



"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 © 77 DIGITAL EQUIPMENT CORPORATION"

- |                |        |
|----------------|--------|
| B-PL-M8227-0-0 | D.D.P. |
| D-CS-M8227-0-1 | D.D.P. |
| E-UA-M8228-0-0 | D.C.P. |
| B-PL-M8228-0-0 | D.C.P. |
| D-CS-M8228-0-1 | D.C.P. |
| E-UA-M8229-0-0 | D.A.P. |
| B-PL-M8229-0-0 | D.A.P. |
| D-CS-M8229-0-1 | D.A.P. |
| E-UA-M8230-0-0 | C.E.H. |
| B-PL-M8230-0-0 | C.E.H. |
| D-CS-M8230-0-1 | C.E.H. |
| E-UA-M8231-0-0 | I.C.L. |
| B-PL-M8231-0-0 | I.C.L. |
| D-CS-M8231-0-1 | I.C.L. |
| E-UA-M8232-0-0 | C.L.K. |
| B-PL-M8232-0-0 | C.L.K. |
| D-CS-M8232-0-1 | C.L.K. |
| E-UA-M8233-0-0 | W.C.S. |
| B-PL-M8233-0-0 | W.C.S. |
| D-CS-M8233-0-1 | W.C.S. |
| E-UA-M8234-0-0 | P.C.S. |
| B-PL-M8234-0-0 | P.C.S. |
| D-CS-M8234-0-1 | P.C.S. |
| E-UA-M8235-0-0 | U.S.C. |
| B-PL-M8235-0-0 | U.S.C. |
| D-CS-M8235-0-1 | U.S.C. |
| E-UA-M8236-0-0 | C.I.B. |
| B-PL-M8236-0-0 | C.I.B. |
| D-CS-M8236-0-1 | C.I.B. |
| E-UA-M8237-0-0 | T.R.S. |
| B-PL-M8237-0-0 | T.R.S. |
| D-CS-M8237-0-1 | T.R.S. |


TITLE	CPU ASSY (KA790)	SHEET 2 OF 2	SIZE CODE BTC	NUMBER KA780-0-1	REV A
-------	------------------	--------------	------------------	---------------------	----------

"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."

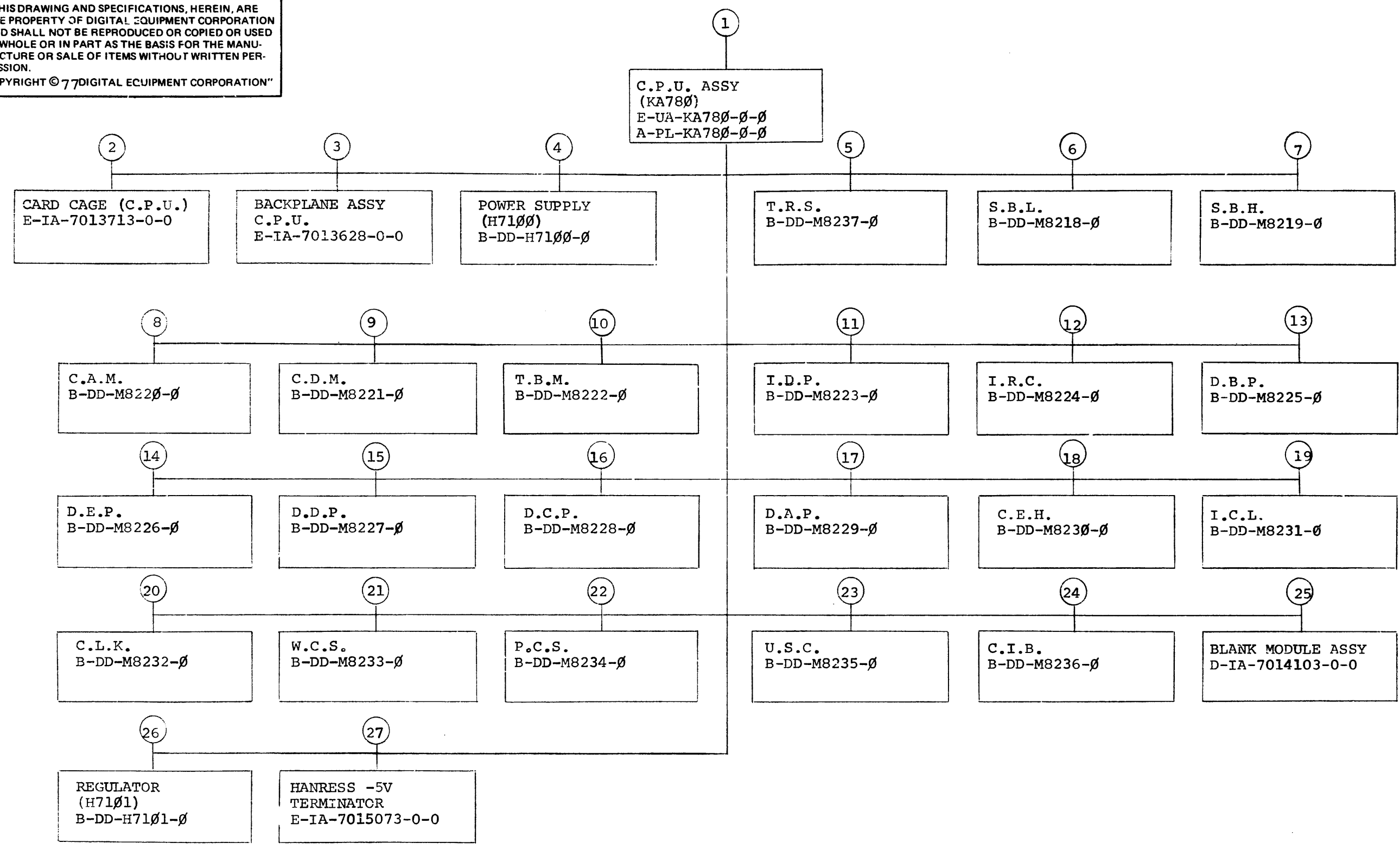
# DRAWING DIRECTORY

"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
KA780-AA	C.P.U. ASSY (KA780) 115V AC
KA780-AB	C.P.U. ASSY (KA780) 230V AC

REVISIONS	CHK	CHANGE NO.	REV.	USED ON OPTION/MODEL	DRN.	DATE	TITLE	 C.P.U. ASSY (KA780)				
		KA780-00001	A		11780	BOUDREAU						OCT 77
		KA780-TW-3	B			CHK'D.						DATE
						HEALY						NOV 77
						PROJ. ENG.						DATE
				E. Anton	15 NOV 77	SIZE	CODE	NUMBER	REV			
				PROD.	DATE	B	DD	KA780-0	B			
				SHEET 1 OF 4	Grant Lee	11/17/77	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 © 77 DIGITAL EQUIPMENT CORPORATION"



TITLE C.P.U. ASSY (KA780)	SHEET 2 OF 4	SIZE CODE B DD	NUMBER KA780-0	REV B
------------------------------	--------------	-------------------	-------------------	----------

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00496	CPU ASSY (KA780) (MP)	-		C-MD-7411399-0-0	SPACER BACK PANEL	M
	B-TC-KA780-0-1	CPU ASSY (KA780) (TC)	-		A-DC-7411881-0-0	DECAL A.W.T. REV. STATUS	M
	E-UA-KA780-0-0	CPU ASSY (KA780)	E/M		K-WL-7013628-0-1	WIRE LIST CPU	E
	A-PL-KA780-0-0	CPU ASSY (KA780) (PL)	E/M		A-WT-7013628-0	A.W.T. REV STATUS	E
	B-MD-7418902-0-0	PLATE, STUD	M				
	B-MD-7418903-0-0	"U" BAR	M				
	C-MD-7418904-0-0	PLATE, SUPPORT	M				
	B-MD-7419483-0-0	COVER, BUS BAR	M				
	D-IC-11780-0-1	11780 SYSTEM POWER DIAGRAM	E/M	4	B-DD-H7100-0	POWER SUPPLY (H7100)	E/M
	D-IC-11780-0-2	11780 SYSTEM INTERCONNECT DIAGRAM	E/M				
	D-IC-11780-0-3	11780 SUB SYSTEM INTERCONNECT	E/M				
	D-MU-KA780-0-2	KA780 MODULE UTILIZATION (CPU)	E				
	D-BD-KA780-0-3	CPU SYSTEM BLOCK DIAGRAM	E				
	D-FD-KA780-0-4	VAX AND CM MODE ENTRY POINTS	E	5	B-DD-M8237-0	T.R.S.	E/M
	D-IA-7014530-0-0	CABLE, POWER (RED)	E/M				
	D-IA-7014249-0-0	CABLE, POWER (BLACK)	F/M				
	D-IA-7014212-0-0	CABLE, AC, DC IO	E/M				
	E-IA-7015073-0-0	HARNESS, -5V TERMINATOR	E/M				
	C-MD-7419458-0-0	COVER, C.P.U. BACKPLANE	M	6	B-DD-M8218-0	S.B.L.	E/M
	E-AD-7014956-0-0	SUPPLY, UBA OPTION	E/M				
				7	B-DD-M8219-0	S.B.H.	E/M
2	E-IA-7013713-0-0	CARD CAGE (CPU)	M				
	C-MD-7417930-0-0	MOUNTING BAR VERTICAL	M	8	B-DD-M8220-0	C.A.M.	E/M
	C-MD-7417971-0-0	BRACKET BOTTOM REAR	M				
	B-MD-7417968-0-0	BRACKET CARD GUIDE	M				
	C-MD-7417972-0-0	BRACKET BOTTOM CARD GUIDE	M				
	C-MD-7417969-0-0	BRACKET TOP CARD GUIDE	M				
	C-MD-7417942-0-0	HANDLE, CARD CAGE	M	9	B-DD-M8221-0	C.D.M.	E/M
	C-MD-7417970-0-0	BRACKET, TOP REAR	M				
	C-MD-7418194-0-0	STIFFENER	M				
	C-MD-7418181-0-0	STIFFENER, CORNER CARD CAGE	M				
				10	B-DD-M8222-0	T.B.M.	E/M
3	E-IA-7013628-0-0	BACKPLANE ASSY (CPU)	E/M				
	E-MD-5012869-0-0	BOARD DRILL AND ETCH (CPU A,B,C)	E/M				
	E-MD-5012871-0-0	BOARD DRILL AND ETCH (CPU D,E,F)	E/M	11	B-DD-M8223-0	I.D.P.	E/M
	D-PS-1214348-0-0	BUS BAR	M				
	D-MD-7417868-0-0	BAR, MOUNTING CPU	M				
	D-MD-7409259-0-0	SUPPORT LOGIC FRAME SIDE	M				

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

digital

TITLE

C.P.U ASSY (KA780)

SHEET 3 OF 4

SIZE CODE  
B DD

NUMBER  
KA780-0

REV  
B

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
				21	B-DD-M8233-Ø	W.C.S.	E/M
12	B-DD-M8224-Ø	I.R.C.	E/M				
				22	B-DD-M8234-Ø	P.C.S.	E/M
13	B-DD-M8225-Ø	D.B.P.	E/M				
				23	B-DD-M8235-Ø	U.S.C.	E/M
14	B-DD-M8226-Ø	D.E.P.	E/M				
				24	B-DD-M8236-Ø	C.I.B.	E/M
15	B-DD-M8227-Ø	D.D.P.	E/M				
				25	D-IA-7014103-0-0	BLANK MODULE ASSY	M
16	B-DD-M8228-Ø	D.C.P.	E/M		E-ML-7418172-0-0	BLANK MODULE	M
				26	B-DD-H71Ø1-Ø	H71Ø1 REGULATOR	E/M
17	B-DD-M8229-Ø	D.A.P.	E/M				
				27	E-IA-7015073-0-0	HARNESS -5V TERMINATOR	E/M
18	B-DD-M823Ø-Ø	C.E.H.	E/M		A-DC-7409872-0-0	POWER HARNESS DECAL	M
19	B-DD-M8231-Ø	I.C.L.	E/M				
20	B-DD-M8232-Ø	C.L.K.	E/M				

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



TITLE C.P.U. ASSY (KA78Ø)

SHEET 4 OF 4

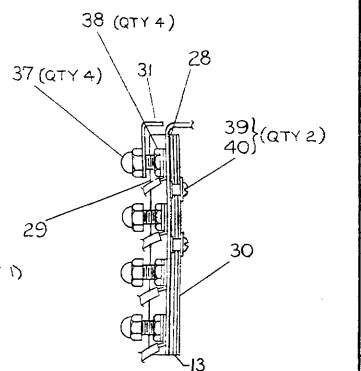
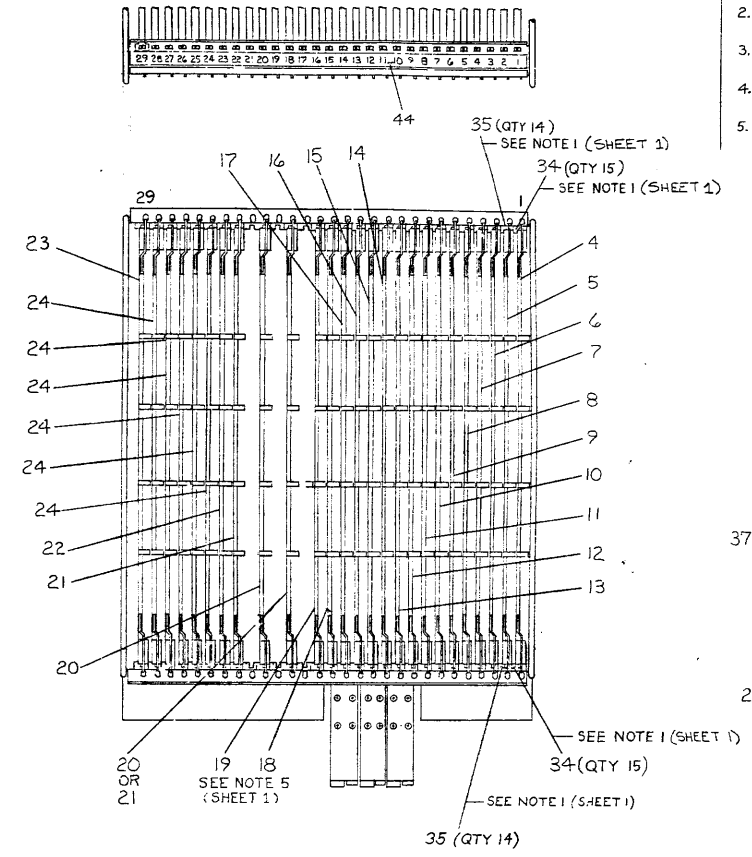
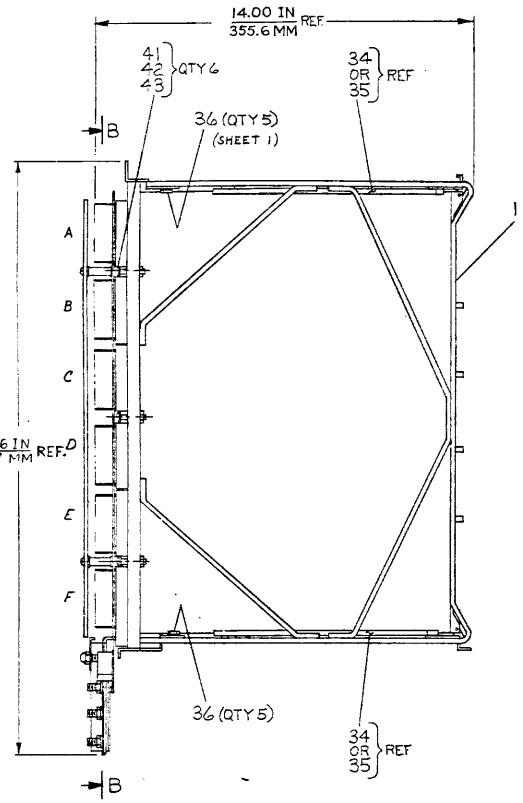
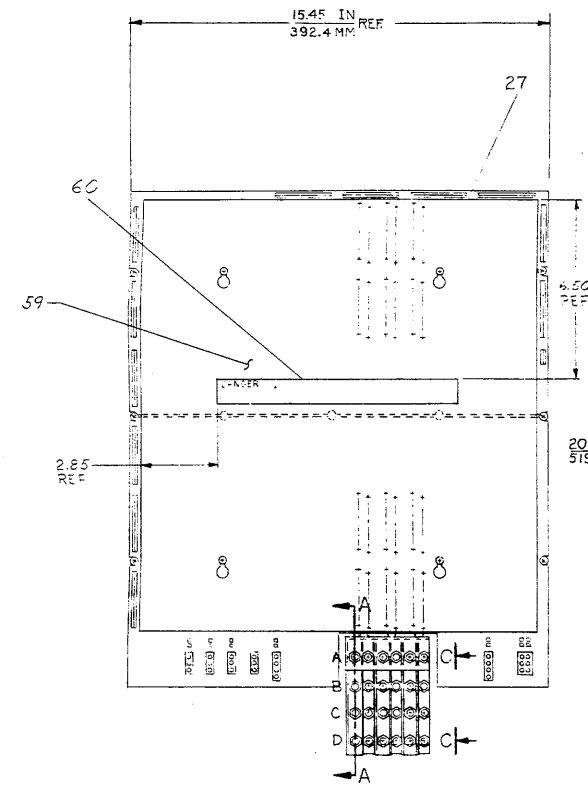
SIZE CODE B DD

NUMBER KA78Ø-Ø

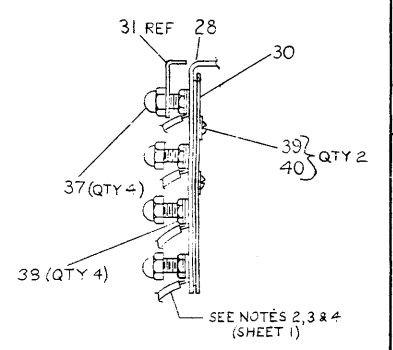
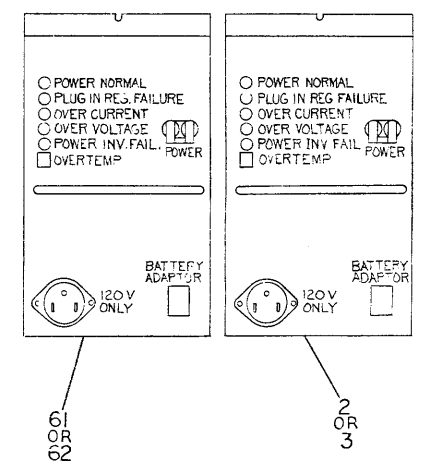
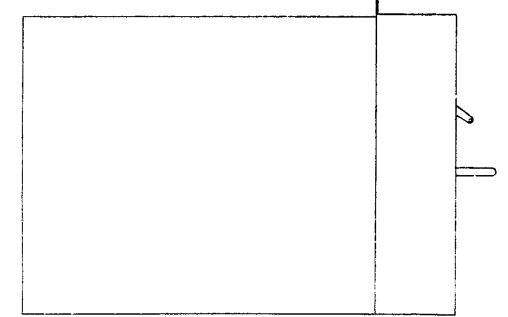
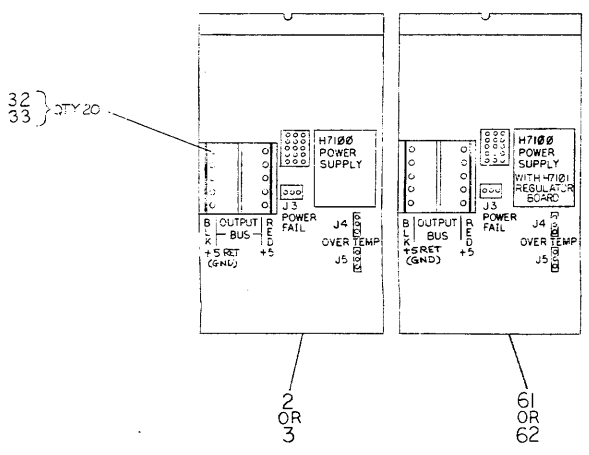
REV B

THIS DRAWING AND SPECIFICATION HEREBY 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

NOTES: (PERTAINS TO SHEET 1 ONLY)  
 1. CARD GUIDES TO BE INSTALLED AS FOLLOWS  
 ITEM 34 IN ODD ROWS 1, 3, 5 ETC  
 ITEM 35 IN EVEN ROWS 2, 4, 6 ETC  
 2. FOR SYSTEM INTERCONNECTION SEE D-IC-11780-O-3  
 3. FOR SYSTEM INTERCONNECTION DIAGRAM SEE E-IC-11780-O-2.  
 4. FOR SYSTEM INTERCONNECTION POWER DIAGRAM SEE D-IC-11780-O-1  
 5. FOR KA780 MODULE UTILIZATION SEE D-MU-KA780-O-4.



SECTION A-A  
 SCALE: 1/1  
 (TYP. 3 PLACES)



VIEW C-C  
 SCALE: 1/1  
 (TYP. 3 PLACES)

FOR PARTS LIST SEE A-PL-KA780-O-3

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		

QUANTITY & VARIATION		DESCRIPTION		DWG. PART NO.		ITEM NO.
3	20	H7180 POWER SUPPLY				
3	20	H7180 POWER SUPPLY WITH H7181 REGULATOR				
2	2	BATTERY ADAPTOR				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES 30° CLASS OF ACCURACY SURFACE QUALITY IN MICROFINISH FINISH UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES CLASS OF ACCURACY SURFACE QUALITY IN MICROFINISH FINISH UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES CLASS OF ACCURACY SURFACE QUALITY IN MICROFINISH FINISH						
3	20	H7180 POWER SUPPLY				
3	20	H7180 POWER SUPPLY WITH H7181 REGULATOR				
2	2	BATTERY ADAPTOR				
THIRD ANGLE PROJECTION CHECKED BY: [Signature] ENG. BY: [Signature] PROD. ENGR. BY: [Signature] DO NOT SCALE DWG. NEXT HIGHER ASSY.: MATERIAL: [Blank] SEE PARTS LIST: [Blank] SCALE: 1/2 SHEET 1 OF 2 DIST. TW 1						

FOR J10 USAGE SEE CPU TR ARBITRATION LEVEL SELECTION

J10	
PIN	SIGNAL NAME
B	TR SEL 1 L
D	TR SEL 2 L
F	TR SEL 4 L
J	TR SEL 8 L

CONNECTORS J1-J6 ARE SBI SIGNALS OUT AND CONNECT TO ANOTHER BACKPLANE (E.G. UBA, MBA) OR A TERMINATOR

FOR J11 & J12 USAGE SEE PCS/WCS JUMPER CONFIGURATION TABLE AT FAR RIGHT.

J11		J12	
PIN	TO	PIN	TO
X	C18B1	B	C22B1
Z	C18L1	D	C22L1
BB	C18L2	F	C22L2
DD	C18M1	J	C22M1
FF	C18V2	L	C22V2
LL	C20B1		
NN	C20L1		
RR	C20L2		
TT	C20M1		
VV	C20V2		

FOR J11 & J12 USAGE SEE PCS/WCS JUMPER CONFIGURATION TABLE AT FAR RIGHT.

LSI II BUS

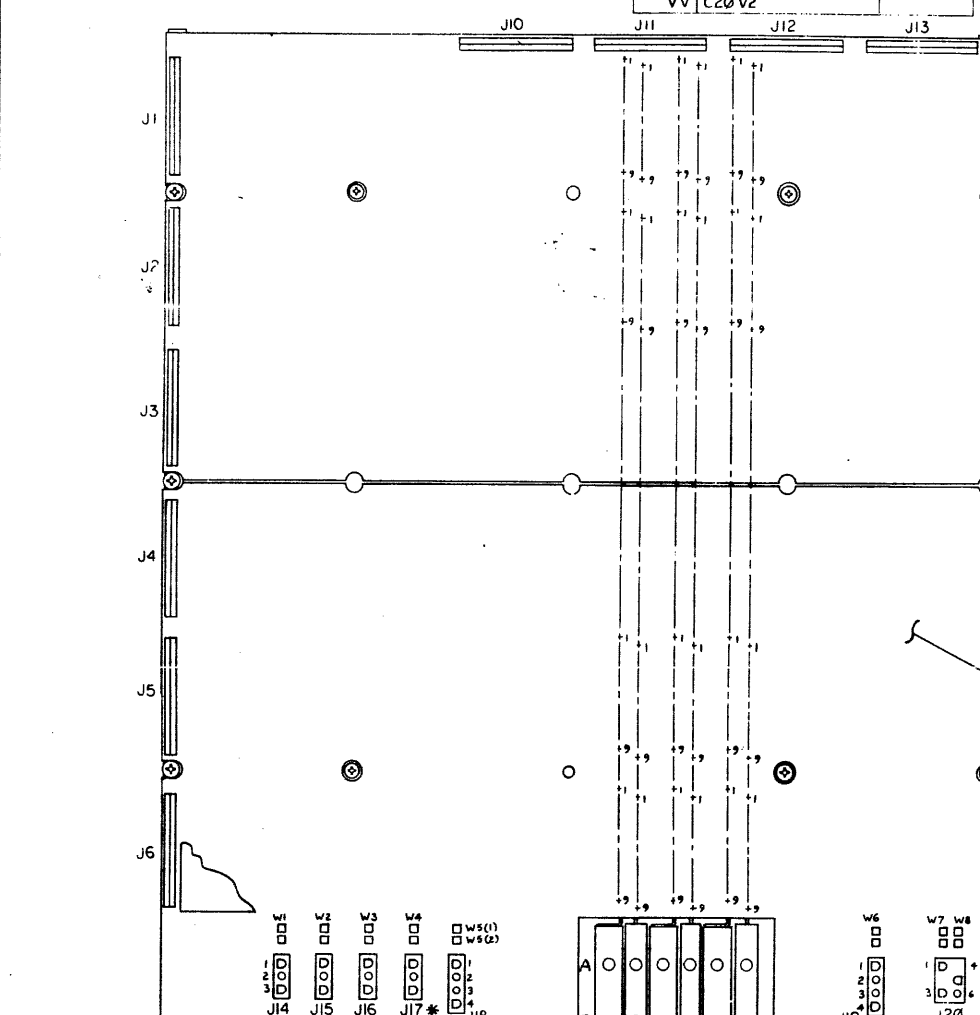
PIN	TO	SIGNAL NAME
C	B29R1	BEVNT L
E	B29N1	BSACK L
K	B29B1	BPOK L
M	B29A1	BDCOK L
S	A29R1	BREF L
W	A29S1	BHALT L
Y	B29S1	BINIT L
CC	B29B2	BDMR L
EE	A29M2	BIAKI L
HH	A29L2	BIRQ L
KK	A29J2	BSYNC L
MM	A29D2	BDIN L
PP	B29D2	BRPLY L
SS	A29E2	BDOUT L

SYSTEM IDENTITY (SYSID) REGISTER

CIBH SYSID SV (31:00)H	BIT	WIRE WRAPPED CONNECTION (REMOVE JUMPER TO ASSERT BIT)
31	J12-V	F29R2
30	J12-X	F29U2
29	J12-Y	F29V2
28	J12-BB	F29T2
27	J12-DD	F29L2
26	J12-FF	F29P2
25	J12-JJ	F29M2
24	J12-LL	F29S2
23	J12-NN	C29D2
22	J12-RR	C29D1
21	J12-TT	F29K2
20	J12-VV	F29B1
19	J13-B	E29P1
18	J13-D	E29N1
17	J13-F	E29A1
16	J13-J	E29R2
15	J13-L	D29D1
14	J13-M	D29P1
13	J13-R	E29H2
12	J13-T	D29A1
11	J13-V	D29N1
10	J13-X	D29B1
9	J13-Z	C29S2
8	J13-BB	C29T2
7	J13-DD	C29U2
6	J13-FF	C29U1
5	J13-JJ	C29P2
4	J13-LL	C29P1
3	J13-NN	C29M1
2	J13-RR	C29B1
1	J13-TT	C29C1
0	J13-VV	C29N1

NOTES: (PERTAINS TO SHEET #2 ONLY.)

- CPU TR SELECTION
  - SELECT DESIRED TR LEVEL
  - SET THE TR SEL JUMPERS FOR DESIRED TR LEVEL FROM CHART
  - ALL TR LEVELS OTHER THAN TR16 REQUIRE A TR JUMPER TO BE WIRE WRAPPED ON THE CPU BACK PANEL SLOT 2
  - SELECT TR JUMPER FROM CHART. MAKE WIRE WRAP CONNECTION ON SLOT 2 (IF JUMPER IS REQUIRED)
- JUMPER PART NUMBER 1214314-0-0
- NORMAL I1780 WCS/PCS CONFIGURATION IS:
  - SLOT 18 - OPTIONAL
  - SLOT 20 - WCS
  - SLOT 22 - PCS - J12-L, J12-J, J12-F, J12-D, J12-B ARE REMOVED.
- A. PS#1 SOURCES SLOTS 4 THRU 16. J12-B ARE REMOVED.  
 B. PS#2 SOURCES SLOTS 1 THRU 3, 10, 22, 23, AND 29.  
 C. PS#3 SOURCES SLOTS 18, AND 24 THRU 28.



(J8)

PIN	TO	SIGNAL NAME
C	B29P1	BS57 L
E	A29K2	BWTBT L
H	B29V2	BDAL 15 L
K	B29U2	BDAL 14 L
M	B29T2	BDAL 13 L
P	B29S2	BDAL 12 L
S	B29R2	BDAL 11 L
U	B29P2	BDAL 10 L
W	A29M1	BDAL 09 L
Y	B29M2	BDAL 08 L
AA	B29L1	BDAL 07 L
CC	B29F1	BDAL 06 L
EE	B29E1	BDAL 05 L
HH	B29D1	BDAL 04 L
KK	B29C1	BDAL 03 L
MM	B29E2	BDAL 02 L
PP	A29V2	BDAL 01 L
SS	A29U2	BDAL 00 L

SCP SIGNAL

PIN	TO	SIGNAL NAME
A	A29A1	SCPA BOOT SW H
B	A29B2	SCPA AUTO RESTART H
C	A29F1	SCPA LOCK H
D	A29D1	CIBN RUN H
E	A29E1	CIBN ATTN H
F	A29K1	SCPA REMOTE H

SEE NOTE 4 (SHEET 2)

CPU TR ARBITRATION LEVEL SELECTION

TR, ID LEVEL	J10 TR SEL JUMPER POINTS				TR ARBITRATION LEVEL SELECT (WIRE WRAPPED JUMPER)	
	J10-J	J10-F	J10-D	J10-B	FROM	TO
16	I	I	I	I	— * *	
15	I	I	I	I	SBLU MY BUS TR L (F02M2)	F02U2 (BUS SBI TR15 L)
14	I	I	I	I		F02U1 TR14 L
13	I	I	I	I		F02T2 TR13 L
12	I	I	I	I		F02S2 TR12 L
11	I	I	I	I		F02P2 TR11 L
10	I	I	I	I		F02P1 TR10 L
09	I	I	I	I		F02N1 TR09 L
08	I	I	I	I		F02M1 TR08 L
07	I	I	I	I		F02J2 TR07 L
06	I	I	I	I		F02J1 TR06 L
05	I	I	I	I		F02H2 TR05 L
04	I	I	I	I		F02F2 TR04 L
03	I	I	I	I		F02E1 TR03 L
02	I	I	I	I		F02D1 TR02 L
01	I	I	I	I	SBLU MY BUS TR L (F02M2)	F02C1 (BUS SBI TR01 L)

SEE NOTE #1.#2 (SHEET 2)

PCS - BACKPLANE SLOT 22 (SEE NOTE 3) BANK ADDRESS SELECT (SHEET 2)

BANK ADDRESS	J12 (I-INSTALL JUMPER)				
	L	J	F	D	B
0-4K	I	-	-	-	-

WCS BACKPLANE SLOT 20 (SEE NOTE 3) BANK ADDRESS SELECT (SHEET 2)

BANK ADDRESS	J11 (I-INSTALL JUMPER)				
	VV	TT	RR	NN	LL
0-1K	-	I	I	I	-
1-2K	-	I	I	-	I
2-3K	-	I	-	I	I
3-4K	-	-	I	I	I
4-5K	I	I	I	I	-
5-6K	I	I	I	-	I
6-7K	I	I	-	I	I
7-8K	I	-	I	I	I

OPTIONAL WCS BACKPLANE SLOT 18 BANK ADDRESS SELECT (SEE NOTE 3, SHEET 2)

BANK ADDRESS	J11				
	FF	DD	BB	Z	X
0-1K	-	I	I	I	-
1-2K	-	I	I	-	I
2-3K	-	I	-	I	I
3-4K	-	-	I	I	I
4-5K	I	I	I	I	-
5-6K	I	I	I	-	I
6-7K	I	I	-	I	I
7-8K	I	-	I	I	I

J14 PIN  
 W1-1 1-SUPPLY 4 ACLO  
 W1-2 2-SUPPLY 4 DCLO  
 3-GND

J15 PIN  
 W2-1 1-SUPPLY 3 ACLO  
 W2-2 2-SUPPLY 3 DCLO  
 3-GND

J16 PIN  
 W3-1 1-SUPPLY 2 ACLO  
 W3-2 2-SUPPLY 2 DCLO  
 3-GND

J17 \* PIN  
 W4-1 1-SUPPLY 1 ACLO  
 W4-2 2-SUPPLY 1 DCLO  
 3-GND

J18 PIN  
 W5-1 1--5V (SUPPLY 4)  
 W5-2 2--5V (SUPPLY 4)  
 3-GND  
 4-GND

J19 PIN  
 W6-1 1--5V TO SYSTEM CONTROL PANEL  
 W6-2 2-CIBP FLOPPY ON H  
 3-GND  
 4-GND

J20 PIN  
 W7-1 1-TIME OF DAY CLOCK +5V  
 2-UNUSED  
 3-GND  
 W8-1 4-BATTERY DCLO  
 5-UNUSED  
 6-GND

\*W3:1,2 WILL BE JUMPED TO W4:1,2 IF POWER SUPPLY #1 IS NOT INSTALLED IN THE SYSTEM

\*\* NORMAL PROCESSOR CONFIGURATION



DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION											
MADE BY	W. FISHER	CHECKED	D. HEALY	SECTION											
DATE	1 AUG 77	DATE	3 AUG 77	1											
ENG	<i>Edward E. Antler</i>	PROD	<i>E. Healy</i>	ISSUED SECT.											
DATE	14 Sept 77	DATE	11/4/77	1											
ITEM NO.	DWG NO./PART NO.	DESCRIPTION			KA780-AA	KA780-AB									
1	E-IA-7013713-0-0	CARD CAGE (CPU)			1	1									
2	E-UA-H7100-A-0	H7100-A POWER SUPPLY 115V AC			1	-									
3	E-UA-H7100-B-0	H7100-B POWER SUPPLY 230V AC			-	1									
4	E-UA-M8237-0-0	TRS			1	1									
5	E-UA-M8218-0-0	SBL			1	1									
6	E-UA-M8219-0-0	SBH			1	1									
7	E-UA-M8220-0-0	CAM			1	1									
8	E-UA-M8221-0-0	CDM			1	1									
9	E-UA-M8222-0-0	TBM			1	1									
10	E-UA-M8223-0-0	IDP			1	1									
11	E-UA-M8224-0-0	IRC			1	1									
12	E-UA-M8225-0-0	DBP			1	1									
13	E-UA-M8226-0-0	DEP			1	1									
14	E-UA-M8227-0-0	DDP			1	1									
15	E-UA-M8228-0-0	DCP			1	1									
16	E-UA-M8229-0-0	DAP			1	1									
17	E-UA-M8230-0-0	CEH			1	1									
18	E-UA-M8231-0-0	ICL			1	1									
19	E-UA-M8232-0-0	CLK			1	1									
20	E-UA-M8233-0-0	WCS			1	1									
21	E-UA-M8234-0-0	PCS			1	1									
22	E-UA-M8235-0-0	USC			1	1									
TITLE				ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO.						
CPU ASSY (KA780)				E-UA-KA780-0-0	A	PL	KA780-0-0	C	KA780-TV0023						
SHEET 1 OF 3				DIST											

DEC FORM  
DRA 110

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION											
MADE BY	W. FISHER	CHECKED	D. HEALY	SECTION											
DATE	1 AUG 77	DATE	3 AUG 77	1											
ENG	<i>Edward E. Antler</i>	PROD	<i>E. Healy</i>	ISSUED SECT.											
DATE	14 Sept 77	DATE	11/4/77	1											
ITEM NO.	DWG NO./PART NO.	DESCRIPTION			KA780-AA	KA780-AB									
45	D-IC-11780-0-3	11780 SUB SYSTEM INTERCONNECT			REF	REF									
46	D-IC-11780-0-2	11780 SYSTEM INTERCONNECT DIAGRAM			REF	REF									
47	D-IC-11780-0-1	11780 SYSTEM POWER DIAGRAM			REF	REF									
48	D-MU-KA780-0-2	KA780 MODULE UTILIZATION			REF	REF									
49	D-IA-7014530-1A-0	CABLE POWER (RED)			2	2									
50	D-IA-7014530-1E-0	CABLE POWER (RED)			4	4									
51	D-IA-7014249-1C-0	CABLE POWER (BLACK)			2	2									
52	D-IA-7014249-1J-0	CABLE POWER (BLACK)			4	4									
53	D-IA-7014249-0L-0	CABLE POWER (BLACK)			1	1									
54	D-IA-7014212-0M-0	CABLE AC, DC LO			2	2									
55	A-PS-1214314-0-0	JUMPER			12	12									
56	<del>E-PL-H7101-0-0</del>	<del>H7101 REGULATOR</del>			<del>1</del>	<del>1</del>									
57	E-IA-7015073-0-0	HARNESS, -5V TERMINATOR			1	1									
58	D-IA-7014212-2M-0	CABLE AC, DC LO			2	2									
59	C-MD-7419458-0-0	COVER, CPU, BACKPLANE			1	1									
60	3615087-02	LABEL, DANGER			1	1									
61	E-AD-7014956-00	UBA OPTION POWER SUPPLY 115V			1	-									
62	E-AD-7014956-01	UBA OPTION POWER SUPPLY 230V			-	1									
TITLE				ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO.						
CPU ASSY (KA780)				E-UA-KA780-0-0	A	PL	KA780-0-0	C							
SHEET 3 OF 3				DIST											

DEC FORM  
DRA 110

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST				QUANTITY VARIATION											
MADE BY	W. FISHER	CHECKED	D. HEALY	SECTION											
DATE	1 AUG 77	DATE	3 AUG 77	1											
ENG	<i>Edward E. Antler</i>	PROD	<i>E. Healy</i>	ISSUED SE											
DATE	14 Sept 77	DATE	11/4/77	1											
ITEM NO.	DWG NO./PART NO.	DESCRIPTION			KA780-AA	KA780-AB									
23	E-UA-M8236-0-0	CIB			1	1									
24	D-IA-7014103-0-0	BLANK MODULE ASSY			6	6									
25	E-UA-H7111-A-0	T.O.D. BATTERY BACK UP 115V			REF	-									
26	E-UA-H7111-B-0	T.O.D. BATTERY BACK UP 230V			-	REF									
27	E-IA-7013628-0-0	BACKPLANE ASSY (CPU)			1	1									
28	B-MD-7418902-0-0	PLATE, STUD			6	6									
29	B-MD-7418903-0-0	"U" BAR			3	3									
30	C-MD-7418904-0-0	PLATE, SUPPORT			1	1									
31	B-MD-7419483-0-0	COVER, BUS BAR			1	1									
32	9006073-00	SCR PH HD PAN #10 - 32 x .50			20	20									
33	9007906-00	WASHER, LOCK SPLIT #10			20	20									
34	1212405-00	CARD GUIDE SINGLE (NATURAL)			30	30									
35	1212405-01	CARD GUIDE SINGLE (MAGENTA)			28	28									
36	1211630-00	CARD GUIDE			10	10									
37	9006610-00	NUT, CAP RELOCK #10 - 32			20	20									
38	9006565-00	NUT, KEP #10 - 32			24	24									
39	9008032-01	SCR PH HD PAN #4 - 40 x .19			12	12									
40	9006655-00	WASH., FLAT .31 o.d. x 12 i.d. x .03			12	12									
41	9006043-01	SCR PH HD PAN 8 - 32 x 1.00			6	6									
42	9006660-00	WASH. FLAT .38 o.d. x .19 i.d. x .06			6	6									
43	9006563-00	NUT KEP #8 - 32			6	6									
44	3613281-05	LABEL, ADHESIVE BACKED PRINT (29 SLOT)			1	1									
TITLE				ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO.						
CPU ASSY (KA780)				E-UA-KA780-0-0	A	PL	KA780-0-0	C							
SHEET 2 OF 3				DIST											

DEC FORM  
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"

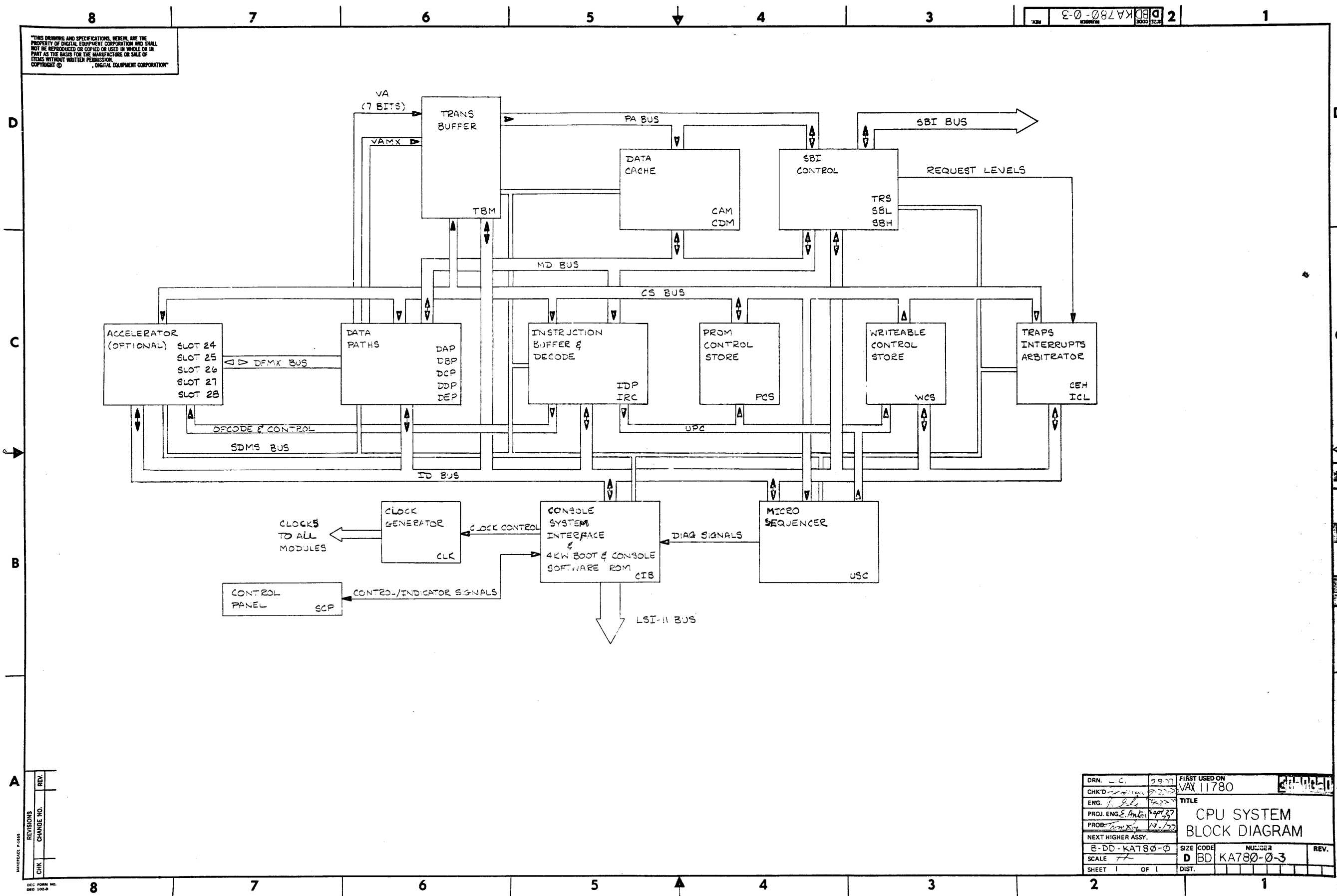
NOTE \* DESIGNATES OPTION  
 SLOTS 17, 19 & 21 RESERVED FOR POWER BUSSING

	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	
D	M8237 TRS	M8218 SBL	M8219 SBH	M8220 CAM	M8221 CDM	M8222 TBM	M8223 IDP	M8224 IRC	M8225 DBP	M8226 DEP	M8227 DDP	M8228 DCP	M8229 DAP	M8230 CEH	M8231 ICL	M8232 CLK		M8233 OR M8234 *WCS OR PCS		M8233 WCS		M8234 PCS	M8235 USC	M8285 FNM *	M8286 FMH *	M8287 FML *	M8288 FAD *	M8289 FCT *	M8236 CIB	
A																														
B																														
C																														
C																														
D																														
B																														
E																														
F																														

REV.	
CHK	

DRN. AFM	7/25/77	FIRST USED ON	VAX 11780
CHK'D	7/25/77	TITLE	MODULE UTILIZATION CPU
ENG. J. J. J.	7/25/77	PROJ. ENG. E. Antin	Sept 22
PROD. J. J. J.	7/25/77	NEXT HIGHER ASSY.	
B-DD-KA780-0		SIZE CODE	D
SCALE	1/1	NUMBER	1
SHEET	1 OF 1	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"



REVISIONS	REV.
CHANGE NO.	
CHK	

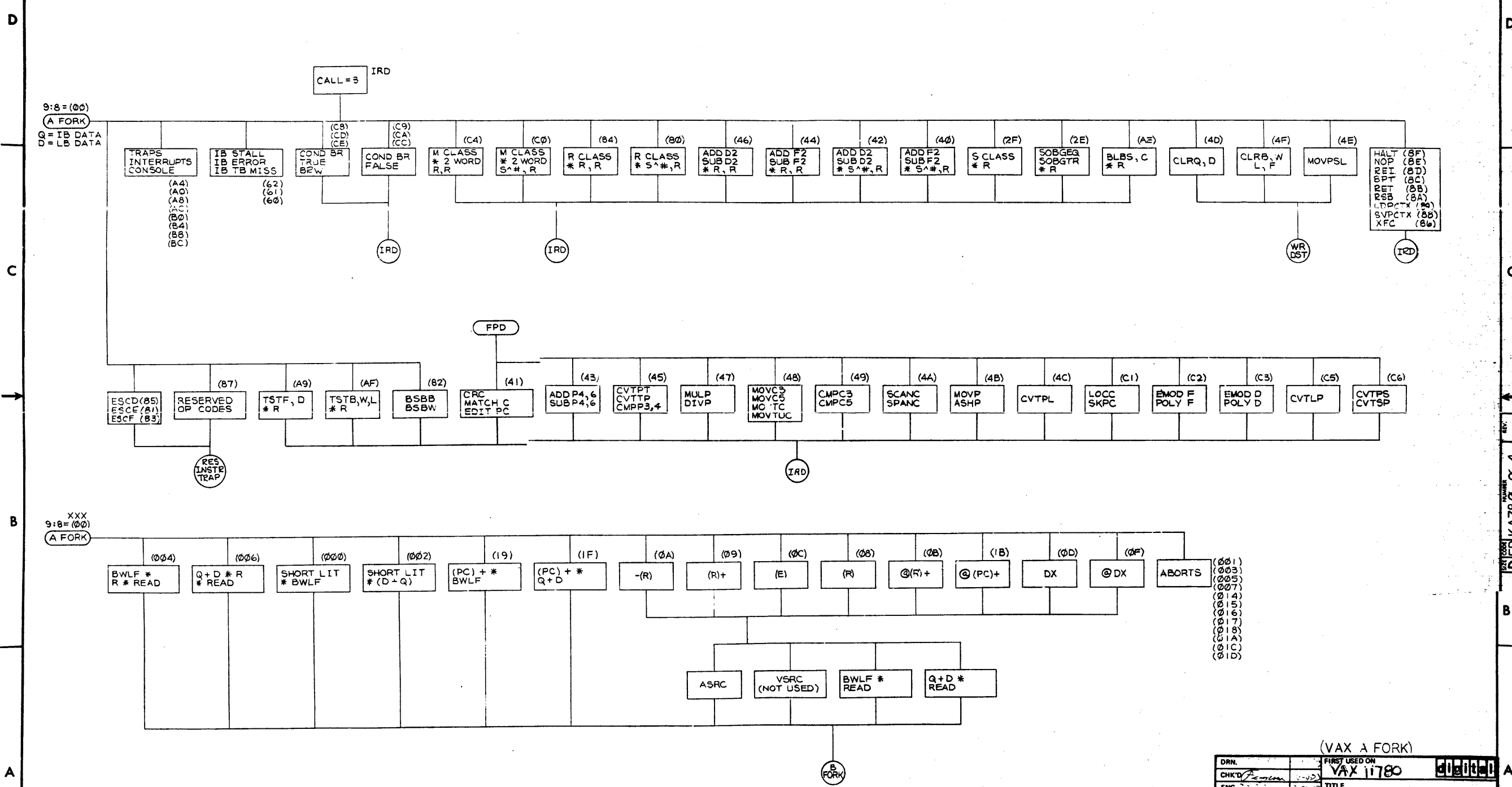
DRN. L.C.	99-77	FIRST USED ON	VAX 11780
CHK'D	8/22/77	TITLE	CPU SYSTEM BLOCK DIAGRAM
ENG.	J. B. 8/22/77	SIZE	D
PROJ. ENG.	E. Andri 8/24/77	CODE	BD
PROB.	Tom Key 1/26/77	NUMBER	KA780-0-3
NEXT HIGHER ASSY.		SCALE	
B-DD-KA780-0		SHEET	1 OF 1
DIST.			

MAINTENANCE PARTS

DEC FORM NO. 080 102-2

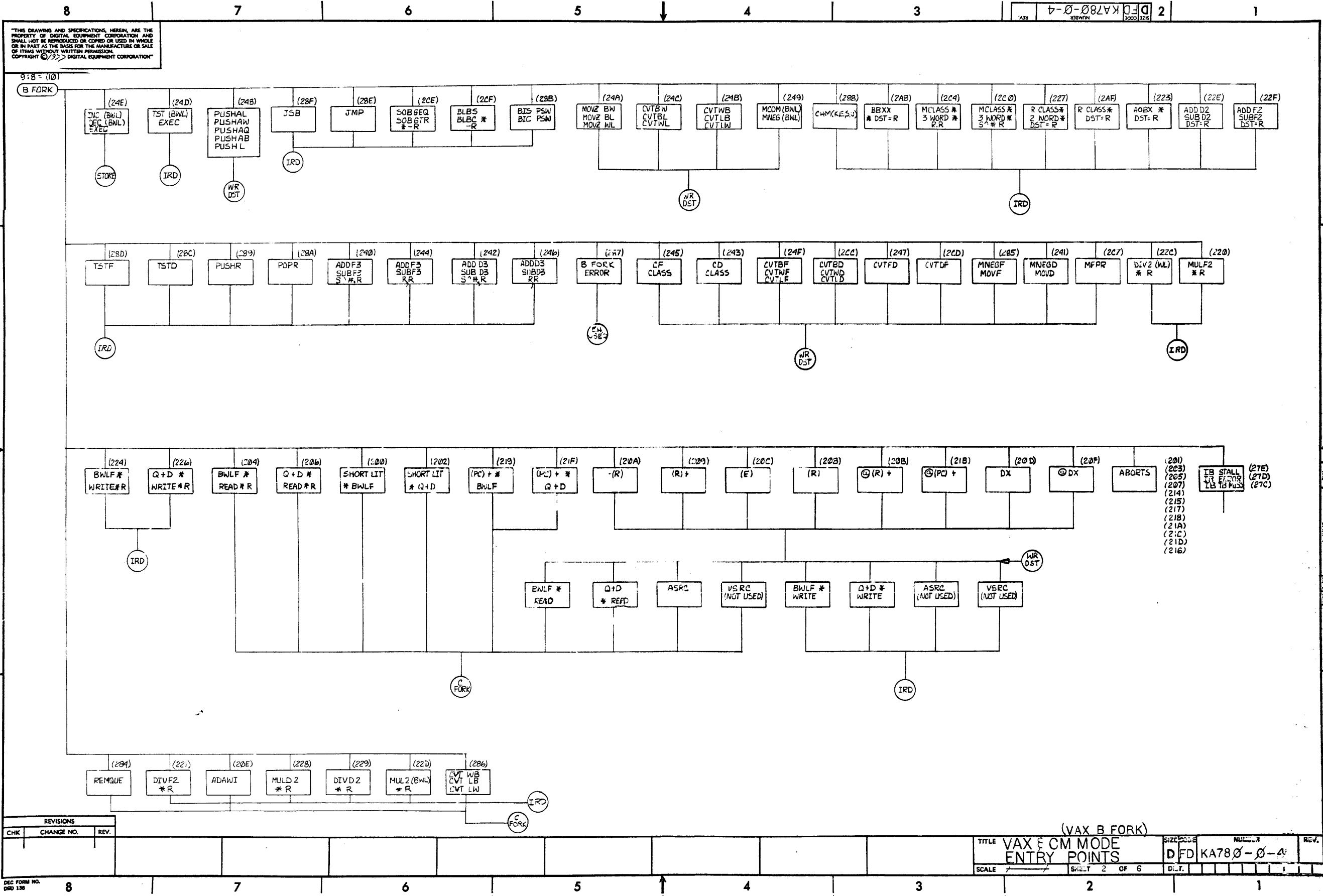
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

M CLASS = (ADDXX, SUBXX, BISXX, BICXX, XORXX, ADWC, SBWC, MOVX, MNEGX, MCOMX) BWL  
 R CLASS = (BITX, CMPX) BWL  
 F1 CLASS = (ADDX2, ADDX3, SUBX2, SUBX3)  
 S CLASS = (INX, DECX) BWL  
 CF CLASS = (CVTFB, CVTFW, CVTFL, CVTRFL)  
 CD CLASS = (CVTDB, CVFDW, CVTDL, CVTRDL)



REVISIONS		
CHK	CHANGE NO.	REV.

DRN.	FIRST USED ON	DATE
CHK'D	VAX 11780	01/01/80
ENG.	TITLE	
PROJ. ENG.	VAX LCM MODE	
PROD.	ENTRY POINTS	
NEXT HIGHER ASSY.	SIZE CODE	NUMBER
B-DD-KAT80-0	D	FD KAT80-0-4
SCALE	DIST.	REV.
SHEET 1 OF 6		



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

9:8 = (10)  
B FORK

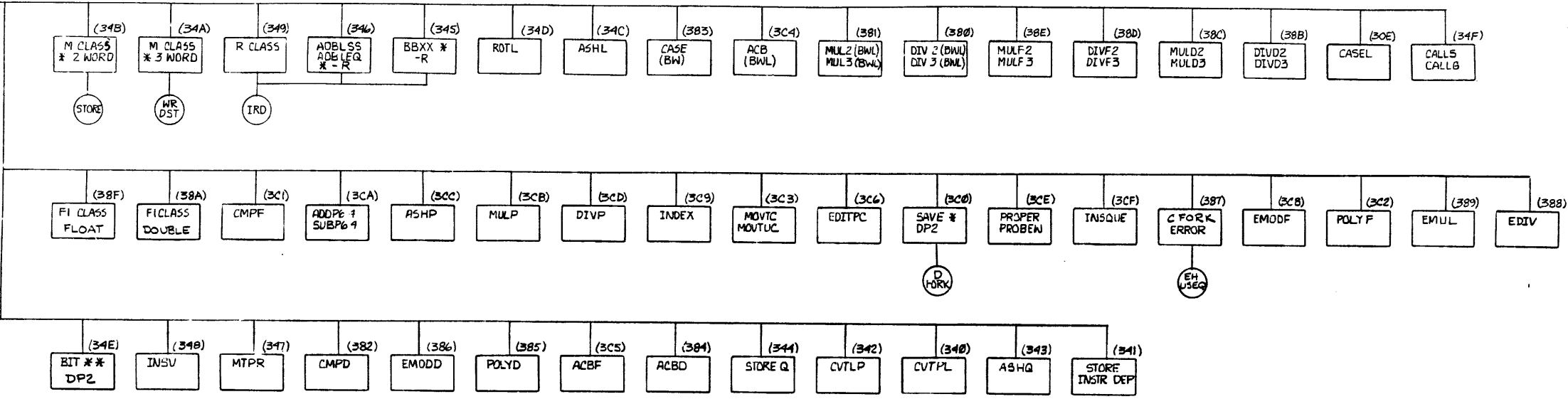
REVISIONS		
CHK	CHANGE NO.	REV.

(VAX B FORK)  
TITLE VAX & CM MODE ENTRY POINTS  
SCALE 1/8" = 1" SHEET 2 OF 6 D.F.D. KA780-0-4  
REV.

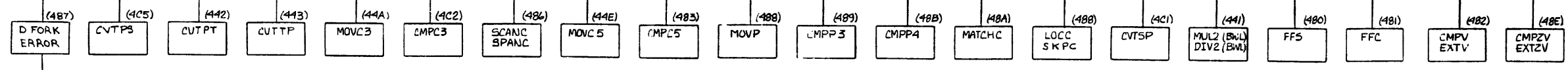
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1972 DIGITAL EQUIPMENT CORPORATION"

\* SAVE DP2 = CVTSP, CVTSP, CVTPT, CVTTP, MOVCS, CMPC3, SCANC, MOVCS, CMPC5, MOVP, CMPP3, CMPP4, MATCHC, LOCC, SKPC, CRC, ASHP  
 \*\* BIT DP2 = FFS, FFC, CMPV, CMPZV, EXTV, EXTZV

1 XXX  
 9:8- (10)  
 C FORK



4 XX  
 D FORK

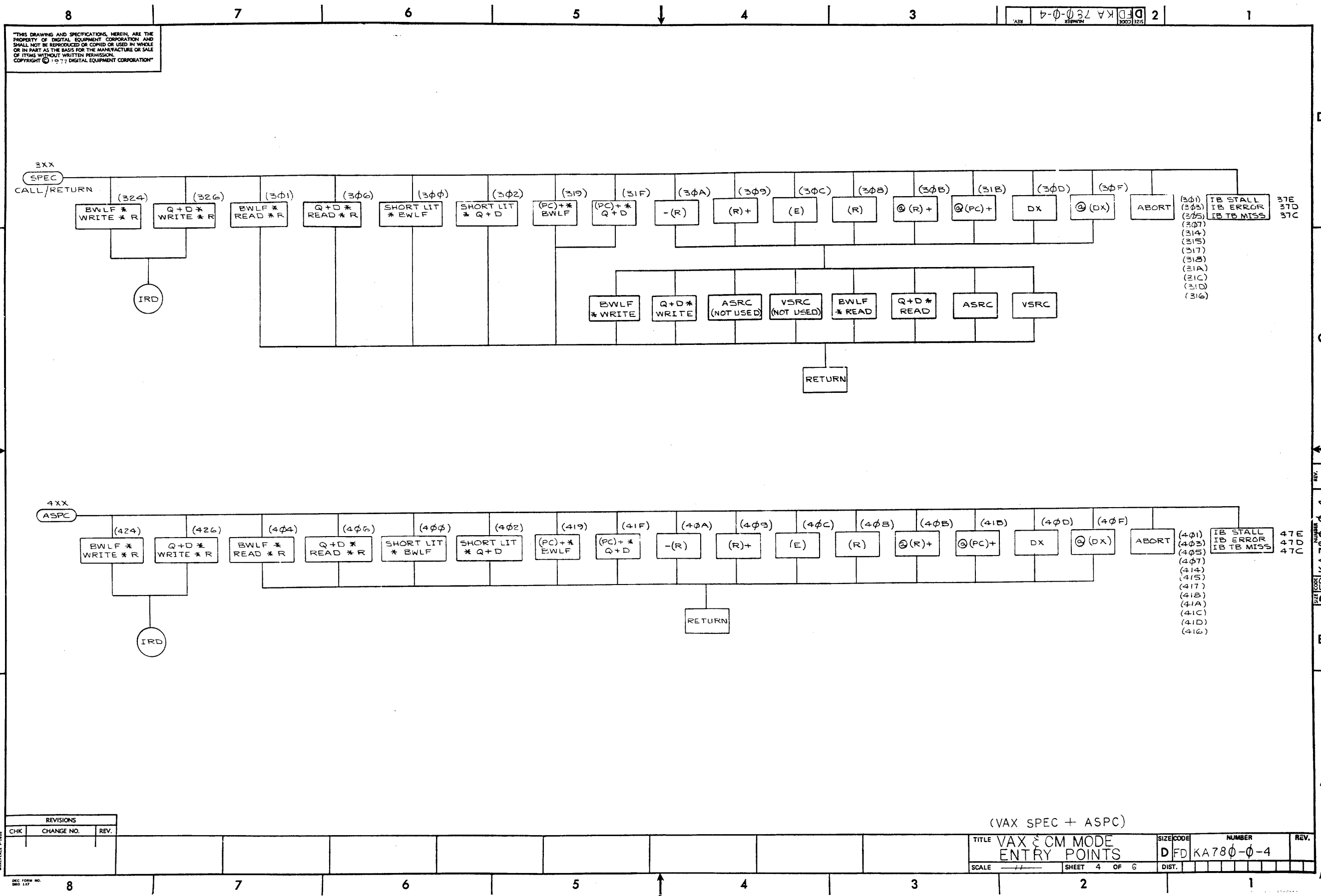


REVISIONS		
CHK	CHANGE NO.	REV.

(VAX C ED FORK)

TITLE	VAX & CM MODE ENTRY POINTS	SIZE CODE	DFD	NUMBER	KA780-0-4	REV.	
SCALE		SHEET	3 OF 6	DIST.			

SHEET CODE: DFD KA780-0-4  
 NUMBER: 2

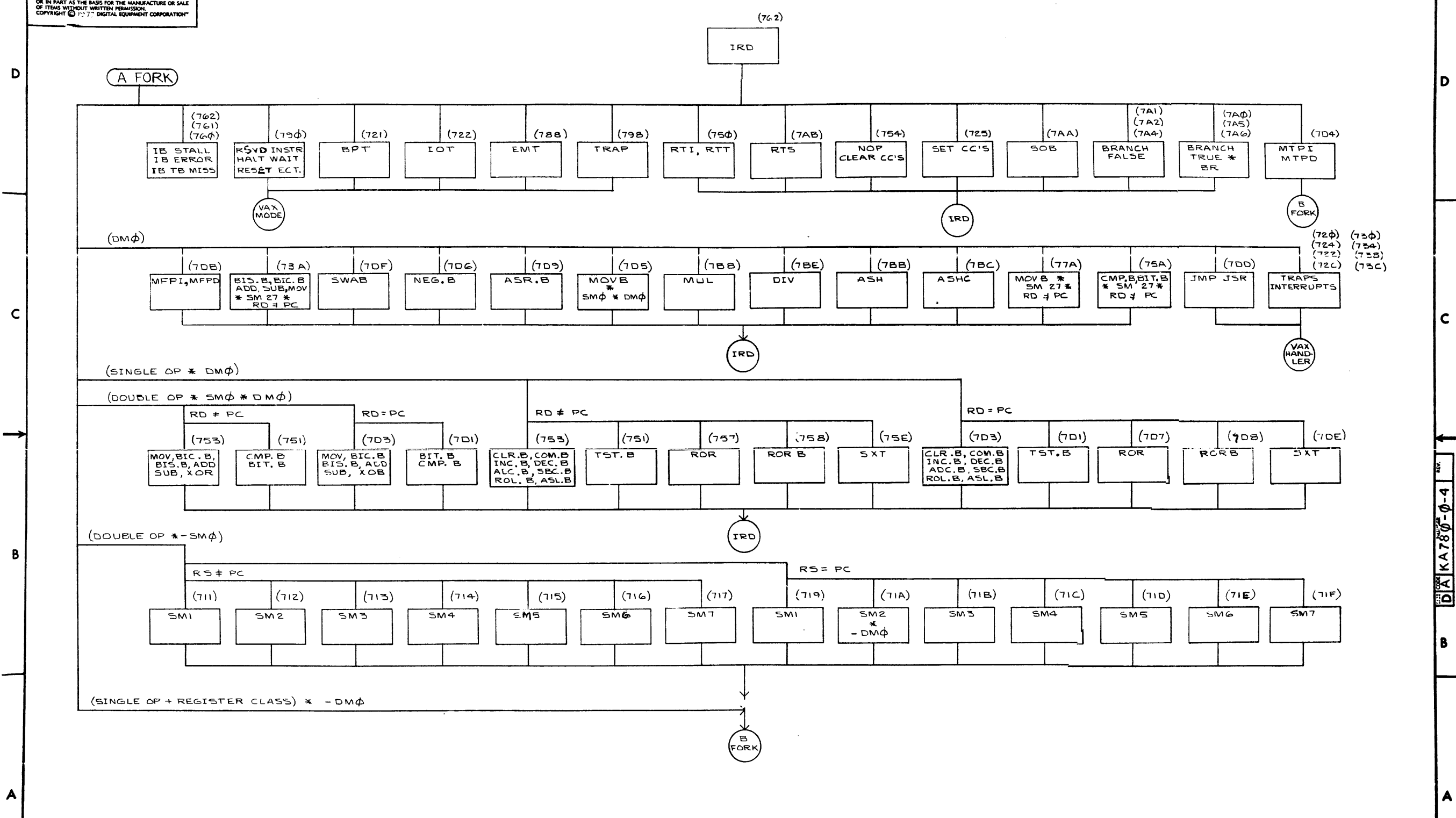


REVISIONS		
CHK	CHANGE NO.	REV.

(VAX SPEC + ASPC)		TITLE	VAX & CM MODE ENTRY POINTS	SIZE CODE	D FD	NUMBER	KA 780-0-4	REV.	
SCALE		SHEET	4	OF	6	DIST.			

DEC FORM NO. 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



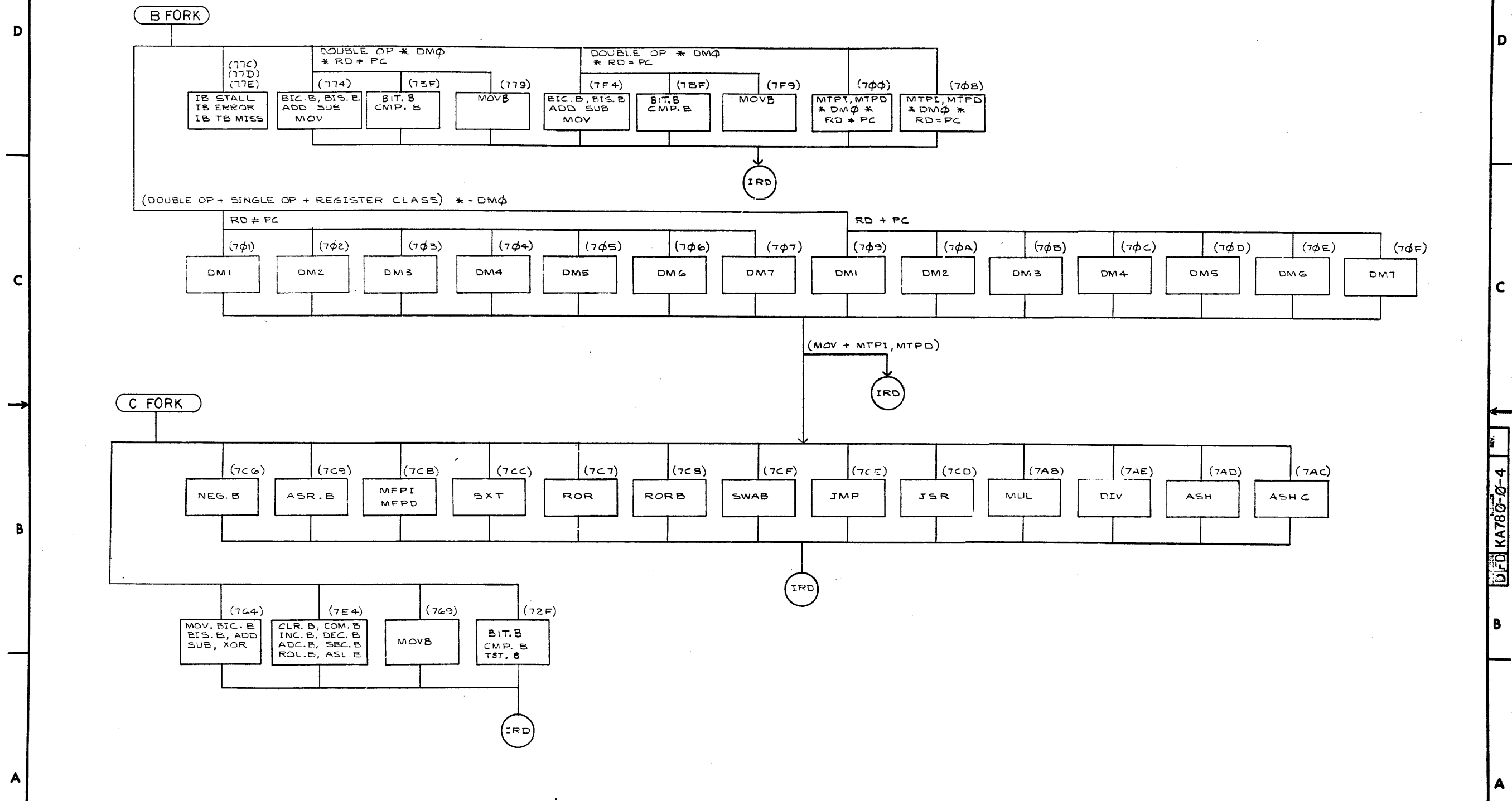
REVISIONS		
CHK	CHANGE NO.	REV.

(CMA FORK)

TITLE	VAX CM MODE ENTRY POINTS	SIZE CODE	D FD	NUMBER	KA780-0-4	REV.	
SCALE		SHEET	5	OF	6	D.T.	



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.

(CM B FORK & C FORK)

TITLE	VAX & CM MODE ENTRY POINTS	NUMBER	DFD KA780-0-4	REV.	
SCALE		SHEET	6 OF 6	DATE	

DFD KA780-0-4

THIS DRAWING AND SPECIFICATIONS HEREAFTER ARE THE PROPERTY OF DELOITT 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.

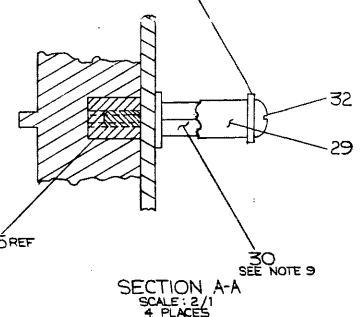
WIRE TABLE							
ITEM NO	DESCRIPTION	FOLDER	FROM		TO		SIGNAL
19	24	ORN	W5 (1)	W/WRAP	B0L2	W/WRAP	-5V
			W5 (2)		EDK1		
			W5 (4)	W/WRAP	E1GK1	W/WRAP	-5V

- NOTES:
- AFTER ALL MACHINE WIRING IS COMPLETE, WIRE PER WIRE TABLE.
  - ITEM #17 USED FOR WIRE AND WAVE SOLDER PURPOSES ONLY.
  - ITEM #25 JUMPER WILL BE USED ON CONN J10 THRU J13 FOR SYSTEM CONFIGURATION TO BE INSTALLED AT SYSTEM INTEGRATION ONLY.
  - 5412870 & 5412872 USED FOR DRAIN PIPE ONLY.
  - ITEM #8 & #13 THRU #16 TO BE SOLDERED TO ETCH BOARD AFTER WAVE SOLDER.
  - CUT ETCH AT DOTTED LINES.
  - ADD FOLLOWING WITH ITEM #25:

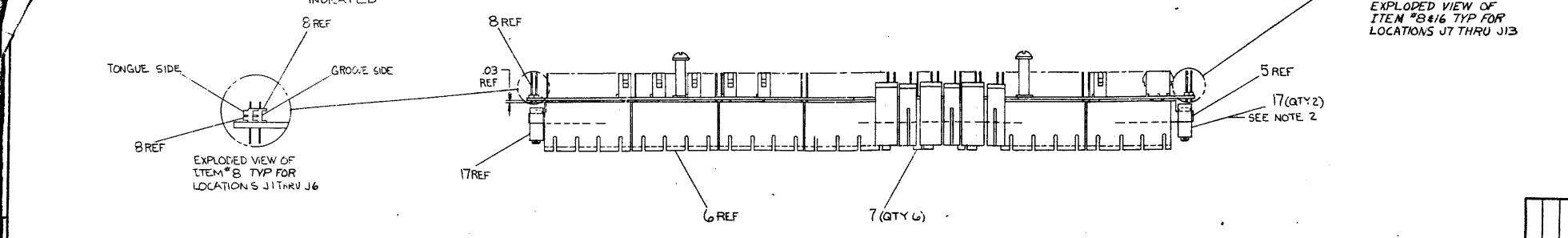
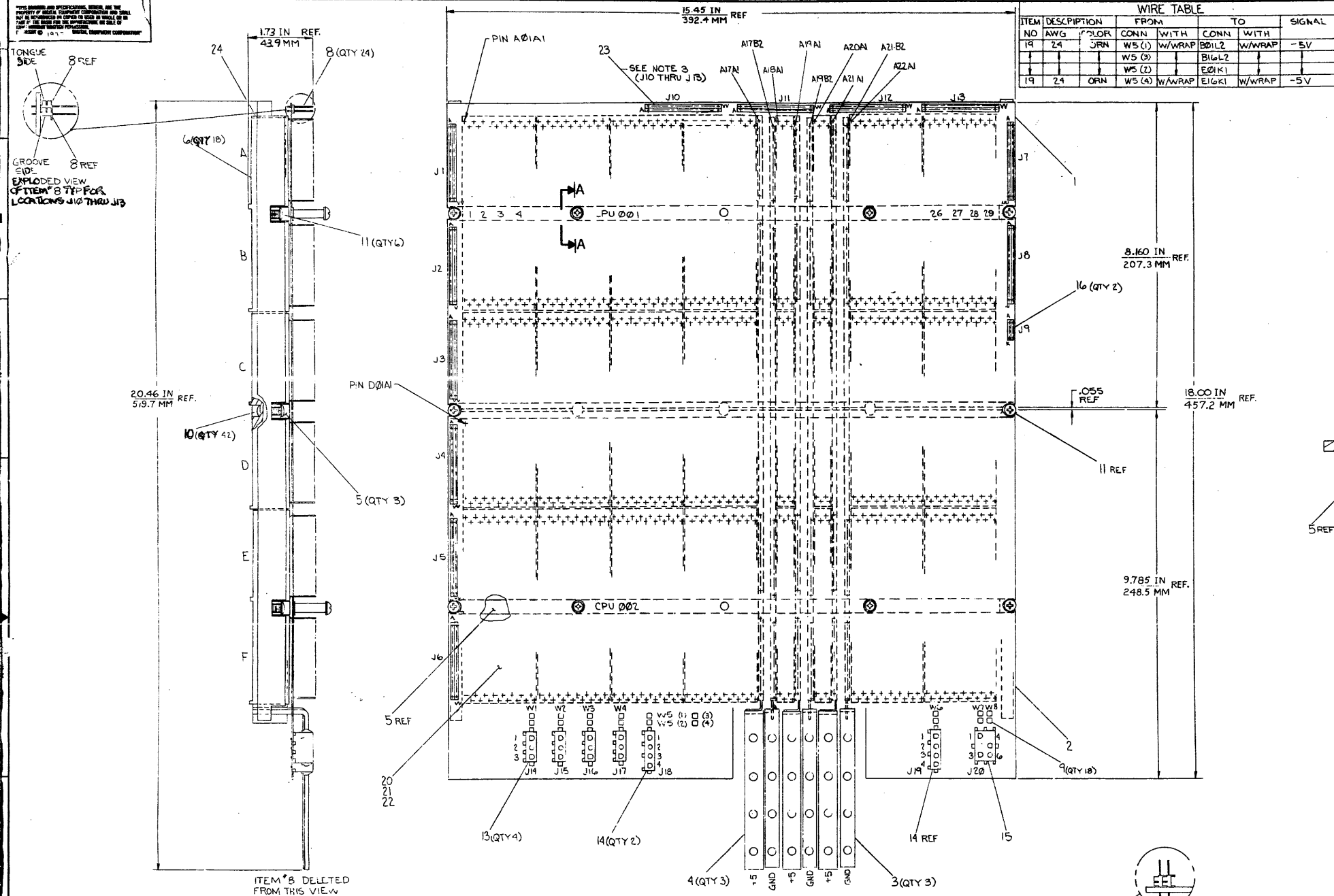
SYSTEM INTEGRATION

FROM	TO
A01P2	J001NN
A01P2	J001DP
B01J1	J002N
E01D2	J003F
E01D4	J003E
E01P2	J003DP
E01V1	J003TF

- CUT ETCH AT DOTTED LINES.
- APPLY ITEM NO. 33 TO EXTERNAL THREADS OF ITEM NO. 30 BEFORE ASSY OF ITEM NO. 30.
- FOR INTERPLANT SHIPPING, USE PART NO. 99-05703, CARTON, USING PACKAGING INSTRUCTIONS, PART NO. 37-00189.



A/R LOCKTITE	9009321	33
4 SCR. PH. 8-32 x .38 LG.	9006037-01	32
B WASHER, NYLON	9006713	31
4 STANDOFF, .875 LG.	9000001-07	30
4 SLEEVE, INSULATOR	B-MD-7420279-0-0	29
T LEVER, CPU BACK PLANE	CMD-110-100-0-0	28
3 SPACER BACK PANEL	CMD-741399-0-1	27
REF WASHER NYLON 2.375 OD x .71	4006706-00	26
REF SCR. PH. PAN HD #4-40 x .625	1000114-00	25
1 DECAL, AWT REV STATUS	A-WT-11881-0-1	24
REF JUMPER	12H314-00	23
A/R WIRE #30 AWG TWP (GRY-VIC)	910773-87	22
A/R WIRE #30 AWG TWP (BLK-W/T)	910772-01	21
A/R WIRE #30 AWG SOLID (YEL)	9106740-44	20
A/R WIRE #24 AWG SOLID (ORN)	910688-33	19
REF WIRE LIST CPU	K WL-7013428-0-1	18
2 SUPPORT LOGIC FRAME SIDE	D-MD-701271-0-0	17
2 CONN. 5 PIN	12H315-01	16
1 CONN. 6 PIN FEMALE	12H297-05	15
2 CONN. 4 PIN FEMALE	12H297-01	14
4 CONN. (3 PIN) FEMALE	12H297-03	13
REF AWT REV STATUS	A-WT-703428-0	12
6 SCR. PH. PAN HD #8-32 x .69	900704-01	11
2 SCR. PH. HD FIL #8-32 x .62	9006120-06	10
18 POST STANING .05 SQ X .106 L	9009193-00	9
24 CONN. 20 PIN	12H315-00	8
6 CONN. (H8030) 72 PIN SLOTTED	12H425-01	7
18 CONN. (H8030) 288 PIN SLOTTED	12H315-01	6
3 BAR MOUNTING CPU	D-MD-117868-0-0	5
3 BUS BAR RIGHT (+5V)	D-PS-12H346-00-0-4	4
3 BUS BAR LEFT (GND)	D-PS-12H346-00-0-3	3
1 BOARD DRILL ETCH CPU DEF	D-MP-5012871-0-0	2
1 BOARD DRILL ETCH CPU A, B, C	D-MD-502869-0-0	1



REV	DESCRIPTION	DATE	BY
1	INITIAL RELEASE	11/27/80	R. ANTON
2	CHANGE TO 8-32 X .69 SCREWS	11/27/80	R. ANTON
3	CHANGE TO 8-32 X .625 SCREWS	11/27/80	R. ANTON
4	CHANGE TO 8-32 X .69 SCREWS	11/27/80	R. ANTON
5	CHANGE TO 8-32 X .69 SCREWS	11/27/80	R. ANTON
6	CHANGE TO 8-32 X .69 SCREWS	11/27/80	R. ANTON
7	CHANGE TO 8-32 X .69 SCREWS	11/27/80	R. ANTON
8	CHANGE TO 8-32 X .69 SCREWS	11/27/80	R. ANTON

QUANTITY	VARIATION	DESCRIPTION	ENCL. PART NO.	ITEM NO.
17		EXPLODED VIEW OF ITEM #8 TYP FOR LOCATIONS J7 THRU J13		
1		EXPLODED VIEW OF ITEM #8 TYP FOR LOCATIONS J10 THRU J13		

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

CLASS	ACCURACY	RANGE	TOLERANCE
3	±0.010	0.000	0.015
2	±0.005	0.000	0.010
1	±0.002	0.000	0.005

THIS IS A PROJECTION OF THE ORIGINAL

DATE: 11/27/80

BY: R. ANTON

TITLE: BACK PLANE ASSY (CPU)

SCALE: AS SHOWN

REV: 1

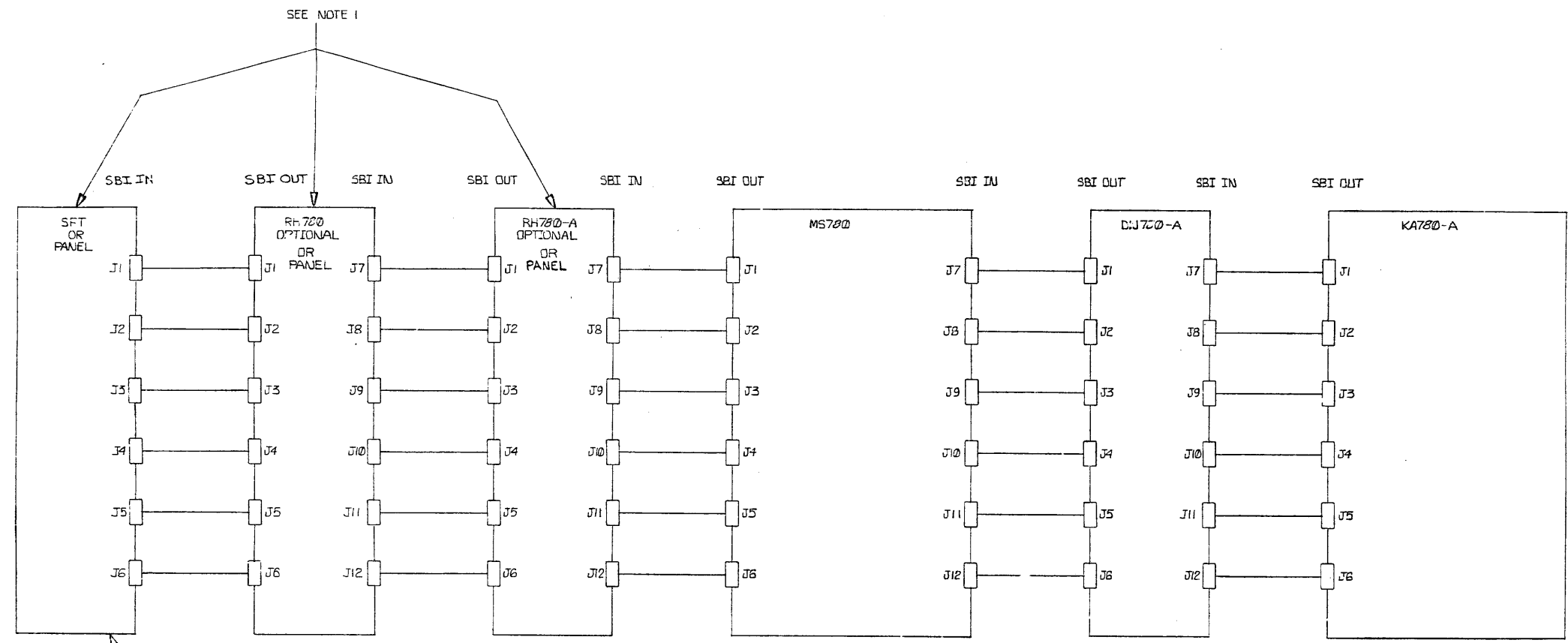
SHEET: 1 OF 1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DUNLAP ELECTRONIC CORPORATION AND SHALL REMAIN THE PROPERTY OF DUNLAP ELECTRONIC CORPORATION IN THE EVENT OF THEFT, LOSS, OR SALE OF THE DRAWING OR SPECIFICATIONS. © 1977, DUNLAP ELECTRONIC CORPORATION

DIC 11780-0-3 2

D  
C  
B  
A

D  
C  
B  
A



SEE NOTE 2

- NOTES:
- 1.) 11780-C SYSTEM CONSISTS OF
    - A. KA780-A
    - B. DN780-A
    - C. MS780
    - D. SFT (# M9043)
    - E. 2 DUMMY PANELS (# 7418973)
  - 11780-D SYSTEM CONSISTS OF
    - A. KA780-A
    - B. DN780-A
    - C. MS780
    - D. RH780-A
    - E. RH780
    - F. SFT
  - 2.) SBI CABLE CONNECTIONS TO SFT FROM ADJACENT BACKPLANE ARE ALWAYS 178087-1 (QUANTITY 6) OTHER SBI CABLES ARE 178087-0

REV	DATE	BY	CHK'D
A	11/22/76	R. CHUSIAE	
B	2/12/80	R. CHUSIAE	

(BACKPLANE S.B.I. INTERCONNECT)

DRN	11780	REV	B
CHK'D		TITLE	11780 SUB SYSTEM INTERCONN.
DATE		NO.	
SCALE		DIC 11780-0-3	

8

7

6

5

4

3

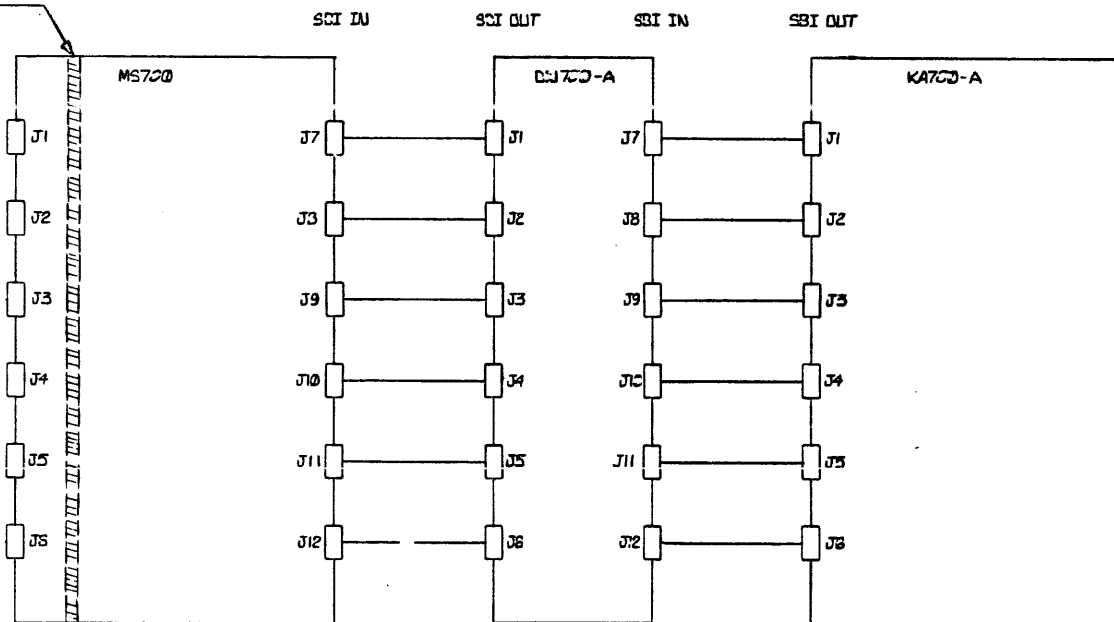
11780-0-3

2

1

1979

SEE NOTE 1



- NOTES:  
 1) 11780-CU+CV SYSTEM CONSISTS OF  
 A. KA760 A  
 B. DW760 A  
 C. MS760  
 D. TRM (M9040) MOUNTED IN  
 SLOT\* 1 OF MS760 BACKPLANE.

THIS SHEET FOR  
CU+CV VARIATIONS  
ONLY

(BACKPLANE S.B.I. INTERCONNECT)

11780	11780
11780 SUB SYSTEM INTERCONN.	
11780-0-3	B

11780-0-3

D

A

20

8

7

6

5

4

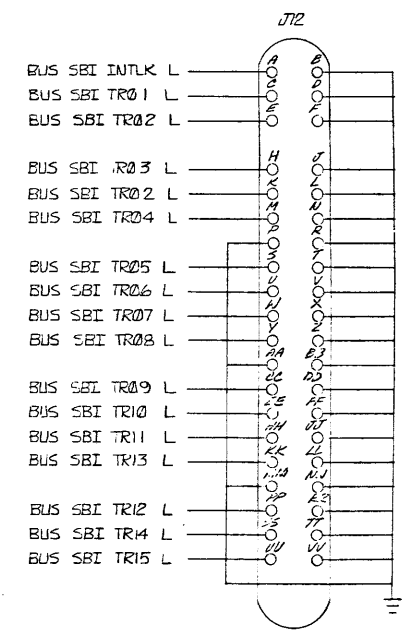
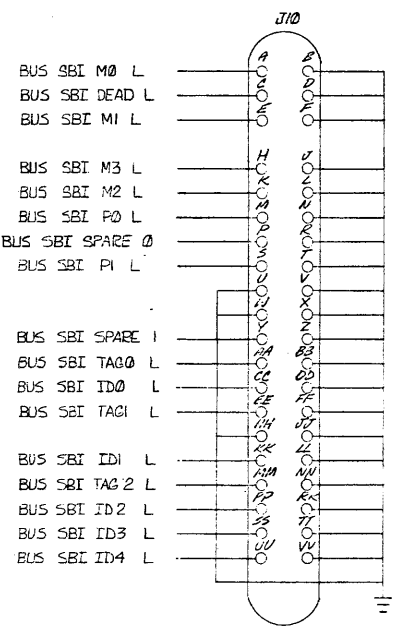
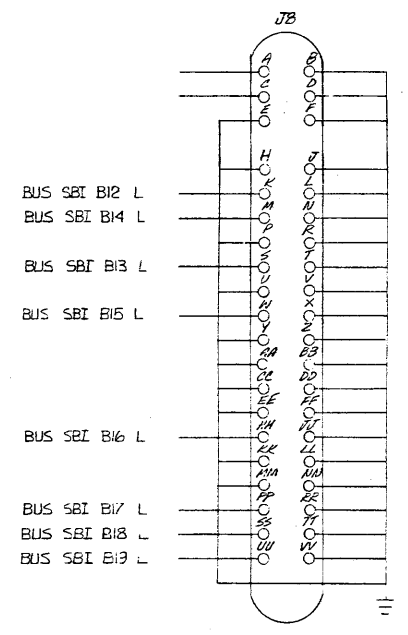
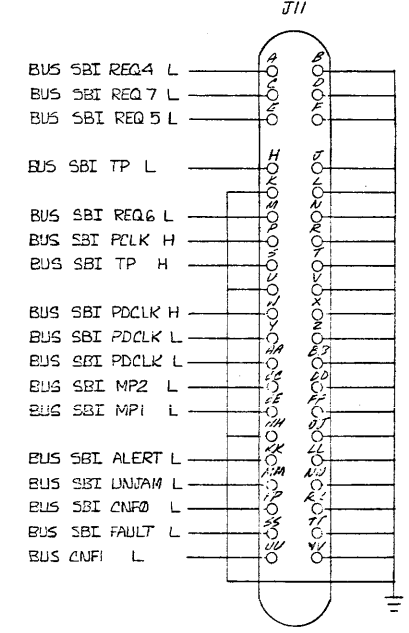
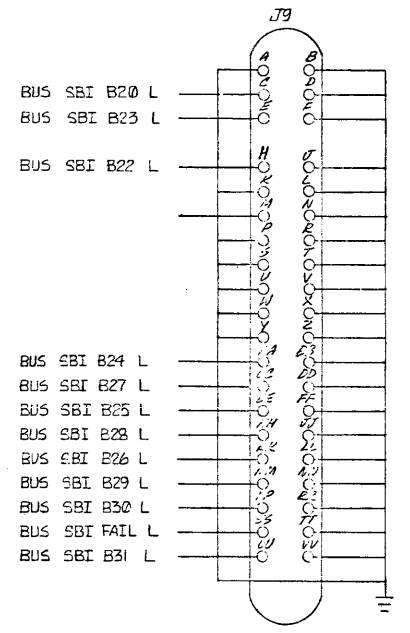
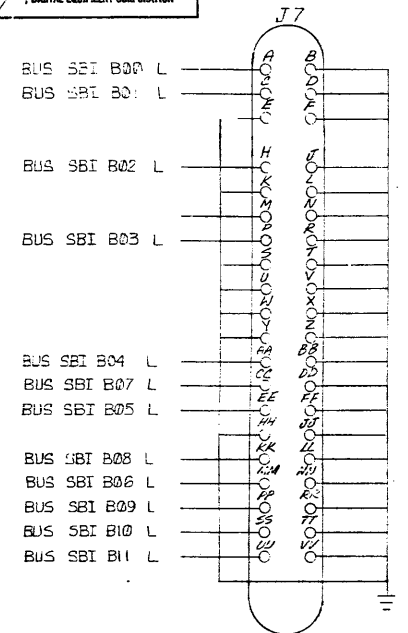
3

2

1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND ARE TO BE REPRODUCED AND TRANSMITTED IN ANY FORM AND BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE SECRETARY OF THE DEFENSE. (Continued on 11777) "GENERAL ELECTRIC CORPORATION"

8  
11780-3  
2

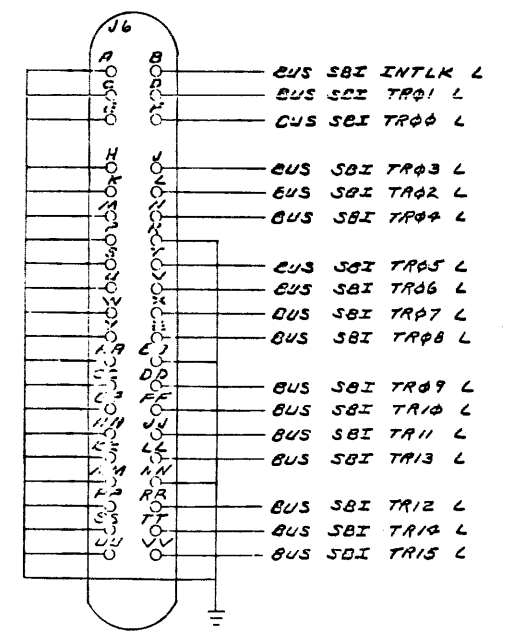
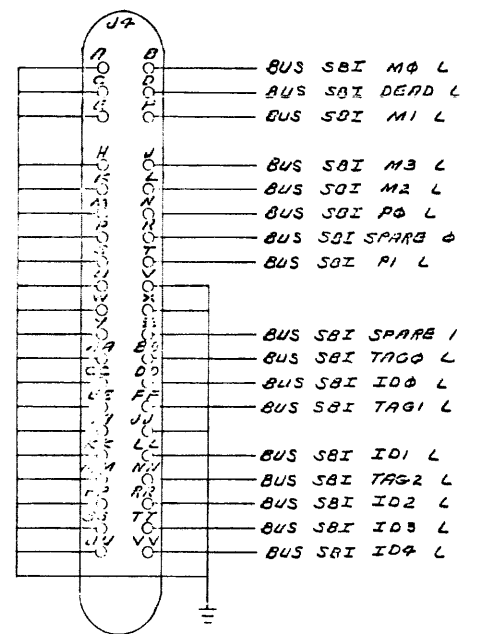
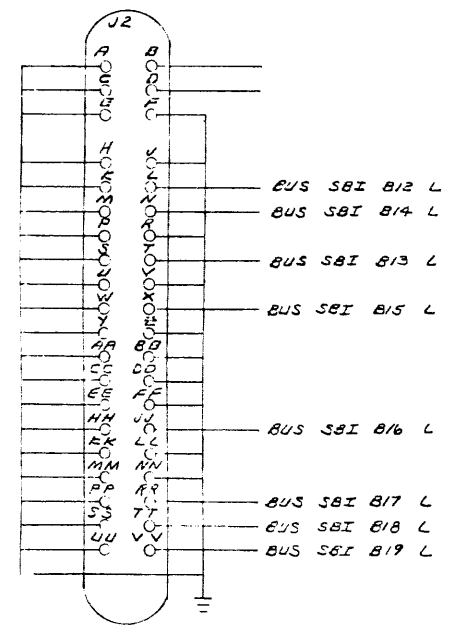
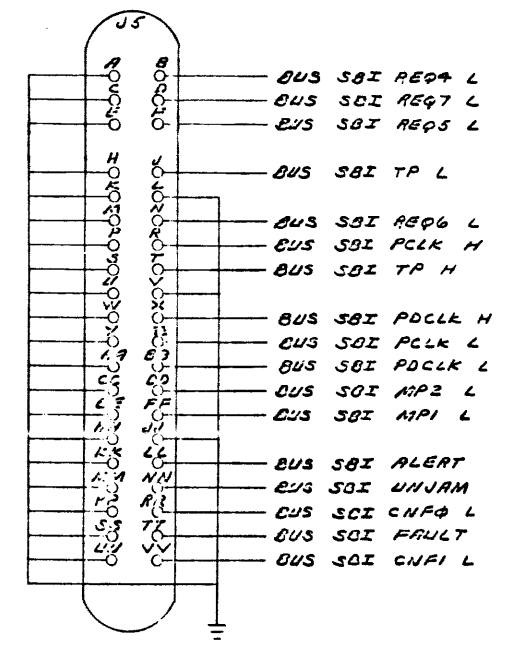
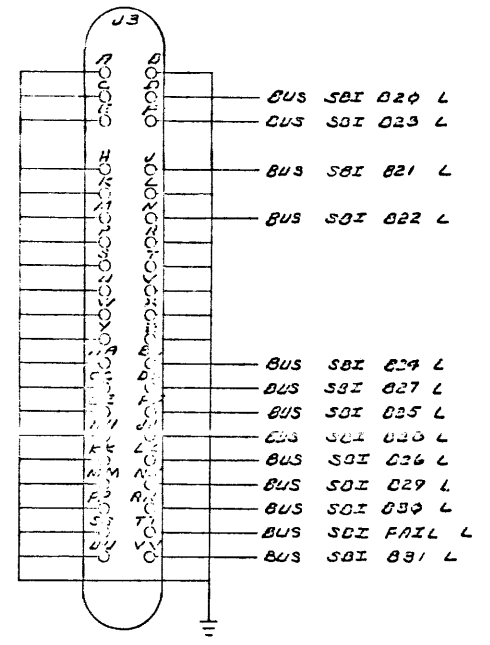
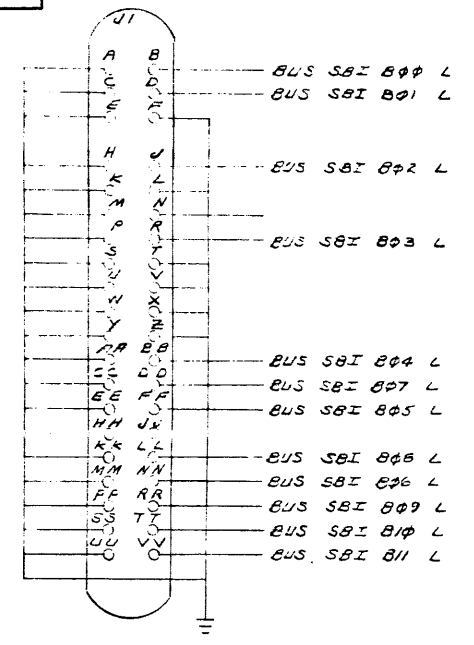


REV.	
NO.	
CHK.	

(SBI. IN)

DATE	25 JUN 77	FILE NO.	11780-3
CHKD.		TITLE	11780 SUB SYSTEM INTERCONNECT
APP.		SIZE	11780-3
REV.		NUMBER	B

777

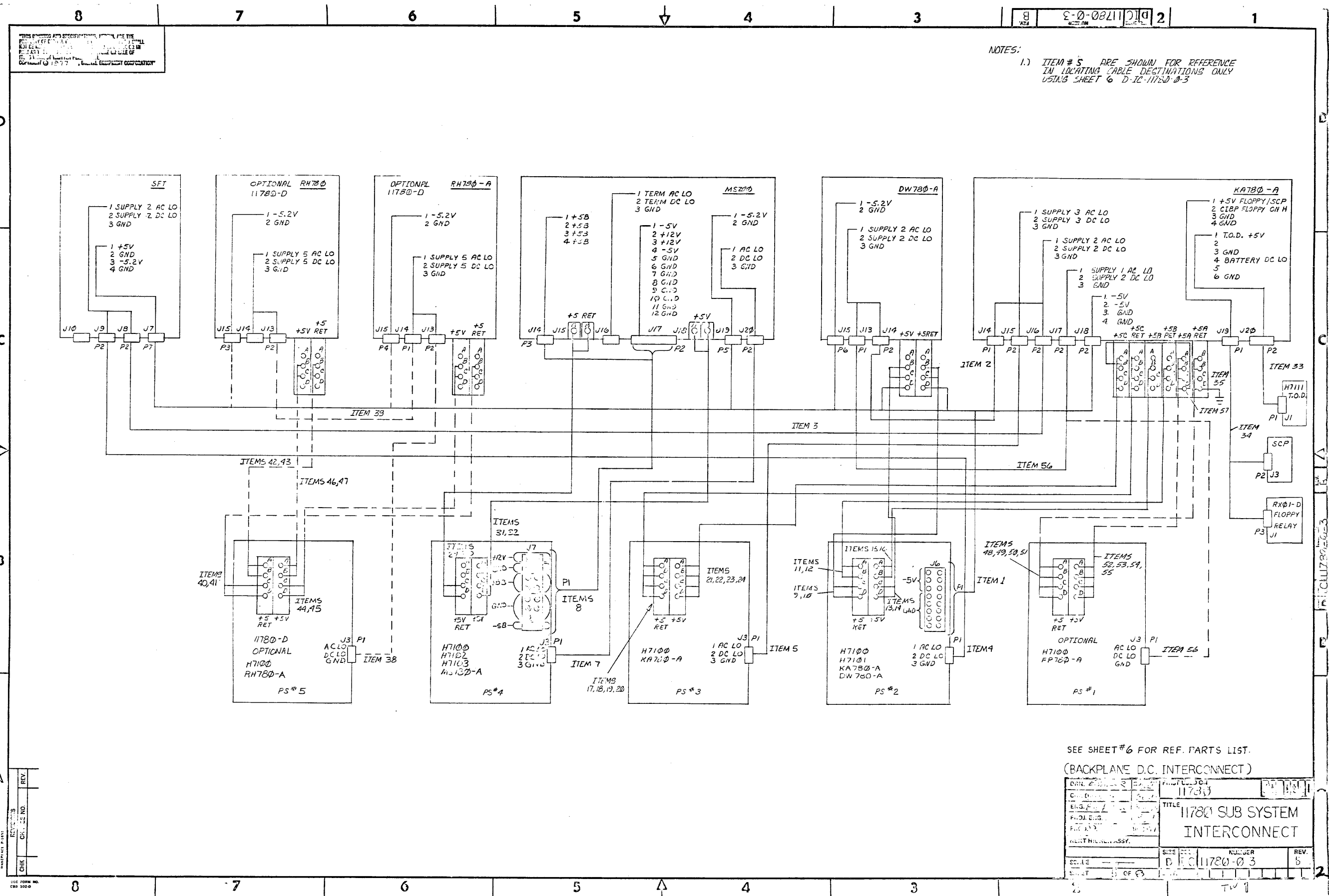


(S.B.I. OUT)

DATE	REV.	FILED UNDER	11780
CHG.		TITLE	11780 SUB SYSTEM INTERCONNECT
ENG.		SCALE	D
PROJ.		SIZE	11780-0-3
PREP.		NUMBER	REV. B
NEXT HIGH. REV.		SCALE	1 OF 53
SCALE		SHEET	TW 1

THIS DRAWING AND SPECIFICATIONS SHALL BE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND SHALL BE LOANED TO YOU BY THE GOVERNMENT. IT IS TO BE USED ONLY FOR THE PURPOSES AUTHORIZED BY THE GOVERNMENT. IT IS TO BE RETURNED TO THE GOVERNMENT AT THE END OF THE LOAN PERIOD.

NOTES:  
 1.) ITEM # 5 ARE SHOWN FOR REFERENCE IN LOCATING CABLE DESTINATIONS ONLY USING SHEET 6 D-IC-11780-0-3



SEE SHEET #6 FOR REF. PARTS LIST.  
 (BACKPLANE D.C. INTERCONNECT)

DATE	11780	REV.	5
ENGR.		TITLE	11780 SUB SYSTEM INTERCONNECT
PROJ. ENGR.		SIZE	D-IC-11780-0-3
PROJ. MGR.		NUMBER	5
TEST MGR.		REV.	5
CHK.			
REV.			

REV.	
CHK.	
DATE	

DDC FORM NO. 100-100

25

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

11780 - C & D (SEE SHEETS 7 & 8 FOR CUCV VARIATIONS)

REF. ITEM NUMBER	PART NUMBER	DESCRIPTION	FROM	TO	REMARKS
1	7015073-0-0	HARNESS-5V TERMINATION	HARNESS P1	PS#2-J6	-5V GND
			HARNESS P2	KA780-J18	
			HARNESS P5	MS780-J19	
			HARNESS P6	DW780-J15	-5V, GND
			HARNESS P7	SFT-J7	±5V, GND
			HARNESS R1'S TERM (RED W/ 3)	DW780+5V-D	+5V
	7015073-0-0	HARNESS-5V TERM	HARNESS R1'S TERM (RED W/ 3)	DW780+5VRT-D	+5V RETURN
2	7014212-0H	CABLE AC DC LOW	CABLE P1	KA780-J14	
			CABLE P2	DW780-J14	
3	7014212-2M	CABLE AC DC LOW	CABLE P1	KA780-J16	
			CABLE P2	SFT-J8	
4	7014212-2M	CABLE AC DC LOW	CABLE P1	PS#2-J3	AC DC LOW GND
			P2	SFT-J9	
5	7014212-0M	CABLE AC DC LOW	CABLE P1	PS#3-J3	AC DC LOW & GND
			P2	KA780-J15	
7	7014212-1C	CABLE AC DC LOW	CABLE P1	PS#4-J3	AC DC LOW & GND
			P2	MS780-J20	
8	7014234-0K	CABLE ±5B & +12	CABLE P1	PS#4-J7	+5B & +12
			P2	MS780-J17	
			P3	MS780-J14	
9	7014249-1A	CABLE POWER (BLK)	PS#2+5 RET-D	DW780+5 RET-B	PS#2+5 RETURN
10	7014249-1A	CABLE POWER (BLK)	PS#2+5 RET-C	DW780+5 RET-C	
11	7014249-1C	CABLE POWER (BLK)	PS#2+5 RET-B	KA780+5 RET-B	
12	7014530-1A	CABLE POWER (RED)	PS#2+5 RET-A	KA780+5 RET-C	PS#2+5 RETURN
13	7014530-1A	CABLE POWER (RED)	PS#2+5 RET-D	DW780+5 RET-B	PS#2+5
14			C	DW780+5 RET-C	
15	7014530-1A	CABLE POWER (RED)	PS#2+5 B	KA780+5 RET-C	
16	7014530-1A	CABLE POWER (RED)	PS#2+5 A	KA780+5 RET-B	PS#2+5
17	7014249-1J	CABLE POWER (BLK)	PS#3+5 RET-D	KA780+5 RET-D	PS#3+5 RETURN
18			C		C
19			B		B
20	7014249-1J	CABLE POWER (BLK)	PS#3+5 RET-A	KA780+5C-A	PS#3+5 RETURN
21	7014530-1E	CABLE POWER (RED)	PS#3+5 -D	KA780+5C-D	PS#3+5 RETURN
22			C		C
23			B		B
24	7014530-1E	CABLE POWER (RED)	PS#3+5 -A	KA780+5C-A	
29	7014250-0K	CABLE POWER	PS#4+5 RET-C	MS780-J15-A	PS#4+5 RETURN
30	7014250-0K	R/R MEMORY BLK	PS#4+5 RET-D	MS780-J15-B	
51	7014529-0K	CABLE POWER +5 MEMORY (RED)	PS#4+5 C	MS780-J18-A	PS#4+5V
32			PS#4+5 D	MS780-J18-B	
33	7014248-3M	CABLE TOT-OD-041	HARNESS P2	KA780-J20	
			P1	H7111-J1	
34	7014243-21	FLOPPY RELAY SC PWR HARNESS	HARNESS P1	KA780-J19	
			P2	SCP-J3	
			P3	RXD1-J1	
35	7014249-0L	CABLE POWER (BLK)	KA780-A+5A RET-D	FRAME	
56	7014212-0M	CABLE AC/DC LO	CABLE P1	DW780-J13	SEE NOTE #3
			CABLE P2	KA780-J17	

11780-D

REF. ITEM NUMBER	PART NUMBER	DESCRIPTION	FROM	TO	REMARKS
1	7015073-0-0	HARNESS-5V TERM.	HARNESS P3	RH780-J15	-5V GND
	7015073-0-0	HARNESS-5V TERM.	HARNESS P4	RH780-A-J15	-5V GND
38	7014212-0M	CABLE AC DC LOW	CABLE P1	PS#5-J3	AC DC LO & GND
	7014212-0M	CABLE AC DC LOW	CABLE P2	RH780-J13	AC DC LO & GND
39	7014212-0H	CABLE AC DC LOW	CABLE P1	RH780-A-J14	AC DC LO & GND
	7014212-0H	CABLE AC DC LOW	CABLE P2	RH780-J13	AC DC LO & GND
40	7014243-0L	CABLE POWER (BLK)	PS#5+5 RET-D	RH780-A+5 RET-C	PS#5+5 RETURN
41			C	B	
42	7014243-0L	CABLE POWER (BLK)	PS#5+5 RET-B	RH780-A+5-C	PS#5+5 RETURN
43			A	B	
44	7014530-0L	CABLE POWER (RED)	PS#5+5 -D	RH780-A+5-C	PS#5+5V
45			C	B	
46	7014530-0L	CABLE POWER (RED)	PS#5+5 -B	RH780-A+5-C	PS#5+5V
47			A	B	

FP780 OR FP780 & KU780 SEE NOTE 1

48	7014249-0L	POWER CABLE BLK	PS#1+5 A RET-D	KA780+5A RET-D	PS#1+5 RETURN
49			C	C	
50			B	B	
51	7014249-0L	POWER CABLE (BLK)	PS#1+5 A RET-A	KA780+5A RET-A	PS#1+5 RETURN
52	7014530-0L	POWER CABLE (RED)	PS#1+5 -D	KA780+5A -D	PS#1+5V
53			C	C	
54			B	B	
55	7014530-0L	POWER CABLE (RED)	PS#1+5 -A	KA780+5A -A	PS#1+5V
56	7014212-0M	CABLE AC DC LO	CABLE P1	PS#1-J3	AC, DC, LOW
			P2	KA780-J17	

OPTIONAL  
SEE NOTE 3

KC780 OR KU780 SEE NOTE 2

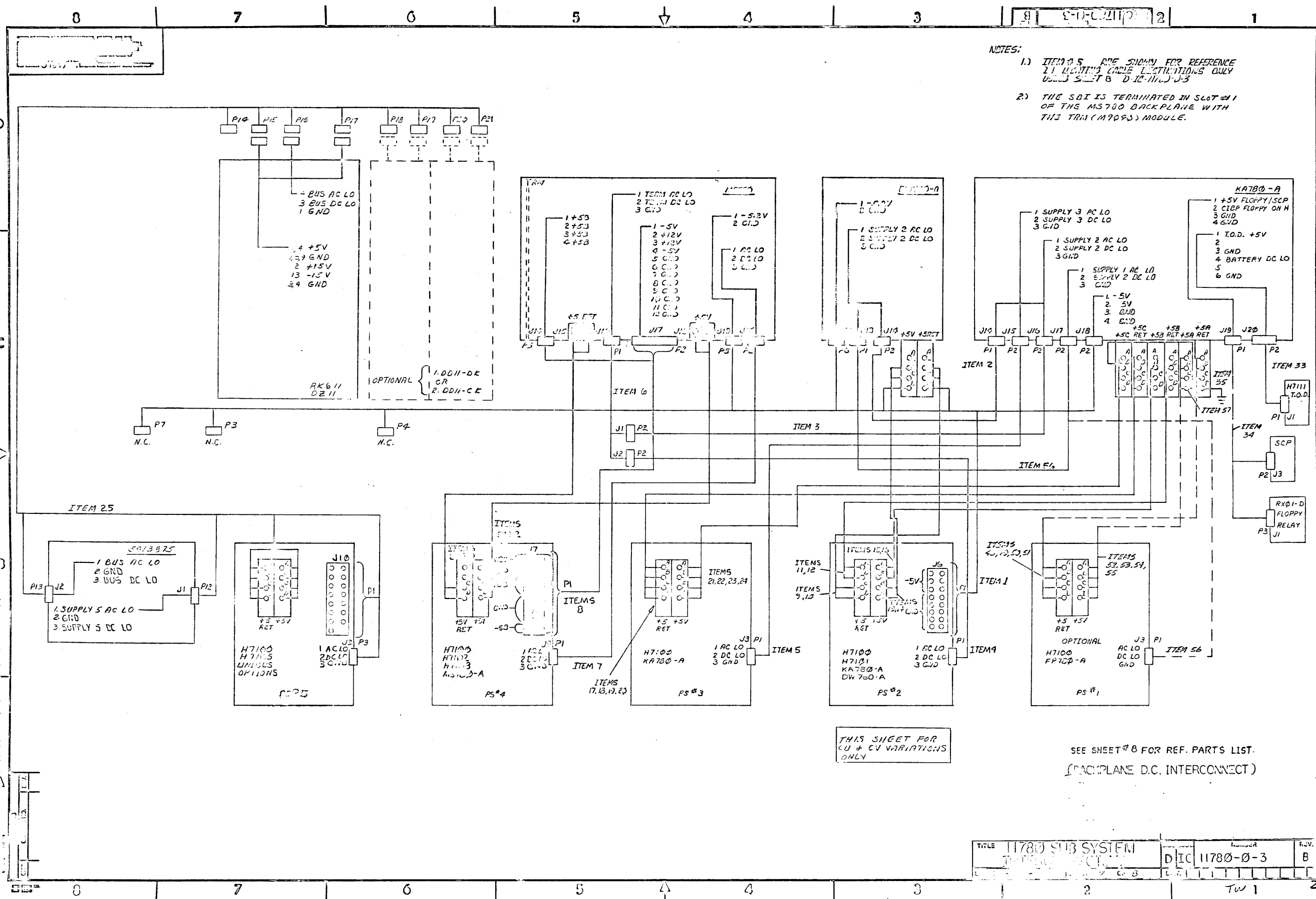
57	7014530-0L	CABLE POWER (RED)	KA780-A+5A D	KA780-A+5C-B	PS#2+5V
----	------------	-------------------	--------------	--------------	---------

- NOTES:
- REFER TO E-UA-KA780 FOR INSTRUCTIONS OF JUMPER REMOVAL IN CONFIGURATIONS USING PS#1.
  - IF THE FP780 IS INSTALLED REMOVE ITEM 57.
  - IF THE FP780 IS INSTALLED; ITEM #56 P1 CONNECTS TO PS#1-J3, OTHERWISE IT IS CONNECTED TO DW780-J13.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
11780 SUB-SYSTEM INTERCONNECT	D1C	11780-0-3	B
SCALE	SHEET 6 OF 8	DIST.	





NOTES:  
 1) ITEMS 5 ARE SHOWN FOR REFERENCE  
 2) MOUNTING CABLE RESTRICTIONS ONLY  
 USES SHEET B D-12-1110-J-3  
 3) THE SBI IS TERMINATED IN SLOT #1  
 OF THE M5700 BACKPLANE WITH  
 THE TRM (M995) MODULE.

THIS SHEET FOR  
 CU + CV VARIATIONS  
 ONLY

SEE SHEET # 8 FOR REF. PARTS LIST.  
 (BACKPLANE D.C. INTERCONNECT)

TITLE	11780 SUB SYSTEM	REV.	B
DWG NO.	11780-0-3		
DATE			
BY			
CHECKED			
APPROVED			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL BE KEPT IN CONFIDENTIALITY AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1980 DIGITAL EQUIPMENT CORPORATION

11780-CU/CV

11780-CU/CV

REF ITEM NUMBER	PART NUMBER	DESCRIPTION	FROM	TO	REMARKS	
1	7015073-0-0	HARNESS-5V TERMINATOR	HARNESS - P1	PS#2 - J6	-5V GND	
			HARNESS - P2	KA780-J13		
			HARNESS - P5	MS780-J19		
			HARNESS - P6	DW780-J15	-5V GND	
			HARNESS - P7	N.C.	±5V GND	
			HARNESS RING TERM. (RED WIRE)	DW780-5V-D	+5V	
	7015073-0-0	HARNESS-5V TERMINATOR	HARNESS RING TERM. (BLK WIRE)	DW780-5V-R	+5V RETURN	
2	7014212-0H	CABLE AC DC LOW	CABLE - P1	KA780-J14	AC DC LOW + GND	
			CABLE - P2	DW780-J14		
3	7014212-2M	CABLE AC DC LOW	CABLE - P1	KA780-J14	AC DC LOW + GND	
			CABLE - P2	ITEM #3-J1		
4	7014212-2M	CABLE AC DC LOW	CABLE - P1	PS#2 - J13	AC DC LOW + GND	
			CABLE - P2	ITEM #3-J2		
5	7014212-0M	CABLE AC DC LOW	CABLE - P1	PS#3 - J13	AC DC LOW + GND	
			CABLE - P2	KA780-J15		
6	70	-0J	AC DC LOW WYE CABLE	CABLE - P1	MS780-J16	AC DC LOW + GND
			CABLE - J1	ITEM #3-J2		
			CABLE - J2	ITEM #4-J2		
7	7014212-1C	CABLE AC DC LOW	CABLE - P1	PS#4 - J13	AC DC LOW + GND	
			CABLE - P2	MS780-J20		
8	7014212-0K	CABLE ±5B + +12V	CABLE - P1	PS#4 - J7	±5B + 12V + GND	
			CABLE - P2	MS780-J17		
			CABLE - P3	MS780-J11		
9	7014249-1A	CABLE POWER (BLK)	PS#2 +5V RET - D	DW780-5V-D	PS#2-5V RETURN	
10	7014249-1A	CABLE POWER (BLK)	PS#2 +5V RET - C	DW780-5V-C		
11	7014249-1C	CABLE POWER (BLK)	PS#2 +5V RET - B	KA780-5A-D		
12	7014249-1C	CABLE POWER (BLK)	PS#2 +5V RET - A	KA780-5A-D	PS#2-5V RETURN	
13	7014530-1A	CABLE POWER (RED)	PS#2 +5V - D	DW780-5V-D	PS#2 +5V	
14	7014530-1A	CABLE POWER (RED)	PS#2 +5V - C	DW780-5V-C		
15	7014530-1A	CABLE POWER (RED)	PS#2 +5V - B	KA780-5A-D		
16	7014530-1A	CABLE POWER (RED)	PS#2 +5V - A	KA780-5A-D	PS#2 +5V	
17	7014249-1J	CABLE POWER (BLK)	PS#3 +5V RET - D	KA780-5A-D		
18			-C		-C	
19			-B		-B	
20	7014249-1J	CABLE POWER (BLK)	PS#3 +5V RET - A	KA780-5A-D	PS#3-5V RETURN	
21	7014530-1E	CABLE POWER (RED)	PS#3 +5V - D	KA780-5A-D	PS#3 +5V RETURN	
22			-C		-C	
23			-B		-B	
24	7014530-1E	CABLE POWER (RED)	PS#3 +5V - A	KA780-5A-D		
25	7016951-0-0	UNIBUS PWR HARNESS	HARNESS - P1	PS#5 - J10	PS#5-15V, -15V + GND	
			HARNESS RING TERM. (BLK WIRE) - P2	PS#5 +5V RET - D	PS#5 +5V RETURN	
			HARNESS - P3	PS#5 - J3	AC, DC LOW + GND	
			HARNESS RING TERM. (RED WIRE) - P4	PS#5 +5V - D	PS#5 +5V	
			-P5		-C	
			-P6		-B	
			HARNESS RING TERM. (RED WIRE) - P7	PS#5 +5V - A		
			HARNESS RING TERM. (BLK WIRE) - P8	PS#5 +5V RET - D	PS#5 +5V RETURN	
			-P9		-C	
			-P10		-B	
			HARNESS RING TERM. (BLK WIRE) - P11	PS#5 +5V RET - A		
	7016951-0-0	UNIBUS PWR HARNESS	HARNESS - P12	ADAPTER BOARD J1	AC, DC LOW + GND	

REF ITEM NUMBER	PART NUMBER	DESCRIPTION	FROM	TO	REMARKS
25	7016951-0-0	UNIBUS PWR HARNESS	HARNESS - P13	ADAPTER BOARD J2	ADAPT. AC, DC LOW + GND
			-P14	N.C. (OPTIONAL)	
			-P15	RK611 - P2	
			-P16	RK611 - P3	
			-P17	RK611 - P4	
			-P18	N.C. (OPTIONAL)	
			-P19		
			-P20		
	7016951-0-0	UNIBUS PWR HARNESS	HARNESS - P21	N.C. (OPTIONAL)	
29	7014249-0K	CABLE POWER (BLK)	PS#4 +5V RET - C	MS780-J15-A	PS#4 +5V RETURN
30		RTR MEMORY (BLK)	-D	-B	
31	7014249-0K	CABLE POWER (BLK)	PS#4 +5V - C	MS780-J18-A	PS#4 +5V
32		+5V MEMORY (RED)	-D	-B	
33	7014243-3M	CABLE TO TRND. CAT	HARNESS - P2	KA780-J20	
			-P1	H7111 - J1	
34	7014243-21	FLOPPY RELAY SC PWR HARNESS	HARNESS - P1	KA780-J19	
			-P2	SCP - J3	
			-P3	RX31 - J1	
35	7014249-0L	CABLE POWER (BLK)	KA780-5A RET - D	FRAME	
56	7014212-0M	CABLE AC/DC LO	CABLE - P1	DW780-J13	SEE NOTE #3
			CABLE - P2	KA780-J17	

FP780  
OR  
FP780 + KU780

SEE NOTE 1

48	7014249-0L	POWER CABLE (BLK)	PS#1 +5A RET - D	KA780-5A RET - D	PS#1 +5V RETURN
49			-C	-C	
50			-B	-B	
51	7014249-0L	POWER CABLE (BLK)	PS#1 +5A RET - A	KA780-5A RET - D	
52	7014530-0L	POWER CABLE (RED)	PS#1 +5V - D	KA780-5A - D	PS#1 +5A
53			-C	-C	
54			-B	-B	
55	7014530-0L	POWER CABLE (RED)	PS#1 +5V - A	KA780-5A - A	
56	7014212-0M	CABLE AC DC LO	CABLE - P1	PS#1 - J3	AC, DC LOW + GND
			CABLE - P2	KA780-J17	

OPTIONAL

SEE NOTE 3

KC780 or KU780

SEE NOTE 2

57	7014530-0L	CABLE POWER (RED)	KA780 +5A - D	KA780-5C - B	PS#2 +5V
----	------------	-------------------	---------------	--------------	----------

NOTES:

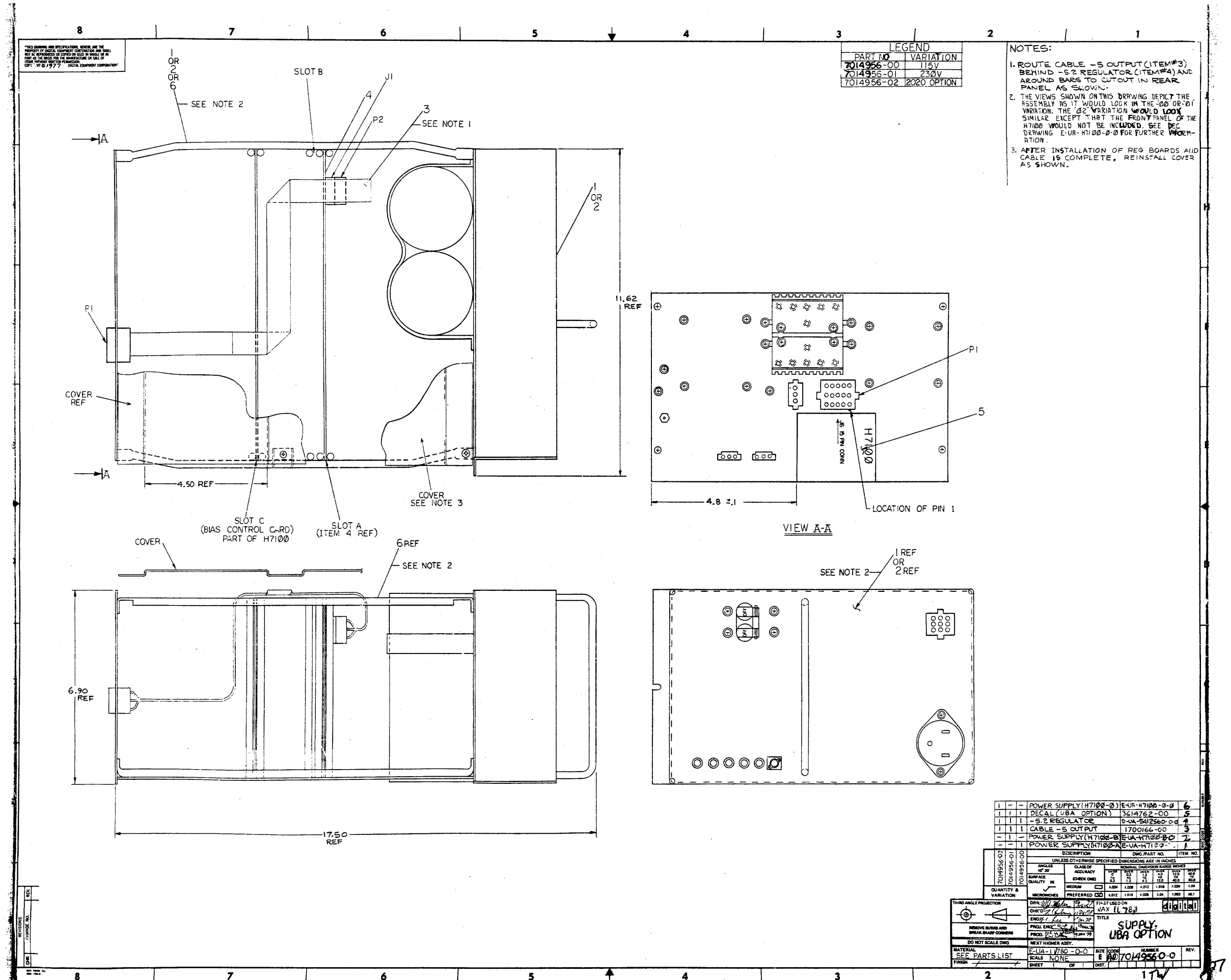
- REFER TO E-UA-KA780 FOR INSTRUCTIONS OF JUMPER REMOVAL IN CONFIGURATIONS USING PS#1
- IF THE FP780 IS INSTALLED, REMOVE ITEM 57.
- IF THE FP780 IS INSTALLED, ITEM #56 P1 CONNECTS TO PS#1 - J3 OTHERWISE IT IS CONNECTED TO DW780 - J13.

THIS SHEET FOR CU+CV VARIATION ONLY

REVISION HISTORY		
D.ITE	ECO NUMBER	REV

DOCUMENT NUMBER	
SIZE CODE	NUMBER
DTC	11780-0-3

TITLE 11780 SUB-SYSTEM INTERCONNECT



LEGEND	
PART NO	VARIATION
7014956-00	115V
7014956-01	230V
7014956-02	2020 OPTION

**NOTES:**

- ROUTE CABLE -S OUTPUT (ITEM#3) BEHIND -S 2 REGULATOR (ITEM#4) AND AROUND BARS TO CUTOUT IN REAR PANEL AS SHOWN.
- THE VIEWS SHOWN ON THIS DRAWING DEPICT THE ASSEMBLY AS IT WOULD LOOK IN THE -00 OR -01 VARIATION. THE -02 VARIATION WOULD LOOK SIMILAR EXCEPT THAT THE FRONT PANEL OF THE H7100 WOULD NOT BE INCLUDED. SEE DEC DRAWING E-UR-H7100-B-D FOR FURTHER INFORMATION.
- AFTER INSTALLATION OF REG BOARDS AND CABLE IS COMPLETE, REINSTALL COVER AS SHOWN.

QTY	DESCRIPTION	DWG. PART NO.	ITEM NO.
1	POWER SUPPLY (H7100-0)	E-UR-H7100-B-D	6
1	DECAL (UBA OPTION)	3114762-00	5
1	-S 2 REGULATOR	D-3A-5412560-00	4
1	CABLE -S OUTPUT	1700164-00	3
1	POWER SUPPLY (H7100-B) E-UR-H7100-B-D		2
1	POWER SUPPLY (H7100-A) E-UR-H7100-A		1

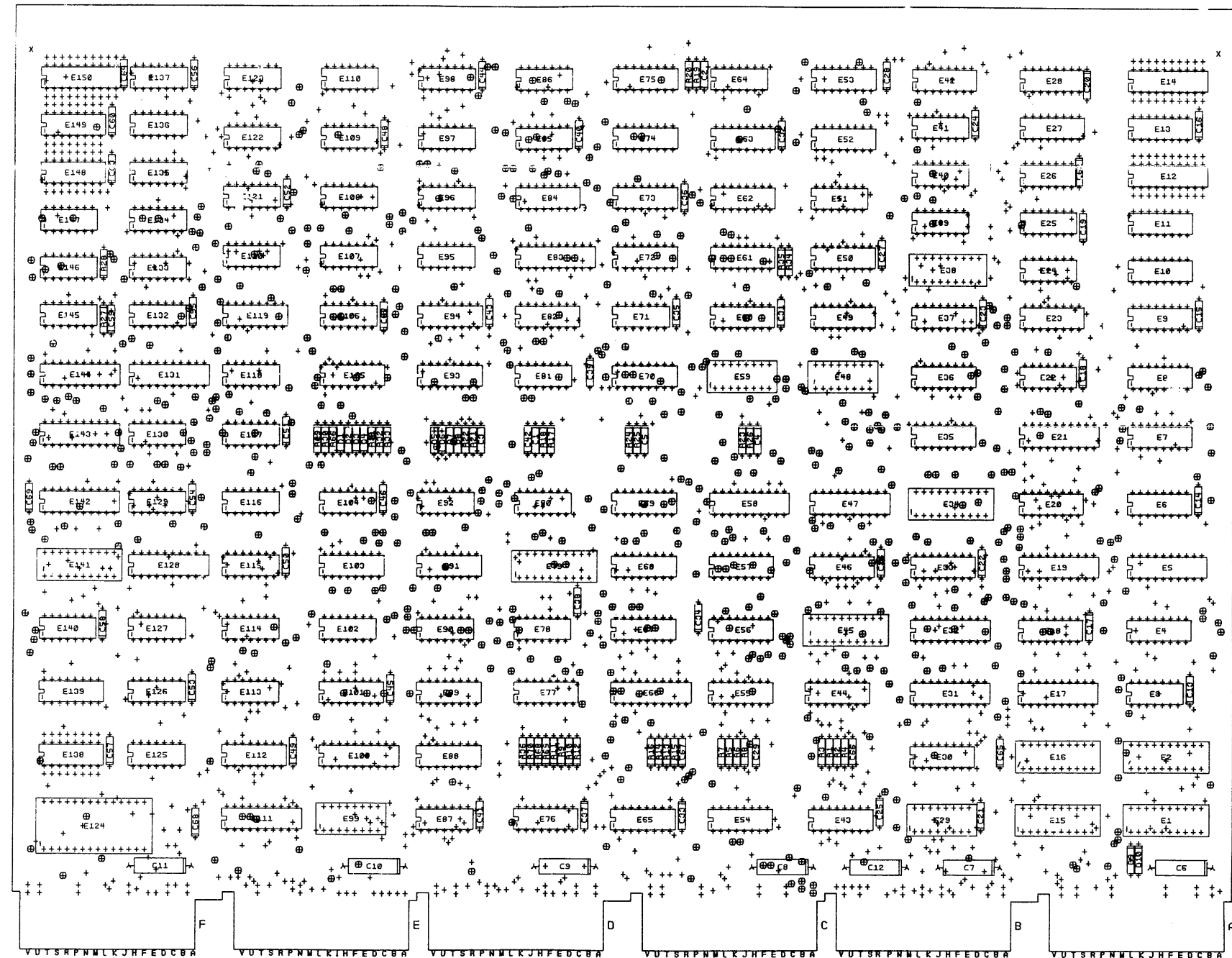
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		FINISH USED ON		TITLE	
ANGLES	CLASS OF ACCURACY			VAX II 780	
SHEET		FINISH		DATE	
SURFACE QUALITY		CHECK ONE		PROJ. ENG. S. A.	
IN		MEDIUM		PROD. DATE 19 JUN 79	
MICROMETERS		PREFERRED		REV. 1	
VARIATION		DO NOT SCALE DWG		NEXT HIGHER ASSY.	
THIRD ANGLE PROJECTION		REMOVE BURS AND BRING SHARP CORNERS		E-UR-1750-0-0	
DO NOT SCALE DWG		MATERIAL SEE PARTS LIST		E-UR-1750-0-0	
FINISH		SCALE NONE		E-UR-1750-0-0	
SHEET 1 OF 1		DIST.		E-UR-1750-0-0	

**SUPPLY UBA OPTION**

7014956-00

17

COMPONENT SIDE VIEW



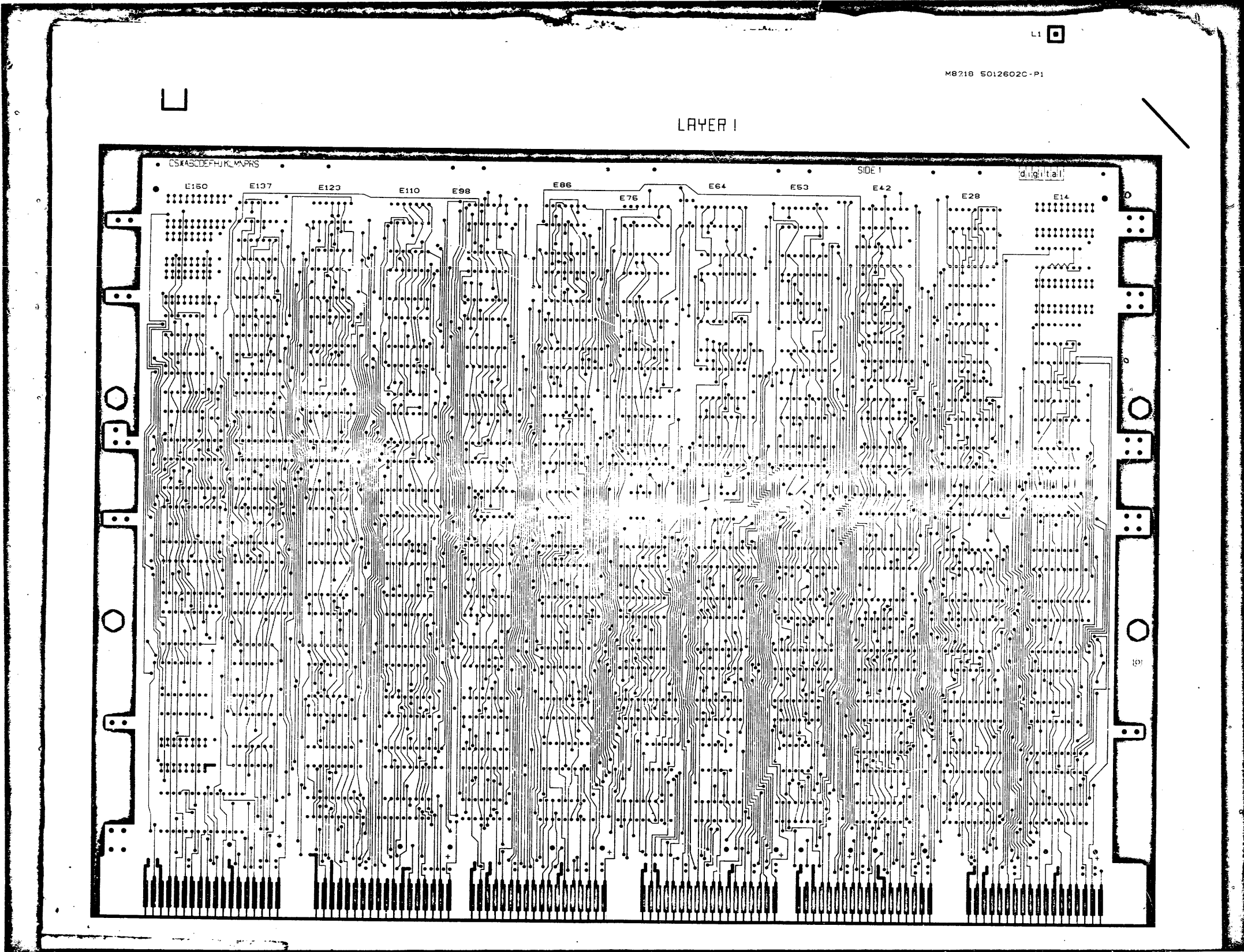
SIGNATURES		DATE	TITLE	
DRN.	CHK. D. E. TINSLEY	7-20-78	digital	
ENG.	PROJ. ENGR.		SBL	
DES.	SCALE		SIZE CODE	
REV.	REV. OF		NUMBER	
NEXT HIGHER ASSY. E-100000			0-0	

ETCH REV.	PCB DESIGN DATA BASE REV.

CHANGE NO	REV

NOTES:


36



L1

M8218 5012602C-P1

LAYER 1

CSABCDEFGHIJKLMNPRS

SIDE 1

digital

E150

E137

E123

E110

E98

E86

E75

E64

E53

E42

E28

E14

REVISED  
DATE NO. REV.

TITLE	SBL	DATE	NO.
SCALE	2/1	REVISED	NO.
SHEET 2 OF 3		EJA M8218-2-0	

8

7

6

5

4

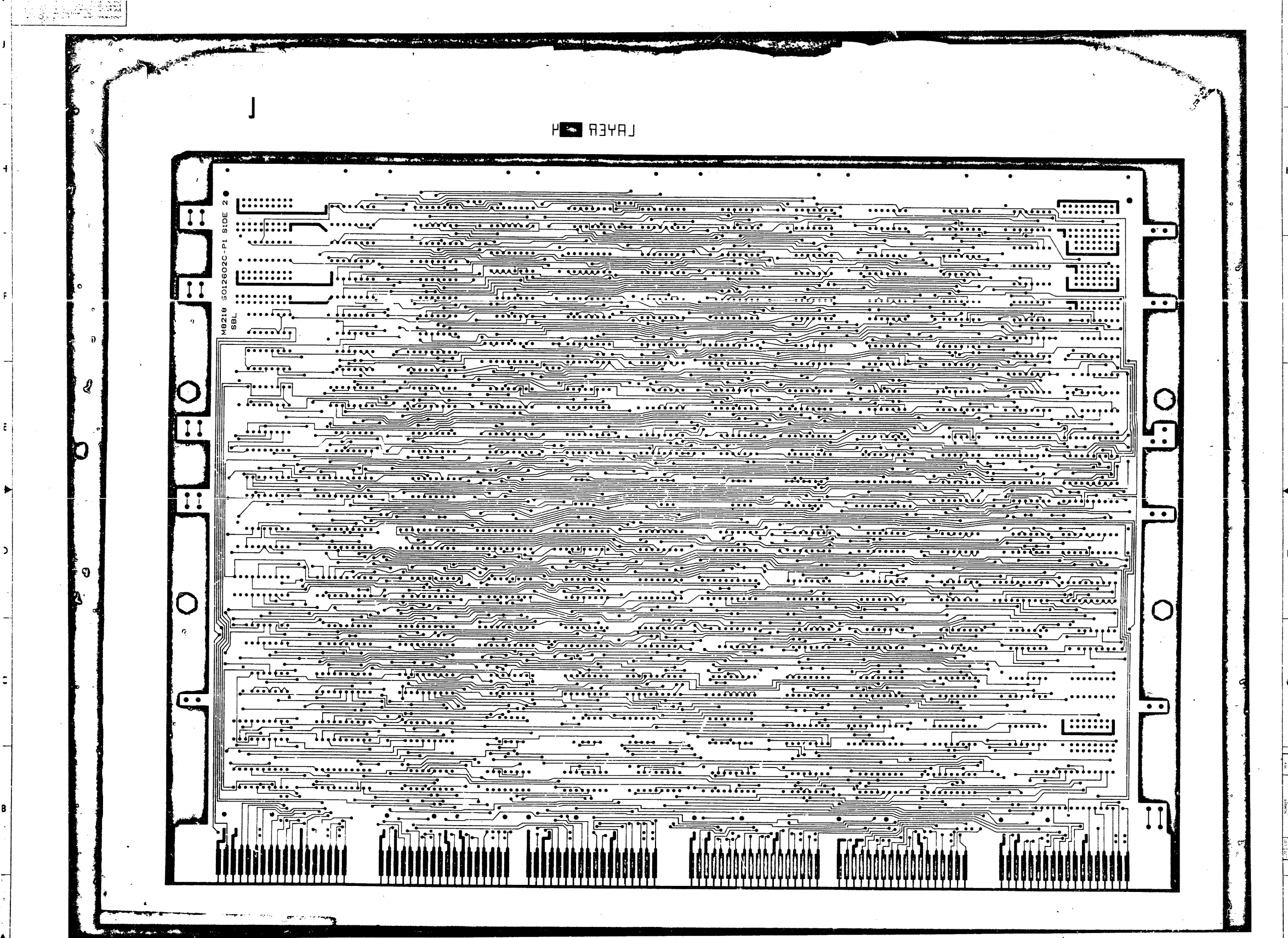
3

2

1

99

8 7 6 5 4 3 2 1



M8218 S012602C-P1 SIDE 2

SBL

REVISIONS		DATE		BY		TITLE		DRAWN		CHECKED		DATE		BY		DATE		BY	
							SBL												
EUA M8218-2-2										SCALE		SHEET		3 OF 3					

30

8 7 6 5 4 3 2 1

EUA M8218-0-0

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012602-0-0	5012602-00	M8218	1	
2	2		1910532-00	74S00 NAND GATE-QUAD 2INS	8	E39,E51,E64,E102,E107,E118, E137,E140
3	3		1912388-00	74S02 NOR GATE-QUAD 2IN,POS	5	E25,E81,E95,E117,E121
4	4		1910534-00	74S04 INVERTER GATE-HEX 1IN	9	E26,E41,F104,E113,E123,E125, E130,E132,E135
5	5		1912389-00	74S08 AND GATE-QUAD 2IN,POS	14	4 E96,E98,E106,E126
6	6		1910536-00	74S10 NAND GATE-TRIPLE 3IN	6	E40,E85,E109,E114,E136,E145
7	7		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	2	E97,E120
8	8		1910539-00	74S20 NAND GATE-DUAL 4INPUT	1	E127
9	9		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	2	E24,E71
10	10		1910541-00	74S40 NAND GATE-DUAL 4IN,BUFFER	16	1 E147
11	11		1910542-00	74S64 A-O-I XPDR GATE,4-2-3-2	14	12 E86,E90,E92,E108,E110,E115, E133,E116,E122,E129,E134,E146
12	12		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	2	E78,E80
13	13		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	7	E61,E72,E73,E82,E94,E105,E93
14	14		1911983-00	74S133 NAND GATE-POSITIVE 13IN	2	E69,E77
15	15		1911675-00	74S138 DECODER-THREE INPUT	1	E112
16	16		1912845-00	LS153 MUX 1 OF 4 (DUAL) & DATA SEL	8	E23,E35,E36,E37,E49,E60,E91, E103
17	17		1910547-00	74S153 MUX 1 OF 4 (DUAL)	2	E9,E10
18	18		1910548-00	74S157 MUX 1 OF 2 (QUAD)	3	E7,E18,E20
19	19		1913839-00	74LS165 SHIFT REG.,8BIT	6	E4,E6,E8,E67,E70,E88
20	20		1910550-00	74S174 FF-D HEX	4	E30,E33,E44,E101
21	21		1910957-00	74S175 FF-D QUAD COMMON CLOCK	4	E74,E75,E84,E119
22	22		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	8	E27,E28,E13,E50,E52,E62,E63, E89
23	23		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E55,E56,E57,E68
24	24		1913887-00	74S258 MUX 1 OF 2(QUAD)TRI-STATE	1	E46
25	25		1912860-00	LS259 LATCH 8BIT	1	E11

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		
CHK	ECO NO	REV	FIRST USED ON:		
---	INIT	D	MADE BY: M. FUNARO DATE: 24-AUG-78		
			CHECKED: F. SMART DATE: 24-AUG-78		
			DSN.ENG.: T. ERMOLOVICH DATE: 24-AUG-78		
			PROD.: M. TERELLO DATE: 24-AUG-78		
			RESP.ENG.: T. ERMOLOVICH DATE: 24-AUG-78		
			DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
			TITLE PARTS LIST		
			SBL		
			SIZE	CODE	DOCUMENT NUMBER
			K	PL	M8218-0-DBP
			ASSY.NO.: D-UA-M8218-0-0		
			REV D		
			EDIT# 5		

"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
26	26		1911573-00	74S280 PARITY GEN/CHKR,9BIT ODD/EVEN	1	E3
27	27		1913670-00	74S373 LATCH 8BIT TRASP TRISTATE	9	E17,E31,E32,E83,E100,E111, CONT E128,E131,E144
28	28		1912872-00	LS377 FF-D 8BIT W/ENABLE	6	E5,E19,E21,E47,E58,E66
29	29		1912863-00	LS273 FF-D OCTAL W/CLEAR	2	E34,E79
30	30		1912096-00	DEC 74S86 XOR GATE,QUAD 2IN	1	E22
31	31		1913788-00	26S10 TRANSCIEVER,BUS,QUAD	4	E29,E48,E59,E99
32	32		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E87
33	33		1912731-00	DEC 8646 TRANSCIEVER,4BIT BUS	4	E1,E2,E15,E16
34	34		1913294-00	93S16 COUNTER,SYNCH UP BINARY	2	E42,E53
35	35		1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	4	E43,E54,E65,E76
36	36		1913730-00	DC 101 PRIORITY ARBITRATOR CHIP 28P	1	E124
37	37		1913888-00	DC 102 EQUALS CHECKER 8BIT	2	E45,E141
38	38		1012084-01	8 MFD 25V G% 30D AL EL (10-12	7	C6-C12
39	39		1012784-00	.047 MFD 50V -20+80 CER	60	C1-C5,C13-C29,C31-C60,C62-C69
40	40		1103041-00	DEC 777 QS=12PCB PIV= 8VS	2	D9,D10
41	41		1302957-00	121 1/4W 1% RN55D-F 100PPM (13-00	12	R1,R2,R5,R6,R9,R10,R13,R14, CONT R27,R68,F70,R34
42	42		1300250-00	150 1/4W 5% CC (13-00	11	R3,R4,R7,R8,R11,R12,R15,R16, CONT R29,R31,R32
43	43		1300271-00	220 1/4W 5% CC (13-00	2	R36,R69
44	44		1300295-00	330 1/4W 5% CC (13-00	5	R17,R19,R21,R23,R24
45	45		1301424-00	680 1/4W 5% CC (13-00	5	R18,R20,R22,R25,R26
46	46		23019B1-00	B1-01 PROM,	1	E143
47	47		23020B1-00	B1-01 PROM,	1	E142
48	48		1210711-02	HANDLE,HEX MODULE,10-1/2 S	1	
49	49		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	
50	50		23019F1-00	F1-01 PROM, 1	1	E38
51	51		9105740-55	WIRE(WRAP)30AWG UL1423 (91-00 A/R		

52 NOTE: NOTE 1:LINE 46,NOT USED COMPONENTS  
53 NOTE: NOTE 2:LINE 51,SPARES

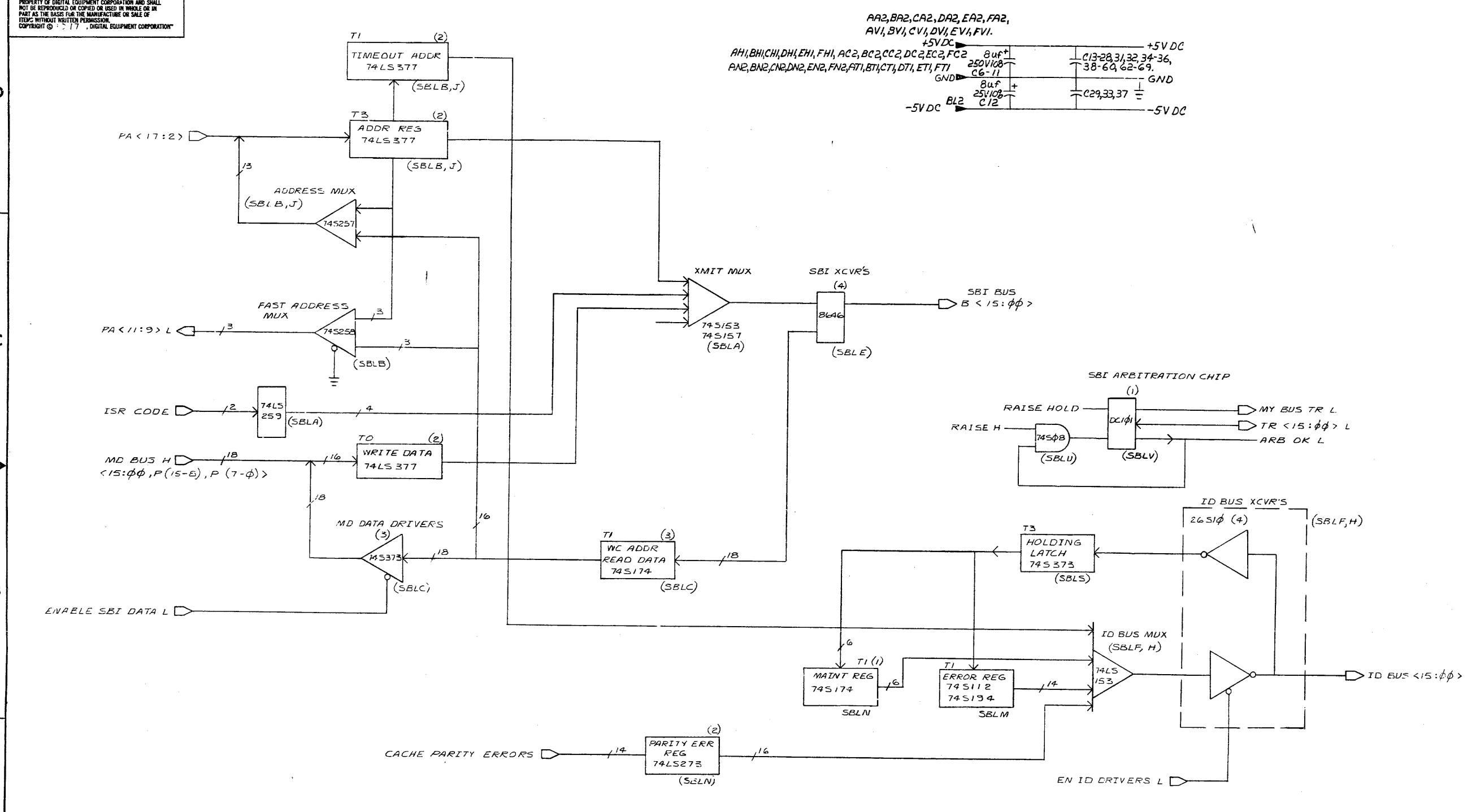
REF. DES.; R20,R30,R33,R35,R66,D1-D8  
REF. DES.;E12,E14,E138,E139,E148-E150

DIGITAL EQUIPMENT CORPORATION WAYNARD, MASSACHUSETTS	TITLE SBL	PARTS LIST	SIZE K	CODE PL	DOCUMENT NUMBER M8218-0-DBP	REV D
---	--------------	------------	-----------	------------	--------------------------------	----------



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

CS M8218-0-1 2



AA2,BA2,CA2,DA2,EA2,FA2,  
 AV1,BV1,CV1,DV1,EV1,FV1,  
 +5VDC  
 AH1,BH1,CH1,DH1,EH1, FH1, AC2,BC2,CC2,DC2,EC2,FC2 8uF+  
 250V108 C13-28,31,32,34-36,  
 AN2,BN2,CN2,DN2,EN2, FN2,FT1,BT1,CT1,DT1, ET1, FT1 38-60,62-69.  
 GND 8uF+ C6-11 GND  
 -5VDC BL2 25V108 C12 C29,33,37 -5VDC

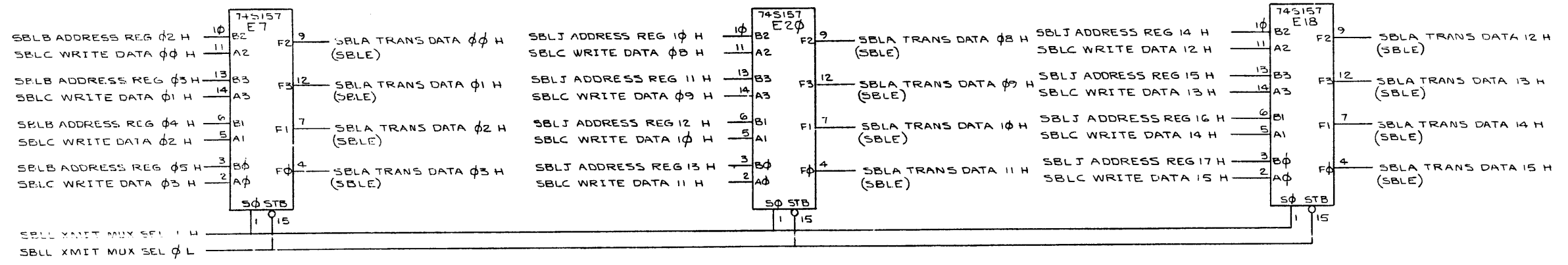
REV.	CHG.	NO.	REV.
1	00001	B	
2	00002	C	
3	00003	D	
4	00004	E	
5	00005	F	
6	00006	G	
7	00007	H	
8	00008	I	
9	00009	J	
10	00010	K	
11	00011	L	
12	00012	M	
13	00013	N	
14	00014	O	
15	00015	P	
16	00016	Q	
17	00017	R	
18	00018	S	
19	00019	T	
20	00020	U	
21	00021	V	
22	00022	W	
23	00023	X	
24	00024	Y	
25	00025	Z	

DRN. R. DeLoach	7-27-77	FIRST USED ON	11780	digital
CHK'D		TITLE	SBI INTERFACE LOW BITS	
ENG. P. G. Smith	8-3-77	PROJ. ENGR. P. G. Smith	9-3-77	
PROD. J. G. Smith	9-3-77	NEXT HIGHER ASSY.		
SCALE		SIZE CODE	D	CS M8218-0-1
SHEET	1	OF	7	REV. E

(SLOT 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

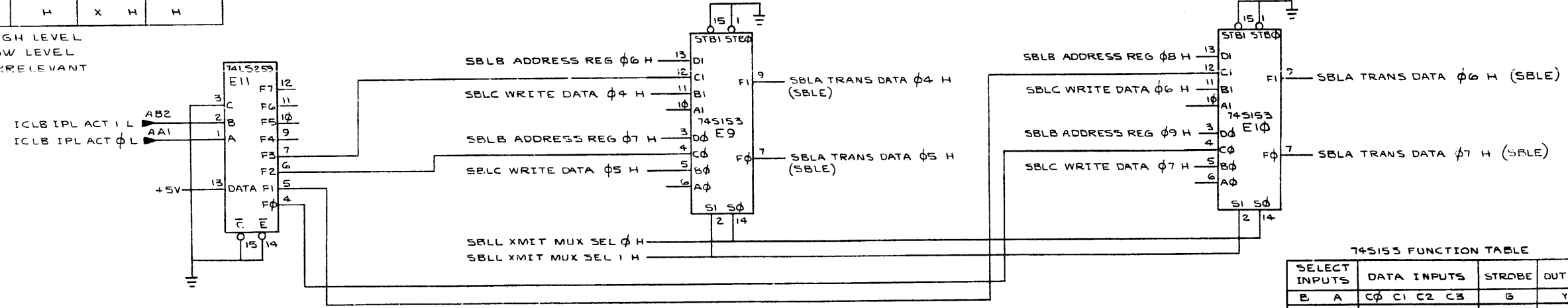
TRANSMIT MULTIPLEXERS



74S157 FUNCTION TABLE

INPUTS		OUTPUT	
STROBE	SELECT	A	B
H	X	X	X
L	L	L	X
L	L	H	X
L	H	X	L
L	H	X	H

H = HIGH LEVEL  
L = LOW LEVEL  
X = IRRELEVANT



74LS259 FUNCTION TABLE

INPUTS		OUTPUT OF ADDRESSED LATCH	EACH OTHER OUTPUT	FUNCTION
CLEAR	$\bar{G}$			
H	L	D	$Q_{i0}$	ADDRESSABLE LATCH
H	H	$Q_{i0}$	$Q_{i0}$	MEMORY
L	L	D	L	8-LINE DEMULTIPLEXER
L	H	L	L	CLEAR

H = HIGH LEVEL, L = LOW LEVEL,  
D = THE LEVEL AT THE DATA INPUT,  
 $Q_{i0}$  = THE LEVEL OF  $Q_1, (\phi), 1, 7$  AS APPROPRIATE) BEFORE THE INDICATED STEADY STATE INPUT CONDITIONS WERE ESTABLISHED

LATCH SELECTION TABLE

SELECT INPUTS			LATCH ADDRESSED
C	B	A	
L	L	L	$\phi$
L	L	H	1
L	H	L	2
L	H	H	3
H	L	L	4
H	L	H	5
H	H	L	6
H	H	H	7

H = HIGH LEVEL  
L = LOW LEVEL  
X = IRRELEVANT  
SELECT INPUTS A AND B ARE COMMON TO BOTH SECTIONS

74S153 FUNCTION TABLE

SELECT INPUTS		DATA INPUTS				STROBE	OUTPUT
B	A	$C_0$	$C_1$	$C_2$	$C_3$	G	Y
X	X	X	X	X	X	H	L
L	L	L	X	X	X	L	L
L	L	H	X	X	X	L	H
L	H	X	L	X	X	L	L
L	H	X	H	X	X	L	H
H	L	X	X	L	X	L	L
H	L	X	X	H	X	L	H
H	H	X	X	X	L	L	L
H	H	X	X	X	H	L	H

NOTE: ALL RESISTORS ARE 1/4W UNLESS OTHERWISE SPECIFIED

(SBI TRANSMIT DATA LOGIC) (SLOT 2)

REVISIONS

CHK	CHANGE NO.	REV.

TITLE	SBI INTERFACE LOW BITS	SIZE CODE	DCS	NUMBER	M8218-0-1	REV.	E
SCALE	1/4	SHEET	2	OF	27	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

74S257 & 74S258 FUNCTION TABLE

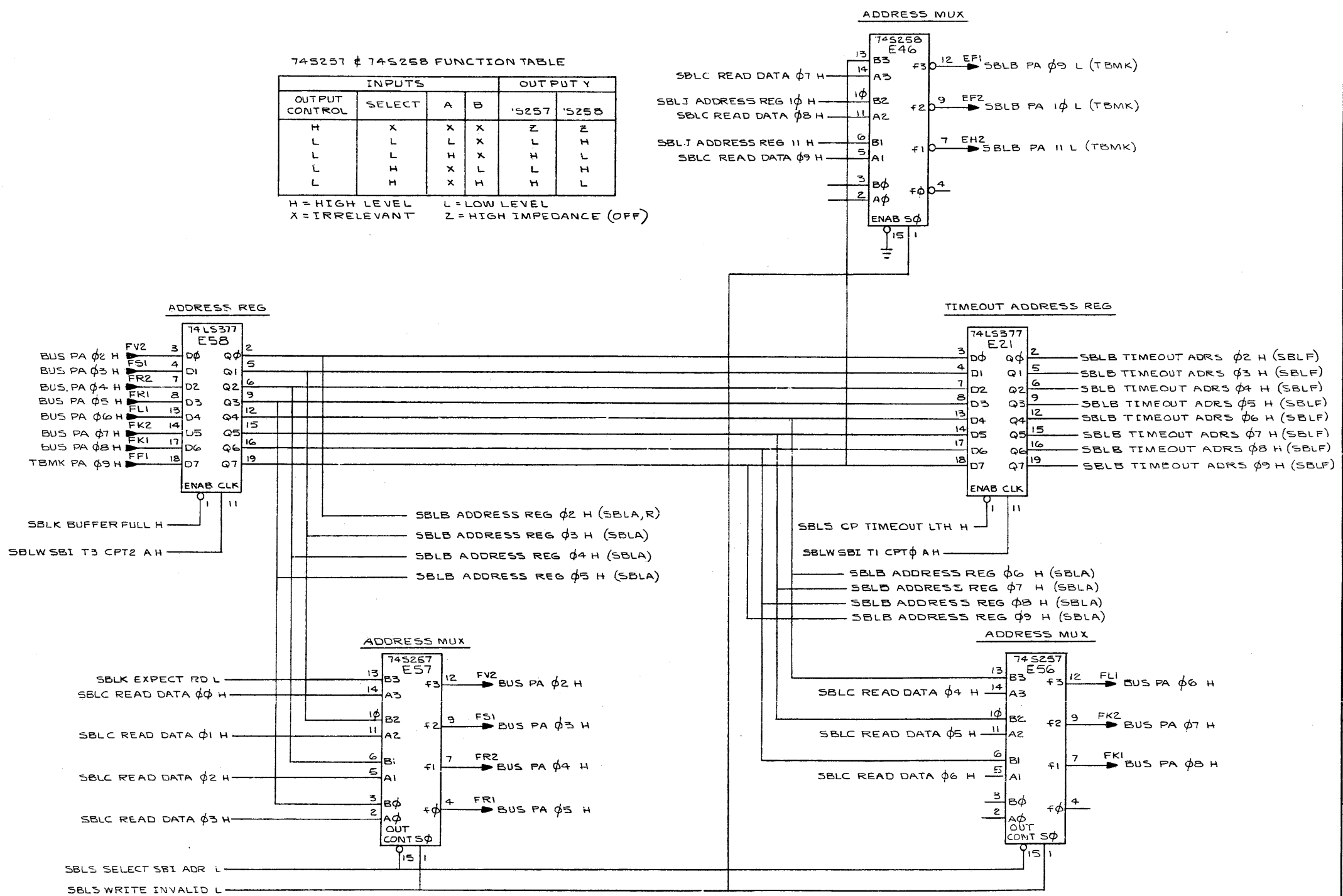
OUTPUT CONTROL	INPUTS		OUTPUT Y		
	SELECT	A	B	'5257	'5258
H	X	X	X	Z	Z
L	L	L	X	L	H
L	L	H	X	H	L
L	H	X	L	L	H
L	H	X	H	H	L

H = HIGH LEVEL  
L = LOW LEVEL  
X = IRRELEVANT  
Z = HIGH IMPEDANCE (OFF)

74LS377 FUNCTION TABLE (EACH FLIP-FLOP)

INPUTS		OUTPUTS	
$\bar{C}$	CLOCK DATA	Q	$\bar{Q}$
H	X	X	$\bar{Q}_0$
L	↑	H	L
L	↑	L	H
X	L	X	$\bar{Q}_0$

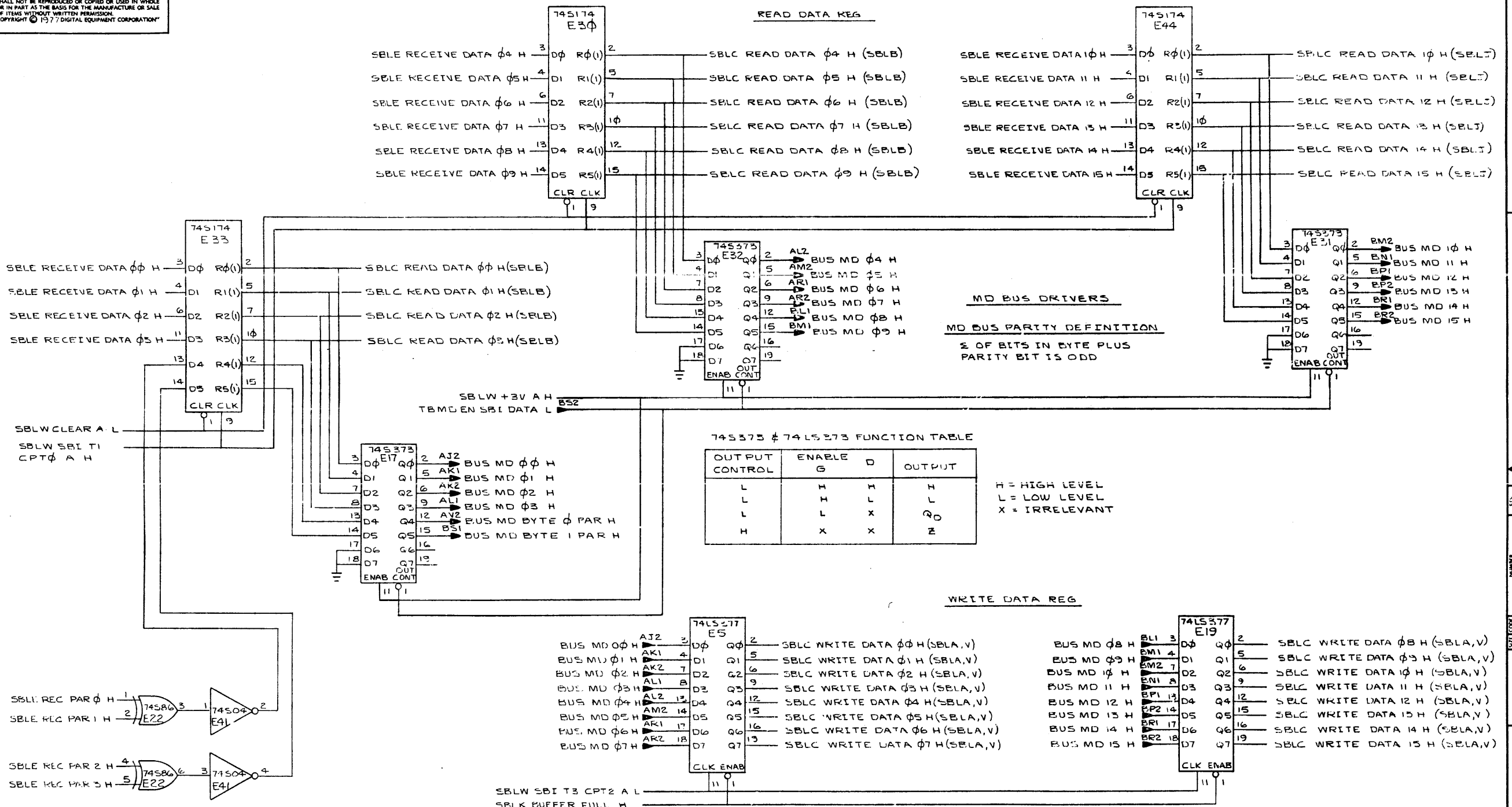
H = HIGH LEVEL  
L = LOW LEVEL  
X = IRRELEVANT



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 © 1977 DIGITAL EQUIPMENT CORPORATION.

3 1-0-8128W 2 1



REVISIONS

CHK	CHANGE NO.	REV.

