```
DDR B1 B2 B3 E LINE LABEL          OPCD   OPERAND

000            0010 *** VECTOR ONE MONITOR
000            0020 *
000            0030 * SYSTEM EQUATES
000            0040 *
000    FFFF    0050 TRUE           EQU    0FFFFH
000    0000    0060 FALSE          EQU    0
000    FFFF    0070 VECTOR         EQU    TRUE
000    FFFF    0080 VIEDO          EQU    TRUE
000    04E7    0085 DOS            EQU    04E7H  MICROP WARM START
000            0090 *
000            0100                IFT    VECTOR         ;IF TRUE
000    0003    0110 CONS           EQU    3
000    0002    0120 COND           EQU    2
000    0001    0130 TBE            EQU    1
000    0002    0140 RDA            EQU    2
000    0000    0150 STPOL          EQU    0
000            0160                ENDIF
000            0170 *
000            0180                IFF    VECTOR         ;IF FALSE
000            0190 CONS           EQU    10H            ;MITS STATUS PORT
000            0200 COND           EQU    11H            ;MITS DATA PORT
000            0210 TBE            EQU    1
000            0220 RDA            EQU    2
000            0230 STPOL          EQU    0
000            0240                ENDIF
000            0250 *
000    006F    0260 CASD           EQU    6FH
000    006E    0270 CASC           EQU    6EH
000    DFF0    0280 SPTR           EQU    0DFF0H  STACK PTR
000    F400    0290 BOOT           EQU    0F400H
000            0300 *
000            0310                ORG    0E000H
000            0320           TAB    10,17,28
000 C3 03 E0   0330           JMP    INIT
003            0340 *
003            0350           IFT    VECTOR
003 3E CE      0360 INIT      MVI    A,0CEH
005 D3 03      0370           OUT    CONS
007 3E 27      0380           MVI    A,027H
009 D3 03      0390           OUT    CONS
00B            0400           ENDIF
00B            0410 *
00B            0420           IFF    VECTOR     ;MITS INITIALIZATION
00B            0430 INIT      MVI    A,3
00B            0440           OUT    CONS
00B            0450           OUT    12H
00B            0460           MVI    A,11H
00B            0470           OUT    CONS
00B            0480           OUT    12H
00B            0490           ENDIF
00B            0500 *
00B 31 F0 DF   0510 START     LXI    SP,SPTR
00E CD 9B E0   0520           CALL   CRLF
011 3E 2A      0530           MVI    A,02AH     ;PROMPT
013 CD 98 E0   0540           CALL   PTCN
016 CD B2 E0   0550           CALL   RDCN
019 E6 5F      0560           ANI    05FH
01B F5         0570           PUSH   PSW
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

01C CD 96 E0   0580           CALL   SPCE
01F F1         0590           POP    PSW
020 21 0B E0   0600           LXI    H,START
023 E5         0610           PUSH   H
024 FE 41      0620           CPI    'A'
026 D8         0630           RC
027 FE 5B      0640           CPI    05BH
029 D0         0650           RNC
02A 21 B5 E0   0660           LXI    H,CMDTB+7EH
02D F5         0670           PUSH   PSW
02E 87         0680           ADD    A
02F 85         0690           ADD    L
030 6F         0700           MOV    L,A
031 5E         0710           MOV    E,M
032 23         0720           INX    H
033 56         0730           MOV    D,M
034 EB         0740           XCHG
035 F1         0750           POP    PSW
036 E9         0760           PCHL
037            0770 *
037 E3 E1      0780 CMDTB     DW     DISP        ;A
039 00 F4      0790           DW     BOOT        ;B
03B A1 E2      0800           DW     COMPR       ;C
03D E3 E1      0810           DW     DISP        ;D
03F 0B E0      0820           DW     START       ;E
041 BA E2      0830           DW     SRCH        ;F
