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## FIELD MAINTENANCE PRINT SET

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NOTE: ELECTRO STATIC SENSITIVE ITEM:  
MAINTAIN ANTI\_STATIC PROTECTION  
PROCEDURES

UNIT VARIATIONS COVERED BY THIS PRINT SET	
L0016	

L0016

## Field Maintenance Print Set

## Digital Equipment Corporation

MP01404

REVISIONS		USED ON OPTION/MODEL	DRN.	DATE	TITLE: COMET MEMORY UNIT				digital
DATE	CHG. NO.	REV.							
4/83	SH002	B	J. Meloski	10/26/82	B	TC	L0016-0-1	B	
			J. Meloski	10/26/82					
			PROJ. ENG.	9/20/82					
			B. Natusch						
			FIELD SERV.						
			J. Fairchild	6/9/82					

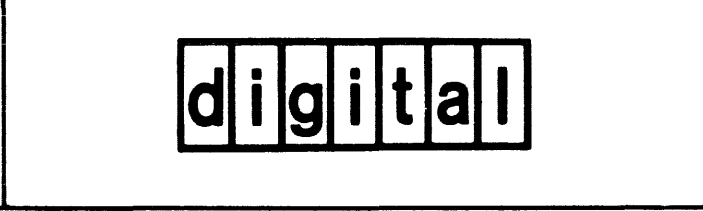
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		L0016-00	COMET MEMORY BOARD	B	B	B																							
K-PC-L0016-0-DBC	-		PC DESIGN DATA BASE	B	B	B																							
K-PL-L0016-0-DBP	2		COMET MEMORY UNIT	A	B	B																							
E-UA-L0016-0-0	2		COMET MEMORY UNIT	A	B	C																							
D-MD-5014676-0-0	3		CIRCUIT DRILL AND ETCH	A	A	A																							
D-EC-5014676-0-0	3		ETCH CUT DRAWING	A	A	B																							
		5014676-00	ETCHED CIRCUIT BOARD	B	B	B																							
D-CS-L0016-0-MU01	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU02	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU03	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU04	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU05	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU06	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU07	1		COMET MEMORY UNIT	A	A	A																							
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D-CS-L0016-0-MU10	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU11	1		COMET MEMORY UNIT	A	A	B																							
D-CS-L0016-0-MU12	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU13	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU14	1		COMET MEMORY UNIT	A	A	A																							
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D-CS-L0016-0-MU16	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU17	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU18	1		COMET MEMORY UNIT	A	A	A																							
D-CS-L0016-0-MU19	1		COMET MEMORY UNIT	A	A	A																							

**NOTES:**

REVISIONS	DATE	CHG NO.	REV.	ORIG	REVISIONS																									
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	8/82	ML001																												
	4/83	SH002		C																										

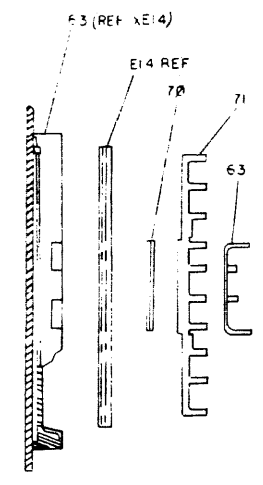
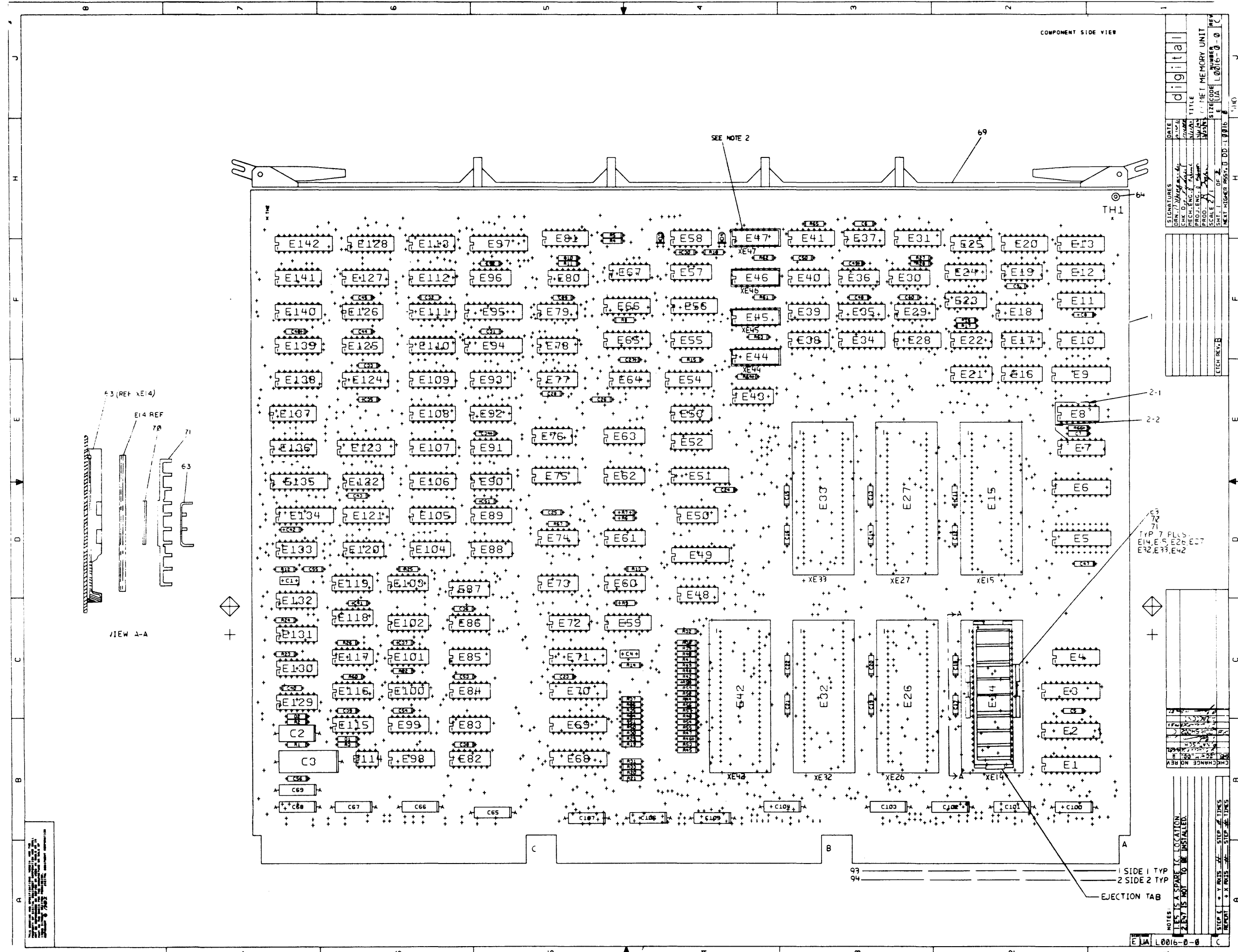
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USED ON OPTION/MODEL	DRN. V. Mangaudis 25FEB82	TITLE COMET MEMORY UNIT	
	CHK'D J. Richard 25FEB82		
	ENG. P. Natusch 25FEB82		
	PROD. D. TAYLOR 25FEB82		
SIZE	CODE	NUMBER	REV.
B	DD	L0016-0	'C
SHEET 1 OF 2			





VIEW A-A

SIGNATURES	DATE	TITLE	SIZE CODE	NUMBER
DRN. / [Signature]	6/17/74	DIGITAL	EUA	0016-0-0
DES. / [Signature]				
CHK. / [Signature]				
PROJ. ENG. / [Signature]				
SCALE 2/1				
SMT. / [Signature]				
TEST POWER 855, 9 DD-I-0016				

ETCH REV.	DESCRIPTION

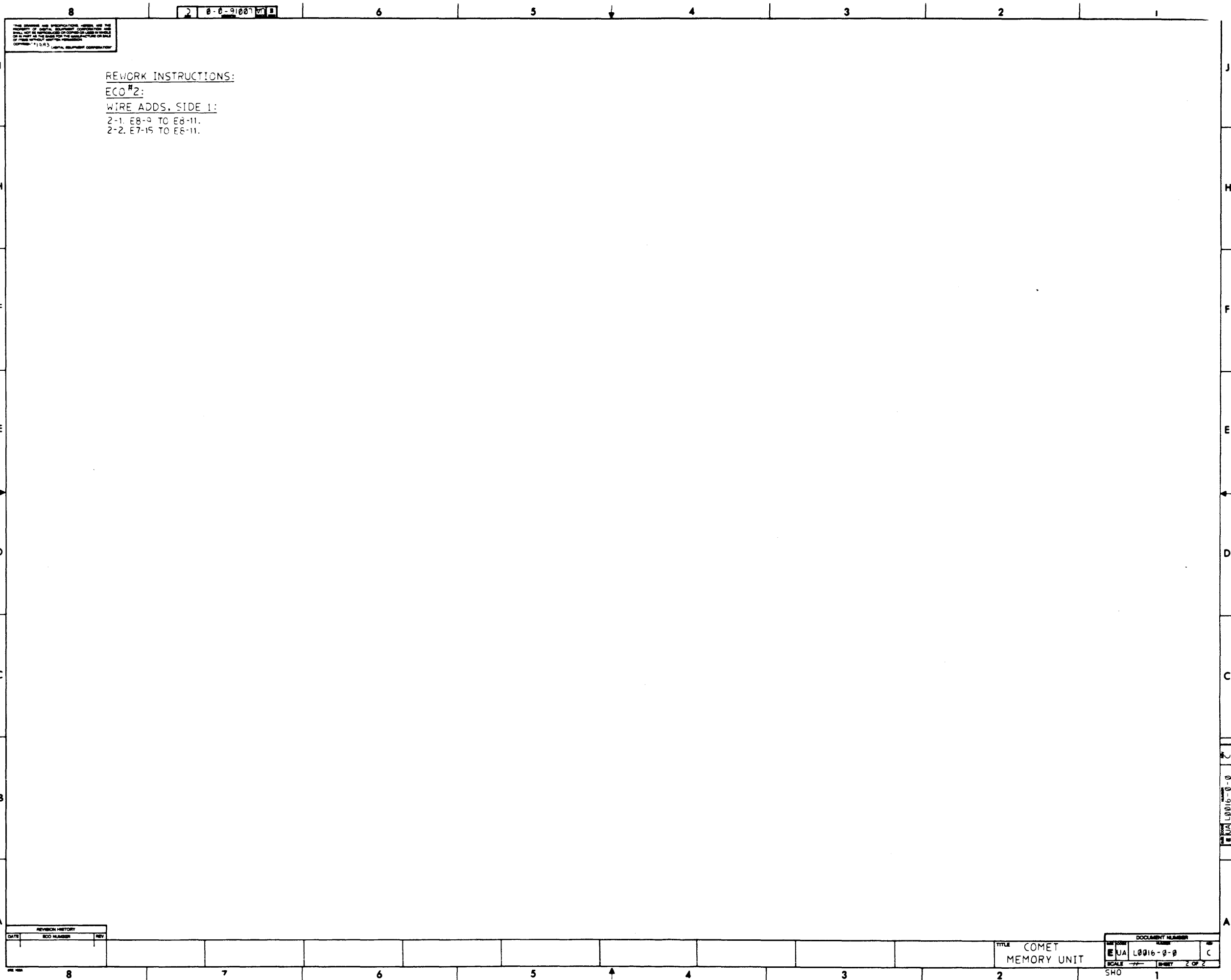
2-1  
2-2

E3  
70  
71  
TYP 7 FLCS  
E14, E5, E26, E27  
E32, E33, E42

CHANGE NO	REV	DESCRIPTION

NOTES
1. TEST IS A SPARE IC LOCATION.
2. TEST IS NOT TO BE INSTALLED.
STEP 1 - Y AXIS - STEP 2 - X AXIS - STEP 3 - TIMES
REPORT - Y AXIS - STEP 4 - TIMES

1 SIDE 1 TYP  
2 SIDE 2 TYP  
EJECTION TAB



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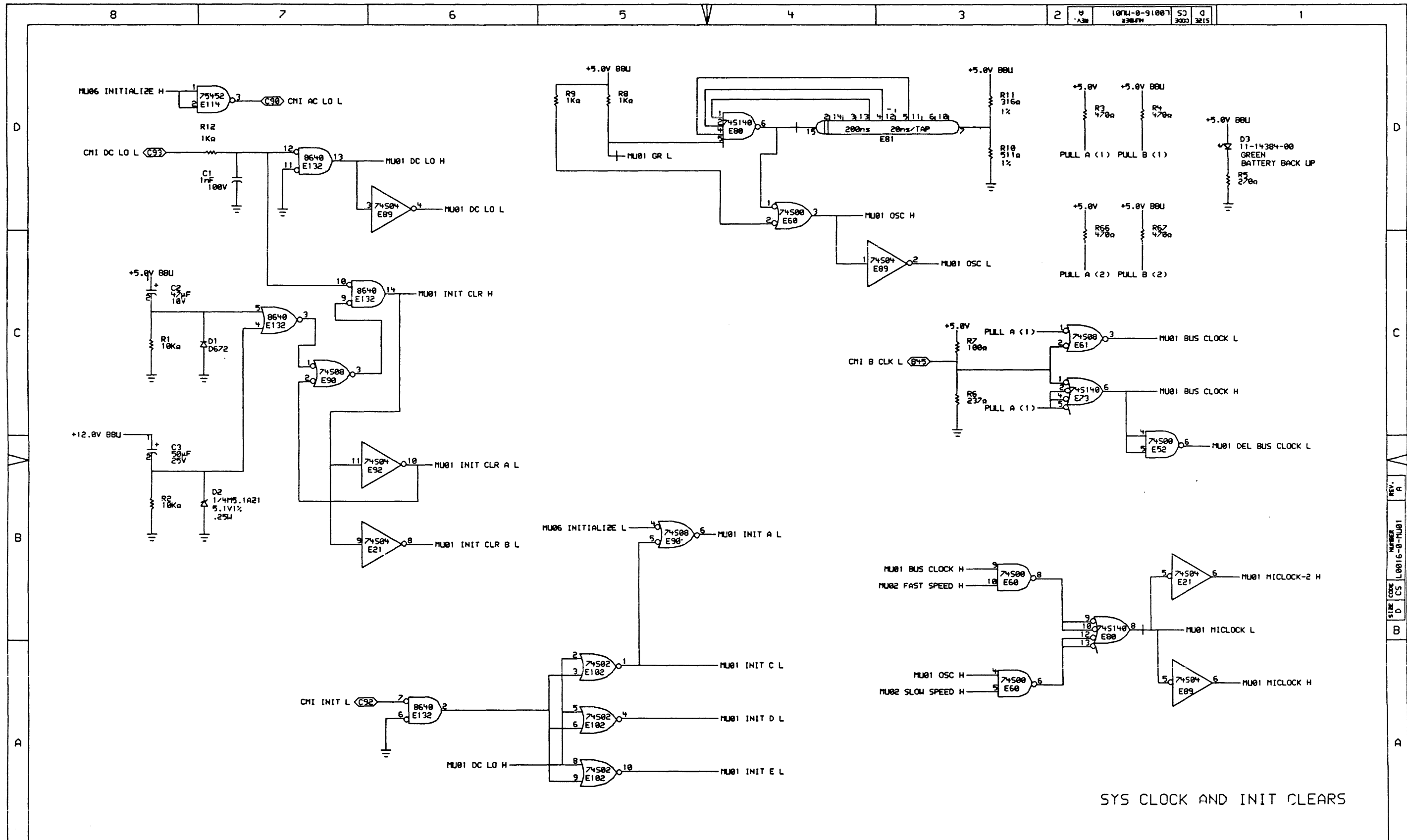
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 ECO #2:  
 WIRE ADDS. SIDE 1:  
 2-1. E8-9 TO E8-11.  
 2-2. E7-15 TO E8-11.

REVISION HISTORY		
DATE	ECO NUMBER	REV

TITLE COMET  
 MEMORY UNIT

DOCUMENT NUMBER		
REV	DESCRIPTION	DATE
EUA	L0016-0-0	C

SCALE 1:1 SHEET 2 OF 2



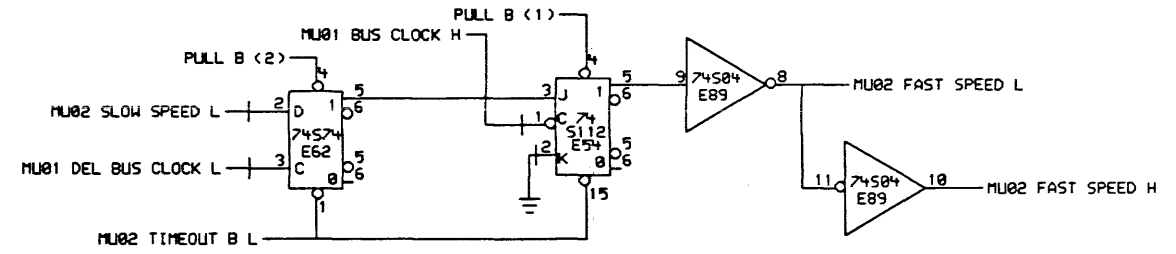
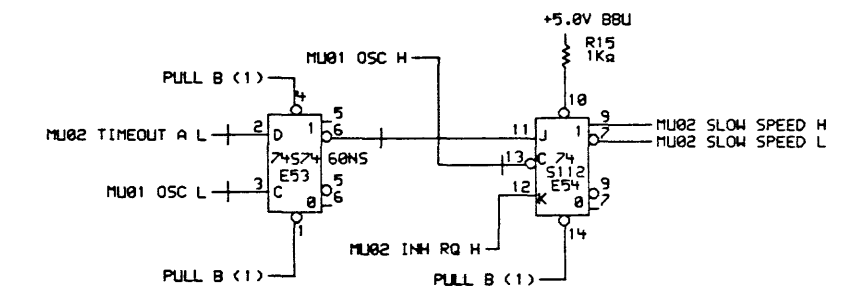
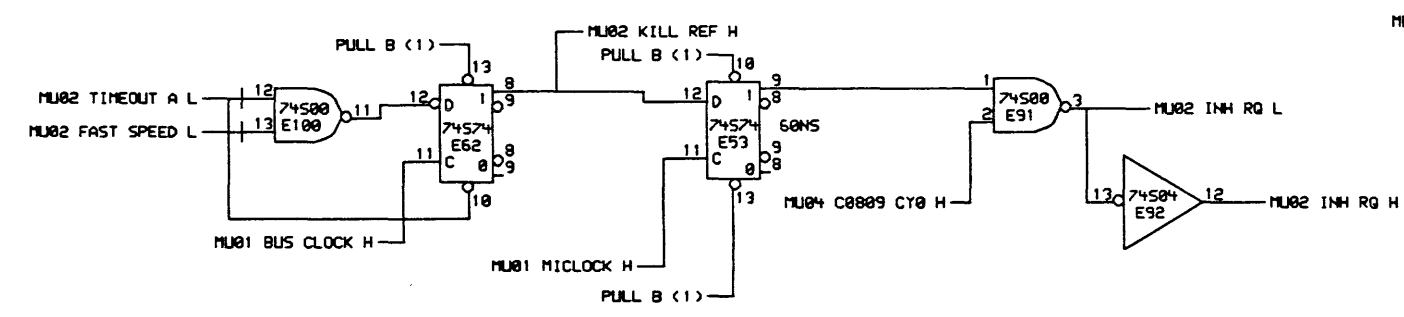
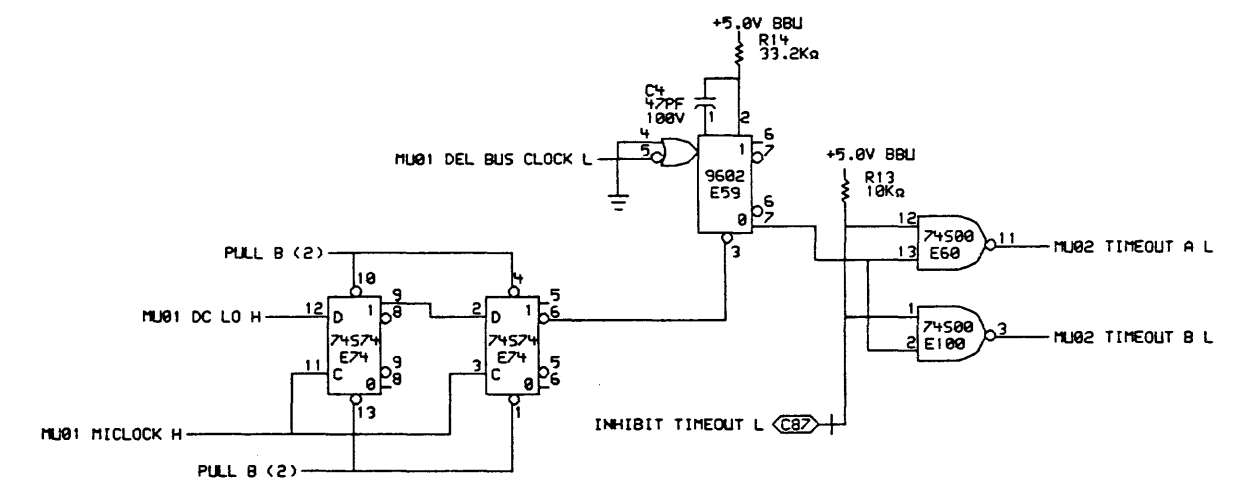
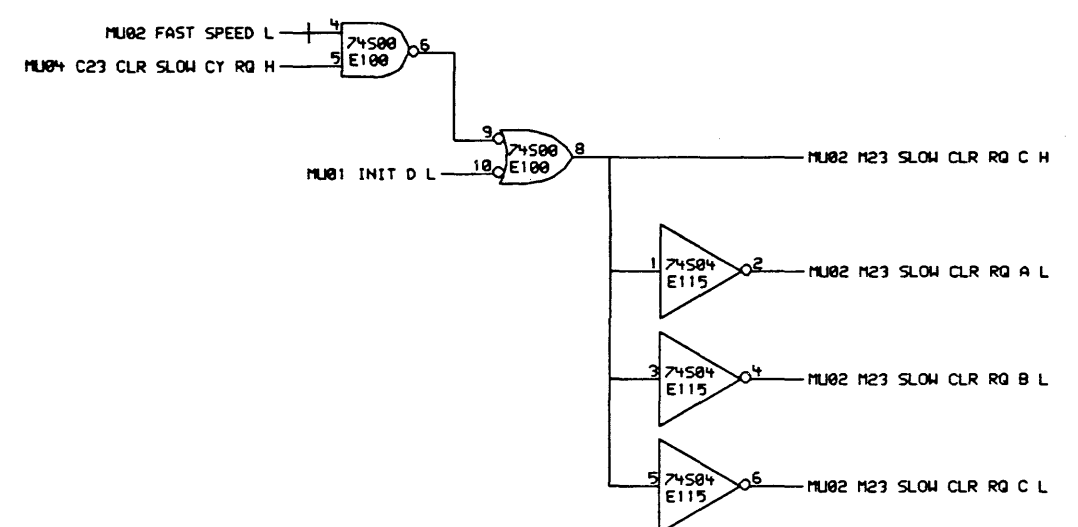
SYS CLOCK AND INIT CLEARS

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REVISIONS	
CHK	CHANGE NO. REV

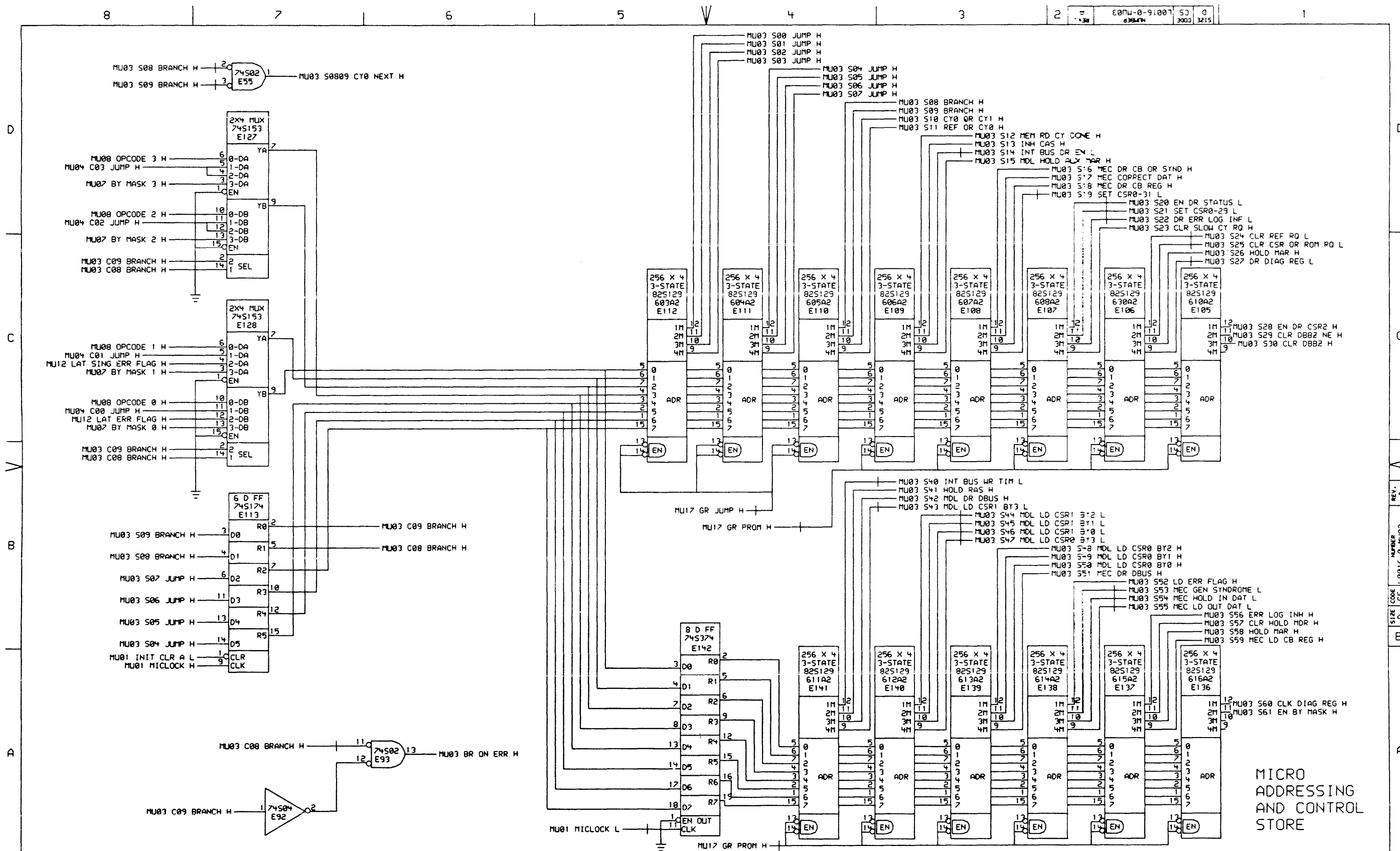
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	DATE: 02-FEB-82	CHK'D: [Signature]	DATE: 02-FEB-82	BOARD LOCATION:
(210,1311) CHLFB1.DRW 02-FEB-82 12:47 NEXT HIGHER ASSEMBLY:		SHEET 1 OF 1		SIZE: D CS
FIRST USED ON OPTION/MODEL: 11/750		B-DD-L0016-0		NUMBER: L0016-0-MU01
ML2				REV: A

