

LISP Machine TV Board

***** CADRTV:LMTV4B UML
***** DIP MAP *****

07-DEC-80 2352

26S10 XBDAIA x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F30	E30	D30	C30	B30	A30
26S10 XBDAIA x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F29	E29	D29	C29	B29	A29
26S10 XBDAIA x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F28	E28	D28	C28	B28	A28
26S10 XBDAIA x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F27	E27	D27	C27	B27	A27
26S10 XBDAIA x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F26	E26	D26	C26	B26	A26
26S10 XBDAIA x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F25	E25	D25	C25	B25	A25
26S10 XBDAIA x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F24	E24	D24	C24	B24	A24
26S10 XBDAIA x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F23	E23	D23	C23	B23	A23
26LS2521 XBADR x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F22	E22	D22	C22	B22	A22
26LS2521 XBADR x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F21	E21	D21	C21	B21	A21
26LS2521 XBADR x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F20	E20	D20	C20	B20	A20

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***** DIP MAP *****

07-DEC-80 2363

25LS2521 XBADR x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F19	E19	D19	C19	B19	A19
74LS240 XBADR x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F18	E18	D18	C18	B18	A18
74LS240 XBADR x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F17	E17	D17	C17	B17	A17
74LS240 XBADR x	74LS299 RAMSHF x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F16	E16	D16	C16	B16	A16
26S10 XBADATA x	74LS374 RAMREG x	2118 RAMD x	2118 RAMC x	2118 RAMB x	2118 RAMA x
F15	E15	D15	C15	B15	A15
26S10 XBADATA x	74LS74 XBCTL xx	898-3-R2 RAMBUF x	898-3-R2 RAMBUF x	898-3-R2 RAMBUF x	898-3-R2 RAMBUF x
F14	E14	D14	C14	B14	A14
74S138 XBCTL x	74S00 XBCTL xxxx	74LS244 COLOR x	74S37 RAMCAS xxxx	898-3-R2 RAMCAS x	74S241 RAMBUF x
F13	E13	D13	C13	B13	A13
25LS2519 XBCTL x	74S374 XBCTL x	74S00 SYNCLK xxxx	25LS2539 RAMCAS xx	74S253 RAMADR x	74S253 RAMADR x
F12	E12	D12	C12	B12	A12
74LS244 COLOR x	74S32 COLOR xxxx	T0100 RAMCAS x	74S37 SYNCLK xxxx	74S253 RAMADR x	74S253 RAMADR x
F11	E11	D11	C11	B11	A11
74S04 XBADATA xxxxxx	74S139 XBCTL xx	74S08 SYNCLK xxxx	74LS163 TVMA x	74LS569 RAMADR x	74LS569 RAMADR x
F10	E10	D10	C10	B10	A10
74S257 COLOR x	74S241 COLOR x	74S37 SYNCLK xxxx	74LS163 TVMA x	74LS163 TVMA x	74LS163 TVMA x
F09	E09	D09	C09	B09	A09

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07-DEC-80 2363

DIP MAP *****

10105 ECLCLK oox	74128 ECLVID xx00	74S04 RAMADR xxxxxx	EXAR-CL ECLCLK x	74S283 TVINC x	74S283 TVINC x
F08	E08	D08	C08	B08	A08
10124 ECLCLK x	10124 ECLVID x	74S374 SYNCLK x	74LS377 SYNADR x	74LS377 SYNADR x	74LS273 TVINC x
F07	E07	D07	C07	B07	A07
10124 ECLVID x	10124 ECLVID x	74S288 SYNCLK x	74LS569 SYNADR x	74LS569 SYNADR x	74LS569 SYNADR x
F06	E06	D06	C06	B06	A06
DUAL-SIP ECLSIP x	DUAL-SIP ECLSIP x	74LS244 SYNRAM x	74S472 SYNRAM x	74LS374 SYNADR x	74LS374 SYNADR x
F05	E05	D05	C05	B05	A05
10102 ECLVID xxxx	10141 ECLVID x	74S51 TVMA xx	25LS2539 SYNREG xx	2147 SYNRAM x	2147 SYNRAM x
F04	E04	D04	C04	B04	A04
10212 ECLVID xo	10141 ECLVID x	74S04 TVMA xxxxxx	74S374 SYNREG x	2147 SYNRAM x	2147 SYNRAM x
F03	E03	D03	C03	B03	A03
10136 ECLCLK x	10125 ECLCLK x	74LS175 SYNREG x	74LS669 SYNREG x	2147 SYNRAM x	2147 SYNRAM x
F02	E02	D02	C02	B02	A02
10121 ECLVID x	DUAL-SIP ECLSIP x	74S10 SYNREG xxx	74LS669 SYNREG x	2147 SYNRAM x	2147 SYNRAM x
F01	E01	D01	C01	B01	A01

LISP Machine TV Board
***** EDGE CONNECTIONS

CADRTV;LMTV4B UML 07-DEC-80 2353
Flags: (# Output, @ Terminator, ---- Dedicated ground, ++++ Dedicated power) *****

-E-		-F-		-J01-		-J02-	
A1	A2 +5.0V+++++	A1	A2 +5.0V+++++	01	02	01	02
B1	B2	B1	B2	03	04	03	04
C1	C2 DEVADR 17-----	C1	C2 DEVADR 17-----	05	06	05	06
D1	D2	D1 COMP VIDEO OUT	D2	07	08	07	08
E1	E2	E1 -BLANKING (FUDGED) H	E2 TTL VIDEO DRIVE	# 09	# 10	09	10
F1	F2	F1 DEVADR 17	F2	11	12	11	12
H1	H2	H1 COLOR VALUE 0	H2 MECL VIDEO OUT	# 13	# 14	13	14
J1	J2	J1 COLOR VALUE 1	J2 -MECL VIDEO OUT H	# 15	# 16	15	16
K1	K2	K1 COLOR VALUE 2	K2 COLOR 0	# 17	# 18	17	18
L1	L2	L1 COLOR VALUE 3	L2 COLOR 1	# 19	# 20	19	20
M1	M2	M1 COLOR VALUE 4	M2 COLOR 2	# 21	# 22	21	22
N1	N2	N1 DEVADR 17	N2 DEVADR 17	23	24	23	24
P1	P2	P1 COLOR VALUE 5	P2 COLOR 3	# 25	# 26	25	26
R1	R2	R1 COLOR VALUE 6	R2 COLOR 4	# 27	# 28	27	28
S1	S2	S1 COLOR VALUE 7	S2 COLOR 5	# 29	# 30	29	30
T1	T2	T1 DEVADR 17-----	T2 DEVADR 17-----	31	32	31	32
U1	U2	U1 HSYNC OUT	U2 COLOR 6	# 33	# 34	33	34
V1	V2	V1 VSYNC OUT	V2 COLOR 7	# 35	# 36	35	36
				37	38	37	38
				39	40	39	40
				41	42	41	42
				43	44	43	44
				45	46	45	46
				47	48	47	48
				49	50	49	50

LISP Machine TV Board
***** EDGE CONNECTIONS

CADRTV: LMTV4B UML 07-DEC-80 2354

Flags: (# Output, @ Terminator, ----, Dedicated ground, ++++ Dedicated power) *****

-J03-

-J04-

-J05-

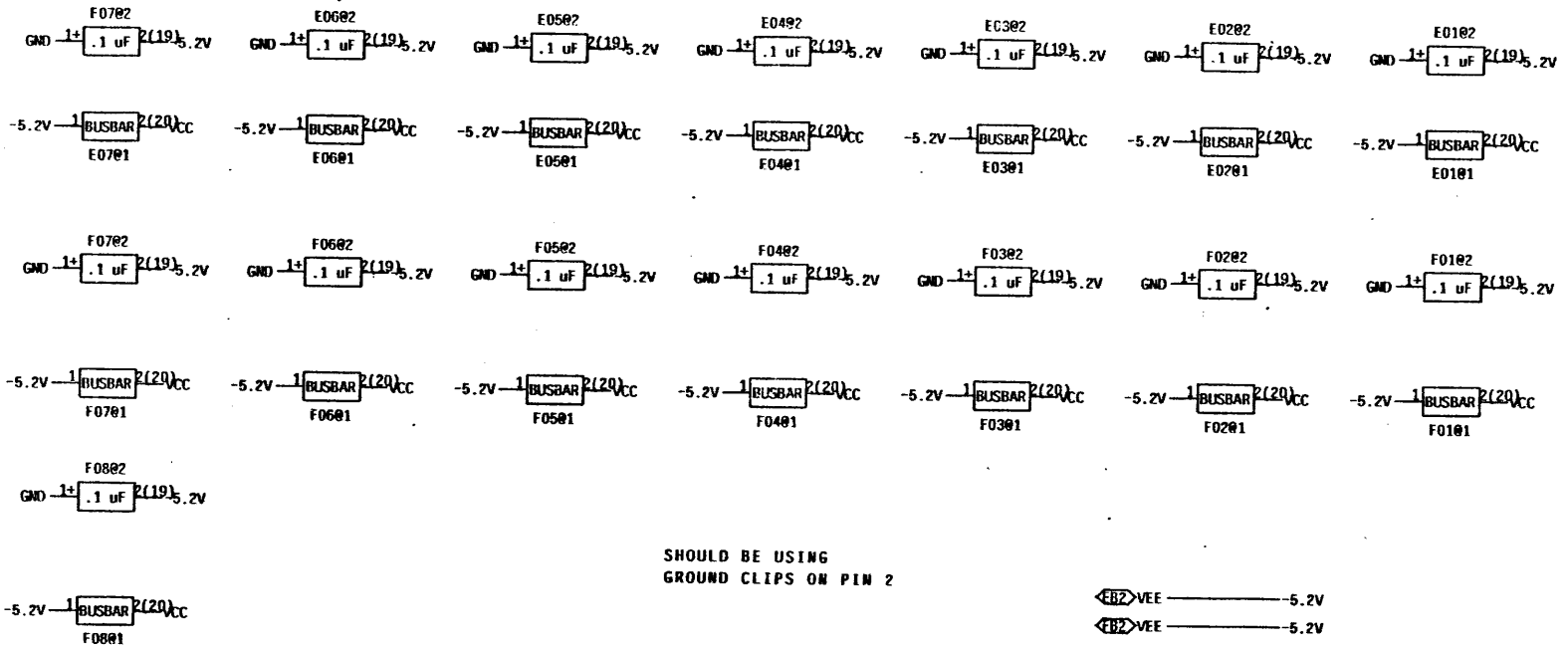
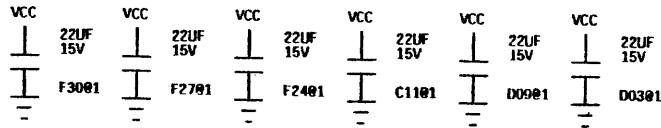
-J06-

01	01	01	01
02	02	02	02
03	03	03	03
04	04	04	04
05	05	05	05
06	06	06	06
07	07	07	07
08	08	08	08
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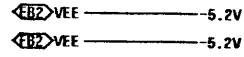
LISP Machine TV Board
***** EDGE CONNECTIONS

CADRTV:LMTV4B UML 07-DEC-80 2354
Flags: (# Output, @ Terminator, ---- Dedicated ground, ++++ Dedicated power) *****