043 6B E0      0840           DW     EXEC        ;G
045 0B E0      0850           DW     START       ;H
047 16 E3      0860           DW     PINPT       ;I
049 E7 04      0870           DW     DOS         ;J
04B 00 00      0880           DW     0           ;K
04D 1D E1      0890           DW     CINR        ;L
04F 66 E2      0900           DW     MOVEB       ;M
051 88 E2      0910           DW     NDMT        ;N
053 FF E2      0920           DW     POUTP       ;O
055 18 E2      0930           DW     PGM         ;P
057 E2 E0      0940           DW     COUTR       ;Q
059 1D E1      0950           DW     CINR        ;R
05B BA E2      0960           DW     SRCH        ;S
05D 6B E1      0970           DW     TMEM        ;T
05F 2B E3      0980           DW     SYNC        ;U
061 1D E1      0990           DW     CINR        ;V
063 E2 E0      1000           DW     COUTR       ;W
065 66 E2      1010           DW     MOVEB       ;X
067 0B E0      1020           DW     START       ;Y
069 52 E2      1030           DW     ZEROM       ;Z
06B            1040 *
06B CD 70 E0   1050 EXEC      CALL   AHEX
06E EB         1060           XCHG
06F E9         1070           PCHL
070            1080 *
070 0E 04      1090 AHEX      MVI    C,4
072 21 00 00   1100 AHE0      LXI    H,0
075 CD B2 E0   1110 AHE1      CALL   RDCN
078 FE 30      1120           CPI    030H
07A DA 0B E0   1130           JC     START
07D FE 3A      1140           CPI    ':'
07F D4 A5 E0   1150           CNC    ALPH
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

082 29         1160           DAD    H
083 29         1170           DAD    H
084 29         1180           DAD    H
085 29         1190           DAD    H
086 D6 30      1200           SUI    48
088 FE 0A      1210           CPI    10
08A DA 8F E0   1220           JC     ALF
08D D6 07      1230           SUI    7
08F 85         1240 ALF       ADD    L
090 6F         1250           MOV    L,A
091 0D         1260           DCR    C
092 C2 75 E0   1270           JNZ    AHE1
095 EB         1280           XCHG
096 3E 20      1290 SPCE      MVI    A,' '
098            1300 *
098            1310           IFT    VIEDO
098 C3 37 E3   1320 PTCN      JMP    VIDEO  PUT CHAR TO TUBE
09B            1330           ENDIF
09B            1340 *
09B            1350           IFF    VIEDO
09B            1360 PTCN      PUSH   PSW
09B            1370 PTLOP     IN     CONS
09B            1380           ANI    TBE
09B            1390           JZ     PTLOP
09B            1400           POP    PSW
09B            1410           OUT    COND
09B            1420           RET
09B            1430           ENDIF
09B            1440 *
09B 3E 0D      1450 CRLF      MVI    A,0DH
09D CD 98 E0   1460           CALL   PTCN
0A0 3E 0A      1470           MVI    A,0AH
0A2 C3 98 E0   1480           JMP    PTCN
0A5            1490 *
0A5 FE 41      1500 ALPH      CPI    'A'
0A7 DA 0B E0   1510           JC     START
0AA E6 5F      1520           ANI    05FH
0AC FE 47      1530           CPI    'G'
0AE D2 0B E0   1540           JNC    START
0B1 C9         1550           RET
0B2            1560 *
0B2 DB 03      1570 RDCN      IN     CONS
0B4 EE 00      1580           XRI    STPOL
0B6 E6 02      1590           ANI    RDA
0B8 CA B2 E0   1600           JZ     RDCN
0BB DB 02      1610           IN     COND
0BD E6 7F      1620           ANI    07FH
0BF C3 98 E0   1630           JMP    PTCN
0C2            1640 *
0C2 CD D1 E0   1650 PAUSE     CALL   CNTLC
0C5 FE 20      1660           CPI    ' '
0C7 C0         1670           RNZ
0C8 CD D1 E0   1680 PLOOP     CALL   CNTLC
0CB FE 20      1690           CPI    ' '
0CD C2 C8 E0   1700           JNZ    PLOOP
0D0 C9         1710           RET
0D1            1720 *
