

Revisions			217235	C	
LAL	Rev	Description	Chk	Date	Approved
	A	ENGRG RELEASE	BN	10-12-78	
	B	ADDED NOTE 3 (CUT ETCH & ADD JUMPER) ADDED DET. A (SH 5) ITEM 29 WAS: ASSY, LED (QTY 4 HLMP-6620P) QTY 1	BN	1-24-79	
X	C	MADE SEPERATE NOTES FOR LISTING 'CUT ETCH' INSTR (NOTE 3) AND 'ADD JUMPER' INSTR (NOTE 4)	BN	3-26-79	

**ENGINEERING
RELEASE**

NTEP1-PWASSY.SIL (PNTEP-PWASSY.DM)

Dist Code SPG

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	<p>1. Tolerances .xx \pm .03 Angular .xxx \pm .010 $\pm 1/2^\circ$</p>	Check BN 3-26-79	<p style="text-align: center;">XEROX</p>		
	<p>2. Break All Sharp Edges .010 Approx</p>	Appr.			
	<p>3. Mach. Surfaces \checkmark</p> <p>4. All Dim. In Inches</p>	Material			
Model No. First Use NOTETAKER	Finish	Code Ident 18338	Size A	Dwg. No. 217235	Change Letter C
Next Assy. First Use 217684		Scale NONE	Do Not Scale Drawing		Sheet 1 OF 9

NOTES: UNLESS OTHERWISE SPECIFIED

1. ASSEMBLE PER MODULE ASSY SPEC, DWG NO. 216207.
2. DO NOT INSTALL I.C. SOCKETS IN 'SPARE' LOCATIONS.
3. THE FOLLOWING MODIFICATIONS ARE REQD USING 'A' REVISION PW BOARDS:

CUT ETCH

- 1) CUT ETCH TO EYELET NEXT TO B9 PIN 28 (COMP. SIDE).
- 2) CUT BOTH ETCHES TO F8 PIN 1 (COMP. SIDE).
- 3) CUT ETCH TO F7 PIN 1 (COMP. SIDE).
- 4) C3 PIN 9 (ETCH SIDE).
- 5) F8 PIN 2 (COMP. SIDE).
- 6) CUT ETCH TO F8 PIN 3 (COMP. SIDE).
- 7) CUT BOTH ETCHES TO F7 PIN 6 (COMP. SIDE & ETCH SIDE).
- 8) CUT ETCH TO A4 PIN 4 (ETCH SIDE).
- 9) C3 PIN 12 (ETCH SIDE).
- 10) C3 PIN 11 (COMP. SIDE).
- 11) C3 PIN 13 (COMP. SIDE).
- 12) C3 PIN 10 (ETCH SIDE).
- 13) B1 PIN 8 (COMP. SIDE).
- 14) B1 PIN 9 (COMP. SIDE).
- 15) A7 PIN 3 (COMP. SIDE).
- 16) A6 PIN 1 (ETCH SIDE).
- 17) F9 PIN 13 (ETCH SIDE).
- 18) F9 PIN 4 (ETCH SIDE).
- 19) F9 PIN 5 (ETCH SIDE).
- 20) F9 PIN 6 (ETCH SIDE).
- 21) CUT ETCH TO F9 PIN 4 (ETCH SIDE).

(NOTE 3 CONT'D ON SHEET 3)

NTEP2-PWASSY.SIL

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Title
**ASSY, PRINTED WIRNG-
 EMULATOR PROCESSOR**
 (NOTETAKER)

Xerox Corporation El Segundo, California		XEROX	
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NOTE 3 CONT'D

CUT ETCH

- | | | |
|-----|-------------|--|
| 22) | CUT ETCH TO | F9 PIN 5 (ETCH SIDE). |
| 23) | | F9 PIN 6 (ETCH SIDE). |
| 24) | | F9 PIN 13 (ETCH SIDE). |
| 25) | | A6 PIN 11 (ETCH SIDE ONLY). |
| 26) | | C5 PIN 8 (COMP. SIDE). |
| 27) | | EYELET NEXT TO F1 PIN 1 (COMP. SIDE ONLY). |
| 28) | | F6 PIN 7 (ETCH SIDE). |
| 29) | | F6 PIN 3 (ETCH SIDE). |
| 30) | | H6 PIN 9 (COMP. SIDE), CONNECTS TO RESISTOR PACK H6 PIN 7. |
| 31) | CUT ETCH TO | H6 PIN 8 (ETCH SIDE). |

4. THE FOLLOWING MODIFICATIONS ARE REQUIRED USING 'A' REVISION PW BOARDS:

ADD JUMPER (ETCH SIDE)

- | | | |
|----|-----------------|---------------------------------------|
| 1) | ADD JUMPER FROM | EYELET LEFT OF A2 PIN 8 TO B4 PIN 3. |
| 2) | | B4 PIN 4 TO EYELET NEXT TO B9 PIN 28. |
| 3) | | F8 PIN 1 TO F4 PIN 28. |
| 4) | | F8 PIN 2 TO B4 PIN 8. |
| 5) | | F7 PIN 6 TO B1 PIN 12. |
| 6) | ADD JUMPER FROM | F8 PIN 3 TO C3 PIN 10. |

(NOTE 4 CONT'D OF SHEET 4)

NTEP3-PWASSY.SIL

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Title
**ASSY, PRINTED WIRING-
 EMULATOR PROCESSOR**
 (NOTETAKER)

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NOTE 4 CONT'D (ADD JUMPER)

- 7) ADD JUMPER FROM C3 PIN 12 TO C3 PIN 7.
- 8) C3 PIN 11 TO F4 PIN 26.
- 9) C3 PIN 13 TO B3 PIN 1.
- 10) C3 PIN 9 TO F8 PIN 5.
- 11) C4 PIN 8 TO D4 PIN 8.
- 12) B1 PIN 13 TO B4 PIN 9.
- 13) F3 PIN 2 TO D9 PIN 10.
- 14) F3 PIN 5 TO E9 PIN 10.
- 15) F3 PIN 3 TO B5 PIN 6.
- 16) F3 PIN 6 TO B7 PIN 6.
- 17) F3 PIN 1 TO B1 PIN 9.
- 18) F3 PIN 4 TO B1 PIN 8.
- 19) H7 PIN 9 TO H8 PIN 11.
- 20) H7 PIN 8 TO C2 PIN 4.
- 21) C2 PIN 5 TO C3 PIN 3.
- 22) C2 PIN 6 TO A6 PIN 1.
- 23) A7 PIN 3 TO F4 PIN 27.
- 24) C5 PIN 12 TO A1 PIN 2.
- 25) F9 PIN 13 TO A1 PIN 3.
- 26) F6 PIN 11 TO CABLE CONN. PIN 47 (P2).
- 27) C4 PIN 9 TO F8 PIN 9.
- 28) C3 PIN 9 TO A4 PIN 4.
- 29) B1 PIN 11 TO C4 PIN 9.
- 30) ADD JUMPER FROM F7 PIN 1 TO C3 PIN 4.

