1		02000
2001 P0762 5CDC		RTJ*	(STD)	STORE DATA	02001
2002 P0763 C0DE	LAM2	LDA-	OP		02002
2003 P0764 0821		TRA	M		02003
2004 P0765 C0DF		LDA-	OP+1		02004
2005 P0766 08AF		LAM	A,Q,M		02005
2006 P0767 5CD4		RTJ*	(IAQM)		02006
2007 P0768 1803		JMP*	LAM3		02007
2008 P0769 0C12		ENQ	\$12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	02008
2009 P076A 5C9E		RTJ*	(STP8)		02009
2010 P076B 5C9F	LAM3	RTJ*	(STP82)	RESTORE M	***02010
2011 P076C 1C9B		JMP*	(END8)		***02011

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2013 ***** SECTION 41-TRANSFER LOGICAL PRODUCT A,Q,M TO A,Q,M ***** 02013

2015 P076D 5C9C LAB RTJ* (STP81) SAVE M ***02015
2016 P076E 5CCE RTJ* (CHMSK2) CK M REG, DATA NOT STORED ***02016
2017 P076F 5CDD RTJ* (OR1) 02017
2018 P0770 A0E0 AND- OP+2 02018
2019 P0771 5CC0 RTJ* (STD) STORE DATA 02019
2020 P0772 C0DE LAB2 LDA- OP 02020
2021 P0773 0821 TRA M 02021
2022 P0774 E0DF LDQ- OP+1 02022
2023 P0775 C0E0 LDA- OP+2 02023
2024 P0776 08BF LAB A,Q,M 02024
2025 P0777 5CC4 RTJ* (IAQM) ***02025
2026 P0778 1803 JMP* LAB3 02026
2027 P0779 0C12 ENQ $12 Q=XY,X=ERROR NUMBER,Y=NUMBER OF 02027
2028 P077A 5C24 RTJ* (STP9) 02028
2029 P077B 5C8F LAB3 RTJ* (STP82) RESTORE M ***02029
2030 P077C 1C88 JMP* (END8) ***02030

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2032 ***** SECTION 42-TRANSFER COMPLEMENT LOGICAL PRODUCT A,M TO A,Q,M *** 02032

2034 P077D 5C8C CAM RTJ* (STP81) SAVE M ***02034
2035 P077E 5CBE RTJ* (CHMSK2) CK M REG, DATA NOT STORED ***02035
2036 P077F A0DF AND- OP+1 02036
2037 P0780 807C EOR- HFFFF 02037
2038 P0781 5C8D RTJ* (STD) STORE DATA 02038
2039 P0782 C0DE CAM2 LDA- OP 02039
2040 P0783 0821 TRA M 02040
2041 P0784 C0DF LDA- OP+1 02041
2042 P0785 08EF CAM A,Q,M 02042
2043 P0786 5C85 RTJ* (IAQM) ***02043
2044 P0787 1803 JMP* CAM3 02044
2045 P0788 0C12 ENQ $12 Q=XY,X=ERROR NUMBER,Y=NUMBER OF 02045
2046 P0789 5C15 RTJ* (STP9) 02046
2047 P078A 5C80 CAM3 RTJ* (STP82) RESTORE M ***02047
2048 P078B 1C14 JMP* (END9) ***02048

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2050 ***** SECTION 43-TRANSFER COMPLEMENT LOGICAL PRODUCT A,Q,M TO A,Q,M * 02050

2052	P078C	5C15	CAB	RTJ*	(STP93)	SAVE M	***02052
2053	P078D	5C80		RTJ*	(CHMSK3)	CK M REG SIZE	***02053
2054	P078E	C0DE	CAB1	LDA-	OP		02054
2055	P078F	5C80		RTJ*	(OR1)		***02055
2056	P0790	A0E0		AND-	OP+2		02056
2057	P0791	B07C		EOR-	HFFFF		02057
2058	P0792	5CAC		RTJ*	(STD)	STORE DATA	02058
2059	P0793	C0DF	CAB2	LDA-	OP+1		02059
2060	P0794	0821		TRA	M		02060
2061	P0795	E0DE		LDQ-	OP		02061
2062	P0796	C0E0		LDA-	OP+2		02062
2063	P0797	08FF		CAB	A,Q,M		02063
2064	P0798	5CA3		RTJ*	(IAQM)		***02064
2065	P0799	1803		JMP*	CAB3		02065
2066	P079A	0C12		ENQ	12	Q=XY,X=ERROR NUMBER,Y=NUMBER OF	02066
2067	P079B	5C03		RTJ*	(STP9)		02067
2068	P079C	5C06	CAB3	RTJ*	(STP94)		***02068
2069	P079D	1C02		JMP*	(END9)		***02069

2071	P079E	091C	P	STP9	ADC	STOP	02071
2072	P079F	0031	P	END9	ADC	ENDSEC	***02072
2073	P07A0	08A0	P	STP92	ADC	ADERCT	***02073
2074	P07A1	08C7	P	STP93	ADC	ININT	***02074
2075	P07A2	08CE	P	STP94	ADC	ENINT	***02075
2076	P07A3	088F	P	STP95	ADC	ADRERR	***02076

2078 ***** SECTION 44- ADDRESSING CHECKING ***02078

2080	P07A4	0800	ADR	NOP	0	ADDRESSING CHECK	***02080
2081	P07A5	0844	T86	CLR	A		***02081
2082	P07A6	6CF9		STA*	(STP92)	ZERO ERROR COUNTER	***02082
2083	P07A7	0A01		ENA	1		***02083
2084	P07A8	60FE		STA-	I-1		***02084
2085	P07A9	6400		STA+	I-1		***02085
	P07AA	00FE					
2086	P07AB	6400		STA	I-1		***02086
	P07AC	00FE					
2087	P07AD	C0FE		LDA-	I-1		***02087
2088	P07AE	09FE		INA	-1		***02088
2089	P07AF	0101		SAZ	1		***02089
2090	P07B0	5CF2		RTJ*	(STP95)	NO ADDRESS, D NON-ZERO FAILED.	***02090

