

CONTROL DATA[®] SMM17

Program Listings

PTR



CUSTOMER ENGINEERING MANUAL

0001 NAM PTR004 12064 COPYRIGHT CONTROL DATA CORP 1974 00001
0002 ***** 00002
0003 * 00003
0004 * * * * * REVISION RECORD * * * * * 00004
0005 * 00005
0006 * MODAYR VERSION WHAT DONE , WHY , AND WHO DID IT * 00006
0007 * 00007
0008 * 032074 V 3.1 SYSTEM RELEASED * 00008
0009 * CHANGED SECTION ID AND START-OF TAPE AND END-OF-TAPE 00009
0010 * ID PUNCHES TO BE VALID ON 5,7,OR8 LEVEL TAPE * 00010
0011 * 111374 V 3.1-1 CHANGED LEVEL IDENTIFY CODING TO FIND PROPER 00011
0012 * SECTIONS TLO * 00012
0013 * 112074 V 3.1-1 MODIFIED PARITY CHECK ROUTINE FOR GRACEFULNESS TLO* 00013
0014 * 00014
0015 ***** 00015
0016 * * ERROR CODES (HEXIDEIMAL) 00016
0017 * * 1- EXTERNAL REJECT ON STATUS REQUEST 00017
0018 * * 2- INTERNAL REJECT ON STATUS REQUEST 00018
0019 * * 3- EXTERNAL REJECT ON DATA INPUT 00019
0020 * * 4- INTERNAL REJECT ON DATA INPUT 00020
0021 * * 5- INCORRECT EQUIPMENT ADDRESS-RESTART TEST 00021
0022 * * 6- MORE THAN ONE BIT PUNCHED IN CONTROL FRAME 00022
0023 * * 7- ALL 10 LEVEL CONTROL PUNCHES NOT EQUAL 00023
0024 * * 8- CONTROL PUNCH DID NOT HAVE EVEN PARITY 00024
0025 * * 9- NO PATTERN COULD BE FOUND FOR THIS CONTROL PUNCH 00025
0026 * * A- INTERRUPT BUT INTERRUPT STATUS BIT NOT SET 00026
0027 * * B- IMPROPER STATUS-SHOULD BE READY, BUSY, POWER ON, AND EXIST 00027
0028 * * C- ALARM AND/OR LOST DATA 00028
0029 * * D- UNIDENTIFIED INTERRUPT 00029
0030 * * E- DATA READ WAS NOT DATA EXPECTED 00030
0031 * * F- FIRST FRAME WAS NOT ALL ONES 00031
0032 * * 10- INTERNAL REJECT ON START MOTION FUNCTION 00032
0033 * * 11- EXTERNAL REJECT ON START MOTION FUNCTION 00033
0034 * 00034

0036 0001 EQU CONTROL (1) RETURN SMH CONTROL ADDRESS. 00036
0037 0002 EQU STOPX (CONTROL+1) ALL STOPS AND ERROR TYPEOUTS 00037
0038 0003 EQU TSEXIT (STOPX+1) END IF TEST PASS EXIT 00038
0039 0004 EQU DATINT (TSEXIT+1) REQUEST INTERRUPT 00039
0040 0005 EQU CLRINT (DATINT+1) FAKE CLEAR INTERRUPT ROUTINE 00040
0041 0006 EQU JUMPX (DATINT+2) CHECK SKIPSWITCH FOR PARAM ENTRY 00041
0042 0007 EQU GENRAN (JUMPX+1) RANDOM NUMBER GENERATOR 00042
0043 0008 EQU TYPEOUT (GENRAN+1) MESSAGE TYPEOUT ROUTINE 00043
0044 0009 EQU TTYBZY (TYPEOUT+1) ROUTINE TO WAIT TTY NOT BUSY. 00044
0045 000A EQU HEXASC (TYPEOUT+2) HEX TO ASCII CONVERSION 00045
0046 000B EQU OVLAY (HEXASC+1) OVERLAY CALL ROUTINE. 00046
0047 000C EQU RELPOS (OVLAY+1) A/Q RELATIVE POSITION TEST. 00047
0048 000D EQU MAINL (RELPOS+1) MANUAL INTERRUPT ROUTINE. 00048
0049 0042 EQU SETMASK (MAINL+53) M REGISTER RESET VALUE. 00049

| | | | | | |
|------|------|-----|--------------------|------------------------------------|-------|
| 0050 | 0043 | EQU | STJP(SETMASK+1) | STOP/JUMP PARAMETER WORD. | 00050 |
| 0051 | 0044 | EQU | LASTVALU(STJP+1) | MONITOR AREA LWA+1 | 00051 |
| 0052 | 0045 | EQU | LASTAD(STJP+2) | AVAILABLE LOAD CORE FWA. | 00052 |
| 0053 | 0047 | EQU | LDLCORE(LASTAD+2) | BANK0 LAST ADDR | 00053 |
| 0054 | 0048 | EQU | LDL1COR(LDLCORE+1) | BANK1 LAST ADDR | 00054 |
| 0055 | 0049 | EQU | INFCRM(LDL1COR+1) | BK0 SIZE, MASK SIZE, BUSY SWITCH | 00055 |
| 0056 | 0056 | EQU | SMMCNT(INFORM+13) | SMM PARAMETER WORD. | 00056 |
| 0057 | 0068 | EQU | BIT00(SMMCNT+21) | XXXXXXXXX CONSTANT TABLE XXXXXXXXX | 00057 |
| 0058 | 0068 | EQU | BIT0(BIT00) | | 00058 |
| 0059 | 006C | EQU | BIT1(BIT0+1) | | 00059 |
| 0060 | 006D | EQU | BIT2(BIT1+1) | | 00060 |
| 0061 | 006E | EQU | BIT3(BIT2+1) | | 00061 |
| 0062 | 006F | EQU | BIT4(BIT3+1) | | 00062 |
| 0063 | 0070 | EQU | BIT5(BIT4+1) | | 00063 |
| 0064 | 0071 | EQU | BIT6(BIT5+1) | | 00064 |
| 0065 | 0072 | EQU | BIT7(BIT6+1) | | 00065 |
| 0066 | 0073 | EQU | BIT8(BIT7+1) | | 00066 |
| 0067 | 0074 | EQU | BIT9(BIT8+1) | | 00067 |
| 0068 | 0075 | EQU | BIT10(BIT9+1) | | 00068 |
| 0069 | 0076 | EQU | BIT11(BIT10+1) | | 00069 |
| 0070 | 0077 | EQU | BIT12(BIT11+1) | | 00070 |
| 0071 | 0078 | EQU | BIT13(BIT12+1) | | 00071 |
| 0072 | 0079 | EQU | BIT14(BIT13+1) | | 00072 |
| 0073 | 007A | EQU | BIT15(BIT14+1) | | 00073 |
| 0074 | 007B | EQU | H0000(BIT15+1) | | 00074 |
| 0075 | 007C | EQU | HFFFF(H0000+1) | | 00075 |
| 0076 | 007D | EQU | H000F(HFFFF+1) | | 00076 |
| 0077 | 007E | EQU | H00F0(H000F+1) | | 00077 |
| 0078 | 007F | EQU | H0F00(H00F0+1) | | 00078 |
| 0079 | 0080 | EQU | H0F00(H0F00+1) | | 00079 |
| 0080 | 0081 | EQU | H00FF(H0000+1) | | 00080 |
| 0081 | 0082 | EQU | HFF00(H00FF+1) | | 00081 |
| 0082 | 0083 | EQU | HFFF0(HFF00+1) | | 00082 |
| 0083 | 0084 | EQU | H0FFF(HFFF0+1) | | 00083 |
| 0084 | 0085 | EQU | HFF0F(H0FFF+1) | | 00084 |
| 0085 | 0086 | EQU | HFOFF(HFF0F+1) | | 00085 |
| 0086 | 0087 | EQU | H7FFF(HFOFF+1) | | 00086 |
| 0087 | 0088 | EQU | H7F00(H7FFF+1) | | 00087 |
| 0088 | 0089 | EQU | H0780(H7F00+1) | | 00088 |
| 0089 | 008A | EQU | H007F(H0780+1) | | 00089 |
| 0090 | 008B | EQU | H2020(H007F+1) | | 00090 |
| 0091 | 0091 | EQU | TSACTV(H2020+6) | TABLE INDEX TO TEST IN CONTROL. | 00091 |
| 0092 | 0092 | EQU | TSFREQ(TSACTV+1) | TEST, FREQUENCY TABLE | 00092 |
| 0093 | 0068 | EQU | CONST(BIT00) | | 00093 |
| 0094 | 0056 | EQU | SMPAR(SMMCNT) | | 00094 |
| 0095 | 0043 | EQU | SJPAR(STJP) | | 00095 |
| 0096 | 0007 | EQU | RANDOM(GENRAN) | | 00096 |
| 0097 | 000A | EQU | CONVERT(HEXASC) | | 00097 |
| 0098 | 0008 | EQU | MESSAG(TYPEOUT) | | 00098 |
| 0099 | 000A | EQU | CONV(HEXASC) | | 00099 |
| 0100 | 0008 | EQU | TYPE(TYPEOUT) | | 00100 |
| 0101 | 0004 | EQU | TEMP(\$04) | | 00101 |
| 0102 | 0000 | EQU | MANUINT(MAINL) | | 00102 |

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|------|--------------|---------|--------------|---|--|-------|
| 0103 | 0001 | | EQU | PT (1) | | 00103 |
| 0104 | P0000 180A | PTR004 | JMP* | RERUN | | 00104 |
| 0105 | P0001 5054 | | ALF | 3,PTR004 | | 00105 |
| | P0002 5230 | | | | | |
| | P0003 3034 | | | | | |
| 0106 | P0004 0011 P | PARADR | ADC | CNTHRD-1 | FWA PARAM | 00106 |
| 0107 | P0005 0008 P | RETURN | ADC | INITIAL | | 00107 |
| 0108 | P0006 00A1 | EQUIP | NUM | \$A1 | | 00108 |
| 0109 | P0007 0002 | INT1 | NUM | \$2 | | 00109 |
| | | | | | | |
| 0111 | P0008 5800 | INITIAL | RTJ | INIT1 | | 00111 |
| | P0009 0364 | | | | | |
| 0112 | P000A 5802 | RERUN | RTJ* | INPARA | | 00112 |
| 0113 | P000B 180E | STWOP | JMP* | START | | 00113 |
| | | | | | | |
| 0115 | P000C 0000 | INPARA | NUM | \$0 | INPUT PARAMETERS | 00115 |
| 0116 | P000D C000 | | LDA | =XPTR004 | | 00116 |
| | P000E 0000 P | | | | | |
| 0117 | P000F 5402 | | RTJ- | (STOPX) | INPUT PARAMETERS STOP | 00117 |
| 0118 | P0010 1806 | | JMP* | INP1 | | 00118 |
| 0119 | 0011 P | | ORG | * | | 00119 |
| 0120 | P0011 0421 | | NUM | \$0421 | STOP ID | 00120 |
| 0121 | P0012 4000 | CNTHRD | NUM | \$4000 | CONTROL WORD | 00121 |
| 0122 | | * | CONTROL WORD | | | 00122 |
| 0123 | | * | BITS | | | 00123 |
| 0124 | | * | 14 | RUN TEST WITH 8 LEVEL PATTERNS | | 00124 |
| 0125 | | * | 13 | RUN TEST WITH 7 LEVEL PATTERNS | | 00125 |
| 0126 | | * | 12 | RUN TEST WITH 5 LEVEL PATTERNS | | 00126 |
| 0127 | | * | | ONLY ONE BIT MAY BE SET IN THIS GROUP | | 00127 |
| 0128 | | * | | | | 00128 |
| 0129 | | * | | | | 00129 |
| 0130 | | * | 11 | =1 RUN TEST IN INTERRUPT MODE | | 00130 |
| 0131 | | * | | = 0 RUN TEST IN CHARACTER MODE | | 00131 |
| 0132 | | * | 10 | =1 DELAY BETWEEN CHARACTERS (PARAMETER DELRD)-CHARACTER MOD | | 00132 |
| 0133 | | * | | -BIT 11 OF CONTROL WORD = 0. | | 00133 |
| 0134 | | * | | =0 NO DELAY BETWEEN CHARACTERS. | | 00134 |
| 0135 | | * | | | | 00135 |
| 0136 | | * | | | | 00136 |
| 0137 | P0013 0002 | INT11 | NUM | 2 | INTERRUPT LINE 1 | 00137 |
| 0138 | P0014 000F | DELRO | NUM | \$F | MAXIMUM DELAY BETWEEN FRAMES-CHARACTER MOD | 00138 |
| 0139 | P0015 0000 | | NUM | 0 | | 00139 |
| 0140 | P0016 C8FC | INP1 | LDA* | INT11 | | 00140 |
| 0141 | P0017 68EF | | STA* | INT1 | | 00141 |
| 0142 | P0018 1CF3 | | JMP* | (INPARA) | | 00142 |