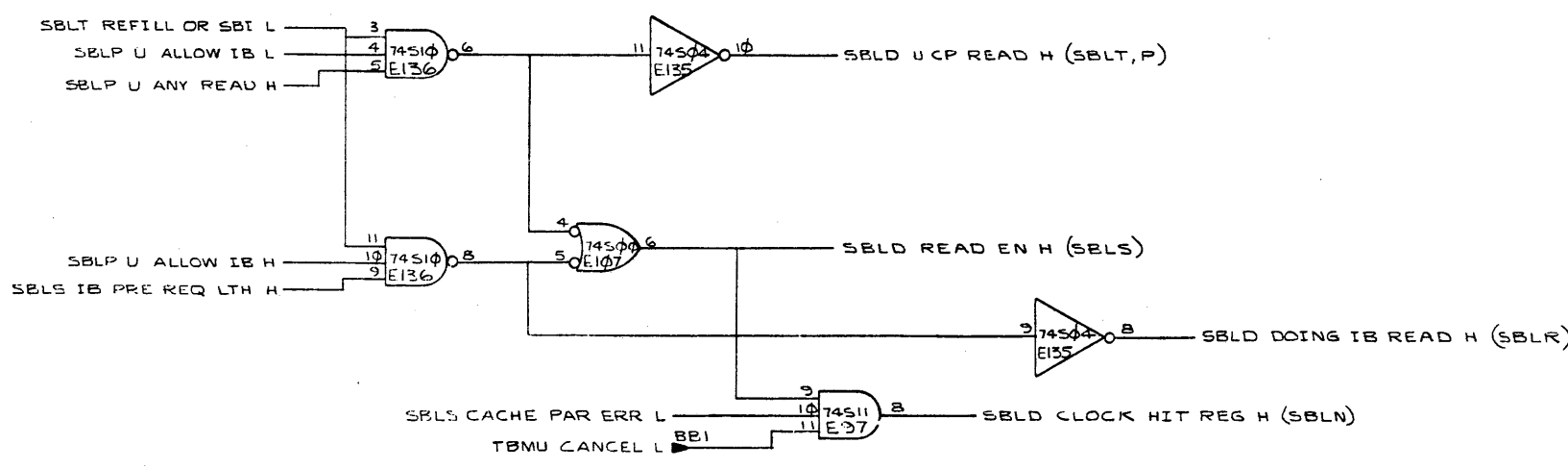
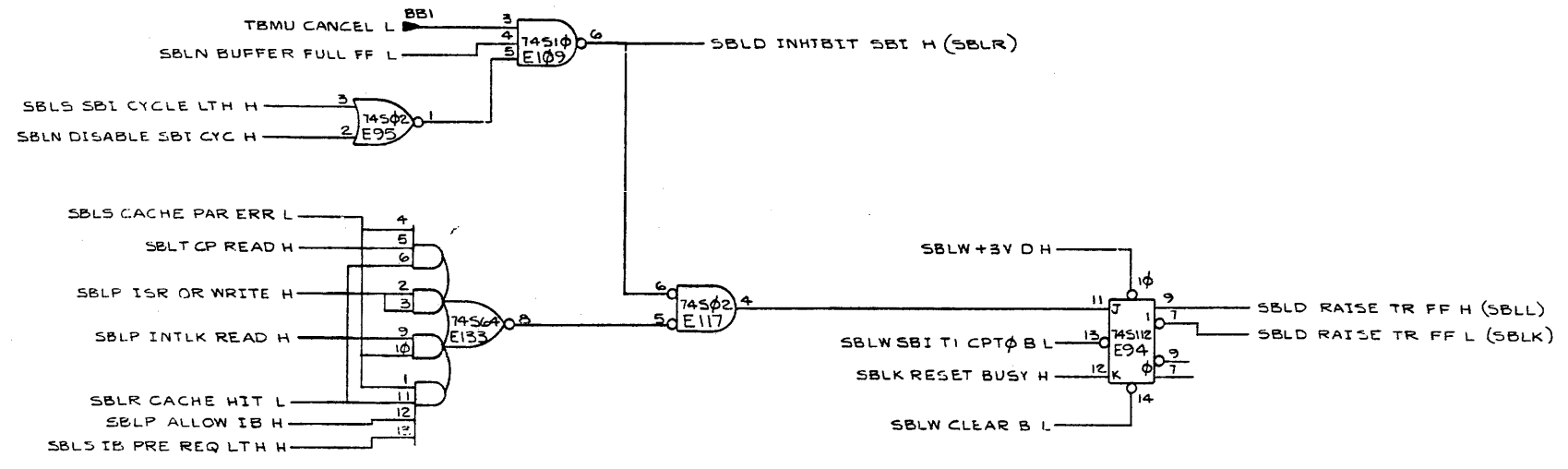
(DATA LOGIC) (SLOT 2)

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	D	CS M8218-0-1	E

SCALE --- SHEET 4 OF 27 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"

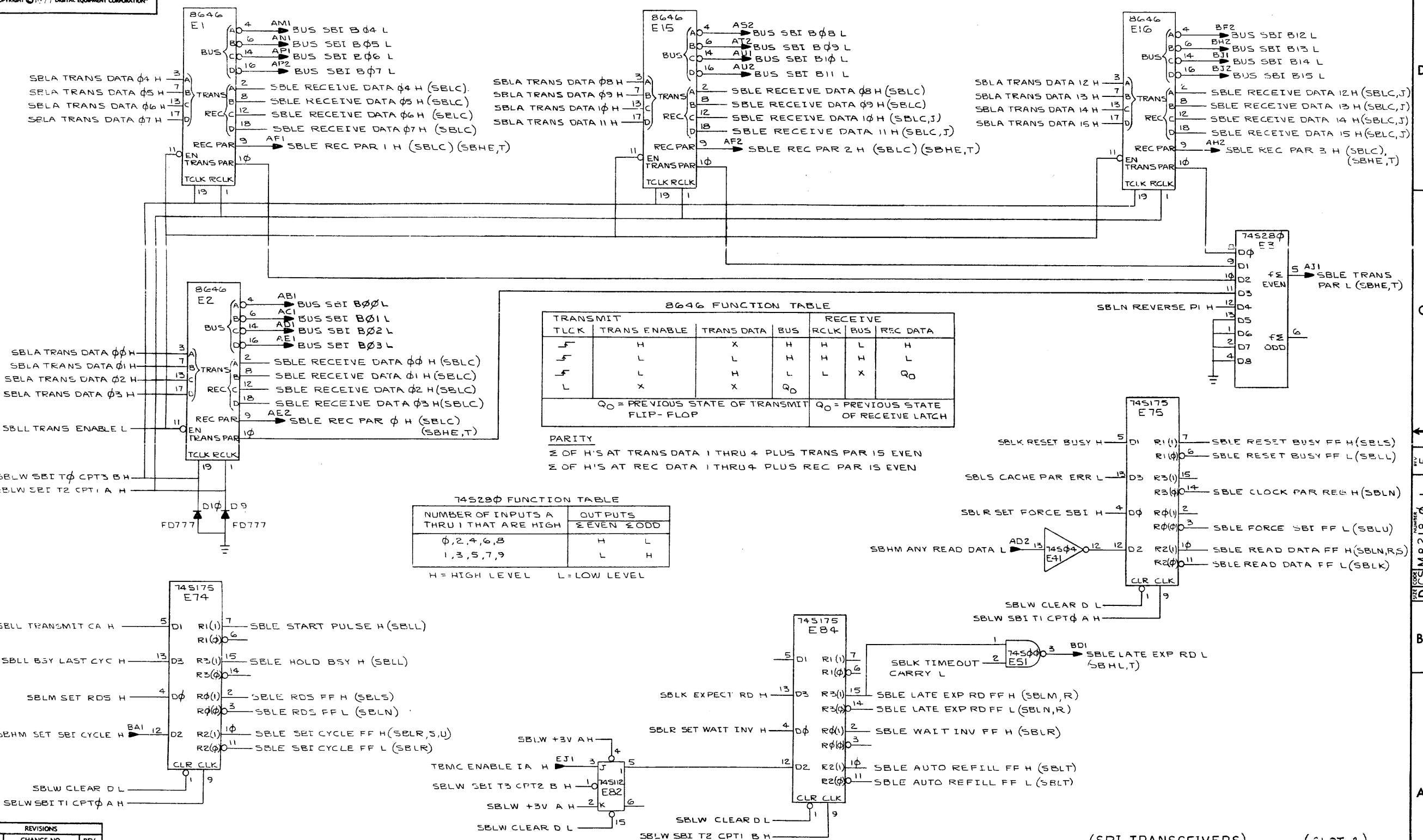
REV. E 1-0-820W DCS M8218-0-1 2



REVISIONS		
CHK	CHANGE NO.	REV.

(START SBI CYCLE LOGIC) (SLOT 2)  
 TITLE (SBLD) SBI INTERFACE LOW BITS DCS M8218-0-1 E  
 SCALE 11 SHEET 5 OF 27 DIST. TW

"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.

(SBI TRANSCEIVERS) (SLOT 2)

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS M8218-0-1		E

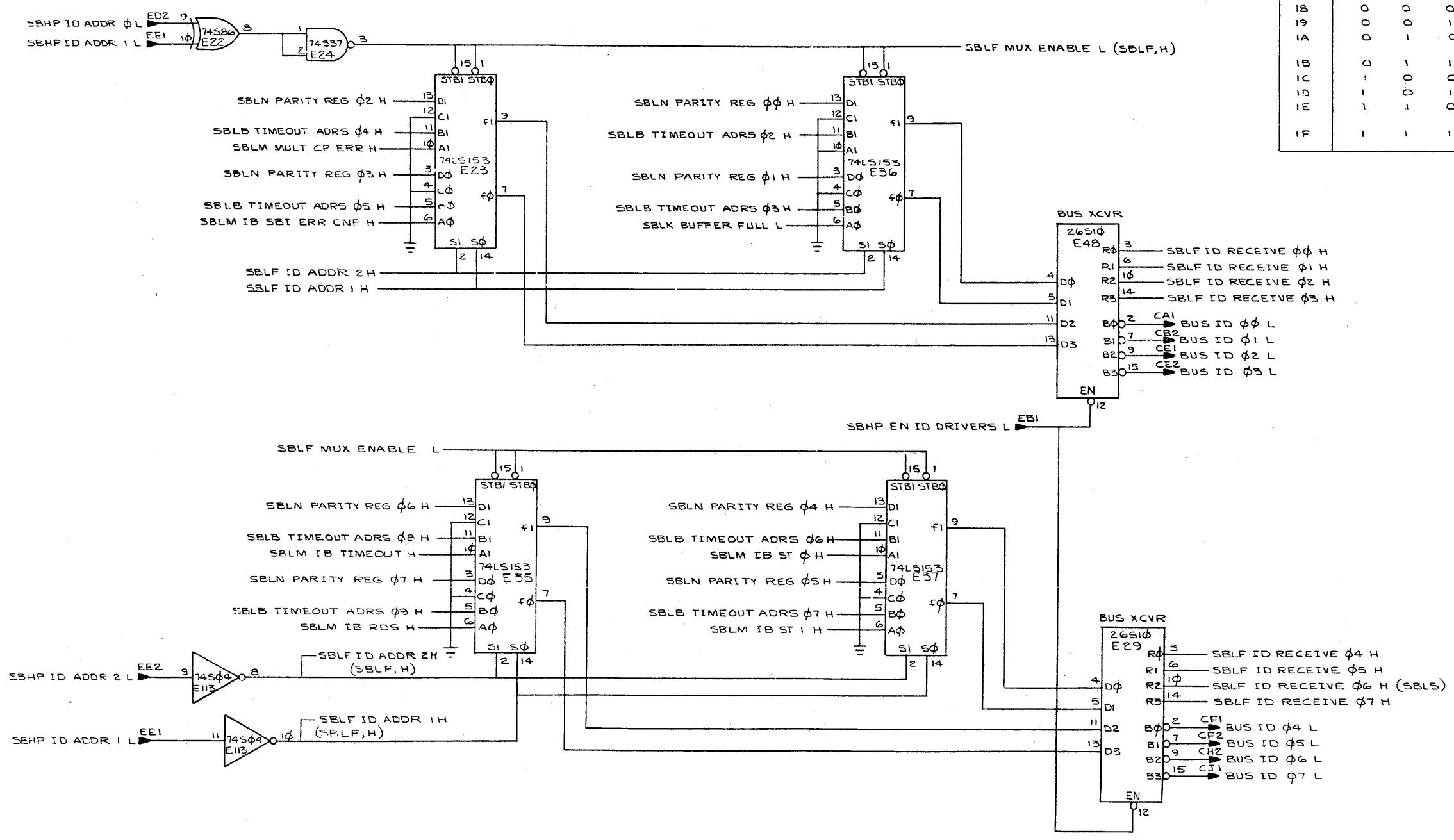
SCALE: --      SHEET 6 OF 27      DIST.      TW

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 M8218-0-1 2

SBL ID BUS BITS 7-φ

ID BUS ADDRESS				ID BUS DATA
HEX	LOW ADDRESS BITS A2 A1 Aφ			
18	0	0	0	0
19	0	0	1	SBI ERROR REG
1A	0	1	0	TIMEOUT ADRS REG
1B	0	1	1	0
1C	1	0	0	0
1D	1	0	1	0
1E	1	1	0	CACHE PARITY REG
1F	1	1	1	0



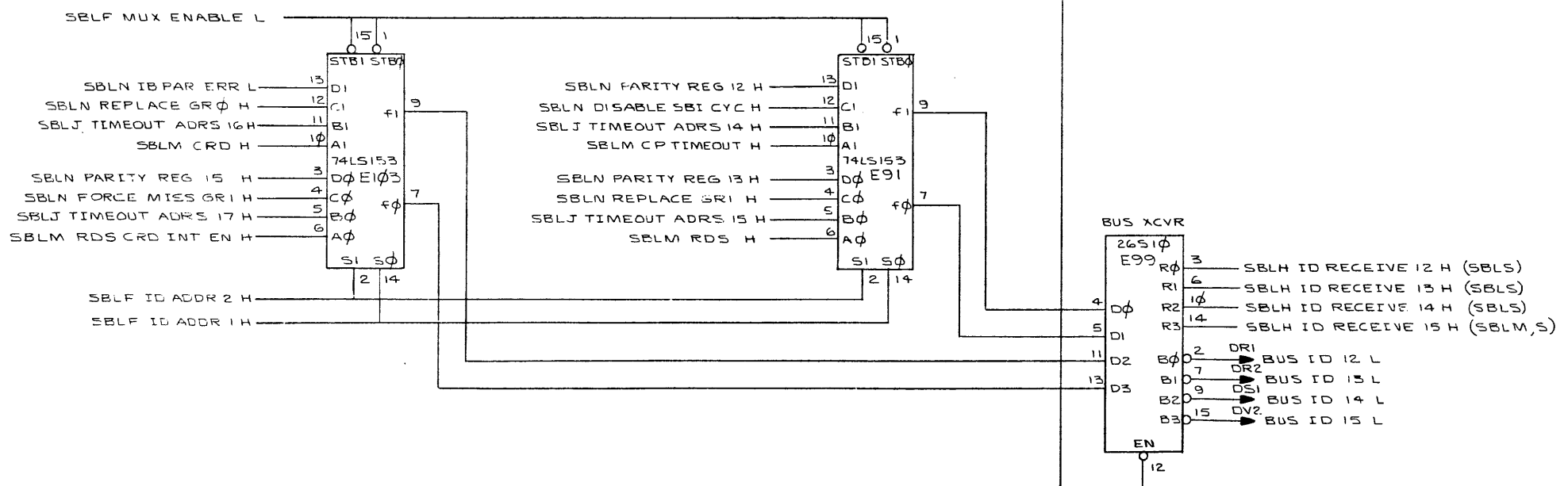
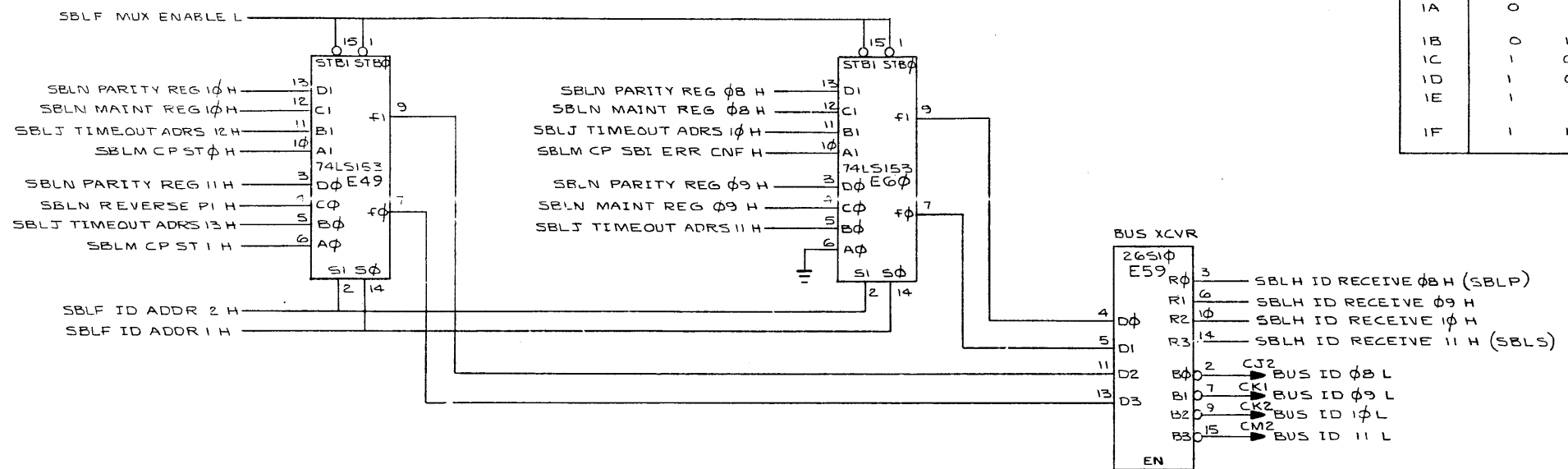
REVISIONS		
CHK	CHANGE NO.	REV.

(ID BUS MUX BITS 7-φ)		(SLOT 2)	
TITLE (SBLF)		SIZE CODE	NUMBER
SBI INTERFACE LOW BITS		DCS M8218-0-1	E
SCALE	SHEET 7 OF 27	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

SBL ID BUS BITS 15-8

HEX	ID BUS ADDRESS			ID BUS DATA
	A2	A1	A0	
18	0	0	0	0
19	0	0	1	SBI ERROR REG
1A	0	1	0	TIMEOUT ADRS REG
1B	0	1	1	0
1C	1	0	0	0
1D	1	0	1	SBI MAINT REG
1E	1	1	0	CACHE PARITY REG
1F	1	1	1	0



REVISIONS		
CHK	CHANGE NO.	REV.

(ID BUS MUX BITS 15-8) (SLOT 2)

TITLE: (SBLH) SBI INTERFACE LOW BITS SIZE CODE: DCS NUMBER: M8218-0-1 REV: E

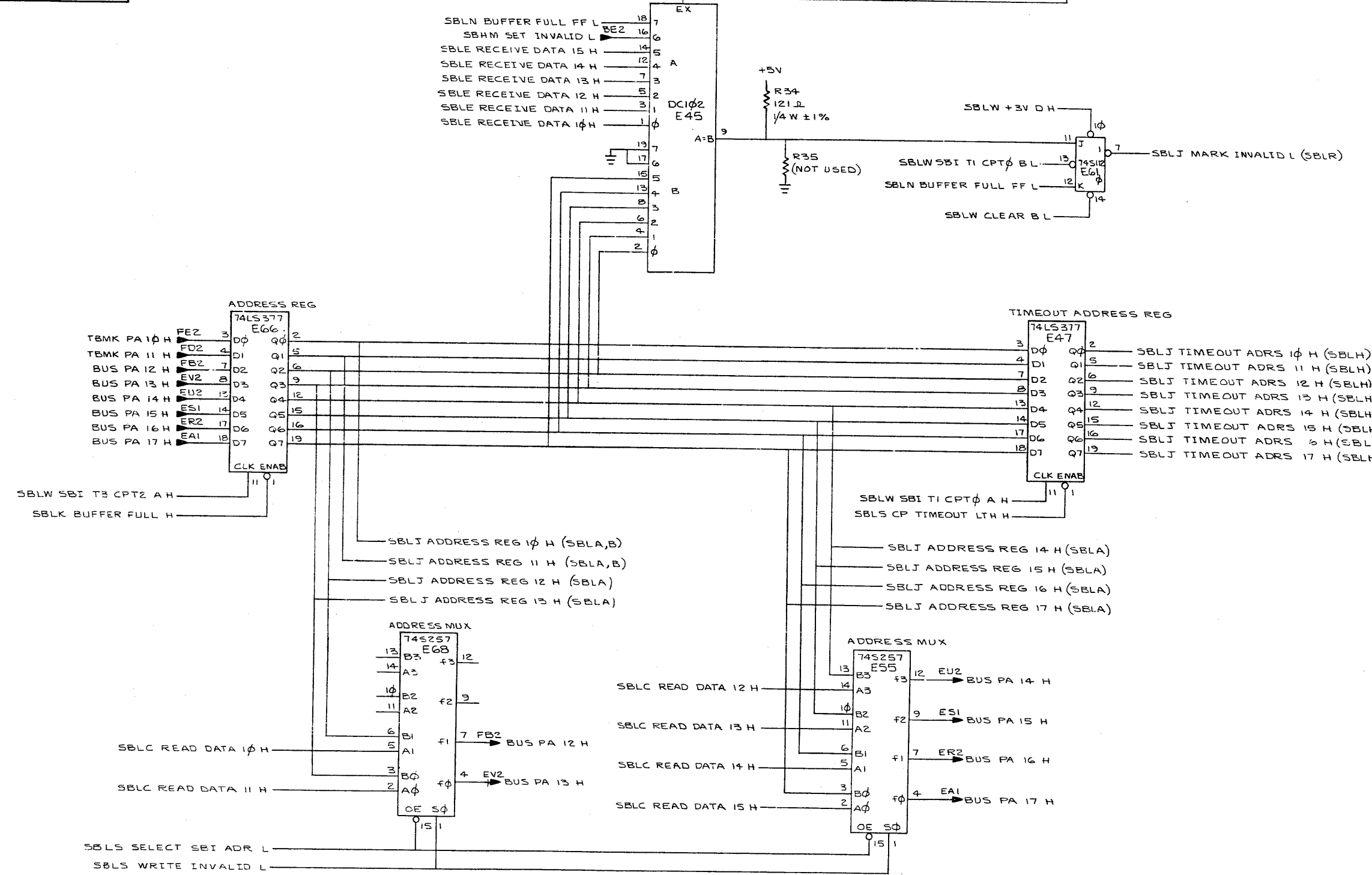
SCALE: 1/8 SHEET: 8 OF 27 DIST: 1



"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"

3 1-0-8128WSD 2

DC102 - 8 INPUT COMPARATOR



REVISIONS		
CHK	CHANGE NO.	REV.

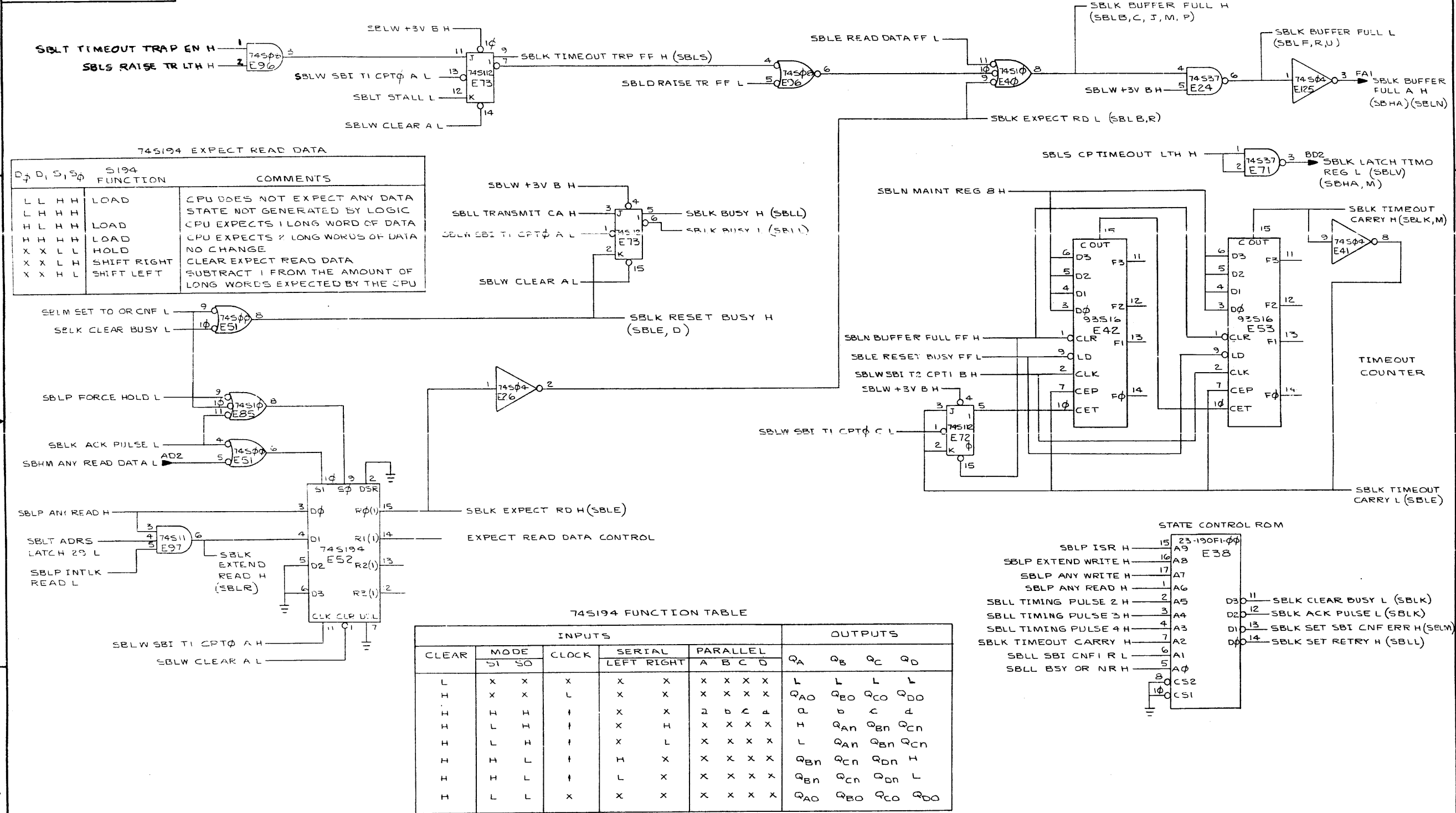
(ADDRESS LOGIC)		(SLOT 2)	
TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS	M0218-0-1	E
SCALE	SHEET	PICT.	
	9 OF 27		

DEC FORM NO. DED 138

DCS M0218-0-1

41

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

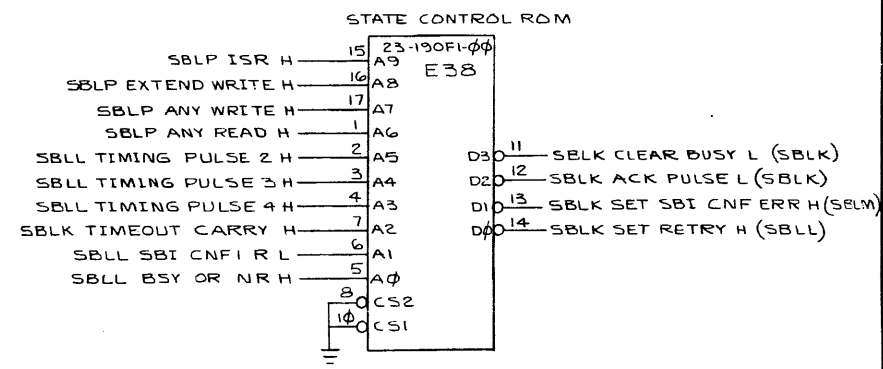


74S194 EXPECT READ DATA

D <sub>3</sub>	D <sub>2</sub>	D <sub>1</sub>	D <sub>0</sub>	S <sub>1</sub>	S <sub>0</sub>	FUNCTION	COMMENTS
L	L	H	H			LOAD	CPU DOES NOT EXPECT ANY DATA STATE NOT GENERATED BY LOGIC
L	H	H	H			LOAD	CPU EXPECTS 1 LONG WORD OF DATA
H	H	H	H			LOAD	CPU EXPECTS 2 LONG WORDS OF DATA
X	X	L	L			HOLD	NO CHANGE
X	X	L	H			SHIFT RIGHT	CLEAR EXPECT READ DATA
X	X	H	L			SHIFT LEFT	SUBTRACT 1 FROM THE AMOUNT OF LONG WORDS EXPECTED BY THE CPU

74S194 FUNCTION TABLE

CLEAR	MODE		CLOCK	SERIAL		PARALLEL				OUTPUTS			
	S <sub>1</sub>	S <sub>0</sub>		LEFT	RIGHT	A	B	C	D	Q <sub>A</sub>	Q <sub>B</sub>	Q <sub>C</sub>	Q <sub>D</sub>
L	X	X	X	X	X	X	X	X	X	L	L	L	L
H	X	X	L	X	X	X	X	X	X	Q <sub>AO</sub>	Q <sub>BO</sub>	Q <sub>CO</sub>	Q <sub>DO</sub>
H	H	H	↑	X	X	2	D	X	X	Q	b	c	d
H	L	H	↑	X	H	X	X	X	X	H	Q <sub>An</sub>	Q <sub>Bn</sub>	Q <sub>Cn</sub>
H	L	H	↓	X	L	X	X	X	X	L	Q <sub>An</sub>	Q <sub>Bn</sub>	Q <sub>Cn</sub>
H	H	L	↑	H	X	X	X	X	X	Q <sub>Bn</sub>	Q <sub>Cn</sub>	Q <sub>Dn</sub>	H
H	H	L	↓	L	X	X	X	X	X	Q <sub>Bn</sub>	Q <sub>Cn</sub>	Q <sub>Dn</sub>	L
H	L	L	X	X	X	X	X	X	X	Q <sub>AO</sub>	Q <sub>BO</sub>	Q <sub>CO</sub>	Q <sub>DO</sub>

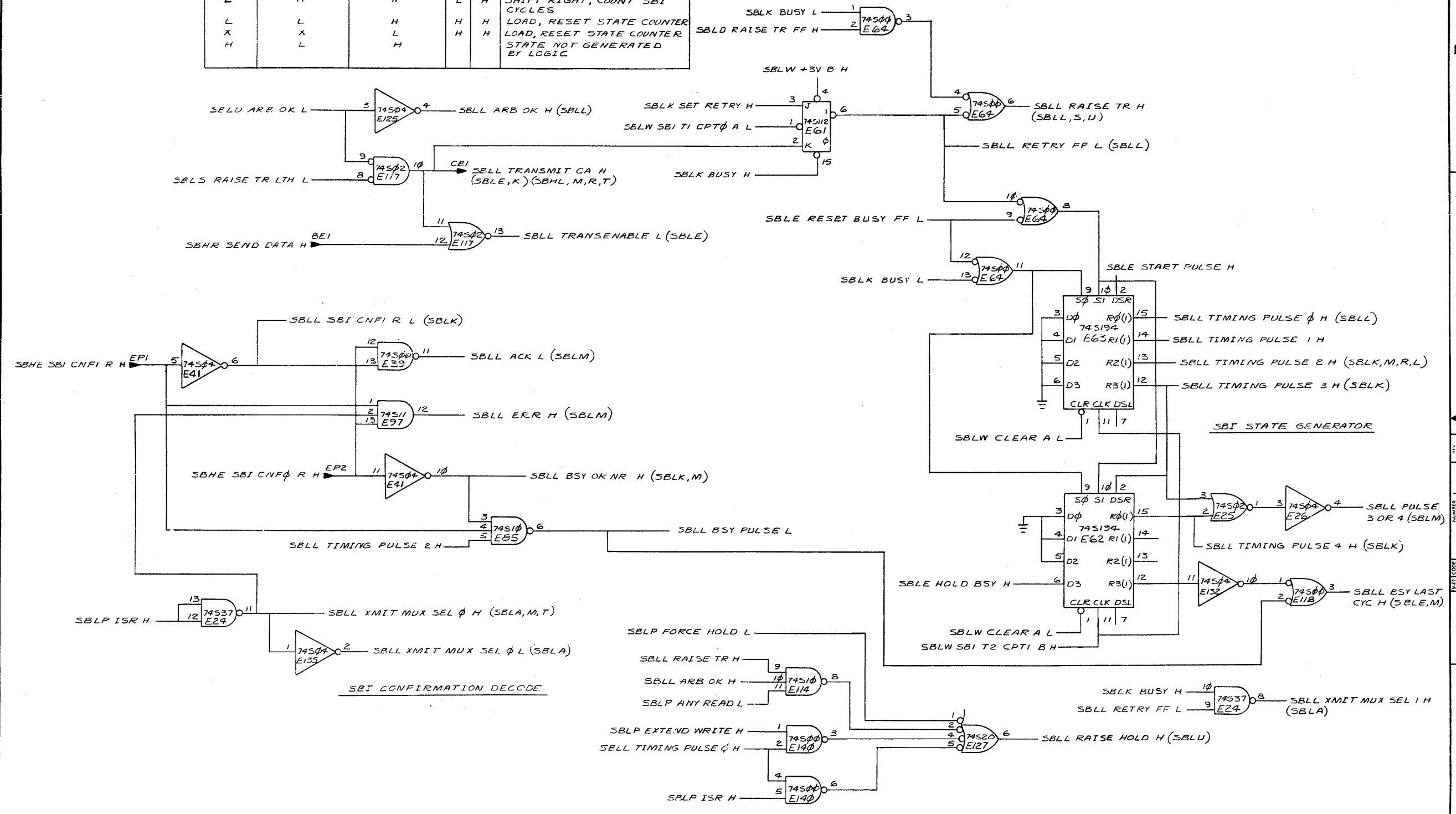


REVISIONS

CHK	CHANGE NO.	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

SBLK BSY L	SBLR REPLY FF L	SBLE RESET BUSY FF L	S <sub>1</sub>	S <sub>0</sub>	COMMENTS
H	H	H	L	L	HOLD PREVIOUS STATE
L	H	H	L	H	SHIFT RIGHT, COUNT SBI CYCLES
L	L	H	H	H	LOAD, RESET STATE COUNTER
X	X	L	H	H	LOAD, RESET STATE COUNTER
H	L	H			STATE NOT GENERATED BY LOGIC

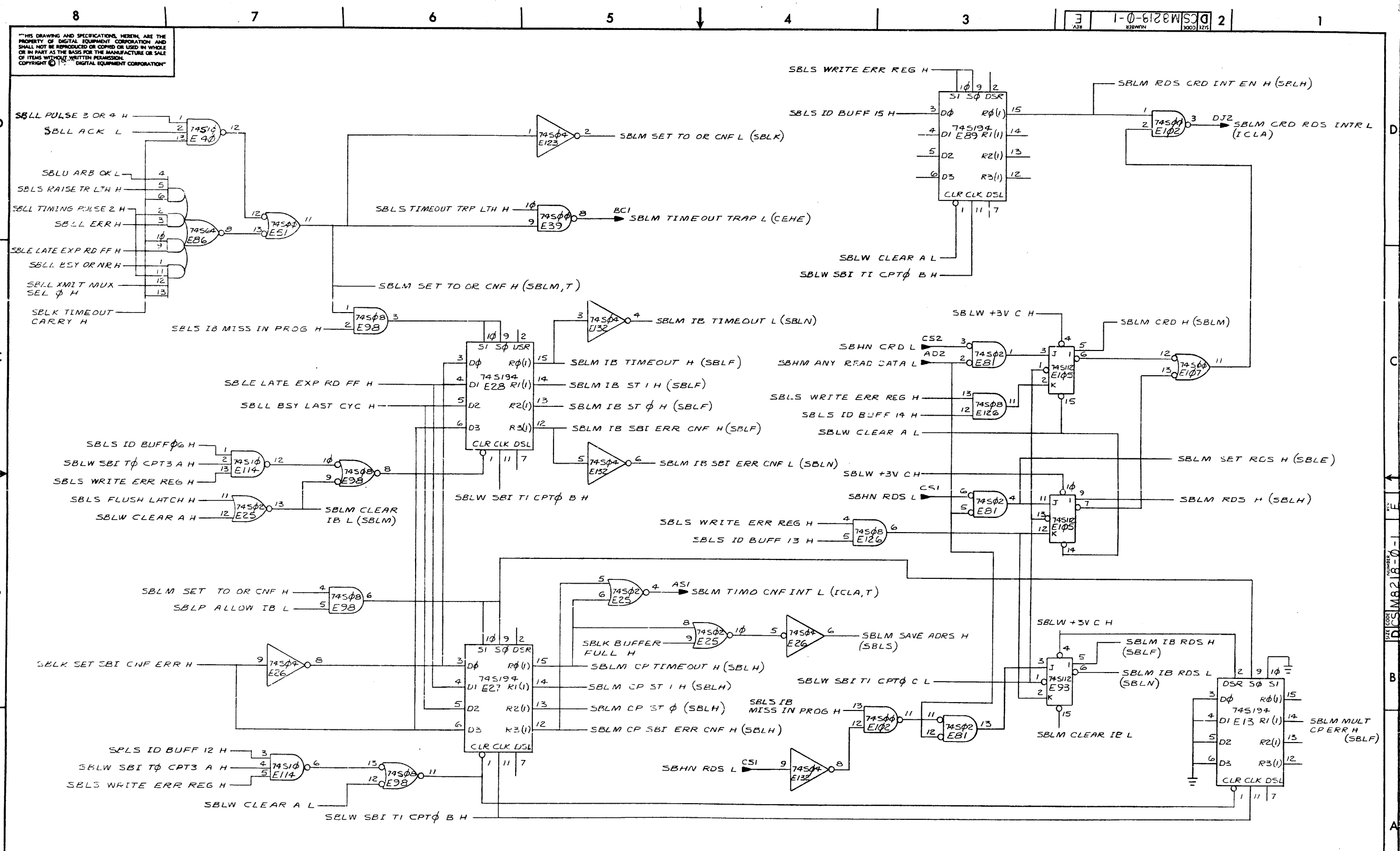


REVISIONS		
CHK	CHANGE NO.	REV.

(SBI STATE GENERATOR)		(SLOT 2)	
TITLE	(SBLR)	SIZE CODE	NUMBER
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E
SCALE	SHEET	DIST.	REV.
11	OF 27		

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 © 1974 DIGITAL EQUIPMENT CORPORATION

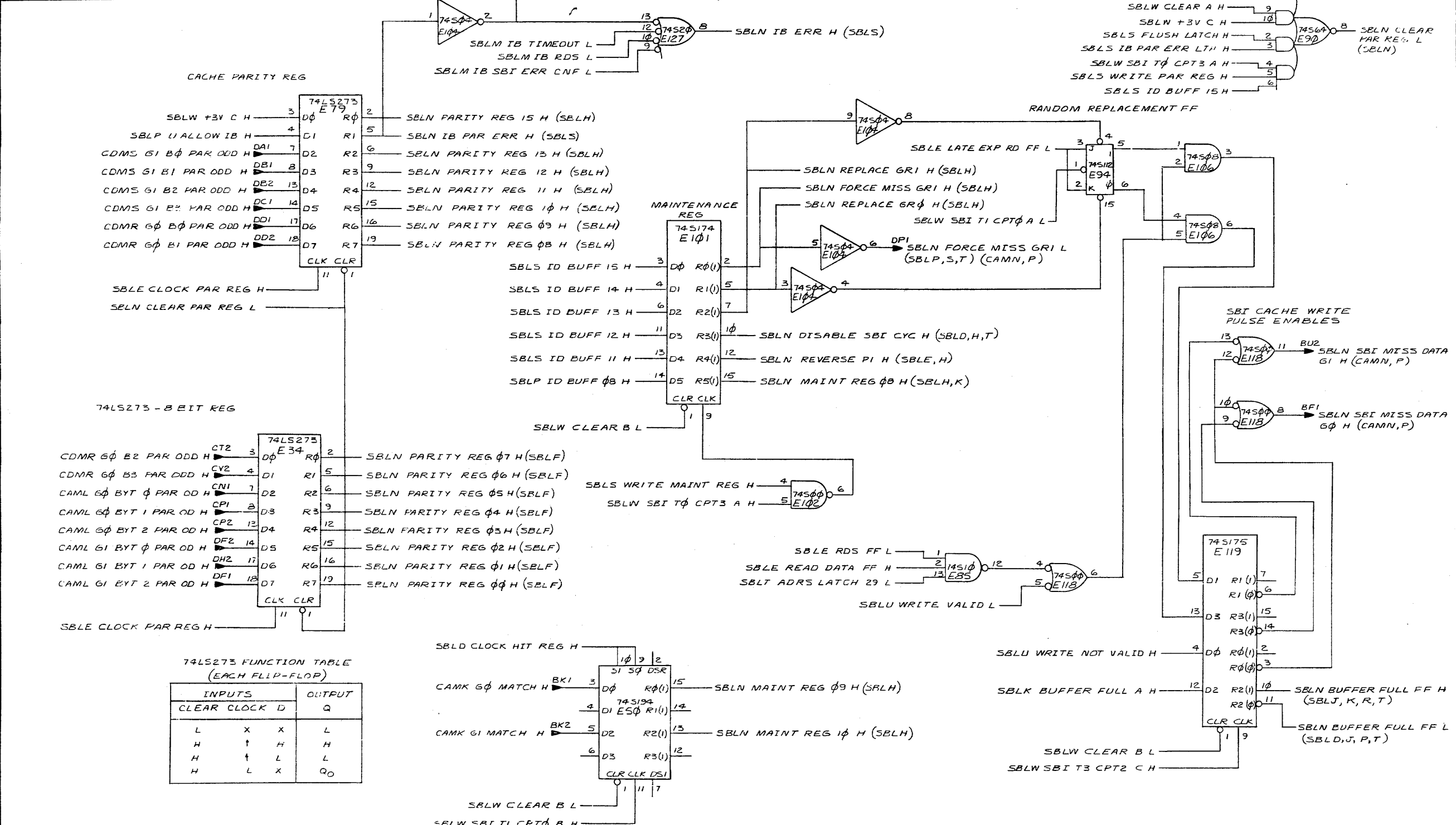
1-0-6128W 2



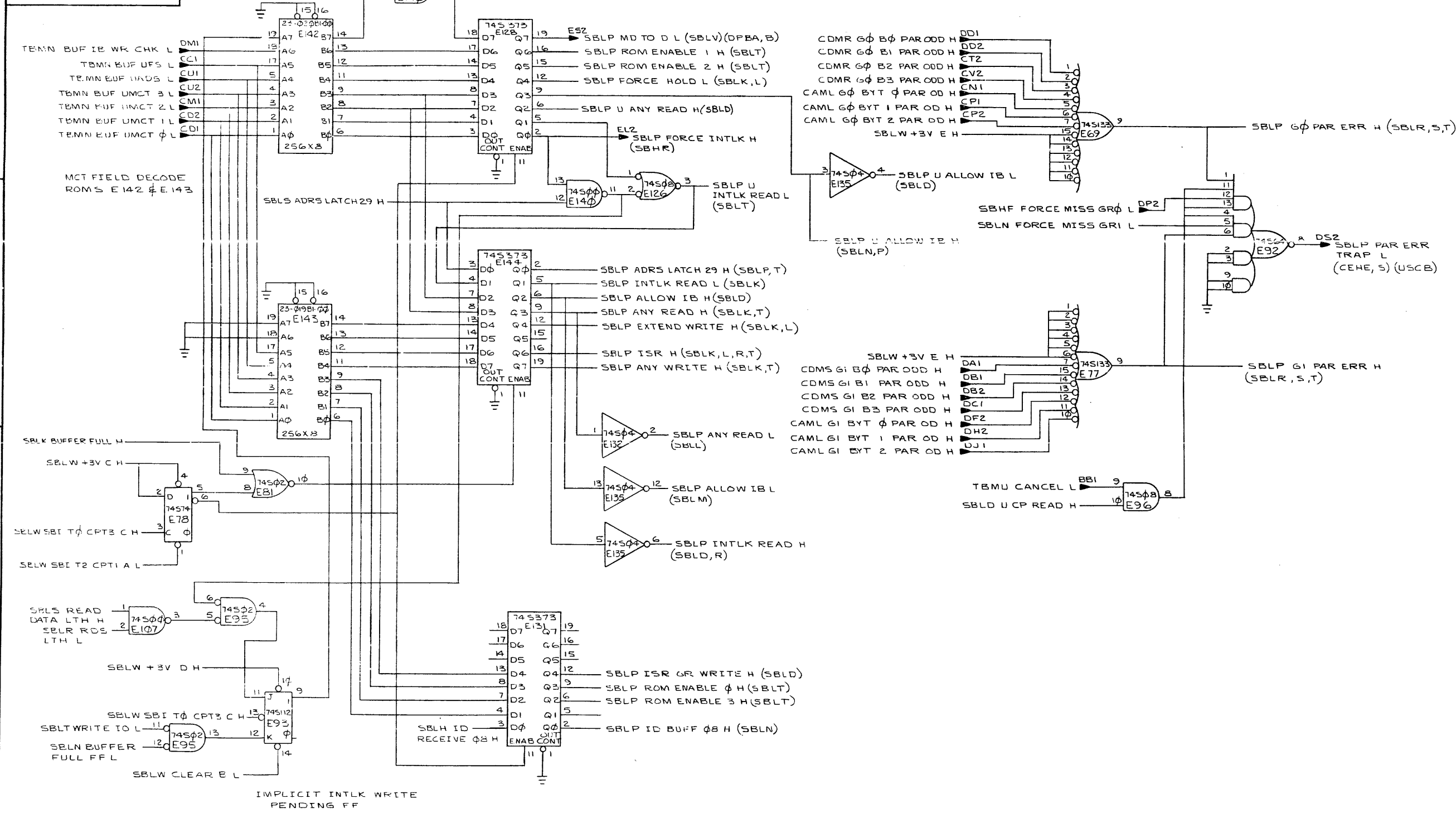
REVISIONS		
CHK	CHANGE NO.	REV.

(SBI ERROR REG)		(SLOT 2)	
TITLE	(SBLM)	SIZE CODE	NUMBER
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E
SCALE	—	SHEET 12 OF 27	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"



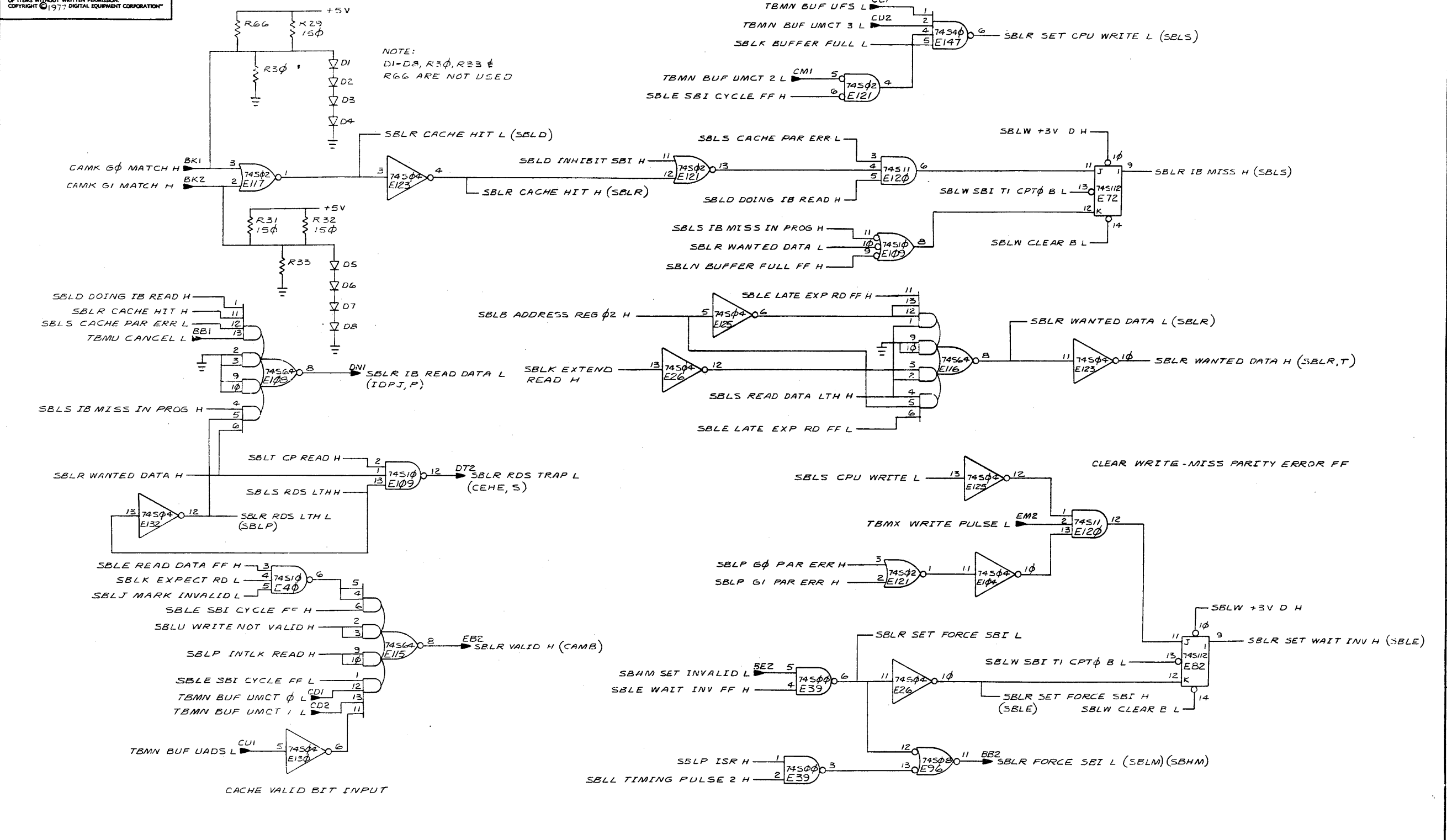
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(MCT FIELD DECODE)		(SLOT 2)	
TITLE	(SBLP)	SIZE CODE	NUMBER
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E
SCALE	SHEET 14 OF 27	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"

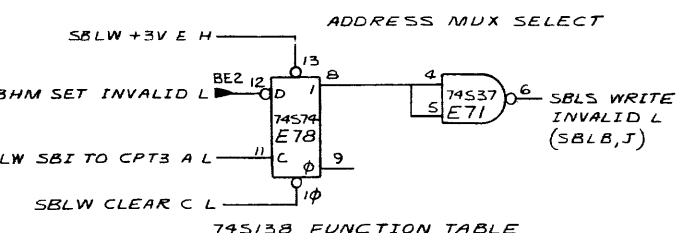
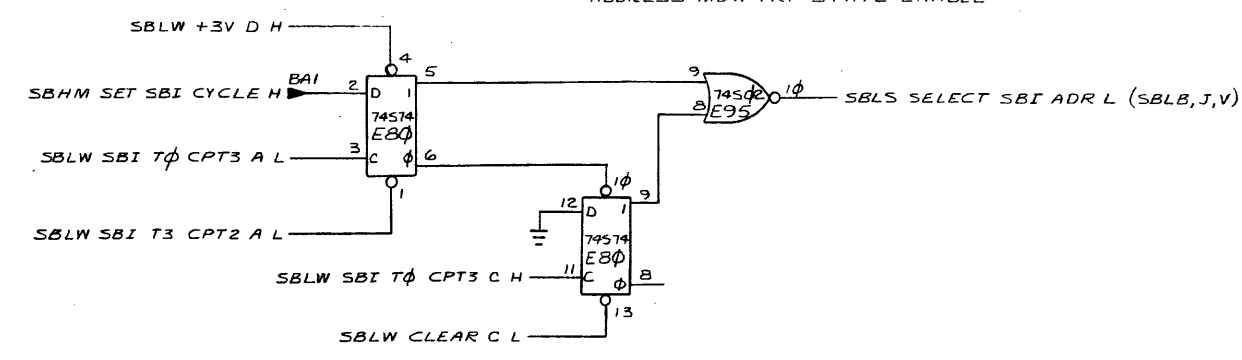
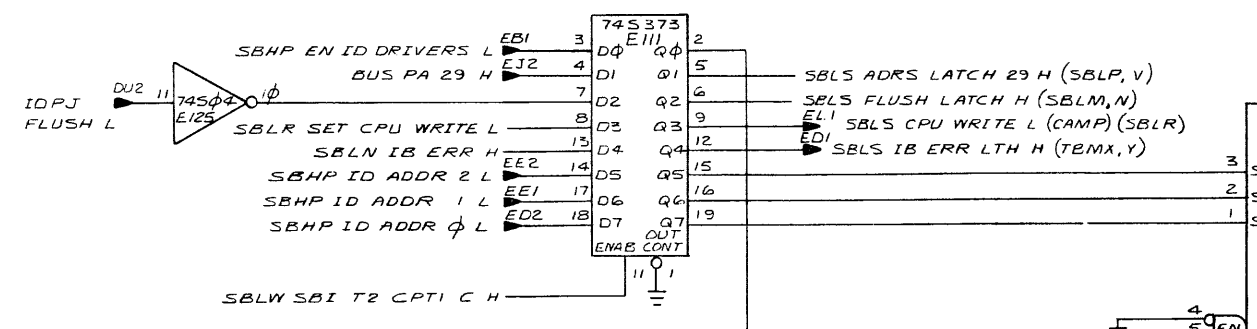
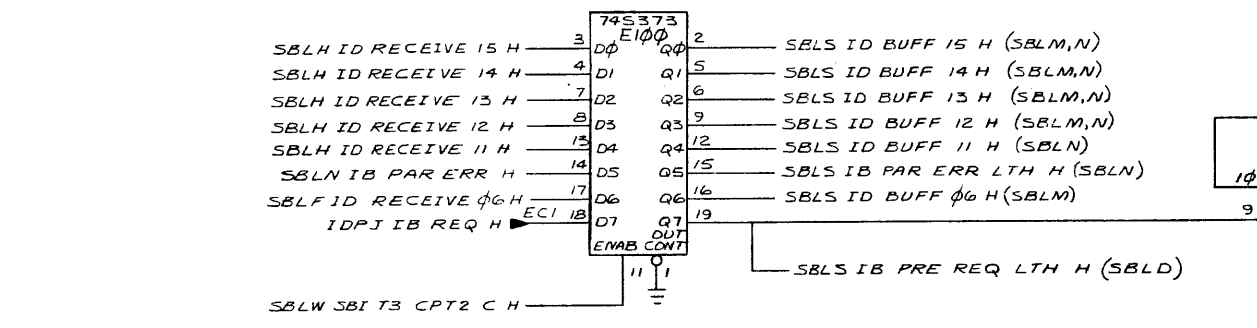
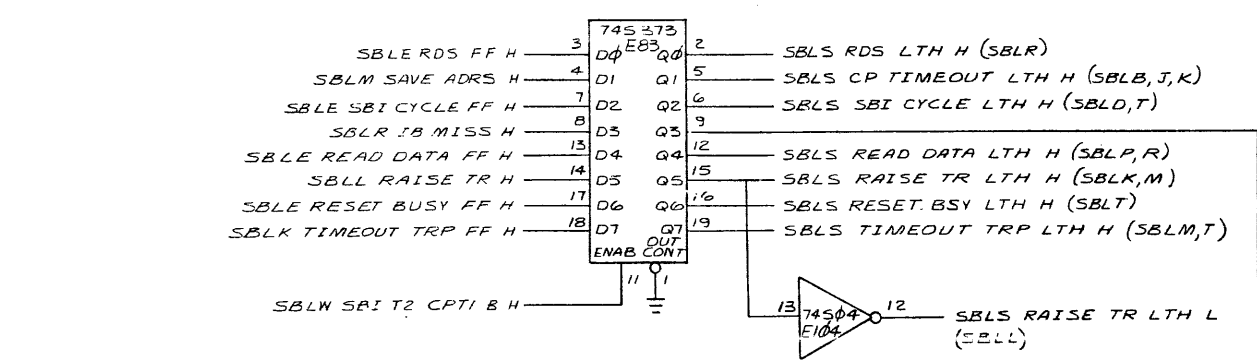


REVISIONS		
CHK	CHANGE NO.	REV.

(MISC CACHE CONTROL)		(SLOT 2)	
TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS (SBLR)	DCS M8218-0-1	1	E
SCALE	SHEET 15 OF 27	DIST.	

DEC FORM NO. 8  
DSD 138

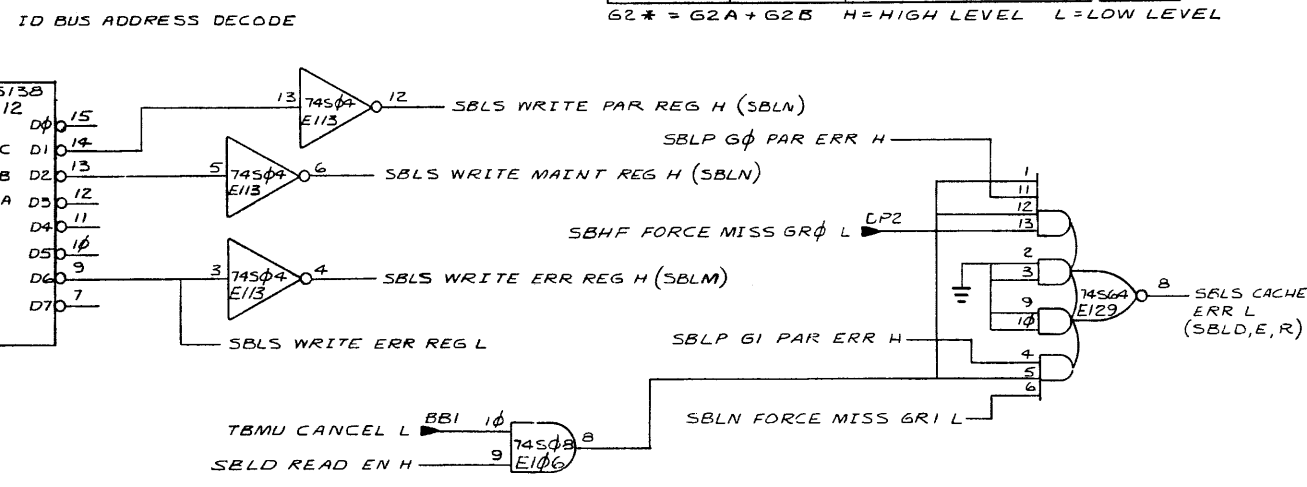
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



74S138 FUNCTION TABLE

INPUTS		OUTPUTS										
ENABLE	SELECT	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7			
G1	G2*	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	H	H	H	H	L	H	H	H	H	H
H	L	H	L	L	H	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	H	L	H	H	H
H	L	H	H	L	H	H	H	H	H	L	H	H
H	L	H	H	H	H	H	H	H	H	H	L	H

G2\* = G2A + G2B H=HIGH LEVEL L=LOW LEVEL



REVISIONS

CHK	CHANGE NO.	REV.

(HOLDING LATCHES) (SLOT 2)

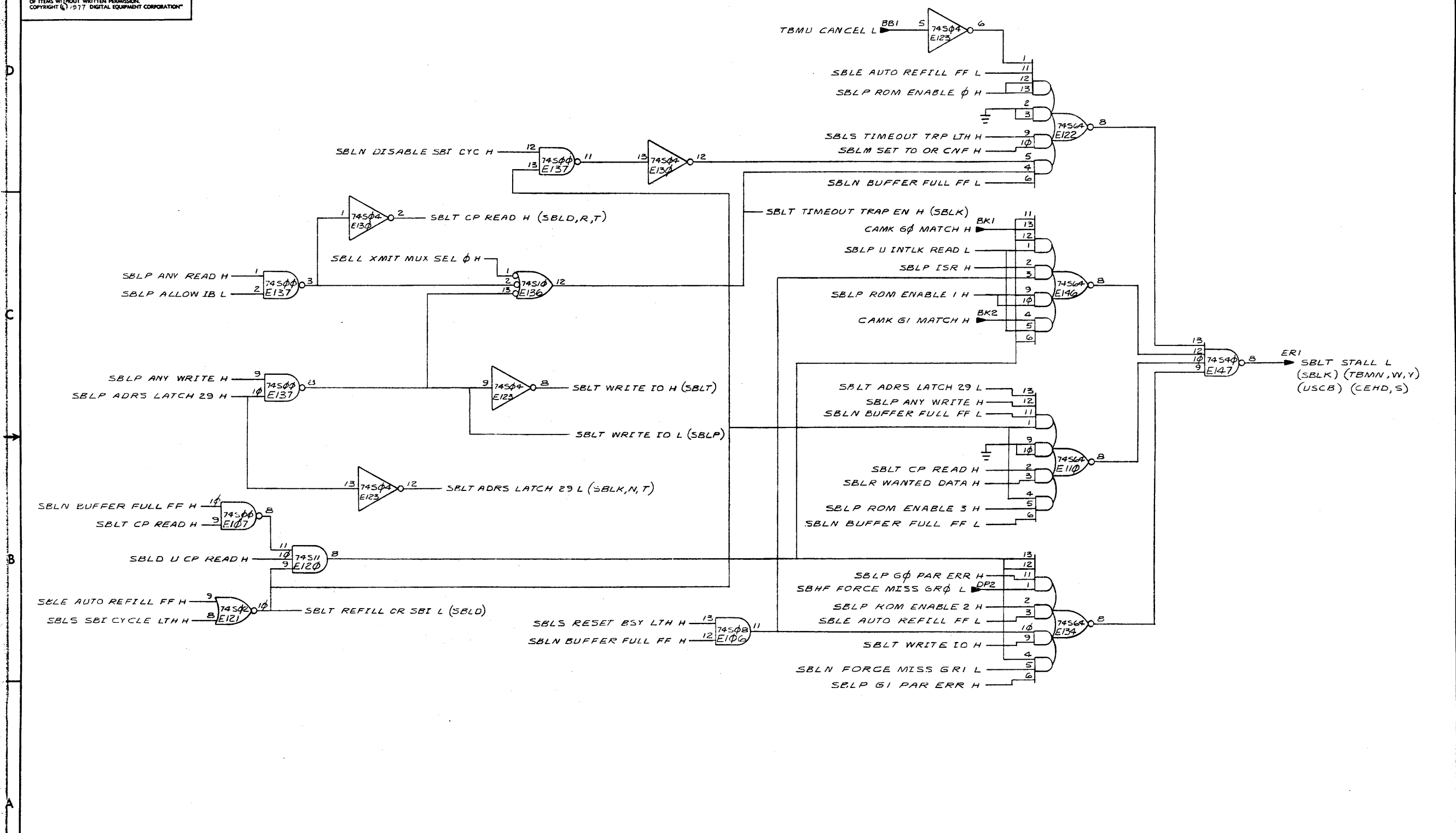
TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS (SBL)	DCS	M8218-0-1	E

SCALE: 1/8 SHEET 16 OF 27 DIST. TW 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"

DCS M8218-0-1 E 2



REVISIONS		
CHK	CHANGE NO.	REV.

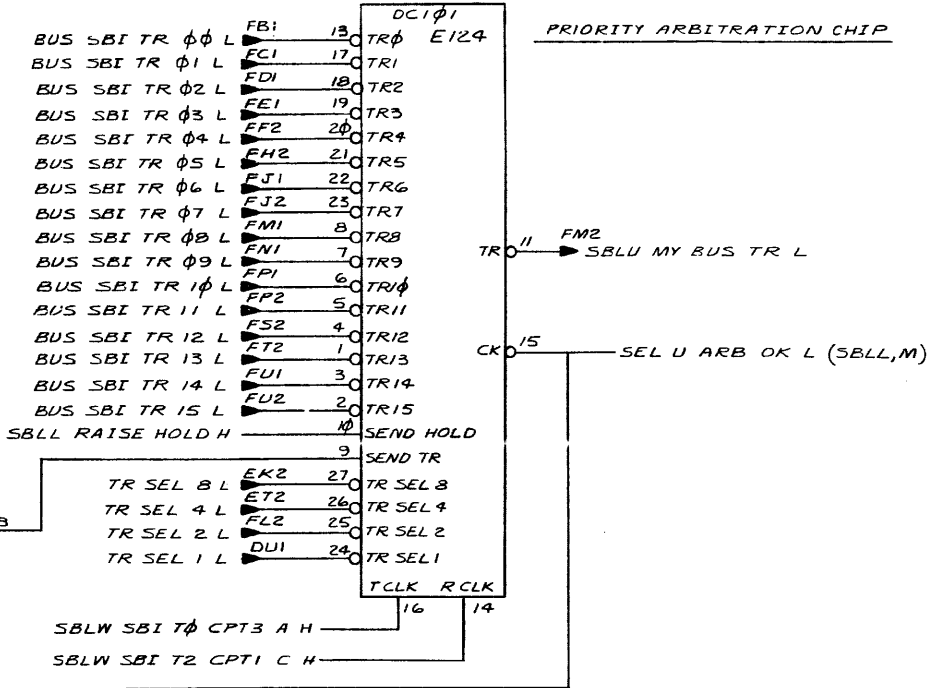
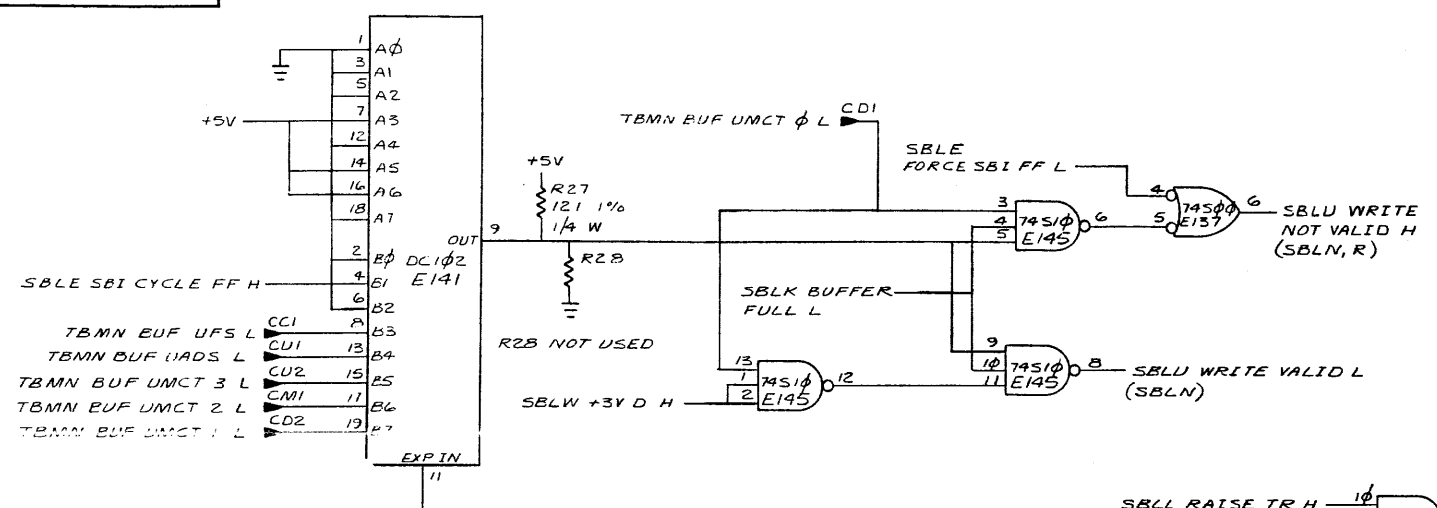
TITLE		(STALL GENERATION)	(SLOT 2)	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS		DCS	M8218-0-1	E		
SCALE	SHEET	17	OF	27	DIST.	

DEC FORM NO. DRD 138

49

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

3 INPUT COMPARATOR



DC101 FUNCTION TABLE

	INPUTS			OUTPUTS		
	SEND HOLD	SEND TR	CONDITIONS OF BUS SBI TR LINES AT RCLK	ARB OK L (AT RCLK)	BUS SBI TR φφ L (AT TCLK)	MY BUS TR L (AT TCLK)
OPERATION FOR CPU TR'S 15 THRU 1	L	L	X	H	H	H
	L	H	SOME TR LINE LESS THAN (HIGHER PRIORITY) THAN CPU TR RECEIVED	H	H	L
	L	H	NO TR LINE LESS THAN (HIGHER PRIORITY) THE CPU TR RECEIVED	L	H	L
	H	L	X	H	L	H
OPERATION FOR CPU OPERATION WITH IMPLIED 16 TR	L	X	SOME TR LINE RECEIVED	H	H	N
	L	X	NO TR LINE RECEIVED	L	H	N
	H	L	X	H	L	N
	H	H	NOT GENERATED BY LOGIC			

X = DON'T CARE N = NOT USED

TR SEL JUMPER CHART

TR SEL 8	TR SEL 4	TR SEL 2	TR SEL 1	CPU TR CPU ID10	TR JUMPER NEEDED	JUMPER FROM MY BUS TR L FM2 * TO BUS SBI TR #	PIN
L	L	L	L	16	N		**
L	L	L	H	15	Y	15	FU2
L	L	H	L	14	Y	14	FU1
L	L	H	H	13	Y	13	FT2
L	H	L	L	12	Y	12	FS2
L	H	L	H	11	Y	11	FP2
L	H	H	L	10	Y	10	FPI
L	H	H	H	9	Y	9	FNI
H	L	L	L	8	Y	8	FMI
H	L	L	H	7	Y	7	FJ2
H	L	H	L	6	Y	6	FJ1
H	L	H	H	5	Y	5	FH2
H	H	L	L	4	Y	4	FF2
H	H	L	H	3	Y	3	FE1
H	H	H	L	2	Y	2	FD1
H	H	H	H	1	Y	1	FC1

Y = YES N = NO \* = JUMPER CONNECTION MADE ON SBL BACK PANEL SLOT \*\* = NORMAL CONFIGURATION OF UNIT PROCESSORS

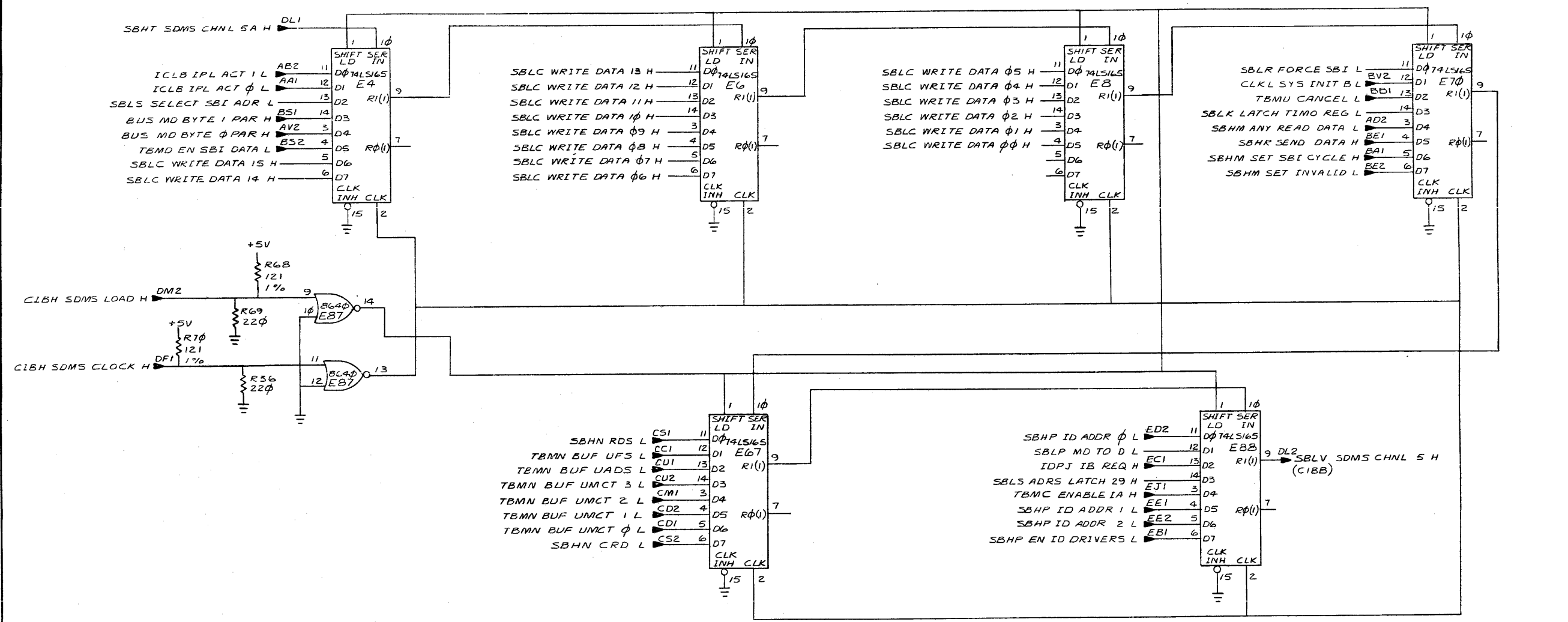
NOTE: TRSEL8, TRSEL4, TRSEL2 AND TRSEL1 ARE CONFIGURED BY JUMPERS ON THE CPU BACKPANEL

REVISIONS		
CHK	CHANGE NO.	REV.

(SBI ARBITRATION) (SLOT 2)

TITLE	(SBLU)	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E	
SCALE	SHEET 13 OF 27	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"



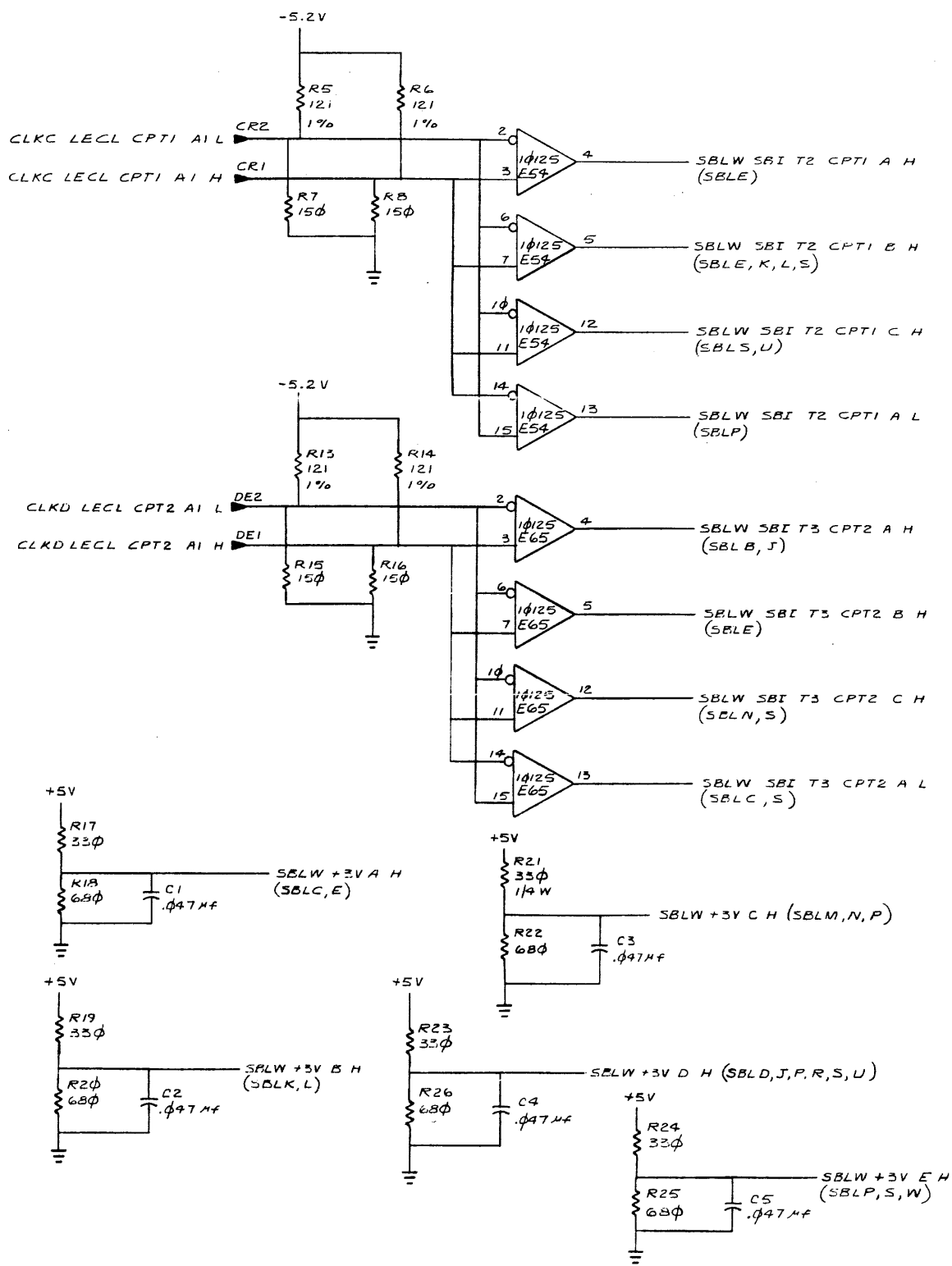
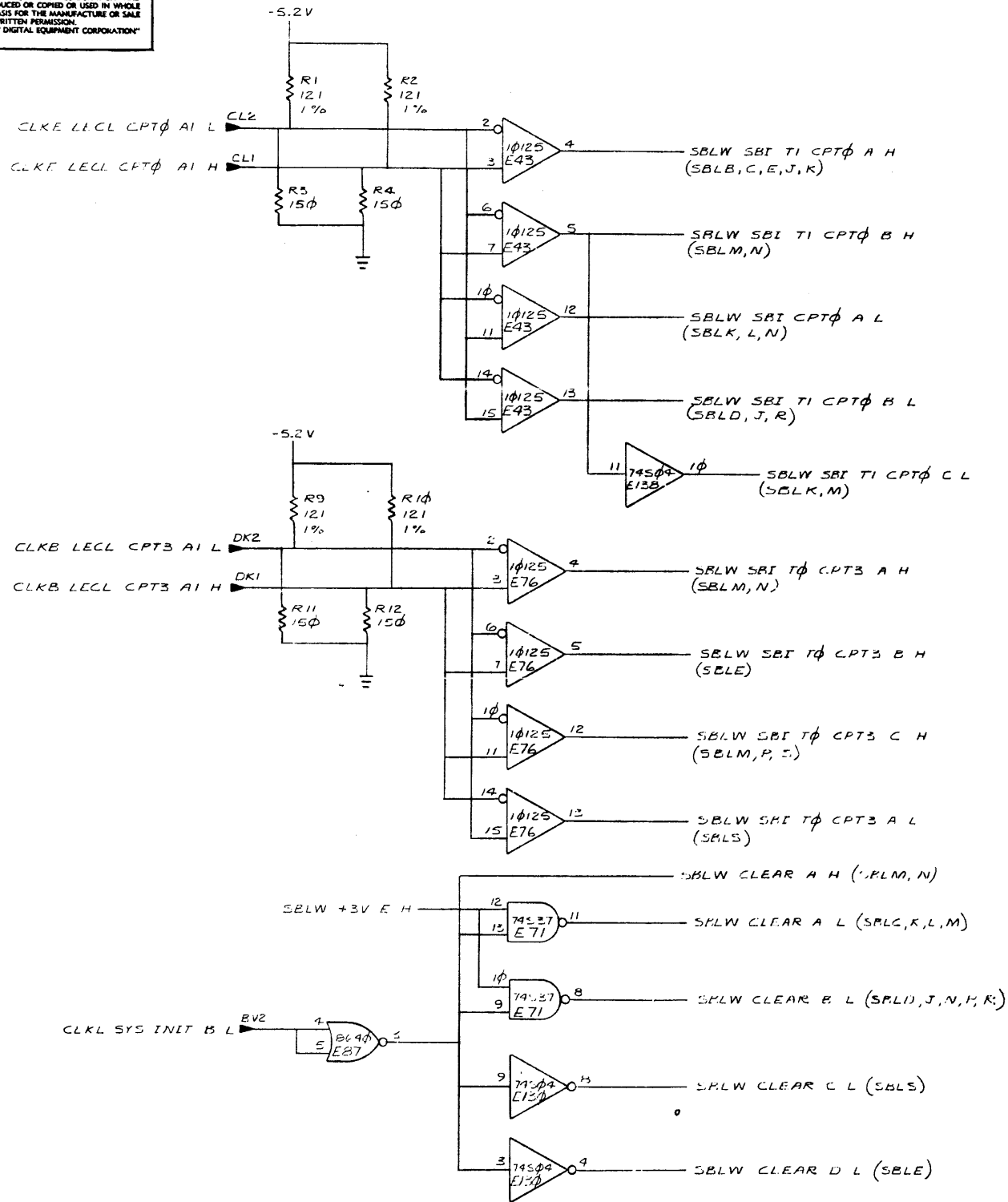
74LS165 FUNCTION TABLE

SHIFT/LOAD	CLOCK INHIBIT	INPUTS			INTERNAL OUTPUTS		OUTPUT QH
		CLOCK	SERIAL	PARALLEL A...H	QA	QB	
L	x	x	x	a...h	a	b	h
H	L	L	x	x	QA0	QB0	QH0
H	L	↑	H	x	H	QA <sub>n</sub>	QB <sub>n</sub>
H	L	↑	L	x	L	QA <sub>n</sub>	QB <sub>n</sub>
H	H	x	x	x	QA0	QB0	QH0

REVISIONS		
CHK	CHANGE NO.	REV.

(V BUS LOGIC)		(SLOT 2)	
TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E
SCALE	SHEET 19 OF 27	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



(CLOCK RECEIVERS) (SLOT 2)

TITLE	(SBLW)	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS M8218-0-1		E	
SCALE	SHEET 20 OF 27	DIST.		

REVISIONS		
CHK	CHANGE NO.	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"

(CONTINUED FROM PREVIOUS SHEET)

DEC PART NO.  
23-194F1-φφ (1KX+)  
E38

DEC PART NO.  
23-φ2φE1-φφ  
(256 X 8)  
E142

DEFAULT CONDITION  
CLEAR BUSY L = H  
ACK PULSE L = H  
CNF ERR H = L  
SET RETRY H = L

NOTE: ALL ENTRIES NOT SHOWN ARE IN THE DEFAULT CONDITION

COMMAND DESCRIPTION	COMMENTS
DEFAULT, ALLOW IB READ NO MEMORY OP ALLOW IB READ	
INTLK READ. P	
ISR	
READ. P	
INTLK WRITE. P	
WRITE. P	FORCE INTLK WRITE IF PA29=1
EXTENDED WRITE. P VALIDATE	
INVALIDATE HOLD & UNJAM HOLD	
INTLK READ. WCHK INTLK READ. NOCHK READ.V. NEW PC	
READ.V. IBCHK	FORCE INTLK READ IF PA29=1
READ.V. WCHK READ.V. NOCHK READ.V. RCHK	
INTLK WRITE.V. XCHK WRITE.V. WCHK WRITE.V. NOCHK	FORCE INTLK WRITE IF PA29=1
TEST.WCHK MEMORY NOP TEST.RCHK	

ISR H	EXTEND WRITE H	ANY WRITE H	ANY READ H	TP 2 H	TP 3 H	TP 4 H	TIMEOUT CARRY H	CNFI L	CNF φ L	CLEAR BUSY L	ACK PULSE L	CNF ERR H	SET RETRY H	COMMENTS
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
H L L L	H L L L	L H H L	H L L L	H L L L	L H H L	H L L L	L H H L	L H H L	H L L L	H L L L	H L L L	H L L L	H L L L	ISR
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	NO RESPONSE, RETRY
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ACK
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	BSY
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ERR
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	NR, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ACK, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	BSY, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ERR, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	NR
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ACK
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	BSY
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ERR
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	NR, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ACK, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	BSY, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ERR, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	NR
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ACK
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	BSY
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ERR
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	NR, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ACK, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	BSY, TIMEOUT
L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	L L H L	ERR, TIMEOUT

REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 2)

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	Dcs	M8218-0-1	E
SCALE	SHEET	DIST.	
—/—	22 OF 27		

"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"

DEC PART NO. 23- $\phi$ 19B1- $\phi$  $\phi$   
(256 x 8)  
E143

E 1-0-8178W SCD 2

UFS L	UADS L	UMCT3 L	UMCT2 L	UMCT1 L	UMCT $\phi$ L	EXTEND WRITE H	ILLEGAL CODE	ISR H	ANY WRITE H	ISR OR WRITE H	ROM EN $\phi$ H	ROM EN 3 H	SPARE	COMMENTS		
A7	A6	A5	A4	A3	A2	A1	$\phi$	B7	B6	B5	B4	B3	B2	B1	B $\phi$	
L	L	L	X	X	X	X	X	L	L	L	L	L	L	L	L	ALLOW IB READ OR MEMORY NOP
L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	ALLOW IB READ
L	L	H	L	L	L	L	H	L	H	L	L	L	L	L	L	INTLK READ.P
L	L	H	L	L	L	H	H	L	H	L	L	H	L	L	L	ISR
L	L	H	L	L	H	L	L	L	H	L	L	H	L	L	L	READ.P
L	L	H	L	L	H	H	L	L	L	L	L	H	L	L	L	INTLK WRITE.P
L	L	H	L	H	L	L	L	L	L	L	L	H	L	L	L	WRITE.P
L	L	H	L	H	L	L	H	L	L	L	L	H	L	L	L	EXTENDED WRITE.P
L	L	H	L	H	L	L	L	L	L	L	L	H	H	L	L	VALIDATE
L	L	H	L	H	H	L	H	L	L	L	L	L	H	H	L	INVALIDATE
L	L	H	L	H	H	H	L	L	L	L	L	L	L	L	L	HOLD $\phi$ UNJAM
L	L	H	L	H	H	H	H	L	L	L	L	L	L	L	L	HOLD
L	L	H	H	L	L	L	L	L	H	L	L	L	H	L	L	INTLK READ
L	L	H	H	L	L	L	H	L	L	L	L	H	L	L	L	INTLK READ
L	L	H	H	L	L	H	H	L	L	L	L	L	L	L	L	READ NEW PC
L	L	H	H	L	H	L	L	L	L	L	L	L	H	L	L	READ
L	L	H	H	L	H	L	H	L	L	L	L	H	L	L	L	READ
L	L	H	H	L	H	H	H	L	L	L	L	H	L	L	L	READ
L	L	H	H	H	L	L	L	L	L	H	H	H	L	L	L	INTLK WRITE
L	L	H	H	H	L	L	H	L	L	L	H	H	L	L	L	WRITE
L	L	H	H	H	L	H	L	L	L	L	H	H	L	L	L	WRITE
L	L	H	H	H	L	H	H	L	L	L	L	H	L	L	L	
L	L	H	H	H	H	L	L	L	L	L	L	L	L	L	L	TEST.WCHK
L	L	H	H	H	H	L	H	L	L	L	L	L	L	L	L	MEMORY NOP
L	L	H	H	H	H	H	H	L	L	L	L	L	L	L	L	TEST.RCHK

ROM ENABLE  $\phi$  DECODES  
CANCEL TERM OF SBLT  
STALL L  
ROM ENABLE 3  
DECODES VALIDATE OR  
INVALIDATE

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO. DRD 138

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	D CS	M8218- $\phi$ -1	E
SCALE	SHEET 23 OF 27	DIST.	TW 1

SHEET CODE DCS M8218- $\phi$ -1

B

A

55

"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 M8218-0-1 2

MEMORY CONTROL  
FIELD FROM U WORD

DECODED FROM U WORD  
ROM ENABLE 0 H H H  
ROM ENABLE 1 H H H  
ROM ENABLE 2 H H H  
ROM ENABLE 3 H H H

ADS 3 2 1 0 S	MCT F DESCRIPTION	FUNCTION DESCRIPTION	74S164 USED FOR THIS FUNCTION	TERMS THAT UNSTALL THE CPU (STALL L GOES HIGH)
φ φ φ φ φ	TEST.RCHK		E134-2,3	ROM ENABLE 2 · AUTO REFILL
φ φ φ φ φ	MEM.NOP		E146-9,1φ	ROM ENABLE 1
φ φ φ φ φ	TEST.WCHK		E134-2,3	ROM ENABLE 2 · AUTO REFILL
φ φ φ φ φ	ILLEGAL CODES		E122-1,11,12,13	ROM ENABLE φ · CANCEL · AUTO REFILL
φ φ φ φ φ	WRITE.V.NOCHK		E146-9,1φ	ROM ENABLE 1
φ φ φ φ φ	WRITE.V.WCHK		E122-1,11,12,13	CANCEL · AUTO REFILL · ROM ENABLE φ
φ φ φ φ φ	LOCK WRITE.V.XCHK		E122-9,1φ E122-4,5,6 E11φ-1,11,12,13 E134-9,1φ	IO SPACE · (TIMEOUT + SBI ERROR CNF) IO SPACE · BUFFER FULL · DISABLE SBI CYCLE · (AUTO REFILL + SBI CYCLE) IO SPACE · BUFFER FULL · (AUTO REFILL + SBI CYCLE) IO SPACE · RESET BUSY
φ φ φ φ φ	READ.V.RCHK		E122-1,11,12,13 E122-9,1φ E122-4,5,6 E146-1,11,12,13 E146-4,5,6 E11φ-2,3 E154-1,11,12,13 E134-4,5,6	CANCEL · AUTO REFILL · ROM ENABLE φ TIMEOUT + SBI ERROR CNF BUFFER FULL · DISABLE SBI CYCLE · (AUTO REFILL + SBI CYCLE) Gφ MATCH · (AUTO REFILL + SBI CYCLE) · (DOING CP READ MISS) G1 MATCH · (AUTO REFILL + SBI CYCLE) · (DOING CP READ MISS) DOING CP READ MISS · WANTED DATA Gφ CACHE PARITY ERR · (AUTO REFILL + SBI CYCLE) · (DOING CP READ MISS) G1 CACHE PARITY ERR · (AUTO REFILL + SBI CYCLE) · (DOING CP READ MISS)
φ φ φ φ φ	READ.V.NOCHK			SAME AS READ.V.RCHK
φ φ φ φ φ	READ.V.WCHK			CASE 1: IO SPACE, SAME AS READ.V.RCHK CASE 2: IO SPACE, SAME AS LOCK READ.V.NOCHK
φ φ φ φ φ	READ.V.IBCHK			CASE 1: IO SPACE + (IO SPACE · IB WCHK): SAME AS READ.V.RCHK CASE 2: IO SPACE · IB WCHK : SAME AS LOCK READ.V.NOCHK
φ φ φ φ φ	READ.V.NEWPC		E134-2,3	ROM ENABLE 2 · AUTO REFILL
φ φ φ φ φ	LOCK READ.V.NOCHK		E122-1,11,12,13 E122-9,1φ E122-4,5,6 E11φ-2,3 E134-1,11,12,13 E134-4,5,6	CANCEL · AUTO REFILL · ROM ENABLE φ TIMEOUT + SBI ERROR CNF BUFFER FULL · DISABLE SBI CYCLE · (AUTO REFILL + SBI CYCLE) DOING CP READ MISS · WANTED DATA Gφ CACHE PARITY ERR · (AUTO REFILL + SBI CYCLE) · (DOING CP READ MISS) G1 CACHE PARITY ERR · (AUTO REFILL + SBI CYCLE) · (DOING CP READ MISS)
φ φ φ φ φ	LOCK READ.V.WCHK			SAME AS LOCK READ.V.NOCHK
φ φ φ φ φ	ILLEGAL CODE		E122-1,11,12,13 E146-9,1φ	ROM ENABLE φ · CANCEL · AUTO REFILL ROM ENABLE 1
φ φ φ φ φ	SBI, HOLD		E146-9,1φ	ROM ENABLE 1
φ φ φ φ φ	SBI, HOLD + UNJAM			

NOTE: FOR MORE DETAIL SEE LOGIC PAGE SBLT AND PRDM CHARTS  
CHART CONTINUED ON NEXT SHEET

REVISIONS		
CHK	CHANGE NO.	REV.

(STALL CHART) SH 1 OF 2 (SLOT 2)

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E
SCALE: —H—	SHEET 24 OF 27	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

REV 1-0-8128W SCD 2

ADS	MCT	F	FUNCTION	745164 USED FOR THIS FUNCTION	TERMS THAT UNSTALL THE CPU (STALL L GOES HIGH)
3	2	1	DESCRIPTION		
1	0	0	INVALIDATE	H L L H E122-1,11,12,13 E110-4,5,6	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 3 · (AUTO REFILL + SBI CYCLE) · BUFFER FULL
1	0	0	VALIDATE		
1	0	1	EXT WRITE.P	H L L L	SAME AS WRITE.V. NOCHK
1	0	1	WRITE.P		
1	0	1	ILLEGAL CODE	H H L L E122-1,11,12,13 E146-9,10	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 1
1	0	1	LOCK WRITE.P	H L L L	SAME AS WRITE.V. NOCHK
1	1	0	ILLEGAL CODE	H H L L E122-1,11,12 E146-9,10	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 1
1	1	0	LOCK WRITE.P	H L L L	SAME AS WRITE.V. NOCHK
1	1	0	ILLEGAL CODE	H H L L E122-1,11,12,13 E146-9,10	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 1
1	1	0	READ.P	H L L L	SAME AS READ.V. RCHK
1	1	0	ILLEGAL CODE	H H L L E122-1,11,12,13 E146-9,10	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 1
1	1	0	READ.INT.SUM	H L L L E122-1,11,12,13 E122-9,10 E122-4,5,6 E146-2,3	ROM ENABLE 0 · CANCEL · AUTO REFILL TIMEOUT BUFFER FULL · DISABLE SBI CYCLE · (AUTO REFILL + SBI CYCLE) RESET BUSY
1	1	0	ILLEGAL CODE	H H L L E122-1,11,12,13 E146-9,10	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 1
1	1	0	LOCK READ.P	H L L L	SAME AS LOCK READ.V. NOCHK
1	1	0	ILLEGAL CODE	H H L L E122-1,11,12,13 E146-9,10	ROM ENABLE 0 · CANCEL · AUTO REFILL ROM ENABLE 1
1	1	0	ALLOW.IB.READ	L H L L E146-9,10	ROM ENABLE 1
0	x	x	NO MEMORY OPERATION		
1	x	x	ALLOW.IB.READ		

X = DON'T CARE

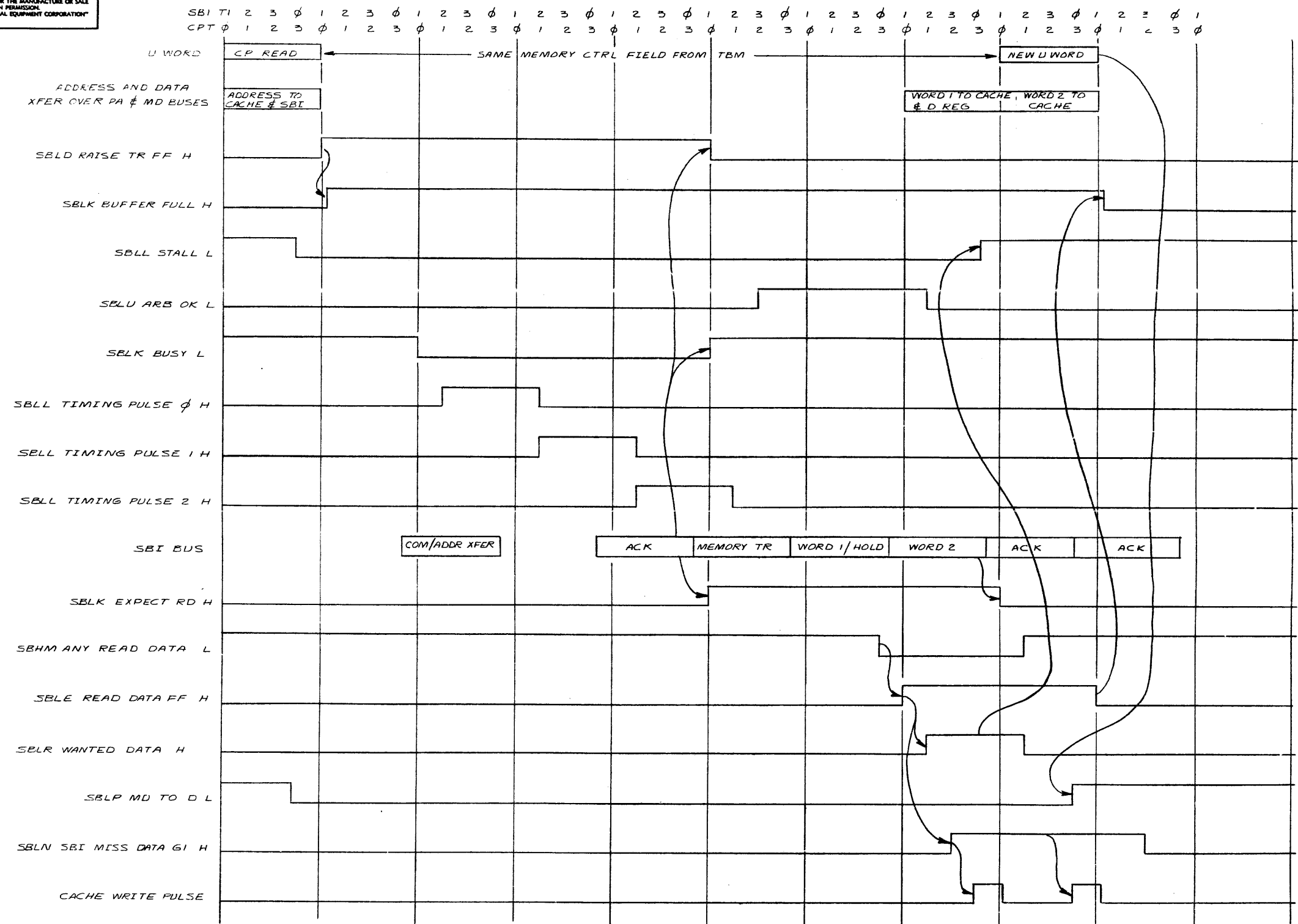
NOTE: CHART CONTINUED FROM PREVIOUS SHEET

REVISIONS		
CHK	CHANGE NO.	REV.

(STALL CHART) SH 2 OF 2 (SLOT 2)

DEC FORM NO. DDD 138	8	7	6	5	4	3	2	1	TW	
TITLE	SBI INTERFACE LOW BITS							SIZE CODE	NUMBER	REV.
SCALE	SHEET 25 OF 27							DIST.	DCS M8218-0-1	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 AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

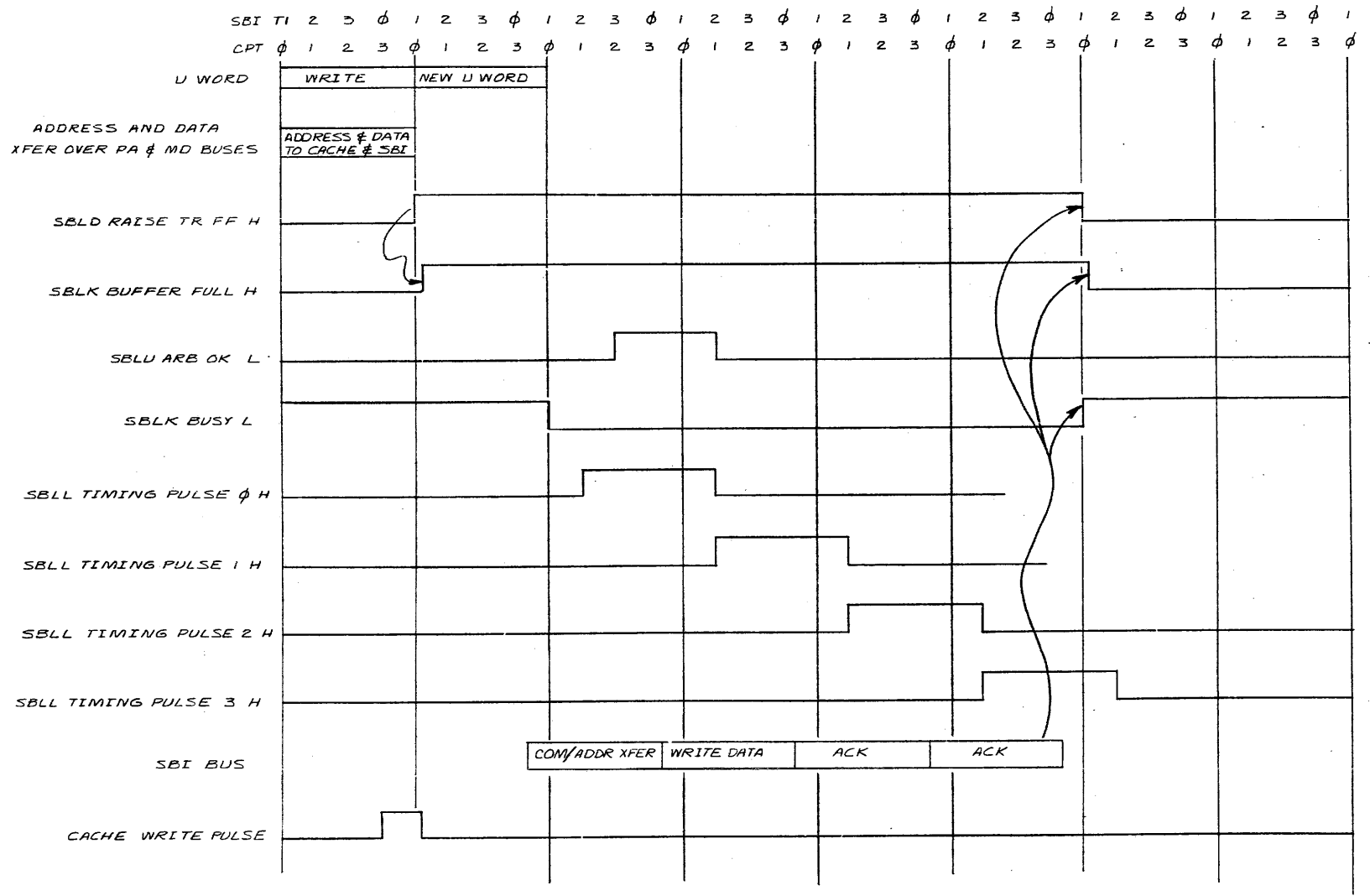


(CPU READ MISS TIMING) (SLOT 2)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	DCS	M8218-0-1	E
SCALE	SHEET	DIST.	
//	26 OF 27		

"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"



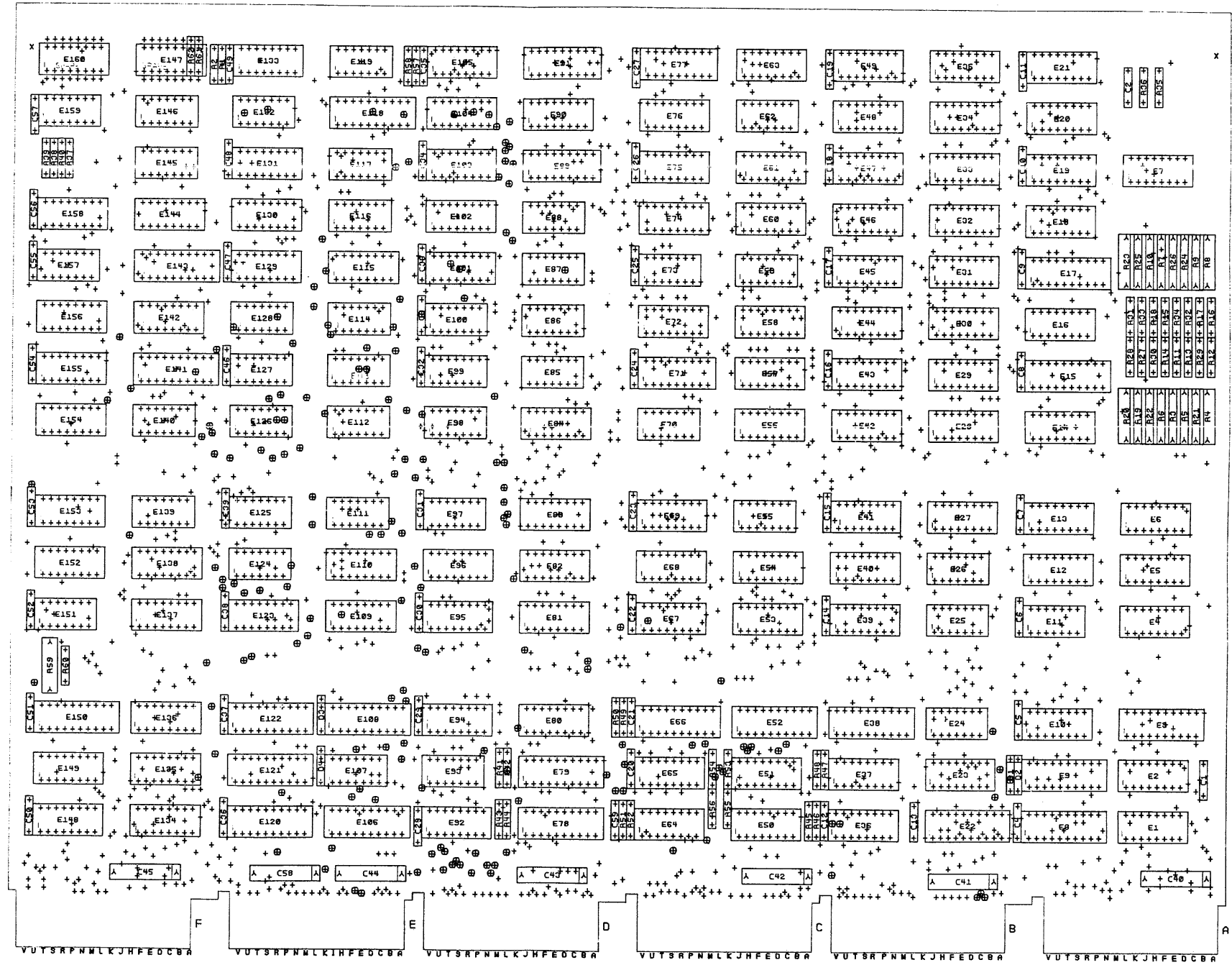
NOTE: WRITE WAS TO MEMORY SPACE  
ADDRESS WAS A HIT IN CACHE

(CPU WRITE TIMING) (SLOT 2)

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO. DRD 138	8	7	6	5	4	3	2	TW	1	REV. E
TITLE SBI INTERFACE LOW BITS							SIZE CODE DCS	NUMBER M8218-0-1	REV. E	
SCALE H							SHEET 27 OF 27		DIST.	

COMPONENT SIDE VIEW

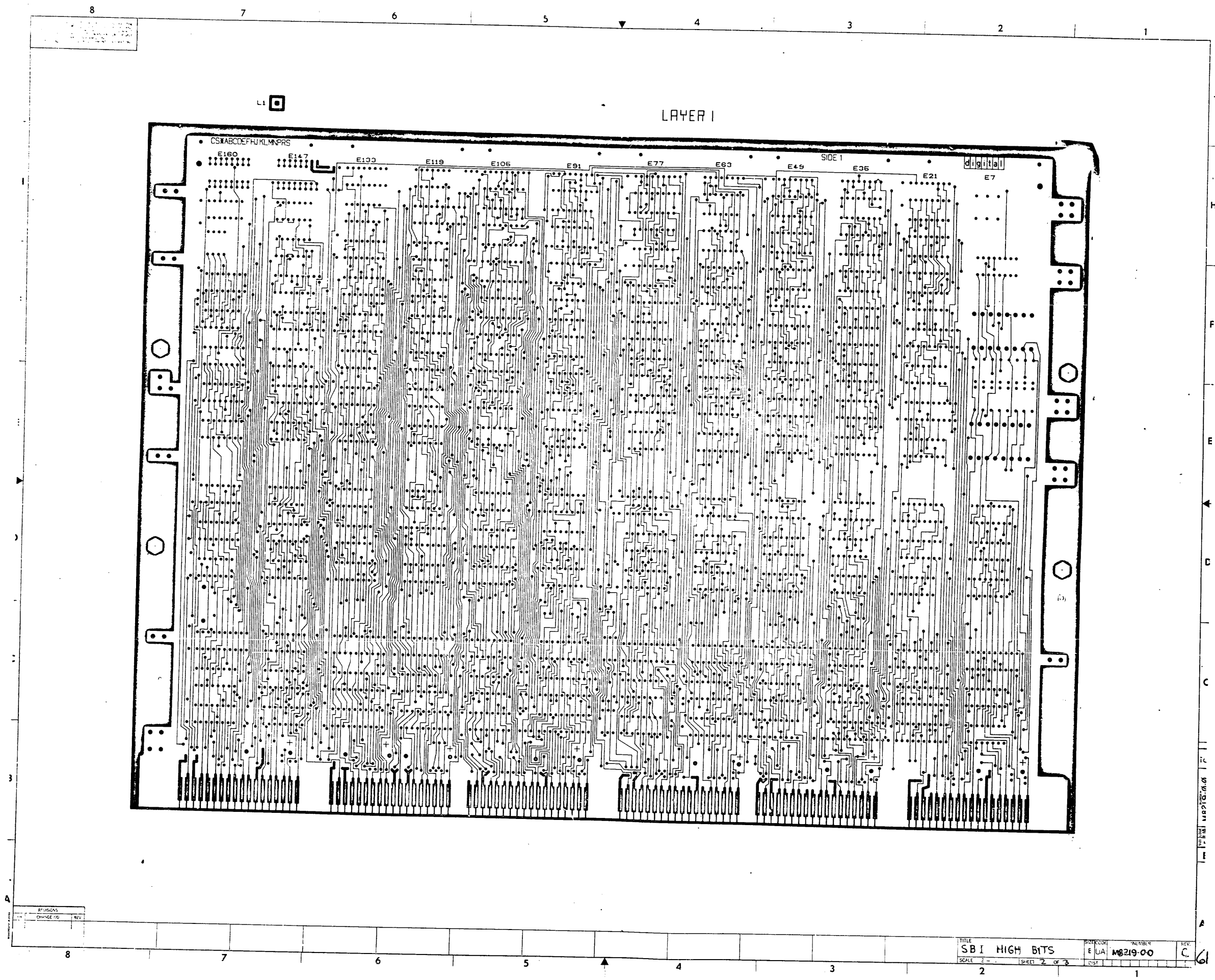


SIGNATURES	DATE	TITLE	REVISION
DIR. _____	_____	digital	00
CHK. _____	_____	SB1 HIGH BITS	00
ENG. _____	_____	SIZE CODE	00
PROD. _____	_____	EUA M8219	00
SCALE	OF	REV	C
SHT. _____	_____	REV	C
NEXT HIGH-EST. REV. #	_____	REV	C

EDM REV.	_____	REV.	_____
P.L.C. DESIGN UNIT BASE	_____	REV.	_____
CPI	_____	REV.	_____
CHANGE NO	_____	REV.	_____

NOTES	_____
EUA M8219 - 00	C

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.  
 2. DIMENSIONS TO CENTER OF HOLES UNLESS OTHERWISE SPECIFIED.  
 3. DIMENSIONS TO EDGE OF BOARD UNLESS OTHERWISE SPECIFIED.  
 4. DIMENSIONS TO CENTER OF BOARD UNLESS OTHERWISE SPECIFIED.  
 5. DIMENSIONS TO CENTER OF BOARD UNLESS OTHERWISE SPECIFIED.  
 6. DIMENSIONS TO CENTER OF BOARD UNLESS OTHERWISE SPECIFIED.  
 7. DIMENSIONS TO CENTER OF BOARD UNLESS OTHERWISE SPECIFIED.  
 8. DIMENSIONS TO CENTER OF BOARD UNLESS OTHERWISE SPECIFIED.



REV	DATE	BY	CHKD

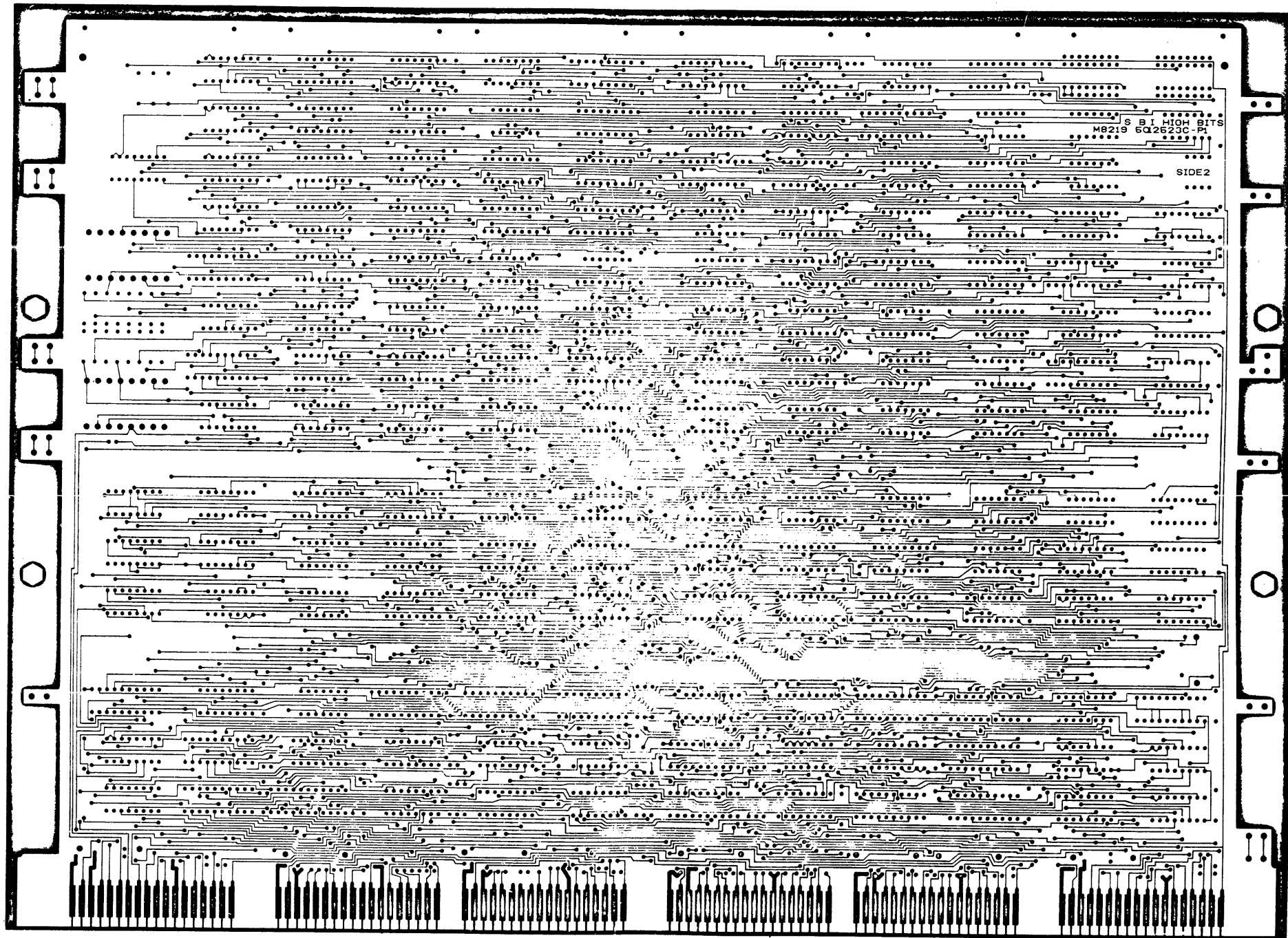
TITLE	DATE CODE	NUMBER	REV
SBI HIGH BITS	EUA	M8219-00	C
SCALE 2 -	SHEET 2 OF 3	DIST	

8 7 6 5 4 3 2 1

ALL DIMENSIONS ARE GIVEN UNLESS OTHERWISE SPECIFIED IN THIS DRAWING. DIMENSIONS ARE TO THE CENTER OF THE HOLE UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO THE EQUIPMENT CONNECTION.

PARAJ

L4



J  
H  
F  
E  
D  
C  
A

REV	DATE	BY	CHKD

8 7 6 5 4 3 2 1

TITLE: SBI HIGH BITS  
 SCALE: 2-1  
 SHEET: 3 OF 3  
 PART NO: M8219-0-0  
 REV: C

U2

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	E-MD-5012523-0-0	M8219	1	
2	2	1012084-01	8 MFD 25V G% 300 AL EL	(10-12)	7 C40-C45,C58
3	3	1012784-00	.047 MFD 50V X% CER.	52	C1-C39,C46-C57,C59
4	4	1103041-00	DEC 777 GS=12PCB PIV= RVS	4	D1-D4
5	5	1300295-00	330 1/4w 5% CC	(13-00)	3 R35,R1,R57
6	6	1301424-00	680 1/4w 5% CC	(13-00)	3 R36,R2,R58
7	7	1300243-00	120 1/2w 5% CC	(13-00)	17 R3-R10,R19-R26,R59
8	8	1301972-00	270 1/4w 5% CC	(13-00)	16 R11-R18,P27-R34
9	9	1300365-00	1 K 1/4w 5% CC	(13-00)	4 R37-R40
10	10	1300247-00	120 1/4w 5% CC	(13-00)	8 R41,R43,R45,R47,R49,R51,R53, CONT R55
11	11	1300250-00	150 1/4w 5% CC	(13-00)	8 R42,R44,R46,R48,R50,R52,R54, CONT R56
12	12	1300271-00	220 1/4w 5% CC	(13-00)	2 R60,R61
13	13	1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	11	F27,E41,E69,E131,E137,E148, CONT F83,F84,E20,E43,E135
14	14	1912696-00	LS194A SHIFT REG.,4BIT HI-DIRECT	12	E1,E2,E7,E18,E19,E21,E35,E36, CONT E37,E46,E103,E149
15	15	1911641-00	SN 74S257 MUX,QUAD 2 TO 1	3	E123,E134,E136
16	16	1910548-00	74S157 MUX 1 OF 2 (QUAD)	4	E81,F95,F129,E133
17	17	1912731-00	DEC 8646 TRANSCIVER,4BIT BUS	11	E8,E9,F52,E66,E78,F79,E106, CONT E108,E120-E122
18	18	1910547-00	74S153 MUX 1 OF 4 (DUAL)	9	E5,E6,E12,E13,E40,E54,E60,E67, CONT E68
19	19	1910550-00	74S174 FF-D HEX	5	E10,E23,E39,E102,E154
20	20	1913670-00	74S373 LATCH 8BIT TRASP TRISTATE	9	E3,E15,E17,E22,E38,E118,E141, CONT E143,E150
21	21	1912844-00	LS151 MUX 1 OF 8 & DATA SELECTOR	10	F28,E29,E32-E34,E42,F45, CONT E47-E49,E57,E58,E61,E75,E76, CONT E44

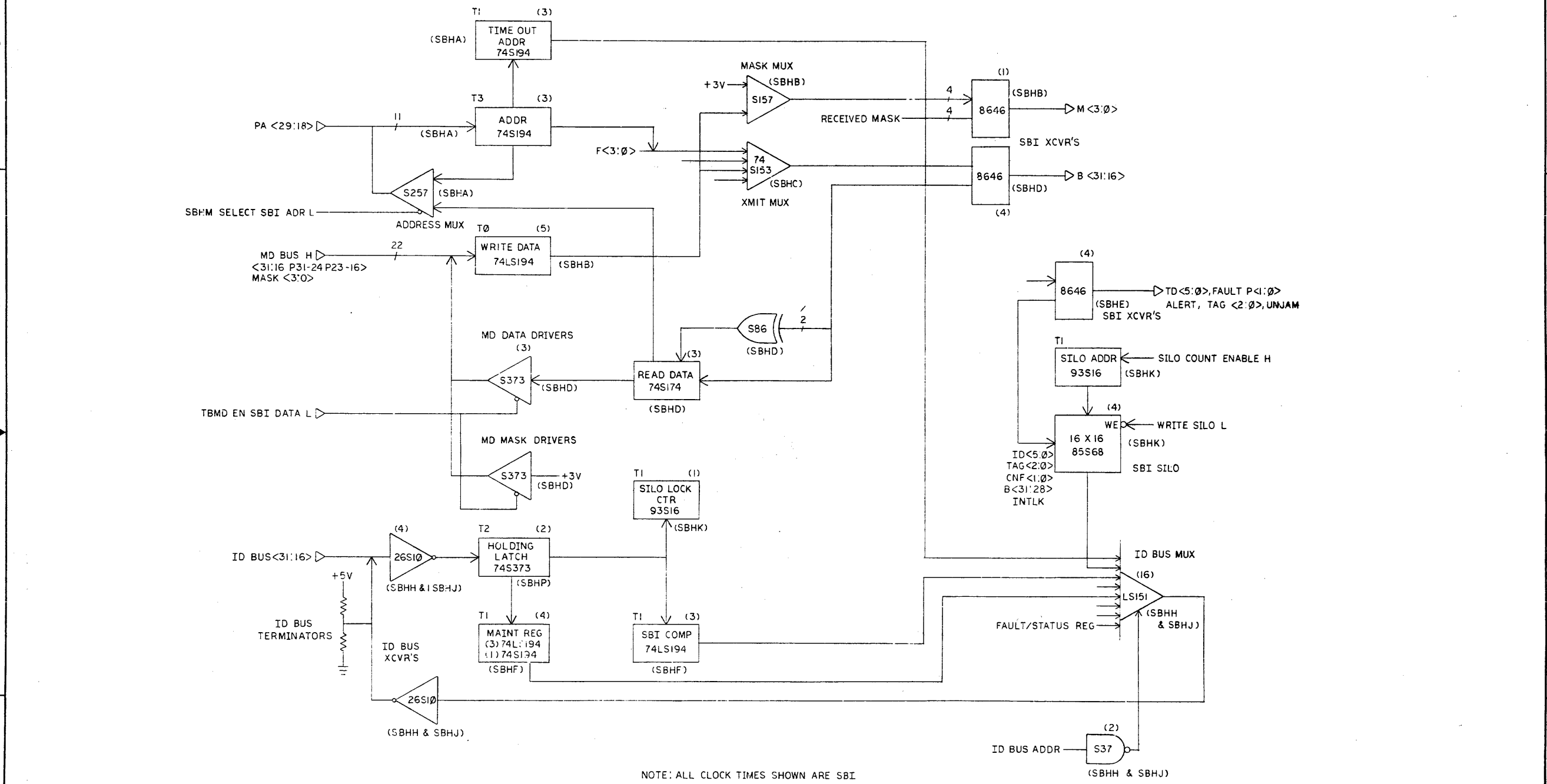
REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
CHK	ECO NO	REV			MADE BY:	DATE:	TITLE	SIZE	CODE	DOCUMENT NUMBER	REV
---	INIT	C			R. BARILONE	08-AUG-78	PARTS LIST				
					F. SMART	08-AUG-78	SMI HIGH BITS				
					T. ERMOLOVICH	08-AUG-78					
					M. TERELLA	08-AUG-78		K	PL	M8219-0-DBP	C
					T. ERMOLOVICH	08-AUG-78					6
ASSY.NO.: E-UA-M8219-0-0 "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"											

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
22	22	1913788-00	26S10 TRANSCEIVER,BUS,QUAD	4	F14,F16,F30,E31
23	23	1912586-00	DM 85S68N REGISTER,64BIT EDGE TRIG,TRIST	4	E71,E77,E89,E91
24	24	1910957-00	74S175 FF-D QUAD COMMON CLOCK	1	F101
25	25	1912865-00	LS283 ADDER-4BIT BINARY FULL W/FAST	1	E158
26	26	1912089-00	74S85 CMPRTR-4BIT MAGNITUDE 16P	4	E63,E90,E104,E130
27	27	1911675-00	74S138 DECODER-THREE INPUT	3	E82,E96,E110
28	28	1912842-00	LS138 DECODER-THREE INPUT,16PIN	1	F142
29	29	1913294-00	93S16 COUNTER,SYNCH UP BINARY	2	F105,E56
30	30	1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	4	F51,E64,E65,E92
31	31	1913839-00	74LS165 SHIFT REG.,8BIT	8	F4,F53,E80,E94,E109,E138,E152, CONT F153
32	32	1911573-00	74S280 PARTIY GEN/CHKR,9BIT ODD/EVEN	4	E11,E24,F93,F107
33	33	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	3	F117,E124,E127
34	34	1912096-00	DEC 74S86 XOR GATE,QUAD 2IN	2	E25,E119
35	35	1910534-00	74S04 INVERTER GATE-HEX 1IN	9	F26,F55,E87,E88,E98,E111,E126, CONT E157,E159
36	36	1910532-00	74S00 NAND GATE-QUAD 2INS	4	F146,E86,E125,E145
37	37	1912389-00	74S08 AND GATE-QUAD 2IN,POS 14	6	E62,E73,F116,E132,E140,E59
38	38	1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	3	F72,E74,E115
39	39	1912388-00	74S02 NOR GATE-QUAD 2IN,POS	2	E113,E128
40	40	1910539-00	74S20 NAND GATE-DUAL 4INPUT	3	F70,E85,E100
41	41	1910536-00	74S10 NAND GATE-TRIPLE 3IN	2	E99,F112
42	42	1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	3	F97,E114,E139
43	43	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	F151
44	44		SPARES	3	F50,F160,E147
45	45	23189A1-00	A1-07 PROM,	1	F144
46	46	23437A2-00	A2-05 PROM,	1	F155
47	47	23438A2-00	A2-05 PROM,	1	F156
48	48	1210711-02	HANDLE,HEX MODULE,10-1/2 S	1	
49	49	9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	
50	50	1302957-00	121 1/4w 1% M9550-P 100PPM (13-00)	1	P62

TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	SRI HIGH BITS	K	PL	M8219-0-DHP	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"



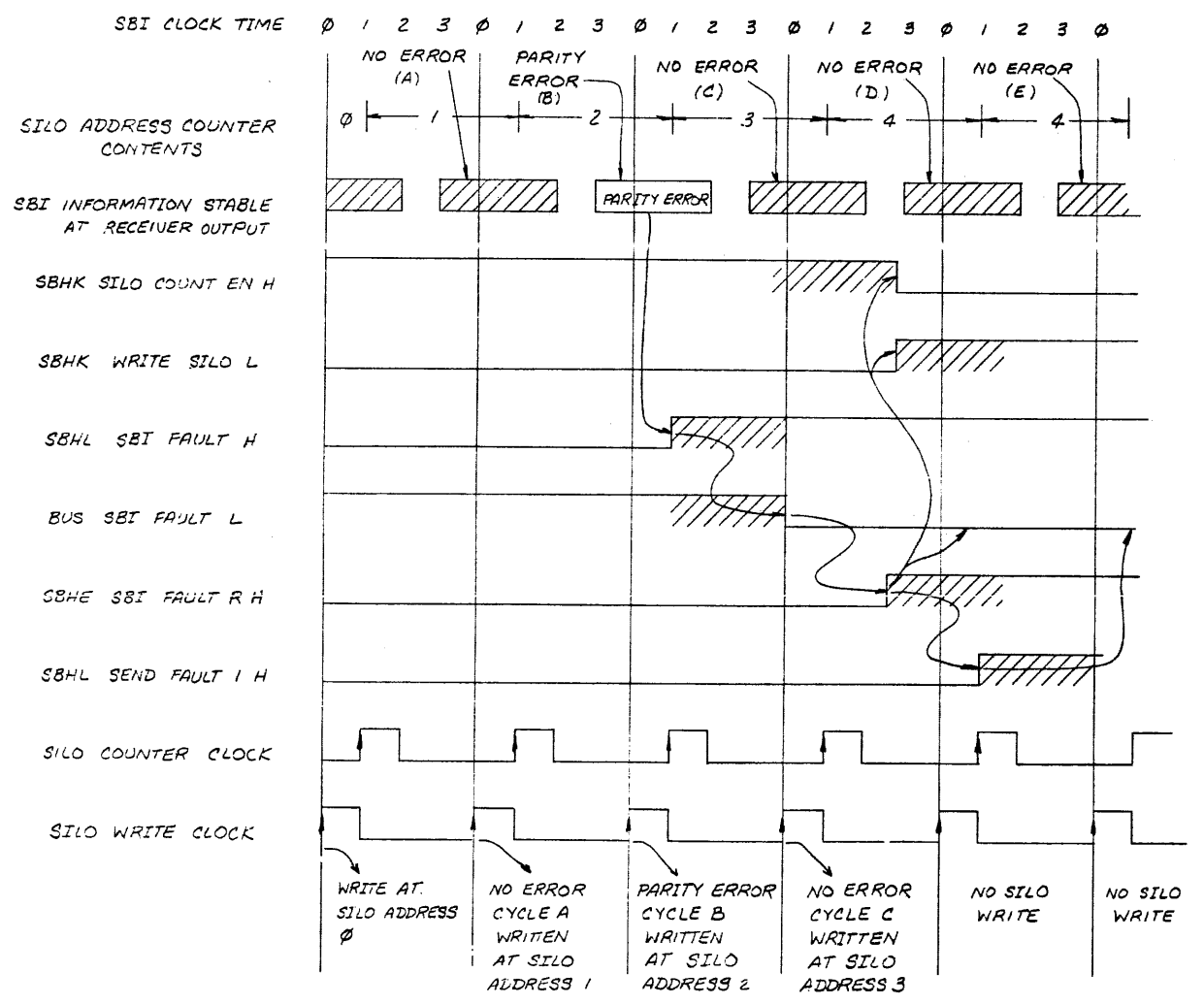
NOTE: ALL CLOCK TIMES SHOWN ARE SBI TIMES SBI T1=CPT0

REV.	CHG.	BY	DATE
1	MB219-07001	B	5/16/77
2	MB219-12002	C	5/16/77
3	MB219-12003	D	5/16/77

BLOCK DIAGRAM (SLOT 3)

DRN. CHILD	4427	FIRST USED ON	digital
CHK'D	576	TITLE	SBI INTERFACE
ENG'D	6-16-77	NUMBER	HIGH BITS (S8H)
PROJ. ENGR	6-16-77	SIZE	D CS
NEXT HIGHER ASSY.		NUMBER	M8219-0-1
SCALE	++	REV.	D
SHEET	1 OF 19	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"

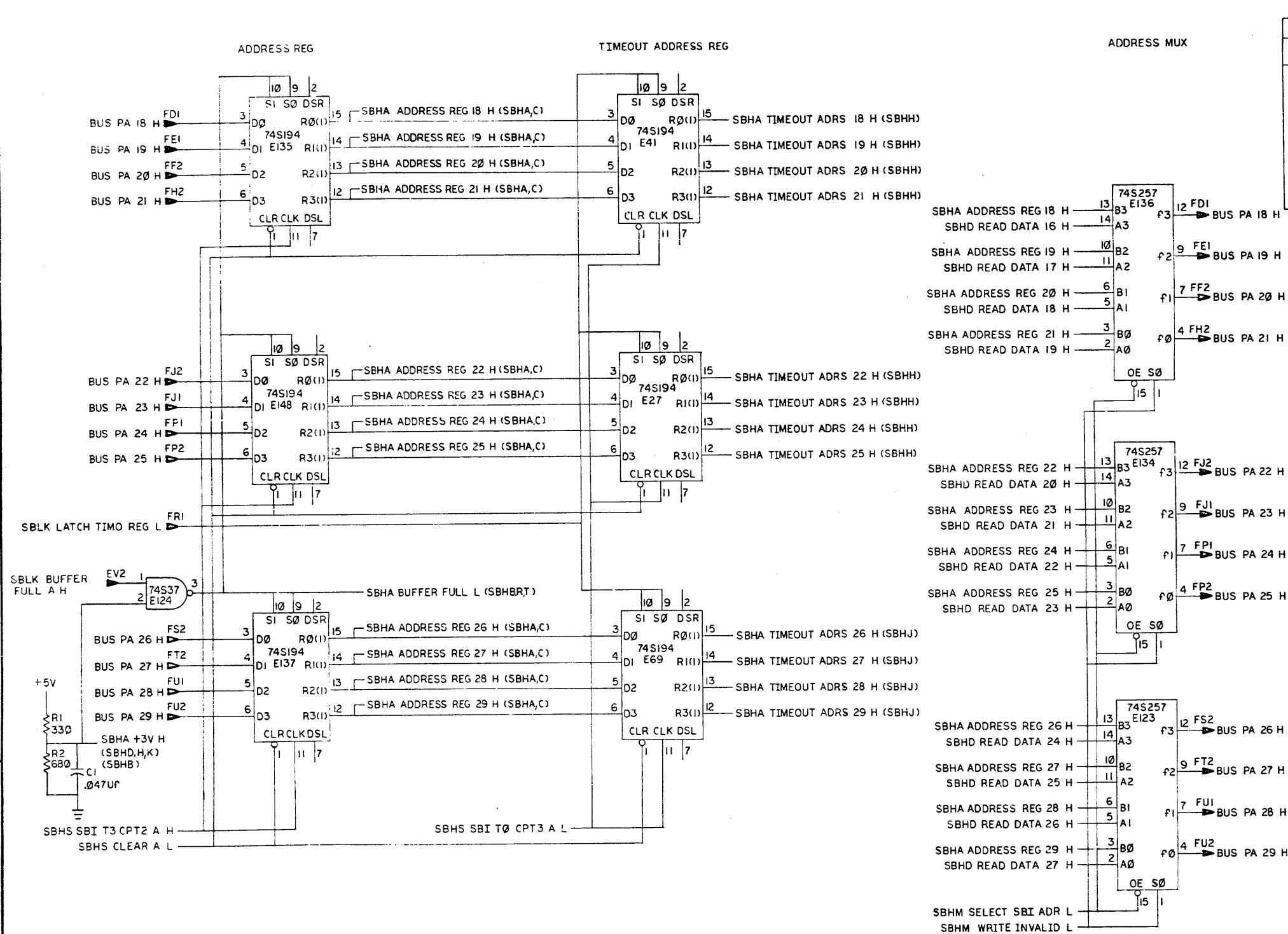


(SBI FAULT TIMING)

(SLOT 3)

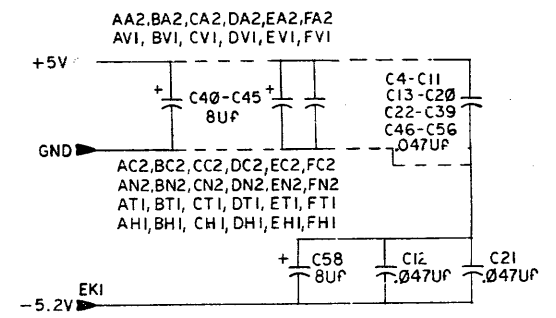
REVISIONS		
CHK	CHANGE NO.	REV.

"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"



74S194 FUNCTION TABLE

CLEAR	INPUTS			SERIAL				PARALLEL				OUTPUTS			
	MODE	SI	S0	CLOCK	LEFT	RIGHT	A	B	C	D	QA	QB	QC	QD	
L	X	X	X	X	X	X	X	X	X	X	L	L	L	L	
H	X	X	L	X	X	X	X	X	X	X	QA	QB	QC	QD	
H	X	H	↑	X	X	X	A	B	C	D	A	B	C	D	
H	L	H	↑	X	H	X	X	X	X	X	H	QAN	QBN	QCN	
H	L	H	↑	X	L	X	X	X	X	X	L	QAN	QBN	QCN	
H	H	L	↑	H	X	X	X	X	X	X	QBN	QCN	QDN	H	
H	H	L	↑	L	X	X	X	X	X	X	QBN	QCN	QDN	L	
H	L	L	X	X	X	X	X	X	X	X	QA	QB	QC	QD	



NOTE: E50 160 ARE SPARE IC LOCATIONS

74S257 FUNCTION TABLE

OUTPUT CONTROL	INPUTS		OUTPUT Y	
	SELECT	A B	S257	
H	X	X X	Z	
L	L	L X	L	
L	L	H X	H	
L	H	X L	L	
L	H	X H	H	

H=HIGH LEVEL, L=LOW LEVEL, X=IRRELEVANT  
Z=HIGH IMPEDANCE (OFF)

REVISIONS

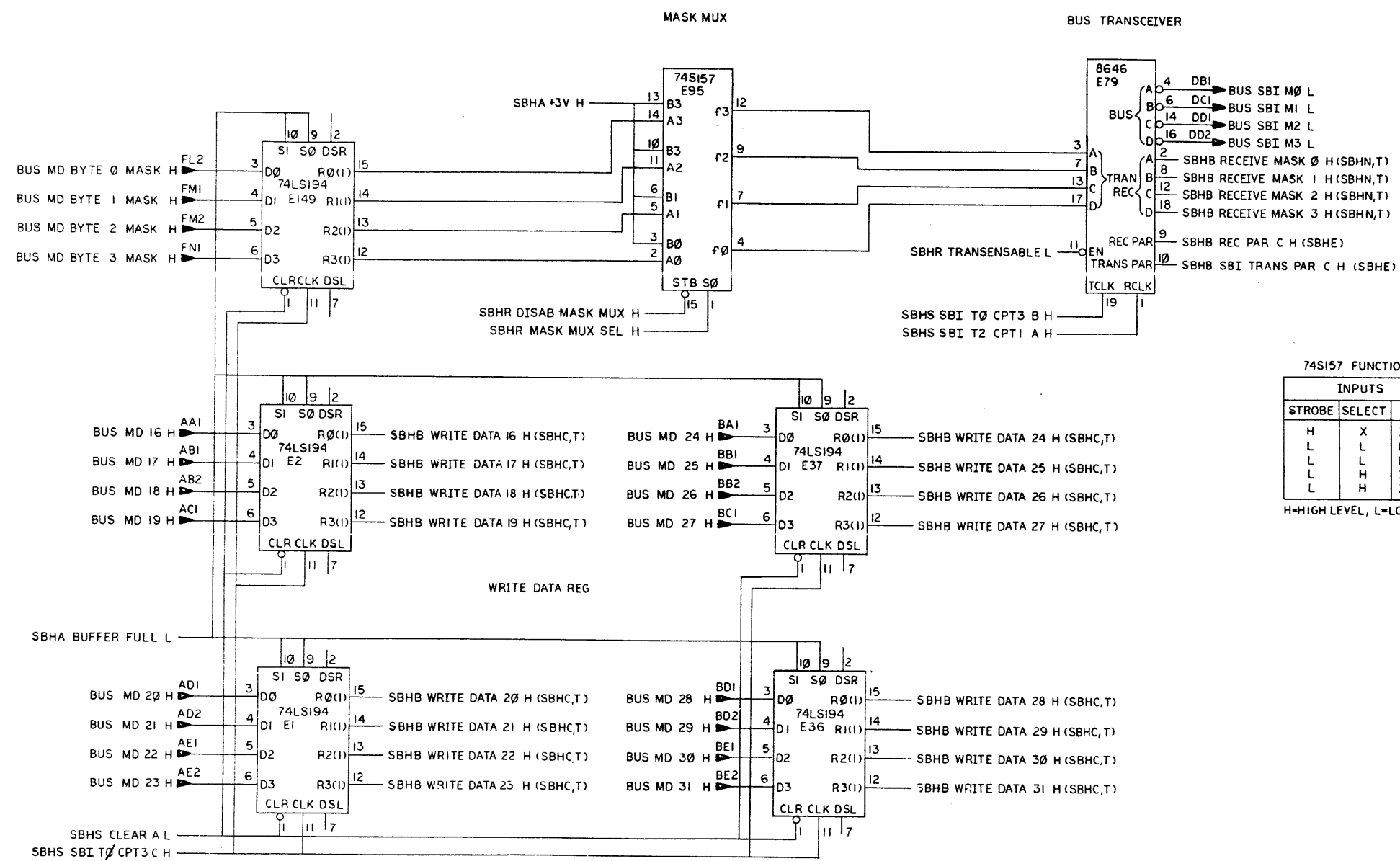
CHK	CHANGE NO.	REV.

(ADDRESS LOGIC)

(SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHA)	SIZE CODE	D CS	NUMBER	M8219-01	REV.	D
SCALE	---	SHEET	3	OF	19	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"



74S157 FUNCTION TABLE

INPUTS		OUTPUT		
STROBE	SELECT	A	B	S157
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

H=HIGH LEVEL, L=LOW LEVEL, X=IRRELEVANT

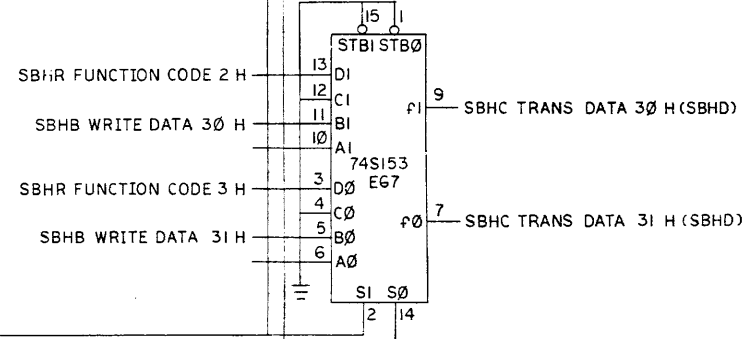
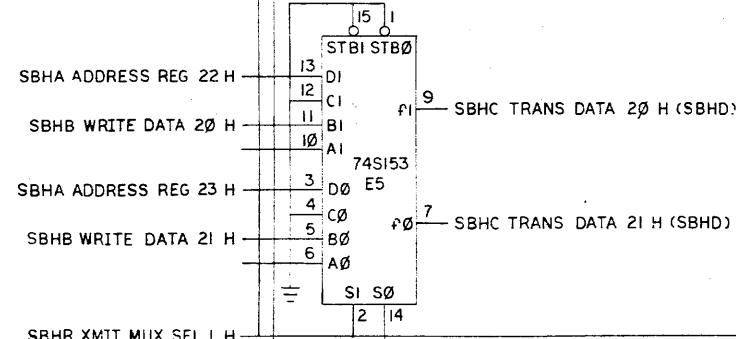
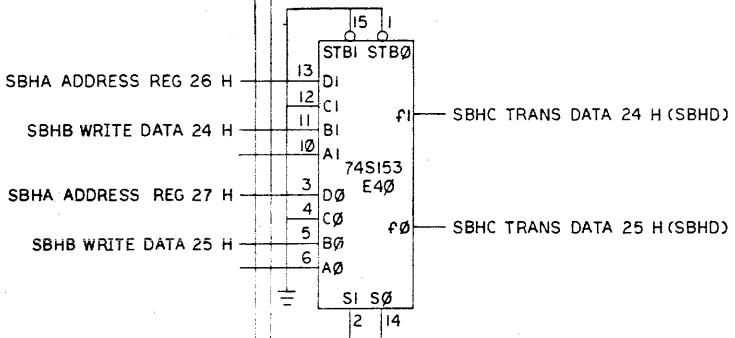
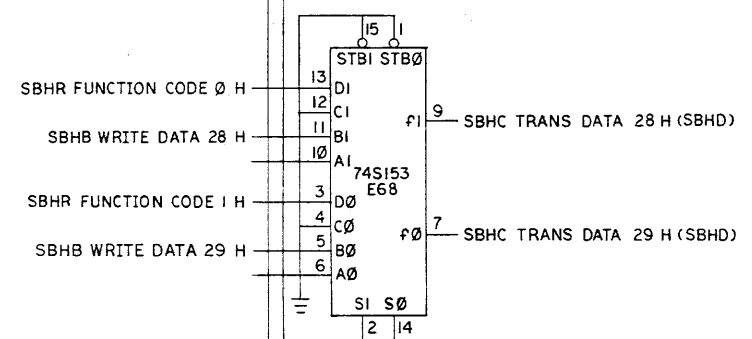
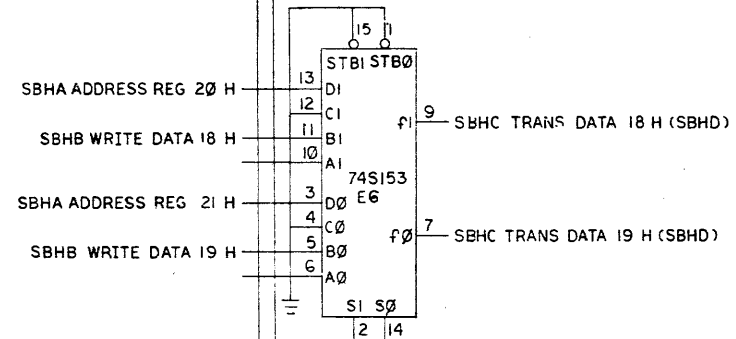
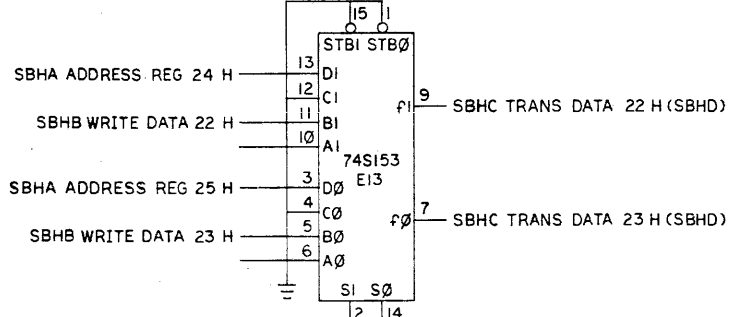
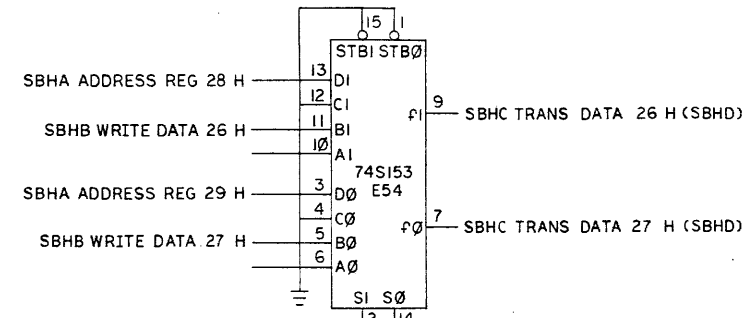
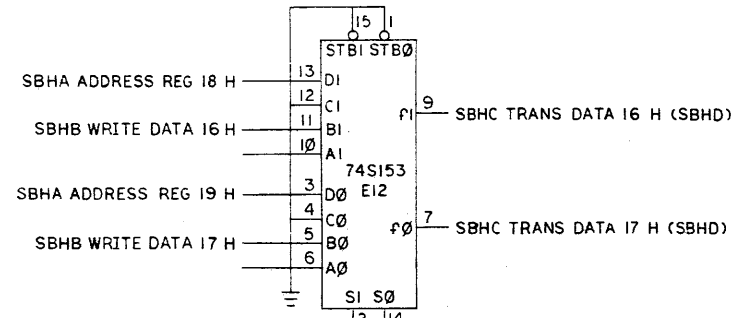
REVISIONS		
CHK	CHANGE NO.	REV.

(WRITE DATA REG) (SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHB)	SIZE CODE	D CS	NUMBER	M8219-0-1	REV.	D
SCALE	---	SHEET	A OF 19	DIST.	---	TW	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

SELECT INPUTS	DATA INPUTS				STROBE	OUTPUT
B A	C0	C1	C2	C3	G	Y
X X	X X	X X	X X	X X	H	L
L L	L X	X X	X X	X X	L	L
L L	L H	X X	X X	X X	L	L
L L	L X	L X	X X	X X	L	L
H L	X X	L X	X X	X X	L	L
H L	X X	H X	X X	X X	L	L
H H	X X	X X	L X	X X	L	L
H H	X X	X X	H X	X X	L	L



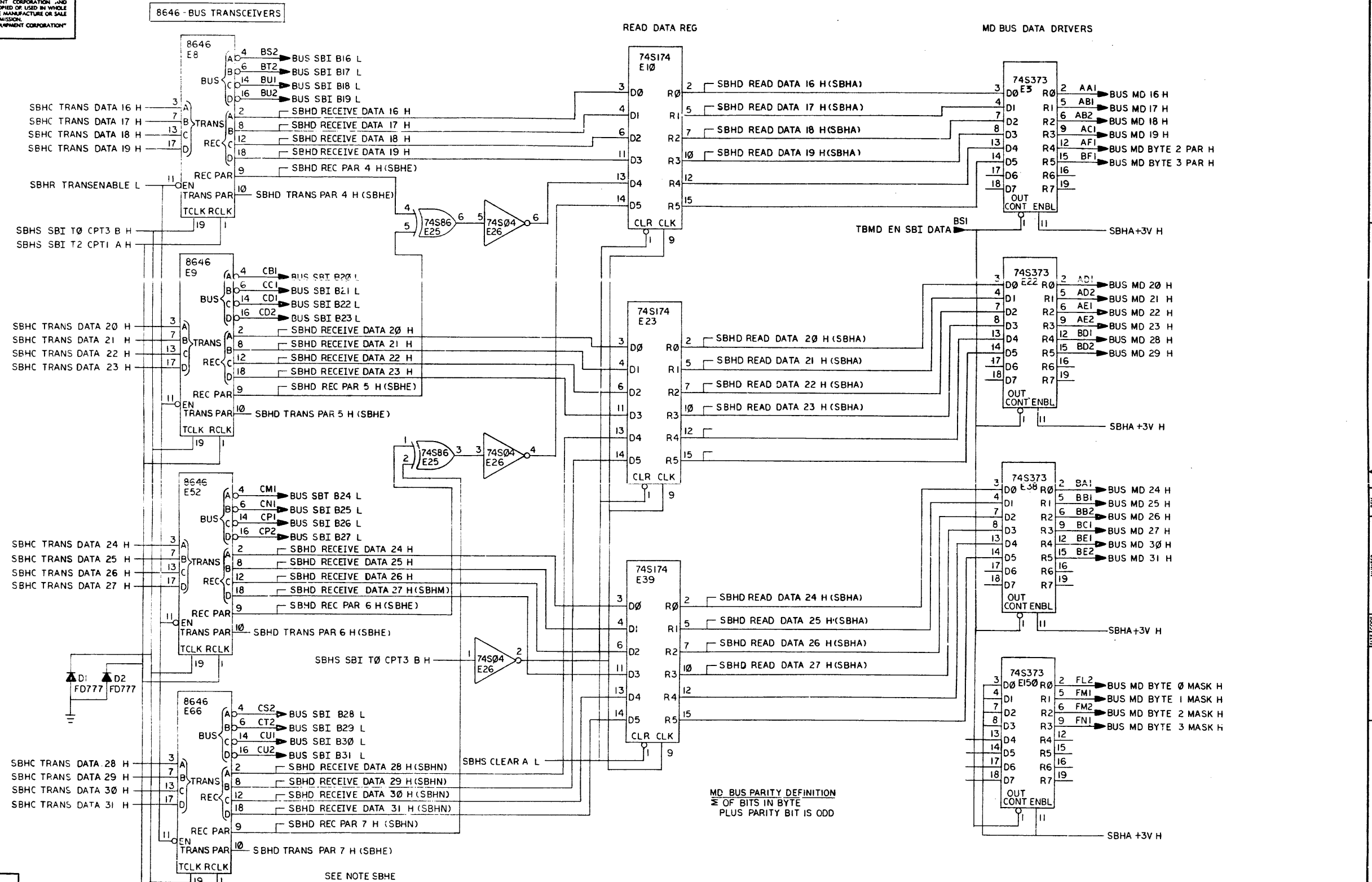
REVISIONS		
CHK	CHANGE NO.	REV.

(TRANSMIT MUX)

(SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHC)	SIZE CODE	D CS	NUMBER	M8219-0-1	REV.	D
SCALE	---	SHEET	5 OF 19	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"

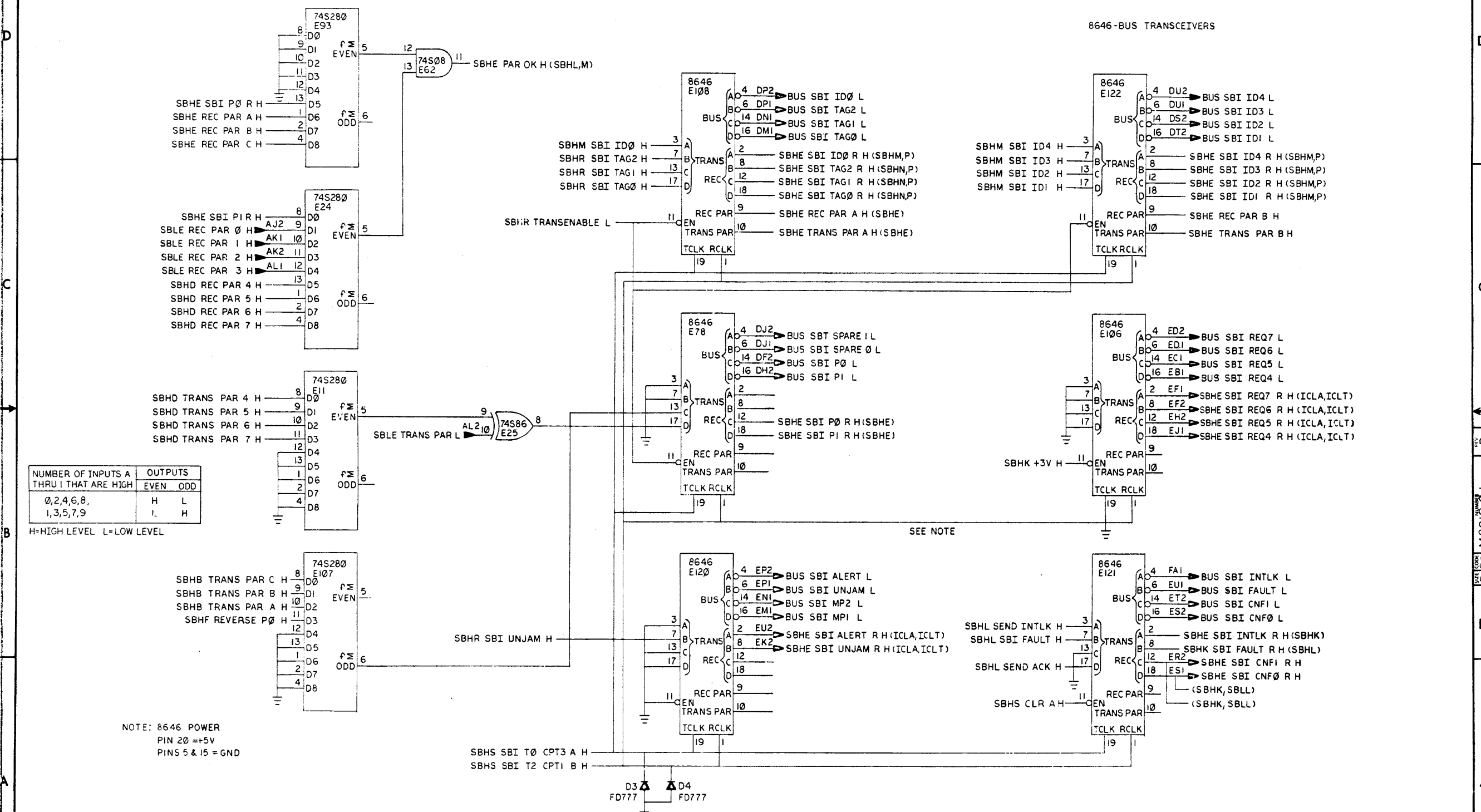


REVISIONS		
CHK	CHANGE NO.	REV.

(SBI DATA LOGIC)		(SLOT 3)	
TITLE	SBI INTERFACE HIGH BITS (SBHD)	SIZE CODE	NUMBER
SCALE	---	DCS	M8219-0-1
SHEET	6 OF 19	DIST.	

DRAWING NUMBER: M8219-0-1

"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"



NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS	
	EVEN	ODD
0,2,4,6,8,	H	L
1,3,5,7,9	L	H

H=HIGH LEVEL L=LOW LEVEL

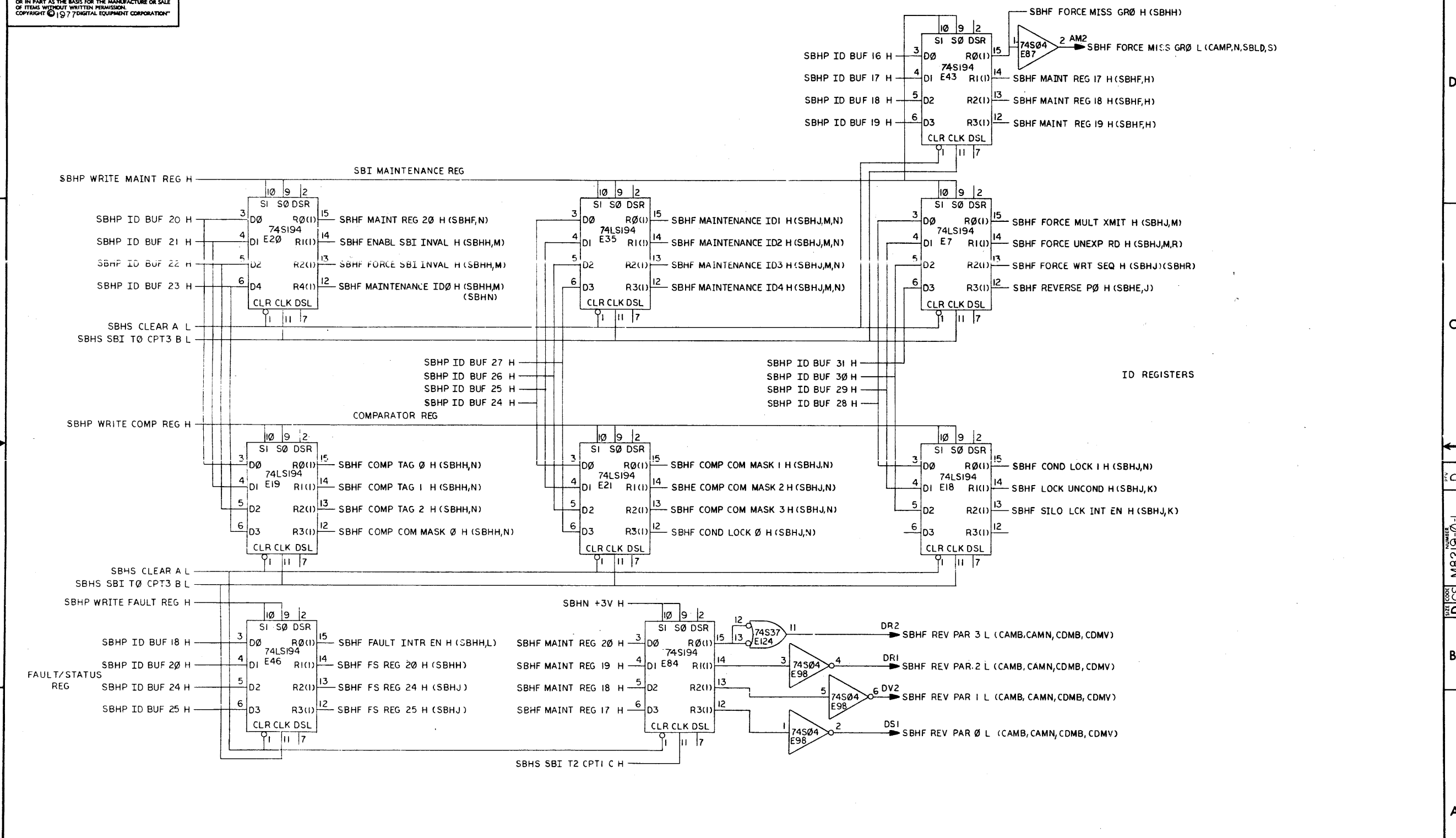
NOTE: 8646 POWER  
PIN 20 = +5V  
PINS 5 & 15 = GND

REVISIONS		
CHK	CHANGE NO.	REV.

(SBI CONTROL TRANSCEIVERS) (SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHE)	SIZE CODE	D CS	NUMBER	M8219-0-1	REV.	D
SCALE		SHEET	7 OF 19	DIST.			

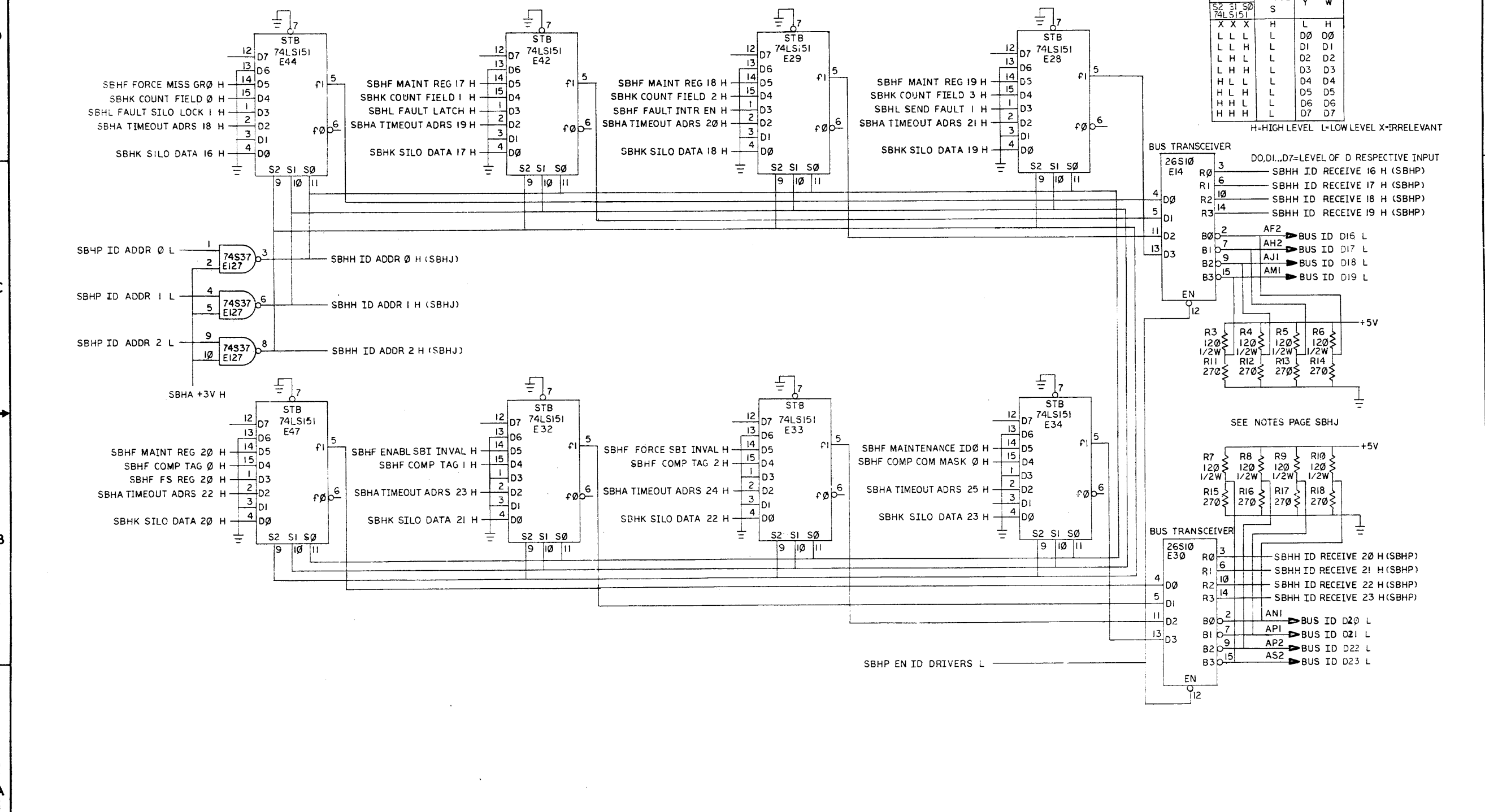
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.



"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.

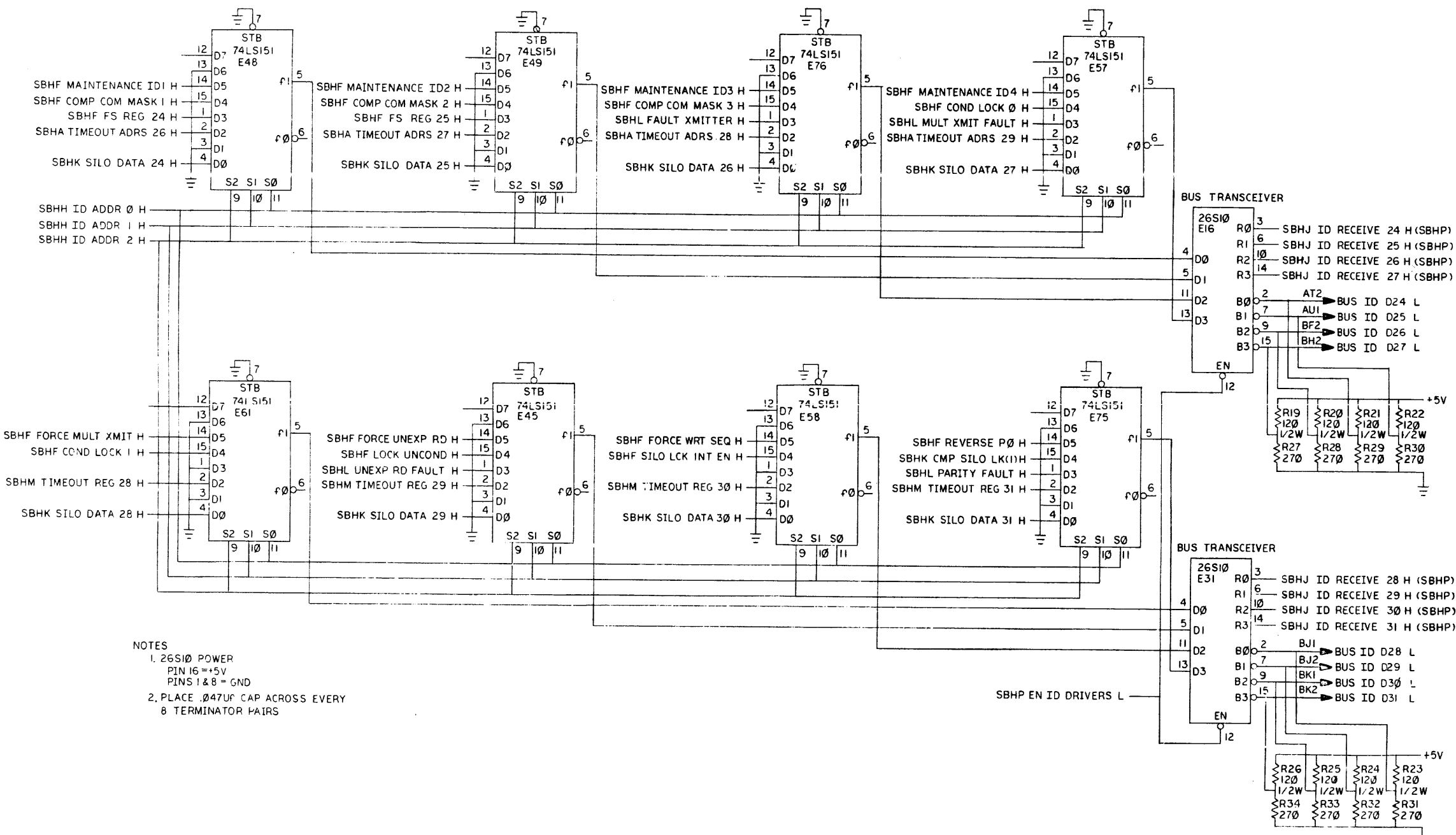
(ID BUS MUX) (SLOT 3)

TITLE SBI INTERFACE HIGH BITS (SBHH) SIZE CODE DCS NUMBER M8219-0-1 REV. D

SCALE SHEET 9 OF 19 DIST. TW 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"

1-0-6128W 2



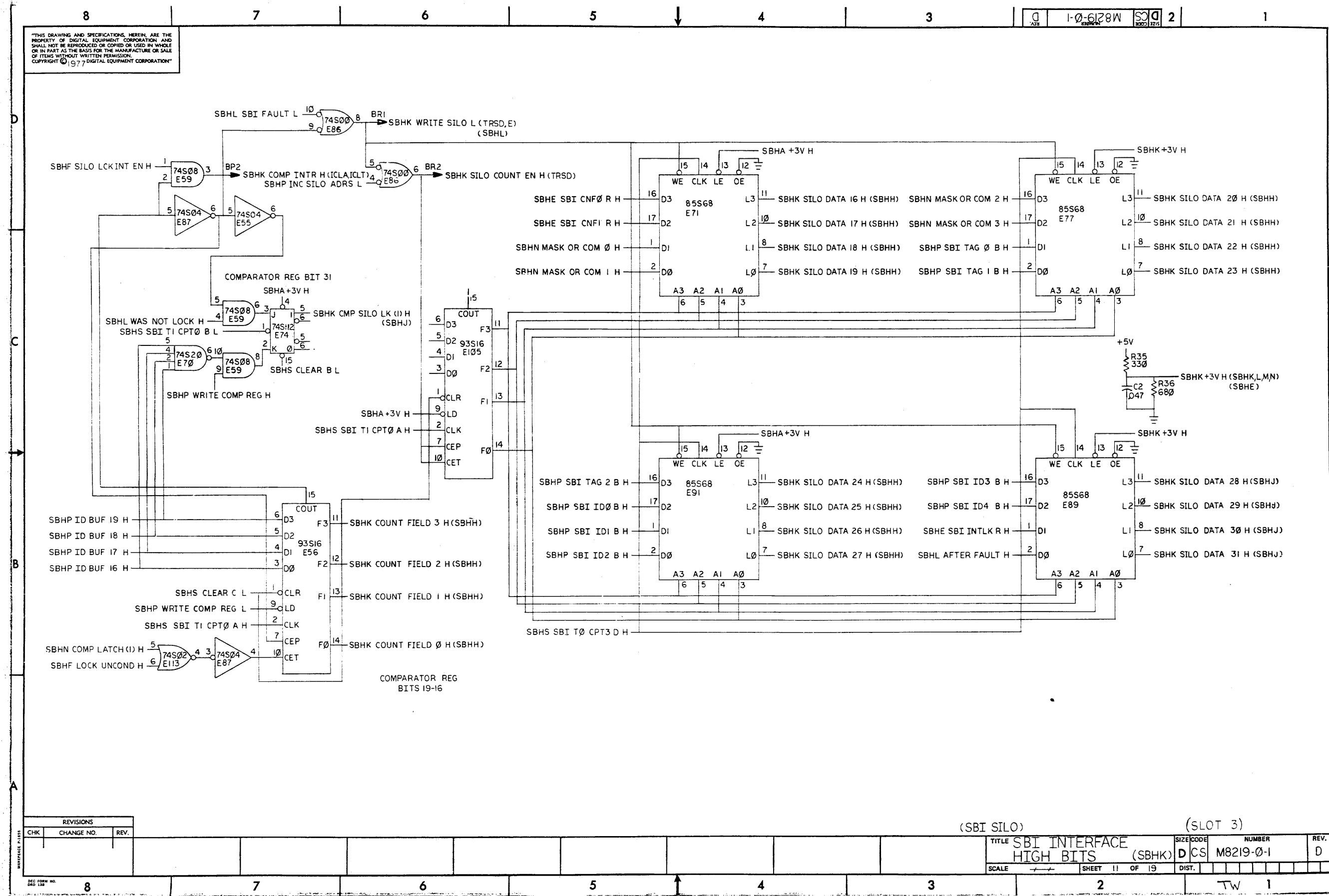
NOTES  
 1. 26S10 POWER  
 PIN 16 = +5V  
 PINS 1 & 8 = GND  
 2. PLACE 0.47UF CAP ACROSS EVERY  
 8 TERMINATOR PAIRS

REVISIONS		
CHK	CHANGE NO.	REV.

(ID BUS MUX) (SLOT 3)

TITLE SBI INTERFACE HIGH BITS (SBHJ) DCS NUMBER M8219-0-1 REV. D  
 SCALE SHEET 10 OF 13 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.

