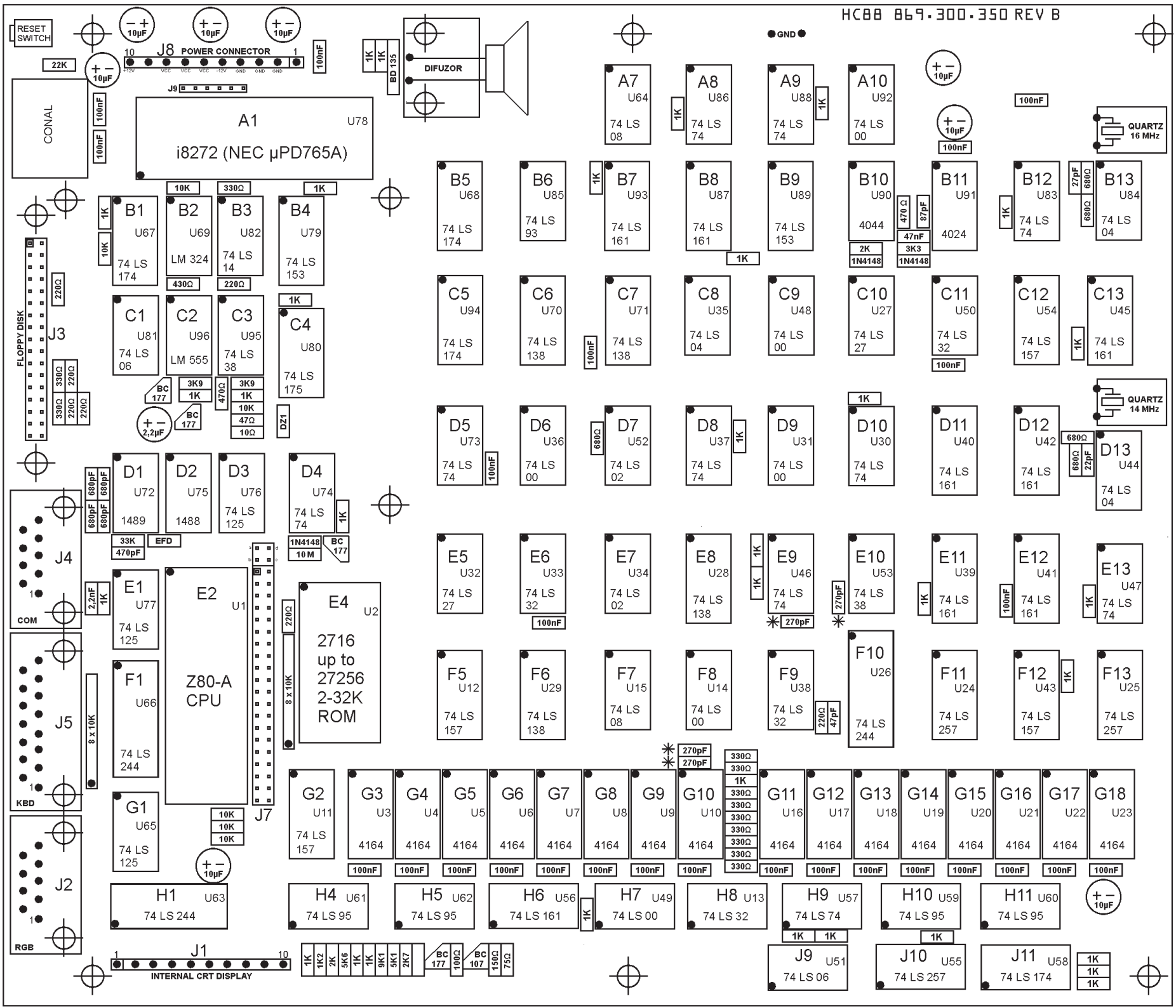
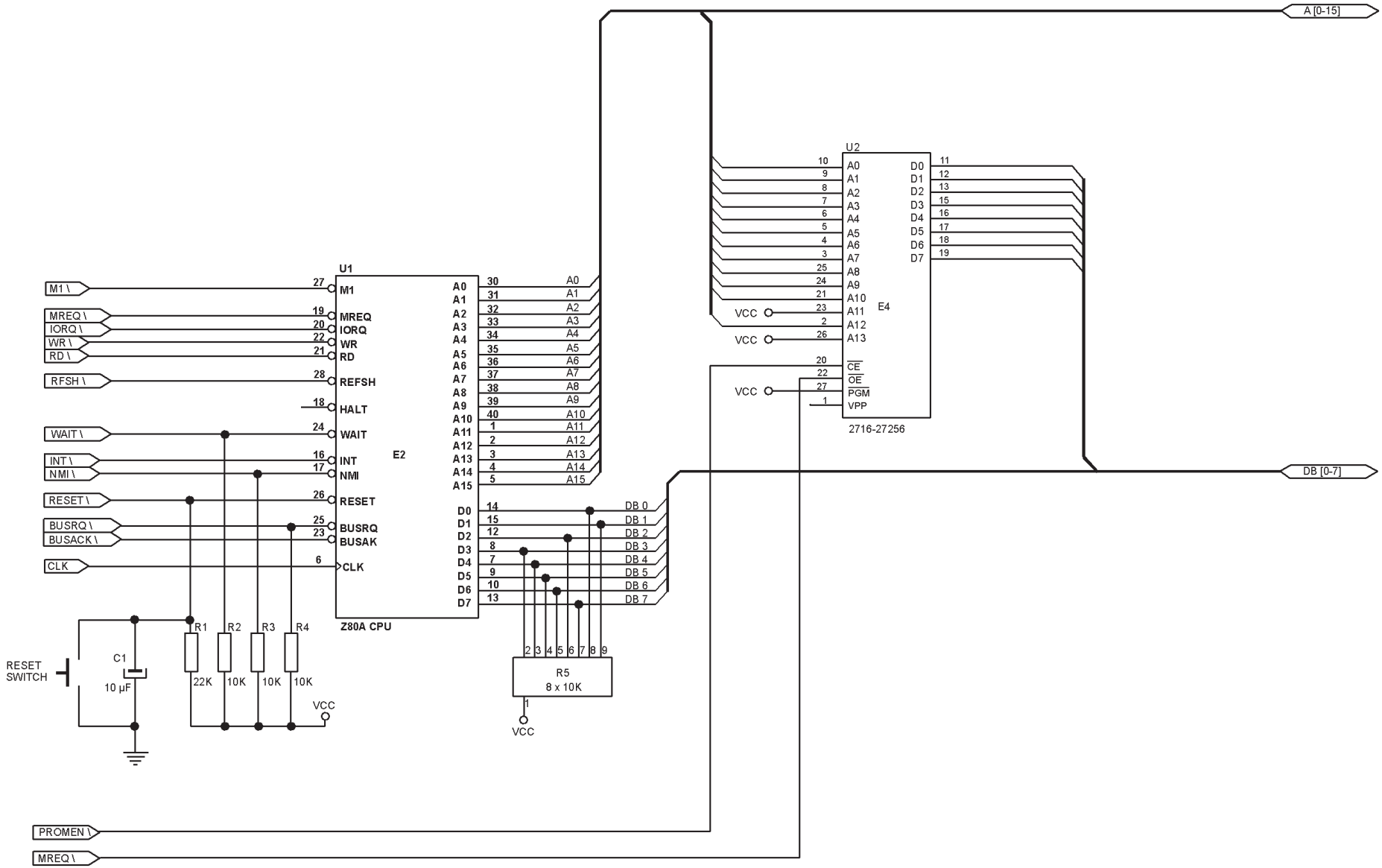
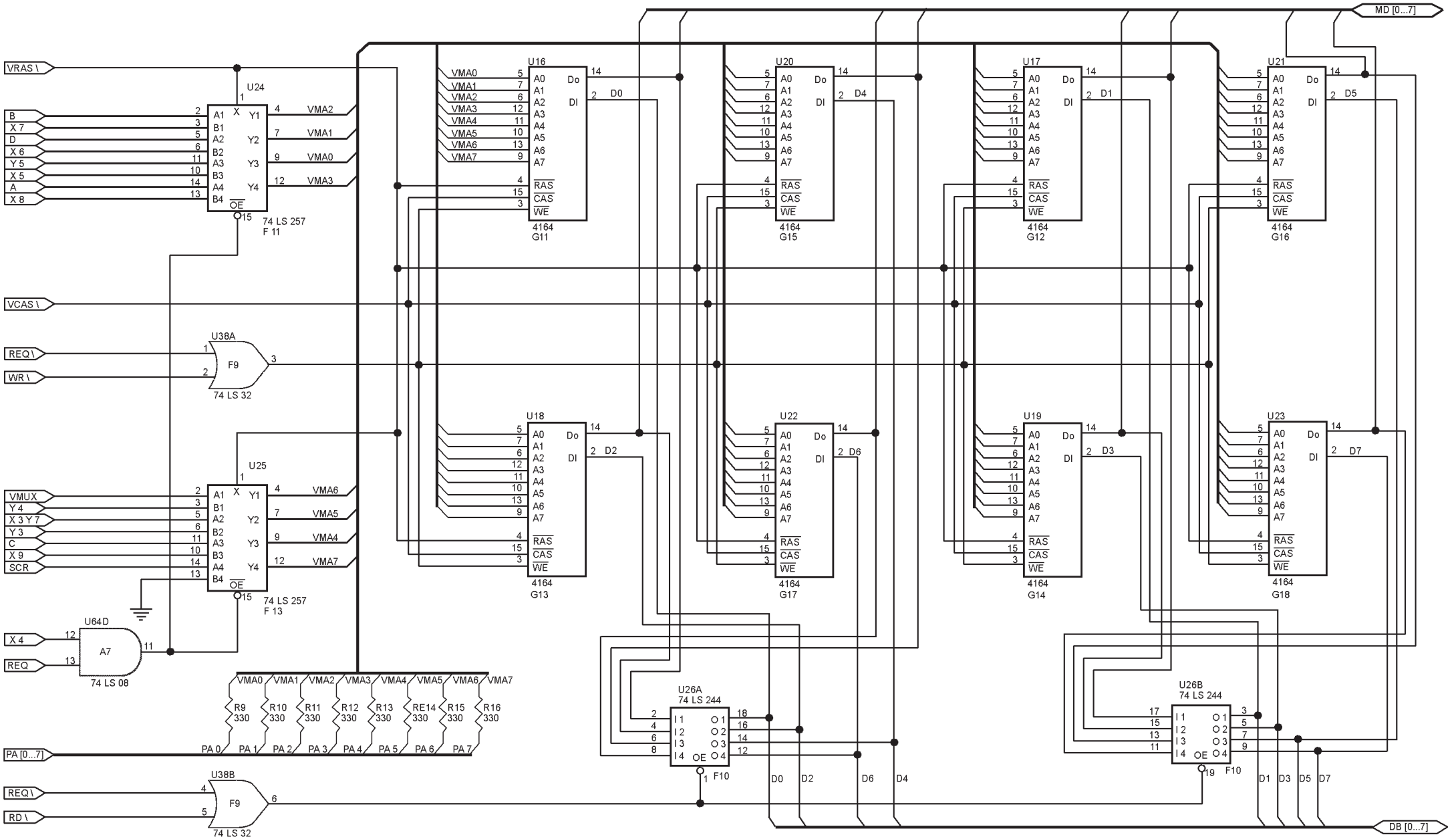

HC88 869.300.350 REV B
RESET SWITCH
J8 POWER CONNECTOR
DIFUZOR
BD 135
GND
CONAL
A1 U78
i8272 (NEC µPD765A)
J9
QUARTZ 16 MHz
QUARTZ 14 MHz
FLOPPY DISK
J3
J4
COM
J5
KBD
J2
RGB
J1
INTERNAL CRT DISPLAY
E2 U1
Z80-A CPU
E4 U2
2716 up to 27256 2-32K ROM
J7
H1 U63 74 LS 244
H4 U61 74 LS 95
H5 U62 74 LS 95
H6 U56 74 LS 161
H7 U49 74 LS 00
H8 U13 74 LS 32
H9 U57 74 LS 74
H10 U59 74 LS 95
H11 U60 74 LS 95
J9 U51 74 LS 06
J10 U55 74 LS 257
J11 U58 74 LS 174



ICE - APME		
Title: HC88 CPU, ROM		revival by CMD
Size: B	Document Number: 869 300 350	REV: A
Date: May 3, 1989	Sheet 1 of 14	



PHASE	CAS	RAS	CAS							RAS						
RANK	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0
PA[0-7]	A15	MUXA14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0
VMA[0-7]	SCR	0	VMUX	X3Y7	C	A	B	D	Y5	Y4	Y3	X9	X8	X7	X6	X5

