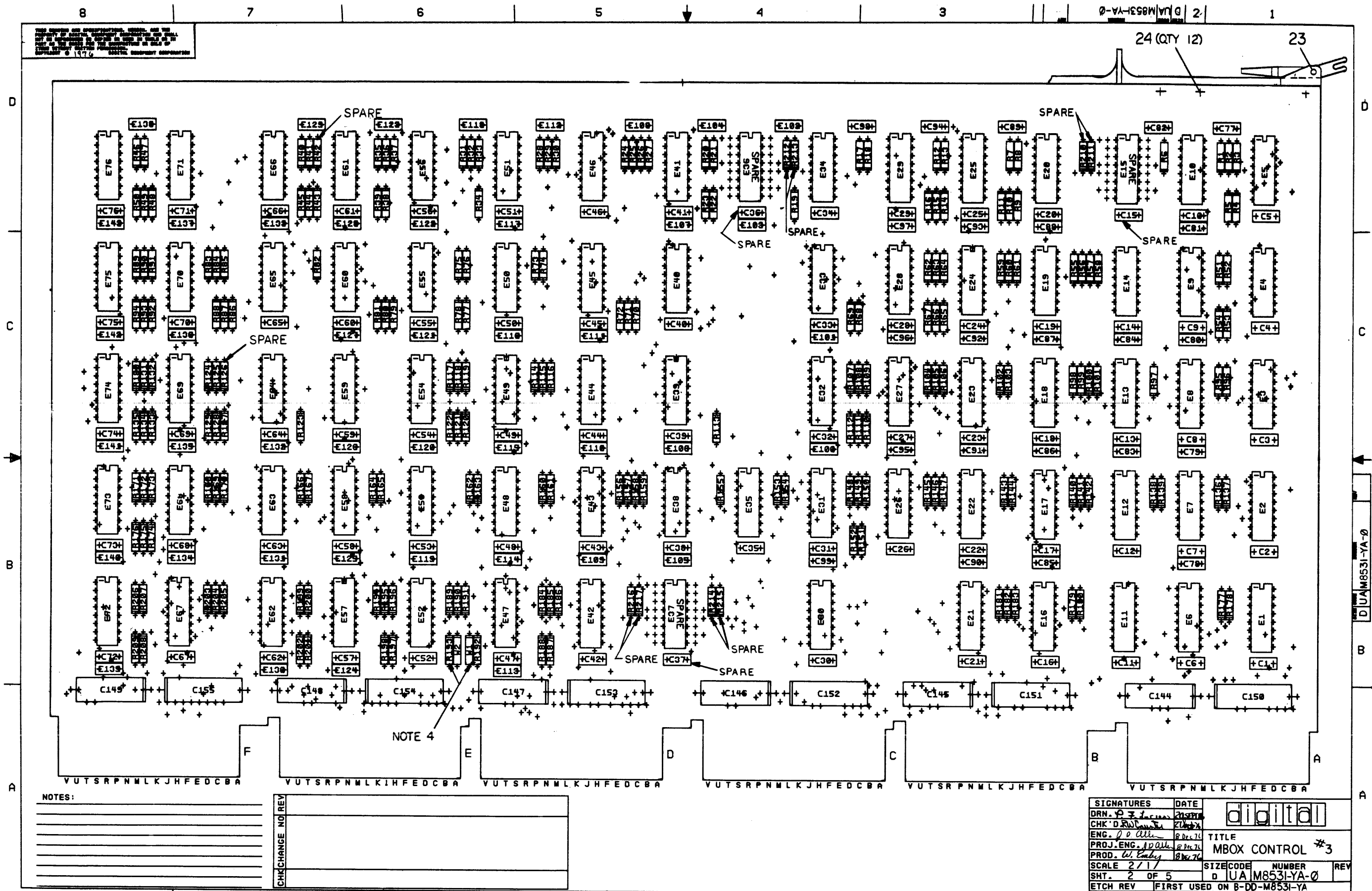