2091	P07B1	DCEE		RAO*	(STP92)	UPDATE ERROR COUNT	***02091
2092	P07B2	C000	T87	LOA	=N\$50		***02092
	P07B3	0050					
2093	P07B4	09AF		INA	-\$50		***02093
2094	P07B5	0101		SAZ	1		***02094
2095	P07B6	5CEC		RTJ*	(STP95)	NO ADDRESS, D=0 FAILED.	***02095
2096	P07B7	DCE8		RAO*	(STP92)	UPDATE ERROR COUNT	***02096
2097	P07B8	C4FE	T88	LDA-	(I-1)		***02097
2098	P07B9	9001		SUB-	\$1		***02098
2099	P07BA	0101		SAZ	1		***02099
2100	P07BB	5CE7		RTJ*	(STP95)	INDIRECT, D NOT > 0 FAILED	***02100
2101	P07BC	DCE3		RAO*	(STP92)	UPDATE ERROR COUNT	***02101
2102	P07BD	C400	T89	LDA+	I-1		***02102
	P07BE	00FE					
2103	P07BF	09FE		INA	-1		***02103
2104	P07C0	0101		SAZ	1		***02104
2105	P07C1	5CE1		RTJ*	(STP95)	INDIRECT, D > 0 FAILED	***02105
2106	P07C2	DCDD		RAO*	(STP92)	UPDATE ERROR COUNT	***02106
2107	P07C3	0C04	T90	ENQ	4		***02107
2108	P07C4	C2FA		LDA-	I-5,Q		***02108
2109	P07C5	09FE		INA	-1		***02109
2110	P07C6	0101		SAZ	1		***02110
2111	P07C7	5CD8		RTJ*	(STP95)	Q INDEX, D NOT > 0 FAILED	***02111
2112	P07C8	DCD7		RAO*	(STP92)	UPDATE ERROR COUNT	***02112
2113	P07C9	0C05	T91	ENQ	5		***02113
2114	P07CA	C200		LDA	=XDATA6-DATA4,Q		***02114
	P07CB	0002					
2115	P07CC	09F8		INA	-7		***02115
2116	P07CD	0101		SAZ	1		***02116
2117	P07CE	5CD4		RTJ*	(STP95)	Q INDEX, D > 0 FAILED	***02117
2118	P07CF	DCD0		RAO*	(STP92)	UPDATE ERROR COUNT	***02118
2119	P07D0	0A04	T92	ENA	4		***02119
2120	P07D1	60FF		STA-	I		***02120
2121	P07D2	C1FA		LDA-	I-5,I		***02121
2122	P07D3	09FE		INA	-1		***02122
2123	P07D4	0101		SAZ	1		***02123
2124	P07D5	5CCD		RTJ*	(STP95)	I INDEX, D NOT > 0 FAILED	***02124
2125	P07D6	DCC9		RAO*	(STP92)	UPDATE ERROR COUNT	***02125
2126	P07D7	0A05	T93	ENA	5		***02126
2127	P07D8	60FF		STA-	I		***02127
2128	P07D9	C100		LDA	=XDATA6-DATA4,I		***02128
	P07DA	0002					
2129	P07DB	09F8		INA	-7		***02129
2130	P07DC	0101		SAZ	1		***02130
2131	P07DD	5CC5		RTJ*	(STP95)	I INDEX, D > 0 FAILED	***02131
2132	P07DE	DCC1		RAO*	(STP92)	UPDATE ERROR COUNT	***02132
2133	P07DF	CC00	T94	LOA	(DATA00)	DATA 2	***02133
	P07E0	0033					
2134	P07E1	09DF		INA	-\$20		***02134
2135	P07E2	0101		SAZ	1		***02135
2136	P07E3	5CBF		RTJ*	(STP95)	REL,INDR, D > 0 FAILED	***02136
2137	P07E4	DC8B		RAO*	(STP92)	UPDATE ERROR COUNT	***02137
2138	P07E5	0C03	T95	ENQ	3		***02138

2139	P07E6	C6FE		LDA-	(I-1),Q		***02139
2140	P07E7	9004		SUB-	\$4		***02140
2141	P07E8	0101		SAZ	1		***02141
2142	P07E9	5CB9		RTJ*	(STP95)		***02142
2143	P07EA	0CB5		RAO*	(STP92)	INDR, Q INDEX, D NOT > 0 FAILED	***02143
2144	P07EB	0C03	T96	ENQ	3	UPDATE ERROR COUNT	***02144
2145	P07EC	C600		LDA+	DATA20,Q		***02145
	P07ED	0815	P				
2146	P07EE	09AF		INA	-\$50		***02146
2147	P07EF	0101		SAZ	1		***02147
2148	P07F0	5CB2		RTJ*	(STP95)		***02148
2149	P07F1	0CAE		RAO*	(STP92)	INDR, Q INDEX, D > 0 FAILED	***02149
2150	P07F2	0C03	T97	ENQ	3	UPDATE ERROR COUNT	***02150
2151	P07F3	0A01		ENA	1		***02151
2152	P07F4	60FF		STA-	I		***02152
2153	P07F5	C3FA		LDA-	I-5,B		***02153
2154	P07F6	09FE		INA	-1		***02154
2155	P07F7	0191		SAZ	1		***02155
2156	P07F8	5CAA		RTJ*	(STP95)		***02156
2157	P07F9	DCA6		RAO*	(STP92)	I AND Q INDEX, D NOT > 0 FAILED	***02157
2158	P07FA	0C02	T98	ENQ	2	UPDATE ERROR COUNT	***02158
2159	P07FB	0A03		ENA	3		***02159
2160	P07FC	60FF		STA-	I		***02160
2161	P07FD	C300		LOA	=XDATA6-DATA4,B		***02161
	P07FE	0002					
2162	P07FF	09F8		INA	-7		***02162
2163	P0800	0101		SAZ	1		***02163
2164	P0801	5CA1		RTJ*	(STP95)		***02164
2165	P0802	DC9D		RAO*	(STP92)	I AND Q INDEX, D > 0 FAILED	***02165
2166	P0803	0A05	T99	ENA	5	UPDATE ERROR COUNT	***02166
2167	P0804	60FF		STA-	I		***02167
2168	P0805	C90E		LDA*	DATA00,I		***02168
2169	P0806	09AF		INA	-\$50		***02169
2170	P0807	0101		SAZ	1		***02170
2171	P0808	5C9A		RTJ*	(STP95)		***02171
2172	P0809	DC96		RAO*	(STP92)	REL, I INDEX, D NOT > 0 FAILED	***02172
2173	P080A	0A04	T100	ENA	4	UPDATE ERROR COUNT	***02173
2174	P080B	60FF		STA-	I		***02174
2175	P080C	C900		LOA	DATA00,I		***02175
	P080D	0006					
2176	P080E	09BF		INA	-\$40		***02176
2177	P080F	0101		SAZ	1		***02177
2178	P0810	5C92		RTJ*	(STP95)		***02178
2179	P0811	DC8E		RAO*	(STP92)	REL, I INDEX, D=0 FAILED.	***02179
2180	P0812	1809		JMP*	T101	UPDATE ERROR COUNT	***02180

