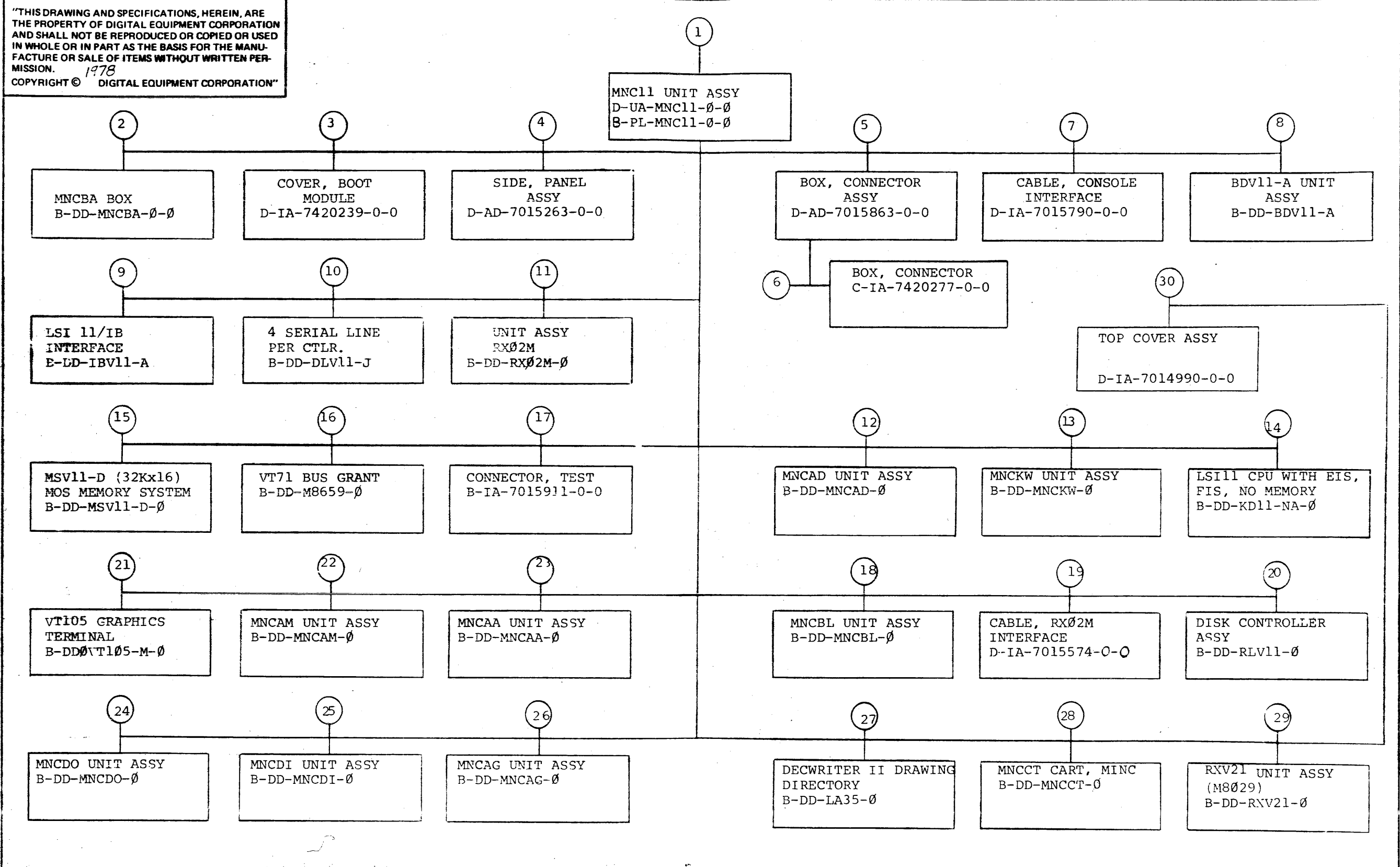


"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. 1978  
 COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNC11 UNIT ASSY	SHEET 2 OF 5	SIZE CODE	B DD	NUMBER	MNC11-Ø	REV
-------	-----------------	--------------	-----------	------	--------	---------	-----



114

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
				15	B-DE-MSV11-0-0	MSV11-D (32Kx16) MOS MEMORY SYSTEM	E/M
10	B-DD-DLV11-J	4 SERIAL LINE PER CTLR.					
				16	B-DD0M8659-0	VT71 BUS GRANT	E/M
11	B-DD-RX02M-0	UNIT ASSY RX02M	E/M				
				17	B-IA-7015911-0-0 A-DC-7409873-2-0	CONNECTOR, TEST DECAL, PWR CONNECTOR	E/M M
12	B-DD-MNCAD-0	MNCAD UNIT ASSY	E/M				
				18	B-DD-MNCBL-0	MNCBL UNIT ASSY	E/M
13	B-DD-MNCKW-0	MNCKW UNIT ASSY	E/M				
				19	D-IA-7015574-0-0 A-DC-7409872-2-0	CABLE, RX02M INTERFACE DECALS, PWR HARNESS	E/M M
14	B-DD-KD11-NA-0	LSI 11 CPU WITH EIS, FIS, NO MEMORY	E/M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



TITLE MNCII UNIT ASSY

SHEET 4 OF 5

SIZE CODE B DD

NUMBER MNCII-3

REV

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE				
				25	B-DD-MNCDI-Ø	MNCDI UNIT ASSY	E/M				
20	B-DD-RLV11-Ø	DISK CONTROLLER ASSY	E/M								
				26	B-DE-MNCAG-Ø	MNCAG UNIT ASSY	E/M				
21	B-DD-VT1Ø5-M-Ø	VT1Ø5 GRAPHICS TERMINAL	E/M								
				27	B-DD-LA36-Ø	DECWRITER II DRAWING DIRECTORY	E/M				
22	B-DE-MNCAM-Ø	MNCAM UNIT ASSY	E/M								
				28	B-DD-MNCCT-Ø	MNCCT CART, MINC	E/M				
23	B-DE-MNCAA-Ø	MNCAA UNIT ASSY	E/M								
				29	B-DD-RXV21-Ø	RXV21 UNIT ASSY	E/M				
24	B-DD-MNCDO-Ø	MNCDO UNIT ASSY	E/M								
				30	D-IA-7014990-0-0	TOP COVER ASSY	M				
					D-MD-7419881-0-0	COVER, TOP	M				
					C-MD-7419874-0-0	RETAINER, CONN.	M				
					B-MD-7419883-0-0	HINGE BRKT, TOP COVER	N				
TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL				<b>digital</b>		TITLE MNC11 UNIT ASSY		SHEET 5 OF 5	SIZE CODE <b>B DD</b>	NUMBER MNC11-Ø	REV





MR

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION														
MADE BY A. C. Filz		CHECKED J. Hison		SECTION														
DATE 8 MAY 78		DATE 14 July 78																
ENG C. E.		PROD B. M. J.		ISSUED SECT.														
DATE 19-JUL-78		DATE																
ITEM NO.	DWG NO./PART NO.	DESCRIPTION		MNC11-CA	MNC11-CC	MNC11-CD												
1	D-UA-MNC11-BA-Ø	MNC11-BA System		1	-	-												
2	D-UA-MNC11-BC-Ø	MNC11-BC System		-	1	-												
3	D-UA-MNC11-BD-Ø	MNC11-BD System		-	-	1												
4	D-UA-MNCAD-Ø-Ø	MNCAD Unit Assy		1	1	1												
5	D-UA-MNCKW-Ø-Ø	MNCKW Unit Assy		1	1	1												
6	D-UA-MNCBL-Ø-Ø	Blank Control Panel Assy *		1	1	1												
7	D-UA-MNCAM-Ø-Ø	MNCAM UNIT ASSY		1	1	1												
8	D-UA-MNCAA-Ø-Ø	MNCAA UNIT ASSY		1	1	1												
9	D-UA-MNCDI-Ø-Ø	MNCDI UNIT ASSY		1	1	1												
10	D-UA-MNCDO-Ø-Ø	MNCDO UNIT ASSY		1	1	1												
11	D-UA-MNCAG-Ø-Ø	MNCAG UNIT ASSY		1	1	1												
12	E-UA-LA35-Ø-Ø	LA35-HE UNIT ASSY		1	-	-												
13	E-UA-LA35-Ø-Ø	LA35-HH UNIT ASSY		-	1	-												
14	E-UA-LA35-Ø-Ø	LA35-HS UNIT ASSY		-	-	1												
15	D-IA-7015790-0-0	CABLE CONSOLE INTERFACE		1	1	1												
		* Note : Fill up all unused MINC slots with item #6. Total MNCBL's will always be 1 more than is required to fill unused MINC slots.																
TITLE MNC11-C System (Ship List)		ASSY NO.		SIZE A	CODE PL	NUMBER MNC11-C-SH			REV	ECO NO.								
SHEET 1 OF 1		DIST																

DEC FORM  
DRA 110

MR

8

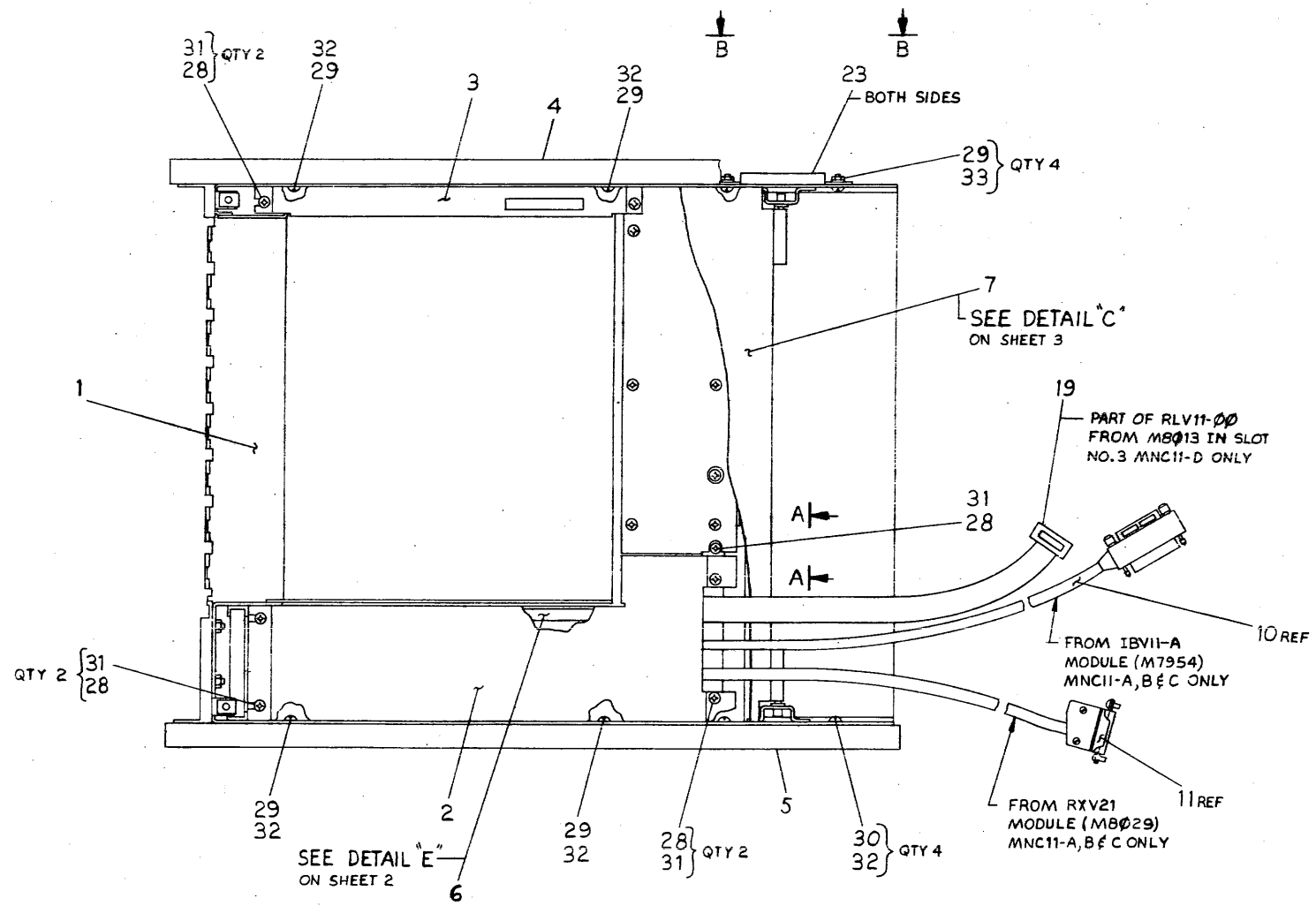
THIS DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.  
 COPYRIGHT © 1976 . DIGITAL EQUIPMENT CORPORATION

**NOTES:**

1. TO CHANGE LINE VOLTAGE SETTING REMOVE SWITCH PLATE AND SET SWITCH TO VOLTAGE SETTING DESIRED. REPLACE SWITCH PLATE TO INDICATE PROPER VOLTAGE SELECTED. (MNCII-AB SYSTEMS)

**CAUTION:**

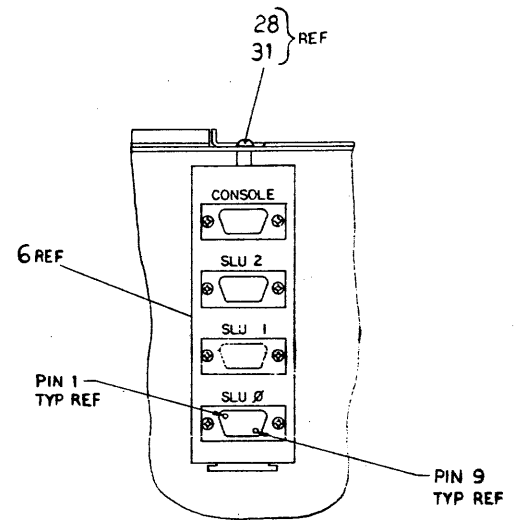
OFF SHEETS PARTS LIST EXISTS SEE A-PL-MNCII-0-0



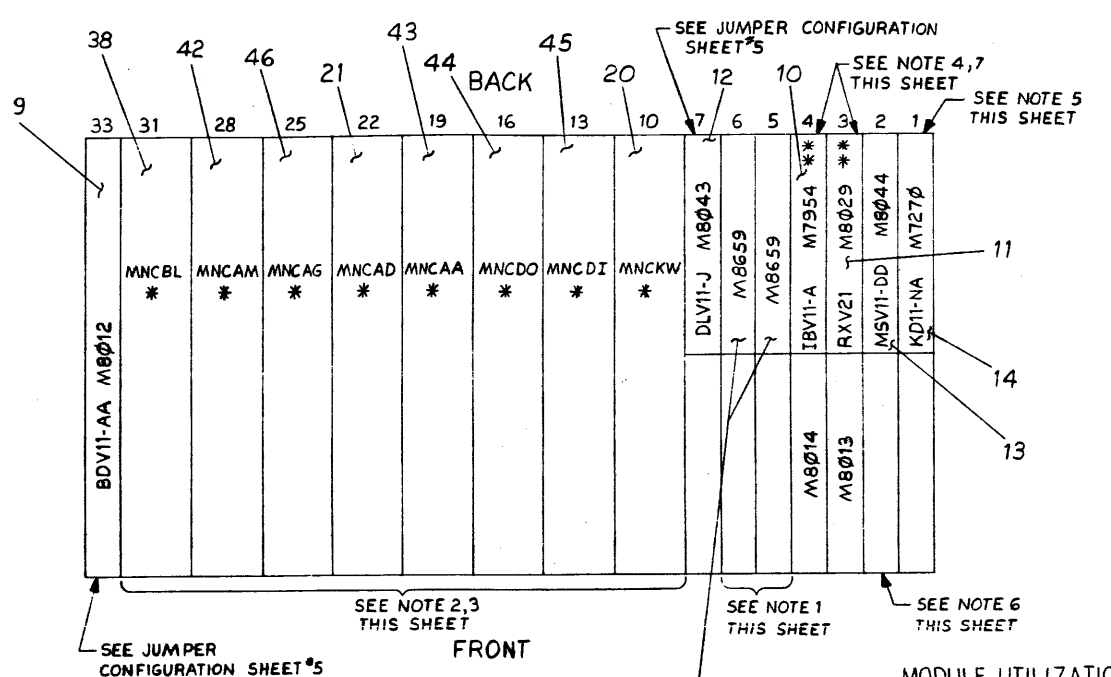
DESCRIPTION	DWG. PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
ANGLES CLASS OF ACCURACY NOMINAL DIMENSIONS IN INCHES		
SURFACE QUALITY IN (CHECK ONE) MEDIUM <input type="checkbox"/> FINE <input type="checkbox"/> BEST <input type="checkbox"/>		
MICROINCHES PREFERRED <input type="checkbox"/> 1.004 1.008 1.012 1.016 1.020 1.024 1.028 1.032 1.036 1.040 1.044 1.048 1.052 1.056 1.060 1.064 1.068 1.072 1.076 1.080 1.084 1.088 1.092 1.096 1.100		
THIRD ANGLE PROJECTION	FIRST USED ON	
DRBL 11/10/77	14/8/78	
CHK'D 11/10/77	14/8/78	
ENG. OCH 11/10/77	14/8/78	
PROD. 11/10/77	14/8/78	
DO NOT SCALE DWG	NEXT HIGHER ASSY.	
MATERIAL SEE PARTS LIST	B-DD-MNCII-0	SIZE CODE NUMBER
FINISH NONE	SCALE 1/2	D UA MNCII-0-0
	SHEET 1 OF 6	DIST. 1

REV.	CHANGE NO.	DESCRIPTION

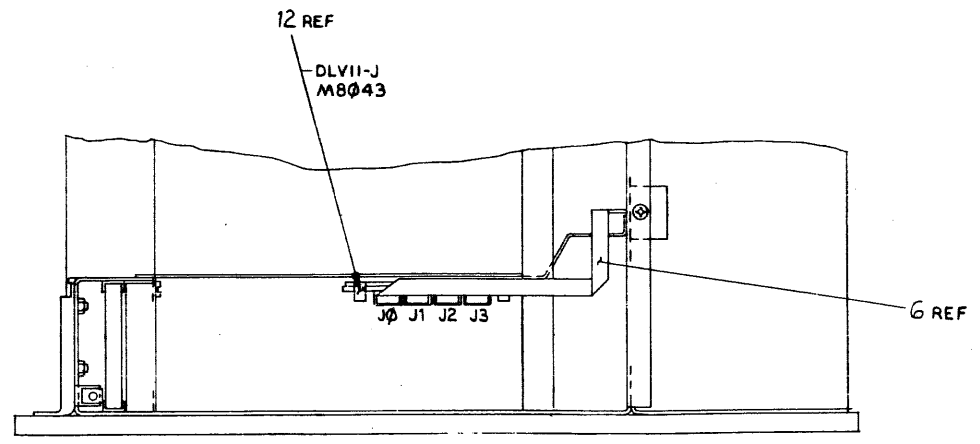
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971 DIGITAL EQUIPMENT CORPORATION



VIEW A-A  
SCALE: 1/1  
INSTALL AS SHOWN  
CONNECTORS FROM DLVII-J (M8043)



MODULE UTILIZATION  
(MODULE SIDE)  
SCALE: NONE



DETAIL 'E'  
WITH COVER (ITEM #2) REMOVED  
SCALE: 1/2

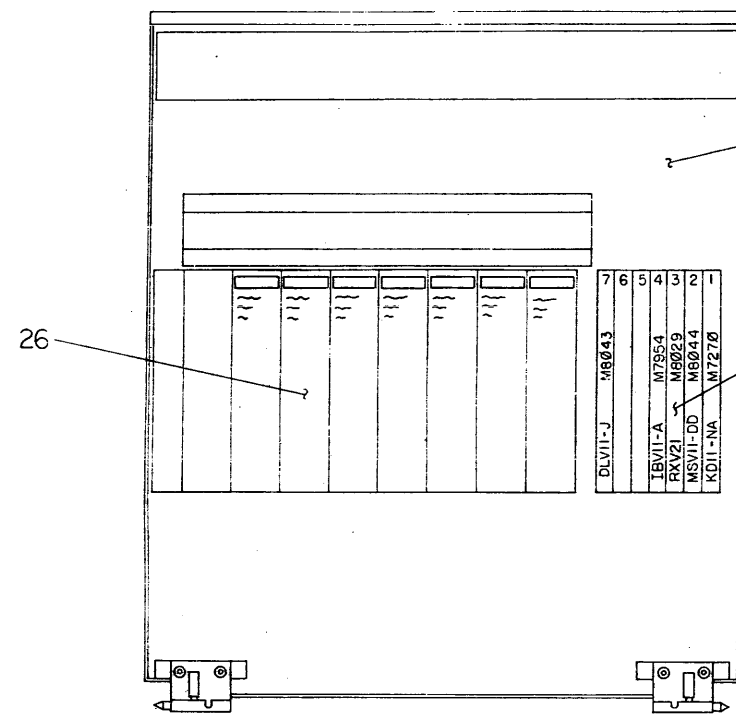
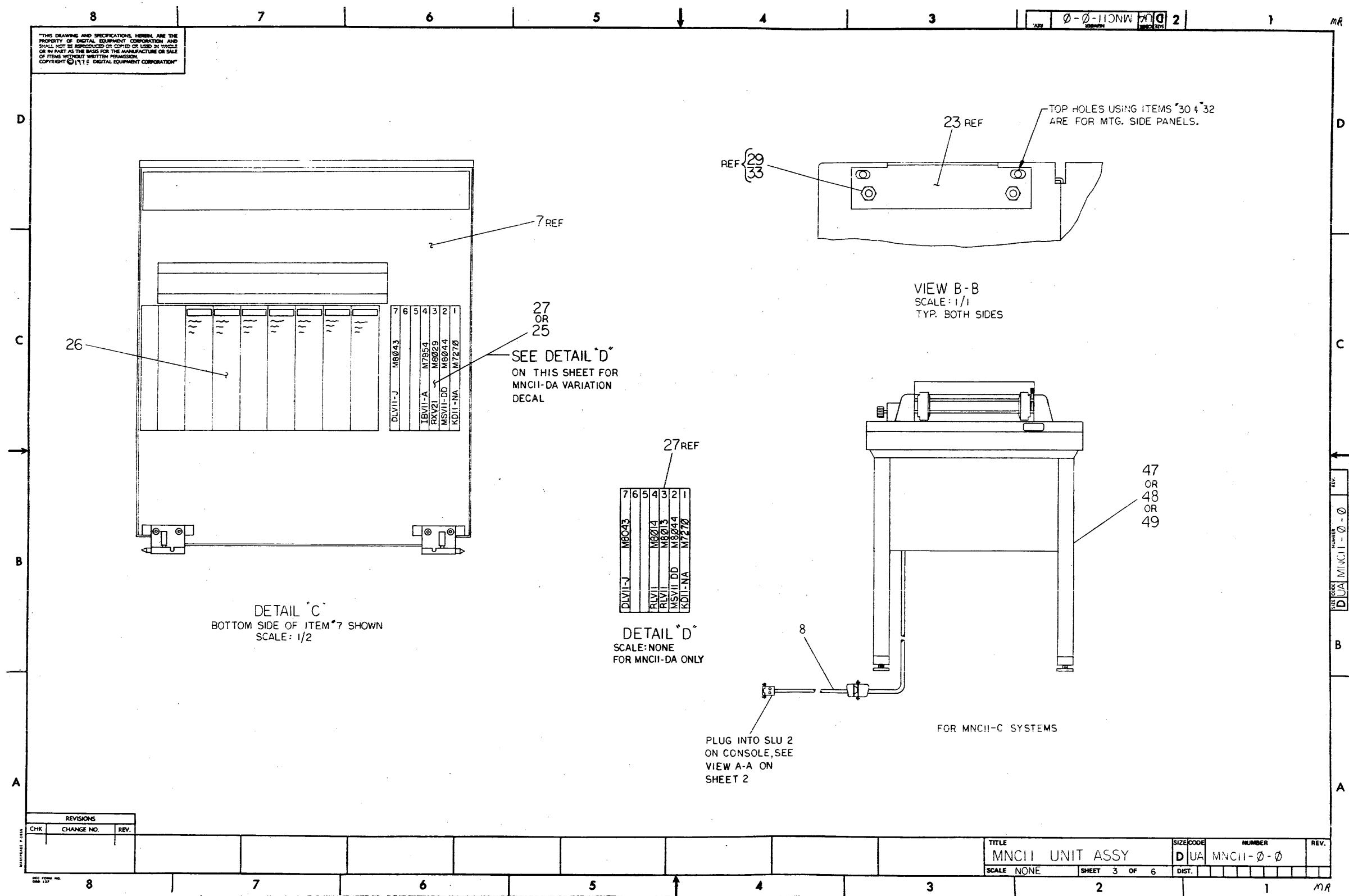
- MODULE UTILIZATION NOTES:
- SLOTS 5 & 6 ARE USED FOR LS1111 OPTION EXPANSION ONLY.
  - SLOTS 10 THRU 31 ARE MINC OPTION EXPANSION AREA.
  - \* FOR MNC11-C, SYSTEMS ONLY.
  - \*\* FOR MNC11-D SLOT 3 AND 4 CONTAINS M8014 & M8013 PART OF AN RLVII. M7954 AND M8029 ARE FOR MNC11-B & C VARIATIONS.
  - MODE 2, W6 INSTALLED, W5 REMOVED. PC AT 173000 FOR USER BOOTSTRAP.  
W1 INSTALLED CRYSTAL CLOCK  
W3 REMOVED ENABLE EVENT LINE
  - MSVII-DD JUMPER CONFIGURATION FOR 30K JUMPER  
5 → 7 NON PARITY 16 → 15, 10 → 14 32K  
S1-1 ON } 1 → 2 30K MEMORY SPACE  
S1-2 ON } W2 IN }  
S1-3 ON } STARTING LOC W3 IN } NON BATTERY  
S1-4 ON } 000000 W4 OUT } BACK UP  
S1-5 ON } W5 OUT }  
W1 OUT } MEMORY  
R3 IN } SIZE BLK
  - IBVII-A ADDRESS AND VECTOR CHANGE TO:  
ADDRESS 171420  
VECTOR 420  
S2-1 ON S1-1 ON  
S2-2 OFF S1-2 OFF  
S2-3 OFF S1-3 OFF  
S2-4 ON S1-4 OFF  
S2-5 ON S1-5 ON  
S2-6 OFF S1-6 OFF  
S2-7 OFF S1-7 OFF  
S2-8 OFF S1-8 OFF  
S2-9 OFF  
S2-10 OFF

REVISIONS		
CHK	CHANGE NO.	REV.

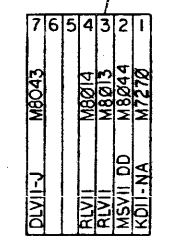
TITLE	SIZE CODE	NUMBER	REV.
MNC11 UNIT ASSY	D U A	MNC11-0-0	
SCALE NONE	SHEET 2 OF 6	DIST.	

THIS DRAWING AND SPECIFICATIONS HEREBY 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 © 1971 DIGITAL EQUIPMENT CORPORATION

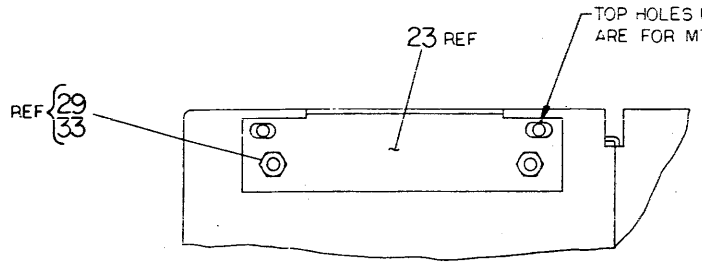
Ø-Ø-110NW 2



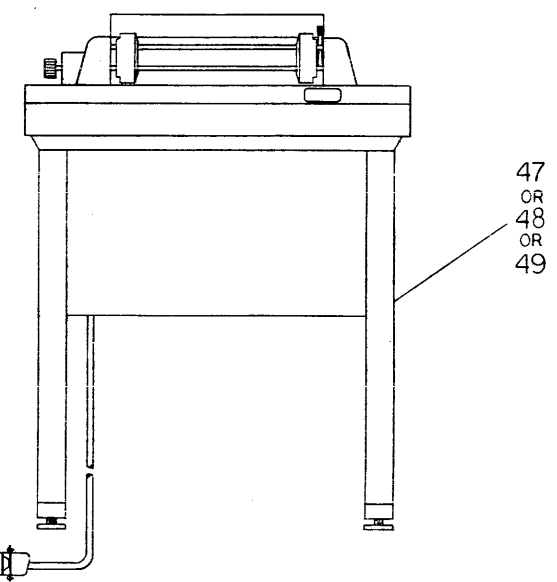
DETAIL 'C'  
BOTTOM SIDE OF ITEM \*7 SHOWN  
SCALE: 1/2



DETAIL 'D'  
SCALE: NONE  
FOR MNCII-DA ONLY



VIEW B-B  
SCALE: 1/1  
TYP. BOTH SIDES



PLUG INTO SLU 2  
ON CONSOLE, SEE  
VIEW A-A ON  
SHEET 2

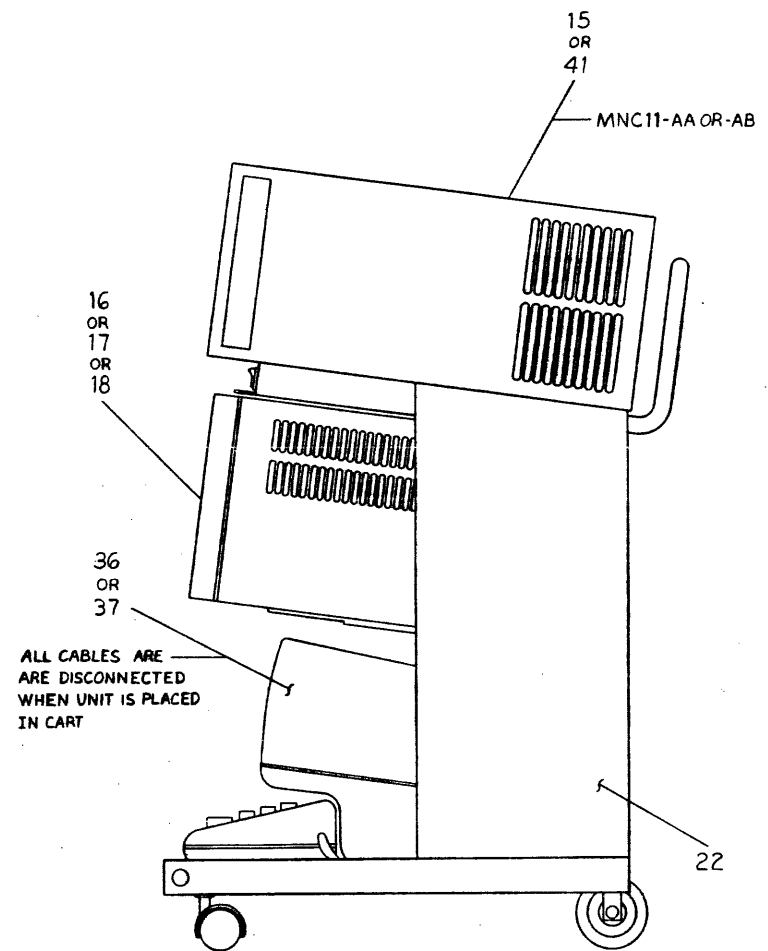
FOR MNCII-C SYSTEMS

REVISIONS		
CHK	CHANGE NO.	REV.

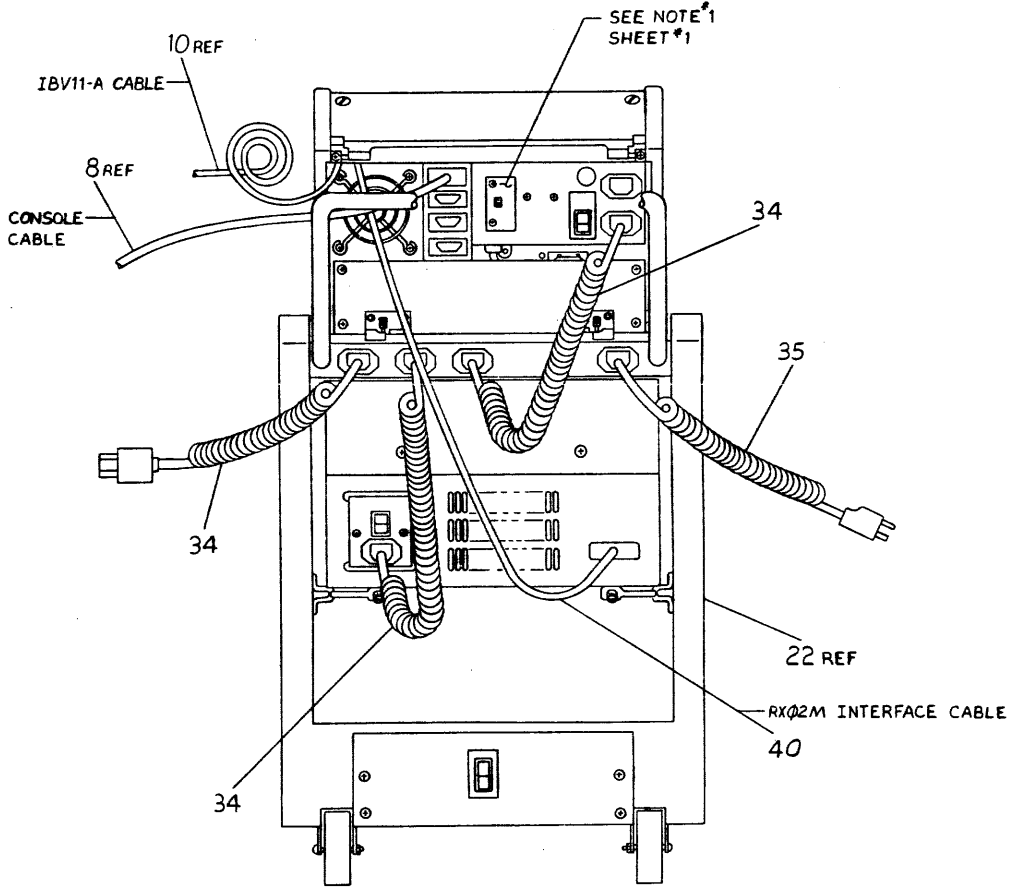
TITLE	SIZE CODE	NUMBER	REV.
MNCII UNIT ASSY	D UA	MNCII-Ø-Ø	
SCALE NONE	SHEET 3 OF 6	DIST.	

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 © 1978 DIGITAL EQUIPMENT CORPORATION

0-0-110NWN0 2 1 MR



RIGHT SIDE VIEW  
SCALE: NONE



REAR VIEW  
SCALE: NONE

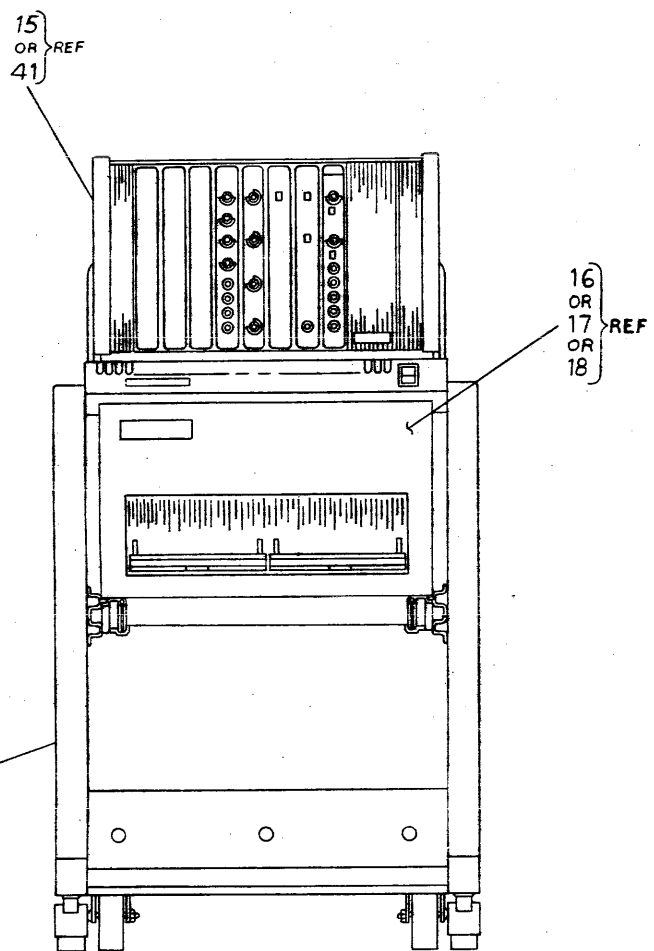
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MNC11 UNIT ASSY	D UA	MNC11-0-0	
SCALE NONE	SHEET 4 OF 6	DIST.	

NUMBER  
 D UA MNC11-0-0

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 © 1978 DIGITAL EQUIPMENT CORPORATION

### JUMPER CONFIGURATION



**BDV11-AA (RX02M SYSTEM) MNC11-AA**

- A1 ON CPU TEST
- A2 ON MEMORY TEST
- A3 OFF
- A4 OFF
- A5 OFF A SWITCH-E15
- A6 ON
- A7 ON RX02
- A8 OFF

- B1 OFF
- B2 OFF
- B3 OFF B SWITCH-E21
- B4 OFF
- B5 ON

**BDV11-AA (RL01 SYSTEM) MNC11-DA**

- A1 ON CPU TEST
- A2 ON MEMORY TEST
- A3 OFF
- A4 OFF
- A5 OFF
- A6 OFF
- A7 ON
- A8 OFF

- B1 OFF
- B2 OFF
- B3 OFF
- B4 OFF
- B5 ON

**DLV11-J**

**CONSOLE (J3)**

VECTOR 60

- V5 X→0
- V6 INSERTED
- V7 INSERTED

ADDRESS 177560

- C1 X→1
- C2 X→1
- A12 X→1
- A11 X→1
- A10 X→1
- A9 X→0
- A8 X→1
- A7 REMOVED
- A6 INSTALLED
- A5 X→0

**DLV11-J**

BAUD RATE 9600  
N→3

- JUMPER P X→1 NO PARITY
- JUMPER E X→0 ODD PARITY
- JUMPER D X→1 8 DATA BITS
- JUMPER S X→0 1 STOP BIT

X→H HALT ON BREAK

EIA RS423, RS232C

- JUMPER M3 X→3
- JUMPER N3 X→3

JUMPER M1 INSERTED

**SLU0 (J0)**

VECTOR 300

ADDRESS 176500 (110 BAUD 20 MA)

BAUD RATE 9600  
N→0

- JUMPER P X→1
- JUMPER E X→
- JUMPER D X→ 8 DATA BITS
- JUMPER S X→0 1 STOP BITS

- JUMPER M0 X→3
- JUMPER N0 X→3

**SLU1 (J1)**

VECTOR 310

ADDRESS 176510

BAUD RATE 1200  
W→1

- JUMPER P X→1
- JUMPER E X→0
- JUMPER D X→1 8 DATA BITS
- JUMPER S X→1 2 STOP BITS

- JUMPER M1 X→3
- JUMPER N1 X→3

**DLV11-J**

**SLU2 (J2)**

VECTOR 320

ADDRESS 176520

BAUD RATE 300  
T→2

- JUMPER P X→1
- JUMPER E X→0
- JUMPER D X→1 8 DATA BITS
- JUMPER S X→1 2 STOP BITS

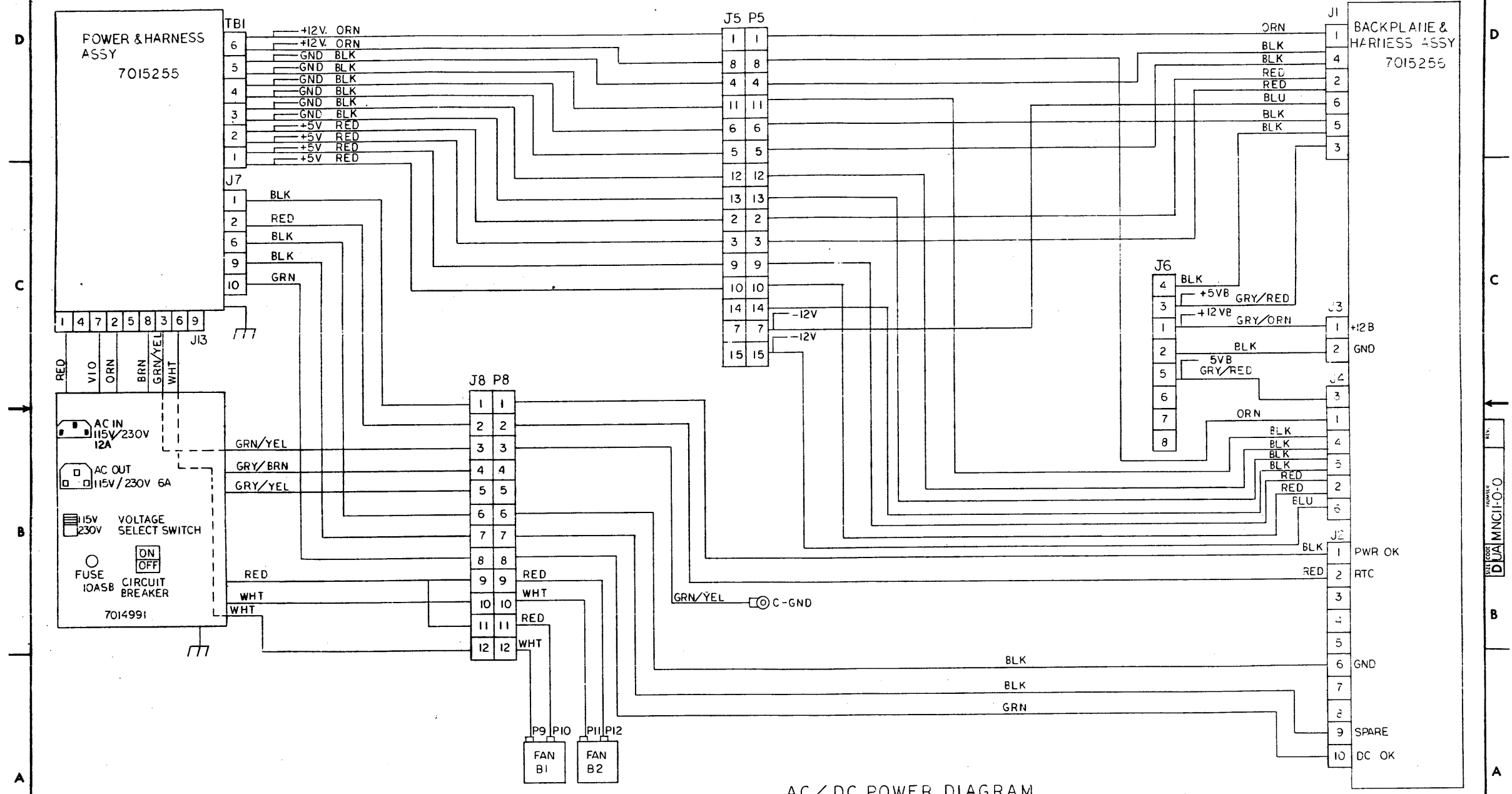
- JUMPER M2 X→3
- JUMPER N2 X→3

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MNCII UNIT ASSY	D	UA MNCII-0-0	
SCALE NONE	SHEET 5 OF 6	DIST.	

"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 © 1972 DIGITAL EQUIPMENT CORPORATION"

0-0-110NWM 2



AC/DC POWER DIAGRAM

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MNCII UNIT ASSY	SIZE CODE	D UA	NUMBER	MNCII-0-0	REV.	
SCALE	NONE	SHEET	6 OF 6	DIST.			

mf



DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:	
				MNC11-AA	MNC11-BA	MNC11-BC	MNC11-BD	MNC11-CA	MNC11-CC	MNC11-CD	MNC11-DA	MNC11-AB			
MADE BY <i>G. Nomies</i>		CHECKED <i>J. HUSON</i>													
DATE <i>13-JUL-78</i>		DATE <i>14 July 78</i>													
ENG <i>A.C. Ff</i>		PROD <i>Bob</i>													
DATE <i>14-July-78</i>		DATE <i>19 July 78</i>													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION	
1	E-UA-MNCBA-0-0		MNCBA BOX ASSY	1	-	-	-	-	-	-	-	1	1		
2	D-MD-7420102-0-0	7420102-0	COVER, LOGIC COMPARTMENT	1	-	-	-	-	-	-	-	1	1		
3	D-MD-7420239-0-0	7420239-0	COVER, BOOT MODULE	1	-	-	-	-	-	-	-	1	1		
4	D-AD-7015363-0-0	7015363-0	PANEL, SIDE ASSY (RIGHT)	1	-	-	-	-	-	-	-	1	1		
5	D-AD-7015363-0-0	7015363-1	PANEL, SIDE ASSY (LEFT)	1	-	-	-	-	-	-	-	1	1		
6	D-AD-7015836-0-0	7015836-0	BOX, CONNECTOR ASSY	1	-	-	-	-	-	-	-	1	1		
7	D-IA-7014990-0-0	7014990-0	COVER, TOP ASSY	1	-	-	-	-	-	-	-	1	1		
8	D-IA-7015790-0-0	7015790-0	CABLE, CONSOLE INTERFACE	1	-	-	-	1	1	1	1	1	1		
9	D-UA-BDV11-A-0		UNIT ASSY (BDV11) (M8012)	1	-	-	-	-	-	-	-	1	1		
10	A-PL-IBV11-A-0		LSI11/IB INTERFACE (M7954)	1	-	-	-	-	-	-	-	-	1		
11	RXV21		RXV21 M8029	1	-	-	-	-	-	-	-	-	1		
12	A-PL-DLV11-J-0		4 SERIAL LINE PER CTRLR (M8043)	1	-	-	-	-	-	-	-	1	1		
13	A-PL-MSV11-D-0		32K-16 BIT MOS MEMORY SYSTEM (M8044)	1	-	-	-	-	-	-	-	1	1		
14	A-PL-KD11-NA		LSI11 CPU WITH EIS, FIS, NO MEMORY	1	-	-	-	-	-	-	-	1	1		
15	D-UA-MNC11-AA		BASIC MINC (115V 60 HZ)	X	1	1	-	1	1	-	-	-	-		
16	E-UA-RX02M-MA		RX02M UNIT ASSY (115V 60HZ)	-	1	-	-	1	-	-	-	-	-		
17	E-UA-RX02M-MC		RX02M UNIT ASSY (115V 50HZ)	-	-	1	-	-	1	1	-	-	-		
18	E-UA-RX02M-MD		RX02M UNIT ASSY (230V 50HZ)	-	-	-	1	-	-	-	-	-	-		
19	E-UA-RLV11-0-0		DISK CONTROLLER ASSY (RLV11)	-	-	-	-	-	-	-	-	1	-		
20	D-UA-MNCKW-0-0		MNCKW UNIT ASSY	-	-	-	-	1	1	1	-	-	-		
21	D-UA-MNCAD-0-0		MNCAD UNIT ASSY	-	-	-	-	1	1	1	-	-	-		

E.C.O. NO.	"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 © DIGITAL EQUIPMENT CORPORATION"	TITLE MNC11 UNIT ASSY	ASSY NO. D-UA-MNC11-0-0	SIZE <b>B</b>	CODE <b>PL</b>	NUMBER MNC11-0-0	REV.
		SHEET 1 OF 3		INSERTION PARTS LIST DATA BASE REV			

<b>DIGITAL EQUIPMENT CORPORATION PARTS LIST</b>				QUANTITY / VARIATION										NOTES:			
MADE BY <i>B. Navles</i>		CHECKED <i>J. Huson</i>												REF DESIGNATION			
DATE <i>13-JUL-78</i>		DATE <i>14 July 78</i>															
ENG <i>A.C. P</i>		PROD <i>Baker</i>															
DATE <i>19-July 78</i>		DATE <i>17 July 78</i>															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	MNC11-AA	MNC11-BA	MNC11-BC	MNC11-BD	MNC11-CA	MNC11-CC	MNC11-CD	MNC11-DA	MNC11-AB					
22	D-UA-MNCCT-0-0		CART, MINC	-	1	1	1	1	1	1	-	-					
23	C-MD-7420240-0-0	7420240-0	BRKT, SPACER SIDE PANEL	2	-	-	-	-	-	-	2	2					
24	D-UA-M8659-0-0		VT71 BUS GRANT	2	-	-	-	-	-	-	2	2					
25	A-DC-3615262-0-0	3615262-0	DECAL, PROCESSOR COMP	1	-	-	-	-	-	-	-	1					
26	D-DC-3615263-0-0	3615263-0	DECAL, USER INFO.	1	-	-	-	-	-	-	1	1					
27	A-DC-3615774-0-0	3615774-0	DECAL, PROCESSOR COMP ( MNC11-D)	-	-	-	-	-	-	-	1	-					
28		9006021-03	SCR, PHIL TRUSS HD6-32x.31	7	-	-	-	-	-	-	7	7					
29		9006037-03	SCR, PHIL TRUSS HD8-32x.38	8	-	-	-	-	-	-	8	8					
30		9006039-03	SCR, PHIL TRUSS HD8-32x.50	4	-	-	-	-	-	-	4	4					
31		9005633-00	WASHER, INT. TOOTH LOCK #6	7	-	-	-	-	-	-	7	7					
32		9005634-00	WASHER, INT. TOOTH LOCK #8	8	-	-	-	-	-	-	8	8					
33		9006563-00	NUT, KEPS #8	4	-	-	-	-	-	-	4	4					
34		1700150-0	LINE CORD IEC TO IEC	-	3	3	3	3	3	3	-	-					
35		1700156-0	LINE CORD 115V TO IEC	-	1	1	1	1	1	1	-	-					
36	E-UA-VT105-MA-0		VIDEO TERMINAL 115V/60HZ	-	1	1	-	1	1	-	-	-					
37	E-UA-VT105-MB-0		VIDEO TERMINAL 230V/50HZ	-	-	-	1	-	-	1	-	-					
38	D-UA-MNCBL-0-0		MNCBL UNIT ASSY	-	-	-	-	1	1	1	-	-					
*39	B-IA-7015911-0-0	7015911-0	CONNECTOR, TEST	REF	-	-	-	-	-	-	REF	REF					
40	D-IA-7015574-0-0	7015574-0	CABLE, RX02M INTERFACE	1	-	-	-	-	-	-	1	1					
41	D-UA-MNC11-AB		BASIC (230V 50HZ)	-	-	-	1	-	-	1	-	-					
42	D-UA-MNCAM-0-0		MNCAM UNIT ASSY	-	-	-	-	1	1	1	-	-					

E.C.O. NO. \_\_\_\_\_

*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 © DIGITAL EQUIPMENT CORPORATION*	TITLE MNC11 UNIT ASSY	ASSY NO. D-UA-MNC11-0-0	SIZE <b>B</b>	CODE <b>PL</b>	NUMBER MNC11-0-0	REV.
SHEET 2 OF 3			INSERTION PARTS LIST DATA BASE REV			

MA

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:	
MADE BY <i>B. Vowles</i>		CHECKED <i>J. HUSON</i>													
DATE <i>13-JUL-78</i>		DATE <i>14 July 78</i>													
ENG <i>A. C. Ely</i>		PROD <i>Bob Smith</i>													
DATE <i>19-July-78</i>		DATE <i>19 July 78</i>													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	MNC11-AA	MNC11-BA	MNC11-BC	MNC11-BD	MNC11-CA	MNC11-CC	MNC11-CD	MNC11-DA	MNC11-AB	REF DESIGNATION		
43	D-UA-MNCAA-0-0		MNCAA UNIT ASST	-	-	-	-	1	1	1	-	-			
44	D-UA-MNCDO-0-0		MNCDO UNIT ASSY	-	-	-	-	1	1	1	-	-			
45	D-UA-MNCDI-0-0		MNCDI UNIT ASSY	-	-	-	-	1	1	1	-	-			
46	D-UA-MNCAG-0-0		MNCAG UNIT ASSY	-	-	-	-	1	1	1	-	-			
47	E-UA-LA35-0-0		LA35-HE UNIT ASSY	-	-	-	-	1	-	-	-	-			
48	E-UA-LA35-0-0		LA35-HH UNIT ASSY	-	-	-	-	-	1	-	-	-			
49	E-UA-LA35-0-0		LA35-HS UNIT ASSY	-	-	-	-	-	-	1	-	-			
			* THIS PART IS FOR TEST ONLY												

E.C.O. NO.

"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 © DIGITAL EQUIPMENT CORPORATION"

TITLE  
MNC11 UNIT ASSY

ASSY NO.  
D-UA-MNC11-0-0

SIZE  
**B**

CODE  
**PL**

NUMBER  
MNC11-0-0

REV.

SHEET 3 OF 3

INSERTION PARTS LIST DATA BASE REV

MR


"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

### DRAWING DIRECTORY

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

UNIT VARIATIONS	
VAR	TITLE
MNCBA	MNCBA BOX

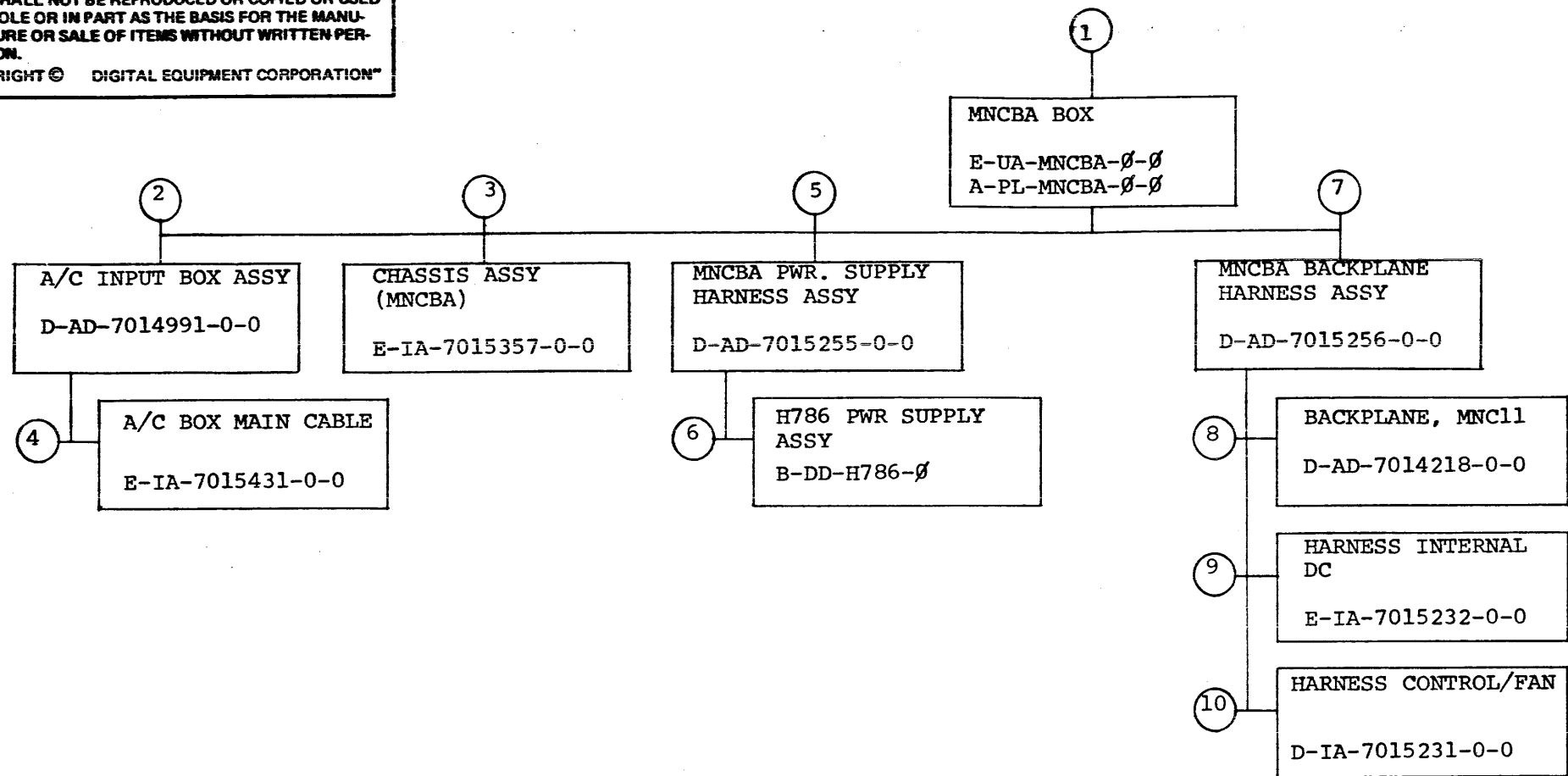
REVISIONS	REV.	
	CHANGE NO.	
CHK		

USED ON OPTION/MODEL	DRN.	MNCBA	DATE	M. Archie	29 Dec 77	TITLE	 MNCBA BOX			
	CHK'D.		DATE	F. Halliday	14 Feb 78					
	PROJ. ENG.		DATE	A. C. Foy	21 Feb 78					
	PROD.		DATE	E. S. Cook	21 Feb 78					
	SHEET	1	OF	4	SIZE			CODE		NUMBER
DIST.				B	DD	MNCBA-0				

DRB 106A

MR.

"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 © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNCBA BOX	SHEET 2 OF 4	SIZE CODE B DD	NUMBER MNCBA-Ø	REV
-------	-----------	--------------	-------------------	-------------------	-----

MR

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1				4	E-IA-7015431-0-0	A/C BOX - MAIN CABLE	E/M
	E-UA-MNCBA-Ø-Ø	MNCBA BOX	E/M		A-DC-7409873-2-0	DECALS, POWER CONNECTOR	M
	A-PL-MNCBA-Ø-Ø	MNCBA BOX	E/M				
	D-IA-7420278-0-0	COVER, BOTTOM	M				
	C-IA-7419895-0-0	PANEL, FRONT BREATHER	M				
	C-PS-4830036-0-0	EXTRUSION, FRONT BREATHER PANEL	M				
	D-MD-7419871-0-0	FILLER, POWER SUPPLY	M				
	D-MD-7419877-0-0	SHELF, STRAIN RELIEF	M				
	C-IA-7419896-0-0	PANEL, FRONT CORNER	M	5	D-AD-7015255-0-0	MNCBA PWR. SUPPLY HARNESS ASSY	E/M
	C-PS-4830037-0-0	EXTRUSION, FRONT PANEL CORNER	M		D-IA-7015214-0-0	HARNESS POWER SUPPLY	E/M
2	D-AD-7014991-0-0	A/C INPUT BOX ASSY	E/M				
	D-IA-7419882-0-0	BOX, A/C INPUT	M	6	B-DD-H786-Ø	H786 POWER SUPPLY ASSY	E/M
	D-MD-7419884-0-0	COVER, A/C BOX	M				
	C-IA-7418378-0-0	PLATE, VOLTAGE SELECT	M				
	C-IA-7015432-0-0	VOLTAGE SWITCH ASSY	E/M				
	C-IA-7015521-0-0	CONN. PWR. RECP. (FEMALE)	E/M				
	C-IA-7015522-0-0	CONN. PWR. RECP. (MALE)	E/M				
				7	D-AD-7015256-0-0	MNCBA BACKPLANE HARNESS ASSY	E/M
3	E-IA-7015357-0-0	CHASSIS ASSY (MNCBA)	M				
	E-IA-7419879-0-0	CHASSIS	M				
	E-MD-7419880-0-0	COMPARTMENT, POWER SUPPLY	M				
	B-MD-7419878-0-0	BRKT, TOP COVER PIVOT	M				
	D-MD-7419876-0-0	PARTITION, FAN	M	8	D-AD-7014218-0-0	BACKPLANE	E/M
	D-IA-7419859-0-0	CARD-GUIDE SUPPORT REAR	M		5012292	ETCH BOARD	E/M
	D-IA-7419875-0-0	SUPPORT, FRONT PANEL	M		D-MD-7418990-0-0	MOUNTING BAR	M
	D-IA-7419873-0-0	SUPPORT, FRONT SINGLE CARD-GUIDE	M		B-MD-7417041-0-0	CONN BLOCK 288 PIN	M
	D-MD-7419865-0-0	BRKT, SUPPORT POWER SUPPLY	M		B-MD-7417042-0-0	CONN BLOCK 72 PIN	M
	E-MD-7420233-0-0	PARTITION, LOGIC	M		A-SP-7014218-0-1	ASSY SPEC. BACKPLANE	REF
	B-MD-7420243-0-0	STRIKE, PIVOT	M		D-DA-9505110-0-0	FIXTURE, MINC	REF
					C-MD-7419331-0-0	MODULE, STIFFENER	REF
					A-DC-7411881-0-0	DECAL, LOGIC ASSY	E/M

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



TITLE MNCBA BOX

SHEET 3 OF 4

SIZE CODE  
B DD

NUMBER  
MNCBA-Ø

REV

DRB 103A

MR

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
	A-WT-7014218-0-0 3700040	AWT REVISION STATUS PACKAGING INSTRUCTION	REF REF				
9	D-IA-7015232-0-0 A-DC-7409872-0-0 A-DC-7409873-0-0 B-IA-7419885-0-0	HARNESS INTERNAL D.C. DECALS PWR HARNESS DECALS PWR HARNESS BRT. BATT. BACKUP CONN.					
10	D-IA-7015231-0-0 A-DC-7409872-0-0	HARNESS CONTROL/FAN DECAL PWR HARNESS					

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



TITLE MNCBA BOX

SHEET 4 OF 4

SIZE CODE  
B DD

NUMBER  
MNCBA-Ø

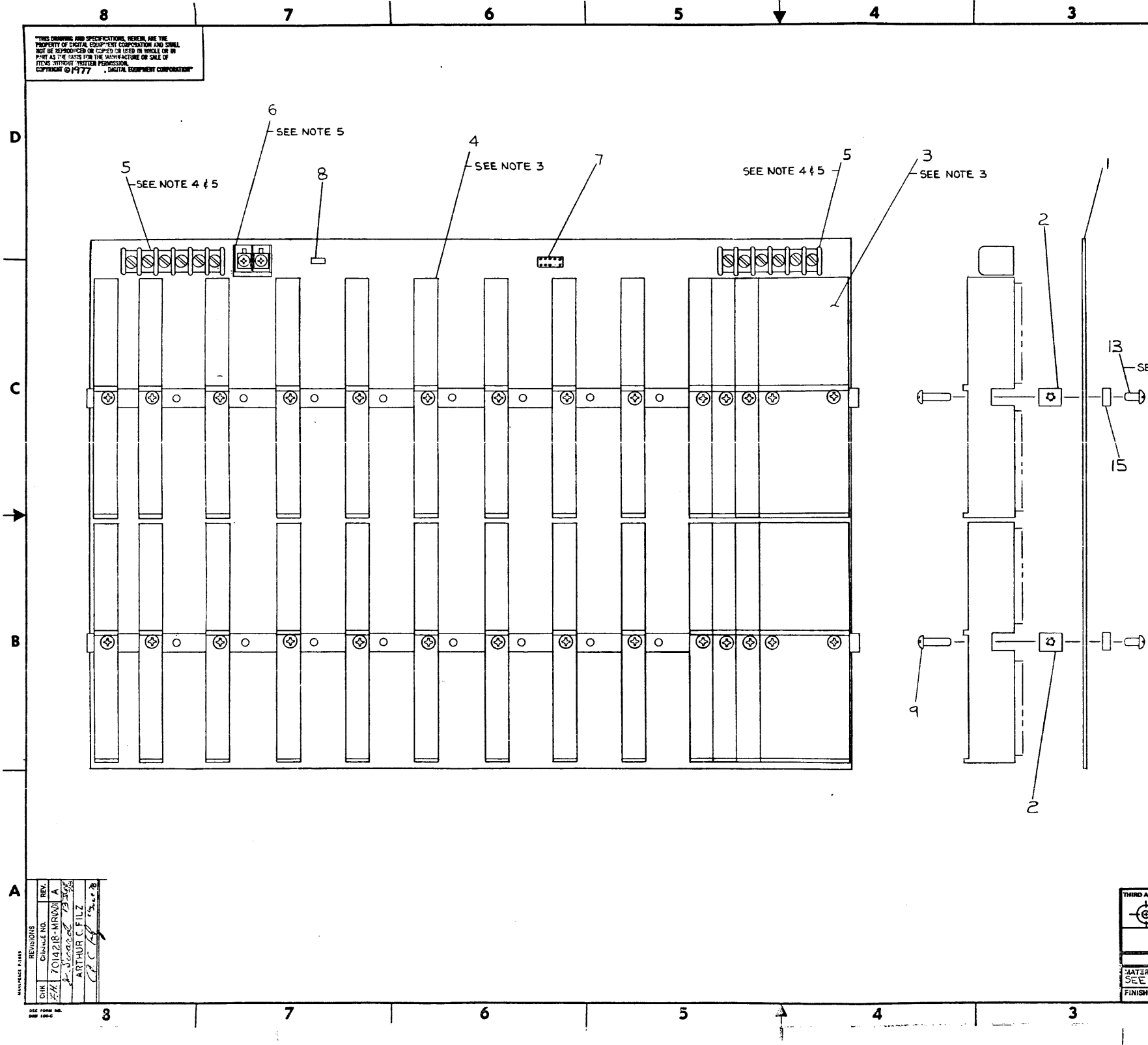
REV

*MIR*

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 © 1977, DIGITAL EQUIPMENT CORPORATION

0-0-812710Z 002 1 MR

- NOTES:**
- ITEMS NO 13 + 15 TO BE USED BY MANUFACTURING ONLY. REMOVE BEFORE FINAL SHIPMENT.
  - PIN 4 ON ITEM NO.7 TO BE REMOVED
  - USE ONLY WIDE LEAD IN ANGLE CONNECTOR BLOCKS.
  - ITEM \*5 TO BE MOUNTED WITH WRITING TOWARDS BLOCKS.
  - ON ITEMS \*5 AND \*6 CUT PINS BELOW THE HEIGHT OF THE PINS ON THE CONNECTOR BLOCKS.



REF	PACKAGING INSTRUCTION	3700040	18
REF	AWT REVISION STATUS	A-WT-7014218-0-0	17
1	DECAL, LOGIC ASSY	A-DC-7411881-0-0	16
REF	MODULE STIFFENER	C-MD-7419331-0-0	15
1	COMPRESS O-CARTON	9905016-04	14
REF	SCR,PHL PAN #8-32 X.31	9006036-01	13
REF	LAYOUT, BACKPLANE	D-LO-7607520-0-0	12
REF	FIXTURE, MISC	D-DA-9505110-0-0	11
REF	ASSY SPEC, BACKPLANE	A-SP-7014218-1-0	10
28	SCR, POSI DR #8-32 X.625	9006120-6	9
1	JUMPER (INSULATED)	9009185	8
1	CONN, 5X2	1213488	7
1	CONN, TERMINAL	1213464	6
2	CONN, TERMINAL	1212484	5
24	CONN BLOCK 72 PIN	B-MD-7417042-0-0	4
2	CONN BLOCK 288 PIN	B-MD-7417041-0-0	3
2	MOUNTING BAR	D-MD-7448770-0-0	2
1	ETCH BOARD	5012292	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
ANGLES	CLASS OF ACCURACY
30° 30'	CHECK DIM
SURFACE	QUALITY
FINISH	FINISH
MICROFINISH	PREFERRED

THIRD ANGLE PROJECTION

REMOVE BURS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH NONE

QUANTITY & VARIATION

DESCRIPTION

DWG./PART NO.

ITEM NO.

FIRST USED ON

TITLE

BACKPLANE, MNCII

SIZE CODE NUMBER

D AD 7014218-0-0

SCALE 1/1

SHEET 1 OF 1

DIST.

REV. A

REVISIONS	REV.
CHANGE NO.	DESCRIPTION
1	7014218-MRWA A
2	ARTUR C FILZ



MR

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# FIELD MAINTENANCE PRINT SET

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

## TABLE OF CONTENTS

B-TC-MNCAD-0-1	MNCAD FIELD MAINTENANCE PRINT SET
	TABLE OF CONTENTS
B-DD-MNCAD-0	MNCAD UNIT ASSY
D-UA-A013-0-0	A/D FOR MINC
K-PL-A013-0-0	A/D FOR MINC
D-CS-A013-0-1	MNCAD
A-PL-MNCAD-0-SH	SHIP LIST MNCAD
D-UA-MNCAD-0-0	MNCAD UNIT ASSY
A-SP-MNCAD-0-4	INSTALLATION & ACCEPTANCE PROCEDURE

UNIT VARIATIONS COVERED BY THIS PRINT SET
MNCAD

MNCAD  
**Field Maintenance Print Set**  
  
**Digital Equipment Corporation**

PRINT SET ORDER NO.  
MP00592

REVISIONS	REV	CHG. NO.	DATE	USED ON OPTION/MODEL	DRN.	DATE	TITLE:  MNCAD UNIT ASSY	digital
				MNCAD	<i>B. Yoube</i>	<i>28-FEB-78</i>		
					<i>B. Yoube</i>	<i>1-AUG-78</i>		
					<i>ACF</i>	<i>23-MAY-78</i>		
					<i>CL Williams</i>	<i>25 May 78</i>		

REV. NUMBER MNCAD-0-1  
SIZE CODE B TC

SHEET 1 OF 1

MR

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

### DRAWING DIRECTORY

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

UNIT VARIATIONS	
VAR	TITLE
MNCAD	MNCAD UNIT ASSY

REVISIONS	CHANGE NO.	REV.
	MNCAD - I	A
CHK	EX	

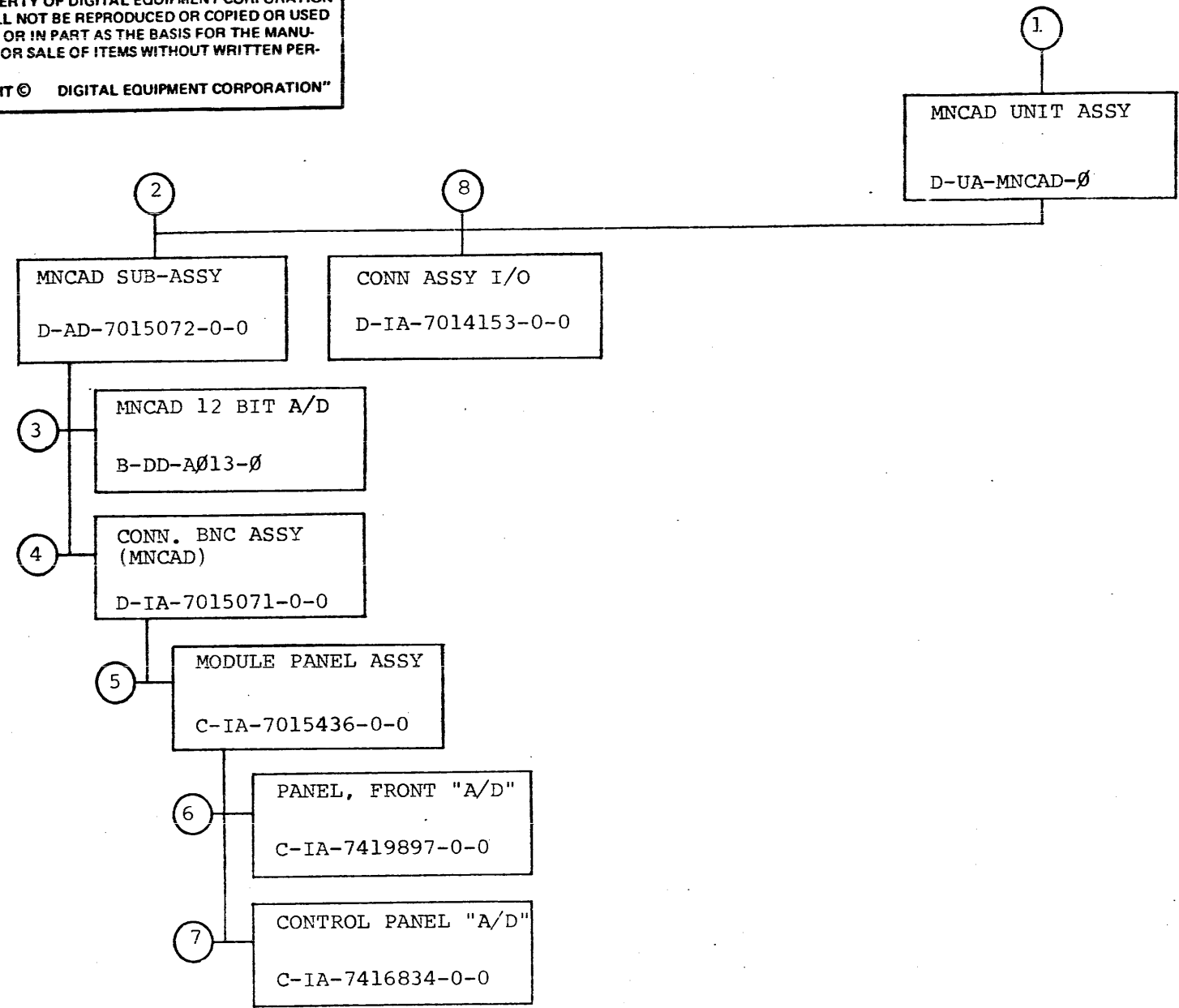
USED ON OPTION/MODEL  
MNCAD

DRN.	DATE
M. Andrie	29 Dec 77
CHK'D.	DATE
F. Halliday	13 Feb 78
PROJ. ENG.	DATE
A. C. Kelly	3/21/78
PROD.	DATE
	3/21/78

TITLE		digital		
MNCAD UNIT ASSY				
SIZE	CODE			
B	DD	MNCAD-Ø	A	
SHEET 1 of 3		DIST.		

MR

"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 © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNCAD UNIT ASSY	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
			B DD	MNCAD-Ø	A

MIR

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00592	FIELD MAINTENANCE PRINT SET	-	5	C-IA-7015436-0-0	MODULE PANEL ASSY	M
	B-TC-MNCAD-0-1	FIELD MAINTENANCE PRINT SET	-				
	D-UA-MNCAD-0-0	MNCAD UNIT ASSY	E/M				
	C-MD-7419869-0-0	PLATE, COMP SIDE	M				
	C-MD-7419868-0-0	PLATE, ETCH SIDE	M				
	A-DC-3615260-0-0	DECAL, I/O SCHEMATIC	E/M				
	A-DC-3615264-0-0	DECAL, INFORMATION (MNCAD)	E/M				
	A-PL-MNCAD-0-5	PARTS LIST MNCAD	E/M				
	A-PL-MNCAD-0-SH	SHIP LIST MNCAD	E/M				
	A-SP-MNCAD-0-2	MNCAD ENGINEERING SPEC.	E/M	6	C-IA-7419897-0-0	PANEL, FRONT "A/D"	M
	A-SP-MNCAD-0-3	CHECKOUT & ACCEPTANCE PROCEDURE	E/M		C-PS-4830033-0-0	EXTRUSION, FRONT PANEL "A/D"	M
	A-SP-MNCAD-0-4	INSTALLATION & ACCEPTANCE PROCEDURE	E/M				
2	D-AD-7015072-0-0	MNCAD SUB-ASSY	M				
	B-MD-7420242-0-0	SPACER, MODULE	M				
	C-IA-7419864-0-0	SUB PANEL	M				
				7	C-IA-7416834-0-0	CONTROL PANEL "A/D"	M
					C-SS-7416834-01	CONTROL PANEL	M
					C-SS-7416834-02	CONTROL PANEL	M
					C-SS-7416834-03	CONTROL PANEL	M
					C-SS-7416834-04	CONTROL PANEL	M
					C-SS-7416834-05	CONTROL PANEL	M
3	B-DD-A013-0	MNCAD 12 BIT A/D	E/M				
	A-PL-A013-0-0	12 BIT A/D	E/M				
	D-UA-A013-0-0	12 BIT A/D	E/M				
	D-CS-A013-0-1	12 BIT A/D	E/M				
				8	D-IA-7014153-0-0	CONN ASSY I/O	E/M
					A-DC-7416836-0-0	DECAL, I/O CONN	E/M
					A-DC-7418934-0-0	DECAL, I.D. I/O CONN	E/M
4	D-IA-7015071-0-0	CONN. BNC ASSY (MNCAD)	E/M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL

**digital**

TITLE  
MNCAD UNIT ASSY

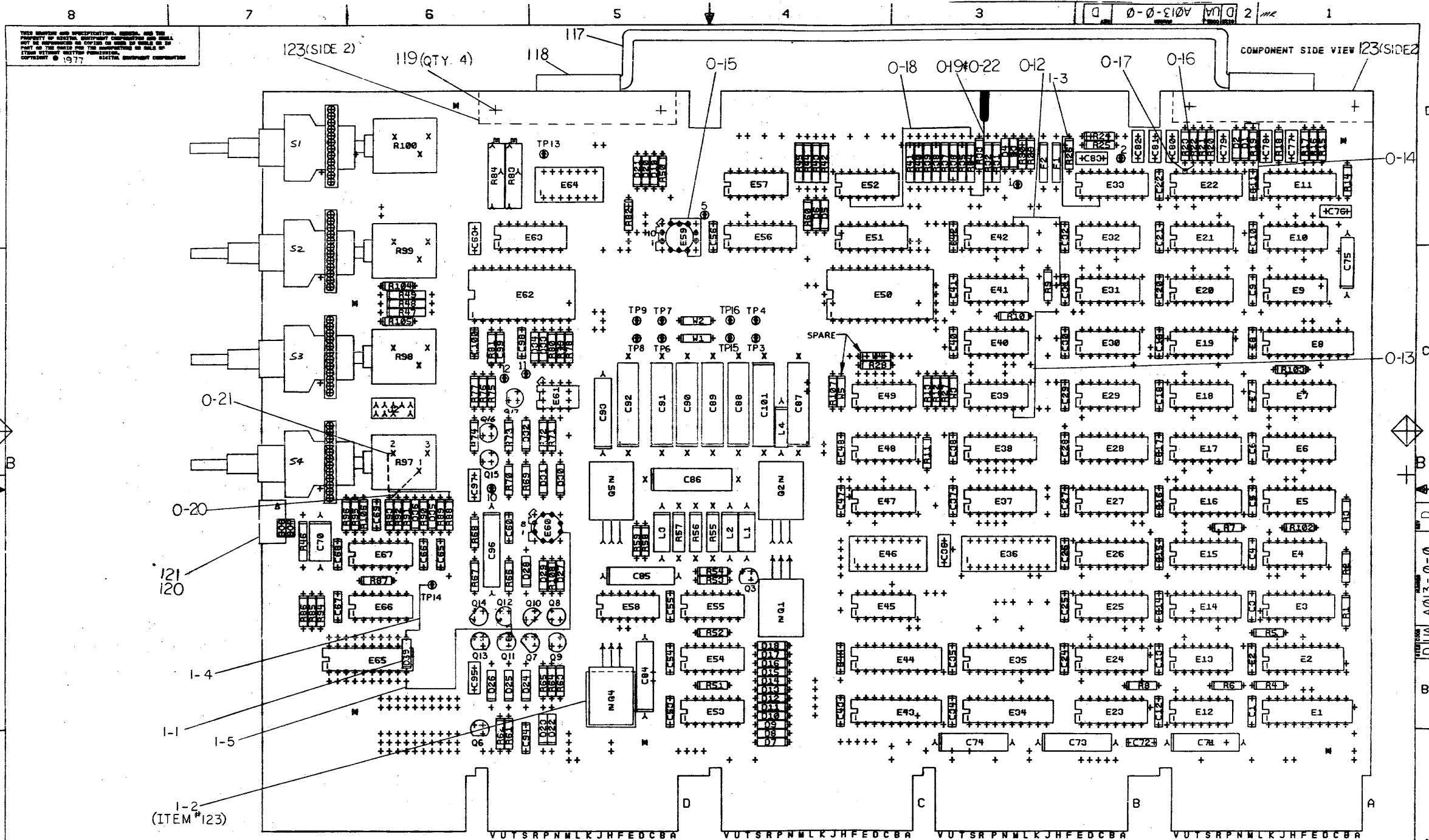
SHEET 3 OF 3

SIZE CODE  
**B DD**

NUMBER  
MNCAD-0

REV  
**A**

THIS DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEMS, WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.  
COPYRIGHT © 1977



NOTES:

CHANGE NO.	REV.	DATE	BY	CHK'D
1	1	10/13/77	AW	AW
2	1	11/12/77	AW	AW
3	1	12/22/77	AW	AW
4	1	1/17/78	AW	AW
5	1	2/2/78	AW	AW

ETCH REV.	D
P.C. DESIGN DATA BRSE REV.	A

SIGNATURES		DATE
DAN. E. WILSON		10/13/77
CHK'D		10/13/77
ENG.		11/12/77
PROJ. ENG.		1/17/78
PROD.		2/2/78

digital	
TITLE	
A-D FOR MINC	
SIZE CODE	NUMBER
D UA	A013-0-0
REV	
D	

8

7

6

5

4

3

DUA A013 - 0 - 0 2 me

1

THIS DRAWING AND SPECIFICATIONS HEREBY 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 © 1977 DIGITAL EQUIPMENT CORPORATION.

LAYER 1

0-5

0-7

0-4

0-3

0-2

0-1

0-23

0-6

SIDE 1

13

5

7

W2

4

8

6

W1

3

12

11

14

A

V

A

V

A

V

A

V

A

REVISIONS

HP PV

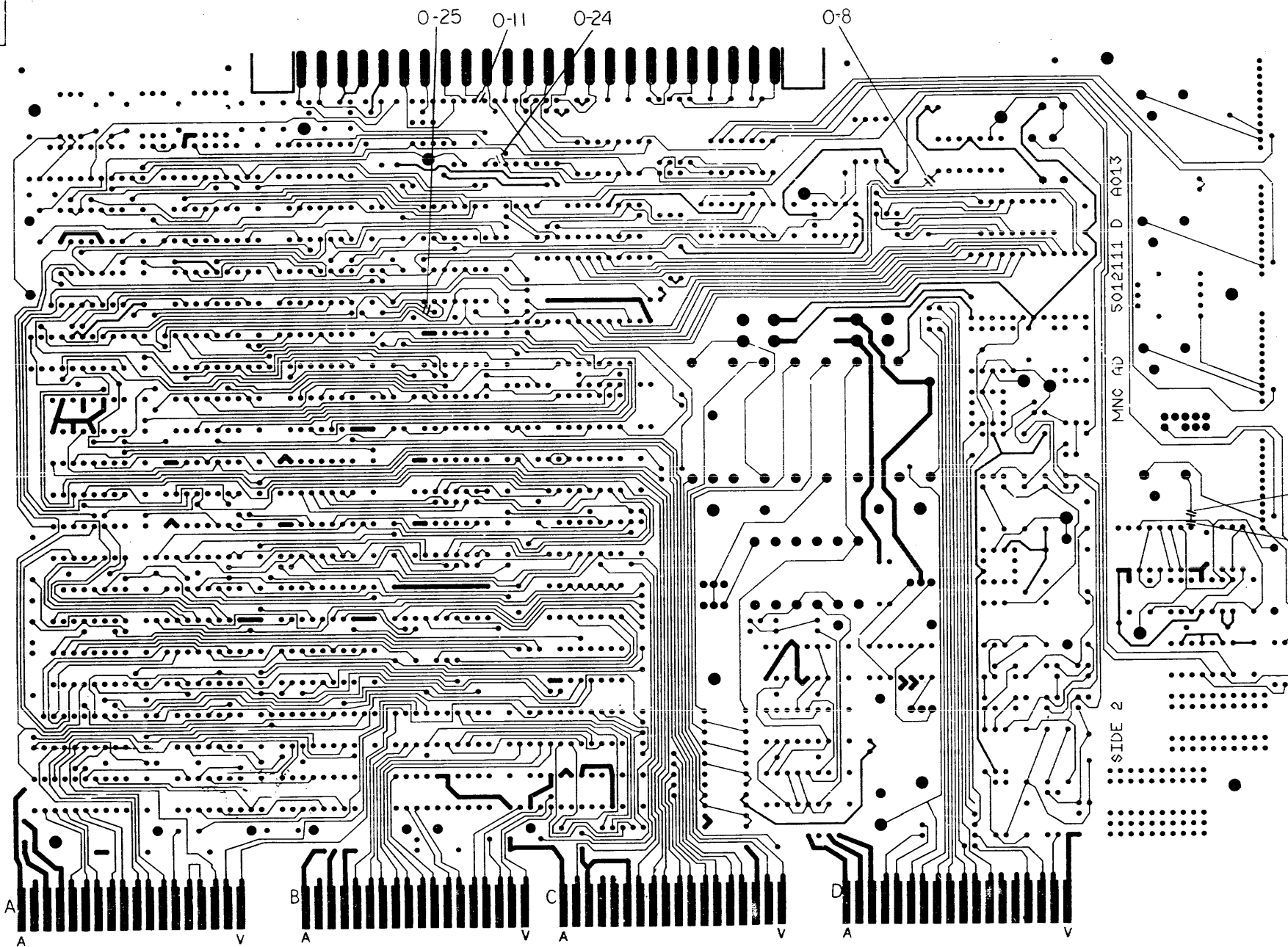
TITLE A/D FOR MINC

SIZE CODE NUMBER DUA A013 - 0 - 0

DIST

8 7 6 5 4 3 2 1

THIS DRAWING AND SPECIFICATION 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 OF SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971 DIGITAL EQUIPMENT CORPORATION.



D C B A

DUA A013-0-0

REVISIONS		
CHK	CHANGE NO	REV

TITLE	A-D FOR MINC	SIZE CODE	D UA	NUMBER	A013-0-0	REV.	D
SCALE	2/1	SHEET	3	OF	4	DIST.	

8 7 6 5 4 3 2 1

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF BUSHNELL 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 OF BUSHNELL EQUIPMENT CORPORATION.

REWORK INSTRUCTIONS  
FIRST RELEASE

- ETCH CUTS, SIDE 1 (AS SHOWN)
- 0-1 AT TOP OF C11
  - 0-2, 0-3 AT BOTH SIDES OF E22 (15)
  - 0-4, 0-5 AT BOTH SIDES OF PTH BELOW E416)
  - 0-6 AT TOP OF R88
  - 0-7 AT TOP OF R34
- ETCH CUTS, SIDE 2 (AS SHOWN)
- 0-8 AT E64(7)
  - 0-9 AT TOP OF R33
  - 0-10 ON ETCH RUNNING FROM R93 TO R97(2)
  - 0-11 AT TOP OF R34
  - 0-12 AT BOTTOM OF R34
  - 0-13 AT PTH BELOW E416)
- WIRE ADDS, SIDE 1 (AS SHOWN)
- 0-12 FROM E42(15) TO PTH TO THE RIGHT OF R9
  - 0-13 FROM E39(16) TO PTH BELOW AND TO THE RIGHT OF R9
  - 0-14 FROM TOP OF D1 TO PTH AT C11
  - 0-15 FROM E59(41) TO E59(31)
  - 0-16 LIFT PIN E22(15) AND WIRE FROM E22(15) TO BOTTOM OF R32
  - 0-17 FROM E22(15) TO BOTTOM OF C80
  - 0-18 FROM E52(2) TO TOP OF R34
  - 0-19 FROM BOTTOM OF R34 TO J116)
- WIRE ADDS SIDE 2 (AS SHOWN)
- 0-20 FROM TOP OF R93 TO R97(11)
  - 0-21 FROM TOP OF R88 TO R97(2)
  - 0-22 FROM BOTTOM OF R34 TO J116)
- DRILLING
- 0-23 DRILL OUT E22(15) (REF A-SP-7665169-0-0)

ECO #1

- COMPONENT ADDS SIDE #1 (AS SHOWN)
- I-1 ADD DIODE (MCL1304) D39 IN LOCATION E65 BETWEEN PINS 10 AND 11. INSERT CATHODE IN PIN 10 HOLE AND ANODE LEAD IN OUTER HOLE ATTACHED TO PIN 11.
  - I-2 ADD TAPE (ITEM 123) TO BOTTOM OF Q4, PLACE TAPE ON PART NOT ON THE BOARD.

- WIRE ADDS SIDE #1 (AS SHOWN)
- I-3 FROM TOP R26 TO E33 PIN 3
  - I-4 FROM TP14 TO ANODE END OF D39
  - I-5 FROM CATHODE END OF D39 TO E60 PIN 4

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
A-D FOR MINC		D UA	A013-0-0	D
SCALE	SHEET	OF	DIST.	
	4	4		



MR

TY A013.LST  
AUTOMATED BY PRTLST 1D(1)

PARTS LIST

SHEET 1 OF 4

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012111-0-0	5012111-00	ETCH BD (A013)	1	
2	2		1010274-01	.22 MFD 50V XZ 3C023 CER.	56	C1-C22,C24-C32,C34,C35,C37, CONT C38,C40-C44,C47,C48,C53-C56, CONT C60,C65-C69,C72,C94,C98,C100
3	3		1000042-00	1000.0 MMF 100V 5%200PPM DM15S (10-00	2	C36,C80
4	4		1000027-00	820.0 MMF 100V 5%200PPM DM15S (10-00	1	C63
5	5		1004812-00	15 MFD 20V 10% 150D S.TA (10-00	5	C71,C73,C74,C85,C93
6	6		1001776-00	1 MFD 35V 10% 150D S.TA (10-00	1	C75
7	7		1000026-00	680.0 MMF 100V 5%200PPM DM15S (10-00	1	C76
8	8		1000021-00	220.0 MMF 100V 5%200PPM DM15S (10-00	3	C77,C78,C79
9	9		1000020-00	180.0 MMF 100V 5%200PPM DM15S (10-00	1	C81
10	10		1000022-00	270.0 MMF 100V 5%200PPM DM15S (10-00	1	C82
11	11		1000024-00	470.0 MMF 100V 5%200PPM DM15S (10-00	1	C83
12	12		1005306-00	6.8MFD 35V 10% 150D S.TA (10-00	1	C84
13	13		1005335-00	39 MFD 20V 10% 150D S.TA (10-00	4	C86,C87,C88,C89
14	14		1002433-00	22 MFD 35V 20% 150D S.TA (10-00	4	C90,C91,C92,C101
15	15		1005820-00	22.0 MMF 100V 5%200PPM DM15S (10-00	1	C95
16	16		1009939-01	.0022 MFD 100V 10% 863UWPLYST	1	C96
17	17		1000016-00	100.0 MMF 100V 5%200PPM DM15S (10-00	1	C97
18	18		1001610-00	.01 MFD 50V Z5U 309CER/8000PF MIN	1	C99
19	19		1010031-03	.22 MFD 50V 10% M.POLYCARB	1	C70
20	20		1105275-00	D 672 TR= 15NS PIV= 60V SP	28	D1-D18,D19,D21,D29-D36
21	21		1109502-00	1N 4742 VZ= 12.0 10% 1W Y	1	D20
22	22		1109991-00	1N 754A VZ= 6.8 5% .40W	1	D22
23	23		1110232-00	MCL1304 CL@4MA FROM10-80V	3	D23,D28,D39
24	24		1103041-00	DEC 777 QS=12PCB PIV= 8VS	3	D24,D25,D26
25	25		1104860-00	1N 746A VZ= 3.3 5%	1	D27
26	26		1211164-06	SW,DIP 1P 1A 10POS	1	E36
27	27		1211164-04	SW,DIP 1P 1A 8POS	1	E46
28	28		1213488-00	CONN. 10POS HOUSING	1	J2

REVISION HISTORY				VARIATIONS FOR THIS ASSY.			
CHK	ECO NO	REV		FIRST USED ON:			
---	INIT	C	00	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
MN	MR001	D		MADE BY:	E.WILSON	DATE:	12-DEC-77
						TITLE	PARTS LIST
				CHECKED:	R.W.CAUNTER	DATE:	13-DEC-77
							A/D FOR MINC
				DSN.ENG.:	G.SIROIS	DATE:	3-FEB-78
						SIZE	CODE
				PROD.:	R.REBELLO	DATE:	3-FEB-78
						K	PL
							A013-0-DBF
				RESP.ENG.:	A.FILZ	DATE:	3-FEB-78
						ASSY.NO.:	D-UA-A013-0-0
						EDIT#	14

\*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 1978. DIGITAL EQUIPMENT CORPORATION \*

MR

MR

AUTOMATED BY PRTLST ID(1)

PARTS LIST

SHEET 2 OF 4

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
29	29		1214352-00	SW,ROT 1P 4A 3POS	4	S1,S2,S3,S4
30	30		1300295-00	330 1/4W 5%	2	R1,R4
31	31		1301424-00	680 1/4W 5%	2	R2,R6
32	32		1300365-00	1 K 1/4W 5%	34	R3,R5,R7-R14,R16,R20,R23,R26, R27,R28,R33,R107,R102-R106, R29,R30,R50-R53,R62,R66,R82, R85,R86
33	33		1302388-00	2 K 1/4W 5%	1	R15
34	34		1304870-00	6.81 K 1/4W 1% RN55D-F 100PPM	2	R17,R18
35	35		1300271-00	220 1/4W 5%	1	R19
36	36		1304854-00	5.11 K 1/4W 1% RN55D-F 100PPM	1	R21
37	37		1309416-00	31.6 K 1/4W 1% RN55D-F 100PPM	1	R22
38	38		1300479-00	10 K 1/4W 5%	6	R24,R25,R61,R81,R87,R96
39	39		1310881-00	1 K 1/4W 1% FUSIBLE	16	R34-R49
40	40		1310881-02	47 1/4W 1% FUSIBLE	2	R31,R32
41	41		1300250-00	150 1/4W 5%	1	R54
42	42		1300315-00	470 1/2W 5%	2	R55,R57
43	43		1301781-00	82 1/2W 5%	1	R56
44	44		1309422-00	5.1 1/4W 5%	2	R58,R59
45	45		1301425-00	300 1/4W 5%	1	R60
46	46		1300496-00	15 K 1/4W 5%	1	R64
47	47		1300229-00	100 1/4W 5%	2	R63,R65
48	48		1303178-00	620 1/4W 5%	1	R67
49	49		1300426-00	2.7 K 1/4W 5%	2	R68,R69
50	50		1300432-00	3 K 1/4W 5%	2	R70,R108
51	51		1302685-00	909 1/4W 1% RN55D-F 100PPM	3	R71,R88,R93
52	52		1305114-00	3.48 K 1/4W 1% RN55D-F 100PPM	1	R72
53	53		1302953-00	750 1/4W 1% RN55D-F 100PPM	1	R73
54	54		1305516-00	128 K 1/4W .1% RN55E-B 25PPM	1	R74
55	55		1302379-00	75 1/4W 5%	2	R75,R76
56	56		1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R77
57	57		1302899-00	30.1 1/4W 1% RN55D-F 100PPM	1	R78
58	58		1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R79
59	59		1303038-00	133 1/4W 1% RN55D-F 100PPM	1	R80
60	60		1309143-13	50 K 3/4W20% POT 100PPM	1	R83
61	61		1309143-05	200 3/4W10% POT 100PPM	1	R84
62	62		1302396-00	150 K 1/4W 5%	1	R90
63	63		1300488-00	12 K 1/4W 5%	2	R94,R95
64	64		1314457-00	5 K 5% 10 TURN POT,PC MNT	4	R97,R98,R99,R100
65	65		1300005-01	R NETWORK 13-1K RESISTORS 5% DIP	2	E41,E48
66	66		1315012-00	300 K 1/4W 5%	1	R89
67	67		1303312-00	10.0 K 1/4W 1% RN55D-F 100PPM	1	R92
68	68		1309418-00	24.3 K 1/4W 1% RN55D-F 100PPM	1	R91
69	69		1510414-00	D 45C6 PNF 30WT SI 45 20 Y	1	Q1
70	70		1510171-00	D 44C3 NFN 30WT SI 30 20 Y	3	Q2,Q4,Q5
71	71		1503409-00	DEC6534D PNF 310MW SI 40 90 P	1	Q3
72	72		1509587-00	SE 4020 NPN 200MW SI 60120 M	5	Q6,Q9,Q11,Q13,Q15
73	73		1509681-00	2N 5245 FET 360MW SIN CHNNL	1	Q7

TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
DIGITAL EQUIPMENT CORPORATION	A/D FOR MINC	K	PL	A013-0-DBF	D
MAYNARD, MASSACHUSETTS					

MR

AMCOR BUSINESS FORMS, INC. NO. PRINTED IN U.S.A.

MR

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
74	74		1509142-00	DEC4250 PNP 200MW SI 40250 P	4	Q8,Q12,Q16,Q17
75	75		1509525-00	2N 3906 PNP 310MW SI 40100 Y	2	Q10,Q14
76	76		1603377-00	.22UH 10% 2.7A #WEE.22	2	L1,L2
77	77		1602254-00	22. UH 10% 430MA #RFCS22	1	L3
78	78		1610662-00	100.0 UH 10% 165MA #DDI 00	1	L4
79	79		9009122-00	FUSE, SUB-MINI, .062A, 125V, AXIAL LEAD	2	F1,F2
80	80		1912729-00	DC 004 PROTOCOL,REG. SELECTOR	1	E1
81	81		1912730-00	DC 003 INTERRUPT,2 CIRCUIT	1	E2
82	82		1912951-00	DM 8556 COUNTER,BINARY,4BIT	3	E3,E15,E26
83	83		1905547-00	DEC 7474 FF-D DUAL,EDGE TRIGGER,15MHZ	3	E4,E20,E30
84	84		1910652-00	74174 FF-D HEX	2	E5,E25
85	85		1911527-00	8097 BUFFER GATE-HEX 2INPUT TRI-STA	3	E6,E7,E14
86	86		1910155-00	DEC 7408 AND GATE,POS.QUAD 2IN 14	3	E9,E32,E45
87	87		1909686-00	7404 INVERTER GATE-HEX 1IN	5	E10,E12,E18,E29,E31
88	88		1912858-00	LS221 ONE SHOT-DUAL,SCHMITT TRIGGER	1	E11
89	89		1909004-00	DEC 7402 NOR GATE-QUAD 2IN	2	E13,E21
90	90		1911330-00	74173 FF-D QUAD,TRISTATE	6	E16,E17,E27,E28,E37,E38
91	91		1905590-00	DEC 7401 NAND GATE-QUAD 2IN,OPN COLLECT	1	E19
92	92		1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIGGERABLE	2	E22,E33
93	93		1911116-00	DEC 8837 RECEIVER,BUS,HEX,UNIBUS	1	E23
94	94		1909934-00	8266 MUX 1 OF 2 (QUAD)	1	E24
95	95		1913040-00	DC 005 TRANSCEIVER 4BIT	4	E34,E35,E43,E44
96	96		1905580-00	DEC 7450 A-0-I XPNDBLE GATE-DUAL 2X2	1	E39
97	97		1909705-00	DEC 8881-1NAND GATE-QUAD 2IN,OPN COLL.	1	E40
98	98		1905575-00	7400 NAND GATE-QUAD 2IN	1	E42
99	99		1910741-00	7406 INVERTER GATE-HEX 1IN,BUFFER,0	3	E47,E53,E66
100	100		1909490-00	DEC 8281 COUNTER,ASYNCH UP,BINARY	2	E49,E55
101	101		1911628-00	AM 2504 SUCCESSIVE APPROX REG 24 P	1	E50
102	102		1911598-00	501C MUX,8CHNL,ANALOG	2	E51,E56
103	103		1910010-01	DEC 2501-1 2501 WITH VR=40V 14	2	E52,E57
104	104		1905576-00	7410 NAND GATE-TRIPLE 3IN	1	E54
105	105		1913218-00	325 VOLT.REG.FIX +/-15V 50MA 14	1	E58
106	106		2111285-02	HI 200-5 DUAL ANALOG SW,CMOS	1	E59
107	107		1911144-00	2505 OP AMP .1% SETTLE	1	E60
108	108		1910235-01	310D OP AMP UNITY GAIN VOLT. FOLLOW	1	E61
109	109		1912401-00	AD562 DAC,12BIT,MULT	1	E62
110	110		1911629-00	1408LS DAC, 8BIT	1	E63
111	111		1913219-00	AD 2700/L ANALOG SWITCH 10V PRECISION RE	1	E64
112	112		1912107-00	324 OP AMP,QUAD	1	E67
113	113		9006735-00	EYELET, FUNNEL FLANGE, .059 OD X .187 LG	16	TP1-TP16
114	114		9009185-00	JUMPER, WIRE, INSULATED, BLACK BAND	3	W1,W2,W3
115	115		1114494-00	LED 1.0MCD@20MA	2	D37,D38
116	116		23040B1-00	B1-01 PROM,	1	E8
117	117	C-MD-7420191-0-0	7420191-00	HANDLE	1	
118	118	C-MD-7420192-0-0	7420192-00	HANDLE RETAINER	2	
119	119		9006732-00	EYELET, ROLLED FLANGE, .121 OD X .219 LG	4	
120	120		9009783-00	SCREW, SLOTTED ROUND HD. 2-56 X 1/4 TYPE F	1	
121	121		1215265-00	HOLDER,LED	1	

TITLE	PARTS LIST	!SIZE!	!CODE!	DOCUMENT NUMBER	!REV!
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	A/D FOR MINC	K	PL	A013-0-DBP	D

MR

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
------	------	--------------	----------	-------------	-----	-----------------------

122	122	A-SP-7665169-0-0		MULTILAYER REWORK STANDARD		REF
123	123		9009507-00	TAPE, VINYL, ELECTRICAL, 3/4 X 66"		A/R

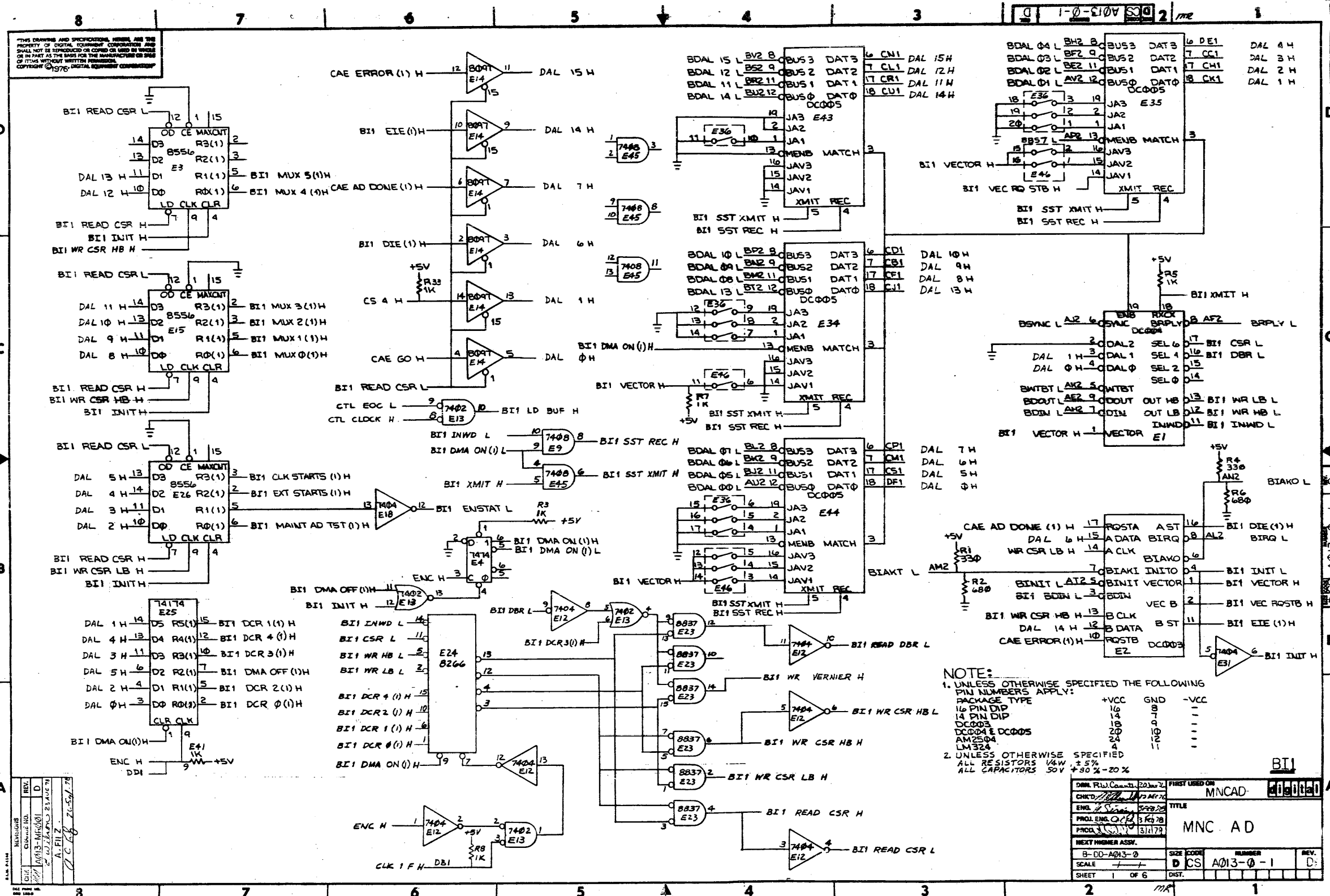
MOORE BUSINESS FORMS, INC. HO

PRINTED IN U.S.A. 277

TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	A/D FOR MINC	K	PL	A013-0-DBF	D

*MR*

THIS DRAWING AND SPECIFICATIONS HEREBY 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 THIS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976, DIGITAL EQUIPMENT CORPORATION



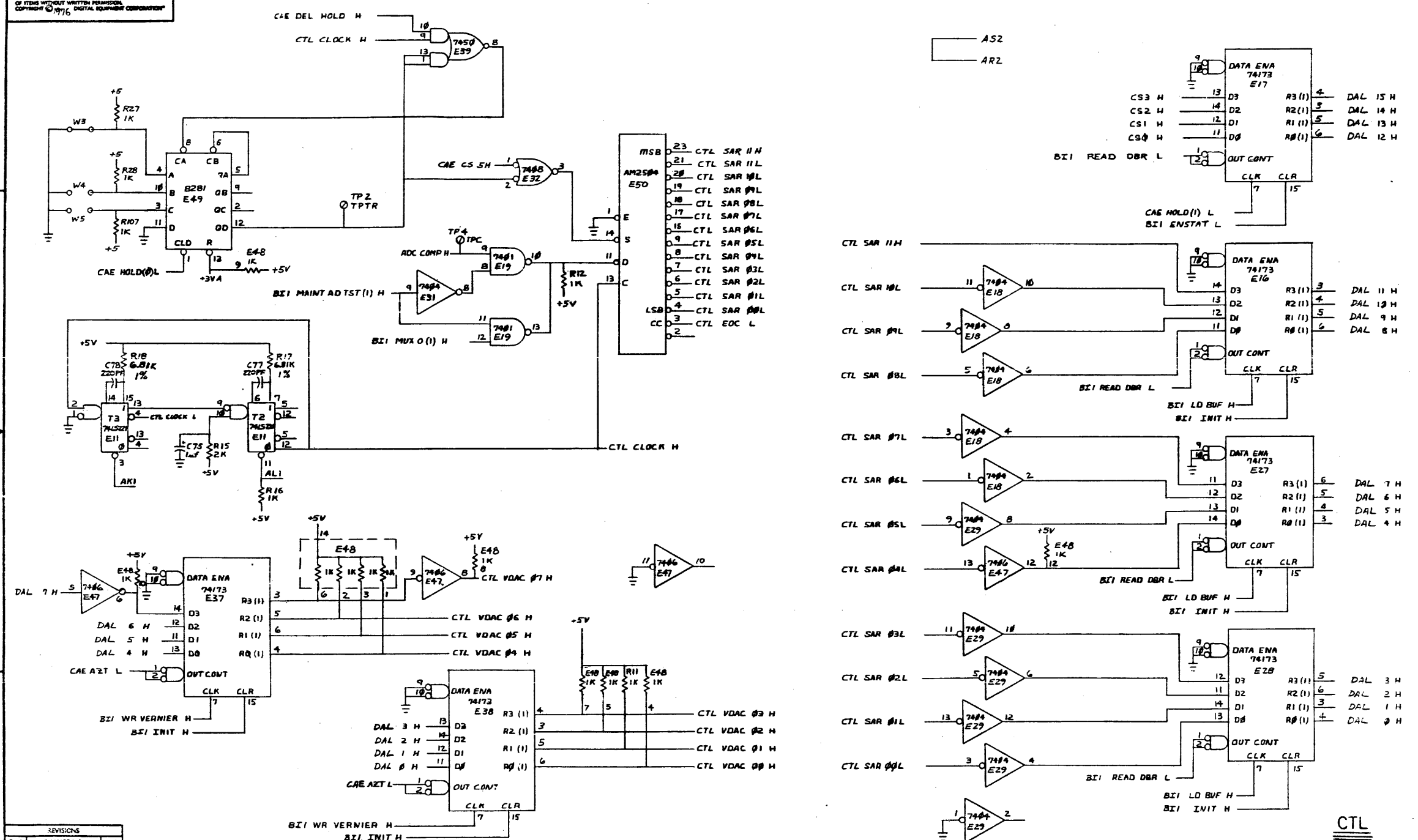
**NOTE:**  
 1. UNLESS OTHERWISE SPECIFIED THE FOLLOWING PIN NUMBERS APPLY:  
 PACKAGE TYPE +VCC GND -VCC  
 16 PIN DIP 16 13  
 14 PIN DIP 14 11  
 DC003 18 10  
 DC004 & DC005 20 10  
 AM2504 24 12  
 LM324 4 11

2. UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS 1/4W ±5%  
 ALL CAPACITORS 50V ±20%

DATE REV. CONTROL	20 JUN 72	FIRST USED ON	MNCAD
CHKD BY	17 MAR 72	TITLE	MNCAD
ENG. BY	5 FEB 72	NUMBER	D CS A013-0-1
PROJ. ENG. BY	3 FEB 72	REV.	D
PROJ. MGR.	13 JUN 72	SHEET	1 OF 6
NEXT NUMBER ASSN.		DIST.	

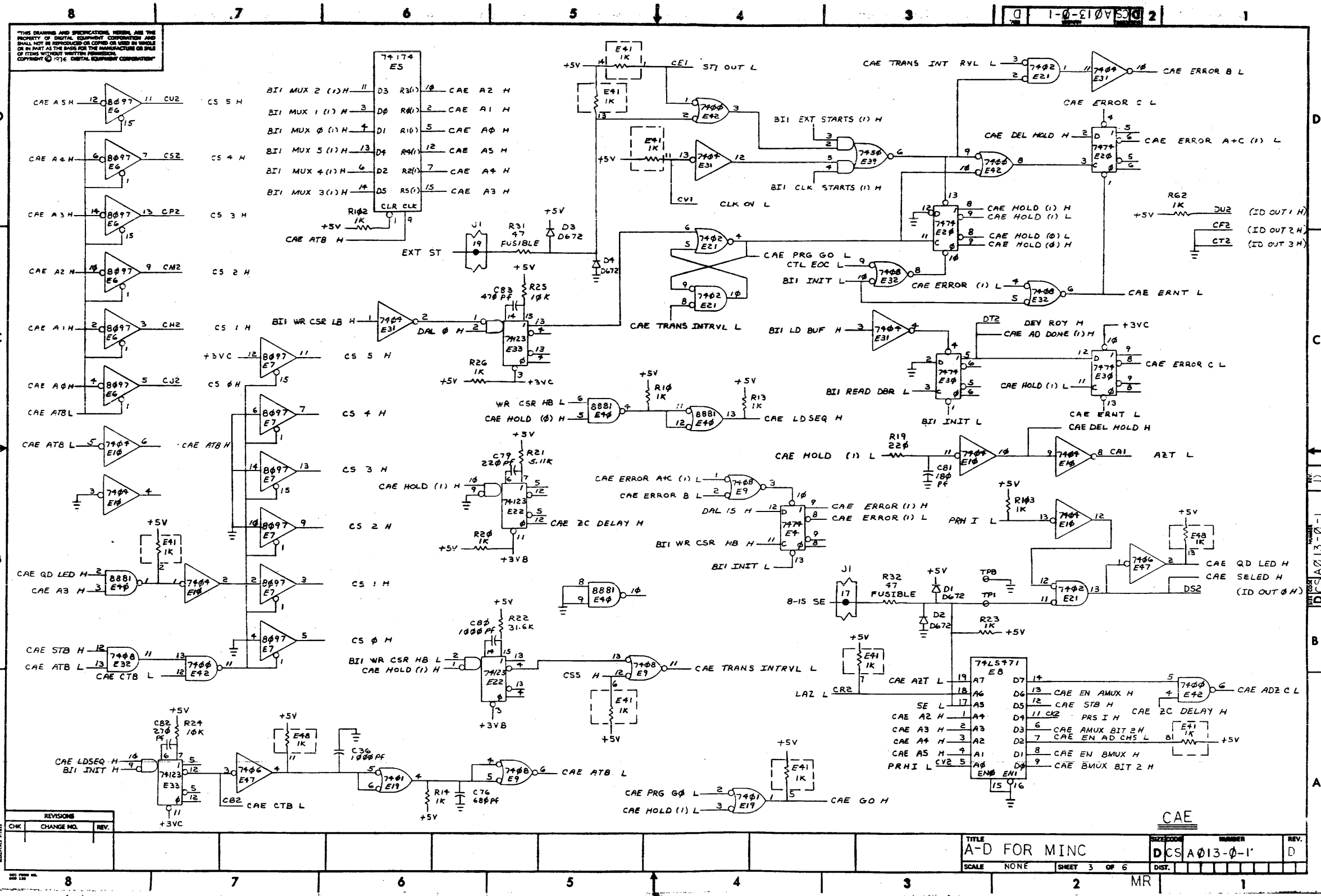
DATE	REV.	BY
20 JUN 72	1	A. FLIZ
17 MAR 72	2	A. FLIZ
5 FEB 72	3	A. FLIZ
3 FEB 72	4	A. FLIZ

"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"



REV. NO.	CHANGE NO.	REV.

TITLE	A-D FOR MINC	SIZE/SCALE	D CS	NUMBER	A013-0-1	REV.	D3
SHEET	2 OF 6	DIST.					

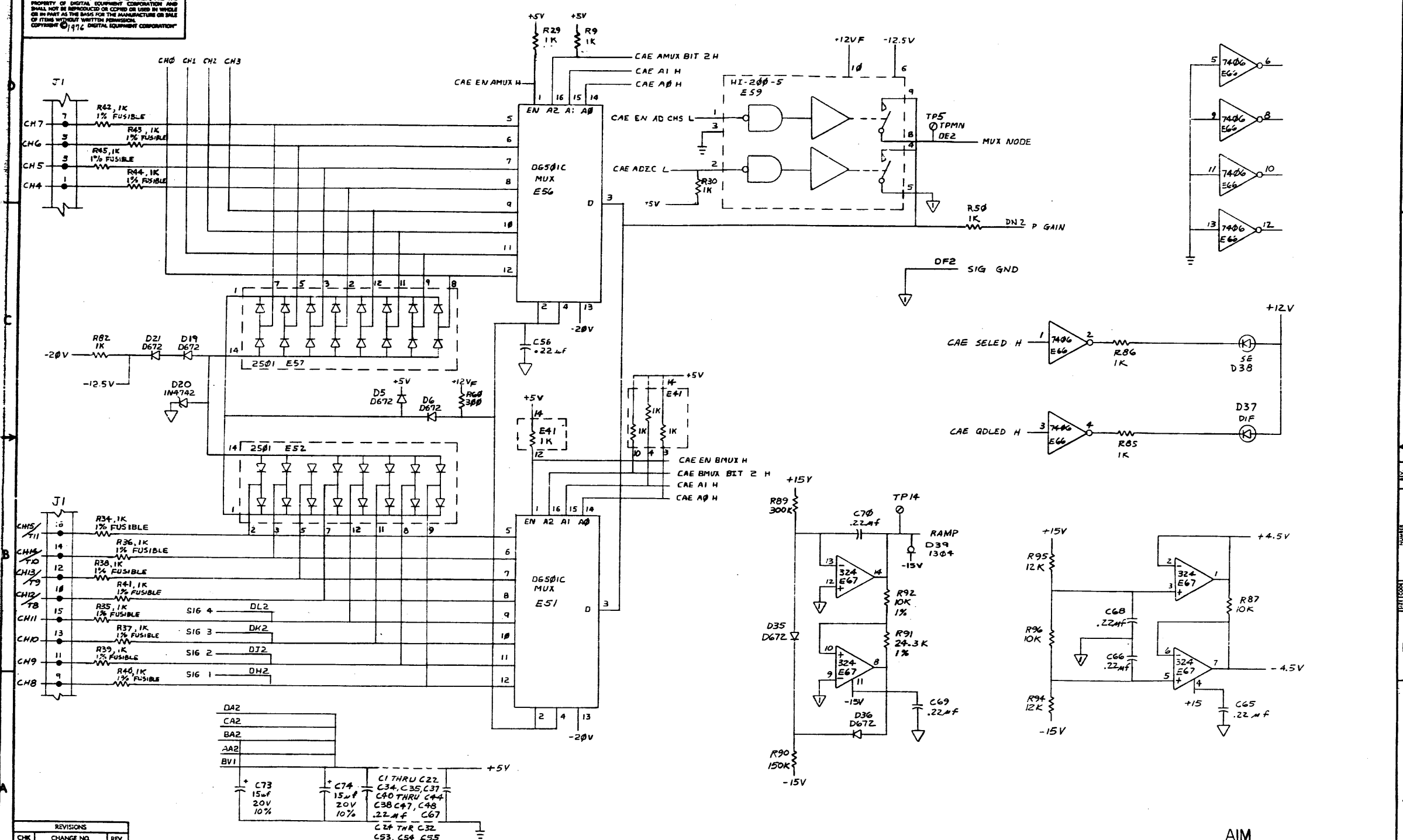


THIS DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	A-D FOR MINC	SIZE CODE	DCS A013-0-1	NUMBER		REV.	
SCALE	NONE	SHEET	3 OF 6	DIST.			

"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 © 1972 DIGITAL EQUIPMENT CORPORATION"



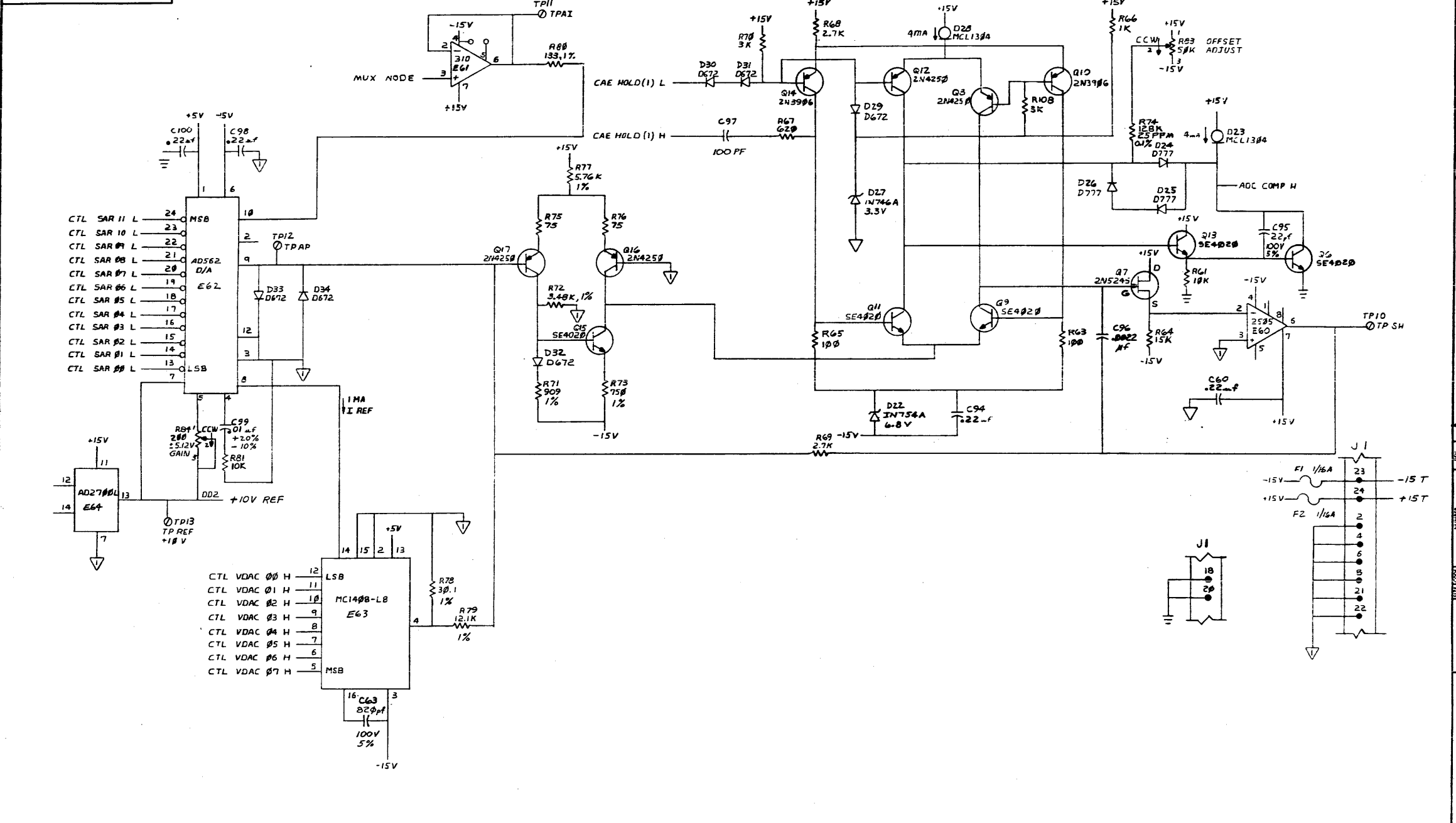
CHK	CHANGE NO.	REV.

- DA2
  - CA2
  - BA2
  - AA2
  - BV1
- +5V
- C73 15μF 20V 10%
  - C74 15μF 20V 10%
  - C1 THRU C22
  - C34, C35, C37
  - C40 THRU C44
  - C38, C47, C48
  - .22μF C67
  - C24 THRU C32
  - C53, C54, C55

REVISIONS		TITLE	SIZE CODE	NUMBER	REV.
		A-D FOR MINC	D CS	A013-0-1	D
		SCALE	SHEET 4 OF 6	DIST.	



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			TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.	A-D FOR MINC		D CS		A013-0-1		D.
			SCALE	SHEET 5 OF 6	DIST.				

8

7

6

5

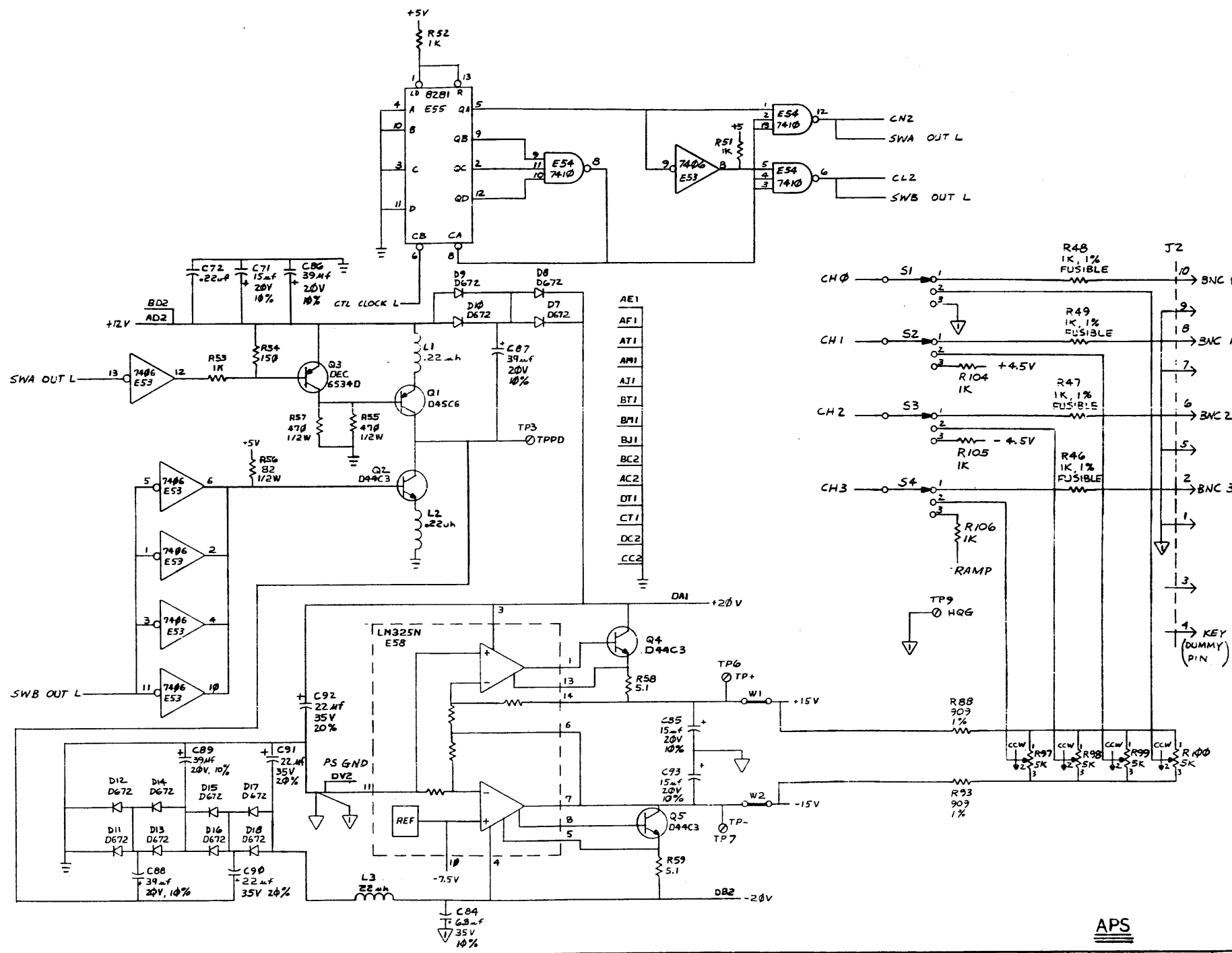
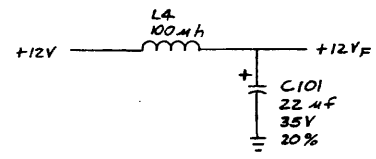
4

3

1-0-810V SC 2 MK

1

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 THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	A-D FOR MINC	SIZE CODE	D CS	NUMBER	A013-0-1	REV.	D
SCALE	1:1	SHEET	6	OF	6	DATE	

MR

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS <b>PARTS LIST</b>				QUANTITY VARIATION													
MADE BY M. Archie		CHECKED <i>J. Handlin</i>		SECTION 1													
DATE 7 MARCH 78		DATE 19 MAY 78															
ENG O C Rly		PROD Bot Cook		ISSUED SECT. 1													
DATE 23-MAY-78		DATE 23-MAY-78															
ITEM NO.	DWG NO./PART NO.	DESCRIPTION															
1	D-UA-MNCAD-Ø-Ø	MNCAD UNIT ASSY		1													
2	MPØØ592	PRINT SET MNCAD		1													
3	AA-D572A-TC	WORKING WITH MINC DEVICE		1													
TITLE SHIP LIST MNCAD				ASSY NO. <i>+ - +</i>	SIZE <b>A</b>	CODE <b>PL</b>	NUMBER MNCAD-Ø-SH	REV	ECO NO.								
				SHEET 1 OF 1	DIST												

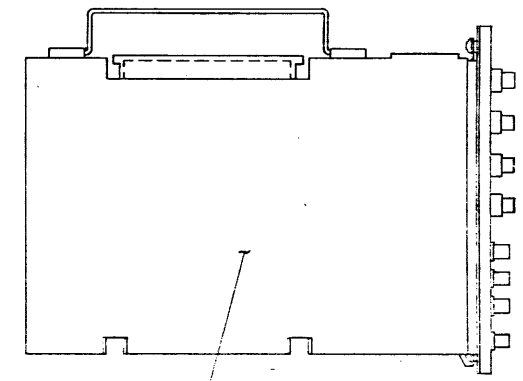
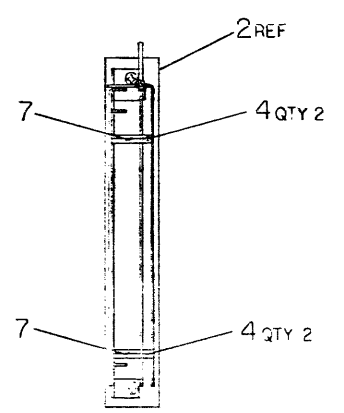
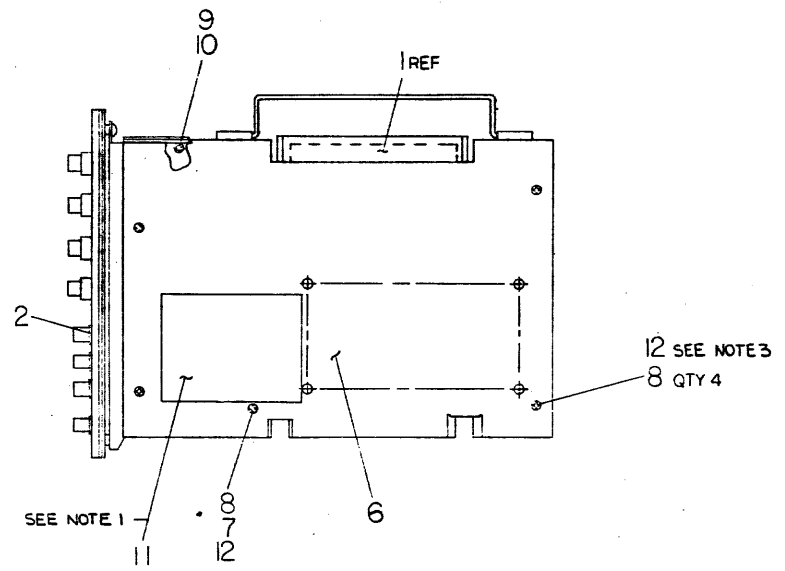
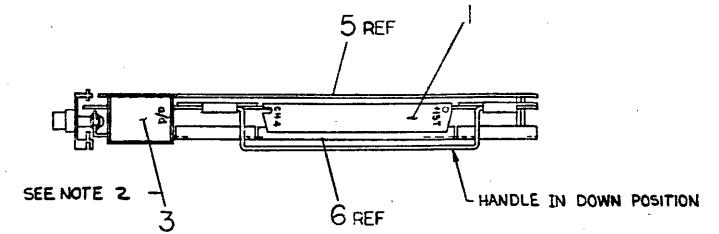
DEC FORM  
DRA 110

MR

ALL DIMENSIONS 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 INVENTION OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.  
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION

NOTES:

- ITEM #11 IS PUT ON BY ALIGNING THE RIGHT HAND EDGE OF DECAL UP AGAINST HOLES AND BOTTOM EDGE JUST ABOVE MOUNTING HOLE.
- ITEM #3 IS PUT ON BY ALIGNING THE TOP EDGE AND RIGHT HAND EDGE EVEN WITH THE TOP EDGE AND RIGHT HAND EDGE OF ITEM #5.
- USING ITEM #12, ADD ONE DROP TO EACH LOCATION.