0D1 DB 03      1730 CNTLC     IN     CONS
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

0D3 EE 00      1740           XRI    STPOL
0D5 E6 02      1750           ANI    RDA
0D7 C8         1760           RZ
0D8 DB 02      1770           IN     COND
0DA E6 7F      1780           ANI    07FH
0DC FE 03      1790           CPI    003H
0DE CA 0B E0   1800           JZ     START
0E1 C9         1810           RET
0E2            1820 *
0E2 F5         1830 COUTR     PUSH   PSW
0E3 CD F8 E2   1840           CALL   TAHEX
0E6 06 00      1850           MVI    B,0
0E8 F1         1860           POP    PSW
0E9 4F         1870           MOV    C,A
0EA CD 0B E1   1880           CALL   COUT
0ED 3E E6      1890           MVI    A,0E6H
0EF CD 0B E1   1900           CALL   COUT
0F2 7E         1910 COLOP     MOV    A,M
0F3 CD 0B E1   1920           CALL   COUT
0F6 80         1930           ADD    B
0F7 47         1940           MOV    B,A
0F8 CD C2 E0   1950           CALL   PAUSE
0FB CD 49 E2   1960           CALL   BMP
0FE C2 F2 E0   1970           JNZ    COLOP
101 78         1980           MOV    A,B
102 CD 0B E1   1990           CALL   COUT
105 CD C9 E1   2000           CALL   PT2
108 C3 0B E0   2010           JMP    START
10B            2020 *
10B F5         2030 COUT      PUSH   PSW
10C 79         2040           MOV    A,C
10D FE 51      2050           CPI    'Q'
10F CA 19 E1   2060           JZ     CHKSM
112 DB 6E      2070 CLOP      IN     CASC
114 E6 20      2080           ANI    020H
116 C2 12 E1   2090           JNZ    CLOP
119 F1         2100 CHKSM     POP    PSW
11A D3 6F      2110           OUT    CASD
11C C9         2120           RET
11D            2130 *
11D            2140 *** CASSETTE INPUT ROUTINE ***
11D            2150 *
11D F5         2160 CINR      PUSH   PSW
11E 3E 10      2170           MVI    A,010H
120 D3 6E      2180           OUT    06EH
122 CD F8 E2   2190           CALL   TAHEX
125 F1         2200           POP    PSW
126 E5         2210           PUSH   H
127 F5         2220           PUSH   PSW
128 06 00      2230           MVI    B,0
12A CD 61 E1   2240 CILOP     CALL   CIN
12D 4F         2250           MOV    C,A
12E F1         2260           POP    PSW
12F F5         2270           PUSH   PSW
130 FE 56      2280           CPI    'V'
132 79         2290           MOV    A,C
133 CA 37 E1   2300           JZ     CINO
136 77         2310           MOV    M,A
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

137 80         2320 CINO      ADD    B
138 47         2330           MOV    B,A
139 CD C2 E0   2340           CALL   PAUSE
13C CD 49 E2   2350           CALL   BMP
13F C2 2A E1   2360           JNZ    CILOP
142 CD 61 E1   2370           CALL   CIN
145 F5         2380           PUSH   PSW
146 CD C9 E1   2390           CALL   PT2
149 CD 96 E0   2400           CALL   SPCE
14C F1         2410           POP    PSW
14D B8         2420           CMP    B
14E 3E 45      2430           MVI    A,'E'
150 C2 5B E1   2440           JNZ    CERR
153 F1         2450           POP    PSW
154 FE 4C      2460           CPI    'L'
156 C2 5B E1   2470           JNZ    CERR
159 E1         2480           POP    H
15A E9         2490           PCHL
15B            2500 *
15B CD 98 E0   2510 CERR      CALL   PTCN
15E C3 0B E0   2520           JMP    START
161 DB 6E      2530 CIN       IN     CASC
163 E6 10      2540           ANI    010H
165 C2 61 E1   2550           JNZ    CIN
168 DB 6F      2560           IN     CASD
16A C9         2570           RET
16B            2580 *
16B            2590 *** MEMORY TEST ROUTINE ***
16B            2600 *
16B CD F8 E2   2610 TMEM      CALL   TAHEX
16E 01 5A 5A   2620           LXI    B,5A5AH
171 CD 9C E1   2630 CYCL      CALL   RNDM