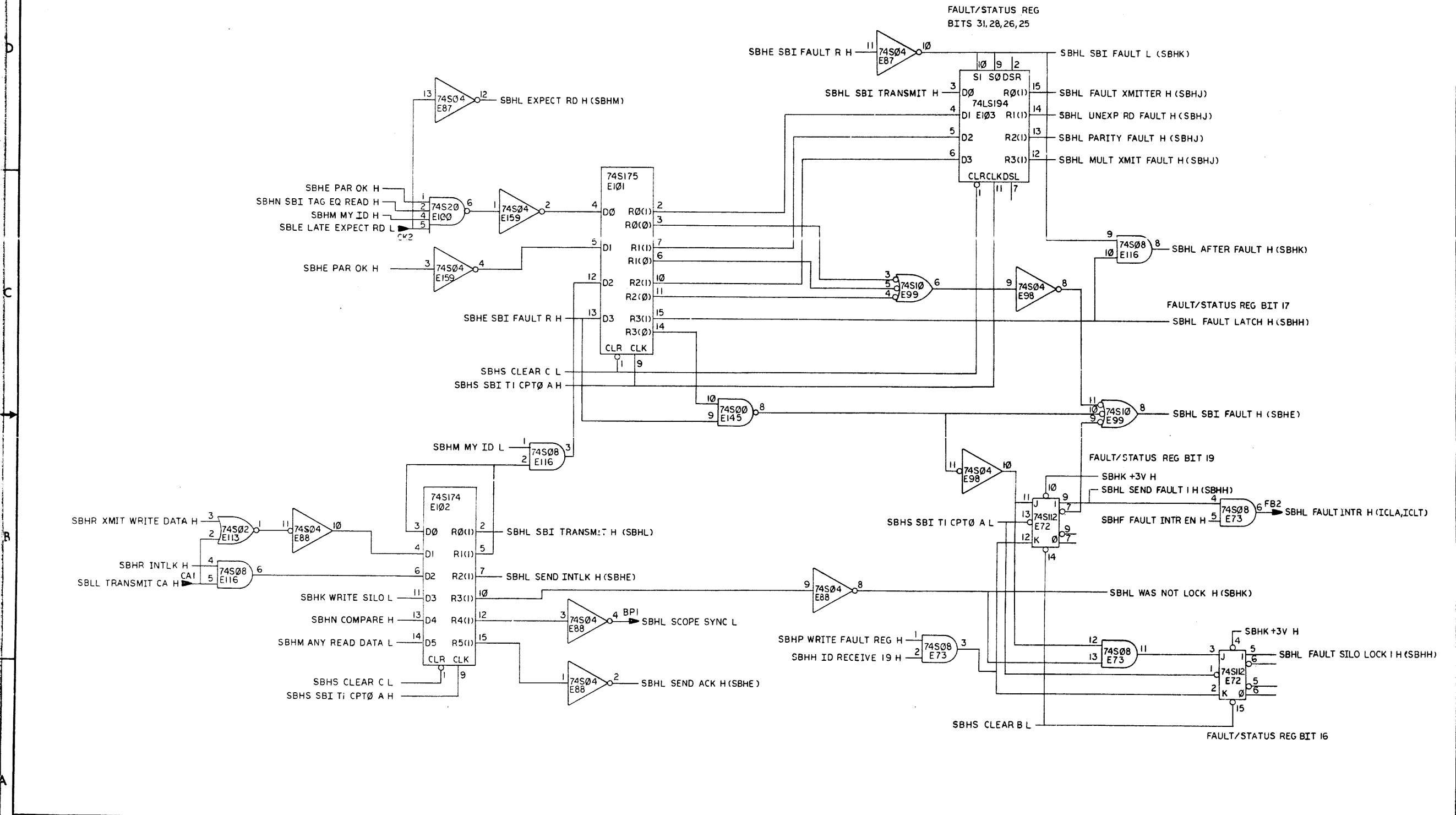
(SBI SILO)		(SLOT 3)	
TITLE SBI INTERFACE HIGH BITS (SBHK)		SIZE CODE DCS	NUMBER M8219-0-1
SCALE	SHEET 11 OF 19	DIST.	REV. D
TW		1	

REV. D  
NUMBER M8219-0-1  
DCS

75

"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"

1-0-6128W 2



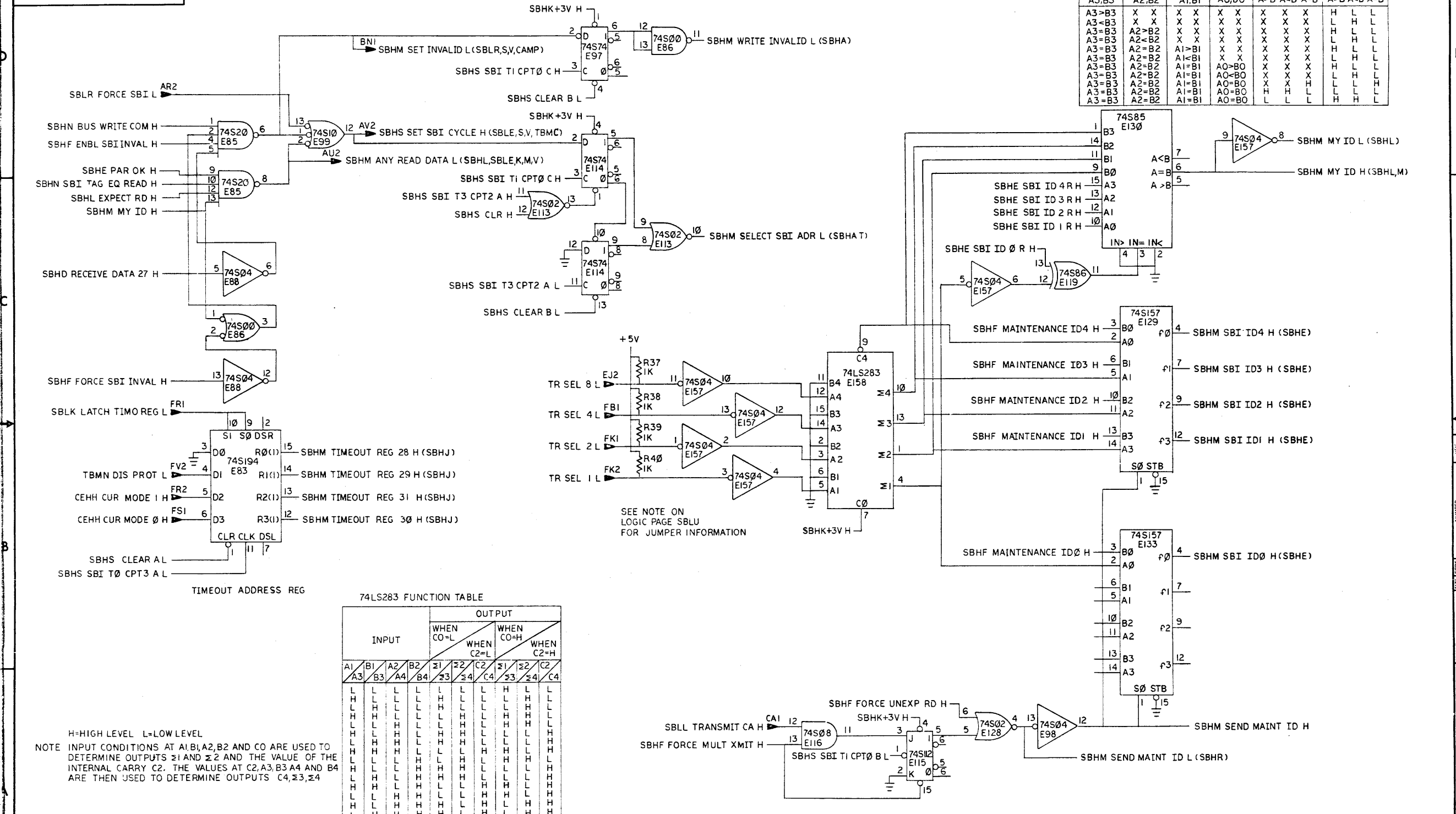
REVISIONS		
CHK	CHANGE NO.	REV.

(SBI FAULT LOGIC) (SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHL)	SIZE CODE	D CS	NUMBER	M8219-0-1	REV.	D
SCALE		SHEET	12 OF 19	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"

1-0-6128 M8219-01 2



7485 FUNCTION TABLES

COMPARING INPUTS				CASCADING INPUTS			OUTPUTS		
A3,B3	A2,B2	A1,B1	A0,B0	A>B	A<B	A=B	A>B	A<B	A=B
A3>B3	X	X	X	X	X	X	X	X	X
A3<B3	X	X	X	X	X	X	X	X	X
A3=B3	A2>B2	X	X	X	X	X	L	L	L
A3=B3	A2=B2	X	X	X	X	X	L	L	L
A3=B3	A2=B2	A1>B1	X	X	X	X	L	L	L
A3=B3	A2=B2	A1=B1	X	X	X	X	L	L	L
A3=B3	A2=B2	A1=B1	A0>B0	X	X	X	L	L	L
A3=B3	A2=B2	A1=B1	A0=B0	X	X	X	L	L	L
A3=B3	A2=B2	A1=B1	A0=B0	H	H	L	L	L	L
A3=B3	A2=B2	A1=B1	A0=B0	L	L	L	H	H	H

74LS283 FUNCTION TABLE

INPUT	OUTPUT								
	WHEN CO=L				WHEN CO=H				
	Σ1	Σ2	Σ3	Σ4	Σ1	Σ2	Σ3	Σ4	
A1 B1	A2 B2	A3 B3	A4 B4	C1	C2	C3	C4	C1	C2
A3 B3	B3 B3	A4 B4	B4 B4	C3 C3	C4 C4	C3 C3	C4 C4	C3 C3	C4 C4
L	L	L	L	L	L	H	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L
L	L	L	L	L	L	L	L	L	L

H=HIGH LEVEL L=LOW LEVEL  
 NOTE INPUT CONDITIONS AT A1,B1,A2,B2 AND C0 ARE USED TO DETERMINE OUTPUTS Σ1 AND Σ2 AND THE VALUE OF THE INTERNAL CARRY C2. THE VALUES AT C2,A3,B3 A4 AND B4 ARE THEN USED TO DETERMINE OUTPUTS C4,Σ3,Σ4

REVISIONS

CHK	CHANGE NO.	REV.

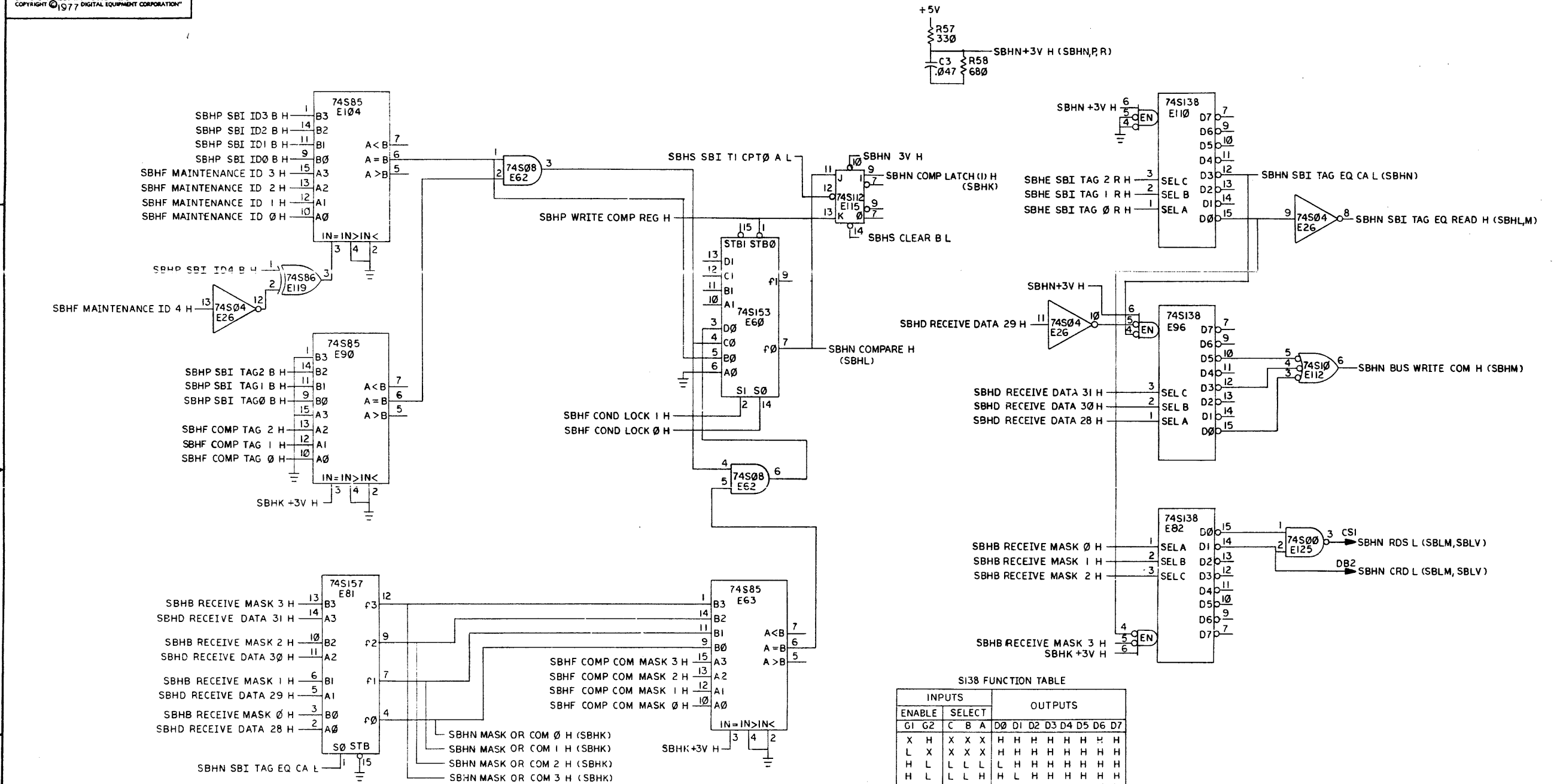
(SBI ID LOGIC) (SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHM)	SIZE CODE	D CS	NUMBER	M8219-01	REV.	D
SCALE		SHEET	13 OF 19	DIST.			

8 7 6 5 4 3 2 1

77

"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"



S138 FUNCTION TABLE

ENABLE		SELECT			OUTPUTS							
G1	G2	C	B	A	D0	D1	D2	D3	D4	D5	D6	D7
X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	H	H	H	H	H	L	H	H	H	H
H	L	H	L	L	H	H	H	H	L	H	H	H
H	L	H	L	H	H	H	H	H	H	L	H	H
H	L	H	H	L	H	H	H	H	H	H	L	H
H	L	H	H	H	H	H	H	H	H	H	H	L
H	L	L	H	H	H	H	H	H	H	H	H	L

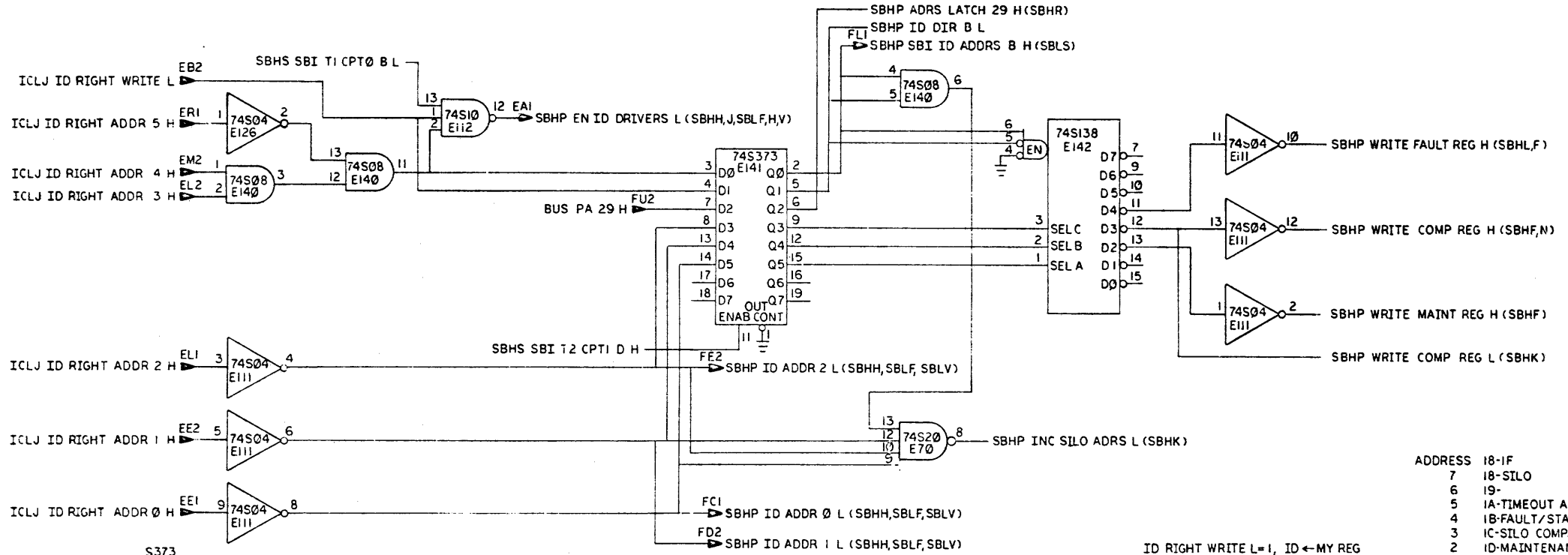
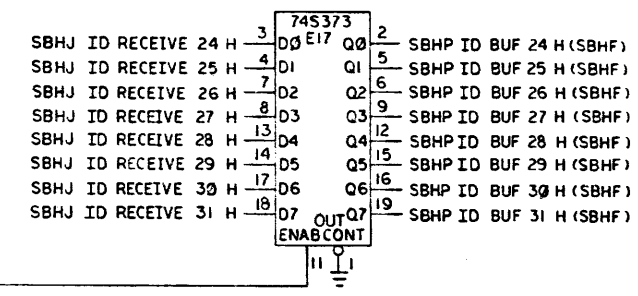
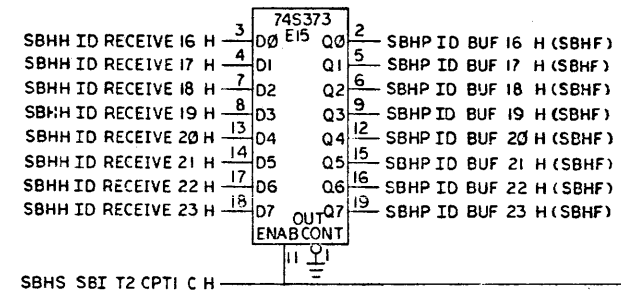
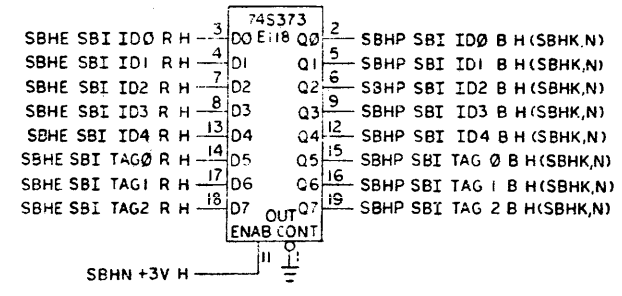
H=HIGH LEVEL, L=LOW LEVEL, X=IRRELEVANT

REVISIONS

CHK	CHANGE NO.	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

1-0-6128W CS D 2



S373 FUNCTION TABLE

OUTPUT CONTROL	ENABLE G	D	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	Q0
H	X	X	Z

- ADDRESS 18-1F  
 7 18-SILO  
 6 19-  
 5 IA-TIMEOUT ADDRESS  
 4 1B-FAULT/STATUS  
 3 IC-SILO COMPARATOR  
 2 ID-MAINTENANCE REG  
 1 IE-  
 0 IF-

ID RIGHT WRITE L=1, ID ← MY REG  
 =0, MY REG ← ID

REVISIONS

CHK	CHANGE NO.	REV.

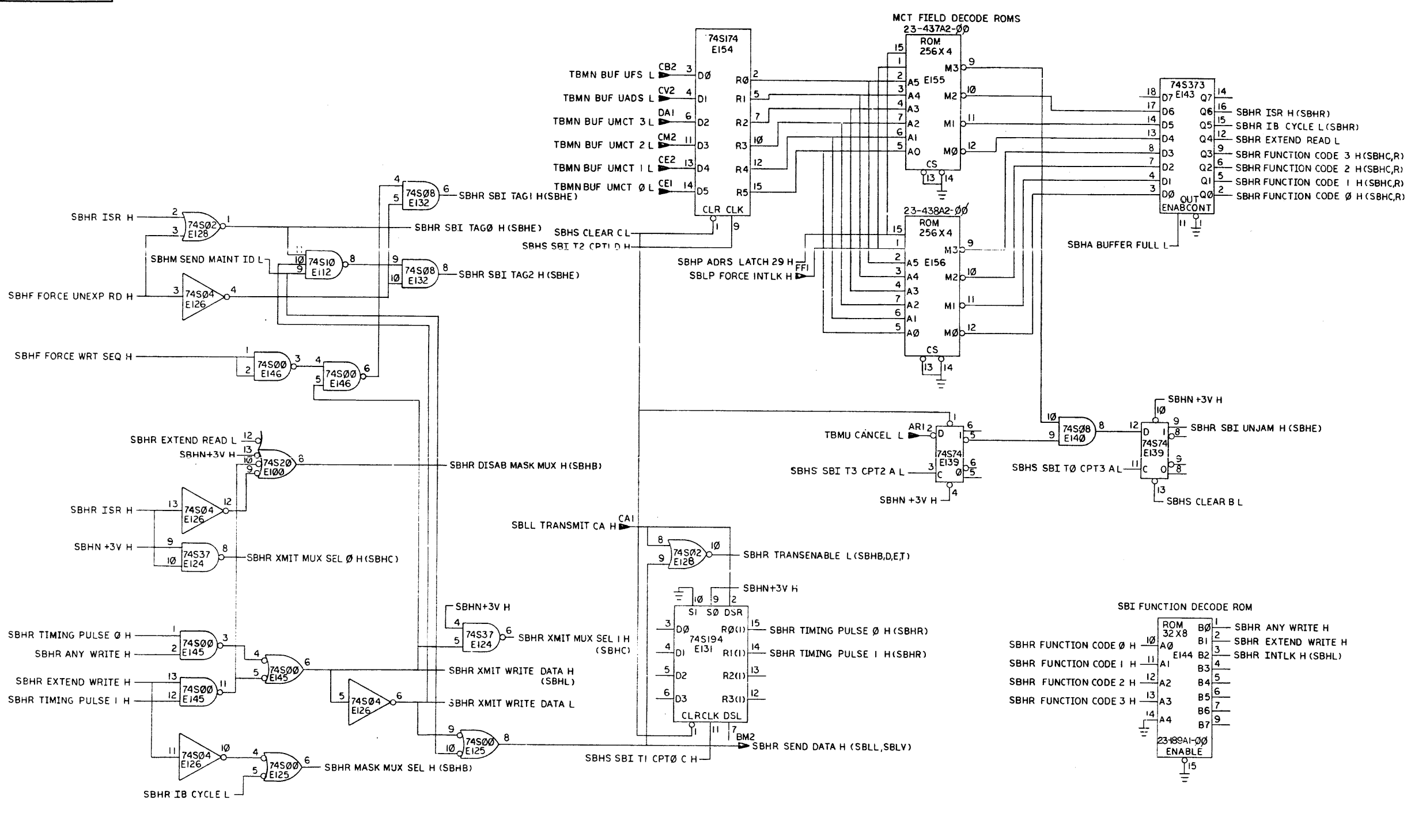
(ID ADDRESS DECODE)

(SLOT 3)

TITLE	SIZE	CODE	NUMBER	REV.
SBI INTERFACE HIGH BITS (SBHP)	D	CS	M8219-0-i	D

"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"

8 7 6 5 4 3 2 1



(SBI TIMING AND MCT FIELD DECODE) (SLOT 3)

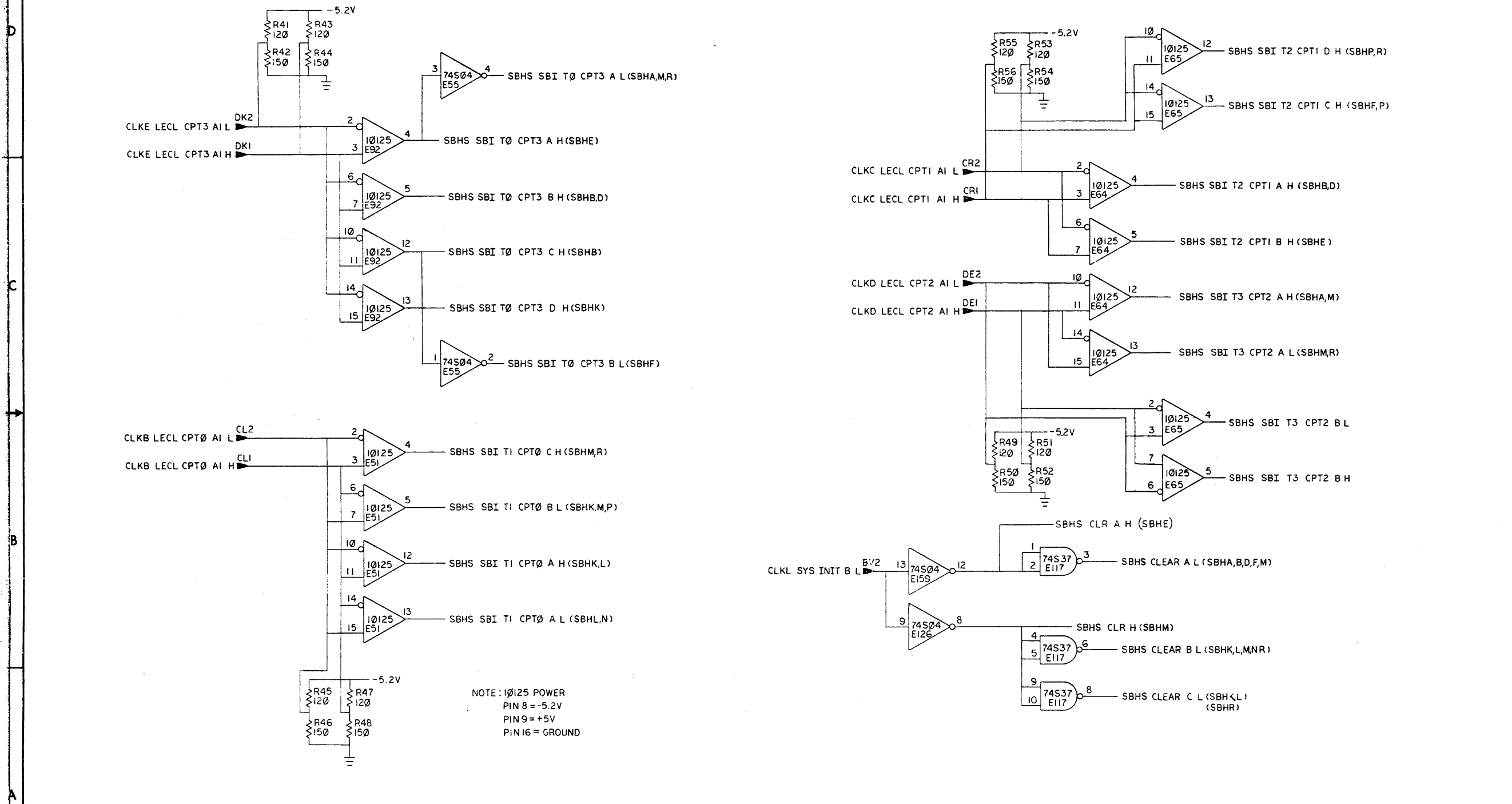
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SBT INTERFACE HTGH BTTS (SBHR)	SIZE CODE	DCS	NUMBER	M8219-0-1	REV.	D
SCALE	1:1	SHEET	16	OF	19	DIST.	

DRAWING NO. M8219-0-1  
 SHEET NO. 16 OF 19  
 DATE 11/1/77



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



NOTE: 10125 POWER  
 PIN 8 = -5.2V  
 PIN 9 = +5V  
 PIN 16 = GROUND

REVISIONS		
CHK	CHANGE NO.	REV.

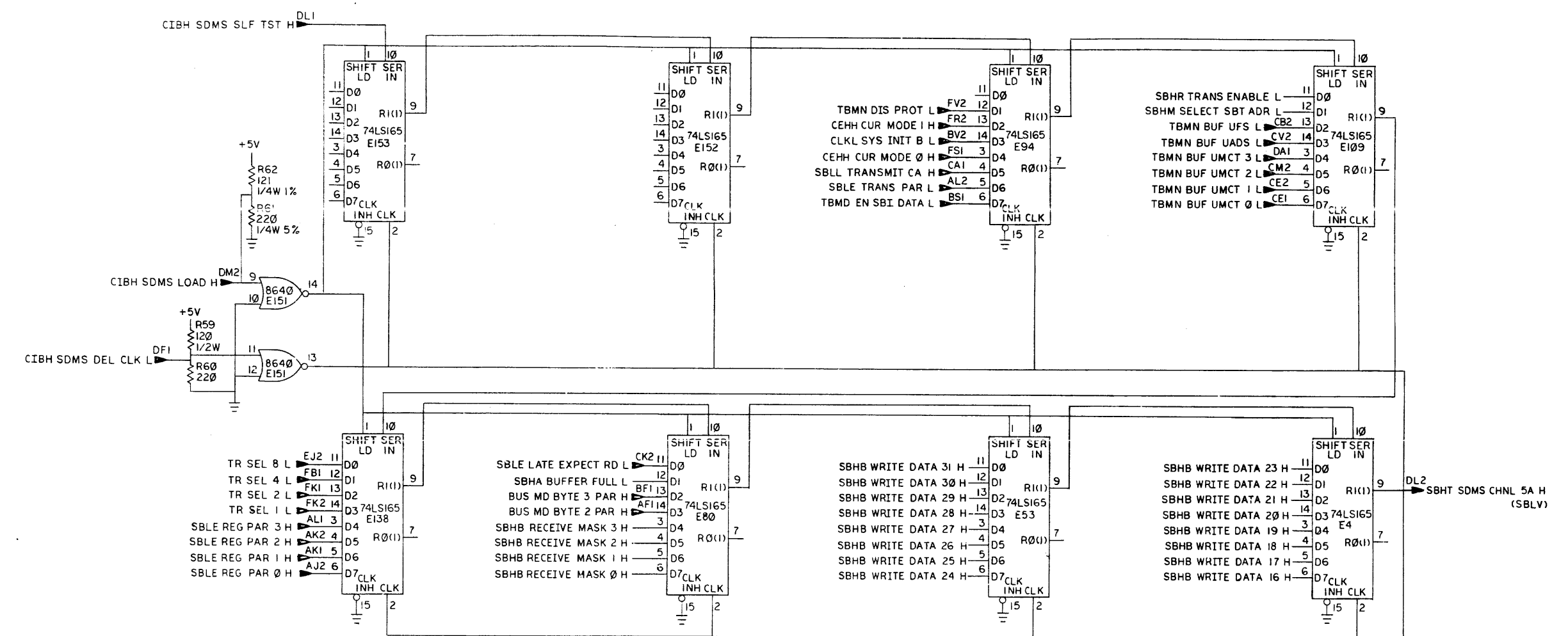
(CLOCK RECEIVERS)

(SLOT 3)

TITLE	SBI INTERFACE HIGH BITS (SBHS)	SIZE CODE	DCS	NUMBER	M8219-0-1	REV.	D
SCALE	+	SHEET	17 OF 19	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"

8 7 6 5 4 3 2 1



INPUTS		INTERNAL OUTPUTS		OUTPUT		
SHIFT/LOAD	CLOCK INHIBIT	CLOCK	SERIAL	PARALLEL A.....H	QA QB	QH
L	X	X	X	X	A B	H
H	L	L	X	X	QA QB	QHO
H	L	↑	H	X	H QAN	QGN
H	L	↑	L	X	L QAN	QGN
H	H	X	X	X	QA QB	QHO

(V BUS LOGIC) (SLOT 3)

REVISIONS		
CHK	CHANGE NO.	REV.

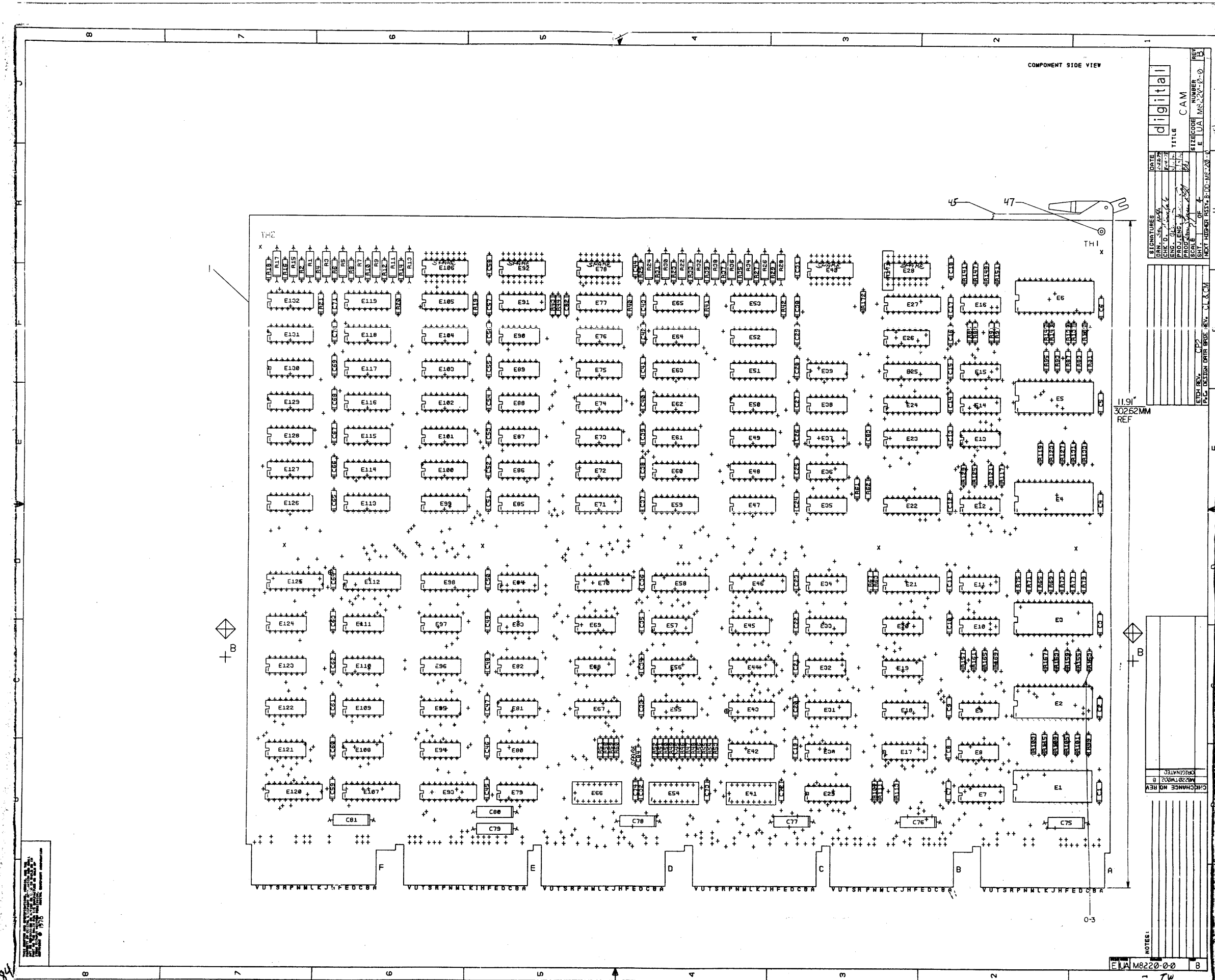
TITLE	SBI INTERFACE HIGH BITS (SBHT)	SIZE CODE	DCS	NUMBER	M8219-0-1	REV.	D
SCALE		SHEET	18	OF 19	DIST.		

M8219-0-1

42

8 7 6 5 4 3 2 1





DATE	1/22/77	TITLE	digital
CHK'D BY	W. J. ...	PROJECT	CAM
PROJ. ENG.	...	SCALE	...
SMT. DESIGNED BY	...	SCALE	...
DATE	1/22/77	SIZE CODE	...
REV.	...	NUMBER	...
...	...	...	...

SIGNATURES	...
DIR. ...	...
CHK'D BY	...
PROJ. ENG.	...
SMT. DESIGNED BY	...
DATE	1/22/77
...	...

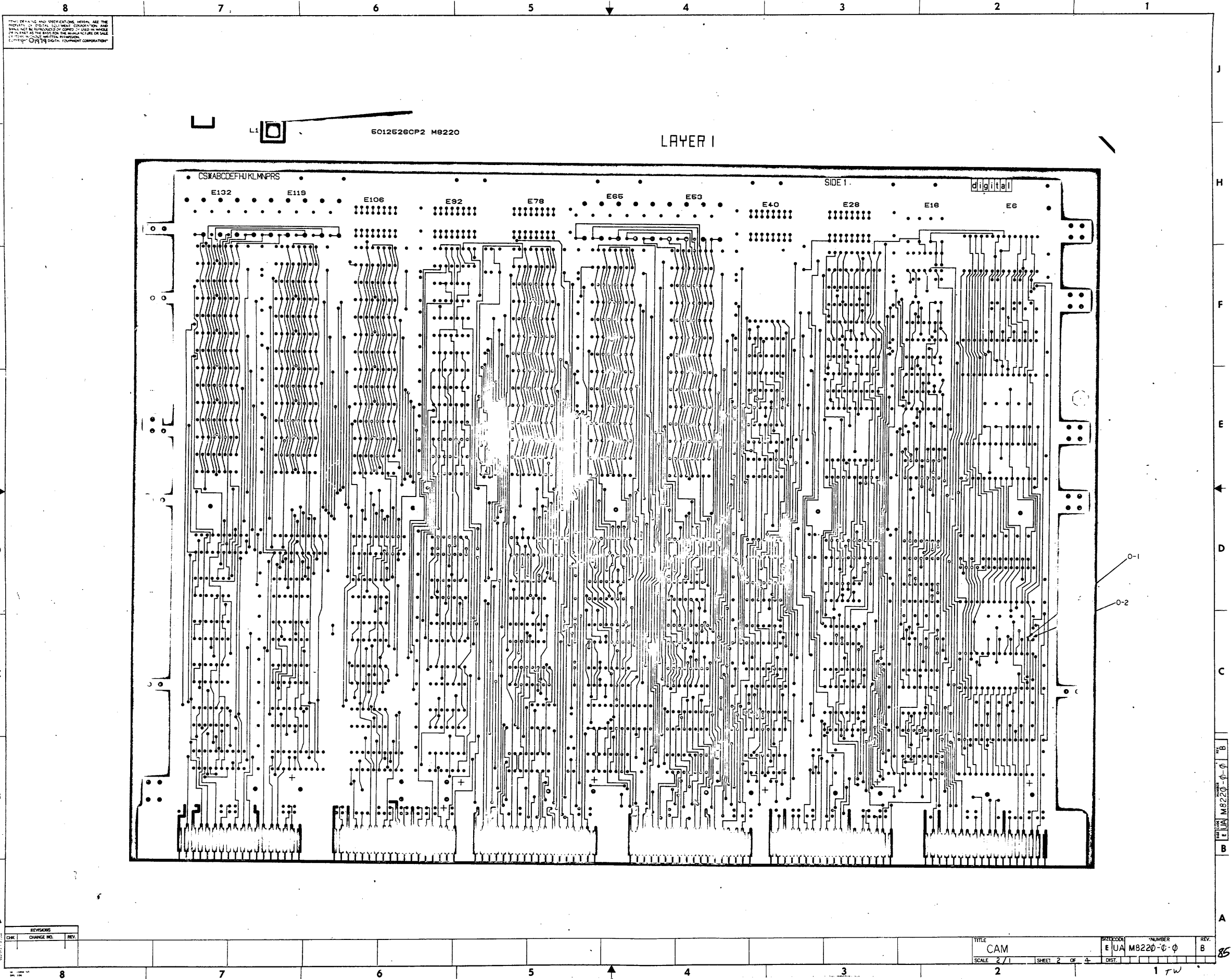
11.91  
30262MM  
REF

CHANGE NO	...
REV.	...
...	...
...	...
...	...

NOTE:	...
...	...
...	...
...	...
...	...

EUA M8220-0-0 B

84  
...



THE DESIGN AND SPECIFICATION ARE THE PROPERTY OF THE COMPANY. REPRODUCTION AND SALE ARE PROHIBITED WITHOUT THE WRITTEN PERMISSION OF THE COMPANY. EQUIPMENT CORPORATION

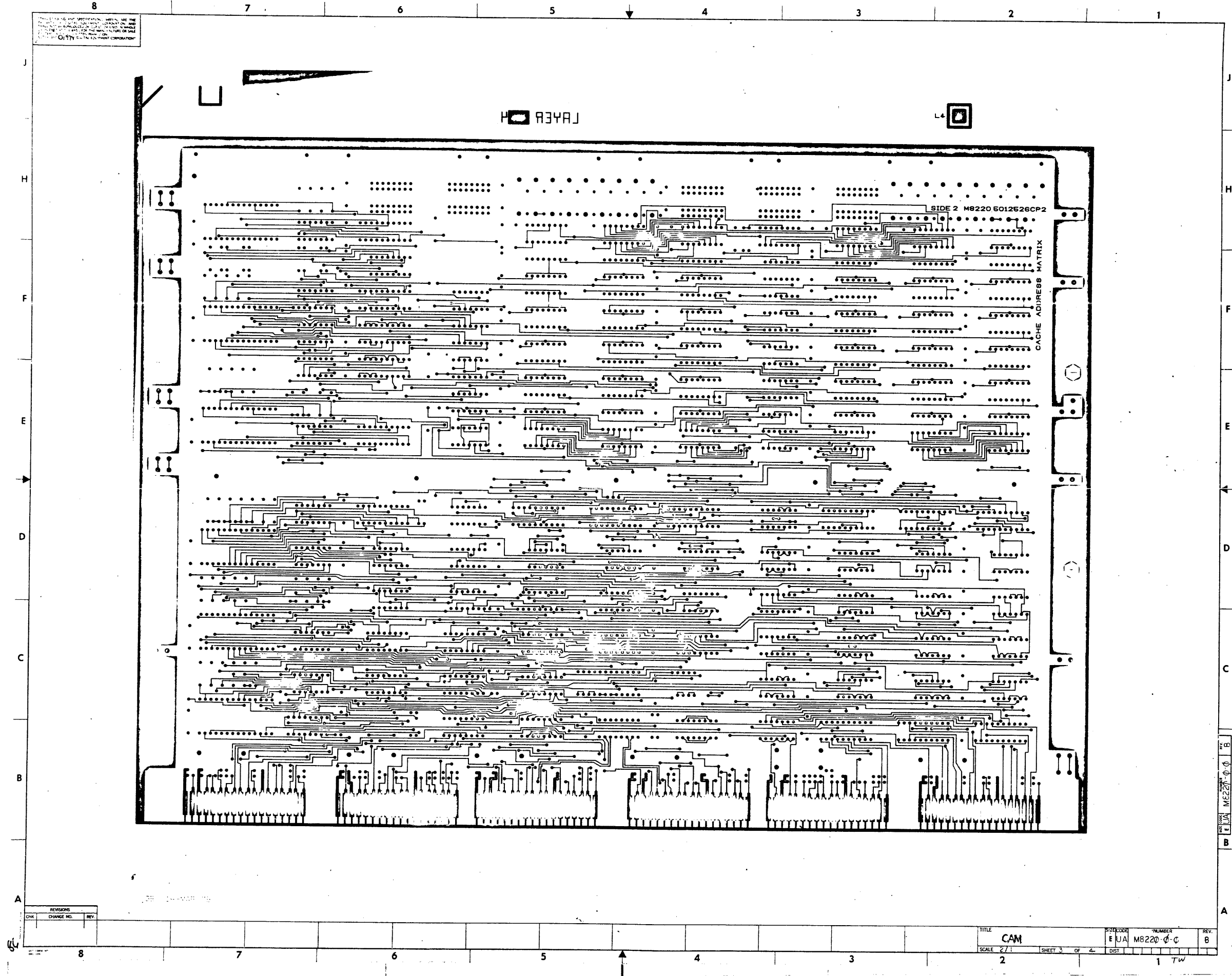
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CAM	SIZE/CODE	NUMBER	REV.
SCALE	2/1	SHEET	2 OF 4	DIST.

E U A M8220-0-0 B  
 E U A M8220-0-0 B

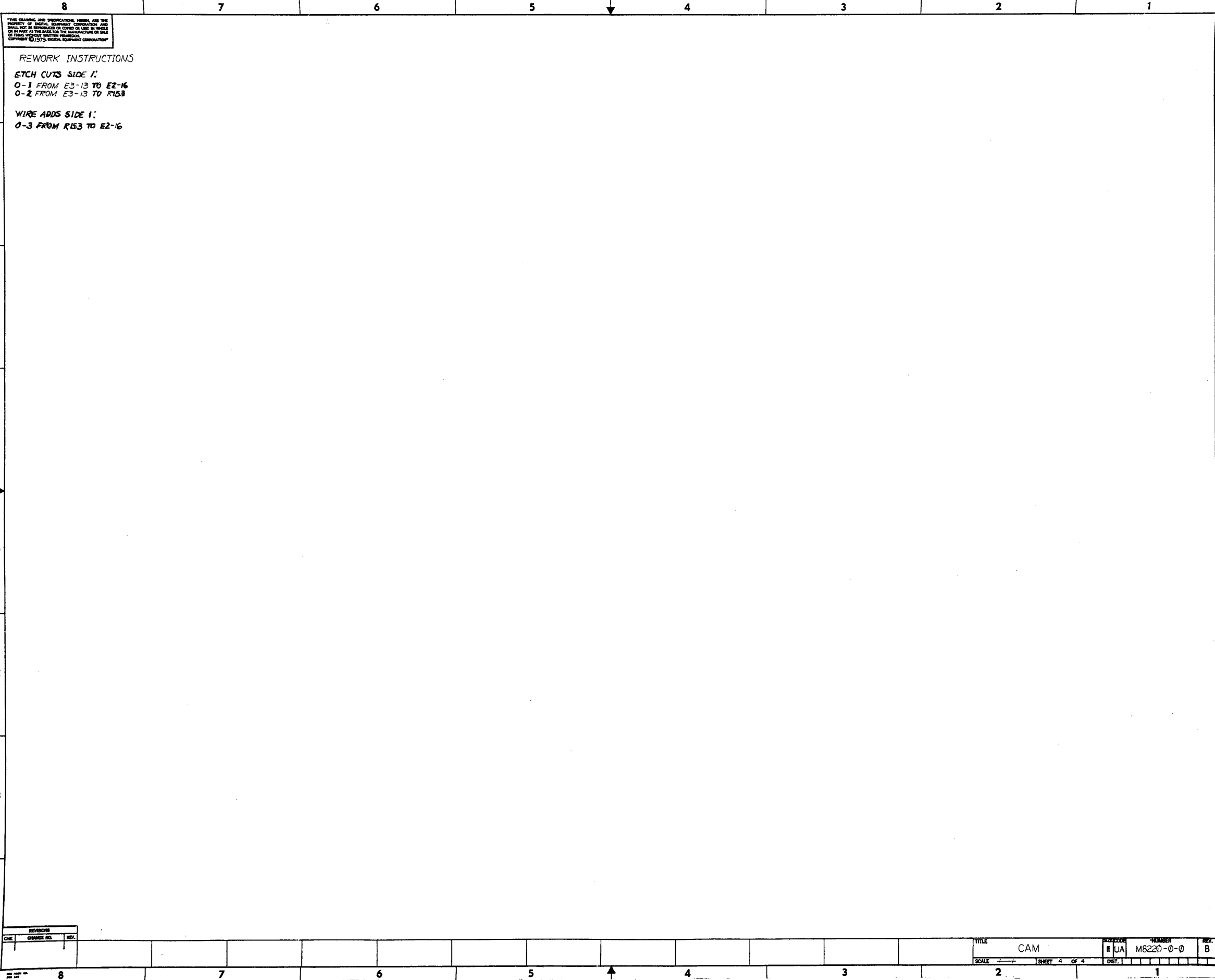
1 rw

THIS DRAWING IS UNCLASSIFIED, UNLESS THE  
 ORIGINAL DRAWING IS CLASSIFIED IN WHOLE  
 OR IN PART. THE CLASSIFICATION OF THIS  
 DRAWING IS THE PROPERTY OF THE U.S. GOVERNMENT.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SCALE	SHEET	OF	NUMBER	REV.
CAM	2/1	3	4	EUA M8220-0-C	B
		DIST		1 TW	



THE DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS FOR THE MANUFACTURE OR SALE OF ANY INSTRUMENT WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1973 DIGITAL EQUIPMENT CORPORATION

**REWORK INSTRUCTIONS**  
**ETCH CUTS SIDE 1:**  
 O-1 FROM E3-13 TO E2-16  
 O-2 FROM E3-13 TO R153  
**WIRE ADDS SIDE 1:**  
 O-3 FROM R153 TO E2-16

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CAM	DESIGNER	EUA	NUMBER	M8220-0-0	REV.	B
SCALE	1:1	SHEET	4	OF	4	DIST.	1

M8220-0-0

8?

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY L. REYNOLDS DATE 7 OCT 76		CHECKED G. GIDDINGS DATE 18 NOV 76		SECTION											104817 ETCH REV B CS REV A		
ENG DATE 9 August 7/6/77		PROD DATE Mike <i>Trevello</i> 6-21-77		ISSUED SECTION											REF DESIGNATION		
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION														
1	E-MD-5012526-0-0	5012526	ETCH BOARD														
2		1012784-00	CAPACITOR, .047UF, 50V	76													C1-C74, C82, C83
3		1012084-01	CAPACITOR, 8UF, 25V	7													C75-C81
4																	
5																	
6		1300228-00	RESISTOR 100, 1/2W, 5%	18													R1, R3, R5, R7, R9, R11, R13, R15, R17, R22, R24, R26, R28, R30, R32, R34, R36, R38
7																	
8		1311522-00	RESISTOR 200, 1/4W, 5%	10													R2, R4, R6, R8, R10, R12, R14, R16, R18, R23, R25, R27, R29, R31, R33, R35, R37, R39
9																	
10		1300447-00	RESISTOR, 4.7K, 1/4W, 5%	6													R19, R20, R21, R40, R41, R42
11		1300295-00	RESISTOR 330, 1/4W, 5%	2													R43, R61
12																	
13		1301424-00	RESISTOR 680, 1/4W, 5%	2													R44, R62
14																	
15		1300247-00	RESISTOR 120, 1/4W, 5%	8													R45, R47, R49, R51, R53, R55, R57, R59
16		1300250-00	RESISTOR 150, 1/4W, 5%	8													R46, R48, R50, R52, R54, R56, R58, R60
17		13-11845-00	RESISTOR, 487 OHM, 1/4W 1%	54													R63, R65, R67, R69, R71, R73, R75, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103, R105, R107, R109, R111, R113, R115, R117, R119, R121, R123, R125, R127, R129, R131, R133, R135, R137, R139, R141, R143, R145, R147, R149, R151, R153, R155, R157, R159, R161, R163, R165, R167, R169
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 CACHE ADDRESS MATRIX				ASSY NO. E-UA-M8220-0-0			SIZE B	CODE PL	NUMBER M8220-0-0		REV. B		
								SHEET 1 OF 3			INSERTION PARTS LIST DATA BASE REV						

TW



**DIGITAL EQUIPMENT CORPORATION  
PARTS LIST**

**QUANTITY / VARIATION**

**NOTES:**

104817  
ETCH REV B  
CS REV A

<b>MADE BY</b>	L. REYNOLDS	<b>CHECKED</b>	G. GIDDINGS	<b>SECTION</b>
<b>DATE</b>	7 OCT 76	<b>DATE</b>	18 NOV 76	

<b>ENG DATE</b>	<i>J. Rugwet 7/6/77</i>	<b>PROD DATE</b>	<i>Mike Terella 6-21-77</i>	<b>ISSUED SECTION</b>
-----------------	-------------------------	------------------	-----------------------------	-----------------------

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8220-0-0	REF DESIGNATION
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29		19-10544-00	DEC I.C., 74S74	1	E35
30		19-10534-00	DEC I.C., 74S04	6	E13, E20, E33, E38, E81, E82
31		19-12746-00	DEC I.C., 74S37	8	E34, E39, E85-E90
32		19-10542-00	DEC I.C., 74S64	13	E19, E32, E36, E37, E80, E83, E84, E95, E96, E109, E110, E123, E122
33		19-13839-00	DEC I.C., 74LS165	8	E17, E31, E30, E43, E44, E55, E56, E67
34		19-12860-00	DEC I.C., 74LS259	2	E18, E91
35		19-11573-00	DEC I.C., 74S280	18	E8-E12, E79, E14-E16, E45, E57, E69, E94, E97, E108, E111, E121, E124
36		19-13670-00	DEC I.C., 74S373	3	E93, E107, E120

E.C.O. NO.					
------------	--	--	--	--	--

<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> CACHE ADDRESS MATRIX	<b>ASSY NO.</b> E-UA-M8220-0-0	<b>SIZE</b> B	<b>CODE</b> PL	<b>NUMBER</b> M8220-0-0	<b>REV.</b> B
		SHEET 2 OF 3	INSERTION PARTS LIST DATA BASE REV			

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

## QUANTITY / VARIATION

NOTES:

104817  
ETCH REV B  
CS REV A

MADE BY L. REYNOLDS      CHECKED G. GIDDINGS      SECTION  
DATE 7 OCT 76              DATE 18 NOV 76

ENG DATE *J. Ragner 7/6/77*      PROD DATE *Mike Terrell 6-21-77*      ISSUED SECTION

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8220-0-0	QUANTITY / VARIATION										REF DESIGNATION		
37		19-13663-ØØ	DEC I.C., 82S09	6													E1-E6
38		19-11469-ØØ	DEC I.C., 8640	1													E68
39		19-11415-ØØ	DEC I.C., 10125	3													E41, E54, E66
40		19-13662-Ø1	DEC I.C., 93425-1	42													E47-E53, E59-E65, E71-E77, E99-E105, E113-E119, E126-E132
41		19-13888-ØØ	DEC I.C., DC102	12													E21-E25, E27, E46, E58, E70, E98, E112, E125
42			DEC I.C., SPARES	5													E28, E40, E78, E92, E106
43			CAPACITOR SPARE	1													C84
44																	
45		1210711-Ø2	HANDLE ASSY HEX	1													
46																	
47		90-00024-01	EYELETS	12													
48																	
49																	
50		19-10548-ØØ	DEC I.C., 74S157	2													E7, E26
51		19-13788-ØØ	DEC I.C., 26S10	2													E29, E42
52																	
53		13-00243-ØØ	RESISTOR, 120    .1/2W, 5%	1													R171
54		13-01972-ØØ	RESISTOR, 270    .1/4W, 5%	1													R172
55																	
56		91-05740-55	JUMPER WIRE	AR													

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  
CACHE ADDRESS MATRIX

ASSY NO.  
E-UA-M8220-0-0  
SHEET 3 OF 3

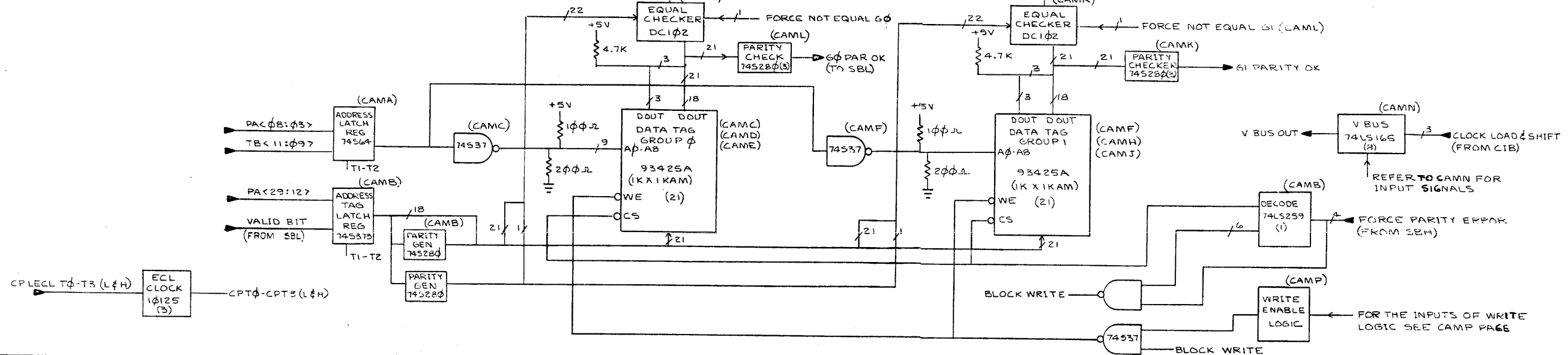
SIZE CODE      NUMBER  
**B PL**              M8220-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
B

*TW*

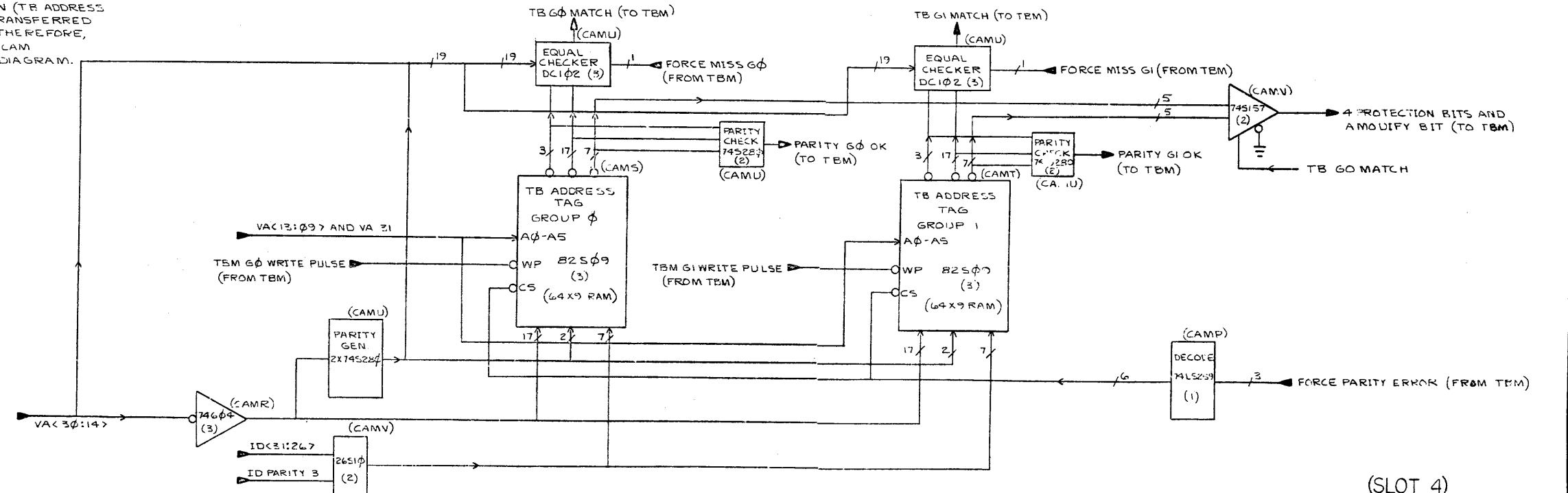
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION"

FUNCTIONAL BLOCK DIAGRAM OF CACHE ADDRESS MATRIX (CAM)



TRANSLATION BUFFER (TB) ADDRESS TAG

NOTE: DUE TO CHIP DENSITY ON TBM BOARD THIS SECTION (TB ADDRESS TAG) OF TBM WAS TRANSFERRED TO CAM BOARD, AND THEREFORE, IT IS NOT A PART OF CAM FUNCTIONAL BLOCK DIAGRAM.



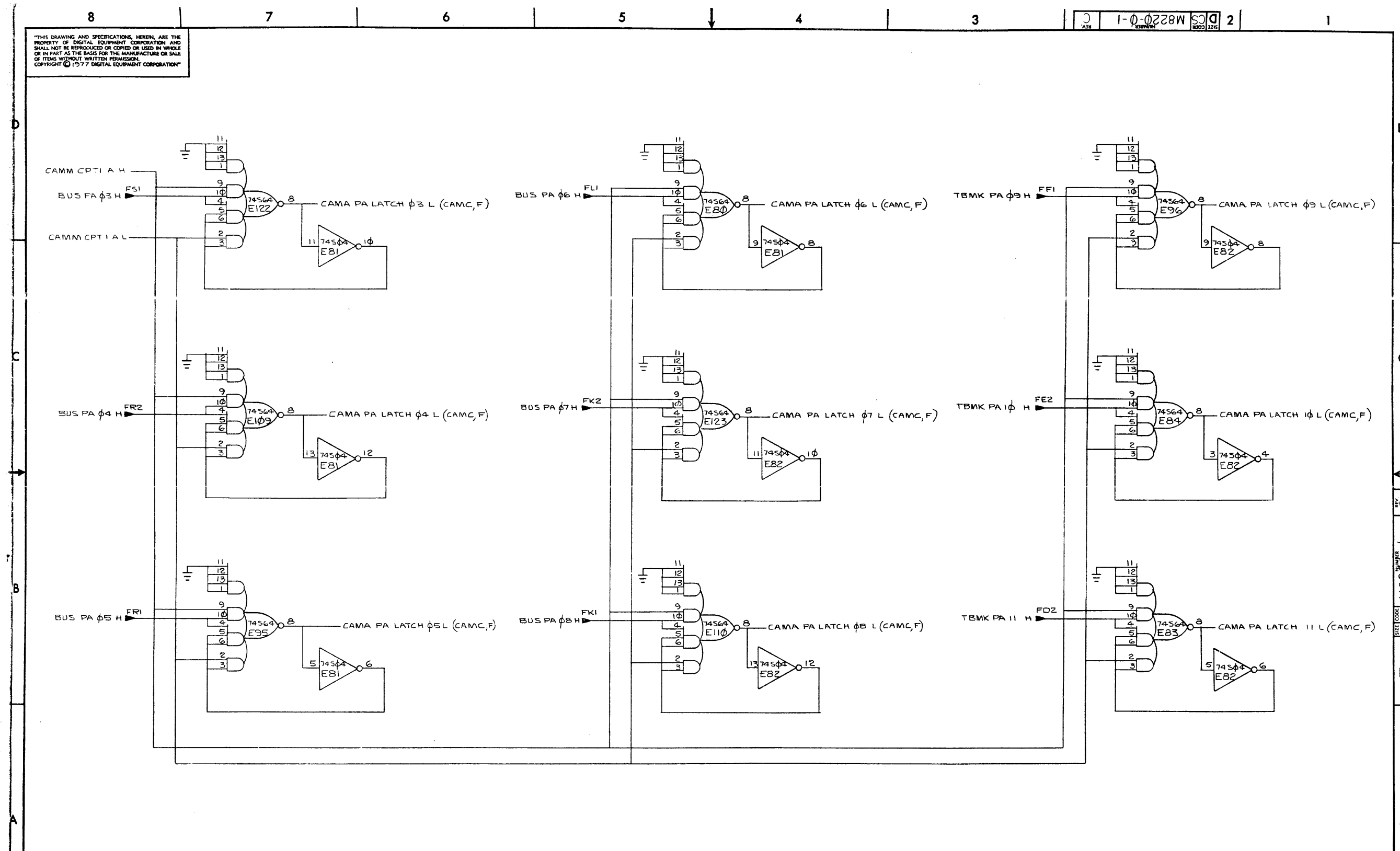
(SLOT 4) BLOCK DIAGRAM

REV.	CHG.	DATE	BY
B	7/20/78	7 JAN 78	WAGWAR
C	1/22/79	24 MAY 79	B. SIMS

DRN. REV. 5 20-77	FIRST USED ON	DATE
CHK'D. 5/7/78	TITLE	CACHE ADDRESS MATRIX
ENG. 5/7/78	PROJ. ENG. 5/7/78	PROD. 5/7/78
NEXT HIGHER ACQY.	SIZE CODE	NUMBER
SCALE	D CS	M8220-0-1
SHEET 1 OF 13	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 © 1977 DIGITAL EQUIPMENT CORPORATION

CS M8220-0-1



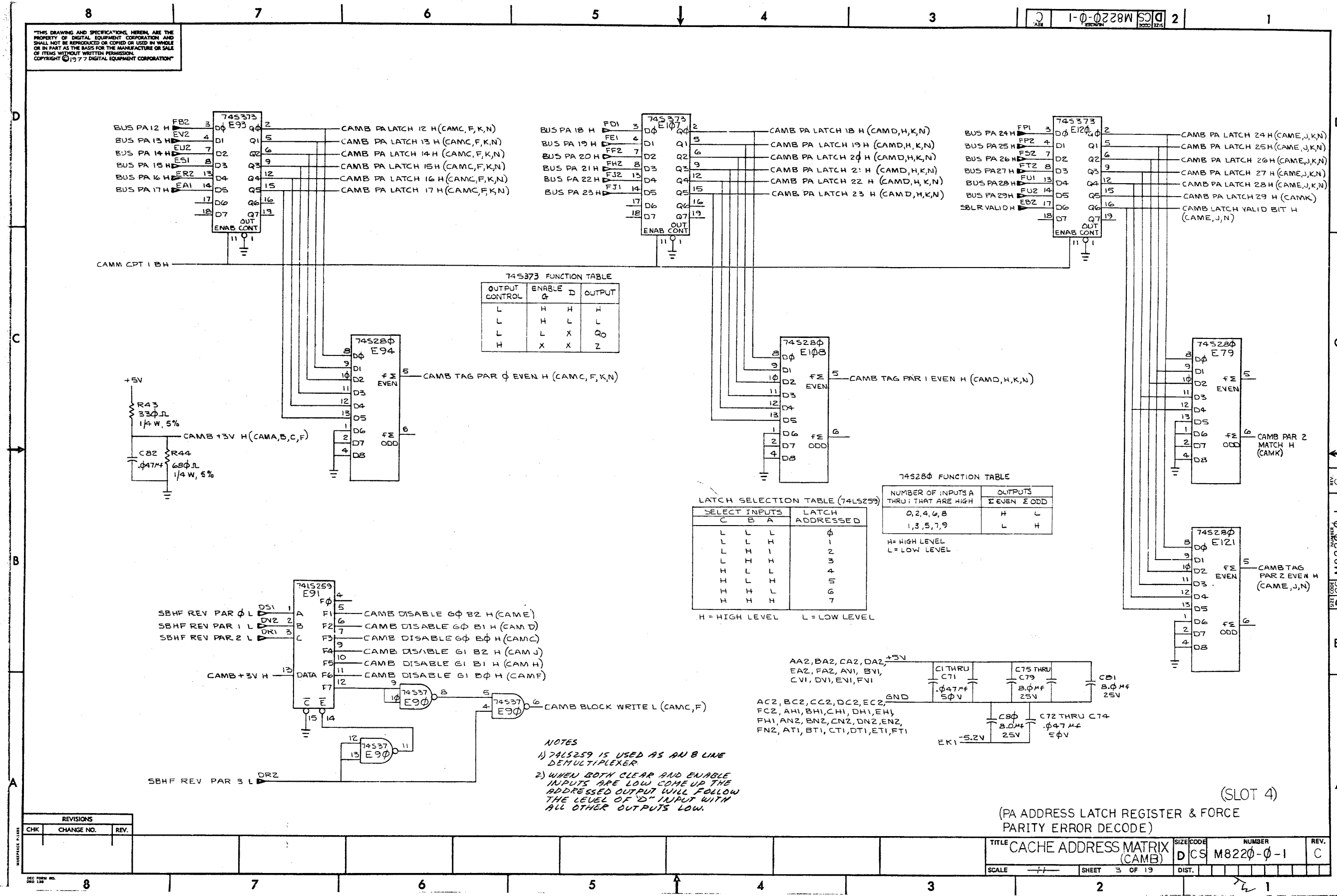
(PA ADDRESS LATCH LOGIC)

(SLOT 4)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMA)	D CS	M8220-0-1	C
SCALE	SHEET	DIST.	
1/1	2 OF 19		

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



74S373 FUNCTION TABLE

OUTPUT CONTROL	ENABLE $\bar{Q}$	D	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	Q <sub>0</sub>
H	X	X	Z

LATCH SELECTION TABLE (74LS259)

SELECT INPUTS			LATCH ADDRESSED
C	B	A	
L	L	L	0
L	L	H	1
L	H	L	2
L	H	H	3
H	L	L	4
H	L	H	5
H	H	L	6
H	H	H	7

H = HIGH LEVEL L = LOW LEVEL

74S280 FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS	
	$\Sigma$ EVEN	$\Sigma$ ODD
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH LEVEL  
L = LOW LEVEL

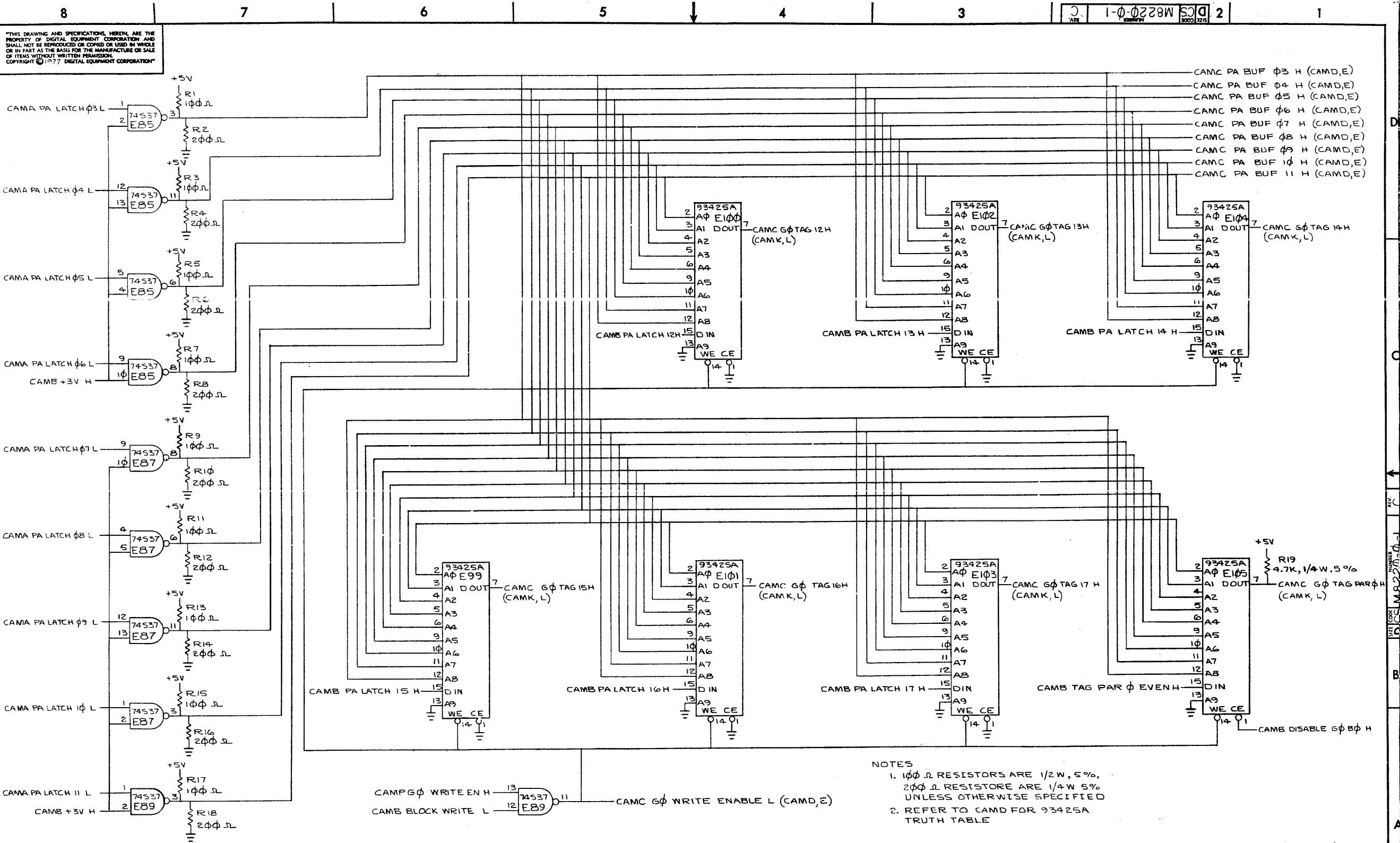
- NOTES
- 1) 74LS259 IS USED AS AN 8 LINE DEMULTIPLEXER.
  - 2) WHEN BOTH CLEAR AND ENABLE INPUTS ARE LOW, COME UP THE ADDRESSED OUTPUT WILL FOLLOW THE LEVEL OF 'D' INPUT WITH ALL OTHER OUTPUTS LOW.

REVISIONS

CHK	CHANGE NO.	REV.

(SLOT 4)  
(PA ADDRESS LATCH REGISTER & FORCE PARITY ERROR DECODE)

TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMB)	D CS	M8220-0-1	C
SCALE	SHEET	DIST.	
1:1	3 OF 19		



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.

- NOTES
- 100Ω RESISTORS ARE 1/2W, 5%,  
200Ω RESISTORS ARE 1/4W 5%  
UNLESS OTHERWISE SPECIFIED
  - REFER TO CAMD FOR 93425A  
TRUTH TABLE

(SLOT 4)  
(CACHE ADDRESS TAG GROUP φ BYTE φ)

TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAM)	D CS	M8220-0-1	C
SCALE	SHEET	DIST.	
1/1	4 OF 19		

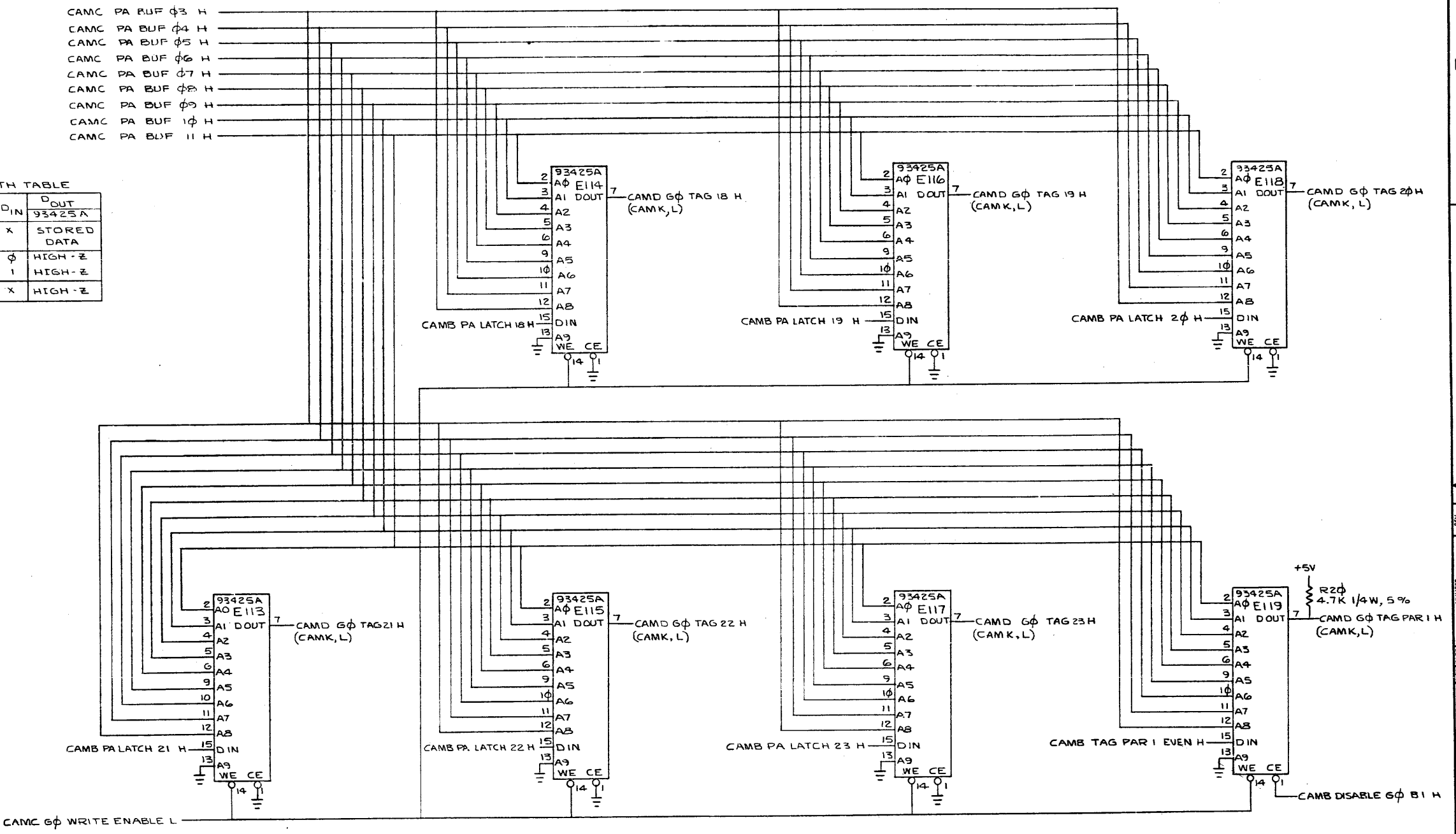
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION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

CAMC PA BUF  $\phi$ 3 H  
 CAMC PA BUF  $\phi$ 4 H  
 CAMC PA BUF  $\phi$ 5 H  
 CAMC PA BUF  $\phi$ 6 H  
 CAMC PA BUF  $\phi$ 7 H  
 CAMC PA BUF  $\phi$ 8 H  
 CAMC PA BUF  $\phi$ 9 H  
 CAMC PA BUF  $\phi$ 10 H  
 CAMC PA BUF  $\phi$ 11 H

93425A TRUTH TABLE

MODE	$\overline{CE}$	$\overline{WE}$	$D_{IN}$	$D_{OUT}$ 93425A
READ	$\phi$	1	X	STORED DATA
WRITE "0"	$\phi$	$\phi$	$\phi$	HIGH-Z
WRITE "1"	$\phi$	$\phi$	1	HIGH-Z
DISABLED	1	X	X	HIGH-Z

X = DON'T CARE



REVISIONS

CHK	CHANGE NO.	REV.

(SLOT 4)  
 (CACHE ADDRESS TAG GROUP  $\phi$  BYTE 1)

TITLE: CACHE ADDRESS MATRIX (CAM) DCS M8220-0-1

REV. C

95

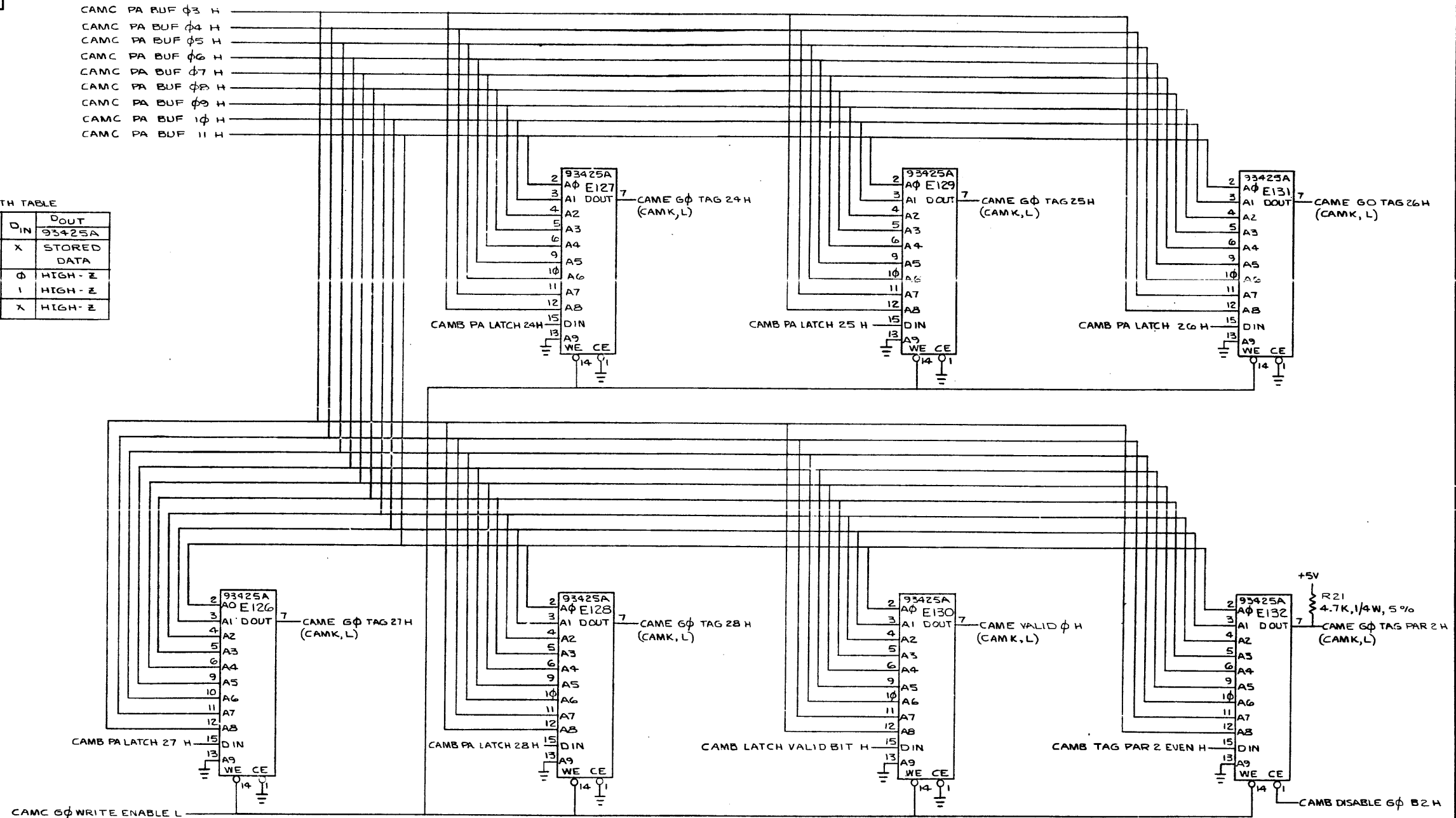
THIS DRAWING AND SPECIFICATIONS HERON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING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

CAMC PA BUF  $\phi$ 3 H  
 CAMC PA BUF  $\phi$ 4 H  
 CAMC PA BUF  $\phi$ 5 H  
 CAMC PA BUF  $\phi$ 6 H  
 CAMC PA BUF  $\phi$ 7 H  
 CAMC PA BUF  $\phi$ 8 H  
 CAMC PA BUF  $\phi$ 9 H  
 CAMC PA BUF  $\phi$ 10 H  
 CAMC PA BUF  $\phi$ 11 H

93425A TRUTH TABLE

MODE	CE	WE	D <sub>IN</sub>	D <sub>OUT</sub>
READ	$\phi$	1	X	STORED DATA
WRITE "0"	$\phi$	$\phi$	$\phi$	HIGH-Z
WRITE "1"	$\phi$	$\phi$	1	HIGH-Z
DISABLED	1	X	X	HIGH-Z

X = DON'T CARE

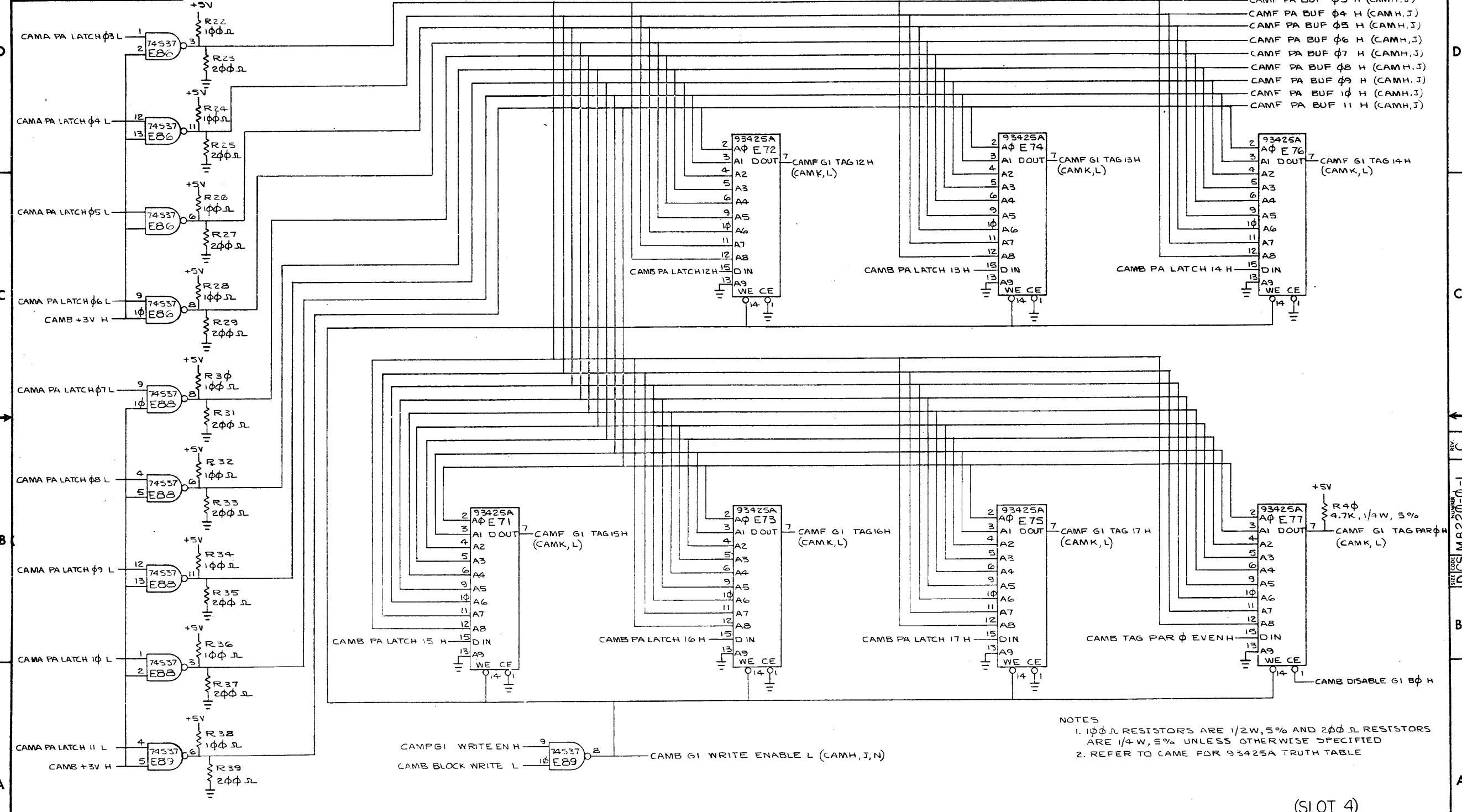


REV.	DATE	BY	CHK	CHG. NO.	REV.

(SLOT 4)  
 (CACHE ADDRESS TAG GROUP  $\phi$  BYTE 2)  
 TITLE CACHE ADDRESS MATRIX (CAMC) CS M0220- $\phi$ -1  
 NUMBER 1  
 REV. C



"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. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



- NOTES
1. 100Ω RESISTORS ARE 1/2W, 5% AND 200Ω RESISTORS ARE 1/4W, 5% UNLESS OTHERWISE SPECIFIED
  2. REFER TO CAMF FOR 93425A TRUTH TABLE

REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 4)  
 (CACHE ADDRESS TAG GROUP 1 BYTE φ)  
 TITLE: CACHE ADDRESS MATRIX (CAMF)  
 NUMBER: DCS M8220-0-1  
 SCALE: 1:1  
 SHEET: 7 OF 19  
 DIST.:

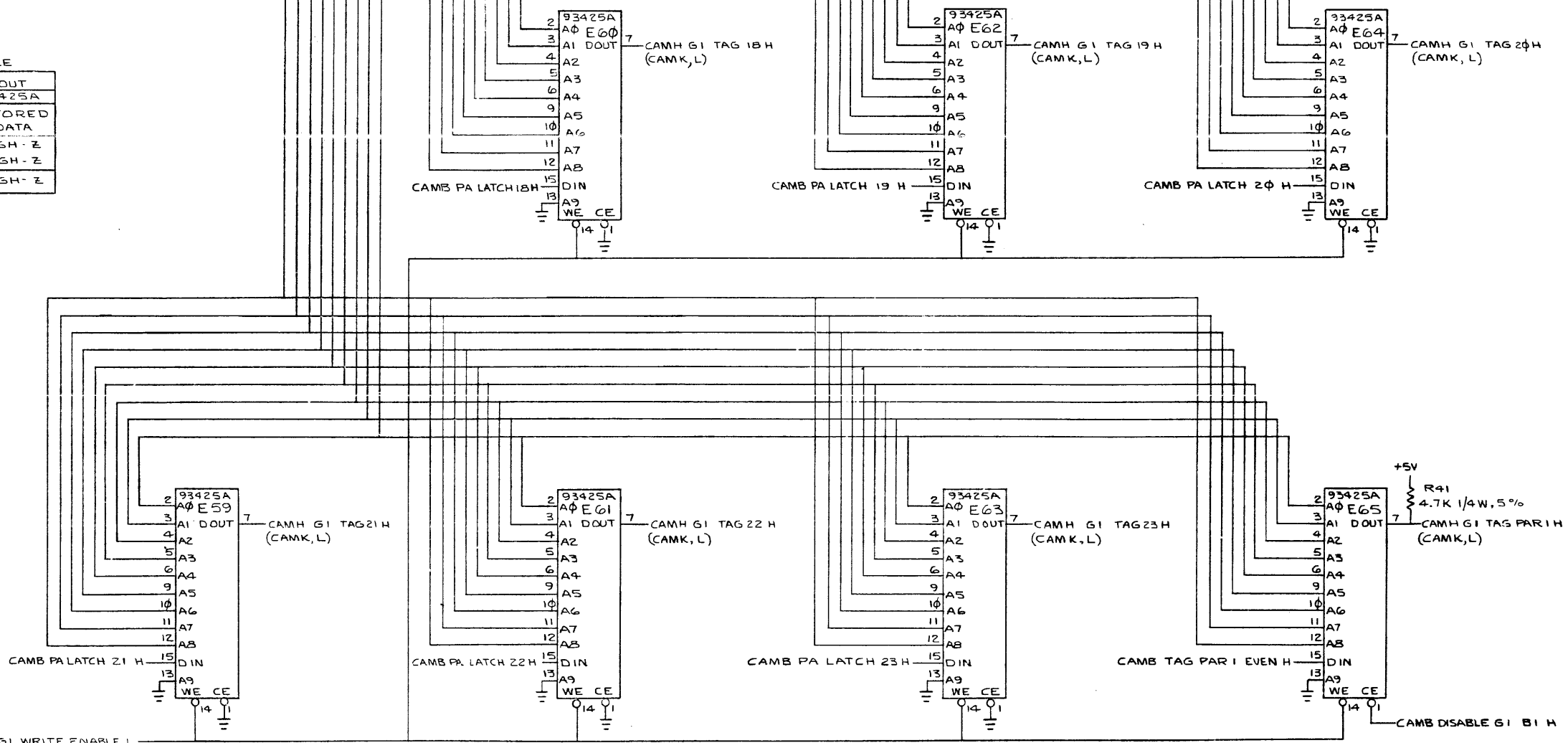
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

CAMF PA BUF  $\phi_3$  H  
 CAMF PA BUF  $\phi_4$  H  
 CAMF PA BUF  $\phi_5$  H  
 CAMF PA BUF  $\phi_6$  H  
 CAMF PA BUF  $\phi_7$  H  
 CAMF PA BUF  $\phi_8$  H  
 CAMF PA BUF  $\phi_9$  H  
 CAMF PA BUF  $\phi_{10}$  H  
 CAMF PA BUF  $\phi_{11}$  H

93425A TRUTH TABLE

MODE	$\overline{CE}$	$\overline{WE}$	$D_{IN}$	$D_{OUT}$ 93425A
READ	$\phi$	1	X	STORED DATA
WRITE "0"	$\phi$	$\phi$	$\phi$	HIGH-Z
WRITE "1"	$\phi$	$\phi$	1	HIGH-Z
DISABLED	1	X	X	HIGH-Z

X = DON'T CARE



REVISIONS

CHK	CHANGE NO.	REV.

(SLOT 4)  
 (CACHE ADDRESS TAG GROUP I BYTE 1)  
 TITLE: CACHE ADDRESS MATRIX (CAMK, L)  
 NUMBER: DCS M8220-0-1  
 REV: C  
 SCALE: 1/16  
 SHEET: 8 OF 19  
 D.T. TW

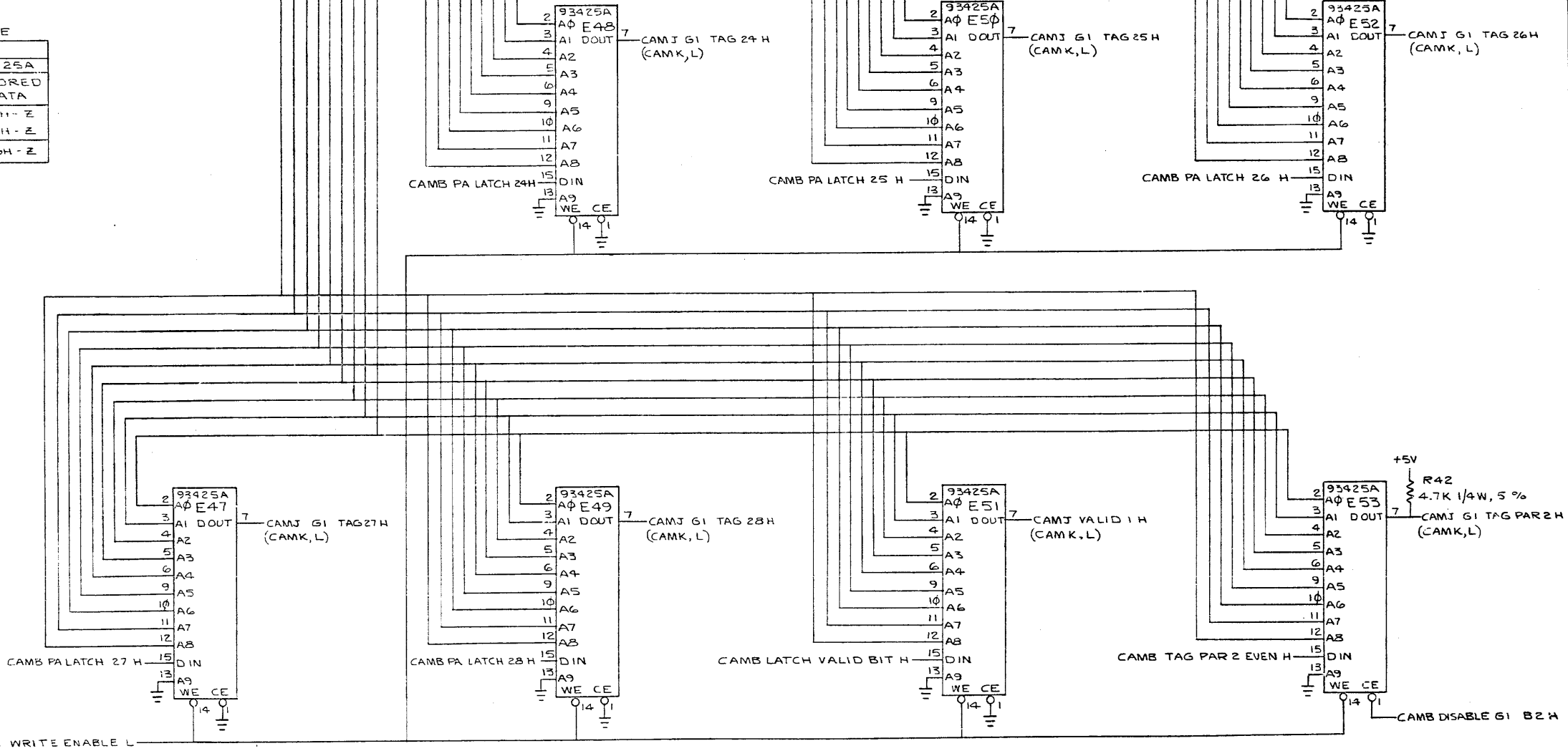
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

93425A TRUTH TABLE

MODE	CE	WE	DIN	93425A
READ	φ	1	X	STORED DATA
WRITE "0"	φ	φ	φ	HIGH-Z
WRITE "1"	φ	φ	1	HIGH-Z
DISABLED	1	X	X	HIGH-Z

X = DON'T CARE

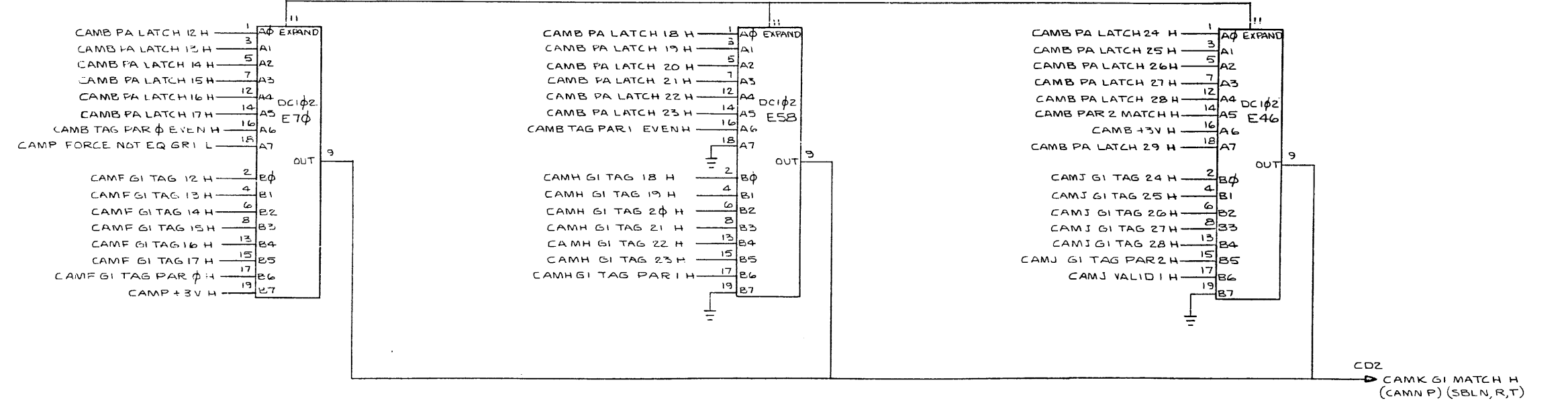
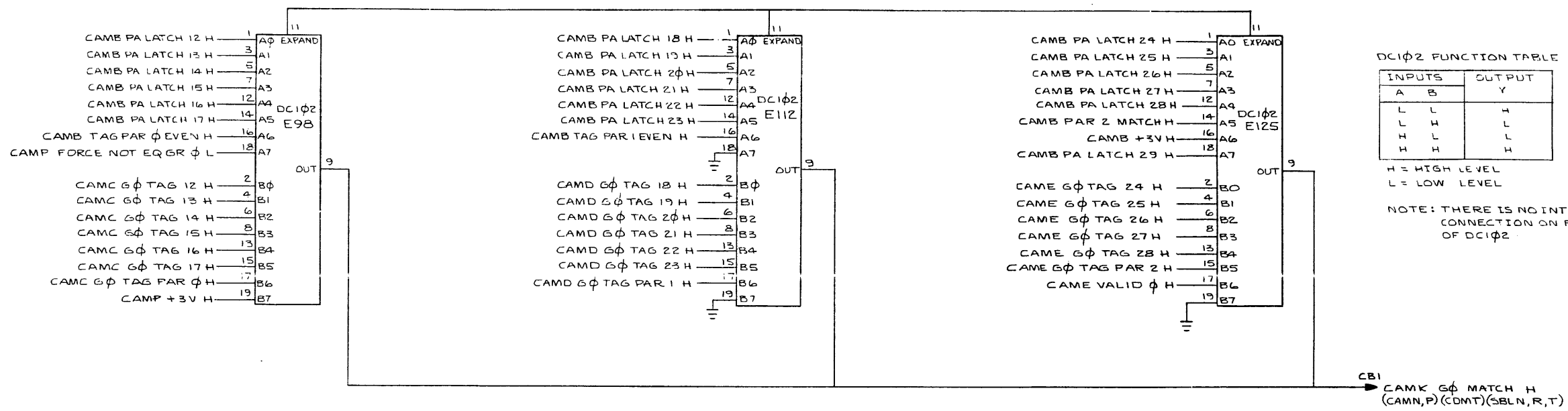
CAMF PA BUF φ3 H  
 CAMF PA BUF φ4 H  
 CAMF PA BUF φ5 H  
 CAMF PA BUF φ6 H  
 CAMF PA BUF φ7 H  
 CAMF PA BUF φ8 H  
 CAMF PA BUF φ9 H  
 CAMF PA BUF φ10 H  
 CAMF PA BUF φ11 H



REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 4)  
 (CACHE ADDRESS TAG GROUP φ BYTE 2)  
 TITLE CACHE ADDRESS MATRIX (CAMJ)  
 SIZE CODE D CS M8220-φ-1  
 NUMBER 99  
 REV. C  
 SHEET 9 OF 19  
 SCALE --/--

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.

(SLOT 4)  
(CACHE ADDRESS TAG EQUAL CHECKER)

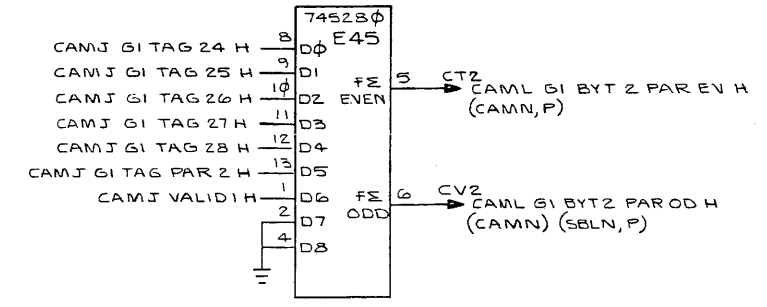
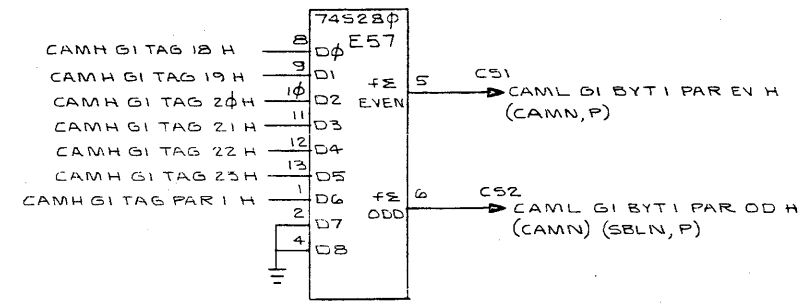
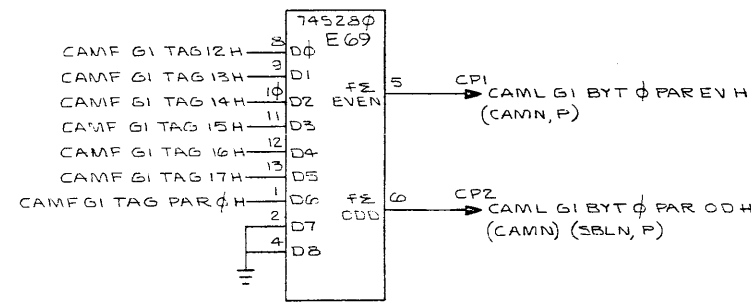
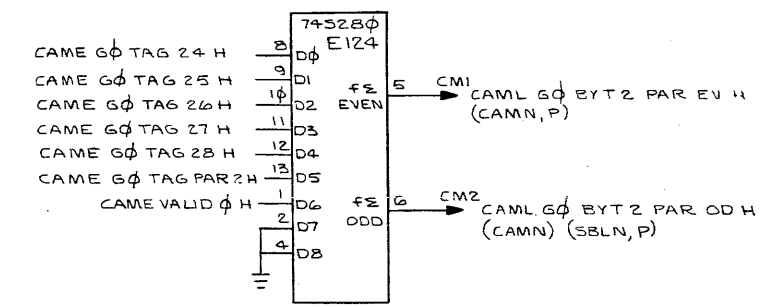
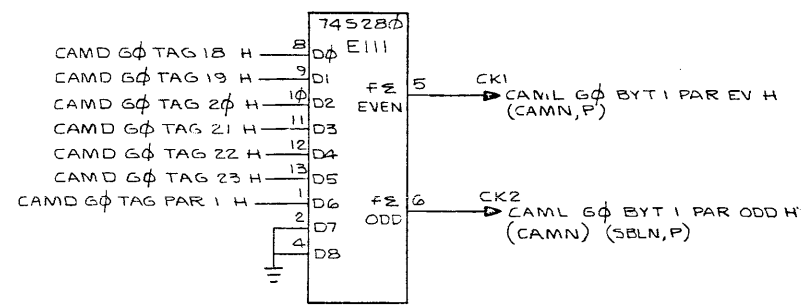
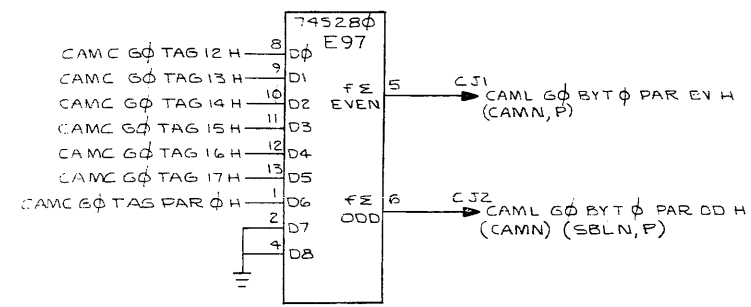
TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMK)	DCS	M8220-0-1	C
SCALE	SHEET	DIST.	
1/1	1 OF 19		

"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"

745280 FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS
0, 2, 4, 6, 8	H L
1, 3, 5, 7, 9	L H

H = HIGH LEVEL L = LOW LEVEL



REVISIONS		
CHK	CHANGE NO.	REV.

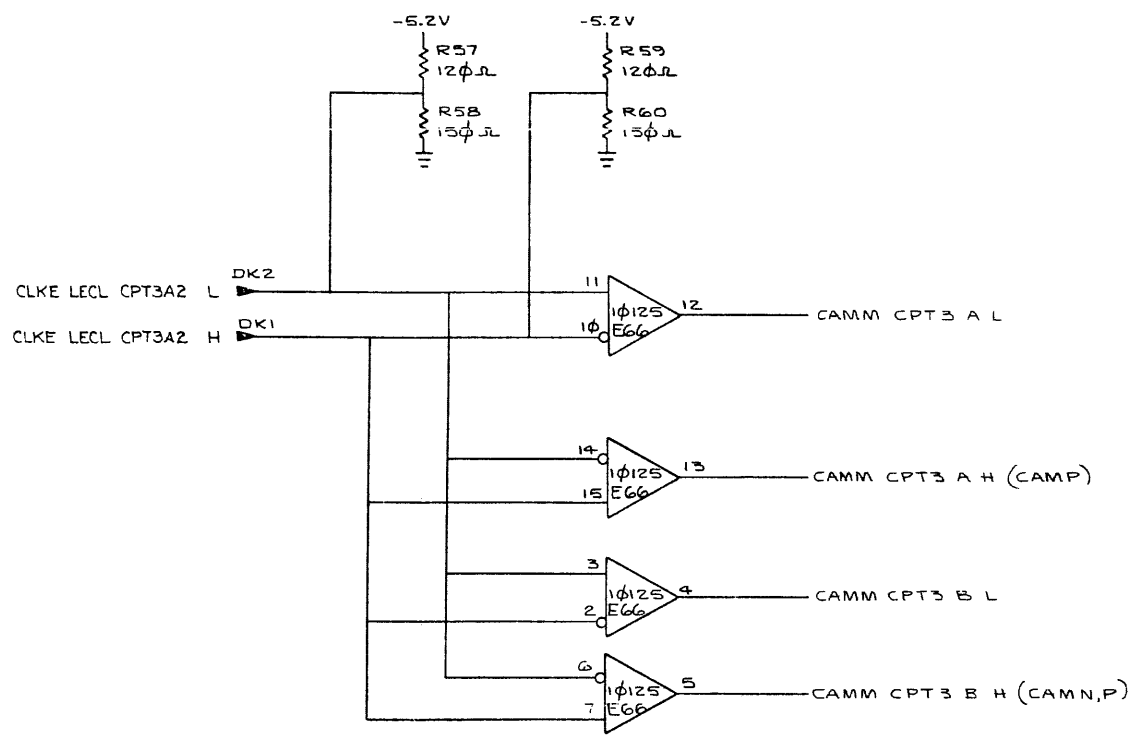
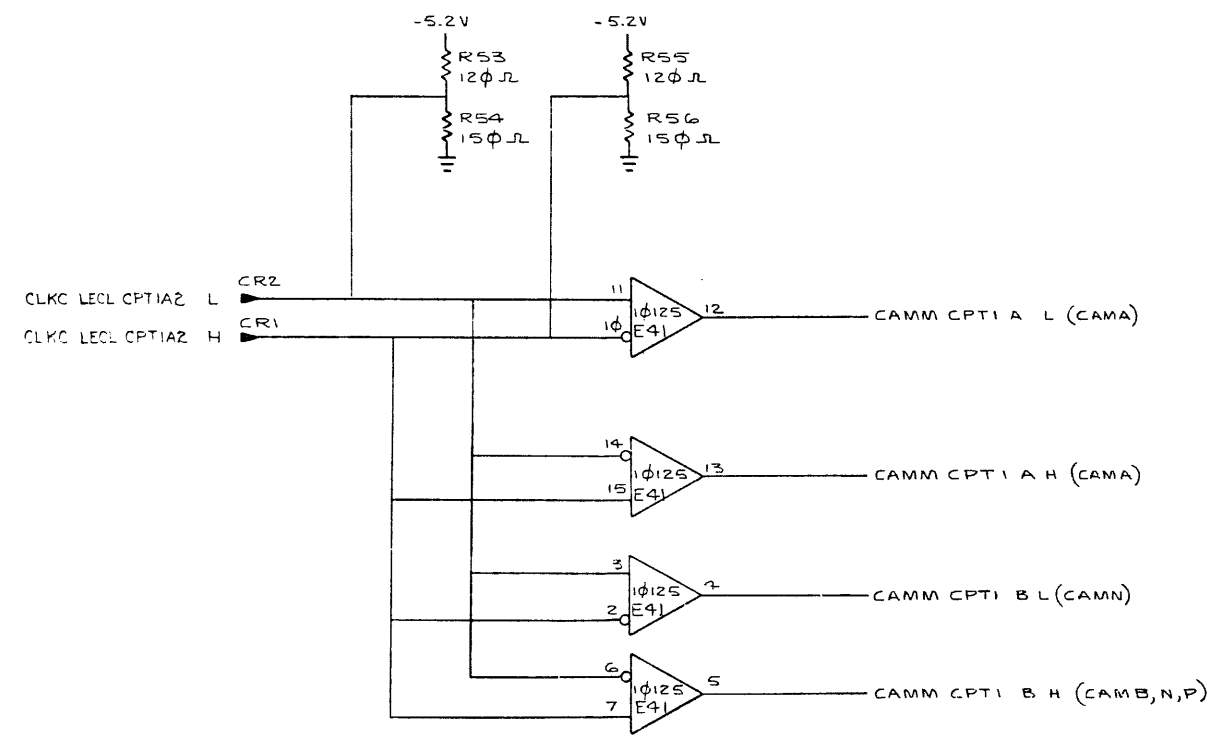
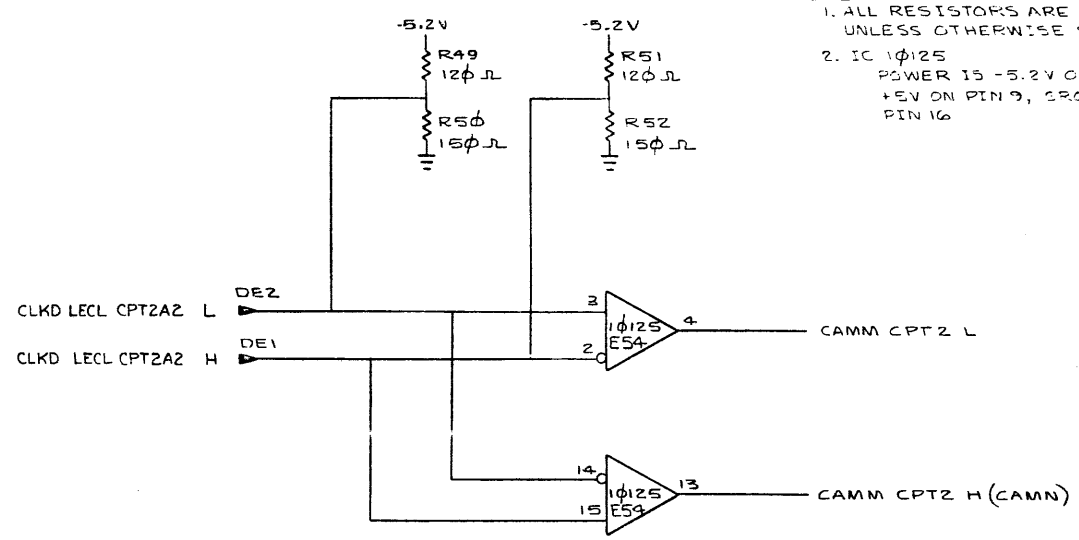
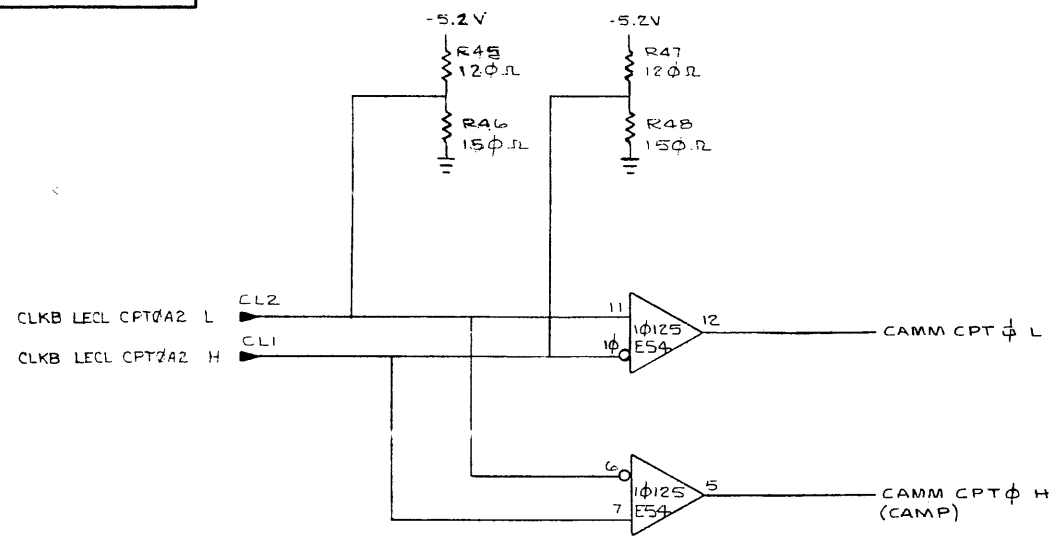
(SLOT 4)  
(CACHE ADDRESS TAG PARITY CHECKER)

TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAML)	D CS	M8220-0-1	C
SCALE	SHEET	DIST.	101
---	11 OF 19		

REV. C  
NUMBER M8220-0-1  
SIZE CODE DCS

"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"

NOTE:  
 1. ALL RESISTORS ARE 1/4 W, 5% UNLESS OTHERWISE SPECIFIED  
 2. IC 1φ125 POWER IS -5.2V ON PIN 8, +EV ON PIN 9, GROUND ON PIN 16



REVISIONS		
CHK	CHANGE NO.	REV.

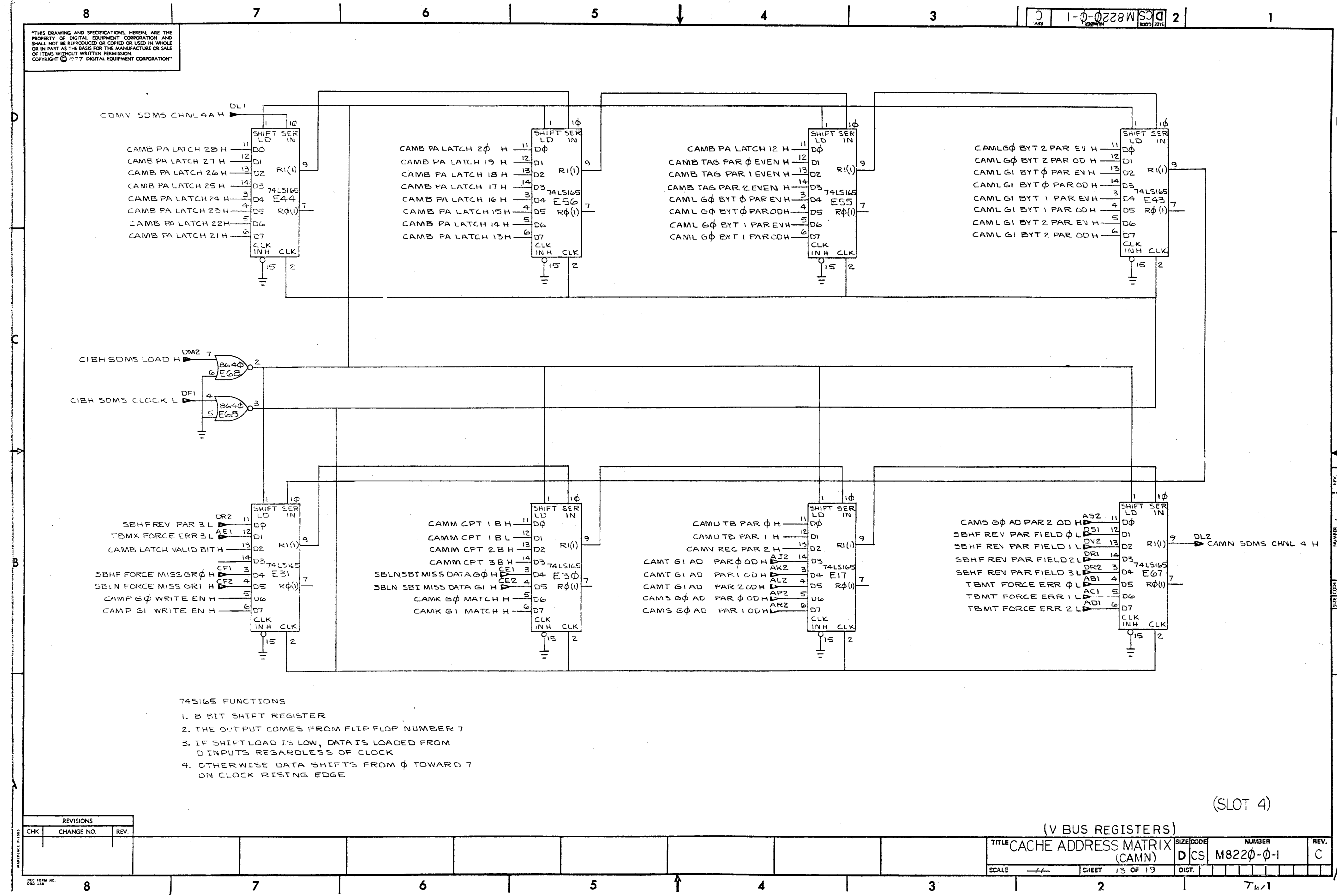
(SLOT 4)  
(CLOCK RECEIVER)

TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMM)	D CS	M8220-0-1	C
SCALE	SHEET	DIST.	
1/1	12 OF 19		

SET CODE DCS M8220-0-1 C  
 PART NUMBER M8220-0-1 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"

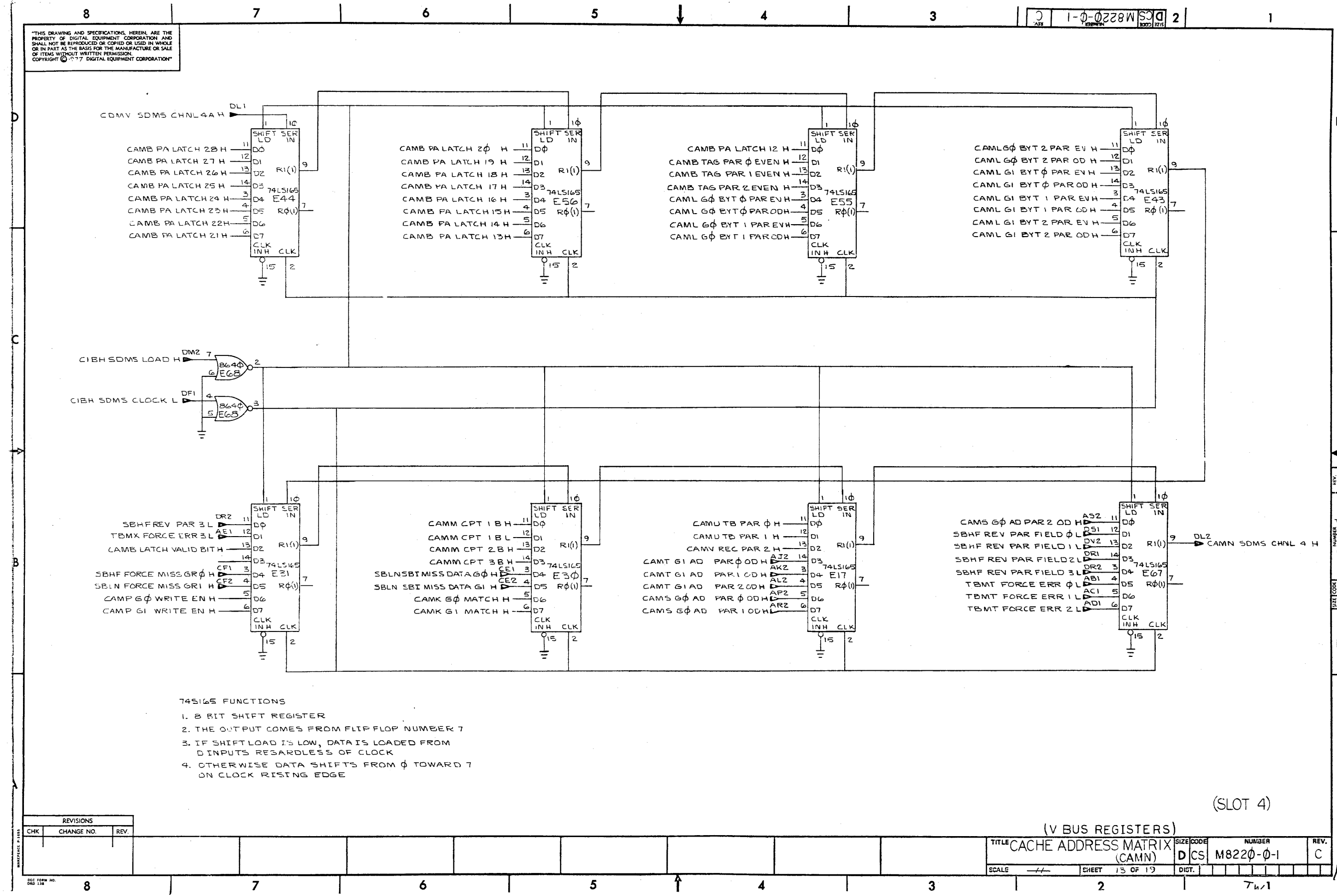
CS M8220-0-1 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMN)		D CS	M8220-0-1	C
SCALE	SHEET	DIST.	T <sub>h</sub> 1	
	13 OF 19			

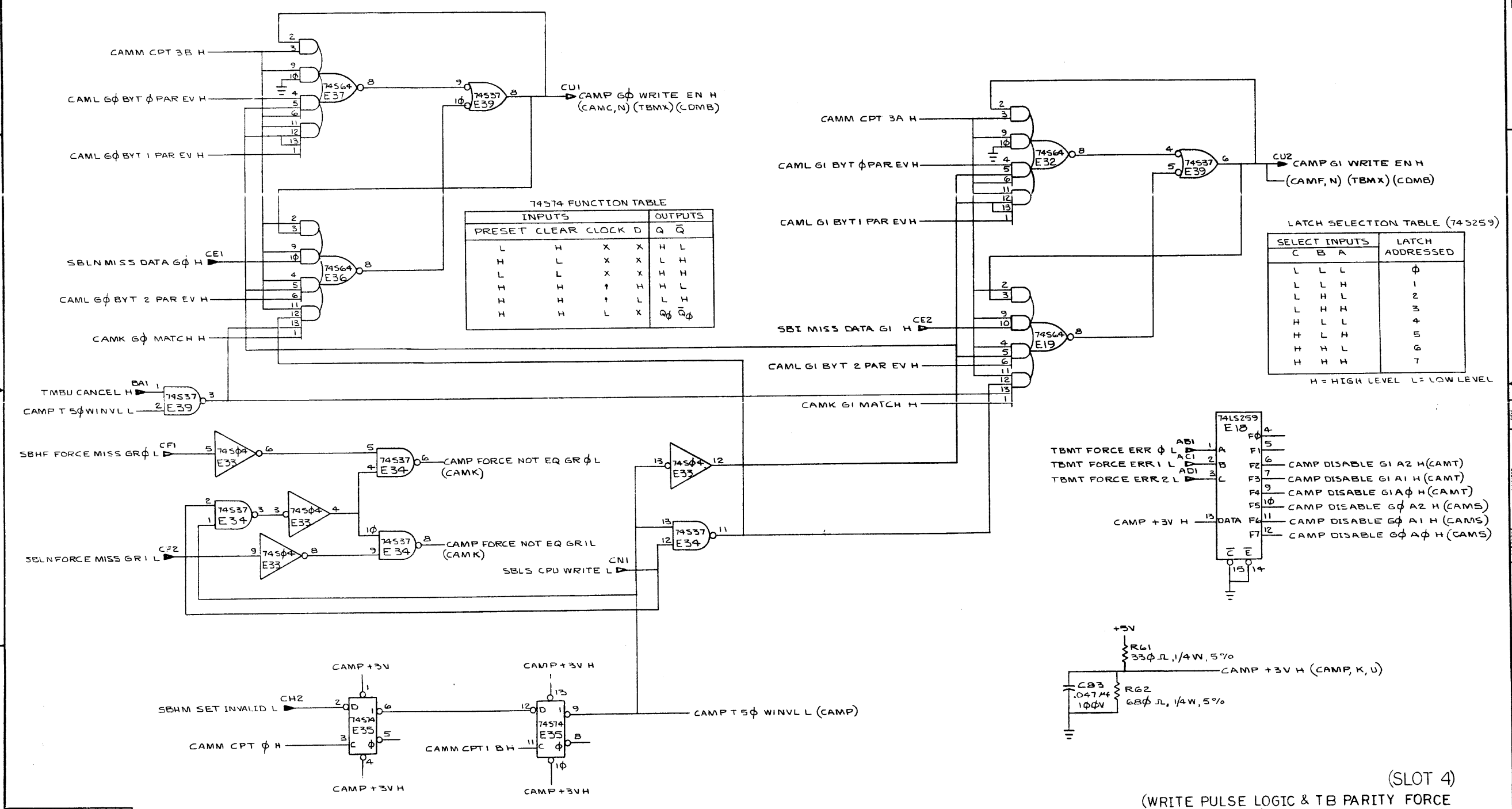
(SLOT 4)



103

"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) 74LS259 IS USED AS B LINE DEMULTIPLEXER  
 2) WHEN BOTH CLEAR AND ENABLE INPUTS ARE LOWS, THE ADDRESSED OUTPUT WILL FOLLOW THE LEVEL OF 0<sup>TH</sup> INPUT WITH ALL OTHER OUTPUTS LOW.



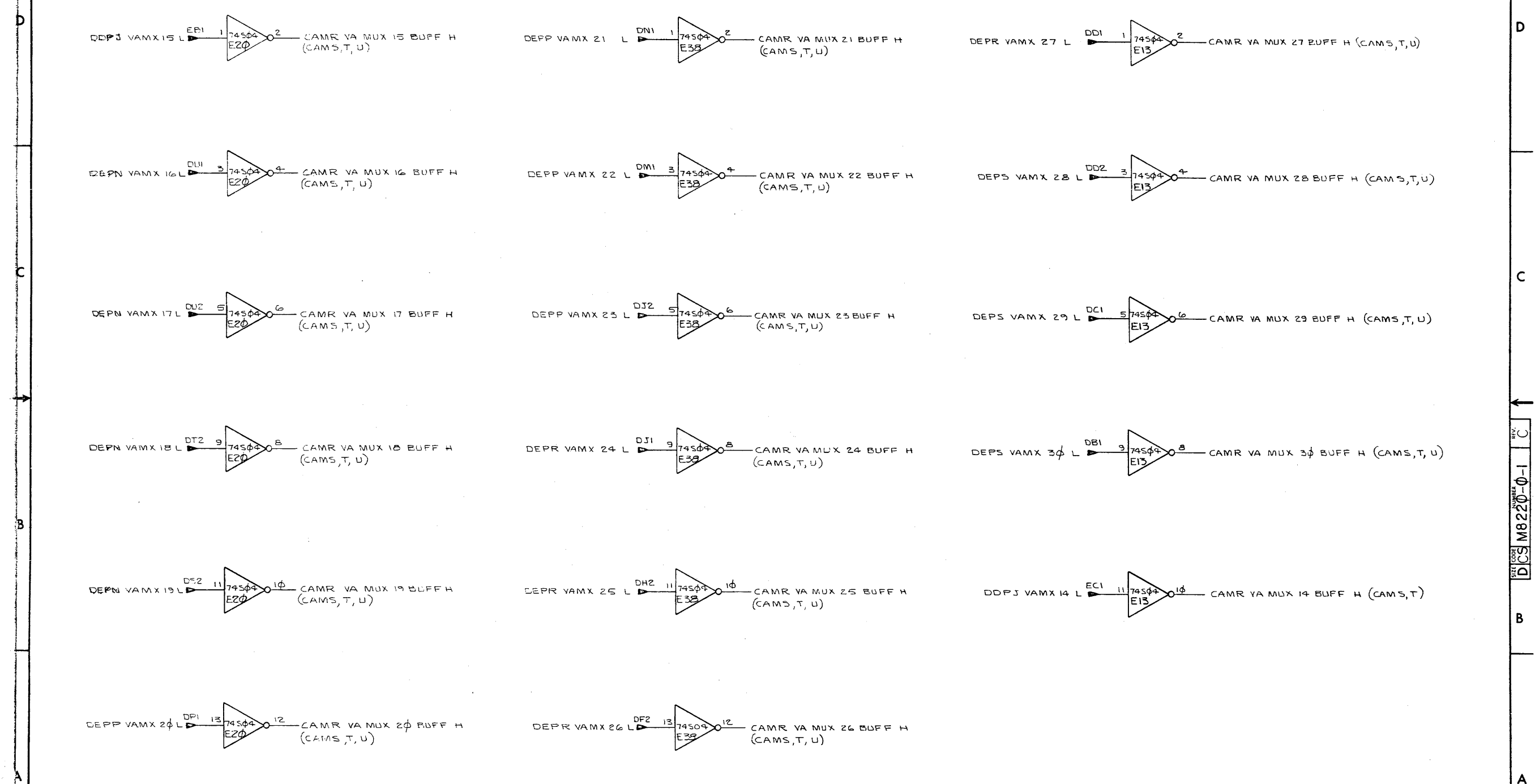
REVISIONS		
CHK	CHANGE NO.	REV.

104



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

CS M8220-0-1 2



(SLOT 4)

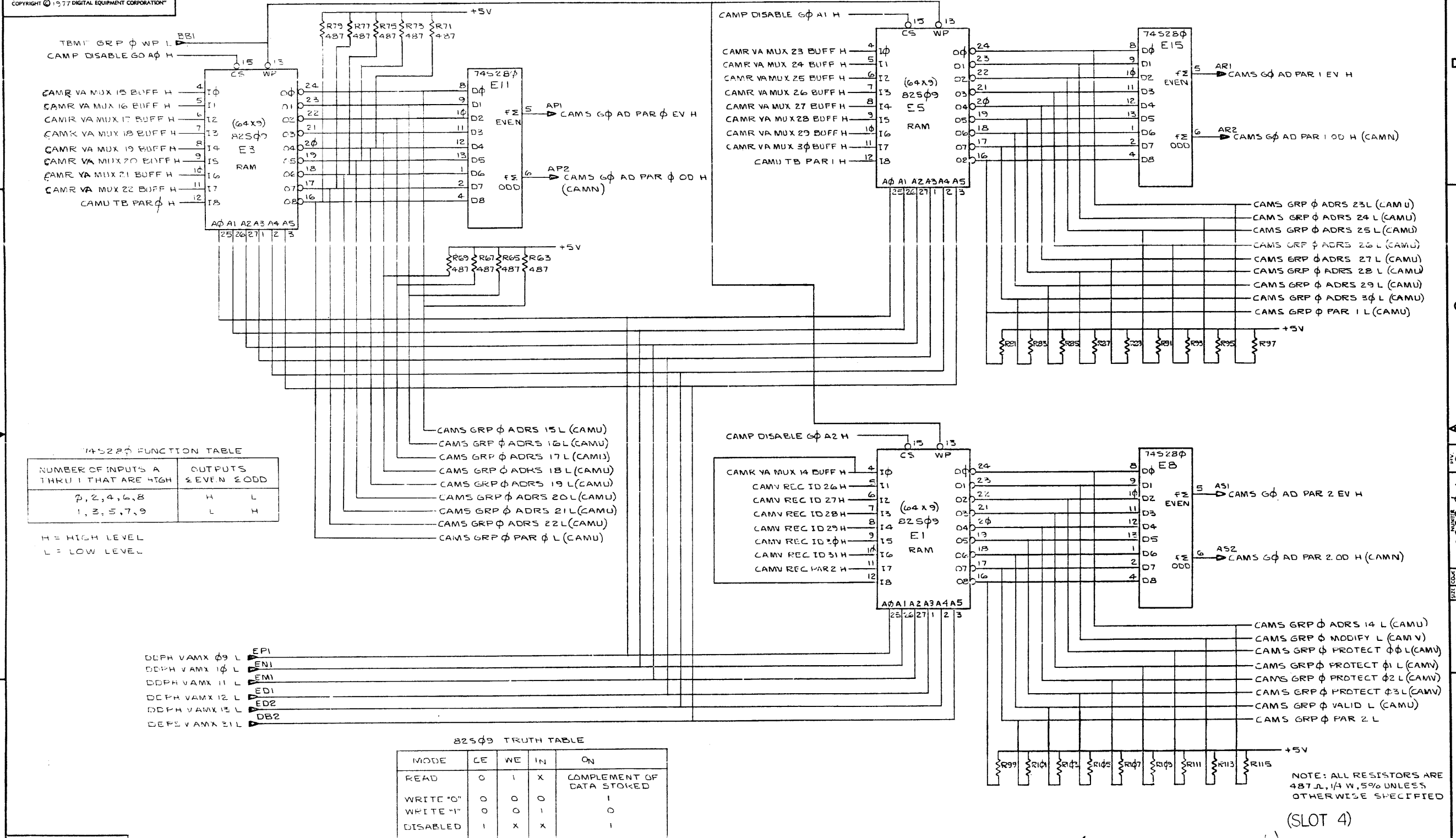
(VA MUX DRIVERS)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMR)	D CS	M8220-0-1	C
SCALE	SHEET	DIST.	
1/1	15 OF 19		

105

"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"



74528P FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS Σ EVEN Σ ODD	
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH LEVEL  
L = LOW LEVEL

82509 TRUTH TABLE

MODE	CE	WE	IN	ON
READ	0	1	X	COMPLEMENT OF DATA STORED
WRITE "0"	0	0	0	1
WRITE "1"	0	0	1	0
DISABLED	1	X	X	1

X = DONT CARE

- DDPH VAMX 09 L EPI
- DDPH VAMX 10 L EN1
- DDPH VAMX 11 L EM1
- DDPH VAMX 12 L ED1
- DDPH VAMX 13 L ED2
- DDPH VAMX 31 L DB2

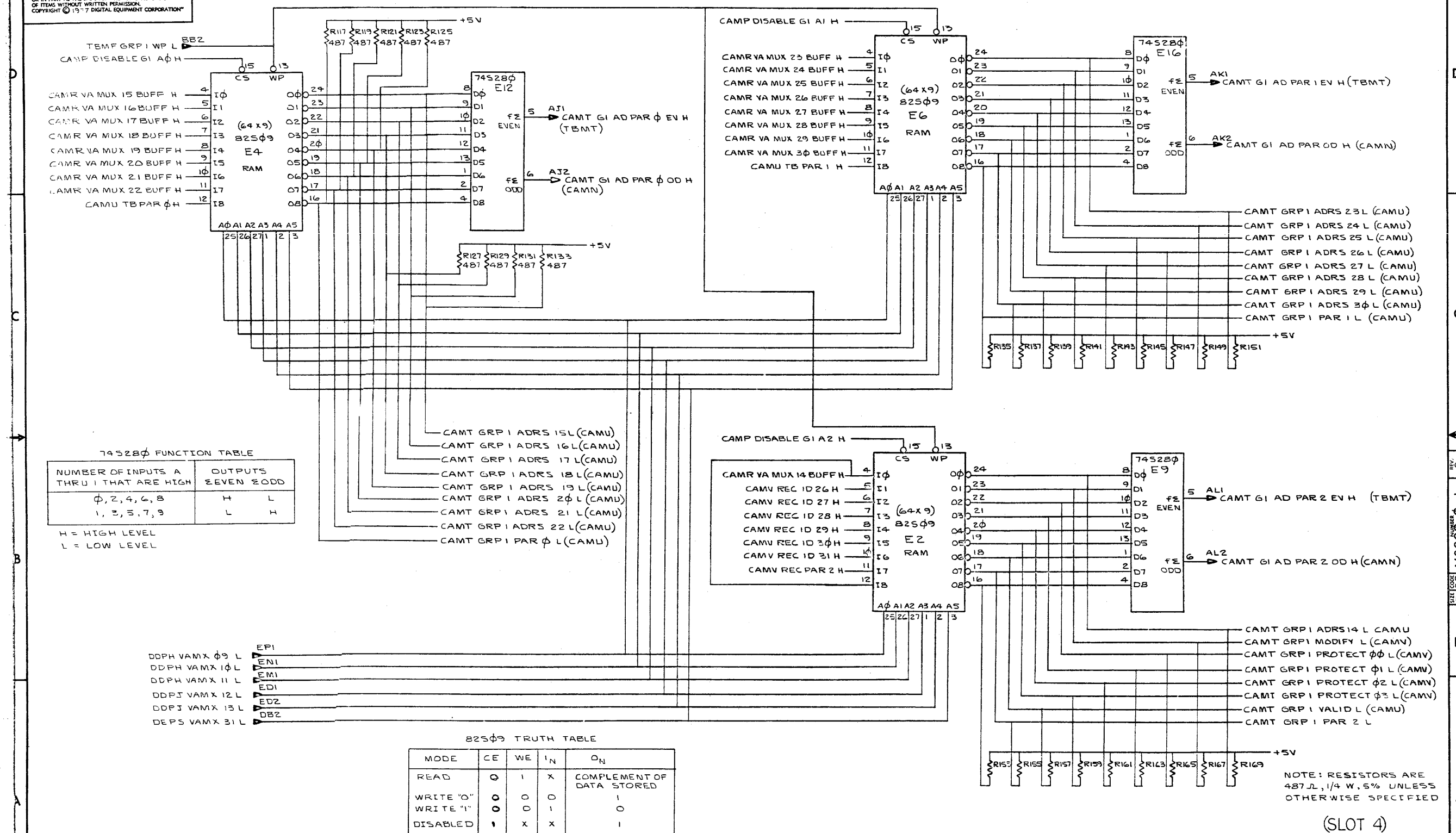
NOTE: ALL RESISTORS ARE 487L, 1/4 W, 5% UNLESS OTHERWISE SPECIFIED

(SLOT 4)

(TB ADDRESS TAG GROUP 0)

REV. NO.	DATE	BY	CHK	CHANGE NO.	REV.	TITLE	SIZE	CODE	NUMBER	REV.
						CACHE ADDRESS MATRIX (CAMS)	D	CS	M8220-0-1	C
							SCALE	SHEET	16 OF 19	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"



74S280 FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS Σ EVEN Σ ODD	
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH LEVEL  
L = LOW LEVEL

82509 TRUTH TABLE

MODE	CE	WE	I <sub>N</sub>	O <sub>N</sub>
READ	0	1	X	COMPLEMENT OF DATA STORED
WRITE "0"	0	0	0	1
WRITE "1"	0	0	1	0
DISABLED	1	X	X	1

NOTE: RESISTORS ARE 487Ω, 1/4 W, 5% UNLESS OTHERWISE SPECIFIED

REVISIONS

CHK	CHANGE NO.	REV.

(TB ADDRESS TAG GROUP 1)

TITLE: CACHE ADDRESS MATRIX (CAMT)

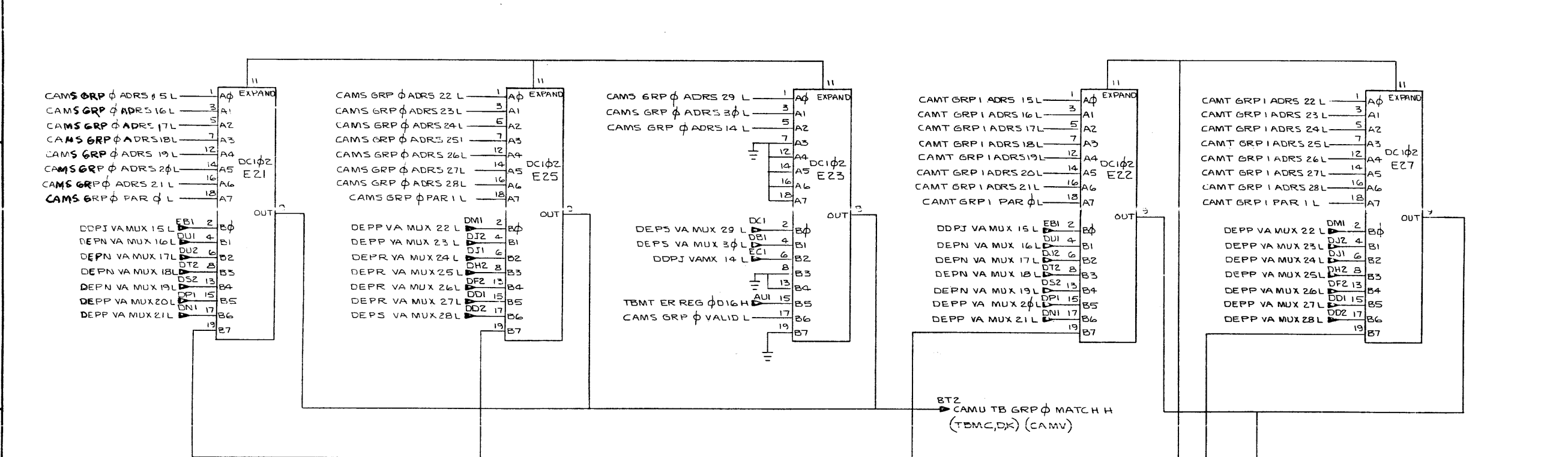
SIZE CODE: DCS M8220-0-1

NUMBER: TW 1

REV: C

SHEET: 17 OF 19

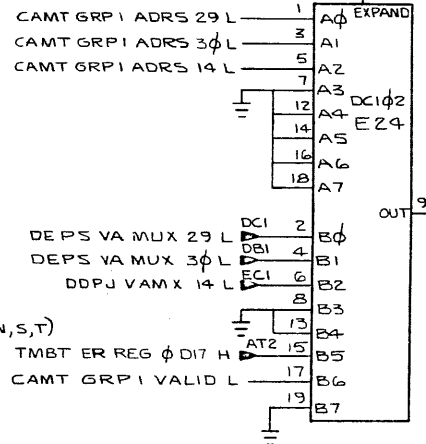
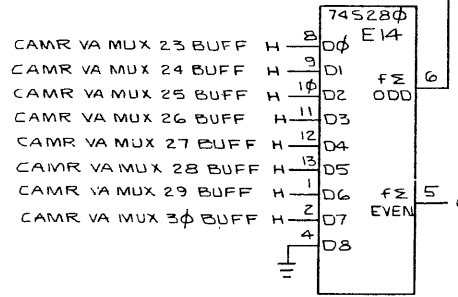
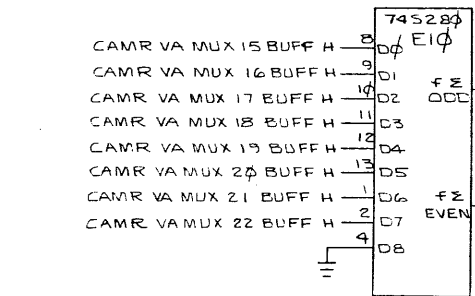
THIS DRAWING AND SPECIFICATIONS HERIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



74528φ FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS Σ EVEN Σ ODD	
φ, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH LEVEL  
L = LOW LEVEL



DC1φ2 FUNCTION TABLE

INPUTS		OUTPUT
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	H

H = HIGH LEVEL  
L = LOW LEVEL

NOTE: THERE IS NO INTERNAL CONNECTION ON PIN 11 OF DC1φ2

(SLOT 4)  
(TB ADDRESS TAG EQUAL CHECKER & VA MUX PARITY GENERATE)

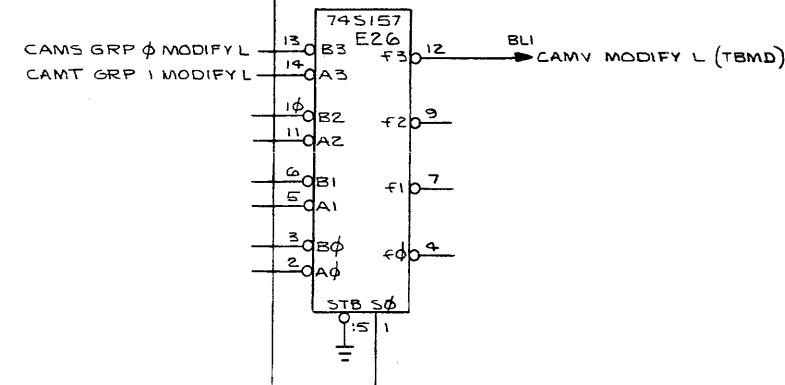
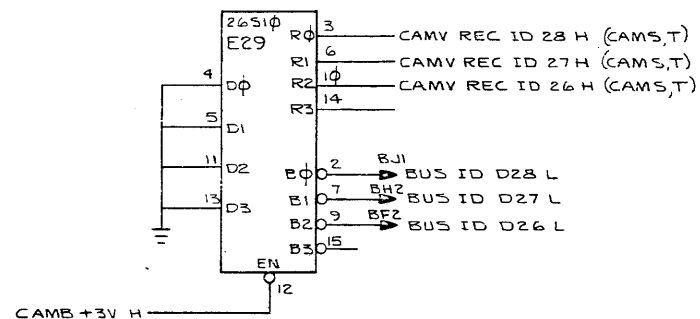
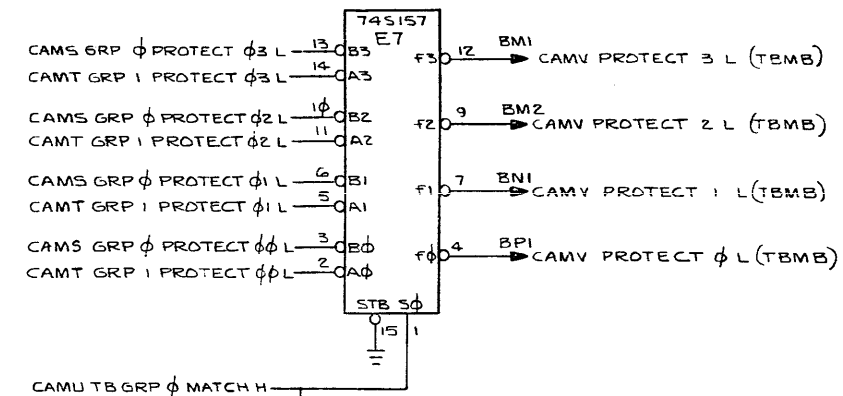
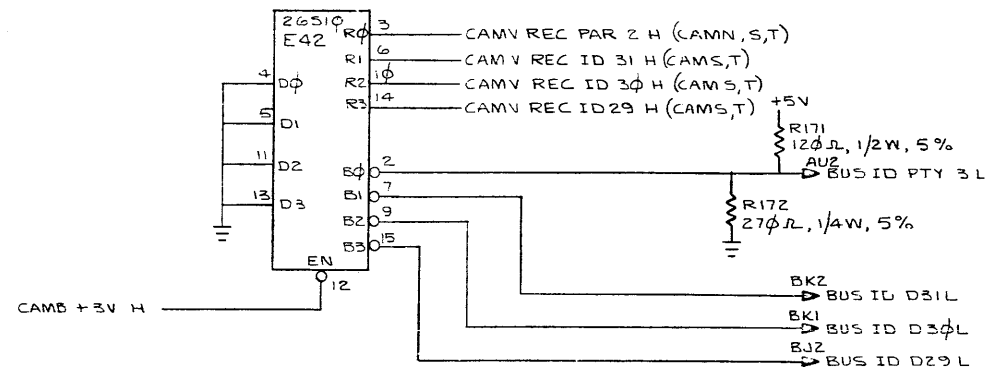
REVISIONS

CHK	CHANGE NO.	REV.

D  
C  
B  
A

REV. C  
M822φ-φ-1  
DCS

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



26510 TRUTH TABLE

INPUTS		OUTPUTS	
E	D	B	Z
L	L	H	L
L	H	L	H
H	X	Y	Y

H = HIGH VOLTAGE LEVEL  
 L = LOW VOLTAGE LEVEL  
 X = DON'T CARE  
 Y = VOLTAGE LEVEL OF BUS  
 (ASSUMES CONTROL BY ANOTHER BUS TRANSCEIVER)

74S157 TRUTH TABLE

INPUTS		INPUTS		OUTPUT
STROBE	SELECT	A	B	S157
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

REVISIONS

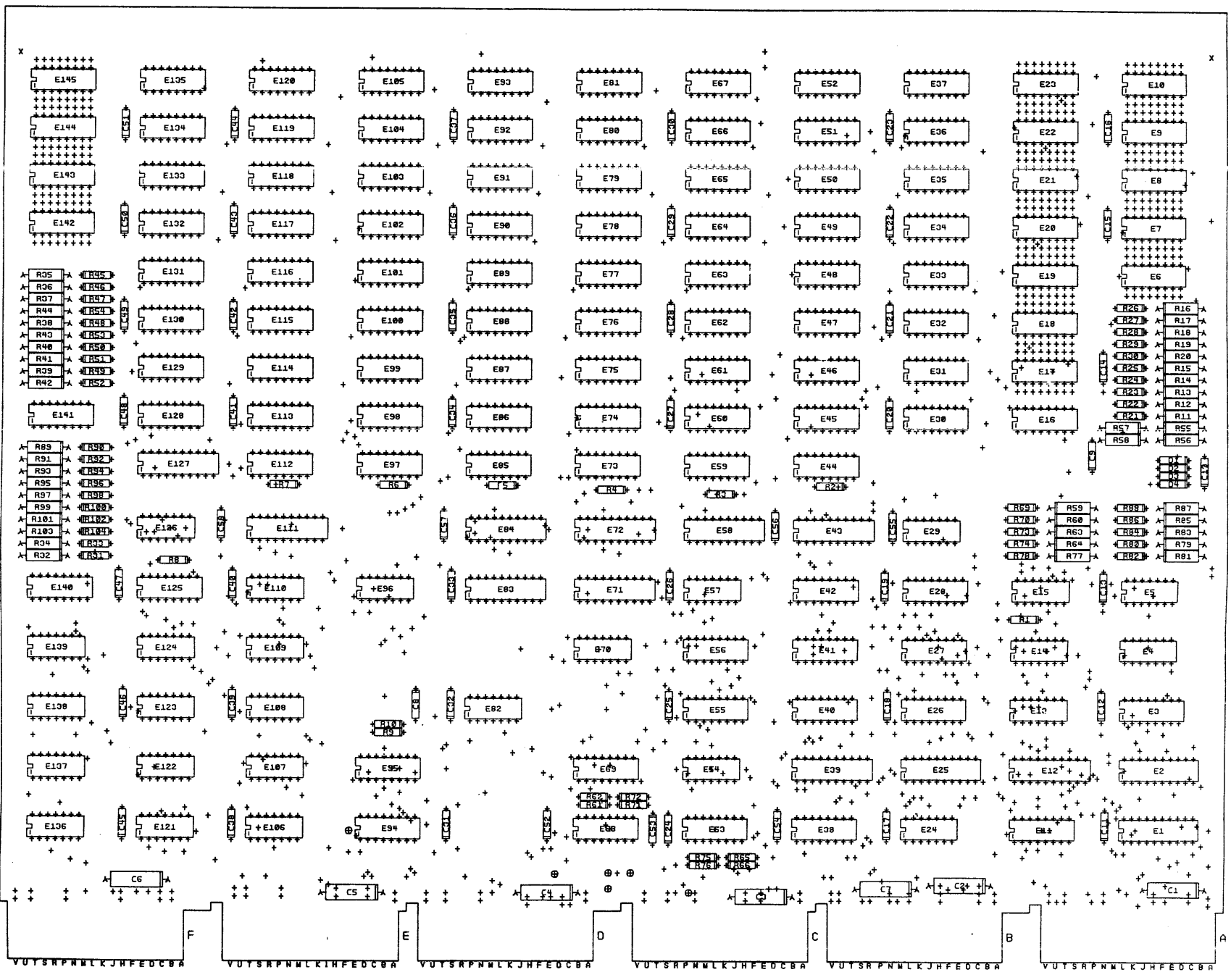
CHK	CHANGE NO.	REV.

ID TRANSCEIVERS & PROTECTION CODE MUX

(SLOT 4)

TITLE	CACHE ADDRESS MATRIX (CAMV)	SIZE CODE	D CS	NUMBER	M8220-0-1	REV.	C
SCALE	1:1	SHEET	19 OF 19	DIST.			

COMPONENT SIDE VIEW



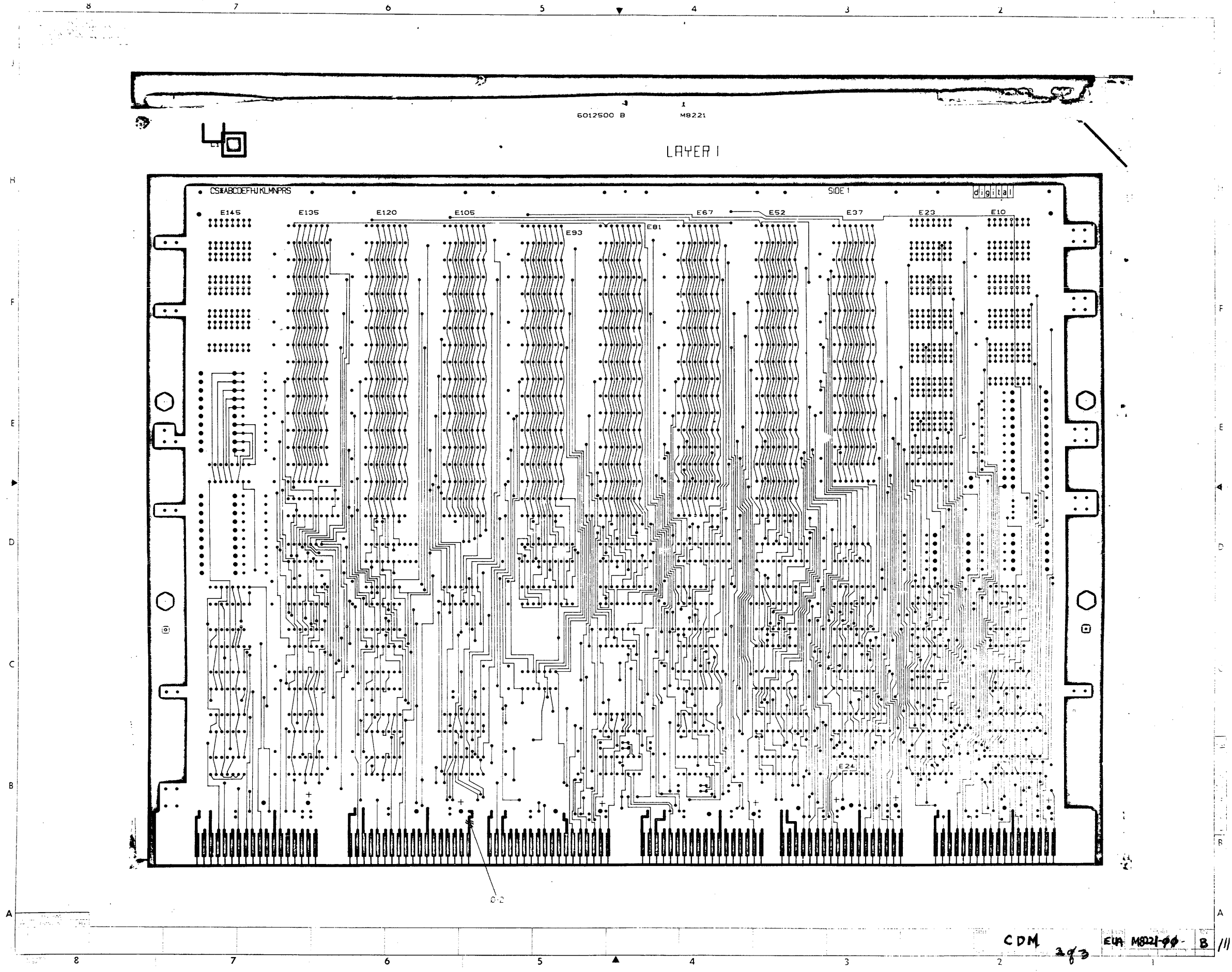
DESIGNER	DATE	TITLE	REV
CHK'D BY	DATE	CDM	1
APP'D BY	DATE		
PROJ. ENG.	DATE		
DATE	DATE		
SYMBOL	DATE		
NEXT HIGH-LEVEL REV. NO.	DATE		

ETCH REV. 8
P.L.C. DESIGN DATA REV. 8

R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33	R34	R35	R36	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46	R47	R48	R49	R50	R51	R52	R53	R54	R55	R56	R57	R58
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

CHANGE NO.	REV.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100
101	101
102	102
103	103
104	104
105	105
106	106
107	107
108	108
109	109
110	110
111	111
112	112
113	113
114	114
115	115
116	116
117	117
118	118
119	119
120	120
121	121
122	122
123	123
124	124
125	125
126	126
127	127
128	128
129	129
130	130
131	131
132	132
133	133
134	134
135	135
136	136
137	137
138	138
139	139
140	140
141	141
142	142
143	143
144	144
145	145

NOTES:  
 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.  
 2. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.  
 3. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.



6012500 B M8221

LAYER 1

CSABCDEFGHIJKLMNPRS

SIDE 1

digital

E145

E135

E120

E105

E93

E81

E67

E52

E37

E23

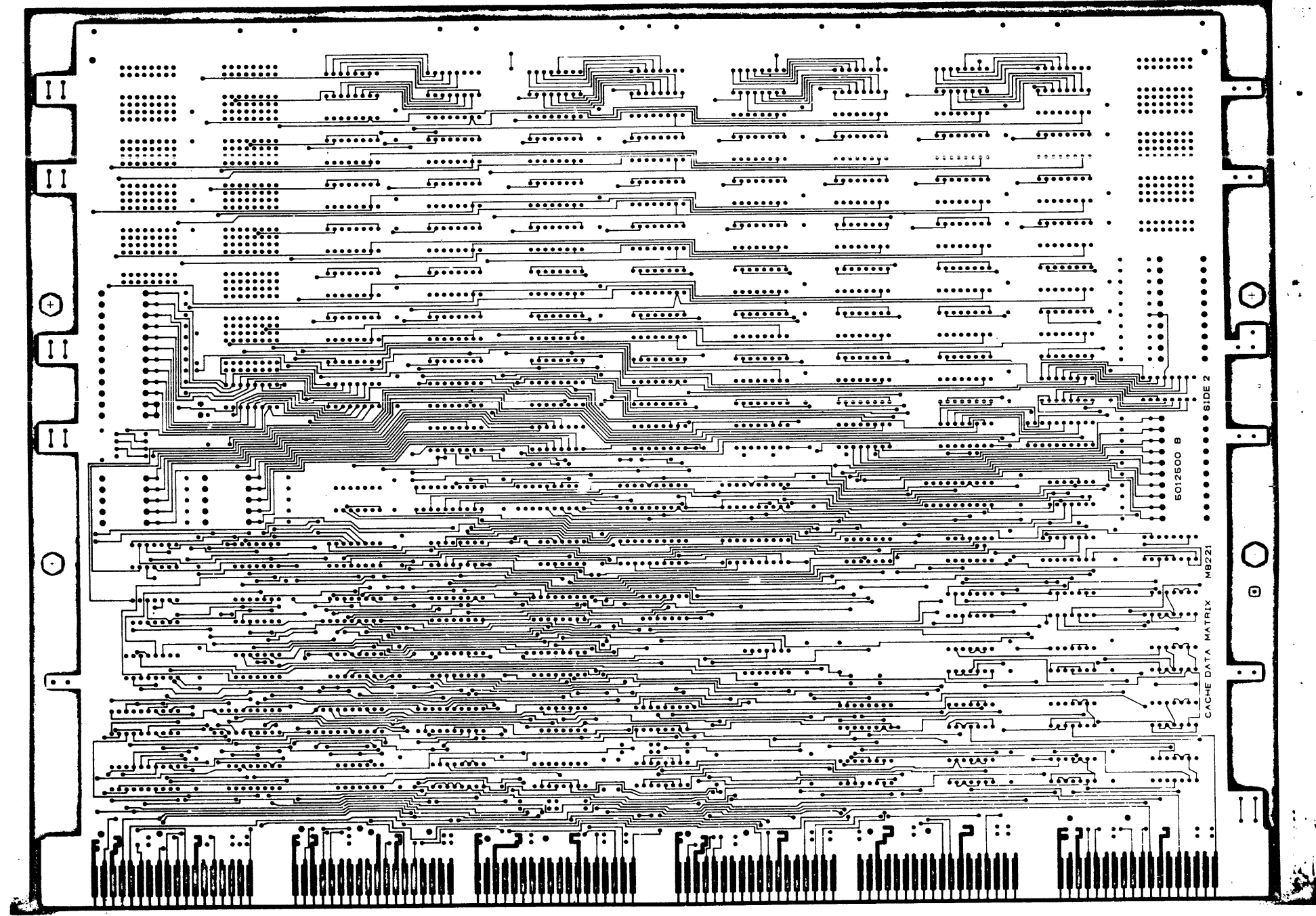
E10

E24

D-2

CDM 283  
EUA M8221-00-B //

PC 834AJ



112

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

CDM	3 4 3	0	1	2	3	4	5	6	7	8
CDM	3 4 3	0	1	2	3	4	5	6	7	8
CDM	3 4 3	0	1	2	3	4	5	6	7	8

A B C D E F H



**DIGITAL EQUIPMENT CORPORATION  
PARTS LIST**

MADE BY <i>F. SMART</i> DATE <i>5-26-77</i>	CHECKED <i>F. SMART</i> DATE <i>5-26-77</i>	SECTION
ENG DATE <i>J. Rogers 7/6/77</i>	PROD DATE <i>M. Tevilla 6-21-77</i>	ISSUED SECTION

QUANTITY / VARIATION												NOTES:
1	2	3	4	5	6	7	8	9	10	11	12	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8221-0-0	1	2	3	4	5	6	7	8	9	10	11	12	REF DESIGNATION
1	E-MD-5012500-0-0	5012500	ETCH BOARD	1													
2		1012084-01	CAPACITOR, 8.0 uf, 25V	7													C1 thru C7
3		1012784-00	CAPACITOR, .047 uf 50V +80% -20%	51													C11 thru C54, C8, C9, C10, C55, C56, C57, C58
4		1300228-00	RESISTOR, 100 OHM, 1/2W, 5%	40													R11 thru R20, R34 thru R44, R59, R60, R63, R64, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103, R32
5		1300247-00	RESISTOR, 120 OHM, 1/4W, 5%	5													R10, R61, R62, R65, R66
6		1300250-00	RESISTOR, 150 OHM, 1/4W, 5%	4													R71, R72, R75, R76
7		1300447-00	RESISTOR, 4.7K, 1/4W, 5%	8													R1 thru R8
8		1311522-00	RESISTOR, 200 OHM, 1/4W, 5%	41													R21 thru R31, R45 thru R54, R9, R69, R70, R73, R74, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100, R102, R104, R33
9		<del>1300249-00</del>	RESISTOR, 150 Ω 1/2W, 5%	1													R55
10		1910534-00	I.C. DEC 74S04	2													E109, E124
11		1910542-00	I.C. DEC 74S64	10													E106, E107, E108, E121, E122, E123, E136, E137, E138, E139
12		1910546-00	I.C. DEC 74S140	4													E4, E5, E14, E13
13		1911415-00	I.C. DEC 10125	2													E53, E68
14		1911469-00	I.C. DEC 8640	1													E54
15		1911573-00	I.C. DEC 74S280	8													E15, E29, E57, E70, E82, E96, E110, E126
16		1911641-00	I.C. DEC 74S257	9													E3, E11, E27, E42, E55, E56, E26, E40, E41
17		19-13839-00	I.C. DEC 74LS165	6													E28, E38, E125, E140, E95, E69

ECO. 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 CACHE DATA MATRIX	ASSY NO. E-UA-M8221-0-0	SIZE B	CODE PL	NUMBER M8221-0-0	REV. B
	SHEET 1 OF 2		INSERTION PARTS LIST DATA BASE REV			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY <i>F. SMART</i> DATE <i>5-26-77</i>		CHECKED <i>F. SMART</i> DATE <i>5-26-77</i>		SECTION										REF DESIGNATION			
ENG DATE <i>G. Ragnar 7/6/77</i>		PROD DATE <i>Mike Tenille 6-21-77</i>		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8221-0-0													
18		1912860-00	I.C. DEC 74LS259	1													E94
19		19-13670-00	I.C. DEC 74S373	5													E1 E2,E12,E25,E39
20		19-13662-00	I.C. DEC 93425-A	72													E59 thru E67,E73 thru E81,E16,E30 thru E37,E44 thru E52,E85 thru E93,E97 thru E105,E112 thru E120,E128 thru E135,E141
21			I.C. DEC SPARE	7													E6 thru E10,E17,E18
22			I.C. DEC SPARE	12													E19 thru E24,E142 thru E145
23		1913462-00	I.C. DEC 74S240	8													E83,E84,E111,E127,E43,E58,E71,E72
24		1210711-2	HANDLE	1													
25		9000024-01	EYELETS	12													

E.C.O. NO.