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|------|-------|------|--------|------|-------------|--|-------|
| 0144 | P0019 | C8ED | START | LDA* | INT1 | | 00144 |
| 0145 | P001A | B06C | | EOR- | CONST+1 | CHECK INTERRUPT LINE | 00145 |
| 0146 | P001B | 0115 | | SAN | START1--*-1 | IS THIS READER ON LOW SPEED | 00146 |
| 0147 | P001C | C8E9 | | LDA* | EQUIP | MAYBE NOW CHECK EQUIP ADDR | 00147 |
| 0148 | P001D | A000 | | AND | =N\$FF80 | | 00148 |
| | P001E | FF80 | | | | | |
| 0149 | P001F | B072 | | EOR- | CONST+7 | | 00149 |
| 0150 | P0020 | 010E | | SAZ | START4--*-1 | IS THIS READER ON LOW SPEED | 00150 |
| 0151 | P0021 | C8E5 | START1 | LDA* | INT1 | NO | 00151 |
| 0152 | P0022 | 0C0F | | ENQ | 15 | | 00152 |
| 0153 | P0023 | 0133 | START2 | SAM | START3--*-1 | | 00153 |
| 0154 | P0024 | 0DFE | | INQ | -1 | TRANSLATE INTERRUPT LINE BIT | 00154 |
| 0155 | P0025 | 0FC1 | | ALS | 1 | IN A TO INTERRUPT LINE | 00155 |
| 0156 | P0026 | 18FC | | JMP* | START2 | NUMBER IN Q | 00156 |
| 0157 | P0027 | 0814 | START3 | TRQ | A | | 00157 |
| 0158 | P0028 | 0842 | | CLR | Q | | 00158 |
| 0159 | P0029 | 206D | | MUI- | CONST+2 | | 00159 |
| 0160 | P002A | 8000 | | ADD | =N\$102 | BUILD ADDRESS WHERE PROCESSOR | 00160 |
| | P002B | 0102 | | | | | |
| 0161 | P002C | 0822 | | TRA | Q | ADDRESS WOULD BE STORED IF | 00161 |
| 0162 | P002D | C201 | | LDA- | 1,Q | THIS INT LINE WERE SELECTED | 00162 |
| 0163 | P002E | 0117 | | SAN | START5--*-1 | | 00163 |
| 0164 | P002F | 6800 | START4 | STA | INTFLG | YES CLEAR FLG-NO OTHER | 00164 |
| | P0030 | 0280 | | | | | |
| 0165 | P0031 | E8D4 | | LDQ* | EQUIP | STATION ON THIS LINE | 00165 |
| 0166 | P0032 | C8D4 | | LDA* | INT1 | | 00166 |
| 0167 | P0033 | 5404 | | RTJ- | (OATINT) | REQUEST INTERRUPT LINE FROM SMM | 00167 |
| 0168 | P0034 | 02B1 | P RINT | ADC | INPROC | | 00168 |
| 0169 | P0035 | 1808 | | JMP* | CNTRLA | CONTINUE | 00169 |
| 0170 | P0036 | C201 | START5 | LDA- | 1,Q | YES | 00170 |
| 0171 | P0037 | 0822 | | TRA | Q | | 00171 |
| 0172 | P0038 | 88FB | | EOR* | RINT | DID THIS TEST ALREADY SELECT | 00172 |
| 0173 | P0039 | 0103 | | SAZ | CNTRLA--*-1 | THIS LINE | 00173 |
| 0174 | P003A | C8F9 | | LDA* | RINT | NO | 00174 |
| 0175 | P003B | 0DFD | | INQ | -2 | | 00175 |
| 0176 | P003C | 6201 | | STA- | 1,Q | | 00176 |
| 0177 | P003D | C8D4 | CNTRLA | LDA* | CNTRD | YES LOAD CONTROL WORD | 00177 |
| 0178 | P003E | A076 | | AND- | CONST+11 | READ IN INTERRUPT MODE | 00178 |
| 0179 | P003F | 0104 | | SAZ | CNTRL--*-1 | NO | 00179 |
| 0180 | P0040 | C000 | | LDA | =XCHECK+1 | | 00180 |
| | P0041 | 0278 | P | | | | |
| 0181 | P0042 | 6800 | | STA | RETURN | | 00181 |
| | P0043 | FFC1 | | | | | |
| 0182 | P0044 | 5800 | CNTRL | RTJ | STMOTION | CHECK FOR STOP MOTION IF SO START MOTION | 00182 |
| | P0045 | 01AB | | | | | |
| 0183 | P0046 | 5800 | LC000 | RTJ | STATUS | READ ONE FRAME | 00183 |
| | P0047 | 018D | | | | | |
| 0184 | P0048 | 0111 | | SAN | LC001--*-1 | BLANK FRAME | 00184 |
| 0185 | P0049 | 18FC | | JMP* | LC000 | YES LOOP BACK | 00185 |
| 0186 | P004A | 6812 | LC001 | STA* | LC001B | SAVE DATA | 00186 |
| 0187 | P004B | C8C6 | | LDA* | CNTRD | | 00187 |
| 0188 | P004C | 0842 | | CLR | Q | | 00188 |
| 0189 | P004D | 0FC1 | | ALS | 1 | | 00189 |

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|------|-------|-------|--------|------|------------|--|--------------------------|---------|-------|
| 0190 | P004E | 0121 | | SAP | 1 | | SKIP IF NOT 8 LEVE. TAPE | | 00190 |
| 0191 | P004F | 1806 | | JMP* | LC001A | | | | 00191 |
| 0192 | P0050 | 0001 | | INQ | 1 | | | | 00192 |
| 0193 | P0051 | 0FC1 | | ALS | 1 | | | | 00193 |
| 0194 | P0052 | 0121 | | SAP | 1 | | SKIP IF NOT 7 LEVEL TAPE | | 00194 |
| 0195 | P0053 | 1802 | | JMP* | LC001A | | | | 00195 |
| 0196 | P0054 | 0001 | | INQ | 1 | | | | 00196 |
| 0197 | P0055 | C807 | LC001A | LDA* | LC001B | | | | 00197 |
| 0198 | P0056 | 8A07 | | EOR* | LCT001,Q | | GET MASK | | 00198 |
| 0199 | P0057 | 0108 | | SAZ | LC002-*--1 | | | | 00199 |
| 0200 | P0058 | 0A0F | | ENA | \$0F | | NO IT ISNT ERROR | **ERR F | 00200 |
| 0201 | P0059 | 5800 | | RTJ | ERROR | | | | 00201 |
| | | P005A | | | | | | | |
| 0202 | P005B | 18EA | | JMP* | LC000 | | | | 00202 |
| 0203 | P005C | 0000 | LC001B | NUM | 0 | | | | 00203 |
| 0204 | P005D | 00FF | LCT001 | NUM | \$FF | | | | 00204 |
| 0205 | P005E | 007F | | NUM | \$7F | | | | 00205 |
| 0206 | P005F | 001F | | NUM | \$1F | | | | 00206 |

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|------|-------|-------|-------|-----|--------|--|----------------|--|-------|
| 0208 | P0060 | 5800 | LC002 | RTJ | STATUS | | READ ONE FRAME | | 00208 |
| | | P0061 | | | | | | | |
| 0209 | P0062 | 0822 | LCRET | TRA | Q | | | | 00209 |

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|------|-------|-------|-------|------|------------|--|---------------------------------|--|-------|
| 0211 | P0063 | 806B | LC010 | EOR- | CONST | | | | 00211 |
| 0212 | P0064 | 0101 | | SAZ | LC011-*--1 | | SECTION ONE ZIGZAG PATTERN. | | 00212 |
| 0213 | P0065 | 1828 | | JMP* | LC020 | | NO | | 00213 |
| 0214 | P0066 | 0814 | LC011 | TRQ | A | | RESTORE CHARACTER | | 00214 |
| 0215 | P0067 | 0842 | | CLR | Q | | FOR ZIG-ZAG PATTERN | | 00215 |
| 0216 | P0068 | 4800 | | STQ | COMPATEN | | CLEAR COMPLEMENT PATTERN SWITCH | | 00216 |
| | | P0069 | | | | | | | |
| | | 02A5 | | | | | | | |

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|------|--|--|-------|--|-----------|--|--------|--|-------|
| 0218 | | | ***** | | LEVEL ONE | | ZIGZAG | | 00218 |
|------|--|--|-------|--|-----------|--|--------|--|-------|

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|------|-------|-------|-------|-----|--------|--|----------------------|--|-------|
| 0220 | P006A | 6800 | LC012 | STA | LCSEC | | | | 00220 |
| | | P006B | | | | | | | |
| 0221 | P006C | 0FC8 | | ALS | 8 | | | | 00221 |
| 0222 | P006D | 6800 | | STA | SEER | | STORE SECTION NUMBER | | 00222 |
| | | P006E | | | | | | | |
| 0223 | P006F | C800 | | LDA | CNTWRD | | | | 00223 |
| | | P0070 | | | | | | | |
| | | FFA1 | | | | | | | |

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|------|-------|------|-------|----------------|---------------------------------------|--|-------|
| 0224 | P0071 | 0FC1 | | ALS 1 | | | 00224 |
| 0225 | P0072 | 0124 | | SAP LC013--*-1 | 8 LEVEL TAPE | | 00225 |
| 0226 | P0073 | C000 | | LDA =XZZ8 | YES | | 00226 |
| | P0074 | 030F | P | | | | |
| 0227 | P0075 | E081 | | LDQ- H00FF | 00FF | | 00227 |
| 0228 | P0076 | 180A | | JMP* LC015 | | | 00228 |
| 0229 | P0077 | 0FC1 | LC013 | ALS 1 | | | 00229 |
| 0230 | P0078 | 0124 | | SAP LC014--*-1 | 7 LEVEL TAPE | | 00230 |
| 0231 | P0079 | C000 | | LDA =XZZ7 | YES | | 00231 |
| | P007A | 0311 | P | | | | |
| 0232 | P007B | 0C7F | | ENQ \$7F | | | 00232 |
| 0233 | P007C | 1804 | | JMP* LC015 | | | 00233 |
| 0234 | P007D | C000 | LC014 | LDA =XZZ5 | NO MUST BE 5 LEVEL TAPE | | 00234 |
| | P007E | 0313 | P | | | | |
| 0235 | P007F | 0C1F | | ENQ \$1F | | | 00235 |
| 0236 | P0080 | 4800 | LC015 | STQ PPEXL | | | 00236 |
| | P0081 | 0288 | | | | | |
| 0237 | P0082 | 6800 | | STA LEVELCT | | | 00237 |
| | P0083 | 00FF | | | | | |
| 0238 | P0084 | 5800 | | RTJ SPACEOVER | SPACE OVER THE LEVEL NUMBER SHOULD BE | | 00238 |
| | P0085 | 0154 | | | | | |
| 0239 | | | * | | 9 MORE PUNCHES | | 00239 |
| 0240 | P0086 | 5800 | | RTJ RESTWD | RESET WORDS | | 00240 |
| | P0087 | 00EC | | | | | |
| 0241 | P0088 | 5800 | LC016 | RTJ GENPATT | | | 00241 |
| | P0089 | 0264 | | | | | |
| 0242 | P008A | 5800 | | RTJ CHECKREAD | CHECK AND READ | | 00242 |
| | P008B | 011B | | | | | |
| 0243 | P008C | 18FB | | JMP* LC016 | REPEAT CYCLE NOT DONE | | 00243 |

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|------|-------|------|-------|----------------|---------------------------------|--|-------|
| 0245 | P008D | 0A02 | LC020 | ENA 2 | | | 00245 |
| 0246 | P008E | 0874 | | EAQ A | | | 00246 |
| 0247 | P008F | 0101 | | SAZ LC021--*-1 | SECTION TWO COMP ZIGZAG PATTERN | | 00247 |
| 0248 | P0090 | 1806 | | JMP* LC040 | NO | | 00248 |

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0250 ***** LEVEL TWO COMPLEMENT ZIGZAG PATTERN 00250

| | | | | | |
|-----------------|-------|------|----------|-------------------------------|-------|
| 0252 P0091 0814 | LC021 | TRQ | A | RESTORE CHARACTER | 00252 |
| 0253 P0092 0802 | | SET | Q | COMP ZIG-ZAG PATTERN | 00253 |
| 0254 P0093 4800 | | STQ | COMPATEN | SET COMPLEMENT PATTERN SWITCH | 00254 |
| P0094 027A | | | | | |
| 0255 P0095 18D4 | | JMP* | LC012 | USED LEVEL ONE ROUTINE | 00255 |

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|-----------------|-------|------|------------|----------------------------|-------|
| 0257 P0096 0A03 | LC040 | ENA | 3 | CK FOR MATCHING SECTION ID | 00257 |
| 0258 P0097 0874 | | EAQ | A | | 00258 |
| 0259 P0098 0101 | | SAZ | LC041--*-1 | SECTION THREE | 00259 |
| 0260 P0099 1837 | | JMP* | LC080 | NO | 00260 |

0262 ***** LEVEL THREE PYRAMID PATTERN 00262

| | | | | | |
|-----------------|-------|-----|----------|---------------------------------|-------|
| 0264 P009A 0814 | LC041 | TRQ | A | RESTORE CHARACTER | 00264 |
| 0265 P009B 0842 | | CLR | Q | | 00265 |
| 0266 P009C 4800 | | STQ | COMPATEN | CLEAR COMPLEMENT PATTERN SWITCH | 00266 |
| P009D 0271 | | | | | |

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|-----------------|-------|-----|------------|----------------------|-------|
| 0268 P009E 6800 | LC042 | STA | LCSEC | STORE SECTION NUMBER | 00268 |
| P009F 014E | | | | | |
| 0269 P00A0 0FC8 | | ALS | 8 | | 00269 |
| 0270 P00A1 6800 | | STA | SEER | STORE SECTION NUMBER | 00270 |
| P00A2 00C8 | | | | | |
| 0271 P00A3 C800 | | LDA | CNTHRD | | 00271 |
| P00A4 FF6D | | | | | |
| 0272 P00A5 0FC1 | | ALS | 1 | | 00272 |
| 0273 P00A6 0125 | | SAP | LC043--*-1 | 8 LEVEL TAPE | 00273 |
| 0274 P00A7 C0D0 | | LDA | =XPY8 | YES | 00274 |
| P00A8 0315 P | | | | | |