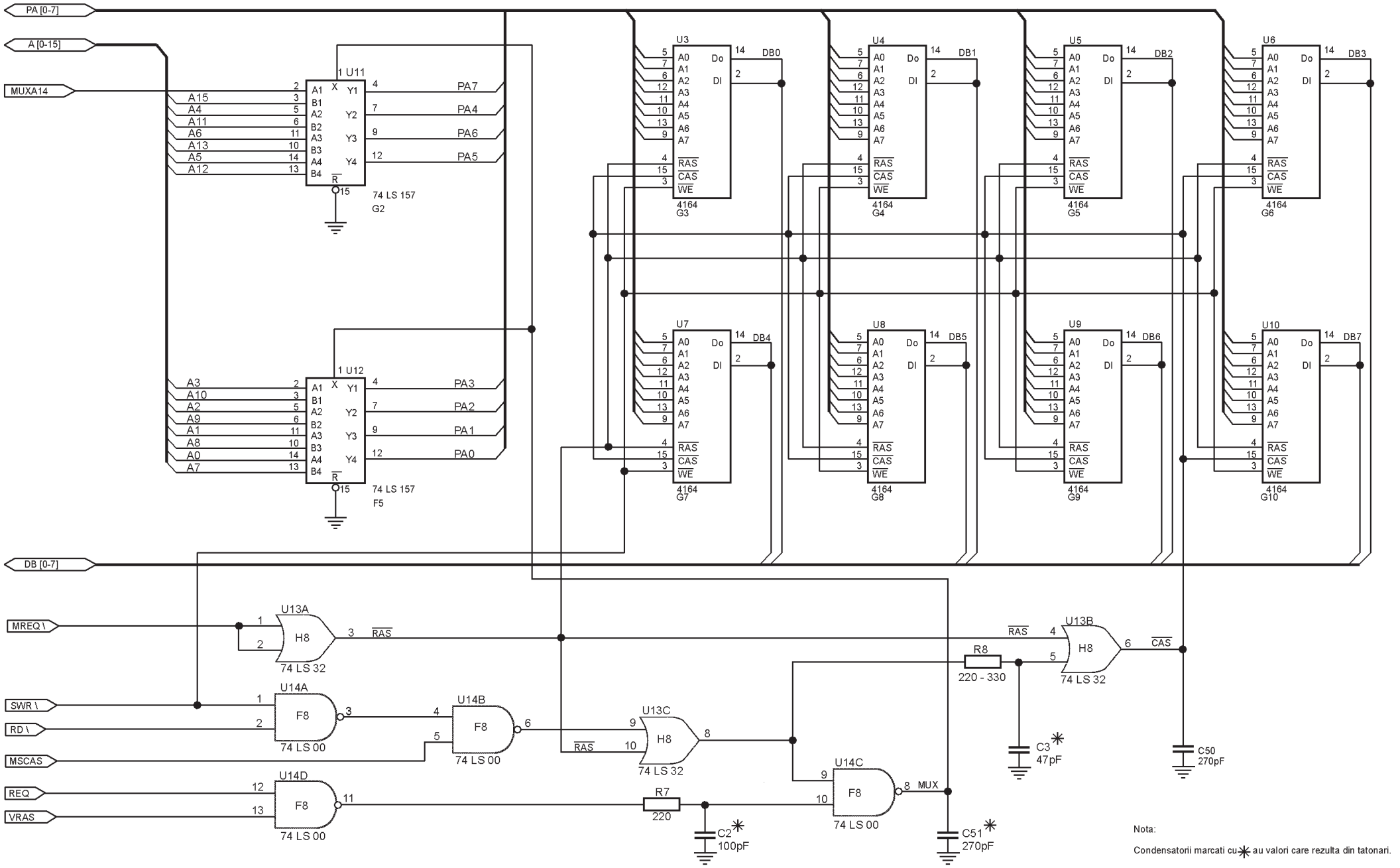
MOD=0 SPECTRUM mode, resolution 256x192, pixel serializator clock is X1 (7MHz)

VRAM ADDRESSES	VMA7	VMA6	VMA5	VMA4	VMA3	VMA2	VMA1	VMA0
RAS	0	Y4	Y3	X9	X8	X7	X6	X5
PIXEL CAS	SCR	0	Y7	Y6	Y2	Y1	Y0	Y5
ATTRIBUTES CAS	SCR	0	1	1	0	Y7	Y6	Y5

MOD=1 CP/M mode, resolution 512x192, pixel serializator clock is X0 (14MHz)

VRAM ADDRESSES	VMA7	VMA6	VMA5	VMA4	VMA3	VMA2	VMA1	VMA0
RAS	0	Y4	Y3	X9	X8	X7	X6	X5
PIXEL CAS	SCR	X4	Y7	Y6	Y2	Y1	Y0	Y5
ATTRIBUTES CAS	SCR	X4	1	1	0	Y7	Y6	Y5

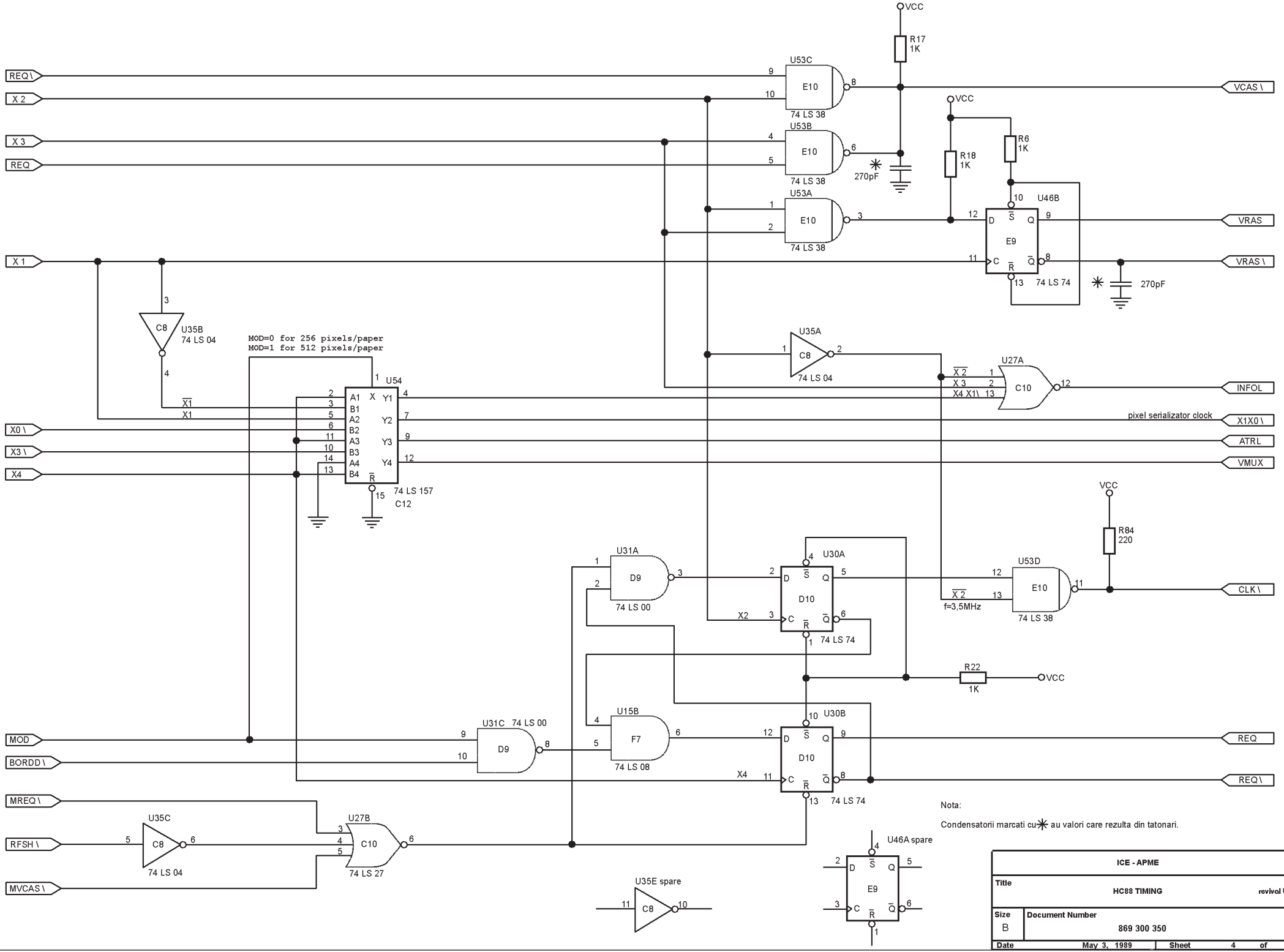
ICE - APME			
Title	HC88 VIDEO MEMORY		revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: May 22, 1989	Sheet: 2 of 14		