REF	CHKOUT #	ACCEPT. PROCEDURE	A-SP-MNCAD-0-3	13
12		LOCKTITE	9C09321	12
1		DECAL, INFORMATION (MNCAD)	A-DC-361524-2-0	11
1		NUT, KEPS #6-32	9C03185	10
1		WASHER, FLAT	9C06633	9
5		SCR, FLAT HD #6-32x.25	9C06020-02	8
3		SPACER, THREADED #6-32x.88	9C06861	7
1		PLATE, COMP. SIDE	D-10-7413869-0-0	6
1		PLATE, ETCH. SIDE	D-1A-7413868-0-0	5
4		SPACER, THREADED #6-32x.25	9C06841	4
1		DECAL, I/O SCHEMATIC	A-DC-3615240-2-0	3
1		MNCAD I/O ASSY	D-10-7413872-0-0	2
1		CONN ASSY, I/O	D-1A-7413855-0-0	1

REV.	DATE	BY	CHKD	DESCRIPTION

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

DATE: 11/11/77

BY: MNCAD

CHKD: MNCAD

TITLE: MNCAD UNIT ASSY

SCALE: 1/2

SHEET 1 OF 1

MR

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
ENGINEERING SPECIFICATION		DATE	7/10/78
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE			
REV	DESCRIPTION	CHG NO	ORIG DATE

REV	DESCRIPTION	CHG NO	ORIG DATE	APPD BY	DATE

ENG DEC 16/1987/1079A/0173 DRA 107A	APPD 7/10/78 7-11-78 A SP	SIZE CODE A SP	NUMBER MNCAD-0-4	REV MNCAD-0-4
---	------------------------------------	-------------------	---------------------	------------------

MR SHEET 1 OF 8

This document contains confidential property information of DEC. This information shall not be disclosed to persons outside the employ of DEC, except by DEC. Personnel is authorized by DEC and only for use by such other persons in the design, production or manufacture of products for DEC. Copyright © Digital Equipment Corporation.

MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE		
1.0 GENERAL	This document describes the procedures for the installation and field acceptance of the MNCAD (A/B converter) option for the MNC-11 system. This procedure will be used for in-house FAST, field add-on and new system installation, and periodic verification testing.	
1.1 SCOPE	MNC-11 System Test Module (Optional) MNCAD-TA I/O Connector 7014153-0-0 Precision Voltage Source Reference MNCAD Diagnostic Program D-CS-A013-0-1 Circuit Schematics AA-D572A-7C Manual - "Working with MINC Devices"	
1.2 EQUIPMENT	MNC-11 System Test Module (Optional) MNCAD-TA I/O Connector 7014153-0-0 Precision Voltage Source Reference MNCAD Diagnostic Program D-CS-A013-0-1 Circuit Schematics AA-D572A-7C Manual - "Working with MINC Devices"	
1.3 DOCUMENTATION	MNCAD Diagnostic Program D-CS-A013-0-1 Circuit Schematics AA-D572A-7C Manual - "Working with MINC Devices"	

DEC FORM NO EN-0102F-16-M370-1381 DRA 108	SIZE CODE A SP	NUMBER MNCAD-0-4	REV MNCAD-0-4
--	-------------------	---------------------	------------------

MR SHEET 2 OF 8

MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE		
2.0 INSTALLATION	<p>2.1 ADDRESS &amp; VECTOR</p> <p>The DONE interrupt vector and CSR address are selected through two switch packs mounted on the PC board and accessible through the right cover.</p> <p>The DONE interrupt vector is set on the eight switch pack (ref. figure 2.1). An OFF switch is decoded as "0" and an ON switch is decoded as "1". The ERROR interrupt vector is always 4 octal higher than the DONE vector.</p> <p>DONE vector: Octal Vector = XY0</p> <p>ERROR vector: Octal vector = XY0+4</p> <p>The CSR address is set on the ten switch pack. The DBR address is always 2 octal higher than the CSR address.</p> <p>CSR address: Octal address = 17WXYZ, where Z = 0 or 4 octal</p> <p>DBR address: Octal address = 17WXYZ+2, Where Z = 0 or 4 octal</p> <p>Select and set the DONE vector and CSR address.</p> <p>The default address is 171000 and vector is 400.</p>	

VECTOR

↑

A	A	A	A	A	A	A	A
3	4	5	6	7	8	X	
BITS		BITS		BITS		BITS	

ADDRESS

A	A	A	A	A	A	A	A
2	3	4	5	6	7	8	9
BITS		BITS		BITS		BITS	

FIGURE 2.1 - VECTOR AND ADDRESS SWITCH PACKS

DEC FORM NO EN-0102F-16-M370-1381 DRA 108	SIZE CODE A SP	NUMBER MNCAD-0-4	REV MNCAD-0-4
--	-------------------	---------------------	------------------

MR SHEET 4 OF 8

MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE		
1.4 PROCEDURE	<pre>           graph TD             A[VECTOR &amp; ADDRESS] --&gt; B[INSERT OPTION]             B --&gt; C{YES}             C --&gt; D[PLUG IN TEST MODULE]             C --&gt; E{NO}             E --&gt; F[PLUG IN I/O CONNECTOR]             D --&gt; G[POWER UP]             G --&gt; H[LOAD AND START DIAGNOSTIC]             H --&gt; I{YES}             I --&gt; J[TYPE "Y"]             I --&gt; K{NO}             K --&gt; L[TYPE "N"]             J --&gt; M[LOGIC TEST]             L --&gt; M             M --&gt; N{PASS}             N --&gt; O[CALIBRATION]             N --&gt; P{NO}             O --&gt; Q[WRAP AROUND]             Q --&gt; R{PASS}             R --&gt; S[ACCEPT]             R --&gt; T{NO}             T --&gt; U[REJECT]           </pre>	

DEC FORM NO EN-0102F-16-M370-1381 DRA 108	SIZE CODE A SP	NUMBER MNCAD-0-4	REV MNCAD-0-4
--	-------------------	---------------------	------------------

MR SHEET 3 OF 8

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE			
2.2	LOCATION The MNCAD acts as the partition separating the analog options from the digital options and the MNCAD option. When selecting the MNCAD slot, sufficient room should be left on either side of the MNCAD for the desired number of each group of options. Analog options are inserted to the left of the MNCAD; digital options and MNCAD options are inserted to the right of the MNCAD. No empty slot should be allowed to the right of the MNCAD. With power off, insert the MNCAD option into the selected slot.		
2.3	TEST MODULE If the MNCAD test module is available it should be plugged onto the I/O connector fingers on the MNCAD at this point, before power to the system is applied. If no test module is present plug-on the I/O connector with pins 17 and 18 wired together.		
2.4	POWER UP All other options to be tested and any of their test modules should be mounted in the system, then power may be applied. Allow a 5 minute warm-up period before continuing.		
2.5	DIAGNOSTIC The MNCAD diagnostic program should now be loaded into the processor and started at location 200. The diagnostic heading will be typed followed by: "SWR = 000000 NEW = " Type "RETURN". The program will ask if a test module is connected; type "N" for no if one is not present or "Y" for yes if one is present, followed by a "RETURN".		
3.0	ACCEPTANCE 3.1 The diagnostic will list the MNCAD tests. If the CSR address switch pack was set for an address other than 171000 or if the DONE vector switch pack was set for an address other than 400, type "B" followed by "RETURN" at the end of the test list. The diagnostic will now type: "MNCAD (A/D) BASE ADDRESS <171000> ? Enter the CSR address followed by "RETURN". The diagnostic will respond: "MNCAD (A/D) VECTOR ADDRESS <400> ? Enter the DONE vector address followed by "RETURN". 3.2 Type "L" to start the logic test, and then "RETURN". The program will type the number of MNCAD's it detected in the system.	SIZE CODE A SP	NUMBER MNCAD-0-4
DEC FORM NO EN-01027-18-170(181) ORA 108		REV 5 OF 8	

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE			
	If the test module is not present the diagnostic will indicate "ENDPASS" and "GOOD UNITS" and will continue to loop on the logic test indicating "ENDPASS" and "GOOD UNITS" on subsequent runs. When the test module is present the diagnostic will type: "PRESS EXTERNAL START ON MNCAD AT ADDRESS" "DEPRESS 'RETURN' WHEN READY" Press the push button switch on the test module on the MNCAD at the indicated address, then type "RETURN". If there is no error the diagnostic will indicate "ENDPASS" and "GOOD UNITS" and will continue to loop on the logic test indicating "ENDPASS" and "GOOD UNITS" on subsequent runs. To exit this test press the "C" key while holding the CNTL key down. The diagnostic will respond with: "TYPE THE 'TEST CHARACTER' THEN DEPRESS 'RETURN KEY'." 3.3 Type "C" to start the calibration routine. The diagnostic will then respond: "TYPE CHANNEL & DEPRESS 'RETURN'." Enter "g" and type "RETURN". The program will now instruct: "TYPE "O" FOR OFFSET, "G" FOR GAIN & DEPRESS 'RETURN'." Type the letter "O" and then "RETURN". The diagnostic will now direct: "INPUT A GROUND ON THE CHANNEL" "DEPRESS 'RETURN' WHEN READY" Switch channel "g" on front panel of the MNCAD to TEST, then type "RETURN". The diagnostic will type: "ADJUST R83 FOR 0.00 LSB ERROR" "DEPRESS 'RETURN' WHEN ADJUSTED" Offset print outs will occur about every 12 seconds. Adjust R83 (50K pot) until the offset is within 0.04 LSB of 0.00 LSB. Note: the first print out after an adjustment will not be true since the value was varying while data was being taken. Therefore, wait for the second print out after each adjustment before making any subsequent adjustment. To exit this routine type "RETURN" or press the "C" key while holding the "CNTL" key down until the diagnostic responds: "TYPE THE 'TEST CHARACTER' THEN DEPRESS 'RETURN KEY'."	SIZE CODE A SP	NUMBER MNCAD-0-4
DEC FORM NO EN-01027-18-170(181) ORA 108		REV 6 OF 8	

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE			
3.4	Type "C" again to start the calibration routine. The diagnostic will respond: "TYPE CHANNEL & DEPRESS 'RETURN'." Type "7" and then "RETURN". If a test module is present, connect the +precision voltage source output to J5 & the -output to J4; otherwise connect the +output to pin 7 (channel 7) on the I/O connector & the -output to pin 8 (analog ground). The terminal shall have printed: "TYPE "O" FOR OFFSET, "G" FOR GAIN & DEPRESS 'RETURN'." Type "G" and then "RETURN". The terminal will respond: "INPUT +5.115 VOLTS ON THE CHANNEL" "TYPE CR WHEN READY" Adjust the precision voltage source for +5.115 volts and type "RETURN". The program will respond: "ADJUST R84 FOR 0.00 LSB ERROR" "DEPRESS 'RETURN' WHEN ADJUSTED" Print outs will occur about every 12 seconds. Adjust R84 (200 ohm pot) until the error is within 0.04 LSB of 0.00 LSB. Note: the first print out after an adjustment will not be true since the value was varying while data was being taken. Therefore, wait for the second print out after each adjustment before making any subsequent adjustment. To exit this routine type "RETURN" or press the "C" key while holding the "CNTL" key down until the diagnostic responds: "TYPE THE 'TEST CHARACTER' THEN DEPRESS 'RETURN KEY'." 3.5 If no graphics video display terminal (VT55, VT105, etc.) is used type "G" and set the switch register to 2000, then type "RETURN". Now type the "TEST CHARACTER" "v" followed by "RETURN". 3.5.1 Without Test Module The terminal will print the number of A/D's detected and then instruct: "SET MNCAD (A/D) FRONT PANEL SWITCHES TO 'TEST'." "DEPRESS 'RETURN' WHEN READY" Set all four front panel switches to the TEST position, then type "RETURN". The channel modes (single ended or differential) will be listed. This will be followed by the offset and then the noise test (rms and peak) on channels 0 through 3. After this, the settling test on channels 1 and 2 will be executed. Then the offset, noise, and settling tests will be repeated. The differential linearity test will be entered and will require approximately 14 minutes to complete. The last test will	SIZE CODE A SP	NUMBER MNCAD-0-4
DEC FORM NO EN-01027-18-170(181) ORA 108		REV 7 OF 8	

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCAD INSTALLATION/ACCEPTANCE PROCEDURE			
	be relative accuracy. To continue after a halt, press "p". 3.5.2 With Test Module The terminal will print the number of A/D's detected and then instruct: "SET TEST MODULE(S) TO SINGLE ENDED" "SET MNCAD (A/D) FRONT PANEL SWITCHES TO 'TEST'." "DEPRESS 'RETURN' WHEN READY" Set the switch on the test module for single ended operation and all four front panel switches to the TEST position, then type "RETURN". The channel modes (single ended for channels 00 (8) through 17 (8) will be listed. The diagnostic will ask if channels 00 through 17 are to be tested by: "TESTING CHANNELS 0-7?" Type "y" and then "RETURN". "TESTING CHANNELS 10-17?" Again type "y" followed by "RETURN". The program will report the channels under test and then instruct: "SET TEST MODULE(S) ON CHANNELS UNDER TEST TO DIFFERENTIAL" "DEPRESS 'RETURN' WHEN READY" Set the switch on the test module for single ended operation and then type "RETURN". If no errors occur the following will be printed: "SET TEST MODULE(S) TO SINGLE ENDED" "DEPRESS 'RETURN' WHEN READY" Return the test module switch to single ended operation and type "RETURN". The offset will be printed followed by the noise test on channels 0 through 2, 4 through 6, and 10 through 17. After this, the settling test on channels 1 and 2 will be executed. Then the offset, noise and settling tests will be repeated. The differential linearity test will be entered and will require approximately 14 minutes to complete. The last test will be relative accuracy. To continue after a halt, press "p".	SIZE CODE A SP	NUMBER MNCAD-0-4
DEC FORM NO EN-01027-18-170(181) ORA 108		REV 8 OF 8	

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# FIELD MAINTENANCE PRINT SET

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

*MR*

## TABLE OF CONTENTS

B-TC-MNCAM- <del>0</del> -1	MNCAM FIELD MAINTENANCE PRINT SET
	TABLE OF CONTENTS
B-DD-MNCAM- <del>0</del>	MNCAA UNIT ASSY
D-UA-A154- <del>0</del> - <del>0</del>	MNCAM MUX
A-PL-A154- <del>0</del> - <del>0</del>	MNCAM MUX
D-CS-A154- <del>0</del> -1	MNCAM MUX
A-PL-MNCAM- <del>0</del> -SII	SHIP LIST MNCAM
D-UA-MNCAM- <del>0</del> - <del>0</del>	MNCAM UNIT ASSY
B-PL-5412397-0-0	LED MOUNT
D-CS-5412397-0-1	LED MOUNT
D-UA-5412397-0-0	LED MOUNT
A-SP-MNCAM- <del>0</del> -4	INSTALLATION & ACCEPTANCE PROCEDURE


UNIT VARIATIONS COVERED BY THIS PRINT SET
MNCAM

MNCAM  
**Field Maintenance  
 Print Set**

**Digital Equipment  
 Corporation**

PRINT SET ORDER NO.  
 MP00591

REV. NUMBER MNCAM-0-1  
 SIZE CODE B TC

REVISIONS	REV			USED ON OPTION/MODEL	DRN.	DATE	 TITLE: MNCAM UNIT ASSY
	CHG. NO.			MNCAM	<i>B. Nowlin</i>	<i>28-FEB-78</i>	
	DATE				CHK'D	DATE	
					<i>B. Nowlin</i>	<i>1-AUG-78</i>	
					PROJ. ENG.	DATE	
					<i>A. C. P.</i>	<i>23-MAY-78</i>	
					FIELD SERV.	DATE	
					<i>C.L. Williams</i>	<i>25-MAY-78</i>	
				SHEET 1 OF 1			

*MR*

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# DRAWING DIRECTORY

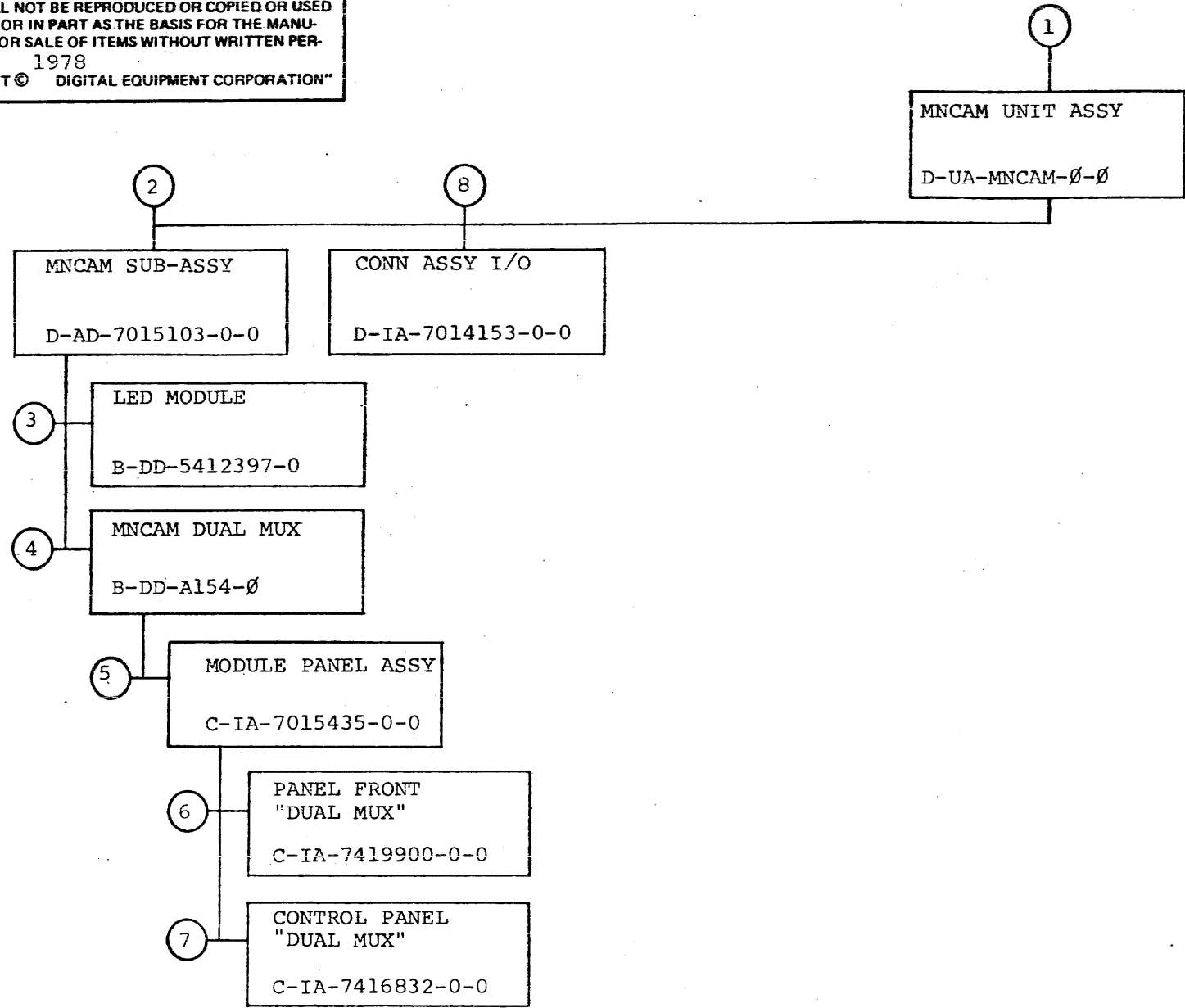
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1978 DIGITAL EQUIPMENT CORPORATION."

UNIT VARIATIONS	
VAR	TITLE
MNCAM	MNCAM UNIT ASSY

REVISIONS	REV.	A	USED ON OPTION/MODEL	DRN.	DATE	TITLE	<b>digital</b>
	CHANGE NO.	MNCAM - 1		MNCAM	<i>M. Archer</i>		
	CHK	<i>SZ</i>			CHK'D.	DATE	
				<i>F. Halliday</i>	13 Feb 78		
				PROJ. ENG.	DATE		
				<i>O. C. [Signature]</i>	3/21/78	SIZE	CODE
				PROD.	DATE	<b>B</b>	<b>DD</b>
					3/21/78	NUMBER	REV
						MNCAM-Ø	<b>A</b>
SHEET 1 OF 3				DIST.			



"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. 1978  
 COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNCAM UNIT ASSY	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
			B DD	MNCAM-0	A

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00591	FIELD MAINTENANCE PRINT SET	-				
	B-TC-MNCAM-0-1	FIELD MAINTENANCE PRINT SET	-				
	D-UA-MNCAM-0-0	MNCAM UNIT ASSY	E/M				
	C-MD-7419869-0-0	PLATE, COMP SIDE	M				
	C-MD-7419868-0-0	PLATE, ETCH SIDE	M				
	A-DC-3615260-0-0	DECAL, I/O SCHEMATIC	E/M				
	A-DC-3615264-0-0	DECAL, INFORMATION (MNCAM)	E/M	6	C-IA-7419900-0-0	PANEL FRONT "DUAL MUX"	M
	A-PL-MNCAM-0-5	PARTS LIST MNCAM	E/M		C-PS-4830034-0-0	EXTRUSION FRONT PANEL "A"	M
	A-PL-MNCAM-0-SH	SHIP LIST MNCAM	E/M				
	A-SP-MNCAM-0-2	MNCAM ENGINEERING SPEC.	E/M				
	A-SP-MNCAM-0-3	CHECKOUT & ACCEPTANCE PROCEDURE	E/M				
	A-SP-MNCAM-0-4	INSTALLATION & ACCEPTANCE PROCEDURE	E/M				
2	D-AD-7015103-0-0	MNCAM SUB-ASSY	M				
	B-MD-7420242-0-0	SPACER, MODULE	M	7	C-IA-7416832-0-0	CONTROL PANEL "DUAL MUX"	M
	C-IA-7419863-0-0	SUB PANEL	M		C-SS-7416831-01	CONTROL PANEL	M
					C-SS-7416831-02	CONTROL PANEL	M
					C-SS-7416831-03	CONTROL PANEL	M
3	B-DD-5412397-0	LED MODULE	E/M				
4	B-DD-A154-0	MNCAM DUAL MUX	E/M	8	D-IA-7014153-0-0	CONN ASSY I/O	E/M
	A-PL-A154-0-0	MNCAM MUX	E/M		A-DC-7416836-0-0	DECAL, I/O CONN	E/M
	D-UA-A154-0-0	MNCAM MUX	E/M		A-DC-7418934-1-0	DECAL, I.D. I/O CONN	E/M
	D-CS-A154-0-1	MNCAM MUX	E/M				
5	C-IA-7015435-0-0	MODULE PANEL ASSY	M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E-M ELECTRO/MECHANICAL

digital

TITLE MNCAM UNIT ASSY

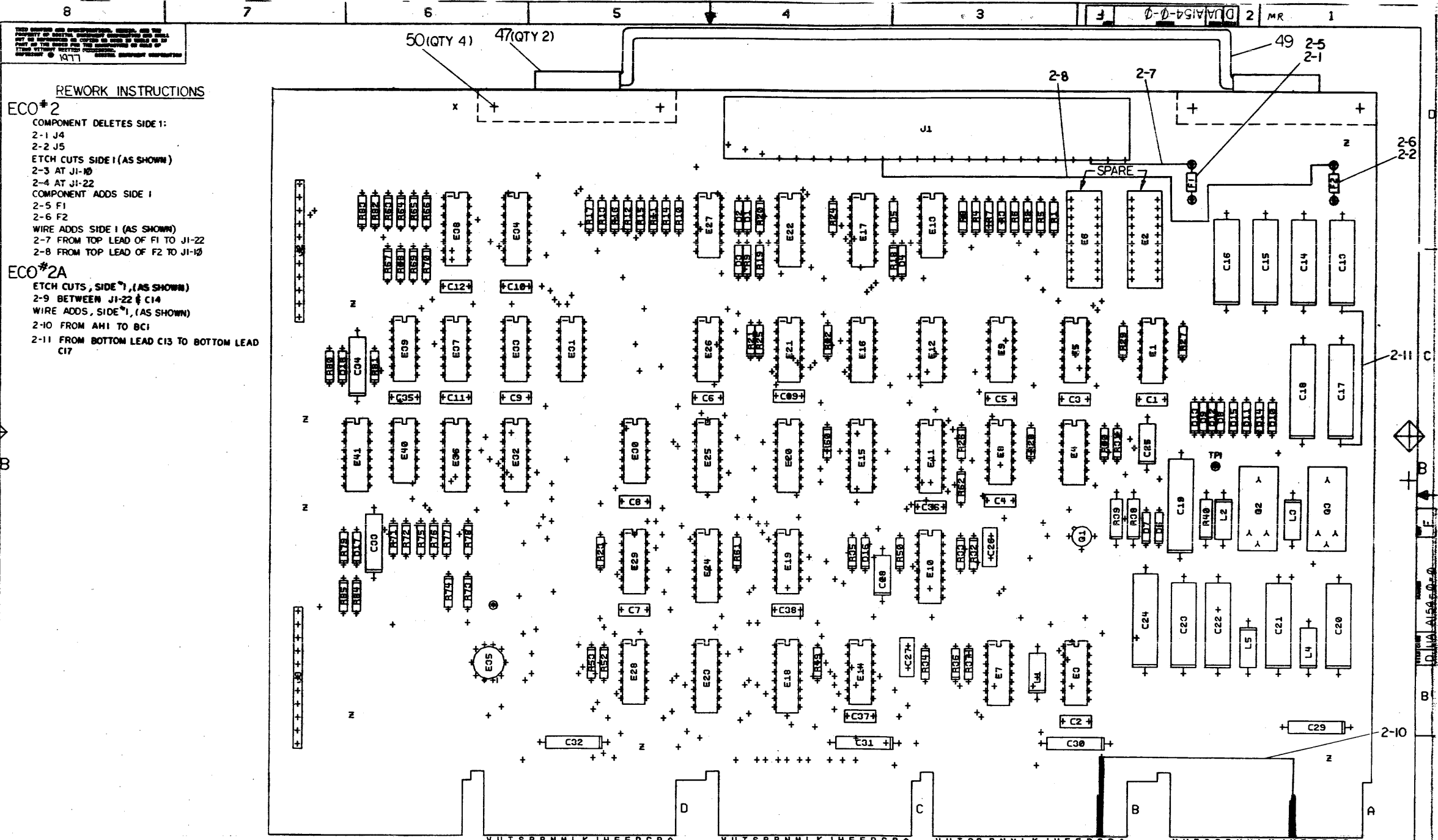
SHEET 3 OF 3

SIZE CODE  
**B DD**

NUMBER  
MNCAM-0

REV  
**A**

MR



THIS DRAWING AND SPECIFICATIONS, HEREON, ARE THE PROPERTY OF ANALOG DEVICES CORPORATION. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM ANALOG DEVICES CORPORATION.

**REWORK INSTRUCTIONS**

**ECO#2**  
 COMPONENT DELETES SIDE 1:  
 2-1 J4  
 2-2 J5  
 ETCH CUTS SIDE 1 (AS SHOWN)  
 2-3 AT J1-10  
 2-4 AT J1-22  
 COMPONENT ADDS SIDE 1  
 2-5 F1  
 2-6 F2  
 WIRE ADDS SIDE 1 (AS SHOWN)  
 2-7 FROM TOP LEAD OF F1 TO J1-22  
 2-8 FROM TOP LEAD OF F2 TO J1-10

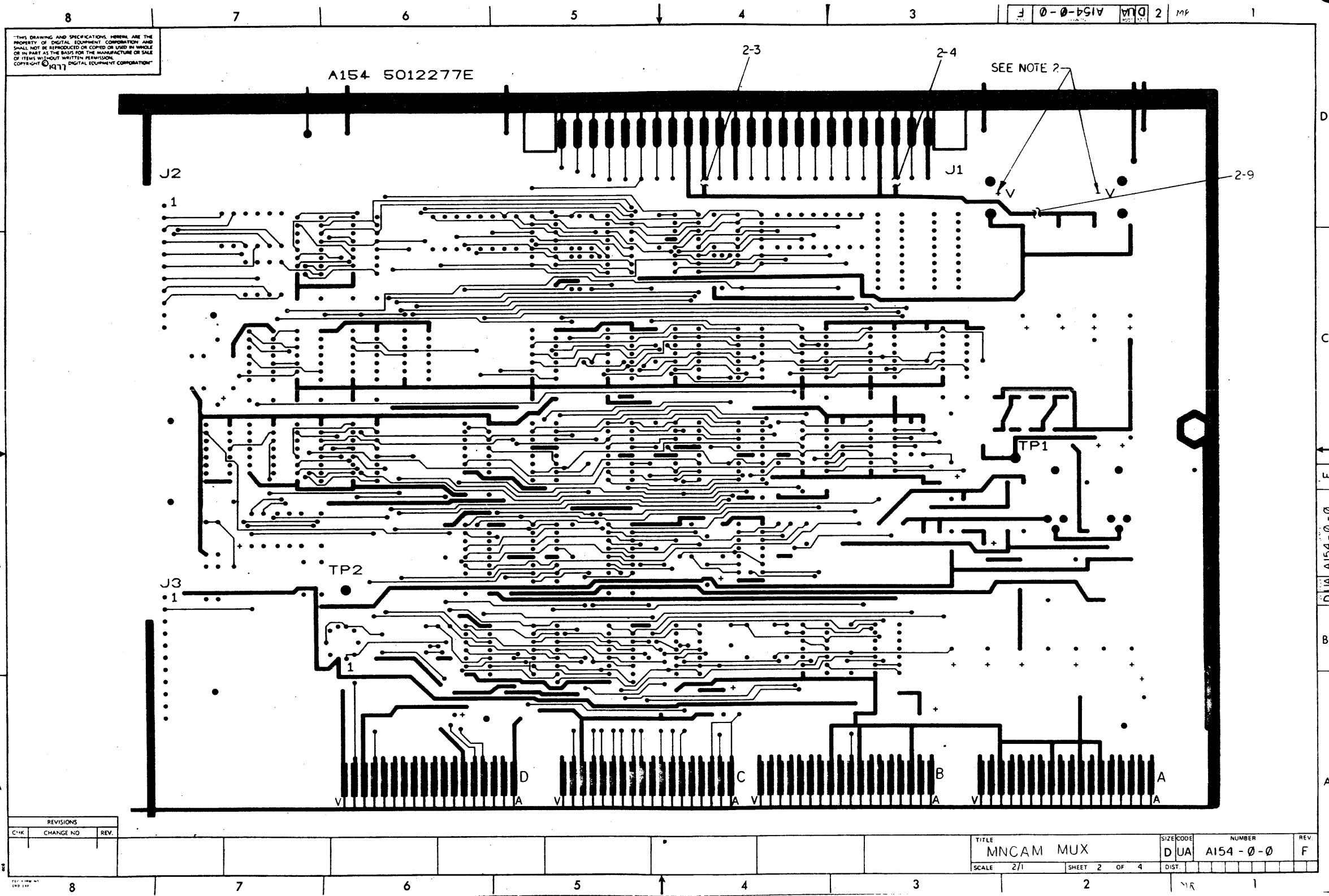
**ECO#2A**  
 ETCH CUTS, SIDE 1, (AS SHOWN)  
 2-9 BETWEEN J1-22 & C14  
 WIRE ADDS, SIDE 1, (AS SHOWN)  
 2-10 FROM AH1 TO BC1  
 2-11 FROM BOTTOM LEAD C13 TO BOTTOM LEAD C17

NOTES: 1. J1 REPRESENTS FINGERS ON TOP OF BOARD.  
 2. REMOVE \*S\* SIGNS NEAR F1 & F2

CHANGE NO	REV	DATE	BY	CHK'D
1	E	10-17-77	J. M. ...	J. M. ...
2	F	10-27-77	J. M. ...	J. M. ...
3	F	11-1-77	J. M. ...	J. M. ...
4	F	11-1-77	J. M. ...	J. M. ...

SIGNATURES		DATE	TITLE
DRN.		10-17-77	
CHK'D.		10-27-77	
ENG.		10-27-77	
PROJ. ENG.		10-27-77	
PROD.		10-27-77	
SCALE	2/1		SIZE CODE NUMBER
SHT.	1 OF 4		D UA A154-0-0
NEXT HIGHER ASSY: B-DD-A154-0			REV F

MR 1 MS#30368E



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 © 1971 DIGITAL EQUIPMENT CORPORATION

A154 501227E

DUA A154-0-0 2 MF 1

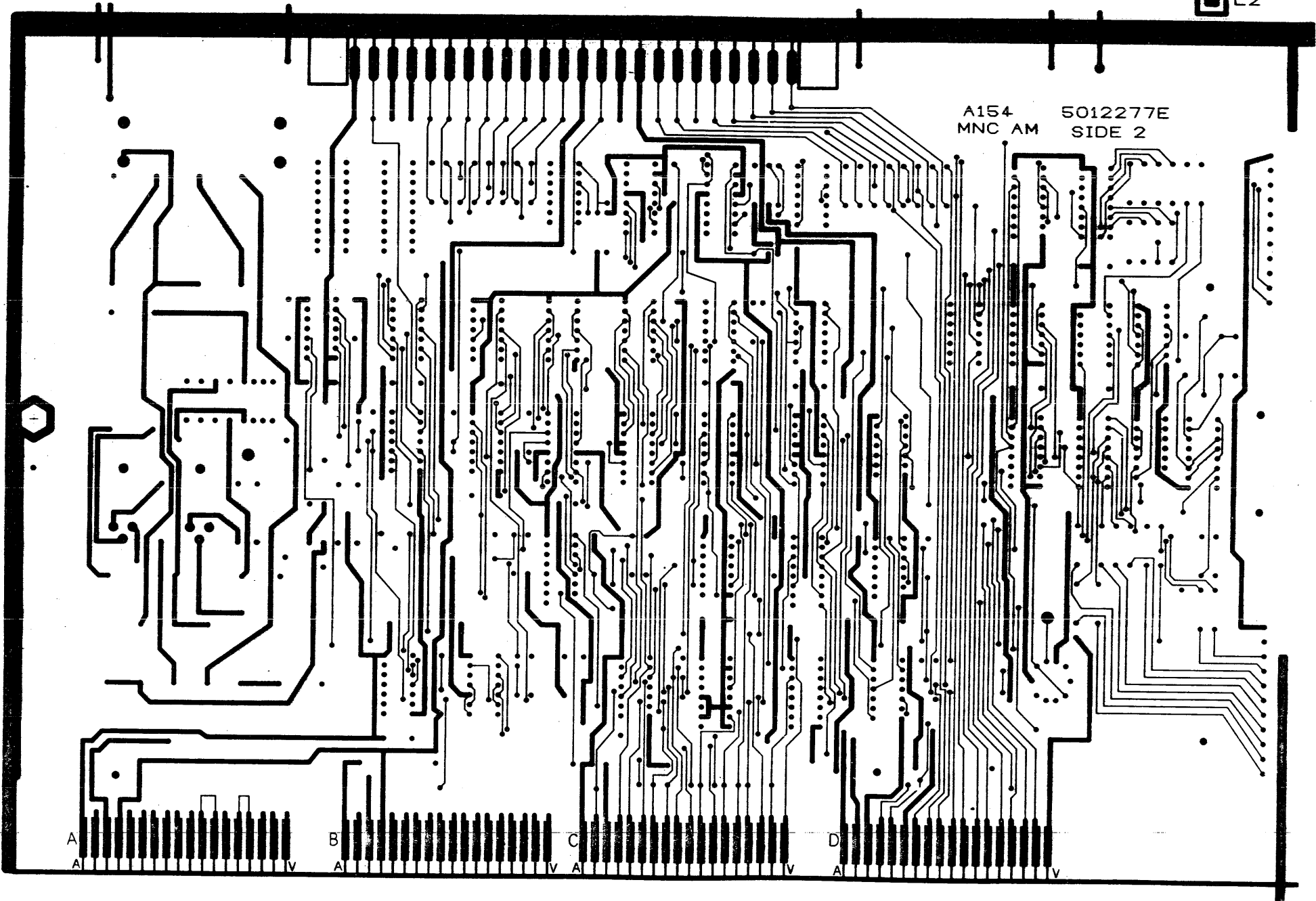
DUA A154-0-0

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	SIZE CODE	NUMBER	REV.
MNCAM MUX	DUA	A154-0-0	F
SCALE 2/1	SHEET 2 OF 4	DIST.	

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 © 1977 DIGITAL EQUIPMENT CORPORATION

DUA A154-0-0 M2 MR

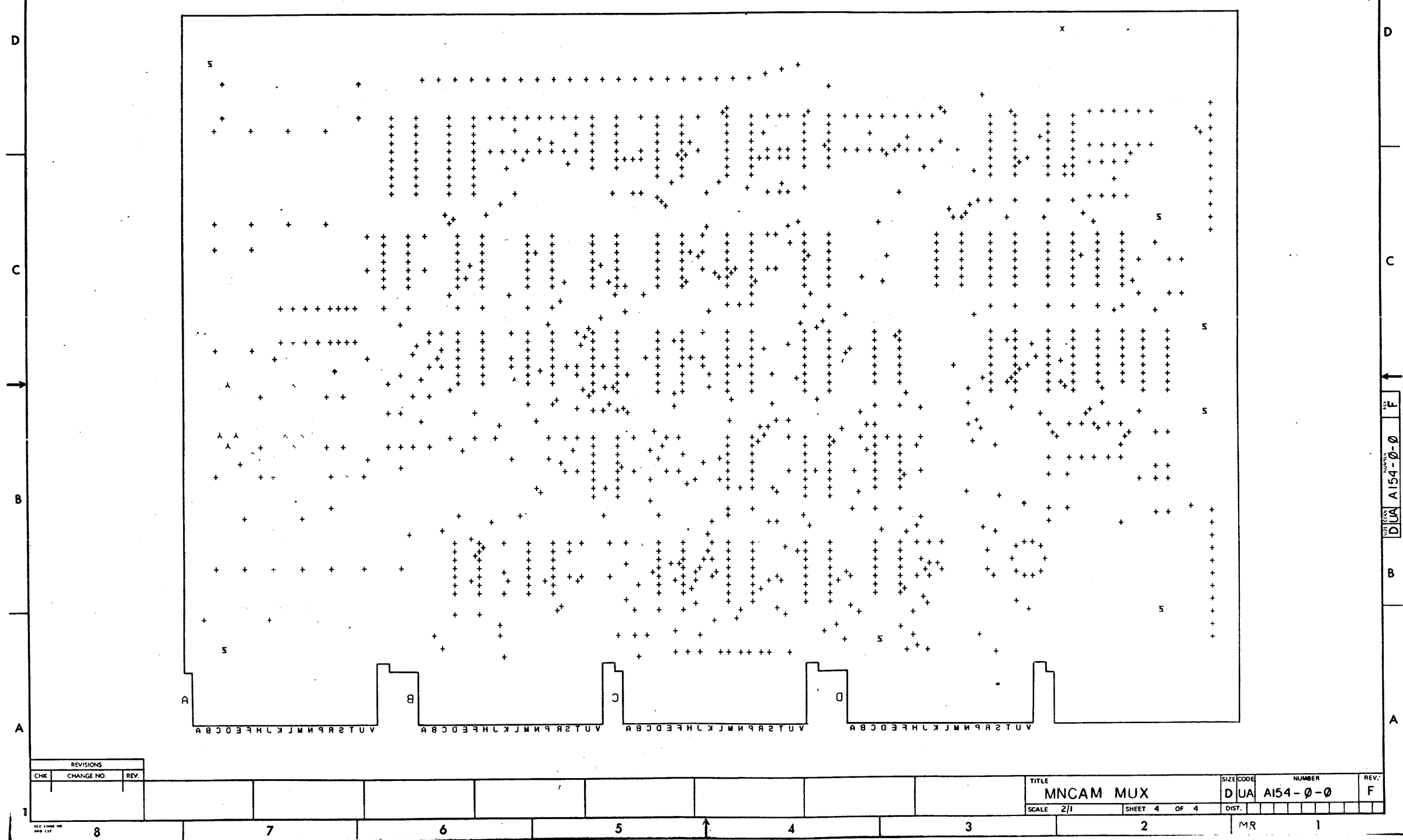


A154 MNC AM 5012277E SIDE 2

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	MNCAM MUX	SIZE CODE	DUA	NUMBER	A154-0-0	REV.	F
SCALE	2/1	SHEET	3 OF 4	DIST.			

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 © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE MNCAM MUX		SIZE CODE D UA	NUMBER A154-0-0	REV. F
SCALE 2/1	SHEET 4	OF 4	DIST.	

MR

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:				
MADE BY <i>P. Wilson</i> DATE <i>7 OCT 77</i>		CHECKED <i>RW Carter</i> DATE <i>10 OCT 77</i>												1. SPARE LOCATIONS ARE: E2, E6				
ENG <i>H.F. Curtis</i> DATE <i>20 OCT 77</i>		PROD <i>Dave R. Duncan</i> DATE <i>25 OCT 77</i>																
		SECTION 1																
		ISSUED SECTION 1																
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION															REF DESIGNATION
1	D-MD-5012277-0-0	5012277	ETCHED CIRCUIT BOARD	1														
2		1010274-01	CAP .22 UF 50V	17														C1 THRU C12, C35 THRU C39
3		1002433	CAP .22 UF 35V 20%	8														C13 THRU C16, C20 THRU C23
4		1005335	CAP .39 UF 20V 10%	4														C17, C18, C19, C24
5		1001776	CAP 1 UF 35V 10%	1														C25
6		1000016	CAP 100 PF	1														C26
7		1000025	CAP 560pf, 100V	1														C27
8																		
9		1004812	CAP 15 UF 20V 10%	7														C28 THRU C32 C33, C34
10		1105275	DIODE D672	17														D1, D2, D4 THRU D18
11		1109502	DIODE IN4742	1														D3
12		1212519-06	HOUSING POST 11 POS	2														J2, J3
13		1310881	RES 1K 1% 1/4W FUSIBLE	16														R1 THRU R8, R10 THRU R17
14		1300365	RES 1K 5% 1/4W	25														R9, R19 THRU R31, R33, R34, R35, R37, R49, R52, R53, R60, R61, R62, R81
15		1301425	RES 300 5% 1/4W	1														R18
16		1300488	RES 12K 5% 1/4W	1														R32
17		1300250	RES 150 5% 1/4W	1														R36
18		1300315	RES 470 5% 1/2W	2														R38, R39
19		1301781	RES 82 5% 1/2W	1														R40
20		1304838	RES 43K 5% 1/4W	3														R50, R79, R80

E.C.O. NO.  
MR001  
A154-2

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"			TITLE MNCAM: MUX		ASSY NO. D-UA-A154-0-0		SIZE B	CODE PL	NUMBER A154-0-0	REV. F
					SHEET 1 OF 3		INSERTION PARTS LIST DATA BASE REV			

DRB 125

MR

MR

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>E. Wilson</i> DATE <i>7 OCT 77</i>		CHECKED <i>RW Counter</i> DATE <i>10 OCT 77</i>																	
ENG <i>H.F. Girvin</i> DATE <i>20 OCT 77</i>		PROD <i>Dana R. Dunham</i> DATE <i>25 OCT 77</i>																	
		SECTION 1																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													REF DESIGNATION			
21		1301401	RES 750 5% 1/2W	20															R63 THRU R78, R82 THRU R85
22		1503409	TRANS DEC 6534D	1															Q1
23		1510414	TRANS D45C6	1															Q2
24		1510171	TRANS D44C3	1															Q3
25		1602254	INDUCTOR 22 UH	3															L1, L4, L5
26		1603377	INDUCTOR 22 UH	2															L2, L3
27		1912799	I.C. DEC 74LS00	4															E1, E9, E29, E33
28		1912803	I.C. DEC 74LS04	5															E3, E5, E8, E14, E28
29		1912805	I.C. DEC 74LS08	2															E4, E40
30		1910741	I.C. DEC 7406	2															E7, E37
31		1912837	I.C. DEC 74LS123	2															E10, E41
32		1912827	I.C. DEC 74LS83	5															E11, E15, E20, E24, E25
33		1911521	I.C. DEC 7432	3															E12, E16, E31
34		1910010	I.C. DEC 2501	2															E13, E27
35		1911598	I.C. DEC DG501C	2															E17, E22
36		1911527	I.C. DEC 8097	1															E18
37		1912807	I.C. DEC 74LS10	1															E19
38		1909712	I.C. DEC 8242	1															E21
39		1910652	I.C. DEC 74174	1															E23
40		1905580	I.C. DEC 7450	1															E26
41		1909705	I.C. DEC 8881	1															E30

E.C.O. NO.	"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 © 1977 DIGITAL EQUIPMENT CORPORATION"	TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
		MNCAM MUX	D-UA-A154-0-0	B	PL	A154-0-0	E
			SHEET 2 OF 3	INSERTION PARTS LIST DATA BASE REV			

MR

54



MR

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY <i>E. Wilson</i> DATE <i>7 OCT 77</i>		CHECKED <i>R. W. Caunter</i> DATE <i>10 OCT 77</i>		SECTION 1													
ENG <i>A. F. Sirois</i> DATE <i>20 OCT 77</i>		PROD <i>Tom R. Duncan</i> DATE <i>25 OCT 77</i>		ISSUED SECTION 1													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION														REF DESIGNATION
42																	
43		1910047	I.C. DEC 74145	4													E32, E34, E36, E38
44		2111285-02	I.C. DEC HI200-5	1													E35
45		1912801	I.C. DEC 74LS02	1													E39
46																	
47	C-MD-7420192-0-0	7420192	HANDLE, RETAINER	2													
48		9006735	SPLIT LUGS	2													TP1, TP2
49	C-MD-7420191-0-0	7420191	HANDLE	1													
50		9006732	EYELET	4													
51		9009122	FUSE .062A	2													F1, F2
52																	

E.C.O. NO.

"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 ©1977 DIGITAL EQUIPMENT CORPORATION"

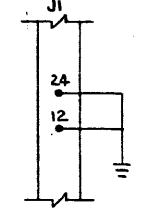
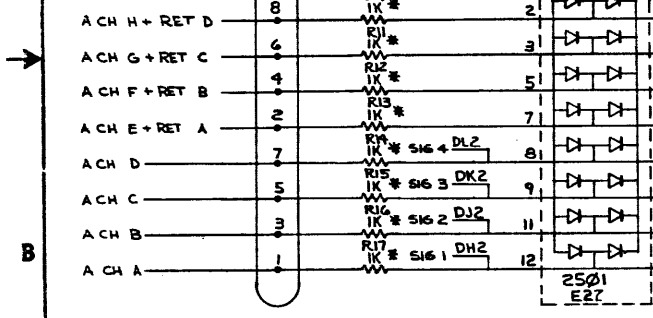
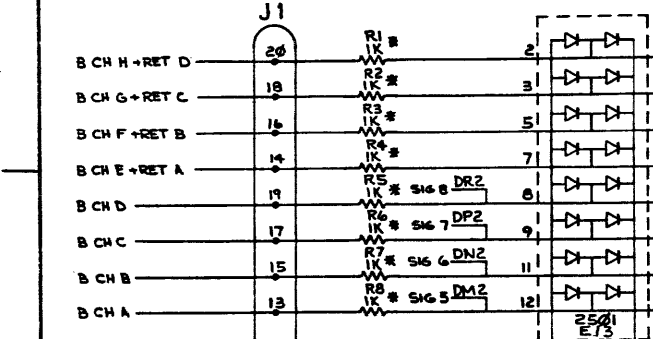
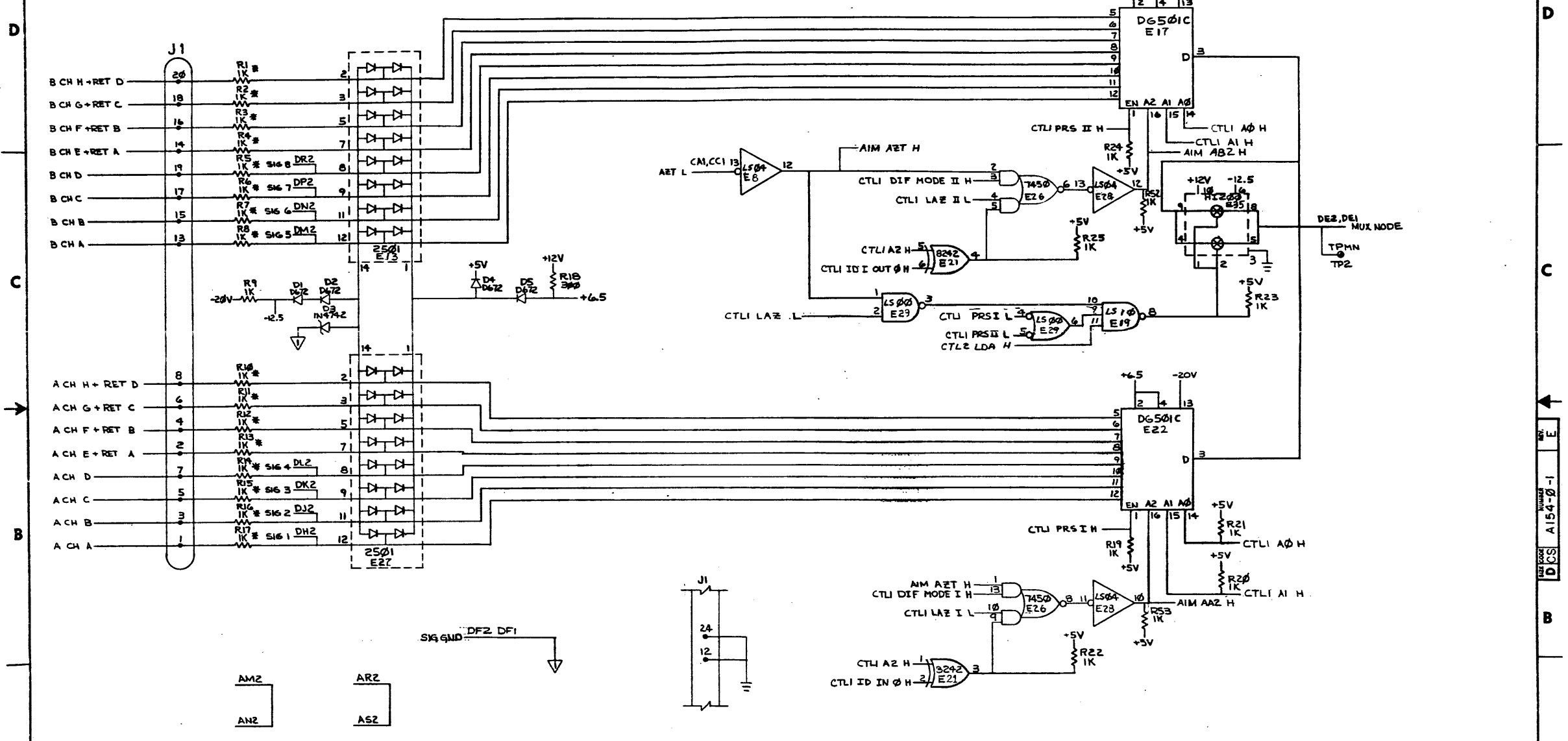
TITLE  
MNCAM MUX

ASSY NO.  
D-UA-A154-0-0  
SHEET 3 OF 3

SIZE B CODE PL NUMBER A154-0-0 REV. F  
INSERTION PARTS LIST DATA BASE REV

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF THE NATIONAL INSTRUMENT CORPORATION AND SHALL NOT BE REPRODUCED, IN ANY MANNER, WITHOUT THE WRITTEN PERMISSION OF THE NATIONAL INSTRUMENT CORPORATION.

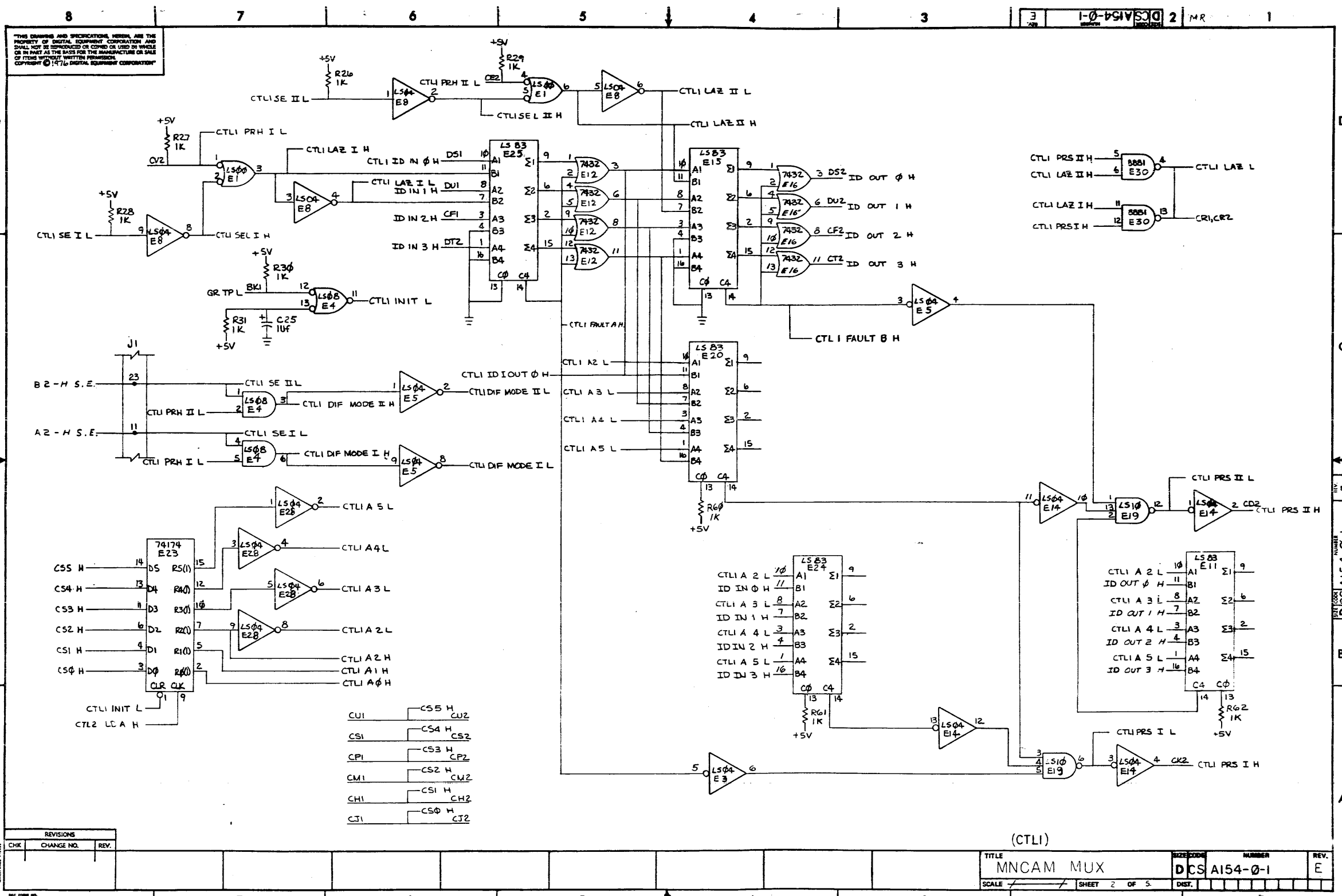
NOTES: 1. (\*) ASTERISK INDICATES FUSIBLE RESISTORS.



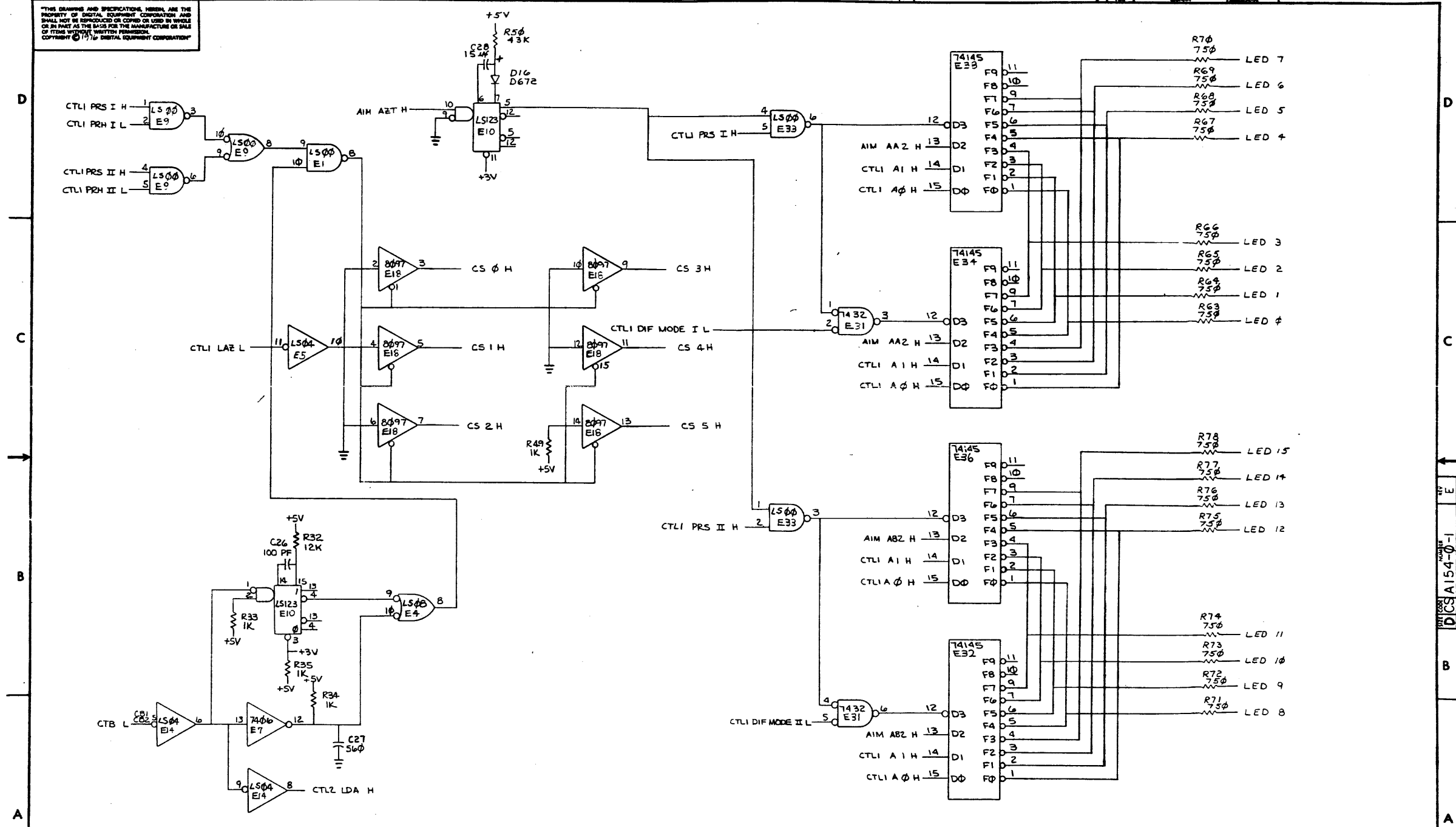
INPUT & MULTIPLEXER (AIM)

DRN. <i>[Signature]</i>	FIRST USED ON	<b>MNCAM</b>	<b>digital</b>
CHK'D <i>[Signature]</i>	TITLE		
ENG. <i>[Signature]</i>	<b>MNCAM MUX</b>		
PROJ. <i>[Signature]</i>	SIZE	NUMBER	REV.
DATE <i>[Signature]</i>	<b>D CS</b>	<b>A154-0-1</b>	<b>E</b>
NEXT HIGHER ASSY.	SCALE	DIST.	
<b>000-A154-0</b>			
SHEET 1 OF 5			

REV.	DATE	BY
1	10/1/77	...
2	...	...
3	...	...



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 THIS EQUIPMENT WITHOUT PERMISSION. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION

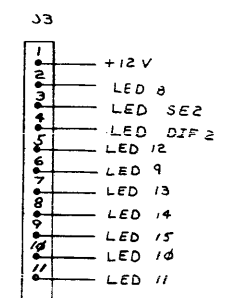
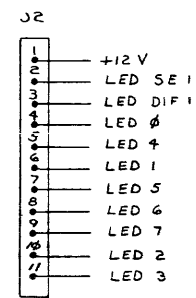
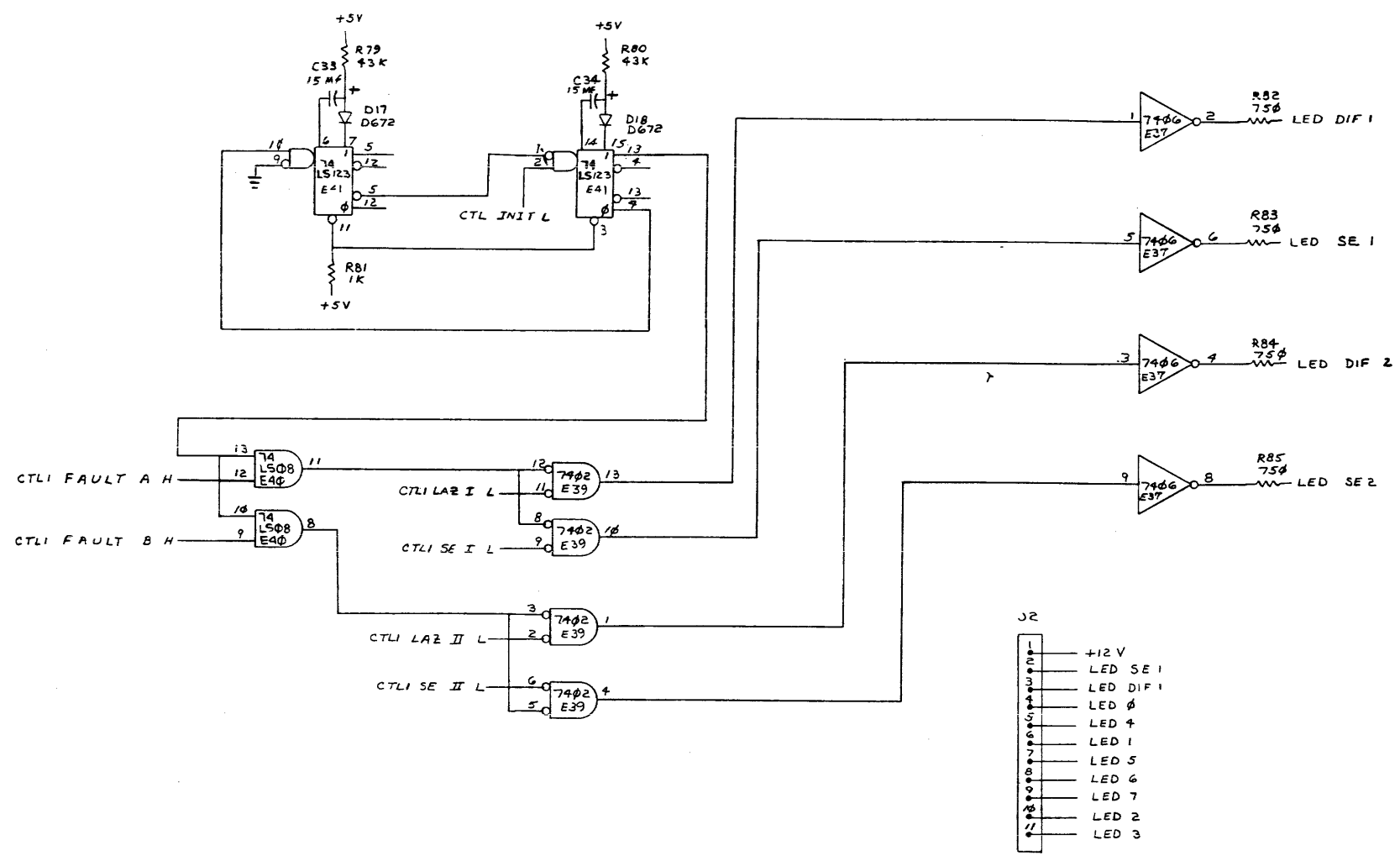


REVISIONS		
CHK	CHANGE NO.	REV.

(CTL2) INDICATOR CNTR		TITLE MNCAM MUX		SIZE CODE NUMBER DCS AI54-0-1		REV. E	
SCALE		SHEET 3 OF 5		DST.		MR 1	

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 © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-091702 2 MR



D ECS A154-0-1

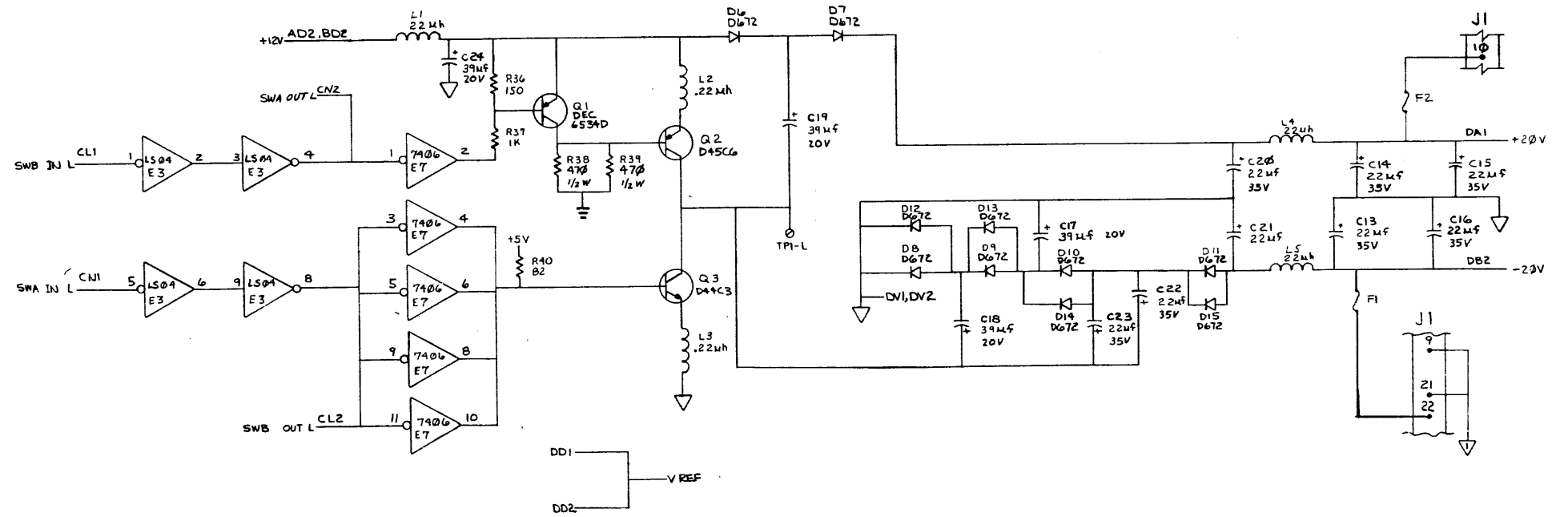
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE MNCAM MUX SIZE CODE DCS A154-0-1 NUMBER REV. E  
 SCALE SHEET 4 OF 5 DIST. MR

"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. DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1976"

AAZ,BAZ,  
CAZ,DAZ  
C29 THRU  
C32 15 μF  
C1 THRU C12 .22 μF  
C35 THRU C39

ACZ,AT1,AM1,  
AJ1,BC1,BM1,  
BJ1,CC2,CT1,  
DCZ,DT1,AF1,BCZ,  
AH1



POWER SUPPLY

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MNCAM MUX	SIZE/CODE	D CS	NUMBER	AI54-0-1	REV.	E
SCALE	1:1	SHEET	5	OF	5	DIST.	

MR

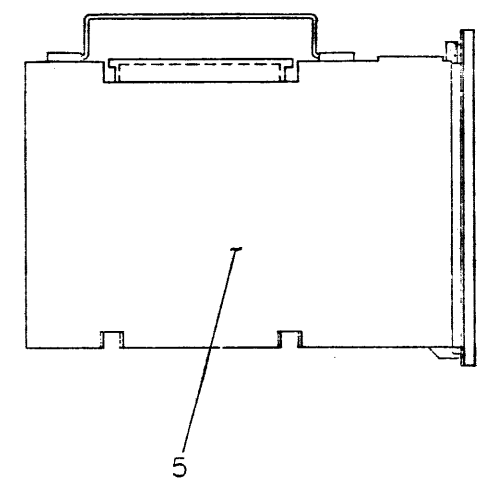
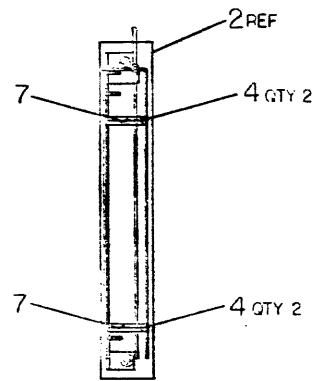
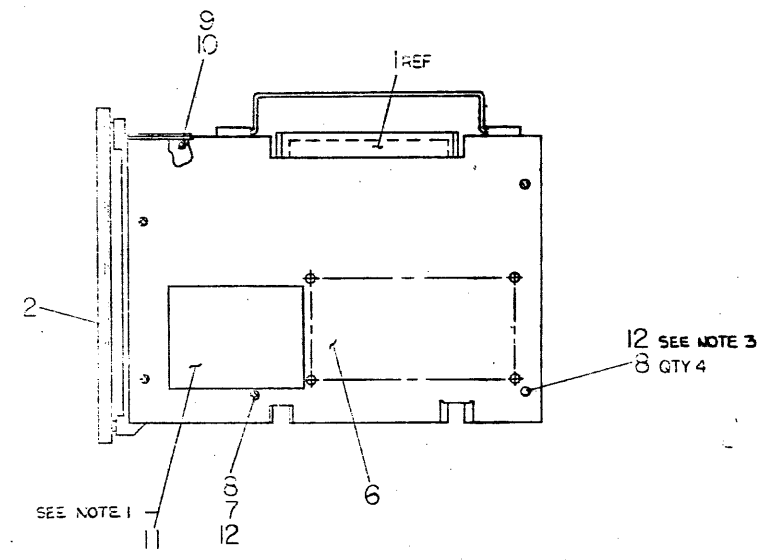
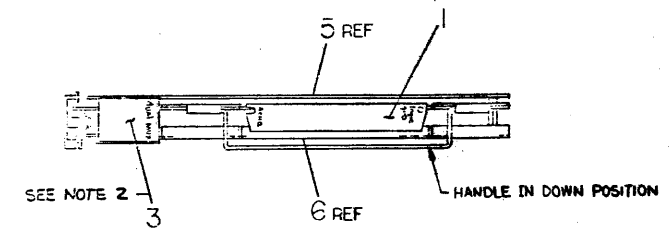
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION																				
MADE BY M. Archie		CHECKED <i>Handwritten Signature</i>																						
DATE 7 MARCH 78		DATE 17 MAY 78		SECTION 1																				
ENG <i>OC Fly</i>		PROD <i>B Cash</i>		ISSUED SECT. 1																				
DATE 23-MAY-78		DATE 23-MAY-78																						
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																						
1	D-UA-MNCAM-0-0	MNCAM UNIT ASSY		1																				
2	MP00591	PRINT SET MNCAM		1																				
3	AA-D572A-TC	WORKING WITH MINC DEVICE		1																				
TITLE SHIP LIST MNCAM				ASSY NO. +—+—+		SIZE A	CODE PL	NUMBER MNCAM-0-SH			REV	ECO NO.												
				SHEET 1 OF 1		DIST																		

DEC FORM DRA 110

MR

3 7 6 5 4 3 2 1

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY. DIMENSIONS IN SQUARE BRACKETS ARE FOR INFORMATION ONLY.



- NOTES:**
- ITEM #11 IS PUT ON BY ALIGNING THE RIGHT HAND EDGE OF DECAL UP AGAINST HOLES AND BOTTOM EDGE JUST ABOVE MOUNTING HOLE.
  - ITEM #3 IS PUT ON BY ALIGNING THE TOP EDGE AND RIGHT HAND EDGE EVEN WITH THE TOP EDGE AND RIGHT HAND EDGE OF ITEM #5.
  - USING ITEM #12 ADD ONE DROP TO EACH LOCATION.

REF	CHKOUT & ACCEPT. PROCEDURE	A-SP-MNCAM-0-3	13
1	DECAL, INFORMATION (MNCAM)	A-DC-3615264-1-C	17
1	NUT, KEPS #6-32	9006855	7
1	WASHER, FLAT	9006855	9
5	SCR, FLAT HD #6-32x.25	9006020-02	8
3	SPACER, THREADED #6-32x.88	9006861	7
1	PLATE, COMP SIDE	D-ND-7419869-0-0	6
1	PLATE, ETCH SIDE	D-IA-7419868-0-0	5
3	SPACER, THREADED #6-32x.88	9006841	4
1	DECAL, I/O SCHEMATIC	A-DC-3615260-1-C	3
1	MNCAM R/B ASSY	A-TO-5103-0-0	2
1	CONN ASSY, I/O	A-TO-5103-0-0	1

QUANTITY 3	VARIATION	REVISIONS	DATE	BY	APPROVED
1					
FIRST USED ON		MNCAM UNIT ASSY			
TITLE		MNCAM UNIT ASSY			
PART NUMBER		A-SP-MNCAM-0-3			
REV.		1			
DATE		1968			
BY		J. A. MNCAM			
APPROVED		J. A. MNCAM			
DIST.		1			

3 7 6 5 4 3 2 1



DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:				
MADE BY <i>E. Wilson</i> DATE		CHECKED <i>RW Caunter</i> DATE <i>7 Oct 77</i>																
ENG <i>A.C. Fry</i> DATE <i>6-Dec-77</i>		PROD <i>DR Deane</i> DATE <i>15-Dec-77</i>																
SECTION 1																		
ISSUED SECTION 1																		
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION															REF DESIGNATION
1	D-MD-5012396-0-0	5012396	ETCHED CIRCUIT BOARD	1														
2		1211851	CONN 22 PINS // POS. SIDE ENTRY	2														J2,J3
3		1114494	DIODE LED 1.0MCD @ 20MA	20														D1 THRU D28
4		7419858	BRACKET, MODULE	1														
5		1215266	HOLDER, MUX LED	4														
6		9006010-1	SCREW, PHL. PAN. HD. #4-40X.31	2														
7		9006632	WASHER, INT. TOOTH #4	2														
8		9006655	WASHER, FLAT #4	2														

E.C.O. NO.  
5412397-  
MRO01  
0266

"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 ©1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
LED MOUNT

ASSY NO.  
D-UA-5412397-0-0

SIZE  
B  
CODE  
PL

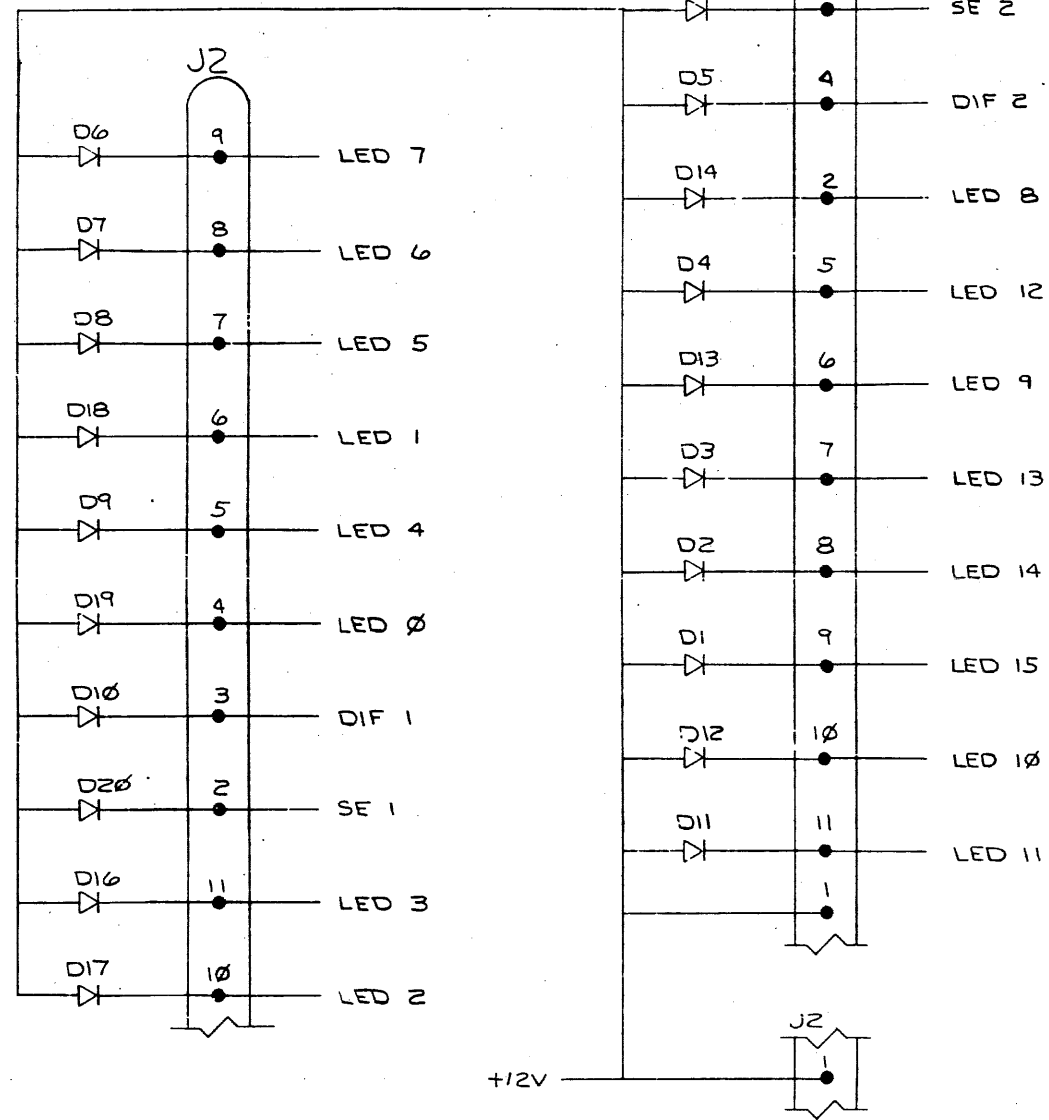
NUMBER  
5412397-0-0

REV.  
E

SHEET 1 OF 1

INSERTION PARTS LIST DATA BASE REV

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS	REV.
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
—H—					
DIMENSIONAL TOLERANCE			PARTS LIST		
DIMENSIONS ARE MILLIMETERS INCHES UNLESS OTHERWISE SPECIFIED			DRN <i>M. Rocca</i>	DATE 21 APR 77	digital
			CHK'D <i>K. Counter</i>	DATE 26 APR 77	
			ENG. <i>A. G. H.</i>	DATE 8-Dec-77	
			PROJ. ENG. <i>G. S. M.</i>	DATE 8-Dec-77	
MILLIMETERS	INCHES	ANGLES	PROD.	DATE	TITLE
X,XX = ±0.10	.XXX = ±.005	±0° 30'	<i>D.R. Duncan</i>	15-DEC-77	LED MOUNT
X,X = ±0.5	.XX = ±.02				
X = ±.2	.X = ±.1				
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		NEXT HIGHER ASSY.		
⊕	MATERIAL	—H—	B-DD-5412397-0	SIZE CODE	NUMBER
	FINISH	—H—	SCALE	C CS	5412397-0-1
			SHEET 1 OF 1	DIST.	REV. D

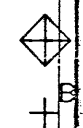
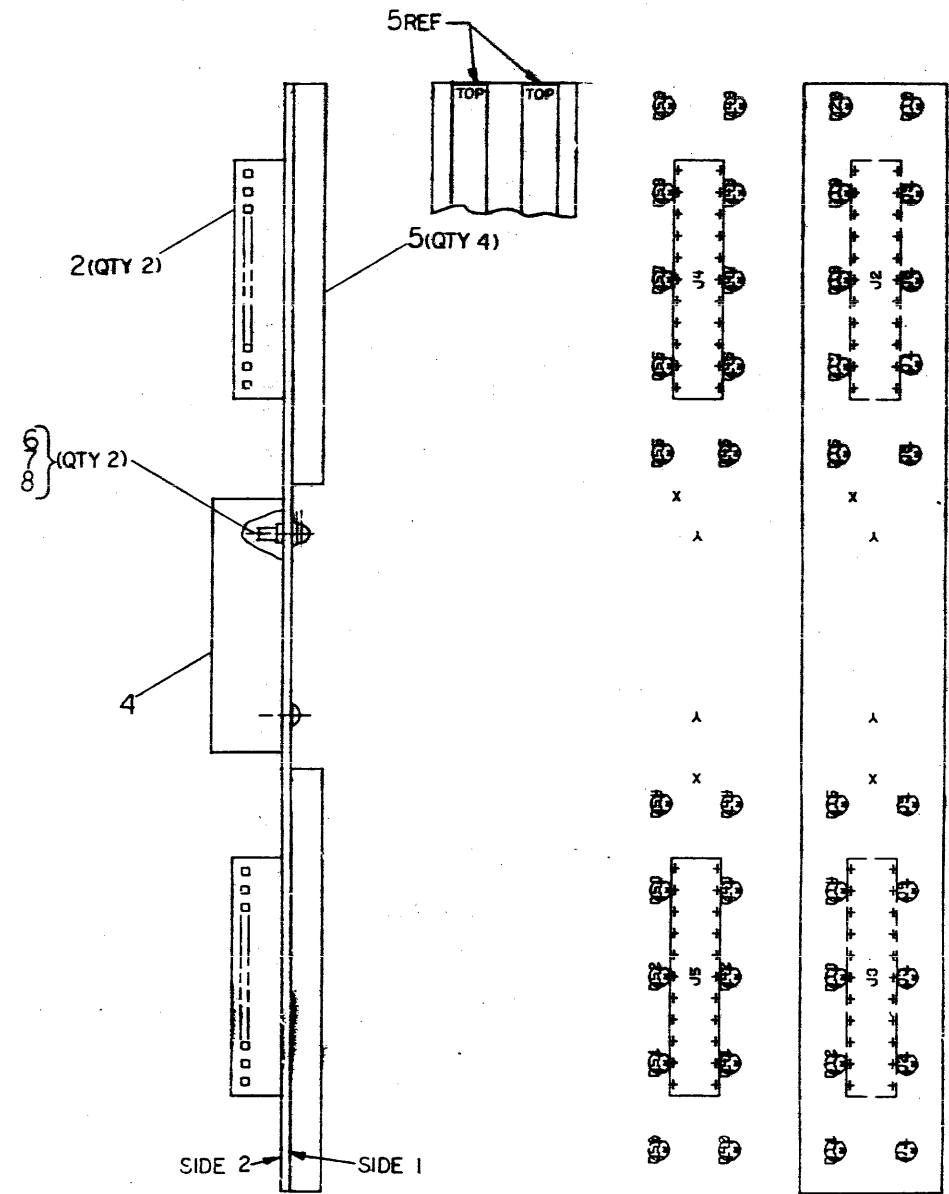
DEC FORM NO. 511

64

THIS DRAWING AND INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF GEISTEL ELECTRONIC CORPORATION AND ARE TO BE KEPT IN CONFIDENCE TO THE EXTENT PERMITTED BY LAW. NO PART OF THIS DRAWING OR INFORMATION CONTAINED HEREIN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. GEISTEL ELECTRONIC CORPORATION © 1977

2 DUA5412397-0-0 E

COMPONENT SIDE VIEW



NOTES:


CHANGE NO.	REV.	DATE	BY	CHK.

ETCH REV.	E
P.C. DESIGN DATA ERASE REV.	E

SIGNATURES		DATE
DRN. <i>A. Wilson</i>		12/1/77
CHK. D. <i>Wilson</i>		2/3/77
ENG. <i>A.C. 3</i>		12/4/77
PROJ. ENG. <i>A.C. 3</i>		12/4/77
PRD. <i>D. Wilson</i>		12/2/77

TITLE	
LED MOUNT	
SIZE	NUMBER
D UA	5412397-0-0

REV.	E
------	---

8

7

6

5

4

3

2

1 MS#

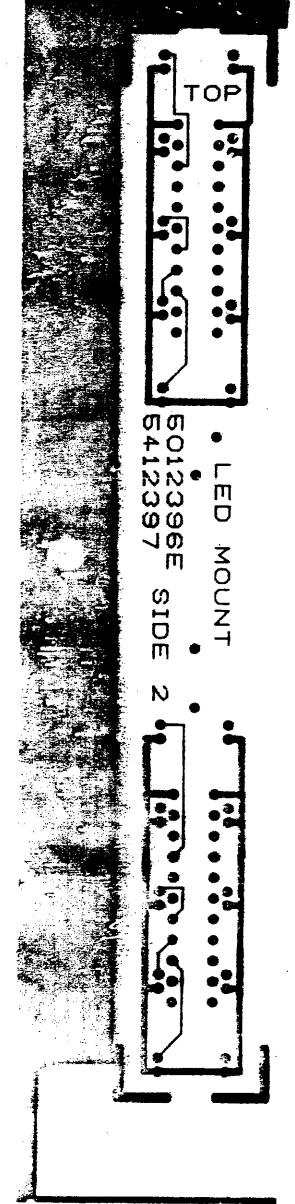
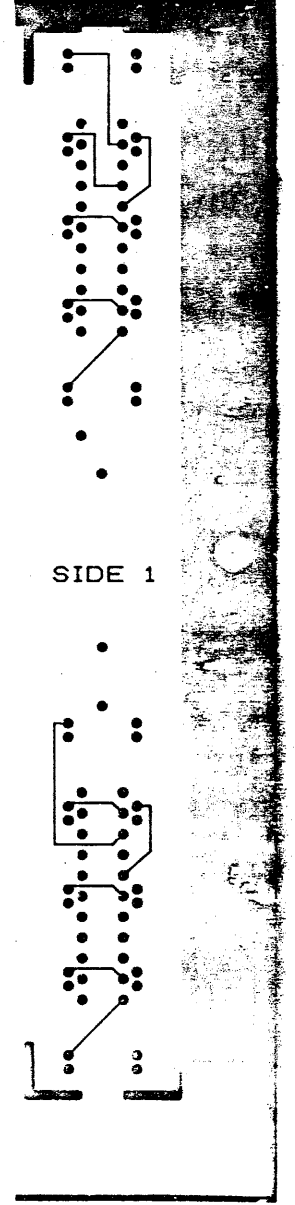
65

8 7 6 5 4 3 2 1

THIS DRAWING AND SPECIFICATION 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. COMPANY: DIGITAL EQUIPMENT CORPORATION

L1  
5012396E  
5412397

L2



REVISIONS		
CHR	CHANGE NO	REV

8 7 6 5 4 3 2 1

TIT. L	LED MOUNT	SIZE/KODG	D UA	NUMBER	5412397-0-0	REV.	E
SCALE	2/1	SHEET	2	OF	2	DIST	

MR

## DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

DATE 7/10/78

TITLE MNCAM INSTALLATION/ACCEPTANCE PROCEDURE

REV	DESCRIPTION	REVISIONS			
		CHG NO	ORIG	DATE	APPD BY

ENG *W. J. ...* APPD *W. J. ...* 7-11-78  
 DEC FORM NO. EN-01022-16-N370-1381  
 DRA 107A

SIZE	CODE	NUMBER	REV
A	SP	MNCAM-0-4	1

MR SHEET 1 OF 4

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.

MR

## ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MNCAM INSTALLATION/ACCEPTANCE PROCEDURE

1.0 GENERAL

1.1 SCOPE

This document describes the procedures for the installation and field acceptance of the MNCAM (Analog Multiplexer) option for the MNC-11 system. This procedure will be used for in-house FAST, field add-on and new system installation, and periodic verification testing.

1.2 EQUIPMENT

MNC-11	System
MNCAM-TA	Test Module (optional)
7014153-1-0	I/O Connector
MNCAD	A/D Option
REFERENCE	Precision Voltage Source (optional)

1.3 DOCUMENTATION

MD-11-DV-1A	MNCAD Diagnostic Program
D-CS-A154-0-1	Circuit Schematics
AA-D572A-TC	Manual - "Work with MNC Devices"
A-SP-MNCAD-0-4	MNCAD Installation/Acceptance Procedure

DEC FORM NO. EN-01022-16-N370-1381  
 DRA 108

SIZE	CODE	NUMBER	REV
A	SP	MNCAM-0-4	2

MR SHEET 2 OF 4

MR

## ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MNCAM INSTALLATION/ACCEPTANCE PROCEDURE

1.4 PROCEDURE

DEC FORM NO. EN-01022-16-N370-1381  
 DRA 108

SIZE	CODE	NUMBER	REV
A	SP	MNCAM-0-4	3

MR SHEET 3 OF 4

MR

## ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MNCAM INSTALLATION/ACCEPTANCE PROCEDURE

2.0 INSTALLATION

2.1 LOCATION

The MNCAM must be inserted into a slot that is to the left of the MNCAD (A/D option) and there must be no empty slots in-between. With power off, insert the MNCAM option(s) into the selected slot(s).

2.2 TEST MODULE

If the MNCAM-TA test module is available it should be plugged onto the I/O connector fingers on the top of the MNCAM at this point, before power to the System is applied. Both SE pins on the I/O connector should be tied to logic ground.

2.3 POWER UP

All other options to be tested and any of their test modules, should be mounted in the system, then power may be applied. Allow a 5 minute warm-up period before continuing.

2.4 DIAGNOSTIC

The MNCAD diagnostic is used to test the MNCAM option and should now be loaded into the processor and started at location 200. The diagnostic heading will be typed followed by:

"SMR = 000000 NEW = "

Type "RETURN". The program will ask if a test module is connected; type "N" for no if one is not present or "Y" for yes if one is present, followed by a "RETURN".

3.0 ACCEPTANCE

3.1 If the test module is present enter the wrap-around test (W) for only those channels to be tested. (Use "y" and SMR = 2000 for video graphics terminals; VT55 or VT105).

3.2 If no test module is present, input voltage through the I/O connector and enter the print values (P) routine, addressing only those channels to be tested, and then the noise test (N).

TABLE 3-1: INPUT VOLTAGE CODING

OCTAL CODE	INPUT (VOLTS)
7777	+5.1175
7000	+3.8400
6000	+2.5600
5000	+1.2800
4000	0.0000
3000	-1.2800
2000	-2.5600
1000	-3.8400
0000	-5.1200

DEC FORM NO. EN-01022-16-N370-1381  
 DRA 108

SIZE	CODE	NUMBER	REV
A	SP	MNCAM-0-4	4

MR SHEET 4 OF 4

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# FIELD MAINTENANCE PRINT SET

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

## TABLE OF CONTENTS

B-TC-MNCKW-Ø-1	MNCKW FIELD MAINTENANCE PRINT SET
	TABLE OF CONTENTS
B-DD-MNCKW-Ø	MNCKW UNIT ASSY
D-UA-M7953-Ø-Ø	REAL TIME CLOCK
K-PL-M7953-Ø-Ø	REAL TIME CLOCK
D-CS-M7953-Ø-1	REAL TIME CLOCK
A-PL-MNCKW-Ø-SH	SHIP LIST MNCKW
D-UA-MNCKW-Ø-Ø	MNCKW UNIT ASSY
A-SP-MNCKW-Ø-4	INSTALLATION & ACCEPTANCE PROCEDURE

UNIT VARIATIONS COVERED BY THIS PRINT SET
MNCKW

MNCKW  
**Field Maintenance Print Set**

**Digital Equipment Corporation**

PRINT SET ORDER NO.  
MPØØ593

REV.  
NUMBER  
MNCKW-Ø-1  
SIZE CODE  
B TC

REVISIONS	REV	USED ON OPTION/MODEL		DRN.	DATE	TITLE:							
	CHG. NO.	MNCKW		<i>D. Newlin</i>	28-FEB-78	MNCKW UNIT ASSY							
	DATE			<i>C. F. Williams</i>	19 MAY 78								
				<i>A. C. F. Williams</i>	23-May-78	SIZE	CODE	NUMBER	REV.				
				FIELD SERV.	DATE	<b>B</b>	<b>TC</b>	MNCKW-Ø-1					
						DIST.							

SHEET 1 OF 1



M1

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

DRAWING DIRECTORY

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

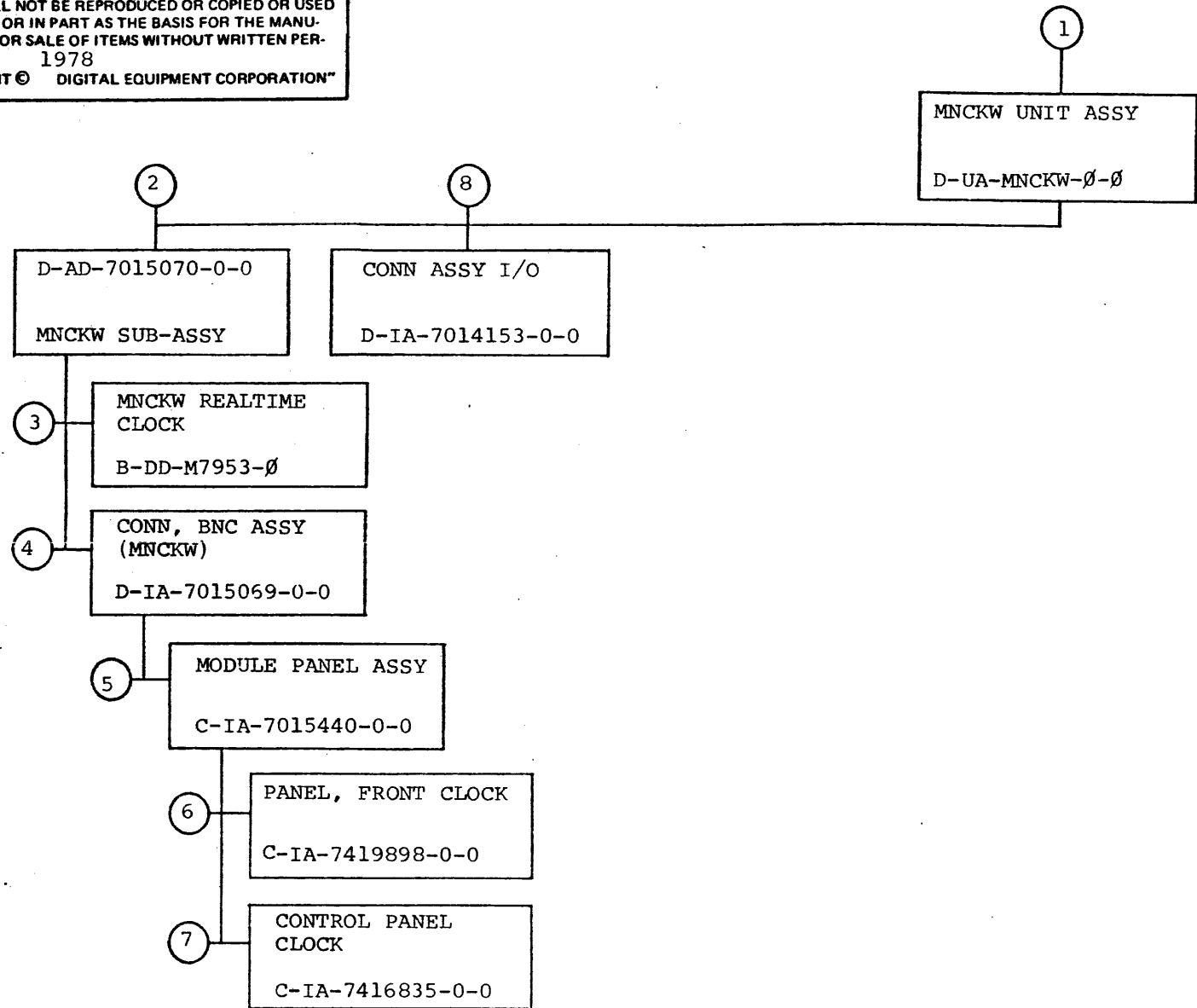
UNIT VARIATIONS	
VAR	TITLE
MNCKW	MNCKW UNIT ASSY

REV. A CHANGE NO. MNCKW - 1 CHK	DRN.	DATE	TITLE <b>digital</b> MNCKW UNIT ASSY			
	MNCKW	29 Dec 77				
	CHK'D.	DATE	SIZE	CODE	NUMBER	REV
	<i>L. Halliday</i>	13 Feb 78	B	DD	MNCKW-Ø	A
	PROJ. ENG.	DATE	DIST.			
	<i>A. C. Kelly</i>	3/21/78				
	PROD.	DATE				
		3/21/78				
	SHEET 1 OF 3					

MR

MR

"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. 1978  
COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNCKW UNIT ASSY	SIZE CODE	NUMBER	REV
		B DD	MNCKW-Ø	A

SHEET 2 OF 3

MR



FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00593	FIELD MAINTENANCE PRINT SET	-				
	B-TC-MNCKW-0-1	FIELD MAINTENANCE PRINT SET	-	5	C-IA-7015440-0-0	MODULE PANEL ASSY	E/M
	D-UA-MNCKW-0-0	MNCKW UNIT ASSY	E/M				
	C-MD-7419869-0-0	PLATE, COMP SIDE	M				
	C-MD-7419868-0-0	PLATE, ETCH SIDE	M				
	A-DC-3615260-0-0	DECAL, I/O SCHEMATIC	E/M				
	A-DC-3615264-0-0	DECAL, INFORMATION (MNCKW)	E/M				
	A-PL-MNCKW-0-5	PARTS LIST MNCKW	E/M				
	A-PL-MNCKW-0-SH	SHIP LIST MNCKW	E/M				
	A-SP-MNCKW-0-2	MNCKW ENGINEERING SPEC.	E/M				
	A-SP-MNCKW-0-3	CHECKOUT & ACCEPTANCE PROCEDURE	E/M	6	C-IA-7419898-0-0	PANEL, FRONT CLOCK	M
	A-SP-MNCKW-0-4	INSTALLATION & ACCEPTANCE PROCEDURE	E/M		C-PS-4830032-0-0	EXTRUSION, FRONT PANEL "D"	M
2	D-AD-7015070-0-0	MNCKW SUB-ASSY	E/M				
	B-MD-7420242-0-0	SPACER, MODULE	M				
	C-IA-7419861-0-0	SUB-PANEL	M				
	B-IA-7420635-0-0	BUTTON SWITCH (MODIFIED)	M				
				7	C-IA-7416835-0-0	CONTROL PANEL CLOCK	M
					C-SS-7416835-01	CONTROL PANEL	M
					C-SS-7416835-02	CONTROL PANEL	M
					C-SS-7416835-03	CONTROL PANEL	M
					C-SS-7416835-04	CONTROL PANEL	M
					C-SS-7416819-02	CONTROL PANEL	M
3	B-DD-M7953-0	MNCKW REALTIME CLOCK	E/M				
	A-PL-M7953-0-0	REAL TIME CLOCK	E/M				
	D-UA-M7953-0-0	REAL TIME CLOCK	E/M				
	D-CS-M7953-0-1	REAL TIME CLOCK	E/M				
				8	D-IA-7014153-0-0	CONN ASSY I/O	E/M
					A-DC-7416886-0-0	DECAL, I/O CONN	E/M
					A-DC-7418934-4-0	DECAL, I.D. I/O CONN	E/M
4	D-IA-7015069-0-0	CONN, BNC ASSY (MNCKW)	E/M				

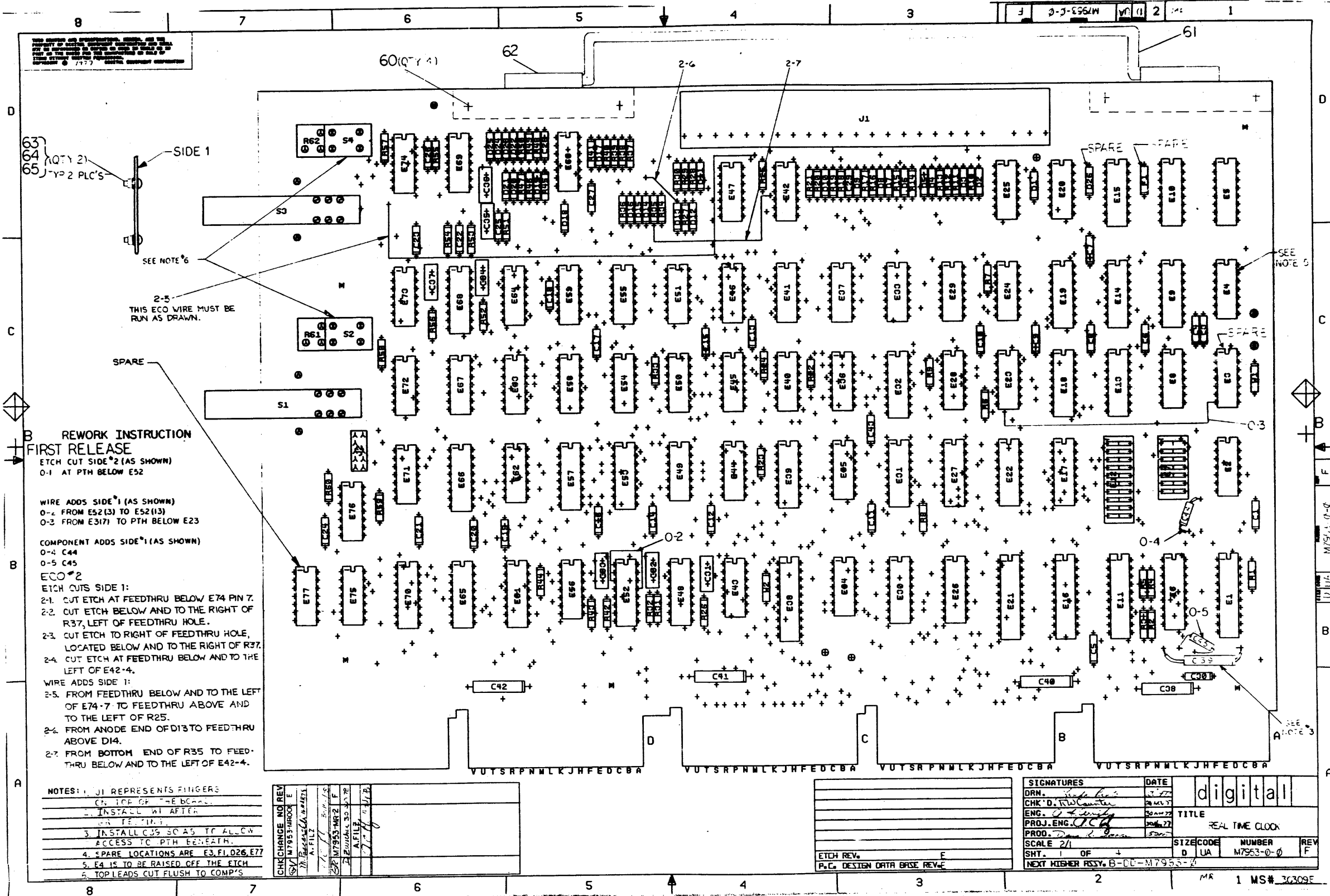
TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



TITLE	SHEET 3 OF 3	SIZE CODE	NUMBER	REV
MNCKW UNIT ASSY		B DD	MNCKW-0	A

MR

71  
65



THIS BOARD IS A PROTOTYPE. IT IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.

63 }  
64 } QTY 21  
65 } TP 2 PLC'S

SIDE 1

SEE NOTE 6

2-5  
THIS ECO WIRE MUST BE RUN AS DRAWN.

SPARE

**REWORK INSTRUCTION**  
**FIRST RELEASE**  
ETCH CUT SIDE 2 (AS SHOWN)  
0-1 AT PTH BELOW E52

**WIRE ADDS SIDE 1 (AS SHOWN)**  
0-2 FROM E52(3) TO E52(13)  
0-3 FROM E3(7) TO PTH BELOW E23

**COMPONENT ADDS SIDE 1 (AS SHOWN)**  
0-4 C44  
0-5 C45

**ECO 2**  
**ETCH CUTS SIDE 1:**  
2-1. CUT ETCH AT FEEDTHRU BELOW E74 PIN 7.  
2-2. CUT ETCH BELOW AND TO THE RIGHT OF R37, LEFT OF FEEDTHRU HOLE.  
2-3. CUT ETCH TO RIGHT OF FEEDTHRU HOLE, LOCATED BELOW AND TO THE RIGHT OF R37.  
2-4. CUT ETCH AT FEEDTHRU BELOW AND TO THE LEFT OF E42-4.

**WIRE ADDS SIDE 1:**  
2-5. FROM FEEDTHRU BELOW AND TO THE LEFT OF E74-7 TO FEEDTHRU ABOVE AND TO THE LEFT OF R25.  
2-6. FROM ANODE END OF D13 TO FEEDTHRU ABOVE D14.  
2-7. FROM BOTTOM END OF R35 TO FEEDTHRU BELOW AND TO THE LEFT OF E42-4.

- NOTES:**
1. U1 REPRESENTS FINGERS
  2. CUT ICE OF THE BOARD
  3. INSTALL W/ AFTER OR TESTING
  4. INSTALL C35 SO AS TO ALLOW ACCESS TO PTH BEneath.
  5. E4 IS TO BE RAISED OFF THE ETCH
  6. TOP LEADS CUT FLUSH TO COMP'S

CHK	CHANGE NO	REV	DATE	BY	APP
	1	1	10/27/78	AF/ILF	
	2	1	11/17/78		

ETCH REV.	F
P.C. DESIGN ORTR BRSE REV.	

SIGNATURES		DATE	digital	
DRN.		10/27/78		
CHK'D.		10/27/78		
PROJ. ENG.		10/27/78		
PROD.		10/27/78		
TITLE			REAL TIME CLOCK	
SCALE	2/1	SIZE		CODE
SHT.	1 OF 4	NUMBER		D UA
NEXT HIGHER REV. B-00-M7953-2			REV	
			F	

MA 1 MS# 10309E

8

7

6

5

4

3

DUAN7953-0-0 2 140

1

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 © 1973 DIGITAL EQUIPMENT CORPORATION

2-1

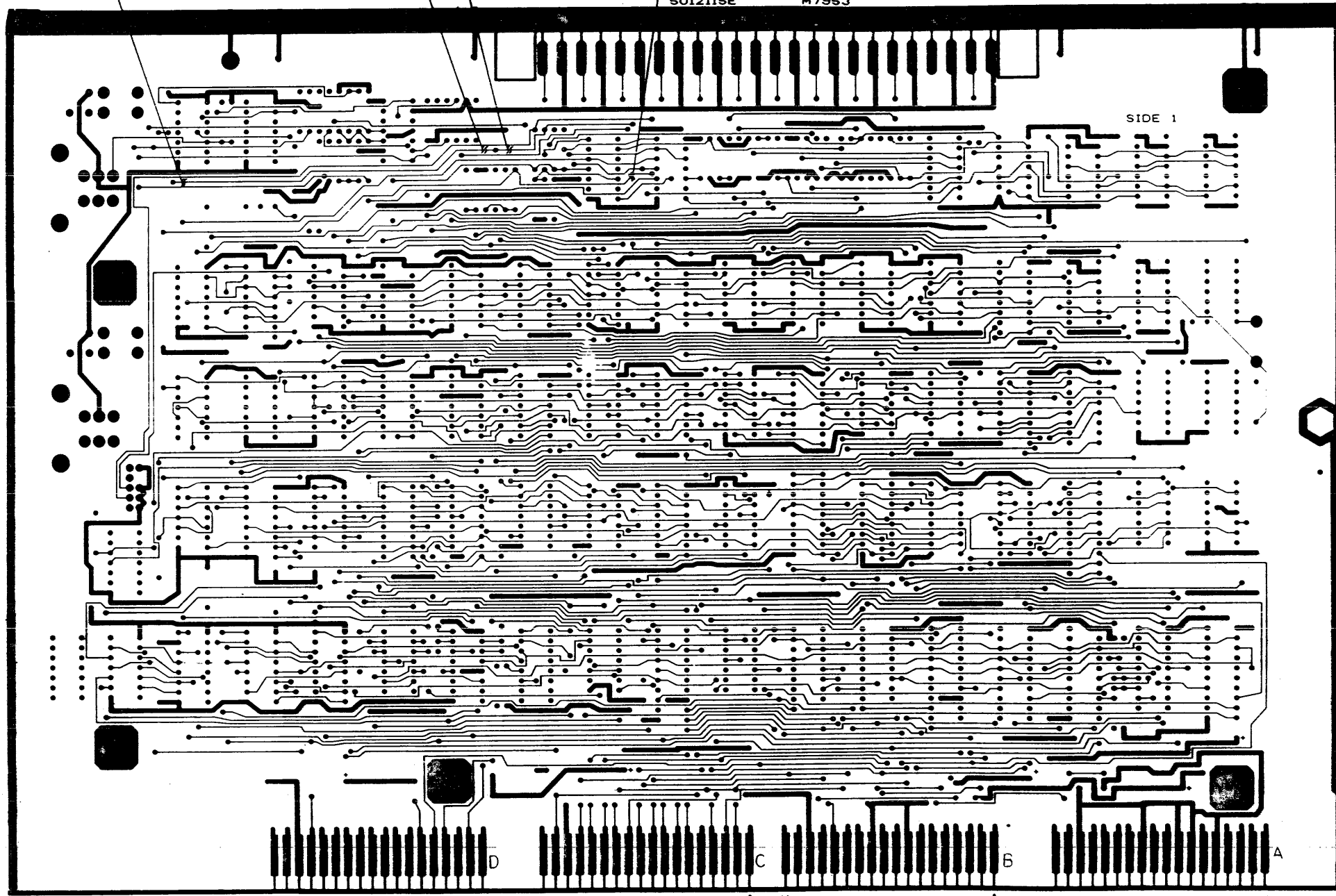
2-2

2-3

2-4

5012115E M7953

SIDE 1



V A V A V A V A

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV
REAL TIME CLOCK	DUAN7953-0-0		F
SCALE 2/1	SHEET 2 OF 4	DIST	

8

7

6

5

4

3

2

1

73

8

7

6

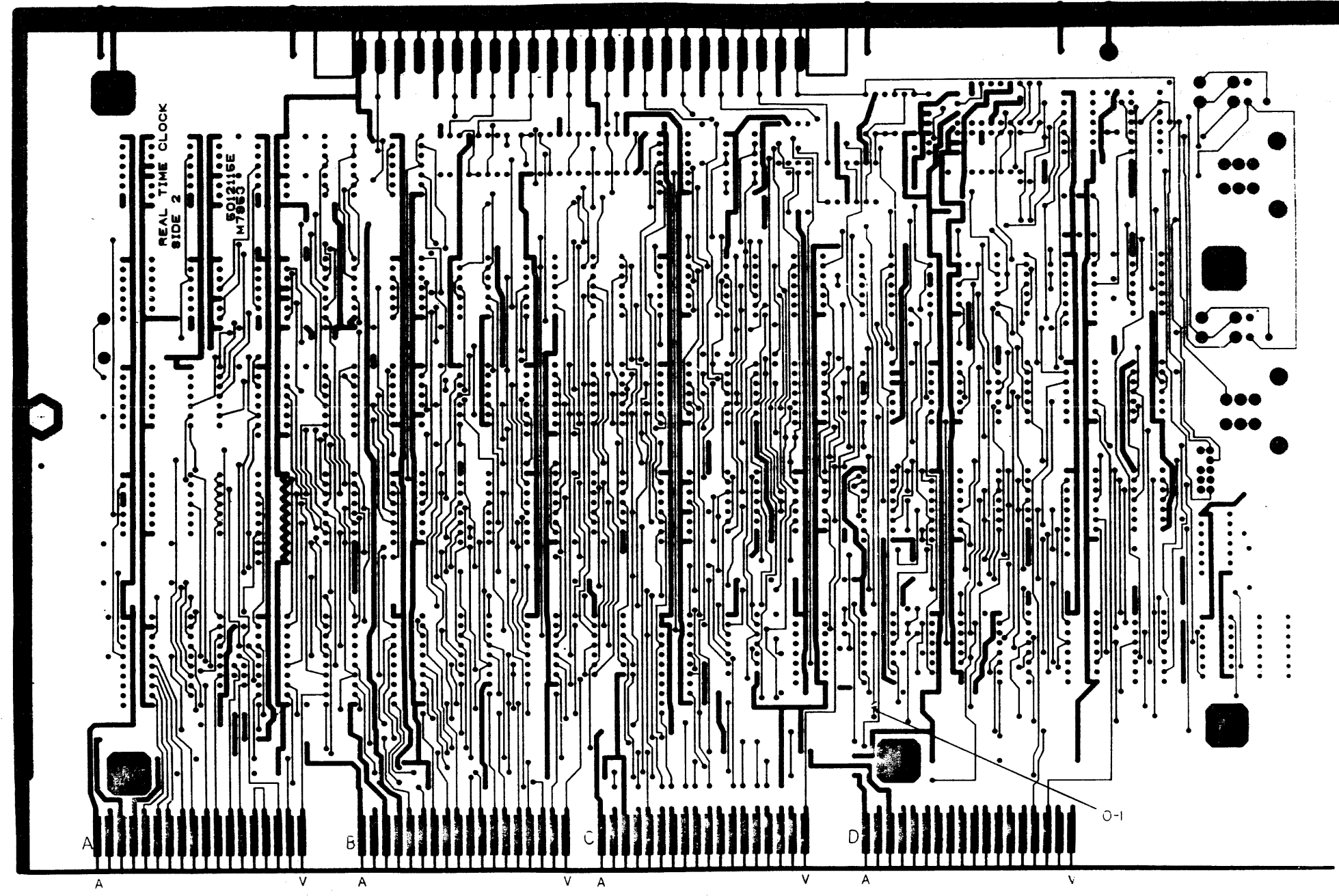
5

4

3

D1AM7553-C-0 2 MR

"THIS DRAWING AND SPECIFICATIONS HEREBY 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 OF DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE/CODE	
REAL TIME CLOCK		D1AM7553-C-0	F
SCALE 2/1	SHEET 3 OF 4	DIST	MR

8

7

6

5

4

3

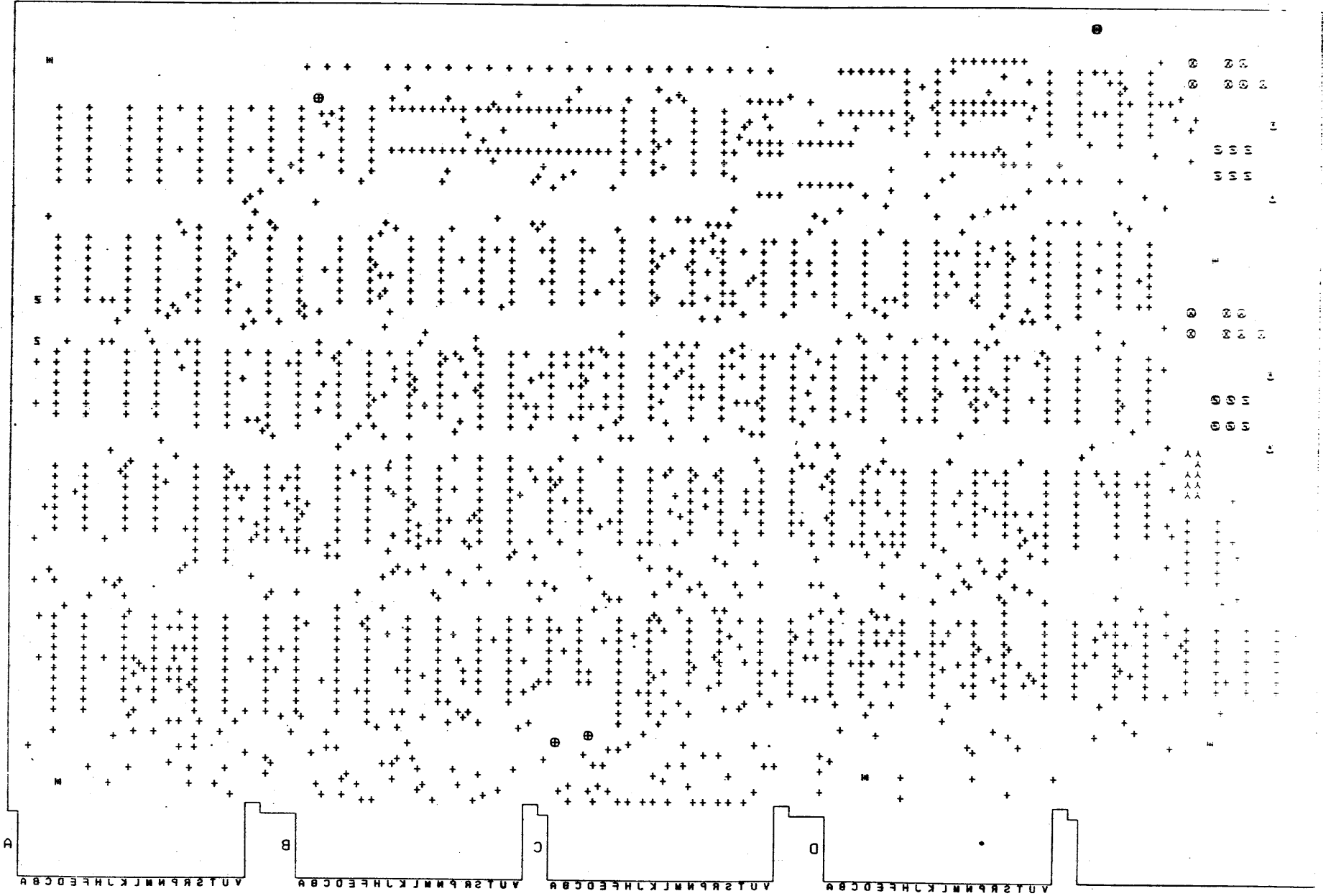
2

MR

70

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 © 1973 DIGITAL EQUIPMENT CORPORATION

DUALM7953-0-0 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: REAL TIME CLOCK  
 SCALE: 2/1  
 SHEET: 4 OF 4  
 SIZE CODE: DUALM7953-0-0  
 NUMBER: F

75

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012115-0-0	5012115-00 M7953	1	
2	2	1012784-00	.047 MFD 50V XZ CER	30	C1,C3-C30,C43
3	3	1000014-00	68.0 MMF 100V 5%200PPM DM15S	1	C31
4	4	1000021-00	220.0 MMF 100V 5%200PPM DM15S	6	C32-C37
5	5	1004812-00	15 MFD 20V 10% 150D S.TA	5	C38-C42
6	6	1000019-00	150.0 MMF 100V 5%200PPM DM15S	2	C44,C45
7	7	1105796-00	1N 4004 PIV=400 I= 1A D041 SP	16	D1-D15,D18
8	8	1100114-00	D 664 QS\75PCB PIV= 25V SP	8	D16,D17,D19-D21,D23-D25
9	9	1110232-00	MCL1304 CL03MA FROM10-80V	1	D22
10	10	1300365-00	1 K 1/4W 5% CC	23	R1,R6-R9,R18,R21-R25,R31,R33, CONT R41-R43,R49,R55-R60
11	11	1301424-00	680 1/4W 5% CC	2	R2,R4
12	12	1300295-00	330 1/4W 5% CC	2	R3,R5
13	13	1310881-02	47 1/4W 1% FUSIBLE	8	R10,R12,R13,R16,R19,R29,R30, CONT R34
14	14	1300316-00	470 1/4W 5% CC	8	R11,R14,R15,R17,R20,R27,R28, CONT R35
15	15	1301874-00	5.6 K 1/4W 5% CC	2	R26,R32
16	16	1301422-00	7.5 K 1/4W 5% CC	3	R44,R52,R54
17	17	1302388-00	2 K 1/4W 5% CC	2	R36,R46
18	18	1302466-00	100 K 1/4W 5% CC	2	R37,R47
19	19	1309595-00	1 M 1/4W 5% CC	2	R40,R48
20	20	1300426-00	2.7 K 1/4W 5% CC	2	R51,R53
21	21	1314355-00	50 K POT*	2	R61,R62
22	22	1811660-01	OSCILLATOR, CRYSTAL, 10MHZ, 14PIN DIP	1	E4
23	23	1211164-03	SW,DIP 1P 1A 7POS	1	E7
24	24	1211164-06	SW,DIP 1P 1A 10POS	1	E12
25	25	1213488-00	CONN 10POS HOUSING	1	J2
26	26	1214937-00	SW,PB 2P PUSH PUSH	2	S1,S3
27	27	1912729-00	DC 004 PROTOCOL-REG. SELECTOR	1	E1

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
CHK	ECO NO	REV			MADE BY:	DATE:	TITLE				
			00		E.WILSON	28-NOV-77	PARTS LIST				
RWC	INIT	D					REAL TIME CLOCK				
RWC	MR001	E			R.W.CAUNTER	28-NOV-77					
ER	MR002	F									
					DSN.ENG.:	A.ARRIGHI	30-NOV-77	SIZE:	CODE:	DOCUMENT NUMBER	REV
					PRDD.:	D.DUNCAN	15-DEC-77	K	PL	M7953-0-DBP	F
					RESP.ENG.:	A.FILZ	30-NOV-77	ASSY.NO.:		D-UA-M7953-0-0	EDIT#
											7

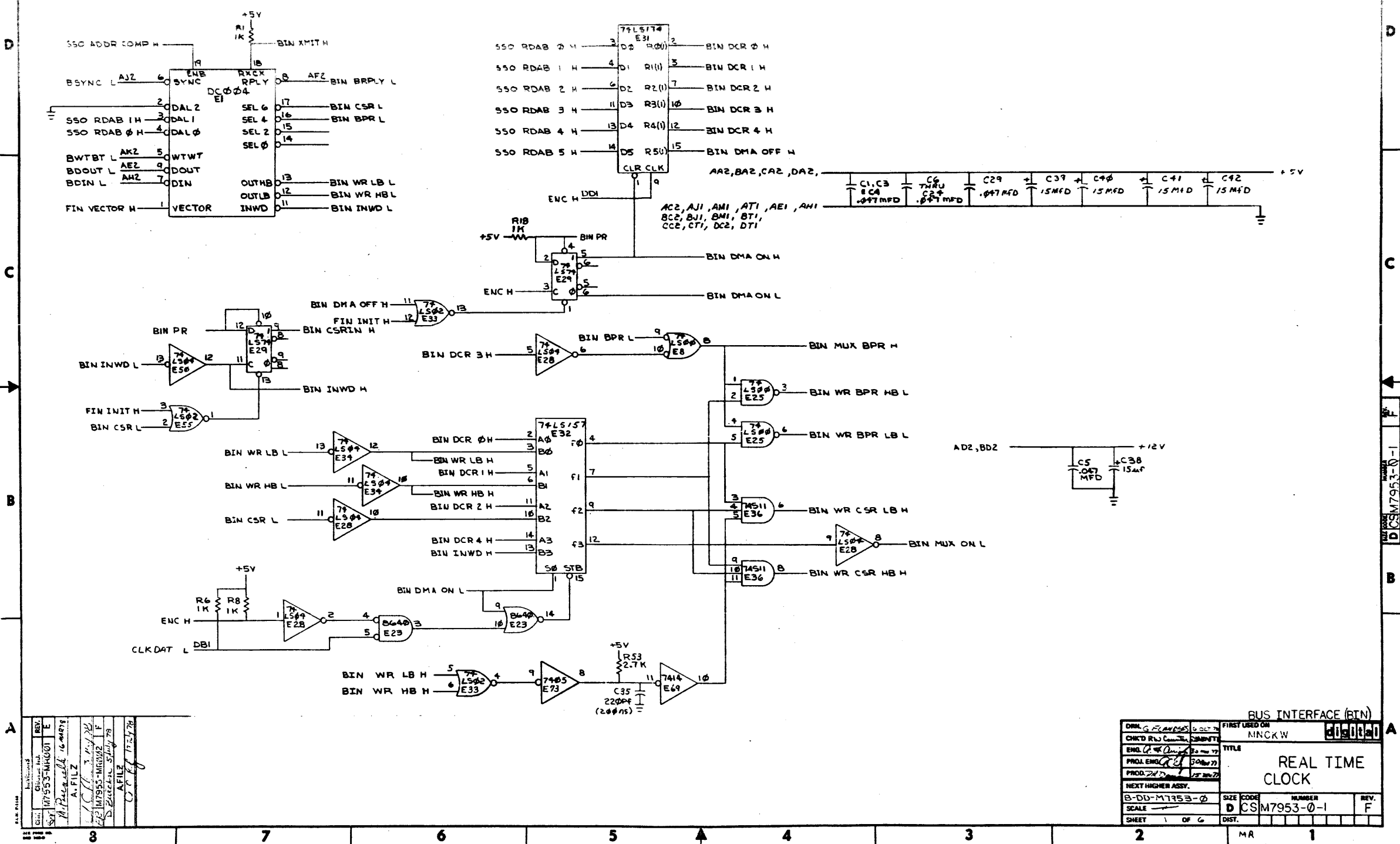
\*THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.  
COPYRIGHT 1978, DIGITAL EQUIPMENT CORPORATION \*

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
28	28		1912824-00	LS74 FF-D DUAL,EDGE TRIGGER,POS	9 CONT	E2,E29,E40,E42,E44,E49,E56, E71,E72
29	29		1914127-00	74LS190 COUNTER,SYNCHR UP/DOWN	5	E5,E9,E10,E14,E15
30	30		1912730-00	DC 003 INTERRUPT,2 CIRCUIT	1	E6
31	31		1912799-00	LS00 NAND-GATE-QUAD 2IN,POSITIVE	4	E8,E25,E37,E75
32	32		1913040-00	DC 005 TRANSCEIVER 4BIT	4	E11,E16,E21,E38
33	33		1912867-00	LS298 MUX 1 OF 4,2IN W/STORAGE	4	E13,E27,E57,E65
34	34		1912647-00	LS257 MUX 1 OF 2 (QUAD) TRI-STA	4	E17,E30,E39,E61
35	35		1912854-00	LS193 COUNTER,SYNCHR,4BIT,UP/DN,BINA	4	E18,E22,E53,E66
36	36		1912844-00	LS151 MUX 1 OF 8 & DATA SELECTOR	1	E19
37	37		1909705-00	DEC 8881-INAND GATE-QUAD 2IN,OPN COLL.	2	E20,E47
38	38		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E23
39	39		1910532-00	74S00 NAND GATE-QUAD 2IN	1	E24
40	40		1910550-00	74S174 FF-D HEX	1	E26
41	41		1912803-00	LS04 INVERTER GATE-HEX 1IN	3	E28,E34,E50
42	42		1912847-00	DEC LS157 MUX 1 OF 2 (QUAD	1	E32
43	43		1912801-00	DEC LS02 NOR GATE-QUAD 2IN	5	E33,E41,E55,E63,E64
44	44		1912807-00	LS10 NAND GATE-TRIPLE 3IN	1	E35
45	45		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	1	E36
46	46		1910155-00	DEC 7408 AND GATE,POS,QUAD 2IN	14	E43
47	47		1912805-00	LS08 AND GATE-QUAD 2IN,POSITIVE	2	E45,E62
48	48		1909686-00	7404 INVERTER GATE-HEX 1IN	2	E46,E67
49	49		1910951-00	9602 ONE SHOT-DUAL	3	E48,E52,E68
50	50		1912816-00	LS32 OR GATE-QUAD 2IN,POSITIVE	2	E51,E58
51	51		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	2	E54,E59
52	52		1912108-00	339 VOLT CMPRTR,QUAD	1	E60
53	53		1911324-00	7414 NAND GATE-HEX 1IN SCHMITT TRIG	2	E69,E76
54	54		1912846-00	LS155 DECODER,2 OF 4(DUAL) & DEMUX	1	E70
55	55		1909930-00	7405 INVERTER GATE-HEX 1IN,OPEN COL	1	E73
56	56		1912829-00	DEC LS86 X-OR GATE-QUAD 2IN	1	E74
57	57		1912697-00	LS174 FF-D HEX W/CLEAR	1	E31
58	58		9009185-00	JUMPER, WIRE, INSULATED, BLACK BAND	2	W1,W2
59	59		9006735-00	EYELET, FUNNEL FLANGE, .059 OD X .187 LG	2	
60	60		9006732-00	EYELET, ROLLED FLANGE, .121 OD X .219 LG	4	
61	61	C-MD-7420191-0-0	7420191-00	HANDLE	1	
62	62	C-MD-7420192-0-0	7420192-00	HANDLE RETAINER	2	
63	63		9006000-01	SCREW,PAN,SLOT, 2-56X 3/16 SS/PAS	4	
64	64		9006555-00	NUT,HEX , 2-56X3/16AF X 1/16 THK SS/	4	
65	65		9006686-00	WASHER, LOCK, S.S. #2	4	
66	66		1313596-00	20 K 1/4W 1% RN55D-F 100PPM	(13-00	R38,R39,R45,R50
67	67		9107256-11	TUBING,THIN WALL,.027ID UL	(91-00 A/R	

TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	REAL TIME CLOCK	K	PL	M7953-0-DBP	F

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1974, DIGITAL EQUIPMENT CORPORATION

1-0-2962/MSC02 MR 1  
 NOTES:  
 1. C2 IS AN UNUSED DESIGNATION



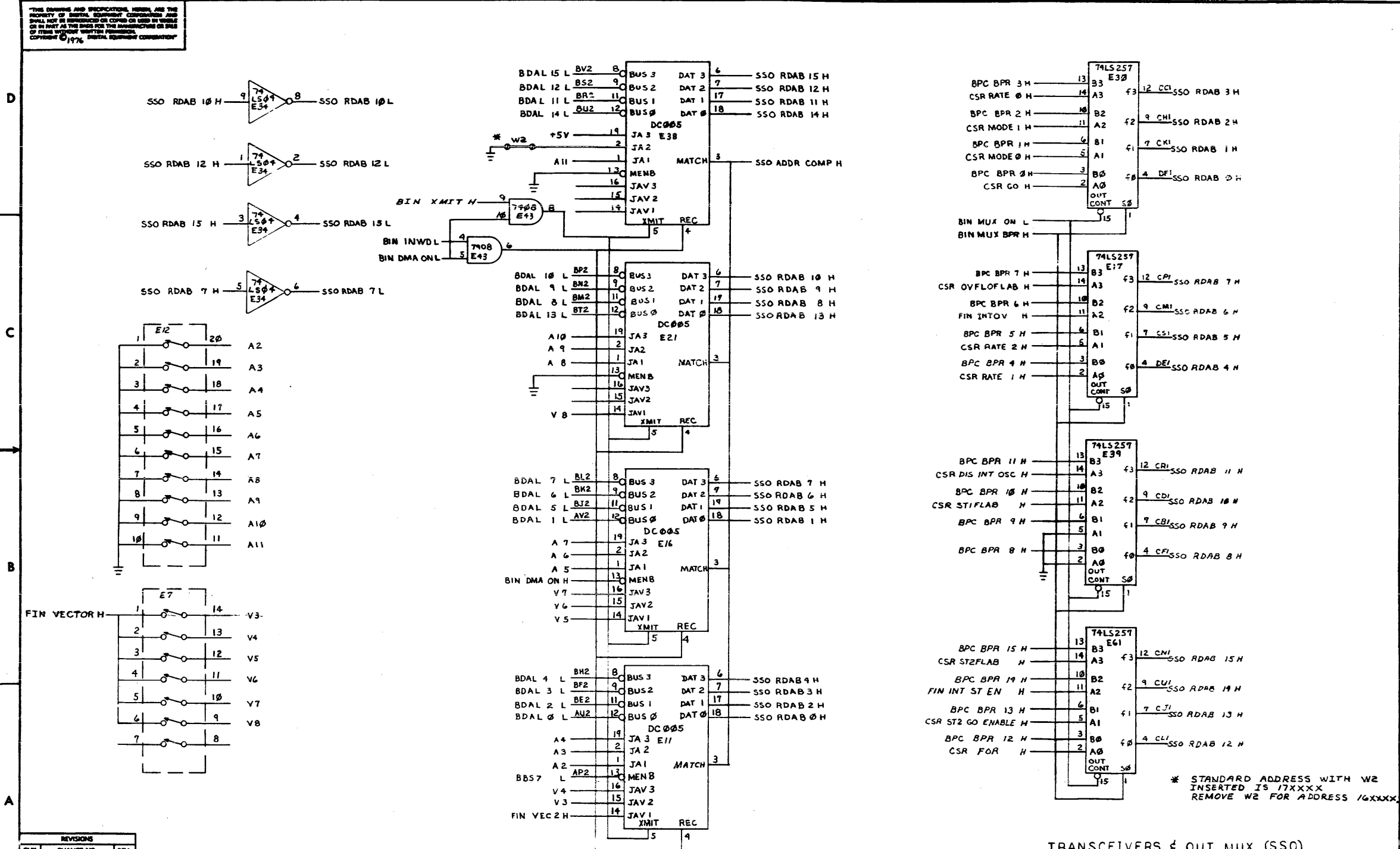
REV	E
DATE	10/10/74
BY	AFILZ
CHKD	AFILZ
APP'D	AFILZ
DESIGNED BY	AFILZ
DESIGNED DATE	5/10/74
DESIGNED BY	AFILZ
DESIGNED DATE	12/21/74

BUS INTERFACE (BIN)	
DATE	10/10/74
CHKD	AFILZ
ENG	AFILZ
PROJ	008077
PROG	1/5/74
NEXT HIGHER ASSY.	
B-DD-M7953-0	SIZE CODE
SCALE	D
SHEET 1 OF 6	DIST.
FIRST USED ON	NINCKW
TITLE	
REAL TIME CLOCK	
NUMBER	F
MR	1



THIS DRAWING AND SPECIFICATIONS HEREIN, AND THE PROPERTY OF BARRON ENGINEERING 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 BARRON ENGINEERING CORPORATION

DCS M7953-0-1 MR



\* STANDARD ADDRESS WITH W2 INSERTED IS 17XXXX REMOVE W2 FOR ADDRESS 16XXXX.