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|------|-------|------|-------|------|------------|---|------------|
| 0275 | P00A9 | E081 | | LDQ- | H00FF | | 00275 |
| 0276 | P00AA | 6825 | | STA* | LCLV8 | SET LEVEL 8 SWITCH | 00276 |
| 0277 | P00AB | 180C | | JMP* | LC045 | | 00277 |
| 0278 | P00AC | 0842 | LC043 | CLR | Q | NOT LEVEL 8 SO CLEAR LEVEL 8 SWITCH | 00278 |
| 0279 | P00AD | 4822 | | STQ* | LCLV8 | | 00279 |
| 0280 | P00AE | 0FC1 | | ALS | 1 | | 00280 |
| 0281 | P00AF | 0124 | | SAP | LC044-*--1 | 7 LEVEL TAPE | 00281 |
| 0282 | P00B0 | C000 | | LDA | =XPY7 | YES | 00282 |
| | P00B1 | 0317 | P | | | | |
| 0283 | P00B2 | 0C7F | | ENQ | \$7F | | 00283 |
| 0284 | P00B3 | 1804 | | JMP* | LC045 | | 00284 |
| 0285 | P00B4 | C000 | LC044 | LDA | =XPY5 | NO MUST BE LEVEL 5 TAPE | 00285 |
| | P00B5 | 0319 | P | | | | |
| 0286 | P00B6 | 0C1F | | ENQ | \$1F | | 00286 |
| 0287 | P00B7 | 4800 | LC045 | STQ | PPEXL | | 00287 |
| | P00B8 | 0254 | | | | | |
| 0288 | P00B9 | 6800 | | STA | LEVELCT | | 00288 |
| | P00BA | 00C8 | | | | | |
| 0289 | P00BB | 5800 | | RTJ | SPACEOVER | SPACE OVER THE 9 REMAINING LEVEL CONTROL | 00289 |
| | P00BC | 011D | | | | | |
| 0290 | | | * | | | PUNCHES | 00290 |
| 0291 | P00BD | 5800 | | RTJ | RESTWD | RESET WORDS IN GENERATE PATTERN ROUTINE | 00291 |
| | P00BE | 00B5 | | | | | |
| 0292 | P00BF | 5800 | LC046 | RTJ | GENPATT | GENERATE ONE FRAME OF THE PYRAMID PATTERN | 00292 |
| | P00C0 | 022D | | | | | |
| 0293 | P00C1 | E800 | | LDQ | SECTENDSW | | 00293 |
| | P00C2 | 024B | | | | | |
| 0294 | P00C3 | 0148 | | SQZ | LC047-*--1 | LAST FRAME OF CYCLE | 00294 |
| 0295 | P00C4 | A000 | | AND | =N\$7F | YES CORRECT GENERATION ERROR FROM | 00295 |
| | P00C5 | 007F | | | | | |
| 0296 | P00C6 | E800 | | LDQ | COMPATEN | GENPATT ROUTINE | 00296 |
| | P00C7 | 0247 | | | | | |
| 0297 | P00C8 | 0143 | | SQZ | LC047-*--1 | COMPLEMENT PATTERN | 00297 |
| 0298 | P00C9 | E806 | | LDQ* | LCLV8 | YES | 00298 |
| 0299 | P00CA | 0141 | | SQZ | LC047-*--1 | LEVEL 8 TAPE | 00299 |
| 0300 | P00CB | 8072 | | ADD- | CONST+7 | YES ADD LEVEL 8 TO PATTERN | 0080 00300 |
| 0301 | P00CC | 5800 | LC047 | RTJ | CHECKREAD | CHECK AND READ FRAME | 00301 |
| | P00CD | 00D9 | | | | | |
| 0302 | P00CE | 18F0 | | JMP* | LC046 | REPEAT CYCLE NOT DONE | 00302 |
| 0304 | P00CF | 0000 | LCLV8 | NUM | 0 | | 00304 |
| 0306 | P00D0 | 0A04 | LC080 | ENA | 4 | CK FOR MATCHING SECTION ID | 00306 |

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0307 P00D1 0874
0308 P00D2 0101
0309 P00D3 1806

EAQ A
SAZ LC081--*-1
JMP* LC100

NO

SECTION FOUR COMP PYRAMID PATT

00307
00308
00309

0311

LEVEL FOUR

COMPLEMENT PYRAMID PATTERN

00311

0313 P00D4 0814
0314 P00D5 0802
0315 P00D6 4800
P00D7 0237
0316 P00D8 18C5

LC081 TRQ A
SET Q
STQ COMPATEN
JMP* LC042

RESTORE CHARACTER
SET COMPLEMENT PATTERN SWITCH
USE THE LEVEL 3 ROUTINE TO CHECK PATTERNS

00313
00314
00315
00316

0318 P00D9 0A05
0319 P00DA 0874
0320 P00DB 0101
0321 P00DC 181F

LC100 ENA 5
EAQ A
SAZ LC101--*-1
JMP* LC200

NO

CK FOR MATCHING SCCTION ID
SECT FIVE ALL ONES / ALL ZEROS

00318
00319
00320
00321

0323

LEVEL FIVE

ALL ONES AND ALL ZEROS

00323

0325 P00DD 0814
0326 P00DE 6800
P00DF 010E
0327 P00E0 0FC8
0328 P00E1 6800
P00E2 0088
0329 P00E3 E800
P00E4 FF20
0330 P00E5 C081

LC101 TRQ A
STA LCSEC
ALS 8
STA SEER
LDQ CNTWRD
LDA- H00FF

RESTORE CHARACTER
STORE SECTION NUMBER

00325
00326
00327
00328
00329
00330

| | | | | | | | | | |
|------|-------|-------|-------|------|------------|---|---|--|-------|
| 0331 | P00E6 | 0FA1 | | QLS | 1 | | | | 00331 |
| 0332 | P00E7 | 0174 | | SQM | LC102-**-1 | 8 | LEVEL TAPE | | 00332 |
| 0333 | P00E8 | 0F41 | | ARS | 1 | | NO | | 00333 |
| 0334 | P00E9 | 0FA1 | | QLS | 1 | | | | 00334 |
| 0335 | P00EA | 0171 | | SQM | LC102-**-1 | 7 | LEVEL TAPE | | 00335 |
| 0336 | P00EB | 0F42 | | ARS | 2 | | NO USE 5 LEVEL TAPE | | 00336 |
| 0337 | P00EC | 6800 | LC102 | STA | PPEXL | | STORE EXTRACT VALUE | | 00337 |
| | | P00ED | | | 021F | | | | |
| 0338 | P00EE | 5800 | | RTJ | SPACEOVER | | | | 00338 |
| | | P00EF | | | 00EA | | | | |
| 0339 | P00F0 | 0AF0 | | ENA | -2 | | | | 00339 |
| 0340 | P00F1 | 6800 | | STA | GEN04 | | | | 00340 |
| | | P00F2 | | | 023D | | | | |
| 0341 | P00F3 | 0AF5 | | ENA | -10 | | | | 00341 |
| 0342 | P00F4 | 6800 | | STA | GEN03 | | | | 00342 |
| | | P00F5 | | | 0239 | | | | |
| 0343 | P00F6 | 5800 | LC103 | RTJ | GEN0Z | | GENERATE ONE FRAME OF THE PATTERN CYCLE | | 00343 |
| | | P00F7 | | | 0224 | | | | |
| 0344 | P00F8 | 5800 | | RTJ | CHECKREAD | | | | 00344 |
| | | P00F9 | | | 00AD | | | | |
| 0345 | P00FA | 18FB | | JMP* | LC103 | | REPEAT NO DONE WITH CYCLE | | 00345 |

| | | | | | | | | | |
|------|-------|------|-------|------|------------|--|----------------------------|--|-------|
| 0347 | P00FB | 0A06 | LC200 | ENA | 6 | | CK FOR MATCHING SECTION ID | | 00347 |
| 0348 | P00FC | 0874 | | EAQ | A | | | | 00348 |
| 0349 | P00FD | 0101 | | SAZ | LC201-**-1 | | SECTION SIX C9,36 PATTERN | | 00349 |
| 0350 | P00FE | 181F | | JMP* | LC800 | | NO | | 00350 |

| | | | | | | | | | |
|------|--|--|-------|--|-----------|--|-----------------|--|-------|
| 0352 | | | ***** | | LEVEL SIX | | C9 - 36 PATTERN | | 00352 |
|------|--|--|-------|--|-----------|--|-----------------|--|-------|

| | | | | | | | | | |
|------|-------|-------|-------|-----|--------|--|----------------------|--|-------|
| 0354 | P00FF | 0814 | LC201 | TRQ | A | | RESTORE CHARACTER | | 00354 |
| 0355 | P0100 | 6800 | | STA | LCSEC | | | | 00355 |
| | | P0101 | | | 00EC | | | | |
| 0356 | P0102 | 0FC8 | | ALS | 8 | | | | 00356 |
| 0357 | P0103 | 6800 | | STA | SEER | | STORE SECTION NUMBER | | 00357 |
| | | P0104 | | | 0066 | | | | |
| 0358 | P0105 | E800 | | LDQ | CNTWRD | | | | 00358 |
| | | P0106 | | | FF0B | | | | |

| | | | | | | | | |
|------|-------|-------|-------|------|------------|--------------------------|--|-------|
| 0359 | P0107 | C081 | | LDA- | H00FF | | | 00359 |
| 0360 | P0108 | 0FA1 | | QLS | 1 | | | 00360 |
| 0361 | P0109 | 0174 | | SQM | LC202-*--1 | 8 LEVEL TAPE | | 00361 |
| 0362 | P010A | 0F41 | | ARS | 1 | NO | | 00362 |
| 0363 | P010B | 0FA1 | | QLS | 1 | | | 00363 |
| 0364 | P010C | 0171 | | SQM | LC202-*--1 | 7 LEVEL TAPE | | 00364 |
| 0365 | P010D | 0F42 | | ARS | 2 | NO USE 5 LEVEL TAPE | | 00365 |
| 0366 | P010E | 6800 | LC202 | STA | PPEXL | STORE EXTRACT VALUE | | 00366 |
| | | P010F | | | | | | |
| 0367 | P0110 | 5800 | | RTJ | SPACEOVER | | | 00367 |
| | | P0111 | | | | | | |
| 0368 | P0112 | 0AF8 | | ENA | -7 | | | 00368 |
| 0369 | P0113 | 6800 | | STA | GENC3 | RESTORE COUNTERS | | 00369 |
| | | P0114 | | | | | | |
| 0370 | P0115 | 0901 | | INA | 1 | | | 00370 |
| 0371 | P0116 | 6800 | | STA | GENC4 | | | 00371 |
| | | P0117 | | | | | | |
| 0372 | P0118 | 5800 | LC203 | RTJ | GENC9 | GENERATE ONE FRAME | | 00372 |
| | | P0119 | | | | | | |
| 0373 | P011A | 5800 | | RTJ | CHECKREAD | CHECK AND READ ONE FRAME | | 00373 |
| | | P011B | | | | | | |
| 0374 | P011C | 18FB | | JMP* | LC203 | | | 00374 |

| | | | | | | | | |
|------|-------|-------|--------|------|------------|--|--|-------|
| 0376 | P011D | 0A07 | LC800 | ENA | .7 | CK FOR END OF TAPE CODE | | 00376 |
| 0377 | P011E | 0874 | | EAQ | A | | | 00377 |
| 0378 | P011F | 0101 | | SAZ | LC801-*--1 | END OF TAPE PUNCH | | 00378 |
| 0379 | P0120 | 1831 | | JMP* | LCEND | NO ERROR COULD NOT FIND THIS LEVEL PUNCH | | 00379 |
| 0380 | P0121 | 4800 | LC801 | STQ | LCSEC | | | 00380 |
| | | P0122 | | | | | | |
| 0381 | P0123 | 5800 | | RTJ | SPACEOVER | 10 LEVELS OF 8 PUNCHES IS END OF TAPE | | 00381 |
| | | P0124 | | | | | | |
| 0382 | P0125 | 586A | | RTJ* | CLR | CLEAR INTERRUPTS | | 00382 |
| 0383 | P0126 | E800 | | LDQ | EQUIP | | | 00383 |
| | | P0127 | | | | | | |
| 0384 | P0128 | 0806 | | RAO* | PASSCT | PASS COUNT | | 00384 |
| 0385 | P0129 | C000 | | LDA | =XPTR004 | | | 00385 |
| | | P012A | | | | | | |
| 0386 | P012B | 5402 | | RTJ- | (STOPX) | END OF TEST STOP | | 00386 |
| 0387 | P012C | 1803 | | JMP* | LC802 | | | 00387 |
| 0388 | P012D | 0404 | | NUM | \$0404 | STOP ID | | 00388 |
| 0389 | P012E | 0000 | PASSCT | NUM | 0 | | | 00389 |

