
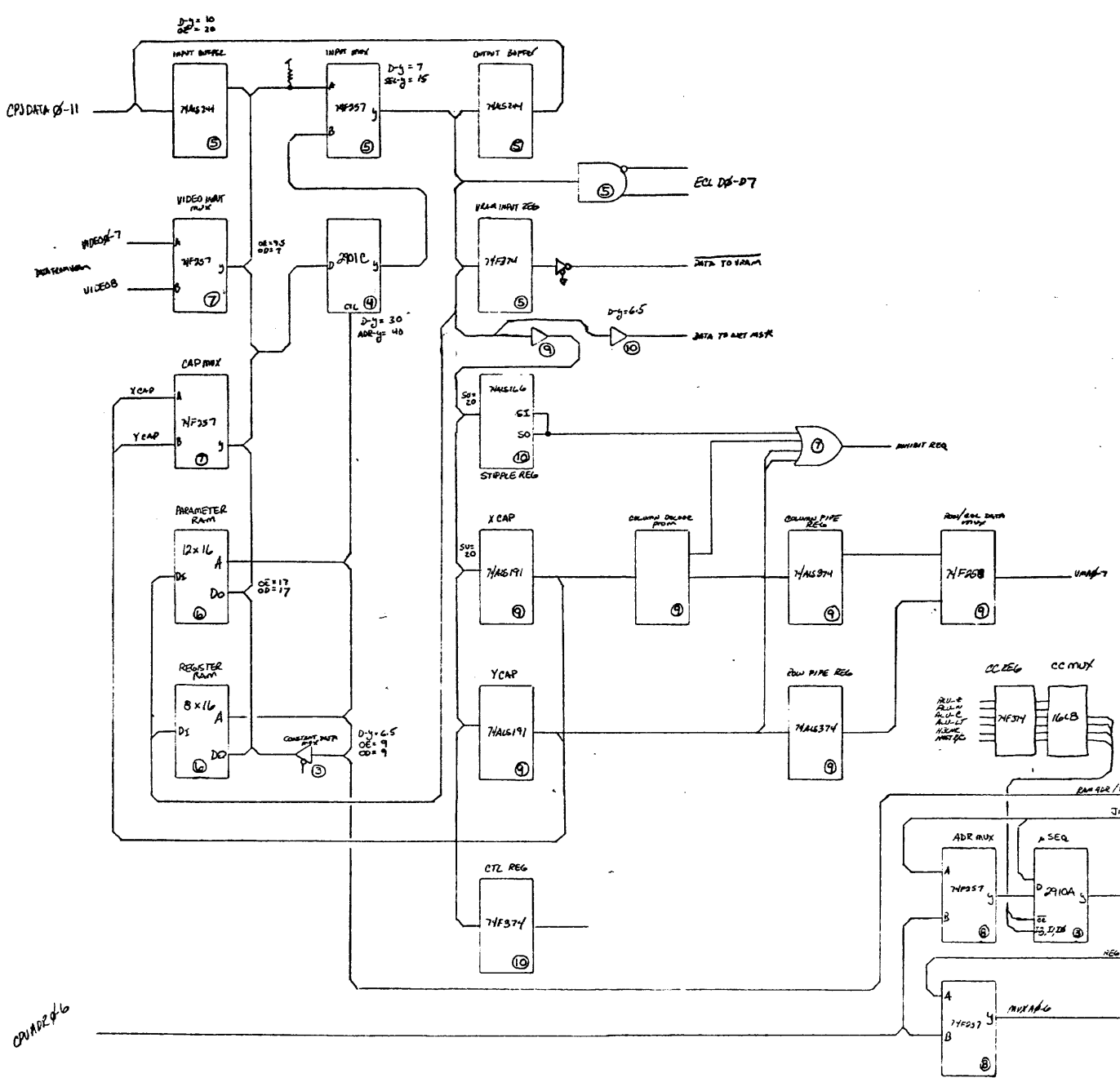


ISSUE	DESCRIPTION	DATE	APPROVED
A	ECO 2559	86	

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	-03	-02	-01					
	GTY RECD			PART NUMBER	CODE IDENT	DESCRIPTION	ITEM NO.	
TOLERANCE UNLESS OTHERWISE SPECIFIED				MATERIAL		OWN.		
.XX = ±				FINISH		CHK		
.XXX = ±				DRAWING TITLE		APPD.		
ANGULAR				SCHEMATIC, CONTROLLER BD				
SURFACE								
SCALE								
01	120254-01	1980						
DASH NO.	NEXT ASSY	USED ON						
APPLICATION					ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94088		C DRAWING NUMBER 120255-01	REV A

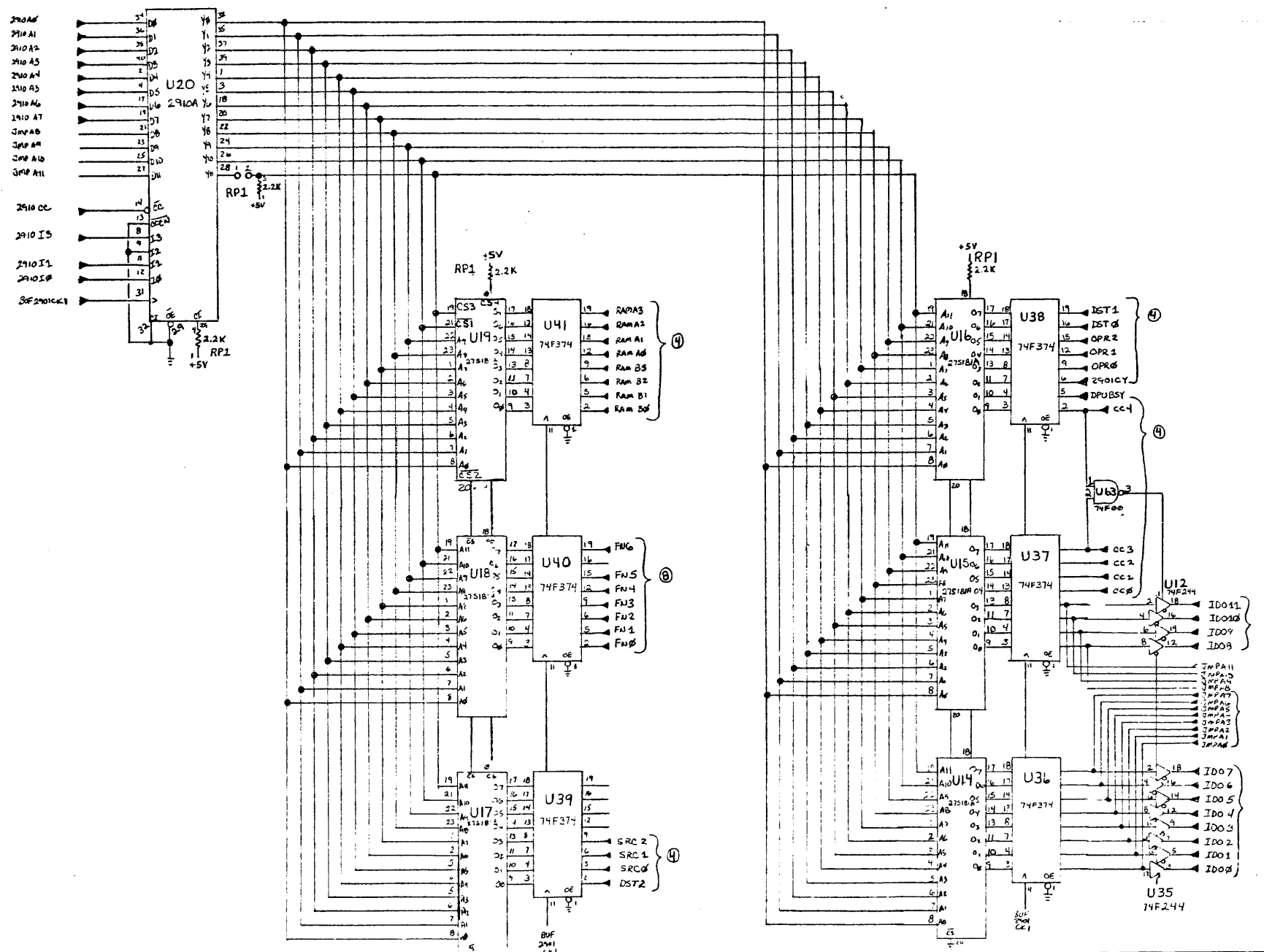
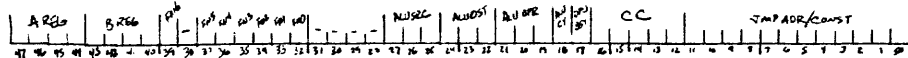


12BIT REGS

12BIT REGS	38BIT REGS
0. PARAMETER REG 0	30. CAP MARK
1. PARAMETER REG 1	31. ONLY COLOR
2. PARAMETER REG 2	32. LUT ADR
3. PARAMETER REG 3	33. LUT RED
4. PARAMETER REG 4	34. LUT GRN
5. PARAMETER REG 5	35. LUT BLU
6. PARAMETER REG 6	36. LUT MASK
7. PARAMETER REG 7	37. CTL REG
8. PARAMETER REG 8	38. STIPPLE REG
9. PARAMETER REG 9	39. URAM
A. PARAMETER REG A	40. URAM ADDR
B. PARAMETER REG B	41. URAM ADDR
C. PARAMETER REG C	42. URAM ADDR
D. PARAMETER REG D	43. URAM ADDR
E. PARAMETER REG E	44. URAM ADDR
F. PARAMETER REG F	45. URAM ADDR
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CPVADR 4/6