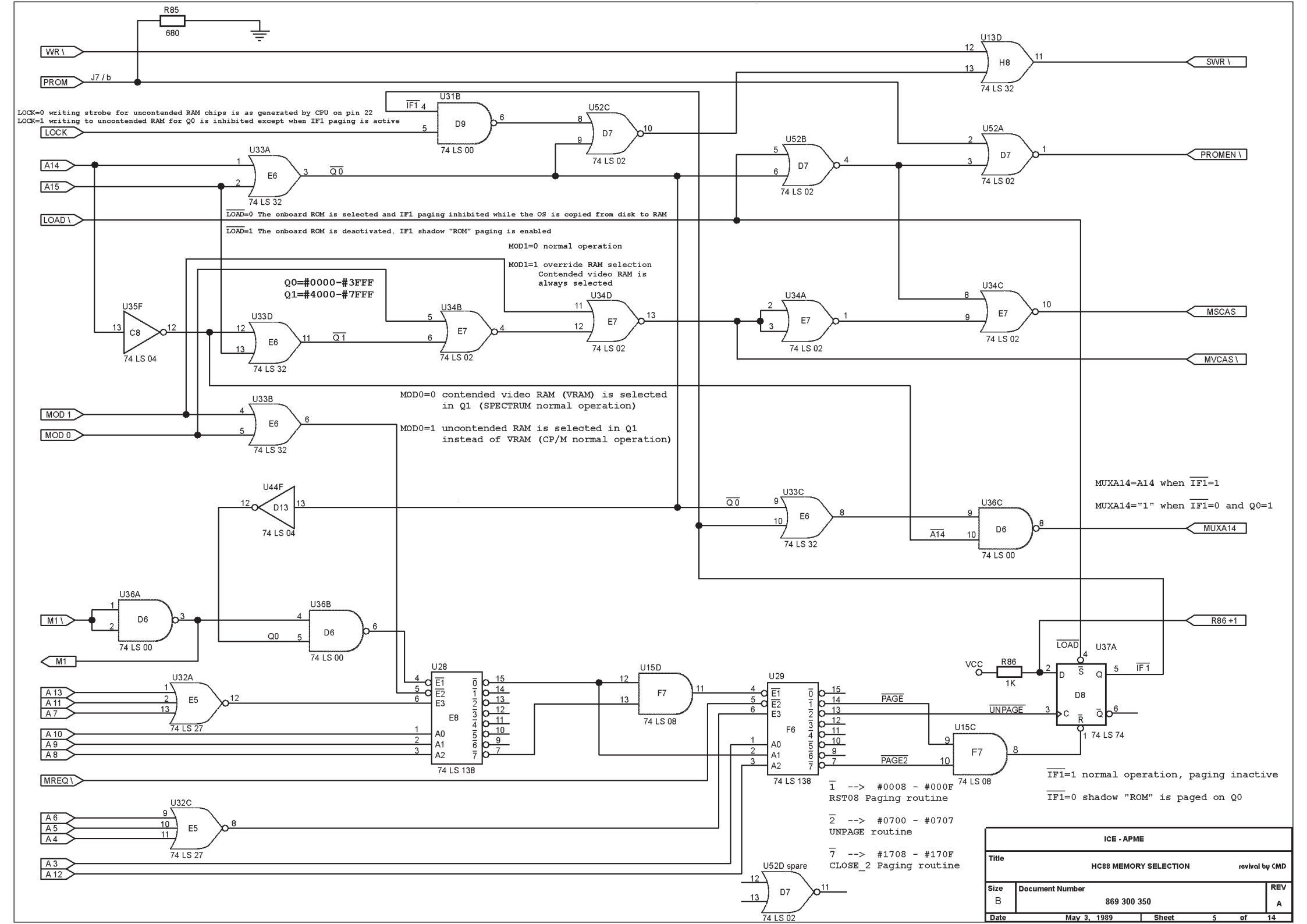


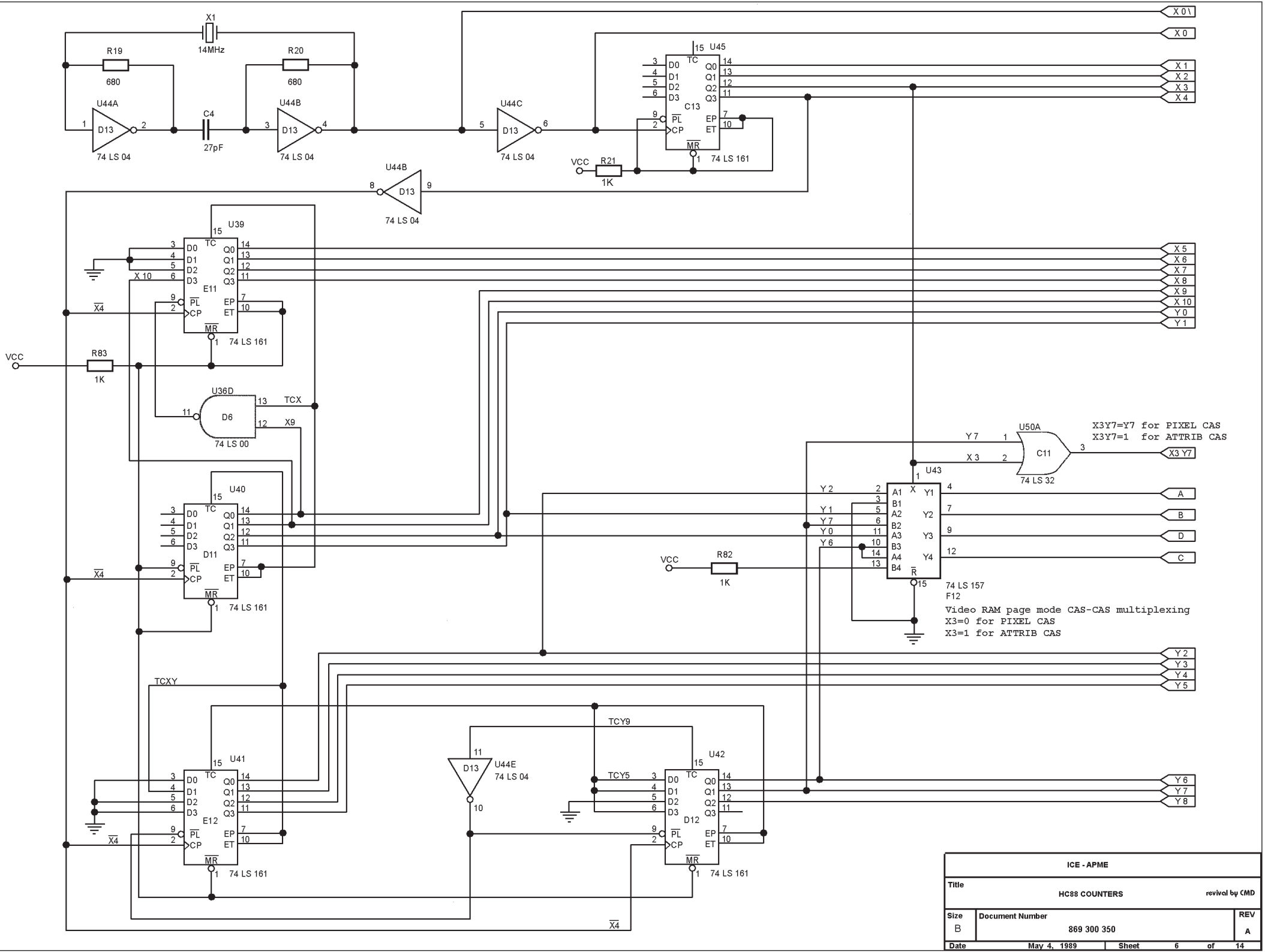
Nota:

Condensatorii marcati cu * au valori care rezulta din tatonari.

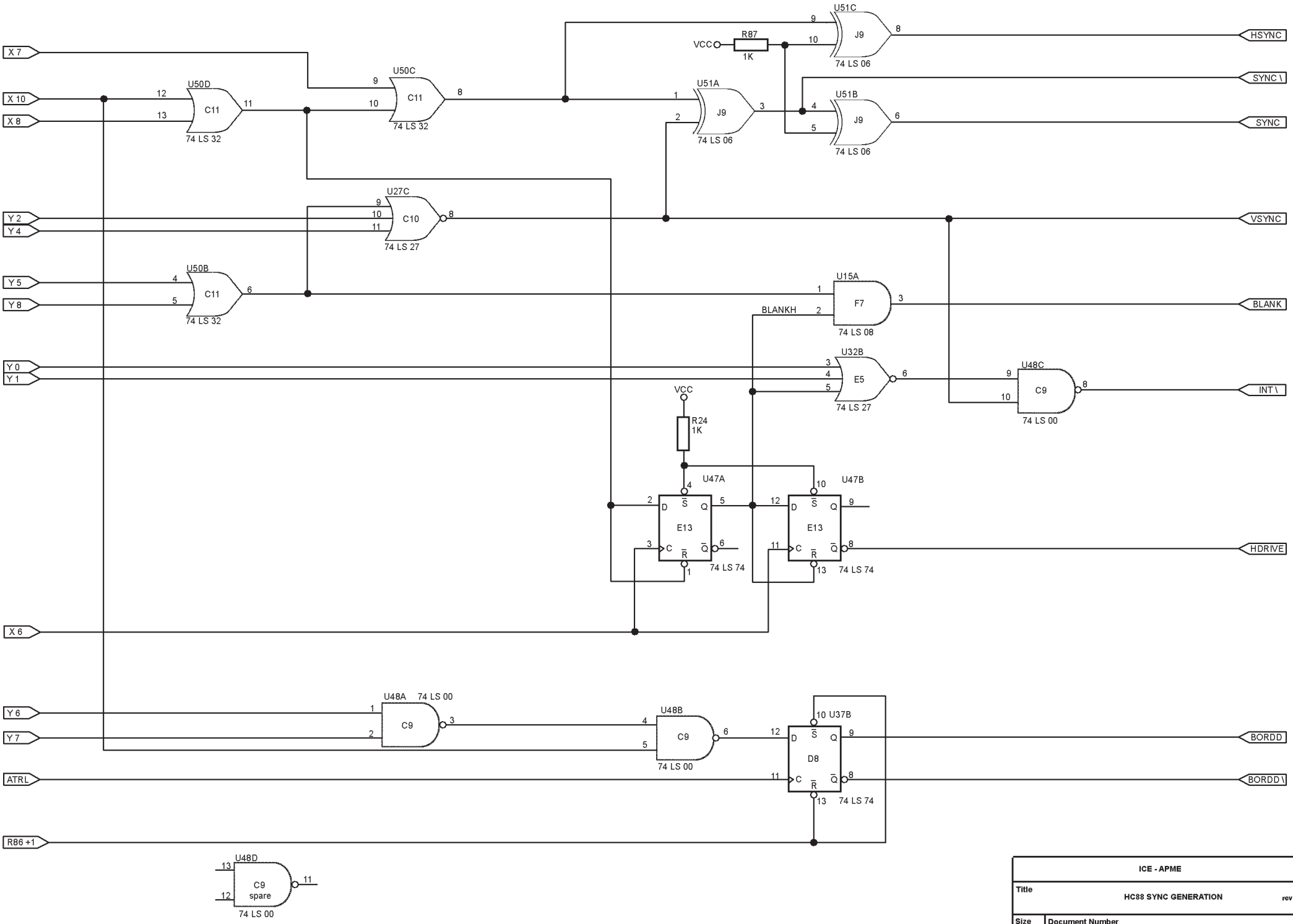
ICE - APME			
Title: HC88 64K UNCONTENDED RAM (SRAM) revival by CMD			
Size: B	Document Number: 869 300 350		REV: A
Date: May 3, 1989	Sheet: 3 of 14		


REQ \
X 2
X 3
REQ
X 1
X0 \
X3 \
X4
MOD
BORDD \
MREQ \
RFSH \
MVCAS \
VCC
R17
1K
U53C
E10
74 LS 38
U53B
U53A
R18
1K
R6
1K
270pF
U46B
E9
74 LS 74
VCAS \
VRAS
VRAS \
U35B
74 LS 04
C8
MOD=0 for 256 pixels/paper
MOD=1 for 512 pixels/paper
U54
A1
B1
A2
B2
A3
B3
A4
B4
Y1
Y2
Y3
Y4
74 LS 157
C12
U35A
U27A
C10
INFOL
pixel serializator clock
X1X0 \
ATRL
VMUX
R84
220
U53D
CLK \
f=3,5MHz
U31A
D9
74 LS 00
U30A
D10
74 LS 74
R22
U31C 74 LS 00
U15B
F7
74 LS 08
U30B
REQ
REQ \
U35C
U27B
74 LS 27
U35E spare
U46A spare
Nota:
Condensatorii marcati cu * au valori care rezulta din tatonari.
ICE - APME
Title
HC88 TIMING
revival by CMD
Size
B
Document Number
869 300 350
REV
A
Date
May 3, 1989
Sheet
4
of
14