| | | | | | | | | | |
|------|-------|------|--------|---------------|-----------|-----------------------------------|--|------|-------|
| 0391 | P012F | 0AF9 | LC802 | ENA -6 | | | | PTC2 | 00391 |
| 0392 | P0130 | 6805 | | STA* | LT802+1 | | | | 00392 |
| 0393 | P0131 | 5800 | LC802A | RTJ | DELM | | | | 00393 |
| | P0132 | 0130 | | | | | | | |
| 0394 | P0133 | 0802 | | RAO* | LT802+1 | | | | 00394 |
| 0395 | P0134 | C000 | LT802 | LDA | =NO | | | | 00395 |
| | P0135 | 0000 | | | | | | | |
| 0396 | P0136 | 0101 | | SAZ | LC802B*-1 | HAS 6 MS BEEN DELAYED | | | 00396 |
| 0397 | P0137 | 18F9 | | JMP* | LC802A | NO | | | 00397 |
| 0398 | P0138 | 0A40 | LC802B | ENA | \$40 | YES | | | 00398 |
| 0399 | P0139 | 584A | | RTJ* JUMP | | REPEAT TEST | | | 00399 |
| 0400 | P013A | 1802 | | JMP* ET | | YES | | | 00400 |
| 0401 | P013B | 180B | | JMP* ET1 | | NO | | | 00401 |
| 0402 | P013C | C075 | ET | LDA- CONST+10 | | | | | 00402 |
| 0403 | P013D | 5846 | | RTJ* JUMP | | CHECK FOR RE-ENTRY OF PARAMETERS | | | 00403 |
| 0404 | P013E | 1802 | | JMP* ET5 | | YES | | | 00404 |
| 0405 | P013F | 1805 | | JMP* ET6 | | NO | | | 00405 |
| 0406 | P0140 | 5800 | ET5 | RTJ INPARA | | RE-ENTER PARAMETERS | | | 00406 |
| | P0141 | FECA | | | | | | | |
| 0407 | P0142 | 1800 | | JMP CNTRLA | | | | | 00407 |
| | P0143 | FEF9 | | | | | | | |
| 0408 | P0144 | 1800 | ET6 | JMP CNTRL | | | | | 00408 |
| | P0145 | FEFE | | | | | | | |
| 0409 | P0146 | C000 | ET1 | LDA | =XPTR004 | | | | 00409 |
| | P0147 | 0000 | | | | | | | |
| 0410 | P0148 | 5403 | | RTJ- (TSEXIT) | | DONE RETURN TO SHM WITH BIAS IN A | | | 00410 |
| 0411 | P0149 | C075 | ET2 | LDA- CONST+10 | | | | | 00411 |
| 0412 | P014A | 5406 | | RTJ- (JUMPX) | | CHECK FOR RE-ENTRY OF PARAMETERS | | | 00412 |
| 0413 | P014B | 1802 | | JMP* ET3 | | RE-ENTER PARAMETERS | | | 00413 |
| 0414 | P014C | 1803 | | JMP* ET4 | | DO NOT RE-ENTER PARAMETERS | | | 00414 |
| 0415 | P014D | 5800 | ET3 | RTJ INPARA | | | | | 00415 |
| | P014E | FE8D | | | | | | | |
| 0416 | P014F | 1800 | ET4 | JMP | CNTRLA | REPEAT TEST-FREQUENCY NOT ZERO | | | 00416 |
| | P0150 | FEEC | | | | | | | |
| | | | | | | | | | |
| 0418 | P0151 | 0A09 | LCEND | ENA 9 | | NO PATTERN COULD BE FOUND FORTH S | | | 00418 |
| 0419 | P0152 | 5803 | | RTJ* ERROR | | CONTROL PUNCH | | | 00419 |
| 0420 | P0153 | 1800 | | JMP LC000 | | RETURN | | | 00420 |
| | P0154 | FEF1 | | | | | | | |
| | | | | | | | | | |
| 0422 | P0155 | 0000 | ERROR | NUM \$0 | | ERROR ROUTINE | | | 00422 |
| 0423 | P0156 | 6814 | | STA* SEER | | | | | 00423 |
| 0424 | P0157 | 5838 | | RTJ* CLR | | CLEAR INTERRUPTS | | | 00424 |
| 0425 | P0158 | C800 | | LDA LCCNT | | | | | 00425 |
| | P0159 | 0095 | | | | | | | |

| | | | | | | | | | |
|------|-------|------|--------|------|------------|--|-----------------------|-----|-------|
| 0426 | P015A | 0FC8 | | ALS | 8 | | | | 00426 |
| 0427 | P015B | 880F | | ADD* | SEER | | | | 00427 |
| 0428 | P015C | 680E | | STA* | SEER | | | | 00428 |
| 0429 | P015D | C8F7 | | LDA* | ERROR | | | | 00429 |
| 0430 | P015E | 680D | | STA* | RETADR | | | | 00430 |
| 0431 | P015F | C043 | | LDA- | STJP | | | | 00431 |
| 0432 | P0160 | A074 | | AND- | CONST+9 | | | | 00432 |
| 0433 | P0161 | 0114 | | SAN | CMER1--*-1 | | BIAS RETURN ADDRESS | 200 | 00433 |
| 0434 | P0162 | C809 | | LDA* | RETADR | | NO | | 00434 |
| 0435 | P0163 | 9000 | | SUB | =XPTR004 | | | | 00435 |
| | P0164 | 0000 | P | | | | | | |
| 0436 | P0165 | 6806 | | STA* | RETADR | | | | 00436 |
| 0437 | P0166 | 0844 | CMER1 | CLR | A | | | | 00437 |
| 0438 | P0167 | 5402 | | RTJ- | (STOPX) | | | | 00438 |
| 0439 | P0168 | 1806 | | JMP* | E1 | | | | 00439 |
| 0440 | P0169 | 0408 | ID | NUM | \$0408 | | STOP ID | | 00440 |
| 0441 | P016A | 0000 | SEER | NUM | \$0 | | SECTION / ERROR | | 00441 |
| 0442 | P016B | 0000 | RETADR | NUM | \$0 | | RETURN ADDRESS | | 00442 |
| 0443 | P016C | 0000 | CHFRAM | NUM | 0 | | EXPECTED FRAME | | 00443 |
| 0444 | P016D | 0000 | CHREAD | NUM | 0 | | READ | | 00444 |
| 0445 | P016E | C000 | E1 | LDA | =N\$408 | | | | 00445 |
| | P016F | 0408 | | | | | | | |
| 0446 | P0170 | 68F8 | | STA* | ID | | | | 00446 |
| 0447 | P0171 | 5829 | | RTJ* | SEL | | SELECT DATA INTERRUPT | | 00447 |
| 0448 | P0172 | 1CE2 | | JMP* | (ERROR) | | EXIT | | 00448 |

| | | | | | | | |
|------|-------|------|---------|------|-------------|---|-------|
| 0450 | P0173 | 0000 | RESTWD | NUM | 0 | RESTORE WORDS IN GENERATE PATTERN ROUTINE | 00450 |
| 0451 | P0174 | 0842 | | CLR | Q | | 00451 |
| 0452 | P0175 | CE0D | | LDA* | (LEVELCT),Q | RESTORE WORD AND WORD+1 | 00452 |
| 0453 | P0176 | 6800 | | STA | WORD | | 00453 |
| | P0177 | 0191 | | | | | |
| 0454 | P0178 | 6800 | | STA | WORD+1 | | 00454 |
| | P0179 | 0190 | | | | | |
| 0455 | P017A | 0001 | | INQ | 1 | | 00455 |
| 0456 | P017B | CE07 | | LDA* | (LEVELCT),Q | RESTORE WORD+2 | 00456 |
| 0457 | P017C | 6800 | | STA | WORD+2 | | 00457 |
| | P017D | 018D | | | | | |
| 0458 | P017E | 0804 | | SET | A | | 00458 |
| 0459 | P017F | 6800 | | STA | PPSW | | 00459 |
| | P0180 | 018B | | | | | |
| 0460 | P0181 | 1CF1 | | JMP* | (RESTWD) | EXIT | 00460 |
| 0461 | P0182 | 0000 | LEVELCT | NUM | 0 | | 00461 |

| | | | | | | | |
|------|-------|------|-------|------|------------|-------------------------------|-------|
| 0463 | P0183 | 0000 | JUMP | NUM | 0 | CHECK STOP/JUMP WORD FOR JUMP | 00463 |
| 0464 | P0184 | 0184 | | SWS | JUMP1--*-1 | A = JUMP MASK | 00464 |
| 0465 | P0185 | A043 | | AND- | STJP | | 00465 |
| 0466 | P0186 | 0112 | | SAN | JUMP1--*-1 | | 00466 |
| 0467 | P0187 | 08F8 | | RAO* | JUMP | | 00467 |
| 0468 | P0188 | 1CFA | | JMP* | (JUMP) | BIT NOT SET IN STOP/JUMP WORD | 00468 |
| 0469 | P0189 | 6805 | JUMP1 | STA* | JUMP3 | SAVE JUMP MASK | 00469 |
| 0470 | P018A | 5406 | | RTJ- | (JUMPX) | JUMP SWITCH SET | 00470 |
| 0471 | P018B | 1802 | | JMP* | JUMP2 | YES | 00471 |
| 0472 | P018C | 08F6 | | RAO* | JUMP | NO | 00472 |
| 0473 | P018D | 1CF5 | JUMP2 | JMP* | (JUMP) | EXIT | 00473 |
| 0475 | P018E | 0000 | JUMP3 | NUM | 0 | | 00475 |

| | | | | | | | | |
|------|-------|------|-----|------|---------|-----------------------|--|-------|
| 0477 | P018F | 0000 | CLR | NUM | 0 | | | 00477 |
| 0478 | P0190 | E800 | | LDQ | EQUIP | YES, CLEAR INTERRUPTS | | 00478 |
| | P0191 | FE74 | | | | | | |
| 0479 | P0192 | C800 | | LDA | INTMODE | INTERRUPT MODE | | 00479 |
| | P0193 | 00A8 | | | | | | |
| 0480 | P0194 | 0102 | | SAZ | 2 | | | 00480 |
| 0481 | P0195 | 0A02 | | ENA | 2 | | | 00481 |
| 0482 | P0196 | 03FE | | OUT | -1 | | | 00482 |
| 0483 | P0197 | 0A40 | | ENA | \$40 | | | 00483 |
| 0484 | P0198 | 03FE | | OUT | -1 | STOP MOTION | | 00484 |
| 0485 | P0199 | 1CF5 | | JMP* | (CLR) | | | 00485 |

| | | | | | | | | |
|------|-------|------|-----|------|---------|----------------------------|--|-------|
| 0487 | P019A | 0000 | SEL | NUM | 0 | SELECT DATA INTERRUPTS | | 00487 |
| 0488 | P019B | E800 | | LDQ | EQUIP | YES, SELECT DATA INTERRUPT | | 00488 |
| | P019C | FE69 | | | | | | |
| 0489 | P019D | C800 | | LDA | INTMODE | INTERRUPT MODE | | 00489 |
| | P019E | 00A0 | | | | | | |
| 0490 | P019F | 0102 | | SAZ | 2 | | | 00490 |
| 0491 | P01A0 | 0A04 | | ENA | 4 | | | 00491 |
| 0492 | P01A1 | 03FE | | OUT | -1 | | | 00492 |
| 0493 | P01A2 | 0A20 | | ENA | \$20 | | | 00493 |
| 0494 | P01A3 | 03FE | | OUT | -1 | START MOTION | | 00494 |
| 0495 | P01A4 | 0400 | | EIN | 0 | | | 00495 |
| 0496 | P01A5 | 1CF4 | | JMP* | (SEL) | | | 00496 |

| | | | | | | | |
|------|-------|------|-----------|------|-------------|--|-------|
| 0498 | P01A6 | 0000 | CHECKREAD | NUM | 0 | CHECKAND READ A = THE NEXT FRAME TO BE | 00498 |
| 0499 | P01A7 | 68C4 | | STA* | CHFRAME | READ AND CHECK | 00499 |
| 0500 | P01A8 | 5800 | | RTJ | STATUS | READ ONE FRAME | 00500 |
| | P01A9 | 005B | | | | | |
| 0501 | P01AA | 68C2 | | STA* | CHREAD | STORE FRAME JUST READ | 00501 |
| 0502 | P01AB | B8C0 | | EOR* | CHFRAME | | 00502 |
| 0503 | P01AC | 0116 | | SAN | CH02-*--1 | FRAME EQUAL WITH FRAME WANTED | 00503 |
| 0504 | P01AD | C800 | CH01 | LDA | SECTENDSW | YES | 00504 |
| | P01AE | 015F | | | | | |
| 0505 | P01AF | 6827 | | STA* | CH1STND | SAVE THE END OF PATTERN CYCLE SWITCH FOR | 00505 |
| 0506 | P01B0 | 0101 | | SAZ | 1 | | 00506 |
| 0507 | P01B1 | 58C1 | | RTJ* | RESTND | | 00507 |
| 0508 | P01B2 | 1CF3 | | JMP* | (CHECKREAD) | NEXT PASS (USE AS 1ST FRAME OF CYCLE) | 00508 |
| | | | | | | | |
| 0510 | P01B3 | C823 | CH02 | LDA* | CH1STND | NO THIS MAY THE FIRST WORD OF CYCLE AND | 00510 |
| 0511 | P01B4 | 0112 | | SAN | 2 | | 00511 |
| 0512 | P01B5 | 0A0E | | ENA | \$E | ERROR-DATA READ WAS NOT EXPECTED DATA | 00512 |
| 0513 | P01B6 | 1818 | | JMP* | CH04 | | 00513 |
| 0514 | P01B7 | C8B5 | | LDA* | CHREAD | PUNCHES | 00514 |
| 0515 | P01B8 | 6820 | | STA* | SAVECH | | 00515 |
| 0516 | P01B9 | 9800 | | SUB | LCSEC | | 00516 |
| | P01BA | 0033 | | | | | |
| 0517 | P01BB | 0822 | | TRA | Q | | 00517 |
| 0518 | P01BC | 78B0 | | SPA* | CHREAD | | 00518 |
| 0519 | P01BD | 0102 | | SAZ | 2 | | 00519 |
| 0520 | P01BE | 0A08 | | ENA | \$8 | | 00520 |
| 0521 | P01BF | 180F | | JMP* | CH04 | ERROR-CONTROL PUNCH DID NOT HAVE EVEN PARI | 00521 |
| 0522 | P01C0 | 0FE1 | CH03 | LLS | 1 | YES | 00522 |
| 0523 | P01C1 | 0131 | | SAM | 1 | | 00523 |
| 0524 | P01C2 | 18FD | | JMP* | CH03 | | 00524 |
| 0525 | P01C3 | A087 | | AND- | H7FFF | CLEAR BIT 15 | 00525 |
| 0526 | P01C4 | 0102 | | SAZ | 2 | | 00526 |
| 0527 | P01C5 | 0A06 | | ENA | \$6 | ERROR-MORE THAN ONE BIT PUNCHED PER FRAME | 00527 |
| 0528 | | | * | | | CONTROL PUNCH | 00528 |
| 0529 | P01C6 | 1808 | | JMP* | CH04 | | 00529 |
| 0530 | P01C7 | C811 | | LDA* | SAVECH | | 00530 |
| 0531 | P01C8 | 6800 | | STA | CHREAD | | 00531 |
| | P01C9 | FFA3 | | | | | |
| 0532 | P01CA | 5800 | | RTJ | SEND | CHECK FOR END OF SECTION STOP | 00532 |
| | P01CB | 017A | | | | | |
| 0533 | P01CC | 1800 | | JMP | LCRET | PATTERN | 00533 |
| | P01CD | FE94 | | | | | |
| | | | | | | | |
| 0535 | P01CE | 6809 | CH04 | STA* | SAVE | | 00535 |
| 0536 | P01CF | 58BF | | RTJ* | CLR | CLEAR INTERRUPTS | 00536 |
| 0537 | P01D0 | C807 | | LDA* | SAVE | | 00537 |
| 0538 | P01D1 | 0C10 | | ENQ | \$10 | | 00538 |
| 0539 | P01D2 | F896 | | ADQ* | ID | SET UP STOP ID | 00539 |