NOTE 4 CONT'D ON SHEET 5

NTEP4-PWASSY.SIL

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 EMULATOR PROCESSOR
 (NOTETAKER)**

Xerox Corporation El Segundo, California		XEROX
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NOTE 4 CONT'D (ADD JUMPER)

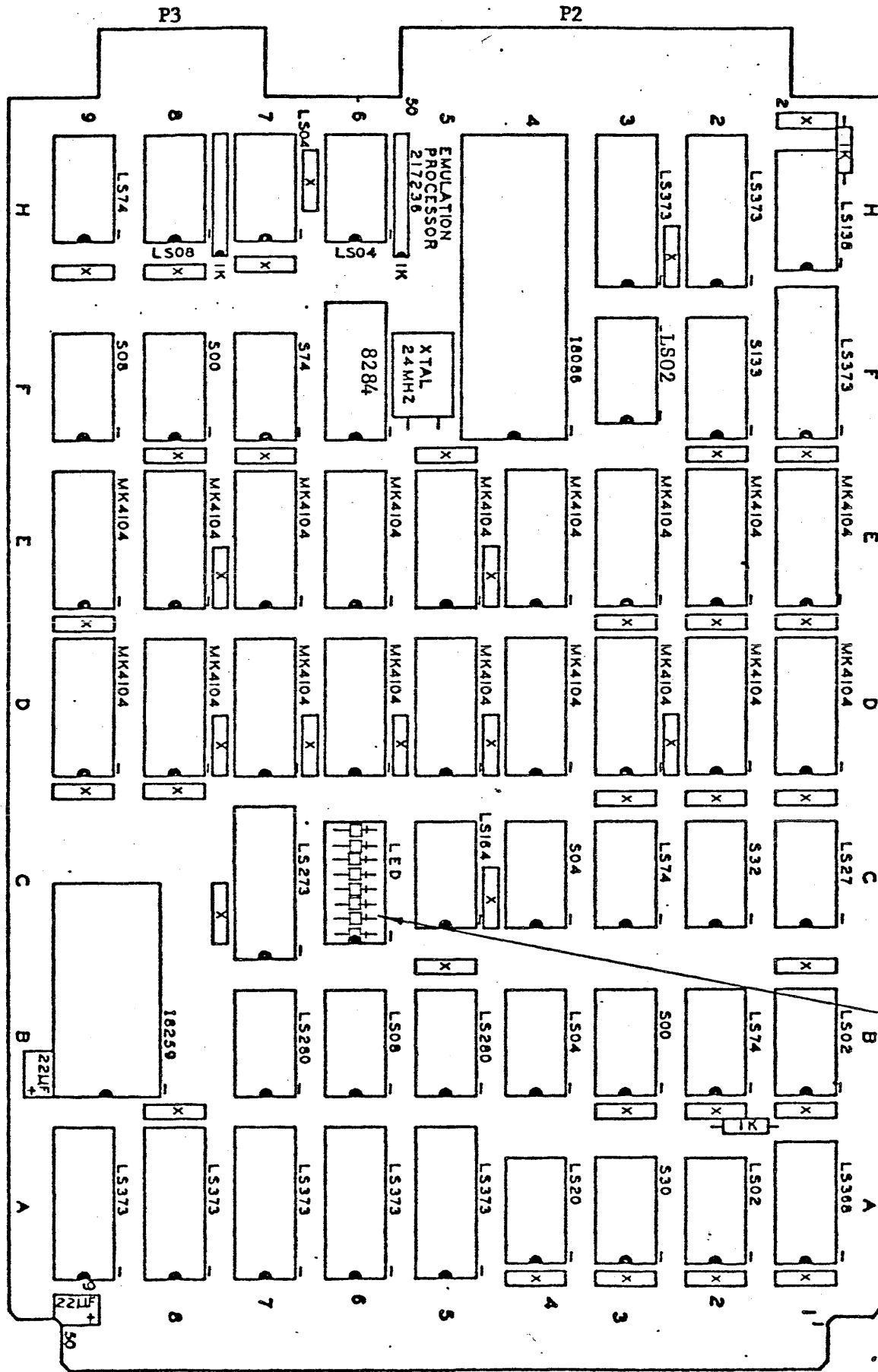
- 31) ADD JUMPER FROM F7 PIN 4 TO F4 PIN 32.
- 32) ADD JUMPER FROM A7 PIN 3 TO F4 PIN 27.
- 33) ADD JUMPER FROM C5 PIN 12 TO A1 PIN 2.
- 34) ADD JUMPER FROM MOTHERBD CONN PIN 7 (COMP. SIDE), ROUTE INSULATED WIRE THRU EYELET ON MOTHERBD CONN. (P1) PIN 6, TO F3 PIN 8 ON ETCH SIDE.
- 35) ADD JUMPER FROM F3 PIN 9 TO F3 PIN 7.
- 36) F3 PIN 10 TO F9 PIN 5.
- 37) C5 PIN 12 TO F9 PIN 4.
- 38) F9 PIN 6 TO A6 PIN 11.
- 39) C5 PIN 8 TO MOTHERBD CONN.(P1) PIN 95.
- 40) H8 PIN 13 TO RESISTOR PACK H6 PIN 7.
- 41) EYELET ABOVE F1 PIN 1 TO F4 PIN 25.
- 42) F6 PIN 7 TO H9 PIN 9.
- 43) ADD JUMPER FROM F6 PIN 3 TO H6 PIN 5.

NTEP5-PWASSY.SIL

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Title
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 EMULATOR PROCESSOR
 (NOTETAKER)**

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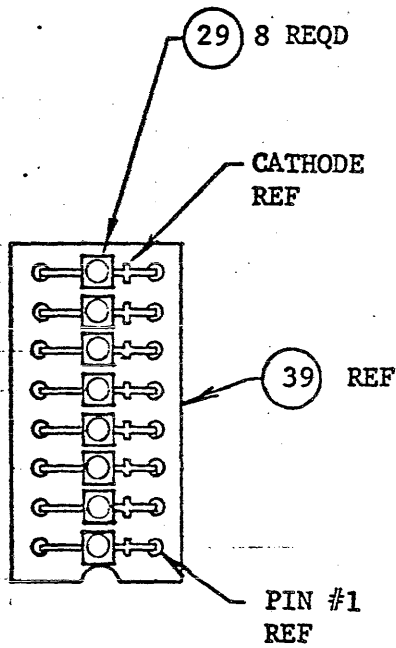


SEE DET. A
(SH 5)

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LOC C6

DETAIL A
SCALE : 2/1

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Title
ASSY, PRINTED WIRING-
EMULATION PROCESSOR