REV. A  
NUMBER L0016-0-MU01  
SIZE CODE CS



CLOCK SPEED DETECTION AND REQUEST CLEARS

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	SIZE CODE NUMBER REV. D CS L0016-0-MU02 A			FIRST USED ON OPTION/MODEL: 11/750 B-DD-L0016-0	
	ML2 1			8 7 6 5 4 3 2 1	



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REVISIONS		
CHK	CHANGE NO.	REV

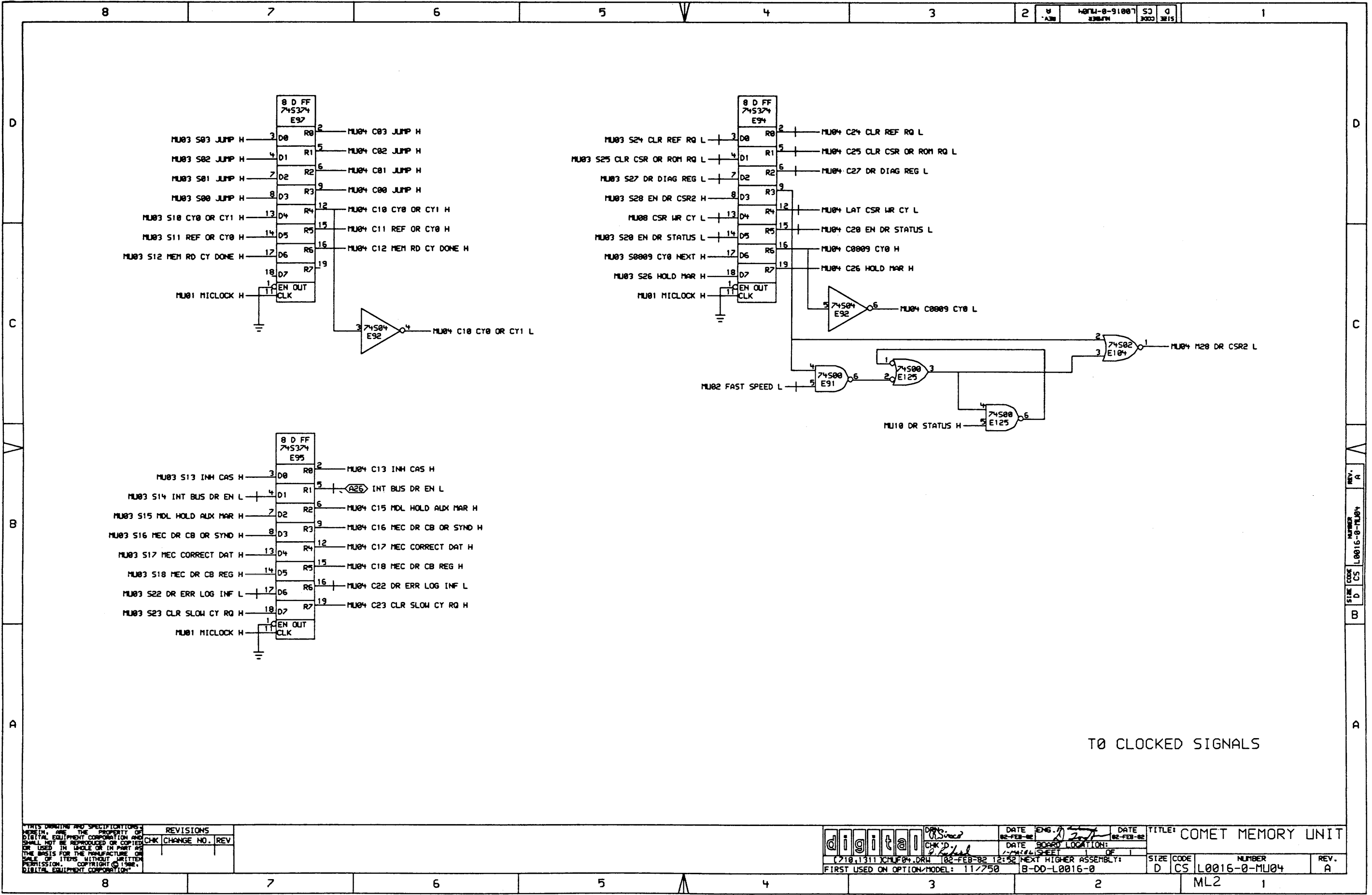
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FIRST USED ON OPTION/MODEL: 11/750		NEXT GENER ASSEMBLY: 18-DD-L0016-0	

SIZE	CODE	NUMBER	REV.
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REV. A  
NUMBER L0016-0-MU03  
SIZE CODE CS  
D

ML2



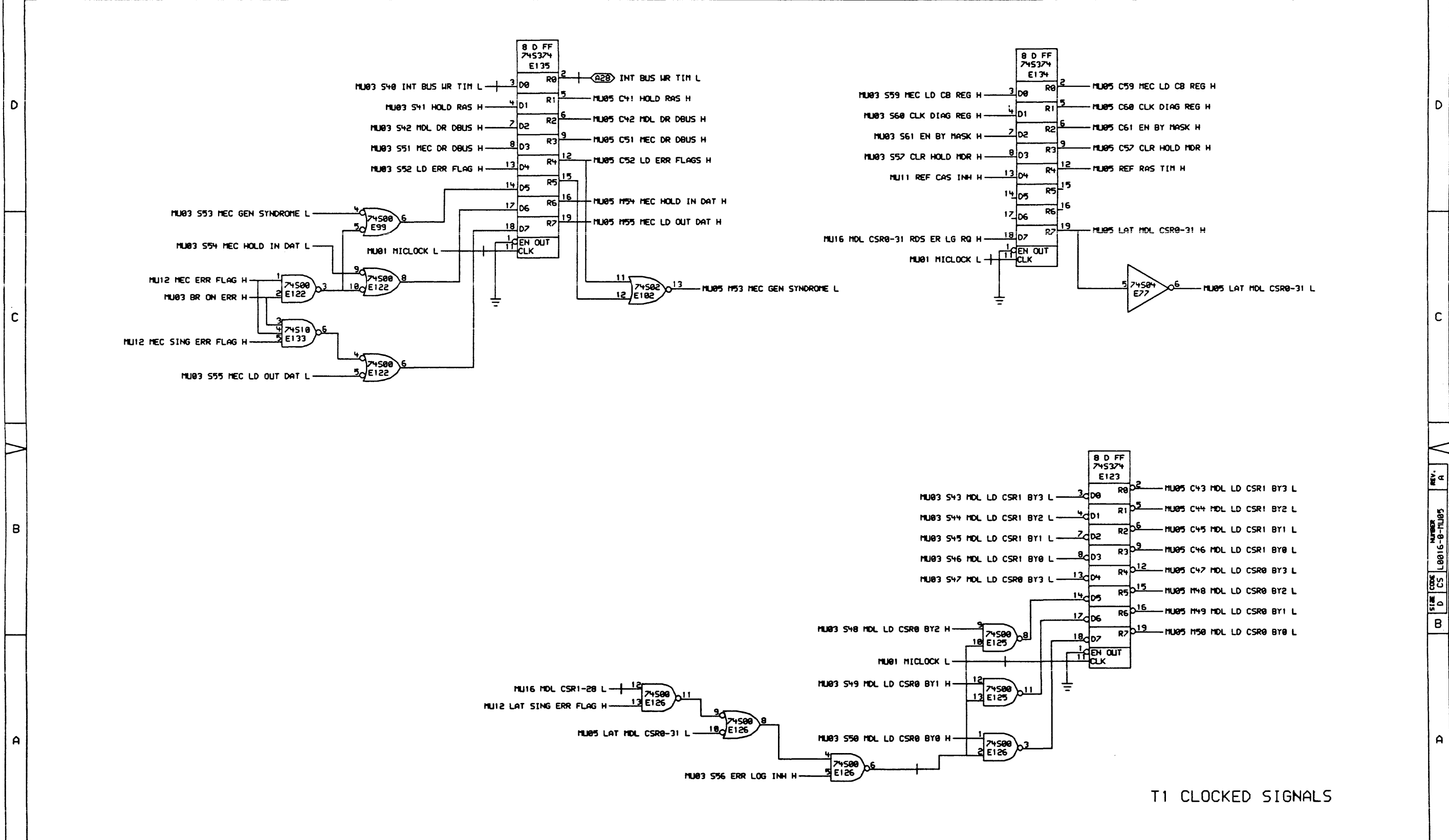


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REVISIONS		
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DATE: 82-FEB-82	CHK'D: J. J.	DATE: 82-FEB-82	BOARD LOCATION: 1
FIRST USED ON OPTION/MODEL: 117750		NEXT HIGHER ASSEMBLY: B-DD-L0016-0	

SIZE: D	CODE: CS	NUMBER: L0016-0-MU04	REV.: A
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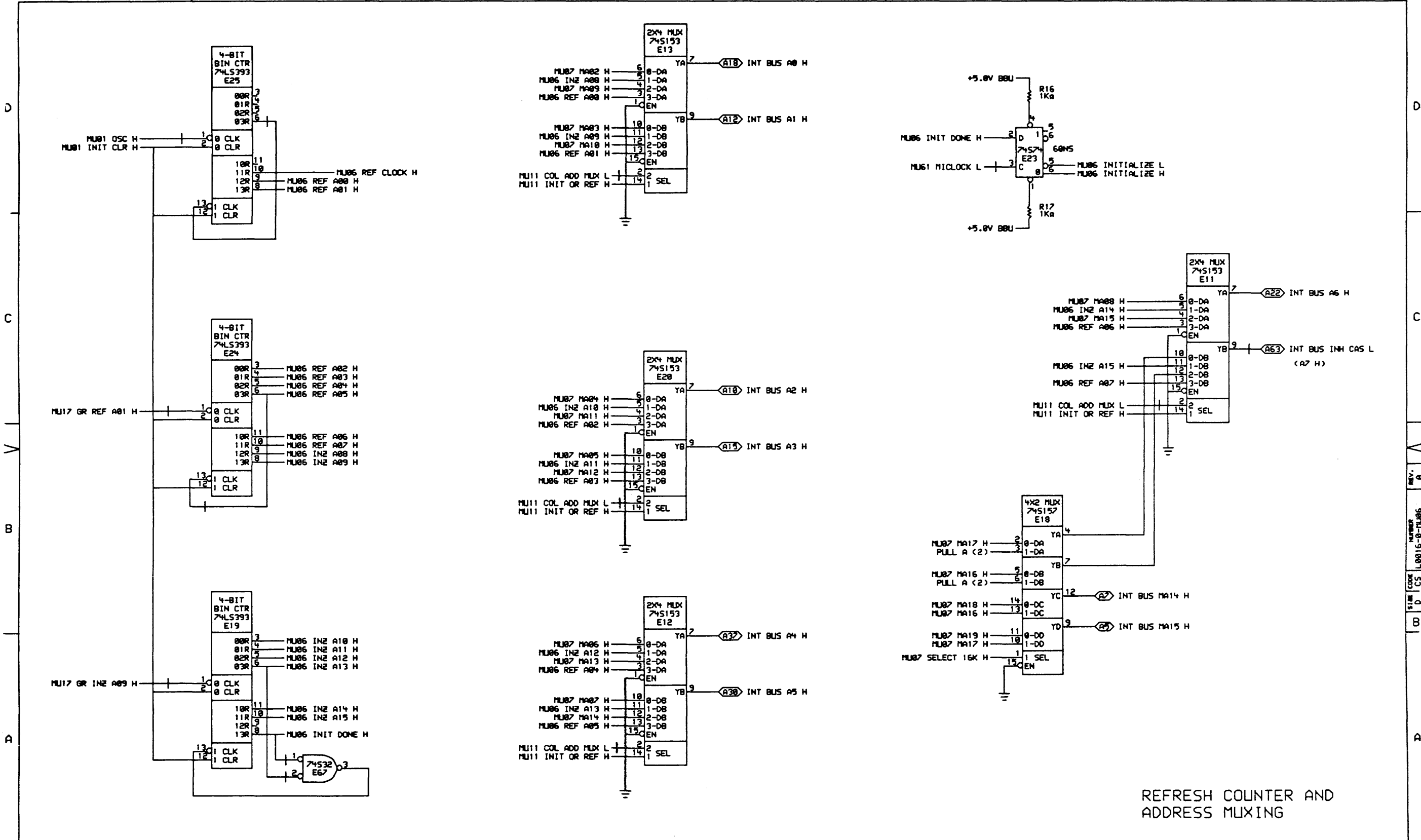


T1 CLOCKED SIGNALS

REVISIONS	
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	DATE	ENG.	DATE	TITLE
	18-FEB-82	J. [Signature]		COMET MEMORY UNIT
	DATE	BOARD LOCATION		
	18-FEB-82	117750		
FIRST USED ON OPTION/MODEL: 117750			NEXT HIGHER ASSEMBLY:	
			18-DD-L0016-0	

REV. A  
 NUMBER L0016-0-MU05  
 SIZE D  
 CS

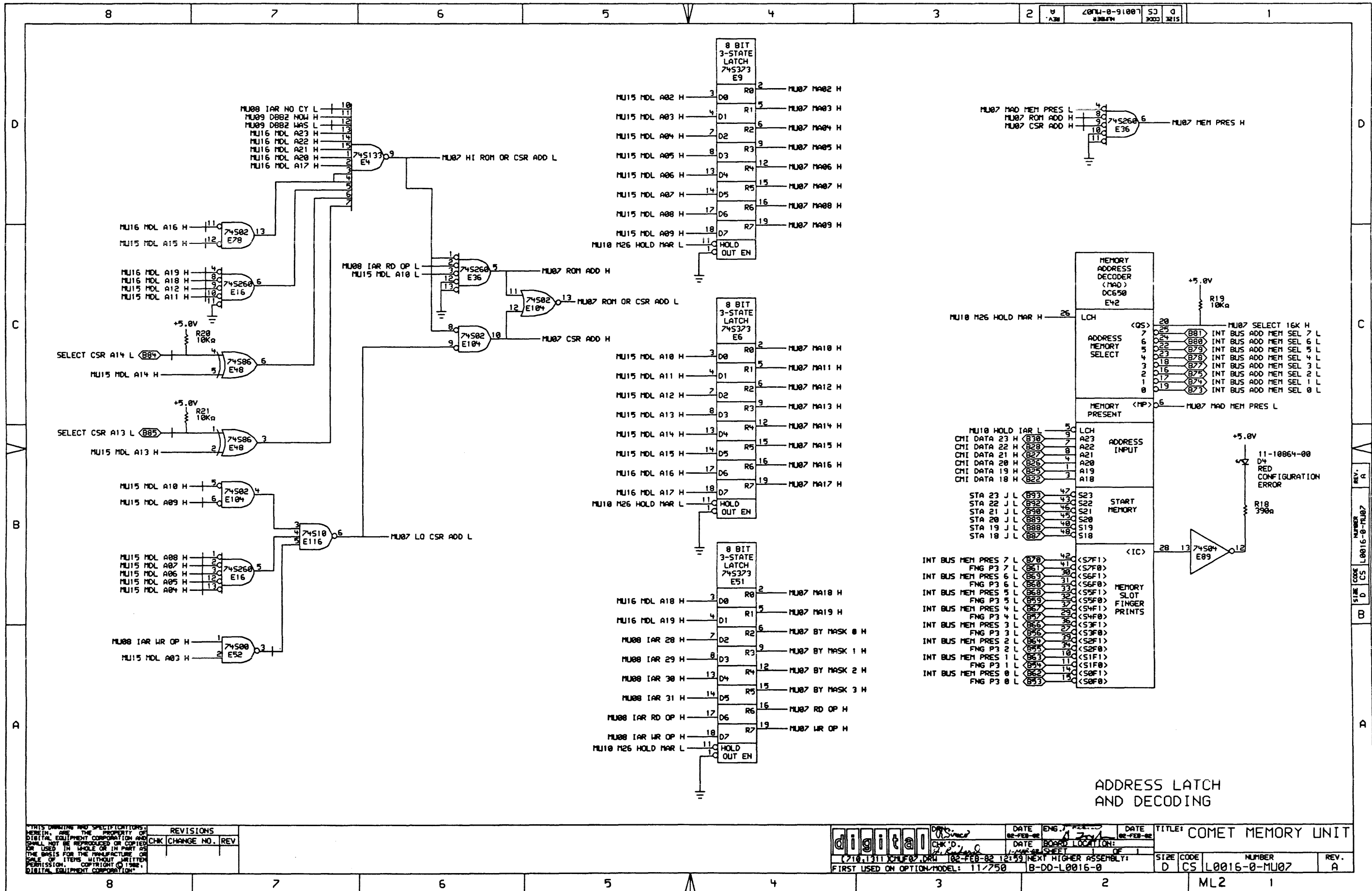


REFRESH COUNTER AND ADDRESS MUXING

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REVISIONS	
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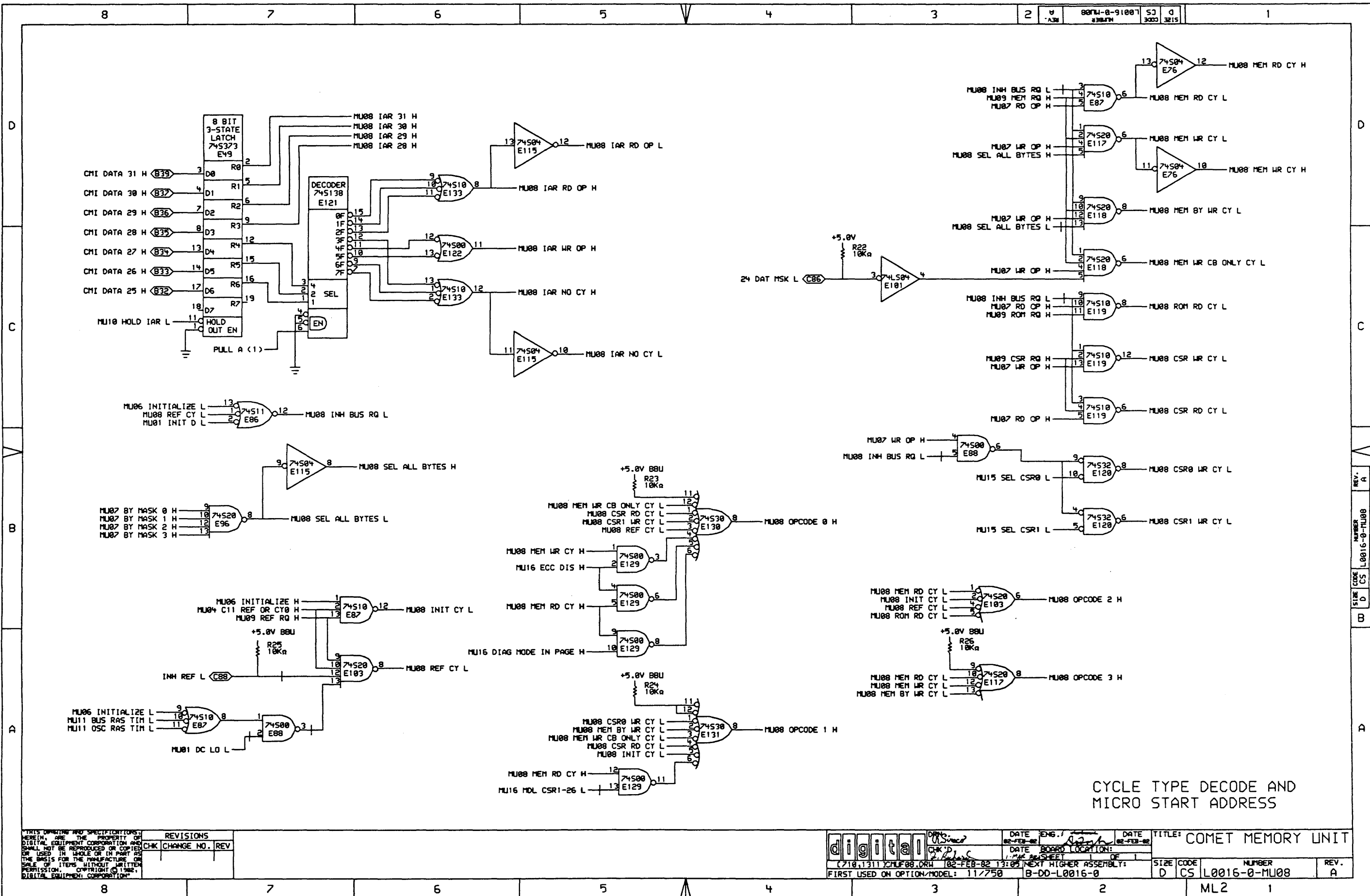
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	DATE 11-MAR-92	DATE [Blank]	DATE [Blank]	
FIRST USED ON OPTION MODEL: 11/750				SIZE CODE NUMBER REV. D CS L0016-0-MU06 A



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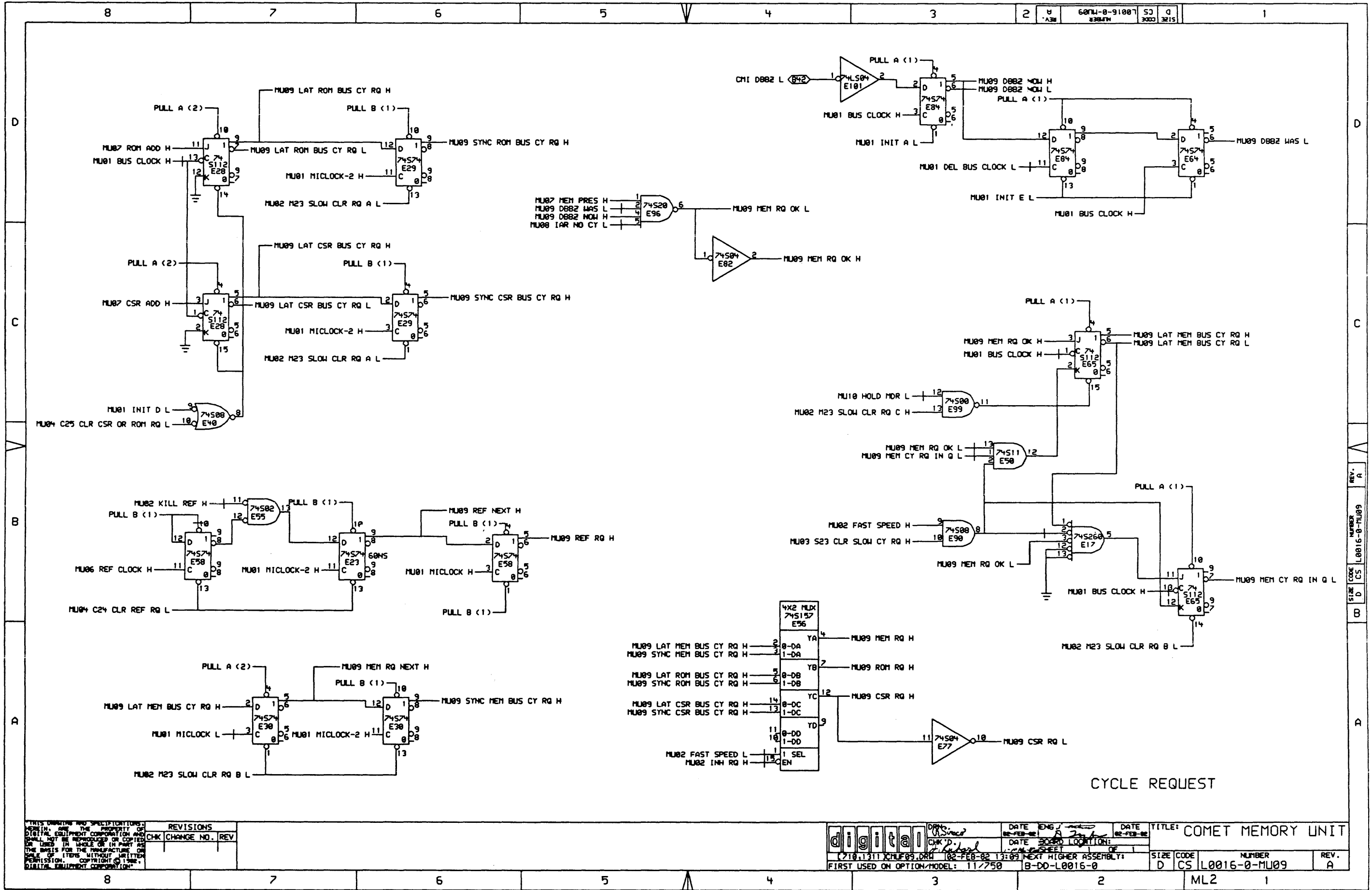
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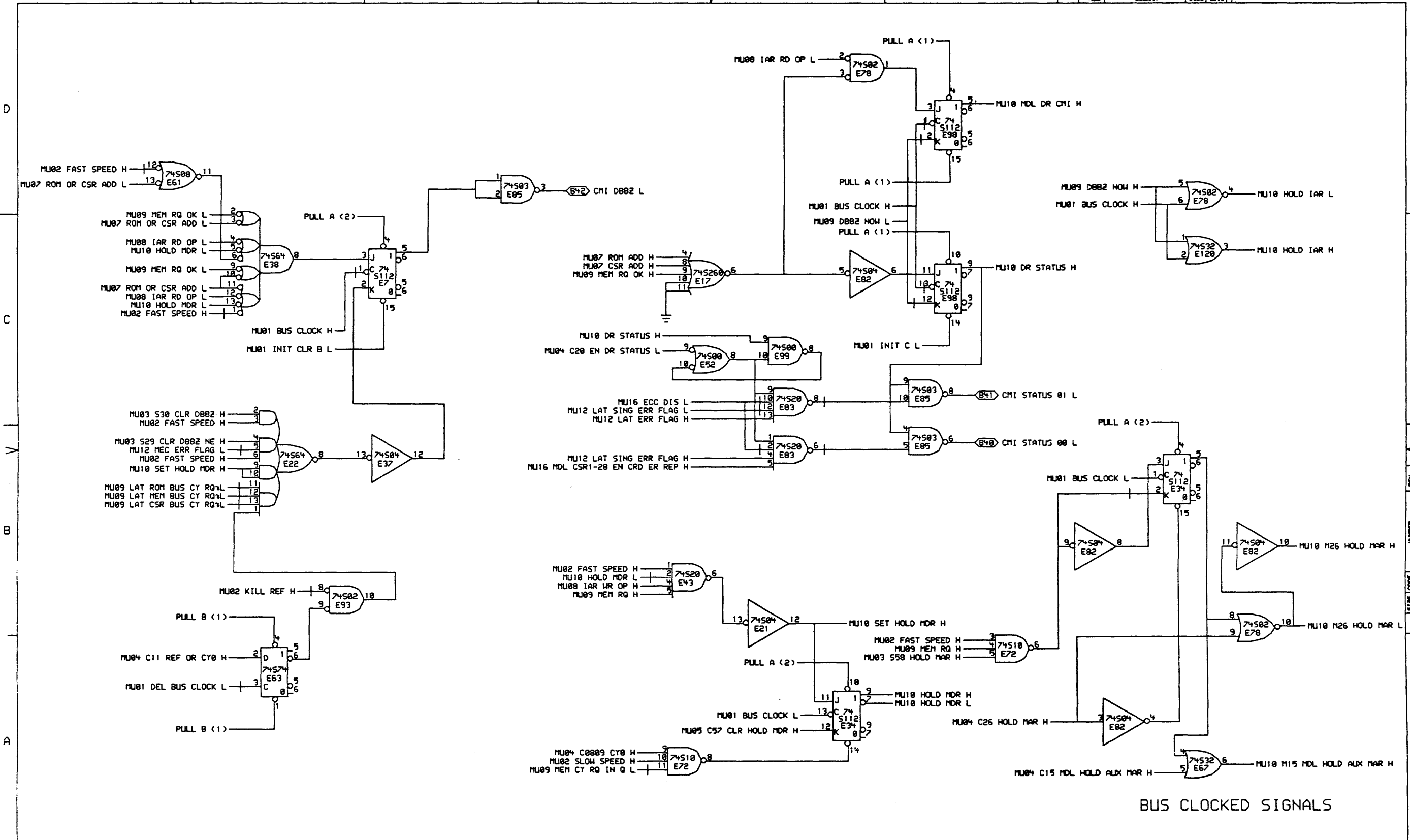
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	DATE: 11/750	DATE: 11/750	DATE: 11/750	DATE: 11/750
FIRST USED ON OPTION/MODEL: 11/750	NEXT HIGHER ASSEMBLY: B-D0-L0016-0	SIZE CODE: D CS	NUMBER: L0016-0-MU07	REV. A