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| | | |
|-----------------|----------------|-------|
| 0540 P0103 4895 | STQ* ID | 00540 |
| 0541 P0104 5880 | RTJ* ERROR | 00541 |
| 0542 P0105 1807 | CH05 JMP* CH01 | 00542 |
| 0543 P0106 0000 | CH1SW NUM 0 | 00543 |
| 0544 P0107 0000 | SAVE NUM 0 | 00544 |
| 0545 P0108 0000 | SAVECH NUM * | 00545 |

RETURN
1ST WORD SWITCH

| | | | | | | | |
|------|-------|------|-----------|------|--------------|--|-------|
| 0547 | P01D9 | 0000 | SPACEOVER | NUM | 0 | SPACE OVER THE 9 REMAINING PATTERN CONTROL | 00547 |
| 0548 | P01DA | 0AF6 | | ENA | -9 | | 00548 |
| 0549 | P01DB | 6814 | SPOV | STA* | CTLV | | 00549 |
| 0550 | P01DC | 5800 | SPOV1 | RTJ | STATUS | READ ONE FRAME | 00550 |
| | P01DD | 0027 | | | | | |
| 0551 | P01DE | 8800 | | EOR | LCSEC | ALL 10 CONTROL FRAME MUST BE EQUAL | 00551 |
| | P01DF | 000E | | | | | |
| 0552 | P01E0 | 0117 | | SAN | SPOVERR-*--1 | EQUAL | 00552 |
| 0553 | P01E1 | D80E | | RAO* | CTLV | YES | 00553 |
| 0554 | P01E2 | C80D | | LDA* | CTLV | | 00554 |
| 0555 | P01E3 | 0101 | | SAZ | SPOV2-*--1 | LAST FRAME | 00555 |
| 0556 | P01E4 | 18F7 | | JMP* | SPOV1 | NO NEXT FRAME | 00556 |
| 0557 | P01E5 | 6800 | SPOV2 | STA | CH1STWD | CLEAR 1ST WORD OF CYCLE SWITCH | 00557 |
| | P01E6 | FFEF | | | | | |
| 0558 | P01E7 | 1CF1 | | JMP* | (SPACEOVER) | YES | 00558 |
| | | | | | | | |
| 0560 | P01E8 | 0A07 | SPOVERR | ENA | 7 | **ERR 7 | 00560 |
| 0561 | P01E9 | 5800 | | RTJ | ERROR | ALL LEVEL CONTROL PUNCHES NOT EQUAL | 00561 |
| | P01EA | FF6A | | | | | |
| 0562 | P01EB | 1800 | | JMP | LC002 | | 00562 |
| | P01EC | FE73 | | | | | |
| | | | | | | | |
| 0564 | P01ED | 0000 | LCSEC | NUM | 0 | | 00564 |
| 0565 | P01EE | 0000 | LCCNT | NUM | 0 | LEVEL CONTROL WORD | 00565 |
| 0566 | P01EF | 0000 | CTLV | NUM | 0 | LEVEL COUNT | 00566 |

| | | | | | |
|------|-------|------|------------------|---------------------------------------|-------|
| 0568 | P01F0 | 0000 | STNOTION NUM 0 | START PAPER TAPE MOTION | 00568 |
| 0569 | P01F1 | E800 | STM1 LDQ EQUIP | | 00569 |
| | P01F2 | FE13 | | | |
| 0570 | P01F3 | 0844 | CLR A | | 00570 |
| 0571 | P01F4 | 0207 | INP SMREJ1-*--1 | INPUT STATUS | 00571 |
| 0572 | P01F5 | A06C | AND- CONST+1 | | 00572 |
| 0573 | P01F6 | 0101 | SAZ 1 | 0002 | 00573 |
| 0574 | P01F7 | 1CF8 | JMP* (STMOTION) | | 00574 |
| 0575 | P01F8 | 0A20 | STM2 ENA \$20 | START MOTION | 00575 |
| 0576 | P01F9 | 0305 | OUT SMREJ2-*--1 | EXIT | 00576 |
| 0577 | P01FA | 1CF5 | JMP* (STMOTION) | INTERNAL REJECT ON STATUS-ERR 2 | 00577 |
| 0578 | P01FB | 0901 | INA 1 | EXTERNAL REJECT ON STATUS-ERR 1 | 00578 |
| 0579 | P01FC | 0901 | SMREJ1 INA 1 | INTERNAL REJECT ON START MOTION-ERR11 | 00579 |
| 0580 | P01FD | 1804 | JMP* SMREJ3 | EXTERNAL REJECT ON START MOTION-ERR10 | 00580 |
| 0581 | P01FE | 0901 | INA 1 | | 00581 |
| 0582 | P01FF | 0902 | SMREJ2 INA 2 | | 00582 |
| 0583 | P0200 | 09ED | INA -\$12 | | 00583 |
| 0584 | P0201 | 5800 | SMREJ3 RTJ ERROR | | 00584 |
| | P0202 | FF52 | | | |
| 0585 | P0203 | 18E0 | JMP* STM1 | TRY AGAIN | 00585 |

| | | | | | | | |
|------|-------|-------|--------|------|-----------|---|------------|
| 0588 | P0204 | 0000 | STATUS | NUM | 0 | CHECK STATUS AND READ ONE FRAME OF DATA | 00588 |
| 0589 | P0205 | C800 | | LDA | CNTWRD | | 00589 |
| | | P0206 | | | | | |
| 0590 | P0207 | A076 | | AND- | CONST+11 | IS INTERRUPT MODE SELECTED | 00590 |
| 0591 | P0208 | 6836 | | STA* | INTMODE | | 00591 |
| 0592 | P0209 | 010C | | SAZ | ST1-*--1 | NO | 00592 |
| 0593 | P020A | E800 | | LDQ | EQUIP | | 00593 |
| | | P0208 | | | | | |
| 0594 | P020C | 0A04 | | ENA | 4 | | 00594 |
| 0595 | P020D | 6800 | | STA | INFLG | SET FLAG | PTC2 00595 |
| | | P020E | | | | | |
| 0596 | P020F | 03FE | | OUT | -1 | SELECT DATA INTERRUPT | 00596 |
| 0597 | P0210 | 0400 | | EIN | 0 | | 00597 |
| 0598 | P0211 | 5866 | | RTJ* | CHECK | WAIT FOR INTERRUPT | 00598 |
| 0599 | P0212 | 082D | | RAO* | INTCH | | 00599 |
| 0600 | P0213 | C800 | | LDA | FRAME | FRAME JUST READ | PTC2 00600 |
| | | P0214 | | | | | |
| 0601 | P0215 | 1CEE | | JMP* | (STATUS) | | 00601 |
| 0602 | P0216 | C800 | ST1 | LDA | CNTWRD | | 00602 |
| | | P0217 | | | | | |
| 0603 | P0218 | A075 | | AND- | CONST+10 | CHECK FOR DELAY-CHARACTER MODE ONLY | 00603 |
| 0604 | P0219 | 0101 | | SAZ | 1 | DELAY NOT SELECTED | 00604 |
| 0605 | P021A | 583D | | RTJ* | DEL | | 00605 |
| 0606 | P021B | C073 | | LDA- | BIT8 | | PTC2 00606 |
| 0607 | P021C | 6821 | | STA* | ERCNT | SET WAIT LOOP COUNT | PTC2 00607 |
| 0608 | P021D | E800 | ST2 | LDQ | EQUIP | | 00608 |
| | | P021E | | | | | |
| 0609 | P021F | 0225 | | INP | ERR1-*--1 | | 00609 |
| 0610 | P0220 | 6833 | | STA* | RSTATUS | | 00610 |
| 0611 | P0221 | A06E | | AND- | CONST+3 | DATA READY | 00611 |
| 0612 | P0222 | 0117 | | SAN | ST3-*--1 | YES | 00612 |
| 0613 | P0223 | 583F | | RTJ* | DELM | DELAY 1 MS, RETURN TO MONITOR | PTC2 00613 |
| 0614 | P0224 | C819 | | LDA* | ERCNT | | PTC2 00614 |
| 0615 | P0225 | 09FE | | INA | -1 | | PTC2 00615 |
| 0616 | P0226 | 6817 | | STA* | ERCNT | DECREMENT LOOP COUNT | PTC2 00616 |
| 0617 | P0227 | 0101 | | SAZ | 1 | SKIP IF TIMED OUT | PTC2 00617 |
| 0618 | P0228 | 18F4 | | JMP* | ST2 | CONTINUE LOOPING | PTC2 00618 |
| 0619 | P0229 | 180A | | JMP* | ST4 | REPORT TIMEOUT ERROR | PTC2 00619 |
| 0620 | P022A | 00FE | ST3 | INQ | -1 | | 00620 |
| 0621 | P022B | 0217 | | INP | ERR3-*--1 | | 00621 |
| 0622 | P022C | 6829 | | STA* | RCHAR | | 00622 |
| 0623 | P022D | 0813 | | RAO* | CHCH | | 00623 |
| 0624 | P022E | 0A10 | | ENA | \$10 | | 00624 |
| 0625 | P022F | 5406 | | RTJ- | (JUMPX) | REPEAT CONDITION | 00625 |
| 0626 | P0230 | 18E5 | | JMP* | ST1 | | 00626 |
| 0627 | P0231 | C824 | | LDA* | RCHAR | | 00627 |
| 0628 | P0232 | 1CD1 | | JMP* | (STATUS) | | 00628 |
| | | | | | | | |
| 0630 | P0233 | C000 | ST4 | LDA | =N\$509 | | PTC2 00630 |
| | | P0234 | | | | | |
| 0631 | P0235 | 6800 | | STA | CHFRAM | SET EXPECTED STATUS | PTC2 00631 |
| | | P0236 | | | | | |

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|------|-------|-------|------|---------|--------|--------------------------|------|-------|
| 0632 | P0237 | C81C | LDA* | RSTATUS | | | PTC2 | 00632 |
| 0633 | P0238 | 6800 | STA | CHREAD | SET | ACTUAL STATUS | PTC2 | 00633 |
| | | P0239 | | | | | | |
| 0634 | P023A | 0A20 | ENA | \$20 | | | PTC2 | 00634 |
| 0635 | P023B | 5800 | RTJ | ERROR | REPORT | ERROR 20- NO DATA STATUS | PTC2 | 00635 |
| | | P023C | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| | | | | | | | | | | |
|------|-------|------|---------|-----|-----|------|------|-------|------|-------|
| 0637 | P023D | 0000 | ERCNT | NUM | 0 | WAIT | LOOP | COUNT | PTC2 | 00637 |
| 0638 | P023E | 0000 | INTMODE | NUM | \$0 | | | | | 00638 |
| 0639 | P023F | 0000 | INTCH | NUM | 0 | | | | | 00639 |
| 0640 | P0240 | 0000 | CHCH | NUM | 0 | | | | | 00640 |

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|------|-------|-------|---------|------|----------|-----------|--------|--------|--------|--------------|-------|-------|
| 0642 | P0241 | 0000 | CTER | NUM | \$0 | | | | | 00642 | | |
| 0643 | P0242 | D8FE | ERR4 | RAO* | CTER | INTERNAL | REJECT | ON | DATA | INPUT-ERR4 | 00643 | |
| 0644 | P0243 | D8FD | ERR3 | RAO* | CTER | EXTERNAL | REJECT | ON | DATA | INPUT-ERR3 | 00644 | |
| 0645 | P0244 | D8FC | ERR2 | RAO* | CTER | INTERNAL | REJECT | ON | STATUS | REQUEST-ERR2 | 00645 | |
| 0646 | P0245 | D8FB | ERR1 | RAO* | CTER | EXTERNAL | REJECT | ON | STATUS | REQUEST-ERR1 | 00646 | |
| 0647 | P0246 | C80C | | LDA* | SECERR | | | | | | 00647 | |
| 0648 | P0247 | A081 | | AND- | H00FF | | | | | | 00648 | |
| 0649 | P0248 | 88F8 | | EOR* | CTER | | | | | | 00649 | |
| 0650 | P0249 | 6809 | | STA* | SECERR | | | | | | 00650 | |
| 0651 | P024A | 480A | | STQ* | EQCODE | | | | | | 00651 | |
| 0652 | P024B | 0844 | | CLR | A | | | | | | 00652 | |
| 0653 | P024C | 68F4 | | STA* | CTER | | | | | | 00653 | |
| 0654 | P024D | C000 | | LDA | =XPTR004 | | | | | | 00654 | |
| | | P024E | | | | | | | | | | |
| 0655 | P024F | 5402 | | RTJ- | (STOPX) | ERROR | STOP | | | | 00655 | |
| 0656 | P0250 | 18C5 | | JMP* | ST1 | | | | | | 00656 | |
| 0657 | P0251 | 0428 | | NUM | \$0428 | STOP | ID | | | | 00657 | |
| 0658 | P0252 | 0100 | SECERR | NUM | \$0100 | SECTION, | ERROR | NUMBER | | | 00658 | |
| 0659 | P0253 | 0000 | RSTATUS | NUM | \$0 | STATUS | OF | EQUIP | | | 00659 | |
| 0660 | P0254 | 0000 | EQCODE | NUM | \$0 | EQUIPMENT | CODE | AT | TIME | OF | ERROR | 00660 |
| 0661 | P0255 | 0000 | RCHAR | NUM | \$0 | CHARACTER | JUST | READ | | | 00661 | |
| 0662 | P0256 | FFFF | | NUM | -\$0 | NOT | USED | | | | 00662 | |

