

CONTROL DATA® SMM17

Program Listings

CRP

| | | | | |
|------|------------------|-----------------------------------|--|-------|
| 0001 | NAM | CRPA00 | 10154 COPYRIGHT CONTROL DATA CORP 1974 | 00001 |
| 0002 | ***** | | | 00002 |
| 0003 | * | | | 00003 |
| 0004 | * * * * * | * REVISION RECORD | * * * * * | 00004 |
| 0005 | * | | | 00005 |
| 0006 | * MOUAYR VERSION | WHAT DONE , WHY , AND WHO DID IT | | 00006 |
| 0007 | * | | | 00007 |
| 0008 | * 032074 V 3.1 | SYSTEM RELEASED | | 00008 |
| 0009 | * | CORRECTED INITIAL MESSAGE TYPEOUT | | 00009 |
| 0010 | * | | | 00010 |
| 0011 | ***** | | | 00011 |

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|------|---|-----------------------------------|---|-------|
| 0013 | * | * * * * * | | 00013 |
| 0014 | * | * | | 00014 |
| 0015 | * | * | | 00015 |
| 0016 | * | * UPDATED VERSION OF TEST \$00 | * | 00016 |
| 0017 | * | * | * | 00017 |
| 0018 | * | * WILL RUN W/COMMON OR INDIVIDUAL | * | 00018 |
| 0019 | * | * INTERRUPT LINES | * | 00019 |
| 0020 | * | * | * | 00020 |
| 0021 | * | * | * | 00021 |
| 0022 | * | * * * * * | * | 00022 |

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|------|---|--|-------|
| 0024 | | *PROGRAMMER - NED T. HURST | 00024 |
| 0026 | | *1723 EQUIPMENT SELECT (Q10 THRU Q07 = EQUIPMENT NUMBER) | 00026 |
| 0028 | * | READER, STATION 1 | 00028 |
| 0029 | * | Q05 = 1, Q06 = 0. | 00029 |
| 0030 | * | PUNCH, STATION 2 | 00030 |
| 0031 | * | Q05 = 0, Q06 = 1. | 00031 |
| 0033 | | *1728 DIRECTOR FUNCTIONS (Q00 = 1) | 00033 |
| 0035 | * | A00 CLEAR CONTROLLER. | 00035 |
| 0036 | * | A01 CLEAR INTERRUPTS. | 00036 |
| 0037 | * | A02 DATA INTERRUPT REQUEST. | 00037 |
| 0038 | * | A03 INTERRUPT ON EOP (COLUMN 81 TIME). | 00038 |
| 0039 | * | A04 INTERRUPT ON ALARM. | 00039 |
| 0040 | * | A07 FEED CYCLE. | 00040 |
| 0041 | * | A08 OFFSET. | 00041 |
| 0043 | | *DIRECTOR STATUS LEVEL 1 (PRIMARY), Q00 = 1, Q01 = 0. | 00043 |
| 0045 | * | A00 READY | 00045 |
| 0046 | * | A01 BUSY | 00046 |
| 0047 | * | A02 INTERRUPT | 00047 |
| 0048 | * | A03 DATA | 00048 |
| 0049 | * | A04 EOP | 00049 |
| 0050 | * | A05 ALARM | 00050 |
| 0051 | * | A06 LOST DATA | 00051 |
| 0052 | * | A07 PROTECTED | 00052 |
| 0053 | * | A08 ERROR | 00053 |
| 0054 | * | A09 MOTION FAILURE | 00054 |
| 0055 | * | A10 END OF FILE | 00055 |
| 0056 | * | A11 CHIP BOX | 00056 |
| 0058 | | *DIRECTOR STATUS LEVEL 2 (SECONDARY), Q00 = 1, Q01 = 1. | 00058 |
| 0060 | * | A00 HOPPER EMPTY | 00060 |
| 0061 | * | A01 STACKER FULL | 00061 |
| 0062 | * | A02 FAIL TO FEED | 00062 |
| 0063 | * | A03 READ AREA JAM | 00063 |
| 0064 | * | A04 PUNCH AREA JAM | 00064 |
| 0065 | * | A05 STACKER AREA JAM | 00065 |
| 0066 | * | A06 PRE-READ ERROR | 00066 |

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0067
0068

*
*

A07
A10

PUNCH ERROR
INTERLOCK

00067
00068

| 0070 | *ERROR CODES | | | 00070 |
|------|--------------|----|--|-------|
| 0072 | * | 01 | EQUIPMNT ADDRESS IN ERROR (OPERATOR ERROR). | 00072 |
| 0073 | * | | TEST MUST BE CALLED AGAIN. | 00073 |
| 0075 | * | 02 | INSUFFICIENT MEMORY FOR TEST. | 00075 |
| 0077 | * | 03 | PARAMETER IN ERROR (OPERATOR ERROR). | 00077 |
| 0078 | * | | PARAMETERS MUST BE SELECTED AGAIN. | 00078 |
| 0080 | * | 04 | UNEXPECTED INTERNAL REJECT. | 00080 |
| 0082 | * | 05 | UNEXPECTED EXTERNAL REJECT. | 00082 |
| 0084 | * | 06 | UNEXPECTED REPLY | 00084 |
| 0086 | * | 07 | UNEXPECTED LEVEL 1 STATUS. | 00086 |
| 0087 | * | | A = ACTUAL STATUS, Q = EXPECTED STATUS. | 00087 |
| 0089 | * | 08 | UNEXPECTED LEVEL 2 STATUS. | 00089 |
| 0090 | * | | A = ACTUAL STATUS, Q = EXPECTED STATUS. | 00090 |
| 0092 | * | 09 | NO DATA INTERRUPT WHEN EXPECTED. | 00092 |
| 0093 | * | | A = LEVEL 1 STATUS, Q = 0000. | 00093 |
| 0095 | * | 0A | UNEXPECTED DATA INTERRUPT. | 00095 |
| 0096 | * | | A = LEVEL 1 STATUS, Q = 0000. | 00096 |
| 0098 | * | 0B | NO END-OF-OPERATION INTERRUPT WHEN EXPECTED. | 00098 |
| 0099 | * | | A = LEVEL 1 STATUS, Q = 0000. | 00099 |
| 0101 | * | 0C | UNEXPECTED END-OF-OPERATION INTERRUPT. | 00101 |
| 0102 | * | | A = LEVEL 1 STATUS, Q = 0000. | 00102 |
| 0104 | * | 0D | NO ALARM INTERRUPT WHEN EXPECTED. | 00104 |
| 0105 | * | | A = LEVEL 1 STATUS, Q = LEVEL 2 STATUS. | 00105 |
| 0107 | * | 0E | UNEXPECTED ALARM INTERRUPT. | 00107 |
| 0108 | * | | A = LEVEL 1 STATUS, Q = LEVEL 2 STATUS. | 00108 |
| 0110 | * | 0F | UNEXPECTED 1706 BUFFERED DATA CHANNEL STATUS. | 00110 |
| 0111 | * | | A = ACTUAL STATUS, Q = EXPECTED STATUS. | 00111 |
| 0113 | * | 10 | DATA ERROR | 00113 |
| 0114 | * | | A = ACTUAL DATA, Q = EXPECTED DATA, | 00114 |
| 0115 | * | | A = COLUMN NUMBER, Q = PATTERN NUMBER. | 00115 |
| 0117 | * | 11 | WRONG COLUMN COUNT | 00117 |
| 0118 | * | | A = ACTUAL COUNT, Q = EXPECTED COUNT (80 DECIMAL). | 00118 |
| 0120 | * | 12 | UNIDENTIFIABLE PATTERN | 00120 |
| 0121 | * | | A = FIRST COLUMN, Q = SECOND COLUMN. | 00121 |

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| | | | | |
|------|---|----|---|-------|
| 0123 | * | 13 | WRONG 1706 CURRENT WORD ADDRESS. | 00123 |
| 0124 | * | | A = ACTUAL ADDRESS, Q = EXPECTED ADDRESS. | 00124 |
| 0126 | * | 14 | UNIDENTIFIABLE INTERRUPT | 00126 |
| 0127 | * | | A = LEVEL 1 STATUS, Q = 0000 | 00127 |

| | | |
|------|---|-------|
| 0129 | *PRESTORED PARAMETERS | 00129 |
| 0131 | * SECTOT (INITIAL ADDRESS + 7) SECTIONS TO TEST | 00131 |
| 0132 | * INTLINES (INITIAL ADDRESS + 8) OXYZ WHERE, | 00132 |
| 0133 | * X = DATA INTERRUPT LINE | 00133 |
| 0134 | * Y = EOP INTERRUPT LINE | 00134 |
| 0135 | * Z = ALARM INTERRUPT LINE. | 00135 |

| | | |
|------|--|-------|
| 0137 | *CAUTIONS TO USER | 00137 |
| 0139 | * THE CHOSEN EQUIPMENT ADDRESS MUST HAVE BITS 01 THRU 06 | 00139 |
| 0140 | * ALL EQUAL TO ZERO. | 00140 |

| | | | | | | | |
|------|-------|------|----------|----------|---|-------------------------------|----------------------|
| 0142 | P0000 | 1809 | CRPADU | JMP* | START | | 00142 |
| 0143 | P0001 | 4352 | | ALF | 3,CRPADU | | 00143 |
| | P0002 | 5041 | | | | | |
| | P0003 | 3044 | | | | | |
| 0144 | P0004 | 078C | P PARADR | ADC | PID | | 00144 |
| 0145 | P0005 | 000B | P RETURN | ADC | BEGIN | | 00145 |
| 0147 | | | * | | THE EQUIPMENT ADDRESS FOR STATION 0, LEVEL 1 STATUS INPUT | | 00147 |
| 0148 | | | * | | IS STORED HERE BY THE MONITOR WHEN IT LOADS THE TEST. THE | | 00148 |
| 0149 | | | * | | OPERATOR SPECIFIES THE EQUIPMENT ADDRESS WHEN HE CALLS | | 00149 |
| 0150 | | | * | | THE TEST. | | 00150 |
| 0151 | P0006 | 0001 | EO | NUM | \$0001 | EQ. ADDRESS FOR STATUS INPUT. | 00151 |
| 0153 | | | | | | | 00153 |
| 0154 | P0007 | 00FF | | SECTOT | NUM | \$00FF | SECTIONS = 0 THRU 7. |
| 0155 | P0008 | 0888 | | INTLINES | NUM | \$0888 | INTERRUPT LINES |
| 0156 | P0009 | 1800 | | START | JMP | MCREST | |
| | P000A | 076A | | | | | 00156 |

| *LOCATIONS IN MONITOR | | | | | | | |
|-----------------------|------|--|-----|--------------------|--|----------------------------------|-------|
| 0158 | | | | | | | 00158 |
| 0159 | 0001 | | EQU | CONTROL(1) | | RETURN SHM CONTROL ADDRESS. | 00159 |
| 0160 | 0002 | | EQU | STOPX(CONTROL+1) | | ALL STOPS AND ERROR TYPEOUTS | 00160 |
| 0161 | 0003 | | EQU | EXIT(STOPX+1) | | END OF TEST-PASS EXIT | 00161 |
| 0162 | 0004 | | EQU | REQINT(EXIT+1) | | REQUEST INTERRUPT ADDRESS | 00162 |
| 0163 | 0005 | | EQU | FCLRINT(REQINT+1) | | FAKE CLEAR INTERRUPT ROUTINE | 00163 |
| 0164 | 0006 | | EQU | JUMP(REQINT+2) | | CHECK SKIPSWITCH FOR PARAM ENTRY | 00164 |
| 0165 | 0007 | | EQU | GENRAN(JUMP+1) | | RANDOM NUMBER GENERATOR | 00165 |
| 0166 | 0008 | | EQU | TYPEOUT(GENRAN+1) | | MESSAGE TYPEOUT ROUTINE | 00166 |
| 0167 | 0009 | | EQU | TTYBZY(TYPEOUT+1) | | ROUTINE TO WAIT TTY NOT BUSY. | 00167 |
| 0168 | 000A | | EQU | HEXASC(TYPEOUT+2) | | HEX TO ASCII CONVERSION | 00168 |
| 0169 | 000B | | EQU | OVRLAY(HEXASC+1) | | OVERLAY CALL ROUTINE. | 00169 |
| 0170 | 000C | | EQU | RELPOS(OVRLAY+1) | | A/Q RELATIVE POSITION TEST. | 00170 |
| 0171 | 000D | | EQU | MAINL(RELPOS+1) | | MANUAL INTERRUPT ROUTINE. | 00171 |
| 0172 | 0042 | | EQU | SETMASK(MAINL+53) | | M REGISTER RESET VALUE. | 00172 |
| 0173 | 0043 | | EQU | STJP(SETMASK+1) | | STOP/JUMP PARAMETER WORD. | 00173 |
| 0174 | 0044 | | EQU | LASTVALU(STJP+1) | | MONITOR AREA LWA+1 | 00174 |
| 0175 | 0045 | | EQU | LASTAD(STJP+2) | | AVAILABLE LOAD CORE FWA. | 00175 |
| 0176 | 0047 | | EQU | LOLCORE(LASTAD+2) | | BANK0 LAST ADDR | 00176 |
| 0177 | 0048 | | EQU | LDL1COR(LDLCORE+1) | | BANK1 LAST ADDR | 00177 |
| 0178 | 0049 | | EQU | INFORM(LDL1COR+1) | | BKO SIZE, MASK SIZE, BUSY SWITCH | 00178 |
| 0179 | 0056 | | EQU | SHMCNT(INFORM+13) | | SHM PARAMETER WORD. | 00179 |
| 0180 | 006B | | EQU | BIT00(SHMCNT+21) | | XXXXXXXX CONSTANT TABLE XXXXXXXX | 00180 |
| 0181 | 006B | | EQU | BIT0(BIT00) | | | 00181 |
| 0182 | 006C | | EQU | BIT1(BIT0+1) | | | 00182 |
| 0183 | 006D | | EQU | BIT2(BIT1+1) | | | 00183 |
| 0184 | 006E | | EQU | BIT3(BIT2+1) | | | 00184 |
| 0185 | 006F | | EQU | BIT4(BIT3+1) | | | 00185 |

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|------|------|-----|-------------------|-------|
| 0186 | 0070 | EQU | BIT5(BIT4+1) | 00186 |
| 0187 | 0071 | EQU | BIT6(BIT5+1) | 00187 |
| 0188 | 0072 | EQU | BIT7(BIT6+1) | 00188 |
| 0189 | 0073 | EQU | BIT8(BIT7+1) | 00189 |
| 0190 | 0074 | EQU | BIT9(BIT8+1) | 00190 |
| 0191 | 0075 | EQU | BIT10(BIT9+1) | 00191 |
| 0192 | 0076 | EQU | BIT11(BIT10+1) | 00192 |
| 0193 | 0077 | EQU | BIT12(BIT11+1) | 00193 |
| 0194 | 0078 | EQU | BIT13(BIT12+1) | 00194 |
| 0195 | 0079 | EQU | BIT14(BIT13+1) | 00195 |
| 0196 | 007A | EQU | BIT15(BIT14+1) | 00196 |
| 0197 | 007B | EQU | H0000(BIT15+1) | 00197 |
| 0198 | 007C | EQU | HFFFF(H0000+1) | 00198 |
| 0199 | 007D | EQU | H000F(HFFFF+1) | 00199 |
| 0200 | 007E | EQU | H00F0(H000F+1) | 00200 |
| 0201 | 007F | EQU | H0F00(H00F0+1) | 00201 |
| 0202 | 0080 | EQU | HF000(H0F00+1) | 00202 |
| 0203 | 0081 | EQU | H00FF(HF000+1) | 00203 |
| 0204 | 0082 | EQU | HFF00(H00FF+1) | 00204 |
| 0205 | 0083 | EQU | HFFFF(HFF00+1) | 00205 |
| 0206 | 0084 | EQU | H0FFF(HFFFF+1) | 00206 |
| 0207 | 0085 | EQU | HFF0F(H0FFF+1) | 00207 |
| 0208 | 0086 | EQU | HF0FF(HFF0F+1) | 00208 |
| 0209 | 0087 | EQU | H7FFF(HF0FF+1) | 00209 |
| 0210 | 0088 | EQU | H7F00(H7FFF+1) | 00210 |
| 0211 | 0089 | EQU | H0780(H7F00+1) | 00211 |
| 0212 | 008A | EQU | H007F(H0780+1) | 00212 |
| 0213 | 008B | EQU | H2020(H007F+1) | 00213 |
| 0214 | 0091 | EQU | TSACTV(H2020+6) | 00214 |
| 0215 | 0092 | EQU | TSFREQ(TSACTV+1) | 00215 |
| 0216 | 0060 | EQU | CONST(BIT00) | 00216 |
| 0217 | 0056 | EQU | SMMPAR(SMNCNT) | 00217 |
| 0218 | 0043 | EQU | SJPAR(STJP) | 00218 |
| 0219 | 0007 | EQU | RANDOM(GENRAN) | 00219 |
| 0220 | 000A | EQU | CONVERT(HEXASC) | 00220 |
| 0221 | 0008 | EQU | MESSAG(TYPEOUT) | 00221 |
| 0222 | 0004 | EQU | REQND(REQINT) | 00222 |
| 0223 | 0005 | EQU | CLRND(FCLRINT) | 00223 |
| 0224 | 000A | EQU | CONV(HEXASC) | 00224 |
| 0225 | 0009 | EQU | SMMTYPING(TTYBZY) | 00225 |
| 0226 | 0140 | EQU | REG(\$140) | 00226 |
| 0227 | | | INTERRUPT MODE. | 00227 |

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|------|------|--|-------|
| 0229 | | *DIRECT LOCATIONS USED BY THIS TEST. | 00229 |
| 0230 | | * INITIAL ADDRESSES OF SUBROUTINES ARE STORED HERE | 00230 |
| 0231 | | * DURING INITIALIZATION. | 00231 |
| 0233 | 00E5 | EQU SMM(\$E5) | 00233 |
| 0234 | 00E6 | EQU STATUS(SMM+1) | 00234 |
| 0235 | 00E7 | EQU IC10(STATUS+1) | 00235 |
| 0236 | 00E8 | EQU IC100(IC10+1) | 00236 |
| 0237 | 00E9 | EQU INITDATA(IC100+1) | 00237 |
| 0238 | 00EA | EQU INITEOP(INITDATA+1) | 00238 |
| 0239 | 00EB | EQU INITIALARM(INITEOP+1) | 00239 |
| 0240 | 00EC | EQU ERROR4(INITALARM+1) | 00240 |
| 0241 | 00ED | EQU ERROR5(ERROR4+1) | 00241 |
| 0242 | 00EE | EQU ERROR6(ERROR5+1) | 00242 |
| 0243 | 00EF | EQU ERROR7(ERROR6+1) | 00243 |
| 0244 | 00F0 | EQU ERROR8(ERROR7+1) | 00244 |
| 0245 | 00F1 | EQU EPROR9(ERROR8+1) | 00245 |
| 0246 | 00F2 | EQU ERRORA(ERROR9+1) | 00246 |
| 0247 | 00F3 | EQU ERRORB(ERRORA+1) | 00247 |
| 0248 | 00F4 | EQU ERRORC(ERRORB+1) | 00248 |
| 0249 | 00F5 | EQU ERRORD(ERRORC+1) | 00249 |
| 0250 | 00F6 | EQU ERRERE(ERRORD+1) | 00250 |
| 0251 | 00F7 | EQU ERRORF(ERRERE+1) | 00251 |
| 0252 | 00F8 | EQU GENERATE(ERRORF+1) | 00252 |
| 0253 | 00F9 | EQU SEC(GENERATE+1) | 00253 |
| 0254 | 00FA | EQU EQUIP(SEC+1) | 00254 |
| 0255 | 00FB | EQU CHAN(EQUIP+1) | 00255 |
| 0256 | 0004 | EQU BDCSTAT(\$04) | 00256 |
| 0257 | 0005 | EQU BDCWA(BDCSTAT+1) | 00257 |
| 0258 | 0006 | EQU TIME(BDCWA+1) | 00258 |
| 0259 | 0007 | EQU COLUMN(TIME+1) | 00259 |
| 0260 | 0008 | EQU BIAS(COLUMN+1) | 00260 |
| 0261 | 0009 | EQU EOFFLAG(BIAS+1) | 00261 |
| 0262 | 00DA | EQU DATAIF(EOFFLAG+1) | 00262 |
| 0263 | 00DB | EQU EOPIF(DATAIF+1) | 00263 |
| 0264 | 00DC | EQU ALAIF(SDC) | 00264 |
| 0265 | 00DD | EQU STATION(ALAIF+1) | 00265 |
| 0266 | 00DE | EQU COUNTER(STATION+1) | 00266 |
| 0267 | 00DF | EQU ACT(COUNTER+1) | 00267 |
| 0268 | 00E0 | EQU EXP(ACT+1) | 00268 |
| 0269 | 00E2 | EQU OFFSTF(EXP+2) | 00269 |

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|------|------------|---------|------|---|--------------------------|-------|
| 0271 | P000B 5800 | BEGIN | RTJ | INITIAL | INITIALIZE TEST. | 00271 |
| | P000C 08A6 | | | | | |
| 0273 | | * | | COME HERE IF OPERATOR SETS P = IA, OR | | 00273 |
| 0274 | | * | | TO RESTART TEST WHEN BIT 10 OF STOP/JUMP WORD IS SET. | | 00274 |
| 0275 | P000D 0844 | RESTART | CLR | A | | 00275 |
| 0276 | P000E 60DE | | STA- | COUNTER | INITIALIZE LOOP COUNTER. | 00276 |
| 0277 | P000F 6800 | | STA | TMP | | 00277 |
| | P0010 0887 | | | | | |

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|------|-------|------|--|--------|----------------|----------------------------------|-------|
| 0323 | P0032 | 18F2 | JMP* | LOOP01 | LOOP 100 TIMES | 00323 | |
| 0325 | | | *SECTION 0, LOOP 2 | | | 00325 | |
| 0326 | | | * SELECT ALL FUNCTIONS (ALL BITS IN A) ON STATION 0, EXPECT | | | 00326 | |
| 0327 | | | * INTERNAL REJECT. IF W IS NOT ZERO EXPECT 1706 STATUS TO BE | | | 00327 | |
| 0328 | | | * BUSY AND REPLY-TERMINATE BUFFER | | | 00328 | |
| 0329 | P0033 | E0FA | LOOP02 | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00329 |
| 0330 | P0034 | 0804 | | SET | A | SET ALL BITS IN A. | 00330 |
| 0331 | P0035 | 0302 | | OUT | 2 | ATTEMPT FUNCTIONS ON STATION 0. | 00331 |
| 0332 | P0036 | 54EE | | RTJ- | (ERROR6) | ERROR 6, REPLY. | 00332 |
| 0333 | P0037 | 1802 | | JMP* | S02C | INTERNAL REJECT | 00333 |
| 0334 | P0038 | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00334 |
| 0335 | P0039 | E0FB | S02C | LDQ- | CHAN | GET W | 00335 |
| 0336 | P003A | 0151 | | SQN | 1 | | 00336 |
| 0337 | P003B | 180B | | JMP* | S02B | | 00337 |
| 0338 | P003C | F077 | S02A | ADQ- | CONST+12 | SET UP Q TO INPUT BDC STATUS. | 00338 |
| 0339 | P003D | 02FE | | INP | -1 | GET BDC STATUS. | 00339 |
| 0340 | P003E | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 00340 |
| 0341 | P003F | A000 | | AND | =N\$0102 | CHECK REPLY AND BUSY BITS | 00341 |
| | P0040 | 0102 | | | | | |
| 0342 | P0041 | 006C | | EOR- | CONST+1 | EXPECT BUSY STATUS. | 00342 |
| 0343 | P0042 | 54F7 | | RTJ- | (ERRORF) | ERROR F IF UNEXPECTED BDC STATUS | 00343 |
| 0344 | P0043 | E0FB | S02A1 | LDQ- | CHAN | | 00344 |
| 0345 | P0044 | F076 | | ADQ- | CONST+11 | | 00345 |
| 0346 | P0045 | 02FE | | INP | -1 | TERMINATE BUFFER. | 00346 |
| 0347 | P0046 | 0842 | S02B | CLR | Q | | 00347 |
| 0348 | P0047 | 54E6 | | RTJ- | (STATUS) | GET STATION 0 STATUS. | 00348 |
| 0349 | P0048 | 006B | | EOR- | CONST | EXPECT READY STATUS. | 00349 |
| 0350 | P0049 | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00350 |
| 0351 | P004A | 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00351 |
| 0352 | P004B | 18E7 | | JMP* | LOOP02 | LOOP 100 TIMES. | 00352 |
| 0354 | | | *SECTION 0, LOOP 3 | | | 00354 | |
| 0355 | | | * SAME AS SECTION 0, LOOP 2 EXCEPT ATTEMPT FUNCTIONS | | | 00355 | |
| 0356 | | | * ON STATION 3. | | | 00356 | |
| 0357 | P004C | E0FA | LOOP03 | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00357 |
| 0358 | P004D | 0060 | | INQ | \$60 | SET Q05 AND Q06 (STATION 3). | 00358 |
| 0359 | P004E | 0804 | | SET | A | SET ALL BITS IN A. | 00359 |
| 0360 | P004F | 0302 | | OUT | 2 | ATTEMPT FUNCTIONS ON STATION 3. | 00360 |
| 0361 | P0050 | 54EE | | RTJ- | (ERROR6) | ERROR 6, REPLY. | 00361 |
| 0362 | P0051 | 1802 | | JMP* | S03C | INTERNAL REJECT | 00362 |
| 0363 | P0052 | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00363 |
| 0364 | P0053 | E0FB | S03C | LDQ- | CHAN | GET W | 00364 |
| 0365 | P0054 | 0151 | | SQN | 1 | | 00365 |
| 0366 | P0055 | 180B | | JMP* | S03B | | 00366 |
| 0367 | P0056 | F077 | S03A | ADQ- | CONST+12 | SET UP Q TO INPUT BDC STATUS. | 00367 |
| 0368 | P0057 | 02FE | | INP | -1 | GET BDC STATUS. | 00368 |
| 0369 | P0058 | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 00369 |
| 0370 | P0059 | A000 | | AND | =N\$0102 | CHECK REPLY AND BUSY BITS | 00370 |
| | P005A | 0102 | | | | | |

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|------|-------|------|--------|---|---------------------------------|-------|
| 0371 | P005B | B06C | EOR- | CONST+1 | EXPECT BUSY STATUS. | 00371 |
| 0372 | P005C | 54F7 | RTJ- | (ERRORF) | ERROR F, UNEXPECTED BDC STATUS. | 00372 |
| 0373 | P005D | E0FB | S03A1 | LDQ- | CHAN | 00373 |
| 0374 | P005E | F076 | | ADQ- | CONST+11 | 00374 |
| 0375 | P005F | 02FE | | INP | -1 | 00375 |
| 0376 | P0060 | 0842 | S03B | CLR | Q | 00376 |
| 0377 | P0061 | 54E6 | | RTJ- | (STATUS) | 00377 |
| 0378 | P0062 | B06B | | EOR- | CONST | 00378 |
| 0379 | P0063 | 54EF | | RTJ- | (ERROR7) | 00379 |
| 0380 | P0064 | 54E8 | | RTJ- | (IC100) | 00380 |
| 0381 | P0065 | 18E6 | | JMP* | LOOP03 | 00381 |
| | | | | | | |
| 0383 | | | | *INITIALIZE REST OF SECTION 0 TO CHECK STATION 2 (PUNCH). | | 00383 |
| 0384 | P0066 | 0C40 | | ENQ | \$40 | 00384 |
| 0385 | P0067 | 40DD | | STQ- | STATION | 00385 |
| | | | | | | |
| 0387 | | | | *SECTION 0, LOOP 4 | | 00387 |
| 0388 | | | * | INPUT LEVEL 1, STATION 1 OR 2 STATUS, EXPECT REPLY. | | 00388 |
| 0389 | | | * | EXPECT READY STATUS. | | 00389 |
| 0390 | P0068 | E0FA | LOOP04 | LDQ- | EQUIP | 00390 |
| 0391 | P0069 | F0DD | | ADQ- | STATION | 00391 |
| 0392 | P006A | 0202 | | INP | 2 | 00392 |
| 0393 | P006B | 1804 | | JMP* | S04A | 00393 |
| 0394 | P006C | 54EC | | RTJ- | (ERROR4) | 00394 |
| 0395 | P006D | 54ED | | RTJ- | (ERROR5) | 00395 |
| 0396 | P006E | 18F9 | | JMP* | LOOP04 | 00396 |
| 0397 | P006F | 60DF | S04A | STA- | ACT | 00397 |
| 0398 | P0070 | A000 | | AND | =N\$FB7F | 00398 |
| | P0071 | FB7F | | | | |
| 0399 | P0072 | B06B | | EOR- | CONST | 00399 |
| 0400 | P0073 | 0FA9 | | QLS | 9 | 00400 |
| 0401 | P0074 | 0161 | | SOP | 1 | 00401 |
| 0402 | P0075 | B06E | | EOR- | CONST+3 | 00402 |
| 0403 | P0076 | 54EF | | RTJ- | (ERROR7) | 00403 |
| 0404 | P0077 | 54E8 | | RTJ- | (IC100) | 00404 |
| 0405 | P0078 | 18EF | | JMP* | LOOP04 | 00405 |
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| 0407 | | | | *SECTION 0, LOOP 5 | | 00407 |
| 0408 | | | * | INPUT LEVEL 2, STATION 1 OR 2 STATUS, EXPECT REPLY. | | 00408 |
| 0409 | | | * | EXPECT ZERO STATUS. | | 00409 |
| 0410 | P0079 | E0FA | LOOP05 | LDQ- | EQUIP | 00410 |
| 0411 | P007A | 0D02 | | INQ | 2 | 00411 |
| 0412 | P007B | F0DD | | ADQ- | STATION | 00412 |
| 0413 | P007C | 0202 | | INP | 2 | 00413 |
| 0414 | P007D | 1804 | | JMP* | S05A | 00414 |
| 0415 | P007E | 54EC | | RTJ- | (ERROR4) | 00415 |
| 0416 | P007F | 54ED | | RTJ- | (ERROR5) | 00416 |
| 0417 | P0080 | 18F8 | | JMP* | LOOP05 | 00417 |

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| 0418 | P0081 | 60DF | S05A | STA- | ACT | SAVE STATUS FOR ERROR MESSAGE. | 00418 |
| 0419 | P0082 | 54F0 | | RTJ- | (ERROR8) | ERROR 8, UNEXPECTED LEVEL 2 STAT | 00419 |
| 0420 | P0083 | 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00420 |
| 0421 | P0084 | 18F4 | | JMP* | LOOP05 | LOOP 100 TIMES. | 00421 |

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|------|-------|------|--------|----------|---------------------------------|----------------------------------|-------|
| 0423 | | | | *SECTION | 0, LOOP 6 | | 00423 |
| 0424 | | | | * | CLEAR CONTROLLER, EXPECT REPLY. | | 00424 |
| 0425 | | | | * | GET STATUS, EXPECT READY. | | 00425 |
| 0426 | P0085 | E0FA | LOOP06 | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00426 |
| 0427 | P0086 | F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00427 |
| 0428 | P0087 | 0A01 | | ENA | 1 | SET A01. | 00428 |
| 0429 | P0088 | 0302 | | OUT | 2 | CLEAR CONTROLLER. | 00429 |
| 0430 | P0089 | 1804 | | JMP* | S06A | EXPECT REPLY. | 00430 |
| 0431 | P008A | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00431 |
| 0432 | P008B | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00432 |
| 0433 | P008C | 18F8 | | JMP* | LOOP06 | HANG ON REJECT. | 00433 |
| 0434 | P008D | E0DD | S06A | LDQ- | STATION | SET STATION NO. BIT. | 00434 |
| 0435 | P008E | 54E6 | | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00435 |
| 0436 | P008F | 806B | | EOR- | CONST | EXPECT READY STATUS. | 00436 |
| 0437 | P0090 | 0FA9 | | QLS | 9 | | 00437 |
| 0438 | P0091 | 0161 | | SQP | 1 | CHECK WHETHER STATION 2. | 00438 |
| 0439 | P0092 | 806E | | EOR- | CONST+3 | EXPECT DATA STATUS IF STATION 2. | 00439 |
| 0440 | P0093 | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00440 |
| 0441 | P0094 | 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00441 |
| 0442 | P0095 | 18EF | | JMP* | LOOP06 | LOOP 100 TIMES. | 00442 |

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|------|-------|------|--------|----------|---|----------------------------------|-------|
| 0444 | | | | *SECTION | 0, LOOP 7 | | 00444 |
| 0445 | | | | * | CLEAR INTERRUPT, EXPECT REPLY. | | 00445 |
| 0446 | | | | * | GET STATION 1 OR 2 STATUS, EXPECT READY STATUS. | | 00446 |
| 0447 | P0096 | E0FA | LOOP07 | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00447 |
| 0448 | P0097 | F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00448 |
| 0449 | P0098 | 0A02 | | ENA | 2 | SET A01. | 00449 |
| 0450 | P0099 | 0302 | | OUT | 2 | CLEAR INTERRUPT. | 00450 |
| 0451 | P009A | 1804 | | JMP* | S07A | EXPECT REPLY. | 00451 |
| 0452 | P009B | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00452 |
| 0453 | P009C | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00453 |
| 0454 | P009D | 18F8 | | JMP* | LOOP07 | HANG ON REJECT. | 00454 |
| 0455 | P009E | E0DD | S07A | LDQ- | STATION | SET STATION NO. BIT. | 00455 |
| 0456 | P009F | 54E6 | | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00456 |
| 0457 | P00A0 | 806B | | EOR- | CONST | EXPECT READY STATUS. | 00457 |
| 0458 | P00A1 | 0FA9 | | QLS | 9 | | 00458 |
| 0459 | P00A2 | 0161 | | SQP | 1 | CHECK WHETHER STATION 2. | 00459 |
| 0460 | P00A3 | 806E | | EOR- | CONST+3 | EXPECT DATA STATUS IF STATION 2. | 00460 |
| 0461 | P00A4 | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00461 |
| 0462 | P00A5 | 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00462 |
| 0463 | P00A6 | 18EF | | JMP* | LOOP07 | LOOP 100 TIMES. | 00463 |

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| 0465 | | *SECTION 0, LOOP 8 | | 00465 |
| 0466 | | * REQUEST EOP INTERRUPT, EXPECT REPLY. EXPECT NO INTERRUPT. | | 00466 |
| 0467 | | * GET STATUS, EXPECT READY STATUS. CLEAR CONTROLLER\$ EXPECT REPLY | | 00467 |
| 0468 | P00A7 54E9 | LOOP08 RTJ- (INITDATA) | INITIALIZE DATA INTERRUPT. | 00468 |
| 0469 | P00A8 54EA | RTJ- (INITEOP) | INITIALIZE EOP INTERRUPT. | 00469 |
| 0470 | P00A9 54EB | RTJ- (INITALARM) | INITIALIZE ALARM INTERRUPT. | 00470 |
| 0471 | P00AA E0FA | S08A LDQ- EQUIP | EQ. NO., Q00 SET. | 00471 |
| 0472 | P00AB F0DD | ADQ- STATION | SET STATION NO. BIT. | 00472 |
| 0473 | P00AC 0A04 | ENA 4 | SET A02. | 00473 |
| 0474 | P00AD 0302 | OUT 2 | DATA INTERRUPT REQUEST. | 00474 |
| 0475 | P00AE 1804 | JMP* S08B | EXPECT REPLY. | 00475 |
| 0476 | P00AF 54EC | RTJ- (ERROR4) | ERROR 4, INTERNAL REJECT. | 00476 |
| 0477 | P00B0 54ED | RTJ- (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00477 |
| 0478 | P00B1 18F8 | JMP* S08A | HANG ON REJECT. | 00478 |
| 0479 | P00B2 C0DD | S08B LDA- STATION | | 00479 |
| 0480 | P00B3 A071 | AND- CONST+6 | CHECK WHETHER STATION 2. | 00480 |
| 0481 | P00B4 0102 | SAZ 2 | EXPECT NO DATA INTERRUPT IF NOT. | 00481 |
| 0482 | P00B5 54F1 | RTJ- (ERROR9) | ERROR 9, NO DATA INTERRUPT. | 00482 |
| 0483 | P00B6 1802 | JMP* **2 | | 00483 |
| 0484 | P00B7 54F2 | RTJ- (ERRORA) | ERROR A, UNEXPECTED DATA INT. | 00484 |
| 0485 | P00B8 54F4 | RTJ- (ERRORC) | ERROR C IF EOP INTERRUPT. | 00485 |
| 0486 | P00B9 54F6 | RTJ- (ERROR5) | ERROR E IF ALARM INTERRUPT. | 00486 |
| 0487 | P00BA E0DD | LDQ- STATION | SET STATION NO. BIT. | 00487 |
| 0488 | P00BB 54E6 | RTJ- (STATUS) | GET STATION 1 OR 2 STATUS. | 00488 |
| 0489 | P00BC B06B | EOR- CONST | EXPECT READY STATUS. | 00489 |
| 0490 | P00BD 0FA9 | QLS 9 | | 00490 |
| 0491 | P00BE 0162 | SQP 2 | SKIP IF NOT STATION 2. | 00491 |
| 0492 | P00BF B000 | EOR =N\$000C | EXPECT DATA, INTERRUPT STATUS. | 00492 |
| | P00C0 000C | | | |
| 0493 | P00C1 54EF | RTJ- (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00493 |
| 0494 | P00C2 E0FA | S08C LDQ- EQUIP | EQ. NO., Q00 SET. | 00494 |
| 0495 | P00C3 F0DD | ADQ- STATION | SET STATION NO. BIT. | 00495 |
| 0496 | P00C4 0A01 | ENA 1 | SET A00. | 00496 |
| 0497 | P00C5 0302 | OUT 2 | CLEAR CONTROLLER. | 00497 |
| 0498 | P00C6 1804 | JMP* S08D | EXPECT REPLY. | 00498 |
| 0499 | P00C7 54EC | RTJ- (ERROR4) | ERROR 4, INTERNAL REJECT. | 00499 |
| 0500 | P00C8 54ED | RTJ- (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00500 |
| 0501 | P00C9 18F8 | JMP* S08C | HANG ON REJECT. | 00501 |
| 0502 | P00CA 54E8 | S08D RTJ- (IC100) | INCREMENT LOOP COUNTER. | 00502 |
| 0503 | P00CB 18DB | JMP* LOOP08 | LOOP 100 TIMES. | 00503 |