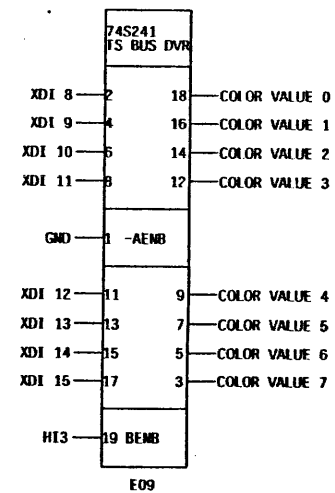
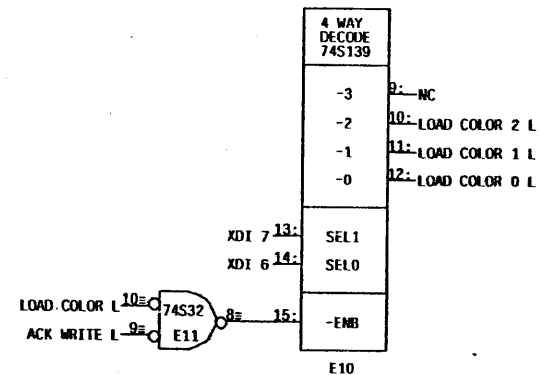
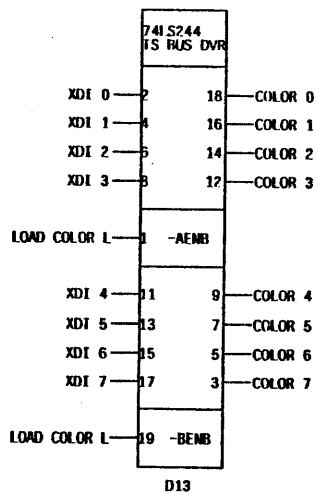
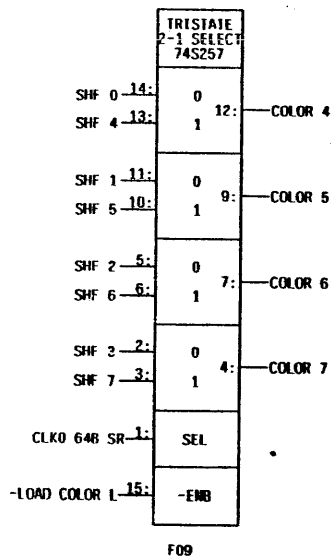
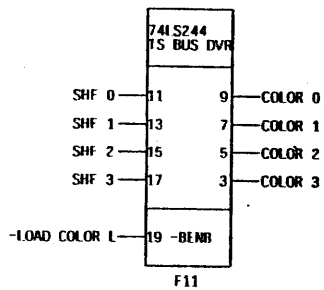
-J07-		-J08-		-J09-		-J10-	
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02	02	02	02	02	02	02	02
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04	04	04	04	04	04	04	04
05	05	05	05	05	05	05	05
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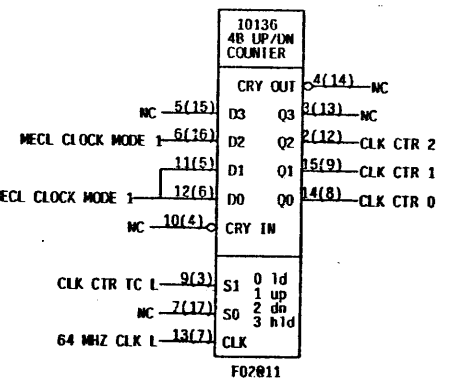
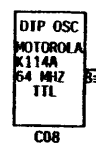
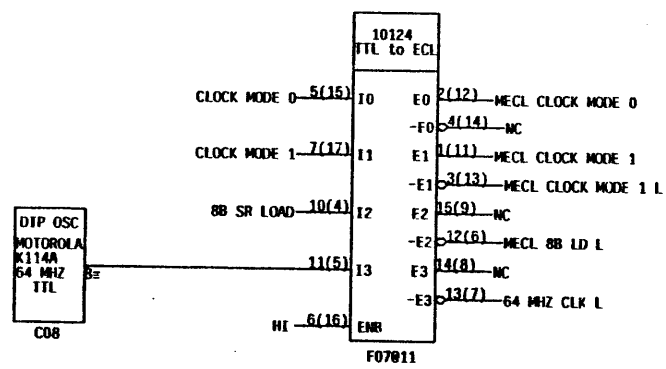
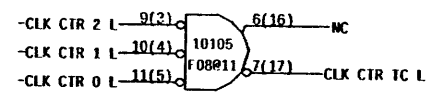
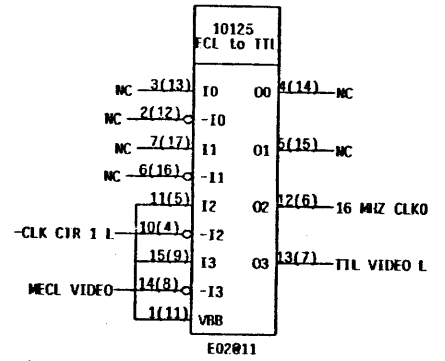
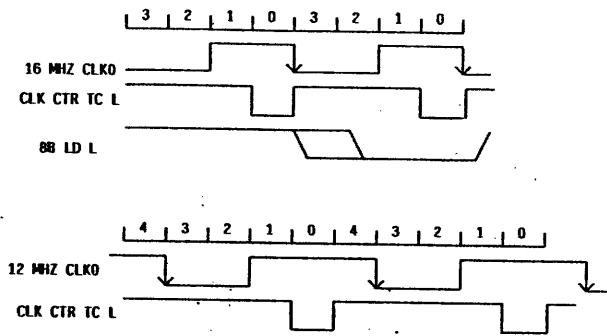


SHOULD BE USING
GROUND CLIPS ON PIN 2

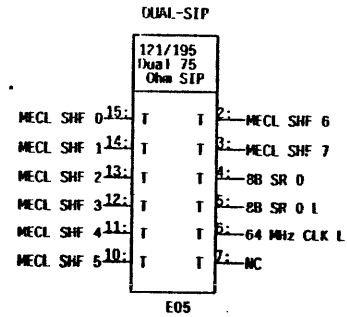


USE .1uF DIP CAPS NEXT TO EVERY OTHER MEMORY CHIP

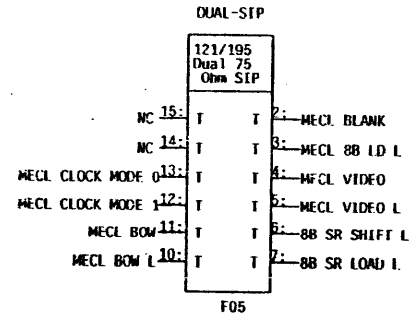




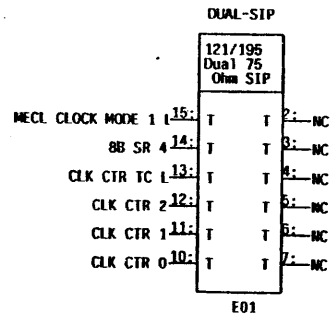
NOTE: Install with pin 1 down



NOTE: Install with pin 1 down



NOTE: Install with pin 1 down



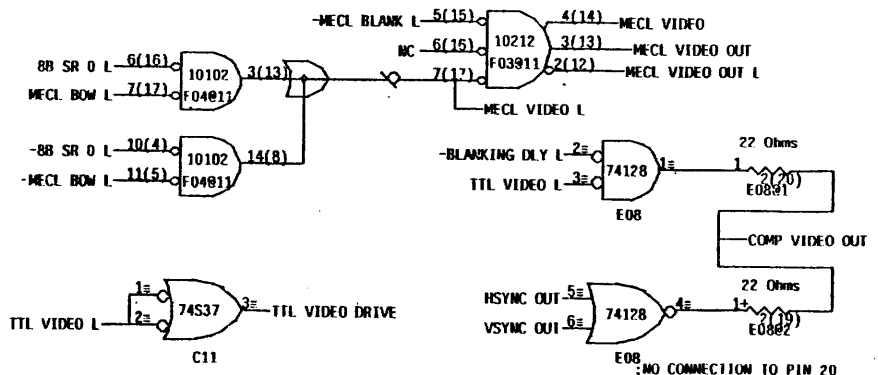
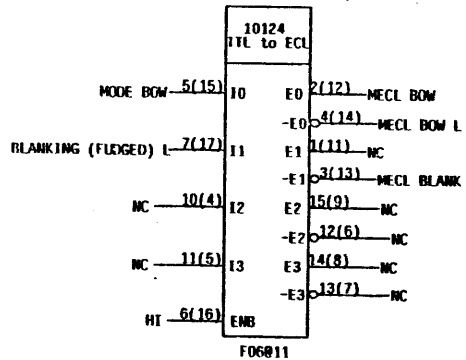
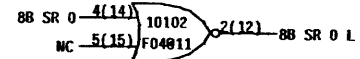
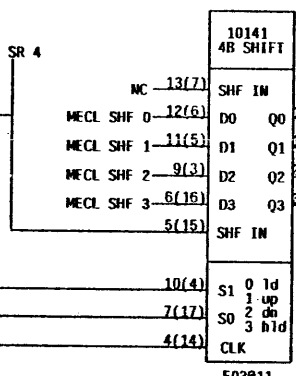
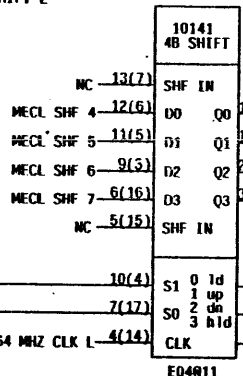
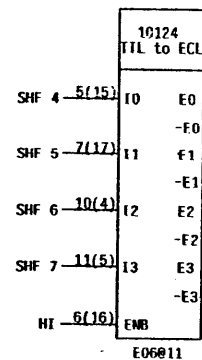
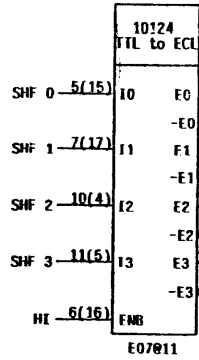
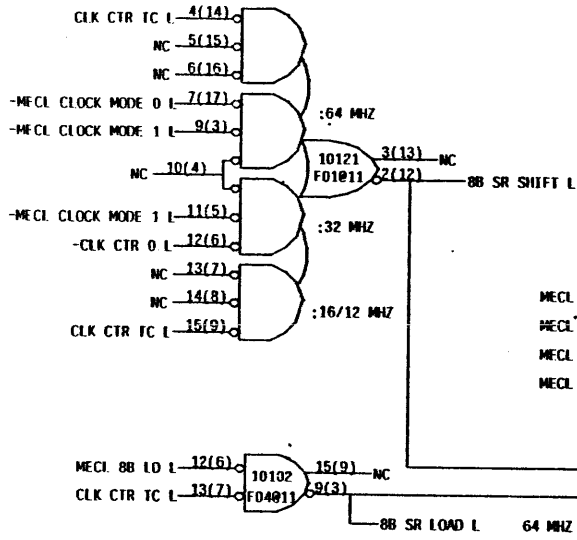
INSTALL 121 OHM SIDE OF SIP CONNECTED TO PIN 10

THE "NC" SIP PINS SHOULD MEASURE -2 VOLTS

CLOCK MODE

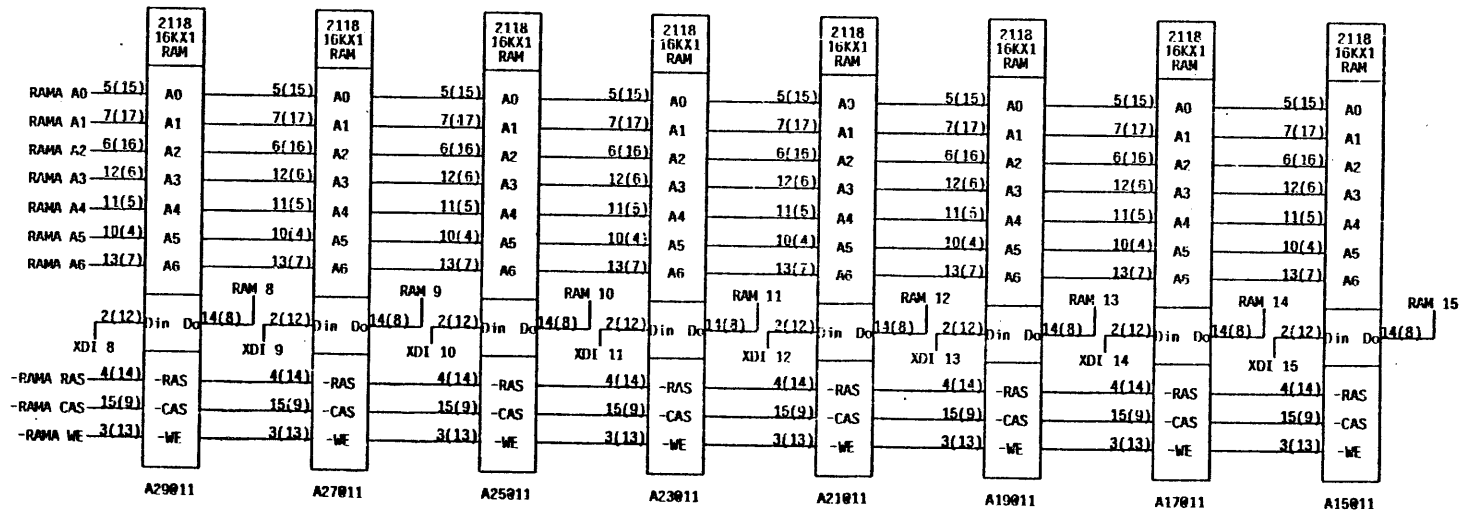
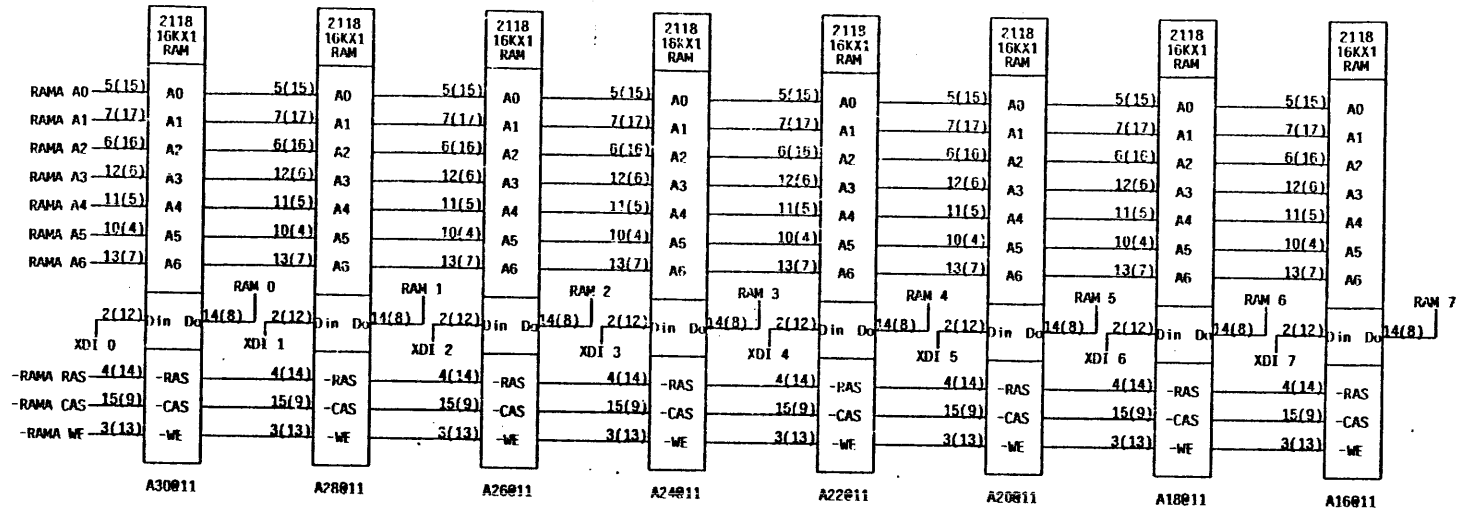
10 MHZ, MODE