| | | | | | | | | | | | | | |
|------|-------|-------|------|------|-------|-----------|-----------|-------------|------------------|--------|-------|-----------|-------|
| 0664 | P0257 | 0000 | DEL | NUM | 0 | | | | | | 00664 | | |
| 0665 | P0258 | C800 | | LDA | DELRD | PARAMETER | DELRD | IS | THE | NUMBER | OF | MILLISECO | 00665 |
| | | P0259 | | | | | | | | | | | |
| 0666 | P025A | 0864 | | TCA | A | DELAY | BETWEEN | READING | FRAMES-CHARACTER | MOD | | 00666 | |
| 0667 | P025B | 6819 | | STA* | DELCT | TO | PARAMETER | DELRD. | | | | 00667 | |
| 0668 | P025C | 5806 | DEL1 | RTJ* | DELM | DELAY | ONE | MILLISECOND | AND | GO | TO | SMM. | 00668 |
| 0669 | P025D | 0817 | | RAO* | DELCT | UPDATE | DELAY | COUNTER | | | | 00669 | |

| | | | | | | | | | |
|------|-------|-------|--------|--------|--------|------------------------------|-----------------------------------|------|-------|
| 0670 | P025E | C816 | LDA* | DELCT | | | | | 00670 |
| 0671 | P025F | 0101 | SAZ | 1 | | | | | 00671 |
| 0672 | P0260 | 18FB | JMP* | DEL1 | | REPEAT ONE MILLISECOND DELAY | | | 00672 |
| 0673 | P0261 | 1CF5 | JMP* | (DEL) | | | | | 00673 |
| | | | | | | | | | |
| 0675 | P0262 | 0000 | DELM | NUM | 0 | | | | 00675 |
| 0676 | P0263 | E800 | LDQ | MCHPTR | | GET MACHINE TYPE CODE- 0-3 | | PTC2 | 00676 |
| | | P0264 | 0009 | | | | | | |
| 0677 | P0265 | C201 | LDA- | 1,Q | | GET COUNT VALUE | | PTC2 | 00677 |
| 0678 | P0266 | 09FE | INA | -1 | | DELAY FOR ONE MILLISECOND | | | 00678 |
| 0679 | P0267 | 0101 | SAZ | 1 | | THEN RETURN CONTROL TO SHM | | | 00679 |
| 0680 | P0268 | 18FD | JMP* | *-2 | | | | | 00680 |
| 0681 | P0269 | C80A | LDA* | | | PRESTORED ADDR OF RET | | | 00681 |
| 0682 | P026A | 6800 | STA | | | MR | | | 00682 |
| | | P026B | FD99 | | | RETURN | | | |
| 0683 | P026C | 5401 | | RTJ- | | (CONTROL) | | | 00683 |
| 0684 | P026D | 0000 | MCHPTR | NUM | 0 | | | PTC2 | 00684 |
| 0685 | P026E | 012C | | NUM | 300 | 1704/14 COUNT CALUE | | PTC2 | 00685 |
| 0686 | P026F | 00C8 | | NUM | 200 | 1774 COUNT VALUE | | PTC2 | 00686 |
| 0687 | P0270 | 0226 | | NUM | 550 | 600 NS COUNT VALUE | | PTC2 | 00687 |
| 0688 | P0271 | 0168 | | NUM | 360 | 900 NS COUNT VALUE | | PTC2 | 00688 |
| 0689 | P0272 | 1CEF | RET | JMP* | (DELM) | EXIT | | | 00689 |
| 0690 | P0273 | 0000 | MR | NUM | 0 | | | | 00690 |
| 0691 | P0274 | 0000 | DELCT | NUM | 0 | DELAY COUNTER | | | 00691 |
| | | | | | | | | | |
| 0693 | P0275 | 0276 | P | RANADD | ADC | RAN | STORAGE ADDRESS FOR RANDOM NUMBER | | 00693 |
| 0694 | P0276 | 0000 | | RAN | NUM | 0 | RANDOM NUMBER STORED HERE | | 00694 |

| | | | | | | | | | |
|------|-------|------|--------|----------------|--|--|--|------|-------|
| 0696 | P0277 | 0000 | CHECK | NUM 0 | | | | | 00696 |
| 0697 | P0278 | C073 | | LDA- BIT8 | | | | PTC2 | 00697 |
| 0698 | P0279 | 68C3 | | STA* ERCNT | SET WAIT LOOP COUNT | | | PTC2 | 00698 |
| 0699 | P027A | C82F | CHECKA | LDA* INFLG | CHECK INTERRUPT FLAG | | | | 00699 |
| 0700 | P027B | 010F | | SAZ CH--1 | NOT SET | | | | 00700 |
| 0701 | P027C | C000 | CHECK1 | LDA =XCHECKA | | | | | 00701 |
| | P027D | 027A | P | | | | | | |
| 0702 | P027E | 6800 | | STA | RETURN | | | | 00702 |
| | P027F | FD85 | | | | | | | |
| 0703 | P0280 | C88C | | LDA* ERCNT | | | | PTC2 | 00703 |
| 0704 | P0281 | 09FE | | INA -1 | | | | PTC2 | 00704 |
| 0705 | P0282 | 68BA | | STA* ERCNT | DECREMENT LOOP COUNT | | | PTC2 | 00705 |
| 0706 | P0283 | 0101 | | SAZ 1 | SKIP IF TIMMED OUT | | | PTC2 | 00706 |
| 0707 | P0284 | 5401 | | RTJ- (CONTROL) | RETURN TO SMH | | | PTC2 | 00707 |
| 0708 | P0285 | 0844 | | CLR A | HERE IF TIMED OUT | | | PTC2 | 00708 |
| 0709 | P0286 | 6820 | | STA* STAT | ZERO PARAMETERS | | | PTC2 | 00709 |
| 0710 | P0287 | 6820 | | STA* FRAME | | | | PTC2 | 00710 |
| 0711 | P0288 | 0A21 | | ENA \$21 | | | | PTC2 | 00711 |
| 0712 | P0289 | 6821 | | STA* ERC | SET ERROR CODE | | | PTC2 | 00712 |
| 0713 | P028A | 180C | | JMP* CHA | REPORT ERROR 21- TIMEOUT WAITING FOR INT | | | PTC2 | 00713 |
| 0714 | P028B | E81F | CH | LQ* ERC | | | | | 00714 |
| 0715 | P028C | 0151 | | SN 1 | | | | | 00715 |
| 0716 | P028D | 1CE9 | | JMP* (CHECK) | | | | | 00716 |
| 0717 | P028E | C049 | CHECKB | LDA- INFORM | | | | | 00717 |
| 0718 | P028F | A06B | | AND- CONST | | | | | 00718 |
| 0719 | P0290 | 0105 | | SAZ CHA--1 | IS TTY BUSY | | | | 00719 |
| 0720 | P0291 | C000 | CHECK2 | LDA =XCHECKB | YES | | | | 00720 |
| | P0292 | 028E | P | | | | | | |
| 0721 | P0293 | 6800 | | STA | RETURN | | | | 00721 |
| | P0294 | FD70 | | | | | | | |
| 0722 | P0295 | 5401 | | RTJ- (CONTROL) | RETURN TO SMH | | | | 00722 |
| 0723 | P0296 | 0A01 | CHA | ENA 1 | NO | | | | 00723 |
| 0724 | P0297 | 6812 | | STA* INFLG | | | | | 00724 |
| 0725 | P0298 | C889 | | LDA* SECERR | | | | | 00725 |
| 0726 | P0299 | A081 | | AND- HQOFF | FORM SECTION AND ERROR CODE | | | | 00726 |
| 0727 | P029A | 8810 | | EOR* ERC | | | | | 00727 |
| 0728 | P029B | 680A | | STA* SE | | | | | 00728 |
| 0729 | P029C | 0844 | | CLR A | | | | | 00729 |
| 0730 | P029D | 680D | | STA* ERC | | | | | 00730 |
| 0731 | P029E | 5800 | | RTJ CLR | CLEAR INTERRUPTS | | | | 00731 |
| | P029F | FEEF | | | | | | | |
| 0732 | P02A0 | C000 | | LDA =XPTR004 | | | | | 00732 |
| | P02A1 | 0000 | P | | | | | | |
| 0733 | P02A2 | 5402 | | RTJ- (STOPX) | | | | | 00733 |
| 0734 | P02A3 | 1808 | | JMP* CH1A | | | | | 00734 |
| 0735 | P02A4 | 0418 | | NUM \$418 | STOP ID | | | | 00735 |
| 0736 | P02A5 | 0100 | SE | NUM \$100 | SECTION, ERROR NUMBER | | | | 00736 |
| 0737 | P02A6 | 0000 | STAT | NUM \$0 | STATUS OF EQUIPMENT | | | | 00737 |
| 0738 | P02A7 | 0000 | FRAME | NUM \$0 | CHARACTER JUST READ | | | | 00738 |
| 0739 | P02A8 | 0000 | EXIT | NUM 0 | | | | | 00739 |
| 0740 | P02A9 | 0000 | | INFLG | | | | | 00740 |
| 0741 | P02AA | 0000 | | ERC | | | | | 00741 |
| 0742 | P02AB | 0844 | CH1A | CLR A | | | | | 00742 |

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|------|-------|-------|--------|--------|--|---------------------------------------|--|-------|
| 0743 | P02AC | 68FC | | STA* | INFLG | | | 00743 |
| 0744 | P02AD | 5800 | CH1 | RTJ | SEL | SELECT DATA INTERRUPT | | 00744 |
| | | P02AE | | | | | | |
| 0745 | P02AF | 1CC7 | | JMP* | (CHECK) | | | 00745 |
| | | | | | | | | |
| 0747 | | | | * | THIS ROUTINE PROCESSES INTERRUPTS | | | 00747 |
| 0748 | | | | * | INTERRUPT EXIT STATE VALUE IN Q UPON ENTRY | | | 00748 |
| 0749 | P02B0 | 0000 | | INTFLG | NUM | 0 | | 00749 |
| 0750 | P02B1 | 0000 | | INPROC | NUM | 0 | | 00750 |
| 0751 | P02B2 | 48F5 | | STQ* | EXIT | EXIT INTERRUPT STATE VALUE | | 00751 |
| 0752 | P02B3 | E800 | | LDQ | EQUIP | | | 00752 |
| | | P02B4 | | | | | | |
| 0753 | P02B5 | 0844 | | CLR | A | | | 00753 |
| 0754 | P02B6 | 02FE | | INP | -1 | STATUS | | 00754 |
| 0755 | P02B7 | 68EE | | STA* | STAT | | | 00755 |
| 0756 | P02B8 | A060 | | AND- | CONST+2 | INTERRUPT BIT SET | | 00756 |
| 0757 | P02B9 | 0101 | | SAZ | INTENA--1 | DID THIS EQUIPMENT INTERRUPT | | 00757 |
| 0758 | P02BA | 180F | | JMP* | INPR1 | YES | | 00758 |
| 0759 | P02BB | E8F4 | INTENA | LDQ* | INTFLG | NO | | 00759 |
| 0760 | P02BC | 0151 | | SQN | INTENB--1 | IS THIS ONLY STATION ON INT LINE | | 00760 |
| 0761 | P02BD | 1809 | | JMP* | INTEN2 | YES | | 00761 |
| 0762 | P02BE | C8F2 | INTENB | LDA* | INPROC | NO | | 00762 |
| 0763 | P02BF | 6600 | | STA+ | 0,Q | PASS RETURN ADDRESS TO PTP | | 00763 |
| | | P02C0 | | | | | | |
| 0764 | P02C1 | 0001 | | INQ | 1 | INTERRUPT ROUTINE | | 00764 |
| 0765 | P02C2 | 4803 | | STQ* | INTEN1+1 | | | 00765 |
| 0766 | P02C3 | E8E4 | | LDQ* | EXIT | ALSO PASS Q ALONG | | 00766 |
| 0767 | P02C4 | 1400 | INTEN1 | JMP+ | 0 | GO TO INT PROCESSOR IN PTP TEST | | 00767 |
| | | P02C5 | | | | | | |
| 0768 | P02C6 | 0A0A | INTEN2 | ENA | \$A | ERROR-INTERRUPT STATUS NOT SET | | 00768 |
| 0769 | P02C7 | 68E2 | | STA* | ERC | | | 00769 |
| 0770 | P02C8 | 181E | | JMP* | INPR5 | | | 00770 |
| 0771 | P02C9 | E800 | INPR1 | LDQ | EQUIP | | | 00771 |
| | | P02CA | | | | | | |
| 0772 | P02CB | C8DA | | LDA* | STAT | | | 00772 |
| 0773 | P02CC | A000 | | AND | =N\$403 | STATUS SHOULD BE POWER ON, EXISTENCE, | | 00773 |
| | | P02CD | | | | | | |
| 0774 | P02CE | 8000 | | EOR | =N\$403 | READY AND BUSY | | 00774 |
| | | P02CF | | | | | | |
| 0775 | P02D0 | 0103 | | SAZ | INPR2--1 | ERROR-IMPROPER STATUS | | 00775 |
| 0776 | P02D1 | 0A08 | | ENA | \$8 | | | 00776 |
| 0777 | P02D2 | 68D7 | | STA* | ERC | | | 00777 |
| 0778 | P02D3 | 1813 | | JMP* | INPR5 | | | 00778 |
| 0779 | P02D4 | C8D1 | INPR2 | LDA* | STAT | | | 00779 |
| 0780 | P02D5 | A000 | | AND | =N\$60 | CHECK FOR ALARM AND LOST DATA | | 00780 |
| | | P02D6 | | | | | | |
| 0781 | P02D7 | 0103 | | SAZ | INPR3--1 | ERROR-ALARM AND/OR LOST DATA | | 00781 |
| 0782 | P02D8 | 0A0C | | ENA | \$C | | | 00782 |
| 0783 | P02D9 | 68D0 | | STA* | ERC | | | 00783 |
| 0784 | P02DA | 180C | | JMP* | INPR5 | | | 00784 |