174 C5         2640           PUSH   B
175 E5         2650           PUSH   H
176 D5         2660           PUSH   D
177 CD 9C E1   2670 TLOP      CALL   RNDM
17A 70         2680           MOV    M,B
17B CD 49 E2   2690           CALL   BMP
17E C2 77 E1   2700           JNZ    TLOP
181 D1         2710           POP    D
182 E1         2720           POP    H
183 C1         2730           POP    B
184 E5         2740           PUSH   H
185 D5         2750           PUSH   D
186 CD 9C E1   2760 RLOP      CALL   RNDM
189 7E         2770           MOV    A,M
18A B8         2780           CMP    B
18B C4 BD E1   2790           CNZ    ERR
18E CD 49 E2   2800           CALL   BMP
191 C2 86 E1   2810           JNZ    RLOP
194 D1         2820           POP    D
195 E1         2830           POP    H
196 CD C2 E0   2840           CALL   PAUSE
199 C3 71 E1   2850           JMP    CYCL
19C            2860 *
19C 78         2870 RNDM      MOV    A,B
19D E6 B4      2880           ANI    0B4H
19F A7         2890           ANA    A
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

1A0 EA A4 E1   2900           JPE    PEVE
1A3 37         2910           STC
1A4 79         2920 PEVE      MOV    A,C
1A5 17         2930           RAL
1A6 4F         2940           MOV    C,A
1A7 78         2950           MOV    A,B
1A8 17         2960           RAL
1A9 47         2970           MOV    B,A
1AA C9         2980           RET
1AB            2990 *
1AB            3000 *** ERROR PRINTOUT ROUTINE ***
1AB            3010 *
1AB CD 9B E0   3020 PTAD      CALL   CRLF
1AE CD C2 E0   3030           CALL   PAUSE
1B1 7C         3040           MOV    A,H
1B2 CD C9 E1   3050           CALL   PT2
1B5 7D         3060           MOV    A,L
1B6 CD C9 E1   3070           CALL   PT2
1B9 CD 96 E0   3080           CALL   SPCE
1BC C9         3090           RET
1BD            3100 *
1BD F5         3110 ERR       PUSH   PSW
1BE CD AB E1   3120           CALL   PTAD
1C1 78         3130           MOV    A,B
1C2 CD C9 E1   3140           CALL   PT2
1C5 CD 96 E0   3150           CALL   SPCE
1C8 F1         3160           POP    PSW
1C9 F5         3170 PT2       PUSH   PSW
1CA CD D1 E1   3180           CALL   BINH
1CD F1         3190           POP    PSW
1CE C3 D5 E1   3200           JMP    BINL
1D1 1F         3210 BINH      RAR
1D2 1F         3220           RAR
1D3 1F         3230           RAR
1D4 1F         3240           RAR
1D5 E6 0F      3250 BINL      ANI    0FH
1D7 C6 30      3260           ADI    030H
1D9 FE 3A      3270           CPI    03AH
1DB DA 98 E0   3280           JC     PTCN
1DE C6 07      3290           ADI    007H
1E0 C3 98 E0   3300           JMP    PTCN
1E3            3310 *
1E3            3320 *** DISPLAY MEMORY CONTENTS ***
1E3            3330 *
1E3 47         3340 DISP      MOV    B,A
1E4 CD F8 E2   3350           CALL   TAHEX
1E7 0E 10      3360 ENT1      MVI    C,010H
1E9 CD AB E1   3370           CALL   PTAD
1EC 78         3380 LP2       MOV    A,B
1ED FE 41      3390           CPI    'A'
1EF 7E         3400           MOV    A,M
1F0 CA 04 E2   3410           JZ     ASCD
1F3 CD C9 E1   3420           CALL   PT2
1F6 CD 96 E0   3430           CALL   SPCE
1F9 CD 49 E2   3440 LP3       CALL   BMP
1FC C8         3450           RZ
1FD 0D         3460           DCR    C
1FE CA E7 E1   3470           JZ     ENT1
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

201 C3 EC E1   3480           JMP    LP2
204            3490 *
204 E6 60      3500 ASCD      ANI    060H
206 C2 0F E2   3510           JNZ    NCON
209 CD 96 E0   3520           CALL   SPCE
20C C3 F9 E1   3530           JMP    LP3
20F            3540 *
20F 7E         3550 NCON      MOV    A,M
210 E6 7F      3560           ANI    07FH