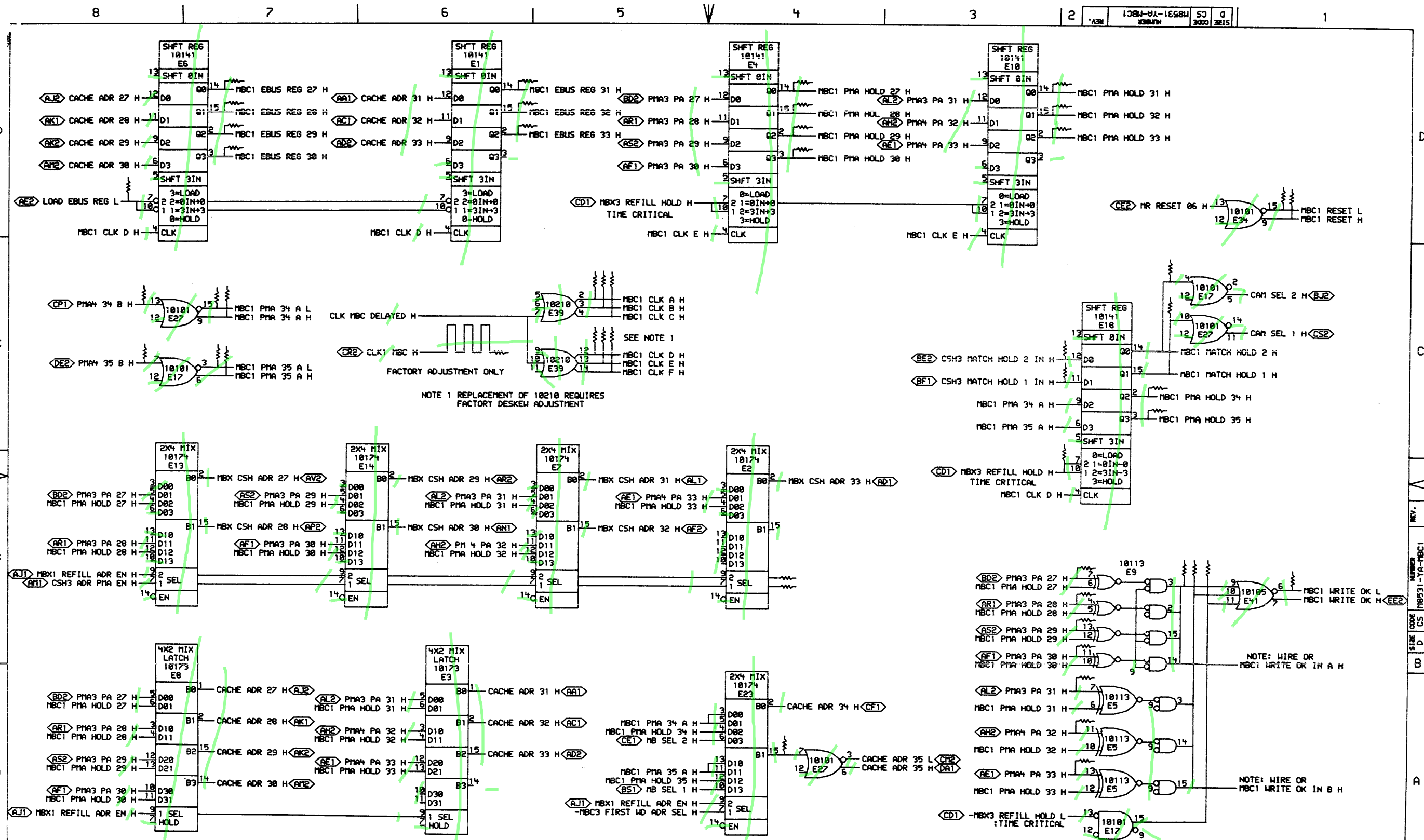