| | | | | | | |
|------|-------|------|-------|----------------|------------------------------|-------|
| 0785 | P0208 | C8CA | INPR3 | LDA* STAT | | 00785 |
| 0786 | P020C | A06E | | AND- CONST#3 | DATA INTERRUPT | 00786 |
| 0787 | P020D | 0106 | | SAZ INPR4--*-1 | NO | 00787 |
| 0788 | P020E | 0844 | | CLR A | YES-INPUT ONE FRAME | 00788 |
| 0789 | P020F | 0DFE | | INQ -1 | | 00789 |
| 0790 | P02E0 | 02FE | | INP -1 | | 00790 |
| 0791 | P02E1 | 68C5 | | STA* FRAME | | 00791 |
| 0792 | P02E2 | 0001 | | INQ 1 | | 00792 |
| 0793 | P02E3 | 1803 | | JMP* INPR5 | | 00793 |
| 0794 | P02E4 | 0A0D | INPR4 | ENA \$D | ERROR-UNIDENTIFIED INTERRUPT | 00794 |
| 0795 | P02E5 | 68C4 | | STA* ERC | | 00795 |
| 0796 | P02E6 | C8C2 | INPR5 | LDA* INFLG | | 00796 |
| 0797 | P02E7 | 806C | | EOR- CONST#1 | | 00797 |
| 0798 | P02E8 | 03FE | | OUT -1 | CLEAR INTERRUPTS | 00798 |
| 0799 | P02E9 | 0844 | | CLR A | | 00799 |
| 0800 | P02EA | 688E | | STA* INFLG | CLEAR FLAG | 00800 |
| 0801 | P02EB | E8BC | | LDQ* EXIT | EXIT INTERRUPT STATE VALUE | 00801 |
| 0802 | P02EC | 1CC4 | | JMP* (INPROC) | | 00802 |

| | | | | | | |
|------|-------|------|---------|----------------|---------------------------------------|-------|
| 0804 | P02ED | 0000 | GENPATT | NUM 0 | GENERATE PATTERN FOR 8, 7, OR 5 LEVEL | 00804 |
| 0805 | P02EE | 0844 | | CLR A | EXIT WITH PATTERN IN A | 00805 |
| 0806 | P02EF | 681E | | STA* SECTENDSW | SECTION END SWITCH | 00806 |
| 0807 | P02F0 | E818 | | LDQ* WORD | | 00807 |
| 0808 | P02F1 | C81A | | LDA* PPSW | PATTERN SWITCH | 00808 |
| 0809 | P02F2 | 0106 | | SAZ GEN2--*-1 | LEFT PATTERN DONE **NO SKIP TO GEN2 | 00809 |
| 0810 | P02F3 | 0FA1 | | QLS 1 | YES | 00810 |
| 0811 | P02F4 | 0161 | | SQP GEN1--*-1 | LAST PATTERN + 1 | 00811 |
| 0812 | P02F5 | 180C | | JMP* PPOUT | NO | 00812 |
| 0813 | P02F6 | 0844 | GEN1 | CLR A | YES | 00813 |
| 0814 | P02F7 | 6814 | | STA* PPSW | | 00814 |
| 0815 | P02F8 | E812 | | LDQ* WORD+2 | | 00815 |
| 0816 | P02F9 | 0F21 | GEN2 | QRS 1 | RIGHT PATTERN | 00816 |
| 0817 | P02FA | 0814 | | TRQ A | | 00817 |
| 0818 | P02FB | A082 | | AND- HFF00 | | 00818 |
| 0819 | P02FC | 0114 | | SAN PPOUT--*-1 | | 00819 |
| 0820 | P02FD | C80C | | LDA* WORD+1 | | 00820 |
| 0821 | P02FE | 680A | | STA* WORD | | 00821 |
| 0822 | P02FF | 680C | | STA* PPSW | | 00822 |
| 0823 | P0300 | 680D | | STA* SECTENDSW | | 00823 |
| 0824 | P0301 | 4807 | PPOUT | STQ* WORD | | 00824 |
| 0825 | P0302 | C80C | | LDA* COMPATEN | | 00825 |
| 0826 | P0303 | 0101 | | SAZ 1 | COMPLEMENT PATTERN SWITCH | 00826 |
| 0827 | P0304 | 0852 | | TCQ Q | | 00827 |
| 0828 | P0305 | C807 | | LDA* PPEXL | | 00828 |
| 0829 | P0306 | 0884 | | LAQ A | | 00829 |
| 0830 | P0307 | 1CE5 | | JMP* (GENPATT) | EXIT WITH PATTERN IN A | 00830 |

0832 P0308 7F7F WORD NUM \$7F7F
 0833 P0309 7F7F NUM \$7F7F
 0834 P030A 3EFF NUM \$3EFF
 0835 P030B FFFF PPSW NUM -\$0
 0836 P030C 00FF PPEXL NUM \$FF
 0837 P030D 0000 SECTENDSW NUM 0
 0838 P030E 0000 COMPATEN NUM 0

LEVEL EXTRACT
 SECTION END SWITCH
 COMPLEMENT PATTERN SWITCH

00832
 00833
 00834
 00835
 00836
 00837
 00838

0840 **
 0841 P030F 7F7F ZZ8 NUM \$7F7F
 0842 P0310 7EFF NUM \$7EFF
 0843 P0311 7EFF ZZ7 NUM \$7EFF
 0844 P0312 3F7F NUM \$3F7F
 0845 P0313 7BFF ZZ5 NUM \$7BFF
 0846 P0314 0FDF NUM \$0FDF
 0847 **
 0848 P0315 FF00 PY8 NUM \$FF00
 0849 P0316 41FE NUM \$41FE
 0850 P0317 FE00 PY7 NUM \$FE00
 0851 P0318 20FE NUM \$20FE
 0852 P0319 FB00 PYS NUM \$FB00
 0853 P031A 083E NUM \$083E

ZIGZAG PATTERN LEVEL GENERATE WORDS
 LEVEL 8 STORE IN WORD AND WORD+1
 STORE IN WORD+2
 LEVEL 7
 LEVEL 5
 PYRAMID PATTERN LEVEL GENERATE WORDS
 LEVEL 8
 LEVEL 7
 LEVEL 5

00840
 00841
 00842
 00843
 00844
 00845
 00846
 00847
 00848
 00849
 00850
 00851
 00852
 00853

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|------|-------|------|-------|----------------|--|-------|
| 0855 | P031B | 0000 | GENOZ | NUM \$0 | GENERATE ONES AND ZEROS PATTERN | 00855 |
| 0856 | P031C | 0844 | | CLR A | ONE CYCLE EQUAL 10 ONES AND 3 ZEROS WORD | 00856 |
| 0857 | P031D | 68EF | | STA* SECTENDSW | | 00857 |
| 0858 | P031E | C810 | | LOA* GENO3 | | 00858 |
| 0859 | P031F | 0103 | | SAZ GENO1--1 | | 00859 |
| 0860 | P0320 | D80E | | RAO* GENO3 | | 00860 |
| 0861 | P0321 | 0AFF | | ENA -0 | | 00861 |
| 0862 | P0322 | 180A | | JMP* GENEX | | 00862 |
| 0863 | P0323 | C80C | GENO1 | LOA* GENO4 | | 00863 |
| 0864 | P0324 | 0115 | | SAN GENO2--1 | | 00864 |
| 0865 | P0325 | 0AF5 | | ENA -10 | SET END OF CYCLE SWITCH | 00865 |
| 0866 | P0326 | 68E6 | | STA* SECTENDSW | | 00866 |
| 0867 | P0327 | 6807 | | STA* GENO3 | | 00867 |
| 0868 | P0328 | 0AFC | | ENA -3 | | 00868 |
| 0869 | P0329 | 6806 | | STA* GENO4 | | 00869 |
| 0870 | P032A | D805 | GENO2 | RAO* GENO4 | | 00870 |
| 0871 | P032B | 0A00 | | ENA \$0 | | 00871 |
| 0872 | P032C | A80F | GENEX | AND* PPEXL | EXTRACT LEVELS WANTED | 00872 |
| 0873 | P032D | 1CED | | JMP* (GENOZ) | | 00873 |
| 0874 | P032E | FFF5 | GENO3 | NUM -10 | | 00874 |
| 0875 | P032F | FFFC | GENO4 | NUM -3 | | 00875 |

| | | | | | | |
|------|-------|------|-------|----------------|---------------------------------|-------|
| 0877 | P0330 | 0000 | GENC9 | NUM \$0 | GENERATE C9 AND 36 PATTERN | 00877 |
| 0878 | P0331 | 0844 | | CLR A | ONE CYCLE EQUAL 7 C9S AND 7 36S | 00878 |
| 0879 | P0332 | 68DA | | STA* SECTENDSW | | 00879 |
| 0880 | P0333 | C810 | | LOA* GENC3 | | 00880 |
| 0881 | P0334 | 0104 | | SAZ GENC1--1 | | 00881 |
| 0882 | P0335 | D80E | | RAO* GENC3 | | 00882 |
| 0883 | P0336 | C000 | | LOA =N\$C9 | | 00883 |
| | P0337 | 00C9 | | | | |
| 0884 | P0338 | 1809 | | JMP* GENEX | | 00884 |
| 0885 | P0339 | C808 | GENC1 | LOA* GENC4 | | 00885 |
| 0886 | P033A | 0114 | | SAN GENC2--1 | | 00886 |
| 0887 | P033B | 0AF8 | | ENA -7 | SET END OF CYCLE SWITCH | 00887 |
| 0888 | P033C | 68D0 | | STA* SECTENDSW | | 00888 |
| 0889 | P033D | 6806 | | STA* GENC3 | | 00889 |
| 0890 | P033E | 6806 | | STA* GENC4 | | 00890 |
| 0891 | P033F | D805 | GENC2 | RAO* GENC4 | | 00891 |
| 0892 | P0340 | 0A36 | | ENA \$36 | | 00892 |
| 0893 | P0341 | A8CA | GENEX | AND* PPEXL | EXTRACT LEVELS WANTED | 00893 |
| 0894 | P0342 | 1CED | | JMP* (GENC9) | | 00894 |
| 0896 | P0343 | FFF8 | GENC3 | NUM -\$7 | | 00896 |

| | | | | | | | | |
|------|-------|------|-------|------|-----------|--|-----------------------------------|-------|
| 0897 | P0344 | FFF8 | GENC4 | NUM | -\$7 | | | 00897 |
| 0899 | | | * | | | | | 00899 |
| 0900 | | | * | | | | | 00900 |
| 0901 | | | * | | | | | 00901 |
| 0902 | P0345 | 0000 | SEND | NUM | 0 | | | 00902 |
| 0903 | P0346 | 5800 | | RTJ | CLR | | CLEAR INTERRUPTS,STOP MOTION | 00903 |
| | P0347 | FE47 | | | | | | |
| 0904 | P0348 | C8FC | | LDA* | SEND | | RETURN ADDRESS | 00904 |
| 0905 | P0349 | 680B | | STA* | SNUM+1 | | | 00905 |
| 0906 | P034A | C800 | | LDA | LCSEC | | | 00906 |
| | P034B | FEA1 | | | | | | |
| 0907 | P034C | 0FC8 | | ALS | 8 | | | 00907 |
| 0908 | P034D | 6806 | | STA* | SNUM | | SECTION NUMBER | 00908 |
| 0909 | P034E | C000 | | LDA | =XPTR004 | | | 00909 |
| | P034F | 0000 | P | | | | | |
| 0910 | P0350 | 5402 | | RTJ- | (STOPX) | | | 00910 |
| 0911 | P0351 | 1804 | | JMP* | SEND1 | | | 00911 |
| 0912 | P0352 | 0402 | | NUM | \$402 | | ID | 00912 |
| 0913 | P0353 | 0000 | SNUM | NUM | 0 | | | 00913 |
| 0914 | P0354 | 0000 | | NUM | 0 | | | 00914 |
| 0915 | P0355 | C075 | SEND1 | LDA- | CONST+10 | | | 00915 |
| 0916 | P0356 | A043 | | AND- | STJP | | | 00916 |
| 0917 | P0357 | 0105 | | SAZ | SEND2--1 | | CHECK FOR RE-ENTER PARAMETER STOP | 00917 |
| 0918 | P0358 | C06C | | LDA- | CONST+1 | | | 00918 |
| 0919 | P0359 | A043 | | AND- | STJP | | | 00919 |
| 0920 | P035A | 0102 | | SAZ | SEND2--1 | | | 00920 |
| 0921 | P035B | 5800 | | RTJ | INPARA | | RE-ENTER PARAMETERS | 00921 |
| | P035C | FCAF | | | | | | |
| 0922 | P035D | C800 | SEND2 | LDA | CNTWRD | | | 00922 |
| | P035E | FCB3 | | | | | | |
| 0923 | P035F | A076 | | AND- | CONST+11 | | | 00923 |
| 0924 | P0360 | 6800 | | STA | INTMODE | | | 00924 |
| | P0361 | FE0C | | | | | | |
| 0925 | P0362 | 0104 | | SAZ | SEND3--1 | | | 00925 |
| 0926 | P0363 | C000 | | LDA | =XCHECK+1 | | | 00926 |
| | P0364 | 0278 | P | | | | | |
| 0927 | P0365 | 6800 | | STA | RETURN | | | 00927 |
| | P0366 | FC9E | | | | | | |
| 0928 | P0367 | 5800 | SEND3 | RTJ | SEL | | SELECT DATA INT, START MOTION | 00928 |
| | P0368 | FE31 | | | | | | |
| 0929 | P0369 | C800 | | LDA | CHREAD | | | 00929 |
| | P036A | FE02 | | | | | | |
| 0930 | P036B | 10D9 | | JMP* | (SEND) | | | 00930 |