212 CD 98 E0   3570           CALL   PTCN
215 C3 F9 E1   3580           JMP    LP3
218            3590 *
218            3600 *** PROGRAM MEMORY ***
218            3610 *
218 CD 70 E0   3620 PGM       CALL   AHEX
21B EB         3630           XCHG
21C CD 9B E0   3640           CALL   CRLF
21F 7E         3650 PGLP      MOV    A,M
220 CD C9 E1   3660           CALL   PT2
223 3E 2D      3670           MVI    A,'-'
225 CD 98 E0   3680           CALL   PTCN
228 CD B2 E0   3690 CRIG      CALL   RDCN
22B FE 20      3700           CPI    ' '
22D CA 45 E2   3710           JZ     CON2
230 FE 0D      3720           CPI    0DH
232 C2 3B E2   3730           JNZ    CON1
235 CD 9B E0   3740           CALL   CRLF
238 C3 28 E2   3750           JMP    CRIG
23B EB         3760 CON1      XCHG
23C 21 00 00   3770           LXI    H,0
23F 0E 02      3780           MVI    C,2
241 CD 78 E0   3790           CALL   AHE1+3
244 73         3800           MOV    M,E
245 23         3810 CON2      INX    H
246 C3 1F E2   3820           JMP    PGLP
249            3830 *
249 7B         3840 BMP       MOV    A,E
24A 95         3850           SUB    L
24B C2 50 E2   3860           JNZ    GOON
24E 7A         3870           MOV    A,D
24F 9C         3880           SBB    H
250 23         3890 GOON      INX    H
251 C9         3900           RET
252            3910 *
252            3920 *** ZERO / FILL MEMORY WITH A CONSTANT ***
252            3930 *
252 CD F8 E2   3940 ZEROM     CALL   TAHEX
255 E5         3950           PUSH   H
256 0E 02      3960           MVI    C,2
258 CD 72 E0   3970           CALL   AHE0
25B EB         3980           XCHG
25C E3         3990           XTHL
25D C1         4000           POP    B
25E 71         4010 ZLOOP     MOV    M,C
25F CD 49 E2   4020           CALL   BMP
262 C8         4030           RZ
263 C3 5E E2   4040           JMP    ZLOOP
266            4050 *
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

266            4060 *** MOVE A BLOCK OF MEMORY ***
266            4070 *
266 47         4080 MOVEB     MOV    B,A
267 CD F8 E2   4090           CALL   TAHEX
26A E5         4100           PUSH   H
26B CD 70 E0   4110           CALL   AHEX
26E EB         4120           XCHG
26F E3         4130           XTHL
270 4E         4140 MLOOP     MOV    C,M
271 E3         4150           XTHL
272 78         4160           MOV    A,B
273 FE 4D      4170           CPI    'M'
275 CA 7C E2   4180           JZ     NEXCH
278 7E         4190           MOV    A,M
279 E3         4200           XTHL
27A 77         4210           MOV    M,A
27B E3         4220           XTHL
27C 71         4230 NEXCH     MOV    M,C
27D 23         4240           INX    H
27E E3         4250           XTHL
27F CD 49 E2   4260           CALL   BMP
282 CA 0B E0   4270           JZ     START
285 C3 70 E2   4280           JMP    MLOOP
288            4290 *
288            4300 *** NON DESTRUCTIVE MEMORY TEST ***
288            4310 *
288 21 00 00   4320 NDMT      LXI    H,0
28B 4E         4330 NDLOP     MOV    C,M
28C 06 FF      4340           MVI    B,0FFH
28E 70         4350           MOV    M,B
28F 7E         4360           MOV    A,M
290 B8         4370           CMP    B
291 C2 BD E1   4380           JNZ    ERR
294 06 00      4390           MVI    B,0
296 70         4400           MOV    M,B
297 7E         4410           MOV    A,M
298 B8         4420           CMP    B
299 C2 BD E1   4430           JNZ    ERR
29C 71         4440           MOV    M,C
29D 23         4450           INX    H
29E C3 8B E2   4460           JMP    NDLOP
2A1            4470 *
2A1            4480 *** COMPARE TWO BLOCKS OF MEMORY ***
2A1            4490 *
2A1 CD F8 E2   4500 COMPR      CALL   TAHEX