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| 0505 | | *SECTION 0, LOOP 9 | | 00505 |
| 0506 | | * REQUEST EOP INTERRUPT, EXPECT REPLY. EXPECT NO INTERRUPT. | | 00506 |
| 0507 | | * GET STATUS, EXPECT READY. CLEAR CONTROLLER, EXPECT REPLY. | | 00507 |
| 0508 | P00CC 54EA | LOOP09 RTJ- (INITEOP) | INITIALIZE EOP INTERRUPT. | 00508 |
| 0509 | P00CD 54E9 | RTJ- (INITDATA) | INITIALIZE DATA INTERRUPT. | 00509 |
| 0510 | P00CE 54EB | RTJ- (INITALARM) | INITIALIZE ALARM INTERRUPT. | 00510 |
| 0511 | P00CF E0FA | S09A LDQ- EQUIP | EQ. NO., Q00 SET. | 00511 |
| 0512 | P00D0 F0DD | ADQ- STATION | SET STATION NO. BIT. | 00512 |
| 0513 | P00D1 0A08 | ENA 8 | SET A03. | 00513 |
| 0514 | P00D2 0302 | OUT 2 | REQUEST INTERRUPT ON EOP. | 00514 |

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| 0515 | P00D3 | 1804 | JMP* | S098 | EXPECT REPLY. | 00515 |
| 0516 | P00D4 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00516 |
| 0517 | P00D5 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00517 |
| 0518 | P00D6 | 18F8 | JMP* | S09A | HANG ON REJECT. | 00518 |
| 0519 | P00D7 | 54F4 | RTJ- | (ERRORC) | ERROR C IF EOP INTERRUPT. | 00519 |
| 0520 | P00D8 | 54F2 | RTJ- | (ERRORA) | ERROR A IF DATA INTERRUPT. | 00520 |
| 0521 | P00D9 | 54F6 | RTJ- | (ERROR) | ERROR E IF ALARM INTERRUPT. | 00521 |
| 0522 | P00DA | F0DD | LDQ- | STATION | SET STATION NO. BIT. | 00522 |
| 0523 | P00DB | 54E6 | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00523 |
| 0524 | P00DC | 8068 | EOR- | CONST | EXPECT READY STATUS. | 00524 |
| 0525 | P00DD | 0FA9 | QLS | 9 | | 00525 |
| 0526 | P00DE | 0161 | SQP | 1 | CHECK WHETHER STATION 2. | 00526 |
| 0527 | P00DF | 806E | EOR- | CONST+3 | EXPECT DATA STATUS IF STATION 2. | 00527 |
| 0528 | P00E0 | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00528 |
| 0529 | P00E1 | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00529 |
| 0530 | P00E2 | F0DD | ADQ- | STATION | SET STATION NO. BIT. | 00530 |
| 0531 | P00E3 | 0A01 | ENA | 1 | SET ADD. | 00531 |
| 0532 | P00E4 | 0302 | OUT | 2 | CLEAR CONTROLLER. | 00532 |
| 0533 | P00E5 | 1804 | JMP* | S09D | EXPECT REPLY. | 00533 |
| 0534 | P00E6 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT | 00534 |
| 0535 | P00E7 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00535 |
| 0536 | P00E8 | 18F8 | JMP* | S09C | HANG ON REJECT. | 00536 |
| 0537 | P00E9 | 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00537 |
| 0538 | P00EA | 18E1 | JMP* | LOOP09 | LOOP 100 TIMES. | 00538 |

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| 0540 | | | *SECTION 0, LOOP 10 | | | 00540 | |
| 0541 | | | * | REQUEST ALARM INTERRUPT, EXPECT REPLY. EXPECT NO INTERRUPT. | | 00541 | |
| 0542 | | | * | GET STATUS, EXPECT READY. CLEAR CONTROLLER, EXPECT REPLY. | | 00542 | |
| 0543 | P00E8 | 54E9 | LOOP0A | RTJ- | (INITALARM) | INITIALIZE ALARM INTERRUPT. | 00543 |
| 0544 | P00EC | 54E9 | | RTJ- | (INITDATA) | INITIALIZE DATA INTERRUPT. | 00544 |
| 0545 | P00ED | 54EA | | RTJ- | (INITEOP) | INITIALIZE EOP INTERRUPT. | 00545 |
| 0546 | P00EE | E0FA | SOAA | LDQ- | EQUIP | EQ. NO. Q00 SET. | 00546 |
| 0547 | P00EF | F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00547 |
| 0548 | P00F0 | 0A10 | | ENA | %10 | SET A04. | 00548 |
| 0549 | P00F1 | 0302 | | OUT | 2 | REQUEST INTERRUPT ON ALARM. | 00549 |
| 0550 | P00F2 | 1804 | | JMP* | SOAB | EXPECT REPLY. | 00550 |
| 0551 | P00F3 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00551 |
| 0552 | P00F4 | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00552 |
| 0553 | P00F5 | 18F8 | | JMP* | SOAA | HANG ON REJECT. | 00553 |
| 0554 | P00F6 | 54F6 | SOAB | RTJ- | (ERROR) | ERROR E, UNEXPECTED ALARM INT. | 00554 |
| 0555 | P00F7 | 54F2 | | RTJ- | (ERRORA) | ERROR A IF DATA INTERRUPT. | 00555 |
| 0556 | P00F8 | 54F4 | | RTJ- | (ERRORC) | ERROR C IF EOP INTERRUPT. | 00556 |
| 0557 | P00F9 | E0DD | | LDQ- | STATION | SET STATION NO. BIT. | 00557 |
| 0558 | P00FA | 54E6 | | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00558 |
| 0559 | P00FB | 8068 | | EOR- | CONST | EXPECT READY STATUS. | 00559 |
| 0560 | P00FC | 0FA9 | | QLS | 9 | | 00560 |
| 0561 | P00FD | 0161 | | SQP | 1 | CHECK WHETHER STATION 2. | 00561 |
| 0562 | P00FE | 806E | | EOR- | CONST+3 | EXPECT DATA STATUS IF STATION 2. | 00562 |
| 0563 | P00FF | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00563 |
| 0564 | P0100 | E0FA | SOAC | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00564 |
| 0565 | P0101 | F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00565 |

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| 0566 | P0102 | 0A01 | ENA | 1 | SET A00. | 00566 |
| 0567 | P0103 | 0302 | OUT | 2 | CLEAR CONTROLLER. | 00567 |
| 0568 | P0104 | 1804 | JMP* | SOAD | EXPECT REPLY. | 00568 |
| 0569 | P0105 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00569 |
| 0570 | P0106 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00570 |
| 0571 | P0107 | 18F8 | JMP* | SOAC | HANG ON REJECT. | 00571 |
| 0572 | P0108 | 54E8 | SOAD RTJ- | (IC100) | INCREMENT LOOP COUNT. | 00572 |
| 0573 | P0109 | 18E1 | JMP* | LOOP0A | LOOP 100 TIMES. | 00573 |

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| 0575 | | | *SECTION | 0, LOOP 11 | | 00575 |
| 0576 | | | * | REQUEST OFFSET, EXPECT REPLY. | | 00576 |
| 0577 | | | * | GET STATUS, EXPECT READY. | | 00577 |
| 0578 | P010A | E0FA | LOOP0B LDQ- | EQUIP | EQ. NO., Q00 SET. | 00578 |
| 0579 | P010B | F00D | ADQ- | STATION | SET STATION NO. BIT. | 00579 |
| 0580 | P010C | C073 | LDA- | CONST+8 | SET A08. | 00580 |
| 0581 | P010D | 0302 | OUT | 2 | OFFSET. | 00581 |
| 0582 | P010E | 1804 | JMP* | SOBA | EXPECT REPLY. | 00582 |
| 0583 | P010F | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00583 |
| 0584 | P0110 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00584 |
| 0585 | P0111 | 18F8 | JMP* | LOOP0B | HANG ON REJECT. | 00585 |
| 0586 | P0112 | E0DD | SOBA LDQ- | STATION | SET STATION NO. BIT. | 00586 |
| 0587 | P0113 | 54E6 | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00587 |
| 0588 | P0114 | B06B | EOR- | CONST | EXPECT READY STATUS. | 00588 |
| 0589 | P0115 | 0FA9 | QLS | 9 | | 00589 |
| 0590 | P0116 | 0161 | SQP | 1 | CHECK WHETHER STATION 2. | 00590 |
| 0591 | P0117 | B06E | EOR- | CONST+3 | EXPECT DATA STATUS IF STATION 2. | 00591 |
| 0592 | P0118 | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00592 |
| 0593 | P0119 | 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNT. | 00593 |
| 0594 | P011A | 18EF | JMP* | LOOP0B | LOOP 100 TIMES. | 00594 |

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| 0596 | | | *SECTION | 0, LOOP 12 | | 00596 |
| 0597 | | | * | SELECT ALL UNDEFINED FUNCTIONS, EXPECT REPLY. | | 00597 |
| 0598 | | | * | GET STATUS, EXPECT READY. | | 00598 |
| 0599 | P011B | E0FA | LOOP0C LDQ- | EQUIP | EQ. NO., Q00 SET | 00599 |
| 0600 | P011C | F00D | ADQ- | STATION | SET STATION NO. BIT. | 00600 |
| 0601 | P011D | C000 | LDA | =NSFE60 | SET A05,A06,A09 THRU A15. | 00601 |
| 0602 | P011E | FE60 | | | | |
| 0602 | P011F | 0302 | OUT | 2 | SELECT ALL UNDEFINED FUNCTIONS. | 00602 |
| 0603 | P0120 | 1804 | JMP* | SOCA | EXPECT REPLY. | 00603 |
| 0604 | P0121 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00604 |
| 0605 | P0122 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00605 |
| 0606 | P0123 | 18F7 | JMP* | LOOP0C | HANG ON REJECT. | 00606 |
| 0607 | P0124 | E0DD | SOCA LDQ- | STATION | SET STATION NO. BIT. | 00607 |
| 0608 | P0125 | 54E6 | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00608 |
| 0609 | P0126 | B06B | EOR- | CONST | EXPECT READY STATUS. | 00609 |
| 0610 | P0127 | 0FA9 | QLS | 9 | | 00610 |
| 0611 | P0128 | 0161 | SQP | 1 | CHECK WHETHER STATION 2. | 00611 |
| 0612 | P0129 | B06E | EOR- | CONST+3 | EXPECT DATA STATUS IF STATION 2. | 00612 |
| 0613 | P012A | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00613 |

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| 0614 | P012B | 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00614 | |
| 0615 | P012C | 18EE | JMP* | LOOP0C | LOOP 100 TIMES. | 00615 | |
| | | | | | | | |
| 0617 | | | *SECTION | 0, LOOP 13 | | 00617 | |
| 0618 | | | * | SELECT ALL FUNCTIONS EXCEPT FEED, EXPECT REPLY. | | 00618 | |
| 0619 | | | * | EXPECT NO INTERRUPT, GET STATUS, EXPECT READY. | | 00619 | |
| 0620 | | | * | CLEAR CONTROLLER, EXPECT REPLY. | | 00620 | |
| 0621 | P012D | 54E9 | LOOP0D | RTJ- | (INITDATA) | INITIALIZE DATA INTERRUPT. | 00621 |
| 0622 | P012E | 54EA | | RTJ- | (INITEOP) | INITIALIZE EOP INTERRUPT. | 00622 |
| 0623 | P012F | 54EB | | RTJ- | (INITALARM) | INITIALIZE ALARM INTERRUPT. | 00623 |
| 0624 | P0130 | E0FA | S0DA | LOQ- | EQUIP | EQ. NO., Q00 SET. | 00624 |
| 0625 | P0131 | F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00625 |
| 0626 | P0132 | C0DD | | LDA | =N\$FF7F | SET ALL BITS EXCEPT A07. | 00626 |
| | P0133 | FF7F | | | | | |
| 0627 | P0134 | 0302 | | OUT | 2 | ALL FUNCTIONS EXCEPT FEED. | 00627 |
| 0628 | P0135 | 1804 | | JMP* | S0DB | EXPECT REPLY. | 00628 |
| 0629 | P0136 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00629 |
| 0630 | P0137 | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00630 |
| 0631 | P0138 | 18F7 | | JMP* | S0DA | HANG ON REJECT. | 00631 |
| 0632 | P0139 | 0FA9 | S0DB | QLS | 9 | | 00632 |
| 0633 | P013A | 0162 | | SQP | 2 | CHECK WHETHER STATION 2. | 00633 |
| 0634 | P013B | 54F1 | | RTJ- | (ERROR9) | ERROR 9 IF NO DATA INTERRUPT. | 00634 |
| 0635 | P013C | 1802 | | JMP* | **2 | | 00635 |
| 0636 | P013D | 54F2 | | RTJ- | (ERRORA) | ERROR A IF DATA INTERRUPT. | 00636 |
| 0637 | P013E | 54F4 | | RTJ- | (ERRORC) | ERROR C, UNEXPECTED EOP INT. | 00637 |
| 0638 | P013F | 54F6 | | RTJ- | (ERROR E) | ERROR E, ALARM INTERRUPT. | 00638 |
| 0639 | P0140 | E0DD | | LDQ- | STATION | SET STATION NO. BIT. | 00639 |
| 0640 | P0141 | 54E6 | | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00640 |
| 0641 | P0142 | B06B | | EOR- | CONST | EXPECT READY STATUS. | 00641 |
| 0642 | P0143 | 0FA9 | | QLS | 9 | | 00642 |
| 0643 | P0144 | 0162 | | SQP | 2 | CHECK WHETHER STATION 2. | 00643 |
| 0644 | P0145 | B0DD | | EOR | =N\$000C | EXPECT DATA, INTERRUPT STATUS. | 00644 |
| | P0146 | 000C | | | | | |
| 0645 | P0147 | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00645 |
| 0646 | P0148 | E0FA | S0DC | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00646 |
| 0647 | P0149 | F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00647 |
| 0648 | P014A | 0A01 | | ENA | 1 | SET A00. | 00648 |
| 0649 | P014B | 0302 | | OUT | 2 | CLEAR CONTROLLER. | 00649 |
| 0650 | P014C | 1804 | | JMP* | S0DD | EXPECT REPLY. | 00650 |
| 0651 | P014D | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00651 |
| 0652 | P014E | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00652 |
| 0653 | P014F | 18F8 | | JMP* | S0DC | HANG ON REJECT. | 00653 |
| 0654 | P0150 | 54E8 | S0DD | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00654 |
| 0655 | P0151 | 18DB | | JMP* | LOOP0D | LOOP 100 TIMES. | 00655 |
| | | | | | | | |
| 0657 | P0152 | C0DD | | LDA- | STATION | | 00657 |
| 0658 | P0153 | A071 | | AND- | CONST+6 | CHECK WHETHER STATION 2. | 00658 |
| 0659 | P0154 | 011D | | SAN | SEC0A--*-1 | SKIP LOOP 14 IF STATION 2. | 00659 |

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|------|------------|---|-------|-------------------|-----------------------------|-------|
| 0661 | | *SECTION 0, LOOP 14 | | 00661 | | |
| 0662 | | * ATTEMPT DATA INPUT, EXPECT EXTERNAL REJECT. | | 00662 | | |
| 0663 | | * GET STATUS, EXPECT READY. | | 00663 | | |
| 0664 | P0155 E0FA | LOOP0E LDQ- | EQUIP | EQ. NO., Q00 SET. | 00664 | |
| 0665 | P0156 00FE | | INQ | -1 | CLEAR Q00. | 00665 |
| 0666 | P0157 F0DD | | ADQ- | STATION | SET STATION NO. BIT. | 00666 |
| 0667 | P0158 0202 | | INP | 2 | ATTEMPT DATA INPUT. | 00667 |
| 0668 | P0159 54EE | | RTJ- | (ERROR6) | ERROR 6, UNEXPECTED REPLY. | 00668 |
| 0669 | P015A 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00669 |
| 0670 | P015B 0900 | | NOP | 0 | EXPECT EXTERNAL REJECT. | 00670 |
| 0671 | P015C F0DD | | LDQ- | STATION | SET STATION NO. BIT. | 00671 |
| 0672 | P015D 54E6 | | RTJ- | (STATUS) | GET STATION 1 OR 2 STATUS. | 00672 |
| 0673 | P015E 006B | | EOR- | CONST | EXPECT READY STATUS. | 00673 |
| 0674 | P015F 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00674 |
| 0675 | P0160 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00675 |
| 0676 | P0161 18F3 | | JMP* | LOOP0E | LOOP 100 TIMES. | 00676 |
| | | | | | | |
| 0678 | | *END OF SECTION 0 | | 00678 | | |
| 0679 | P0162 5800 | SECR4 | RTJ | EN0SEC | END-OF-SECTION STOP. | 00679 |
| | P0163 0618 | | | | | |
| 0680 | P0164 1804 | | JMP* | SEC08 | REPEAT SECTION. | 00680 |
| 0681 | P0165 C0F9 | | LDA- | SEC | GO TO NEXT SECTION | 00681 |
| 0682 | P0166 0105 | | SAZ | SEC1-*--1 | | 00682 |
| 0683 | P0167 180F | | JMP* | SEC2 | | 00683 |
| 0684 | P0168 C0F9 | SECR8 | LDA- | SEC | | 00684 |
| 0685 | P0169 0112 | | SAN | SEC1-*--1 | | 00685 |
| 0686 | P016A 1800 | | JMP | SEC0 | | 00686 |
| | P016B FE45 | | | | | |

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|--------------|-------|------|------|-------------|-------------------------------|-------|
| 0746 | P0190 | 60D6 | STA- | TIME | INITIALIZE TIME COUNTER. | 00746 |
| 0747 | P0191 | 54EA | RTJ- | (INITEOP) | INITIALIZE EOP INTERRUPT. | 00747 |
| 0748 | P0192 | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 00748 |
| 0749 | P0193 | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 00749 |
| 0750 | P0194 | E0D7 | LDQ- | COLUMN | | 00750 |
| 0751 | P0195 | 0D50 | INQ | 80 | | 00751 |
| 0752 | P0196 | 0143 | SQZ | 3 | SKIP IF COLUMN 1. | 00752 |
| 0753 | P0197 | 8000 | EOR | =N\$0003 | EXPECT BUSY AND READY. | 00753 |
| | P0198 | 0003 | | | | |
| 0754 | P0199 | 54EF | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 00754 |
| 0755 | P019A | 54E9 | RTJ- | (INITOATA) | INITIALIZE DATA INTERRUPT. | 00755 |
| 0756 | P019B | 54E8 | RTJ- | (INITALARM) | INITIALIZE ALARM INTERRUPT. | 00756 |
| 0757 | P019C | 54E5 | RTJ- | (SMH) | GO TO MONITOR AND BACK. | 00757 |
| 0758 | P019D | 5800 | RTJ | MILLI | DELAY ONE MILLISECOND. | 00758 |
| | P019E | 0720 | | | | |
| 0759 | P019F | 0D06 | RAQ- | TIME | INCREMENT TIME COUNTER. | 00759 |
| 0760 | P01A0 | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 00760 |
| 0761 | P01A1 | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 00761 |
| 0762 | P01A2 | E0D7 | LDQ- | COLUMN | | 00762 |
| 0763 | P01A3 | 015A | SQN | S20F--1 | SKIP IF NOT COLUMN 81. | 00763 |
| 0764 | P01A4 | 0FCB | ALS | 11 | | 00764 |
| 0765 | P01A5 | 0133 | SAM | S20E--1 | SKIP IF EOP STATUS. | 00765 |
| 0766 | P01A6 | E0D6 | LDQ- | TIME | | 00766 |
| 0767 | P01A7 | 0141 | SQZ | 1 | SKIP IF MAX TIME ALLOWABLE. | 00767 |
| 0768 | P01A8 | 18F3 | JMP* | S20D | WAIT. | 00768 |
| 0769 | P01A9 | 0FC5 | ALS | 5 | SHIFT STATUS INTO POSITION. | 00769 |
| 0770 | P01AA | 8000 | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 00770 |
| | P01AB | 0015 | | | | |
| 0771 | P01AC | 54EF | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 00771 |
| 0772 | P01AD | 1825 | JMP* | S20I | | 00772 |
| 0773 | P01AE | 0FCC | ALS | 12 | | 00773 |
| 0774 | P01AF | 0133 | SAM | S20G--1 | SKIP IF DATA STATUS. | 00774 |
| 0775 | P01B0 | E0D6 | LDQ- | TIME | | 00775 |
| 0776 | P01B1 | 0141 | SQZ | 1 | SKIP IF MAX TIME ALLOWABLE. | 00776 |
| 0777 | P01B2 | 18E9 | JMP* | S20D | WAIT. | 00777 |
| 0778 | P01B3 | 0FC4 | ALS | 4 | SHIFT STATUS INTO POSITION. | 00778 |
| 0779 | P01B4 | 8000 | EOR | =N\$0000 | EXPECT DATA, INTERRUPT, BUSY. | 00779 |
| | P01B5 | 0000 | | | | |
| 0780 | P01B6 | E0D7 | LDQ- | COLUMN | | 00780 |
| 0781 | P01B7 | 0D50 | INQ | 80 | | 00781 |
| 0782 | P01B8 | 0141 | SQZ | 1 | | 00782 |
| 0783 | P01B9 | 806C | EOR- | CONST+1 | EXPECT BUSY UNLESS COLUMN 1. | 00783 |
| 0784 | P01BA | 54EF | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 00784 |
| 0785 | P01BB | 0D07 | RAQ- | COLUMN | | 00785 |
| 0786 | P01BC | C056 | LDA- | SMMPAR | | 00786 |
| 0787 | P01BD | 0F42 | ARS | 2 | | 00787 |
| 0788 | P01BE | 0C03 | ENQ | 3 | | 00788 |
| 0789 | P01BF | 08B2 | LAQ | Q | | 00789 |
| *****UD***** | | | | | | |
| *****RL***** | | | | | | |
| 0790 | P01C0 | C200 | LDA* | COLTIM,0 | | 00790 |
| 0791 | P01C1 | 60D6 | STA- | TIME | INITIALIZE TIME COUNTER. | 00791 |
| 0792 | P01C2 | 54F1 | RTJ- | (ERROR9) | ERROR 9, NO DATA INTERRUPT. | 00792 |

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| 0793 | P01C3 | E0DC | | LDD- | ALAIF | | | 00793 |
| 0794 | P01C4 | 0145 | | SQZ | S20H-*--1 | | SKIP IF NO ALARM INTERRUPT. | 00794 |
| 0795 | P01C5 | 54F6 | S20GA | RTJ- | (ERROR4) | | ERROR E IF ALARM INTERRUPT. | 00795 |
| 0796 | P01C6 | C07A | | LDA- | CONST+15 | | | 00796 |
| 0797 | P01C7 | 5406 | | RTJ- | (JUMP) | | CHECK STOP/JUMP BIT 15. | 00797 |
| 0798 | P01C8 | 1826 | | JMP* | S20N | | EXIT LOOP IF SET. | 00798 |
| 0799 | P01C9 | 1886 | | JHP* | LOOP20 | | FEED CARD AGAIN. | 00799 |
| 0800 | P01CA | E0FA | S20H | LDQ- | EQUIP | | EQ. NO., Q00 SET. | 00800 |
| 0801 | P01CB | 0D3F | | INQ | \$3F | | CLEAR Q00, SET Q06 (STATION 2). | 00801 |
| 0802 | P01CC | 0844 | | CLR | A | | DATA = 0000. | 00802 |
| 0803 | P01CD | 0302 | | OUT | 2 | | OUTPUT DATA. | 00803 |
| 0804 | P01CE | 18C3 | | JMP* | S20C | | EXPECT REPLY. LOOP. | 00804 |
| 0805 | P01CF | 54EC | | RTJ- | (ERROR4) | | ERROR 4, INTERNAL REJECT. | 00805 |
| 0806 | P01D0 | 54ED | | RTJ- | (ERROR5) | | ERROR 5, EXTERNAL REJECT. | 00806 |
| 0807 | P01D1 | 18F3 | | JHP* | S20GA | | FEED CARD AGAIN IF REJECT. | 00807 |
| 0808 | P01D2 | 54F3 | S20I | RTJ- | (ERRORB) | | ERROR B IF NO EOP INTERRUPT. | 00808 |
| 0809 | P01D3 | 54F6 | | RTJ- | (ERROR) | | ERROR E IF ALARM INTERRUPT. | 00809 |
| 0810 | P01D4 | E0FA | S20J | LDQ- | EQUIP | | EQ. NO., Q00 SET. | 00810 |
| 0811 | P01D5 | 0D40 | | INQ | \$40 | | SET Q06 (STATION 2). | 00811 |
| 0812 | P01D6 | 0A02 | | ENA | 2 | | SET A01. | 00812 |
| 0813 | P01D7 | 0302 | | OUT | 2 | | CLEAR INTERRUPTS. | 00813 |
| 0814 | P01D8 | 1804 | | JMP* | S20K | | EXPECT REPLY. | 00814 |
| 0815 | P01D9 | 54EC | | RTJ- | (ERROR4) | | ERROR 4, INTERNAL REJECT. | 00815 |
| 0816 | P01DA | 54ED | | RTJ- | (ERROR5) | | ERROR 5, EXTERNAL REJECT. | 00816 |
| 0817 | P01DB | 18F8 | | JMP* | S20J | | HANG ON REJECT. | 00817 |
| 0818 | P01DC | 0C40 | S20K | ENQ | \$40 | | SET Q06 (STATION 2). | 00818 |
| 0819 | P01DD | 54E6 | | RTJ- | (STATUS) | | GET STATION 2 STATUS. | 00819 |
| 0820 | P01DE | 8000 | | FOR | =N\$0011 | | EXPECT EOP AND READY. | 00820 |
| | P01DF | 0011 | | | | | | |
| 0821 | P01E0 | 54EF | | RTJ- | (ERROR7) | | ERROR 7, UNEXPECTED STATUS. | 00821 |
| 0822 | P01E1 | E0FA | S20L | LDQ- | EQUIP | | EQ. NO., Q00 SET. | 00822 |
| 0823 | P01E2 | 0D40 | | INQ | \$40 | | SET Q06 (STATION 2). | 00823 |
| 0824 | P01E3 | 0A01 | | ENA | 1 | | SET A00. | 00824 |
| 0825 | P01E4 | 0302 | | OUT | 2 | | CLEAR CONTROLLER. | 00825 |
| 0826 | P01E5 | 1804 | | JMP* | S20H | | EXPECT REPLY. | 00826 |
| 0827 | P01E6 | 54EC | | RTJ- | (ERROR4) | | ERROR 4, INTERNAL REJECT. | 00827 |
| 0828 | P01E7 | 54ED | | RTJ- | (ERROR5) | | ERROR 5, EXTERNAL REJECT. | 00828 |
| 0829 | P01E8 | 18F8 | | JMP* | S20L | | HANG ON REJECT. | 00829 |
| 0830 | P01E9 | 0C40 | S20M | ENQ | \$40 | | SET Q06 (STATION 2). | 00830 |
| 0831 | P01EA | 54E6 | | RTJ- | (STATUS) | | GET STATION 2 STATUS. | 00831 |
| 0832 | P01EB | 8000 | | EOR | =N\$0011 | | EXPECT EOP AND READY. | 00832 |
| | P01EC | 0011 | | | | | | |
| 0833 | P01ED | 54EF | | RTJ- | (ERROR7) | | ERROR 7, UNEXPECTED STATUS. | 00833 |
| 0834 | P01EE | 54E8 | S20N | RTJ- | (IC100) | | INCREMENT LOOP COUNTER. | 00834 |
| 0835 | P01EF | 1890 | | JHP* | LOOP20 | | LOOP 100 TIMES. | 00835 |
| 0836 | P01F0 | 5800 | | RTJ | OFFSET | | OFFSET LAST CARD. | 00836 |
| | P01F1 | 084F | | | | | | |
| 0837 | P01F2 | FFEE | | NUM | -17 | 1704/14 | | 00837 |
| 0838 | P01F3 | FFF4 | | NUM | -11 | 1774 | | 00838 |
| 0839 | P01F4 | FFEA | | NUM | -21 | 1784-900 | | 00839 |
| 0840 | P01F5 | FFDF | | NUM | -32 | 1734-600 | PTC2 | 00840 |

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| 0842 | | *END OF SECTION 2 | | | | 00842 |
| 0843 | P01F6 E0FA | SEC2A | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00843 |
| 0844 | P01F7 0D40 | | INQ | \$40 | SET Q06 (STATION 2). | 00844 |
| 0845 | P01F8 0A01 | | ENA | 1 | SET A00. | 00845 |
| 0846 | P01F9 0302 | | OUT | 2 | CLEAR CONTROLLER. | 00846 |
| 0847 | P01FA 1804 | | JMP* | SEC2B | EXPECT REPLY. | 00847 |
| 0848 | P01F8 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00848 |
| 0849 | P01FC 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00849 |
| 0850 | P01FD 18F8 | | JMP* | SEC2A | HANG ON REJECT. | 00850 |
| 0851 | P01FE 5800 | SEC2B | RTJ | ENDSEC | END-OF-SECTION STOP. | 00851 |
| | P01FF 057C | | | | | |
| 0852 | P0200 1802 | | JMP* | *+2. | REPEAT SECTION. | 00852 |
| 0853 | P0201 1803 | | JMP* | SEC3 | | 00853 |
| 0854 | P0202 1800 | | JMP | SEC2 | | 00854 |
| | P0203 FF72 | | | | | |

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| 0901 | P021E | 0302 | OUT | 2 | CLEAR, FEED, ALL INTERRUPTS. | 00901 |
| 0902 | P021F | 1804 | JMP* | S30B | EXPECT REPLY. | 00902 |
| 0903 | P0220 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00903 |
| 0904 | P0221 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00904 |
| 0905 | P0222 | 18F7 | JMP* | S30A | HANG ON REJECT. | 00905 |
| 0906 | P0223 | C000 | S30B LDA | =N\$C000 | | 00906 |
| | P0224 | C000 | | | PTC2 | |
| 0907 | P0225 | 6006 | STA- | TIME | INITIALIZE TIME COUNTER. | 00907 |
| 0908 | P0226 | 54EA | RTJ- | (INITEOP) | INITIALIZE EOP INTERRUPT. | 00908 |
| 0909 | P0227 | 54E9 | RTJ- | (INITDATA) | INITIALIZE DATA INTERRUPT. | 00909 |
| 0910 | P0228 | 54EB | RTJ- | (INITALARM) | INITIALIZE ALARM INTERRUPT. | 00910 |
| 0911 | P0229 | 0C20 | S30C ENQ | \$20 | SET Q05 (STATION 1) | 00911 |
| 0912 | P022A | 54E6 | RTJ- | (STATUS) | GET STATION 1 STATUS. | 00912 |
| 0913 | P022B | 8000 | EOR | =N\$0003 | EXPECT BUSY AND READY STATUS. | 00913 |
| | P022C | 0003 | | | | |
| 0914 | P022D | 0102 | SAZ | S30D-*-1 | SKIP IF OKAY. | 00914 |
| 0915 | P022E | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00915 |
| 0916 | P022F | 1832 | JMP* | S30G | | 00916 |
| 0917 | P0230 | 0C20 | S30D ENQ | \$20 | SET Q05 STATION 1 READER | 00917 |
| 0918 | P0231 | 0C20 | ENQ | \$20 | SET Q05 (STATION 1). | 00918 |
| 0919 | P0232 | 54E6 | RTJ- | (STATUS) | GET STATION 1 STATUS. | 00919 |
| 0920 | P0233 | 0006 | RAO- | TIME | INCREMENT TIME COUNTER. | 00920 |
| 0921 | P0234 | E007 | LDQ- | COLUMN | | 00921 |
| 0922 | P0235 | 015C | SNQ | S30E-*-1 | SKIP IF NOT COLUMN 81. | 00922 |
| 0923 | P0236 | 0FCB | ALS | 11 | | 00923 |
| 0924 | P0237 | 0134 | SAM | S300A-*-1 | SKIP IF EOP STATUS. | 00924 |
| 0925 | P0238 | E006 | LDQ- | TIME | | 00925 |
| 0926 | P0239 | 0162 | SQP | 2 | SKIP IF MAX ALLOWABLE TIME. | 00926 |
| 0927 | P023A | 54E5 | RTJ- | (SMM) | GO TO MONITOR AND BACK. | 00927 |
| 0928 | P023B | 18F4 | JMP* | S30D | LOOP. | 00928 |
| 0929 | P023C | 0FC5 | S300A ALS | 5 | SHIFT STATUS INTO POSITION. | 00929 |
| 0930 | P023D | 8000 | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 00930 |
| | P023E | 0015 | | | | |
| 0931 | P023F | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00931 |
| 0932 | P0240 | 54F6 | RTJ- | (ERROR8) | ERROR 8 IF ALARM INTERRUPT. | 00932 |
| 0933 | P0241 | 1820 | JMP* | S30G | | 00933 |
| 0934 | P0242 | 0FCC | S30E ALS | 12 | SKIP IF DATA STATUS. | 00934 |
| 0935 | P0243 | 0134 | SAM | S30F-*-1 | | 00935 |
| 0936 | P0244 | E006 | LDQ- | TIME | | 00936 |
| 0937 | P0245 | 0162 | SQP | 2 | SKIP IF MAX ALLOWABLE TIME. | 00937 |
| 0938 | P0246 | 54E5 | RTJ- | (SMM) | GO TO MONITOR AND BACK. | 00938 |
| 0939 | P0247 | 18E8 | JMP* | S30D | LOOP. | 00939 |
| 0940 | P0248 | 0FC4 | S30F ALS | 4 | SHIFT STATUS INTO POSITION. | 00940 |
| 0941 | P0249 | 807D | EOR- | H000F | EXPECT DATA,INT,BUSY, READY | 00941 |
| 0942 | P024A | 0102 | SAZ | 2 | SKIP IF OKAY. | 00942 |
| 0943 | P024B | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS | 00943 |
| 0944 | P024C | 1815 | JMP* | S30G | | 00944 |
| 0945 | P024D | C00A | LDA- | DATAIF | | 00945 |
| 0946 | P024E | 0112 | SAN | 2 | SKIP IF DATA INTERRUPT OCCURRED. | 00946 |
| 0947 | P024F | 54F1 | RTJ- | (ERROR9) | ERROR 9, NO DATA INTERRUPT. | 00947 |
| 0948 | P0250 | 1811 | JMP* | S30G | | 00948 |
| 0949 | P0251 | C00C | LDA- | ALAIIF | | 00949 |
| 0950 | P0252 | 0102 | SAZ | 2 | SKIP IF NO ALARM INTERRUPT. | 00950 |

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| 0951 | P0253 | 54F6 | RTJ- | (ERROR) | ERROR E, ALARM INTERRUPT. | 00951 |
| 0952 | P0254 | 180D | JMP* | S30G | | 00952 |
| 0953 | P0255 | 00D7 | RAO- | COLUMN | INCREMENT COLUMN COUNTER. | 00953 |
| 0954 | P0256 | 0ADF | ENA | -32 | | 00954 |
| 0955 | P0257 | 60D6 | STA- | TIME | INITIALIZE TIME FOR COLS. 2-81. | 00955 |
| 0956 | P0258 | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00956 |
| 0957 | P0259 | 0D1F | INQ | \$1F | CLEAR Q00, SET Q05 (STATION 1) | 00957 |
| 0958 | P025A | 0203 | INP | 3 | | 00958 |
| 0959 | P025B | C042 | LDA- | SETMAS | | 00959 |
| 0960 | P025C | 0821 | TRA | H | | 00960 |
| 0961 | P025D | 0B00 | NOP | 0 | | 00961 |
| 0962 | P025E | 18CA | JMP* | S30C | EXPECT REPLY. LOOP TO NEXT COL. | 00962 |
| 0963 | P025F | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00963 |
| 0964 | P0260 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00964 |
| 0965 | P0261 | 54F3 | RTJ- | (ERRORB) | ERROR B IF NO EOP INTERRUPT. | 00965 |
| 0966 | P0262 | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00966 |
| 0967 | P0263 | 0D20 | INQ | \$20 | SET Q05 (STATION 1). | 00967 |
| 0968 | P0264 | 0A02 | ENA | 2 | SET A01. | 00968 |
| 0969 | P0265 | 0302 | OUT | 2 | CLEAR INTERRUPT. | 00969 |
| 0970 | P0266 | 1804 | JMP* | S30I | EXPECT REPLY. | 00970 |
| 0971 | P0267 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00971 |
| 0972 | P0268 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00972 |
| 0973 | P0269 | 18F8 | JMP* | S30H | HANG ON REJECT. | 00973 |
| 0974 | P026A | 0C20 | ENQ | \$20 | SET Q05 (STATION 1). | 00974 |
| 0975 | P026B | 54E6 | RTJ- | (STATUS) | GET STATION 1 STATUS. | 00975 |
| 0976 | P026C | 8000 | EOR | =N\$0011 | EXPECT EOP AND READY STATUS. | 00976 |
| | P026D | 0011 | | | | |
| 0977 | P026E | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00977 |
| 0978 | P026F | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 00978 |
| 0979 | P0270 | 0D20 | INQ | \$20 | SET Q05 (STATION 1). | 00979 |
| 0980 | P0271 | 0A01 | ENA | 1 | SET A00. | 00980 |
| 0981 | P0272 | 0302 | OUT | 2 | CLEAR CONTROLLER. | 00981 |
| 0982 | P0273 | 1804 | JMP* | S30K | EXPECT REPLY. | 00982 |
| 0983 | P0274 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 00983 |
| 0984 | P0275 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 00984 |
| 0985 | P0276 | 18F8 | JMP* | S30J | HANG ON REJECT. | 00985 |
| 0986 | P0277 | 0C20 | ENQ | \$20 | SET Q05 (STATION 1). | 00986 |
| 0987 | P0278 | 54E6 | RTJ- | (STATUS) | GET STATION 1 STATUS. | 00987 |
| 0988 | P0279 | 8000 | EOR | =N\$0011 | EXPECT EOP AND READY STATUS. | 00988 |
| | P027A | 0011 | | | | |
| 0989 | P027B | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 00989 |
| 0990 | P027C | 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 00990 |
| 0991 | P027D | 1896 | JMP* | LOOP30 | LOOP 100 TIMES. | 00991 |