CYCLE TYPE DECODE AND MICRO START ADDRESS

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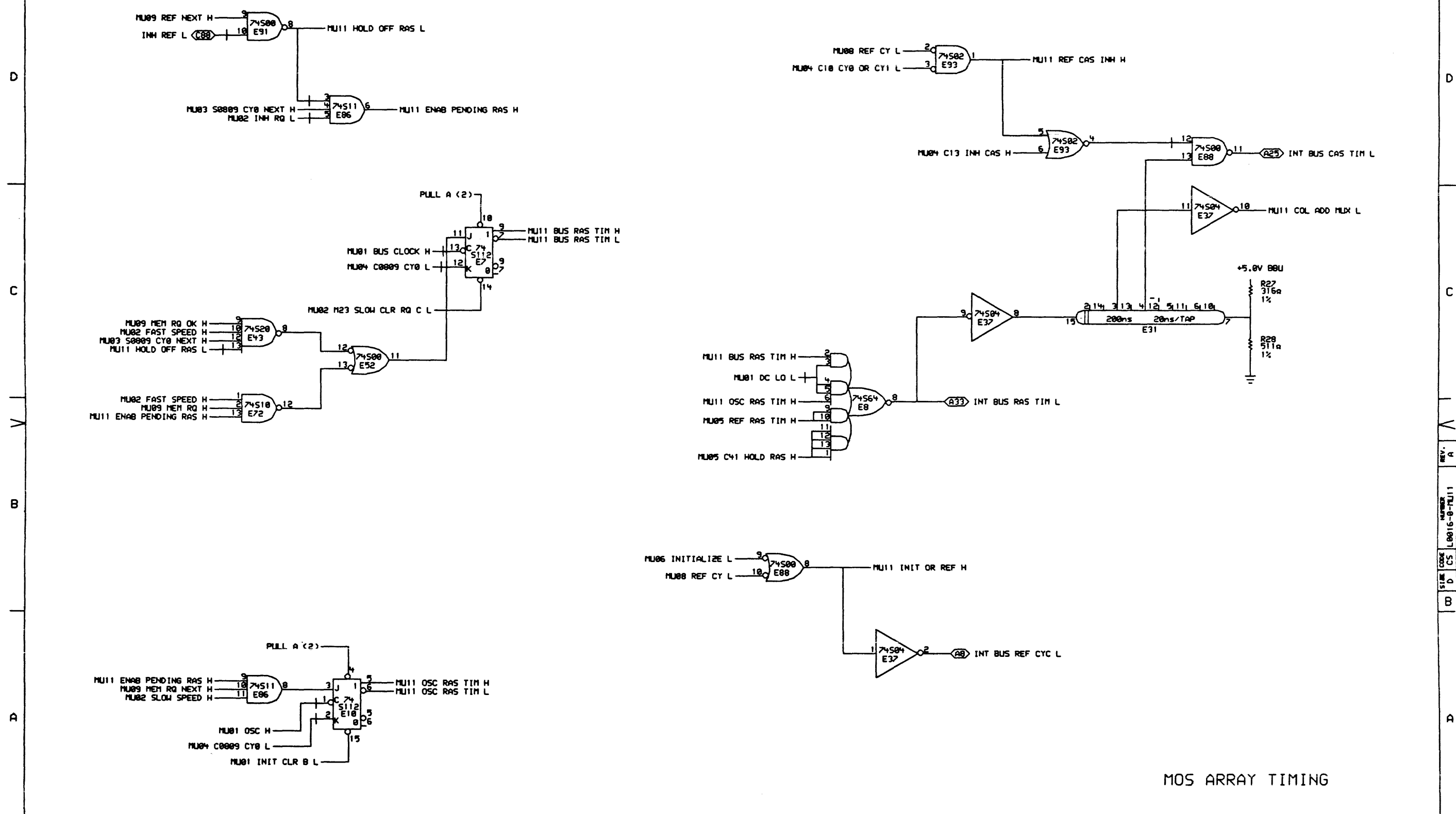


BUS Clocked SIGNALS

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REVISIONS
CHK CHANGE NO. REV

digital	DATE: 02-FEB-82	ENG: A	DATE: 02-FEB-82	TITLE: COMET MEMORY UNIT
	CHK'D: J. A. ...	DATE: 02-FEB-82	BOARD LOCATION: 1	SIZE CODE: D CS
FIRST USED ON OPTION/MODEL: 11750				NUMBER: L0016-0-MU10
				REV. A



MOS ARRAY TIMING

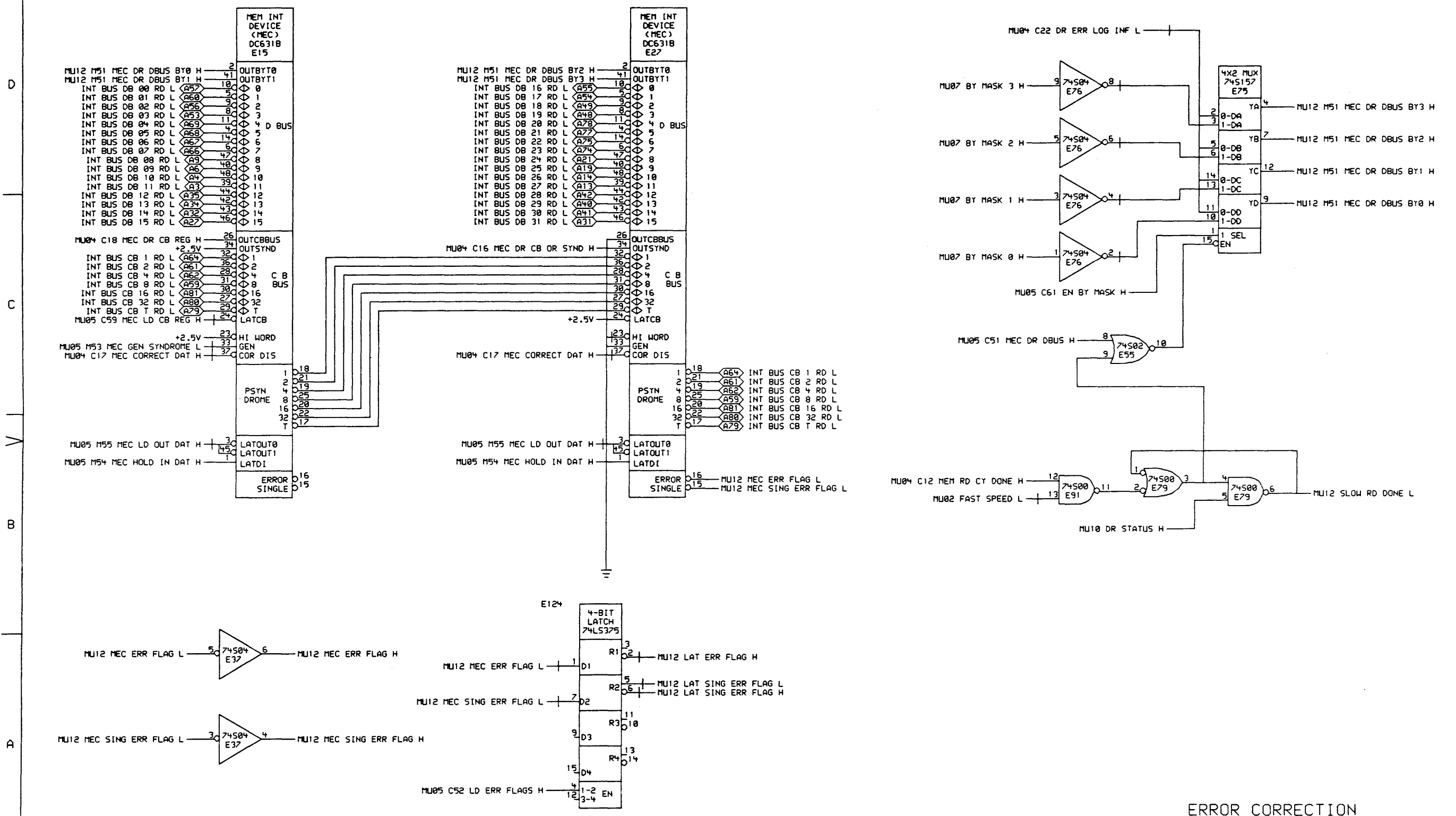
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REVISIONS		
CHK	CHANGE NO.	REV

	DATE: 02-FEB-82	ENG: J. Reed	DATE: 02-FEB-82	TITLE: COMET MEMORY UNIT
	DATE: 12-FEB-82	BOARD LOCATION: 11/13	SHEET: 1 OF 1	SIZE CODE: D
FIRST USED ON OPTION/MODEL: 11/750			18-DD-L0016-0	NUMBER: L0016-0-MJ11
				REV: A

REV. A  
 NUMBER 3000  
 SIZE CODE CS  
 L0016-0-MJ11

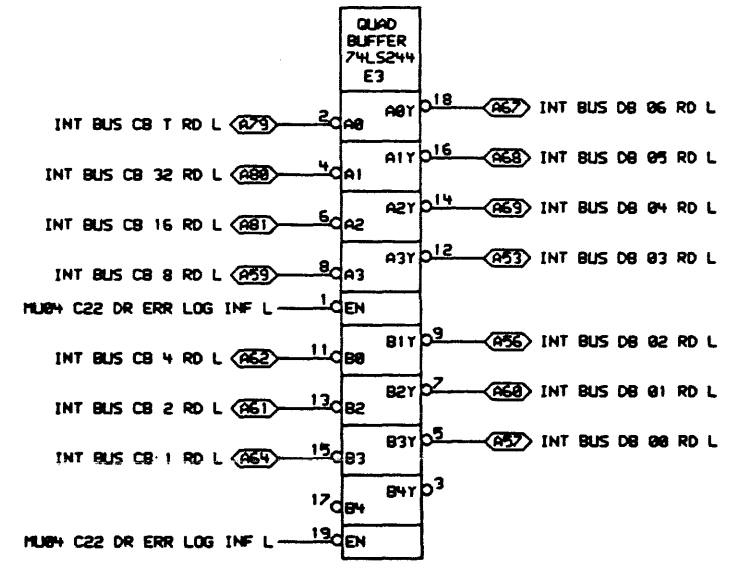
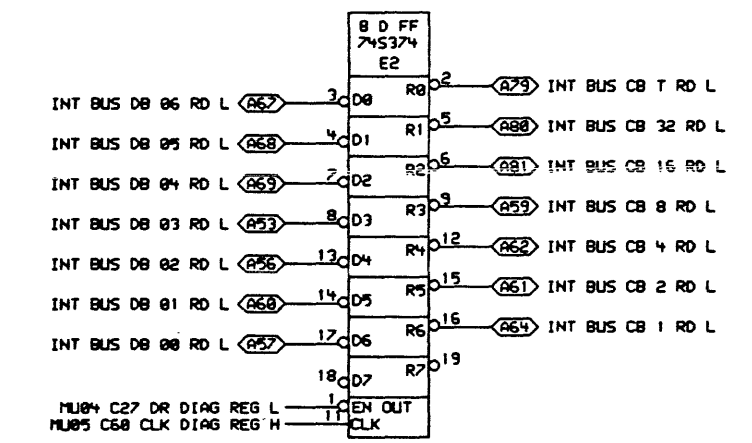
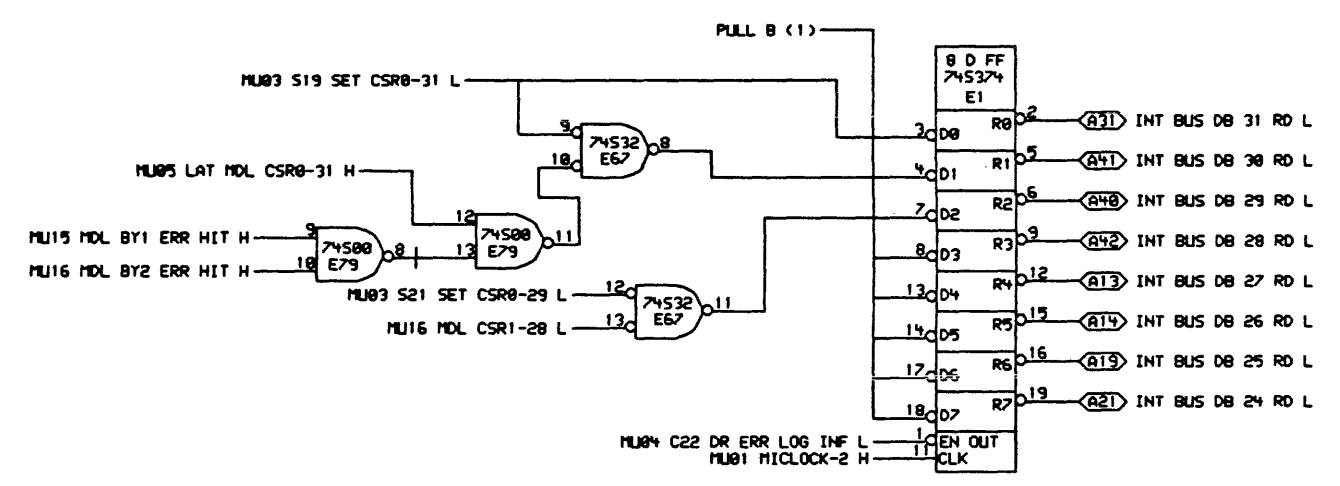




ERROR CORRECTION

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(710,1311)CMU12.DRW 125-FEB-82 13:52 NEXT HIGHER ASSEMBLY: B-DD-L0016-0				SIZE CODE NUMBER REV. D CS L0016-0-MU12 A		ML2 1	

REV. A  
 NUMBER L0016-0-MU12  
 CODE CS  
 SIZE D  
 CD

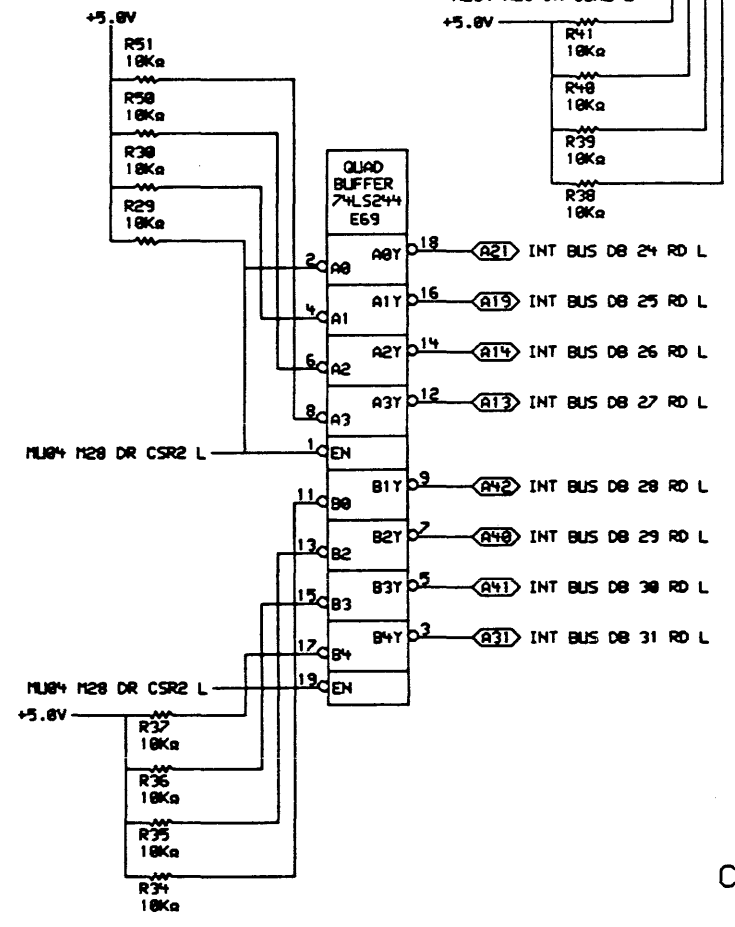
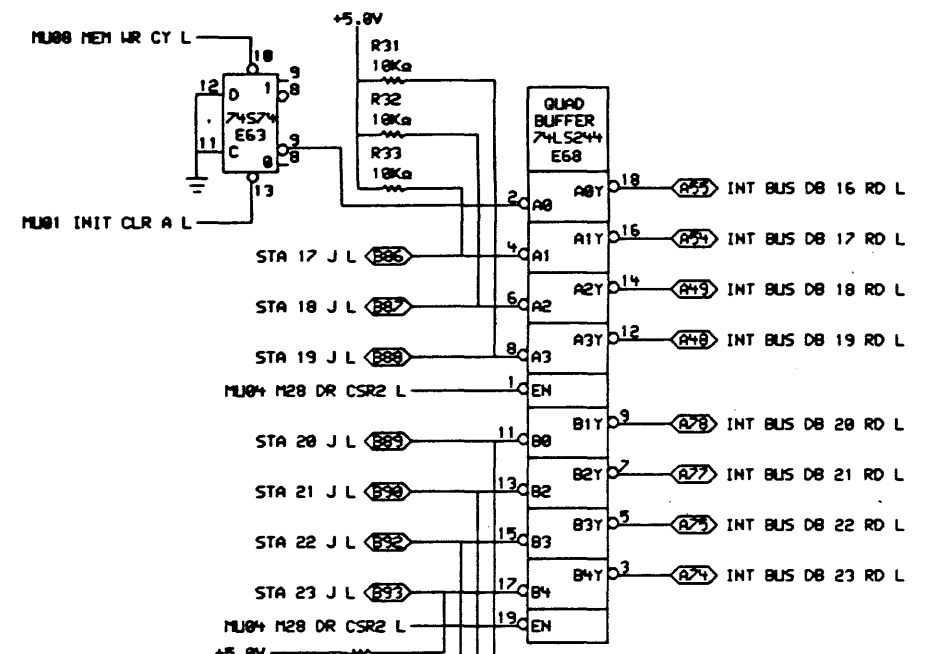
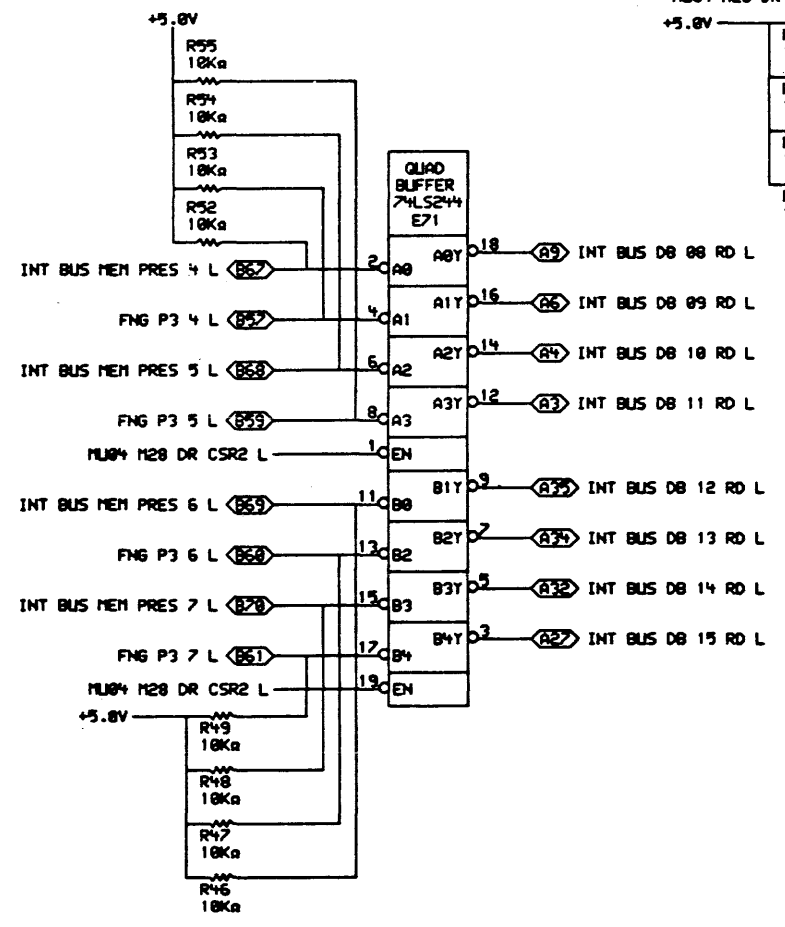
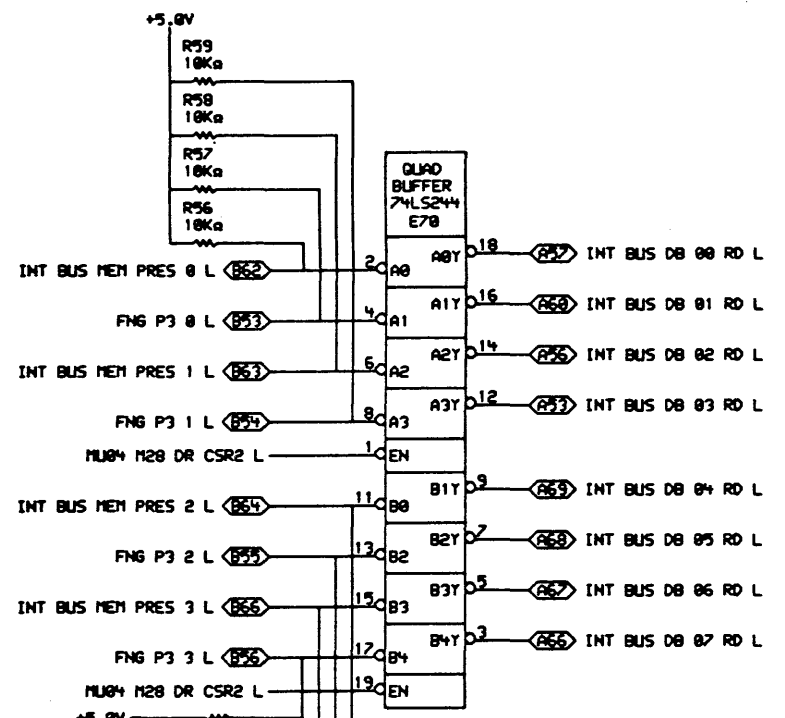


DIAGNOSTIC REGISTER AND ERROR LOGGING

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	11/750			

D  
C  
V  
B  
A

D  
C  
V  
B  
A

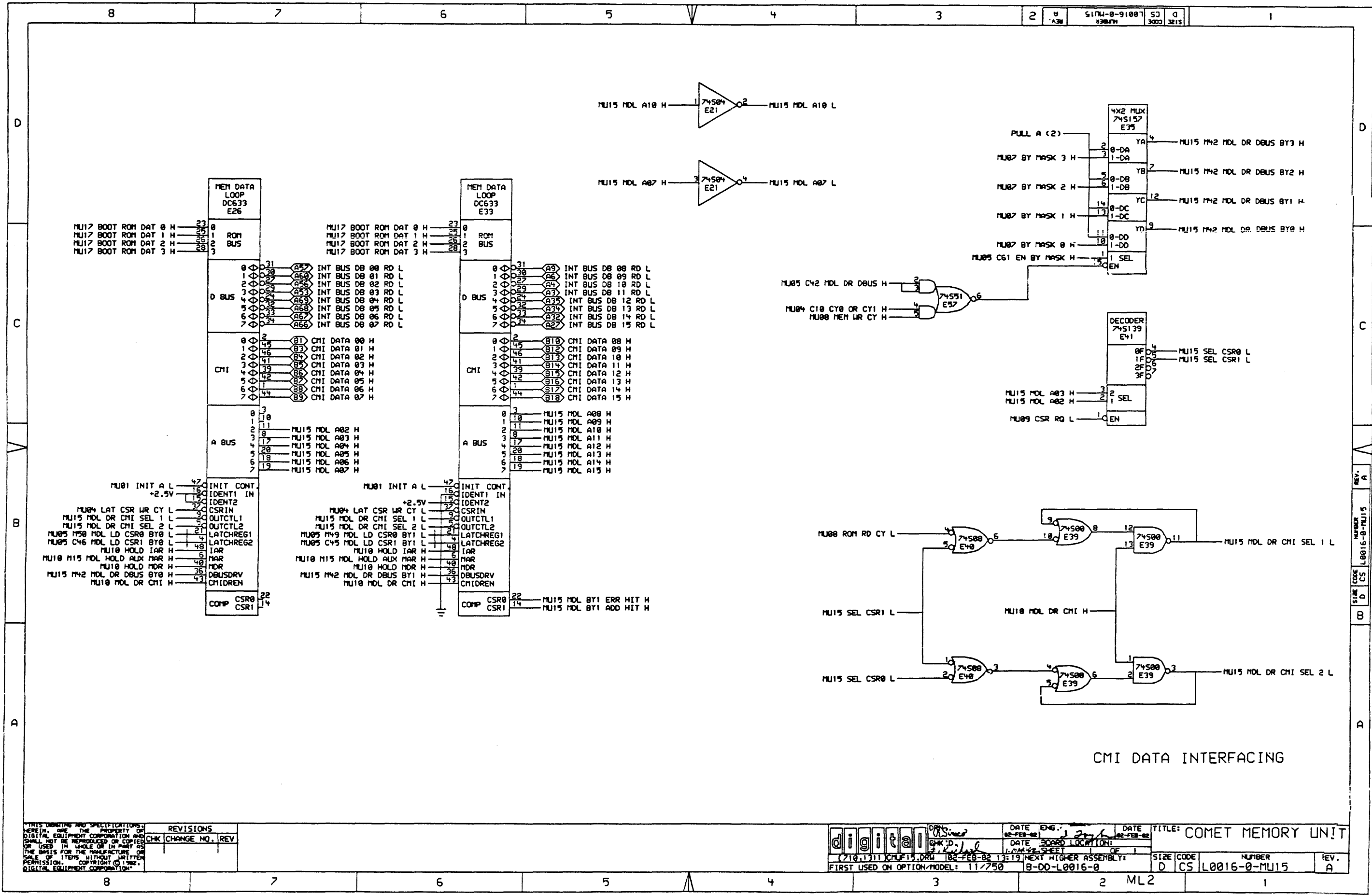


CSR2

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REVISIONS	
CHK	CHANGE NO. REV.