2A4 E5         4510           PUSH   H
2A5 CD 70 E0   4520           CALL   AHEX
2A8 EB         4530           XCHG
2A9 7E         4540 VMLOP     MOV    A,M
2AA 23         4550           INX    H
2AB E3         4560           XTHL
2AC BE         4570           CMP    M
2AD 46         4580           MOV    B,M
2AE C4 BD E1   4590           CNZ    ERR
2B1 CD 49 E2   4600           CALL   BMP
2B4 E3         4610           XTHL
2B5 C2 A9 E2   4620           JNZ    VMLOP
2B8 F1         4630           POP    PSW
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

2B9 C9         4640           RET
2BA            4650 *
2BA F5         4660 SRCH      PUSH   PSW
2BB CD F8 E2   4670           CALL   TAHEX
2BE E5         4680           PUSH   H
2BF 0E 02      4690           MVI    C,2
2C1 CD 72 E0   4700           CALL   AHE0
2C4 EB         4710           XCHG
2C5 45         4720           MOV    B,L
2C6 E1         4730           POP    H
2C7 F1         4740           POP    PSW
2C8 FE 53      4750           CPI    'S'
2CA F5         4760           PUSH   PSW
2CB CA D7 E2   4770           JZ     CONT
2CE E5         4780           PUSH   H
2CF 0E 02      4790           MVI    C,2
2D1 CD 72 E0   4800           CALL   AHE0
2D4 EB         4810           XCHG
2D5 4D         4820           MOV    C,L
2D6 E1         4830           POP    H
2D7 7E         4840 CONT      MOV    A,M
2D8 B8         4850           CMP    B
2D9 C2 F0 E2   4860           JNZ    SKP
2DC F1         4870           POP    PSW
2DD FE 53      4880           CPI    053H
2DF F5         4890           PUSH   PSW
2E0 CA EA E2   4900           JZ     OBCP
2E3 23         4910           INX    H
2E4 7E         4920           MOV    A,M
2E5 2B         4930           DCX    H
2E6 B9         4940           CMP    C
2E7 C2 F0 E2   4950           JNZ    SKP
2EA 23         4960 OBCP      INX    H
2EB 7E         4970           MOV    A,M
2EC 2B         4980           DCX    H
2ED CD BD E1   4990           CALL   ERR
2F0 CD 49 E2   5000 SKP       CALL   BMP
2F3 C2 D7 E2   5010           JNZ    CONT
2F6 F1         5020           POP    PSW
2F7 C9         5030           RET
2F8            5040 *
2F8 CD 70 E0   5050 TAHEX     CALL   AHEX
2FB CD 70 E0   5060           CALL   AHEX
2FE C9         5070           RET
2FF            5080 *
2FF 0E 02      5090 POUTP     MVI    C,2
301 CD 72 E0   5100           CALL   AHE0
304 0E 02      5110           MVI    C,2
306 CD 72 E0   5120           CALL   AHE0
309 55         5130           MOV    D,L
30A 21 C0 DF   5140           LXI    H,SPTR-30H
30D 36 C9      5150           MVI    M,0C9H
30F 2B         5160           DCX    H
310 72         5170           MOV    M,D
311 2B         5180           DCX    H
312 36 D3      5190           MVI    M,0D3H
314 7B         5200           MOV    A,E
315 E9         5210           PCHL
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

316            5220 *
316            5230 *** INPUT DATA FROM A PORT
316            5240 *
316 0E 02      5250 PINPT     MVI    C,2
318 CD 72 E0   5260           CALL   AHE0
31B 21 C0 DF   5270           LXI    H,SPTR-30H
31E 36 C9      5280           MVI    M,0C9H
320 2B         5290           DCX    H
321 73         5300           MOV    M,E
322 2B         5310           DCX    H
323 36 DB      5320           MVI    M,0DBH
325 CD BE DF   5330           CALL   SPTR-32H
328 C3 C9 E1   5340           JMP    PT2
32B            5350 *
32B            5360 *** OUTPUT TARBELL SYNC ***
32B            5370 *
32B 3E E6      5380 SYNC      MVI    A,0E6H
32D 4F         5390           MOV    C,A
32E CD 0B E1   5400           CALL   COUT
331 CD D1 E0   5410           CALL   CNTLC
334 C3 2B E3   5420           JMP    SYNC