TRANSCEIVERS & OUT, MUX (SSO)

REVISIONS		
CHK	CHANGE NO.	REV.

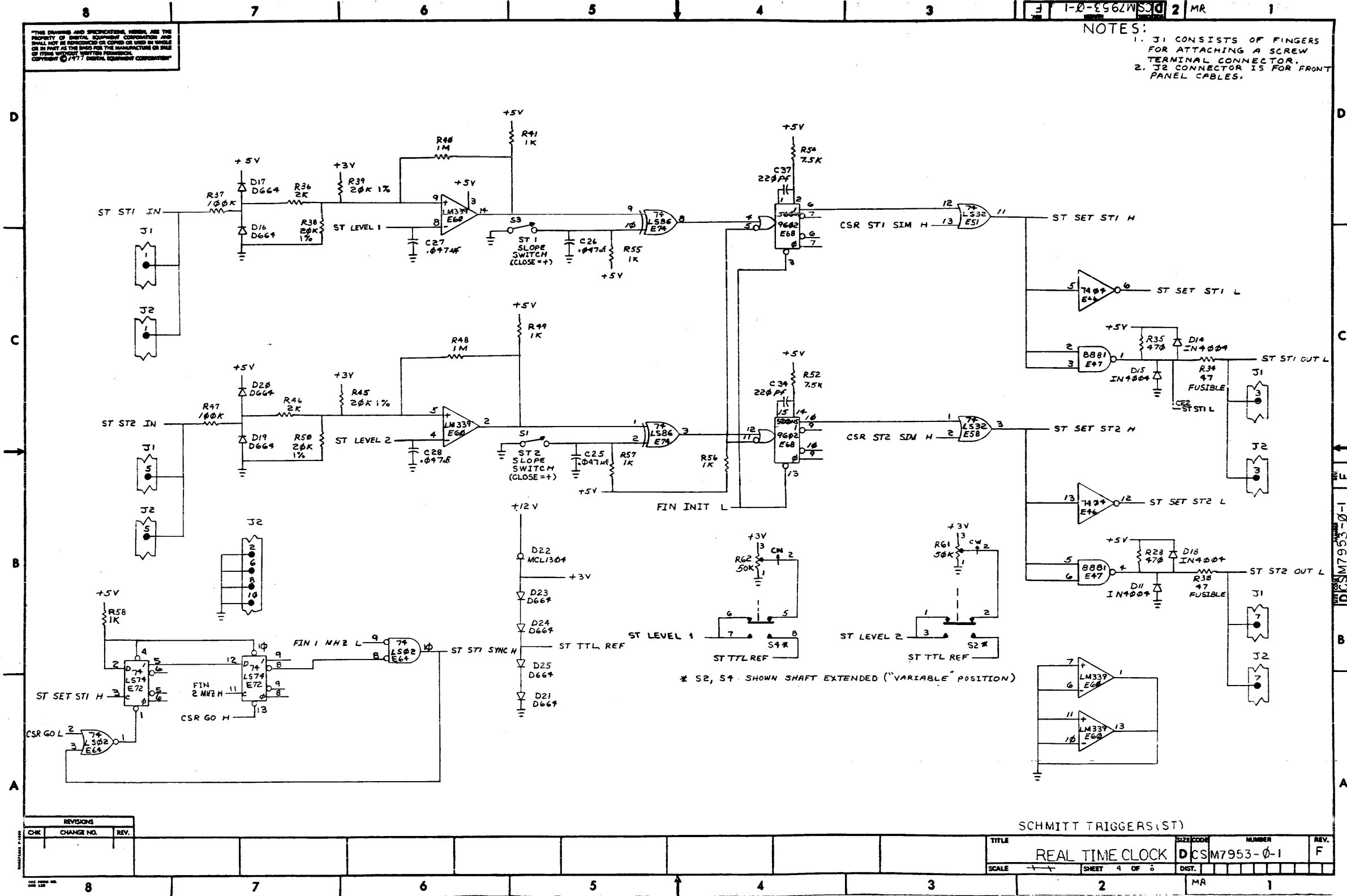
TITLE	REAL TIME	SIZE	CODE	NUMBER	REV.
	CLOCK	DCS	M7953-0-1	F	
SCALE	SHEET 2 OF 6	DIST.			



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF SPECTRA 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 © 1977 SPECTRA EQUIPMENT CORPORATION

NOTES:

- J1 CONSISTS OF FINGERS FOR ATTACHING A SCREW TERMINAL CONNECTOR.
- J2 CONNECTOR IS FOR FRONT PANEL CABLES.



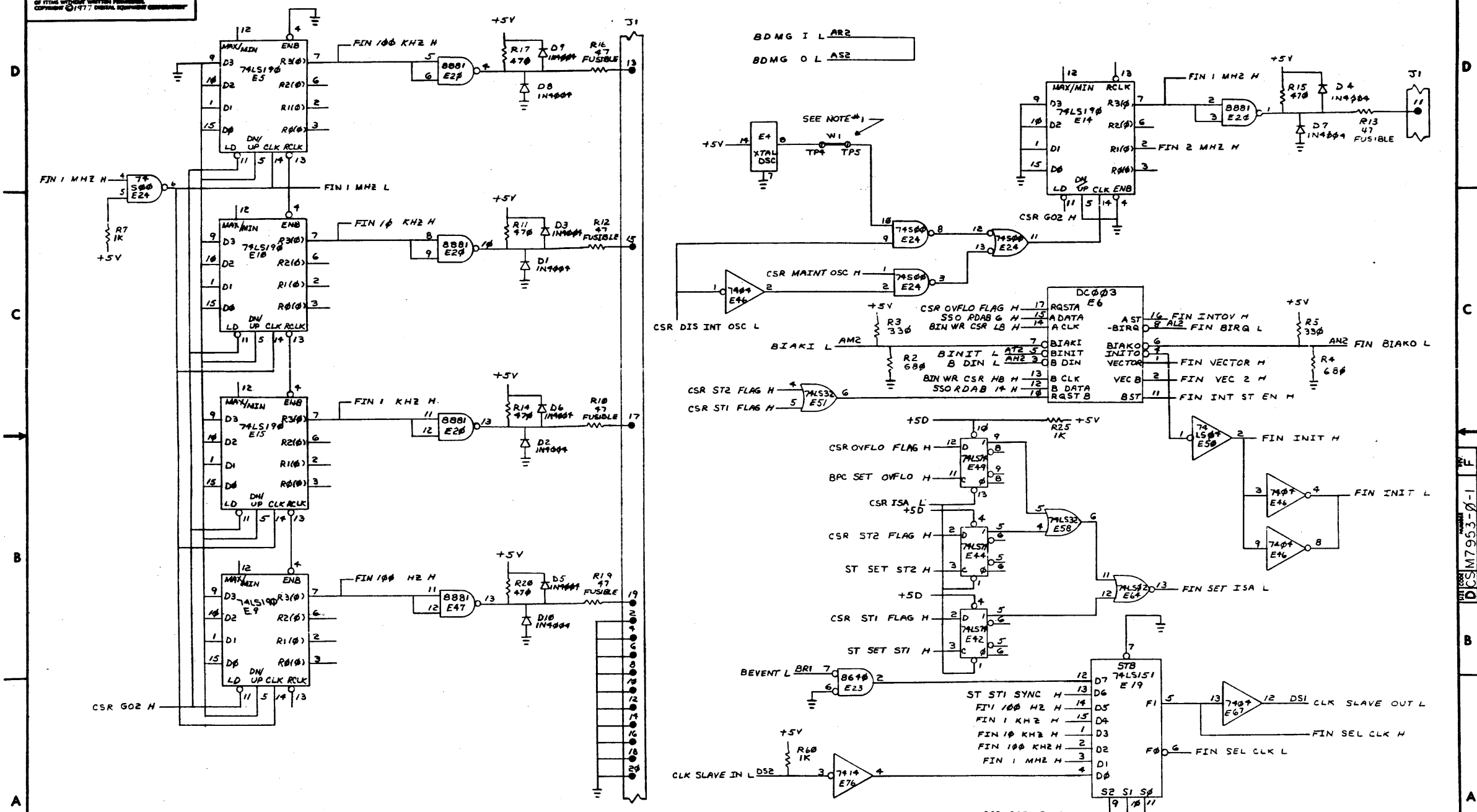
REVISIONS		
CHK	CHANGE NO.	REV.

SCHMITT TRIGGERS (ST)

TITLE	REAL TIME CLOCK	SIZE CODE	D	NUMBER	M7953-0-1	REV.	F
SCALE		SHEET	4	OF	5	DIST.	

THIS DRAWING AND SPECIFICATIONS, HEREIN AND THE PROPERTY OF BUNNELL ELECTRONIC COMPANY 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 © 1977 BUNNELL ELECTRONIC COMPANY

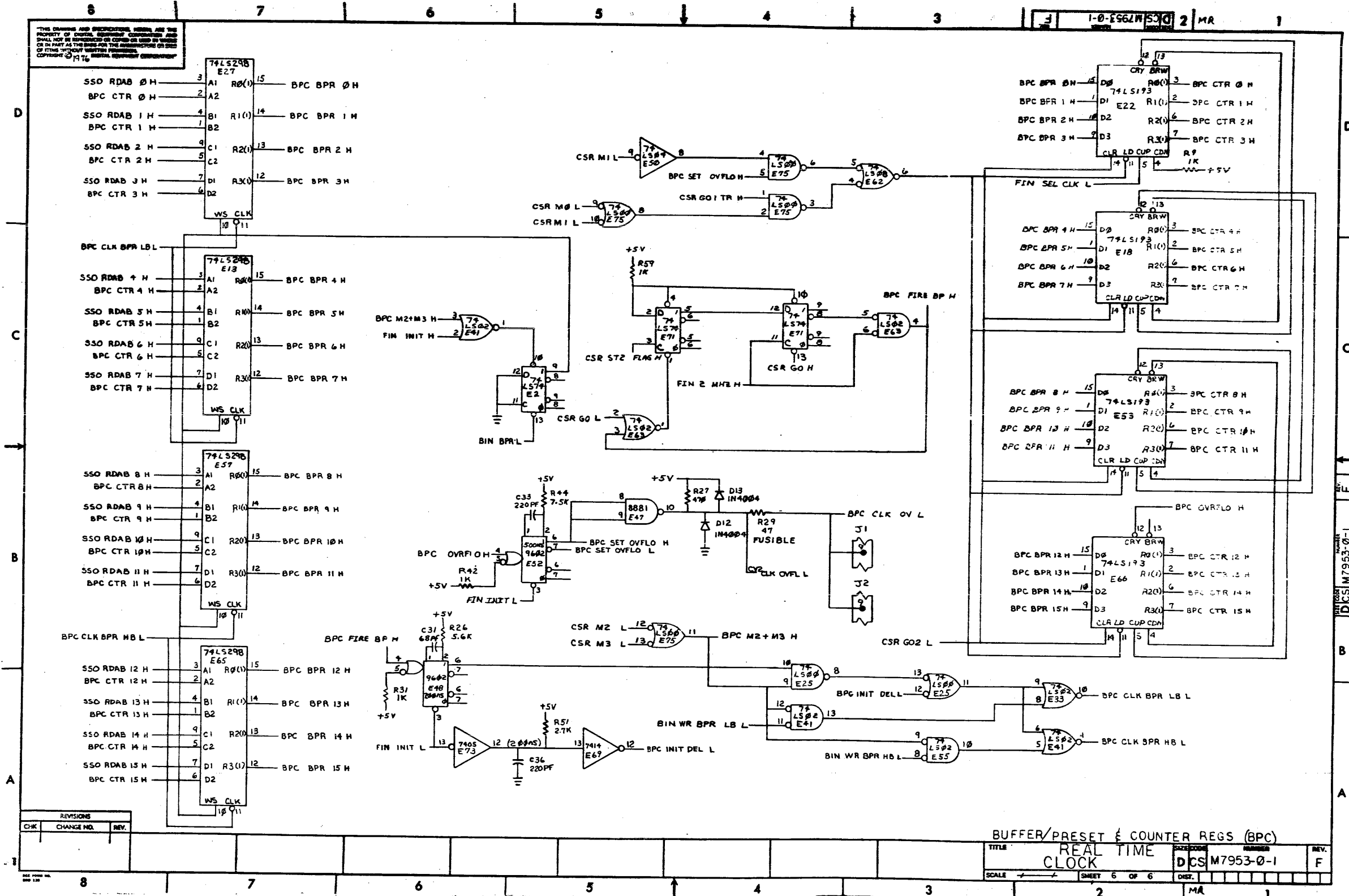
NOTES:  
1. INSTALL W1 AFTER GR. TEST.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	REAL TIME CLOCK	SIZE CODE	NUMBER	REV.
SCALE	1/1	SHEET	5 OF 6	DIST.

THIS DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF ORIGIN ENGINEER COMPANY AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE REPRODUCTION OR USE OF THIS OR ANY OTHER DRAWING WITHOUT THE WRITTEN CONSENT OF THE ORIGINAL ENGINEER COMPANY.



REVISIONS table with columns for CHK, CHANGE NO., and REV.

Metadata table including TITLE (BUFFER/PRESET & COUNTER REGS (BPC)), REAL TIME CLOCK, DCS M7953-0-1, SHEET 6 OF 6, and other project details.

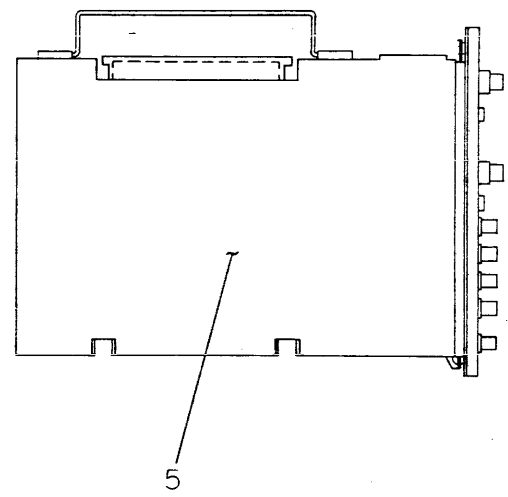
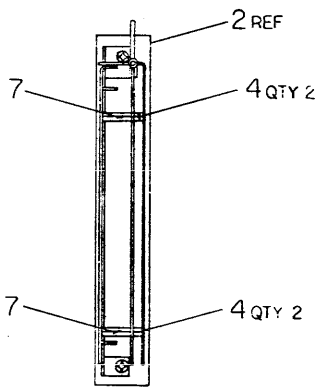
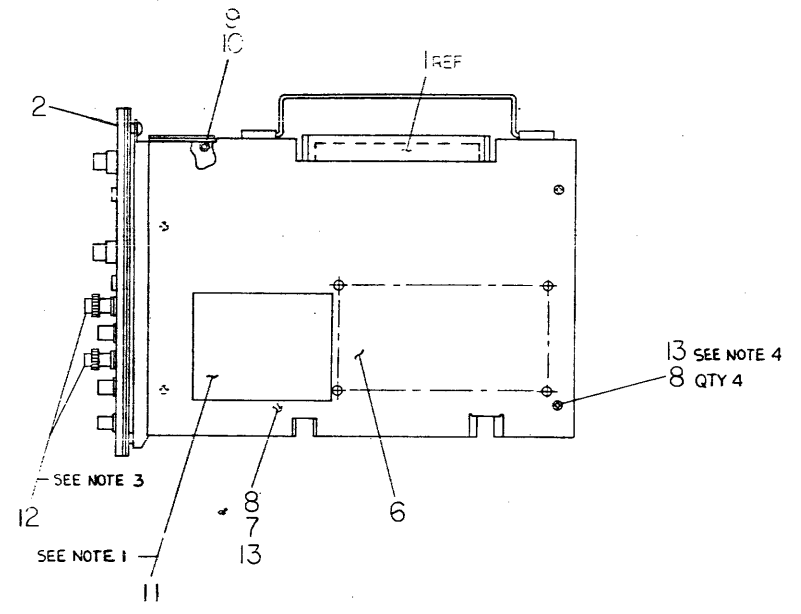
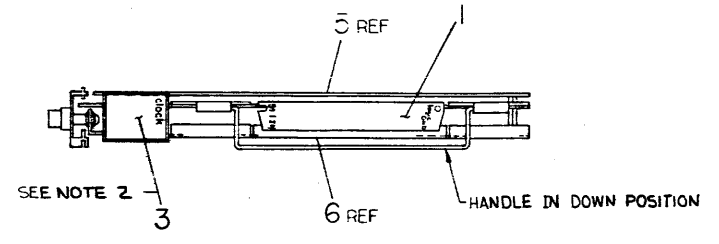
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST			QUANTITY VARIATION																			
MADE BY	M. Archie	CHECKED	<i>[Signature]</i>	SECTION																		
DATE	7 MARCH 78	DATE	19 MAY 78	ISSUED SECT.																		
ENG	<i>A.C. R.</i>	PROD	<i>B Cook</i>																			
DATE	23-MAY-78	DATE	23-MAY-78																			
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																				
1	D-UA-MNCKW- $\phi$ - $\phi$	MNCKW UNIT ASSY		1																		
2	MP88593	PRINT SET MNCKW		1																		
3	AA-D572A-TC	WORKING WITH MINC DEVICE		1																		
TITLE			ASSY NO.	SIZE	CODE	NUMBER				REV	ECO NO.											
SHIP LIST MNCKW			<i>+ / +</i>	A	PL	MNCKW- $\phi$ -SH																
SHEET 1 OF 1			DIST																			

DEC FORM  
DRA 110

84

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED BY WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION.

- NOTES:**
- ITEM #11 IS PUT ON BY ALIGNING THE RIGHT HAND EDGE OF DECAL UP AGAINST HOLES AND BOTTOM EDGE JUST ABOVE MOUNTING HOLE.
  - ITEM #3 IS PUT ON BY ALIGNING THE TOP EDGE AND RIGHT HAND EDGE EVEN WITH THE TOP EDGE AND RIGHT HAND EDGE OF ITEM #5.
  - ITEM #12 IS PUT ON BNC'S LABEL ST1 IN AND ST2 IN.
  - USING ITEM #13 ADD ONE DROP TO EACH LOCATION.



REF	CHKOUT & ACCEPT. PROCEDURE	DWG./PART NO.	ITEM NO.
AIR	LOCKTITE	9009321	13
2	BNC SHORTING	B-1A-7009993-0-0	12
1	DECAL, INFORMATION/MNCKW	A-DC-3615264-6-0	11
1	NUT, KEPS #6-32	9008185	10
1	WASHER, FLAT	9006653	9
5	SCR, FLAT HD #6-32 x .25	9006020-02	8
3	SPACER, THREADED #6-32 x .88	9006861	7
1	PLATE, COMP. SIDE	D-MD-7419869-0-0	6
1	PLATE, ETCH SIDE	D-1A-7419868-0-0	5
4	SPACER, THREADED #6-32 x .25	9006841	4
1	DECAL, I/O SCHEMATIC	A-DC-3615260-6-0	3
1	MNCKW SUB-ASSY	D-AD-7015070-0-0	2
1	CONN ASSY, I/O	D-1A-704153-4-0	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ANGLES 10° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES					
		OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 48.0	OVER 48.0 TO 80.0
	MEDIUM	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED	±.012	±.018	±.025	±.04	±.06	±.1

QUANTITY & VARIATION		DESCRIPTION	DWG./PART NO.	ITEM NO.

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH NONE

DRN: [Signature] 2/2/77

CHKD: [Signature] 2/2/77

ENG: [Signature] 2/2/77

PROL ENG: [Signature] 2/2/77

PROD: [Signature] 2/2/77

FIRST USED ON: MNCKW digital

TITLE: MNCKW UNIT ASSY

NEXT HIGHER ASSY:

SIZE CODE: D UA

NUMBER: MNCKW-0-0

REV.:

3 7 6 5 4 3 2 1

**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS

**ENGINEERING SPECIFICATION**

TITLE MNCKW Installation/Acceptance Procedure      DATE 7/19/78

REVISIONS				
REV	DESCRIPTION	CHG NO	ORIG	DATE

ENG *[Signature]* APPD *[Signature]* 24-11-78 24-11-78  
DEC 14, 1977 (1000-1973)      SIZE CODE SP A      NUMBER MNCKW-0-4      REV 3  
DRA 107A      SHEET 1 OF 3

MA

**ENGINEERING SPECIFICATION**

TITLE MNCKW Installation/Acceptance Procedure

1.0 GENERAL

1.1 SCOPE  
This document describes the procedures for the installation and field acceptance of the MNCKW (Programmable Real-Time Clock) option for the MINC-11 system. This procedure will be used for in-house FAIR, field add-on and new system installation, and periodic verification testing.

1.2 EQUIPMENT

MINC-11	System
MNCKW	Clock Option
MNCKW-TA	Test Module (Optional)
7014153-4-0	I/O Connector

1.3 DOCUMENTATION

MAINDEC-11-DVMNC-B	Diagnostic Program
A-SP-MNCKW-0-2	MNCKW Engineering Specification
MP00593	Print Set
AA-D572A-TC	"Working With MINC Devices"

2.0 INSTALLATION

2.1 INITIAL SET-UP  
The address and vector switches on the MNCKW board must be set properly as indicated in the manual "Working With MINC Devices"

2.2 LOCATION  
The MNCKW may be inserted into any of the 8 possible MINC slots. However, if the MINC-11 system includes an MNCAD A/D converter, then the MNCKW should be installed to the right of the MNCAD. It may be installed to the immediate right or with one or more digital options (MNCAD, MNCDO, MNCDDI) between the MNCKW and MNCAD.

2.3 TEST MODULE  
If the MNCKW-TA test module is available it should be plugged into the I/O connector fingers on the top of the MNCKW. If no test module is available plug the standard I/O connector into the fingers.

2.4 POWER UP  
All other options to be tested and any of their test modules should be mounted in the system. Power may then be applied.

DEC FORM NO EN-01027-16(NJ70) (181)  
DRA 108      SIZE CODE SP A      NUMBER MNCKW-0-4      REV 3  
SHEET 2 OF 3

MA

**ENGINEERING SPECIFICATION**

TITLE MNCKW Installation/Acceptance Procedure

1.0 ACCEPTANCE  
Refer to the diagnostic documentation for instructions on loading the diagnostic. Start at location 200. Location 204 is used for restarting after a program halt.  
Follow the type out concerning front panel switch settings. The diagnostic will type out the current (old) software switch register and wait for the operator to type in a new value. Switch register functions are described in the documentation. Simply type a carriage return to leave the switch register unchanged.  
The diagnostic will then type a menu of tests. Select the logic test with or without the test module (dwarf). When the test module is available, more complete testing of the MNCKW I/O signals can be done. The program will type instructions when required concerning switch settings on the MNCKW front panel and the test module.  
At the start of the logic test, the program will type out the number of clock modules detected on the MINC system. All clocks will be tested unless this feature is inhibited (see the diagnostic documentation).  
No errors are allowable for MNCKW acceptance.

DEC FORM NO EN-01027-16(NJ70) (181)  
DRA 108      SIZE CODE SP A      NUMBER MNCKW-0-4      REV 3  
SHEET 3 OF 3

MA





*MR*

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# DRAWING DIRECTORY

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

## UNIT VARIATIONS

VAR	TITLE
MNCDO	MNCDO UNIT ASSY

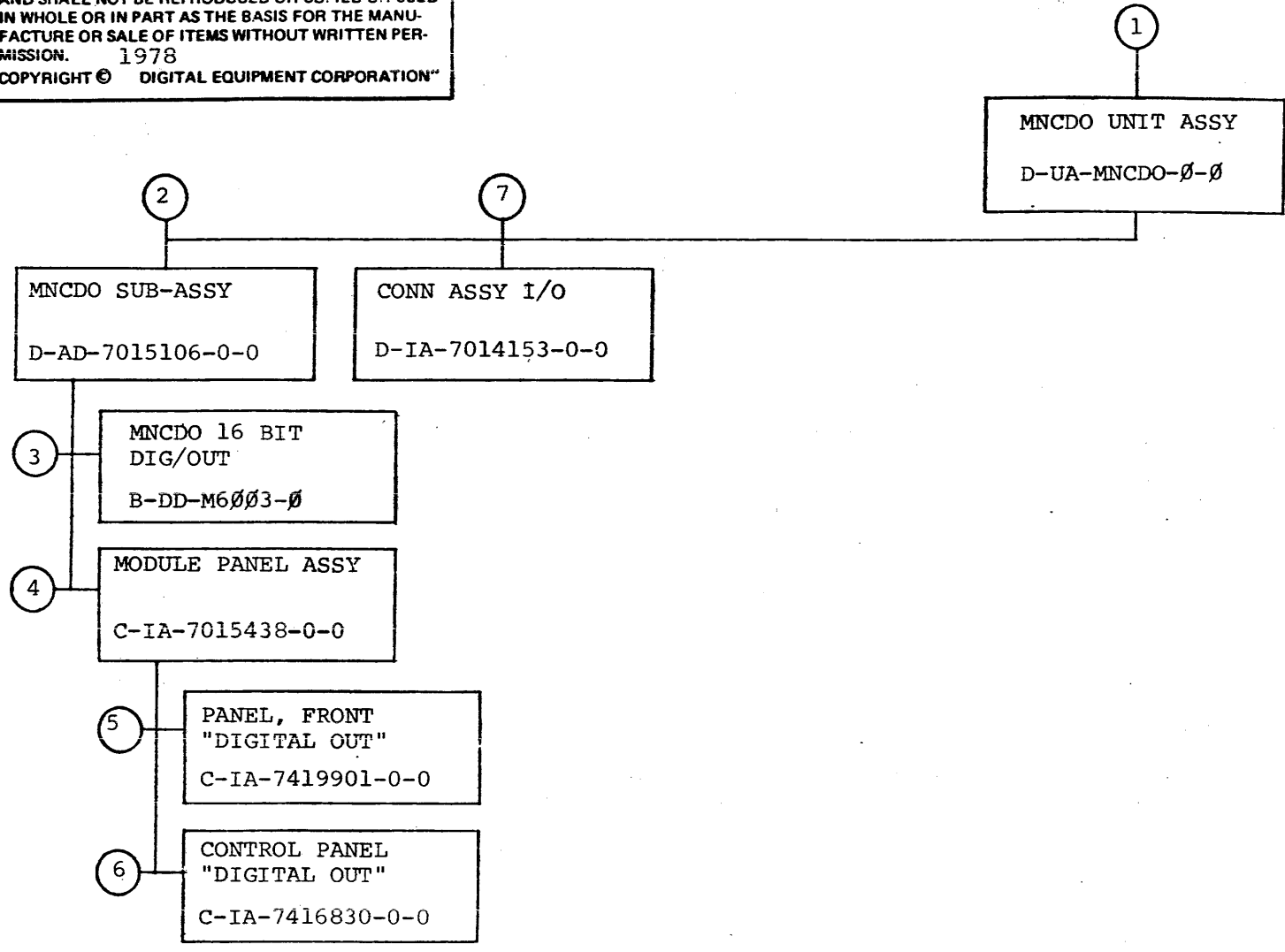
REVISIONS	REV.	A
	CHANGE NO.	MNCDO - 1
CHK	<i>SL</i>	

USED ON OPTION/MODEL	DRN.	DATE	TITLE			<b>digital</b>												
	MNCDO	<i>M. Archer</i>	<i>29 Dec 77</i>	MNCDO UNIT ASSY														
	CHK'D.	DATE																
	<i>F. Halliday</i>	<i>13 Feb 78</i>	<table border="1"> <tr> <td>SIZE</td> <td>CODE</td> <td>NUMBER</td> <td>REV</td> </tr> <tr> <td>B</td> <td>DD</td> <td>MNCDO-Ø</td> <td>A</td> </tr> </table>		SIZE	CODE	NUMBER	REV	B	DD	MNCDO-Ø	A						
SIZE	CODE	NUMBER			REV													
B	DD	MNCDO-Ø	A															
	PROJ. ENG.	DATE																
	<i>A.C. Ky</i>	<i>3/21/78</i>	DIST.															
	PROD.	DATE	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>															
	<i>[Signature]</i>	<i>3/21/78</i>																
SHEET 1 OF 3																		

*MR*

MR

"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. 1978  
COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"




TITLE	MNCDO UNIT ASSY	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
			B DD	MNCDO-0	A

MR

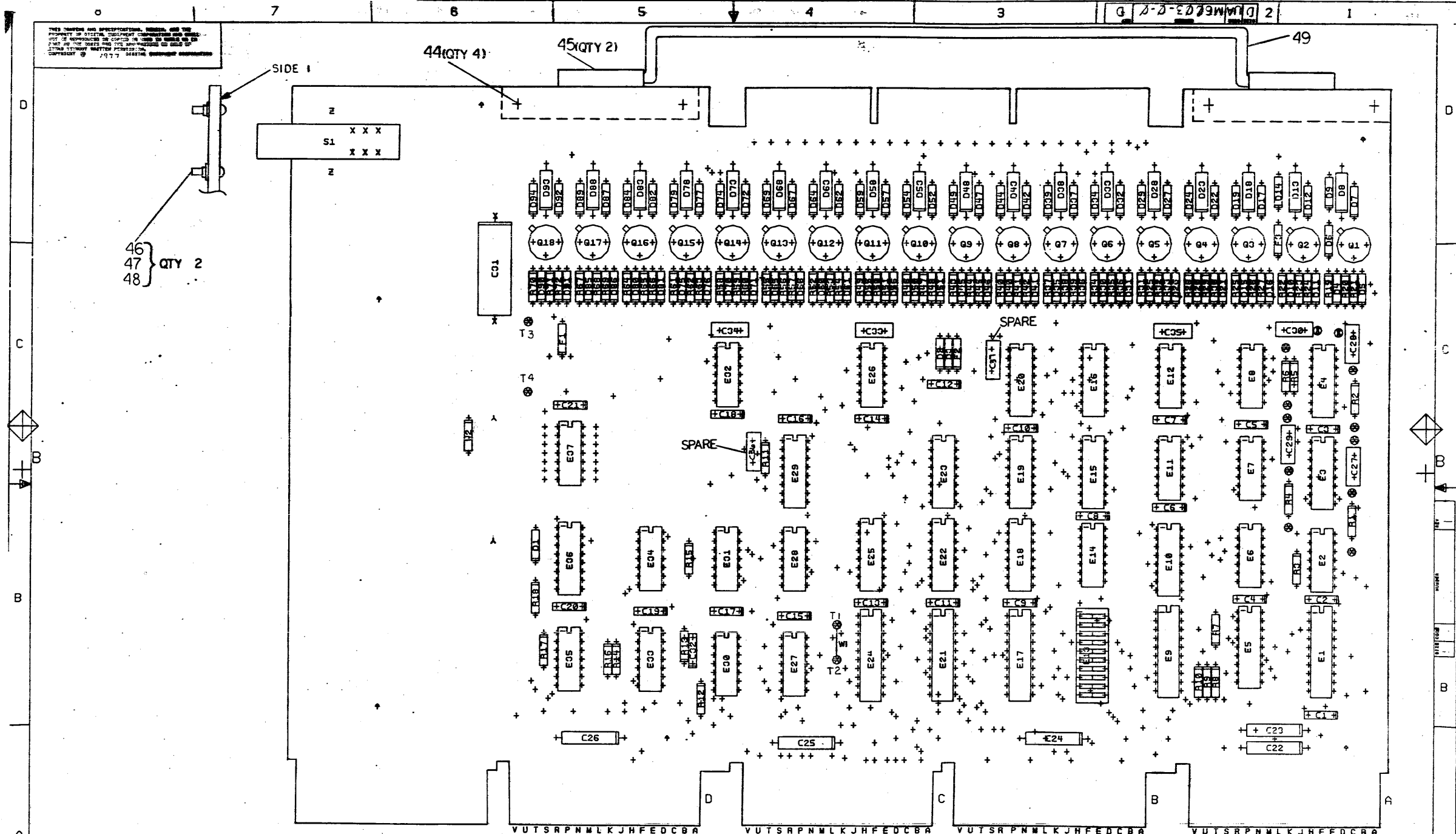
89

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00594	FIELD MAINTENANCE PRINT SET	-	5	C-IA-7419901-0-0	PANEL, FRONT "DIGITAL OUT"	M
	B-TC-MNCDO-0-1	FIELD MAINTENANCE PRINT SET	-		C-PS-4830032-0-0	EXTRUSION, FRONT PANEL "D"	M
	D-UA-MNCDO-0-0	MNCDO UNIT ASSY	E/M				
	C-MD-7419869-0-0	PLATE, COMP SIDE	M				
	C-MD-7419868-0-0	PLATE, ETCH SIDE	M				
	A-DC-3615260-0-0	DECAL, I/O SCHEMATIC	E/M				
	A-DC-3615264-0-0	DECAL, INFORMATION (MNCDO)	E/M				
	A-PL-MNCDO-0-5	PARTS LIST MNCDO	E/M				
	A-PL-MNCDO-0-SH	SHIP LIST MNCDO	E/M				
	A-SP-MNCDO-0-2	MNCDO ENGINEERING SPEC.	E/M				
	A-SP-MNCDO-0-3	CHECKOUT & ACCEPTANCE PROCEDURE	E/M	6	C-IA-7416830-0-0	CONTROL PANEL "DIGITAL OUT"	M
	A-SP-MNCDO-0-4	INSTALLATION & ACCEPTANCE PROCEDURE	E/M		C-SS-7416830-01	CONTROL PANEL	M
					C-SS-7416830-02	CONTROL PANEL	M
					C-SS-7416830-03	CONTROL PANEL	M
					C-SS-7416819-02	CONTROL PANEL	M
2	D-AD-7015106-0-0	MNCDO SUB-ASSY	M				
	B-MD-7420242-0-0	SPACER, MODULE	M				
	C-IA-7419863-0-0	SUB PANEL	M				
	B-IA-7420635-0-0	BUTTON SWITCH (MODIFIED)	M				
				7	D-IA-7014153-0-0	CONN ASSY I/O	E/M
					A-DC-7416837-0-0	DECAL I/O CONN	E/M
					A-DC-7418934-5-0	DECAL I.D. I/O CONN	E/M
3	B-DD-M6003-0	MNCDO 16 BIT DIG/OUT	E/M				
	A-PL-M6003-0-0	DIGITAL OUTPUT	E/M				
	D-UA-M6003-0-0	DIGITAL OUTPUT	E/M				
	D-CS-M6003-0-1	DIGITAL OUTPUT	E/M				
4	C-IA-7015438-0-0	MODULE PANEL ASSY	M				

TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL		TITLE MNCDO UNIT ASSY	SHEET 3 OF 3	SIZE CODE <b>B DD</b>	NUMBER MNCDO-0	REV <b>A</b>
--	---	--------------------------	--------------	--------------------------	-------------------	-----------------

G 2-2-2039W 2

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART FOR THE TRADE AND THE APPLICABLE TO ONLY THE SYSTEM SHOWN HEREIN UNLESS OTHERWISE SPECIFIED.  
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



NOTES:

---



---



---



---

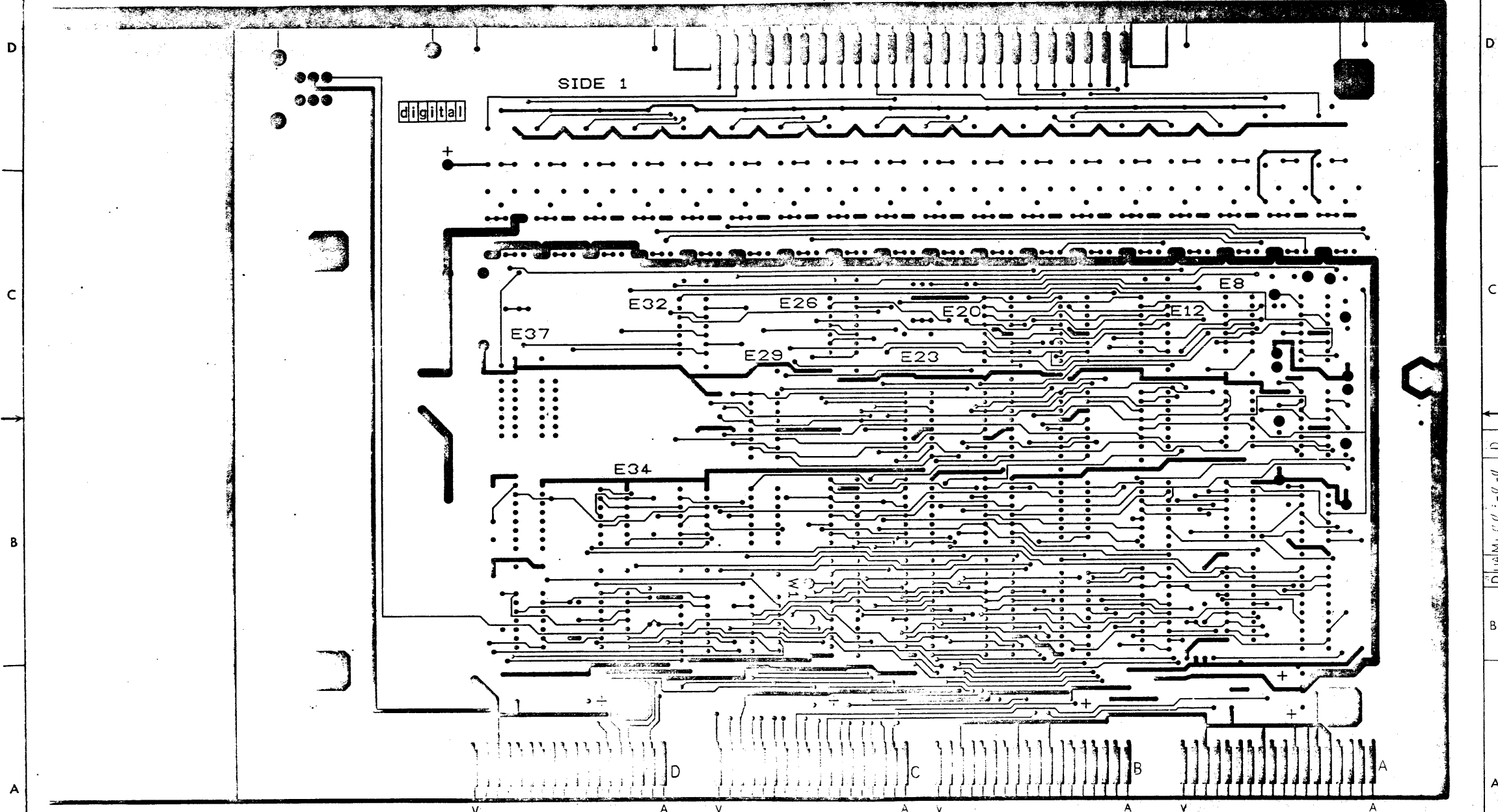
CHK	CHANGE NO	REV

SIGNATURES		DATE	digital
DRAWN			
CHK'D			
ENG.			
PROJ. ENG.			
PROD.			
SCALE	2/1		
SHT.	1 OF 4		
NEXT HIGHER ASSY: B-00-M6003-3			
SIZE	CODE	NUMBER	REV
D	U	M6003-C-0	D
FICH			REV E

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 IN THE FIELD FOR THE MANUFACTURE OR SALE OF ANY INSTRUMENT WITHOUT PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

MS003 5012114 E

DUALMECC03-C-C 2



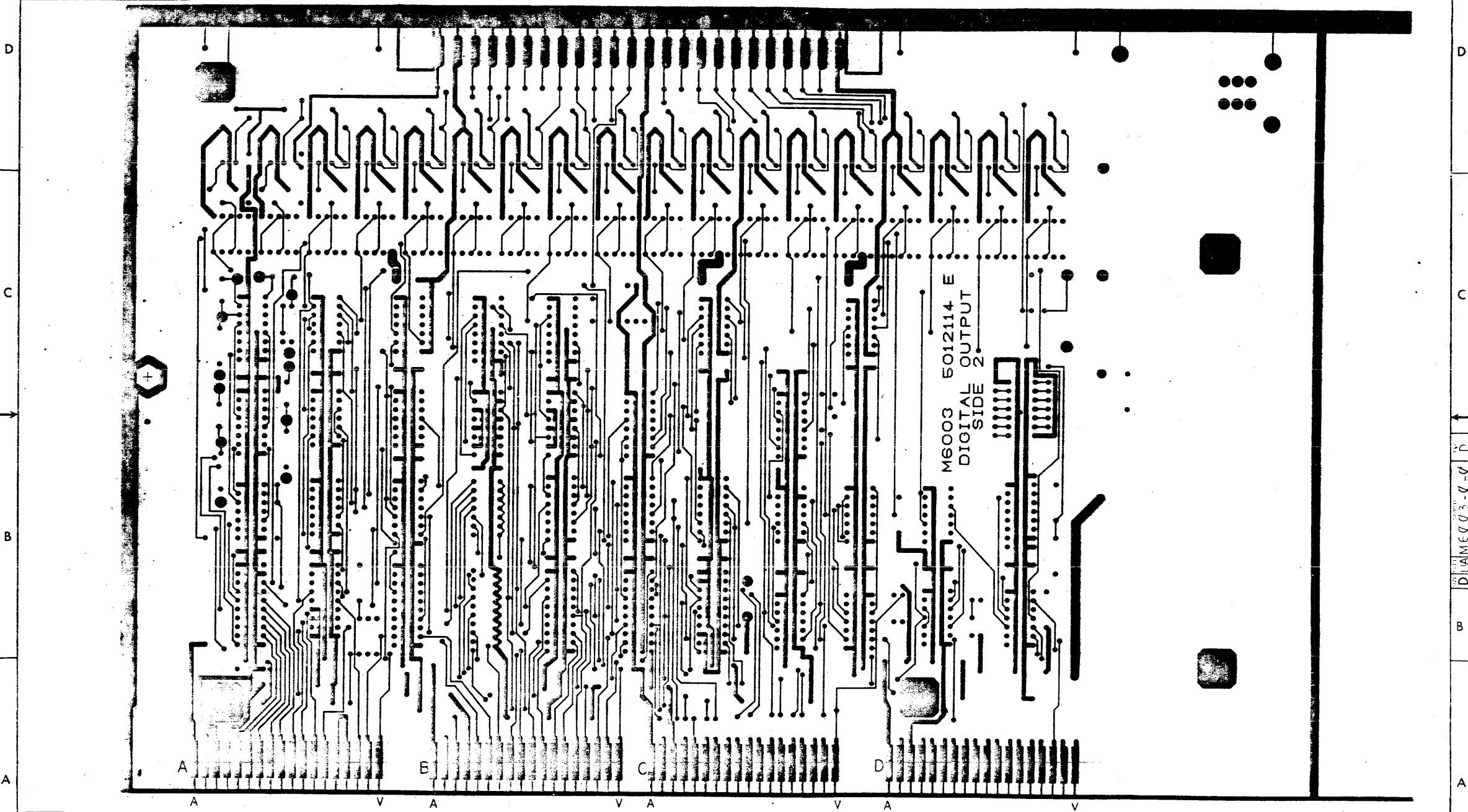
REV.	CHG. BY	NO.

TITLE	SIZE/CODE	NUMBER	REV.
DIGITAL OUTPUT	DUALMECC03-C-C		D
SCALE 2/1	SHEET 2 OF 4	DIST	

8 7 6 5 4 3 2 1

THIS DRAWING AND SPECIFICATIONS HEREBY 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 © 1977 DIGITAL EQUIPMENT CORPORATION

DUA ME 003-0-0 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE/CODE	NUMBER	REV.
DIGITAL OUTPUT	DUA ME 003-0-0	2	D
SCALE 2/1	SHEET 3 OF 4	DIST.	

3 7 6 5 4 3 2 1

93

8

7

6

5

4

3

1

DUAIME003-0-0 2

THIS DRAWING AND SPECIFICATION SHEET ARE THE PROPERTY OF THE COMPANY. IT IS TO BE USED ONLY FOR THE PROJECT AND FOR THE PURPOSES SPECIFIED THEREIN. IT IS TO BE RETURNED TO THE COMPANY UPON COMPLETION OF THE PROJECT. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

D

C

B

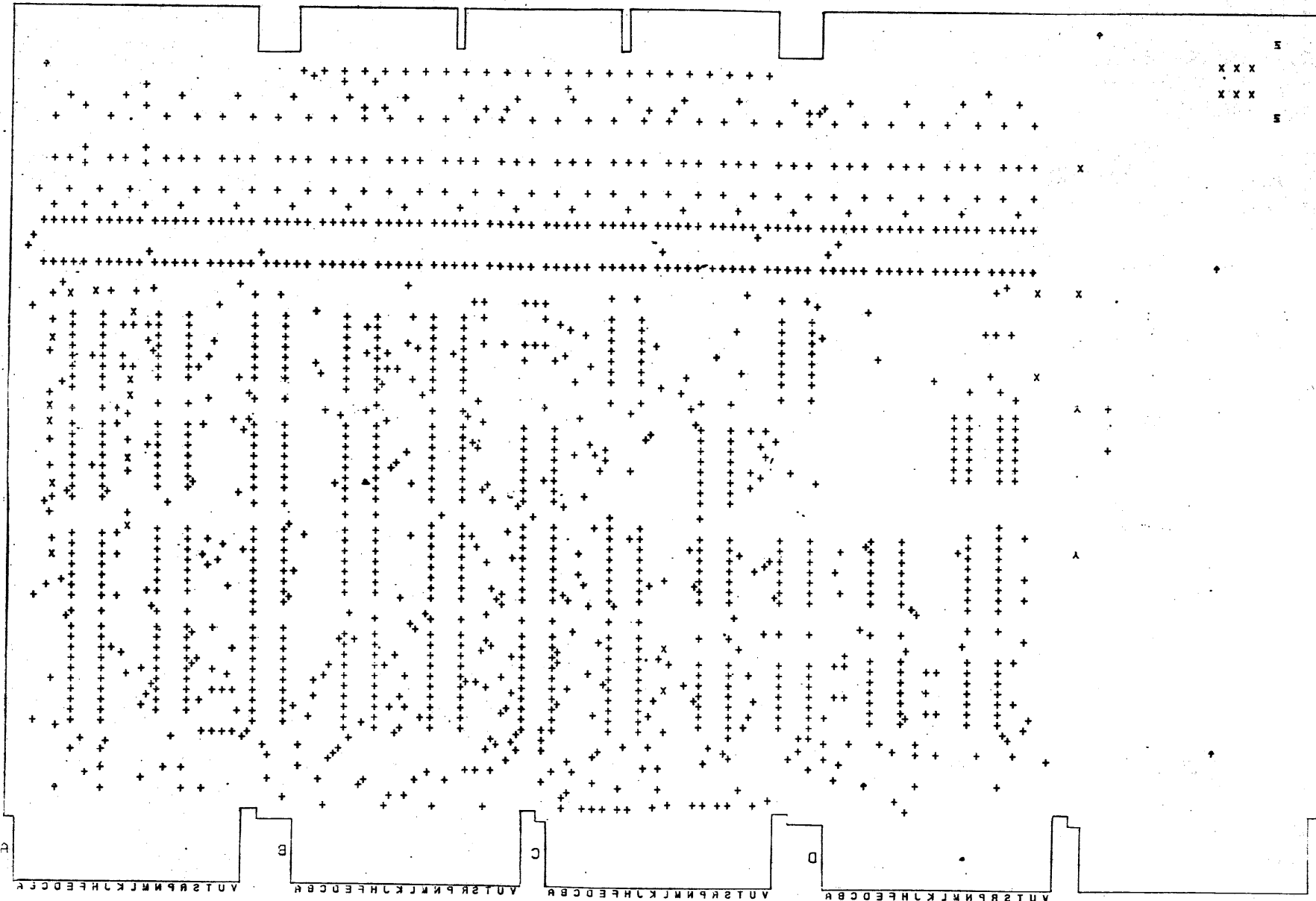
A

D

C

B

A



DUAIME003-0-0

1/8" = 1" (1:8)

TITLE	SIZE/CODE	NUMBER	REV.
DIGITAL OUTPUT	DUAIME003-0-0	D	
SCALE	SHEET	OF	
C/1	4	4	
DIST.			

3

7

6

5

4

3

2

1

9



DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:											
MADE BY <i>P. Wilson</i> DATE <i>8 AUG 77</i>		CHECKED <i>R. Taunter</i> DATE <i>18 Aug 77</i>		SECTION 1												1. SPARE LOCATIONS ARE: C36,C37 E37									
ENG <i>A. S. Ayngh</i> DATE <i>24 OCT 77</i>		PROD <i>Don R. Dorman</i> DATE <i>25 OCT 77</i>		ISSUED SECTION 1												REF DESIGNATION									
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QTY	VAR 1	VAR 2	VAR 3	VAR 4	VAR 5	VAR 6	VAR 7	VAR 8	VAR 9	VAR 10	VAR 11	VAR 12	VAR 13	VAR 14	VAR 15	VAR 16	VAR 17	VAR 18	VAR 19	VAR 20	REF DESIGNATION
1	D-MD-5012114-0-0	5012114	ETCHED CIRCUIT BOARD	1																					
2		1012784	CAP. .047 MFD, 50V	22																					C1 THRU C21,C32
3		1004812	CAP. 15 MFD, 20V	5																					C22 THRU C26
4		1000021	CAP. 220 PF, 100V, 5%	2																					C27,C28
5		1000012	CAP. 56 PF, 100V, 5%	2																					C29,C30
6		1002839	CAP. 20 UF, 50V	1																					C31
7		1010274-01	CAP. .22 UF, 50V	3																					C33,C34,C35
8																									
9		1109943	DIODE 1N4733A	1																					D1
10		1105796	DIODE 1N4004	75																					D2 THRU D7, D9 THRU D12, D14 THRU D17, D19 THRU D22, D24 THRU D27, D29 THRU D32, D34 THRU D37, D39 THRU D42, D44 THRU D47, D49 THRU D52, D54 THRU D57, D59 THRU D62, D64 THRU D67, D69 THRU D72, D74 THRU D77, D79 THRU D82, D84 THRU D87, D89 THRU D92, D94
11		1110232	DIODE MCL1304	18																					D8, D13, D18, D23, D28, D33, D38, D43, D48, D53, D58, D63, D68, D73, D78, D83, D88, D93
12		1210929-04	FUSE 250 MA	1																					F3
13		1211164-03	SWITCH PACK 7POS	1																					E14
14		1211164-06	SWITCH PACK 10POS	1																					E13
15		1301874	RES. 5.6K, 5%, 1/4W	4																					R1, R2, R4, R6
16		1300365	RES. 1K, 5%, 1/4W	27																					R3, R5, R11 THRU R17, R19, R22, R25, R28, R31, R34, R37, R40, R43, R46, R49, R52, R55, R58, R61, R64, R67, R70
E.C.O. NO.																									
*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 © 1977 DIGITAL EQUIPMENT CORPORATION*				TITLE DIGITAL OUTPUT				ASSY NO. D-UA-M6003-0-0				SIZE B		CODE PL		NUMBER M6003-0-0				REV. D					
								SHEET 1 OF 3				INSERTION PARTS LIST DATA BASE REV													

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:				
MADE BY <i>E. Wilson</i> DATE <i>18 AUG 77</i>		CHECKED <i>RW Counter</i> DATE <i>18 Aug 77</i>																
ENG <i>A. A. Arny</i> DATE <i>24 OCT 77</i>		PROD <i>Dana R. Deman</i> DATE <i>25 OCT 77</i>																
		SECTION 1																
		ISSUED SECTION 1																
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION															REF DESIGNATION
17		1301424	RES. 680, 5%, 1/4W	2														R7, R10
18		1300295	RES. 330, 5%, 1/4W	20														R8, R9, R21, R24, R27, R30, R33, R36, R39, R42, R45, R48, R51, R54, R57, R60, R63, R66, R69, R72
19		1300439	RES. 3.3K, 5%, 1/4W	1														R18
20		1310881-01	RES. 330, 1%, 1/4W, FUSIBLE	18														R20, R23, R26, R29, R32, R35, R38, R41, R44, R47, R50, R53, R56, R59, R62, R65, R68, R71
21																		
22		1509632	TRANS. DEC 2007	18														Q1 THRU Q18
23		1912729	I.C. DEC DC004	1														E1
24		1910155	I.C. DEC 7408	2														E2, E27
25		1910951	I.C. DEC 9602	2														E3, E4
26		1912730	I.C. DEC DC003	1														E5
27		1912801	I.C. DEC 74LS02	2														E6, E8,
28		1909686	I.C. DEC 7404	2														E7, E35
29		1913040	I.C. DEC DC005	4														E9, E17, E21, E24
30		1909934	I.C. DEC 8266	1														E10
31		1912816	I.C. DEC 74LS32	2														E11, E31
32		1909929	I.C. DEC 7417	3														E12, E26, E32
33		1911527	I.C. DEC 8097	3														E15, E19, E25
34		1912951	I.C. DEC 8556	4														E16, E20, E23, E29
35		1912697	I.C. DEC 74LS174	1														E18
36		1912853	I.C. DEC 74LS175	1														E22

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
DIGITAL OUTPUT

ASSY NO.  
D-UA-M6003-0-0  
SHEET 2 OF 3

SIZE CODE  
B PL  
NUMBER  
M6003-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
C

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

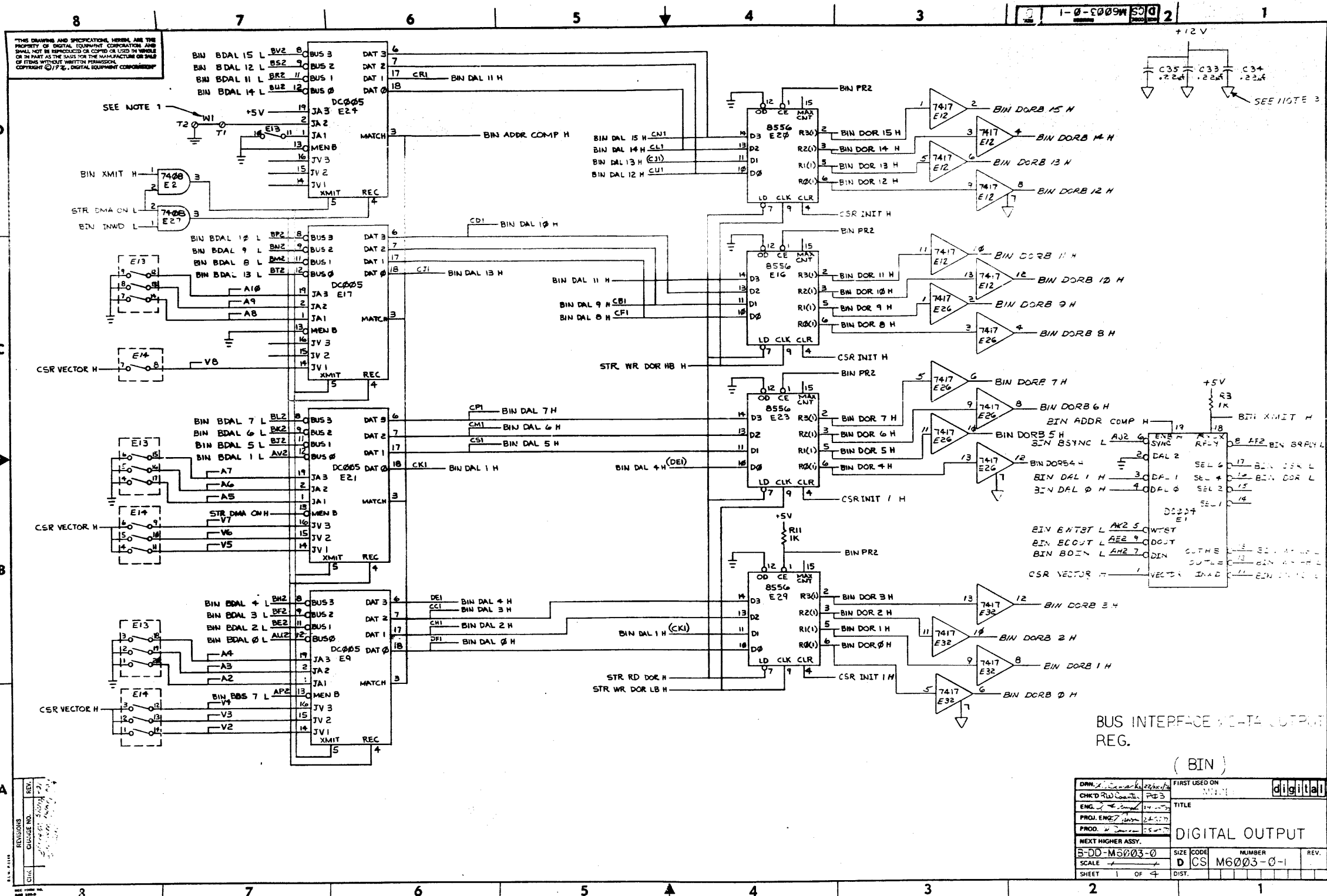
MADE BY <i>E. Wilson</i>	CHECKED <i>R. Counter</i>	SECTION
DATE <i>24 OCT 77</i>	DATE <i>18 Aug 77</i>	1
ENG <i>A. B. Arighi</i>	PROD <i>D. R. Damon</i>	ISSUED SECTION
DATE <i>24 OCT 77</i>	DATE <i>25 OCT 77</i>	1

## QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QTY	VAR	UNIT	DIM	MATERIAL	FINISH	TOLERANCE	REF DESIGNATION
37		1912824	I.C. DEC 74LS74	3							E28, E33, E34
38		1911469	I.C. DEC 8640	1							E30
39		1911116	I.C. DEC 8837	1							E36
40		1214937	SWITCH, PUSH PUSH	1							S1
41		9006735	SPLIT LUGS	16							T1 THRU T16
42		9009122	FUSE 62 MA	2							F1, F2
43		9009185	JUMPER	2							W1, W2
44		9006732	EYELETS	4							
45	C-MD-7420192-0-0	7420192	HANDLE, RETAINER	2							
46		9006000-01	SCREW *2-56 X 3/16	2							
47		9006555	NUT HEX *2-56	2							
48		9006686	WASHER LOCK	2							
49	C-MD-7420191-0-0	7420191	HANDLE	1							

E.C.O. NO.	"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 © 1977 DIGITAL EQUIPMENT CORPORATION"	TITLE DIGITAL OUTPUT	ASSY NO. D-UA-M6003-0-0	SIZE B	CODE PL	NUMBER M6003-0-0	REV. C
			SHEET 3 OF 3		INSERTION PARTS LIST DATA BASE REV		



THE 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 © 1972, DIGITAL EQUIPMENT CORPORATION

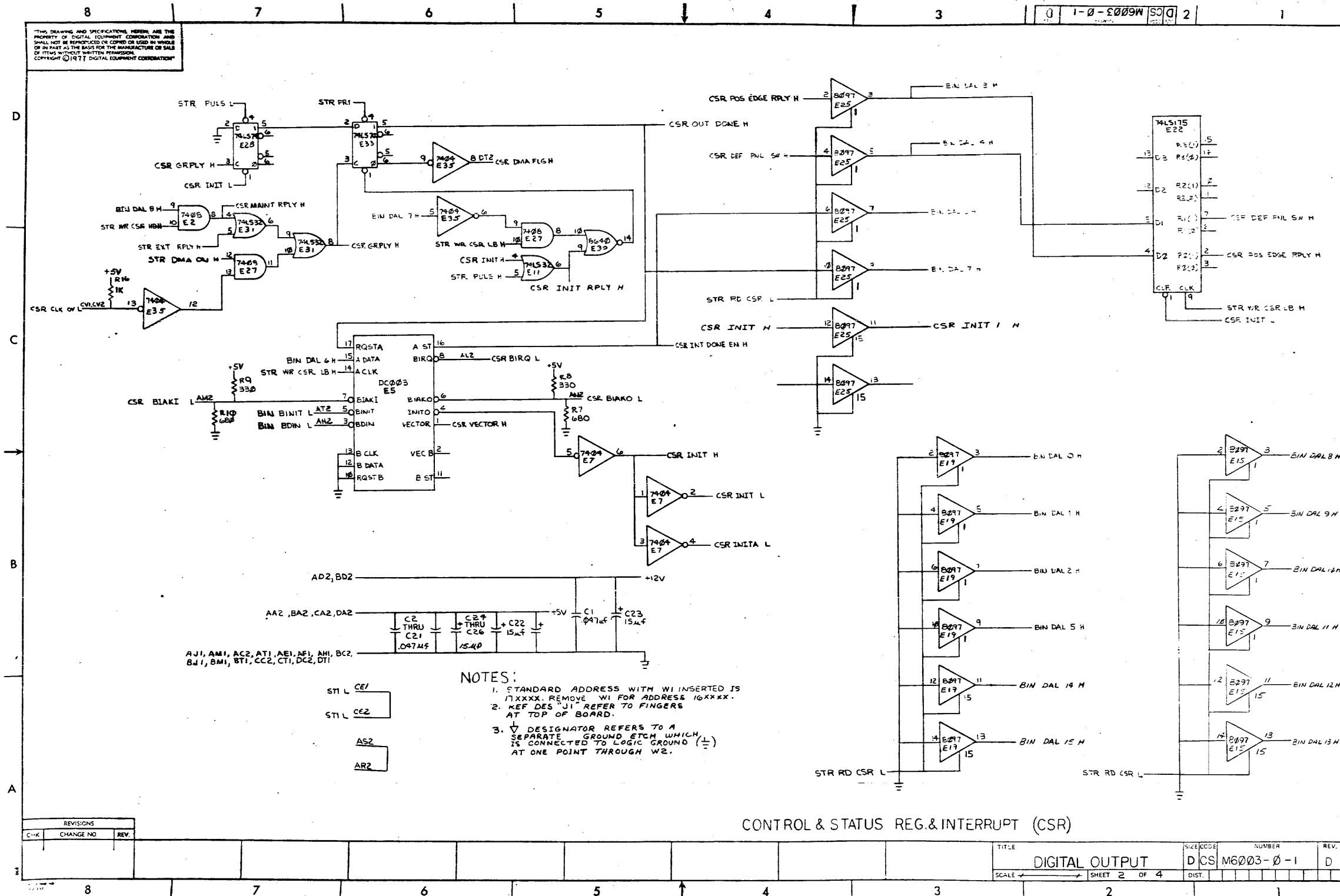
+12V  
C35 .22μF  
C33 .22μF  
C34 .22μF  
SEE NOTE 3

BUS INTERFACE VOLTAGE OUTPUT REG.  
(BIN)

DRW. [Signature]	FIRST USED ON	digital
CHK'D [Signature]	DATE	
ENG. [Signature]	TITLE	
PROJ. ENG. [Signature]		
PROD. [Signature]		
NEXT HIGHER ASSY.		
B-DD-M6003-0	SIZE CODE	NUMBER
SCALE	D CS	M6003-0-1
SHEET 1 OF 4	DIST.	

REV.	DATE	DESCRIPTION
1		
2		
3		

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 © 1977 DIGITAL EQUIPMENT CORPORATION



NOTES:  
 1. STANDARD ADDRESS WITH W1 INSERTED IS 17XXXX. REMOVE W1 FOR ADDRESS 16XXXX.  
 2. REF DES "J1" REFER TO FINGERS AT TOP OF BOARD.  
 3.  $\nabla$  DESIGNATOR REFERS TO A SEPARATE GROUND ETCH WHICH IS CONNECTED TO LOGIC GROUND ( $\frac{\pm}{\pm}$ ) AT ONE POINT THROUGH W2.

ST1 L CE1  
 ST1 L CE2  
 AS2  
 AR2

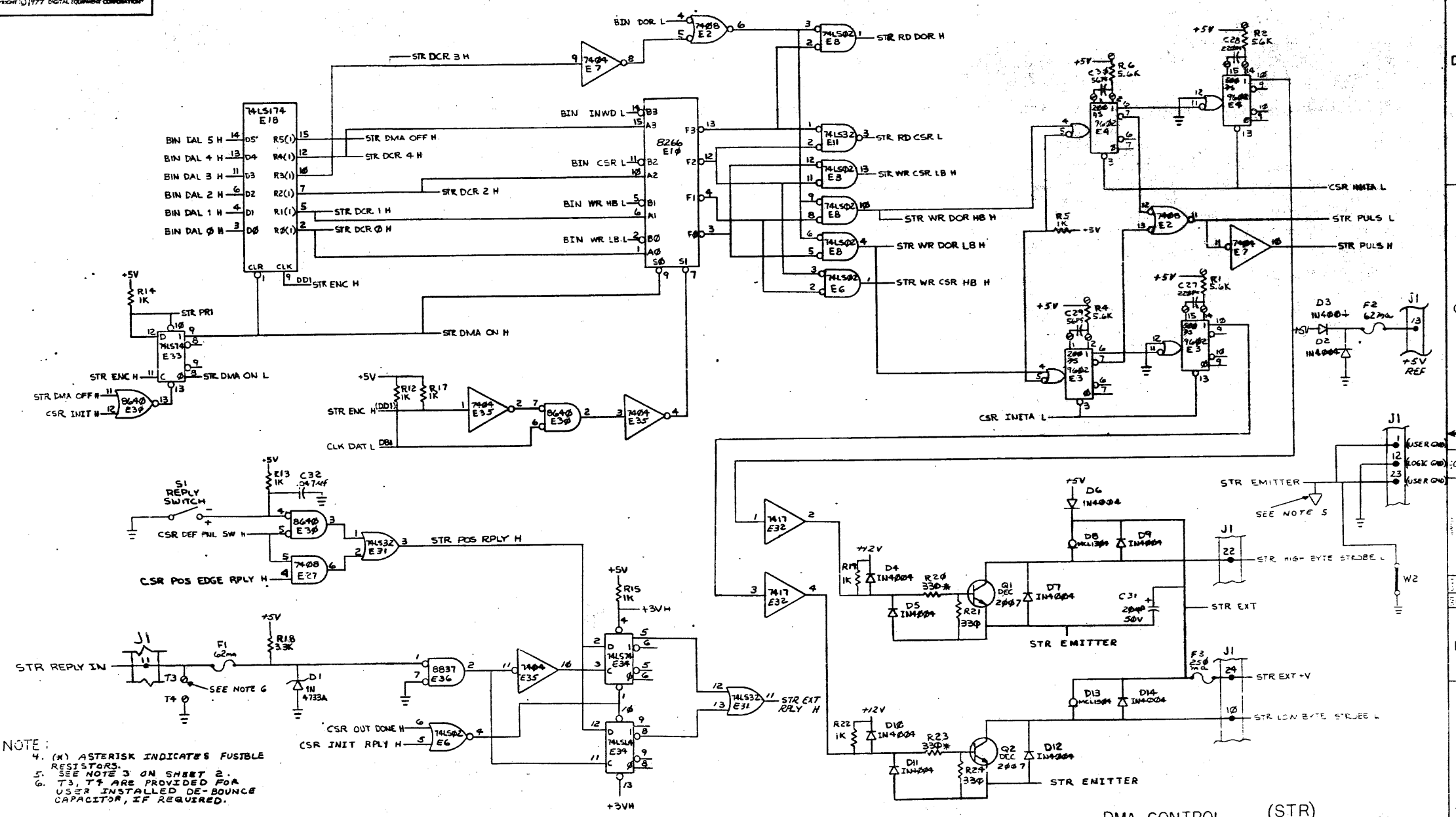
CONTROL & STATUS REG. & INTERRUPT (CSR)

REVISIONS	CHANGE NO	REV.

TITLE	DIGITAL OUTPUT	SIZE/CODE	D CS M6003-0-1	NUMBER		REV.	D
SCALE	SHEET 2 OF 4	DIST.					

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 OTHER WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

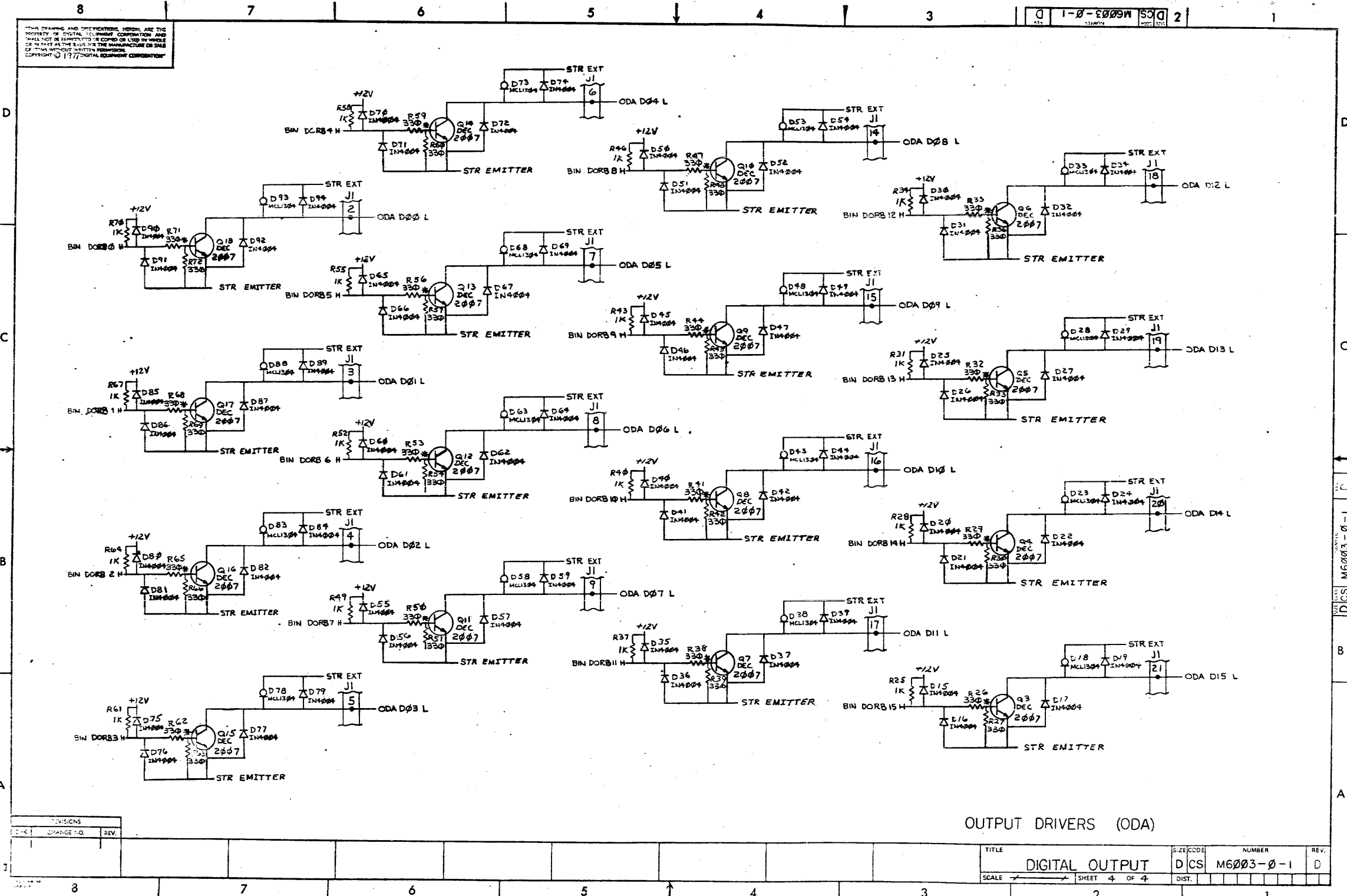


NOTE:  
 4. (\*) ASTERISK INDICATES FUSIBLE RESISTORS.  
 5. SEE NOTE 3 ON SHEET 2.  
 6. T3, T4 ARE PROVIDED FOR USER INSTALLED DE-BOUNCE CAPACITOR, IF REQUIRED.

DMA CONTROL AND STROBES (STR)

NO.	DATE	BY	CHK 1	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DIGITAL OUTPUT	D	CS M6003-0-1	1



THIS DRAWING AND SPECIFICATIONS HEREBY 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 © 1977 DIGITAL EQUIPMENT CORPORATION

OUTPUT DRIVERS (ODA)

NO.	DESCRIPTION	REV.

TITLE	DIGITAL OUTPUT	SIZE/CODE	D CS	NUMBER	M6003-0-1	REV.	D
SCALE	SHEET 4 OF 4		DIST.				

101

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY VARIATION																	
PARTS LIST																					
MADE BY M. Archie		CHECKED <i>B. F. ...</i>		SECTION 1																	
DATE 7 MARCH 78		DATE 19 MAY 78		ISSUED SECT.																	
ENG <i>O.C. ...</i>		PROD <i>B Cook</i>																			
DATE 23-MAY-78		DATE 23-MAY-78																			
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																			
1	D-UA-MNCDO- <del>0</del> - <del>0</del>	MNCDO UNIT ASSY		1																	
2	MP <del>00</del> 594	PRINT SET MNCDO		1																	
3	AA-D572A-TC	WORKING WITH MINC DEVICE		1																	
TITLE SHIP LIST MNCDO				ASSY NO. <i>+ - +</i>	SIZE <b>A</b>	CODE <b>PL</b>	NUMBER MNCDO- <del>0</del> -SH	REV	ECO NO.												
				SHEET 1 OF 1	DIST																

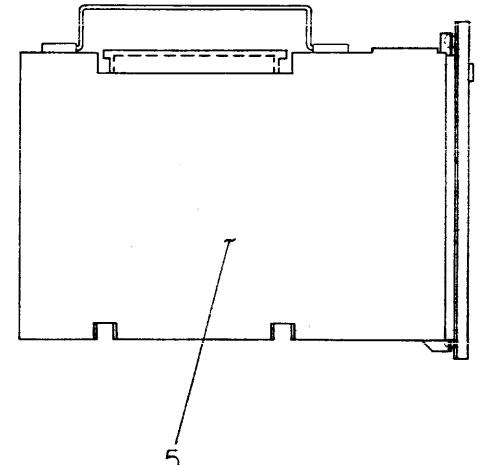
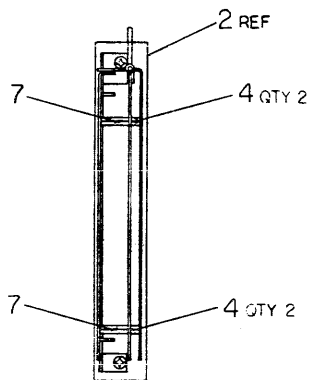
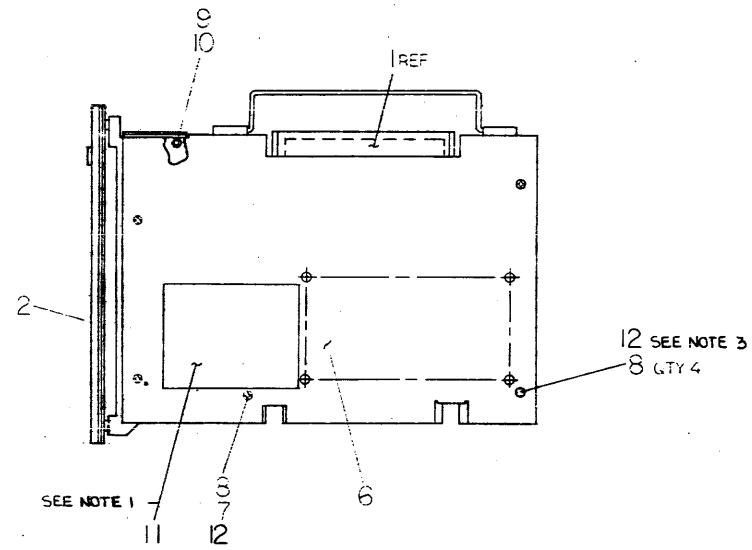
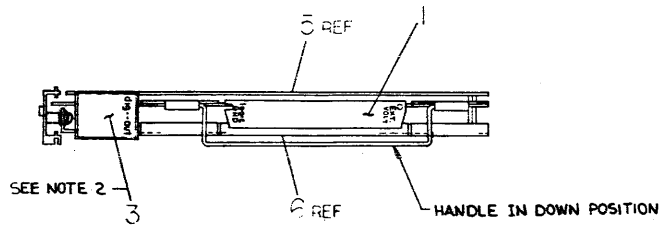
DEC FORM  
DRA 110



8 7 6 5 4 3 2 1

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 OTHER EQUIPMENT WITHOUT PERMISSION. COPYRIGHT © 1971, DIGITAL EQUIPMENT CORPORATION

- NOTES:
- ITEM #11 IS PUT ON BY ALIGNING THE RIGHT HAND EDGE OF DECAL UP AGAINST HOLES AND BOTTOM EDGE JUST ABOVE MOUNTING HOLE.
  - ITEM #3 IS PUT ON BY ALIGNING THE TOP EDGE AND RIGHT HAND EDGE EVEN WITH THE TOP EDGE AND RIGHT HAND EDGE OF ITEM #5.
  - USING ITEM #12, ADD ONE DROP TO EACH LOCATION.



REF	CHKOUT / ACCEPT. PROCEDURE	A-SP-MNCDO-0-3	13
A/R	LOCKTITE	9009321	12
1	DECAL, INFORMATION (MNCDO)	A-DC-3615264-4-0	11
1	NUT, KEPS #6-32	9008155	10
1	WASHER, FLAT	9006655	9
5	SCR, FLAT HD #6-32x.25	9006020-02	8
3	SPACER, THREADED #6-32x.86	9006841	7
1	PLATE, COMP. SIDE	D-MD-7419869-0-0	6
1	PLATE, ETCH SIDE	D-IA-7419868-0-0	5
4	SPACER, THREADED #6-32x.25	9006841	4
1	DECAL, I/O SCHEMATIC	A-DC-3615260-4-0	3
1	MNCDO SUB-ASSY	D-AD-7015106-0-0	2
1	CONN ASSY, I/O	D-IA-7014153-5-0	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		NOMINAL DIMENSION RANGE INCHES					
ANGLES 10' 30'	CLASS OF ACCURACY (CHECK ONE)	OVER		UNDER		OVER 12.0 40.0	
		TO 0.2	TO 1.0	TO 1.0	TO 4.0		
SURFACE QUALITY IN	MEDIUM	±.004	±.008	±.012	±.016	±.024	
	PREFERRED	±.012	±.016	±.025	±.031	±.031	

THIRD ANGLE PROJECTION

REMOVE BURRS AND  
BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL  
SEE PARTS LIST

FINISH NONE

DRN: *[Signature]*  
CHK'D: *[Signature]*  
ENG: *[Signature]*  
PROL. ENG: *[Signature]*  
PROD. DESK: *[Signature]*

FIRST USED ON: MNCDO digital

TITLE: MNCDO UNIT ASSY

NEXT HIGHER ASSY:

SIZE CODE: D UA  
NUMBER: MNCDO-2-0  
REV.

REV. 1  
DATE 11/1/71  
BY *[Signature]*  
CHK'D *[Signature]*

8 7 6 5 4 3 2 1

MR

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			DATE 7/27/78			
ENGINEERING SPECIFICATION						
TITLE MNCDO Installation/Acceptance Procedure						
REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG <i>G. S. Quinn</i>	APPD <i>7-31-78</i>	SIZE CODE <b>A</b>	SP	NUMBER <b>MNCDO-0-4</b>	REV
DEC 16 (0921-1076A-R17)					
DNA 107A					
SHEET 1 OF 3				MR	

MR

ENGINEERING SPECIFICATION			CONTINUATION SHEET		
TITLE MNCDO Installation/Acceptance Procedure					
1.0 GENERAL	This document describes the procedures for the installation and field acceptance of the MNCDO (Digital Output) option for the MINC-11 system. This procedure will be used for in-house PAR, field add-on and new system installation, and periodic verification testing.				
1.1 SCOPE	System Digital Output Option Test Module (Optional) I/O Connector				
1.2 EQUIPMENT	MINC-11 MNCDO MNCDO-TA 7014153-5-0				
1.3 DOCUMENTATION	Diagnostic Program MNCDO Engineering Specification Print Set "Working With MINC Devices"				
2.0 INSTALLATION	2.1 INITIAL SET-UP The address and vector switches on the MNCDO board must be set properly as indicated in the manual "Working With MINC Devices".				
2.2 LOCATION	The MNCDO may be inserted into any of the 8 possible MINC slots. However, if the MINC-11 System includes an MNCAD A/D converter, then the MNCDO should be installed to the right of the MNCAD (but not necessarily adjacent).				
2.3 TEST MODULE	If the MNCDO-TA test module is available it should be plugged into the I/O connector fingers on the top of the MNCDO. If no test module is available plug the standard I/O connector into the fingers.				
2.4 POWER UP	All other options to be tested and any of their test modules should be mounted in the system. Power may then be applied.				

DEC FORM NO 0921-1076A-R17	ORA 107A				
SHEET 2 OF 3				MR	

MR

ENGINEERING SPECIFICATION			CONTINUATION SHEET		
TITLE MNCDO Installation/Acceptance Procedure					
3.0 ACCEPTANCE	3.1 LOGIC TEST Refer to the diagnostic documentation for instructions on loading the diagnostic. Start at location 200. Location 204 is used for restarting after a program halt. The diagnostic will type out the current (old) software switch register and wait for the operator to type in a new value. Switch register functions are described in the documentation. Simply type a carriage return to leave the switch register unchanged. The diagnostic will then type a menu of tests. Select the "Logic Test with Dwarf Connected" if a test module is available. This allows an additional test of control signals to be made. If the test module is not available select the "Logic Test with no Dwarf Connected". At the start of the logic test, the program will type out the number of MNCDO modules detected on the MINC system. All modules will be tested unless this feature is inhibited (see the diagnostic documentation). No errors are allowable for MNCDO acceptance.				
3.2 OUTPUT TEST	When the logic test has been successfully concluded, and if a test module is available, restart the diagnostic and select the "Output Dwarf L.E.D. Loop" from the menu of tests. This produces a floating light pattern on the test module to visually check that all data outputs are operating.				
3.3 PULSE OUTPUT LOOP	This section should only be performed if there is no MNCDI option on the system which must also be tested. The circuits tested by the pulse output loop are checked when running the MNCDI wrap-around mode (see the MNCDI Installation/Acceptance Procedure, A-SP-MNCDI-0-4). Restart the diagnostic and select the "Pulse Output Verify Loop" from the menu of tests. The operator must use a scope to check for the presence of pulses on the LOW BYTE STROBE and HIGH BYTE STROBE outputs of the MNCDO. These will be low-going pulses with a nominal duration of 500 nanoseconds. These two outputs will produce pulses which are skewed with respect to each other due to delays in the program. If these two outputs produce coincident pulses, a short should be suspected. This completes the MNCDO acceptance procedure.				

DEC FORM NO 0921-1076A-R17	DNA 107A				
SHEET 3 OF 3				MR	

104



"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# DRAWING DIRECTORY

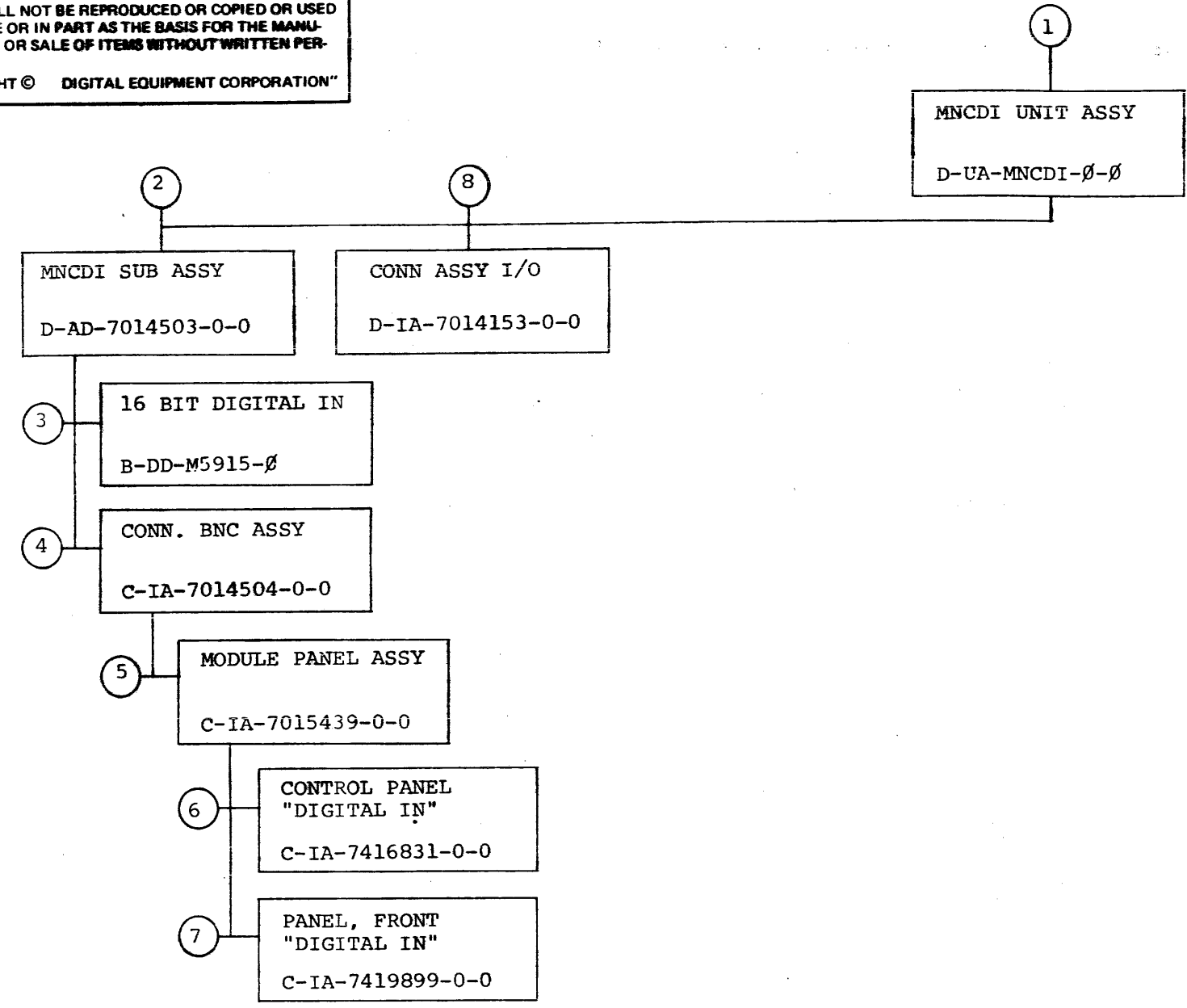
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1978 DIGITAL EQUIPMENT CORPORATION."

## UNIT VARIATIONS

VAR	TITLE
MNC DI	MNC DI UNIT ASSY

REVISIONS	REV.	A	USED ON OPTION/MODEL	DRN.	M. Archie	DATE	29 Dec 77	TITLE	MNC DI UNIT ASSY	digital			
	CHANGE NO.	MNC DI - 1		CHK'D.	F. Halliday	DATE	13 Feb 78						
	CHK			PROJ. ENG.	A. C. Foley	DATE	3/21/78						
PROD.		PROJ. ENG.		DATE	5/21/78	SIZE	B	CODE	DD	NUMBER	MNC DI-Ø	REV	A
SHEET 1 OF 3			DIST.										

"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 © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNCDI UNIT ASSY	SHEET 2 OF 3	SIZE CODE B DD	NUMBER MNCDI-0	REV A
-------	-----------------	--------------	-------------------	-------------------	----------

MR

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00595	FIELD MAINTENANCE PRINT SET	-				
	B-TC-MNCDI-0-1	FIELD MAINTENANCE PRINT SET	-	5	C-IA-7015439-0-0	MODULE PANEL ASSY	M
	D-UA-MNCDI-0-0	MNCDI UNIT ASSY	E/M				
	C-MD-7419869-00	PLATE, COMP SIDE	M				
	C-MD-7419868-0-0	PLATE, ETCH SIDE	M				
	A-DC-3615260-0-0	DECAL, I/O SCHEMATIC	E/M				
	A-DC-3615264-0-0	DECAL, INFORMATION (MNCDI)	E/M				
	A-PL-MNCDI-0-5	PARTS LIST MNCDI	E/M				
	A-PL-MNCDI-0-SH	SHIP LIST MNCDI	E/M				
	A-SP-MNCDI-0-2	MNCDI ENGINEERING SPEC.	E/M	6	C-IA-7416831-0-0	CONTROL PANEL "DIGITAL IN"	M
	A-SP-MNCDI-0-3	CHECKOUT & ACCEPTANCE PROCEDURE	E/M		C-SS-7416831-01	CONTROL PANEL	M
	A-SP-MNCDI-0-4	INSTALLATION & ACCEPTANCE PROCEDURE	E/M		C-SS-7416831-02	CONTROL PANEL	M
					C-SS-7416831-03	CONTROL PANEL	M
					C-SS-7416819-02	CONTROL PANEL	M
2	D-AD-7014503-0-0	MNCDI SUB-ASSY	E/M				
	C-IA-7419863-0-0	SUB PANEL DI	M				
	B-MD-7420242-0-0	SPACER, MODULE	M				
	B-IA-7420635-0-0	BUTTON SWITCH (MODIFIED)	M				
				7	C-IA-7419899-0-0	PANEL, FRONT "DIGITAL IN"	M
					C-PS-4830032-0-0	EXTRUSION, FRONT PANEL "D"	M
3	B-DD-M5915-0	16 BIT DIGITAL IN	E/M				
	A-PL-M5915-0-0	DIGITAL INPUT	E/M				
	D-UA-M5915-0-0	DIGITAL INPUT	E/M				
	D-CS-M5915-0-1	DIGITAL INPUT	E/M				
				8	D-IA-7014153-0-0	CONN ASSY I/O	E/M
					A-DC-7417640-0-0	DECAL, I/O CONNECTOR	E/M
					A-DC-7418934-6-0	DECAL, I.D. I/O CONNECTOR	E/M
4	C-IA-7014504-0-0	CONN. BNC ASSY (MNCDI)	E/M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



TITLE  
MNCDI UNIT ASSY

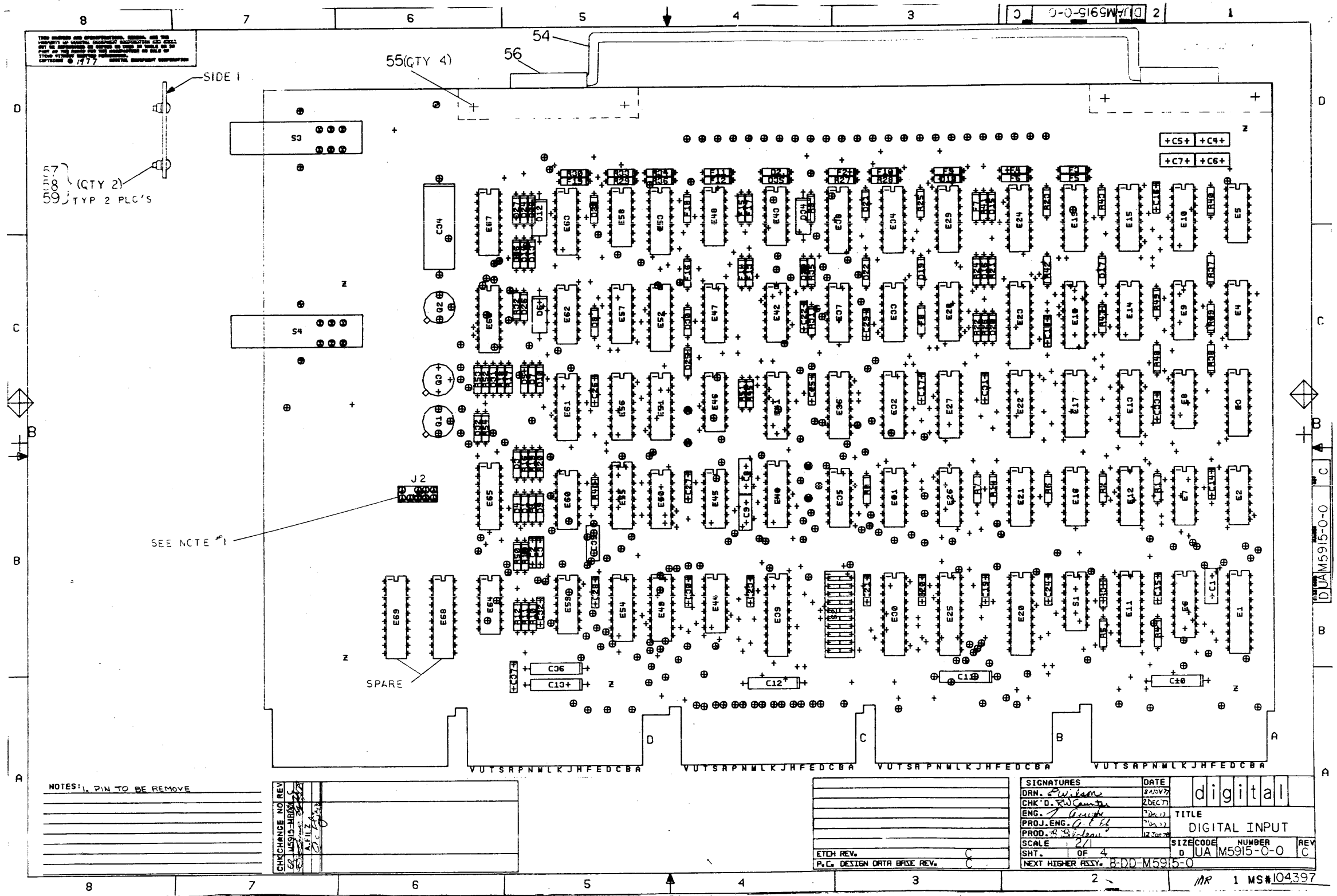
SHEET 3 OF 3

SIZE CODE  
B DD

NUMBER  
MNCDI-0

REV  
A

0-0-9169W 2



THIS BOARD IS AN EXPERIMENTAL BOARD. USE THE BOARD FOR TESTING PURPOSES ONLY. IT IS NOT TO BE USED IN A FINAL PRODUCT. THE BOARD IS NOT TO BE USED IN A FINAL PRODUCT. THE BOARD IS NOT TO BE USED IN A FINAL PRODUCT.

5007 (QTY 2)  
5008 TYP 2 PLC'S

SEE NOTE 1

NOTES: 1. PIN TO BE REMOVE

CHANGE NO	REV	DATE	BY
1	1		
2	1		
3	1		
4	1		
5	1		
6	1		
7	1		
8	1		

ETCH REV.	DESIGN DATA BRD REV.

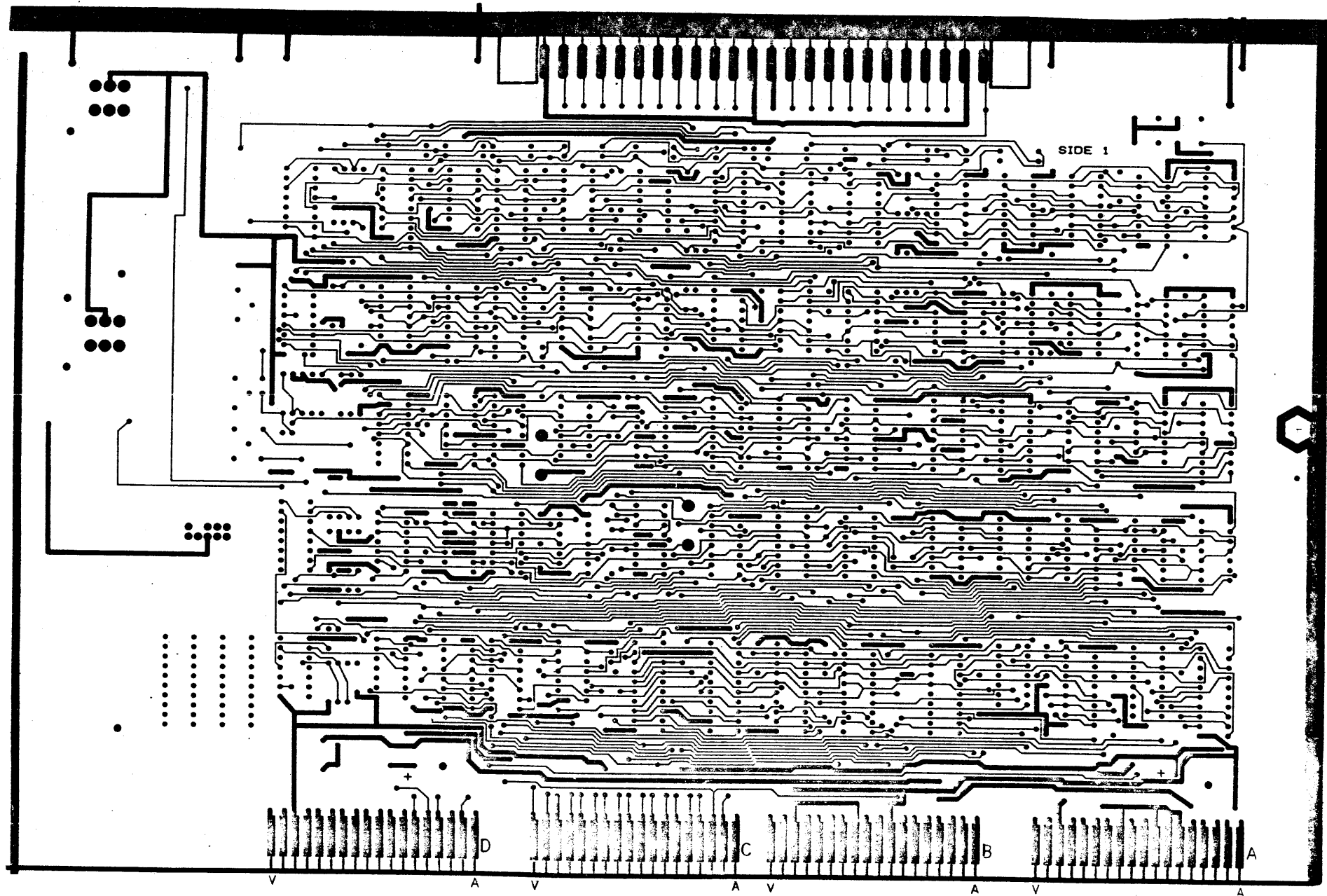
SIGNATURES	DATE	TITLE
DRN. <i>P. Williams</i>	2/20/77	DIGITAL INPUT
CHK'D. <i>R. Campbell</i>	2/20/77	
ENG. <i>J. Campbell</i>	2/20/77	
PROJ. ENG. <i>A. L. H.</i>	2/20/77	
PROD. <i>A. S. Brown</i>	12/30/76	
SCALE: 2/1		
SHT. 1 OF 4		
NEXT HIGHER ASSY. B-DD-M5915-0		

MR 1 MS#104397

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 © 1977 DIGITAL EQUIPMENT CORPORATION

M5915 5012113C

DUA M5915-Q-Q 2



SIDE 1

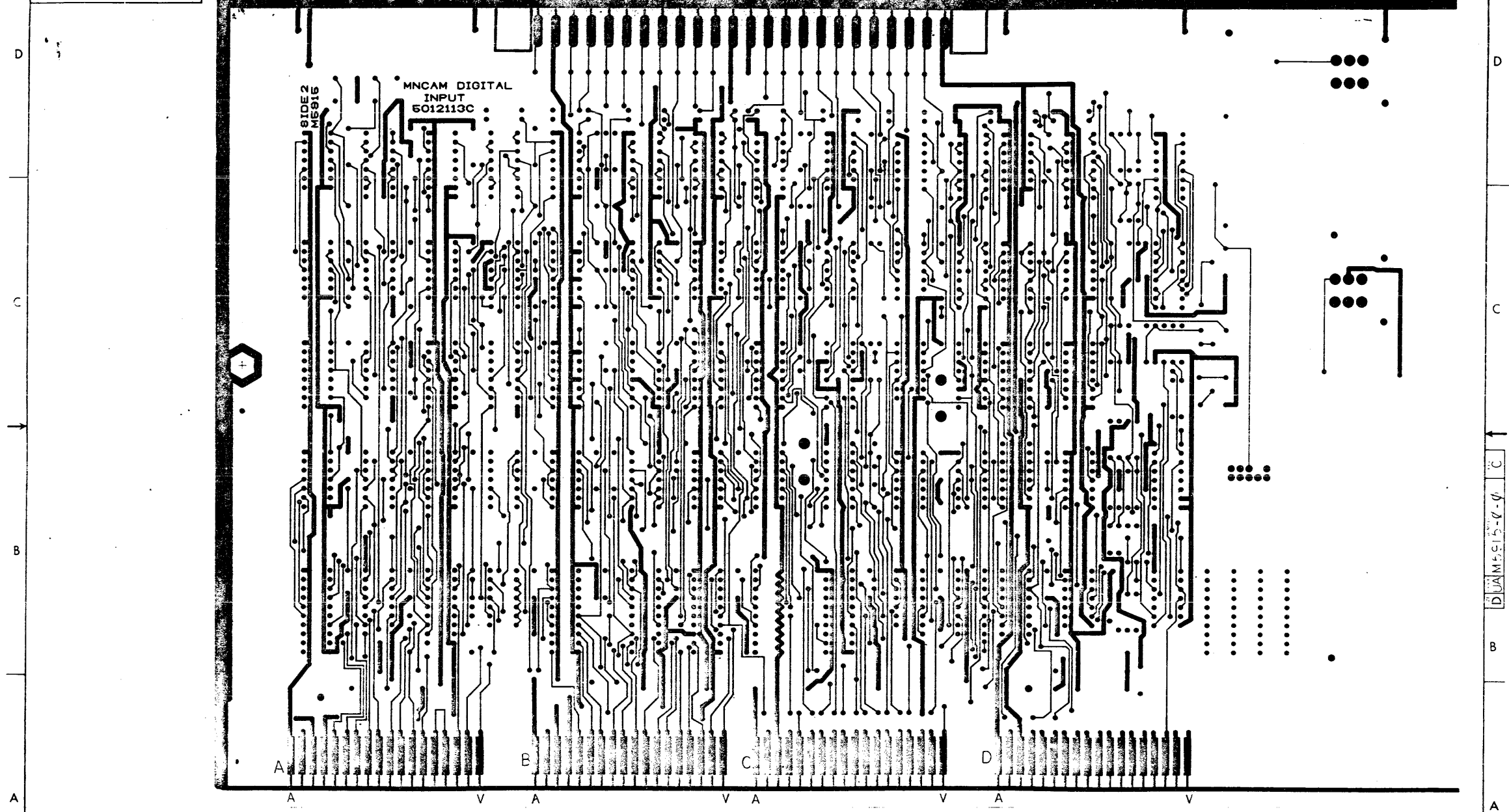
REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
DIGITAL INPUT	DUA	M5915-Q-Q	C
SCALE 2/1	SHEET 2 OF 4	DIST.	MR



8 7 6 5 4 3 2 1

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 © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

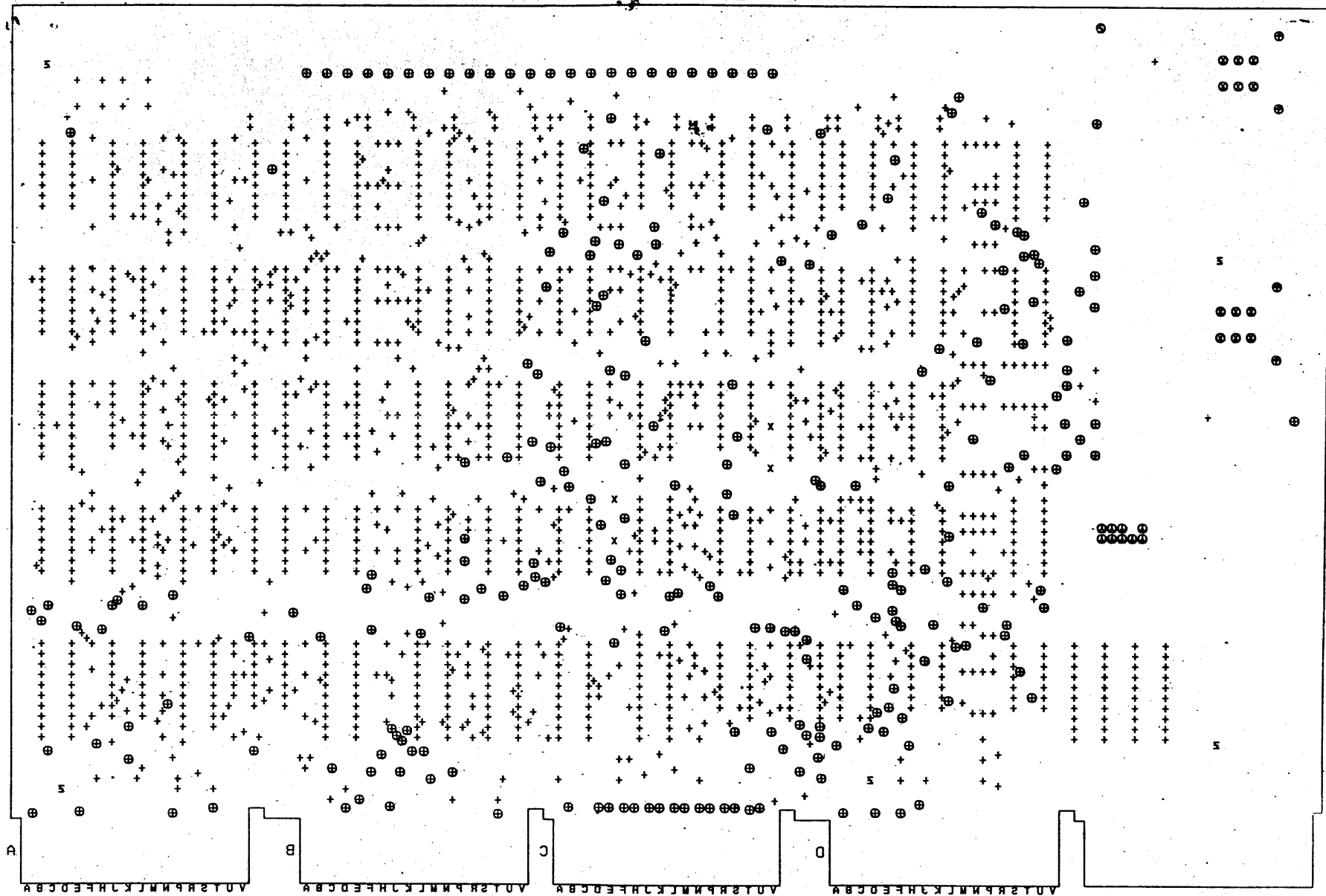
TITLE	SIZE CODE	NUMBER	REV.
DIGITAL INPUT	DUA	M5815-C-C	C
SCALE 2/1	SHEET 3 OF 4	DIST.	

8 7 6 5 4 3 2 1 mr

111

DUAL M5915-0-0 2

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 © 1977 DIGITAL EQUIPMENT CORPORATION



DUAL M5915-0-0

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DIGITAL INPUT	DUAL	M5915-0-0	C
SCALE 2/1	SHEET + OF 4	DIST.	

112

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012113-0-0	5012113-00	M5915	1	
2	2		1000020-00	100.0 MMF 100V 5%200PPM DM15S	(10-00)	1 C1
3	3		1012784-00	.047 MFD 50V X% CER.		23 C2,C3,C14-C33,C37
4	4		1000026-00	600.0 MMF 100V 5%200PPM DM15S	(10-00)	4 C4-C7
5	5		1000014-00	68.0 MMF 100V 5%200PPM DM15S	(10-00)	1 C8
6	6		1000021-00	220.0 MMF 100V 5%200PPM DM15S	(10-00)	2 C9,C35
7	7		1004812-00	15 MFD 20V 10% 150D S.TA	(10-00)	5 C10-C13,C36
8	8		1105796-00	1N 4004 PIV=400 I= 1A D041 SP		14 D1,D3,D4,D5,D7-D10,D13,D14, CONT D31,D32,D35,D36
9	9		1109943-00	1N 4733A VZ= 5.1 5% 1W Y		17 D2,D15-D30
10	10		1110232-00	MCL1304 CL04NA FROM10-80V		3 D6,D12,D34
11	11		1211164-06	SW,DIP 1P 1A 10POS		1 S2
12	12		1211164-03	SW,DIP 1P 1A 7PCS		1 S1
13	13		1300365-00	1 K 1/4W 5% CC	(13-00)	14 R1,R6-R8,R14,R19,R20,R41-R43, CONT R46-R49
14	14		1300295-00	330 1/4W 5% CC	(13-00)	8 R2,R4,R10,R12,R16,R18,R52,R54
15	15		1301424-00	600 1/4W 5% CC	(13-00)	2 R3,R5
16	16		1300439-00	3.3 K 1/4W 5% CC	(13-00)	17 R9,R21-R36
17	17		1310881-01	330 1/4W 1% FUSIBLE		3 R11,R17,R53
18	18		1300426-00	2.7 K 1/4W 5% CC	(13-00)	1 R13
19	19		1300271-00	220 1/4W 5% CC	(13-00)	4 R37-R40
20	20		1301874-00	5.6 K 1/4W 5% CC	(13-00)	2 R45,R51
21	21		1300309-00	390 1/4W 5% CC	(13-00)	1 R50
22	22		1300005-01	R NETWORK 13-1K RESISTORS 5% DIP	(13-00)	1 E48
23	23		1502155-00	DEC100R NPN 5WC SI 45 25 M		3 Q1,Q2,Q3
24	24		1912729-00	DC 004 PROTOCOL,REG. SELECTOR		1 E1
25	25		1912801-00	LSC2 NOR-GATE-QUAD 2IN		2 E2,E7
26	26		1912951-00	DM 8556 COUNTER,BINARY,4BIT		4 E3,E27,E36,E56
27	27		1909686-00	7404 INVERTER GATE-HEX 1IN		1 E4
28	28		1912829-00	LS86 X-OR GATE-QUAD 2IN		1 E5

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
CHK	ECO NO	REV			MADE BY:	DATE:	TITLE	
---	INIT	B	00		E. WILSON	8-NOV-77	PARTS LIST	
ER	00001	C			P. W. CAUNTER	2-DEC-77	DIGITAL INPUT	
					T. ARRIGHI	3-DEC-77		
					B. RILEY	12-JAN-78		
					A. FILZ	3-DEC-77		
							SIZE: CODE: DOCUMENT NUMBER: REV:	
							K PL M5915-0-0 IC	
							ASSY. NO.: D-UA-M5915-0-0 EDIT#: 7	

"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 1978, DIGITAL EQUIPMENT CORPORATION."

me

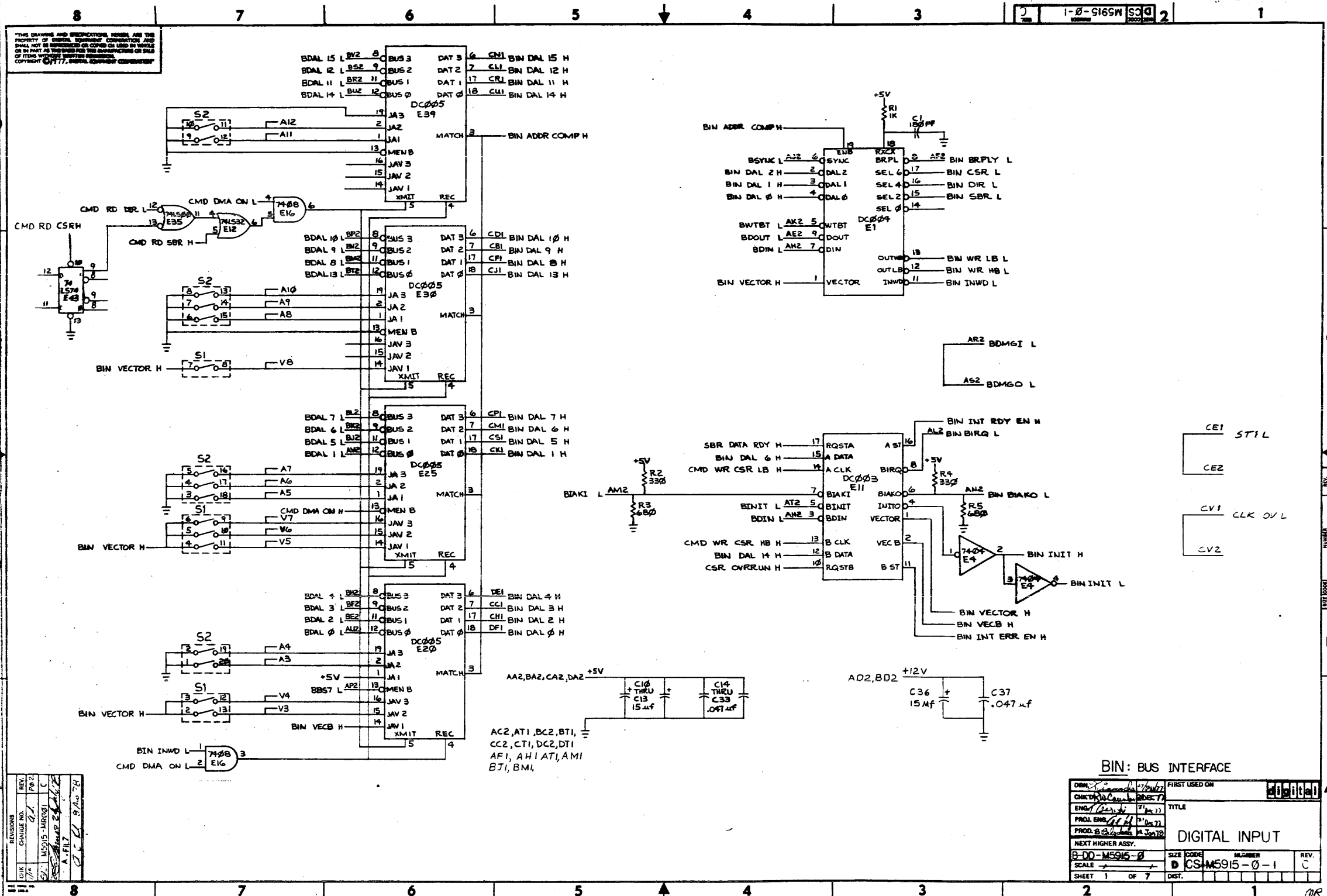
113

LINE	ITFM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
29	29		1909934-00	8266 MUX 1 OF 2 (QUAD)	11	E6,E10,E15,E22,E23,E29,E41,
					CONT	E51,E63,E65,E66
30	30		1912800-00	LS01 NAND-GATE-QUAD 2IN,POS. OPN CO	4	E8,E28,E42,E57
31	31		1912824-00	LS74 FF-D DUAL,EDGE TRIGGER,POS	11	E9,E14,E21,E33,E37,E43,E45,
					CONT	E46,E47,E58,E63
32	32		1912730-00	DC 003 INTERRUPT,2 CIRCUIT	1	E11
33	33		1912816-00	LS32 OR GATE-QUAD 2IN,POSITIVE	2	E12,E60
34	34		1912647-00	LS257 MUX 1 OF 2 (QUAD) TRI-STA	4	E13,E18,E32,E61
35	35		1910155-00	DEC 7408 AND GATE,POS.QUAD 2IN	14	E16
36	36		1910651-00	DEC 74175 FF-D QUAD	1	E17
37	37		1909935-00	8235 MUX 1 OF 2 (QUAD) OPN COLLEC	4	E19,E34,E52,E53
38	38		1913040-00	DC 005 TRANSCEIVER 4BIT	4	E20,E25,E30,E39
39	39		1911116-00	DEC 8837 RECEIVER,BUS,HEX,UNIBUS	3	E24,E38,E67
40	40		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-RU	1	E26
41	41		1911324-00	7414 NAND GATE-HEX 1IN SCHMITT TRIG	1	E31
42	42		1912799-00	LS00 NAND-GATE-QUAD 2IN,POSITIVE	2	E35,E59
43	43		1910951-00	9602 ONE SHOT-DUAL	1	E40
44	44		1912805-00	LS08 AND GATE-QUAD 2IN,POSITIVE	1	E44
45	45		1912697-00	LS174 FF-D HEX W/CLEAR	2	E49,E54
46	46		1912803-00	LS04 INVERTER GATE-HEX 1IN	1	E50
47	47		1912845-00	LS153 MUX 1 OF 4 (DUAL) & DATA SEL	1	E55
48	48		1909928-00	7416 INVERTER GATE-HEX 1IN,(7406 FA	1	E64
49	49		1213488-00	CONN 10POS HOUSING	1	J2
50	50		1002839-00	20 MFD 50V G% 30D AL EL (10-12	1	C34
51	51		9006735-00	EYELET, FUNNEL FLANGE, .059 OD X .187 LG	4	
52	52		9009122-00	FUSE, SUB-MINI, .062A, 125V, AXIAL LEAD	19	F1-F19
53	53		1214937-00	SW, PB 2P PUSH PUSH	2	S3,S4
54	54	C-MD-7420191-0-0	7420191-00	HANDLE	1	
55	55		9006732-00	EYELET, ROLLED FLANGE, .121 OD X .219 LG	4	
56	56	C-MD-7420191-0-0	7420192-00	HANDLE RETAINER	2	
57	57		9006000-01	SCREW,PAN,SLOT. 2-56X 3/16 SS/PAS	4	
58	58		9006555-00	NUT,HEX , 2-56X3/16AF X 1/16 THK SS/	4	
59	59		9006686-00	WASHER, LOCK, S.S. #2	4	

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE DIGITAL INPUT	PARTS LIST	SIZE/ CODE K PL	DOCUMENT NUMBER M5915-0-0	REV IC
---	------------------------	------------	--------------------	------------------------------	-----------

MR

114

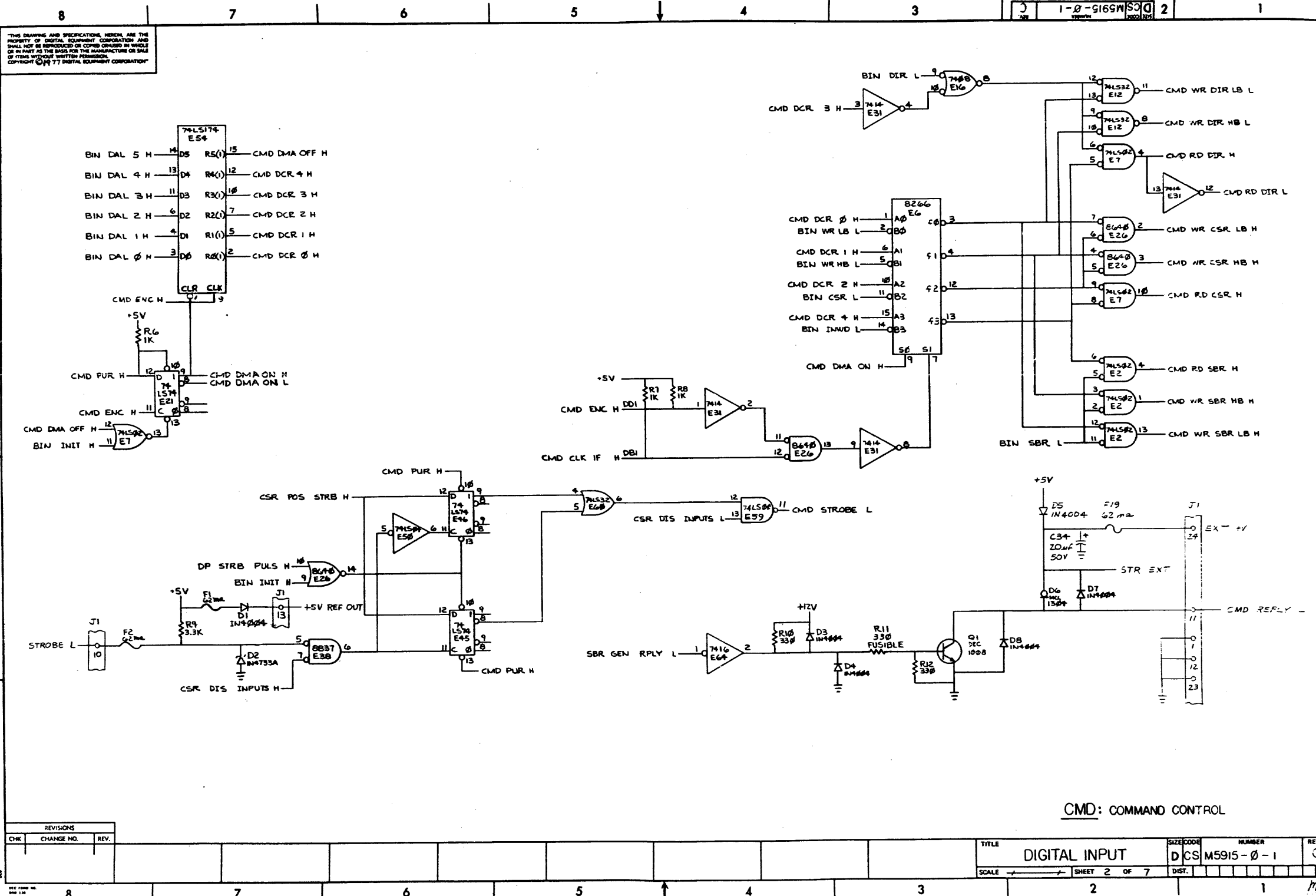


THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE DESIGN OR CONSTRUCTION OF THIS OR ANY OTHER EQUIPMENT WITHOUT THE WRITTEN CONSENT OF DIGITAL EQUIPMENT CORPORATION.

REV.	DATE	BY	CHKD
1	11/17/71	...	...
2	...	...	...
3	...	...	...

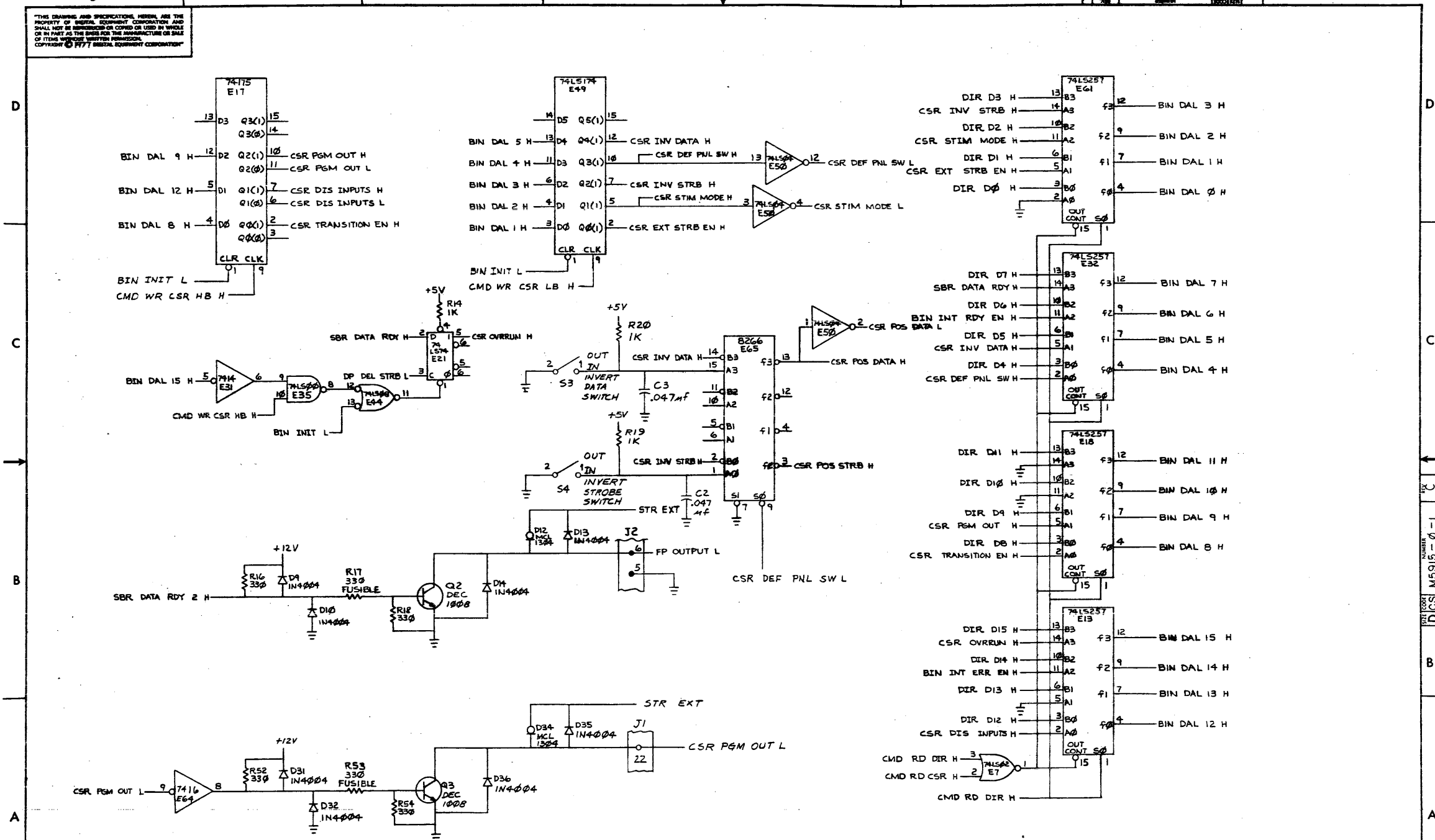
BIN: BUS INTERFACE		FIRST USED ON	
DATE	BY	DATE	BY
11/17/71	...	11/17/71	...
DIGITAL INPUT		TITLE	
B-DD-M5915-0		D CS-M5915-0-1	
SCALE	OF 7	DIST.	