DISPLAY PROCESSOR DATA FLOW

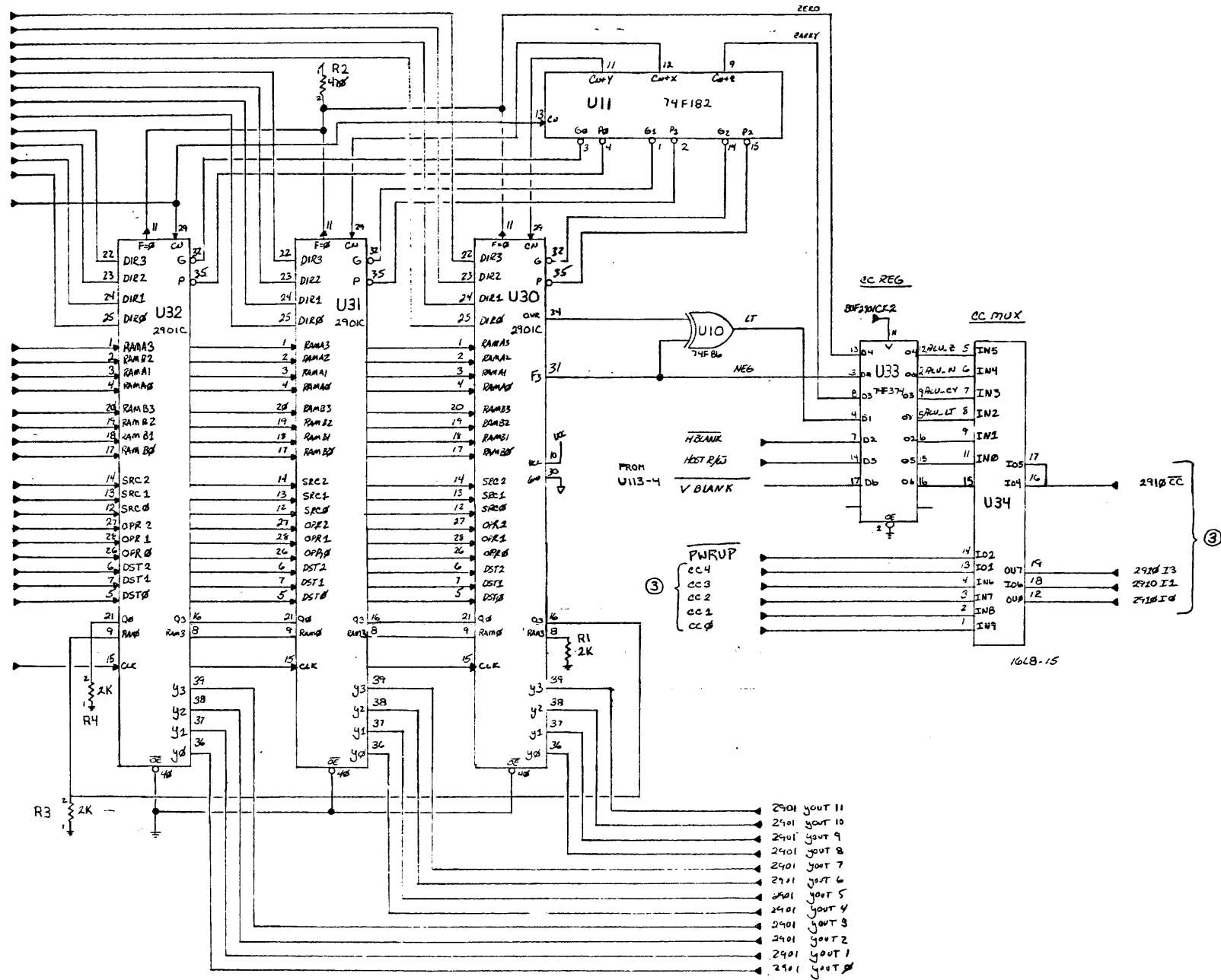


- ⑥ ID011
- ID010
- ID09
- ID08
- ID07
- ID06
- ID05
- ID04
- ID03
- ID02
- ID01
- ID00

③ 2901 CY

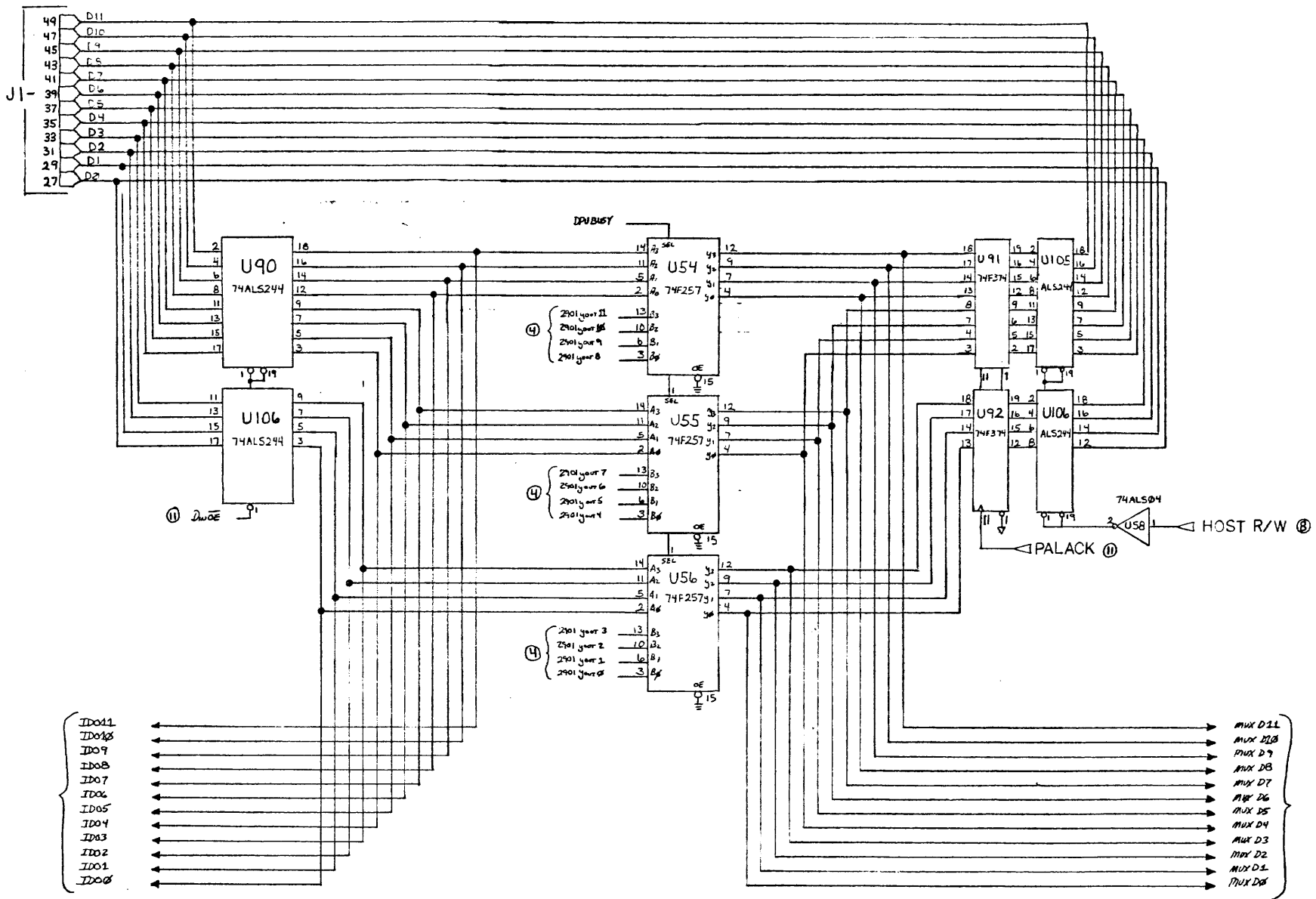
- RAMA5
- RAMA2
- RAMA1
- RAMA0
- RAMB3
- RAMB2
- RAMB1
- RAMB0
- SRC2
- SRC1
- SRC0
- OPR2
- OPR1
- OPR0
- DST2
- DST1
- DST0

⑪ 80F 2901CLK2



A
B
C
D

Design Processor Area



DATA OUTPUT MUX

⑪ REG RAM CS
⑪ REG RAM WE
⑤ MUX A3
MUX A2
MUX A1
MUX A0

⑪ PARAM RAM CS
⑪ PARAM RAM WE

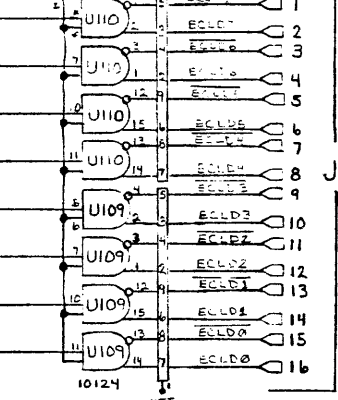
⑤ MUX D11
MUX D10
MUX D9
MUX D8
MUX D7
MUX D6
MUX D5
MUX D4
MUX D3
MUX D2
MUX D1
MUX D0