	DATE: 02-FEB-82	ENG: [Signature]	DATE: 02-FEB-82	TITLE: COMET MEMORY UNIT
	DATE: 02-FEB-82	DESIGNER: [Signature]	DATE: 02-FEB-82	SIZE CODE: D CS
FIRST USED ON OPTION MODEL: 117750			NUMBER: L0016-0-MU14	REV. A



CMI DATA INTERFACING

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REV.	CHG.	NO.	REV.

<b>digital</b> DATE ENG. 02-FEB-82 DATE BOARD LOCATION: 13-19 DATE DRAWN SHEET 1 OF 1 (710,1311)CMU15.DRW 102-FEB-82 13:19 NEXT HIGHER ASSEMBLY: FIRST USED ON OPTION/MODEL: 11/250 B-DD-L0016-0	DATE 02-FEB-82 TITLE: COMET MEMORY UNIT
	SIZE CODE D CS NUMBER L0016-0-MU15 REV. A

REV. A  
NUMBER L0016-0-MU15  
SIZE CODE CS  
ED

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1	1	5014676-00	DRILL AND ETCH BD.	1	
2	2	1000011-00	47.0 MMF 100V 5%200PPM MICA	1	C4
3	3	1000042-00	1000.0 MMF 100V 5%200PPM MICA	1	C1
4	4	1105275-00	D 672 TR= 15NS FIV= 60V SI	1	D1
5	5	1105871-00	1/4MS.1AZ1 = 5.1 1% .25W N	1	D2
6	6	1300229-00	100.0 .25 W 5.0 % CF	1	R65
7	7	1300309-00	390.0 .25 W 5.0 % CF	1	R18
8	8	1300316-00	470.0 .25 W 5.0 % CF	4	R3,R4,R66,R67
9	9	1300365-00	1.0 K .25 W 5.0 % CF	10	R8,R9,R12,R15-R17,R61-R64
10	10	1300479-00	10.0 K .25 W 5.0 % CF	43	R1,R2,R13,R19-R26,R29-R60
11	11	1301972-00	270.0 .25 W 5.0 % CF	1	R5
12	12	1302411-00	511.0 .25 W 1.0 % RN55D-F10	2	R10,R28
13	13	1302858-00	100.0 .25 W 1.0 % RN55D-F10	1	R7
14	14	1305420-00	33.20 K .25 W 1.0 % RN55D-F10	1	R14
15	15	1613120-00	DELAY= 200NS,10TAPS	2	E81,E31
16	16	1910532-00	74S00 NAND GATE-QUAD 2IN	12	E99,E39,E79,E52,E60,E100,E91, CONT E129,E88,E125,E126,E122
17	17	1910533-00	74S03 NAND GATE-QUAD 2IN,0	1	E85
18	18	1910534-00	74S04 INVERTER GATE-HEX 1I	8	E37,E115,E82,E76,E92,E89,E77,E21
19	19	1910536-00	74S10 NAND GATE-TRIPLE 3IN	5	E116,E133,E72,E87,E119
20	20	1910537-00	74S11 AND GATE-TRIPLE 3INF	2	E50,E86
21	21	1910539-00	74S20 NAND GATE-DUAL 4INPU	6	E103,E117,E118,E96,E83,E43
22	22	1910542-00	74S64 A-D-I GATE 4-2-3-2	3	E22,E38,E8
23	23	1910544-00	74S74 FF-D DUAL,EDGE TRIGG	8	E64,E63,E29,E30,E58,E84,E62,E74
24	24	1910544-01	74S74-60GG-D DUAL,EDGE TRIG	2	E53,E23
25	25	1910545-00	74S112 FF-JK DUAL,EDGE TRIG	7	E10,E34,E98,E7,E28,E65,E54
26	26	1910546-00	74S140 NAND GATE-DUAL 4INPU	2	E80,E73
27	27	1910547-00	74S153 MUX 1 OF 4 (DUAL)	6	E20,E13,E12,E11,E127,E128
28	28	1910548-00	74S157 MUX 1 OF 2 (QUAD)	4	E18,E56,E75,E35
29	29	1910550-00	74S174 FF-D HEX	1	E113

REVISION HISTORY		BASIC PART NO: L0016		DRN:	V.MANGAUDIS	DATE:	25-FEB-82	D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	J.RICHARD	DATE:	25-FEB-82	TITLE PARTS LIST			
---	INITIAL	A	SECTION VARIATION INDEX	CHK'D:	J.RICHARD	DATE:	25-FEB-82	COMET MEMORY UNIT			
P.N.	L0016-ML001	B	[A] 00	DES.ENG:	P.NATUSCH	DATE:	16-FEB-81	DOCUMENT NUMBER			
			[B]	RESP.ENG.:	P.NATUSCH	DATE:	18-FEB-81	SIZE	CODE	NUMBER	REV
			[C]	MFG.ENG.:	D.TAYLOR	DATE:	18-FEB-81	K	PL	L0016-0-DBP	B
			[D]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			[E]	E-UA-L0016-0-0		#B-DD-L0016-0		Z1683B.PLS		15	
			[F]								
			[G]								
			[H]								
			[I]								
			[J]								
			[K]								
			[L]								
			[M]								
			[N]								

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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
30	30		1910645-00	75452 DRIVER,FERIPH,DUAL,	1		E114
31	31		1910951-00	9602 ONE SHOT-DUAL	1		E59
32	32		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1		E132
33	33		1911675-00	74S138 DECODER/DEMUX 3-8 LIN	1		E121
34	34		1911676-00	74S139 DECODER-DUAL TWO-INP	1		E41
35	35		1911712-00	74S51 AND-OR GATE-INVERT D	1		E57
36	36		1911983-00	74S133 NAND GATE-POSITIVE 1	1		E4
37	37		1912096-00	DEC 74S86 XOR GATE,QUAD 2IN	1		E48
38	38		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	5		E102,E104,E78,E55,E93
39	39		1912389-00	74S08 AND GATE-QUAD 2IN,PO	3		E61,E40,E90
40	40		1912803-00	LS04 INVERTER GATE,HEX	1		E101
41	41		1912847-00	LS157 MUX 1 OF 2(QUAD)	1		E66
42	42		1912871-00	LS375 LATCH	1		E124
43	43		1913340-00	74S32 OR GATE-QUAD 2IN	2		E67,E120
44	44		1913670-00	74S373 LATCH 8BIT TRASP TR	4		E6,E9,E49,E51
45	45		1913671-00	74S374 FF-D OCTAL TRISTATE	9		E1,E2,E142,E97,E95,E94,E123,
						CONT	E134,E135
46	46		1914085-00	74S260 NOR GATE-DUAL,POS	3		E16,E17,E36
47	47		1914086-00	74S30 NAND GATE-POS 8IN	2		E130,E131
48	48		1914451-00	74LS393 COUNTER,BINARY,4BIT	3		E19,E24,E25
49	49		1914705-00	DC 631B BIPOLAR,LS,400-GATE	2		E15,E27
50	50		1914707-00	DC 633C BIPOLAR,LS,400-GATE	4		E14,E26,E32,E33
51	51		1914724-00	DC 650 BIPOLAR,LS,400-GATE	1		E42
52	52		1915193-00	LS244 DRIVER,LINE,OCTAL,T	5		E3,E68,E69,E70,E71
53	53		23000A2-05	*** THIS ITEM IS NOT USED ***	-		
54	54		1110864-00	LED 2MCD@10MA	1		D4
55	55		1114384-00	LED 105MW 35MA GREEN	1		D3
56	56		1016549-00	47 MFD 10V +50-10% AL EL	1		C2
57	57		1001796-00	50 MFD 25V +75-10% AL EL	1		C3
58	58		1304857-00	237.0 .25 W 1.0 % RN55D-F10	1		R6
59	59		1304863-00	316.0 .25 W 1.0 % RN55D-F10	2		R11,R27
60	60		1012784-00	.047 MFD 50V +80-20% CER	52		C5-C56
61	61		1012084-01	8 MFD 25V +75-10% AL EL	13		C65-C69,C100-C107
62	62		1215006-02	SKT,IC 16PIN DIP TIN SOLD	4		XE44-XE47
63	63		1215924-00	SKT,IC 48PIN DIP GOLD FOR	7		XE14,XE15,XE26,XE27,XE32,XE33,
						CONT	XE42
64	64		9000024-01	EYELET,ROLLED 0.1210DX0.192	12		
65	65	E-UA-L0016-0-0		UNIT ASSEMBLY	REF		
66	66	E-MD-5014676-0-0		DRILL & ETCH DRAWING	REF		
67	67	D-CS-L0016-0-1		CIRCUIT SCHEMATIC	REF		
68	68	E-EC-5014676-0-0		ETCH CUT DRAWING	REF		
69	69		1216988-02	HANDLE,MODULE,HEX TWO EJECTORS	1		
70	70		1215935-00	GASKET,THERMAL SILICONE	7		
71	71		1215936-00	HEAT SINK, 2.200X.585	7		
72	72	B-DD-L0016-0		DRAWING DIRECTORY	REF		
73	73	D-TD-L0016-0-3		L0016 TIMING CHARTS	REF		
74	74		23603A2-00	A2-05	1		E112
75	75		23604A2-00	A2-05	1		E111

! D !	! I !	! G !	! I !	! T !	! A !	! L !	! TITLE	! SECTION A	! OF A	! SIZE !	! CODE !	! DOCUMENT NUMBER	! REV !
!	!	!	!	!	!	!	COMET MEMORY UNIT	!	!	!	!	L0016-0-DBP	!
!	!	!	!	!	!	!		!	!	!	!		!
!	!	!	!	!	!	!		!	!	!	!		!

AUTOMATED BY PRTLST.3P(44)

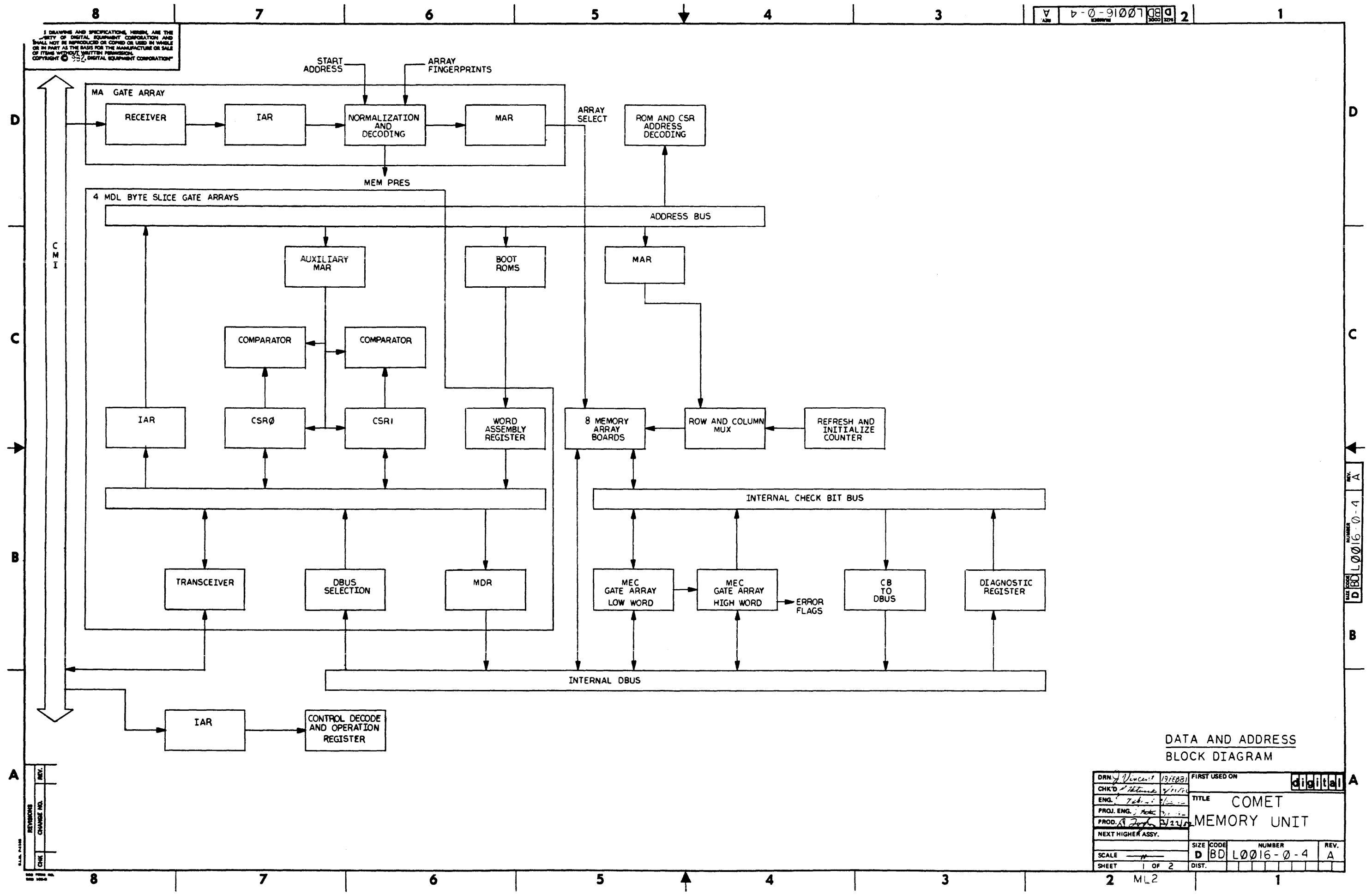
P A R T S L I S T

SHEET A3 OF A3

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
76	76		23605A2-00	A2-05	1	E110
77	77		23606A2-00	A2-05	1	E109
78	78		23607A2-00	A2-05	1	E108
79	79		23608A2-00	A2-05	1	E107
80	80		23630A2-00	A2-05	1	E106
81	81		23610A2-00	A2-05	1	E105
82	82		23611A2-00	A2-05	1	E141
83	83		23612A2-00	A2-05	1	E140
84	84		23613A2-00	A2-05	1	E139
85	85		23614A2-00	A2-05	1	E138
86	86		23615A2-00	A2-05	1	E137
87	87		23616A2-00	A2-05	1	E136
88	88		23905A9-00	A9-01	1	E44
89	89		23906A9-00	A9-01	1	E45
90	90		23948A9-00	A9-01	1	E46
91	91	D-BD-L0016-0-4		L0016 BLOCK DIAGRAM	REF	
92	92	D-FD-L0016-0-2		FLOW DIAGRAM	REF	

D	I	G	I	T	A	L	TITLE	COMET MEMORY UNIT	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
											K	FL	L0016-0-DBP	B

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DATA AND ADDRESS BLOCK DIAGRAM

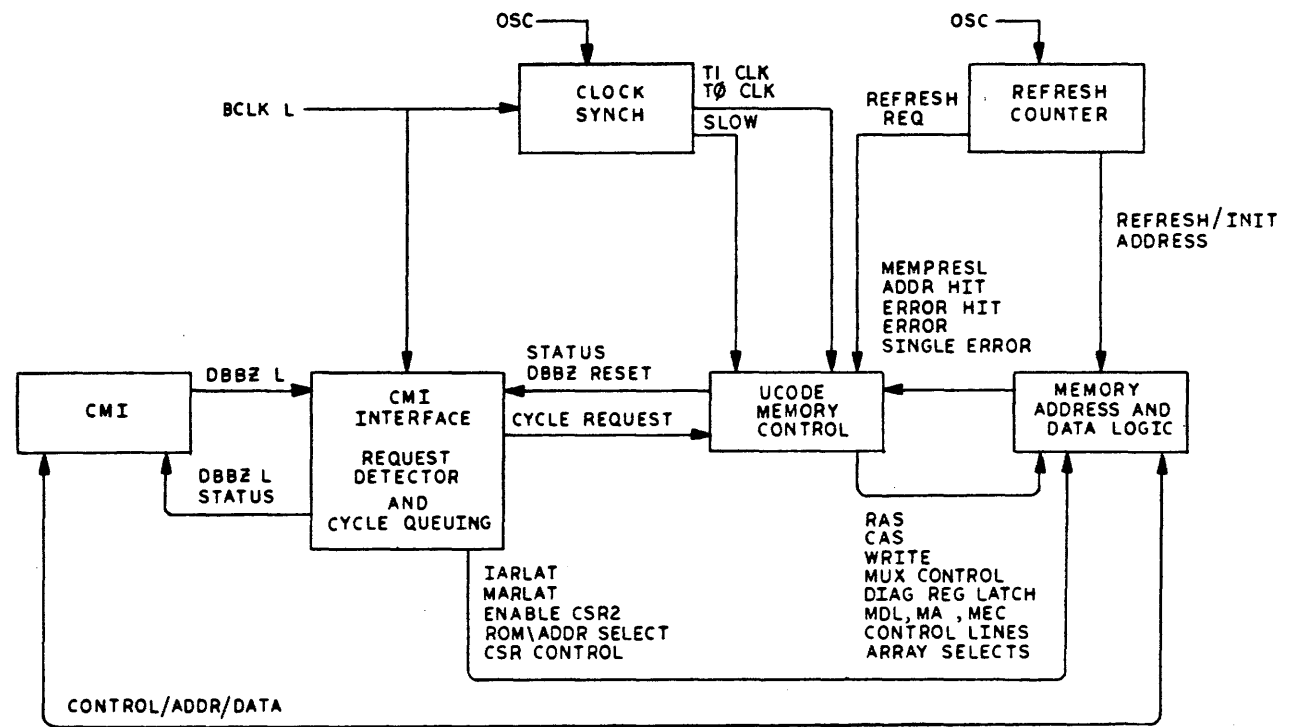
DRN: Vincent 1/9/80	FIRST USED ON	digital	
CHK'D: [Signature]	TITLE	COMET	
ENG: [Signature]	MEMORY UNIT		
PROJ. ENG: [Signature]	NEXT HIGHER ASSY.		
SCALE: ---	SIZE	CODE	NUMBER
SHEET 1 OF 2	D	BD	L0016-0-4
	DIST.		REV. A

2 ML2

1



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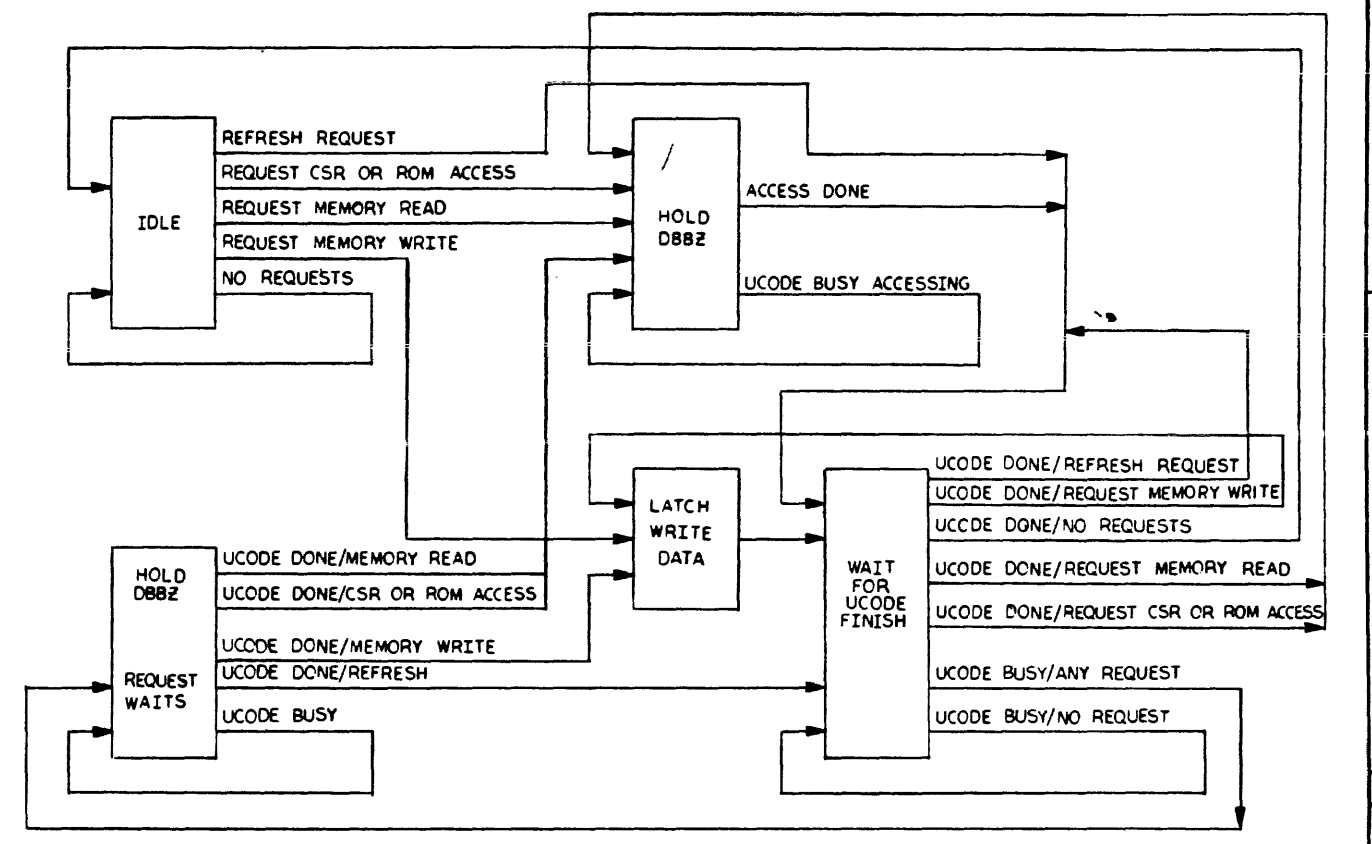
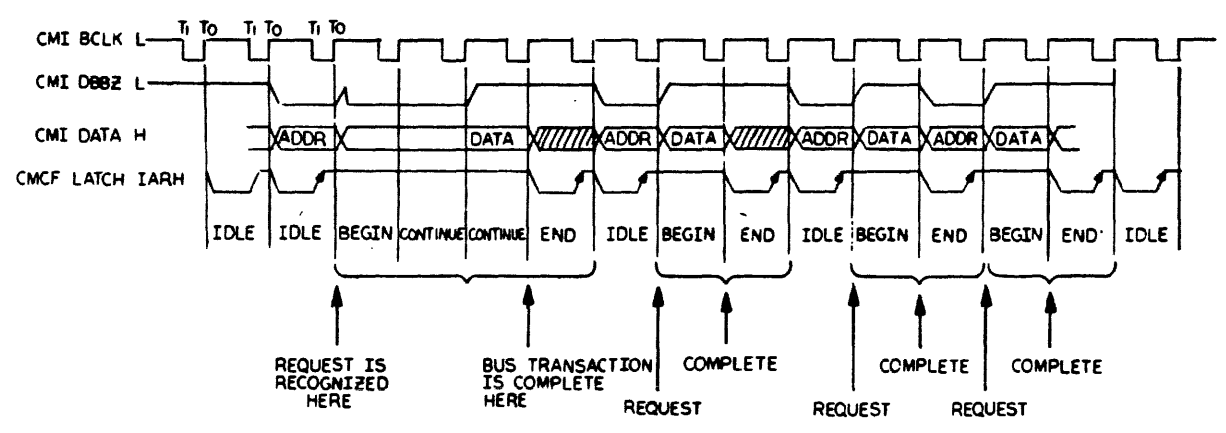
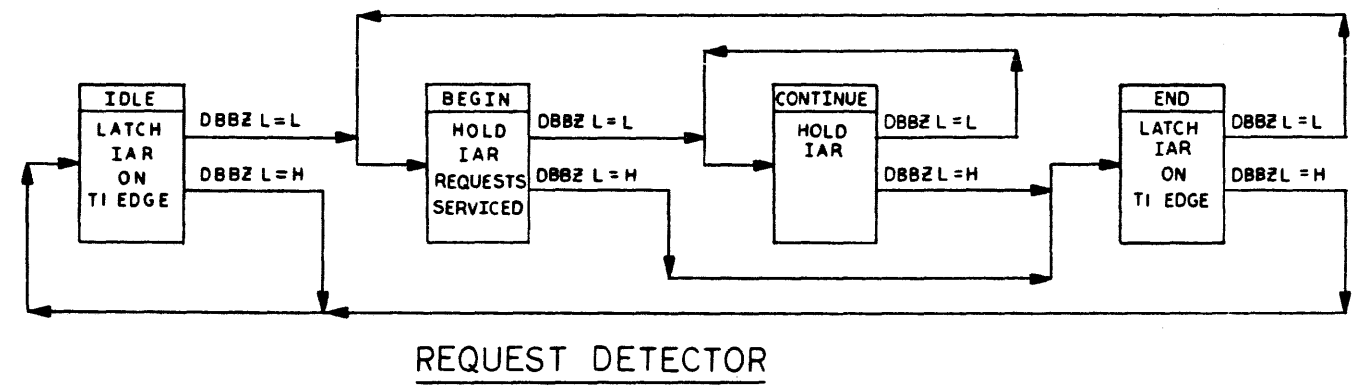


CONTROL LOGIC  
 BLOCK DIAGRAM

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE COMET MEMORY		SIZE CODE D BD	NUMBER L0016-0-4	REV. A
SCALE	SHEET 2 OF 2	DIST.		