115



"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 THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION"

1-0-9169W S3 2



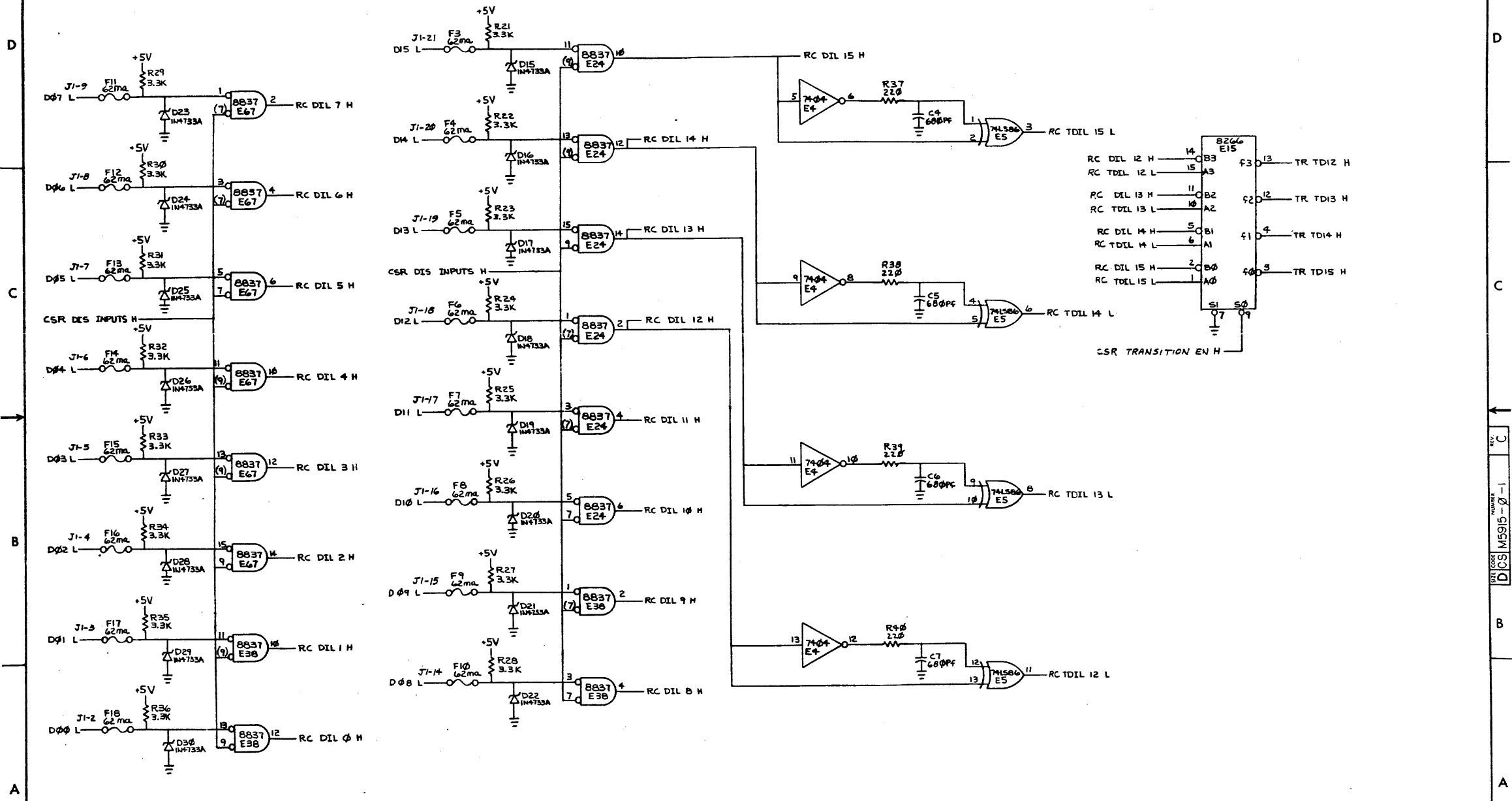
CSR: CONTROL & STATUS REGISTER

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DIGITAL INPUT	SIZE CODE	D CS	NUMBER	M 5915 - 0 - 1	REV.	
SCALE		SHEET	3	OF	7	DIST.	

117

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"



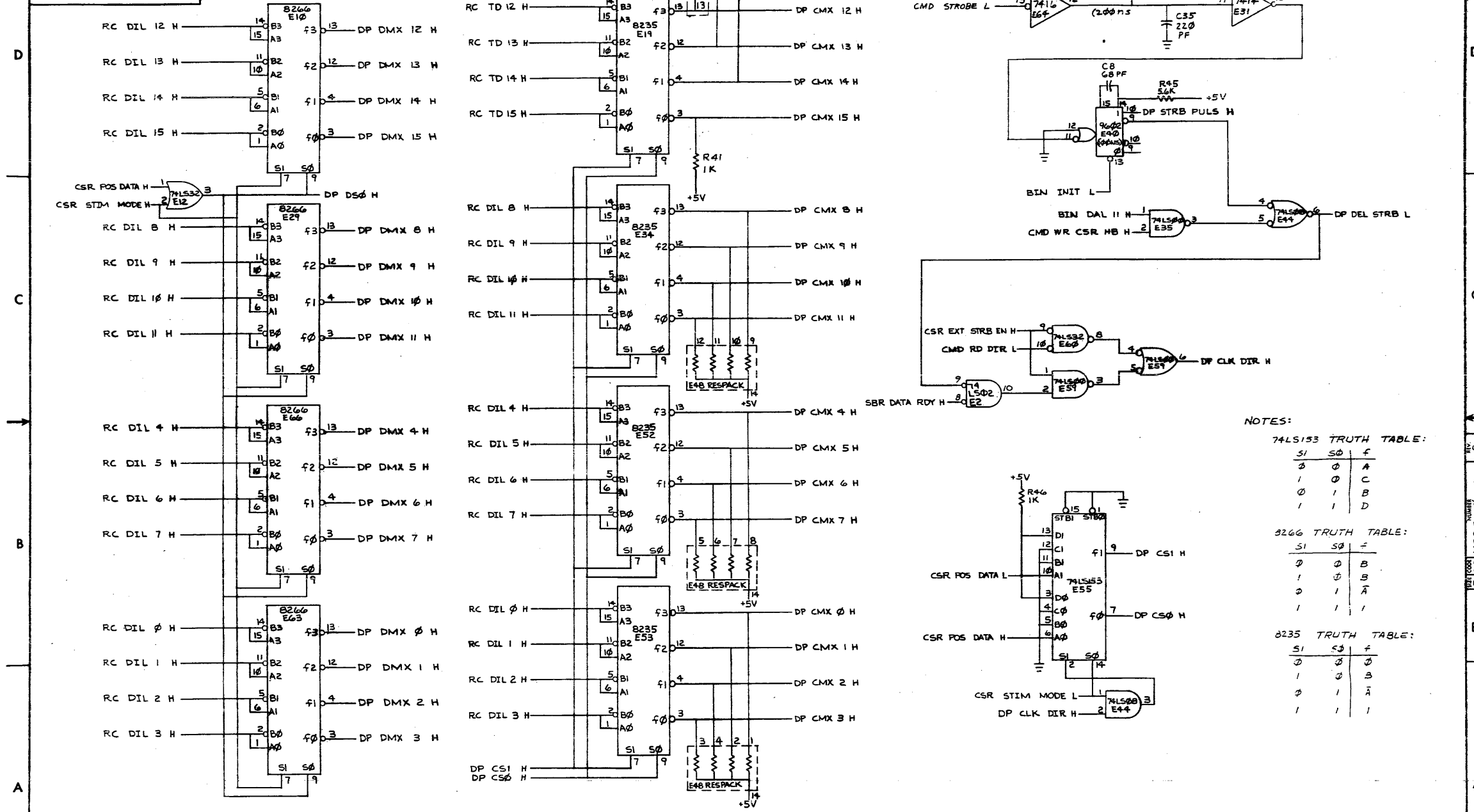
RC: RECEIVERS & TR: TRANSITION DETECTORS

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE/COO	NUMBER	REV.
DIGITAL INPUT	D CS	M5915-0-1	C
SCALE	SHEET 4 OF 7	DIST.	



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 REPRODUCTION OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.



NOTES:

74LS153 TRUTH TABLE:

S1	S0	f
0	0	A
1	0	C
0	1	B
1	1	D

8266 TRUTH TABLE:

S1	S0	f
0	0	B
1	0	B
0	1	A
1	1	1

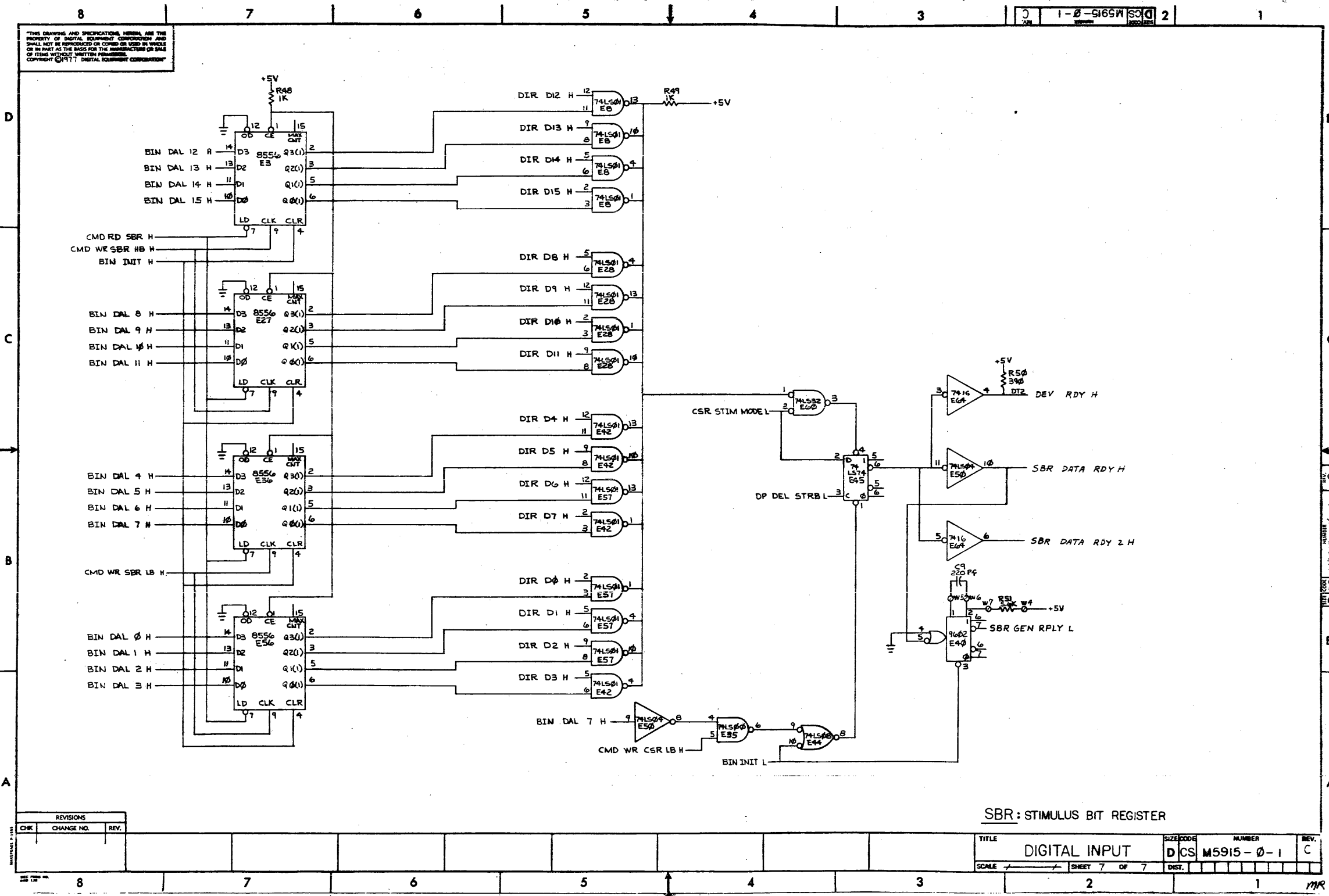
8235 TRUTH TABLE:

S1	S0	f
0	0	0
1	0	3
0	1	A
1	1	1

DP: DATA INPUT PATH

REVISIONS			TITLE	SIZE CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.	DIGITAL INPUT	D CS	M5915-0-1	C





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 © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-GI65W SC 2

REVISIONS		
CHK	CHANGE NO.	REV.

SBR: STIMULUS BIT REGISTER

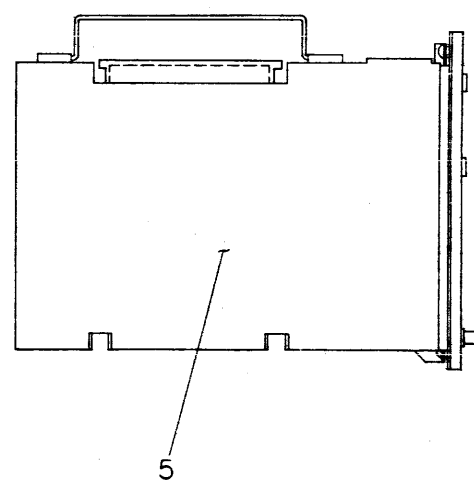
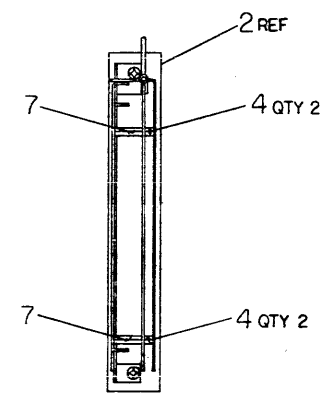
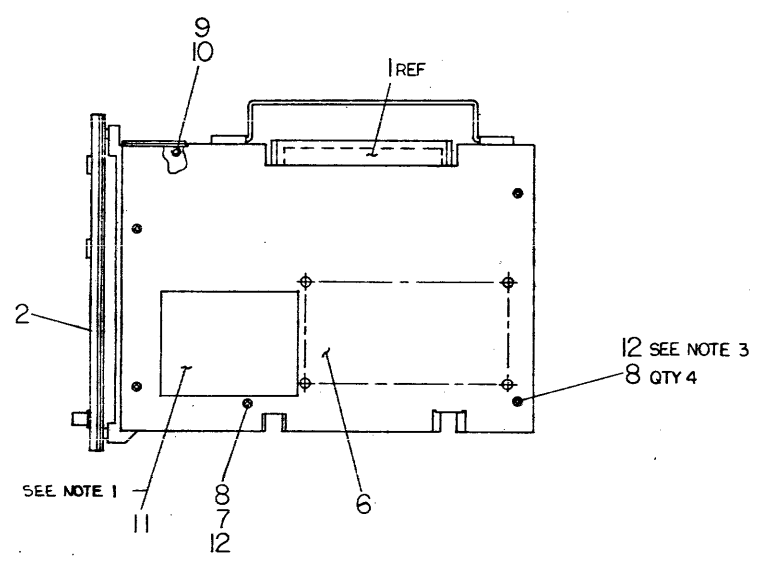
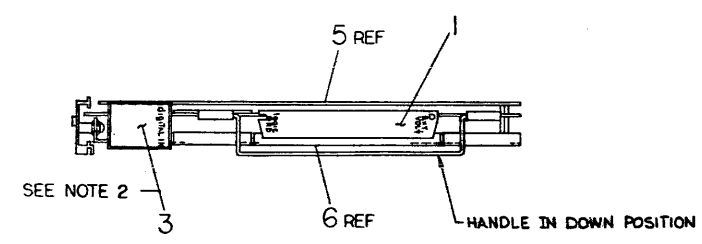
TITLE	SIZE CODE	NUMBER	REV.
DIGITAL INPUT	DCS	M5915-0-1	C
SCALE	SHEET	OF	
	7	7	

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION																	
MADE BY M. Archie		CHECKED <i>[Signature]</i>																			
DATE 7 MARCH 78		DATE 17 MAY 78																			
ENG <i>OC. Hg</i>		PROD B. Cook																			
DATE 23-MAY-78		DATE 23-MAY-78																			
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																			
1	D-UA-MNC DI-0-0	MNC DI UNIT ASSY		1																	
2	MP00595	PRINT SET MNC DI		1																	
3	AA-D572-TC	WORKING WITH MINC DEVICE		1																	
TITLE SHIP LIST MNC DI				ASSY NO. <i>+/+</i>		SIZE <b>A</b>	CODE <b>PL</b>	NUMBER MNC DI-0-SH				REV	ECO NO.								
				SHEET 1 OF 1		DIST															

DEC FORM  
DRA 110

THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971, DIGITAL EQUIPMENT CORPORATION

- NOTES**
- ITEM #11 IS PUT ON BY ALIGNING THE RIGHT HAND EDGE OF DECAL UP AGAINST HOLES AND BOTTOM EDGE JUST ABOVE MOUNTING HOLE.
  - ITEM #3 IS PUT ON BY ALIGNING THE TOP EDGE AND RIGHT HAND EDGE EVEN WITH THE TOP EDGE AND RIGHT HAND EDGE OF ITEM #5.
  - USING ITEM #12 ADD ONE DROP TO EACH LOCATION.



REF	CHKOUT #	ACCEPT. PROCEDURE	A-SP-MNCDI-0-3	13
A/R	LOCKTITE		9009321	12
1	DECAL, INFORMATION (MNCDI)		A-DC-3615264-5-0	11
1	NUT, KEPS #6-32		9008185	10
1	WASHER, FLAT		9006653	9
5	SCR, FLAT HD #6-32x.25		9006020-02	8
3	SPACER, THREADED #6-32x.88		9006861	7
1	PLATE, COMP. SIDE		D-MD-7419869-0-0	6
1	PLATE, ETCH SIDE		D-IA-7419868-0-0	5
4	SPACER, THREADED #6-32x.25		9006841	4
1	DECAL, I/O SCHEMATIC		A-DC-3615260-5-0	3
1	MNCDI SUB-ASSY		D-AD-7014503-0-0	2
1	CONN ASSY, I/O		D-IA-7014153-6-0	1

QUANTITY & VARIATION		CLASS OF ACCURACY		NOMINAL DIMENSION RANGE INCHES					
ANGLE	NOT 30°	CLASS	CHECK ONE	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 2.0	OVER 2.0 TO 4.0	OVER 4.0 TO 8.0	OVER 8.0 TO 16.0
<input checked="" type="checkbox"/>	<input type="checkbox"/>	MEDIUM	<input checked="" type="checkbox"/>	±.004	±.008	±.012	±.016	±.024	±.048
<input checked="" type="checkbox"/>	<input type="checkbox"/>	PREFERRED	<input type="checkbox"/>	±.012	±.016	±.020	±.024	±.030	±.060

THIRD ANGLE PROJECTION

DRW: *[Signature]* 2/1/78  
 CHKD: *[Signature]* 2/1/78  
 ENG: *[Signature]* 2/1/78  
 PROJ. ENG: *[Signature]* 2/1/78  
 PROD. *[Signature]* 3/1/78

FIRST USED ON: MNCDI *[Signature]*

TITLE: MNCDI UNIT ASSY

DO NOT SCALE DWG

MATERIAL: SEE PARTS LIST  
 FINISH: NONE

SCALE: 1/2  
 SHEET: 1 OF 1

SIZE: D  
 CODE: UA  
 NUMBER: MNCDI-0-0  
 REV.:

REV. NO. 1  
 REV. DATE  
 CHANGE NO. 1

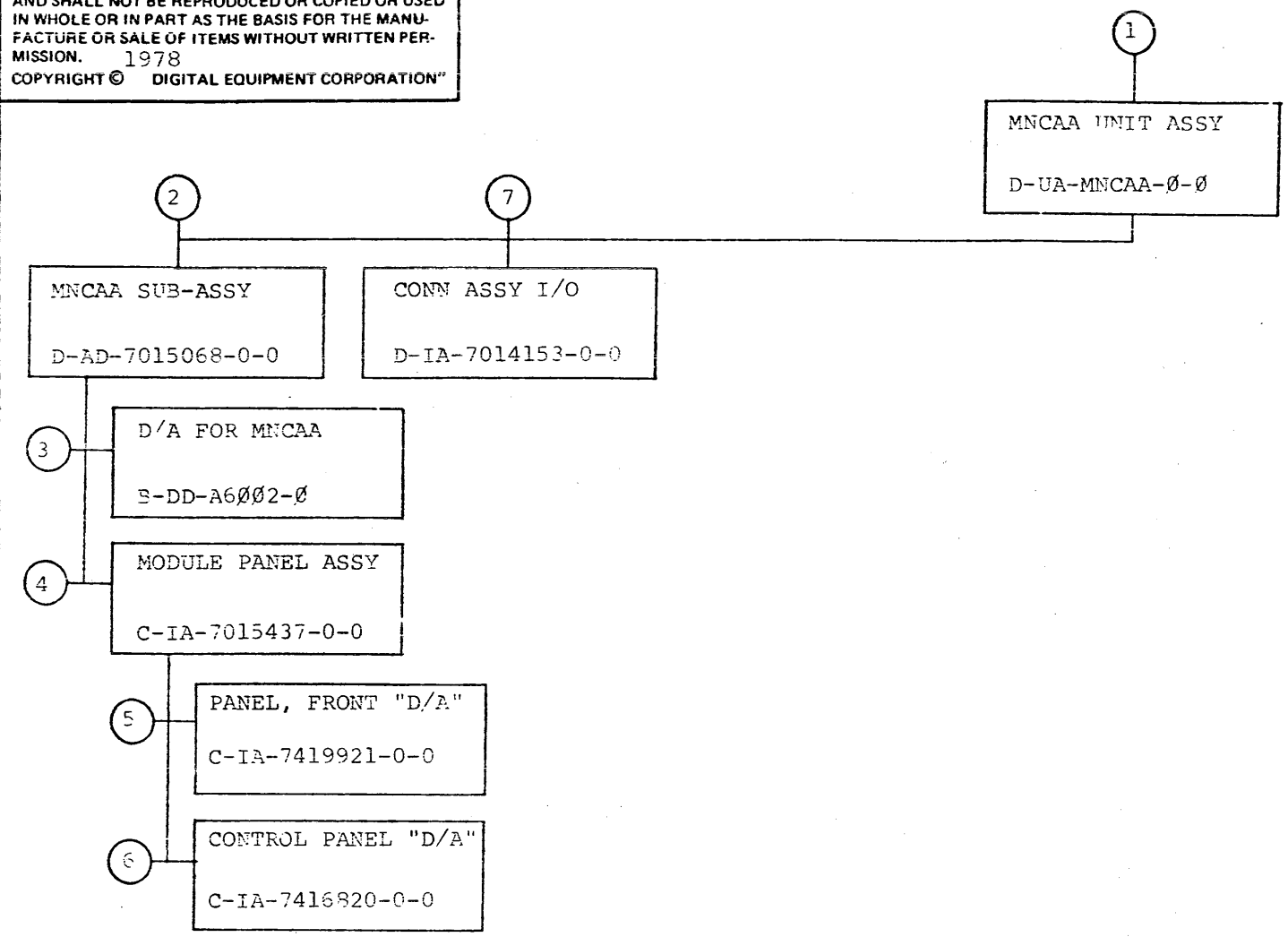








"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. 1978  
 COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"



TITLE	MNCAA UNIT ASSY	SIZE CODE	NUMBER	REV
		BDD	MNCAA-Ø	A
	SHEET 2 OF 3			

MR

127

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00590	FIELD MAINTENANCE PRINT SET	-	5	C-IA-7419921-0-0	PANEL, FRONT "D/A"	M
	B-TC-MNCAA-0-1	FIELD MAINTENANCE PRINT SET	-		C-PS-4830032-0-0	EXTRUSION FRONT PANEL "D"	M
	D-UA-MNCAA-0-0	MNCAA UNIT ASSY	E/M				
	C-MD-7419869-0-0	PLATE, COMP SIDE	M				
	C-MD-7419868-0-0	PLATE, ETCH SIDE	M				
	A-DC-3615260-0-0	DECAL, I/O SCHEMATIC	E/M				
	A-DC-3615264-0-0	DECAL, INFORMATION (MNCAA)	E/M				
	A-PL-MNCAA-0-5	PARTS LIST MNCAA	E/M				
	A-PL-MNCAA-0-SH	SHIP LIST MNCAA	E/M				
	A-SP-MNCAA-0-2	MNCAA ENGINEERING SPEC.	E/M				
	A-SP-MNCAA-0-3	CHECKOUT & ACCEPTANCE PROCEDURE	E/M	6	C-IA-7416820-0-0	CONTROL PANEL "D/A"	M
	A-SP-MNCAA-0-4	INSTALLATION & ACCEPTANCE PROCEDURE	E/M		C-SS-7416820-01	CONTROL PANEL	M
					C-SS-7416820-02	CONTROL PANEL	M
					C-SS-7416820-03	CONTROL PANEL	M
					C-SS-7416819-02	CONTROL PANEL	M
2	D-AD-7015068-0-0	MNCAA SUB-ASSY	E/M				
	C-IA-7419862-0-0	SUB-PANEL	M				
	B-MD-7420242-0-0	SPACER, MODULE	M				
				7	D-IA-7014153-0-0	CONN ASSY I/O	E/M
					A-DC-7417640-0-0	DECAL, I/O CONN	E/M
					A-DC-7418934-3-0	DECAL, I.D. I/O CONN	E/M
3	B-DD-A6002-0	D/A FOR MNCAA	E/M				
	A-PL-A6002-0-0	D/A FOR MINC	E/M				
	D-UA-A6002-0-0	D/A	E/M				
	D-CS-A6002-0-1	4 CHANNEL D/A	E/M				
4	C-IA-7015437-0-0	MODULE PANEL ASSY (MNCAA)	M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL

**digital**

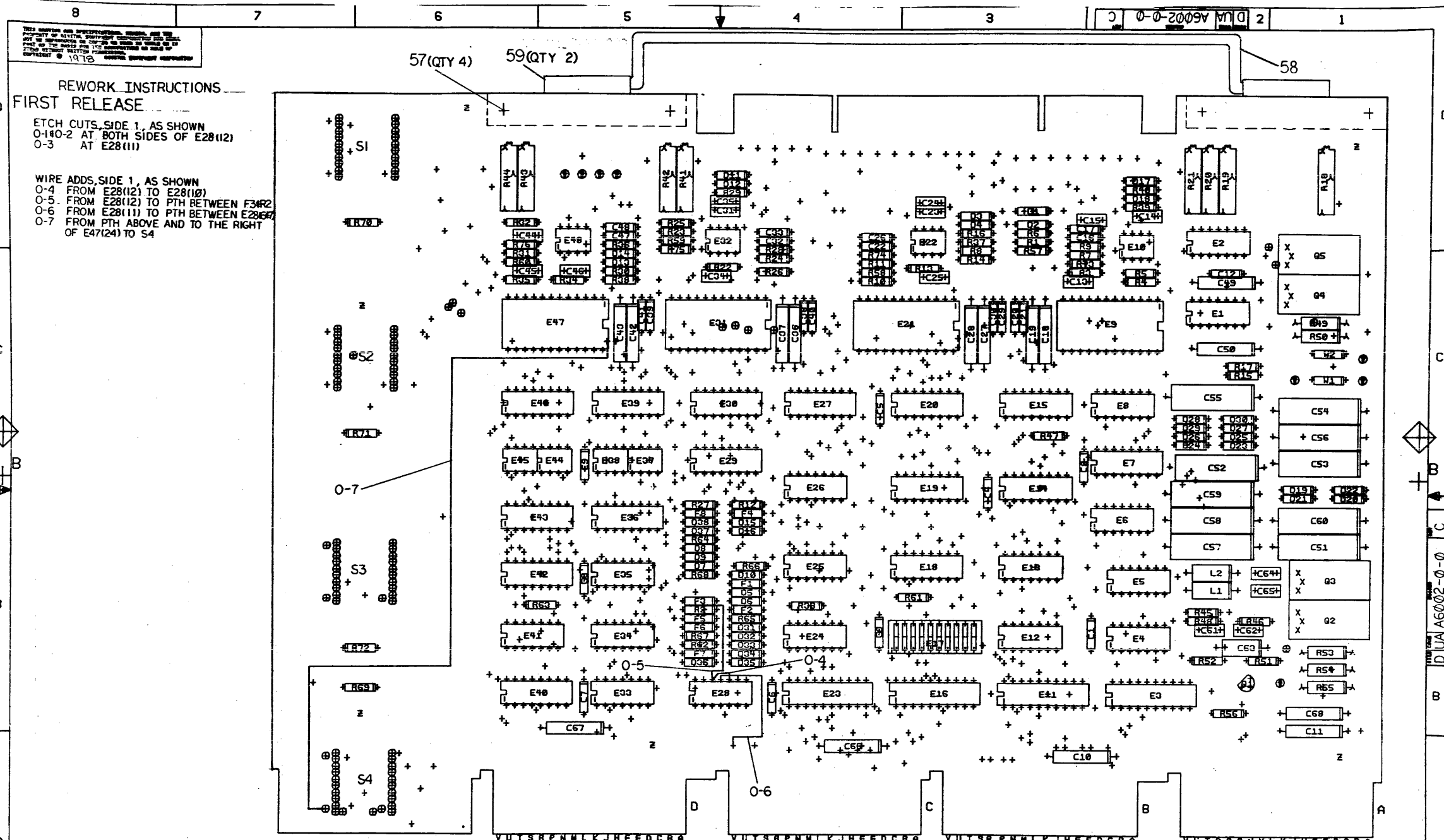
TITLE MNCAA UNIT ASSY

SHEET 3 OF 3

SIZE CODE  
B DD

NUMBER  
MNCAA-0

REV  
A



**REWORK INSTRUCTIONS**  
**FIRST RELEASE**  
 ETCH CUTS, SIDE 1, AS SHOWN  
 O-140-2 AT BOTH SIDES OF E28(II)  
 O-3 AT E28(III)

WIRE ADDS, SIDE 1, AS SHOWN  
 O-4 FROM E28(II) TO E28(IG)  
 O-5 FROM E28(II) TO PTH BETWEEN F34R2  
 O-6 FROM E28(II) TO PTH BETWEEN E28(IG)  
 O-7 FROM PTH ABOVE AND TO THE RIGHT  
 OF E47(24) TO S4

**NOTES:** DO NOT INSERT R73 THRU  
 R76, SPARES

CHANGE NO.	REV.

SIGNATURES		DATE
DRN: <i>[Signature]</i>		5/20/73
CHK: <i>[Signature]</i>		4/25/73
ENG: <i>[Signature]</i>		3/27/73
PROJ. ENG: <i>[Signature]</i>		3/27/73
PROD. <i>[Signature]</i>		3/27/73
SCALE: 2/1		
SHT. 1 OF 4		
NEXT HIGHER ASSY: B-DD-A6002-0		

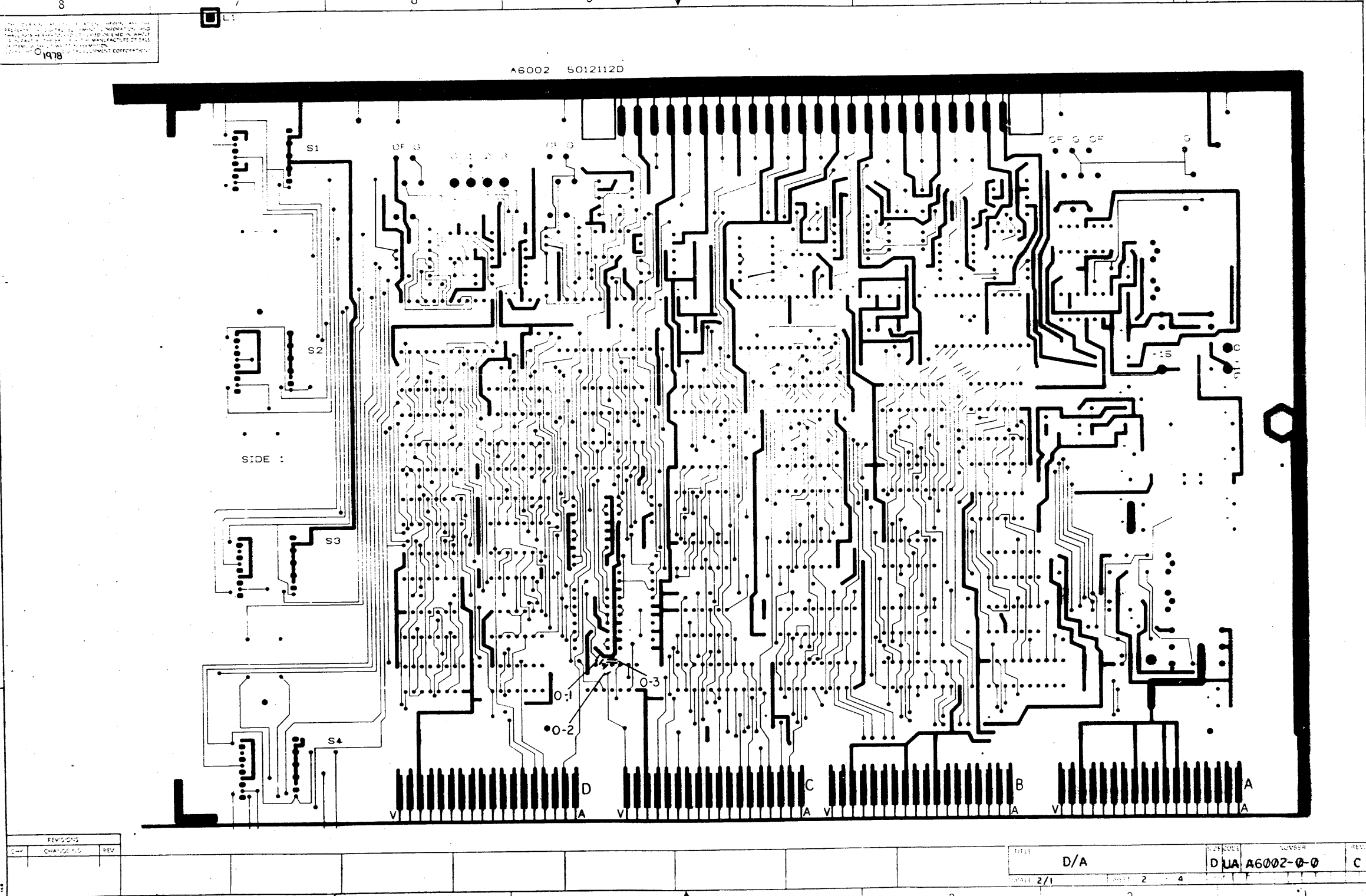
digital		
TITLE D/A		
SIZE CODE	NUMBER	REV
b UA A6002-0-0		C

1 MS#30306

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. THIS DRAWING IS THE PROPERTY OF THE MANUFACTURER AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

A6002 50121120

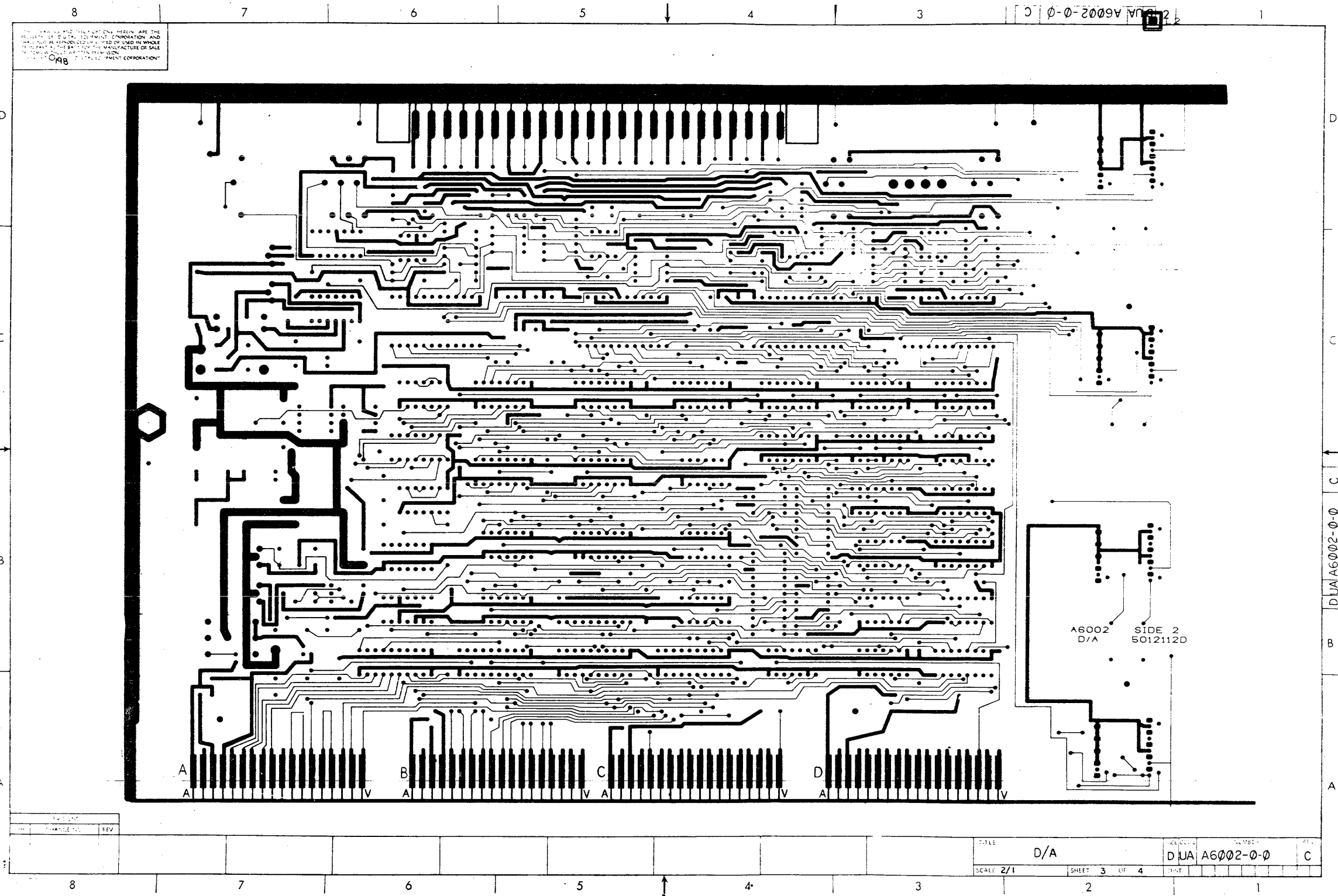
D/A A6002-0-0 2



REVISIONS		
NO.	DATE	DESCRIPTION

TITLE	D/A	DATE	2/1	REV	C
NUMBER	D/A A6002-0-0				

131



ALL RIGHTS RESERVED. THIS DOCUMENT IS UNCLASSIFIED AND  
 THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN  
 OTHERWISE. DATE 08-12-2010 BY 60322/UCBAW/SMT/STW/STW

D/JA A6002-0-0

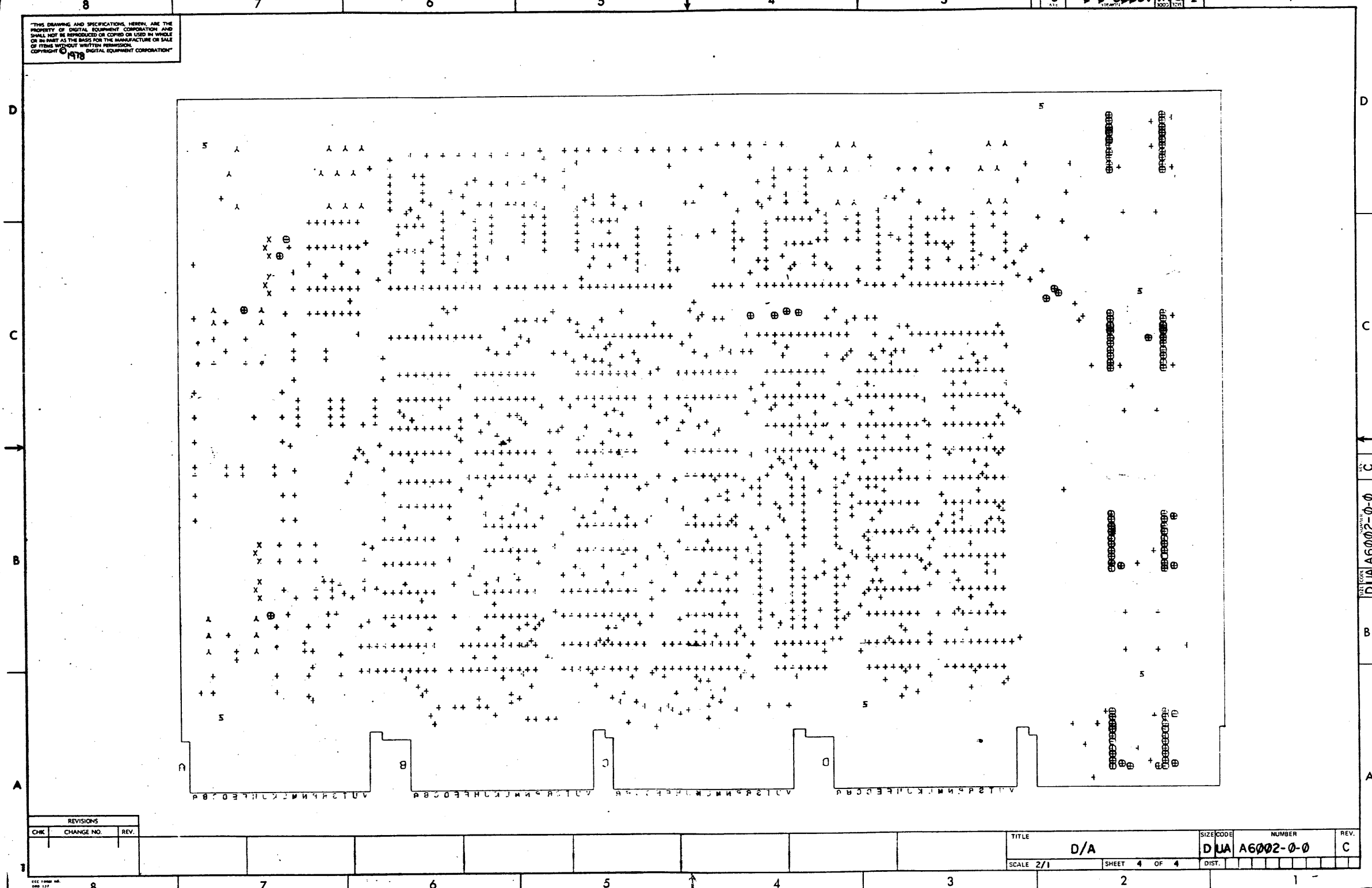
A6002  
 D/A SIDE 2  
 5012112D

REV		TITLE		D/A		D/JA A6002-0-0		C	
SCALE 2/1		SHEET 3 OF 4		DATE		DRAWN		CHKD	

131

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 © 1970 DIGITAL EQUIPMENT CORPORATION

0-0-2009V M G 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	D/A	SIZE CODE	NUMBER	REV.
SCALE	2/1	SHEET	4 OF 4	C
DIST.				

132

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012112-0-0	5012112-00	ETCH BD (A6002)	1	
2	2		1012784-00	.047 MFD 50V XZ CER. ♢	26	C1-C9,C12,C16,C17,C20,C21,C22,
						CONT C26,C29,C30,C32,C33,C38,C39,
						CONT C40,C41,C47,C48
3	3		1004812-00	15 MFD 20V 10% 150D S.TA (10-00)	15	C10,C11,C18,C19,C27,C28,C36,
						CONT C37,C42,C43,C49,C50,C66,C67,
						CONT C68
4	4		1001610-01	.01 MFD 100V OR 50V Z5U DISC/800PF MIN	10	C13,C15,C24,C25,C34,C35,C44,
						CONT C45,C64,C65
5	5		1000015-00	82.0 MMF 100V 5% 200PPM DM15S (10-00)	4	C14,C23,C31,C46
6	6		1002433-00	22 MFD 35V 20% 150D S.TA (10-00)	6	C51,C52,C54,C55,C59,C60
7	7		1005335-00	39 MFD 20V 10% 150D S.TA (10-00)	4	C53,C56,C57,C58
8	8		1001631-00	390.0 MMF 100V 5% 200PPM DM15S (10-00)	2	C61,C62
9	9		1001776-00	1 MFD 35V 10% 150D S.TA (10-00)	1	C63
10	10		1105275-00	D 672 TR= 15MS PIV= 60V SP	36	D1-D16,D19-D38
11	11		1109502-00	1N 4742 VZ= 12.0 10% 1W Y	2	D17,D18
12	12		1303226-00	68.1 1/4W 1% RN55D-F 100PPM (13-00)	8	R1,R10,R23,R34,R69-R72
13	13		1300365-00	1 K 1/4W 5% CC (13-00)	18	R2,R12,R27,R33,R39,R40,R45,
						CONT R47,R51,R56,R61-R68
14	14		1300479-00	10 K 1/4W 5% CC (13-00)	6	R3,R13,R22,R35,R46,R48
15	15		1300207-00	50 1/4W 1% RN55C-F 50PPM (13-00)	4	R4,R11,R25,R31
16	16		1311653-00	2.15 K 1/4W 1% RN55D-F 100PPM (13-00)	4	R5,R14,R28,R32
17	17		1310881-02	47 1/4W 1% FUSIBLE	4	R6,R16,R29,R36
18	18		1302398-00	470 K 1/4W 5% CC (13-00)	4	R7,R24,R30,R37
19	19		1309595-00	1 M 1/4W 5% CC (13-00)	4	R8,R9,R26,R38
20	20		1310881-00	1 K 1/4W 1% FUSIBLE	2	R15,R17
21	21		1309143-05	200 3/4W 10% POT 100PPM	4	R18,R20,R41,R43
22	22		1309143-11	20 K 3/4W 20% POT 100PPM	4	R19,R21,R42,R44
23	23		1309444-00	2.7 1/2W 10% CC (13-00)	2	R49,R50
24	24		1300250-00	150 1/4W 5% CC (13-00)	1	R52

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		
CHK	ECD NO	REV	FIRST USED ON:		
		00	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
	INIT	C	MADE BY: A STEVENS	DATE: 16-FEB-78	TITLE
					PARTS LIST
			CHECKED: R.W.CAUNTER	DATE: 16-FEB-78	D/A
			DSN.ENG.: A.E.FILZ	DATE: 29-MAR-78	
			PROD.: R.REBELLO	DATE: 29-MAR-78	SIZE CODE! DOCUMENT NUMBER! REV
			RESP.ENG.: A.E.FILZ	DATE: 29-MAR-78	K! PL! A6002-0-DBP! C
				ASSY.NO.: D-UA-A6002-0-0	EDIT#!
					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 1978. DIGITAL EQUIPMENT CORPORATION \*

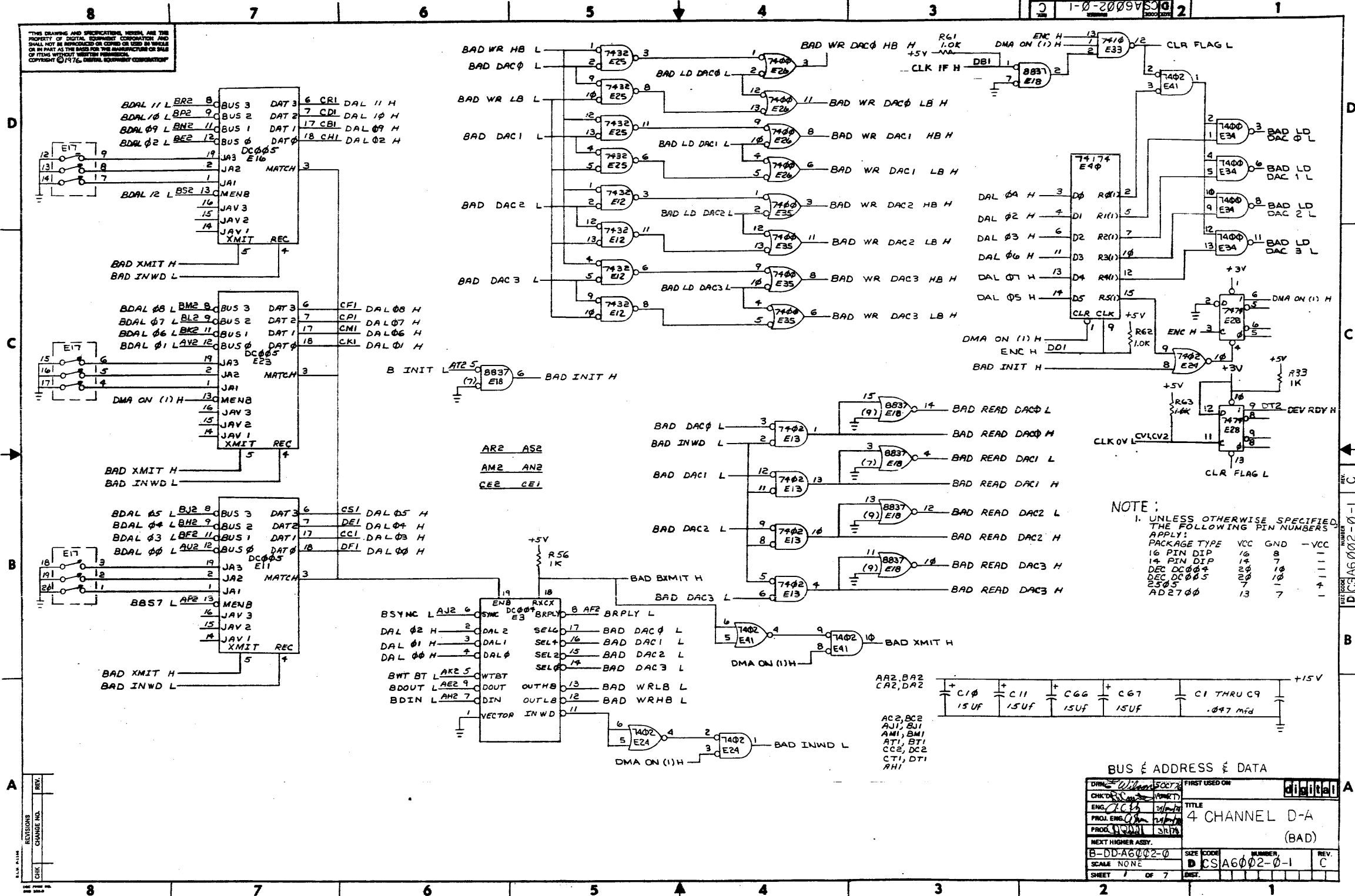
LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
25	25		1300315-00	470 1/2W 5% CC (13-00	2	R53,R54
26	26		1301781-00	82 1/2W 5% CC (13-00	1	R55
27	27		1302873-00	261 1/4W 1% RN55D-F 100PPM (13-00	4	R57,R58,R59,R60
28	28		1503409-00	DEC6534D PNP 310MW SI 40 90 P	1	Q1
29	29		1510414-00	D 45C6 PNP 30WT SI 45 20 Y	1	Q2
30	30		1510171-00	D 44C3 NPN 30WT SI 30 20 Y	3	Q3,Q4,Q5
31	31		1603377-00	.22UH 10% 2.7A #WEE.22	2	L1,L2
32	32		1913218-00	325 VOLT.REG.FIX +/-15V 50MA 14	1	E1
33	33		1913219-00	AD 2700/L ANALOG SWITCH 10V PRECISION RE	1	E2
34	34		1912729-00	DC 004 PROTOCOL,REG. SELECTOR	1	E3
35	35		1909054-00	7493 COUNTER,ASYNCH UP,BINARY	1	E4
36	36		1909686-00	7404 INVERTER GATE-HEX 1IN	1	E5
37	37		1905576-00	7410 NAND GATE-TRIPLE 3IN	2	E6,E33
38	38		1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIGGERABLE	1	E7
39	39		1910741-00	7406 INVERTER GATE-HEX 1IN,BUFFER,0	1	E8
40	40		1912401-00	AD562 DAC,12BIT,MULT	4	E9,E21,E31,E47
41	41		1911144-00	DEC 2505 OP AMP .1% SETTLE	4	E10,E22,E32,E48
42	42		1913040-00	DC 005 TRANSCEIVER 4BIT	3	E11,E16,E23
43	43		1911521-00	7432 OR GATE-QUAD 2IN, POSITIVE	2	E12,E25
44	44		1909004-00	DEC 7402 NOR GATE-QUAD 2IN	3	E13,E24,E41
45	45		1912951-00	DM 8556 COUNTER,BINARY,4BIT	12	E14,E15,E19,E20,E27,E29,E30,
					CONT	E36,E39,E42,E43,E46
46	46		1911116-00	DEC 8837 RECEIVER,BUS,HEX,UNIBUS	1	E18
47	47		1905575-00	7400 NAND GATE-QUAD 2IN	3	E26,E35,E34
48	48		1905547-00	DEC 7474 FF-D DUAL,EDGE TRIGGER,15MHZ	1	E28
49	49		1910645-00	75452 DRIVER,PERIPH,DUAL,NAND	2	E37,E44
50	50		1910406-00	75451 DRIVER,PERIPH,DUAL,AND	2	E38,E45
51	51		1910652-00	74174 FF-D HEX	1	E40
52	52		9006735-00	EYELET, FUNNEL FLANGE, .059 OD X .187 LG	8	TP1-TP8
53	53		9009122-00	FUSE, SUB-MINI, .062A, 125V, AXIAL LEAD	8	F1-F8
54	54		9009185-00	JUMPER, WIRE, INSULATED, BLACK BAND	2	W1,W2
55	55		1211164-06	SW,DIP 1P 1A 10POS \$	1	E17
56	56		1214354-00	SW,ROT 3P 4A 2 SECTION	4	S1-S4
57	57		9006732-00	EYELET, ROLLED FLANGE, .121 OD X .219 LG	4	
58	58	C-MD-7420191-0-0	7420191-00	HANDLE	1	
59	59	C-MD-7420192-0-0	7420192-00	HANDLE RETAINER	2	

TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	D/A	K	PL	A6002-0-DBP	C

13



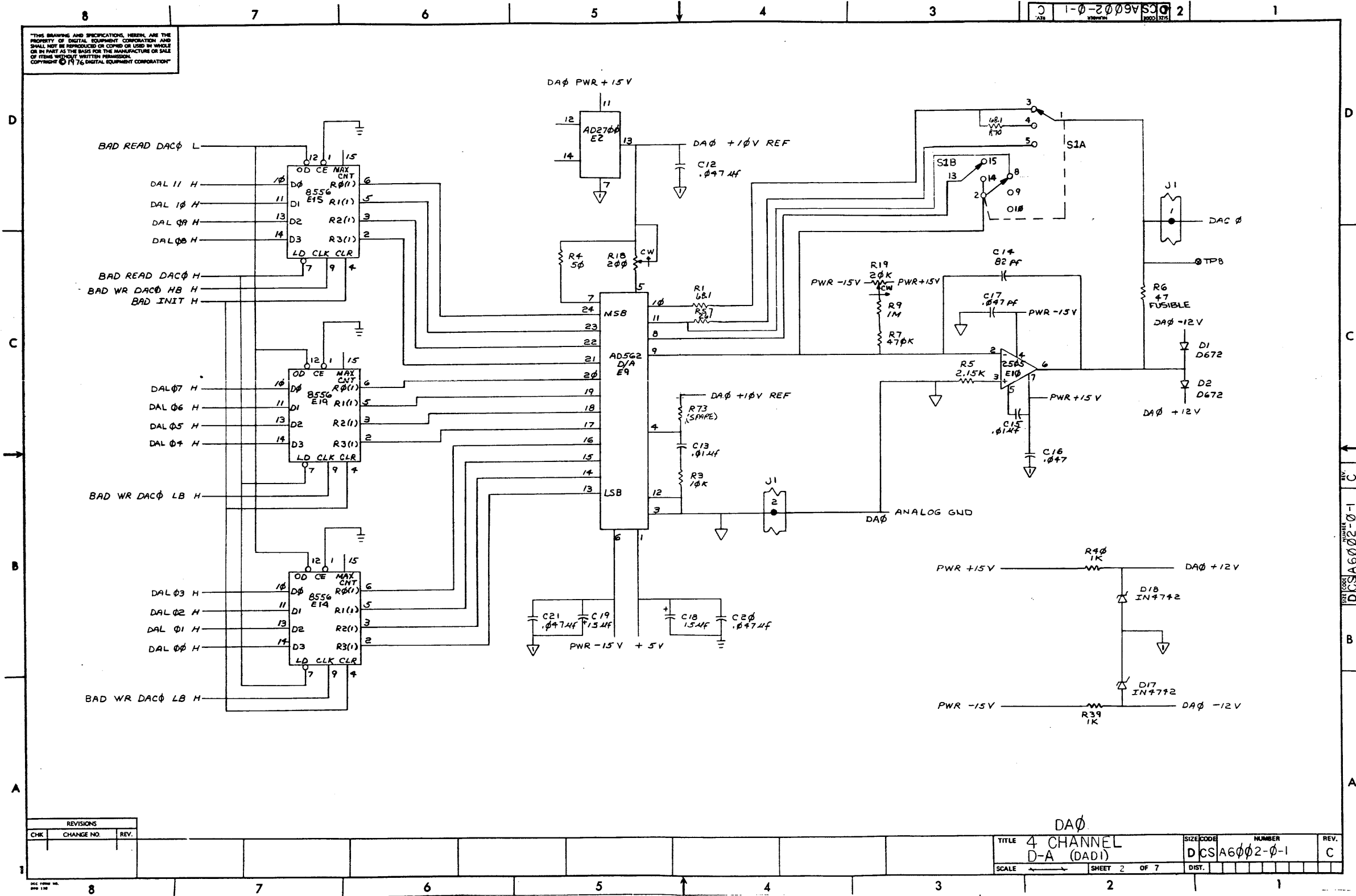
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976, DIGITAL EQUIPMENT CORPORATION



DATE: 1/15/77	FIRST USED ON: digital
CHK'D: [Signature]	TITLE: 4 CHANNEL D-A (BAD)
ENG: [Signature]	SCALE: NONE
PROJ. ENG: [Signature]	SHEET: 1 OF 7
PROC: [Signature]	SIZE CODE: D
NEXT HIGHER ASSY: B-DD-A6002-0	NUMBER: CS-A6002-0-1
REV: C	REV: C

135

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

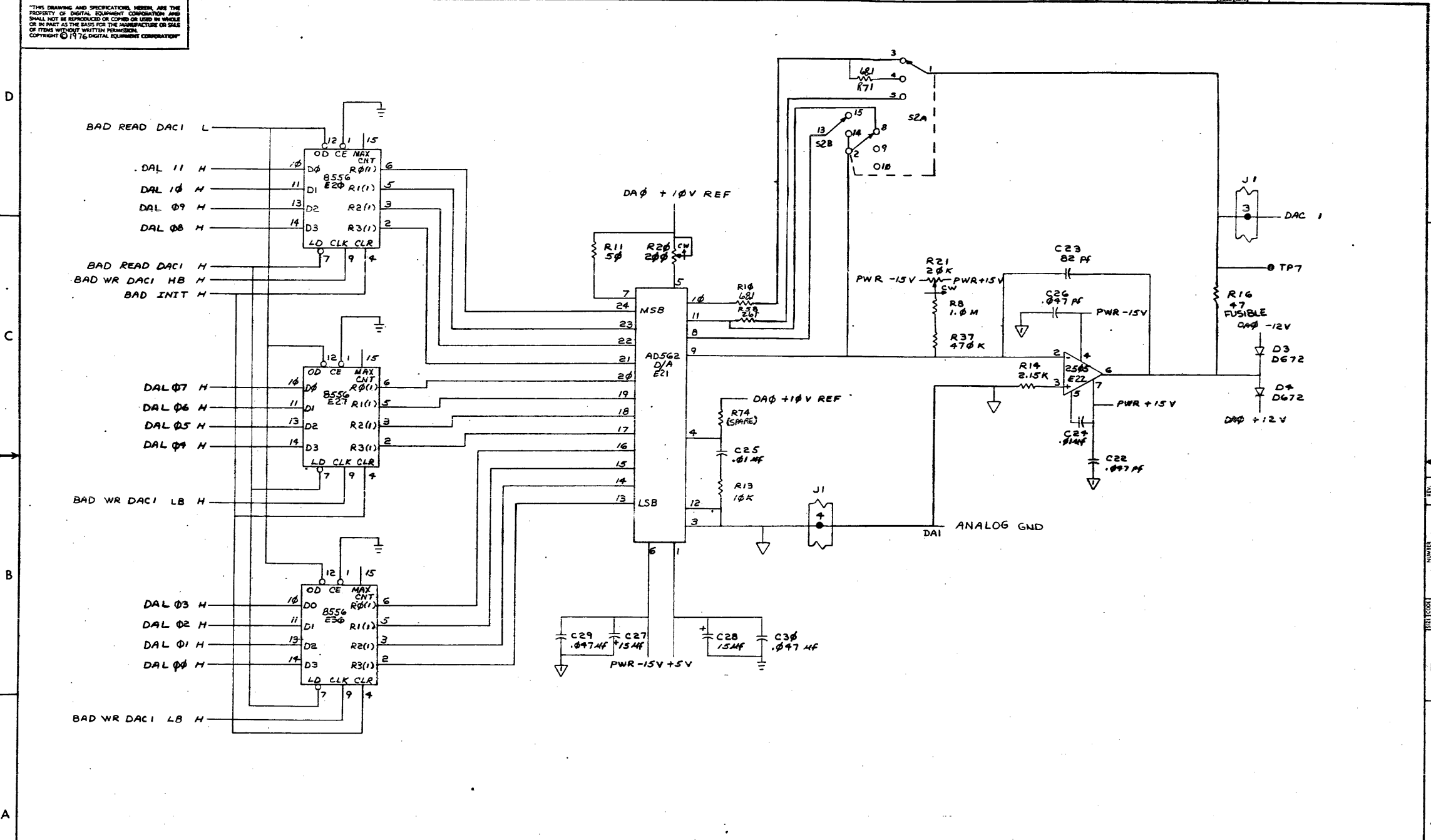


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE 4 CHANNEL D-A (DAD)		SIZE CODE DCS A6002-0-1	NUMBER C
SCALE	SHEET 2 OF 7	DIST.	

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

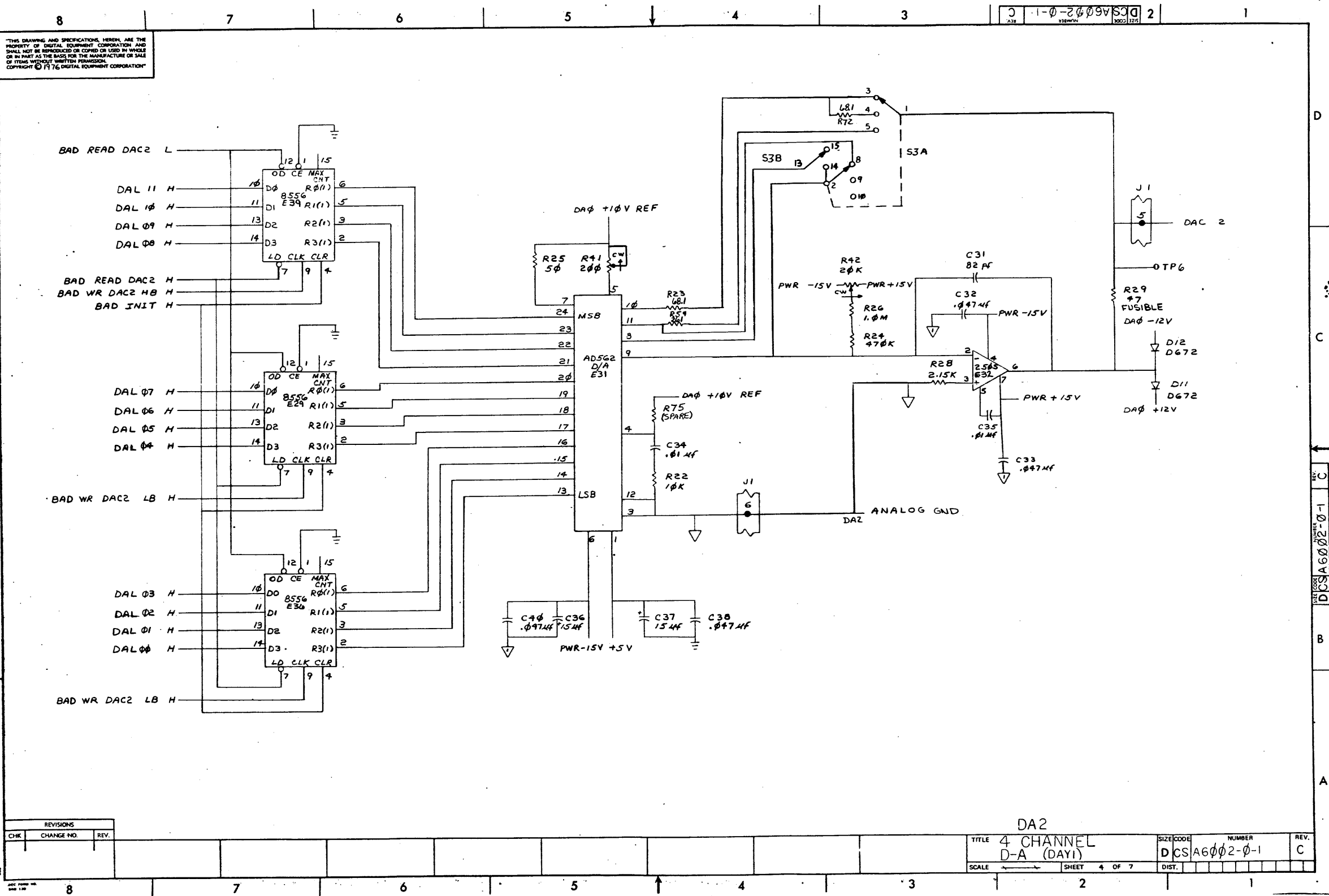
DCSA6002-0-1



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	4 CHANNEL D-A (DAD2)	SIZE CODE	NUMBER	REV.
SCALE	SHEET 3 OF 7	DIST.	DCSA6002-0-1	C

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION

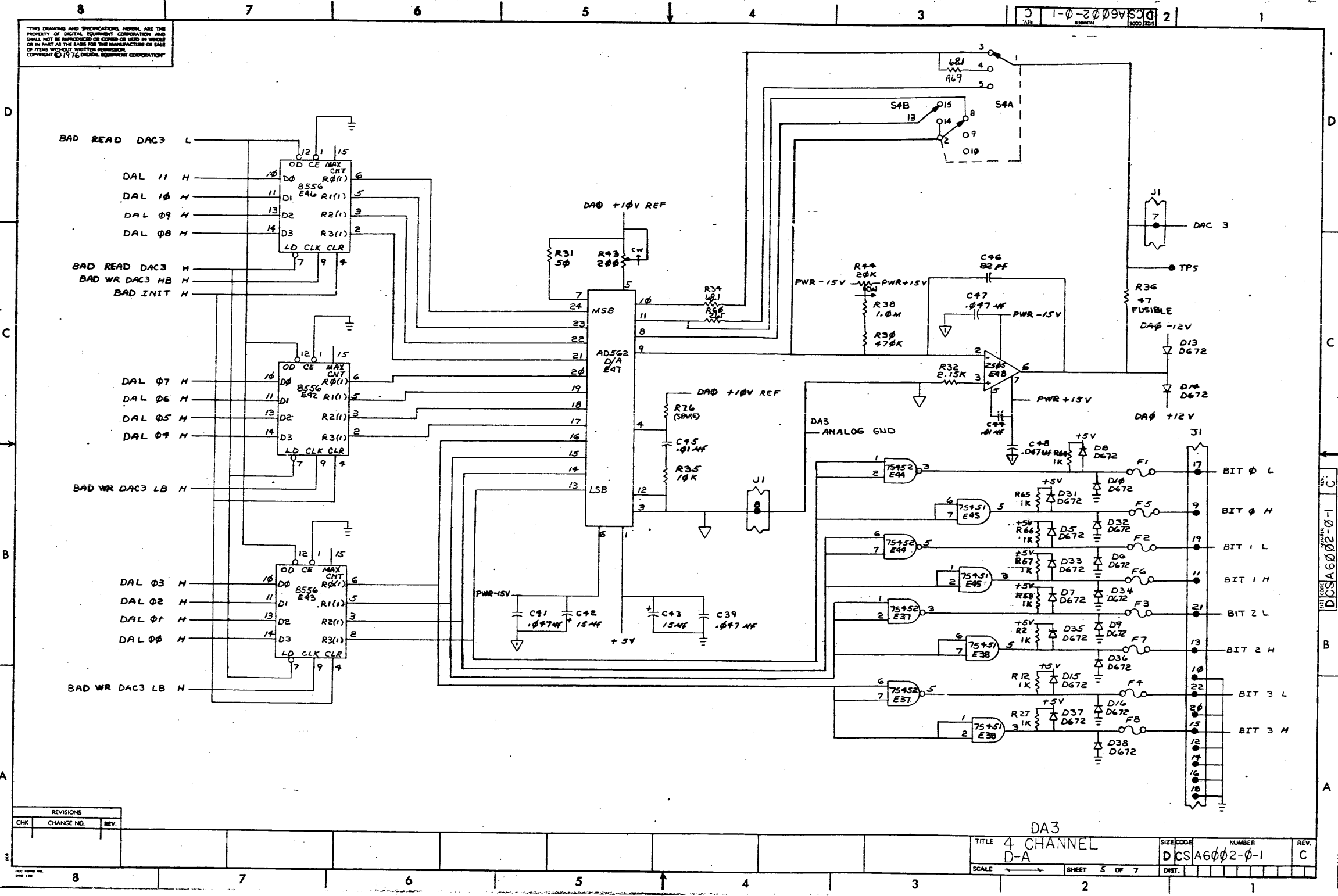


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE/CODE		NUMBER		REV.
DA2 4 CHANNEL D-A (DAY1)		DCS A6002-0-1		2		C
SCALE		SHEET		DIST.		
		4 OF 7				

138

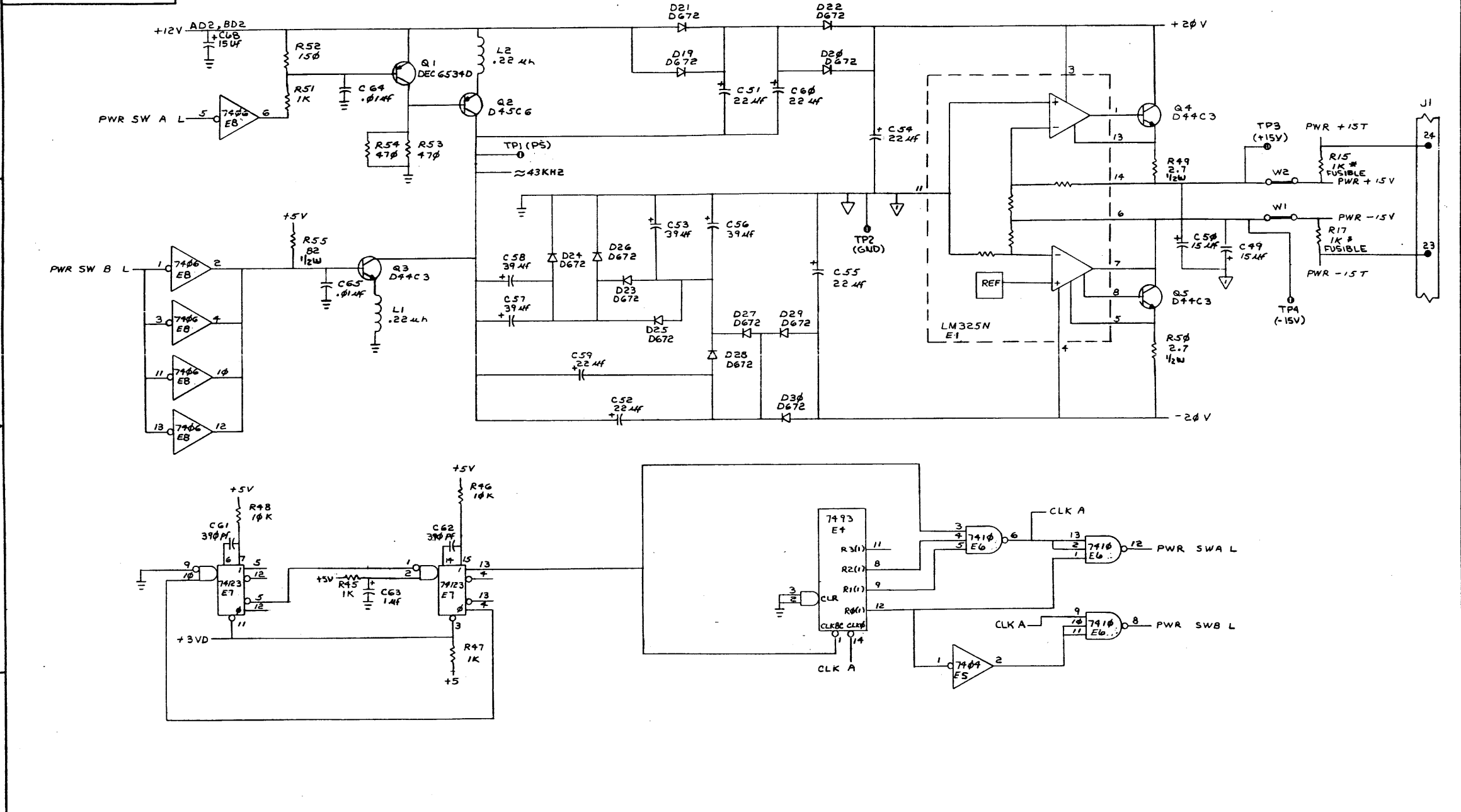
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

DA3  
 TITLE 4 CHANNEL  
 D-A  
 SIZE CODE NUMBER  
 DCSA6002-0-1  
 SCALE SHEET 5 OF 7  
 DIST. REV. C

"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"



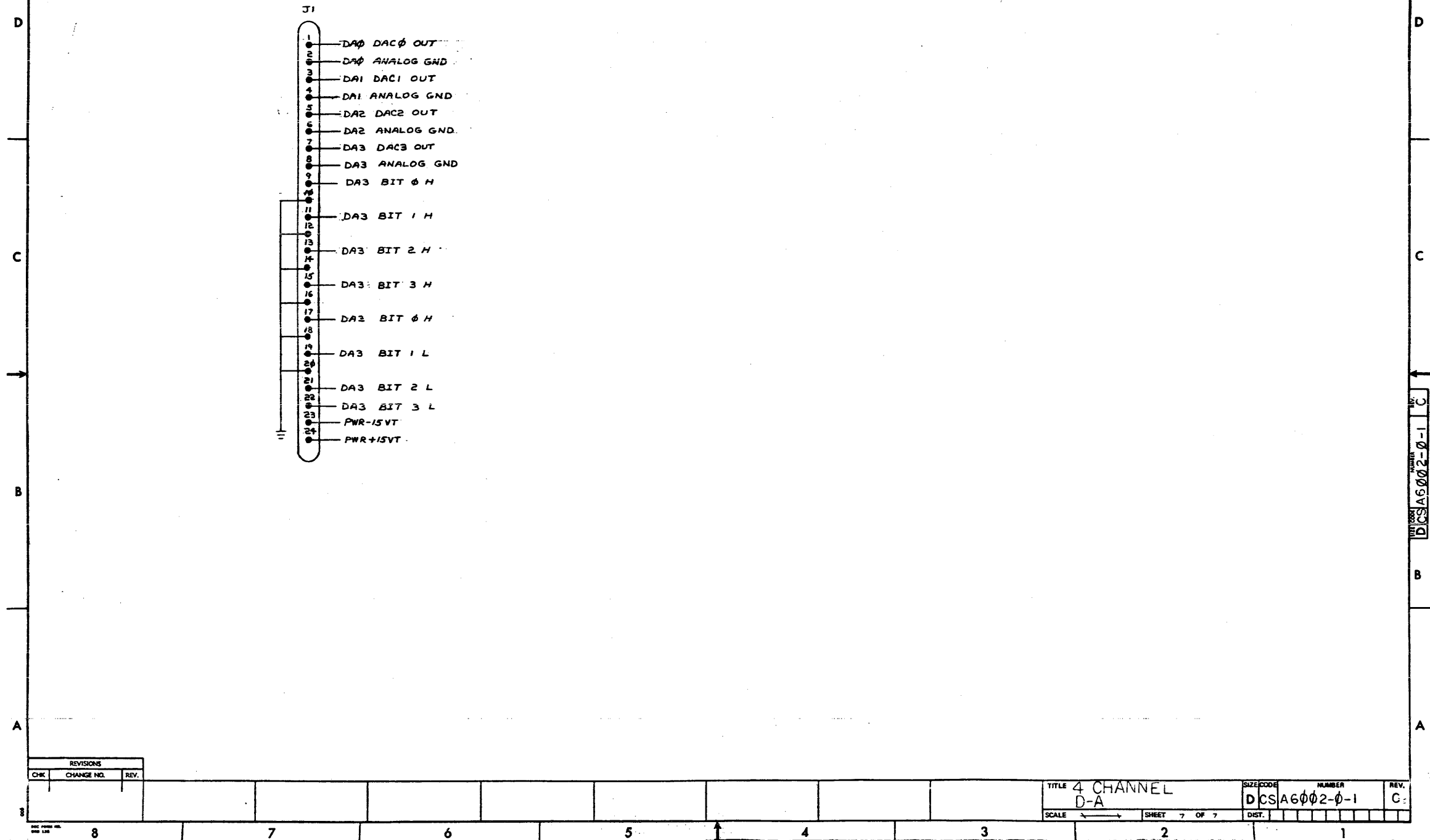
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE 4 CHANNEL D-A		SIZE CODE DCSA6002-0-1	NUMBER	REV. C
SCALE	SHEET 6 OF 7	DIST.		

14

THESE DRAWINGS AND SPECIFICATIONS HEREBY 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 © 1970 DIGITAL EQUIPMENT CORPORATION

DCSA6002-0-1 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	4 CHANNEL	SIZE CODE	NUMBER	REV.
D-A	DCSA6002-0-1		G	
SCALE	SHEET 7 OF 7	DIST.		

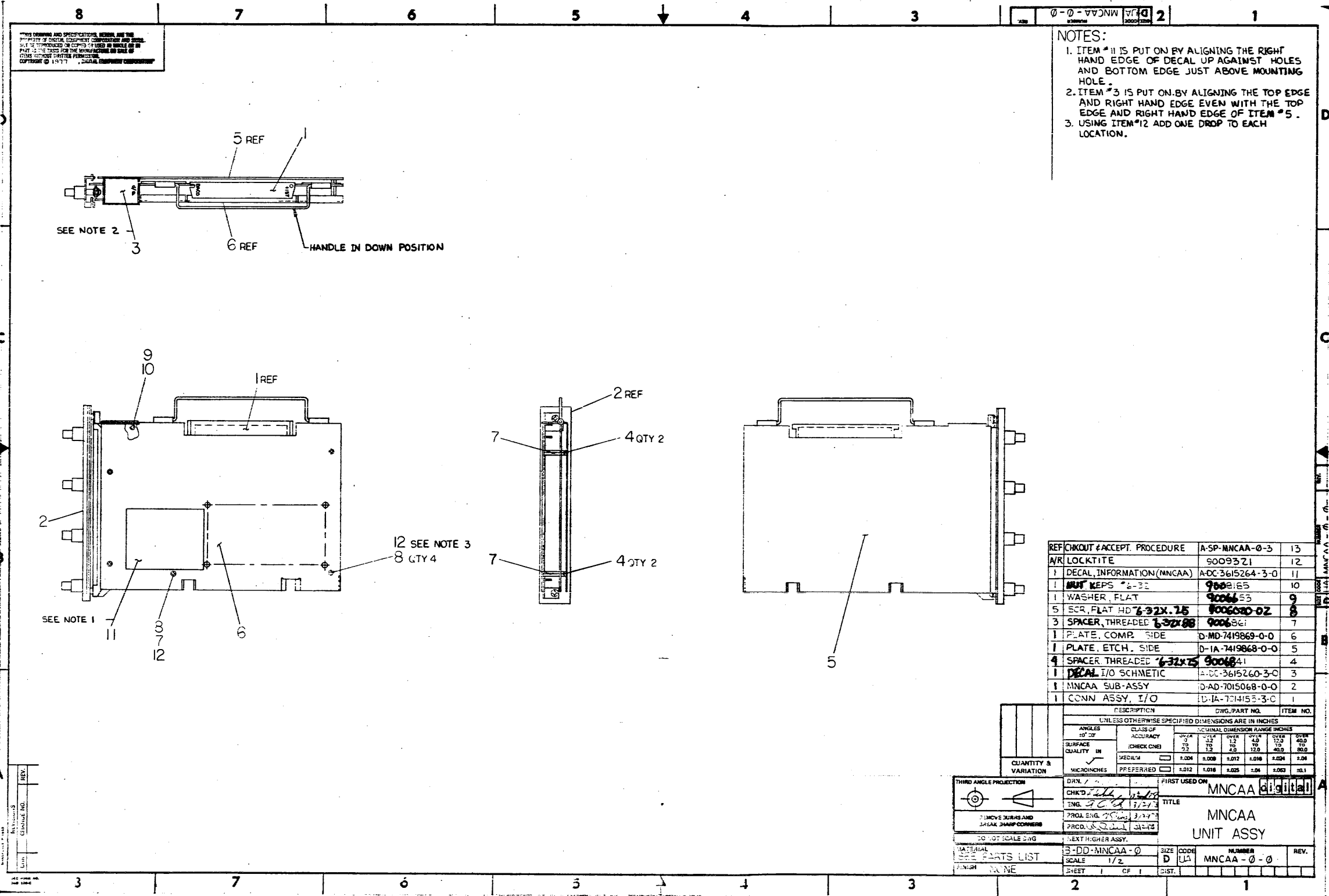
141

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION																	
MADE BY M. Archie		CHECKED <i>J. Flanigan</i>		SECTION																	
DATE 7 MARCH 78		DATE 19 MAY 78		1																	
ENG <i>A.C. Kelly</i>		PROD <i>B Cook</i>		ISSUED SECT.																	
DATE 23-MAY-78		DATE 23-MAY-78		1																	
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																			
1	D-UA-MNCAA- $\beta$ - $\beta$	MNCAA UNIT ASSY		1																	
2	MP $\beta$ $\beta$ 59 $\beta$	PRINT SET MNCAA		1																	
3	AA-D572A-TC	WORKING WITH MINC DEVICE		1																	
TITLE SHIP LIST MNCAA				ASSY NO. <i>+ +</i>		SIZE <b>A PL</b>		NUMBER MNCAA- $\beta$ -SH		REV		ECO NO.									
				SHEET 1 OF 1		DIST															

DEC FORM  
DRA 110

142





NOTES:

- ITEM # 11 IS PUT ON BY ALIGNING THE RIGHT HAND EDGE OF DECAL UP AGAINST HOLES AND BOTTOM EDGE JUST ABOVE MOUNTING HOLE.
- ITEM # 3 IS PUT ON BY ALIGNING THE TOP EDGE AND RIGHT HAND EDGE EVEN WITH THE TOP EDGE AND RIGHT HAND EDGE OF ITEM # 5.
- USING ITEM # 12 ADD ONE DROP TO EACH LOCATION.

REF	CHKOUT #	ACCEPT. PROCEDURE	A-SP-MNCAA-0-3	13
A/R	LOCKTITE		9009321	12
1	DECAL, INFORMATION (MNCAA)		A-DC-3615264-3-0	11
1	BUT KEPS #6-32		9008165	10
1	WASHER, FLAT		9006655	9
5	SCR, FLAT HD 6-32X.75		9006020-02	8
3	SPACER, THREADED 6-32X.88		9006861	7
1	PLATE, COMP. SIDE		D-MD-7419869-0-0	6
1	PLATE, ETCH. SIDE		D-1A-7419868-0-0	5
4	SPACER, THREADED 6-32X.75		9006841	4
1	DECAL I/O SCHEMATIC		A-DC-3615260-3-0	3
1	MNCAA SUB-ASSY		D-AD-7015068-0-0	2
1	CONN ASSY, I/O		D-1A-7014155-3-0	1

DESCRIPTION	DWG. PART NO.	ITEM NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES						
ANGLES 1/2°	CLASS OF ACCURACY	DECIMAL DIMENSION RANGE INCHES				
SURFACE QUALITY IN	CHECK CNE	UNDER 1.2	1.2	4.0	12.5	40.0
		1.2	4.0	12.5	40.0	80.0
MEDIUM	PREFERRED	0.004	0.008	0.012	0.016	0.020
		0.012	0.016	0.020	0.024	0.031

THIRD ANGLE PROJECTION	DRN. /	FIRST USED ON
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D. <i>[Signature]</i>	MNCAA digital
DO NOT SCALE DWG	ENG. <i>[Signature]</i>	TITLE
	PROJ. ENG. <i>[Signature]</i>	MNCAA UNIT ASSY
	PROD. <i>[Signature]</i>	
MATERIAL	NEXT HIGHER ASSY.	
SEE PARTS LIST	3-DD-MNCAA-0	SIZE CODE
FINISH NONE	SCALE 1/2	D UA
	SHEET 1 OF 1	NUMBER
		MNCAA-0-0
		REV.

MA

**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS

**ENGINEERING SPECIFICATION**

TITLE MNCAA INSTALLATION/ACCEPTANCE PROCEDURE DATE 6/30/78

REV	DESCRIPTION	REVISIONS		
		CHG NO	DATE	APPD. BY

ENG *[Signature]* 5-24-78 APPD *[Signature]* 10-24-78  
 DEC FORM NO EN-9102Z-16-370-1(341)  
 DRA 101 sheet 1 of 14 MA

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.

MA

**ENGINEERING SPECIFICATION**

TITLE MNCAA INSTALLATION/ACCEPTANCE PROCEDURE

Table of Contents

- 1.0 General
  - 1.1 Scope
  - 1.2 Equipment
  - 1.3 Documentation
  - 1.4 Flow Diagram
- 2.0 Installation
  - 2.1 Address
  - 2.2 Location
  - 2.3 Test Module
  - 2.4 Power Up
  - 2.5 Diagnostics
- 3.0 Acceptance With Test Module
  - 3.1 General Information
  - 3.2 Logic Test
  - 3.3 Output Test
  - 3.4 Ramp Test
  - 3.5 Calibration Test
  - 3.6 Dynamic Test
- 4.0 Acceptance Without Test Module

SIZE CODE A SP NUMBER MNCAA-0-4 REV 14  
 DEC FORM NO EN-9102Z-16-370-1(341)  
 DRA 108 MA SHEET 2 OF 14

MA

**ENGINEERING SPECIFICATION**

TITLE MNCAA INSTALLATION/ACCEPTANCE PROCEDURE

1.0 GENERAL

1.1 Scope  
 This document describes the procedures for the installation and field acceptance of the MNCAA (4 Channel D/A Converter) option for the MINC-11 system. This procedure will be used for in-house FAST, field add-on and new system installation, and periodic verification testing.

1.2 Equipment

MINC-11	System
MNCAA-TA	Test Module (Optional)
7014153-3-0	I/O Connector
Reference	Precision Digital Voltage Meter

1.3 Documentation

MAIN DEC-11-DVHMID-A	Diagnostic Program
MP00590	Print Set
AA-D572A-TC	Working with MINC Devices

SIZE CODE A SP NUMBER MNCAA-0-4 REV 14  
 DEC FORM NO EN-9102Z-16-370-1(341)  
 DRA 108 MA SHEET 3 OF 14

MA

**ENGINEERING SPECIFICATION**

TITLE MNCAA INSTALLATION/ACCEPTANCE PROCEDURE

1.4 Flow Diagram

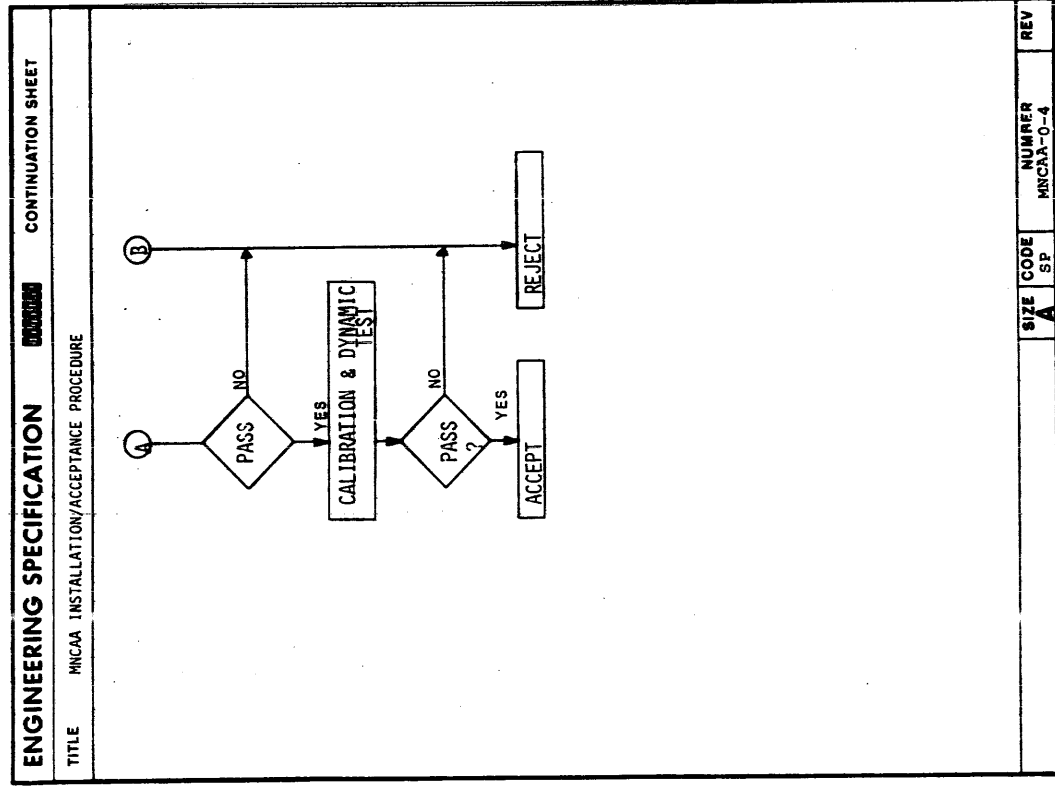
```

graph TD
  ADDRESS[ADDRESS] --> INSERT[INSERT OPTION]
  INSERT --> DWARE{DWARE?}
  DWARE -- YES --> PLUG[PLUG IN DWARE]
  PLUG --> POWER[POWER UP]
  POWER --> LOAD[LOAD DIAGNOSTIC]
  LOAD --> START[START 200]
  START --> LOGIC[LOGIC TEST]
  LOGIC --> PASS{PASS?}
  PASS -- YES --> RAMP[RAMP TEST]
  RAMP --> A((A))
  PASS -- NO --> B((B))
  DWARE -- NO --> B
  
```

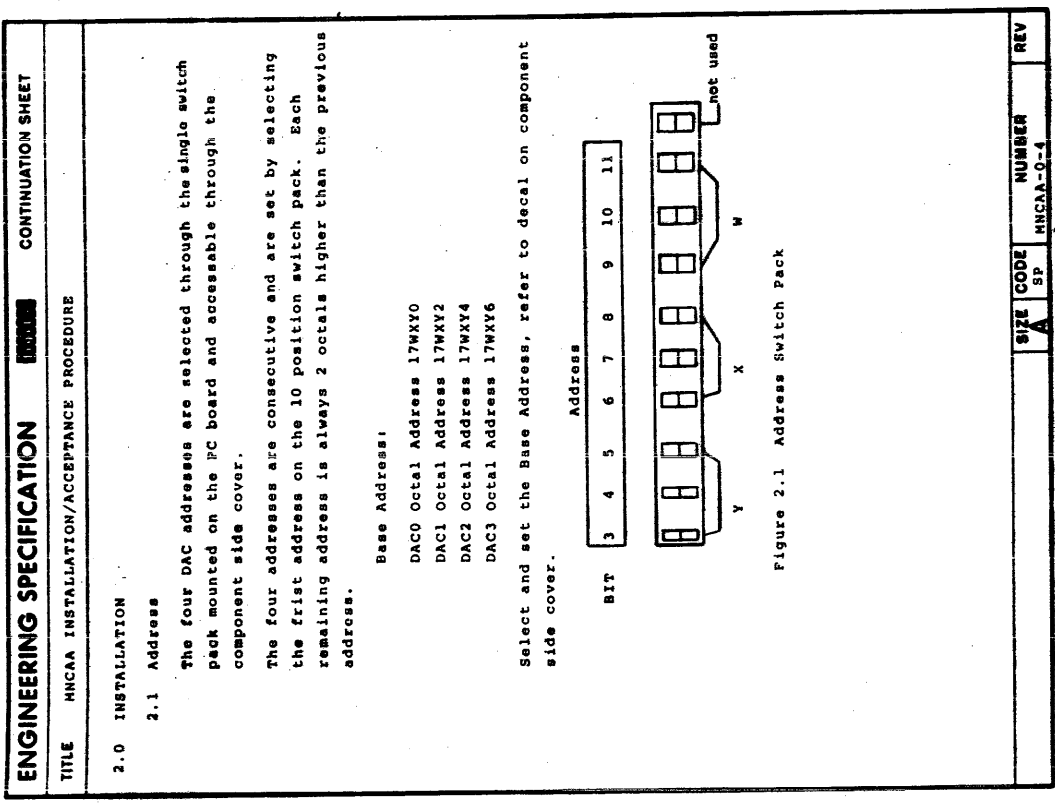
SIZE CODE A SP NUMBER MNCAA-0-4 REV 14  
 DEC FORM NO EN-9102Z-16-370-1(341)  
 DRA 108 MA SHEET 4 OF 14

144

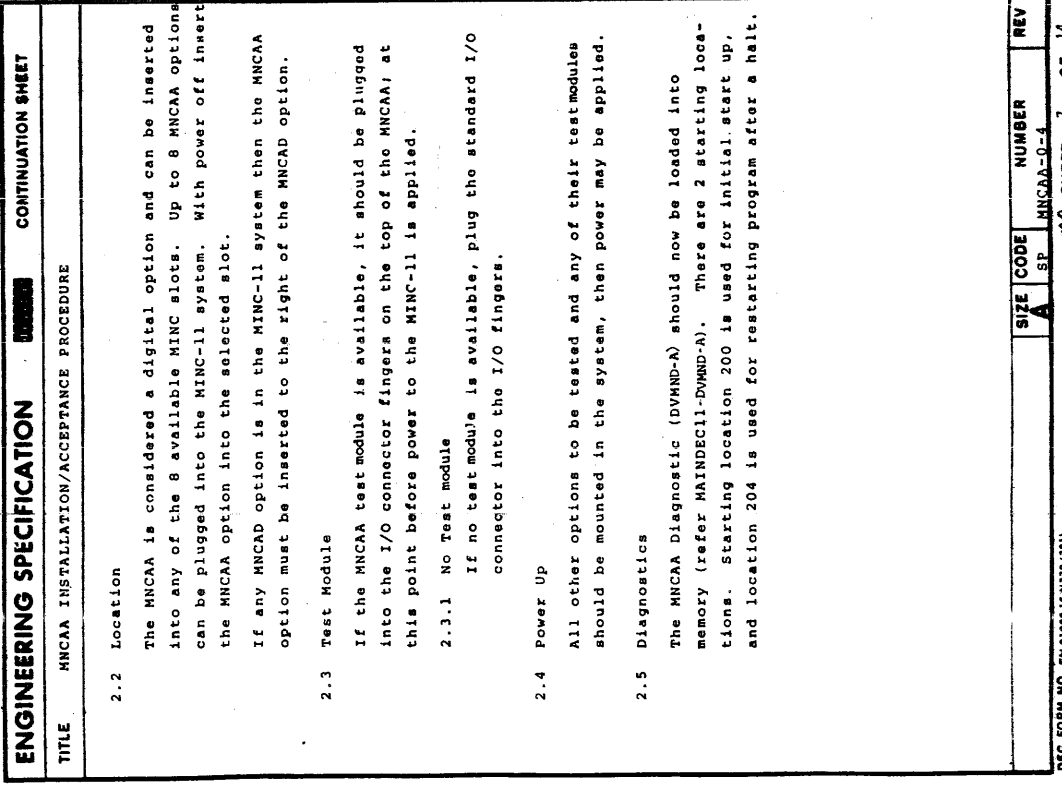
MP



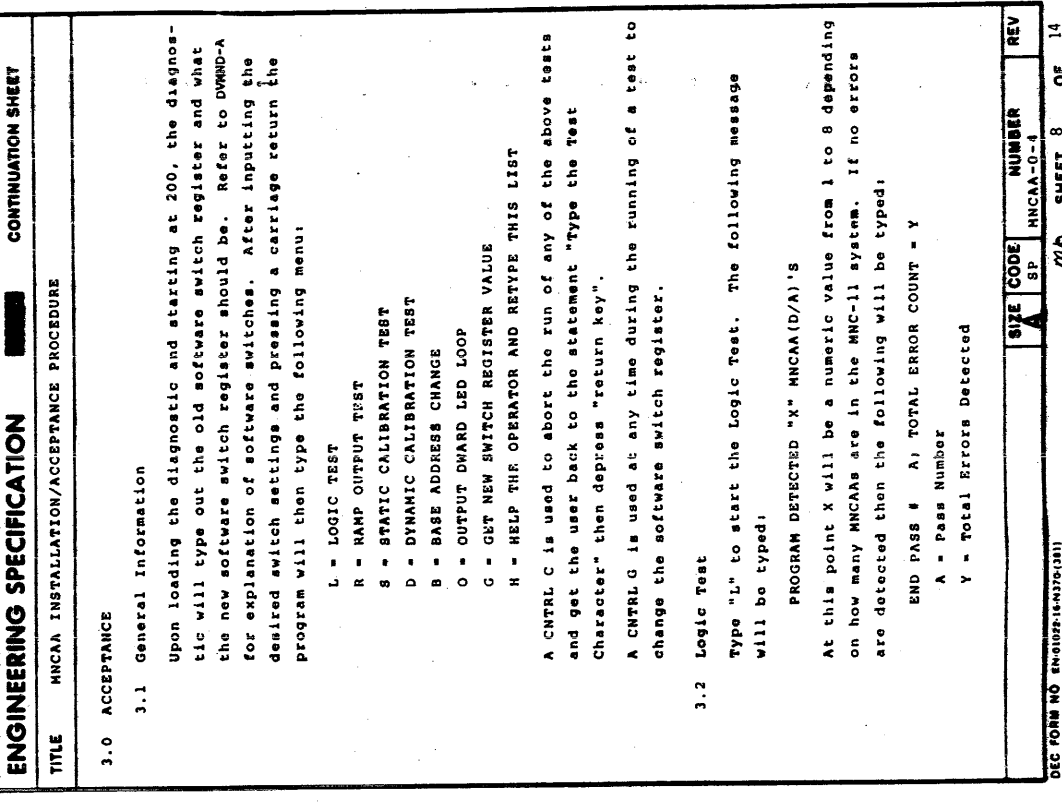
MP



MP



MP



MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCMA INSTALLATION/ACCEPTANCE PROCEDURE			
<p>A minimum of 10 passes should be run to ensure that the Logic section of the MNCMA is working properly.</p> <p>3.3 Output Test</p> <p>Upon completion of Logic Test type a CNTRL C. The following message will then be typed out:</p> <p>"TYPE THE 'TEST CHARACTER' THEN DEPRESS 'RETURN KEY'"</p> <p>3.3.1 Type "0" and carriage return. This will check out the 4 data bits of DAC3 that are brought out to the I/O converter.</p> <p>There are 8 LED's mounted on top of the MNCMA module. See Figure 1 below.</p> <div> </div> <p>3.3.2 The diagnostic will turn Bit beta L off and Bit beta H on. The program will then go to Bit 1 then 2 then 3 and then repeat itself. After running this test and insuring the 4 data bits High and Low are working properly, type CNTRL C.</p> <p>3.4 Ramp Test</p> <p>Type "R" and carriage return. The program is now ready to run the Ramp Output Loop.</p> <p>3.4.1 Set all front panel switches, large knob to 5 and small knob to 1.</p>			
DEC FORM NO EN-01022-16-N376(381) DRA 108		SIZE CODE A SP	NUMBER MNCMA-0-4
		MR SHEET 9 OF 14	

MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCMA INSTALLATION/ACCEPTANCE PROCEDURE			
<p>3.4.8 Set all front panel switches, large knob to "5"; small knob to "1".</p> <p>3.5 Calibration Test</p> <p>After completing the ramp test to insure that all channels are working properly, type a "CNTRL C". Type a "5" carriage return in response to the question type on the terminal.</p> <p>This test loads the octal number generated in the software switch register, by use of CNTRL G, into the 4 D/A's. To monitor the D/A output range use a five digit DVM, (refer to Figure 1 for proper connection to DAC outputs), to measure the DAC output.</p> <p>NOTE: All voltages monitored at test jack on test module (if test module is not available refer to Table 1 for pin assessment).</p> <p>3.5.1 To adjust the D/A converter, type CNTRL G, then type the appropriate octal number as shown in Table 2 and adjust the proper potentiometer to the desired voltage as shown.</p>			
DEC FORM NO EN-01022-16-N376(381) DRA 108		SIZE CODE A SP	NUMBER MNCMA-0-4
		MR SHEET 11 OF 14	

MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE MNCMA INSTALLATION/ACCEPTANCE PROCEDURE			
<p>3.4.2 The program generates a <math>\pm 5</math> volt ramp on all four D/A's. To observe the ramp connect an oscilloscope to DAC0 (yellow plug) and the ynd strap to gnd (black plug). The ramp should look as shown -</p> <div> </div> <p>repeat this step for DAC1, DAC2, and DAC3.</p> <p>3.4.3 Set large knob to "2.5" small knob to "1" repeat 3.4.2. The ramp should look as shown.</p> <div> </div> <p>3.4.4 Set large knob to "10" small knob to "1" repeat 3.4.2. The ramp should look as shown.</p> <div> </div> <p>3.4.5 Set large knob to "0-5", set small knob to "+". Repeat 3.4.2. The ramp should look as shown.</p> <div> </div> <p>3.4.6 Set large knob to "0-10". Set small knob to "+". Repeat 3.4.2. The ramp should look as shown.</p> <div> </div> <p>3.4.7 Example of a bad ramp.</p> <div> </div>			
DEC FORM NO EN-01022-16-N376(381) DRA 108		SIZE CODE A SP	NUMBER MNCMA-0-4
		MR SHEET 10 OF 14	

MR

ENGINEERING SPECIFICATION		CONTINUATION SHEET																																																			
TITLE MNCMA INSTALLATION/ACCEPTANCE PROCEDURE																																																					
<p>TABLE 1 I/O Connector</p> <table border="1"> <tr><td>Signal Name</td><td></td></tr> <tr><td>DAC 0</td><td>1</td></tr> <tr><td>Analog Gnd</td><td>2</td></tr> <tr><td>DAC 1</td><td>3</td></tr> <tr><td>Analog Gnd</td><td>4</td></tr> <tr><td>DAC 2</td><td>5</td></tr> <tr><td>Analog Gnd</td><td>6</td></tr> <tr><td>DAC 3</td><td>7</td></tr> <tr><td>Analog Gnd</td><td>8</td></tr> <tr><td>Bit 0 H</td><td>9</td></tr> <tr><td>Logic Gnd</td><td>10</td></tr> <tr><td>Bit 1 H</td><td>11</td></tr> <tr><td>Logic Gnd</td><td>12</td></tr> <tr><td>Bit 2 H</td><td>13</td></tr> <tr><td>Logic Gnd</td><td>14</td></tr> <tr><td>Bit 3 H</td><td>15</td></tr> <tr><td>Logic Gnd</td><td>16</td></tr> <tr><td>Bit 0 L</td><td>17</td></tr> <tr><td>Logic Gnd</td><td>18</td></tr> <tr><td>Bit 1 L</td><td>19</td></tr> <tr><td>Logic Gnd</td><td>20</td></tr> <tr><td>Bit 2 L</td><td>21</td></tr> <tr><td>Bit 3L</td><td>22</td></tr> <tr><td>-15T</td><td>23</td></tr> <tr><td>+15T</td><td>24</td></tr> </table>				Signal Name		DAC 0	1	Analog Gnd	2	DAC 1	3	Analog Gnd	4	DAC 2	5	Analog Gnd	6	DAC 3	7	Analog Gnd	8	Bit 0 H	9	Logic Gnd	10	Bit 1 H	11	Logic Gnd	12	Bit 2 H	13	Logic Gnd	14	Bit 3 H	15	Logic Gnd	16	Bit 0 L	17	Logic Gnd	18	Bit 1 L	19	Logic Gnd	20	Bit 2 L	21	Bit 3L	22	-15T	23	+15T	24
Signal Name																																																					
DAC 0	1																																																				
Analog Gnd	2																																																				
DAC 1	3																																																				
Analog Gnd	4																																																				
DAC 2	5																																																				
Analog Gnd	6																																																				
DAC 3	7																																																				
Analog Gnd	8																																																				
Bit 0 H	9																																																				
Logic Gnd	10																																																				
Bit 1 H	11																																																				
Logic Gnd	12																																																				
Bit 2 H	13																																																				
Logic Gnd	14																																																				
Bit 3 H	15																																																				
Logic Gnd	16																																																				
Bit 0 L	17																																																				
Logic Gnd	18																																																				
Bit 1 L	19																																																				
Logic Gnd	20																																																				
Bit 2 L	21																																																				
Bit 3L	22																																																				
-15T	23																																																				
+15T	24																																																				
DEC FORM NO EN-01022-16-N376(381) DRA 108		SIZE CODE A SP	NUMBER MNCMA-0-4																																																		
		MR SHEET 12 OF 14																																																			

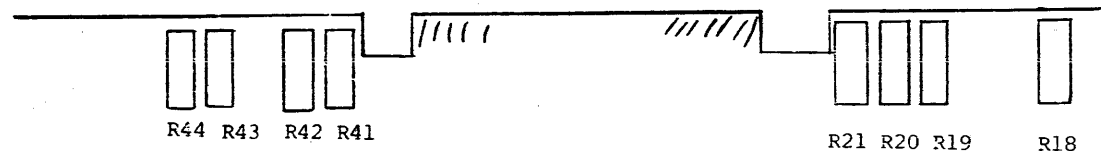
**ENGINEERING SPECIFICATION**

CONTINUATION SHEET

TITLE MNCAA INSTALLATION/ACCEPTANCE PROCEDURE

TABLE 2

IN	LOAD	DACØ	DAC1	ADJUST	DAC2	DAC3	FOR.
Offset	Adj 0000	R19	R21	R42	R42	R44	-5.1200
Gain	Adj 7777	R18	R20	R41	R41	R43	+5.1175



The output should be adjusted to the desired voltage with a tolerance better than  $\pm 1mV$ .

3.6 Dynamic Test

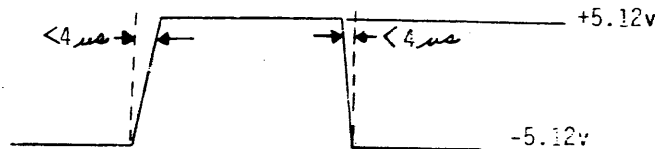
After completing the Calibration Test type a "CNTRL C". Type "D" carriage return in response to the question typed on the terminal.

3.6.1 This test checks for settling errors of the 4 D/A's.

3.6.2 Type "CNTRLG" - type 7777 in response to question and then a carriage return.

3.6.3 Connect an oscilloscope to the output of the D/A's (refer to Figure 1).

3.6.4 The output signal should be switching from -5.12V to +5.12V.



SIZE	CODE	NUMBER	REV
A	SP	MNCAA-0-4	

**ENGINEERING SPECIFICATION**

CONTINUATION SHEET

TITLE MNCAA INSTALLATION/ACCEPTANCE PROCEDURE

4.0 ACCEPTANCE WITHOUT TEST MODULE

If MNCAA-TA Test Module is not available, use the I/O connector 7014153-3-0 supplied with option. Refer to Table 1 for correct pin locations. Repeat Section 3.0 using the I/O connector.

4.1 When implementing Section 3.3.1 use an oscilloscope to check that the data bits at switching.

SIZE	CODE	NUMBER	REV
A	SP	MNCAA-0-4	

142

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# FIELD MAINTENANCE PRINT SET

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

## TABLE OF CONTENTS

B-TC-DLV11-J-1	FIELD MAINTENANCE PRINT SET
A-PL-DLV11-J-0	TABLE OF CONTENTS
A-PL-DLV11-J-SH	4 SERIAL LINE PER. CTRL.
D-CS-M8043-0-1	SHIPPING LIST (DLV11-J)
D-UA-M8043-0-0	4 SERIAL LINE PER. CTRL.
A-PS-23467A2-0-0	4 SERIAL LINE PER. CTRL.
	ROM MAP

UNIT VARIATIONS COVERED BY THIS PRINT SET DLV11-J

### DLV11-J Field Maintenance Print Set

Digital Equipment  
Corporation

PRINT SET ORDER NO.  
MP00586

REV. DLV11-J-1  
NUMBER  
CODE  
TC  
B  
SIZE

<b>REVISIONS</b>	<b>REV</b>																				<b>digital</b>																
	<b>CHG. NO.</b>			USED ON OPTION/MODEL	DRN.	DATE	TITLE: 4 SERIAL LINE PER. CTRL.																														
	<b>DATE</b>			DLV11-J	M. <i>Clamond</i>	22 Feb 79																															
					CHK'D.																DATE																
					<i>RW Cavett</i>																23 Feb 79																
					PROJ. ENG.																DATE																
				<i>Thomas Cavett</i>		2 MAR 79																															
					FIELD SERV.	DATE																															
					<i>B. Wilson</i>	3 MAR 79																															
				SHEET 1 OF 1																																	

148

**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS  
PARTS LIST**

MADE BY <i>M. Norwood</i>	CHECKED <i>R W Caunter</i>	SECTION 1
DATE <i>28 Feb 78</i>	DATE <i>28 Feb 78</i>	ISSUED SECT. 1
ENG <i>Thomas Zojac</i>	PRC <i>[Signature]</i>	
DATE <i>2 MAR 78</i>	DATE <i>[Signature] 3-6-78</i>	

QUANTITY VARIATION

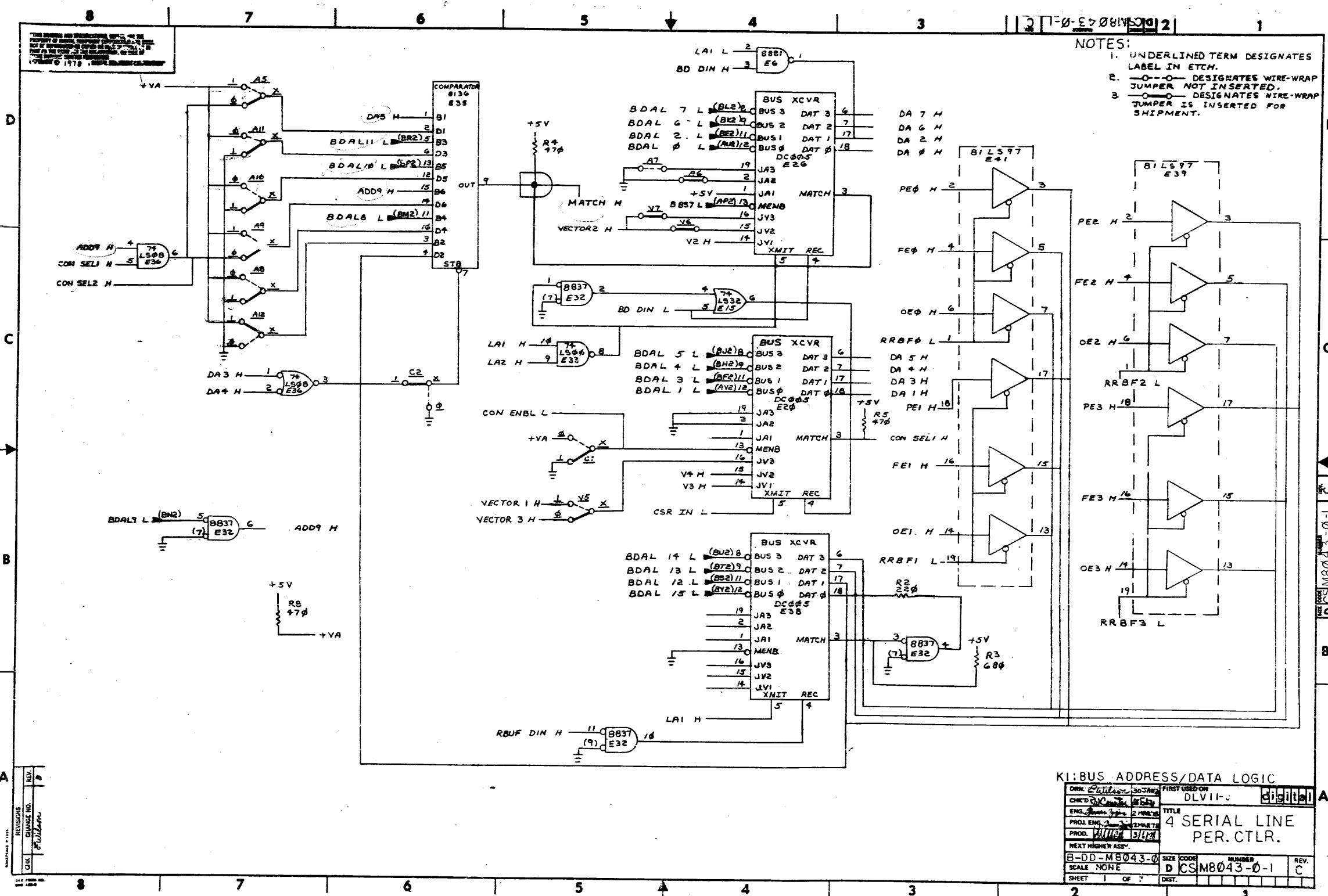
ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QTY						
1	MB43	4 SERIAL LINE PER CTRL	1						
2	A-PS-9905622-0-0	BOX, FOLDING, REVERSE TUCK	1						
TITLE		ASSY NO.	SIZE	CODE	NUMBER		REV	ECO NO.	
4 SERIAL LINE PER. CTRL.		B-DD-DLV11-J	A	PL	DLV11-J-0				
SHEET 1 OF 1			DIST						

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST					QUANTITY VARIATION																				
MADE BY <i>M. Normand</i>		CHECKED <i>R W Counter</i>		SECTION																					
DATE <i>28 Feb 78</i>		DATE <i>28 Feb 78</i>		1																					
ENG <i>Shomey Zajac</i>		PROD <i>Mull</i>		ISSUED SECT.																					
DATE <i>2 MAR 78</i>		DATE <i>3/6/78</i>		1																					
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																							
1	M8843	4 SERIAL LINE PER. CTRL.				1																			
2	A-P5-9905622-0-0	BOX, FOLDING, REVERSE TUCK				1																			
3	MP88586	FIELD MAINTENANCE PRINT SET				1	*																		
4	EK-DLV1J-UG-001	DLV11-J USER'S MANUAL				1	*																		
		NOTE:																							
		(*) ONE PER SHIPMENT																							
TITLE				ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO.																
SHIPPING LIST (DLV11-J)				B-DD-DLV11-J	A	PL	DLV11-J-SH																		
				SHEET 1 OF 1		DIST																			

DEC FORM  
7-74 100

150





NOTES:  
 1. UNDERLINED TERM DESIGNATES LABEL IN ETCH.  
 2. —○—○— DESIGNATES WIRE-WRAP JUMPER NOT INSERTED.  
 3. —○—○— DESIGNATES WIRE-WRAP JUMPER IS INSERTED FOR SHIPMENT.

KI:BUS ADDRESS/DATA LOGIC		DLVII-C	digital
CHKD BY	30388	FIRST USED ON	
ENGR		TITLE	4 SERIAL LINE PER. CTRLR.
PROJ. ENG.			
PROD.			
NEXT HIGHN ASSY:			
B-DD-M8043-0	SIZE CODE	NUMBER	REV.
SCALE NONE	D	CSM8043-0-1	C
SHEET	OF 7	DIST.	

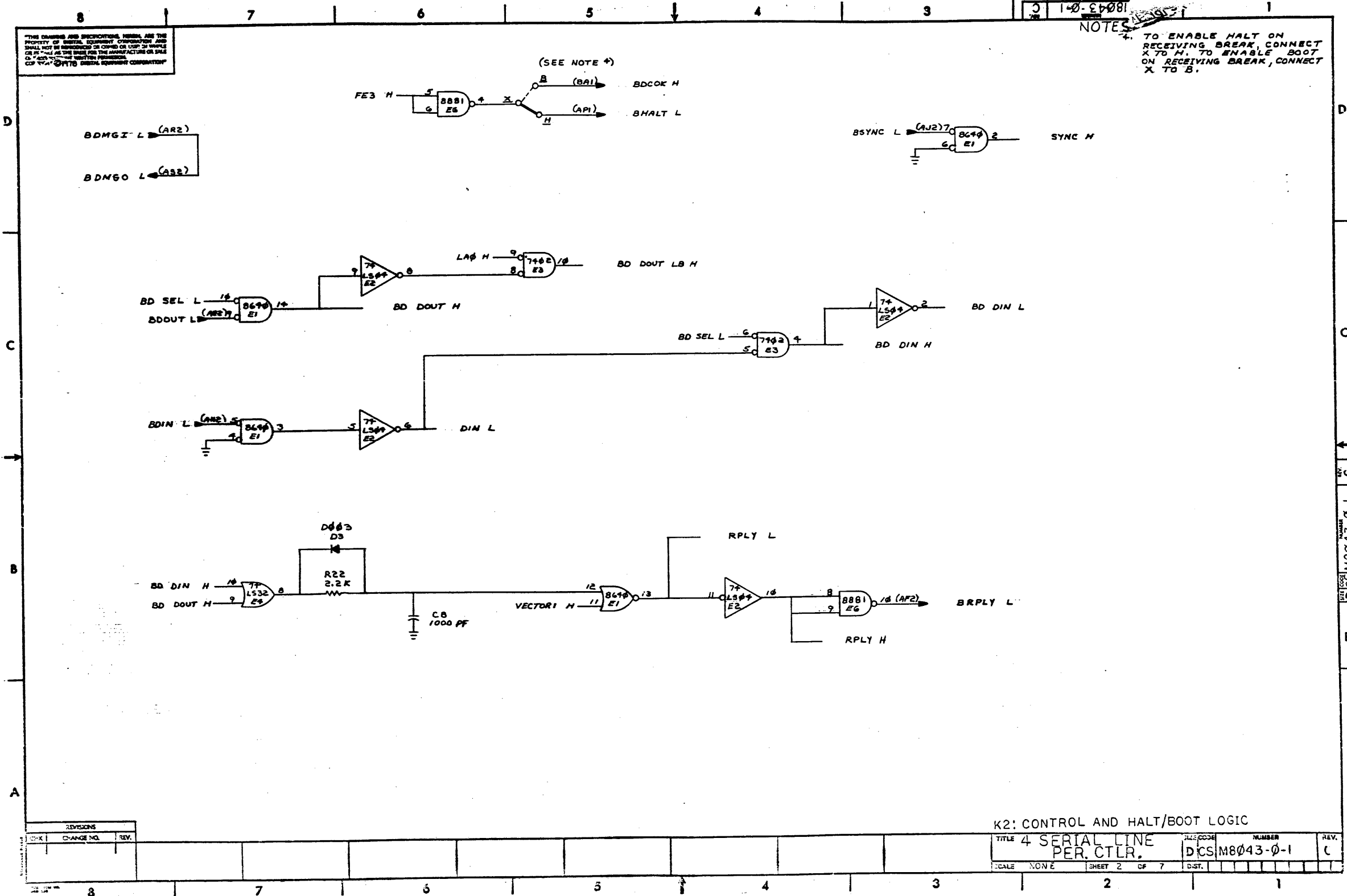
151

THE DESIGN AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF GENERAL ELECTRIC COMPANY AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ANY EQUIPMENT WITHOUT PERMISSION OF THE GENERAL ELECTRIC COMPANY

14-0-87081

NOTES

TO ENABLE HALT ON RECEIVING BREAK, CONNECT X TO H. TO ENABLE BOOT ON RECEIVING BREAK, CONNECT X TO B.



K2: CONTROL AND HALT/BOOT LOGIC

TITLE	4 SERIAL LINE PER. CTRL.	DESIGN NUMBER	DCS M8043-0-1	REV.	C
SCALE	NONE	SHEET	2 OF 7	DIST.	

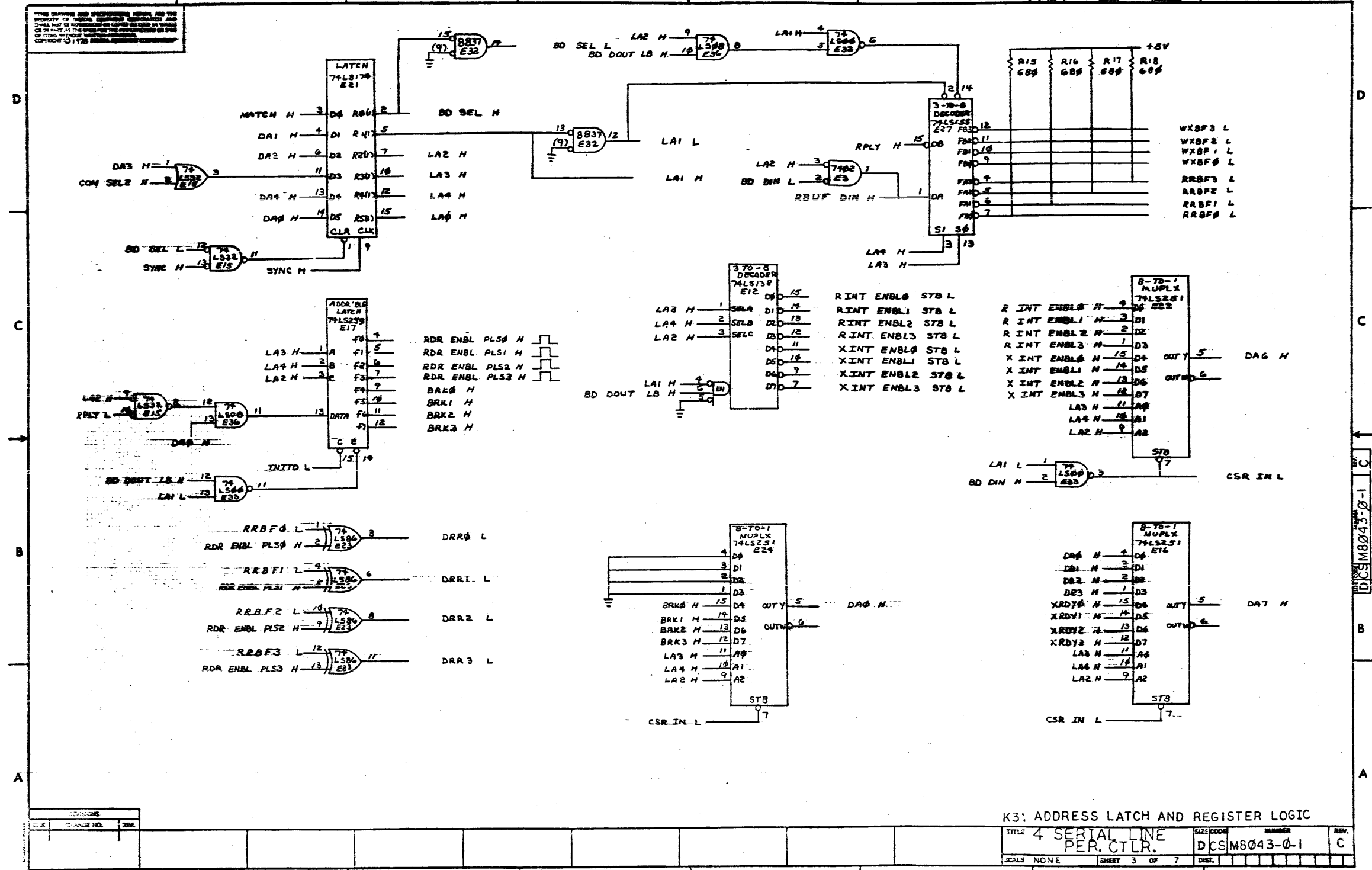
REVISIONS		
CHK	CHANGE NO.	REV.