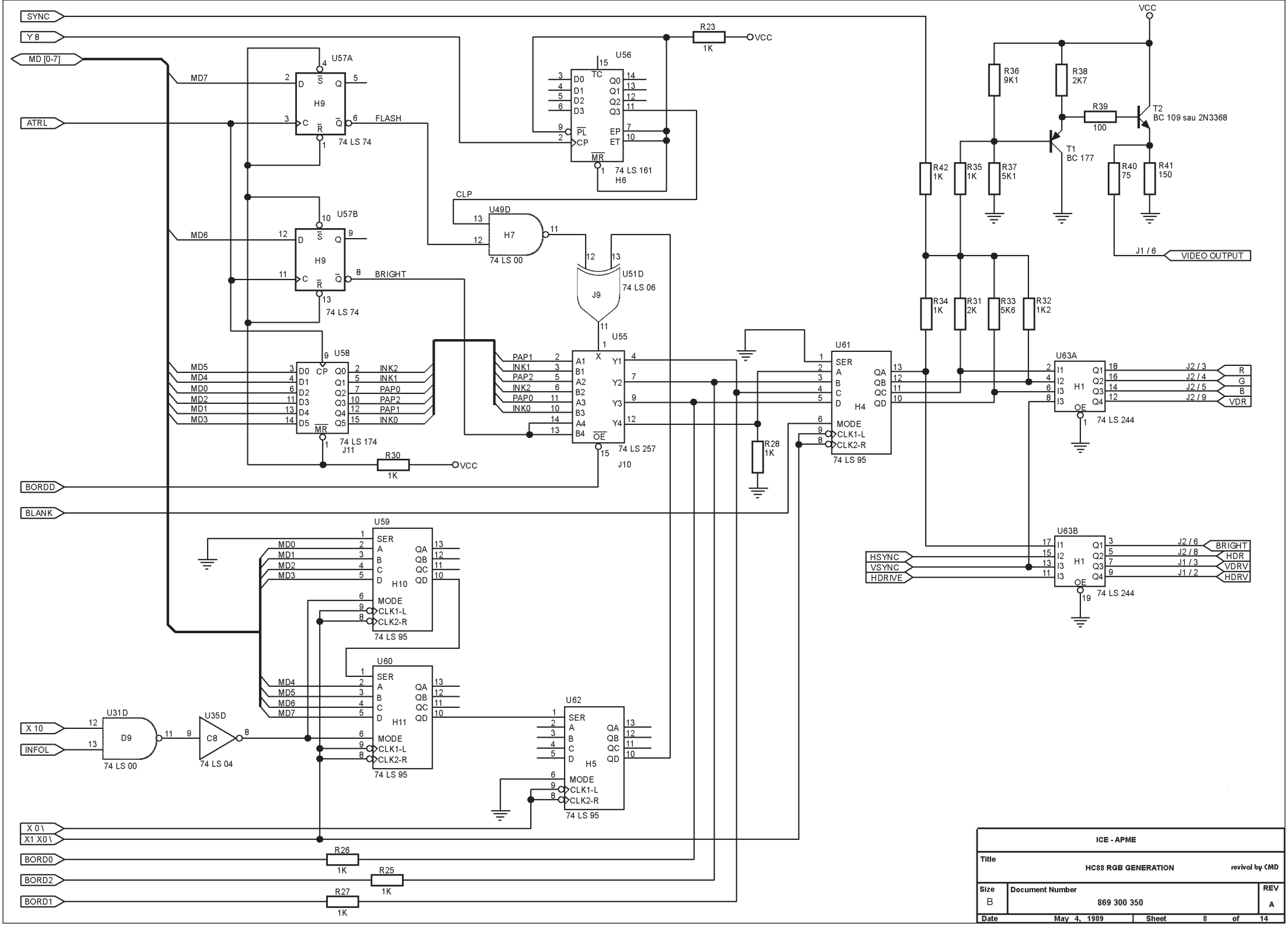

R85
680
WR \
PROM
J7 / b
LOCK=0 writing strobe for uncontended RAM chips is as generated by CPU on pin 22
LOCK=1 writing to uncontended RAM for Q0 is inhibited except when IF1 paging is active
LOCK
U31B
D9
74 LS 00
U52C
D7
74 LS 02
U13D
H8
74 LS 32
SWR \
U52A
D7
74 LS 02
PROMEN \
U52B
D7
74 LS 02
A14
A15
U33A
E6
74 LS 32
Q0
LOAD \
LOAD=0 The onboard ROM is selected and IF1 paging inhibited while the OS is copied from disk to RAM
LOAD=1 The onboard ROM is deactivated, IF1 shadow "ROM" paging is enabled
MOD1=0 normal operation
MOD1=1 override RAM selection
Contended video RAM is
always selected
Q0=#0000-#3FFF
Q1=#4000-#7FFF
U35F
C8
74 LS 04
U33D
E6
74 LS 32
Q1
U34B
E7
74 LS 02
U34D
E7
74 LS 02
U34A
E7
74 LS 02
U34C
E7
74 LS 02
MSCAS
MVCAS \
MOD 1
MOD 0
U33B
E6
74 LS 32
MOD0=0 contended video RAM (VRAM) is selected
in Q1 (SPECTRUM normal operation)
MOD0=1 uncontended RAM is selected in Q1
instead of VRAM (CP/M normal operation)
U44F
D13
74 LS 04
U33C
E6
74 LS 32
U36C
D6
74 LS 00
A14
MUXA14
MUXA14=A14 when IF1=1
MUXA14="1" when IF1=0 and Q0=1
U36A
D6
74 LS 00
M1 \
M1
U36B
D6
74 LS 00
Q0
R86 +1
U28
E8
74 LS 138
U15D
F7
74 LS 08
U29
F6
74 LS 138
U32A
E5
74 LS 27
A 13
A 11
A 7
A 10
A 9
A 8
MREQ \
U32C
E5
74 LS 27
A 6
A 5
A 4
A 3
A 12
U52D spare
D7
74 LS 02
VCC
R86
1K
LOAD
U37A
D8
74 LS 74
IF1
UNPAGE
PAGE
PAGE2
U15C
F7
74 LS 08
IF1=1 normal operation, paging inactive
IF1=0 shadow "ROM" is paged on Q0
1 --> #0008 - #000F
RST08 Paging routine
2 --> #0700 - #0707
UNPAGE routine
7 --> #1708 - #170F
CLOSE_2 Paging routine
ICE - APME
Title
HC88 MEMORY SELECTION
revival by CMD
Size
B
Document Number
869 300 350
REV
A
Date
May 3, 1989
Sheet
5
of
14

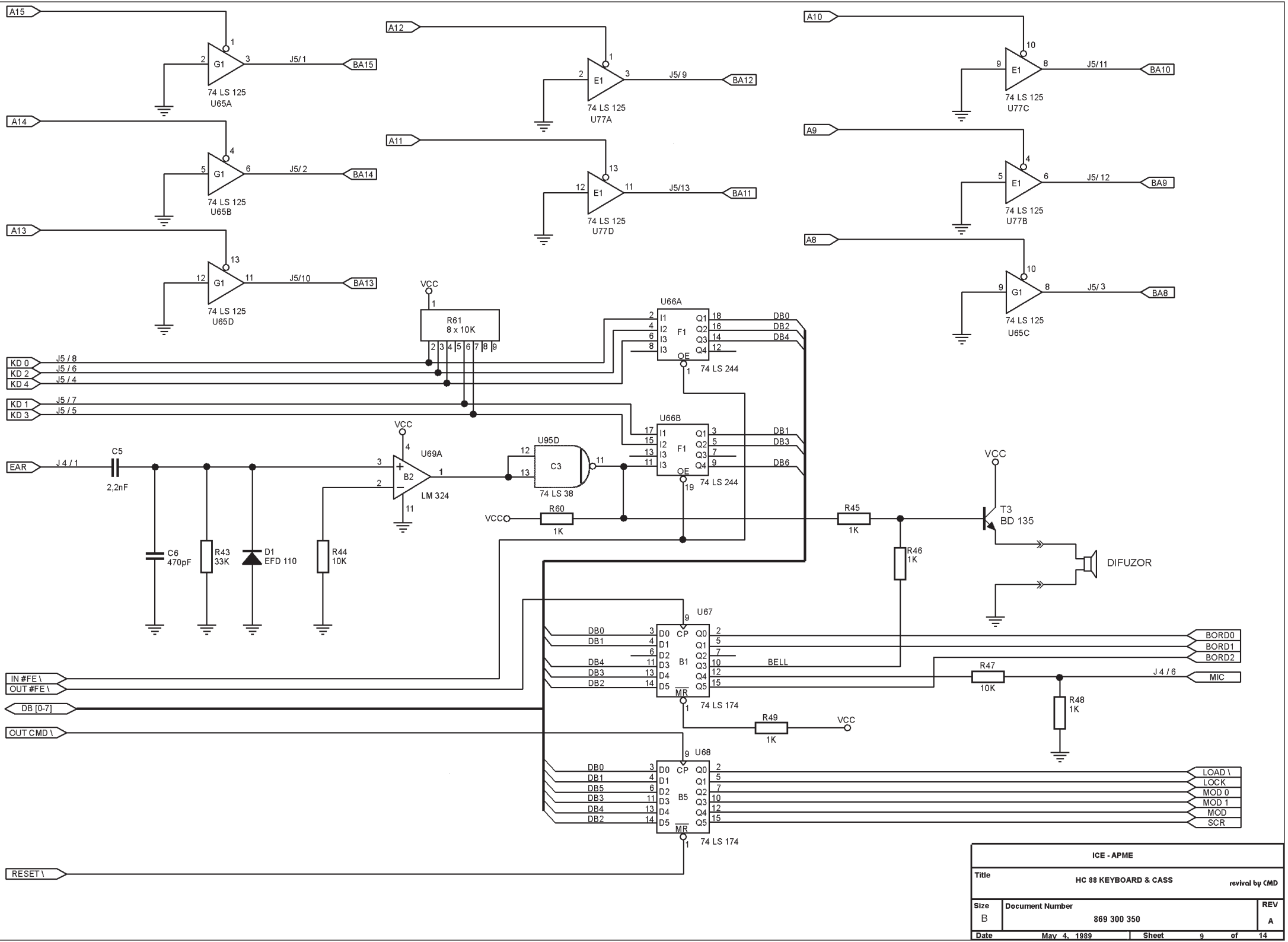


ICE - APME			
Title: HC88 COUNTERS			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: May 4, 1989	Sheet: 6 of 14		

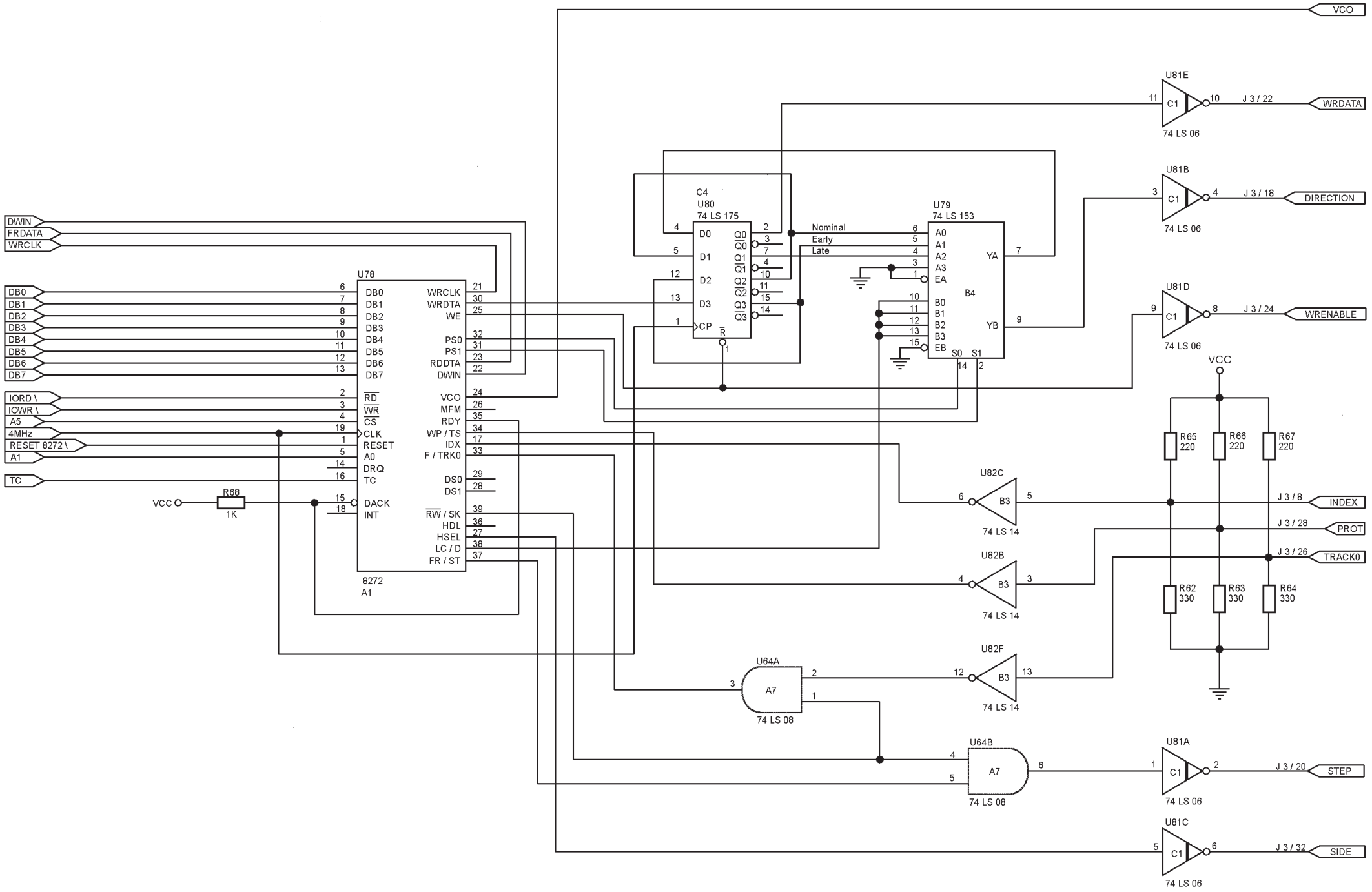


ICE - APME			
Title: HC88 SYNC GENERATION			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: January 1, 1990	Sheet: 7	of: 14	