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| 0994 | *SECTION 3, LOOP 1 - FORCE LOST DATA | 00994 |
| 0995 | * SELECT FEED, ALARM AND EOP INTERRUPTS ON READER, EXPECT REPLY. | 00995 |
| 0996 | * GET STATUS, EXPECT BUSY AND READY. | 00996 |
| 0997 | * WAIT 120 MILLI-SECONDS MAXIMUM FOR EOP INTERRUPT. | 00997 |
| 0998 | * EXPECT STATUS UPON EOP INTERRUPT TO BE LOST DATA, ALARM, EOP, | 00998 |

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|------|------------|--------|--|---------------------------------|-------|
| 0999 | | * | INTERRUPT, READY. | | 00999 |
| 1000 | | * | EXPECT ALARM INTERRUPT. | | 01000 |
| 1001 | | * | EXPECT STATUS UPON ALARM INTERRUPT TO BE LOST DATA, ALARM, | | 01001 |
| 1002 | | * | INTERRUPT, BUSY, READY. | | 01002 |
| 1003 | | * | CLEAR INTERRUPT, EXPECT REPLY. GET STATUS, EXPECT LOST DATA, | | 01003 |
| 1004 | | * | ALARM, READY (IGNORE EOP STATUS). | | 01004 |
| 1005 | | * | CLEAR CONTROLLER, EXPECT REPLY. GET STATUS, EXPECT READY. | | 01005 |
| 1006 | P027E C056 | LOOP31 | LDA- SMMPAR | | 01006 |
| 1007 | P027F 0F42 | | ARS 2 | | 01007 |
| 1008 | P0280 0C03 | | ENQ 3 | | 01008 |
| 1009 | P0281 08B2 | | LAQ 0 | | 01009 |
| 1010 | P0282 CA5F | | LDA* S31TIM,Q | | 01010 |
| 1011 | P0283 60D6 | | STA- TIME | INITIALIZE TIME COUNTER. | 01011 |
| 1012 | P0284 5800 | | RTJ DLYPAR | DELAY | 01012 |
| | P0285 0617 | | | | |
| 1013 | P0286 5800 | | RTJ MOTOR | FEED A CARD TO START MOTOR. | 01013 |
| | P0287 086C | | | | |
| 1014 | P0288 E0FA | S31A | LQ- EQUIP | EQ. NO., Q00 SET. | 01014 |
| 1015 | P0289 0020 | | INQ \$20 | SET Q05 (STATION 1). | 01015 |
| 1016 | P028A C000 | | LDA =N\$0099 | SET A07, A04, A03, A00. | 01016 |
| | P028B 0099 | | | | |
| 1017 | P028C 0302 | | OUT 2 | CLEAR,FEED,EOP AND ALARM INTS. | 01017 |
| 1018 | P028D 1804 | | JMP* S31B | EXPECT REPLY. | 01018 |
| 1019 | P028E 54EC | | RTJ- (ERROR4) | ERROR 4, INTERNAL REJECT. | 01019 |
| 1020 | P028F 54ED | | RTJ- (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01020 |
| 1021 | P0290 18F7 | | JMP* S31A | HANG ON REJECT. | 01021 |
| 1022 | P0291 54EA | S31B | RTJ- (INITEOP) | INITIALIZE EOP INTERRUPT. | 01022 |
| 1023 | P0292 54EB | | RTJ- (INITALARM) | INITIALIZE ALARM INTERRUPT. | 01023 |
| 1024 | P0293 0C20 | | ENQ \$20 | SET Q05 (STATION 1). | 01024 |
| 1025 | P0294 54E6 | | RTJ- (STATUS) | GET STATION 1 STATUS. | 01025 |
| 1026 | P0295 8000 | | EOR =N\$0003 | EXPECT BUSY AND READY STATUS. | 01026 |
| | P0296 0003 | | | | |
| 1027 | P0297 54EF | | RTJ- (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01027 |
| 1028 | P0298 54E5 | S31C | RTJ- (SMM) | GO TO MONITOR AND BACK. | 01028 |
| 1029 | P0299 5800 | | RTJ MILLI | DELAY 1 MILLI-SECOND. | 01029 |
| | P029A 0624 | | | | |
| 1030 | P029B C0DB | | LDA- EOPIF | | 01030 |
| 1031 | P029C 0116 | | SAN S310-*--1 | SKIP IF EOP INTERRUPT OCCURRED. | 01031 |
| 1032 | P029D 00D6 | | RAO- TIME | INCREMENT TIME COUNTER. | 01032 |
| 1033 | P029E C0D6 | | LDA- TIME | | 01033 |
| 1034 | P029F 0121 | | SAP 1 | SKIP IF 75 MSEC ELAPSED. | 01034 |
| 1035 | P02A0 18F7 | | JMP* S31C | WAIT 75 MSEC MAX FOR EOP INT. | 01035 |
| 1036 | P02A1 54F3 | | RTJ- (ERROR8) | ERROR 8, NO EOP INTERRUPT. | 01036 |
| 1037 | P02A2 1809 | | JMP* S31E | | 01037 |
| 1038 | P02A3 C800 | S31D | LDA EOPIB | GET STATUS UPON EOP INTERRUPT. | 01038 |
| | P02A4 05F5 | | | | |
| 1039 | P02A5 60DF | | STA- ACT | SAVE FOR ERROR MESSAGE. | 01039 |
| 1040 | P02A6 A000 | | AND =N\$FB7F | IGNORE EOP AND PROTECT STATUS. | 01040 |
| | P02A7 FB7F | | | | |
| 1041 | P02A8 8000 | | EOR =N\$007D | EXPECT DATA,LOST DATA,ALARM,EOP | 01041 |
| | P02A9 007D | | | | |
| 1042 | P02AA 54EF | | RTJ- (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01042 |
| 1043 | P02AB C0DC | S31E | LDA- ALAIF | | 01043 |

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|------|-------|------|-------|------|----------|-------------------------------------|-------|
| 1044 | P02AC | 0112 | | SAN | S31F--1 | SKIP IF ALARM INT. OCCURRED. | 01044 |
| 1045 | P02AD | 54F5 | | RTJ- | (ERROR0) | ERROR D, NO ALARM INTERRUPT. | 01045 |
| 1046 | P02AE | 1809 | | JMP* | S31G | | 01046 |
| 1047 | P02AF | C800 | S31F | LDA | ALATS | GET STATUS UPON ALARM INT. | 01047 |
| | P02B0 | 05EA | | | | | |
| 1048 | P02B1 | 600F | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 01048 |
| 1049 | P02B2 | A000 | | AND | =N\$F87F | IGNORE EOF AND PROTECT STATUS. | 01049 |
| | P02B3 | F87F | | | | | |
| 1050 | P02B4 | B000 | | EOR | =N\$70 | EXPECT DATA, LOST DATA, ALARM, EOP. | 01050 |
| | P02B5 | 0070 | | | | | |
| 1051 | P02B6 | 54EF | | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01051 |
| 1052 | P02B7 | E0FA | S31G | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01052 |
| 1053 | P02B8 | 0D20 | | INQ | \$20 | SET Q05 (STATION 1). | 01053 |
| 1054 | P02B9 | 0A02 | | ENA | 2 | SET A01. | 01054 |
| 1055 | P02BA | 0302 | | OUT | 2 | CLEAR INTERRUPTS. | 01055 |
| 1056 | P02BB | 1804 | | JMP* | S31H | EXPECT REPLY. | 01056 |
| 1057 | P02BC | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01057 |
| 1058 | P02BD | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01058 |
| 1059 | P02BE | 18F8 | | JMP* | S31G | HANG ON REJECT. | 01059 |
| 1060 | P02BF | 0C20 | S31H | ENQ | \$20 | SET Q05 (STATION 1). | 01060 |
| 1061 | P02C0 | 54E6 | | RTJ- | (STATUS) | GET STATION 1 STATUS. | 01061 |
| 1062 | P02C1 | B000 | | EOR | =N\$0079 | EXPECT LOST DATA, ALARM, EOP, DATA. | 01062 |
| | P02C2 | 0079 | | | | | |
| 1063 | P02C3 | 54EF | | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01063 |
| 1064 | P02C4 | E0FA | S31I | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01064 |
| 1065 | P02C5 | 0D20 | | INQ | \$20 | SET Q05 (STATION 1). | 01065 |
| 1066 | P02C6 | 0A01 | | ENA | 1 | SET A00. | 01066 |
| 1067 | P02C7 | 0302 | | OUT | 2 | CLEAR CONTROLLER. | 01067 |
| 1068 | P02C8 | 1804 | | JMP* | S31J | EXPECT REPLY. | 01068 |
| 1069 | P02C9 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01069 |
| 1070 | P02CA | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01070 |
| 1071 | P02CB | 18F8 | | JMP* | S31I | HANG ON REJECT. | 01071 |
| 1072 | P02CC | 0C20 | S31J | ENQ | \$20 | SET Q05 (STATION 1). | 01072 |
| 1073 | P02CD | 54E6 | | RTJ- | (STATUS) | GET STATION 1 STATUS. | 01073 |
| 1074 | P02CE | B000 | | EOR | =N\$0011 | EXPECT READY AND EOP STATUS. | 01074 |
| | P02CF | 0011 | | | | | |
| 1075 | P02D0 | 54EF | | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01075 |
| 1076 | P02D1 | 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 01076 |
| 1077 | P02D2 | 18AB | | JMP* | LOOP31 | LOOP 100 TIMES. | 01077 |
| 1079 | | | | | | | 01079 |
| 1080 | P02D3 | E0FA | SEC3A | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01080 |
| 1081 | P02D4 | 0D20 | | INQ | \$20 | SET Q05 (STATION 1) | 01081 |
| 1082 | P02D5 | 0AG1 | | ENA | 1 | SET A00. | 01082 |
| 1083 | P02D6 | 0302 | | OUT | 2 | CLEAR CONTROLLER. | 01083 |
| 1084 | P02D7 | 1804 | | JMP* | SEC3B | EXPECT REPLY. | 01084 |
| 1085 | P02D8 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01085 |
| 1086 | P02D9 | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01086 |
| 1087 | P02DA | 18F8 | | JMP* | SEC3A | HANG ON REJECT. | 01087 |
| 1088 | P02DB | 5800 | SEC3B | RTJ | ENDSEC | END-OF-SECTION STOP. | 01088 |
| | P02DC | 049F | | | | | |

1089 P02DD 1802
1090 P02DE 1807
1091 P02DF 1800
P02E0 FF23

SEC3C

JMP* SEC3C
JMP* SEC4
JMP SEC3

REPEAT SECTION.
GO TO NEXT SECTION.

01089
01090
01091

1093 P02E1 FF87
1094 P02E2 FF89
1095 P02E3 FF85
1096 P02E4 FF7F

S31TIM

NUM -120
NUM -118
NUM -122
NUM -128

1704/1714
1774
1784 - 900
1784 - 600

01093
01094
01095
01096

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|------|------------|--|-------------------------|-------|
| 1098 | | ***** | | 01098 |
| 1099 | | * SECTION 4 - PUNCH WHEN NO REJECT | | 01099 |
| 1100 | | ***** | | 01100 |
| | | | | |
| 1102 | | *INITIALIZE SECTION 4 | | 01102 |
| 1103 | P02E5 C800 | SEC4 LDA | SECTOT | 01103 |
| | | | GET SECTION PARAMETER. | |
| 1104 | P02E6 FD20 | | | |
| 1105 | P02E7 A06F | AND- | CONST+4 | 01104 |
| 1106 | P02E8 0111 | SAN | 1 | 01105 |
| 1107 | P02E9 1861 | JMP* | SEC5 | 01106 |
| 1108 | P02EA 0A04 | ENA | 4 | 01107 |
| 1109 | P02EB 60F9 | STA- | SEC | 01108 |
| 1110 | P02EC 0C40 | ENQ | \$40 | 01109 |
| 1111 | P02ED 400D | STQ- | STATION | 01110 |
| 1112 | P02EE 0844 | CLR | A | 01111 |
| 1113 | P02EF 60D9 | STA- | EOFFLAG | 01112 |
| 1114 | P02F0 60E2 | STA- | OFFSTF | 01113 |
| | P02F1 54F8 | RTJ- | (GENERATE) | 01114 |
| | | | | |
| 1116 | | *SECTION 4, LOOP 0 - PUNCH 100 TWO-FIVE CARDS FOLLOWED BY END-OF-FILE. | | 01116 |
| 1117 | | * SELECT CLEAR, FEED, EOP AND ALARM INTERRUPTS ON PUNCH, EXPECT | | 01117 |
| 1118 | | * REPLY. GO TO MONITOR AND BACK, EXPECT NO INTERRUPT. | | 01118 |
| 1119 | | * ATTEMPT DATA OUTPUT. RETURN TO MONITOR IF EXTERNAL REJECT. | | 01119 |
| 1120 | | * IF REPLY, INCREMENT COLUMN COUNT, GET STATUS, EXPECT READY. | | 01120 |
| 1121 | | * REPEAT FOR 80 COLUMNS, THEN WAIT FOR EOP INTERRUPT. | | 01121 |
| 1122 | | * EXPECT EOP, INTERRUPT, READY STATUS. CLEAR CONTROLLER. | | 01122 |
| 1123 | P02F2 0AAF | LOOP40 ENA | -80 | 01123 |
| 1124 | P02F3 6007 | STA- | COLUMN | 01124 |
| 1125 | P02F4 5800 | RTJ | OLYPAR | 01125 |
| | P02F5 05A7 | | INITIALIZE COLUMN COUNT | |
| | | | DELAY | |
| 1126 | P02F6 E0FA | S40A LDQ- | EQUIP | 01126 |
| 1127 | P02F7 0D40 | INQ | \$40 | 01127 |
| 1128 | P02F8 C0E2 | LDA- | OFFSTF | 01128 |
| 1129 | P02F9 0FC8 | ALS | 8 | 01129 |
| 1130 | P02FA 8000 | ADD | =N\$0099 | 01130 |
| | P02FB 0099 | | EQ. NO., Q00 SET. | |
| 1131 | P02FC 0302 | OUT | 2 | 01131 |
| 1132 | P02FD 1804 | JMP* | S40B | 01132 |
| 1133 | P02FE 54EC | RTJ- | (ERROR4) | 01133 |
| 1134 | P02FF 54ED | RTJ- | (ERROR5) | 01134 |
| 1135 | P0300 18F5 | JMP* | S40A | 01135 |
| 1136 | P0301 54EA | RTJ- | (INITEOP) | 01136 |
| 1137 | P0302 54EB | RTJ- | (INITALARM) | 01137 |
| 1138 | P0303 54E5 | S40C RTJ- | (SMH) | 01138 |
| 1139 | P0304 C0D7 | LDA- | COLUMN | 01139 |
| 1140 | P0305 0131 | SAM | 1 | 01140 |
| 1141 | P0306 1820 | JMP* | S40F | 01141 |
| 1142 | P0307 E007 | S40D LDQ- | COLUMN | 01142 |
| 1143 | P0308 CA00 | LDA | BUFFOUT+80,Q | 01143 |
| | P0309 08A8 | | DATA TO OUTPUT. | |

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| 1144 | P030A | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01144 |
| 1145 | P030B | 003F | INQ | \$3F | SET Q06 (STATION 2), CLEAR Q00. | 01145 |
| 1146 | P030C | 0302 | OUT | 2 | ATTEMPT DATA OUTPUT. | 01146 |
| 1147 | P030D | 1804 | JMP* | S40E | REPLY. | 01147 |
| 1148 | P030E | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01148 |
| 1149 | P030F | 18F3 | JMP* | S40C | EXTERNAL REJECT, GO TO MONITOR. | 01149 |
| 1150 | P0310 | 18F6 | JMP* | S40D | HANG ON INTERNAL REJECT. | 01150 |
| 1151 | P0311 | 00D7 | RAO- | COLUMN | INCREMENT COLUMN COUNTER. | 01151 |
| 1152 | P0312 | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 01152 |
| 1153 | P0313 | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 01153 |
| 1154 | P0314 | B000 | EOR | =N\$0003 | EXPECT READY AND BUSY STATUS. | 01154 |
| | P0315 | 0003 | | | | |
| 1155 | P0316 | E0DC | LDQ- | ALAIF | | 01155 |
| 1156 | P0317 | F00B | ADQ- | EOPIF | | 01156 |
| 1157 | P0318 | 0832 | AAQ | Q | CHECK FOR UNEXPECTED INTERRUPT | 01157 |
| 1158 | P0319 | 0151 | SGN | 1 | OR UNEXPECTED STATUS. | 01158 |
| 1159 | P031A | 18E8 | JMP* | S40C | GO TO NEXT COLUMN IF OKAY. | 01159 |
| 1160 | P031B | 0C01 | ENQ | 1 | | 01160 |
| 1161 | P031C | 40E2 | STQ- | OFFSTF | SET OFFSET FLAG. | 01161 |
| 1162 | P031D | 54EF | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01162 |
| 1163 | P031E | 54F6 | RTJ- | (ERRORE) | ERROR E IF ALARM INTERRUPT. | 01163 |
| 1164 | P031F | 54F4 | RTJ- | (ERRORC) | ERROR C IF EOP INTERRUPT. | 01164 |
| 1165 | P0320 | C0D9 | LDA- | EOFFLAG | | 01165 |
| 1166 | P0321 | 0113 | SAN | 3 | SKIP IF END-OF-FILE CARD. | 01166 |
| 1167 | P0322 | C07A | LDA- | CONST+15 | | 01167 |
| 1168 | P0323 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01168 |
| 1169 | P0324 | 1812 | JMP* | S40FA | EXIT LOOP IF SET. | 01169 |
| 1170 | P0325 | 18CC | JMP* | LOOP40 | ATTEMPT TO PUNCH PATTERN AGAIN. | 01170 |
| 1171 | P0326 | C0DB | LDA- | EOPIF | COLUMN 80 HAS PASSED. | 01171 |
| 1172 | P0327 | 80DC | ADD- | ALAIF | | 01172 |
| 1173 | P0328 | 0111 | SAN | 1 | | 01173 |
| 1174 | P0329 | 18D9 | JMP* | S40C | WAIT FOR EOP INTERRUPT. | 01174 |
| 1175 | P032A | 54F6 | RTJ- | (ERRORE) | ERROR E IF ALARM INTERRUPT | 01175 |
| 1176 | P032B | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 01176 |
| 1177 | P032C | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS | 01177 |
| 1178 | P032D | B000 | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 01178 |
| | P032E | 0015 | | | | |
| 1179 | P032F | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01179 |
| 1180 | P0330 | 0844 | CLR | A | | 01180 |
| 1181 | P0331 | 60E2 | STA- | OFFSTF | CLEAR OFFSET FLAG. | 01181 |
| 1182 | P0332 | C0D9 | LDA- | EOFFLAG | | 01182 |
| 1183 | P0333 | 0116 | SAN | S40G-*--1 | SKIP IF END-OF-FILE CARD. | 01183 |
| 1184 | P0334 | 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 01184 |
| 1185 | P0335 | 188C | JMP* | LOOP40 | PUNCH 100 TWO-FIVE CARDS. | 01185 |
| 1186 | P0336 | D0D9 | RAO- | EOFFLAG | SET END-OF-FILE FLAG. | 01186 |
| 1187 | P0337 | 0A05 | ENA | 5 | | 01187 |
| 1188 | P0338 | 54F8 | RTJ- | (GENERATE) | GENERATE PATTERN 5 (EOF) | 01188 |
| 1189 | P0339 | 1888 | JMP* | LOOP40 | PUNCH EOF CARD. | 01189 |
| 1190 | P033A | 5800 | RTJ | OFFSET | OFFSET END-OF-FILE CARD. | 01190 |
| | P033B | 0705 | | | | |
| 1191 | P033C | 0A10 | ENA | \$10 | | 01191 |
| 1192 | P033D | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01192 |
| 1193 | P033E | 18B3 | JMP* | LOOP40 | PUNCH MORE EOF CARDS IF SET. | 01193 |

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| 1195 | | *END OF SECTION 4 | | | | 01195 |
| 1196 | P033F E0FA | SEC4A | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01196 |
| 1197 | P0340 0040 | | INQ | 340 | SET Q06 (STATION 2). | 01197 |
| 1198 | P0341 0A01 | | ENA | 1 | SET A00. | 01198 |
| 1199 | P0342 0302 | | OUT | 2 | CLEAR CONTROLLER. | 01199 |
| 1200 | P0343 1804 | | JMP* | SEC4B | EXPECT REPLY. | 01200 |
| 1201 | P0344 54EC | | RTJ- | (ERROR4) | ERROR4, INTERNAL REJECT. | 01201 |
| 1202 | P0345 54ED | | RTJ- | (ERROR5) | ERROR5, EXTERNAL REJECT. | 01202 |
| 1203 | P0346 18F8 | | JMP* | SEC4A | HANG ON REJECT. | 01203 |
| 1204 | P0347 5800 | SEC4B | RTJ | ENDSEC | END-OF-SECTION STOP. | 01204 |
| | P0348 0433 | | | | | |
| 1205 | P0349 1898 | | JMP* | SEC4 | REPEAT SECTION | 01205 |

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|------|-------|------|------|--------------|---------------------------------|-------|
| 1253 | P0371 | 18F7 | JMP* | S50C | RETURN TO MONITOR IF NOT DATA. | 01253 |
| 1254 | P0372 | 0FC4 | ALS | 4 | | 01254 |
| 1255 | P0373 | 8000 | EOR | =N\$0009 | EXPECT DATA AND READY STATUS. | 01255 |
| | P0374 | 0009 | | | | |
| 1256 | P0375 | E0D7 | LDQ- | COLUMN | GET COLUMN NO. | 01256 |
| 1257 | P0376 | 0050 | INQ | 80 | | 01257 |
| 1258 | P0377 | 0141 | SQZ | 1 | SKIP IF NO COLUMNS PUNCHED YET. | 01258 |
| 1259 | P0378 | 806C | EOR- | CONST+1 | EXPECT BUSY STATUS. | 01259 |
| 1260 | P0379 | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01260 |
| 1261 | P037A | E0D7 | LDQ- | COLUMN | | 01261 |
| 1262 | P037B | CA00 | LDA | BUFFOUT+80,Q | DATA TO OUTPUT. | 01262 |
| | P037C | 0835 | | | | |
| 1263 | P037D | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01263 |
| 1264 | P037E | 003F | INQ | \$3F | SET Q06 (STATION 2), CLEAR Q00. | 01264 |
| 1265 | P037F | 0302 | OUT | 2 | OUTPUT DATA. | 01265 |
| 1266 | P0380 | 1804 | JMP* | S50E | EXPECT REPLY. | 01266 |
| 1267 | P0381 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01267 |
| 1268 | P0382 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01268 |
| 1269 | P0383 | 180E | JMP* | S50EA | FEED CARD AGAIN IF REJECT. | 01269 |
| 1270 | P0384 | 00D7 | RAO- | COLUMN | INCREMENT COLUMN COUNTER. | 01270 |
| 1271 | P0385 | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 01271 |
| 1272 | P0386 | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 01272 |
| 1273 | P0387 | 8000 | EOR | =N\$0003 | EXPECT BUSY AND READY STATUS. | 01273 |
| | P0388 | 0003 | | | | |
| 1274 | P0389 | E0DC | LDQ- | ALAIF | | 01274 |
| 1275 | P038A | F0DB | ADQ- | EOPIF | | 01275 |
| 1276 | P038B | 0832 | AAQ | Q | CHECK FOR UNEXPECTED INTERRUPT | 01276 |
| 1277 | P038C | 0151 | SNQ | 1 | OR UNEXPECTED STATUS. | 01277 |
| 1278 | P038D | 18DB | JMP* | S50C | GO TO NEXT COLUMN IF OKAY. | 01278 |
| 1279 | P038E | 0C01 | ENQ | 1 | | 01279 |
| 1280 | P038F | 40E2 | STQ- | OFFSTF | SET OFFSET FLAG. | 01280 |
| 1281 | P0390 | 54EF | RTJ- | (ERROR7) | ERROR 7 IF UNEXPECTED STATUS. | 01281 |
| 1282 | P0391 | 54F6 | RTJ- | (ERROR E) | ERROR E IF ALARM INTERRUPT. | 01282 |
| 1283 | P0392 | 54F4 | RTJ- | (ERROR C) | ERROR C IF EOP INTERRUPT. | 01283 |
| 1284 | P0393 | C0D9 | LDA- | EOFFLAG | | 01284 |
| 1285 | P0394 | 0113 | SAN | 3 | SKIP IF END-OF-FILE CARD. | 01285 |
| 1286 | P0395 | C07A | LDA- | CONST+15 | | 01286 |
| 1287 | P0396 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01287 |
| 1288 | P0397 | 1812 | JMP* | S50FA | EXIT LOOP IF SET. | 01288 |
| 1289 | P0398 | 18BF | JMP* | LOOP50 | ATTEMPT TO PUNCH PATTERN AGAIN. | 01289 |
| 1290 | P0399 | C0DB | LDA- | EOPIF | COLUMN 80 HAS PASSED. | 01290 |
| 1291 | P039A | 80DC | ADD- | ALAIF | | 01291 |
| 1292 | P039B | 0111 | SAN | 1 | | 01292 |
| 1293 | P039C | 18CC | JMP* | S50C | WAIT FOR EOP INTERRUPT. | 01293 |
| 1294 | P039D | 54F6 | RTJ- | (ERROR E) | ERROR E, ALARM INTERRUPT. | 01294 |
| 1295 | P039E | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 01295 |
| 1296 | P039F | 54E6 | RTJ- | (STATUS) | SET STATION 2 STATUS. | 01296 |
| 1297 | P03A0 | 8000 | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 01297 |
| | P03A1 | 0815 | | | | |
| 1298 | P03A2 | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS | 01298 |
| 1299 | P03A3 | 0844 | CLR | A | | 01299 |
| 1300 | P03A4 | 60E2 | STA- | OFFSTF | CLEAR OFFSET FLAG. | 01300 |
| 1301 | P03A5 | C0D9 | LDA- | EOFFLAG | | 01301 |

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|------|-------|------|-------------------|------|------------|------------------------------|-------|
| 1302 | P03A6 | 0116 | | SAN | S50G*-1 | SKIP IF END-OF-FILE CARD. | 01302 |
| 1303 | P03A7 | 54E8 | | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 01303 |
| 1304 | P03A8 | 18AF | | JMP* | LOOP50 | PUNCH 100 SHIFTED-ONE CARDS. | 01304 |
| 1305 | P03A9 | 0009 | S50FA | RAO- | EOFFLAG | SET END-OF-FILE FLAG. | 01305 |
| 1306 | P03AA | 0A05 | | ENA | 5 | | 01306 |
| 1307 | P03AB | 54F8 | | RTJ- | (GENERATE) | GENERATE PATTERN 5 (EOF). | 01307 |
| 1308 | P03AC | 18AB | | JMP* | LOOP50 | PUNCH EOF CARD. | 01308 |
| 1309 | P03AD | 5800 | S50G | RTJ | OFFSET | OFFSET END-OF FILE CARD. | 01309 |
| | P03AE | 0692 | | | | | |
| 1310 | P03AF | 0A10 | | ENA | \$10 | | 01310 |
| 1311 | P03B0 | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01311 |
| 1312 | P03B1 | 18A6 | | JMP* | LOOP50 | PUNCH MORE EOF CARDS IF SET. | 01312 |
| 1314 | | | | | | | 01314 |
| 1315 | P03B2 | E0FA | *END OF SECTION 5 | | | EQ. NO., Q00 SET. | 01315 |
| 1316 | P03B3 | 0040 | SEC5A | LDQ- | EQUIP | SET Q06 (STATION 2). | 01316 |
| 1317 | P03B4 | 0A01 | | INQ | \$40 | SET A00. | 01317 |
| 1318 | P03B5 | 0302 | | ENA | 1 | CLEAR CONTROLLER. | 01318 |
| 1319 | P03B6 | 1804 | | OUT | 2 | EXPECT REPLY. | 01319 |
| 1320 | P03B7 | 54EC | | JMP* | SEC5B | ERROR 4, INTERNAL REJECT. | 01320 |
| 1321 | P03B8 | 54ED | | RTJ- | (ERROR4) | ERROR 5, EXTERNAL REJECT. | 01321 |
| 1322 | P03B9 | 18F8 | | RTJ- | (ERROR5) | HANG ON REJECT | 01322 |
| 1323 | P03BA | 5800 | SEC5B | JMP* | SEC5A | END-OF-SECTION STOP. | 01323 |
| | P03BB | 03C0 | | RTJ | ENDSEC | | |
| 1324 | P03BC | 1880 | | JMP* | SEC5 | REPEAT SECTION. | 01324 |

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|------|-------|------|--------|------|-------------|--|---------------------------------|--|-------|
| 1371 | P03E3 | 0111 | | SAN | 1 | | | | 01371 |
| 1372 | P03E4 | 18F8 | | JMP* | S60C | | WAIT FOR EOP INTERRUPT. | | 01372 |
| 1373 | P03E5 | 54F6 | | RTJ- | (ERR0RE) | | ERROR E, ALARM INTERRUPT. | | 01373 |
| 1374 | P03E6 | C0D7 | | LDA- | COLUMN | | | | 01374 |
| 1375 | P03E7 | 0108 | | SAZ | S600-*--1 | | SKIP IF 80 COLUMNS OUTPUTTED. | | 01375 |
| 1376 | P03E8 | 0950 | | INA | 80 | | | | 01376 |
| 1377 | P03E9 | 60DF | | STA- | ACT | | ACTUAL COLUMN COUNT | | 01377 |
| 1378 | P03EA | 0A50 | | ENA | 80 | | | | 01378 |
| 1379 | P03EB | 60E0 | | STA- | EXP | | EXPECTED COLUMN COUNT =80. | | 01379 |
| 1380 | P03EC | 0A10 | | ENA | \$10 | | 3 STOPS. | | 01380 |
| 1381 | P03ED | 0C11 | | ENQ | \$11 | | ERROR 11, WRONG COLUMN COUNT. | | 01381 |
| 1382 | P03EF | 5800 | | RTJ | ERROR | | | | 01382 |
| | P03EF | 0661 | | | | | | | |
| 1383 | P03F0 | 0C40 | S60D | ENQ | \$40 | | SET Q06 (STATION 2). | | 01383 |
| 1384 | P03F1 | 54E6 | | RTJ- | (STATUS) | | GET STATION 2 STATUS. | | 01384 |
| 1385 | P03F2 | 8000 | | EOR | =N\$0015 | | EXPECT EOP, INTERRUPT, READY. | | 01385 |
| | P03F3 | 0015 | | | | | | | |
| 1386 | P03F4 | E0D7 | | LDQ- | COLUMN | | | | 01386 |
| 1387 | P03F5 | 0852 | | TCQ | Q | | CHECK WHETHER 80 COLUMNS. | | 01387 |
| 1388 | P03F6 | F0DC | | ADQ- | ALAI F | | CHECK WHETHER ALARM INTERRUPT. | | 01388 |
| 1389 | P03F7 | 0832 | | AAQ | Q | | CHECK WHETHER EXPECTED STATUS. | | 01389 |
| 1390 | P03F8 | 0141 | | SOZ | 1 | | CLEAR OFFSET FLAG IF OKAY. | | 01390 |
| 1391 | P03F9 | 0C01 | | ENQ | 1 | | SET OFFSET FLAG IF ERROR. | | 01391 |
| 1392 | P03FA | 40E2 | | STQ- | OFFSTF | | | | 01392 |
| 1393 | P03FB | 54EF | | RTJ- | (ERROR7) | | ERROR 7, UNEXPECTED STATUS. | | 01393 |
| 1394 | P03FC | C0E2 | | LDA- | OFFSTF | | | | 01394 |
| 1395 | P03FD | 0FCF | | ALS | 15 | | | | 01395 |
| 1396 | P03FE | 0125 | | SAP | S600C-*--1 | | SKIP IF CARD OKAY. | | 01396 |
| 1397 | P03FF | E0D9 | | LDQ- | EOFFLAG | | | | 01397 |
| 1398 | P0400 | 0152 | | SNQ | 2 | | | | 01398 |
| 1399 | P0401 | 5406 | | RTJ- | (JUMP) | | CHECK STOP/JUMP BIT 15. | | 01399 |
| 1400 | P0402 | 1807 | | JMP* | S600B | | EXIT LOOP IF SET. | | 01400 |
| 1401 | P0403 | 18CA | | JMP* | LOOP60 | | ATTEMPT TO PUNCH PATTERN AGAIN. | | 01401 |
| 1402 | P0404 | C0D9 | S60DC | LDA- | EOFFLAG | | | | 01402 |
| 1403 | P0405 | 0101 | | SAZ | S600C1-*--1 | | SKIP IF NOT END OF FILE CARD | | 01403 |
| 1404 | P0406 | 1811 | | JMP* | S60E | | | | 01404 |
| 1405 | P0407 | 54E8 | S60DC1 | RTJ- | (IC100) | | INCREMENT LOOP COUNTER | | 01405 |
| 1406 | P0408 | 1805 | | JMP* | S600A | | PUNCH 100 CARDS. | | 01406 |
| 1407 | P0409 | 0A05 | S60DB | ENA | 5 | | | | 01407 |
| 1408 | P040A | 54F8 | | RTJ- | (GENERATE) | | GENERATE PATTERN 5 (EOF). | | 01408 |
| 1409 | P040B | D0D9 | | RA0- | EOFFLAG | | SET EOF FLAG. | | 01409 |
| 1410 | P040C | 18C1 | | JMP* | LOOP60 | | PUNCH END-OF-FILE CARD. | | 01410 |
| 1411 | P040D | 0A07 | S60DA | ENA | 7 | | | | 01411 |
| 1412 | P040E | 90F9 | | SU3- | SEC | | CHECK WHETHER SECTION 7. | | 01412 |
| 1413 | P040F | 0101 | | SAZ | 1 | | | | 01413 |
| 1414 | P0410 | 188D | | JMP* | LOOP60 | | PUNCH SHIFTED-ZERO CARD IF NOT. | | 01414 |
| 1415 | P0411 | C82B | | LDA* | RESYNF | | | | 01415 |
| 1416 | P0412 | 0101 | | SAZ | S600A1-*--1 | | ARE RESYNC CARDS TO BE PUNCHED | | 01416 |
| 1417 | P0413 | 18BA | | JMP* | LOOP60 | | YES | | 01417 |
| 1418 | P0414 | 0A03 | S60DA1 | ENA | 3 | | NO | | 01418 |
| 1419 | P0415 | 54F8 | | RTJ- | (GENERATE) | | GENERATE NEW RANDOM PATTERN. | | 01419 |
| 1420 | P0416 | 1887 | | JMP* | LOOP60 | | | | 01420 |
| 1421 | P0417 | 5800 | S60E | RTJ | OFFSET | | OFFSET END-OF-FILE CARD. | | 01421 |
| | P0418 | 0628 | | | | | | | |