REGISTER RAM

27507.5
74F219.5

FF₀
100.0(0)
VTT

R5 10124



③ VIN STB

74ALS24

U57

ALS274

U17

74ALS24

VRAM INPUT RES

U58

74ALS30

U60

74ALS30

U71

74F244

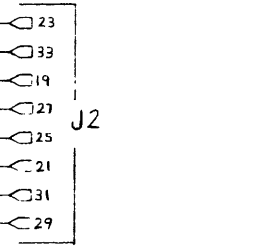
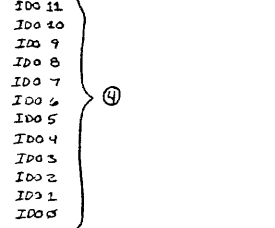
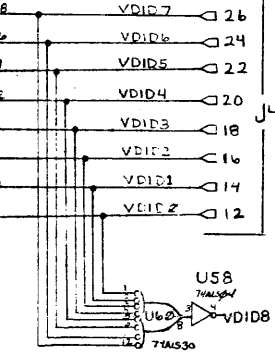
J3-

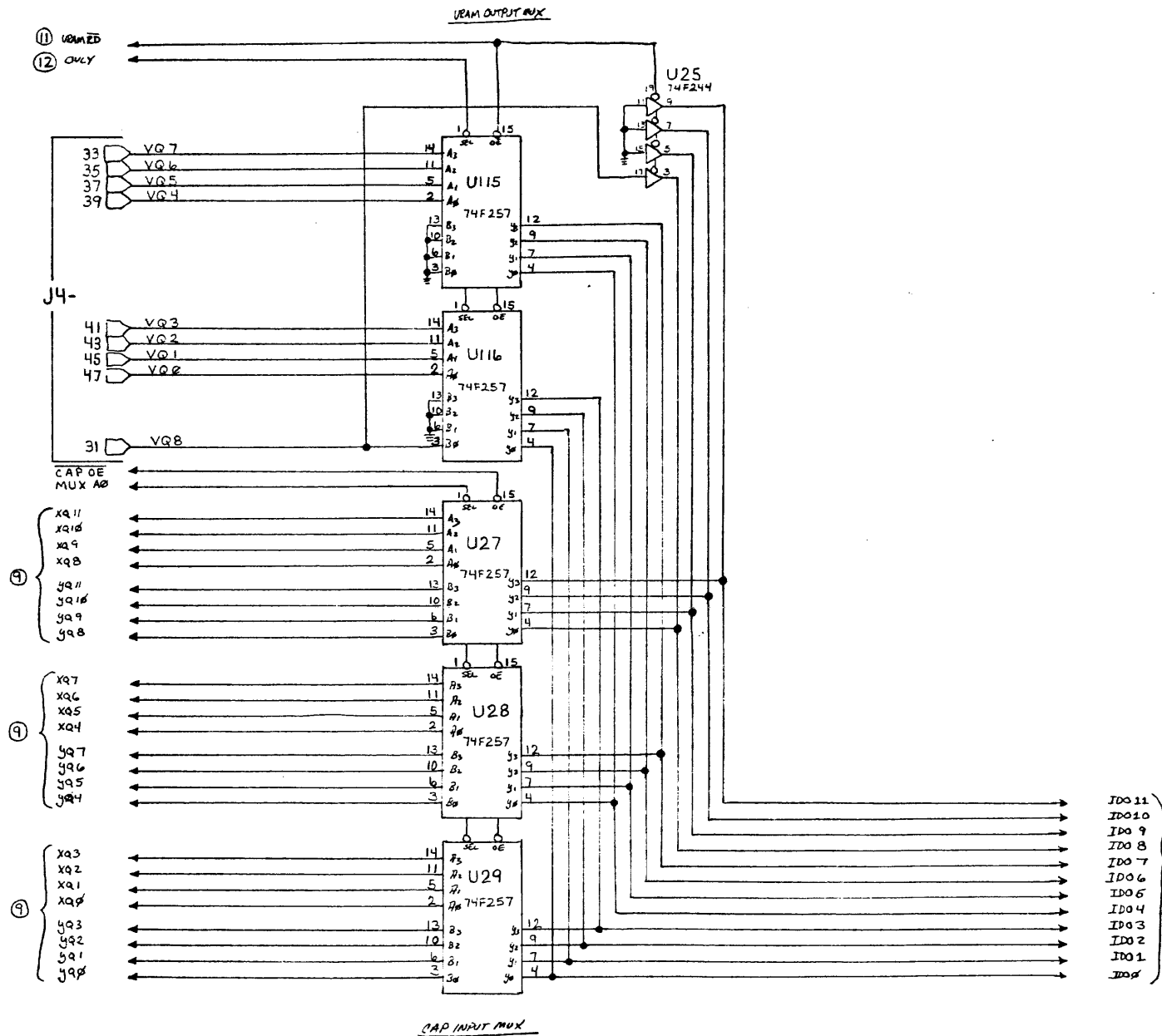
J4-

④

J2

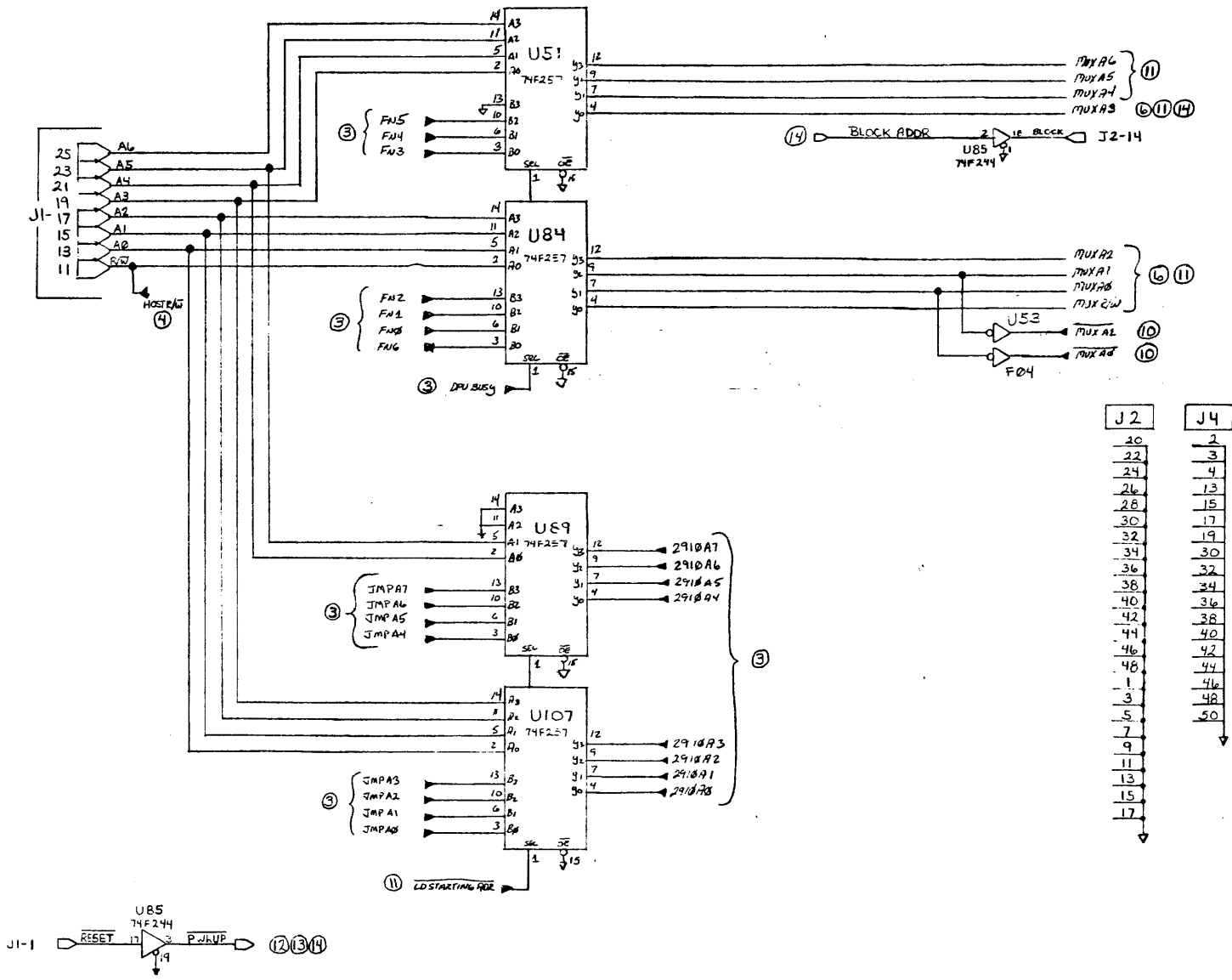
PARAMETER RAM





Mux Paths II

A
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ADDRESS MULTIPLEXERS



ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94086

C

DRAWING NUMBER 20855-01

REV A

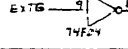
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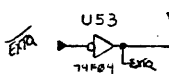
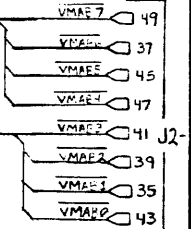
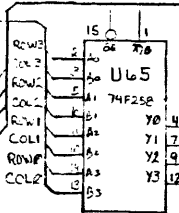
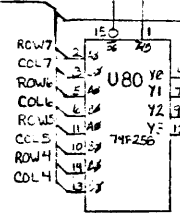
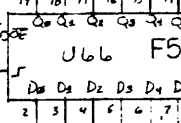
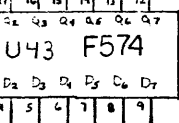
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U53

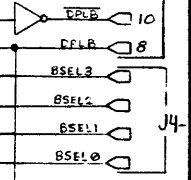
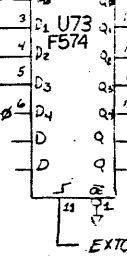
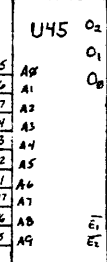
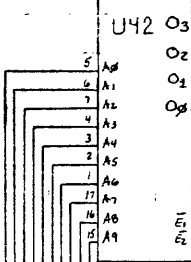
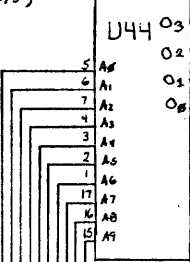