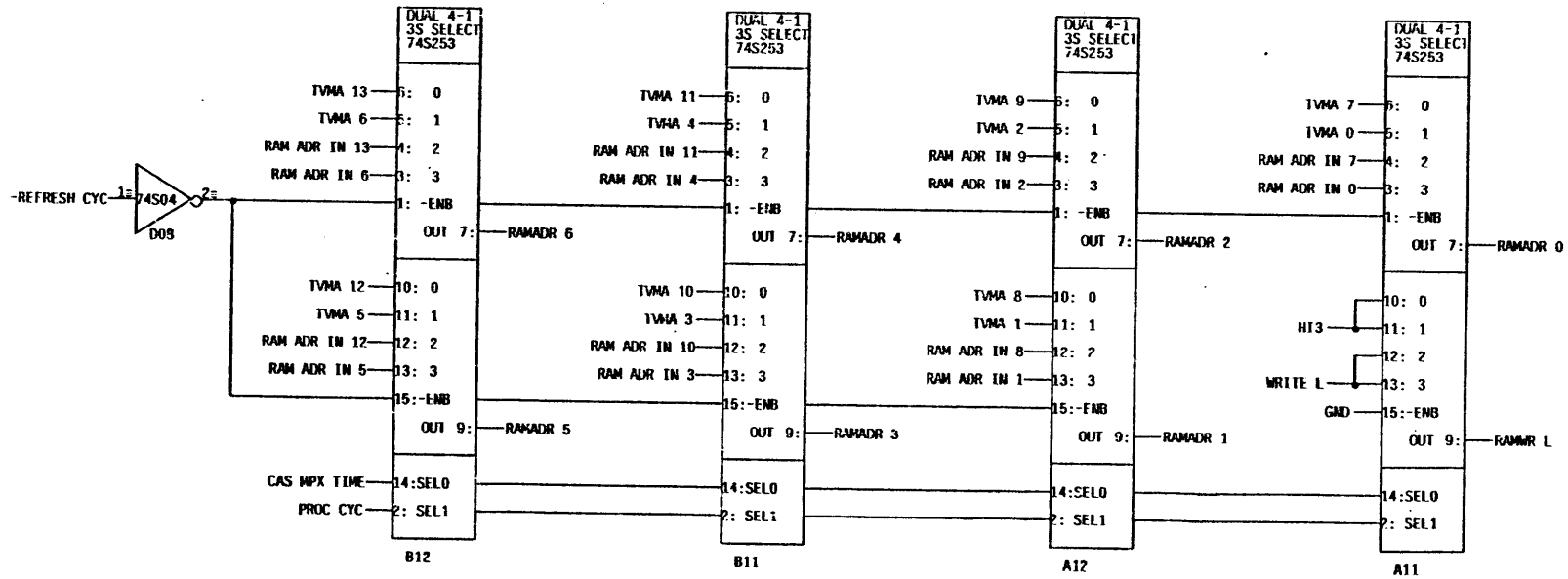
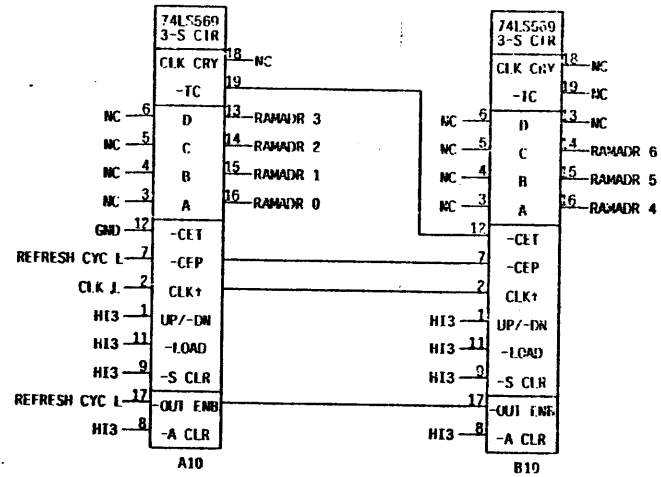
00 64 CPT
 01 32 M4408
 (OR 16 MHZ COLOR)
 10 12 525 LINE
 11 12 COLOR

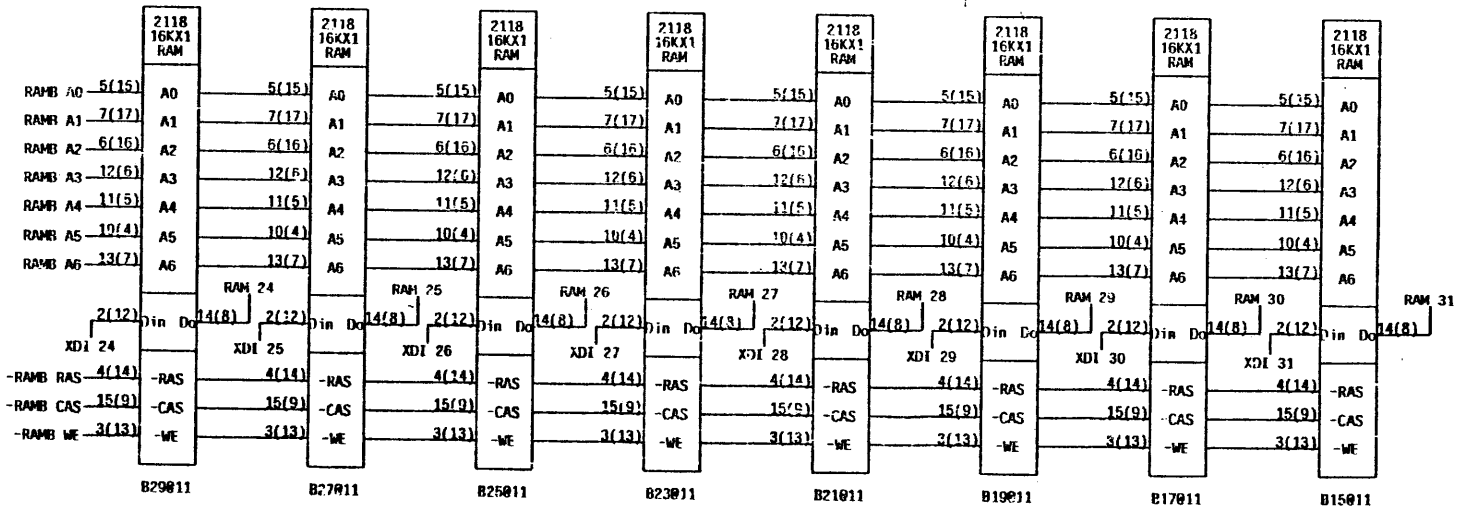
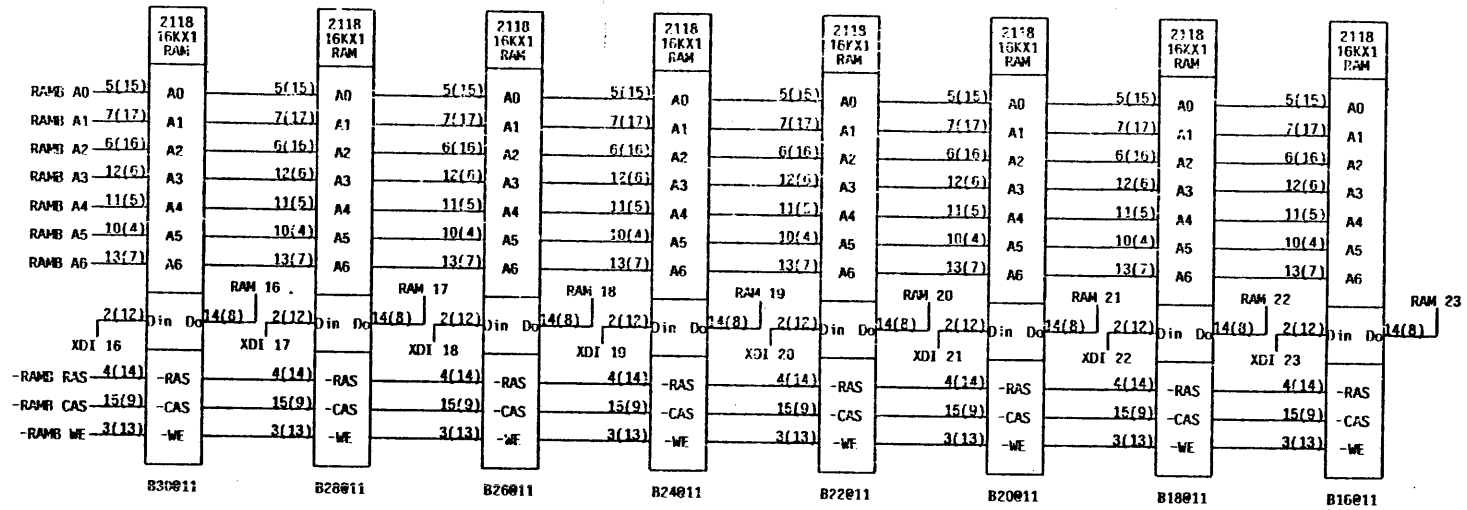