Xerox Corporation
El Segundo, California

XEROX

217235

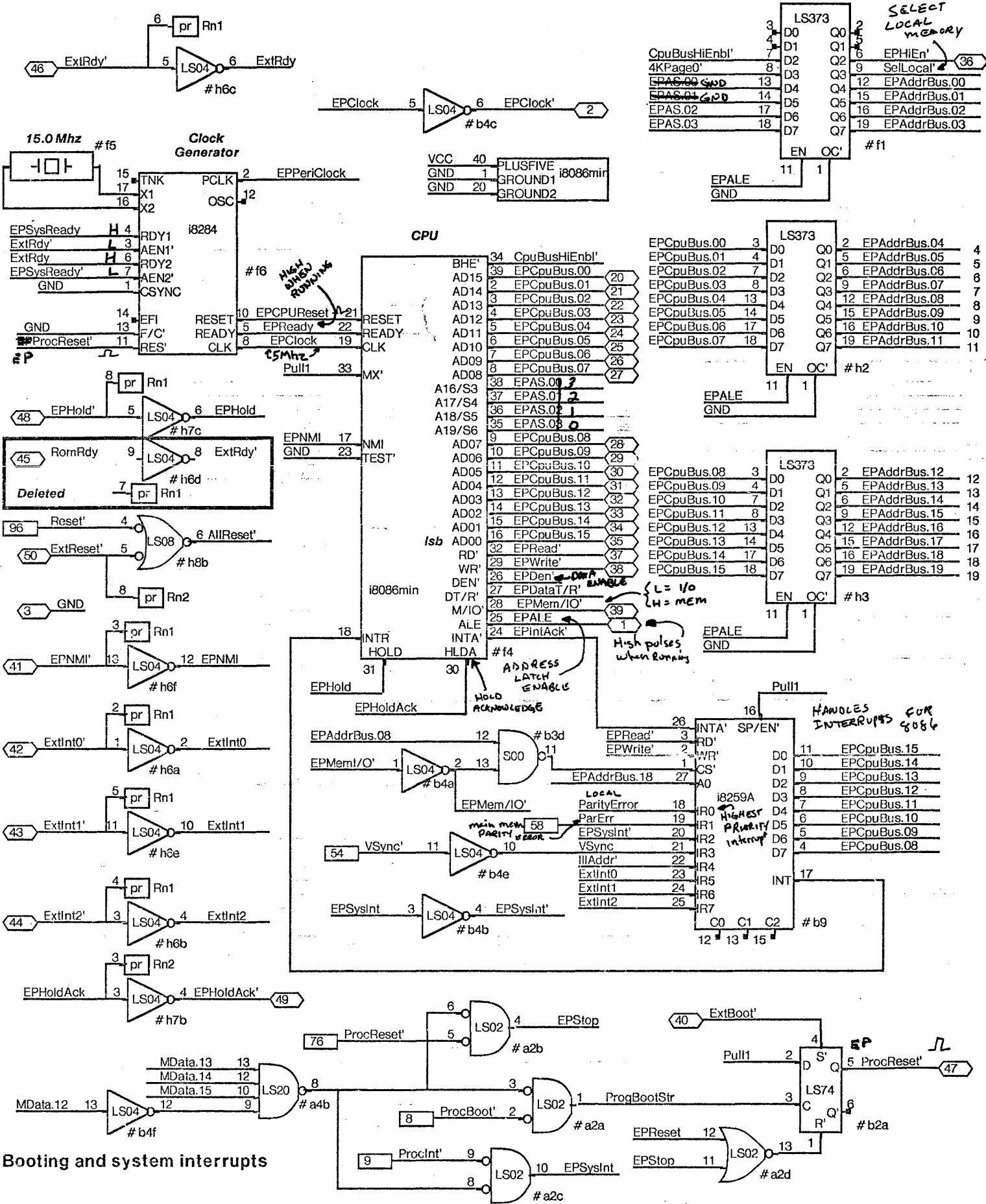
C

Sheet 7 of 9

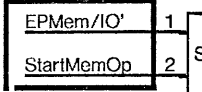
MATERIAL LIST

ML	Drawing No. 217235	Rev. C
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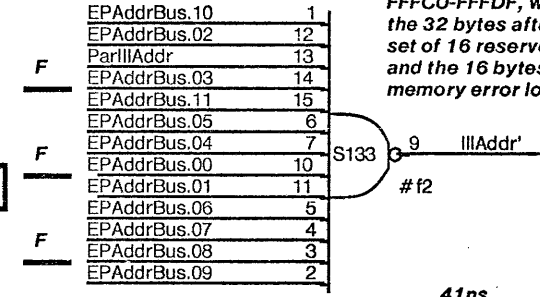
Rev. C #9 2 1 7 2 3 5	Drawing Title	These drawings and specifications, and the data contained therein, are the exclusive property of Xerox Corporation and or Rank Xerox, Ltd. Issued in strict confidence and shall not, without the prior written permission of Xerox Corporation Rank Xerox, Ltd., be reproduced, copied or used for any purpose whatsoever, except the manufacture of articles for Xerox Corporation or Rank Xerox, Ltd.		
	ASSEMBLY, PRINTED WIRING- EMULATOR PROCESSOR (NOTETAKER)	Model No. NOTETAKER 1	Date 3/23/79	Sheet 8 of 9
	NTEP6-PWASSY.SIL			
	Item No.	Drawing Title	Drawing No.	No. Req. Remarks
	1	BOARD, PW-EMULATOR PROCESSOR	217236	1
	2			
ML	3	MICROCIRCUIT 8086 MICROPROCESSOR		1 F4
	4	8284 CLOCK GEN.		1 F6
	5	8259A INTRP CONTR.		1 B9
	6	4104-3 RAM (4KX1)		18 D1-D9,E1-E9
	7	74LS02		3 A2,B1,F3
	8	74LS04		3 B4,H6,H7
	9	74LS08		2 B6,H8
	10	74LS138		1 H1
	11	74LS164		1 C5
	12	74LS20		1 A4
	13	74LS27		1 C1
	14	74LS273		1 C7
	15	74LS280		2 B5,B7
	16	74LS368		1 A1
	17	74LS373		8 A5-A9,F1,H2,H3
	18	74LS74		3 B2,C3,H9
	19	74S00		2 B3,F8
	20	74S04		1 C4
	21	74S08		1 F9
	22	74S133		1 F2
	23	74S30		1 A3
	24	74S32		1 C2
	25	MICROCIRCUIT 74S74		1 F7
	26			
	27	RESISTOR NET SIP CTS #750-81-1K		2 H5,H7
	28	CRYSTAL, 24 MHZ CTS #MP240		1 F5
	29	LAMP, SUB-MIN HEWLETT PACKARD #HLMP-6620		8 C6 SEE DET. A (\$H 5)
	30			