COLB-7

ROWB-7



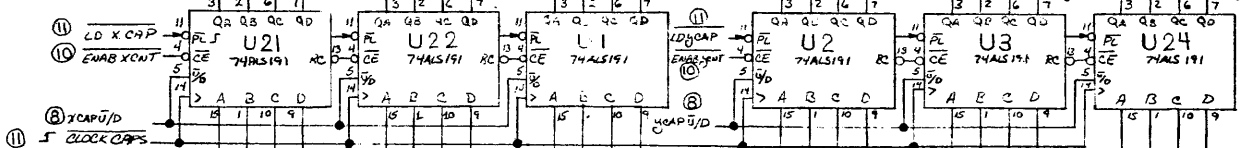
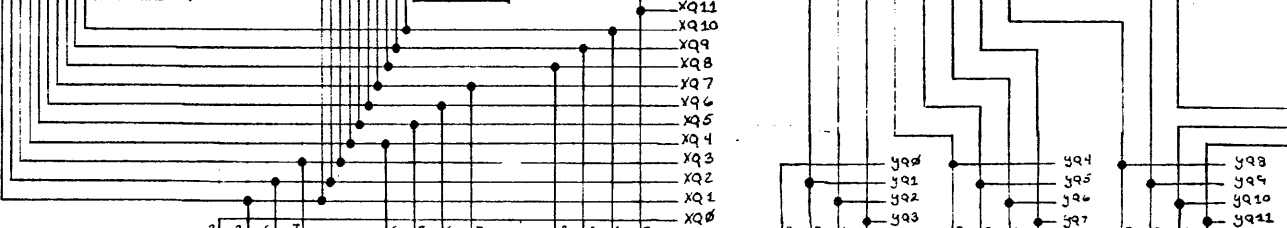
ORIGIN ADDR (ON SCREEN ADDRESS) (XCAP15)



74ALS02

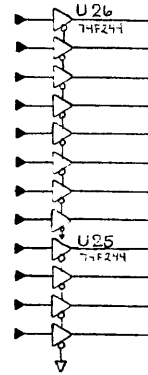
BANKSEL DECODE FROM (XCAP MOD 18) / 2

XCAP OFF SCREEN, XCAP OFF SCREEN



LD XCAP, ENAB XCAP, XCAP/D, BLOCK CAPS

- MUX D11
- MUX D10
- MUX D9
- MUX D8
- MUX D7
- MUX D6
- MUX D5
- MUX D4
- MUX D3
- MUX D2
- MUX D1
- MUX D0

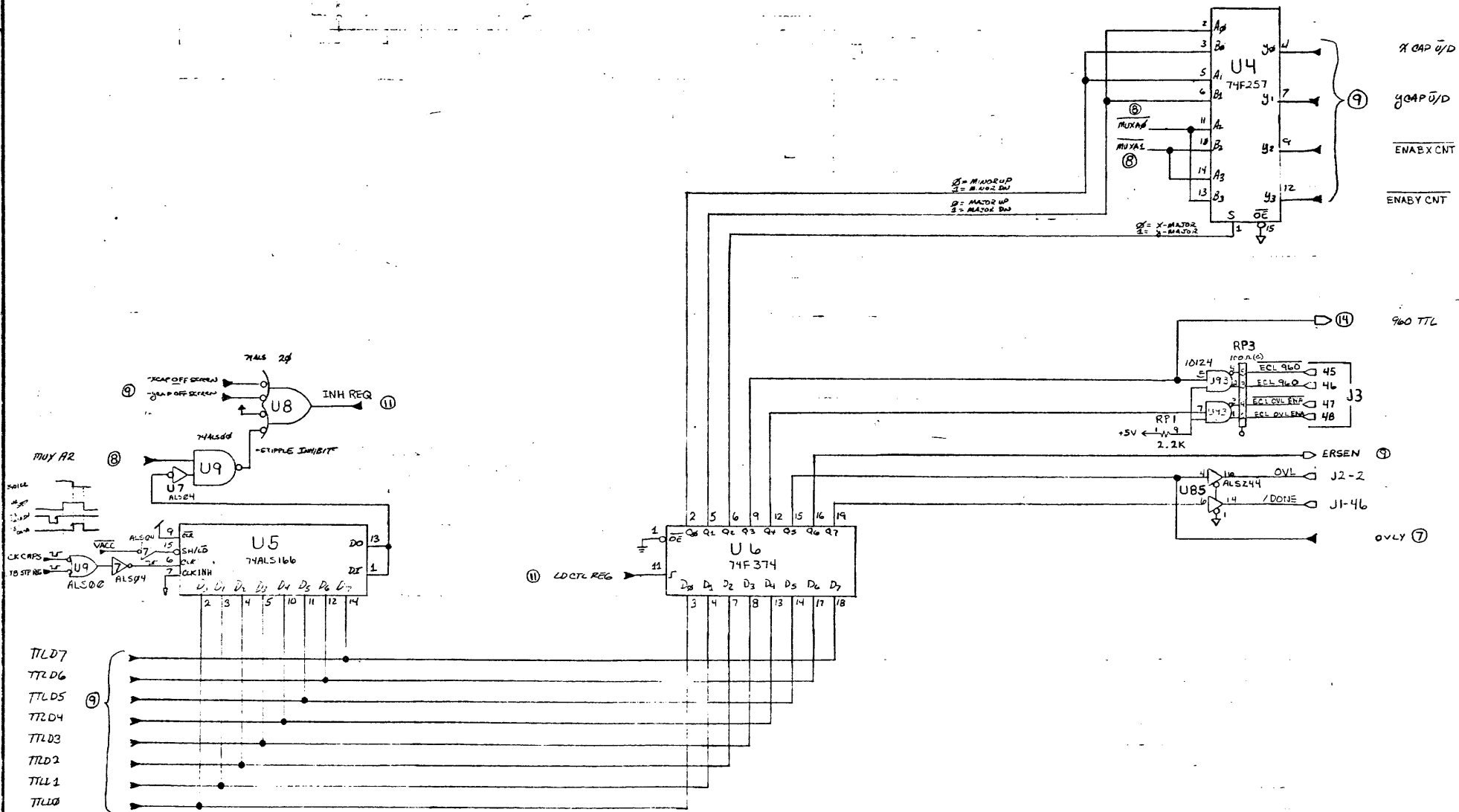


- TTL D7
- TTL D6
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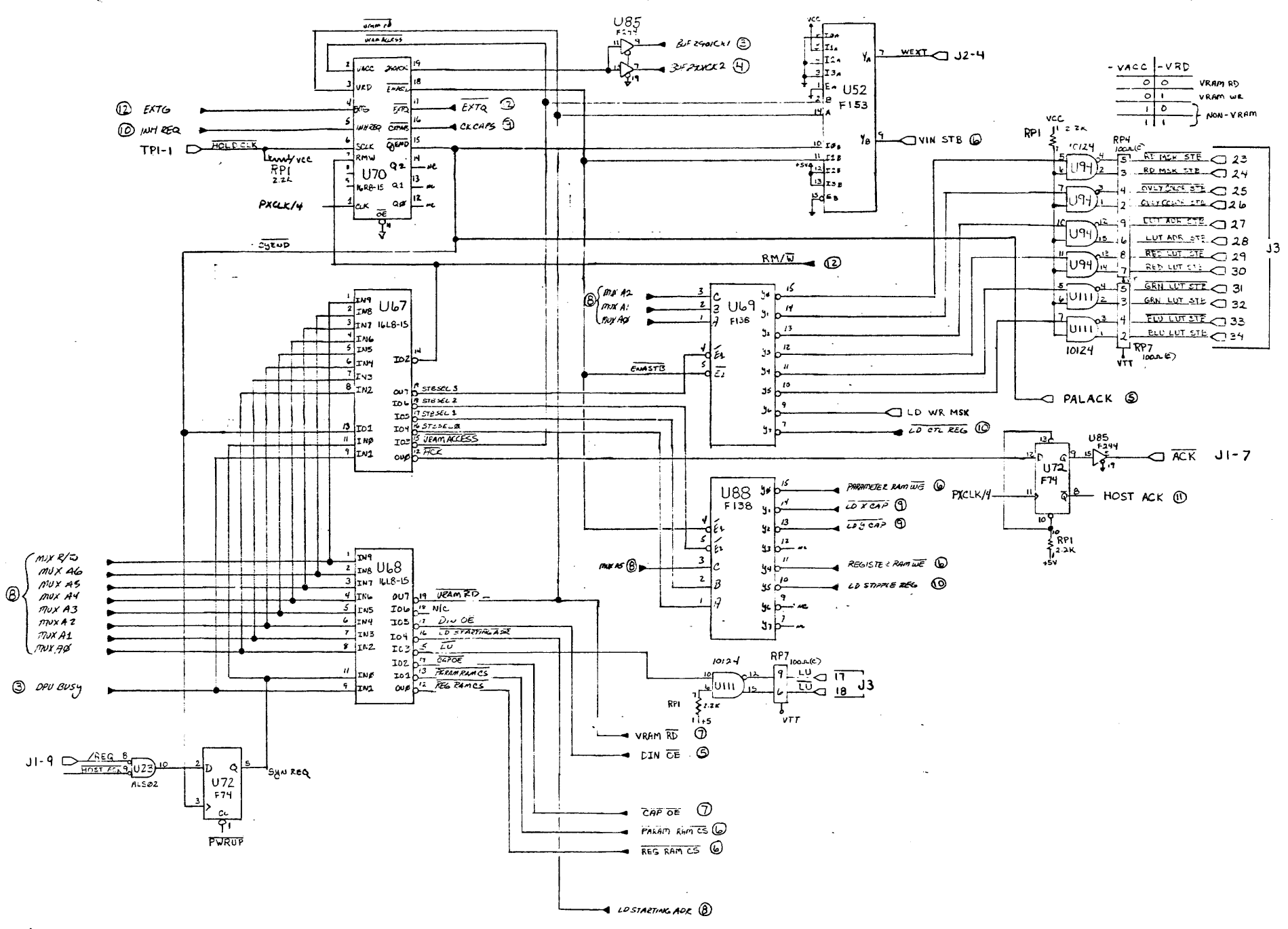
1/8 CAPS, ROW AND COLUMN ADDRESS MAPPING