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|------|-------|------|-------------------|------------|------------------------------|----------------------------------|
| 1422 | P0419 | 0A10 | ENA | \$10 | | 01422 |
| 1423 | P041A | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01423 |
| 1424 | P041B | 1882 | JMP* | LOOP60 | PUNCH MORE EOF CARDS IF SET. | 01424 |
| 1425 | P041C | C0F9 | LDA- | SEC | | 01425 |
| 1426 | P041D | 09F8 | INA | -7 | | 01426 |
| 1427 | P041E | 0117 | SAN | SEC6B--1 | IS THIS SECTION 7 | 01427 |
| 1428 | P041F | C81D | LDA* | RESYNF | YES | 01428 |
| 1429 | P0420 | 0115 | SAN | SEC6B--1 | HAS RANDOM JUST COMPLETED | 01429 |
| 1430 | P0421 | D818 | RAO* | RESYNF | YES | 01430 |
| 1431 | P0422 | 0A04 | ENA | 4 | | 01431 |
| 1432 | P0423 | 54F8 | RTJ- | (GENERATE) | | 01432 |
| 1433 | P0424 | 0844 | CLR | A | | 01433 |
| 1434 | P0425 | 18A3 | JMP* | SEC6A1 | | 01434 |
| | | | | | | |
| 1436 | | | *END OF SECTION 6 | | | 01436 |
| 1438 | P0426 | E0FA | SEC6H | LDQ- | EQUIP | EQ. NO., Q00 SET. |
| 1439 | P0427 | 0D40 | | INQ | \$40 | SET Q06 (STATION 2). |
| 1440 | P0428 | 0A01 | | ENA | 1 | SET A00. |
| 1441 | P0429 | 0302 | | OUT | 2 | CLEAR CONTROLLER. |
| 1442 | P042A | 1804 | | JMP* | SEC6C | EXPECT REPLY. |
| 1443 | P042B | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. |
| 1444 | P042C | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. |
| 1445 | P042D | 18F8 | | JMP* | SEC6B | HANG ON REJECT. |
| 1446 | P042E | 5800 | SEC6C | RTJ | ENDSEC | END-OF-SECTION STOP. |
| | P042F | 034C | | | | |
| 1447 | P0430 | 1807 | | JMP* | SEC6D | |
| 1448 | P0431 | C0F9 | | LDA- | SEC | GO TO NEXT SECTION. |
| 1449 | P0432 | 09F8 | | INA | -7 | |
| 1450 | P0433 | 0112 | | SAN | 2 | |
| 1451 | P0434 | 1800 | | JMP | SEC8 | |
| | P0435 | 00CB | | | | |
| 1452 | P0436 | 1807 | | JMP* | SEC7 | |
| 1453 | P0437 | C0F9 | SEC6D | LDA- | SEC | REPEAT SECTION. |
| 1454 | P0438 | 09F8 | | INA | -7 | |
| 1455 | P0439 | 0101 | | SAZ | 1 | |
| 1456 | P043A | 1882 | | JMP* | SEC6 | |
| 1457 | P043B | 1802 | | JMP* | SEC7 | |
| 1458 | P043C | 0000 | RESYNF | NUM | 0 | NONZERO IMPLIES PUNCH RESYNC PTN |

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| 1502 | P0463 | E0FA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01502 |
| 1503 | P0464 | 0D3F | INQ | \$3F | SET Q06 (STATION 2), CLEAR Q00. | 01503 |
| 1504 | P0465 | F077 | ADQ- | CONST+12 | W=04,09,OR 0E FOR BUFFERED WRITE | 01504 |
| 1505 | P0466 | 03FE | OUT | -1 | INITIATE BUFFERED OUTPUT. | 01505 |
| 1506 | P0467 | 54E5 | RTJ- | (SMM) | GO TO MONITOR. RETURN OCCURS | 01506 |
| 1507 | | * | | | AFTER 1706 BECOMES NOT BUSY. | 01507 |
| 1508 | P0468 | 0AF5 | ENA | -10 | | 01508 |
| 1509 | P0469 | 6006 | STA- | TIME | INITIALIZE TIME COUNTER. | 01509 |
| 1510 | P046A | 5800 | RTJ | MILLT | DELAY 1 MILLI-SECOND. | 01510 |
| | P046B | 0453 | | | | |
| 1511 | P046C | 54E5 | RTJ- | (SMM) | GO TO MONITOR AND BACK. | 01511 |
| 1512 | P046D | C0D8 | LDA- | EOPIF | | 01512 |
| 1513 | P046E | 0116 | SAN | S70D--*--1 | | 01513 |
| 1514 | P046F | D0D6 | RAO- | TIME | WAIT 6 MSECS MAX FOR EOP INT. | 01514 |
| 1515 | P0470 | C0D6 | LDA- | TIME | | 01515 |
| 1516 | P0471 | 0101 | SAZ | 1 | | 01516 |
| 1517 | P0472 | 18F7 | JMP* | S70C | | 01517 |
| 1518 | P0473 | 54F3 | RTJ- | (ERRORB) | ERROR B, NO EOP INTERRUPT. | 01518 |
| 1519 | P0474 | 180C | JMP* | S70E | | 01519 |
| 1520 | P0475 | C0D5 | LDA- | B0CCWA | GET B0C CURRENT WORD ADDRESS. | 01520 |
| 1521 | P0476 | 60DF | STA- | ACT | SAVE FOR ERROR MESSAGE. | 01521 |
| 1522 | P0477 | E800 | LDQ | BUFFOUT-1 | | 01522 |
| | P0478 | 06E8 | | | | |
| 1523 | P0479 | 40E0 | STQ- | EXP | | 01523 |
| 1524 | P047A | 0874 | EAQ | A | COMPARE WITH EXPECTED ADDRESS. | 01524 |
| 1525 | P047B | 0104 | SAZ | S70E--*--1 | | 01525 |
| 1526 | P047C | 0C13 | ENQ | \$13 | ERROR 13, UNEXPECTED ADDRESS. | 01526 |
| 1527 | P047D | 0A10 | ENA | \$10 | 3 STOPS. | 01527 |
| 1528 | P047E | 5800 | RTJ | ERROR | | 01528 |
| | P047F | 05D1 | | | | |
| 1529 | P0480 | 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 01529 |
| 1530 | P0481 | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 01530 |
| 1531 | P0482 | B000 | EOR | =NS0015 | EXPECT EOP, INTERRUPT, READY. | 01531 |
| | P0483 | 0015 | | | | |
| 1532 | P0484 | 0CF0 | ENQ | -2 | | 01532 |
| 1533 | P0485 | F0D8 | ADQ- | EOPIF | | 01533 |
| 1534 | P0486 | F0D0 | ADQ- | ALAIF | CHECK WHETHER ALARM INTERRUPT. | 01534 |
| 1535 | P0487 | 0832 | AAQ | Q | CHECK WHETHER UNEXPECTED STATUS. | 01535 |
| 1536 | P0488 | 014A | SQZ | S70EA--*--1 | SKIP IF OKAY. | 01536 |
| 1537 | P0489 | 0C01 | ENQ | 1 | | 01537 |
| 1538 | P048A | 40E2 | STQ- | OFFSTF | SET OFFSET FLAG IF ERROR. | 01538 |
| 1539 | P048B | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01539 |
| 1540 | P048C | 54F6 | RTJ- | (ERROR8) | ERROR 8, ALARM INTERRUPT. | 01540 |
| 1541 | P048D | C0D9 | LDA- | EOFFLAG | | 01541 |
| 1542 | P048E | 0113 | SAN | 3 | | 01542 |
| 1543 | P048F | C07A | LDA- | CONST+15 | | 01543 |
| 1544 | P0490 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01544 |
| 1545 | P0491 | 1807 | JMP* | S70EB | EXIT LOOP IF SET. | 01545 |
| 1546 | P0492 | 188D | JMP* | LOOP7D | ATTEMPT TO PUNCH PATTERN AGAIN. | 01546 |
| 1547 | P0493 | 40E2 | STQ- | OFFSTF | CLEAR OFFSET FLAG. | 01547 |
| 1548 | P0494 | C0D9 | LDA- | EOFFLAG | | 01548 |
| 1549 | P0495 | 0116 | SAN | S70F--*--1 | SKIP IF EOF CARD. | 01549 |
| 1550 | P0496 | 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNT. | 01550 |

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|------|-------|------|------|------------|----------------------------------|-------|
| 1551 | P0497 | 18AD | JMP* | SEC7A | PUNCH 100 RANDOM CARDS. | 01551 |
| 1552 | P0498 | 00D9 | RAO- | EOFFLAG | SET END-OF-FILE FLAG. | 01552 |
| 1553 | P0499 | 0A05 | ENA | 5 | | 01553 |
| 1554 | P049A | 54F8 | RTJ- | (GENERATE) | GENERATE PATTERN 5 (END-OF-FILE) | 01554 |
| 1555 | P049B | 18B4 | JMP* | LOOP70 | PUNCH EOF CARD. | 01555 |
| 1556 | P049C | 5800 | RTJ | OFFSET | OFFSET END-OFFILE CARD. | 01556 |
| | P049D | 05A3 | | | | |
| 1557 | P049E | 0A10 | ENA | \$10 | | 01557 |
| 1558 | P049F | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01558 |
| 1559 | P04A0 | 18AF | JMP* | LOOP70 | PUNCH MORE EOF CARDS IF SET. | 01559 |

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|------|-------|------|------|------------|----------------------------------|-------|
| 1561 | P04A1 | 0844 | CLR | A | | 01561 |
| 1562 | P04A2 | 60D9 | STA- | EOFFLAG | CLEAR EOF FLAG. | 01562 |
| 1563 | P04A3 | 60E2 | STA- | OFFSTF | CLEAR OFFSET FLAG. | 01563 |
| 1564 | P04A4 | 0A04 | ENA | 4 | | 01564 |
| 1565 | P04A5 | 54F8 | RTJ- | (GENERATE) | GENERATE PATTERN 4 (HALF-CARDS). | 01565 |

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|------|-------|------|---|------|-------------|----------------------------------|-------|
| 1567 | | | *SECTION 7, LOOP 1 - PUNCH 10 HALF-CARDS FOLLOWED BY EOF CARD. | | | 01567 | |
| 1568 | | | * SAME AS SECTION 7, LOOP 0. EXPECT 1706 STATUS TO BE REPLY AND R | | | 01568 | |
| 1569 | | | * WHEN EOP INTERRUPT OCCURS. | | | 01569 | |
| 1570 | P04A6 | E0FA | LOOP71 | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01570 |
| 1571 | P04A7 | 0040 | | INQ | \$40 | SET Q06 (STATION 2). | 01571 |
| 1572 | P04A8 | 00E2 | | LDA- | OFFSTF | GET OFFSET FLAG. | 01572 |
| 1573 | P04A9 | 0FC8 | | ALS | 8 | SET A08 (OFFSET) IF FLAG SET. | 01573 |
| 1574 | P04AA | 8000 | | ADD | =N\$0099 | SET A07, A04, A03, AND A00. | 01574 |
| | P04AB | 0099 | | | | | |
| 1575 | P04AC | 0302 | | OUT | 2 | CLEAR FEED, EOP AND ALARM INTS. | 01575 |
| 1576 | P04AD | 1804 | | JMP* | S71A | EXPECT REPLY. | 01576 |
| 1577 | P04AE | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01577 |
| 1578 | P04AF | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01578 |
| 1579 | P04B0 | 18F5 | | JMP* | LOOP71 | HANG ON REJECT. | 01579 |
| 1580 | P04B1 | 54EA | S71A | RTJ- | (INITEOP) | INITIALIZE EOP INTERRUPT. | 01580 |
| 1581 | P04B2 | 54EB | | RTJ- | (INITALARM) | INITIALIZE ALARM INTERRUPT. | 01581 |
| 1582 | P04B3 | C000 | | LDA | =XRUFFOUT-1 | | 01582 |
| | P04B4 | 0B60 | P | | | | |
| 1583 | P04B5 | E0FA | | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01583 |
| 1584 | P04B6 | 003F | | INQ | \$3F | SET Q06 (STATION 2), CLEAR Q00 | 01584 |
| 1585 | P04B7 | F077 | | ADQ- | CONST+12 | W=04,09,OR 0E FOR BUFFERED WRITE | 01585 |
| 1586 | P04B8 | 03FE | | OUT | -1 | | 01586 |
| 1587 | P04B9 | 54E5 | | RTJ- | (SMH) | GO TO MONITOR TILL 06 NOT BUSY. | 01587 |
| 1588 | P04BA | C00B | | LDA- | EOPIF | | 01588 |
| 1589 | P04BB | 0112 | | SAN | S71B-* -1 | | 01589 |
| 1590 | P04BC | 18FD | | JMP* | *-2 | WAIT FOR INTERRUPT | 01590 |
| 1591 | P04BD | 1813 | | JMP* | S71C | | 01591 |
| 1592 | P04BE | C004 | S71B | LDA- | BDCSTAT | BDC STATUS UPON INTERRUPT. | 01592 |
| 1593 | P04BF | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 01593 |
| 1594 | P04C0 | A000 | | AND | =N\$301 | CHECK REPLY, REJECT, READY BITS | 01594 |
| | P04C1 | 0301 | | | | | |
| 1595 | P04C2 | 8000 | | EOR | =N\$201 | EXPECT REPLY, READY | 01595 |
| | P04C3 | 0201 | | | | | |

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|------|-------|------|-------------------|--------------|----------------------------------|-------|
| 1596 | P04C4 | 54F7 | RTJ- | (ERRORF) | ERROR F, WRONG BDC STATUS. | 01596 |
| 1597 | P04C5 | C0D5 | LDA- | B0CCWA | GET BDC CURRENT WORD ADDRESS. | 01597 |
| 1598 | P04C6 | 60DF | STA- | ACT | SAVE FOR ERROR MESSAGE | 01598 |
| 1599 | P04C7 | E000 | LDO | =XBUFFOUT+80 | | 01599 |
| | P04C8 | 08B1 | P | | | |
| 1600 | P04C9 | 40E0 | STQ- | EXP | | 01600 |
| 1601 | P04CA | 0874 | EAQ | A | COMPARE WITH EXPECTED ADDRESS. | 01601 |
| 1602 | P04CB | 0104 | SAZ | S71C-*--1 | | 01602 |
| 1603 | P04CC | 0C13 | ENQ | \$13 | ERROR 13, UNEXPECTED ADDRESS | 01603 |
| 1604 | P04CD | 0A10 | ENA | \$10 | 3 STOPS. | 01604 |
| 1605 | P04CE | 5800 | RTJ | ERROR | | 01605 |
| | P04CF | 0581 | | | | |
| 1606 | P04D0 | 0C40 | S71C | ENQ | SET Q06 (STATION 2). | 01606 |
| 1607 | P04D1 | 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 01607 |
| 1608 | P04D2 | 8000 | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 01608 |
| | P04D3 | 0015 | | | | |
| 1609 | P04D4 | 0CFE | ENQ | -1 | | 01609 |
| 1610 | P04D5 | F0DB | ADQ- | EOPIF | | 01610 |
| 1611 | P04D6 | 0852 | TCQ | Q | CHECK WHETHER EOP INTERRUPT. | 01611 |
| 1612 | P04D7 | F0DC | ADQ- | ALAI F | CHECK WHETHER ALARM INTERRUPT. | 01612 |
| 1613 | P04D8 | 0832 | AAQ | Q | CHECK WHETHER UNEXPECTED STATUS. | 01613 |
| 1614 | P04D9 | 014A | SQZ | S71CA-*--1 | SKIP IF OKAY. | 01614 |
| 1615 | P04DA | 0C01 | ENQ | 1 | | 01615 |
| 1616 | P04DB | 40E2 | STQ- | OFFSTF | SET OFFSET FLAG IF ERROR. | 01616 |
| 1617 | P04DC | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01617 |
| 1618 | P04DD | 54F6 | RTJ- | (ERRROE) | ERROR E, ALARM INTERRUPT. | 01618 |
| 1619 | P04DE | C0D9 | LDA- | EOFFLAG | | 01619 |
| 1620 | P04DF | 0113 | SAN | 3 | | 01620 |
| 1621 | P04E0 | C07A | LDA- | CONST+15 | | 01621 |
| 1622 | P04E1 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01622 |
| 1623 | P04E2 | 1807 | JMP* | S71CB | EXIT LOOP IF SET. | 01623 |
| 1624 | P04E3 | 18C2 | JMP* | LOOP71 | ATTEMPT TO PUNCH PATTERN AGAIN. | 01624 |
| 1625 | P04E4 | 40E2 | S71CA | OFFSTF | CLEAR OFFSET FLAG. | 01625 |
| 1626 | P04E5 | C0D9 | LDA- | EOFFLAG | | 01626 |
| 1627 | P04E6 | 0116 | SAN | S71D-*--1 | | 01627 |
| 1628 | P04E7 | 54E7 | RTJ- | (IC10) | INCREMENT LOOP COUNTER | 01628 |
| 1629 | P04E8 | 18BD | JMP* | LOOP71 | PUNCH 10 HALF-CARDS. | 01629 |
| 1630 | P04E9 | 0DD9 | S71CB | RAQ- | SET END-OF-FILE FLAG. | 01630 |
| 1631 | P04EA | 0A05 | ENA | 5 | | 01631 |
| 1632 | P04EB | 54F8 | RTJ- | (GENERATE) | GENERATE PATTERN 5 (EOF). | 01632 |
| 1633 | P04EC | 1889 | JMP* | LOOP71 | PUNCH EOF CARD. | 01633 |
| 1634 | P04ED | 5800 | S71D | RTJ | OFFSET END-OF-FILE CARD. | 01634 |
| | P04EE | 0552 | | | | |
| 1635 | P04EF | 0A10 | ENA | \$10 | | 01635 |
| 1636 | P04F0 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01636 |
| 1637 | P04F1 | 13B4 | JMP* | LOOP71 | PUNCH MORE EOF CARDS. | 01637 |
| 1639 | | | *END OF SECTION 7 | | | 01639 |
| 1640 | P04F2 | E0FA | SFC7B | LDQ- | EQ. NO., Q00 SET. | 01640 |
| 1641 | P04F3 | 0D40 | INQ | \$40 | SET Q06 (STATION 2). | 01641 |
| 1642 | P04F4 | 0A01 | ENA | 1 | SET A00. | 01642 |

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|------|-------|------|-------|----------|---------------------------|-------|
| 1643 | P04F5 | 0302 | OUT | 2 | CLEAR CONTROLLER. | 01643 |
| 1644 | P04F6 | 1804 | JMP* | SEC7C | EXPECT REPLY. | 01644 |
| 1645 | P04F7 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01645 |
| 1646 | P04F8 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01646 |
| 1647 | P04F9 | 18F8 | JMP* | SEC7B | HANG ON REJECT | 01647 |
| 1648 | P04FA | 5800 | SEC7C | RTJ | END OF SECTION STOP. | 01648 |
| | P04FB | 0280 | | | | |
| 1649 | P04FC | 1802 | JMP* | *+2 | | 01649 |
| 1650 | P04FD | 1803 | JMP* | SEC8 | | 01650 |
| 1651 | P04FE | 1800 | JMP | SEC7 | REPEAT SECTION. | 01651 |
| | P04FF | FF3D | | | | |

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|------|-------|------|-------|------|-------------|---------------------------------|-------|
| 1699 | P0524 | E0FA | S800 | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01699 |
| 1700 | P0525 | 0D1F | | INQ | \$1F | SET Q05 (STATION 1), CLEAR Q00. | 01700 |
| 1701 | P0526 | 0202 | | INP | 2 | ATTEMPT DATA INPUT. | 01701 |
| 1702 | P0527 | 1804 | | JMP* | S80E | REPLY. | 01702 |
| 1703 | P0528 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01703 |
| 1704 | P0529 | 18F3 | | JMP* | S80C | EXT. REJECT, GO TO MONITOR. | 01704 |
| 1705 | P052A | 1817 | | JMP* | S80I | | 01705 |
| 1706 | P052B | E007 | S80E | LDQ- | COLUMN | | 01706 |
| 1707 | P052C | 6A00 | | STA | BUFFIN+80,Q | STORE DATA. | 01707 |
| | P052D | 0633 | | | | | |
| 1708 | P052E | 0007 | | RAO- | COLUMN | INCREMENT COLUMN COUNTER. | 01708 |
| 1709 | P052F | 0C20 | | ENQ | \$20 | SET Q05 (STATION 1). | 01709 |
| 1710 | P0530 | 54E6 | | RTJ- | (STATUS) | GET STATION 1 STATUS. | 01710 |
| 1711 | P0531 | 8000 | | EOR | =NS0003 | EXPECT READY AND BUSY STATUS. | 01711 |
| | P0532 | 0003 | | | | | |
| 1712 | P0533 | 0102 | | SAZ | S80F--1 | | 01712 |
| 1713 | P0534 | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01713 |
| 1714 | P0535 | 1806 | | JMP* | S80H | | 01714 |
| 1715 | P0536 | C007 | S80F | LDA- | COLUMN | | 01715 |
| 1716 | P0537 | 0101 | | SAZ | S80G--1 | | 01716 |
| 1717 | P0538 | 18E4 | | JMP* | S80C | GO READ NEXT COLUMN. | 01717 |
| 1718 | P0539 | 5800 | S80G | RTJ | CHECK | 80 COLUMNS READ, CHECK DATA. | 01718 |
| | P053A | 049B | | | | | |
| 1719 | P053B | C00B | S80H | LDA- | EOPIF | | 01719 |
| 1720 | P053C | 0114 | | SAN | S80I--1 | | 01720 |
| 1721 | P053D | C00C | | LDA- | ALAI F | | 01721 |
| 1722 | P053E | 011A | | SAN | S80J-6--1 | SKIP IF MOTION FAILURE. | 01722 |
| 1723 | P053F | 54E5 | | RTJ- | (SHM) | | 01723 |
| 1724 | P0540 | 18FA | | JMP* | S80H | WAIT FOR EOP INTERRUPT. | 01724 |
| 1725 | P0541 | C800 | S80I | LDA | EOPIS | GET STATUS UPON EOP INTERRUPT. | 01725 |
| | P0542 | 0357 | | | | | |
| 1726 | P0543 | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 01726 |
| 1727 | P0544 | A000 | | AND | =NSF87F | IGNORE EOF AND PROTECT BITS. | 01727 |
| | P0545 | F87F | | | | | |
| 1728 | P0546 | B000 | | EOR | =NS0015 | EXPECT EOP, INTERRUPT, READY. | 01728 |
| | P0547 | 0015 | | | | | |
| 1729 | P0548 | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01729 |
| 1730 | P0549 | C07A | | LDA- | CONST+15 | | 01730 |
| 1731 | P054A | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01731 |
| 1732 | P054B | 1804 | | JMP* | S80J | EXIT LOOP IF SET. | 01732 |
| 1733 | P054C | C0D9 | | LDA- | EOFFLAG | | 01733 |
| 1734 | P054D | 0111 | | SAN | S80J--1 | EXIT LOOP IF EOF CARD. | 01734 |
| 1735 | P054E | 18B0 | | JMP* | LOOP80 | LOOP IF NOT. | 01735 |
| 1736 | P054F | 0A10 | S80J | ENA | \$10 | | 01736 |
| 1737 | P0550 | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01737 |
| 1738 | P0551 | 188A | | JMP* | LOOP80 | LOOP IF SET. | 01738 |
| | | | | | | | |
| 1740 | | | | | | | 01740 |
| 1741 | P0552 | E0FA | SEC8A | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01741 |
| 1742 | P0553 | 0D20 | | INQ | \$20 | SET Q05 (STATION 1). | 01742 |
| 1743 | P0554 | 0A01 | | ENA | 1 | SET A00. | 01743 |

1744 P0555 0302
1745 P0556 1804
1746 P0557 54EC
1747 P0558 54ED
1748 P0559 18F8
1749 P055A 5800
P055B 0220
1750 P055C 18A3

SEC88

OUT 2
JMP* SEC8B
RTJ- (ERROR4)
RTJ- (ERROR5)
JMP* SEC8A
RTJ ENDSEC
JMP* SEC8

CLEAR CONTROLLER.
EXPECT REPLY.
ERROR 4, INTERNAL REJECT.
ERROR 5, EXTERNAL REJECT.
HANG ON REJECT.
END-OF-SECTION STOP
REPEAT SECTION

01744
01745
01746
01747
01748
01749
01750

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|------|-------|------|------|-------------|---------------------------------|-------|
| 1798 | P0584 | 0131 | SAM | 1 | CHECK BIT 3 (DATA STATUS). | 01798 |
| 1799 | P0585 | 18F4 | JMP* | S90C | RETURN TO MONITOR IF CLFAR. | 01799 |
| 1800 | P0586 | 0FC4 | ALS | 4 | | 01800 |
| 1801 | P0587 | B000 | EOR | =NS000B | EXPECT DATA,BUSY,READY,STATUS. | 01801 |
| | P0583 | 000B | | | | |
| 1802 | P0589 | 0102 | SAZ | S90E--1 | | 01802 |
| 1803 | P058A | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01803 |
| 1804 | P058B | 1818 | JMP* | S90I | | 01804 |
| 1805 | P058C | E0FA | LDQ | EQUIP | EQ. NO., Q00 SET. | 01805 |
| 1806 | P058D | 0D1F | INQ | INQ | SET Q05 (STATION 1), CLEAR Q00. | 01806 |
| 1807 | P058E | 0202 | INP | 2 | INPUT DATA. | 01807 |
| 1808 | P058F | 1804 | JMP* | S90F | EXPECT REPLY. | 01808 |
| 1809 | P0590 | 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01809 |
| 1810 | P0591 | 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01810 |
| 1811 | P0592 | 1811 | JMP* | S90I | | 01811 |
| 1812 | P0593 | E0D7 | LDQ | COLUMN | | 01812 |
| 1813 | P0594 | 6A00 | STA | BUFFIN+80,Q | STORE DATA. | 01813 |
| | P0595 | 05CB | | | | |
| 1814 | P0596 | D0D7 | RAO- | COLUMN | INCREMENT COLUMN COUNTER. | 01814 |
| 1815 | P0597 | 0C20 | ENO | \$20 | SET Q05 (STATION 1). | 01815 |
| 1816 | P0598 | 54E6 | RTJ- | (STATUS) | GET STATION 1 STATUS. | 01816 |
| 1817 | P0599 | B000 | EOP | =NS0003 | EXPECT BUSY AND READY STATUS. | 01817 |
| | P059A | 0003 | | | | |
| 1818 | P059B | 0102 | SAZ | S90G--1 | | 01818 |
| 1819 | P059C | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01819 |
| 1820 | P059D | 1806 | JMP* | S90I | | 01820 |
| 1821 | P059E | C0D7 | LDA- | COLUMN | | 01821 |
| 1822 | P059F | 0101 | SAZ | S90H--1 | | 01822 |
| 1823 | P05A0 | 18D9 | JMP* | S90C | GO READ NEXT COLUMN. | 01823 |
| 1824 | P05A1 | 5800 | RTJ | CHECK | 80 COLUMNS READ. CHECK DATA. | 01824 |
| | P05A2 | 0433 | | | | |
| 1825 | P05A3 | C0DB | LDA- | EOPIF | | 01825 |
| 1826 | P05A4 | 0114 | SAN | S90J--1 | | 01826 |
| 1827 | P05A5 | C0DC | LDA- | ALAIF | | 01827 |
| 1828 | P05A6 | 011A | SAN | S90K-6--1 | SKIP IF MOTION FAILURE. | 01828 |
| 1829 | P05A7 | 54E5 | RTJ- | (SMM) | | 01829 |
| 1830 | P05A8 | 18FA | JMP* | S90I | WAIT FOR EOP INTERRUPT. | 01830 |
| 1831 | P05A9 | C800 | LDA | EOPI5 | GET STATUS UPON EOP INTERRUPT. | 01831 |
| | P05AA | 02EF | | | | |
| 1832 | P05AB | 60DF | STA- | ACT | SAVE FOR ERROR MESSAGE. | 01832 |
| 1833 | P05AC | A000 | AND | =NSFB7F | IGNORE EOF AND PROTECT BITS. | 01833 |
| | P05AD | F87F | | | | |
| 1834 | P05AE | R000 | EOR | =NS0015 | EXPECT EOP,INTERRUPT,READY. | 01834 |
| | P05AF | 0015 | | | | |
| 1835 | P05B0 | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01835 |
| 1836 | P05B1 | C07A | LDA- | CONST+15 | | 01836 |
| 1837 | P05B2 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01837 |
| 1838 | P05B3 | 1804 | JMP* | S90K | EXIT LOOP IF SET. | 01838 |
| 1839 | P05B4 | C0D9 | LDA- | EOFFLAG | | 01839 |
| 1840 | P05B5 | 0111 | SAN | S90K--1 | EXIT LOOP IF EOF CARD. | 01840 |
| 1841 | P05B6 | 18B2 | JMP* | LOOP90 | LOOP TO READ MORE CARDS. | 01841 |
| 1842 | P05B7 | 0A10 | ENA | \$10 | | 01842 |
| 1843 | P05B8 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01843 |

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|------|-------|------|-------|--------|-----------------|-------|
| 1844 | P05B9 | 18AF | JMP* | LOOP90 | LOOP IF SET. | 01844 |
| 1846 | | | | | | 01846 |
| 1847 | P05BA | E0FA | SEC9A | LDQ- | EQUIP | 01847 |
| 1848 | P05BB | 0020 | | INQ | \$20 | 01848 |
| 1849 | P05BC | 0A01 | | ENA | 1 | 01849 |
| 1850 | P05BD | 0302 | | OUT | 2 | 01850 |
| 1851 | P05BE | 1804 | | JMP* | SEC9B | 01851 |
| 1852 | P05BF | 54EC | | RTJ- | (ERROR4) | 01852 |
| 1853 | P05C0 | 54ED | | RTJ- | (ERROR5) | 01853 |
| 1854 | P05C1 | 18F8 | | JMP* | SEC9A | 01854 |
| 1855 | P05C2 | 5800 | SEC9B | RTJ | ENDSEC | 01855 |
| | P05C3 | 0188 | | | | |
| 1856 | P05C4 | 1898 | JMP* | SEC9 | REPEAT SECTION. | 01856 |

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|------|------------|---|-------------------------------|-------|
| 1858 | | ***** | | 01858 |
| 1859 | | * SECTION 10 - READ IF DATA INTERRUPT | | 01859 |
| 1860 | | * AAA | | 01860 |
| 1862 | | * INITIALIZE SECTION 10 | | 01862 |
| 1863 | P05C5 C800 | SECA LDA SECTOT | GET SECTION PARAMETER. | 01863 |
| | P05C6 FA40 | | | |
| 1864 | P05C7 A075 | AND- CONST+10 | CHECK BIT 10. | 01864 |
| 1865 | P05C8 0111 | SAN 1 | | 01865 |
| 1866 | P05C9 1857 | JMP* SECB | GO TO NEXT SECTION IF CLEAR. | 01866 |
| 1867 | P05CA 0A0A | ENA 10 | | 01867 |
| 1868 | P05CB 60F9 | STA- SEC | SAVE SECTION NO. FOR ERRORS. | 01868 |
| 1869 | P05CC 6800 | STA TMP | | 01869 |
| | P05CD 02CA | | | |
| 1870 | P05CE 0C20 | ENQ \$20 | SET Q05 (STATION 1). | 01870 |
| 1871 | P05CF 40DD | STQ- STATION | | 01871 |
| 1872 | P05D0 0844 | CLR A | | 01872 |
| 1873 | P05D1 60D9 | STA- EOFLAG | CLEAR END-OF-FILE FLAG. | 01873 |
| 1874 | P05D2 60E2 | STA- OFFSTF | CLEAR OFFSET FLAG. | 01874 |
| 1876 | | * SECTION 10, LOOP 0 - READ THRU END-OF-FILE CARD. | | 01876 |
| 1877 | | * SELECT CLEAR, FEED, AND ALL INTERRUPTS ON READER, EXPECT REPLY. | | 01877 |
| 1878 | | * INPUT AND STORE DATA IN DATA INTERRUPT ROUTINE. | | 01878 |
| 1879 | | * WAIT FOR EOP INTERRUPT, EXPECT COLUMN COUNT TO BE 80. | | 01879 |
| 1880 | | * EXPECT NO ALARM INTERRUPT. | | 01880 |
| 1881 | P05D3 0AAF | LOOPAD ENA -80 | | 01881 |
| 1882 | P05D4 60D7 | STA- COLUMN | INITIALIZE COLUMN COUNTER. | 01882 |
| 1883 | P05D5 5800 | RTJ DLYPAR | DELAY | 01883 |
| | P05D6 02C6 | | | |
| 1884 | P05D7 E0FA | SADA LDQ- EQUIP | EQ. NO., Q00 SET. | 01884 |
| 1885 | P05D8 0D20 | INQ \$20 | SET Q05 (STATION 1). | 01885 |
| 1886 | P05D9 C0E2 | LDA- OFFSTF | GET OFFSET FLAG. | 01886 |
| 1887 | P05DA 0FC8 | ALS 8 | SET A08 (OFFSET) IF FLAG SET. | 01887 |
| 1888 | P05DB 8000 | ADD =N\$009F | SET A07, A04 THRU A00. | 01888 |
| | P05DC 009F | | | |
| 1889 | P05DD 0302 | OUT 2 | FEED, CLEAR, ALL INTERRUPTS. | 01889 |
| 1890 | P05DE 1804 | JMP* SA0B | EXPECT REPLY. | 01890 |
| 1891 | P05DF 54EC | RTJ- (ERROR4) | ERROR 4, INTERNAL REJECT. | 01891 |
| 1892 | P05E0 54ED | RTJ- (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01892 |
| 1893 | P05E1 18F5 | JMP* SA0A | HANG ON REJECT. | 01893 |
| 1894 | P05E2 54E9 | SA0B RTJ- (INITDATA) | INITIALIZE DATA INTERRUPT. | 01894 |
| 1895 | P05E3 54EA | RTJ- (INITEOP) | INITIALIZE EOP INTERRUPT. | 01895 |
| 1896 | P05E4 54EB | RTJ- (INITALARM) | INITIALIZE ALARM INTERRUPT. | 01896 |
| 1897 | P05E5 54E5 | SADC RTJ- (SMH) | GO TO MONITOR AND BACK. | 01897 |
| 1898 | P05E6 C0DC | LDA- ALAIF | | 01898 |
| 1899 | P05E7 010B | SAZ SA0D-*--1 | SKIP IF NO ALARM INTERRUPT. | 01899 |
| 1900 | P05E8 54F6 | RTJ- (ERROR6) | ERROR 6, ALARM INTERRUPT. | 01900 |
| 1901 | P05E9 0844 | CLR A | | 01901 |
| 1902 | P05EA 60DC | STA- ALAIF | | 01902 |

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|------|-------|------|-------|------|----------|--------------------------------|-------|
| 1903 | P05ED | E0FA | SA0CA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01903 |
| 1904 | P05EC | 0D20 | | INQ | \$20 | SET Q05 (STATION 1). | 01904 |
| 1905 | P05ED | 0A0A | | ENA | \$A | SET A03 AND A01. | 01905 |
| 1906 | P05EE | 0302 | | OUT | 2 | SELECT CLEAR INT AND EOP INT. | 01906 |
| 1907 | P05EF | 181C | | JMP* | SA0FA | EXPECT REPLY. | 01907 |
| 1908 | P05F0 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01908 |
| 1909 | P05F1 | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01909 |
| 1910 | P05F2 | 18F8 | | JMP* | SA0CA | HANG ON REJECT. | 01910 |
| 1911 | P05F3 | C0DB | SA0D | LDA- | EOPIF | | 01911 |
| 1912 | P05F4 | 0111 | | SAN | 1 | | 01912 |
| 1913 | P05F5 | 18EF | | JMP* | SA0C | WAIT FOR EOP INTERRUPT. | 01913 |
| 1914 | P05F6 | C0D7 | | LDA- | COLUMN | GET COLUMN COUNT. | 01914 |
| 1915 | P05F7 | 0109 | | SAZ | SA0E--1 | SKIP IF 80 COLUMNS READ. | 01915 |
| 1916 | P05F8 | 0950 | | INA | 80 | | 01916 |
| 1917 | P05F9 | 60DF | | STA- | ACT | | 01917 |
| 1918 | P05FA | 0C50 | | ENQ | 80 | | 01918 |
| 1919 | P05FB | 40E0 | | STQ- | EXP | EXPECTED COLUMN COUNT = 80. | 01919 |
| 1920 | P05FC | 0C11 | | ENQ | \$11 | ERROR 11, WRONG COLUMN COUNT | 01920 |
| 1921 | P05FD | 0A10 | | ENA | \$10 | 3 STOPS. | 01921 |
| 1922 | P05FE | 5800 | | RTJ | ERROR | | 01922 |
| | P05FF | 0451 | | | | | |
| 1923 | P0600 | 1803 | | JMP* | SA0F | | 01923 |
| 1924 | P0601 | 5800 | SA0F | RTJ | CHECK | 80 COLUMNS READ. CHECK DATA. | 01924 |
| | P0602 | 03D3 | | | | | |
| 1925 | P0603 | C800 | SA0F | LDA | EOPIS | GET STATUS UPON EOP INTERRUPT. | 01925 |
| | P0604 | 0295 | | | | | |
| 1926 | P0605 | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 01926 |
| 1927 | P0606 | A000 | | AND | =N\$FB7F | IGNORE EOF AND PROTECT BITS. | 01927 |
| | P0607 | FB7F | | | | | |
| 1928 | P0608 | B000 | | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 01928 |
| | P0609 | 0015 | | | | | |
| 1929 | P060A | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 01929 |
| 1930 | P060B | C07A | SA0FA | LDA- | CONST+15 | | 01930 |
| 1931 | P060C | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 01931 |
| 1932 | P060D | 1804 | | JMP* | SA0G | EXIT LOOP IF SET. | 01932 |
| 1933 | P060E | C0D9 | | LDA- | EOPFLAG | | 01933 |
| 1934 | P060F | 0111 | | SAN | SA0G--1 | EXIT LOOP IF EOF CARD. | 01934 |
| 1935 | P0610 | 18C2 | | JMP* | LOOPA0 | LOOP TO READ NEXT CARD. | 01935 |
| 1936 | P0611 | 0A10 | SA0G | ENA | \$10 | | 01936 |
| 1937 | P0612 | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 01937 |
| 1938 | P0613 | 18BF | | JMP* | LOOPA0 | LOOP IF SET. | 01938 |
| 1940 | | | | | | | 01940 |
| 1941 | P0614 | E0FA | SECAA | LDQ- | EQUIP | EQ. NO., Q00 SET. | 01941 |
| 1942 | P0615 | 0D20 | | INQ | \$20 | SET Q05 (STATION 1). | 01942 |
| 1943 | P0616 | 0A01 | | ENA | 1 | SET A00. | 01943 |
| 1944 | P0617 | 0302 | | OUT | 2 | CLEAR CONTROLLER. | 01944 |
| 1945 | P0618 | 1804 | | JMP* | SECA8 | EXPECT REPLY. | 01945 |
| 1946 | P0619 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 01946 |
| 1947 | P061A | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01947 |
| 1948 | P061B | 18F8 | | JMP* | SECAA | HANG ON REJECT. | 01948 |

1949 P061C 5800
P061D 015E
1950 P061E 18A6
1951 P061F 1801

SECAB

RTJ

ENDSEC

JMP*

SECA

JMP*

SECB

END-OF-SECTION STOP.