SIZE CODE	NUMBER	REV.
BDD	M8531-YA	





NOTE 1 REPLACEMENT OF 10210 REQUIRES  
FACTORY DESKTOP ADJUSTMENT

NOTE: TIME CRITICAL MARKINGS ARE  
FOR ENGINEERING REFERENCE ONLY

1 OF 6

109

8

7

6

5

4

3

2

1

2081-VA-1650N 52 0  
M8531-VA-MBC2

D

D

C

C

B

A

A

2 OF 6

"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 © 1976, DIGITAL EQUIPMENT CORPORATION"

REVISIONS  
CHK CHANGE NO. REV

**digital** DATE 18-NOV-76 ENG. *A.D. Allen* DATE 23-NOV-76  
MBC2EF.DRX 4.1753 18-NOV-76 09121 NEXT HIGHER ASSEMBLY: 48222  
FIRST USED ON OPTION/MODEL: KL10PV B-DD-M8531-YA  
TITLE: CACHE WR PULSE, CSH DATA CLR  
SIZE CODE D CS M8531-YA-MBC2  
NUMBER REV.  
MR 1

190



8

7

6

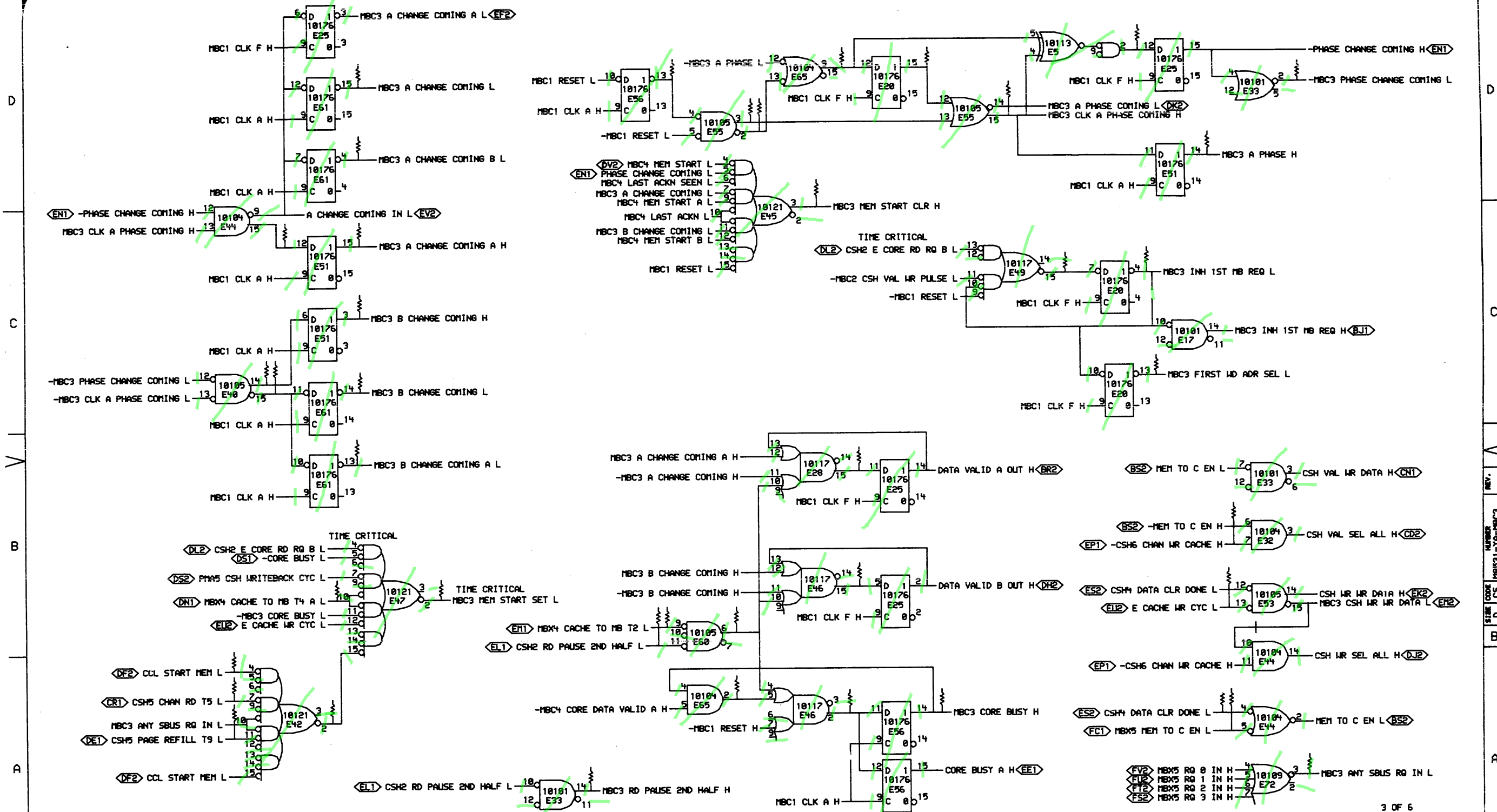
5

4

3

2

1

E3B1-1A-1E5B1  
E3B1-1A-1E5B1  
3003 3015

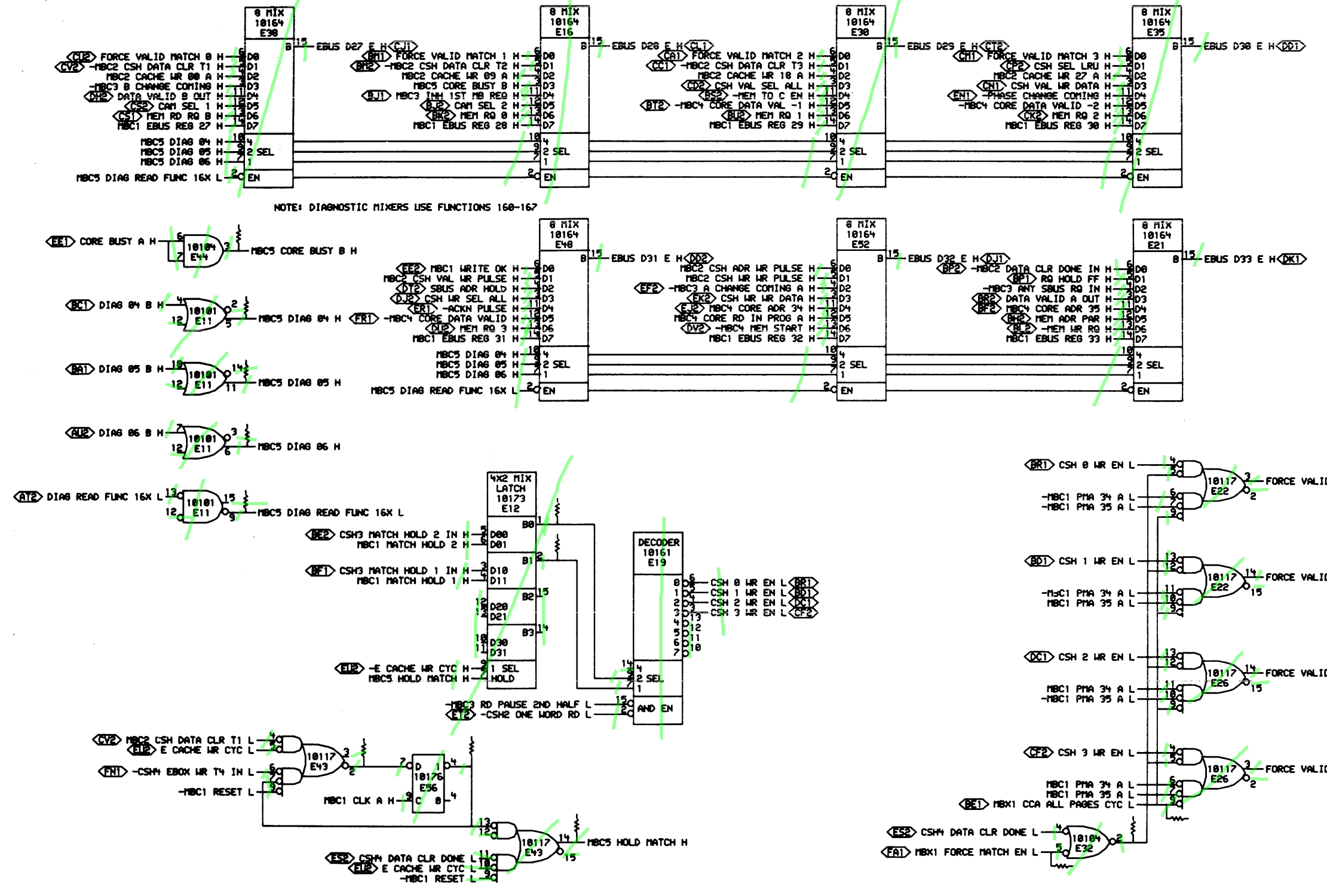
3 OF 6

"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 © 1976, DIGITAL EQUIPMENT CORPORATION"