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NOTE: AS THE REQUEST DETECTOR ENTERS THE BEGIN STATE, THIS MACHINE ENTERS THE STATE TO WHICH THE REQUEST POINTS. SIMULTANEOUSLY, THE UC CODE MEMORY CONTROL WILL BEGIN AT THE STARTING ADDRESS STATE OF THE REQUESTED CYCLE IF IT IS NOT BUSY.

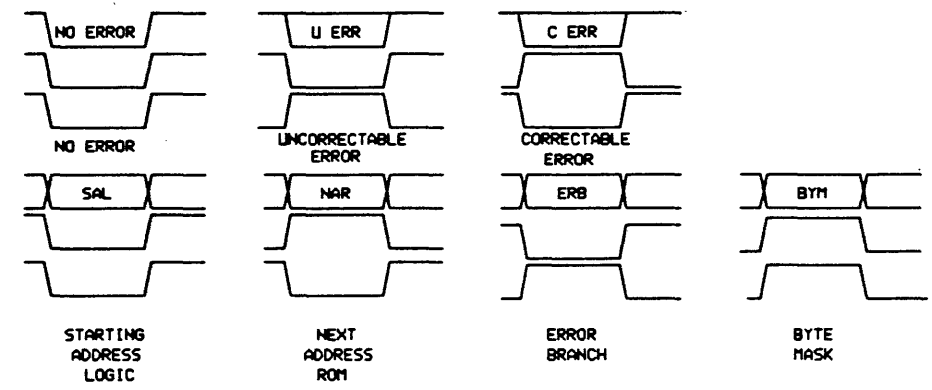
CMI INTERFACE FLOW

DRN. Vincent 1/9/80	FIRST USED ON	digital
CHK'D. P. White 3/1/80	TITLE	
ENG. P. White 3/1/80	COMET	
PROJ. ENG. P. White 3/1/80	MEMORY UNIT	
PROD. H. P. White 3/1/80	SIZE CODE	NUMBER
NEXT HIGHER ASSY.	D FD	
SCALE	SHEET	REV.
	1 OF 1	A

REVISIONS  
CHANGE NO. REV.

REV. A  
L0016-0-2

CMI STATUS <01:00> L (PG MJ10)  
 CMI STATUS 00 L (PG MJ10)  
 CMI STATUS 01 L (PG MJ10)  
  
 MU03 C0<9:8> BRANCH H  
 MU03 C08 BRANCH H  
 MU03 C09 BRANCH H



STATUS CODES AND MICRCODE  
ADDRESS SELECTION CODES

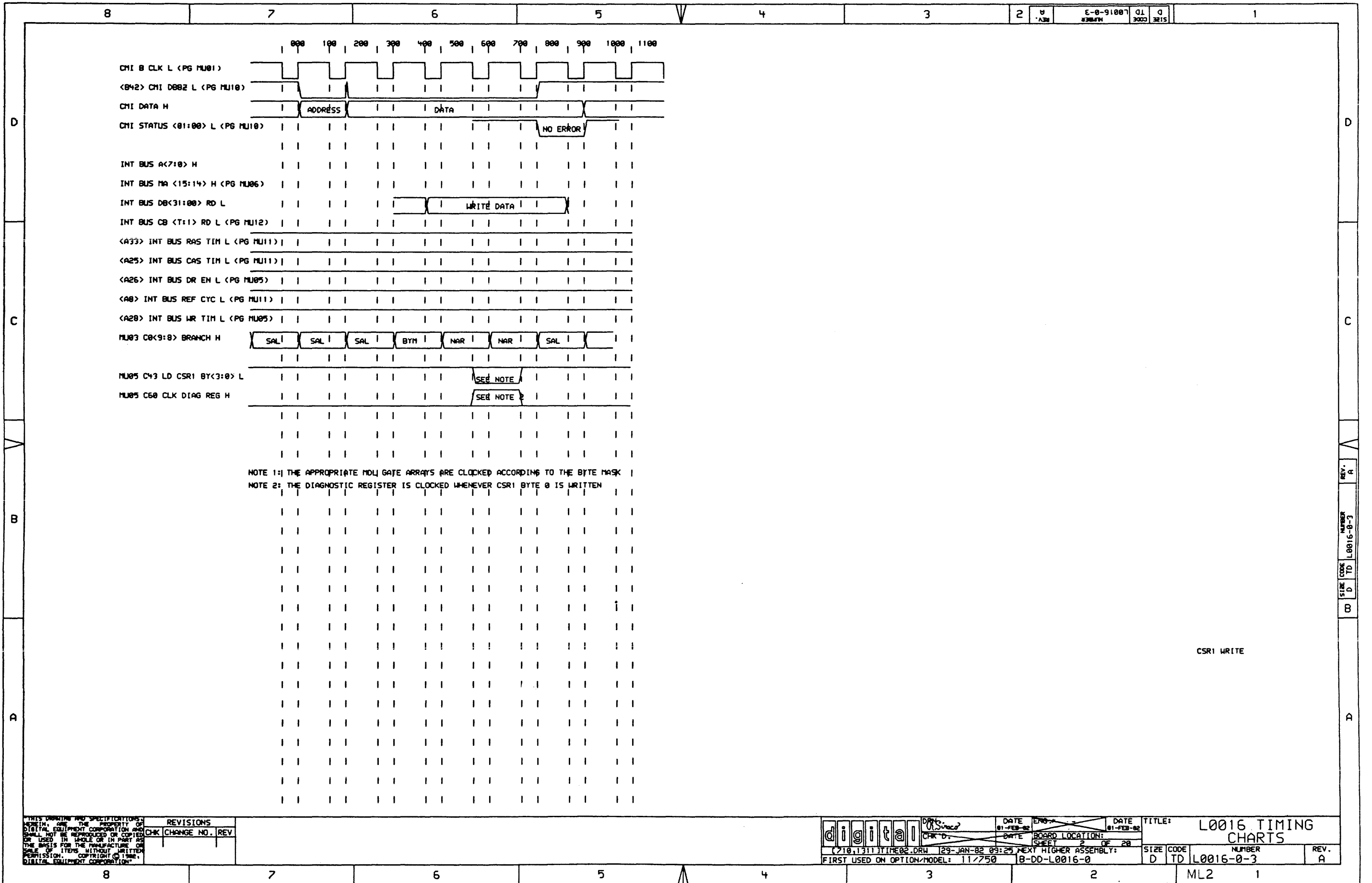
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REVISIONS	
CHK	CHANGE NO. REV

	DATE: 01-FEB-82	ENG: [Signature]	DATE: 01-FEB-82
	DATE: 17-JAN-82	CHK'D: [Signature]	DATE: 01-FEB-82
(710,1311) (1) (F01.DRW) 129-JAN-82 09:21 FIRST USED ON OPTION/MODEL: 11/750		DATE: 01-FEB-82 CHECKED: [Signature] DATE: 01-FEB-82 CHECKED: [Signature]	

TITLE: L0016 TIMING CHARTS	
SIZE CODE: D TD	NUMBER: L0016-0-3
REV. A	

REV. A  
 NUMBER L0016-0-3  
 SIZE CODE TD



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REVISIONS	
CHK	CHANGE NO. REV

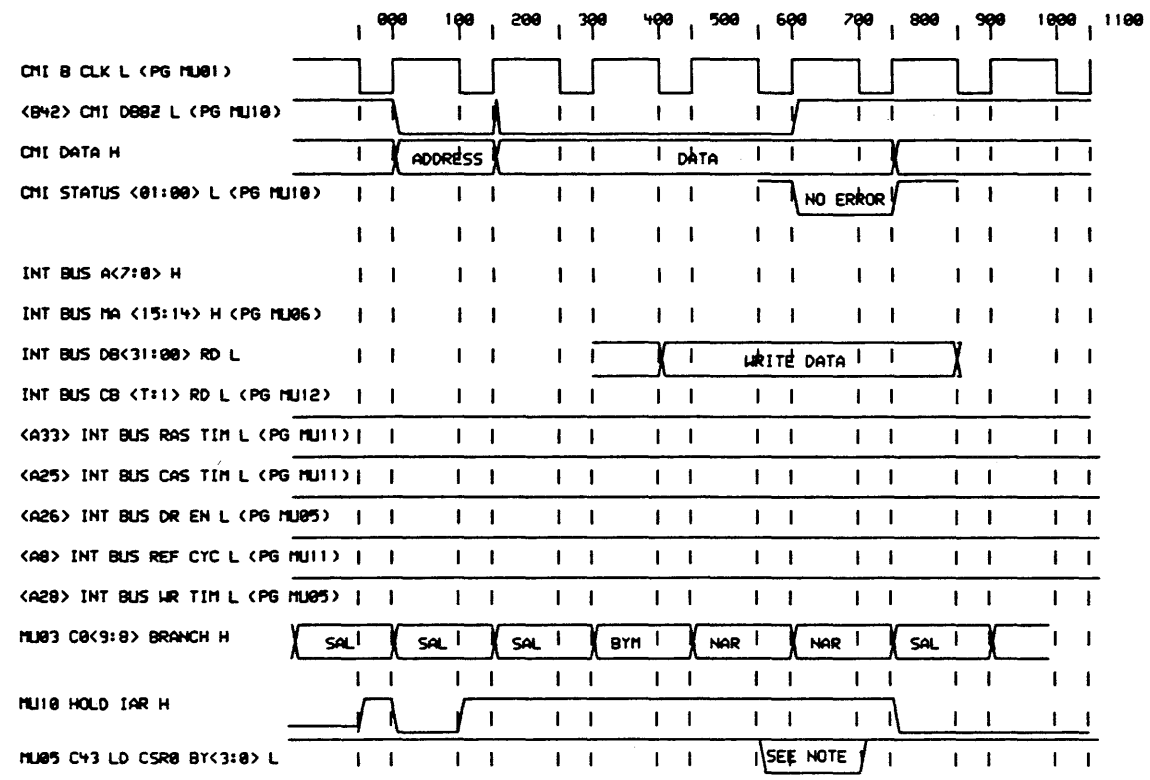
digital	DATE 01-FEB-82	DATE 01-FEB-82	TITLE: L0016 TIMING CHARTS
	DATE 29-JAN-82 09:25	BOARD LOCATION: 2 OF 20	SIZE CODE NUMBER REV. D TD L0016-0-3 A
FIRST USED ON OPTION/MODEL: 11750		NEXT HIGHER ASSEMBLY: B-DD-L0016-0	

REV. A  
NUMBER L0016-0-3  
SIZE CODE D TD

ML2 1

D  
C  
V  
B  
A

D  
C  
V  
B  
A



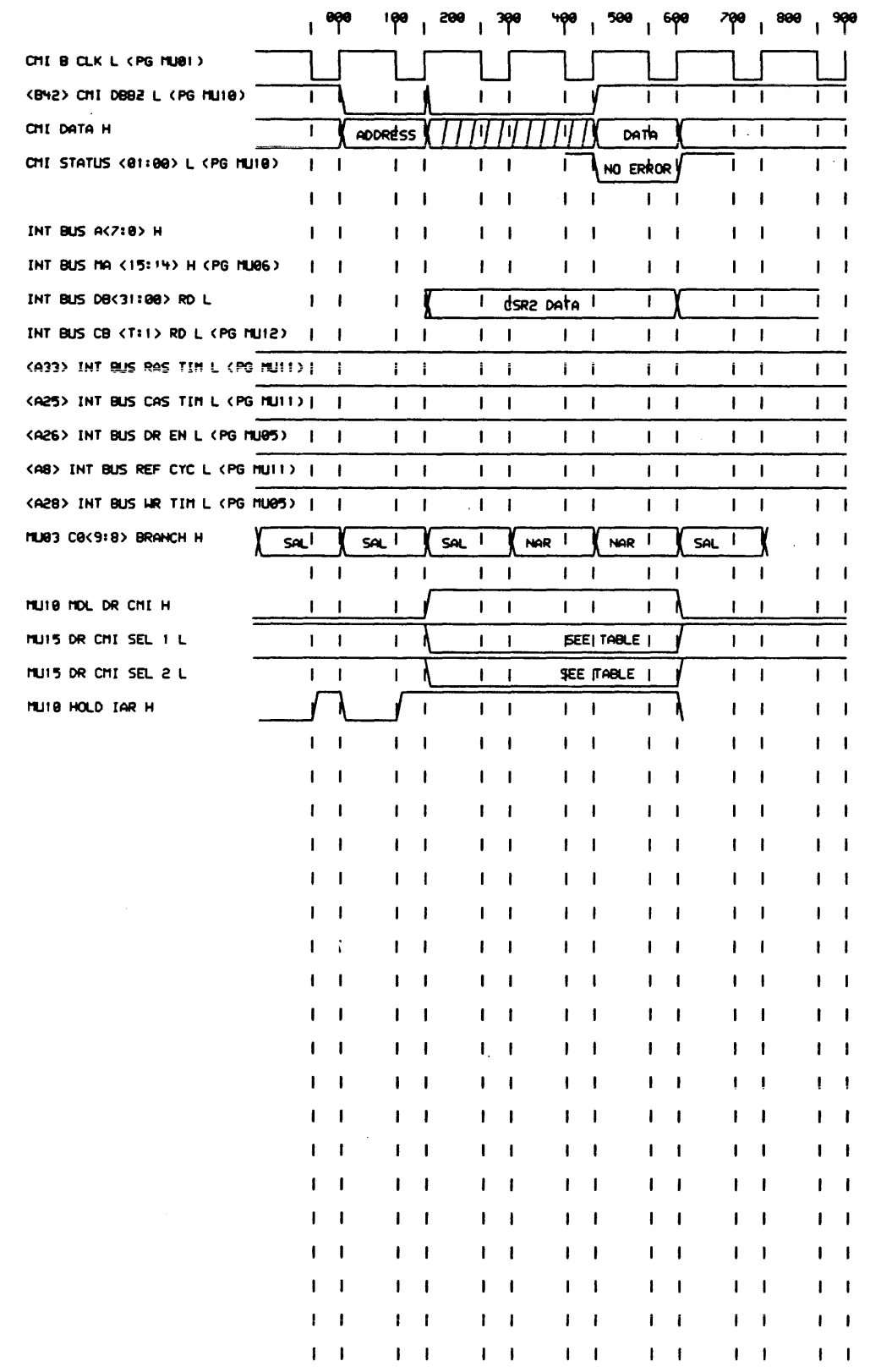
NOTE 1: THE APPROPRIATE MUI GATE ARRAYS ARE CLOCKED ACCORDING TO THE BYTE MASK

CSRB WRITE

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE ENG. 01-FEB-82	DATE 01-FEB-82	TITLE: L0016 TIMING CHARTS
	DATE 01-FEB-82	DATE 01-FEB-82	BOARD LOCATION: 2 OF 20
(710,1311) L0016-0-3.DRW	129-JAN-82 09:36	NEXT HIGHER ASSEMBLY: B-00-L0016-0	SIZE CODE D TD L0016-0-3
FIRST USED ON OPTION/MODEL: 11/750			NUMBER L0016-0-3 REV. A



CSR READ

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REVISIONS	
CHK	CHANGE NO. REV

digital

DATE 01-FEB-82

DATE 01-FEB-82

TITLE: L0016 TIMING CHARTS

BOARD LOCATION: SHEET 4 OF 20

SIZE CODE D TD

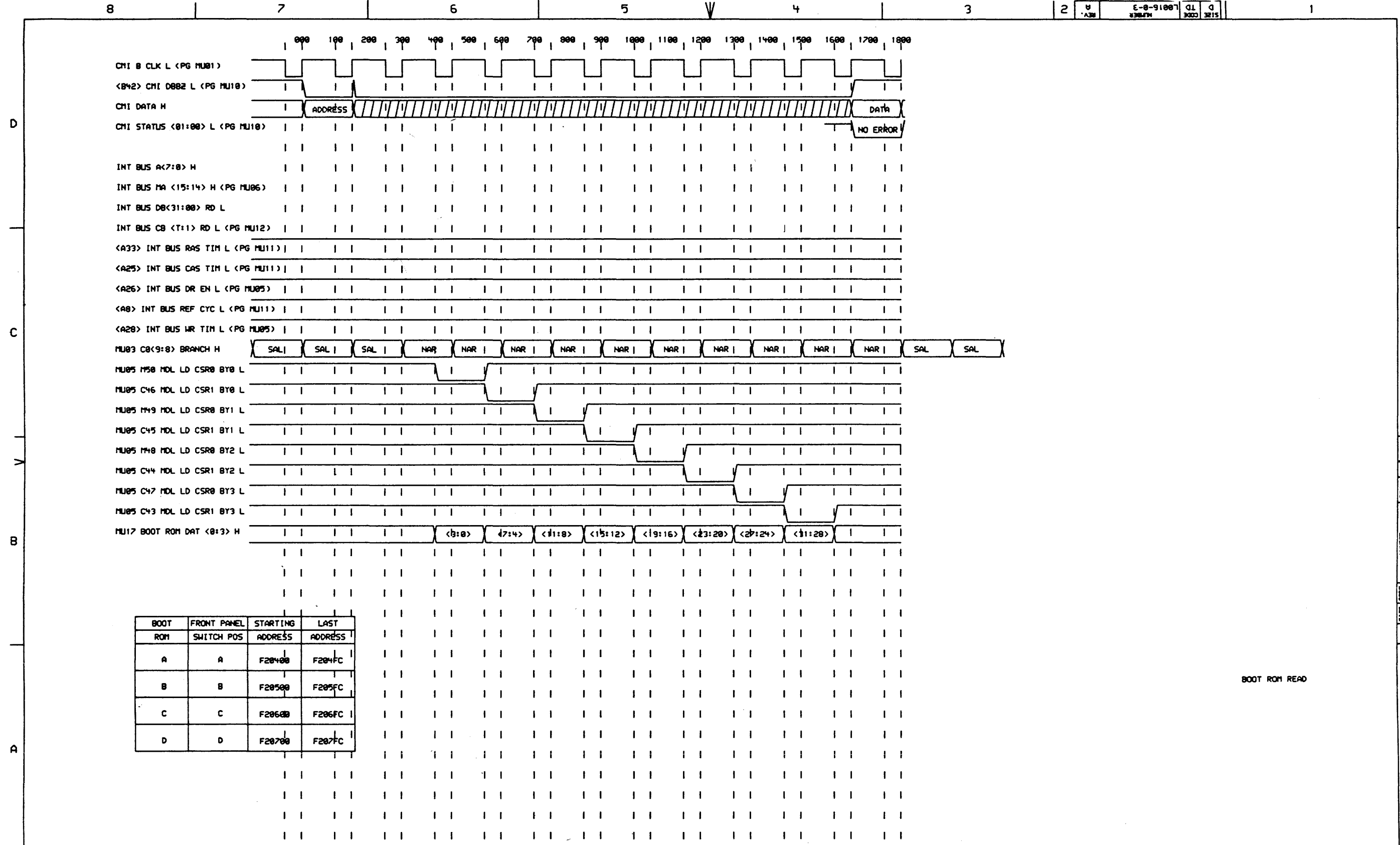
NUMBER L0016-0-3

REV. A

FIRST USED ON OPTION/MODEL: 11/750

8-DD-L0016-0

REV. A  
NUMBER L0016-0-3  
SIZE CODE D TD



BOOT ROM	FRONT PANEL SWITCH POS	STARTING ADDRESS	LAST ADDRESS
A	A	F20400	F204FC
B	B	F20500	F205FC
C	C	F20600	F206FC
D	D	F20700	F207FC

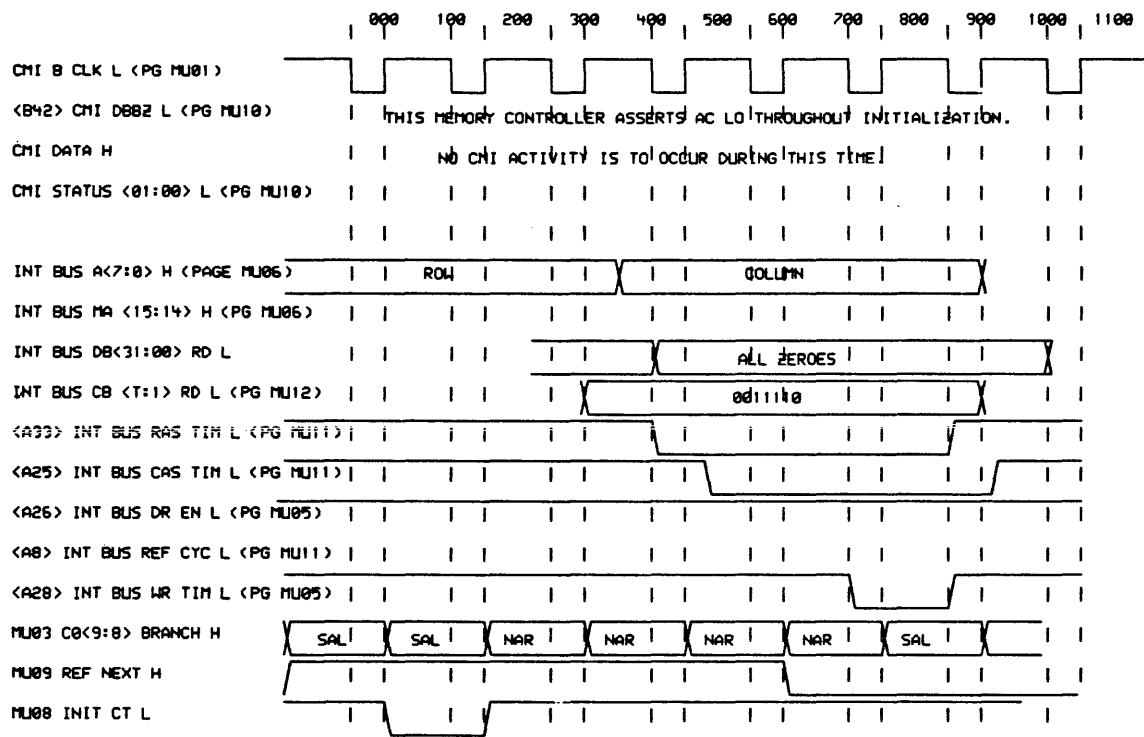
BOOT ROM READ

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REVISIONS		
CHK	CHANGE NO.	REV

digital DATE 01-FEB-82 DATE 01-FEB-82 TITLE: L0016 TIMING CHARTS  
 DATE 01-FEB-82 BOARD LOCATION: SHEET 5 OF 20  
 (210,131) TIME05.DRW 29-JAN-82 09:41 NEXT HIGHER ASSEMBLY: B-DD-L0016-0  
 FIRST USED ON OPTION/MODEL: 11/750

SIZE	CODE	NUMBER	REV.
D	TD	L0016-0-3	A



INITIALIZE

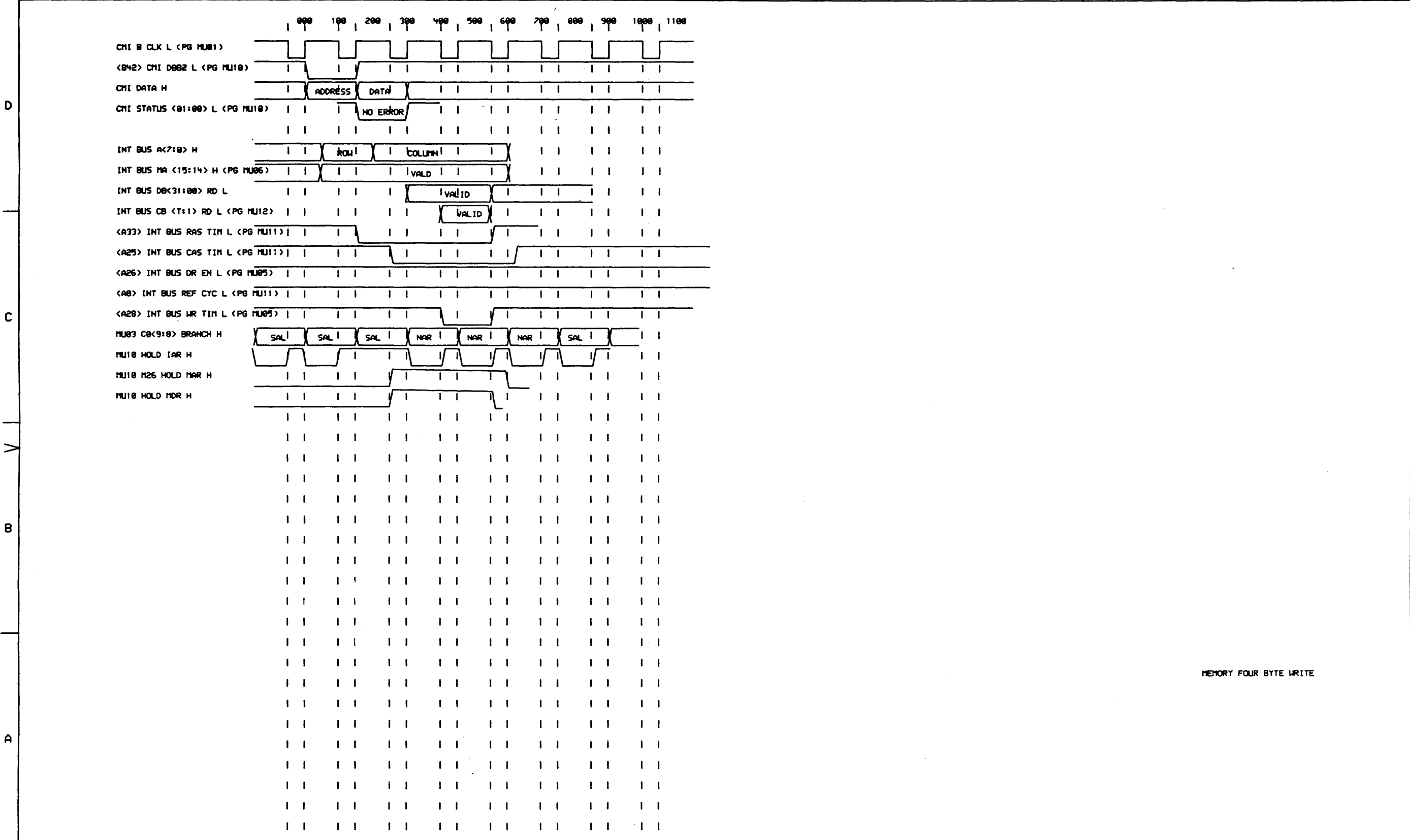
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REVISIONS	
CHK	CHANGE NO. REV

digital DATE: 01-FEB-82 DRAWN: [Signature]	DATE: 01-FEB-82	DATE: 01-FEB-82	TITLE: L0016 TIMING CHARTS
	DATE: 01-FEB-82	DATE: 01-FEB-82	BOARD LOCATION: SHEET 6 OF 28
FIRST USED ON OPTION/MODEL: 11/750		NEXT HIGHER ASSEMBLY: B-00-L0016-0	SIZE: D TD
		NUMBER: L0016-0-3	REV.: A