REPEAT SECTION.

GO TO NEXT SECTION.

01949

01950

01951

| | | | | |
|------|--------------|---|----------------------------------|-------|
| 1953 | | ***** | | 01953 |
| 1954 | | * SECTION 11 - BUFFERED READ | | 01954 |
| 1955 | | * @@@ | | 01955 |
| 1957 | | *INITIALIZE SECTION 11 | | 01957 |
| 1958 | P0620 C0FB | SECB LDA- CHAN | | 01958 |
| 1959 | P0621 0104 | SAZ 4 | GO TO NEXT SECTION IF NO 1706. | 01959 |
| 1960 | P0622 C800 | LDA SECTOT | GET SECTION PARAMETER. | 01960 |
| | P0623 F9E3 | | | |
| 1961 | P0624 A076 | ANO- CONST+11 | CHECK BIT 11. | 01961 |
| 1962 | P0625 0112 | SAN 2 | | 01962 |
| 1963 | P0626 1800 | JMP SECC | GO TO NEXT SECTION IF CLEAR. | 01963 |
| | P0627 0098 | | | |
| 1964 | P0628 0A0B | ENA 11 | | 01964 |
| 1965 | P0629 60F9 | STA- SEC | SAVE SECTION NO. FOR ERRORS. | 01965 |
| 1966 | P062A 0C20 | ENQ \$20 | SET Q05 (STATION 1). | 01966 |
| 1967 | P062B 400D | STQ- STATION | | 01967 |
| 1968 | P062C 0844 | CLR A | | 01968 |
| 1969 | P062D 60D9 | STA- EOFFLAG | CLEAR END-OF-FILE FLAG. | 01969 |
| 1970 | P062E 60E2 | STA- OFFSTF | CLEAR OFFSET FLAG. | 01970 |
| 1971 | P062F C000 | LDA =XBUFFIN+80 | | 01971 |
| | P0630 0860 P | | | |
| 1972 | P0631 6800 | STA BUFFIN-1 | STORE AT FIRST WORD ADDRESS -1. | 01972 |
| | P0632 04DD | | | |
| 1974 | | *SECTION 11, LOOP 0 - READ THRU END-OF-FILE CARD. | | 01974 |
| 1975 | | * SELECT CLEAR,FEED,EOP AND ALARM INTERRUPTS ON READER, EXPECT | | 01975 |
| 1976 | | * REPLY. INITIATE 80-WORD BUFFERED READ. WHEN 1706 BECOMES | | 01976 |
| 1977 | | * NOT BUSY, EXPECT 1706 CURRENT WORD ADDRESS TO BE FIRST WORD | | 01977 |
| 1978 | | * ADDRESS +80. EXPECT NO ALARM INTERRUPT. WAIT FOR EOP | | 01978 |
| 1979 | | * INTERRUPT. | | 01979 |
| 1980 | P0633 E0FA | LOOP0 LDQ- EQUIP | EQ. NO., Q00 SET. | 01980 |
| 1981 | P0634 0D20 | INQ \$20 | SET Q05 (STATION 1). | 01981 |
| 1982 | P0635 C0E2 | LDA- OFFSTF | GET OFFSET FLAG. | 01982 |
| 1983 | P0636 0FC8 | ALS 8 | SET A08 (OFFSET) IF FLAG SET. | 01983 |
| 1984 | P0637 8000 | ADD =N\$0099 | SET A07, A04, A03, AND A00. | 01984 |
| | P0638 0099 | | | |
| 1985 | P0639 0302 | OUT 2 | FEED,CLEAR,EOP+ALARM INTS. | 01985 |
| 1986 | P063A 1804 | JMP* S80A | EXPECT REPLY. | 01986 |
| 1987 | P063B 54EC | RTJ- (ERROR4) | ERROR 4, INTERNAL REJECT. | 01987 |
| 1988 | P063C 54ED | RTJ- (ERROR5) | ERROR 5, EXTERNAL REJECT. | 01988 |
| 1989 | P063D 18F5 | JMP* LOOP0 | HANG ON REJECT. | 01989 |
| 1990 | P063E 54EA | S80A RTJ- (INITEOP) | INITIALIZE EOP INTERRUPT. | 01990 |
| 1991 | P063F 54EB | RTJ- (INITALARM) | INITIALIZE ALARM INTERRUPT. | 01991 |
| 1992 | P0640 C000 | LDA =XBUFFIN-1 | | 01992 |
| | P0641 080F P | | | |
| 1993 | P0642 E0FA | LDQ- EQUIP | EQ. NO., Q00 SET. | 01993 |
| 1994 | P0643 001F | INQ \$1F | SET Q05 (STATION 1), CLEAR Q00. | 01994 |
| 1995 | P0644 F000 | ADD =N\$1800 | W=05,0A,OR OF FOR BUFFERED WRITE | 01995 |
| | P0645 1800 | | | |

| | | | | | | |
|------|-------|------|------------|-----------|--------------------------------|-------|
| 1996 | P0646 | 03FE | OUT | -1 | INITIATE INPUT. | 01996 |
| 1997 | P0647 | 54E5 | RTJ- | (SMM) | GO TO MONITOR. | 01997 |
| 1998 | | | * | | RETURN WHEN 1706 IS NOT BUSY. | 01998 |
| 1999 | P0648 | 5800 | RTJ | MILLI | DELAY 1 MILLI-SECOND. | 01999 |
| | P0649 | 0275 | | | | |
| 2000 | P064A | 54E5 | RTJ- | (SMM) | GO TO MONITOR AND BACK. | 02000 |
| 2001 | P064B | 54F6 | RTJ- | (ERROR8) | ERROR 8, ALARM INTERRUPT. | 02001 |
| 2002 | P064C | C0DB | LDA- | EOPIF | | 02002 |
| 2003 | P064D | 0112 | SAN | SB0B--*-1 | SKIP IF EOP INTERRUPT. | 02003 |
| 2004 | P064E | 54F3 | RTJ- | (ERROR8) | ERROR 8, NO EOP INTERRUPT. | 02004 |
| 2005 | P064F | 1817 | JMP* | SB0DA | | 02005 |
| 2006 | P0650 | C0D5 | SB0B LDA- | B0CCWA | GET BDC CURRENT WORD ADDRESS. | 02006 |
| 2007 | P0651 | 60DF | STA- | ACT | SAVE FOR ERROR MESSAGE. | 02007 |
| 2008 | P0652 | E800 | LDQ | BUFFIN-1 | | 02008 |
| | P0653 | 048C | | | | |
| 2009 | P0654 | 40E0 | STQ- | EXP | | 02009 |
| 2010 | P0655 | 0874 | EAQ | A | COMPARE WITH EXPECTED. | 02010 |
| 2011 | P0656 | 0105 | SAZ | SB0C--*-1 | | 02011 |
| 2012 | P0657 | 0C13 | ENQ | \$13 | ERROR 13, WRONG WORD ADDRESS. | 02012 |
| 2013 | P0658 | 0A10 | ENA | \$10 | 3 STOPS. | 02013 |
| 2014 | P0659 | 5800 | RTJ | ERROR | | 02014 |
| | P065A | 03F6 | | | | |
| 2015 | P065B | 1803 | JMP* | SB0D | | 02015 |
| 2016 | P065C | 5800 | SB0C RTJ | CHECK | 80 COLUMNS READ. CHECK DATA. | 02016 |
| | P065D | 0378 | | | | |
| 2017 | P065E | C800 | SB0D LDA | EOPIS | GET STATUS UPON EOP INTERRUPT. | 02017 |
| | P065F | 023A | | | | |
| 2018 | P0660 | 60DF | STA- | ACT | SAVE FOR ERROR MESSAGE. | 02018 |
| 2019 | P0661 | A000 | AND | =N\$FB7F | IGNORE EOP AND PROTECT BITS. | 02019 |
| | P0662 | F87F | | | | |
| 2020 | P0663 | 8000 | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 02020 |
| | P0664 | 0015 | | | | |
| 2021 | P0665 | 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 02021 |
| 2022 | P0666 | C07A | SB0DA LDA- | CONST+15 | | 02022 |
| 2023 | P0667 | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 02023 |
| 2024 | P0668 | 1804 | JMP* | SB0E | EXIT LOOP IF SET. | 02024 |
| 2025 | P0669 | C0D9 | LDA- | E0FFLAG | | 02025 |
| 2026 | P066A | 0111 | SAN | SB0E--*-1 | EXIT LOOP IF END-OF-FILE CARD. | 02026 |
| 2027 | P066B | 18C7 | JMP* | LOOPR0 | LOOP TO READ MORE CARDS. | 02027 |
| 2028 | P066C | 0A10 | SB0E ENA | \$10 | | 02028 |
| 2029 | P066D | 5406 | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 02029 |
| 2030 | P066E | 18C4 | JMP* | LOOPR0 | LOOP IF SET. | 02030 |
| | | | | | | |
| 2032 | P066F | 0844 | CLR | A | | 02032 |
| 2033 | P0670 | 60D9 | STA- | E0FFLAG | CLEAR END-OF-FILE FLAG. | 02033 |
| 2034 | P0671 | 60E2 | STA- | OFFSTF | CLEAR OFFSET FLAG. | 02034 |
| 2035 | P0672 | 0800 | RAQ | RUFFIN-1 | FORM FIRST WORD ADDRESS +81. | 02035 |
| | P0673 | 049C | | | | |

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|------|----------------------------|---|----------------------------------|-------|
| 2037 | | *SECTION 11, LOOP 1 - READ THRU END-OF-FILE CARD. | | 02037 |
| 2038 | | * SAME AS SECTION 11, LOOP 0 EXCEPT INITIATE 81-WORD | | 02038 |
| 2039 | | * BUFFERED READ. WHEN EOP INTERRUPT OCCURS, EXPECT 1706 | | 02039 |
| 2040 | | * STATUS TO BE REJECT AND BUSY. TERMINATE BUFFER. | | 02040 |
| 2041 | | * EXPECT 1706 CURRENT ADDRESS TO BE FIRST WORD ADDRESS +80. | | 02041 |
| 2042 | P0674 E0FA | LOOPB1 LDQ- EQUIP | EQ. NO., Q00 SET. | 02042 |
| 2043 | P0675 0D20 | INQ \$20 | SET Q05 (STATION 1). | 02043 |
| 2044 | P0676 C0E2 | LDA- OFFSTF | GET OFFSET FLAG. | 02044 |
| 2045 | P0677 8FC8 | ALS 8 | SET A08 (OFFSET) IF FLAG SET. | 02045 |
| 2046 | P0678 8000 P0679 0099 | ADD =N\$0099 | SET A07, A04, A03, AND A00. | 02046 |
| 2047 | P067A 0302 | OUT 2 | CLEAR,FEED,EOP+ALARM INTS. | 02047 |
| 2048 | P067B 1804 | JMP* SB1A | EXPECT REPLY. | 02048 |
| 2049 | P067C 54EC | RTJ- (ERROR4) | ERROR 4, INTERNAL REJECT. | 02049 |
| 2050 | P067D 54E0 | RTJ- (ERROR5) | ERROR 5, EXTERNAL REJECT. | 02050 |
| 2051 | P067E 18F5 | JMP* LOOPB1 | HANG ON REJECT. | 02051 |
| 2052 | P067F 54EA | SB1A RTJ- (INITEOP) | INITIALIZE EOP INTERRUPT. | 02052 |
| 2053 | P0680 54EB | RTJ- (INITALARM) | INITIALIZE ALARM INTERRUPT. | 02053 |
| 2054 | P0681 C000 P0682 080F P | LDA =XBUFFIN-1 | | 02054 |
| 2055 | P0683 E0FA | LDQ- EQUIP | EQ. NO., Q00 SET. | 02055 |
| 2056 | P0684 0D1F | INQ \$1F | SET Q05 (STATION 1), CLEAR Q00. | 02056 |
| 2057 | P0685 F000 P0686 1800 | ADQ =N\$1800 | W=05,0A,OR OF FOR BUFFERED READ. | 02057 |
| 2058 | P0687 03FE | OUT -1 | INITIATE BUFFERED READ. | 02058 |
| 2059 | P0688 54E5 | RTJ- (SMM) | GO TO MONITOR TILL 06 NOT BUSY. | 02059 |
| 2060 | P0689 54F6 | RTJ- (ERR0RE) | ERROR E, ALARM INTERRUPT. | 02060 |
| 2061 | P068A C00B | LDA- EOPIF | | 02061 |
| 2062 | P068B 0112 | SAN SB1B-* -1 | SKIP IF EOP INTERRUPT. | 02062 |
| 2063 | P068C 54F3 | RTJ- (ERRORB) | ERROR B, NO EOP INTERRUPT. | 02063 |
| 2064 | P068D 181E | JMP* SB1DA | | 02064 |
| 2065 | P068E C0D4 | SB1B LDA- BDCSTAT | GET BDC STATUS UPON EOP INT. | 02065 |
| 2066 | P068F 60DF | STA- ACT | SAVE FOR ERROR MESSAGE. | 02066 |
| 2067 | P0690 A000 P0691 0302 | AND =N\$0302 | CHECK REJECT,REPLY,BUSY BITS. | 02067 |
| 2068 | P0692 8000 P0693 0102 | EOR =N\$0102 | EXPECT REJECT AND BUSY. | 02068 |
| 2069 | P0694 54F7 | RTJ- (ERRORF) | ERROR F, 1706 STATUS WRONG. | 02069 |
| 2070 | P0695 C0D5 | LDA- BDCCHA | GET 1706 CURRENT WORD ADDRESS. | 02070 |
| 2071 | P0696 60DF | STA- ACT | SAVE FOR ERROR MESSAGE. | 02071 |
| 2072 | P0697 E000 P0698 0860 P | LDQ =XBUFFIN+80 | | 02072 |
| 2073 | P0699 40E0 | STQ- EXP | | 02073 |
| 2074 | P069A 0874 | EAQ A | COMPARE WITH EXPECTED ADDRESS. | 02074 |
| 2075 | P069B 0105 | SAZ SB1C-* -1 | | 02075 |
| 2076 | P069C 0C13 | ENQ \$13 | ERROR 13, WRONG CURRENT ADDRESS. | 02076 |
| 2077 | P069D 0A10 | ENA \$10 | 3 STOPS. | 02077 |
| 2078 | P069E 5800 P069F 03B1 | RTJ ERROR | | 02078 |
| 2079 | P06A0 1803 | JMP* SB1D | | 02079 |
| 2080 | P06A1 5800 P06A2 0333 | SB1C RTJ CHECK | 80 COLUMNS READ. CHECK DATA. | 02080 |
| 2081 | P06A3 C800 P06A4 01F5 | SB1D LDA EOPIS | GET STATUS UPON EOP INTERRUPT. | 02081 |

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| 2082 | P06A5 | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 02082 |
| 2083 | P06A6 | A000 | | AND | =N\$FB7F | IGNORE EOF AND PROTECT BITS. | 02083 |
| | | P06A7 | | | | | |
| 2084 | P06A8 | B000 | | EOR | =N\$0015 | EXPECT EOP, INTERRUPT, READY. | 02084 |
| | | P06A9 | | | | | |
| 2085 | P06AA | 54EF | | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 02085 |
| 2086 | P06AB | C07A | SB1DA | LDA- | CONST+15 | | 02086 |
| 2087 | P06AC | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 15. | 02087 |
| 2088 | P06AD | 1804 | | JMP* | SB1E | EXIT LOOP IF SET. | 02088 |
| 2089 | P06AE | C0D9 | | LDA- | EOFFLAG | | 02089 |
| 2090 | P06AF | 0111 | | SAN | SB1E-*+1 | EXIT LOOP IF EOF CARD. | 02090 |
| 2091 | P06B0 | 18C3 | | JMP* | LOOPB1 | LOOP TO READ MORE CARDS. | 02091 |
| 2092 | P06B1 | 0A10 | SB1E | ENA | \$10 | | 02092 |
| 2093 | P06B2 | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BUT 4. | 02093 |
| 2094 | P06B3 | 18C0 | | JMP* | LOOPB1 | LOOP IF SET. | 02094 |
| | | | | | | | |
| 2096 | | | | | | | 02096 |
| 2097 | P06B4 | E0FA | | SECRA | LDQ- | EQ. NO., Q00 SET. | 02097 |
| 2098 | P06B5 | 0D20 | | | \$20 | SET Q05 (STATION 1). | 02098 |
| 2099 | P06B6 | 0A01 | | | 1 | SET A00. | 02099 |
| 2100 | P06B7 | 0302 | | | 2 | CLEAR CONTROLLER. | 02100 |
| 2101 | P06B8 | 1804 | | JMP* | SECBB | EXPECT REPLY. | 02101 |
| 2102 | P06B9 | 54EC | | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 02102 |
| 2103 | P06BA | 54ED | | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 02103 |
| 2104 | P06BB | 18F8 | | JMP* | SECBA | HANG ON REJECT. | 02104 |
| 2105 | P06BC | 5800 | SECBD | RTJ | ENDSEC | END-OF-SECTION STOP. | 02105 |
| | | P06BD | | | | | |
| | | P06BE | | | | | |
| 2106 | P06BE | 1802 | | JMP* | *+2 | REPEAT SECTION. | 02106 |
| 2107 | P06BF | 1803 | | JMP* | SECC | GO TO NEXT SECTION | 02107 |
| 2108 | P06C0 | 1800 | | JMP | SECB | | 02108 |
| | | P06C1 | | | FF5E | | |

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2110 *****
2111 * SECTION 12 - PROTECTION TEST
2112 *CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

2114 *INITIALIZE SECTION 12
2115 * CLEAR PROTECT BIT IN ALL MEMORY LOCATIONS THRU END OF TEST.
2116 * TYPE OUT MESSAGE TO OPERATOR TO SET PROTECT SWITCHES
2117 * ON COMPUTER CONSOLE AND ON 1728.
2118 * STOP WITH A = Q = 1728.
2119 P06C2 C800 SECC LDA SECTOT GET SECTION PARAMETER.
      P06C3 F943
2120 P06C4 A077 AND- CONST+12 CHECK BIT 12.
2121 P06C5 0111 SAN 1
2122 P06C6 1850 JMP* SECC GO TO NEXT SECTION IF CLEAR.
2123 P06C7 0A0C ENA 12
2124 P06C8 60F9 STA- SEC SAVE SECTION NO. FOR ERRORS.
2125 P06C9 E000 LDQ =XBUFFOUT+79
      P06CA 0B80 P
2126 P06CB C000 LDA =XBUFFOUT+79-CRPA00 PTC2
      P06CC 0B80
2127 P06CD 0700 SECCA CPB 0 CLEAR PROTECT BITS.
2128 P06CE 09FE INA -1 PTC2
2129 P06CF 0102 SAZ SECCB PTC2
2130 P06D0 0DFE INQ -1
2131 P06D1 18FB JMP* SECCA
2132 P06D2 C000 SECCB LDA =XMESSC
      P06D3 0969 P
2133 P06D4 0C2D ENQ MESSD-MESSC+1
2134 P06D5 5408 RTJ- (MESSAGE) TELL OPERATOR TO SET PROTECT
2135 * SWITCHES.
2136 P06D6 C000 LDA =N$1728
      P06D7 1728
2137 P06D8 0822 TRA Q
2138 P06D9 0000 SLS 0 STOP WITH A = Q = 1728.

2140 *SECTION 12, LOOP 0
2141 * GET STATION 0 STATUS, EXPECT PROTECTED (BIT 7).
2142 LOOPC0 CLR Q
2143 P06DA 0842 RTJ- (STATUS) GET STATION 0 STATUS
2144 P06DB 54E6 LDA- ACT
2145 P06DD A000 AND =NSFBFF IGNORE EOF STATUS.
      P06DE FBFF
2146 P06DF B000 EOR =N$0081 EXPECT PROTECTED AND READY.
      P06E0 0081
2147 P06E1 54EF RTJ- (ERROR7) ERROR 7, UNEXPECTED STATUS.
2148 P06E2 54E8 RTJ- (IC100) INCREMENT LOOP COUNTER.
2149 P06E3 18F6 JMP* LOOPC0 LOOP 100 TIMES.

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|------|------------|---|----------|-----------------------------|-------|
| 2151 | | *SECTION 12, LOOP 1 | | 02151 | |
| 2152 | | * ATTEMPT ALL FUNCTIONS ON STATION 1, EXPECT EXTERNAL REJECT. | | 02152 | |
| 2153 | | * GET STATION 1 STATUS, EXPECT PROTECTED AND READY. | | 02153 | |
| 2154 | P06E4 E0FA | LOOPC1 LDQ- | EQUIP | EQ. NO., Q00 SET. | 02154 |
| 2155 | P06E5 0D20 | INQ | \$20 | SET Q05 (STATION 1). | 02155 |
| 2156 | P06E6 0804 | SET | A | SET ALL BITS IN A. | 02156 |
| 2157 | P06E7 0302 | OUT | 2 | SELECT ALL FUNCTIONS. | 02157 |
| 2158 | P06E8 54EE | RTJ- | (ERROR6) | ERROR 6, UNEXPECTED REPLY. | 02158 |
| 2159 | P06E9 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 02159 |
| 2160 | P06EA 0800 | NOP | 0 | EXPECT EXTERNAL REJECT. | 02160 |
| 2161 | P06EB 0C20 | ENQ | \$20 | SET Q05 (STATION 1). | 02161 |
| 2162 | P06EC 54E6 | RTJ- | (STATUS) | GET STATION STATUS. | 02162 |
| 2163 | P06ED C0DF | LDA- | ACT | | 02163 |
| 2164 | P06EE A000 | AND | =N\$FBFF | IGNORE EOF STATUS. | 02164 |
| | P06EF FBFF | | | | |
| 2165 | P06F0 8000 | EOR | =N\$0081 | EXPECT PROTECTED AND READY. | 02165 |
| | P06F1 0081 | | | | |
| 2166 | P06F2 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 02166 |
| 2167 | P06F3 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNT. | 02167 |
| 2168 | P06F4 18EF | JMP* | LOOPC1 | LOOP 100 TIMES. | 02168 |

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| 2170 | | *SECTION 12, LOOP 2 | | 02170 | |
| 2171 | | * ATTEMPT ALL FUNCTIONS ON STATION 2, EXPECT EXTERNAL REJECT. | | 02171 | |
| 2172 | | * GET STATION 2 STATUS, EXPECT PROTECTED AND READY. | | 02172 | |
| 2173 | P06F5 E0FA | LOOPC2 LDQ- | EQUIP | EQ. NO., Q00 SET. | 02173 |
| 2174 | P06F6 0D40 | INQ | \$40 | SET Q06 (STATION 2). | 02174 |
| 2175 | P06F7 0804 | SET | A | SET ALL BITS IN A. | 02175 |
| 2176 | P06F8 0302 | OUT | 2 | SELECT ALL FUNCTIONS. | 02176 |
| 2177 | P06F9 54EE | RTJ- | (ERROR6) | ERROR 6, UNEXPECTED REPLY. | 02177 |
| 2178 | P06FA 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 02178 |
| 2179 | P06FB 0800 | NOP | 0 | EXPECT EXTERNAL REJECT. | 02179 |
| 2180 | P06FC 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 02180 |
| 2181 | P06FD 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 02181 |
| 2182 | P06FE C0DF | LDA- | ACT | | 02182 |
| 2183 | P06FF A000 | AND | =N\$FBFF | IGNORE EOF STATUS. | 02183 |
| | P0700 FBFF | | | | |
| 2184 | P0701 8000 | EOR | =N\$0089 | EXPECTED PROTECTED, DATA, READY. | 02184 |
| | P0702 0089 | | | | |
| 2185 | P0703 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 02185 |
| 2186 | P0704 54E8 | RTJ- | (IC100) | INCREMENT LOOP COUNTER. | 02186 |
| 2187 | P0705 18EF | JMP* | LOOPC2 | LOOP 100 TIMES. | 02187 |

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| 2189 | | *END OF SECTION 12 | | 02189 |
| 2190 | P0706 C000 | LDA | =XMESSE | 02190 |
| | P0707 0980 P | | | |
| 2191 | P0708 0C18 | ENQ | MESSEF-MESSE+1 | 02191 |
| 2192 | P0709 5408 | RTJ- | (MESSAGE) | 02192 |
| 2193 | P070A C000 | LDA | =N\$1728 | 02193 |
| | P070B 1728 | | | |

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|-----------------|------|---------|------------------------------|-------|
| 2194 P070C 0622 | TRA | Q | | 02194 |
| 2195 P070D 0000 | SLS | 0 | | 02195 |
| 2196 P070E C043 | LDA- | STJP | | 02196 |
| 2197 P070F A06C | AND- | CONST+1 | | 02197 |
| 2198 P0710 0113 | SAN | 3 | | 02198 |
| 2199 P0711 0A02 | ENA | 2 | | 02199 |
| 2200 P0712 B043 | EDR- | STJP | SET END-OF-SECTION STOP BIT. | 02200 |
| 2201 P0713 6043 | STA- | STJP | | 02201 |
| 2202 P0714 5867 | RTJ* | ENDSEC | END-OF-SECTION STOP. | 02202 |
| 2203 P0715 18AC | JMP* | SECC | REPEAT SECTION. | 02203 |

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2205 ***** 02205
2206 * SECTION 13 - ALARM WITH NOT READY 02206
2207 *XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 02207

2209 *INITIALIZE SECTION 13 02209
2210 * CLEAR CONTROLLER AND SELECT ALARM INTERRUPT ON PUNCH, EXPECT 02210
2211 * REPLY. TYPE OUT MESSAGE TO OPERATOR TO CAUSE AN ALARM ON 1728. 02211
2212 * STOP WITH A = Q = 1728. 02212
2213 P0716 C800 SEC0 LDA SECTOT GET STATION PARAMETER. 02213
      P0717 F8EF
2214 P0718 A078 AND- CONST+13 CHECK BIT 13. 02214
2215 P0719 0111 SAN 1 02215
2216 P071A 1848 JMP* ENDTEST GO TO END OF TEST IF CLEAR. 02216
2217 P071B 0A00 ENA 13 02217
2218 P071C 60F9 STA- SEC SAVE SECTION NO. FOR ERRORS. 02218
2219 P071D 0842 CLR Q 02219
2220 P071E 40DD STQ- STATION 02220
2221 P071F E0FA SEC0A LDQ- EQUIP EQ. NO., Q00 SET. 02221
2222 P0720 0D40 INQ $40 SET Q06 (STATION 2). 02222
2223 P0721 0A11 ENA $11 SET A04 AND A00. 02223
2224 P0722 0302 OUT 2 SELECT CLEAR AND ALARM INT. 02224
2225 P0723 1804 JMP* SEC0B EXPECT REPLY. 02225
2226 P0724 54EC RTJ- (ERROR4) ERROR 4, INTERNAL REJECT. 02226
2227 P0725 54ED RTJ- (ERROR5) ERROR 5, EXTERNAL REJECT. 02227
2228 P0726 18F8 JMP* SEC0A HANG ON REJECT. 02228
2229 P0727 C000 SEC0B LDA =XMESSD 02229
      P0728 0995 P
2230 P0729 0C29 ENQ MESSE-MESSD+1 02230
2231 P072A 5408 RTJ- (MESSAGE) TELL OPERATOR TO CAUSE ALARM. 02231
2232 P072B C000 LDA =N$1728 02232
      P072C 1728
2233 P072D 0822 TRA Q 02233
2234 P072E 0000 SLS 0 STOP WITH A = Q = 1728. 02234

2236 *SECTION 13, LOOP 0 02236
2237 * GET STATION 0 STATUS, DROP BITS 8, 9, AND 11. EXPECT 02237
2238 * ALARM STATUS. SET ALARM INTERRUPT MASK BIT, EXPECT ALARM INT. 02238
2239 P072F 0842 LOOP00 CLR Q 02239
2240 P0730 54E6 RTJ- (STATUS) GET STATION 0 STATUS. 02240
2241 P0731 A000 AND =N$F4FF DROP BITS 8,9, AND 11. 02241
      P0732 F4FF
2242 P0733 8000 EOR =N$0024 EXPECT ALARM AND INT. STATUS. 02242
      P0734 0024
2243 P0735 54EF RTJ- (ERROR7) ERROR 7, 1NEXPECTED STATUS. 02243
2244 P0736 54EB RTJ- (INITALARM) SET ALARM INT. MASK BIT. 02244
2245 P0737 54F5 RTJ- (ERRORD) ERROR 0, NO ALARM INTERRUPT 02245
2246 P0738 54E8 RTJ- (IC100) INCREMENT LOOP COUNTER. 02246
2247 P0739 18F5 JMP* LOOP00 LOOP 100 TIMES. 02247
    
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|------|------------|--|----------|-------------------------------|-------|
| 2249 | | *SECTION 13, LOOP 1 | | 02249 | |
| 2250 | | * ATTEMPT ALL FUNCTIONS ON PUNCH, EXPECT EXTERNAL REJECT. | | 02250 | |
| 2251 | | * GET STATUS, DROP BIT 8,9, AND 11. EXPECT ALARM, NOT READY. | | 02251 | |
| 2252 | P073A E0FA | LOOPD1 LDQ- | EQUIP | EQ. NO., Q00 SET. | 02252 |
| 2253 | P073B 0040 | INQ | \$40 | SET Q06 (STATION 2). | 02253 |
| 2254 | P073C 0804 | SET | A | SET ALL BITS IN A. | 02254 |
| 2255 | P073D 0302 | OUT | 2 | SELECT ALL FUNCTIONS. | 02255 |
| 2256 | P073E 54EE | RTJ- | (ERROR6) | ERROR 6, UNEXPECTED REPLY. | 02256 |
| 2257 | P073F 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 02257 |
| 2258 | P0740 0800 | NOP | 0 | EXPECT EXTERNAL REJECT. | 02258 |
| 2259 | P0741 0C40 | ENQ | \$40 | SET Q06 (STATION 2). | 02259 |
| 2260 | P0742 54E6 | RTJ- | (STATUS) | GET STATION 2 STATUS. | 02260 |
| 2261 | P0743 A000 | AND | =N\$F4E7 | DROP BITS 3,4,8,9, AND 11. | 02261 |
| | P0744 F4E7 | | | | |
| 2262 | P0745 8000 | EOR | =N\$0024 | EXPECT ALARM AND INT. STATUS. | 02262 |
| | P0746 0024 | | | | |
| 2263 | P0747 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 02263 |
| 2264 | P0748 54E8 | RTJ- | {IC100} | INCREMENT LOOP COUNTER. | 02264 |
| 2265 | P0749 18F0 | JMP* | LOOPD1 | LOOP 100 TIMES. | 02265 |

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|------|------------|--|----------|-------------------------------|-------|
| 2267 | | *SECTION 13, LOOP 2 | | 02267 | |
| 2268 | | * ATTEMPT ALL FUNCTIONS ON READER, EXPECT EXTERNAL REJECT. | | 02268 | |
| 2269 | | * GET STATUS, DROP BITS 8,9, AND 11. EXPECT ALARM, NOT READY STATU | | 02269 | |
| 2270 | P074A E0FA | LOOPD2 LDQ- | EQUIP | EQ. NO., Q00 SET. | 02270 |
| 2271 | P074B 0020 | INQ | \$20 | SET Q05 (STATION 1). | 02271 |
| 2272 | P074C 0804 | SET | A | SET ALL BITS IN A. | 02272 |
| 2273 | P074D 0302 | OUT | 2 | SELECT ALL FUNCTIONS. | 02273 |
| 2274 | P074E 54EE | RTJ- | (ERROR6) | ERROR 6, UNEXPECTED REPLY. | 02274 |
| 2275 | P074F 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 02275 |
| 2276 | P0750 0800 | NOP | 0 | EXPECT EXTERNAL REJECT. | 02276 |
| 2277 | P0751 0C20 | ENQ | \$20 | SET Q05 (STATION 1). | 02277 |
| 2278 | P0752 54E6 | RTJ- | (STATUS) | GET STATION 1 STATUS. | 02278 |
| 2279 | P0753 A000 | AND | =N\$F4FF | DROP BITS 8,9, AND 11. | 02279 |
| | P0754 F4FF | | | | |
| 2280 | P0755 8000 | EOR | =N\$0024 | EXPECT ALARM AND INT. STATUS. | 02280 |
| | P0756 0024 | | | | |
| 2281 | P0757 54EF | RTJ- | (ERROR7) | ERROR 7, UNEXPECTED STATUS. | 02281 |
| 2282 | P0758 54E8 | RTJ- | {IC100} | INCREMENT LOOP COUNTER. | 02282 |
| 2283 | P0759 18F0 | JMP* | LOOPD2 | LOOP 100 TIMES. | 02283 |

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| 2285 | | *END OF SECTION 13 | | 02285 | |
| 2286 | P075A C043 | LDA- | STJP | | 02286 |
| 2287 | P075B A06C | AND- | CONST+1 | | 02287 |
| 2288 | P075C 0113 | SAN | 3 | | 02288 |
| 2289 | P075D 0A02 | ENA | 2 | | 02289 |
| 2290 | P075E 8043 | EOR- | STJP | SET END-OF-SECTION STOP BIT | 02290 |
| 2291 | P075F 6043 | STA- | STJP | | 02291 |
| 2292 | P0760 581B | RTJ* | ENDSEC | END-OF-SECTION STOP. | 02292 |

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JMP*

SECO

REPEAT SECTION.