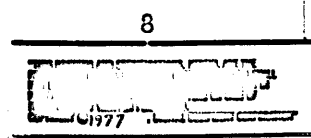
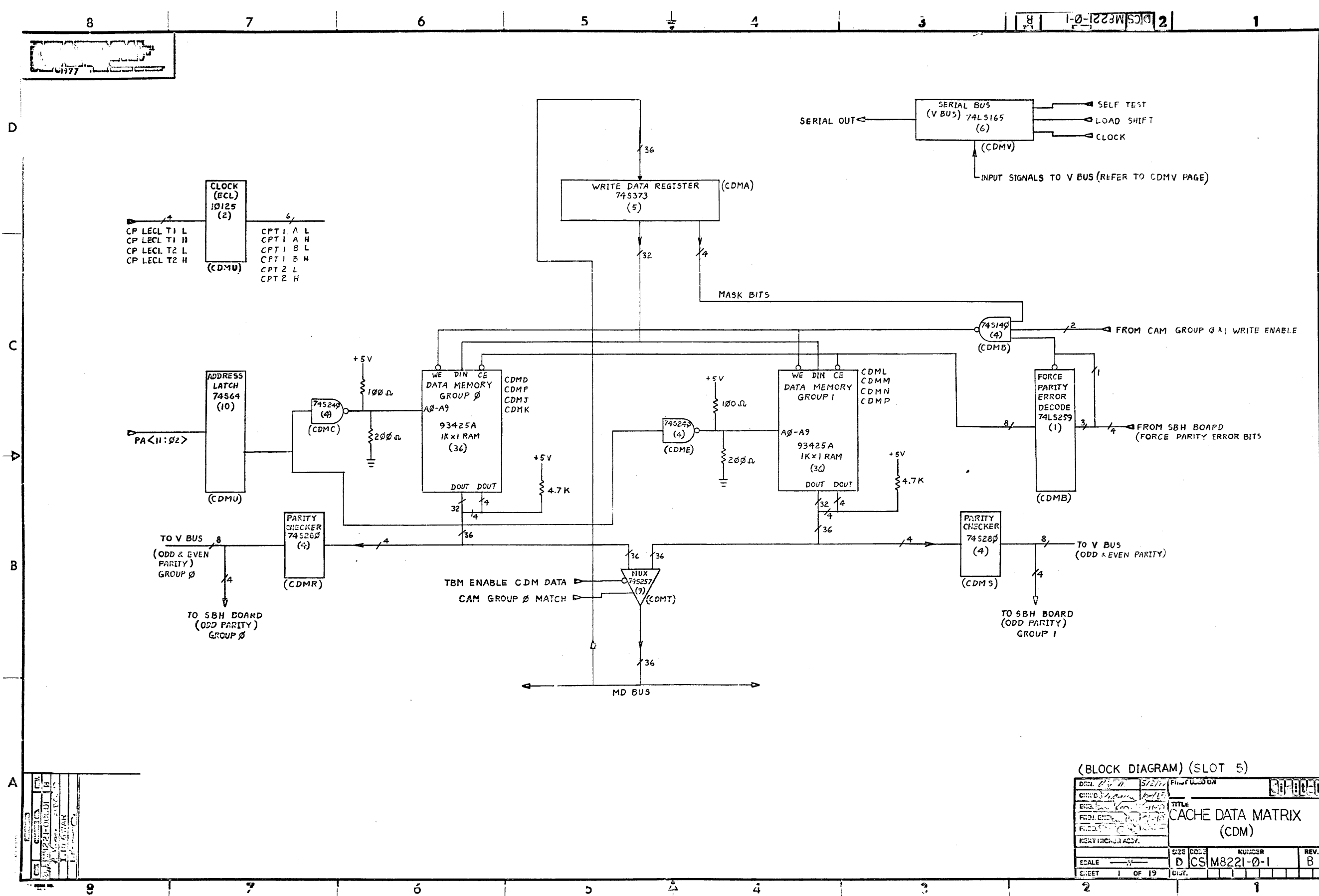
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
CACHE DATA MATRIX

ASSY NO.  
E-UA-M8221-0-0  
SHEET 2 OF 2

SIZE  
B  
CODE  
PL  
NUMBER  
M8221-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
B

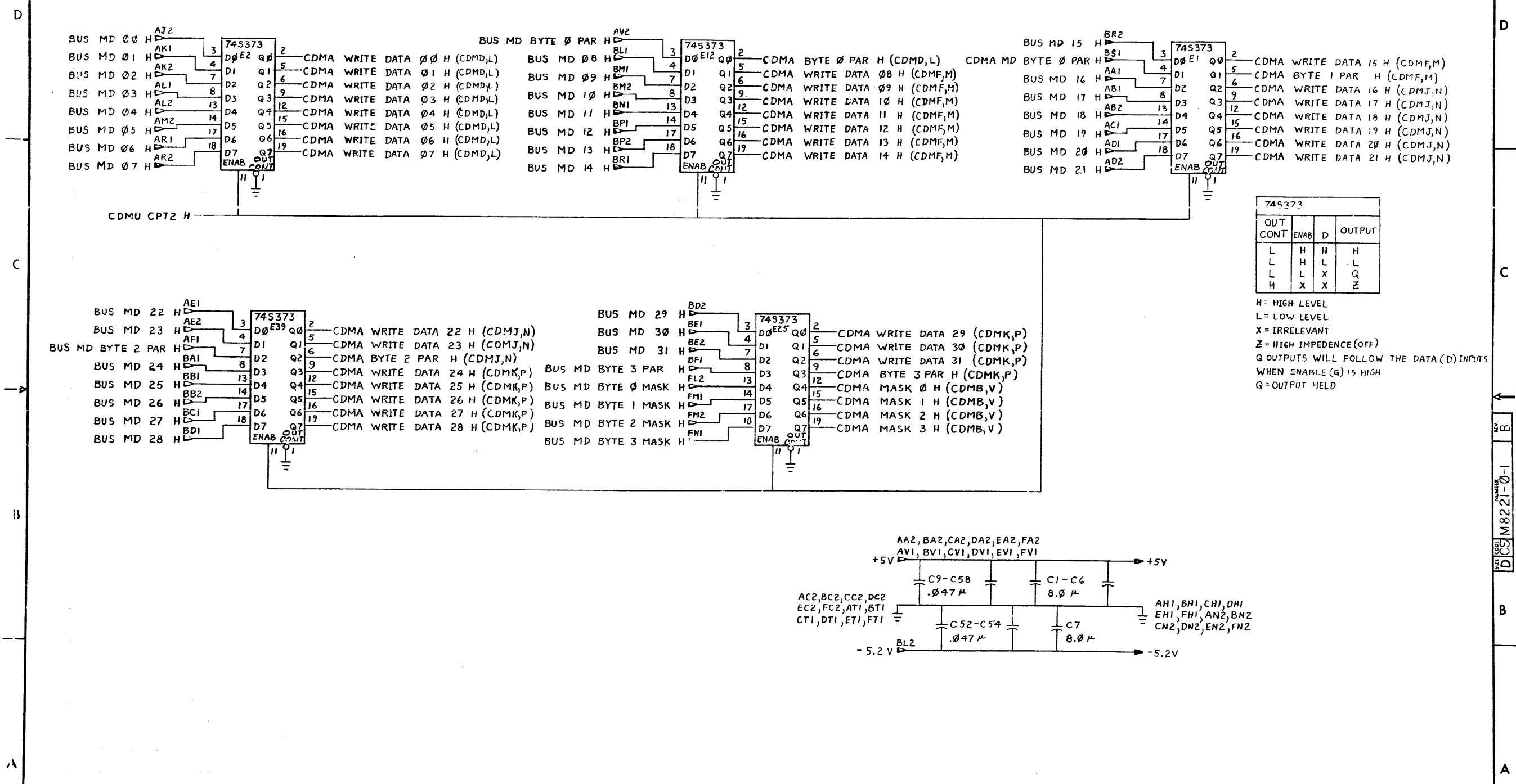


D | CS | M8221-0-1 | 2

(BLOCK DIAGRAM) (SLOT 5)

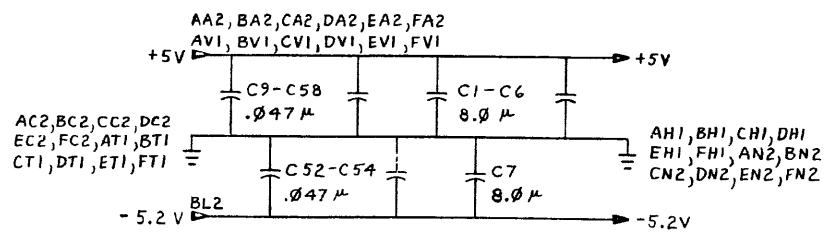
DATE	5/27/77	FILE NO.	100-100-100
CHK'D			
ENG.			
PROJ. ENG.			
PROD. ENG.			
NEARLY HIGH PRIORITY			
TITLE		SIZE	CODE
CACHE DATA MATRIX (CDM)		D	CS
SCALE	1	NUMBER	8
REV.	B		
SHEET	1	OF 19	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF QUALCOMM 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 THE WRITTEN PERMISSION OF QUALCOMM CORPORATION. COPYRIGHT © 1977 QUALCOMM CORPORATION.



74S373			
OUT CONT	ENAB	D	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	Q
H	X	X	Z

H = HIGH LEVEL  
 L = LOW LEVEL  
 X = IRRELEVANT  
 Z = HIGH IMPEDENCE (OFF)  
 Q OUTPUTS WILL FOLLOW THE DATA (D) INPUTS WHEN ENABLE (G) IS HIGH  
 Q = OUTPUT HELD



REVISIONS		
CHK	CHANGE NO.	REV.

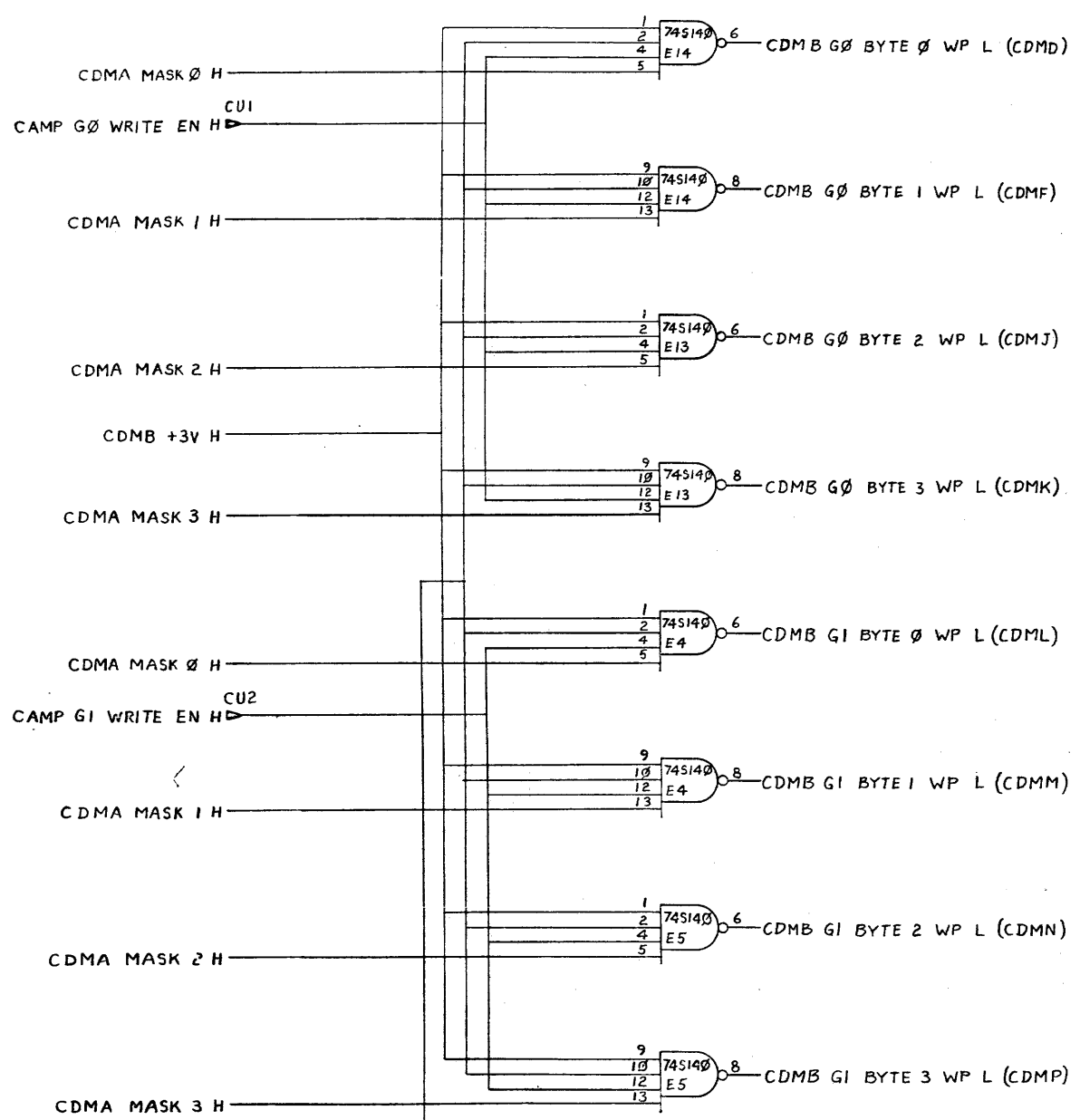
(CDM WRITE DATA REGISTERS) (SLOT 5)

TITLE	SIZE/CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMA)	D CS	M8221-0-1	B
SCALE	SHEET	DIST.	
	2 OF 19		

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

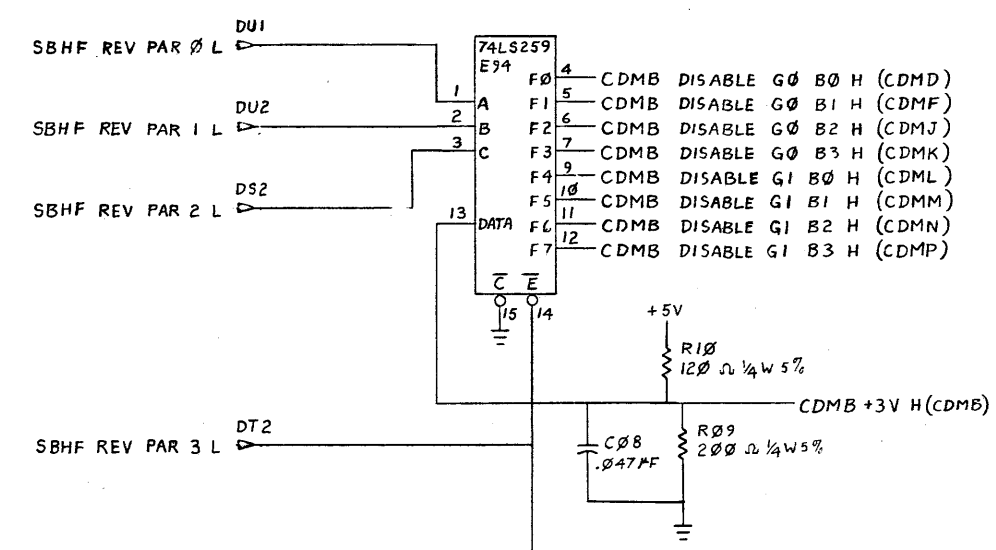
DCS M8221-0-1 2

D  
C  
B  
A



74LS259 DECODE SELECTION				
ENABLE INPUT	SELECT INPUT C	SELECT INPUT B	SELECT INPUT A	DECODED ADDRESS
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	X	X	X	NONE

THIS OUTPUT WILL BE HIGH  
OTHER OUTPUTS WILL BE LOW



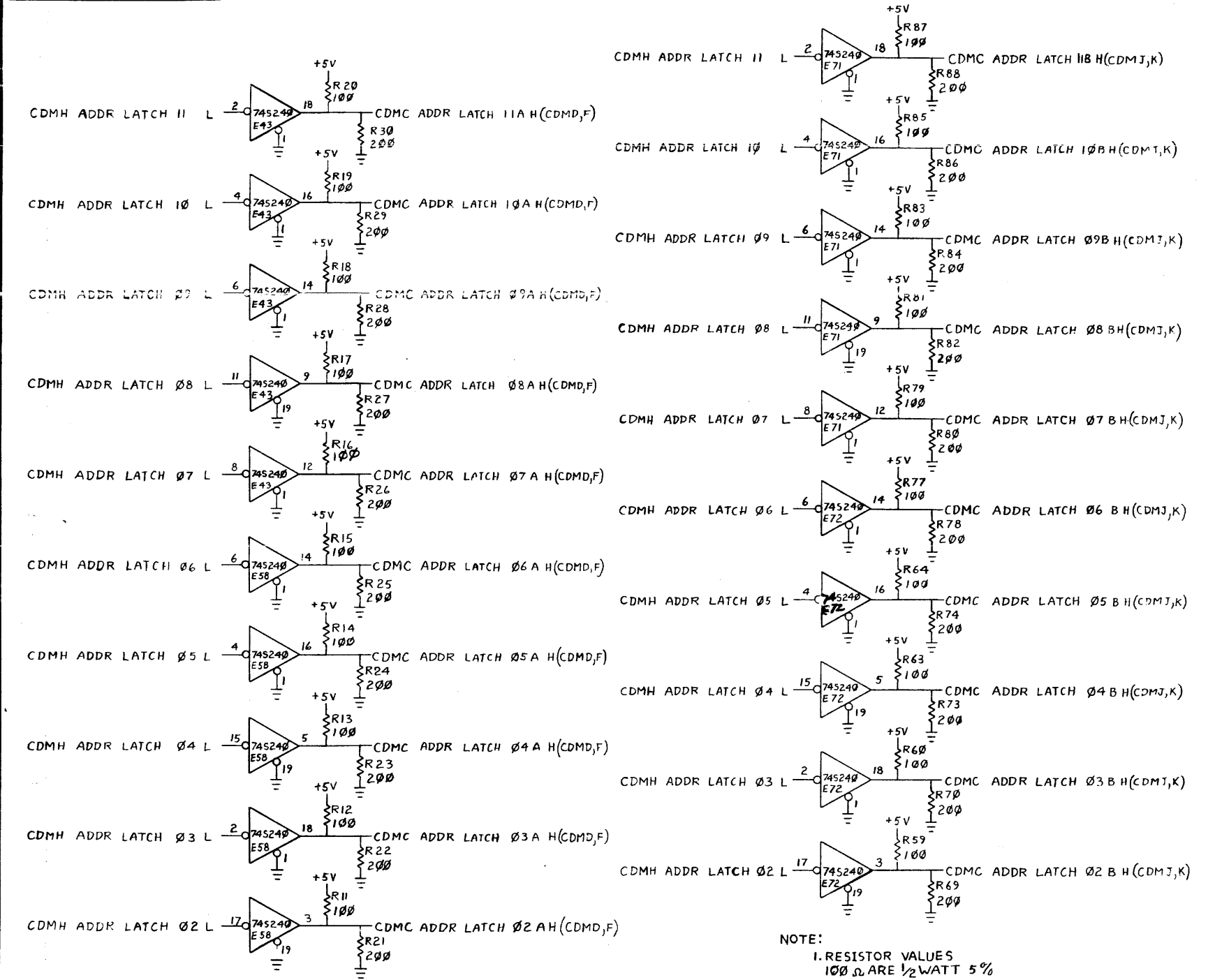
REVISIONS		
CHK	CHANGE NO.	REV.

(WRITE ENABLE & FORCE PARITY ERROR DECODE) (SLOT 5)

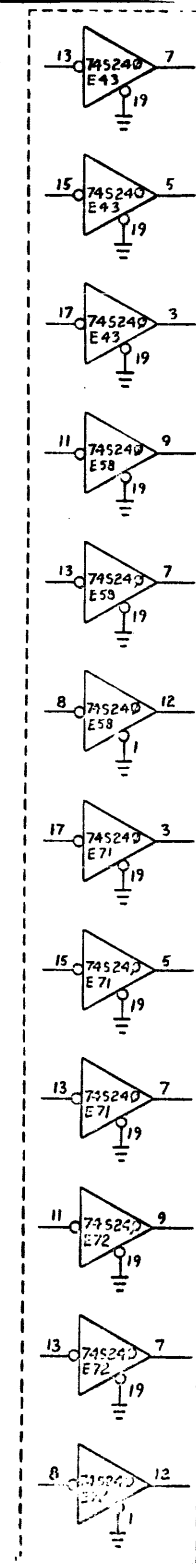
TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMB)	D	CS M8221-0-1	B
SCALE	SHEET	DIST.	
	3 OF 19		

DCS M8221-0-1

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



NOTE:  
 1. RESISTOR VALUES  
 100Ω ARE 1/2 WATT 5%  
 200Ω ARE 1/4 WATT 5%

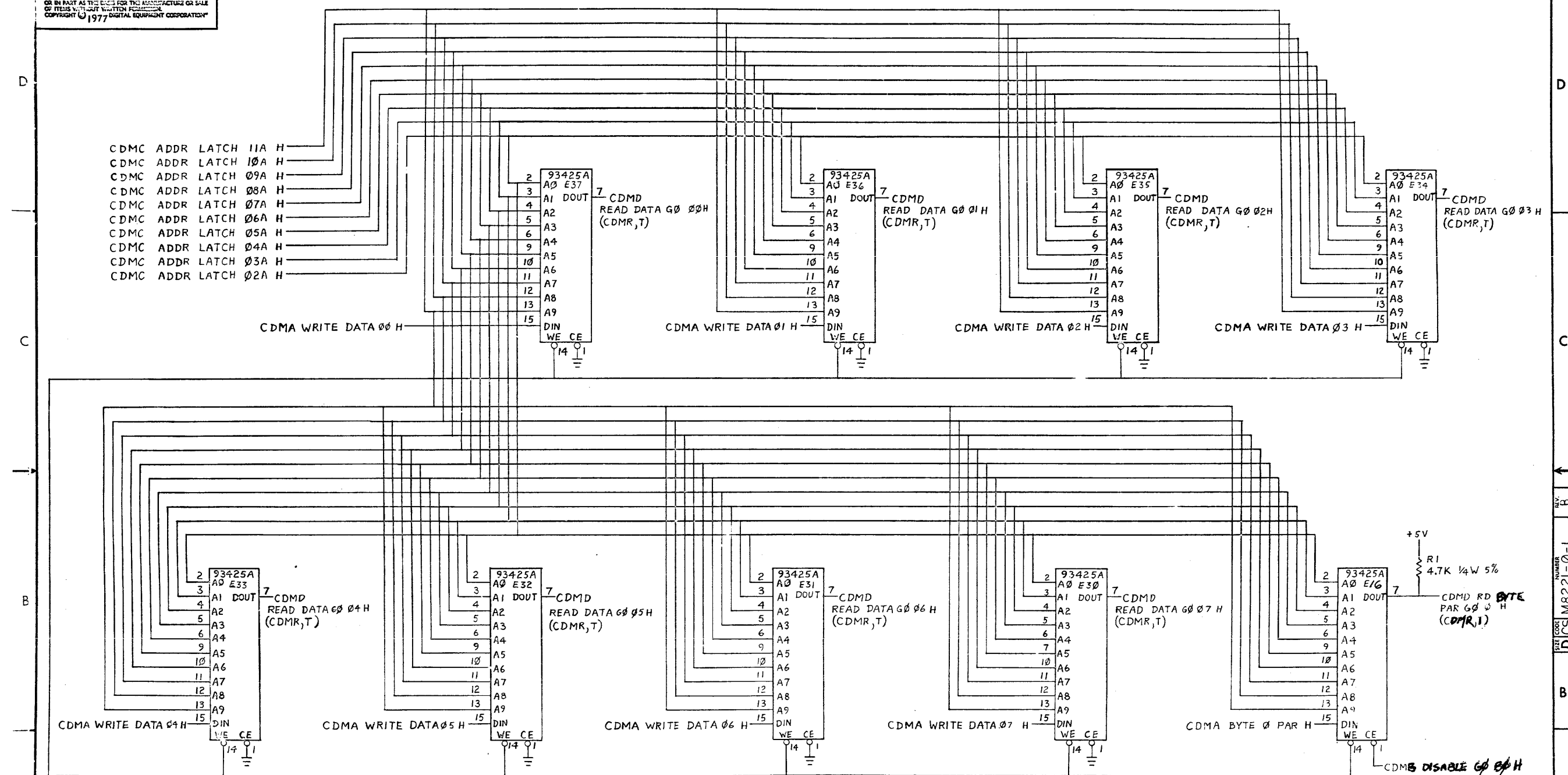


SPARE — GROUP 0 ADDRESS LINE DRIVERS (SLOT 5)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMC)	D	CSM8221-0-1	B
SCALE	SHEET	DIST.	
	4 OF 19		

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



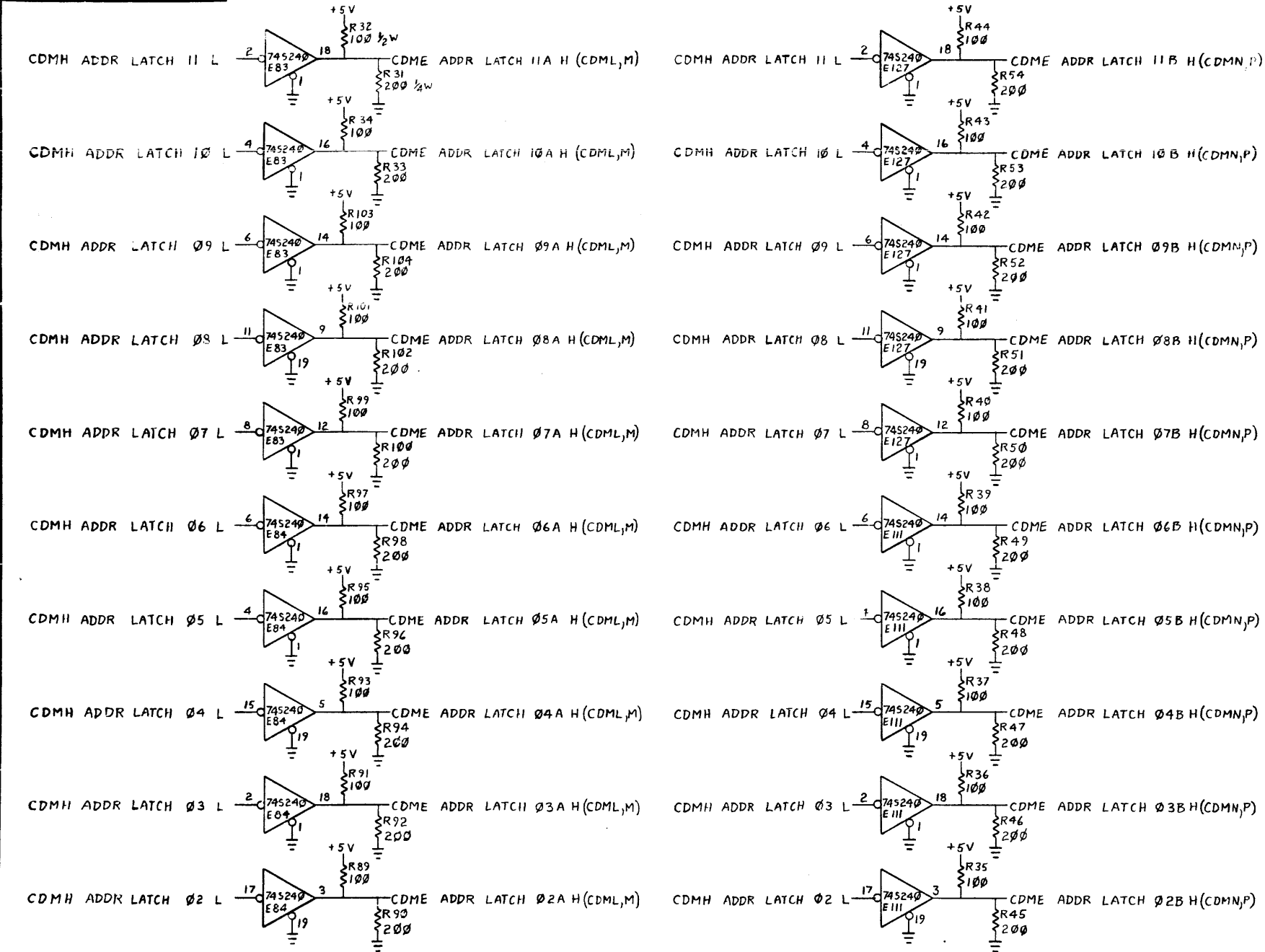
- CDMC ADDR LATCH 11A H
- CDMC ADDR LATCH 10A H
- CDMC ADDR LATCH 09A H
- CDMC ADDR LATCH 08A H
- CDMC ADDR LATCH 07A H
- CDMC ADDR LATCH 06A H
- CDMC ADDR LATCH 05A H
- CDMC ADDR LATCH 04A H
- CDMC ADDR LATCH 03A H
- CDMC ADDR LATCH 02A H

MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLED	H	X	X	Z

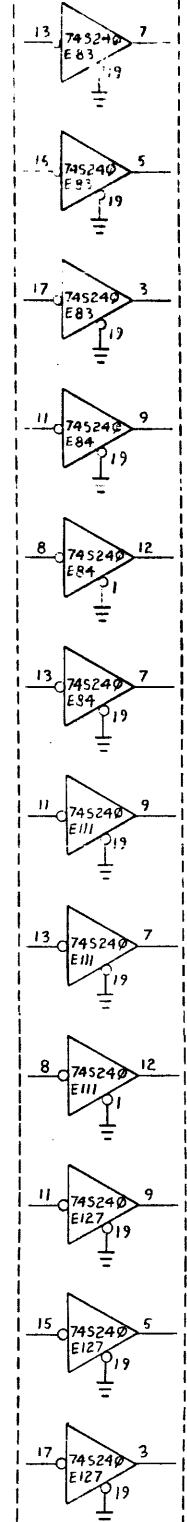
H=HIGH LEVEL  
L=LOW LEVEL  
X=IRRELEVANT  
Z=HIGH IMPEDANCE(OFF)

REVISIONS		
CHK	CHANGE NO.	REV.

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 A BASIS FOR THE MANUFACTURE OR SALE OF PRODUCTS WITHOUT PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



NOTE:  
 1. RESISTOR VALUES  
 100Ω ARE 1/2 WATT 5%  
 200Ω ARE 1/4 WATT 5%



REVISIONS		
CHK	CHANGE NO.	REV.

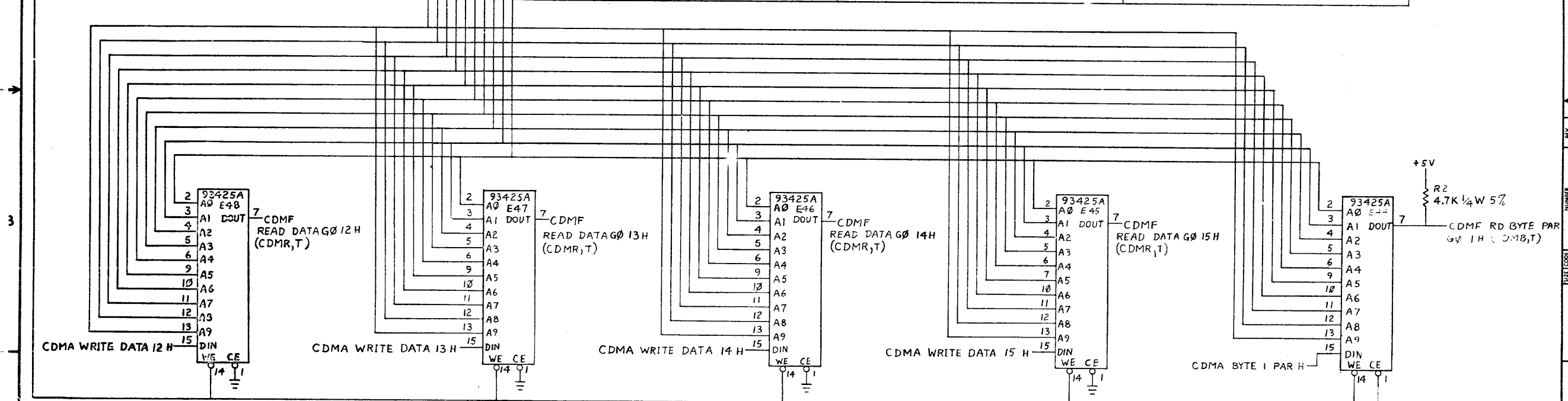
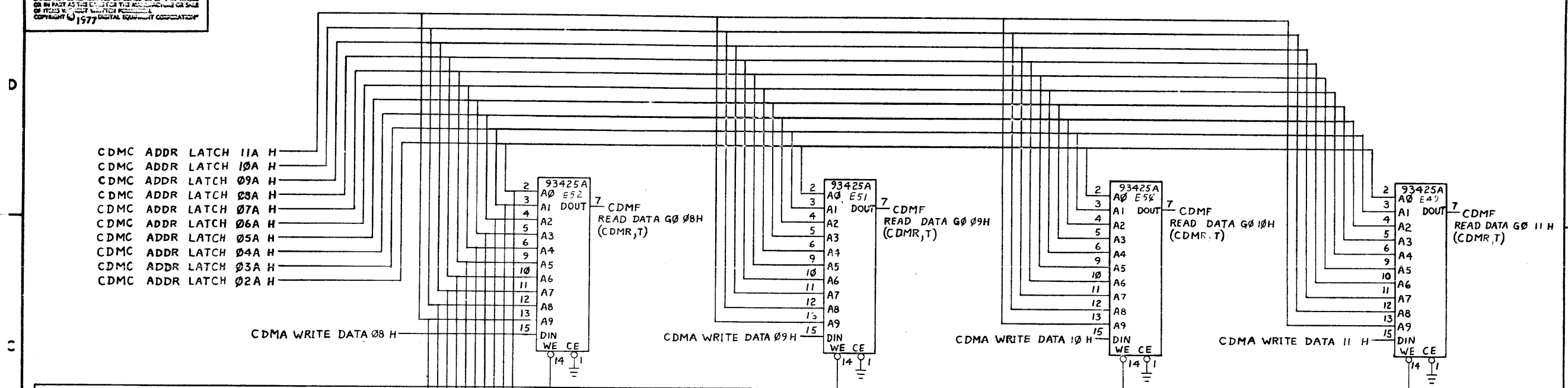
TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDME)	D	CSM8221-0-1	B
SCALE	SHEET	DIST.	
	6 OF 19		

(SLOT 5)



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

DCS M8221-0-1



MODE	CE	WE	DIN	DOUT
READ	L	H	X	93425A STORED DATA
WRITE	L	L	L	Z
WRITE	L	L	H	Z
DISABLE	H	X	X	Z

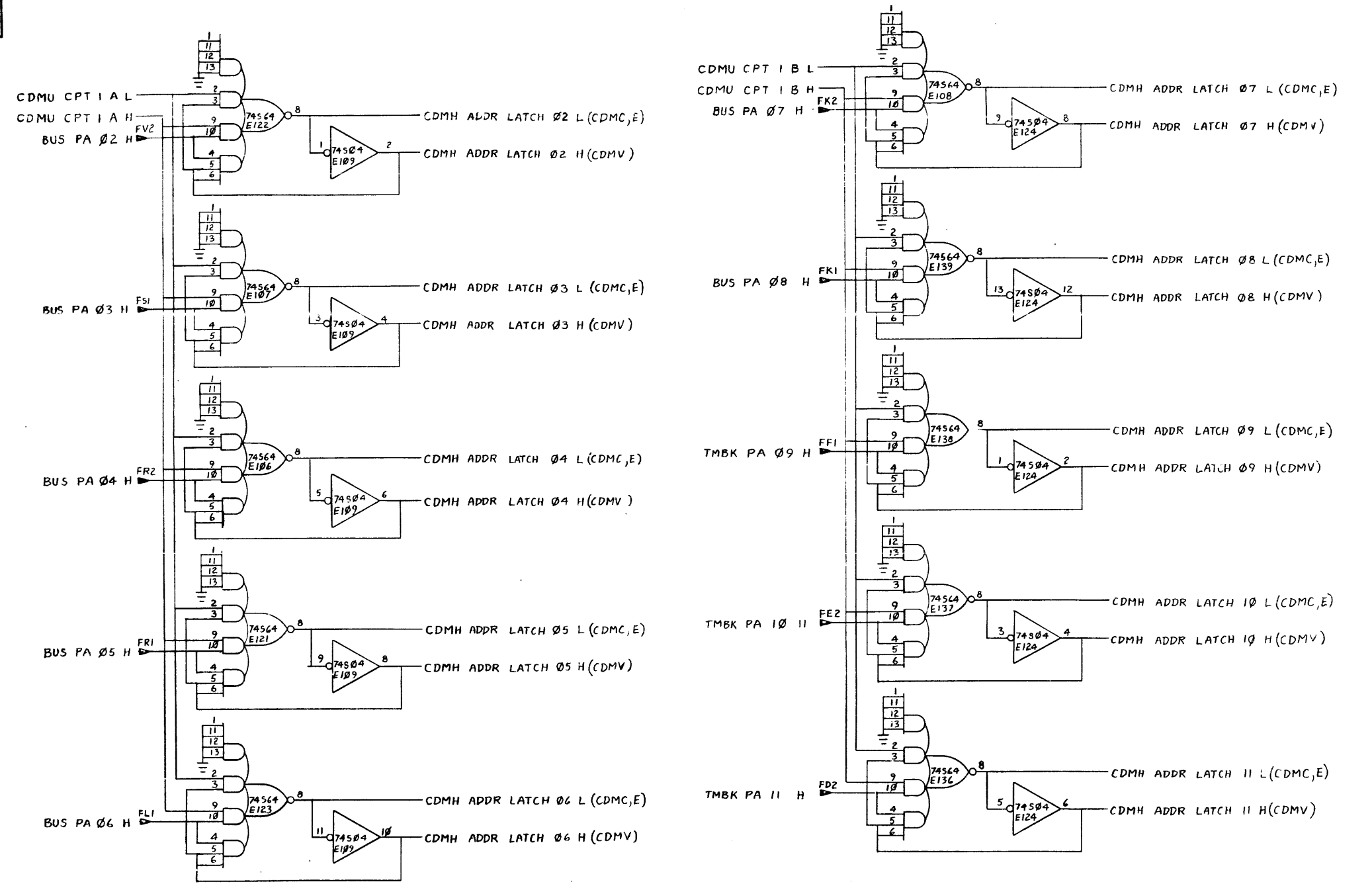
H = HIGH LEVEL  
L = LOW LEVEL  
X = IRRELEVANT  
Z = HIGH IMPEDANCE(OFF)

REVISED		
CHK	CHANGE NO.	REV.

(DATA MEMORY GROUP 0 BYTE 1) (SLOT 5)

TITLE	SIZE/SCALE	CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMF)	DCS	M8221-0-1	B	121
SCALE	SHEET	7 OF 19	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

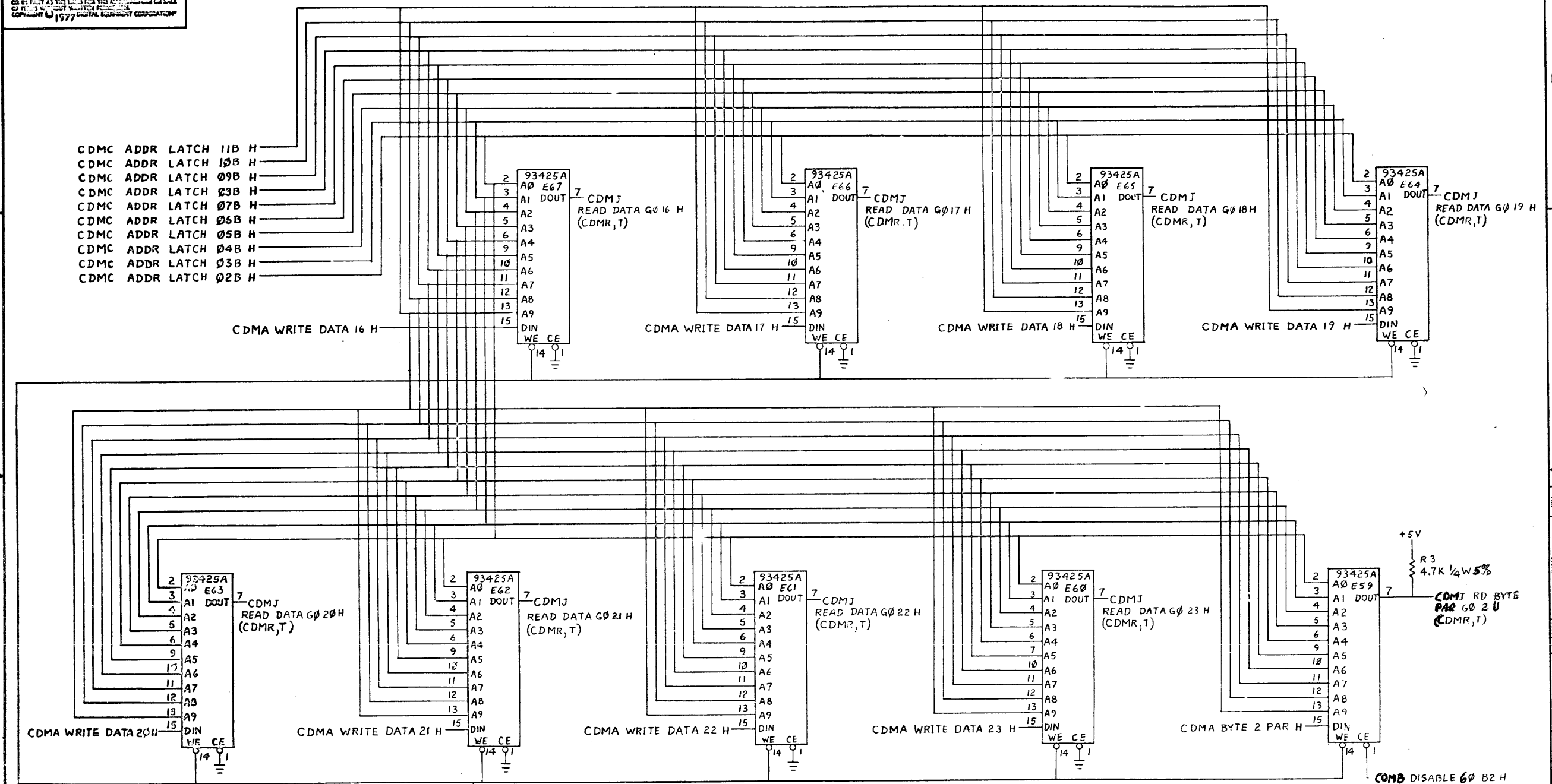


REVISIONS		
CHK	CHANGE NO.	REV.

( ADDRESS LATCH LOGIC ) ( SLOT 5 )

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMH)	DCS	M8221-0-1	B
SCALE	SHEET	DIST.	
1/2"	8 OF 19		

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 WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.  
 COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



- CDMC ADDR LATCH 11B H
- CDMC ADDR LATCH 10B H
- CDMC ADDR LATCH 09B H
- CDMC ADDR LATCH 08B H
- CDMC ADDR LATCH 07B H
- CDMC ADDR LATCH 06B H
- CDMC ADDR LATCH 05B H
- CDMC ADDR LATCH 04B H
- CDMC ADDR LATCH 03B H
- CDMC ADDR LATCH 02B H

MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

H = HIGH LEVEL  
 L = LOW LEVEL  
 X = IRRELEVANT  
 Z = HIGH IMPEDANCE(OFF)

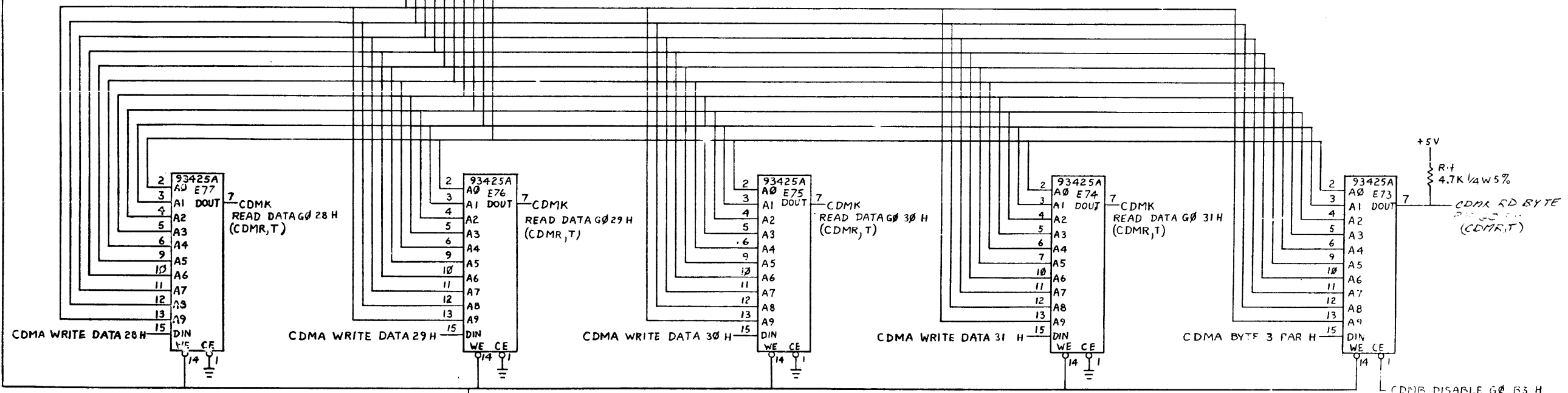
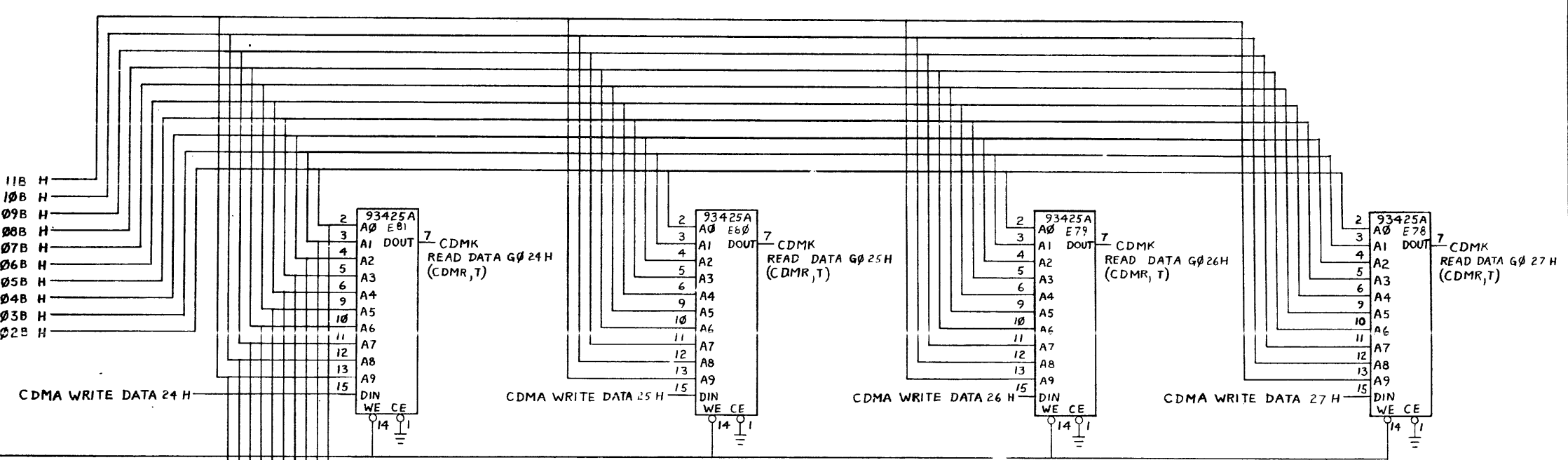
REVISIONS		
CHK	CHANGE NO.	REV.

(DATA MEMORY GROUP 0 BYTE 2) (SLOT 5)

TITLE	SIZE/CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMJ)	D CS	M8221-0-1	B
SCALE	SHEET 9	OF 19	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

- CDMC ADDR LATCH 11B H
- CDMC ADDR LATCH 10B H
- CDMC ADDR LATCH 09B H
- CDMC ADDR LATCH 08B H
- CDMC ADDR LATCH 07B H
- CDMC ADDR LATCH 06B H
- CDMC ADDR LATCH 05B H
- CDMC ADDR LATCH 04B H
- CDMC ADDR LATCH 03B H
- CDMC ADDR LATCH 02B H



MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

H-HIGH LEVEL  
 L-LOW LEVEL  
 X-IRRELEVANT  
 Z-HIGH IMPEDANCE

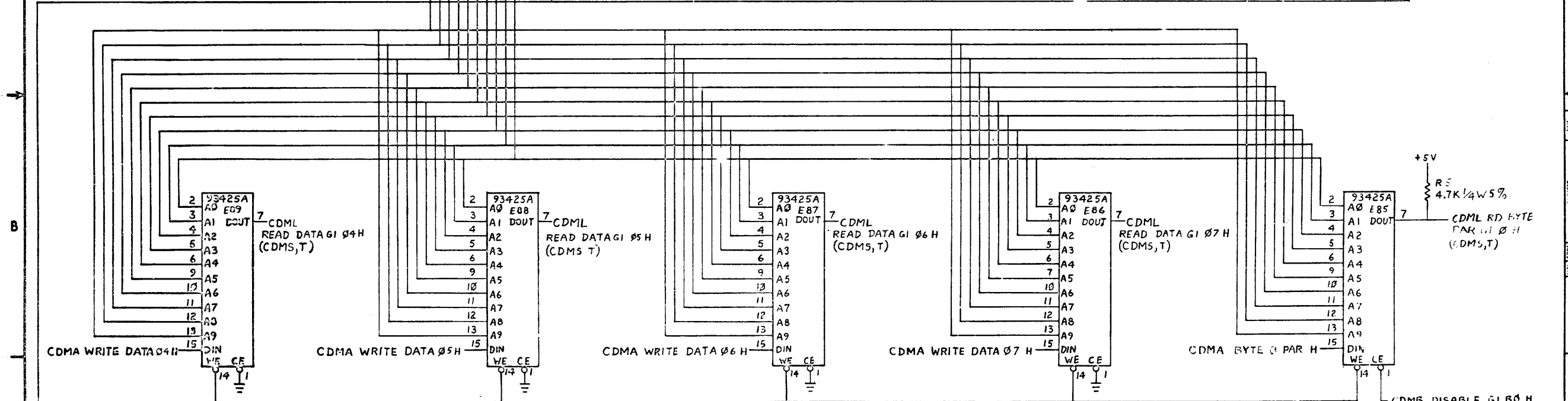
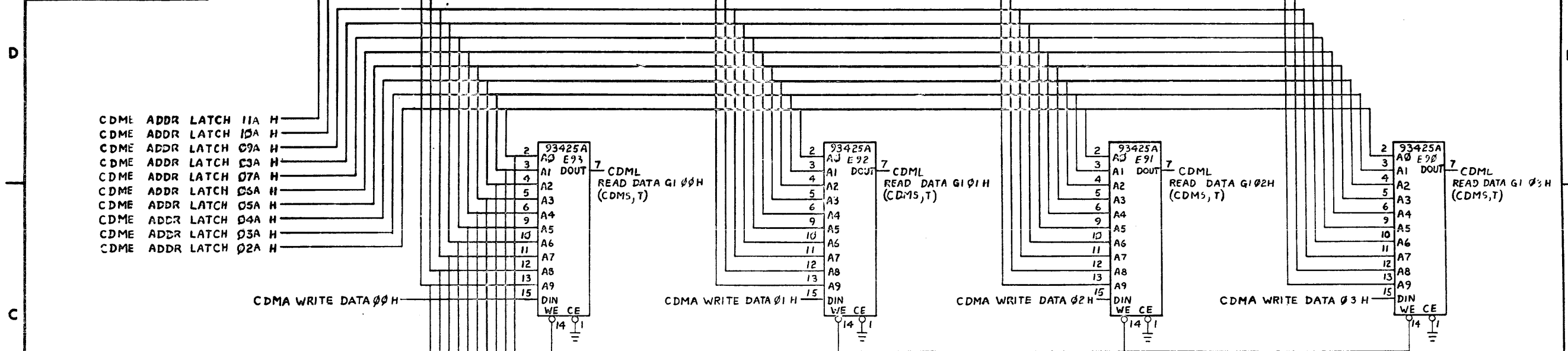
REVISIONS		
CHK	CHANGE NO.	REV.

(DATA MEMORY GROUP 0 BYTE 3) (SLOT 5)

TITLE	SIZE/CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMK)	D CS	M8221-0-1	B
SCALE	SHEET 10 OF 13	DIST.	

124

THIS DRAWING AND SPECIFICATIONS ARE THE PROPERTY OF QUALCOMM INCORPORATED. IT IS TO BE USED FOR THE PROJECT AND SYSTEM IDENTIFIED HEREIN ONLY. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF QUALCOMM INCORPORATED. © 1977 QUALCOMM INCORPORATED



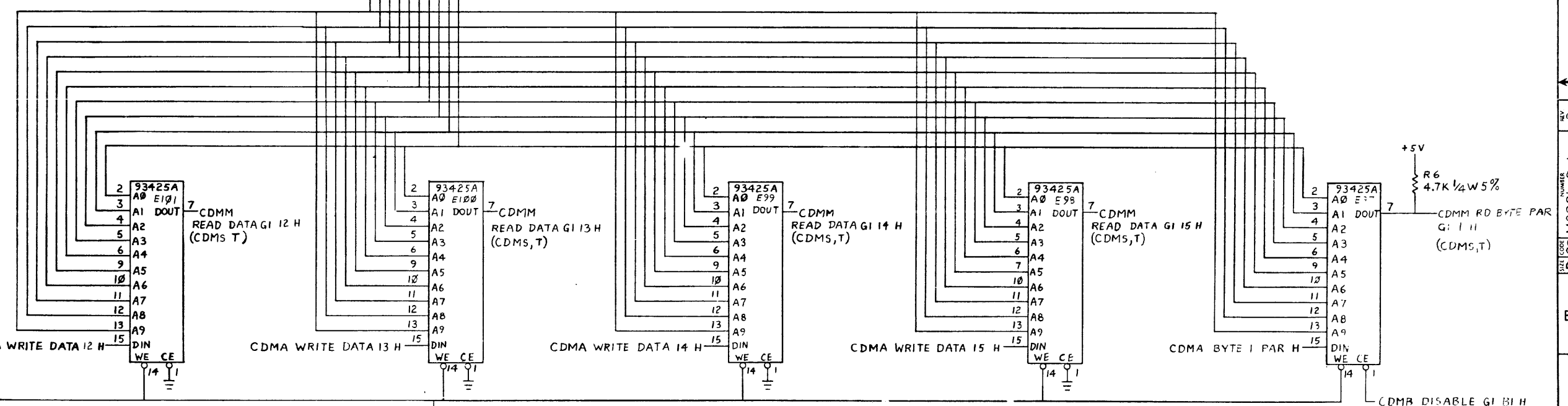
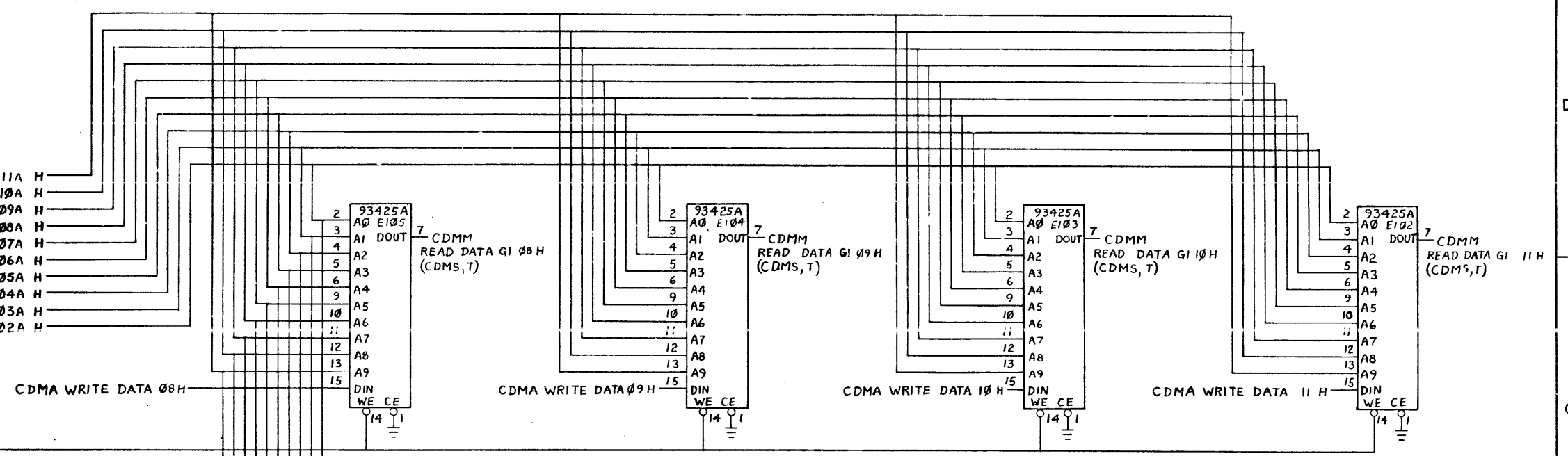
CDME DISABLE GI 03 H

CDME ADDR LATCH 11A H  
 CDME ADDR LATCH 10A H  
 CDME ADDR LATCH 09A H  
 CDME ADDR LATCH 07A H  
 CDME ADDR LATCH 06A H  
 CDME ADDR LATCH 05A H  
 CDME ADDR LATCH 04A H  
 CDME ADDR LATCH 03A H  
 CDME ADDR LATCH 02A H

CDME DISABLE GI 03 H

"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"

- CDME ADDR LATCH 11A H
- CDME ADDR LATCH 10A H
- CDME ADDR LATCH 09A H
- CDME ADDR LATCH 08A H
- CDME ADDR LATCH 07A H
- CDME ADDR LATCH 06A H
- CDME ADDR LATCH 05A H
- CDME ADDR LATCH 04A H
- CDME ADDR LATCH 03A H
- CDME ADDR LATCH 02A H



MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

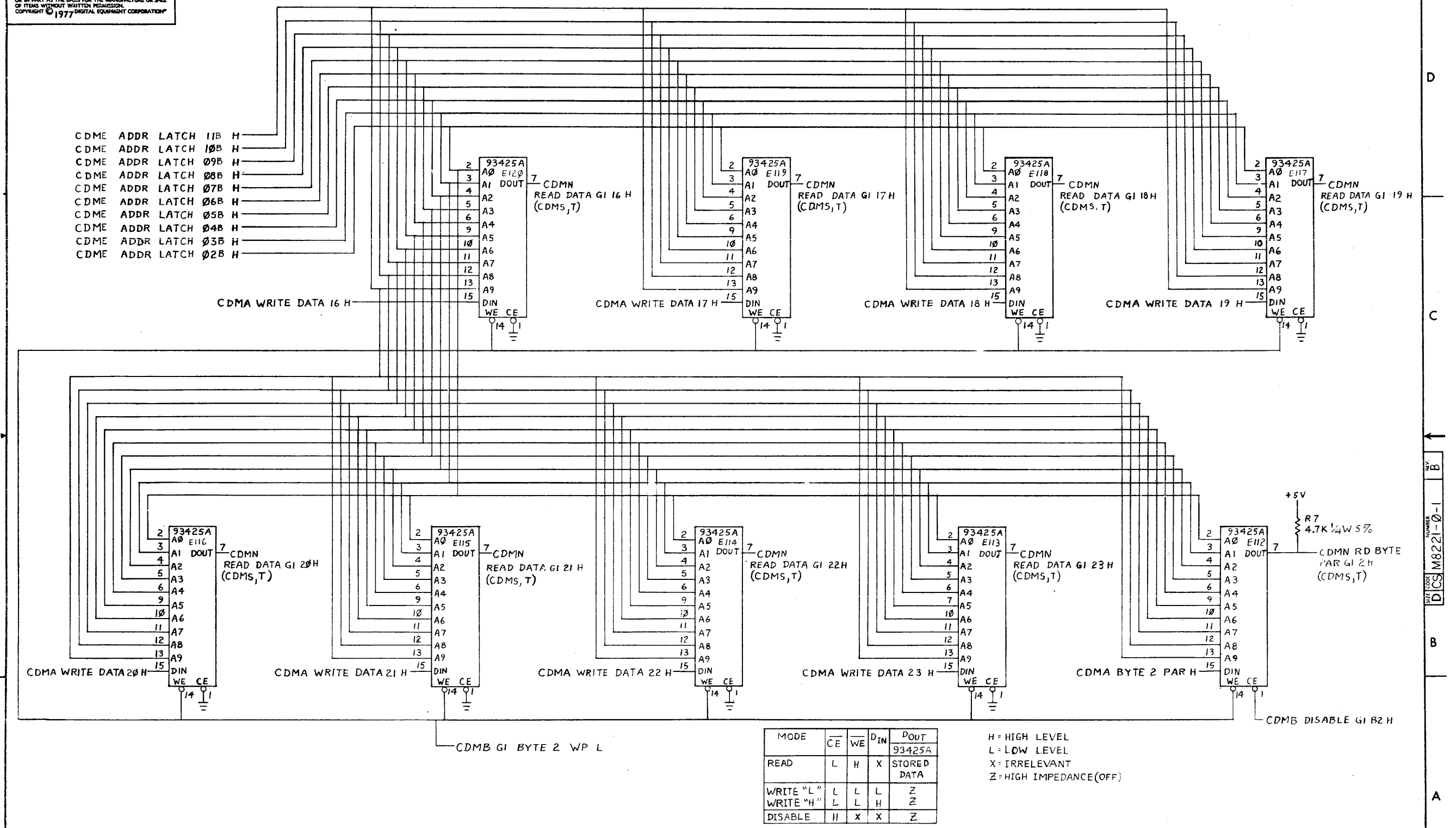
H-HIGH LEVEL  
L-LOW LEVEL  
X-IRRELEVANT  
Z-HIGH IMPEDANCE

(DATA MEMORY GROUP 1 BYTE 1) (SLOT 5)

TITLE	SIZE/SCALE	NUMBER	REV.
CACHE DATA MATRIX (CDMM)	D CS M8221-0-1	B	
SCALE	SHEET 12 OF 19	DIST.	

REVISIONS		
CHK	CHANGE NO	REV.

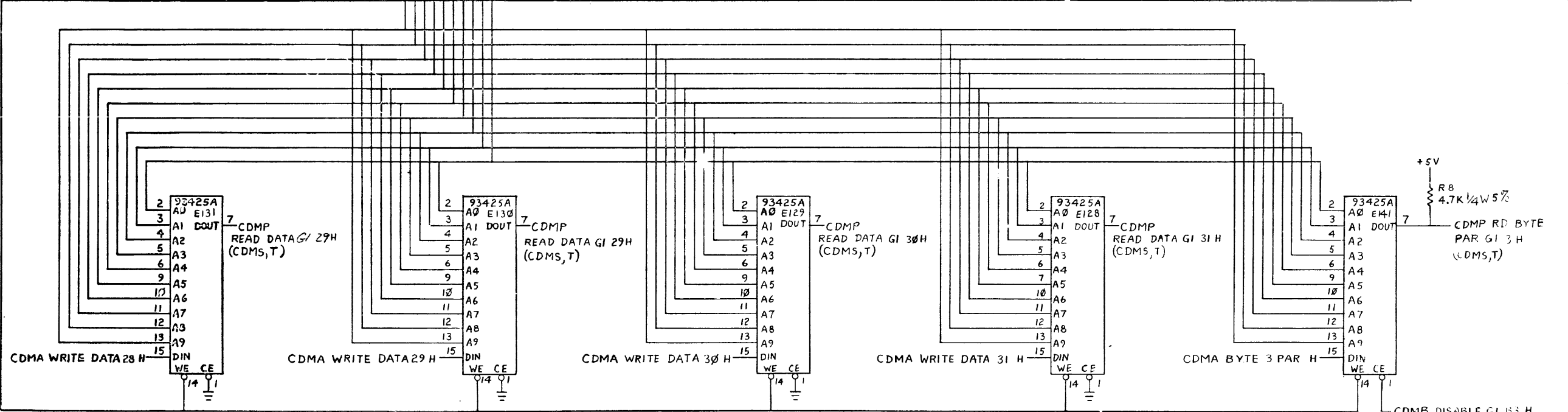
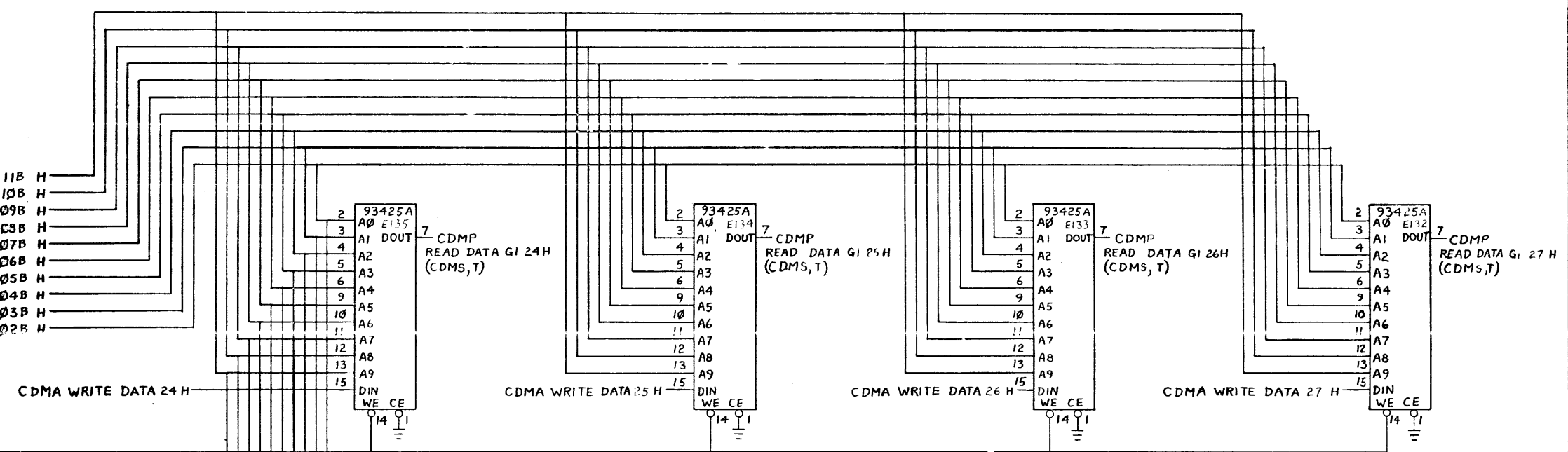
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

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 THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.  
 COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

- CDME ADDR LATCH 11B H
- CDME ADDR LATCH 10B H
- CDME ADDR LATCH 09B H
- CDME ADDR LATCH 08B H
- CDME ADDR LATCH 07B H
- CDME ADDR LATCH 06B H
- CDME ADDR LATCH 05B H
- CDME ADDR LATCH 04B H
- CDME ADDR LATCH 03B H
- CDME ADDR LATCH 02B H



MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

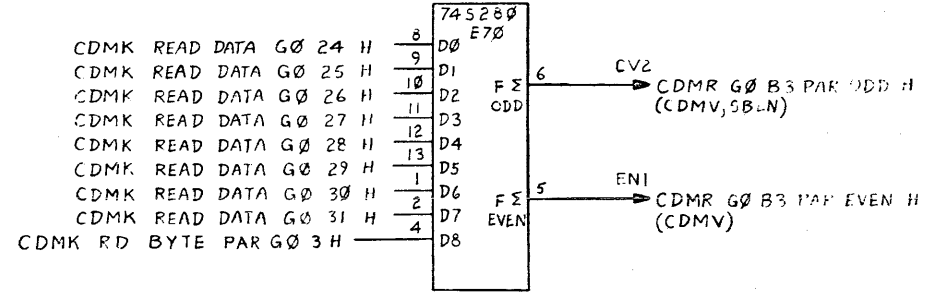
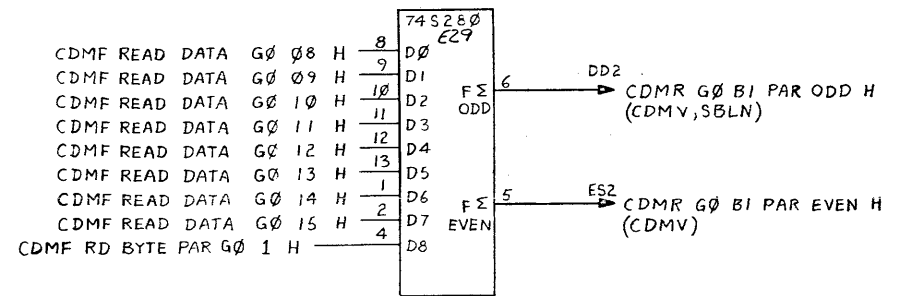
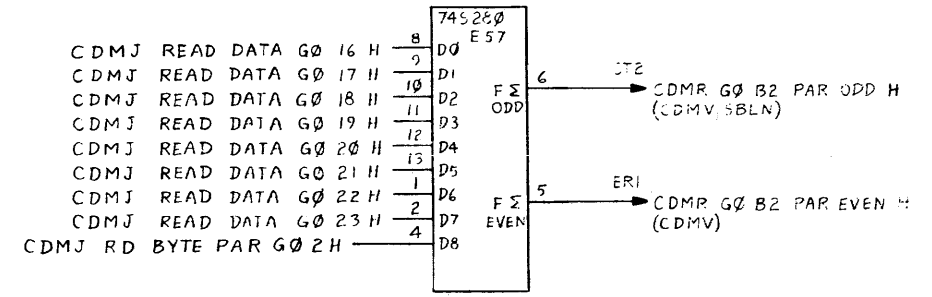
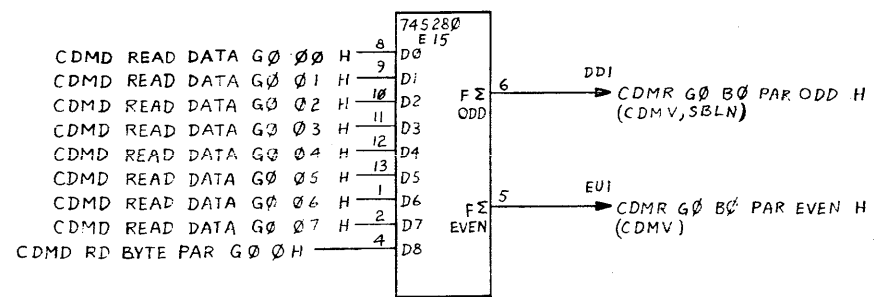
H = HIGH LEVEL  
 L = LOW LEVEL  
 X = IRRELEVANT  
 Z = HIGH IMPEDANCE (OFF)

REVISIONS		
CHK	CHANGE NO.	REV.

(DATA MEMORY GROUP 1 BYTE 3) (SLOT 5)  
 TITLE: CACHE DATA MATRIX (CDMP) SIZE CODE: DCS M8221-0-1 NUMBER: B REV. B  
 SCALE: --- SHEET 14 OF 19 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"



74S280 FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS	
	Σ EVEN	Σ ODD
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H=HIGH LEVEL, L=LOW LEVEL

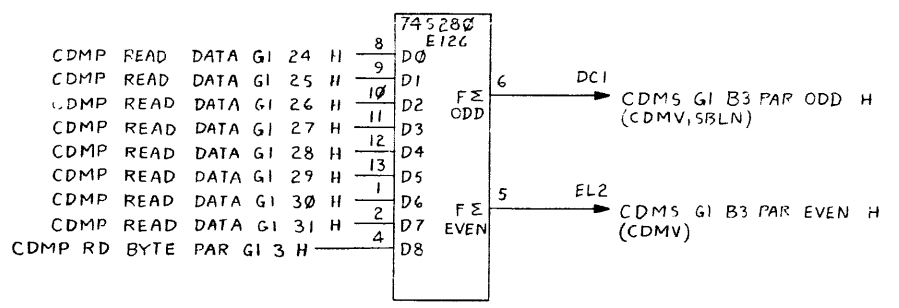
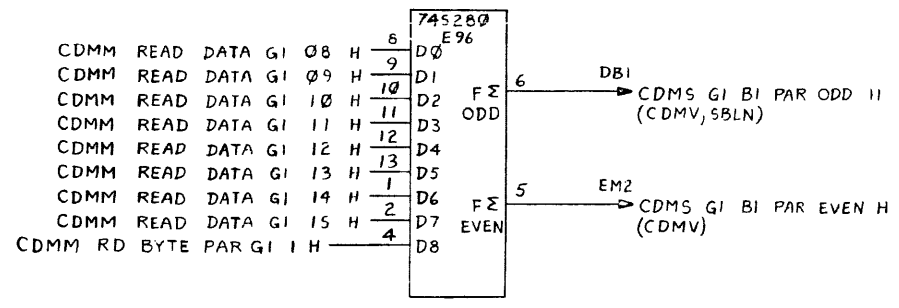
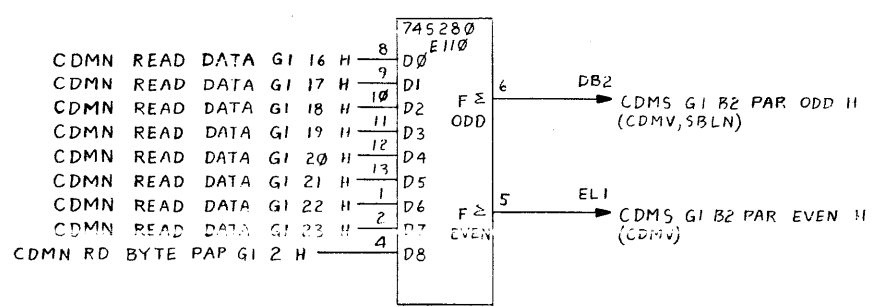
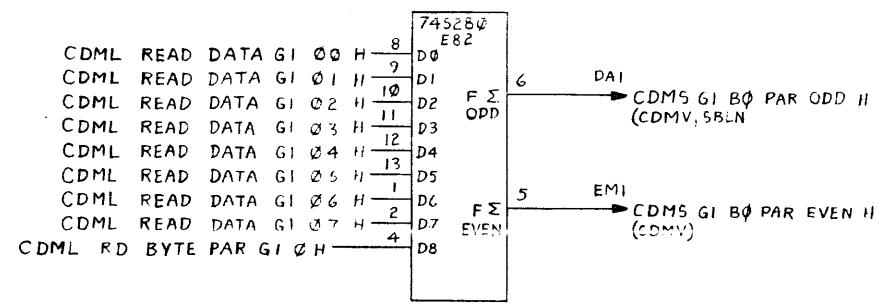
REVISIONS

CHK	CHANGE NO.	REV.

(PARITY CHECKER GROUP 0) (SLOT 5)

TITLE CACHE DATA MATRIX (CDMR)	SIZE CODE DCS	NUMBER M8221-0-1	REV. B
SCALE	SHEET 15 OF 19	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"



745280 FUNCTION TABLE

NUMBER OF INPUTS A THRU I THAT ARE HIGH	OUTPUTS	
	Σ EVEN	Σ ODD
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH LEVEL, L = LOW LEVEL

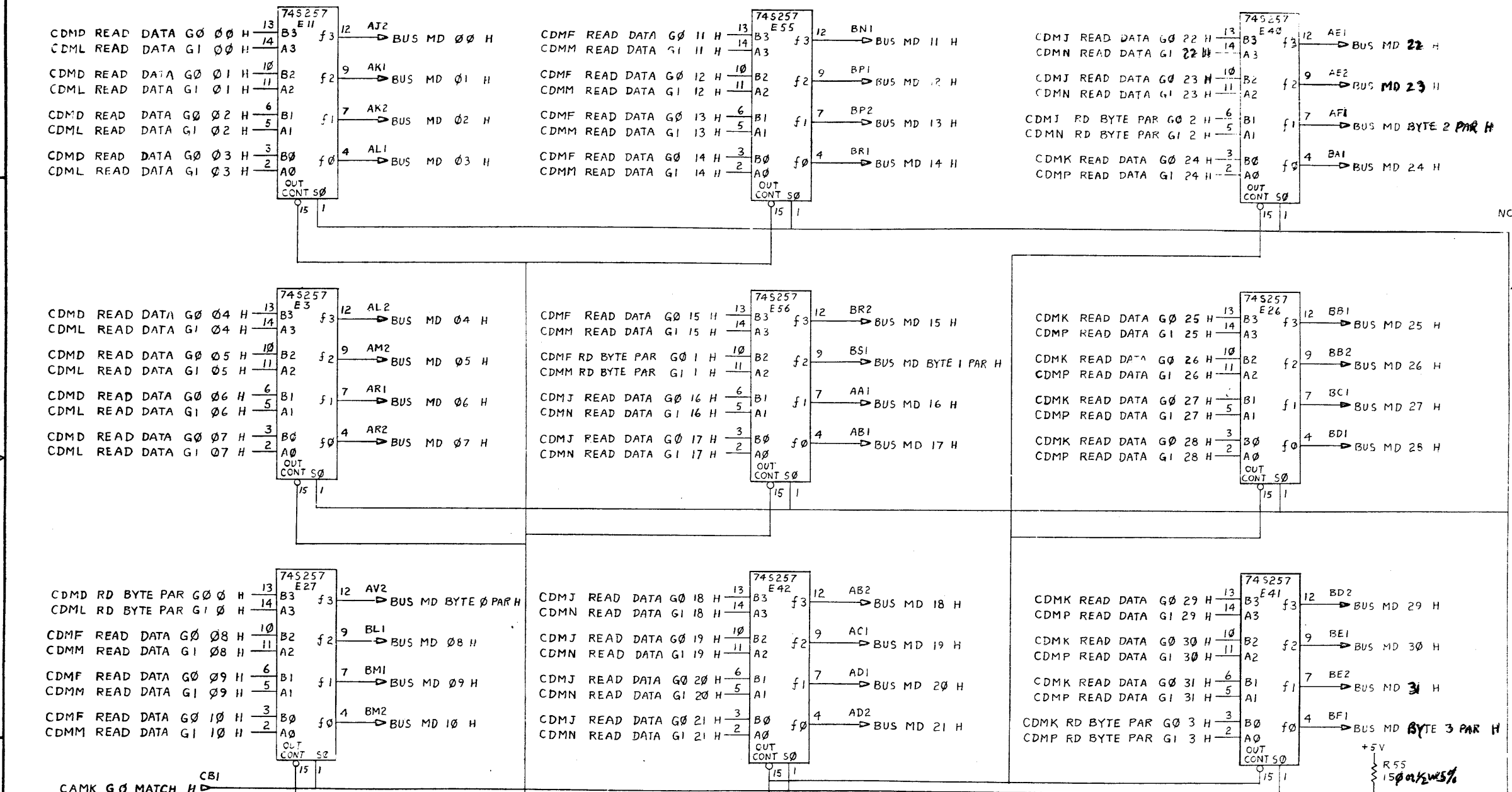
REVISIONS

CHK	CHANGE NO.	REV.

(PARITY CHECKER GROUP 1) (SLOT 5)

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMS)	DCS	M8221-0-1	B
SCALE	SHEET 16 OF 19	DIST.	

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 WRITTEN PERMISSION FROM DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.



NOTES:  
 1. RESISTORS MUST BE AT OPPOSITE END OF RUN FROM INPUT PIN  
 2. RESISTORS R56-R58 ARE NOT USED

H = HIGH LEVEL  
 L = LOW LEVEL  
 X = IRRELEVANT  
 Z = HIGH IMPEDANCE (OFF)

INPUT		OUTPUT	
OUTPUT CONT	SELECT	A	B
H	X	X	X
L	L	L	X
L	L	H	X
L	H	X	L
L	H	X	H

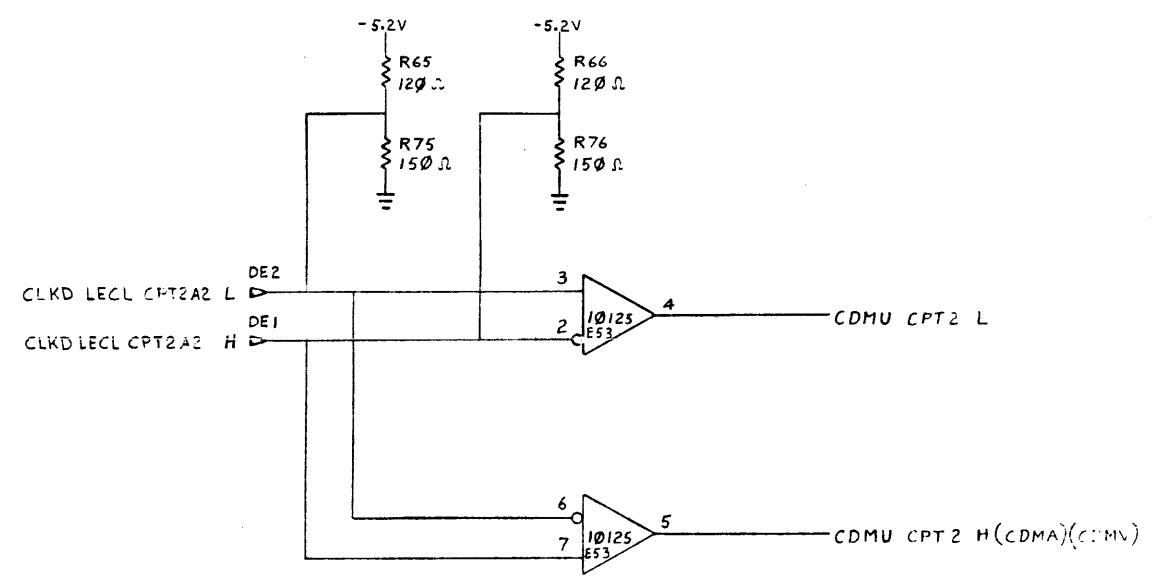
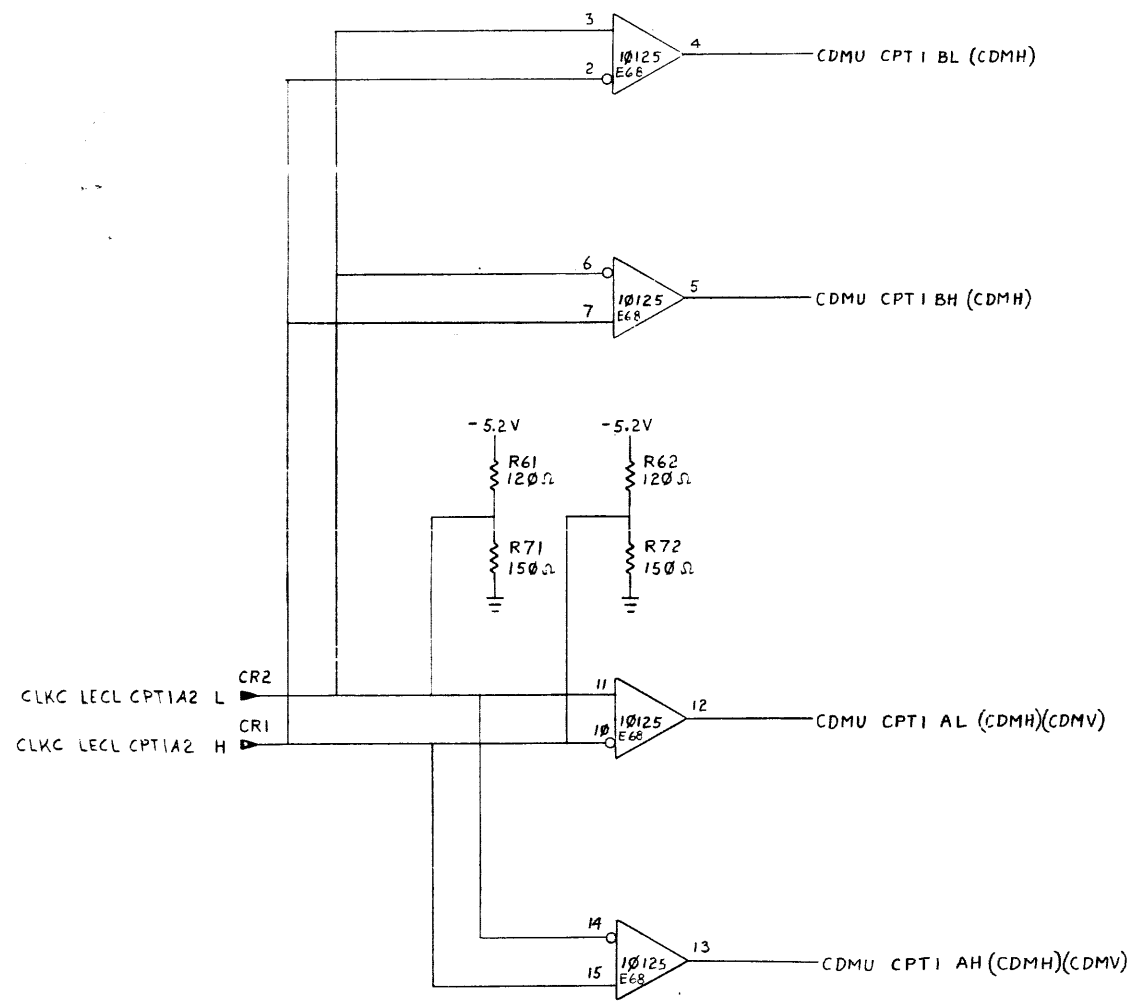
REVISIONS		
CHK	CHANGE NO.	REV.

(CDM OUTPUT DATA MULTIPLEXER) (SLOT 5)

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMT)	D CS	M8221-0-1	B
SCALE	SHEET	17 OF 19	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"

- NOTES:  
1. ALL RESISTORS ARE 1/4 WATT 5%  
2. IC 10125 POWER IS -5.2V ON PIN 8  
+5V ON PIN 9  
GND ON PIN 16



REVISIONS		
CHK	CHANGE NO.	REV.

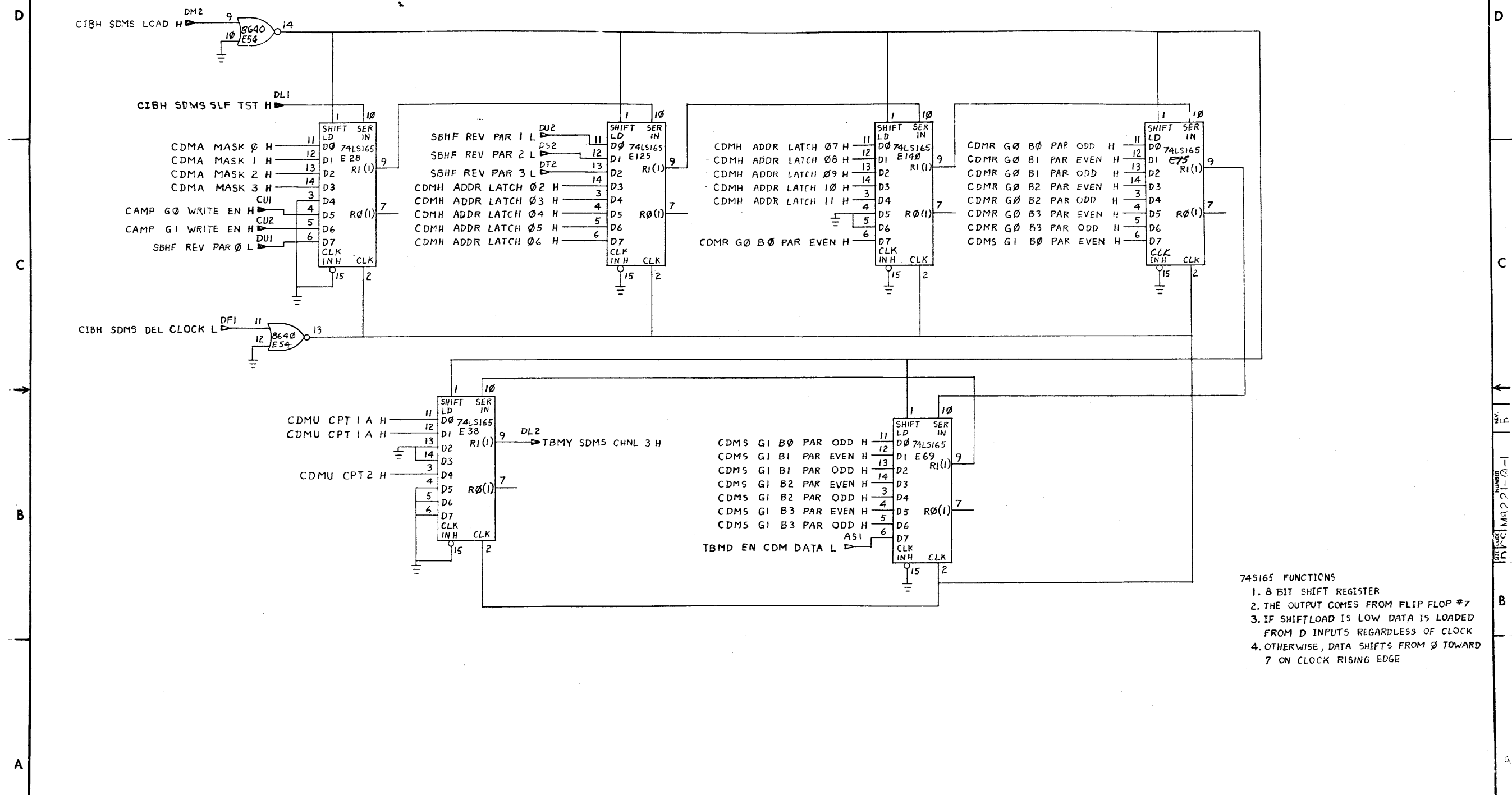
(CLOCK RECEIVERS) (slot 5)

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMU)	D	CSM8221-0-1	B

SCALE: 1:1 SHEET 18 OF 19 DIST.:

132

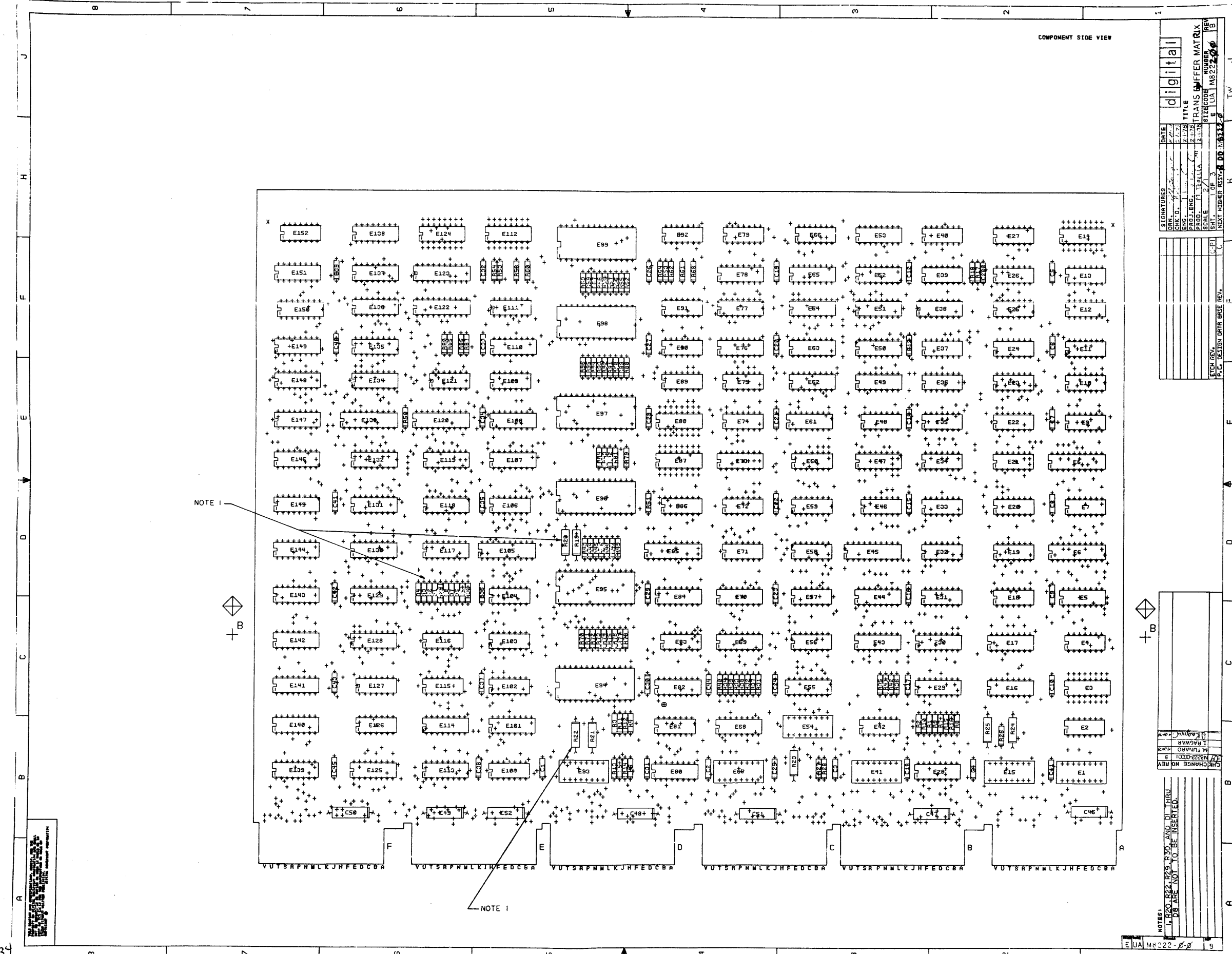
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



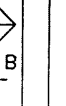
REVISIONS		
CHK	CHANGE NO.	REV.

(V BUS REGISTERS) (SLOT 5)

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMV)	D	CS M8221-0-1	B
SCALE	SHEET	DIST.	
	19 OF 19		



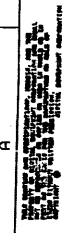
DATE	2/1/72	TITLE	TRANS BUFFER MATRIX
CHK'D.	[Signature]	PROJ. ENG.	[Signature]
DESIGNER	[Signature]	PROJ. MGR.	[Signature]
SHEET	27	OF	3
DRAWN BY: [Signature]		REVISED BY: [Signature]	
DATE: 1/24/72		BY: [Signature]	
PROJECT: M822-0001		SHEET NO: 27	
DRAWING NO: M822-0001		ISSUE NO: 1	
REVISIONS:		NEXT DESIGN ASSY. NO: M822-0002	
ETCH REV. _____			
P.L.C. DESIGN DATA REV. _____			
CHANGE NO REV _____			
DESIGNED BY: [Signature]			
CHECKED BY: [Signature]			
APPROVED BY: [Signature]			
SCALE: _____			
MATERIALS: _____			
SPECIFICATIONS: _____			
PARTS LIST: _____			
TEST PROCEDURES: _____			
ASSEMBLY INSTRUCTIONS: _____			
OTHER NOTES: _____			



NOTE 1

NOTE 1

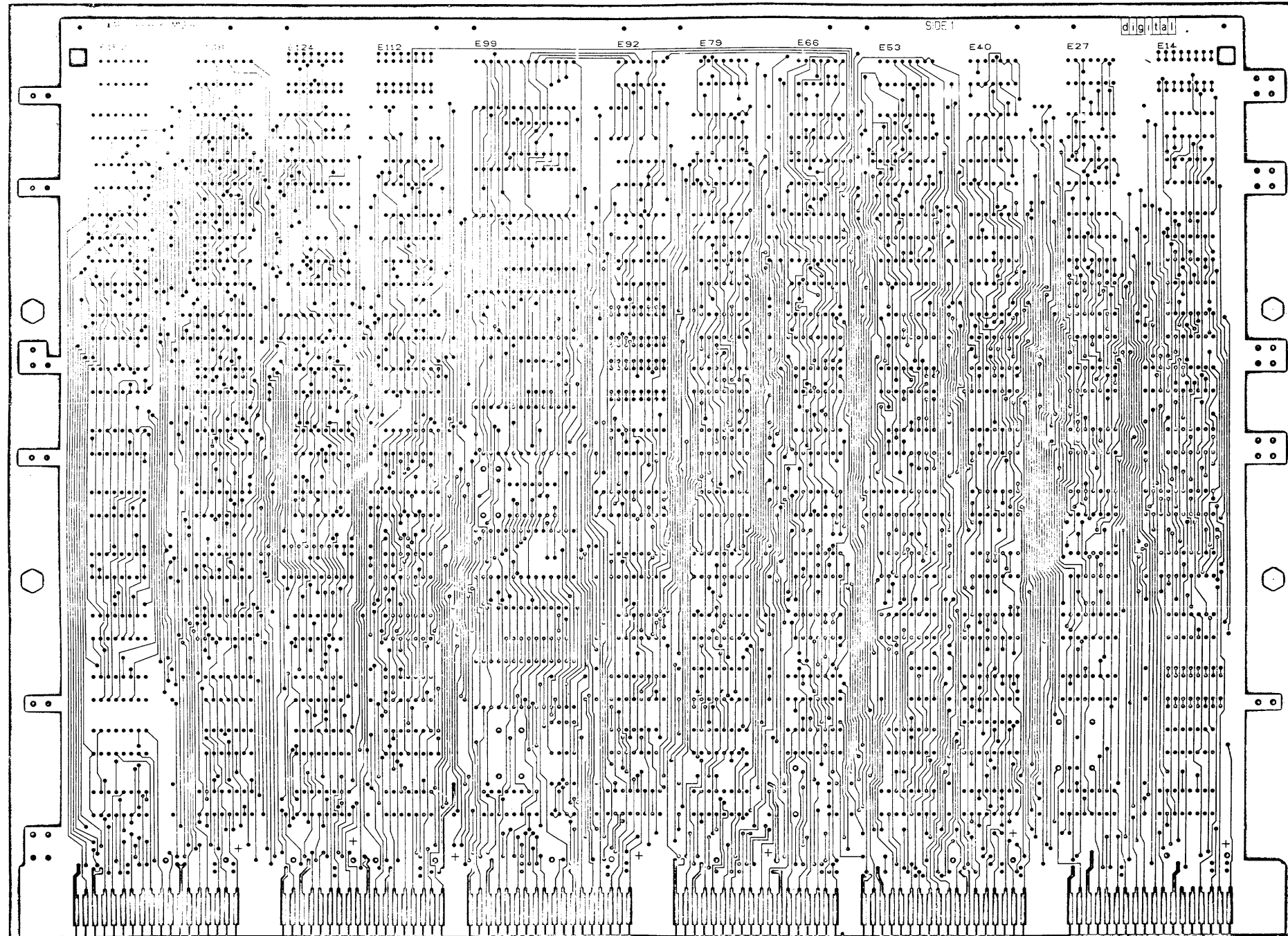
NOTES:  
 1. R20, R22, R23, R30, AND D1 THRU D8 ARE NOT TO BE INSERTED.



M8222 5012619C-P1

LAYER 1

L1

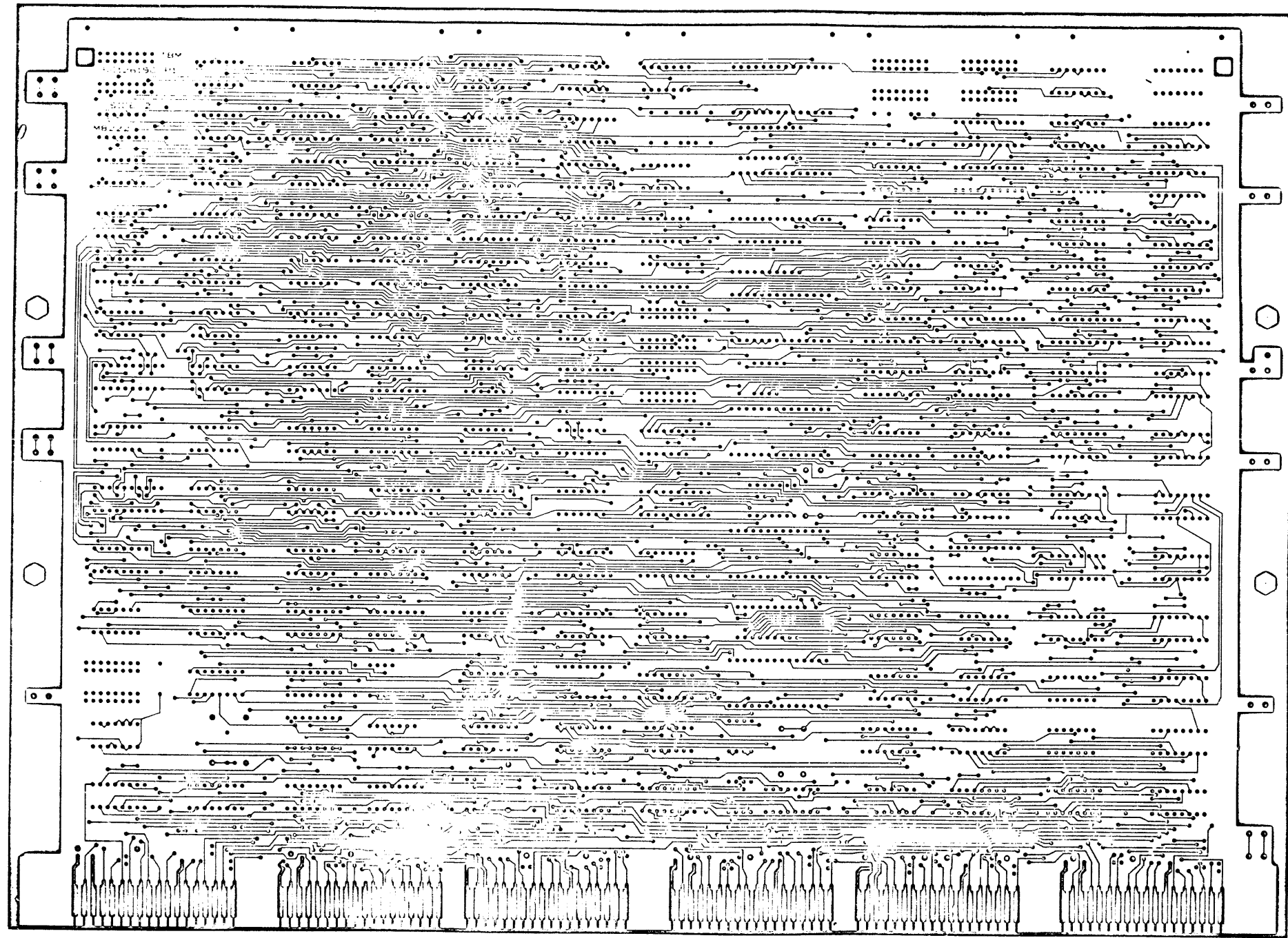


REVISIONS		
CHK	CHANGE NO.	REV

TITLE	TRANS BUFFER MATRIX	SIZE/SCALE	NUMBER	REV
SCALE	2-1	SHEET	2 OF 3	B
DIST.				

M8222.C.O

B5



REVISED

136

TITLE	TRANS BUFFER MATRIX	DATE	EDA	NUMBER	M0222-0-0	REV	B
SCALE	1:1	SHEET	3 OF 3	DIST			



LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012619-0-0	5012619-00	M8222	1	
2	2		1012784-00	.047 MFD 50V XZ CER. \$	46	C1-C45,C200
3	3		1012084-01	8 MFD 25V 6% 30D AL EL	7	C46-C52
4	4		1301781-00	82 1/2W 5% CC	2	R19,R21
5	5		1300243-00	120 1/2W 5% CC	3	R23-R25
6	6		1300247-00	120 1/4W 5% CC	9	R1-R8,R28
7	7		1301775-00	820 1/4W 5% CC	60	R37-R96
8	8		1300295-00	330 1/4W 5% CC	7	R17,R31-R36
9	9		1300250-00	150 1/4W 5% CC	8	R9-R16
10	10		1301424-00	680 1/4W 5% CC	1	R18
11	11		1301972-00	270 1/4W 5% CC	2	R26,R27
12	12		1910532-00	74S00 NAND GATE-QUAD 2IN	6	E9,E10,E13,E24,E48,E75
13	13		1912388-00	74S02 NOR GATE-QUAD 2IN,POS	6	E11,E27,E19,E31,E83,E91
14	14		1910534-00	74S04 INVERTER GATE-HEX 1IN	14	E4,E7,E20,E25,E35,E46,E56,E66, CONT. E89,E90,E100,E115,E116,E127
15	15		1912389-00	74S08 AND GATE-QUAD 2IN,POS	14	6 E22,E23,E39,E59,E21,E72
16	16		1910536-00	74S10 NAND GATE-TRIPLE 3IN	4	E12,E26,E34,E18
17	17		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	1	E36
18	18		1910539-00	74S20 NAND GATE-DUAL 4INPUT	2	E71,E126
19	19		1912746-00	/OBSOLETE \$	3	E42,E57,E60
20	20		1911712-00	74S51 AND-OR GATE-INVERT DUAL 2W/2IN	1	E58
21	21		1910542-00	74S64 A-0-I XPRR GATE,4-2-3-2	14	9 E2,E32,E33,E37,E40,E79,E102, CONT. E103,E104
22	22		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	1	E74
23	23		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	2	E50,E61
24	24		1911983-00	74S133 NAND GATE-POSITIVE 13IN	3	E5,E62,E114
25	25		1911675-00	74S138 DECODER-THREE INPUT	1	E84
26	26		1910548-00	74S157 MUX 1 OF 2 (QUAD)	5	E44,E49,E51,E52,E77
27	27		1910549-00	74S158 MUX 1 OF 2 (QUAD)	1	E108
28	28		1910957-00	74S175 FF-D QUAD COMMON CLOCK	2	E17,E69

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		
CHK	ECC NO	REV	FIRST USED ON: M8222		
			DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
	INIT	B	MADE BY: F. SMART	DATE: 4-10-78	TITLE
			CHECKED: F. SMART	DATE: 4-10-78	PARTS LIST
			DSN.ENG.: I. RAGUAR	DATE: 4-10-78	TRM
			PROD.: N. TERELLA	DATE: 4-10-78	SIZE CODE
			RESP.ENG.: I. RAGUAR	DATE: 4-10-78	DOCUMENT NUMBER
					REV
					M8222-0-0
					B
					EDITS
					7
					ASSY.NO.: E-UA-M8222-0-0

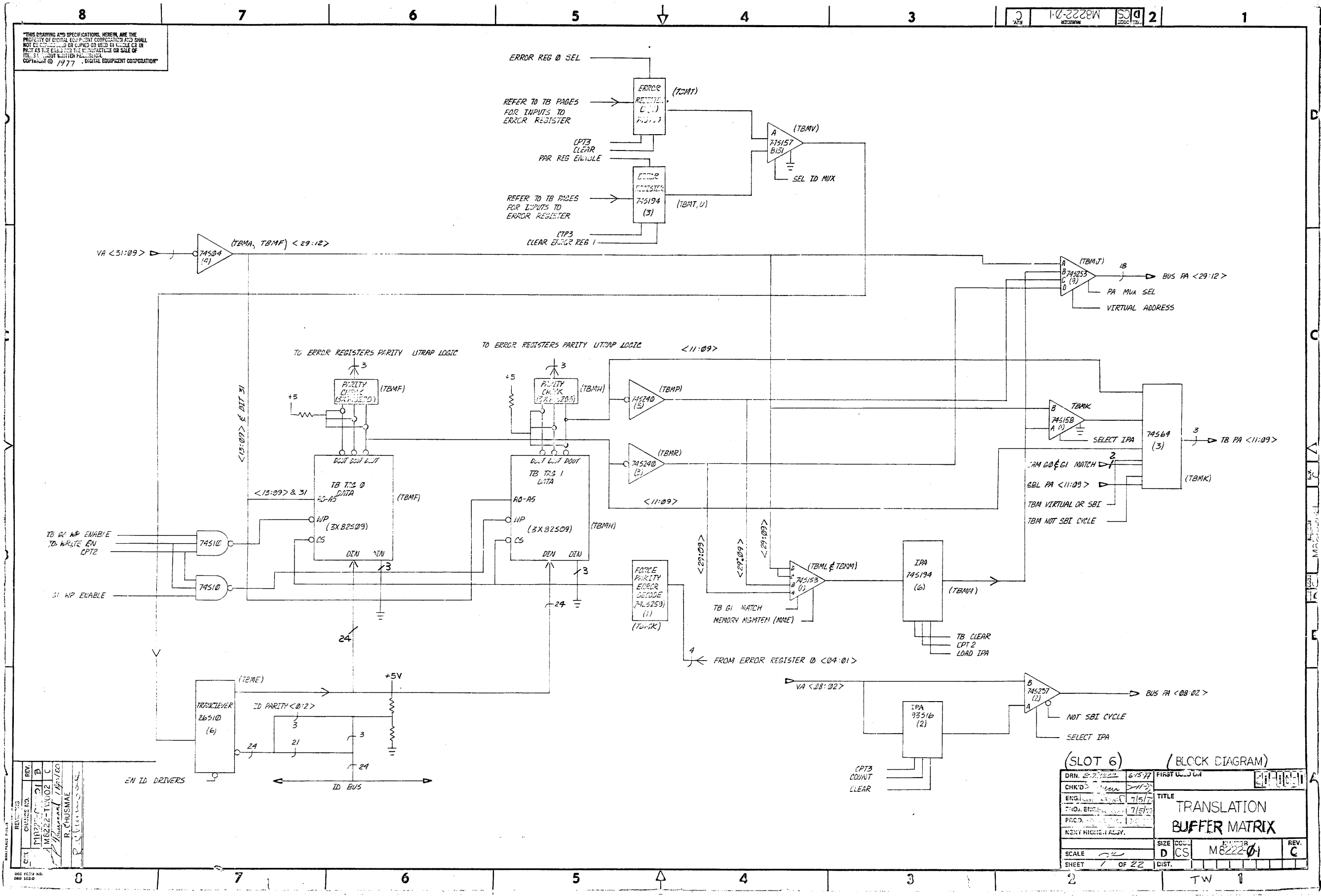
\*THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.  
COPYRIGHT 1978, DIGITAL EQUIPMENT CORPORATION \*

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
29	29	1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	14	E30,E38,E43,E47,E65,E68,E76,
				CONT	E78,E110,E119,E131,E136,E144,
				CONT	E150
30	30	1913462-00	74S240 OCTAL BUFFER,INVERTING TRI-STA	6	E85,E105,E120,E122,E123,E133
31	31	1912660-00	74S253 MUX 1 OF 4 (DUAL) TRI-STATE	9	E128,E129,E132,E134,E135,E141,
				CONT	E142,E147,E148
32	32	1911641-00	SN 74S257 MUX,QUAD 2 TO 1	2	E139,E140
33	33	1911573-00	74S280 PARITY GEN/CHKR,9BIT ODD/EVEN	6	E86,E92,E106,E109,E111,E121
34	34	1913670-00	74S373 LATCH 8BIT TRASP TRISTATE	3	E6,E8,E45
35	35	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E81
36	36	1913788-00	26S10 TRANSCEIVER,BUS,QUAD	6	E1,E15,E41,E54,E67,E93
37	37	1913663-00	93419DC RAM 64X9 28PIN TTL ISOPLANA	6	E94-E99
38	38	1913294-00	93S16 COUNTER,SYNCH UP BINARY	2	E113,E125
39	39	1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	3	E28,E80,E82
40	40	1910547-00	74S153 MUX 1 OF 4 (DUAL)	11	E107,E117,E118,E130,E137,E138,
				CONT	E143,E145,E149,E151,E146
41	41	1913839-00	74LS165 SHIFT REG.,8BIT	4	E16,E29,E55,E101
42	42	1912696-00	LS194A SHIFT REG.,4BIT BI-DIRCT	4	E53,E63,E64,E70
43	43	1912860-00	LS259 LATCH 8BIT	1	E73
44	44	1210711-02	HANDLE ASSY,MOD BOEHLER-JARVIS	1	
45	45	9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	

46 NOTE: IC SPARES E3,E14,E87,E88,E112,E124,E152

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE TBM	PARTS LIST	SIZE K	CODE PL	DOCUMENT NUMBER M8222-0-0	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 THE SAME WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION © 1977



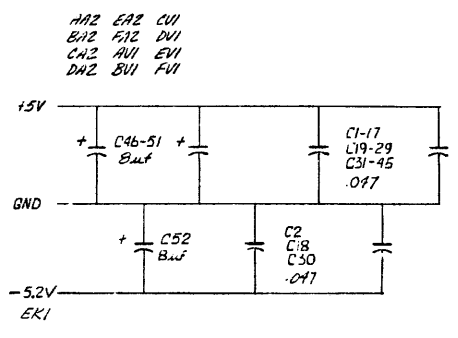
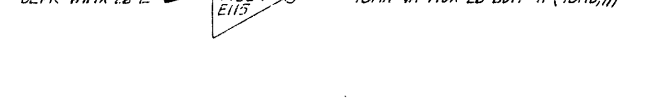
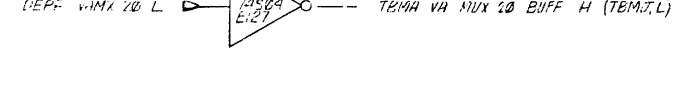
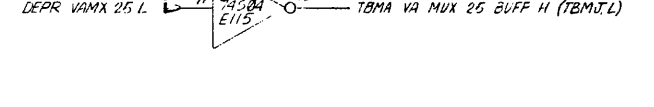
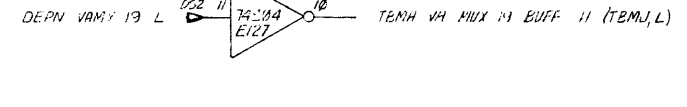
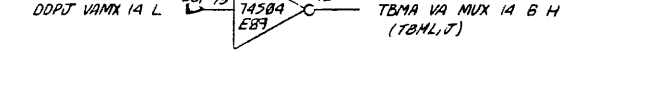
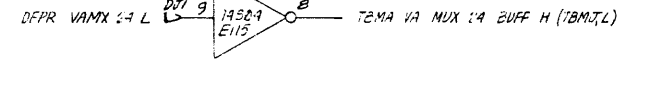
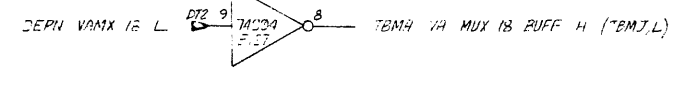
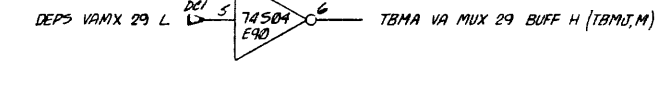
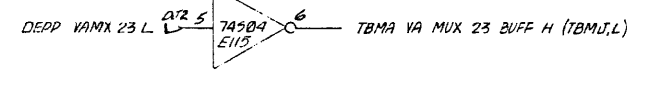
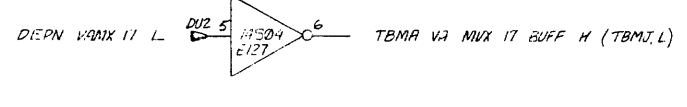
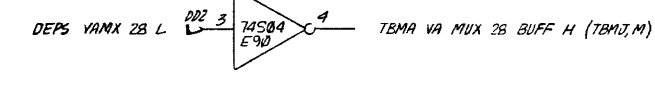
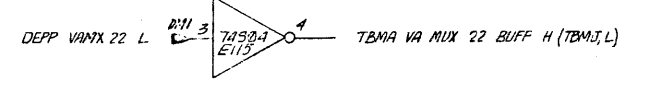
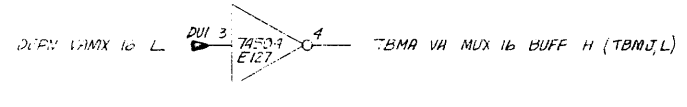
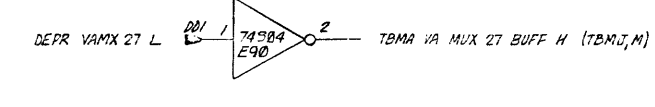
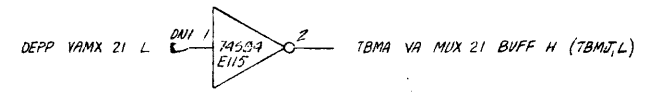
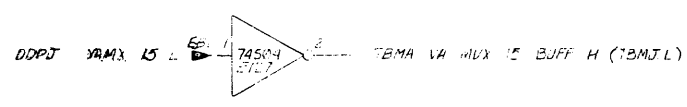
REV.	DATE	BY	CHK'D
1	11/02	C	
2	11/02	C	

DESIGNED BY: R. CHUSMAE  
 CHECKED BY: R. CHUSMAE  
 DRAWN BY: R. CHUSMAE

(SLOT 6) (BLOCK DIAGRAM)

DRN. 277022	6/5/77	FIRST U.S. JUN
CHK'D		
ENGR.	7/5/77	
PROJ. ENGR.	7/5/77	
PROC. ENGR.		
NEXT HIGHER ASY.		
SCALE	SIZE DCS	NUMBER M8222-01
SHEET 7 OF 22	DIST.	REV. 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 © DIGITAL EQUIPMENT CORPORATION"



A02 AH1 AN2 AT1  
 B02 BH1 BN2 BT1  
 C02 CH1 CN2 CT1  
 D02 DH1 DN2 DT1  
 F02 EH1 EN2 ET1  
 EC2 FH1 FN2 FT1

REVISIONS		
CHK	CHANGE NO.	REV.

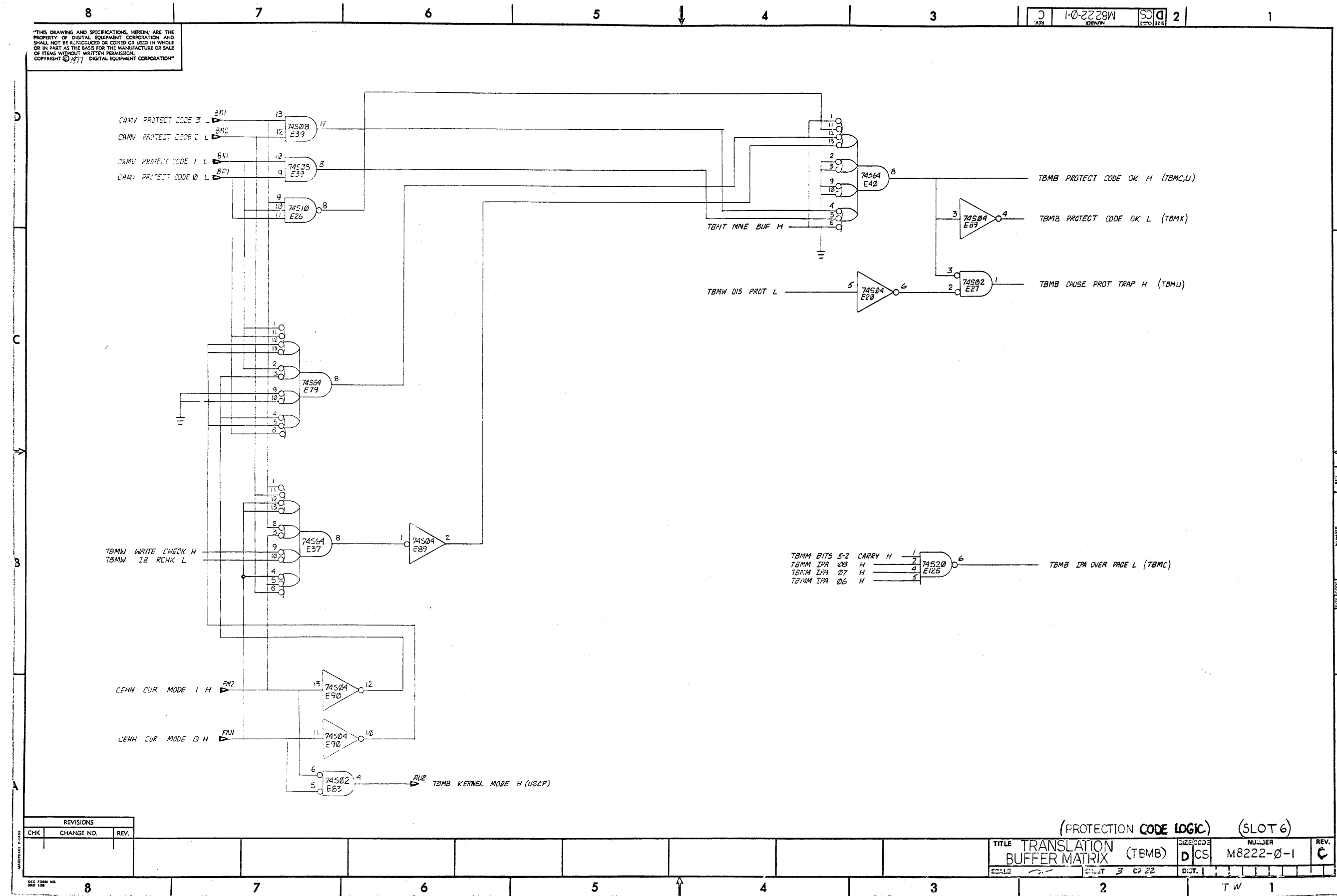
(SLOT 6)

(VA MUX DRIVERS)

TITLE	TRANSLATION BUFFER MATRIX (TBMA)	DESIGN CODE	D CS	NUMBER	M8222-0-1	REV.	C
DATE	7-1	ISSUE	2 OF 22	DATE			

"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"

CS M8222-0-1 2

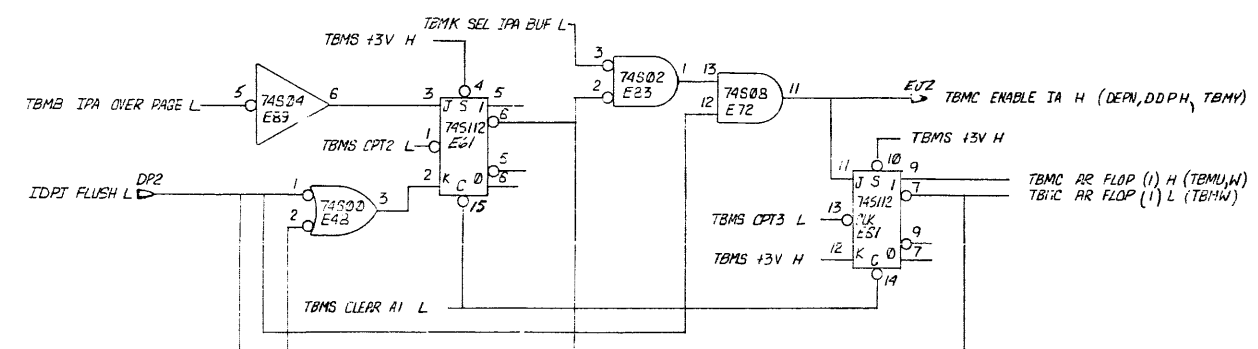
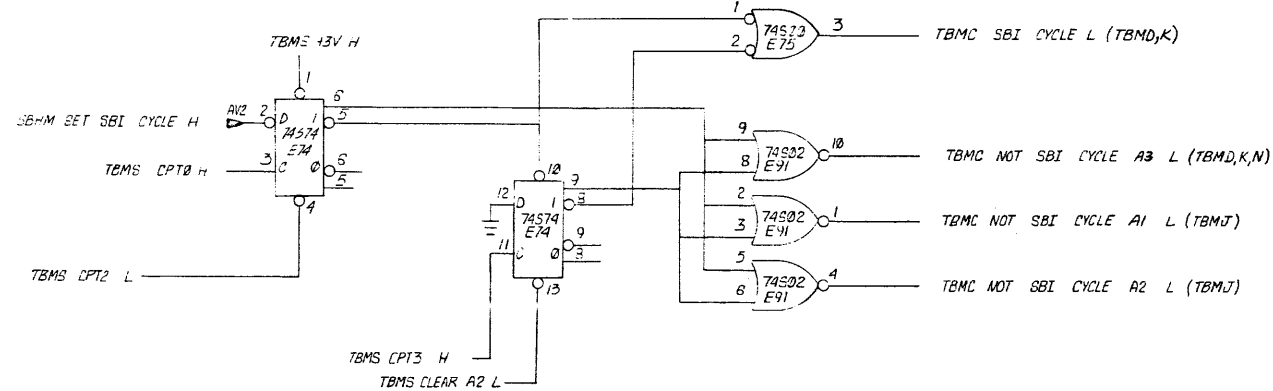


REVISIONS		
CHK	CHANGE NO.	REV.

(PROTECTION CODE LOGIC) (SLOT 6)		TITLE TRANSLATION BUFFER MATRIX (TBMB)		SIZE CODE DCS	NUMBER M8222-0-1	REV. C
SCALE						

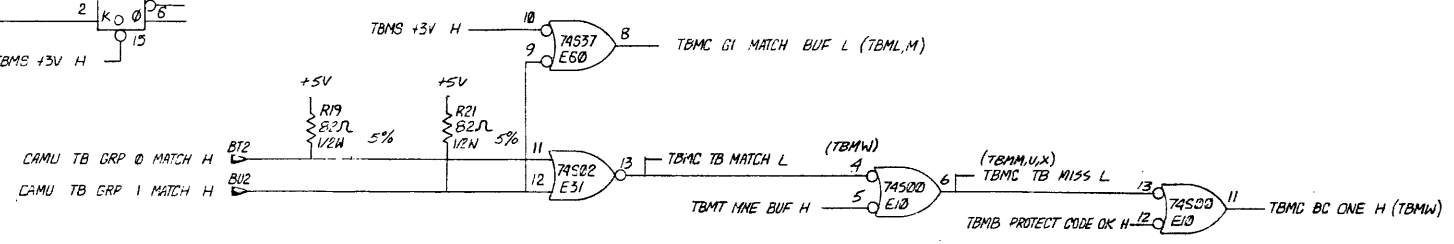
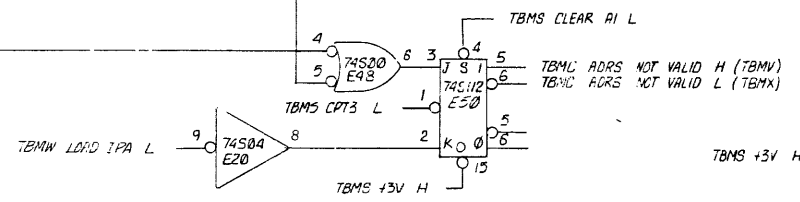
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER OR IN ANY MANNER FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

TBMH G1 DA PAR 1 EV H 10  
 TBMV G1 DA PAR 0 EV H 11  
 CAMT G1 AD PAR 2 EV H 12  
 CAMT G1 AD PAR 1 EV H 13  
 CAMT G1 AD PAR 0 EV H 14  
 TBMS +3V H 15  
 CAMS G0 AD PAR 0 EV H 16  
 CAMS G0 AD PAR 1 EV H 17  
 CAMS G0 AD PAR 2 EV H 18  
 TBMF G3 DA PAR 2 EV H 19  
 TBMF G3 DA PAR 1 EV H 20  
 TBMV G3 DA PAR 0 EV H 21  
 TBMH G1 DA PAR 2 EV H 22



- 74512 -  
 WHEN THE CLOCK GOES LOW THE INPUTS ARE ENABLE AND DATA WILL BE ACCEPTED. LOW INPUT TO PRESET SETS OUTPUT (1) TO HIGH LEVEL, LOW TRAP TO (1) PAR (2) RESETS OUTPUT (1) TO LOW LEVEL. CLEAR AND PRESET ARE INDEPENDENT OF CLOCK.

- 74574 FUNCTIONS -  
 THE INFORMATION AT D INPUT IS TRANSFERRED TO THE OUTPUT (1) OF THE FLOP ON THE POSITIVE GOING EDGE OF THE CLOCK PULSE. LOW INPUT TO PRESET SETS OUTPUT (1) TO HIGH LEVEL. LOW INPUT TO CLEAR RESETS OUTPUT (1) TO LOW LEVEL. PRESENT AND CLEAR ARE INDEPENDENT OF CLOCK.



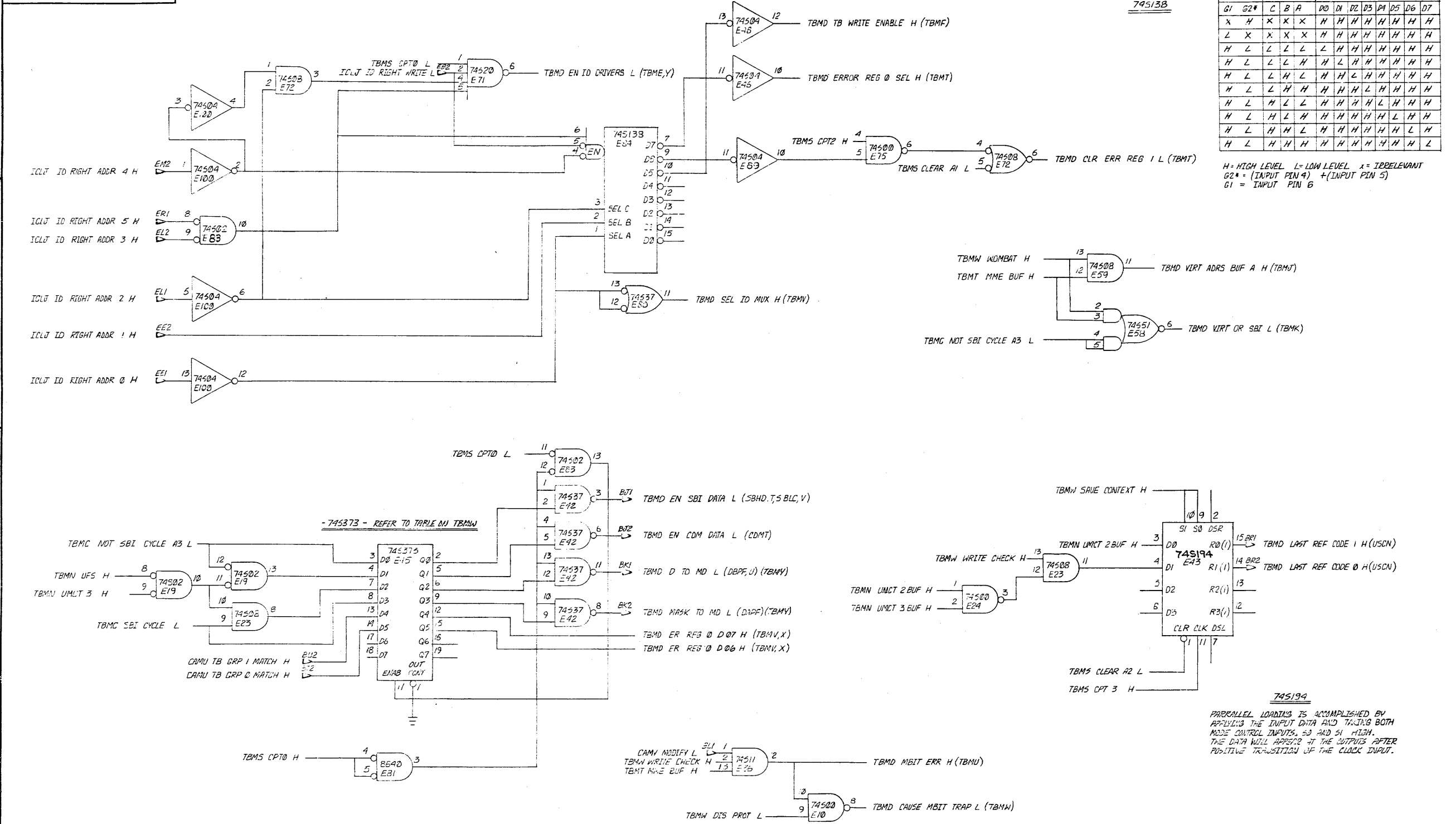
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 6)  
 (TB PARITY UTRAP & FA MUX ENABLE LOGIC)

TITLE	TRANSLATION BUFFER MATRIX (TBM)	SIZE CODE	D CS	NUMBER	M8222-0-1	REV.	C
SCALE		SHEET	7	OF	22	DIGT.	

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 THEY ARE, EITHER THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977

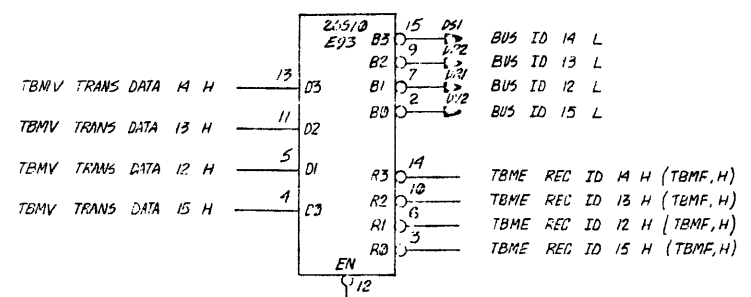
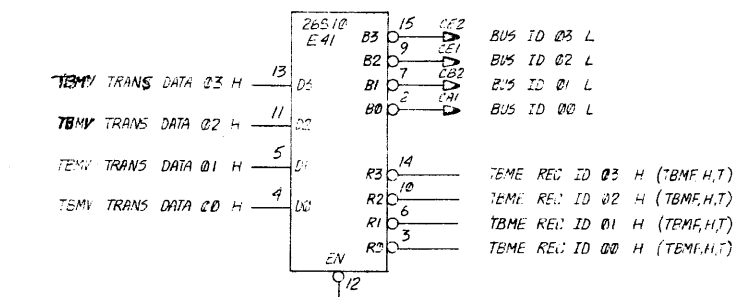
8 7 6 5 4 3 2 1  
 C M8222-01 DCS 2



REVISIONS		
CHK	CHANGE NO.	REV.

(TB ADDRESS DECODE) (SLOT 6)  
 TITLE TRANSLATION BUFFER MATRIX (TBMD) SIZE CODE DCS NUMBER M8222-01 REV. C  
 SCALE 1:1 SHEET 5 OF 22 D.L.T.

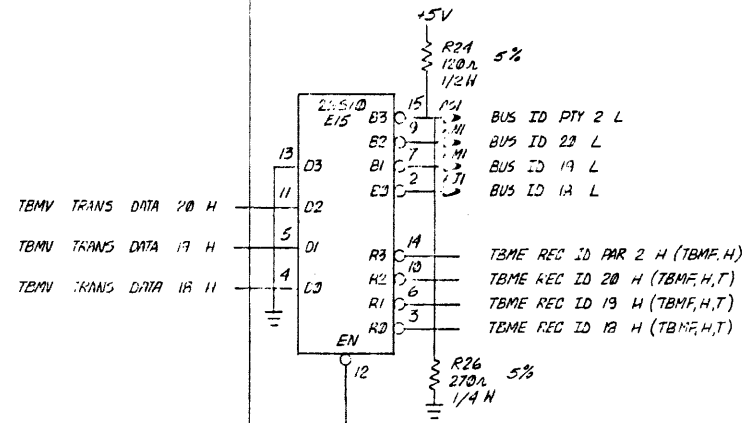
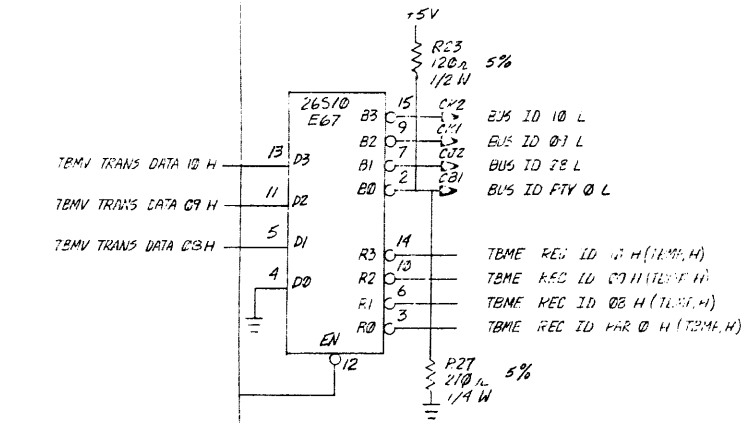
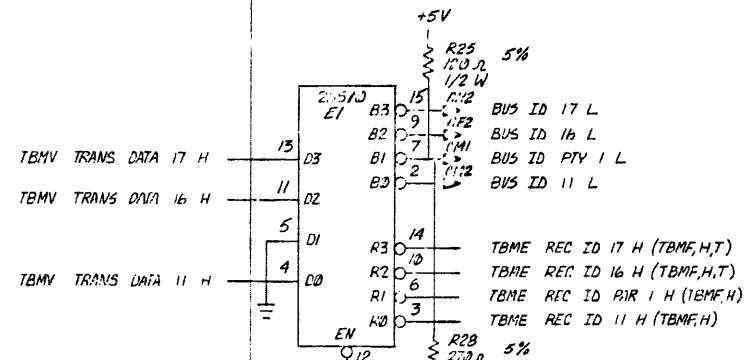
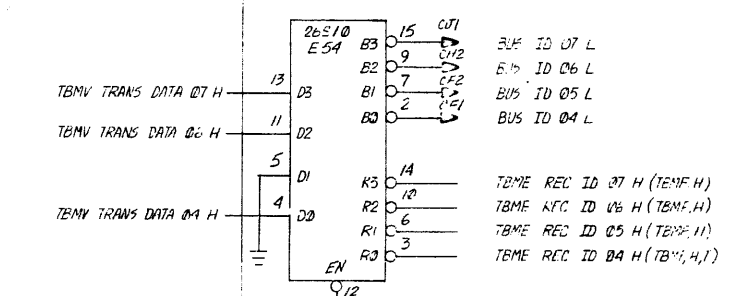
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



26S10

INPUTS		OUTPUTS	
E	I	B	Z
L	L	H	L
L	H	L	H
H	X	Y	Y

H = HIGH VOLTAGE LEVEL  
 L = LOW VOLTAGE LEVEL  
 X = DON'T CARE  
 Y = VOLTAGE LEVEL OF BUS (ASSUMES CONTROL BY ANOTHER BUS TRANSCEIVER)



NOTE: 26S10 HAS +5V ON PIN 16 BND ON PINS 1 AND 8

REVISIONS

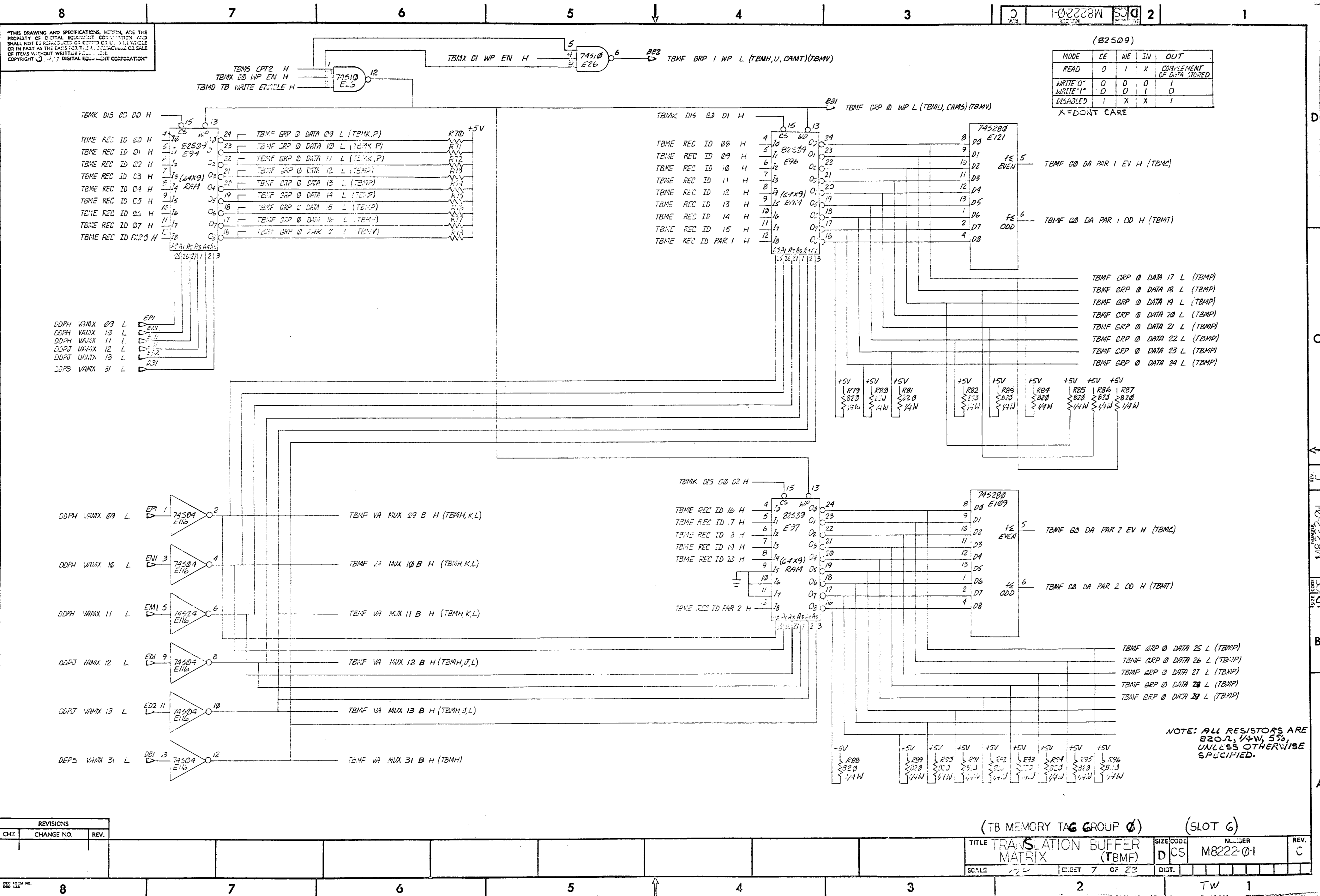
CHK	CHANGE NO.	REV.

(ID TRANSCEIVER) (SLOT 6)

TITLE TRANSLATION BUFFER MATRIX (TBME) DCS NUMBER M8222-0-1 REV. C



THIS DRAWING AND SPECIFICATIONS HEREBY 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 THIS PRODUCT WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

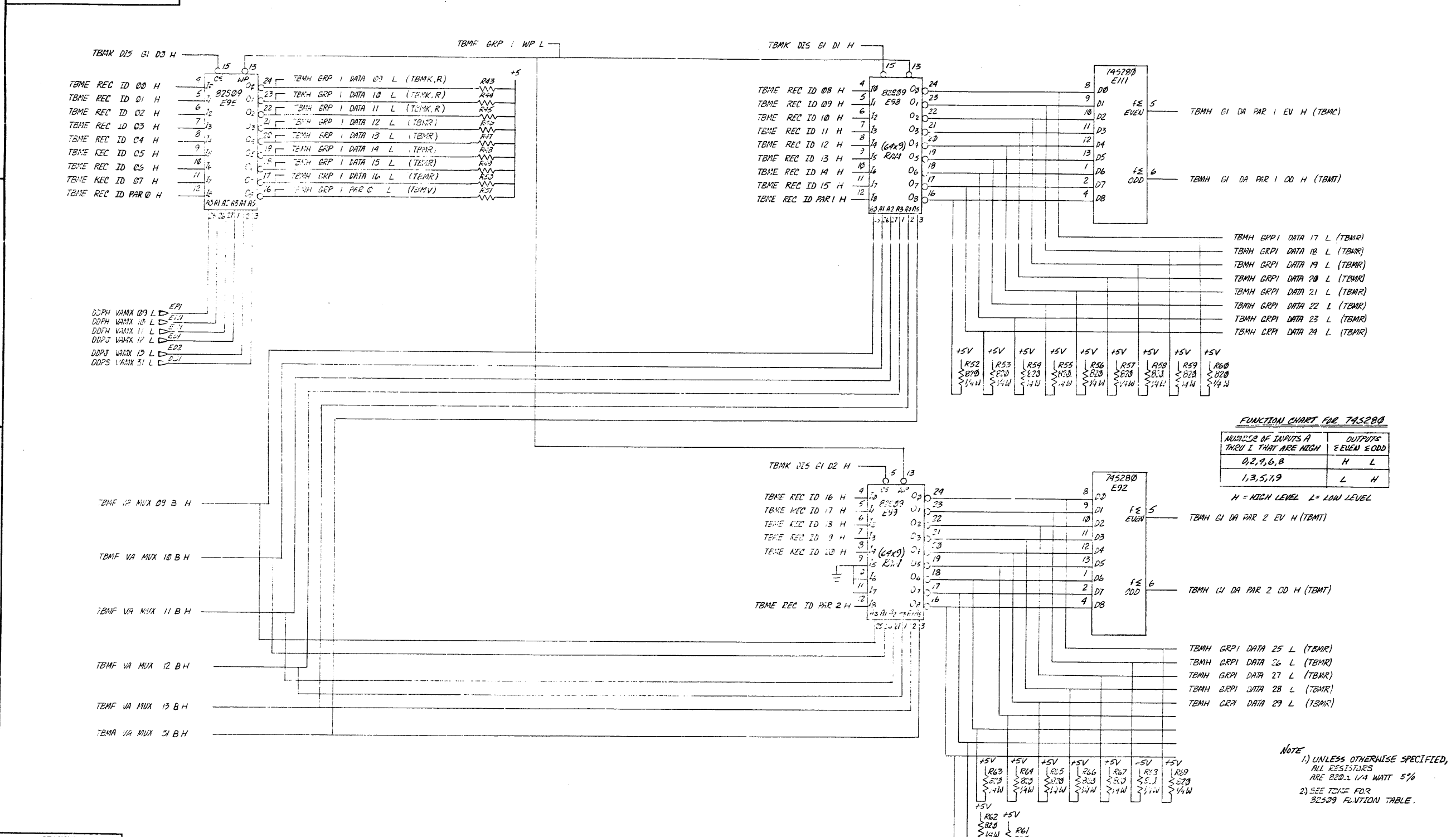


REVISIONS		
CHK	CHANGE NO.	REV.

(TB MEMORY TAG GROUP 0)		(SLOT 6)	
TITLE	SIZE/CODE	NUMBER	REV.
TRANSLATION BUFFER MATRIX (TBM)	D CS	M8222-01	C
SCALE	SHEET 7 OF 22	DIST.	

NOTE: ALL RESISTORS ARE 820Ω, 1/4W, 5%, UNLESS OTHERWISE SPECIFIED.

"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"



**FUNCTION CHART FOR 745280**

NUMBER OF INPUTS A THAT ARE HIGH	OUTPUTS EVEN & ODD
0, 2, 4, 6, 8	H L
1, 3, 5, 7, 9	L H

H = HIGH LEVEL L = LOW LEVEL

**NOTE**  
 1) UNLESS OTHERWISE SPECIFIED, ALL RESISTORS ARE 820Ω 1/4 WATT 5%  
 2) SEE TBM FOR 32509 FUNCTION TABLE.

REVISIONS

CHK	CHANGE NO.	REV.

146

"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"



SELECT INPUTS		DATA INPUTS				OUTPUT CONTROL	OUTPUT
S1	S0	A	B	C	D	STB	F
X	X	X	X	X	X	H	Z
L	L	L	X	X	X	L	L
L	L	H	X	X	X	L	H
L	H	X	L	X	X	L	L
L	H	X	H	X	X	L	H
H	L	X	X	L	X	L	L
H	L	X	X	H	X	L	H
H	H	X	X	X	L	L	L
H	H	X	X	X	H	L	H

FUNCTION CHART FOR 74S153  
 ADDRESS INPUTS S0 AND S1 ARE COMMON TO BOTH SECTIONS.  
 H = HIGH LEVEL L = LOW LEVEL X = IRRELEVANT Z = HIGH IMPEDENCE (OFF)

REVISIONS		
CHK	CHANGE NO.	REV.

(PA MUX) (SLOT 6)

TITLE	TRANSLATION BUFFER MATRIX (TBMJ)	SIZE CODE	D CS	NUMBER	M8222-0-1	REV.	C
SCALE		SHEET	9 OF 22	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

M8222-01  
REV. 1



-745158-

FUNCTION TABLE

INPUTS		OUTPUT Y		
STROBE	SELECT	A	B	S 158
H	X	X	X	H
L	L	L	X	H
L	L	H	X	L
L	H	X	L	H
L	H	X	H	L

H = HIGH LEVEL, L = LOW LEVEL, X = IRRELEVANT

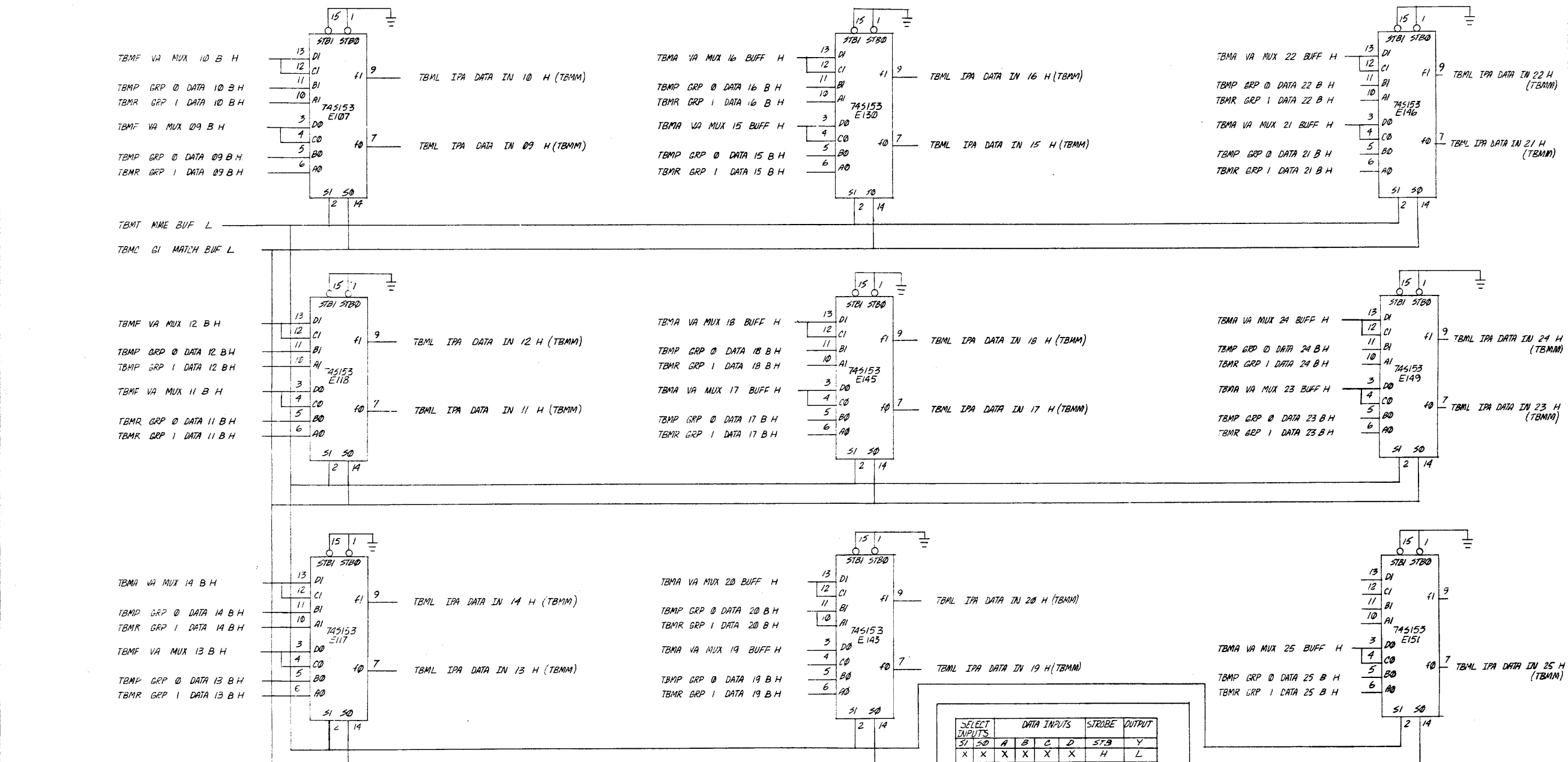
REVISIONS

CHK	CHANGE NO.	REV

(SLOT 6)  
(FAST PA ADDRESS BITS & FORCE PARITY ERROR DECODE)

TITLE TRANSLATION (TBMK) BUFFER MATRIX  
SIZE CODE DCS NUMBER M 8222-01 REV. C  
SCALE SHEET 10 OF 22 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"



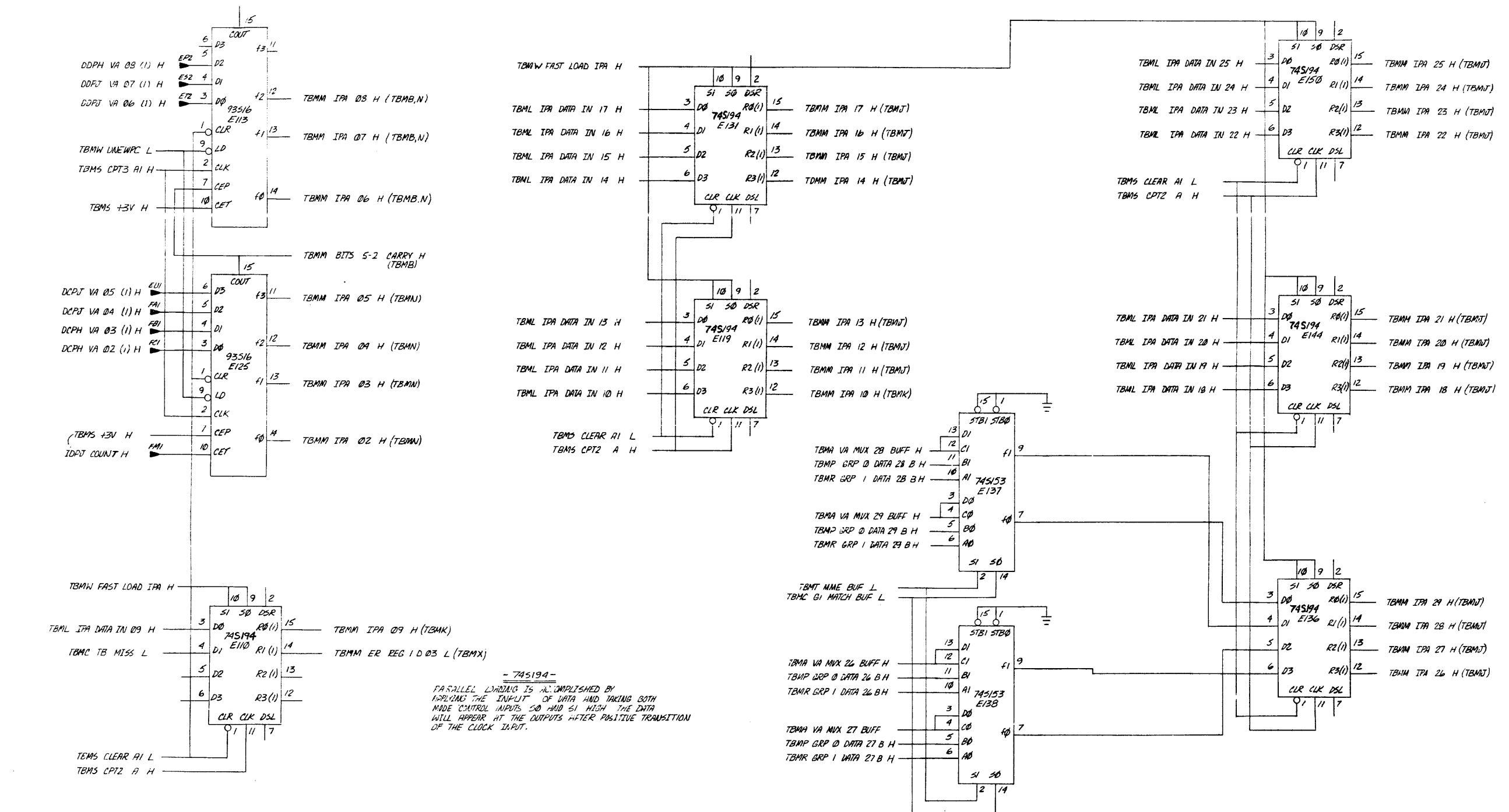
SELECT INPUTS		DATA INPUTS				STROBE	OUTPUT
S1	S0	A	B	C	D	STB	Y
X	X	X	X	X	X	H	L
L	L	L	X	X	X	L	L
L	L	H	X	X	X	L	H
L	H	X	L	X	X	L	L
L	H	X	H	X	X	L	H
H	L	X	X	L	X	L	L
H	L	X	X	H	X	L	H
H	H	X	X	X	L	L	L
H	H	X	X	X	H	L	H

FUNCTION CHART - 745153.  
SELECT INPUTS S0 AND S1 ARE COMMON TO BOTH SECTIONS  
H = HIGH LEVEL, L = LOW LEVEL, X = IRRELEVANT

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE TRANSLATION BUFFER MATRIX (TBML) (SLOT 6)  
SIZE CODE DCS NUMBER M-8222-0-1 REV. C  
SCALE SHEET 11 OF 22 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



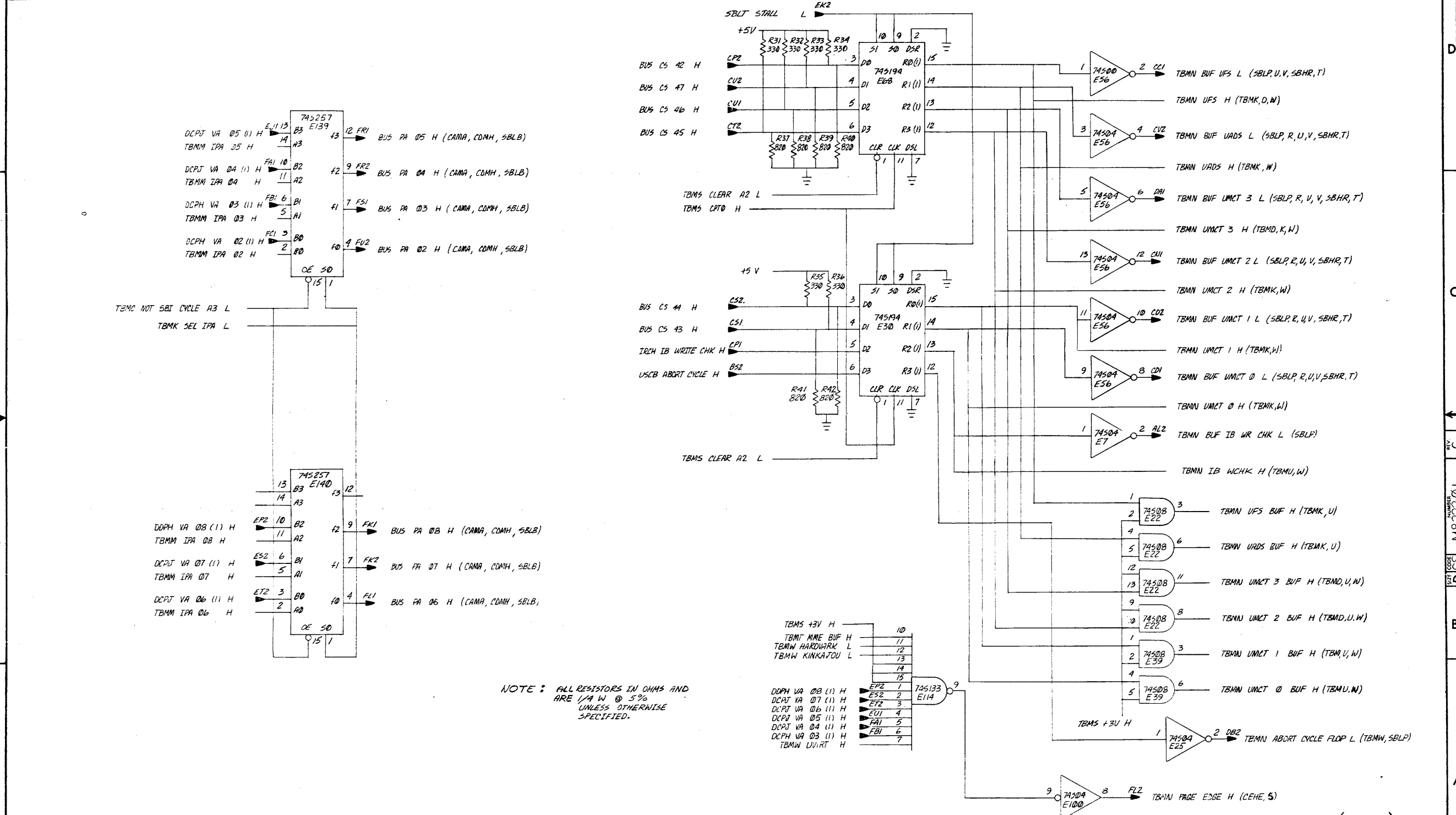
REVISIONS		
CHK	CHANGE NO.	REV.

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---

(IPA REGISTERS)		(SLOT 6)	
TITLE	TRANSLATION BUFFER MATRIX (TBMM)	SIZE/CODE	D CS
NUMBER	M8222-0-1	REV.	C
SCALE	1/2	SHEET	12 OF 22

D  
C  
B  
A

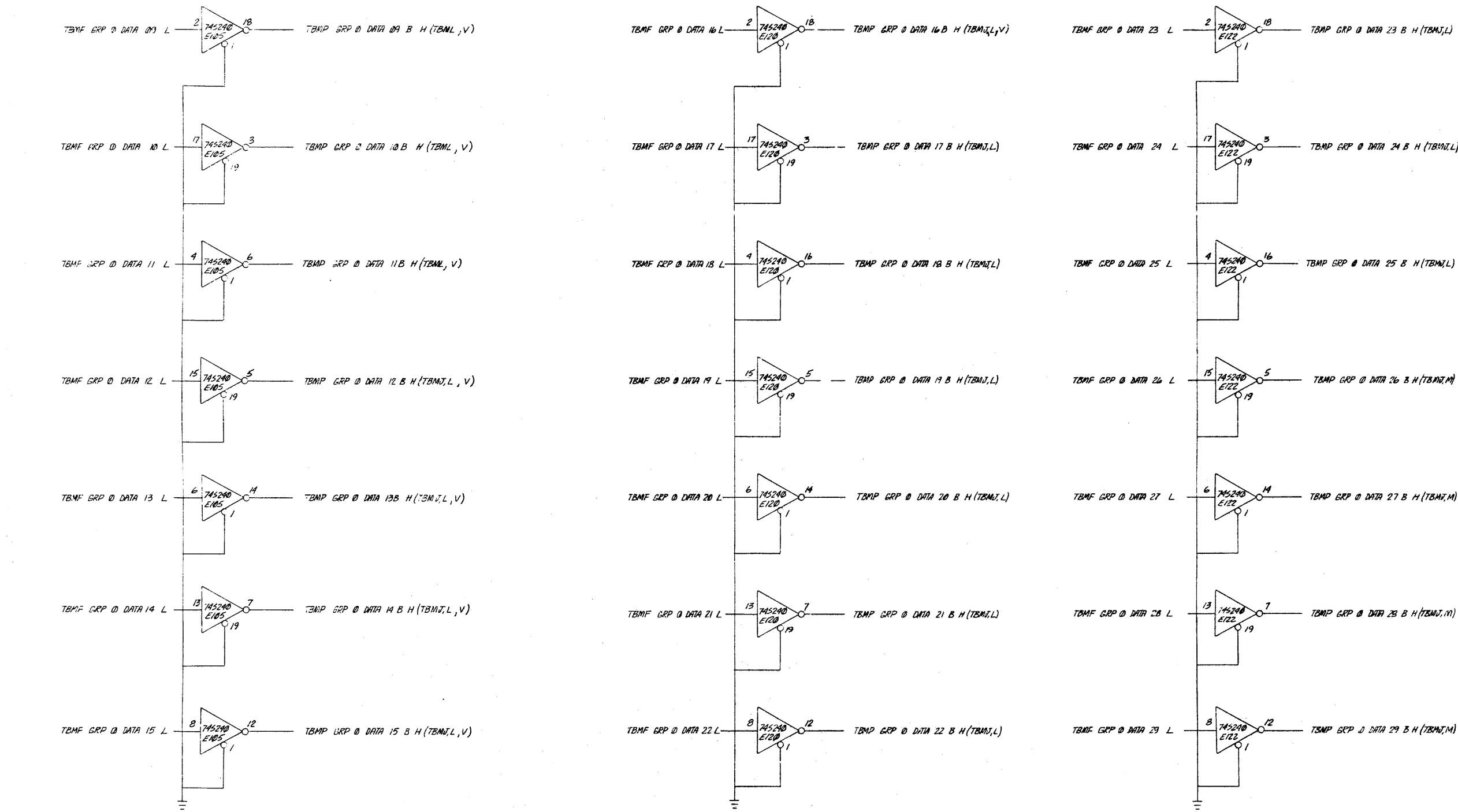
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



NOTE: ALL RESISTORS IN OHMS AND ARE 1/4 W @ 5% UNLESS OTHERWISE SPECIFIED.

REVISIONS			TITLE		SIZE/TYPE		NUMBER		REV.	
CHK	CHANGE NO.	REV.	TRANSLATION (TBMM) BUFFER MATRIX		D CS		M8222-01		C	
			SCALE	SHEET 13 OF 22	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

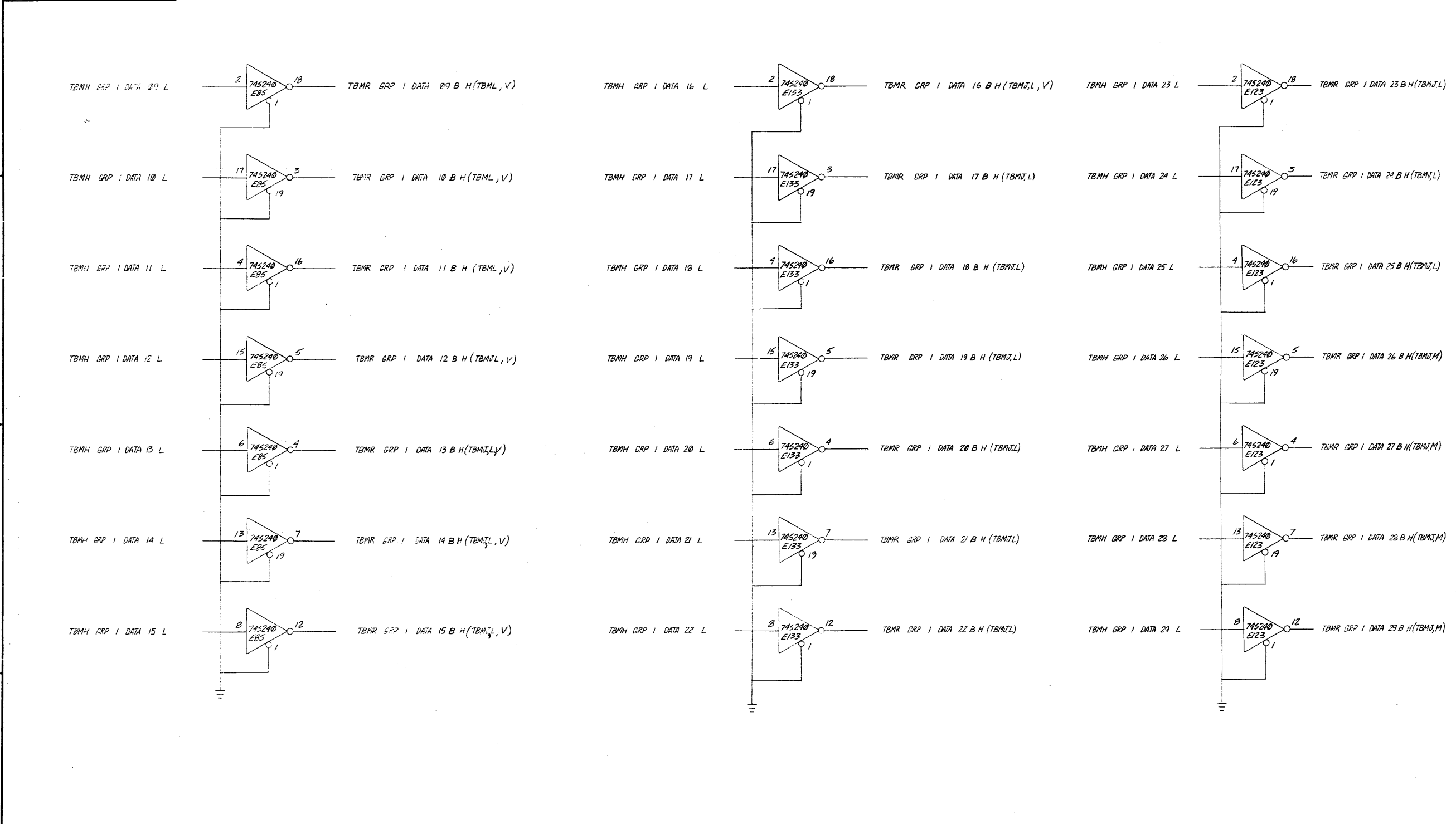


REVISIONS		
CHK	CHANGE NO.	REV.