REV. A  
 NUMBER L0016-0-3  
 CODE TD  
 SIZE D  
 REV. A





MEMORY FOUR BYTE WRITE

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REVISIONS	CHK	CHANGE NO.	REV

digital

DATE: 01-FEB-82

DATE: 01-FEB-82

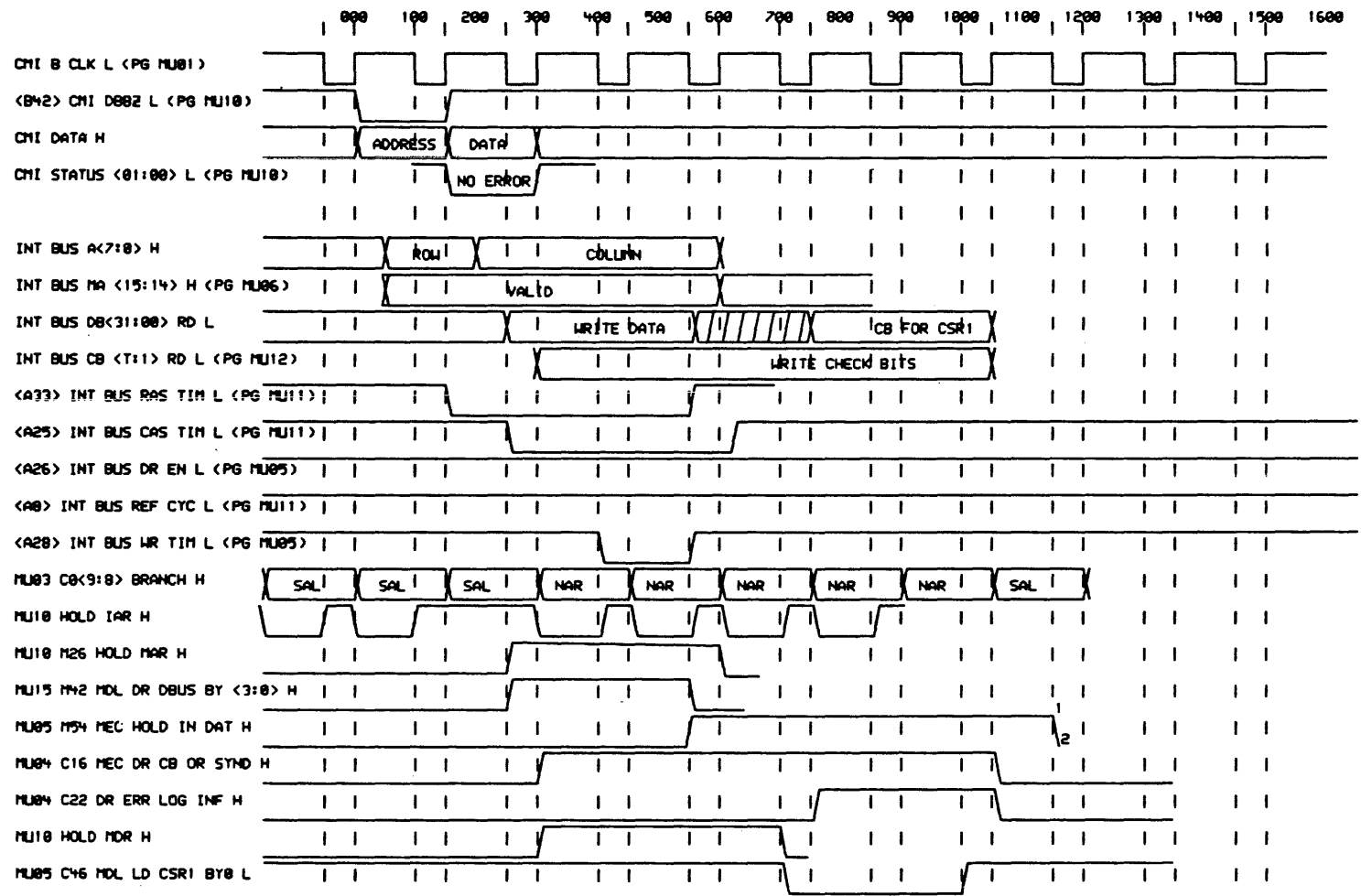
DATE: 01-FEB-82

BOARD LOCATION: SHEET 7 OF 28

TITLE: L0016 TIMING CHARTS

SIZE CODE NUMBER REV. D TD L0016-0-3 A

FIRST USED ON OPTION/MODEL: 11/750 B-DD-L0016-0



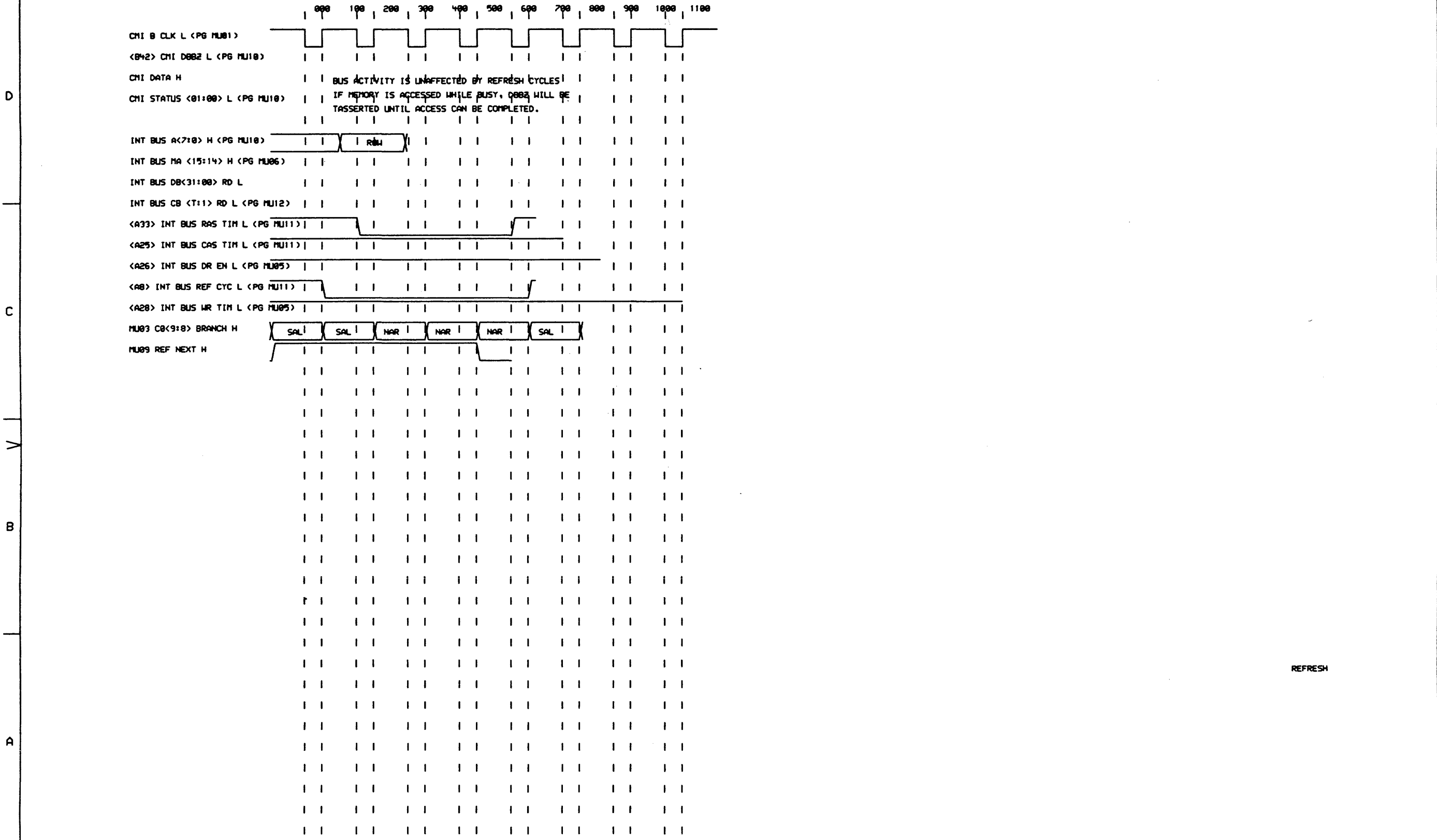
NOTE: CSRI BIT 25 = 1

MEMORY FOUR BYTE WRITE WITH ECC DISABLED

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE 01-FEB-82	DATE 01-FEB-82	TITLE: L0016 TIMING CHARTS
	DATE 01-FEB-82	DATE 01-FEB-82	BOARD LOCATION: SHEET 8 OF 20
(710,1311)11FE08.DRW	129-JAN-82 09:53	NEXT HIGHER ASSEMBLY: B-DD-L0016-0	SIZE CODE D TD
FIRST USED ON OPTION/MODEL: 11/750			NUMBER: L0016-0-3
			REV. A



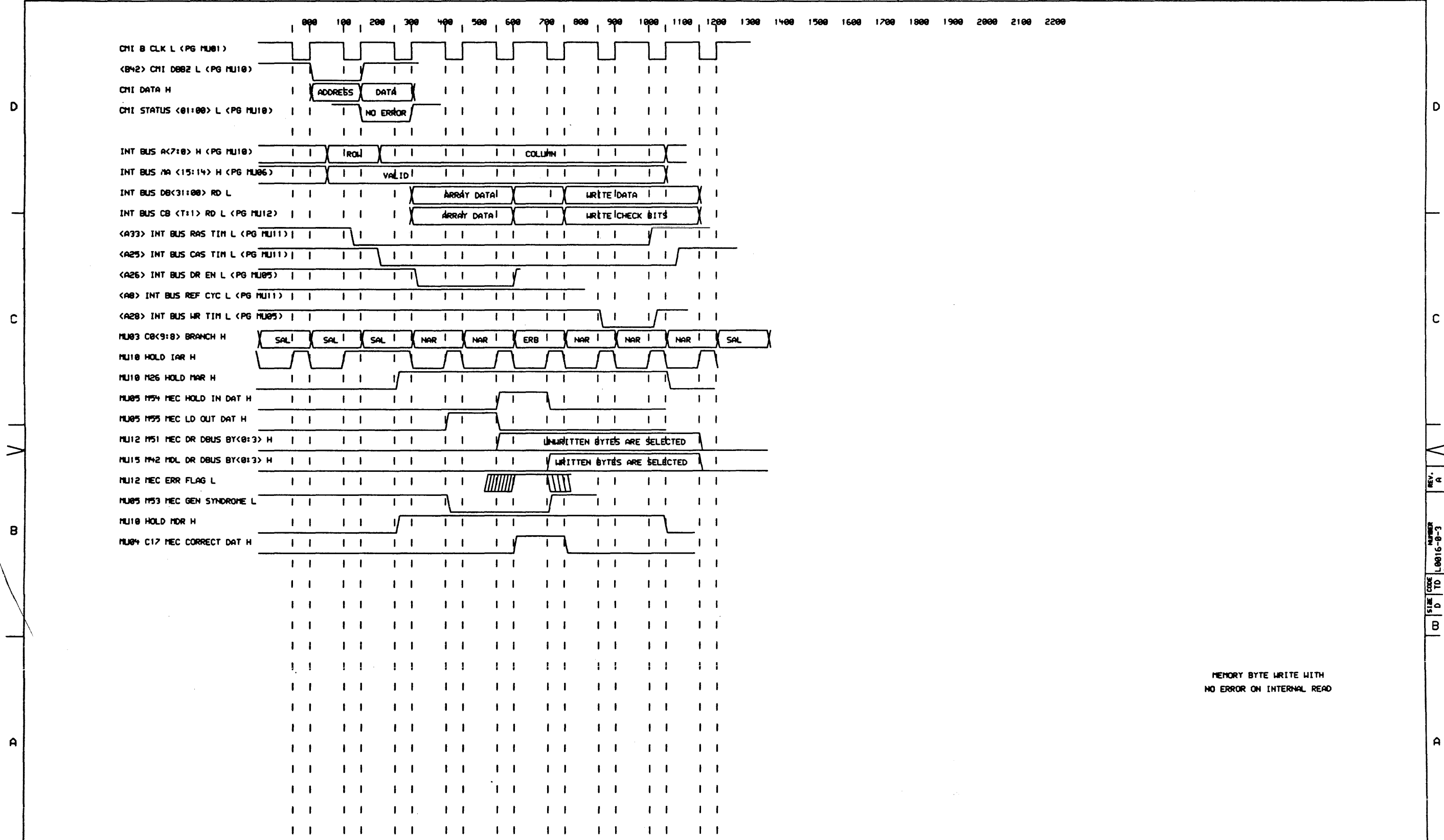
REFRESH

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CHK	CHANGE NO.	REV

REVISIONS

digital  
 DATE: 01-FEB-82  
 BOARD LOCATION: 2  
 SHEET: 3 OF 28  
 TITLE: L0016 TIMING CHARTS  
 SIZE CODE: D TD  
 NUMBER: L0016-0-3  
 REV: A  
 FIRST USED ON OPTION/MODEL: 11/750  
 NEXT HIGHER ASSEMBLY: B-DD-L0016-0  
 ML2 1



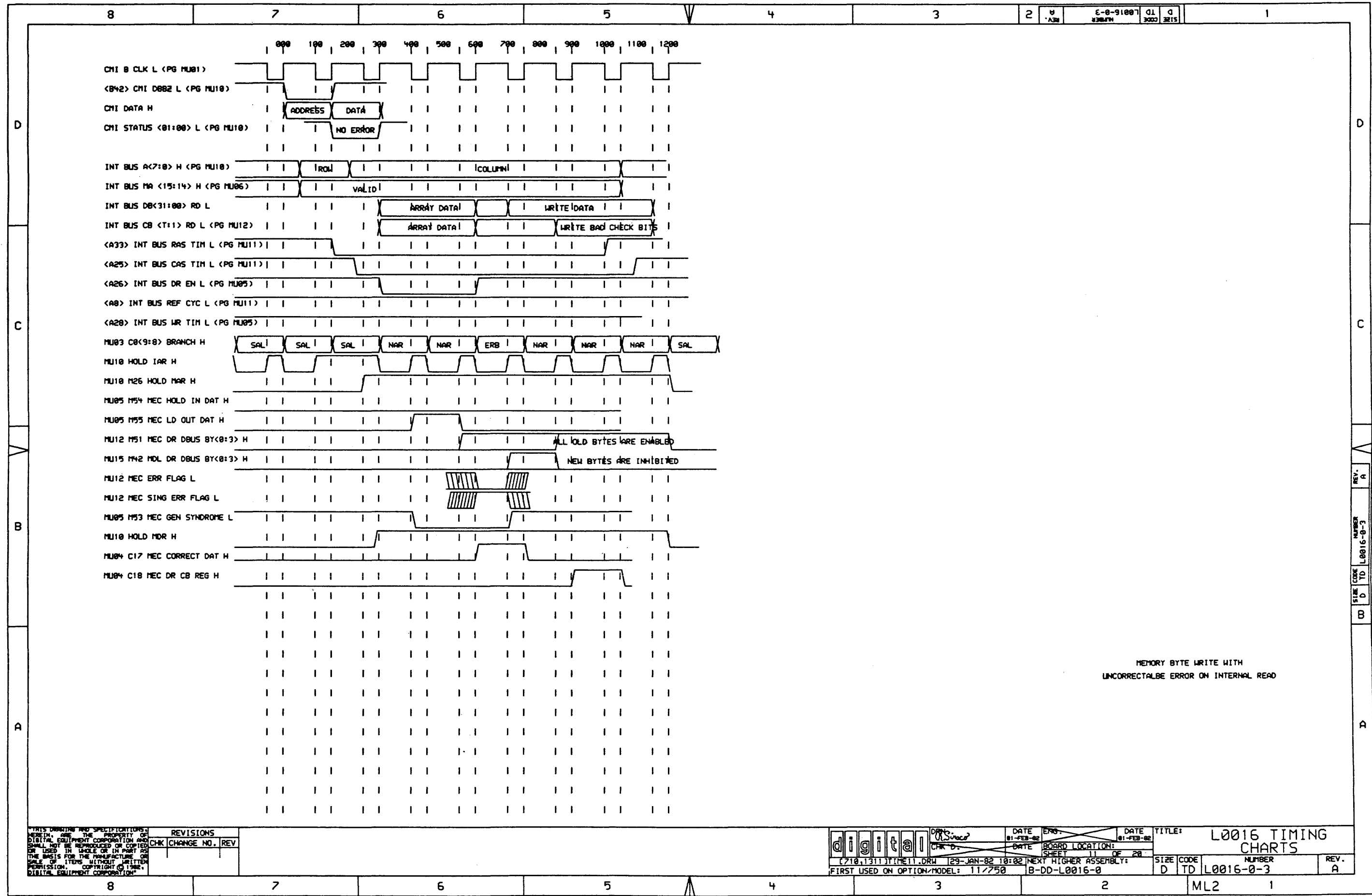
MEMORY BYTE WRITE WITH NO ERROR ON INTERNAL READ

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE 01-FEB-88	DATE 01-FEB-88	TITLE: L0016 TIMING CHARTS
	DATE 01-FEB-88	DATE 01-FEB-88	BOSSO LOCATION: 18 OF 28
FIRST USED ON OPTION/MODEL: 11/750		DATE 01-FEB-88	SIZE CODE D TD L0016-0-3
NEXT HIGHER ASSEMBLY: B-DD-L0016-0		NUMBER	REV. A

REV. A  
NUMBER L0016-0-3  
SIZE CODE D TD



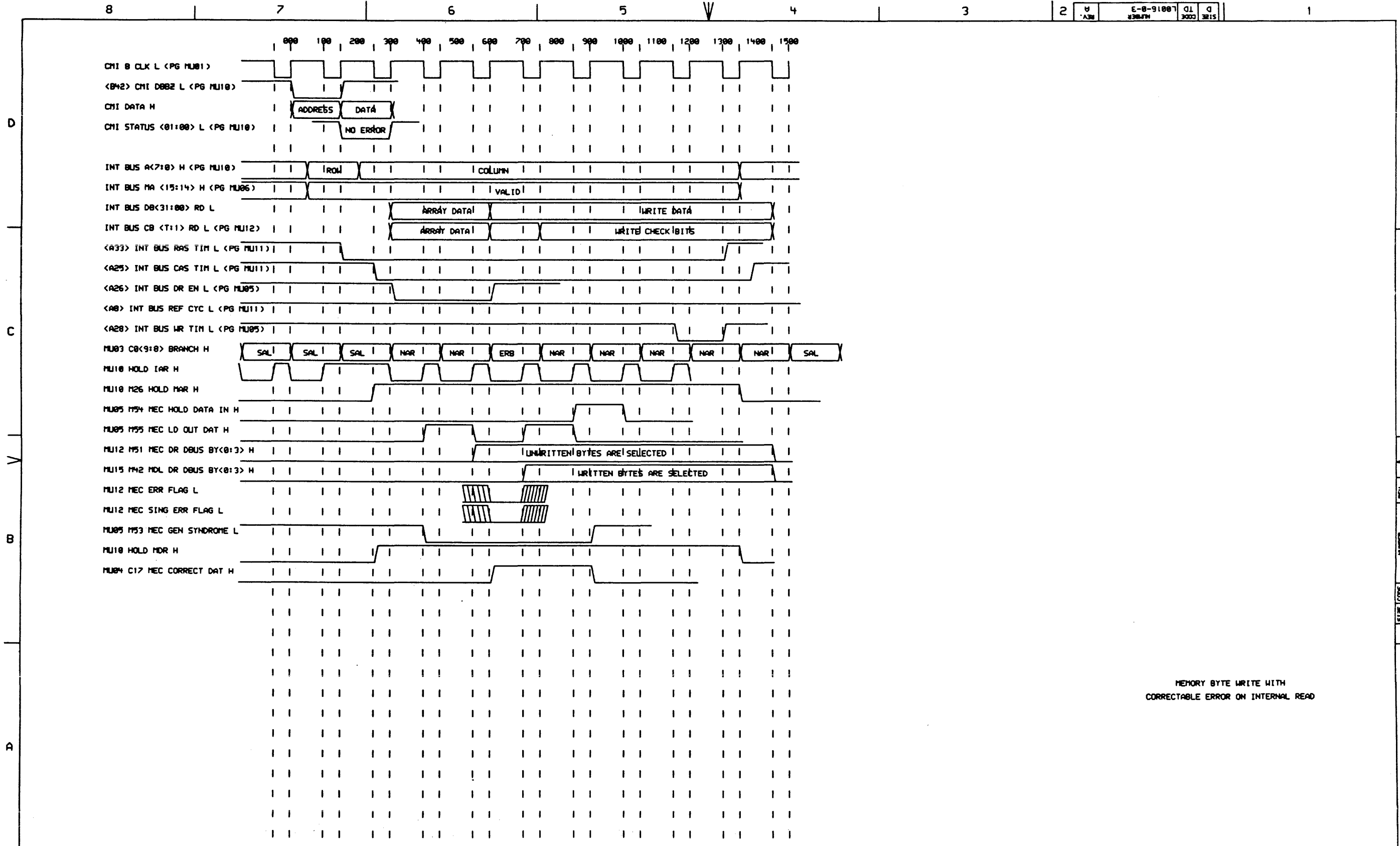
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REVISIONS	CHK	CHANGE NO.	REV

digital	DATE	ENG	DATE	TITLE:
	01-FEB-82		01-FEB-82	L0016 TIMING CHARTS
	DATE	BOARD LOCATION:	SHEET	OF
	29-JAN-82 10:02		11	20
	NEXT HIGHER ASSEMBLY:	SIZE CODE	NUMBER	REV.
	B-DD-L0016-0	D TD	L0016-0-3	A
FIRST USED ON OPTION/MODEL:	11750			

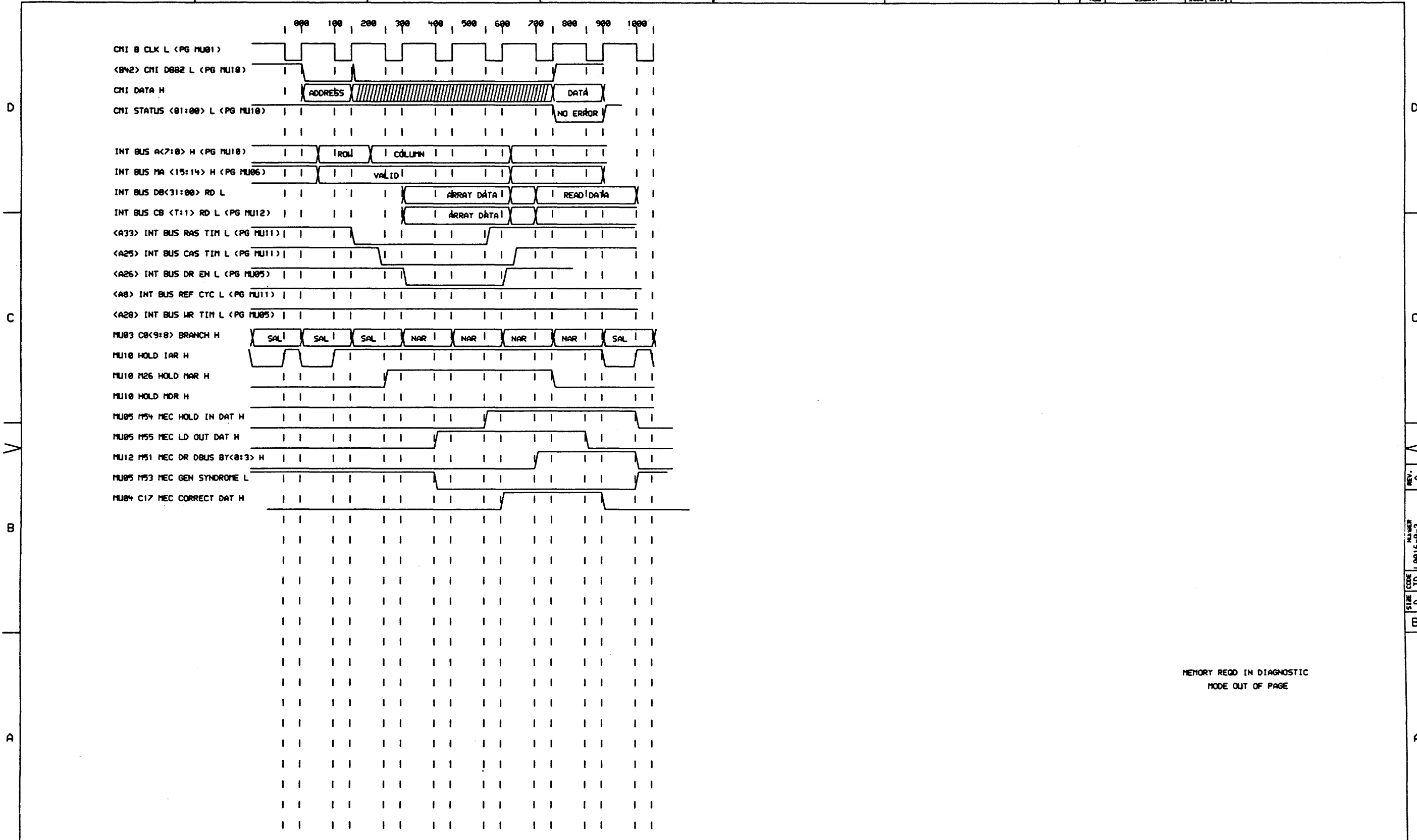
REV. A  
NUMBER L0016-0-3  
SIZE CODE TD