DCS M8043-0-1

152

THIS DRAWING AND MECHANICAL DETAILS ARE THE PROPERTY OF MILCO ELECTRONIC CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

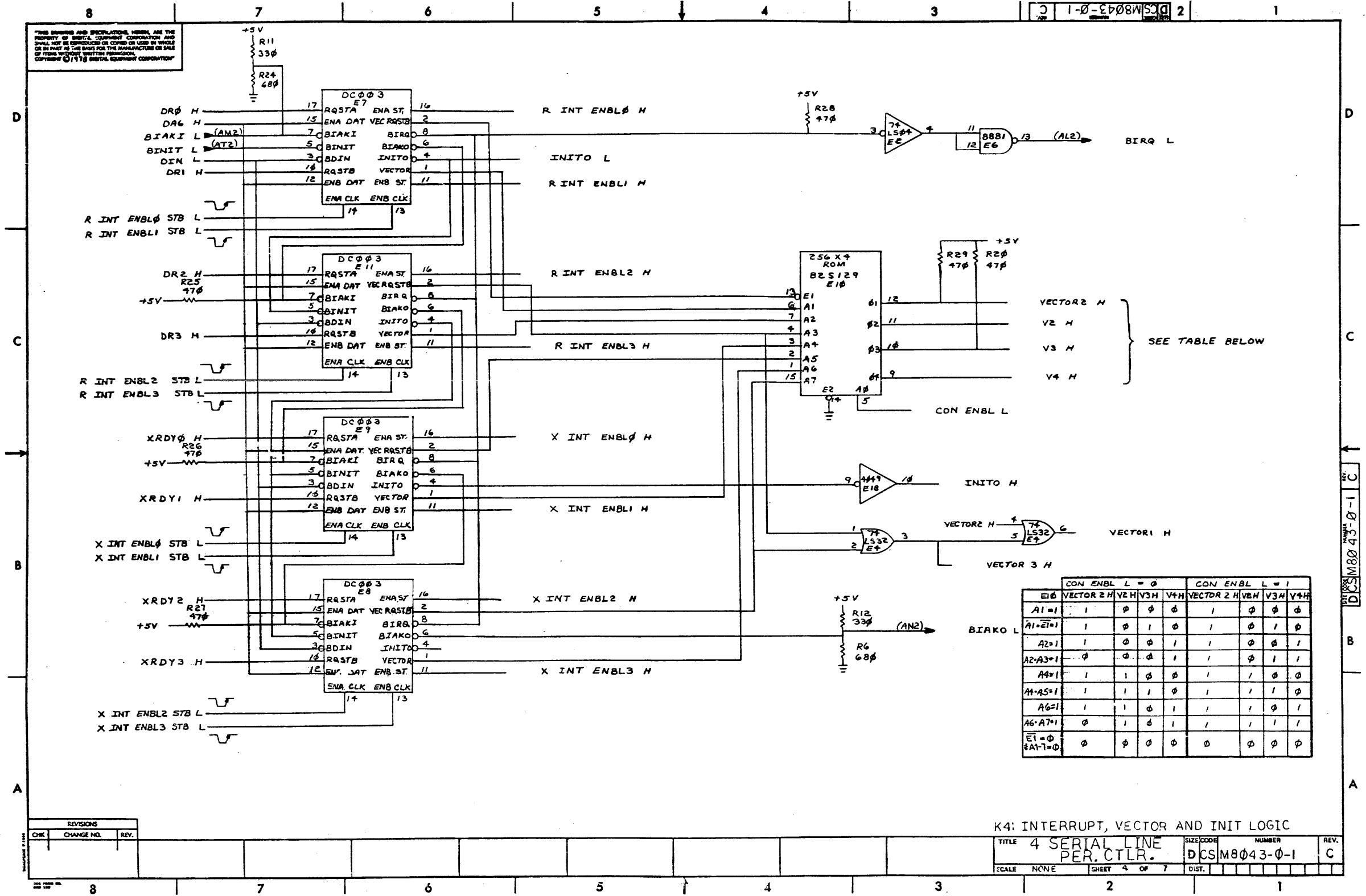
DCS M8043-0-1



K3: ADDRESS LATCH AND REGISTER LOGIC  
 TITLE 4 SERIAL LINE PER. CTR.  
 SCALE NONE SHEET 3 OF 7

153

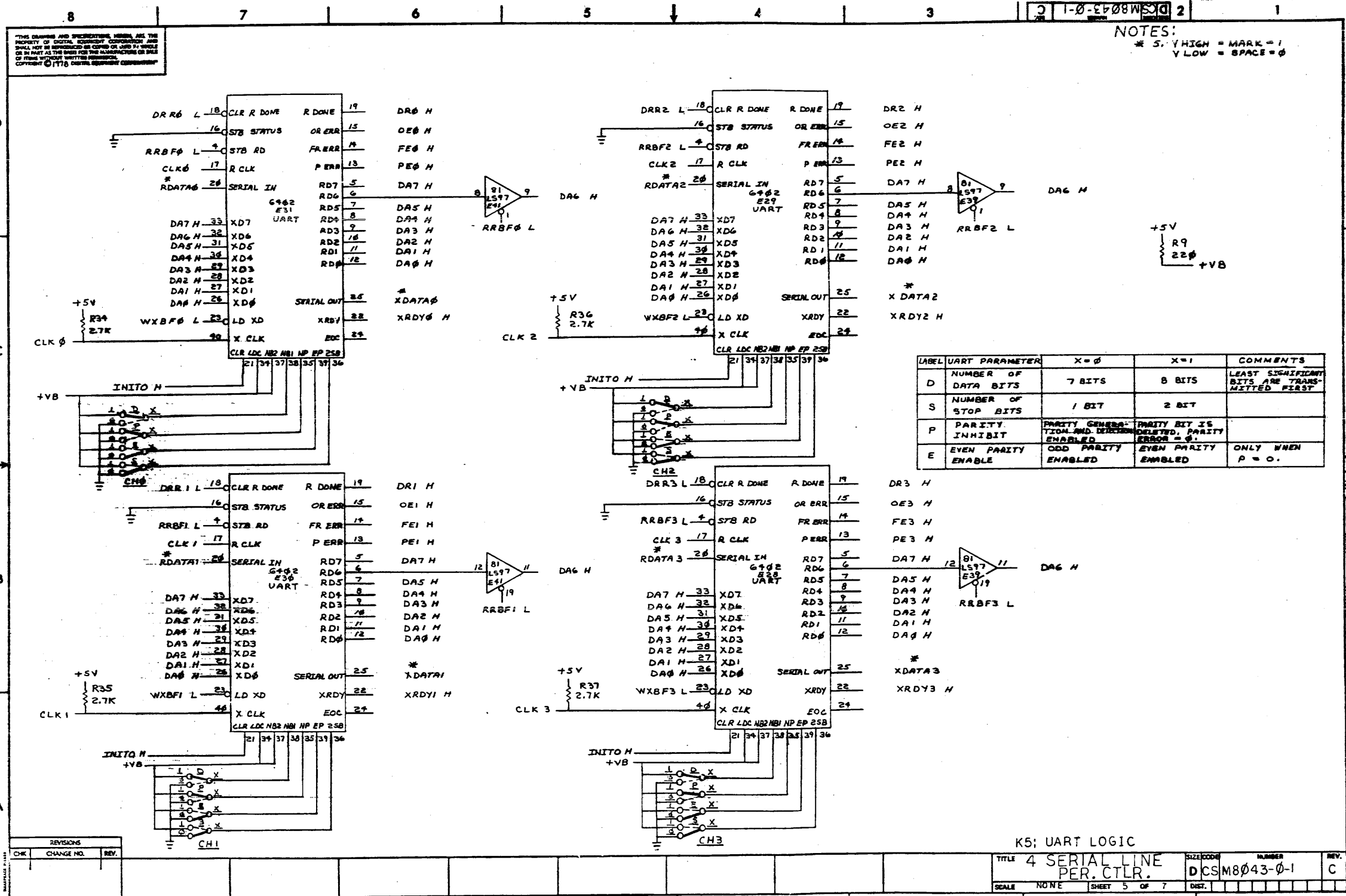
THIS DRAWING AND SPECIFICATION ARE THE PROPERTY OF BENTON ENGINEERING CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1978 BENTON ENGINEERING CORPORATION



E10	CON ENBL L = 0				CON ENBL L = 1			
	VECTOR 2 H	VEH	V3H	V4H	VECTOR 2 H	VEH	V3H	V4H
A1=1	1	0	0	0	1	0	0	0
A1=2=1	1	0	1	0	1	0	1	0
A2=1	1	0	0	1	1	0	0	1
A2-A3=1	0	0	0	1	1	0	1	1
A4=1	1	1	0	0	1	1	0	0
A4-A5=1	1	1	1	0	1	1	1	0
A6=1	1	1	0	1	1	1	0	1
A6-A7=1	0	1	0	1	1	1	1	1
E1=0	0	0	0	0	0	0	0	0
E1=1	0	0	0	0	0	0	0	0

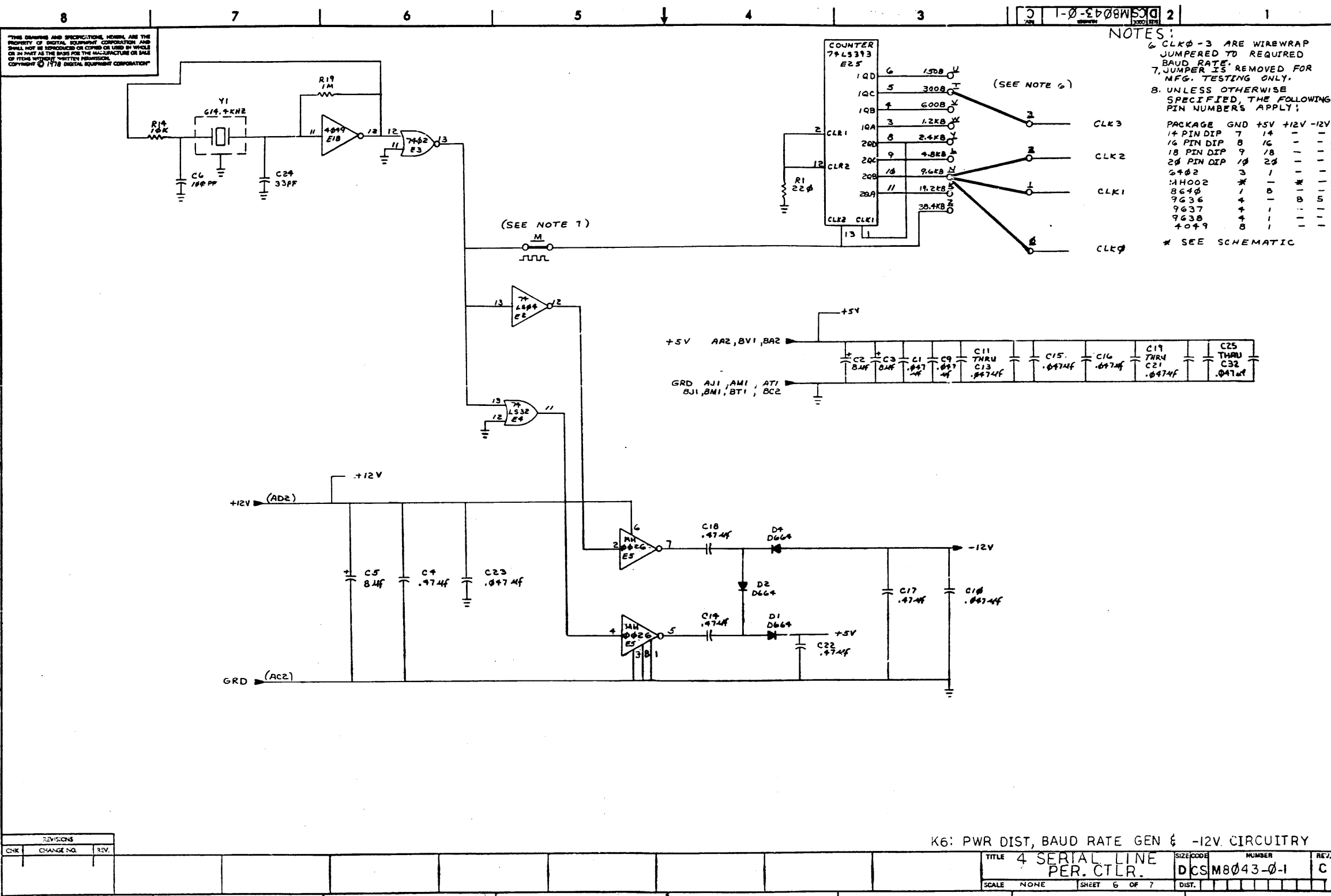
REVISIONS		
CHK	CHANGE NO.	REV.

K4: INTERRUPT, VECTOR AND INIT LOGIC  
 TITLE 4 SERIAL LINE PER. CTLR.  
 SCALE NONE SHEET 4 OF 7  
 SIZE CODE DCS M8043-0-1  
 NUMBER DIST.  
 REV. C



CHK	CHANGE NO.	REV.	SCALE	NONE	SHEET	5	OF	7	DIST.	TITLE	SIZE/CODE	NUMBER	REV.
										K5; UART LOGIC	DCSM8043-0-1	C	

155

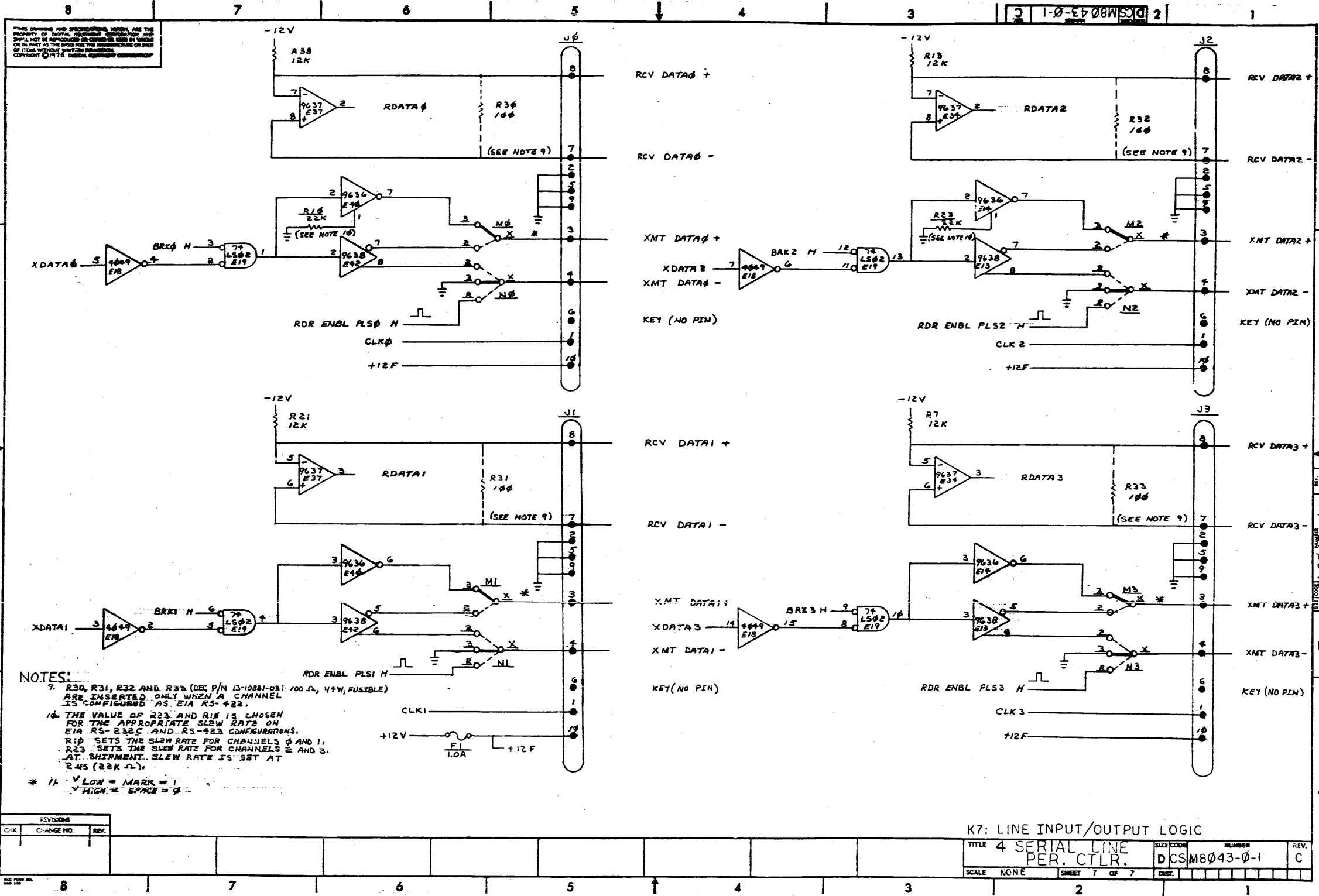


REVISIONS		
CHK	CHANGE NO.	REV.

K6: PWR DIST, BAUD RATE GEN & -12V. CIRCUITRY

TITLE 4 SERIAL LINE PER. CTRL. SIZE CODE NUMBER REV.  
 DCSM8043-0-1 C

SCALE NONE SHEET 6 OF 7 DIST.



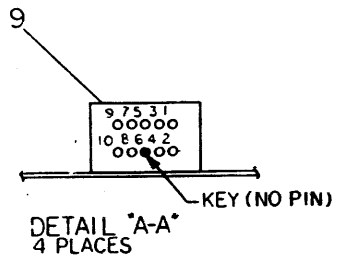
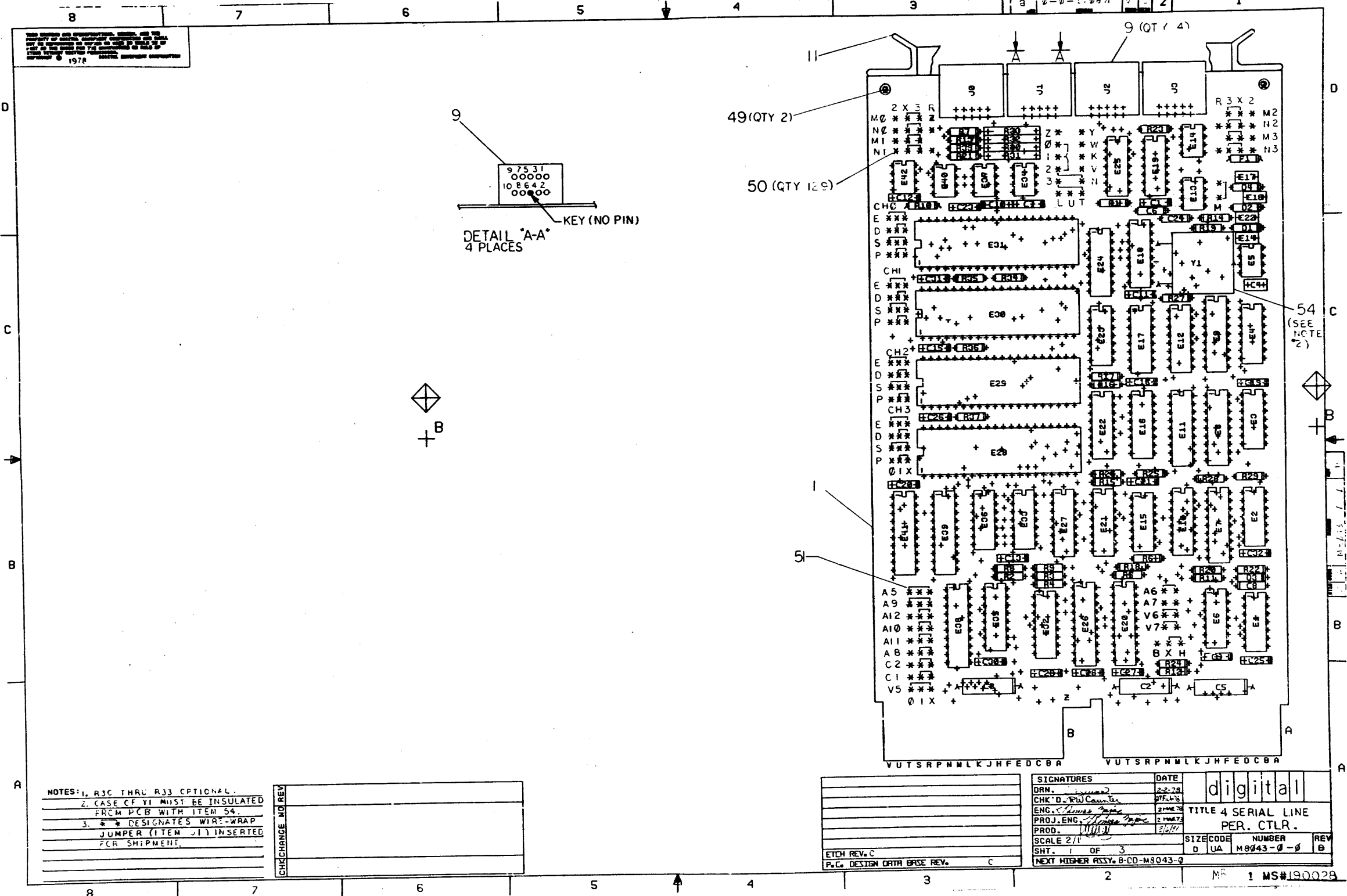
NOTES:

9. R30, R31, R32 AND R33 (DEC P/N 13-10881-03: 100 Ω, 1/4W, FUSIBLE) ARE INSERTED ONLY WHEN A CHANNEL IS CONFIGURED AS EIA RS-422.

10. THE VALUE OF R23 AND R18 IS CHOSEN FOR THE APPROPRIATE SLEW RATE ON EIA RS-232C AND RS-422 CONFIGURATIONS. R18 SETS THE SLEW RATE FOR CHANNELS 0 AND 1. R23 SETS THE SLEW RATE FOR CHANNELS 2 AND 3. AT SHIPMENT, SLEW RATE IS SET AT 245 (22K Ω).

\* 11. V LOW = MARK = 1  
V HIGH = SPACE = 0

THIS DRAWING AND ASSOCIATED PARTS, SHALL BE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND SHALL BE LOANED TO YOU FOR YOUR INFORMATION AND USE ONLY. IT IS TO BE RETURNED TO THE OFFICE OF ORIGIN AT THE END OF THE PERIOD FOR WHICH IT IS LOANED TO YOU. DATE: 1978



NOTES: 1. R3C THRU R33 OPTIONAL.  
2. CASE OF Y1 MUST BE INSULATED FROM PCB WITH ITEM 54.  
3. \* \* \* DESIGNATES WIRE-WRAP JUMPER (ITEM 51) INSERTED FOR SHIPMENT.

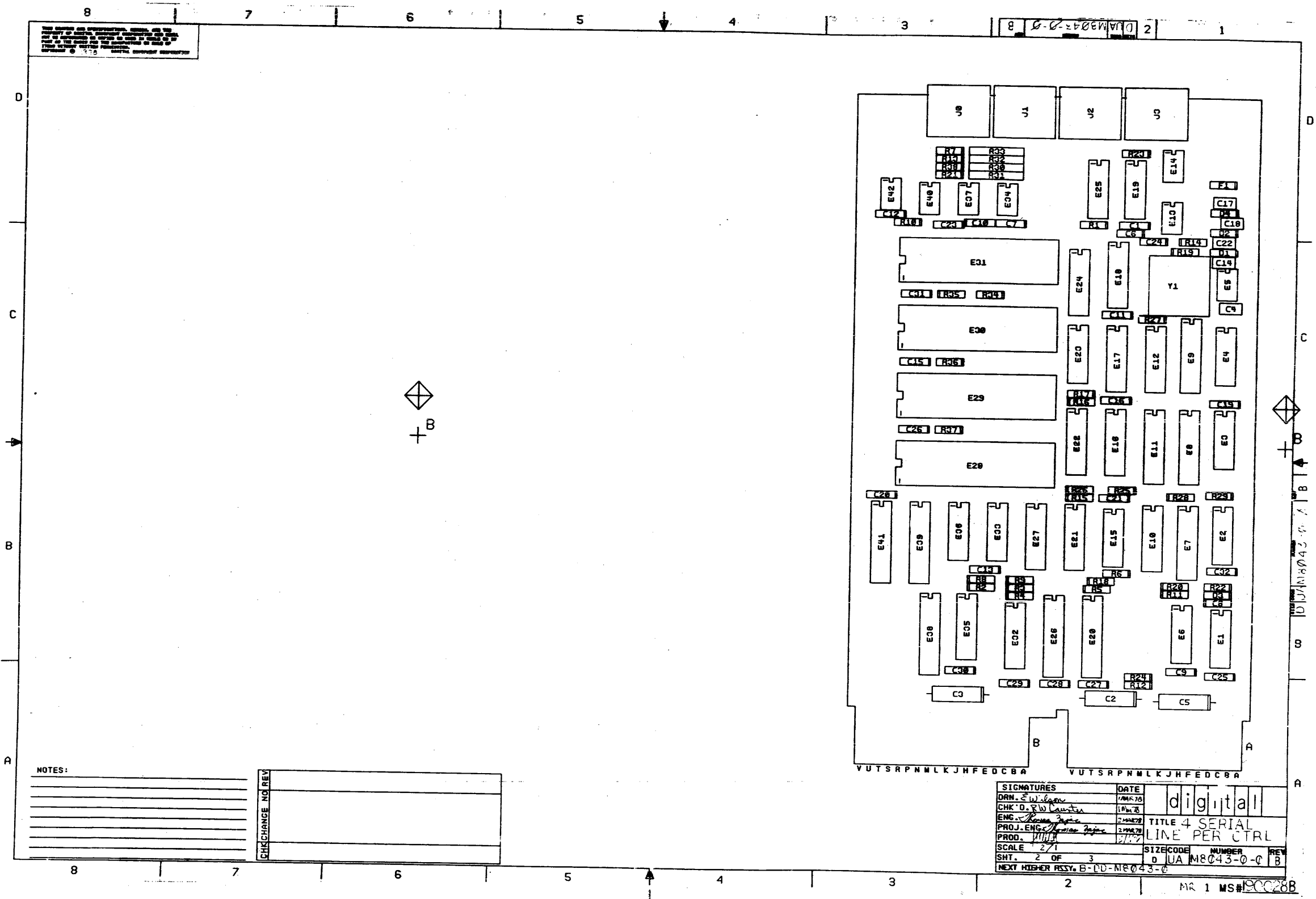
CHANCE NO	REV

ETCH REV. C	C
P.C. DESIGN DATA REVISION	C

SIGNATURES		DATE
DRN.	<i>[Signature]</i>	2-2-78
CHK'D BY	<i>[Signature]</i>	2/2/78
ENG. C. [Signature]	<i>[Signature]</i>	2/1/78
PROJ. ENG. [Signature]	<i>[Signature]</i>	2/1/78
PROD. [Signature]	<i>[Signature]</i>	2/1/78
SCALE 2/1	TITLE 4 SERIAL LINE	SIZE CODE NUMBER REV
SHT. 1 OF 3	PER. CTLR.	D UA M8043-0-0 B
NEXT HIGHER ASSY. 8-00-M8043-0		

158





THIS DRAWING IS UNCLASSIFIED, EXCEPT AS TO THE INFORMATION CONTAINED HEREIN WHICH IS UNCLASSIFIED EXCEPT AS TO THE INFORMATION CONTAINED HEREIN. DATE 11/19/03 BY 60322 UCBA/STP/STP

NOTES:

---



---



---



---



---

CHANGE NO	REV

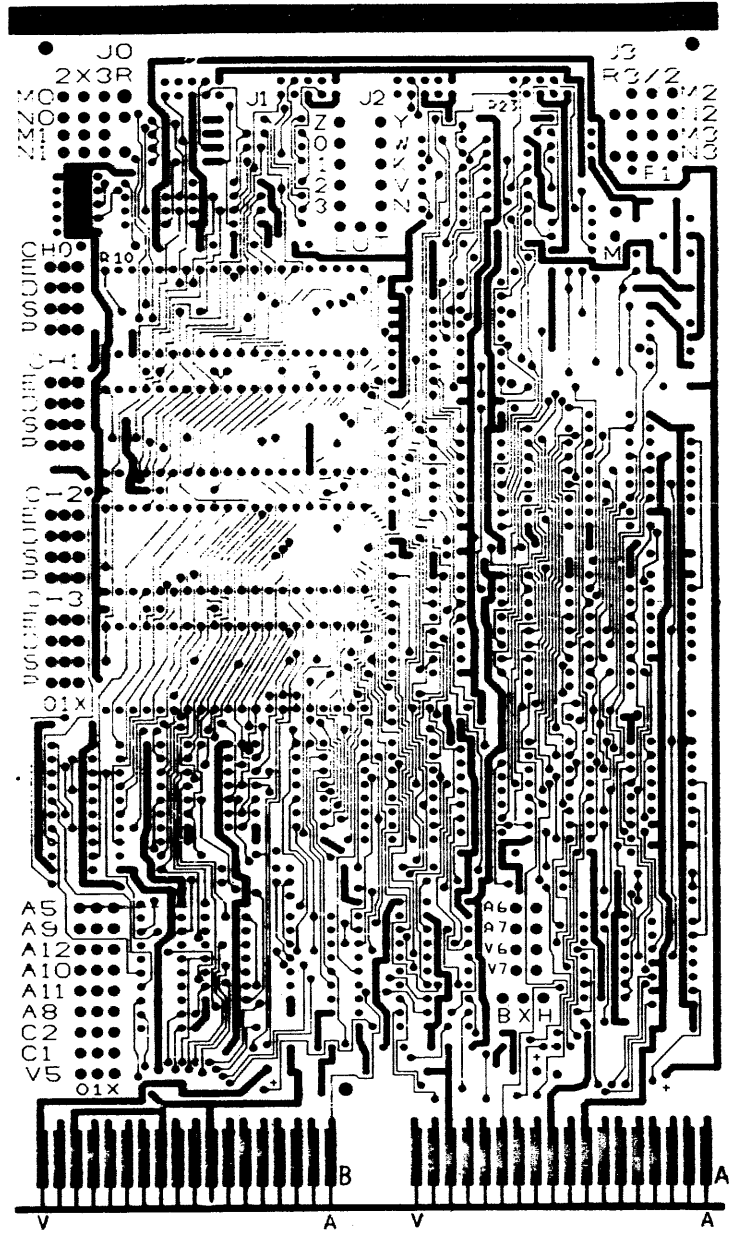
SIGNATURES		DATE	digital
DRN. E.W. [Signature]	1/16/75		
CHK'D. R.W. [Signature]	1/16/75		
ENG. [Signature]	2/10/75		TITLE 4 SERIAL
PROJ. ENG. [Signature]	2/10/75		LINE PER CTRL
PROD. [Signature]	3/7/77		
SCALE 2/1			SIZE CODE NUMBER
SHT. 2 OF 3			0 UA M8043-0-Q B
NEXT HIGHER PLSY. B-DD-NR043-0			

MR 1 MS# 1000288

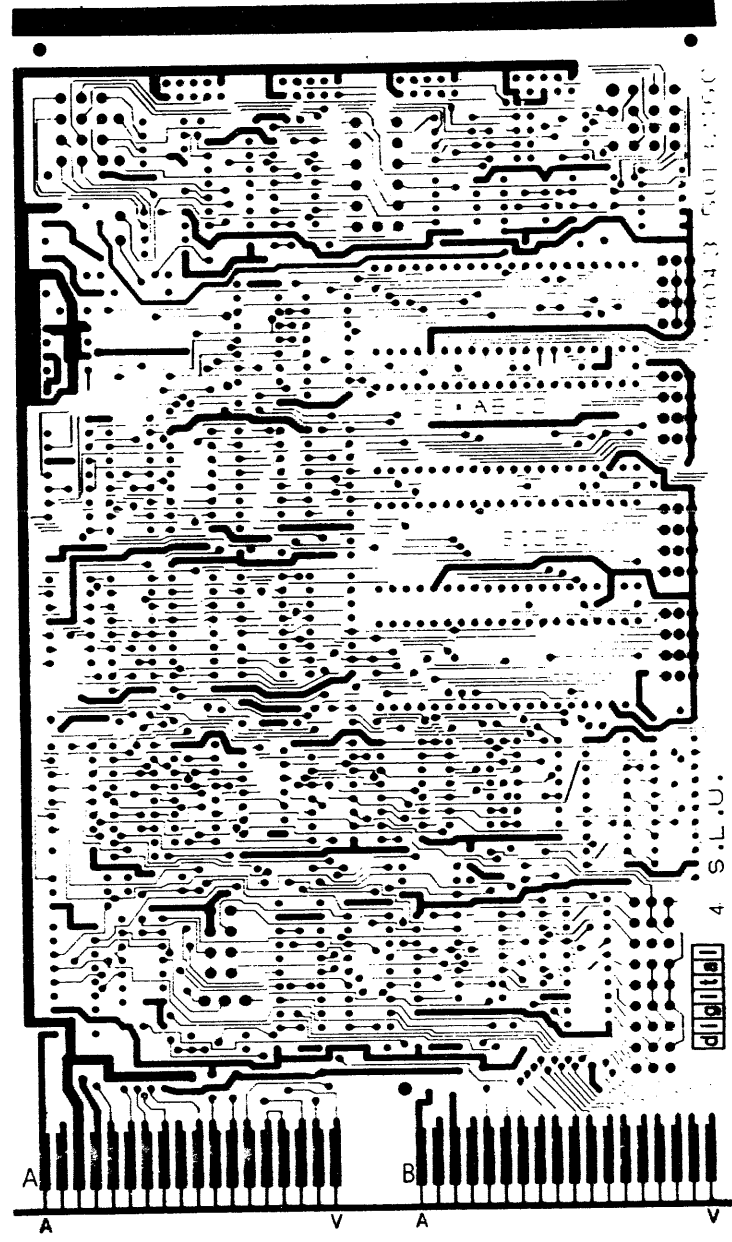
159

THIS DRAWING AND SPECIFICATION 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 THIS WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

SIDE 1



SIDE 2



REVISIONS		
CHR	CHANGE NO	REV

4 SERIAL LINE PER. CTRL.  
 2/1 3 3  
 DUA M8043 - 0 - 0 B  
 MR 1

This document contains confidential proprietary information of Digital. This information shall not be disclosed to persons outside the employ of Digital, except by Digital personnel so authorized by Digital, and only for use by such other persons in the design, production or manufacture of products for Digital.

TITLE: PATTERN SPECIFICATION, PROM

DIGITAL PART NUMBER
23467A2-00

1. GENERAL DESCRIPTION:  
PROM Pattern Specification, Tri-State Outputs
2. APPLICABLE DOCUMENTS (Per latest revision on date of order):  
A-PS-23000A2-05, PROM, 256 x 4, TTL, Tri-State
3. REQUIREMENTS:
  - 3.1 Mechanical: Devices shall meet all requirements specified in the Base Device Purchase Specification A-PS-23000A2-05.
  - 3.2 Electrical: Devices shall meet all parameters specified in the Base Device Purchase Specification A-PS-23000A2-05.
  - 3.3 Truth Table: Per pages 2 and 3.
  - 3.4 Marking: After programming, by Digital, devices shall be marked 467A2.

APPROVED VENDOR  
Per Qualified Vendor Listing

First Used On:  
M8043

Unless Otherwise Specified:  
Dimensions are in inches, tolerances are three decimals  $\pm .005$ , two place decimals  $\pm .02$ , one place decimal  $\pm .1$ ; Angles  $\pm 0^{\circ} 30'$ .

REVISION AUTHORIZATION			APPROVAL AND DATE		SIZE	CODE	NUMBER	REV
SIGNATURE	REV.	DATE	Design Eng.	Ch. of Eng. / Purch.				
<i>Tom Zajac</i>			<i>Tom Zajac</i>		A	PS	23467A2-0-0	
			Writer	Comp. Eng.				
			J.E.P.	<i>J.E.P.</i>	PAGE 1		OF 3	

161

DEC PART NUMBER: 23-467A2-00  
LEFT COLUMN OF BIN DATA IS MSB

ORIGINATOR: T. ZAJAC  
DATE ORIGINATED: 3/7/78

BINARY DATA "1" = HIGH  
BINARY DATA "0" = LOW

SHEET 2 OF 3

DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT	DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT	DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT
0	00	000	00	0	0000	32	20	040	00	0	0000	64	40	100	13	0	1011
1	01	001	00	0	0000	33	21	041	00	0	0000	65	41	101	13	0	1011
2	02	002	01	1	0001	34	22	042	00	0	0000	66	42	102	00	0	0000
3	03	003	01	1	0001	35	23	043	00	0	0000	67	43	103	00	0	0000
4	04	004	11	9	1001	36	24	044	00	0	0000	68	44	104	00	0	0000
5	05	005	11	9	1001	37	25	045	00	0	0000	69	45	105	00	0	0000
6	06	006	00	0	0000	38	26	046	00	0	0000	70	46	106	00	0	0000
7	07	007	00	0	0000	39	27	047	00	0	0000	71	47	107	00	0	0000
8	08	010	00	0	0000	40	28	050	00	0	0000	72	48	110	00	0	0000
9	09	011	00	0	0000	41	29	051	00	0	0000	73	49	111	00	0	0000
10	0A	012	00	0	0000	42	2A	052	00	0	0000	74	4A	112	00	0	0000
11	0B	013	00	0	0000	43	2B	053	00	0	0000	75	4B	113	00	0	0000
12	0C	014	10	8	1000	44	2C	054	00	0	0000	76	4C	114	00	0	0000
13	0D	015	15	D	1101	45	2D	055	00	0	0000	77	4D	115	00	0	0000
14	0E	016	00	0	0000	46	2E	056	00	0	0000	78	4E	116	00	0	0000
15	0F	017	00	0	0000	47	2F	057	00	0	0000	79	4F	117	00	0	0000
16	10	020	03	3	0011	48	30	060	07	7	0111	80	50	120	00	0	0000
17	11	021	03	3	0011	49	31	061	07	7	0111	81	51	121	00	0	0000
18	12	022	00	0	0000	50	32	062	00	0	0000	82	52	122	00	0	0000
19	13	023	00	0	0000	51	33	063	00	0	0000	83	53	123	00	0	0000
20	14	024	00	0	0000	52	34	064	00	0	0000	84	54	124	00	0	0000
21	15	025	00	0	0000	53	35	065	00	0	0000	85	55	125	00	0	0000
22	16	026	00	0	0000	54	36	066	00	0	0000	86	56	126	00	0	0000
23	17	027	00	0	0000	55	37	067	00	0	0000	87	57	127	00	0	0000
24	18	030	00	0	0000	56	38	070	00	0	0000	88	58	130	00	0	0000
25	19	031	00	0	0000	57	39	071	00	0	0000	89	59	131	00	0	0000
26	1A	032	00	0	0000	58	3A	072	00	0	0000	90	5A	132	00	0	0000
27	1B	033	00	0	0000	59	3B	073	00	0	0000	91	5B	133	00	0	0000
28	1C	034	00	0	0000	60	3C	074	00	0	0000	92	5C	134	00	0	0000
29	1D	035	00	0	0000	61	3D	075	00	0	0000	93	5D	135	00	0	0000
30	1E	036	00	0	0000	62	3E	076	00	0	0000	94	5E	136	00	0	0000
31	1F	037	00	0	0000	63	3F	077	00	0	0000	95	5F	137	00	0	0000

NOTES		FIRST USED ON OPTION MODEL	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
REV		DRN.	DATE	TITLE		
CHK'D.		CHK'D.	DATE	256 X 4		
ENG.		ENG.	DATE	ROM/PROM PATTERN SPEC		
PROJ. ENG.		PROJ. ENG.	DATE	SIZE	CODE	NUMBER
PROD.		PROD.	DATE	K	PS	23467A2-0-0
REV		REV				
CHK		CHK		DIST.		

"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 1978. DIGITAL EQUIPMENT CORPORATION"

182

DEC PART NUMBER: 23-467A2-00  
LEFT COLUMN OF BIN DATA IS MSB

ORIGINATOR: T. ZAJAC  
DATE ORIGINATED: 3/7/78

BINARY DATA "1" = HIGH  
BINARY DATA "0" = LOW

SHEET 3 OF 3

DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT	DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT	DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT	DEC LOC	HEX LOC	OCT LOC	OCT DAT	HEX DAT	BIN DAT
128	80	200	00	0	0000	160	A0	240	00	0	0000	192	C0	300	12	A	1010	224	E0	340	00	0	0000
129	81	201	00	0	0000	161	A1	241	00	0	0000	193	C1	301	17	F	1111	225	E1	341	00	0	0000
130	82	202	00	0	0000	162	A2	242	00	0	0000	194	C2	302	00	0	0000	226	E2	342	00	0	0000
131	83	203	00	0	0000	163	A3	243	00	0	0000	195	C3	303	00	0	0000	227	E3	343	00	0	0000
132	84	204	00	0	0000	164	A4	244	00	0	0000	196	C4	304	00	0	0000	228	E4	344	00	0	0000
133	85	205	00	0	0000	165	A5	245	00	0	0000	197	C5	305	00	0	0000	229	E5	345	00	0	0000
134	86	206	00	0	0000	166	A6	246	00	0	0000	198	C6	306	00	0	0000	230	E6	346	00	0	0000
135	87	207	00	0	0000	167	A7	247	00	0	0000	199	C7	307	00	0	0000	231	E7	347	00	0	0000
136	88	210	00	0	0000	168	A8	250	00	0	0000	200	C8	310	00	0	0000	232	E8	350	00	0	0000
137	89	211	00	0	0000	169	A9	251	00	0	0000	201	C9	311	00	0	0000	233	E9	351	00	0	0000
138	8A	212	00	0	0000	170	AA	252	00	0	0000	202	CA	312	00	0	0000	234	EA	352	00	0	0000
139	8B	213	00	0	0000	171	AB	253	00	0	0000	203	CB	313	00	0	0000	235	EB	353	00	0	0000
140	8C	214	00	0	0000	172	AC	254	00	0	0000	204	CC	314	00	0	0000	236	EC	354	00	0	0000
141	8D	215	00	0	0000	173	AD	255	00	0	0000	205	CD	315	00	0	0000	237	ED	355	00	0	0000
142	8E	216	00	0	0000	174	AE	256	00	0	0000	206	CE	316	00	0	0000	238	EE	356	00	0	0000
143	8F	217	00	0	0000	175	AF	257	00	0	0000	207	CF	317	00	0	0000	239	EF	357	00	0	0000
144	90	220	00	0	0000	176	B0	260	00	0	0000	208	DA	320	00	0	0000	240	F0	360	00	0	0000
145	91	221	00	0	0000	177	B1	261	00	0	0000	209	D1	321	00	0	0000	241	F1	361	00	0	0000
146	92	222	00	0	0000	178	B2	262	00	0	0000	210	D2	322	00	0	0000	242	F2	362	00	0	0000
147	93	223	00	0	0000	179	B3	263	00	0	0000	211	D3	323	00	0	0000	243	F3	363	00	0	0000
148	94	224	00	0	0000	180	B4	264	00	0	0000	212	D4	324	00	0	0000	244	F4	364	00	0	0000
149	95	225	00	0	0000	181	B5	265	00	0	0000	213	D5	325	00	0	0000	245	F5	365	00	0	0000
150	96	226	00	0	0000	182	B6	266	00	0	0000	214	D6	326	00	0	0000	246	F6	366	00	0	0000
151	97	227	00	0	0000	183	B7	267	00	0	0000	215	D7	327	00	0	0000	247	F7	367	00	0	0000
152	98	230	00	0	0000	184	B8	270	00	0	0000	216	D8	330	00	0	0000	248	F8	370	00	0	0000
153	99	231	00	0	0000	185	B9	271	00	0	0000	217	D9	331	00	0	0000	249	F9	371	00	0	0000
154	9A	232	00	0	0000	186	BA	272	00	0	0000	218	DA	332	00	0	0000	250	FA	372	00	0	0000
155	9B	233	00	0	0000	187	BB	273	00	0	0000	219	DB	333	00	0	0000	251	FB	373	00	0	0000
156	9C	234	00	0	0000	188	BC	274	00	0	0000	220	DC	334	00	0	0000	252	FC	374	00	0	0000
157	9D	235	00	0	0000	189	BD	275	00	0	0000	221	DD	335	00	0	0000	253	FD	375	00	0	0000
158	9E	236	00	0	0000	190	BE	276	00	0	0000	222	DE	336	00	0	0000	254	FE	376	00	0	0000
159	9F	237	00	0	0000	191	BF	277	00	0	0000	223	DF	337	00	0	0000	255	FF	377	00	0	0000

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE 256 X 4 ROM/PROM PATTERN SPEC	SIZE K	CODE PS	NUMBER 23467A2-0-0	REV
---	---	-----------	------------	-----------------------	-----

163

"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 © 1978, DIGITAL EQUIPMENT CORPORATION"

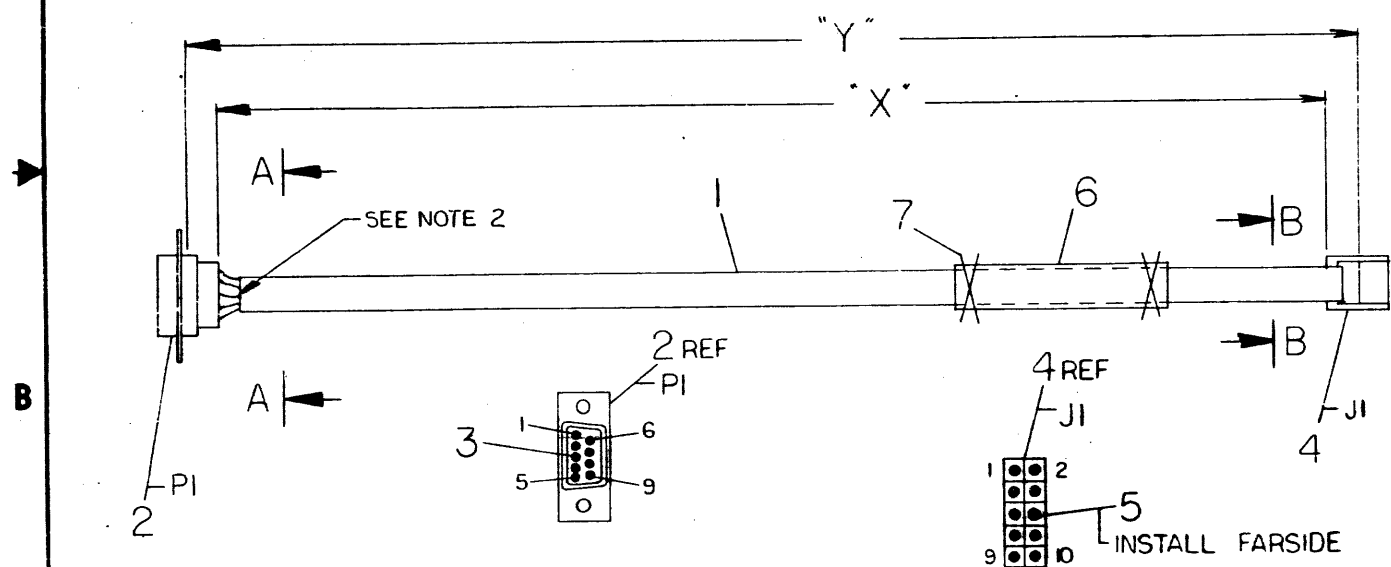
LEGEND

NUMBER	DIM.'X' VAR.	DIM.'Y' VAR. PRECUT
7015575-00	1 FT. 1 IN. ±.5 IN.	1 FT. 2 IN. ±.5 IN.
7015575-01	1 FT ±.5 IN.	1 FT 1 IN. ±.5 IN.
7015575-02	11 INCH ±.5 IN.	1 FT ±.5 IN.
7015575-03	10 INCH ±.5 IN	11 IN ±.5 IN.

ITEM NO.	DESCRIPTION		FROM		TO		REMARKS
	AWG	COLOR	CONN	WITH	CONN	WITH	
1	28	BRN	PI-1	3	J1-1	—	
		BLK	PI-2		J1-10	—	
		RED	PI-3		J1-2	—	
		ORN	PI-4		J1-3	—	
		YEL	PI-5		J1-4	—	
		WHT	PI-6		J1-9	—	
		GRY	PI-7		J1-8	—	
		VIO	PI-8		J1-7	—	
	28	GRN	PI-9	3	J1-5	—	

NOTES:

1. USING ITEM #1 20 CONDUCTOR CABLE, PEEL INTO TWO, 10 WIRE STRIPS, PER VARIATION OF LENGTHS.
2. CUT BLU WIRE BACK 1 (ONE) INCH.



VIEW A-A  
PIN INSERTION SIDE  
SCALE: 1/1

VIEW B-B  
SKT INSERTION SIDE  
SCALE: 2/1

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
2 2 2 2	CABLE TIE	9007031	7
1 1 1 1	LABEL, CABLE IDENT.	9009532	6
1 1 1 1	TERMINAL, DUMMY	9009140	5
1 1 1 1	CONN, HOUSING 10 PIN	1211206-02	4
9 9 9 9	CONTACT, PIN	9009763	3
1 1 1 1	CONN, RECEPTACLE 9 PIN	1212700-01	2
A/R A/R A/R A/R	CABLE, RIBBON 20 COND.	1700052-02	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)
SURFACE QUALITY IN MICRONS	NOMINAL DIMENSION RANGE INCHES
	OVER 0 TO 0.2 ±.004
	OVER 0.2 TO 1.2 ±.008
	OVER 1.2 TO 4.0 ±.012
	OVER 4.0 TO 12.0 ±.016
	OVER 12.0 TO 40.0 ±.024
	OVER 40.0 TO 80.0 ±.04
	PREFERRED ±.012 ±.016 ±.025 ±.04 ±.063 ±.1

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH

DRN. M. Arches 11 FEB 78

CHK'D J. K. Kelly 13 FEB 78

ENG. J. G. Adams 13 FEB 78

PROL. ENG. ACE 21 FEB 78

PROD. 1/1 21 FEB 78

FIRST USED ON MNCII digital

TITLE CABLE, SLU INTERFACE

SIZE CODE NUMBER REV. C IA 7015575-0-0 A

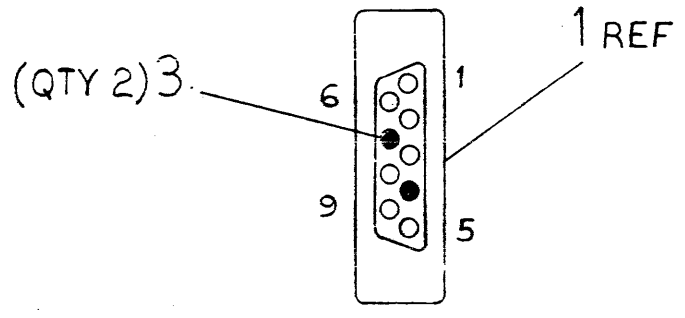
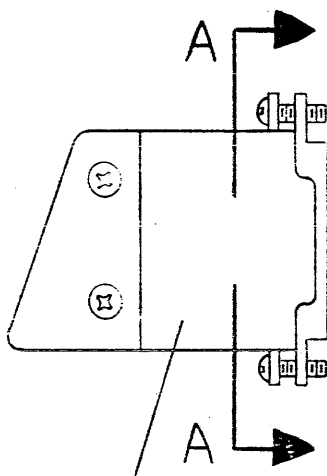
SHEET 1 OF 1 DIST.

REV.	CHANGE NO.	DATE	BY
A	1	1/1/78	A.FILZ

164

"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 © 1978 DIGITAL EQUIPMENT CORPORATION

WIRE TABLE						
ITEM NO.	DESCRIPTION		FROM		TO	
	AWG	COLOR	CONN	WITH	CONN	WITH
4	22	BLK	J1-7	3	J1-4	3



SECTION A-A  
 PIN INSERTION SIDE  
 SCALE: NONE

REVISIONS	CHANGE NO.	REV.
CHK	7015911-MR001	A
	7015911-MR001	
	A.FILZ	

A/R	DESCRIPTION	DWG./PART NO.	ITEM NO.
1	WIRE, 22AWG (BLK)	9107350-00	4
2	CONTACT, SKT	9006762	3
1	HOOD, 9 POSITION	1215244-00	2
1	HOUSING, 9 SKT	1211244-01	1

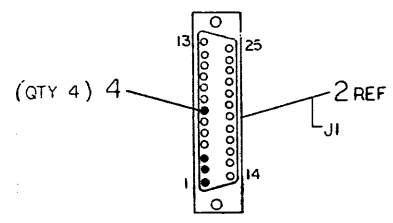
DESCRIPTION		DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
ANGLES ± 0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES	
SURFACE QUALITY IN MICROINCHES	MEDIUM <input type="checkbox"/> PREFERRED <input type="checkbox"/>	OVER 0 TO 0.2	OVER 0.2 TO 0.4
		OVER 0.4 TO 0.6	OVER 0.6 TO 0.8
		±.004	±.008
		±.012	±.016
		±.024	±.04
		±.012	±.016
		±.025	±.04
		±.063	±.01

THIRD ANGLE PROJECTION	DRN. <i>A. Wanda</i> 15 MAY 78	FIRST USED ON	MNCII
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D <i>B. Henry</i> 17 MAY 78	TITLE	CONNECTOR, TEST
DO NOT SCALE DWG	ENG. <i>A. C. Ry</i> 15 MAY 78		
MATERIAL SEE PARTS LIST	PROJ. ENG. <i>B. Hunt</i> 15 MAY 78		
FINISH NONE	PROD. <i>P. O. Hunt</i> 15 MAY 78		
	D-UA-MNCII-0-0	SIZE CODE	B IA
	SCALE 1/1	NUMBER	7015911-0-0
	SHEET OF	REV.	A

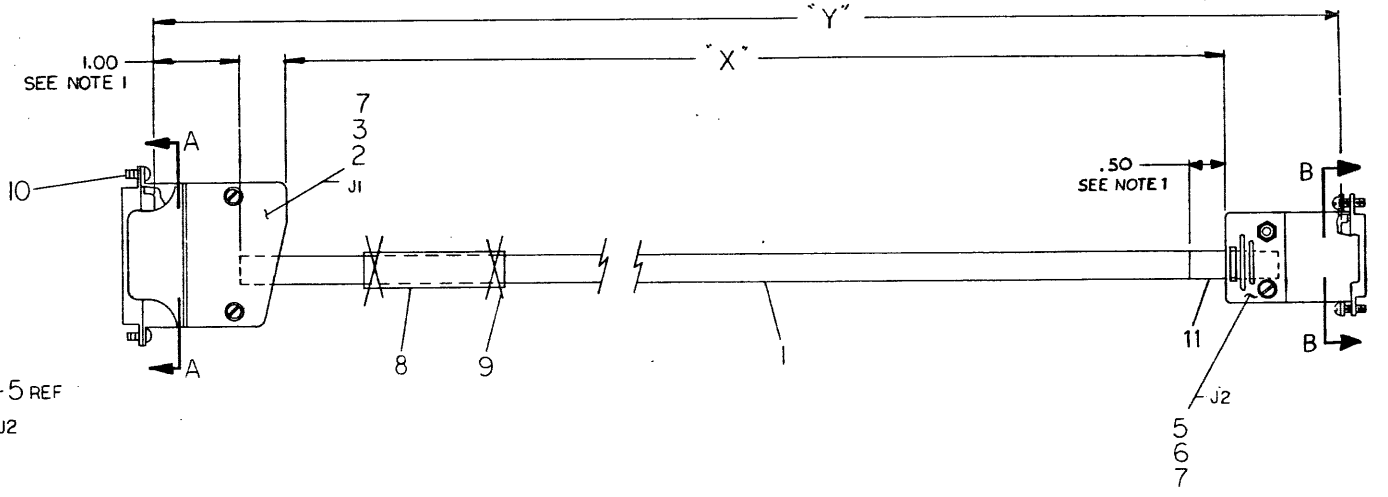
WIRE TABLE						
ITEM NO	DESCRIPTION	FROM	TO	REMARKS	NUMBER	DIM * X * VAR.
22	BLK	J1-7	J2-6	ITEM*4	7015790-0	9 FEET-9 IN ±.5 IN.
	WHT	J1-2	J2-7	ITEM*4		
	SHIELD	J1-1		ITEM*4		
	RED	J1-3	J2-4	ITEM*4		
	BLK		J2-9	ITEM*4		
22	SHIELD		J2-3	ITEM*4		

LEGEND		
NUMBER	DIM * X * VAR.	DIM * Y * PRECUT VAR.
7015790-0	9 FEET-9 IN ±.5 IN.	10 FEET ±.5 IN.

NOTES:  
 1. CUT BACK OUTER JACKET OF CABLE ITEM\*1 TO DIMENSIONS INDICATED. ADD APPROX 1 INCH OF SHRINK TUBING ITEM\*11 TO J2 ONLY.



SECTION A-A  
 SKT INSERTION SIDE  
 SCALE: NONE



SECTION B-B  
 SKT INSERTION SIDE  
 SCALE: NONE

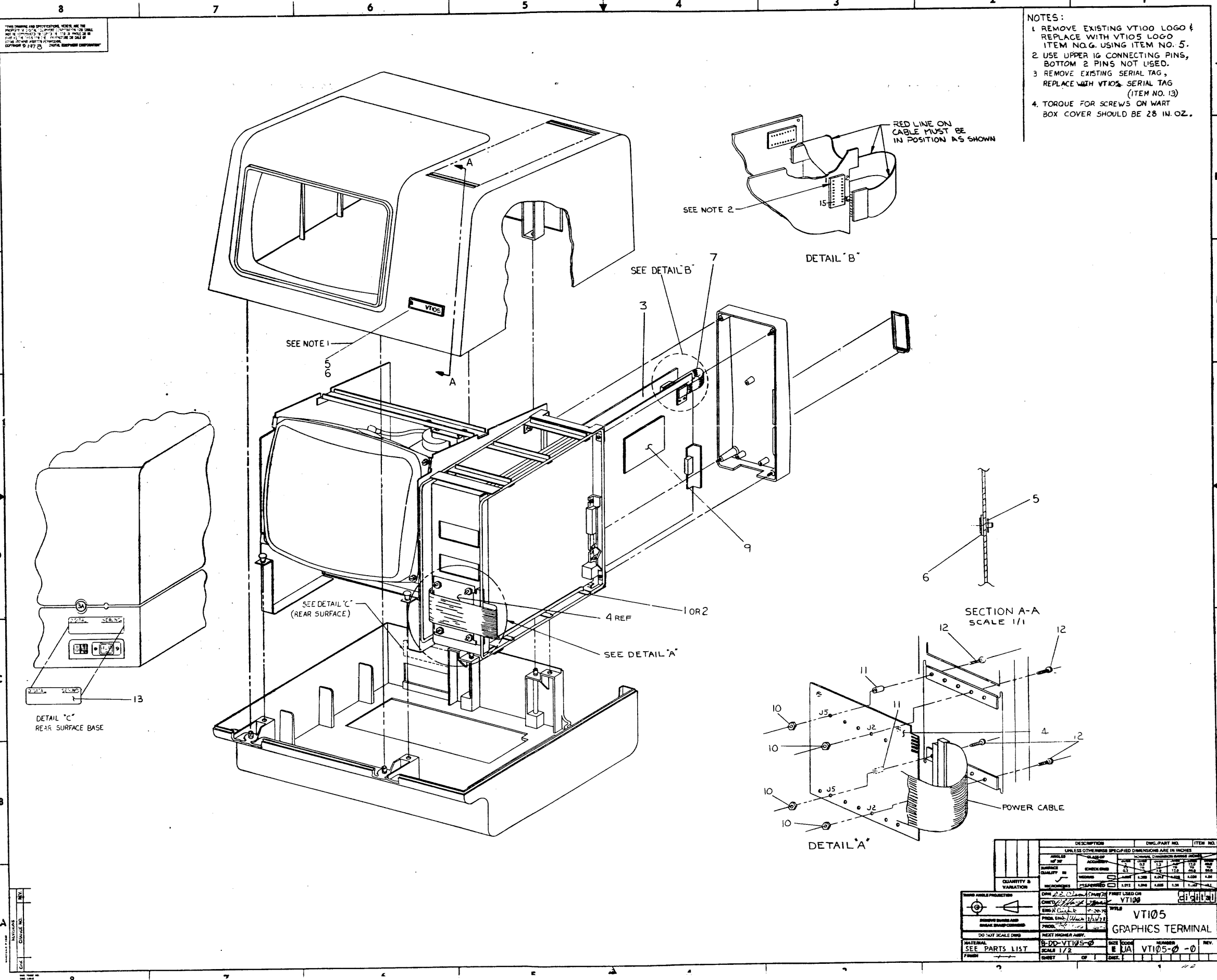
A/R	DESCRIPTION	DWG. PART NO.	ITEM NO.
A/R	TUBING, SHRINK	9107252	11
2	SCR, RETAINER MALE	1210493-51	10
2	CABLE TIE	9007031	9
1	LABEL, CABLE IDENT.	9009532	8
A/R	DECALS, PWR CONNECTOR	A-DC-7409873-2-0	7
1	HOOD, 9 POSITION	1215244-01	6
1	HOUSING, 9 SKT	1211244-01	5
9	CONTACT, SKT	9009762	4
1	HOOD, 25 POSITION	1210493-50	3
1	RECEPTACLE ASSY	1211354	2
A/R	CABLE, 6 CONDUCTOR	9107723	1

QUANTITY & VARIATION		CLASS OF ACCURACY		MICROINCHES					
3	1	0.125	0.25	0.004	0.008	0.012	0.016	0.020	0.024
4	1	0.125	0.25	0.004	0.008	0.012	0.016	0.020	0.024

DRN: <i>[Signature]</i>	CHK'D: <i>[Signature]</i>	ENG: <i>[Signature]</i>	PROJ. ENG: <i>[Signature]</i>	PROD. <i>[Signature]</i>	DATE: <i>[Date]</i>	FIRST USED ON: MNCII digital
REMOVE BURRS AND BREAK SHARP CORNERS						TITLE: CABLE, CONSOLE INTERFACE
DO NOT SCALE DWG.						SCALE: NONE
MATERIAL: D-1A-MNCII-0-0						SIZE: D
SEE PART LIST						NUMBER: 7015790-0-0
FINISH: NONE						REV: 1







- NOTES:
- 1 REMOVE EXISTING VT100 LOGO & REPLACE WITH VT105 LOGO ITEM NO. G. USING ITEM NO. 5.
  - 2 USE UPPER 16 CONNECTING PINS, BOTTOM 2 PINS NOT USED.
  - 3 REMOVE EXISTING SERIAL TAG, REPLACE WITH VT105 SERIAL TAG (ITEM NO. 13)
  - 4 TORQUE FOR SCREWS ON WART BOX COVER SHOULD BE 28 IN. OZ.

THIS DRAWING AND PROTECTIVE COVER ARE THE PROPERTY OF IBM CORPORATION. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING FROM IBM CORPORATION, 238 MAIN STREET, ARMONK, NEW YORK 10504.

DETAIL 'C'  
REAR SURFACE BASE

DETAIL 'B'

DETAIL 'A'

SECTION A-A  
SCALE 1/1

DESCRIPTION		DWG. PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
ANGLES	UNLESS OTHERWISE SPECIFIED		
TOLERANCES	FINISH		
ASSEMBLY	QUALITY		
QUANTITY & VARIATION	REVISIONS		
DATE	BY		
APPROVED	CHECKED		
DESIGNED	DRW.		
DRAWN			
SCALE			
MATERIAL			
SEE PARTS LIST			
FINISH			
FIRST USED ON		VT105	
TITLE		VT105	
SIZE		E JA	
DRAWING NO.		VT105-0-0	
REV.			
REV.			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:		
MADE BY <i>D. OLSEN</i>		CHECKED <i>RAH</i>														
DATE <i>2 MAR 78</i>		DATE <i>27 AUG 78</i>														
ENG <i>J. M. ...</i>		PROD <i>Bob Cooke</i>														
DATE <i>2/28/78</i>		DATE <i>11 APR 78</i>														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	VT105-AA	VT105-AB	VT105-MA	VT105-MB									REF DESIGNATION
1	E-UA-VT100-0-0	VT100-AA	DKDB CRT EIA, USA 115 V/60 HZ	1	-	1	-									
2	E-UA-VT100-0-0	VT100-AB	DKDB CRT EIA USA 230 V/60 HZ	-	1	-	1									
3	D-UA-M7071-0-0	M7071	VT105 WAVE FORM GENERATOR	1	1	1	1									
4	D-UA-5413384-0-0	5413384	EXPANSION BACKPLANE	1	1	1	1									
5		9009257-00	RETAINING RING .160/.152	2	2	2	2									
6		1215421	LOGO VT105	1	1	1	1									
7	C-IA-7008612-0-0	7008612-DF	CABLE, KEYBOARD	1	1	1	1									
8		1212405	CARD GUIDES	2	2	2	2									
9	E-UA-VTLXX-AB-0	VTLXX-AB	ADVANCED VIDEO OPTION	-	-	1	1									
10		9006557	KEPS NUT 4-40	4	4	4	4									
11		9006970	SPACER, #4 HOLE .25 LG	2	2	2	2									
12		9006013-01	SCREW PHIL, PAN HD 4-40 x 1/2 LG	4	4	4	4									
13		3613210-00	SERIAL TAG	1	1	1	1									

E.C.O. NO.

"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 © 1978 DIGITAL EQUIPMENT CORPORATION"

TITLE  
VT105 GRAPHICS TERMINAL

ASSY NO.  
E-UA-VT105-0-0

SIZE CODE NUMBER  
B PL VT105-0-0

REV.

SHEET 1 OF 1

INSERTION PARTS LIST DATA BASE REV

169

8 7 6 5 4 3 2 1

COMPONENT SIDE VIEW

DATE	10/15/73
DRN. PNTC	3872
CHK. BY	W. ZUNTER
PROJ. ENG.	S. SANTIS
PROJ. MGR.	R. FERRELLI
SCALE	2/1
BY	J. OP.
REV	1

REV	1	DATE	10/15/73
REV	2	DATE	10/15/73
REV	3	DATE	10/15/73
REV	4	DATE	10/15/73
REV	5	DATE	10/15/73
REV	6	DATE	10/15/73
REV	7	DATE	10/15/73
REV	8	DATE	10/15/73
REV	9	DATE	10/15/73
REV	10	DATE	10/15/73

digital  
 TITLE  
 WAVEFORM GENERATOR  
 SIZE CODE NUMBER  
 E VA INT-000  
 D

FOR REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	
PLC. REV.		DATE	

DATE	10/15/73
BY	J. OP.
CHK. BY	W. ZUNTER
PROJ. ENG.	S. SANTIS
PROJ. MGR.	R. FERRELLI
SCALE	2/1
REV	1

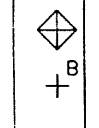
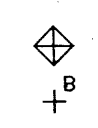
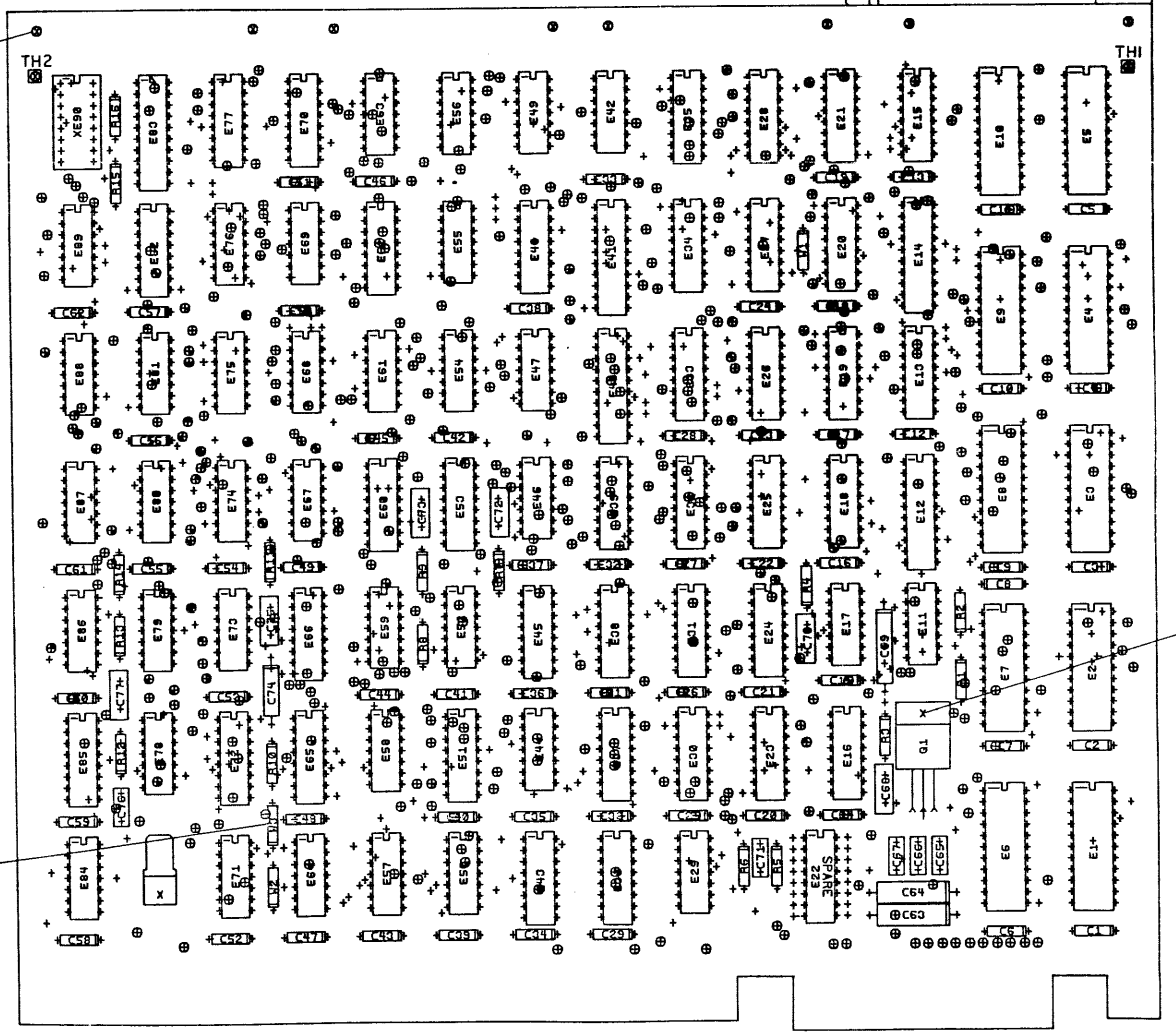
DATE	10/15/73
BY	J. OP.
CHK. BY	W. ZUNTER
PROJ. ENG.	S. SANTIS
PROJ. MGR.	R. FERRELLI
SCALE	2/1
REV	1

NOTES:  
 E VA INT-000

59

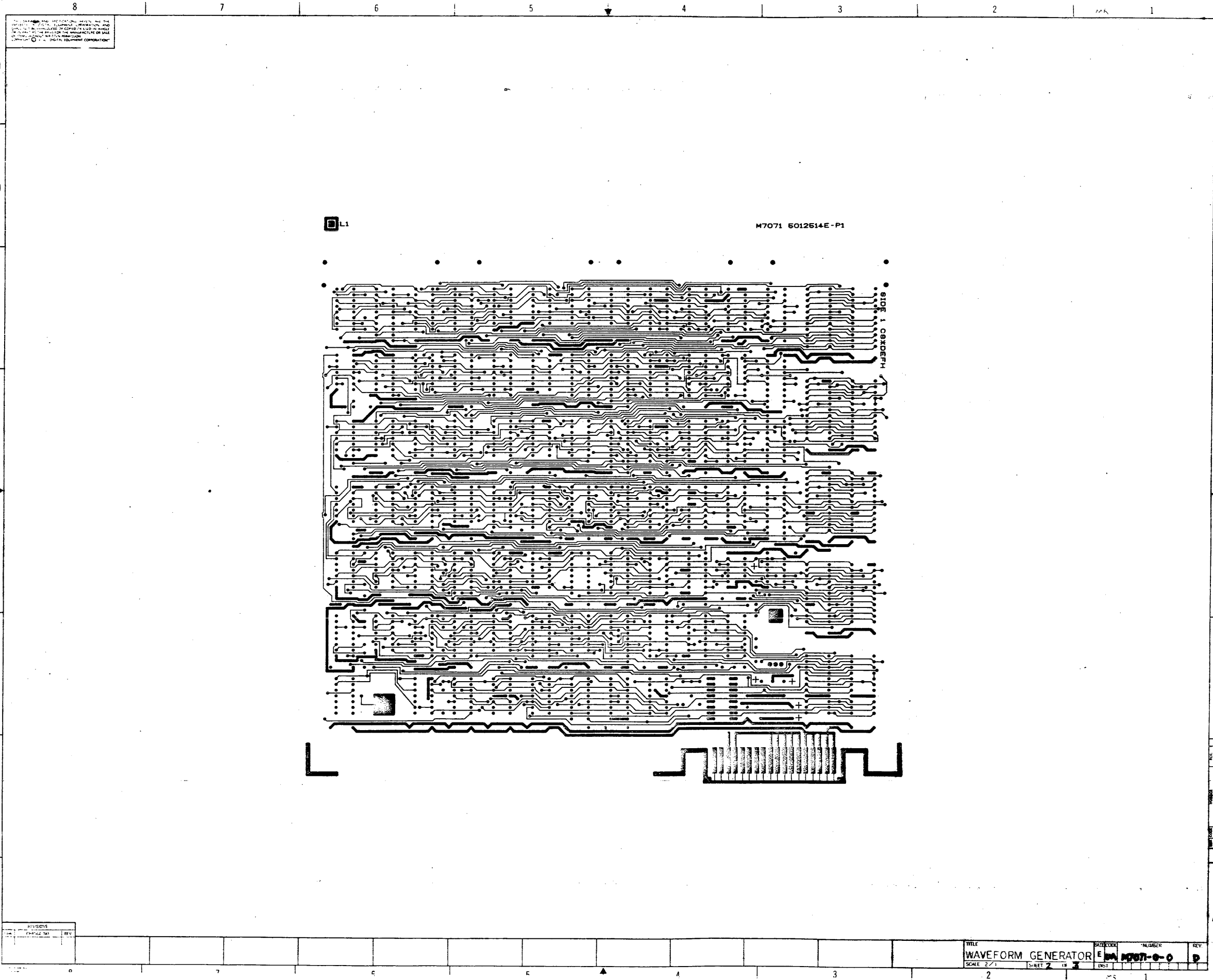
60(QTY)

SPARE



UNCLASSIFIED  
 DATE 08-20-2011 BY 60322 UCBAW/BJS

8 7 6 5 4 3 2 1

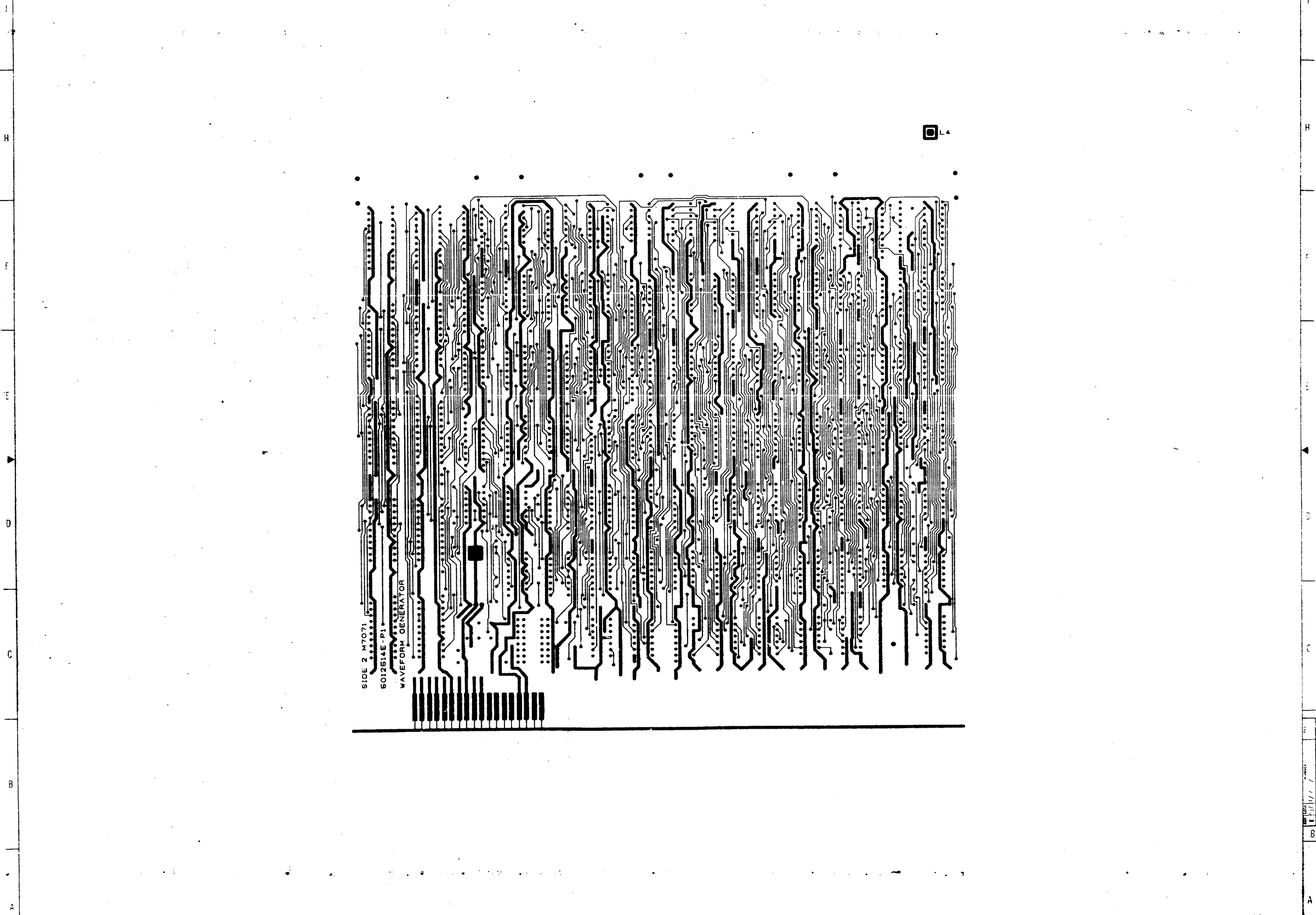


ALL DIMENSIONS AND LOCATIONS ARE THE PROPERTY OF THE MANUFACTURER AND SHALL BE CONTAINED IN CONFIDENTIALITY. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF THE MANUFACTURER.

REV	DATE	BY

TITLE	WAVEFORM GENERATOR	SCALE	2/1	REV	1
DATE		BY			

8 7 6 5 4 3 2 1

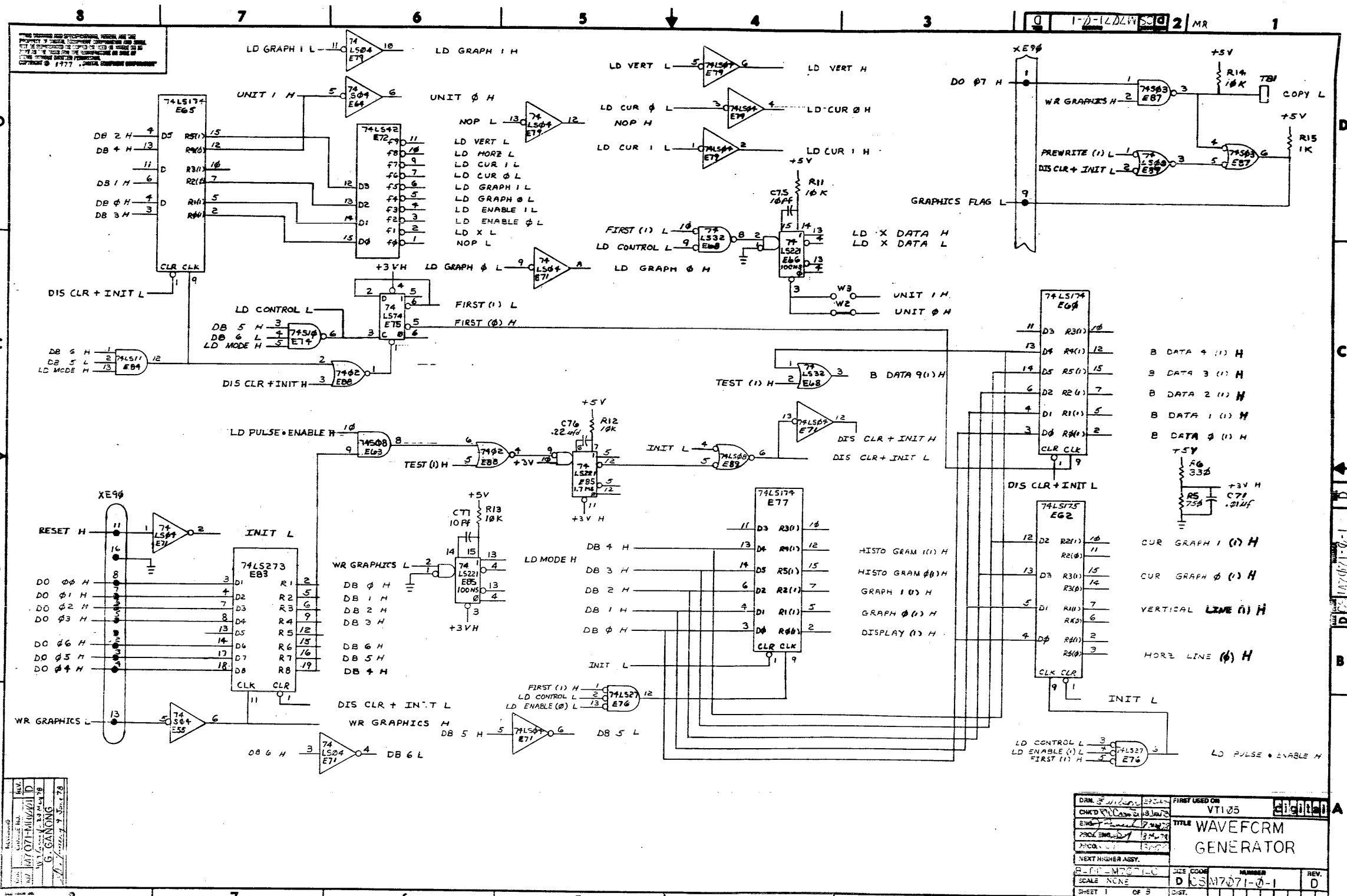


SIDE 2 M7071  
 6012E1A-E-P1  
 WAVEFORM GENERATOR

□ L4

THE WAVEFORM GENERATOR on N7071-0-0  
 3 of 3

172



DATE	BY	CHECKED	APPROVED	DESIGNED	DATE	TITLE
1/2/77	CS	CS	CS	CS	7/1/75	WAVEFORM GENERATOR

REV. D	SCALE NONE	SHEET 1 OF 3	DIST.	

8

7

6

5

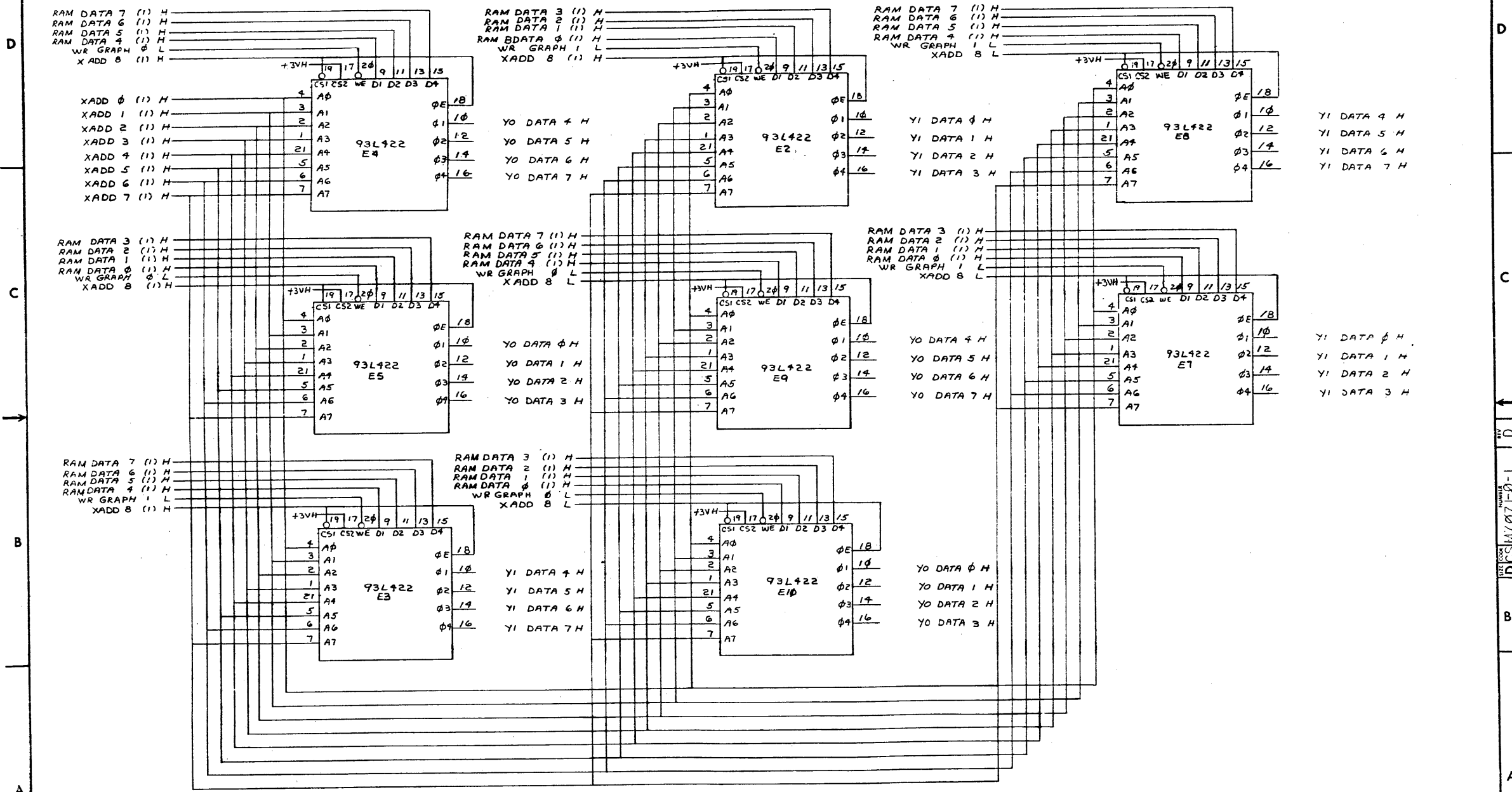
4

3

1-0-1202W SC 2 MR

1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART, IN ANY MANNER, FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REV.	CHANGE NO.	REV.

TITLE WAVEFORM GENERATOR		SIZE CODE D	NUMBER CSM7071-0-1	REV. D
SCALE	SHEET 2 OF 6	DIST.	MR	1

8

7

6

5

4

3

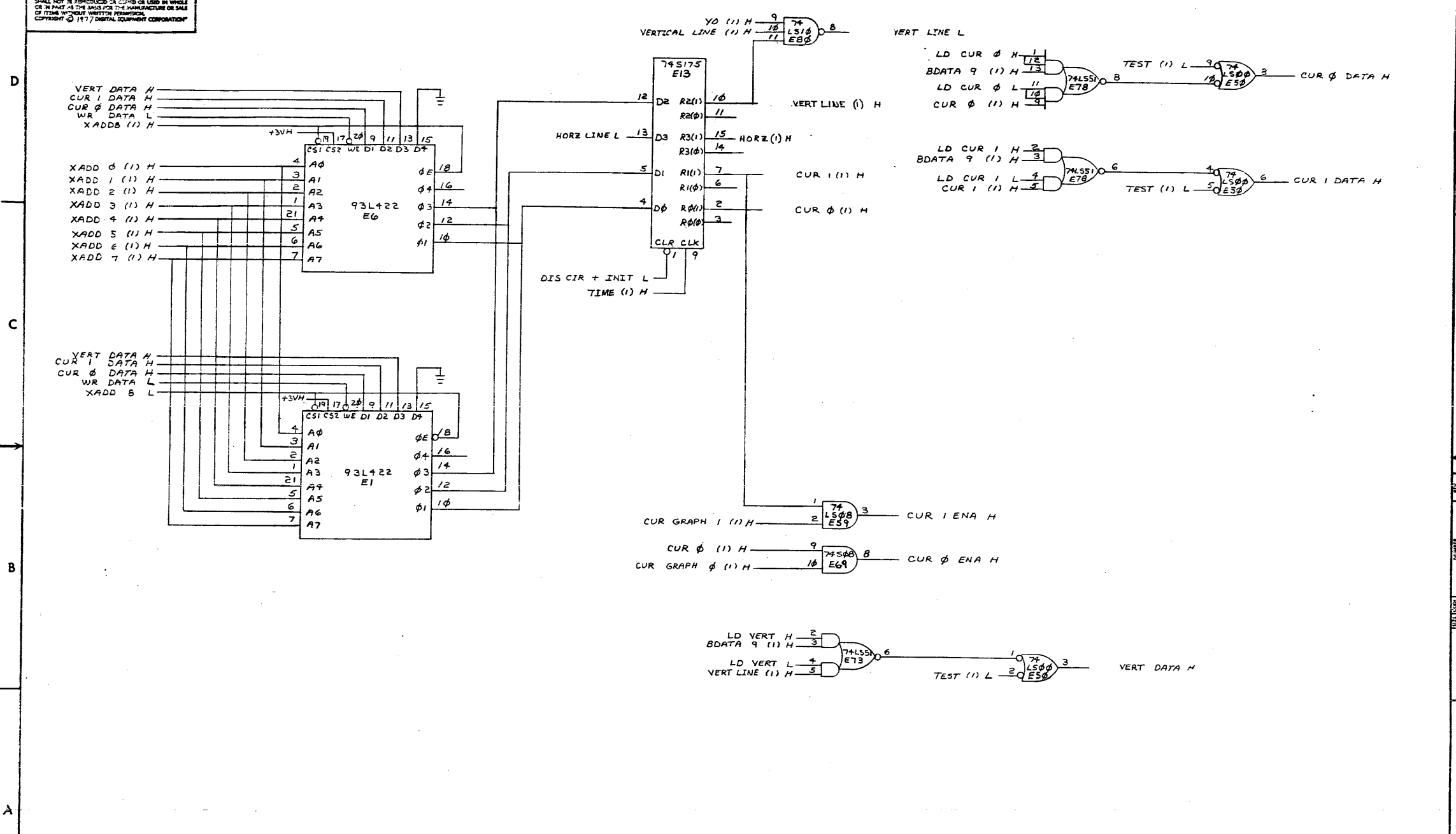
2

1

174



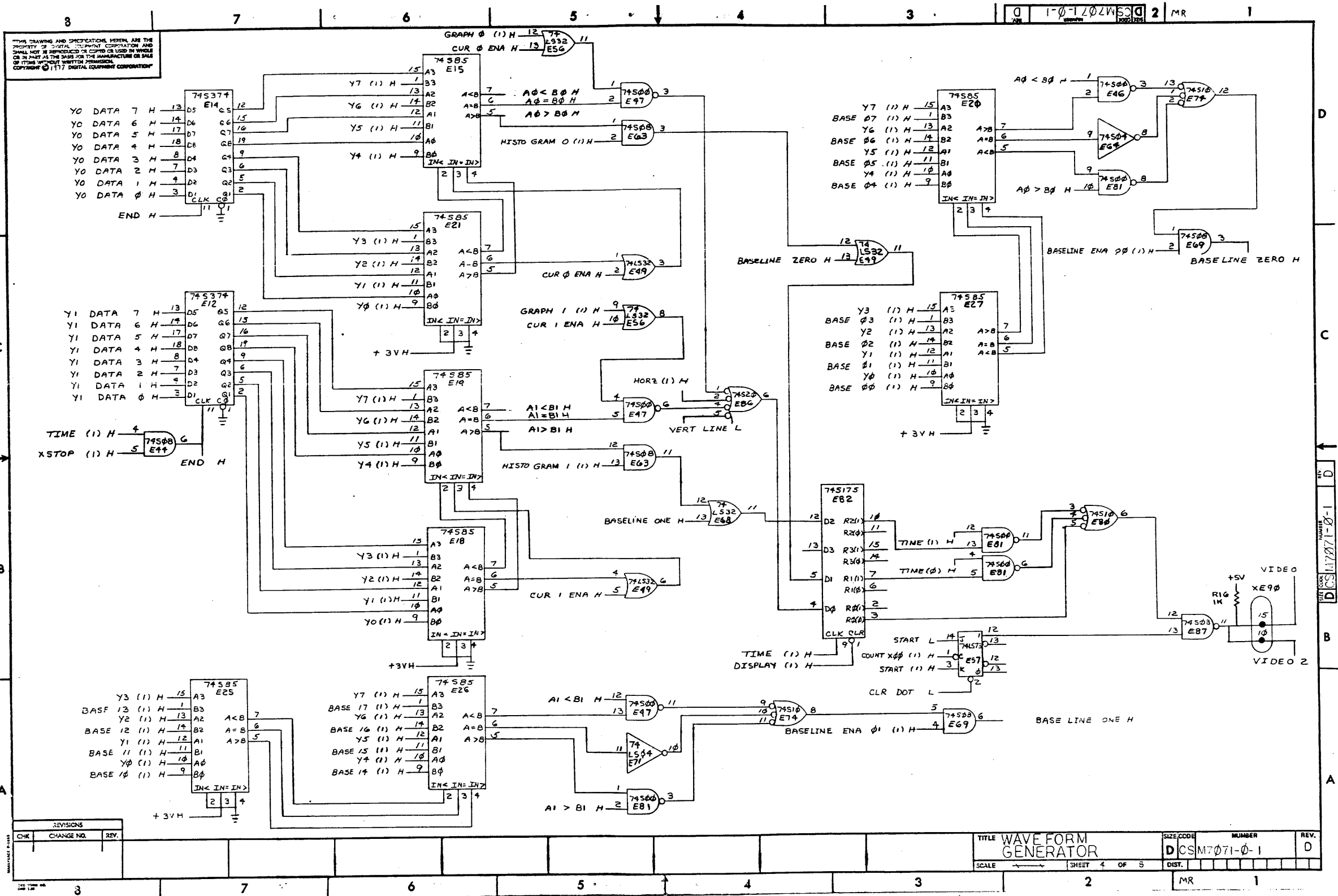
THIS DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE WAVEFORM GENERATOR		SIZE CODE DCS	NUMBER M7071-0-1	REV. D
SCALE	SHEET 3 OF 3	DIST.	MR	1

175

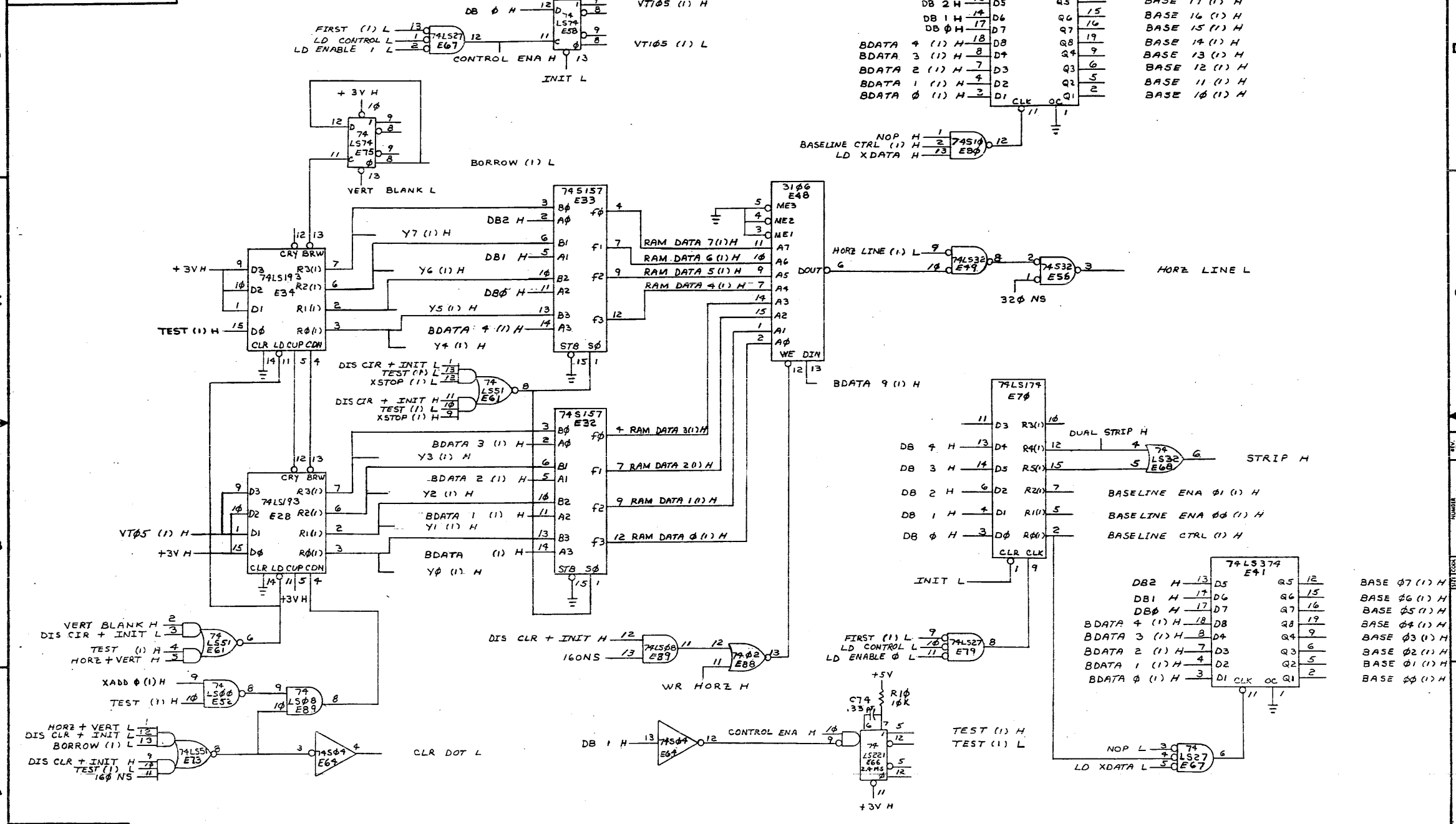


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE WAVE FORM GENERATOR		SIZE CODE DCSM7071-0-1	NUMBER	REV. D
SCALE	SHEET 4 OF 5	DIST.	MR	1

176

THIS DRAWING AND SPECIFICATIONS HEREAFTER ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED BY ANYONE IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



DB 2 H	13	D5	Q5	12	BASE 17 (1) H
DB 1 H	14	D6	Q6	15	BASE 16 (1) H
DB 0 H	17	D7	Q7	16	BASE 15 (1) H
BDATA 4 (1) H	18	D8	Q8	19	BASE 14 (1) H
BDATA 3 (1) H	8	D9	Q9	9	BASE 13 (1) H
BDATA 2 (1) H	7	D3	Q3	6	BASE 12 (1) H
BDATA 1 (1) H	4	D2	Q2	5	BASE 11 (1) H
BDATA 0 (1) H	3	D1	Q1	2	BASE 10 (1) H

DB 7 H	13	D3	R3(1)	16	DUAL STRIP H
DB 3 H	14	D4	R4(1)	12	STRIP H
DB 2 H	6	D2	R2(1)	7	BASELINE ENA 01 (1) H
DB 1 H	4	D1	R1(1)	5	BASELINE ENA 00 (1) H
DB 0 H	3	D0	R0(1)	2	BASELINE CTRL (1) H

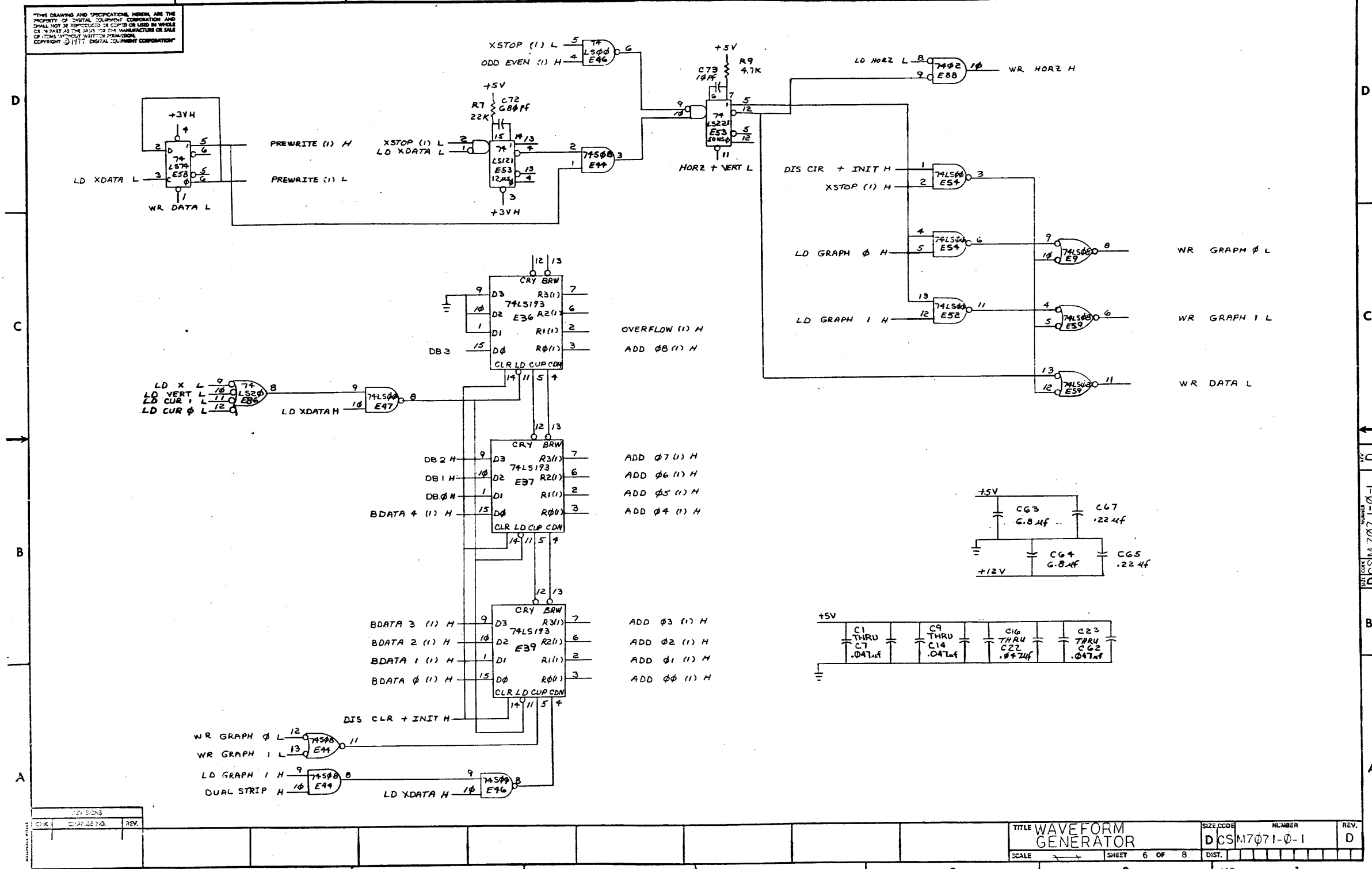
DB 2 H	13	D5	Q5	12	BASE 07 (1) H
DB 1 H	17	D6	Q6	15	BASE 06 (1) H
DB 0 H	17	D7	Q7	16	BASE 05 (1) H
BDATA 4 (1) H	18	D8	Q8	19	BASE 04 (1) H
BDATA 3 (1) H	8	D4	Q4	9	BASE 03 (1) H
BDATA 2 (1) H	7	D3	Q3	6	BASE 02 (1) H
BDATA 1 (1) H	4	D2	Q2	5	BASE 01 (1) H
BDATA 0 (1) H	3	D1	Q1	2	BASE 00 (1) H

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	WAVEFORM GENERATOR	SIZE CODE	NUMBER	REV.
SCALE	←	SHEET	5 OF 8	D
DIST.	MR			

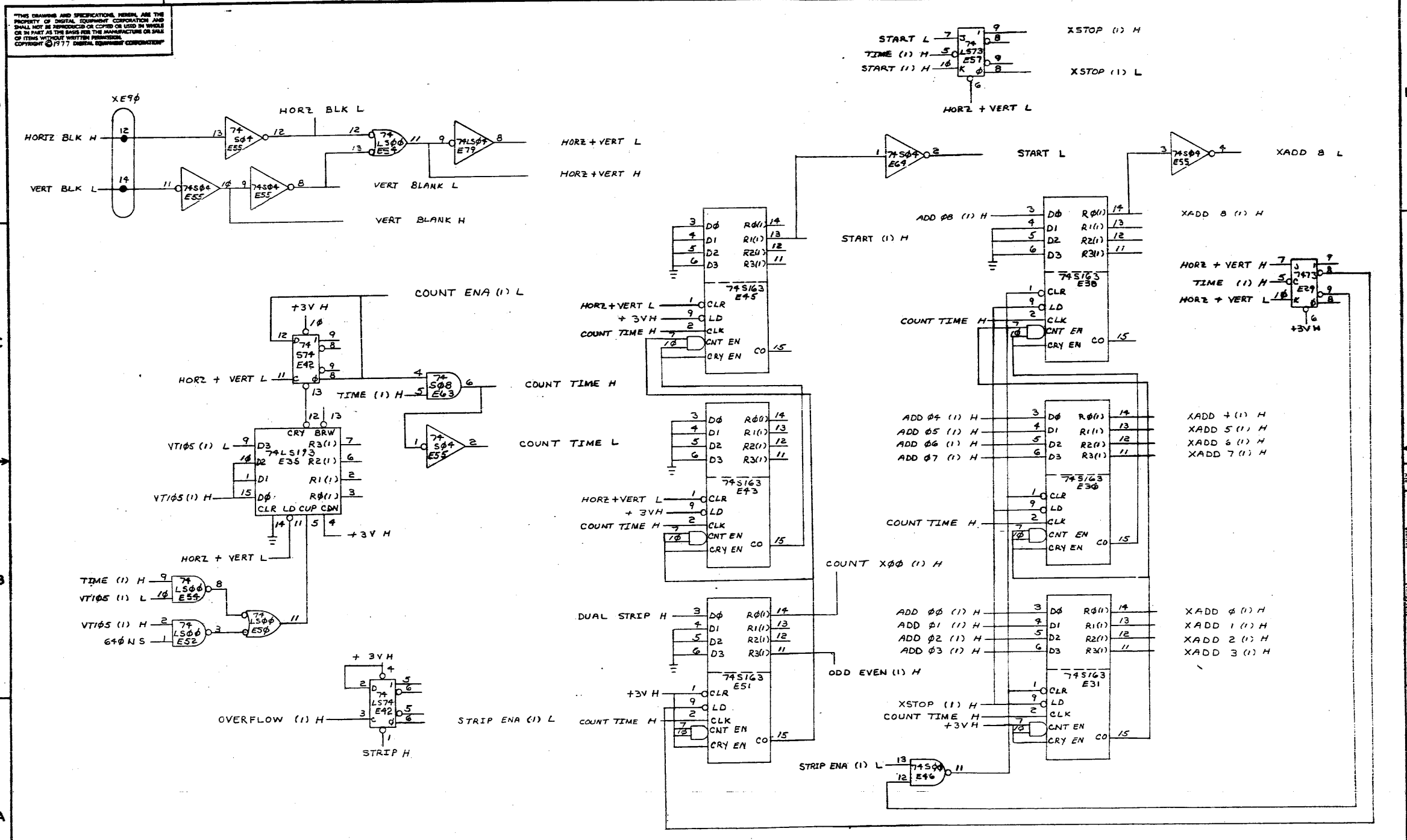
177

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 © 1977 DIGITAL EQUIPMENT CORPORATION



DCS M7071-0-1 D

REV.	NO.	DATE	BY	CHK	CHANGE NO.	REV.	TITLE	SIZE CODE	NUMBER	REV.
							WAVEFORM GENERATOR	DCS M7071-0-1	D	
							SHEET 6 OF 8			



179

8

7

6

5

4

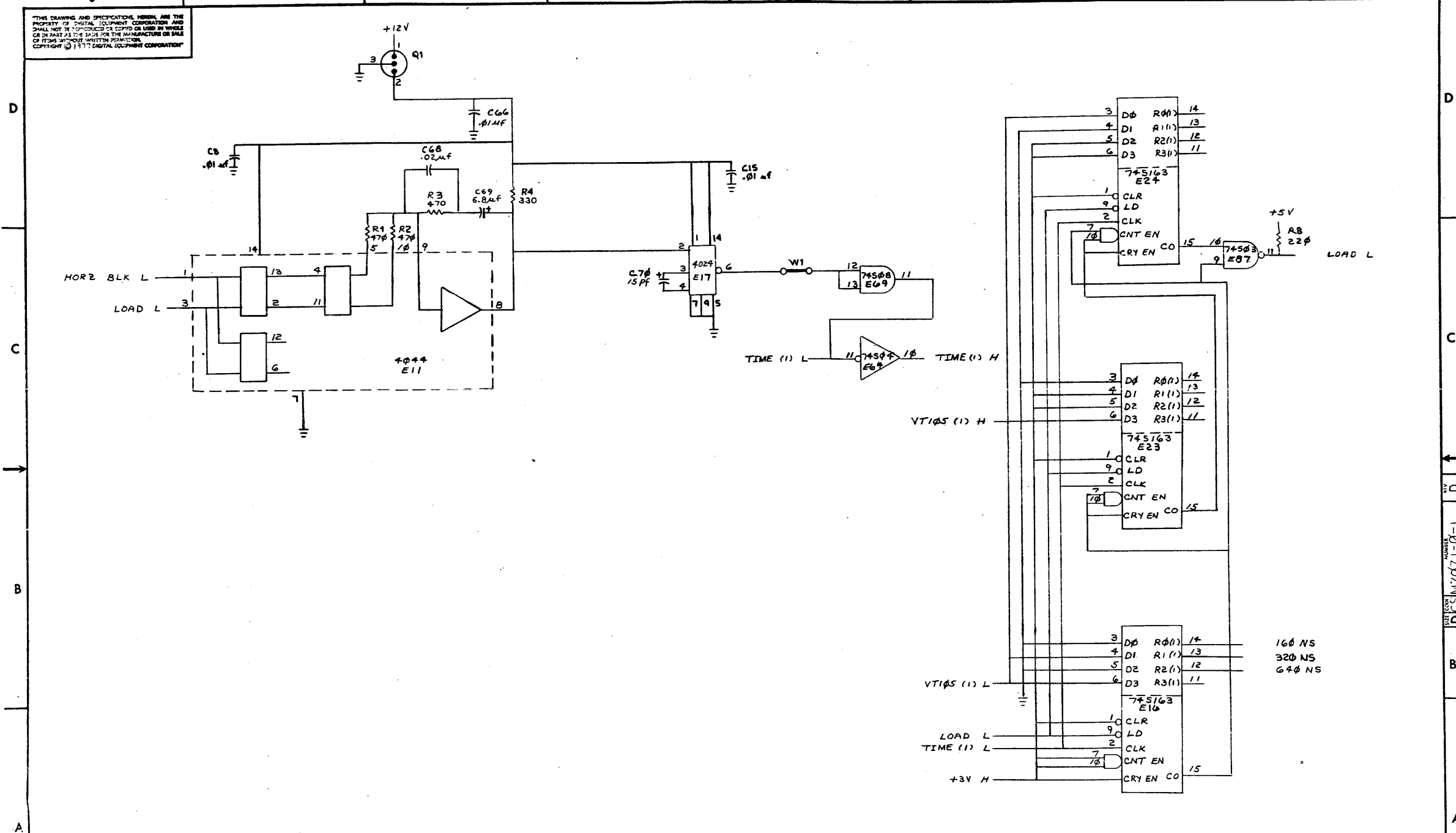
3

1-0-17071-0-1

MR

1

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 © 1977 DIGITAL EQUIPMENT CORPORATION

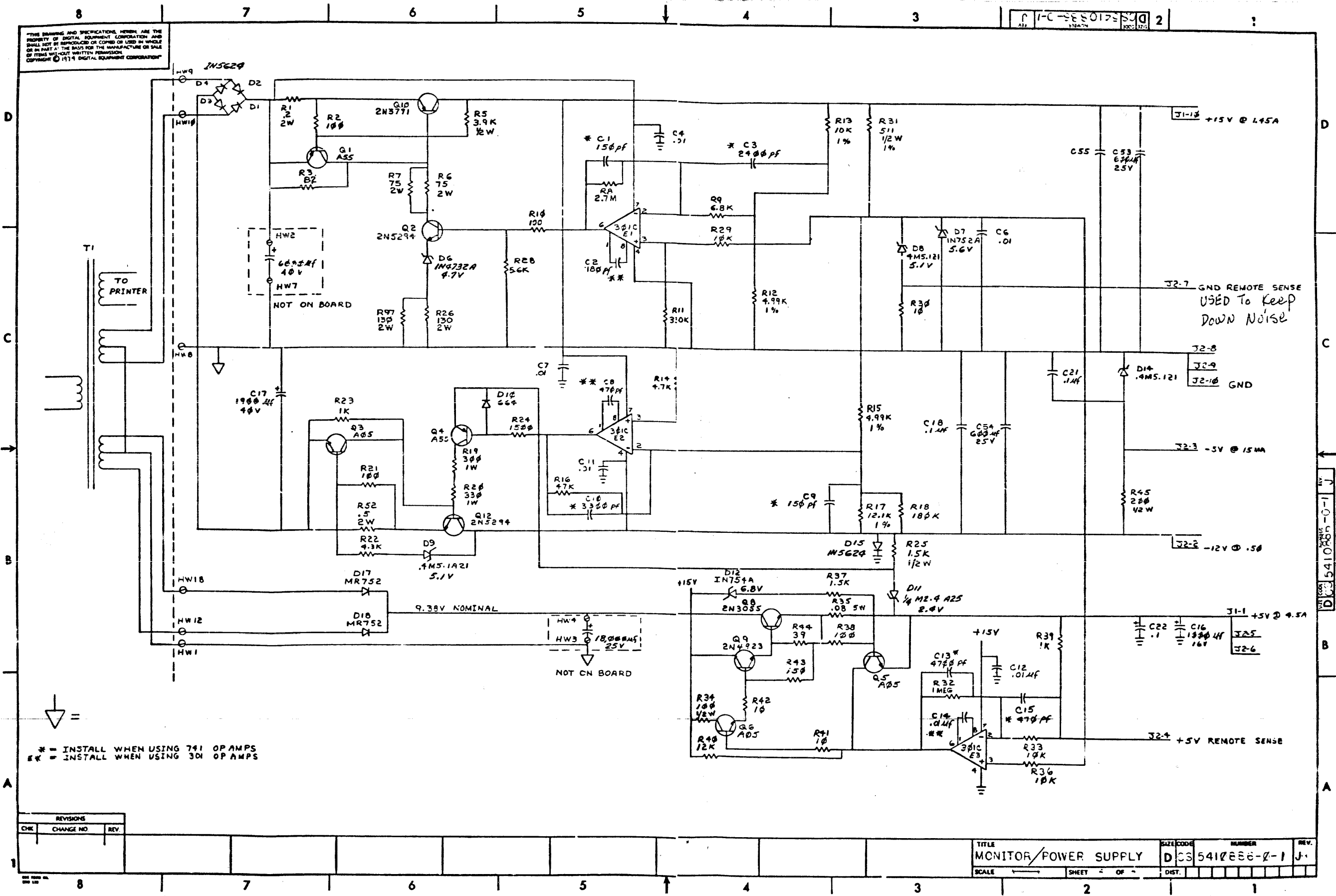


REVISIONS		
CHK	DATE/NO.	REV.

TITLE	WAVEFORM GENERATOR	SIZE/CODE	NUMBER	REV.
SCALE	SHEET 8 OF 8	DIST.	DCS:17071-0-1	D

180

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 AT THE HEADQUARTERS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1974 DIGITAL EQUIPMENT CORPORATION



\* = INSTALL WHEN USING 741 OP AMPS  
 \*\* = INSTALL WHEN USING 301 OP AMPS

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	MONITOR/POWER SUPPLY	SIZE CODE	DCS	NUMBER	5410886-2-1	REV.	J
SCALE		SHEET	2	OF		DIST.	

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

## FIELD MAINTENANCE PRINT SET

"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 © 1977 DIGITAL EQUIPMENT CORPORATION."

### TABLE OF CONTENTS

B-TC-KD11-NA-1  
 A-PL-KD11-NA-Ø  
 D-UA-M727Ø-Ø-Ø  
 D-CS-M727Ø-Ø-1

FIELD MAINT. PRINT SET KD11-NA  
 TABLE OF CONTENTS  
 LSI-LL CPU WITH EIS, FIS, NO MEMORY  
 LSI-LL CPU  
 LSI-LL CPU

UNIT VARIATIONS COVERED BY THIS PRINT SET KD11-NA

# KD11-NA

## Field Maintenance Print Set

### Digital Equipment Corporation

PRINT SET ORDER NO. MPØØ563

REVISIONS	REV	USED ON OPTION/MODEL	DRN.	DATE	TITLE:  LSI 11 CPU WITH EIS, FIS, NO MEMORY	SIZE <b>B</b>	CODE <b>TC</b>	NUMBER KD11-NA-1	REV.
	CHG. NO.	KD11-NA	<i>P. Wilson</i>	8 Dec 77					
	DATE		CHK'D <i>RW</i>	7 Dec 77					
			PROJ. ENG. <i>Robert Fittel</i>	3 Dec 77					
			FIELD SERV. <i>J. L. Galt</i>	14 JAN 78					
		SHEET 1 OF 1							

DAB 124

REV. \_\_\_\_\_  
 NUMBER  
**B** | **TC** | **KD11-NA-1**

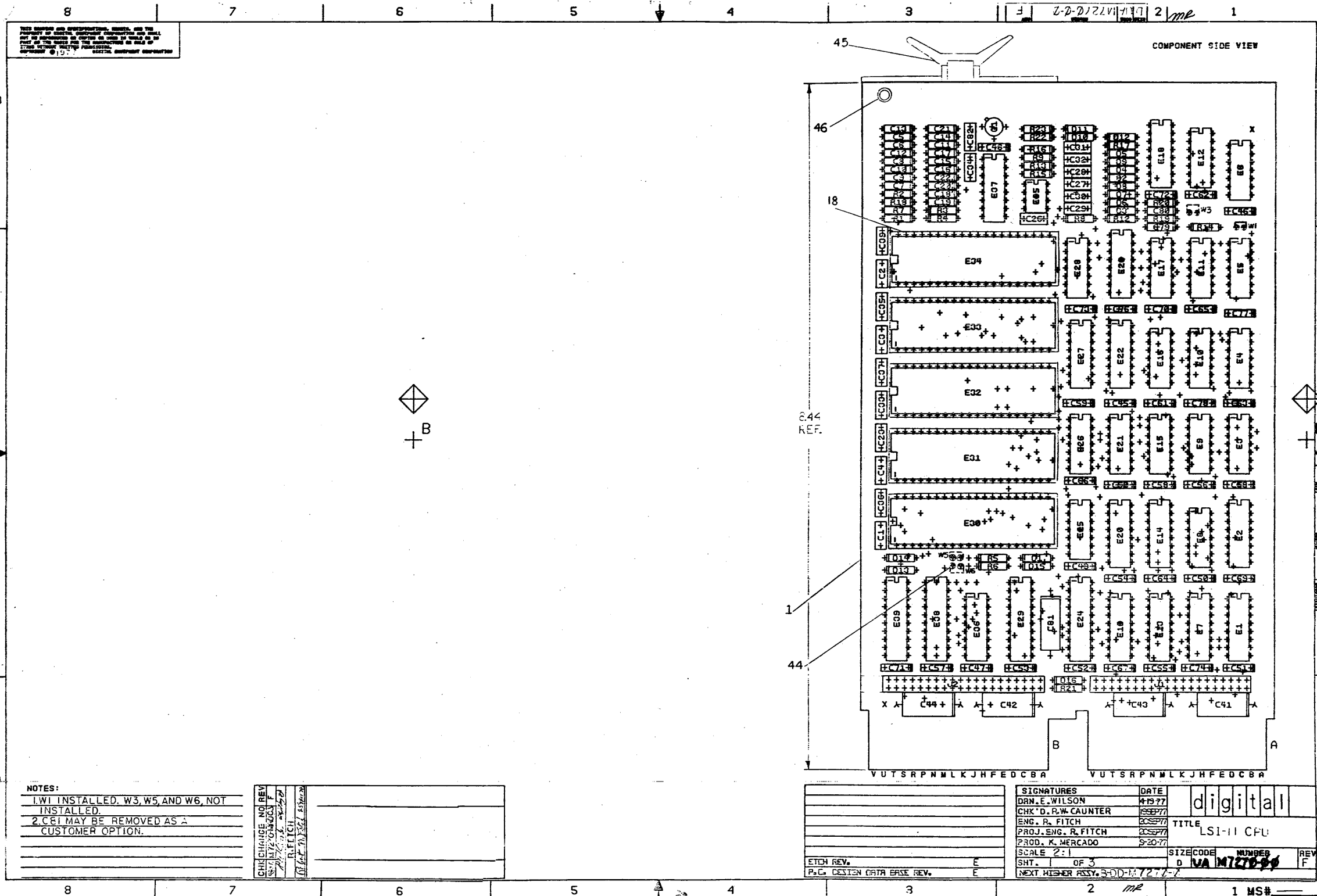
181



DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST			QUANTITY VARIATION																				
MADE BY <i>E Wilson</i>	CHECKED <i>R W Caunter</i>	SECTION																					
DATE <i>8 Dec 77</i>	DATE <i>7 Dec 77</i>	1																					
ENG <i>Robert Fitch</i>	PROD <i>Don Devone R.F.</i>	ISSUED SECT.																					
DATE <i>6 Dec 77</i>	DATE <i>4 Jan 78</i>	1																					
ITEM NO.	DWG NO./PART NO.	DESCRIPTION																					
1	M7270	LSI 11 CPU	1																				
2	9905622-0	BOX, FOLDING, REVERSE TUCK	1																				
3	23003B5	EIS/FIS MICROM (E34)	1																				
TITLE		ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO.																
LSI 11 CPU WITH EIS, FIS, NO MEMORY		B-DD-KD11-NA	A	PL	KD11-NA-0																		
		SHEET 1 OF 1	DIST																				

DEC FORM  
DRA 110

189



THIS DRAWING IS UNCLASSIFIED, EXCEPT FOR THE PORTION OF THIS DRAWING WHICH IS IDENTIFIED AS A SECRET OR CONFIDENTIAL DRAWING. IT IS THE POLICY OF THE GOVERNMENT TO MAKE SUCH INFORMATION AVAILABLE TO THE PUBLIC AS SOON AS POSSIBLE.

NOTES:  
 1. WI INSTALLED. W3, W5, AND W6, NOT INSTALLED.  
 2. C61 MAY BE REMOVED AS A CUSTOMER OPTION.

CHANGE NO.	REV.	DATE	BY

SIGNATURES	DATE	TITLE
DRN. E. WILSON	4-19-77	digital
CHK. D. P. W. CAUNTER	10-28-77	
ENG. R. FITCH	10-28-77	
PROJ. ENG. R. FITCH	10-28-77	
PROD. K. MERCADO	9-20-77	
SCALE 2:1		
SHT. 1 OF 3		
NEXT HIGHER ASSY. 3-DD-M7272-7		

183

8

7

6

5

4

3

DJA M7270-0-0 F 2 ml

1

5013004E-P1 M7270

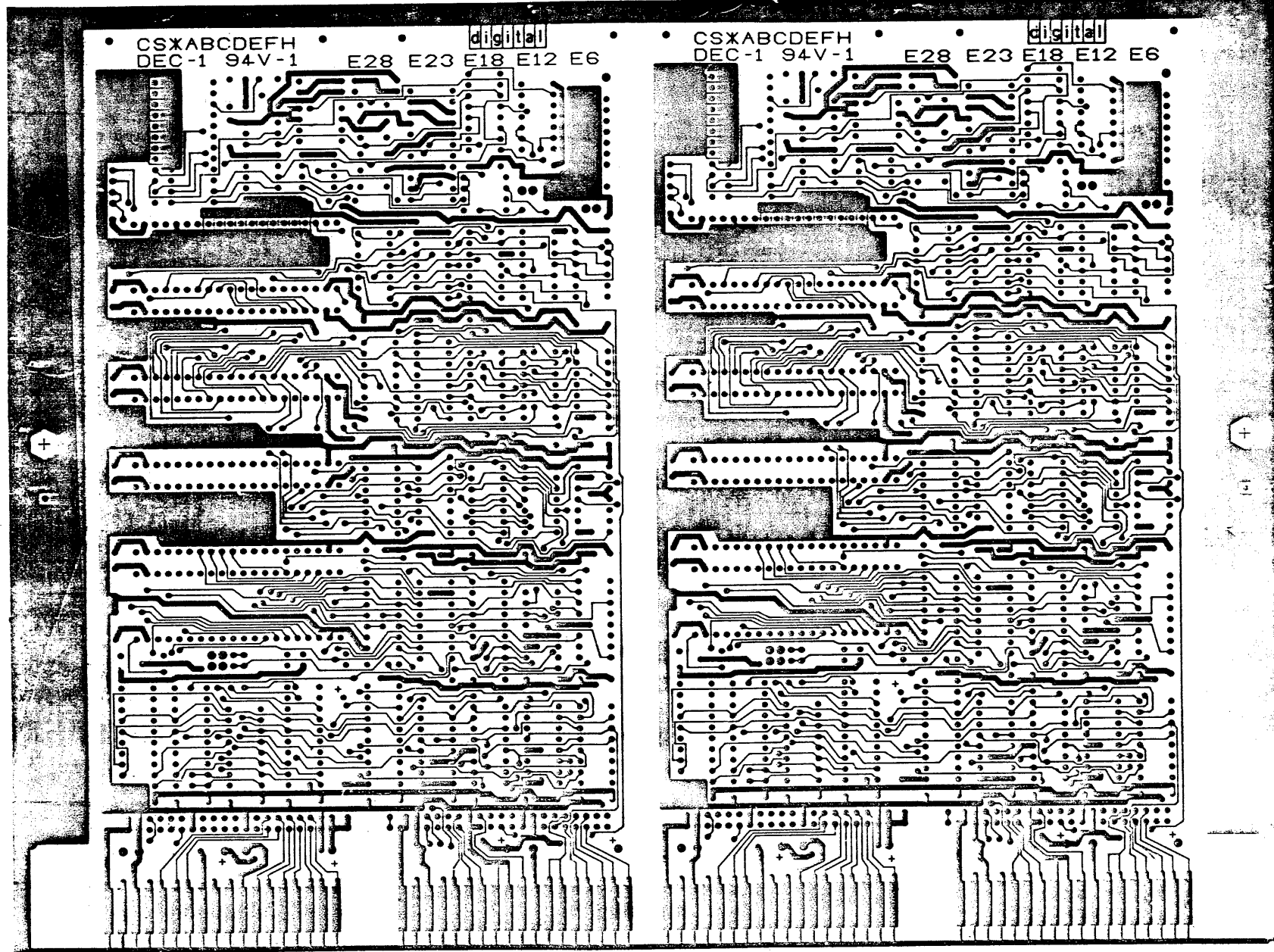
5013004E-P1 M7270

L1

L1

CSXABCDEFH  
DEC-1 94V-1 E28 E23 E18 E12 E6

CSXABCDEFH  
DEC-1 94V-1 E28 E23 E18 E12 E6



D  
C  
B  
A

D  
C  
B  
A

DJA M7270-0-0 F 2 ml

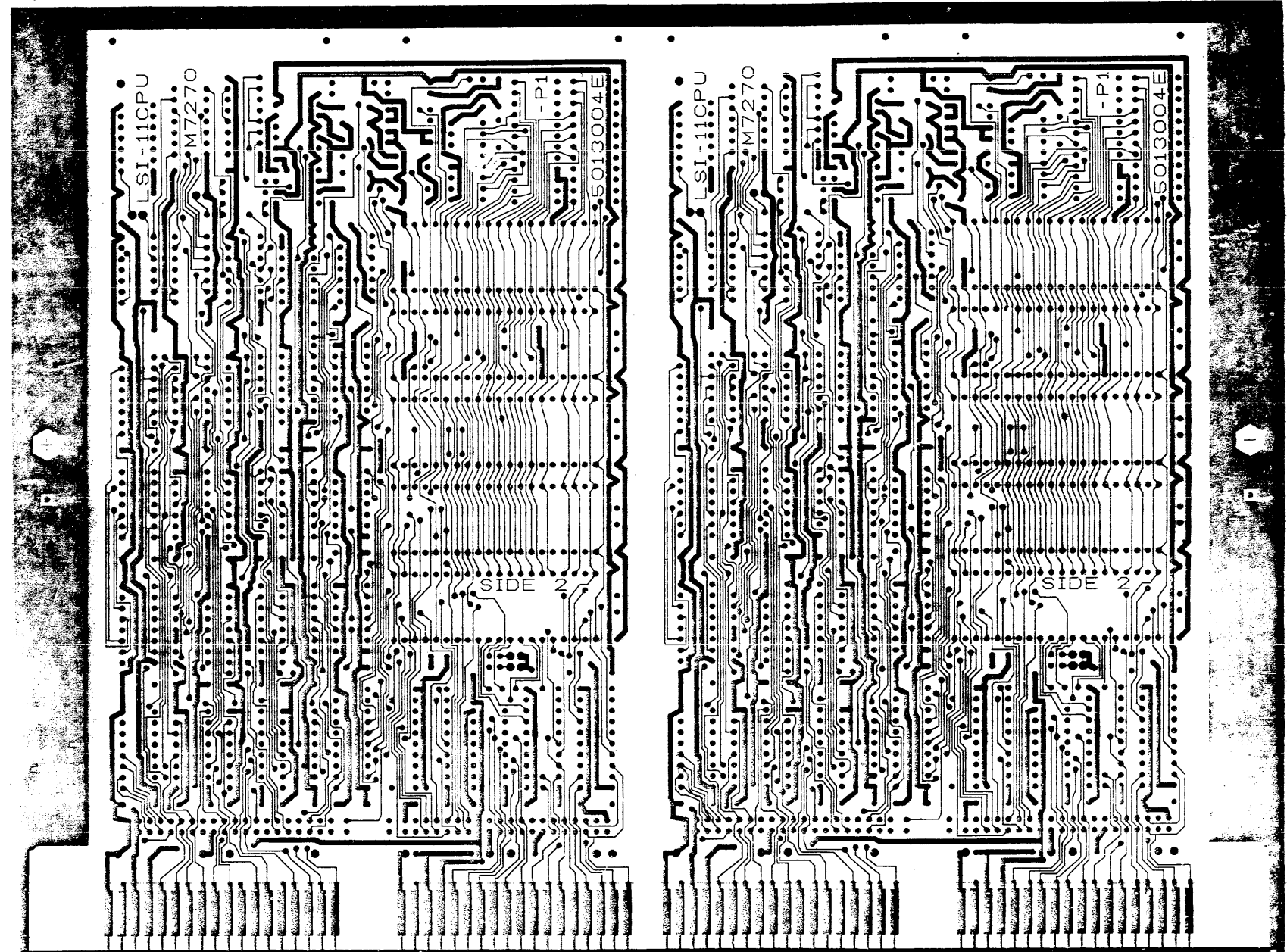
8		7		6		5		4		3		2		1			
TITLE LSI-11 CPU												SIZE CODE	DJA	M7270-0-0	F		
SCALE 2/1												SHEET	2	OF	3	DIST.	