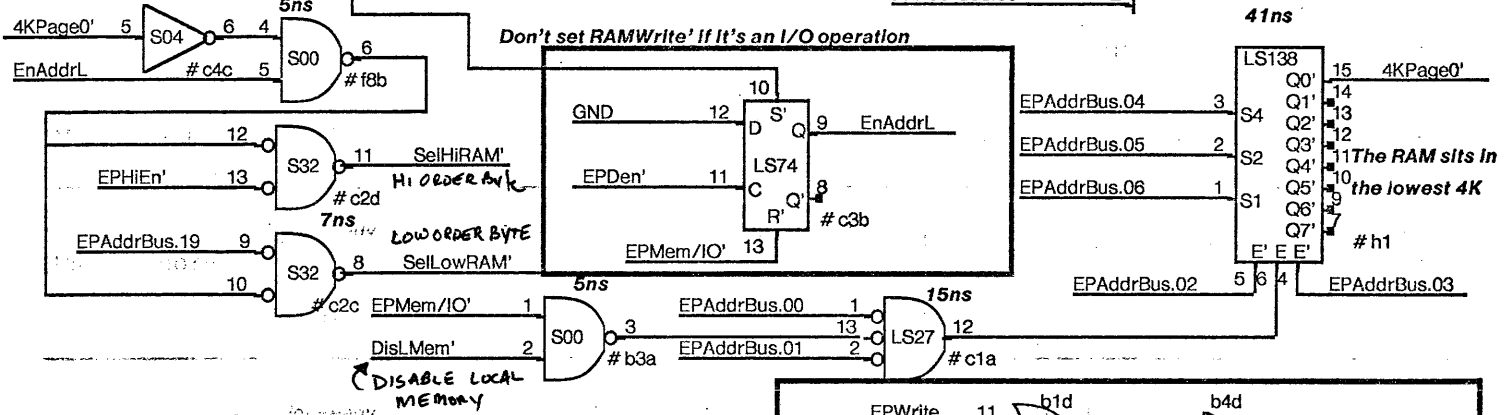
Memory Timing and Decoding



This FF enables chip select at the trailing edge of ALE on a read and on the leading edge of delayed write on a write.



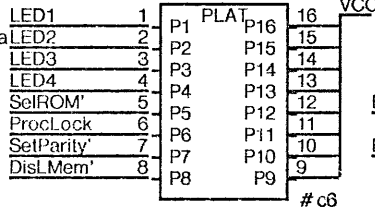
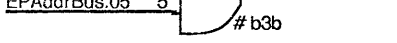
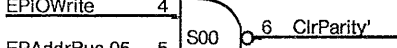
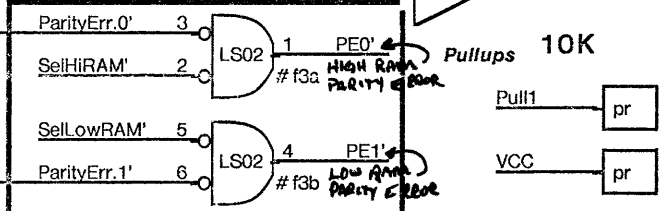
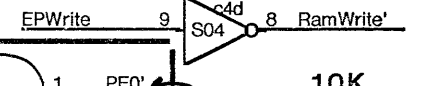
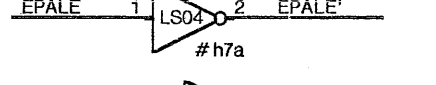
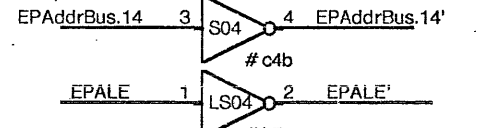
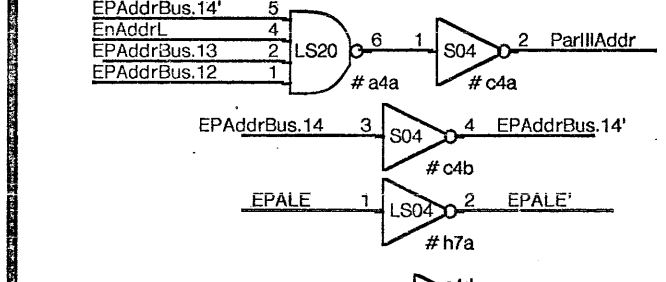
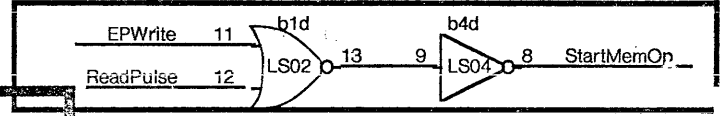
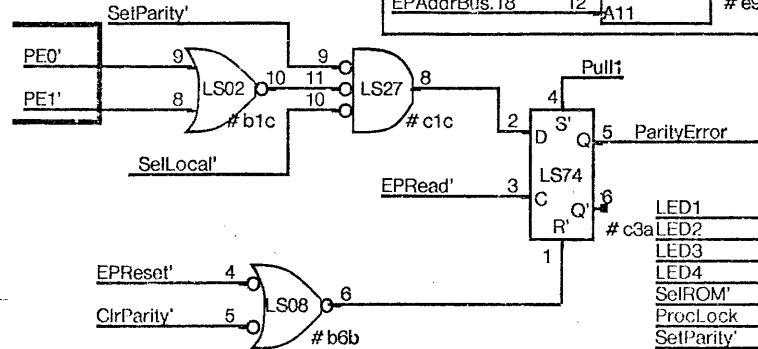
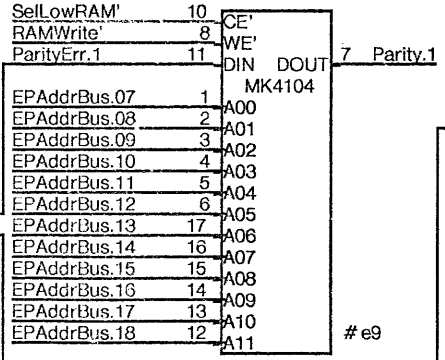
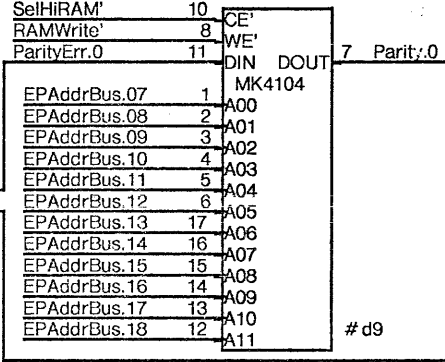
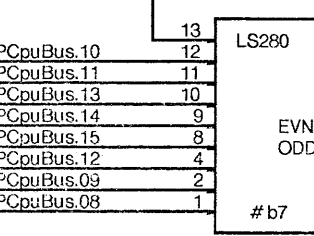
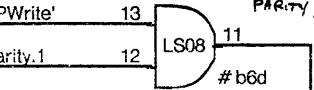
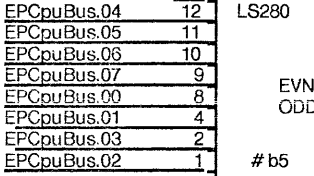
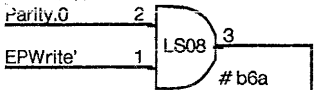
This selects the addresses FFFCO-FFFD, which is the the 32 bytes after the Intel set of 16 reserved locations and the 16 bytes of main memory error locations