1 2 3 4

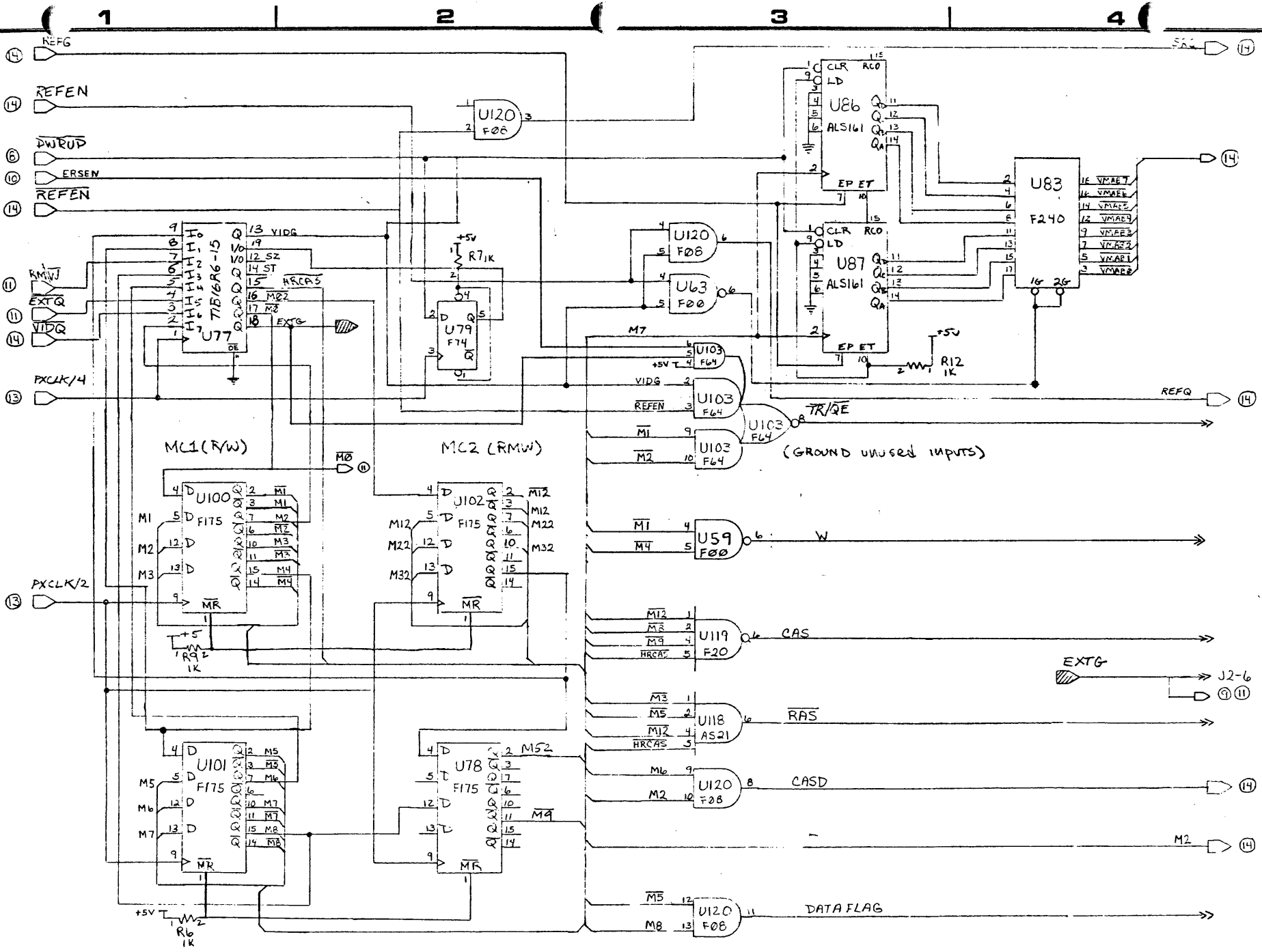
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CODE/STROBE GENERATION/REGISTER DECODE

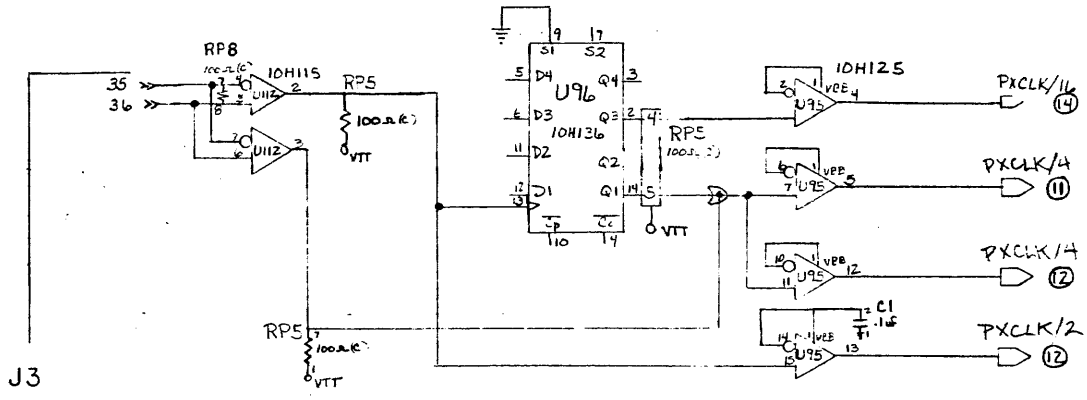


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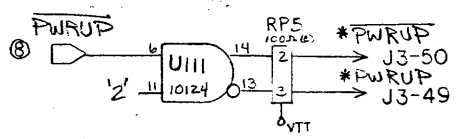
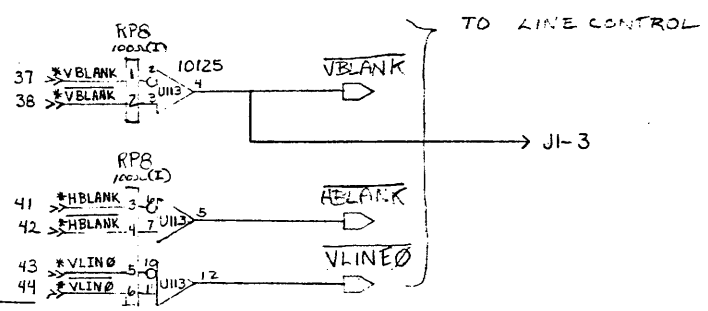
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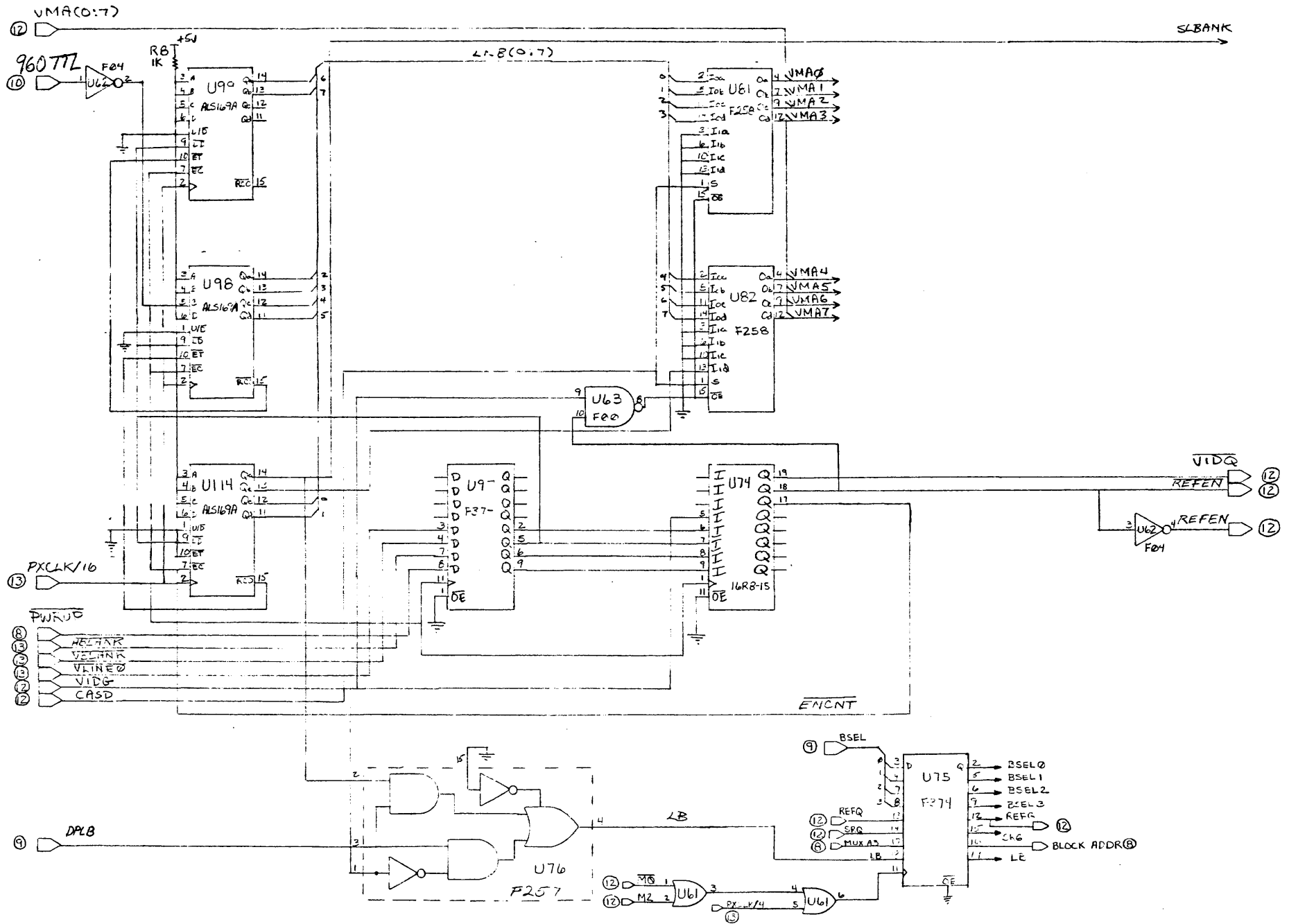