ML2 1



MEMORY BYTE WRITE WITH  
CORRECTABLE ERROR ON INTERNAL READ

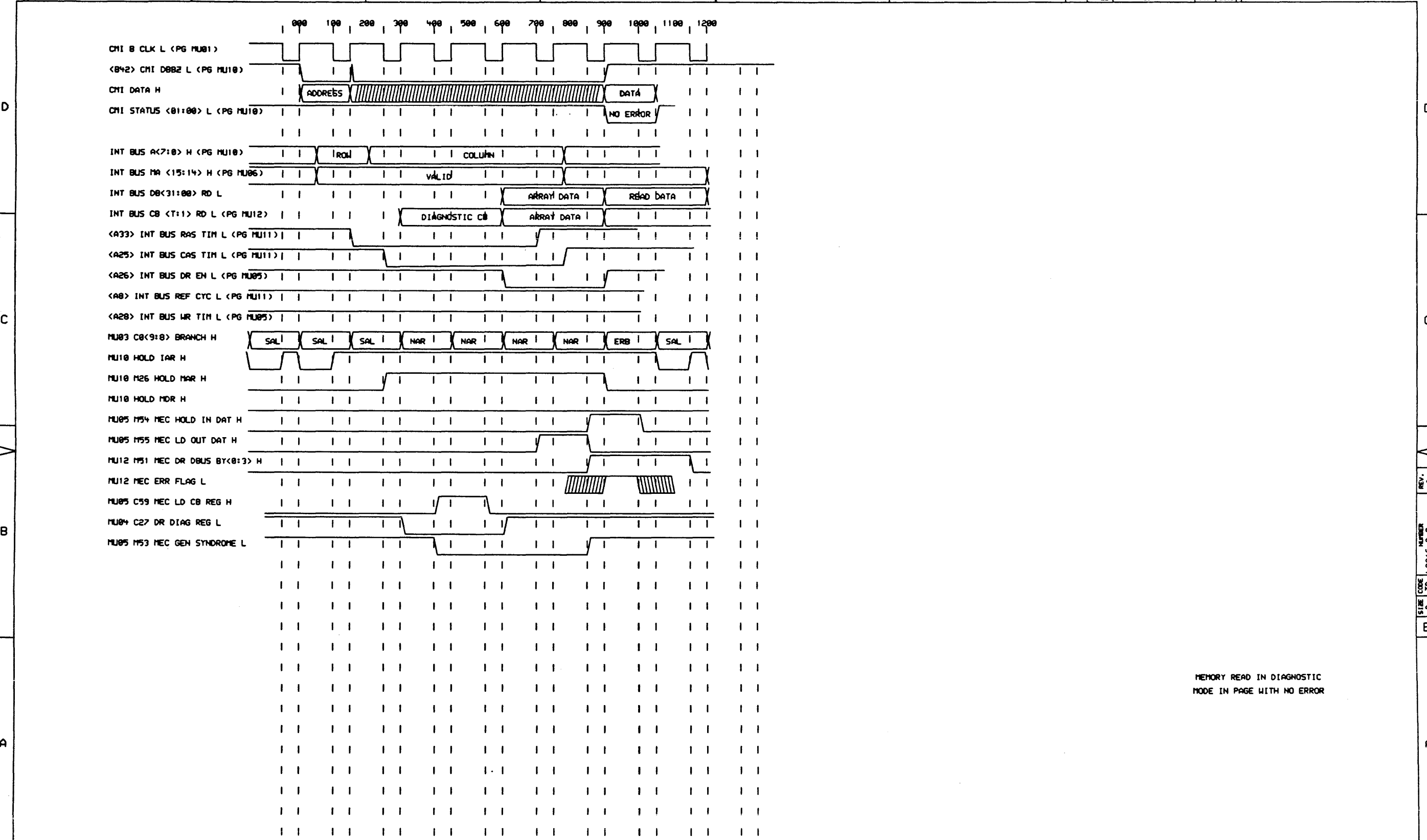
<small>THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1982. DIGITAL EQUIPMENT CORPORATION.</small>	REVISIONS CHK CHANGE NO. REV	DATE: 01-FEB-82 DATE: 01-FEB-82 BOARD LOCATION: 12 OF 28 SHEET: 12 OF 28	TITLE: L0016 TIMING CHARTS
	DIGITAL	DATE: 29-JAN-82 10:10 NEXT HIGHER ASSEMBLY: B-DD-L0016-0	SIZE CODE: D TD NUMBER: L0016-0-3 REV.: A
	FIRST USED ON OPTION/MODEL: 11750	ML2	1



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REVISIONS		
CHK	CHANGE NO.	REV

	DATE ENG. 01-FEB-82	DATE 01-FEB-82	TITLE: L0016 TIMING CHARTS
	DATE 01-FEB-82	DATE 01-FEB-82	DATE 01-FEB-82
(710,1311)TIME13.DRW [29-JAN-82 10:13] NEXT HIGHER ASSEMBLY: B-DD-L0016-0 FIRST USED ON OPTION MODEL: 11/750	SHEET 13 OF 20	SIZE CODE D TD	NUMBER L0016-0-3
			REV. A



MEMORY READ IN DIAGNOSTIC MODE IN PAGE WITH NO ERROR

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REVISIONS	
CHK	CHANGE NO. REV.

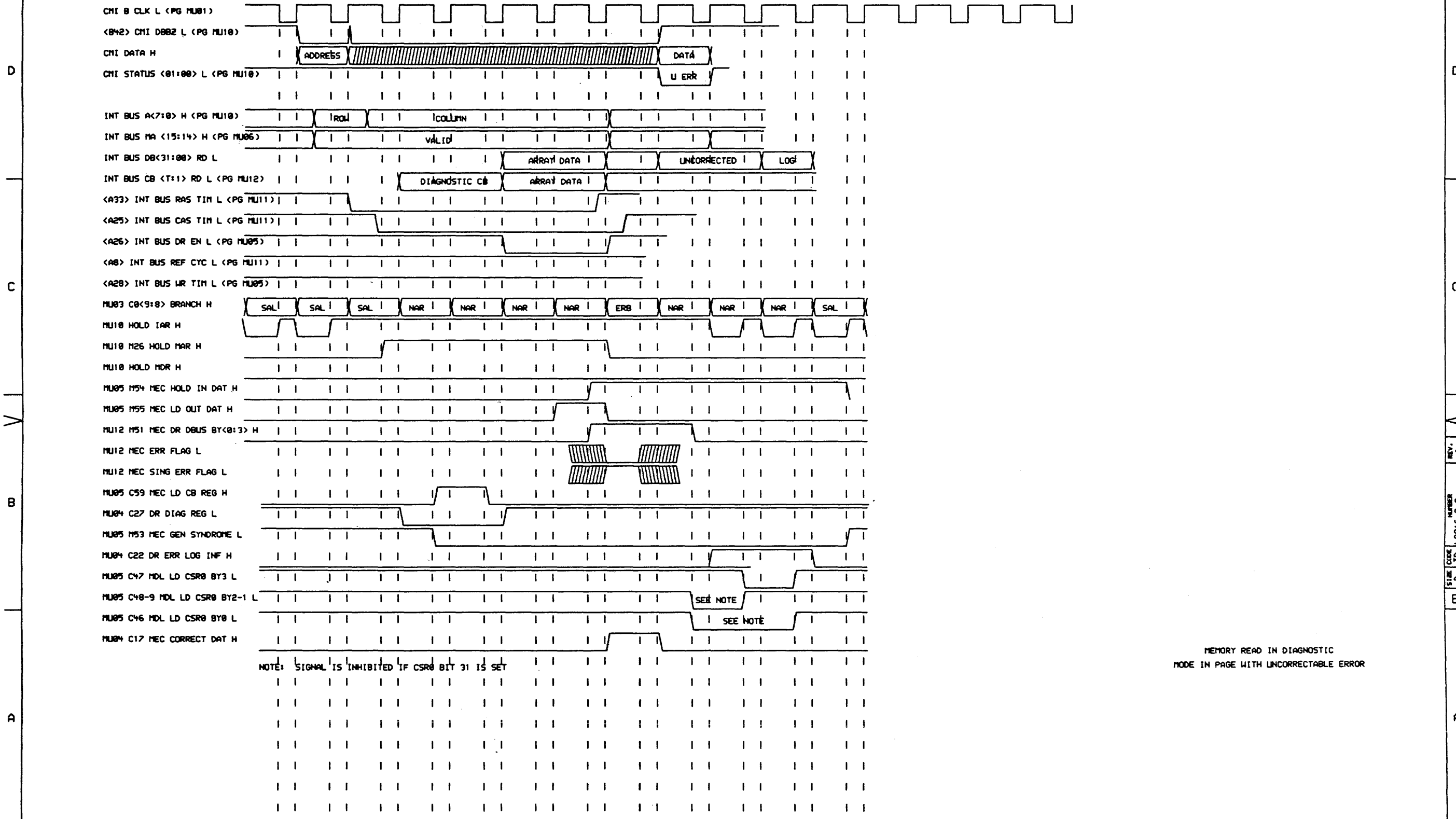
digital  
 (710,1311) TIME 14.DRW 129-JAN-82 10:16  
 FIRST USED ON OPTION/MODEL: 11/750

DATE ENG: 81-FEB-82  
 DATE: 81-FEB-82  
 BOARD LOCATION: SHEET 14 OF 28  
 NEXT HIGHER ASSEMBLY: B-00-L0016-0

TITLE: L0016 TIMING CHARTS  
 SIZE CODE: D TD  
 NUMBER: L0016-0-3  
 REV.: A



000 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200



NOTE: SIGNAL IS INHIBITED IF CSR0 BIT 31 IS SET

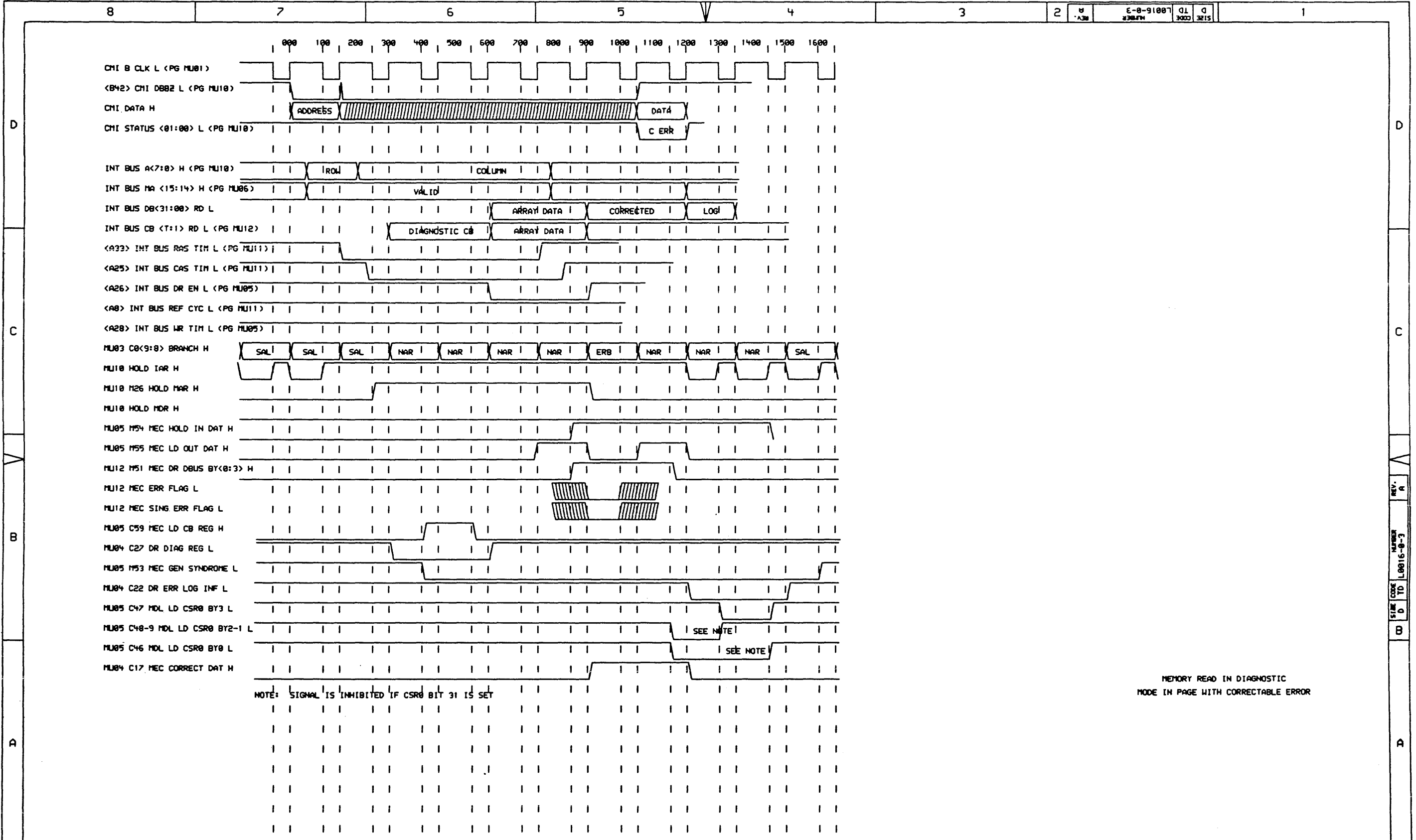
MEMORY READ IN DIAGNOSTIC MODE IN PAGE WITH UNCORRECTABLE ERROR

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REVISIONS		
CHK	CHANGE NO.	REV

**digital** DRG: *ASB* DATE ENG: 01-FEB-82 DATE 01-FEB-82  
 DATE BOARD LOCATION: DATE SHEET 15 OF 28  
 (710,1311)TIMES.DRW 29-JAN-82 10:20 NEXT HIGHER ASSEMBLY: B-DD-L0016-0  
 FIRST USED ON OPTION/MODEL: 11/750

TITLE: L0016 TIMING CHARTS  
 SIZE CODE NUMBER REV. D TD L0016-0-3 A  
 ML2 1



MEMORY READ IN DIAGNOSTIC  
MODE IN PAGE WITH CORRECTABLE ERROR

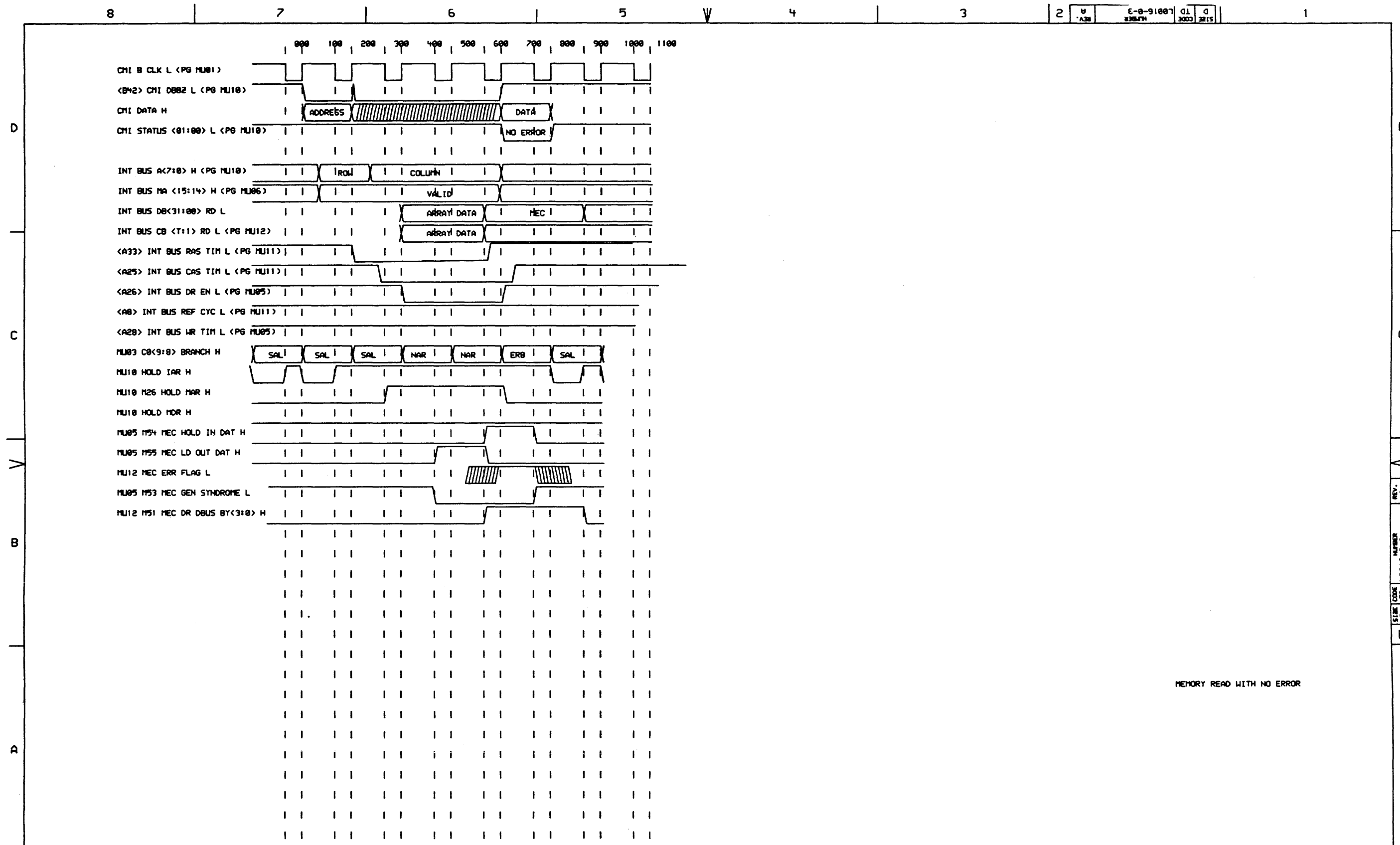
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REV.	DATE	DESCRIPTION

CHK	CHANGE NO.	REV

	DATE: 01-FEB-82	DATE: 01-FEB-82	TITLE: L0016 TIMING CHARTS
	DATE: 129-JAN-82 10:24	DATE: 15-DE-28	NUMBER: L0016-0-3
(210,1311) TIME16.DRW FIRST USED ON OPTION/MODEL: 11/750	BOARD LOCATION: NEXT HIGHER ASSEMBLY: B-DO-L0016-0	SIZE: D TD CODE: L0016-0-3	REV: A

REV. A  
L0016-0-3  
D TD



MEMORY READ WITH NO ERROR

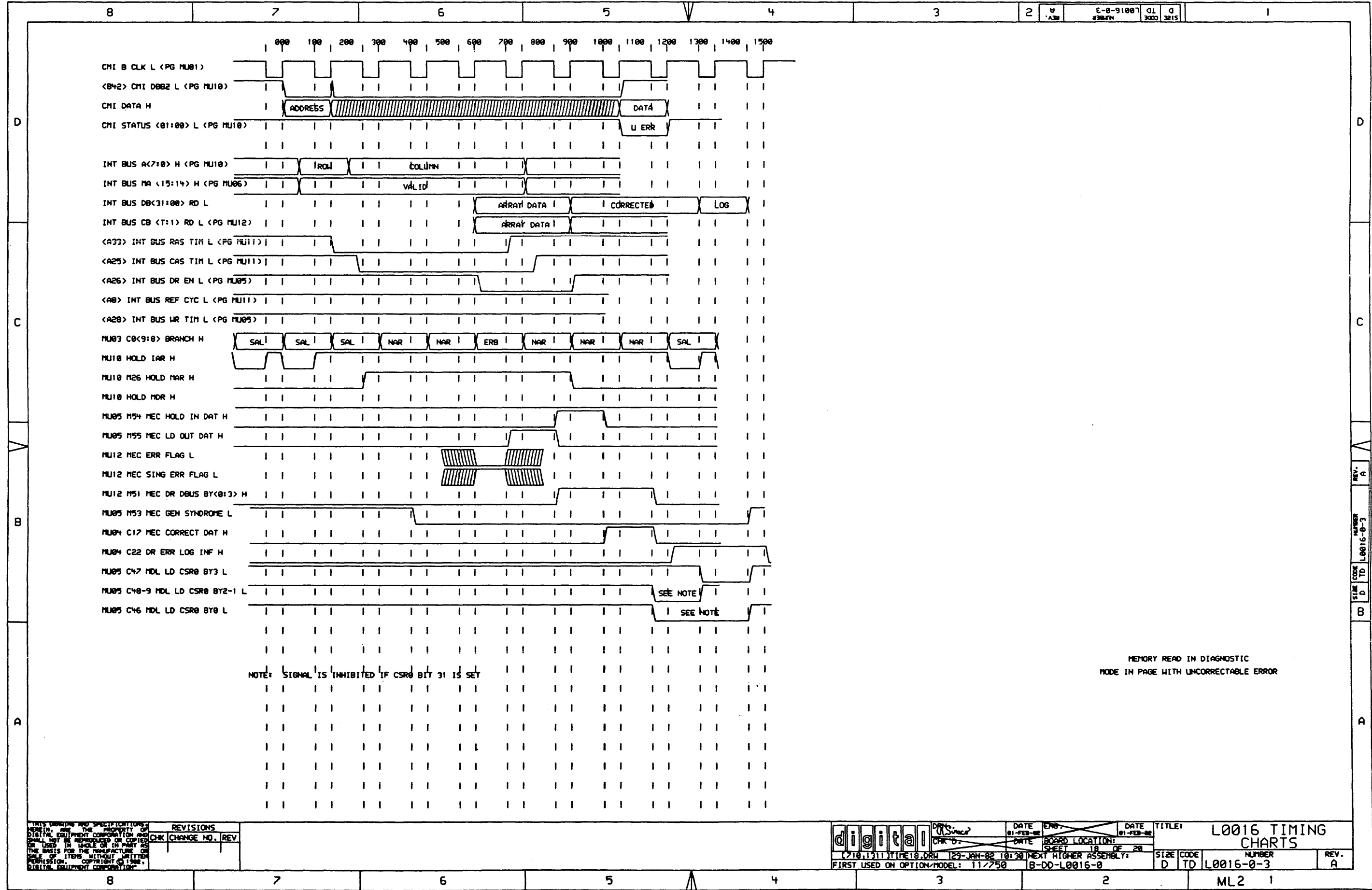
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REVISIONS	
CHK	CHANGE NO. REV

**digital** *ORSA*

DATE 01-FEB-82 ENGINEER DATE 01-FEB-82  
 DATE BOARD LOCATION: SHEET 17 OF 28  
 FIRST USED ON OPTION/MODEL: 117750 NEXT HIGHER ASSEMBLY: B-DD-L0016-0

SIZE CODE D TD	NUMBER L0016-0-3	REV. A
TITLE: L0016 TIMING CHARTS		
MI 2	1	



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REV.	CHG.	CHANGE NO.	REV.

digital	DATE 01-FEB-88	ENG.	DATE 01-FEB-88	TITLE: L0016 TIMING CHARTS
	DATE 01-FEB-88	BOARD LOCATION: SHEET 18 OF 20	DATE 01-FEB-88	
L210.1311 TIME18.DRW 129-JAN-82 10:30		NEXT HIGHER ASSEMBLY: B-DD-L0016-0		SIZE CODE D TD
FIRST USED ON OPTION/MODEL: 11/750				NUMBER L0016-0-3
				REV. A

REV. A  
NUMBER L0016-0-3  
SIZE CODE D TD

ML2 1

8

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1

SIZE	D	TD	L0016-0-3
CODE			
NUMBER			

1

D

C

B

A

C

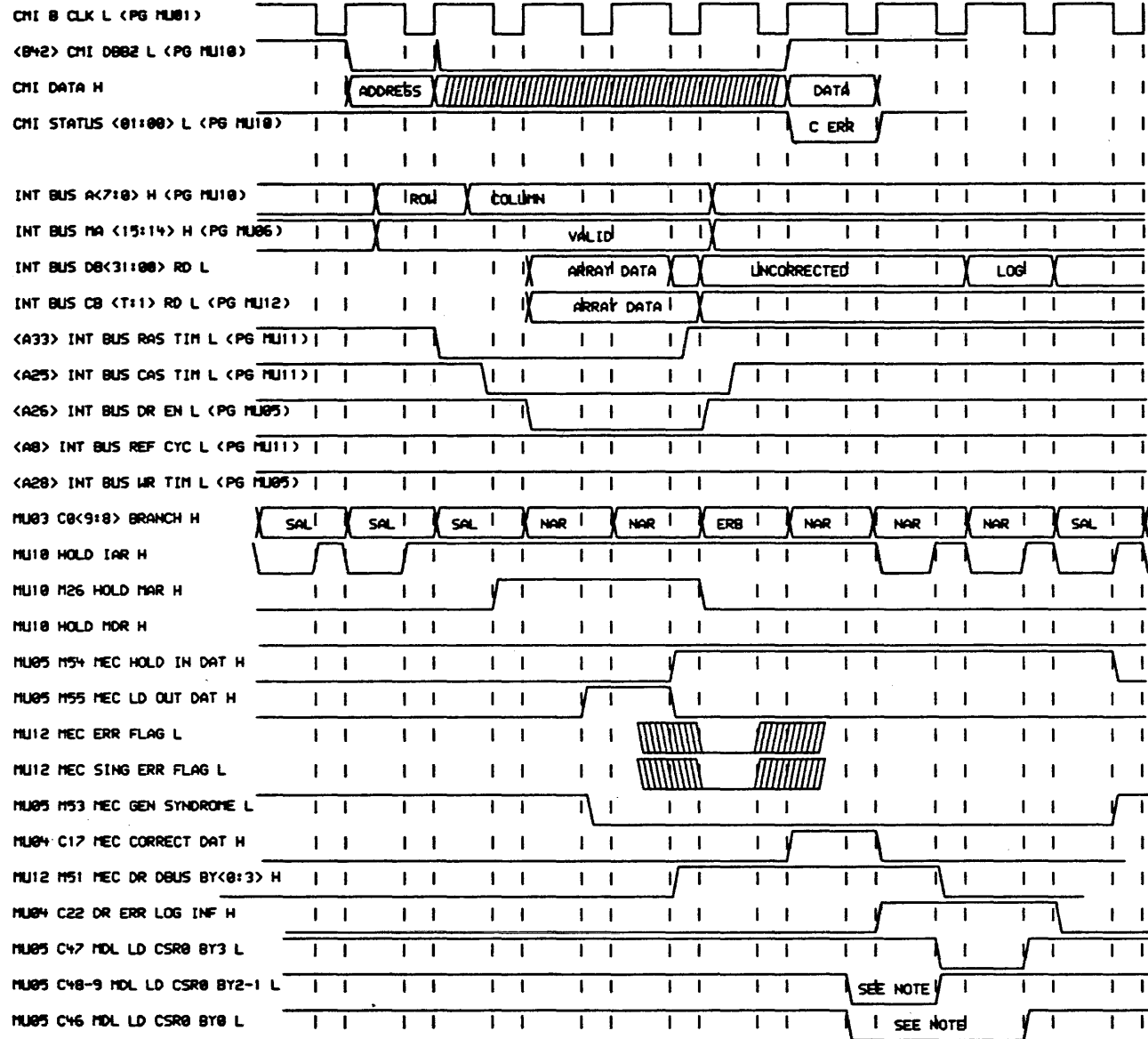
C

A

C

A

000 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300



NOTE: SIGNAL IS INHIBITED IF CSR0 BIT 31 IS SET

MEMORY READ WITH  
CORRECTABLE ERROR

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REVISIONS	
CHK	REV

digital	DATE ENG	DATE	TITLE
	01-FEB-82	01-FEB-82	L0016 TIMING CHARTS
210.1311 TIMING.DRW	DATE CHECKED	DATE	DESIGN LOCATION
	29-JAN-82 10:36		
FIRST USED ON OPTION/MODEL: 11/750		SHEET 19 OF 28	