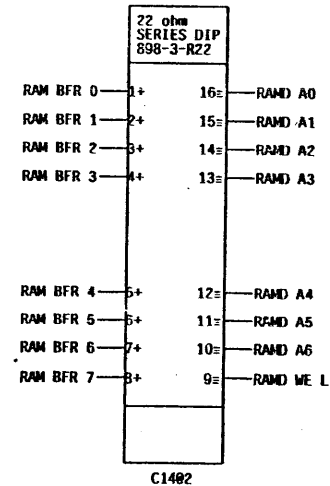
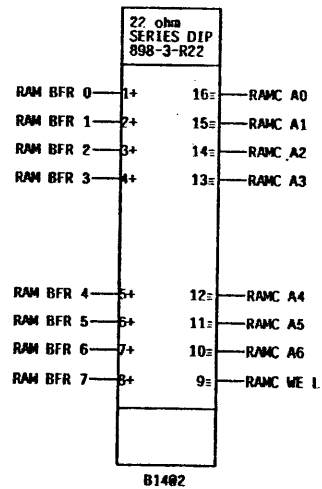
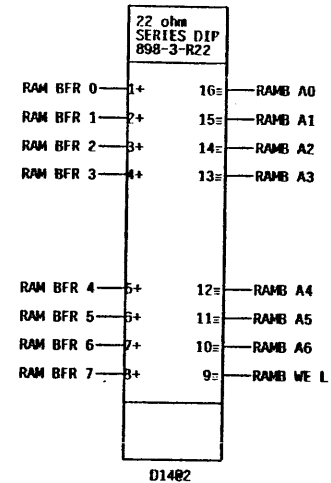
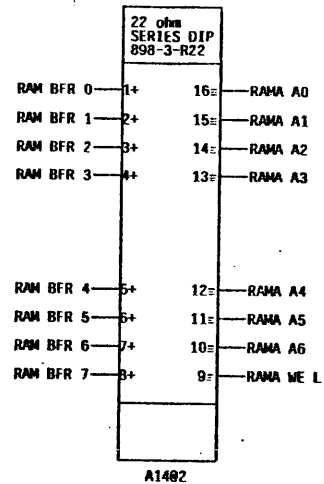
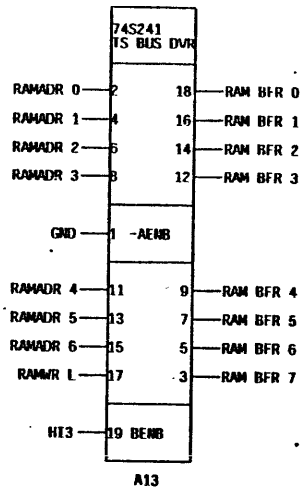
GND — SHF IN 0
GND — SHF IN 1
GND — SHF IN 2
GND — SHF IN 3
GND — SHF IN 4
GND — SHF IN 5
GND — SHF IN 6
GND — SHF IN 7

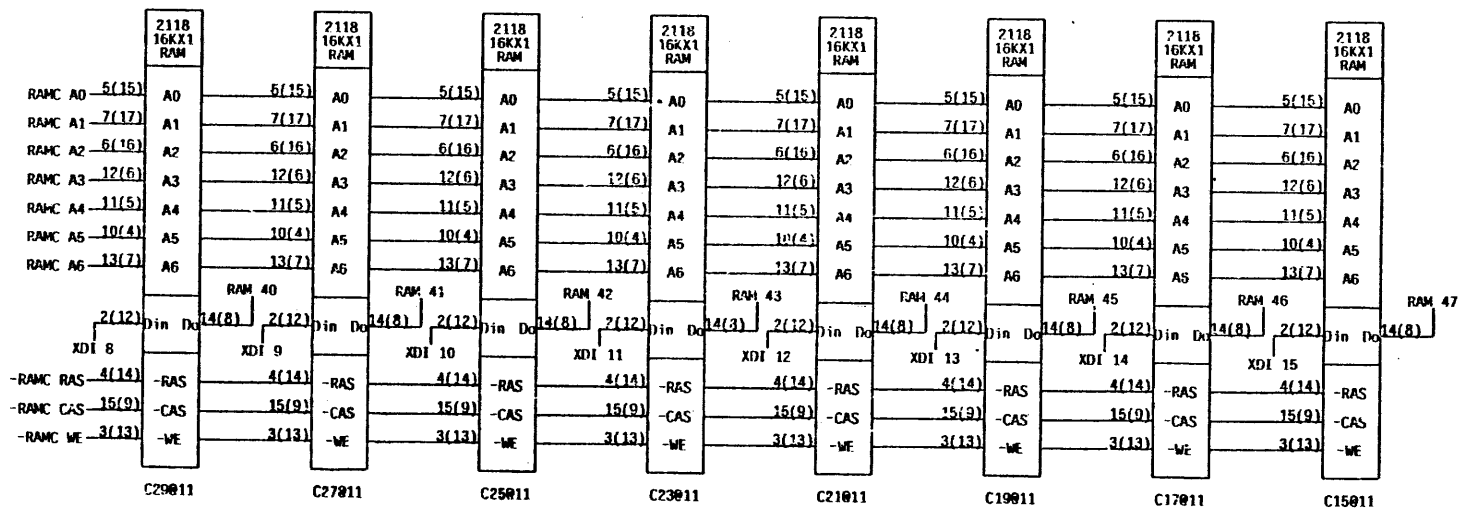
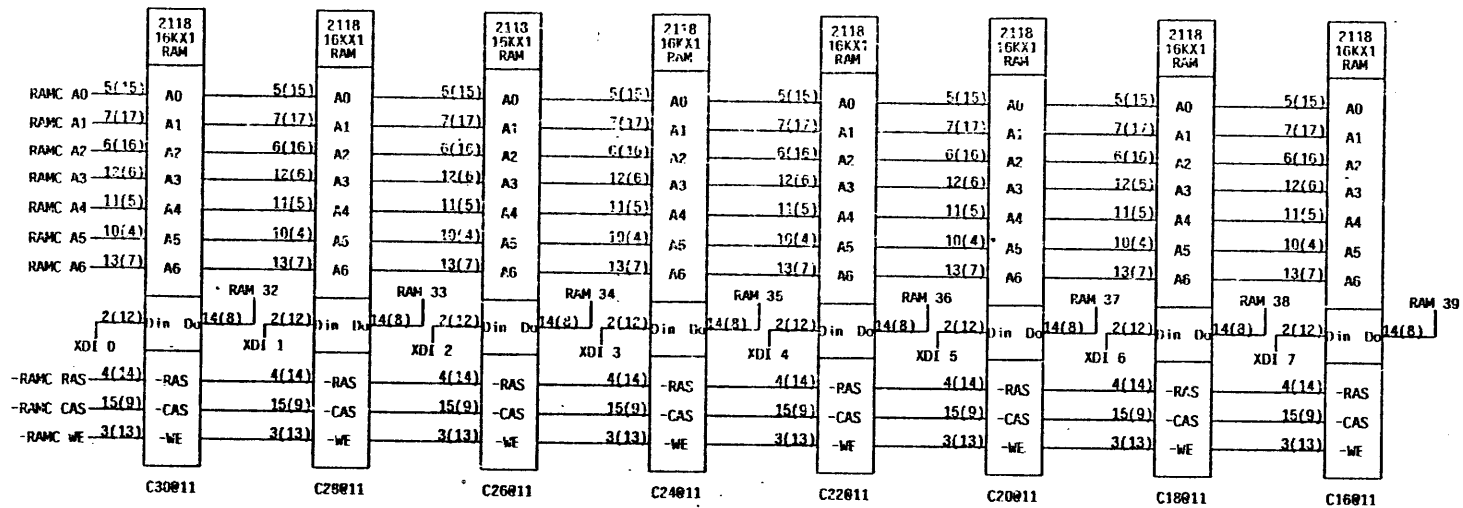
MAPADR 15 — MAPADR BANK
ADR 15 — ADR BANK SEL
ADR 14 — RAM ADR IN 13
ADR 13 — RAM ADR IN 12
ADR 12 — RAM ADR IN 11
ADR 11 — RAM ADR IN 10
ADR 10 — RAM ADR IN 9
ADR 9 — RAM ADR IN 8
ADR 8 — RAM ADR IN 7
ADR 7 — RAM ADR IN 6
ADR 6 — RAM ADR IN 5
ADR 5 — RAM ADR IN 4
ADR 4 — RAM ADR IN 3
ADR 3 — RAM ADR IN 2
ADR 2 — RAM ADR IN 1
ADR 1 — RAM ADR IN 0

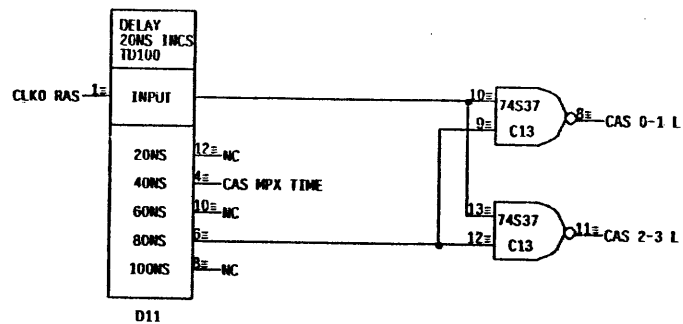
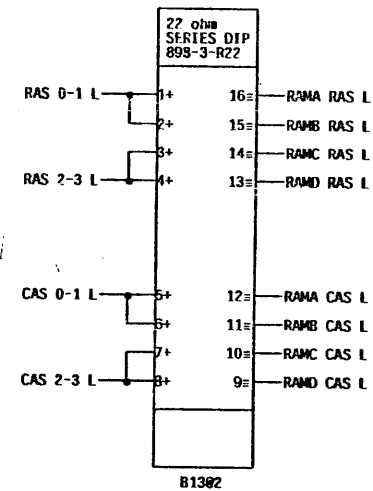
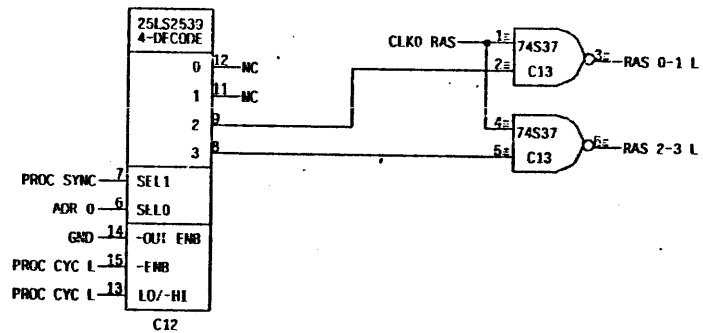
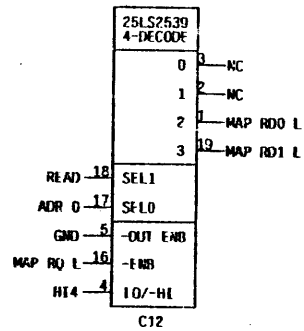


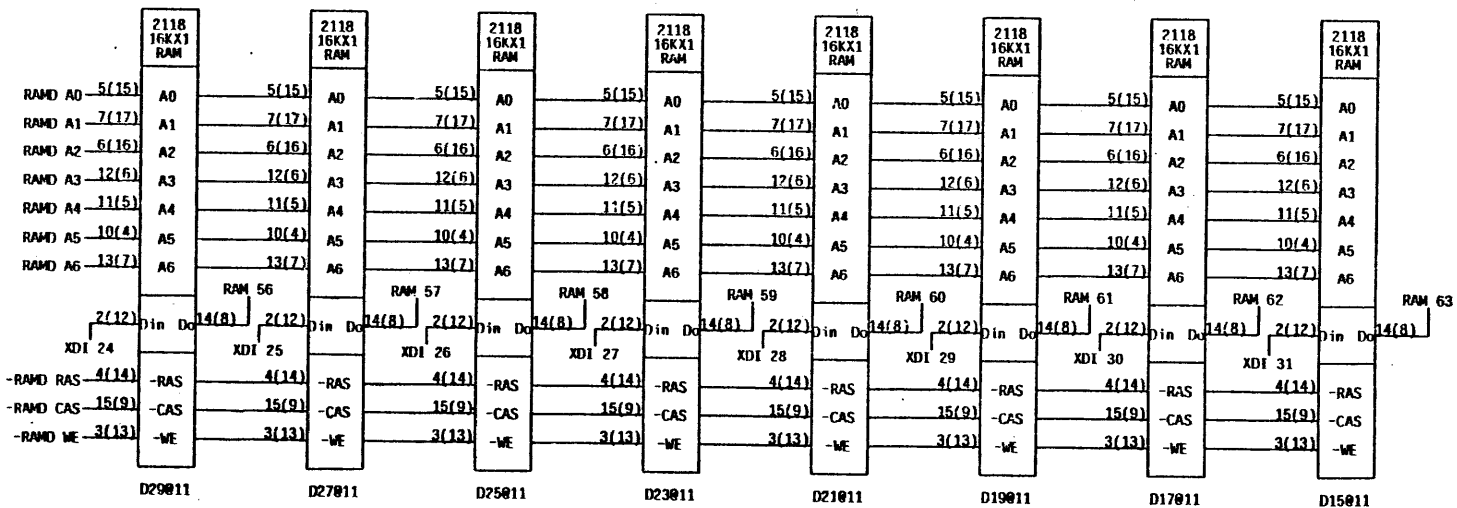
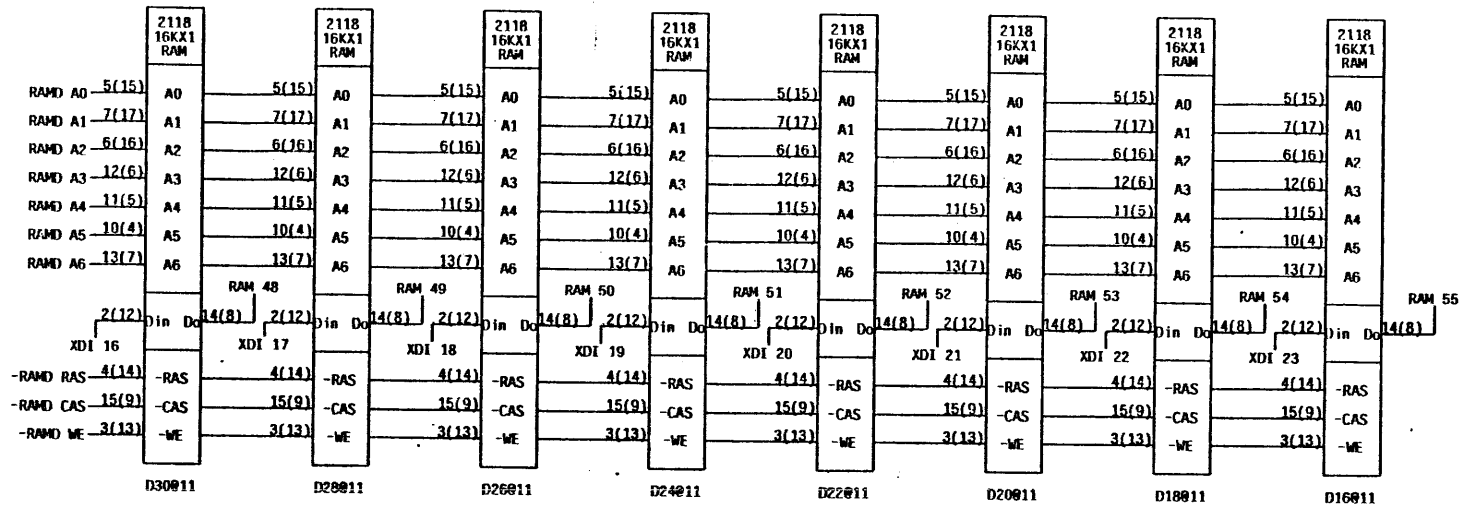