J3

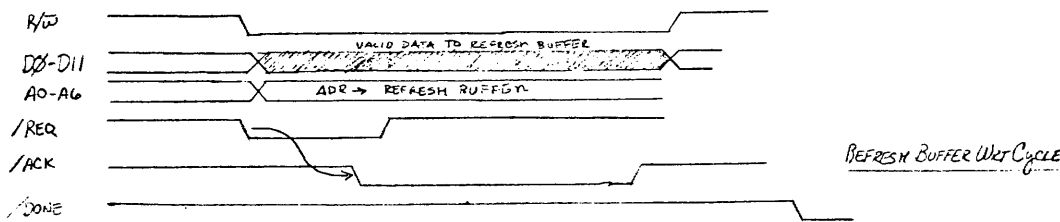
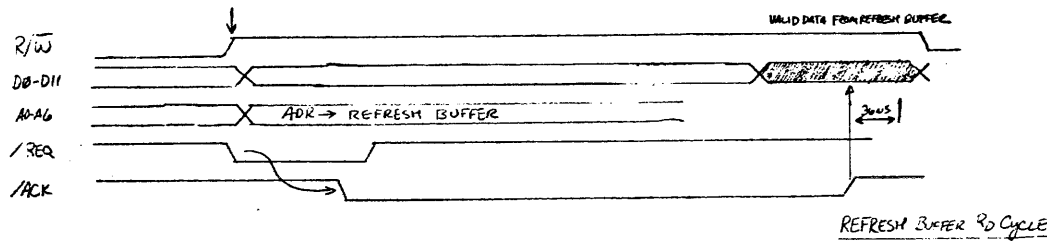


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	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94086	C	DRAWING NUMBER 120455-01	REV A
	SHEET 13 OF 22			



LINE SEQUENCES



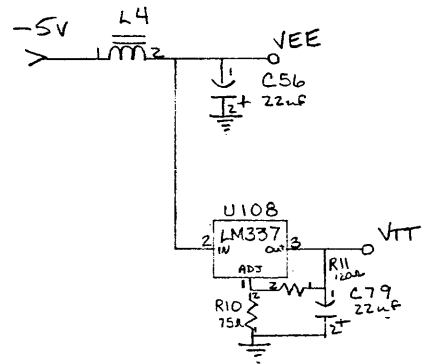
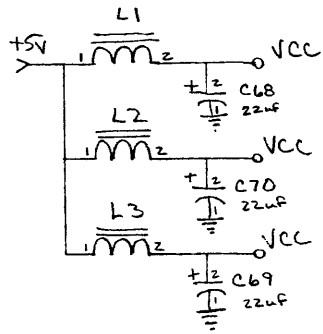
Pin	SIGNAL	Pin	SIGNAL
50	RESET	49	GND
48	VBANK	47	GND
46	DONE	45	GND
44	ACK	43	GND
42	REQ	41	GND
40	R/W	39	GND
38	A0	37	GND
36	A1	35	GND
34	A2	33	GND
32	A3	31	GND
30	A4	29	GND
28	A5	27	GND
26	A6	25	GND
24	D0	23	GND
22	D1	21	GND
20	D2	19	GND
18	D3	17	GND
16	D4	15	GND
14	D5	13	GND
12	D6	11	GND
10	D7	9	GND
8	D8	7	GND
6	D9	5	GND
4	D10	3	GND
2	D11	1	GND

CONNECTOR PINOUT

SIGNAL	FUNCTION
D0-D11	BI-DIRECTIONAL DATA LINES
A0-A6	ADDRESS LINES TO REFRESH BUFFER
R/W	R/W LOW SIGNALS DATA TRANSFER TO REFRESH BUFFER
REQ	REQ LOW SIGNALS REQUEST FOR TRANSFER
ACK	ACK LOW SIGNALS REQUEST HAS BEEN ACCEPTED. FOR REFRESH BUFFER READS, THE LOW-HIGH TRANSITION OF ACK CAN BE USED AS A STORAGE OF DATA FROM THE REFRESH BUFFER.
DONE	DONE ASSERTED BY THE REFRESH BUFFER TO SIGNAL THAT A MULTIPLE DATA BYTE TRANSFER IS COMPLETE
VBANK	VBANK ASSERTED BY THE REFRESH BUFFER DURING THE VERTICAL SCREEN BLANKING INTERVAL
RESET	RESET TO THE REFRESH BUFFER TO RESET CONTROL LOGIC TO THE POWER-UP STATE



NOTES: L1-L4 are FairRite shield beads PN 20-36666-1 W/2 1/2 TURNS #22AWG SOLID WIRE
 RESISTORS are 5% 1/4 watt
 22uF Caps are Solid Tantalum
 .1uF caps are Monolithic Ceramic .3" spacing