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| 2295 | | *END OF 1728 TEST | | 02295 |
| 2296 | | * | STOP IF STOP/JUMP BIT 2 IS SET. | 02296 |
| 2297 | | * | REPEAT TEST IF STOP/JUMP BIT 6 IS SET, EXIT TEST IF NOT. | 02297 |
| 2298 | P0762 D805 | ENDTEST | RAO* PASSCT | 02298 |
| 2299 | P0763 C0D8 | | LDA- BIAS | 02299 |
| 2300 | P0764 5402 | | RTJ- (STOPX) | 02300 |
| 2301 | P0765 1803 | | JMP* PASSCT+1 | 02301 |
| 2302 | P0766 0D04 | | NUM \$0004 | 02302 |
| 2303 | P0767 0000 | PASSCT | NUM 0 | 02303 |
| 2304 | P0768 0A40 | | ENA \$40 | 02304 |
| 2305 | P0769 5406 | | RTJ- (JUMP) | 02305 |
| 2306 | P076A 1803 | | JMP* REPEAT | 02306 |
| 2307 | P076B C0D8 | | LDA- BIAS | 02307 |
| 2308 | P076C 5403 | | RTJ- (EXIT) | 02308 |
| | | | | INCREMENT PASS COUNTER. |
| | | | | END-OF-TEST STOP. |
| | | | | IDENT WORD. |
| | | | | COUNT OF PASSES THRU TEST. |
| | | | | CHECK STOP/JUMP BIT 6. |
| | | | | REPEAT TEST IF SET. |
| | | | | EXIT TEST. |

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| 2310 | | *REPEAT 1728 TEST | | 02310 |
| 2311 | | * | TEST REPEATS IF STOP/JUMP 6 IS SET OR IF MONITOR RETURNS | 02311 |
| 2312 | | * | CONTROL. RE-ENTER PARAMETERS IF STOP/JUMP 10 IS SET. | 02312 |
| 2313 | P076D 0A01 | REPEAT | ENA 1 | 02313 |
| 2314 | P076E E0FA | | LDQ- EQUIP | 02314 |
| 2315 | P076F F400 | | ADQ BITS | 02315 |
| | P0770 0070 | | | |
| 2316 | P0771 03FE | | OUT -1 | 02316 |
| 2317 | P0772 C075 | | LDA- CONST+10 | 02317 |
| 2318 | P0773 5406 | | RTJ- (JUMP) | 02318 |
| 2319 | P0774 5814 | MGREST | RTJ* PARAM | 02319 |
| 2320 | P0775 E0FA | | LDQ- EQUIP | 02320 |
| 2321 | P0776 0D20 | | INQ \$20 | 02321 |
| 2322 | P0777 0A01 | | ENA 1 | 02322 |
| 2323 | P0778 03FE | | OUT -1 | 02323 |
| 2324 | P0779 1800 | | JMP RESTART | 02324 |
| | F077A F892 | | | |
| | | | | CHECK STOP/JUMP 10. |
| | | | | REENTER PARAMETERS |

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| 2326 | | *END-OF SECTION SUBROUTINE | | 02326 |
| 2327 | | * CALLING SEQUENCE IS (FOR EXAMPLE) | | 02327 |
| 2328 | | * P RTJ* ENDSEC STOP IF STOP/JUMP 1 IS SET. | | 02328 |
| 2329 | | * P+1 JMP* SFCX REPEAT SECTION X IF STOP/JUMP 5 SET. | | 02329 |
| 2330 | | * P+2 GO TO NEXT SECTION. | | 02330 |
| 2331 | P077B 0000 | ENDSEC NUM 0 | | 02331 |
| 2332 | P077C C0F9 | LDA- SEC | | 02332 |
| 2333 | P077D 6805 | STA* SECTION | | 02333 |
| 2334 | P077E C008 | LDA- BIAS | | 02334 |
| 2335 | P077F 5402 | RTJ- (STOPX) | END-OF-SECTION STOP. | 02335 |
| 2336 | P0780 1803 | JMP* SECTION+1 | | 02336 |
| 2337 | P0781 0D02 | NUM \$0D02 | IDENT WORD. | 02337 |
| 2338 | P0782 0000 | SECTION NUM 0 | SECTION NUMBER. | 02338 |
| 2339 | P0783 0A20 | ENA \$20 | | 02339 |
| 2340 | P0784 5406 | RTJ- (JUMP) | CHECK STOP/JUMP 5. | 02340 |
| 2341 | P0785 1CF5 | JMP* (ENDSEC) | P+1 EXIT, REPEAT SECTION IF SET. | 02341 |
| 2342 | P0786 D8F4 | RA0* ENDSEC | | 02342 |
| 2343 | P0787 1CF3 | JMP* (ENDSEC) | P+2 EXIT, GO TO NEXT SECTION. | 02343 |

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| 2345 | | *PARAMETER ENTRY SUBROUTINE. | | 02345 |
| 2346 | | * THREE STOPS OCCUR IF STOP/JUMP 0 IS SET | | 02346 |
| 2347 | | * 1ST STOP - A = 0D31, Q = STOP/JUMP WORD | | 02347 |
| 2348 | | * 2ND STOP - A = SECTIONS (BIT 0 FOR SECTION 0, BIT 1 FOR | | 02348 |
| 2349 | | SECTION 1, ETC.) | | 02349 |
| 2350 | | * Q = 0XYZ, WHERE | | 02350 |
| 2351 | | * X = DATA INTERRUPT LINE. | | 02351 |
| 2352 | | * Y = EOP INTERRUPT LINE. | | 02352 |
| 2353 | | * Z = ALARM INTERRUPT LINE. | | 02353 |
| 2354 | | * 3RD STOP - A = COL PUNCHRD/CHECKED IN PTN 4, Q = DELAY BTWN CDS | | 02354 |
| 2355 | P0788 0000 | PARAM NUM 0 | | 02355 |
| 2356 | P0789 C0D8 | LDA- BIAS | | 02356 |
| 2357 | P078A 5402 | RTJ- (STOPX) | PARAMETER STOP. | 02357 |
| 2358 | P078B 1806 | JMP* PARAM | | 02358 |
| 2359 | P078C 078C P | ORG * | | 02359 |
| 2360 | P078D 0D21 | PARAM NUM \$0D21 | IDENT WORD | 02360 |
| 2361 | P078E 0FFF | PARAM1 NUM \$0FFF | SECTIONS. | 02361 |
| 2362 | P078F 0DEF | PARAM2 NUM \$0DEF | INT. LINES X, Y, Z. | 02362 |
| 2363 | P0790 004E | PARAM3 NUM 78 | COL TO BE PUNCHED FOR PTN4 | 02363 |
| 2364 | P0791 03E8 | PARAM4 NUM 1000 | MILLSEC DELAY BETWEEN CARDS | 02364 |
| 2365 | P0792 C8FD | PARAM5 LDA* PARAM5 | | 02365 |
| 2366 | P0793 0134 | SAM PARAM6 | | 02366 |
| 2367 | P0794 09FD | INA -2 | | 02367 |
| 2368 | P0795 0132 | SAM PARAM6*-1 | | 02368 |
| 2369 | P0796 09B2 | INA -\$4D | | 02369 |

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| 2370 | P0796 | 0131 | | SAM | PARAMC--1 | | 02370 |
| 2371 | P0797 | 1817 | PARAMF | JMP* | PARERR | PARAMETER ERROR IF COL NOT 2-78 | 02371 |
| 2372 | P0798 | C8F4 | PARAMG | LDA* | PARAM1 | | 02372 |
| 2373 | P0799 | 6800 | | STA | SECTOT | | 02373 |
| | | P079A | | | | | |
| 2374 | P079B | E8F2 | | LDQ* | PARAM2 | | 02374 |
| 2375 | P079C | 4800 | | STQ | INTLINES | | 02375 |
| | | P079D | | | | | |
| 2376 | P079E | C07F | | LDA- | H0F00 | 0F// | 02376 |
| 2377 | P079F | 08B4 | | LAQ | A | 0X00, DATA INTERRUPT LINE. | 02377 |
| 2378 | P07A0 | 0F46 | | ARS | 6 | | 02378 |
| 2379 | P07A1 | 6829 | | STA* | QINT | | 02379 |
| 2380 | P07A2 | 0108 | | SAZ | PARERR--1 | ERROR, DATA INT. LINE ZERO. | 02380 |
| 2381 | P07A3 | C07E | | LDA- | H00F0 | | 02381 |
| 2382 | P07A4 | 08B4 | | LAQ | A | 00Y0, EOP INTERRUPT LINE. | 02382 |
| 2383 | P07A5 | 0F42 | | ARS | 2 | | 02383 |
| 2384 | P07A6 | 6825 | | STA* | QINT+1 | | 02384 |
| 2385 | P07A7 | 0106 | | SAZ | PARERR--1 | ERROR, EOP INT. LINE ZERO. | 02385 |
| 2386 | P07A8 | 0A0F | | ENA | \$0F | 000F | 02386 |
| 2387 | P07A9 | 08B4 | | LAQ | A | 000Z, ALARM INTERRUPT LINE. | 02387 |
| 2388 | P07AA | 0FC2 | | ALS | 2 | | 02388 |
| 2389 | P07AB | 6821 | | STA* | QINT+2 | | 02389 |
| 2390 | P07AC | 0101 | | SAZ | PARERR--1 | ERROR, ALARM INT. LINE ZERO. | 02390 |
| 2391 | P07AD | 1806 | | JMP* | PAR | | 02391 |

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| 2393 | | | | | *PARAMETER ENTRY ERROR | | 02393 | |
| 2394 | P07AE | 0C03 | | PARERR. | ENQ | 3 | ERROR 3, PARAMETER ERROR. | 02394 |
| 2395 | P07AF | 0844 | | | CLR | A | 2 STOPS. | 02395 |
| 2396 | P07B0 | 5800 | | | RTJ | ERROR | | 02396 |
| | | P07B1 | | | | | | |
| 2397 | P07B2 | 18D6 | | JMP* | PARAM+1 | PARAMETERS MUST BE CHOSEN AGAIN. | 02397 | |

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| 2399 | P07B3 | 0CFC | PAR | ENQ | -3 | | 02399 |
| 2400 | P07B4 | CA19 | | LDA* | QINT+3,Q | | 02400 |
| 2401 | P07B5 | 60FF | | STA- | I | | 02401 |
| 2402 | P07B6 | CA14 | | LDA* | INTRROUTINES+3,Q | | 02402 |
| 2403 | P07B7 | 6500 | | STA+ | \$103,I | STORE IN INTERRUPT TRAP. | 02403 |
| | | P07B8 | | | | | |
| 2404 | P07B9 | 0D01 | | INQ | 1 | | 02404 |
| 2405 | P07BA | 0141 | | SQZ | 1 | | 02405 |
| 2406 | P07BB | 18F8 | | JMP* | PAR+1 | | 02406 |
| 2407 | P07BC | 0844 | | CLR | A | | 02407 |
| 2408 | P07BD | 6800 | | STA | DELAY | | 02408 |
| | | P07BE | | | | | |
| 2409 | P07BF | C800 | | LDA | PARAM4 | | 02409 |
| | | P07C0 | | | | | |
| 2410 | P07C1 | 0FE4 | | LLS | 4 | | 02410 |

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| 2411 | P07C2 3000 | DVI | =N50 | 02411 |
| | P07C3 0032 | | | |
| 2412 | P07C4 6800 | STA | INCR | 02412 |
| | P07C5 06F8 | | | |
| 2413 | P07C6 1CC1 | JMP* | (PARAM) | 02413 |

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| 2415 | | * | INITIAL ADDRESSES OF INTERRUPT ROUTINES. | 02415 | |
| 2416 | P07C7 0836 P | INTROUT | ADC | INTPRC,INTPRC,INTPRC | 02416 |
| | P07C8 0836 P | | | | |
| | P07C9 0836 P | | | | |
| 2417 | P07CA 0003 | QINT | BSS | QINT(3) | 02417 |

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|------|------------|---------------|--|---------------------------------|-------|
| 2419 | | *STATUS INPUT | | 02419 | |
| 2420 | | * | BITS IN Q SPECIFY LEVEL AND STATION. SAVE STATUS AT ACT. | 02420 | |
| 2421 | | * | CALLING SEQUENCE IS (FOR EXAMPLE) | 02421 | |
| 2422 | | * | P-1 ENQ \$20 SET Q05 (STATION 1). | 02422 | |
| 2423 | | * | P RTJ- (STATUS) GET STATION 1 STATUS. | 02423 | |
| 2424 | | * | P+1 STATUS IS IN A-REGISTER (BITS 7 AND 10 ARE CLEAR). | 02424 | |
| 2425 | P07CD 0000 | STAT | NUM | 0 | 02425 |
| 2426 | P07CE F0FA | ADQ- | EQUIP | | 02426 |
| 2427 | P07CF 4802 | STQ* | **2 | SAVE EQUIPMENT ADDRESS. | 02427 |
| 2428 | P07D0 E000 | LDO- | 0 | | 02428 |
| 2429 | P07D1 0000 | NUM | 0 | EQUIPMENT ADDRESS. | 02429 |
| 2430 | P07D2 0202 | INP | 2 | INPUT STATUS. | 02430 |
| 2431 | P07D3 1804 | JMP* | **4 | EXPECT REPLY. | 02431 |
| 2432 | P07D4 54EC | RTJ- | (ERROR4) | ERROR 4, INTERNAL REJECT. | 02432 |
| 2433 | P07D5 54ED | RTJ- | (ERROR5) | ERROR 5, EXTERNAL REJECT. | 02433 |
| 2434 | P07D6 18F9 | JMP* | *-6 | HANG ON REJECT. | 02434 |
| 2435 | P07D7 60DF | STA- | ACT | SAVE STATUS. | 02435 |
| 2436 | P07D8 A000 | AND | =N\$FB7F | CLEAR 7 (PROTECT) AND 10 (EOF). | 02436 |
| | P07D9 FB7F | | | | |
| 2437 | P07DA 1CF2 | JMP* | (STAT) | EXIT WITH STATUS IN A. | 02437 |

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| 2439 | | *INCREMENT LOOP COUNTER | | 02439 |
| 2440 | | * THIS SUBROUTINE CONTROLS LOOPING. CALLING SEQUENCE IS | | 02440 |
| 2441 | | * P RTJ- (IC100) INCREMENT LOOP COUNTER. | | 02441 |
| 2442 | | * P+1 JMP* LOOPXX LOOP 100 TIMES OR IF S/J 4 SET. | | 02442 |
| 2443 | | * P+2 EXIT LOOP. S/J 4 NOT SET. S/J 15 SET OR LOOPED 100. | | 02443 |
| 2444 | P07DB 0000 | INCCT NUM 0 | | 02444 |
| 2445 | P07DC C07A | LDA- CONST+15 | | 02445 |
| 2446 | P07DD 5406 | RTJ- (JUMP) | CHECK STOP/JUMP 15. | 02446 |
| 2447 | P07DE 1806 | JMP* ++6 | EXIT LOOP IF SET. | 02447 |
| 2448 | P07DF 00DE | RAO- COUNTER | INCREMENT LOOP COUNTER. | 02448 |
| 2449 | P07E0 C0DE | LDA- COUNTER | | 02449 |
| 2450 | P07E1 8818 | EOR* LIMIT | CHECK WHETHER 100 | 02450 |
| 2451 | P07E2 0101 | SAZ 1 | | 02451 |
| 2452 | P07E3 1CF7 | JMP* (INCCT) | P+1 EXIT. LOOP. | 02452 |
| 2453 | P07E4 0844 | CLR A | | 02453 |
| 2454 | P07E5 60DE | STA- COUNTER | CLEAR COUNTER. | 02454 |
| 2455 | P07E6 C0F9 | LDA- SEC | GET NUMBER OF CURRENT SECTION. | 02455 |
| 2456 | P07E7 09F3 | INA -12 | CHECK WHETHER SECTION 12. | 02456 |
| 2457 | P07E8 0101 | SAZ 1 | STAY IN TEST (NO EIN) IF PROTECT | 02457 |
| 2458 | P07E9 54E5 | RTJ- (SMH) | GO TO MONITOR AND BACK. | 02458 |
| 2459 | P07EA 0A10 | ENA \$10 | | 02459 |
| 2460 | P07EB 5406 | RTJ- (JUMP) | CHECK STOP/JUMP 4. | 02460 |
| 2461 | P07EC 1CEE | JMP* (INCCT) | P+1 EXIT. LOOP. | 02461 |
| 2462 | P07ED 08ED | RAO* INCCT | | 02462 |
| 2463 | P07EE 1CEC | JMP* (INCCT) | P+2 EXIT. EXIT LOOP. | 02463 |

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| 2465 | P07EF 0000 | INC100 | NUM | 0 | | 02465 |
| 2466 | P07F0 E8FE | | LDQ* | *-1 | | 02466 |
| 2467 | P07F1 0A64 | | ENA | 100 | LOOP 100 TIMES. | 02467 |
| 2468 | P07F2 1804 | | JMP* | *+4 | | 02468 |
| 2469 | P07F3 0000 | INC10 | NUM | 0 | | 02469 |
| 2470 | P07F4 E8FE | | LDQ* | *-1 | | 02470 |
| 2471 | P07F5 0A0A | | ENA | 10 | LOOP 10 TIMES. | 02471 |
| 2472 | P07F6 6803 | | STA* | LIMIT | | 02472 |
| 2473 | P07F7 48E3 | | STQ* | INCCT | | 02473 |
| 2474 | P07F8 18E3 | | JMP* | INCCT+1 | | 02474 |
| 2475 | P07F9 0000 | LIMIT | NUM | 0 | | 02475 |
| | | | | | | |
| 2477 | P07FA 0000 | MONITOR | NUM | 0 | WAIT NOT BUSY OR A COUPLE OF | 02477 |
| 2478 | P07FB C000 | | LDA | =N-200 | | 02478 |
| | P07FC FF37 | | | | | |
| 2479 | P07FD 681A | | STA* | WNBCNT | | 02479 |
| 2480 | P07FE C8FA | MNTR1 | LOA- | EQUIP | SECONDS, WHICHEVER COMES 1ST | 02480 |
| 2481 | P07FF 0822 | | TRA | Q | | 02481 |
| 2482 | P0800 A000 | | AND | =N%F800 | | 02482 |
| | P0801 F800 | | | | | |
| 2483 | P0802 0104 | | SAZ | MNTR3-*--1 | IS EQUIP ON A CHANNEL | 02483 |
| 2484 | P0803 F077 | | ADQ- | CONST+12 | YES CHANGE EQ NO FOR STATUS | 02484 |
| 2485 | P0804 5805 | | RTJ* | MNTR4 | WAIT CHANNEL NOT BUSY | 02485 |
| 2486 | P0805 F000 | MNTR2 | ADQ | =N%EFFF | | 02486 |
| | P0806 EFFF | | | | | |
| 2487 | P0807 5802 | MNTR3 | RTJ* | MNTR4 | NO WAIT EQUIP NOT BUSY | 02487 |
| 2488 | P0808 1CF1 | | JMP* | (MONITOR) | EXIT | 02488 |
| 2489 | P0809 0000 | MNTR4 | NUM | 0 | | 02489 |
| 2490 | P080A 020A | MNTR5 | INP | MNTR9-* | INPUT STATUS | 02490 |
| 2491 | P080B A06C | | AND- | CONST+1 | | 02491 |
| 2492 | P080C 0111 | | SAN | MNTR6-*--1 | IS BUSY STATUS UP | 02492 |
| 2493 | P080D 1CFB | | JMP* | (MNTR4) | NO | 02493 |
| 2494 | P080E 0809 | MNTR6 | RAO* | WNBCNT | | 02494 |
| 2495 | P080F C808 | | LDA* | WNBCNT | | 02495 |
| 2496 | P0810 0112 | | SAN | 2 | | 02496 |
| 2497 | P0811 0A02 | | ENA | 2 | | 02497 |
| 2498 | P0812 54EF | | RTJ- | (ERROR7) | | 02498 |
| 2499 | P0813 18EA | | JMP* | MNTR1 | | 02499 |
| 2500 | P0814 54EC | MNTR9 | RTJ- | (ERROR4) | INTERNAL REJ **** ERROR 4 **** | 02500 |
| 2501 | P0815 54ED | | RTJ- | (ERROR5) | EXTERNAL REJ **** ERROR 5 **** | 02501 |
| 2502 | P0816 18E7 | | JMP* | MNTR1 | | 02502 |
| 2503 | P0817 0000 | WNBCNT | NUM | 0 | | 02503 |

| | | | | | |
|------|-------|----------------------------|------|------------|-------|
| 2505 | | *INITIALIZE DATA INTERRUPT | | | 02505 |
| 2506 | | * CALLING SEQUENCE = | RTJ- | (INITDATA) | 02506 |
| 2507 | P0810 | INITDI | NUM | 0 | 02507 |
| 2508 | P0819 | | CLR | A | 02508 |
| 2509 | P081A | | STA- | DATAIF | 02509 |
| 2510 | P081B | | LDQ* | QINT | 02510 |
| 2511 | P081C | | QRS | 2 | 02511 |
| 2512 | P081D | | LDQ- | CONST,Q | 02512 |
| 2513 | P081E | | IIN | 0 | 02513 |
| 2514 | P081F | | TRB | M | 02514 |
| 2515 | P0820 | | EIN | 0 | 02515 |
| 2516 | P0821 | | JMP* | (INITDI) | 02516 |

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|------|------------|-------------------------------------|----------|-------|
| 2518 | | *INITIALIZE EOP INTERRUPT | | 02518 |
| 2519 | | * CALLING SEQUENCE = RTJ- (INITEOP) | | 02519 |
| 2520 | P0822 0000 | INITEI NUM | 0 | 02520 |
| 2521 | P0823 0844 | CLR | A | 02521 |
| 2522 | P0824 60DB | STA- | EOPIF | 02522 |
| 2523 | P0825 E8A5 | LQ* | QINT+1 | 02523 |
| 2524 | P0826 0F22 | QRS | 2 | 02524 |
| 2525 | P0827 E26B | LQ- | CONST,Q | 02525 |
| 2526 | P0828 0500 | IIN | 0 | 02526 |
| 2527 | P0829 0819 | TRB | M | 02527 |
| 2528 | P082A 0400 | EIN | 0 | 02528 |
| 2529 | P082B 1CF6 | JMP* | (INITEI) | 02529 |

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|------|------------|---------------------------------------|----------|-------|
| 2531 | | *INITIALIZE ALARM INTERRUPT | | 02531 |
| 2532 | | * CALLING SEQUENCE = RTJ- (INITALARM) | | 02532 |
| 2533 | P082C 0000 | INITAI NUM | 0 | 02533 |
| 2534 | P082D 0844 | CLR | A | 02534 |
| 2535 | P082E 60DC | STA- | ALAIF | 02535 |
| 2536 | P082F E89C | LQ* | QINT+2 | 02536 |
| 2537 | P0830 0F22 | QRS | 2 | 02537 |
| 2538 | P0831 E26B | LQ- | CONST,Q | 02538 |
| 2539 | P0832 0500 | IIN | 0 | 02539 |
| 2540 | P0833 0819 | TRB | M | 02540 |
| 2541 | P0834 0400 | EIN | 0 | 02541 |
| 2542 | P0835 1CF6 | JMP* | (INITAI) | 02542 |

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|------|---|-------|-------|---|-------|
| 2544 | * | | | INTERRUPT PROCESSOR | 02544 |
| 2545 | * | | | ERROR NUMBER 14 IF STATUS NOT DATA, EOP, OR ALARM | 02545 |
| 2547 | | P0836 | 0000 | INTPRC NUM 0 | 02547 |
| 2548 | | P0837 | 40FF | STQ- I | 02548 |
| 2549 | | P0838 | E0FB | LDQ- CHAN | 02549 |
| 2550 | | P0839 | 0151 | SQN 1 | 02550 |
| 2551 | | P083A | 180D | JMP* INTR | 02551 |
| 2552 | | P083B | F077 | ADQ- CONST+12 | 02552 |
| 2553 | | P083C | 0800 | NOP 0 | 02553 |
| 2554 | | P083D | 02FE | INP -1 | 02554 |
| 2555 | | P083E | 60D4 | STA- BDCSTAT | 02555 |
| 2556 | | P083F | A06C | AND- CONST+1 | 02556 |
| 2557 | | P0840 | 0102 | SAZ 2 | 02557 |
| 2558 | | P0841 | F000 | ADQ =N-\$1000 | 02558 |
| | | | P0842 | FFFF | |
| 2559 | | P0843 | F076 | ADQ- CONST+11 | 02559 |
| 2560 | | P0844 | 0800 | NOP 0 | 02560 |
| 2561 | | P0845 | 02FE | INP -1 | 02561 |
| 2562 | | P0846 | 60D5 | STA- BDCWA | 02562 |
| 2563 | | P0847 | E0FA | LDQ- EQUIP | 02563 |
| 2564 | | P0848 | F0DD | ADQ- STATION | 02564 |
| 2565 | | P0849 | 0800 | NOP 0 | 02565 |
| 2566 | | P084A | 02FE | INP -1 | 02566 |
| 2567 | | P084B | 6848 | STA* TEMP | 02567 |
| 2568 | | P084C | A070 | AND- CONST+5 | 02568 |
| 2569 | | P084D | 0111 | SAN 1 | 02569 |
| 2570 | | P084E | 1810 | JMP* INTR1 | 02570 |
| 2571 | | P084F | C847 | LDA* TEMP | 02571 |
| 2572 | | P0850 | 684A | STA* ALAIS | 02572 |
| 2573 | | P0851 | 0D02 | INQ 2 | 02573 |
| 2574 | | P0852 | 0800 | NOP 0 | 02574 |
| 2575 | | P0853 | 02FE | INP -1 | 02575 |
| 2576 | | P0854 | 6847 | STA* ALAIS2 | 02576 |
| 2577 | | P0855 | D0DC | RAO- ALAIF | 02577 |
| 2578 | | P0856 | C840 | LDA* TEMP | 02578 |
| 2579 | | P0857 | A06F | AND- CONST+4 | 02579 |
| 2580 | | P0858 | 0115 | SAN INTR1-*--1 | 02580 |
| 2581 | | P0859 | 080C | INTR1 TRM A | 02581 |
| 2582 | | P085A | 6500 | STA+ REG+2,I | 02582 |
| | | | P085B | 0142 | |
| 2583 | | P085C | E0FF | INTRE LDQ- I | 02583 |
| 2584 | | P085D | 1CD8 | JMP* (INTPRC) | 02584 |
| 2585 | | P085E | C838 | INTR1 LDA* TEMP | 02585 |
| 2586 | | P085F | A06F | AND- CONST+4 | 02586 |
| 2587 | | P0860 | 0104 | SAZ INTR2-*--1 | 02587 |
| 2588 | | P0861 | C835 | LDA* TEMP | 02588 |
| 2589 | | P0862 | 6837 | STA* EOPIB | 02589 |
| 2590 | | P0863 | D00B | RAO- EOPIF | 02590 |
| 2591 | | P0864 | 18F4 | JMP* INTRA | 02591 |
| 2592 | | P0865 | C831 | INTR2 LDA* TEMP | 02592 |

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|------|-------|------|--------|--------------|--------------------------|-------|
| 2593 | P0866 | A86E | AND- | CONST+3 | DATA INTERRUPT | 02593 |
| 2594 | P0867 | 0111 | SAN | 1 | YES-SKIP | 02594 |
| 2595 | P0868 | 1821 | JMP* | INTR4 | NO -JUMP | 02595 |
| 2596 | P0869 | 0A06 | ENA | 6 | | 02596 |
| 2597 | P086A | 90F9 | SUB- | SEC | SECTION 6 | 02597 |
| 2598 | P086B | 0105 | SAZ | INTR2A--1 | NO-SKIP | 02598 |
| 2599 | P086C | 0A07 | ENA | 7 | | 02599 |
| 2600 | P086D | 90F9 | SUB- | SEC | SECTION 7 | 02600 |
| 2601 | P086E | 011A | SAN | INTR0--1 | NO-SKIP | 02601 |
| 2602 | P086F | C0FB | LDA- | CHAN | ON CHANNEL | 02602 |
| 2603 | P0870 | 0118 | SAN | INTR0--1 | YES-SKIP | 02603 |
| 2604 | P0871 | E0D7 | LDQ- | COLUMN | | 02604 |
| 2605 | P0872 | CA00 | LDA | BUFFCUT+R0,Q | DATA TO OUTPUT | 02605 |
| | P0873 | 033E | | | | |
| 2606 | P0874 | E0FA | LDQ- | EQUIP | | 02606 |
| 2607 | P0875 | 003F | INQ | \$3F | | 02607 |
| 2608 | P0876 | 0311 | OUT | REJECT--* | OUTPUT DATA | 02608 |
| 2609 | P0877 | 00D7 | RAO- | COLUMN | INCREMENT COLUMN COUNTER | 02609 |
| 2610 | P0878 | 18E3 | JMP* | INTRE | | 02610 |
| 2611 | P0879 | C81D | LDA* | TEMP | | 02611 |
| 2612 | P087A | 681E | STA* | DATATS | DATA INTERRUPT STATUS | 02612 |
| 2613 | P087B | 00DA | RAO- | DATAIF | SET FLAG | 02613 |
| 2614 | P087C | C81B | LDA* | TMP | SECTION 10 | 02614 |
| 2615 | P087D | 0111 | SAN | 1 | YES-SKIP | 02615 |
| 2616 | P087E | 18DA | JMP* | INTRA | EXIT | 02616 |
| 2617 | P087F | E0FA | LDQ- | EQUIP | | 02617 |
| 2618 | P0880 | 001F | INQ | \$1F | | 02618 |
| 2619 | P0881 | 0206 | INP | REJECT--* | INPUT DATA | 02619 |
| 2620 | P0882 | E0D7 | LDQ- | COLUMN | | 02620 |
| 2621 | P0883 | 6A00 | STA | BUFFIN+R0,Q | STORE DATA | 02621 |
| | P0884 | C2DC | | | | |
| 2622 | P0885 | 00D7 | RAO- | COLUMN | INCREMENT COLUMN COUNTER | 02622 |
| 2623 | P0886 | 1805 | JMP* | INTRE | EXIT | 02623 |
| 2624 | P0887 | 0000 | NOP | 0 | | 02624 |
| 2625 | P0888 | 18D0 | JMP* | INTRA | | 02625 |
| 2626 | P0889 | C900 | LDA* | TEMP | SET UP FOR ERROR 14 | 02626 |
| 2627 | P088A | 60DF | STA- | ACT | NO INTERRUPT STATUS | 02627 |
| 2628 | P088B | 0844 | CLP | A | | 02628 |
| 2629 | P088C | 6400 | STA | EXP | | 02629 |
| | P088D | 0020 | | | | |
| 2630 | P088E | 080C | TRM | A | | 02630 |
| 2631 | P088F | 6500 | STA+ | REG+2,I | | 02631 |
| | P0890 | 0142 | | | | |
| 2632 | P0891 | 0C14 | ENQ | \$14 | | 02632 |
| 2633 | P0892 | CA10 | ENA | \$10 | | 02633 |
| 2634 | P0893 | 5800 | RTJ | ERROR? | | 02634 |
| | P0894 | 013C | | | | |
| 2635 | P0895 | 18C6 | JMP* | INTRE | | 02635 |
| 2637 | P0896 | 0000 | TEMP | NUM | 0 | 02637 |
| 2638 | P0897 | 0000 | TMP | NUM | 0 | 02638 |
| 2639 | P0898 | 0000 | DATATS | NUM | 0 | 02639 |
| 2640 | P0899 | 0000 | EOPIS | NUM | 0 | 02640 |

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|------|-------|------|--------|------|----------|--------------------------------|--|--|-------|
| 2641 | P089A | 0000 | ALAIS | NUM | 0 | | | | 02641 |
| 2642 | P089B | 0000 | ALAIS2 | NUM | 0 | | | | 02642 |
| | | | | | | | | | |
| 2644 | P089C | 0000 | DLYPAR | NUM | 0 | | | | 02644 |
| 2645 | P089D | 0A10 | | ENA | \$10 | | | | 02645 |
| 2646 | P089E | 5406 | | RTJ- | (JUMP) | REPEAT CONDITIONS | | | 02646 |
| 2647 | P089F | 1814 | | JMP* | DL3 | | | | 02647 |
| 2648 | P08A0 | E81D | | LDQ* | INCR | BRING UP INCREMENTER (10X) | | | 02648 |
| 2649 | P08A1 | C81B | DL1 | LDA* | DELAY | BRING UP LAST DELAY TIME (10X) | | | 02649 |
| 2650 | P08A2 | 0834 | | AAQ | A | ADD TOGETHER | | | 02650 |
| 2651 | P08A3 | 6819 | | STA* | DELAY | SAVE FOR NEXT PASS | | | 02651 |
| 2652 | P08A4 | 0907 | | INA | 7 | | | | 02652 |
| 2653 | P08A5 | A087 | | AND- | H7FFF | | | | 02653 |
| 2654 | P08A6 | 0F44 | | ARS | 4 | ROUND OFF (1X) | | | 02654 |
| 2655 | P08A7 | 9800 | | SUB | PARAM4 | | | | 02655 |
| | P08A8 | FEE7 | | | | | | | |
| 2656 | P08A9 | 0104 | | SAZ | DL2-*--1 | | | | 02656 |
| 2657 | P08AA | 0133 | | SAM | DL2-*--1 | CHECK IF OVER MAX LIMIT | | | 02657 |
| 2658 | P08AB | 0852 | | TCQ | Q | YES COMPLEMENT INCREMENTER | | | 02658 |
| 2659 | P08AC | 4811 | | STQ* | INCR | | | | 02659 |
| 2660 | P08AD | 1AF3 | | JMP* | DL1 | REDO | | | 02660 |
| 2661 | P08AE | 8800 | DL2 | ADD | PARAM4 | RESTORE NUMBER | | | 02661 |
| | P08AF | FEE0 | | | | | | | |
| 2662 | P08B0 | 0112 | | SAN | DL3-*--1 | CHECK IF AT LOWER LI IT (0) | | | 02662 |
| 2663 | P08B1 | 0852 | | TCQ | Q | | | | 02663 |
| 2664 | P08B2 | 4808 | | STQ* | INCR | YES COMPLEMENT INCREMENTER | | | 02664 |
| 2665 | P08B3 | E809 | DL3 | LDQ* | DELAY | | | | 02665 |
| 2666 | P08B4 | 0D07 | | INO | 7 | ROUND OFF (1X) | | | 02666 |
| 2667 | P08B5 | A087 | | AND- | H7FFF | | | | 02667 |
| 2668 | P08B6 | 0F24 | | QRS | 4 | | | | 02668 |
| 2669 | P08B7 | 5807 | DL4 | RTJ* | MILLI | DO ITERATIONS IN Q | | | 02669 |
| 2670 | P08B8 | 0142 | | SQZ | DL5 | | | | 02670 |
| 2671 | P08B9 | 0DFE | | INQ | -1 | | | | 02671 |
| 2672 | P08BA | 18FC | | JMP* | DL4 | | | | 02672 |
| 2673 | P08BB | 1CE0 | DL5 | JMP* | (DLYPAR) | | | | 02673 |
| 2674 | P08BC | 0000 | DELAY | NUM | 0 | | | | 02674 |
| 2675 | P08BD | 0000 | INCR | NUM | 0 | | | | 02675 |

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|------|------------|------------------------|------|----------|----------------------|-------|
| 2677 | | *DELAY ONE MILLISECOND | | | | 02677 |
| 2678 | P08BE 0000 | MILLI | NUM | 0 | | 02678 |
| 2679 | P08BF 4809 | | STQ* | MILLIQ | SAVE Q | 02679 |
| 2680 | P08C0 C056 | | LDA- | SMMCNT | SMM PARAMETER | 02680 |
| 2681 | P08C1 0F42 | | ARS | 2 | | 02681 |
| 2682 | P08C2 0C03 | | ENQ | 3 | MASK VALUE | 02682 |
| 2683 | P08C3 08B2 | | LAQ | Q | PUT INDEX VALUE IN Q | 02683 |
| 2684 | P08C4 CA05 | | LDA* | MILVAL,Q | | 02684 |
| 2685 | P08C5 E803 | | LDQ* | MILLIQ | RESTORE Q | 02685 |
| 2686 | P08C6 5807 | | RTJ* | CYCLES | | 02686 |
| 2687 | P08C7 1CF6 | | JMP* | (MILLI) | | 02687 |
| 2688 | P08C8 0000 | MILLIQ | NUM | 0 | Q REG TEMP SAVE | 02688 |
| 2689 | P08C9 0129 | MILVAL | NUM | \$129 | 1.1US CONSTANT | 02689 |
| 2690 | P08CA 00C1 | | NUM | \$C1 | 1.5US | 02690 |
| 2691 | P08CB 017A | | NUM | \$17A | 900 NS. | 02691 |
| 2692 | P08CC 0280 | | NUM | \$280 | 600 NS. | 02692 |

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|------|------------|----------------------|------|------------------------------------|--|-------|
| 2694 | | *DELAY X CYCLE TIMES | | | | 02694 |
| 2695 | | * | | X IS THE NUMBER IN THE A-REGISTER. | | 02695 |
| 2696 | P08CD 0000 | CYCLES | NUM | 0 | | 02696 |
| 2697 | P08CE 09FE | | INA | -1 | | 02697 |
| 2698 | P08CF 0131 | | SAM | 1 | | 02698 |
| 2699 | P08D0 18FD | | JMP* | *-2 | | 02699 |
| 2700 | P08D1 1CFB | | JMP* | (CYCLES) | | 02700 |

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|------|------------|-------------------|--|-------------------|------------------------------|-------|
| 2702 | | *GENERATE PATTERN | | | | 02702 |
| 2703 | | * | CALLING SEQUENCE IS | ENA X PATTERN NO. | | 02703 |
| 2704 | | * | | RTJ- (GENERATE) | | 02704 |
| 2705 | | * | FILL OUTPUT BUFFER AREA WITH PATTERN NO. SPECIFIED IN A. | | | 02705 |
| 2706 | | * | PATTERN 0 = TWO-FIVE (555, AAA, 555, AAA, ETC.) | | | 02706 |
| 2707 | | * | PATTERN 1 = SHIFTED ONE (001, 002, 004, ---, 800, 001, 002, ETC.) | | | 02707 |
| 2708 | | * | PATTERN 2 = SHIFTED ZERO (FFE, FFD, FFB, ---, 7FF, FFE, FFD, ETC.) | | | 02708 |
| 2709 | | * | PATTERN 3 = RANDOM (WORD(N+1) = WORD(N) + ADDEND) | | | 02709 |
| 2710 | | * | PATTERN 4 = HALF-CARD (FIRST HALF OF CARD BLANK) | | | 02710 |
| 2711 | | * | PATTERN 5 = END-OF-FILE CARD (NO PARITY OR HOLE COUNT BITS) | | | 02711 |
| 2712 | P08D2 0000 | GEN | NUM | 0 | | 02712 |
| 2713 | P08D3 0822 | | TRA | Q | | 02713 |
| 2714 | P08D4 4800 | | STQ | PATNO | SAVE PATTERN NO. FOR ERRORS. | 02714 |
| | P08D5 019A | | | | | |
| 2715 | P08D6 1A01 | | JMP* | *+1,Q | | 02715 |

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|------|-------|------|--------|-------|--------------|---------------------------------|-------|
| 2716 | P08D7 | 1806 | JMP* | PATT0 | | 02716 | |
| 2717 | P08D8 | 1817 | JMP* | PATT1 | | 02717 | |
| 2718 | P08D9 | 1830 | JMP* | PATT2 | | 02718 | |
| 2719 | P08DA | 1832 | JMP* | PATT3 | | 02719 | |
| 2720 | P08DB | 1850 | JMP* | PATT4 | | 02720 | |
| 2721 | P08DC | 1862 | JMP* | PATT5 | | 02721 | |
| | | | | | | | |
| 2723 | P08DD | C000 | PATT0 | LDA | =N\$0555 | 555 | 02723 |
| | P08DE | 0555 | | | | | |
| 2724 | P08DF | 0CB1 | | ENQ | -78 | | 02724 |
| 2725 | P08E0 | 6A00 | PATT0A | STA | BUFFOUT+78,Q | | 02725 |
| | P08E1 | 02CE | | | | | |
| 2726 | P08E2 | 8000 | | EOR | =N\$0FFF | AAA | 02726 |
| | P08E3 | 0FFF | | | | | |
| 2727 | P08E4 | 0D01 | | INQ | 1 | | 02727 |
| 2728 | P08E5 | 0141 | | SQZ | 1 | | 02728 |
| 2729 | P08E6 | 18F9 | | JMP* | PATT0A | | 02729 |
| 2730 | P08E7 | 0344 | | CLR | A | | 02730 |
| 2731 | P08E8 | 6800 | | STA | BUFFOUT+78 | PARITY. | 02731 |
| | P08E9 | 02C6 | | | | | |
| 2732 | P08EA | C000 | | LDA | =N468 | | 02732 |
| | P08EB | 01D4 | | | | | |
| 2733 | P08EC | 6800 | | STA | BUFFOUT+79 | HOLE COUNT. | 02733 |
| | P08ED | 02C3 | | | | | |
| 2734 | P08EE | 1CE3 | | JMP* | (GEN) | | 02734 |
| | | | | | | | |
| 2736 | P08EF | 0A01 | PATT1 | ENA | 1 | 001 | 02736 |
| 2737 | P08F0 | 0CB1 | | ENQ | -78 | | 02737 |
| 2738 | P08F1 | 40FF | | STQ- | I | | 02738 |
| 2739 | P08F2 | 6900 | PATT1A | STA | BUFFOUT+78,I | | 02739 |
| | P08F3 | 028C | | | | | |
| 2740 | P08F4 | 0842 | | CLR | Q | | 02740 |
| 2741 | P08F5 | 0FE5 | | LLS | 5 | SHIFT 12-BIT WORD LEFT | 02741 |
| 2742 | P08F6 | 0FCC | | ALS | 12 | | 02742 |
| 2743 | P08F7 | 0834 | | AAQ | A | ONE PLACE END-AROUND. | 02743 |
| 2744 | P08F8 | 00FF | | RAQ- | I | | 02744 |
| 2745 | P08F9 | E0FF | | LQQ- | I | | 02745 |
| 2746 | P08FA | 0141 | | SQZ | 1 | | 02746 |
| 2747 | P08FB | 18F6 | | JMP* | PATT1A | | 02747 |
| 2748 | P08FC | 0A3F | | ENA | \$3F | | 02748 |
| 2749 | P08FD | 6800 | | STA | BUFFOUT+78 | PARITY FOR BOTH PATTERNS 1 + 2. | 02749 |
| | P08FE | 0281 | | | | | |
| 2750 | P08FF | 0A01 | | ENA | 1 | | 02750 |
| 2751 | P0900 | 0800 | | EOR | BUFFOUT | | 02751 |
| | P0901 | 0260 | | | | | |
| 2752 | P0902 | 0102 | | SAZ | 2 | | 02752 |
| 2753 | P0903 | C000 | | LDA | =N780 | HOLE COUNT = 864 FOR PATTERN 2, | 02753 |
| | P0904 | 030C | | | | | |
| 2754 | P0905 | 0954 | | INA | 84 | 84 FOR PATTERN 1. | 02754 |