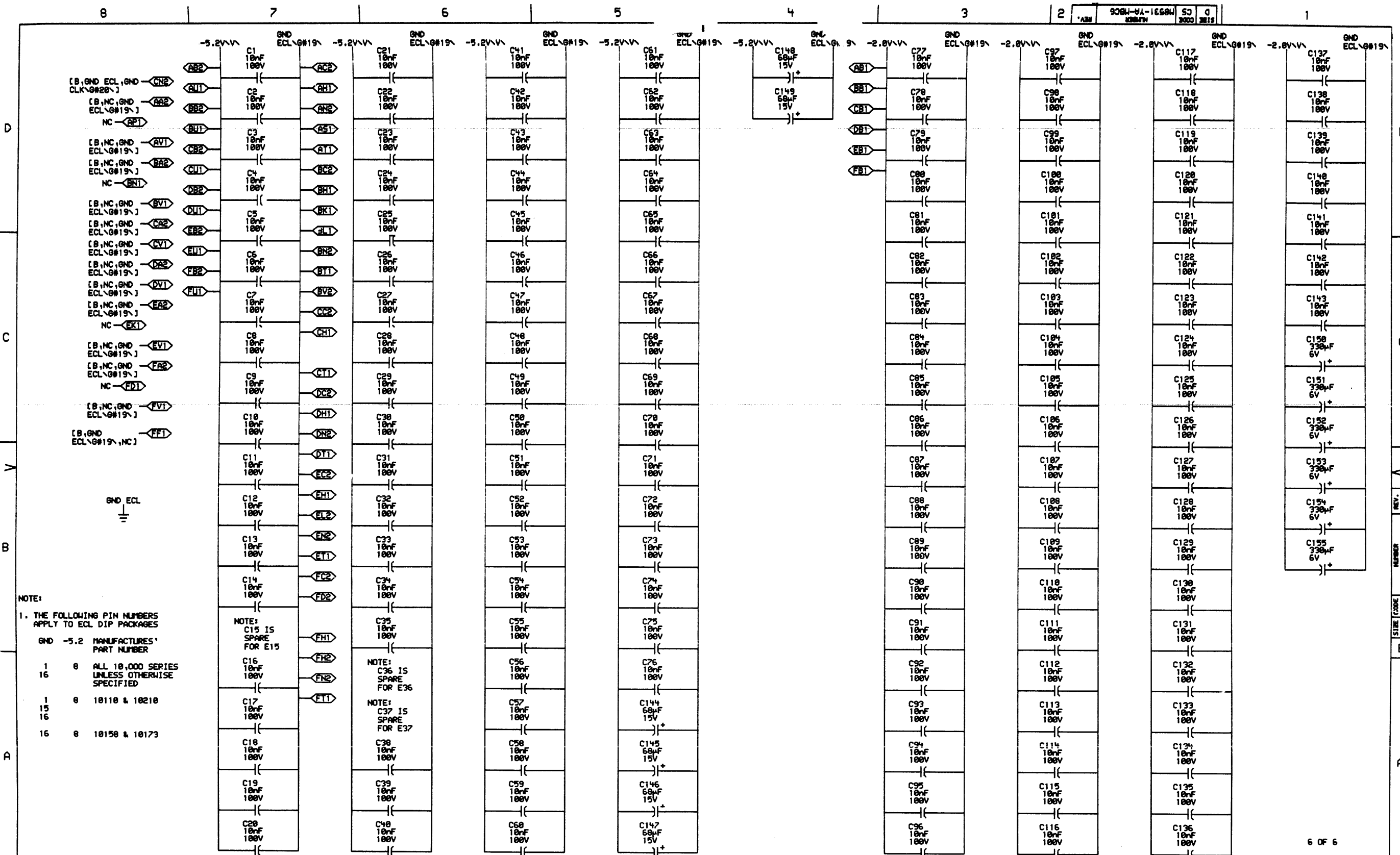
REVISIONS	CHG	CHANGE NO.	REV

<b>digital</b>	DATE: 18 NOV 76	ENG: J.D. Allen	DATE: 23 Nov 76	TITLE: DATA VAL OUT, CLK, PHS, MEM START
MBC3 REF. DRG 4.123	185 NOV 76 08:28	1000	1000	1000
FIRST USED ON OPTION/MODEL: KL10PV	B-DD-M8531-YA	D	CS	M8531-YA-MBC3





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 © 1976, DIGITAL EQUIPMENT CORPORATION		REVISIONS CHK CHGNO. REV		digital		DATE 10-20-76	ENG. J.D. [Signature]	DATE 12-2-76	LOC. 1	TITLE: FORCE VAL MATCH & MBC DIAG MIX	
FIRST USED ON OPTION MODEL: KL10PV		NEXT HIGHER ASSEMBLY: B-DD-M8531-YA		SIZE CODE		NUMBER		REV.		D CS M8531-YA-MBC5	





RESISTOR LOC(PIN)	SHOWN ON DRW#	REF	VALUE	TERMINATES SIGNAL
R56(1)	MBC5	B5	68n	%E12(1)
R60(1)	MBC5	B5	68n	%E12(2)
R21(1)	MBC1	B2	68n	%E17(15)
R75(1)	MBC3	D3	68n	%E20(15)
R110(1)	MBC1	A4	68n	%E23(15)
R112(1)	MBC2	B3	68n	%E24(15)
R66(1)	MBC2	A4	68n	%E27(2)
R65(1)	MBC2	A4	68n	%E27(5)
R11(1)	MBC3	B4	68n	%E28(15)
R109(1)	MBC2	A4	68n	%E28(2)
R14(1)	MBC2	B7	68n	%E29(14)
R8(1)	MBC2	C7	68n	%E29(2)
R59(1)	MBC2	C7	68n	%E29(3)
R143(1)	MBC5	A2	68n	%E32(2)
R16(1)	MBC2	B6	68n	%E34(14)
R64(1)	MBC2	B4	68n	%E34(6)
R32(1)	MBC3	C7	68n	%E40(14)
R35(1)	MBC3	C7	68n	%E40(15)
R206(1)	MBC2	D4	68n	%E40(6)
R27(1)	MBC4	C7	68n	%E41(14)
R36(1)	MBC4	C6	68n	%E41(2)
R37(1)	MBC4	C6	68n	%E41(3)
R105(1)	MBC3	A7	68n	%E42(2)
R38(1)	MBC5	A6	68n	%E43(2)
R20(1)	MBC3	C7	68n	%E44(15)
R13(1)	MBC3	B4	68n	%E46(15)
R31(1)	MBC3	A4	68n	%E46(2)
R9(1)	MBC3	C3	68n	%E49(15)
R7(1)	MBC3	D2	68n	%E5(2)
R33(1)	MBC4	D7	68n	%E50(14)
R34(1)	MBC4	D7	68n	%E50(3)
R120(1)	MBC4	C7	68n	%E53(3)
R119(1)	MBC4	C7	68n	%E53(6)
R19(1)	MBC2	B4	68n	%E54(15)
R84(1)	MBC3	D4	68n	%E55(2)
R76(1)	MBC3	D4	68n	%E55(3)
R93(1)	MBC4	B3	68n	%E55(7)
R80(1)	MBC3	D5	68n	%E56(13)
R156(1)	MBC5	A6	68n	%E56(4)
R50(1)	MBC4	A3	68n	%E60(3)