2182	P0813	0815	P	DATA00	ADC	DATA20	***02182
2183	P0814	FFFF		DATA10	NUM	-0	***02183
2184	P0815	0020		DATA20	NUM	\$20	***02184

2185	P0816	0030	DATA30	NUM	\$30		***02185
2186	P0817	0040	DATA4	NUM	\$40		***02186
2187	P0818	0050	DATA5	NUM	\$50		***02187
2188	P0819	0060	DATA6	NUM	\$60		***02188
2189	P081A	0819	P DATA7	AOC	DATA6		***02189
2191	P081B	0A03	T101	ENA	3		***02191
2192	P081C	60FF		STA-	I		***02192
2193	P081D	C5FE		LDA-	(I-1),I		***02193
2194	P081E	9004		SUB-	\$4		***02194
2195	P081F	0101		SAZ	1		***02195
2196	P0820	586F		RTJ*	ADRERR	INDR, I INDEX, D NOT > 0 FAILED	***02196
2197	P0821	D87F		RAO*	ADERCT	UPDATE ERROR COUNT	***02197
2198	P0822	0AFC	T102	ENA	-3		***02198
2199	P0823	60FF		STA-	I		***02199
2200	P0824	C900		LDA	DATA6,I		***02200
	P0825	FFF3					
2201	P0826	09CF		INA	-\$30		***02201
2202	P0827	0101		SAZ	1		***02202
2203	P0828	5867		RTJ*	ADRERR	INDR, I INDEX, D > 0 FAILED	***02203
2204	P0829	D877		RAO*	ADERCT	UPDATE ERROR COUNT	***02204
2205	P082A	0C08	T103	ENQ	\$8		***02205
2206	P082B	CADE		LDA*	T100,Q		***02206
2207	P082C	09DF		INA	-\$20		***02207
2208	P082D	0101		SAZ	1		***02208
2209	P082E	5861		RTJ*	ADRERR	REL, Q INDEX, D NOT > 0 FAILED	***02209
2210	P082F	D871		RAO*	ADERCT	UPDATE ERROR COUNT	***02210
2211	P0830	0CFC	T104	ENQ	-\$3		***02211
2212	P0831	CA00		LDA	DATA6,Q		***02212
	P0832	FFE6					
2213	P0833	09CF		INA	-\$30		***02213
2214	P0834	0101		SAZ	1		***02214
2215	P0835	585A		RTJ*	ADRERR	REL, Q INDEX, D > 0 FAILED	***02215
2216	P0836	D86A		RAO*	ADERCT	UPDATE ERROR COUNT	***02216
2217	P0837	0C03	T105	ENQ	3		***02217
2218	P0838	CEDA		LDA*	(DATA00),Q		***02218
2219	P0839	09AF		INA	-\$50		***02219
2220	P083A	0101		SAZ	1		***02220
2221	P083B	5854		RTJ*	ADRERR	REL, INDR, Q, D NOT > 0 FAILED	***02221
2222	P083C	D864		RAO*	ADERCT	UPDATE ERROR COUNT	***02222
2223	P083D	0CFC	T106	ENQ	-3		***02223
2224	P083E	CE00		LDA	(DATA7),Q		***02224
	P083F	FFDA					
2225	P0840	09CF		INA	-\$30		***02225
2226	P0841	0101		SAZ	1		***02226
2227	P0842	584D		RTJ*	ADRERR	REL, INDR, Q, D > 0 FAILED	***02227
2228	P0843	085D		RAO*	ADERCT	UPDATE ERROR COUNT	***02228
2229	P0844	0C60	T107	ENQ	\$60		***02229
2230	P0845	0AA2		ENA	-\$50		***02230

2231	P0846	60FF	STA-	I		***02231
2232	P0847	C7FE	LDA-	(I-1),B		***02232
2233	P0848	9004	SUB-	\$4		***02233
2234	P0849	0101	SAZ	1		***02234
2235	P084A	5845	RTJ*	ADRERR	INDR, I, Q, D NOT > 0 FAILED	***02235
2236	P0849	D855	RAO*	ADERCT	UPDATE ERROR COUNT	***02236
2237	P084C	0C9F	ENQ	-\$60		***02237
2238	P084D	0A5D	ENA	\$5D		***02238
2239	P084E	60FF	STA-	I		***02239
2240	P084F	C700	LDA+	DATA6,B		***02240
	P0850	0819	P			
2241	P0851	09CF	INA	-\$30		***02241
2242	P0852	0101	SAZ	1		***02242
2243	P0853	583C	RTJ*	ADRERR		***02243
2244	P0854	D84C	RAO*	ADERCT	UPDATE ERROR COUNT	***02244
2245	P0855	0A03	ENQ	3		***02245
2246	P0856	60FF	STA-	I		***02246
2247	P0857	C0BB	LDA*	(DATA00),I		***02247
2248	P0858	09AF	INA	-\$50		***02248
2249	P0859	0101	SAZ	1		***02249
2250	P085A	5835	RTJ*	ADRERR	REL, INDR, I, D NOT > 0 FAILED	***02250
2251	P085B	0845	RAO*	ADERCT	UPDATE ERROR COUNT	***02251
2252	P085C	0AFC	ENQ	-3		***02252
2253	P085D	60FF	STA-	I		***02253
2254	P085E	C000	LDA	(DATA7),I		***02254
	P085F	FFBA				
2255	P0860	09CF	INA	-\$30		***02255
2256	P0861	0101	SAZ	1		***02256
2257	P0862	582D	RTJ*	ADRERR	REL, INDR, I, D > 0 FAILED	***02257
2258	P0863	D83D	RAO*	ADERCT	UPDATE ERROR COUNT	***02258
2259	P0864	0C06	ENQ	6		***02259
2260	P0865	0AFC	ENA	-3		***02260
2261	P0866	60FF	STA-	I		***02261
2262	P0867	C8AB	LDA*	DATA00,B		***02262
2263	P0868	09CF	INA	-\$30		***02263
2264	P0869	0101	SAZ	1		***02264
2265	P086A	5825	RTJ*	ADRERR		***02265
2266	P086B	D835	RAO*	ADERCT	UPDATE ERROR COUNT	***02266
2267	P086C	0CF9	ENQ	-6		***02267
2268	P086D	0A03	ENA	3		***02268
2269	P086E	60FF	STA-	I		***02269
2270	P086F	C800	LDA	DATA7,B		***02270
	P0870	FFA9				
2271	P0871	09BF	INA	-\$40		***02271
2272	P0872	0101	SAZ	1		***02272
2273	P0873	581C	RTJ*	ADRERR	REL, Q, I, D > 0 FAILED	***02273
2274	P0874	D82C	RAO*	ADERCT	UPDATE ERROR COUNT	***02274
2275	P0875	0C50	ENQ	\$50		***02275
2276	P0876	0AB2	ENA	-\$40		***02276
2277	P0877	60FF	STA-	I		***02277
2278	P0878	CF9A	LDA*	(DATA00),B		***02278
2279	P0879	09AF	INA	-\$50		***02279
2280	P087A	0101	SAZ	1		***02280