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|------|--------------|--------|------|--------------|----------------------------------|--------|
| 2755 | P0906 6800 | | STA | BUFFOUT+79 | | 02755 |
| | P0907 02A9 | | | | | |
| 2756 | P0908 1CC9 | | JMP* | (GEN) | | 02756. |
| 2758 | P0909 C000 | PATT2 | LDA | =N\$OFFE | FFE | 02758 |
| | P090A 0FFE | | | | | |
| 2759 | P090B 18E4 | | JMP* | PATT1+1 | | 02759 |
| 2761 | P090C C077 | PATT3 | LDA- | CONST+12 | | 02761 |
| 2762 | P090D 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP 12. | 02762 |
| 2763 | P090E 1805 | | JMP* | BASE-1 | USE OLD BASE WORD IF SET. | 02763 |
| 2764 | P090F C000 | | LDA | =XBASE | | 02764 |
| | P0910 0914 P | | | | | |
| 2765 | P0911 0C01 | | ENQ | 1 | | 02765 |
| 2766 | P0912 5407 | | RTJ- | (GENRAN) | GENERATE RANDOM NUMBER. | 02766 |
| 2767 | P0913 C000 | | LDA- | 0 | | 02767 |
| 2768 | P0914 1728 | BASE | NUM | \$1728 | BASE WORD. | 02768 |
| 2769 | P0915 A000 | | AND | =N\$OFFF | | 02769 |
| | P0916 0FFF | | | | | |
| 2770 | P0917 68FC | | STA* | BASE | | 02770 |
| 2771 | P0918 6800 | | STA | BUFFOUT | FIRST WORD = SECOND WORD. | 02771 |
| | P0919 0248 | | | | | |
| 2772 | P091A 6800 | | STA | BUFFOUT+1 | | 02772 |
| | P091B 0247 | | | | | |
| 2773 | P091C 0822 | | TRA | Q | | 02773 |
| 2774 | P091D 0A83 | | ENA | -76 | | 02774 |
| 2775 | P091E 60FF | | STA- | I | | 02775 |
| 2776 | P091F 4900 | PATT3A | STQ | BUFFOUT+78,I | | 02776 |
| | P0920 028F | | | | | |
| 2777 | P0921 F8F2 | | ADQ* | BASE | | 02777 |
| 2778 | P0922 0844 | | CLR | A | | 02778 |
| 2779 | P0923 0FE4 | | LLS | 4 | 12-BIT ADD TO FORM NEXT WORD. | 02779 |
| 2780 | P0924 0FAC | | QLS | 12 | | 02780 |
| 2781 | P0925 0832 | | AAQ | Q | | 02781 |
| 2782 | P0926 D0FF | | RAO- | I | | 02782 |
| 2783 | P0927 C0FF | | LDA- | I | | 02783 |
| 2784 | P0928 0101 | | SAZ | 1 | | 02784 |
| 2785 | P0929 18F5 | | JMP* | PATT3A | | 02785 |
| 2786 | P092A 1820 | | JMP* | PARITY | | 02786 |
| 2788 | P092B 0844 | PATT4 | GLR | A | | 02788 |
| 2789 | P092C 0CB1 | | ENQ | -78 | | 02789 |
| 2790 | P092D 6A00 | PATT4A | STA | BUFFOUT+78,Q | | 02790 |
| | P092E 0281 | | | | | |
| 2791 | P092F 0001 | | INQ | 1 | ALL COLUMNS ZERO EXCEPT 40,79,80 | 02791 |
| 2792 | F0930 0141 | | SQZ | 1 | | 02792 |
| 2793 | P0931 18FB | | JMP* | PATT4A | | 02793 |

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|------|-------|------|------|-------------|-------------|-------|
| 2794 | P0932 | C000 | LDA | =N\$801 | | 02794 |
| | P0933 | 0801 | | | | |
| 2795 | P0934 | E800 | LDQ | PARAM3 | | 02795 |
| | P0935 | FE59 | | | | |
| 2796 | P0936 | 6A00 | STA | BUFFOUT-1,Q | | 02796 |
| | P0937 | 0229 | | | | |
| 2797 | P0938 | 6800 | STA | BUFFOUT+78 | PARITY. | 02797 |
| | P0939 | 0276 | | | | |
| 2798 | P093A | 0A04 | ENA | 4 | | 02798 |
| 2799 | P093B | 6800 | STA | BUFFOUT+79 | HOLE COUNT. | 02799 |
| | P093C | 0274 | | | | |
| 2800 | P093D | 1C94 | JMP* | (GEN) | | 02800 |

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|------|-------|------|--------|------|--------------|----------------------|-------|
| 2802 | P093E | 0A03 | PATT5 | ENA | 3 | END-OF-FILE PATTERN. | 02802 |
| 2803 | P093F | 6800 | | STA | BUFFOUT | | 02803 |
| | P0940 | 0221 | | | | | |
| 2804 | P0941 | 0844 | | CLR | A | | 02804 |
| 2805 | P0942 | 0C80 | | ENQ | -79 | | 02805 |
| 2806 | P0943 | 6A00 | PATT5A | STA | BUFFOUT+80,Q | | 02806 |
| | P0944 | 026D | | | | | |
| 2807 | P0945 | 0D01 | | INQ | 1 | | 02807 |
| 2808 | P0946 | 0141 | | SQZ | 1 | | 02808 |
| 2809 | P0947 | 18FB | | JMP* | PATT5A | | 02809 |
| 2810 | P0948 | 1C00 | | JMP | (GEN) | | 02810 |
| | P0949 | FF88 | | | | | |

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|------|-------|------|-----------------------------------|------|--------------|----------------------|-------|
| 2813 | | | *DETERMINE PARITY AND HOLE COUNT. | | | | 02813 |
| 2814 | P094A | 0844 | PARITY | CLR | A | | 02814 |
| 2815 | P094B | 0C81 | | ENQ | -78 | | 02815 |
| 2816 | P094C | 8A00 | | EOR | BUFFOUT+78,Q | | 02816 |
| | P094D | 0262 | | | | | |
| 2817 | P094E | 0D01 | | INQ | 1 | | 02817 |
| 2818 | P094F | 0141 | | SQZ | 1 | | 02818 |
| 2819 | P0950 | 18FB | | JMP* | *-4 | | 02819 |
| 2820 | P0951 | 6800 | | STA | BUFFOUT+78 | STORE PARITY COLUMN. | 02820 |
| | P0952 | 025D | | | | | |
| 2821 | P0953 | 0844 | | CLR | A | | 02821 |
| 2822 | P0954 | 0C80 | | ENQ | -79 | | 02822 |
| 2823 | P0955 | 6800 | | STA | BUFFOUT+79 | | 02823 |
| | P0956 | 025A | | | | | |
| 2824 | P0957 | 40FF | | STQ- | I | | 02824 |
| 2825 | P0958 | 0CF3 | PYA | ENQ | -12 | | 02825 |
| 2826 | P0959 | C900 | | LDA | BUFFOUT+79,I | | 02826 |
| | P095A | 0256 | | | | | |
| 2827 | P095B | 0FC3 | | ALS | 3 | | 02827 |
| 2828 | P095C | 0D01 | PYB | INQ | 1 | | 02828 |

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|------|------------|------|------------|-------|
| 2829 | P095D 0FC1 | ALS | 1 | 02829 |
| 2830 | P095E 0122 | SAP | 2 | 02830 |
| 2831 | P095F D800 | RAJ | BUFFOUT+79 | 02831 |
| | P0960 0250 | | | |
| 2832 | P0961 0141 | SQZ | 1 | 02832 |
| 2833 | P0962 18F9 | JMP* | PYB | 02833 |
| 2834 | P0963 D0FF | RAO- | I | 02834 |
| 2835 | P0964 C0FF | LDA- | I | 02835 |
| 2836 | P0965 0101 | SAZ | 1 | 02836 |
| 2837 | P0966 18F1 | JMP* | PYA | 02837 |
| 2838 | P0967 1C00 | JMP | (GEN) | 02838 |
| | P0968 FF69 | | | |

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|------|------------|------------------------------------|---|-------|
| 2840 | | *MESSAGE TO OPERATOR IN SECTION 12 | | 02840 |
| 2841 | P0969 8D0A | MESSG | NUM 8D0A | 02841 |
| 2842 | P096A 5345 | ALF | Z,SET PROT. SWITCH ON 17X4, AND 1728, CLEAR SEL STOPZ | 02842 |
| | P096B 5420 | | | |
| | P096C 5052 | | | |
| | P096D 4F54 | | | |
| | P096E 2E20 | | | |
| | P096F 5357 | | | |
| | P0970 4954 | | | |
| | P0971 4348 | | | |
| | P0972 2C4F | | | |
| | P0973 4E20 | | | |
| | P0974 3137 | | | |
| | P0975 5834 | | | |
| | P0976 2C20 | | | |
| | P0977 414E | | | |
| | P0978 4420 | | | |
| | P0979 3137 | | | |
| | P097A 3238 | | | |
| | P097B 2C20 | | | |
| | P097C 434C | | | |
| | P097D 4541 | | | |
| | P097E 5220 | | | |
| | P097F 5345 | | | |
| | P0980 4C20 | | | |
| | P0981 5354 | | | |
| | P0982 4F50 | | | |
| 2843 | P0983 8D0A | NUM | 8D0A | 02843 |
| 2844 | P0984 4849 | ALF | Z,HIT GO, IMMEDIATELY SET SEL STOP Z | 02844 |
| | P0985 5420 | | | |
| | P0986 474F | | | |
| | P0987 2C20 | | | |
| | P0988 4940 | | | |
| | P0989 4D45 | | | |
| | P098A 4449 | | | |
| | P098B 4154 | | | |
| | P098C 454C | | | |
| | P098D 5920 | | | |
| | P098E 5345 | | | |

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|------|-------|------|------------------------------------|-----|--|-------|
| | P098F | 5420 | | | | |
| | P0990 | 5345 | | | | |
| | P0991 | 4C20 | | | | |
| | P0992 | 5354 | | | | |
| | P0993 | 4F50 | | | | |
| | P0994 | 2020 | | | | |
| 2845 | P0995 | 8D0A | MESSD | NUM | \$8D0A | 02845 |
| 2847 | | | *MESSAGE TO OPERATOR IN SECTION 13 | | | 02847 |
| 2848 | P0996 | 4341 | ALF | | Z, CAUSE ALARM ON 1728 - (EMPTY INPUT HOPPER AND Z | 02848 |
| | P0997 | 5553 | | | | |
| | P0998 | 4520 | | | | |
| | P0999 | 414C | | | | |
| | P099A | 4152 | | | | |
| | P099B | 4D20 | | | | |
| | P099C | 4F4E | | | | |
| | P099D | 2031 | | | | |
| | P099E | 3732 | | | | |
| | P099F | 3820 | | | | |
| | P09A0 | 2D20 | | | | |
| | P09A1 | 2845 | | | | |
| | P09A2 | 4D50 | | | | |
| | P09A3 | 5459 | | | | |
| | P09A4 | 2049 | | | | |
| | P09A5 | 4E50 | | | | |
| | P09A6 | 5554 | | | | |
| | P09A7 | 2048 | | | | |
| | P09A8 | 4F50 | | | | |
| | P09A9 | 5045 | | | | |
| | P09AA | 5220 | | | | |
| | P09AB | 414E | | | | |
| | P09AC | 4420 | | | | |
| 2849 | P09AD | 8D0A | NUM | | \$8D0A | 02849 |
| 2850 | P09AE | 4D41 | ALF | | Z, MAKE 1728 NOT READY), HIT GO Z | 02850 |
| | P09AF | 4B45 | | | | |
| | P09B0 | 2031 | | | | |
| | P09B1 | 3732 | | | | |
| | P09B2 | 3820 | | | | |
| | P09B3 | 4E4F | | | | |
| | P09B4 | 5420 | | | | |
| | P09B5 | 5245 | | | | |
| | P09B6 | 4144 | | | | |
| | P09B7 | 5929 | | | | |
| | P09B8 | 2C20 | | | | |
| | P09B9 | 4849 | | | | |
| | P09BA | 5420 | | | | |
| | P09BB | 474F | | | | |
| | P09BC | 2020 | | | | |
| 2851 | P09BD | 8D0A | MESSE | NUM | \$8D0A | 02851 |
| 2852 | P09BE | 434C | ALF | | Z, CLEAR PROT. SWITCH ON 17X4 AND 1728, HIT GO Z | 02852 |
| | P09BF | 4541 | | | | |
| | P09C0 | 5220 | | | | |

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|-------|-------|------|-------|-----|--------|-------|
| P09C1 | 5052 | | | | | |
| P09C2 | 4F54 | | | | | |
| P09C3 | 2E20 | | | | | |
| P09C4 | 5357 | | | | | |
| P09C5 | 4954 | | | | | |
| P09C6 | 4348 | | | | | |
| P09C7 | 204F | | | | | |
| P09C8 | 4E20 | | | | | |
| P09C9 | 3137 | | | | | |
| P09CA | 5834 | | | | | |
| P09CB | 2041 | | | | | |
| P09CC | 4E44 | | | | | |
| P09CD | 2031 | | | | | |
| P09CE | 3732 | | | | | |
| P09CF | 382C | | | | | |
| P09D0 | 2048 | | | | | |
| P09D1 | 4954 | | | | | |
| P09D2 | 2047 | | | | | |
| P09D3 | 4F20 | | | | | |
| 2853 | P09D4 | 806A | MESSF | NUM | \$800A | 02853 |

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|------|-------|------|----------------------------|------|----------|-------|
| 2855 | | | *CHECK DATA READ FROM CARD | | | 02855 |
| 2856 | P09D5 | 0000 | CHECK | NUM | 0 | 02856 |
| 2857 | P09D6 | 0844 | | CLR | A | 02857 |
| 2858 | P09D7 | 60D9 | | STA- | E0FFLAG | 02858 |
| 2859 | P09D8 | 60E2 | | STA- | OFFSTF | 02859 |
| 2860 | P09D9 | C800 | | LDA | RUFFTN | 02860 |
| | P09DA | 0136 | | | | |
| 2861 | P09DB | 0822 | | TRA | Q | 02861 |
| 2862 | P09DC | 0111 | | SAN | 1 | 02862 |
| 2863 | P09DD | 1837 | | JMP* | CHK4 | 02863 |
| 2864 | P09DE | 8000 | | EOR | RUFFIN+1 | 02864 |
| | P09DF | 0132 | | | | |
| 2865 | P09E0 | 0111 | | SAN | 1 | 02865 |
| 2866 | P09E1 | 182A | | JMP* | CHK3 | 02866 |
| 2867 | P09E2 | C0C0 | | LDA | =N\$0555 | 02867 |
| | P09E3 | 0555 | | | | |
| 2868 | P09E4 | 0874 | | EAQ | A | 02868 |
| 2869 | P09E5 | 0111 | | SAN | 1 | 02869 |
| 2870 | P09E6 | 181F | | JMP* | CHK0 | 02870 |
| 2871 | P09E7 | 0A01 | | ENA | 1 | 02871 |
| 2872 | P09E8 | 0874 | | EAQ | A | 02872 |
| 2873 | P09E9 | 0111 | | SAN | 1 | 02873 |
| 2874 | P09EA | 181D | | JMP* | CHK1 | 02874 |

CLEAR END-OF-FILE FLAG.
CLEAR OFFSET FLAG.

CHECK WHETHER COLUMN 1 = 000.
IF SO, EXPECT PATTERN 4.
CHECK WHETHER COL 1 = COL 2.

IF SO, EXPECT PATTERN 3.

CHECK WHETHER COLUMN 1 = 555.
IF SO, EXPLCT PATTERN 0.
CHECK WHETHER COLUMN 1 = 001.
IF SO, EXPECT PATTERN 1.

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|------|------------|------|---------|-------------------------------|-------|
| 2875 | P09EB C000 | LDA | =NSOFFE | | 02875 |
| | P09EC 0FFE | | | | |
| 2876 | P09ED 0874 | EAQ | A | CHECK WHETHER COLUMN 1 = FFE. | 02876 |
| 2877 | P09EE 0111 | SAN | 1 | | 02877 |
| 2878 | P09EF 181A | JMP* | CHK2 | IF SO, EXPECT PATTERN 2. | 02878 |
| 2879 | P09F0 0A03 | ENA | 3 | | 02879 |
| 2880 | P09F1 0874 | EAQ | A | CHECK WHETHER COLUMN 1 = 003. | 02880 |
| 2881 | P09F2 0111 | SAN | 1 | | 02881 |
| 2882 | P09F3 182C | JMP* | CHK5 | IF SO, EXPECT PATTERN 5. | 02882 |

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|------|--------------|--------------------------|--------|--------------------------------|---------------------------------|
| 2884 | | *CANNOT IDENTIFY PATTERN | | | 02884 |
| 2885 | P09F4 0A06 | CHECKA | ENA | 6 | 02885 |
| 2886 | P09F5 687A | | STA* | PATTNO | PATTERN NO. = 6 FOR ERRORS. |
| 2887 | P09F6 00E2 | | RAO- | OFFSTF | SET OFFSET FLAG. |
| 2888 | P09F7 C800 | | LDA | BUFFIN | DISPLAY FIRST TWO COLUMNS |
| | P09F8 0118 | | | | IN ERROR MESSAGE. |
| 2889 | P09F9 60DF | | STA- | ACT | |
| 2890 | P09FA E800 | | LDQ | BUFFIN+1 | |
| | P09FB 0116 | | | | |
| 2891 | P09FC 40E0 | | STQ- | EXP | |
| 2892 | P09FD 0C12 | | ENQ | \$12 | ERROR 12, UNIDENTIFIED PATTERN. |
| 2893 | P09FE 0A10 | | ENA | \$10 | 3 STOPS. |
| 2894 | P09FF 5851 | | RTJ* | ERROR | |
| 2895 | P0A00 C000 | | LDA | =XCHKPAR | PARITY AND HOLE COUNT WILL BE |
| | P0A01 0A37 P | | | | |
| 2896 | P0A02 64F8 | | STA- | (GENERATE) | SET UP RETURN FROM SUBROUTINE. |
| 2897 | P0A03 1800 | JMP | PARITY | GENERATE PARITY AND HOLE COUNT | |
| | P0A04 FF45 | | | | |

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|------|------------|------|------|--------|---------------------|-------|
| 2899 | P0A05 0844 | CHK0 | CLR | A | PATTERN 0, TWO-FIVE | 02899 |
| 2900 | P0A06 1818 | | JMP* | CHECKB | | 02900 |

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|------|------------|------|------|--------|--------------------------|-------|
| 2902 | P0A07 0A01 | CHK1 | ENA | 1 | PATTERN 1, SHIFTING ONE. | 02902 |
| 2903 | P0A08 1819 | | JMP* | CHECKB | | 02903 |

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|------|------------|------|------|--------|---------------------------|-------|
| 2905 | P0A09 0A02 | CHK2 | ENA | 2 | PATTERN 2, SHIFTING ZERO. | 02905 |
| 2906 | P0A0A 1817 | | JMP* | CHECKB | | 02906 |
| 2907 | P0A0B 4800 | CHK3 | STQ | BASE | STORE BASE WORD. | 02907 |
| | P0A0C FF07 | | | | | |

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|------|--------------|--|------|----------|-------------------------------|-------|
| 2908 | P0A0D 0A03 | | ENA | 3 | | 02908 |
| 2909 | P0A0E 6861 | | STA* | PATTNO | STORE PATTERN NO. FOR ERRORS. | 02909 |
| 2910 | P0A0F C800 | | LDA | =XCHECKC | | 02910 |
| | P0A10 0A22 P | | | | | |

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|------|------------|-----|--------|--------------------------|--------------------------------|-------|
| 2911 | P0A11 64F8 | | STA- | (GENERATE) | SET UP RETURN FROM SUBROUTINE. | 02911 |
| 2912 | P0A12 1800 | JMP | BASE-1 | GENERATE RANDOM PATTERN. | | 02912 |
| | P0A13 FEFF | | | | | |

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|------|-------|------|--------|------|-------------|-------------------------------|-------|
| 2914 | POA14 | 0844 | CHK4 | CLR | A | | 02914 |
| 2915 | POA15 | 0C4F | | ENQ | 79 | | 02915 |
| 2916 | POA16 | 8A00 | CHK4A | ADD | BUFFIN,Q | | 02916 |
| | POA17 | 06F9 | | | | | |
| 2917 | POA18 | 0114 | | SAN | CHK4C-*--1 | SKIP IF SINGLE COLUMN PATTERN | 02917 |
| 2918 | POA19 | 0142 | | SQZ | CHK4B-*--1 | SKIP IF RANDOM PATTERN | 02918 |
| 2919 | POA1A | 00FE | | INQ | -1 | | 02919 |
| 2920 | POA1B | 18FA | | JMP* | CHK4A | | 02920 |
| 2921 | POA1C | 18EE | CHK4B | JMP* | CHK3 | | 02921 |
| 2922 | POA1D | 0A04 | CHK4C | ENA | 4 | | 02922 |
| 2923 | POA1E | 1803 | | JMP* | CHECKB | | 02923 |
| 2925 | POA1F | 0A05 | CHK5 | ENA | 5 | PATTERN 5, END-OF-FILE. | 02925 |
| 2926 | POA20 | 00D9 | | RAO- | EOFFLAG | SET END-OF-FILE FLAG. | 02926 |
| 2927 | POA21 | 54F8 | CHECKB | RTJ- | (GENERATE) | GENERATE PATTERN. | 02927 |
| 2929 | POA22 | 0A01 | CHECKC | ENA | 1 | | 02929 |
| 2930 | POA23 | 60D7 | | STA- | COLUMN | INITIALIZE COLUMN COUNTER. | 02930 |
| 2931 | POA24 | E0D7 | CHECKD | LDQ- | COLUMN | | 02931 |
| 2932 | POA25 | CA00 | | LDA | BUFFIN-1,Q | ACTUAL DATA. | 02932 |
| | POA26 | 00E9 | | | | | |
| 2933 | POA27 | EA00 | | LDQ | BUFFOUT-1,Q | EXPECTED DATA. | 02933 |
| | POA28 | 0138 | | | | | |
| 2934 | POA29 | 60DF | | STA- | ACT | SAVE FOR ERROR MESSAGE. | 02934 |
| 2935 | POA2A | 40E0 | | STQ- | EXP | | 02935 |
| 2936 | POA2B | 0874 | | EAQ | A | COMPARE DATA. | 02936 |
| 2937 | POA2C | 010C | | SAZ | CHECKE-*--1 | SKIP IF OKAY. | 02937 |
| 2938 | POA2D | 00E2 | | RAO- | OFFSTF | SET OFFSET FLAG. | 02938 |
| 2939 | POA2E | 0C10 | | ENQ | \$10 | ERROR 10, DATA ERROR. | 02939 |
| 2940 | POA2F | 0A20 | | ENA | \$20 | 4 STOPS. | 02940 |
| 2941 | POA30 | 582D | | RTJ* | ERROR | | 02941 |
| 2942 | POA31 | 0A10 | | ENA | \$10 | | 02942 |
| 2943 | POA32 | 5406 | | RTJ- | (JUMP) | CHECK STOP/JUMP BIT 4. | 02943 |
| 2944 | POA33 | 1806 | | JMP* | CHECKE | CONTINUE CHECKING IF SET. | 02944 |
| 2945 | POA34 | 0A80 | | ENA | -79 | | 02945 |
| 2946 | POA35 | 80D7 | | ADD- | COLUMN | | 02946 |
| 2947 | POA36 | 0122 | | SAP | CHECKE-*--1 | | 02947 |
| 2948 | POA37 | 0A4F | CHKPAR | ENA | 79 | CHECK PARITY AND HOLE COUNT. | 02948 |
| 2949 | POA38 | 18EA | | JMP* | CHECKD-1 | | 02949 |
| 2950 | POA39 | 00D7 | CHECKE | RAO- | COLUMN | INCREMENT COLUMN COUNT. | 02950 |
| 2951 | POA3A | 00D7 | | LDA- | COLUMN | | 02951 |
| 2952 | POA3B | 09AE | | INA | -81 | | 02952 |
| 2953 | POA3C | 0121 | | SAP | 1 | | 02953 |
| 2954 | POA3D | 18E6 | | JMP* | CHECKD | LOOP IF NOT COLUMN 80. | 02954 |
| 2955 | POA3E | 1C00 | | JMP | (CHECK) | | 02955 |
| | POA3F | FF95 | | | | | |

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|------|------------|---------|----------------------------------|----------|---------------------------------|
| 2957 | | *OFFSET | END-OF-FILE CARD. WAIT NOT BUSY. | | 02957 |
| 2958 | POA40 0000 | OFFSET | NUM | 0 | 02958 |
| 2959 | POA41 E0FA | | LNQ- | EQUIP | EQ. NO., Q00 SET. |
| 2960 | POA42 0D40 | | INQ | \$40 | SET Q06 (STATION 2). |
| 2961 | POA43 C000 | | LDA | =N\$0181 | SET A06, A07, AND A00. |
| | POA44 0181 | | | | |
| 2962 | POA45 03FE | | OUT | -1 | SELECT FEED, CLEAR, AND OFFSET. |
| 2963 | POA46 0AE1 | | ENA | -30 | |
| 2964 | POA47 60D6 | | STA- | TIME | INITIAL TIME |
| 2965 | POA48 54E5 | | RTJ- | (SMH) | GO TO MONITOR AND BACK. |
| 2966 | POA49 5800 | OFFST1 | RTJ | MILLI | DELAY 1 MSEC |
| | POA4A FE73 | | | | |
| 2967 | POA4B D0D6 | | RAO- | TIME | INCREMENT TIME COUNTER. |
| 2968 | POA4C C0D6 | | LDA- | TIME | |
| 2969 | POA4D 0121 | | SAP | 1 | |
| 2970 | POA4E 18FA | | JMP* | OFFST1 | DELAY 30 MSEC FOR OFFSET |
| 2971 | POA4F 1CF0 | | JMP* | (OFFSET) | |

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|------|------------|-------------|--|----------|---------------------------------|
| 2973 | | *ERROR STOP | | | 02973 |
| 2974 | | * | ENTER WITH ERROR CODE IN Q, NO. OF STOPS (SHIFTED 4) IN A. | | 02974 |
| 2975 | POA50 0000 | ERROR | NUM | 0 | 02975 |
| 2976 | POA51 8000 | | ADD | =N\$0008 | TEST NO. = 00. ERROR STOP. |
| | POA52 0008 | | | | |
| 2977 | POA53 6816 | | STA* | ID | IDENT WORD. |
| 2978 | POA54 C0F9 | | LDA- | SEC | |
| 2979 | POA55 0FC8 | | ALS | 8 | |
| 2980 | POA56 0834 | | AAQ | A | |
| 2981 | POA57 6813 | | STA* | SECERR | SECTION NO., ERROR CODE. |
| 2982 | POA58 C8F7 | | LDA* | ERROR | RETURN ADDRESS IN MEMORY. |
| 2983 | POA59 6812 | | STA* | RETADDR | STORE WITH BIAS |
| 2984 | POA5A C074 | | LDA- | BIT9 | |
| 2985 | POA5B 5406 | | RTJ- | (JUMP) | |
| 2986 | POA5C 1804 | | JMP* | ABIAS | RTN ADDRESS WITH BIAS |
| 2987 | POA5D C8F2 | | LDA* | ERROR | SUBTRACT IA AND STORE LIST ADDR |

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|------|------------|----------|------|----------|--------------------------|-------|
| 2988 | POA5E 90D8 | | SUB- | BIAS | | 02988 |
| 2989 | POA5F 680C | | STA* | RETADDR | RETURN ADDRESS. | 02989 |
| 2990 | POA60 C00F | ABIAS | LDA- | ACT | | 02990 |
| 2991 | POA61 6808 | | STA* | ACTUAL | | 02991 |
| 2992 | POA62 C0E0 | | LDA- | EXP | | 02992 |
| 2993 | POA63 680A | | STA* | EXPECTED | | 02993 |
| 2994 | POA64 C0D7 | | LDA- | COLUMN | | 02994 |
| 2995 | POA65 6809 | | STA* | COL | | 02995 |
| 2996 | POA66 0844 | | CLP | A | | 02996 |
| 2997 | POA67 5402 | | RTJ- | (STOPX) | | 02997 |
| 2998 | POA68 1CE7 | | JMP* | (ERROR) | | 02998 |
| 2999 | POA69 0D08 | ID | NUM | 0D08 | TEST NO. 00, ERROR STOP. | 02999 |
| 3000 | POA6A 0000 | SECERR | NUM | 0 | SECTION, ERROR. | 03000 |
| 3001 | POA6B 0000 | RETADDR | NUM | 0 | RETURN ADDRESS. | 03001 |
| 3002 | POA6C 0000 | ACTUAL | NUM | 0 | ACTUAL. | 03002 |
| 3003 | POA6D 0000 | EXPECTED | NUM | 0 | EXPECTED. | 03003 |
| 3004 | POA6E 0000 | COL | NUM | 0 | COLUMN NUMBER. | 03004 |
| 3005 | POA6F 0000 | PATNO | NUM | 0 | PATTERN NUMBER. | 03005 |

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| 3007 | | *ERROR 4, UNEXPECTED INTERNAL REJECT | | | | 03007 |
| 3008 | | * CALLING SEQUENCE IS (FOR EXAMPLE) | | | | 03008 |
| 3009 | | * P-2 OUT 2 | | OUTPUT (OR INPUT). | | 03009 |
| 3010 | | * P-1 REPLY | | | | 03010 |
| 3011 | | * P RTJ- (ERROR4) | | UNEXPECTED INTERNAL REJECT. | | 03011 |
| 3012 | | * P+1 EXTERNAL REJECT. | | | | 03012 |
| 3013 | | * P+2 RETURN. | | SUBROUTINE RETURNS TO HERE. | | 03013 |
| 3014 | POA70 0000 | ERR4 | NUM | 0 | | 03014 |
| 3015 | POA71 C8FE | | LDA* | ERR4 | | 03015 |
| 3016 | POA72 0901 | | INA | 1 | FORM P+2, RETURN ADDRESS. | 03016 |
| 3017 | POA73 0C04 | | ENQ | 4 | ERROR CODE 4, INTERNAL REJECT. | 03017 |
| 3018 | POA74 183D | | JMP* | STOP2 | 2 STOPS. | 03018 |

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| 3020 | | *ERROR 5, UNEXPECTED EXTERNAL REJECT | | | | 03020 |
| 3021 | | * CALLING SEQUENCE IS (FOR EXAMPLE) | | | | 03021 |
| 3022 | | * P-3 OUT 2 | | OUTPUT (OR INPUT). | | 03022 |
| 3023 | | * P-2 REPLY | | | | 03023 |
| 3024 | | * P-1 INTERNAL REJECT | | | | 03024 |
| 3025 | | * P RTJ- (ERROR5) | | UNEXPECTED EXTERNAL REJECT. | | 03025 |
| 3026 | | * P+1 RETURN. | | SUBROUTINE RETURNS TO HERE. | | 03026 |
| 3027 | POA75 0000 | ERR5 | NUM | 0 | | 03027 |

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| 3028 | POA76 | C8FE | LDA* | ERR5 | P+1, RETURN ADDRESS. | 03028 |
| 3029 | POA77 | 0C05 | ENQ | 5 | ERROR CODE 5, EXTERNAL REJECT. | 03029 |
| 3030 | POA78 | 1839 | JMP* | STOP2 | 2 STOPS. | 03030 |

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|------|-------|------|------|--|---------------------------------|-------|
| 3032 | | | | *ERROR 6, UNEXPECTED REPLY | | 03032 |
| 3033 | | | * | CALLING SEQUENCE IS (FOR EXAMPLE) | | 03033 |
| 3034 | | | * | P-1 OUT 2 OUTPUT (OR INPUT) | | 03034 |
| 3035 | | | * | P RTJ- (ERROR6) UNEXPECTED REPLY. | | 03035 |
| 3036 | | | * | P+1 INTERNAL REJECT. | | 03036 |
| 3037 | | | * | P+2 EXTERNAL REJECT. | | 03037 |
| 3038 | | | * | P+3 RETURN SUBROUTINE-RETURNS TO HERE. | | 03038 |
| 3039 | POA79 | 0000 | ERR6 | NUM 0 | | 03039 |
| 3040 | POA7A | C8FE | LDA* | ERR6 | | 03040 |
| 3041 | POA7B | 0902 | INA | 2 | FORM P+3, RETURN ADDRESS. | 03041 |
| 3042 | POA7C | 0C06 | ENQ | 6 | ERROR CODE 6, UNEXPECTED REPLY. | 03042 |
| 3043 | POA7D | 1834 | JMP* | STOP2 | 2 STOPS. | 03043 |

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|------|-------|------|------|---|--------------------------------|-------|
| 3045 | | | | *ERROR 7, UNEXPECTED LEVEL 1 STATUS | | 03045 |
| 3046 | | | * | ENTER WITH FAILING BITS (IF ANY) IN A-REGISTER. IF FAILURE, | | 03046 |
| 3047 | | | * | DISPLAY ACTUAL STATUS IN A, EXPECTED STATUS IN Q. | | 03047 |
| 3048 | POA7E | 0000 | ERR7 | NUM 0 | | 03048 |
| 3049 | POA7F | 0111 | SAN | 1 | | 03049 |
| 3050 | POA80 | 1CFD | JMP* | (ERR7) | EXIT IF NO STATUS BITS FAILED. | 03050 |
| 3051 | POA81 | 80DF | EOR- | ACT | FORM EXPECTED STATUS. | 03051 |
| 3052 | POA82 | 60E0 | STA- | EXP | SAVE FOR ERROR MESSAGE. | 03052 |
| 3053 | POA83 | C8FA | LDA* | ERR7 | RETURN ADDRESS. | 03053 |
| 3054 | POA84 | 0C07 | ENQ | 7 | ERROR 7, UNEXPECTED STATUS. | 03054 |
| 3055 | POA85 | 182F | JMP* | STOP3 | 3 STOPS. | 03055 |

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| 3057 | | | | *ERROR 8, UNEXPECTED LEVEL 2 STATUS. | | 03057 |
| 3058 | | | * | ENTER WITH FAILING BITS (IF ANY) IN A-REGISTER. IF FAILURE, | | 03058 |
| 3059 | | | * | DISPLAY ACTUAL STATUS IN A, EXPECTED STATUS IN Q. | | 03059 |
| 3060 | POA86 | 0000 | ERR8 | NUM 0 | | 03060 |
| 3061 | POA87 | 011C | SAN | ERR8C--1 | | 03061 |
| 3062 | POA88 | 1CFD | JMP* | (ERR8) | EXIT IF NO STATUS BITS FAILED. | 03062 |
| 3063 | POA89 | C00D | LDA- | STATION | | 03063 |
| 3064 | POA8A | A070 | AND- | BIT5 | | 03064 |
| 3065 | POA8B | 0112 | SAN | ERR8A--1 | | 03065 |
| 3066 | POA8C | C00F | LDA- | ACT | | 03066 |
| 3067 | POA8D | 1807 | JMP* | ERR8C | | 03067 |
| 3068 | POA8E | C80F | ERR8A | LDA- ACT | | 03068 |

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|------|-------|------|-------|-----------|---------------------------------|-------|
| 3069 | POA8F | B074 | EOR- | BIT9 | | 03069 |
| 3070 | POA90 | 0111 | SAN | ERR8B--*1 | | 03070 |
| 3071 | POA91 | 1CF4 | JMP* | (ERR8) | | 03071 |
| 3072 | POA92 | 0A74 | ERR8B | ENA | BIT9 | 03072 |
| 3073 | POA93 | 1802 | JMP* | ERR8C+1 | | 03073 |
| 3074 | POA94 | B00F | ERR8C | EOR- | ACT | 03074 |
| 3075 | POA95 | 60E0 | STA- | EXP | SAVE FOR ERROR MESSAGE. | 03075 |
| 3076 | POA96 | C8EF | LDA* | ERR8 | RETURN ADDRESS. | 03076 |
| 3077 | POA97 | 0C08 | ENQ | 8 | ERR 8, UNEXPECTED LEVEL 2 STAT. | 03077 |
| 3078 | POA98 | 181C | JMP* | STOP3 | 3 STOPS. | 03078 |