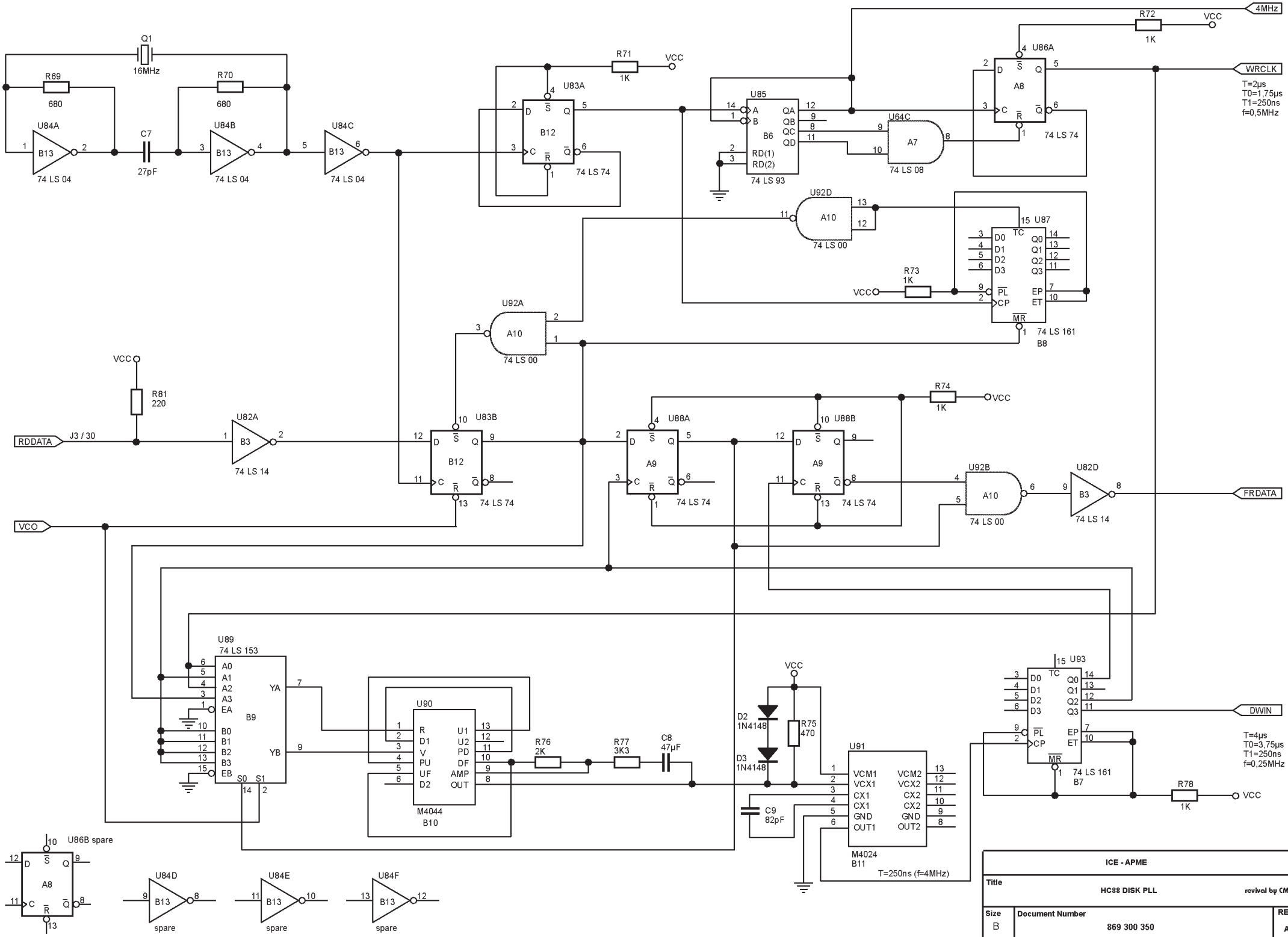

SYNC
Y 8
MD [0-7]
ATRL
BORDD
BLANK
X 0 \
X1 X0 \
BORD0
BORD2
BORD1
CLP
U57A
U57B
H9
74 LS 74
FLASH
BRIGHT
U56
H6
74 LS 161
R23
1K
VCC
U49D
H7
74 LS 00
U51D
J9
74 LS 06
U58
74 LS 174
J11
INK2
INK1
PAP0
PAP2
PAP1
INK0
U55
74 LS 257
J10
R30
1K
R28
1K
U61
H4
74 LS 95
R36
9K1
R38
2K7
R39
100
T2
BC 109 sau 2N3368
T1
BC 177
R42
1K
R35
1K
R37
5K1
R40
75
R41
150
J1 / 6
VIDEO OUTPUT
R34
1K
R31
2K
R33
5K6
R32
1K2
U63A
H1
74 LS 244
J2 / 3
J2 / 4
J2 / 5
J2 / 9
R
G
B
VDR
U63B
J2 / 6
J2 / 8
J1 / 3
J1 / 2
BRIGHT
HDR
VDRV
HDRV
HSYNC
VSYNC
HDRIVE
U59
H10
74 LS 95
U60
H11
U62
H5
U31D
D9
74 LS 00
U35D
C8
74 LS 04
X 10
INFOL
R26
1K
R25
1K
R27
1K
ICE - APME
Title
HC88 RGB GENERATION
revival by CMD
Size
B
Document Number
869 300 350
REV
A
Date
May 4, 1989
Sheet
8
of
14

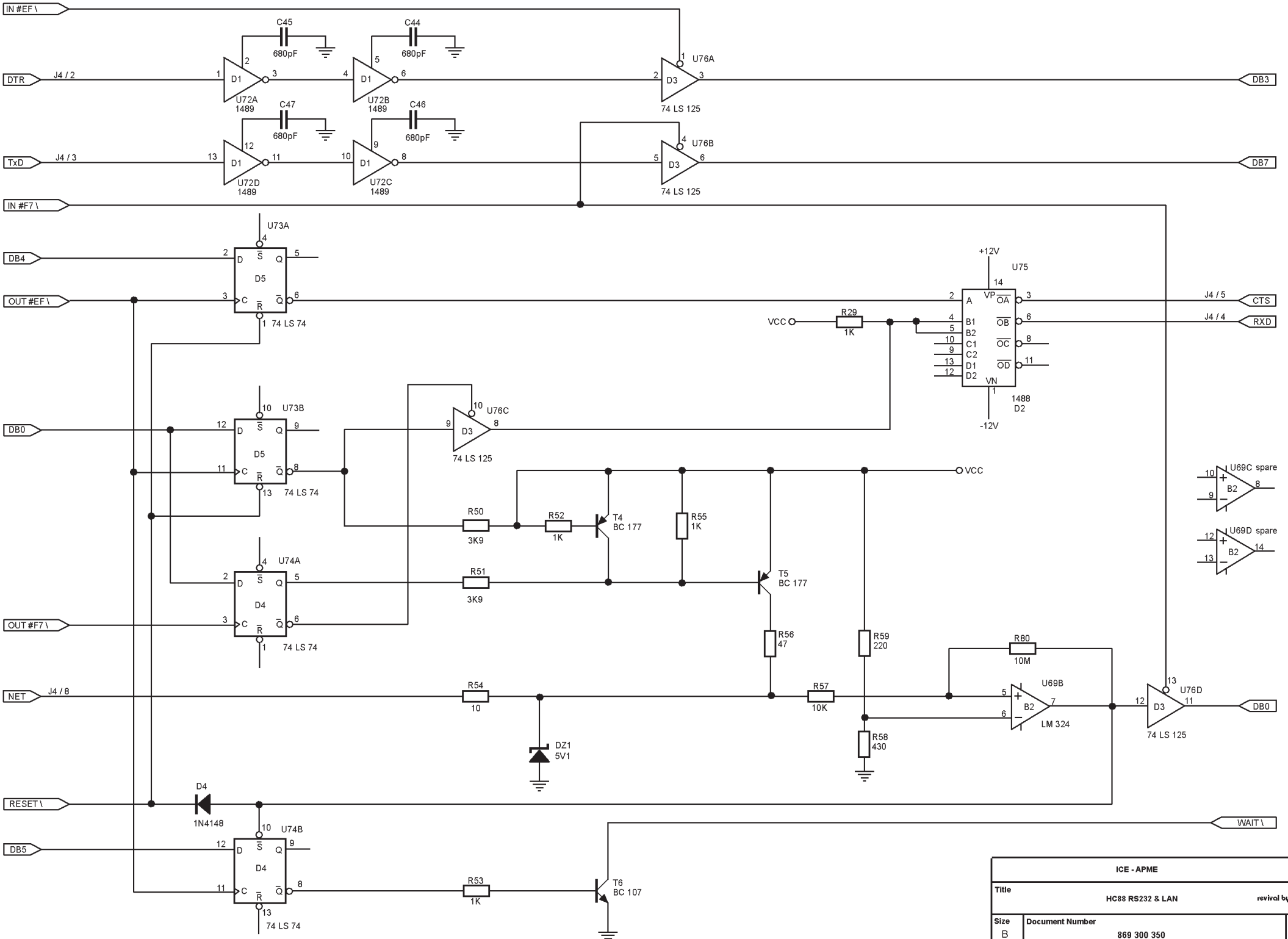


ICE - APME		
Title: HC 88 KEYBOARD & CASS		revival by CMD
Size: B	Document Number: 869 300 350	REV: A
Date: May 4, 1989	Sheet: 9 of 14	

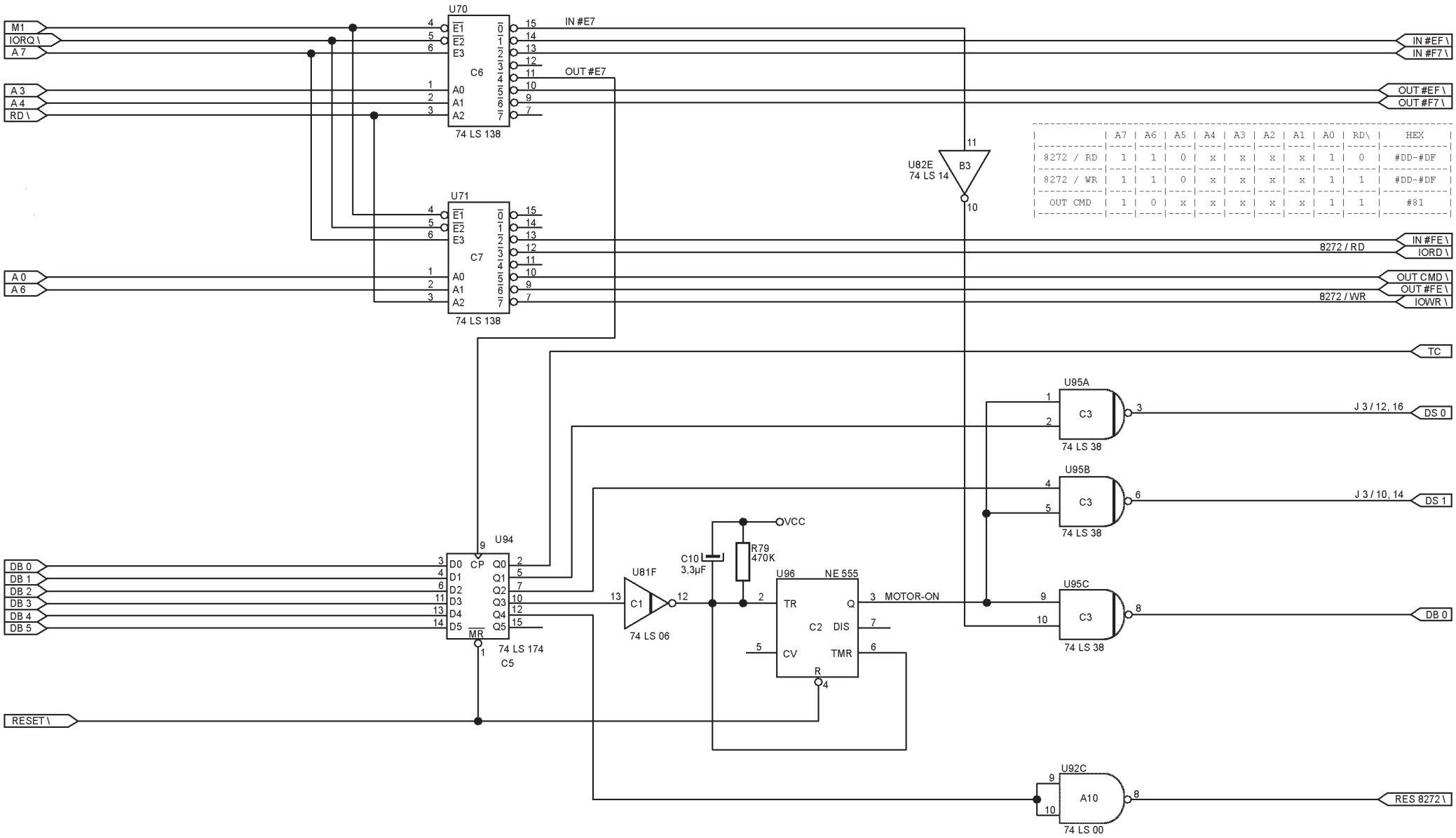


ICE - APME			
Title: HC88 FDC			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: May 4, 1989	Sheet: 10 of 14		


4MHz
R72
1K
VCC
Q1
16MHz
R69
680
R70
680
U84A
B13
74 LS 04
C7
27pF
U84B
B13
74 LS 04
U84C
B13
74 LS 04
R71
1K
VCC
U83A
B12
74 LS 74
U85
B6
74 LS 93
RD(1)
RD(2)
U64C
A7
74 LS 08
U86A
A8
74 LS 74
WRCLK
T=2µs
T0=1,75µs
T1=250ns
f=0,5MHz
U92D
A10
74 LS 00
U87
74 LS 161
B8
R73
1K
VCC
U92A
A10
74 LS 00
VCC
R81
220
RDDATA
J3 / 30
U82A
B3
74 LS 14
U83B
B12
74 LS 74
U88A
A9
74 LS 74
U88B
A9
74 LS 74
R74
1K
VCC
U92B
A10
74 LS 00
U82D
B3
74 LS 14
FRDATA
VCO
U89
74 LS 153
B9
U90
M4044
B10
R76
2K
R77
3K3
C8
47µF
VCC
D2
1N4148
D3
1N4148
R75
470
C9
82pF
U91
M4024
B11
T=250ns (f=4MHz)
U93
74 LS 161
B7
DWIN
T=4µs
T0=3,75µs
T1=250ns
f=0,25MHz
R78
1K
VCC
U86B spare
A8
U84D
B13
spare
U84E
B13
spare
U84F
B13
spare
ICE - APME
Title
HC88 DISK PLL
revival by CMD
Size
B
Document Number
869 300 350
REV
A
Date
May 4, 1989
Sheet
11
of
14