2281	P087B	5814	RTJ*	ADRERR	REL, INDR, Q, I, D NOT = 0 FAILED	***02281
2282	P087C	0824	RAO*	ADERCT	UPDATE ERROR COUNT	***02282
2283	P087D	0CAF	T114	ENQ		***02283
2284	P087E	0A40		ENA		***02284
2285	P087F	60FF		STA-		***02285
2286	P0880	CF00		LDA	(DATA7), B	***02286
	P0881	FF98				
2287	P0882	09CF		INA	-\$30	***02287
2288	P0883	0101		SAZ	1	***02288
2289	P0884	580B		RTJ*	ADRERR	REL, INDR, Q, I, D > 0 FAILED
2290	P0885	081B		RAO*	ADERCT	UPDATE ERROR COUNT
2291	P0886	0CFC	T115	ENQ	-3	***02289
2292	P0887	EA00		LDQ	DATA7, Q	***02290
	P0888	FF91				***02291
2293	P0889	0DBF		INQ	-\$40	***02292
2294	P088A	0141		SQZ	1	***02293
2295	P088B	5804		RTJ*	ADRERR	LDQ, Q INDEX D > 0 FAILED
2296	P088C	0814		RAO*	ADERCT	UPDATE ERROR COUNT
2297	P088D	1800		JMP	EN0SEC	***02295
	P088E	F7A2				***02296
						***02297

2299	P088F	0000	ADRERR	NUM	0	REPORT ARDR ERROR	***02299
2300	P0890	CA10		LDA*	ADERCT	ERROR COUNT	***02300
2301	P0891	E800		LDQ	SEC	SECTION NUMBER	***02301
	P0892	F7C7					
2302	P0893	0FA8		QLS	8		***02302
2303	P0894	0834		AAQ	A		***02303
2304	P0895	6807		STA*	ADRRET1	SET SSEE	***02304
2305	P0896	C8F8		LDA*	ADRERR		***02305
2306	P0897	6806		STA*	ADRRET2	SET RETURN ADDR	***02306
2307	P0898	0844		CLR	A		***02307
2308	P0899	5402		RTJ-	(STOPX)	REPORT ADDR. ERROR	***02308
2309	P089A	1807		JMP*	ADRRET2		***02309
2310	P089B	0108		NUM	\$0108		***02310
2311	P089C	0000	ADRRET1	NUM	0	SSEE	***02311
2312	P089D	0000	ADRRET2	NUM	0	RETURN ADDR	***02312
2313	P089E	0000		NUM	0		***02313
2314	P089F	0000		NUM	0		***02314
2315	P08A0	0000	ADERCT	NUM	0	ERROR COUNT	***02315
2316	P08A1	E800	ADRRET2	LDQ	ADERCT	ERROR COUNT	***02316
	P08A2	FFFD					
2317	P08A3	EA00		LDQ	ADRPCN, Q	REPEAT CONDITIONS POINTER	***02317
	P08A4	0005					
2318	P08A5	C06F		LDA-	BIT4		***02318
2319	P08A6	5406		RTJ-	(JUMP)	CK FOR RPT CONDITIONS	***02319
2320	P08A7	167B		JMP-	(H0000), Q	YES	***02320
2321	P08A8	1CE6		JMP*	(ADRERR)	NO- EXIT	***02321
2322	P08A9	07A5	P	ADC	T86		***02322
2323	P08AA	07B2	P	ADC	T87		***02323