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|------|-------|------|--|----------|--------------------------------|-------|
| 3080 | | | *ERROR 9, NO DATA INTERRUPT WHEN EXPECTED. | | | 03080 |
| 3081 | | | * DISPLAY CURRENT STATUS IN A IF NO DATA INTERRUPT OCCURRED. | | | 03081 |
| 3082 | POA99 | 0000 | ERR9 | NUM | 0 | 03082 |
| 3083 | POA9A | C0DA | LDA- | DATAIF | CHECK DATA INTERRUPT FLAG. | 03083 |
| 3084 | POA9B | 0101 | SAZ | 1 | | 03084 |
| 3085 | POA9C | 1CFC | JMP* | (ERR9)* | EXIT IF SET. | 03085 |
| 3086 | POA9D | E0DD | LDQ- | STATION | | 03086 |
| 3087 | POA9E | 54E6 | RTJ- | (STATUS) | GET STATUS OF CURRENT STATION. | 03087 |
| 3088 | POA9F | 0842 | CLR | Q | | 03088 |
| 3089 | POAA0 | 40E0 | STQ- | EXP | | 03089 |
| 3090 | POAA1 | C8F7 | LDA* | ERR9 | RETURN ADDRESS. | 03090 |
| 3091 | POAA2 | 0C09 | ENQ | 9 | ERROR 9, NO DATA INTERRUPT. | 03091 |
| 3092 | POAA3 | 1811 | JMP* | STOP3 | 3 STOPS. | 03092 |

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|------|-------|------|---|--------|-------------------------------|-------|
| 3094 | | | *ERROR A, UNEXPECTED DATA INTERRUPT | | | 03094 |
| 3095 | | | * DISPLAY STATUS UPON INTERRUPT IF DATA INTERRUPT OCCURRED. | | | 03095 |
| 3096 | POAA4 | 0000 | ERRA | NUM | 0 | 03096 |
| 3097 | POAA5 | C0DA | LDA- | DATAIF | CHECK DATA INTERRUPT FLAG. | 03097 |
| 3098 | POAA6 | 0111 | SAN | 1 | | 03098 |
| 3099 | POAA7 | 1CFC | JMP* | (ERRA) | EXIT IF NOT SET. | 03099 |
| 3100 | POAA8 | C800 | LDA | DATAIS | STATUS UPON DATA INTERRUPT. | 03100 |
| | POAA9 | FDEE | | | | |
| 3101 | POAAA | 60DF | STA- | ACT | | 03101 |
| 3102 | POAAB | 0842 | CLR | Q | | 03102 |
| 3103 | POAAC | 40E0 | STQ- | EXP | | 03103 |
| 3104 | POAAD | 40DA | STQ- | DATAIF | CLEAR DATA INTERRUPT FLAG. | 03104 |
| 3105 | POAAE | C8F5 | LDA* | ERRA | RETURN ADDRESS. | 03105 |
| 3106 | POAAF | 0C0A | ENQ | 8A | ERROR A, UNEXPECTED DATA INT. | 03106 |
| 3107 | POAB0 | 1804 | JMP* | STOP3 | 3 STOPS. | 03107 |

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| 3109 | | *TWO STOPS FOR AN ERROR. | | | 03109 |
| 3110 | P0AB1 689E | STOP2 | STA* | ERROR | 03110 |
| 3111 | P0AB2 0844 | | CLR | A | 03111 |
| 3112 | P0AB3 189D | | JMP* | ERROR+1 | 03112 |
| | | | | STORE RETURN ADDRESS. | |
| | | | | 2 STOPS. | |

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| 3114 | | *THREE STOPS FOR AN ERROR | | | 03114 |
| 3115 | P0AB4 689B | STOP3 | STA* | ERROR | 03115 |
| 3116 | P0AB5 0A10 | | ENA | \$10 | 03116 |
| 3117 | P0AB6 189A | | JMP* | ERROR+1 | 03117 |
| | | | | RETURN ADDRESS | |
| | | | | 3 STOPS. | |

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| 3119 | | *ERROR B, NO END-OF OPERATION INTERRUPT WHEN EXPECTED. | | | 03119 |
| 3120 | | * | | DISPLAY CURRENT STATUS IF NO EOP INTERRUPT OCCURRED. | 03120 |
| 3121 | P0AB7 0000 | ERRB | NUM | 0 | 03121 |
| 3122 | P0AB8 C0DB | | LDA- | EOPIF | 03122 |
| 3123 | P0AB9 0101 | | SAZ | 1 | 03123 |
| 3124 | P0ABA 1CFC | | JMP* | (ERRB) | 03124 |
| 3125 | P0ABB E0DD | | LQ- | STATION | 03125 |
| 3126 | P0ABC 54E6 | | RTJ- | (STATUS) | 03126 |
| 3127 | P0ABD 0842 | | CLR | Q | 03127 |
| 3128 | P0ABE 40E0 | | STQ- | EXP | 03128 |
| 3129 | P0ABF C8F7 | | LDA* | ERRB | 03129 |
| 3130 | P0AC0 0C0B | | ENQ | \$B | 03130 |
| 3131 | P0AC1 18F2 | | JMP* | STOP3 | 03131 |
| | | | | CHECK EOP INTERRUPT FLAG. | |
| | | | | EXIT IF SET. | |
| | | | | GET STATUS OF CURRENT STATION. | |
| | | | | RETURN ADDRESS. | |
| | | | | ERROR B, NO EOP INTERRUPT. | |
| | | | | 3 STOPS. | |

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| 3133 | | *ERROR C, UNEXPECTED END-OF OPERATION INTERRUPT | | | 03133 |
| 3134 | | * | | DISPLAY STATUS UPON INTERRUPT IF EOP INTERRUPT OCCURRED. | 03134 |
| 3135 | P0AC2 0000 | ERRC | NUM | 0 | 03135 |
| 3136 | P0AC3 C0DB | | LDA- | EOPIF | 03136 |
| 3137 | P0AC4 0111 | | SAN | 1 | 03137 |
| 3138 | P0AC5 1CFC | | JMP* | (ERRC) | 03138 |
| 3139 | P0AC6 C800 | | LDA | EOPIF | 03139 |
| | P0AC7 FDD1 | | | STATUS UPON EOP INTERRUPT. | |
| 3140 | P0AC8 68DF | | STA- | ACT | 03140 |
| 3141 | P0AC9 0842 | | CLR | Q | 03141 |
| 3142 | P0ACA 40E0 | | STQ- | EXP | 03142 |
| 3143 | P0ACB 40DB | | STQ- | EOPIF | 03143 |
| 3144 | P0ACC C8F5 | | LDA* | ERRC | 03144 |
| 3145 | P0ACD 0C0C | | ENQ | \$C | 03145 |
| 3146 | P0ACE 18E5 | | JMP* | STOP3 | 03146 |
| | | | | CLEAR EOP INTERRUPT FLAG. | |
| | | | | RETURN ADDRESS. | |
| | | | | ERROR C, UNEXPECTED EOP INT. | |
| | | | | 3 STOPS. | |

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| 3148 | | *ERROR D, NO ALARM INTERRUPT WHEN EXPECTED | | 03148 |
| 3149 | | * DISPLAY CURRENT STATUS IF NO ALARM INTERRUPT OCCURRED. | | 03149 |
| 3150 | P0ACF 0000 | ERRD NUM 0 | | 03150 |
| 3151 | P0A00 C00C | LDA- ALAIF | CHECK ALARM INTERRUPT FLAG. | 03151 |
| 3152 | P0AD1 0101 | SAZ 1 | | 03152 |
| 3153 | P0AD2 1CFC | JMP* (ERRD) | EXIT IF SET. | 03153 |
| 3154 | P0AD3 E00D | LDQ- STATION | | 03154 |
| 3155 | P0AD4 54E6 | RTJ- (STATUS) | GET STATUS OF CURRENT STATION. | 03155 |
| 3156 | P0AD5 E0FA | LDQ- EQUIP | EQ. NO., Q00 SET. | 03156 |
| 3157 | P0AD6 0002 | INQ 2 | SET Q01 (LEVEL 2). | 03157 |
| 3158 | P0AD7 02FE | INP -1 | GET LEVEL 2 STATUS. | 03158 |
| 3159 | P0AD8 60E0 | STA- EXP | SAVE FOR ERROR MESSAGE. | 03159 |
| 3160 | P0AD9 C8F5 | LDA* ERRD | RETURN ADDRESS. | 03160 |
| 3161 | P0ADA 0C0D | ENQ \$D | ERROR D, NO ALARM INTERRUPT. | 03161 |
| 3162 | P0ADB 18D8 | JMP* STOP3 | 3 STOPS. | 03162 |

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| 3164 | | *ERROR E, UNEXPECTED ALARM INTERRUPT. | | 03164 |
| 3165 | | * DISPLAY STATUS UPON INTERRUPT IF ALARM INTERRUPT OCCURRED. | | 03165 |
| 3166 | P0ADC 0000 | ERRE NUM 0 | | 03166 |
| 3167 | P0ADD C00C | LDA- ALAIF | CHECK ALARM INTERRUPT FLAG. | 03167 |
| 3168 | P0ADE 0111 | SAN 1 | | 03168 |
| 3169 | P0ADF 1CFC | JMP* (ERRE) | EXIT IF NOT SET. | 03169 |
| 3170 | P0AE0 C800 | LDA ALAIS | STATUS UPON ALARM INTERRUPT. | 03170 |
| | P0AE1 F0B8 | | | |
| 3171 | P0AE2 60DF | STA- ACT | | 03171 |
| 3172 | P0AE3 E800 | LDQ ALAIS2 | LEVEL 2 STATUS UPON INTERRUPT. | 03172 |
| | P0AE4 F0B6 | | | |
| 3173 | P0AE5 40E0 | STQ- EXP | SAVE FOR ERROR MESSAGE. | 03173 |
| 3174 | P0AE6 0842 | CLR Q | | 03174 |
| 3175 | P0AE7 400C | STQ- ALAIF | CLEAR ALARM INTERRUPT FLAG. | 03175 |
| 3176 | P0AE8 C8F3 | LDA* ERRE | RETURN ADDRESS. | 03176 |
| 3177 | P0AE9 0C0E | ENQ \$E | ERROR E, UNEXPECTED ALARM INT. | 03177 |
| 3178 | P0AEA 18C9 | JMP* STOP3 | 3 STOPS. | 03178 |

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| 3180 | | *ERROR F, UNEXPECTED 1706 STATUS | | 03180 |
| 3181 | | * ENTER WITH FAILING BITS (IF ANY) IN A-REGISTER. IF FAILURE, | | 03181 |
| 3182 | | * DISPLAY ACTUAL STATUS IN A, EXPECTED STATUS IN Q. | | 03182 |
| 3183 | P0AEB 0000 | ERRF NUM 0 | | 03183 |
| 3184 | P0AEC 0111 | SAN 1 | | 03184 |
| 3185 | P0AED 1CFD | JMP* (ERRF) | EXIT IF NO STATUS BITS FAILED. | 03185 |
| 3186 | P0AEE B0DF | EOR- ACT | FORM EXPECTED STATUS. | 03186 |
| 3187 | P0AEF 60E0 | STA- EXP | SAVE FOR ERROR MESSAGE. | 03187 |
| 3188 | P0AF0 C8FA | LDA* ERRF | RETURN ADDRESS. | 03188 |
| 3189 | P0AF1 0C0F | ENQ \$F | ERROR F, UNEXP. 1706 STATUS. | 03189 |
| 3190 | P0AF2 18C1 | JMP* STOP3 | 3 STOPS. | 03190 |

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| 3192 | * | | | FEED A CARD ON READER TO START MOTOR. GET STATUS, EXPECT | 03192 |
| 3193 | * | | | BUSY AND READY. WAIT NOT BUSY. CLEAR CONTROLLER. | 03193 |
| 3194 | P0AF3 | 0000 | MOTOR | NUM 0 | 03194 |
| 3195 | P0AF4 | 000E | | RAO- COUNTER INCREMENT CARD COUNTER. | 03195 |
| 3196 | P0AF5 | E0FA | MOTORA | LDQ- EQUIP EQ. NO., Q00 SET. | 03196 |
| 3197 | P0AF6 | 0020 | | INQ \$20 SET Q05 (STATION 1). | 03197 |
| 3198 | P0AF7 | C000 | | LDA =NS0081 SET A07 AND A00. | 03198 |
| | P0AF8 | 0081 | | | |
| 3199 | P0AF9 | 0302 | | OUT 2 SELECT FEED AND CLEAR. | 03199 |
| 3200 | P0AFA | 1804 | | JMP* MOTORB EXPECT REPLY. | 03200 |
| 3201 | P0AFB | 54EC | | RTJ- (ERROR4) ERROR 4, INTERNAL REJECT. | 03201 |
| 3202 | P0AFC | 54ED | | RTJ- (ERROR5) ERROR 5, EXTERNAL REJECT. | 03202 |
| 3203 | P0AFB | 18F7 | | JMP* MOTORA HANG ON REJECT. | 03203 |
| 3204 | P0AFE | 0C20 | MOTORB | ENQ \$20 SET Q05 (STATION 1). | 03204 |
| 3205 | P0AFF | 54E6 | | RTJ- (STATUS) GET STATION 1 STATUS. | 03205 |
| 3206 | P0B00 | 8000 | | EOR =NS0003 EXPECT BUSY AND READY. | 03206 |
| | P0B01 | 0003 | | | |
| 3207 | P0B02 | 54EF | | RTJ- (ERROR7) ERROR 7, UNEXPECTED STATUS. | 03207 |
| 3208 | P0B03 | 0C20 | MOTORC | ENQ \$20 SET Q05 (STATION 1). | 03208 |
| 3209 | P0B04 | 54E6 | | RTJ- (STATUS) GET STATION 1 STATUS. | 03209 |
| 3210 | P0B05 | A06C | | AND- CONST+1 CHECK A01 (BUSY STATUS). | 03210 |
| 3211 | P0B06 | 0101 | | SAZ 1 | 03211 |
| 3212 | P0B07 | 18F8 | | JMP* MOTORC WAIT NOT BUSY. | 03212 |
| 3213 | P0B08 | E0FA | MOTORD | LDQ- EQUIP EQ. NO., Q00 SET. | 03213 |
| 3214 | P0B09 | 0020 | | INQ \$20 SET Q05 (STATION 1). | 03214 |
| 3215 | P0B0A | 0A01 | | ENA 1 SET A00. | 03215 |
| 3216 | P0B0B | 0302 | | OUT 2 CLEAR CONTROLLER. | 03216 |
| 3217 | P0B0C | 1CE6 | | JMP* (MOTOR) EXPECT REPLY. EXIT. | 03217 |
| 3218 | P0B0D | 54EC | | RTJ- (ERROR4) ERROR 4, INTERNAL REJECT. | 03218 |
| 3219 | P0B0E | 54ED | | RTJ- (ERROR5) ERROR 5, EXTERNAL REJECT. | 03219 |
| 3220 | P0B0F | 18F8 | | JMP* MOTORD HANG ON REJECT. | 03220 |

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| 3222 | P0B10 | 0051 | BUFFIN | BSS | BUFFIN(81) READ BUFFER AREA | 03222 |
| 3223 | P0B61 | 0051 | BUFFOUT | BSS | BUFFOUT(81) WRITE BUFFER AREA | 03223 |

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| 3225 | | *INITIALIZATION OF TEST | | 03225 |
| 3226 | P08B2 0000 | INITIAL NUM | 0 | 03226 |
| 3227 | P08B3 C000 | LOA | =XCRPA00 | 03227 |
| | P08B4 0000 P | | | |
| 3228 | P08B5 6008 | STA- | BIAS | 03228 |
| 3229 | P08B6 0844 | CLR | A | 03229 |
| 3230 | P08B7 60F9 | STA- | SEC | INITIALIZE SECTION NUMBER. |
| 3231 | P08B8 60DE | STA- | COUNTER | INITIALIZE LOOP COUNTER. |
| 3232 | P08B9 60DD | STA- | STATION | INITIALIZE STATION NUMBER. |

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| 3234 | | *STORE INITIAL ADDRESSES OF SUBROUTINES TO ENABLE ONE-WORD RETURN JUMPS. | | 03234 |
| 3235 | P08BA C000 | LOA | =XSTAT | 03235 |
| | P08BB 07CD P | | | |
| 3236 | P08BC 60E6 | STA- | STATUS | (STATUS) = STAT |
| 3237 | P08BD 0922 | INA | INC100-STAT | |
| 3238 | P08BE 60E8 | STA- | IC100 | (IC100) = INC100 |
| 3239 | P08BF 0904 | INA | INC10-INC100 | |
| 3240 | P08C0 60E7 | STA- | IC10 | (IC10) = INC10 |
| 3241 | P08C1 0907 | INA | MONITOR-INC10 | |
| 3242 | P08C2 60E5 | STA- | SMM | (SMM) = MONITOR |
| 3243 | P08C3 091E | INA | INITDI-MONITOR | |
| 3244 | P08C4 60E9 | STA- | INITDATA | (INITDATA) = INITDI |
| 3245 | P08C5 090A | INA | INITEI-INITDI | |
| 3246 | P08C6 60EA | STA- | INITEOP | (INITEOP) = INITEI |
| 3247 | P08C7 090A | INA | INITAI-INITEI | |
| 3248 | P08C8 60EB | STA- | INITALARM | (INITALARM) = INITAI |
| 3249 | P08C9 8000 | ADD | =XGEN-INITAI | |
| | P08CA 00A6 | | | |
| 3250 | P08CB 60F8 | STA- | GENERATE | (GENERATE) = GEN |
| 3251 | P08CC 8000 | ADD | =XERR4-GEN | |
| | P08CD 019E | | | |
| 3252 | P08CE 60EC | STA- | ERROR4 | (ERROR4) = ERR4 |
| 3253 | P08CF 0905 | INA | ERR5-ERR4 | |
| 3254 | P08D0 60ED | STA- | ERROR5 | (ERROR5) = ERR5 |
| 3255 | P08D1 0904 | INA | ERR6-ERR5 | |
| 3256 | P08D2 60EE | STA- | ERROR6 | (ERROR6) = ERR6 |
| 3257 | P08D3 0905 | INA | ERR7-ERR6 | |
| 3258 | P08D4 60EF | STA- | ERROR7 | (ERROR7) = ERR7 |
| 3259 | P08D5 0908 | INA | ERR8-ERR7 | |
| 3260 | P08D6 60F0 | STA- | ERROR8 | (ERROR8) = ERR8 |
| 3261 | P08D7 0913 | INA | ERR9-ERR8 | |
| 3262 | P08D8 60F1 | STA- | ERROR9 | (ERROR9) = ERR9 |
| 3263 | P08D9 0908 | INA | ERRA-ERR9 | |
| 3264 | P08DA 60F2 | STA- | ERRORA | (ERRORA) = ERRA |
| 3265 | P08DB 0913 | INA | ERRB-ERRA | |
| 3266 | P08DC 60F3 | STA- | ERRORB | (ERRORB) = ERRB |
| 3267 | P08DD 0908 | INA | ERRC-ERRB | |
| 3268 | P08DE 60F4 | STA- | ERRORC | (ERRORC) = ERRC |
| 3269 | P08DF 090D | INA | ERRD-ERRC | |

| | | | | | | |
|------|-------|--------|------|----------------|----------------------------------|-------|
| 3270 | P0BE0 | 60F5 | STA- | ERROR | (ERROR) = ERD | 03270 |
| 3271 | P0BE1 | 090D | INA | ERRE-ERRD | | 03271 |
| 3272 | P0BE2 | 60F6 | STA- | ERRE | (ERRE) = ERRE | 03272 |
| 3273 | P0BE3 | 090F | INA | ERRF-ERRE | | 03273 |
| 3274 | P0BE4 | 60F7 | STA- | ERRRF | (ERRRF) = ERRF | 03274 |
| | | | | | | |
| 3276 | P0BE5 | C0D8 | LDA- | BIAS | | 03276 |
| 3277 | P0BE6 | 540A | RTJ- | (CONV) | CONVERT INITIAL ADDRESS TO ASCII | 03277 |
| 3278 | P0BE7 | 4856 | STQ* | B1 | SET UP INITIAL ADDRESS MESSAGE. | 03278 |
| 3279 | P0BE8 | 6856 | STA* | B2 | | 03279 |
| 3280 | P0BE9 | E091 | LDQ- | TSACTV | | 03280 |
| 3281 | P0BEA | G291 | LDA- | TSFREQ-1,Q | | 03281 |
| 3282 | P0BE8 | 540A | RTJ- | (HEXASC) | | 03282 |
| 3283 | P0BEC | 6857 | STA* | ETITLE-1 | | 03283 |
| 3284 | P0BED | C000 | LDA | =XTITLE | | 03284 |
| | P0BEE | 0C1D P | | | | |
| 3285 | P0BEF | 0C28 | ENQ | ETITLE-TITLE+1 | NUMBER OF WORDS IN TITLE. | 03285 |
| 3286 | P0BF0 | 5408 | RTJ- | (MESSAGE) | TYPE OUT TITLE. | 03286 |
| 3287 | P0BF1 | C800 | LDA | EQ | EQUIPMENT ADDRESS FOR STATUS | 03287 |
| | P0BF2 | F413 | | | | |
| 3288 | P0BF3 | 60FA | STA- | EQUIP | SAVE IN LOW CORE. | 03288 |
| 3289 | P0BF4 | A000 | AND | =N\$7F | CHECK BITS 6 THRU 0. | 03289 |
| | P0BF5 | B87F | | | | |
| 3290 | P0BF6 | B068 | EOR- | CONST | EXPECT BIT 0 ONLY. | 03290 |
| 3291 | P0BF7 | 0101 | SAZ | 1 | SKIP IF OKAY. | 03291 |
| 3292 | P0BF8 | 1818 | JMP* | ERROR1 | ERROR, EQUIPMENT ADDRESS WRONG. | 03292 |
| 3293 | P0BF9 | C0FA | LDA- | EQUIP | | 03293 |
| 3294 | P0BFA | A000 | AND | =N\$F800 | CHECK BITS 15 THRU 11. | 03294 |
| | P0BFB | F800 | | | | |
| 3295 | P0BFC | 60FB | STA- | CHAN | NON-ZERO IF ON 1706 OR 1716. | 03295 |
| 3296 | P0BFD | 0108 | SAZ | INITA-*--1 | SKIP IF W = 00. | 03296 |
| 3297 | P0BFE | 0FC5 | ALS | 5 | | 03297 |
| 3298 | P0BFF | 09FD | INA | -2 | | 03298 |
| 3299 | P0C00 | 0105 | SAZ | INITA-*--1 | SKIP IF W = 02. | 03299 |
| 3300 | P0C01 | 09FA | INA | -5 | | 03300 |
| 3301 | P0C02 | 0103 | SAZ | INITA-*--1 | SKIP IF W = 07. | 03301 |
| 3302 | P0C03 | 09FA | INA | -5 | | 03302 |
| 3303 | P0C04 | 0101 | SAZ | INITA-*--1 | | 03303 |
| 3304 | P0C05 | 180E | JMP* | ERROR1 | ERROR IF W NOT 00,02,07,OR 0C | 03304 |
| | | | | | | |
| 3306 | P0C06 | C000 | LDA | =XBUFFOUT+80 | | 03306 |
| | P0C07 | 0B81 P | | | | |
| 3307 | P0C08 | 683D | STA* | LAST | | 03307 |
| 3308 | P0C09 | 0862 | TCA | Q | SAVE COMPLEMENT IN Q. | 03308 |
| 3309 | P0C0A | C849 | LDA- | INFORM | | 03309 |
| 3310 | P0C0B | A080 | AND- | HF000 | | 03310 |
| 3311 | P0C0C | 8077 | ADD- | CONST*12 | FORM COMPUTER MEMORY SIZE. | 03311 |
| 3312 | P0C0D | 0834 | AAQ | A | COMPARE WITH LAST ADDR. OF TEST | 03312 |

| | | | | | | |
|------|------------|--------|------|---|----------------------------------|-------|
| 3313 | POC0E 0139 | | SAM | ERROR2--*-1 | SKIP IF INSUFFICIENT MEMORY. | 03313 |
| 3314 | POC0F 5800 | INITZ | RTJ | PARAM | ENTER PARAMETERS | 03314 |
| | POC10 F877 | | | | | |
| 3315 | POC11 1800 | | JMP | SECO | DONT GIVE UP CONTROL | 03315 |
| | POC12 F3FE | | | | | |
| | | | | | | |
| 3317 | | | | *EQUIPMENT ADDRESS WRONG, ERROR CODE 1 | | 03317 |
| 3318 | POC13 0C01 | ERROR1 | ENQ | 1 | ERROR CODE 1. | 03318 |
| 3319 | POC14 0844 | | CLR | A | 2 STOPS. | 03319 |
| 3320 | POC15 5800 | | RTJ | ERROR | | 03320 |
| | POC16 FE39 | | | | | |
| 3321 | POC17 18FB | | JMP* | ERROR1 | HANG. TEST MUST BE CALLED AGAIN. | 03321 |
| | | | | | | |
| 3323 | | | | *INSUFFICIENT MEMORY FOR TEST, ERROR CODE 2 | | 03323 |
| 3324 | POC18 0C02 | ERROR2 | ENQ | 2 | ERROR CODE 2. | 03324 |
| 3325 | POC19 0844 | | CLR | A | 2 STOPS. | 03325 |
| 3326 | POC1A 5800 | | RTJ | ERROR | | 03326 |
| | POC1B FE34 | | | | | |
| 3327 | POC1C 18FB | | JMP* | ERROR2 | HANG. | 03327 |
| | | | | | | |
| 3329 | POC1D 800A | TITLE | NUM | \$800A | CARRIAGE RETURN, LINE FEED. | 03329 |
| 3330 | POC1E 2043 | | ALF | X, CRPA00, 1728 CARD | READER/PUNCH TEST.X | 03330 |
| | POC1F 5250 | | | | | |
| | POC20 4130 | | | | | |
| | POC21 442C | | | | | |
| | POC22 2031 | | | | | |
| | POC23 3732 | | | | | |
| | POC24 3820 | | | | | |
| | POC25 4341 | | | | | |
| | POC26 5244 | | | | | |
| | POC27 2052 | | | | | |
| | POC28 4541 | | | | | |
| | POC29 4445 | | | | | |
| | POC2A 522F | | | | | |
| | POC2B 5055 | | | | | |
| | POC2C 4E43 | | | | | |
| | POC2D 4820 | | | | | |
| | POC2E 5445 | | | | | |
| | POC2F 5354 | | | | | |
| | POC30 2E20 | | | | | |
| 3331 | POC31 800A | | NUM | \$800A | CARRIAGE RETURN | 03331 |

| | | | | | | |
|------|------------|--------|-----|------------------------|----------------|-------|
| 3332 | POC32 4350 | | ALF | X,CP0FX | MAINFRAME TYPE | 03332 |
| | POC33 3046 | | | | | |
| 3333 | POC34 2056 | | ALF | X, VER. 3.1X | | 03333 |
| | POC35 4552 | | | | | |
| | POC36 2E20 | | | | | |
| | POC37 332E | | | | | |
| | POC38 3120 | | | | | |
| 3334 | POC39 000A | | NUM | \$000A | LF CR | 03334 |
| 3335 | POC3A 2049 | | ALF | 3, IA = | | 03335 |
| | POC3B 4120 | | | | | |
| | POC3C 3020 | | | | | |
| 3336 | POC3D 0000 | B1 | NUM | 0 | | 03336 |
| 3337 | POC3E 0000 | B2 | NUM | 0 | | 03337 |
| 3338 | POC3F 2C20 | | NUM | \$2C20 | | 03338 |
| 3339 | POC40 2046 | | ALF | 4, FC = | | 03339 |
| | POC41 4320 | | | | | |
| | POC42 3D20 | | | | | |
| | POC43 2020 | | | | | |
| 3340 | POC44 8D0A | ETITLE | NUM | \$8D0A | | 03340 |
| 3341 | POC45 0000 | LAST | NUM | 0 | | 03341 |
| 3342 | 0000 D | | DAT | A100PLDR(STAT-QINT) | | 03342 |
| 3343 | 0003 D | | DAT | A100P1(INITIAL-BUFFIN) | | 03343 |
| 3344 | | | END | | | 03344 |

PGM= 0C46 (3142) COM = 0000 (0) DAT = 00A5 (165)

EQUIVALENCES

| DEF.LINE | NAME | VALUE | REFERENCED AT LINE NUMBER |
|----------|--------|---------------|--|
| 0000 | I | 00FF (000255) | , 2401, 2548, 2583, 2738, 2744, 2745 , 2775, 2782, 2783, 2824, 2834, 2835 |
| 0159 | CONTR0 | 0001 (000001) | , 0160 |
| 0160 | STOPX | 0002 (000002) | , 0161, 2300, 2335, 2357, 2997 |
| 0161 | EXIT | 0003 (000003) | , 0162, 2308 |
| 0162 | REQINT | 0004 (000004) | , 0163, 0164, 0222 |
| 0163 | FCLRIN | 0005 (000005) | , 0223 |
| 0164 | JUMP | 0006 (000006) | , 0165, 0797, 1168, 1192, 1287, 1311 , 1399, 1423, 1544, 1558, 1622, 1636 , 1731, 1737, 1837, 1843, 1931, 1937 , 2023, 2029, 2087, 2093, 2305, 2318 , 2340, 2446, 2460, 2646, 2762, 2943 , 2985 |
| 0165 | GENRAN | 0007 (000007) | , 0166, 0219, 2766 |
| 0166 | TYPEOU | 0008 (000008) | , 0167, 0168, 0221 |
| 0167 | TTYBZY | 0009 (000009) | , 0225 |
| 0168 | HEXASC | 000A (000010) | , 0169, 0220, 0224, 3282 |
| 0169 | OVRLAY | 000B (000011) | , 0170 |
| 0170 | RELPOS | 000C (000012) | , 0171 |
| 0171 | MAINL | 000D (000013) | , 0172 |
| 0172 | SETHAS | 0042 (000066) | , 0173, 0959 |
| 0173 | STJP | 0043 (000067) | , 0174, 0175, 0218, 2196, 2200, 2201 , 2286, 2290, 2291 |
| 0174 | LASTVA | 0044 (000068) | |
| 0175 | LASTAD | 0045 (000069) | , 0176 |
| 0176 | LDLCOR | 0047 (000071) | , 0177 |
| 0177 | LDLICO | 0048 (000072) | , 0178 |
| 0178 | INFORM | 0049 (000073) | , 0179, 3309 |
| 0179 | SHMCNT | 0056 (000086) | , 0180, 0217, 2680 |
| 0180 | BIT00 | 0068 (000107) | , 0181, 0216 |
| 0181 | BIT0 | 0068 (000107) | , 0182 |
| 0182 | BIT1 | 006C (000108) | , 0183 |
| 0183 | BIT2 | 006D (000109) | , 0184 |
| 0184 | BIT3 | 006E (000110) | , 0185 |
| 0185 | BIT4 | 006F (000111) | , 0186 |
| 0186 | BIT5 | 0070 (000112) | , 0187, 2315, 3064 |
| 0187 | BIT6 | 0071 (000113) | , 0188 |

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|------|--------|------|----------|--------------------------------------|
| 0188 | BIT7 | 0072 | (000114) | , 0189 |
| 0189 | BIT8 | 0073 | (000115) | , 0190 |
| 0190 | BIT9 | 0074 | (000116) | , 0191, 2984, 3069, 3072 |
| 0191 | BIT10 | 0075 | (000117) | , 0192 |
| 0192 | BIT11 | 0076 | (000118) | , 0193 |
| 0193 | BIT12 | 0077 | (000119) | , 0194 |
| 0194 | BIT13 | 0078 | (000120) | , 0195 |
| 0195 | BIT14 | 0079 | (000121) | , 0196 |
| 0196 | BIT15 | 007A | (000122) | , 0197 |
| 0197 | H0000 | 007B | (000123) | , 0198 |
| 0198 | HFFFF | 007C | (000124) | , 0199 |
| 0199 | H000F | 007D | (000125) | , 0200, 0941 |
| 0200 | H00F0 | 007E | (000126) | , 0201, 2381 |
| 0201 | H0F00 | 007F | (000127) | , 0202, 2376 |
| 0202 | HF000 | 0080 | (000128) | , 0203, 3310 |
| 0203 | H00FF | 0081 | (000129) | , 0204 |
| 0204 | HFF00 | 0082 | (000130) | , 0205 |
| 0205 | HFFF0 | 0083 | (000131) | , 0206 |
| 0206 | H0FFF | 0084 | (000132) | , 0207 |
| 0207 | HFF0F | 0085 | (000133) | , 0208 |
| 0208 | HF0FF | 0086 | (000134) | , 0209 |
| 0209 | H7FFF | 0087 | (000135) | , 0210, 2653, 2667 |
| 0210 | H7F00 | 0088 | (000136) | , 0211 |
| 0211 | H0780 | 0089 | (000137) | , 0212 |
| 0212 | H007F | 008A | (000138) | , 0213 |
| 0213 | H2020 | 008B | (000139) | , 0214 |
| 0214 | TSACTV | 0091 | (000145) | , 0215, 3280 |
| 0215 | TSFREQ | 0092 | (000146) | , 3281 |
| 0216 | CONST | 0068 | (000107) | , 0287, 0303, 0320, 0338, 0342, 0345 |
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| 0217 | SMMPAR | 0056 | (000086) | , 0786, 1006 |
| 0218 | SJPAR | 0043 | (000067) | |
| 0219 | RANDOM | 0007 | (000007) | |
| 0220 | CONVER | 000A | (000010) | |
| 0221 | MESSAG | 0008 | (000008) | , 2134, 2192, 2231, 3286 |
| 0222 | REQND | 0004 | (000004) | |
| 0223 | CLRND | 0005 | (000005) | |
| 0224 | CONV | 000A | (000010) | , 3277 |
| 0225 | SMHTYP | 0009 | (000009) | |
| 0226 | REG | 0140 | (000320) | , 2582, 2631 |
| 0233 | SMM | 00E5 | (000229) | , 0234, 0757, 0927, 0938, 1028, 1138 |

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| | | | | , 2059, 2458, 2965, 3242 |
| 0234 | STATUS | 00E6 | (000230) | , 0235, 0348, 0377, 0435, 0456, 0488 |
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| 0235 | IC10 | 00E7 | (000231) | , 0236, 1628, 3240 |
| 0236 | IC100 | 00E8 | (000232) | , 0237, 0305, 0322, 0351, 0380, 0404 |
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| 0237 | INITDA | 00E9 | (000233) | , 0238, 0468, 0509, 0544, 0621, 0755 |
| | | | | , 0909, 1365, 1894, 3244 |
| 0238 | INITE0 | 00EA | (000234) | , 0239, 0469, 0508, 0545, 0622, 0747 |
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| 0239 | INITAL | 00EB | (000235) | , 0240, 0470, 0510, 0543, 0623, 0756 |
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| | | | | , 1581, 1691, 1787, 1896, 1991, 2053 |
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| 0240 | ERROR4 | 00EC | (000236) | , 0241, 0298, 0315, 0394, 0415, 0431 |
| | | | | , 0452, 0476, 0499, 0516, 0534, 0551 |
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| 0241 | ERROR5 | 00ED | (000237) | , 0242, 0299, 0316, 0334, 0363, 0395 |
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| | | | | , 0535, 0552, 0570, 0584, 0605, 0630 |
| | | | | , 0652, 0743, 0806, 0816, 0828, 0849 |
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| 0242 | ERROR6 | 00EE | (000238) | , 0243, 0332, 0361, 0668, 2158, 2177 |
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| 0243 | ERROR7 | 00EF | (000239) | , 0244, 0304, 0321, 0350, 0379, 0403 |

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| 0244 | ERROR8 | 00F0 | (000240) | , 0245, 0419, 3260 |
| 0245 | ERROR9 | 00F1 | (000241) | , 0246, 0482, 0634, 0792, 0947, 3262 |
| 0246 | ERRORA | 00F2 | (000242) | , 0247, 0484, 0520, 0555, 0636, 3264 |
| 0247 | ERRORB | 00F3 | (000243) | , 0248, 0808, 0965, 1036, 1518, 2004 |
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| 0248 | ERRORC | 00F4 | (000244) | , 0249, 0485, 0519, 0556, 0637, 1164 |
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| 0249 | ERRORD | 00F5 | (000245) | , 0250, 1045, 2245, 3270 |
| 0250 | ERRORE | 00F6 | (000246) | , 0251, 0486, 0521, 0554, 0638, 0795 |
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| | | | | , 1900, 2001, 2060, 3272 |
| 0251 | ERRORF | 00F7 | (000247) | , 0252, 0343, 0372, 1596, 2069, 3274 |
| 0252 | GENERA | 00F8 | (000248) | , 0253, 1114, 1188, 1222, 1307, 1338 |
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| | | | | , 1632, 2896, 2911, 2927, 3250 |
| 0253 | SEC | 00F9 | (000249) | , 0254, 0285, 0681, 0684, 0699, 0712 |
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| | | | | , 1965, 2124, 2218, 2332, 2455, 2597 |
| | | | | , 2600, 2978, 3230 |
| 0254 | EQUIP | 00FA | (000250) | , 0255, 0294, 0311, 0329, 0357, 0390 |
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| 0255 | CHAN | 00FB | (000251) | , 0335, 0344, 0364, 0373, 1473, 1958 |
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| 0256 | BDCSTA | 00D4 | (000212) | , 0257, 1592, 2065, 2555 |
| 0257 | BDCCHA | 00D5 | (000213) | , 0258, 1520, 1597, 2006, 2070, 2562 |
| 0258 | TIME | 00D6 | (000214) | , 0259, 0746, 0759, 0766, 0775, 0791 |

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| 0259 | COLUMN | 00D7 | (000215) | , 0260, 0734, 0750, 0762, 0780, 0785 |
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