RESISTOR LOC(PIN)	SHOWN ON DRW#	REF	VALUE	TERMINATES SIGNAL
R67(1)	MBC3	B5	68n	%E60(6)
R131(1)	MBC4	A4	68n	%E64(2)
R128(1)	MBC4	B4	68n	%E65(14)
R30(1)	MBC3	A5	68n	%E65(2)
R88(1)	MBC4	B5	68n	%E65(3)
R3(1)	MBC3	D4	68n	%E65(9)
R201(1)	MBC4	D2	68n	%E67(15)
R167(1)	MBC2	C3	68n	%E67(6)
R205(1)	MBC4	D2	68n	%E67(9)
R129(1)	MBC4	B4	68n	%E70(14)
R92(1)	MBC4	C4	68n	%E70(2)
R166(1)	MBC4	C4	68n	%E70(3)
R165(1)	MBC2	D4	68n	%E72(15)
R164(1)	MBC2	D4	68n	%E73(15)
R133(1)	MBC4	C4	68n	%E74(2)
R89(1)	MBC4	A4	68n	%E74(7)
R49(1)	MBC4	A3	68n	%E75(14)
R15(1)	MBC2	B7	68n	-APR2 WR BAD A.R PAR H
R186(1)	MBC3	A7	68n	-CCL START MEM H
R113(1)	MBC1	C6	68n	CLK1 MBC H
R121(1)	MBC2	C5	68n	-CSH2 E CORE RD RQ B H
R61(1)	MBC2	D5	68n	CSH2 ONE WORD RD H
R69(1)	MBC3	B5	68n	-CSH2 RD PAUSE 2ND HALF H
R57(1)	MBC1	B4	68n	CSH3 ADR PMA EN H
R68(1)	MBC2	A5	68n	CSH3 ANY VAL HOLD A H
R99(1)	MBC1	C2	68n	CSH3 MATCH HOLD 1 IN H
R98(1)	MBC1	C2	68n	CSH3 MATCH HOLD 2 IN H
R118(1)	MBC2	C5	68n	-CSH4 CLEAR WR T0 H
R107(1)	MBC3	A2	68n	-CSH4 DATA CLR DONE H
R122(1)	MBC2	C5	68n	-CSH4 EBOX T3 H
R161(1)	MBC2	D4	68n	CSH4 EBOX WR T4 IN H
R187(1)	MBC3	A7	68n	-CSH5 CHAN RD T5 H
R18(1)	MBC2	C7	68n	-CSH5 CHAN T3 H
R171(1)	MBC2	D4	68n	CSH5 CHAN WR T5 IN H
R180(1)	MBC3	A7	68n	-C5H5 PAGE REFILL T9 H
R200(1)	MBC2	C4	68n	CSH6 CACHE WR IN H
R140(1)	MBC3	B2	68n	-C5H6 CHAN WR CACHE H
R174(1)	MBC2	D4	68n	CSH6 WR FROM MEM NXT H
R130(1)	MBC3	B2	68n	-E CACHE WR CYC H
R177(1)	MBC1	D8	68n	-LOAD EBUS REG H

RESISTOR LOC(PIN)	SHOWN ON DRW#	REF	VALUE	TERMINATES SIGNAL
R39(1)	MBC1	C5	68n	MBC1 CLK A H
R47(1)	MBC1	C5	68n	MBC1 CLK B H
R200(1)	MBC1	C5	68n	MBC1 CLK C H
R178(1)	MBC1	C5	68n	MBC1 CLK D H
R6(1)	MBC1	C5	68n	MBC1 CLK E H
R10(1)	MBC1	C5	68n	MBC1 CLK F H
R157(1)	MBC1	D7	68n	MBC1 EBUS REG 27 H
R180(1)	MBC1	D7	68n	MBC1 EBUS REG 28 H
R151(1)	MBC1	D7	68n	MBC1 EBUS REG 29 H
R154(1)	MBC1	D7	68n	MBC1 EBUS REG 30 H
R160(1)	MBC1	D6	68n	MBC1 EBUS REG 31 H
R195(1)	MBC1	D6	68n	MBC1 EBUS REG 32 H
R182(1)	MBC1	D6	68n	MBC1 EBUS REG 33 H
R140(1)	MBC1	C2	68n	MBC1 MATCH HOLD 1 H
R142(1)	MBC1	C2	68n	MBC1 MATCH HOLD 2 H
R180(1)	MBC1	C7	68n	MBC1 PMA 34 A H
R150(1)	MBC1	C7	68n	-MBC1 PMA 34 A H
R146(1)	MBC1	C7	68n	MBC1 PMA 35 A H
R145(1)	MBC1	C7	68n	-MBC1 PMA 35 A H
R181(1)	MBC1	D4	68n	MBC1 PMA HOLD 27 H
R97(1)	MBC1	D4	68n	MBC1 PMA HOLD 28 H
R95(1)	MBC1	D4	68n	MBC1 PMA HOLD 29 H
R96(1)	MBC1	D4	68n	MBC1 PMA HOLD 30 H
R139(1)	MBC1	D3	68n	MBC1 PMA HOLD 31 H
R136(1)	MBC1	D3	68n	MBC1 PMA HOLD 32 H
R137(1)	MBC1	D3	68n	MBC1 PMA HOLD 33 H
R186(1)	MBC1	C2	68n	MBC1 PMA HOLD 34 H
R182(1)	MBC1	C2	68n	MBC1 PMA HOLD 35 H
R79(1)	MBC1	D1	68n	MBC1 RESET H
R83(1)	MBC1	D1	68n	-MBC1 RESET H
R117(1)	MBC1	B1	68n	-MBC1 WRITE OK H
R22(1)	MBC1	B2	68n	MBC1 WRITE OK IN A H
R23(1)	MBC1	B2	68n	MBC1 WRITE OK IN B H
R159(1)	MBC2	C2	68n	MBC2 CACHE WR 00 A H
R179(1)	MBC2	C2	68n	MBC2 CACHE WR 09 A H
R152(1)	MBC2	C2	68n	MBC2 CACHE WR 18 A H
R155(1)	MBC2	C2	68n	MBC2 CACHE WR 27 A H
R123(1)	MBC2	D2	68n	MBC2 CSH ADR WR PLS FF H
R190(1)	MBC2	D2	68n	MBC2 CSH ADR WR PULSE H
R207(1)	MBC2	D2	68n	MBC2 CSH VAL WR PLS FF H