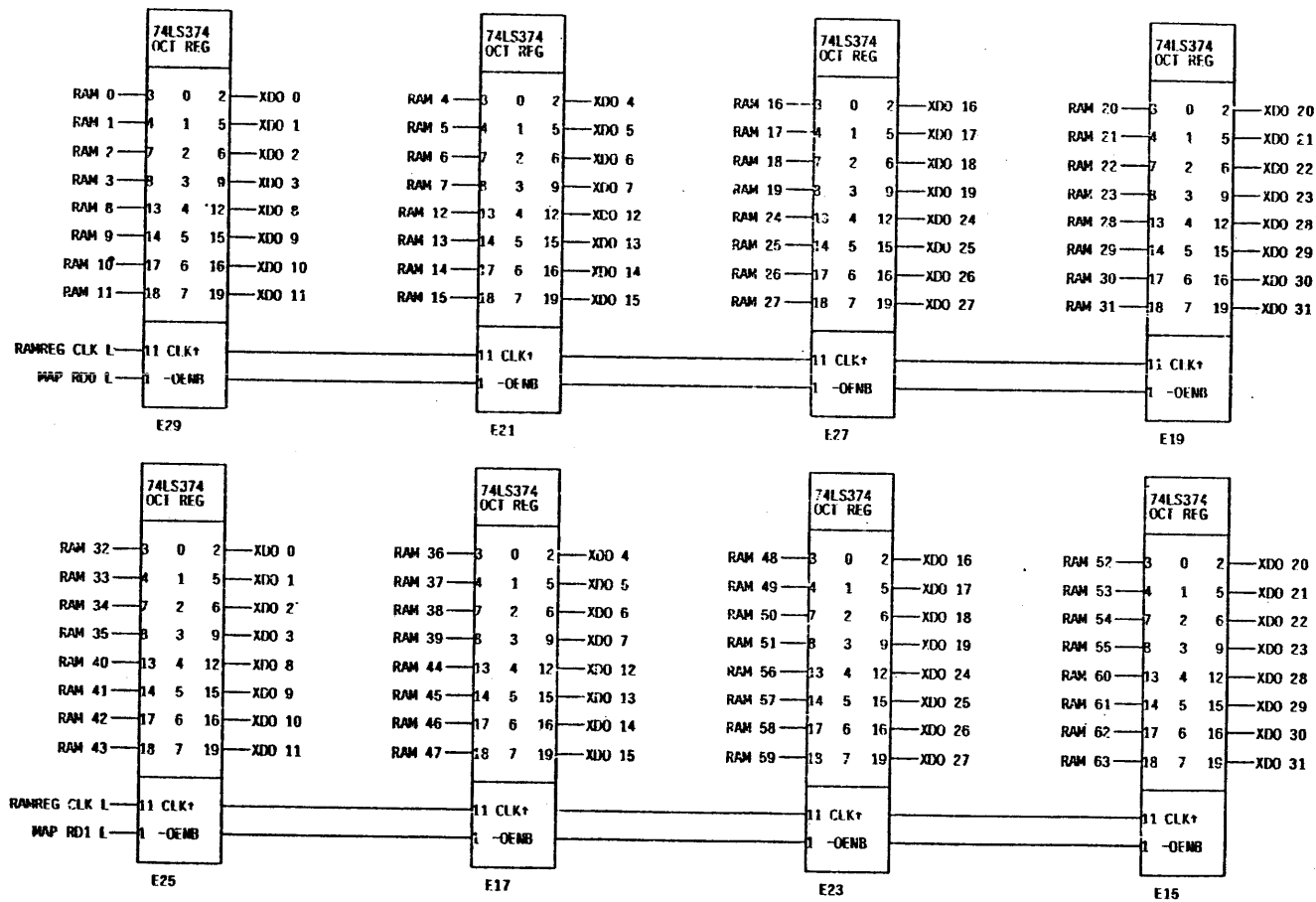


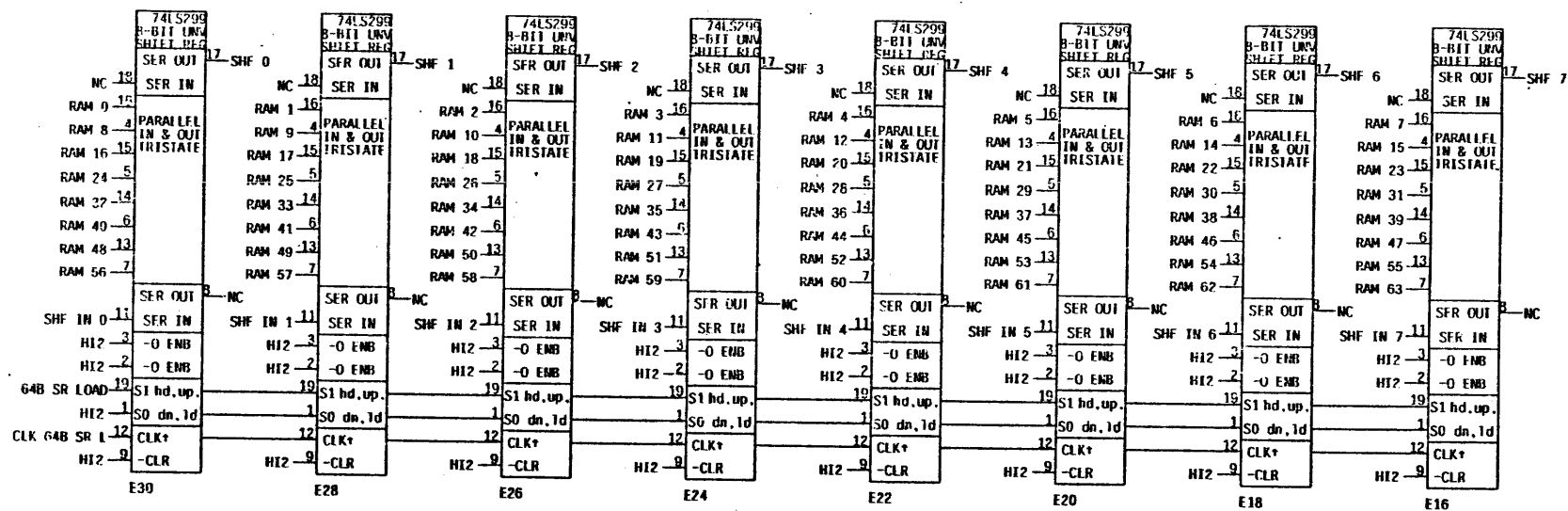


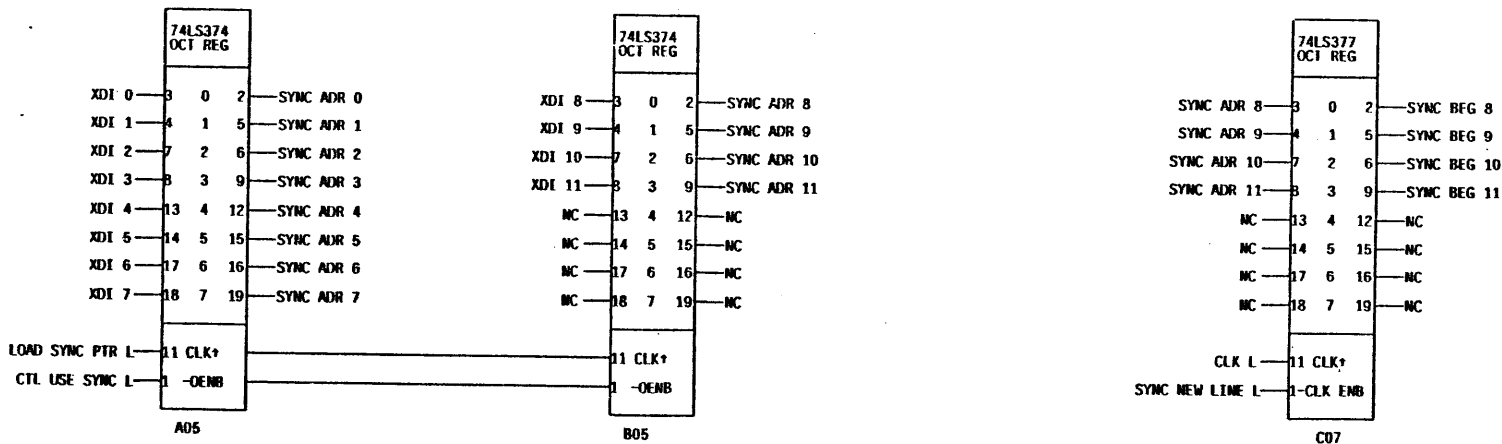
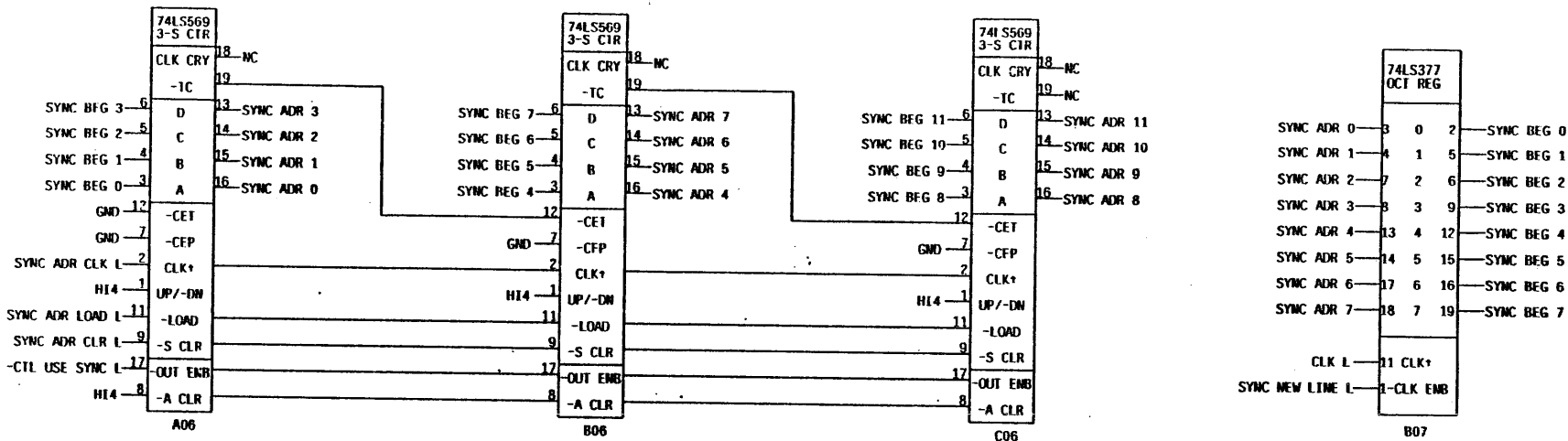