SIZE	D	TD	L0016-0-3	NUMBER		REV.	A

8

7

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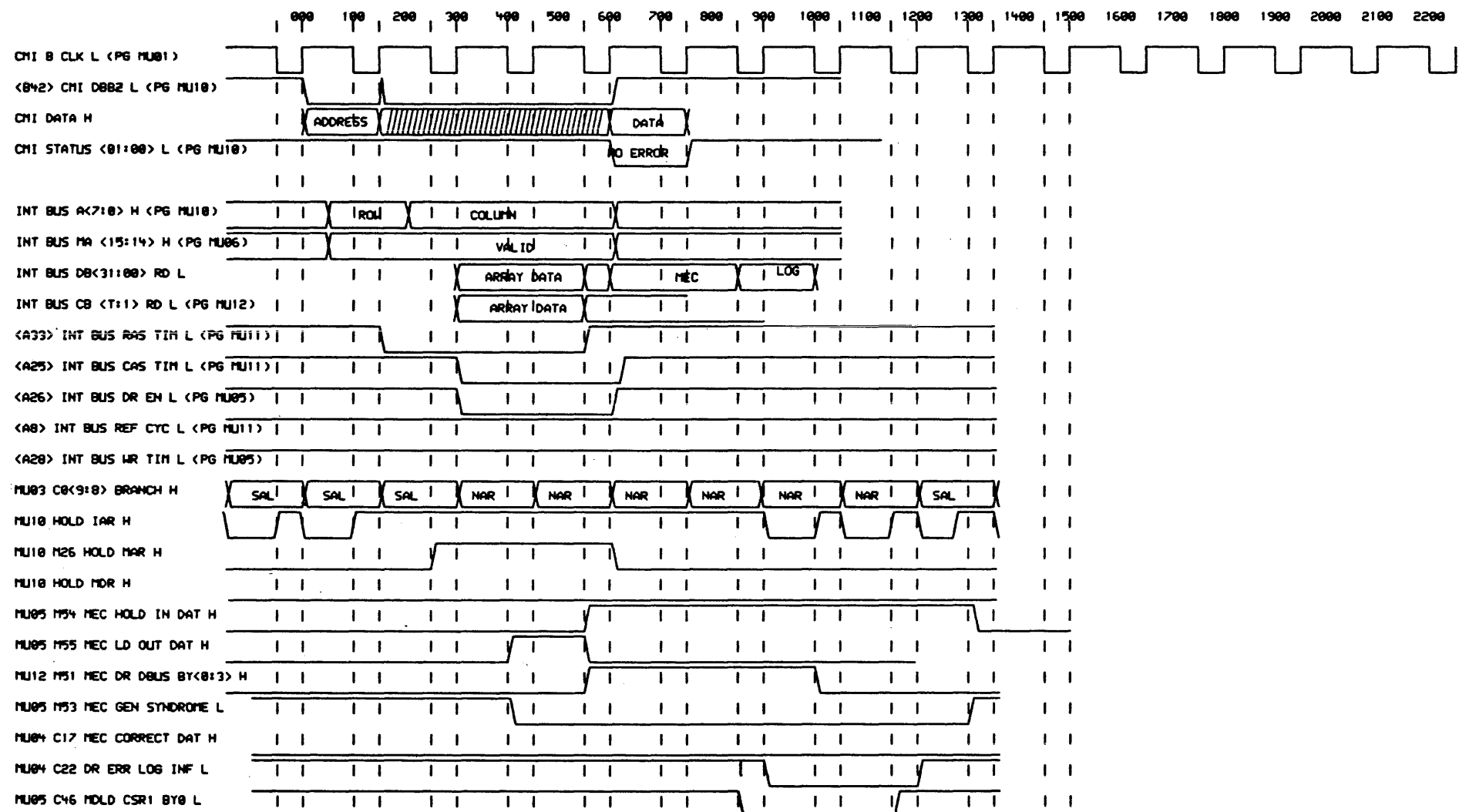
4

3

2

ML2

1

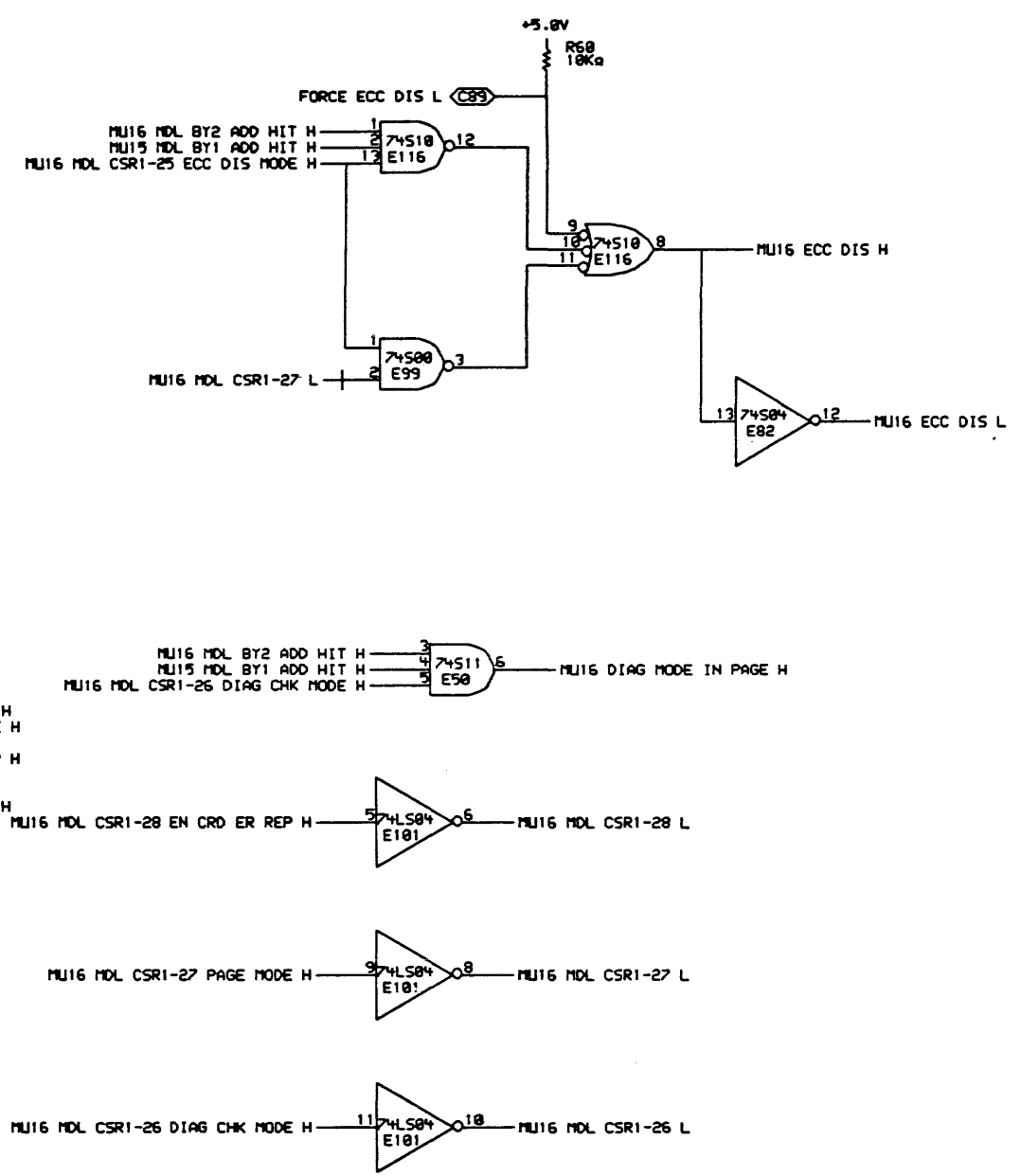
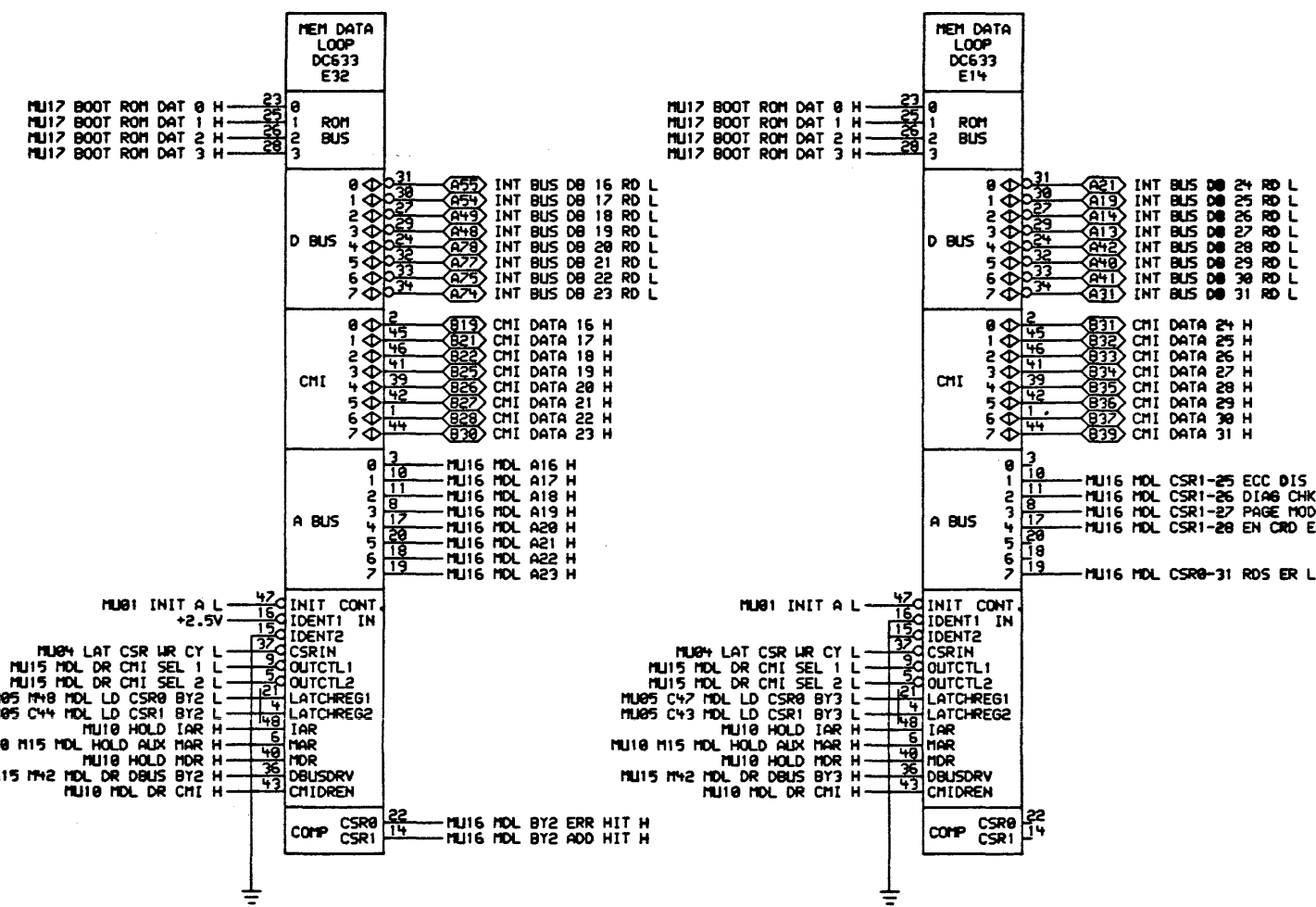


NOTE: CSR1 BIT 25 = 1

MEMORY READ WITH  
ECC DISABLED

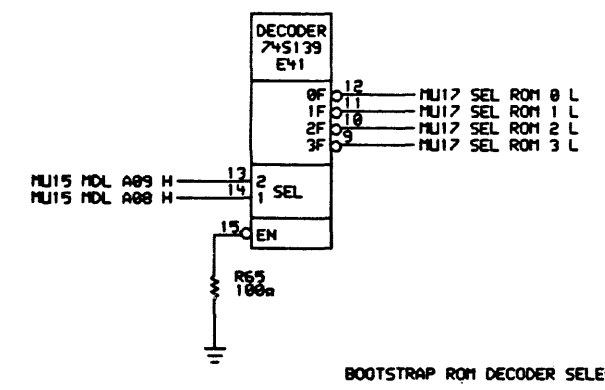
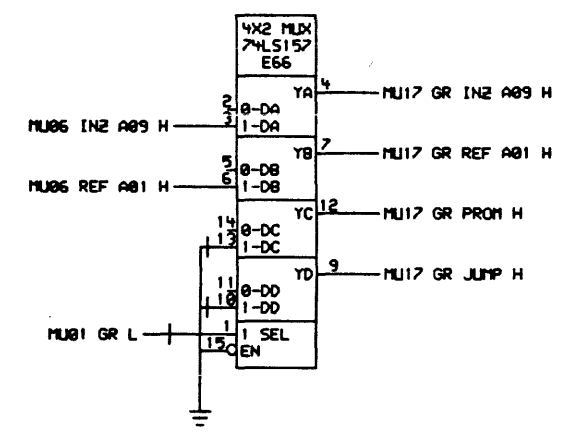
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	DIGITAL	DATE: 29-JAN-82 10:49 FIRST USED ON OPTION/MODEL: 117750	SHEET: 28 OF 28 NEXT HIGHER ASSEMBLY: B-00-L0016-0
	SIZE CODE: D TD NUMBER: L0016-0-3 REV: A	ML2	1

REV. A  
NUMBER L0016-0-3  
SIZE CODE D TD

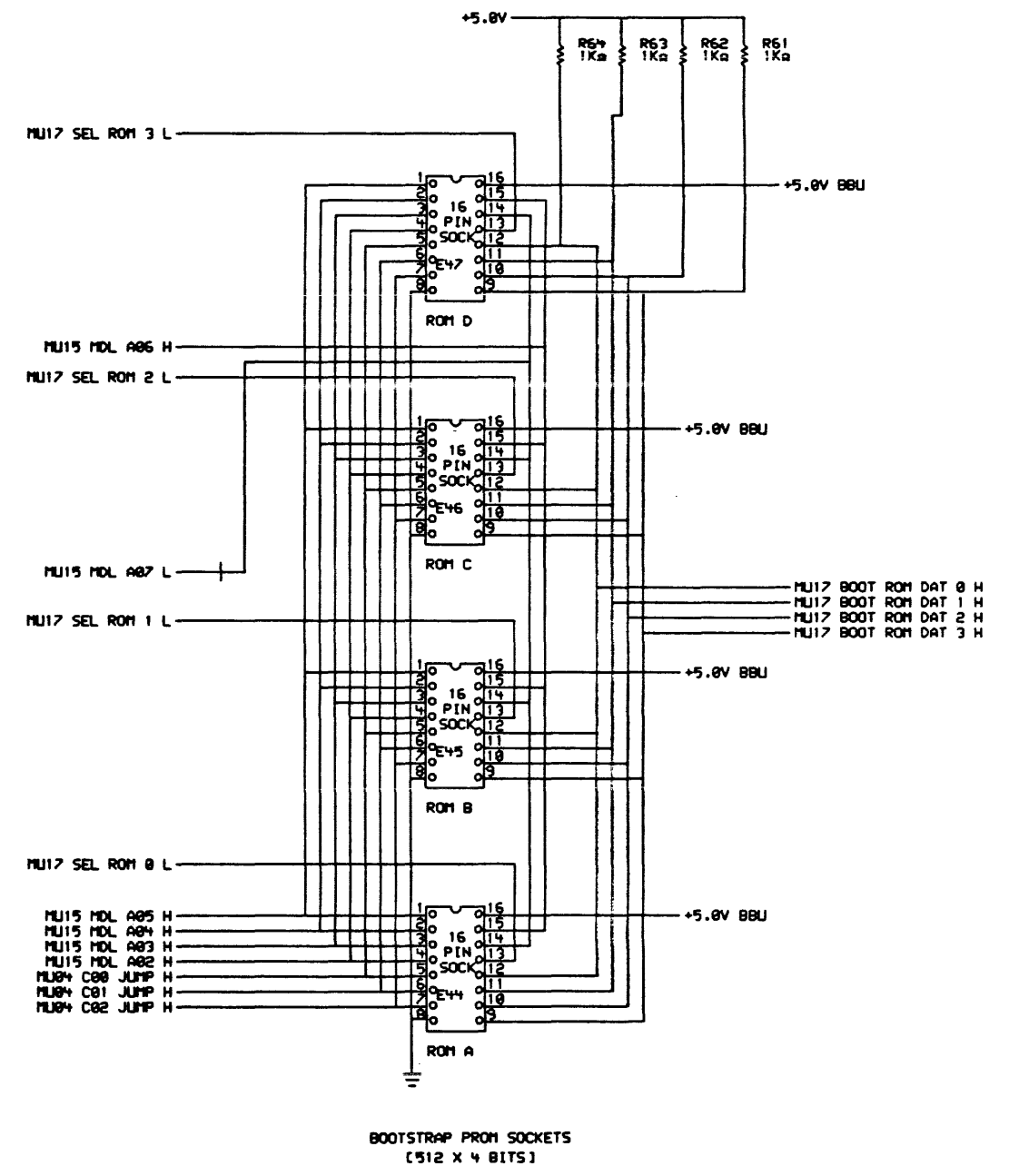


CMI DATA INTERFACING

REV. A  
 NUMBER L0016-0-MU16  
 SIZE CODE CS  
 D B



BOOTSTRAP ROM DECODER SELECT



BOOTSTRAP PROM SOCKETS  
(512 X 4 BITS)

BOOT ROMS AND  
GR TEST POINTS

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REVISIONS	
CHK	CHANGE NO. REV

digital	DATE: 02-FEB-82	ENG: J. J. J.	DATE: 02-FEB-82	TITLE: COMET MEMORY UNIT
	DATE: 11/12/82	CHK'D: S. K.	DATE: 11/12/82	DATE: 02-FEB-82
FIRST USED ON OPTION/MODEL: 11/750				SIZE CODE NUMBER REV. D CS L0016-0-MU17 A



745374	E1	20	+5.0V	BBU
74564	E8	14	+5.0V	BBU
745112	E10	16	+5.0V	BBU
745153	E11	16	+5.0V	BBU
745153	E12	16	+5.0V	BBU
745153	E13	16	+5.0V	BBU
745393	E19	14	+5.0V	BBU
745153	E20	16	+5.0V	BBU
74504	E21	14	+5.0V	BBU
74574	E23	14	+5.0V	BBU
745393	E24	14	+5.0V	BBU
745393	E25	14	+5.0V	BBU
74574	E29	14	+5.0V	BBU
74574	E30	14	+5.0V	BBU
74504	E37	14	+5.0V	BBU
74564	E38	14	+5.0V	BBU
74500	E40	14	+5.0V	BBU
74520	E43	14	+5.0V	BBU
74574	E53	14	+5.0V	BBU
745112	E54	16	+5.0V	BBU
74502	E55	14	+5.0V	BBU
745157	E56	16	+5.0V	BBU
74551	E57	14	+5.0V	BBU
74574	E58	14	+5.0V	BBU
74500	E60	14	+5.0V	BBU
74574	E62	14	+5.0V	BBU
74574	E63	14	+5.0V	BBU
745157	E66	16	+5.0V	BBU
74510	E72	14	+5.0V	BBU
74574	E74	14	+5.0V	BBU
745140	E80	14	+5.0V	BBU
74511	E86	14	+5.0V	BBU
74510	E87	14	+5.0V	BBU
74500	E88	14	+5.0V	BBU
74504	E89	14	+5.0V	BBU
74500	E90	14	+5.0V	BBU
74500	E91	14	+5.0V	BBU
74504	E92	14	+5.0V	BBU
74502	E93	14	+5.0V	BBU
745374	E94	20	+5.0V	BBU
745374	E95	20	+5.0V	BBU
74520	E96	14	+5.0V	BBU
745374	E97	20	+5.0V	BBU
74500	E100	14	+5.0V	BBU
74502	E102	14	+5.0V	BBU
74520	E103	14	+5.0V	BBU

825129	E105	16	+5.0V	BBU
825129	E106	16	+5.0V	BBU
825129	E107	16	+5.0V	BBU
825129	E108	16	+5.0V	BBU
825129	E109	16	+5.0V	BBU
825129	E110	16	+5.0V	BBU
825129	E111	16	+5.0V	BBU
825129	E112	16	+5.0V	BBU
745174	E113	16	+5.0V	BBU
75452	E114	8	+5.0V	BBU
74520	E117	14	+5.0V	BBU
74520	E118	14	+5.0V	BBU
74510	E119	14	+5.0V	BBU
74532	E120	14	+5.0V	BBU
745374	E123	20	+5.0V	BBU
745153	E127	16	+5.0V	BBU
745153	E128	16	+5.0V	BBU
74500	E129	14	+5.0V	BBU
74530	E130	14	+5.0V	BBU
74530	E131	14	+5.0V	BBU
8640	E132	8	+5.0V	BBU
745374	E134	20	+5.0V	BBU
745374	E135	20	+5.0V	BBU
825129	E136	16	+5.0V	BBU
825129	E137	16	+5.0V	BBU
825129	E138	16	+5.0V	BBU
825129	E139	16	+5.0V	BBU
825129	E140	16	+5.0V	BBU
825129	E141	16	+5.0V	BBU
745374	E142	20	+5.0V	BBU

\* NOTE: E44, E45, E46, E47,  
ALL ON "BBU"---SEE PAGE 17 OF 19.

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE: 02-FEB-82	ENG: J. [unclear]	DATE: 3/22/82	TITLE: COMET MEMORY UNIT
	DATE: 02-FEB-82 13:22	DATE: 02-FEB-82	DATE: 02-FEB-82	DATE: 02-FEB-82
FIRST USED ON OPTION/MODEL: 11/750				SIZE CODE: D CS L0016-0-MU18
NEXT HIGHER ASSEMBLY: 18-DD-L0016-0				REV. A

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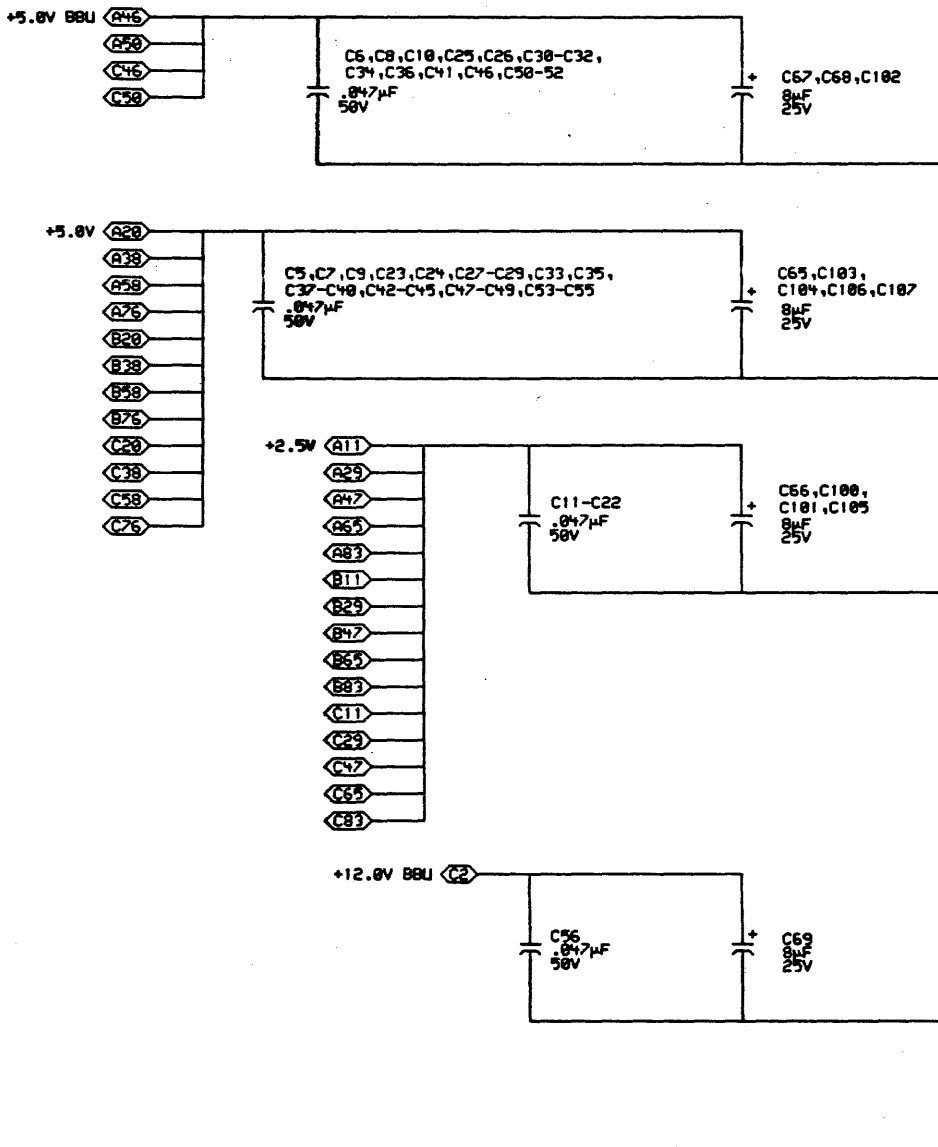
2

1

61711-0-91007

S3 Q

1



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REVISIONS		
CHK	CHANGE NO.	REV.

<b>digital</b>	DATE	ENG.	DATE	TITLE: COMET MEMORY UNIT
	02-FEB-82	A	2/22/82	
L710, L711, XLF19, DRU	DATE	BOARD	LOCATION:	
	02-FEB-82 13:22			
FIRST USED ON OPTION/MODEL: 11/750				

SIZE	CODE	NUMBER	REV.
D	CS	L0016-0-MU19	A

8

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2 ML2

1