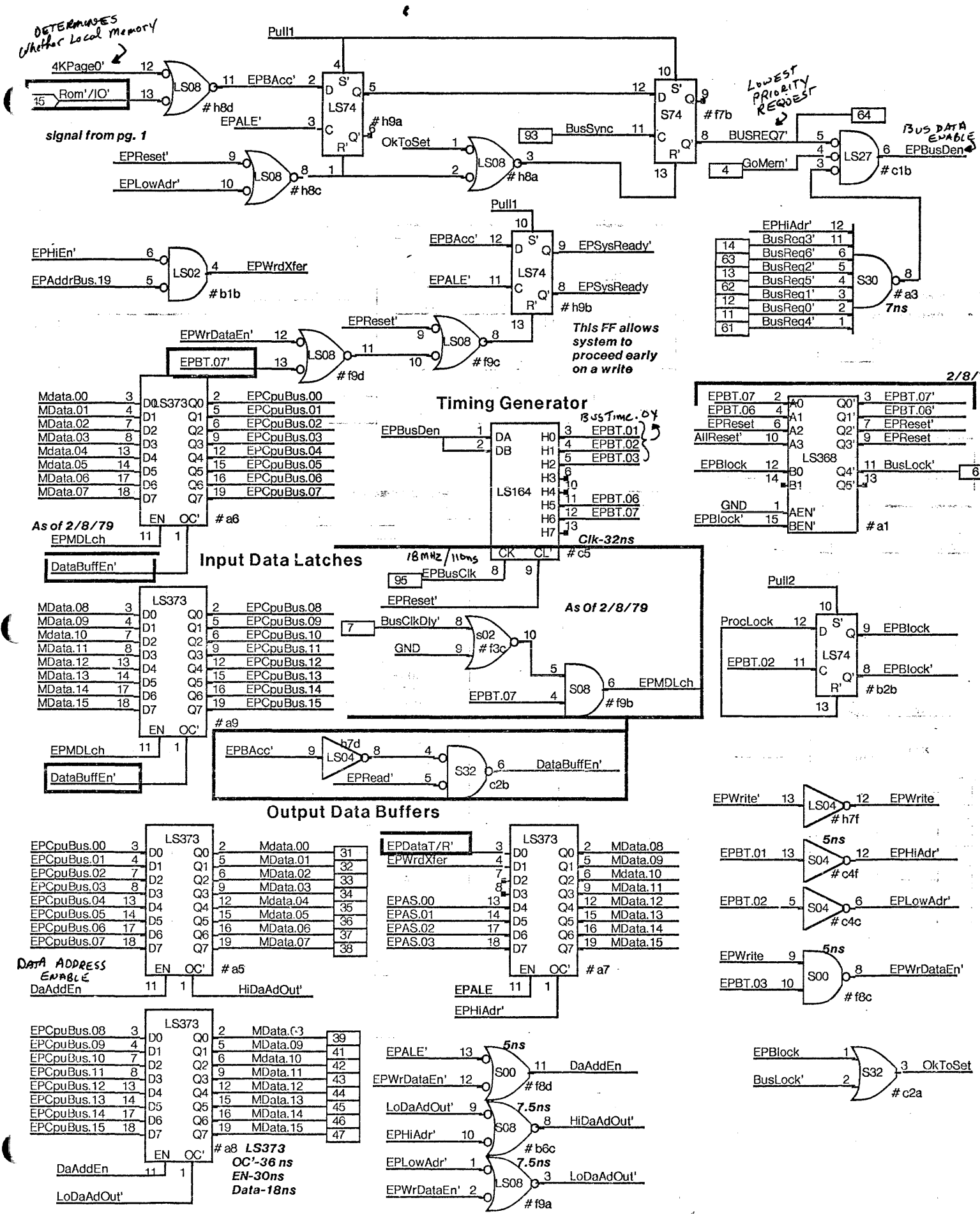
Don't set RAMWrite' if it's an I/O operation

41ns

Parity Generation and Checking



These will drive an LED to display what kinds of errors are happening



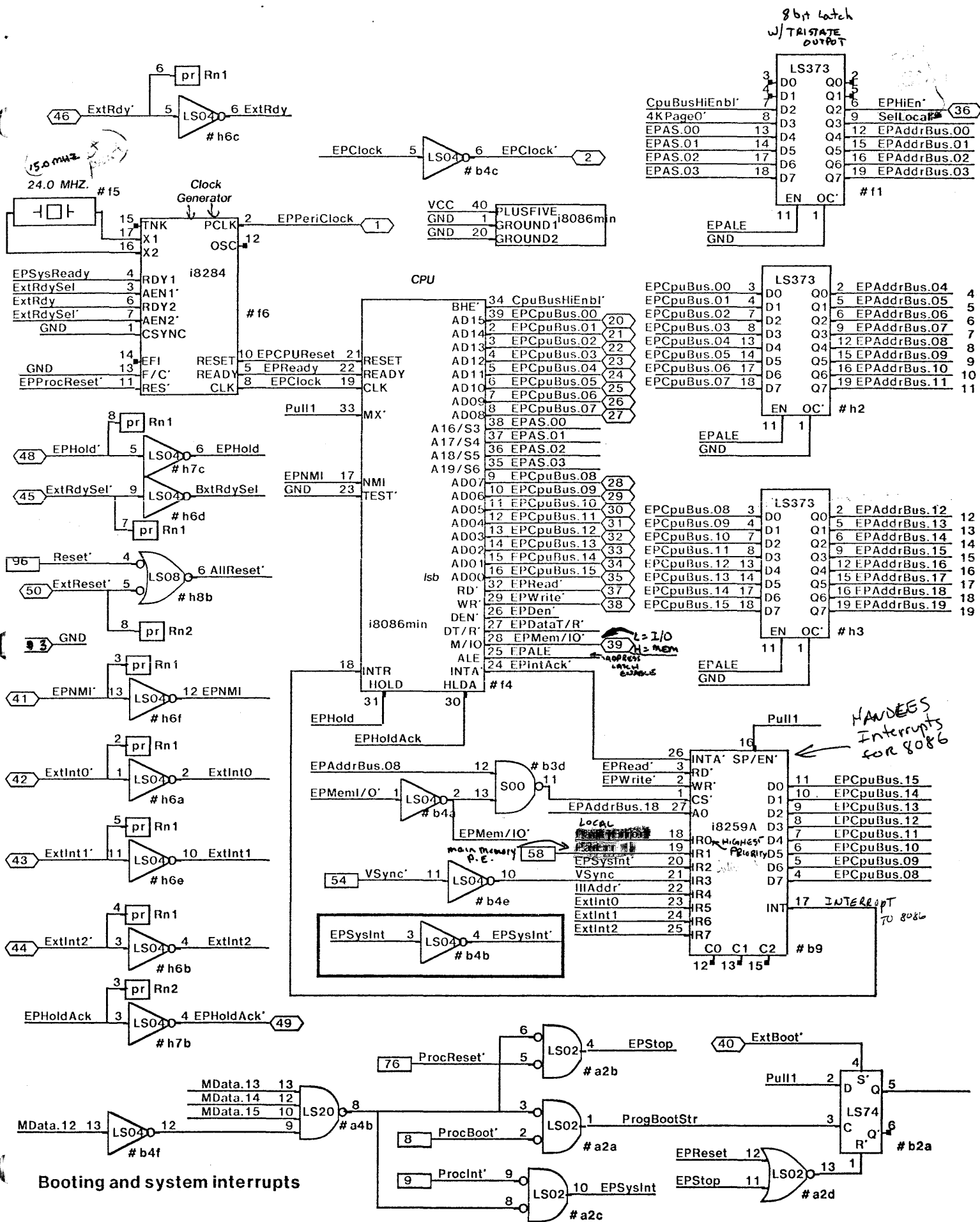
Note:

$$EPReady = EPSysReady \cdot IOReady' + IOReady \cdot EPSysReady'$$

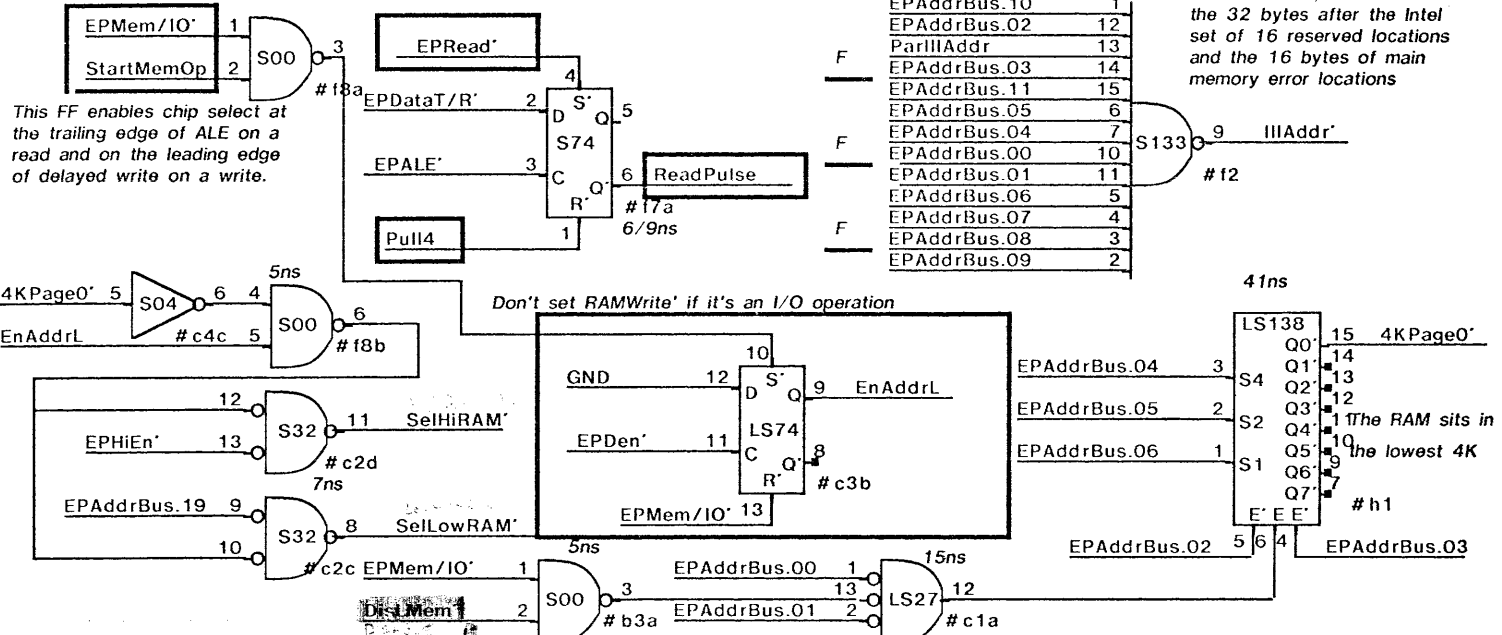
Internal Ram	<i>Ready</i>	1	0	1	0
--------------	--------------	---	---	---	---