184

ALL DIMENSIONS AND LOCATIONS ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHOULD BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

L2

L2



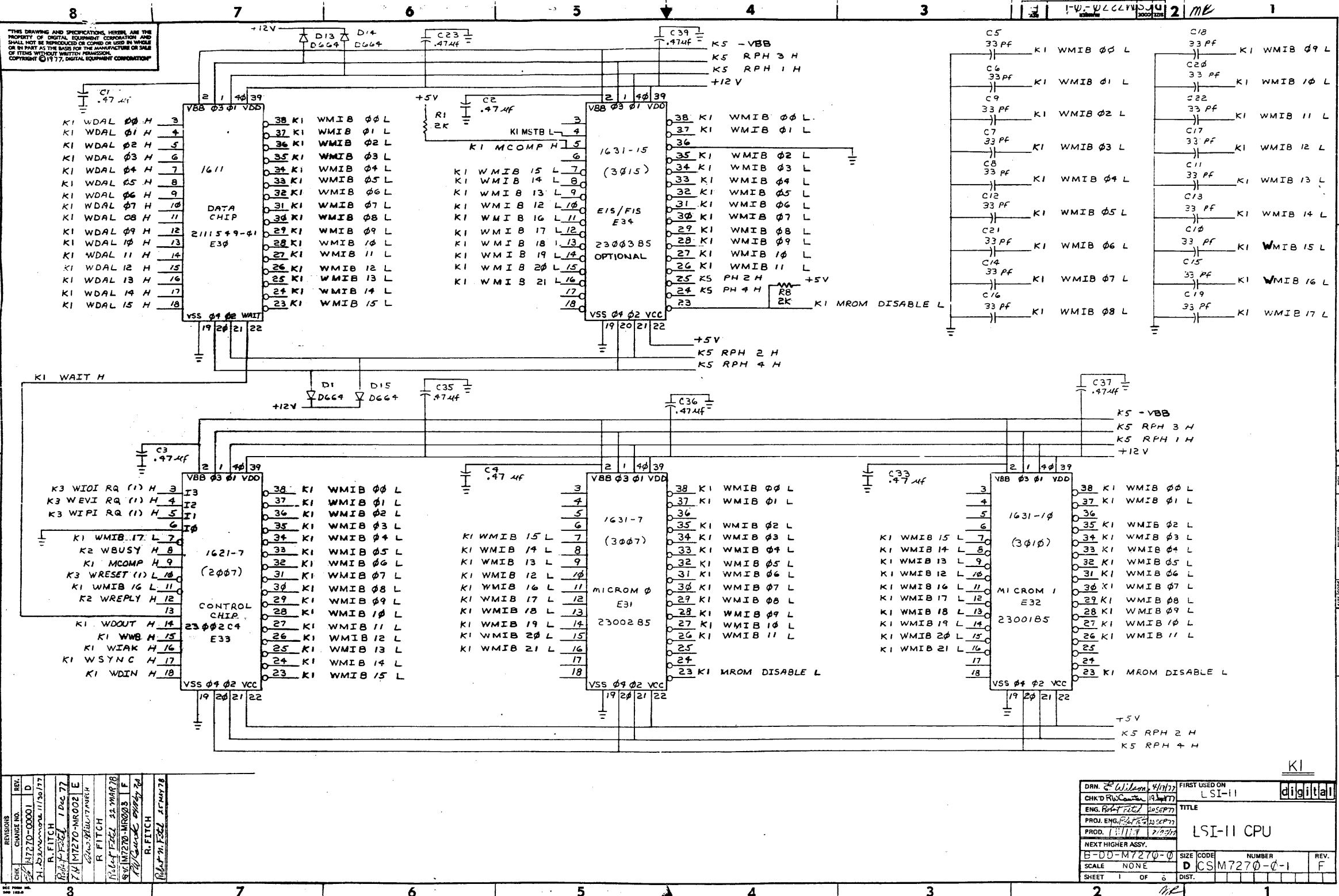
D  
C  
B  
A

D  
C  
B  
A

DUA M7270-0-0 F

8		7		6		5		4		3		2		1	
TITLE LSI-11 CPU												DUA M7270-0-0		F	
SCALE 2/1				SHEET 3 OF 3											

185



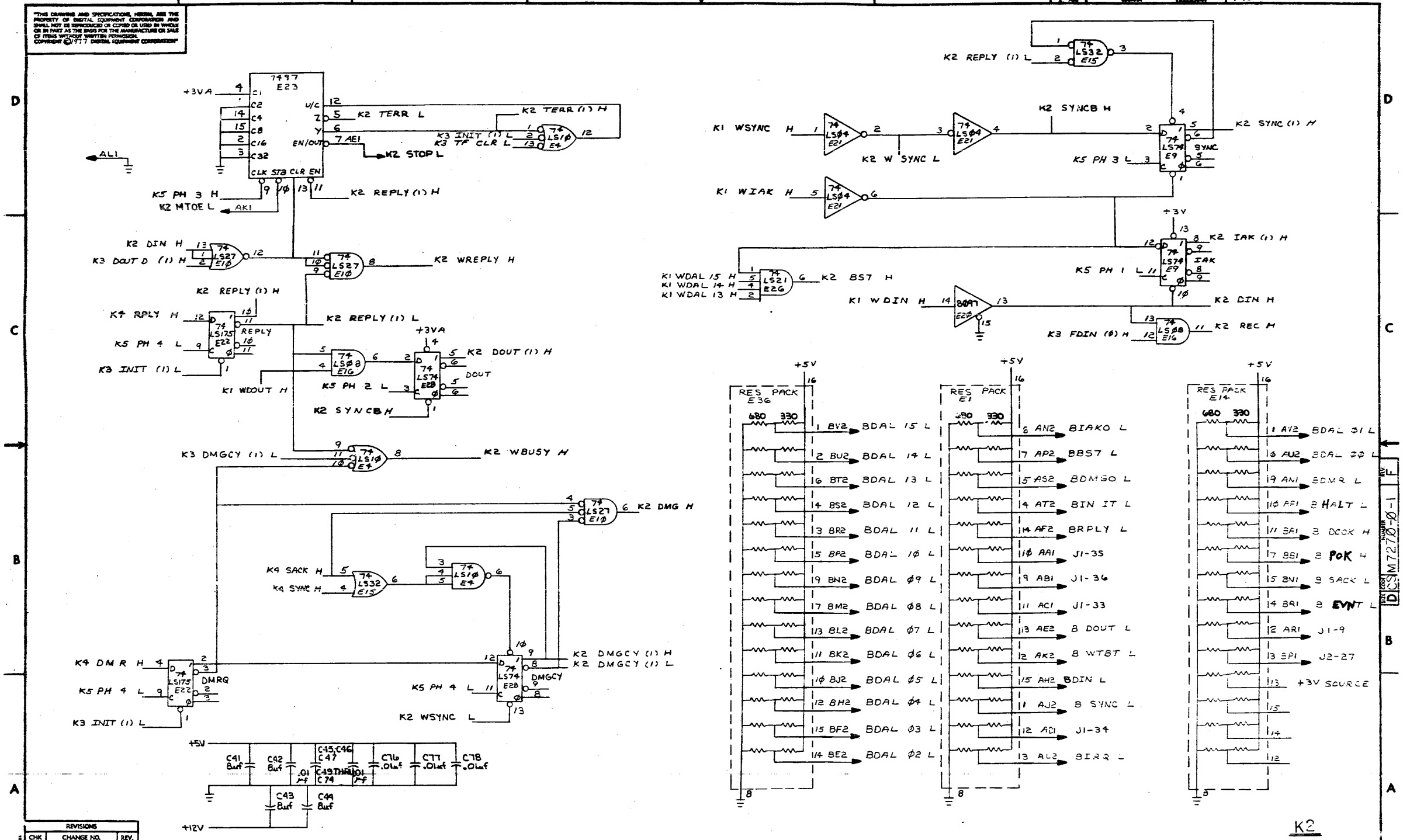
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION.

REV.	CHG.	NO.	DATE	BY	CHK.
1	D	0001	11/20/77	R. FITCH	R. FITCH
2	E	0002	12/02/77	R. FITCH	R. FITCH
3	F	0003	12/03/77	R. FITCH	R. FITCH
4	F	0004	12/04/77	R. FITCH	R. FITCH
5	F	0005	12/05/77	R. FITCH	R. FITCH

DRN. <i>W. Wilson</i> 4/1/77	FIRST USED ON	LSI-II	<b>digital</b>
CHK'D <i>R. Wilson</i> 4/1/77	TITLE	LSI-II CPU	
ENG. <i>R. Wilson</i> 4/1/77	PROJECT	LSI-II CPU	
PROD. <i>R. Wilson</i> 4/1/77	SCALE	NONE	REV. F
NEXT HIGHER ASSY.	SIZE	CODE	NUMBER
B-DD-M7270-0	D	CSM7270-0-1	
SHEET 1 OF 6	DIST.		

186

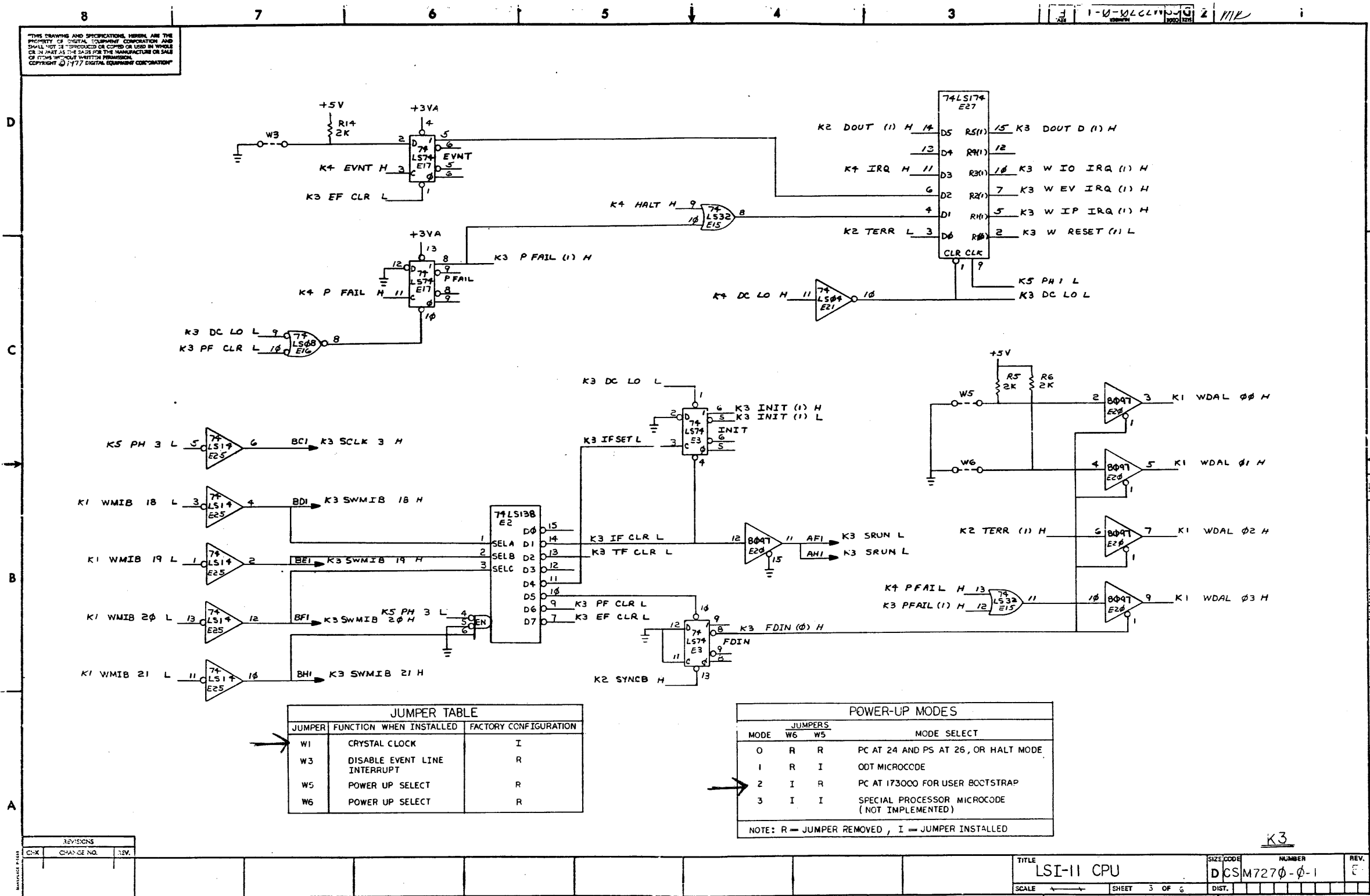
THE DRAWING AND SPECIFICATIONS HEREBY ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.



REVISIONS			TITLE		SIZE CODE		NUMBER		REV.	
CHK	CHANGE NO.	REV.	LSI-11 CPU		DCS M7270-0-1		E		F	

187

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 © 1977 DIGITAL EQUIPMENT CORPORATION



JUMPER TABLE		
JUMPER	FUNCTION WHEN INSTALLED	FACTORY CONFIGURATION
W1	CRYSTAL CLOCK	I
W3	DISABLE EVENT LINE INTERRUPT	R
W5	POWER UP SELECT	R
W6	POWER UP SELECT	R

POWER-UP MODES			
MODE	JUMPERS		MODE SELECT
	W6	W5	
0	R	R	PC AT 24 AND PS AT 26, OR HALT MODE
1	R	I	ODT MICROCODE
2	I	R	PC AT 173000 FOR USER BOOTSTRAP
3	I	I	SPECIAL PROCESSOR MICROCODE (NOT IMPLEMENTED)

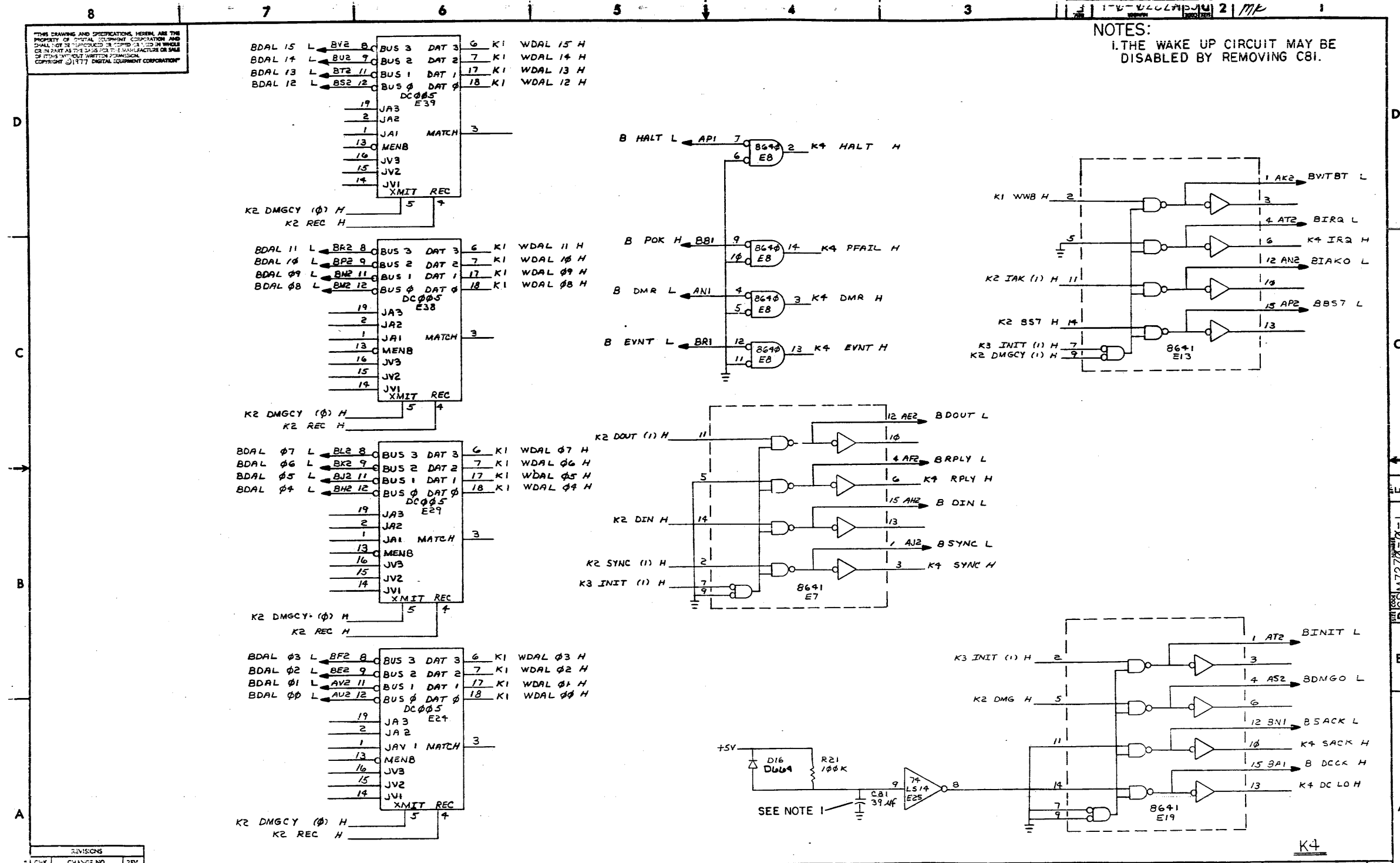
NOTE: R = JUMPER REMOVED, I = JUMPER INSTALLED

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE LSI-11 CPU  
 SIZE CODE DCSM7270-0-1  
 NUMBER 5  
 SHEET 3 OF 6  
 DIST.   
 SCALE   
 REV. 5

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DIGITAL EQUIPMENT CORPORATION.

NOTES:  
1. THE WAKE UP CIRCUIT MAY BE DISABLED BY REMOVING C81.



REVISIONS		
CHK	CHANGE NO.	REV.

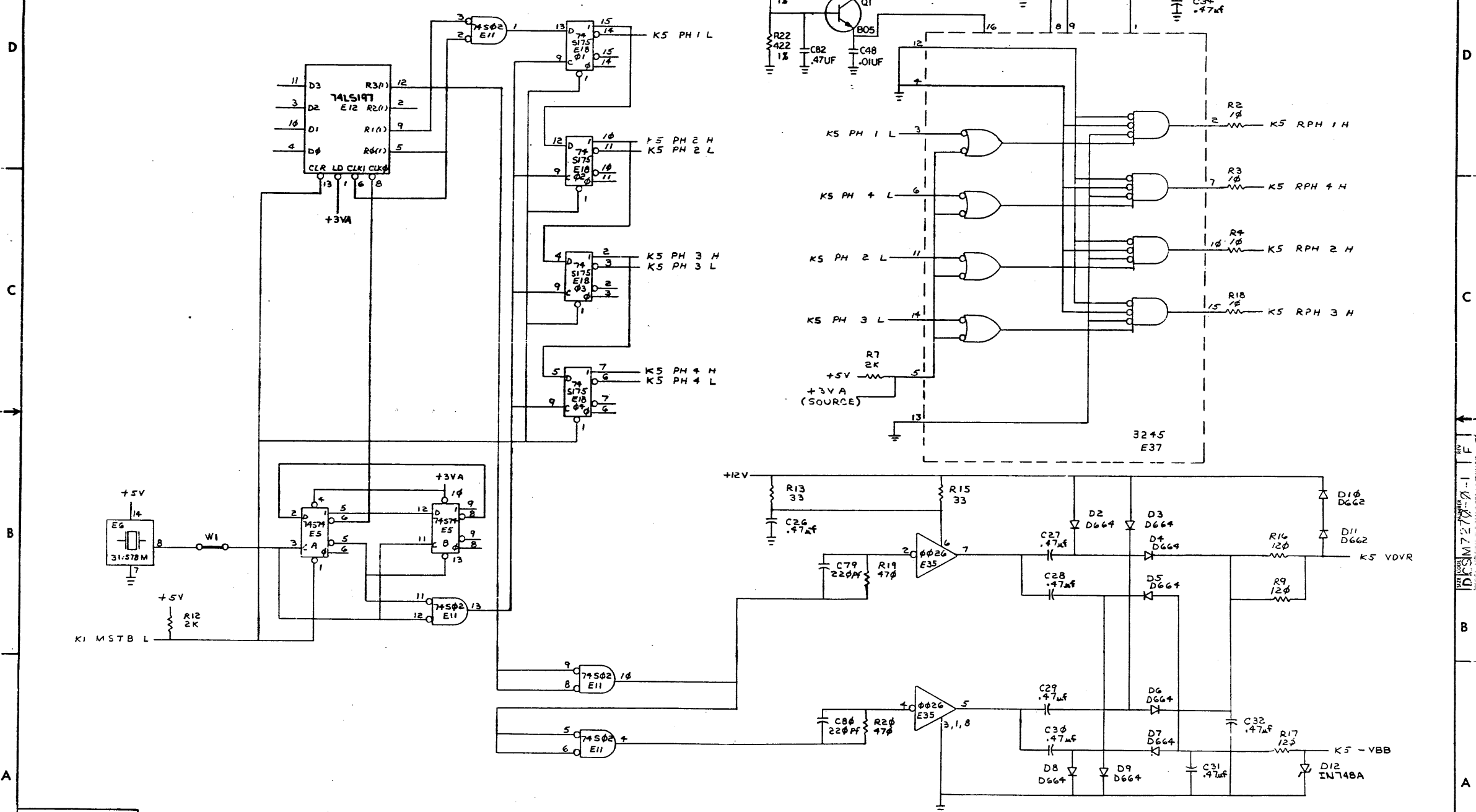
TITLE	LSI-11 CPU	SIZE CODE	D C S M 7 2 7 0 - 0 - 1	NUMBER		REV.	F
SCALE		SHEET	4	OF	6	DIST.	

189



8 7 6 5 4 3 2 1

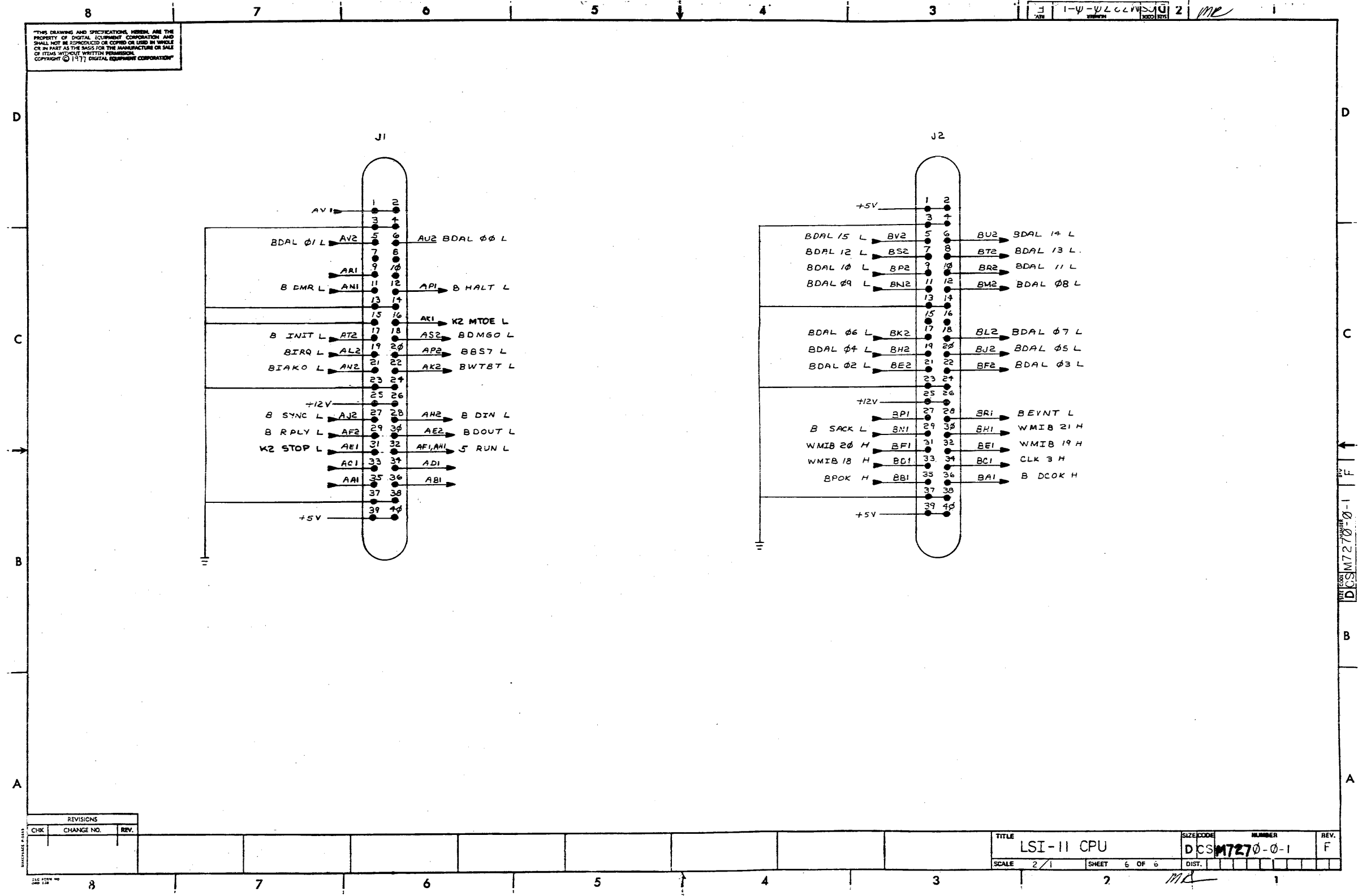
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS IDENTICAL HEREIN WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS			TITLE		SIZE/CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.	LSI-II CPU		DCS		M7270-0-1		F
			SCALE		SHEET 5 OF 6		DIST.		

8 7 6 5 4 3 2 1

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 © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	LSI-11 CPU	SIZE CODE	DCS	NUMBER	M7270-0-1	REV.	F
SCALE	2/1	SHEET	6 OF 6	DIST.			

191



"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

DRAWING DIRECTORY

"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."

UNIT VARIATIONS

VAR	TITLE
IBV11-A	LS111/IB INTERFACE (WITH 4-METER CABLE)

REVISIONS	CHK	CHANGE NO.	REV.

USED ON OPTION/MODEL	LS111	DRN.	Counter	DATE	01/07/76	TITLE	LS111/IB INTERFACE (WITH 4-METER CABLE)				digital	
		CHK'D.	M. B. Baker	DATE	3 JAN 76	SIZE	B	CODE	DD	NUMBER	IBV11-A	REV.
		PROJ. ENG.	D. Baker	DATE	2/11/77	DIST.						
		PROD.	[Signature]	DATE	2/11/77							
SHEET	1	OF	2									

193

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP0274	FIELD MAINTENANCE PRINT SET (MP)	-				
	B-TC-IBV11-A-1	FIELD MAINTENANCE PRINT SET (TC)	-				
	A-PL-IBV11-A-0	LS111/IB INTERFACE	-				
	A-PL-IBV11-A-SH	IBV11-A SHIPPING LIST	-				
	A-SP-IBV11-A-8	ENGINEERING SPECIFICATIONS	E/M				
2	B-DD-M7954-0	LS111/IB INTERFACE (CS)					
3	D-UA-BN11A-0-0	CABLE, BN11A	E/M				
4	A-SP-3700273-0-0	PACKAGING INSTRUCTIONS	-				
	9905760	PACKAGING BOX	-				
	9905622	REVERSE TUCK FOLDING BOX	-				

E11-010623C-16-R-76(125)



TITLE  
LS111/IB INTERFACE (WITH 4 METER CABLE)

SHEET 2 OF 2

SIZE CODE  
B DD

NUMBER  
IBV11-A

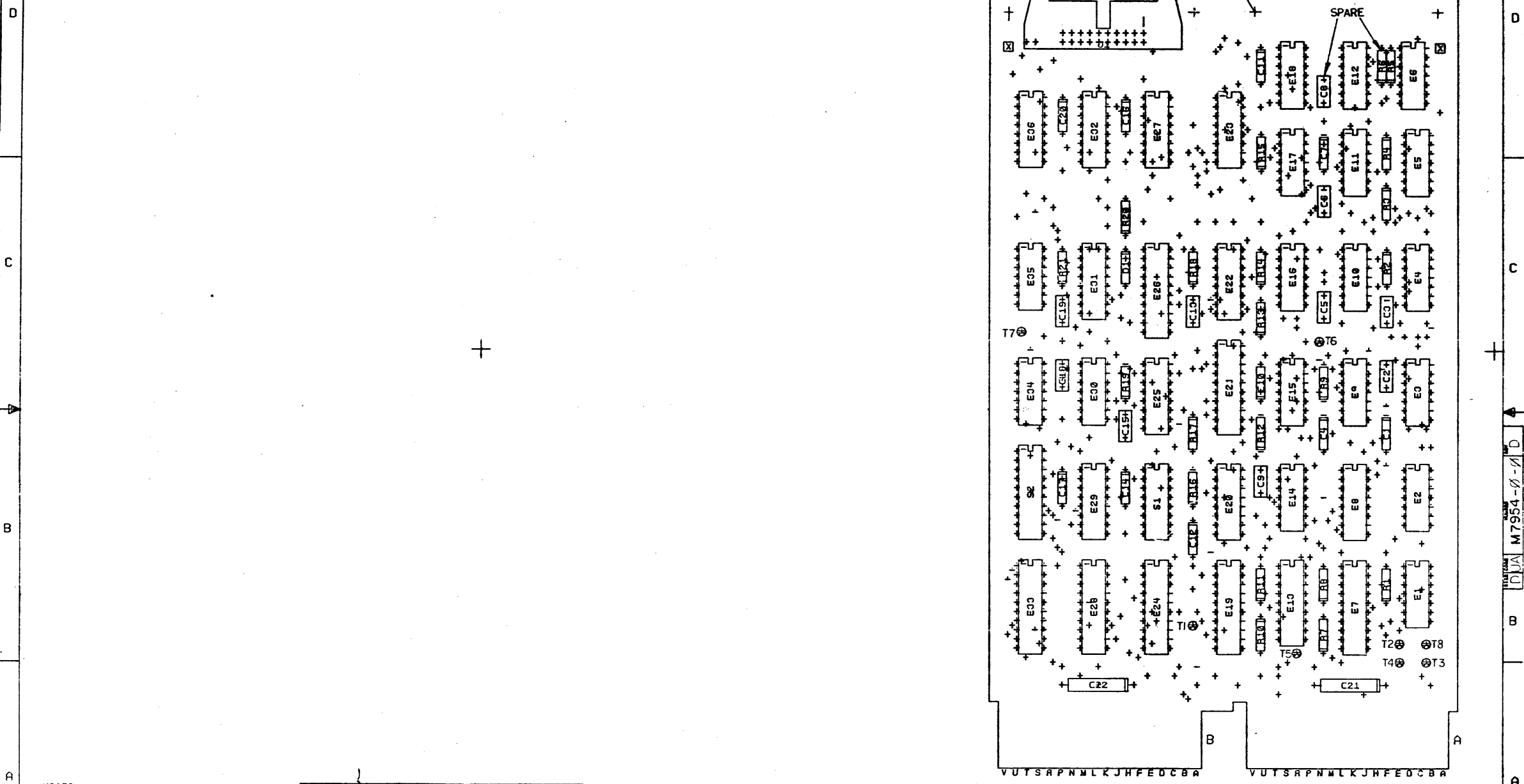
REV

194



DIA M7954-0-0 2 1

PROPERTY OF MICROSOURCE CORPORATION, 1000 WEST 10TH AVENUE, DENVER, COLORADO 80202  
 PRINTED IN THE UNITED STATES OF AMERICA  
 MICROCOPYING PERMITTED BY INTERLAC COMPANY, 3117C



NOTES:

CHG	DATE	BY	REV
2	11/17/72	D	D
1	11/17/72	D	D

SIGNATURES	DATE	TITLE
DRAWN: <i>[Signature]</i>	11/17/72	digital
CHK'D: <i>[Signature]</i>	11/17/72	LSI INTERFACE
ENG. <i>[Signature]</i>	11/17/72	
PROJ. ENG. <i>[Signature]</i>	11/17/72	
PROD. <i>[Signature]</i>	11/17/72	
SCALE 2/1		
S41. 1 OF 2		
NEXT HIGHER ASSY: 8-00-M7954-0		

8 7 6 5 4 3 2 1 MS#104284

196

8

7

6

5

4

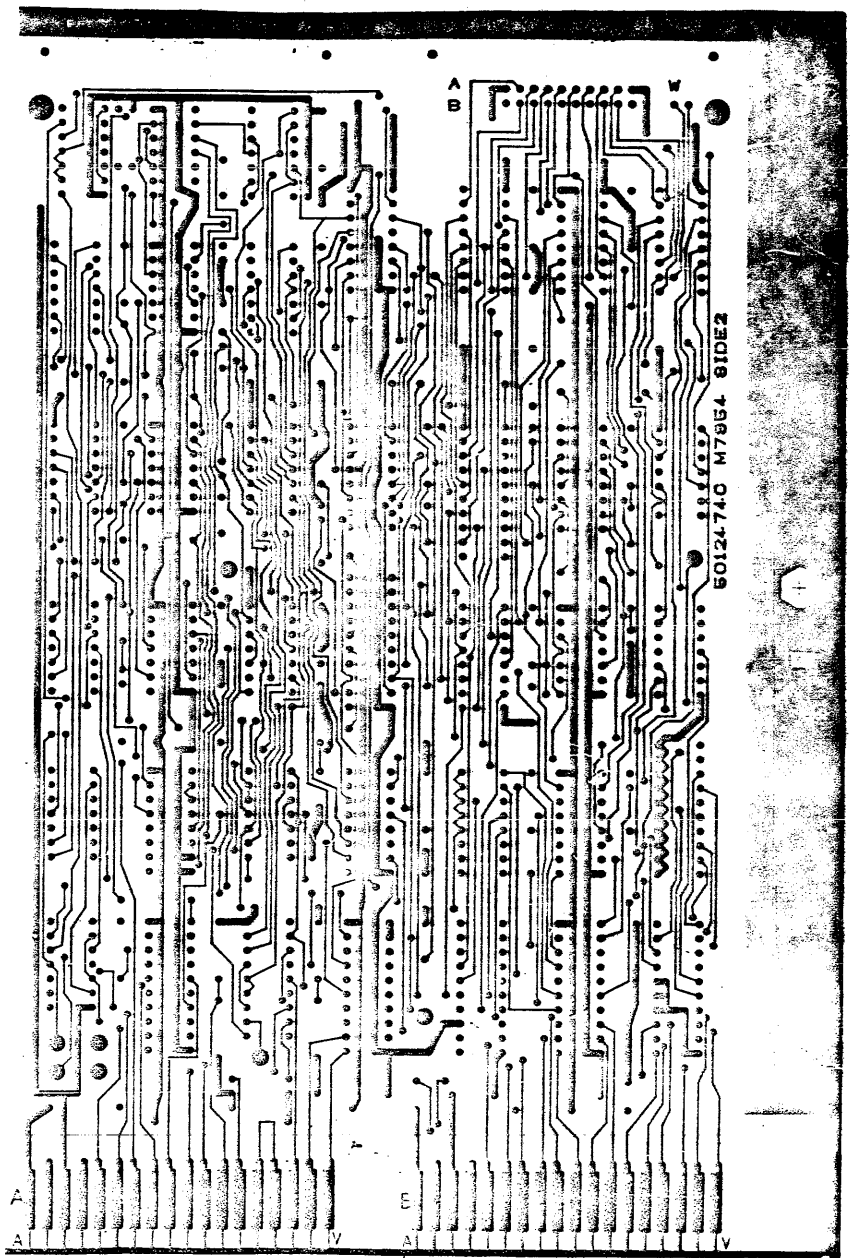
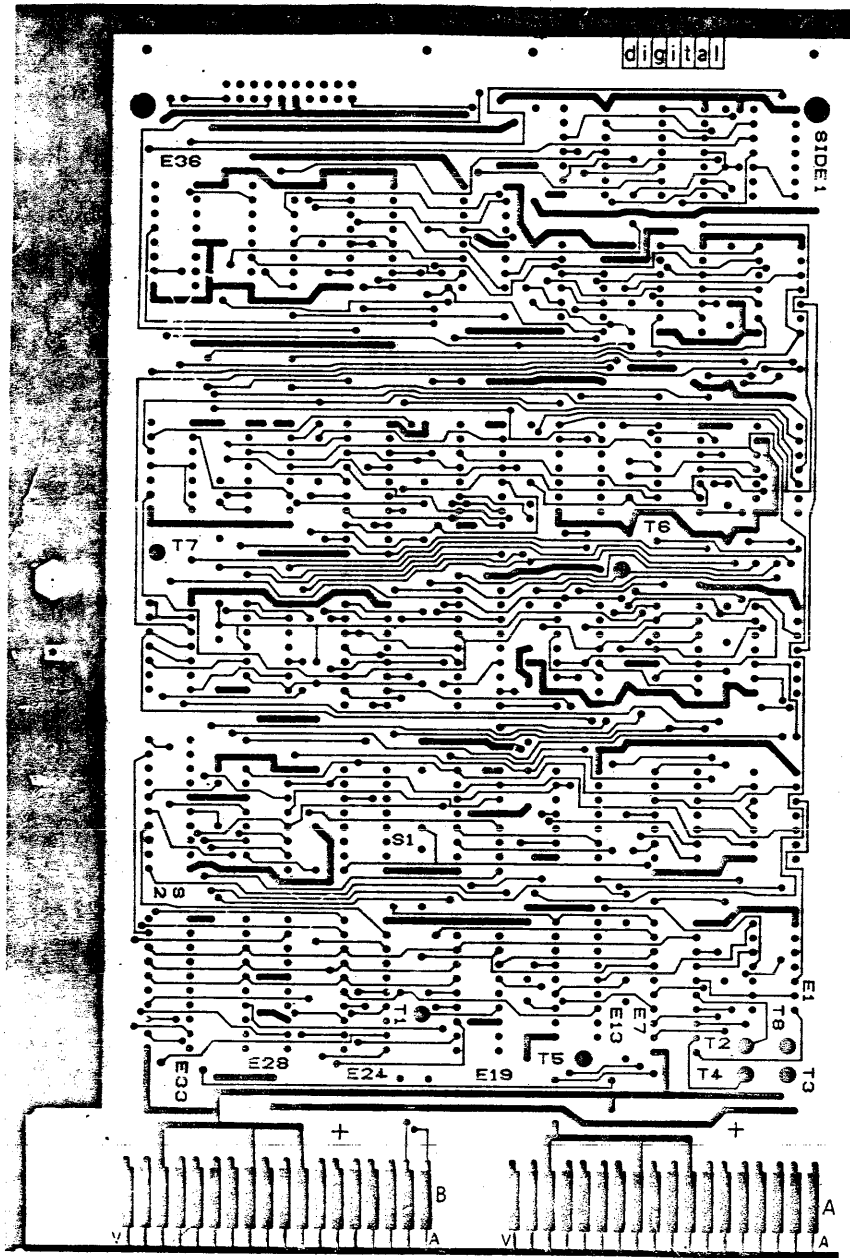
3

D

2 | D | U | A | M | 7 | 9 | 5 | 4 | - | 0 | - | 0

1

THIS DRAWING AND SPECIFICATIONS HEREBY 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.



CHG	CHANGE NO	REV

TITLE	SIZE/CODE	NUMBER	REV.
LSI INTERFACE	D U A I M 7 9 5 4 - 0 - 0	D	D

8

7

6

5

4

3

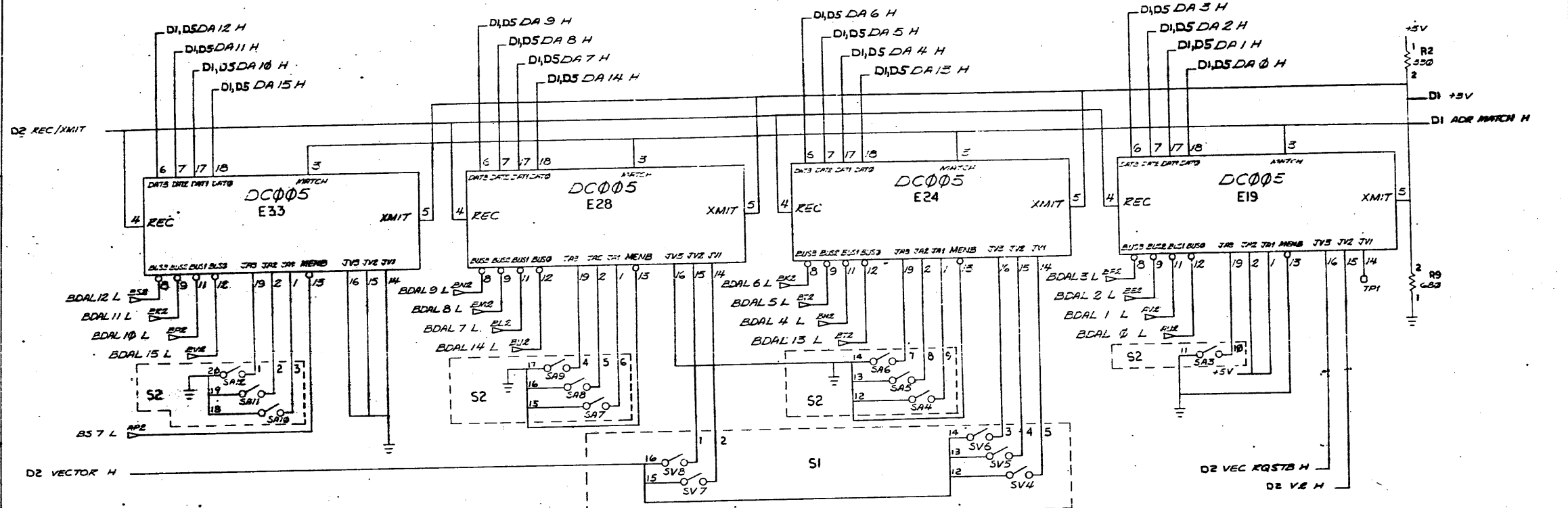
2

1

197



THIS DRAWING AND SPECIFICATIONS, GENERAL AND THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF THE CORPORATION IN BOSTON, MASSACHUSETTS. DRAWING NUMBER: 17954-0-1



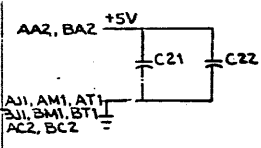
- NOTES:
- ▷ IS MODULE FINGER PIN.
  - ON THIS AND THE FOLLOWING PAGES, ALL RESISTORS ARE 1/4 W, 5% UNLESS INDICATED OTHERWISE.
  - SELECTABLE REGISTER ADDRESS RANGE: 160000-177770. SET AT 160150 FOR PRODUCTION TESTING AND SHIPPING.
  - SELECTABLE VECTOR ADDRESS RANGE: 000-760
  - SV SWITCHES  
SV6 DRIVES BDAL6. BDAL6 IS LOW WHEN SV6 IS HIGH  
L=4,5,6
  - SA SWITCHES (1=3,4,5,6,7,8)  
a) SA1 IS COMPARED WITH BDAL1. CLOSING SWITCH IS EQUAL TO "LOW" ON THE BUS.  
b) ADDR MATCH IS HIGH WHEN ALL SA'S ARE EQUAL TO ALL BDAL'S.
  - DATA MODES:  
\* REC XMIT MODES:  
L L DISABLE: BUS, DAT ARE OPEN.  
L H DAT-BUS  
L L BUS-DAT  
H H BUS-DAT. VECTOR ADDRESS TRANSMITTED WHEN REQUIRED.

ADDRESS SWITCH ( S2 ) SETTING FOR TESTING : 160150

1	2	3	4	5	6	7	8	9	10
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SA2	SA11	SA9	SA8	SA7	SA6	SA5	SA4	SA3	SA3

VECTOR SWITCH ( S1 ) SETTING FOR TESTING : 42X

1	2	3	4	5	6	7	8
ON				ON			
SV8	SV7	SV6	SV5	SV4			

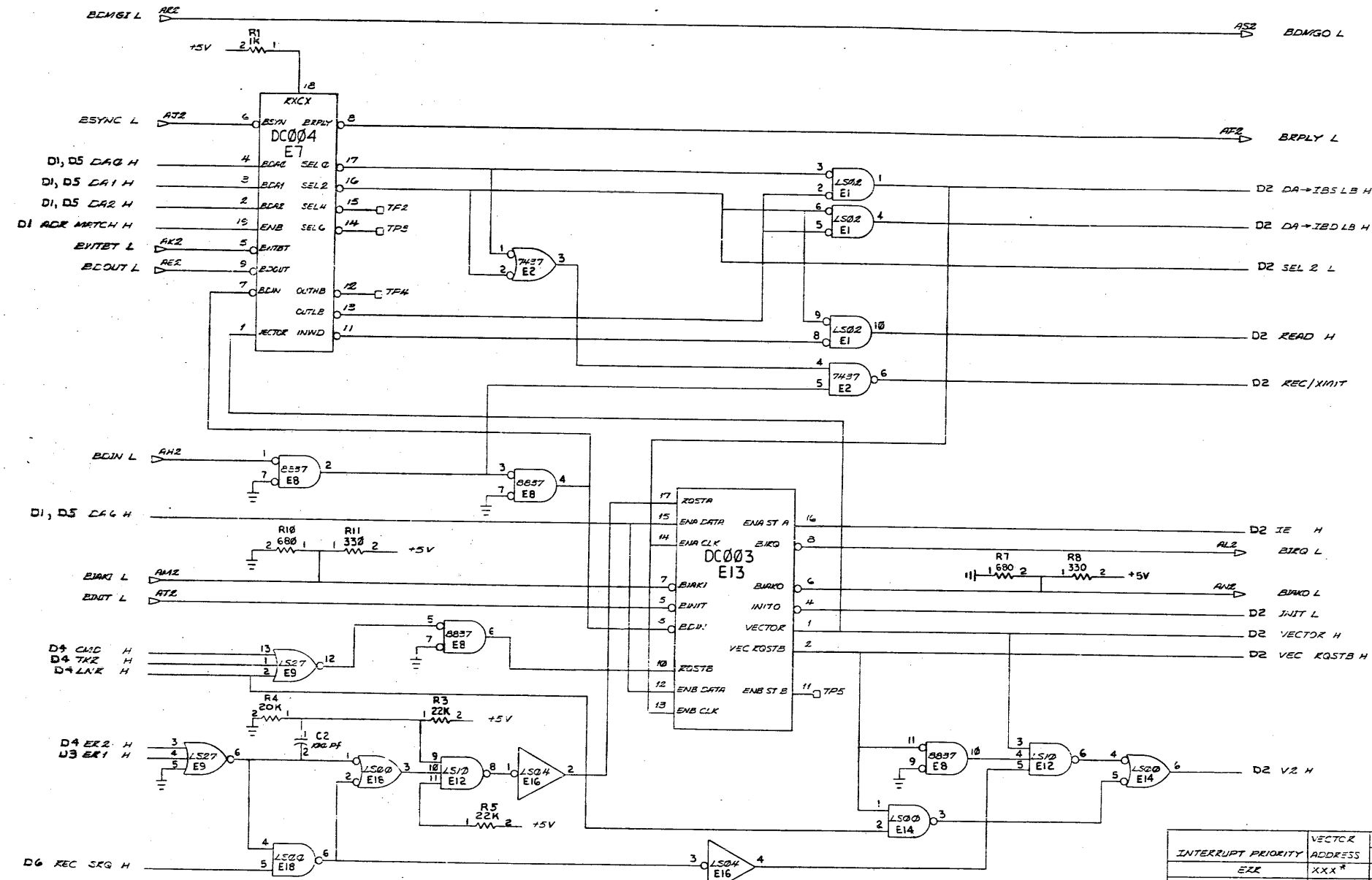


NOTES:

REV	DATE	BY	CHKD	APP'D
1				
2				
3				
4				
5				
6				
7				
8				

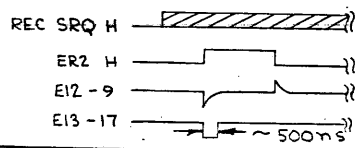
SIGNATURES	DATE	digital
DATE	DATE	
TITLE		LS111/IB
INTERFACE		DI
SIZE/CODE	NUMBER	REV
17954-0-1	1	D

THE 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.



INTERRUPT PRIORITY	VECTOR ADDRESS	VEC KQSTB	VZ
ERR	XXX*	L	L
SRQ	XXX+4	L	H
CMD, TRR	XXX+12	H	L
LNK	XXX+14	H	H

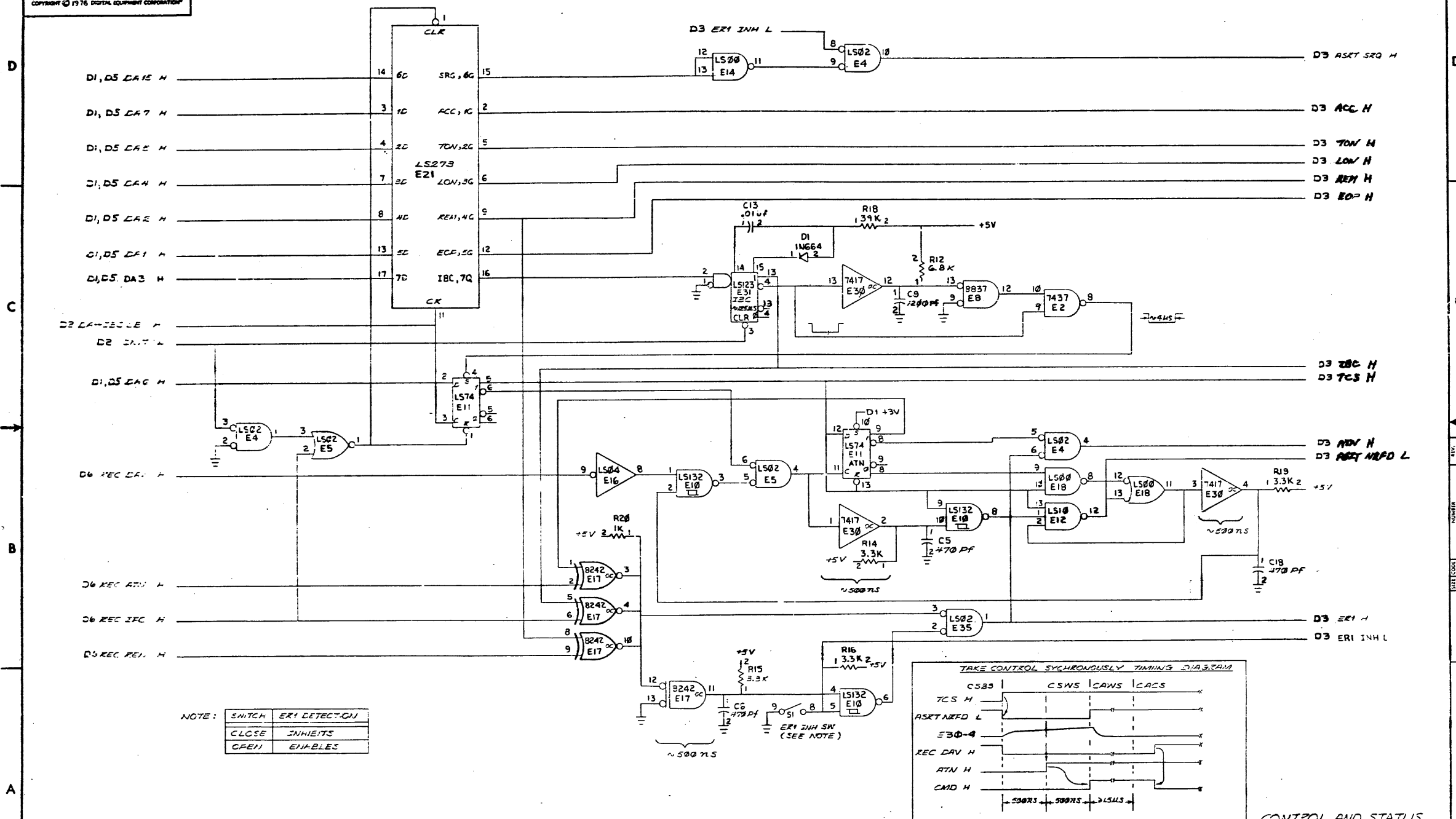
\* 000 ≤ XXX ≤ 760



REG SEL AND INTR

REVISIONS		
CHK	CHANGE NO.	REV.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1975, DIGITAL EQUIPMENT CORPORATION



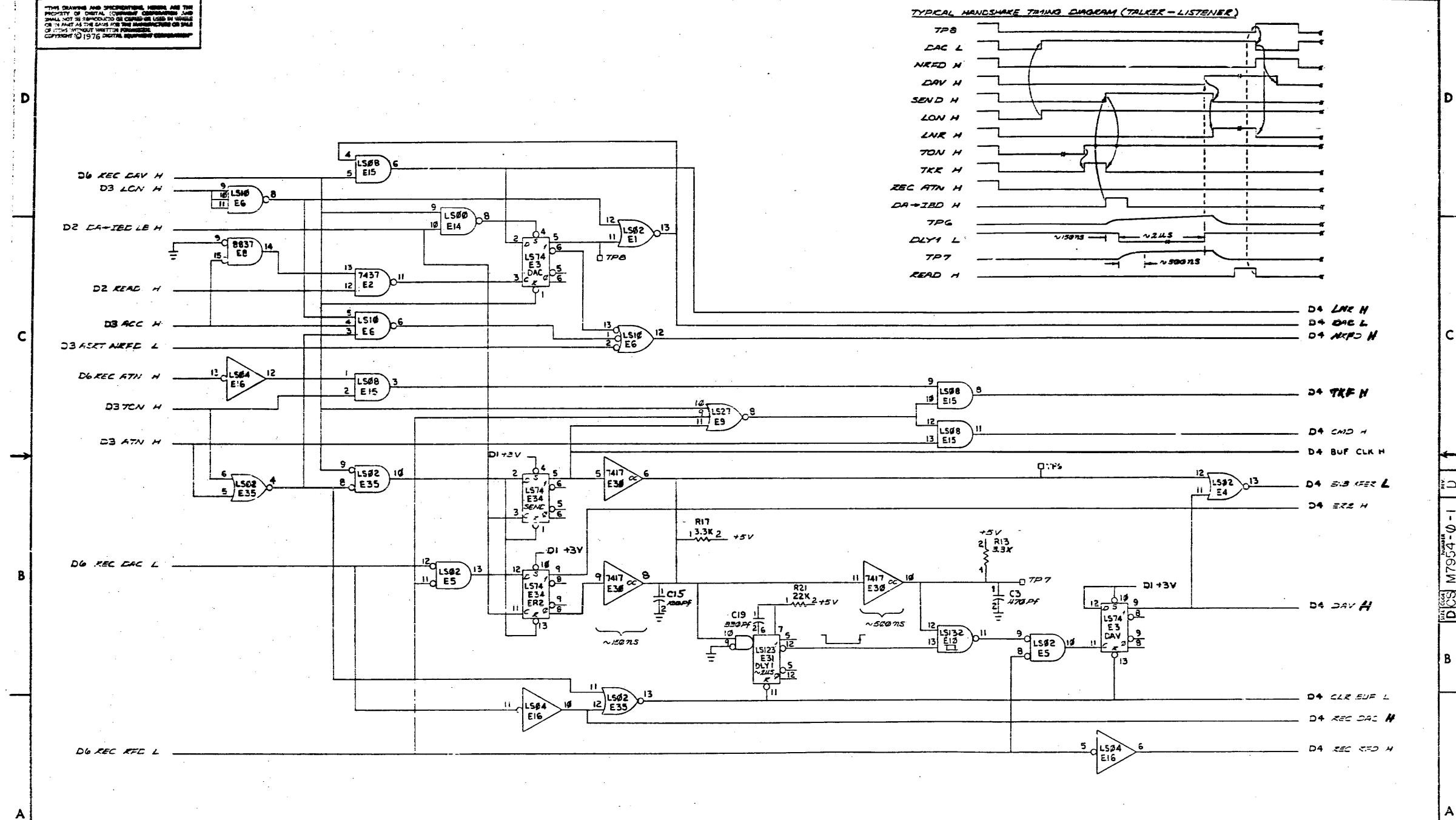
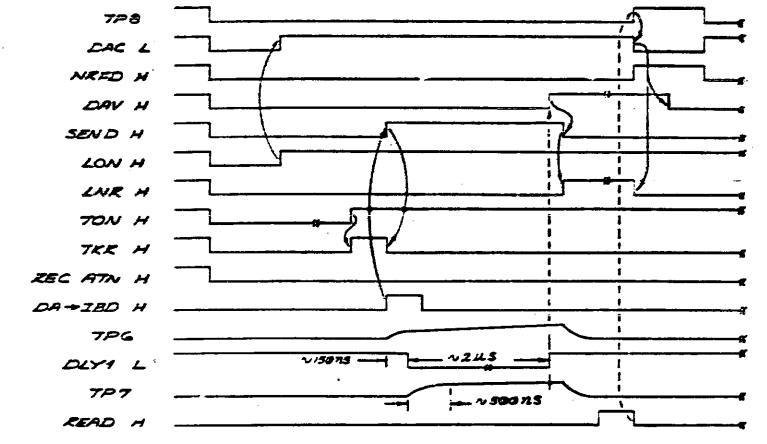
NOTE:

SWITCH	ERI DETECT-ON
CLOSE	INHIBITS
OPEN	ENABLES

REVISES			TITLE			SIZE CODE			NUMBER			REV.		
CHK	CHANGE NO.	REV.	LSI11/IB INTERFACE			D CS			M7954-0-1			D		
			SCALE			SHEET 3 OF 7			DIST.					

THIS DRAWING AND SPECIFICATIONS HEREAFTER ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION.

TYPICAL HANDSHAKE TIMING DIAGRAM (TALKER - LISTENER)



CONTROL AND HANDSHAKE D4

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	LS11/13 INTERFACE	SIZE CODE	D OS	NUMBER	M7954-0-1	REV.	D
SCALE		SHEET #	7	OF	7	DATE	

201

8

7

6

5

4

3

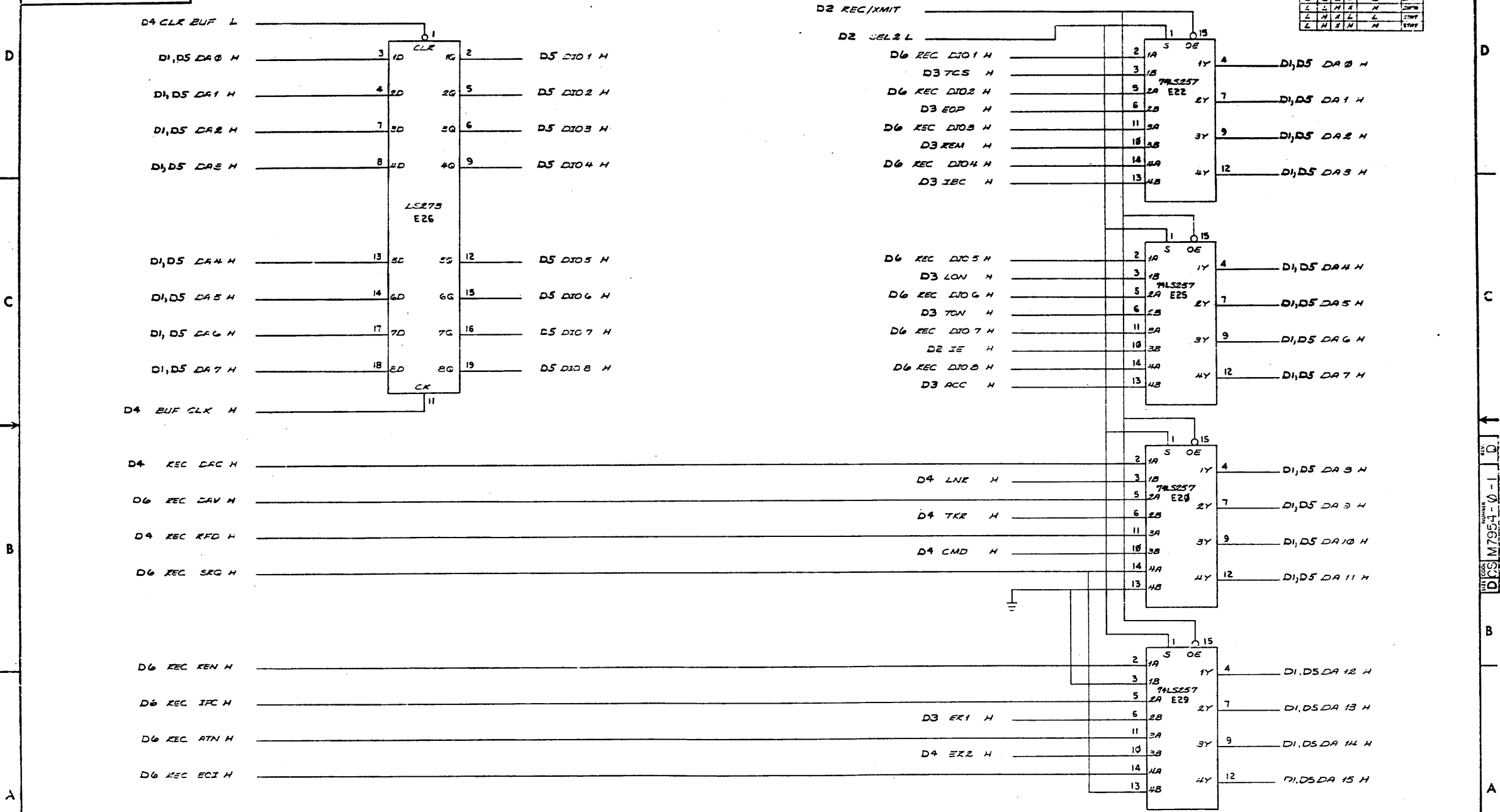
2

1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEMS. THIS DRAWING IS UNCLASSIFIED. DATE 11/19/01 BY 60322 UCBAW. COPYRIGHT © 1976 DIGITAL EQUIPMENT CORPORATION

7ALS257 TRUTH TABLE

OE	S	A	B	Y
L	L	L	L	DATA
L	L	L	H	DATA
L	L	H	L	DATA
L	L	H	H	DATA
L	H	L	L	DATA
L	H	L	H	DATA
L	H	H	L	DATA
L	H	H	H	DATA
H	X	X	X	DATA



REVISIONS		
CHK	CHANGE NO.	REV.

DATA/STAT MUX D5

TITLE	LS11/IB INTERFACE	SIZE CODE	D CS	NUMBER	M7954-0-1	REV.	D
SCALE	1/2	SHEET	3	OF	7	DIST.	

3

7

6

5

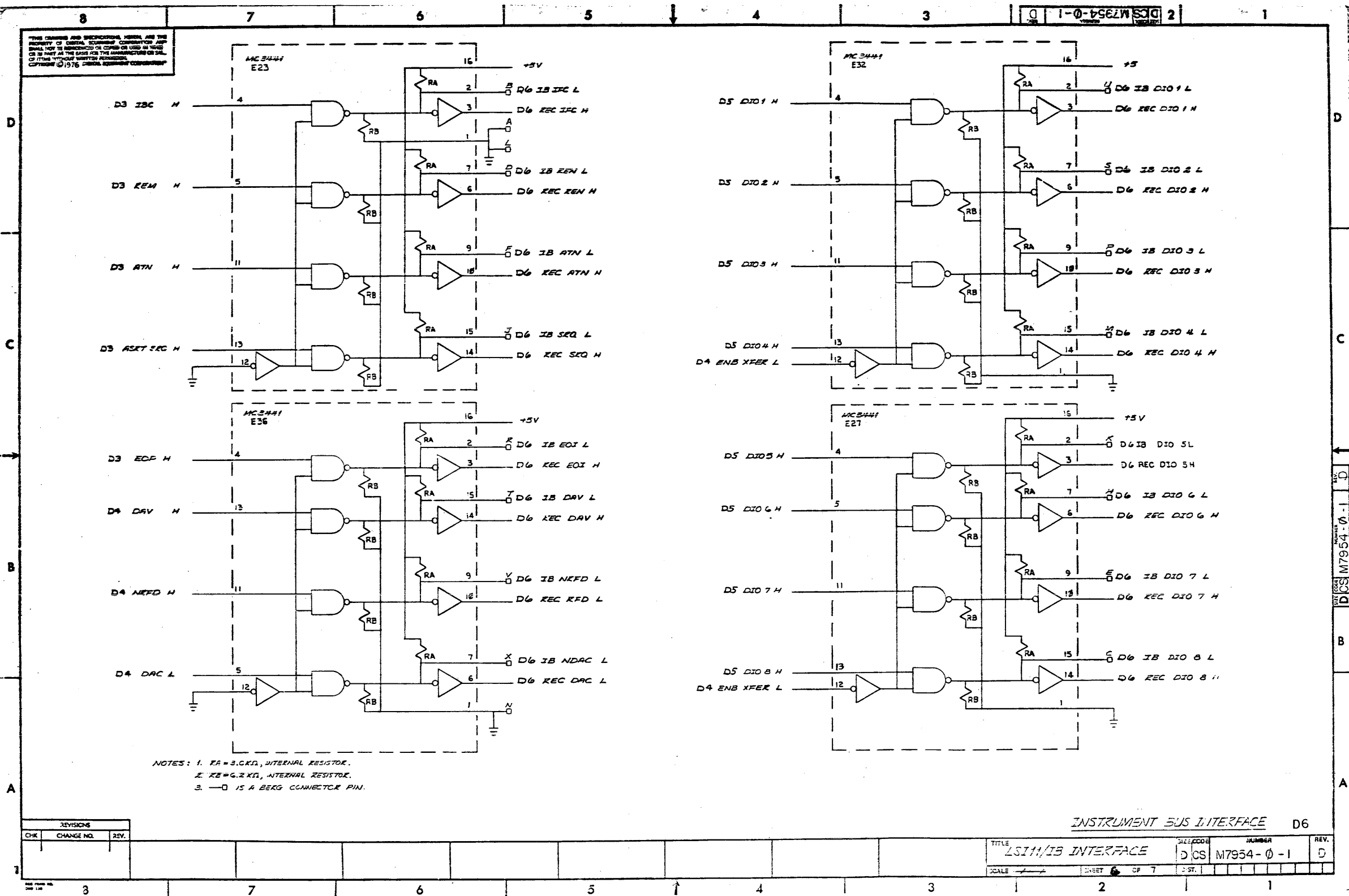
4

3

2

1

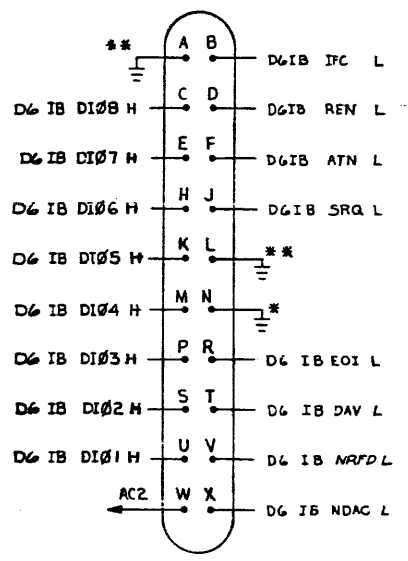
202



203

THIS DRAWING AND SPECIFICATIONS HEREAFTER 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

NOTES:  
 1. (\*) TERMINATION GROUND (PIN 1) OF DRIVER FOR EOI, DAV, NRFD & NDAC SIGNALS.  
 2. (\*\*\*) TERMINATION GROUND (PIN 1) OF DRIVER FOR IFC, REN, ATN & SRQ SIGNALS.



D7  
D  
C  
B  
A  
D  
C  
B  
A

CABLE CONNECTOR PIN ASSIGNMENT

D7

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	LS11 / IB INTERFACE	SIZE/CODE	D/CS	NUMBER	M7954-0-1	REV.	D
SCALE		SHEET	7	OF	7	DIST.	

204

THIS DRAWING AND SPECIFICATIONS HEREAFTER 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

**LEGEND**

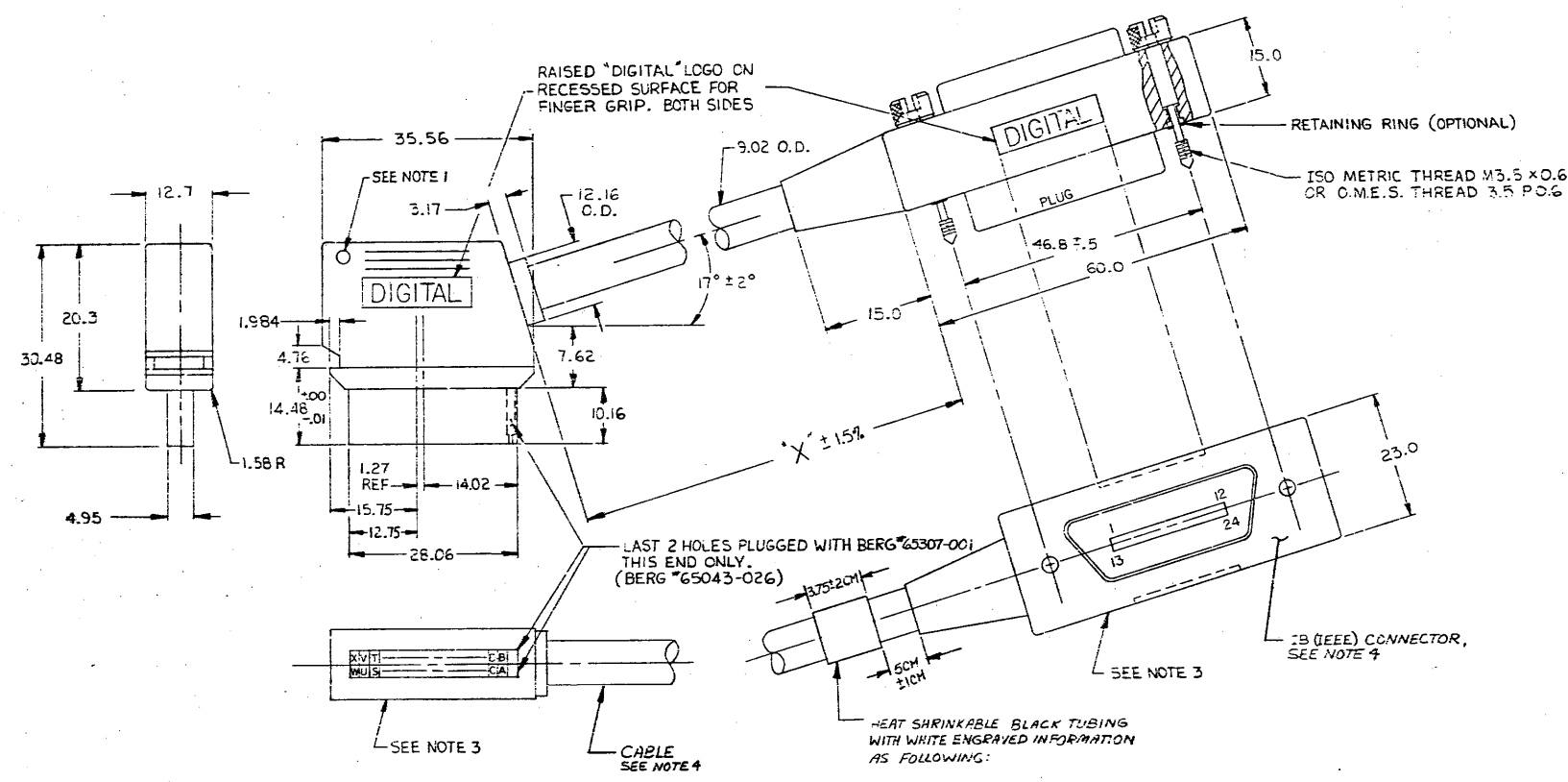
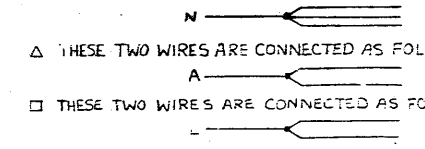
PURCHASE NO.	OPTION NUMBER	DIM 'X' (LENGTH)
1700079-00	BN11A-04	4-METER
1700079-01	BN11A-02	2-METER
1700079-02	BN11A-01	1-METER

**NOTES:**

- LOCATING BOSS LOCATED APPROX. AS SHOWN. BOTH SIDES IF NECESSARY.
- CABLE AND CONNECTOR COLOR IS GREY.
- MOLDING MATERIAL: VINYL.
- CABLE AND CONNECTOR CHARACTERISTICS ARE DEFINED BY IEEE STD 488-1975

SIGNAL NAME	CONNECTOR PIN		WIRE COLOR
	IB CONNECTOR *	WOLDER BERG HOUSING (22-CAVITY) **	
DIO 1	1	U	BRN
DIO 2	2	S	RED
DIO 3	3	P	ORG
DIO 4	4	M	YEL
ECL	5	R	GRN
DAV	6	T	BLU
NRFD	7	V	VIO
NDAC	8	X	GRY
IFC	9	B	WHT
SRQ	10	J	BLK/WHT
ATN	11	F	BRN/WHT
SHIELD	12	N	N/A SHIELD
DIO 5	13	K	CRS/WHT
DIO 6	14	H	YEL/WHT
DIO 7	15	W	GRN/WHT
DIO 8	16	G	BLU/WHT
REN	17	D	VIO/WHT
GND	18	V	GRY/WHT †
GND	19	N	BLK BRN/WHT †
GND	20	N	BLK RED/WHT †
GND	21	A	BLK CRS/WHT †
GND	22	A	BLK YEL/WHT †
GND	23	L	BLK BRN/WHT †
GND	24	L	BLK BLU/WHT †

\* CONNECTOR MEETS SPEC. DEFINED BY IEEE STD 488-1975 e.g. CMS #2024.  
 \*\* CONNECTOR MEETS SPEC. DEFINED BY THIS DRAWING.  
 CAVITY IS TERMINATED WITH BERG #47401 PART OR EQUIVALENT  
 † THESE THREE WIRES ARE CONNECTED AS FOLLOWS.



METRIC DIMENSIONS

DEC  
 BN11A-YY  
 1700079-22

SEE LEGEND OF THIS DRAWING FOR VALUES OF YY AND ZZ

REV.	DATE	BY	CHKD.
A			

DESCRIPTION	DWG. PART NO.	ITEM NO.
CABLE, BN11A		

METHODS OF CHECKING	DIMENSION RANGE (MILLIMETER)					
	0-10	10-25	25-50	50-100	100-200	200-500
LINEAR	0.10	0.10	0.10	0.10	0.10	0.10
ANGULAR	0.10	0.10	0.10	0.10	0.10	0.10
SURFACE	0.10	0.10	0.10	0.10	0.10	0.10
QUALITY	0.10	0.10	0.10	0.10	0.10	0.10

QUANTITY & VARIATION	DATE	BY	CHKD.

APPROVED	DATE	BY	CHKD.

DATE	BY	CHKD.

DATE	BY	CHKD.

205



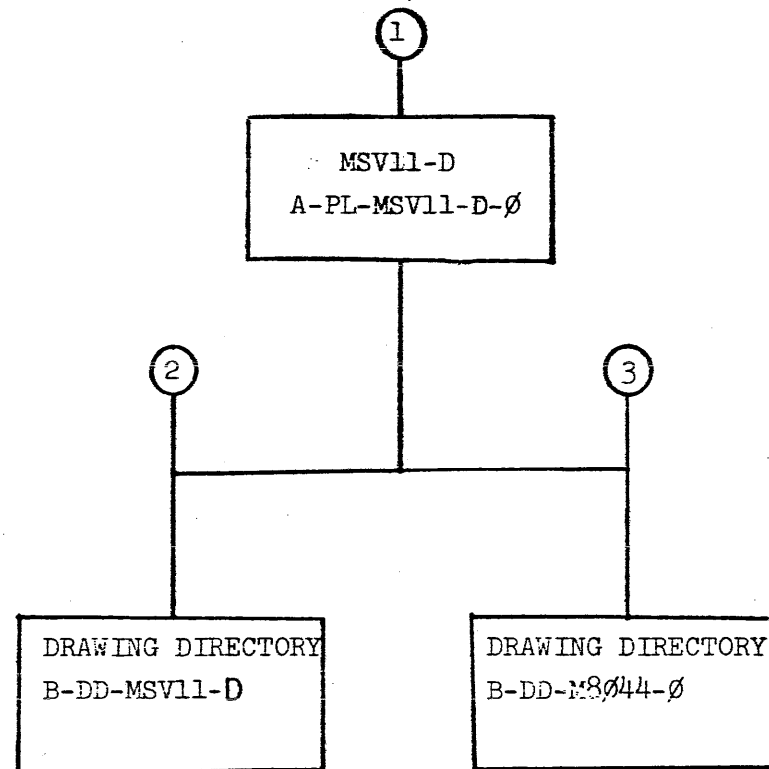
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST			QUANTITY / VARIATION																			
MADE BY R.W. COUNTER		CHECKED <i>[Signature]</i>	SECTION																			
DATE 8 NOVEMBER 1976		DATE 3 JAN 77	1																			
ENG <i>[Signature]</i>		PROD <i>[Signature]</i>	ISSUED SECT.																			
DATE 2/11/77		DATE 14 FEB 77	1																			
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	M7954	LS111/IB INTERFACE MODULE	1																			
2	BN11A-04	CABLE, (4-METER)	1																			
3	MD-11-DV1BA-A-D	DIAGNOSTIC LISTING	1																			
4	MP00274	FIELD MAINTENANCE PRINT SET	1																			
5	EK-IBV11-TM-001	IBV11-A USER'S MANUAL	1																			
6	A-SP-3700273-0-0	PACKAGING INSTRUCTION	REF																			
7	9905760	PACKAGING BOX	1																			
8	9905622	REVERSE TUCK FOLDING BOX	1																			
9	MD-11-DV1BA--PB	DIAGNOSTIC PAPER TAPE	1																			
TITLE IBV11-A SHIPPING LIST			ASSY NO. B-DD-IBV11-A	SIZE CODE A PL	NUMBER IBV11-A-SH					REV.	ECO NO.											
SHEET 1 OF 1			DIST.																			

DEC FORM DEC 16-(325)-1031-N870  
DRA 110





"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 © 1977 DIGITAL EQUIPMENT CORPORATION"



TITLE DRAWING DIRECTORY MSVII-D (32K X 16) MOS MEMORY SYSTEM	SHEET 2 OF 3	SIZE CODE B DD	NUMBER MSVII-D	REV A
--	--------------	-------------------	-------------------	----------

ML 209

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
	MP00566	FIELD MAINTENANCE PRINT SET (MP)	-				
	B-TC-MSV11-D-1	FIELD MAINTENANCE PRINT SET (TC)	-				
1	A-PL-MSV11-D-0	PARTS LIST (MSV11-D)	E/M				
	D-BD-MSV11-D-4	MSV11D/E BLOCK DIAGRAM	E				
	D-FD-MSV11-D-5	MSV11 D/E FLOW DIAGRAM	E				
	D-TD-MSV11-D-6	MSV11 D/E TIMING DIAGRAM	E				
	A-SP-MSV11-D-3	MSV11-D SYSTEM SPECIFICATION	E/M				
	A-PL-MSV11-D-7	MSV11-D SHIPPING LIST	-				
	EK-MSV1D-OP-001	USERS MANUAL	E/M				
	<del>D-CC-MSV11-D-1</del>	<del>MSV11-D 32K MOS MEMORY</del>	<del>E</del>				
2	B-DD-MSV11-D	DRAWING DIRECTORY MSV11-D MOS MEMORY SYSTEM	E/M				
3	B-DD-M8044-0	DRAWING DIRECTORY (M8044) MODULE	E/M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL

digital

TITLE DRAWING DIRECTORY MOS MEM.  
MSV11-D (32K X 16) SYSTEM

SHEET 3 OF 3

SIZE CODE B DD

NUMBER MSV11-D

REV A

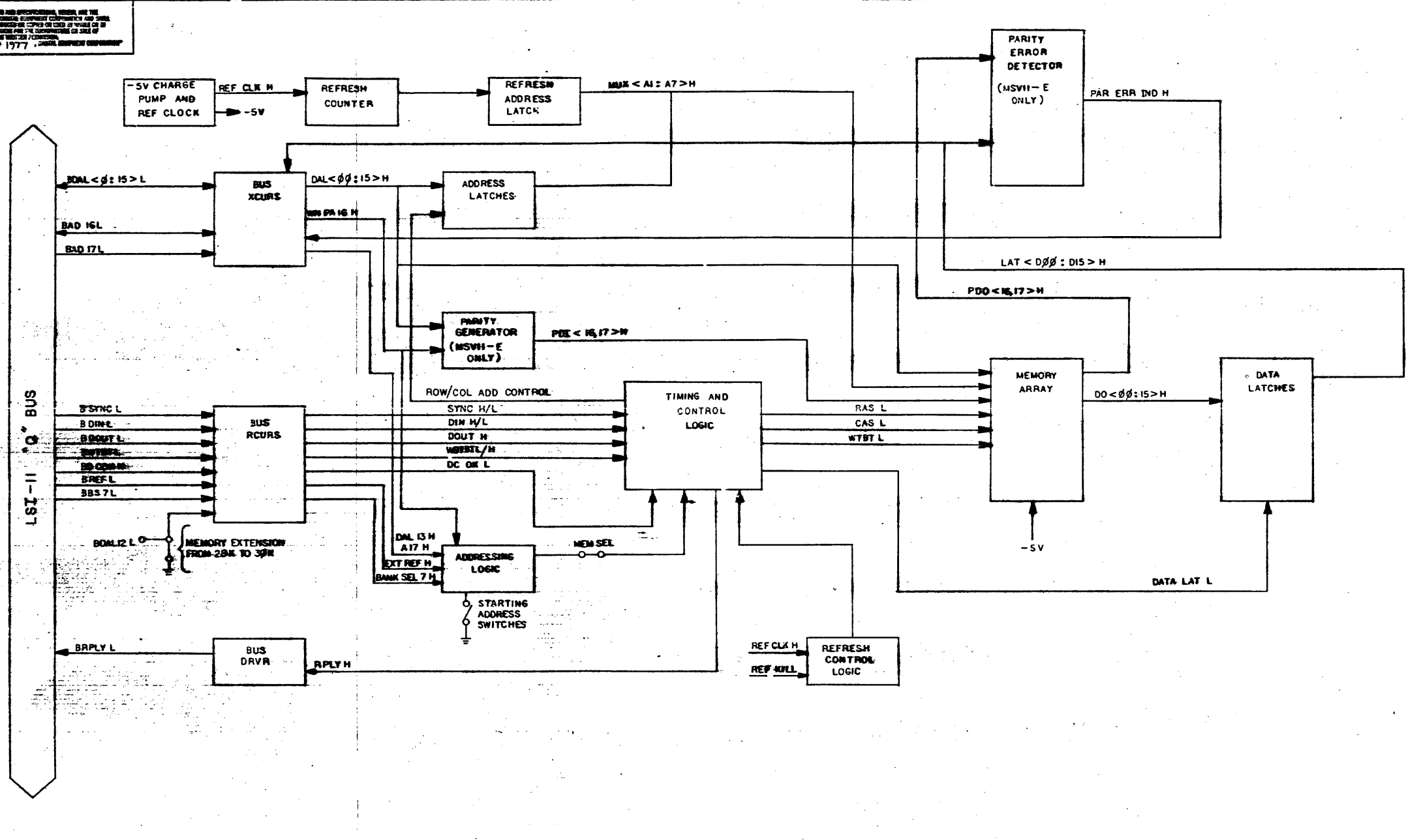
240

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION															
MADE BY E. DEVRIES		CHECKED R. GIVEN		SECTION															
DATE 14-12-77		DATE 2-21-78																	
ENG R. Given		PROD R. Mantel		ISSUED SECT.															
DATE 2-21-78		DATE 2-21-78																	
ITEM NO.	DWG NO./PART NO.	DESCRIPTION		MSV11-D															
1	D-UA-M8044-0-0	MSV11-D (32K X 16) MOS MEMORY SYSTEM		1															
2	D-BD-MSV11-D-4	MSV11-D/E BLOCK DIAGRAM		REF															
3	D-FD-MSV11-D-5	MSV11-D/E FLOW DIAGRAM		REF															
4	A-SP-MSV11-D-3	MSV11-D SYSTEM SPECIFICATION		REF															
5	D-TD-MSV11-D-6	MSV11-D/E TIMING DIAGRAM		REF															
6	A-PL-MSV11-D-7	MSV11-D SHIPPING LIST		REF															
TITLE		ASSY NO.		SIZE	CODE	NUMBER				REV	ECO NO.								
MSV11-D (32K - 16) MOS MEMORY SYSTEM		B-DD-MSV11-D		A	PL	MSV11-D-0				*									
		SHEET 1 OF 1		DIST															

DEC FORM  
DRA 110

THIS DRAWING AND SPECIFICATIONS, WHETHER AND THE PROPERTY OF THE UNITED STATES GOVERNMENT AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART IN ANY MANNER FOR THE GOVERNMENT OR USE OF ANY OTHER PERSON WITHOUT THE WRITTEN CONSENT OF THE UNITED STATES GOVERNMENT.

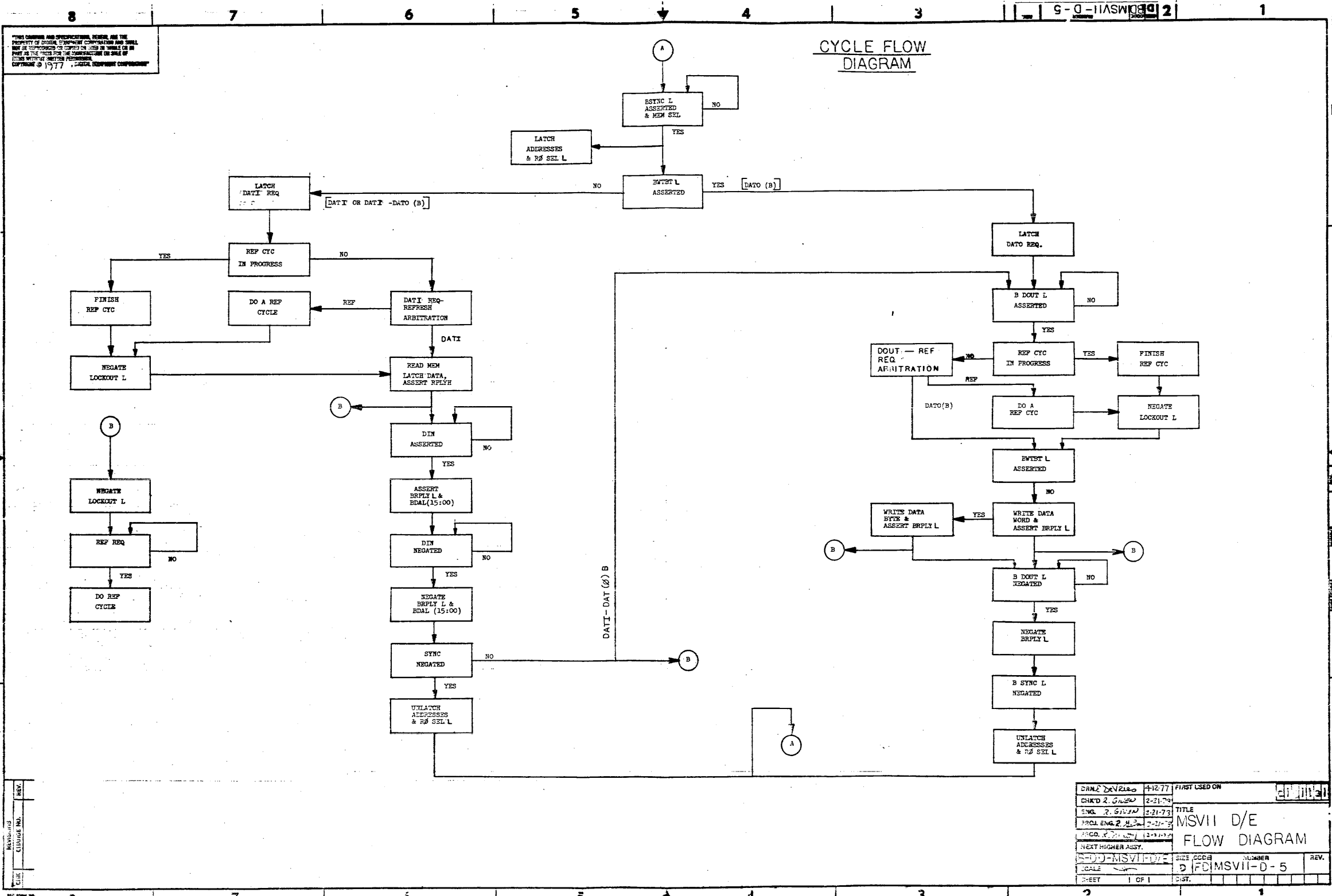
8 7 6 5 4 3 2 1



REVISIONS  
 CHANGE NO. REV.

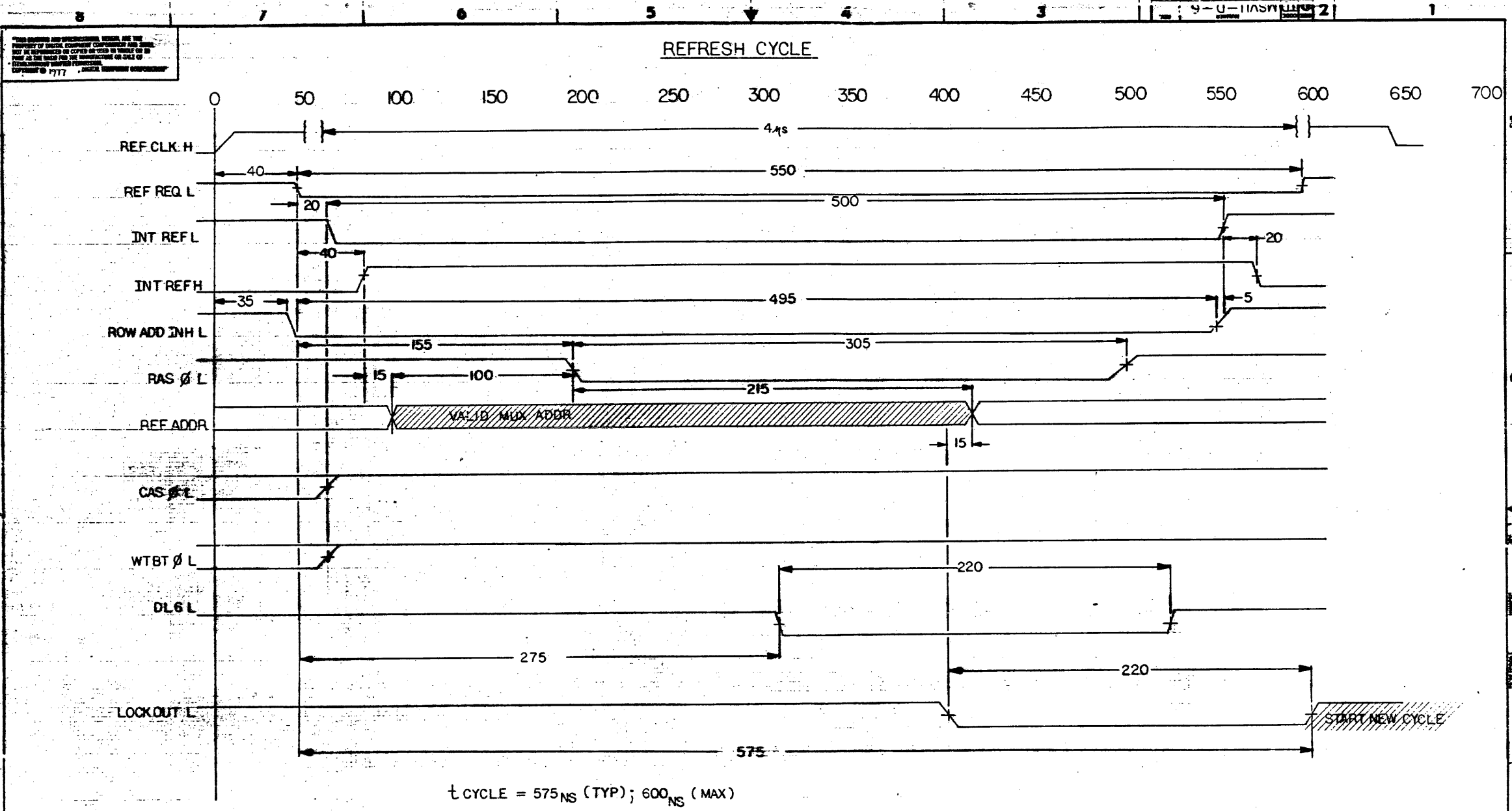
DRW. C. S. V. 2-21-75	FIRST USED ON	TITLE MSVII-D/E BLOCK DIAGRAM
CHKD. R. G. 2-21-75		
ENG. R. G. 2-21-75		SIZE CODE D BD MSVII-D-4
PROJ. ENGR. 2-21-75		
PRD. Y. 2-21-75		NUMBER
NEXT HIGHER ASY.		1
B-DD-MSVII-D/E		REV.
SCALE		
SHEET 1 OF 1		

212



213





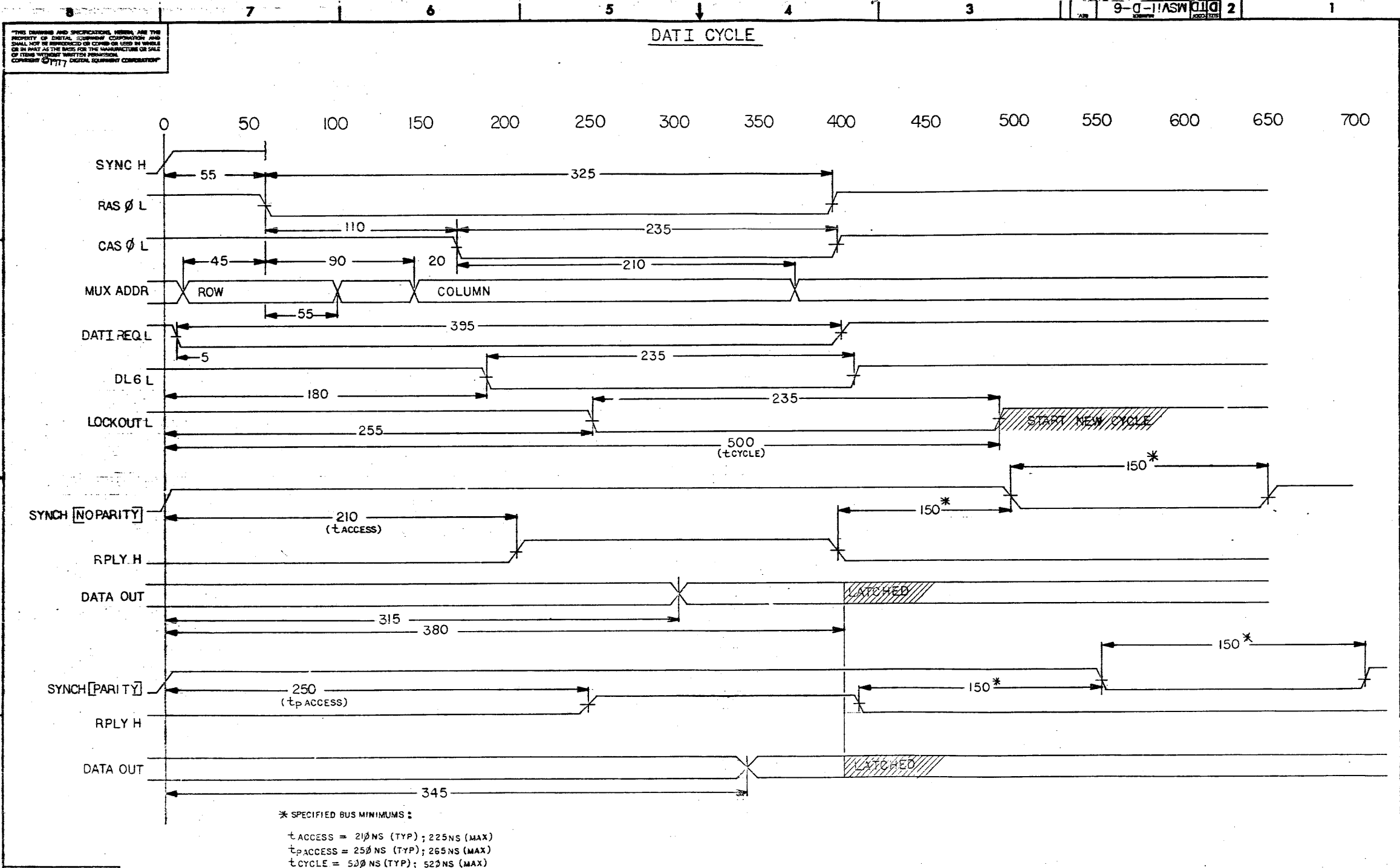
THIS DOCUMENT CONTAINS UNCLASSIFIED INFORMATION AND IS THE PROPERTY OF GEACOR CORPORATION. IT IS TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE DESIGN OR CONSTRUCTION OF EQUIPMENT WITHOUT PERMISSION OF GEACOR CORPORATION. © 1977

DRN. E. S. V. G. (11/20/77)	FIRST USED ON	original
CHKD. R. G. (2-21-78)	TITLE	MSVII D/E TIMING DIAGRAM
ENGR. R. G. (2-21-78)	NUMBER	D TD MSVII-D-6
PROJ. ENGR. (2-21-78)	SCALE	1 OF 4
REV. 1	DATE	

2K

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. COMPANY © 1977. DIGITAL EQUIPMENT CORPORATION

DATI CYCLE



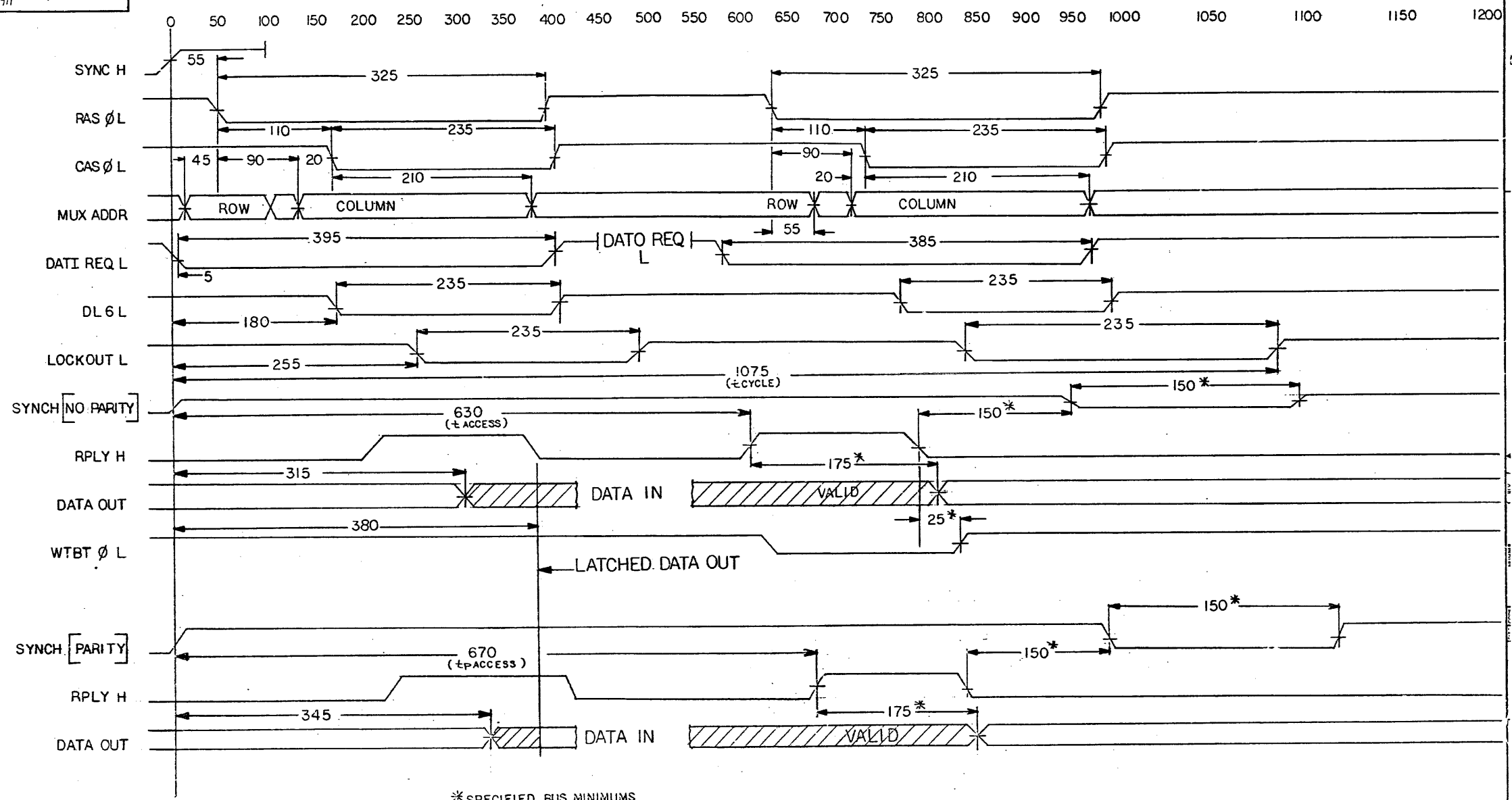
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MSVII D/E TIMING DIAGRAM	SIZE/CDR	D/TD	NUMBER	MSVII-D-6	REV.	
SCALE		SHEET	2 OF 4	D.ST.			

215

DATIO (B) CYCLE

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 INSTRUCTIONS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



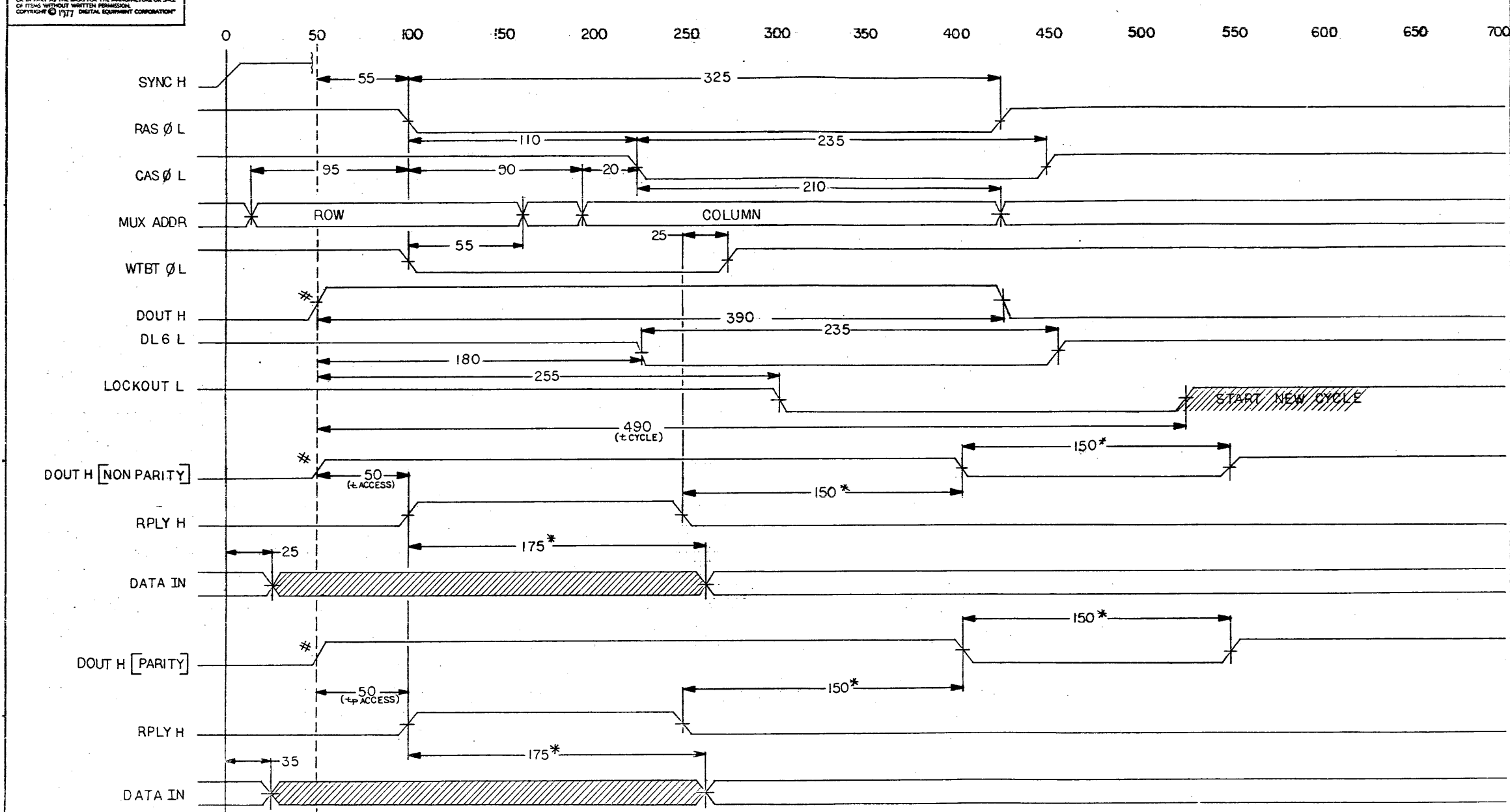
\*SPECIFIED BUS MINIMUMS  
 $t_{ACCESS} = 630\text{ns (TYP); } 650\text{ns (MAX)}$   
 $t_{PACCESS} = 670\text{ns (TYP); } 690\text{ns (MAX)}$   
 $t_{CYCLE} = 1075\text{ns (TYP); } 1100\text{ns (MAX)}$   
 $t_{PCYCLE} = 1115\text{ns (TYP); } 1140\text{ns (MAX)}$

CHK	CHANGE NO.	REV.

STD FORM NO. DSD 138

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 © 1977 DIGITAL EQUIPMENT CORPORATION

DATA (B) CYCLE



\* SPECIFIED BUS MINIMUMS  
 # TIME DEPENDENT ON PROCESSOR  
 t<sub>ACCESS</sub> = 120 NS (TYP); 110 NS (MAX)  
 t<sub>PACCESS</sub> = 120 NS (TYP); 110 NS (MAX)  
 t<sub>CYCLE</sub> = 545 NS (TYP); 555 NS (MAX)  
 SYNC H TO DOUT H SPECIFIED AT A MINIMUM OF 50 NS

REVISIONS		
CHK	CHANGE NO.	REV.

217



DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-AA* QUANTITY / VARIATION								NOTES:	
MADE BY D. MANION DATE 12/8/77		CHECKED R. Lina DATE 2-21-78										M8044-AA* IS A PRIMARY VARIATION OF THE 4K X 16 BIT SYSTEM. (NOT A MODULE TYPE) M8044-AB, AC, AD, AE, ARE MODULE TYPES, USING DIFFERENT 4K MOS DEVICES AND ARE IDENTICAL IN FUNCTION AND PURPOSE.	
ENG R. Lina DATE 2-21-78		PROD R. Mantel DATE 2-21-78											
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-AB	M8044-AC	M8044-AD	M8044-AE						REF DESIGNATION
	D-CS-M8044-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	REF						
	D-UA-M8044-0-0		UNIT ASSEMBLY	REF	REF	REF	REF						
	B-DD-M8044-0-0		DWG. DIRECTORY	REF	REF	REF	REF						
	D-MD-5013128-0-0		DRILL & ETCH DRAWING	REF	REF	REF	REF						
1		10-10279-00	CAP 0.47 UF 25V 20% CER	1	1	1	1						C10
2		10-01610-00	CAP 0.01 UF 50V 20% CER	27	27	27	27						C7, C99, C100 thru C123, C146
3		10-02627-00	CAP 2.2 UF 20V 10% S. TANT	3	3	3	3						C5, C6, C9
4		10-12121-00	CAP 220 PF 100V 1% DM	2	2	2	2						C8, C12
5		10-05306-00	CAP 6.8 UF 35V 10% S. TANT	2	2	2	2						C3, C4
6		10-12219-00	CAP 47 UF 30V AL EL	2	2	2	2						C1, C2
7		11-05275-00	DIODE D672	2	2	2	2						D1, D2
8		12-11164-01	SWITCH 5 POS	1	1	1	1						E2
9		13-09412-00	RES 18.2K 1/4W 1% MF	1	1	1	1						R26
10		13-09416-00	RES 31.6K 1/4W 1% MF	1	1	1	1						R25
11		13-02957-00	RES 121 1/4W 1% MF	1	1	1	1						R16
12		13-00295-00	RES 330 1/4W 5% CC	1	1	1	1						R27
13		13-05126-00	RES 619 1/4W 1% CC	1	1	1	1						R19
14		13-03110-00	RES 19.6 1/4W 1% MF	1	1	1	1						R18
15		13-05124-00	RES 287 1/4W 1% MF	1	1	1	1						R20
16		13-01874-00	RES 5.6K 1/4W 5% CC	2	2	2	2						R11, R24
17		13-14636-00	RES NETWORK (2-5K 1/8 W 5%)	3	3	3	3						R4, R5, R6

E.C.O. NO.  
00001

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 © 1977 DIGITAL EQUIPMENT CORPORATION

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0

SIZE CODE NUMBER  
B PL M8044-0-0

REV.  
C

SHEET 1 OF 16

INSERTION PARTS LIST DATA BASE REV —

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-AA* QUANTITY / VARIATION										NOTES:		
MADE BY R. MANION DATE 12/8/77		CHECKED R. Howe DATE 2-21-78														
ENG R. Howe DATE 2-21-78		PROD R. Manion DATE 2-21-78														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-AB	M8044-AC	M8044-AD	M8044-AE									REF DESIGNATION
18		13-14637-00	RES NETWORK (3-22 1/8 W 5%)	4	4	4	4									R1, R2, R7, R8
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1									R22
20																
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	1	1									R12, R13
22		13-02874-00	RES 147 1/4W 1% MF	1	1	1	1									R21
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1									R17
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2									R14, R15
25		19-11579-00	DEC I.C. 8641	6	6	6	6									E1, E8, E51, E57, E63, E69
26		19-11469-00	DEC I.C. 8640	2	2	2	2									E13, E22
27		19-11944-00	DEC I.C. 555	1	1	1	1									E34
28		19-12746-00	DEC I.C. 74S37	3	3	3	3									E6, E17, E3
29		19-10544-00	DEC I.C. 74S74	3	3	3	3									E15, E12, E14
30																
31		19-13670-00	DEC I.C. 74S373	5	5	5	5									E40, E70, E29, E46, E35
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1									E23
33		19-10536-00	DEC I.C. 74S10	1	1	1	1									E20
34		19-10537-00	DEC I.C. 74S11	1	1	1	1									E11
35		19-13462-00	DEC I.C. 74S240	1	1	1	1									E18
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1									E16
37		19-10540-00	DEC I.C. 74S22	1	1	1	1									E19

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE

32K 16 BIT MOS MEMORY

ASSY NO.

D-UA-M8044-0-0

SIZE

B

CODE

PL

NUMBER

M8044-0-0

REV.

C

SHEET 2 OF 16

INSERTION PARTS LIST DATA BASE REV -

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-AA* QUANTITY / VARIATION								NOTES:	
MADE BY D. MANION		CHECKED <i>R. Giron</i>											
DATE 12/8/77		DATE 2-21-78											
ENG <i>R. Giron</i>		PROD <i>R. Mantel</i>											
DATE 2-21-78		DATE 2-21-78											
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-AB	M8044-AC	M8044-AD	M8044-AE						REF DESIGNATION
38		19-13340-00	DEC I.C. 74S32	1	1	1	1						E10
39		19-12388-00	DEC I.C. 74S02	1	1	1	1						E7
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1						E21
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1						Q1
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1						E28
43		19-13777-00	DEC I.C. 74LS240	1	1	1	1						E5
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4						(USED WITH W2, W3)
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 L <sup>NG</sup> 13	13	13	13	13						
46		90-09185-00	JUMPER WIRE INSULATED	1	1	1	1						W1
47		90-07254-00	TRANSIPAD	1	1	1	1						(USE UNDER Q1)
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2						
49		90-06732-00	EYELETS	4	4	4	4						
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R						
51		16-13120-00	DELAY LINE 200NS	1	1	1	1						E4
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31						C124 thru C145, C147 thru C155
53													
54													
55		23-216F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1						E9
56													
57													
58													

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0  
SHEET 3 OF 16

SIZE B CODE PL NUMBER M8044-0-0 REV. C

INSERTION PARTS LIST DATA BASE REV —

221



DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-AA* QUANTITY / VARIATION								NOTES:	
MADE BY D. MANION DATE 12/8/77		CHECKED <i>R. Gibson</i> DATE 2-21-78		SECTION								REF DESIGNATION	
ENG <i>R. Gibson</i> DATE 2-21-78		PROD <i>R. Mantel</i> DATE 2-21-78		ISSUED SECTION									
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-AB	M8044-AC	M8044-AD	M8044-AE						
59													
60		21-13735-01	4K MOS MEMORY 16 PIN IC (MOSTEK)	16	-	-	-						E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73,
61		21-14475-01	4K MOS MEMORY 16 PIN IC (FUJITSU)	-	16	-	-						E24, E26, E30, E32, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E36
62		5013128	ETCH BOARD	1	1	1	1						
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R						W2, W3
64		21-13914-01	4K MOS MEMORY 16 PIN IC (DEC)	-	-	16							E24, 26, 30, 32, 36, 38, 41, 43, 53, 55, 59, 61, 64, 67, 71, 73
65		21-14114-01	4K MOS MEMORY 16 PIN IC (MOTOROLA)	-	-	-	16						E24, 26, 30, 32, 36, 38, 41, 43, 53, 55, 59, 61, 65, 67, 71, 73

E.C.O. NO.

"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 ©1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0

SIZE  
**B**

CODE  
**PL**

NUMBER  
M8044-0-0

REV.  
**C**

SHEET 4 OF 16

INSERTION PARTS LIST DATA BASE REV -

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION								NOTES:	
MADE BY D. MANION DATE 12/8/77		CHECKED R. Jones DATE 2-21-78		SECTION								M8044-BA* IS A PRIMARY VARIATION OF THE 8 K X 16 BIT SYSTEM. (NOT A MODULE TYPE) M8044-BB,BC,BD,BE ARE MODULE TYPES, USING DIFFERENT 4K MOS DEVICES AND ARE IDENTICAL IN FUNCTION AND PURPOSE.	
ENG R. Jones DATE 2-21-78		PROD R. Mantel DATE 2-21-78		ISSUED SECTION									
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BB	M8044-BC	M8044-BD	M8044-BE						REF DESIGNATION
	D-CS-M8044-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	REF						
	D-UA-M8044-0-0		UNIT ASSEMBLY	REF	REF	REF	REF						
	B-DD-M8044-0-0		DWG. DIRECTORY	REF	REF	REF	REF						
	D-MD-5013128-0-0		DRILL & ETCH DRAWING	REF	REF	REF	REF						
1		10-10279-00	CAP 0.47 UF 25V 20% CER	1	1	1	1						C10
2		10-01610-00	CAP 0.01 UF 50V 20% CER	27	27	27	27						C7,C99,C100 thru C123,C146
3		10-02627-00	CAP 2.2 UF 20V 10% S. TANT	3	3	3	3						C5,C6,C9
4		10-12121-00	CAP 220 PF 100V 1% DM	2	2	2	2						C8,C12
5		10-05306-00	CAP 6.8 UF 35V 10% S. TANT	2	2	2	2						C3,C4
6		10-12219-00	CAP 47 UF 30V AL EL	2	2	2	2						C1,C2
7		11-05275-00	DIODE D672	2	2	2	2						D1,D2
8		12-11164-01	SWITCH 5 POS	1	1	1	1						E2
9		13-09412-00	RES 18.2K 1/4W 1% MF	1	1	1	1						R26
10		13-09416-00	RES 31.6K 1/4W 1% MF	1	1	1	1						R25
11		13-02957-00	RES 121 1/4W 1% MF	1	1	1	1						R16
12		13-00295-00	RES 330 1/4W 5% CC	1	1	1	1						R27
13		13-05126-00	RES 619 1/4W 1% CC	1	1	1	1						R19
14		13-03110-00	RES 19.6 1/4W 1% MF	1	1	1	1						R18
15		13-05124-00	RES 287 1/4W 1% MF	1	1	1	1						R20
16		13-01874-00	RES 5.6K 1/4W 5% CC	2	2	2	2						R11,R24
17		13-14636-00	RES NETWORK (2-5K 1/8 W 5%)	3	3	3	3						R4,R5,R6

E.C.O. NO.	"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 © 1977 DIGITAL EQUIPMENT CORPORATION"	TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
		32K 16 BIT MOS MEMORY	D-UA-M8044-0-0	B	PL	M8044-0-0	C
		SHEET 5 OF 16	INSERTION PARTS LIST DATA BASE REV —				

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION										NOTES:			
MADE BY DATE		CHECKED DATE		SECTION												REF DESIGNATION	
ENG DATE		PROD DATE		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BB	M8044-BC	M8044-BD	M8044-BE										
18		13-14637-00	RES NETWORK (3-22 1/8 W5%)	4	4	4	4										R1, R2, R7, R8
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1										R22
20																	
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	2	2										R12, R13
22		13-02874-00	RES 147 1/4W 1% MF	1	1	1	1										R21
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1										R17
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2										R14, R15
25		19-11579-00	DEC I.C. 8641	6	6	6	6										E1, E8, E51, E57, E63, E69
26		19-11469-00	DEC I.C. 8640	2	2	2	2										E13, E22
27		19-11944-00	DEC I.C. 555	1	1	1	1										E34
28		19-12746-00	DEC I.C. 74S37	3	3	3	3										E6, E17, E3
29		19-10544-00	DEC I.C. 74S74	3	3	3	3										E15, E12, E14
30																	
31		19-13670-00	DEC I.C. 74S373	5	5	5	5										E40, E70, E29, E46, E35
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1										E23
33		19-10536-00	DEC I.C. 74S10	1	1	1	1										E20
34		19-10537-00	DEC I.C. 74S11	1	1	1	1										E11
35		19-13462-00	DEC I.C. 74S240	1	1	1	1										E18
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1										E16
37		19-10540-00	DEC I.C. 74S22	1	1	1	1										E19

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0

SIZE  
B PL

NUMBER  
M8044-C-0

REV.  
C

SHEET 6 OF 16

INSERTION PARTS LIST DATA BASE REV -

m l

224

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION								NOTES:	
MADE BY D. MANION DATE 12/8/77		CHECKED R. Binn DATE 2-21-78		SECTION								REF DESIGNATION	
ENG R. Binn DATE 2-21-78		PROD R. Mastel DATE 2-21-78		ISSUED SECTION									
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BB	M8044-BC	M8044-BD	M8044-BE						
38		19-13340-00	DEC I.C. 74S32	1	1	1	1						E10
39		19-12388-00	DEC I.C. 74S02	1	1	1	1						E7
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1						E21
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1						Q1
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1						E28
43		19-13777-00	DEC I.C. 74LS240	1	1	1	1						E5
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4						(USED WITH W2, W3)
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 L <del>NG</del>	13	13	13	13						
46		90-09185-00	JUMPER WIRE INSULATED	1	1	1	1						W1
47		90-07254-00	TRANSIPAD	1	1	1	1						(USE UNDER Q1)
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2						
49		90-06732-00	EYELETS	4	4	4	4						
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R						
51		16-13120-00	DELAY LINE 200NS	1	1	1	1						E4
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31						C124 thru C145, C147 thru C155
53													
54													
55		23-195F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1						E9
56													
57													
58													

E.C.O. NO.

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 © 1977 DIGITAL EQUIPMENT CORPORATION	TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
	32K 16 BIT MOS MEMORY	D-UA-M8044-0-0	B	PL	M8044-0-0	C
SHEET 7 OF 16			INSERTION PARTS LIST DATA BASE REV —			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION								NOTES:	
MADE BY D. MANION DATE 12/8/77		CHECKED R. Givens DATE 2-21-78		SECTION									
ENG R. Givens DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION									
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BB	M8044-BC	M8044-BD	M8044-BE						
59													<b>E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74</b> <b>E24, E26, E30, E32, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E36, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74</b>  <b>W2, W3</b>  E24, 26, 30, 32, 36, 38, 41, 43, 53, 55, 59, 61, 65, 67, 71, 73, 25, 27, 31, 33, 37, 39, 42, 44, 54, 56, 60, 62, 66, 68, 72, 74  E24, 26, 30, 32, 36, 38, 41, 43, 53, 55, 59, 61, 65, 67, 71, 73, 25, 27, 31, 33, 37, 39, 42, 44, 54, 56, 60, 62, 66, 68, 72, 74
60		21-I3735-01	4K MOS MEMORY 16 PIN IC (MOSTEK)	32	-	-	-						
61		21-14475-01	4K MOS MEMORY 16 PIN IC (FUJITSU)	-	32	-	-						
62		5013128	ETCH BOARD	1	1	1	1						
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R						
64		21-13914-01	4K MOS MEMORY 16 PIN IC (DEC)	-	-	32	-						
65		21-14114-01	4K MOS MEMORY 16 PIN IC (MOTOROLA)	-	-	-	32						

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0

SIZE CODE NUMBER  
**B PL** M8044-0-0

REV.  
C

SHEET 8 OF 16

INSERTION PARTS LIST DATA BASE REV -

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION										NOTES:			
MADE BY D. MANION DATE 12/8/77		CHECKED R. Hines DATE 2-21-78		SECTION										M8044-CA* IS A PRIMARY VARIATION OF THE 16K X 16 BIT SYSTEM. (NOT A MODULE TYPE) M8044-CB, CC, CD, CE, CF ARE MODULE TYPES, USING DIFFERENT 16K MOS DEVICES AND ARE IDENTICAL IN FUNCTION AND PURPOSE.			
ENG R. Hines DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-CB	M8044-CC	M8044-CD	M8044-CE	M8044-CF									REF DESIGNATION
	D-CS-M8044-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	REF	REF									
	D-UA-M8044-0-0		UNIT ASSEMBLY	REF	REF	REF	REF	REF									
	B-DD-M8044-0-0		DWG. DIRECTORY	REF	REF	REF	REF	REF									
	D-MD-5013128-0-0		DRILL & ETCH DRAWING	REF	REF	REF	REF	REF									
1		10-10279-00	CAP 0.47 UF 25V 20% CER	1	1	1	1	1									C10
2		10-01610-00	CAP 0.01 UF 50V 20% CER	27	27	27	27	27									C7, C99, C100 thru C123, C146
3		10-02627-00	CAP 2.2 UF 20V 10% S. TANT	3	3	3	3	3									C5, C6, C9
4		10-12121-00	CAP 220 PF 100V 1% DM	2	2	2	2	2									C8, C12
5		10-05306-00	CAP 6.8 UF 35V 10% S. TANT	2	2	2	2	2									C3, C4
6		10-12219-00	CAP 47 UF 30V AL EL	2	2	2	2	2									C1, C2
7		11-05275-00	DIODE D672	2	2	2	2	2									D1, D2
8		12-11164-01	SWITCH 5 POS	1	1	1	1	1									E2
9		13-09412-00	RES 18.2K 1/4W 1% MF	1	1	1	1	1									R26
10		13-09416-00	RES 31.6K 1/4W 1% MF	1	1	1	1	1									R25
11		13-02957-00	RES 121 1/4W 1% MF	1	1	1	1	1									R16
12		13-00295-00	RES 330 1/4W 5% CC	1	1	1	1	1									R27
13		13-05126-00	RES 619 1/4W 1% CC	1	1	1	1	1									R19
14		13-03110-00	RES 19.6 1/4W 1% MF	1	1	1	1	1									R18
15		13-05124-00	RES 287 1/4W 1% MF	1	1	1	1	1									R20
16		13-01874-00	RES 5.6K 1/4W 5% CC	2	2	2	2	2									R11, R24
17		13-14636-00	RES NETWORK (2-5K 1/8 W 5%)	3	3	3	3	3									R4, R5, R6

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE 32K 16 BIT MOS MEMORY

ASSY NO. D-UA-M8044-0-0  
SHEET 9 OF 16

SIZE B CODE PL NUMBER M8044-0-0 REV. C

INSERTION PARTS LIST DATA BASE REV —

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION										NOTES:			
MADE BY R. MANION DATE 12/8/77		CHECKED <i>R. Swin</i> DATE 2-21-78		SECTION										REF DESIGNATION			
ENG <i>R. Swin</i> DATE 2-21-78		PROD <i>R. Martel</i> DATE 2-21-78		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-CB	M8044-CC	M8044-CD	M8044-CE	M8044-CF									
18		13-14637-00	RES NETWORK (3-22 1/8W 5%)	4	4	4	4	4									R1,R2,R7,R8
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1	1									R22
20		1301969-00	RES 22 1/4W 5% CC	1	1	1	1	1									R3
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	2	2	2									R12,R13
22		13-02874-00	RES 147 1/4W 1% MF	1	1	1	1	1									R21
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1	1									R17
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2	2									R14,R15
25		19-11579-00	DEC I.C. 8641	6	6	6	6	6									E1,E8,E51,E57,E63,E69
26		19-11469-00	DEC I.C. 8640	2	2	2	2	2									E13,E22
27		19-11944-00	DEC I.C. 555	1	1	1	1	1									E34
28		19-12746-00	DEC I.C. 74S37	3	3	3	3	3									E6,E17,E3
29		19-10544-00	DEC I.C. 74S74	3	3	3	3	3									E15,E12,E14
30																	
31		19-13670-00	DEC I.C. 74S373	5	5	5	5	5									E40,E70,E29,E46,E35
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1	1									E23
33		19-10536-00	DEC I.C. 74S10	1	1	1	1	1									E20
34		19-10537-00	DEC I.C. 74S11	1	1	1	1	1									E11
35		19-13462-00	DEC I.C. 74S240	1	1	1	1	1									E18
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1	1									E16
37		19-10540-00	DEC I.C. 74S22	1	1	1	1	1									E19

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0  
SHEET 10 OF 16

SIZE **B** CODE **PL** NUMBER M8044-0-0

REV. **C**

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION										NOTES:				
MADE BY DATE		CHECKED DATE		SECTION														
ENG DATE		PROD DATE		ISSUED SECTION														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-CB	M8044-CC	M8044-CD	M8044-CE	M8044-CF										REF DESIGNATION
38		19-13340-00	DEC I.C. 74S32	1	1	1	1	1										E10
39		19-12388-00	DEC I.C. 74S02	1	1	1	1	1										E7
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1	1										E21
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1	1										Q1
42		19-12607-00	DEC I.C. 74LS10	1	1	1	1	1										E28
43		19-13777-00	DEC I.C. 74LS240	1	1	1	1	1										E5
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4	4										(USED WITH W2, W3)
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 LING	13	13	13	13	13										
46																		
47		90-07254-00	TRANSIPAD	1	1	1	1	1										(USE UNDER Q1)
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2	2										
49		90-06732-00	EYELETS	4	4	4	4	4										
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R	A/R										
51		16-13120-00	DELAY LINE 200NS	1	1	1	1	1										E4
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31	31										C124 thru C145, C147 thru C155
53																		
54																		
55		23-216F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1	1										E9
56																		
57																		
58																		

E.C.O. NO.	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 © 1977 DIGITAL EQUIPMENT CORPORATION	TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
		32K 16 BIT MOS MEMORY	D-UA-M8044-0-0	B	PL	M8044-0-0	C
			SHEET 11 OF 16	INSERTION PARTS LIST DATA BASE REV -			



DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION										NOTES:			
MADE BY D. MANION DATE 12/8/77		CHECKED R. Hines DATE 2-21-78		SECTION													
ENG R. Hines DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-CB	M8044-CC	M8044-CD	M8044-CE	M8044-CF									REF DESIGNATION
59																	
60		21-13825-01	16K MOS MEMORY 16 PIN IC(MOSTEK)	16	-	-	-	-									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73,
61		21-14408-01	16K MOS MEMORY 16 PIN IC(FUJITSU)	-	16	-	-	-									E24, E26, E30, E32, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E36
62		5013128	ETCH BOARD	1	1	1	1	1									
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R	A/R									W2, W3
64		21-14895-01	16K MOS MEMORY 16 PIN I.C. (INTEL)	-	-	16	-	-									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73
65		21-14927-01	16K MOS MEMORY 16 PIN I.C. (TI.)	-	-	-	16	-									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E71, E67, E73
66		21-14897-01	16 MOS MEMORY 16 PIN I.C. (HITACHI)	-	-	-	-	16									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E71, E67, E73

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0  
SHEET 12 OF 16

SIZE B  
CODE PL  
NUMBER M8044-C-C

F.EV.  
C

INSERTION PARTS LIST DATA BASE REV -

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA* QUANTITY / VARIATION							NOTES:
MADE BY D. MANION DATE 12/8/77		CHECKED R. Green DATE 2-21-78		SECTION							M8044-DA* IS A PRIMARY VARIATION OF THE 32K X 16 BIT SYSTEM. (NOT A MODULE TYPE) M8044-DB,DC,DD,DE,DF ARE MODULE TYPES, USING DIFFERENT 16K MOS DEVICES AND ARE IDENTICAL IN FUNCTION AND PURPOSE.
ENG R. Green DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION							
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF		REF DESIGNATION	
	D-CS-M8044-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	REF	REF			
	D-UA-M8044-0-0		UNIT ASSEMBLY	REF	REF	REF	REF	REF			
	B-DD-M8044-0-0		DWG. DIRECTORY	REF	REF	REF	REF	REF			
	D-MD-5013128-0-0		DRILL & ETCH DRAWING	REF	REF	REF	REF	REF			
1		10-10279-00	CAP 0.47 UF 25V 20% CER	1	1	1	1	1		C10	
2		10-01610-00	CAP 0.01 UF 50V 20% CER	27	27	27	27	27		C7,C99,C100 thru C123,C146	
3		10-02627-00	CAP 2.2 UF 20V 10% S. TANT	3	3	3	3	3		C5,C6,C9	
4		10-12121-00	CAP 220 PF 100V 1% DM	2	2	2	2	2		C8,C12	
5		10-05306-00	CAP 6.8 UF 35V 10% S. TANT	2	2	2	2	2		C3,C4	
6		10-12219-00	CAP 47 UF 30V AL EL	2	2	2	2	2		C1,C2	
7		11-05275-00	DIODE D672	2	2	2	2	2		D1,D2	
8		12-11164-01	SWITCH 5 POS	1	1	1	1	1		E2	
9		13-09412-00	RES 18.2K 1/4W 1% MF	1	1	1	1	1		R26	
10		13-09416-00	RES 31.6K 1/4W 1% MF	1	1	1	1	1		R25	
11		13-02957-00	RES 121 1/4W 1% MF	1	1	1	1	1		R16	
12		13-00295-00	RES 330 1/4W 5% CC	1	1	1	1	1		R27	
13		13-05126-00	RES 619 1/4W 1% CC	1	1	1	1	1		R19	
14		13-03110-00	RES 19.6 1/4W 1% MF	1	1	1	1	1		R18	
15		13-05124-00	RES 287 1/4W 1% MF	1	1	1	1	1		R20	
16		13-01874-00	RES 5.6K 1/4W 5% CC	2	2	2	2	2		R11,R24	
17		13-14636-00	RES NETWORK (2-5K 1/8 W 5%)	3	3	3	3	3		R4,R5,R6	

ECO. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"			TITLE 32K 16 BIT MOS MEMORY	ASSY NO. D-UA-M8044-0-0	SIZE B	CODE PL	NUMBER M8044-0-0	REV. C
				SHEET 13 OF 16	INSERTION PARTS LIST DATA BASE REV —			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA* QUANTITY / VARIATION										NOTES:		
MADE BY R. MANION DATE 12/8/77		CHECKED R. Gwin DATE 2-21-78		SECTION												
ENG R. Gwin DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION												
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF								REF DESIGNATION
18		13-14637-00	RES NETWORK (3-22 1/8 W 5%)	4	4	4	4	4								R1, R2, R7, R8
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1	1								R22
20		13-01969-00	RES 22 1/4W 5% CC	1	1	1	1	1								R2
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	2	2	2								R12, R13
22		13-02874-00	RES 147 1/4W 1% MF	1	1	1	1	1								R21
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1	1								R17
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2	2								R14, R15
25		19-11579-00	DEC I.C. 8641	6	6	6	6	6								E1, E8, E51, E57, E63, E69
26		19-11469-00	DEC I.C. 8640	2	2	2	2	2								E13, E22
27		19-11944-00	DEC I.C. 555	1	1	1	1	1								E34
28		19-12746-00	DEC I.C. 74S37	3	3	3	3	3								E6, E17, E3
29		19-10544-00	DEC I.C. 74S74	3	3	3	3	3								E15, E12, E14
30																
31		19-13670-00	DEC I.C. 74S373	5	5	5	5	5								E40, E70, E29, E46, E35
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1	1								E23
33		19-10536-00	DEC I.C. 74S10	1	1	1	1	1								E20
34		19-10537-00	DEC I.C. 74S11	1	1	1	1	1								E11
35		19-13462-00	DEC I.C. 74S240	1	1	1	1	1								E18
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1	1								E16
37		19-10540-00	DEC I.C. 74S22	1	1	1	1	1								E19

E.C.O. NO.