(TB GROUP 0 MEMORY DATA DRIVERS)		(SLOT 6)	
TITLE	TRANSLATION BUFFER MATRIX (TBMP)	SIZE CODE	NUMBER
SCALE	1/4	D CS	M8222-01
SHEET	14 OF 22	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"



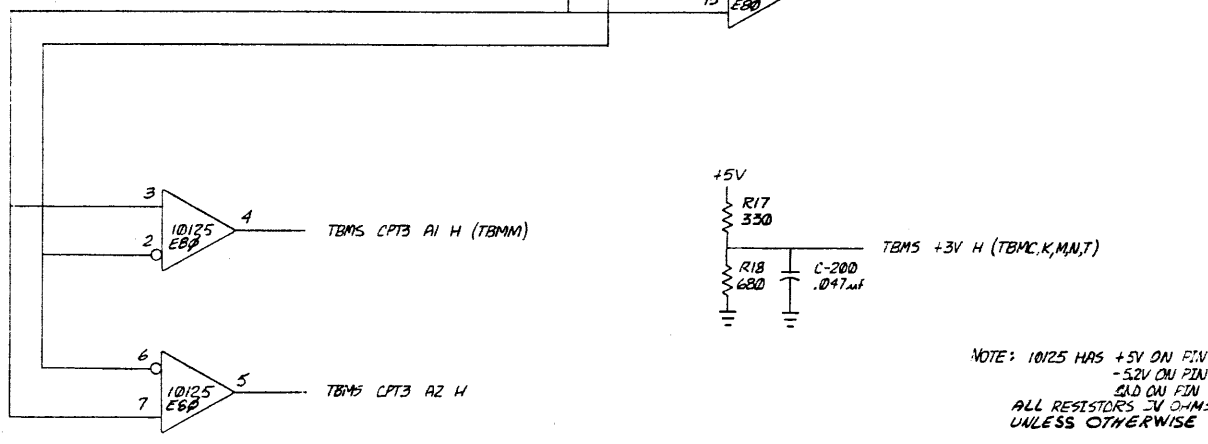
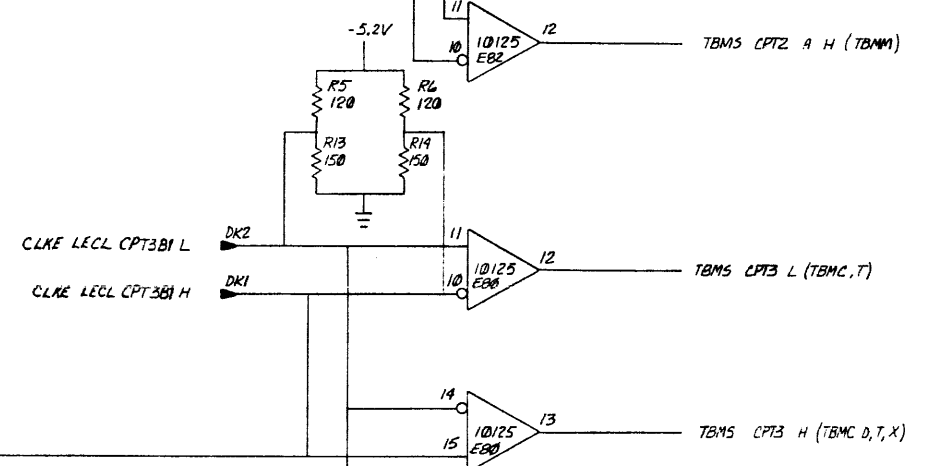
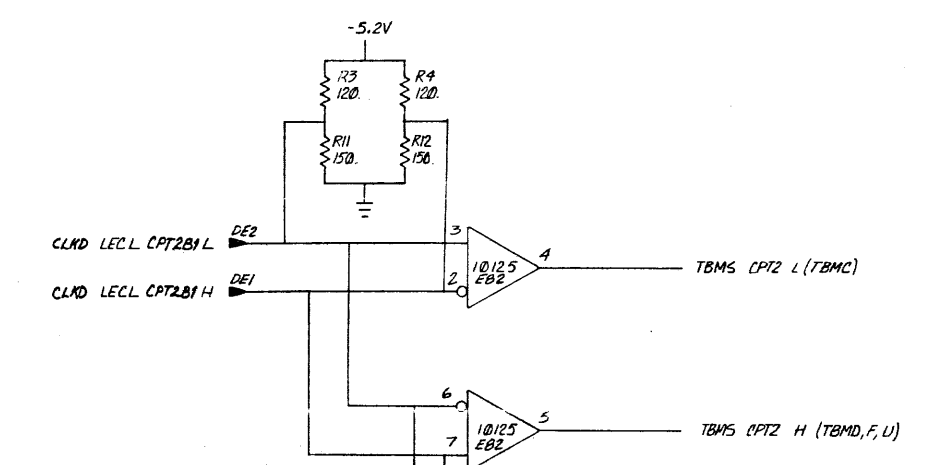
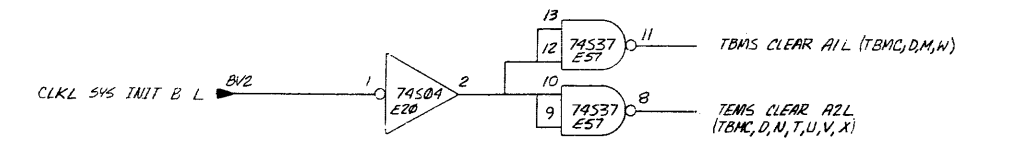
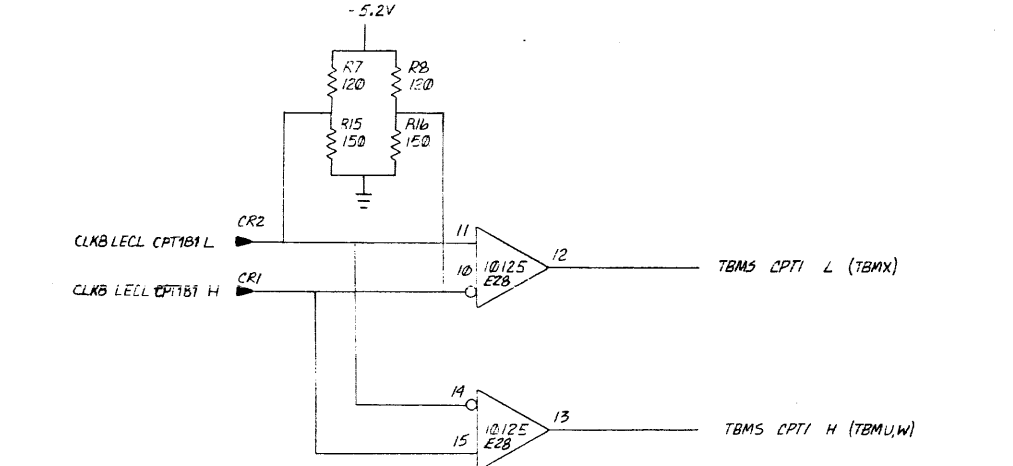
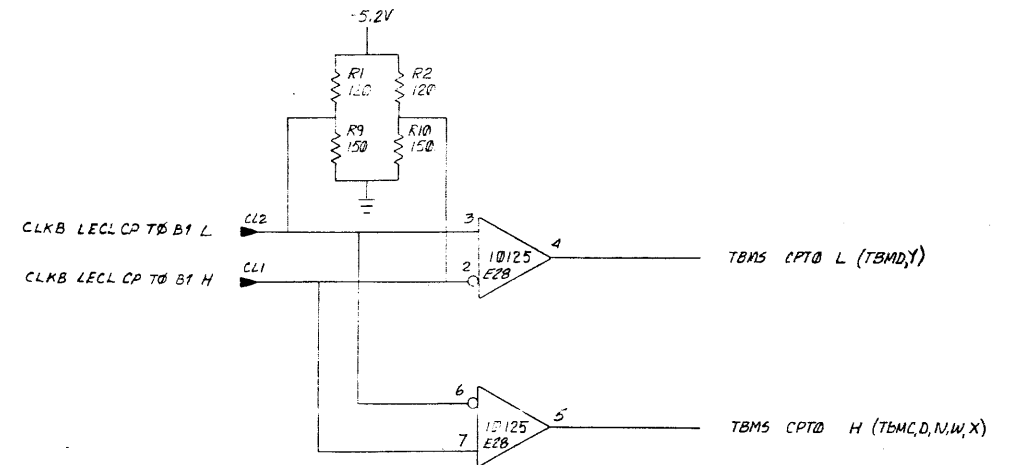
REVISIONS		
CHK	CHANGE NO.	REV

TITLE		NUMBER		REV.
TRANSLATION BUFFER MATRIX (TBM)		M0222-01		G
SCALE	SHEET	OF	DIST.	
	15	22		

(TB GROUP 1 MEMORY DATA DRIVERS) (SLOT 6)

D  
C  
B  
A  
 MANUFACTURE BY  
 NUMBER  
 M0222-01  
 DATE CODE  
 DCS

"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"

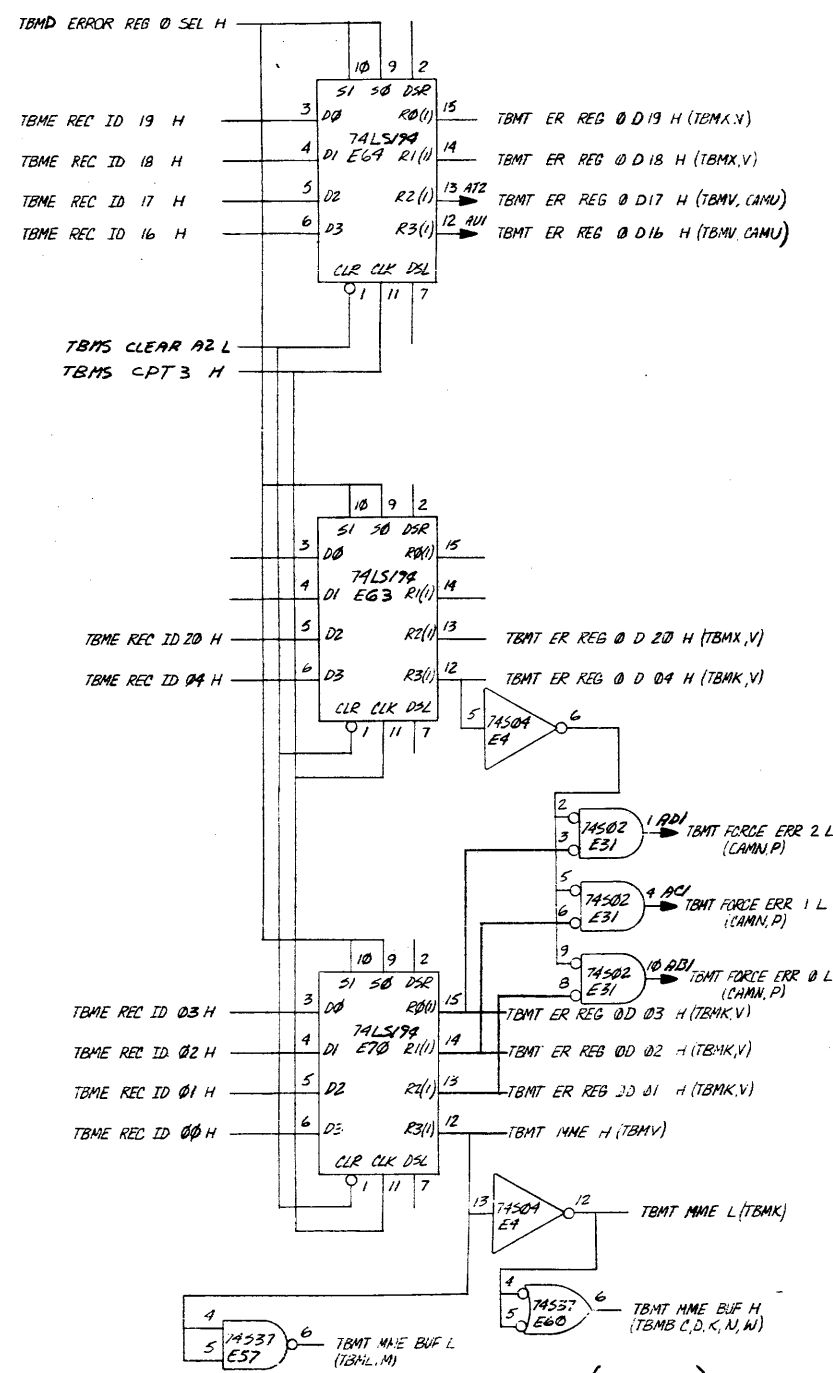
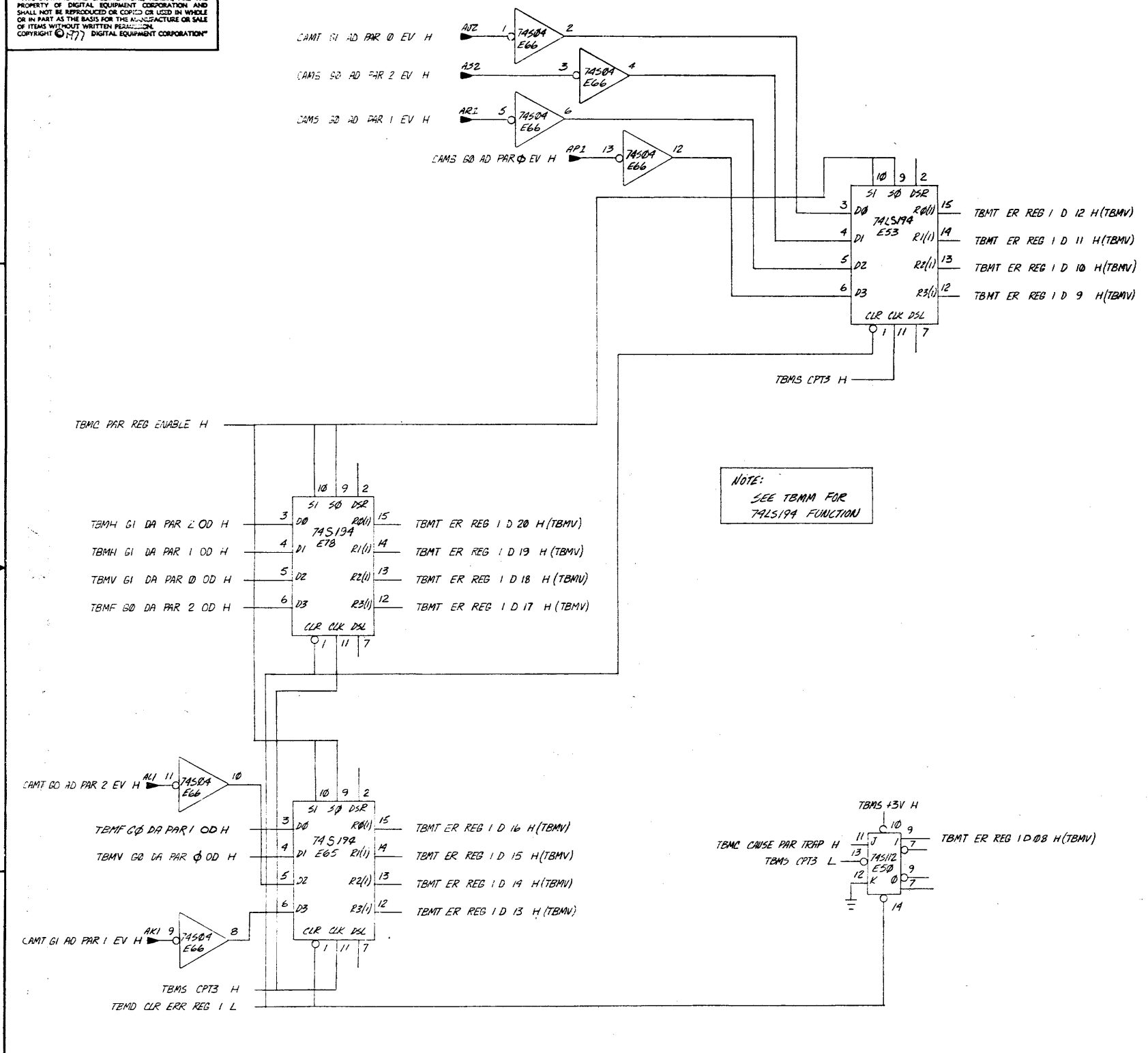


NOTE: 10125 HAS +5V ON PIN 9  
-5.2V ON PIN 3  
GND ON PIN 10  
ALL RESISTORS 20 OHMS AND 1/4 W, 5%  
UNLESS OTHERWISE SPECIFIED.

REVISIONS		
CHK	CHANGE NO.	REV.

(CLOCK RECEIVER)		(SLOT 6)	
TITLE	TRANSLATION BUFFER MATRIX (TBMS)	SIZE CODE	D CS
NUMBER	M8222-01	REV.	C
SCALE		SHEET	16 OF 22
DIST.		TW	1

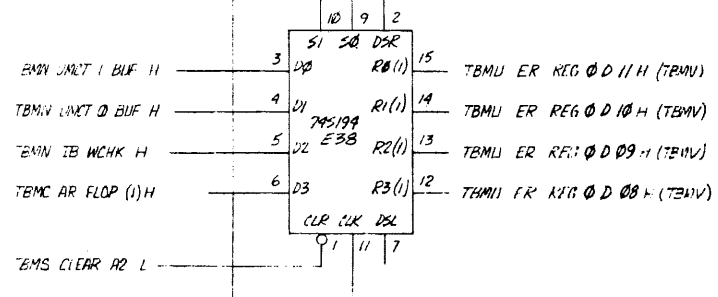
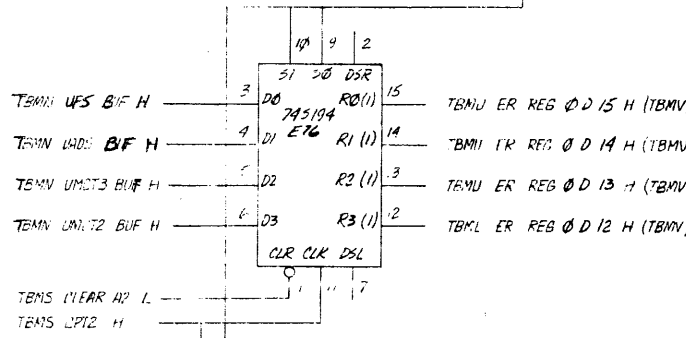
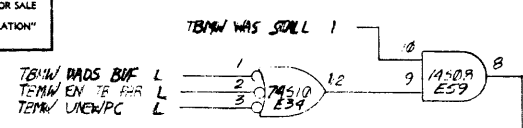
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



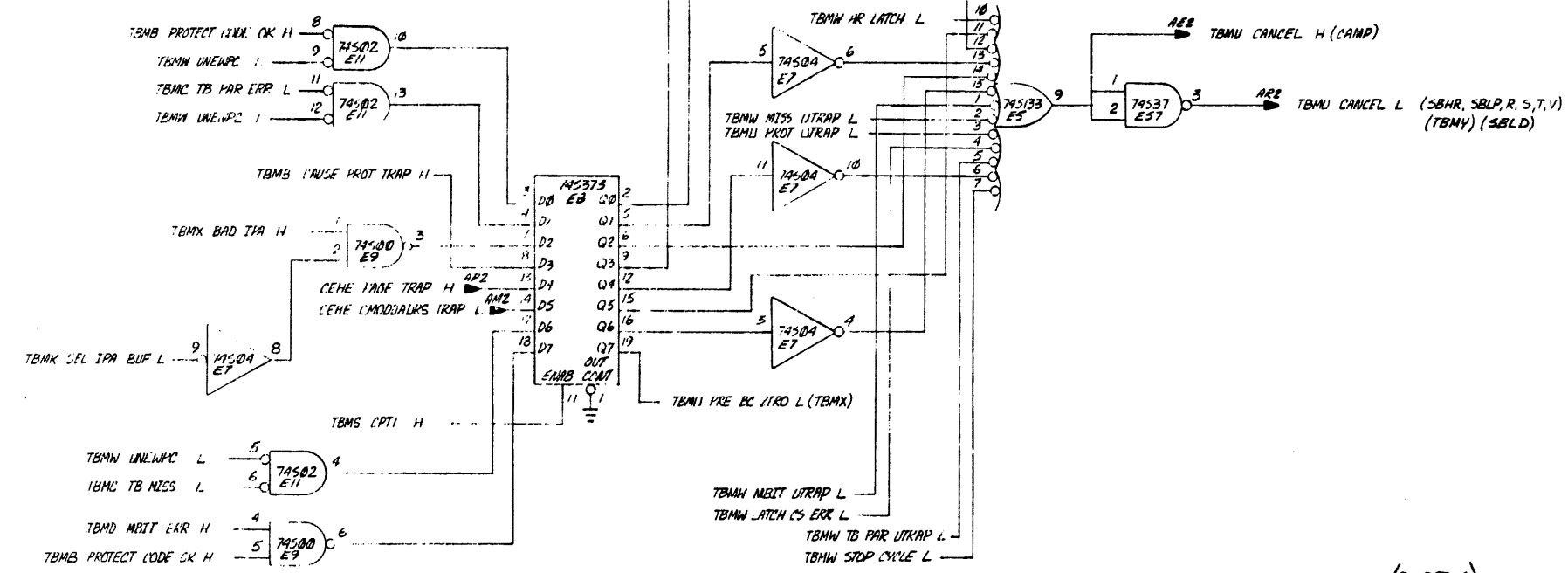
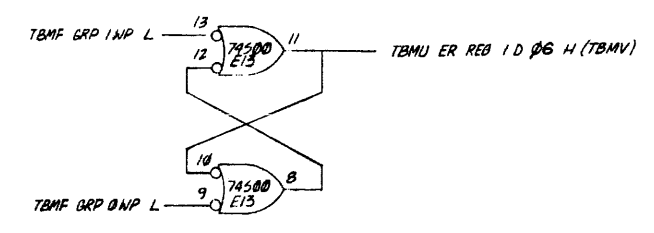
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	TRANSLATION BUFFER MATRIX (TBMT)	SIZE CODE	D CS	NUMBER	M 8222-0-1	REV.	C
SCALE	SHEET 17 OF 22	DIST.		TW			

"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"



NOTE: SEE PAGE TBMU FOR 745194 FUNCTION

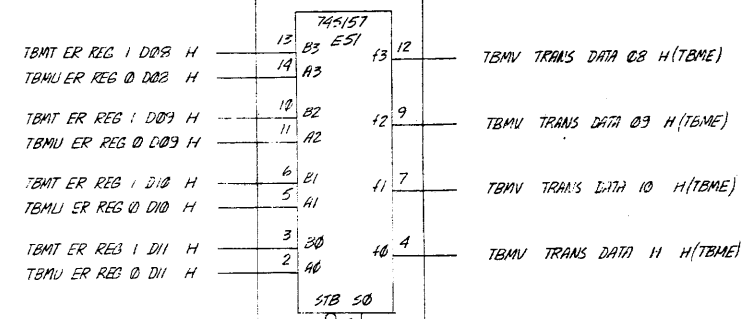
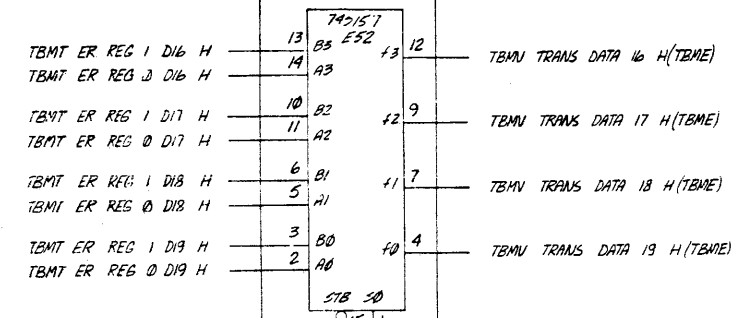
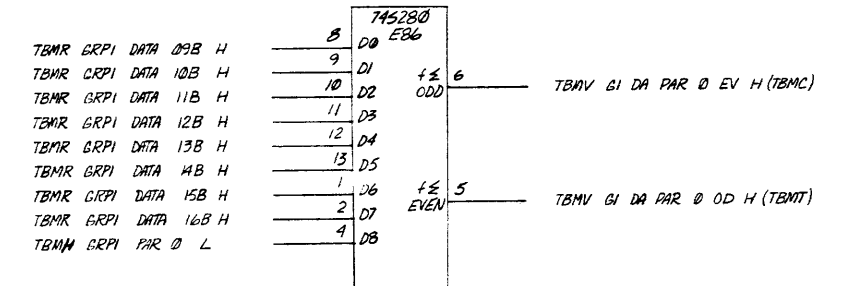
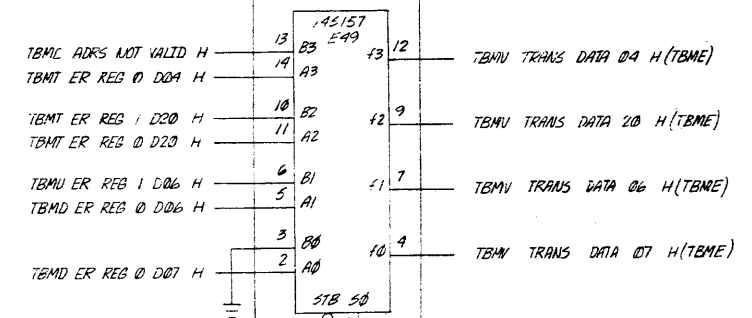
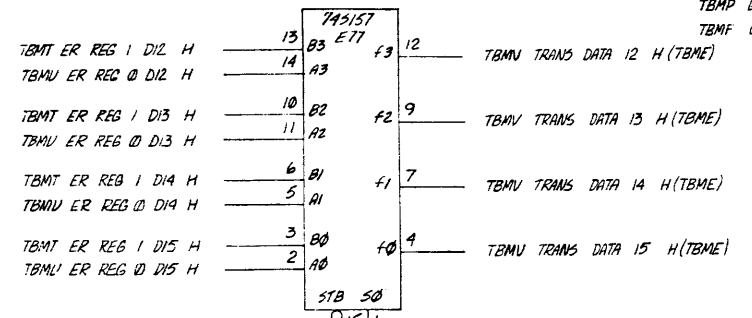
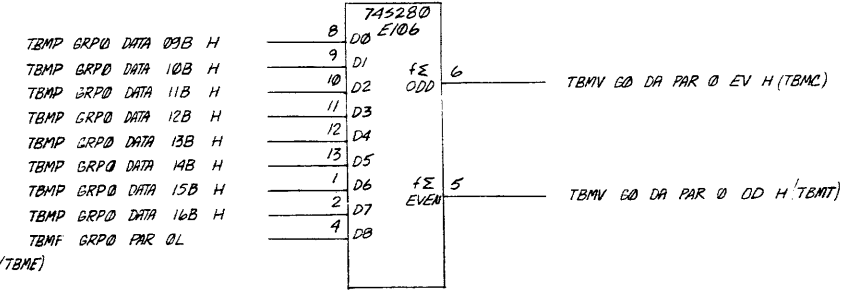
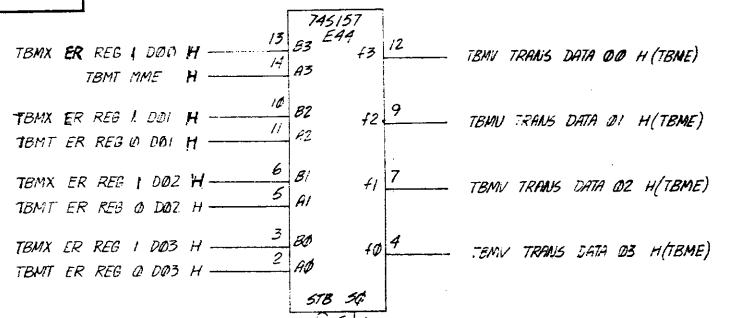


REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 6)  
(TB CANCEL LOGIC)

TITLE	TRANSLATION BUFFER MATRIX (TBMU)	SIZE CODE	D CS	NUMBER	M8222-01	REV.	C
SCALE	1/8"	SHEET	18 OF 22	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"



745157

INPUTS		OUTPUTS	
STROBE	SELECT	A	B
H	X	X	X
L	L	L	X
L	L	H	X
L	H	X	L
L	H	X	H

H=HIGH LEVEL  
L=LOW LEVEL  
X=IRRELEVANT

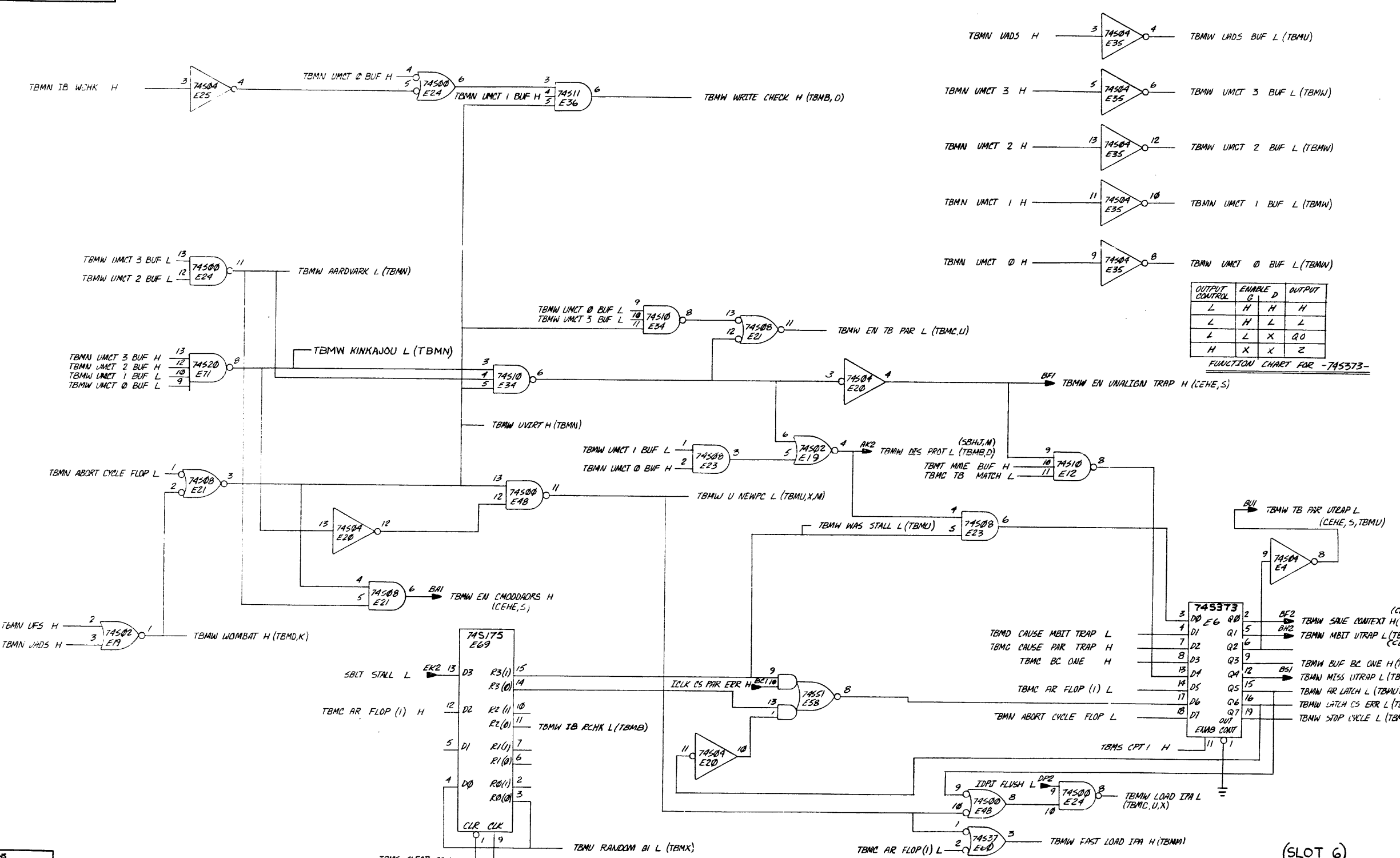
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 6)  
(ID MUX & MEMORY PARITY CHECK)

TITLE	TRANSLATION (TBMV) BUFFER MATRIX	SIZE CODE	D CS	NUMBER	M8222-0-1	REV.	C
SCALE	1/1	SHEET	19 OF 22	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"

REV. C M8222-01 DCS 2



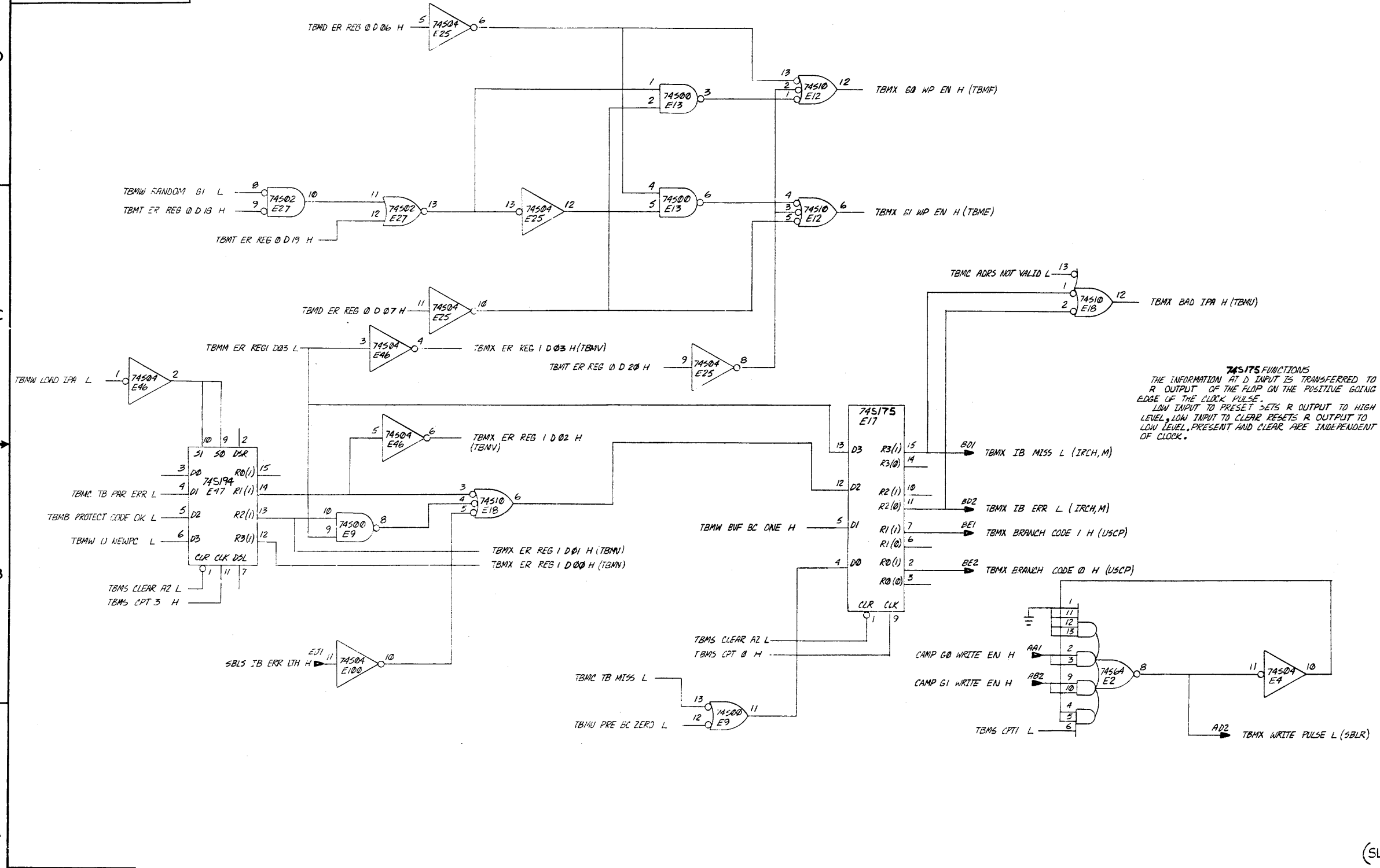
OUTPUT CONTROL	ENABLE B	D	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	Q0
H	X	X	Z

FUNCTION CHART FOR -745373-

REVISIONS		
CHK	CHANGE NO.	REV.

(UTRAP COMMAND DECODING)  
 TITLE TRANSLATION BUFFER MATRIX (TBMW) SIZE CODE DCS NUMBER M8222-01 REV. C  
 SCALE 1/8 SHEET 20 OF 22 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"

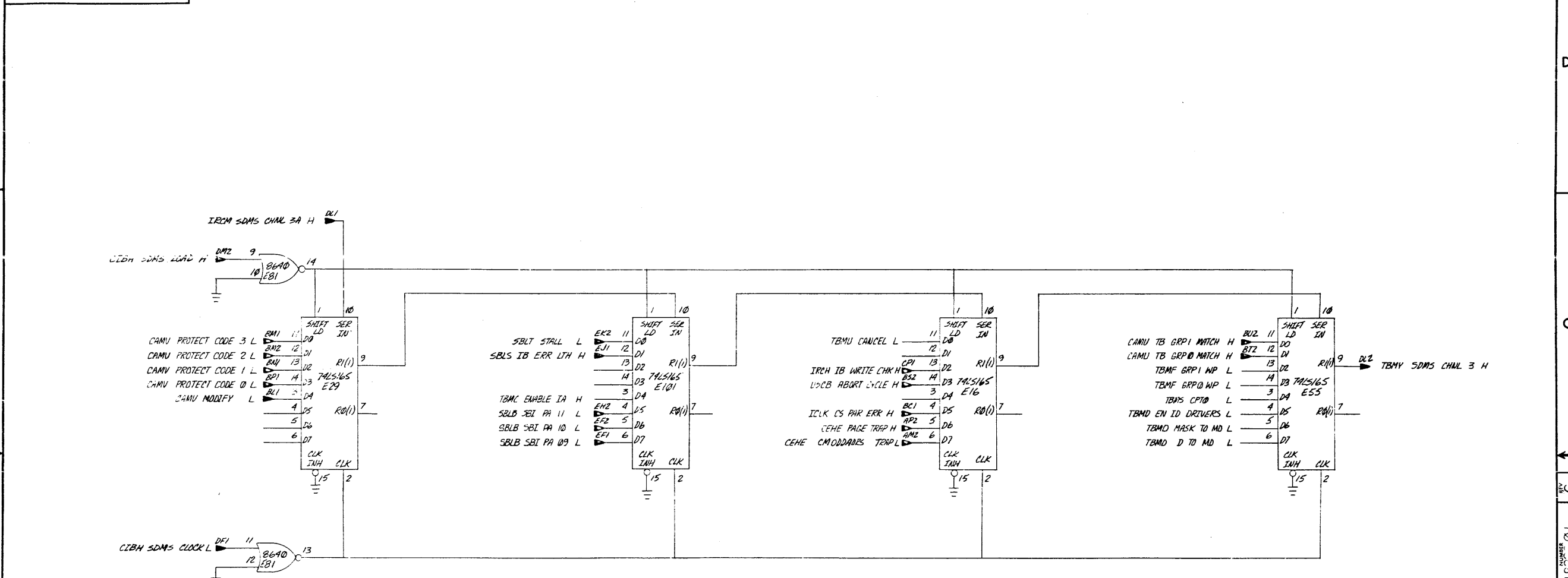


**74S175 FUNCTIONS**  
 THE INFORMATION AT D INPUT IS TRANSFERRED TO R OUTPUT OF THE FLAP ON THE POSITIVE GOING EDGE OF THE CLOCK PULSE.  
 LOW INPUT TO PRESET SETS R OUTPUT TO HIGH LEVEL, LOW INPUT TO CLEAR RESETS R OUTPUT TO LOW LEVEL, PRESENT AND CLEAR ARE INDEPENDENT OF CLOCK.

REVISIONS		
CHK	CHANGE NO.	REV.

PART CODE DLS M8222-01

"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"



- 74LS165 FUNCTIONS**
1. 8 BIT SHIFT REGISTER.
  2. THE OUTPUT COMES FROM FLIP FLOP NUMBER 7.
  3. IF SHIFTLOAD IS LOW DATA IS LOADED FROM D INPUTS REGARDLESS OF CLOCK.
  4. OTHERWISE DATA SHIFTS FROM 0 TOWARD 7 ON CLOCK RISING EDGE.

REVISIONS		
CHK	CHANGE NO.	REV.

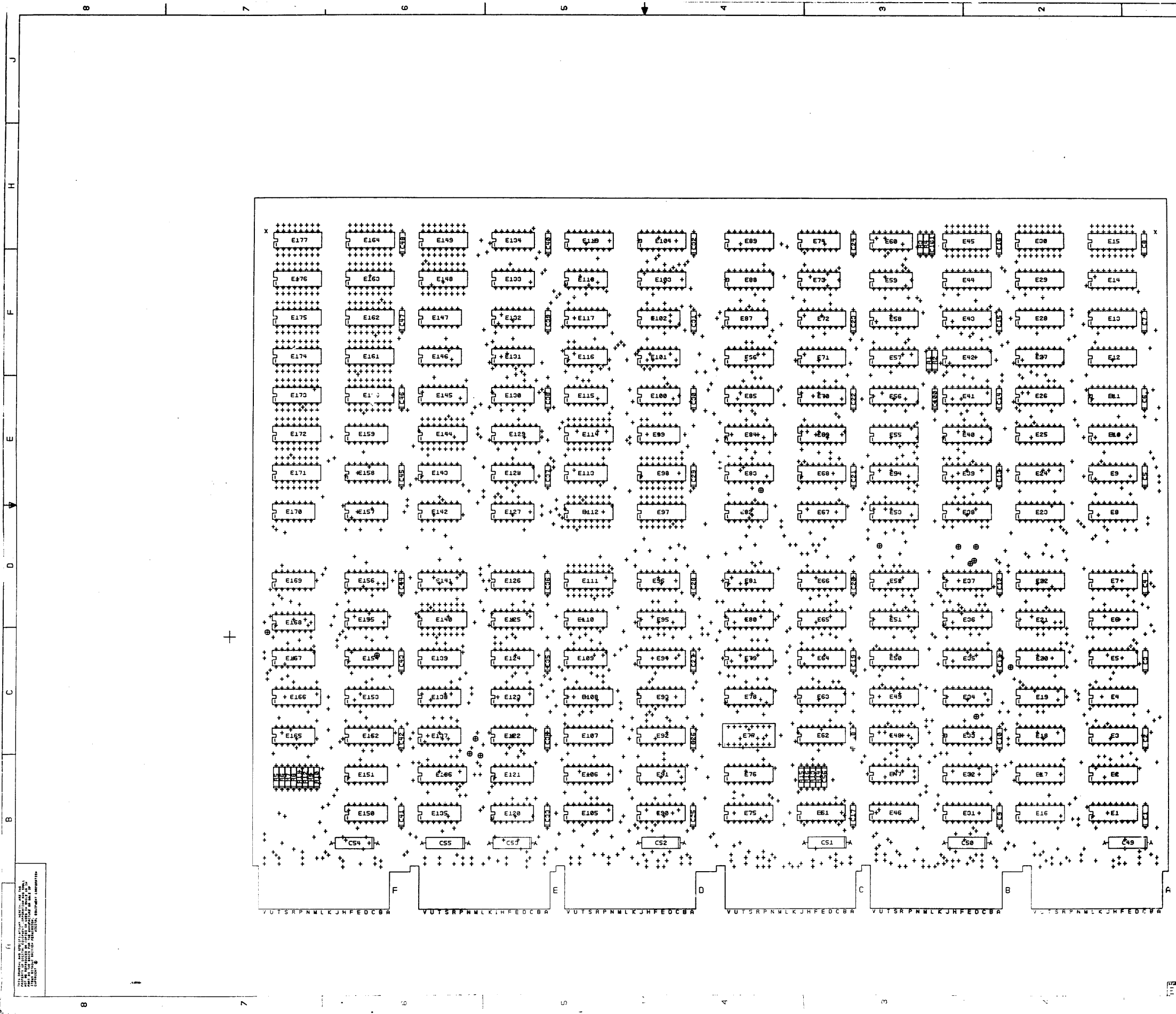
(SLOT 6)

(V BUS REGISTERS)

TITLE	TRANSLATION BUFFER MATRIX (TBMU)	SIZE CODE	D CS	NUMBER	M8222-01	REV.	C
SCALE	CH	SHEET	22	OF	23	DIST.	

160



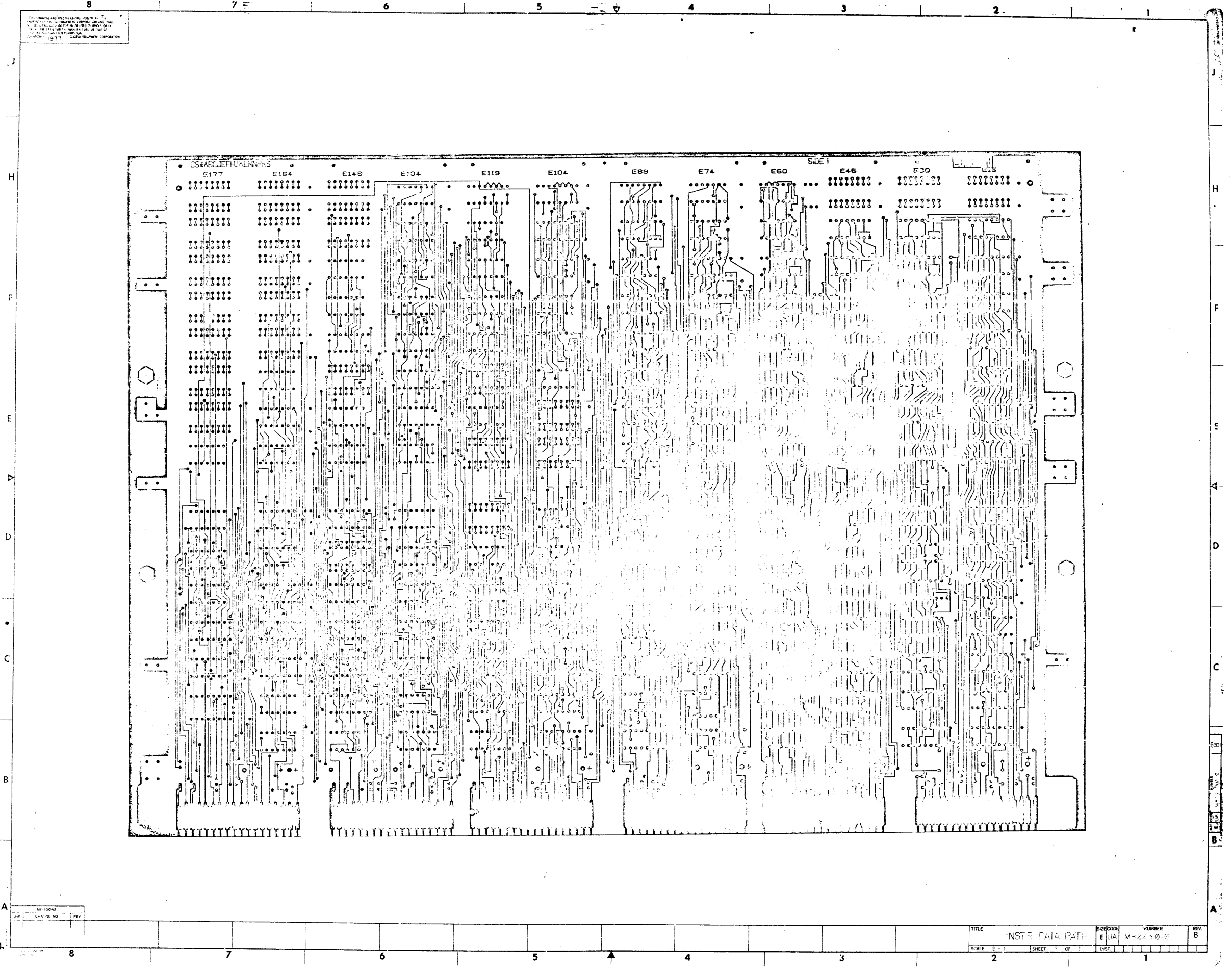


SIGNATURES	DATE	digital
DRN		TITLE
CHK'D		IDP
PROJ. ENG.		SIZE
SCALE		1/8"
SHEET		NO. 23
REV. DATE		REV. DATE

CHANGE NO	REV.

NOTES:  
 1. THIS BOARD IS TO BE MANUFACTURED BY THE  
 CONTRACTOR'S FABRICATOR. THE BOARD IS TO BE  
 ASSEMBLED BY THE CONTRACTOR'S ASSEMBLER.  
 THE BOARD IS TO BE TESTED BY THE CONTRACTOR'S  
 TESTER. THE BOARD IS TO BE PACKAGED BY THE  
 CONTRACTOR'S PACKAGER.

ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY 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. © 1977

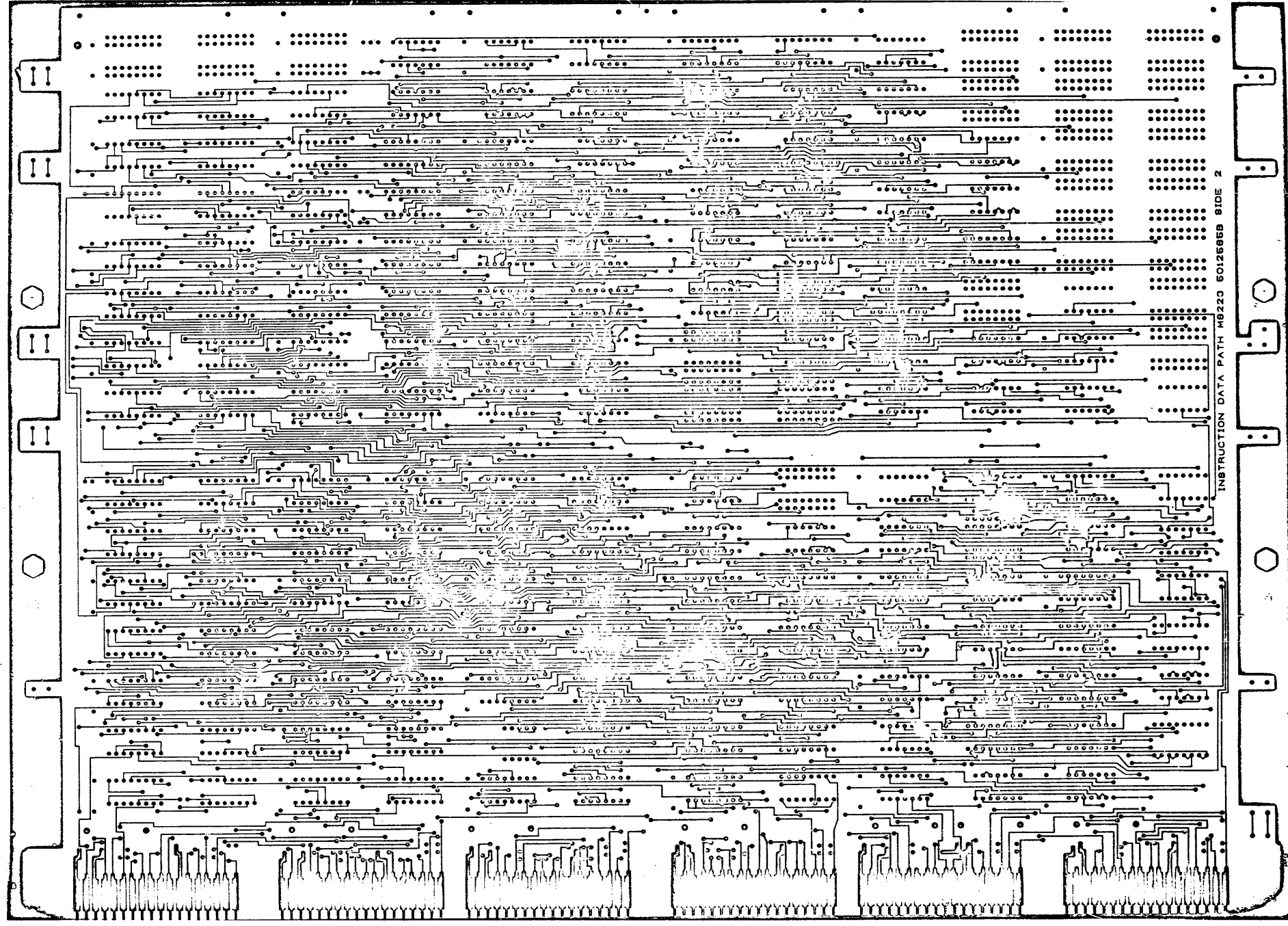


REV	DATE	BY	CHK

TITLE INSTR DATA PATH  
SCALE 2:1  
SHEET 2 OF 3  
SIZE CODE E 1/4  
NUMBER M-2250-0  
REV B

162

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 2. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED.  
 3. DIMENSIONS TO SURFACE UNLESS OTHERWISE SPECIFIED.  
 4. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED.  
 5. DIMENSIONS TO SURFACE UNLESS OTHERWISE SPECIFIED.  
 6. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED.  
 7. DIMENSIONS TO SURFACE UNLESS OTHERWISE SPECIFIED.  
 8. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED.



INSTRUCTION DATA PATH M8220 501266B SIDE 2

REVISIONS		
CHK	CHANGE NO	REV

TITLE	INSTR DATA PATH	DESIGNER	EWA	NUMBER	M822300	REV	B
SCALE	1:1	SHEET	3	OF	3	DIST	

103

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:							
MADE BY F. MALANSON DATE 23 SEP 77		CHECKED F. SMART DATE 5-12-77		SECTION																	
ENG C. Calaman DATE 6-16-77		PROD DATE Mike Terella 6-77		ISSUED SECTION																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8223-0-0																	REF DESIGNATION
1	E-MD-5012565-0-0	5012565	ETCH BOARD	1																	
2		1012784	CAP .047UF 50V	51																	C1-C48,C56,C100,C101
3		1012084-C1	CAP 8UF 25V	7																	C49-C55
4		1301972	RES 270,1/4 W, 5%	2																	R1,R3
5		1301890	RES 560, 1/4 W, 5%	2																	R2,R4
6		1300247	RES 120, 1/4 W, 5%	2																	R13,R14
7		1300250	RES 150, 1/4 W, 5%	2																	R15,R16
8		1300295	RES 330, 1/4 W, 5%	4																	R5,R7,R9,R11
9		1301775	RES 820, 1/4W, 5%	4																	R6,R8,R10,R12
10		1910532	IC DEC 74S00	7																	E100,E126,E137,E139,E74,E155,E130
11		1910534	IC DEC 74S04	7																	E102,E120,E127,E142,E96,E118,E170
12		1912389	IC DEC 74S08	4																	E124,E134,E138,E158
13		1910536	IC DEC 74S10	6																	E109,E99,E117,E116,E159,E151
14		1910537	IC DEC 74S11	6																	E82,E131,E121,E132,E156,E168
15		1910539	IC DEC 74S20	2																	E123,E169
16		1910541	IC DEC 74S40	3																	E122,E101,E110
17		1911712	IC DEC 74S51	7																	E133,E128,E146,E147,E157,E143,E125
18		1910542	IC DEC 74S64	8																	E113,E115,E135,E150,E60,E59,E73,E165
19		1910544	IC DEC 74S74	2																	E167,E87
20		1910547	IC DEC 74S153	13																	E89,E104,E119,E103,E88,E62,E63,E78,E79 E91,E92,E106,E107

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 INSTRUCTION DATA PATH	ASSY NO. E-UA-M8223-0-0	SIZE B	CODE PL	NUMBER M8223-0-0	REV. B
	SHEET 1 OF 2		INSERTION PARTS LIST DATA BASE REV B						

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:						
MADE BY F. MALANSON DATE 23 SEP 77		CHECKED F. SMART DATE 5-12-77																		
ENG C. Calanan DATE 6-16-77		PROD Mike Fusella DATE 6-1-77																		
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8223-0-0																
																			REF DESIGNATION	
2		1912845	IC DEC 74LS153	24																E8, E70, E43, E29, E14, E10, E7, E86, E58, E44, E81, E25, E56, E72, E71, E57, E26, E85, E52, E12, E27, E28, E13, E11
22		1910549	IC DEC 74S158	2																E108, E95
23		1910548	IC DEC 74S 157	22																E5, E9, E6, E65, E84, E55, E37, E40, E42, E20, E21, E64, E24, E69, E51, E23, E54, E68, E4, E17, E32, E47,
24		1910545	IC DEC 74S112	1																E166
25		1913788	IC DEC 26S10	8																E1, E16, E31, E46, E61, E75, E76 E105
26		1912693	IC DEC 25S10	8																E2, E3, E18, E19, E33, E34, E48, E49
27		1911415	IC DEC 10125	1																E77
28		1910550	IC DEC 74S174	8																E38, E35, E50, E41, E53, E22, E39, E83
29		1910957	IC DEC 74S175	7																E67, E36, E80, E66, E129, E145, E136
30		1913839	IC DEC 74LS165	6																E93, E94, E141, E153, E152, E154
31		1910552	IC DEC 74S194	1																E90
32		1210711-02	HEX HANDLE ASSEMBLY	1																
33		900CC24-01	EYELET	12																
34			SPARES	24																E15, E30, E45, E97, E98, E111, E112, E140, E144, E148, E149, E160-E164, E171-E177, E114.

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"

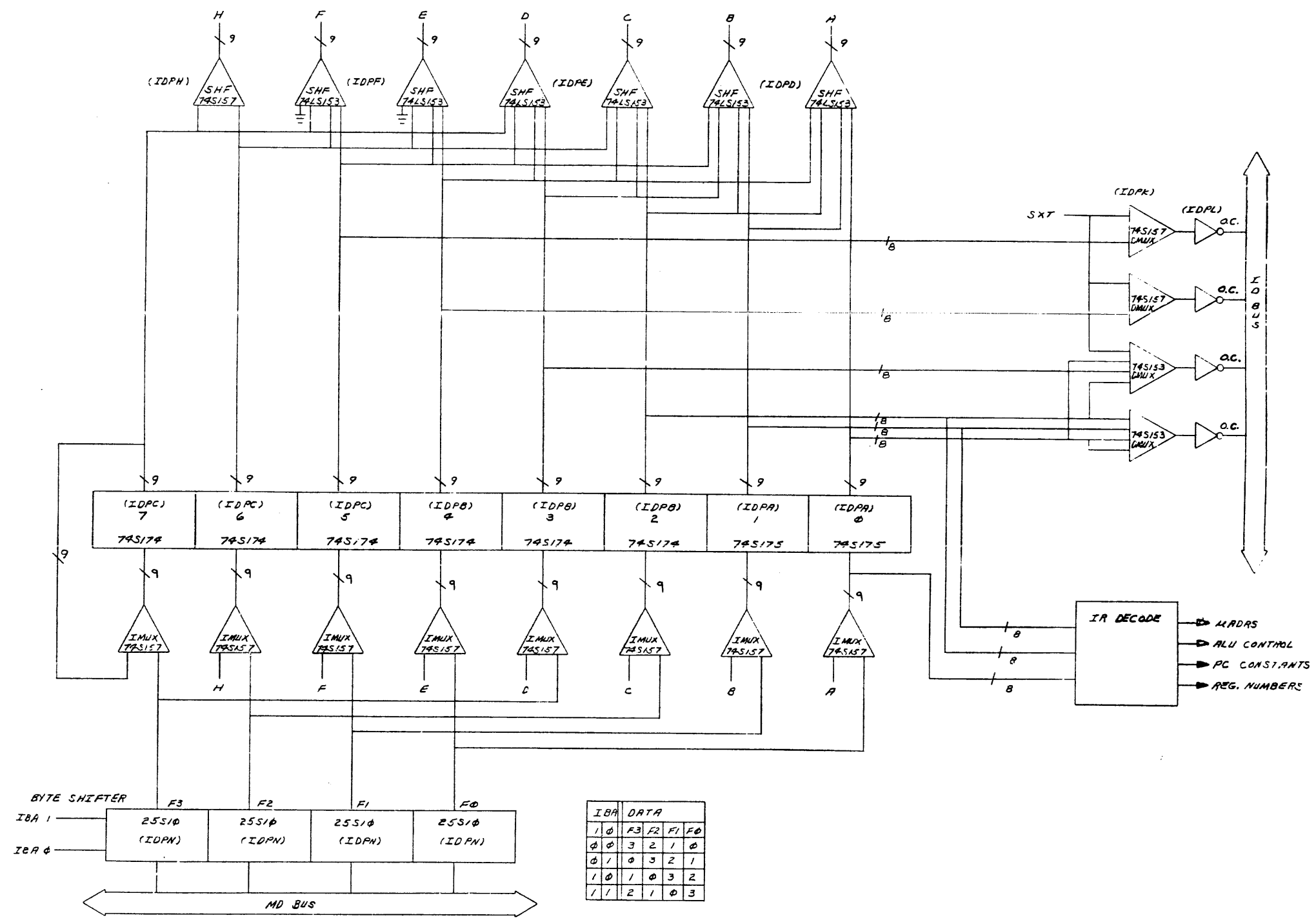
TITLE  
INSTRUCTION DATA PATCH

ASSY NO.  
E-UA-M8223-0-0  
SHEET 2 OF 2

SIZE CODE  
B PL  
NUMBER  
M8223-0-0  
INSERTION PARTS LIST DATA BASE REV B

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"

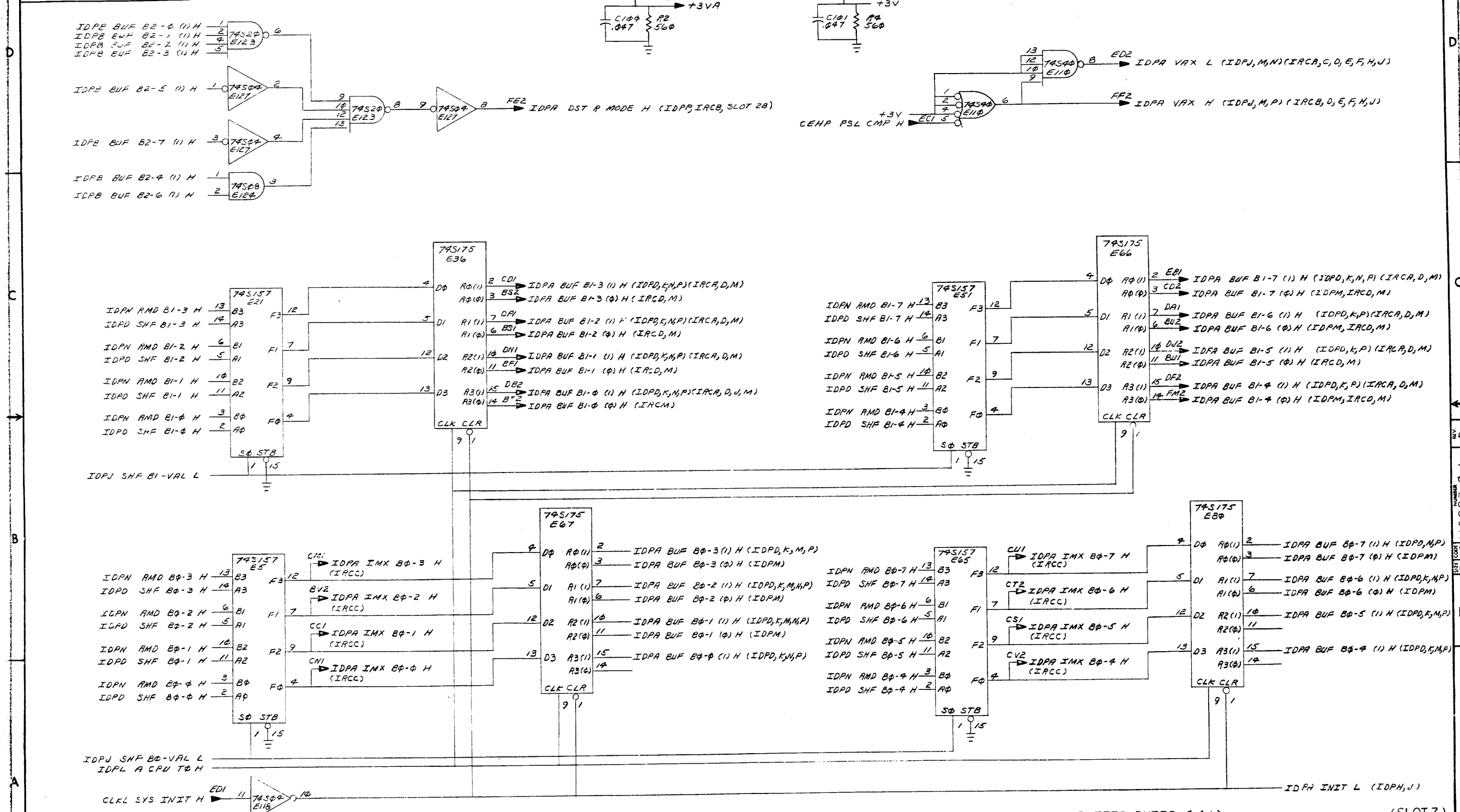


REV. B	DATE 5-17-77
CHANGE NO. 1	BY R. CHUMSAE
MR223-TW002	APPROVED

(BLOCK DIAGRAM) (SLOT 7)

DRN. 42-77	FIRST USED ON	digital
CHK'D 5-17-77	TITLE	INSTRUCTION DATA PATH (IDP)
ENG. 5-17-77	SIZE	D
PROJ. ENG. 5-17-77	CODE	CS
PROD. 6-11-77	NUMBER	M8223-0-1
NEXT HIGHER ASSY.	REV.	9
SCALE	DIST.	
SHEET 1 OF 14		

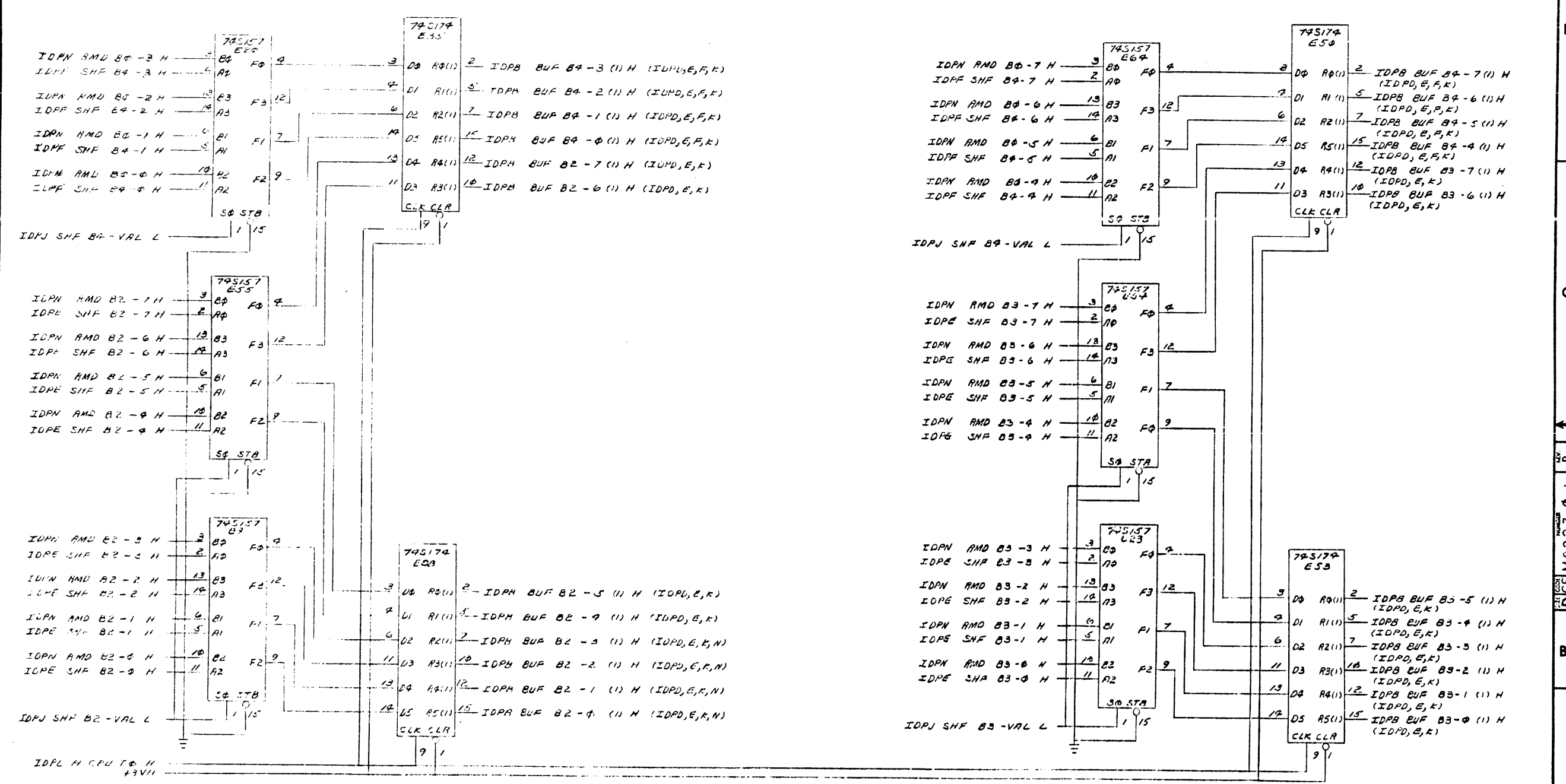
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS			TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.	INSTRUCTION DATA PATH (IDPA)		D CS		M8223-0-1		3
			SCALE	SHEET	2 OF 14	DIST.			

(BUFFER BYTES 0 & 1) (SLOT 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 © 1977 DIGITAL EQUIPMENT CORPORATION"



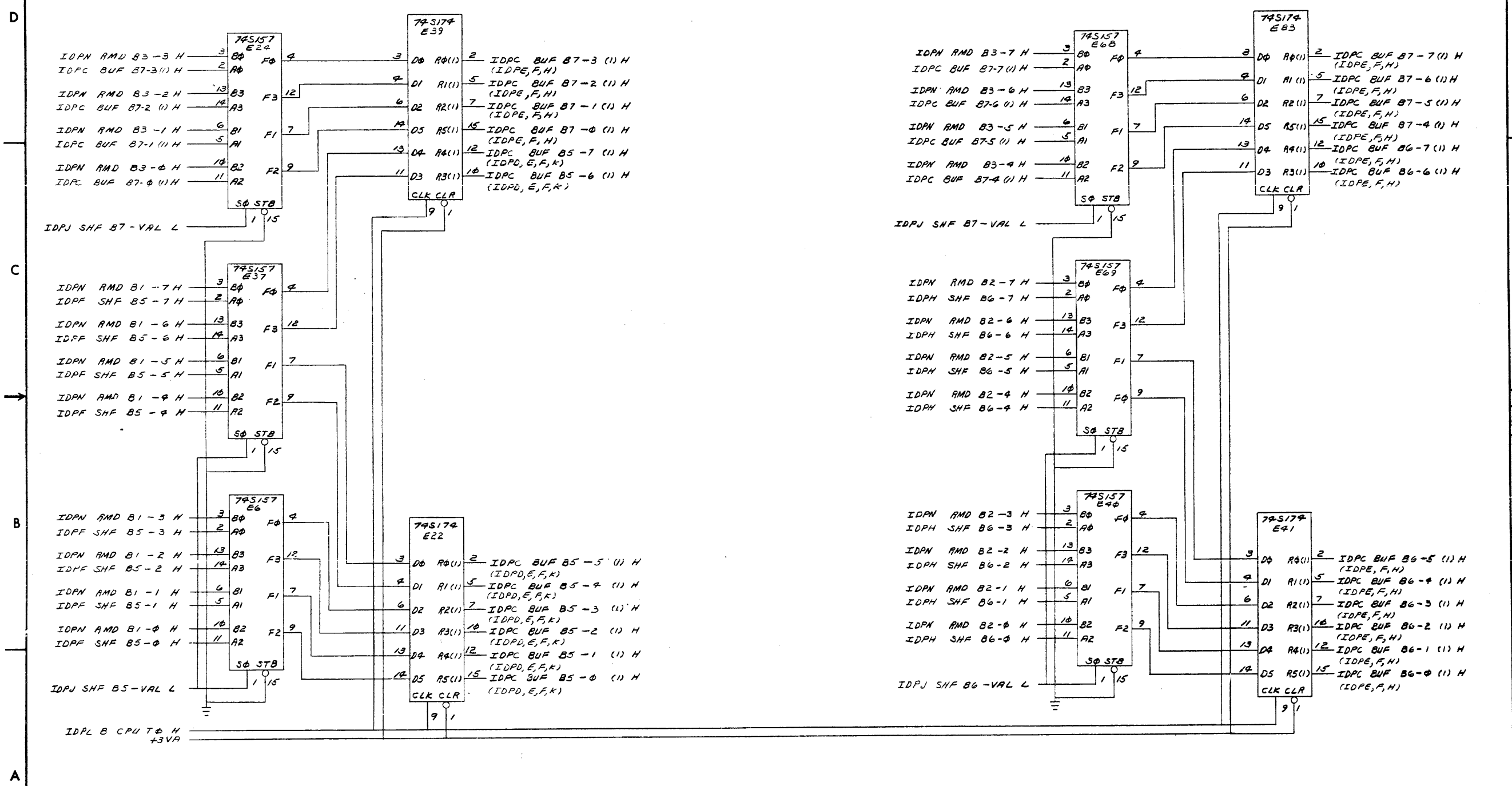
REVISIONS		
CHK	CHANCE NO.	REV.

(BUFFER BYTES 2 & 3 & 4) (SLOT 7)

TITLE	INSTRUCTION DATA PATH (IDPB)	SIZE CODE	D	CS	NUMBER	M8223-0-1	REV.	B
SCALE	1:1	DATE	3 OF 14	D.T.				



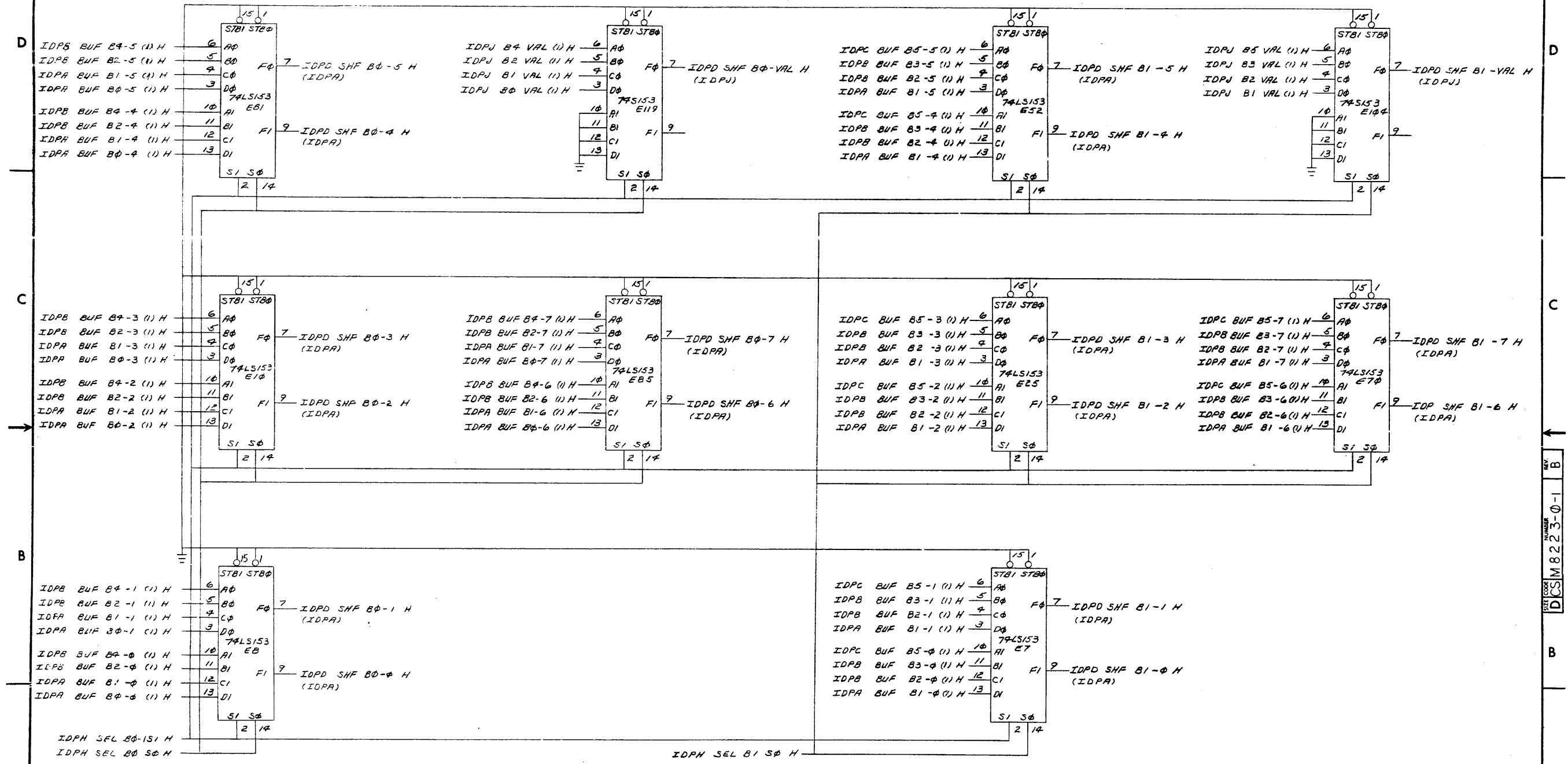
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(BUFFER BYTES 5&6&7)		(SLOT 7)	
TITLE	INSTRUCTION DATA PATH (IDPC)	SIZE CODE	NUMBER
SCALE	←→	DIST.	169
SHEET	40F 14	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"



7	A	0	0	0	0
6	B	0	0	0	0
5	C	0	0	0	0
4	D	0	0	0	0
3	E	0	0	0	0
2	F	0	0	0	0
1	G	0	0	0	0

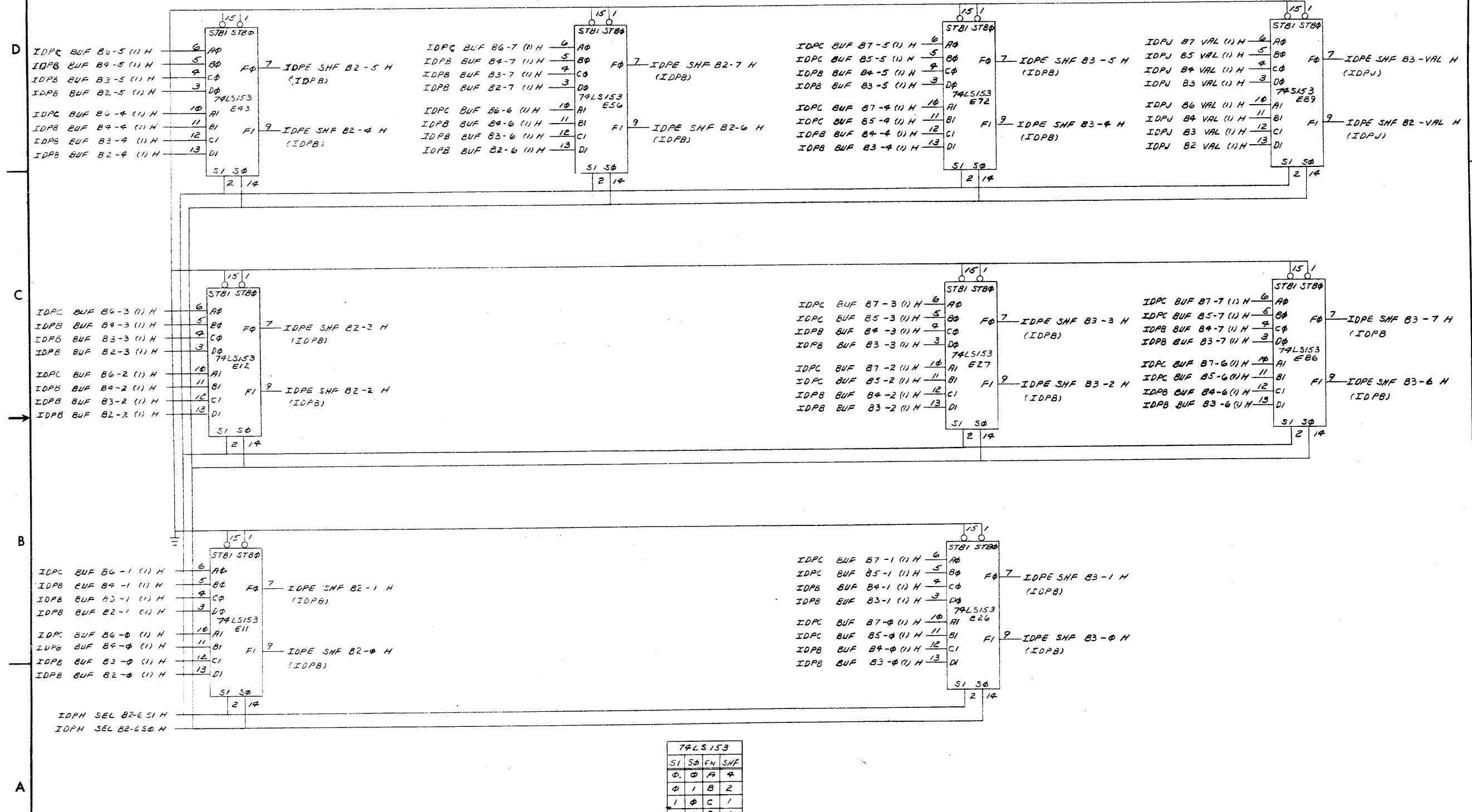
REVISIONS		
CHK	CHANGE NO.	REV.

(SHIFTER BYTES 0 & 1) (SLOT 7)

TITLE INSTRUCTION DATA PATH (IDPD) SIZE CODE NUMBER REV. DCS M8223-0-1 B

SCALE SHEET 5 OF 14 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"

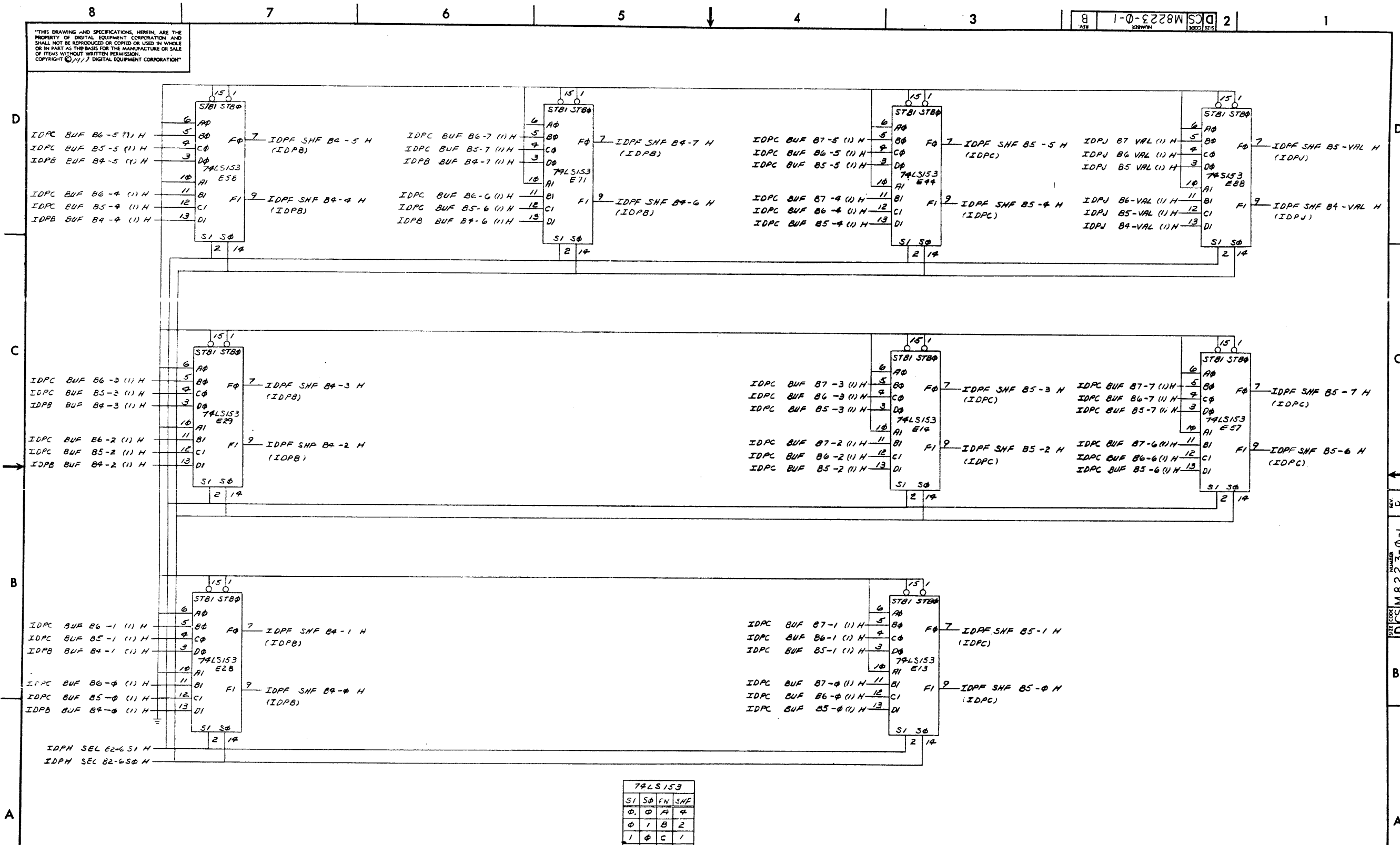


REVISIONS		
CHK	CHANGE NO.	REV

(SHIFTER BYTES 2 & 3) (SLOT 7)

TITLE	INSTRUCTION DATA PATH (IDPE)	SIZE CODE	D CS	NUMBER	M8223-0-1	REV.	B
SCALE	+	SHEET	6 OF 14	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"

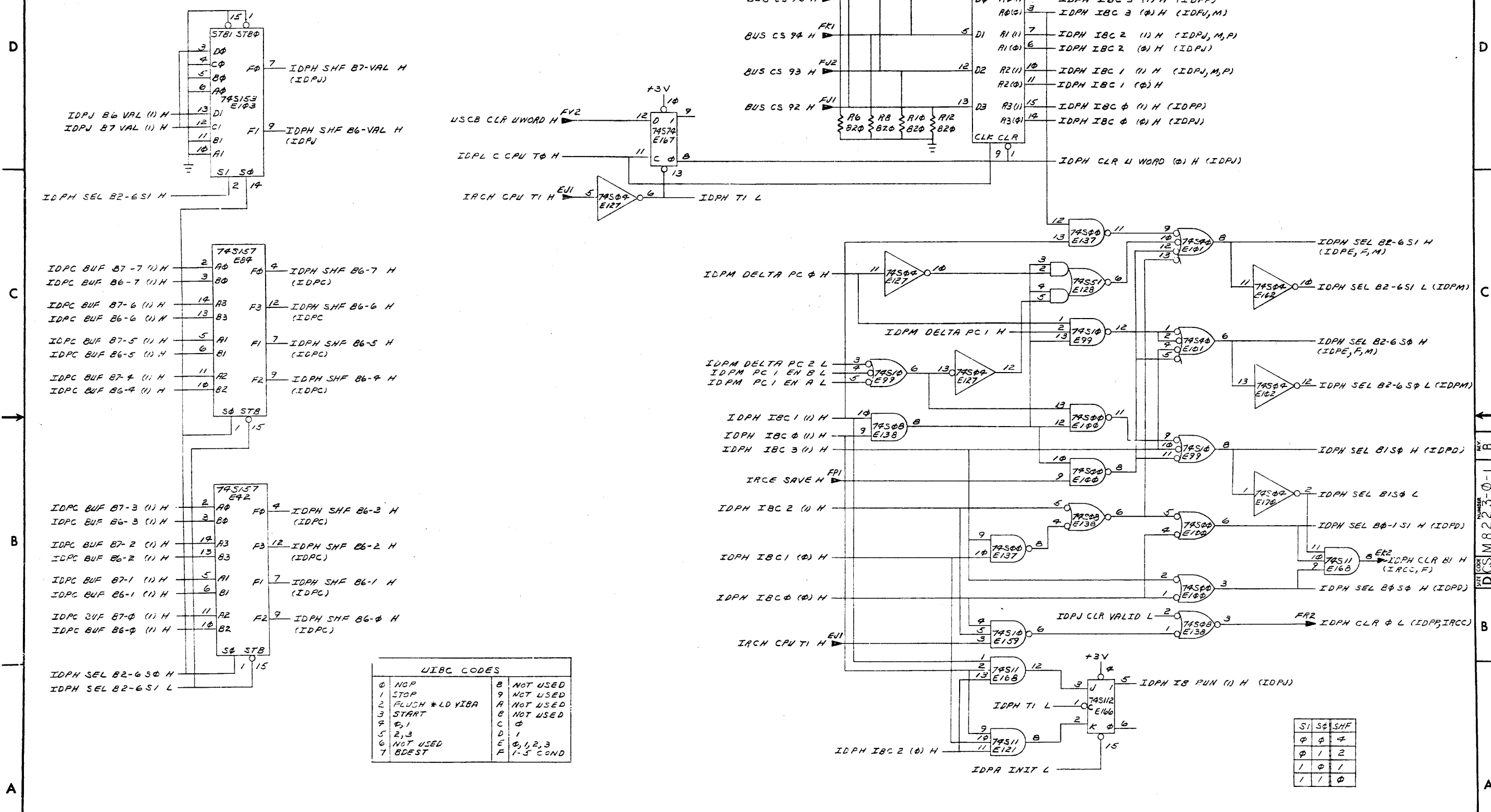


(SHIFTER BYTES 4&5) (SLOT 7)

TITLE	INSTRUCTION DATA PATH (IDPF)	SIZE CODE	DCS	NUMBER	M8223-0-1	REV.	E
SCALE	+	SHEET	7 OF 14	DIST.			

REVISIONS		
CHK	CHANGE NO.	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"

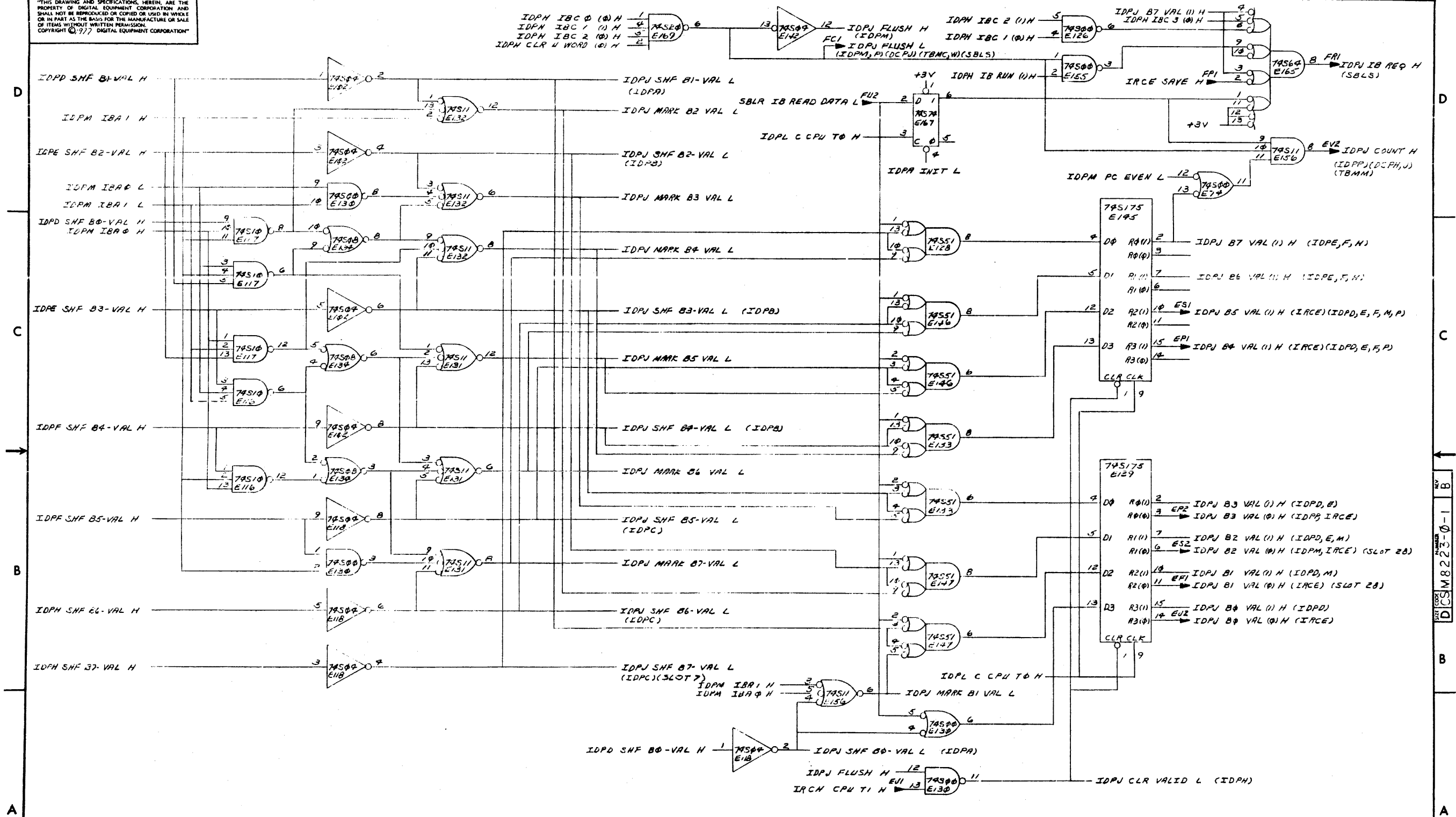


LIBC CODES			
0	NOT USED	8	NOT USED
1	STOP	9	NOT USED
2	FLUSH *LD YIBA	A	NOT USED
3	START	B	NOT USED
4	0, 1	C	0
5	2, 3	D	1
6	NOT USED	E	0, 1, 2, 3
7	BDEST	F	1-5 COND

S1	S0	SHF
0	0	0
0	1	2
1	0	1
1	1	0

REVISIONS		
CHK	CHANGE NO.	REV.

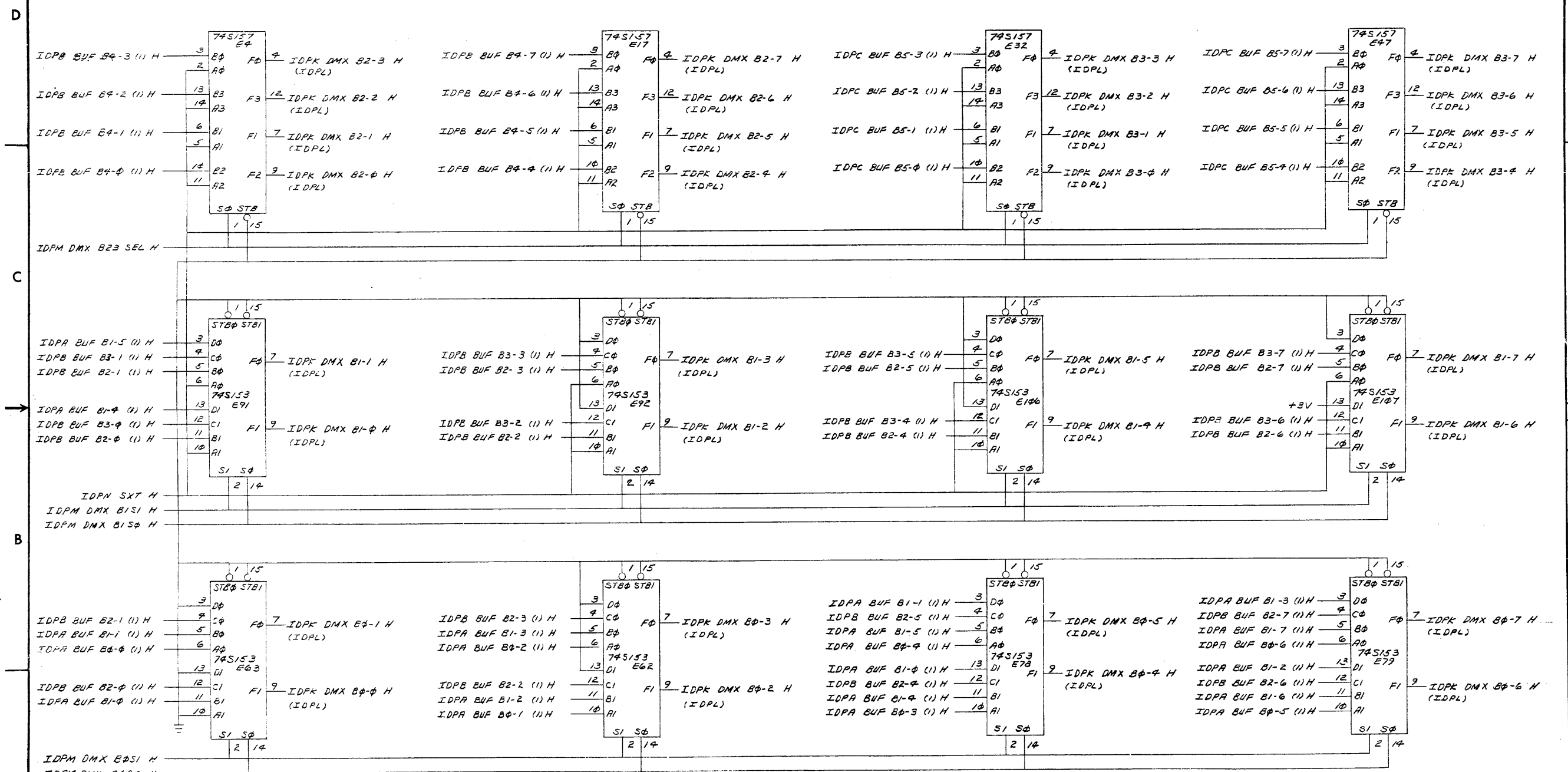
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(BUFFER VALID BITS, REQUEST)		(SLOT 7)	
TITLE	INSTRUCTION DATA PATH (IDPJ)	SIZE CODE	D CS
NUMBER	M8223-0-1	REV.	B
SCALE	9 OF 14	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"



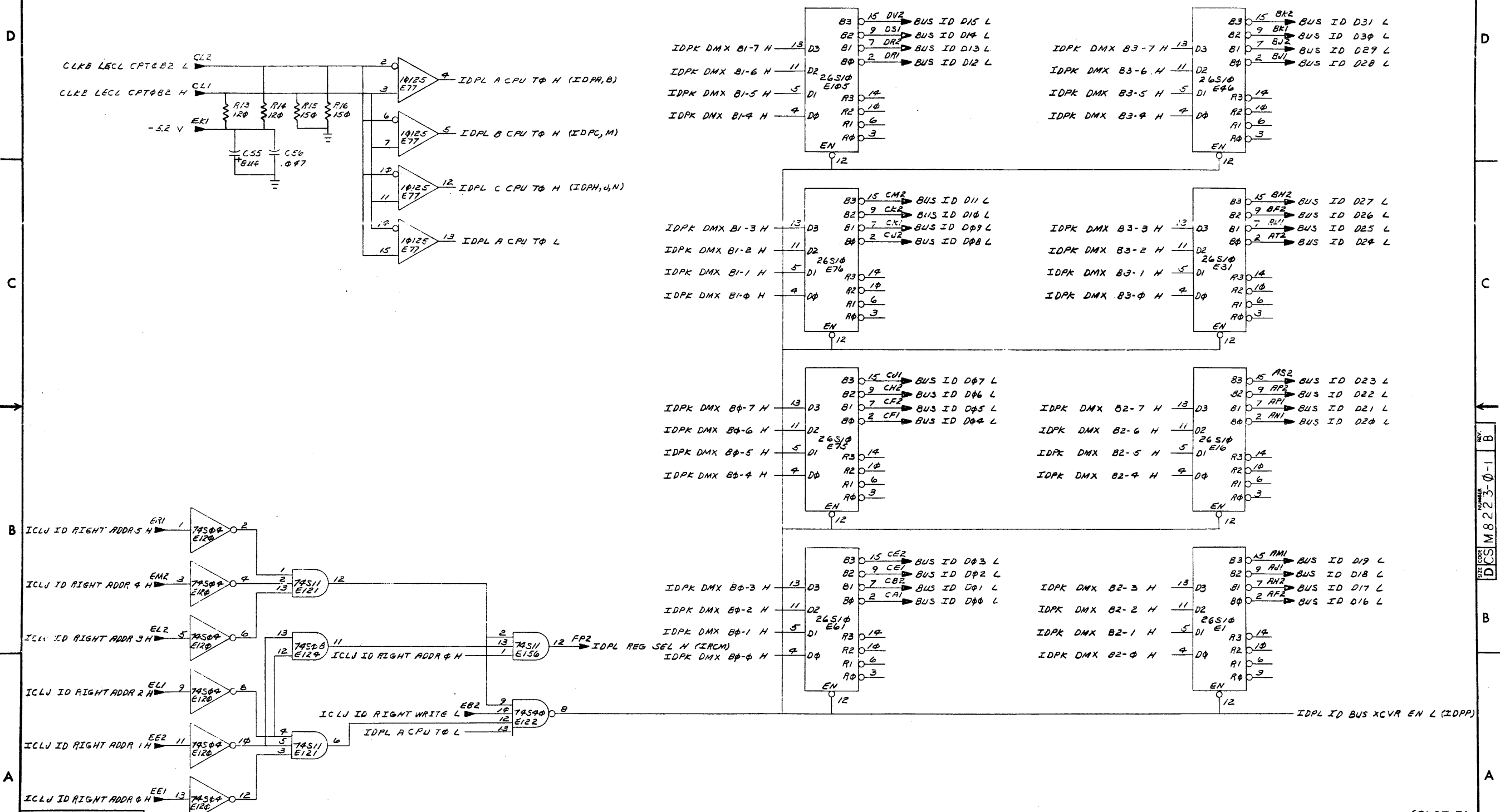
BYTE 0				BYTE 1			
S1	S0	CM	BR	S1	S0	SXT	
0	0	1	B1	0	0	1	B2
1	0	0	B2	1	0	0	B3
1	1	0	FP	1	1	0	FP

REVISIONS		
CHK	CHANGE NO.	REV.

(DMUX)		(SLOT 7)	
TITLE	INSTRUCTION DATA PATH (IDPK)	SIZE CODE	D CS
NUMBER	M8223-0-1	REV.	B
SCALE	SHEET 10 OF 14	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"

REV. B 1-0-1 DCS M8223-0-1



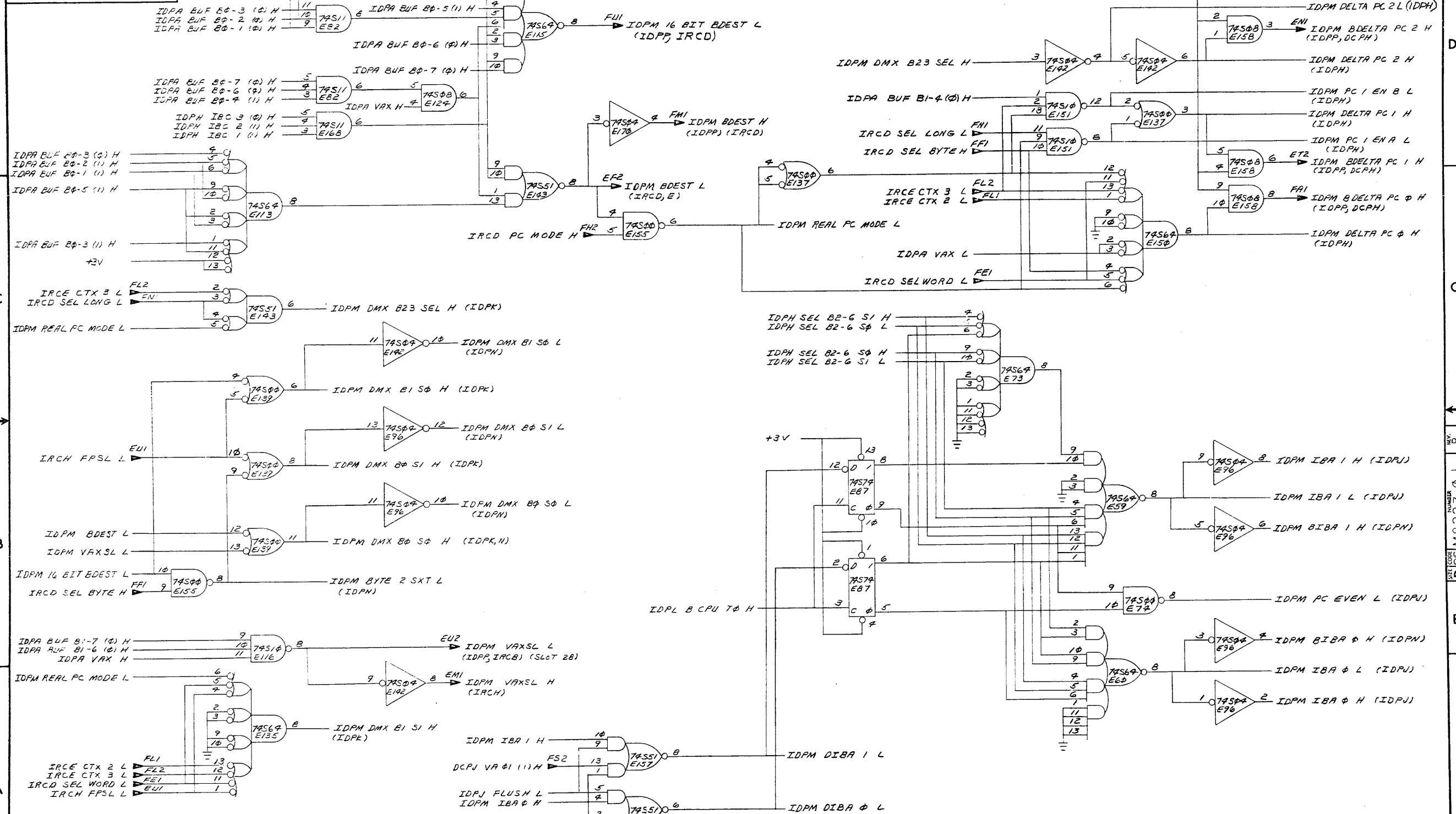
REVISIONS		
CHK	CHANGE NO.	REV.

(CLOCKS, ADR DECODE, BUS DRIVERS) (SLOT 7)

TITLE	INSTRUCTION DATA PATH (IDPL)	SIZE CODE	D CS	NUMBER	M8223-0-1	REV.	B
SCALE	SHEET	11 OF 14	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.

(DMX SELECTS, BDEST, DELTA PC, IBA 0 & 1) (SLOT 7)

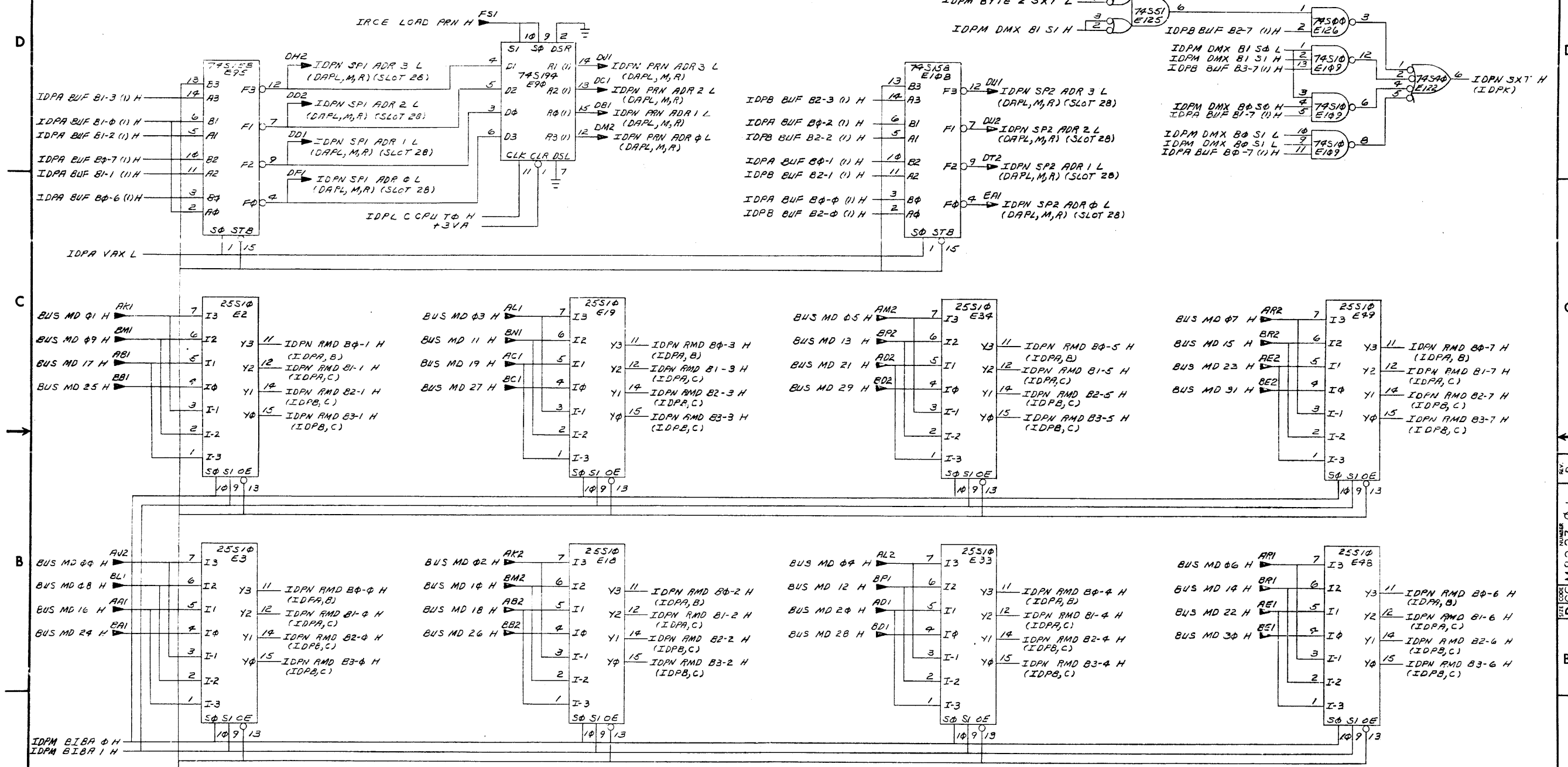
TITLE INSTRUCTION DATA PATH (IDPM) DCS M8223-0-1

SIZE CODE NUMBER REV. B

SCALE SHEET 12 OF 14 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"

1-0-0228W DCS M8223-0-1



S1	Sφ	OUTR/BYTES
φ	φ	321φ
φ	1	φ321
1	φ	1φ32
1	1	21φ3

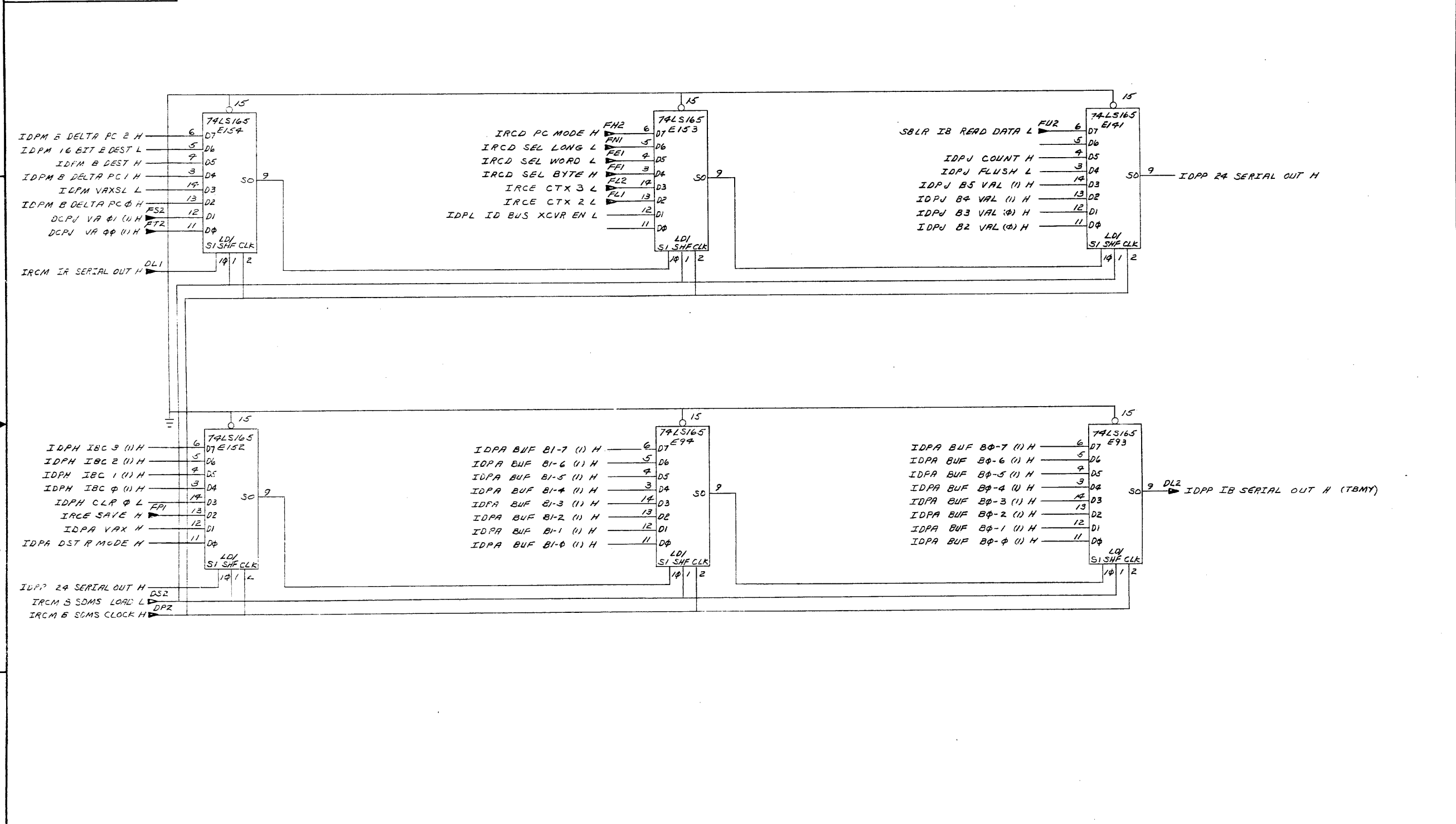
REVISIONS		
CHK	CHANGE NO.	REV.

(REG ADRS, SXT, MD BYTE SHIFTER) (SLOT 7)

TITLE INSTRUCTION DATA PATH (IDPN) SIZE CODE NUMBER REV. DCS M8223-0-1 B

SCALE SHEET 13 OF 14 DIST. TW 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"

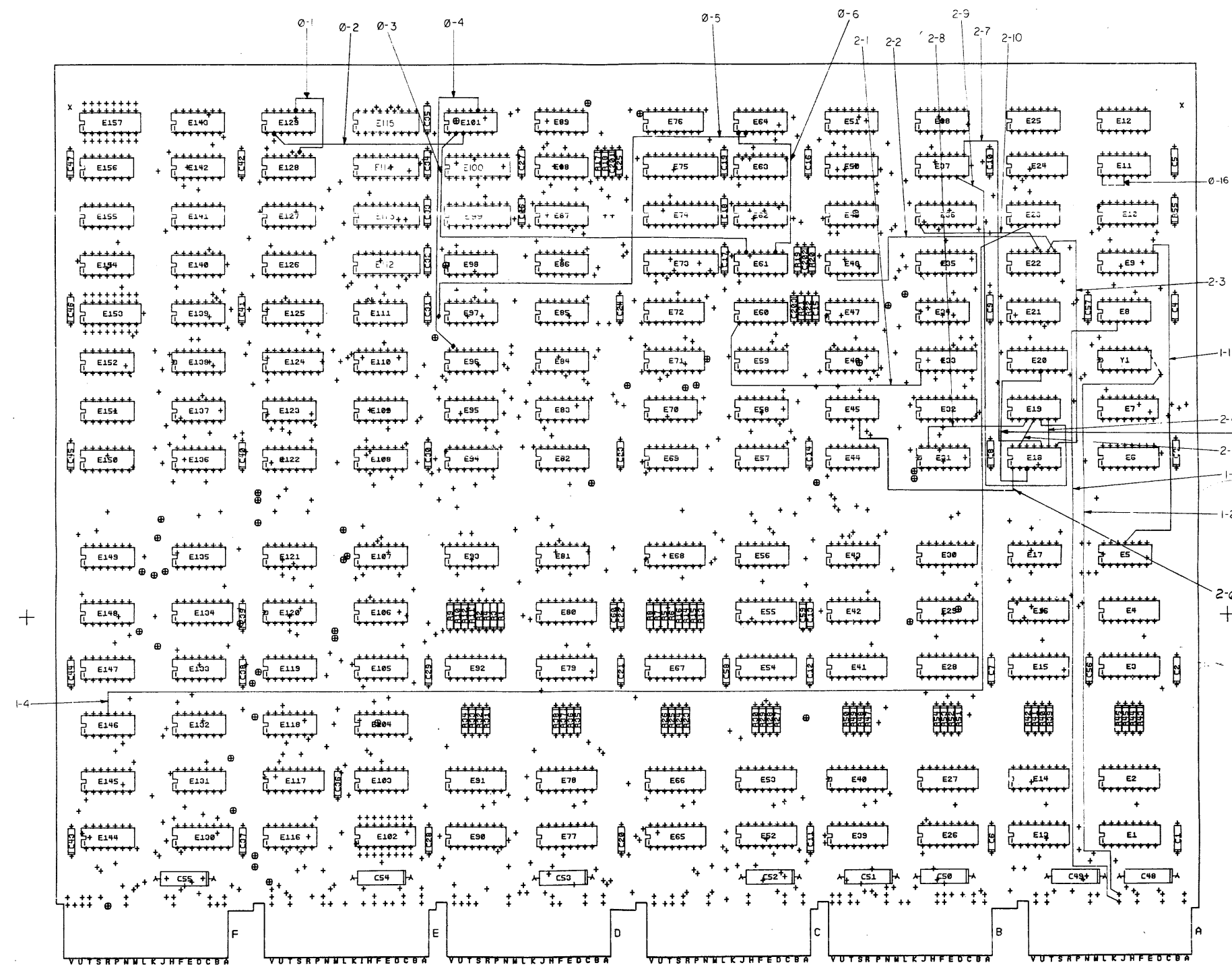


REVISIONS		
CHK	CHANGE NO.	REV.

(V-BUS)		(SLOT 7)	
TITLE	INSTRUCTION DATA PATH (IDPP)	SIZE CODE	NUMBER
SCALE	SHEET 14 OF 14	DCS	M8223-0-1

DCS M8223-0-1 B  
 DCS M8223-0-1 B  
 179

COMPONENT SIDE VIEW



DATE	1-22-72
CHK. BY	W. J. ...
PROJ. ENG.	...
SCALE	...
SHEET	...
REV.	...

**digital**

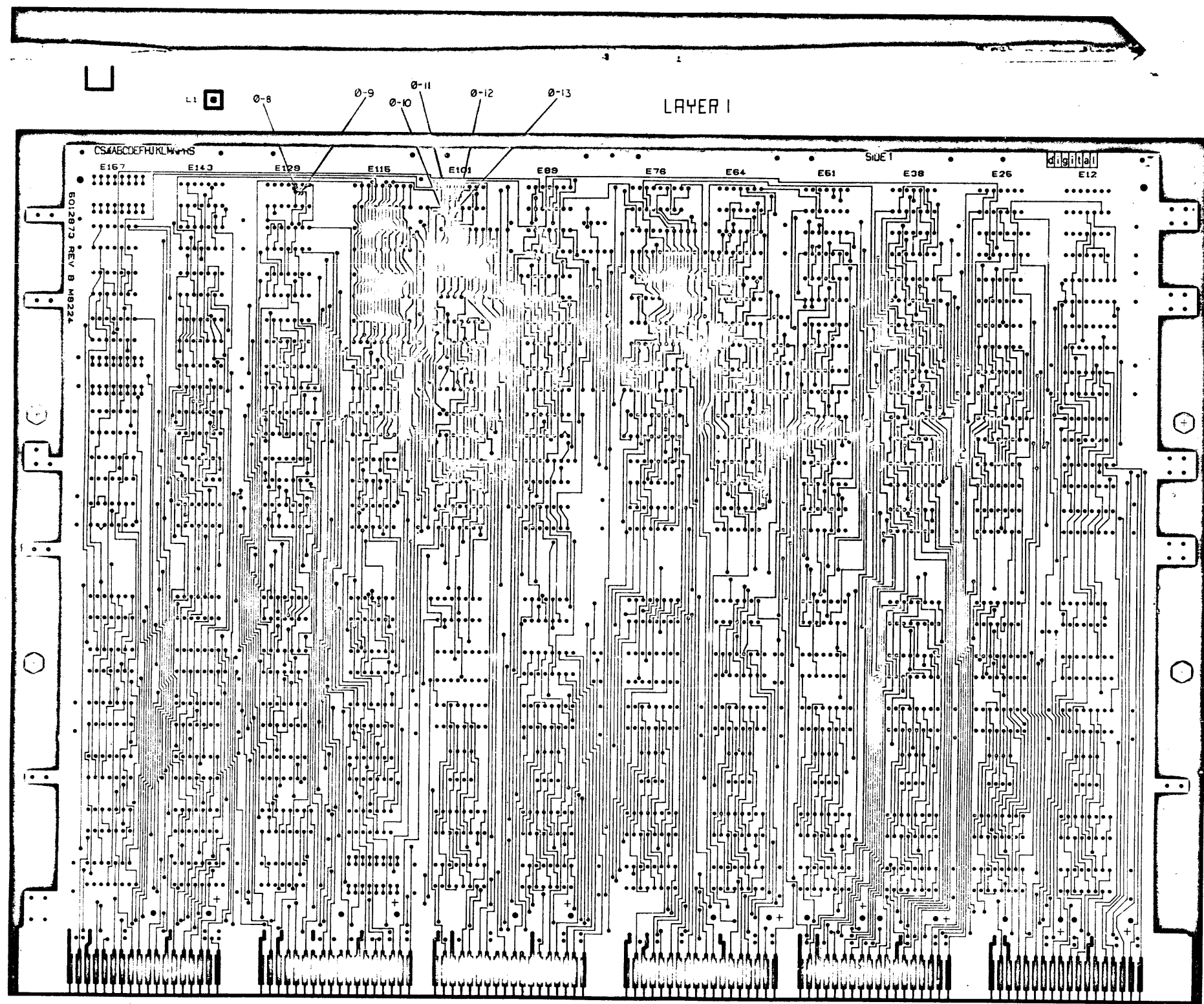
TITLE: INSTRUCTION DECODER  
 NUMBER: M822A-00  
 PART: M822A-00  
 REV: 0

SIGNATURES	DATE
DESIGNER	...
CHK. BY	...
PROJ. ENG.	...
SCALE	...
SHEET	...
REV.	...

NOTE: 1

E U I S R P N M L K J H F E D C B A

M822A-00



LAYER 1

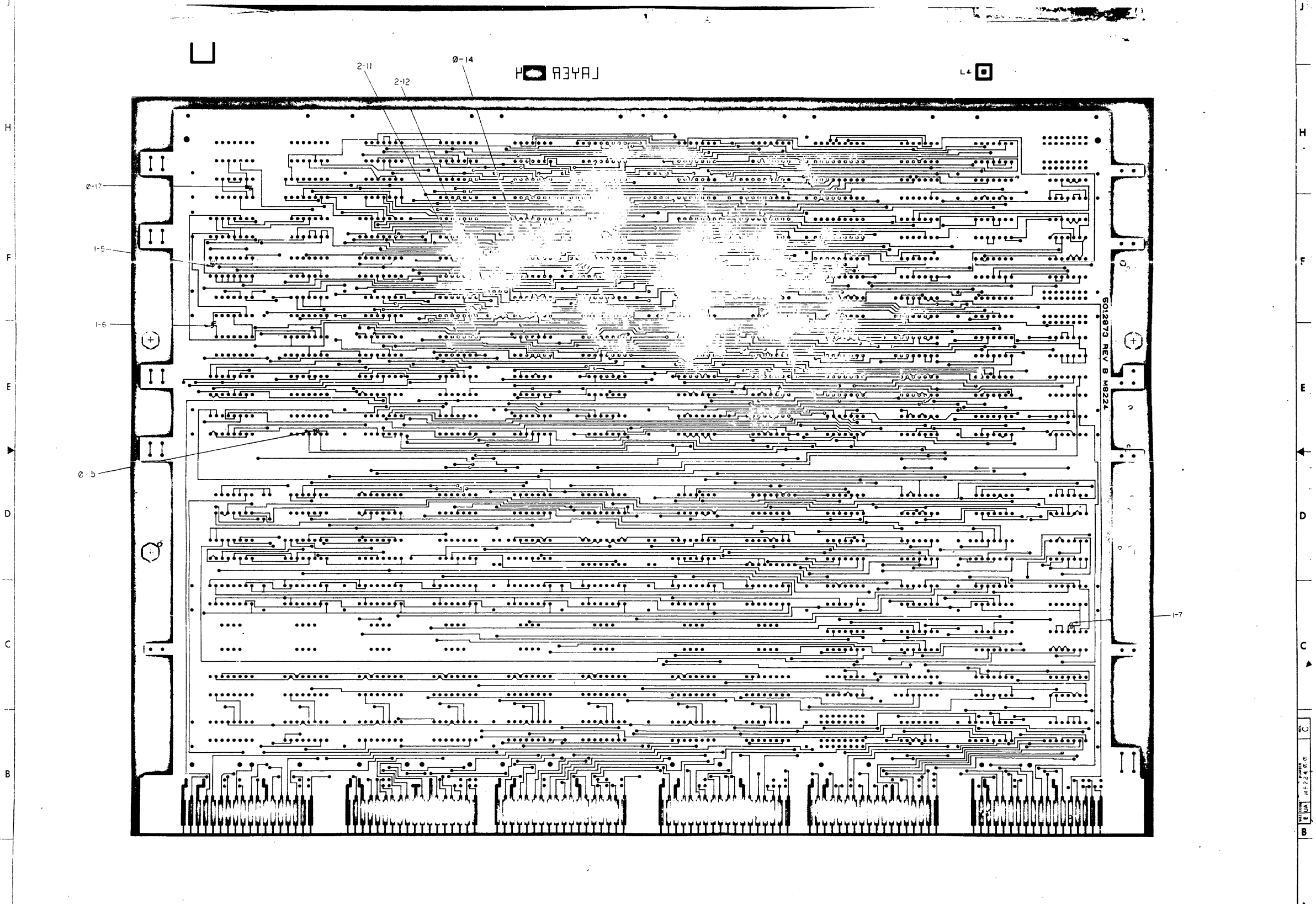
BO12973 REV. B M8224

digital

TITLE		NUMBER		REV.
IRC		EUA M822400		C
SCALE	SHEET	OF	SHEET	OF
2-1	2	4	1	4
				(8)

8 7 6 5 4 3 2 1

1377



REV	DESCRIPTION	DATE

182

8 7 6 5 4 3 2 1

TITLE	IRC	SIZE/SCALE	2-1	SHEET	3 OF 4	NUMBER	MB2400	REV	C

PC  
E  
D  
C  
B  
A

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF PACIFIC ELECTRONIC CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF PACIFIC ELECTRONIC CORPORATION.

WIRE ADS

- Q1: E126-8 TO PTH ABOVE LEFT OF E126-9
- Q2: E126-2 TO E18-3
- Q3: E101-2 TO E18-13
- Q4: E101-10 TO PTH ABOVE LEFT OF E18-13
- Q5: E184-2 TO PTH LEFT OF E17
- Q6: E184-1 TO E18-9
- Q7: E126-5 TO E18-3

ETCH CUTS

- Q8: BETWEEN E126-10 AND PTH BELOW E126-10
- Q9: BETWEEN PTH BELOW E126-10 AND PTH ABOVE LEFT OF E126-4
- Q10: BETWEEN E101-2 AND PTH LEFT OF E17
- Q11: BETWEEN E101-2 AND PTH ABOVE E101-2
- Q12: BETWEEN E101-3 AND E101-10
- Q13: BETWEEN E101-3 AND PTH ABOVE LEFT OF E18-13
- Q14: BETWEEN E18-9 AND E18-10
- Q15: BETWEEN E18-1 AND PTH ABOVE LEFT OF E18-4

- Q16: ADD WIRE FROM E18-1 TO E11-4
- Q17: ETCH CUT BETWEEN E18-1 AND E11-13

ECO #1

WIRE ADDS SIDE 1:

- I-1. E9-9 TO E6-11
- I-2. Y1-8 TO PTH TO AK1 \*
- I-3. E8-3 TO PTH TO AK2
- I-4. E23-3 TO E146-11

ETCH CUTS SIDE 2:

- I-5. BETWEEN E9-9 AND E9-10
- I-6. BETWEEN Y1-8 AND E8-3
- I-7. BETWEEN E146-11 AND E146-12

\*NOTE: TO GET TO Y1-8, WIRE IS TO GO THROUGH FEEDTHRU RIGHT OF Y1-7, THEN TACK SOLDERED TO Y1-8 ON SIDE 2.

ECO #2

WIRE ADDS SIDE 1:

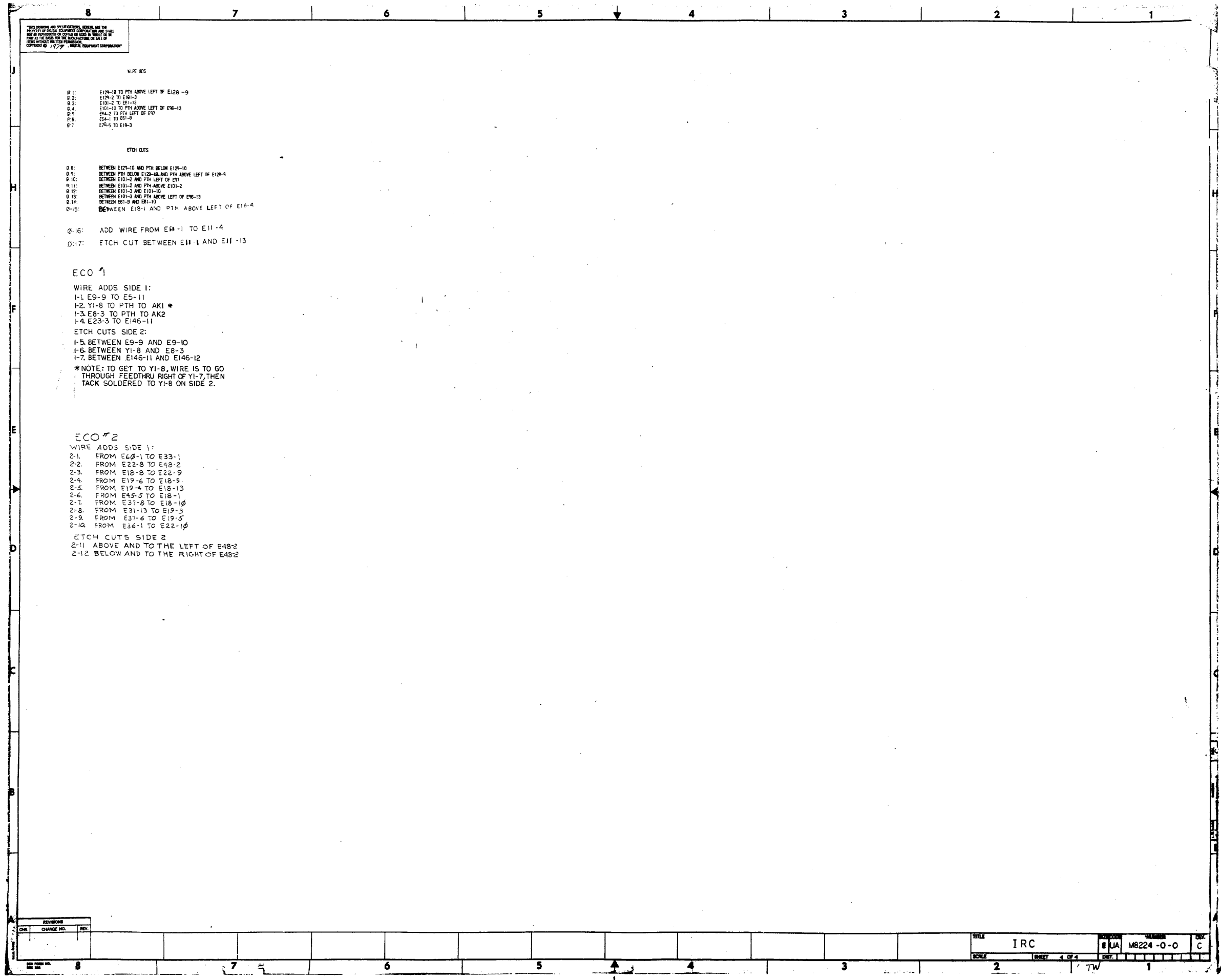
- 2-1. FROM E60-1 TO E33-1
- 2-2. FROM E22-8 TO E48-2
- 2-3. FROM E18-8 TO E22-9
- 2-4. FROM E19-6 TO E18-9
- 2-5. FROM E19-4 TO E18-13
- 2-6. FROM E45-3 TO E18-1
- 2-7. FROM E37-8 TO E18-10
- 2-8. FROM E31-13 TO E19-5
- 2-9. FROM E37-6 TO E19-5
- 2-10. FROM E36-1 TO E22-10

ETCH CUTS SIDE 2:

- 2-11. ABOVE AND TO THE LEFT OF E48-2
- 2-12. BELOW AND TO THE RIGHT OF E48-2

REVISIONS		
CHR.	CHANGE NO.	REV.

TITLE	IRC	DESIGN	UA	DATE	M8224-0-0	REV.	C
SCALE	2	SHEET	4 OF 4	DATE			



LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
				00		
1	1	E-MD-5012873-0-0	5012873-00	1		
2	2		1012784-00	55		
3	3		1012084-01	8		
4	4		1300447-00	33		
5	5		1300247-00	8		
6	6		1301972-00	3		
7	7		1301890-00	3		
8	8		1813951-00	1		
9	9		2114018-00	1		
10	10		1913839-00	2		
11	11		1910532-00	10		
12	12		1910534-00	12		
13	13		1912389-00	6		
14	14		1910536-00	13		
15	15		1910539-00	4		
16	16		1911712-00	7		
17	17		1910542-00	30		
18	18		1300250-00	8		
19	19		1910537-00	6		
20	20		1910545-00	4		
21	21		1910956-00	2		
22	22		1910548-00	1		
23	23		1910552-00	3		

REVISION HISTORY		BASIC PART NO: M8224		DRN: F.MALANSON		DATE: 17-FEB-77		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	F.SMART	DATE:	17-MAR-77	TITLE	PARTS LIST
---	INIT	C	SECTION VARIATION INDEX	CHK'D:	F.SMART	DATE:	17-MAR-77		
---	INIT	C	[A] 00						INSTRUCTION REGISTER & CLOCK
			[B]						
			[C]	DES.ENG:	R.BARRY	DATE:	1-24-78		
			[D]						
			[E]						DOCUMENT NUMBER
			[F]	RESP.ENG.:	C.CALAMA	DATE:	1-JUL-77		
			[G]					SIZE	CODE
			[H]					NUMBER	REV
			[I]						
			[J]						
			[K]	MFG.ENG.:	M.TIRELLA	DATE:	21-JUN-77	K	PL
			[L]					M8224-0-DBP	C
			[M]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #
			[N]	D-UA-M8224-0-0				Z0388C.PLS	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 (C) 1979. DIGITAL EQUIPMENT CORPORATION \*

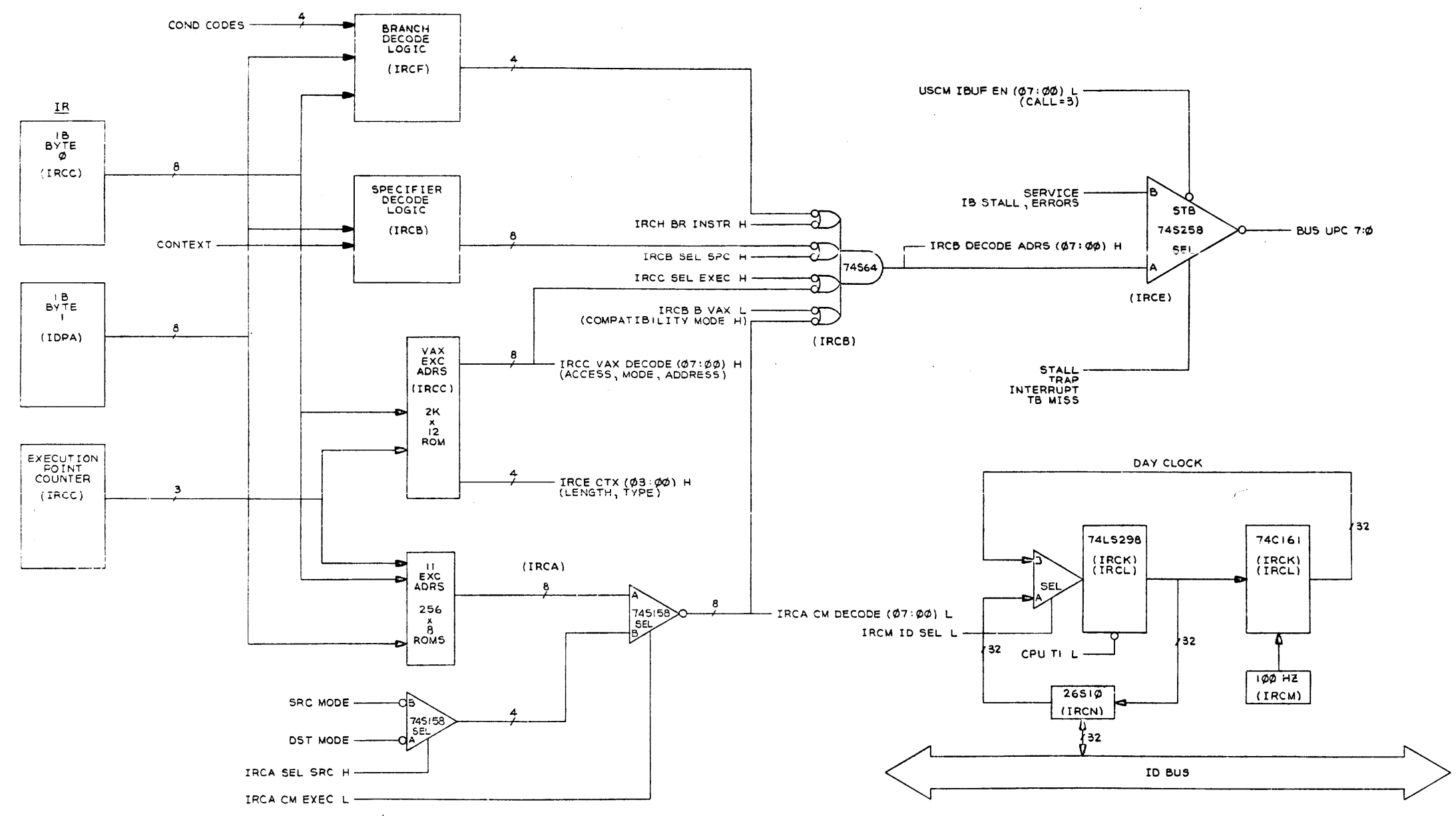


LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
24	24	1910549-00	74S158 MUX 1 OF 2 (QUAD)	8	E16,E29,E33,E35,E36,E71,E72,E76
25	25	1911415-00	10125 ECL TO TTL TRNSLTR	2	E55,E80
26	26	1912867-00	LS298 MUX 1 OF 4,2IN W/S	8	E2,E14,E27,E40,E53,E66,E78,E91
27	27	1913887-00	74S258 MUX 1 OF 2(QUAD)TRI	2	E117,E134
28	28	1913788-00	26S10 TRANSCEIVER,BUS,QUA	8	E1,E13,E26,E39,E52,E65,E77,E90
29	29	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1	E5
30	30	2113907-00	MM 74C160 COUNTER-DECADE,ASYNC	1	E9
31	31	2113908-00	MM 74C161 COUNTER,ASYNCH,BINAR	8	E3,E15,E28,E41,E54,E67,E79,E92
32	32	1910544-00	74S74 FF-D DUAL,EDGE TRIGG	6	E11,E46,E56,E69,E70,E88
33	33	23023B1-00	B1-01	1	E73
34	34	23024B1-00	B1-01	1	E74
35	35	23025B1-00	B1-01	1	E75
36	36	23168F1-00	F1-01	1	E99
37	37	23169F1-00	F1-01	1	E100
38	38	23170F1-00	F1-01	1	E112
39	39	23171F1-00	F1-01	1	E113
40	40	23172F1-00	F1-01	1	E114
41	41	23173F1-00	F1-01	1	E115
42	42	1210711-02	HANDLE,MODULE,HEX	1	
43	43	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	

0 NOTE: E102,E153,E157 ARE SPARE I.C. LOCATIONS.

! ! ! ! ! ! ! ! ! !	! TITLE	! ! ! ! ! ! ! ! ! !	! SIZE ! CODE !	! DOCUMENT NUMBER	! REV !
! B ! I ! G ! I ! T ! A ! L !	INSTRUCTION REGISTER & CLOCK	! SECTION A OF A	! ! ! ! ! ! ! ! ! !	! K ! PL ! M8224-0-DBP	! C !

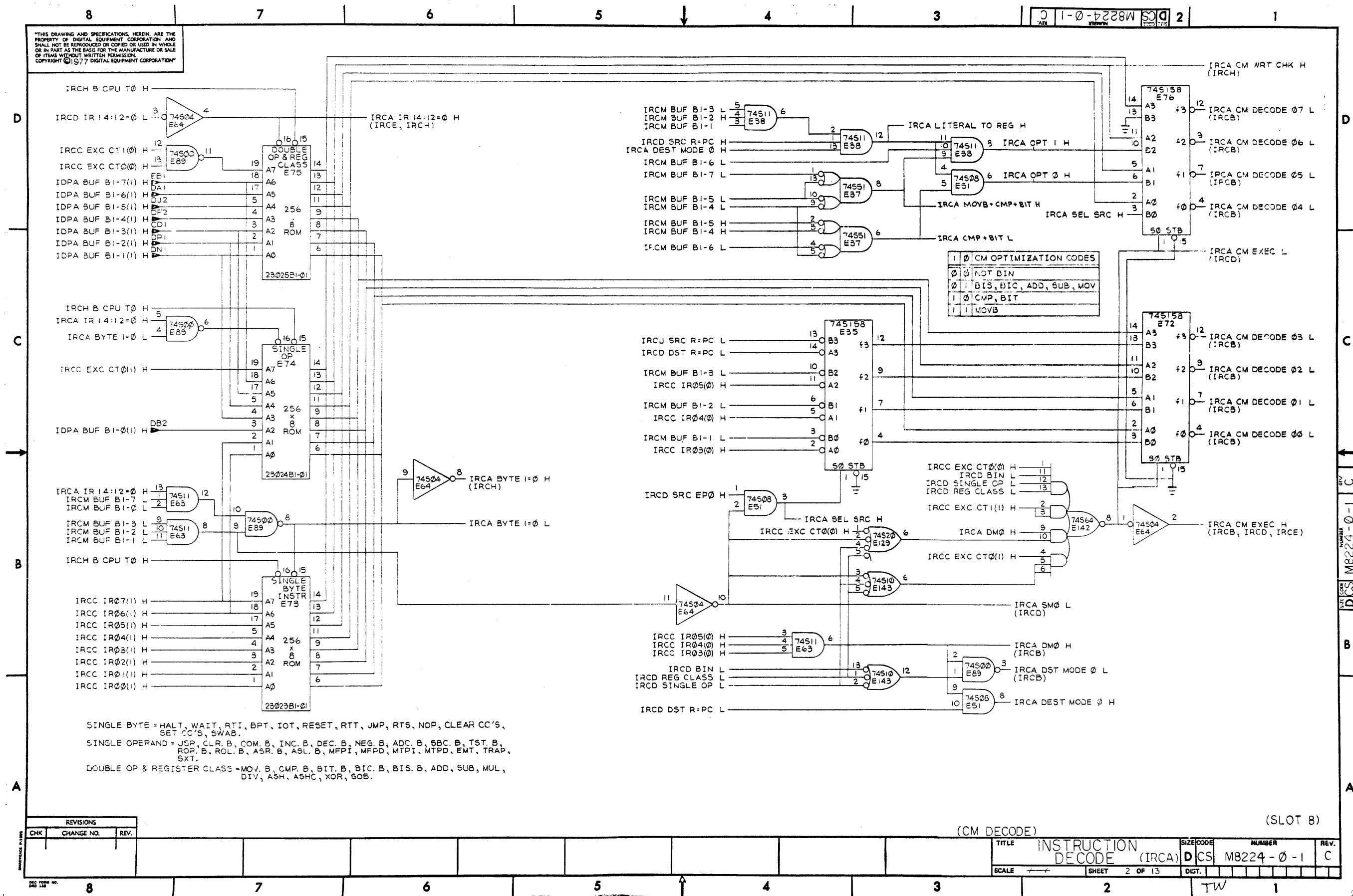
THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND ARE TO BE REPRODUCED AND TRANSMITTED IN ANY FORM AND BY ANY MEANS WITHOUT PERMISSION IN WRITING FROM THE UNITED STATES GOVERNMENT. © 1977, Digital Equipment Corporation



REV.	DATE	BY	CHKD.
1	1977-08-11	C. CALAMARI	
2	1977-11-02	J. RAGNAR	
3	1977-12-13	C. CALAMARI	

DRN.	REV.	FIRST USED ON	TITLE
M8224-0-1	1	6-27-77	INSTRUCTION DECODE
SCALE	SIZE	CODE	NUMBER
1 OF 13	D	CS	M8224-0-1
SHEET	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 © 1977 DIGITAL EQUIPMENT CORPORATION



(SLOT 8)

(CM DECODE)

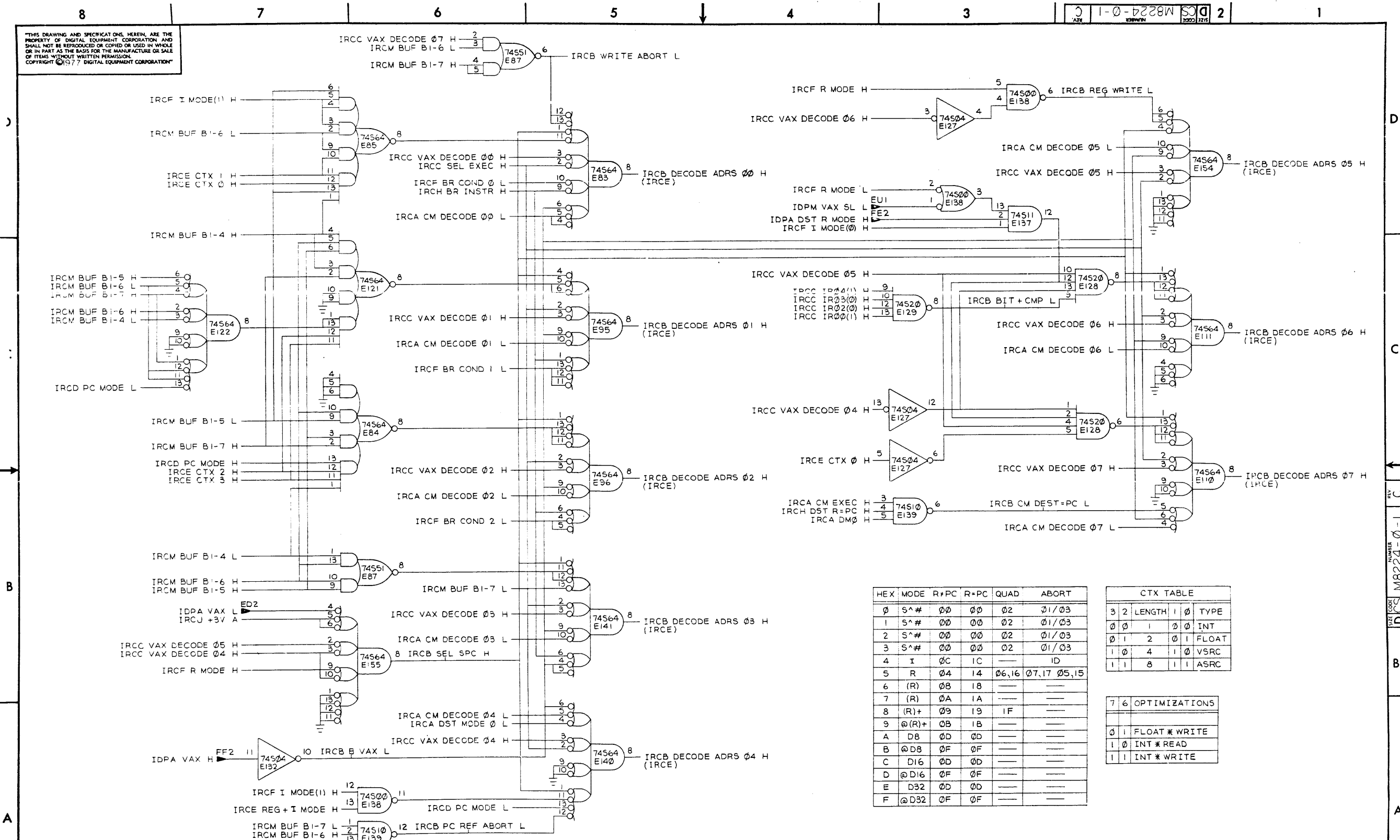
TITLE	SIZE/CODE	NUMBER	REV.
INSTRUCTION DECODE (IRCA)	D CS	M8224-0-1	C
SCALE	SHEET	2 OF 13	DIST.

REVISIONS		
CHK	CHANGE NO.	REV.

SINGLE BYTE = HALT, WAIT, RTI, BPT, IOT, RESET, RTT, JMP, RTS, NOP, CLEAR CC'S, SET CC'S, SWAB.  
 SINGLE OPERAND = JSR, CLR, B, COM, B, INC, B, DEC, B, NEG, B, ADC, B, SBC, B, TST, B, ROR, B, ROL, B, ASR, B, ASL, B, MFP, MFPD, MTP, MTPD, EMT, TRAP, SXT.  
 DOUBLE OP & REGISTER CLASS = MOV, B, CMP, B, BIT, B, BIC, B, BIS, B, ADD, SUB, MUL, DIV, ASH, ASHC, XOR, SOB.

D CS M8224-0-1 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 © 1977 DIGITAL EQUIPMENT CORPORATION"



HEX	MODE	R+PC	R-PC	QUAD	ABORT
0	S^#	00	00	02	01/03
1	S^#	00	00	02	01/03
2	S^#	00	00	02	01/03
3	S^#	00	00	02	01/03
4	I	0C	IC	---	ID
5	R	04	14	06,16	07,17 05,15
6	(R)	08	18	---	---
7	(R)	0A	1A	---	---
8	(R)+	09	19	IF	---
9	@(R)+	0B	1B	---	---
A	D8	0D	0D	---	---
B	@D8	0F	0F	---	---
C	D16	0D	0D	---	---
D	@D16	0F	0F	---	---
E	D32	0D	0D	---	---
F	@D32	0F	0F	---	---

CTX TABLE			
3	2	LENGTH	TYPE
0	0	1	INT
0	1	2	FLOAT
1	0	4	VSRC
1	1	8	ASRC

7 6 OPTIMIZATIONS			
0	1	FLOAT * WRITE	
1	0	INT * READ	
1	1	INT * WRITE	

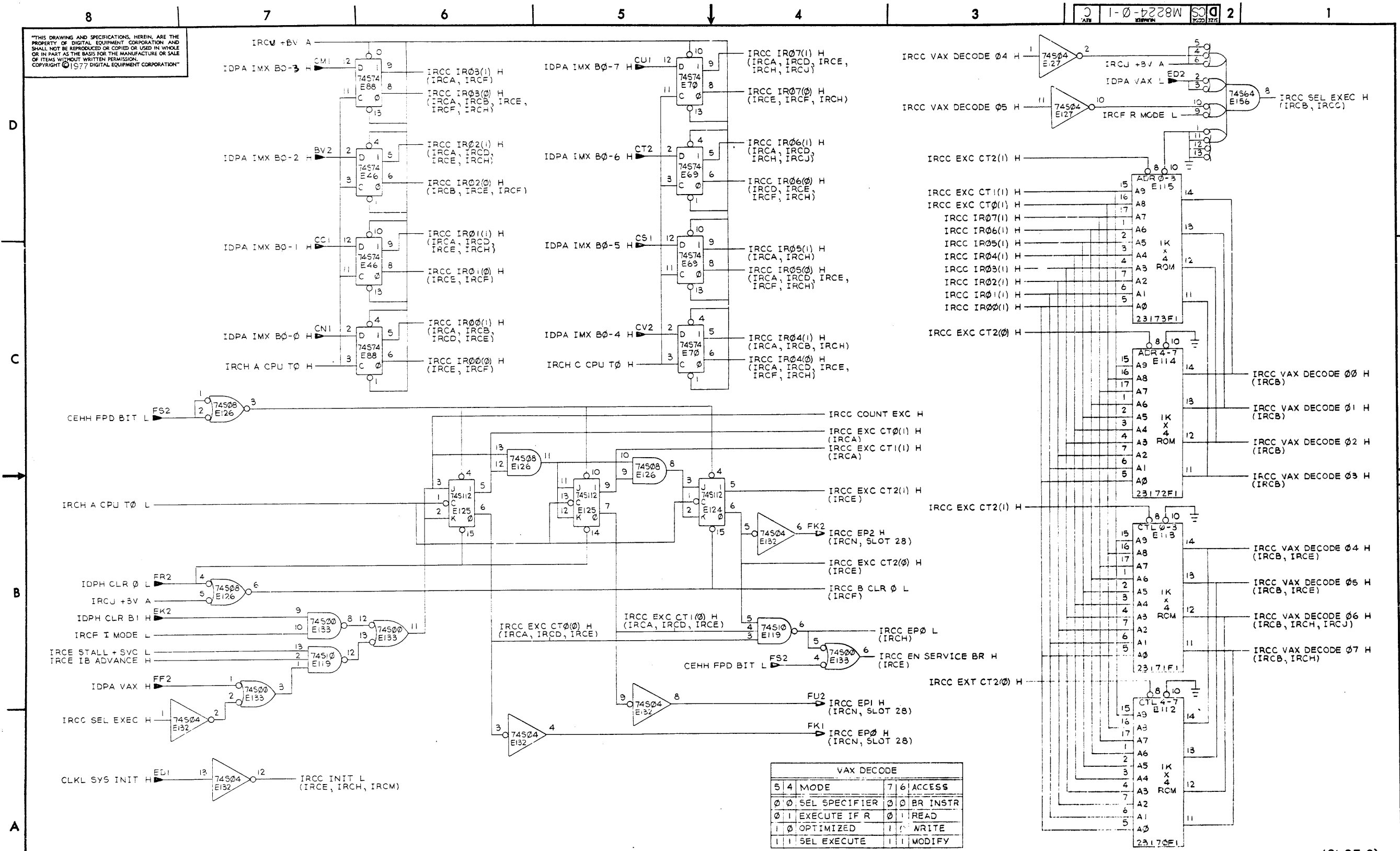
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 8)

(SPECIFIER DECODE AND MODE MUX)

TITLE	SIZE/SCALE	NUMBER	REV.
INSTRUCTION DECODE (IRCB)	DCS	M8224-0-1	C
SCALE	SHEET	DIST.	
---	3 OF 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 © 1977 DIGITAL EQUIPMENT CORPORATION



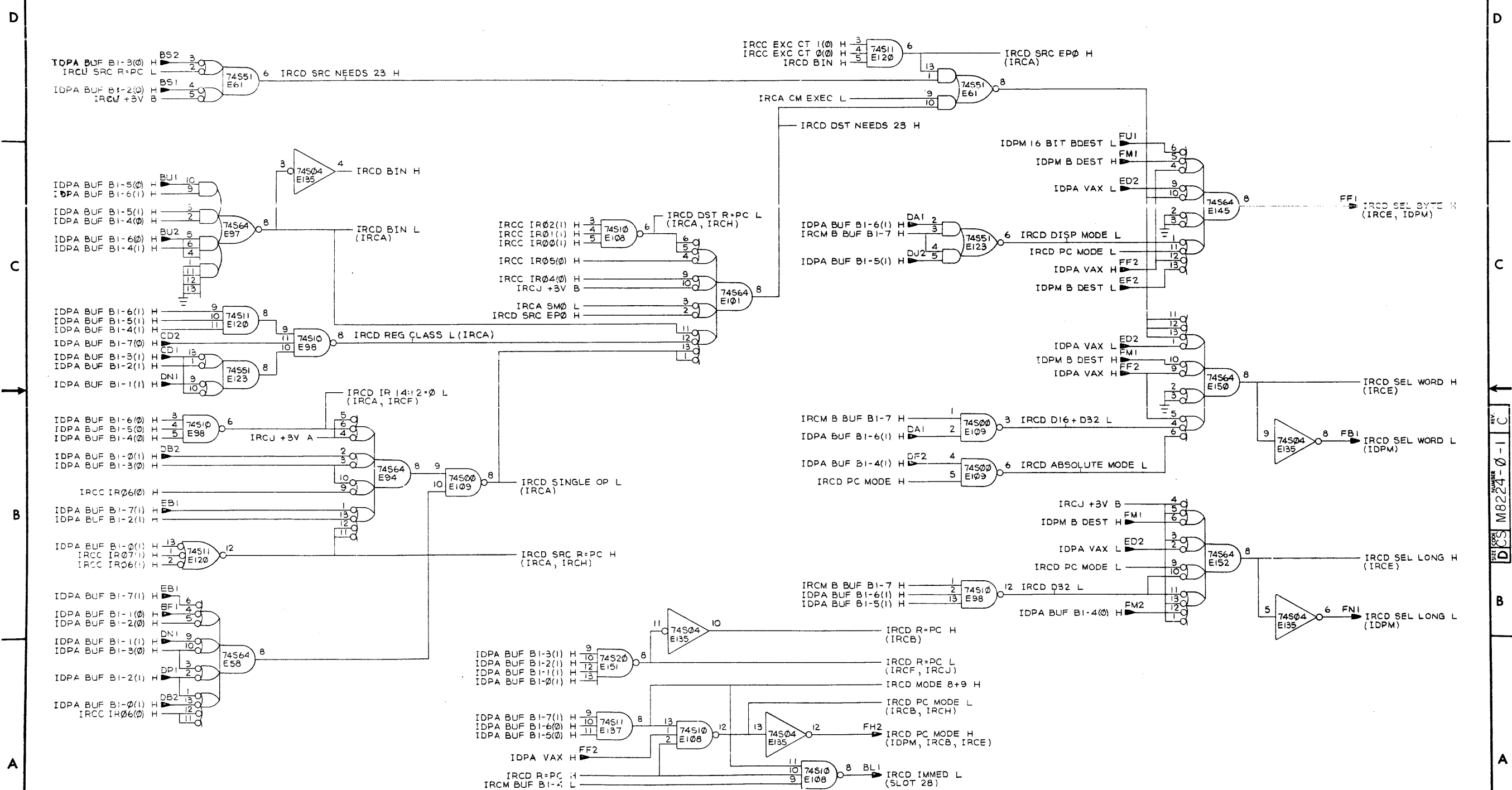
REVISIONS		
CHK	CHANGE NO.	REV.

VAX DECODE			
5	4	MODE	7   6   ACCESS
0 0	SEL SPECIFIER	0 0	BR INSTR
0 1	EXECUTE IF R	0 1	READ
1 0	OPTIMIZED	1 1	WRITE
1 1	SEL EXECUTE	1 1	MODIFY

(IR, EXC PT COUNTER, VAX DECODE)

TITLE	NUMBER	REV.
INSTRUCTION DECODE (IRCC)	M8224-0-1	C

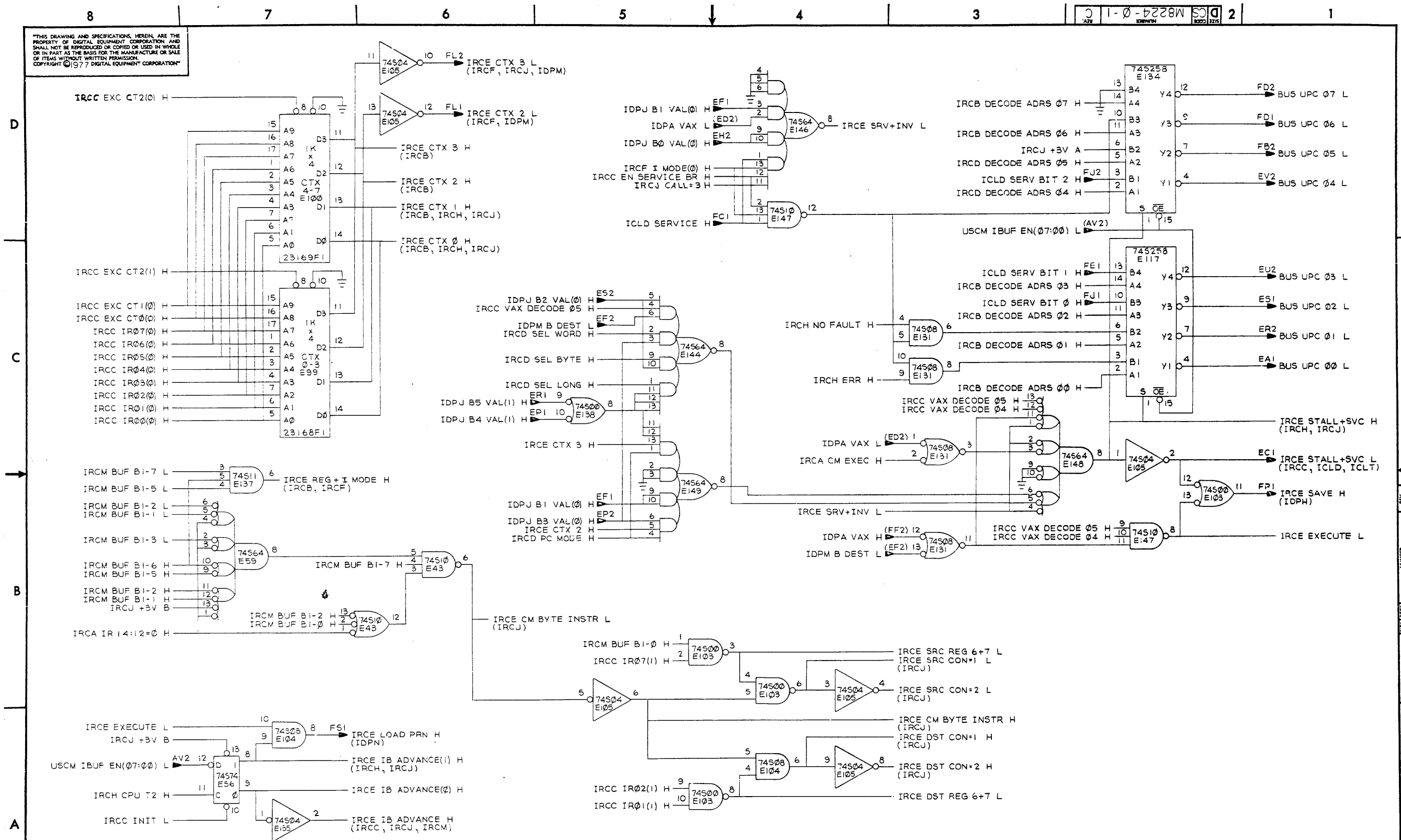
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(SIZE SELECT)		(SLOT 8)	
TITLE	INSTRUCTION DECODE (IRCD)	SIZE/COOE	D CS
NUMBER	M8224-0-1	REV.	C
SCALE	1/8"	SHEET	5 OF 13
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"



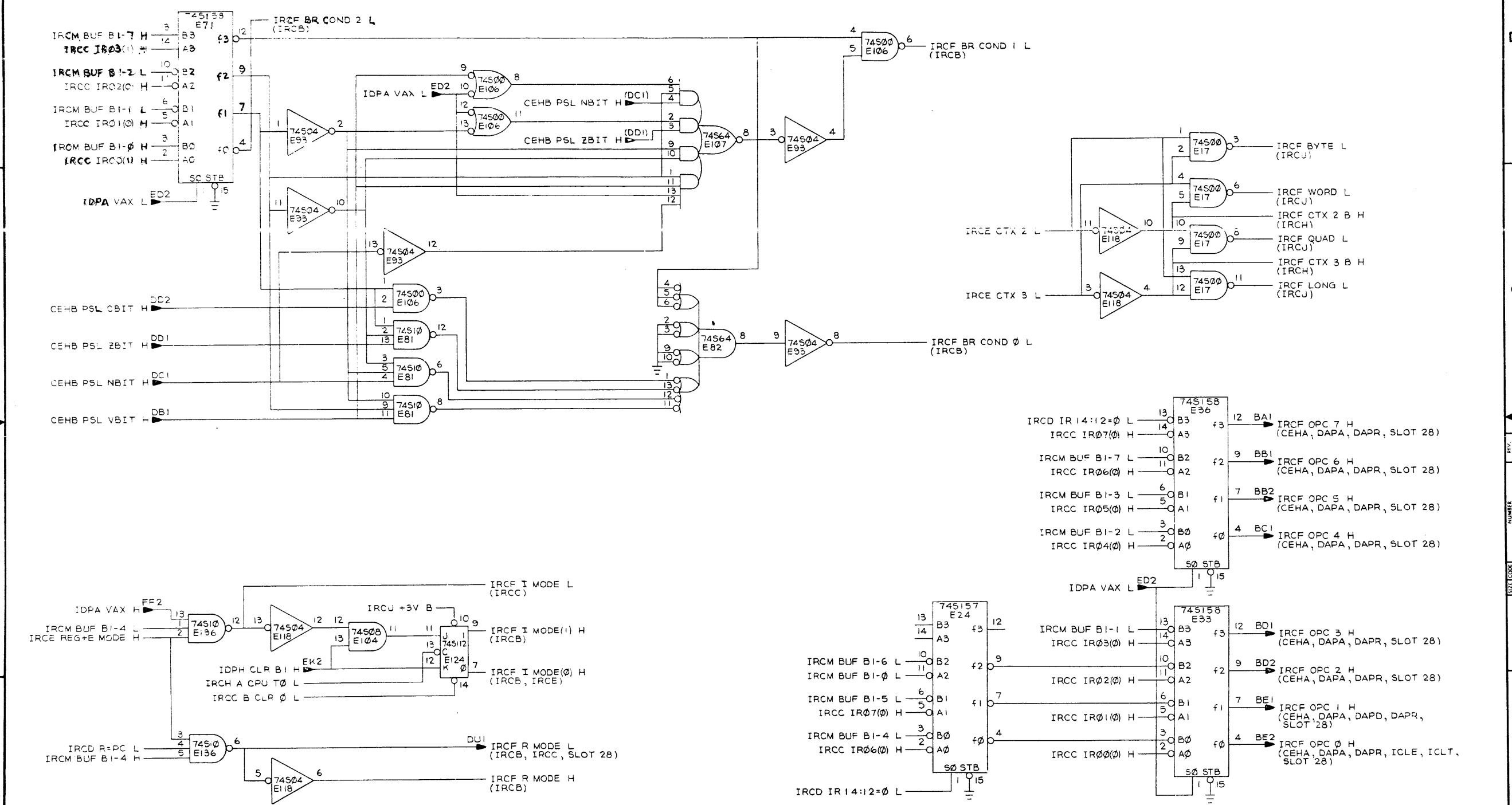
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 8)  
(STALL, CONTEXT LOOK UP, UPC MUX, DST & SRC CONSTANTS)

TITLE	NUMBER	REV.
INSTRUCTION DECODE (IRCE)	M8224-0-1	C

SCALE: 1:1 SHEET 6 OF 13 D.E.F. TW 191

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



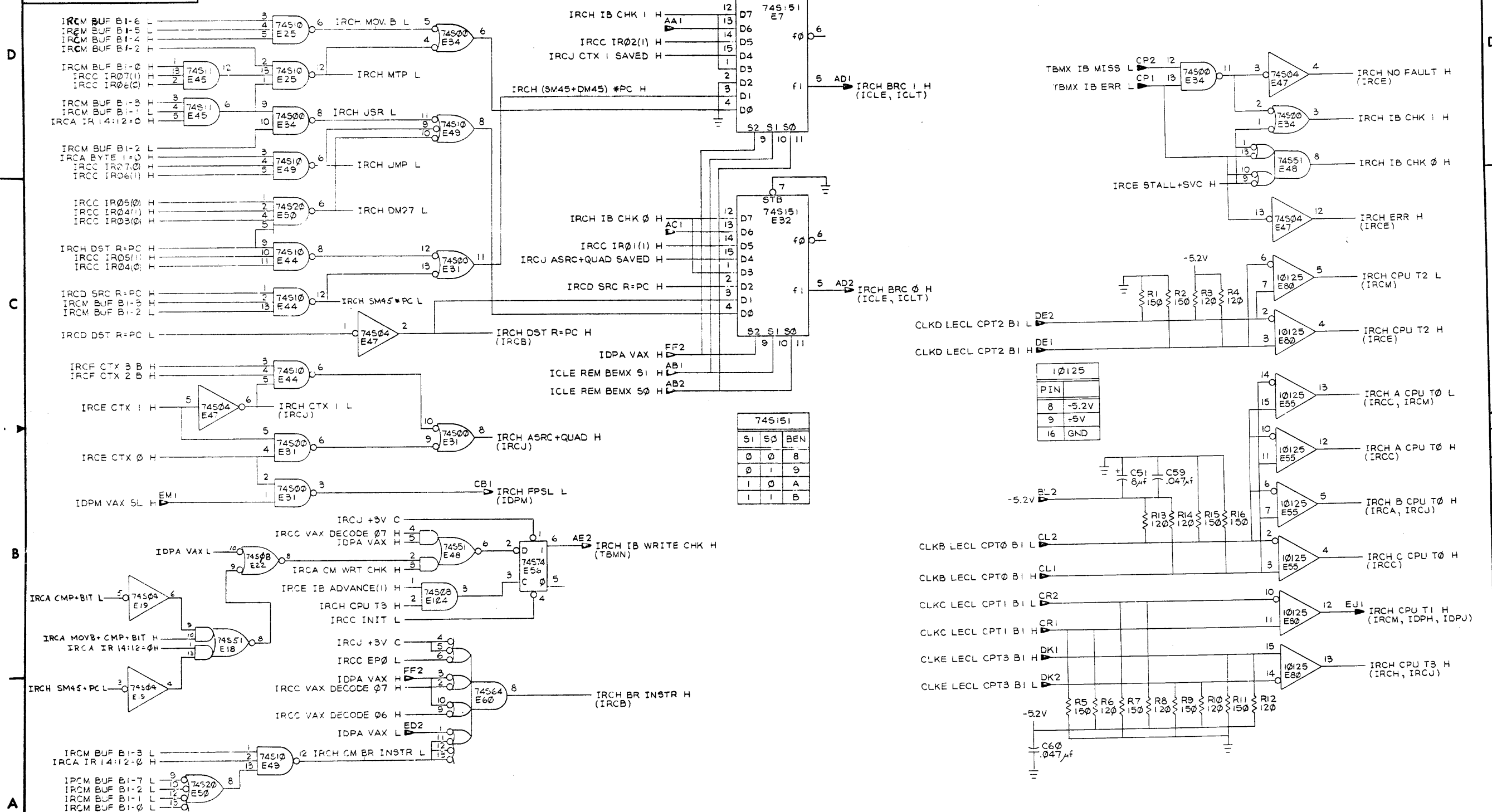
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 8)  
 (E MODE FLAG, CONTEXT DECODE, BRANCH DECODE, ALU CONTROL)

TITLE	INSTRUCTION DECODE (IRCF)	SIZE CODE	DCS	NUMBER	M8224-0-1	REV.	C
SCALE	---	SHEET	7 OF 13	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"



745151

S1	S0	BEN
0	0	8
0	1	9
1	0	A
1	1	B

10125

PIN	
8	-5.2V
9	+5V
16	GND

REVISIONS		
CHK	CHANGE NO.	REV.