Power

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3

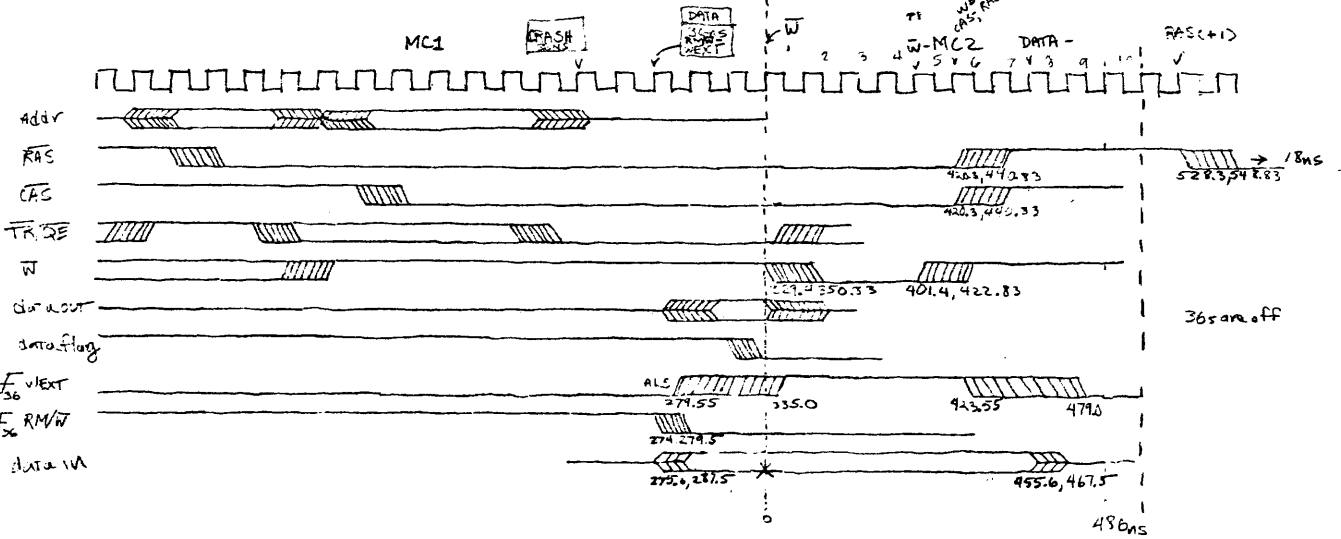
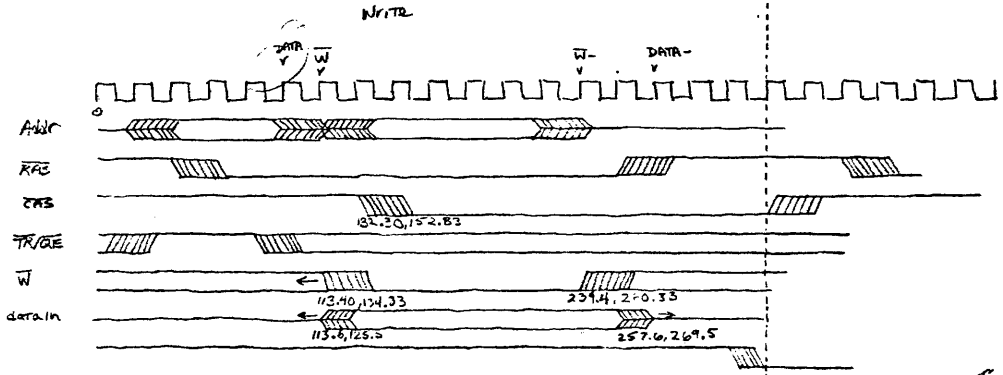
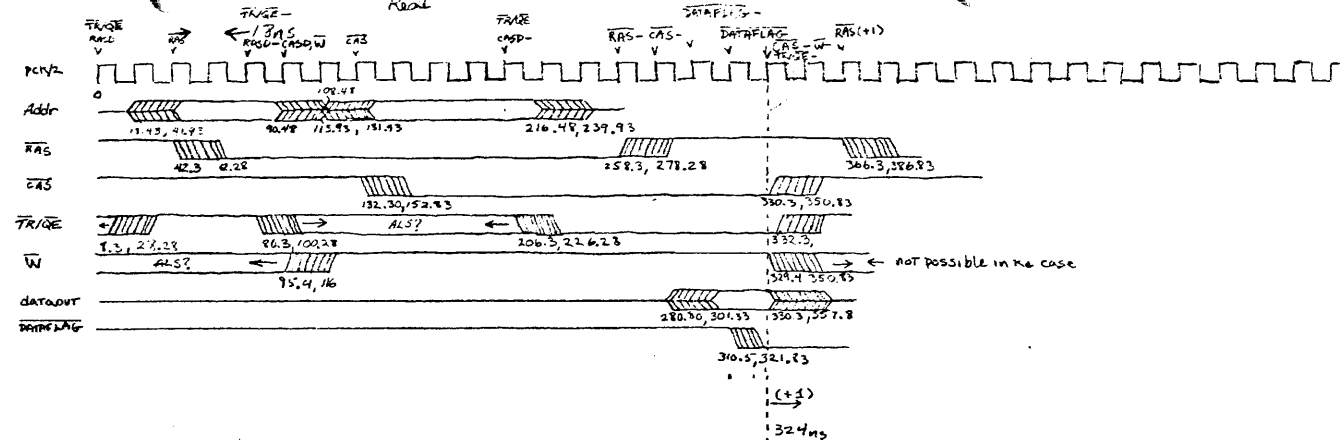
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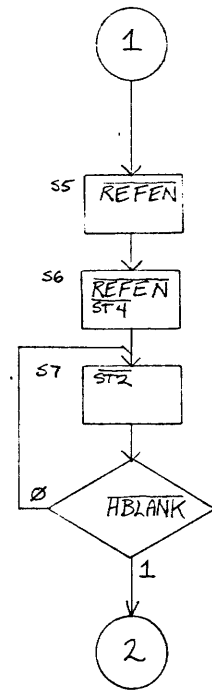
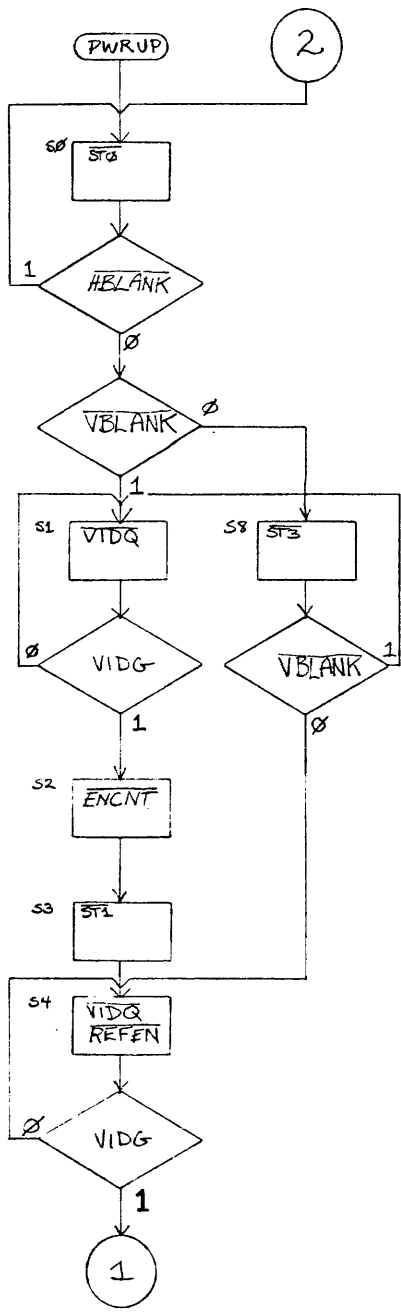
A

B

C

D





NEXT STATE

$$VIDQ = (S0 \cdot HBLANK \cdot VBLANK + S1 \cdot VIDG + S3 + S3 + S4 \cdot VIDG) \cdot PWRUP$$

$$REFEN = (S3 + S4 + S5 + S8 \cdot VBLANK) \cdot PWRUP$$

$$ENCNT = S1 \cdot VIDG \cdot PWRUP$$

$$ST0 = S0 \cdot HBLANK + S7 \cdot HBLANK + PWRUP$$

$$ST1 = S2 \cdot PWRUP$$

$$ST2 = (S6 + S7 \cdot HBLANK) \cdot PWRUP$$

$$ST3 = (S0 \cdot HBLANK \cdot VBLANK) \cdot PWRUP$$

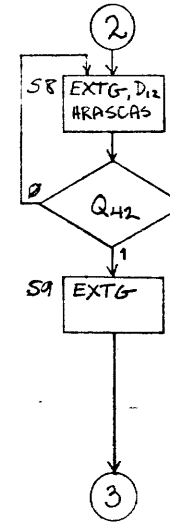
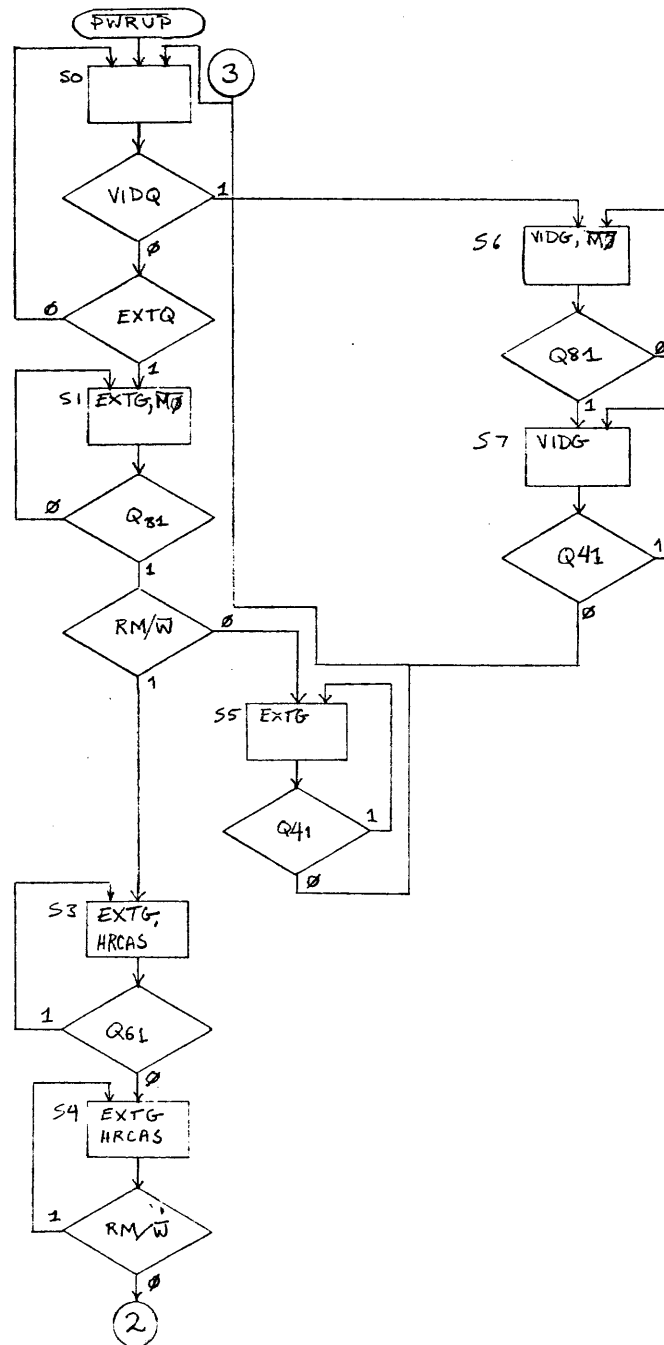
$$ST4 = S5 \cdot PWRUP$$

- S0 = ST0
- S1 = VIDG · REFEN
- S2 = ENCNT
- S3 = ST1
- S4 = VIDG · REFEN
- S5 = REFEN · ST4 · VIDG
- S6 = REFEN · ST4
- S7 = ST2
- S8 = ST3