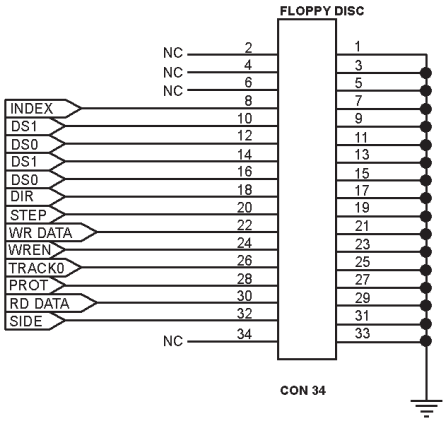
ICE - APME			
Title: HC88 RS232 & LAN			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: January 1, 1990	Sheet: 12 of 14		



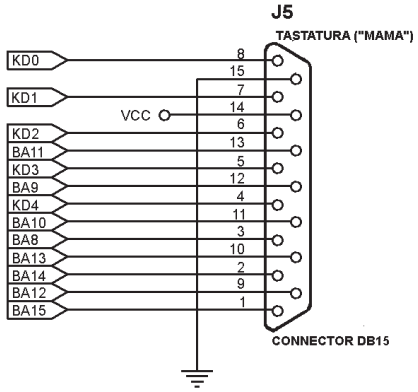
	A7	A6	A5	A4	A3	A2	A1	A0	RD\	HEX
8272 / RD	1	1	0	x	x	x	x	1	0	#DD-#DF
8272 / WR	1	1	0	x	x	x	x	1	1	#DD-#DF
OUT CMD	1	0	x	x	x	x	x	1	1	#81

ICE - APME			
Title: HC88 I/O PORTS			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: December 16, 1989	Sheet: 13	of: 14	

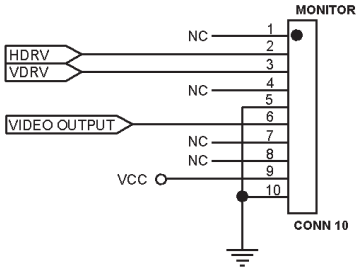
J3



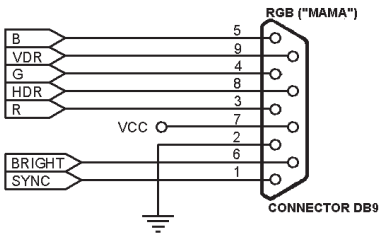
J5



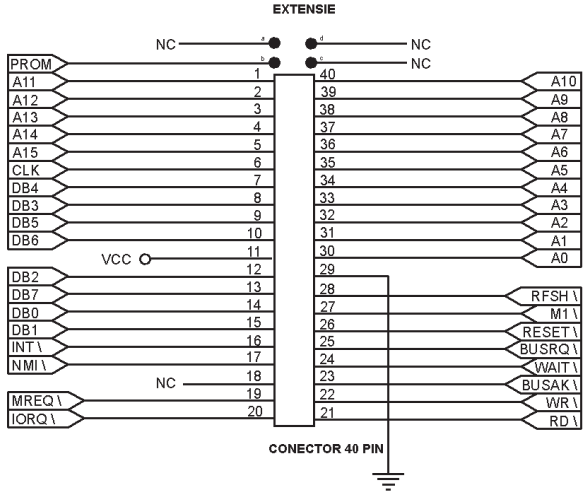
J1



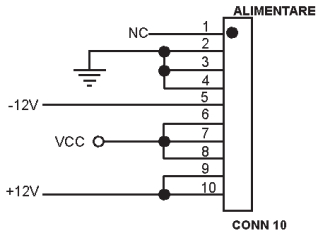
J2



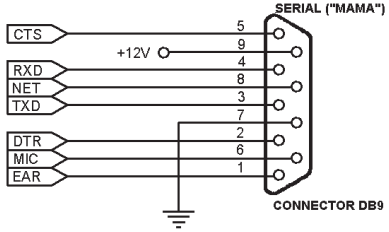
J7



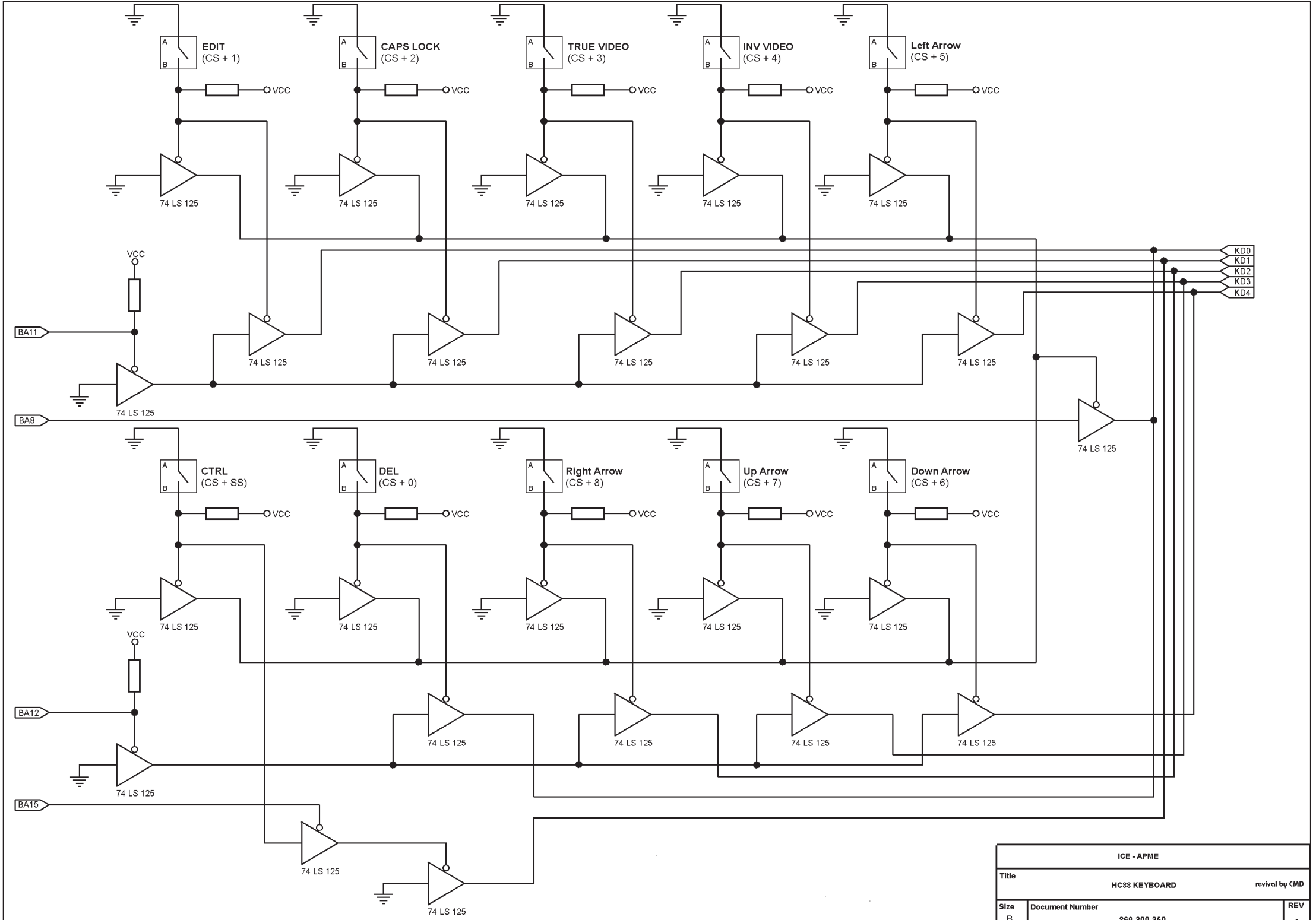
J8



J4



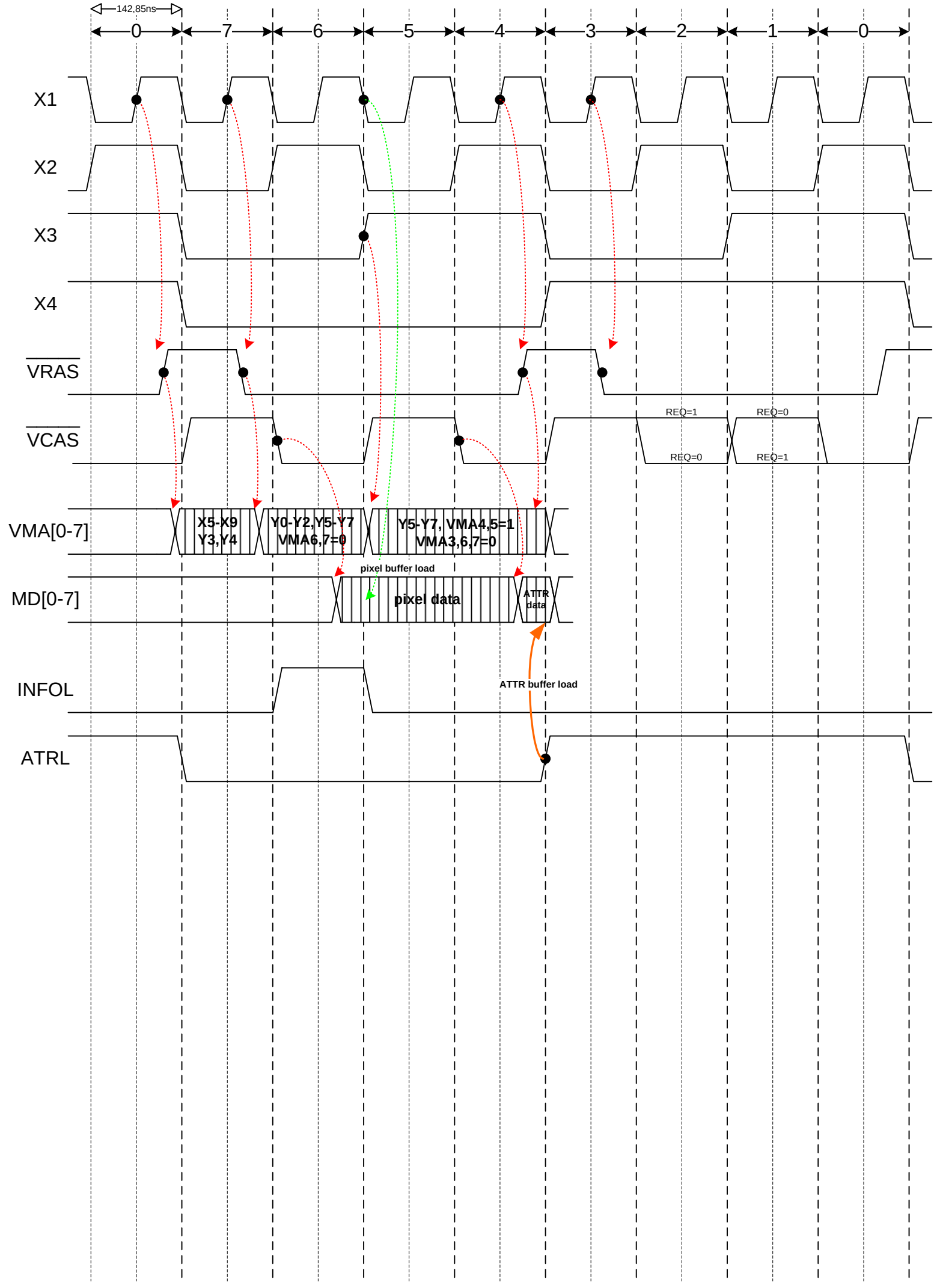
ICE - APME			
Title: HC88 CONNECTORS			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: December 13, 1989	Sheet: 14 of 14		



ICE - APME			
Title: HC88 KEYBOARD			revival by CMD
Size: B	Document Number: 869 300 350		REV: A
Date: January 1, 1990	Sheet 1 of 1		