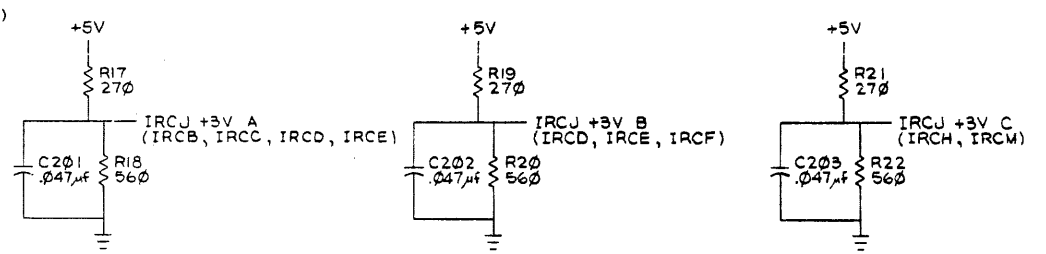
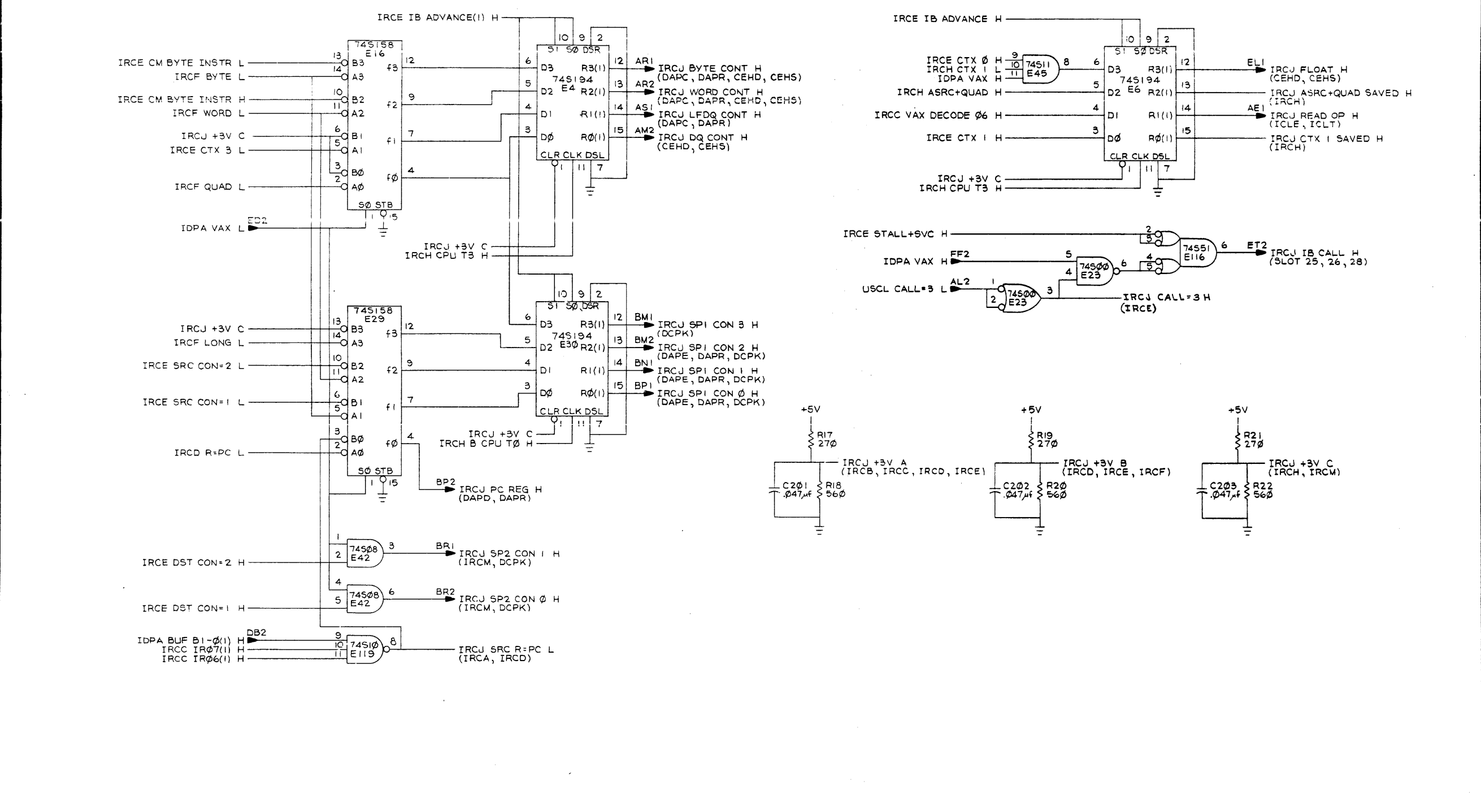
(SLOT 8)

(ERROR CHECK, BRANCH CONDITIONS)

TITLE INSTRUCTION DECODE (IRCH) DCS M8224-0-1 C

SCALE TW SHEET 8 OF 13 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"

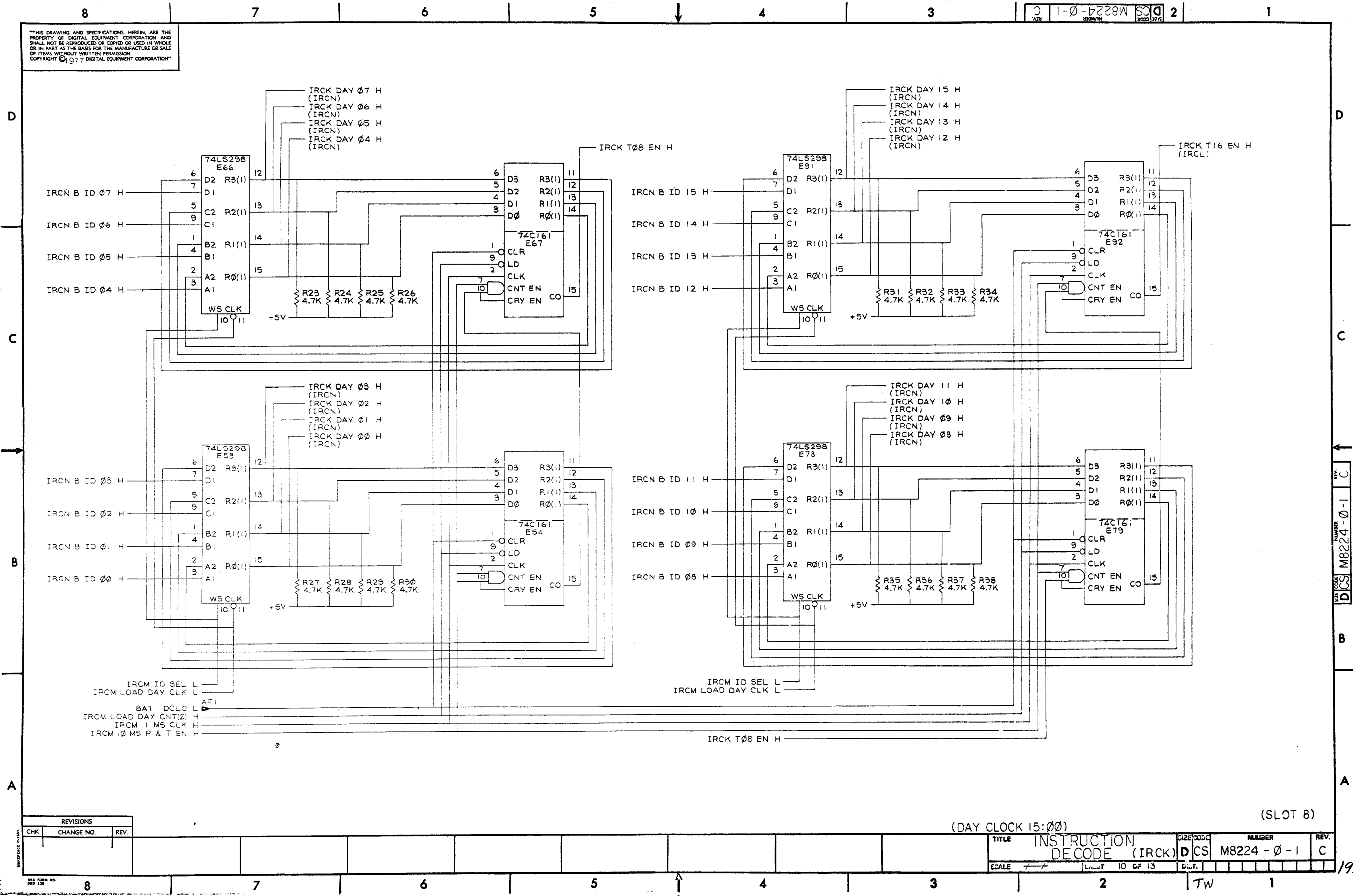


REVISIONS		
CHK	CHANGE NO.	REV.

(CONTEXT SAVE, SPI AND SP2 CON) (SLOT 8)

TITLE	INSTRUCTION DECODE (IRCJ)	SIZE CODE	D CS	NUMBER	M8224-0-1	REV.	C
SCALE	1/1	SHEET	9 OF 13	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.

(DAY CLOCK 15:00)

(SLOT 8)

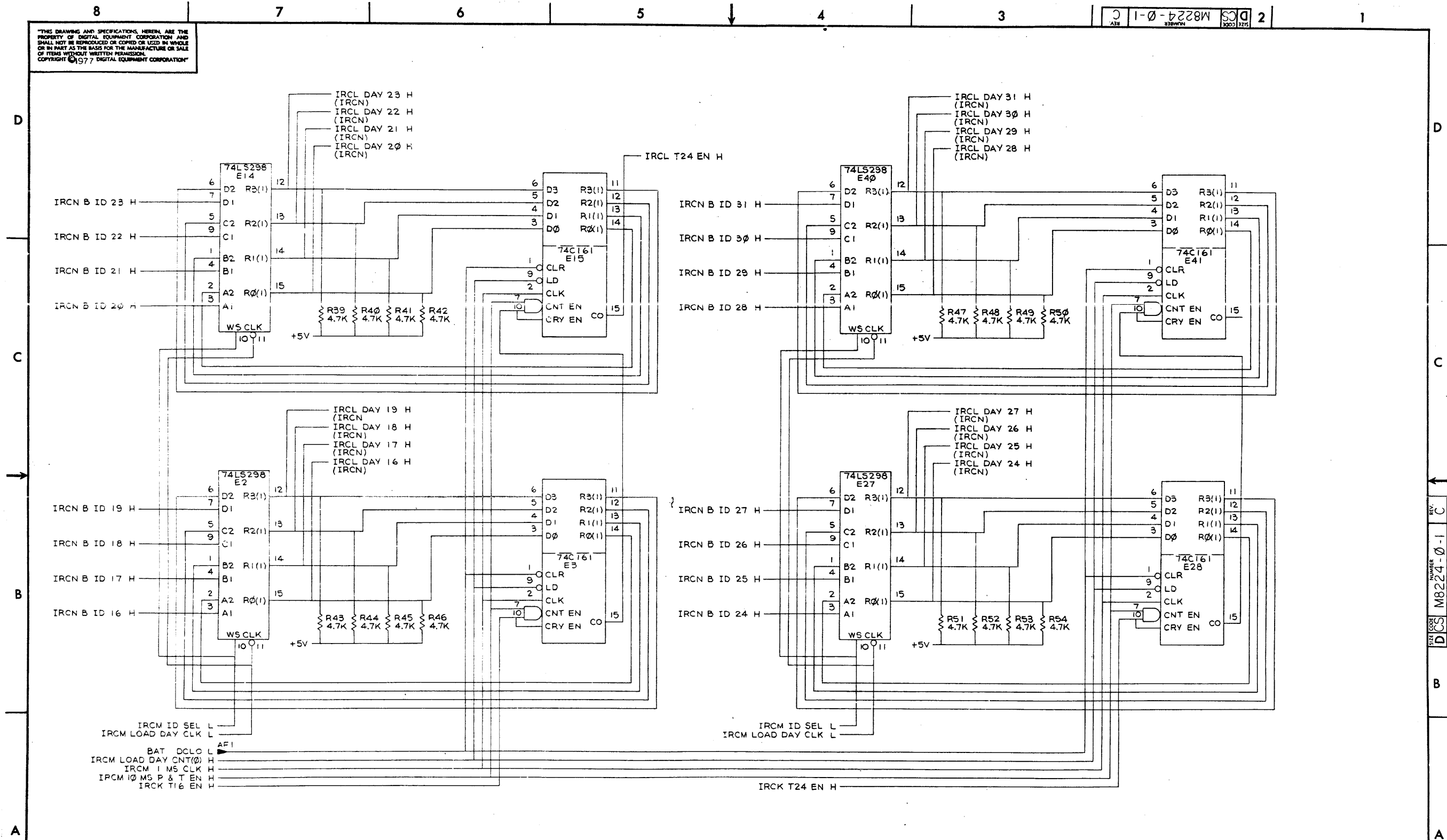
TITLE	INSTRUCTION DECODE (IRCK)	SIZE	DCS	NUMBER	M8224 - 0 - 1	REV.	C
SCALE	10 0# 13	D.T.					

REV. C  
NUMBER M8224-0-1  
DCS

195

"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. C M8224-0-1 1-1



REVISIONS		
CHK	CHANGE NO.	REV.

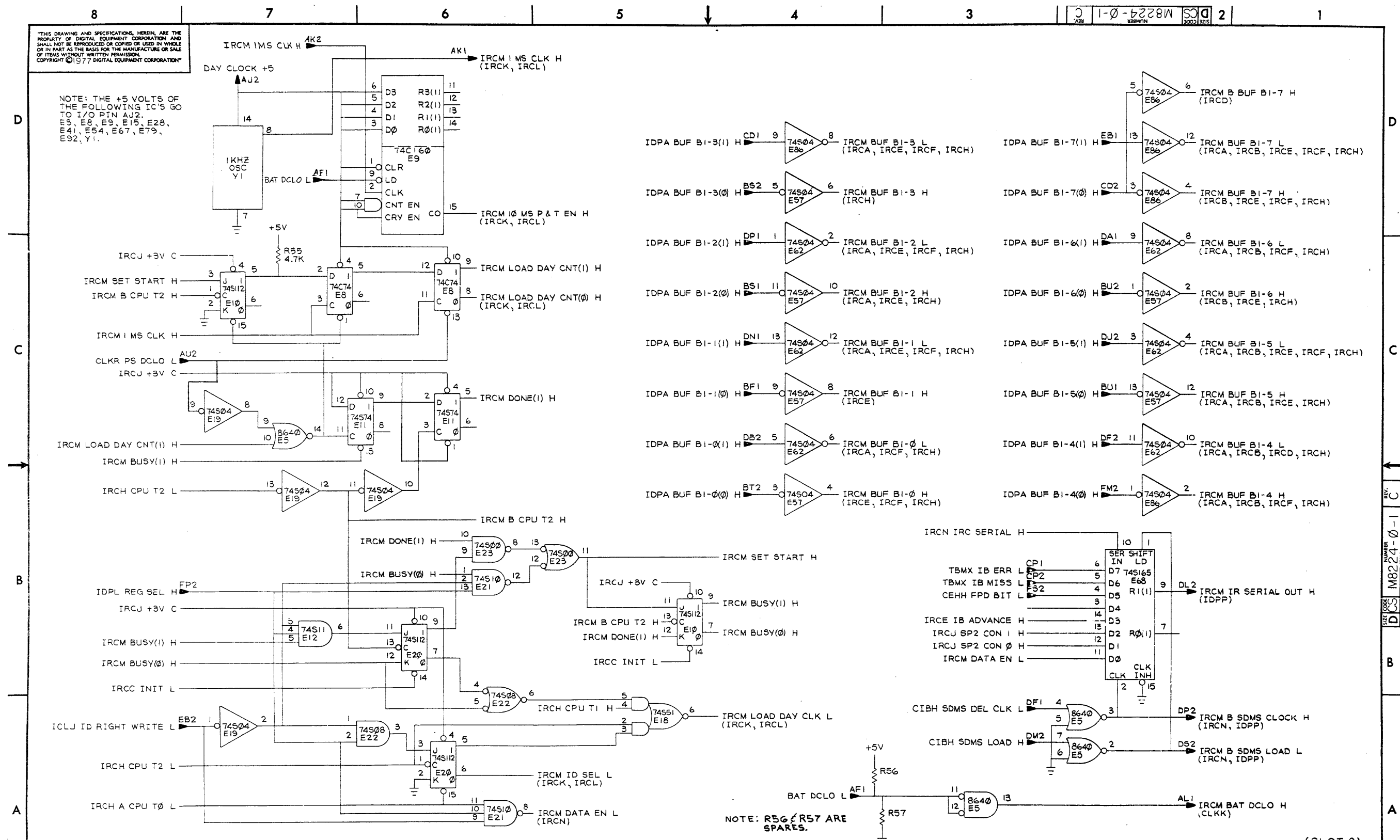
(DAY CLOCK 31:16) (SLOT 8)

TITLE	INSTRUCTION DECODE (IRCL)	SIZE CODE	D CS	NUMBER	M8224-0-1	REV.	C
SCALE	++	SHEET	11 OF 13	DIST.			

194 8 7 6 5 4 3 2 1 TW

"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"

NOTE: THE +5 VOLTS OF THE FOLLOWING IC'S GO TO I/O PIN AJ2.  
E3, E8, E9, E15, E28, E41, E54, E67, E79, E92, Y1.



REVISIONS		
CHK	CHANGE NO.	REV.

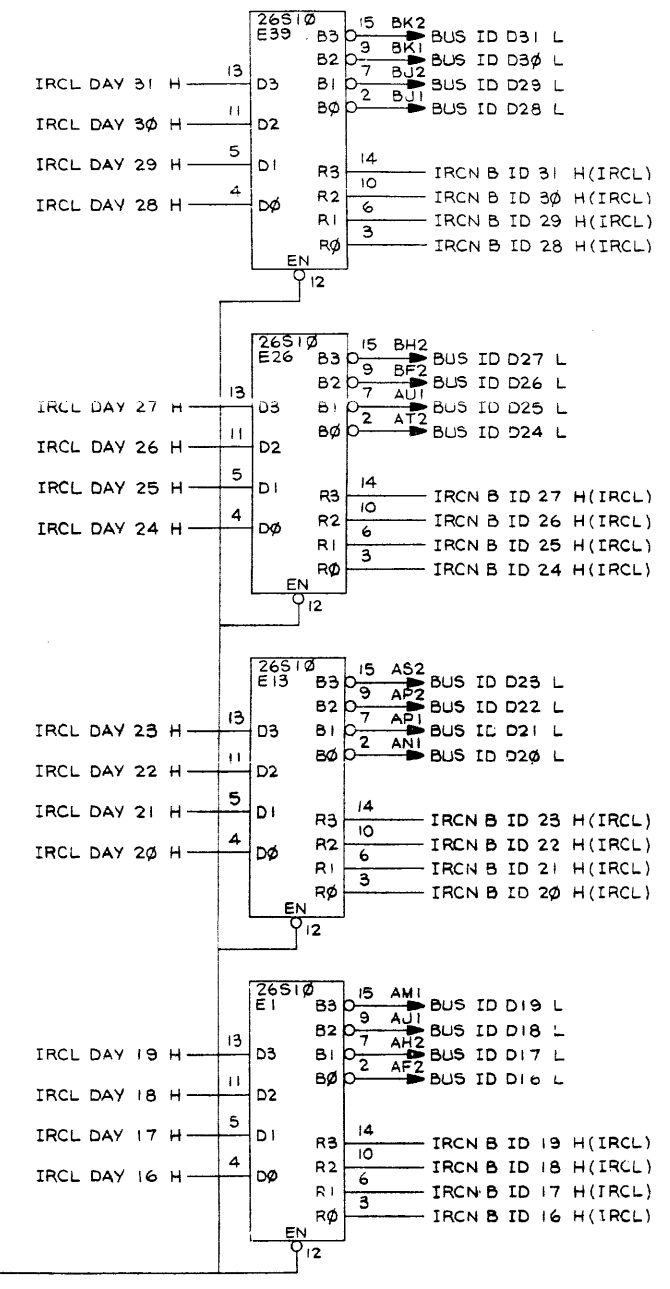
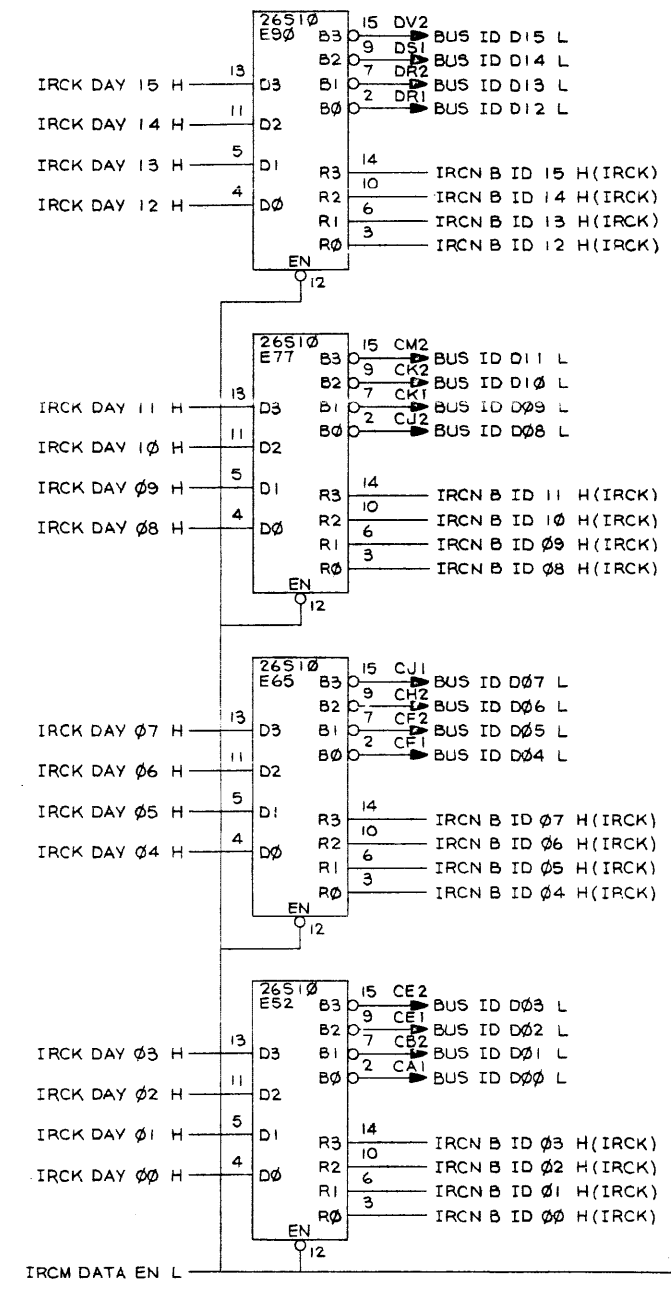
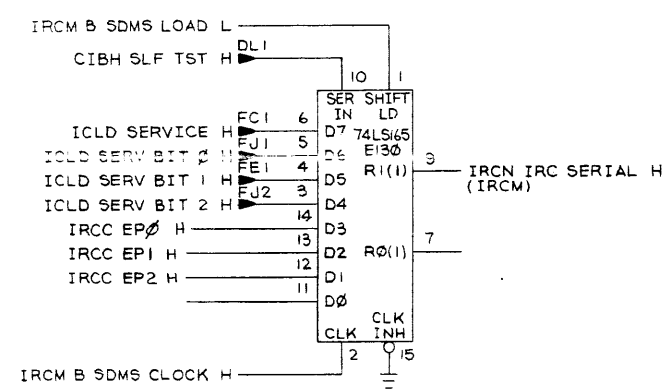
NOTE: R56 & R57 ARE SPARES.

(DAY CLOCK CONTROL, BYTE I BUFFERS)

TITLE	INSTRUCTION DECODE (IRCM)	SIZE CODE	DCS	NUMBER	M8224-0-1	REV.	C
SCALE		SHEET	12 OF 13	DIST.			

REV. C NUMBER M8224-0-1 DIST. DCS

"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.

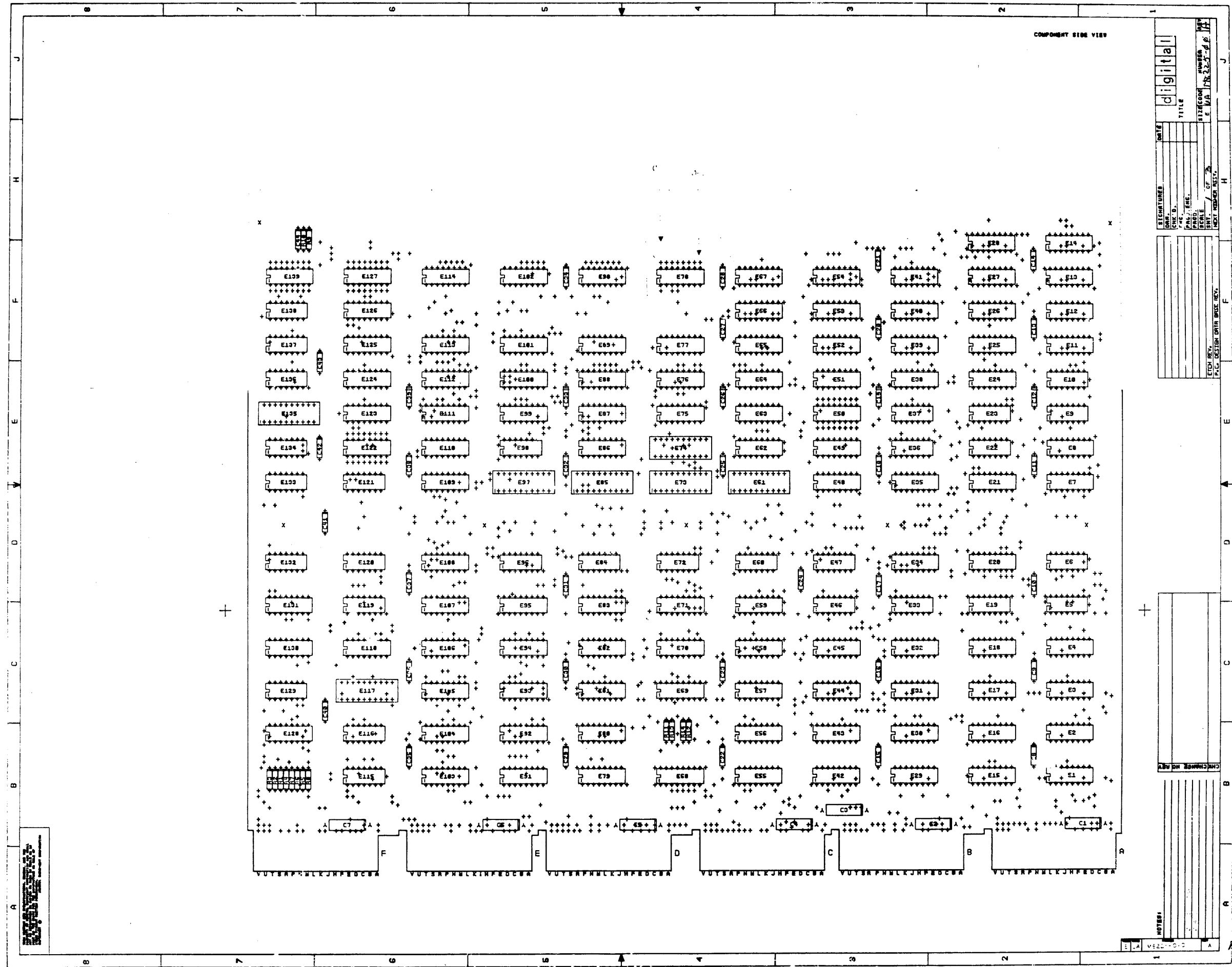
(ID BUS X-CEIVERS)

(SLOT 8)

TITLE	INSTRUCTION DECODE (IRCN)	SIZE CODE	D CS	NUMBER	M8224-0-1	REV.	C
SCALE	+	SHEET	13 OF 13	DIST.			

198

REV. C NUMBER M8224-0-1 DCS

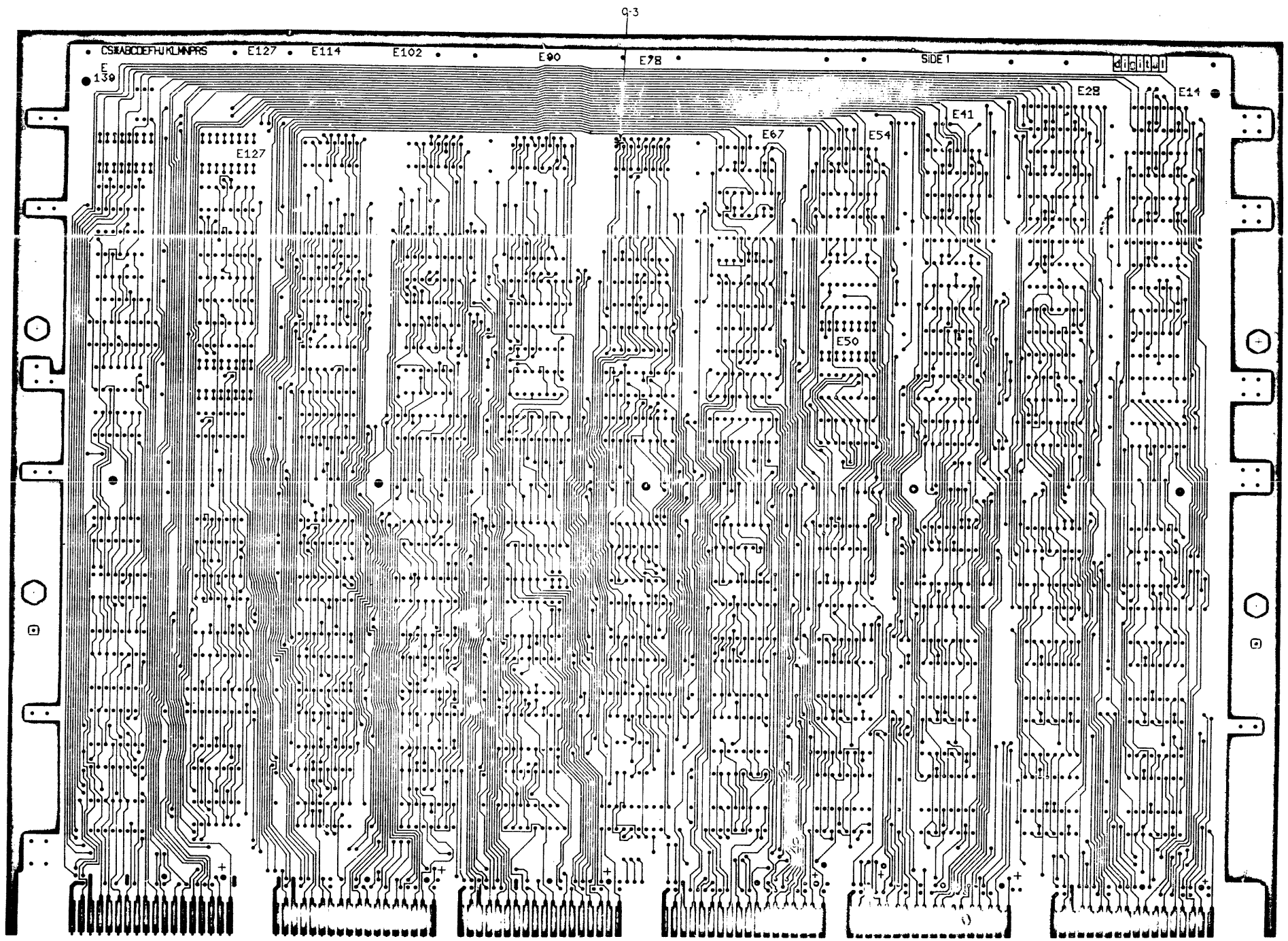


COMPONENT SIDE VIEW

SIGNATURES		DATE	TITLE	DRAWING NUMBER	REVISION
DESIGNER	DWG. NO.				
CHECKED	PAGE / SHEET				
AUTHOR		DATE		REV.	
DRAWN		DATE		REV.	


REVISIONS	
NO.	DESCRIPTION

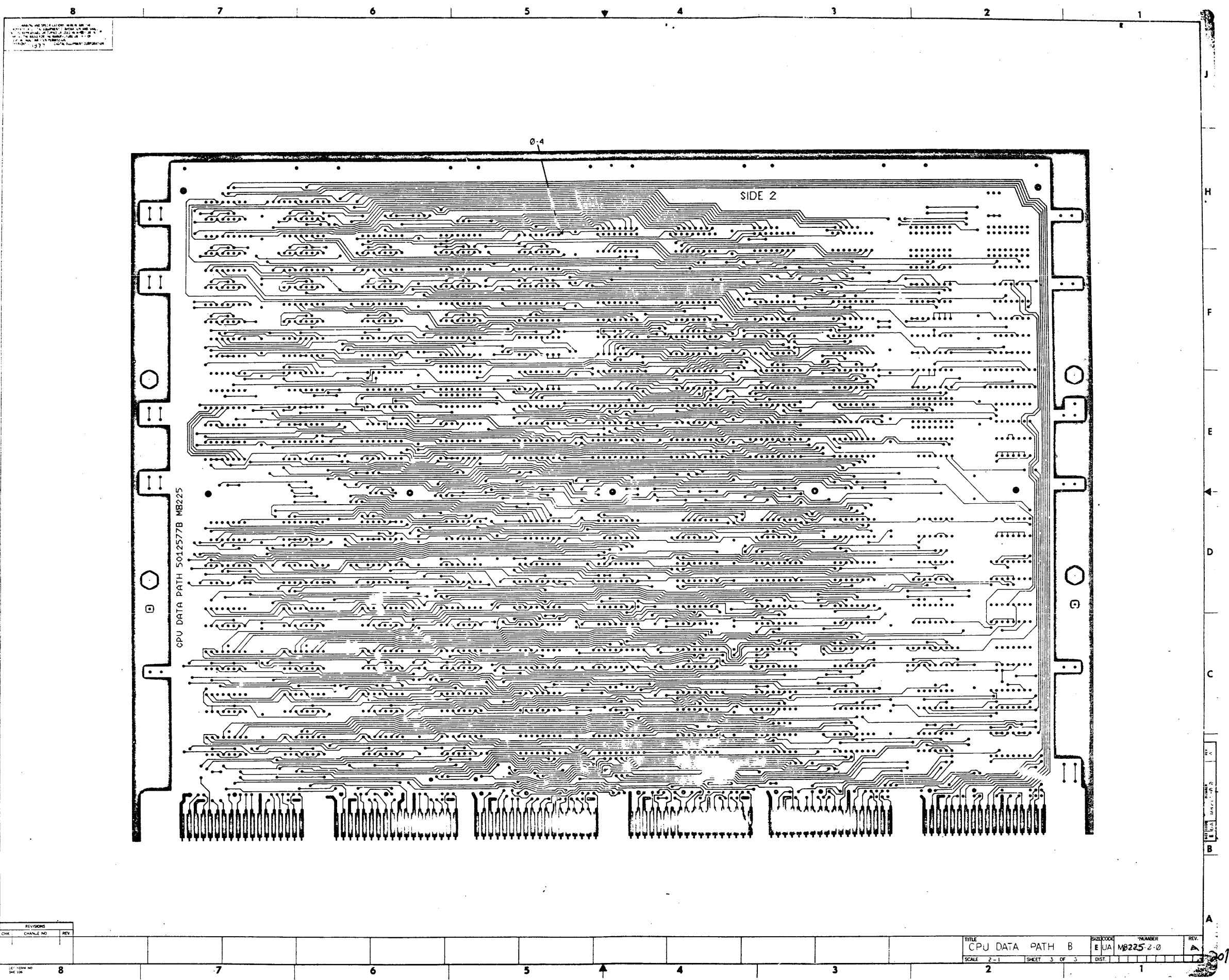
THIS DRAWING IS THE PROPERTY OF THE AIR FORCE AND IS LOANED TO YOU BY THE AIR FORCE. IT IS TO BE USED ONLY FOR THE PURPOSES AUTHORIZED BY THE AIR FORCE. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING FROM THE AIR FORCE, THIS DRAWING IS NOT TO BE DISTRIBUTED OUTSIDE THE AIR FORCE. THE AIR FORCE WILL NOT BE RESPONSIBLE FOR ANY DAMAGE TO OR LOSS OF THIS DRAWING OR FOR ANY CONSEQUENCES ARISING FROM THE USE OF THIS DRAWING.



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
CPU DATA PATH B	E1UA	M822502	A
SCALE	SHEET	OF	
2-1	2	3	





REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	NUMBER	REV
CPU DATA PATH B	000	MB225-2-0	A
SCALE	SHEET	DIST	
2-1	3 OF 3	1	

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:				
MADE BY DATE		TRIAD 22 NOV 77		CHECKED <i>F. Smart</i> DATE <i>6-1-77</i>		SECTION												MS 104840 ETCH REV B CS REV A
ENG DATE		<i>E. Anton</i> 6-9-77		PROD DATE		<i>Mike Tullio</i> 6-1-77												
ITEM NO.	DRAWING NO	PART NO.	DESCRIPTION	M8225-0-0												REF DESIGNATION		
1		10-12084-1	CAPACITOR, 8UF	7												C1-C7		
2		10-12704	CAPACITOR, .047UF	37												C8-C44		
3		13-00295	RESISTOR, 330 ,1/4W,5%	5												R1,R3,R5,R7,R9		
4		13-01775	RESISTOR, 820 ,1/4W,5%	4												R2,R4,R6,R8		
5		13-00247	RESISTOR, 120 ,1/4W,5%	2												R12,R14		
6		13-00250	RESISTOR, 150 ,1/4W,5%	2												R11,R13		
7		13-01424	RESISTOR, 680 ,1/4W,5%	1												R10		
8		19-10532	I.C. DEC 74S00	2												E115,136		
9		19-10534	I.C. DEC 74S04	9												E5,E6,E19,E33,E46,E47,E98,E116,E121		
10		19-12389	I.C. DEC 74S08	4												E23,E119,E120,E134		
11		19-10536	I.C. DEC 74S10	1												E10		
12		19-10537	I.C. DEC 74S11	1												E37		
13		19-10539	I.C. DEC 74S20	2												E9,E36		
14		19-11712	I.C. DEC 74S51	2												E129,E137		
15		19-10542	I.C. DEC 74S64	3												E22,E132,E133		
16		19-12796	I.C. DEC 74148	4												E8,E21,E35,E49		
17		19-11675	I.C. DEC 74S138	3												E24,E130,E131		
18		19-10536	I.C. DEC 74S151	4												E123-E126		
19		19-10547	I.C. DEC 74S153	19												E38,E51,E57,E58,E69,E70,E79-E82,E86, E91-E94,E103-E106		
20		19-10549	I.C. DEC 74S158	2												E62,E118		

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 CPU DATA PATH B

ASSY NO. E-UA-M8225-0-0

SIZE B CODE PL

NUMBER M8225-0-0

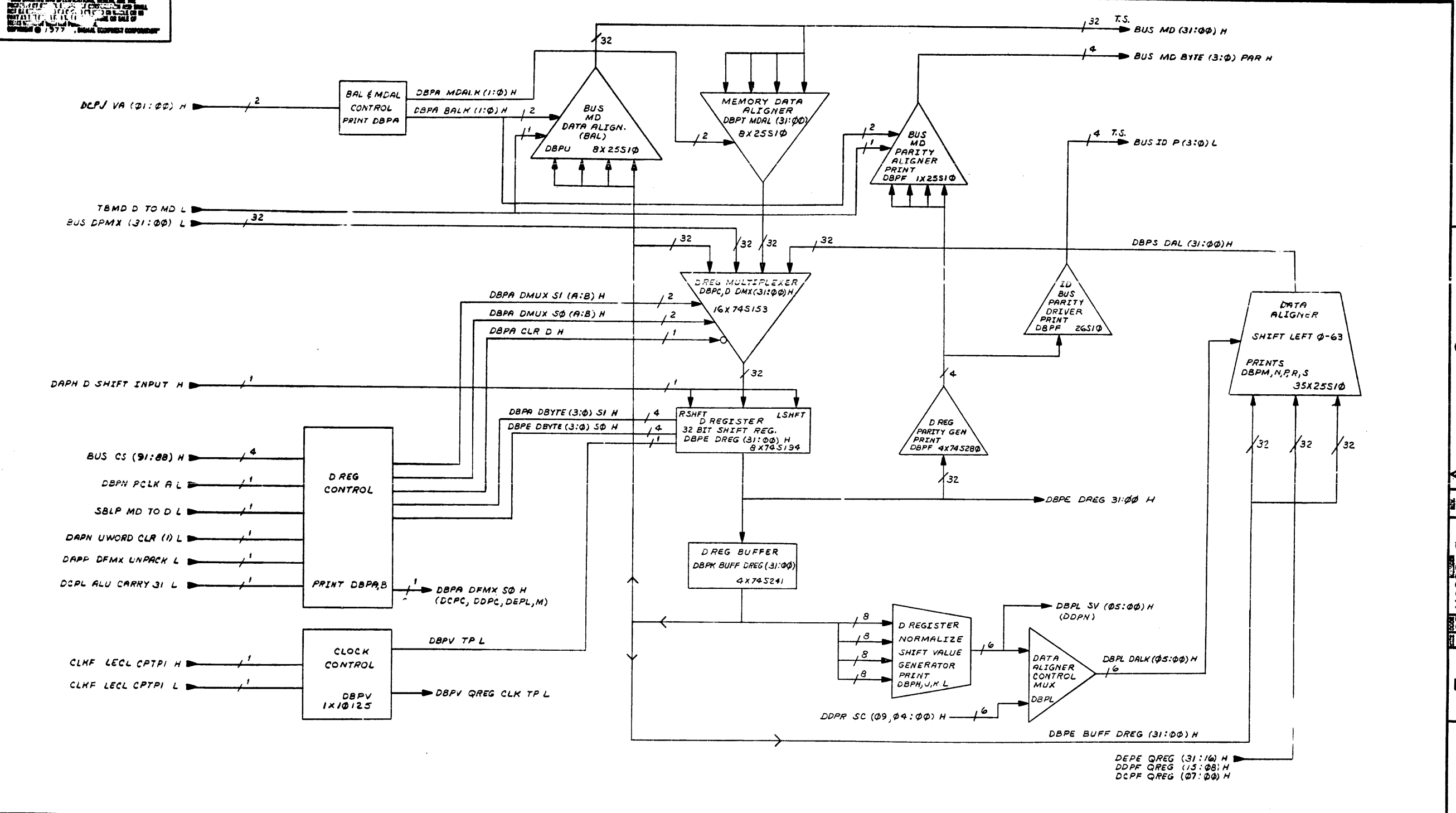
REV. A

SHEET 1 OF 2

INSERTION PARTS LIST DATA BASE REV

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:
MADE BY TRIAD DATE 22 NOV. 77		CHECKED F. SMART DATE 6-1-77												MS 104840 ETCH REV B CS REV A
ENG E. Anton DATE 6-9-77		PROD Mike Tuller DATE 6-1-77												
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION
21		19-10957	I.C. DEC 74S175	M8225-0-0										E128
22		19-10552	I.C. DEC 74S194											E59, E71, E83, E95, E107-E110
23		19-13493	I.C. DEC 74S241											E61, E73, E85, E97, E117
24		19-11573	I.C. DEC 74S280											E60, E72, E84, E96
25		19-13670	I.C. DEC 74S373											E135
26		19-12693	I.C. DEC 25S10											E1-E4, E11-E18, E25-E32, E39-E45, E52-E54, E56, E63-E67, E75-E78, E87-E90, E99-E102, E111-E114
27		19-13788	I.C. DEC 26S10											E55
28		19-11415	I.C. DEC 10125											E68
29		19-11983	I.C. DEC 74S133											E7, E20, E34, E48
30		19-13462	I.C. DEC 74S240											E74
31		19-12746	I.C. DEC 74S37											E138
32		1210711-2	HEX HANDLE ASSY											
33		9000024-01	EYELET											
34	E-MD-50 2577-0-0	5012577	ETCHED BOARD											
35			SPARES											E50, E122, E127, E139

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 CPU DATA PATH B	ASSY NO. E-UA-M8225-0-0	SIZE B	CODE PL	NUMBER M8225-0-0	REV. A
	SHEET 2 OF 2		INSERTION PARTS LIST DATA BASE REV						

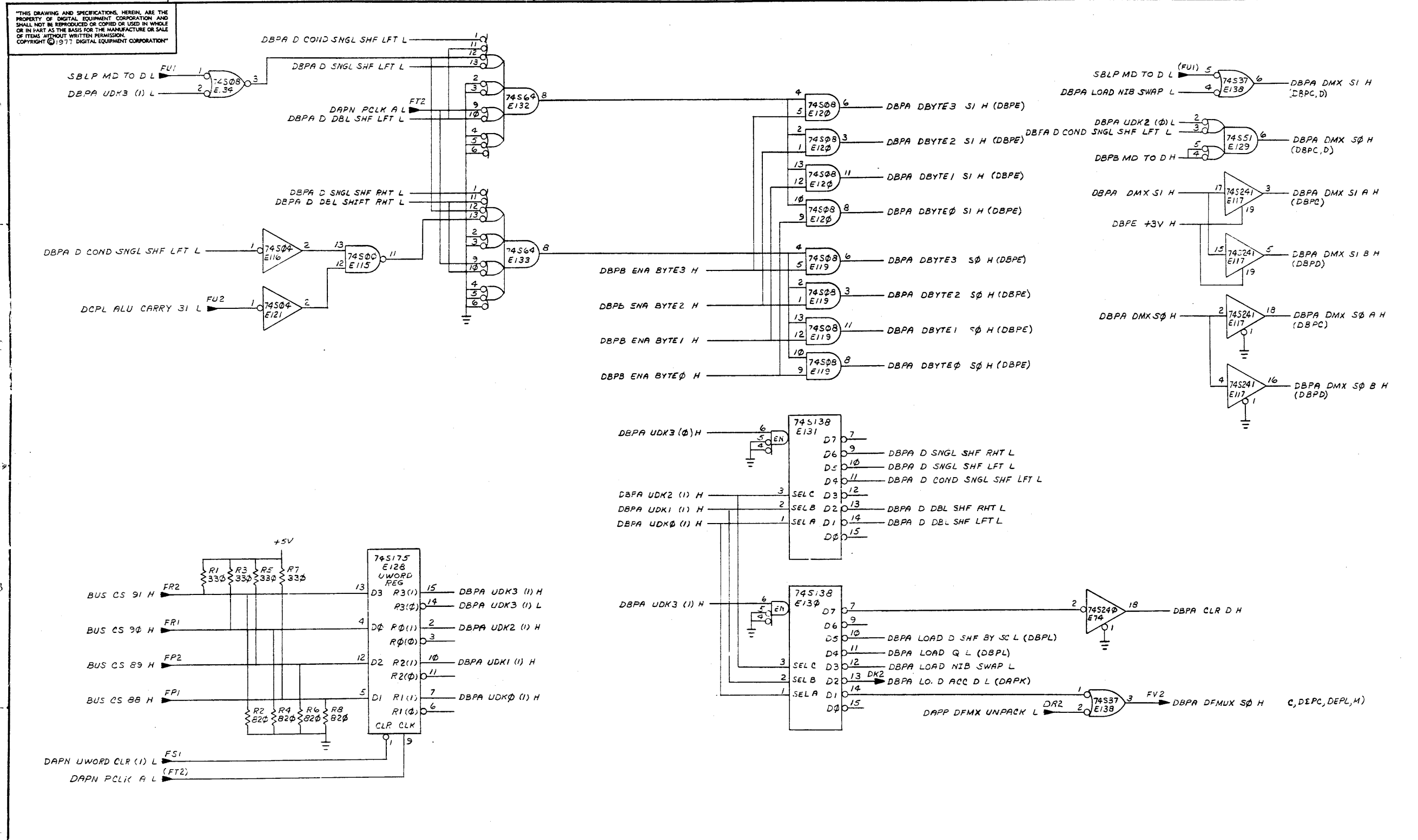


REV.	DATE	BY	CHKD
1	10/27/77	E. ANTON	
2			
3			

(BLOCK DIAGRAM XSL0T9)

DRN. J. LINCOLN	3-24-77	FINST USED ON	EXPLODED
CHK'D		TITLE	
ENG. E. ANTON	5-17-77	DATA ALIGNER	
PROJ. ENCL. AUTON	5-17-77		
PRCD. S. ANTON	6/1/77		
NEXT HIGHER AGCY.		SIZE CODES	NUMBER
SCALE		D C S	M8225-0-1
SHEET 1 OF 19		DIST.	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"



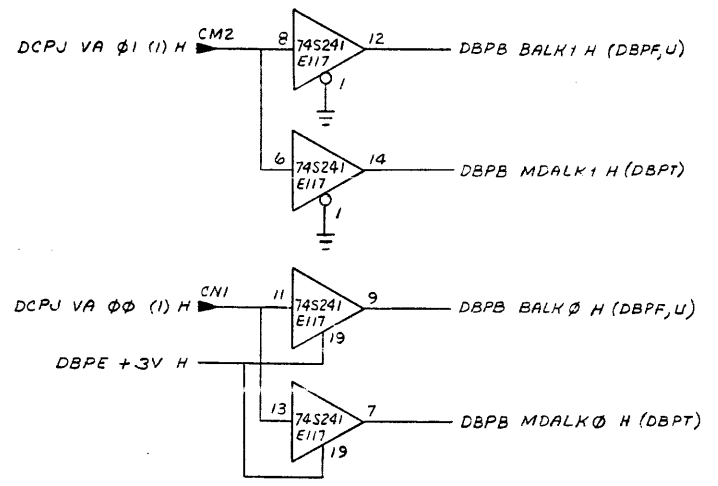
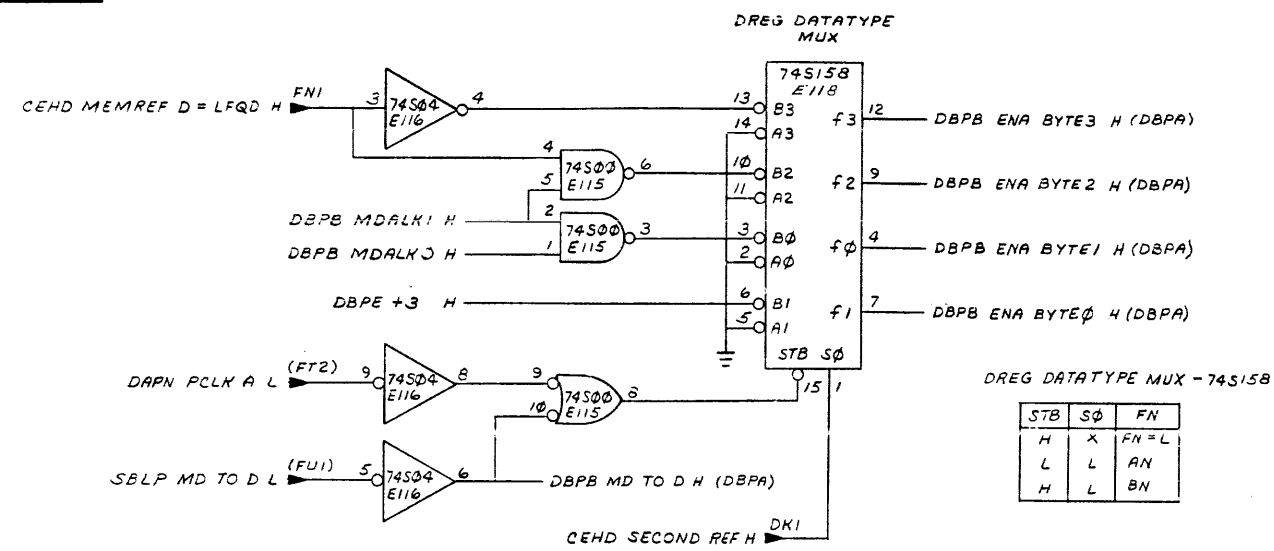
(D REG CONTROL) (SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE DATA ALIGNER (DBPA)		SIZE/ CODE DCS	NUMBER M8225-0-1	REV. B
SCALE	SHEET 2 of 19	DIST.		205

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. 1-0-0 M8225-0-1 DCS M8225-0-1



D REGISTER WRITE ENABLE TRUTH TABLE

MDBAL		DATATYPE	SEC. REF	D REG ENA BYTE (3:0) = 1 = H			
VΦ01	VΦ00	DT=LQDF		BYTE 3	BYTE 2	BYTE 1	BYTE 0
L	L	L	L	H	H	H	H
L	H	L	L	H	H	H	H
		H	L	H	H	H	H
		H	H	H	L	L	L
H	L	L	L	H	H	H	H
		H	L	H	H	H	H
		H	H	H	H	L	L
H	H	L	L	H	H	H	H
H	H	H	L	H	H	H	H
H	H	H	H	H	H	H	L

UDK CONTROL TRUTH TABLE

UWORD HEX	WDK UWORD				DMX CONTROL			DREG CONTROL		FUNCTION
	3	2	1	0	S1	SΦ	DATA SOURCE	S1	SΦ	
0	L	L	L	L	X	X	---	L	L	NO OPERATION.
1	L	L	L	H	X	X	---	H	L	DOUBLE SHIFT LEFT.
2	L	L	H	L	X	X	---	L	H	DOUBLE SHIFT RIGHT.
3	L	L	H	H	X	X	---	L	L	RESERVED.
4	L	H	L	L	L	H	DFMX	H	L/H	CONDITIONAL WITH ALU CARRY, ALU CARRY 31 = 1 = L. ← SINGLE SHIFT LFT IF .NOT. ALU CARRY; ELSE. ← LOAD DFMX (INTEGER).
5	L	H	L	H	X	X	---	H	L	SINGLE SHIFT LEFT.
6	L	H	H	L	X	X	---	L	H	SINGLE SHIFT RIGHT.
7	L	H	H	H	X	X	---	L	L	RESERVED.
8	H	L	L	L	L	H	DFMX	H	H	LOAD DFMX (INTEGER).
9	H	L	L	H	L	H	DFMX	H	H	LOAD DFMX (UNPACKED FLOAT).
A	H	L	H	L	L	H	ACCELERATOR	H	H	LOAD ACC DATA.
B	H	L	H	H	H	H	BUFF. DREG	H	H	LOAD D NIBBLE SWAP.
C	H	H	L	L	L	L	DAL	H	H	LOAD Q REG [DAL SHIFTED BY 3].
D	H	H	L	H	L	L	DAL	H	H	LOAD D [SHIFTED BY SC(09,04:00)].
E	H	H	H	L	L	L	DAL	H	H	LOAD D [SHIFTED BY SHF VAL].
F	H	H	H	H	X	X	---	H	H	LOAD ZEROES (DISABLE DMX STROBE).

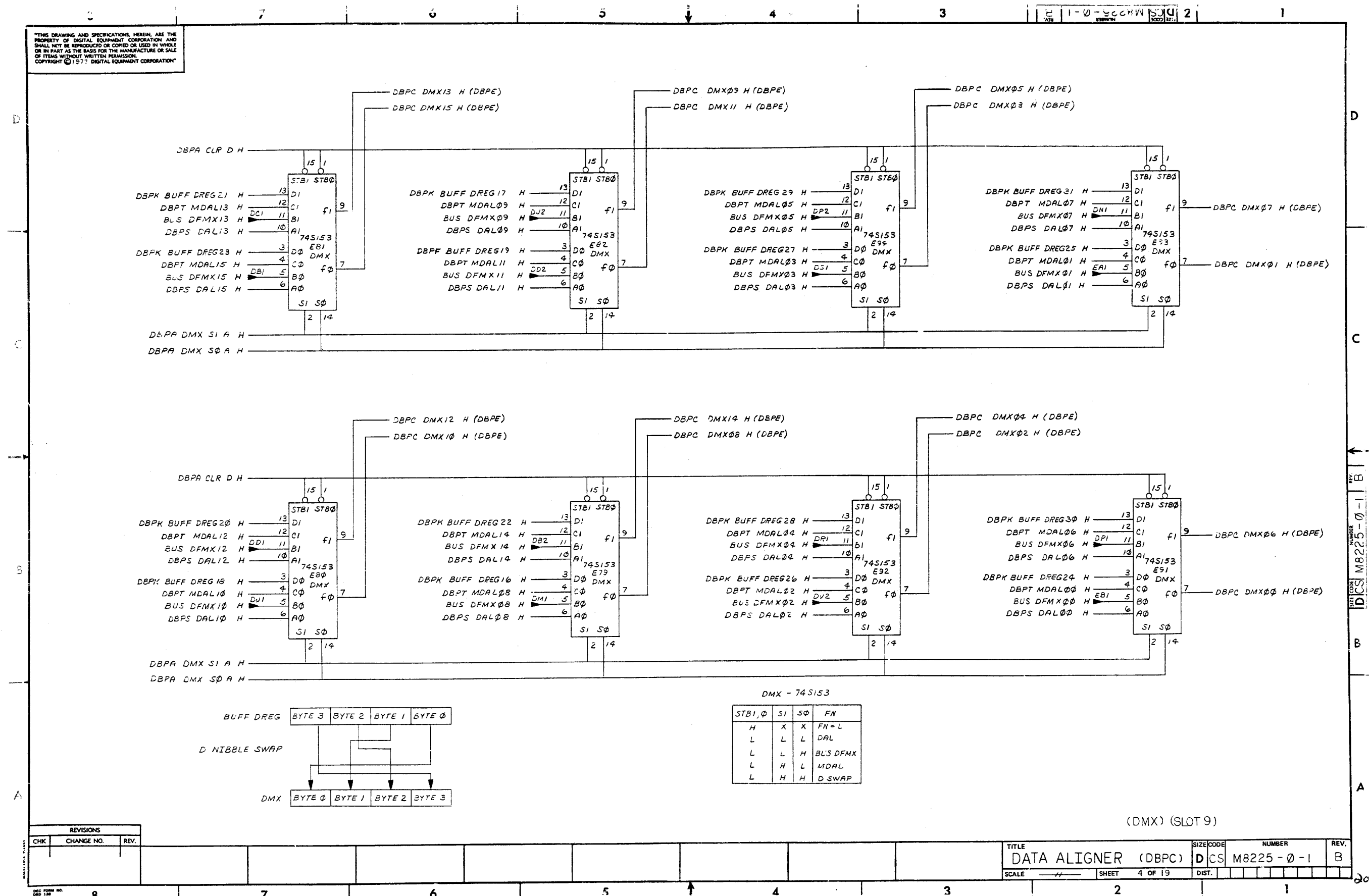
(DREG DATATYPE XSL0T 9)

REVISIONS		
CHK	CHANGE NO.	REV

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPB)	D CS	M8225-0-1	B
SCALE	SHEET	DIST.	
H	3 OF 19		

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



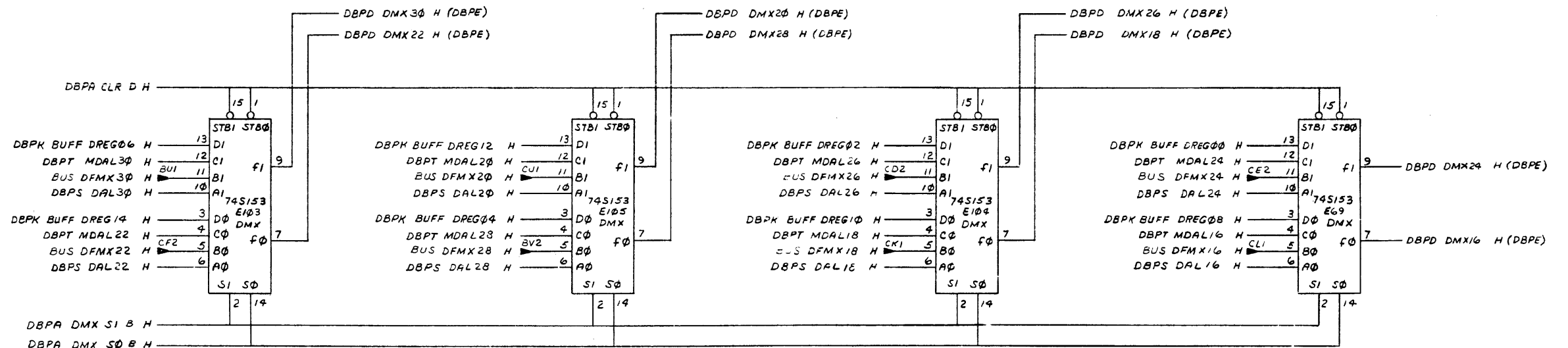
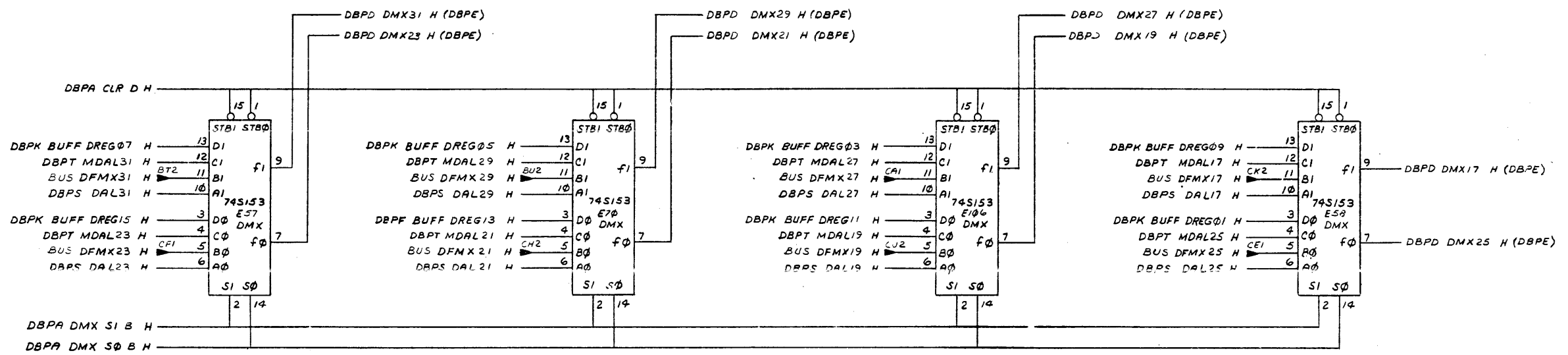
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPC)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	4 OF 19	DIST.			

REV. B  
 NUMBER M8225-0-1  
 DIST. CODE DCS

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

U 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



DMX - 74S153

STBI	SI	S0	FUNCT
H	X	X	FN=L
L	L	L	DAL
L	L	H	BUS DFMX
L	H	L	MDAL
L	H	H	NISSLE SWAP

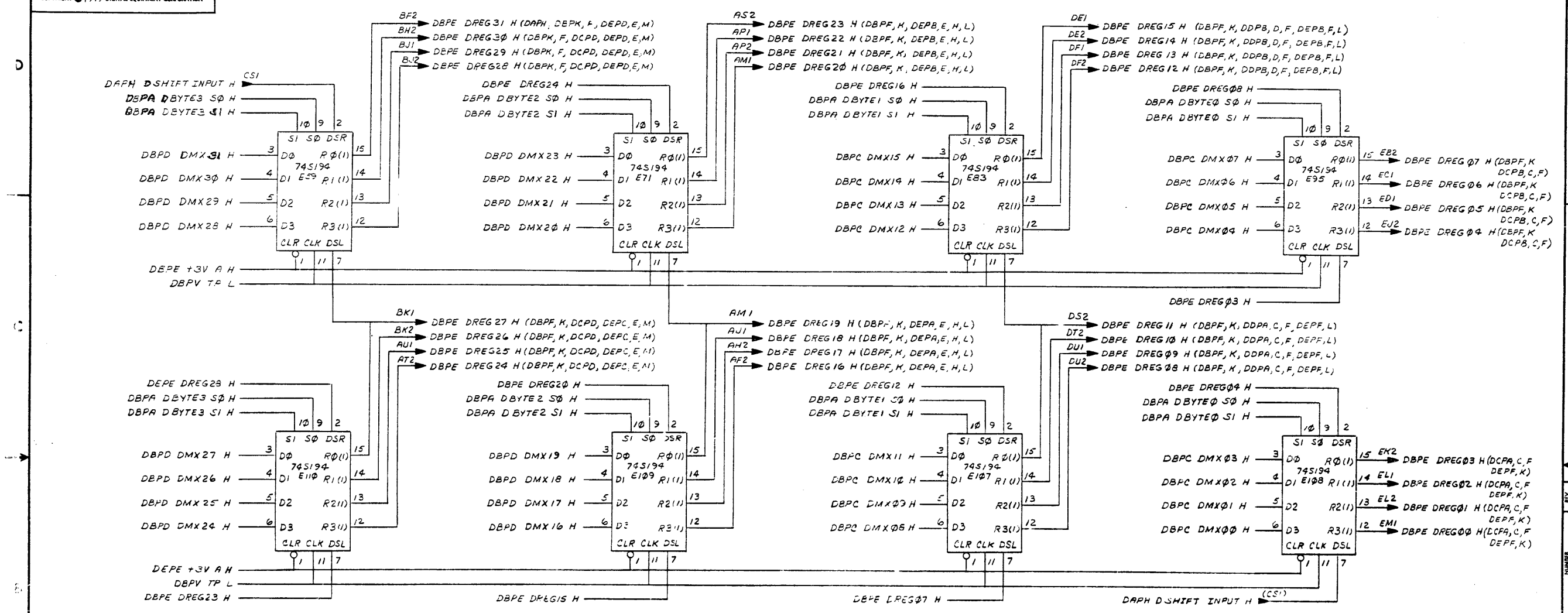
(DMX) (SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPD)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	5 OF 19	DIST.			

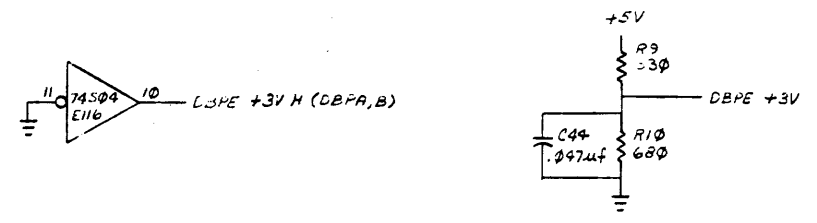


"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



D REG 74S194 TRUTH TABLE

SI	S0	FUNCTION	Q3	Q2	Q1	Q0
L	L	NO OPERATION	Q3	Q2	Q1	Q0
L	H	SHIFT RIGHT	RSHF	Q3	Q2	Q1
H	L	SHIFT LEFT	Q2	Q1	Q0	LSHF
H	H	LOAD	D3	D2	D1	D0

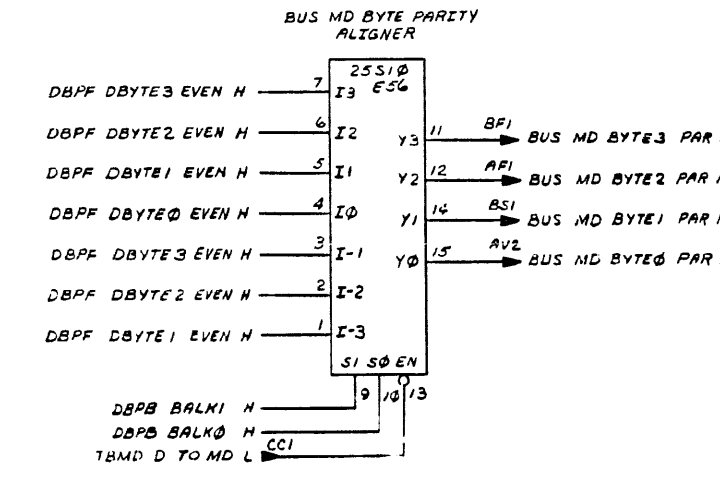
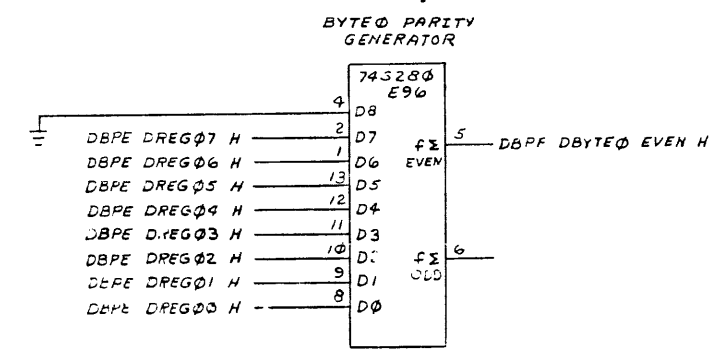
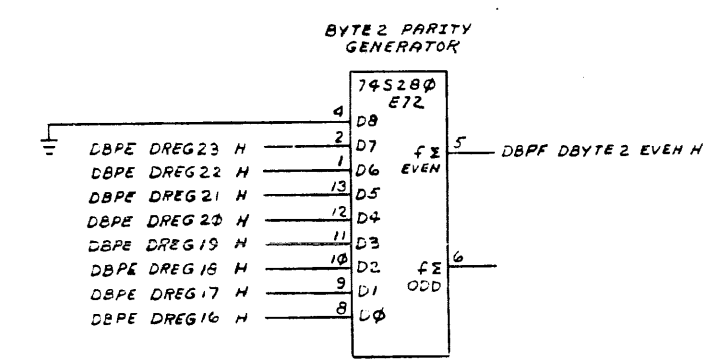
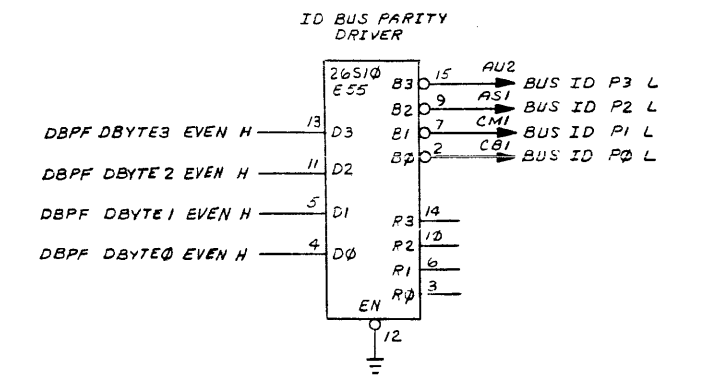
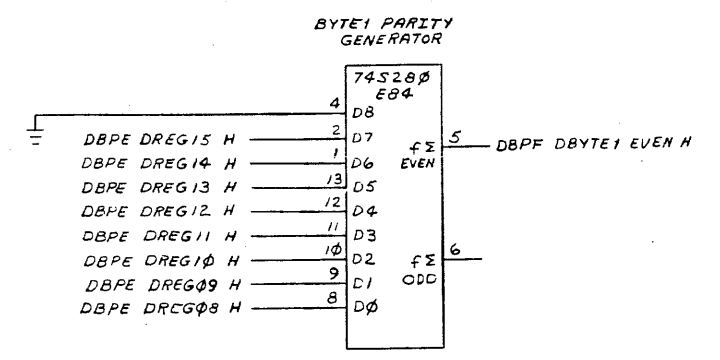
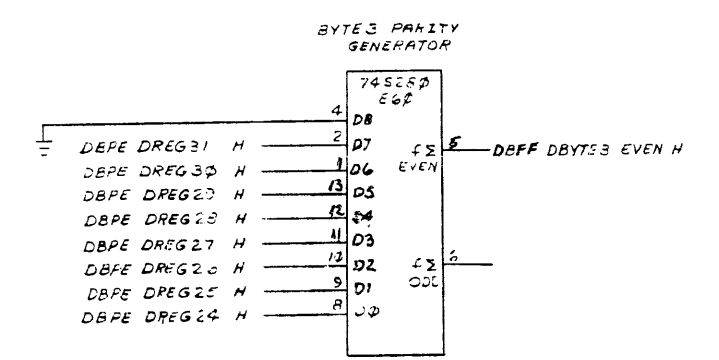


REVISIONS		
CHK	CHANGE NO.	REV.

(DREG 31:00) (SLOT 9)

TITLE	DATA ALIGNER (DBPE)	SIZE/CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE	1:1	SHEET	6 OF 19	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"



**25510 LOGIC TRUTH TABLE**

EN	I (EN)		OUTPUT (I=H)			
	S1	S2	Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

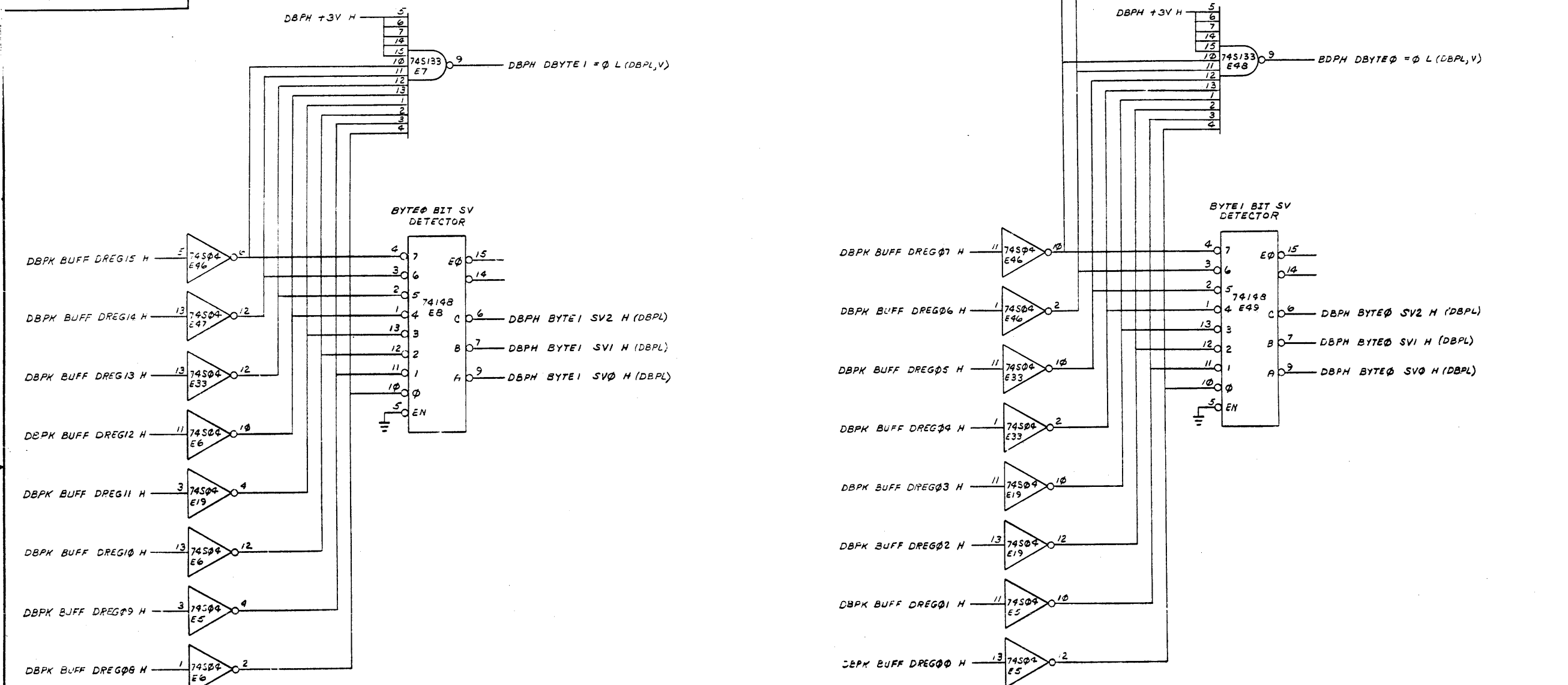
(BUS ID AND MD PARIY GEN.)(SLOT 9)

**REVISIONS**

CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPF)	DCS	M8225-0-1	B
SCALE	SHEET	7 OF 19	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"



74148 TRUTH TABLE

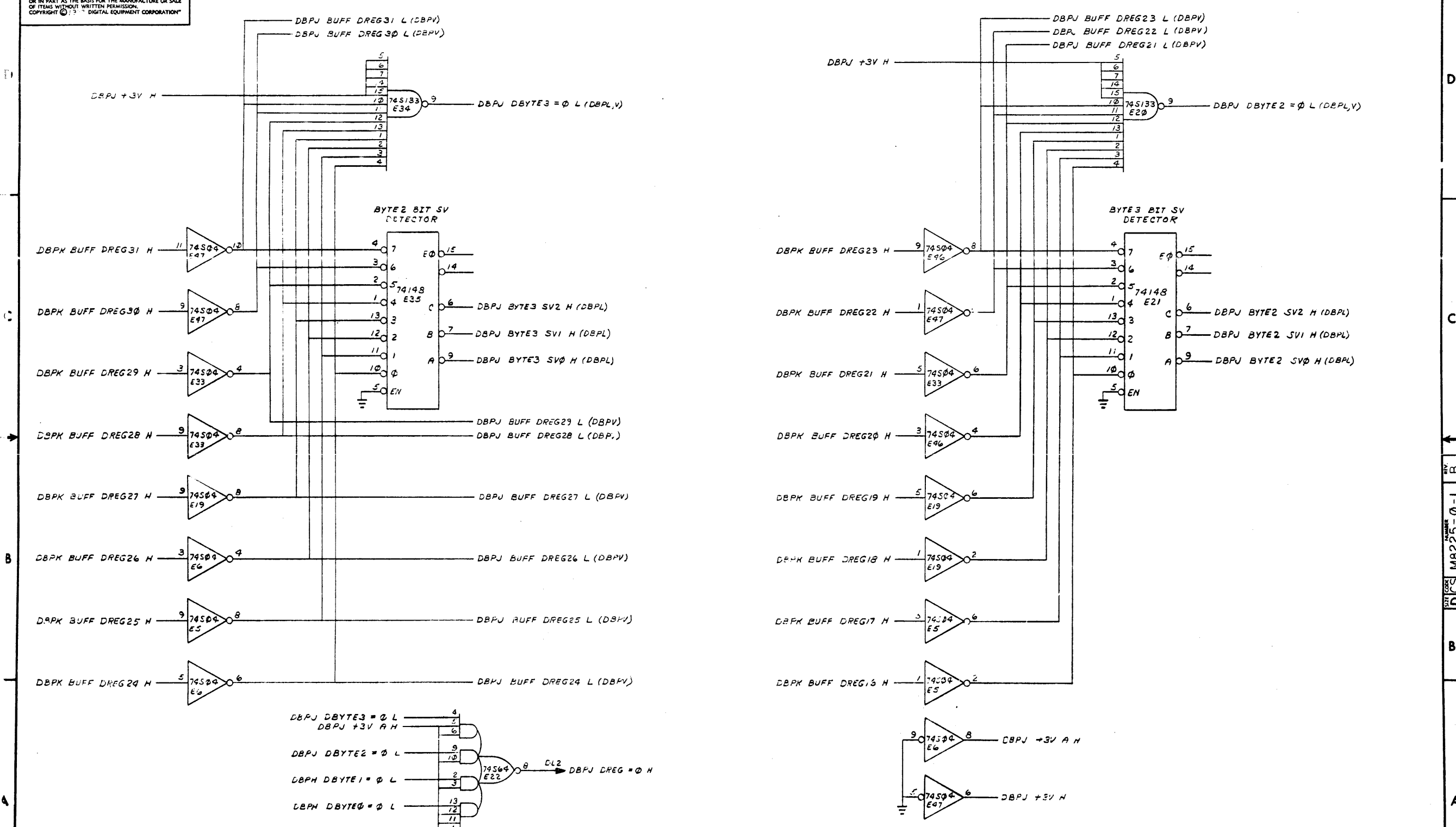
EN	INPUTS							OUTPUT			BIT SV	
I=L	0	1	2	3	4	5	6	7	2	1		0
H	x	x	x	x	x	x	x	L	L	L	L	0
L	x	x	x	x	x	x	x	L	L	L	L	0
L	x	x	x	x	x	x	L	H	L	L	H	1
L	x	x	x	x	x	L	H	H	L	H	L	2
L	x	x	x	x	L	H	H	H	L	H	H	3
L	x	x	x	L	H	H	H	H	H	L	L	4
L	x	x	L	H	H	H	H	H	H	L	H	5
L	x	L	H	H	H	H	H	H	H	H	L	6
L	L	H	H	H	H	H	H	H	H	H	H	7

(BYTES 1 AND 0 BIT SV DETECTOR X SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPH)	SIZE CODE	DCS	NUMBER	M8225-0-1	REV.	B
SCALE	—	SHEET	8 OF 19	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 © 1973 DIGITAL EQUIPMENT CORPORATION"



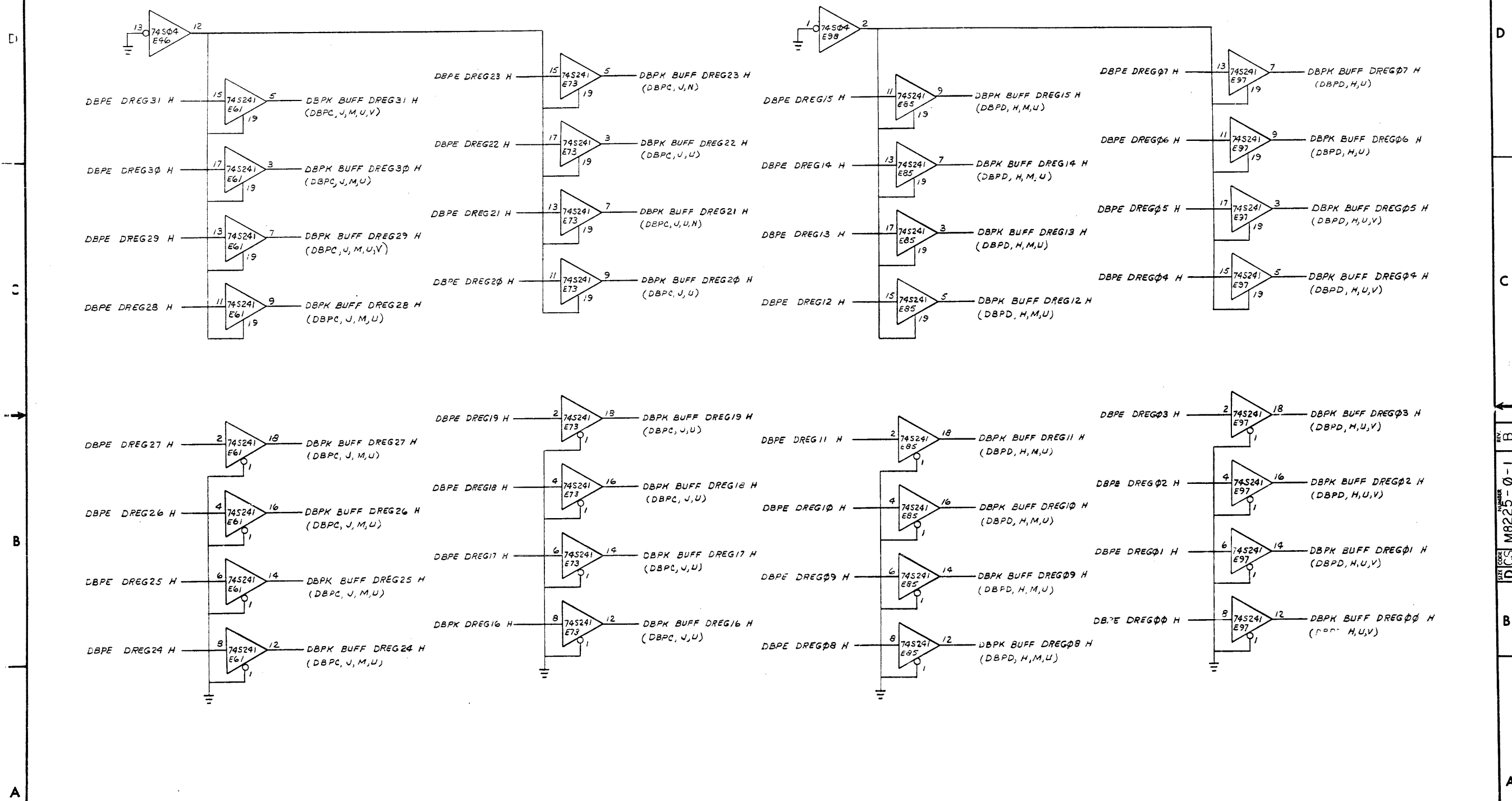
(BYTES 3 AND 2 BIT SV DETECTOR) (SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPJ)	SIZE CODE	DCS	NUMBER	M8225-0-1	REV.	B
SCALE	1:1	SHEET	9 OF 19	DIST.			

212

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

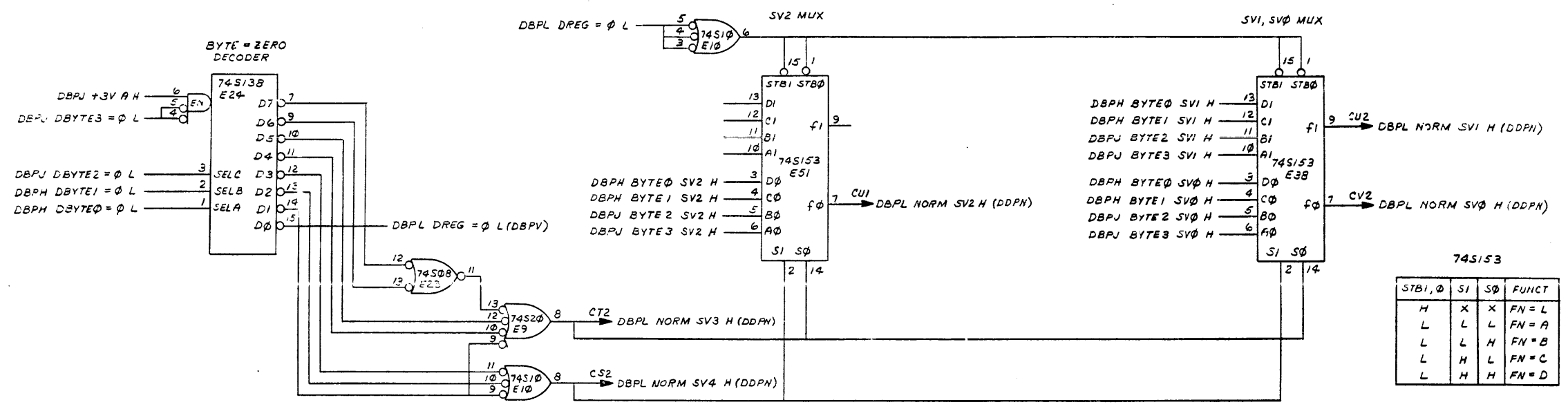


REVISIONS		
CHK	CHANGE NO.	REV.

(BUFF DREG 31:00XSL09)

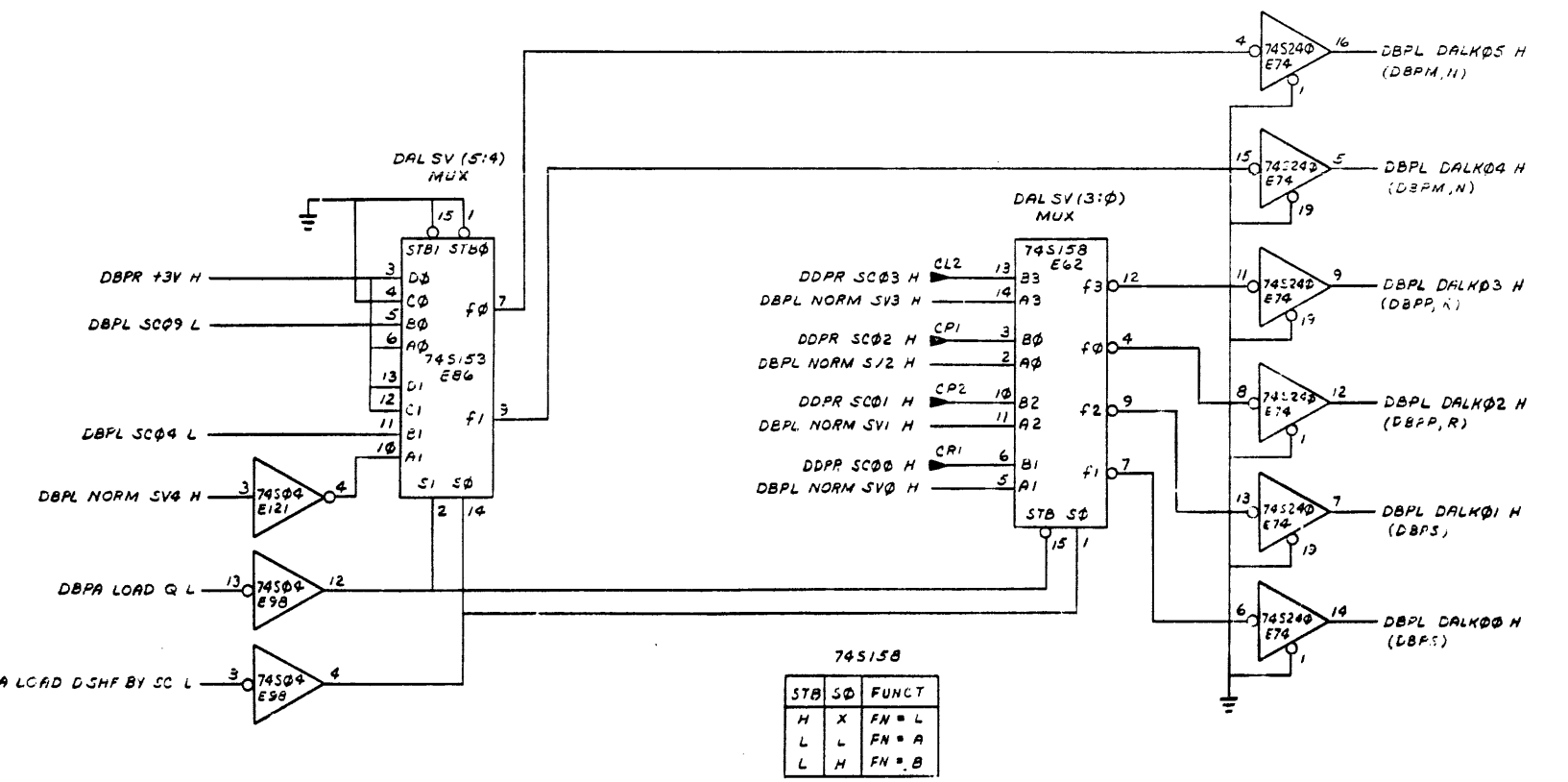
TITLE	DATA ALIGNER (DBPK)	SIZE/CODE	D/CS	NUMBER	M8225-0-1	REV.	6
SCALE	1:1	SHEET	10 OF 19	DIST.			

ALL SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL 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



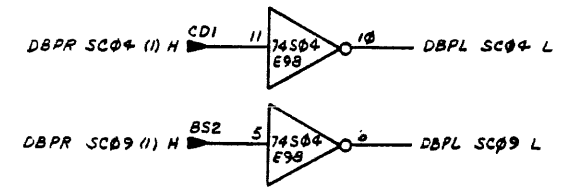
74S153

STBI, 0	SI	S0	FUNCT
H	X	X	FN = L
L	L	L	FN = A
L	L	H	FN = B
L	H	L	FN = C
L	H	H	FN = D



74S153

STB, S0	FUNCT
H X	FN = L
L L	FN = A
L H	FN = B



NORMALIZATION SHIFT VALUE DETECT TRUTH TABLE

BYTE = ZERO DECODER INF 'T	SV(4:3)		SV(2:0)		NORM SV RANGE
	SV4	SV3	SOURCE		
3 2 1 0					
L L L L	L	L	BYTE3		7
L L L H	H	L	BYTE0		31-24
L L H X	H	L	BYTE1		23-16
L H X X	L	H	BYTE2		15-8
H X X X	L	L	BYTE3		7-0

X = DON'T CARE

(DATA ALIGNER CONTROL XSLOT 9)

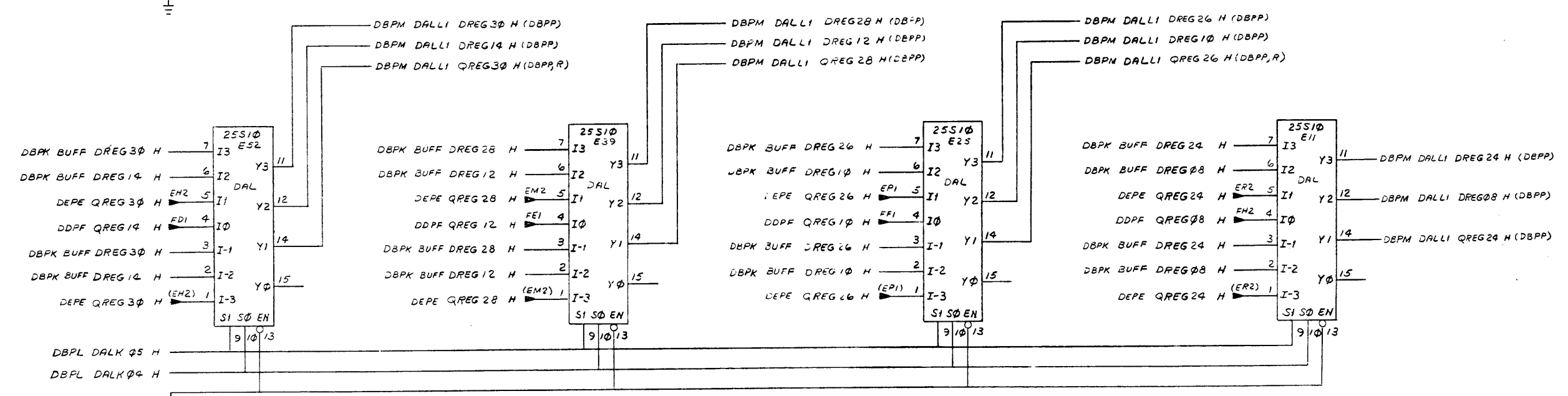
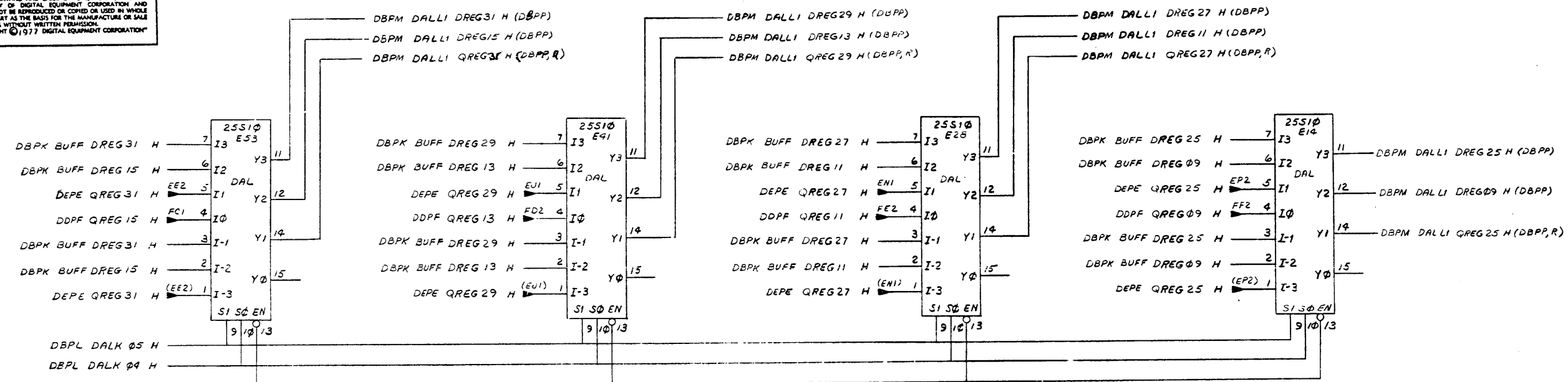
REVISIONS

CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPL)	DCS	M8225-0-1	B

SCALE: 1/8" = 1" SHEET: 11 OF 19 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"



25S10 LOGIC TRUTH TABLE

EN	S1	S0	OUTPUT			
			Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

(DAL LEVEL 1) (SLOT 9)

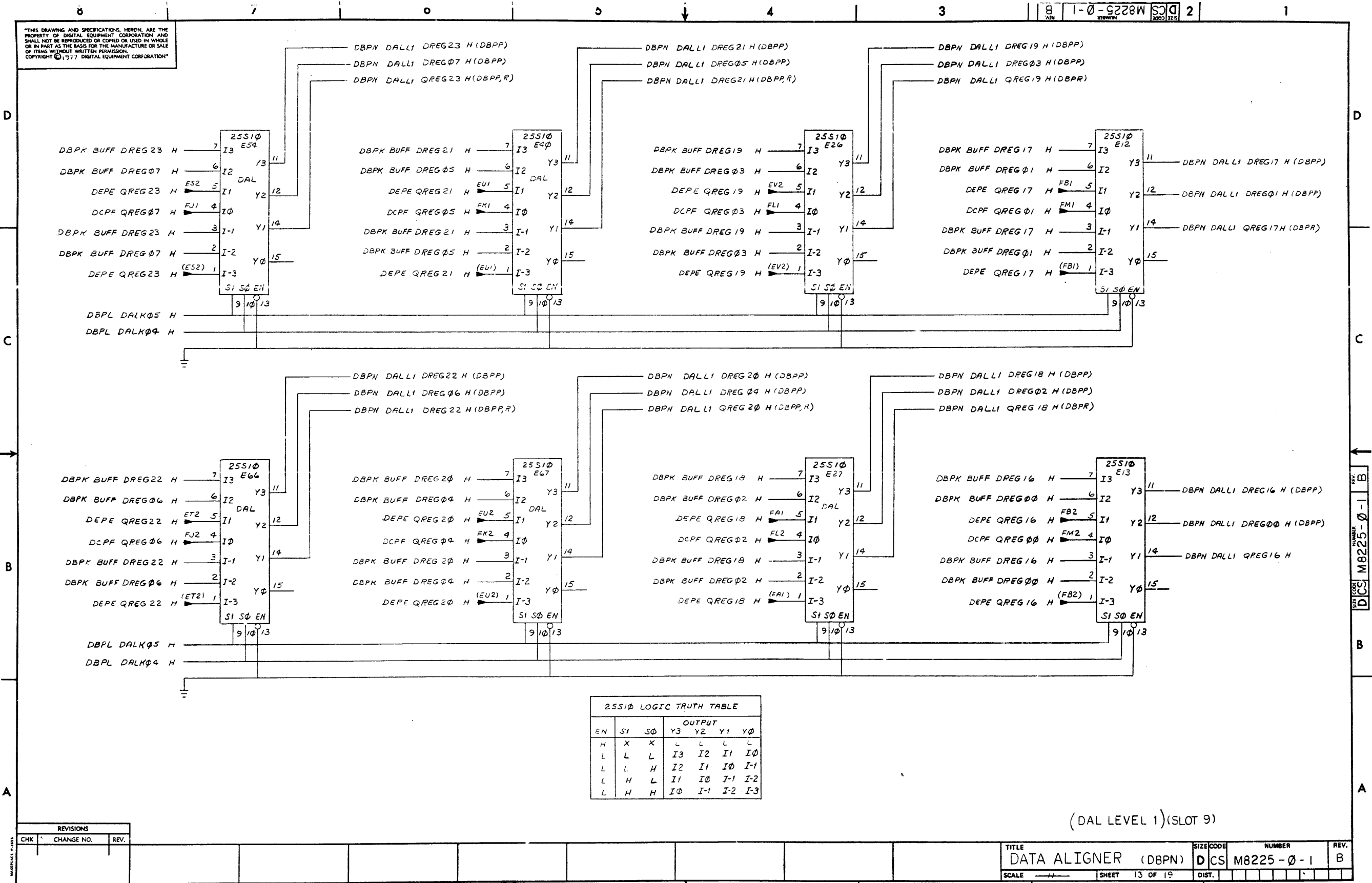
REVISIONS

CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPM)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE	1:1	SHEET	12 OF 19	DIST.			

2/5

"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"



25S10 LOGIC TRUTH TABLE

EN	S1	S0	OUTPUT			
			Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

(DAL LEVEL 1) (SLOT 9)

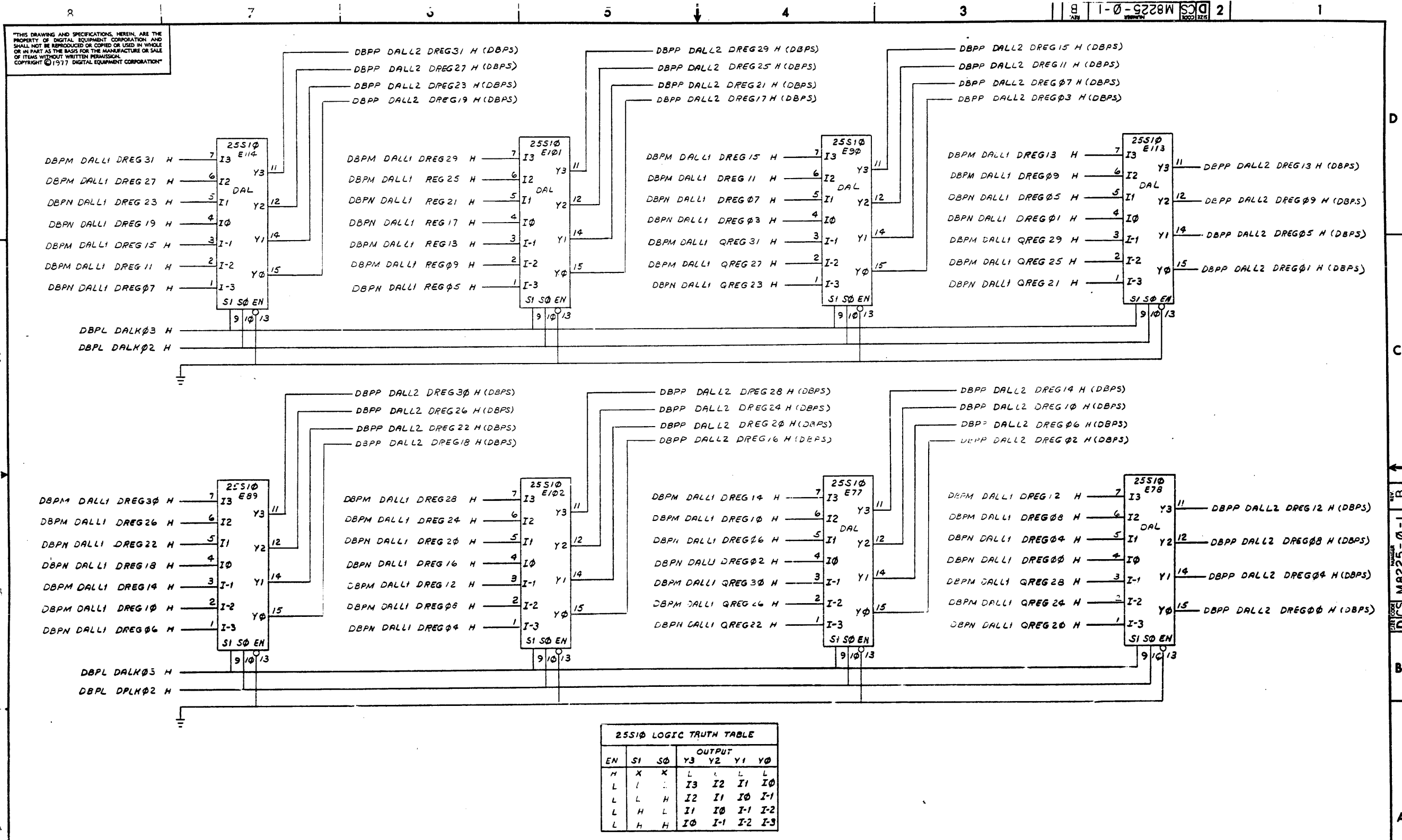
REVISIONS

CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPN)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	13 OF 19	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.

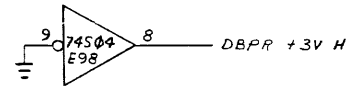
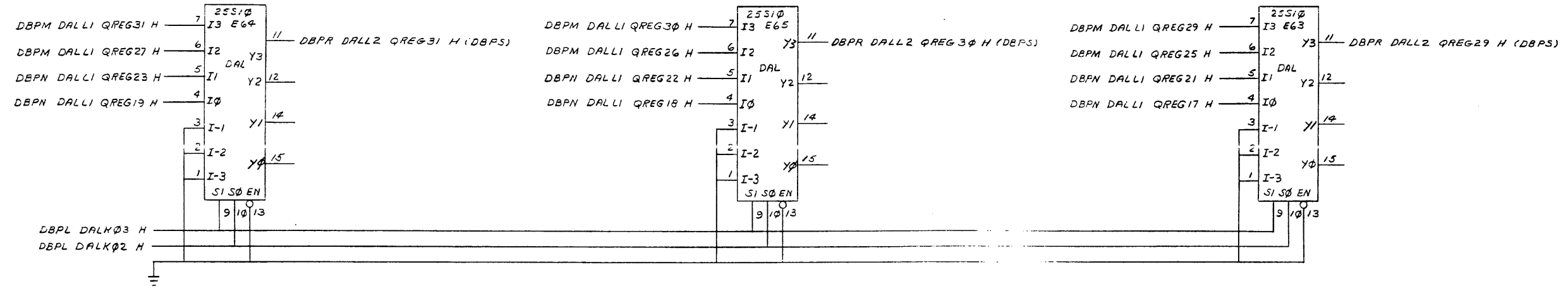
TITLE	DATA ALIGNER (DBPP)	SIZE CODE	DCS	NUMBER	M8225-0-1	REV.	B
SCALE	1:1	SHEET	14 OF 19	DGT.			

(DAL LEVEL 2)(SLOT 9)

217

"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. 2  
DATE 11/15/77  
BY J. J. [unclear]



(DAL LEVEL 2)(SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

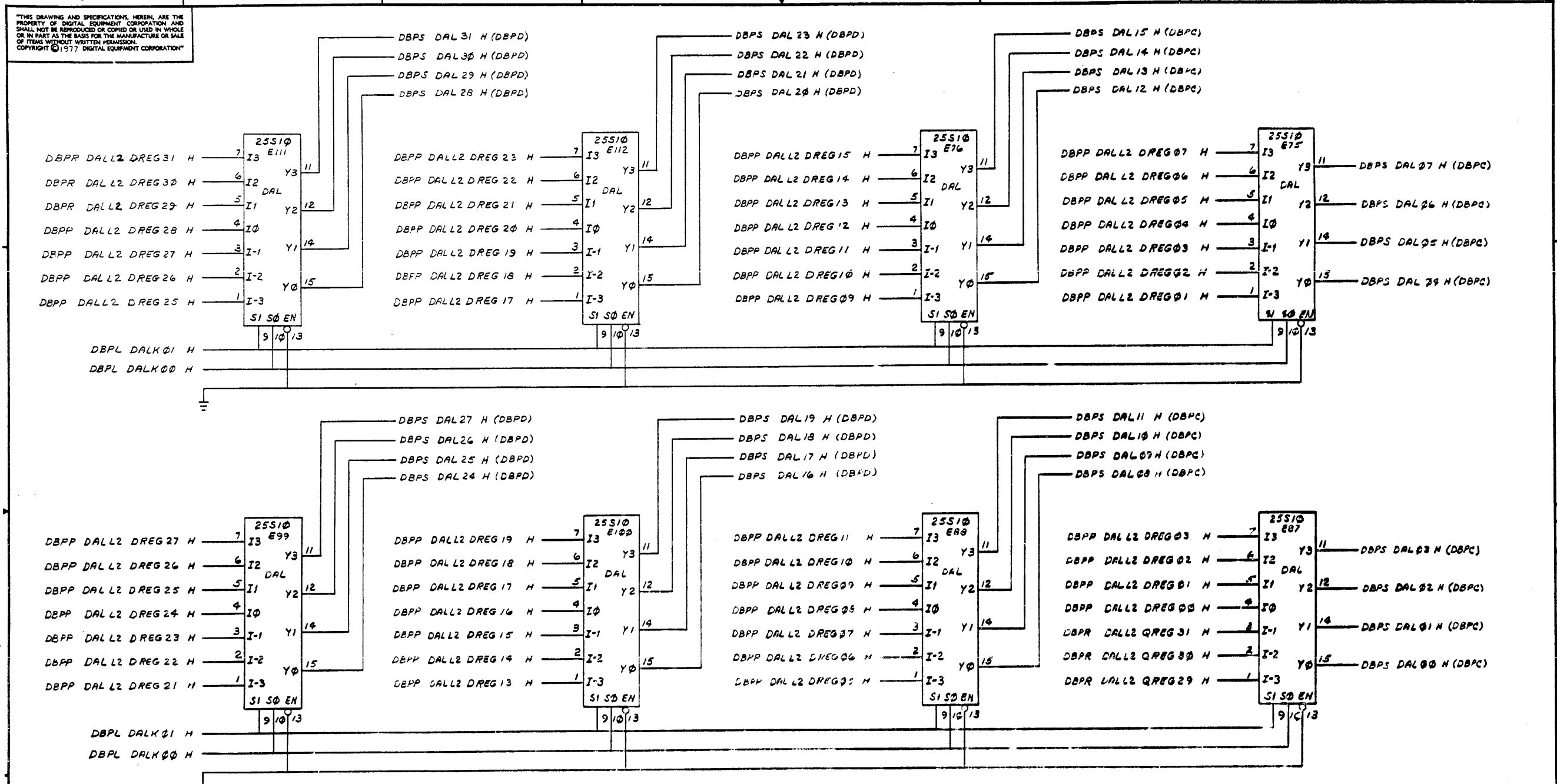
TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPR)	D CS	M8225-0-1	B
SCALE	SHEET 15 OF 19	DIST.	

REV. B  
NUMBER  
D CS M8225-0-1

218

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"



25510 LOGIC TRUTH TABLE

EN	SI	SO	OUTPUT			
			Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

REVISIONS

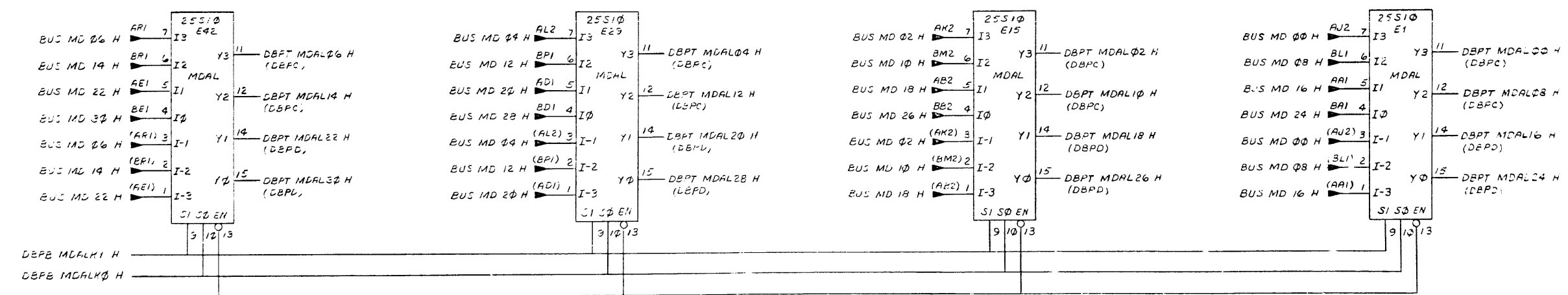
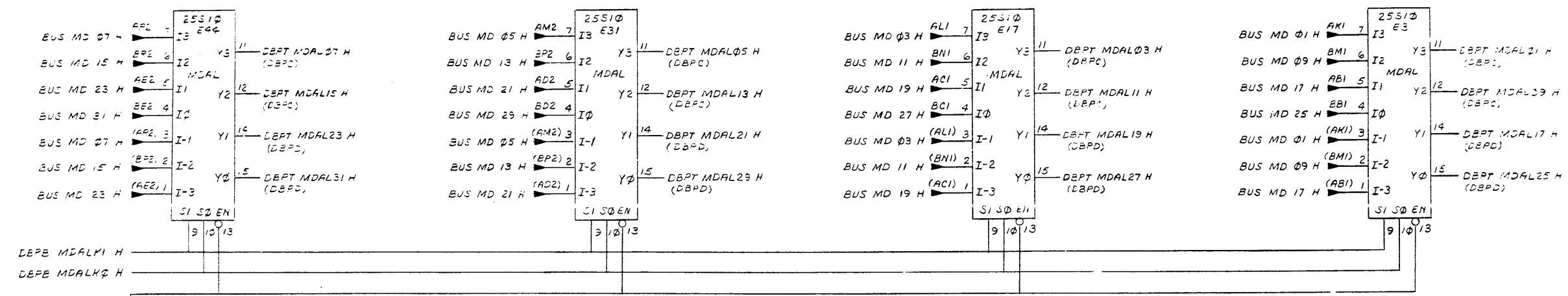
CHK	CHANGE NO.	REV.

(DAL 31:00) (SLOT 9)

TITLE	DATA ALIGNER (DBPS)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	16 OF 19	DIST.			

DCS M8225-0-1 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



MDAL 25510 TRUTH TABLE

BYTE SHIFT RIGHT		MDAL			
SI	SΦ	BYTE 3	BYTE 2	BYTE 1	BYTE 0
L	L	BUS MD (31:24)	BUS MD (23:16)	BUS MD (15:08)	BUS MD (07:00)
L	H	HU' MD (27:20)	BUS MD (31:24)	BUS MD (23:16)	BUS MD (15:08)
H	L	HU' MD (15:08)	BUS MD (07:00)	BUS MD (31:24)	BUS MD (23:16)
H	H	HU' MD (23:16)	BUS MD (15:08)	BUS MD (07:00)	BUS MD (31:24)

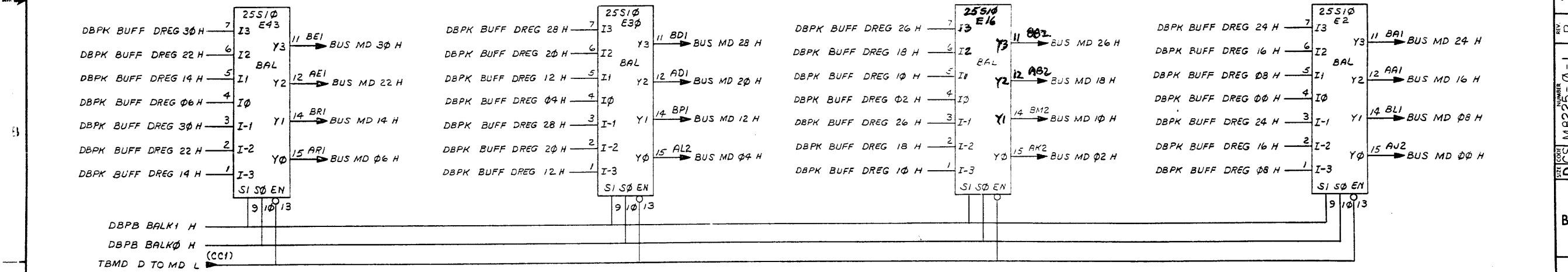
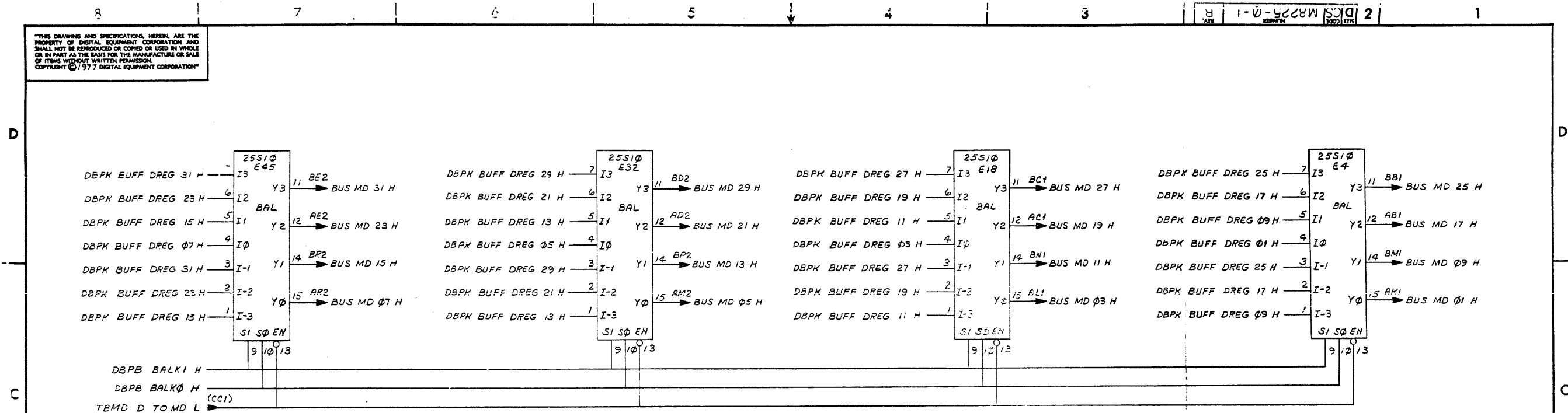
(MDAL 31:00) (SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPT)	SIZE CODE	DCS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	17 OF 17	DIST.			

D  
C  
B  
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 © 1977 DIGITAL EQUIPMENT CORPORATION"



BAL  
25S10 TRUTH TABLE

BYTE SHIFT LEFT		BUS MD DATA			
SI	S0	BYTE 3	BYTE 2	BYTE 1	BYTE 0
L	L	DREG (31:24)	DREG (23:16)	DREG (15:08)	DREG (07:00)
L	H	DREG (23:16)	DREG (15:08)	DREG (07:00)	DREG (31:24)
H	L	DREG (15:08)	DREG (07:00)	DREG (31:24)	DREG (23:16)
H	H	DREG (07:00)	DREG (31:24)	DREG (23:16)	DREG (15:08)

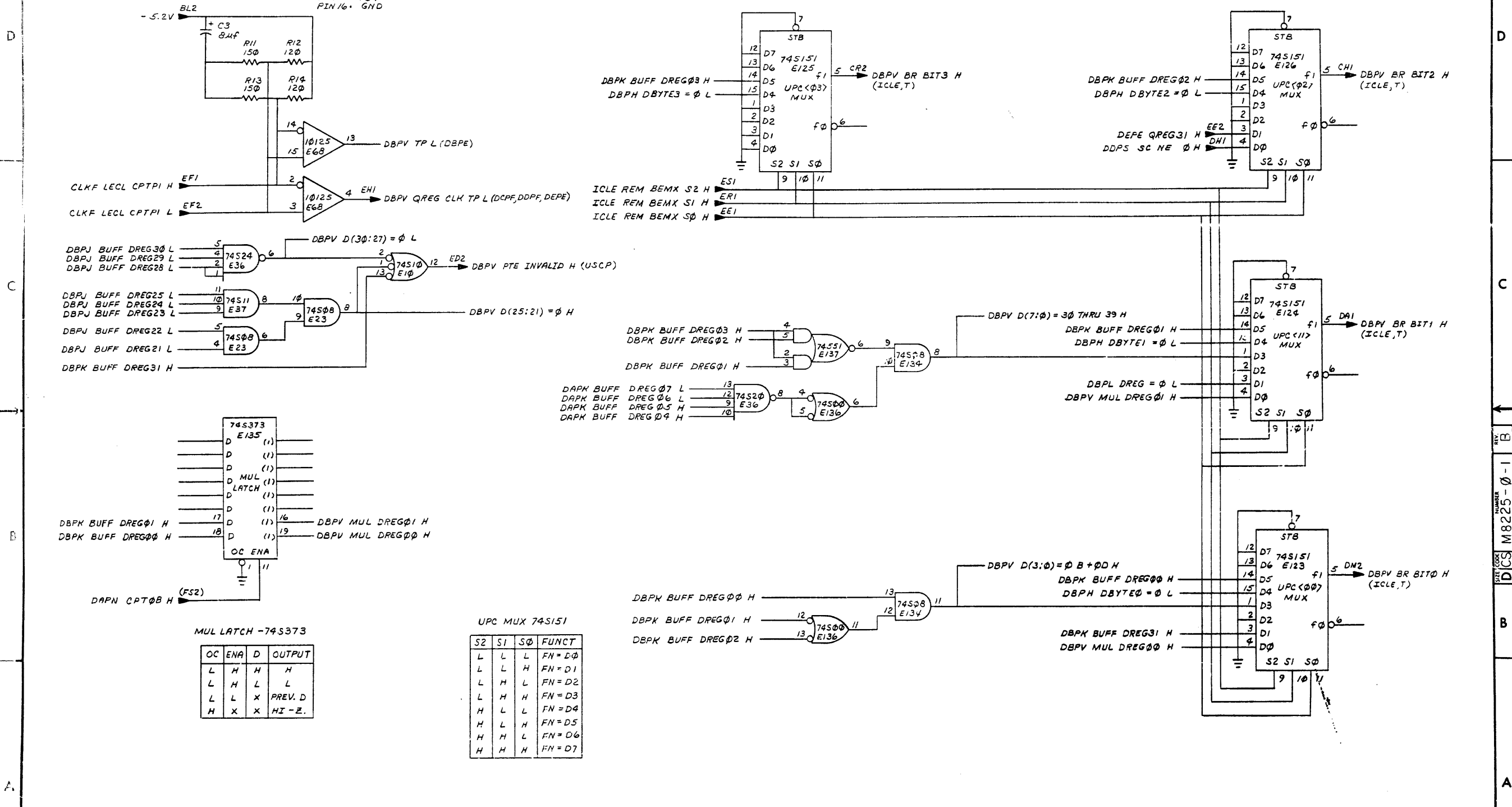
(BUS MD 31:00)(SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPU)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	18 OF 19	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"

POWER PINNING 10125  
 PIN 8 -5.2V  
 PIN 9 +5V  
 PIN 16 GND



MUL LATCH - 74S373

OC	ENA	D	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	PREV. D
H	X	X	H <sub>I</sub> - Z.

UPC MUX 74S151

S2	S1	S0	FUNCT
L	L	L	FN = D0
L	L	H	FN = D1
L	H	L	FN = D2
L	H	H	FN = D3
H	L	L	FN = D4
H	L	H	FN = D5
H	H	L	FN = D6
H	H	H	FN = D7

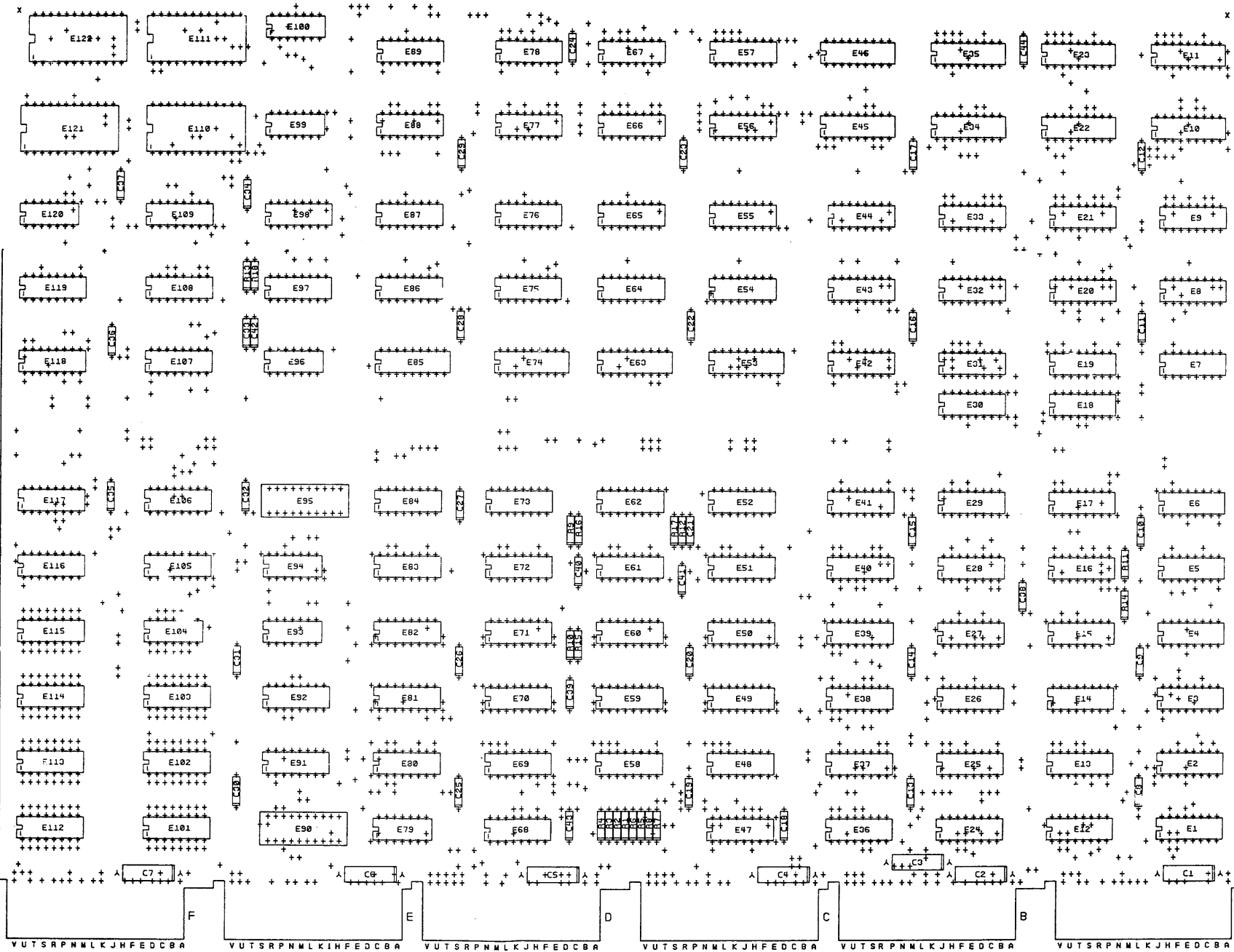
(CLKS AND DREG BRANCH CONDITIONS)(SLOT 9)

REVISIONS

CHK	CHANGE NO.	REV.

TITLE	DATA ALIGNER (DBPV)	SIZE CODE	D CS	NUMBER	M8225-0-1	REV.	B
SCALE		SHEET	19 OF 19	DIST.			

COMPONENT SIDE VIEW



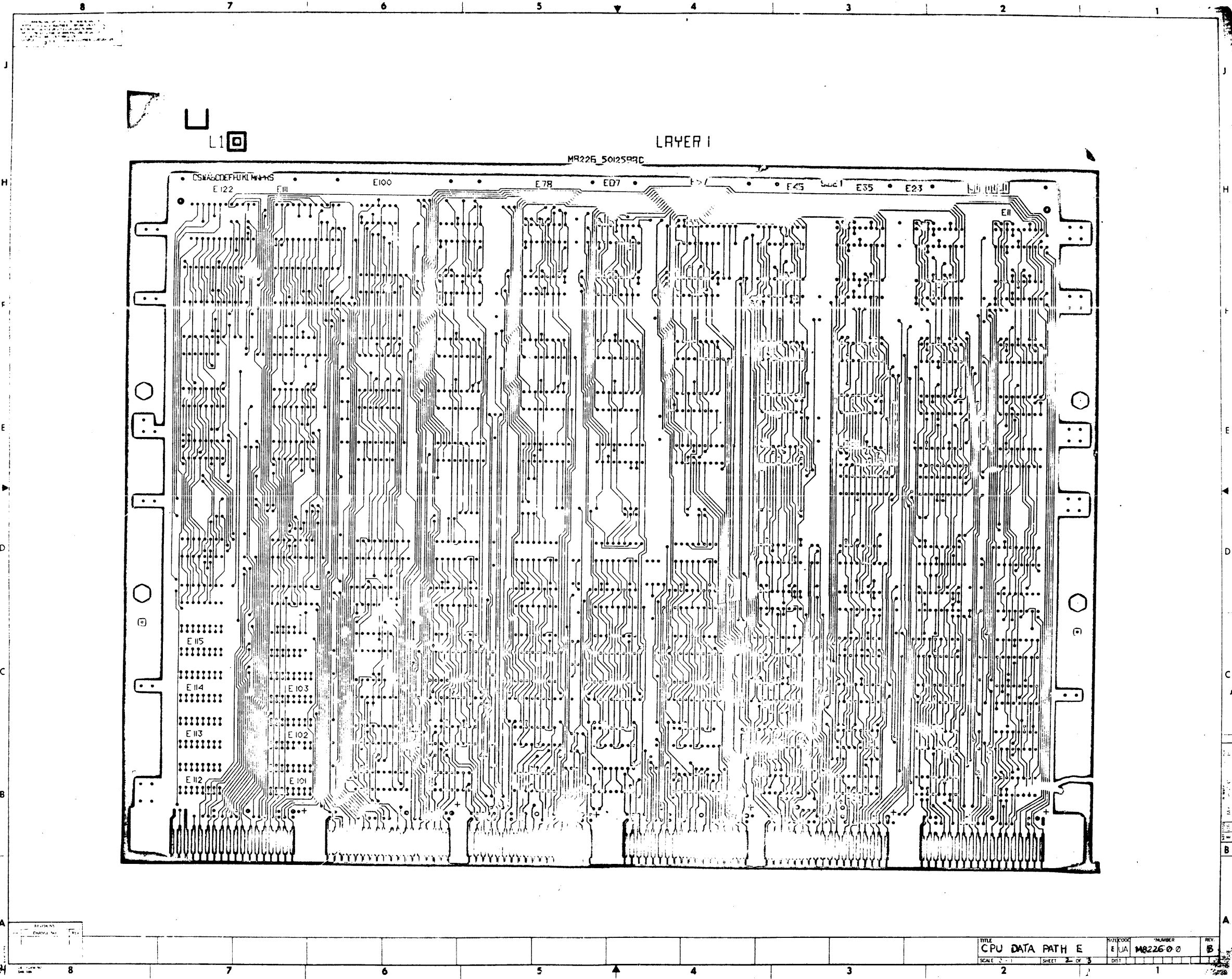
A  
B  
C  
D  
E  
F  
H  
J

SIGNATURES	DATE	digital
	DRAWN	
	ENG	
TITILE	PROJECT	digital
	PROJ. ENG.	
	PROD. ENG.	
STATUS	DATE	
	FILE	
	BY	

REV.	BY	DATE	DESCRIPTION

NOTES

-



224

TITLE	SIZE/DWG	NUMBER	REV.
CPU DATA PATH E	E/JA	MR226 0 0	B
SCALE 2:1	SHEET 2 OF 3	DIST 1	

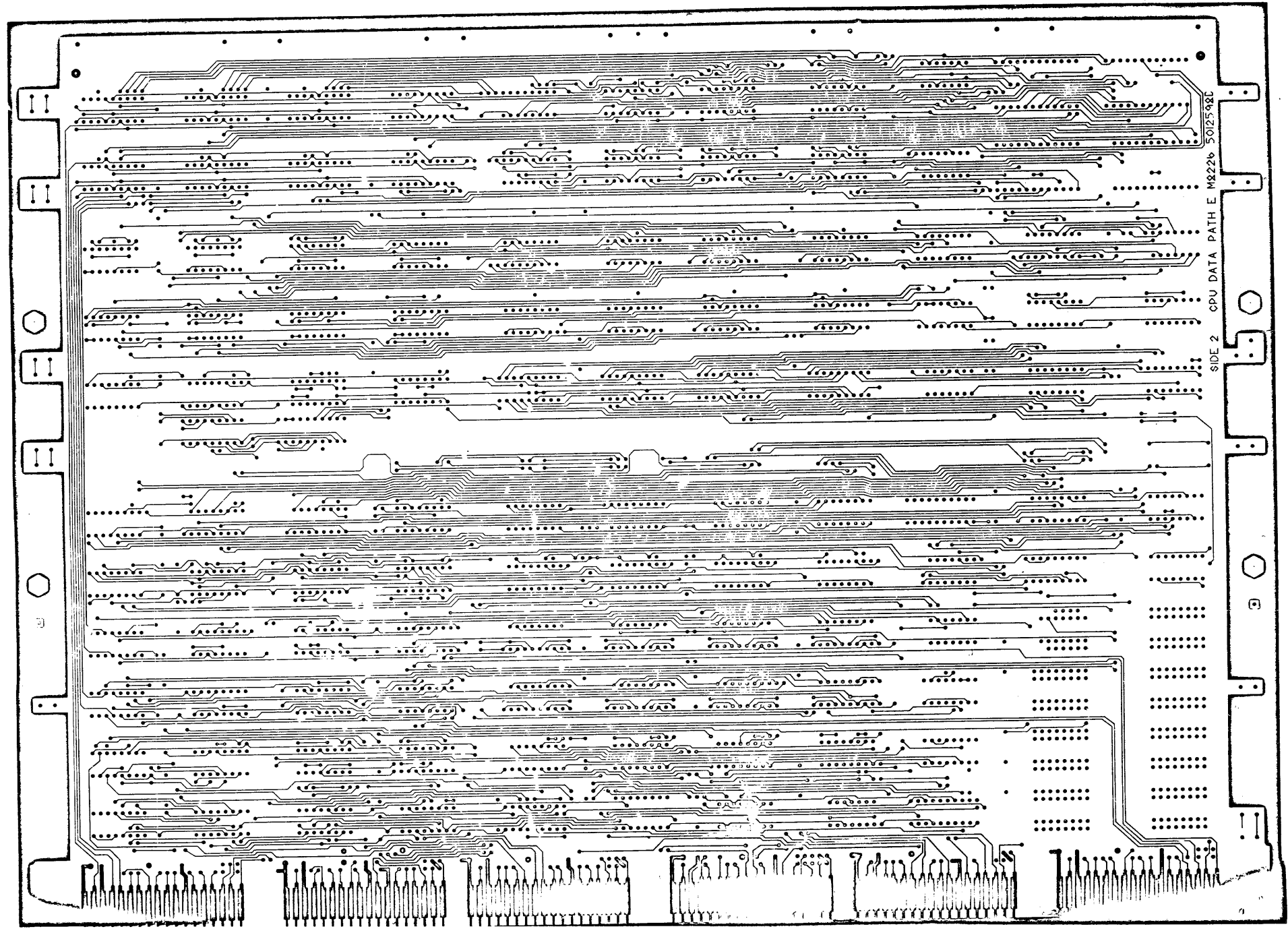


8 7 6 5 4 3 2 1



□ R3YAJ

□ L4



H  
F  
F  
D  
C  
B  
A

H  
F  
E  
A  
D  
C  
A  
B  
A

REV	DATE	BY	CHKD	DESCRIPTION

TITLE	CPU DATA PATH E	SIZE/SCALE	E LM	NUMBER	M8226-9	REV	8
SCALE	2-1	SHEET	3 OF 3	DIST.	1		

8 7 6 5 4 3 2 1

225

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MS 104849  
CS REV B  
ETCH REV C

MADE BY <i>F. Smart</i>	CHECKED <i>F. Smart</i>	SECTION
DATE <i>5-20-77</i>	DATE <i>5-20-77</i>	
ENG <i>E. Anton</i>	PROD <i>Mike Terullo</i>	ISSUED SECTION
DATE <i>6-9-77</i>	DATE <i>6-21-77</i>	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8226-0-0	REF DESIGNATION
1	E-MD-5012598-0-2	5012598B	ETCH BOARD	1	
2		1012084-01	CAPACITOR, 8UF, 25V, 10%	7	C1-C7
3		1012784	CAPACITOR, .047UF, 50V	37	C8-C44
4		1300247	RESISTOR, 120, 1/4W	4	R1, R3, R6, R8
5		1300250	RESISTOR, 150, 1/4W	4	R2, R4, R5, R7
6		1300295	RESISTOR, 330, 1/4W	5	R9-R13
7		1301424	RESISTOR, 680, 1/4W	5	R14-R18
8			SPARE		E101-E103, E112-E115
9		1910531	I.C. DEC 74S181	4	E110, E111, E121, E122
10		1910534	I.C. DEC 74S04	5	E79, E99, E100, E120, E104
11		1910545	I.C. DEC 74S112	2	E91, E92
12		1910549	I.C. DEC 74S158	4	E48, E58, E69, E80
13		1910552	I.C. DEC 74S194	4	E5, E16, E28, E40
14		1910547	I.C. DEC 74S153	16	E1, E2, E14, E15, E26, E27, E36, E37, E105-108, E116-E119
15		1910548	I.C. DEC 74S157	12	E6, E7, E17, E19, E29, E31, E41, E42, E51, E61, E72, E83
16		1910956	I.C. DEC 74S151	16	E8, E9, E20, E21, E32, E33, E43, E44, E54, E55, E64, E65, E75, E76, E86, E87
17		1911415	I.C. DEC 10125	2	E47, E68
18		1911641	I.C. DEC 74S257	8	E3, E4, E38, E39, E57, E67, E78, E89
19		1911675	I.C. DEC 74S138	2	E18, 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  CPU DATA PATH E	ASSY NO. E-UA-M8226-0-0  SHEET 1 OF 2	SIZE <b>B</b>	CODE <b>PL</b>	NUMBER M8226-0-0  INSERTION PARTS LIST DATA BASE REV	REV. B
---	------------------------------	--	------------------	-------------------	---	-----------

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MS 104849  
CS REV B  
ETCH REV C

MADE BY <i>F. Smart</i>	CHECKED <i>F. Smart</i>	SECTION
DATE <i>5-20-77</i>	DATE <i>5-20-77</i>	
ENG <i>E. Anton</i>	PROD <i>Mike Terello</i>	ISSUED SECTION
DATE <i>6-9-77</i>	DATE <i>6-21-77</i>	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8226-0-0	QUANTITY / VARIATION								REF DESIGNATION	
20		1911712	I.C. DEC 74S51	1										E93
21		1911983	I.C. DEC 74S133	1										E98
22		1912097	I.C. DEC 74S182	1										E109
23		1912389	I.C. DEC 74S08	1										E94
24		1912586	I.C. DEC 85S68	12										E10, E11, E22, E23, E34, E35, E45, E46, E53, E63, E74, E85
25		1912660	I.C. DEC 74S253	1										E97
26		1912693	I.C. DEC 25S10	4										E56, E56, E77, E88
27		1912746	I.C. DEC 74S37	1										E96
28		1913294	I.C. DEC 93S16	12										E49, E50, E59, E60, E70, E71, E81, E82, E52, E62, E73, E84
29		1913462	I.C. DEC 74S240	1										E90
30		1913493	I.C. DEC 74S241	1										E95
31		1913788	I.C. DEC 26S10	4										E12, E13, E24, E25
32		1210711-2	HANDLE ASSY (HEX)	1										
33		9000024-C	EYELET, HANDLE	12										

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

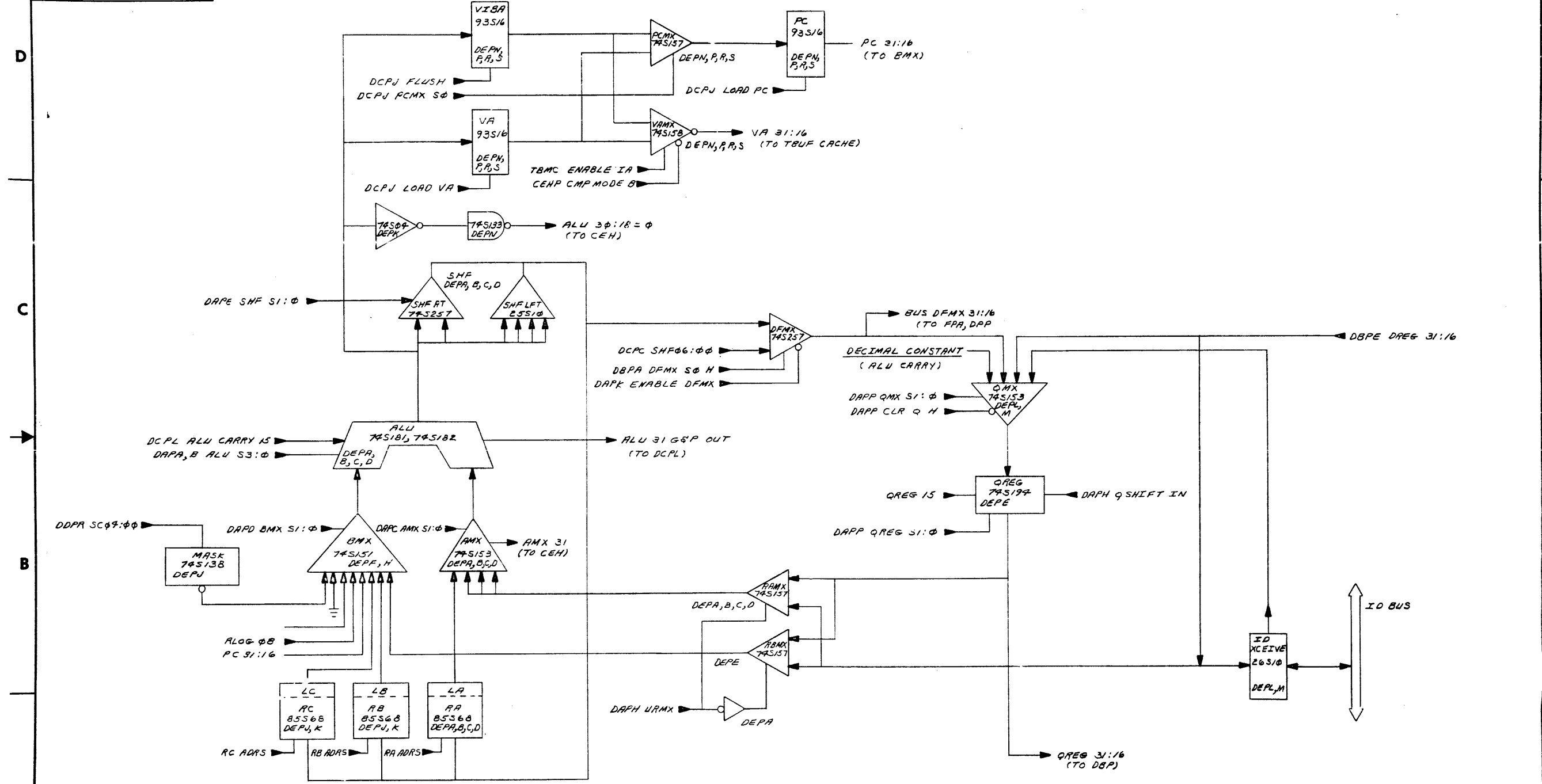
TITLE  
CPU DATA PATH E

ASSY NO.  
E-UA-M8226-0-0  
SHEET 2 OF 2

SIZE CODE NUMBER  
B PL M8226-0-0  
INSERTION PARTS LIST DATA BASE REV

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"

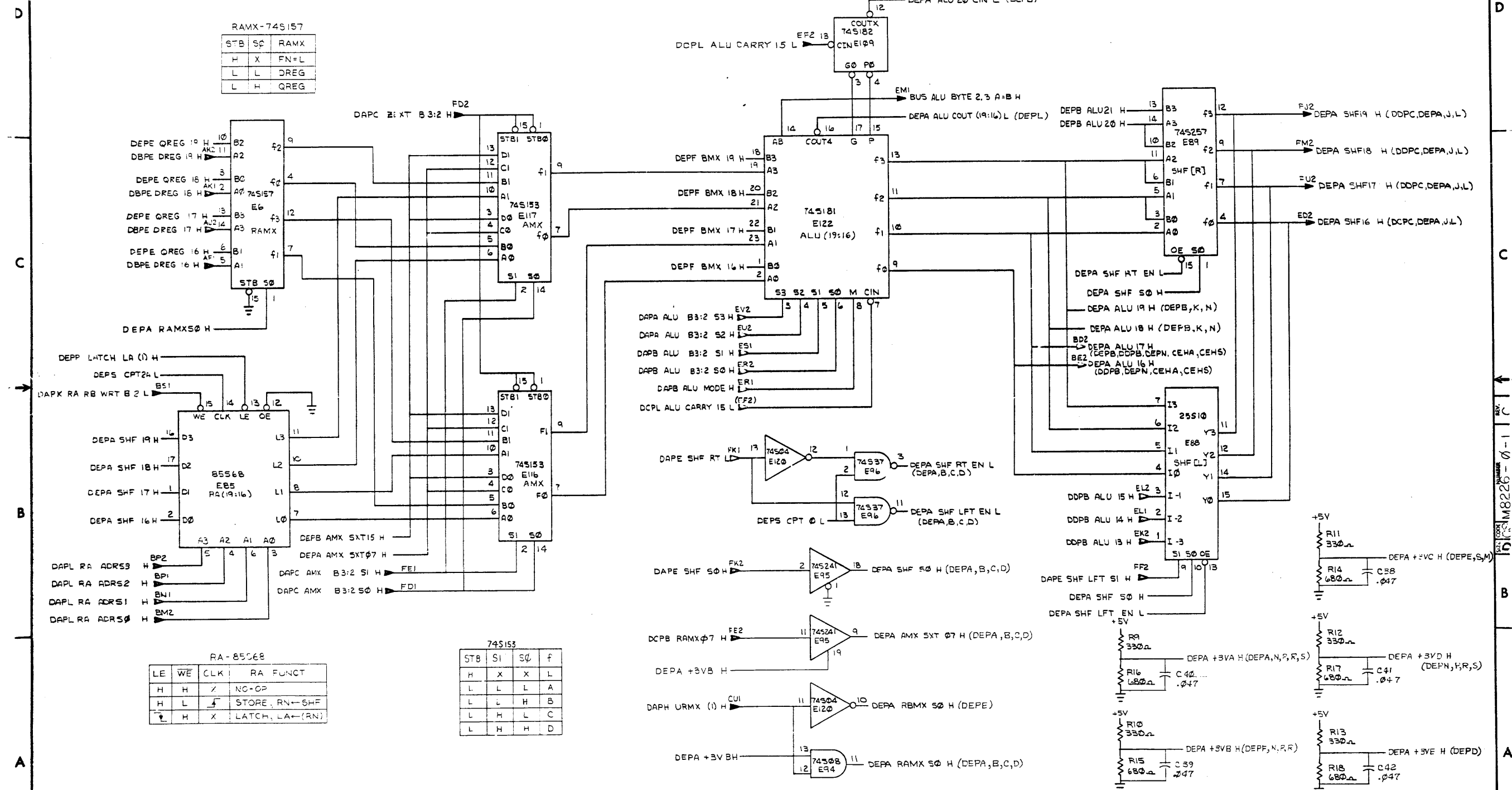


(BLOCK DIAGRAM) (SLOT 10)

DRN. By E. Anton	3-25-77	FIRST USED ON	
CHK'D By E. Anton	5-9-77	TITLE	
ENG. E. ANTON	7-7-77	DATA PATH 31:16	
PROJ. ENG. ANTON	7-7-77	SIZE	CODE
PROD. Screen	6/1/77	NUMBER	REV.
NEXT HIGHER ASSY.		D	C
SCALE	1 OF 16	DIST.	

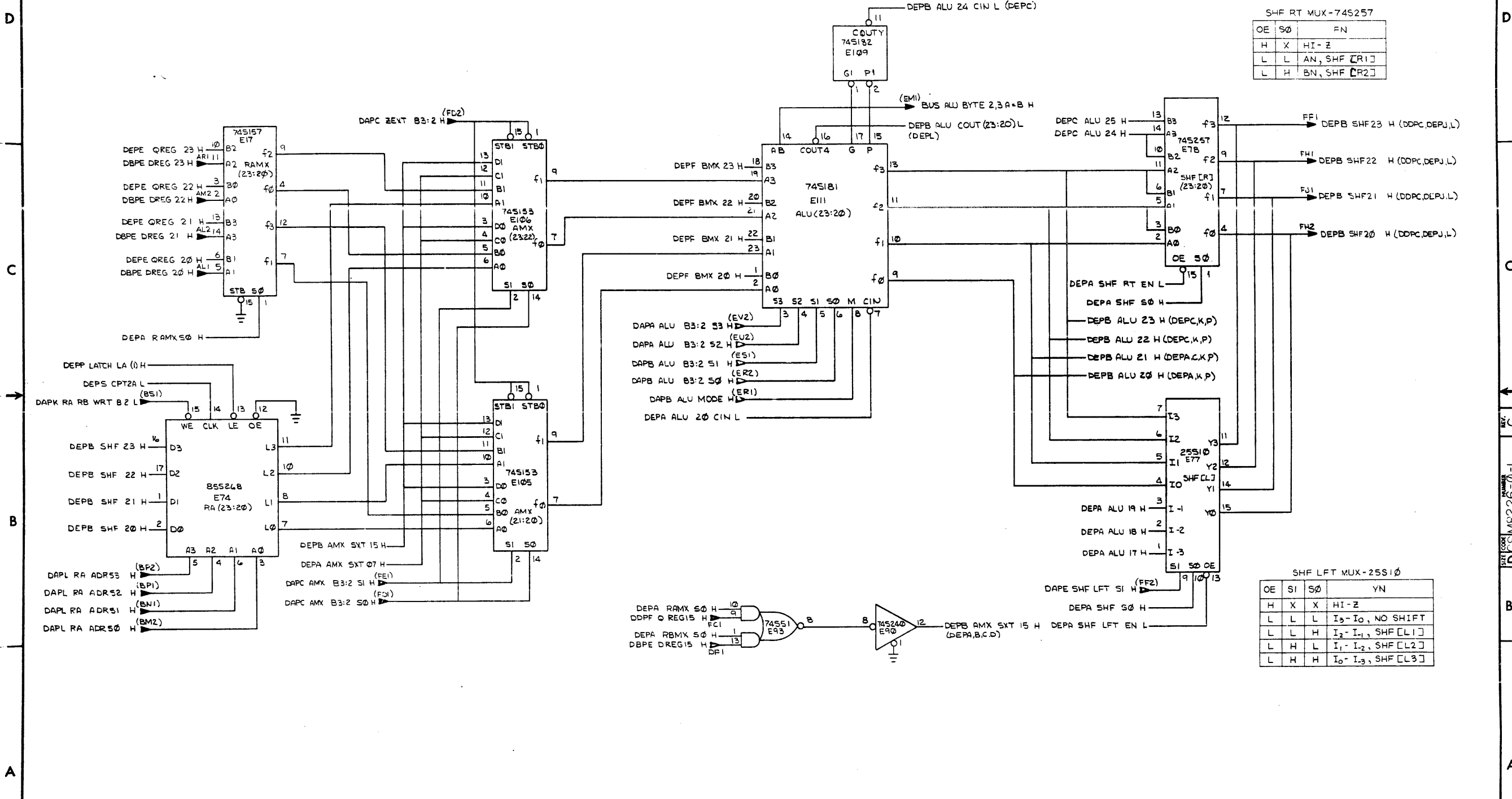
REV.	C
CHANGE NO.	
CHK.	E. ANTON
DATE	11 OCT 77

"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			TITLE	SIZE CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.	DATA PATH 31:16 (DEPA)	D	CS M8226-0-1	C
			SCALE NONE	SHEET 2 OF 16	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



SHF RT MUX-74S257

OE	S0	FN
H	X	HI-Z
L	L	AN, SHF [R1]
L	H	BN, SHF [R2]

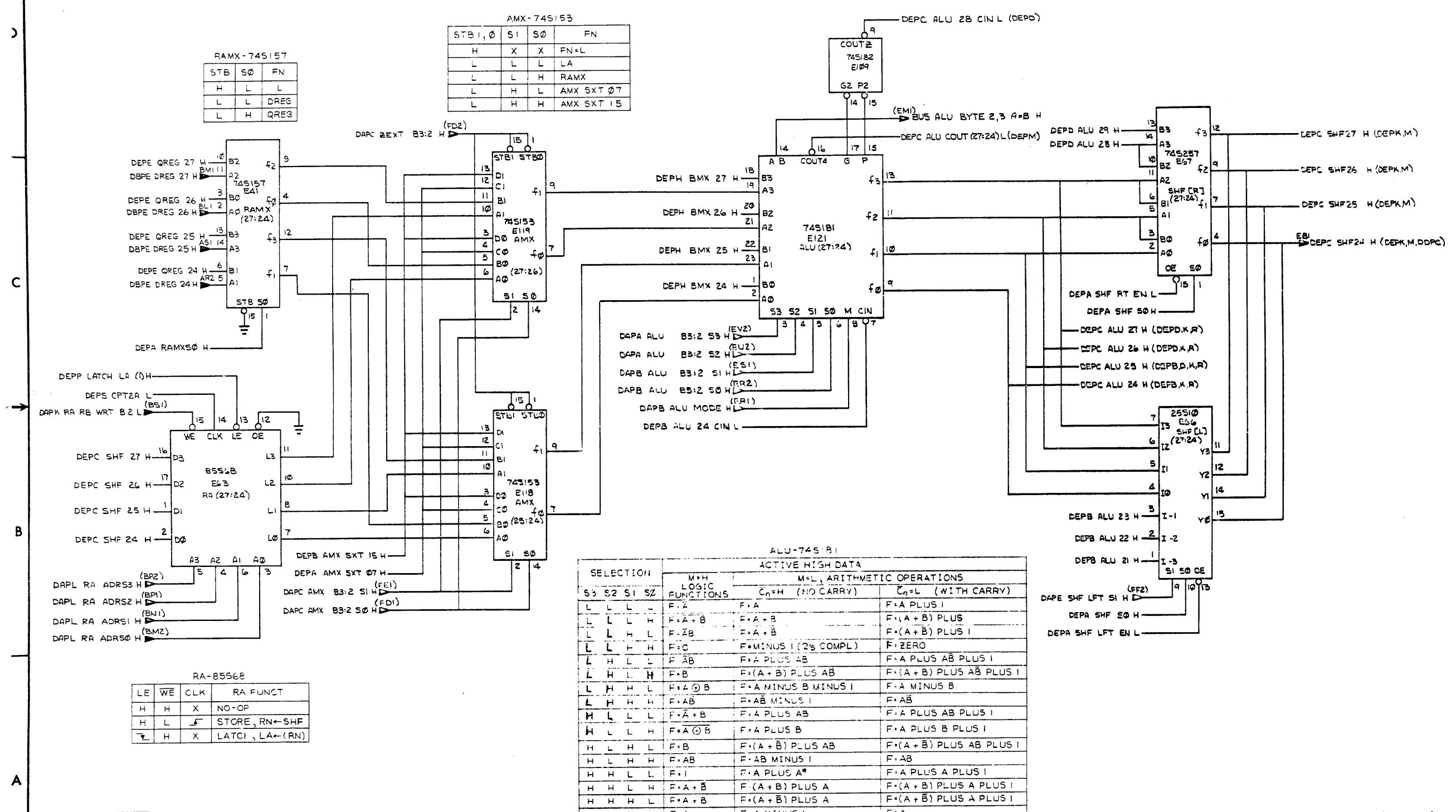
SHF LFT MUX-25S10

OE	S1	S0	YN
H	X	X	HI-Z
L	L	L	I <sub>3</sub> -I <sub>0</sub> , NO SHIFT
L	L	H	I <sub>2</sub> -I <sub>1</sub> , SHF [L1]
L	H	L	I <sub>1</sub> -I <sub>2</sub> , SHF [L2]
L	H	H	I <sub>0</sub> -I <sub>3</sub> , SHF [L3]

REVISIONS

CHK	CHANGE NO.	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"



RAMX-745157

STB	S0	FN
H	L	L
L	L	DREG
L	H	QREG

AMX-745153

STB1,0	S1	S0	FN
H	X	X	FN=L
L	L	L	LA
L	L	H	RAMX
L	H	L	AMX SXT 07
L	H	H	AMX SXT 15

RA-85568

LE	WE	CLK	RA FUNCT
H	H	X	NO-OP
H	L	X	STORE, RN←SHF
L	H	X	LATCI, LA←(RN)

ALU-745181

SELECTION	M+H LOGIC FUNCTIONS	ACTIVE HIGH DATA	
		M=L, ARITHMETIC OPERATIONS C <sub>n</sub> =H (NO CARRY)	C <sub>n</sub> =L (WITH CARRY)
L L L L	F=A	F=A	F=A PLUS 1
L L L H	F=A+B	F=A+B	F=(A+B) PLUS 1
L L H L	F=A-B	F=A+B	F=(A+B) PLUS 1
L L H H	F=0	F=MINUS 1 (2's COMPL)	F=ZERO
L H L L	F=A-B	F=A PLUS AB	F=A PLUS AB PLUS 1
L H L H	F=B	F=(A+B) PLUS AB	F=(A+B) PLUS AB PLUS 1
L H H L	F=A⊕B	F=A MINUS B MINUS 1	F=A MINUS B
L H H H	F=AB	F=AB MINUS 1	F=AB
H L L L	F=A+B	F=A PLUS AB	F=A PLUS AB PLUS 1
H L L H	F=A⊗B	F=A PLUS B	F=A PLUS B PLUS 1
H L H L	F=B	F=(A+B) PLUS AB	F=(A+B) PLUS AB PLUS 1
H L H H	F=AB	F=AB MINUS 1	F=AB
H H L L	F=1	F=A PLUS A*	F=A PLUS A PLUS 1
H H L H	F=A+B	F=(A+B) PLUS A	F=(A+B) PLUS A PLUS 1
H H H L	F=A+B	F=(A+B) PLUS A	F=(A+B) PLUS A PLUS 1
H H H H	F=A	F=A MINUS 1	F=A

REVISIONS

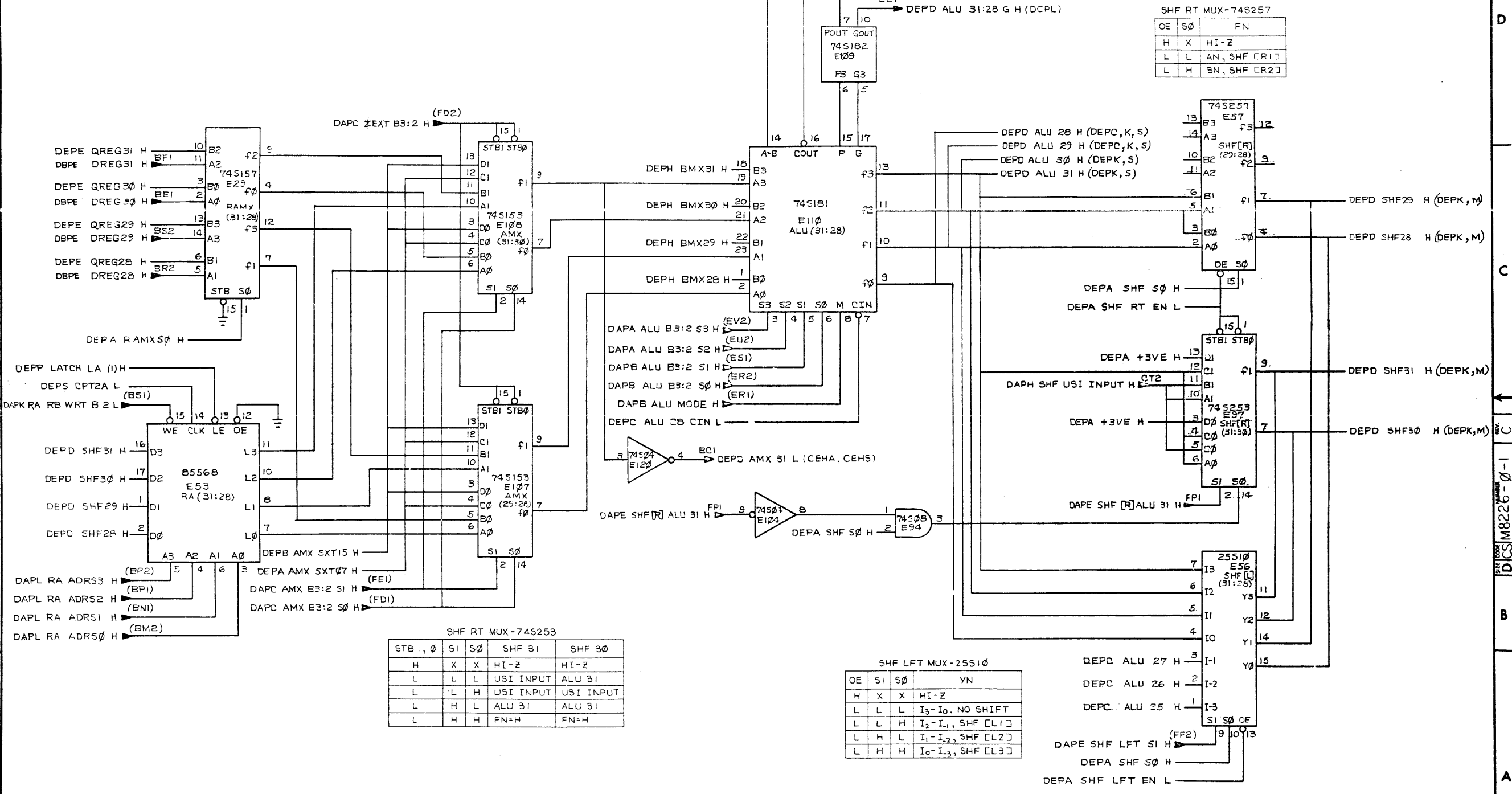
CHK	CHANGE NO.	REV.

(RA, RAMX, AMX, ALU, SHF 27:24) (SLOT 0)

TITLE	DATA PATH 31:16 (DEPC)	NUMBER	DCSM8226-0-1	REV.	C
SCALE	NONE	SHEET	4 OF 16	DIST.	

DCSM8226-0-1

"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"



SHF RT MUX-74S257

OE	S0	FN
H	X	HI-Z
L	L	AN, SHF [R1]
L	H	BN, SHF [R2]

SHF RT MUX-74S253

STB	S1	S0	SHF 31	SHF 30
H	X	X	HI-Z	HI-Z
L	L	L	USI INPUT	ALU 31
L	L	H	USI INPUT	USI INPUT
L	H	L	ALU 31	ALU 31
L	H	H	FN=H	FN=H

SHF LFT MUX-25S10

OE	S1	S0	YN
H	X	X	HI-Z
L	L	L	I <sub>3</sub> -I <sub>0</sub> , NO SHIFT
L	L	H	I <sub>2</sub> -I <sub>1</sub> , SHF [L1]
L	H	L	I <sub>1</sub> -I <sub>2</sub> , SHF [L2]
L	H	H	I <sub>0</sub> -I <sub>3</sub> , SHF [L3]

REVISIONS

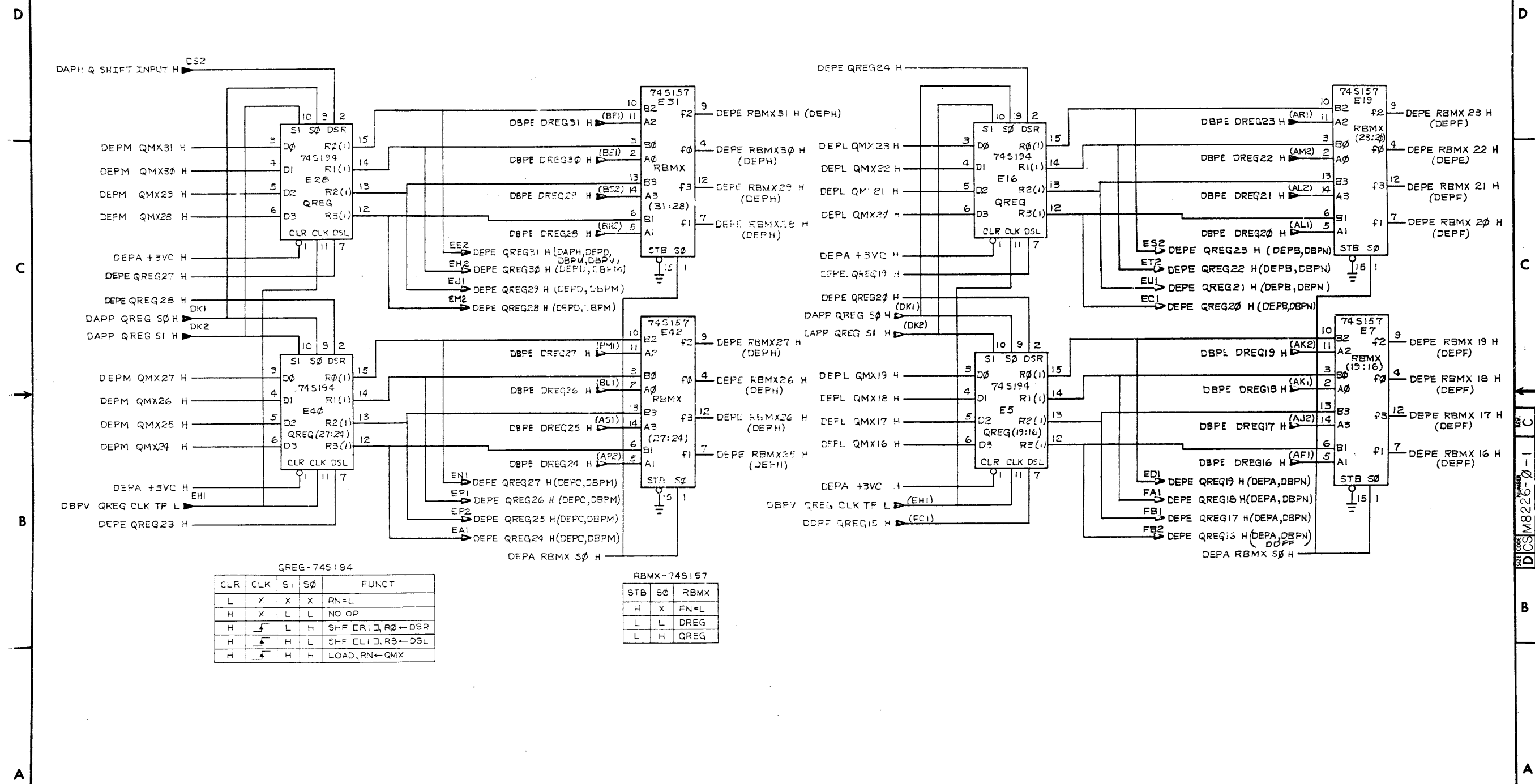
CHK	CHANGE NO.	REV.

(RA, RAMX, AMX, ALU, SHF 31:28) (SLOT 10)

TITLE	DATA PATH 31:16 (DEPD)	SIZE/CODE	DCSM8226-0-1	NUMBER		REV.	C
SCALE	NONE	SHEET	5 OF 16	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"



QREG-74S194

CLR	CLK	S1	S0	FUNCT
L	X	X	X	RN=L
H	X	L	L	NO OP
H	L	L	H	SHF CLR, R0←DSR
H	L	H	L	SHF CLR, R3←DSL
H	L	H	H	LOAD, RN←QMX

RBMX-74S157

STB	S0	RBMX
H	X	FN=L
L	L	DREG
L	H	QREG

REVISIONS

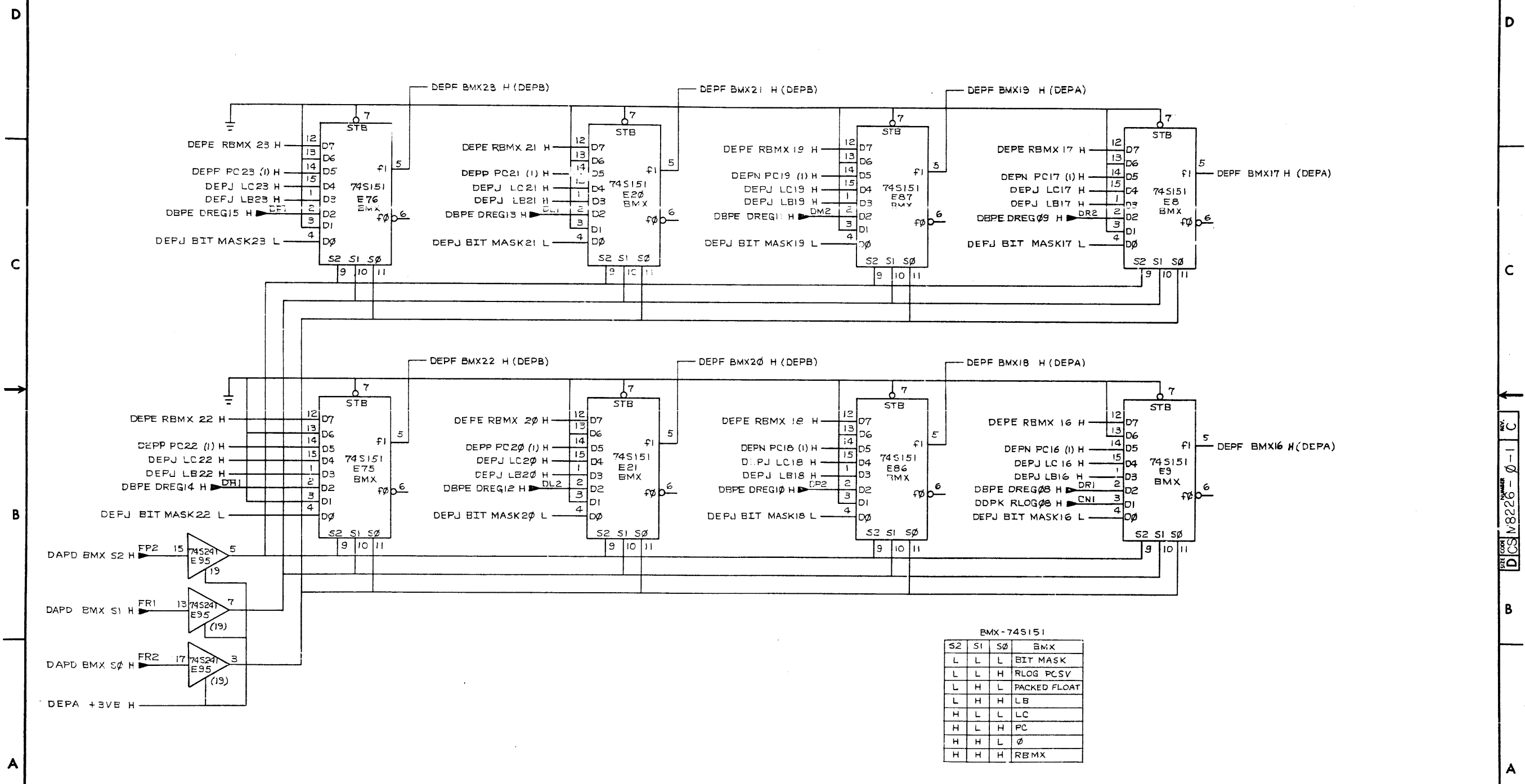
CHK	CHANGE NO.	REV.