337            5430 *  THIS IS VIDEO
337    F800    5440 PAGE      EQU    0F800H  VIDEO BOARD ADDR
337    00D0    5450 PSTAT     EQU    0D0H  <- 0F8H
337            5500 * VIDEO DRIVER START
337 F5         5520 VIDEO     PUSH   PSW
338 C5         5530           PUSH   B
339 D5         5540           PUSH   D
33A E5         5550           PUSH   H
33B 47         5560           MOV    B,A
33C 3A F6 DF   5570           LDA    IFL
33F FE 20      5580           CPI    ' '
341 CA 4C E3   5590           JZ     DISPL
344 3E 20      5600           MVI    A,' '
346 32 F6 DF   5610           STA    IFL
349 C3 9A E3   5620           JMP    CLRSC  CLEAR SCREEN
34C            5630 *  DISPLAY A CHAR
34C 2A F4 DF   5640 DISPL     LHLD   CURS
34F 36 20      5650           MVI    M,' '
351 78         5660           MOV    A,B
352 B7         5670           ORA    A
353 CA A9 E3   5680           JZ     DELAY
356 FE 04      5690           CPI    4  D CLEAR SCREEN
358 CA 9A E3   5700           JZ     CLRSC
35B FE 0A      5710           CPI    0AH  J LINE FEED
35D CA B4 E3   5720           JZ     LNFD   -> 0F
360 FE 5F      5730           CPI    5FH  UNDERLINE BACKSPZCE
362 CA BB E3   5740           JZ     BKSPC
365 FE 20      5750           CPI    ' '
367 DA A9 E3   5760           JC     DELAY
36A E6 7F      5770           ANI    07FH
36C 77         5780           MOV    M,A
36D 23         5790           INX    H
36E 7C F8      5800 ONSCR     MOV    A,H  MAKE SURE CURS ON SCREEN
36F FE D4      5810           CPI    PSTAT+4
371 C2 90 E3   5820           JNZ    RETRN
374 21 00 F8   5830           LXI    H,PAGE
377 11 40 F8   5840           LXI    D,PAGE+64
```

```
DDR B1 B2 B3 E LINE LABEL     OPCD   OPERAND

37A 1A         5850 SCROL     LDAX   D  IF NOT, SCROLL UP 1 LINE
37B 77         5860           MOV    M,A
37C 13         5870           INX    D
37D 23         5880           INX    H
37E 7A         5890           MOV    A,D
37F FE D4      5900           CPI    PSTAT+4
381 C2 7A E3   5910           JNZ    SCROL
384 36 20      5920 CLRN      MVI    M,' '  CLEAR LAST LINE
386 23         5930           INX    H
387 7C         5940           MOV    A,H
388 FE D4      5950           CPI    PSTAT+4
38A C2 84 E3   5960           JNZ    CLRN
38D 21 C0 FB   5970           LXI    H,PAGE+960
390 36 A0      5980 RETRN     MVI    M,0A0H  RESTOR CURS AND RETURN
392 22 F4 DF   5990           SHLD   CURS
395 E1         6000           POP    H
396 D1         6010           POP    D
397 C1         6020           POP    B
398 F1         6030           POP    PSW
399 C9         6040           RET
39A            6050 *  CLEAR THE SCREEN
39A 21 00 F8   6060 CLRSC     LXI    H,PAGE
39D 36 20      6070 WRSPC     MVI    M,' '
39F 23         6080           INX    H
3A0 7C         6090           MOV    A,H
3A1 FE D8      6100           CPI    PSTAT+8
3A3 C2 9D E3   6110           JNZ    WRSPC
3A6 C3 8D E3   6120           JMP    RETRN-3
3A9            6130 *  FIXED DELAY ROUTINE
3A9 16 10      6140 DELAY     MVI    D,10H
3AB 7A         6150 DLOOP     MOV    A,D
3AC A7         6160           ANA    A
3AD 1B         6170           DCX    D
3AE C2 AB E3   6180           JNZ    DLOOP
3B1 C3 90 E3   6190           JMP    RETRN
3B4            6200 *  LINE FEED
3B4 11 40 00   6210 LNFD      LXI    D,64
3B7 19         6220           DAD    D
3B8 C3 6E E3   6230           JMP    ONSCR
3BB            6240 *  BACKSPACE
3BB 2B         6250 BKSPC     DCX    H
3BC C3 90 E3   6260           JMP    RETRN
3BF            6265 *  RAM LOCS USED BY VIDEO
3BF            6266           ORG    0DFF4H
FF4            6267 CURS      DS     2
FF6            6268 IFL       DS     1
FF7            6270 *  END OF VIDEO

RRORS THIS ASSEMBLY  0000
```