2324	P08A8	0788	P	ADC	T88	***02324	
2325	P08AC	078D	P	ADC	T89	***02325	
2326	P08AD	07C3	P	ADC	T90	***02326	
2327	P08AE	07C9	P	ADC	T91	***02327	
2328	P08AF	07D0	P	ADC	T92	***02328	
2329	P08B0	07D7	P	ADC	T93	***02329	
2330	P08B1	07DF	P	ADC	T94	***02330	
2331	P08B2	07E5	P	ADC	T95	***02331	
2332	P08B3	07EB	P	ADC	T96	***02332	
2333	P08B4	07F2	P	ADC	T97	***02333	
2334	P08B5	07FA	P	ADC	T98	***02334	
2335	P08B6	0803	P	ADC	T99	***02335	
2336	P08B7	080A	P	ADC	T100	***02336	
2337	P08B8	0818	P	ADC	T101	***02337	
2338	P08B9	0822	P	ADC	T102	***02338	
2339	P08BA	082A	P	ADC	T103	***02339	
2340	P08BB	0830	P	ADC	T104	***02340	
2341	P08BC	0837	P	ADC	T105	***02341	
2342	P08BD	083D	P	ADC	T106	***02342	
2343	P08BE	0844	P	ADC	T107	***02343	
2344	P08BF	084C	P	ADC	T108	***02344	
2345	P08C0	0855	P	ADC	T109	***02345	
2346	P08C1	085C	P	ADC	T110	***02346	
2347	P08C2	0864	P	ADC	T111	***02347	
2348	P08C3	086C	P	ADC	T112	***02348	
2349	P08C4	0875	P	ADC	T113	***02349	
2350	P08C5	087D	P	ADC	T114	***02350	
2351	P08C6	0886	P	ADC	T115	***02351	
2353	P08C7	0000	ININT	NUM	*	INHIBIT INT, SAVE M REG	***02353
2354	P08C8	0500		IIN	0		***02354
2355	P08C9	6004		STA-	TEMPLOC		***02355
2356	P08CA	080C		TRM	A		***02356
2357	P08CB	680A		STA*	INTSVN	SAVE M REGISTER	***02357
2358	P08CC	C004		LDA-	TEMPLOC		***02358
2359	P08CD	1CF9		JMP*	(ININT)	RETURN	***02359
2361	P08CE	0000	ENINT	NUM	*	ENABLE INT, RESTORE M REGISTER	***02361
2362	P08CF	6004		STA-	TEMPLOC		***02362
2363	P08D0	C805		LDA*	INTSVN		***02363
2364	P08D1	0821		TRA	M	RESTORE M REG	***02364
2365	P08D2	C004		LDA-	TEMPLOC		***02365
2366	P08D3	0400		EIN	0	TURN INTS BACK ON	***02366
2367	P08D4	1CF9		JMP*	(ENINT)	RETURN	***02367
2368	P08D5	0000	INTSVN	NUM	0	M REG SAVE CELL	***02368

2370		*		02370
2371		*STORE THE RESULTS OF INTER-REG		02371
2372		*INSTRUCTION AND COMPARE IT TO		02372
2373		*KNOWN RESULTS, IF AN ERROR IS		02373
2374		*DETECTED RETURN TO PROGRAM		02374
2375		*SECTION VIA RETURN ADDRESS +1,		02375
2376		*IF NO ERROR OCCURS RETURN TO SECTION		02376
2377		*VIA NORMAL RETURN ADDRESS.		02377
2378		*		02378
2379		*		02379
2380	P08D6 0000	IN AQM	NUM 0	02380
2381	P08D7 6400		STA+ STORE+1	02381
	P08D8 093C P			
2382	P08D9 4400		STQ+ STORE+2	02382
	P08DA 093D P			
2383	P08DB 8860		EOR* STORE	02383
2384	P08DC 0101		SAZ 1	02384
2385	P08DD 1808		JMP* INAQ2	02385
2386	P08DE C85D		LDA* STORE	02386
2387	P08DF 885E		EOR* STORE+2	02387
2388	P08E0 0101		SAZ 1	02388
2389	P08E1 1804		JMP* INAQ2	02389
2390	P08E2 080C		TRM A	02390
2391	P08E3 8858		EOR* STORE+3	02391
2392	P08E4 0101		SAZ 1	02392
2393	P08E5 08F0	INAQ2	RAO* INAQM	02393
2394	P08E6 1CEF		JMP* (INAQM)	02394
2395		*		02395
2396		*INCLUSIVE OR SUBROUTINE		02396
2397		*		02397
2398	P08E7 0000	OR	NUM 0 SUB-ROUTINE FOR OR	02398
2399	P08E8 80DF		EOR- OP+1	02399
2400	P08E9 6852		STA* STORE	02400
2401	P08EA C0DE		LDA- OP	02401
2402	P08EB 581E		RTJ* CHMSKA	02402
2403	P08EC A0DF		AND- OP+1	02403
2404	P08ED 884E		EOR* STORE	02404
2405	P08EE 1CF8		JMP* (OR)	02405
2406		*		02406
2408		*STORE THE RESULTS OF INTER-REG		02408
2409		*INSTRUCTION AND COMPARE IT TO		02409
2410		*KNOWN RESULTS, IF AN ERROR IS		02410
2411		*DETECTED RETURN TO PROGRAM		02411
2412		*SECTION VIA RETURN ADDRESS +1,		02412
2413		*IF NO ERROR OCCURS RETURN TO SECTION		02413
2414		*VIA NORMAL RETURN ADDRESS.		02414
2415		*		02415
2416	P08EF 0000	INTREG	NUM 0	02416

2417	P08F0	684C	STA*	STORE+1		02417
2418	P08F1	484C	STQ*	STORE+2		02418
2419	P08F2	8849	EOR*	STORE		02419
2420	P08F3	0101	SAZ	1		02420
2421	P08F4	1805	JMP*	INTM2		02421
2422	P08F5	C848	LDA*	STORE+2		02422
2423	P08F6	8845	EOR*	STORE		02423
2424	P08F7	0111	SAN	1		02424
2425	P08F8	1CF6	JMP*	(INTREG)		02425
2426	P08F9	D8F5	INTM2	RAO*	INTREG	02426
2427	P08FA	1CF4	JMP*	(INTREG)		02427
2428	P08FB	0000	INTM	NUM	0	02428
2429	P08FC	080C	TRM	A		02429
2430	P08FD	683F	STA*	STORE+1		02430
2431	P08FE	883D	EOR*	STORE		02431
2432	P08FF	0101	SAZ	1		02432
2433	P0900	D8FA	RAO*	INTM		02433
2434	P0901	1CF9	JMP*	(INTM)		02434
2435			*			02435
2436			*CHECK SIZE OF MASK REGISTER AND STORE DATA			02436
2437			*			02437
2438	P0902	0000	CHMSK	NUM	0	02438
2439	P0903	E805	LDQ*	MSKFL		02439
2440	P0904	0151	SQN	1	MASK REGISTER FLAG	02440
2441	P0905	A07D	AND-	H000F	MASK OUT UPPER 12 BITS.	02441
2442	P0906	6835	STA*	STORE		02442
2443	P0907	1CFA	JMP*	(CHMSK)		02443
2444	P0908	0000	MSKFL	NUM	0	02444
2445			*		0=4 BIT MASK, 1=16 BIT MASK	02445
2446			*CHECK SIZE OF MASK REGISTER (DATA NOT STORED)			02446
2447			*			02447
2448	P0909	0000	CHMSKA	NUM	0	02448
2449	P090A	E8FD	LDQ*	MSKFL		02449
2450	P090B	0151	SQN	1	MASK REGISTER FLAG	02450
2451	P090C	A07D	AND-	H000F	4 BIT MASK. MASK OUT UPPER 12.	02451
2452	P090D	1CFB	JMP*	(CHMSKA)		02452
2453			*			02453
2454			*CHECK SIZE OF MASK REGISTER (IF 4 BITS, MASK OUT UPPER 12 BITS OF OP+1)			02454
2455			*			02455
2456	P090E	0000	CHMSKB	NUM	0	02456
2457	P090F	E8F8	LDQ*	MSKFL		02457
2458	P0910	0152	SQN	2	16 BIT MASK REGISTER	02458
2459	P0911	C00F	LDA-	OP+1		02459
2460	P0912	A07D	AND-	H000F	MASK OUT UPPER 12 BITS OF OP+1.	02460
2461	P0913	600F	STA-	OP+1		02461
2462	P0914	1CF9	JMP*	(CHMSKB)		02462
2464			*			02464
2465			*STORE DATA ROUTINE			02465
2466			*			02466