RESISTOR LOC(PIN)	SHOWN ON DRW#	REF	VALUE	TERMINATES SIGNAL
R114(1)	MBC2	D2	68n	MBC2 CSH VAL WR PULSE H
R149(1)	MBC2	C2	68n	MBC2 CSH WR DATA FF H
R204(1)	MBC2	D2	68n	MBC2 CSH WR WR PLS FF H
R196(1)	MBC2	D2	68n	MBC2 CSH WR WR PULSE H
R170(1)	MBC2	B6	68n	MBC2 FORCE BAD ADR PAR H
R48(1)	MBC2	B7	68n	MBC2 RQ HOLD H
R180(1)	MBC2	C6	68n	-MBC2 RQ HOLD FF H
R62(1)	MBC3	D7	68n	-MBC3 A CHANGE COMING H
R63(1)	MBC3	C7	68n	MBC3 A CHANGE COMING A H
R44(1)	MBC3	D7	68n	-MBC3 A CHANGE COMING B H
R87(1)	MBC3	D2	68n	MBC3 A PHASE H
R181(1)	MBC3	A1	68n	-MBC3 ANY SBUS RQ IN H
R24(1)	MBC3	C7	68n	MBC3 B CHANGE COMING H
R158(1)	MBC3	C7	68n	-MBC3 B CHANGE COMING H
R40(1)	MBC3	B7	68n	-MBC3 B CHANGE COMING A H
R4(1)	MBC3	D3	68n	MBC3 CLK A PHASE COMING H
R191(1)	MBC3	A3	68n	MBC3 CORE BUSY H
R105(1)	MBC3	C2	68n	-MBC3 FIRST WD ADR SEL H
R115(1)	MBC3	C2	68n	-MBC3 INH 1ST MB REQ H
R73(1)	MBC3	C4	68n	MBC3 MEM START CLR H
R74(1)	MBC3	B6	68n	-MBC3 MEM START SET H
R20(1)	MBC3	D1	68n	MBC3 PHASE CHANGE COMING H
R55(1)	MBC3	A5	68n	MBC3 RD PAUSE 2ND HALF H
R46(1)	MBC4	A1	68n	MBC4 ADR 34 H
R168(1)	MBC4	A1	68n	MBC4 ADR 35 H
R132(1)	MBC4	C4	68n	MBC4 ANY REQUEST
R90(1)	MBC4	C3	68n	-MBC4 ANY RQS LEFT H
R153(1)	MBC4	B6	68n	-MBC4 CORE DATA VALID -2 H
R85(1)	MBC4	A6	68n	-MBC4 CORE DATA VALID A H
R135(1)	MBC4	A6	68n	-MBC4 CORE RD IN PROG H
R192(1)	MBC4	A6	68n	MBC4 CORE RD IN PROG A H
R29(1)	MBC4	B2	68n	MBC4 INIT COMP H
R82(1)	MBC4	B2	68n	-MBC4 INIT COMP H
R25(1)	MBC4	C7	68n	MBC4 LAST ACKN H
R72(1)	MBC4	C7	68n	-MBC4 LAST ACKN H
R78(1)	MBC4	C6	68n	MBC4 LAST ACKN SEEN H
R26(1)	MBC4	C6	68n	-MBC4 LAST ACKN SEEN H
R12(1)	MBC4	D6	68n	MBC4 MEM START H
R71(1)	MBC4	D6	68n	-MBC4 MEM START A H
R70(1)	MBC4	D6	68n	-MBC4 MEM START B H

NOTE:

1. ALL TERMINATORS HAVE PIN TWO CONNECTED TO -2.0V AND ARE 5% 1/4WATT UNLESS OTHERWISE SPECIFIED
2. ENTRIES ARE SORTED BY SIGNAL NAME
3. % INDICATES OUTPUT OF DIP LOC AND ( ) INDICATES PIN NUMBER

\*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 © 1976, DIGITAL EQUIPMENT CORPORATION\*

REVISIONS		
CHK	CHANGE NO.	REV.

digital

DR. J. Smith  
DATE 10 NOV 76  
ENG. J. D. Allen  
DATE 21 NOV 76  
BOARD LOCATION: 4AF22  
SHEET 1 OF 2

TITLE: MBC MBOX CONTROL TERMINATORS

F85311.DRW(4,175)  
FIRST USED ON OPTION/MODEL: KL10PV

SIZE CODE D CS  
NUMBER M8531-YA-RES  
REV.