Lista componente HC-88

U#	Type	Position
U1	Z80-CPU	E2
U2	2716	E4
U3-U10	4564	G3-G10
U11	74 LS 157	G2
U12	74 LS 157	F5
U13	74 LS 32	H8
U14	74 LS 00	F8
U15	74 LS 08	F7
U16-U23	4516	G11-G18
U24	74 LS 257	F11
U25	74 LS 257	F13
U26	74 LS 244	F10
U27	74 LS 27	C10
U28	74 LS 138	E8
U29	74 LS 138	F6
U30	74 LS 74	D10
U31	74 LS 00	D9
U32	74 LS 27	E5
U33	74 LS 32	E6
U34	74 LS 02	E7
U35	74 LS 04	C8
U36	74 LS 00	D6
U37	74 LS 74	D8
U38	74 LS 32	F9
U39	74 LS 161	E11
U40	74 LS 161	D11
U41	74 LS 161	E12
U42	74 LS 161	D12
U43	74 LS 157	F12
U44	74 LS 04	D13
U45	74 LS 161	C13
U46	74 LS 74	E9
U47	74 LS 74	E13
U48	74 LS 00	C9
U49	74 LS 00	H7
U50	74 LS 32	C11
U51	74 LS 06	J9
U52	74 LS 02	D7
U53	74 LS 38	E10
U54	74 LS 157	C12
U55	74 LS 257	J10
U56	74 LS 161	H6
U57	74 LS 74	H9
U58	74 LS 174	J11
U59	74 LS 95	H10
U60	74 LS 95	H11
U61	74 LS 95	H4
U62	74 LS 95	H5
U63	74 LS 244	H1
U64	74 LS 08	A7
U65	74 LS 125	G1
U66	74 LS 244	F1
U67	74 LS 174	B1
U68	74 LS 174	B5
U69	LM 324	B2
U70	74 LS 138	C6
U71	74 LS 138	C7
U72	MC 1489	D1
U73	74 LS 74	D5
U74	74 LS 74	D4
U75	MC 1488	D2
U76	74 LS 125	D3
U77	74 LS 125	E1
U78	I8272	A1
U79	74 LS 153	B4
U80	74 LS 175	C4
U81	74 LS 06	C1
U82	74 LS 14	B3
U83	74 LS 74	B12
U84	74 LS 04	B13
U85	74 LS 93	B6
U86	74 LS 74	A8
U87	74 LS 161	B8
U88	74 LS 74	A9
U89	74 LS 153	B9
U90	M 4044	B10
U91	M 4024	B11
U92	74 LS 00	A10
U93	74 LS 161	B7
U94	74 LS 174	C3
U95	74 LS 38	C3
U96	LM 555	C2