(QREGISTER & RBMX 31:16) (SLOT 10)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 31:16(DEPE)	D	CSM8226-0-1	C
SCALE NONE	SHEET 6 OF 16	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"

CS M8226-0-1 C 2

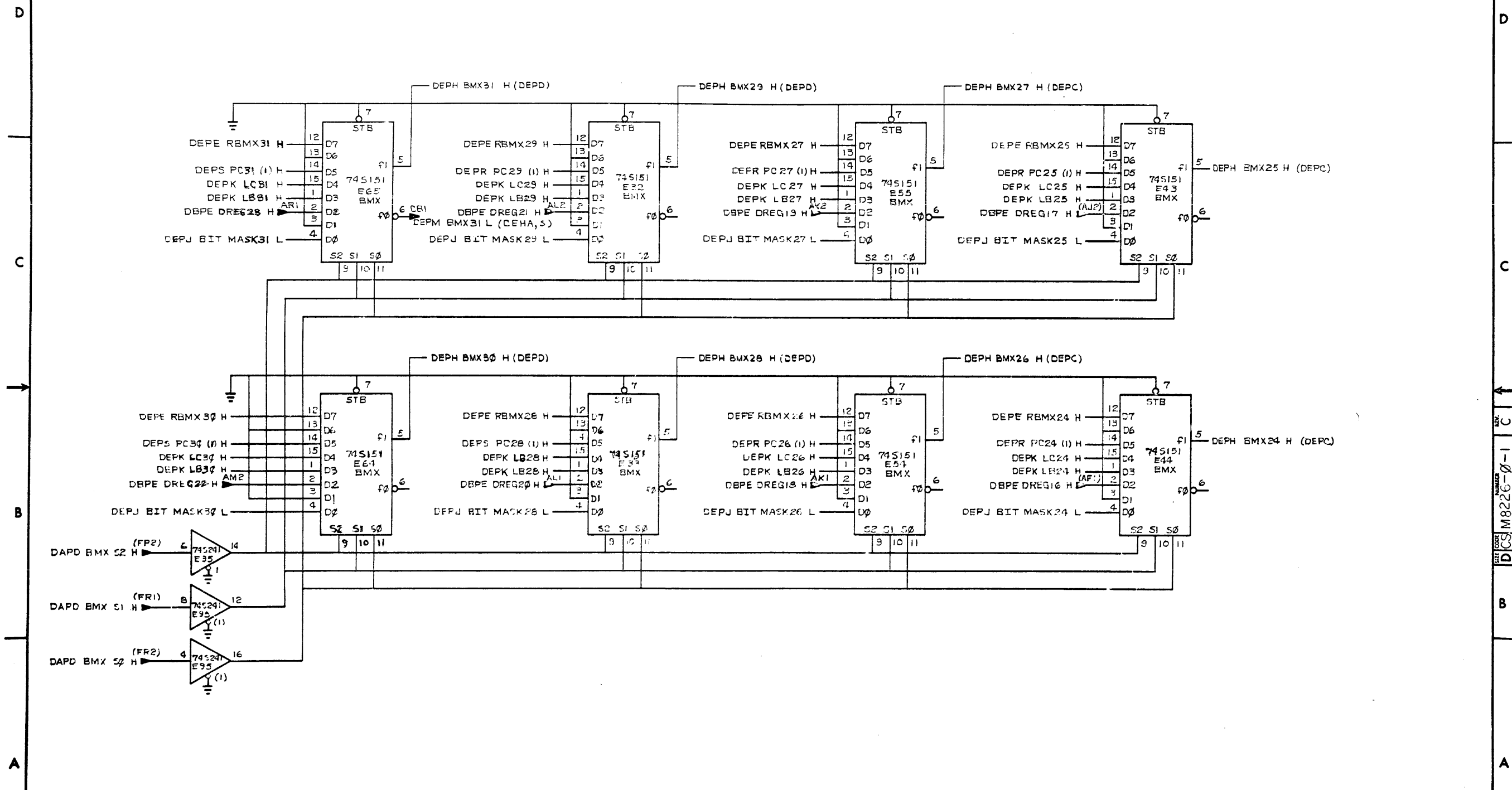


BMX-74S151

S2	S1	S0	BMX
L	L	L	BIT MASK
L	L	H	RLOG PCSV
L	H	L	PACKED FLOAT
L	H	H	LB
H	L	L	LC
H	L	H	PC
H	H	L	∅
H	H	H	RBMX

REVISIONS		
CHK	CHANGE NO.	REV.

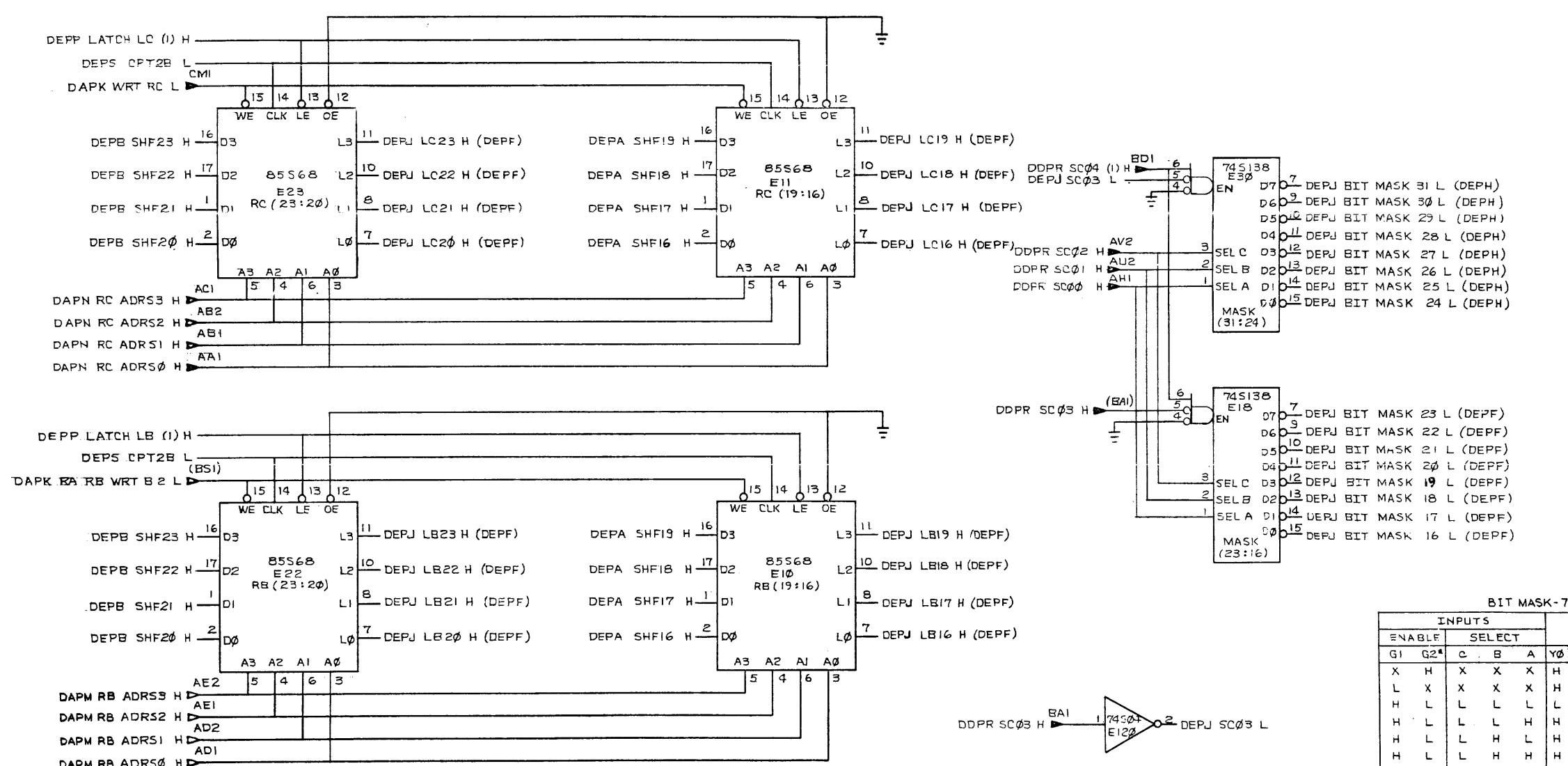
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(BMX 31:24) (SLOT 10)  
 TITLE DATA PATH 31:16 (DEPH) SIZE CODE NUMBER REV.  
 SCALE NONE SHEET 8 OF 16 DIST. DCS M8226-0-1 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"



RX-85568

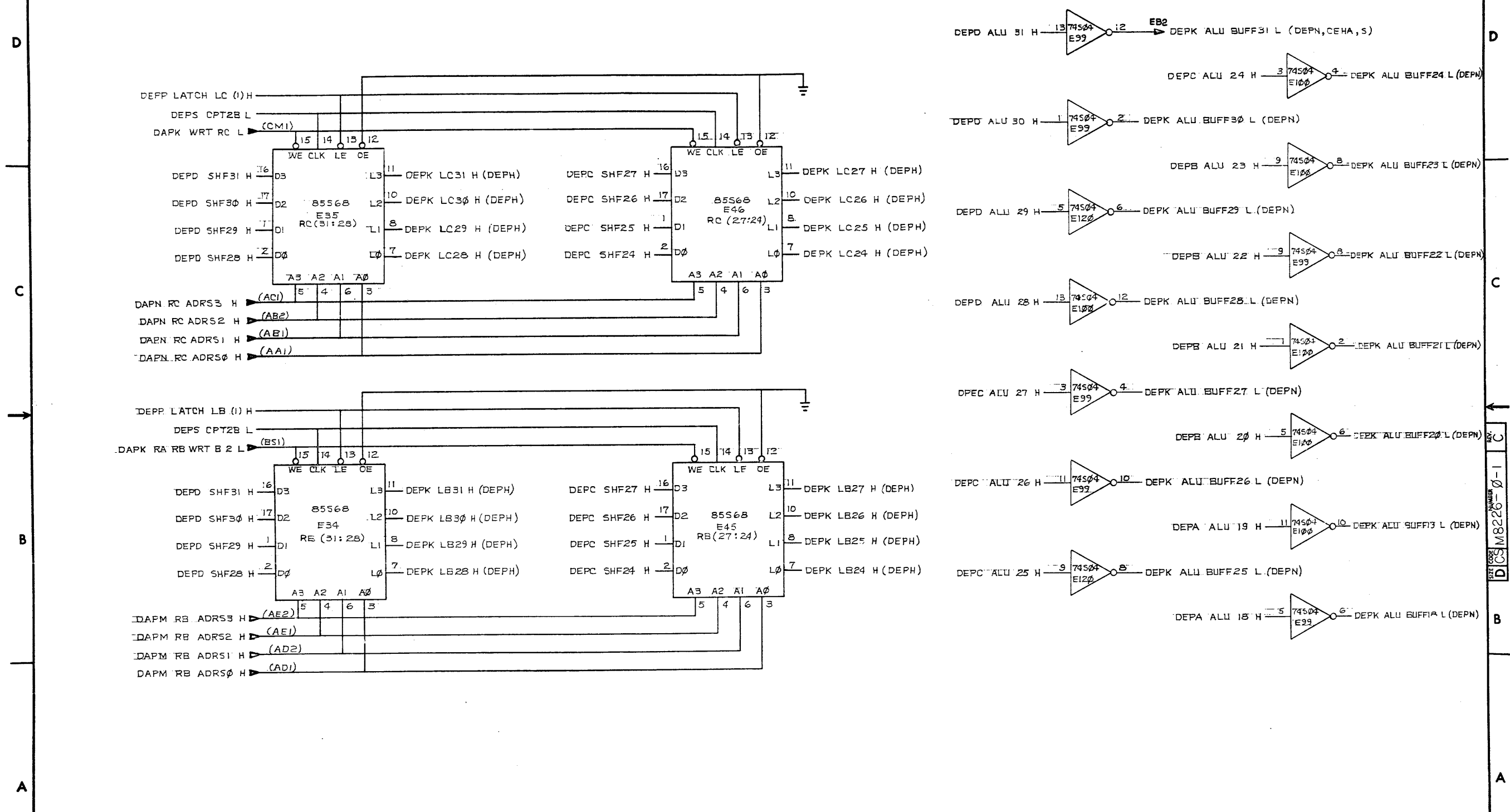
LE	WE	CLK	FUNCT
H	H	X	NO OP
H	L	X	STORE, RN ← SHF
L	H	X	LATCH, LA ← (RN)

BIT MASK-74S138

INPUTS			OUTPUTS								
ENABLE	SELECT			Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
G1	G2*	C	B	A							
X	H	X	X	X	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H
H	L	L	H	H	H	L	H	H	H	H	H
H	L	L	H	L	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H
H	L	H	H	L	H	H	H	H	L	H	H
H	L	H	H	H	H	H	H	H	H	L	L

\* NOTE:  
G1 = G2 + G2B

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

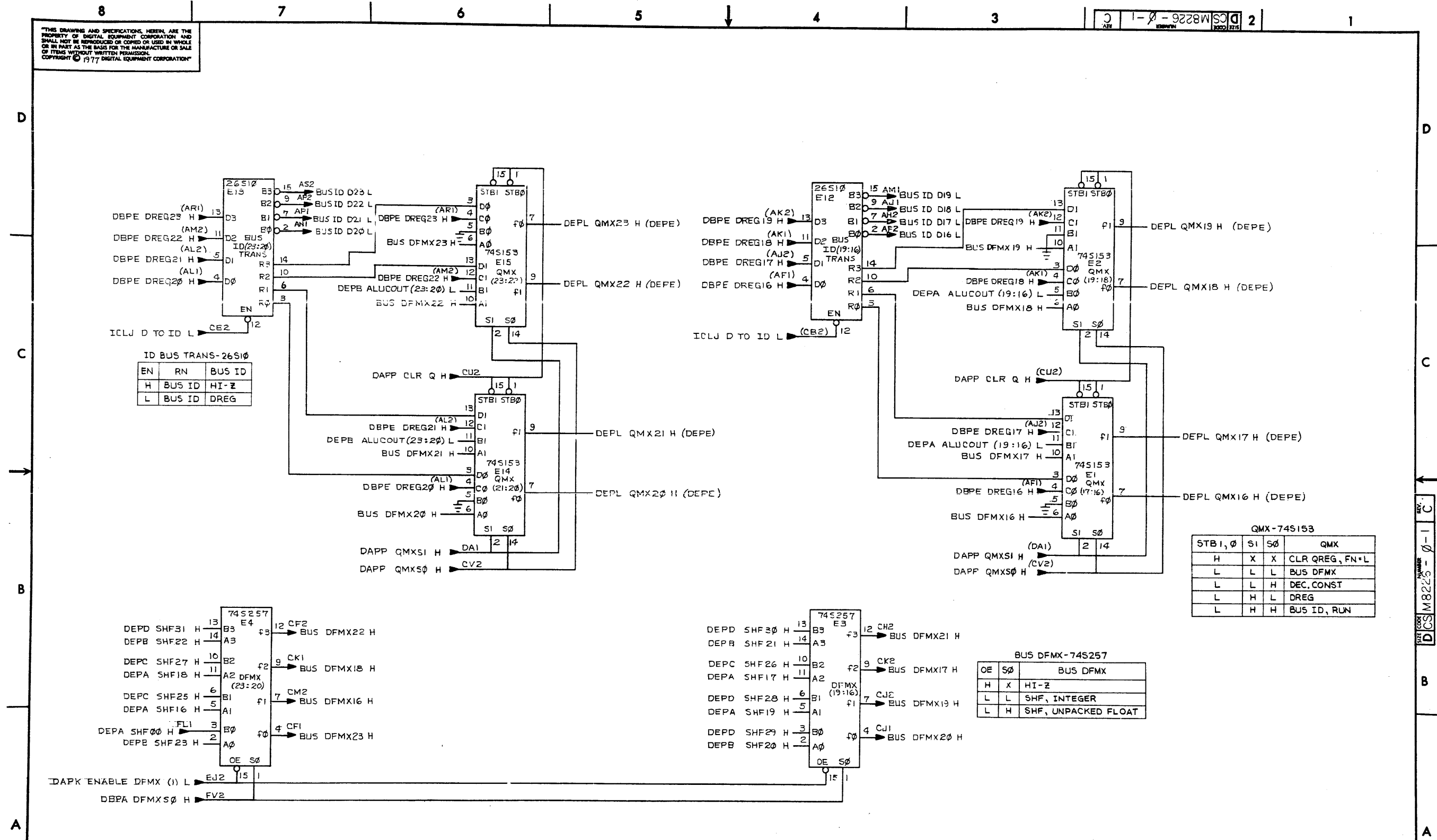


REVISIONS		
CHK	CHANGE NO.	REV.

(RE, RC 31:24 ALU BUFFERS)		(SLOT 10)	
TITLE	DATA PATH 31:16 (DEPK)	SIZE/CODE	D CSM8226-0-1
SCALE	NONE	SHEET	10 OF 16
REV.	C	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

1-0-9278W 2



ID BUS TRANS-26S10

EN	RN	BUS ID
H	BUS ID	HI-Z
L	BUS ID	DREG

QMX-74S153

STBI, 0	SI S0	QMX
H	X X	CLR QREG, FN=L
L	L L	BUS DFMX
L	L H	DEC. CONST
L	H L	DREG
L	H H	BUS ID, RUN

BUS DFMX-74S257

OE S0	BUS DFMX
H X	HI-Z
L L	SHF, INTEGER
L H	SHF, UNPACKED FLOAT

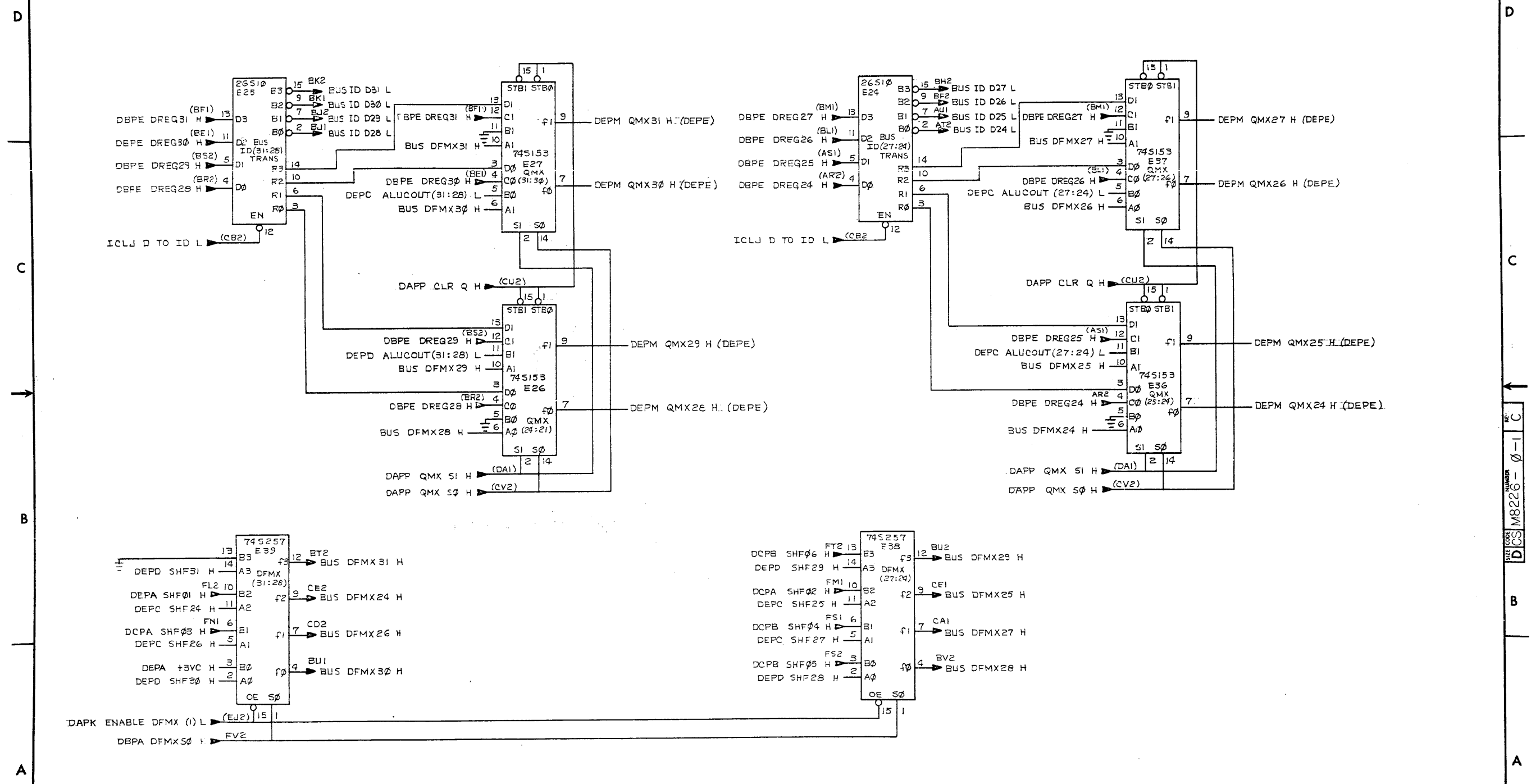
REVISIONS

CHK	CHANGE NO.	REV.

(DFMX, QMX, ID BUS TRANSCEIVERS 23:16) (SLOT 0)

TITLE	DATA PATH 31:16 (DEPL)	SIZE CODE	D	NUMBER	CSM8226-0-1	REV.	C
SCALE	NONE	SHEET	11	OF 16	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.

(DFMX QMX ID BUS TRANCEIVERS 31:24) (SLOT 10)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 31:16 (DEPM)	D	CS M8226-0-1	C
SCALE NONE	SHEET 12 OF 16	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"

PCMX-74S157

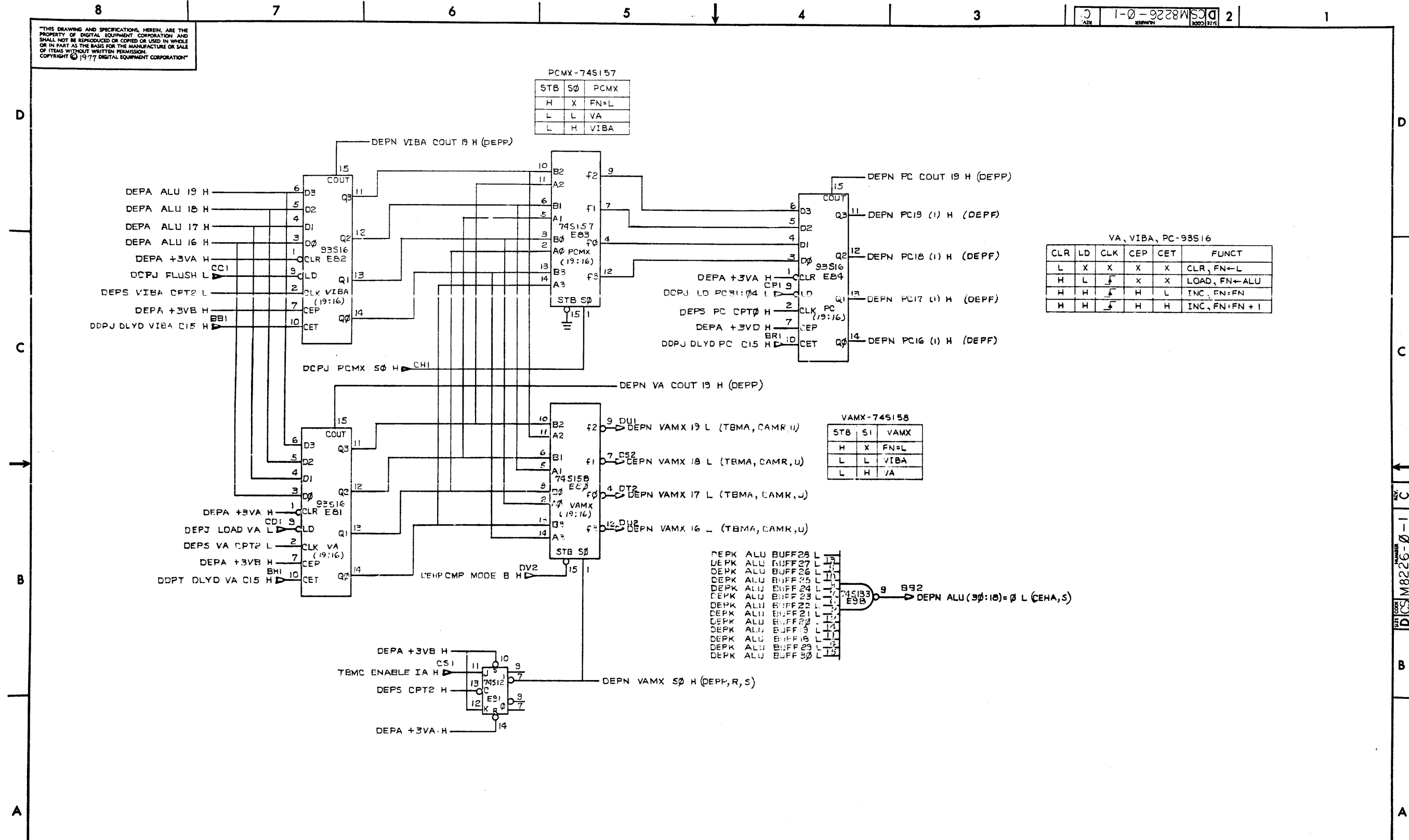
STB	S0	PCMX
H	X	FN=L
L	L	VA
L	H	VIBA

VA, VIBA, PC-93S16

CLR	LD	CLK	CEP	CET	FUNCT
L	X	X	X	X	CLR, FN=L
H	L		X	X	LOAD, FN=L
H	H		H	L	INC, FN=FN
H	H		H	H	INC, FN=FN+1

VAMX-74S158

STB	S1	VAMX
H	X	FN=L
L	L	VIBA
L	H	VA



REVISIONS

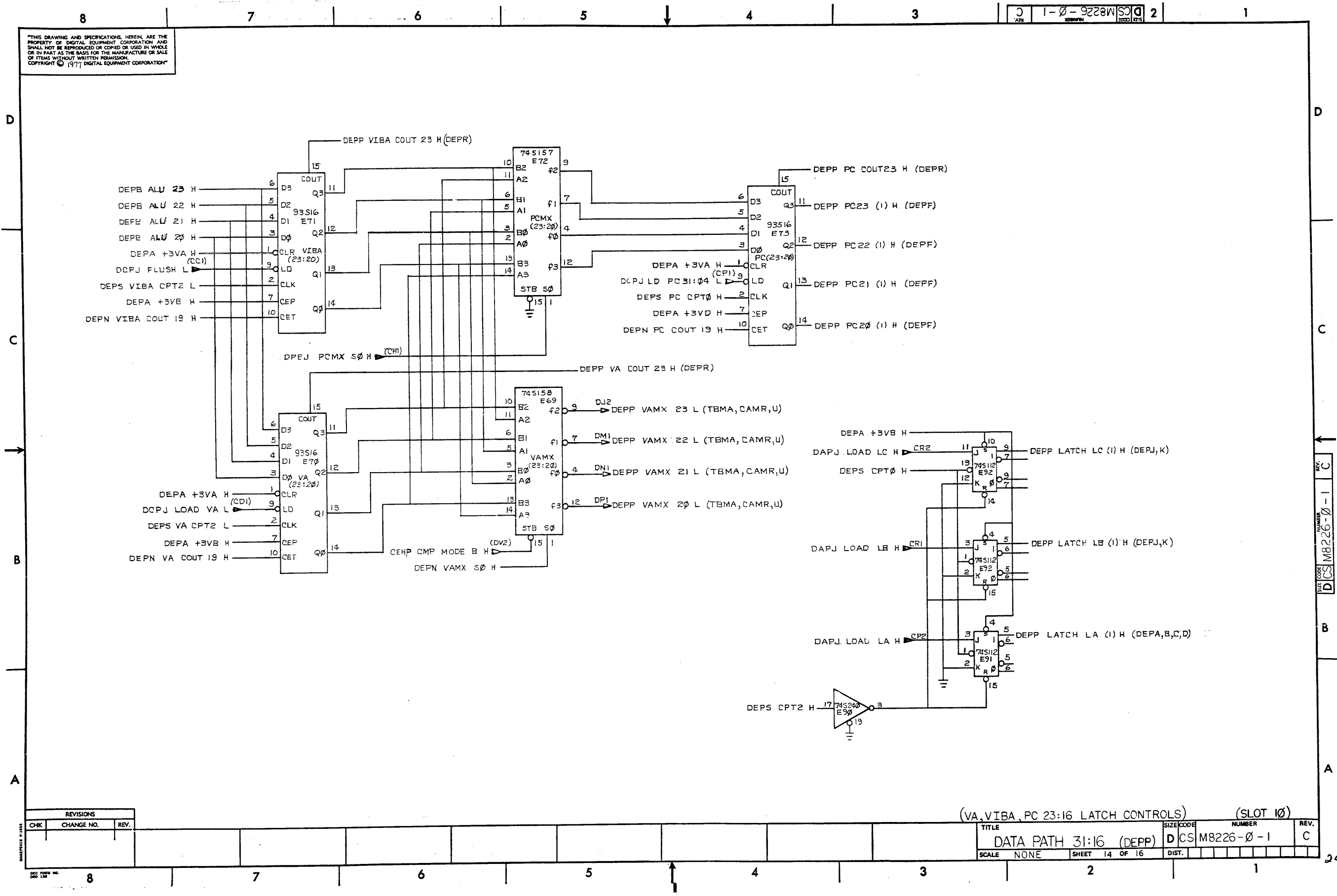
CHK	CHANGE NO.	REV.

(VA, VIBA, PC 19:16 ALU ZERO DETECT) (SLOT 10)

TITLE	DATA PATH 31:16 (DEPN)	SIZE CODE	D	CS	NUMBER	M8226-0-1	REV.	C
SCALE	NONE	SHEET	13	OF	16	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"

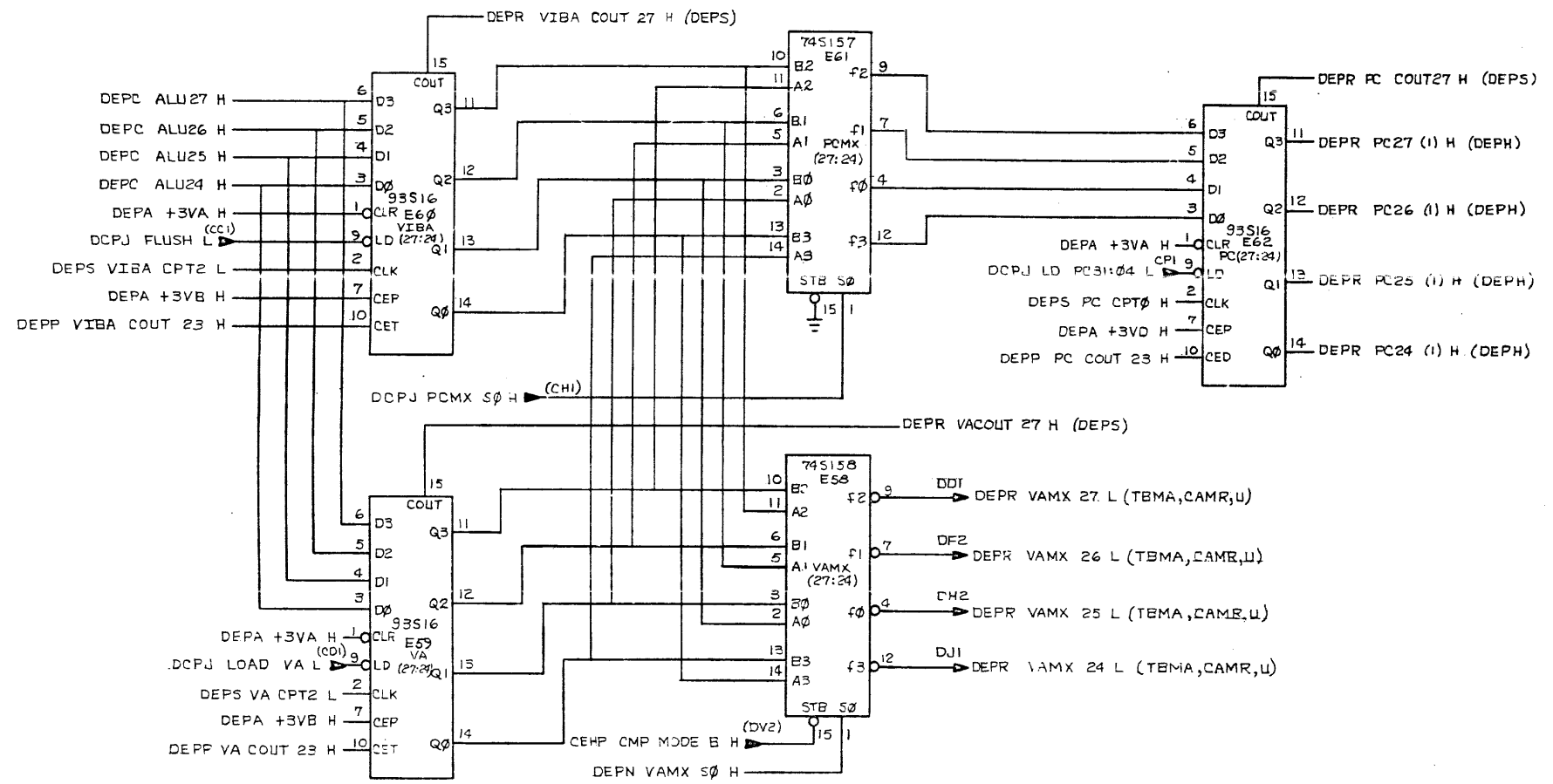


REVISIONS		
CHK	CHANGE NO.	REV.

(VA, VIBA, PC 23:16 LATCH CONTROLS) (SLOT 10)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 31:16 (DEPP)	D CS	M8226-0-1	C
SCALE NONE	SHEET 14 OF 16	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"



VA, VIBA, PC-93S16

CLR	LD	CLK	CEP	CET	FUNCT
L	X	X	X	X	CLR, FN=L
H	L	$\frac{1}{2}$	X	X	LOAD, FN=ALU
H	H	$\frac{1}{2}$	H	L	INC, FN=FN
H	H	$\frac{1}{2}$	H	H	INC, FN=FN+1

VAMX-74S158

STB	S $\emptyset$	VAMX
H	X	FN=L
L	L	VIBA
L	H	VA

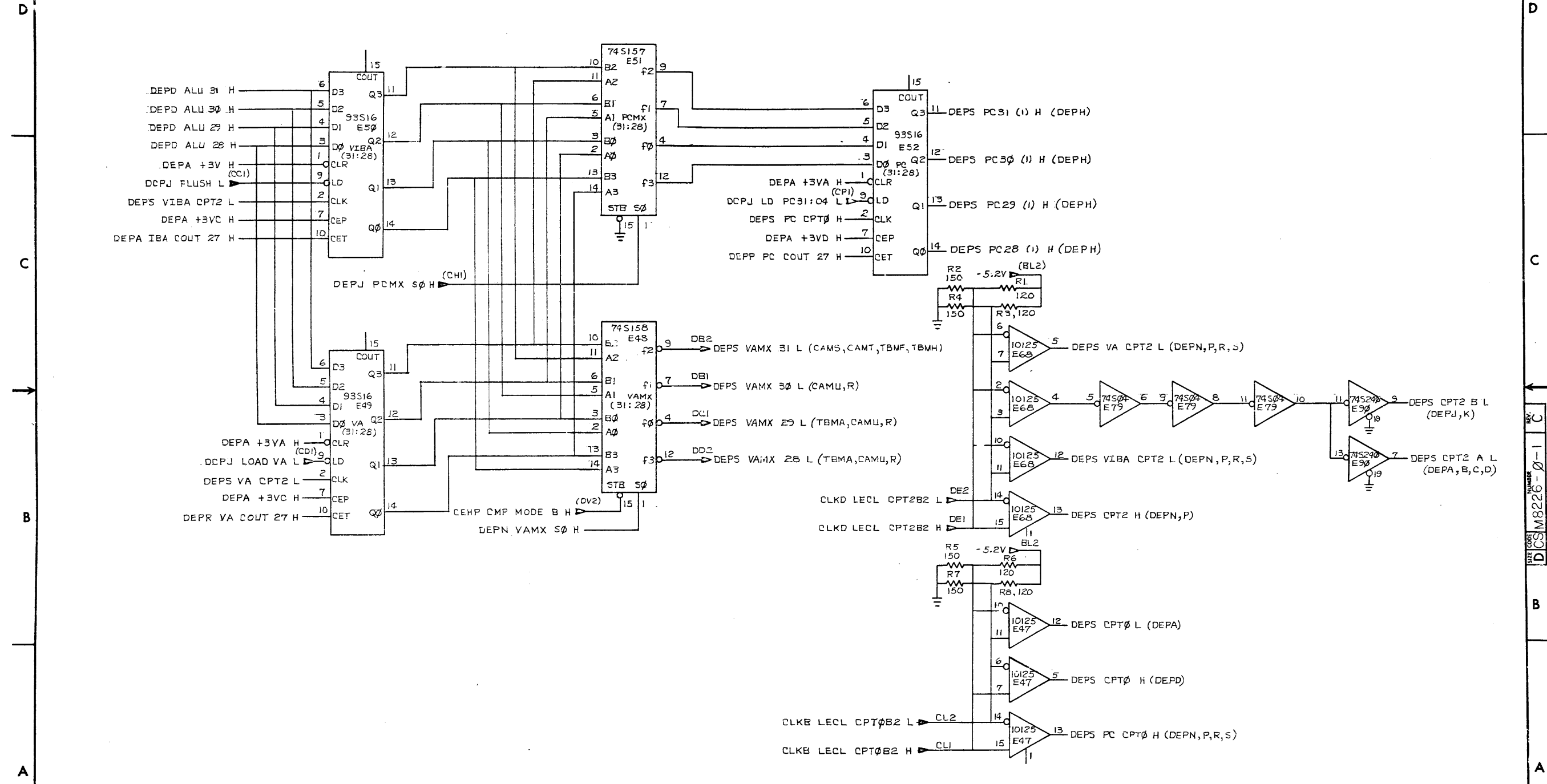
REVISIONS

CHK	CHANGE NO.	REV.

242

"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"

NOTE:  
POWER PINNING ON 10125  
+5 PIN 9  
-5 PIN 8  
GND PIN 16



REVISIONS		
CHK	CHANGE NO.	REV.

(VA, VIBA, PC 31:28 CLOCK TRANSLATORS) (SLOT 10)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 31:16 (DEPS)	D CS	M8226-0-1	C
SCALE NONE	SHEET 16 OF 16	DIST.	

COMPONENT SIDE VIEW



11.91  
30262M/A  
F.B.S.

DATE	8/24
DRW. BY	W. J. ...
CHK. BY	...
PROJ. ENG.	...
PROD. M. TERRELLA	...
SCALE	1/1
SHT. OF	3
NEXT NUMBER ASSY.	B-DD-18227-00

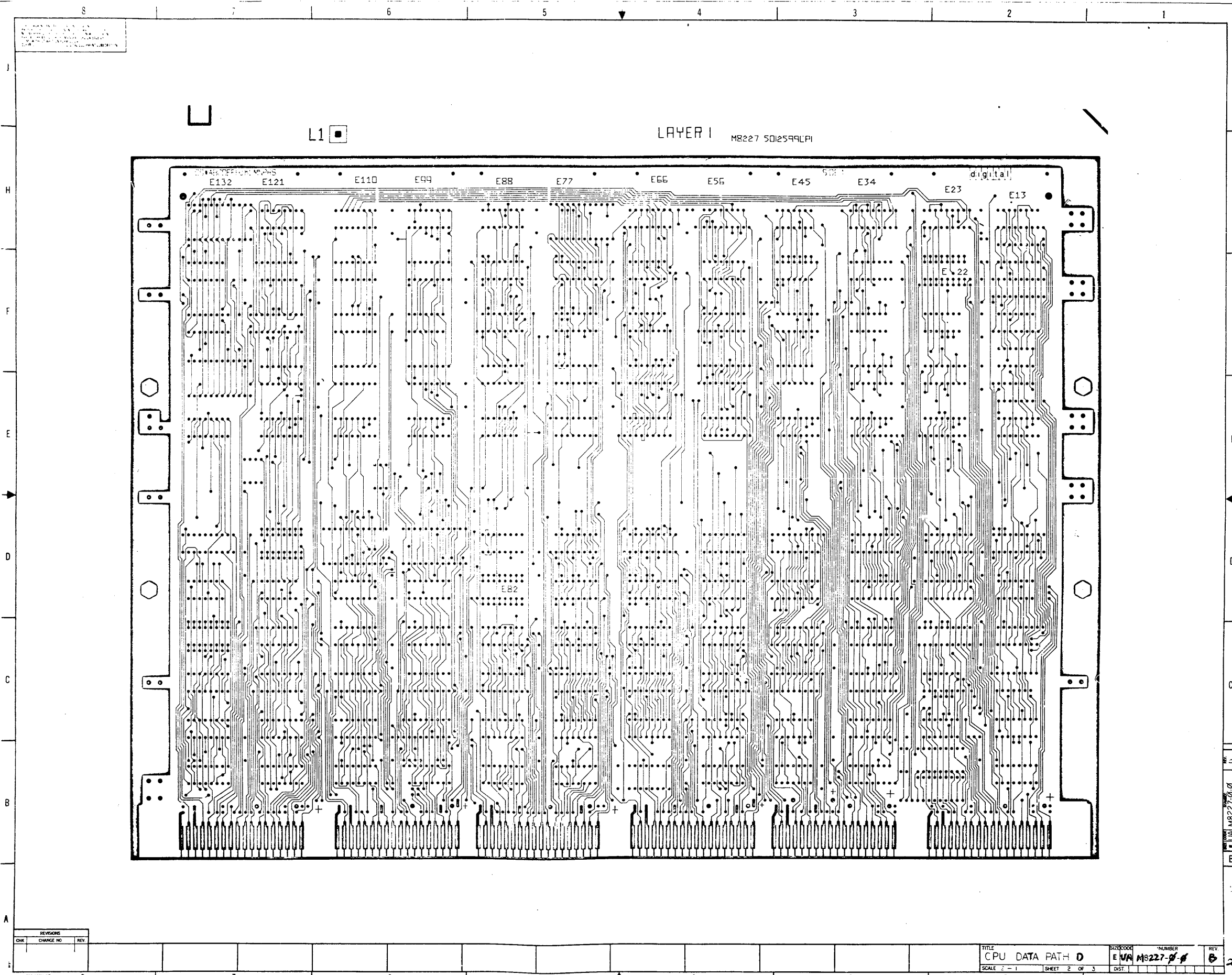
TITLE	CPU DATA PATH D
SIZE CODE	E
NUMBER	18
REV.	0
BY	...
DATE	...

REV.	0
DATE	...
BY	...
DESCRIPTION	...
REV.	1
DATE	...
BY	...
DESCRIPTION	...

CHANGE NO.	REV.
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0

NOTES:
1. ...
2. ...
3. ...
4. ...
5. ...
6. ...
7. ...
8. ...
9. ...
10. ...

1. ...

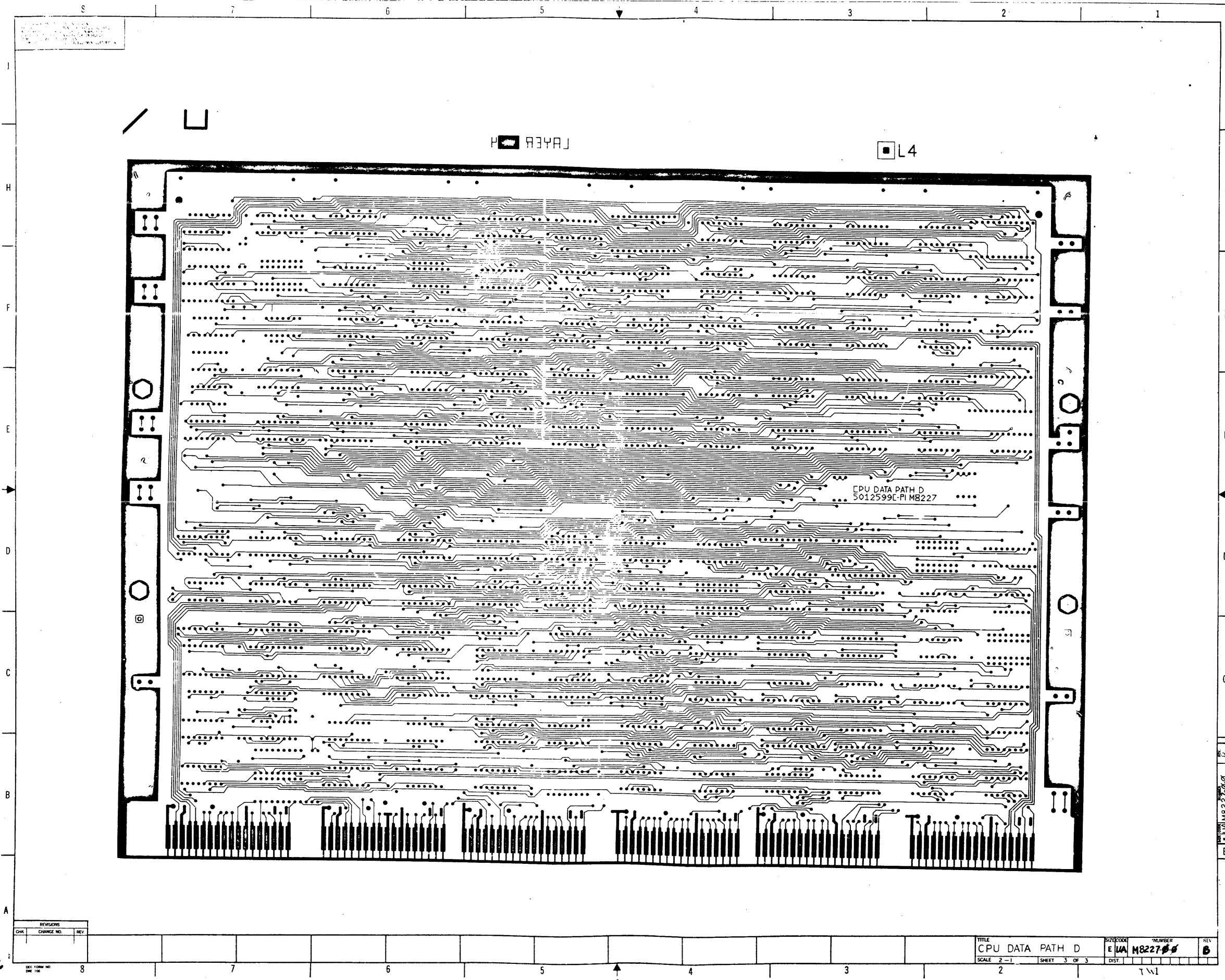


LAYER 1 M8227 501259ALPI

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	SIZE/COOR	NUMBER	REV
CPU DATA PATH D	EVA	M8227-0-0	B 215
SCALE 2-1	SHEET 2 OF 3	DIST.	1

M8227-0-0



R34AJ

L4

CPU DATA PATH D  
5012599C-PI M8227

REVISIONS		
CHK	CHANGE NO.	REV

TITLE	SIZE/SCALE	NUMBER	REV
CPU DATA PATH D	2-1	EWA M8227-00	B
SCALE 2-1 SHEET 3 OF 3		DIST.	

EWA M8227-00

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	E-MD-5012599-0-0	5012599-00 M8227	1	
2	2		1012084-01 8 MFD 25V 6% 30D AL EL (10-12	7	C1-C7
3	3		1012784-00 .047 MFD 50V X% CER. \$	40	C8-C43,C46,C48,C49,C50
4	4		1300295-00 330 1/4W 5% CC (13-00	13	R9,R11,R13,R15,R17,R19,R21, CONT R23,R25,R28,R29,R35,R39
5	5		1301424-00 680 1/4W 5% CC (13-00	4	R27,R30,R36,R40
6	6		1300247-00 120 1/4W 5% CC (13-00	4	R1,R3,R6,R8
7	7		1300250-00 150 1/4W 5% CC (13-00	4	R2,R4,R5,R7
8	8		1301775-00 820 1/4W 5% CC (13-00	9	R10,R12,R14,R16,R18,R20,R22, CONT R24,R26
9	9		1910532-00 74S00 NAND GATE-QUAD 2IN	4	E5,E21,E84,E126
10	10		1910534-00 74S04 INVERTER GATE-HEX 1IN	10	E8,E35,E42,E45,E64,E65,E97, CONT E115,E120,E131
11	11		1912389-00 74S08 AND GATE-QUAD 2IN,POS 14	2	E32,E114
12	12		1910537-00 74S11 AND GATE-TRIPLE 3INPUT	2	E15,E44
13	13		1910539-00 74S20 NAND GATE-DUAL 4INPUT	2	E3,E9
14	14		1911712-00 74S51 AND-OR GATE-INVERT DUAL 2W/2IN	1	E10
15	15		1910542-00 74S64 A-O-I XPDR GATE,4-2-3-2 14	1	E14
16	16		1910545-00 74S112 FF-JK DUAL,EDGE TRIGGER	3	E50,E51,E78
17	17		1911983-00 74S133 NAND GATE-POSITIVE 13IN	4	E43,E98,E108,E109
18	18		1911675-00 74S138 DECODER-THREE INPUT	2	E2,E52
19	19		1910956-00 74S151 MUX 1 OF 8	8	E7,E19,E30,E41,E95,E106,E117, CONT E128
20	20		1910547-00 74S153 MUX 1 OF 4 (DUAL)	19	E20,E23,E31,E34,E48,E49,E53, CONT E56,E60,E61,E62,E63,E66,E71, CONT E72,E80,E81,E86,E87
21	21	BLANK		0	
22	22		1910548-00 74S157 MUX 1 OF 2 (QUAD)	13	E57,E58,E68,E69,E73,E75,E76, CONT E85,E88,E92,E103,E118,E121
23	23		1910549-00 74S158 MUX 1 OF 2 (QUAD)	4	E4,E27,E89,E100

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		
CHK	ECD NO.	REV	FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
	00002	B	MADE BY:	F SMART	DATE: 29-MAR-78
			CHECKED:	F SMART	DATE: 29-MAR-78
			DSN.ENG.:	E ANTON	DATE: 29-MAR-78
			PROD.:	M. TERELLA	DATE: 29-MAR-78
			RESP.ENG.:	E ANTON	DATE: 29-MAR-78
			ASSY. NO.:		E-UA-M8227-0-0

\*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 \*

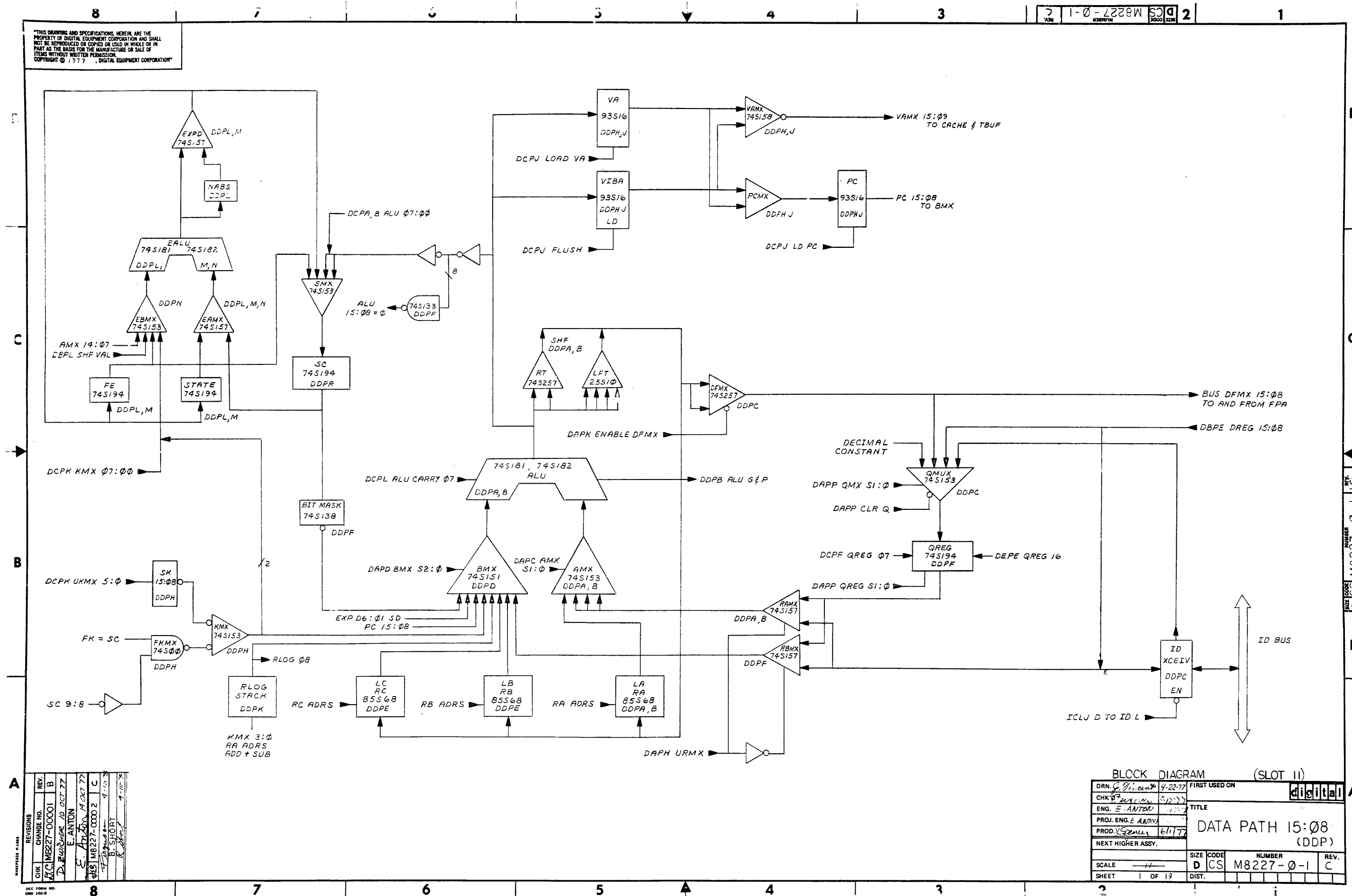
LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
24	24		1910957-00	74S175 FF-D QUAD COMMON CLOCK	4	E1,E12,E24,E25
25	25		1910531-00	DEC 74S181 ALU-4BIT	5	E77,E94,E105,E129,E132
26	26		1912097-00	SN 74S182 LOOK AND CARRY GEN	2	E83,E130
27	27		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	10	E33,E54,E55,E59,E70,E74,E96, CONT E99,E107,E110
28	28		1913493-00	74S241 OCTAL BUFFER,TRI-STATE	2	E11,E127
29	29		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E111,E113,E122,E124
30	30		1912865-00	LS283 ADDER-4BIT BINARY FULL W/FAST	1	E13
31	31		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E36
32	32		1912586-00	85S68 REGISTER,64BIT EDGE TRIG,TRIST	9	E17,E18,E26,E28,E29,E37,E38, CONT E39,E40
33	33		1913294-00	93S16 COUNTER,SYNCH UP BINARY	6	E90,E91,E93,E101,E102,E104
34	34		1912693-00	25S10 SHIFTER,4BIT TRI-STATE	2	E112,E123
35	35		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	2	E47,E79
36	36		1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	2	E46,E67
37	37		23028B1-00	B1-01	1	E119
38	38		23029B1-00	B1-01	1	E16
39	39		1913462-00	74S240 OCTAL BUFFER,INVERTING TRI-STA	1	E6
40	40		1210711-02	HANDLE ASSY,MOD DOEHLER-JARVIS	1	
41	41		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	

42 NOTE: IC SPARES E22,E82,E116,E125

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE CPU DATA PATH D	PARTS LIST	SIZE K	CODE PL	DOCUMENT NUMBER M8227-0-DBP	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"



REV.	CHG.	NO.	DATE	BY	CHK.
B	1	1	10 OCT 77	E. ANTON	
C	2	1	11 OCT 77	B. SHURT	
D	3	1	11 OCT 77	B. SHURT	

BLOCK DIAGRAM (SLOT 11)		FIRST USED ON	
DRN. G. P. ...	4-22-77	digital	
CHK. E. ANTON	...	TITLE	
ENG. E. ANTON	...	DATA PATH 15:08	
PROJ. ENGR. ARTHUR	...	(DDP)	
PROD. GEN. 61177	...	SIZE CODE NUMBER REV.	
NEXT HIGHER ASSY.	...	D CS	M8227-0-1 C
SCALE	1 OF 19	SHEET	

8 7 6 5 4 3 2 1  
 C C C B B A  
 DCS M8227-0-1 C  
 249

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

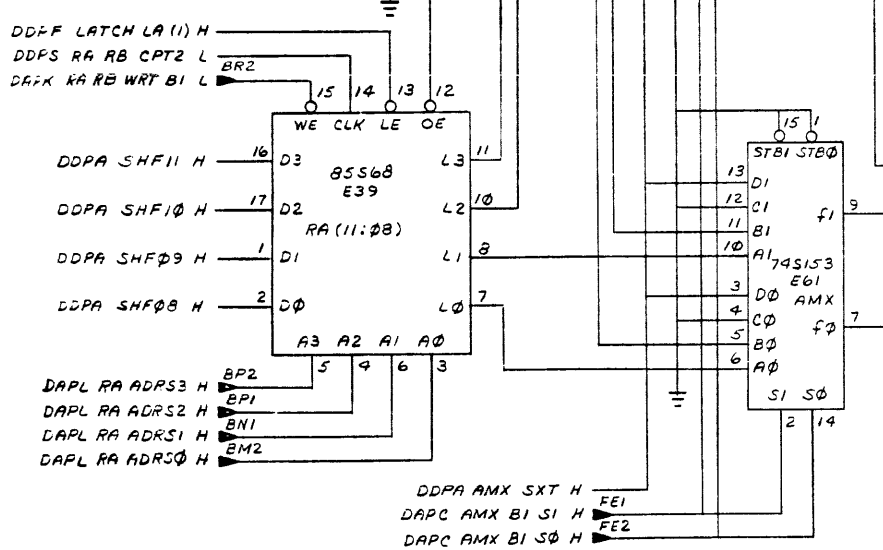
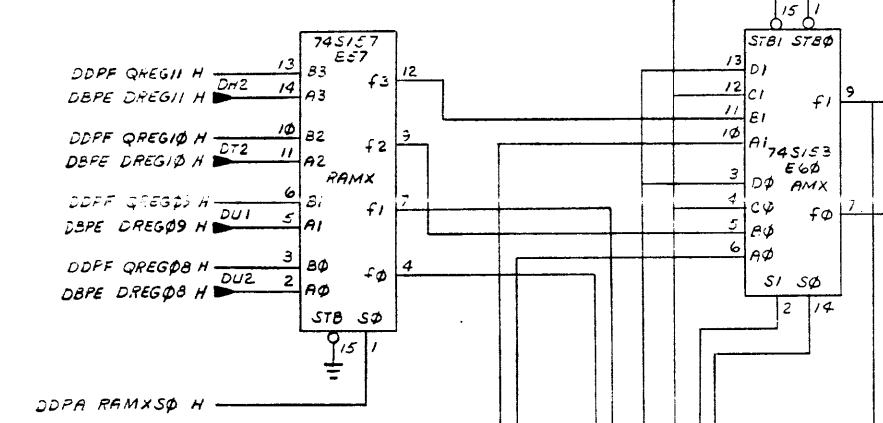
8 7 6 5 4 3 2 1

RAMX - 74S157

STB	S0	RAMX
H	X	FN=L
L	L	DRES
L	H	QREG

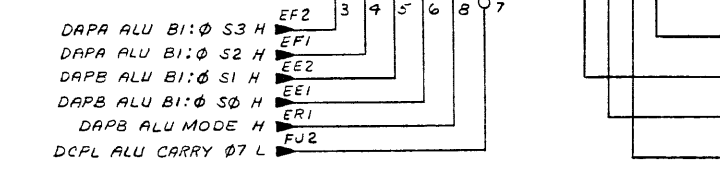
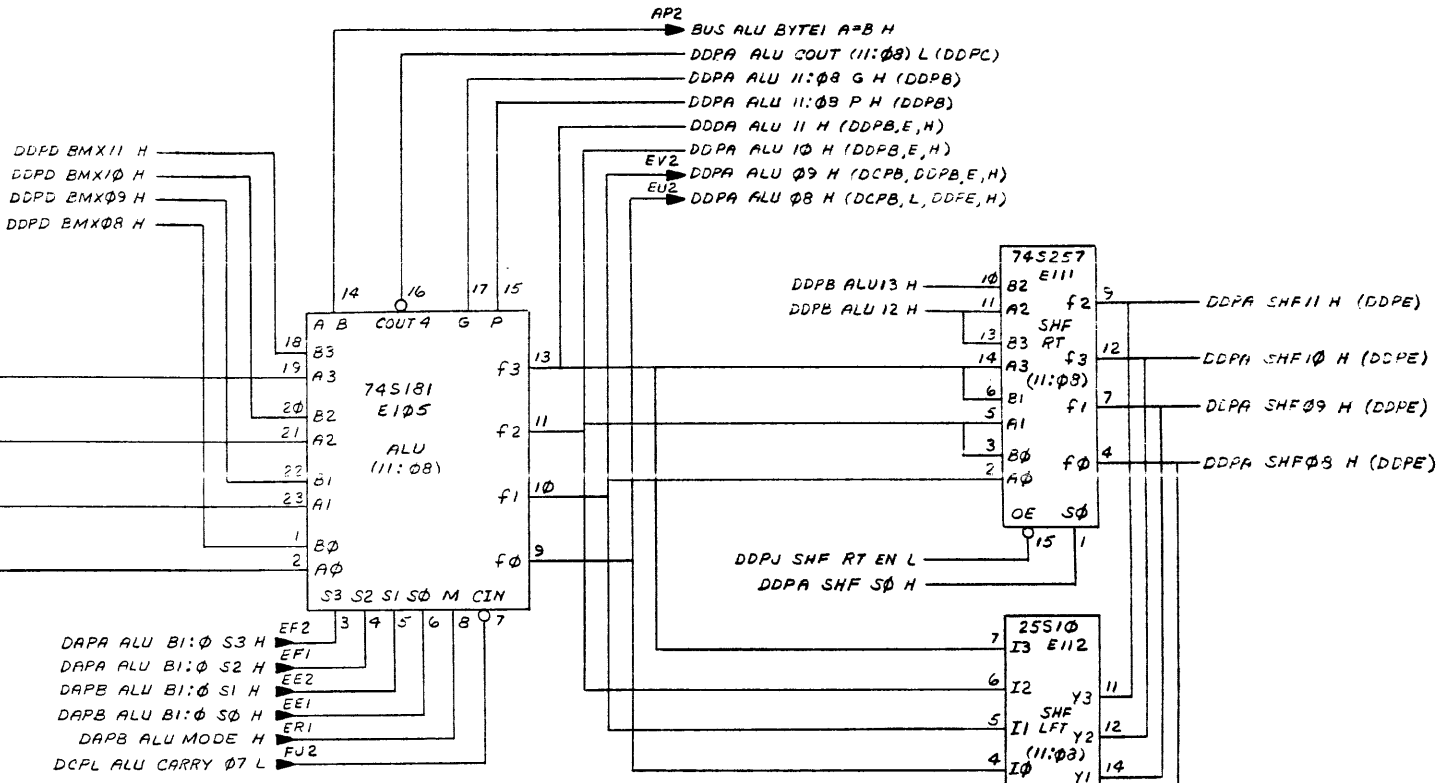
74S153

STB1,0	SI	S0	FN
H	X	X	FN=L
L	L	L	FN=A
L	L	H	FN=B
L	H	L	FN=C
L	H	H	FN=D



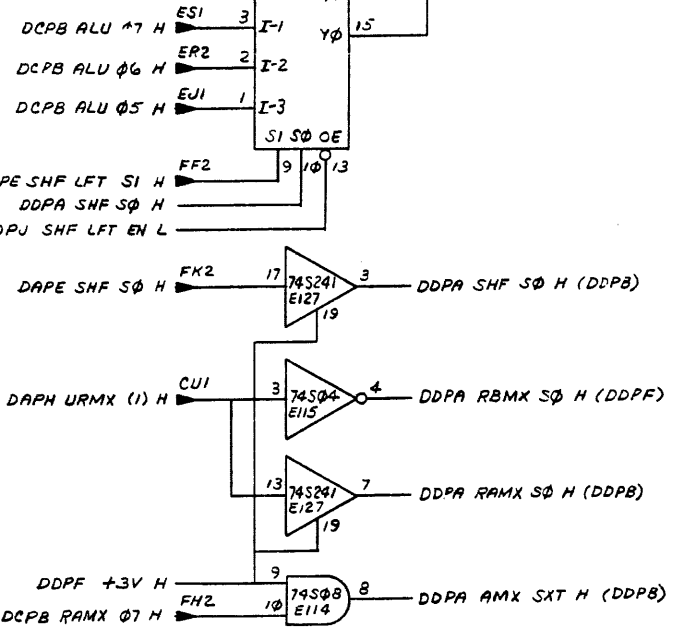
RA - 85S68

LE	WE	CLK	RA FUNCT
H	H	X	NO OPER.
H	L	F	STORE, RN ← SHF
F	H	X	LATCH, LA ← (RN)



ALU FUNCT - 74S181

SELECTION	M=L LOGIC FUNCTIONS	ACTIVE HIGH DATA	
		M=L ARITHMETIC OPERATIONS	
		C <sub>n</sub> = H (NO CARRY)	C <sub>n</sub> = L (WITH CARRY)
L L L L	F = A	F = A	F = A PLUS 1
L L L H	F = A+B	F = A+B	F = (A+B) PLUS 1
L L H L	F = A+B	F = A+B	F = (A+B) PLUS 1
L L H H	F = 0	F = MINUS 1 (2'S COMPL)	F = ZERO
L H L L	F = A+B	F = A PLUS A	F = A PLUS A PLUS 1
L H L H	F = A+B	F = (A+B) PLUS A	F = (A+B) PLUS A PLUS 1
L H H L	F = A+B	F = A MINUS B MINUS 1	F = A MINUS B
L H H H	F = A+B	F = A MINUS 1	F = A
H L L L	F = A+B	F = A PLUS AB	F = A PLUS AB PLUS 1
H L L H	F = A+B	F = A PLUS B	F = A PLUS B PLUS 1
H L H L	F = B	F = (A+B) PLUS AB	F = (A+B) PLUS AB PLUS 1
H L H H	F = AB	F = AB MINUS 1	F = AB
H H L L	F = 1	F = A PLUS A	F = A PLUS A PLUS 1
H H L H	F = A+B	F = (A+B) PLUS A	F = (A+B) PLUS A PLUS 1
H H H L	F = A+B	F = (A+B) PLUS A	F = (A+B) PLUS A PLUS 1
H H H H	F = A	F = A MINUS 1	F = A



(RA, RAMX, ALU, SHF 11:08) (SLOT 11)

REVISIONS

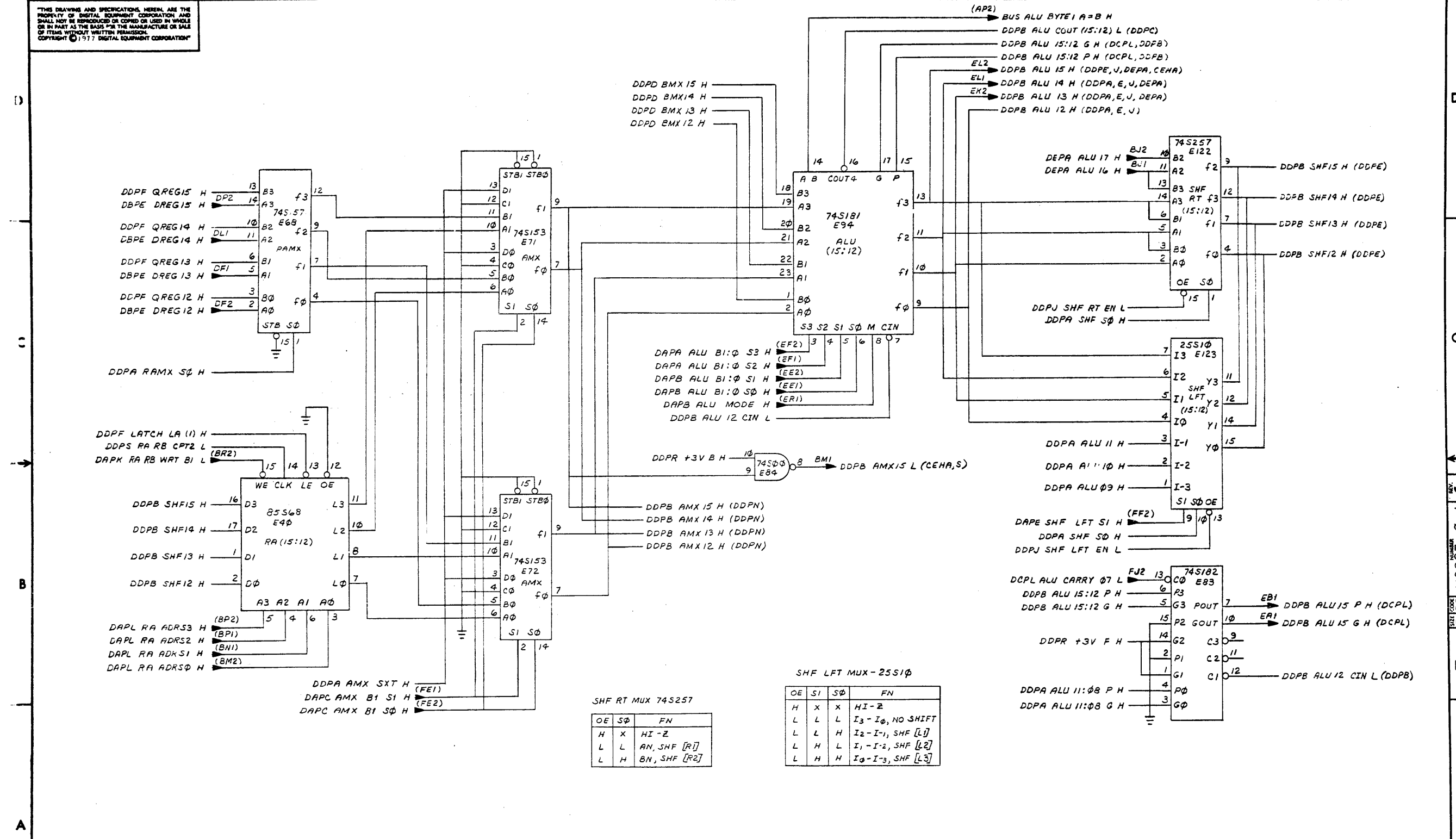
CHK	CHANGE NO.	REV.

TITLE DATA PATH 15:08 (DDPA) SIZE CODE DCS M8227-0-1 C

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 15:08 (DDPA)	DCS	M8227-0-1	C
SCALE	SHEET	DIST.	
	2 OF 19		

250

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.

(RA, RAMX, ALU, SHF 15:12)

(SLOT 11)

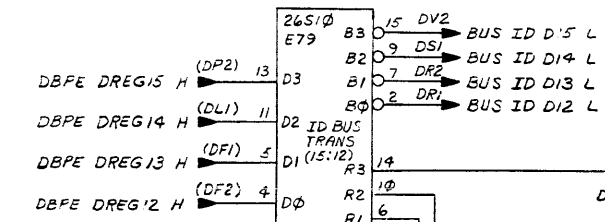
TITLE DATA PATH 15:08 (DDPB) SIZE CODE DCS NUMBER M8227-0-1 C

SCALE SHEET 3 OF 19 DIST.

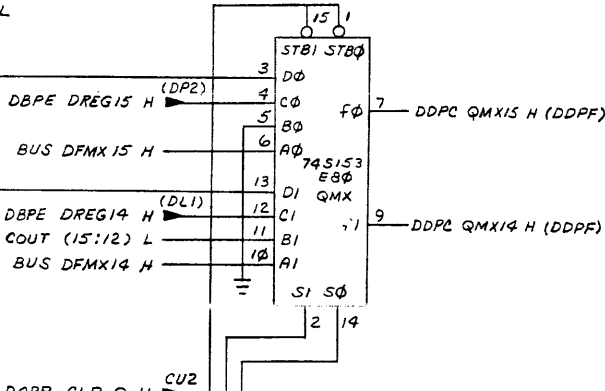
REV. 08 M8227-0-1 C

"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"

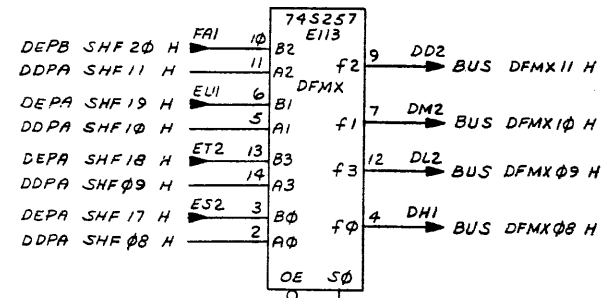
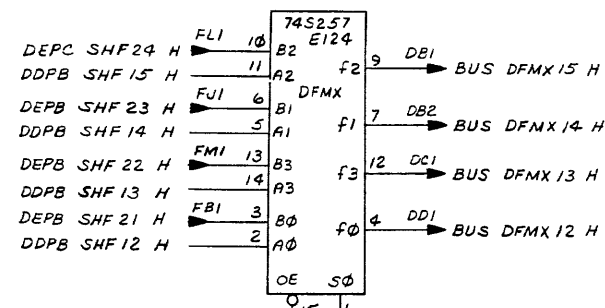
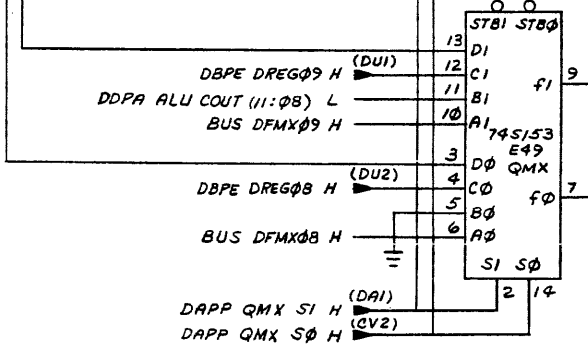
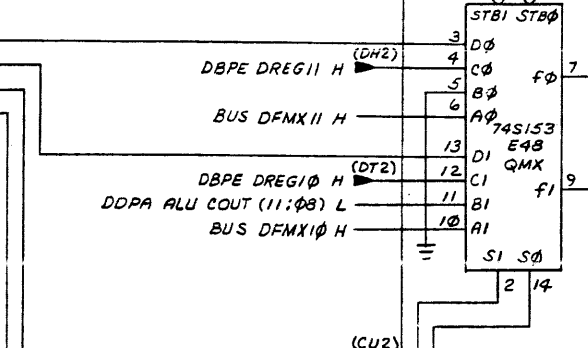
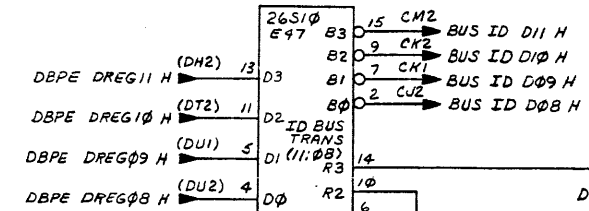
1-0-1-0-12228W DCS 2



EN	RN	BUS ID
H	BUS ID	HI-Z
L	BUS ID	DREG



SI	S0	CLR	QMX
X	X	H	CLR QREG, FN=L
L	L	L	BUS DFMX
L	H	L	DECIMAL CONSTANT
H	L	L	DREG
H	H	L	ID BUS, RN



OE	S0	BUS DFMX
H	X	HI-Z
L	L	SHF, INTEGER
L	H	SHF, UNPACKED FLOAT

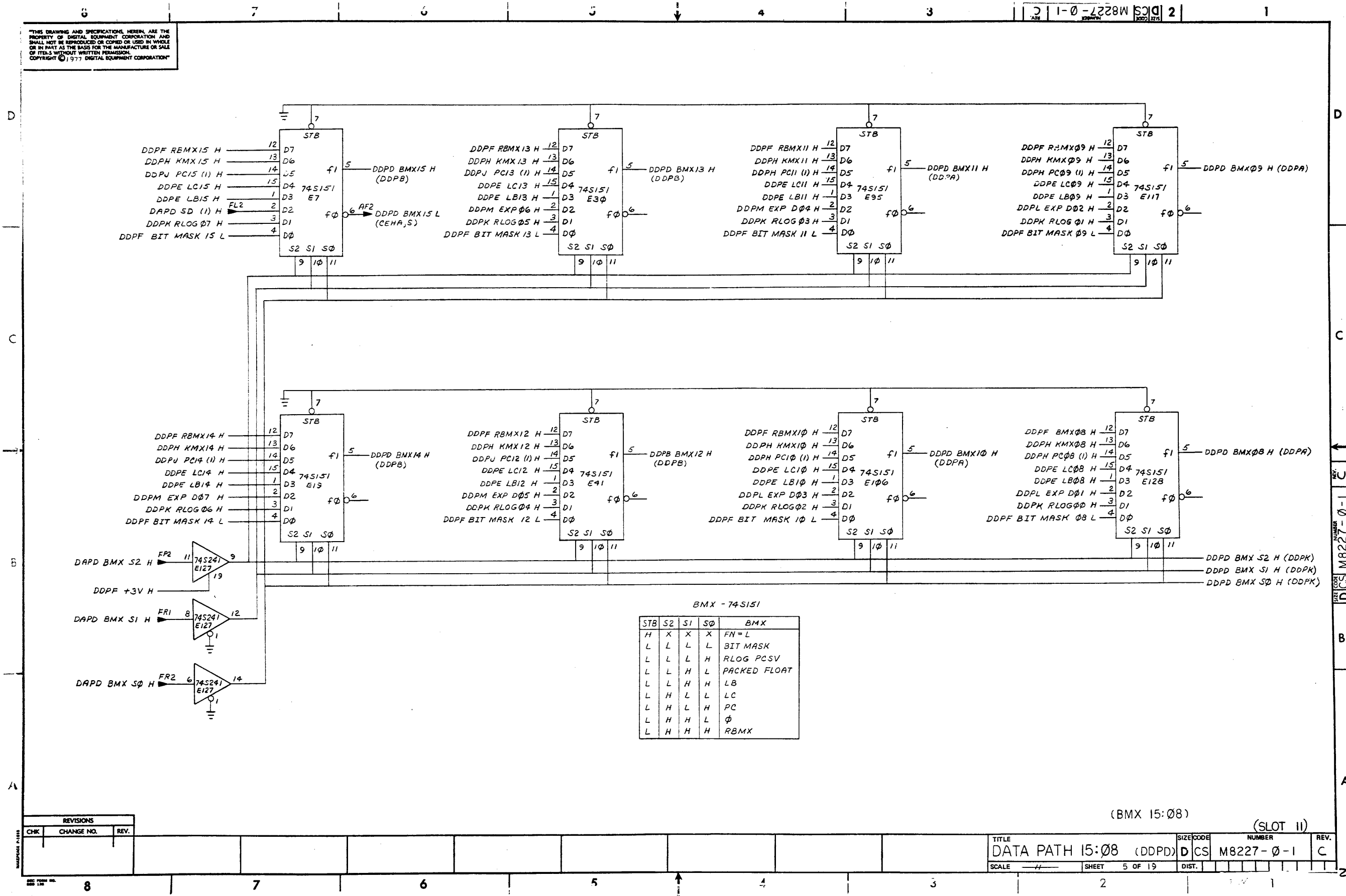
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE DATA PATH 15:08 (DDPC) SIZE CODE DCS NUMBER M8227-0-1 C REV. SCALE H SHEET 4 OF 19 DIST.

QMX, DFMX, ID BUS 15:08 (SLOT 11)

252

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



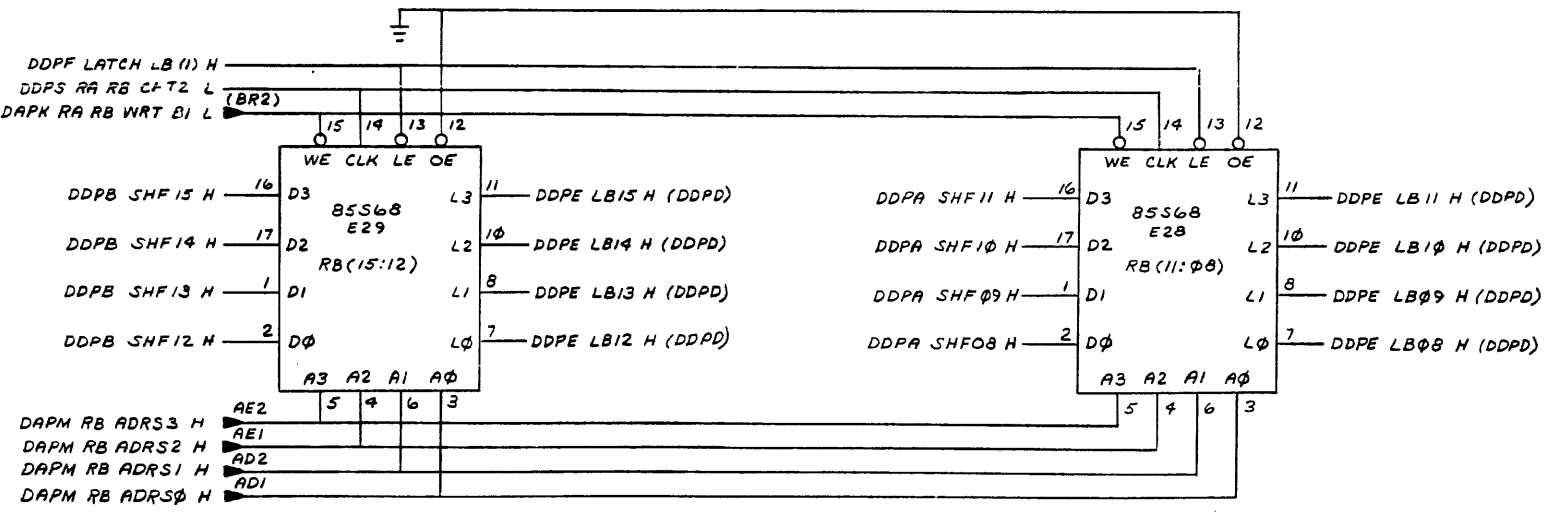
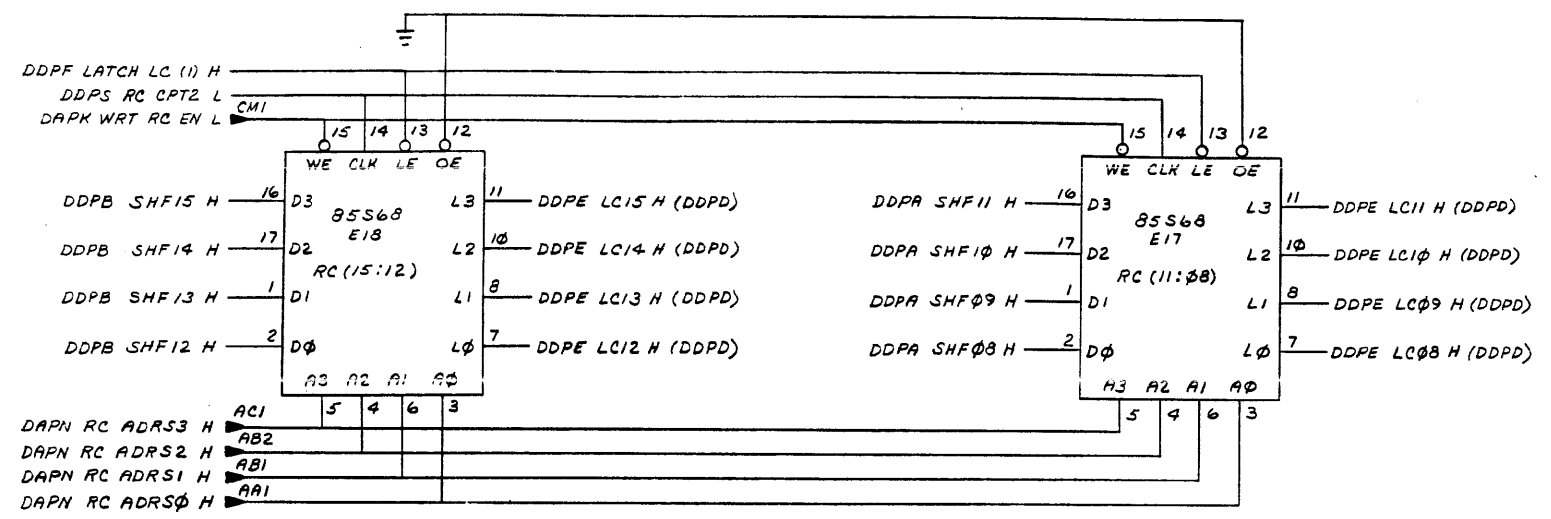
REVISIONS		
CHK	CHANGE NO.	REV.

(BMX 15:08) (SLOT II)

TITLE	DATA PATH 15:08 (DDPD)	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE	1/4"	SHEET	5 OF 19	DIST.			

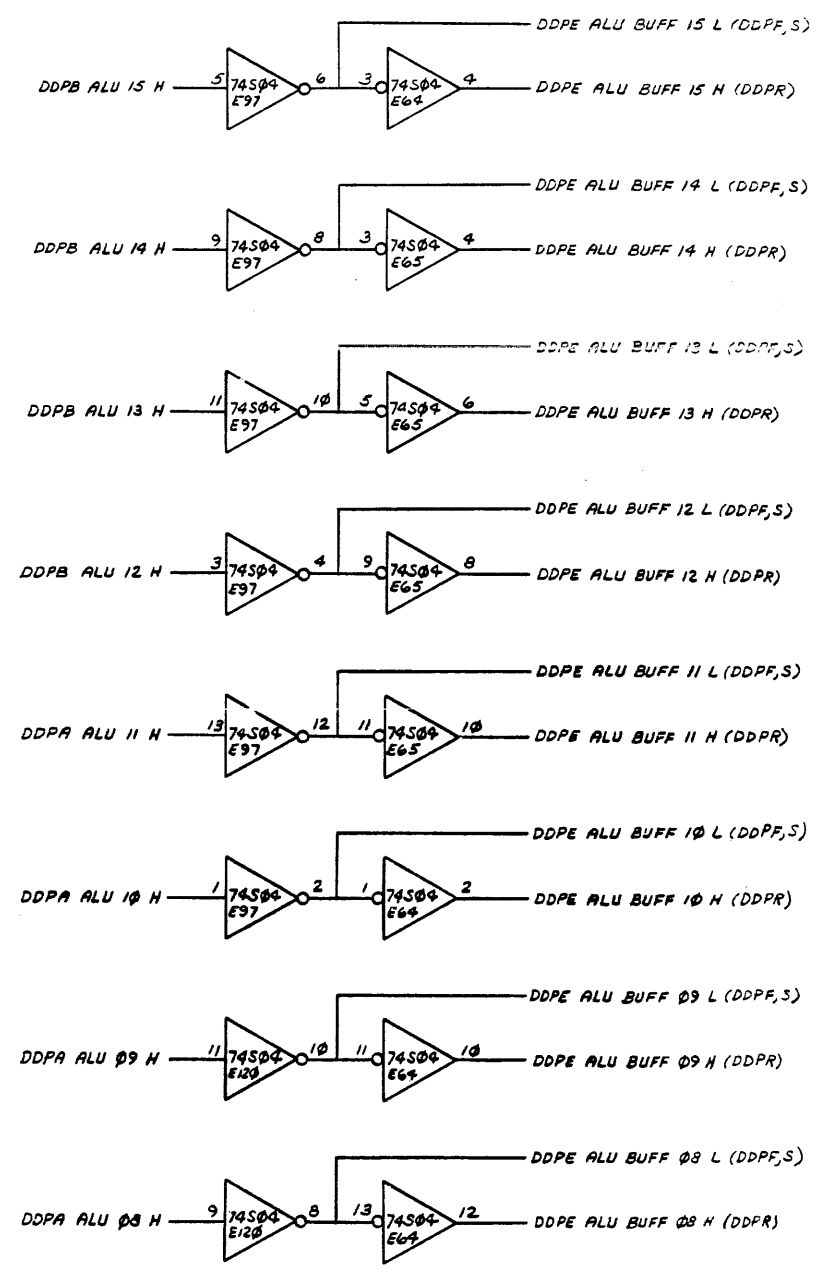
D E C S M8227-0-1 C

"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"



RB,RC- 85S68

LE	WE	CLK	FUNCT
H	H	X	NO OPER.
H	L	5	STORE, RN ← SHF
7	H	X	LATCH, LB, LC ← (RN)

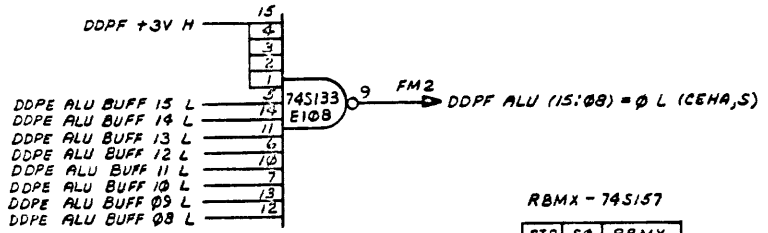
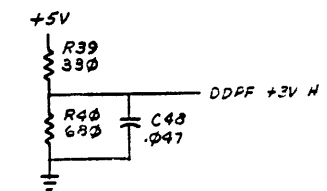
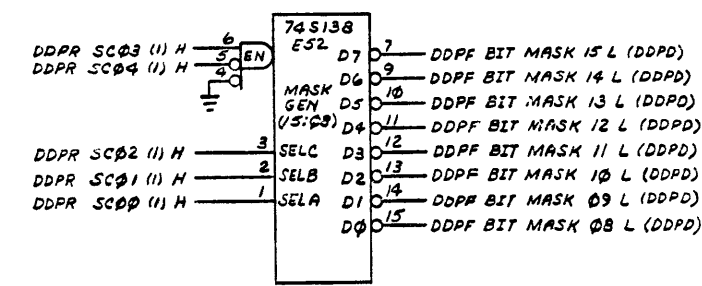
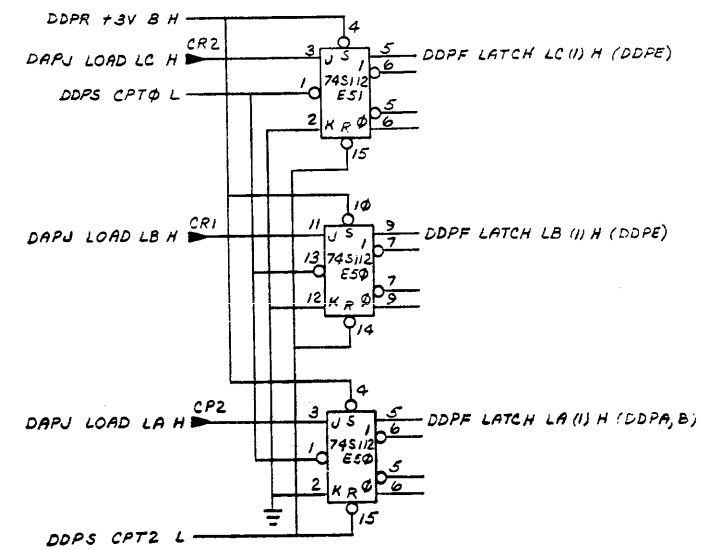
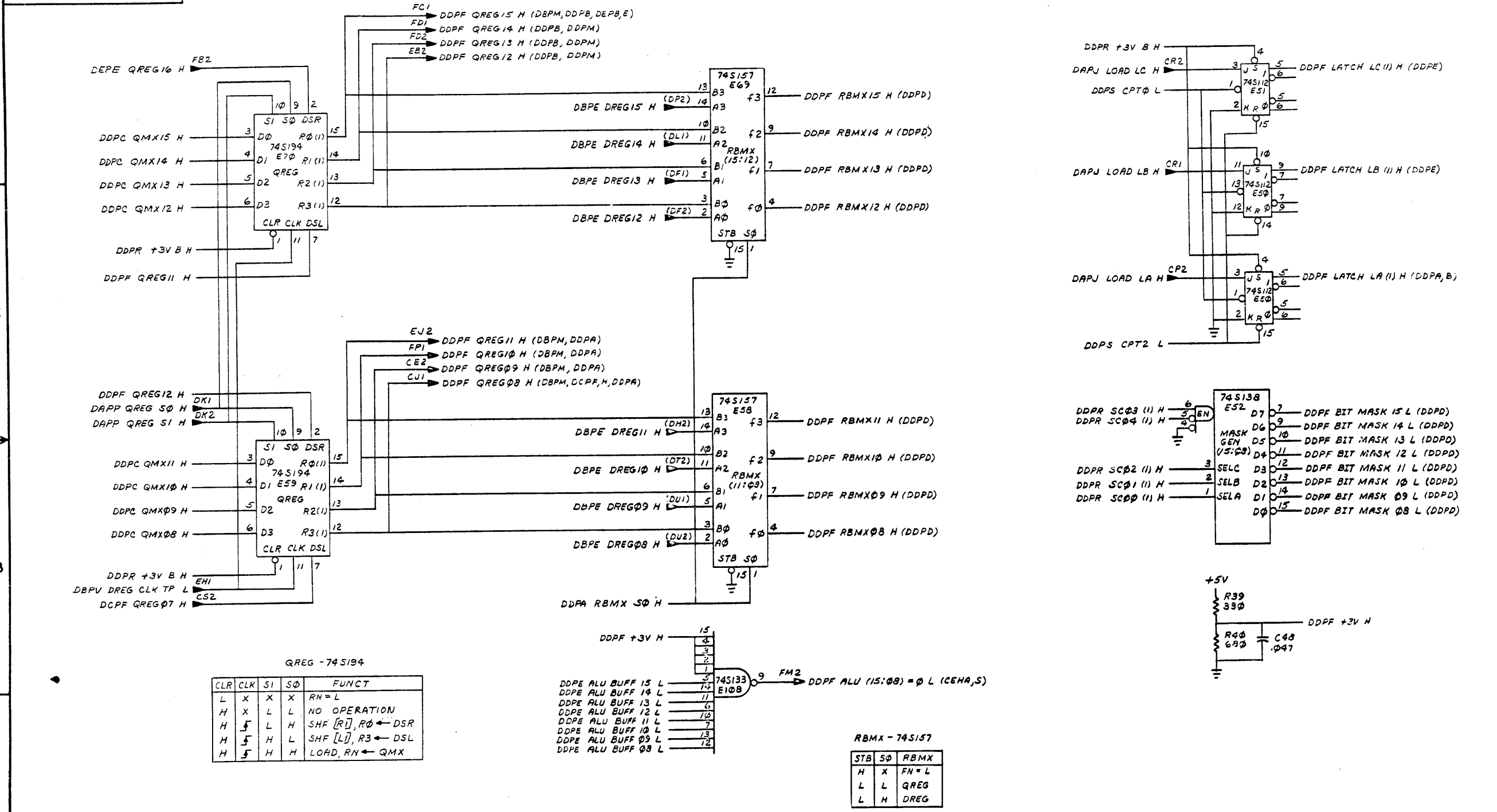


(ALU BUFFERS RB & RC 15:08) (SLOT 1)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA PATH 15:08 (DDPE)	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE		SHEET	6 OF 19	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		
CHR	CHANGE NO.	REV.

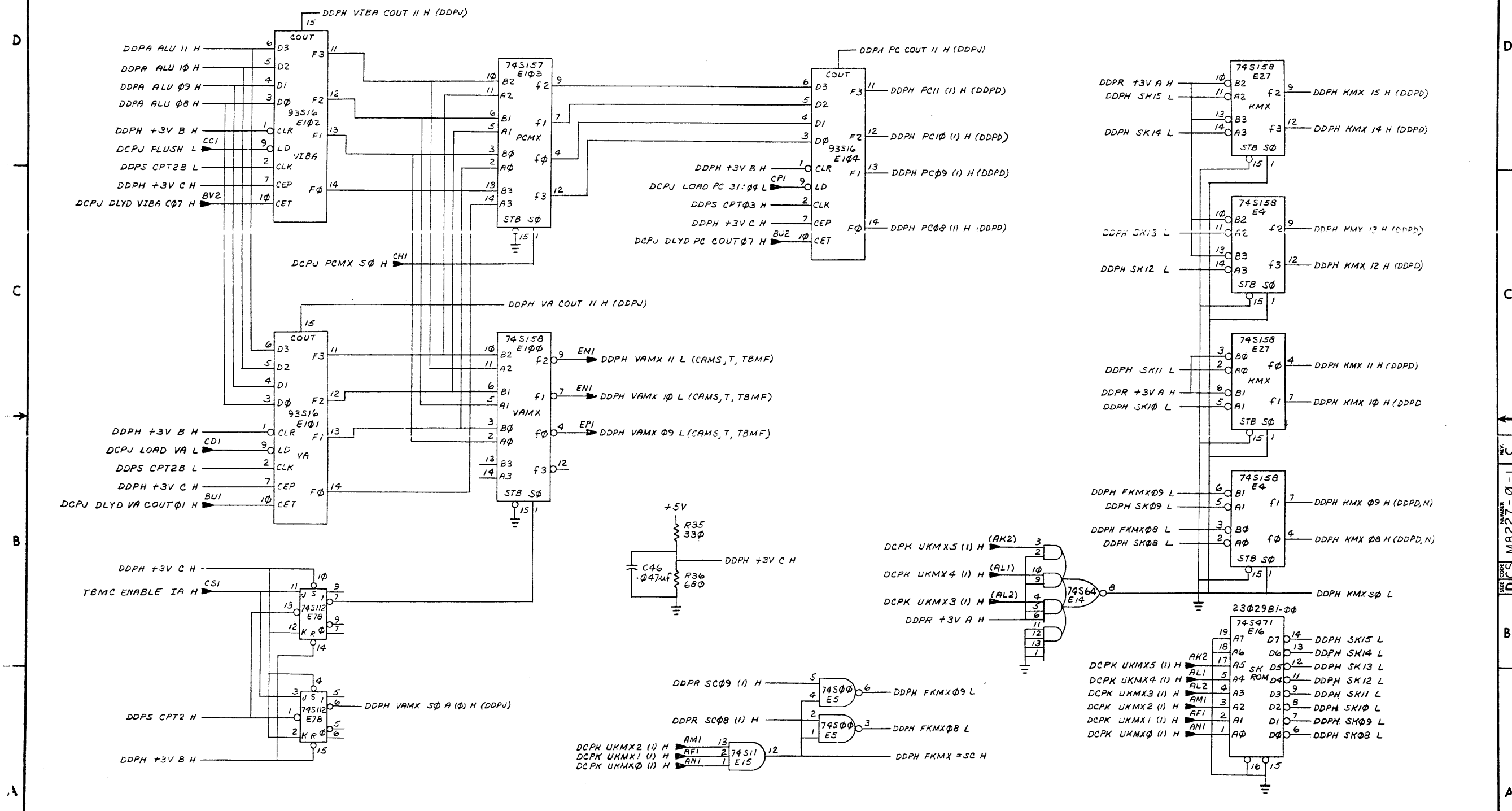
(QREG RBMX & MASK) (SLOT 11)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 15:08 (DDPF)	DCS	M8227-0-1	C
SCALE	SHEET	DIST.	
	7 OF 19		

255

"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"

M8227-0-1 2



(SLOW CONSTANTS VA, VIBA, PC 11:08) (SLOT 11)

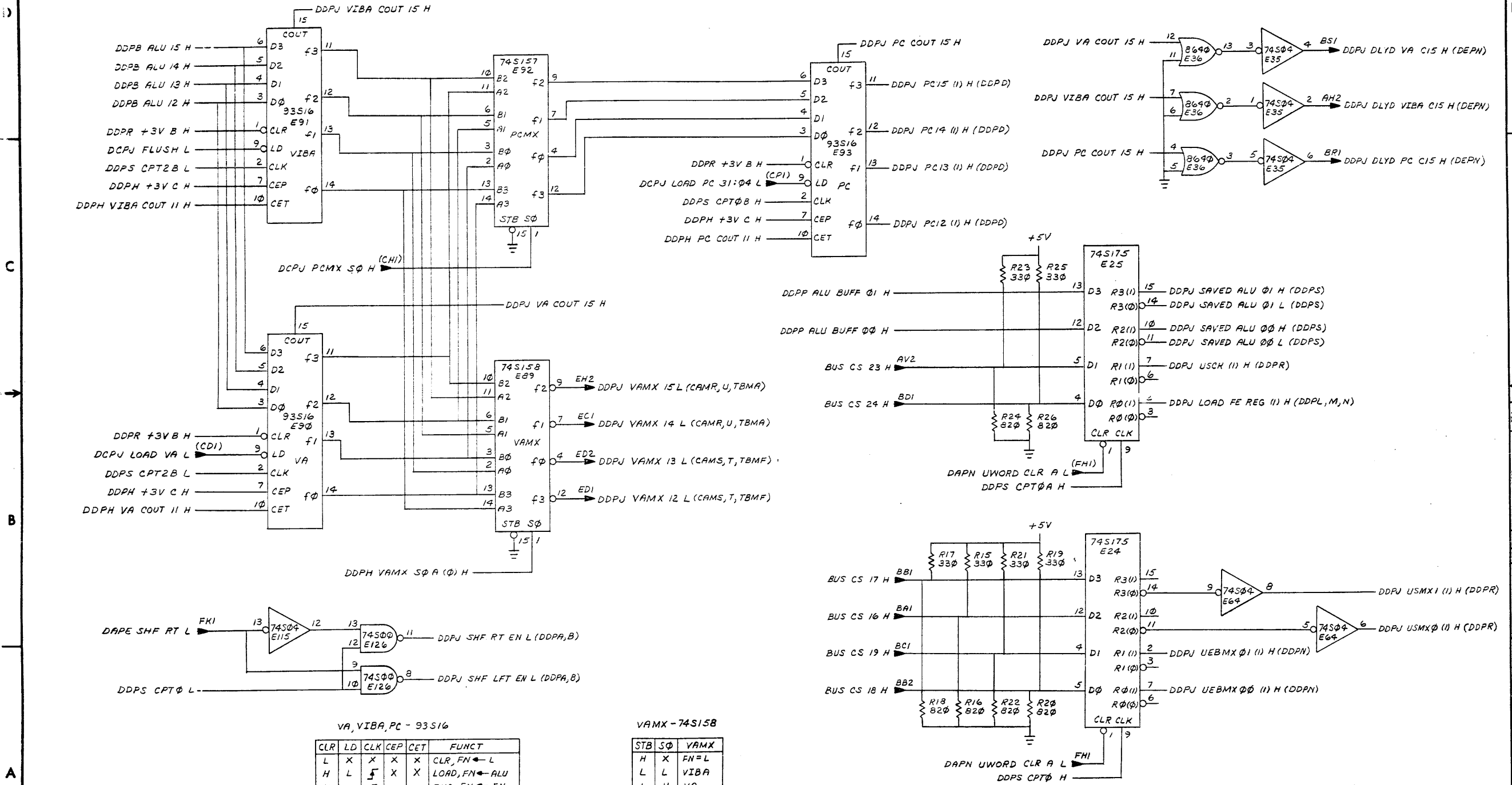
TITLE	DATA PATH 15:08 (DDPH)	SIZE	CODE	NUMBER	REV.
SCALE		SHEET	8 OF 19	DIST.	

REVISIONS		
CHK	CHANGE NO.	REV.

250 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"



VA, VIBA, PC - 93S16

CLR	LD	CLK	CEP	CET	FUNCT
L	X	X	X	X	CLR, FN ← L
H	L	5	X	X	LOAD, FN ← ALU
H	H	5	H	L	INC, FN ← FN
H	H	5	H	H	INC, FN ← FN+1

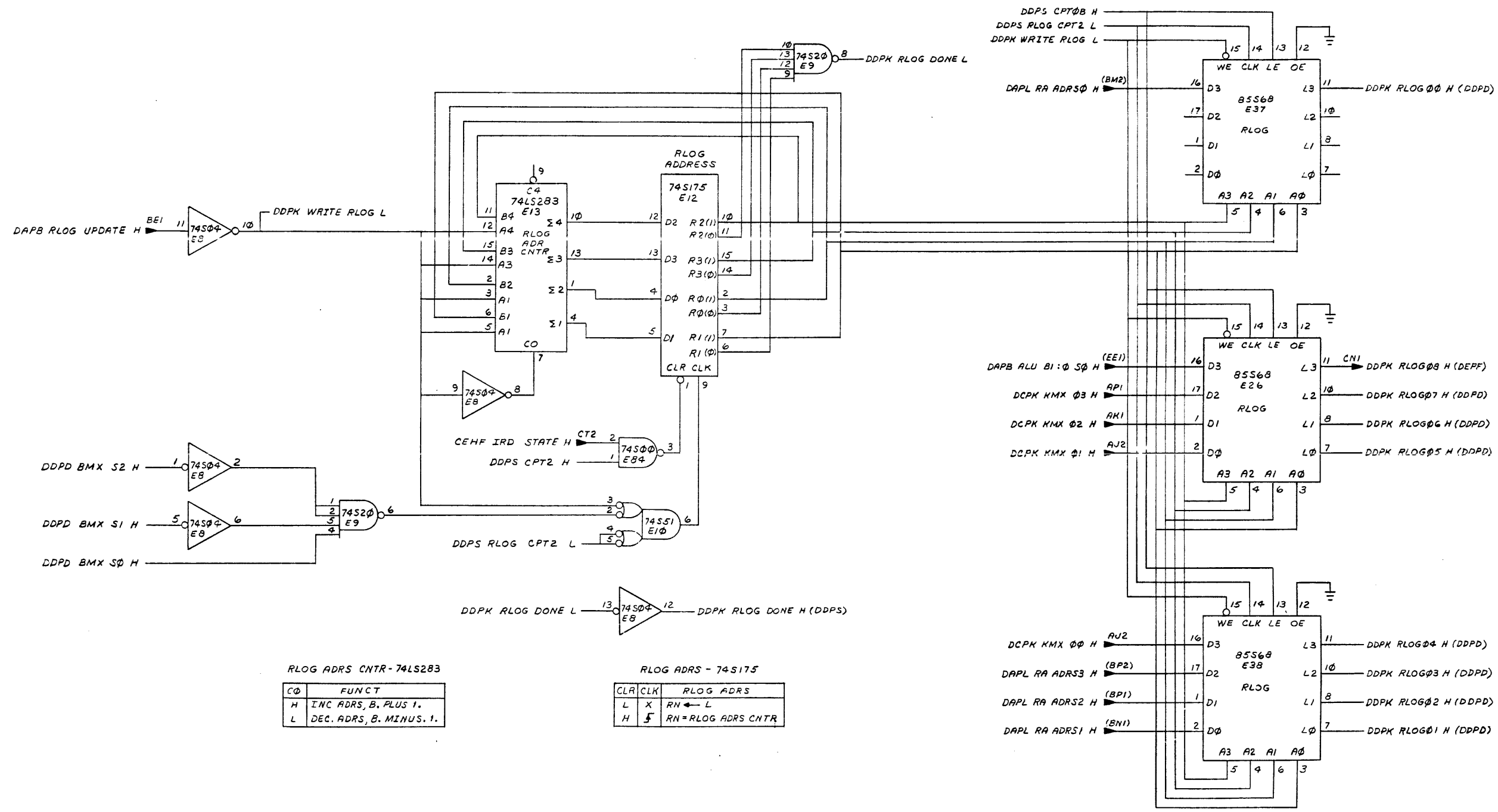
VAMX - 74S158

STB	S0	VAMX
H	X	FN=L
L	L	VIBA
L	H	VA

REVISIONS		
CHK	CHANGE NO.	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"

1-0-2220W SC 2



RLOG ADRS CNTR - 74LS283

CO	FUNCT
H	INC ADRS, B. PLUS 1.
L	DEC. ADRS, B. MINUS 1.

RLOG ADRS - 74S175

CLR	CLK	RLOG ADRS
L	X	RN ← L
H	5	RN = RLOG ADRS CNTR

(RLOG STACK) (SLOT 11)

REVISIONS		
CHK	CHANGE NO.	REV.

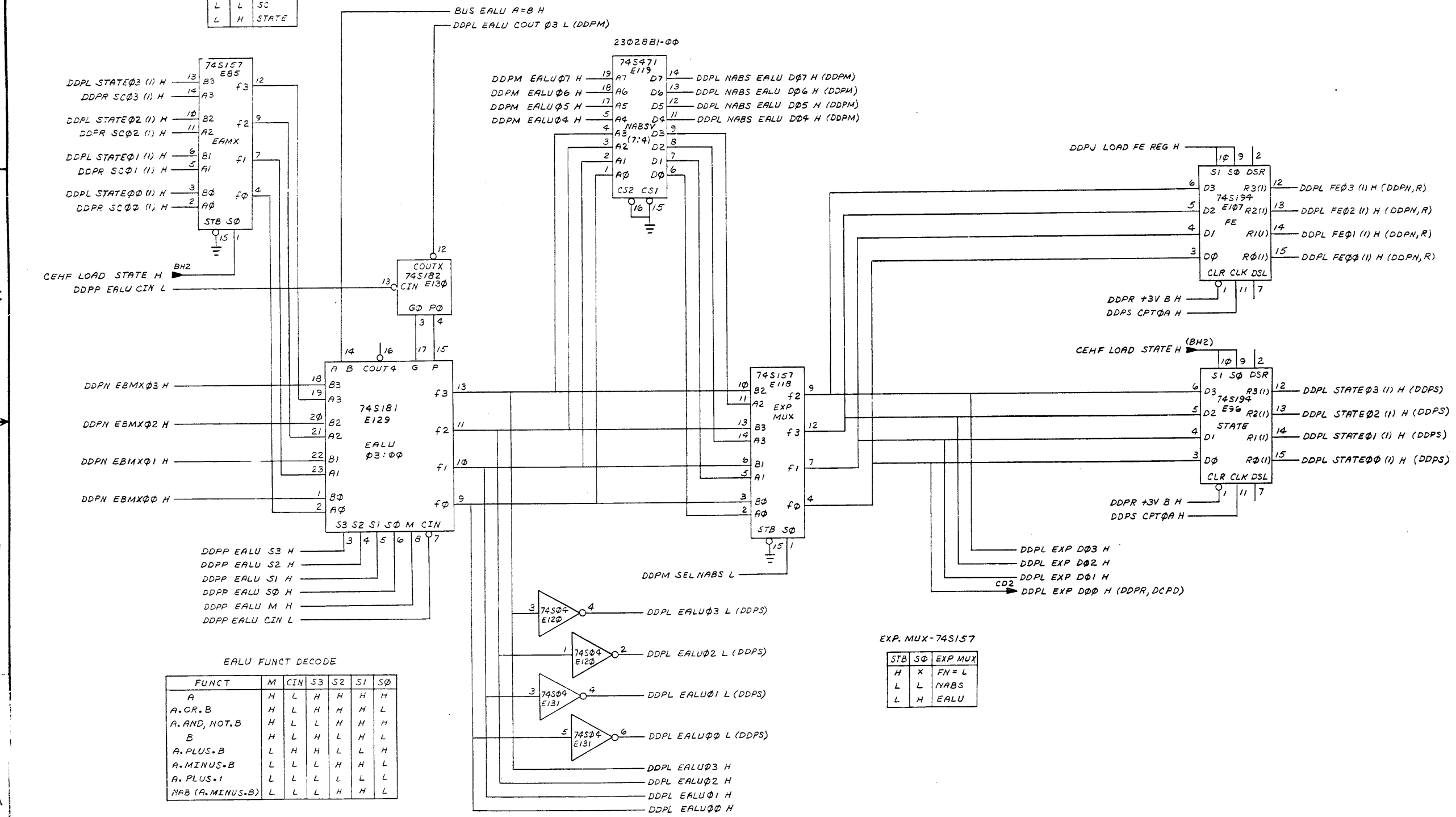
TITLE	SIZE	CODE	NUMBER	REV.
DATA PATH 15:08 (DDPK)	D	CS	M8227-0-1	C
SCALE	SHEET	OF	DIST.	
—	10	19		

DATE CHECKED DCS M8227-0-1 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 OF SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

EAMX-74S157

STB	SΦ	EAMX
H	X	FN=L
L	L	SC
L	H	STATE



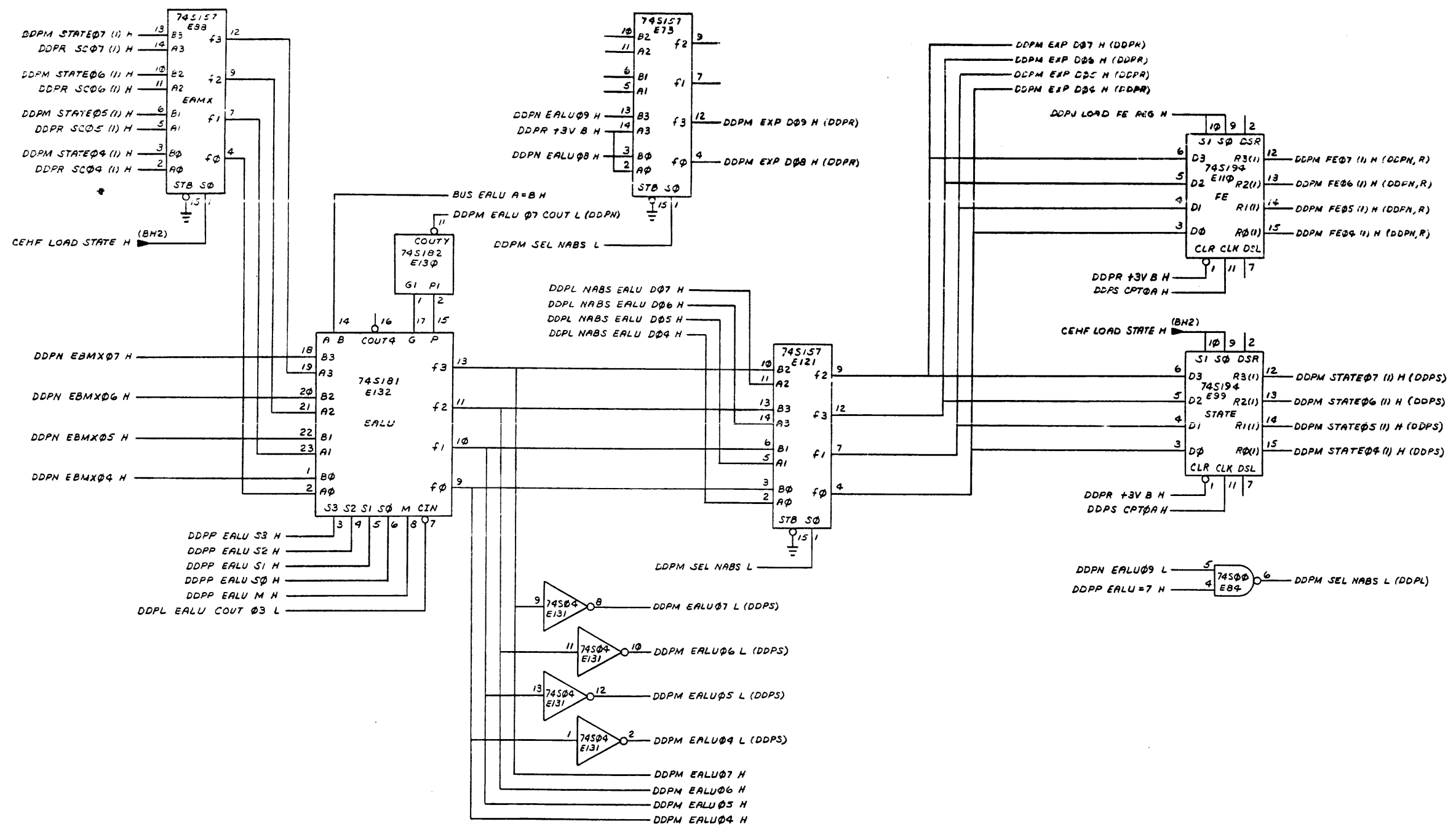
REVISIONS

CHK	CHANGE NO.	REV.

EXPONENT 03:00 (SLOT 11)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 15:08 (DDPL)	D CS	M8227-0-1	C
SCALE	SHEET	TW	1
	11 OF 19		

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

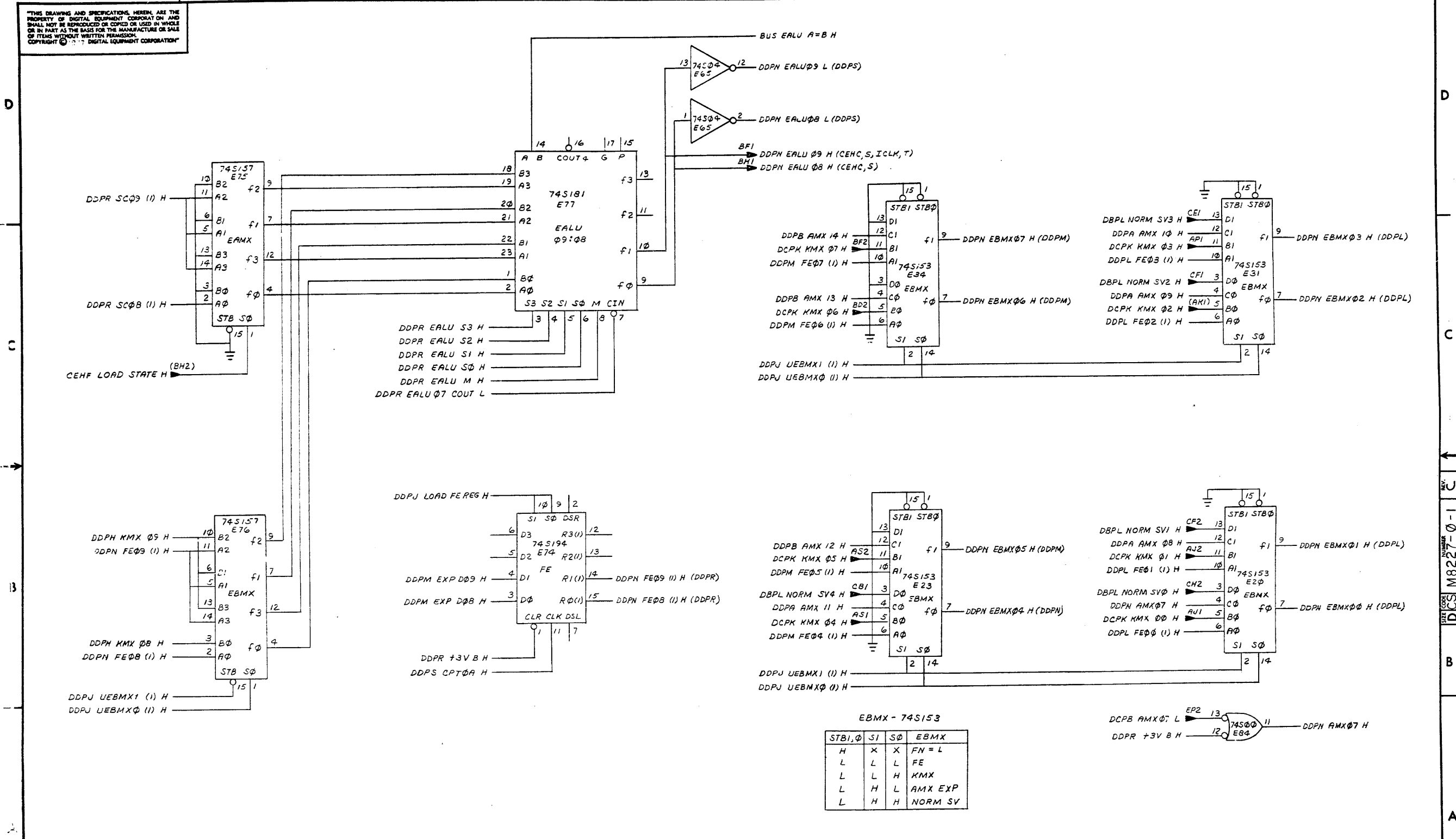


(EXPONENT  $\phi$ 7: $\phi$ 4) (SLOT 11)

TITLE	DATA PATH 15: $\phi$ 8 (DDPM)	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE	---	SHEET	12 OF 19	DIST.			

REVISIONS		
CHK	CHANGE NO.	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"



EBMX - 74S153

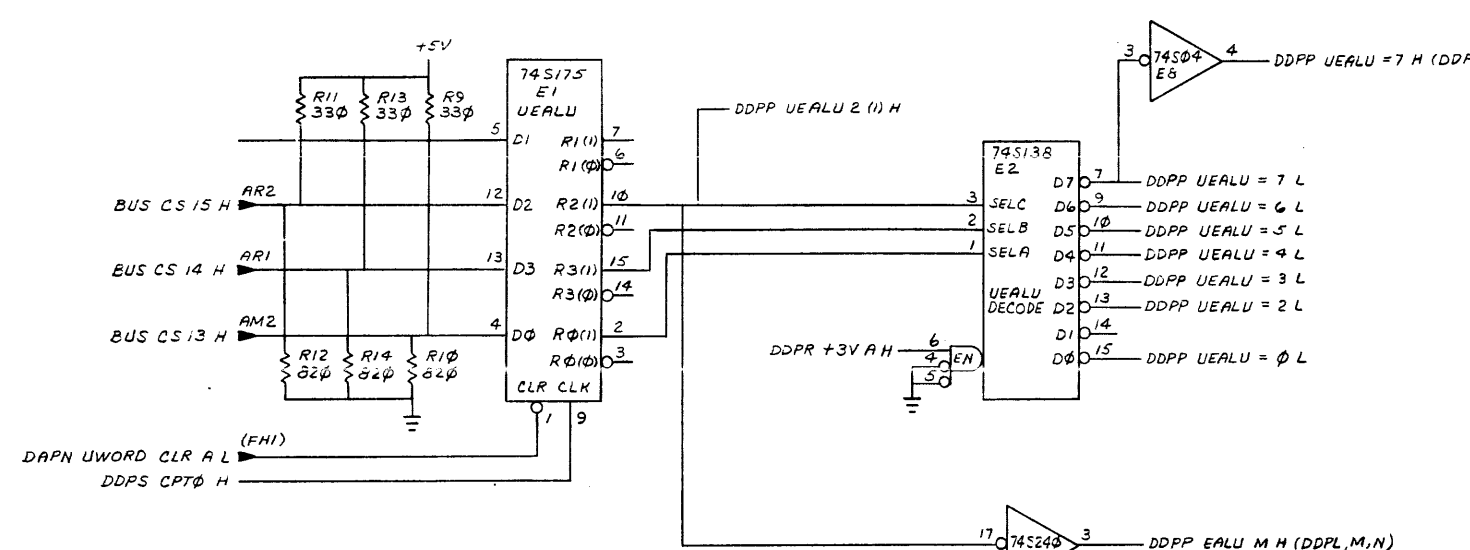
STBI, Φ	SI	SΦ	EBMX
H	X	X	FN = L
L	L	L	FE
L	L	H	KMX
L	H	L	AMX EXP
L	H	H	NORM SV

(EXPONENT 9:8 EBMX) (SLOT 11)

REVISIONS		
CHK	CHANGE NO.	REV.

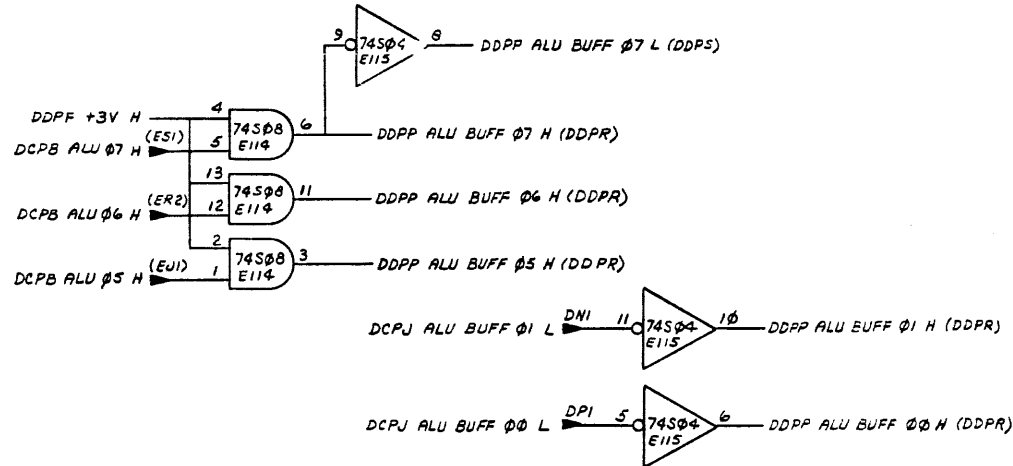
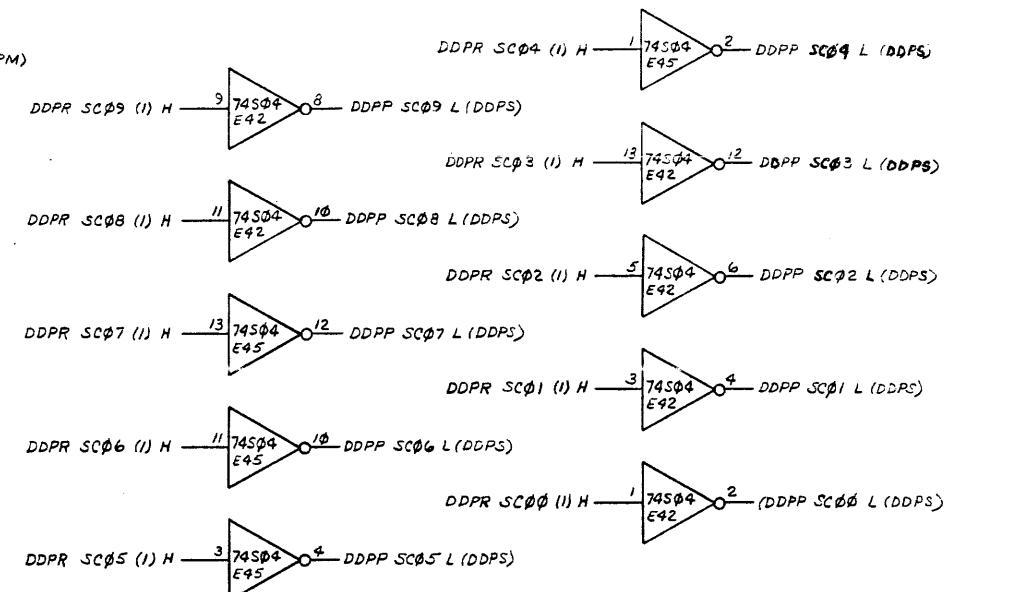
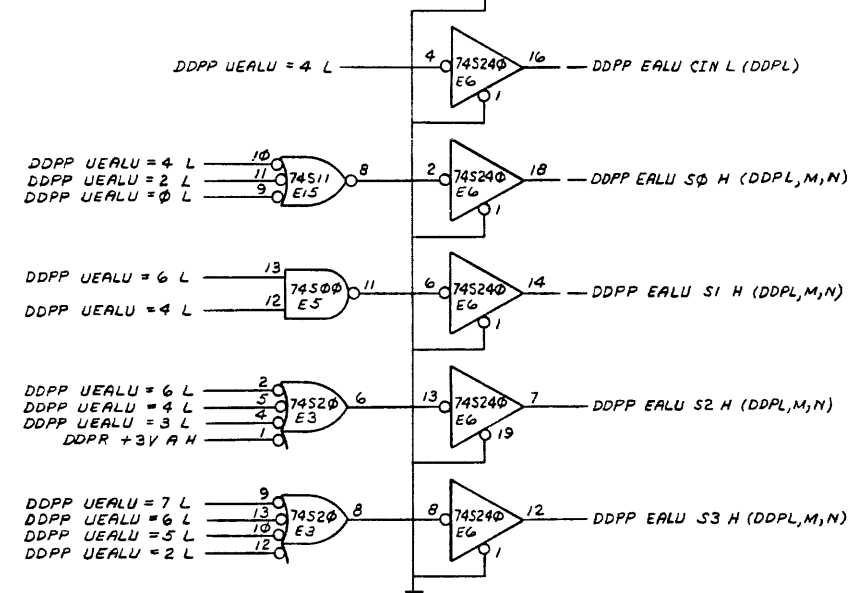
TITLE	DATA PATH 15:08 (DDPN)	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE	1/1	SHEET	13 OF 19	DIST.			

"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"



ALU TRUTH TABLE

UEALU	FUNCT	M	CIN	S3	S2	S1	S0
0	A	H	X	H	H	H	H
1	A.OR.B	H	X	H	H	H	L
2	A.AND.B	H	X	L	H	H	H
3	B	H	X	H	L	H	L
4	A.PLUS.B	L	H	H	L	L	H
5	A.MINUS.B	L	L	L	H	H	L
6	A.PLUS.1	L	L	L	L	L	L
7	A.MINUS.B (NABS)	L	L	L	H	H	L



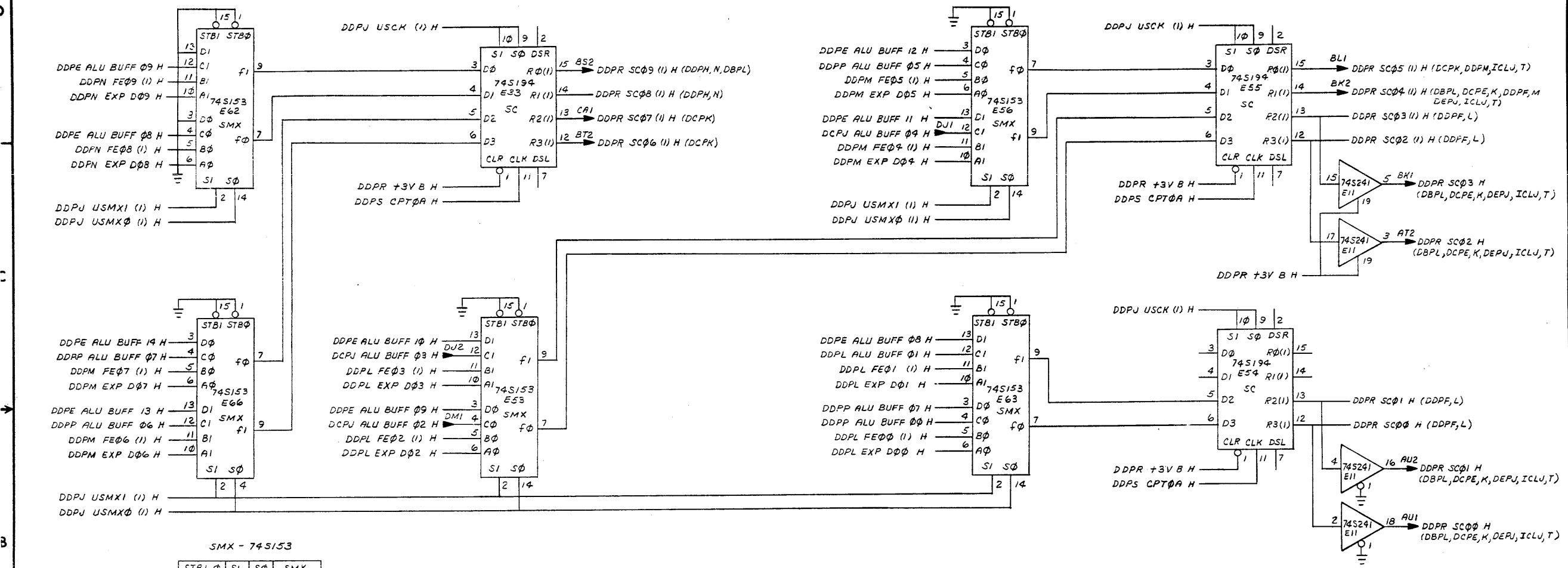
(EALU CONTROL, SC BUFFERS)

(SLOT II)

REVISIONS		
CHK	CHANGE NO.	REV.

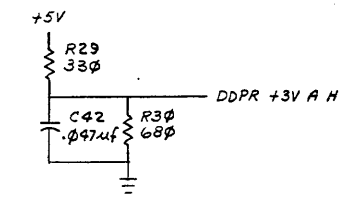
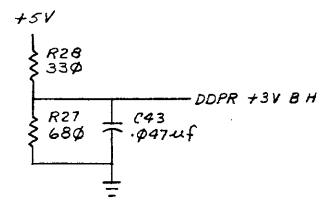
TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 15:08 (DDPP)	D	CS M8227-0-1	C
SCALE	SHEET	DIST.	
	14 OF 19		

"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"



SMX - 74S153

STBI, φ	SI	Sφ	SMX
H	X	X	FN = L
L	L	L	EALU
L	L	H	FE
L	H	L	ALU
L	H	H	ALU EXP

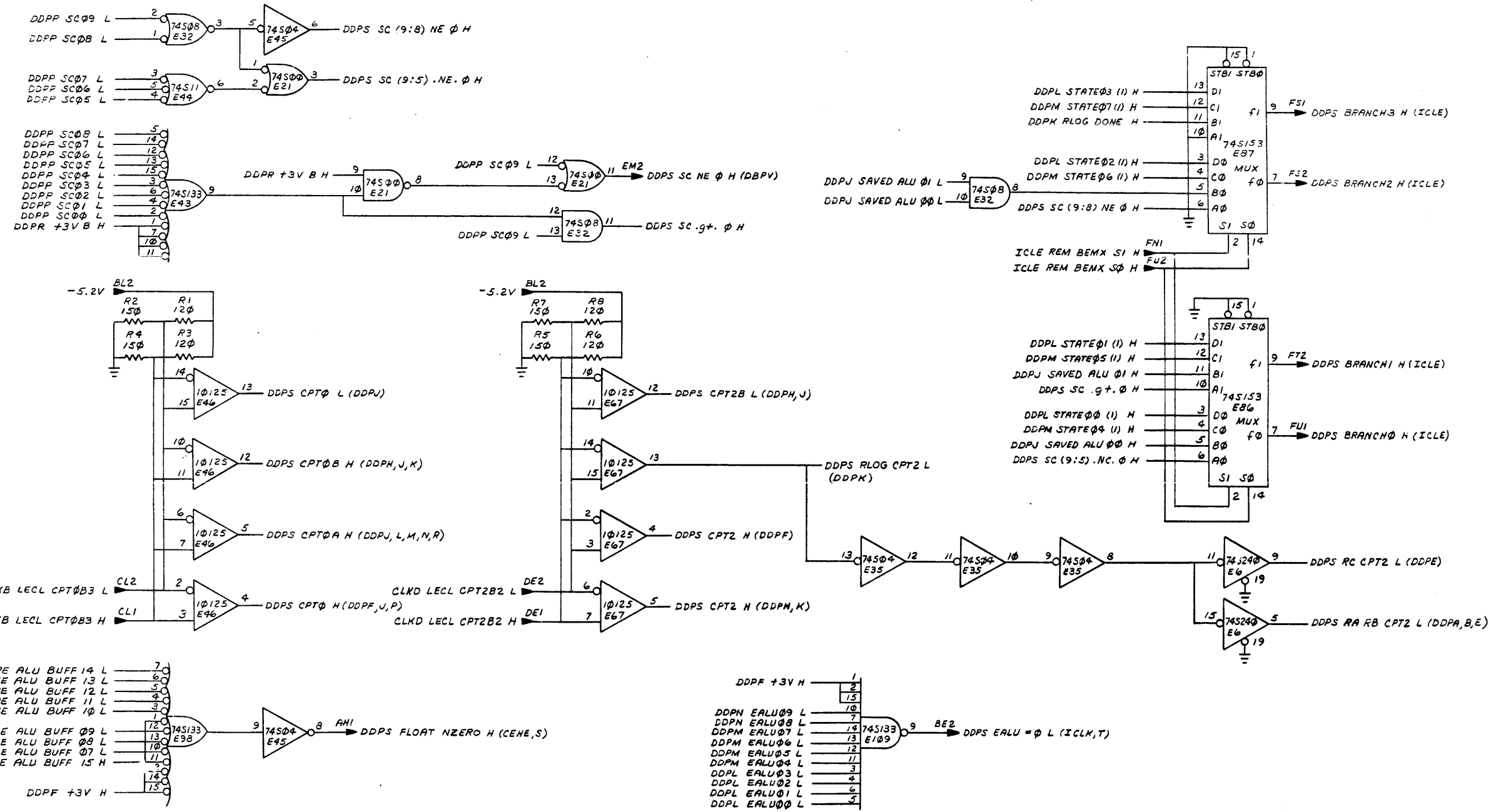


REVISIONS

CHK	CHANGE NO.	REV.

(SMX & SC) (SLOT II)

"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.

(UBRANCH & CLOCK TRANSLATORS) (SLOT 11)

TITLE	DATA PATH 15:08 (DDPS)	SIZE CODE	DCS	NUMBER	M8227-0-1	REV.	C
SCALE	4	SHEET	16 OF 19	DIST.			

264



"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"

# SLOW CONSTANT ROM

ROM ADDR	UKMX	ROM DATA								SLOW CONSTANT
		M7	M6	M5	M4	M3	M2	M1	M0	
00		L	L	L	L	L	L	L	L	X
01		L	L	L	L	L	L	L	L	X
02		L	L	L	L	L	L	L	L	X
03		L	L	L	L	L	L	L	L	X
04		L	L	L	L	L	L	L	L	X
05		L	L	L	L	L	L	L	L	X
06		L	L	L	L	L	L	L	L	X
07		L	L	L	L	L	L	L	L	X
08		H	H	H	H	H	H	H	H	00--
09		H	H	H	H	H	H	H	H	00--
0A		H	H	H	H	H	H	H	H	00--
0B		H	H	H	H	H	H	H	H	00--
0C		H	H	H	H	H	H	H	H	00--
0D		H	H	H	H	H	H	H	H	00--
0E		H	H	L	L	H	H	H	H	30--
0F		H	H	H	H	H	H	H	H	00--
10		H	H	H	H	H	H	H	H	00--
11		L	H	H	H	H	H	H	H	80--
12		H	H	H	H	H	H	H	H	00--
13		L	L	L	L	L	L	L	L	FF--
14		H	H	H	H	H	H	H	H	00--
15		H	H	H	H	H	H	H	H	00--
16		H	H	H	H	H	H	H	H	00--
17		H	H	H	H	H	H	H	H	00--
18		H	H	H	H	H	H	H	H	00--
19		H	H	H	H	H	H	H	H	00--
1A		L	L	L	L	L	L	L	L	FF--
1B		L	L	L	L	L	L	L	L	FF--
1C		L	L	L	L	L	L	L	L	FF--
1D		H	H	H	H	H	H	H	H	00--
1E		H	H	H	H	H	H	H	H	00--
1F		H	H	H	H	H	H	H	H	00--
20		H	H	H	H	H	H	L	L	03--
21		H	H	H	H	H	H	H	H	00--
22		H	H	H	H	H	H	H	H	00--
23		H	H	H	H	H	H	H	H	00--
24		H	H	H	L	L	L	L	L	1F--
25		H	H	H	H	H	H	H	H	00--
26		L	L	L	H	H	H	H	H	E0--
27		H	H	H	H	H	H	H	H	00--
28		L	L	L	L	L	L	L	L	FF--
29		H	H	H	H	H	H	H	H	00--
2A		L	L	L	L	L	L	L	L	SPARE
2B		L	L	H	L	L	L	L	L	DF--
2C		L	L	L	L	L	L	L	L	FF--
2D		L	L	L	L	L	L	L	L	FF--
2E		H	H	H	H	H	H	H	H	00--
2F		L	L	L	L	L	L	L	L	FF--
30		L	L	L	L	L	L	L	L	FF--
31		H	H	H	H	H	H	H	H	00--
32		H	H	L	L	H	H	H	H	30--
33		H	H	H	H	H	H	H	H	00--
34		H	H	H	H	H	H	H	H	00--
35		H	H	H	H	H	H	H	H	00--
36		H	H	H	H	H	H	H	H	00--
37		L	L	L	L	L	L	L	L	FF--
38		L	L	L	L	L	L	L	L	FF--
39		H	H	H	H	H	H	H	H	00--
3A		H	H	H	H	H	H	H	H	00--
3B		H	H	H	H	H	H	H	H	00--
3C		L	L	L	L	L	L	L	L	FF--
3D		H	H	H	H	H	H	H	H	00--
3E		H	H	H	H	H	H	H	H	00--
3F		L	L	H	H	L	H	L	L	CB--
40		L	L	L	L	L	L	L	L	NOT USED
41										
42										
43										
44										
45										
46										
47										
48										
49										
4A										
4B										
4C										
4D										
4E										
4F										
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
5A										
5B										
5C										
5D										
5E										
5F										
60		L	L	L	L	L	L	L	L	NOT USED
61										
62										
63										
64										
65										
66										
67										
68										
69										
6A										
6B										
6C										
6D										
6E										
6F										
70										
71										
72										
73										
74										
75										
76										
77										
78										
79										
7A										
7B										
7C										
7D										
7E										
7F										

80 TO FF L L L L L L L L L L L L NOT USED

REVISIONS		
CHK	CHANGE NO.	REV.

(SLOW CONSTANT ROM 15:08 23-029BI-00)(SLOT 11)

TITLE	DATA PATH 15:08	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE	SHEET 17 OF 19	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

NABS ROM

1-0-2228W 2

D  
C  
B  
A

D  
C  
B  
A

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
00		L	L	L	L	L	L	L	L	-0
01		H	H	H	H	H	H	H	H	-1
02		H	H	H	H	H	H	L	L	-2
03		H	H	H	H	H	H	L	H	-3
04		H	H	H	H	H	L	L	L	-4
05		H	H	H	H	L	H	H	H	-5
06		H	H	H	H	L	L	L	L	-6
07		H	H	H	H	L	L	H	H	-7
08		H	H	H	H	L	L	L	L	-8
09		H	H	H	H	L	H	H	H	-9
0A		H	H	H	L	H	H	L	L	-10
0B		H	H	H	L	L	L	H	H	-11
0C		H	H	H	L	L	L	L	L	-12
0D		H	H	H	L	L	H	H	H	-13
0E		H	H	H	L	L	L	L	L	-14
0F		H	H	H	L	L	L	H	H	-15
10		H	H	H	L	L	L	L	L	-16
11		H	H	L	H	H	H	H	H	-17
12		H	H	L	H	L	L	L	L	-18
13		H	H	L	H	H	L	H	H	-19
14		H	H	L	H	H	L	L	L	-20
15		H	H	L	L	H	H	H	H	-21
16		H	H	L	L	L	L	L	L	-22
17		H	H	L	L	L	L	H	H	-23
18		H	H	L	L	L	L	L	L	-24
19		H	H	L	L	H	H	H	H	-25
1A		H	H	L	L	H	H	L	L	-26
1B		H	H	L	L	L	L	H	H	-27
1C		H	H	L	L	L	L	L	L	-28
1D		H	H	L	L	L	H	H	H	-29
1E		H	H	L	L	L	L	L	L	-30
1F		H	H	L	L	L	L	H	H	-31

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
20		H	H	L	L	L	L	L	L	-32
21		H	H	L	H	H	H	H	H	-33
22		H	H	L	H	H	H	L	L	-34
23		H	H	L	H	H	L	H	H	-35
24		H	H	L	H	H	L	L	L	-36
25		H	H	L	H	L	H	H	H	-37
26		H	H	L	H	L	L	L	L	-38
27		H	H	L	H	L	L	L	H	-39
28		H	H	L	H	L	L	L	L	-40
29		H	H	L	L	H	H	H	H	-41
2A		H	H	L	L	L	H	L	L	-42
2B		H	H	L	L	L	L	H	H	-43
2C		H	H	L	L	L	L	L	L	-44
2D		H	H	L	L	L	L	H	H	-45
2E		H	H	L	L	L	L	L	L	-46
2F		H	H	L	L	L	L	H	H	-47
30		H	H	L	L	L	L	L	L	-48
31		H	H	L	L	H	H	H	H	-49
32		H	H	L	L	H	H	L	L	-50
33		H	H	L	L	H	H	L	H	-51
34		H	H	L	L	H	H	L	L	-52
35		H	H	L	L	L	H	H	H	-53
36		H	H	L	L	L	L	H	L	-54
37		H	H	L	L	L	L	L	H	-55
38		H	H	L	L	L	L	L	L	-56
39		H	H	L	L	L	H	H	H	-57
3A		H	H	L	L	L	H	L	L	-58
3B		H	H	L	L	L	L	L	H	-59
3C		H	H	L	L	L	L	L	L	-60
3D		H	H	L	L	L	L	H	H	-61
3E		H	H	L	L	L	L	L	L	-62
3F		H	H	L	L	L	L	L	H	-63

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
40		H	H	L	L	L	L	L	L	-64
41		H	L	H	H	H	H	H	H	-65
42		H	L	H	H	H	H	L	L	-66
43		H	L	H	H	H	L	H	H	-67
44		H	L	H	H	H	L	L	L	-68
45		H	L	H	H	L	H	H	H	-69
46		H	L	H	H	L	L	L	L	-70
47		H	L	H	H	L	L	L	H	-71
48		H	L	H	H	L	L	L	L	-72
49		H	L	H	H	L	H	H	H	-73
4A		H	L	H	H	L	H	L	L	-74
4B		H	L	H	H	L	L	L	H	-75
4C		H	L	H	H	L	L	L	L	-76
4D		H	L	H	H	L	L	L	H	-77
4E		H	L	H	H	L	L	L	L	-78
4F		H	L	H	H	L	L	L	H	-79
50		H	L	H	H	L	L	L	L	-80
51		H	L	H	L	H	H	H	H	-81
52		H	L	H	L	H	H	L	L	-82
53		H	L	H	L	H	H	L	H	-83
54		H	L	H	L	H	H	L	L	-84
55		H	L	H	L	H	L	H	H	-85
56		H	L	H	L	H	L	L	L	-86
57		H	L	H	L	H	L	L	H	-87
58		H	L	H	L	H	L	L	L	-88
59		H	L	H	L	L	H	H	H	-89
5A		H	L	H	L	L	H	L	L	-90
5B		H	L	H	L	L	L	L	H	-91
5C		H	L	H	L	L	L	L	L	-92
5D		H	L	H	L	L	L	H	H	-93
5E		H	L	H	L	L	L	L	L	-94
5F		H	L	H	L	L	L	L	H	-95

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
60		H	L	H	L	L	L	L	L	-96
61		H	L	L	H	H	H	H	H	-97
62		H	L	L	H	H	H	L	L	-98
63		H	L	L	H	H	L	L	H	-99
64		H	L	L	L	H	H	L	L	-100
65		H	L	L	H	H	L	H	H	-101
66		H	L	L	H	H	L	L	L	-102
67		H	L	L	H	H	L	L	H	-103
68		H	L	L	H	H	L	L	L	-104
69		H	L	L	L	H	H	H	H	-105
6A		H	L	L	L	H	L	H	L	-106
6B		H	L	L	L	H	L	L	H	-107
6C		H	L	L	L	H	L	L	L	-108
6D		H	L	L	L	L	L	H	H	-109
6E		H	L	L	L	L	L	L	L	-110
6F		H	L	L	L	L	L	L	H	-111
70		H	L	L	L	L	L	L	L	-112
71		H	L	L	L	H	H	H	H	-113
72		H	L	L	L	H	H	L	L	-114
73		H	L	L	L	H	H	L	H	-115
74		H	L	L	L	H	H	L	L	-116
75		H	L	L	L	H	L	H	H	-117
76		H	L	L	L	H	L	L	L	-118
77		H	L	L	L	H	L	L	H	-119
78		H	L	L	L	H	L	L	L	-120
79		H	L	L	L	L	H	H	H	-121
7A		H	L	L	L	L	H	L	L	-122
7B		H	L	L	L	L	H	L	H	-123
7C		H	L	L	L	L	L	L	L	-124
7D		H	L	L	L	L	L	H	H	-125
7E		H	L	L	L	L	L	L	L	-126
7F		H	L	L	L	L	L	L	H	-127

REV. C  
M8227-0-1

REVISIONS		
CHK	CHANGE NO.	REV.

(EALU NABS ROM 23-02881-00) (SLOT 11)

TITLE	DATA PATH 15:08	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE		SHEET	18	OF	19	DIST.	

TW 1

264

"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 M8227-0-1 2

NABS ROM

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
80		H	L	L	L	L	L	L	L	-128
81		L	H	H	H	H	H	H	H	-129
82		L	H	H	H	H	H	L	L	-130
83		L	H	H	H	H	L	H	H	-131
84		L	H	H	H	H	L	L	L	-132
85		L	H	H	H	H	L	H	H	-133
86		L	H	H	H	L	H	L	L	-134
87		L	H	H	H	L	L	L	H	-135
88		L	H	H	H	L	L	L	L	-136
89		L	H	H	L	H	H	H	H	-137
8A		L	H	H	L	H	H	L	L	-138
8B		L	H	H	L	H	L	H	L	-139
8C		L	H	H	L	H	L	L	L	-140
8D		L	H	H	L	L	H	H	H	-141
8E		L	H	H	L	L	H	L	L	-142
8F		L	H	H	L	L	L	L	H	-143
90		L	H	H	L	L	L	L	L	-144
91		L	H	L	L	H	H	H	H	-145
92		L	H	L	L	H	H	L	L	-146
93		L	H	L	L	H	H	L	H	-147
94		L	H	L	L	H	H	L	L	-148
95		L	H	L	L	H	L	H	H	-149
96		L	H	L	L	H	L	H	L	-150
97		L	H	L	L	H	L	L	H	-151
98		L	H	L	L	H	L	L	L	-152
99		L	H	L	L	H	H	H	H	-153
9A		L	H	L	L	H	H	L	L	-154
9B		L	H	L	L	H	L	H	L	-155
9C		L	H	L	L	H	L	L	L	-156
9D		L	H	L	L	L	H	H	H	-157
9E		L	H	L	L	L	H	L	L	-158
9F		L	H	L	L	L	L	H	L	-159

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
A0		L	H	H	L	L	L	L	L	-160
A1		L	H	L	H	H	H	H	H	-161
A2		L	H	L	H	H	H	L	L	-162
A3		L	H	L	H	H	L	H	H	-163
A4		L	H	L	H	H	L	L	L	-164
A5		L	H	L	H	H	L	H	H	-165
A6		L	H	L	H	H	L	H	L	-166
A7		L	H	L	H	H	L	L	H	-167
A8		L	H	L	H	H	L	L	L	-168
A9		L	H	L	H	L	H	H	H	-169
AA		L	H	L	H	L	H	L	L	-170
AB		L	H	L	H	L	H	L	H	-171
AC		L	H	L	H	L	H	L	L	-172
AD		L	H	L	H	L	L	H	H	-173
AE		L	H	L	H	L	L	H	L	-174
AF		L	H	L	H	L	L	L	H	-175
B0		L	H	L	H	L	L	L	L	-176
B1		L	H	L	L	H	H	H	H	-177
B2		L	H	L	L	H	H	L	L	-178
B3		L	H	L	L	H	H	L	H	-179
B4		L	H	L	L	H	H	L	L	-180
B5		L	H	L	L	H	L	H	H	-181
B6		L	H	L	L	H	L	H	L	-182
B7		L	H	L	L	H	L	L	H	-183
B8		L	H	L	L	H	L	L	L	-184
B9		L	H	L	L	L	H	H	H	-185
BA		L	H	L	L	L	H	H	L	-186
BB		L	H	L	L	L	H	L	H	-187
BC		L	H	L	L	L	H	L	L	-188
BD		L	H	L	L	L	L	H	H	-189
BE		L	H	L	L	L	L	H	L	-190
BF		L	H	L	L	L	L	L	H	-191

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
C0		L	H	L	L	L	L	L	L	-192
C1		L	L	H	H	H	H	H	H	-193
C2		L	L	H	H	H	H	L	L	-194
C3		L	L	H	H	H	L	H	H	-195
C4		L	L	H	H	H	L	L	L	-196
C5		L	L	H	H	H	L	H	H	-197
C6		L	L	H	H	H	L	H	L	-198
C7		L	L	H	H	H	L	L	H	-199
C8		L	L	H	H	H	L	L	L	-200
C9		L	L	H	H	L	H	H	H	-201
CA		L	L	H	H	L	H	H	L	-202
CB		L	L	H	H	L	H	L	H	-203
CC		L	L	H	H	L	H	L	L	-204
CD		L	L	H	H	L	L	H	H	-205
CE		L	L	H	H	L	L	H	L	-206
CF		L	L	H	H	L	L	L	H	-207
D0		L	L	H	H	L	L	L	L	-208
D1		L	L	H	L	H	H	H	H	-209
D2		L	L	H	L	H	H	L	L	-210
D3		L	L	H	L	H	H	L	H	-211
D4		L	L	H	L	H	H	L	L	-212
D5		L	L	H	L	H	L	H	H	-213
D6		L	L	H	L	H	L	H	L	-214
D7		L	L	H	L	H	L	L	H	-215
D8		L	L	H	L	H	L	L	L	-216
D9		L	L	H	L	L	H	H	H	-217
DA		L	L	H	L	L	H	H	L	-218
DB		L	L	H	L	L	H	L	H	-219
DC		L	L	H	L	L	H	L	L	-220
DD		L	L	H	L	L	L	H	H	-221
DE		L	L	H	L	L	L	H	L	-222
DF		L	L	H	L	L	L	L	H	-223

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
E0		L	L	H	L	L	L	L	L	-224
E1		L	L	L	H	H	H	H	H	-225
E2		L	L	L	H	H	H	L	L	-226
E3		L	L	L	H	H	H	L	H	-227
E4		L	L	L	H	H	H	L	L	-228
E5		L	L	L	H	H	L	H	H	-229
E6		L	L	L	H	H	L	H	L	-230
E7		L	L	L	H	H	L	L	H	-231
E8		L	L	L	H	H	L	L	L	-232
E9		L	L	L	H	L	H	H	H	-233
EA		L	L	L	H	L	H	H	L	-234
EB		L	L	L	H	L	H	L	H	-235
EC		L	L	L	H	L	H	L	L	-236
ED		L	L	L	H	L	L	H	H	-237
EE		L	L	L	H	L	L	H	L	-238
EF		L	L	L	H	L	L	L	H	-239
F0		L	L	L	H	L	L	L	L	-240
F1		L	L	L	L	H	H	H	H	-241
F2		L	L	L	L	H	H	L	L	-242
F3		L	L	L	L	H	H	L	H	-243
F4		L	L	L	L	H	H	L	L	-244
F5		L	L	L	L	H	L	H	H	-245
F6		L	L	L	L	H	L	H	L	-246
F7		L	L	L	L	H	L	L	H	-247
F8		L	L	L	L	H	L	L	L	-248
F9		L	L	L	L	L	H	H	H	-249
FA		L	L	L	L	L	H	H	L	-250
FB		L	L	L	L	L	H	L	H	-251
FC		L	L	L	L	L	H	L	L	-252
FD		L	L	L	L	L	L	H	H	-253
FE		L	L	L	L	L	L	H	L	-254
FF		L	L	L	L	L	L	L	H	-255

REVISIONS		
CHK	CHANGE NO.	REV.

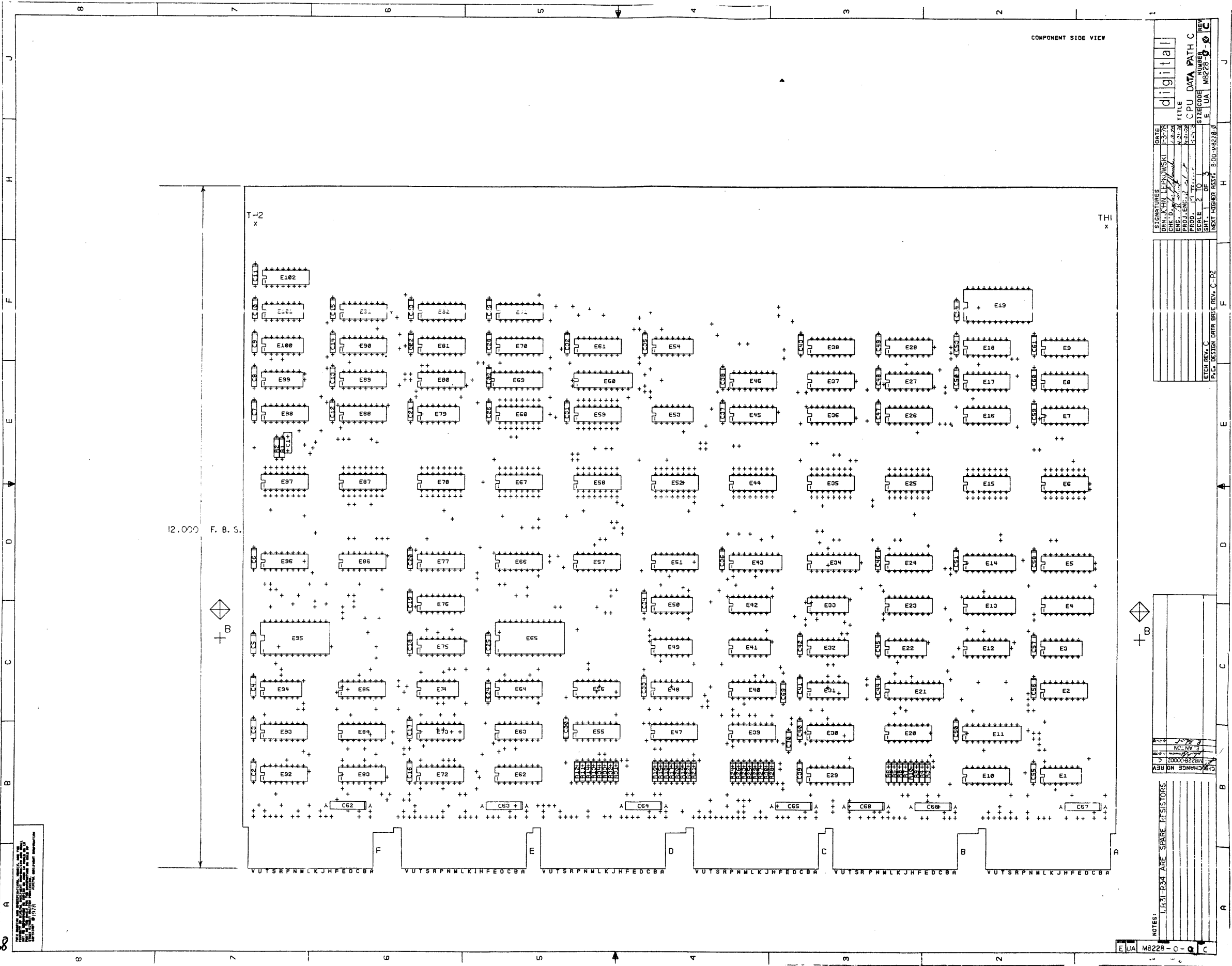
(EALU NABS ROM 23-028BI-00) (SLOT II)

TITLE	DATA PATH 15:08	SIZE CODE	DCS	NUMBER	M8227-0-1	REV.	C
SCALE	SHEET 19 OF 19	DIST.					

REV. C  
M8227-0-1  
DCS

267

268



THIS DRAWING IS THE PROPERTY OF THE UNITED STATES GOVERNMENT AND IS LOANED TO YOU. IT AND ITS CONTENTS ARE NOT TO BE DISTRIBUTED OUTSIDE YOUR ORGANIZATION. IT IS TO BE RETURNED TO THE SOURCE FROM WHICH IT WAS OBTAINED.

COMPONENT SIDE VIEW

SIGNATURE	DATE
DESIGNED BY	3/27/54
CHK'D BY	4/21/54
PROJ. ENGR.	4/21/54
PROOF.	4/21/54
SHEET	2 OF 3
NEXT HIGHER	REV. B.100-M8228.0

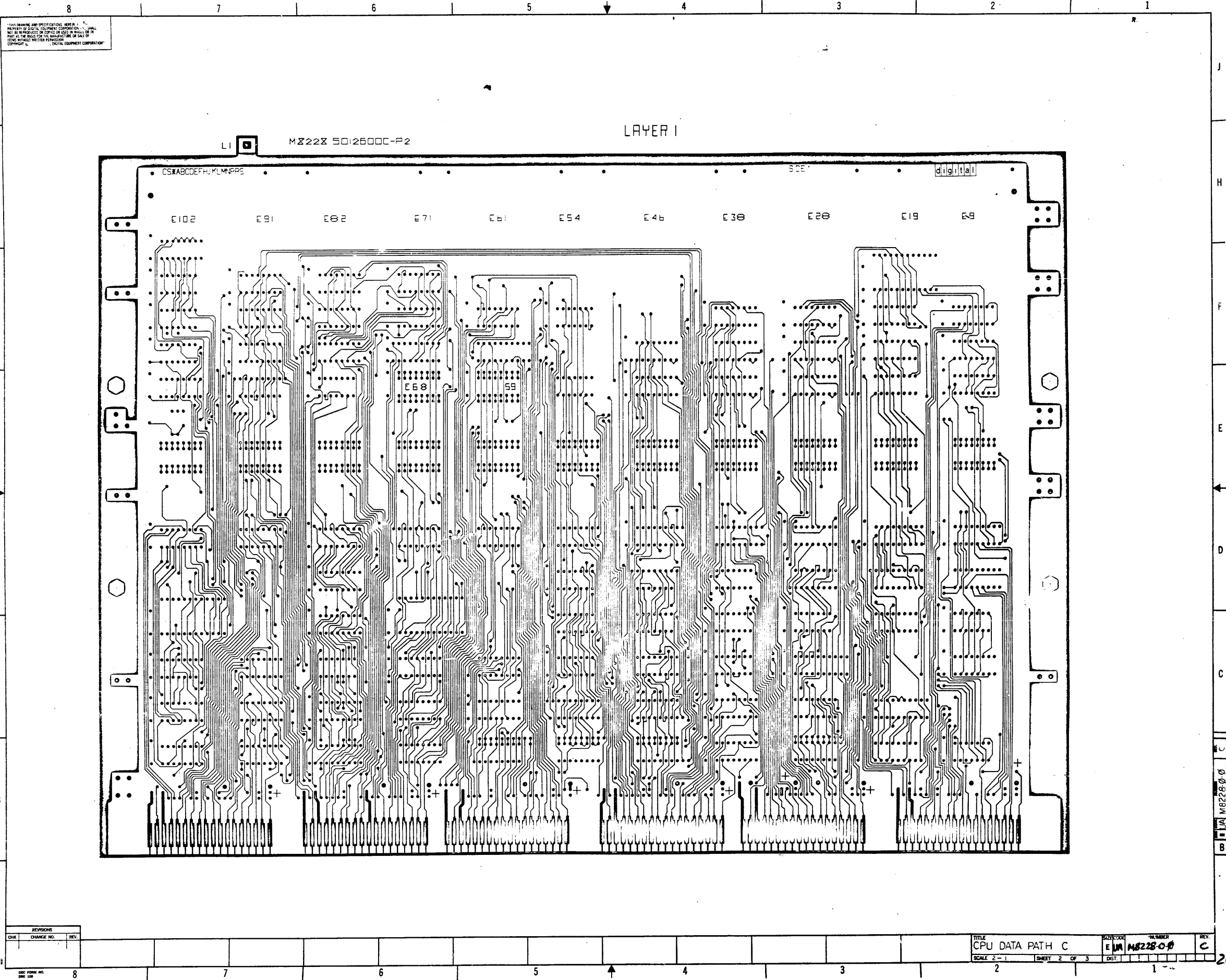
digital
CPU DATA PATH C
STANDARD
E. U. A. M8228.0
REV. C

ETCH REV. C
P.C. DESIGN DATA BRG. REV. C-12

CHANGE NO. REV.
NO. REV.
DATE
BY

NOTES: LK31-334 ARE SPARE CAPACITORS.

E. U. A. M8228.0 - C



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION. NO PART OF THIS DRAWING OR SPECIFICATIONS SHALL BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

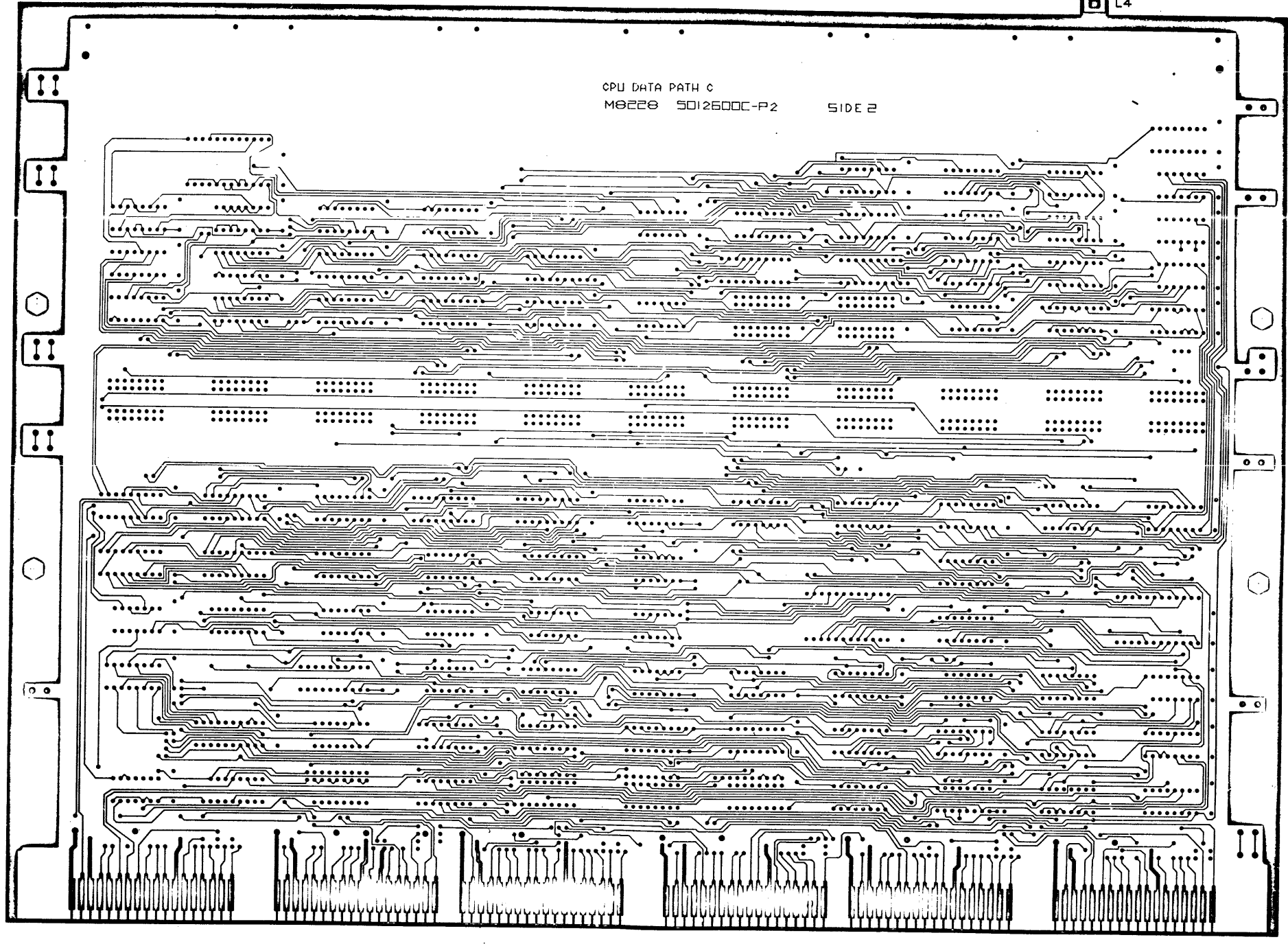
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: CPU DATA PATH C  
 SCALE: 2-1  
 SHEET: 2 OF 3  
 REV: C  
 NUMBER: EIA M8228-0-0  
 269

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 PARTS ARE TO BE MANUFACTURED TO THE DIMENSIONS SHOWN ON THIS DRAWING.  
 ELECTRICAL EQUIPMENT CORPORATION  
 1968-0000

LAYER 4

CPU DATA PATH C  
 M6228 5012600C-P2 SIDE 2



REV	DATE	BY	CHK	CHANGE NO.