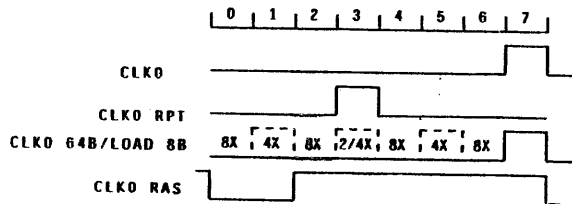
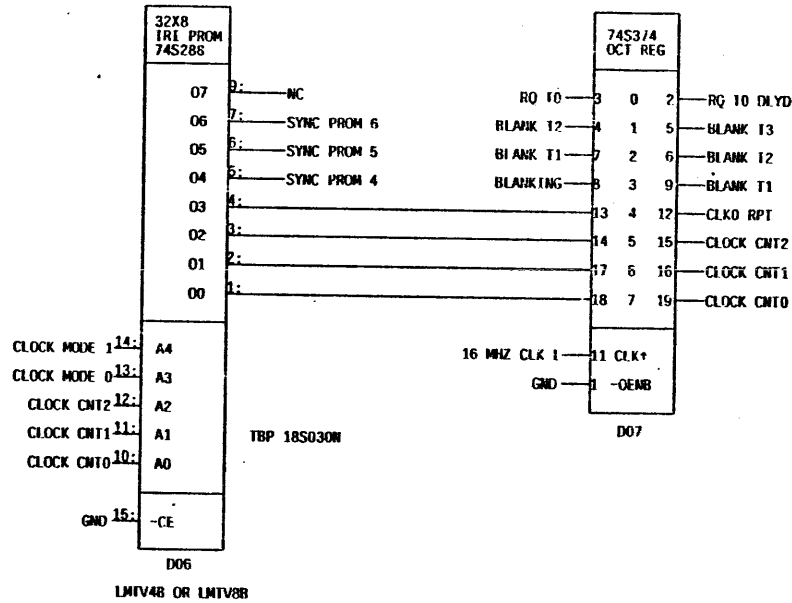




ON CADRTV:MXBCTL

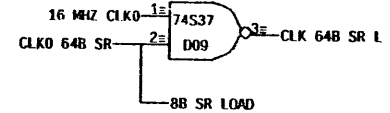
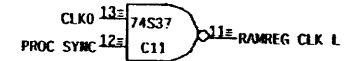
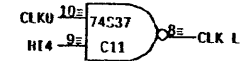
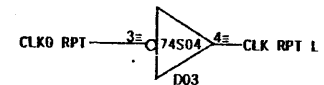
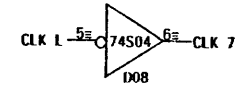
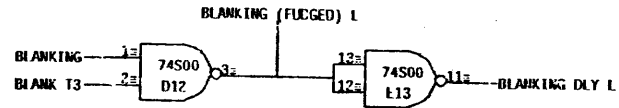
SYNC PROM

- 4 CLK0
- 5 CLK0 65B SR
- 7 CLK0 RAS
- 7 ---

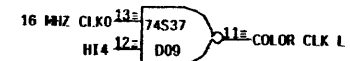
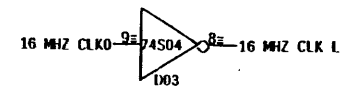
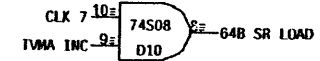


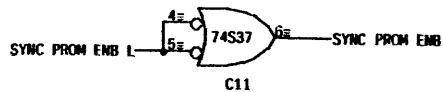
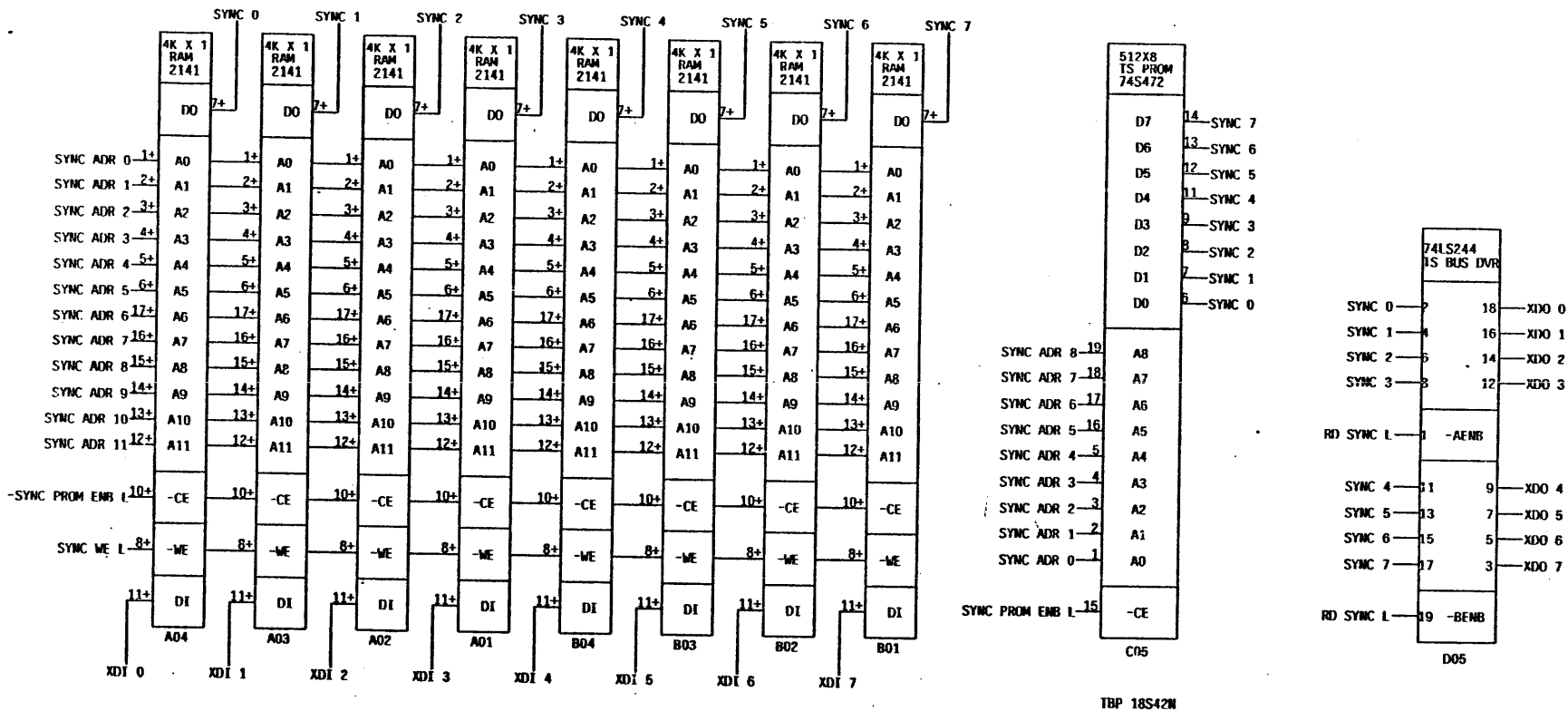
CLOCK MODE

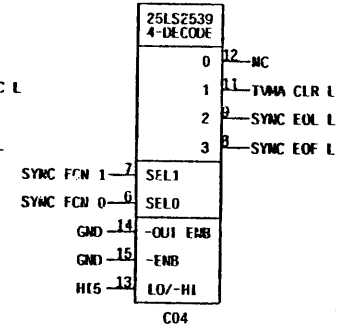
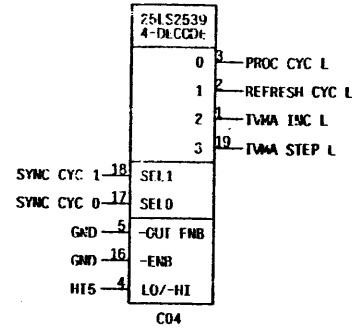
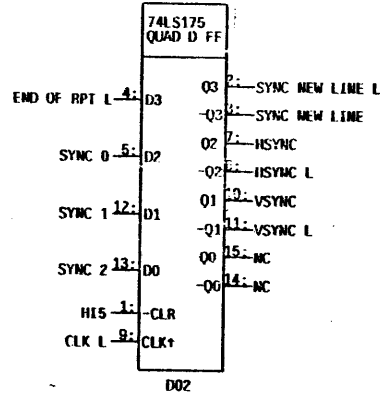
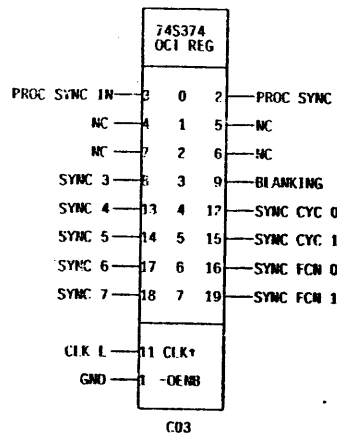
- 10 MHZ. MODE
- 00 64 CPT
- 01 32 M4408
- (OR 16 MHZ COLOR)
- 10 12 525 LINE
- 11 12 COLOR



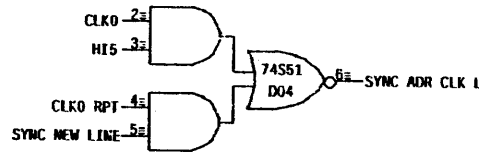
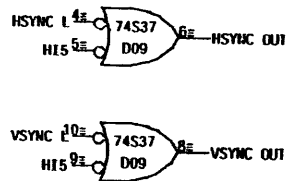
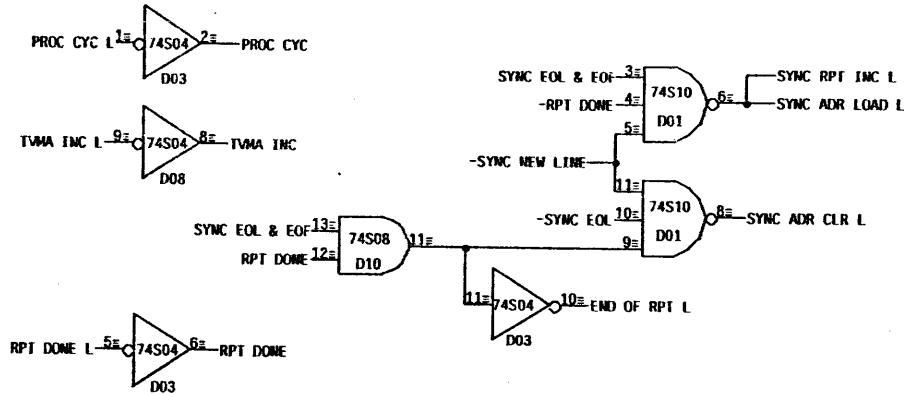
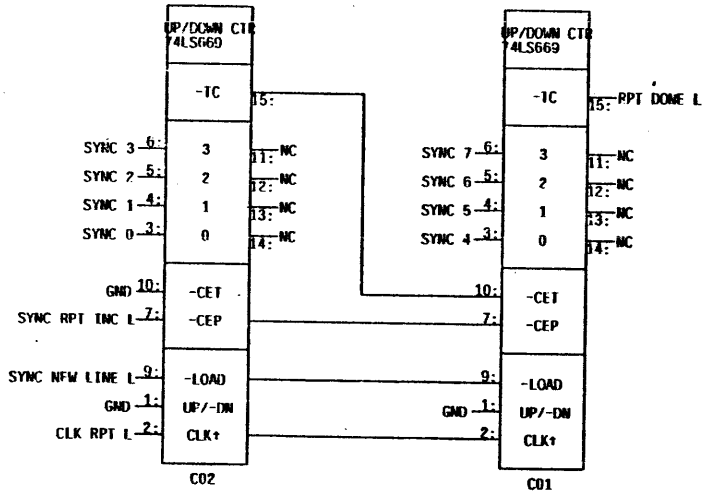
CLK 7 DELAYED FROM CLK0
 ALLOW FOR HOLD TIME OF 74S299