"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 © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0  
SHEET 14 OF 16

SIZE B CODE PL NUMBER M8044-0-0

REV. C

INSERTION PARTS LIST DATA BASE REV -

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA* QUANTITY / VARIATION										NOTES:			
MADE BY D. MANION		CHECKED <i>R. Linn</i>												REF DESIGNATION			
DATE 12/8/77		DATE 2-21-78															
ENG <i>R. Linn</i>		PROD <i>R. Martel</i>															
DATE 2-21-78		DATE 2-21-78															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF									
38		19-13340-00	DEC I.C. 74S32	1	1	1	1	1									E10
39		19-12388-00	DEC I.C. 74S02	1	1	1	1	1									E7
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1	1									E21
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1	1									Q1
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1	1									E28
43		19-13777-00	DEC I.C. 74LS240	1	1	1	1	1									E5
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4	4									(USED WITH W2, W3)
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 LNG13	13	13	13	13	13									
46																	
47		90-07254-00	TRANSIPAD	1	1	1	1	1									(USE UNDER Q1)
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2	2									
49		90-06732-00	EYELETS	4	4	4	4	4									
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R	A/R									
51		16-13120-00	DELAY LINE 200NS	1	1	1	1	1									E4
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31	31									C124 thru C145, C147 thru C155
53																	
54																	
55		23-195F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1	1									E9
56																	
57																	
58																	

<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 © 1977 DIGITAL EQUIPMENT CORPORATION"</small>	<b>TITLE</b> 32K 16 BIT MOS MEMORY	<b>ASSY NO.</b> D-UA-M8044-0-0 <b>SHEET</b> 15 <b>OF</b> 16	<b>SIZE</b> B <b>CODE</b> PL <b>NUMBER</b> M8044-0-0 <small>INSERTION PARTS LIST DATA BASE REV —</small>	<b>REV.</b> C
--	---------------------------------------	---	---	------------------

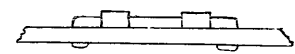
DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA* QUANTITY / VARIATION										NOTES:				
MADE BY D. MANION DATE 12/8/77		CHECKED R. Swin DATE 2-21-78		SECTION										REF DESIGNATION				
ENG R. Swin DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF										
59																		
60		21-13825-01	16K MOS MEMORY 16 PIN IC (MOSTEK)	32	-	-	-	-									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
61		21-14408-01	16K MOS MEMORY 16 PIN IC (FUJITSU)	-	32	-	-	-									E24, E26, E30, E32, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E36, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
62		5013128	ETCH BOARD	1	1	1	1	1										
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R	A/R									W2, W3	
64		21-14895-01	16K MOS MEMORY 16 PIN I.C. (INTEL)	-	-	32	-	-									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
65		21-14927-01	16K MOS MEMORY 16 PIN (TI)	-	-	-	32	-									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
66		21-14897-01	16K MOS MEMORY 16 PIN (HITACHI)	-	-	-	-	32									E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74, E33	
E.C.O. NO.																		
"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 © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE 32K 16 BIT MOS MEMORY				ASSY NO. D-UA-M8044-0-0				SIZE B		CODE PL		NUMBER M8044-0-0		REV. C
				SHEET 16 OF 16				INSERTION PARTS LIST DATA BASE REV -										

8 7 6 5 4 3 2 1

THIS DRAWING AND ANY INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF DIGITAL CORPORATION AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DIGITAL CORPORATION. © 1976

MODULE VARIATIONS AA&CA

- 1.
2. W2 THRU W5 SHOULD BE INSTALLED WITH ASSEMBLY SPACERS SO THAT THEY LOOK LIKE THE FOLLOWING:



3. R-PACKS SHOULD BE INSTALLED SO THAT LEADS DO NOT INTERFERE WITH OTHER COMPONENTS
4. ⊗ WIRE WRAP PIN.

MEMORY TYPE	JUMPER CONFIG	VARIATION
NON-PARITY	5-7	AA, CA

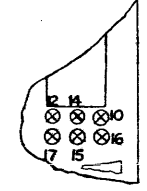
MEMORY SIZE	JUMPER CONFIG	VARIATION
4K	17-15, 17-14	AA
16K	16-15, 16-14	CA

7. OPTIONAL JUMPER F2 WILL ALLOW USER TO EXTEND USABLE MEMORY SPACE FROM 28K TO 30K. NORMAL JUMPER IS F3.

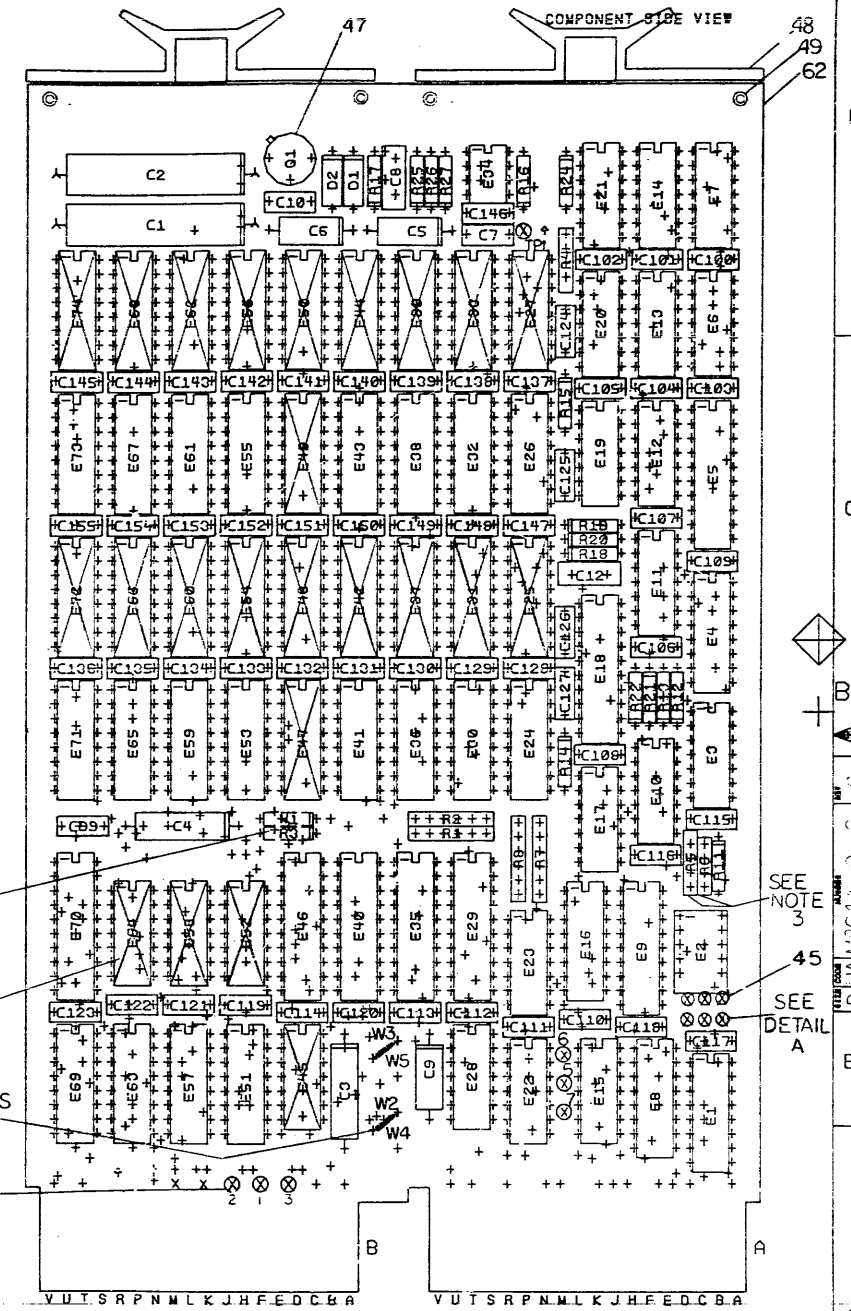
JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

MEMORY SIZE	W1	R3	VARIATION
4K	IN	OUT	AA
16K	OUT	IN	CA

10. THE FOLLOWING IC'S ARE NOT INSTALLED IN AA & CA VARIATIONS:  
E25, 27, 31, 33, 37, 39, 42, 44, 45, 47, 48, 49, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 72 & 74.



DETAIL A



SEE NOTE 9  
SEE NOTE 10  
SEE NOTES 2 & 8  
SEE NOTE 7

SEE NOTE 3  
SEE DETAIL A

NOTES:	<table border="1"> <tr> <th>DATE</th> <th>BY</th> <th>REV</th> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>1</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>2</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>3</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>4</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>5</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>6</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>7</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>8</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>9</td> </tr> <tr> <td>12-1-75</td> <td>EDM</td> <td>10</td> </tr> </table>	DATE	BY	REV	12-1-75	EDM	1	12-1-75	EDM	2	12-1-75	EDM	3	12-1-75	EDM	4	12-1-75	EDM	5	12-1-75	EDM	6	12-1-75	EDM	7	12-1-75	EDM	8	12-1-75	EDM	9	12-1-75	EDM	10
DATE	BY	REV																																
12-1-75	EDM	1																																
12-1-75	EDM	2																																
12-1-75	EDM	3																																
12-1-75	EDM	4																																
12-1-75	EDM	5																																
12-1-75	EDM	6																																
12-1-75	EDM	7																																
12-1-75	EDM	8																																
12-1-75	EDM	9																																
12-1-75	EDM	10																																

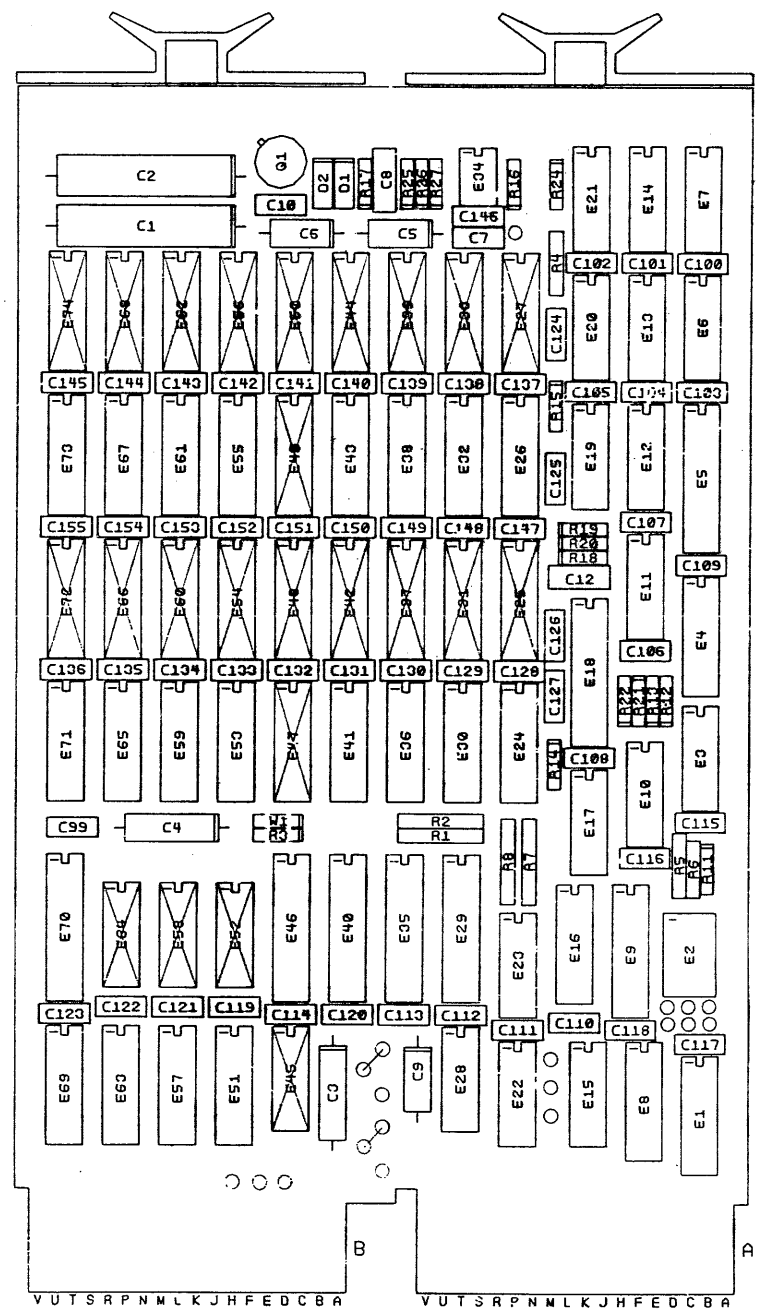
<table border="1"> <tr> <td>DRN. <i>[Signature]</i></td> <td>DATE</td> </tr> <tr> <td>CHK'D. <i>[Signature]</i></td> <td>DATE</td> </tr> <tr> <td>ENG.</td> <td></td> </tr> <tr> <td>PROJ. ENG.</td> <td></td> </tr> <tr> <td>PROD.</td> <td></td> </tr> <tr> <td>SCALE 2/1</td> <td></td> </tr> <tr> <td>3MT. OF P.</td> <td></td> </tr> <tr> <td>PRINT HIGHER ASSY. ONLY</td> <td></td> </tr> </table>	DRN. <i>[Signature]</i>	DATE	CHK'D. <i>[Signature]</i>	DATE	ENG.		PROJ. ENG.		PROD.		SCALE 2/1		3MT. OF P.		PRINT HIGHER ASSY. ONLY		<table border="1"> <tr> <td>TITLE</td> <td>digital</td> </tr> <tr> <td>32K 16BIT MOS MEMORY</td> <td></td> </tr> <tr> <td>SIZE CODE</td> <td>NUMBER</td> </tr> <tr> <td>0</td> <td>UA M8044-C-01C</td> </tr> </table>	TITLE	digital	32K 16BIT MOS MEMORY		SIZE CODE	NUMBER	0	UA M8044-C-01C
DRN. <i>[Signature]</i>	DATE																								
CHK'D. <i>[Signature]</i>	DATE																								
ENG.																									
PROJ. ENG.																									
PROD.																									
SCALE 2/1																									
3MT. OF P.																									
PRINT HIGHER ASSY. ONLY																									
TITLE	digital																								
32K 16BIT MOS MEMORY																									
SIZE CODE	NUMBER																								
0	UA M8044-C-01C																								

8 7 6 5 4 3 2 1 MS#261966

8 7 6 5 4 3 2 1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

MODULE VARIATIONS AA CA



NOTES:

---



---



---



---



---

CHK	CHANGE NO	REV

SIGNATURES		DATE	digital
DRN.			
CHK'D.			
ENC.			
PROJ. ENC.			TITLE
PROD.			32K 16 BIT MOS MEMORY
SCALE 2/1			SIZE CODE NUMBER
SHT. 2 OF 4			D U A M 8 0 4 4 - 0 - 0 C
NEXT HIGHER ASSY.			REV

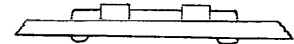

8 7 6 5 4 3 2 1 ml 1 MS# 261966

236

8 7 6 5 4 3 2 1

THIS DRAWING AND INFORMATION HEREON ARE THE PROPERTY OF DIGITAL CORPORATION AND SHALL REMAIN THE PROPERTY OF THIS CORPORATION IN WHOLE OR IN PART. NO PART OF THIS DRAWING OR INFORMATION HEREON IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DIGITAL CORPORATION. © 1976

### MODULE VARIATIONS BA & DA

1. 
2. W2 THRU W5 SHOULD BE INSTALLED WITH ASSEMBLY SPACERS SO THAT THEY LOOK LIKE THE FOLLOWING:
3. R-PACKS SHOULD BE INSTALLED SO THAT LEADS DO NOT INTERFERE WITH OTHER COMPONENTS
4.  WIRE WRAP PIN.
5. MEMORY TYPE JUMPER CONFIG VARIATION

NON-PARITY	5-7	BA, DA
------------	-----	--------

6. MEMORY SIZE JUMPER CONFIG VARIATION

8K	17-15	12-14	BA
32K	16-15	10-14	DA

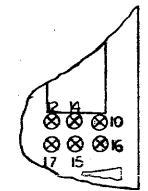
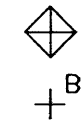
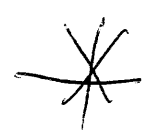
7. OPTIONAL JUMPER F2 WILL ALLOW USER TO EXTEND USABLE MEMORY SPACE FROM 28K TO 30K. NORMAL JUMPER IS F-3.
8. JUMPER BATTERY NON BATTERY

JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

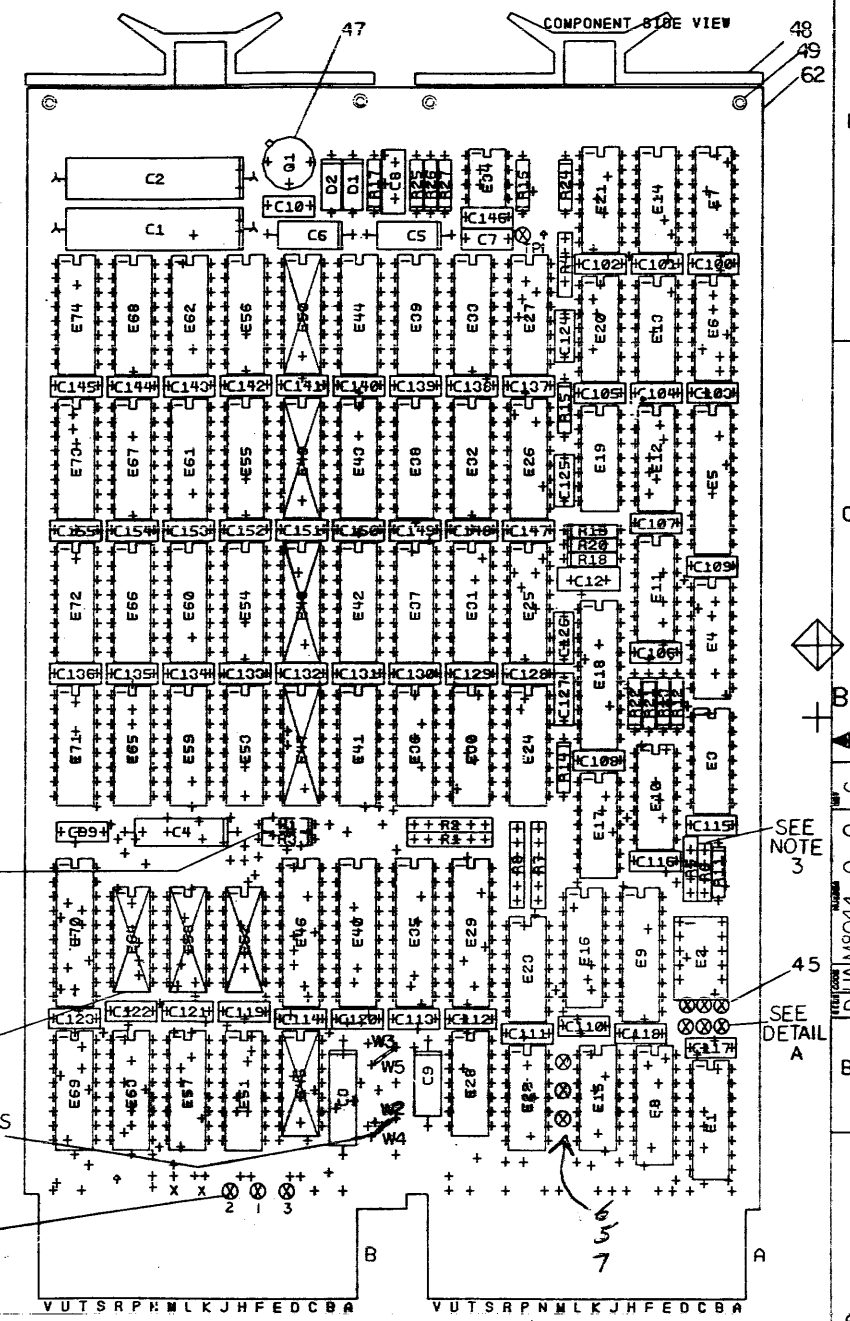
9. MEMORY SIZE W1 R3 VARIATION

8K	IN	OUT	BA
32K	OUT	IN	DA

10. THE FOLLOWING IC'S ARE NOT INSTALLED IN BA & DA VARIATIONS: E45, 47, 48, 49, 50, 52, 58 & 64.



DETAIL A



SEE NOTE 9

SEE NOTE 10

SEE NOTES 2&8

SEE NOTE 7

SEE NOTE 3

SEE DETAIL A

NOTES:

	CHANGE NO. REV.

ETCH REV. 1-P1
PREP. DESIGN DATA BASE REV. 1-D1 & D2

SIGNATURES		DATE
DRN.		2-22-77
CHK'D.		2-22-77
ENG.		
PROJ. ENG.		
PRCD.		
SCALE 2/1		
SHT. 1 OF 8		
NEXT HIGHER ASSY. B-10-M8044-0		

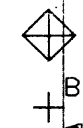
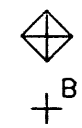
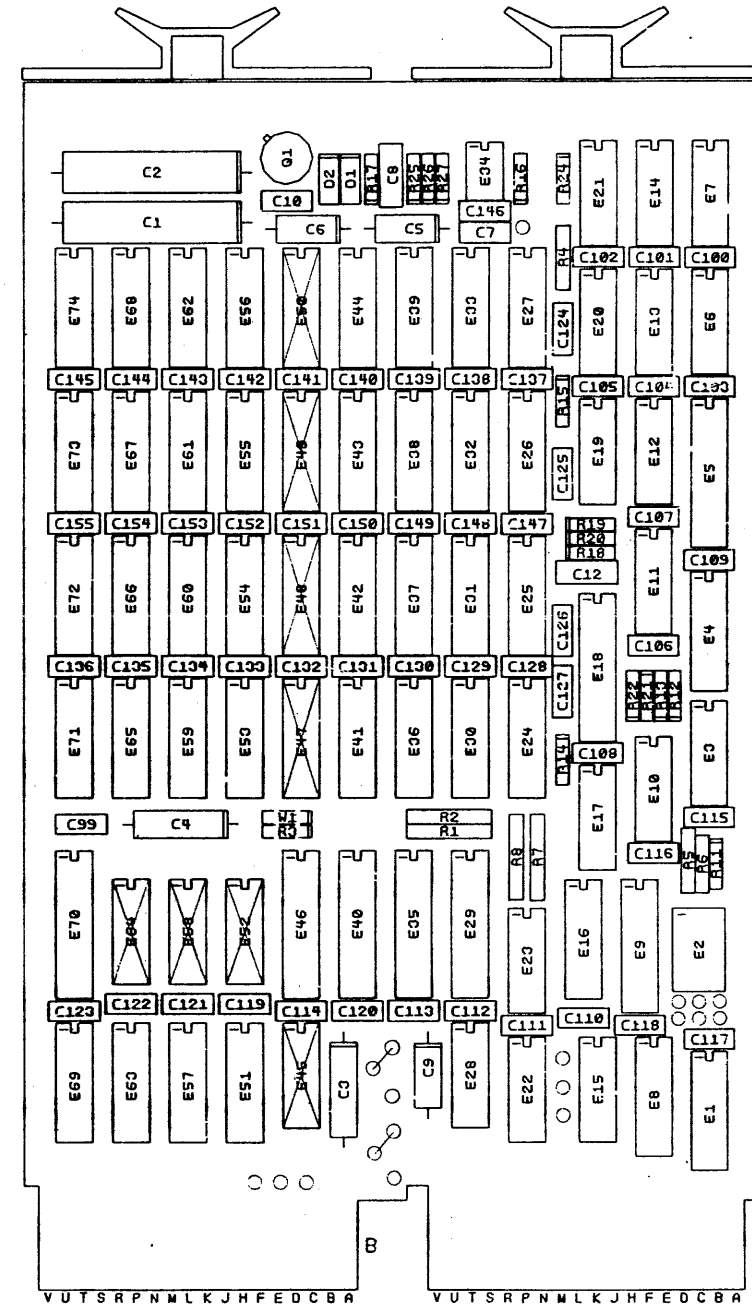
digital	
TITLE	
32K 16BIT MOS MEMORY	
SCALE 2/1	SIZE CODE NUMBER
SHT. 1 OF 8	DUA 8044-0-01C
NEXT HIGHER ASSY. B-10-M8044-0	REV

8 7 6 5 4 3 2 1 MS# 261966



THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART OR THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

MODULE VARIATIONS BA4 DA



NOTES:

---



---



---



---



---



---



---

CHK	CHANGE NO	REV

SIGNATURES		DATE	
DRN.		2-2-77	
CHK'D.	Richard V. [unclear]	2-10-77	
ENC.			
PROJ. ENC.			
PROD.			
SCALE	2/1	SIZE	CODE
SHT.	4 OF 8	NUMBER	REV
NEXT HIGHER ASSY.	E-110-M8044-C-0	D	UA M8044-0-0 C

1 MS#261966

238

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 © 1977 DIGITAL EQUIPMENT CORPORATION.

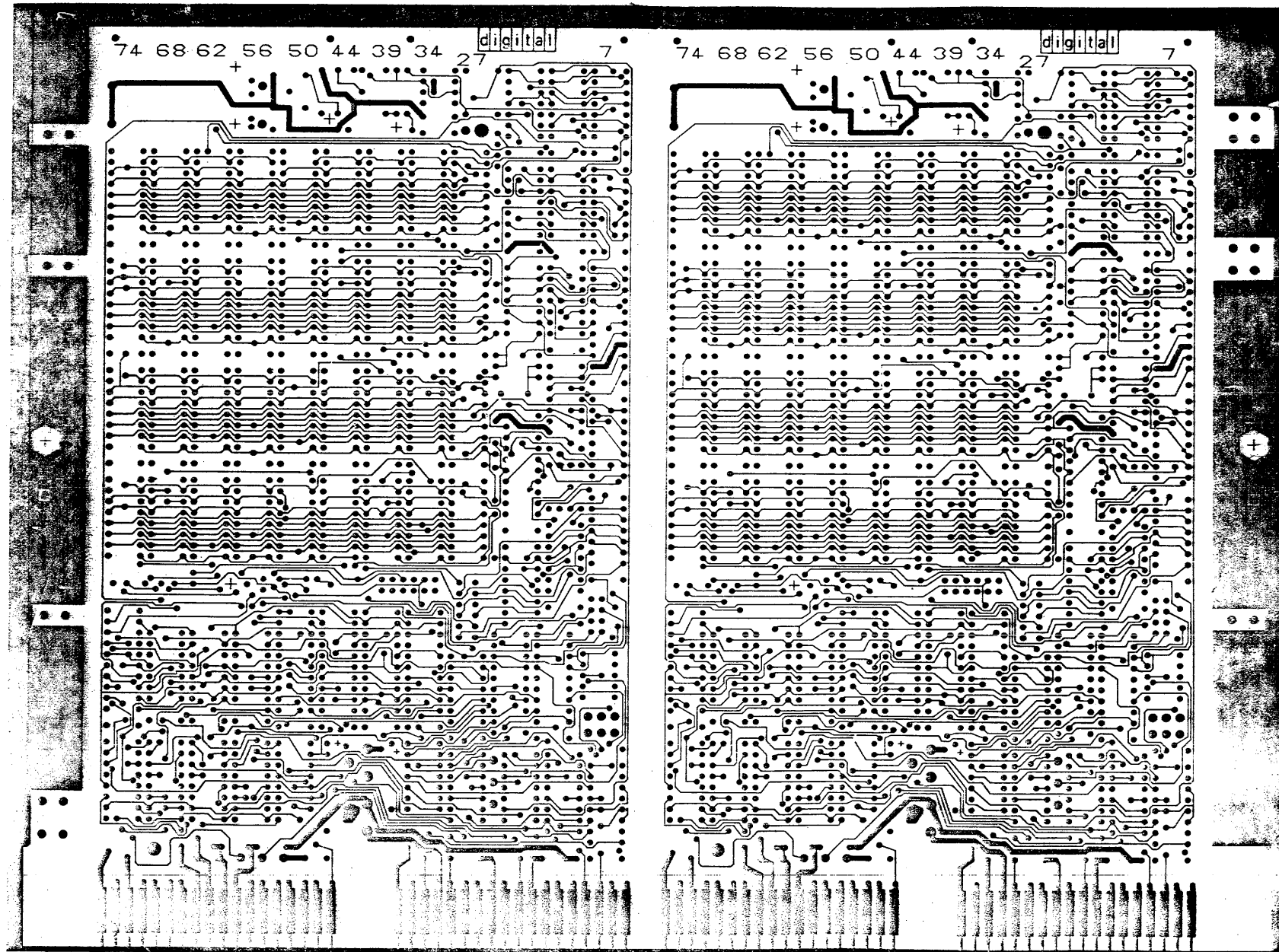
M8045 5013128D - P1

L1

M8045 5013128D - P1

L1

LAYER 1



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
32K 16BIT MOS MEMORY	D UA	M8044-0-0	C
SCALE 2/1	SHEET 5 OF 8	DIST.	

239

8 7 6 5 4 3

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 OF ANY OF ITS ITEMS WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION  
© 1978 DIGITAL EQUIPMENT CORPORATION

M8045 5013128D-P1

L2

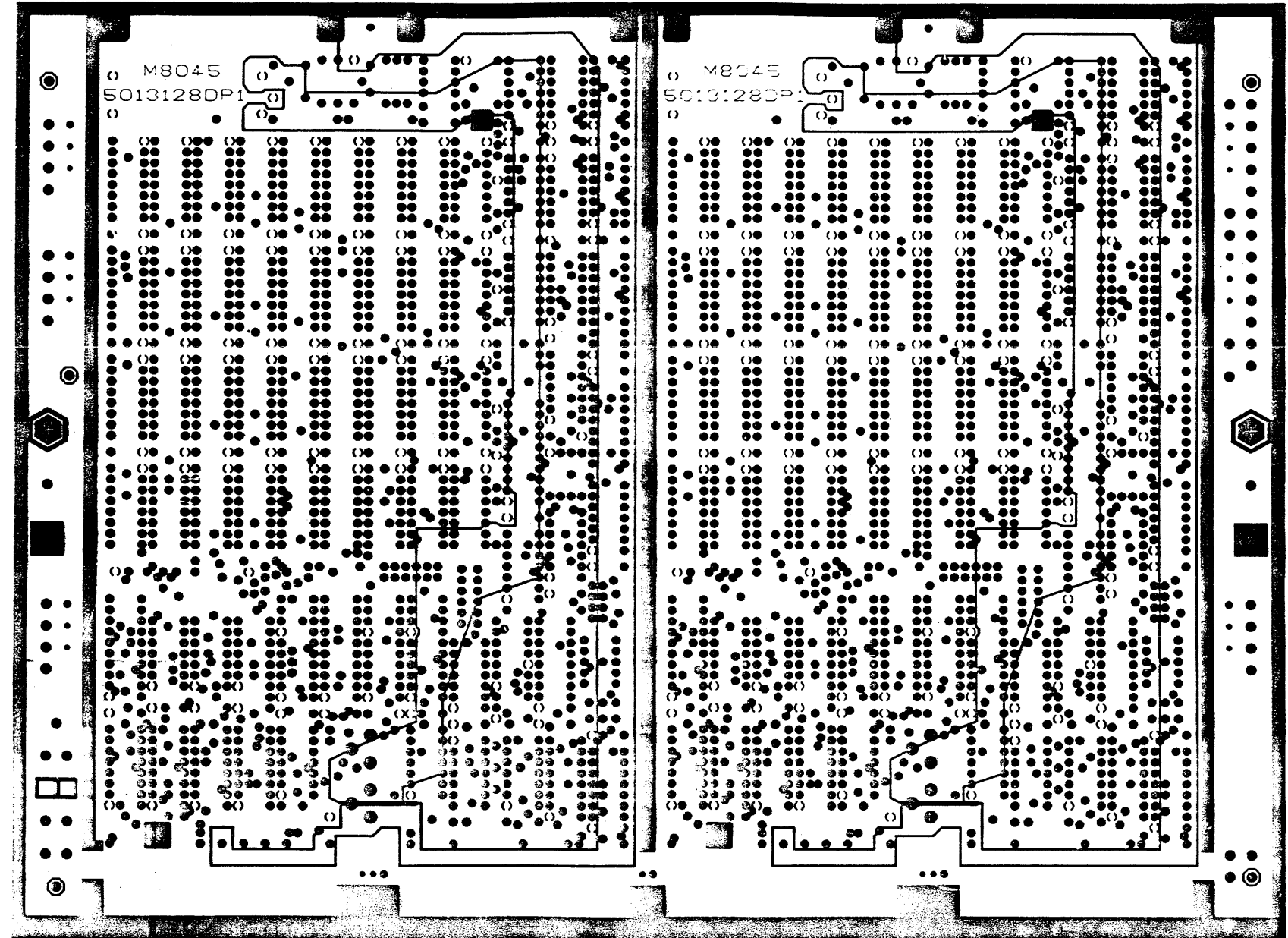
M8045 5013128D-P1

L2

LAYER 12

D  
C  
B  
A

D  
C  
B  
A



DUA M8044-C-0 C

REV	DATE	BY	CHK

FILE	32K 16BIT MOS MEMORY	SIZE CODE	DUA	NUMBER	M8044-0-0	REV	C
SCALE	2/1	SHEET	6	OF	8	DIST	

7 6 5 4 3 2 1 ml

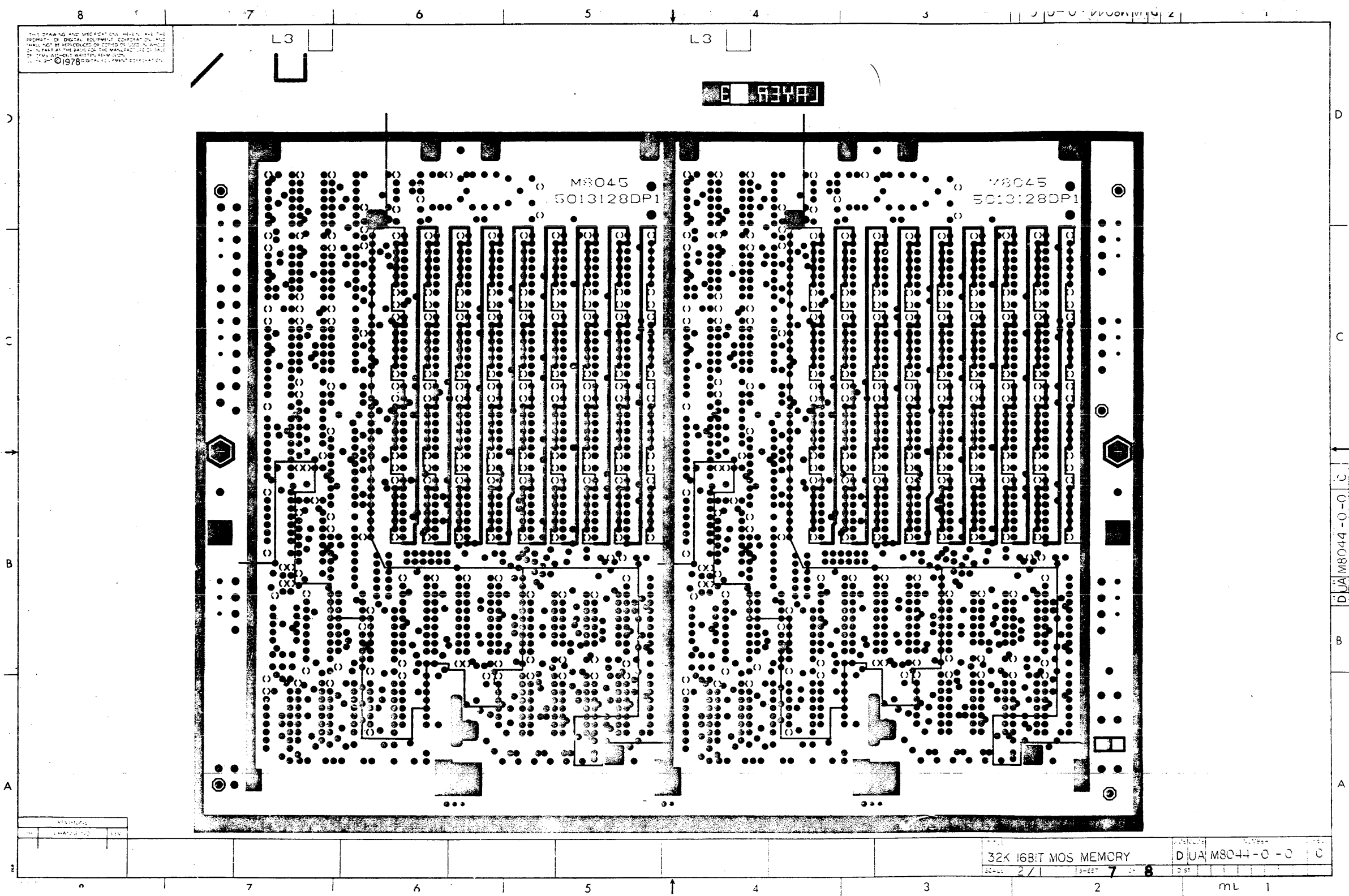
240

THIS DRAWING AND SPECIFICATIONS HEREAFTER ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DIGITAL EQUIPMENT CORPORATION.  
©1978 DIGITAL EQUIPMENT CORPORATION

REV 834A

M8045  
5013128DP1

M8045  
5013128DP1



32K 16BIT MOS MEMORY

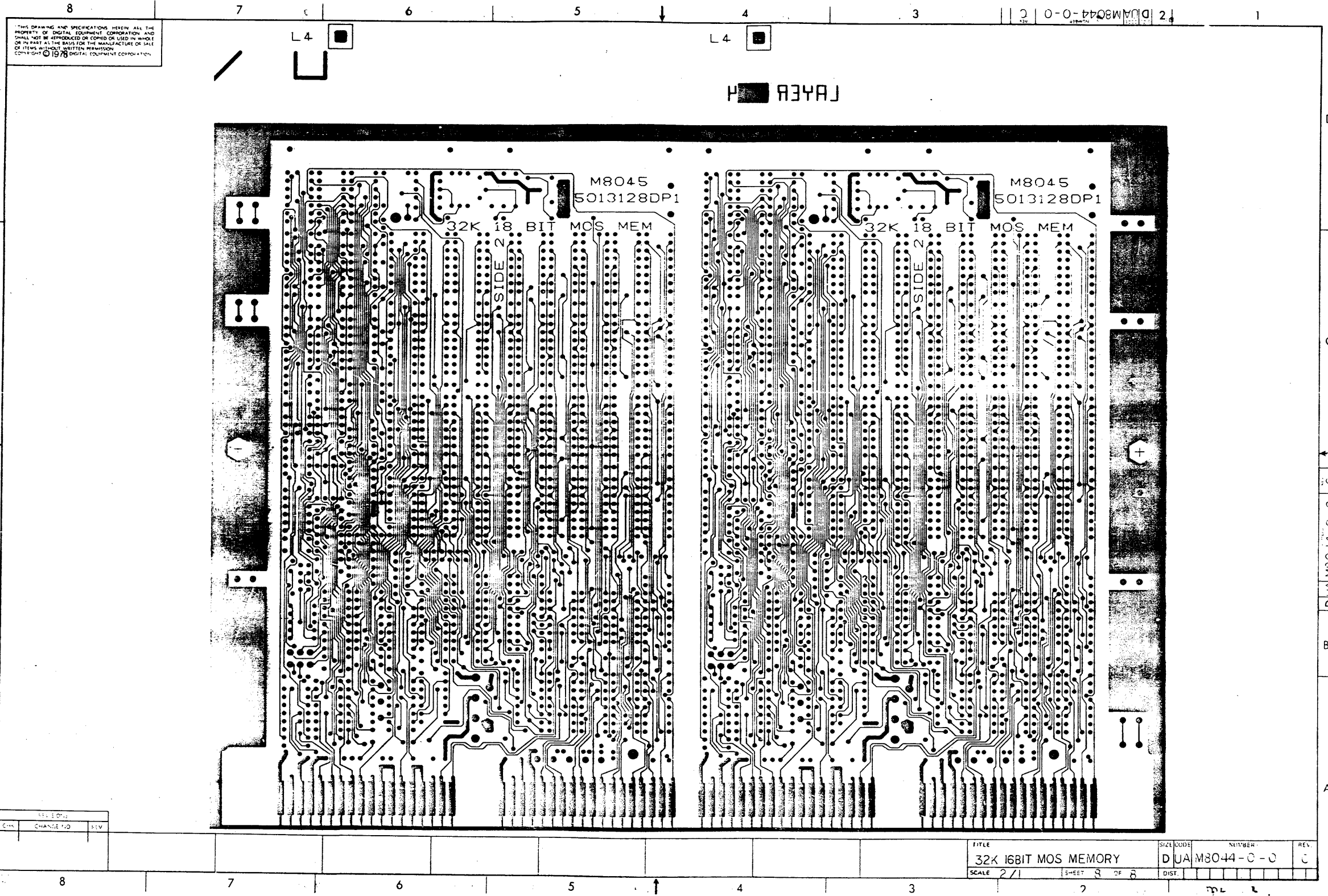
DUA M8044-0-0 C

SHEET 7 OF 8

mL 1

241

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 © 1978 DIGITAL EQUIPMENT CORPORATION.



834AJ

REV	CHANGE TO	BY

TITLE	SIZE CODE	NUMBER	REV.
32K 16BIT MOS MEMORY	D J A	M8044-C-0	C
SCALE 2/1	SHEET 8	OF 8	DIST.

242

THIS DRAWING AND SPECIFICATIONS, TOGETHER WITH THE  
PROPERTY OF MILITARY EQUIPMENT CORPORATION AND SHALL  
NOT BE REPRODUCED OR COPIED IN ANY MANNER OR BY  
ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING  
PHOTO COPYING, RECORDING, OR BY ANY INFORMATION  
STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN  
PERMISSION OF MILITARY EQUIPMENT CORPORATION.

NOTES:

1. ● = WIRE WRAP PIN

2.

TYPE MEMORY	JUMPER CONFIGURATION
NON PARITY	5 TO 7
PARITY	5 TO 6

3.

TYPE	JUMPER CONFIGURATION
4K	17 TO 15 & 17 TO 14
8K	17 TO 15 & 12 TO 14
16K	16 TO 15 & 16 TO 14
32K	16 TO 15 & 10 TO 14

4.

DEC 00	OCTAL	SWITCH SETTING (X = OFF)				
		SI-1	SI-2	SI-3	SI-4	SI-5
0	000000					X
4	020000					X
8	040000				X	
12	060000			X		X
16	100000		X			
20	120000		X			X
24	140000		X	X		
28	160000		X	X	X	
32	200000	X				
36	220000	X				X
40	240000	X		X		
44	260000	X		X	X	X
48	300000	X	X			
52	320000	X	X			X
56	340000	X	X	X		
60	360000	X	X	X	X	
64	400000	X				X
68	420000	X				X
72	440000	X		X		
76	460000	X		X	X	
80	500000	X		X		X
84	520000	X		X		X
88	540000	X	X			X
92	560000	X	X	X		X
96	600000	X	X			
100	620000	X	X			X
104	640000	X	X		X	
108	660000	X	X	X		X
112	700000	X	X	X		
116	720000	X	X	X		X
120	740000	X	X	X	X	
124	760000	X	X	X	X	X

5. NORMAL JUMPER 1 TO 3.  
OPTIONAL JUMPER 1 TO 2  
WILL ALLOW USER TO EXTEND USABLE  
MEMORY SPACE FROM 28K TO 30K.

6.

JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

7.

MEMORY SIZE	W1	R3
4K	IN	OUT
8K	IN	OUT
16K	OUT	IN
32K	OUT	IN

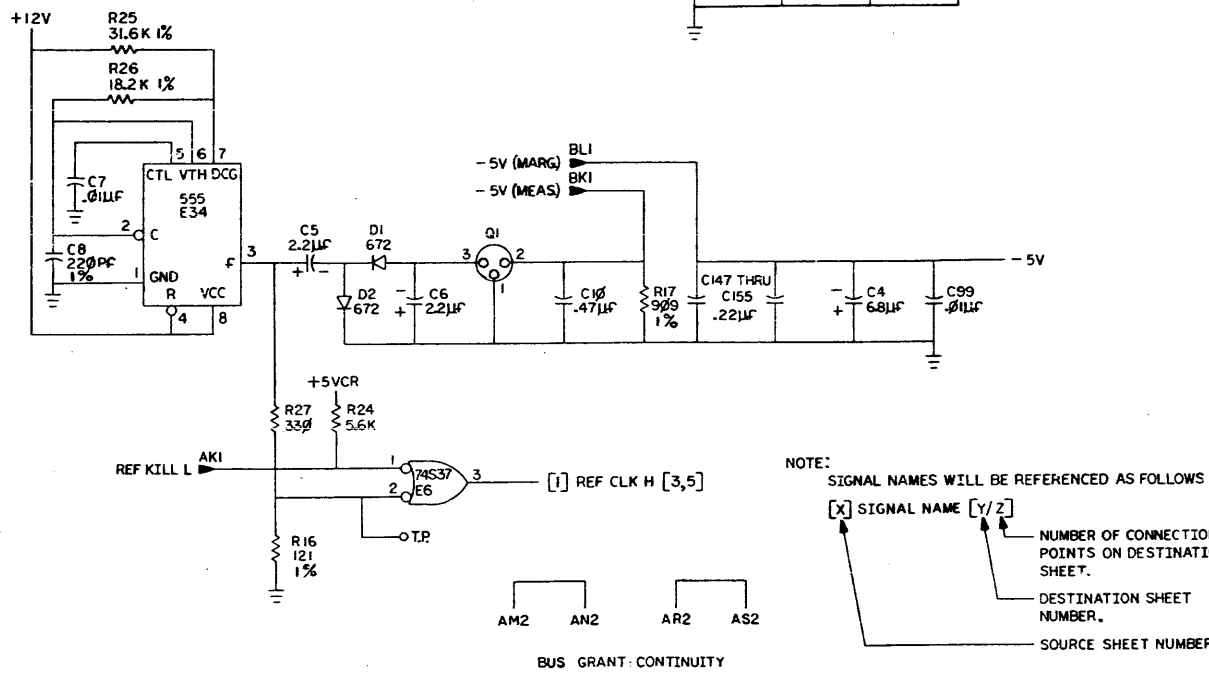
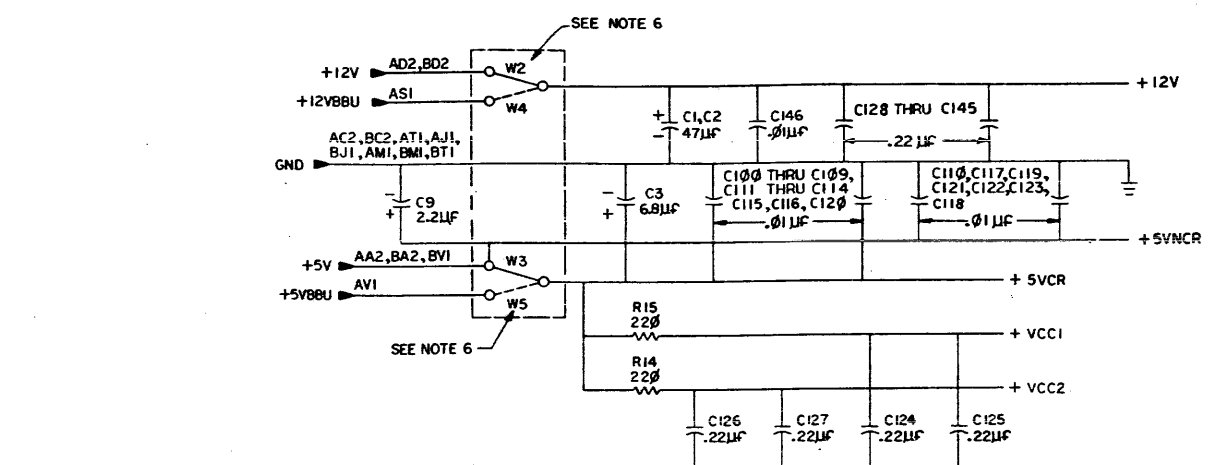
8.

OPTION DESIGNATION	PRIMARY VARIATION	SYSTEM DESCRIPTION
MSVII-DA	M8044-AA	4K X 16 BITS
MSVII-DB	M8044-BA	8K X 16 BITS
MSVII-DC	M8044-CA	16K X 16 BITS
MSVII-DD	M8044-DA	32K X 16 BITS

9.

IC TYPE	+5V	GND	+12V	-5V
555	1	8		
MOS	9	16	8	1
74S373	20	10		
74LS393	14	7		
74S280	14	7		
74S74	14	7		
74S100	14	7		
74S11	14	7		
8641	16	8		
8640	8	1		
74S240	20	10		
74S37	14	7		
74S22	14	7		
1KX4 PROM	18	9		
74S02	14	7		
74LS75	5	12		
74S32	14	7		
74LS10	14	7		
74LS240	20	10		

10. THESE I.C.'S USED ONLY IN 8K & 32K CONFIG'S.

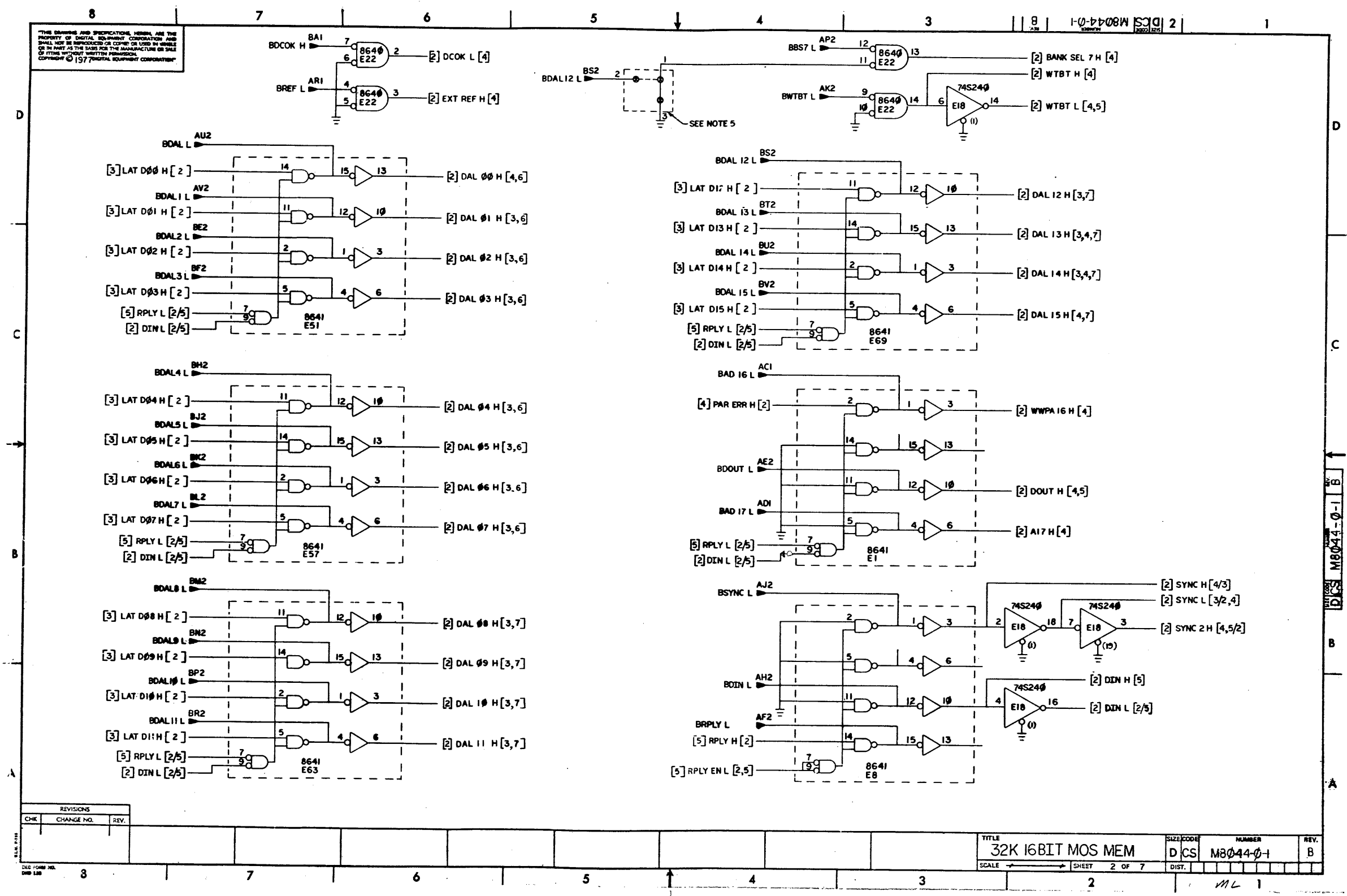


NOTE:  
[X] SIGNAL NAME [Y/Z]  
NUMBER OF CONNECTION  
POINTS ON DESTINATION  
SHEET.  
DESTINATION SHEET  
NUMBER.  
SOURCE SHEET NUMBER.

REV.	DATE	BY	CHKD
1	10/14/78	R. GIVEN	R. GIVEN
2	11/17/78	R. GIVEN	R. GIVEN

DRN. DATE	10-25-78	FIRST USED ON	MSVII-D
CHK'D R. GIVEN	2-21-78	TITLE	32K 16BIT MOS MEM
ENG. R. GIVEN	2-21-78	SIZE CODE	D CS
PROJ. ENG. R. GIVEN	2-21-78	NUMBER	M8044-01
PROD. R. GIVEN	2-21-78	REV.	B
NEXT HIGHER ASSY.		SCALE	1 OF 7
B-DD-M8044-0		DIST.	

THE 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 © 1977 DIGITAL EQUIPMENT CORPORATION

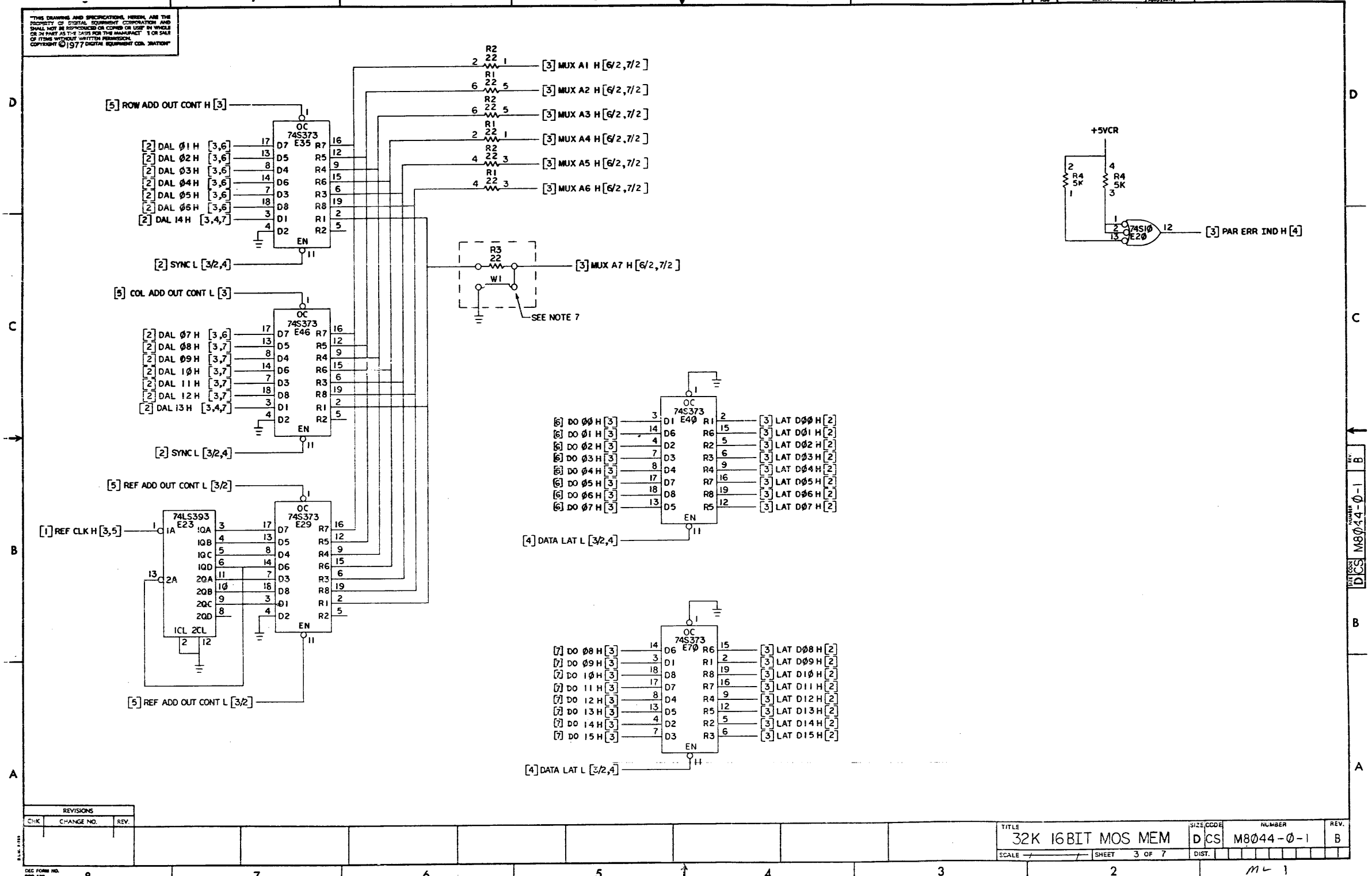


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	32K 16BIT MOS MEM	SIZE/CODE	D CS	NUMBER	M8044-0-1	REV.	B
SCALE	→	SHEET	2 OF 7	DIST.			



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 © 1977 DIGITAL EQUIPMENT CORPORATION.



REVISIONS		
CHK	CHANGE NO.	REV.

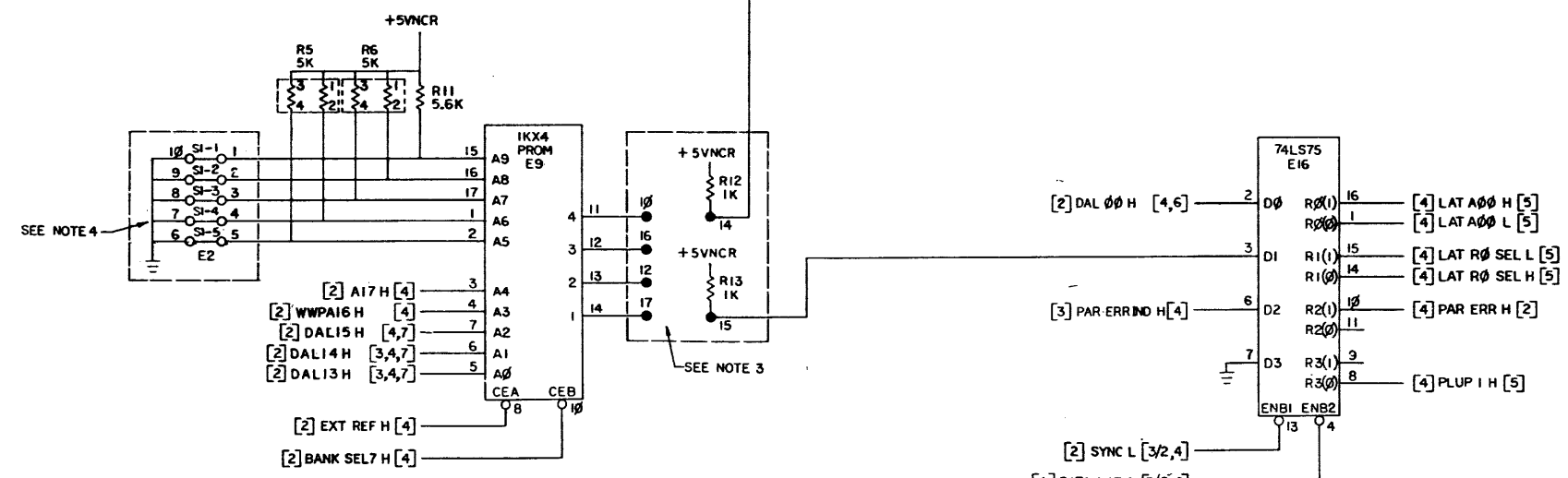
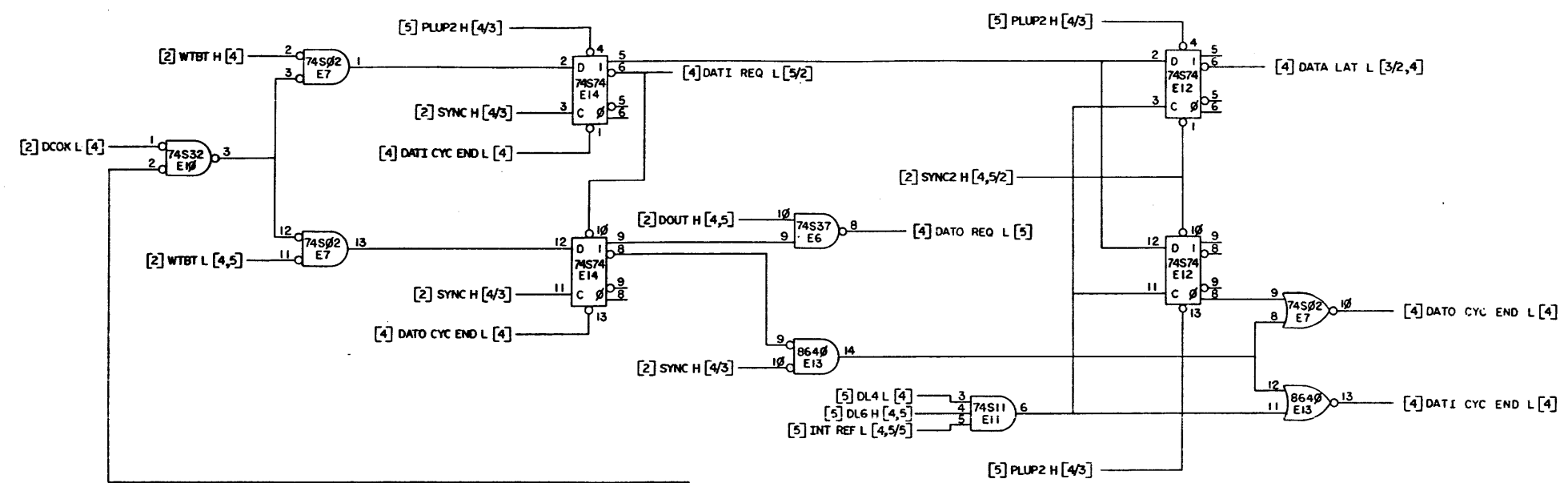
TITLE	SIZE/CODE	NUMBER	REV.
32K 16BIT MOS MEM	D CS	M8044-0-1	B
SCALE	SHEET	DIST.	
	3 OF 7		

9 7 6 5 4 3 2 M-1

245



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 © 1977 DIGITAL EQUIPMENT CORPORATION



SEE NOTE 4

SEE NOTE 3

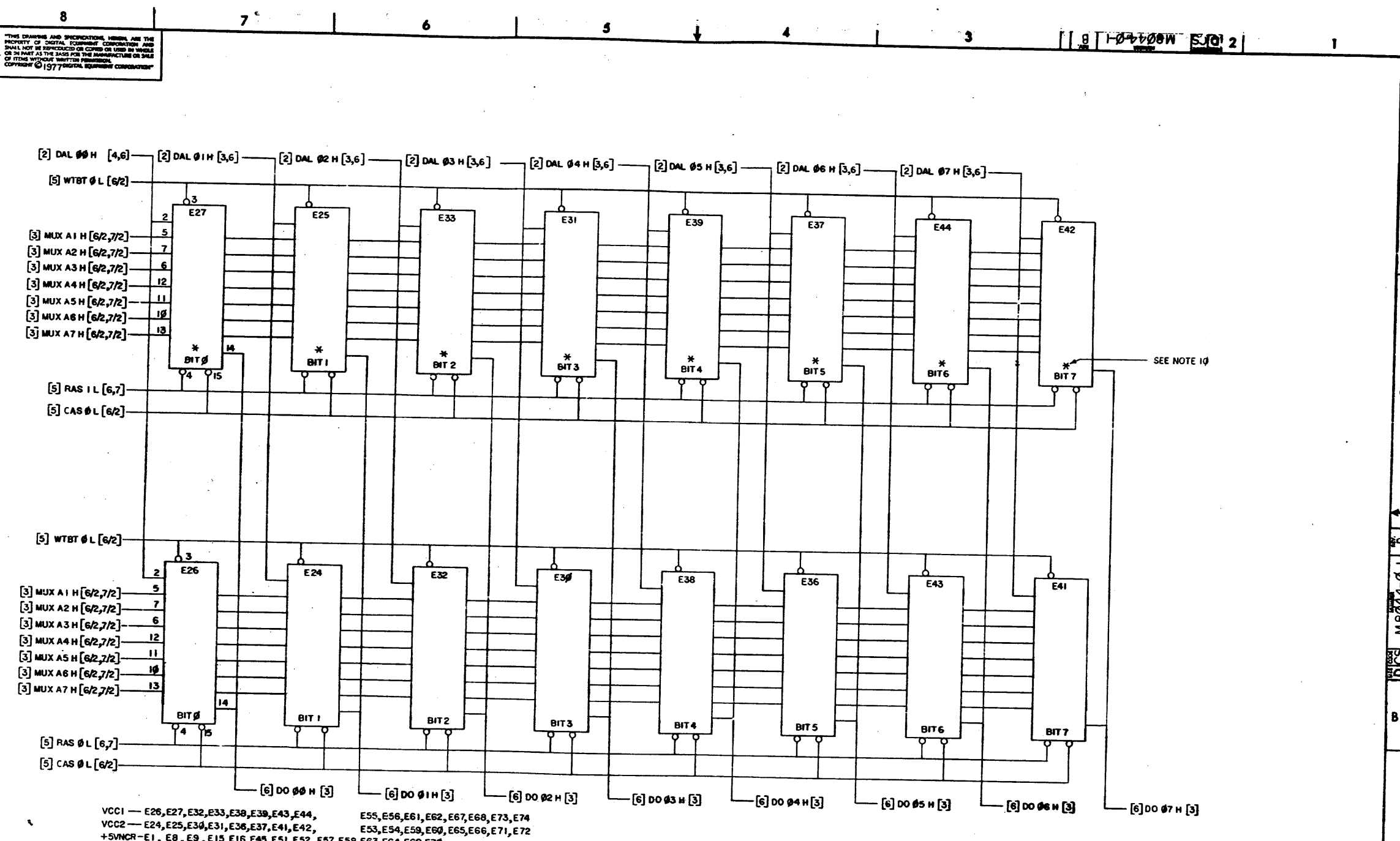
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	32K 16 BIT MOS MEM	SIZE/CD	D/CS	NUMBER	M8044-0-1	REV.	B
SCALE	/ /	SHEET	4 OF 7	DIST.			

246



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 © 1977 DIGITAL EQUIPMENT CORPORATION

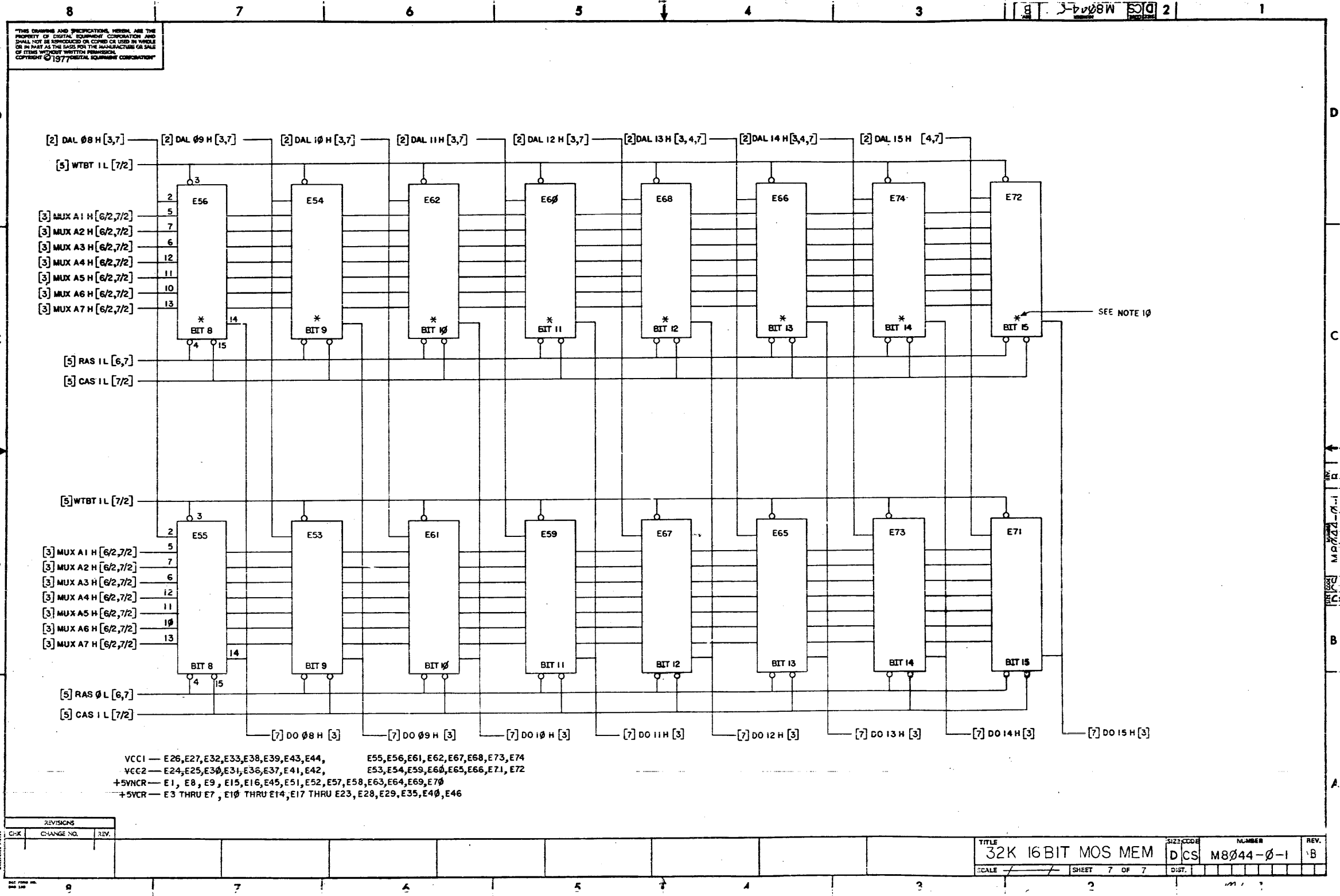


VCC1 — E26, E27, E32, E33, E39, E39, E43, E44, E55, E56, E61, E62, E67, E68, E73, E74  
 VCC2 — E24, E25, E30, E31, E38, E37, E41, E42, E53, E54, E59, E60, E65, E66, E71, E72  
 +SVNCR — E1, E8, E9, E15, E16, E45, E51, E52, E57, E58, E63, E64, E69, E70  
 +SVCR — E3 THRU E7, E10 THRU E14, E17 THRU E23, E28, E29, E35, E40, E46

REVISIONS		
CHK	CHANGE NO.	REV.

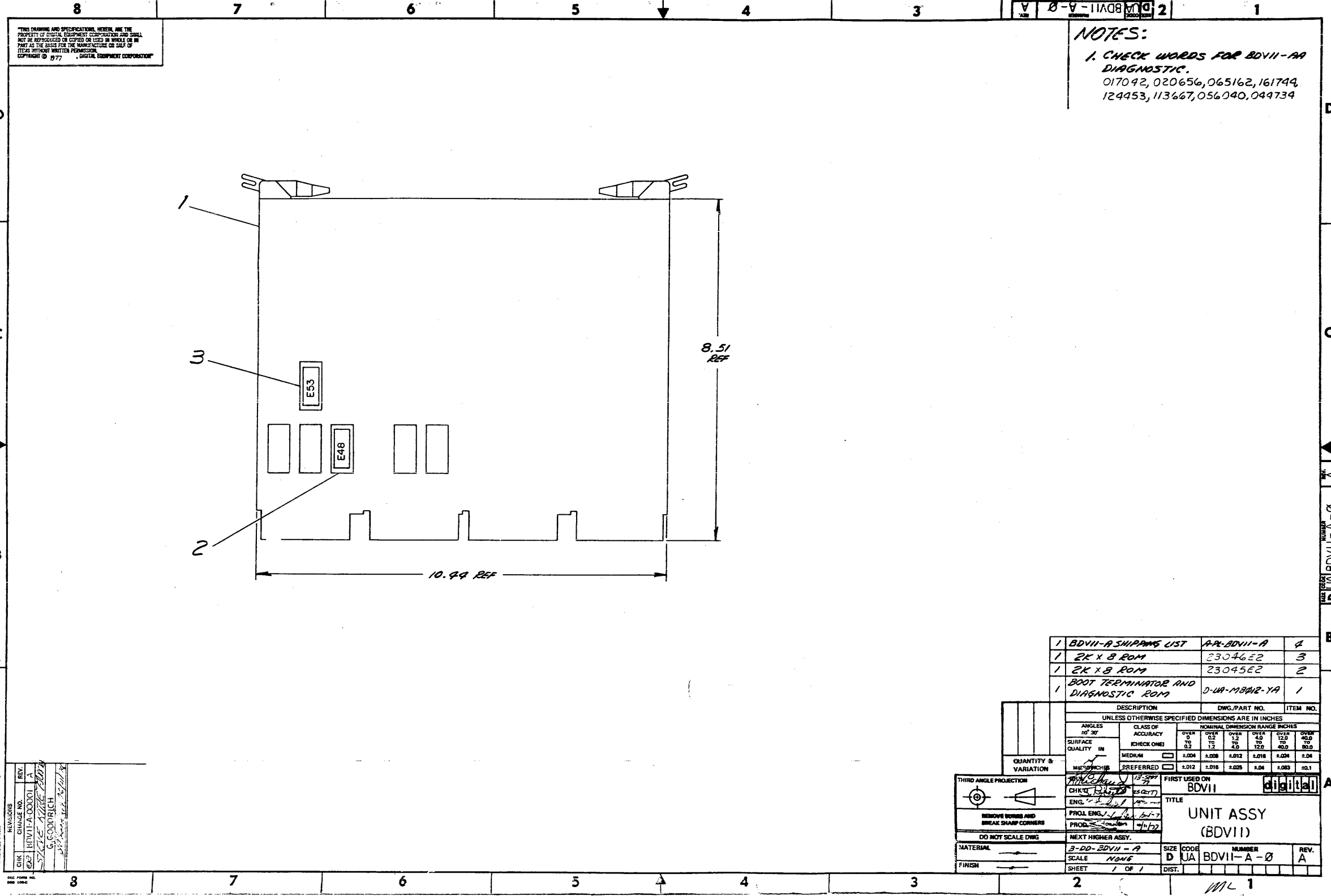
TITLE	32K 16BIT MOS MEM	SIZE CODE	DCS	NUMBER	M8044-0-1	REV.	B
SCALE	1/8"	SHEET	6 OF 7	DATE			

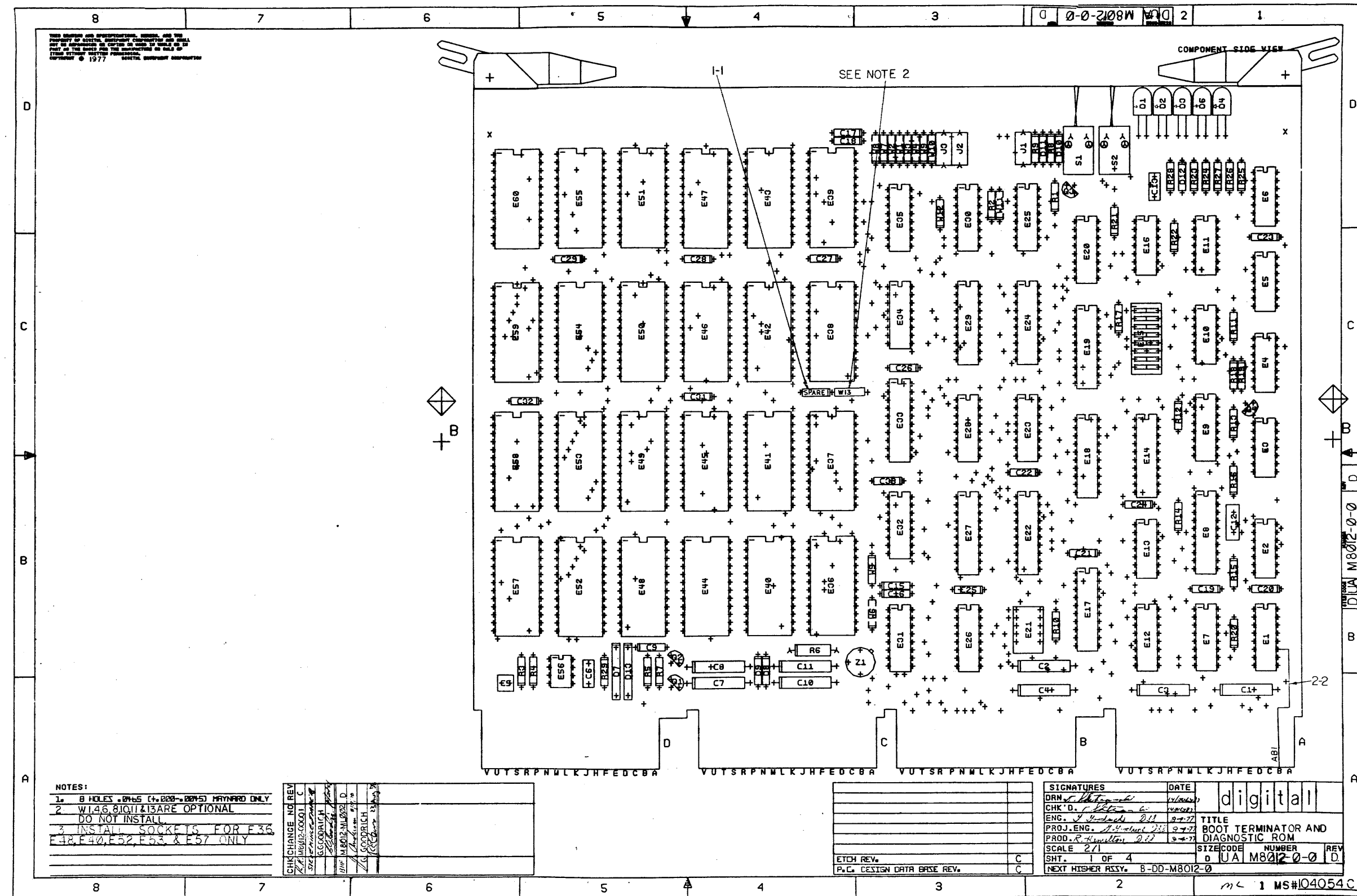
24



249







NOTES:  
 1. 8 HOLES 0.0465 (+.0000-.0015) MAYNARD ONLY  
 2. W1,4,6,8,10,11 & 13 ARE OPTIONAL  
 DO NOT INSTALL  
 3. INSTALL SOCKETS FOR E36,  
 E48, E40, E52, E53 & E57 ONLY

CHK	CHANGE	NO	REV
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	
✓	W1,4,6,8,10,11,13	C	

ETCH REV.	DESIGN DATA BASE REV.
C	C

SIGNATURES	DATE	TITLE
DRN: [Signature]	[Date]	digital
CHK'D: [Signature]	[Date]	BOOT TERMINATOR AND
ENG: [Signature]	[Date]	DIAGNOSTIC ROM
PROJ. ENG: [Signature]	[Date]	
PROD. R. [Signature]	[Date]	
SCALE 2/1		SIZE CODE NUMBER REV
SHT. 1 OF 4		D UA M8012-0-0 D
NEXT HIGHER ASSY. 8-DD-M8012-0		

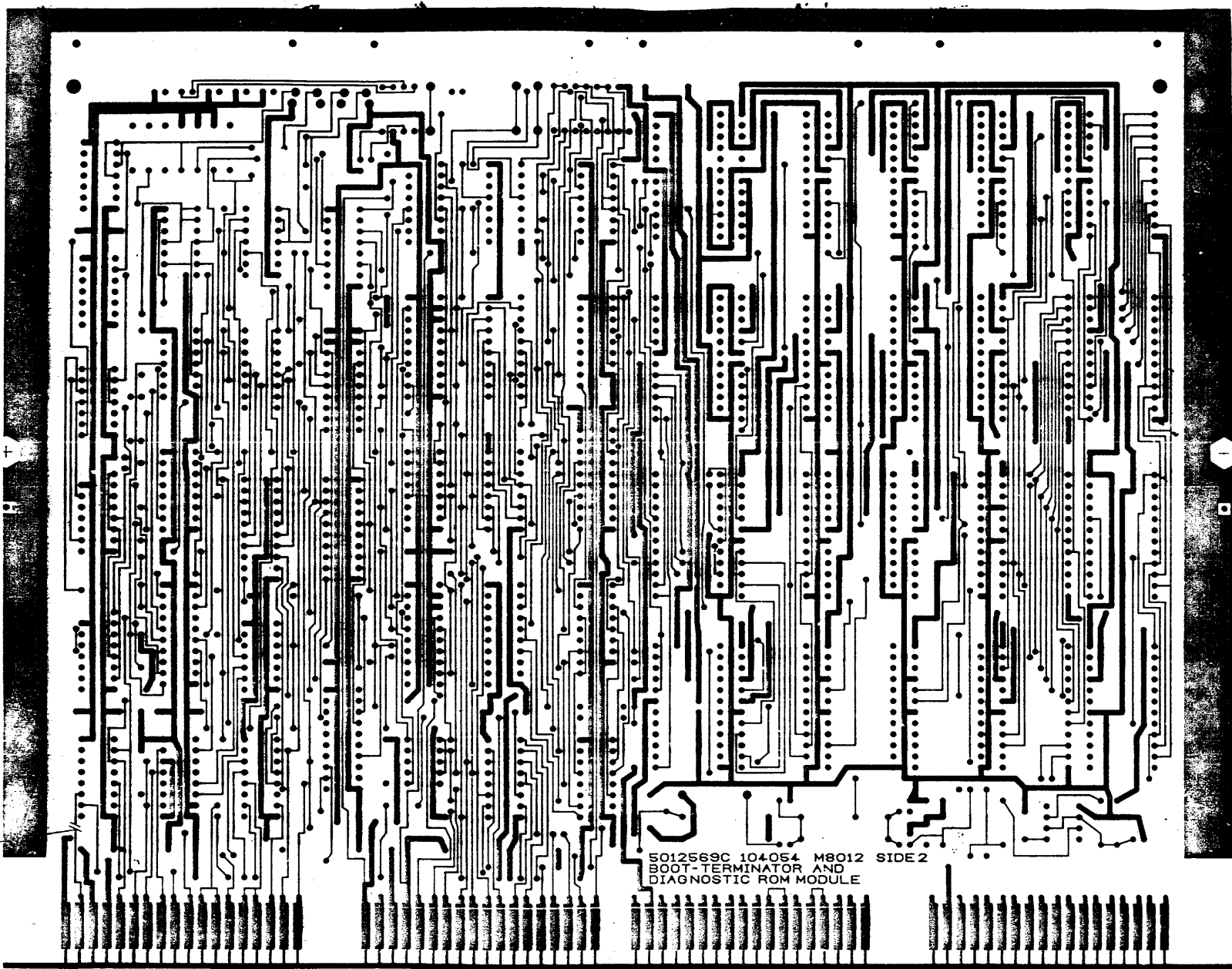
ml 1 MS#104054C

252





THIS DRAWING AND INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN ANY MANNER OF IN PART AT THE BASIS FOR THE MANUFACTURE OF ANY ITEM WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.



5012569C 104054 M8012 SIDE 2  
 BOOT-TERMINATOR AND  
 DIAGNOSTIC ROM MODULE

REPRODUCED FROM SIDE C

REVISIONS		
CHK	CHANGE NO	REV

TITLE	BOOT TERMINATOR & DIAGNOSTIC ROM	SIZE CODE	D 1/4	NUMBER	M8012-4-6
SCALE	1:1	SHEET	3	OF	4
DIST					

254

8

7

6

5

4

3

0-0-2108MPC 2

1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © DIGITAL EQUIPMENT CORPORATION

REWORK INSTRUCTIONS  
ECO #1  
COMPONENT DELETES SIDE 1:  
1-1. DELETE C30, .047µf (PIN 1012784)  
COMPONENT ADDS SIDE 1:

ECO #2  
2-1 CUT ETCH SIDE 2 BETWEEN EØ1  
PIN 11 AND FINGER AB2  
2-2 ADD WIRE SIDE 1 BETWEEN EØ1  
PIN 11 AND FINGER AB1

D

D

C

C

B

B

A

A

REV. D  
M8Ø12-Ø-Ø  
DUA

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	BOOT TERMINATOR AND DIAGNOSTIC ROM	SIZE CODE	DUA	NUMBER	M8Ø12-Ø-Ø	REV.	D
SCALE	2/1	SHEET	4	OF	4	DIST.	

3

7

6

5

4

3

2

1

255

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-NO-5012569-0-0	5012569-00 M8012	1	
2	2	1000024-00	470.0 MMF 100V 5%200PPM DM155 (10-00)	1	C12
3	3	1001610-01	.01 MFD 100V OR 50V Z5U DISC/800PF MIN	2	C6,C13
4	4	1004812-00	15 MFD 20V 10% 1500 S.TA (10-00)	4	C7,C8,C10,C11
5	5	1005300-00	6.8MFD 35V 10% 1500 S.TA (10-00)	4	C1-C4
6	6	1011740-00	5600.0 MMF 50V 10% CW15C CER.	1	C5
7	7	1012784-00	.047 MFD 50V X% CER.	19	C9,C15-C29,C31-C33
8	8	1103441-00	1N 756A VZ= 8.2 5% .40W P	1	D11
9	9	1104860-00	1N 746A VZ= 3.3 5%	1	D10
10	10	1105275-00	D 672 TR= 15NS PIV= 60V SP	3	D8,D9,D12
11	11	1109991-00	1N 754A VZ= 6.8 5% .40W	2	D7,D13
12	12	1110864-00	LED 2MCD@10MA	4	D1-D4
13	13	1114384-00	LED 105MW 35MA GREEN	1	D6
14	14	1210209-00	SW,TOG 1P.01A SUBMINI S	2	S1,S2
15	15	1215006-06	SOCKET 24PIN IC LOW PROFILE	0	
16	16	1211164-01	SW,DIP 1P 1A SPOS	1	E21
17	17	1211164-04	SW,DIP 1P 1A 8POS	1	E15
18	18	1213113-00	HANDLE,MODULE	1	
19	19	1213974-06	JACK 2LINE RED	1	J2
20	20	1213974-07	JACK 2LINE BLACK	1	J1
21	21	1213974-03	JACK 2LINE PURPLE	1	J3
22	22	1300271-00	220 1/4W 5% CC (13-00)	6	R5,R7,R25-R28
23	23	1300365-00	1 K 1/4W 5% CC (13-00)	14	R8,R11-R15,R17-R24
24	24	1300417-00	2.2 K 1/4W 5% CC (13-00)	1	R4
25	25	1301322-00	180 1/4W 5% CC (13-00)	1	R10
26	26	1301890-00	560 1/4W 5% CC (13-00)	2	R1,R2
27	27	1311003-01	R NETWORK 14-180 14-390 S	3	E1,E12,E26
28	28	1309444-00	2.7 1/2W 10% CC (13-00)	1	R6
29	29	1312930-00	5.1 K 1/4W 5% CC (13-00)	2	R3,R16
30	30	1300247-00	120 1/4W 5% CC (13-00)	1	R29

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
CHK	ECO NO	REV	00, YA		MADE BY:	DATE:	TITLE				
R.R	00001	C			A COLON	25-APR-78	PARTS LIST				
BHF	ML002	D			CHECKED:	DATE:	BOOT-TERM & DIAGNOSTIC ROM				
					DSN,ENG.:	DATE:	(00 VARIATION)				
					G GOODRICH	25-APR-78	SIZE:	CODE:	DOCUMENT NUMBER	REV	
					PROD.:	DATE:	K	PL	M8012-0-DBP	D	
					R HAMILTON	25-APR-78	EDIT:				
					RESP,ENG.:	DATE:	ASSY.NO.:	D-UA-M8012-0-0			4
					G GOODRICH	25-APR-78					

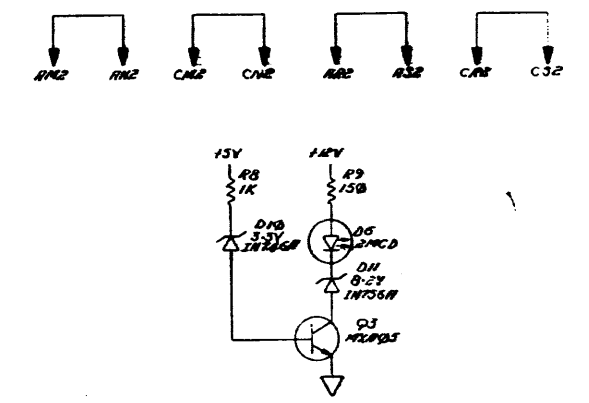
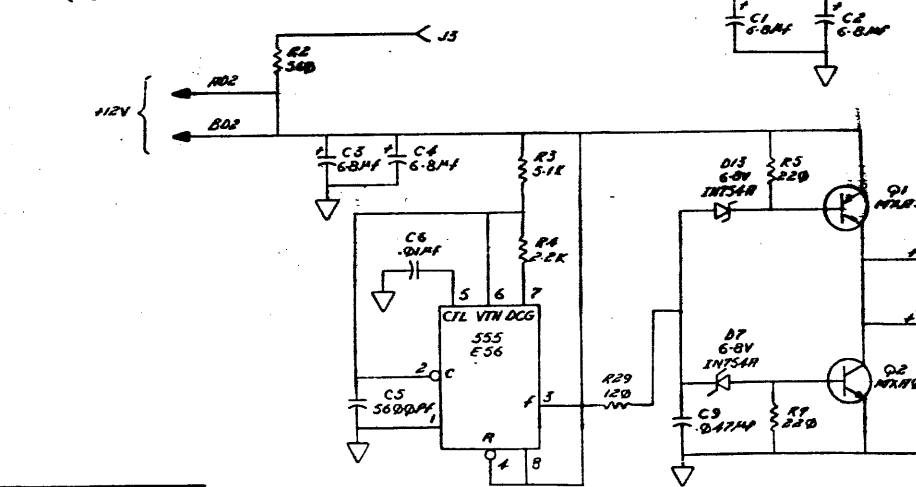
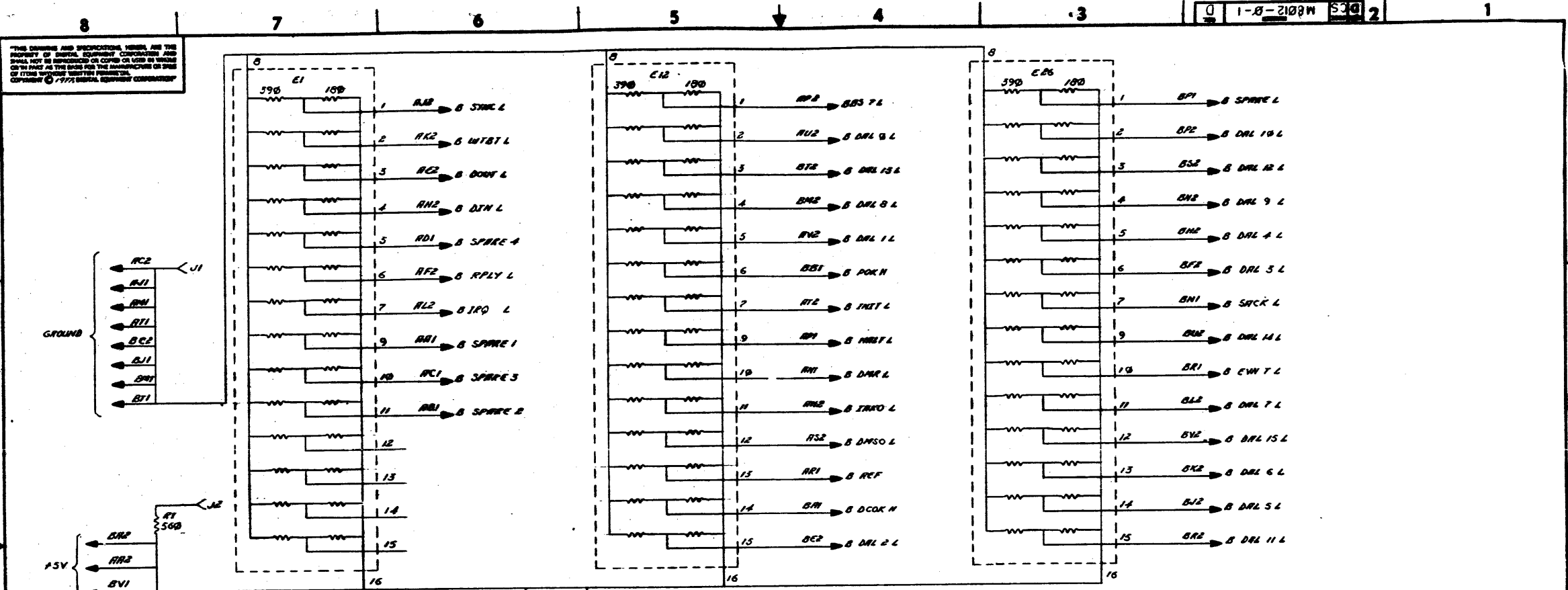
THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.  
COPYRIGHT 1978, DIGITAL EQUIPMENT CORPORATION

256

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
31	31		1300250-00	150 1/4W 5% CC (13-00	1	R9
32	32		1510705-00	XA 05 NPN 500MW SI 60 50 P	3	Q2-Q4
33	33		1510706-00	XA 55 PNP 500MW SI 60 50 P	1	Q1
34	34		1910741-00	7406 INVERTER GATE=HEX 1IN,BUFFER,0	2	E6,E16
35	35		1911579-00	8641 TRANSCEIVER,BUS,QUAD,UNIBUS	1	E7
36	36		1911944-00	555CN TIMER,FUNCT,BLOCK	1	E56
37	37		1912541-00	VOLT,REG,FIX -5V ,02A	1	Z1
38	38		1912647-00	LS257 MUX 1 OF 2 (QUAD) TRI-STA	6	E20,E23,E28,E31,E32,E34
39	39		1912729-00	DC 004 PROTOCOL,REG, SELECTOR	1	E8
40	40		1912803-00	LS04 INVERTER GATE=HEX 1IN	2	E5,E13
41	41		1912807-00	LS10 NAND GATE=TRIPLE 3IN	1	E11
42	42		1912813-00	LS27 NOR GATE=TRIPLE 3IN	3	E2-E4
43	43		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	1	E10
44	44		1912842-00	LS138 DECODER=THREE INPUT,16PIN	1	E35
45	45		1912843-00	LS139 DECODER, 2 OF 4(DUAL)& DEMUX	1	E30
46	46		1912853-00	LS175 FF-D QUAD	1	E25
47	47		1912863-00	LS273 FF-D OCTAL W/CLEAR	3	E27,E29,E33
48	48		1912868-00	LS299 SHIFT REG, 8-BIT UNIVERSAL	2	E22,E24
49	49		1913040-00	DC 005 TRANSCEIVER 48BIT	4	E14,E17-E19
50	50		23208A1-00	A1-03,A1-04,A1-05 PROM,	1	E9
51	51		9009185-00	JUMPER, WIRE, INSULATED, BLACK BAND	6	W2,W3,W5,W7,W9,W12
52	52		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	8	
53	53		1215006-06	SOCKET 24PIN IC LOW PROFILE	6	XE36,XE40,XE48,XE52,XE53,XE57
54	54		9107256-11	TUBING,THIN WALL,.027ID UL (91-00 A/R		
55	55		9105740-55	WIRE(WRAP)30AWG UL1423 (91-00 A/R		

56 NOTE: IF 1215006-06 IS NOT AVAILABLE USE 1210693

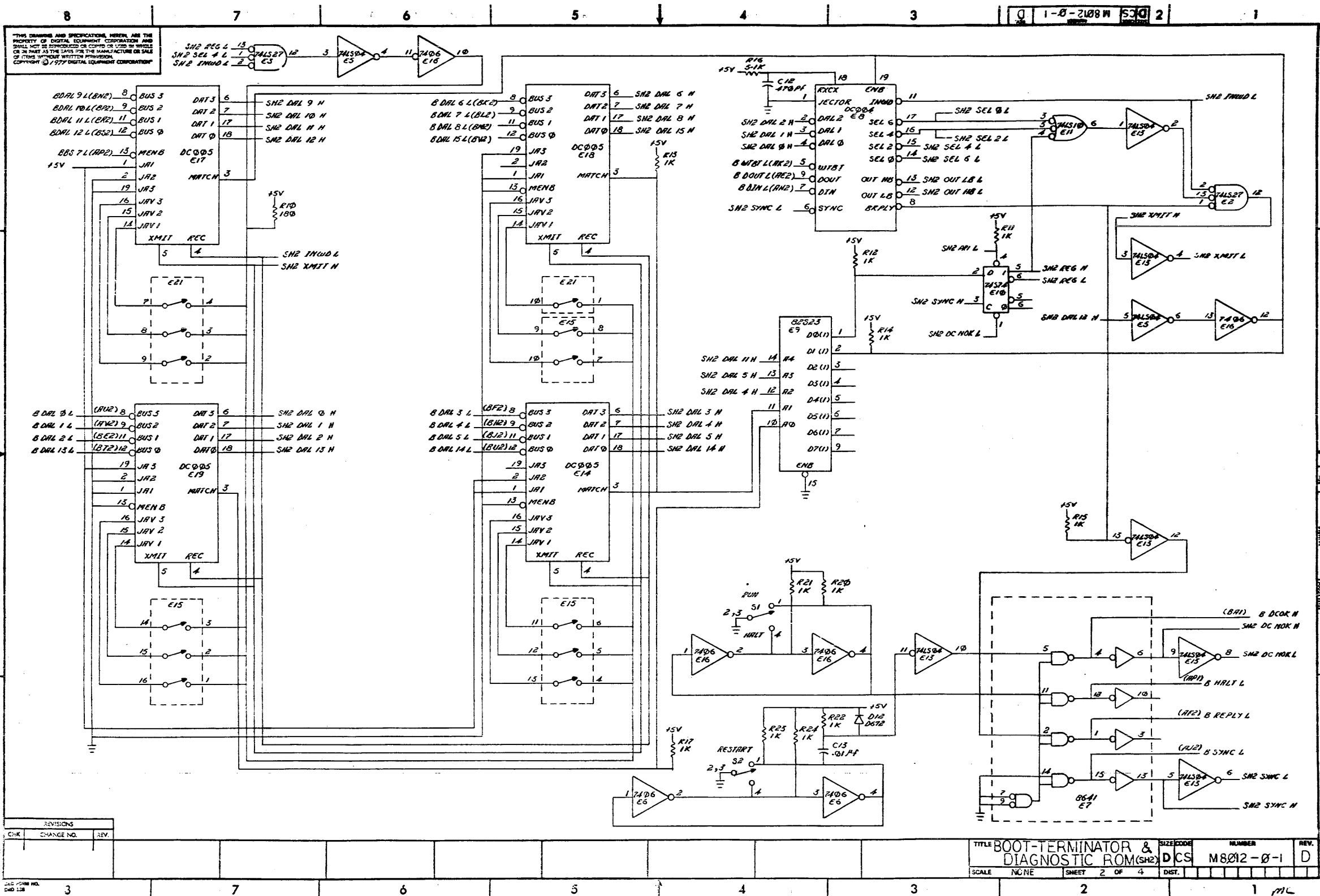
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE PARTS LIST BOOT-TERM & DIAGNOSTIC ROM (00 VARIATION)	SIZE:CODE K PL	DOCUMENT NUMBER M8012-0-DBP	REV D
---	---	-------------------	--------------------------------	----------



REV. C	DATE 12-1-77	BY G. G. GORDON
REV. B	DATE 11-1-77	BY G. G. GORDON
REV. A	DATE 10-1-77	BY G. G. GORDON

DATE 12-1-77	BY G. G. GORDON	REV. C
DATE 11-1-77	BY G. G. GORDON	REV. B
DATE 10-1-77	BY G. G. GORDON	REV. A

DATE 12-1-77	BY G. G. GORDON	REV. C
DATE 11-1-77	BY G. G. GORDON	REV. B
DATE 10-1-77	BY G. G. GORDON	REV. A



CHK	CHANGE NO.	REV.

TITLE: BOOT-TERMINATOR & DIAGNOSTIC ROM(SH2)  
 SIZE: CODE  
 NUMBER: M8012-0-1  
 REV: D  
 SCALE: NONE  
 SHEET: 2 OF 4  
 DIST.

8

7

6

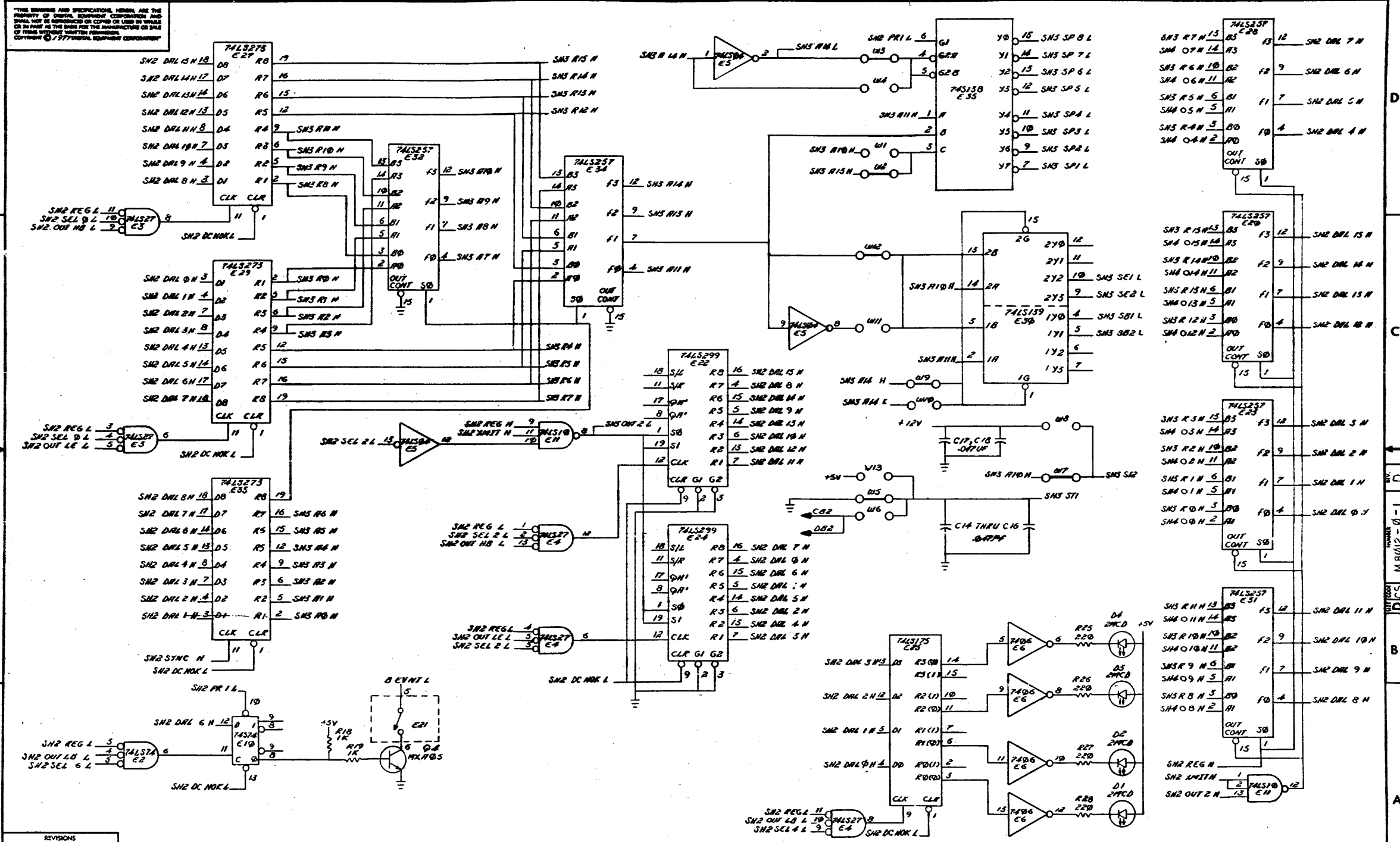
5

4

3

1-0-2100M 2

1



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: BOOT-TERMINATOR & DIAGNOSTIC ROM(S) NUMBER: M8012-0-1 D  
 SCALE: NONE SHEET 3 OF 4 DIST.:

SEC FORM NO. 8

260

8

7

6

5

4

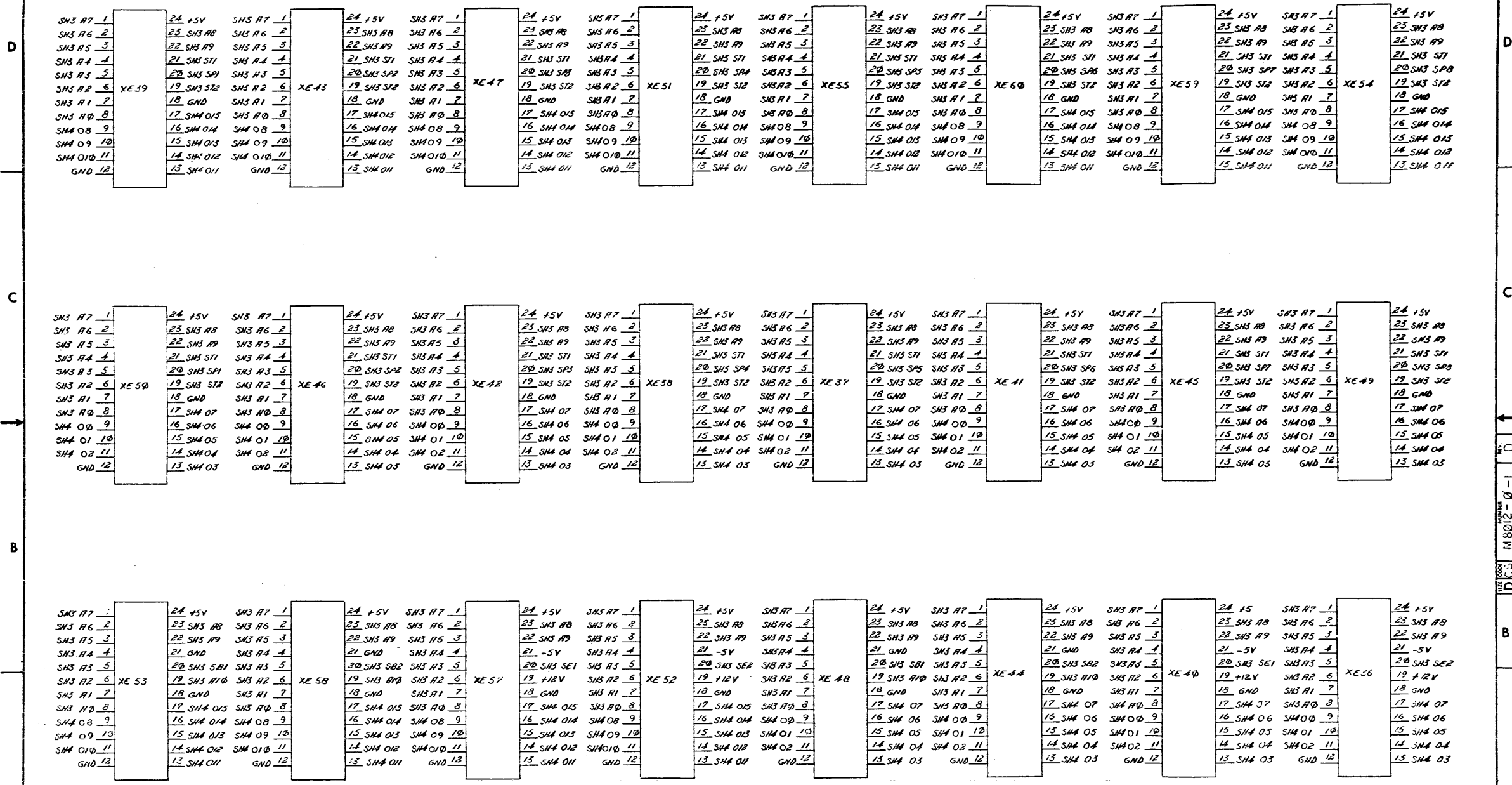
3

1-0-2408 W SCD 2

1

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 © 1977 DIGITAL EQUIPMENT CORPORATION

NOTES: ALL SIGNALS ON THIS SHEET, EXCEPT THOSE CONNECTED TO PIN 20 OF ALL SOCKETS ON THIS SHEET ARE HIGH INPUTS AND OUTPUTS. THE SIGNALS CONNECTED TO PIN 20 OF ALL SOCKETS ON THIS SHEET ARE LOW.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	BOOT-TERMINATOR & DIAGNOSTIC ROM(SH4)	SIZE CODE	DCS	NUMBER	M8012-0-1	REV.	D
SCALE	NONE	SHEET	3	OF	3	DIST.	

3

7

6

5

4

3

2

1



**DIGITAL EQUIPMENT CORPORATION**  
MAYNARD, MASSACHUSETTS

DATE 27-May-77

**ENGINEERING SPECIFICATION**

TITLE M8012 TERM, BOOT AND DISGNOSTIC BOARD - M8012

REVISIONS	
REV	DESCRIPTION
A	ECO CHANGE

CHG NO	ORIG	DATE	APPD BY	DATE
0000	GOODRICH	3-78	<i>Goodrich</i>	4/1/78

ENG *G. Goodrich* APPR *Goodrich* NUMBER M8012-*g-7* REV A  
 DEC 15-1982-10744971 SIZE CODE A SP SHEET 1 OF 10  
 DRA 108

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.

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM, BOOT AND DIAGNOSTIC BOARD

CONTINUATION SHEET

TABLE OF CONTENTS

1.0 GENERAL DESCRIPTION  
 1.1 GENERAL  
 1.2 POWER REQUIREMENTS

2.0 ROM  
 2.1 ROM PAGES  
 2.2 ROM PAGES

3.0 BEVENT CLAMP (RTC DISABLE)  
 3.1 GENERAL  
 3.2 ADDRESS

4.0 MAINTENANCE REGISTERS  
 4.1 READ WRITE REGISTER  
 4.2 DISPLAY REGISTER  
 4.3 SWITCH REGISTER

5.0 TERMINATION/PINOUT

6.0 POWER OK LED, RESTART AND HALT SWITCHES

7.0 ROM CODE

8.0 TEST JACKS

9.0 ROM ADDRESS MAP  
 9.1 MASKED BOOT/DIAGNOSTIC ROM  
 9.2 EPROM  
 9.3 PROGRAM ROM  
 9.4 ADDRESS JUMPERS

10.0 PROGRAM ROM/PROM JUMPERS

NOTE: THE LSI-11 BUS SPECIFICATION (DEC STD-140) IS REFERENCED BY AND SHALL BE CONSIDERED PART OF THIS SPECIFICATION

DEC FORM NO EN-0102-164376-1811  
 DRA 108 SIZE CODE A SP SHEET 2 OF 10 REV A

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

CONTINUATION SHEET

1.0 GENERAL DESCRIPTION

1.1 DESCRIPTION  
 THE M8012 TERMINATOR, ROOTSTAP AND DIAGNOSTIC BOARD IS A QUAD HEIGHT MODULE WHICH INTERFACES WITH THE LSI-11 BUS. IT PROVIDES THE FOLLOWING FEATURES:

A) ROM SPACE FOR ROOTSTAP/DIAGNOSTIC AND OTHER PROGRAMS.

B) A 12 BIT READABLE SWITCH REGISTER

C) A 16 BIT READ WRITE REGISTER

D) A PROGRAMMABLE RTC ENABLE

E) A POWER OK LED

F) A 4 LED DISPLAY REGISTER

G) RESTART AND HALT SWITCHES

H) 120 OHM LSI-11 BUS TERMINATION

1.2 POWER REQUIREMENTS

TYPICAL	MAX
+5 VOLTS 1.25 AMPS	1.6 AMPS
+12 VOLTS 0.05 AMPS	0.07 AMPS

NOTE: POWER MUST BE ADDED FOR ANY ROMS USED.

DEC FORM NO EN-0102-164376-1811  
 DRA 108 SIZE CODE A SP SHEET 3 OF 10 REV A

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

CONTINUATION SHEET

2.0 ROM

2.1 ROM  
 THE M8012 PROVIDES 2K WORDS OF MASKED ROM SOCKETS FOR ROOTSTAPS AND DIAGNOSTICS WITH PADS FOR AN ADDITIONAL 2K WORDS FOR FUTURE USE.  
 IT ALSO PROVIDES SOCKETS FOR 4 2708 EPROMS (2K WORDS) AND PADS FOR 16 8146/2716 (16K WORDS) ROM/EPROM. THESE PADS MAY BE USED FOR 2709 EPROMS (8K WORDS) BY CHANGING JUMPERS AND SUPPLYING -5 VOLT POWER THRU PINS CB2 AND DB2.  
 THE M8012-YA PROVIDES SOCKETS FOR THE ADDITIONAL 2K OF BOOT/DIAGNOSTIC ROMS AND FOR THE PROGRAM ROM/EPROM.

2.2 ROM PAGES  
 ALL ROM IS ACCESSED IN A PAGED FORMAT OF 2 128 WORD PAGES AT THE FOLLOWING BUS ADDRESSES  
 173000 10 173377 LOW PAGE  
 173400 10 173777 HIGH PAGE

DEC FORM NO EN-0102-164376-1811  
 DRA 108 SIZE CODE A SP SHEET 4 OF 10 REV A

262

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

TO CONTROL MAPPING OF THESE PAGES INTO PHYSICAL ROM ADDRESSES A PAGE CONTROL REGISTER IS USED AT BUS ADDRESS 172520. THIS REGISTER IS WORD OR BYTE ADDRESSABLE AND MAY BE READ OR WRITTEN AND IS CLEARED UPON THE NEGATION OF BDCOK.

THE PHYSICAL ROM ADDRESS IS GENERATED BY LATCHING DAL1-DAL7 AT SYNC AS A0-A6 AND USING THE LOW OR HIGH BYTE OF THE PAGE REGISTER (DEPENDING IF BUS ADDRESS IS IN LOW OR HIGH PAGE) AS A7-A14. TWO ROMS ARE ACCESSED AT A TIME, ONE AS LOW BYTE AND ONE AS HIGH BYTE.

NOTE THAT ANY PAGE IN PHYSICAL ROM MAY BE ACCESSED THROUGH THE LOW OR HIGH BUS PAGE.

IF THE BUS ADDRESS IS BETWEEN:

173000 AND 173377

173400 AND 173777

ROM ADR=SOURCE

ROM ADR=SOURCE

A0=	DAL1 (LATCHED)	A0=	DAL1 (LATCHED)
A1=	DAL2	A2=	DAL2
A2=	DAL3	A3=	DAL3
A3=	DAL4	A4=	DAL4
A4=	DAL5	A5=	DAL5
A5=	DAL6	A6=	DAL6
A6=	DAL7	A7=	BITS (PAGE REG)
A7=	BITO (PAGE REG)	A8=	BIT9
A8=	BIT1	A9=	BIT10
A9=	BIT2	A10=	BIT11
A10=	BIT3	A11=	BIT12
A11=	BIT4	A12=	BIT13
A12=	BIT5	A13=	BIT14
A13=	BIT6	A14=	BIT15
A14=	BIT7		

WHERE PHYSICAL ROM ADDRESS BIT= SOURCE

DEC FORM NO EN-01022-14-N370-1381  
DRA 108

SIZE CODE A SP  
NUMBER M8012-9-7  
REV A  
SHEET 5 OF 10

DEC FORM NO EN-01022-14-N370-1381  
DRA 108

SIZE CODE A SP  
NUMBER M8012-9-7  
REV A  
SHEET 6 OF 10

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

**ENGINEERING SPECIFICATION**

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

5.0 TERMINATION/PINOUT

ALL BUS LINES ARE TERMINATED BY A RESISTOR NETWORK OF 180 OHMS TO +5 AND 390 OHMS TO GND.

THE FINOUT AND BUS DRIVER/RECEIVER CHARACTERISTICS COMPLY WITH THE LSI-11 BUS SPECIFICATION (DEC STD-140)

6.0 POWER OK LED, RESTART AND HALT SWITCHES

A GREEN EDGE MOUNTED POWER OK LED IS PROVIDED AND IS LIGHTED WHEN +12 IS GREATER THAN 10 VOLTS AND +5 IS GREATER THAN 4V VOLTS. A EDGE MOUNTED SWITCH (S2) REBOOTS THE SYSTEM BY DEASSERTING BACK FOR A NOMINAL 2 USEC WHEN IT IS CYCLED BACK AND FORTH ONCE. A SECOND EDGE MOUNTED SWITCH (S1) ASSERTS BHALT WHEN POSITIONED WITH ITS LEVER AWAY FROM THE LED DISPLAY.

7.0 ROM CODE

SEE DIAGNOSTIC ENGINEERING DESIGN PLAN FOR THE BDV11-AA DIAGNOSTIC ROM, DIAGNOSTIC RETRIVAL NUMBER HP-046-10-558 FOR BOOTSTRAP/DIAGNOSTICS AND RESTRICTIONS ON EPROM AND PROGRAM ROM CODE

8.0 TEST POINTS

TIP JACKS ARE PROVIDED TO ALLOW MEASUREMENT OF THE 5 AND 12 VOLT POWER SUPPLIES. THE 5 AND 12 VOLT TEST JACKS HAVE A 560 OHM SERIES RESISTOR TO PREVENT DAMAGE BY ACCIDENTAL SHORTS.

JACK	FUNCTION	COLOR
J1	GND	BLACK
J2	+5	RED
J3	+12	PURPLE

DEC FORM NO EN-01022-14-N370-1381  
DRA 108

SIZE CODE A SP  
NUMBER M8012-9-7  
REV A  
SHEET 7 OF 10

DEC FORM NO EN-01022-14-N370-1381  
DRA 108

SIZE CODE A SP  
NUMBER M8012-9-7  
REV A  
SHEET 8 OF 10

3.0 BEVENT CLAMP (REAL TIME CLOCK DISABLE)

3.1 GENERAL

A SINGLE BIT WRITE ONLY REGISTER CLAMPS BEVENT1 LOW WHEN CLEARED. THIS ALLOWS PROGRAM CONTROL OF THE LSI-11 LINE TIME CLOCK FUNCTION. REGISTER IS CLEARED UPON NEGATION OF BDCOK. THE M8012 MODULE MUST BE LOCATED IN THE BACKPLANE PROVIDING BEVENT FOR PROPER OPERATION OF THIS FUNCTION. IT MAY BE DISABLED BY SWITCH SELECTION. SWITCH #5 OF E21 DISABLES THIS FUNCTION WHEN OFF.

3.2 ADDRESS

177546 BIT 6 BEVENT CLAMPED WHEN CLEAR (RTC OFF)

4.0 MAINTENANCE REGISTERS

4.1 READ WRITE REGISTER

A SIXTEEN BIT READ WRITE REGISTER IS PROVIDED AT ADDRESS 177522 FOR DIAGNOSTICS. THE REGISTER IS WORD OR BYTE ADDRESSABLE AND IS CLEARED UPON NEGATION OF BDCOK.

4.2 DISPLAY REGISTER

A 4 BIT WRITE ONLY REGISTER AT ADDRESS 177524 CONTROLS A 4 LED EDGE MOUNTED RED DISPLAY USED FOR DIAGNOSTICS. BITS 0-3 CORRESPOND TO D1 TO D4 WITH A SET BIT TURNING THE RESPECTIVE LED OFF. THE REGISTER IS CLEARED (ALL LEDS ON) UPON NEGATION OF BDCOK.

4.3 SWITCH REGISTER

A 12 BIT READ ONLY REGISTER AT ADDRESS 177524 IS USED FOR MAINTENANCE AND SYSTEM CONFIGURATION (BITS 0-11). NOTE THAT THIS ADDRESS IS SHARED WITH THE DISPLAY REGISTER. E15 SWITCHES 1-8 CORRESPOND TO BITS 0-7 AND E21 SWITCHES 1-4 CORRESPOND TO BITS 8-11 WITH A ON SWITCH READ AS A 1 AND AN OFF SWITCH AS A 0.

9.0 ROM ADDRESS MAP

SEE SECTION 9.4 FOR DESCRIPTION OF CHARACTERS USED TO BRACKET ADDRESSES IN 9.1 TO 9.3

9.1 MASKED BOOT/DIAGNOSTIC ROM

HIGH BYTE	LOW BYTE	CHIP ADDRESS
I E53	I E4B	0-2K, (4K-6K) BOOT/DIAG
I E58	I E44	2K-4K, (6K-8K) RESERVED [18K-20K], <22K-24K>

9.2 EPROM SOCKETS (INTERNAL -5V POWER)

I E57	I E40	4K-5K, (0-1K) <16K-17K>, <20K-21K>
I E59	I E36	5K-6K, (1K-2K) <17K-18K>, <21K-22K>
I E54	I E49	16K-18K, (16K-17K) 10-2K1, 10-1K*
I E59	I E49	18K-20K, (18K-19K) 12K-4K1, 11K-2K*

9.3 PROGRAM ROM/EPROM

263

**ENGINEERING SPECIFICATION**

digital

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

9.2 PROGRAM ROM/EPROM CONTINUED

HIGH BYTE	LOW BYTE	CHIP ADDRESS
I I I E60 I I I	I I I E41 I I I	20K-22K, !20K-21K! :4K-6K!, *4K-5K*
I I I E55 I I I	I I I E37 I I I	22K-24K, !22K-23K! :6K-8K!, *6K-7K*
I I I E51 I I I	I I I E38 I I I	24K-26K, !17K-18K! :8K-10K!, *1K-2K*
I I I E47 I I I	I I I E42 I I I	26K-28K, !19K-20K! :10K-12K!, *3K-4K*
I I I E43 I I I	I I I E46 I I I	28K-30K, !21K-22K! :12K-14K!, *5K-6K*
I I I E39 I I I	I I I E50 I I I	30K-32K, !23K-24K! :14K-16K!, *7K-8K*

SIZE CODE NUMBER REV  
A SP M8012-0-7 A

**ENGINEERING SPECIFICATION**

digital

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

9.4 ADDRESS JUMPERS

THE CHARACTERS USED TO BRACKET VARIOUS ADDRESSES IN SECTIONS 9.1 TO 9.3 CORRESPOND TO THOSE IN THE TABLE BELOW. FOR EACH JUMPER COMBINATION LISTED BELOW A GIVEN CHIP WILL BE SELECTED AT THE ADDRESSES INDICATED BY THE BRACKETS

CHAR	W1	W2	W3	W4	W9	W10	W11	W12
NONE	R	I	I	R	I	R	R	I
( )	X	X	X	X	I	R	I	R
[ ]	X	X	X	X	R	I	R	I
< >	X	X	X	X	R	I	I	R
! !	I	R	I	R	X	X	X	X
: :	R	I	R	I	X	X	X	X
* *	I	R	R	I	X	X	X	X

I=INSTALLED R=REMOVED X=DON'T CARE

NOTE: JUMPERS MUST NOT BE CONFIGURED AND CHIPS INSTALLED SUCH THAT 2 CHIPS RESPOND TO THE SAME ADDRESS.

10.0 PROGRAM ROM/EPROM JUMPERS

	W5	W6	W7	W8	W13	
8316E	I	R	I	R	R	NOTE 1
8316E	R	R	I	R	I	NOTE 2
2716	R	R	I	R	I	NOTE 3
2708	R	I	R	I	R	NOTE 4

NOTES:

- (1) CS1=0, CS2=0, CS3=0
- (2) CS1=0, CS2=0, CS3=1
- (3) +5 VOLT ONLY PARTS
- (4) 2708 WITH EXTERNAL -5 SUPPLIED BY CB2 & DB2.

SIZE CODE NUMBER REV  
A SP M8012-0-7 A

264

**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS  
PARTS LIST**

MADE BY R. ROBICHAUD	CHECKED <i>S. Bletts</i>	SECTION
DATE 13 SEP 77	DATE 25 OCT 77	1
ENG <i>S. Robichaud 10/25/77</i>	PROD <i>R. Hamilton</i>	ISSUED SECT.
DATE	DATE 11 Nov 77	1

**QUANTITY VARIATION**

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	BDV11-A														
1	MP00489	BDV11-A FIELD MAINTENANCE PRINT SET	1														

TITLE BDV11-A SHIPPING LIST	ASSY NO. <i>//</i>	SIZE <b>A</b>	CODE <b>PL</b>	NUMBER BDV11-A	REV	ECO NO.
	SHEET 1 OF 1	DIST				

DEC FORM  
DRA 110

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

### FIELD MAINTENANCE PRINT SET

"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 © 1978 DIGITAL EQUIPMENT CORPORATION."

### TABLE OF CONTENTS

RXV21 FLOPPY DISK SYSTEM            B-TC-RXV21- $\phi$ -1  
RXV21 FLOPPY DISK SYSTEM ASSY.    D-UA-RXV21- $\phi$ - $\phi$   
RXV21 LSI-11, RXO2 CONTROLLER    B-DD-M8029- $\phi$   
RXV21 SHIPPING LIST                A-PL-RXV21- $\phi$ -2

#### UNIT VARIATIONS COVERED BY THIS PRINT SET

- RXV21- $\phi$
- RXV21-AA
- RXV21-AC
- RXV21-AD
- RXV21-BA
- RXV21-BC
- RXV21-BD
- RXV21-DA
- RXV21-DC
- RXV21-DD
  
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

# RXV21

## Field Maintenance Print Set

### Digital Equipment Corporation

PRINT SET ORDER NO.  
MP 00628

REV. \_\_\_\_\_  
NUMBER RXV21  $\phi$ -1  
SIZE CODE **TC**

REV	CHG. NO.	DATE	USED ON OPTION/MODEL	DRN.	DATE	TITLE: <b>digital</b>													
			11/03	<i>RPM</i>	8 SEPT 78	RXV21 FLOPPY DISK SYSTEM													
				CHK'D <i>RPM</i>	8 SEPT 78														
				PROJ. ENG. <i>J. Glavin</i>	9-8-78														
				FIELD SERV. <i>J. Martinelli</i>	9-8-78	SIZE <b>B</b>	CODE <b>TC</b>	NUMBER RXV21- $\phi$ - 1	REV.										
			SHEET 1 OF 1			DIST.													