142,85ns
0
7
6
5
4
3
2
1
0
X1
X2
X3
X4
VRAS
VCAS
REQ=1
REQ=0
REQ=0
REQ=1
VMA[0-7]
X5-X9
Y3,Y4
Y0-Y2,Y5-Y7
VMA6,7=0
Y5-Y7, VMA4,5=1
VMA3,6,7=0
pixel buffer load
MD[0-7]
pixel data
ATTR
data
ATTR buffer load
INFOL
ATRL

```
****************************************************************
****** HC-88 bootstrap 2K ROM incomplete disassembly by CMD *****
****************************************************************
0000 F3                                 di
0001 3E01                               ld      a, 1
0003 D3FE                               out     (0FEh), a       ; set BORDER
colour Blue
0005 310090                             ld      sp, 9000h
0008                    ; clearing pixels screen #4000-#57FF
0008 210040                             ld      hl, 4000h
000B 3600                               ld      (hl), 0
000D 110140                             ld      de, 4001h
0010 01FF17                             ld      bc, 17FFh
0013 EDB0                               ldir
0015                    ; setting INK=7 PAPER=0 for screen #4000-#57FF
0015 23                                 inc     hl
0016 13                                 inc     de
0017 3638                               ld      (hl), 38h ; '8' ; <void>
0019 01FF02                             ld      bc, 2FFh ; <void>
001C EDB0                               ldir
001E                    ; clearing pixels 2nd screen #6000-#71FF
001E 210060                             ld      hl, 6000h
0021 3600                               ld      (hl), 0
0023 110160                             ld      de, 6001h
0026 01FF17                             ld      bc, 17FFh
0029 EDB0                               ldir
002B                    ; setting INK=7 PAPER=0 for 2nd screen
002B 23                                 inc     hl
002C 13                                 inc     de
002D 3638                               ld      (hl), 38h ; '8' ; <void>
002F 01FF02                             ld      bc, 2FFh ; <void>
0032 EDB0                               ldir
0034 3E00                               ld      a, 0
0036 D3E7                               out     (0E7h), a       ; Reset 8272
control register.
0038 3E10                               ld      a, 10h
003A D3E7                               out     (0E7h), a       ; Set signal
RES8272
003C CD3002                             call    Init8272
003F 216602                             ld      hl, 266h ; <void>; copy 19 octets
from #0266 to #9010
0042 111090                             ld      de, 9010h
0045 011300                             ld      bc, 13h
0048 EDB0                               ldir
004A 011090                             ld      bc, 9010h
004D CD5C01                             call    loc_15C
0050 3E02                               ld      a, 2
0052 D3FE                               out     (0FEh), a       ; BORDER=2 red
0054 3E08                               ld      a, 8
0056 321B90                             ld      (byte_901B), a
0059 011090                             ld      bc, 9010h
005C CD5C01                             call    loc_15C
005F 384C                               jr      c, Reset_8272
0061 3E03                               ld      a, 3
0063 D3FE                               out     (0FEh), a       ; BORDER=3 cyan
0065 3E01                               ld      a, 1
0067 321B90                             ld      (byte_901B), a
006A 3A0E90                             ld      a, (byte_900E)
006D 321290                             ld      (byte_9012), a
0070 FE02                               cp      2
0072 2821                               jr      z, loc_95
0074
0074                    loc_74:
0074                                                    ; CODE XREF: 007Aj
0074 011090                             ld      bc, 9010h
0077 CD5C01                             call    loc_15C
007A 38F8                               jr      c, loc_74
007C 3E04                               ld      a, 4
```

```
007E D3FE                       out     (0FEh), a       ; BORDER=4 green
0080 FD3406                     inc     (iy+6)
0083 FD3404                     inc     (iy+4)
0086
0086                    loc_86:
0086                                                    ; CODE XREF: 008Cj
0086 011090                     ld      bc, 9010h
0089 CD5C01                     call    loc_15C
008C 38F8                       jr      c, loc_86
008E 3E00                       ld      a, 0
0090 D3FE                       out     (0FEh), a       ; BORDER=0 black
0092 C30080                     jp      unk_8000
0095
-------------------------------------------------------------------------------
0095
0095                    loc_95:
0095                                                    ; CODE XREF: 0072j
0095 3E05                       ld      a, 5
0097 D3FE                       out     (0FEh), a
0099 3E00                       ld      a, 0
009B 321490                     ld      (byte_9014), a
009E
009E                    loc_9E:
009E                                                    ; CODE XREF: 00A4j
009E 011090                     ld      bc, 9010h
00A1 CD5C01                     call    loc_15C
00A4 38F8                       jr      c, loc_9E
00A6 3E00                       ld      a, 0
00A8 D3FE                       out     (0FEh), a
00AA C30080                     jp      unk_8000
00AD
-------------------------------------------------------------------------------
00AD
00AD                    Reset_8272:
00AD                                                    ; CODE XREF: 005Fj
00AD 3E10                       ld      a, 10h
00AF D3E7                       out     (0E7h), a       ; Reset 8272
00B1 76                         halt
00B2
00B2                    Write_8272_dataregister:
00B2                                                    ; CODE XREF: 00CBp
00B2 D3DF                       out     (0DFh), a       ; load command in
8272 data register
00B4 E3                         ex      (sp), hl        ; some delay
00B5 E3                         ex      (sp), hl        ; some delay
00B6 E3                         ex      (sp), hl        ; some delay
00B7 E3                         ex      (sp), hl        ; some delay
00B8 C9                         ret
00B9
-------------------------------------------------------------------------------
00B9
00B9                    Read_8272_dataregister:
00B9                                                    ; CODE XREF: 0155p
00B9 DBDF                       in      a, (0DFh)
00BB E3                         ex      (sp), hl
00BC E3                         ex      (sp), hl
00BD E3                         ex      (sp), hl
00BE E3                         ex      (sp), hl
00BF C9                         ret
00C0
-------------------------------------------------------------------------------
00C0
00C0                    Set_8272_command:
00C0                                                    ; CODE XREF: 00DEp
00E4p 01BCp 01E9p
00C0                                                    ; 0202p 0217p
0220p
00C0 210090                     ld      hl, 9000h
```

```
00C0                    B=length of command sequence; C=first parameter;
(#9001)=second parameter etc.
00C3
00C3                    GetSta_SetCommand:
00C3                                                    ; CODE XREF: 00C6j
00D0j 023Ep
00C3 DBDD                               in      a, (0DDh)       ; 8272 GetStatus
00C5 17                                 rla
00C6 30FB                               jr      nc, GetSta_SetCommand; RQM=0 not
ready then check        again!
00C8 17                                 rla
00C9 D8                                 ret     c               ; RQM=1 DIO=1 so
return
00CA                    RQM=1 DIO=0 => 8272 ready to receive command
00CA 79                                 ld      a, c            ; Load in A first
command parameter
00CB CDB200                             call    Write_8272_dataregister
00CE 4E                                 ld      c, (hl)         ; Fetch next
parameter
00CF 23                                 inc     hl
00D0 10F1                               djnz    GetSta_SetCommand
00D2 C9                                 ret
00D3
--------------------------------------------------------------------------------
00D3
00D3                    loc_D3:
00D3                                                    ; CODE XREF: 01ABp
01F2p
00D3 320190                             ld      (command_parameter_3rd), a
00D6 210F90                             ld      hl, 900Fh
00D9 BE                                 cp      (hl)
00DA C8                                 ret     z
00DB 010F03                             ld      bc, 30Fh ; <void>
00DE CDC000                             call    Set_8272_command
00E1                     ; <void>
00E1                    loc_E1: ; <void>
00E1                                                    ; CODE XREF: 00EFj
01ECp 021Ap 0223p ; <void>
00E1 010801                             ld      bc, 108h ; <void>
00E4 CDC000                             call    Set_8272_command
00E7 CD4001                             call    loc_140
00EA 3A0890                             ld      a, (byte_9008)
00ED E620                               and     20h ; ' ' ; <void>
00EF 28F0                               jr      z, loc_E1
00F1 210F90                             ld      hl, 900Fh
00F4 3A0990                             ld      a, (byte_9009)
00F7 77                                 ld      (hl), a
00F8 3E0A                               ld      a, 0Ah
00FA                     ; <void>
00FA                    Delay: ; <void>
00FA                                                    ; CODE XREF: 0100j
0245p ; <void>
00FA 0EDA                               ld      c, 0DAh ; 'Ú' ; <void>
00FC
00FC                    Delay_small:
00FC                                                    ; CODE XREF: 00FDj
00FC 0D                                 dec     c
00FD 20FD                               jr      nz, Delay_small
00FF 3D                                 dec     a
0100 20F8                               jr      nz, Delay
0102 C9                                 ret
0103
--------------------------------------------------------------------------------
; <void>
0103                     ; <void>
0103                    Bootstrap_loader: ; <void>
0103                                                    ; CODE XREF: 01CBp
; <void>
```

```
0103 01DF00                         ld      bc, 0DFh ; 'ß' ; <void>
0106 110000                         ld      de, 0
0109
0109                Loop_5:
0109                                                        ; CODE XREF: 010Fj
0112j
0109 DBDD                           in      a, (0DDh)       ; get 8272 status
010B 07                             rlca
010C 3812                           jr      c, Read_FDD_data; If RQM=1 then
Read_FDD_data
010E 1C                             inc     e               ; Timeout is 65536
loops
010F 20F8                           jr      nz, Loop_5
0111 14                             inc     d
0112 20F5                           jr      nz, Loop_5
0114
0114                Timeout:
0114                                                        ; CODE XREF: 0151j
0114 CD3002                         call    Init8272
0117 210890                         ld      hl, 9008h
011A 3640                           ld      (hl), 40h ; '@' ; <void>; Variable
double from #9008 = #4040
011C 23                             inc     hl
011D 3640                           ld      (hl), 40h ; '@' ; <void>
011F C9                             ret
0120
--------------------------------------------------------------------------------
; <void>
0120                 ; <void>
0120                Read_FDD_data: ; <void>
0120                                                        ; CODE XREF: 010Cj
; <void>
0120 E640                           and     40h ; '@' ; <void>
0122 281C                           jr      z, loc_140
0124 EDA2                           ini                     ; C=input_port,
HL=destination, DE=counter
0126 E3                             ex      (sp), hl
0127 E3                             ex      (sp), hl
0128
0128                Wait_4_RQM:
0128                                                        ; CODE XREF: 012Bj
0131j 0136j
0128 DBDD                           in      a, (0DDh)       ; get 8272 status
012A 07                             rlca
012B 30FB                           jr      nc, Wait_4_RQM  ; if RQM=0 then
check again
012D EDA2                           ini                     ; read FDD data
012F E3                             ex      (sp), hl
0130 E3                             ex      (sp), hl
0131 20F5                           jr      nz, Wait_4_RQM
0133 FD350D                         dec     (iy+13)
0136 20F0                           jr      nz, Wait_4_RQM
0138 3E1B                           ld      a, 1Bh
013A D3E7                           out     (0E7h), a       ; SET TC=1 DS0=1
DS1=0 MOTOR_ON=1        RES8272=1
013C E6FE                           and     0FEh ; 'þ' ; <void>; toggle TC
013E D3E7                           out     (0E7h), a       ; SET TC=0 DS0=1
DS1=0 MOTOR_ON=1        RES8272=1
0140
0140                loc_140:
0140                                                        ; CODE XREF: 00E7p
0122j 0205p
0140 210890                         ld      hl, 9008h
0143 110000                         ld      de, 0
0146
0146                NotReady:
0146                                                        ; CODE XREF: 014Cj
014Fj 015Aj
```

```
0146 DBDD                       in      a, (0DDh)       ; 8272 GetStatus
0148 17                         rla
0149 3808                       jr      c, READY_8272   ; If RQM=1 then
jump to 8272_READY
014B 1C                         inc     e               ; Timeout is 65536
loops
014C 20F8                       jr      nz, NotReady
014E 14                         inc     d
014F 20F5                       jr      nz, NotReady
0151 18C1                       jr      Timeout         ; Timeout waiting
for 8272_READY
0153
-------------------------------------------------------------------------------
0153
0153                READY_8272:
0153                                                    ; CODE XREF: 0149j
0153 17                         rla                     ; if DIO=0 then
return
0154 D0                         ret     nc
0155 CDB900                     call    Read_8272_dataregister
0158 77                         ld      (hl), a
0159 23                         inc     hl
015A 18EA                       jr      NotReady
015C
-------------------------------------------------------------------------------
015C
015C                loc_15C:
015C                                                    ; CODE XREF: 004Dp
005Cp 0077p 0089p
015C                                                    ; 00A1p
015C C5                         push    bc              ; always argument
in BC=#9010
015D FDE1                       pop     iy
015F FD361003                   ld      (iy+16), 3      ; (#9020)=#03
0163 FD361104                   ld      (iy+17), 4      ; (#9021)=#04
0167 AF                         xor     a               ; (#9000)=#00
0168 320090                     ld      (command_parameter_2nd), a
016B 47                         ld      b, a
016C FD7E04                     ld      a, (iy+4)       ; A=(#9014)
016F FE10                       cp      10h
0171 3804                       jr      c, Next_1
0173 0604                       ld      b, 4
0175 D610                       sub     10h
0177
0177                Next_1:
0177                                                    ; CODE XREF: 0171j
0177 C5                         push    bc
0178 F5                         push    af              ; save A
0179 FD7E02                     ld      a, (iy+2)       ; A=(#9012)
017C 3D                         dec     a
017D 212802                     ld      hl, 228h ; <void>; load 1st
parameter set
0180 114D02                     ld      de, 24Dh ; <void>
0183 2806                       jr      z, Skip_1       ; if end then skip
0185 212C02                     ld      hl, 22Ch ; <void>; load 2nd
parameter set
0188 115D02                     ld      de, 25Dh ; <void>
018B
018B                Skip_1:
018B                                                    ; CODE XREF: 0183j
018B F1                         pop     af              ; restore A
018C 83                         add     a, e
018D 5F                         ld      e, a
018E 1A                         ld      a, (de)
018F 320390                     ld      (command_parameter_5th), a
0192 110490                     ld      de, 9004h
0195 010400                     ld      bc, 4
0198 EDB0                       ldir
```

```
019A C1                             pop     bc
019B 3A0090                         ld      a, (command_parameter_2nd)
019E B0                             or      b
019F 320090                         ld      (command_parameter_2nd), a
01A2 78                             ld      a, b
01A3 0F                             rrca
01A4 0F                             rrca
01A5 320290                         ld      (command_parameter_4th), a
01A8 FD7E03                         ld      a, (iy+3)
01AB CDD300                         call    loc_D3
01AE FD7E0B                         ld      a, (iy+11)
01B1 FE08                           cp      8
01B3 284A                           jr      z, loc_1FF
01B5 FE10                           cp      10h
01B7 285B                           jr      z, loc_214
01B9
01B9                    loc_1B9:
01B9                                                        ; CODE XREF: 01D8j
01F5j
01B9 014609                         ld      bc, 946h
01BC CDC000                         call    Set_8272_command
01BF FD6E05                         .db 0FDh,6Eh,5 ; <BAD> ld      yl, (iy+5)
01C2 FD6606                         .db 0FDh,66h,6 ; <BAD> ld      yh, (iy+6)
01C5 FD7E02                         ld      a, (iy+2)
01C8 FD770D                         ld      (iy+13), a
01CB CD0301                         call    Bootstrap_loader
01CE 3A0890                         ld      a, (byte_9008)
01D1 E6C0                           and     0C0h ; 'À' ; <void>
01D3 2822                           jr      z, loc_1F7
01D5 FD3511                         dec     (iy+17)
01D8 20DF                           jr      nz, loc_1B9
01DA FD3510                         dec     (iy+16)
01DD 3A0990                         ld      a, (byte_9009)
01E0 2818                           jr      z, loc_1F8+2
01E2 FD361104                       ld      (iy+17), 4
01E6 010702                         ld      bc, 207h ; <void>
01E9 CDC000                         call    Set_8272_command
01EC CDE100                         call    loc_E1
01EF FD7E03                         ld      a, (iy+3)
01F2 CDD300                         call    loc_D3
01F5 18C2                           jr      loc_1B9
01F7
-------------------------------------------------------------------------------
01F7
01F7                    loc_1F7:
01F7                                                        ; CODE XREF: 01D3j
0212j 0226j
01F7 AF                             xor     a
01F8
01F8                    loc_1F8:
01F8                                                        ; CODE XREF: 01E0j
0210j
01F8 01C137                         ld      bc, 37C1h
01FB FD770C                         ld      (iy+12), a
01FE C9                             ret
01FF
-------------------------------------------------------------------------------
; <void>
01FF                     ; <void>
01FF                    loc_1FF: ; <void>
01FF                                                        ; CODE XREF: 01B3j
; <void>
01FF 014A02                         ld      bc, 24Ah ; <void>
0202 CDC000                         call    Set_8272_command
0205 CD4001                         call    loc_140
0208 3A0890                         ld      a, (byte_9008)
020B E6C0                           and     0C0h ; 'À' ; <void>
020D 3A0990                         ld      a, (byte_9009)
```

```
0210 20E8                          jr      nz, loc_1F8+2
0212 18E3                          jr      loc_1F7
0214
-------------------------------------------------------------------------------
; <void>
0214                    ; <void>
0214                  loc_214: ; <void>
0214                                                       ; CODE XREF: 01B7j
; <void>
0214 010702                        ld      bc, 207h ; <void>
0217 CDC000                        call    Set_8272_command
021A CDE100                        call    loc_E1
021D 010702                        ld      bc, 207h ; <void>
0220 CDC000                        call    Set_8272_command
0223 CDE100                        call    loc_E1
0226 18CF                          jr      loc_1F7
0226
-------------------------------------------------------------------------------
0228 01                            .db    1 ;              ; 1st parametre
set (pointed by #017D)
0229 10                            .db  10h ;
022A 0E                            .db  0Eh ;
022B FF                            .db 0FFh ; ÿ
022C 02                            .db    2 ;              ; 2nd parameter
set (pointed by #0185)
022D 09                            .db    9 ;
022E 1B                            .db  1Bh ;
022F FF                            .db 0FFh ; ÿ
0230
-------------------------------------------------------------------------------
0230
0230                  Init8272:
0230                                                       ; CODE XREF: 003Cp
0114p
0230 3E00                          ld      a, 0
0232 D3E7                          out     (0E7h), a        ; Reset 8272
external control register
0234 3E1A                          ld      a, 1Ah
0236 D3E7                          out     (0E7h), a        ; clear N555 and
set DS0
0238 010303                        ld      bc, 303h ; <void>; "specify"
command
023B 214B02                        ld      hl, 24Bh ; <void>; SRT=#0E;
HUT=#0F; HLT=0; HD=1
023E CDC300                        call    GetSta_SetCommand
0241 0664                          ld      b, 64h ; 'd' ; <void>
0243
0243                  BigDelay:
0243                                                       ; CODE XREF: 0248j
0243 3E0A                          ld      a, 0Ah
0245 CDFA00                        call    Delay
0248 10F9                          djnz    BigDelay
024A C9                            ret
024A
-------------------------------------------------------------------------------
024B EF                            .db 0EFh ; ï
024C 01                            .db    1 ;
024D 01                            .db    1 ;
024E 03                            .db    3 ;
024F 05                            .db    5 ;
0250 07                            .db    7 ;
0251 09                            .db    9 ;
0252 0B                            .db  0Bh ;
0253 0D                            .db  0Dh ;
0254 0F                            .db  0Fh ;
0255 02                            .db    2 ;
0256 04                            .db    4 ;
0257 06                            .db    6 ;
```

```
0258 08                             .db    8 ;
0259 0A                             .db  0Ah ;
025A 0C                             .db  0Ch ;
025B 0E                             .db  0Eh ;
025C 10                             .db  10h ;
025D 01                             .db    1 ;
025E 03                             .db    3 ;
025F 05                             .db    5 ;
0260 07                             .db    7 ;
0261 09                             .db    9 ;
0262 02                             .db    2 ;
0263 04                             .db    4 ;
0264 06                             .db    6 ;
0265 08                             .db    8 ;
0266 01                             .db    1 ;               ; copied to #9010
0267 00                             .db    0 ;
0268 00                             .db    0 ;
0269 00                             .db    0 ;
026A 10                             .db  10h ;
026B 00                             .db    0 ;
026C 80                             .db  80h ; €
026D 00                             .db    0 ;
026E 00                             .db    0 ;
026F 00                             .db    0 ;
0270 00                             .db    0 ;
0271 10                             .db  10h ;
0272 00                             .db    0 ;
0273 00                             .db    0 ;
0274 00                             .db    0 ;
0275 00                             .db    0 ;
0276 00                             .db    0 ;
0277 00                             .db    0 ;
0278 00                             .db    0 ;
0279 00                             .db    0 ;
027A 00                             .db    0 ;
027B 00                             .db    0 ;
027C 00                             .db    0 ;
027D 00                             .db    0 ;
027E 00                             .db    0 ;
027F 00                             .db    0 ;
-------------------------------------------------------------------
8000 00                 unk_8000:       .block 1; uninited data
; before paging the boot code is loaded here
-------------------------------------------------------------------
9000 00                 command_parameter_2nd:.block 1
9001 00                 command_parameter_3rd:.block 1
9002 00                 command_parameter_4th:.block 1
9003 00                 command_parameter_5th:.block 1
9004 00                             .block 1; uninited data
9005 00                             .block 1; uninited data
9006 00                             .block 1; uninited data
9007 00                             .block 1; uninited data
9008 00                 byte_9008:      .block 1
9009 00                 byte_9009:      .block 1
900A 00                             .block 1; uninited data
900B 00                             .block 1; uninited data
900C 00                             .block 1; uninited data
900D 00                             .block 1; uninited data
900E 00                 byte_900E:      .block 1
900F 00                             .block 1; uninited data
9010 00                             .block 1; uninited data
9011 00                             .block 1; uninited data
9012 00                 byte_9012:      .block 1
9013 00                             .block 1
9014 00                 byte_9014:      .block 1
9015 00                             .block 1; uninited data
9016 00                             .block 1; uninited data
9017 00                             .block 1; uninited data
```

```
9018 00                              .block 1; uninited data
9019 00                              .block 1; uninited data
901A 00                              .block 1; uninited data
901B 00                 byte_901B:   .block 1
901C 00                              .block 1; uninited data
901D 00                              .block 1; uninited data
```