Main Memory	<i>Not Ready</i>	0	0	1	1
	<i>Ready</i>	1	0	1	0

Rom	<i>Not Ready</i>	1	1	0	0
	<i>Ready</i>	1	0	1	0



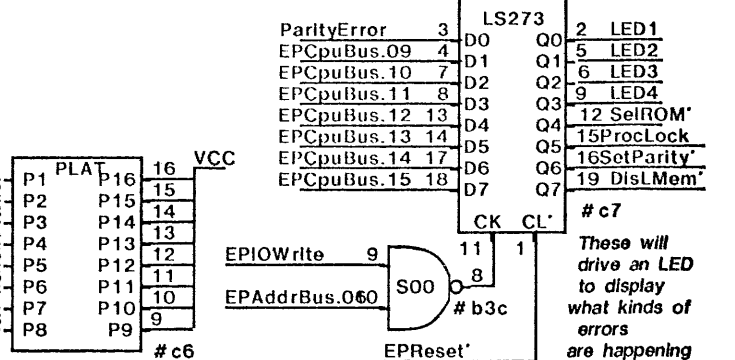
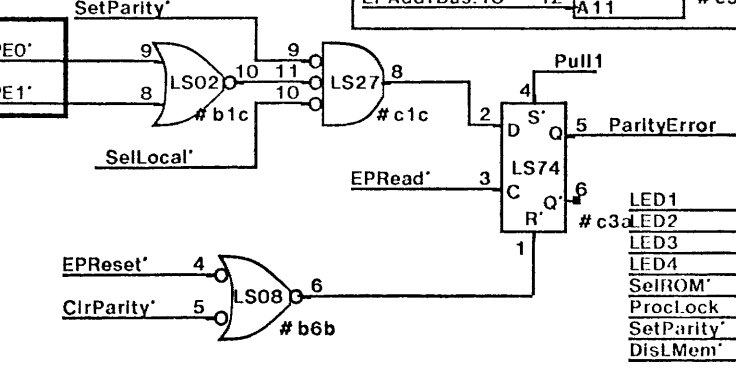
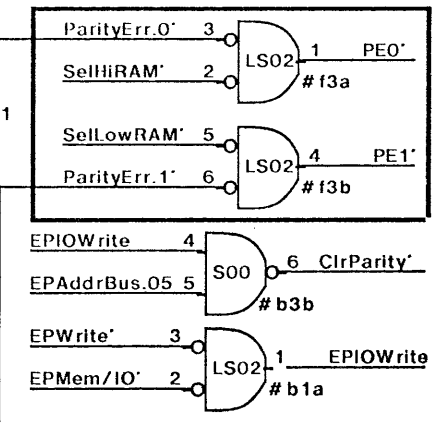
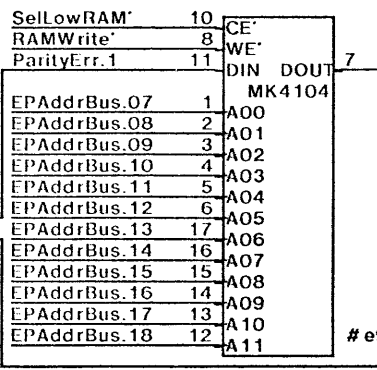
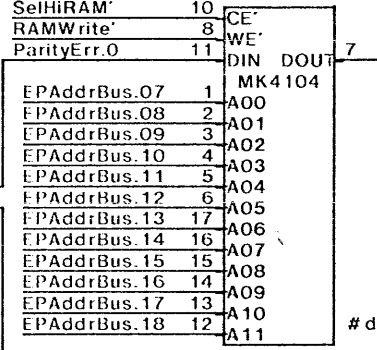
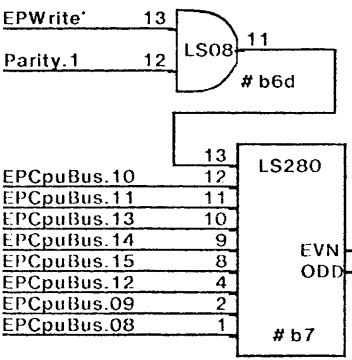
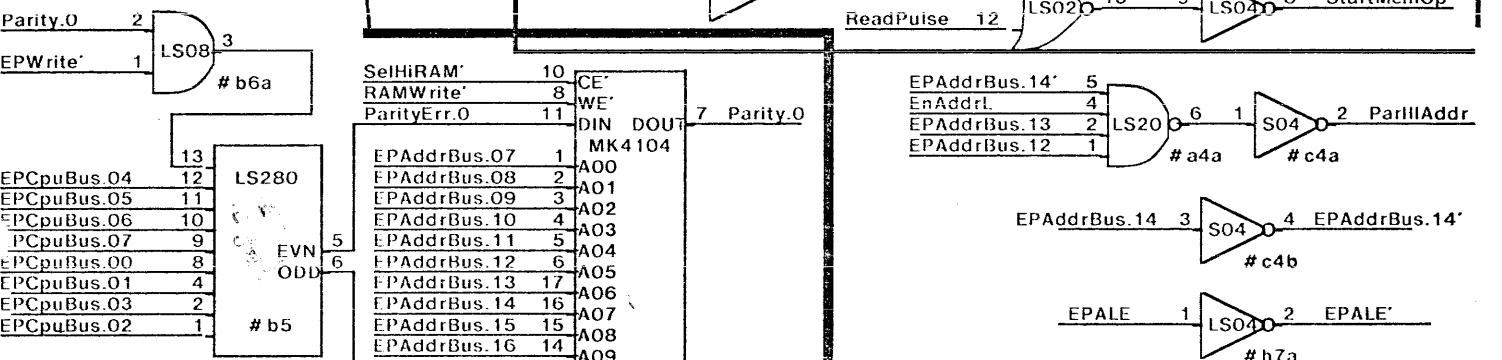
Memory Timing and Decoding