DRB 124



DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS	
				REV.	DATE
B-DD-M8029-0	1		RXV21 LSI 11 RX02 CONTROLLER	*	A
D-UA-M8029-0-0	5		RXV21 LSI 11 RX02 CONTROLLER	B	C
K-PL-M8029-0-DBP	-		PARTS LIST DATA BASE	B	C
D-CS-M8029-0-1	4		RXV21 LSI 11 RX02 CONTROLLER	B	C
D-MD-5013080-0-0	5		DRILL & ETCH DWG.	B	B
		5013080/	ETCH BOARD	C	C
		M8029-0-L	P.C. DESIGN DATA BASE	C	C

**NOTES:**

REVISIONS		REV.
DATE	CHG NO.	
5-78	00001	A

"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 © 1978 DIGITAL EQUIPMENT CORPORATION



USED ON OPTION/MODEL  
RX02

DRN. S. TUTTLE

12/20/77

TITLE RXV21 LSI 11 RX02 CONTROLLER

CHK'D *D. Bosman*

3 JAN 78

ENG. *Jerry L. Ryan*

24 FEB 78

SIZE CODE B DD

NUMBER M8029-0

REV. A

PROD. *M. [Signature]*

23 FEB 78

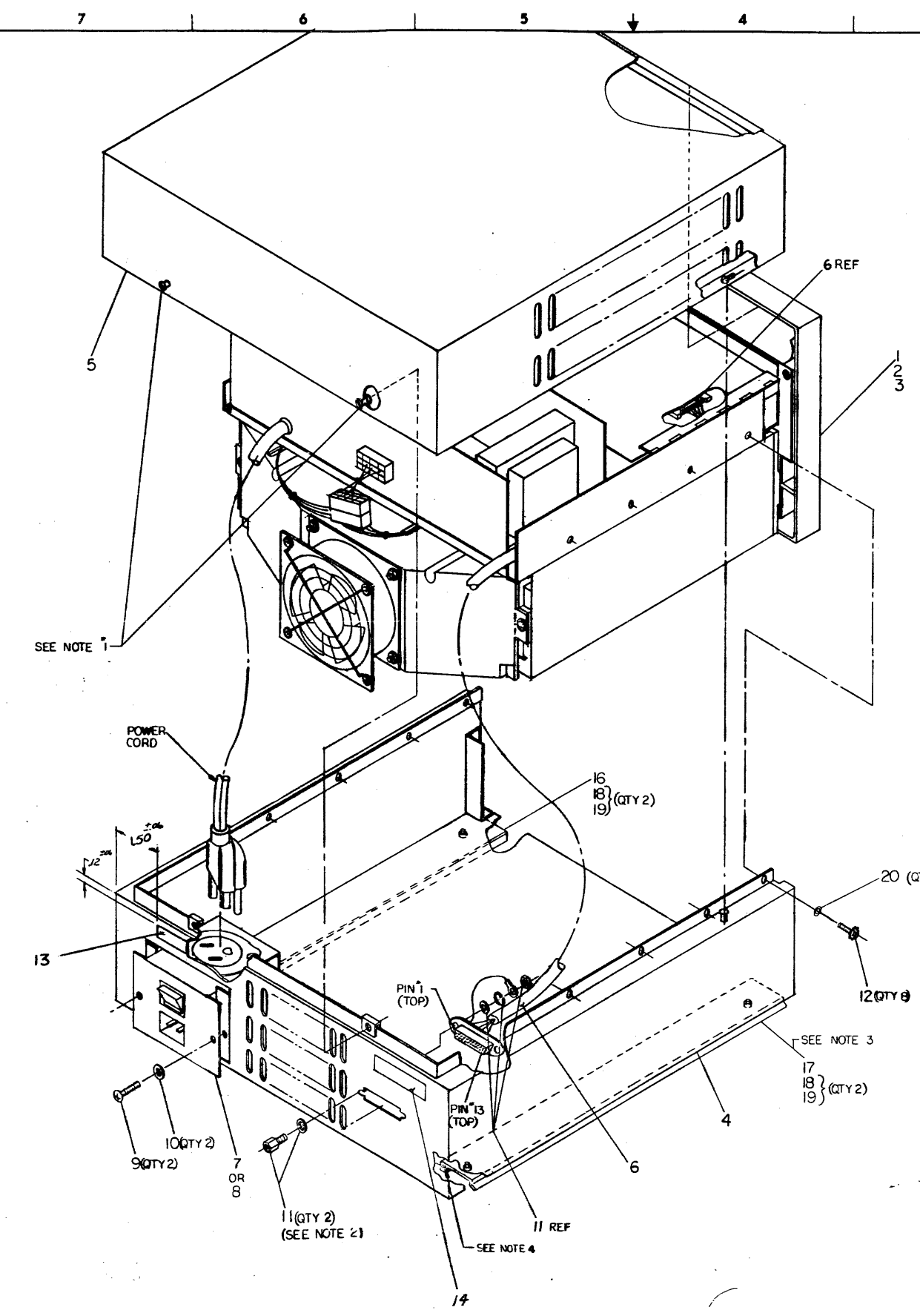
SHEET 1 OF 1

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS <b>PARTS LIST</b>				QUANTITY / VARIATION											
MADE BY ROBERT MORIN		CHECKED <i>R. Morin</i>		SECTION		RXV21-Ø	RXV21-AA	RXV21-AC	RXV21-AD	RXV21-BA	RXV21-BC	RXV21-BD	RXV21-DA	RXV21-DC	RXV21-DD
DATE 5 SEPT '78		DATE 8 SEPT 78		ISSUED SECT.											
ENG <i>R. Morin</i>		PROD <i>M. Durham</i>													
DATE 8 SEPT 78		DATE 9-8-78													
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION													
1	D-UA-M8029-Ø-Ø	RXV21 LSI-11 RX02 CONTROLLER		1	1	1	1	1	1	1	1	1	1	1	
2	E-UA-RX02-Ø-Ø	RX02 FLOPPY DISK DRIVE ASSY.		-	1	1	1	1	1	1	1	1	1	1	
3	C-AD-7012405-Ø-Ø	I/O CABLE ASSY. W/MTG. BRKT.		-	-	-	-	-	-	-	-	1	1	1	
4	D-IA-7412853-Ø-Ø	DUAL DRIVE FRONT PLATE		-	-	-	-	-	-	-	-	1	1	1	
5	A-PL-RXV21-Ø-3	SOFTWARE SHIP LIST		1	1	1	1	1	1	1	1	1	1	1	
TITLE SHIPPING LIST, RXV21				ASSY NO. B-DD-RXV21-Ø		SIZE CODE A PL		NUMBER RXV21-Ø-2				REV.		ECO NO.	
				SHEET 1 OF 1		DIST.									

DEC FORM DEC 16 (325)-1031 N870  
DRA 110



THE DIMENSIONS AND SPECIFICATIONS GIVEN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION © 1977



LEGEND	
NUMBER	VARIATION
RX02M - MA	115V-50 HZ
RX02M - MC	115V-50 HZ
RX02M - MD	230V-50HZ

- NOTE:
1. MAKE 1/4 TURN TO THE LEFT OR TO THE RIGHT TO SECURE COVER. (ITEM 5) TO BASE (ITEM 4)
  2. SCREW LOCK ASSY (ITEM 11) SUPPLIED WITH WASHERS & NUT.
  3. BEFORE TIGHTENING SCREWS FOR SLIDES ITEMS 16 & 17 PUSH SLIDES OUTWARDS.
  4. THREADED PORTION OF ITEMS 16 & 17 TO THE REAR OF ASSY.

QTY	DESCRIPTION	UNIT	QTY
8	WASHER, FLAT #10	9006664	20
4	WASHER, EXT TOOTH #8	9008151	19
4	SCR, PHIL PAN HD #8-32 X .38	9006037-01	18
1	EXTRUSION LEG (RH)	CMD-7A20163-01	17
1	EXTRUSION LEG (LH)	CMD-7A20163-00	16
1	SHR, PRG 1 MST.	3700312	15
1	LABEL, ELE. DATA	3613210	14
1	LABEL, U.L.	A-DC-7414213-0-0	13
8	SCR, SEMS PHL PAN #10-32 X .38	9009228-10	12
2	SCR, LOCK ASSY	900845F-00	11
2	LOCK WASHER #6	9007649-00	10
2	SCR, PHL PAN HD #6-32 X .34	9006021-01	9
1	INPUT BOX ASSY, 230V	DAD-7013858-01	8
1	INPUT BOX ASSY, 115V	DAD-7013858-00	7
1	INTERNAL CABLE	DIA-7014035-0-0	6
1	COVER ASSY	DAD-7013892-0-0	5
1	BASE ASSY	CAD-7013702-0-0	4
1	FLOPPY DISC DRIVE (230V-50HZ)	E-UA-RX02-LD	3
1	FLOPPY DISC DRIVE (115V-50HZ)	E-UA-RX02-LC	2
1	FLOPPY DISC DRIVE (115V-50HZ)	E-UA-RX02-LA	1

<p>THIRD ANGLE PROJECTION</p> <p>TRUCKS, SHIPS AND BREAK SHIP CONSIGNEES</p> <p>20-107 SCALE DIMS</p> <p>MATERIAL: SEE PARTS LIST</p> <p>FINISH: NONE</p>	<p>DATE: 11/27/77</p> <p>CHKD: [Signature]</p> <p>PRD: [Signature]</p> <p>PROJ: [Signature]</p> <p>SCALE: 1/2</p> <p>SHEET: 1 OF 1</p>	<p>DESCRIPTION: UNIT ASSY</p> <p>UNIT NO: RX02M</p> <p>REV: A</p>
---	--	---

REV	DATE	BY
1	11/27/77	AR
2	11/27/77	AR
3	11/27/77	AR
4	11/27/77	AR

270

"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# FIELD MAINTENANCE PRINT SET

"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 © 1978, DIGITAL EQUIPMENT CORPORATION."

## TABLE OF CONTENTS

RX02 FLOPPY DISK DRIVE	B-TC-RX02-0-1
RX02 FLOPPY DISK DRIVE	B-DD-RX02-0
RX02 SHIPPING LIST	A-PL-RX02-0-3
RX02 SOFTWARE LIST	A-PL-RX02-0-4
DISK CONTROLLER BOARD	B-DD-M7744-0
READ/WRITE CONTROL BOARD	B-DD-M7745-0
H771 POWER SUPPLY	B-DD-H771-0
PLENUM/FAN ASSYL	B-DD-7013503-0

UNIT VARIATIONS COVERED BY THIS PRINT SET
RX02-AA
RX02-AC
RX02-AD
RX02-BA
RX02-BC
RX02-BD
RX02-CA
RX02-CC
RX02-DA
RX02-DC
RX02-DD
RX02-LA
RX02-LC
RX02-LD
RX02-NA
RX02-NC
RX02-ND

**RX02  
Field Maintenance  
Print Set**

**Digital Equipment  
Corporation**  
PRINT SET ORDER  
NO. MP 00629

REVISIONS CHG. NO. DATE	REV.		<div style="text-align: right; border: 1px solid black; padding: 2px;">digital</div> <p>TITLE: RX02 FLOPPY DISK DRIVE ASSY.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">SIZE</td> <td style="width: 15%;">CODE</td> <td style="width: 40%;">NUMBER</td> <td style="width: 10%;">REV.</td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">TC</td> <td style="text-align: center;">RX02-0-1</td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">DIST.</td> </tr> </table>	SIZE	CODE	NUMBER	REV.	B	TC	RX02-0-1		DIST.			
	SIZE	CODE		NUMBER	REV.										
	B	TC		RX02-0-1											
	DIST.														
	USED ON OPTION/MODEL	DRN.		DATE											
	RX28	G. MARINI		7/19/78											
	RX211	CHK'D		DATE											
RXV21	G. MARINI	7/19/78													
RX8	PROJ. ENG.	DATE													
RX11	<i>H. Glavin</i>	9-1-78													
RXV11	FIELD SERV.	DATE													
RX78	<i>J.P. Martorella</i>	9-6-78													
SHEET I OF 1															

THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN.

# DRAWING DIRECTORY

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 © 1978 DIGITAL EQUIPMENT CORPORATION.

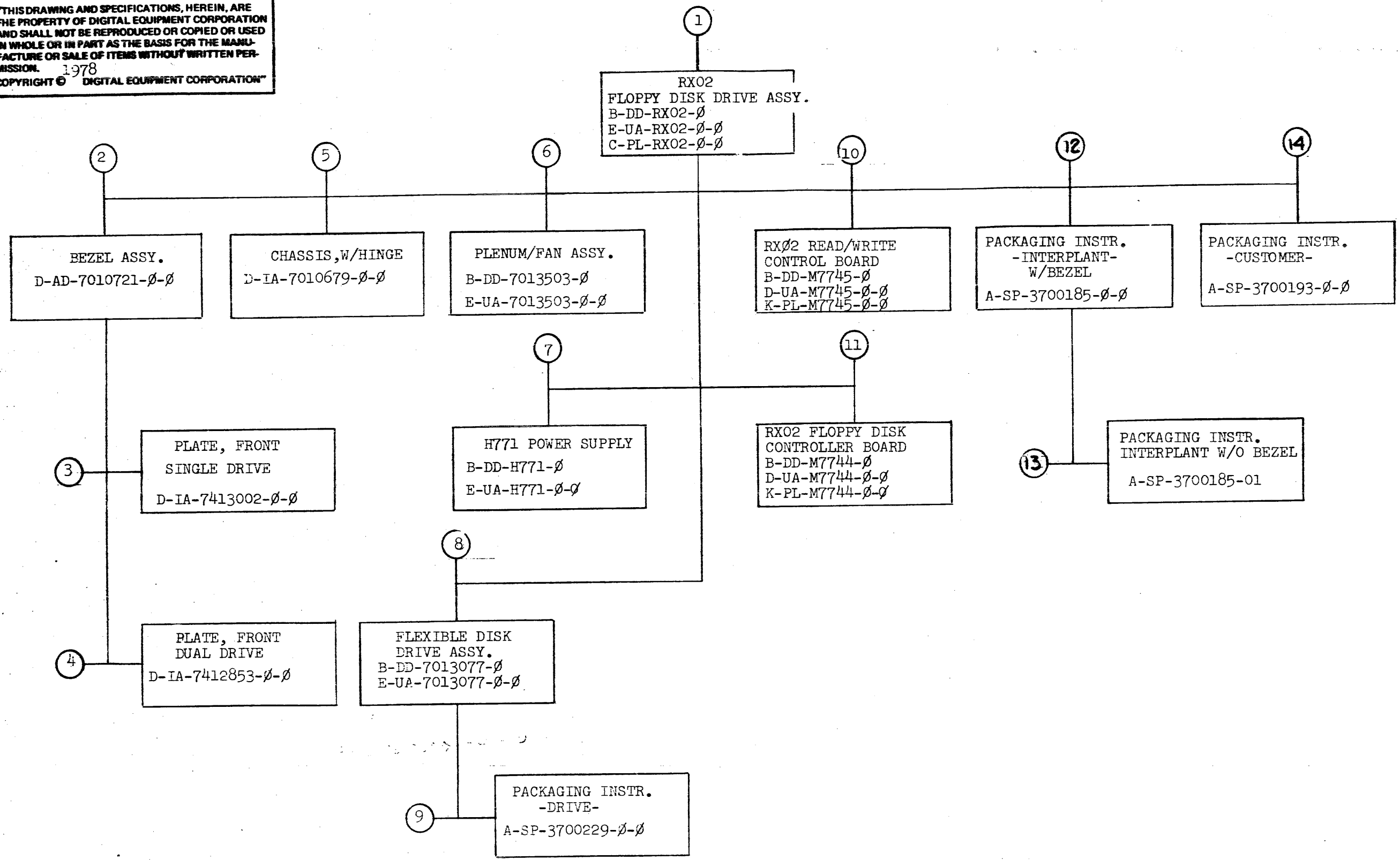
*FOR "TABLE OF CONTENTS"  
LISTING REFER DOCUMENT  
NUMBERED, B-TC-RX02-0-1*

## UNIT VARIATIONS

VAR	TITLE
RX02-AA	SINGLE FLOPPY DISK SYSTEM,110V, 60HZ
RX02-AC	SINGLE FLOPPY DISK SYSTEM,110V, 50HZ
RX02-AD	SINGLE FLOPPY DISK SYSTEM,230V, 50HZ
RX02-BA	DUAL FLOPPY DISK SYSTEM,110V 60HZ
RX02-BC	DUAL FLOPPY DISK SYSTEM,110V, 50HZ
RX02-BD	DUAL FLOPPY DISK SYSTEM,230V, 50HZ
RX02-CA	SINGLE ADD-ON FLOPPY DISK DRIVE - 60HZ
RX02-CC	SINGLE ADD-ON FLOPPY DISK DRIVE - 50HZ
RX02-DA	RX02-BA, W/O BEZEL & COVER
RX02-DC	RX02-BC, W/O BEZEL & COVER
RX02-DD	RX02-BD, W/O BEZEL & COVER
RX02-LA	RX02-BA, W/O SLIDES & COVER
RX02-LB	RX02-BC, W/O SLIDES & COVER
RX02-LC	RX02-BD, W/O SLIDES & COVER
RX02-NA	RX02-AA, W/O SLIDES & COVER
RX02-NC	RX02-AC, W/O SLIDES & COVER
RX02-ND	RX02-AD, W/O SLIDES & COVER

REVISIONS	REV.		USED ON OPTION/MODEL	DRN	<i>J. Marin</i>	DATE	7-19-78	TITLE <b>digital</b> RX02 FLOPPY DISK DRIVE ASSY.						
	CHANGE NO.			CHK'D.	<i>J. Marin</i>	DATE	1 SEPT 78							
				PROJ. ENG.	<i>J. Glavin</i>	DATE	9-1-78							
	CHK			PROD.	<i>M. Dur</i>	DATE	9-1-78							
				SHEET 1 OF 3		DIST.								

"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. 1978  
 COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"



TITLE	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
RX02 FLOPPY DISK DRIVE		B DD	RX02-0	

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	
1	MP-00629	FIELD MAINTENANCE PRINT SET (MP)	-	7	B-DD-H771-Ø	H771 POWER SUPPLY - DRAWING DIRECTORY	-	
	B-TC-RX02-0-1	FIELD MAINTENANCE PRINT SET (TC)	-		E-UA-H771-Ø-Ø	H771 POWER SUPPLY ASSY.	E/M	
	B-DD-RX02-0	RX02 FLOPPY DISK DRIVE ASSY. - DRAWING DIRECTORY	-		D-IA-7010696-Ø-Ø	POWER HARNESS (VARIATIONS)	E/M	
	E-UA-RX02-Ø-Ø	RX02 FLOPPY DISK DRIVE ASSY.	E/M					
	C-PL-RX02-Ø-Ø	RX02 FLOPPY DISK DRIVE ASSY. - PARTS LIST	-					
	A-SP-RX02-0-2	RX02 ENGINEERING SPECIFICATION	E/M					
			E/M	8	B-DD-7013077-Ø	FLEXIBLE DISK DRIVE ASSY. - DRAWING DIRECTORY	-	
	C-IA-7015580-Ø-Ø	CABLE ASSY. - M7744/M7745	E/M		E-UA-7013077-Ø-Ø	FLEXIBLE DISK DRIVE ASSY.	E/M	
	E-IA-7412666-Ø-Ø	COVER, TOP	M		B-PL-7013077-0-0	FLEXIBLE DISK DRIVE ASSY. - P/L	-	
	D-UA-BC05L-Ø-Ø	CABLE, JUMPER	E/M					
	C-MD-7409479-Ø-Ø	PLATE, PRESSURE	M	9	A-SP-3700229-Ø-Ø	PACKAGING INSTRUCTIONS - DRIVE	-	
	C-MD-7413350-Ø-Ø	BRACKET, SHIPPING	M					
	A-PS-1212157-Ø-Ø	SLIDES, CHASSIS	M					
				10	B-DD-M7745-Ø	RX02 READ/WRITE CONTROL BOARD- DRAWING DIRECTORY	-	
2	D-AD-7010721-Ø-Ø	BEZEL ASSY.	M		D-UA-M7745-Ø-Ø	RX02 READ/WRITE CONTROL BOARD - ASSY.	E	
	E-MD-741450-Ø-Ø	BEZEL (DIECAST)	M		K-PL-M7745-Ø-Ø	RX02 READ/WRITE CONTROL BOARD - PARTS LIST	E	
					D-CS-M7745-Ø-1	RX02 READ/WRITE CONTROL BOARD - CIRCUIT SCHEMATIC	E	
3	D-IA-7413002-Ø-Ø	PLATE, FRONT, SINGLE DRIVE	M	11	B-DD-M7744-Ø	RX02 FLOPPY DISK CONTROLLER BD-DRAWING DIRECTORY	-	
	C-SS-7413002-Ø-Ø	SILK SCREEN, SINGLE DRIVE	M		D-UA-M7744-Ø-Ø	RX02 FLOPPY DISK CONTROLLER BD-ASSY.	E	
					K-PL-M7744-Ø-Ø	RX02 FLOPPY DISK CONTROLLER BD. - PARTS LIST	E	
					D-CS-M7744-Ø-1	RX02 FLOPPY DISK CONTROLLER BD. - CIRCUIT SCHEMATIC	E	
4	D-IA-7412853-Ø-Ø	PLATE, FRONT, DUAL DRIVE	M					
	C-SS-7412853-Ø-Ø	SILK SCREEN, DUAL DRIVE	M					
5	D-IA-7010679-Ø-Ø	CHASSIS, W/HINGE	M					
	E-IA-7412665-Ø-Ø	CHASSIS, FLEXIBLE DISK DRIVE	M					
	C-MD-7413236-Ø-Ø	HINGE, LOGIC	M					
6	B-DD-7013503-Ø	PLENUM/FAN ASSY. - DRAWING DIRECTORY	-	12	A-SP-3700185-Ø-Ø	PACKAGING INSTRUCTIONS - INTERPLANT (W/BEZEL)	-	
	E-UA-7013503-Ø-Ø	PLENUM/FAN ASSY.	E/M		13	A-SP-3700185-01	PACKAGING INSTRUCTIONS - INTERPLANT (W/O BEZEL)	-
					14	A-SP-3700193-Ø-Ø	PACKAGING INSTRUCTIONS - CUSTOMER	-

TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL	<b>digital</b>	TITLE RX02-FLOPPY DISK DRIVE	SHEET 3 OF 3	SIZE CODE B DD	NUMBER RX02-Ø	REV
--	----------------	---------------------------------	--------------	-------------------	------------------	-----

DRB 108A

274

**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS  
PARTS LIST**

MADE BY BOB MORIN *Bob Morin* CHECKED G. MARINI SECTION 1  
 DATE 7/19/78 DATE 7/19/78  
 ENG John P. Bellamini PROD Michael D. Dorian ISSUED SECT. 2  
 DATE 9-1-78 DATE 9-1-78

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY VARIATION															
			RX02-AA	RX02-AC	RX02-AD	RX02-BA	RX02-BC	RX02-BD	RX02-CA	RX02-CC	RX02-DA	RX02-DC	RX02-DD	RX02-LA				
1	B-DD-RX02-0	RX02 FLOPPY DISK DRIVE ASSY.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	D-AD-7010721-03	BEZEL ASSY, SINGLE DRIVE (RX02)	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
3	D-AD-7010721-04	BEZEL ASSY, DUAL DRIVE (RX02)	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1
4	E-UA-7013077-00	FLEXIBLE DISK DRIVE - 60 HZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	E-UA-7013077-01	FLEXIBLE DISK DRIVE - 50 HZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	A-PS-3612408-00	DISKETTE	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
7	E-IA-7412666-0-0	COVER, TOP	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	A-PS-1212157-00	SLIDE, CHASSIS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	C-MD-7413350-0-0	SHIPPING, BRACKET	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	A-PL-RX02-0-5	HARDWARE KIT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	A-PL-RX02-0-4	SOFTWARE SHIP LIST	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	A-SP-3700185-00	PACK. INSTR. - INTERPLANT W/BEZEL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	A-SP-3700185-01	PACK. INSTR. - INTERPLANT W/O BEZEL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	A-SP-3700193-00	PACK. INSTR. - CUSTOMER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	A-SP-3700229-00	PACK. INSTR. - DRIVE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TITLE RX02, SHIPPING LIST ASSY NO. B-DD-RX02-0 SIZE A CODE PL NUMBER RX02-0-3 REV ECO NO.  
 SHEET 1 OF 2 DIST

DEC FORM DRA 110

**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS  
PARTS LIST**

MADE BY BOB MORIN *Bob Morin* CHECKED G. MARINI SECTION 2  
 DATE 7/19/78 DATE 7/19/78  
 ENG John P. Bellamini PROD Michael D. Dorian ISSUED SECT. 2  
 DATE 9-1-78 DATE 9-1-78

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY VARIATION															
			RX02-LC	RX02-LD	RX02-MA	RX02-NC	RX02-ND											
1	B-DD-RX02-0	RX02 FLOPPY DISK DRIVE ASSY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	D-AD-7010721-03	BEZEL ASSY, SINGLE DRIVE (RX02)	-	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1
3	D-AD-7010721-04	BEZEL ASSY, DUAL DRIVE (RX02)	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	E-UA-7013077-00	FLEXIBLE DISK DRIVE - 60 HZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	E-UA-7013077-01	FLEXIBLE DISK DRIVE - 50 HZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	A-PS-3612408-00	DISKETTE	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
7	E-IA-7412666-0-0	COVER, TOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	A-PS-1212157-00	SLIDE, CHASSIS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	C-MD-7413350-0-0	SHIPPING BRACKET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	A-PL-RX02-0-5	HARDWARE KIT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	A-PL-RX02-0-4	SOFTWARE SHIP LIST	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	A-SP-3700185-00	PACK. INSTR. - INTERPLANT W/BEZEL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	A-SP-3700185-01	PACK. INSTR. - INTERPLANT W/O BEZEL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	A-SP-3700193-00	PACK. INSTR. - CUSTOMER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	A-SP-3700229-00	PACK. INSTR. - DRIVE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TITLE RX02, SHIPPING LIST ASSY NO. B-DD-RX02-0 SIZE A CODE PL NUMBER RX02-0-3 REV ECO NO.  
 SHEET 2 OF 2 DIST

DEC FORM DRA 110

275

**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS**

**PARTS LIST**

QUANTITY VARIATION

<b>MADE BY</b> M. ALDEN		<b>CHECKED</b> G. MARINI		<b>SECTION</b>																			
<b>DATE</b> JULY 18, 1978		<b>DATE</b> 7/19/78																					
<b>ENG</b> <i>John P. Schmitt</i>		<b>PROD</b> <i>Michael DeLeon</i>		<b>ISSUED SECT.</b>																			
<b>DATE</b> 9-1-78		<b>DATE</b> 9-1-78																					
ITEM NO.	DWG NO./PART NO.	DESCRIPTION				QUANTITY VARIATION																	
1	MP00629	PRINT SET - RX02				RX02-0-4																	
2	EK RX02-UG	USER'S GUIDE					/																
3	ZJ279-RB	DIAGNOSTIC KIT					/																
<b>TITLE</b> RX02, SOFTWARE LIST		<b>ASSY NO.</b> B-DD-RX02-0		<b>SIZE</b> A	<b>CODE</b> PL	<b>NUMBER</b> RX02-0-4		<b>REV</b>	<b>ECO NO.</b>														
<b>SHEET</b> 1 <b>OF</b> 1				<b>DIST</b>																			

DEC FORM  
DRA 110

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS													
				B	C	D											
D-UA-M7744-0-0	3		RX02 FLOPPY DISK CONTROLLER	B	C	D											
K-PL-M7744-0-DBP	-		PARTS LIST DATA BASE	B	C	D											
D-CS-M7744-0-1	10		RX02 FLOPPY DISK CONTROLLER	B	C	D											
D-MD-5012891-0-0	4		DRILL & FTCH DWG.	B	B	C											
B-DD-M7744-0	1		RX02 FLOPPY DISK CONTROLLER	*	A	B											
M7744-0-L			P.C. DESIGN DATA BASE	RE	RE												
		5012891	ETCHED CIRCUIT BOARD	C	C	D											
K-PC-M7744-DBC	-		P.C. DESIGN DATA BASE	-	-	D											

**NOTES:**

REVISIONS		DATE	CHG NO.	REV.
		5/78	00001	A
		6/78	00002	B

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 © 1977 DIGITAL EQUIPMENT CORPORATION



USED ON OPTION/MODEL RX02	DRN. D. MAYUSKI 8/10/77	TITLE RX02 FLOPPY DISK CONTROLLER
	CHK'D KENT GRIGGS KB 12/12/77	SIZE CODE B DD
	ENG. Kent Griggs 2/3/78	NUMBER M7744-0
	PROP. Walt Brown 2/3/78	REV. B



DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS		
				A	B	C
D-UA-M7745-0-0	3		RX02 R/W CONTROL BD.	A	B	C
K-PL-M7745-0-DBP	-		PARTS LIST DATA BASE (M7745)	A	B	C
D-CS-M7745-0-1	7		RX02 R/W CONTROL BD.	A	B	C
D-MD-5012956-0-0	5		DRILL & ETCH DWG.	A	B	B
B-DD-M7745-0-	1		DRAWING DIRECTORY	*	A	B
K-PC-M7745-0-DBG	-		P.C. DESIGN DATA BASE (M7745)	A	B	B
		5012956	ETCHED CIRCUIT BOARD	B	C	C

**NOTES:**

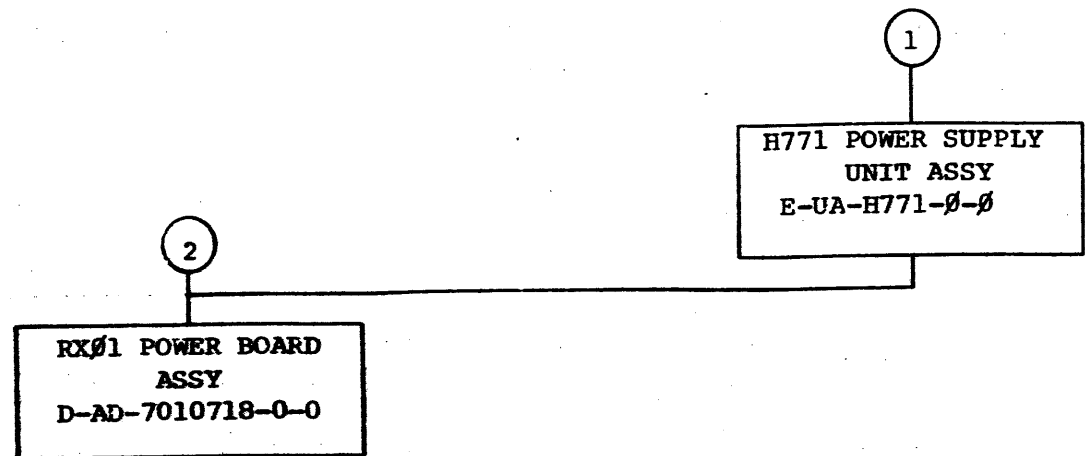
REVISIONS		REV.
DATE	CHG NO.	
9-78	00001	A
	ML002	B

"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© 1978 DIGITAL EQUIPMENT CORPORATION



USED CN OPTION/MODEL RX02	DRN. R. TRENBLAY 2/1/78	TITLE RX02 R/W CONTROL BD.
	CHK'D R. Tremblay 2/1/78	
	ENG A. Anderson 10 APR 78	SIZE CODE B DD
	PROD. G. L. (for MD) 10 APR 78	NUMBER M7745-0
		REV. B





TITLE	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
H771 POWER SUPPLY		B DD	H771-Ø	E

280

CUSTOMER PRINT SET		MECHANICAL					CUSTOMER PRINT SET		ELECTRICAL						
		MFG. SET	FIND NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE			MFG. SET	FIND NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE
			1		2	H771 POWER SUPPLY ASSY		X			1		3	H771 POWER SUPPLY	
					1	CHASSIS, POWER SUPPLY		X					1	H771-A CIRCUIT SCHEMATIC	
					1	TRANSFORMER ASSY, 60 HZ		X					1	H771-C CIRCUIT SCHEMATIC	
					1	TRANSFORMER ASSY, 50 HZ		X					1	H771-D CIRCUIT SCHEMATIC	
					1	POWER CORD ASSY								ENGINEERING SPECIFICATION	
					1	JUMPER									
					1	BRACKET, FUSE MOUNTING									
					1	DECAL, H771-A									
					1	DECAL, H771-C									
					1	DECAL, H771-D									
			2		1	RX01 POWER BOARD ASSY									
					1	READ/WRITE BOARD HARNESS		X			2		1	RX01 POWER BOARD ASSY	
					1	DISK CONTROL BOARD HARNESS		X					1	RX01 POWER BOARD ASSY	

CUSTOMER PRINT SET CODES  
 X = PRINT OF DOCUMENT INCLUDED IN PRINT SET  
 C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT  
 S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED

TITLE: H771 POWER SUPPLY  
 SHEET 3 OF 3  
 SIZE CODE: B DD  
 NUMBER: H771- $\beta$   
 REV: E

**CUSTOMER PRINT SET INDEX**

THIS IS PRINT SET

FOR FIELD MAINTENANCE PRINT SET  
REFER TO MP 00284

UNIT VARIATIONS		PRINT SET	
VAR	TITLE		
7013503-0	COOLING UNIT FOR DUAL RXØ1 115V		
7013503-1	COOLING UNIT FOR DUAL RXØ1 230V		
7013503-2	COOLING UNIT FOR SINGLE RXØ1 115V		
7013503-3	COOLING UNIT FOR SINGLE RXØ1 230V		
7013503-4	7013503-0 W/O PACKAGING		
7013503-5	7013503-1 W/O PACKAGING		
7013503-6	7013503-2 W/O PACKAGING		
7013503-7	7013503-3 W/O PACKAGING		

REVISIONS	
DATE	CHG. NO.

USED ON OPTION/MODEL	DRW.	DATE	TITLE	SIZE	CODE	NUMBER	REV
RXØ1	<i>Don</i>	8-NOV-76	RXØ1 PLENUM/FAN ASSY.	B	DD	7013503-0	
	CHK'D. <i>Leon</i>	11/23/76					
	PROJ ENG. <i>Exp. 2/76</i>	1/23/76					
	PRD. <i>Robb</i>	1/23/76					
FIELD SERV. <i>W. Brown</i>		DATE					
CHEET 1 OF 2		2/9/76					





"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

# DRAWING DIRECTORY

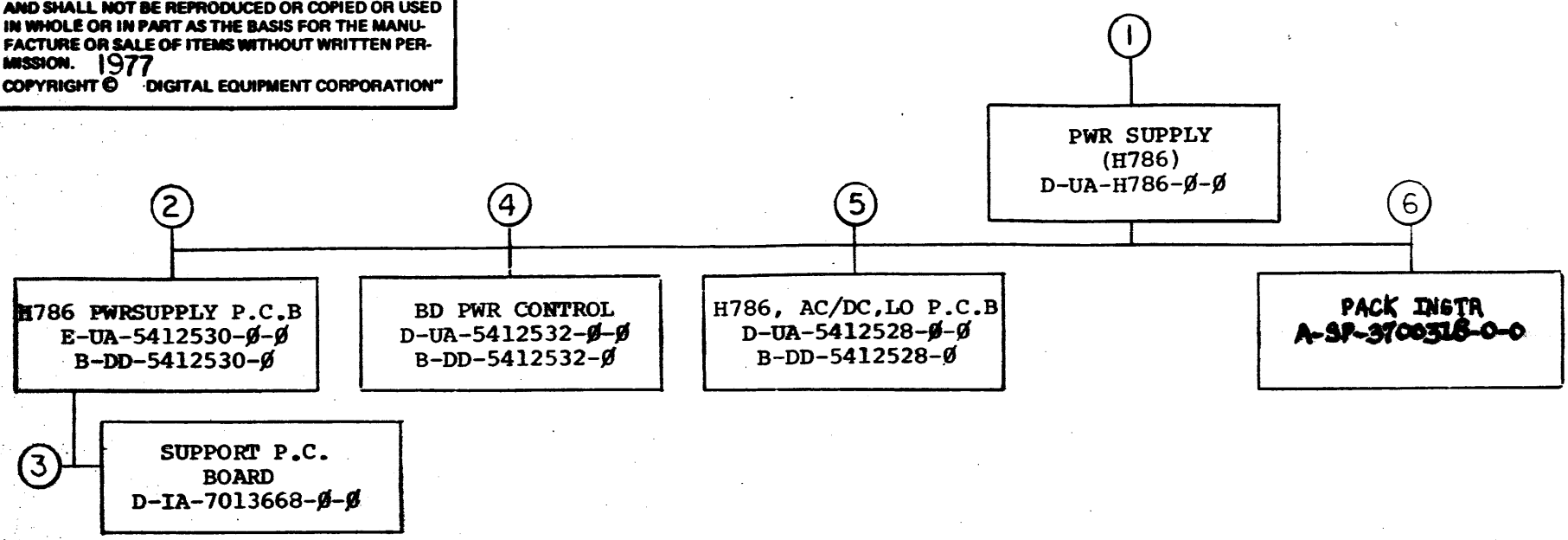
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION."

UNIT VARIATIONS	
VAR	TITLE
H786	H786 POWER SUPPLY

REVISIONS	CHK	JA	CHANGE NO.	H786-2	REV.	A
	USED ON OPTION/MODEL	BA11-N		DRN.	<i>B. Blodgett</i>	
	CHK'D.			DATE	2 MAY 77	
	PROJ. ENG.			CHK'D.	<i>J. Falkowski</i>	
				DATE	2 MAY 77	
				PROJ. ENG.	<i>J. Walsh</i>	
				DATE	9 SEPT 77	
				PROQ.	<i>R. Hamilton</i>	
				DATE	9 SEPT 77	
SHEET	1	OF	3	TITLE	H786	digital
				POWER SUPPLY		
				SIZE	B	
				CODE	DD	
				NUMBER	H786-Ø	
				REV	A	
				DIST.		



"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. 1977 COPYRIGHT © DIGITAL EQUIPMENT CORPORATION"



FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	D-UA-H786-0-0	PWR. SUPPLY (H786)	E/M				
	E-IA-7418236-0-0	CHASSIS, PWR SUPPLY	M				
	A-SP-H786-0-2	ENG. SPEC. H786 POWER SUPPLY	-				
	A-PS-3615632-0-0	H786 POWER SUPPLY REVISION LABEL	M				
2	B-DD-5412530-0	H786 POWER SUPPLY, MASTER BOARD	-				
3	D-IA-7013668-0-0	SUPPORT PRINTED CIRCUIT BOARD	M				
	C-MD-7418386-0-0	CARD SUPPORT	M				
	B-MD-7418387-0-0	TIE BAR	M				
	C-MD-7418385-0-0	RAIL	M				
4	B-DD-5412532-0	PWR. CONTROL BOARD,	-				
5	B-DD-5412528-0	H786 AC/DC LO PC BOARD,	-				
6	A-SP-3700318-0-0	PACK INSTR. P.S. H786	-				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL

digital

TITLE  
H786 PWR. SUPPLY

SHEET 3 OF 3

SIZE CODE  
B DD

NUMBER  
H786 - 0

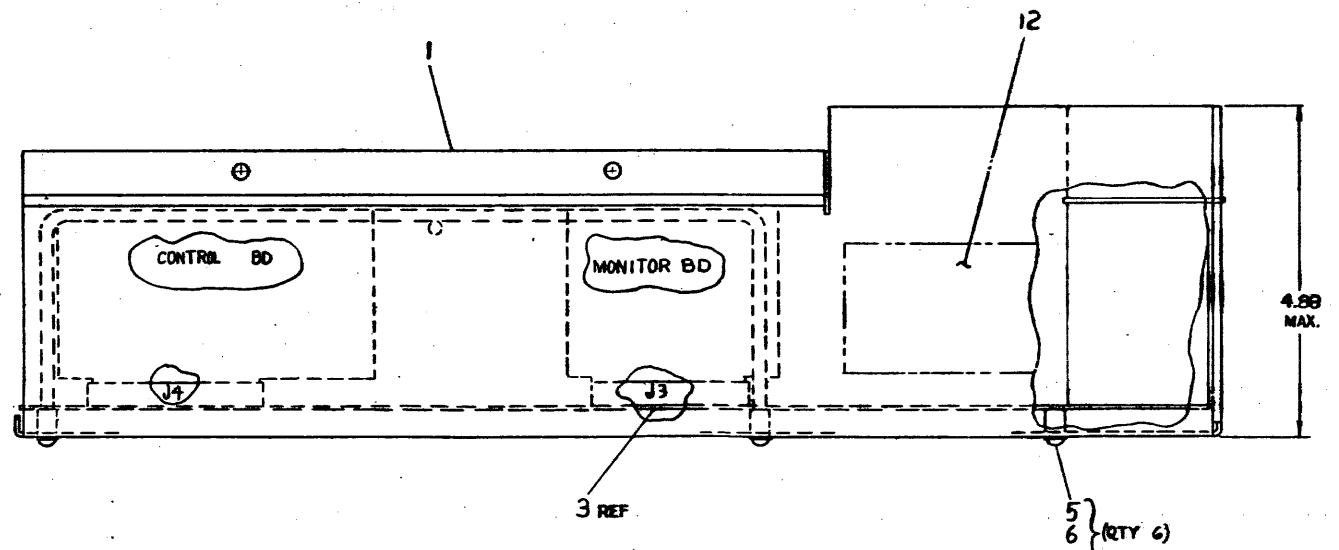
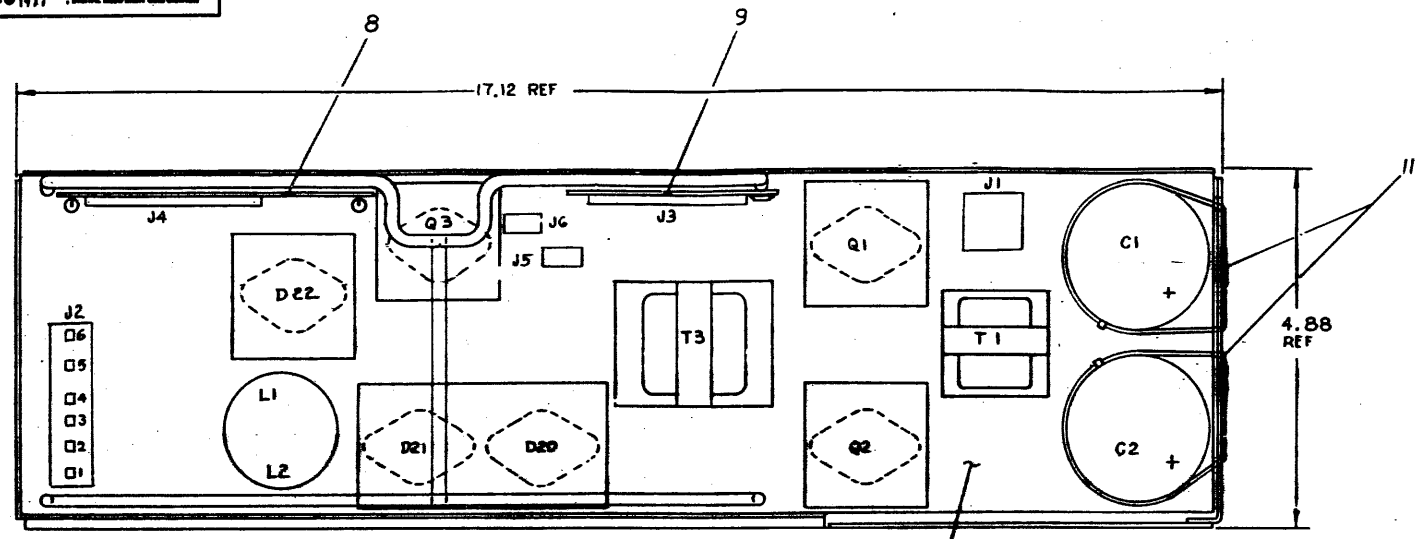
REV  
A

DRB 108A

ML

287

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF BELL TELEPHONE CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART OR IN ANY MANNER FOR THE EXERCISE OR IN WHOLE OR IN PART OF ANY PATENT RIGHTS WITHOUT THE WRITTEN PERMISSION OF BELL TELEPHONE CORPORATION.

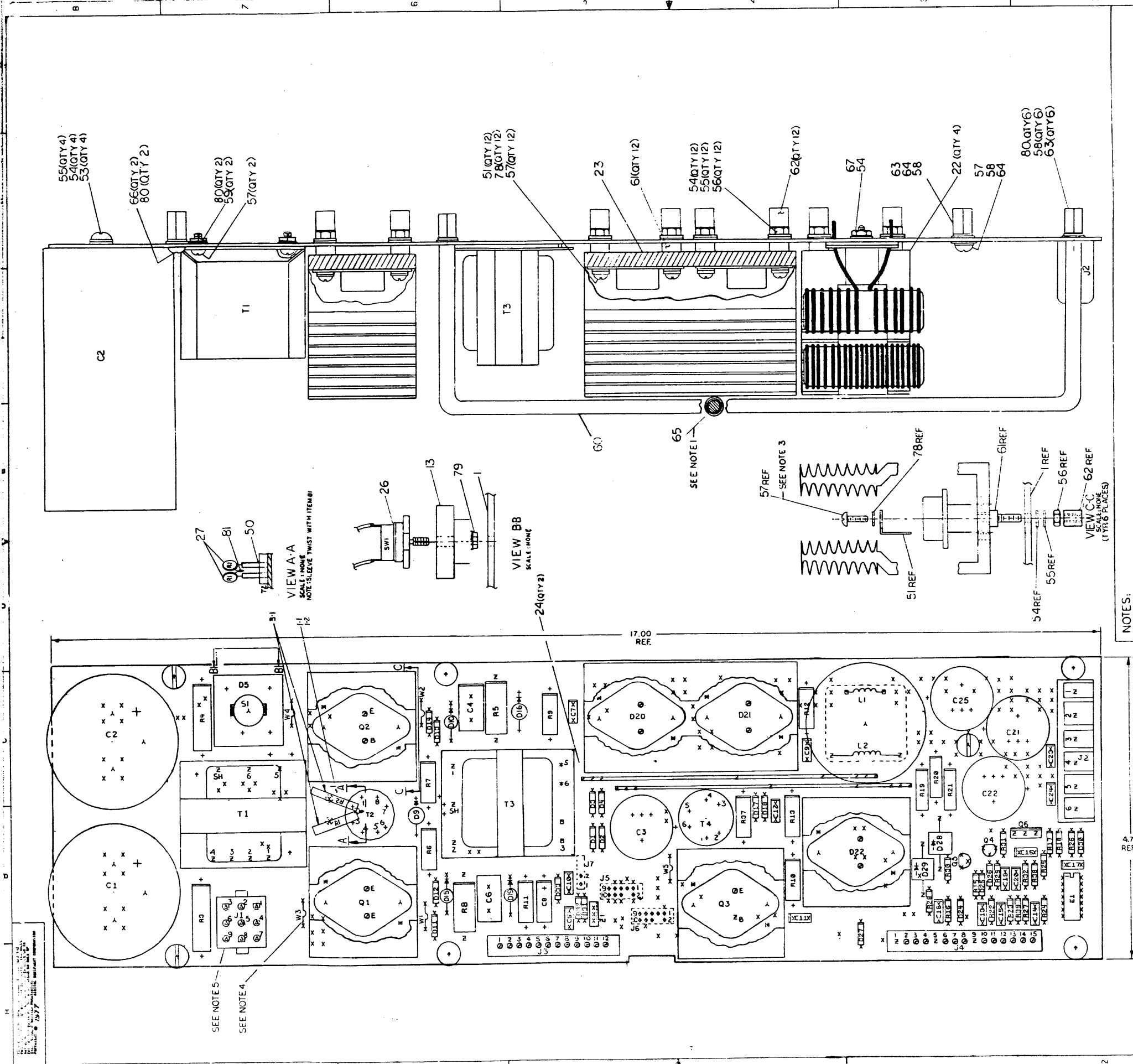


1	LABEL, REVISION	A-PS-3615632-00	12
2	CABLE TIE	9009617	11
<del>APP INSTR. PKG. PS H786</del>			
<del>A-PS-3700318-0-0</del>			
1	H786 AC/DC LO PCB	D-UA-5412528-0-0	9
1	PWR. CONTROL BD.	C-UA-5412532-0-0	8
<del>WASHER, LOCK INT TOOTH #4</del>			
<del>9006633-00</del>			
7	WASHER, LOCK INT TOOTH #4	9006633-00	6
7	SCREW, PHIL. PAN HD. #32 X.25	9008020-01	5
<del>SCREW, PHIL. PAN HD. #32 X.25</del>			
<del>9008020-01</del>			
1	H786 PWR. SUPPLY BD.	E-UA-5412530-0-0	3
<del>CLAMP, CAPACITOR</del>			
<del>C-IA-7418235-0-0</del>			
1	CHASSIS, PWR. SUPPLY	E-IA-7418236-0-0	1

DESCRIPTION	DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
ANGLES IN 30°	RANGE OF ACCURACY	MINIMAL DIMENSION RANGE INCHES
SURFACE QUALITY IN	CHECK ONE	0.005 0.010 0.015 0.020 0.030 0.040 0.050 0.060 0.070 0.080 0.090 0.100
QUANTITY & VARIATION	MEDIUM	1.000 1.002 1.004 1.006 1.008 1.010
	MICROINCHES	DISPERSED 1.002 1.004 1.006 1.008 1.010
THIRD ANGLE PROJECTION	DRAWN BY <i>R. B. [Signature]</i> 20 Nov 77	FIRST USED ON
REMOVE BURRS AND BREAK SHARP CORNERS	CHECK'D BY <i>[Signature]</i> 20 Nov 77	BA11-N
DO NOT SCALE DWG.	ENGR. <i>[Signature]</i> 17 Nov 77	TITLE
MATERIAL SEE PARTS LIST	PROD. BY <i>[Signature]</i> 15 Nov 77	H786 POWER SUPPLY ASSY
FINISH	NEXT HIGHER ASSY.	SIZE CODE
	B-DD-H786-0-0	D UA
	SCALE 1/1	NUMBER
	SHEET 1 OF 1	H786-0-0
		REV.
		B

REV.	DATE	BY	CHKD.
1	11/86-00001	A	
2	11/86-00002	B	
3	11/86-00003	C	
4	11/86-00004	D	
5	11/86-00005	E	
6	11/86-00006	F	
7	11/86-00007	G	
8	11/86-00008	H	
9	11/86-00009	I	
10	11/86-00010	J	





NOTES:

1. TWO THICKNESS OF SPIRAL WRAP (ITEM 65) MUST BE WRAPPED AROUND THE TIE BAR OF THE P.C. BOARD SUPPORT (ITEM 60) BEFORE ATTACHING IT TO THE BOARD.
2. TORQUE REQUIREMENTS FOR ALL HARDWARE ARE SPECIFIED IN D.E.C. STANDARD 116 (WORKMANSHIP STANDARDS MANUAL) SECTION 2.0 TABLE 2.1, EXCEPT AS OTHERWISE NOTED.
3. TORQUE TO BE 6" TO 8" PER POUND (12 PLACES).
4. MAKE W/ THRU WS FROM 4" LONG LENGTH OF ITEM 77.
5. OBSERVE PROPER PIN ORIENTATION OF CONNECTOR WHEN MOUNTING ON BOARD.

ECO-3  
 COMPONENT ADD SIDE 1:  
 31 ADD R1 (P/N: 134270-02) IN SERIES  
 WITH R2 (P/N: 134270-02) AND  
 SLEEVING (P/N: 91-0772)

NOTES: THIS BOARD REQUIRES V.L.  
 APPROVAL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

DATE	12/27/77
DRN	1000000000
CHK	1000000000
PROJ	1000000000
SCALE	1:1
REV	1
BY	1000000000
CHKD	1000000000
DATE	12/27/77
DRN	1000000000
CHK	1000000000
PROJ	1000000000
SCALE	1:1
REV	1
BY	1000000000
CHKD	1000000000
DATE	12/27/77
DRN	1000000000
CHK	1000000000
PROJ	1000000000
SCALE	1:1
REV	1
BY	1000000000
CHKD	1000000000

digital

1786 POWER SUPPLY MASTER BRD.

STECODE NUMBER: 15412530-0-21E

REV. C

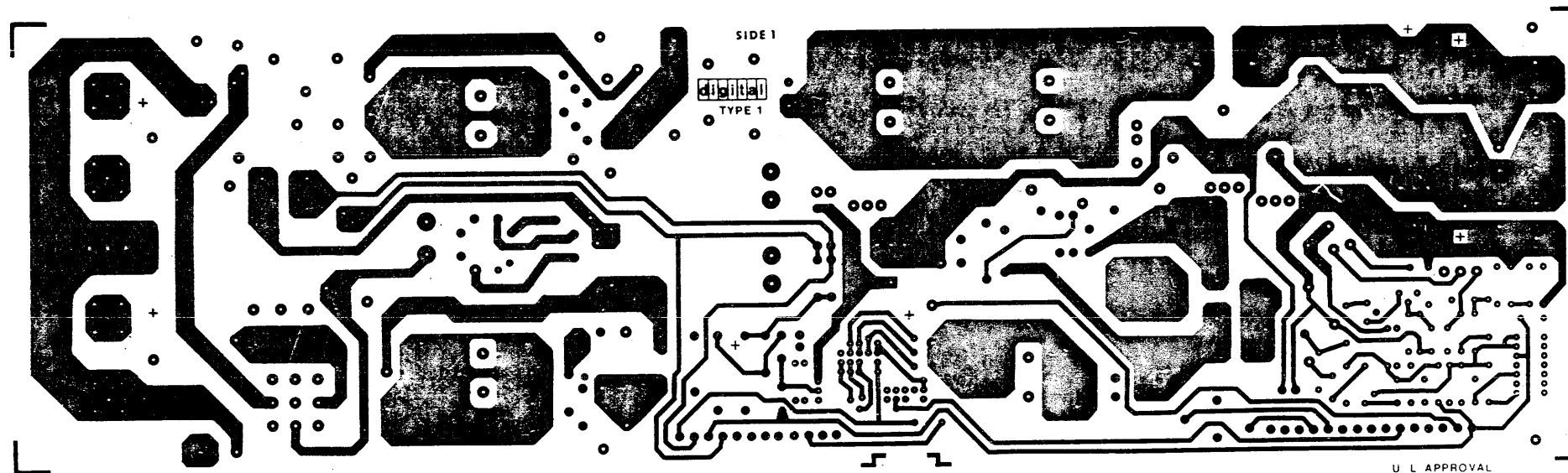
DESIGN DATA BASE REV. C

H 7/1

290

ALL DIMENSIONS ARE IN MILLIMETERS  
UNLESS OTHERWISE SPECIFIED  
AND ALL DIMENSIONS ARE TO THE CENTER OF THE HOLE UNLESS OTHERWISE SPECIFIED

H786 PWR. SUPPLY 5012529C 5412530

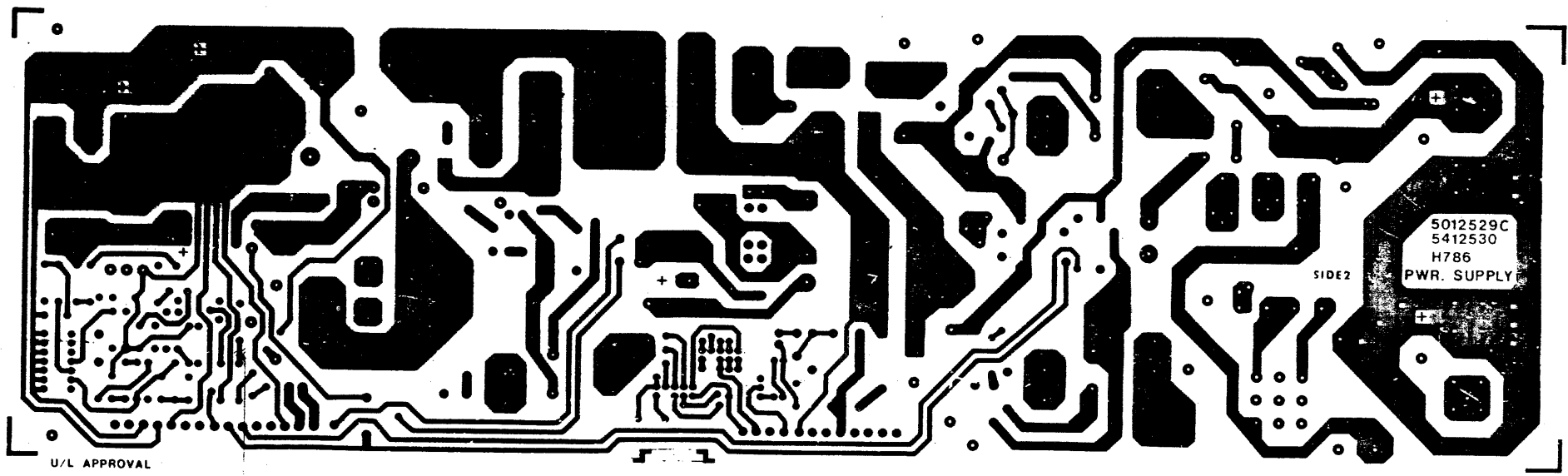


U L APPROVAL

H786 POWER SUPPLY  
MASTER BOARD  
2 3

5012530-0-0 F

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
TOLERANCES ARE AS SHOWN.  
DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.  
HOLE DIMENSIONS ARE TO INSIDE UNLESS OTHERWISE SPECIFIED.



U/L APPROVAL

HT86 POWER SUPPLY  
MASTER BOD  
3-3

5012530-0-0 F

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012529-0-0	5012529-00	5412530	1	
2	2		1014240-00	2000 MFD 200V GZ AL EL	2	C1,C2
3	3		1014260-02	2100 MFD 40V AL EL	1	C3
4	4		1014139-00	.0022 MFD 600V 10Z \$	2	C4,C6
5	5		1010274-00	.22 MFD 50V XZ 7C023 CER.	5	C5,C10,C17,C23,C24
6	6		1000042-00	1000.0 MMF 100V 5Z200PPM DM15S (10-00	8	C7,C9,C11-C16
7	7		1004814-00	.47 MFD 20V 10Z 150D S.TA (10-00	1	C8
8	8		1000004-00	.02 MFD 100V 20Z Z5U DISC	2	C18,C19
9	9		1001610-01	.01 MFD 100V DR 50V Z5U DISC/800PF MIN	1	C20
10	10		1014260-00	11,000 MFD 6.3V AL EL	2	C21,C25
11	11		1014260-01	3700 MFD 25V AL EL \$	1	C22
12	12		1105796-00	1N 4004 PIV=400 I= 1A D041 SP	14	D1-D4,D11-D14,D17,D25,D27, CONT D30-D32
13	13		1114245-00	NBS30600LPIV=600 I=30A	1	D5
14	14		1112594-02	A115M PIV=600 I= 3A \$	2	D9,D16
15	15		1112595-02	A114M PIV=600 I=11A	2	D10,D15
16	16		1105648-00	1N 4744 VZ= 15.0 10Z 1W Y	1	D33
17	17		1212297-02	MATE-N-LOK 9PIN UNIV HEADER	1	J1
18	18		1213463-03	BLOCK,TERM 6POS	1	J2
19	19		1214257-00	EDGE CARD 12PIN STRAIGHT \$	1	J3
20	20		1214257-01	EDGE CARD 15PIN STRAIGHT \$	1	J4
21	21		1112595-01	A114B PIV=200 I= 1A	1	D19
22	22		1211987-01	HEAT SINK 19.8WATTS 1.75"LG	4	
23	23		1211987-02	HEAT SINK 19.8WATTS 3.50"LG	1	
24	24		1214256-00	BUS BAR,KRYPTON	2	
25	25		1912108-00	339 VOLT CMPRTR,QUAD	1	E1
26	26		1214259-02	THERMOSTAT,00185,C0148	1	S1
27	27		1314270-02	2.5 15% THERMISTOR	2	R1,R2
28	28		1314088-00	20 K 5W 5% WW (13-00	2	R3,R4
29	29		1301952-00	1 K 2W 5% CC (13-00	2	R5,R8

REVISION HISTORY			VARIATIONS FOR THIS ASSY.			FIRST USED ON:			DIGITAL EQUIPMENT CORPORATION			
CHK	ECD NO	REV							MAYNARD, MASSACHUSETTS			
			00									
P.G	00003	E	MADE BY: R.KOPPENAL			DATE: 01-FEB-78			TITLE			
KS	00004	F							PARTS LIST			
			CHECKED: K.GLEEZEN			DATE: 01-FEB-78			MASTER BOARD			
			DSN.ENG.: J.GREGORICH			DATE: 01-FEB-78						
			PROD.: R.HAMILTON			DATE: 01-FEB-78			SIZE	CODE	DOCUMENT NUMBER	REV
									K	PL	5412530-0-DRP	1F
									EDIT			
			RESP.ENG.: J.GREGORICH			DATE: 01-FEB-78			ASSY.NO.: E-UA-5412530-0-0			7

\*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 1978. DIGITAL EQUIPMENT CORPORATION



LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
30	30		1305428-00	1.0 2W 5% WW (13-00	3	R6,R7,R37
31	31		1110488-00	1N 4733 VZ= 5.1 10% 1W N	1	D18
32	32		1301499-00	1 K 1W 10% CC (13-00	2	R9,R12
33	33		1300232-00	100 1W 5% CC (13-00	2	R10,R13
34	34		1314239-00	33 3W 5% WW (13-00	1	R11
35	35		1310632-00	2.37 K 1/4W 1% RN55D-F 100PPM	2	R15,R17
36	36		1303044-00	100 K 1/4W 1% RN55D-F 100PPM	1	R16
37	37		1304843-00	243 K 1/4W 1% RN55D-F 100PPM	1	R18
38	38		1313014-00	.01 3-3/4W 3% WW (13-00	3	R19-R21
39	39		1300365-00	1 K 1/4W 5% CC (13-00	3	R22,R25,R32
40	40		1309595-00	1 M 1/4W 5% CC (13-00	4	R23,R26,R38,R39
41	41		1302666-00	10 M 1/4W 5% CC (13-00	2	R24,R27
42	42		1300202-00	47 1/4W 5% CC (13-00	2	R28,R29
43	43		1301317-00	10 1/4W 5% CC (13-00	2	R30,R31
44	44		1614274-00	XFMR P=AB S=87V \$	1	T1
45	45		1614272-00	PULSE XFMR,4 WOUND	1	T2
46	46		1614275-00	XFMR P=200-375V S=5W@3.5A	1	T3
47	47		1614273-00	PULSE XFMR,TRI-WOUND	1	T4
48	48		1614261-00	CHOKE,DUAL 24UH-80UH	2	L1,L2
49	49		1912048-02	DEC 7812-02 VOLT.REG.FIX T12V 1.5A T	1	Z1
50	50		9009798-00	SPACER, CERAMIC, .186 ODX,078 IDX,75 LG	2	
51	51		9009676-00	TERMINAL, SOLDER, FOR TERMINAL	12	
52	52		9009149-00	PIN, STAKING, P.C. BOARD, .025 X .025	20	J5-J7
53	53		9006071-01	SCREW,PAN ,PHIL, 10-32X 3/8 SS/PAS	4	
54	54		9006660-00	WASHER, FLAT, .375 O.D. X .187 I.D. X .036	4	
55	55		9006636-00	WASHER,LOCK,INT,.3800D X .200ID X .022 THK	17	
56	56		9006564-00	NUT,HEX , 10-32X3/8 AF X 1/8 THK SS/	12	
57	57		9006021-01	SCREW,PAN ,PHIL, 6-32X 5/16 SS/PAS	15	
58	58		9006633-00	WASHER,LOCK,INT,.2800D X .146ID X .018 THK	8	
59	59		9008185-00	NUT,KEP , 6-32X1/4 AF CS/	2	
60	60	D-IA-7013668-0-0	7013668-00	P.C. BOARD STIFFENER	1	
61	61	C-MD-7418435-0-0	7418435-00	HEAT SINK	12	
62	62		9009947-00	STANDOFF, NYLON, 10-32 X 1/4 \$	12	
63	63		9006844-00	SPACER, HEX, ALUM, 6-32, .250 X .375 LG	7	
64	64		9006653-00	WASHER, FLAT, .375 O.D. X .156 I.D. X .036	2	
65	65		9107240-00	WRAP,CABLE,.2500D VINYL (91-00 A/R		
66	66		9006020-01	SCREW,PAN ,PHIL, 6-32X 1/4 SS/PAS	2	
67	67		9006565-00	NUT,KEP , 10-32X 3/8 AF CS/	1	
68	68		1113496-01	UES602 PIV=100 I=30A T03	2	D20,D21
69	69		1114246-00	UES-2603 PIV=150 I=30A T03	1	D22
70	70		1111205-00	SCREENED VZ= 5.7 2% .40W	1	D24
71	71		1109988-00	1N 964B VZ= 13.0 5% .40W Y	1	D26
72	72		1110615-00	MR 752 PIV=200 I=22A A264 SM	2	D28,D29
73	73		1514195-00	2N 6547 PNP 400V SI 15A	2	Q1,Q2
74	74		1510969-00	2N 5038 NPN 140WC SI 90 50 Y	1	Q3
75	75		1510877-00	2N 6028 UJT 300MW R67B	2	Q4,Q5
76	76		1505867-00	2N 4441 SCRO 50V & 8A	1	Q6
77	77		9107460-22	WIRE,STRND,20AWG,IPVC UL1429 (91-00 A/R		W1-W5

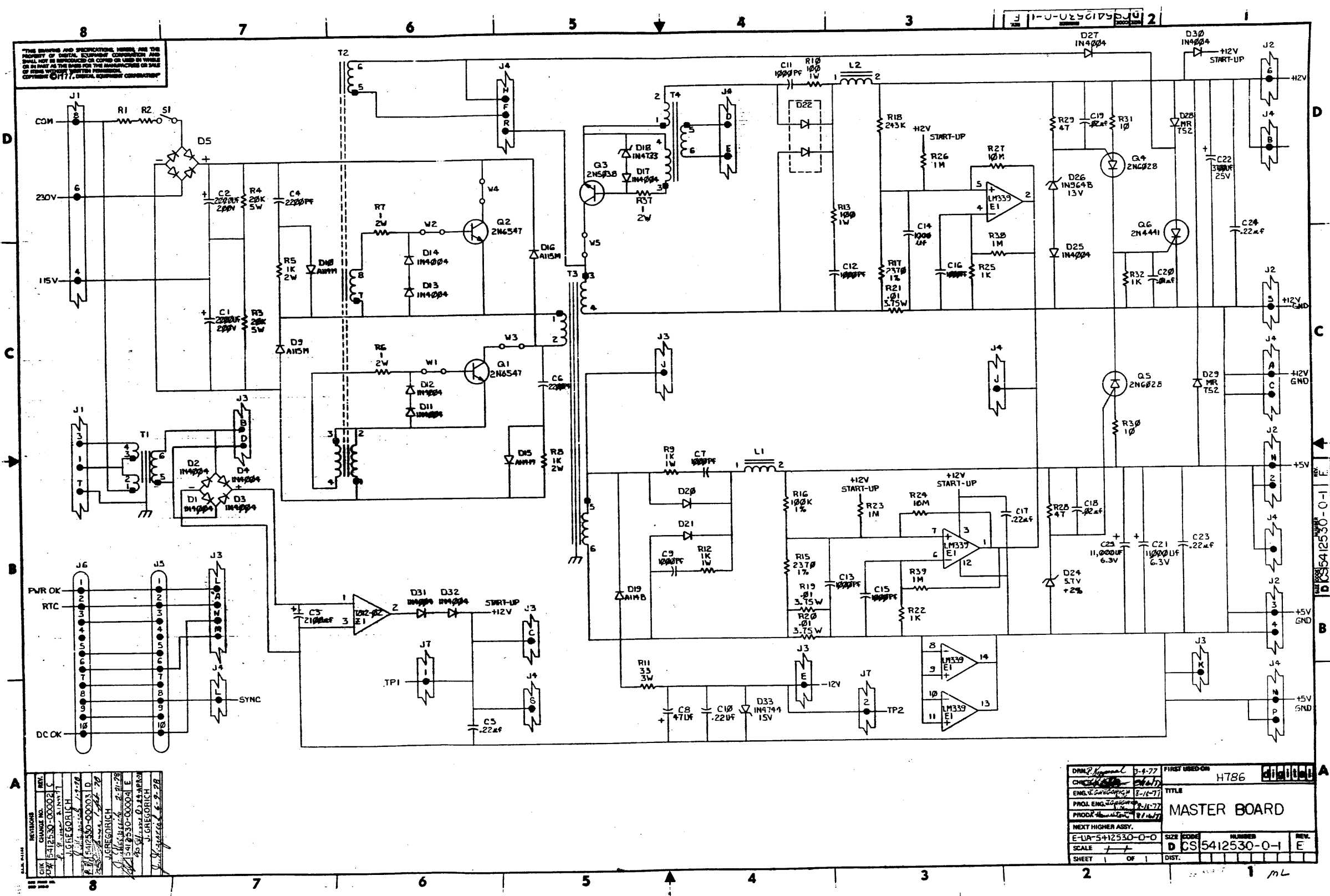
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		TITLE MASTER BOARD	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
				K	PL	5412530-0-DBP	F

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
78	78	9007801-00	WASHER, LOCK, S.S. #6	12	
79	79	9006563-00	NUT, KEP, 8-32 X11/32AF	CS 1	
80	80	9006656-00	WASHER, FLAT, .312 O.D. X .156 I.D. X .027	10	
81	81	9107772-00	TUBING, SHRINK, .187ID EXP, UL KYNAR	A/R	

! DIGITAL EQUIPMENT CORPORATION	! TITLE	PARTS LIST	! SIZE !	! CODE !	DOCUMENT NUMBER	! REV !
! MAYNARD, MASSACHUSETTS	! MASTER BOARD		! K !	! PL !	5412530-0-DBP	! F !

295

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF SPERRY, UNLESS OTHERWISE INDICATED AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT THE WRITTEN PERMISSION OF SPERRY, UNLESS OTHERWISE INDICATED.



REV.	DATE	BY	CHKD.	DESCRIPTION
1	1-15-77	J. GREGORICH	J. GREGORICH	INITIAL DESIGN
2	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE
3	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE
4	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE
5	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE
6	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE
7	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE
8	2-1-77	J. GREGORICH	J. GREGORICH	REVISED FOR MANUFACTURE

DATE: 1-15-77	FIRST USED ON: H786
ENGR. J. GREGORICH	TITLE: MASTER BOARD
PROJ. ENG. J. GREGORICH	SIZE CODE: D
PRODUCED BY: J. GREGORICH	NUMBER: CS 5412530-0-1
NEXT HIGHER ASSY.:	REV.:
E-LA-5412530-0-0	SCALE: 1/1
SHEET 1 OF 1	DIST.:

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																			
				A	B	C	D	E	F	G	H	I	J	K	L								
B-MH-5412532-0-6	1		MODULE HISTORY	*	A	B	C																
D-UA-5412532-0-0	3		CONTROL BOARD	c	D	E	F																
K-PL-5412532-0-0	2		CONTROL BOARD	c	D	E	F																
D-CS-5412532-0-1	1		CONTROL BOARD	c	C	D	D																
D-MD-5012531-0-0	4		DRILL & ETCH DRAWING	c	C	C	D																
		5012531	ETCHED BOARD	D	D	D	D																
5412532-0-L			P.C. DESIGN DATA BASE	REF																			
5412532-0-PL			INSERTION P/L DATA BASE	REF																			

**NOTES:**

DATE	REV. NO.	REV.
10-77	00001	D
11-77	00002	E
2-78	00003	F

"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 © 1977 DIGITAL EQUIPMENT CORPORATION

DRB 128

PROD. ON OPTION/MODEL

DEN. DATA BUREAU

2-20-77

TITLE

CONTROL BOARD

DRG. 3-1-77

SIZE CODE

NUMBER

REV.

3 00

5412532-0

F

PROD. R. Hambleton 3-1-77

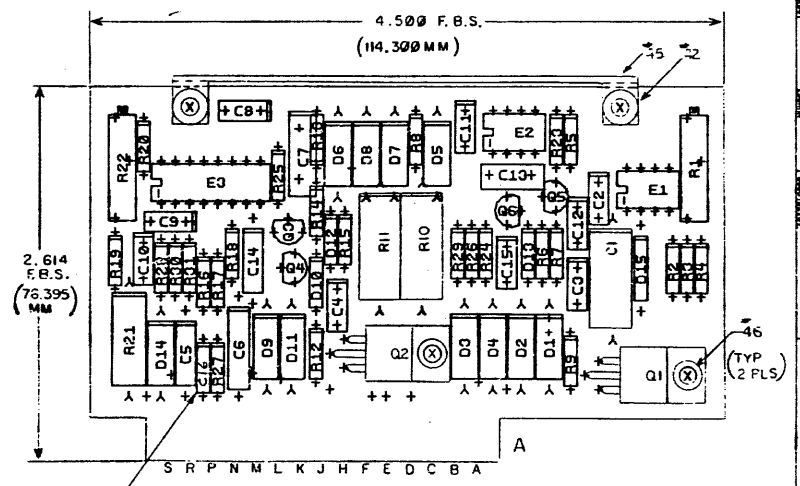
SHEET 1 OF 1

FOR OFFICE USE ONLY  
 THIS BOARD REQUIRES U/I APPROVAL  
 THIS BOARD WILL NOT BE G.R. TESTED

COMPONENT SIDE VIEW

REWORK INSTRUCTIONS

ETCH CUTS SIDE 1  
 Ø-1. FROM AL1 TO F/T BETWEEN C6 & D9  
 ETCH CUTS SIDE 2  
 Ø-2 FROM AL2 TO F/T BETWEEN C6 & D9  
 ECO # 2  
 COMPONENT DELETES SIDE 1:  
 2-1. P.32 (P/N 1301424)  
 COMPONENT ADDS SIDE 1:  
 2-2. C16 (P/N 1000016)



NOTES:

- 1. THIS BOARD REQUIRES U/I APPROVAL
- 2. THIS BOARD WILL NOT BE G.R. TESTED

CHK	CHANGE NO	REV	DATE	BY	APP

ETCH. REV.	D
DESIGN DATA BASE REV.	D

SIGNATURES	DATE	TITLE
DRN. <i>[Signature]</i>	5-4-77	digital
CHK'D <i>[Signature]</i>	5-11-77	
ENG. <i>[Signature]</i>	8-1-77	
PROJ. ENG. <i>[Signature]</i>	8-1-77	
PROD. <i>[Signature]</i>	8-1-77	
SCALE 2/1		
SHT. 1 OF 3		
NEXT HIGHER ASSY. R-00-5412532-0-0		

8

7

6

5

4

3

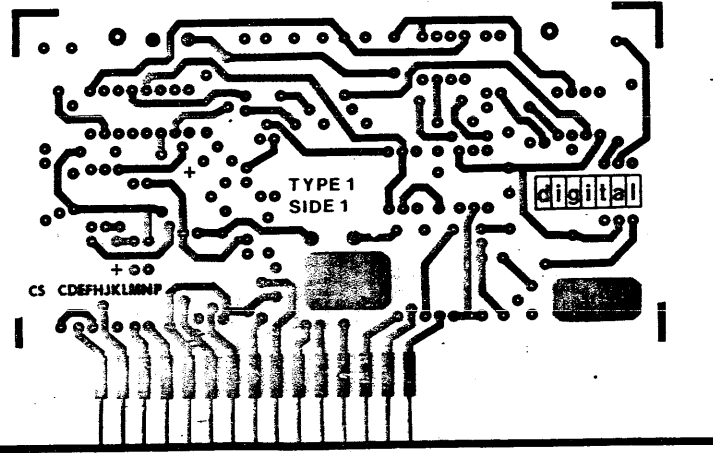
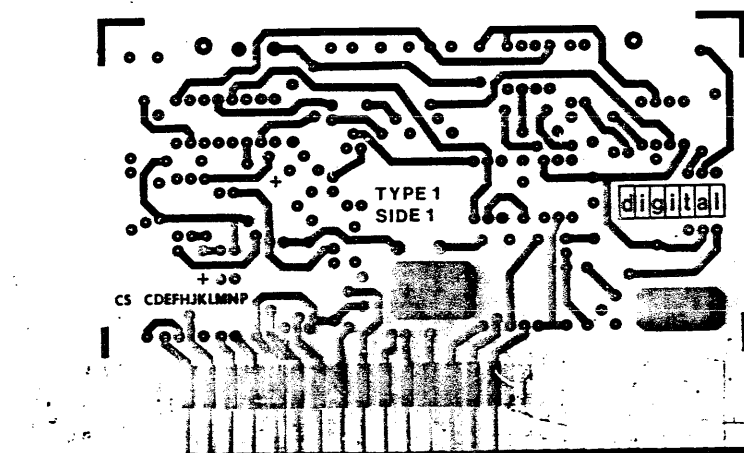
DUA 542532 -0-0 F 2

1

THIS DRAWING AND SPECIFICATION ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.

5412532 5012531D

5412532 5012531D



0-1  
TYP

VIEWED FROM SIDE 1

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
H786 CONTROL BOARD	D UA	542532 -0-0	F
SCALE 2:1	SHEET 2 OF 3	DIST.	

DEC FORM NO. 040 137

8

7

6

5

4

3

2

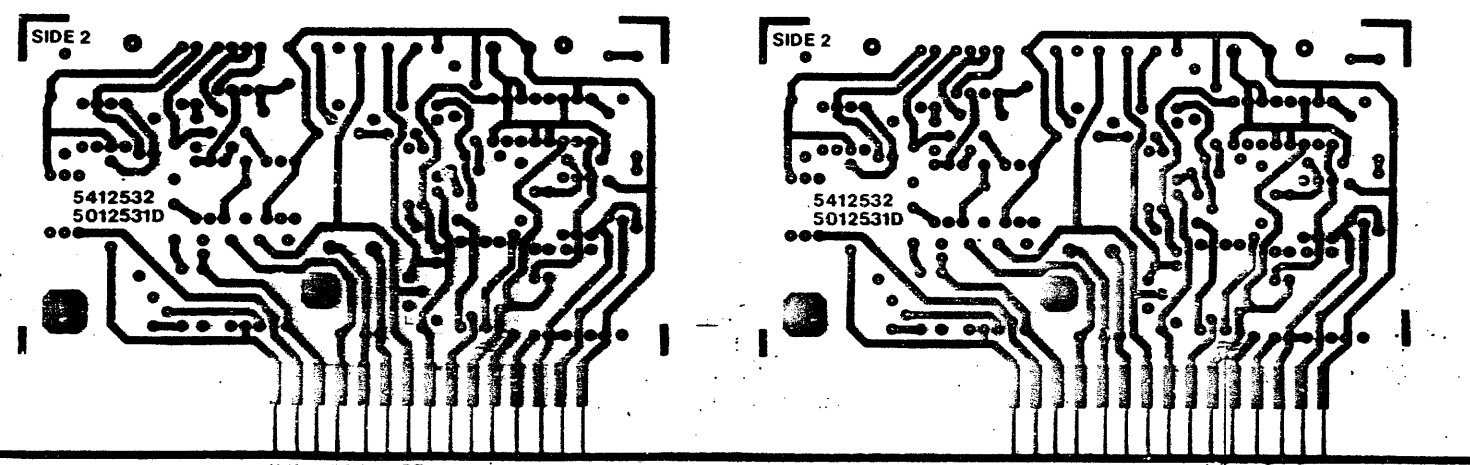
1

299

8 7 6 5 4 3 2 1

THIS DRAWING AND SPECIFICATION ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR PART THEREOF IN ANY MANNER WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971

010 5412532 -0-0 F



U/L APPROVED

U/L APPROVED

0-2  
TYP

VIEWED FROM SIDE 2

CHK	CHANGE	BY	DATE

8 7 6 5 4 3 2 1

TITLE	H786 CONTROL BOARD	DESIGNER	DUA	DATE	5412532 -0-0	REV	F
SCALE	2:1	SHEET	3	OF	3		

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012531-0-0	5012531-00	5412532	1
2	2		1000039-00	.056 MFD 200V 10% 663UV MYLR	(10-00) 1 C1
3	3		1000009-00	33.0 MMF 100V 5%200PPM DM15S	(10-00) 1 C2
4	4		1000055-00	2200. MMF 250V 20% Y5S DISC	2 C3,C4
5	5		1002627-00	2.2MFD 20V 10% 150D S.TA	(10-00) 1 C5
6	6		1005784-00	.01 MFD 100V 10% 663UV MYLR	(10-00) 1 C6
7	7		1010274-00	.22 MFD 50V X% 7C023 CER.	4 C8,C10-C12
8	8		1000042-00	1000.0 MMF 100V 5%200PPM DM15S	(10-00) 1 C13
9	9		1000016-00	100.0 MMF 100V 5%200PPM DM15S	(10-00) 3 C9,C15,C16
10	10		1005328-00	.33 MFD 20V 10% 150D S.TA	(10-00) 1 C14
11	11		1112595-00	A114F PIV= 50 I= 1A	4 D1-D3,D5
12	12		1112595-01	A114B PIV=200 I= 1A	7 D4,D6-D9,D11,D14
13	13		1100114-00	D 664 QS\75PCB PIV= 25V SP	3 D10,D12,D13
14	14		1109991-01	4M6.8AZ1 VZ= 6.8 1% .40W	1 D15
15	15		1309143-07	1 K 3/4W10% POT 100PPM	2 R1,R22
16	16		1304868-00	2.74 K 1/4W 1% RN55D-F 100PPM	(13-00) 1 R2
17	17		1304833-00	1.96 K 1/4W 1% RN55D-F 100PPM	(13-00) 1 R3
18	18		1300488-00	12 K 1/4W 5% CC	(13-00) 1 R4
19	19		1303187-00	820 K1/4W 5% CC	(13-00) 1 R5
20	20		1300271-00	220 1/4W 5% CC	(13-00) 2 R6,R14
21	21		1301317-00	10 1/4W 5% CC	(13-00) 3 R7,R15,R25
22	22		1300417-00	2.2 K 1/4W 5% CC	(13-00) 1 R8
23	23		1300219-00	68 1/4W 5% CC	(13-00) 2 R9,R12
24	24		1300288-00	270 2W 10% CC	(13-00) 2 R10,R11
25	25		1300365-00	1 K 1/4W 5% CC	(13-00) 2 R13,R26
26	26		1309680-00	2.7 M 1/4W 5% CC	(13-00) 2 R16,R17
27	27		1314187-00	6.19 K 1/4W 1% RN55D-F 100PPM	(13-00) 1 R18
28	28		1309413-00	3.83 K 1/4W 1% RN55D-F 100PPM	(13-00) 2 R19,R20
29	29		1314239-00	33 3W 5% WW	(13-00) 1 R21
30	30		1300426-00	2.7 K 1/4W 5% CC	(13-00) 1 R23

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK	ECO NO	REV	FIRST USED ON:		TITLE			
P.6	00003	F	00		PARTS LIST			
			MADE BY: R.BUREAU		DATE: 16-FEB-78		CONTROL BOARD	
			CHECKED: K.GLEASER		DATE: 16-FEB-78			
			DSN.ENG.: J. GREGORICH		DATE: 16-FEB-78			
			PROD.: R.HAMILTON		DATE: 16-FEB-78		SIZE: K	CODE: PL
			RESP.ENG.: J.GREGORICH		DATE: 16-FEB-78		DOCUMENT NUMBER: 5412532-0-0	REV: F
							ASSY.NO.: D-UA-5412532-0-0	EDIT# 4

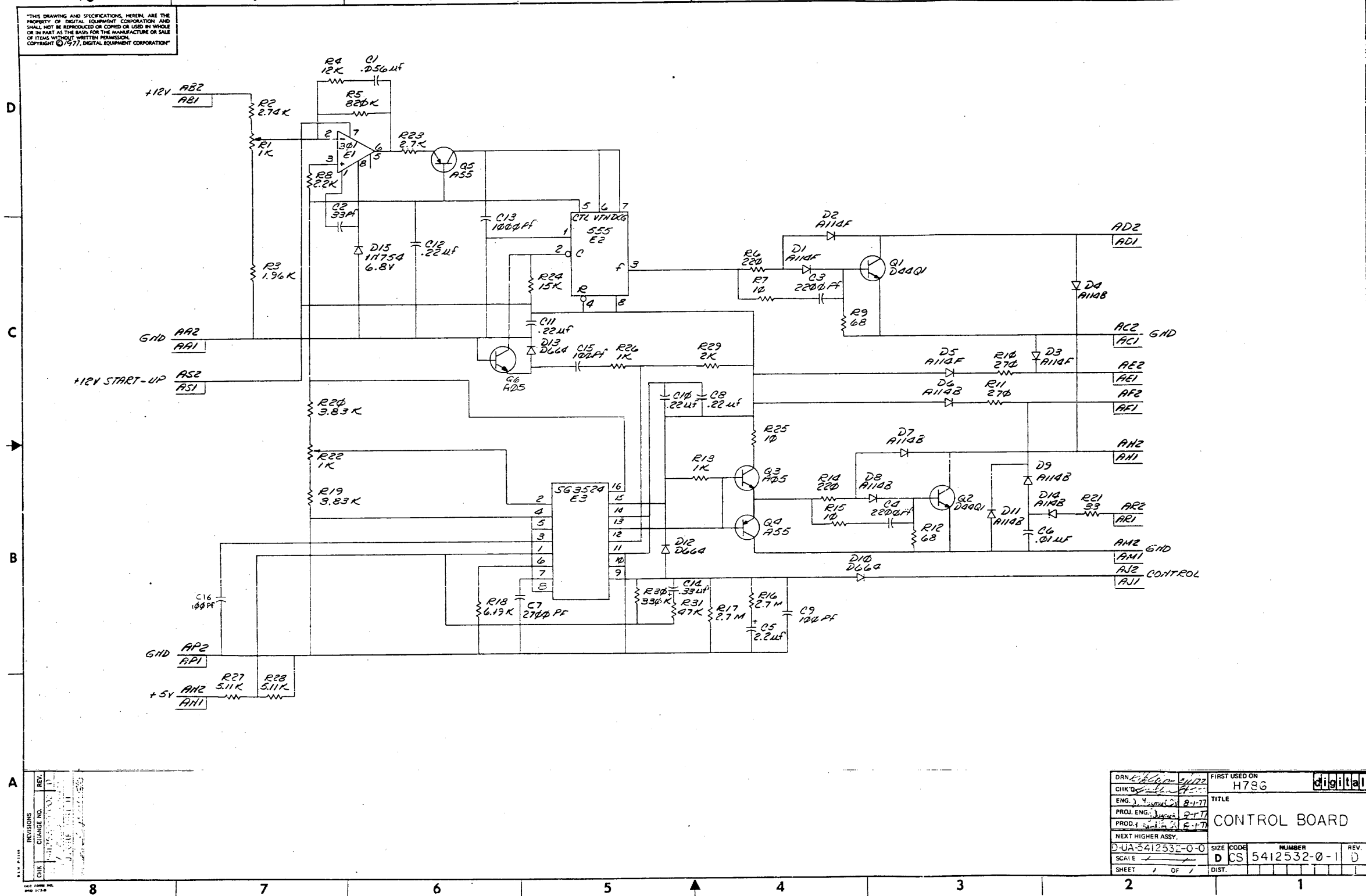
\*THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.  
COPYRIGHT 1978. DIGITAL EQUIPMENT CORPORATION \*



LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
31	31		1300496-00	15 K 1/4W 5% CC (13-00	1	R24
32	32		1304854-00	5.11 K 1/4W 1% RN55D-F 100PPM (13-00	2	R27,R28
33	33		1302388-00	2 K 1/4W 5% CC (13-00	1	R29
34	34		1302091-00	330 K 1/4W 5% CC (13-00	1	R30
35	35		1302177-00	47 K 1/4W 5% CC (13-00	1	R31
36	36		1514271-00	D 44Q1 NPN 4WC SI125 20	2	Q1,Q2
37	37		1510705-00	XA 05 NPN 500MW SI 60 50 P	2	Q3,Q6
38	38		1510706-00	XA 55 PNP 500MW SI 60 50 P	2	Q4,Q5
39	39		1910282-00	301AN OP AMP	1	E1
40	40		1911944-00	555CN TIMER,FUNCT.BLOCK	1	E2
41	41		1914250-00	3524 MODULATOR-REGULATING PULSE WID	1	E3
42	42		9009000-00	EYELET, ROLLED FLANGE, .121 OD X .156 LG	2	
43	43		1014170-00	2700.0 MMF 100V 1% 70PPM (10-00	1	C7
44	44		7418695-00	BAR, MODULE LOCKING	1	
45	45		9006732-00	EYELET, ROLLED FLANGE, .121 OD X .219 LG	2	

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE CONTROL BOARD	PARTS LIST	SIZE K	CODE PL	DOCUMENT NUMBER 5412532-0-0	REV F
---	------------------------	------------	-----------	------------	--------------------------------	----------

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 © 1977, DIGITAL EQUIPMENT CORPORATION



DRN: 5412532-0-0	FIRST USED ON: H786	digital
CHK'D: [Signature]	TITLE: CONTROL BOARD	
ENG: [Signature]	PROJ. ENG: [Signature]	
PROD. [Signature]	PROD. [Signature]	
NEXT HIGHER ASSY:	SIZE CODE: D CS	NUMBER: 5412532-0-1
SCALE: 1/16"	SHEET: 1 OF 1	REV: D

303



THIS DRAWING AND ANY INFORMATION HEREON ARE THE PROPERTY OF DIGITAL CORPORATION. IT IS TO BE USED ONLY AS AUTHORIZED BY WRITTEN AGREEMENT WITH DIGITAL CORPORATION. IT IS TO BE KEPT IN CONFIDENCE AND NOT TO BE DISCLOSED TO ANY OTHER PARTY WITHOUT WRITTEN PERMISSION. APPROVED: 1977

ETCH CUT SIDE 1  
Ø1ATR43

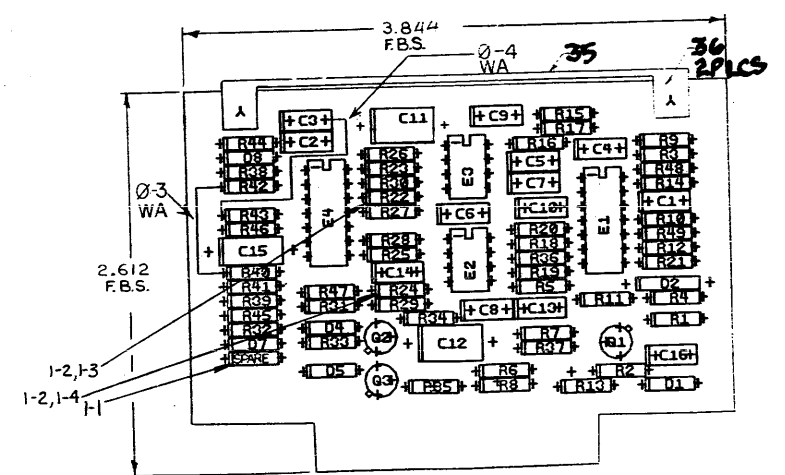
ETCH CUT SIDE 2  
Ø2ATR42

WIRE ADD SIDE 1  
Ø-3 FROM R40 TO R42  
Ø-4 FROM R43 TO C3

ECO #1  
COMPONENT DELETE SIDE 1:  
I-1 D6 (P/N: 1100114)  
I-2 R22, R24 (P/N: 1300479)  
COMPONENT ADD SIDE 1:  
I-3 R22 (P/N: 1303311-00)  
I-4 R24 (P/N: 1302685-00)

NOTES:

CHKCHANGE NO	REV	DATE	BY
5412528-000	B	11-1-77	LIBRECORICH
5412528-000	A	10-1-77	LIBRECORICH



SIGNATURES	DATE	TITLE
DRN. <i>Andy O'Neill</i>	11-1-77	H786
CHK'D. <i>Andy O'Neill</i>	11-1-77	POWER MONITOR
ENG. <i>Jim Sargent</i>	8-1-77	
PROJ. ENG. <i>J. Sargent</i>	8-1-77	
PROD. <i>Paul Hamilton</i>	9-1-77	
SCALE 2/1		
SHT. 1 OF 3		
NEXT HIGHER ASSY. 8-DD-5412528-0		

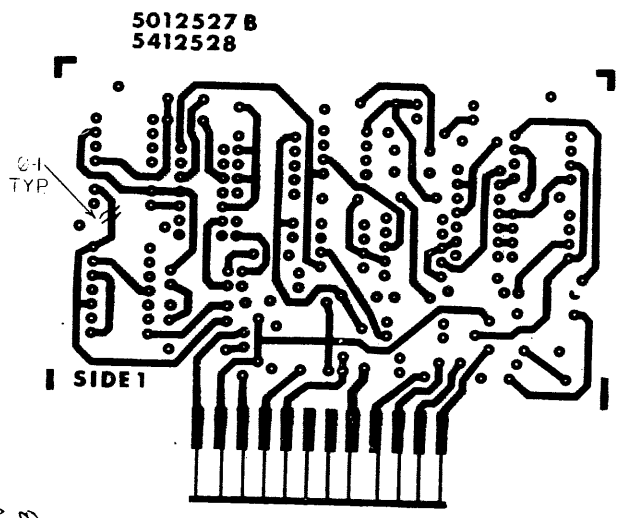
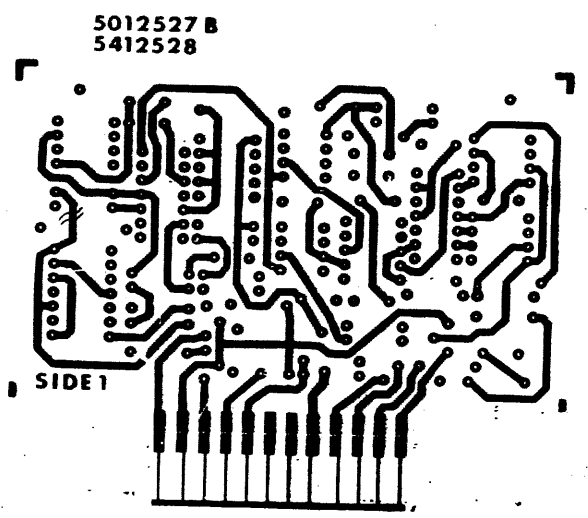
ETCH REV. B  
P.C. DESIGN DATA BASE REV. B

digital  
SIZE CODE NUMBER REV  
D UA 5412528-0 B

1 MS#104534

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 © 1970, DIGITAL EQUIPMENT CORPORATION.

9 2



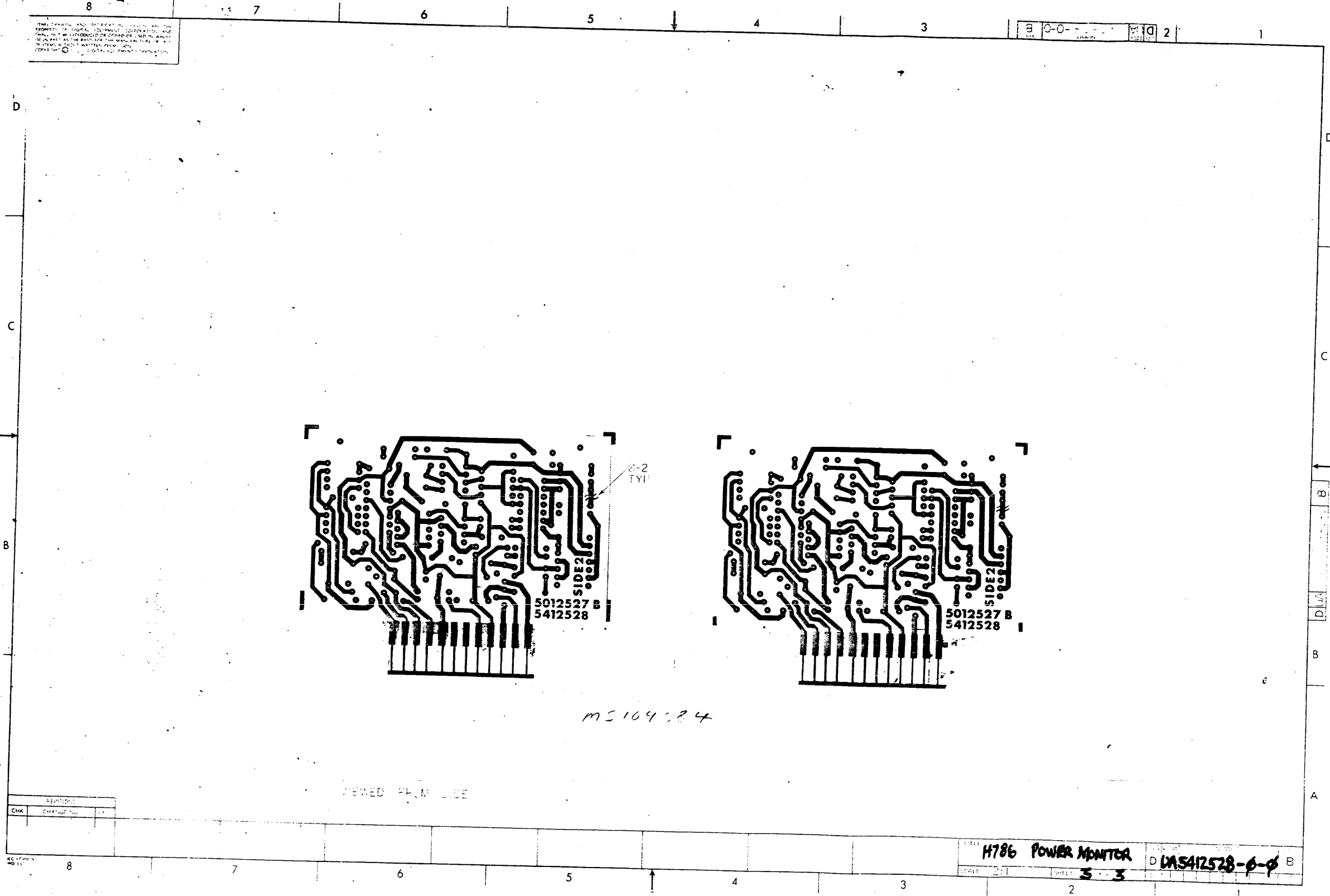
W 10 4 2 8 4

VIEWED FROM SIDE 2

REV	DATE	BY	CHKD

H786 POWER MONITOR D 44541252B-0-0 B

THIS DRAWING AND INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE AND IS TO BE RELEASED TO THE PUBLIC IN FULL AS THE BASIS FOR THE MANUFACTURE OF A COPY OF THIS DRAWING FOR THE PURPOSES OF THE NATIONAL DEFENSE SCIENCE AND ENGINEERING INFORMATION PROGRAM.



MS109584

VIEWED FROM SIDE

REVISIONS	
CHK	CHANGE NO.

H786 POWER MONITOR  
 D 5412528-6-φ B  
 SCALE 2:1  
 SHEET 3-3

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY R. KOPPENAL	CHECKED <i>[Signature]</i>	SECTION 1
DATE 7 APR 77	DATE 8/3/77	
ENG Jim Gregory DBB	PROD Ralph Hamilton	ISSUED SECTION 1
DATE 8-1-77	DATE 8-1-77	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION												REF DESIGNATION		
				1	2	3	4	5	6	7	8	9	10	11	12			
1	D-MD-5012527-0-0	5012527	ETCHED CIRCUIT BOARD	1														C1, C2, C3, C4, C9, C10, C13, C16
2		1010274	CAP., .22 UF, +80% -20% CER.	8														C14
3		1000016	CAP., 100 PF, 100V MICA	1														C7, C8
4		1001610-00	CAP., .01 UF, 50V CER	2														C11, C12
5		1010031-03	CAP., .22 UF, +10% POLYCARB	2														C15
6		1005116	CAP., .0033 UF, 200V MYLAR	1														D1
7		1100125	DIODE, 1N758A, 10V	1														D2
8		1105873	DIODE, 4M5.1, 5.1V	1														D4, D5, D7, D8
9		1100114	DIODE, D664	4														R1
10		1301322	RES., 180, 1/4W, 5% C.C.	1														R2, R3, R9, R13
11		1301808	RES., 22K, 1/4W, 5% C.C.	4														R4
12		1300247	RES., 120, 1/4W, 5% C.C.	1														R5
13		1303364	RES., 51.1K, 1/4W, 1% M.F.	1														R6
14		1311320	RES., 90.9K, 1/4W, 1% M.F.	1														R7
15		1309289	RES., 63.4K 1/4W, 1% M.F.	1														R10, R17, R20, R32, R33, R34,
16		1300479	RES., 10K, 1/4W, 5% C.C.	10														R38, R42, R49, R35
17		1305421	RES., 35.7K, 1/4W, 1% M.F.	2														R11, R12
18		1300539	RES., 120K, 1/4W, 5% C.C.	1														R14
19		1305130	RES., 133K, 1/4W, 1% M.F.	1														R8
20		1309595	RES., 1M, 1/4W, 5% C.C.	6														R15, R18, R30, R37, R36, R44

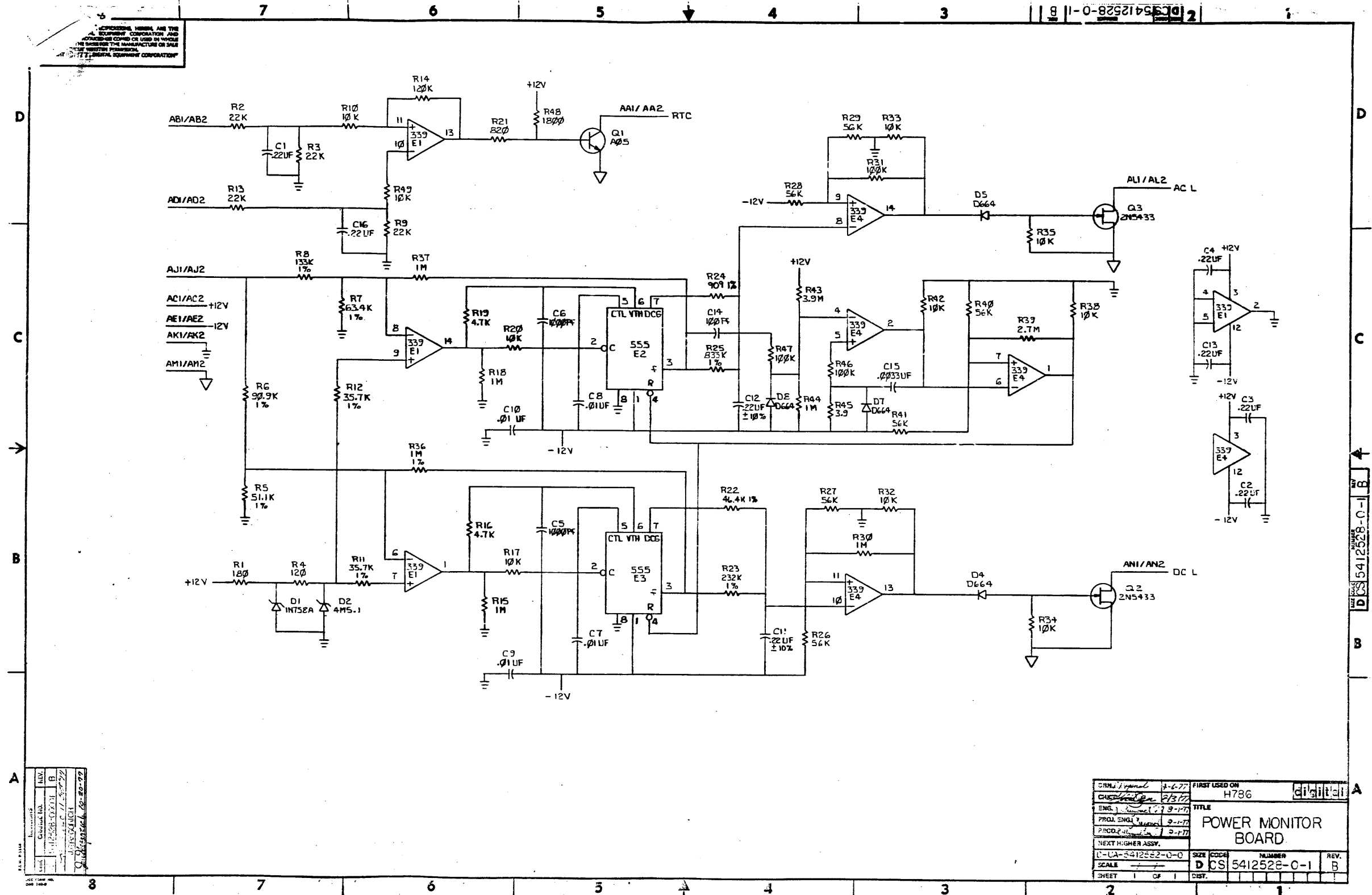
NOTES:

<p>E.C.O. NO. 0001</p> <p>"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 © 1977 DIGITAL EQUIPMENT CORPORATION"</p>	<p>TITLE POWER MONITOR BOARD</p>	<p>ASSY NO. D-UA-5412528-0-0</p>	<p>SIZE B</p>	<p>CODE PL</p>	<p>NUMBER 5412528-0-0</p>	<p>REV. B</p>
		<p>SHEET 1 OF 2</p>	<p>INSERTION PARTS LIST DATA BASE REV B</p>			





EXCEPTIONS, MISUSE, AND THE  
 EQUIPMENT CORPORATION AND  
 CONTRACTS COMBINED OR USED IN WHOLE  
 OR IN PART FOR THE MANUFACTURE OR SALE  
 OF ANY EQUIPMENT.  
 © 1977, DIGITAL EQUIPMENT CORPORATION



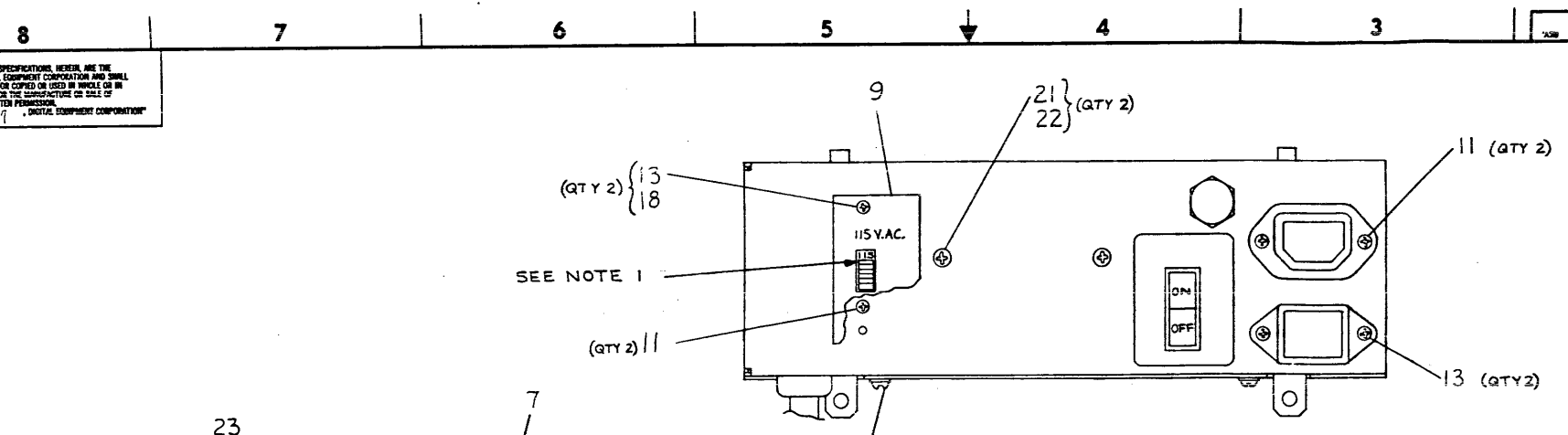
REV.	B
DATE	11-17-77
BY	WJ
CHKD	WJ
APP'D	WJ
DATE	11-17-77
BY	WJ
CHKD	WJ
APP'D	WJ
DATE	11-17-77

DATE	11-17-77	FIRST USED ON	H786
DESIGNED BY	WJ	TITLE	POWER MONITOR BOARD
ENG. 1	WJ	PROJ. ENGR.	WJ
PROD. ENGR.	WJ	SCALE	
NEXT HIGHER ASSY.		SIZE	D
U-CA-5412522-0-0		NUMBER	5412522-C-1
SHEET	1	OF	1
		REV.	B

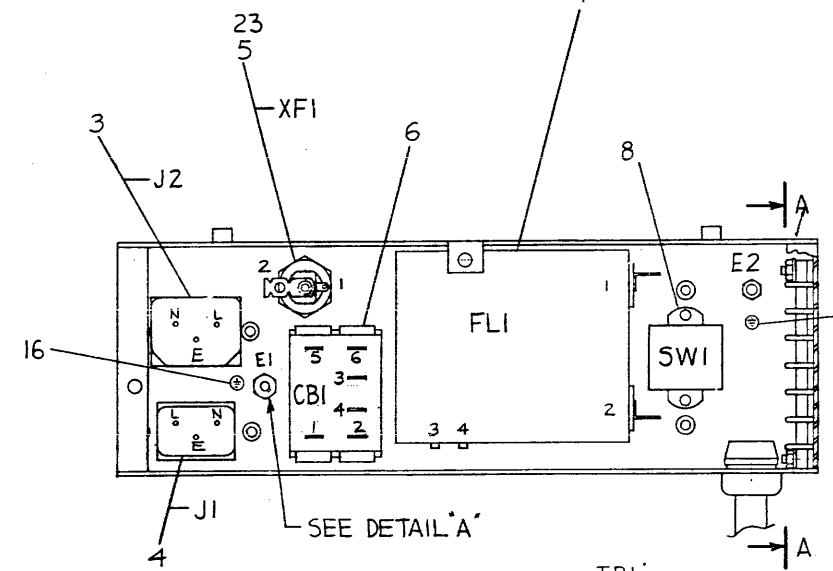
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION.

C-0-100107 Crd 2

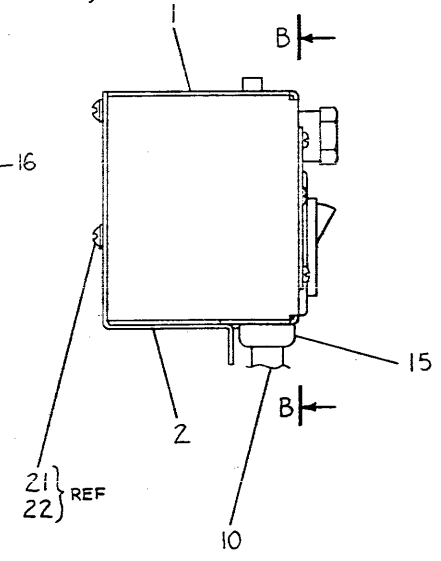
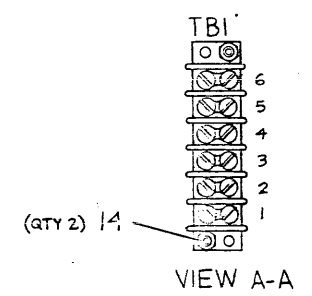
NOTES:  
1. MOUNT SWITCH AS SHOWN SO THAT WITH SWITCH LEVER DOWN 115V IS INDICATED ON TOP.



VIEW B-B



DETAIL A  
SCALE: 1/1  
2 PLACES



1	FUSE, 10 AMP FASTBLOW	9008350	23
7	WASHER, INT. TOOTH LOCK #6	9006633	22
7	SCR., PHL. HD. TRUS#6-32 X 5/16	9006021-03	21
2	WASHER, EXT. TOOTH LOCK #8	9008072	20
2	NUT, KEP #8-32	9006363	19
2	WASHER, INT TOOTH LOCK #4	9006632	18
2	PIGGYBACK QUICK CONN. TERM.	9007925-03	17
2	DECALS, GROUND SYM.	3612680-01	16
1	STRAIN RELIEF	9008509	15
2	NUT, KEP #4-40	9006557	14
4	SCR., PHL HD. PAN#4-40 X .33	9006011-01	13
A/R	WIRE, #18 STRD (BRN)	9107756-11	12
4	SCR, FLT C%K HD#4-40 X .25	9006009-02	11
1	A/C BOX MAIN CABLE (ANCSA)	E-1A-7015431-0-0	10
1	PLATE, VOLTAGE SELECT	C-1A-7418373-0-0	9
1	VOLTAGE SWITCH ASSY	C-1A-7015432-0-0	8
1	FILTER, LINE INTERFERENCE	1214139	7
1	CIRCUIT BREAKER, MAGNETIC	1214134	6
1	FUSEHOLDER, RECEPTACLE	1212593	5
1	CONN., PWR RECP (MALE)	C-1A-7015522-0-0	4
1	CONN., PWR RECP (FEMALE)	C-1A-7015521-0-0	3
1	COVER, A/C BOX	D-1A-7418334-0-0	2
1	BOX, A/C INPUT	D-1A-7418332-0-0	1

THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
REMOVE SURRS AND BREAK SHARP CORNRS	ANGLE 10°/20°
DO NOT SCALE DIM	SURFACE QUALITY IN
SEE PARTS LIST	QUANTITY & VARIATION
	FINISH
	DRN. CONTROL
	CHK'D
	ENG.
	PROL. ENG.
	PROD.
	DO NOT SCALE DIM
	DATE
	SHEET
	REV.
	NUMBER
	SCALE
	DIST.
	REV.

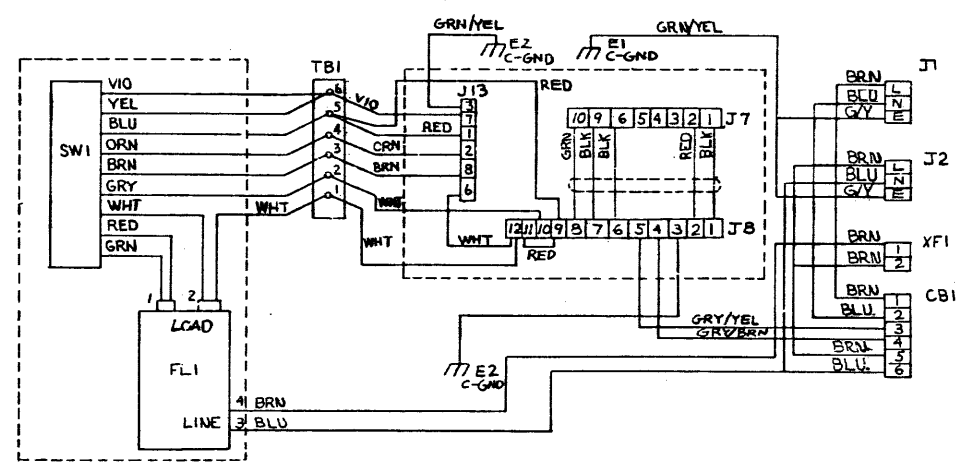
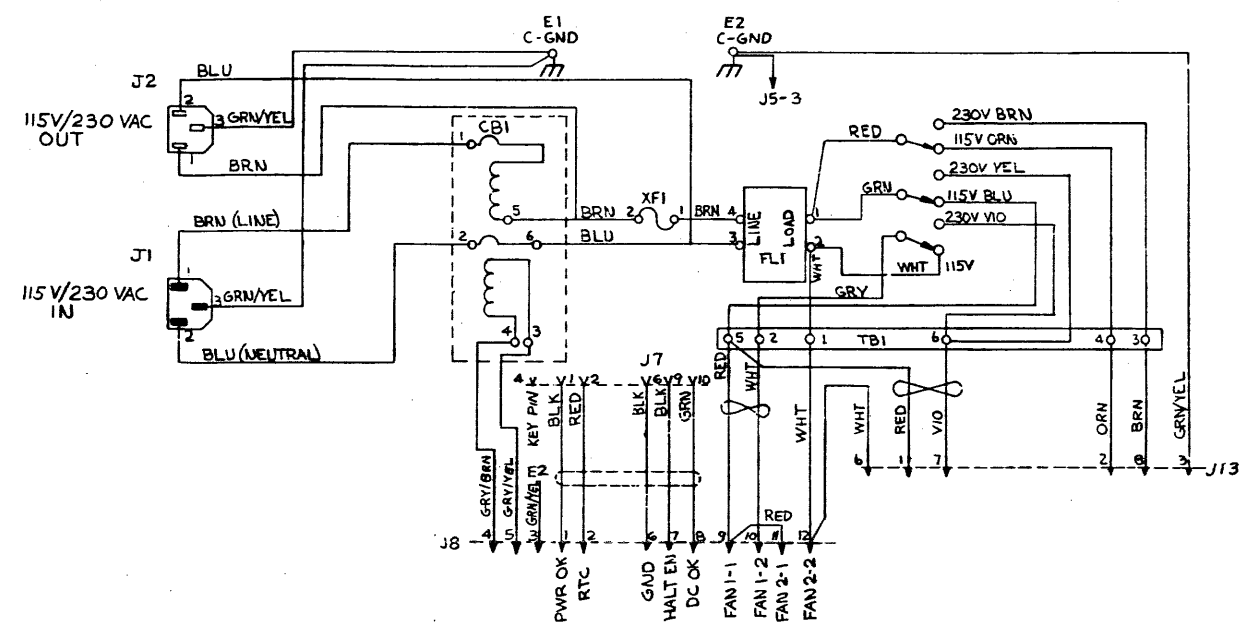
TITLE: A/C INPUT BOX ASSY  
MNOBA  
D 1A0 7014991-0-0  
MR

REV.	
CHANGE NO.	
CHK	

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 © 1977 DIGITAL EQUIPMENT CORPORATION

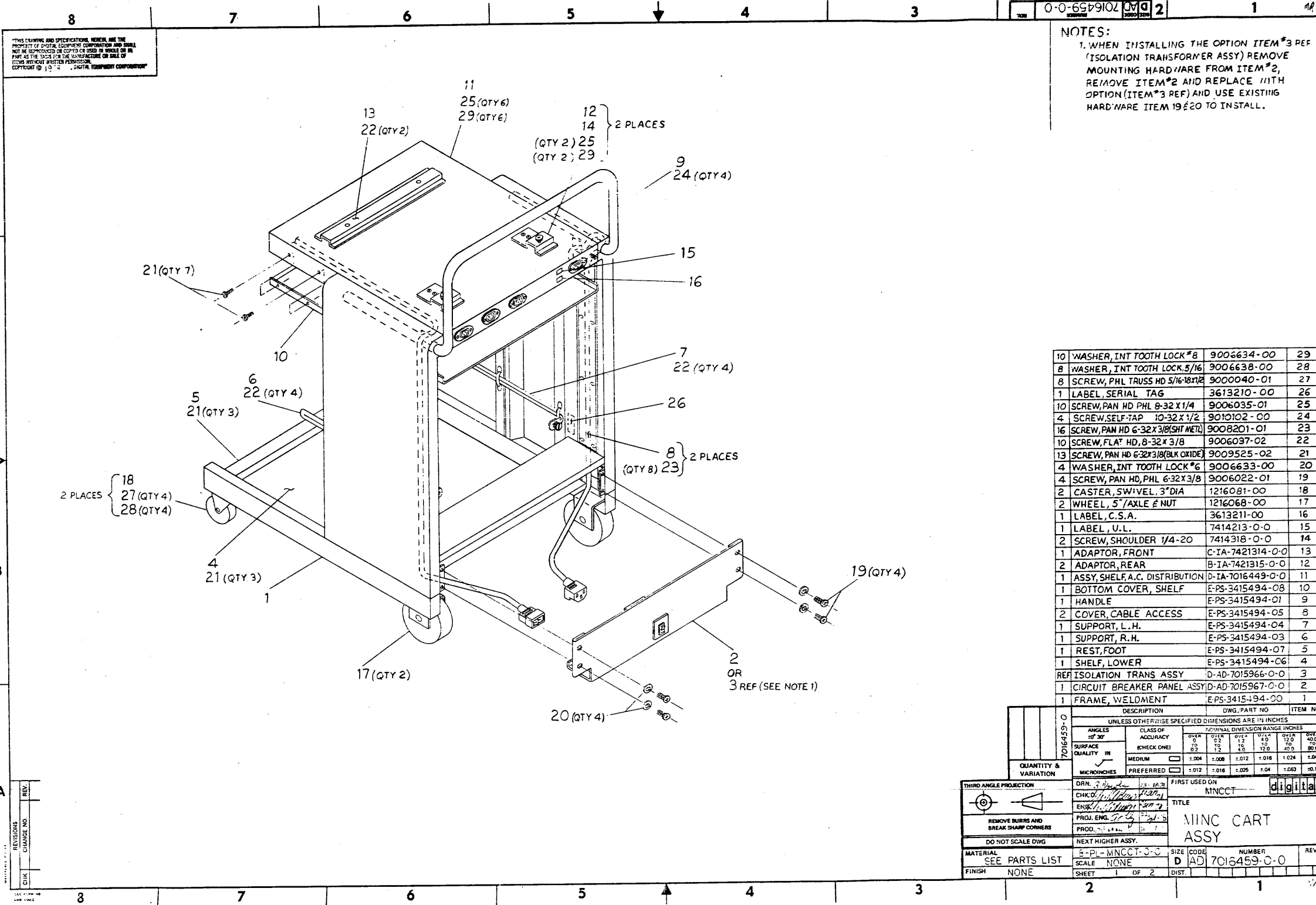
WIRE TABLE

ITEM NO	DESCRIPTION	FROM			TO			REMARKS	
		AWG	COLOR	POINT	CONN	TERM	POINT		CONN
10	18	VIO	11				TBI-6		WIRE HARNESS
		RED	12,13				TBI-5		
		ORN	14				TBI-4		
		BRN	15				TBI-3		
		WHT	16				TBI-2		
		18	WHT	17			TBI-1		
		14	GRN/YEL	7			E2 (GND)		
		14	GRN/YEL	8			E2 (GND)		
8	18	GRY/BRN	9				CBI-4		WIRE HARNESS
		RED	10				CBI-3		
		GRN	7				FLI-1		
	WHT	8				FLI-2			
12	18	BRN		XFI-2	SOLDER		CBI-5	17	3.75
7	18	BLU		FLI-3			CBI-6	17	6.00
7	18	BRN		FLI-4			XFI-1	SOLDER	6.00
3	18	BLU	3	J2-N			CBI-6		
	18	BRN	1	J2-L			CBI-5		
4	14	GRN/YEL	2	J2-E			E1 (GND)		
	18	BRN	3	J1-L			CBI-1		
4	18	BLU	1	J1-N			CBI-2		
4	14	GRN/YEL	2	J1-E			E1 (GND)		



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: A/C INPUT BOX ASSY  
 SIZE CODE: D AD  
 NUMBER: 7014991-0-0  
 SCALE: --- SHEET 2 OF 2  
 DIST.:



THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1973 DIGITAL EQUIPMENT CORPORATION

NOTES:  
 1. WHEN INSTALLING THE OPTION ITEM #3 REF (ISOLATION TRANSFORMER ASSY) REMOVE MOUNTING HARDWARE FROM ITEM #2, REMOVE ITEM #2 AND REPLACE WITH OPTION (ITEM #3 REF) AND USE EXISTING HARDWARE ITEM 19 & 20 TO INSTALL.

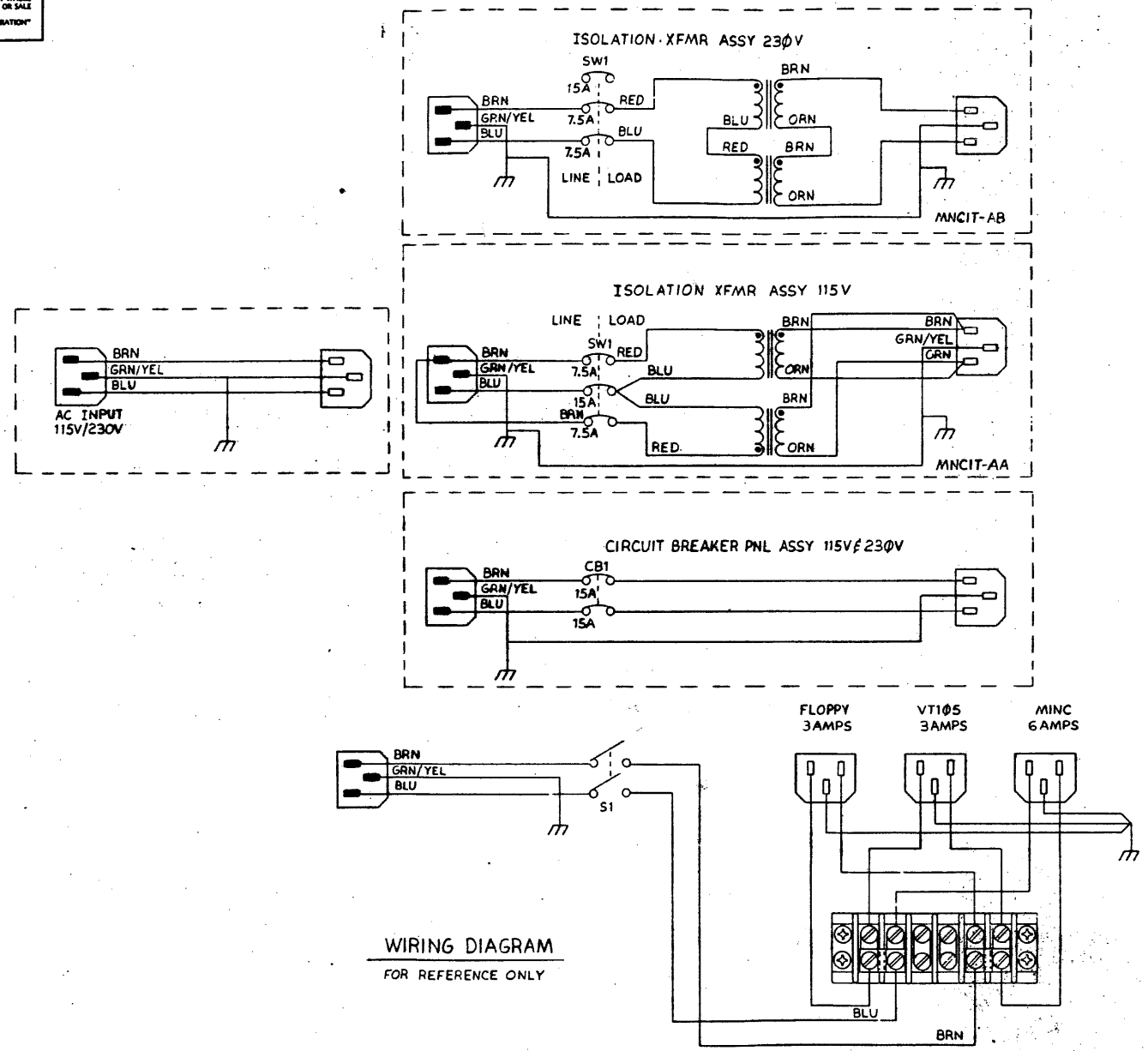
10	WASHER, INT TOOTH LOCK #8	9006634-00	29
8	WASHER, INT TOOTH LOCK 5/16	9006638-00	28
8	SCREW, PHL TRUSS HD 5/16-18X1/2	9000040-01	27
1	LABEL, SERIAL TAG	3613210-00	26
10	SCREW, PAN HD PHL 8-32 X 1/4	9006035-01	25
4	SCREW, SELF-TAP 10-32 X 1/2	9010102-00	24
16	SCREW, PAN HD 6-32 X 3/8 (SHI METL)	9008201-01	23
10	SCREW, FLAT HD, 8-32 X 3/8	9006037-02	22
13	SCREW, PAN HD 6-32 X 3/8 (BLK OXIDE)	9009525-02	21
4	WASHER, INT TOOTH LOCK #6	9006633-00	20
4	SCREW, PAN HD, PHL 6-32 X 3/8	9006022-01	19
2	CASTER, SWIVEL, 3" DIA	1216081-00	18
2	WHEEL, 5" AXLE # NUT	1216068-00	17
1	LABEL, C.S.A.	3613211-00	16
1	LABEL, U.L.	7414213-0-0	15
2	SCREW, SHOULDER 1/4-20	7414318-0-0	14
1	ADAPTOR, FRONT	C-IA-7421314-0-0	13
2	ADAPTOR, REAR	B-IA-7421315-0-0	12
1	ASSY, SHELF, A.C. DISTRIBUTION	D-IA-7016449-0-0	11
1	BOTTOM COVER, SHELF	E-PS-3415494-08	10
1	HANDLE	E-PS-3415494-01	9
2	COVER, CABLE ACCESS	E-PS-3415494-05	8
1	SUPPORT, L.H.	E-PS-3415494-04	7
1	SUPPORT, R.H.	E-PS-3415494-03	6
1	REST, FOOT	E-PS-3415494-07	5
1	SHELF, LOWER	E-PS-3415494-06	4
REF	ISOLATION TRANS ASSY	D-AD-7015966-0-0	3
1	CIRCUIT BREAKER PANEL ASSY	D-AD-7015967-0-0	2
1	FRAME, WELDMENT	E-PS-3415494-00	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
ANGLES	CLASS OF ACCURACY
SURFACE QUALITY	IN
QUANTITY & VARIATION	MICROINCHES
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS
DO NOT SCALE DWG	NEXT HIGHER ASSY.
MATERIAL	SEE PARTS LIST
FINISH	NONE

REV.	
CHANGE NO.	
CHK	

313

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 © 1978 DIGITAL EQUIPMENT CORPORATION



WIRING DIAGRAM  
FOR REFERENCE ONLY

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MINC CART ASSY	SIZE CODE	DAD	NUMBER	7016459-0 0	REV.	
SCALE	NONE	SHEET	2	OF	2	DIST.	

314