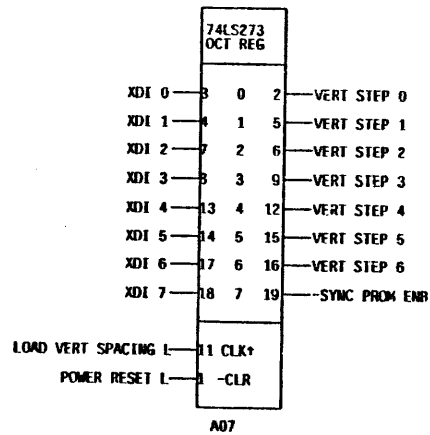
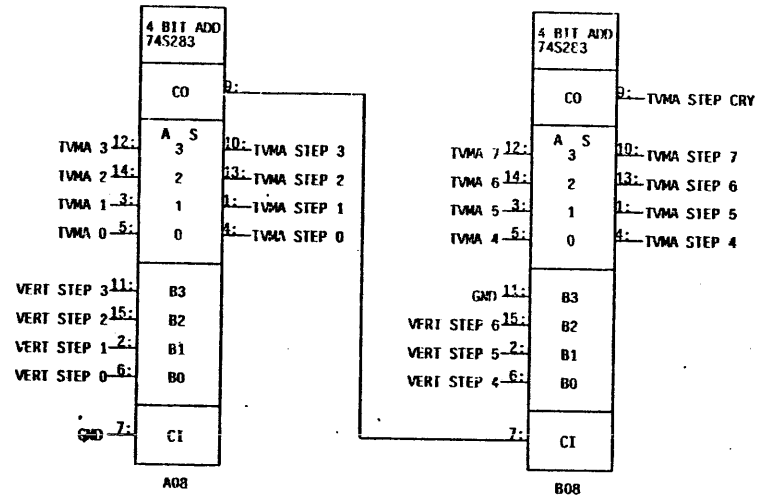


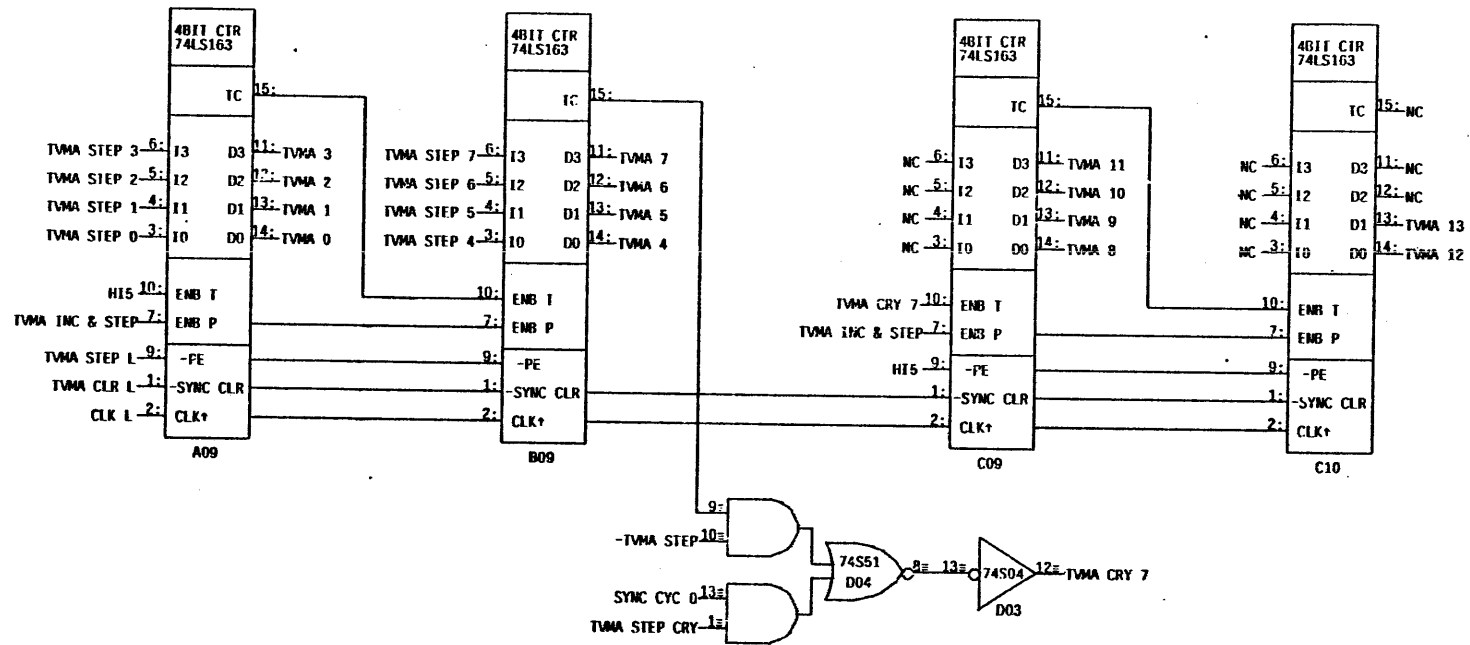
SYNC CYC 1 — TVMA INC & STEP SYNC FCN 1 — SYNC EOL & EOF

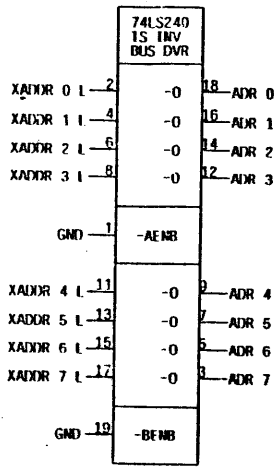


SYNC PROGRAM

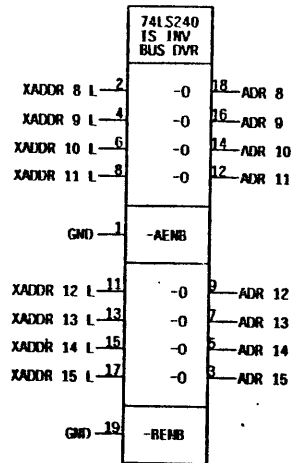
- 0 HORIZONTAL SYNC
- 1 VERTICAL SYNC
- 2 --
- 3 BLANKING
- 4.5 0 PROCESSOR CYCLE
- 1 REFRESH
- 2 DISPLAY
- 3 NEW LINE
- 6.7 0 --
- 1 START OF FRAME
- 2 END OF LINE
- 3 END OF FRAME



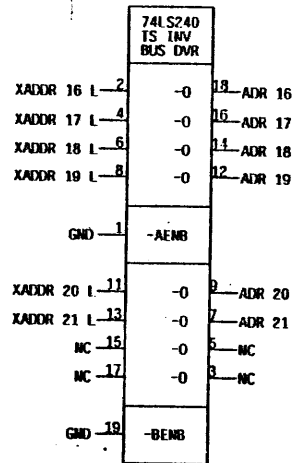




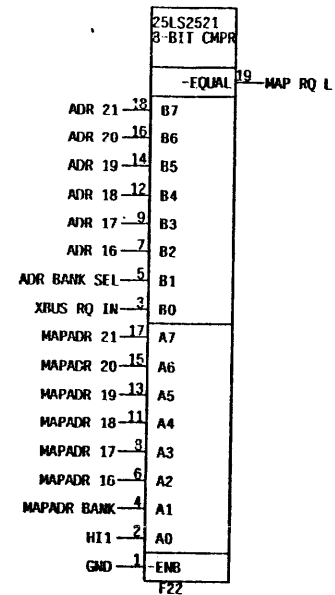
F18



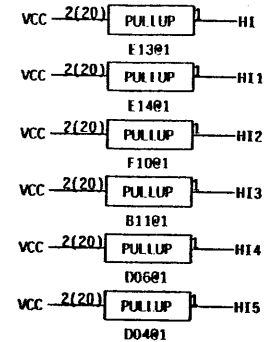
F17



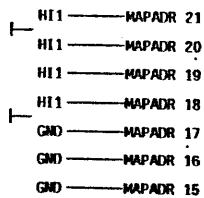
F16



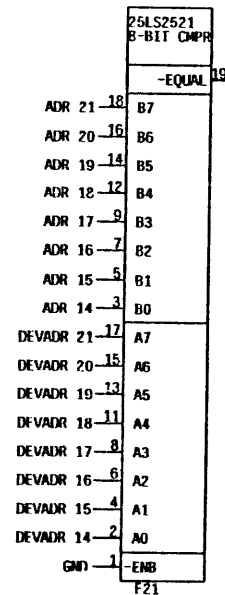
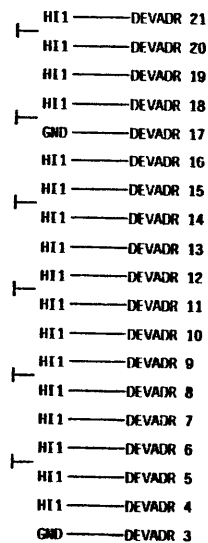
F22