2467	P0915	0000	STDATA	NUM	0			02467
2468	P0916	6825		STA*	STORE		DATA FOR A,Q	02468
2469	P0917	E8F0		LDQ*	MSKFL		CHECK SIZE OF MASK REGISTER.	02469
2470	P0918	0151		SQN	1		16 BIT MASK	02470
2471	P0919	A07D		AND-	H000F		4 BIT MASK.	02471
2472	P091A	6824		STA*	STORE*3		DATA FOR M	02472
2473	P091B	1CF9		JMP*	(STDATA)			02473
2475			*					02475
2476			*STOP ROUTINE					02476
2477			*ENTER WITH XY IN Q, X=ERROR NUMBER,					02477
2478			* Y=NUMBER OF DATA DISPLAY STOPS					02478
2479			*					02479
2480	P091C	0000	STOP	NUM	0			02480
2481	P091D	C400		LDA+	SEC		(SECTION NUMBER)	02481
	P091E	005A	P					
2482	P091F	0FA4		QLS	4			02482
2483	P0920	0FE8		LLS	8			02483
2484	P0921	0FA8		QLS	8			02484
2485	P0922	F000		ADQ	=N\$108			02485
	P0923	0108						
2486	P0924	480C		STQ*	STOP2			***02486
2487	P0925	680C		STA*	STOP2+1			***02487
2488	P0926	C8F5		LDA*	STOP			02488
2489	P0927	E043		LDQ-	STJP			02489
2490	P0928	0FA6		QLS	6		IF BIT 9 (BIAS RETURN ADDRESS)	02490
2491	P0929	0172		SQN	STOP1--*--1		ISNT SET, SUBTRACT BIAS.	02491
2492	P092A	9000		SUB	=XC0M001			02492
	P092B	0000	P					
2493	P092C	680E	STOP1	STA*	INIT01+2		RETURN ADDRESS.	02493
2494	P092D	0844		CLR	A			02494
2495	P092E	5402		RTJ-	(STOPX)		MONITOR STOP ROUTINE.	02495
2496	P092F	1CEC		JMP*	(STOP)		EXIT STOP ROUTINE.	02496
2497	P0930	0000	STOP2	NUM	0			***02497
2498	P0931	0000		NUM	0			***02498
2500	P0932	0A10	STOP3	ENA	\$10			***02500
2501	P0933	5406		RTJ-	(JUMP)			***02501
2502	P0934	1802		JMP*	*+2			***02502
2503	P0935	1CE6		JMP*	(STOP)		CONTINUR	***02503
2504	P0936	1C00		JMP	(ENT2)		REPEAT CONDITIONS	***02504
	P0937	F6F4						
2506	P0938	C8F2	INIT01	LDA*	STOP1-1		(TEST IA)	02506
2507	P0939	540A		RTJ-	(HEXASC)			02507
2508	P093A	6823		STA*	FREQCNT-2			02508

2509	P093B	4821		STQ*	FREQCNT-3		02509
2510	P093C	E091		LDQ-	TSACTV		02510
2511	P093D	C291		LDA-	TSFREQ-1,Q		02511
2512	P093E	540A		RTJ-	(HEXASC)		02512
2513	P093F	6823		STA*	FREQCNT+3		***02513
2514	P0940	C000		LDA	=XHEADING		02514
	P0941	094C	P				
2515	P0942	0C21		END	ENDHEAD-HEADING+1		02515
2516	P0943	5408		RTJ-	(TYPEOUT)		02516
2517	P0944	C049		LDA-	INFORM		02517
2518	P0945	A076		AND-	BIT11		02518
2519	P0946	68C1		STA*	MSKFL	RECORD MASK SIZE.	02519
2520	P0947	C000		LDA	=XENTER1		02520
	P0948	0007	P				
2521	P0949	6400		STA+	RETURN		02521
	P094A	0005	P				
2522	P094B	5401		RTJ-	(CONTROL)		02522
2524	P094C	800A	HEADING	NUM	\$800A		02524
2525	P094D	434F		ALF	X,COM001 COMMAND TEST.X		02525
	P094E	4030					
	P094F	3031					
	P0950	2020					
	P0951	434F					
	P0952	4040					
	P0953	414E					
	P0954	4420					
	P0955	5445					
	P0956	5354					
	P0957	2E20					
2526	P0958	800A		NUM	\$800A		02526
2527	P0959	2049		ALF	6, IA =		02527
	P095A	4120					
	P095B	3020					
	P095C	2020					
	P095D	2020					
	P095E	2C20					
2528	P095F	2046	FREQCNT	ALF	4, FC =		02528
	P0960	4320					
	P0961	3020					
	P0962	2020					
2529	P0963	2043		ALF	X, CP2F, VER. 3.1-1 X		***02529
	P0964	5032					
	P0965	462C					
	P0966	2056					
	P0967	4552					
	P0968	2E20					
	P0969	332E					
	P096A	312D					
	P096B	3120					
2530	P096C	800A	ENDHEAD	NUM	\$800A		02530
2531		093B	P	EQU	STORE(INIT01+3)		02531