RESISTOR LOC(PIN)	SHOWN DRAW#	ON REF	VALUE	TERMINATES SIGNAL	RESISTOR LOC(PIN)	SHOWN DRAW#	ON REF	VALUE	TERMINATES SIGNAL
R198(1)	MBC4	B3	68n	MBC4 MEM START RD H	R54(1)	MBC1	B2	68n	PMA3 PA 30 H
R94(1)	MBC4	B3	68n	-MBC4 MEM START RD H	R1(1)	MBC1	A2	68n	PMA3 PA 31 H
R169(1)	MBC4	D1	68n	MBC4 PMA ADR PAR HOLD H	R104(1)	MBC1	C8	68n	PMA4 34 B H
R91(1)	MBC4	D3	68n	MBC4 RQ 0A H	R144(1)	MBC1	C8	68n	PMA4 35 B H
R86(1)	MBC4	C4	68n	MBC4 RQ 0B H	R202(1)	MBC4	D2	68n	PMA4 ADR PAR H
R172(1)	MBC4	D3	68n	MBC4 RQ 1A H	R2(1)	MBC1	A2	68n	PMA4 PA 32 H
R175(1)	MBC4	D3	68n	MBC4 RQ 2A H	R5(1)	MBC1	A2	68n	PMA4 PA 33 H
R173(1)	MBC4	D3	68n	MBC4 RQ 3A H					
R103(1)	MBC5	C7	68n	MBC5 CORE BUSY B H					
R109(1)	MBC5	C7	68n	MBC5 DIAG 04 H					
R190(1)	MBC5	C7	68n	MBC5 DIAG 05 H					
R197(1)	MBC5	B7	68n	MBC5 DIAG 06 H					
R194(1)	MBC5	B7	68n	-MBC5 DIAG READ FUNC 16X H					
R141(1)	MBC5	A5	68n	MBC5 HOLD MATCH H					
R147(1)	MBC5	A2	68n	-MBX1 CCA ALL PAGES CYC H					
R176(1)	MBC2	D4	68n	MBX1 CCA INVAL T4 A H					
R111(1)	MBC5	A3	68n	-MBX1 FORCE MATCH EN H					
R103(1)	MBC1	B4	68n	MBX1 REFILL ADR EN H					
R17(1)	MBC2	C7	68n	-MBX2 CHAN WR CYC H					
R53(1)	MBC1	B2	68n	MBX3 REFILL HOLD H					
R01(1)	MBC3	B5	68n	-MBX4 CACHE TO MB T2 H					
R104(1)	MBC3	B7	68n	-MBX4 CACHE TO MB T4 A H					
R209(1)	MBC2	D4	68n	MBX4 WRITEBACK T2 H					
R199(1)	MBC4	D2	68n	MBX5 MEM RD RQ IN H					
R116(1)	MBC3	A2	68n	-MBX5 MEM TO C EN H					
R203(1)	MBC4	D2	68n	MBX5 MEM WR RQ IN H					
R124(1)	MBC4	D5	68n	MBX5 RQ 0 IN H					
R125(1)	MBC4	D5	68n	MBX5 RQ 1 IN H					
R127(1)	MBC4	D5	68n	MBX5 RQ 2 IN H					
R134(1)	MBC4	D5	68n	MBX5 RQ 3 IN H					
R163(1)	MBC4	C8	68n	MEM ACKN A H					
R162(1)	MBC4	C8	68n	MEM ACKN B H					
R45(1)	MBC4	B7	68n	-MEM DATA VALID A H					
R43(1)	MBC4	B7	68n	-MEM DATA VALID B H					
R193(1)	MBC4	A7	68n	NC SEE NOTE 4					
R77(1)	MBC4	C8	68n	NXM ACKN H					
R41(1)	MBC4	B7	68n	-NXM DATA VAL H					
R52(1)	MBC1	B2	68n	PMA3 PA 27 H					
R51(1)	MBC1	B2	68n	PMA3 PA 28 H					
R50(1)	MBC1	B2	68n	PMA3 PA 29 H					

NOTE:

1. ALL TERMINATORS HAVE PIN TWO CONNECTED TO -2.0V AND ARE 5% 1/4WATT UNLESS OTHERWISE SPECIFIED
2. ENTRIES ARE SORTED BY SIGNAL NAME
3. % INDICATES OUTPUT OF DIP LOC AND (<) INDICATES PIN NUMBER
4. R193 IS NOT TO BE USED OR INSTALLED

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 © 1976, DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CH.	CHANGE NO.	REV.

digit	DR. <i>G. Smith</i>	DATE 18-NOV-76	ENG. <i>A. J. Allen</i>	DATE 23 Nov 76	TITLE: MBC MBOX CONTROL TERMINATORS
	CHK'D <i>W. Stephens</i>	DATE 11-11-76	BOARD LOCATION: 4AF22	SHEET 2 OF 2	
F85312.DRAW 4.1793		118-NOV-76 17:16		NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL: KL10PV		B-DD-M8531-YA		SIZE CODE D CS	NUMBER M8531-YA-RES
					REV.

MR 1