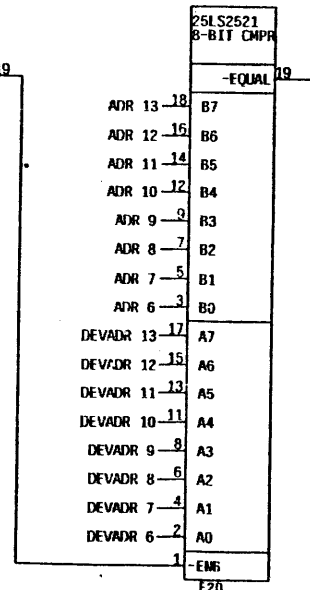
17 000 000 to
17 077 777



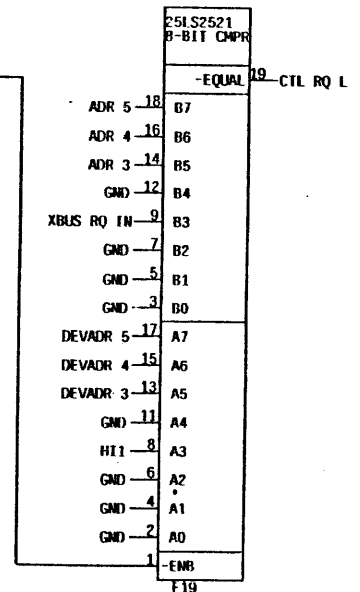
CONTROL ADDRESS
17 377 760



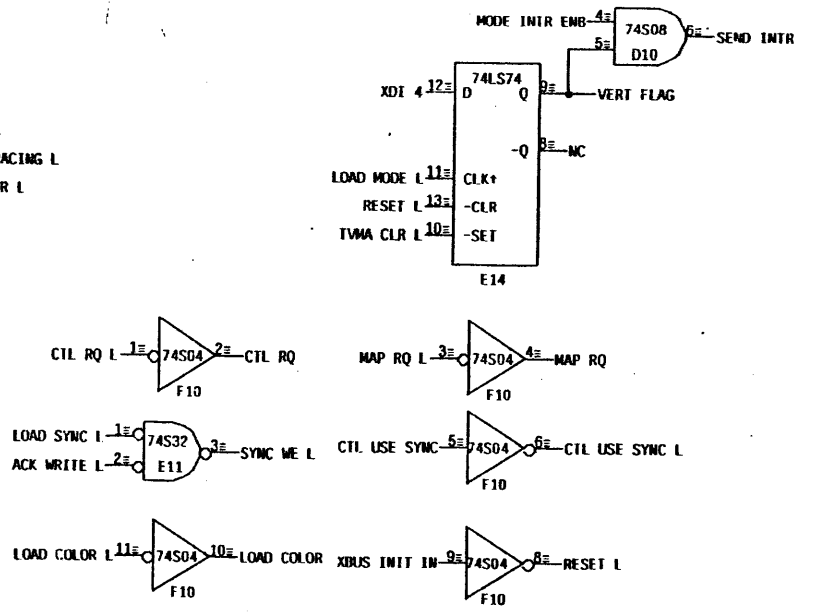
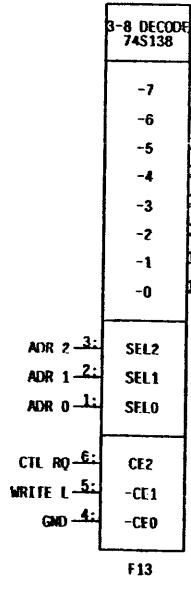
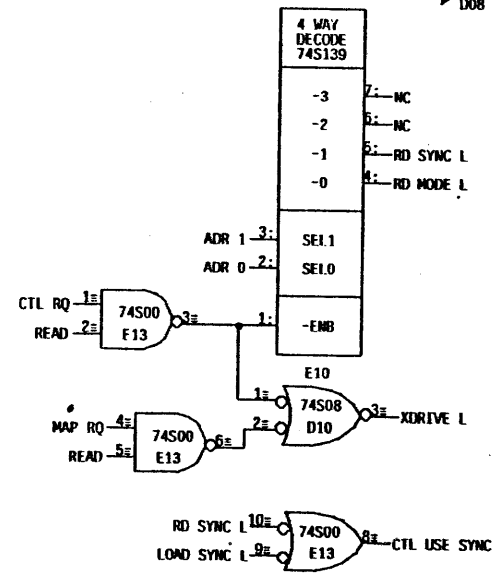
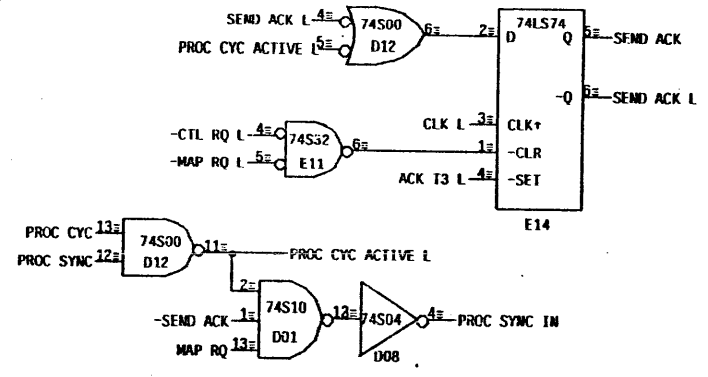
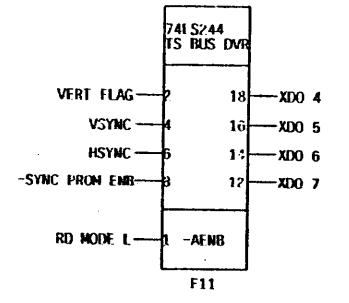
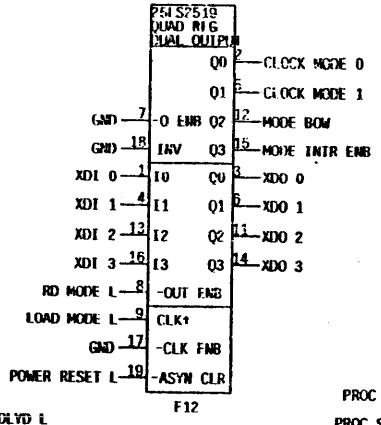
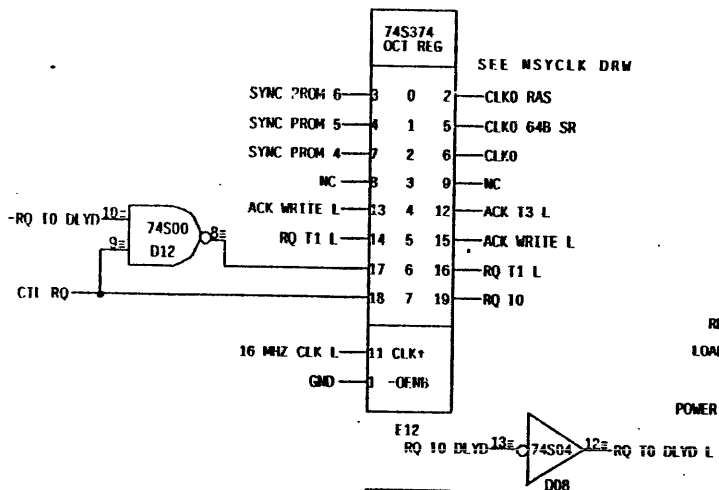
F21



F20

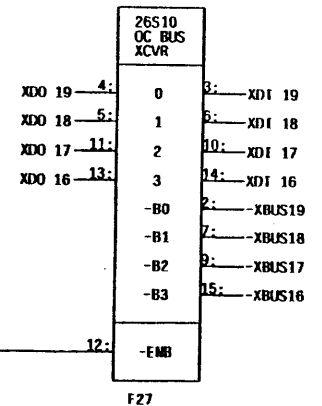
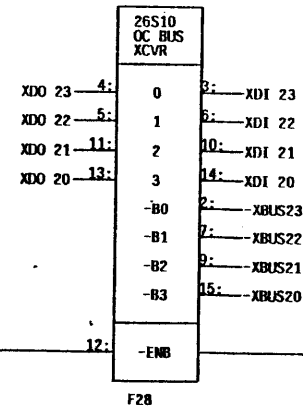
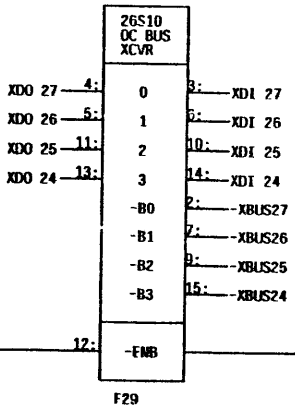
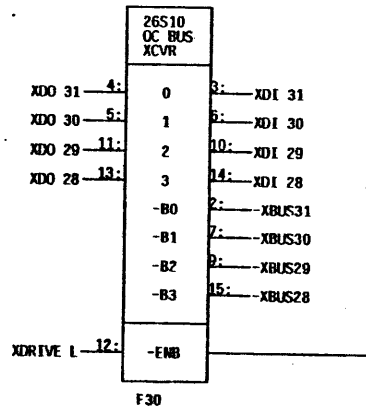
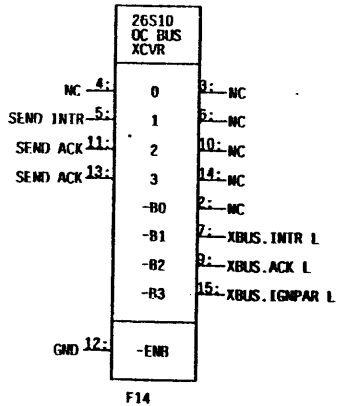
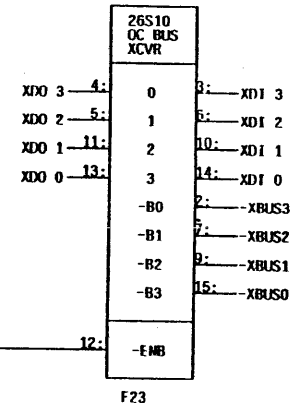
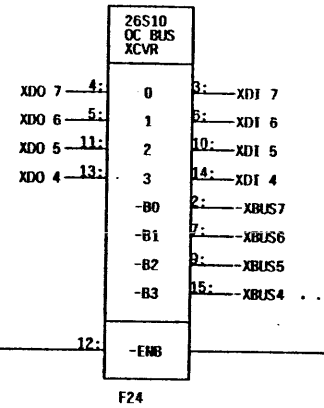
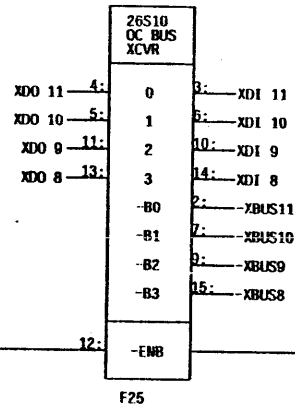
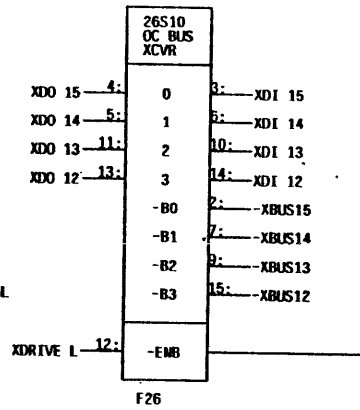
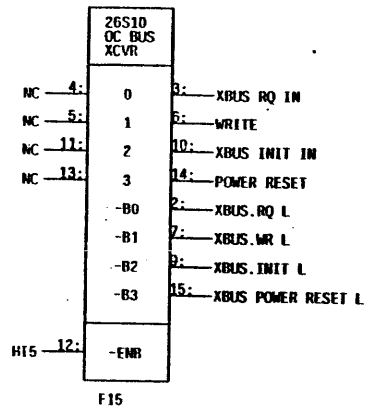
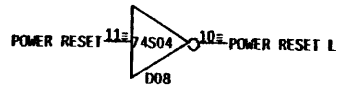
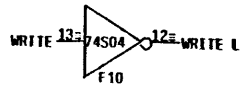


F19



WRITE L READ

WRITE READ L



<K2> --- GND
 <P1> --- GND
 <M7> --- GND
 <D1> --- GND
 <F2> --- GND
 <E3> --- GND
 <N1> --- GND
 <I1> --- GND
 <C2> --- GND
 <F1> --- GND
 <N1> --- GND
 <E1> --- GND
 <K2> --- GND
 <A1> --- GND
 <M1> --- GND
 <A1> --- GND
 <K2> --- GND
 <E1> --- GND
 <M1> --- GND
 <C2> --- GND
 <F1> --- GND
 <M1> --- GND
 <E1> --- GND

<AA2> --- +5V
 <BA2> --- +5V
 <CA2> --- +5V
 <DA2> --- +5V
 <EA2> --- +5V
 <FA2> --- +5V

<BE2> --- XBUS_PAR
 <E1> --- XBUS0
 <BE2> --- XBUS1
 <E1> --- XBUS2
 <BE2> --- XBUS3
 <E1> --- XBUS4
 <BE2> --- XBUS5
 <E1> --- XBUS6
 <BE2> --- XBUS6
 <E1> --- XBUS9
 <A12> --- XBUS10
 <AS2> --- XBUS11
 <AS1> --- XBUS12
 <BE2> --- XBUS13
 <E1> --- XBUS14
 <AE2> --- XBUS15
 <AE1> --- XBUS16
 <AE2> --- XBUS17
 <AE2> --- XBUS18
 <EM1> --- XBUS19
 <A12> --- XBUS20
 <A11> --- XBUS21
 <AK2> --- XBUS22
 <AP1> --- XBUS23
 <AJ2> --- XBUS24
 <AJ1> --- XBUS25
 <AH2> --- XBUS26
 <AH1> --- XBUS27
 <AE2> --- XBUS28
 <AE2> --- XBUS29
 <AE1> --- XBUS30
 <AD2> --- XBUS31
 <AD1> --- XBUS32
 <AC1> --- XBUS33
 <BB1> --- XBUS34
 <BA1> --- XBUS35

<BE2> --- XADDR_PAR
 <BE2> --- XADDR0
 <BE1> --- XADDR1
 <BE2> --- XADDR2
 <BE1> --- XADDR3
 <BE2> --- XADDR4
 <BE2> --- XADDR5
 <ES1> --- XADDR6
 <CH2> --- XADDR7
 <CH1> --- XADDR8
 <BP2> --- XADDR9
 <BP1> --- XADDR10
 <BN2> --- XADDR11
 <BN2> --- XADDR12
 <BM1> --- XADDR13
 <BL2> --- XADDR14
 <BL1> --- XADDR15
 <BE2> --- XADDR16
 <BK1> --- XADDR17
 <BJ2> --- XADDR18
 <BJ1> --- XADDR19
 <BP2> --- XADDR20
 <BH1> --- XADDR21

<EK1> --- COLOR 0
 <EL1> --- COLOR 1
 <EM1> --- COLOR 2
 <EP1> --- COLOR 3
 <ER1> --- COLOR 4
 <ES1> --- COLOR 5
 <EU1> --- COLOR 6
 <EV1> --- COLOR 7

<LE2> --- XBUS_PO
 <LE2> --- XBUS_ACK
 <LE2> --- XBUS_MR
 <LE2> --- XBUS_IOPAR
 <LP2> --- XBUS_INT1
 <K7> --- XBUS_EXTREQ
 <LP2> --- XBUS_BUSY
 <EP2> --- XBUS_SYNC
 <EP2> --- XBUS_INTR
 <CH1> --- XBUS_EXIGRANT_IN
 <CJ1> --- XBUS_EXIGRANT_OUT
 <ES1> --- XBUS_POWER_OK
 <CU1> --- XBUS_POWER_RESET_L
 <BE1> --- COLOR_CLK_L
 <BH1> --- LOAD_COLOR_0_L
 <BJ1> --- LOAD_COLOR_1_L
 <BK1> --- LOAD_COLOR_2_L

<EH1> --- COLOR_VALUE_0
 <EJ1> --- COLOR_VALUE_1
 <EK1> --- COLOR_VALUE_2
 <EL1> --- COLOR_VALUE_3
 <EM1> --- COLOR_VALUE_4
 <EP1> --- COLOR_VALUE_5
 <ER1> --- COLOR_VALUE_6
 <ES1> --- COLOR_VALUE_7
 <EU1> --- HSYNC_OUT
 <EV1> --- VSYNC_OUT
 <EH1> --- MECL_VIDEO_OUT
 <EJ1> --- MECL_VIDEO_OUT_L
 <EL1> --- BLANKING (FUDGED) L
 <EL2> --- TTL_VIDEO_DRIVE
 <ED1> --- COMP_VIDEO_OUT