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|------|-------|------|-------|------|------------|------------------------------|--|-------|
| 0932 | P036C | 005D | INIT | ADC | TE-INIT | | | 00932 |
| 0933 | P036D | 0000 | INIT1 | NUM | \$0 | | INITIALIZATION ROUTINE | 00933 |
| 0934 | | | * | | | | THIS ROUTINE IS ONLY USED AT LOAD TIME | 00934 |
| 0935 | | | * | | | | AND WILL DESTROYED WHEN THE NEXT TEST IS | 00935 |
| 0936 | | | * | | | | LOADED | 00936 |
| 0937 | P036E | C000 | | LDA | =XPTR004 | | | 00937 |
| | P036F | 0000 | P | | | | | |
| 0938 | P0370 | 540A | | RTJ- | (CONV) | | | 00938 |
| 0939 | P0371 | 4800 | | STQ | IA | | | 00939 |
| | P0372 | 004F | | | | | | |
| 0940 | P0373 | 6800 | | STA | IA+1 | | | 00940 |
| | P0374 | 004E | | | | | | |
| 0941 | P0375 | E091 | | LDQ- | TSACTV | | | 00941 |
| 0942 | P0376 | C291 | | LDA- | TSFREQ-1,Q | | | 00942 |
| 0943 | P0377 | 540A | | RTJ- | (CONV) | | | 00943 |
| 0944 | P0378 | 684F | | STA* | HEADE-1 | | | 00944 |
| 0945 | P0379 | C000 | | LDA | =XHEADING | | | 00945 |
| | P037A | 03A3 | P | | | | | |
| 0946 | P037B | E800 | | LQ | HEADCT | | | 00946 |
| | P037C | 0026 | | | | | | |
| 0947 | P037D | 5408 | | RTJ- | (TYPE) | | | 00947 |
| | | | | | | | | |
| 0949 | P037E | C000 | | LDA | =XINITB | | | 00949 |
| | P037F | 0383 | P | | | | | |
| 0950 | P0380 | 6800 | | STA | RETURN | | | 00950 |
| | P0381 | FC83 | | | | | | |
| 0951 | P0382 | 5401 | | RTJ- | (CONTROL) | RETURN TO SMM | | 00951 |
| 0952 | P0383 | 5800 | INITB | RTJ | INPARA | INPUT PARAMETERS | | 00952 |
| | P0384 | FC87 | | | | | | |
| 0953 | P0385 | C800 | | LDA | INT11 | | | 00953 |
| | P0386 | FC8C | | | | | | |
| 0954 | P0387 | 6800 | | STA | INT1 | | | 00954 |
| | P0388 | FC7E | | | | | | |
| 0955 | P0389 | C000 | | LDA | =XRET | | | 00955 |
| | P038A | 0272 | P | | | | | |
| 0956 | P038B | 6800 | | STA | MR | | | 00956 |
| | P038C | FEE6 | | | | | | |
| 0957 | P038D | 0842 | | CLR | Q | | PTC2 | 00957 |
| 0958 | P038E | 4813 | | STQ* | MCHCDE | MACHINE TYPE CODE | PTC2 | 00958 |
| 0959 | P038F | C056 | | LDA- | SHMPAR | | PTC2 | 00959 |
| 0960 | P0390 | A000 | | AND | =N\$C04 | | PTC2 | 00960 |
| | P0391 | 0C04 | | | | | | |
| 0961 | P0392 | 0109 | | SAZ | INITC+3 | SKIP IF 1704/1714 | PTC2 | 00961 |
| 0962 | P0393 | 0822 | | TRA | Q | SAVE MACHINE DEFINITION BITS | PTC2 | 00962 |
| 0963 | P0394 | A06D | | AND- | BIT2 | | PTC2 | 00963 |
| 0964 | P0395 | 0115 | | SAN | INITC+2 | SKIP IF 1774 | PTC2 | 00964 |
| 0965 | P0396 | 0822 | | TRA | Q | RESTORE | PTC2 | 00965 |
| 0966 | P0397 | A075 | | AND- | BIT10 | | PTC2 | 00966 |
| 0967 | P0398 | 0111 | | SAN | INITC+1 | SKIP IF 600 NS MACHINE | PTC2 | 00967 |
| 0968 | P0399 | 0808 | INITC | RAO* | MCHCDE | | PTC2 | 00968 |
| 0969 | P039A | 0807 | | RAO* | MCHCDE | | PTC2 | 00969 |
| 0970 | P039B | 0806 | | RAO* | MCHCDE | | PTC2 | 00970 |

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| | | | | | | |
|------|-------|------|--------------|-----------|---------------------------------------|------------|
| 0971 | P039C | C000 | LDA | =XSTART | | 00971 |
| | P039D | 0019 | | | | |
| 0972 | P039E | 6800 | STA | RETURN | | 00972 |
| | P039F | FC65 | | | | |
| 0973 | P03A0 | 5401 | RTJ- | (CONTROL) | RETURN TO SHH | 00973 |
| 0974 | P03A1 | 0000 | MCHCDE NUM 0 | | MACHINE CODE-0=04,14 1=74,2=600,3=900 | PTC2 00974 |

| | | | | | | |
|------|-------|------|---------|-----|----------------------------------|-------|
| 0976 | P03A2 | 0026 | HEADCT | ADC | HEADE-HEADING+1 | 00976 |
| 0977 | P03A3 | 800A | HEADING | NUM | \$800A | 00977 |
| 0978 | P03A4 | 2050 | ALF | | X, PTR004, 1721/77 READER TEST.X | 00978 |

P03A5 5452
P03A6 3030
P03A7 342C
P03A8 2031
P03A9 3732
P03AA 312F
P03AB 3737
P03AC 2052
P03AD 4541
P03AE 4445
P03AF 5220
P03B0 5445
P03B1 5354
P03B2 2E20

| | | | | | | |
|------|-------|------|-----|--------|-----------------------|-------|
| 0979 | P03B3 | 800A | NUM | \$800A | | 00979 |
| 0980 | P03B4 | 2043 | ALF | | X, CP2F, VER. 3.1-1 X | 00980 |

P03B5 5032
P03B6 462C
P03B7 2056
P03B8 4552
P03B9 2E20
P03BA 332E
P03BB 312D
P03BC 3120

| | | | | | | |
|------|-------|------|-----|--------|---------|-------|
| 0981 | P03BD | 800A | NUM | \$800A | | 00981 |
| 0982 | P03BE | 2049 | ALF | | 3, IA = | 00982 |

P03BF 4120
P03C0 3020
0983 P03C1 0000 IA NUM \$0
0984 P03C2 0000 NUM \$0
0985 P03C3 2C20 NUM \$2C20
0986 P03C4 2046 ALF 4, FC =
P03C5 4320
P03C6 3020
P03C7 2020

| | | | | | | |
|------|-------|------|-------|-----|--------|-------|
| 0987 | P03C8 | 800A | HEADE | NUM | \$800A | 00987 |
| 0988 | P03C9 | 03C9 | P TE | ADC | * | 00988 |
| 0989 | | | | END | | 00989 |

PGM= 03CA (970) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

| DEF.LINE | NAME | VALUE | REFERENCED AT LINE NUMBER |
|----------|--------|-------|---|
| 0000 | I | 00FF | (000255) |
| 0036 | CONTRO | 0001 | (000001) , 0037, 0683, 0707, 0722, 0951, 0973 |
| 0037 | STOPX | 0002 | (000002) , 0038, 0117, 0386, 0438, 0655, 0733 , 0910 |
| 0038 | TSEXIT | 0003 | (000003) , 0039, 0410 |
| 0039 | DATINT | 0004 | (000004) , 0040, 0041, 0167 |
| 0040 | CLRINT | 0005 | (000005) |
| 0041 | JUMPX | 0006 | (000006) , 0042, 0412, 0470, 0625 |
| 0042 | GENRAN | 0007 | (000007) , 0043, 0096 |
| 0043 | TYPEOU | 0008 | (000008) , 0044, 0045, 0098, 0100 |
| 0044 | TTYBZY | 0009 | (000009) |
| 0045 | HEXASC | 000A | (000010) , 0046, 0097, 0099 |
| 0046 | OVRLAY | 000B | (000011) , 0047 |
| 0047 | RELPOS | 000C | (000012) , 0048 |
| 0048 | MAINL | 000D | (000013) , 0049, 0102 |
| 0049 | SETHAS | 0042 | (000066) , 0050 |
| 0050 | STJP | 0043 | (000067) , 0051, 0052, 0095, 0431, 0465, 0916 , 0919 |
| 0051 | LASTVA | 0044 | (000068) |
| 0052 | LASTAD | 0045 | (000069) , 0053 |
| 0053 | LDLCOR | 0047 | (000071) , 0054 |
| 0054 | LDL1CO | 0048 | (000072) , 0055 |
| 0055 | INFORM | 0049 | (000073) , 0056, 0717 |
| 0056 | SMCNT | 0056 | (000086) , 0057, 0094 |
| 0057 | BIT00 | 006B | (000107) , 0058, 0093 |
| 0058 | BIT0 | 006B | (000107) , 0059 |
| 0059 | BIT1 | 006C | (000108) , 0060 |
| 0060 | BIT2 | 006D | (000109) , 0061, 0963 |
| 0061 | BIT3 | 006E | (000110) , 0062 |
| 0062 | BIT4 | 006F | (000111) , 0063 |
| 0063 | BIT5 | 0070 | (000112) , 0064 |
| 0064 | BIT6 | 0071 | (000113) , 0065 |
| 0065 | BIT7 | 0072 | (000114) , 0066 |
| 0066 | BIT8 | 0073 | (000115) , 0067, 0606, 0697 |
| 0067 | BIT9 | 0074 | (000116) , 0068 |
| 0068 | BIT10 | 0075 | (000117) , 0069, 0966 |
| 0069 | BIT11 | 0076 | (000118) , 0070 |

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|------|--------|------|----------|--------------------------------------|
| 0070 | BIT12 | 0077 | (000119) | , 0071 |
| 0071 | BIT13 | 0078 | (000120) | , 0072 |
| 0072 | BIT14 | 0079 | (000121) | , 0073 |
| 0073 | BIT15 | 007A | (000122) | , 0074 |
| 0074 | H0000 | 007B | (000123) | , 0075 |
| 0075 | HFFFF | 007C | (000124) | , 0076 |
| 0076 | H000F | 007D | (000125) | , 0077 |
| 0077 | H00F0 | 007E | (000126) | , 0078 |
| 0078 | H0F00 | 007F | (000127) | , 0079 |
| 0079 | HF000 | 0080 | (000128) | , 0080 |
| 0080 | H00FF | 0081 | (000129) | , 0081, 0227, 0275, 0330, 0359, 0648 |
| | | | | , 0726 |
| 0081 | HFF00 | 0082 | (000130) | , 0082, 0818 |
| 0082 | HFFF0 | 0083 | (000131) | , 0083 |
| 0083 | H0FFF | 0084 | (000132) | , 0084 |
| 0084 | HFF0F | 0085 | (000133) | , 0085 |
| 0085 | HF0FF | 0086 | (000134) | , 0086 |
| 0086 | H7FFF | 0087 | (000135) | , 0087, 0525 |
| 0087 | H7F00 | 0088 | (000136) | , 0088 |
| 0088 | H0780 | 0089 | (000137) | , 0089 |
| 0089 | H007F | 008A | (000138) | , 0090 |
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| 0099 | CONV | 000A | (000010) | , 0938, 0943 |
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| 0101 | TEMP | 0004 | (000212) | |
| 0102 | MANUIN | 000D | (000013) | |
| 0103 | PT | 0001 | (000001) | |

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| 0115 | INPARA | 000C | , 0112, 0142, 0406, 0415, 0921, 0952 |
| 0121 | CNTHRD | 0012 | , 0106, 0177, 0187, 0223, 0271, 0329 , 0358, 0589, 0602, 0922 |
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| 0138 | DELRO | 0014 | , 0665 |
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| H7FFF | 0086 | HEADCT | 0976 | HEADE | 0987 | HEADIN | 0977 | HEXASC | 0045 |
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| LC010 | 0211 | LC011 | 0214 | LC012 | 0220 | LC013 | 0229 | LC014 | 0234 |
| LC015 | 0236 | LC016 | 0241 | LC020 | 0245 | LC021 | 0252 | LC040 | 0257 |
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| LC046 | 0292 | LC047 | 0301 | LC080 | 0306 | LC081 | 0313 | LC100 | 0318 |
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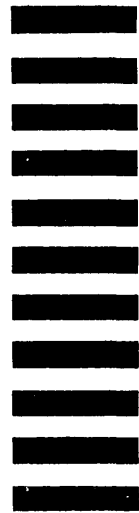
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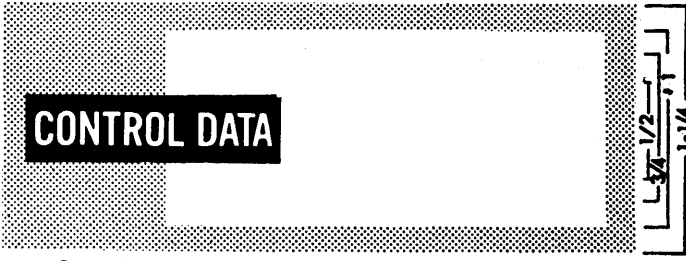
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