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2532

END

02532

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PGM= 0960 (2413) 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)	, 0145, 0149, 0156, 0186, 0231, 0233 , 0246, 0248, 2084, 2085, 2086, 2087 , 2097, 2102, 2108, 2120, 2121, 2127 , 2139, 2152, 2153, 2160, 2167, 2174 , 2192, 2193, 2199, 2231, 2232, 2239 , 2246, 2253, 2261, 2269, 2277, 2285
0015	CONTRO	0001	(000001)	, 0016, 0092, 0147, 2522
0016	STOPX	0002	(000002)	, 0017, 0099, 0107, 0173, 0335, 2308 , 2495
0017	EXIT	0003	(000003)	, 0018, 0114
0018	REQINT	0004	(000004)	, 0019, 0020, 0078
0019	FCLPIN	0005	(000005)	, 0079
0020	JUMP	0006	(000006)	, 0021, 0112, 0137, 0140, 0143, 0469 , 0850, 1218, 1226, 1239, 1248, 2319 , 2501
0021	GENRAN	0007	(000007)	, 0022, 0075, 0167
0022	TYPEOU	0008	(000008)	, 0023, 0024, 0077, 2516
0023	TTYBZY	0009	(000009)	
0024	HEXASC	000A	(000010)	, 0025, 0076, 2507, 2512
0025	OVRLAY	000B	(000011)	, 0026
0026	RELPOS	000C	(000012)	, 0027
0027	MAINL	000D	(000013)	, 0028
0028	SETMAS	0042	(000066)	, 0029
0029	STJP	0043	(000067)	, 0030, 0031, 0074, 2489
0030	LASTVA	0044	(000068)	
0031	LASTAD	0045	(000069)	, 0032
0032	LDLCOR	0047	(000071)	, 0033
0033	LDL1CO	0048	(000072)	, 0034
0034	INFORM	0049	(000073)	, 0035, 2517
0035	SMMCNT	0056	(000086)	, 0036, 0073
0036	BIT00	006B	(000107)	, 0037, 0072
0037	BIT0	006B	(000107)	, 0038, 0330
0038	BIT1	006C	(000108)	, 0039
0039	BIT2	006D	(000109)	, 0040
0040	BIT3	006E	(000110)	, 0041
0041	BIT4	006F	(000111)	, 0042, 2318
0042	BIT5	0070	(000112)	, 0043
0043	BIT6	0071	(000113)	, 0044
0044	BIT7	0072	(000114)	, 0045
0045	BIT8	0073	(000115)	, 0046
0046	BIT9	0074	(000116)	, 0047

0047	BIT10	0075	(000117)	, 0048, 0139
0048	BIT11	0076	(000118)	, 0049, 2518
0049	BIT12	0077	(000119)	, 0050
0050	BIT13	0078	(000120)	, 0051
0051	BIT14	0079	(000121)	, 0052
0052	BIT15	007A	(000122)	, 0053, 0721
0053	H0000	007B	(000123)	, 0054, 2320
0054	HFFFF	007C	(000124)	, 0055, 0984, 0987, 0994, 1269, 1275 , 1379, 1387, 1390, 1619, 1632, 1684 , 1759, 1775, 1835, 1882, 1905, 2037 , 2057
0055	H000F	007D	(000125)	, 0056, 0712, 0739, 0896, 2441, 2451 , 2460, 2471
0056	H00F0	007E	(000126)	, 0057
0057	H0F00	007F	(000127)	, 0058
0058	HF000	0080	(000128)	, 0059
0059	H00FF	0081	(000129)	, 0060, 0120, 0908, 0933, 1106, 1132
0060	HFF00	0082	(000130)	, 0061, 0116, 0913, 1111
0061	HFFF0	0083	(000131)	, 0062
0062	H0FFF	0084	(000132)	, 0063
0063	HFF0F	0085	(000133)	, 0064
0064	HF0FF	0086	(000134)	, 0065
0065	H7FFF	0087	(000135)	, 0066, 1207, 1228, 1252
0066	H7F00	0088	(000136)	, 0067
0067	H0780	0089	(000137)	, 0068
0068	H007F	008A	(000138)	, 0069
0069	H2020	008B	(000139)	, 0070
0070	TSACTV	0091	(000145)	, 0071, 2510
0071	TSFREQ	0092	(000146)	, 2511
0072	CONST	006B	(000107)	, 0696, 0791, 0830, 0831, 0869, 0871 , 0911, 1071, 1108, 1163, 1339, 1542
0073	SHMPAR	0056	(000086)	
0074	SJPAR	0043	(000067)	
0075	RANDOM	0007	(000007)	
0076	CONVER	000A	(000010)	
0077	MESSAG	0008	(000008)	
0078	REQND	0004	(000004)	
0079	CLRND	0005	(000005)	
0080	TEMPL0	0004	(000212)	, 0081, 2355, 2358, 2362, 2365
0081	S	000D	(000221)	, 0082, 0187, 0621, 0645, 0646, 0660 , 0661, 0673, 0695, 0708, 0710, 0711 , 0714, 0723, 0735, 0737, 0738, 0741 , 0779, 0786, 0787, 0790, 0828, 0835 , 0860, 0864, 0868, 0875, 0897, 0899 , 0900, 0980, 1026, 1028, 1053, 1069 , 1070, 1264, 1332, 1334, 1375, 1411 , 1413, 1433, 1448, 1459
0082	OP	000E	(000222)	, 0133, 0159, 0161, 0163, 0165, 0169 , 0189, 0392, 0395, 0398, 0407, 0411 , 0420, 0424, 0427, 0441, 0446, 0471 , 0472, 0503, 0552, 0568, 0589, 0605