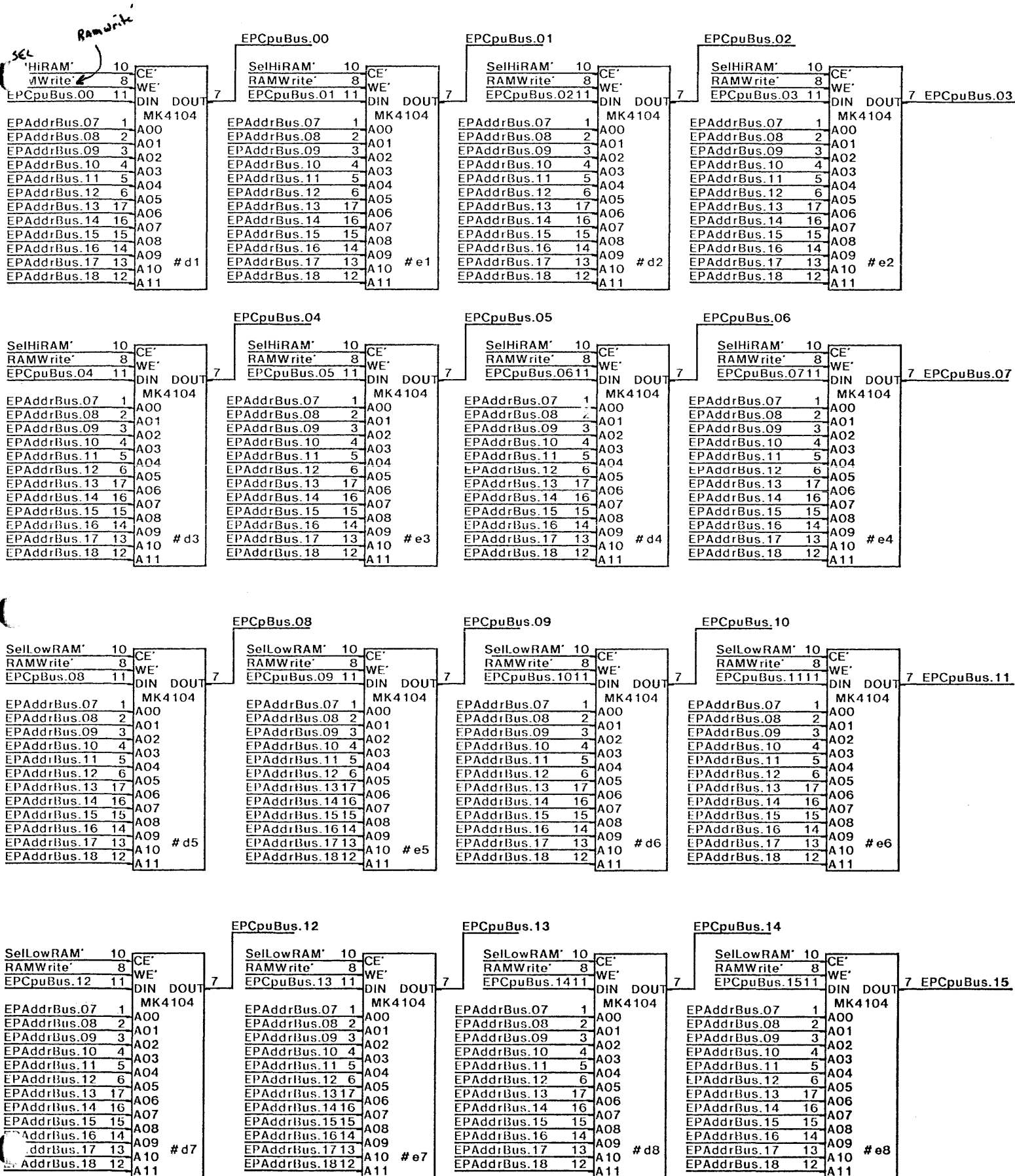


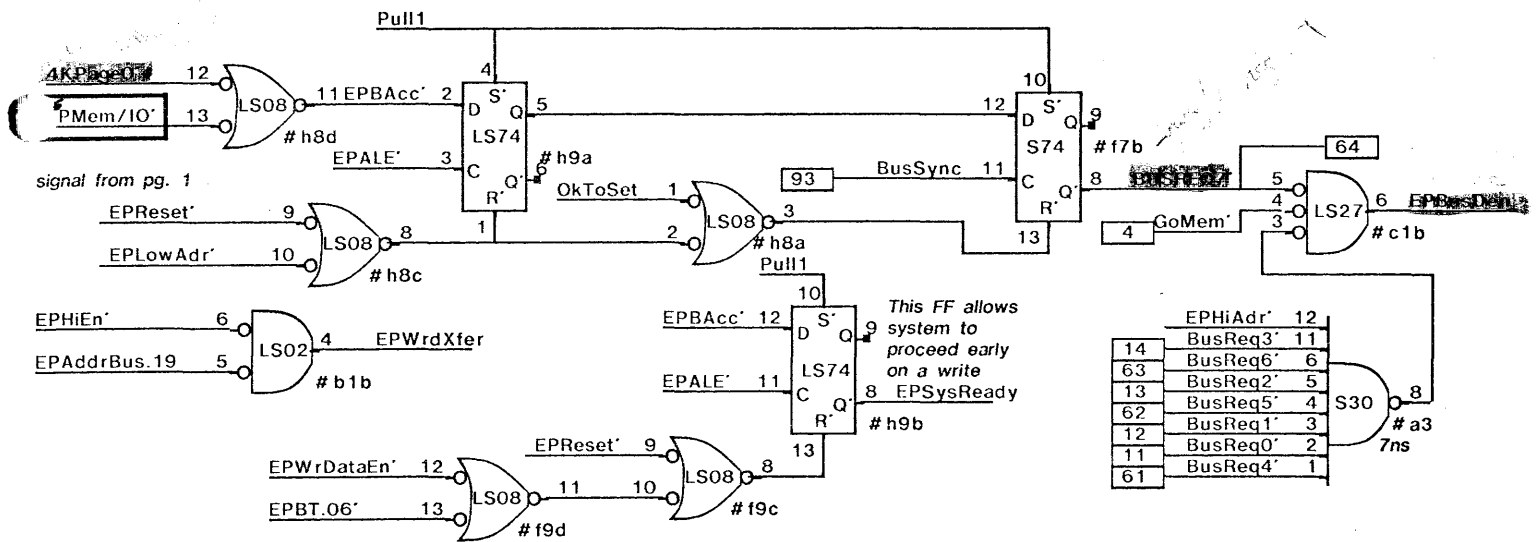
This selects the addresses FFFC0-FFFD, which is the the 32 bytes after the Intel set of 16 reserved locations and the 16 bytes of main memory error locations

EPAddrBus.10	1
EPAddrBus.02	12
ParIIAddr	13
EPAddrBus.03	14
EPAddrBus.11	15
EPAddrBus.05	6
EPAddrBus.04	7
EPAddrBus.00	10
EPAddrBus.01	11
EPAddrBus.06	5
EPAddrBus.07	4
EPAddrBus.08	3
EPAddrBus.09	2

Parity Generation and Checking

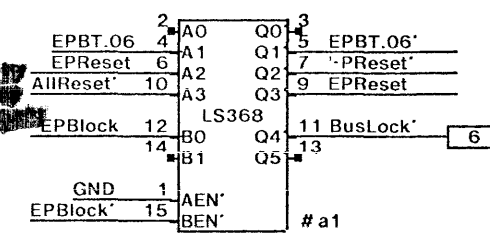
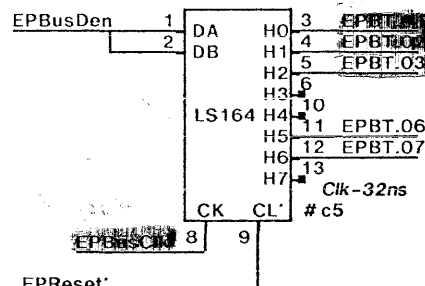






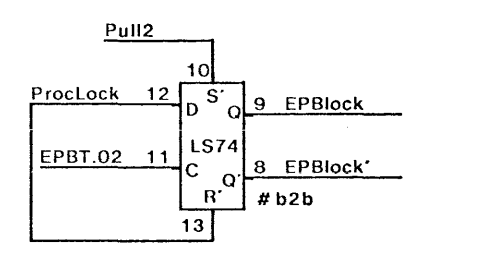
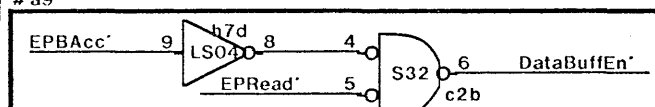
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Mdata.01	4	D1	Q1	5	EPcpuBus.01
Mdata.02	7	D2	Q2	6	EPcpuBus.02
Mdata.03	8	D3	Q3	9	EPcpuBus.03
Mdata.04	13	D4	Q4	12	EPcpuBus.04
Mdata.05	14	D5	Q5	15	EPcpuBus.05
Mdata.06	17	D6	Q6	16	EPcpuBus.06
Mdata.07	18	D7	Q7	19	EPcpuBus.07

Timing Generator



Input Data Latches

MData.08	3	D0	Q0	2	EPcpuBus.08
MData.09	4	D1	Q1	5	EPcpuBus.09
MData.10	7	D2	Q2	6	EPcpuBus.10
MData.11	8	D3	Q3	9	EPcpuBus.11
MData.12	13	D4	Q4	12	EPcpuBus.12
MData.13	14	D5	Q5	15	EPcpuBus.13
MData.14	17	D6	Q6	16	EPcpuBus.14
MData.15	18	D7	Q7	19	EPcpuBus.15



Output Data Buffers

EPcpuBus.00	3	D0	Q0	2	Mdata.00	31
EPcpuBus.01	4	D1	Q1	5	Mdata.01	32
EPcpuBus.02	7	D2	Q2	6	Mdata.02	33
EPcpuBus.03	8	D3	Q3	9	Mdata.03	34
EPcpuBus.04	13	D4	Q4	12	Mdata.04	35
EPcpuBus.05	14	D5	Q5	15	Mdata.05	36
EPcpuBus.06	17	D6	Q6	16	Mdata.06	37
EPcpuBus.07	18	D7	Q7	19	Mdata.07	38

EPDataT/R'	3	D0	Q0	2	MData.08
EPWrDXfer	4	D1	Q1	5	MData.09
	7	D2	Q2	6	Mdata.10
	8	D3	Q3	9	Mdata.11
EPAS.00	13	D4	Q4	12	MData.12
EPAS.01	14	D5	Q5	15	MData.13
EPAS.02	17	D6	Q6	16	MData.14
EPAS.03	18	D7	Q7	19	MData.15