VIDEO MEMORY/DISPLAY CONTROL

MC1

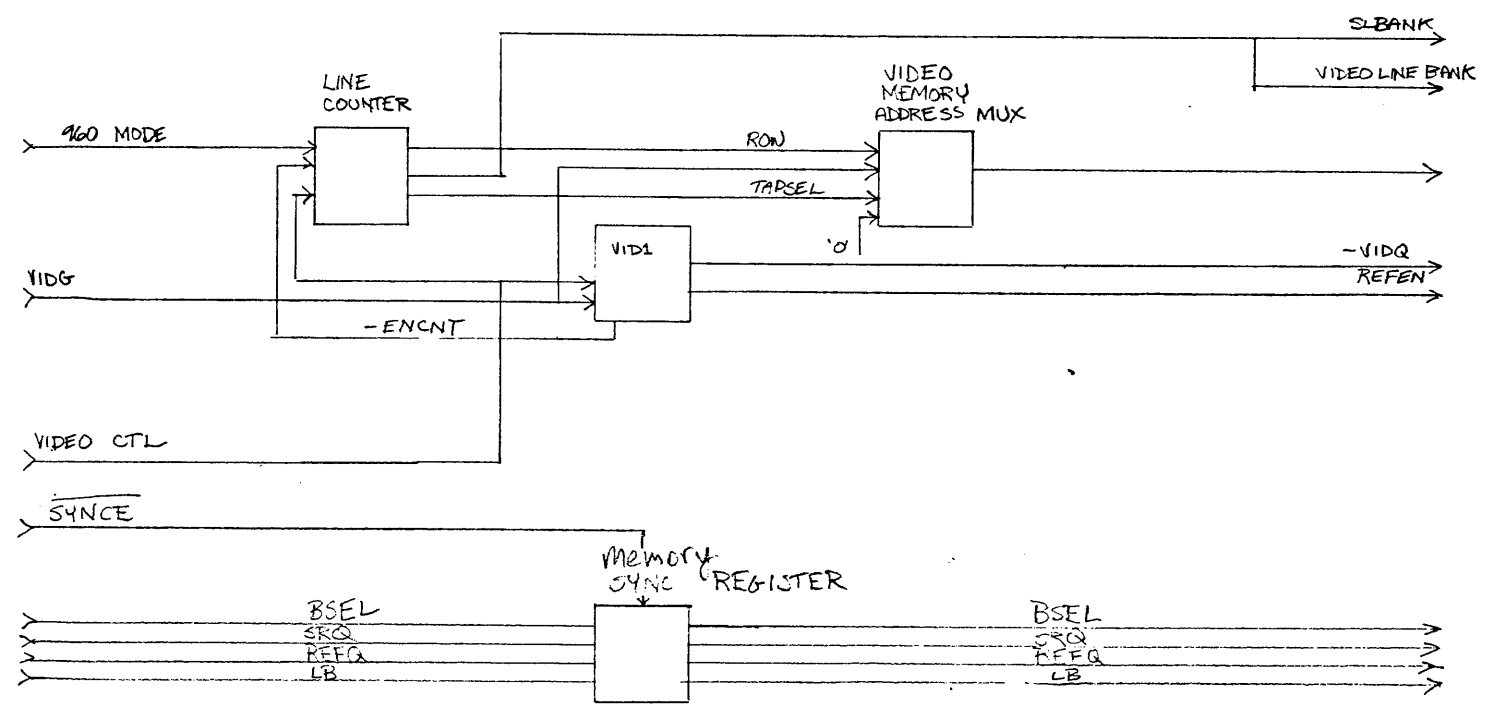
MC2




Johnson Memory Controller

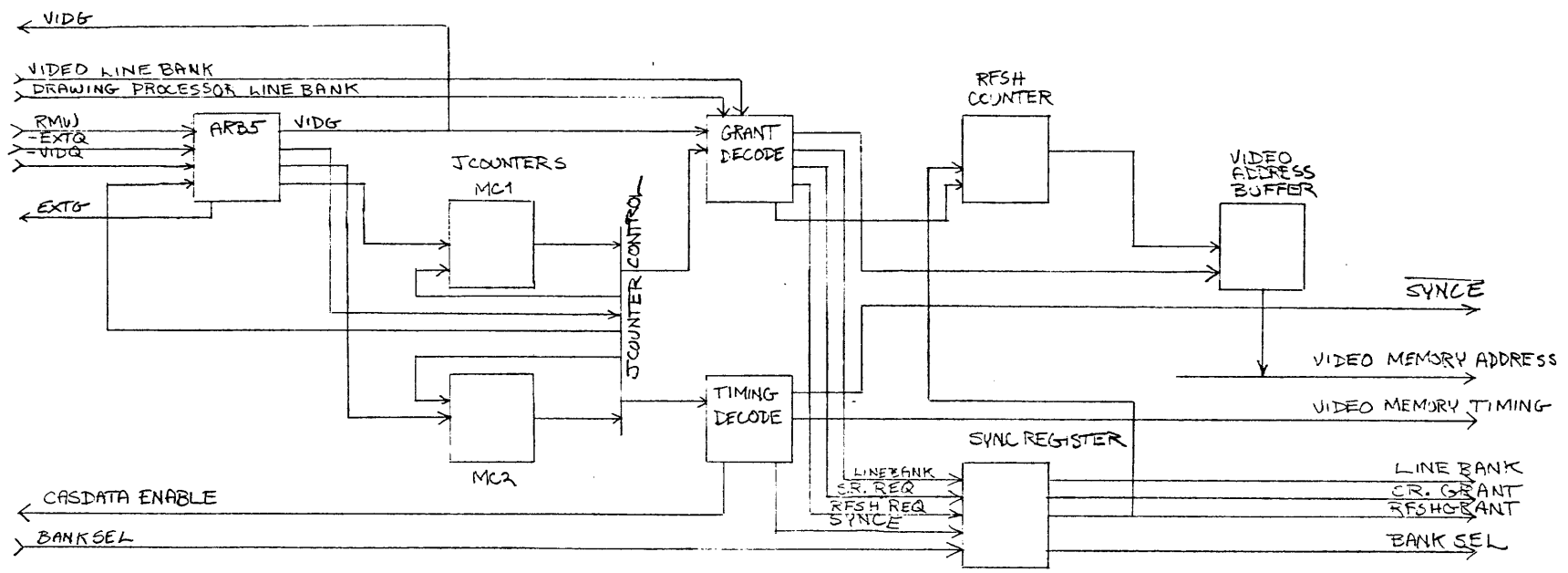
1 2 3 4

A
B
C
D

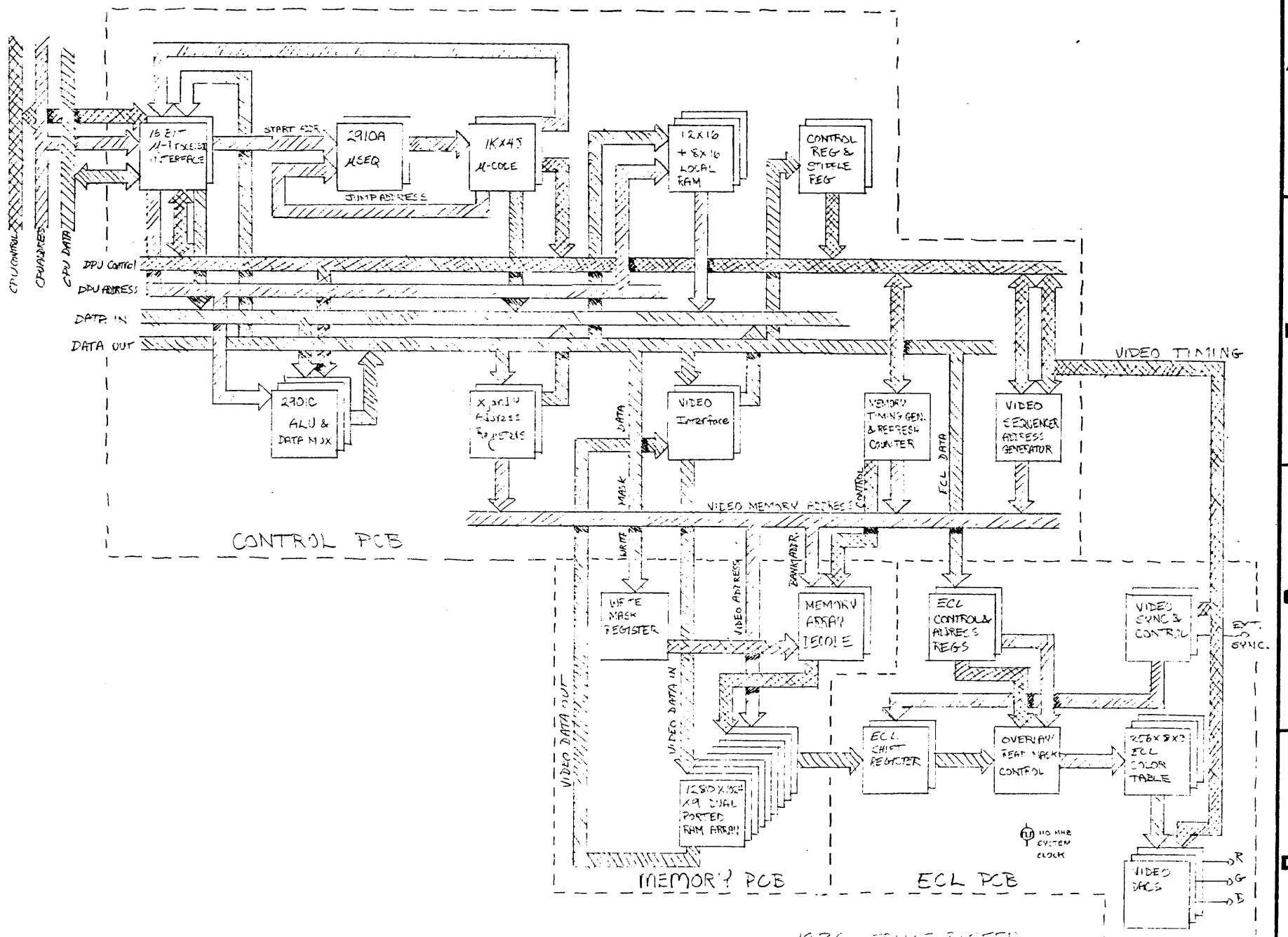


VIDEO CONTROL

	ADVANCED ELECTRONICS DESIGN, INC. SUNNYVALE, CALIF. 94086	C	DRAWING NUMBER 120255-01	REV A
	SHEET 20 OF 22			



MEMORY CONTROL AND REFRESH



1270 FRAME BUFFER