, 0625, 0677, 0755, 0761, 0762, 0782
, 0783, 0801, 0804, 0808, 0811, 0815
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, 0983, 0989, 0993, 0998, 0999, 1037
, 1038, 1055, 1056, 1080, 1081, 1092
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, 1189, 1192, 1193, 1266, 1272, 1278
, 1283, 1351, 1352, 1376, 1382, 1384
, 1389, 1393, 1394, 1401, 1499, 1500
, 1502, 1554, 1561, 1585, 1586, 1607
, 1621, 1634, 1644, 1646, 1647, 1657
, 1659, 1660, 1670, 1672, 1673, 1683
, 1686, 1687, 1761, 1777, 1789, 1791
, 1792, 1804, 1806, 1807, 1819, 1821
, 1822, 1834, 1837, 1838, 1867, 1869
, 1884, 1903, 1907, 1908, 1923, 1925
, 1927, 1941, 1943, 1945, 1946, 1964
, 1966, 1968, 1982, 1984, 1986, 1987
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0086	PARADR	0004		
0087	RETURN	0005		, 0091, 0123, 2521
0088	EQUIP	0006		
0089	ENTER1	0007		, 0084, 2520
0097	PRMST	000C		, 0086, 0089, 0100, 0106, 0141
0103	PARAM	0012		, 0115, 0119
0104	ITERAT	0013		, 0150
0105	ENDPAS	0014		, 0184
0110	PASSCN	0019		, 0105
0111	CKRPT	001A		, 0108
0115	CNT	001E		, 0090, 0113
0126	FINSEC	0029		, 0121, 0180
0127	SAVIR	002A		, 0146, 0148
0128	ENT1	002B		, 0134, 0138, 0192, 0437
0129	ENT2	002C		, 0144, 0170, 0193, 0195, 2504
0130	ENT3	002D		, 0151, 0152, 0188
0131	IRTCNT	002E		
0133	RPTCND	002F		
0135	ENDSEC	0031		, 0250, 0433, 0581, 0746, 0955, 1151 , 1526, 1695, 1894, 2072, 2297 , 1917
0136	SPCEND	0032		
0145	MUX	003B		
0148	EN4	003E		, 0122
0150	EN5	0040		
0165	GENOPS	004F		, 0157
0168	OVGEN	0053		, 0164
0172	ENOIT	0056		, 0154
0175	SECEND	0059		
0176	SEC	005A		, 0118, 0179, 0182, 0190, 2301, 2481
0177	SECRN	005B		, 0194
0179	NEXTSE	005C		, 0174
0180	SAMESE	005D		, 0124
0184	TRMNT	0061		, 0181
0189	QENT2	0066		
0195	SECA00	006C		
0196	SECPTR	006D		, 0191
0203	CON1	0082		, 0158, 0160, 0162
0204	CON6	0087		
0206	CON2	00C7		, 0836, 0839, 0843, 0846, 0853, 0855 , 0876, 0879, 0890
0208	CON7	00D8		, 0726, 0729, 0731, 0829, 0870, 0883 , 0887, 0892
0211	CON10	00E9		, 0699, 0702, 0704

0216	IREG	00F8	, 0196
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0318	IREGE	0150	, 0222, 0228, 0235, 0255, 0259, 0263
			, 0267, 0271, 0275, 0279, 0283, 0287
			, 0291, 0295, 0299, 0303, 0307, 0311
			, 0315, 0332, 0347
0338	IREGE1	0171	, 0323
0339	IREGE2	0172	, 0333
0340	IREGE3	0173	, 0328, 0331
0342	IREGE4	0175	, 0319, 0327, 0345
0343	IREGE5	0176	, 0320, 0346
0344	IREGE7	0177	, 0218, 0223, 0229, 0236, 0239, 0244
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0345	IREGE6	0178	, 0335
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0355	JMP2	0180	, 0352
0358	JMP4	0183	, 0362
0362	JMP3	0187	, 0355
0364	JMP5	0189	, 0358
0368	RTJ	018A	, 0197, 0371
0370	RTJ4	018C	, 0368, 0373, 0376, 0379, 0380, 0382
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0379	RTJ5	0196	, 0378
0380	RTJ7	0197	, 0369
0386	RTJ3	019D	, 0372, 0374, 0377
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0406	STA	01AB	, 0410, 0413
0416	STA2	01B5	, 0197
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0431	LDQ2	01C1	, 0364, 0386, 0402, 0416, 0431, 0451
0433	END1	01C2	, 0486
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0434	STP1	01C3	, 0481, 0485, 0493, 0500
			, 0383, 0393, 0408, 0421, 0442, 0473
0435	ST10	01C4	, 0504
			, 0381, 0391, 0406, 0409, 0412, 0422
0436	ST11	01C5	, 0443, 0444, 0447, 0474
			, 0460, 0467, 0495, 0502, 0526
0437	ST12	01C6	, 0197
0441	STQ	01C7	, 0445, 0448
0451	STQ2	01D1	, 0197
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0459	SAZ2A	01D6	, 0459, 0470
0461	SAZ5	01D9	, 0462
0464	SAZ3	01DC	, 0463, 0466
0466	SAZ4A	01DE	
0471	SAZ7	01E4	
0477	SAZ6	01EA	, 0475
0478	SAZ7A	01EB	, 0476
0480	SAZ7C	01ED	, 0478
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0560	SQZ2A	0234	, 0554
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0568	SQN	0239	, 0197
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0576	SQN2A	0241	, 0570
0579	ENDSN	0244	, 0572, 0575, 0576
0581	END2	0245	, 0513, 0534, 0548, 0564, 0579, 0600
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0597	SQP2A	0252	, 0591
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0604	SQM	0256	, 0197
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0620	ALS	0263	, 0197
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0644	SH2	0278	, 0624, 0648, 0649
0658	SHQ	0282	, 0668, 0679
0659	SH1	0283	, 0663, 0664, 0676
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0724	ARSN5	02BF	, 0743
0735	ARSN2	02CD	, 0727, 0730
0744	ARSN4	02D6	, 0740
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0749	ST31	02DA	, 0681, 0682, 0685, 0698, 0701, 0715
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0763	RSHIF1	02E7	, 0759
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0784	LLS2	02FA	, 0781, 0789, 0794
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0814	LLS6	0319	, 0809, 0812
0815	LLS4	031A	, 0806, 0813
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0957	ST40	0382	, 0891, 0909, 0914, 0915, 0921, 0924
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1783	TCQM3	06AE	, 1780
1788	AAQM	0680	, 0200
1791	AAQM2	06B3	
1798	AAQM3	06B8	, 1795
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1806	EAQM2	06C0	
1813	EAQM3	06C7	, 1810
1818	LAQM	06C9	, 0200
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1844	CAQM3	06E0	, 1841
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1915	TCB3	071A	, 1912
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1933	AAM3	072A	, 1930
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