270

TITLE	DATE CODE	NUMBER	REV.
CPU DATA PATH C	EUA	M6228-0-0	C
SCALE 2-1	SHEET 3 OF 3	DIST.	1

M6228-0-0

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	E-MU-5012600-0-0	5012600-00	M8228	1	
2	2		1910534-00	74S04 INVERTER GATE-HEX 1IN	6	E22,E31,E54,E99,E100,E101
3	3		1912389-00	74S08 AND GATE-QUAD 2IN,POS	14	E53
4	4		1910536-00	74S10 NAND GATE-TRIPLE 3IN	1	E33
5	5		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	2	E49,E94
6	6		1910542-00	74S64 A-O-I XPDR GATE,4-2-3-2	14	E1,E41,E42,E48,E50
7	7		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	2	E12,E23
8	8		1911983-00	74S133 NAND GATE-POSITIVE 13IN	1	E102
9	9		1911675-00	74S138 DECODER-THREE INPUT	1	E24
10	10		1910956-00	74S151 MUX 1 OF 8	8	E16,E17,E26,E27,E36,E37,E45, CONT E46
11	11		1910547-00	74S153 MUX 1 OF 4 (DUAL)	10	E9,E18,E57,E61,E66,E71,E88, CONT E90,E91,E98
12	12		1910548-00	74S157 MUX 1 OF 2 (QUAD)	7	E8,E70,E73,E80,E81,E84,E89
13	13		1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E2,E10
14	14		1910957-00	74S175 FF-D QUAD COMMON CLOCK	3	E20,E47,E55
15	15		1910531-00	DEC 74S181 ALU-4BIT	3	E19,E45,E95
16	16		1912097-00	SN 74S182 LOOK AND CARRY GEN	2	E64,E85
17	17		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	4	E28,E38,E69,E82
18	18		1913462-00	74S240 OCTAL BUFFER,INVERTING TRI-STA	1	E21
19	19		1913493-00	74S241 OCTAL BUFFER,TRI-STATE	1	E60
20	20		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E56,E62,E77,E86
21	21		1911415-00	10125 ECL TO TTL TRNSLTR ECL	16 P	2 E39,E40
22	22		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	2	E29,E30
23	23		1913294-00	93S16 COUNTER,SYNCH UP BINARY	8	E7,E63,E72,E75,E83,E92,E93,E51
24	24	BLANK			0	
25	25		1912586-00	85S68 REGISTER,64BIT EDGE TRIG,TRIST	6	E4,E5,E13,E14,E34,E43
26	26		1912693-00	25S10 SHIFTER,4BIT TRI-STATE	2	E76,E96
27	27		23030B1-00	B1-01	1	E11
28	28		1300247-00	120 1/4W 5% CC (13-00	4	R25,R26,R29,R30

REVISION HISTORY				VARIATIONS FOR THIS ASSY.			
CHK	ECD NO	REV		FIRST USED ON:			
PG	00002	C	00	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
				MADE BY:	F.SMART	DATE:	20-APR-78
				TITLE PARTS LIST			
				CHECKED:	F.SMART	DATE:	20-APR-78
				DATA PATH			
				DSN.ENG.:	E.ANTON	DATE:	20-APR-78
				SIZE!CODE! DOCUMENT NUMBER ! REV			
				PROD.:	M.TERELLO	DATE:	20-APR-78
				K ! PL !	M8228-0-DBP	!C !	
				RESP.ENG.:	E.ANTON	DATE:	20-APR-78
				ASSY.NO.:	E-UA-M8228-0-0	!EDIT#! 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 1978. DIGITAL EQUIPMENT CORPORATION \*

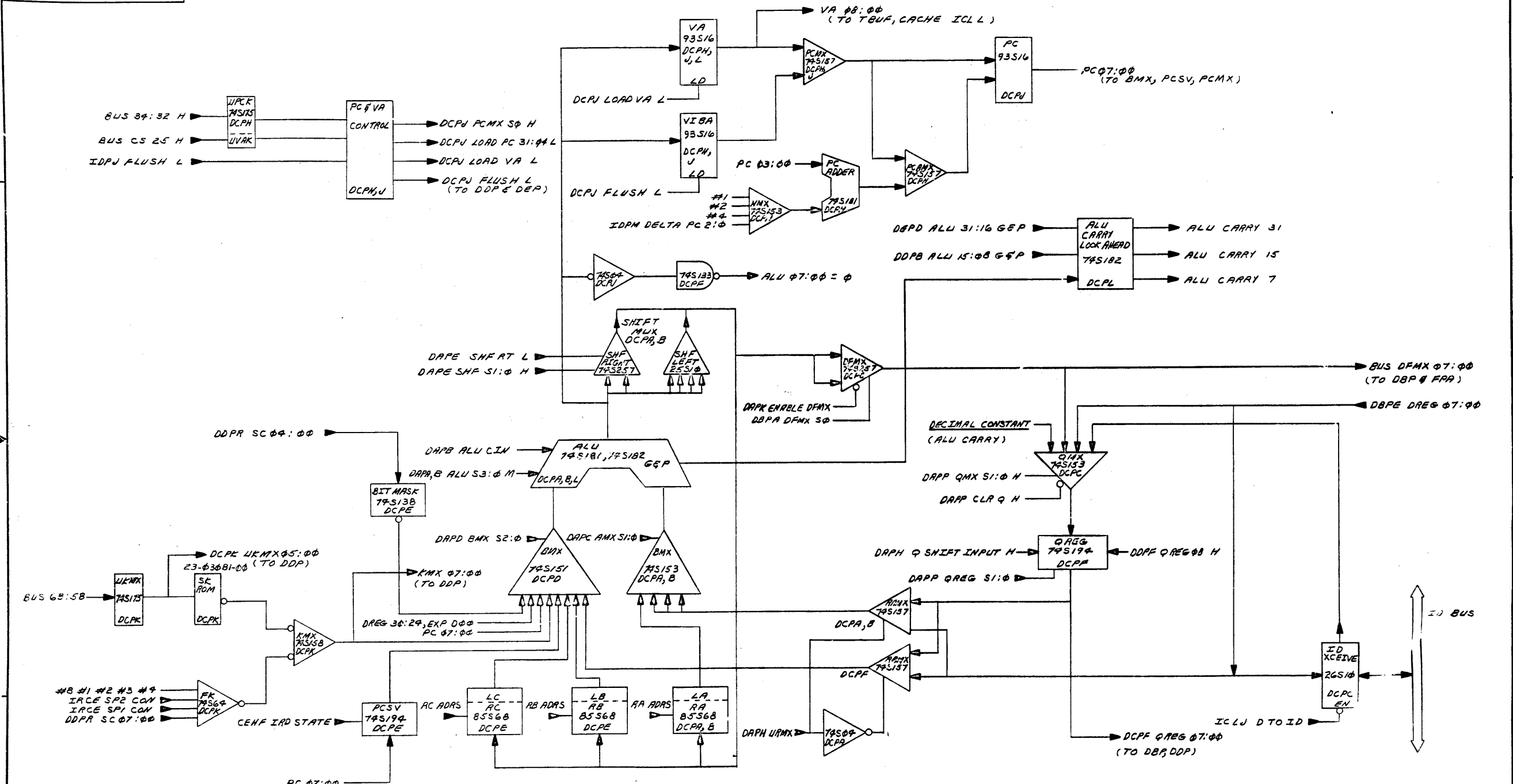
LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
29	29		1300250-00	150 1/4W 5% CC	(13-00 4	R23,R24,R27,R28
30	30		1300295-00	330 1/4W 5% CC	(13-00 11	R1,R3,R5,R7,R9,R11,R13,R15,
					CONT	R17,R19,R21
31	31		1301424-00	680 1/4W 5% CC	(13-00 1	R2
32	32		1301775-00	820 1/4W 5% CC	(13-00 10	R4,R6,R8,R10,R12,R14,R16,R18,
					CONT	R20,R22
33	33		1012084-01	8 MFD 25V 6% 30D AL EL	(10-12 7	C62-C68
34	34		1012784-00	.047 MFD 50V X% CER. #	63	C1,C2-C61,C69,C70
35	35		1910532-00	74S00 NAND GATE-QUAD 2IN	3	E3,E74,E79
36	36		1210711-02	HANDLE ASSY,MOD DOEHLER-JARVIS	1	
37	37		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	

38 NOTE: E6,E15,E25,E44,E52,E58,E59,E67,E78,E87,E97,E68,E35,E32 ARE SPARE I.C. S

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE DATA PATH	PARTS LIST	SIZE K	CODE PL	DOCUMENT NUMBER M8228-0-DBP	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 © 1977, DIGITAL EQUIPMENT CORPORATION



(BLOCK DIAGRAM) (SLOT 12)

REV.	CHG.	NO.	DATE	BY	CHKD.
1	1	1	11/01/77	E. ANTON	
2	1	1	11/01/77	E. ANTON	
3	1	1	11/01/77	E. ANTON	
4	1	1	11/01/77	E. ANTON	
5	1	1	11/01/77	E. ANTON	
6	1	1	11/01/77	E. ANTON	
7	1	1	11/01/77	E. ANTON	
8	1	1	11/01/77	E. ANTON	
9	1	1	11/01/77	E. ANTON	
10	1	1	11/01/77	E. ANTON	

DRN. 84-111	3-25-77	FIRST USED ON	010000
CHK'D 84-111	3-25-77	TITLE	DATA PATH 07:00
ENG. E. ANTON	3-17-77	(DCP)	
PROJ. ENG. E. ANTON			
PROD. 84-111	6/1/77		
NEXT HIGHER ASSY.			
SCALE	SIZE	CODE	NUMBER
	D	CS	M8228-0-1
SHEET	1	OF 12	REV. C

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

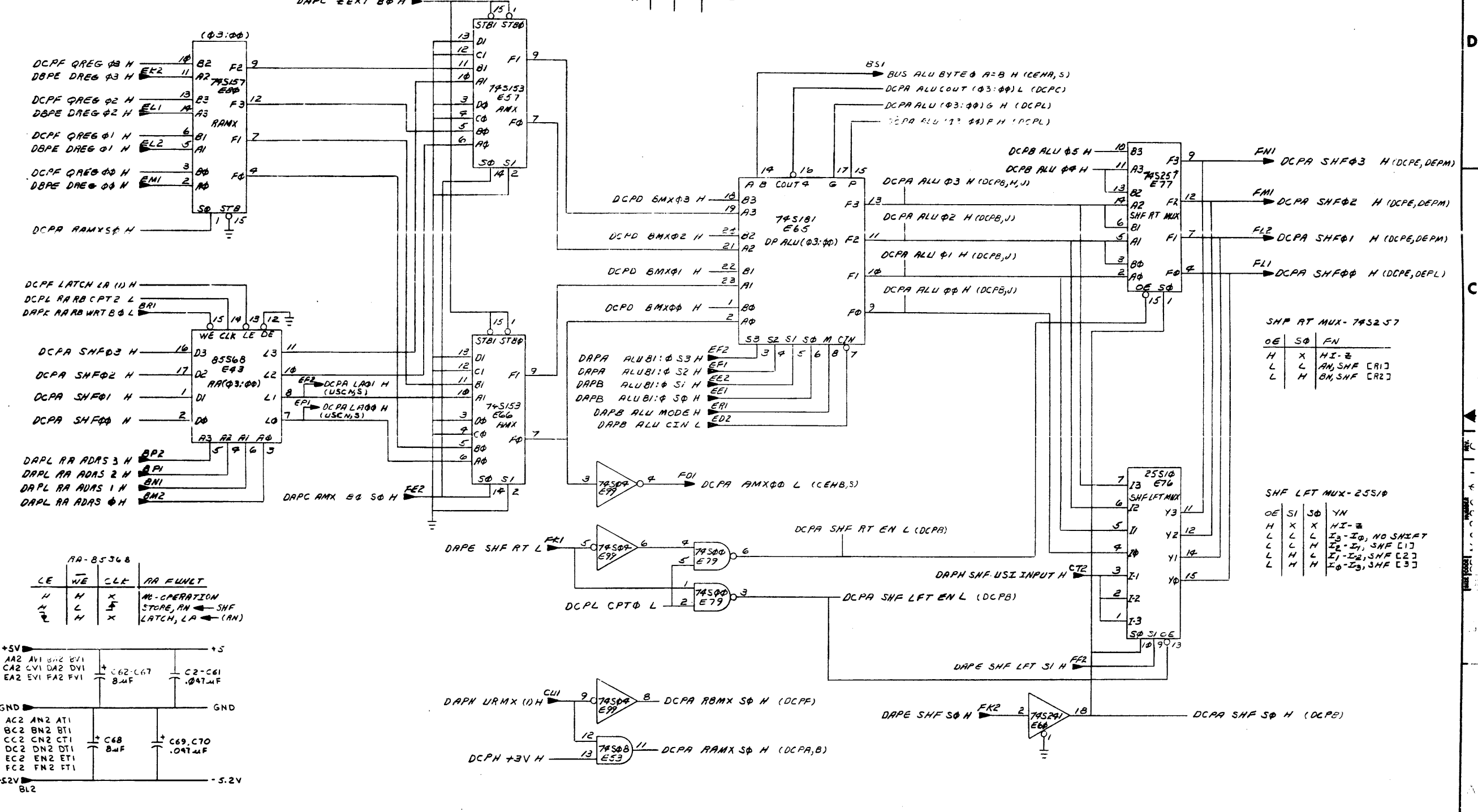
RAMX-74S157

SB	RAMX
L	O REG
H	O REG

DAPC EXT 0 H FUI

AMX-74S153

STB	SI	S0	FN
L	L	L	LA
L	L	H	RAMX
H	X	X	FN=L



RA-85348

LE	WE	CLK	RA FUNCT
H	H	X	NO OPERATION
H	L	X	STORE, RN ← SHF
L	H	X	LATCH, LA ← (RN)

SHF RT MUX-74S257

OE	S0	FN
H	X	HI-Z
L	L	AM, SHF [R1]
L	H	BM, SHF [R2]

SHF LFT MUX-25S10

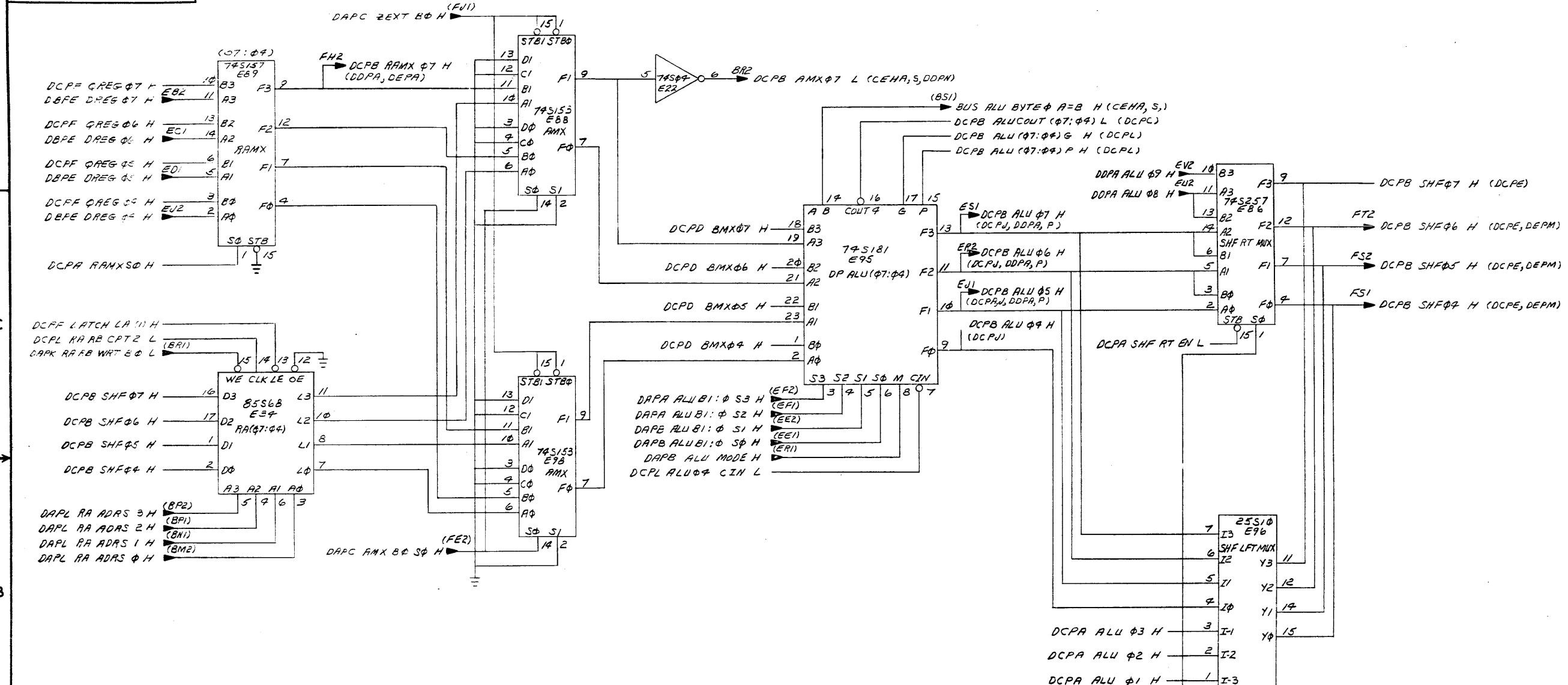
OE	SI	S0	YN
H	X	X	HI-Z
L	L	L	I <sub>0</sub> -I <sub>0</sub> , NO SHIF
L	L	H	I <sub>0</sub> -I <sub>1</sub> , SHF [1]
L	H	L	I <sub>1</sub> -I <sub>2</sub> , SHF [2]
L	H	H	I <sub>0</sub> -I <sub>3</sub> , SHF [3]

REVISIONS

CHK	CHANGE NO.	REV.

274

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



ALU-74S181

SELECTION	M-H LOGIC FUNCTIONS	ACTIVE HIGH DATA M-L ARITHMETIC OPERATIONS	
		$\overline{C}_N = H$ (NO CARRY)	$\overline{C}_N = L$ (WITH CARRY)
L L L L	$F = \overline{A}$	$F = A$	$F = A PLUS 1$
L L L H	$F = A + B$	$F = A + B$	$F = (A + B) PLUS 1$
L L H L	$F = \overline{A} B$	$F = A + \overline{B}$	$F = (A + \overline{B}) PLUS 1$
L L H H	$F = 0$	$F = MINUS 1 (2'S COMPL)$	$F = ZERO$
L H L L	$F = \overline{A} \overline{B}$	$F = A PLUS \overline{A} \overline{B}$	$F = A PLUS \overline{A} \overline{B} PLUS 1$
L H L H	$F = \overline{B}$	$F = (A + B) PLUS \overline{A} \overline{B}$	$F = (A + B) PLUS \overline{A} \overline{B} PLUS 1$
L H H L	$F = A \oplus B$	$F = A MINUS B MINUS 1$	$F = A MINUS B$
L H H H	$F = A \overline{B}$	$F = A \overline{B} MINUS 1$	$F = A \overline{B}$
H L L L	$F = \overline{A} + B$	$F = A PLUS \overline{A} B$	$F = A PLUS \overline{A} B PLUS 1$
H L L H	$F = \overline{A} \oplus \overline{B}$	$F = A PLUS B$	$F = A PLUS B PLUS 1$
H L H L	$F = B$	$F = (A + \overline{B}) PLUS AB$	$F = (A + \overline{B}) PLUS AB PLUS 1$
H L H H	$F = AB$	$F = AB MINUS 1$	$F = AB$
H H L L	$F = 1$	$F = A PLUS A$	$F = A PLUS A PLUS 1$
H H L H	$F = A + \overline{B}$	$F = (A + B) PLUS A$	$F = (A + B) PLUS A PLUS 1$
H H H L	$F = A + B$	$F = (A + B) PLUS A$	$F = (A + B) PLUS A PLUS 1$
H H H H	$F = A$	$F = A MINUS 1$	$F = A$

REVISIONS

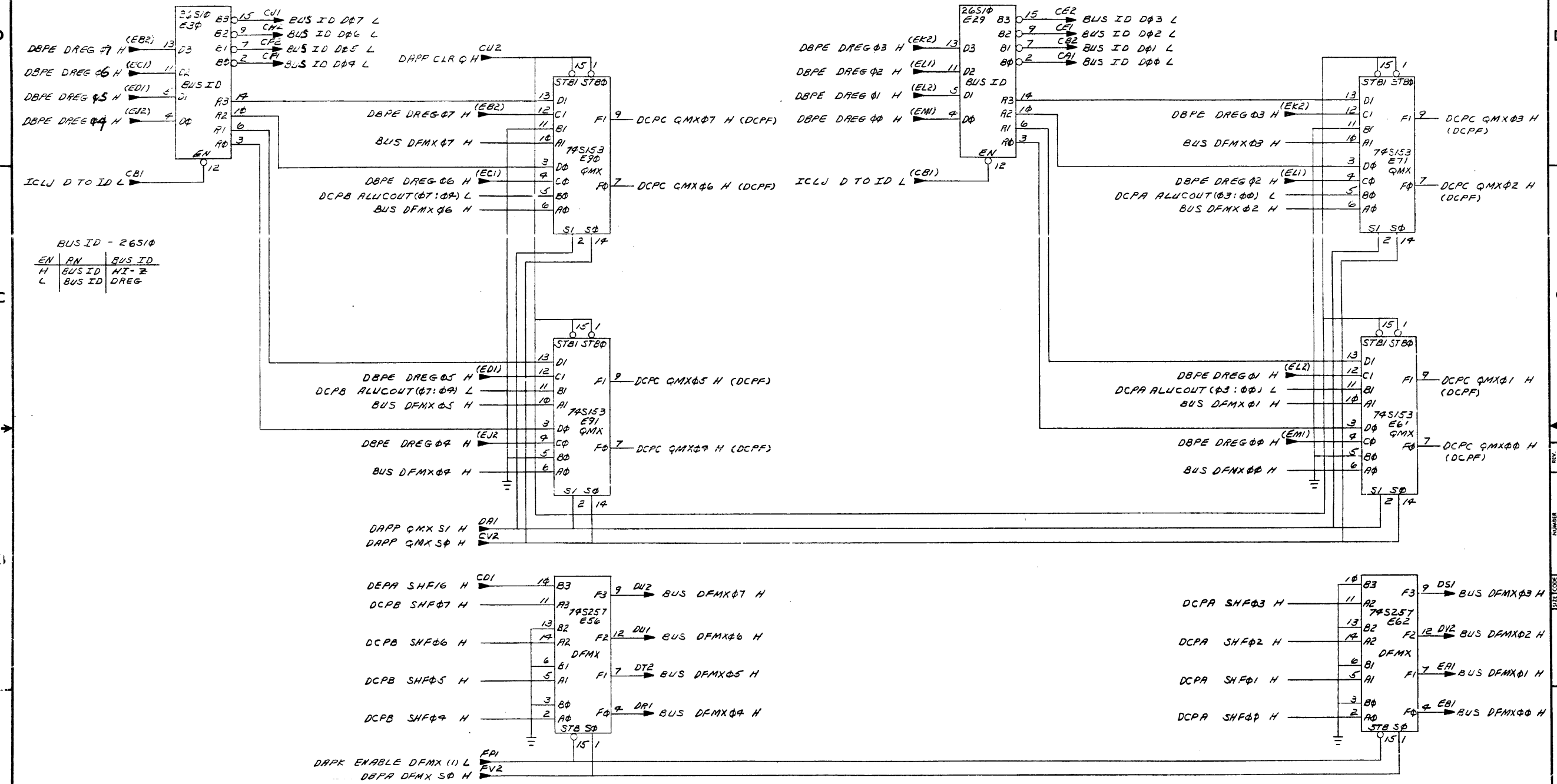
CHK	CHANGE NO.	REV.

(RA, RAMX, AMX, ALU, SHF, 07:04) (SLOT 12)

TITLE	DATA PATH 07:00 (DCPB)	SIZE CODE	D CS	NUMBER	M8228-0-1	REV.	C
SCALE	+	SHEET	3 OF 12	DIST.			

REV. C  
NUMBER  
DCS M8228-0-1

"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"



BUS ID - 26S10

EN	RN	BUS ID
H		BUS ID HI-Z
L		BUS ID DREG

DFMX-74S257

STB	SI	FN
H	X	HI-Z
L	L	SHE-INTEGER
L	H	SHE-UNPACKED FLOAT

QMX-74S153

STB	SI	FN
H	X	CLR DREG, FN=L
L	L	BUS DFMX
L	H	DEC. CONST, 6 ER + BIT NIBBLE
L	H	DREG
L	H	BUS ID AN.

(QMX, BUS MD, BUS ID 07:00) (SLOT 12)

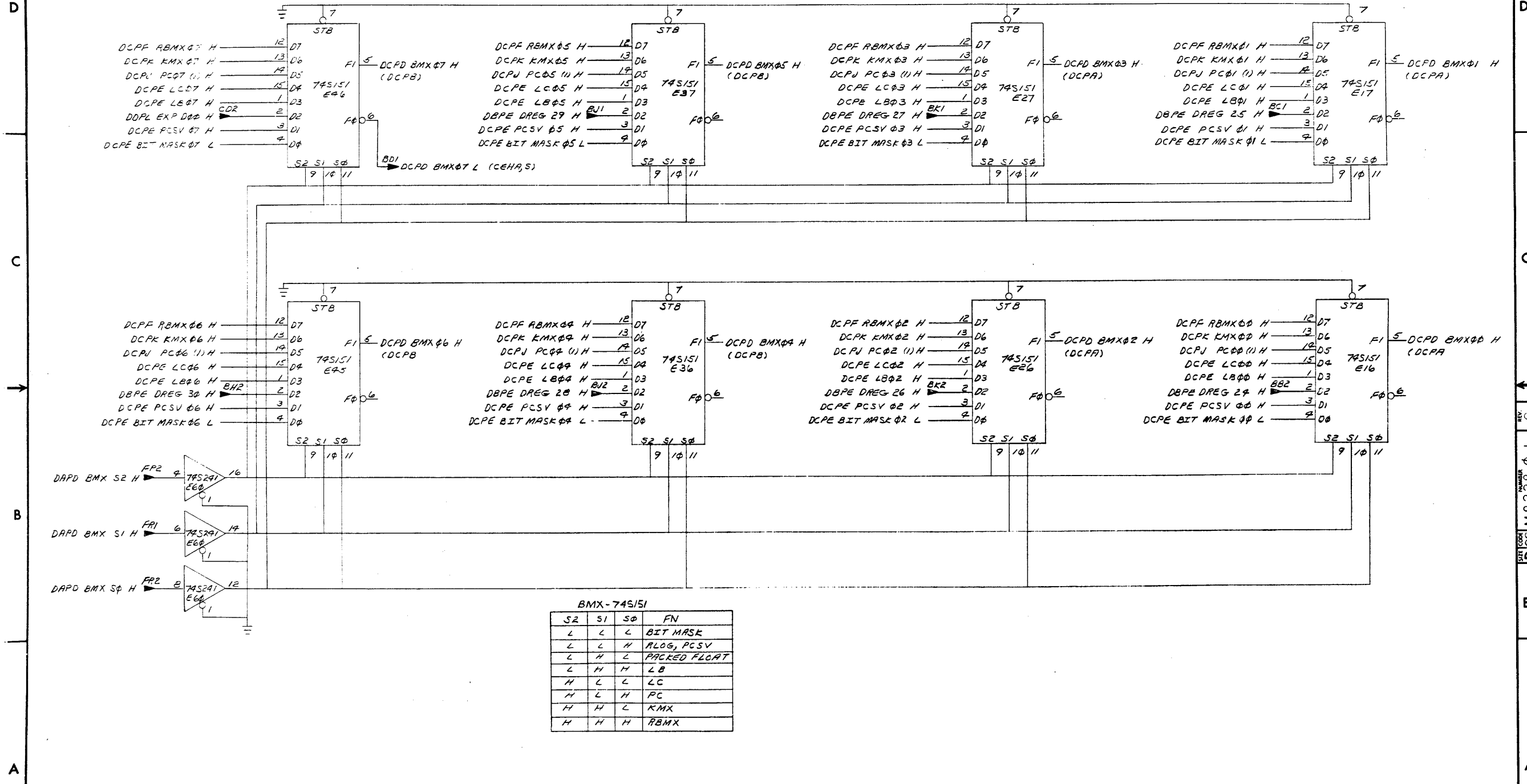
TITLE	DATA PATH 07:00 (DCPF)	SIZE CODE	DCS	NUMBER	M8228-0-1	REV.	C
SCALE		SHEET	4 OF 12	DIST.			

REVISIONS

CHK	CHANGE NO.	REV.

276

"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"



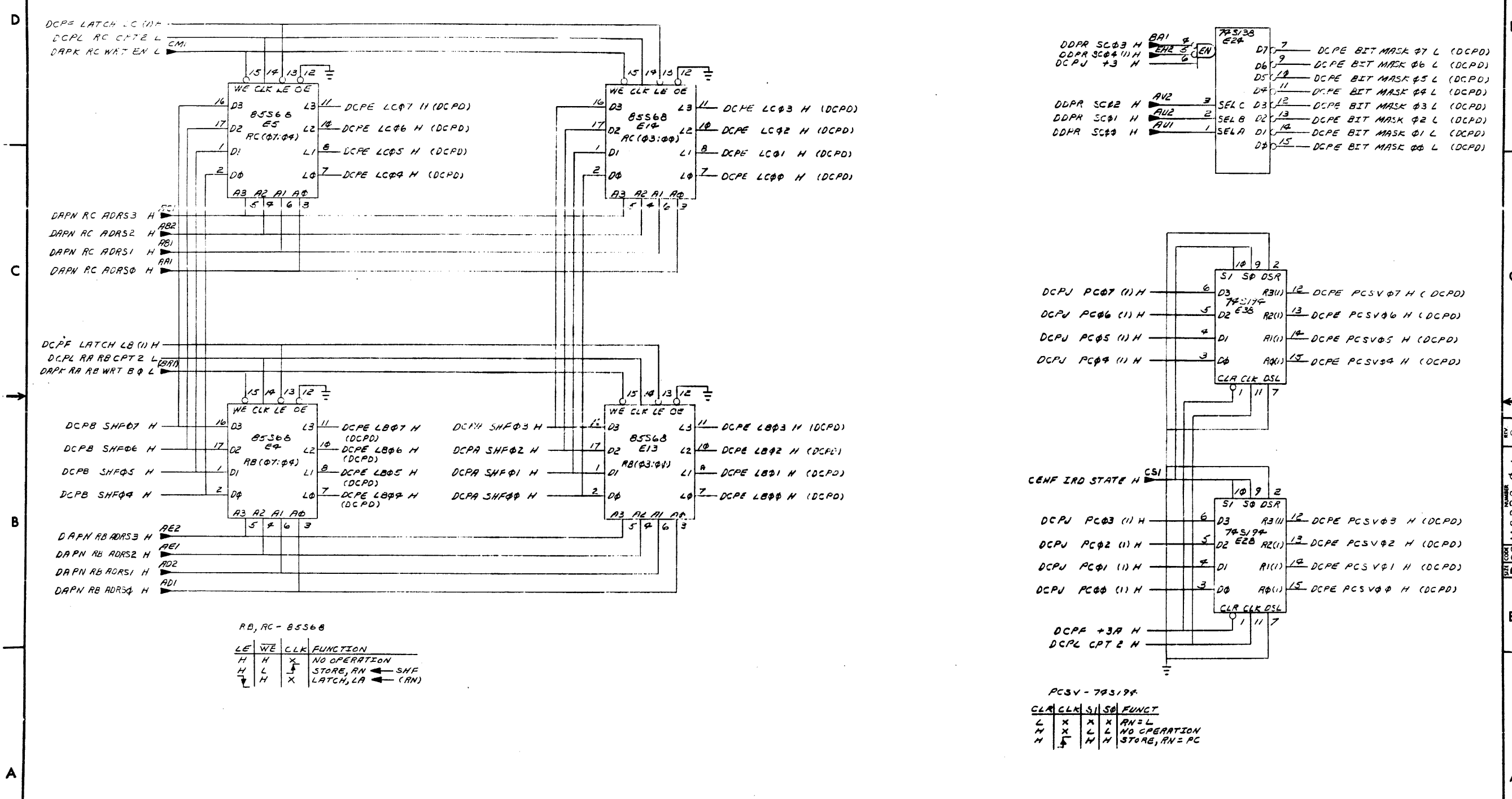
BMX-74S151

S2	S1	S0	FN
L	L	L	BIT MASK
L	L	H	ALOG, PCSV
L	H	L	PACKED FLOAT
L	H	H	LB
H	L	L	LC
H	L	H	PC
H	H	L	KMX
H	H	H	RBMX

REVISIONS

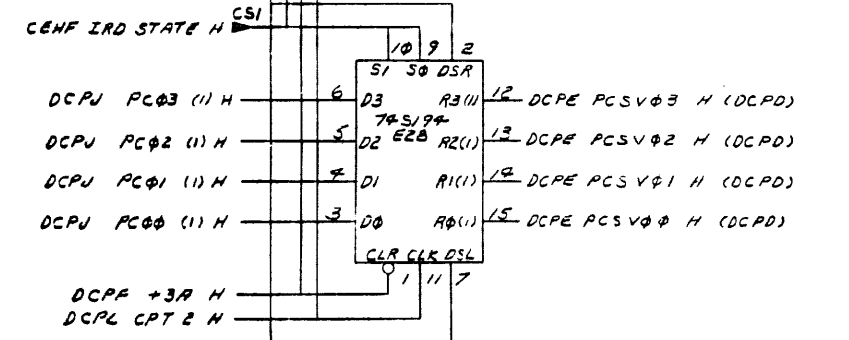
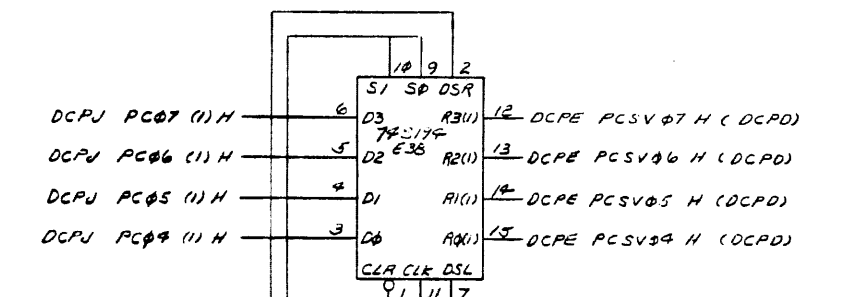
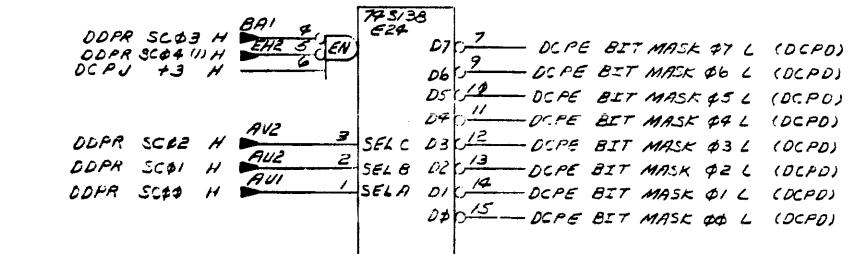
CHK	CHANGE NO.	REV.

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



RB, RC - 85568

LE	WE	CLK	FUNCTION
H	H	X	NO OPERATION
H	L	X	STORE, RN ← SHF
L	H	X	LATCH, LA ← (RN)

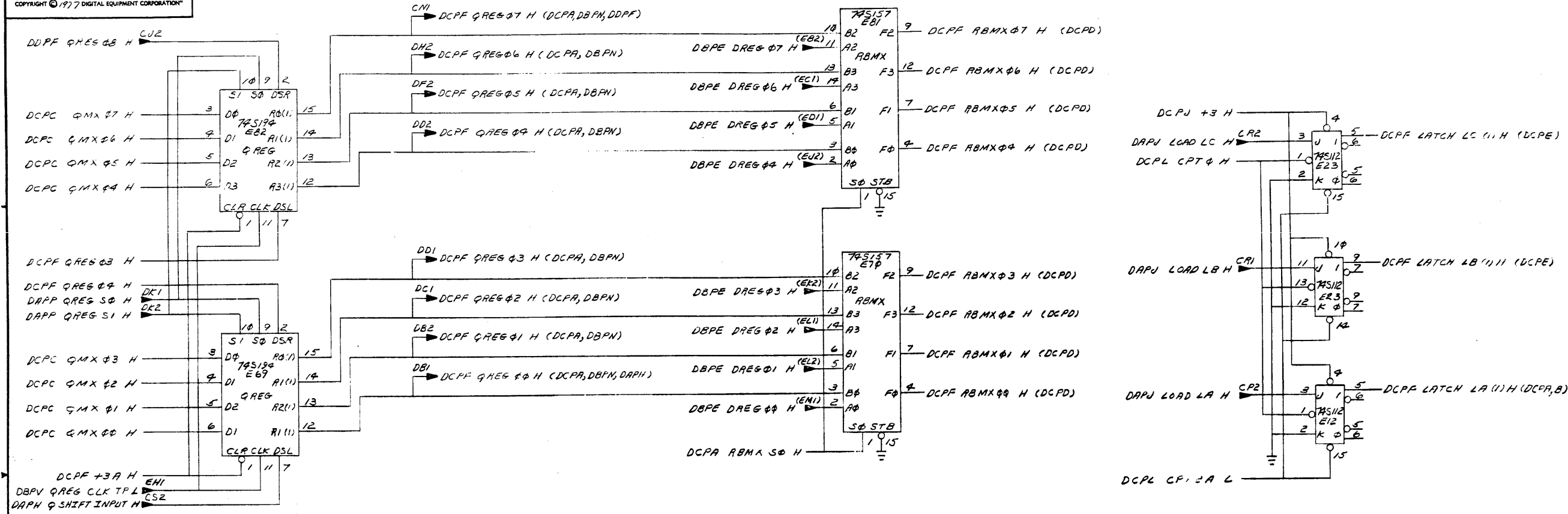


PCSV - 745194

CLR	CLK	S1	S0	FUNCT
L	X	X	X	RN=L
H	X	L	L	NO OPERATION
H	L	H	H	STORE, RN=PC

(RB, RC, PCSV AND BITMASK 07:00) (SLOT 12)

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

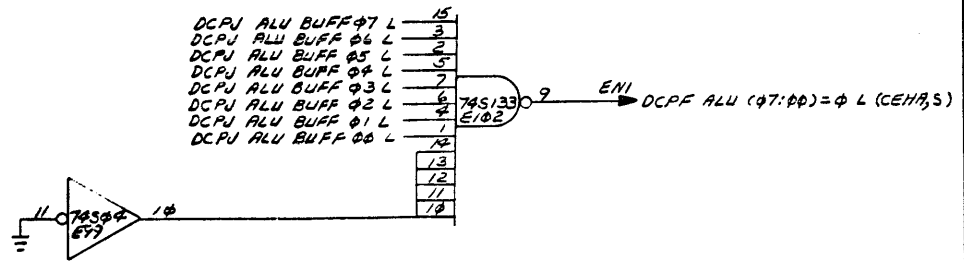
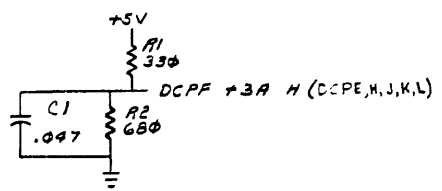


RBMX-74S157

S0	FV
L	DREG
H	QREG

QREG-74S194

CLR	CLK	S1	S0	AN (FUNCT)
L	X	X	X	DREG ← L
H	L	L	L	NO OPERATION
H	L	L	H	SHF RT WITH DSR
H	L	H	L	SHF LFT WITH DSL
H	L	H	H	LOAD, AN = QMX



REVISIONS

CHK	CHANGE NO.	REV.

(LATCH CONTROL, QREG, RBMX 07:00 (SLOT 12))

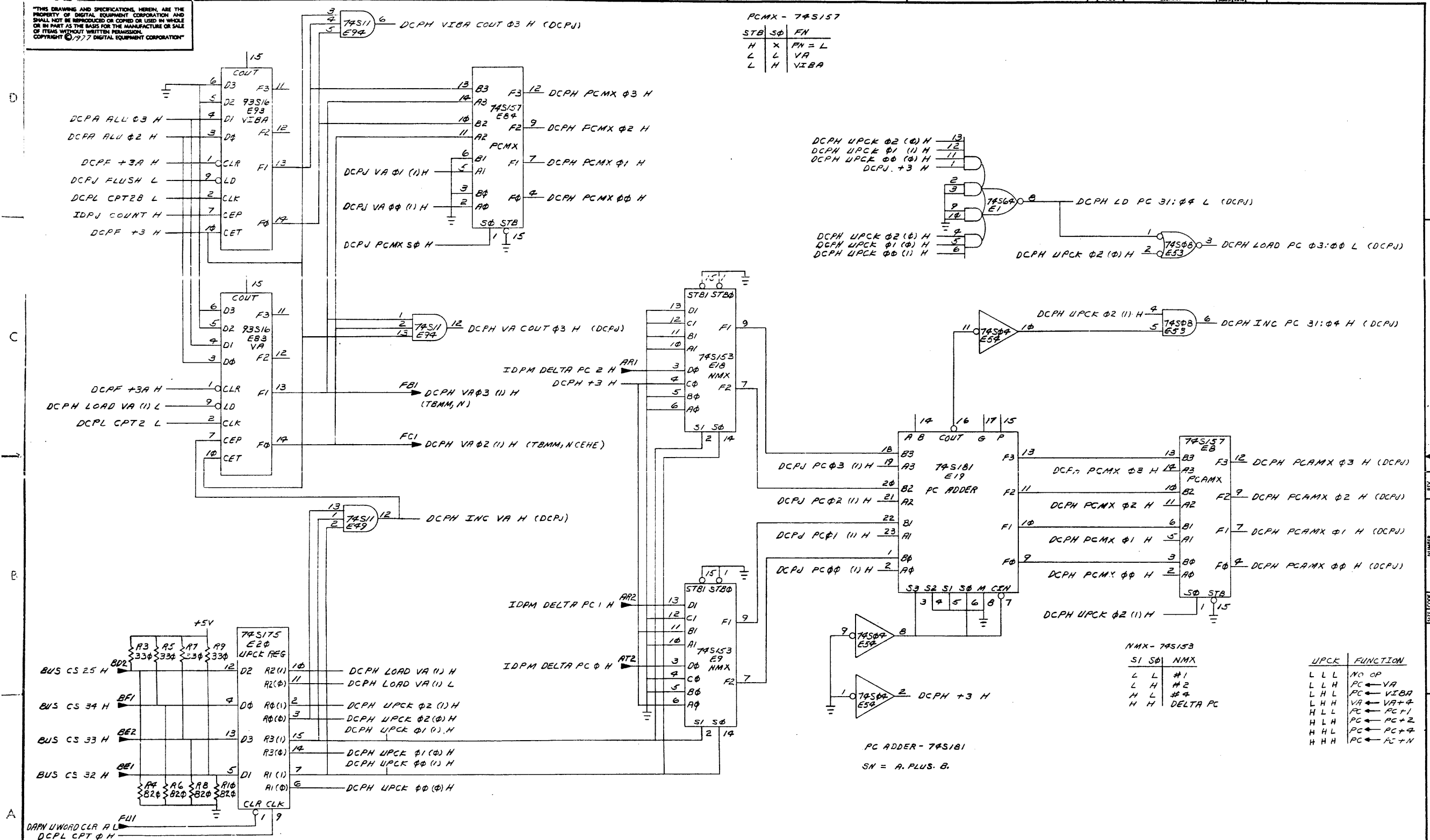
TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 07:00 (DCPF)	D C S M 8228-0-1	C	C
SCALE	SHEET	7 OF 12	DIST.

DCS M 8228-0-1 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

PCMX - 74S157

STB	SΦ	FN
H	X	FN = L
L	L	VA
L	H	VIBA



NMX - 74S153

S1	S0	NMX
L	L	#1
L	H	#2
H	L	#4
H	H	DELTA PC

UPCK	FUNCTION
L L L	NO OP
L L H	PC ← VA
L H L	PC ← VIBA
L H H	VA ← VA + 4
H L L	PC ← PC + 1
H L H	PC ← PC + 2
H H L	PC ← PC + 4
H H H	PC ← PC + N

PC ADDER - 74S181  
SN = A. PLUS. B.

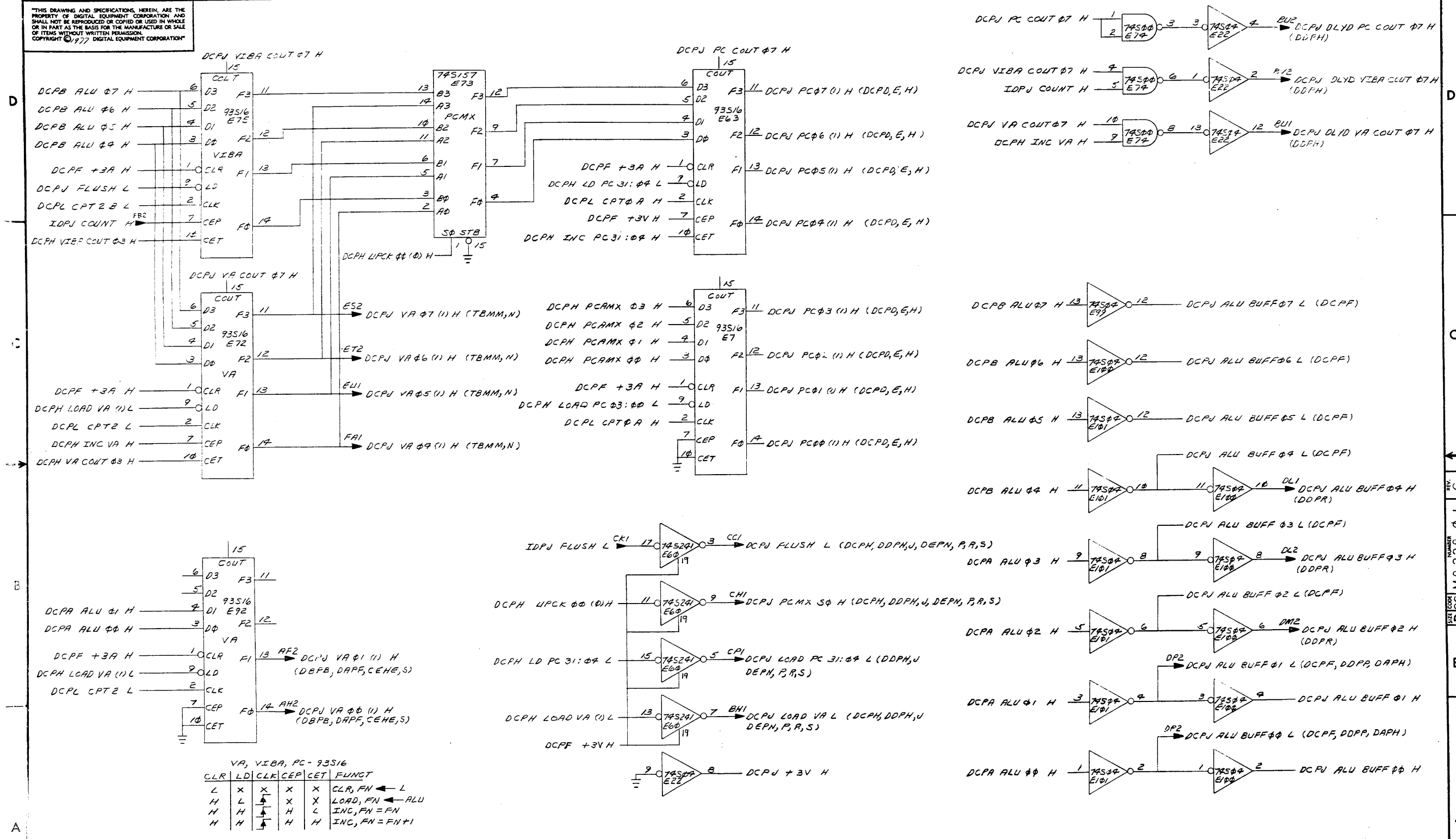
REVISIONS

CHK	CHANGE NO.	REV.

200



"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

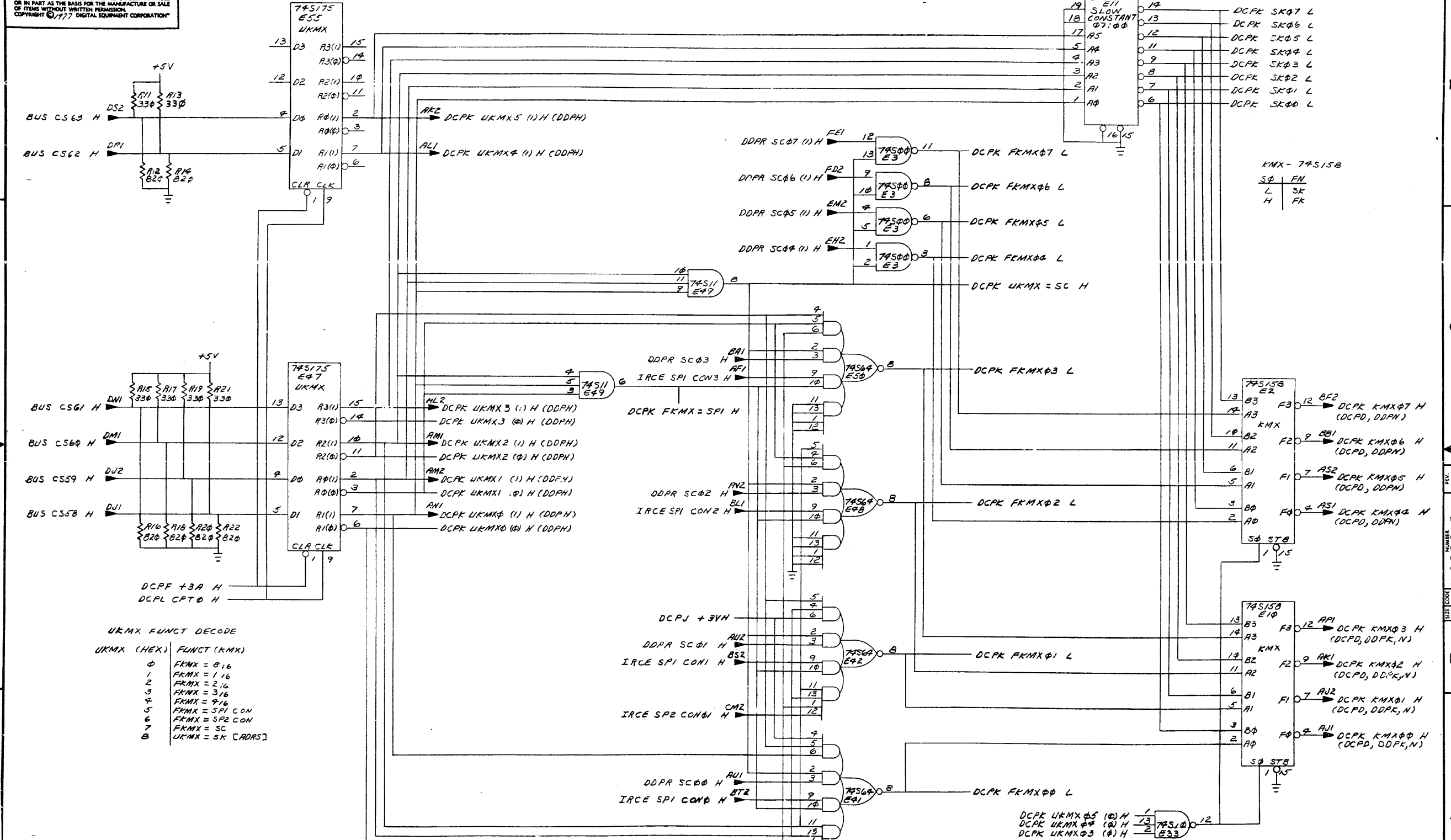
CHK	CHANGE NO.	REV.

(VA VIBA PCMX 07:04, PC AND ALU BUFF 07:00)(SLOT 12)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 07:00 (DCPJ)	DCS M8228-0-1		C

SCALE:      SHEET: 9 OF 12

"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"



UKMX FUNCT DECODE

UKMX (HEX)	FUNCT (KMX)
0	FKMX = 016
1	FKMX = 116
2	FKMX = 216
3	FKMX = 316
4	FKMX = 416
5	FKMX = SPI CON
6	FKMX = SP2 CON
7	FKMX = SC
8	UKMX = SK [ADRS]

REVISIONS

CHK	CHANGE NO.	REV.

(KMX AND CONTROL 07:00) (SLOT 12)

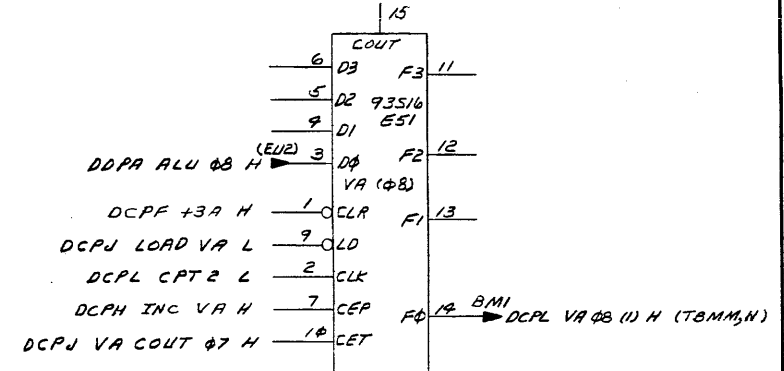
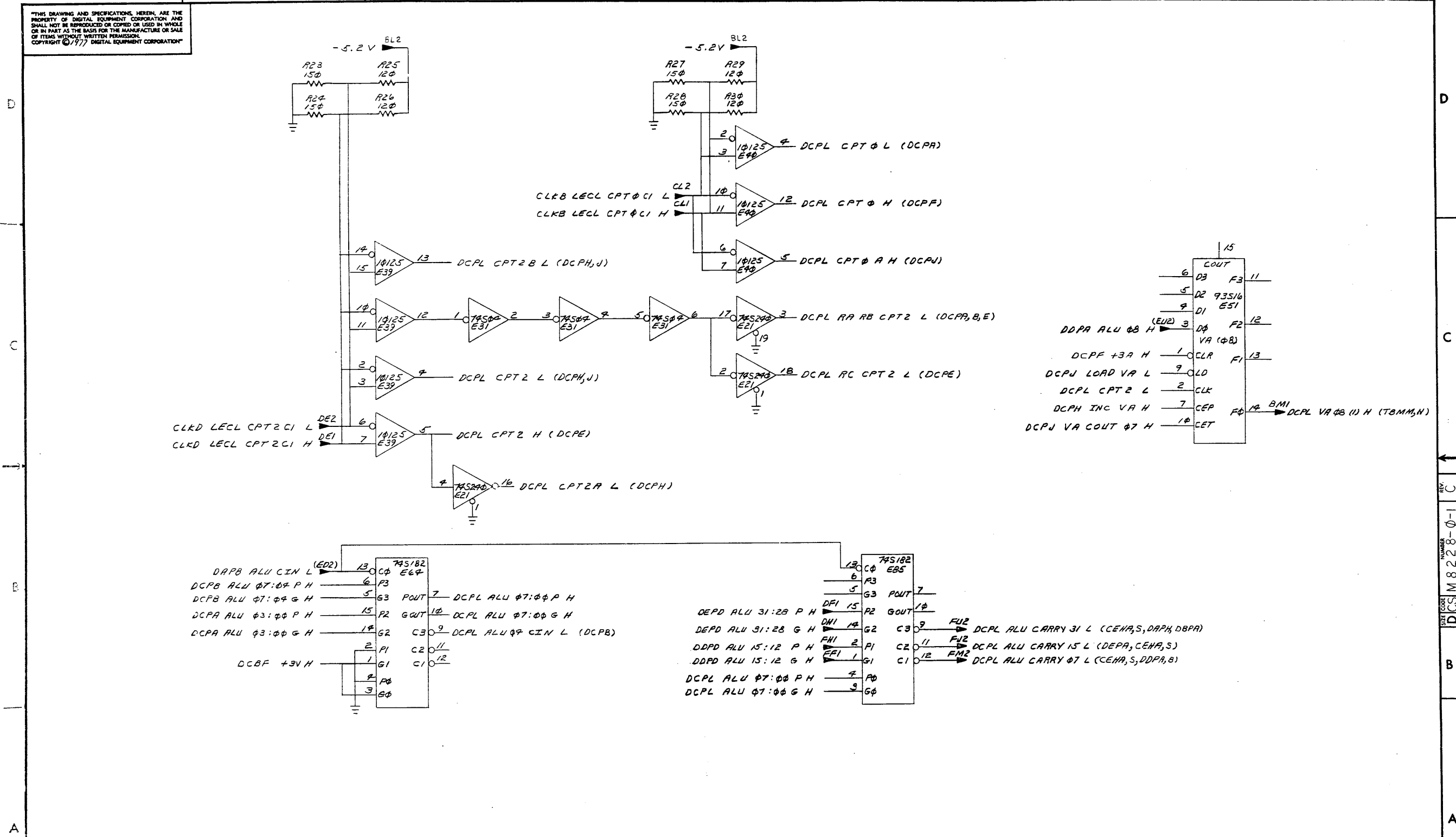
TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 07:00 (DCPK)	DCS	M8228-0-1	C

SCALE: \_\_\_\_\_ SHEET: 10 OF 12 DIST: \_\_\_\_\_

282

"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"

1-0-8228-0-1

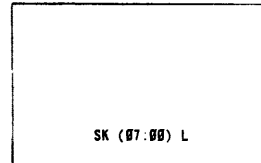
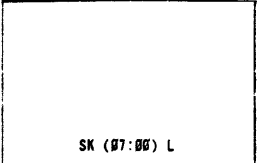
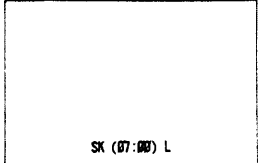
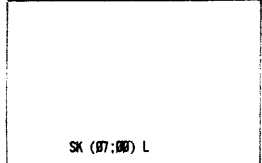


REVISIONS		
CHK	CHANGE NO.	REV.

(CLKS AND LOOKAHEAD CARRY) (SLOT 12)

TITLE	SIZE/COO	NUMBER	REV.
DATA PATH 07:00 (DCPL)	D CS	M8228-0-1	C
SCALE	SHEET	DIST.	
	11 OF 12		

"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"



ROM ADDR = UKMX	ROM DATA								SLOW CONSTANT
	M7	M6	M5	M4	M3	M2	M1	M0	
00	L	L	L	L	L	L	L	L	X
01	L	L	L	L	L	L	L	L	X
02	L	L	L	L	L	L	L	L	X
03	L	L	L	L	L	L	L	L	X
04	L	L	L	L	L	L	L	L	X
05	L	L	L	L	L	L	L	L	X
06	L	L	L	L	L	L	L	L	X
07	L	L	L	L	L	L	L	L	X
08	H	H	H	L	H	L	H	H	--14
09	L	H	L	H	H	H	H	H	--A0
0A	H	H	L	L	H	L	H	H	--34
0B	H	H	L	H	L	H	H	H	--20
0C	H	L	H	H	H	H	H	H	--40
0D	H	L	H	L	H	H	H	H	--50
0E	H	H	H	H	H	H	H	H	--00
0F	L	L	L	H	L	L	L	L	--EF
10	L	H	H	H	H	H	H	H	--80
11	H	H	H	H	H	H	H	H	--00
12	L	L	L	L	L	L	L	L	--FF
13	H	H	H	H	H	H	H	H	--00
14	H	H	H	L	L	L	L	H	--1E
15	H	H	L	L	L	L	L	L	--3F
16	H	L	L	L	L	L	L	L	--7F
17	H	H	H	H	H	L	L	L	--07
18	H	H	H	H	L	L	L	L	--0F
19	H	H	H	L	H	H	H	H	--10
1A	L	L	L	H	L	H	H	H	--E0
1B	L	L	L	L	H	H	H	H	--F0
1C	L	L	L	L	L	H	H	H	--F8
1D	H	H	L	H	H	H	H	H	--20
1E	H	H	L	L	H	H	H	H	--30
1F	H	H	H	L	L	H	H	H	--18

ROM ADDR = UKMX	ROM DATA								SLOW CONSTANT
	M7	M6	M5	M4	M3	M2	M1	M0	
20	L	L	L	L	L	L	L	L	--FF
21	H	H	H	H	L	L	H	H	--0C
22	H	H	H	H	L	L	H	L	--0D
23	H	H	H	L	L	L	L	L	--1F
24	H	H	H	H	H	H	H	H	--00
25	L	H	L	L	H	H	H	H	--00
26	H	H	H	H	H	H	L	L	--03
27	H	L	L	L	L	L	H	H	--7C
28	L	L	L	H	H	H	H	H	--E0
29	H	L	L	H	H	H	H	H	--60
2A	L	L	L	L	L	L	L	L	--SPARE
2B	L	L	H	H	L	L	L	L	--CF
2C	L	L	L	H	L	L	L	L	--EF
2D	L	L	L	L	H	H	H	L	--F1
2E	H	H	H	L	L	H	H	L	--19
2F	L	L	L	L	L	H	H	L	--F9
30	L	L	L	L	L	L	L	L	--FF
31	L	H	H	H	H	L	L	H	--06
32	H	H	L	L	H	H	H	H	--30
33	L	L	L	L	H	H	H	H	--F0
34	L	L	H	H	H	H	H	H	--C0
35	H	H	H	H	H	L	L	H	--00
36	H	H	H	H	L	H	H	L	--09
37	L	L	L	L	H	L	L	H	--F0
38	L	L	L	L	H	L	H	L	--F5
39	H	H	H	L	L	H	L	H	--1A
3A	H	H	L	H	H	L	H	H	--24
3B	H	H	H	L	L	H	L	L	--1B
3C	L	L	L	L	L	L	H	H	--FC
3D	H	H	H	H	L	H	L	H	--0A
3E	H	L	L	L	L	L	L	H	--7E
3F	L	L	L	H	L	L	H	H	--EC

ROM ADDR = UKMX	ROM DATA								SLOW CONSTANT
	M7	M6	M5	M4	M3	M2	M1	M0	
40	L	L	L	L	L	L	L	L	NOT USED
41									
42									
43									
44									
45									
46									
47									
48									
49									
4A									
4B									
4C									
4D									
4E									
4F									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
5A									
5B									
5C									
5D									
5E									
5F									

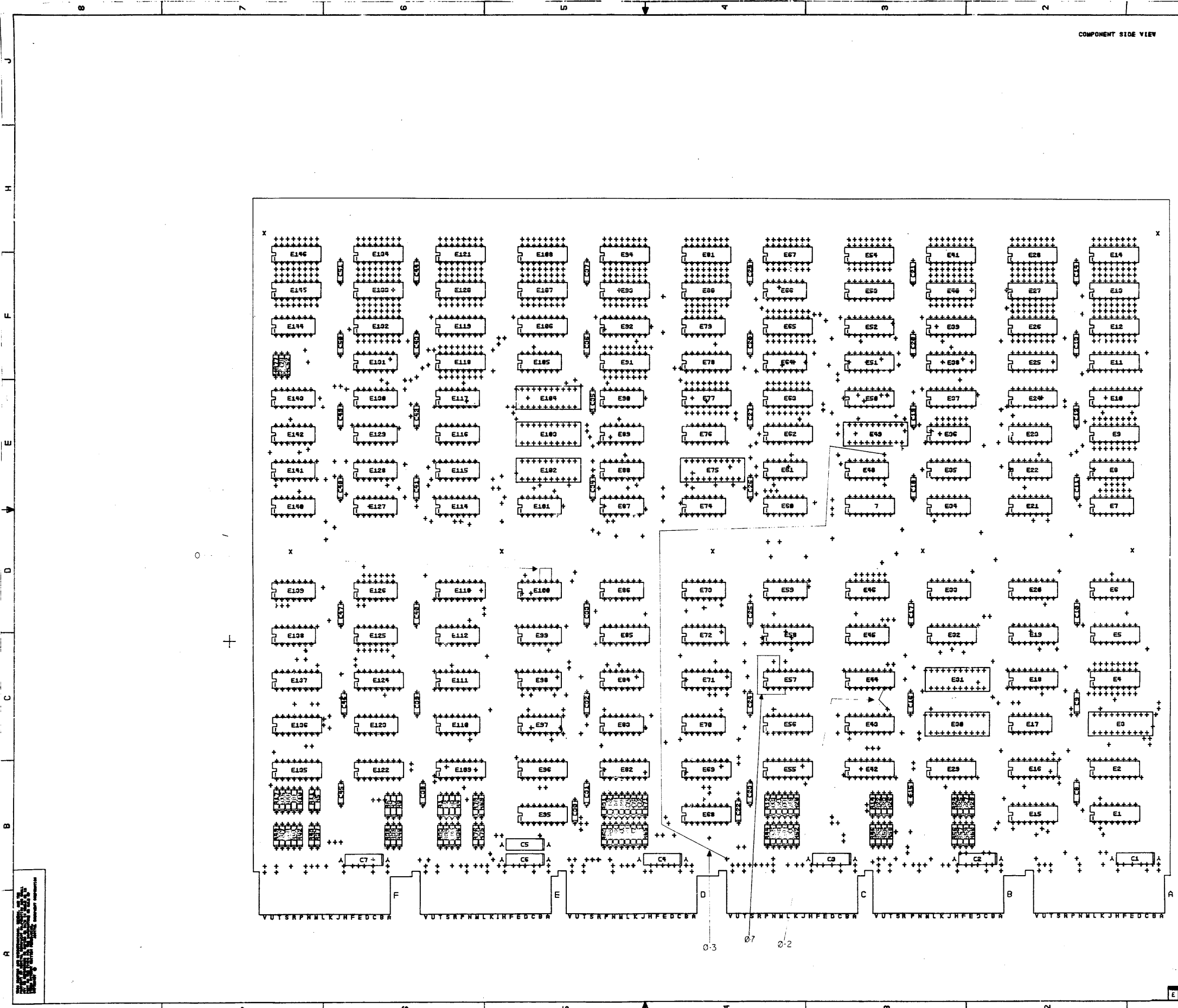
ROM ADDR = UKMX	ROM DATA								SLOW CONSTANT
	M7	M6	M5	M4	M3	M2	M1	M0	
60	L	L	L	L	L	L	L	L	NOT USED
61									
62									
63									
64									
65									
66									
67									
68									
69									
6A									
6B									
6C									
6D									
6E									
6F									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
7A									
7B									
7C									
7D									
7E									
7F									

80 to FF L L L L L L L L L L NOT USED

REVISIONS		
CHK	CHANGE NO.	REV.

SLOW CONSTANT ROM 07:00- 23-030B1-00 (SLOT 12)

TITLE	SIZE/CODE	NUMBER	REV.
DATA PATH 07:00 (DCP)	DCS	M8228-0-1	C
SCALE	SHEET 12 OF 12	DIST.	



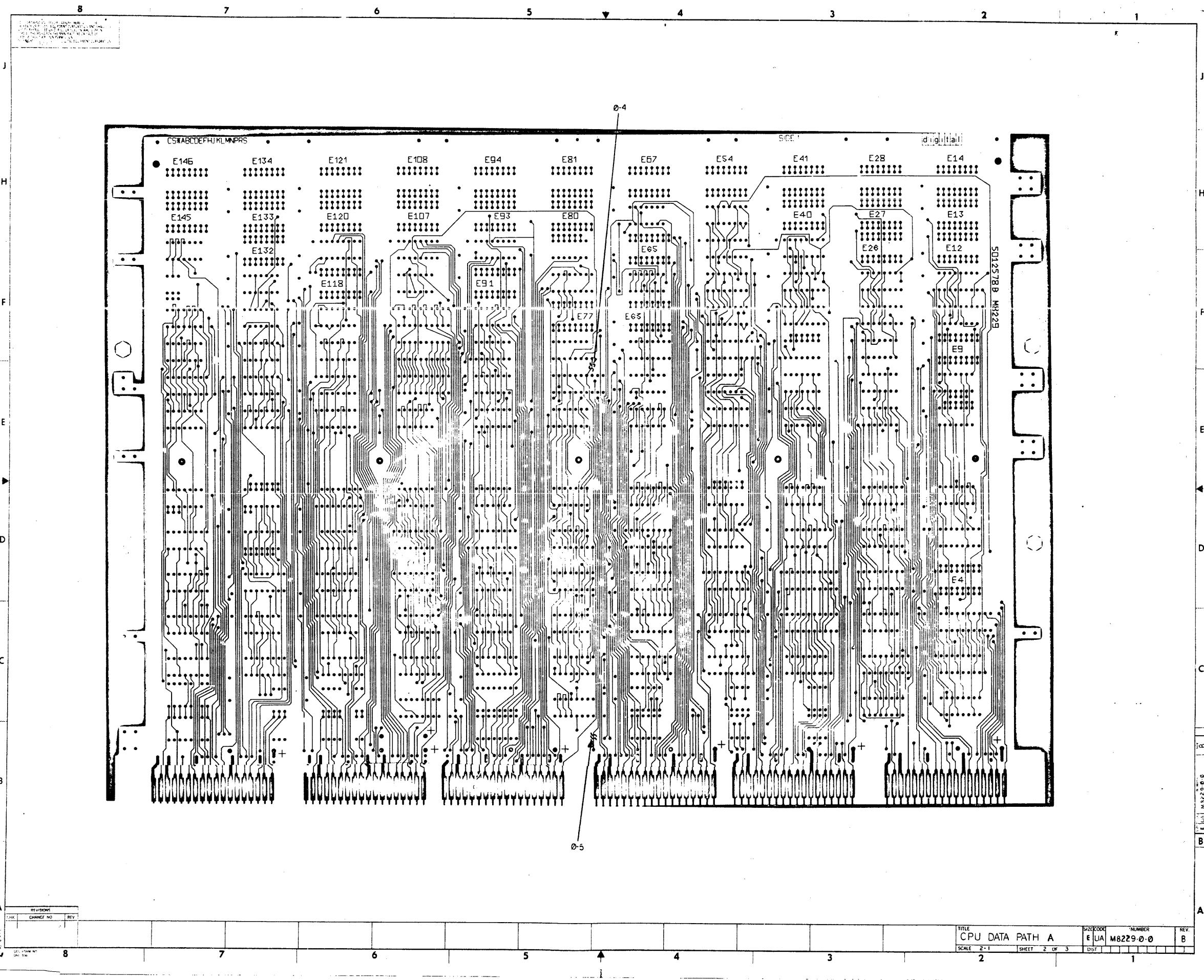
SIGNATURES	DATE	SCALE	REVISE CODE	NUMBER
DRN. [Signature]	07/15/44	1:1	E 104	1
CHK'D BY [Signature]				
APP'D BY [Signature]				
PAGE NO. 1				
DATE				
SCALE				
SHT.				
REVISE CODE				
NUMBER				

digital
TITLE CPU DATA PATH
SIZE CODE
NUMBER
E 104
1

NOTES: WIRE ADD:  
0.1 1.5% TO EST-4  
ETCH CUT  
0.4 1.5% TO EST-4

CHANGE NO NEW

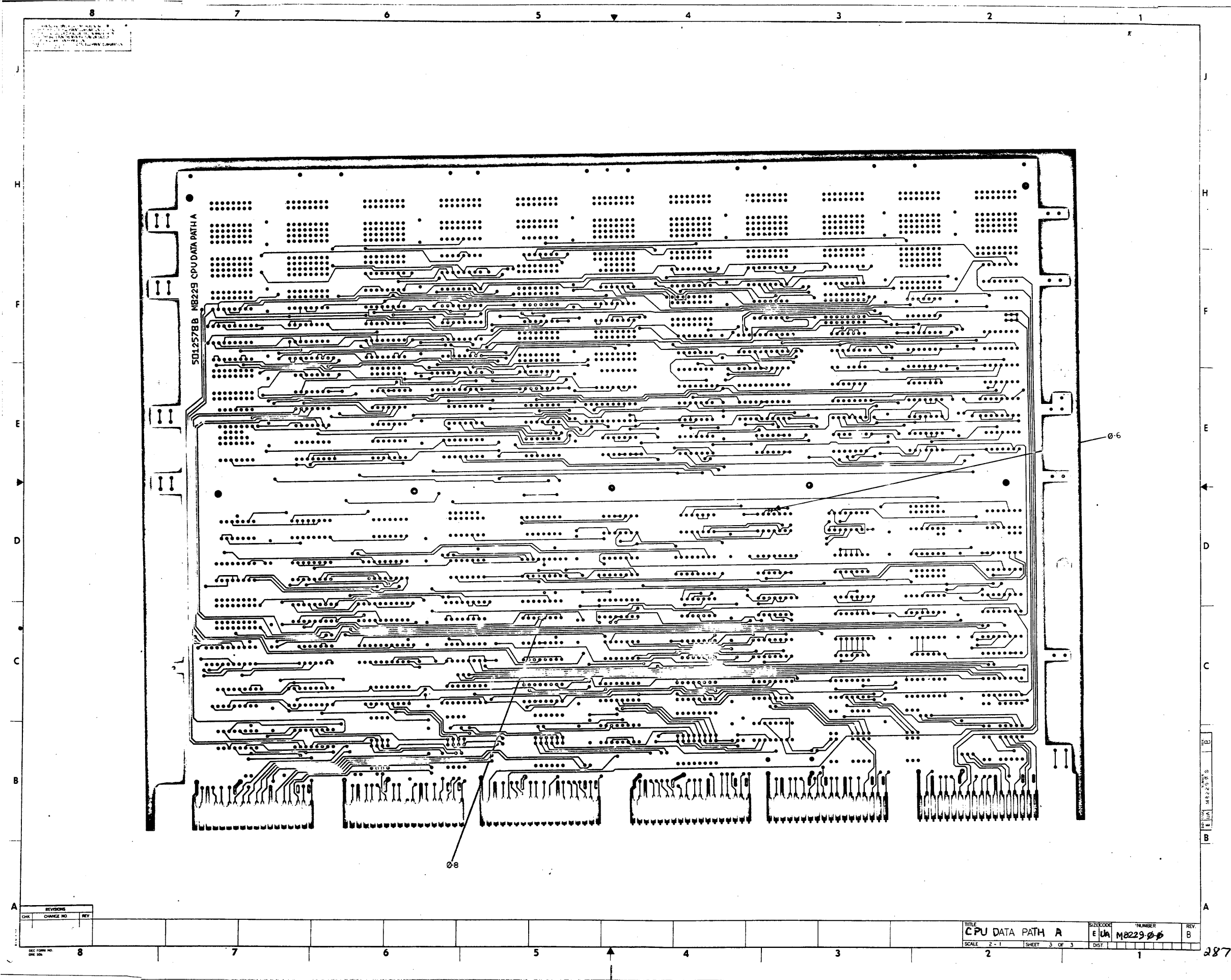
NOTES: WIRE ADD:
0.1 1.5% TO EST-4
ETCH CUT
0.4 1.5% TO EST-4
DATE
SCALE
SHT.
REVISE CODE
NUMBER
E 104
1



REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE/GRID	NUMBER	REV.
CPU DATA PATH A	EUA	M8229-0-0	B
SCALE 2-1	SHEET 2 OF 3	DIST	

286



5012578B MB229 CPU DATA PATH A

Ø-6

Ø-8

REVISIONS		
CHK	CHANGE NO	REV

TITLE: CPU DATA PATH A  
 SIZE: CODE E 1A  
 NUMBER: MB229-0-0  
 SCALE: 2-1  
 SHEET: 3 OF 3  
 DIST: B

287

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MADE BY TRIAD      CHECKED F. SMART      SECTION  
DATE 6 NOV 76      DATE 12 MAY 77

ENG E. Anton      PROD Mike Terella      ISSUED SECTION  
DATE 6-9-77      DATE 6-1-77

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION
1	E-MD-5012578- $\emptyset$ - $\emptyset$	5012578	ETCHED CIRCUIT BOARD
2		10-12084-1	CAP. 8UF
3		10-12784	CAP. .047UF
4		13-01424	RES. 680 , 1/4 W, 5%
5		13-00247	RES. 120 , 1/4W, 5%
6		13-00250	RES. 150 , 1/4 W, 5%
7		13-00295	RES. 330 , 1/4 W, 5%
8		13-01775	RES. 820 , 1/4 W, 5%
9		19-12693	I.C. DEC 25S10
10		19-13839	I.C. DEC 74LS165
11		19-10532	I.C. DEC 74S00
2		19-10534	I.C. DEC 74S04
3		19-10536	I.C. DEC 74S10
4		19-10537	I.C. DEC 74S11
5		19-10539	I.C. DEC 74S20

M8229- $\emptyset$ - $\emptyset$																		
----------------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

REF DESIGNATION

C1-C7  
C8-C52  
R78  
R71-R76  
R65-R70  
R1-R32, R77  
R33-R64  
E136  
E39, E52, E92, E119, E106  
E7, E36, E87, E139, E141, E131  
E6, E23, E45, E59, E60, E66, E88, E140, E130, E40  
E35, E70, E142  
E8, E72, E89, E126  
E21, E33, E34, E125, E143, E105

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  
CPU DATA PATH A

ASSY NO.  
E-UA-M8229- $\emptyset$ - $\emptyset$

SIZE CODE  
**B PL**

NUMBER  
M8229- $\emptyset$ - $\emptyset$

REV.  
**B**

SHEET 1 OF 3

INSERTION PARTS LIST DATA BASE REV



# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY DATE	TRIAD 6 NOV 76	CHECKED DATE	F. SMART 12 MAY 77
ENG DATE	<i>E. Anton</i> 6-9-77	PROD DATE	<i>Mike Tuller</i> 6-1-77
SECTION		ISSUED SECTION	

## QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8229-0-0											REF DESIGNATION
16		19-10541	I.C. DEC 74S40	2											E17, E101
17		19-10542	I.C. DEC 74S64	15											E83, E84, E86, E97, E98, E99, E100, E110, E111, E11, E127, E123, E128, E129, E117
18		19-10544	I.C. DEC 74S74	3											E61, E64, E144
19		19-10548	I.C. DEC 74S157	1											E137
20		19-10549	I.C. DEC 74S158	4											E1, E2, E18, E62
21		19-10552	I.C. DEC 74S194	1											E113
22		19-10956	I.C. DEC 74S151	13											E10, E11, E24, E25, E37, E38, E43, E44, E50, E51, E56, E57, E58
23		19-10957	I.C. DEC 74S175	12											E15, E16, E29, E47, E55, E69, E82, E96, E109, 22, E135, E42
24		19-11469	I.C. DEC 8640	1											E79
25		19-11675	I.C. DEC 74S138	4											E5, E71, E85, E124
26		19-11415	I.C. DEC 10125	2											E68, E95
27		19-11712	I.C. DEC 74S51	6											E46, E74, E114, E115, E116, E76
28		19-11983	I.C. DEC 74S133	3											E19, E20, E32

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 <p style="text-align: center;">CPU DATA PATH A</p>	ASSY NO. <p style="text-align: center;">E-UA-M8229-0-0</p>	SIZE <p style="text-align: center;">B</p>	CODE <p style="text-align: center;">PL</p>	NUMBER <p style="text-align: center;">M8229-0-0</p>	REV. <p style="text-align: center;">B</p>
---	---	---	--	---	--	--

SHEET 2 OF 3

INSERTION PARTS LIST DATA BASE REV

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:	
MADE BY DATE		CHECKED F. SMART DATE 12 MAY 77													
ENG DATE		PROD DATE													
E. Anton 6-9-77		Mike Terullo 6-1-77													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8229-0-0											REF DESIGNATION
29		19-12096	I.C. DEC 74S86	1											E90
30		19-12389	I.C. DEC 74S08	3											E22, E73, E138
31		19-12865	I.C. DEC 74LS283	2											E78, E53
32		19-13462	I.C. DEC 74S240	4											E3, E31, E75, E104
33		19-13493	I.C. DEC 74S241	1											E49
34		19-13670	I.C. DEC 74S373	1											E30
35		23-027B1-00	I.C. DEC ROM 11 MODE	1											E102
36		23-026B1-00	I.C. DEC ROM VAX	1											E103
37		12-10711-2	MODULE HANDLE	1											
38		9000024-01	MODULE HANDLE EYELETS	12											
			SPARES	30											E12-E14, E9, E4, E26-E28, E40, E41, E54, E63, E65, E67, E80, E81, E77, E91, E93, E94, E108, E107, E118, E120, E121, E132- E134, E146, E145

E.C.O. NO.

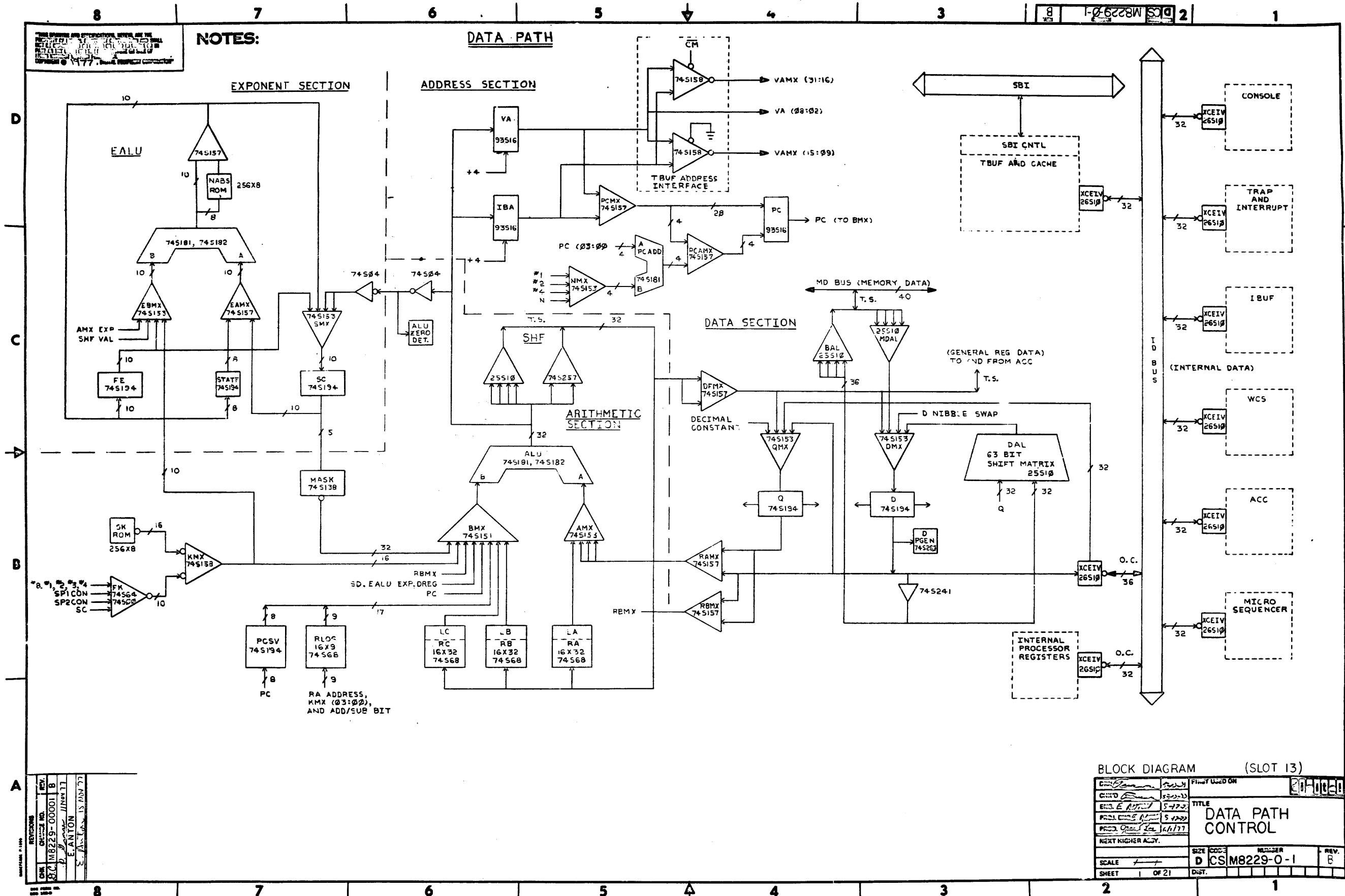
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION"

TITLE  
CPU DATA PATH A

ASSY NO.  
E-UA-M8229-0-0  
SHEET 3 OF 3

SIZE B  
CODE PL  
NUMBER M8229-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
B



THE GENERAL AND OPERATIONAL NOTES ARE THE PROPERTY OF THE COMPANY. NO PART OF THIS DOCUMENT 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.

**NOTES:**

**DATA PATH**

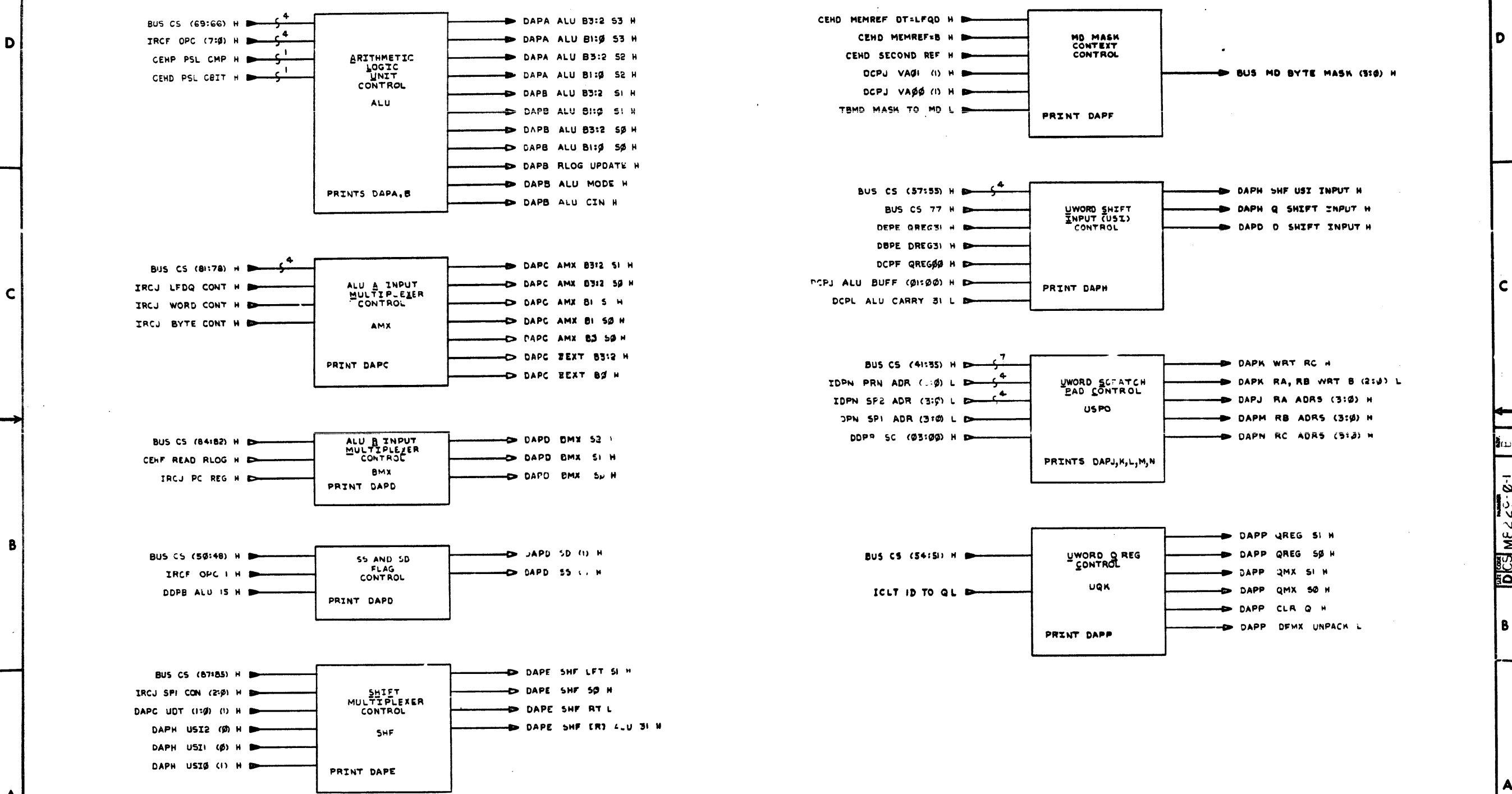
BLOCK DIAGRAM (SLOT 13)

DESIGNED BY	DATE	FILE NO.	REV.
CHIEF ENGINEER	5-22-77	5-422	B
ENGINEER	5-22-77	5-422	B
PROJ. ENG.	5-22-77	5-422	B
PROJ. ENG.	5-22-77	5-422	B
TITLE <b>DATA PATH CONTROL</b>			
SCALE	SIZE	NUMBER	REV.
1 OF 21	D	CS M8229-0-1	B
SHEET	DIST.		

REVISIONS

NO.	DESCRIPTION	DATE
1	INITIAL DESIGN	5-22-77
2	REVISED TO ADD...	5-22-77
3	REVISED TO ADD...	5-22-77
4	REVISED TO ADD...	5-22-77
5	REVISED TO ADD...	5-22-77

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 PATH CONTROL BLOCK DIAGRAM)(SLOT 13)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA PATH CONTROL	DCS	M8229-0-1	REV.	B
SCALE	NONE	SHEET	2 OF 21	DATE	

DCS M8229-0-1

292

THIS DRAWING AND SPECIFICATIONS HEREIN 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 OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.

1-0-0228W DCS 2

AMX CONTROL -- TRUTH TABLE

UAMX		UDT		CONTEXT			AMX CONTROL												AMX OUTPUT FUNCTIONS				
I	0	I	0	LONG	WORD	BYTE	BYTE 3			BYTE 2			BYTE 1			BYTE 0			BYTE 3	BYTE 2	BYTE 1	BYTE 0	
							S	S0	STB	S1	S0	STB	S1	S0	STB	S1	S0	STB					
L	L	X	X	X	X	X	L	L	L	L	L	L	L	L	L	L	L	L					LA (31:00)
L	H	X	X	X	X	X	L	H	L	L	H	L	L	H	L	L	H	L					RAMX (31:00)
H	L	L	L	X	X	X	L	H	L	L	H	L	L	H	L	L	H	L					RAMX (31:00)
H	L	L	H	X	X	X	X	H	H	L	L	H	L	L	H	L	L	H	L				[SXT LONG] ← RAMX 15 RAMX (15:00)
H	L	H	L	X	X	X	H	L	L	H	L	L	H	H	L	L	H	L					[SXT WORD] ← RAMX 7 RAMX (07:00)
H	L	H	H	X	X	X	L	H	L	L	H	L	L	H	L	L	H	L					RAMX (31:00)
H	L	H	H	L	H	L	L	H	L	L	H	L	L	H	L	L	H	L					[SXT WORD] ← RAMX 15 RAMX (15:00)
H	L	H	H	L	L	L	L	H	L	L	H	L	L	H	H	L	L	H	L				[SXT BYTE] ← RAMX 7 RAMX (07:00)
H	H	L	L	X	X	X	X	X	H	X	X	H	H	L	L	X	X	H					[0XT LONG] L ← L
H	H	L	H	X	X	X	X	X	H	X	X	H	L	H	L	L	H	L					[0XT WORD] L ← L RAMX (15:00)
H	H	H	L	X	X	X	X	X	H	X	X	H	L	L	L	L	H	L					[0XT BYTE] L ← L RAMX (07:00)
H	H	H	H	X	X	X	X	X	H	X	X	H	H	L	L	X	X	H					[0XT LONG] L ← L
H	H	H	H	L	H	L	X	X	H	X	X	H	L	H	L	L	H	L					[0XT WORD] L ← L RAMX (15:00)
H	H	H	H	L	L	H	X	X	H	X	X	H	L	L	L	L	H	L					[0XT BYTE] L ← L RAMX (07:00)

NOTE: X=DON'T CARE  
SXT=SIGN EXTEND  
0XT=ZERO EXTEND

ALU FUNCTION SELECT -- TRUTH TABLE

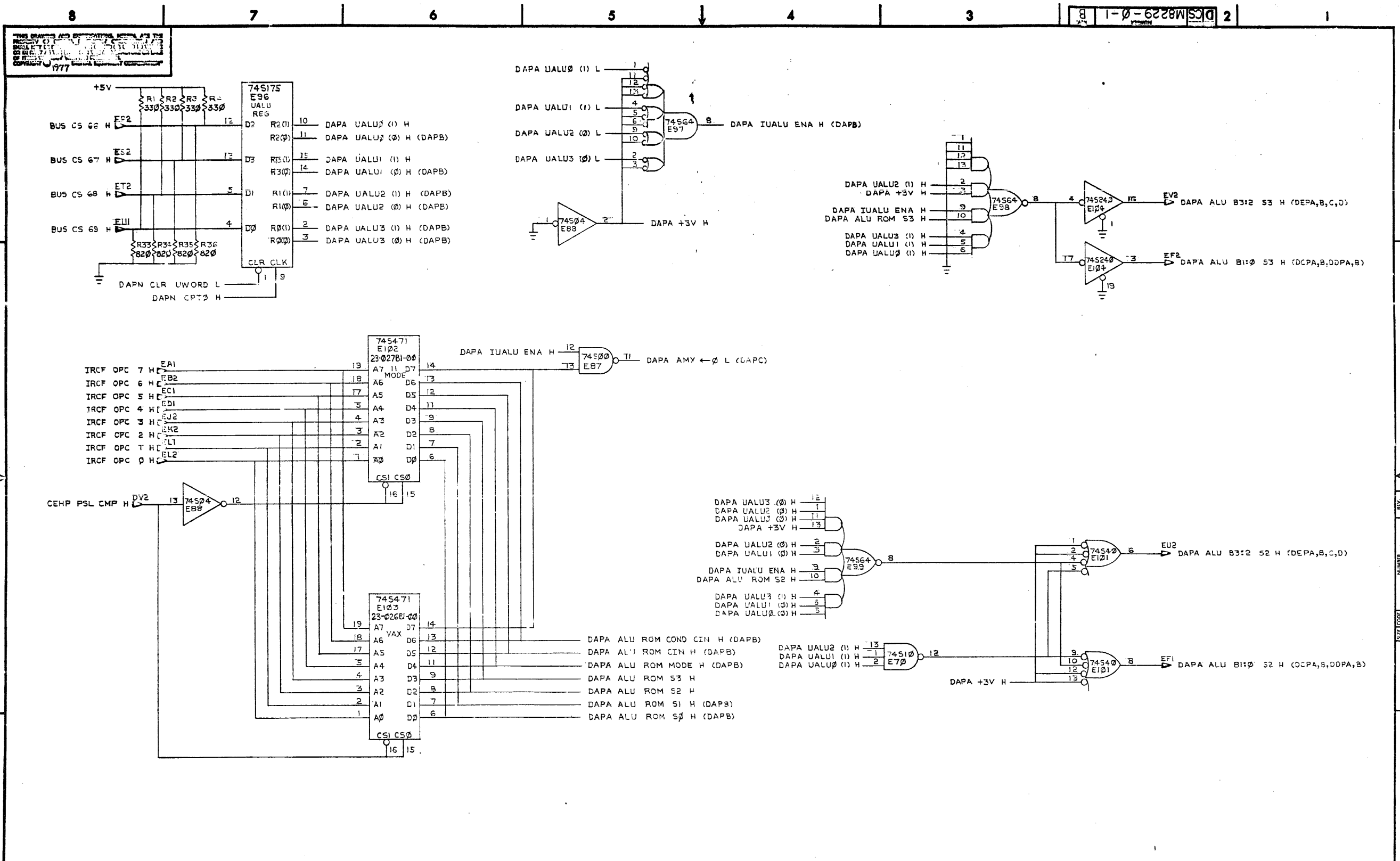
UALU (03:00)					FUNCTION SELECT LINES				MODE CONTROL		CARRY INPUT	ALU FUNCTION
HEX	3	2	1	0	S3	S2	S1	S0	H=LOGIC L=ARITH	CARRY=L		
0	L	L	L	L	L	L	H	H	L	L	L	A. MINUS. B
1	L	L	L	H	L	L	H	H	L	L	L	A. MINUS. B [R LOG]
2	L	L	H	L	L	L	H	H	L	L	H	A. MINUS. B. MINUS. I
3	L	L	H	H	*	*	*	*	*	*	*	INSTRUCTION DEP.
4	L	H	L	L	H	L	L	H	L	L	L	A. PLUS. B. PLUS. I
5	L	H	L	H	H	L	L	H	L	L	H	A. PLUS. B
6	L	H	H	L	H	L	L	H	L	L	H	A. PLUS. B [R LOG]
7	L	H	L	L	H	L	L	H	H	X	X	A. OR. NOT. B
8	H	L	L	L	L	L	H	H	L	H	X	A. XOR. B
9	H	L	L	H	L	L	H	H	H	H	X	A. AND. NOT. B
A	H	L	H	L	L	L	L	L	L	H	X	.NOT. A
B	H	L	H	H	H	L	L	H	L	L	PSL. C	A. PLUS. B. PLUS. C
C	H	H	L	L	H	H	H	L	L	H	X	A. OR. B
D	H	H	L	H	H	L	H	H	L	H	X	A. AND. B
E	H	H	H	L	H	L	H	L	L	H	X	B
F	H	H	H	H	H	H	H	H	L	H	X	A

NOTE: X=DON'T CARE  
\*=INSTRUCTION DEPENDENT

CHK	CHANGE NO.	REV.

(ALU AND AMX CONTROL TRUTH TABLES) (SLOT 13)

TITLE	DATA PATH CONTROL	DCS	NUMBER	M8229 - 0 - 1	REV.	B
SCALE	NONE	SHEET	3 OF 21	DIST.		



(ALU UWORD AND INSTR DEP CONTROL) (SLOT 13)

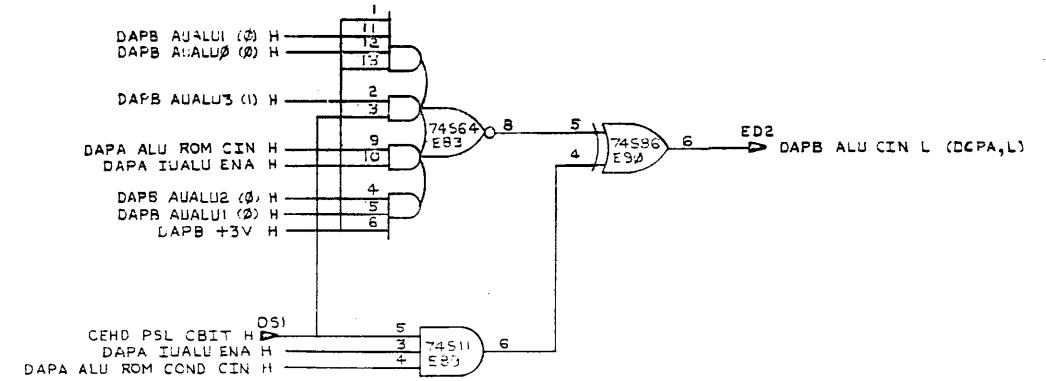
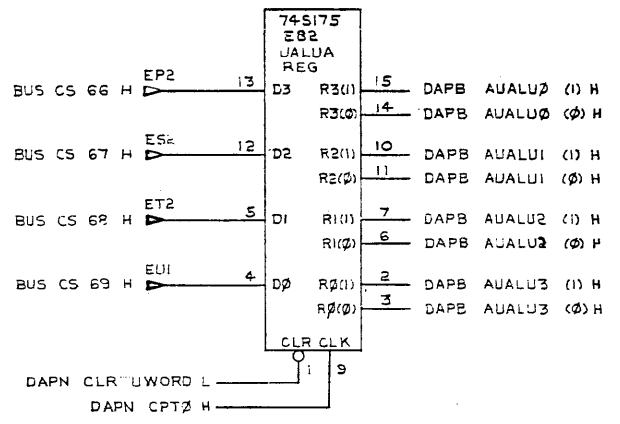
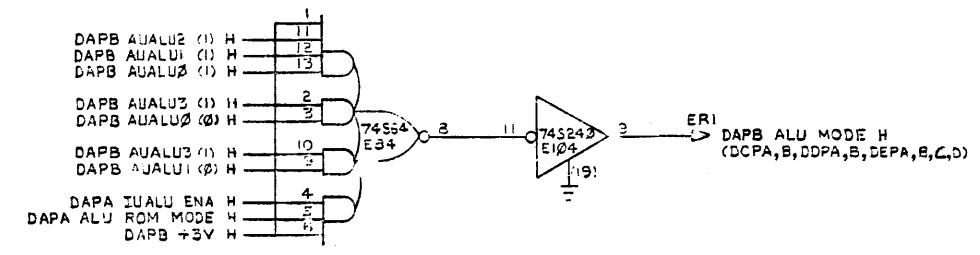
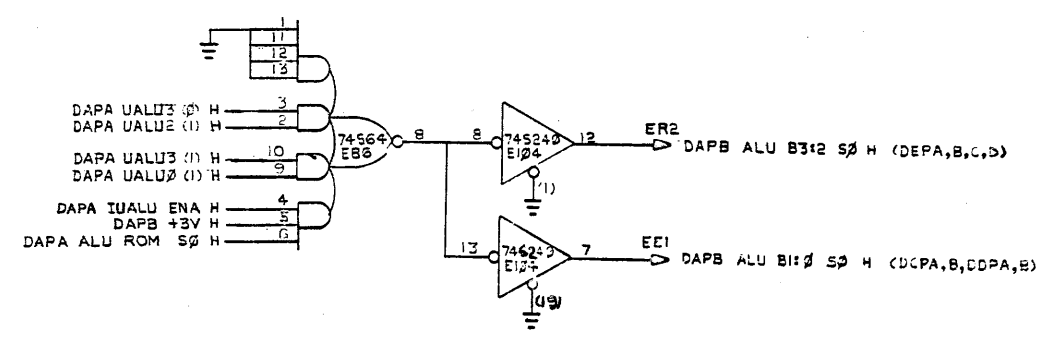
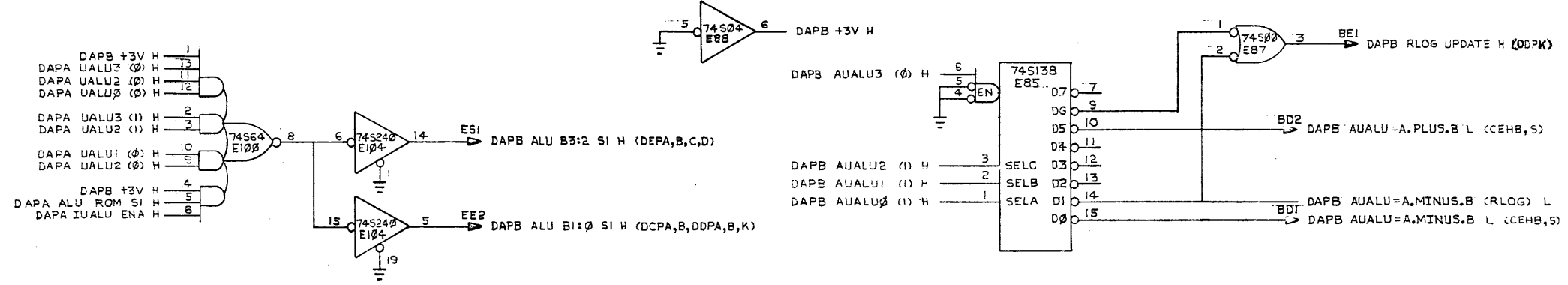
TITLE	SIZE/CODE	NUMBER	REV.
DATA PATH CONTROL (DAPA)	D	CS M8229-0-1	B
SCALE NONE	SHEET 4 OF 21	DIST.	

OK CANCEL

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

D  
C  
B  
A

D  
C  
B  
A



REVISIONS		
CHK	CHANGE NO.	REV.

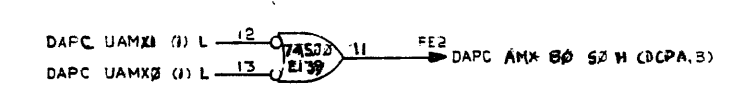
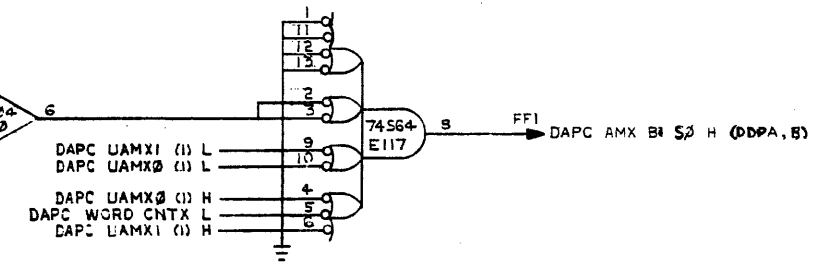
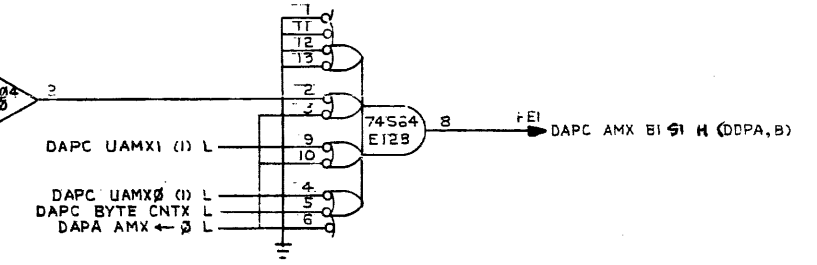
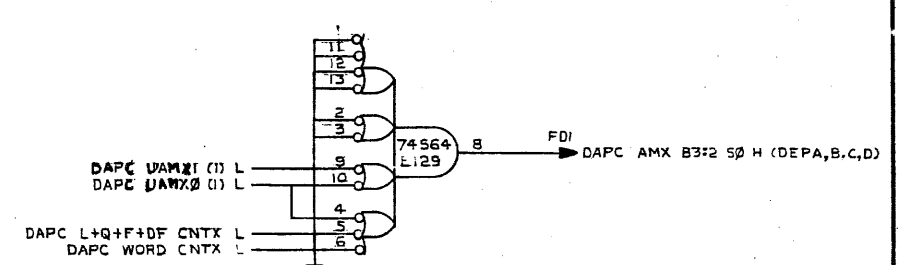
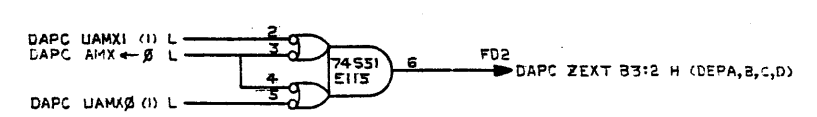
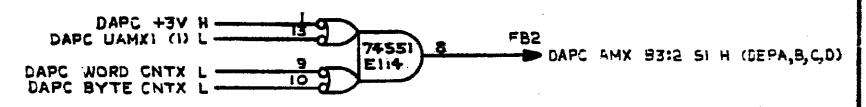
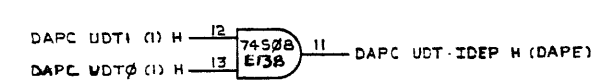
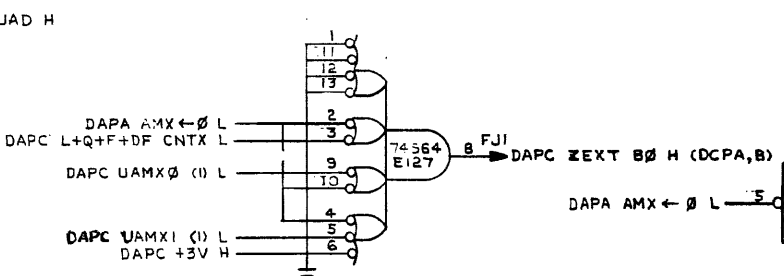
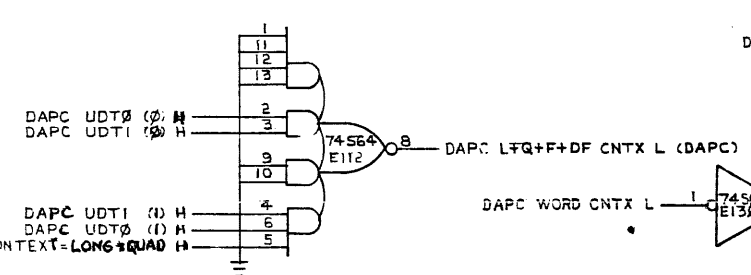
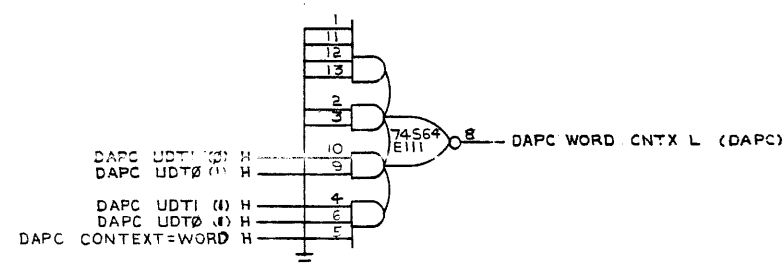
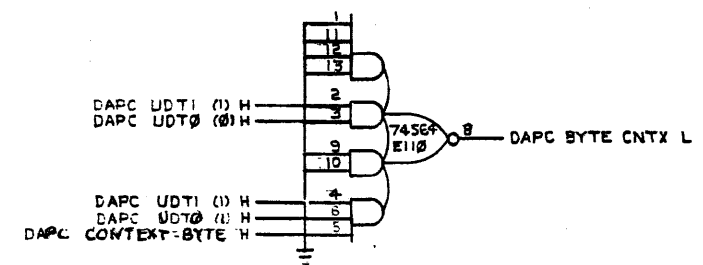
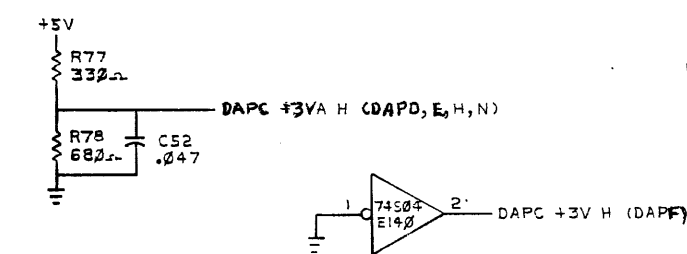
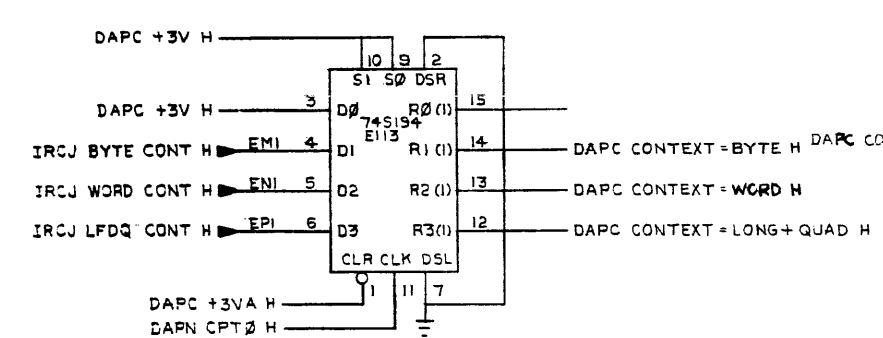
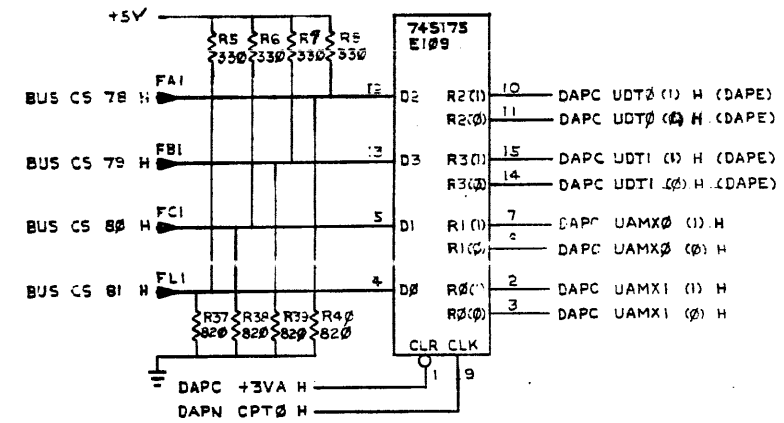
TITLE		(ALU CONTROL)	(SLOT 13)	SIZE CODE	NUMBER	REV.
DATA PATH CONTROL (DAPB)		D	CS	M8229-0-1	B	
SCALE	NONE	SHEET	5	OF	21	DIST.

THIS DRAWING AND OPERATIONAL MANUAL ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED, COPIED, EITHER WHOLLY OR IN PART, OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.

NOTE:  
XX(1)L = XX(0)H

D  
C  
B  
A

D  
C  
B  
A



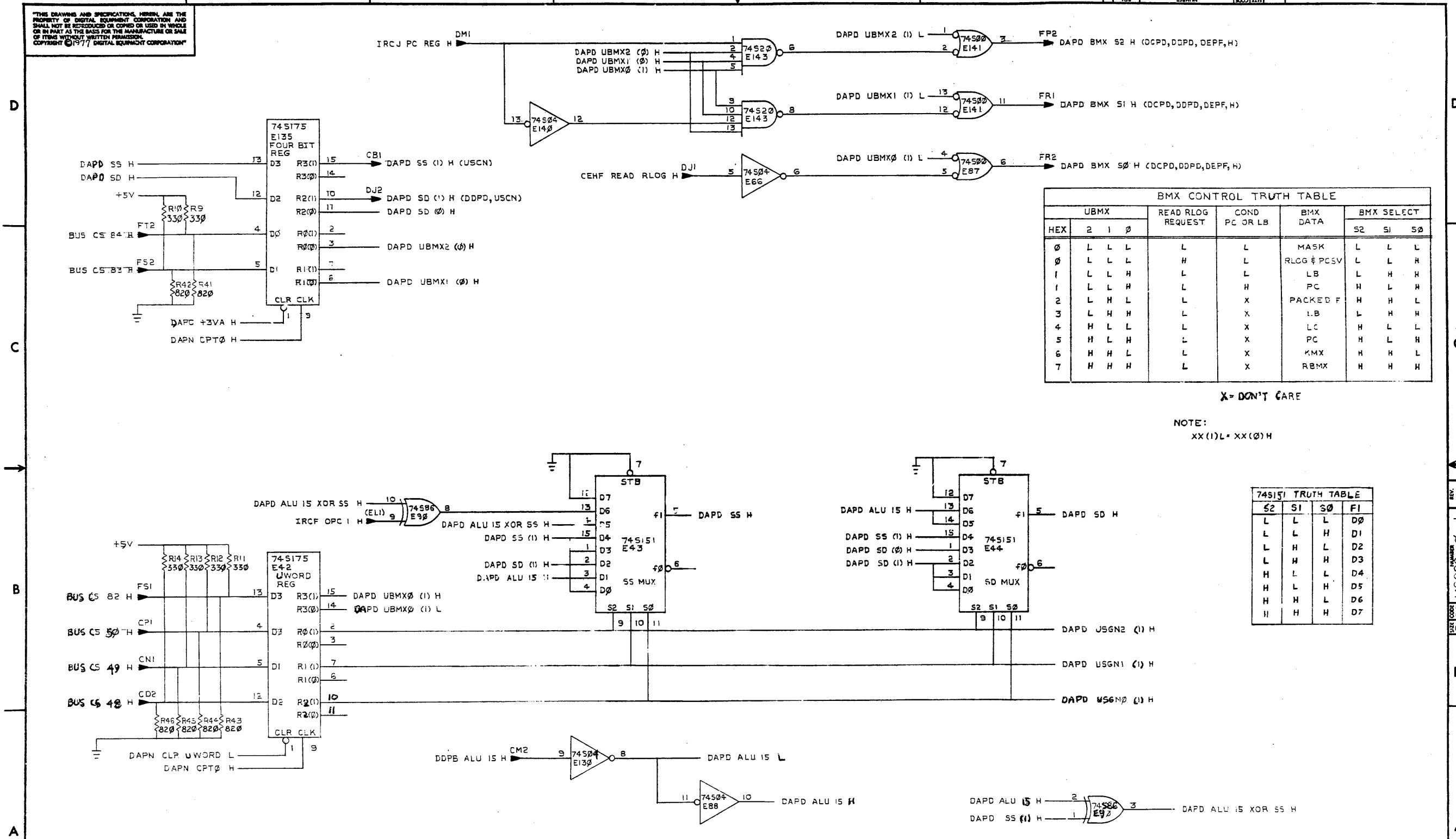
REVISIONS		
CHK	CHANGE NO.	REV.

(AMX CONTROL) (SLOT 13)		(DAPC)		SIZE CODE	NUMBER	REV.
DATA PATH CONTROL		D	CS	M8229-0-1	B	
SCALE NONE	SHEET 6 OF 2	DIST.				

29



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



HEX	UBMX			READ RLOG REQUEST	COND PC OR LB	BMX DATA	BMX SELECT		
	2	1	0				S2	S1	S0
0	L	L	L	L	L	MASK	L	L	L
0	L	L	L	H	L	RLOG & PCSV	L	L	H
1	L	L	H	L	L	LB	L	H	H
1	L	L	H	L	H	PC	H	L	H
2	L	H	L	L	X	PACKED F	H	H	L
3	L	H	H	L	X	LB	L	H	H
4	H	L	L	L	X	LC	H	L	L
5	H	L	H	L	X	PC	H	L	H
6	H	H	L	L	X	KMX	H	H	L
7	H	H	H	L	X	RBMX	H	H	H

X = DON'T CARE

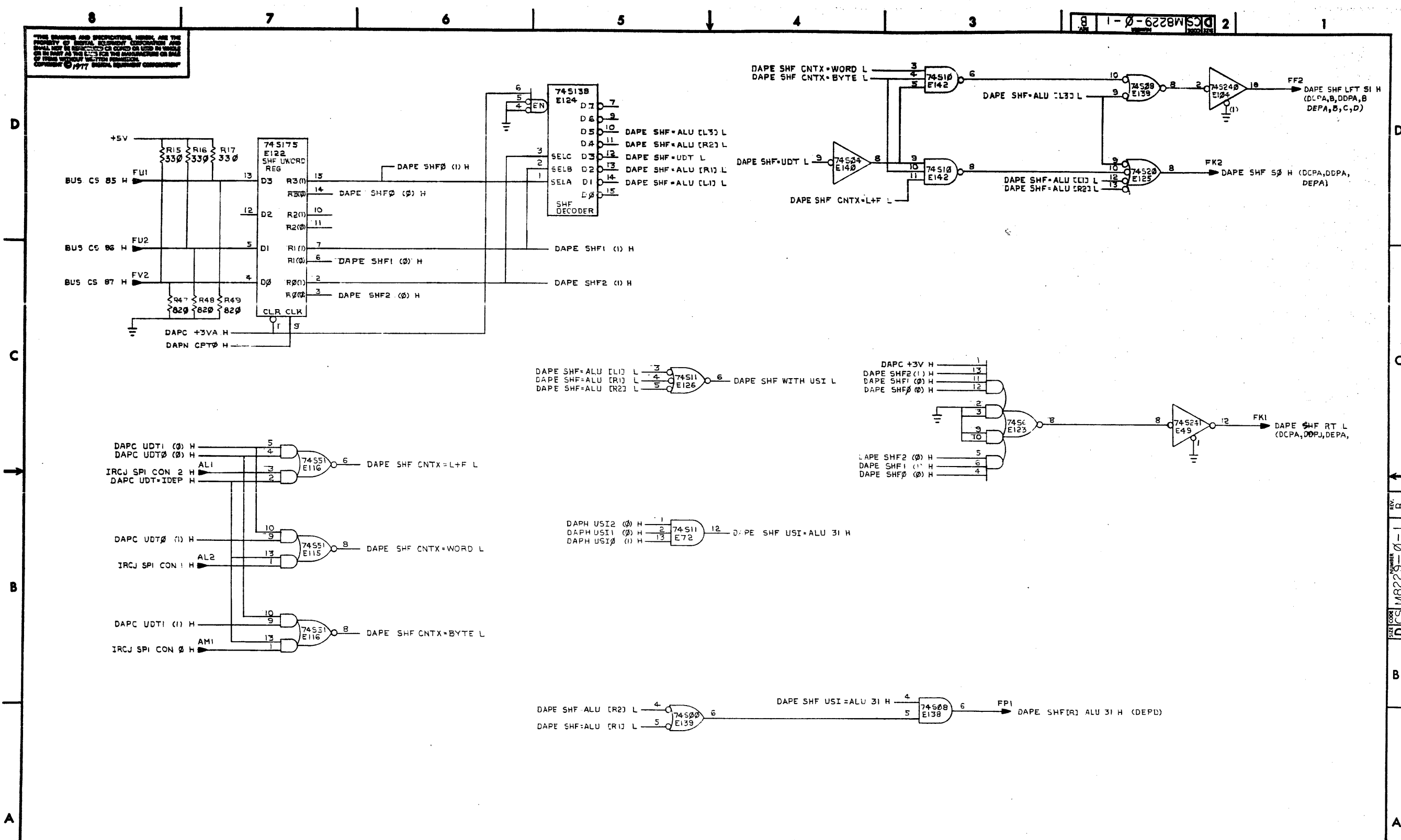
NOTE:  
XX(1)L = XX(0)H

S2	S1	S0	F1
L	L	L	D0
L	L	H	D1
L	H	L	D2
L	H	H	D3
H	L	L	D4
H	L	H	D5
H	H	L	D6
H	H	H	D7

CHK	CHANGE NO.	REV.

THE DESIGN AND SPECIFICATION ARE THE PROPERTY OF TEXAS INSTRUMENTS CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE INSTRUCTION OR SALE OF THIS PRODUCT WITHOUT THE WRITTEN PERMISSION OF TEXAS INSTRUMENTS CORPORATION © 1977

DCS M8229-0-1



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(SHF MUX CONTROL) (SLOT 13)	
DATA PATH CONTROL (DAPE)		SIZE CODE	NUMBER
SCALE NONE		DCS M8229-0-1	B
SHEET 8 OF 21		DIST.	

REV. B  
DCS M8229-0-1

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 WRITTEN PERMISSION FROM DIGITAL EQUIPMENT CORPORATION. © 1977 DIGITAL EQUIPMENT CORPORATION

74S157 TRUTH TABLE

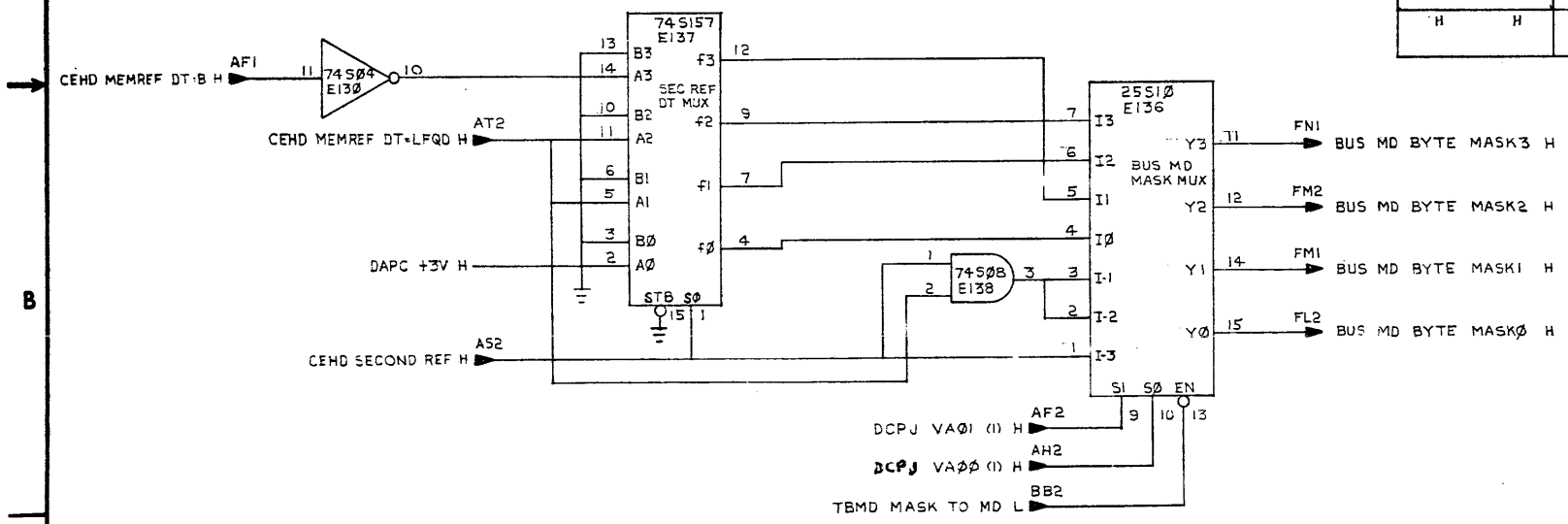
STB	S0	FN
H	-	FN=0
L	L	FN=AN
L	H	FN=BN

25S10 TRUTH TABLE

EN	S1	S0	Y3	Y2	Y1	Y0
H	-	-	0	0	0	0
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I1
L	H	L	I1	I0	I1	I2
L	H	H	I0	I1	I2	I3

BUS MD BYTE MASK TRUTH TABLE

BYTE ADRS.		DATA TYPE			SEC. REQ. REQUIRED	BUS MD BYTE MASK			
VA01	VA00	BYTE (B)	LONG (LQDF)	WORD (.NOT.B*.NOT.LQDF)		3	2	1	0
L	L	H	L	L	L	L	L	L	H
L	H	H	L	L	L	L	L	H	L
H	L	H	L	L	L	L	H	L	L
H	H	H	L	L	L	L	H	L	L
L	L	L	L	H	L	L	L	H	H
L	H	L	L	H	L	L	H	H	L
H	L	L	L	H	L	H	H	L	L
H	H	L	L	H	L	H	L	L	L
L	L	L	H	L	L	H	L	L	H
L	H	L	H	L	L	H	L	L	H
H	L	L	H	L	L	H	H	L	L
H	H	L	H	L	L	H	L	L	L
H	H	L	H	L	L	H	H	H	H



REVISIONS

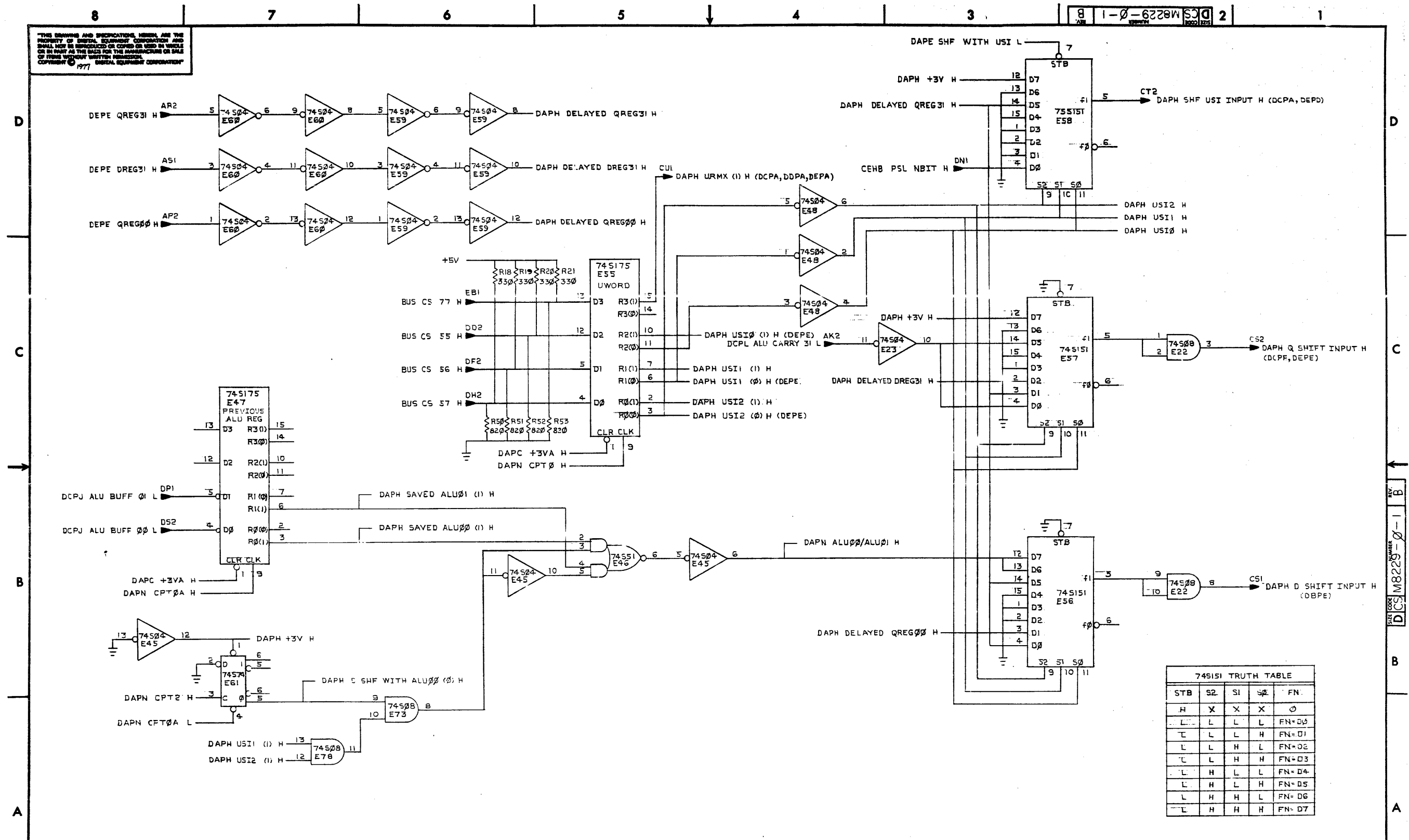
CHK	CHANGE NO.	REV.

(MASK CONTEXT) (SLOT 13)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH CONTROL (DAPF)	DCS	M8229-0-1	B
SCALE NONE	SHEET 9 OF 21	DIST.	

REV. B  
DCS M8229-0-1

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

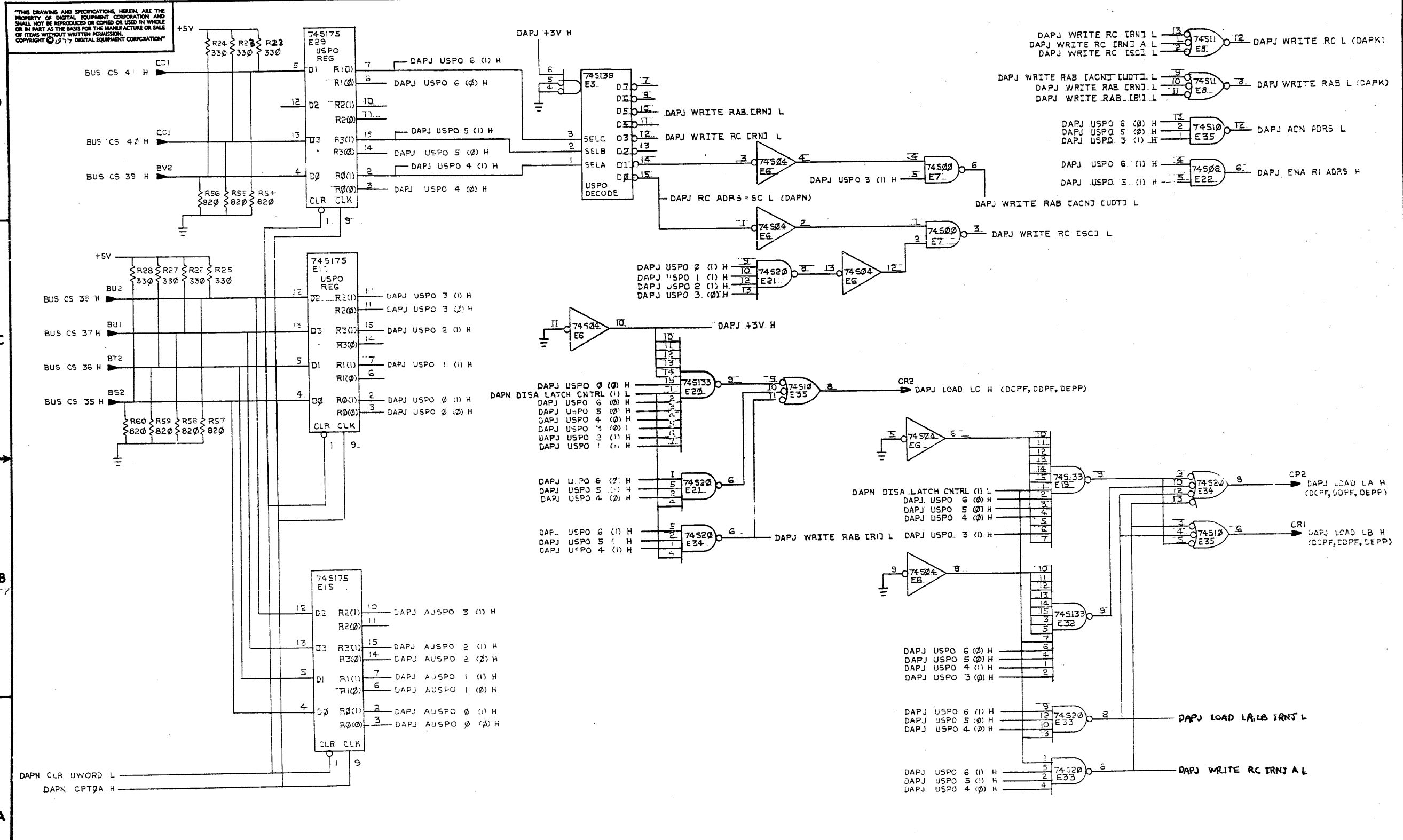


74S151 TRUTH TABLE

STB	S2	S1	S0	FN
H	X	X	X	0
L	L	L	L	FN=D0
L	L	L	H	FN=D1
L	L	H	L	FN=D2
L	L	H	H	FN=D3
L	H	L	L	FN=D4
L	H	L	H	FN=D5
L	H	H	L	FN=D6
L	H	H	H	FN=D7

REVISIONS

CHK	CHANGE NO.	REV.



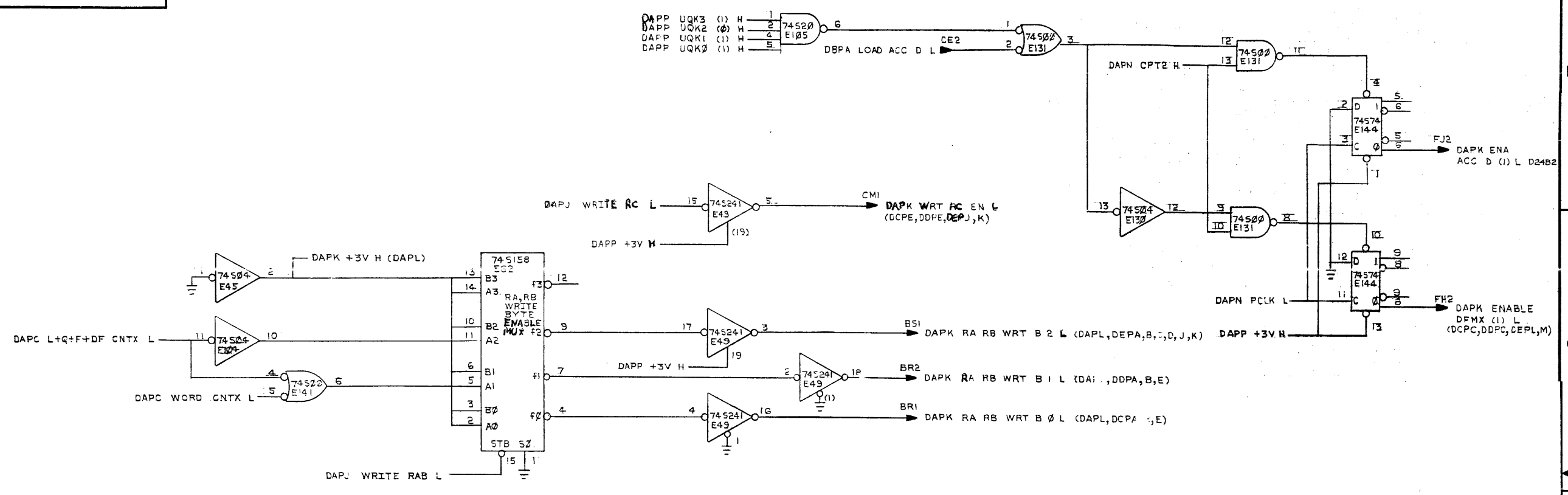
REVISIONS			TITLE		SIZE CODE		NUMBER		REV.	
CHK	CHANGE NO.	REV.	DATA PATH CONTROL (DAPJ)		DCS		M8229 0-1		B	
			SCALE	NONE	SHEET	11	OF 21	DGT.		

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

(USPO CONTROL) (SLOT 13)  
 DCS M8229-0-1  
 SHEET 11 OF 21

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

1-0-6229W SC 2



STB	S0	FN
H	X	FN=0
L	L	FN=A0
L	H	FN=B0

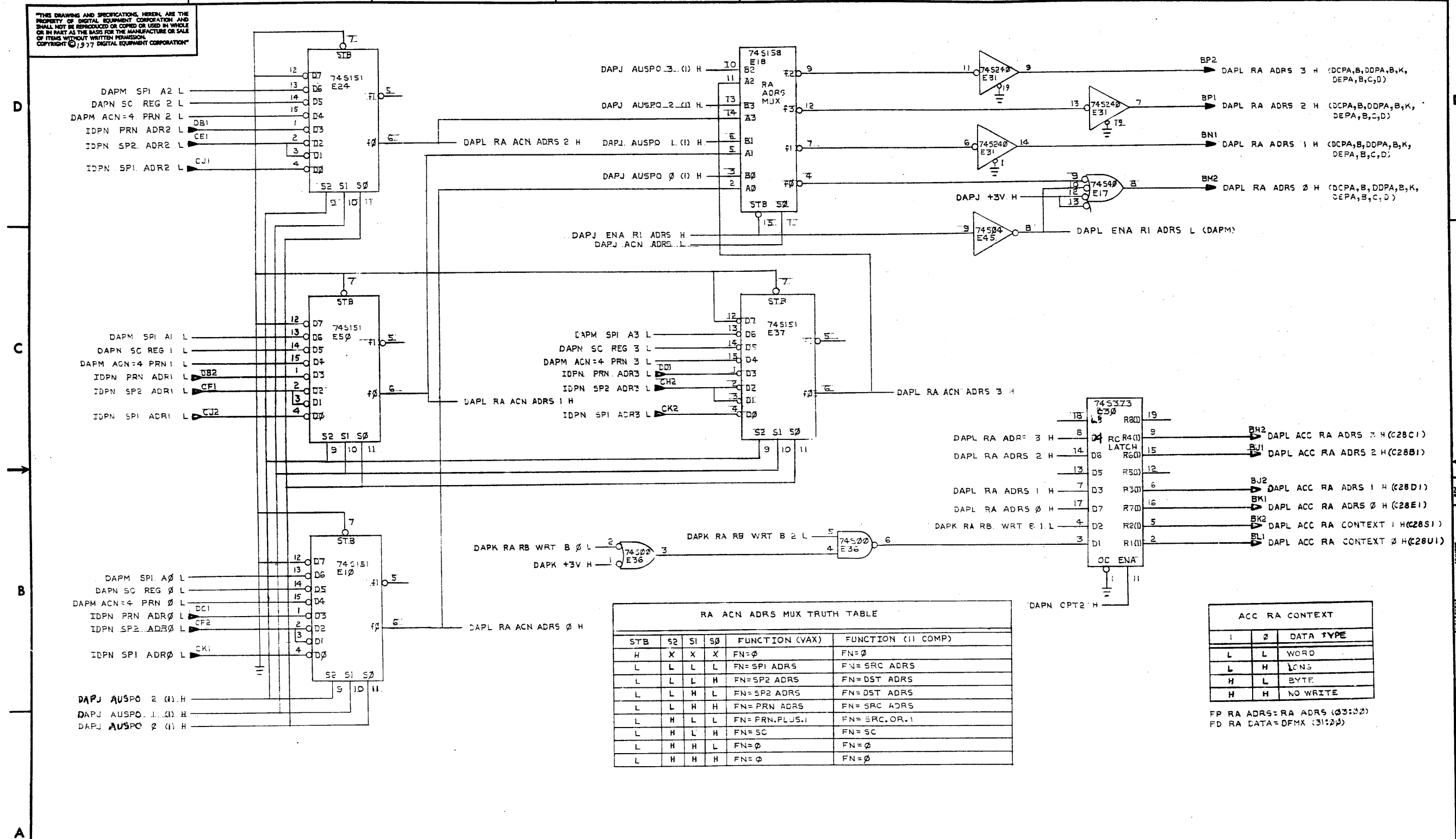
REVISIONS		
CHK	CHANGE NO.	REV.

(RA, RB, RC WRITE) (SLOT 13)  
 TITLE (DAPK) DATA PATH CONTROL SIZE CODE DCS NUMBER M8229-0-1 REV. B  
 SCALE NCNE SHEET 12 OF 21 DIST.

SIZE CODE DCS M8229-0-1 REV. B

302

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



RA ACN ADRS MUX TRUTH TABLE

STB	S2	S1	S0	FUNCTION (VAX)	FUNCTION (I1 COMP)
H	X	X	X	FN=0	FN=0
L	L	L	L	FN=SPI ADRS	FN=SRC ADRS
L	L	L	H	FN=SP2 ADRS	FN=DST ADRS
L	L	H	L	FN=SP2 ADRS	FN=DST ADRS
L	L	H	H	FN=PRN ADRS	FN=SRC ADRS
L	H	L	L	FN=PRN.PLUS.1	FN=SRC.OR.1
L	H	L	H	FN=SC	FN=SC
L	H	H	L	FN=0	FN=0
L	H	H	H	FN=0	FN=0

ACC RA CONTEXT

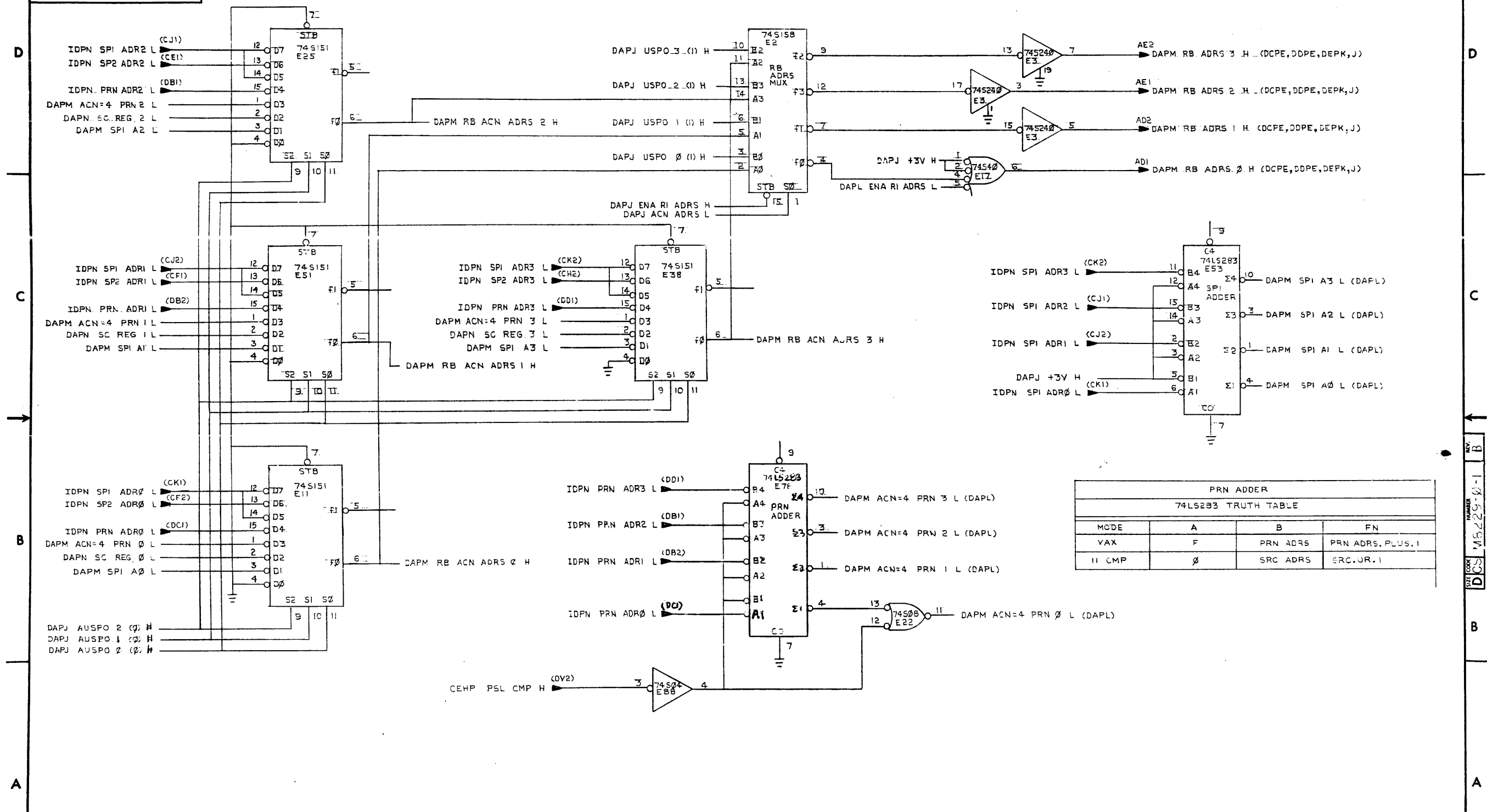
I	0	DATA TYPE
L	L	WORD
L	H	LONG
H	L	BYTE
H	H	NO WRITE

FP RA ADRS=RA ADRS (03:02)  
FD RA DATA=DFMX (31:20)

REVISIONS

CHK	CHANGE NO.	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



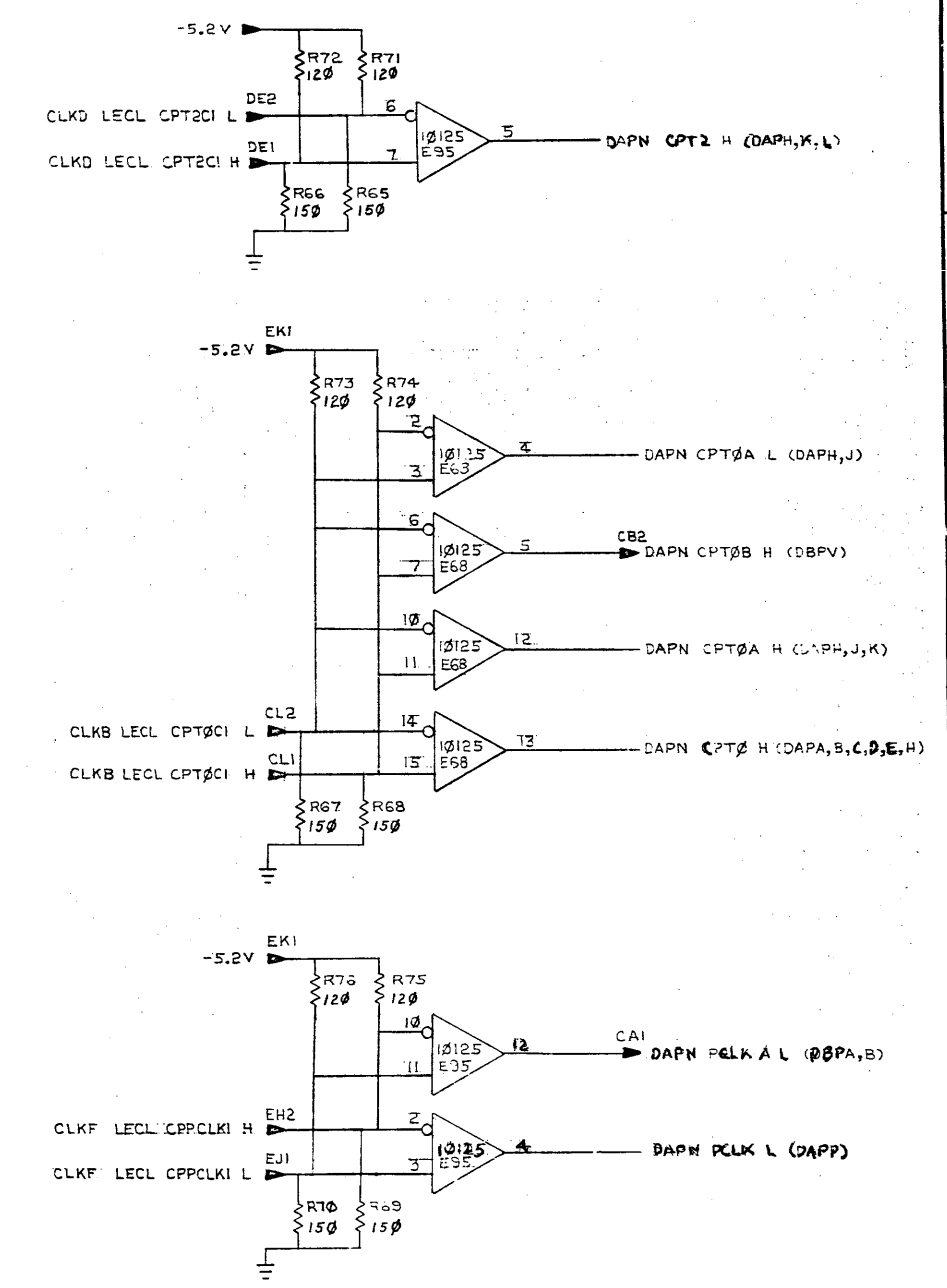
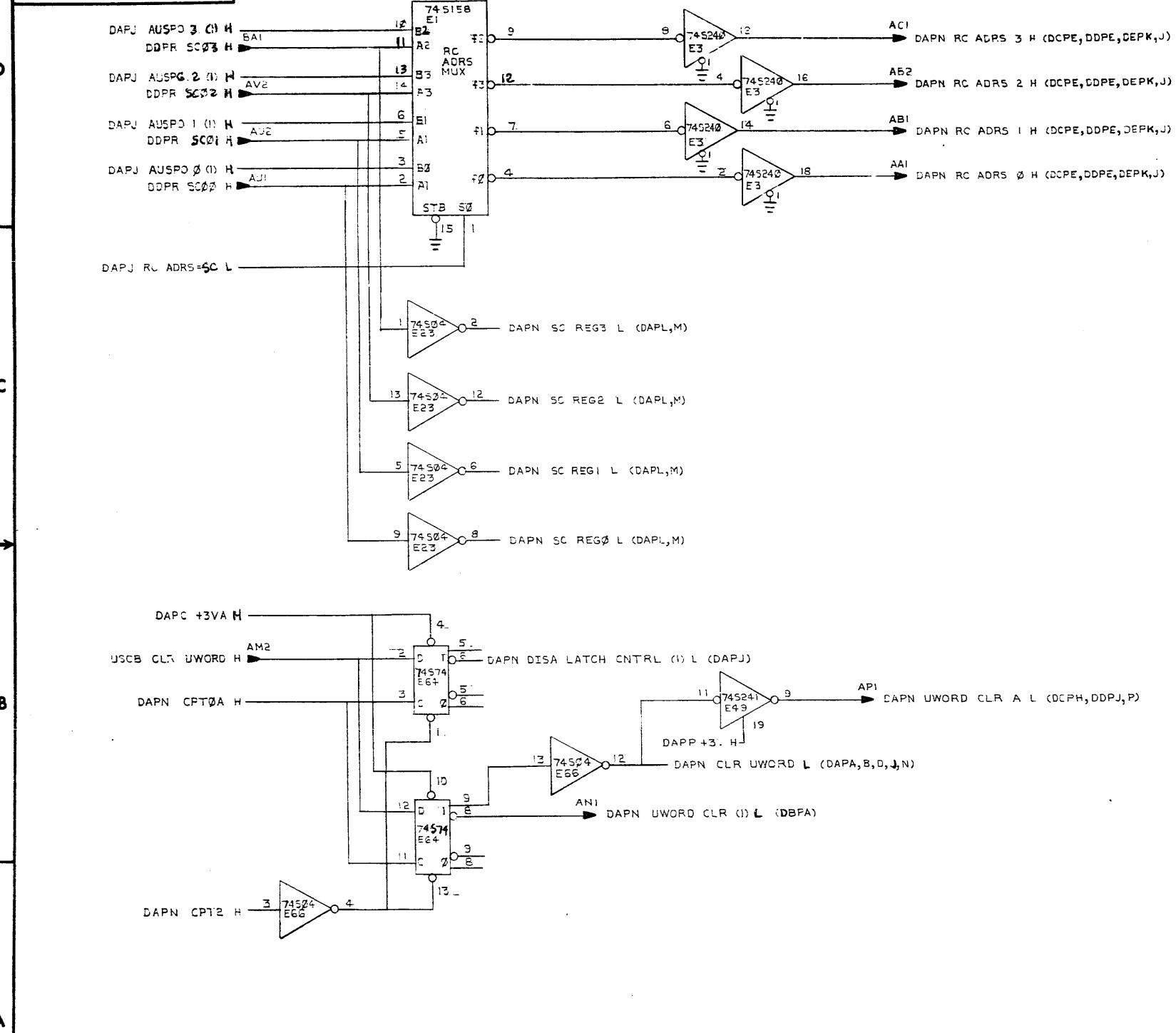
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE (DAPM)		SIZE CODE	NUMBER	REV.
DATA PATH CONTROL		DCS	M8229-0-1	B
SCALE	NONE	SHEET	14 OF 21	DIST.

(RB ADDRESS) (SLOT 13)



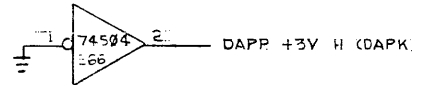
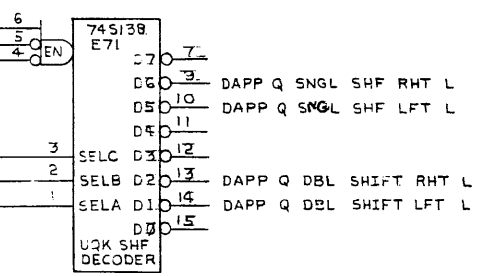
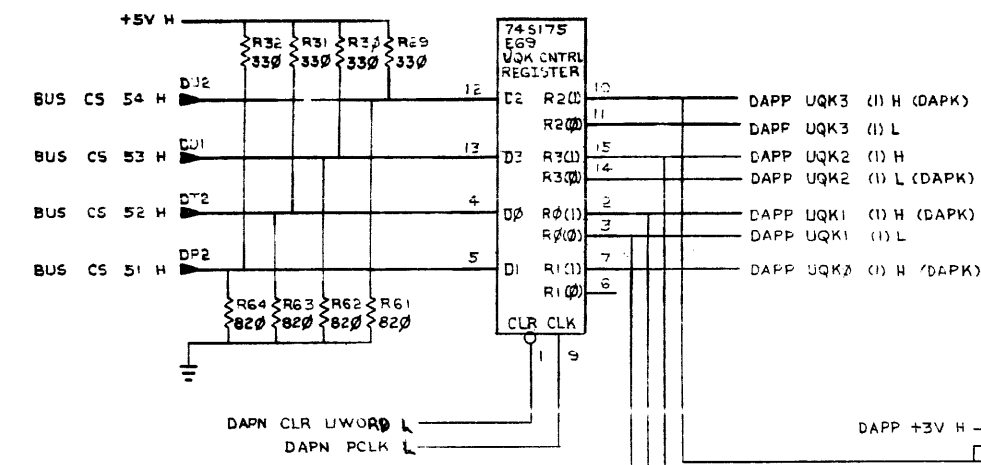
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

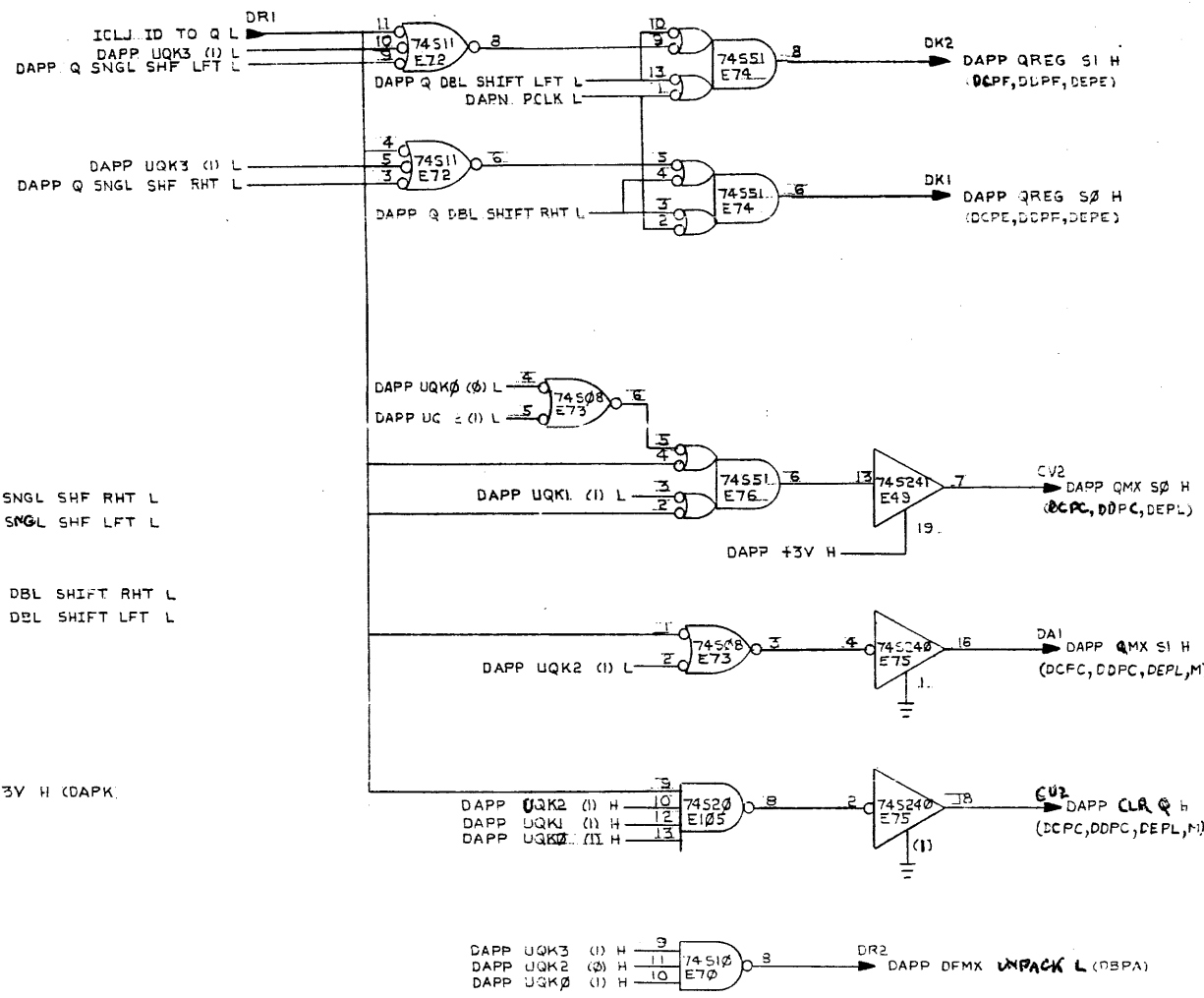
(RC ADDRESS AND CLOCKS) (SLOT 13)				
TITLE	(DAPN)	SIZE/DATE	NUMBER	REV.
DATA PATH CONTROL	DCS	M8229-0-1	B	B
SCALE	NONE	SHEET	15 OF 21	DIST.

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 OF DIGITAL EQUIPMENT CORPORATION. CSD 77



UQK	QMX				QREG				UQK FUNCTION
	3	2	1	0	S1	S0	S1	S0	
0	L	L	L	L	X	X	L	L	NO OPERATION
1	L	L	L	H	X	X	H	L	DBL SHFT LEFT
2	L	L	H	L	X	X	L	H	DBL SHFT RIGHT
3	L	L	H	H	X	X	L	L	RESERVED
4	L	H	L	L	X	X	L	L	RESERVED
5	L	H	L	H	X	X	H	L	SINGLE SHFT LEFT
6	L	H	H	L	X	X	L	H	SINGLE SHFT RIGHT
7	L	H	H	H	X	X	L	L	RESERVED
8	H	L	L	L	L	L	H	H	LOAD SHF (INTEGER)
9	H	L	L	H	L	L	H	H	LOAD SHF (UNPACKED F)
A	H	L	H	L	L	H	H	H	LOAD DECIMAL CONST.
B	H	L	H	H	L	L	H	H	LOAD ACC DATA
C	H	H	L	L	H	L	H	H	LOAD 0
D	H	H	L	H	H	L	H	H	RESERVED
E	H	H	H	L	H	H	H	H	LOAD 10 BUS
F	H	H	H	H	H	H	H	H	LOAD ZEROES

X=DON'T CARE STATE

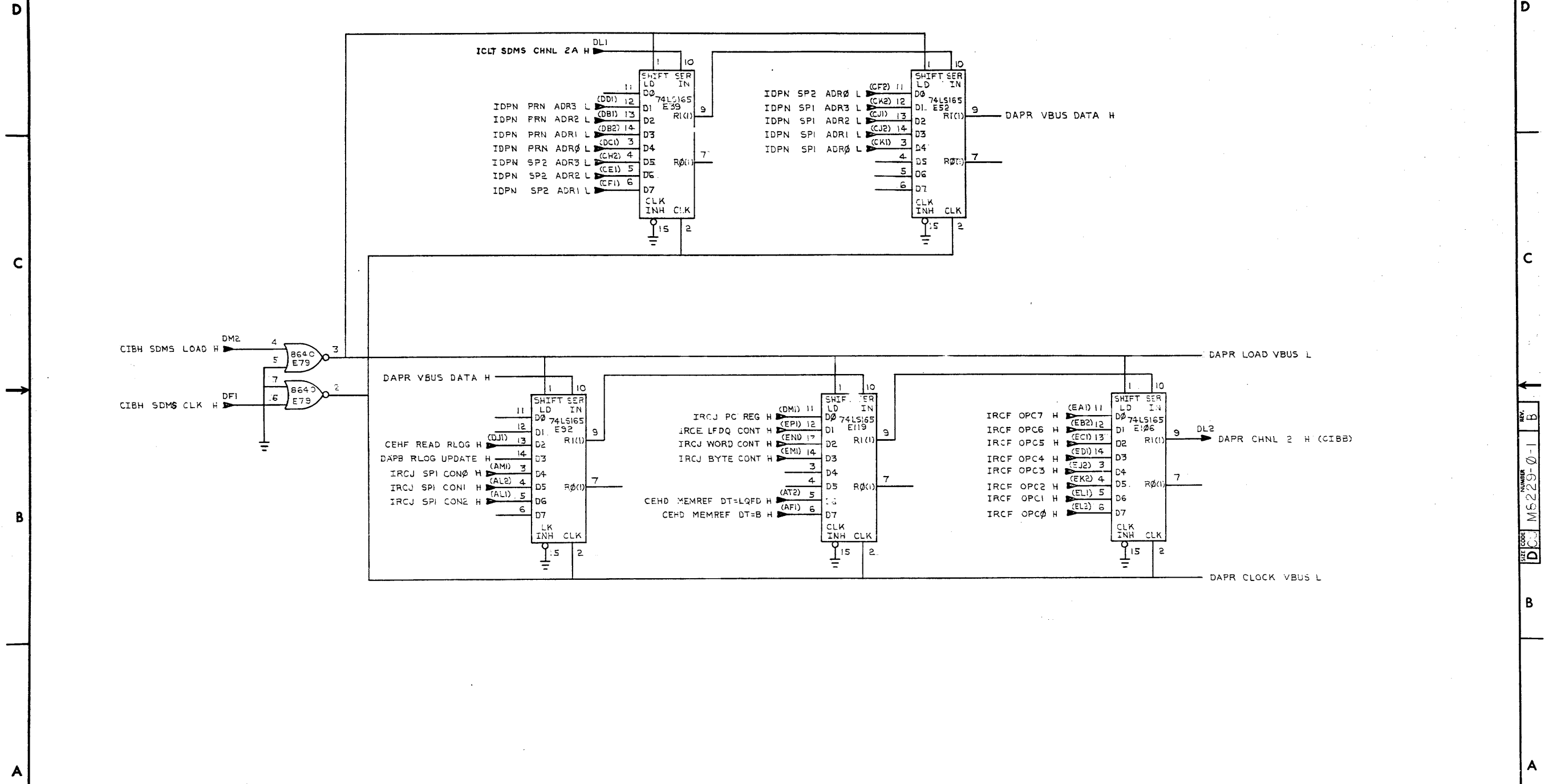


REVISIONS		
CHK	CHANGE NO.	REV.

(QREG CONTROL) (SLOT 13)

TITLE	(DAPP)	SIZE CODE	NUMBER	REV.
DATA PATH CONTROL	DCS	M8229-0-1	B	
SCALE	NONE	SHEET	16 OF 21	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		(DAPR) (VBUS REGISTER) (SLOT 13)		SIZE CODE		NUMBER		REV.	
DATA PATH CONTROL		DCS		M8229-0-1		B			
SCALE		SHEET		DIST.		17 OF 21			

REV. B  
M8229-0-1  
DCS

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

# ALU INSTR. DEPENDENT ROM (CM)

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
00	HALT	L	L	L	L	L	L	L	L	X
01	NOP	L	L	L	L	L	L	L	L	X
02	RET	L	L	L	L	L	L	L	L	X
03	BPT	L	L	L	L	L	L	L	L	X
04	RET	L	L	L	L	L	L	L	L	X
05	RSB	L	L	L	L	L	L	L	L	X
06	LDPCTX	L	L	L	L	L	L	L	L	X
07	SVPCTX	L	L	L	L	L	L	L	L	X
08	---	L	L	L	L	L	L	L	L	X
09	---	L	L	L	L	L	L	L	L	X
0A	---	L	L	L	L	L	L	L	L	X
0B	CRC	L	L	L	L	L	L	L	L	X
0C	PROBER	L	L	L	L	L	L	L	L	X
0D	PROBEW	L	L	L	L	L	L	L	L	X
0E	INSQUE	L	L	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
0F	REMQUE	L	L	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
10	BSBB	L	L	L	L	L	L	L	L	X
11	BRB	L	L	L	L	L	L	L	L	X
12	BNEQ	L	L	L	L	L	L	L	L	X
13	BEQL	L	L	L	L	L	L	L	L	X
14	BGTR	L	L	L	L	L	L	L	L	X
15	BLEQ	L	L	L	L	L	L	L	L	X
16	JSB	L	L	L	L	L	L	L	L	X
17	JMP	L	L	L	L	L	L	L	L	X
18	BGEQ	L	L	L	L	L	L	L	L	X
19	BLSS	L	L	L	L	L	L	L	L	X
1A	BGTRU	L	L	L	L	L	L	L	L	X
1B	BLEQU	L	L	L	L	L	L	L	L	X
1C	BVC	L	L	L	L	L	L	L	L	X
1D	BVS	L	L	L	L	L	L	L	L	X
1E	BCC	L	L	L	L	L	L	L	L	X
1F	BOS	L	L	L	L	L	L	L	L	X

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
20	ADDP4	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
21	ADDP6	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
22	SUBP4	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
23	SUBP6	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
24	CVTPN	L	L	L	L	H	H	H	H	A.MINUS.I
25	MULP	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
26	CVTNP	L	L	L	L	H	H	H	H	A.MINUS.I
27	DIVP	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
28	MOVCS	L	L	L	L	L	L	L	L	X
29	CMPC3	L	L	L	L	L	L	L	L	X
2A	SCANC	L	L	L	L	L	L	L	L	X
2B	SPANC	L	L	L	L	L	L	L	L	X
2C	MOVCS	L	L	L	L	L	L	L	L	X
2D	CMPC5	L	L	L	L	L	L	L	L	X
2E	MOVTC	L	L	L	L	L	L	L	L	X
2F	MOVTC	L	L	L	L	L	L	L	L	X
30	BSBW	L	L	L	L	L	L	L	L	X
31	BRW	L	L	L	L	L	L	L	L	X
32	CVTWL	L	L	L	L	L	L	L	L	X
33	CVTWB	L	L	L	L	L	L	L	L	X
34	MOVPL	L	L	L	L	H	H	H	H	A.MINUS.I
35	CMPP3	L	L	L	L	H	H	H	H	A.MINUS.I
36	CVTPH	L	L	L	L	H	H	H	H	A.MINUS.I
37	CMPP4	L	L	L	L	H	H	H	H	A.MINUS.I
38	EDITPC	L	L	L	L	L	L	L	L	X
39	MATCHC	L	L	L	L	L	L	L	L	X
3A	LOCC	L	L	L	L	L	L	L	L	X
3B	SKPC	L	L	L	L	L	L	L	L	X
3C	MOVZWL	L	L	L	L	L	L	L	L	X
3D	ACBW	L	L	L	L	L	L	L	L	X
3E	MOVAW	L	L	L	H	H	L	H	L	B
3F	PUSHAW	L	L	L	H	H	L	H	L	B

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
40	ADDF2	L	L	L	L	L	L	L	L	X
41	ADDF3	L	L	L	L	L	L	L	L	X
42	SUBF2	L	L	L	L	L	L	L	L	X
43	SUBF3	L	L	L	L	L	L	L	L	X
44	MULF2	L	L	L	L	L	L	L	L	X
45	MULF3	L	L	L	L	L	L	L	L	X
46	DIVF2	L	L	L	L	L	L	L	L	X
47	DIVF3	L	L	L	L	L	L	L	L	X
48	CVTFB	L	L	L	L	H	H	H	H	A.MIN.I
49	CVTFW	L	L	L	L	H	H	H	H	A.MIN.I
4A	CVTFH	L	L	L	L	H	H	H	H	A.MIN.I
4B	CVTRFL	L	L	L	L	H	H	H	H	A.MIN.I
4C	CVTRF	L	L	L	L	H	H	H	H	A.MIN.I
4D	CVTRF	L	L	L	L	H	H	H	H	A.MIN.I
4E	CVTLF	L	L	L	L	H	H	H	H	A.MIN.I
4F	ACBF	L	L	L	L	L	L	L	L	X
50	MOVH	L	L	L	H	H	L	H	H	A
51	CMPL	L	L	L	L	L	L	L	L	X
52	MNEGF	L	L	L	H	L	H	H	L	A⊕B
53	TSTF	L	L	L	H	H	L	H	L	B
54	EMODF	L	L	L	L	L	L	L	L	X
55	POLYF	L	L	L	L	L	L	L	L	X
56	CVTFD	L	L	L	L	H	H	H	H	A.MIN.I
57	---	L	L	L	L	L	L	L	L	X
58	---	L	L	L	L	L	L	L	L	X
59	---	L	L	L	L	L	L	L	L	X
5A	---	L	L	L	L	L	L	L	L	X
5B	---	L	L	L	L	L	L	L	L	X
5C	---	L	L	L	L	L	L	L	L	X
5D	---	L	L	L	L	L	L	L	L	X
5E	---	L	L	L	L	L	L	L	L	X
5F	---	L	L	L	L	L	L	L	L	X

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
60	ADD2	L	L	L	L	L	L	L	L	X
61	ADD3	L	L	L	L	L	L	L	L	X
62	SUB2	L	L	L	L	L	L	L	L	X
63	SUB3	L	L	L	L	L	L	L	L	X
64	MUL2	L	L	L	L	L	L	L	L	X
65	MUL3	L	L	L	L	L	L	L	L	X
66	DIV2	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
67	DIV3	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
68	CVTDH	L	L	L	L	H	H	H	H	A.MIN.I
69	CVTDW	L	L	L	L	H	H	H	H	A.MIN.I
6A	CVTDL	L	L	L	L	H	H	H	H	A.MIN.I
6B	CVTRDL	L	L	L	L	H	H	H	H	A.MIN.I
6C	CVTBD	L	L	L	L	H	H	H	H	A.MIN.I
6D	CVTDW	L	L	L	L	H	H	H	H	A.MIN.I
6E	CVTLD	L	L	L	L	H	H	H	H	A.MIN.I
6F	ACBD	L	L	L	L	L	L	L	L	X
70	MOVH	L	L	L	H	H	L	H	H	A
71	CMPL	L	L	L	L	L	L	L	L	X
72	MNEGD	L	L	L	H	L	H	H	L	A⊕B
73	TSTD	L	L	L	H	H	L	H	L	B
74	EMODH	L	L	L	L	L	L	L	L	X
75	POLYD	L	L	L	L	L	L	L	L	X
76	CVTDF	L	L	L	L	H	H	H	H	A.MIN.I
77	---	L	L	L	L	L	L	L	L	X
78	ASHL	L	L	L	L	L	L	L	L	X
79	ASHQ	L	L	L	L	L	L	L	L	X
7A	EMUL	L	L	L	L	L	L	L	L	X
7B	EDIV	L	L	L	L	L	L	L	L	X
7C	CLRQ	L	L	L	L	L	L	L	L	X
7D	MOVQ	L	L	L	H	H	L	H	L	B
7E	MOVAQ	L	L	L	H	H	L	H	L	B
7F	PUSHAQ	L	L	L	H	H	L	H	L	B

REVISIONS		
CHK	CHANGE NO.	REV.

(VAX ALU INSTR. DEP. ROM - 23026BI-00) (SLOT 13)

TITLE DATA PATH CONTROL	SIZE CODE DCS M8229-0-1	NUMBER B	REV. B
SCALE NONE	SHEET 18 OF 21	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

ALU INSTR. DEPENDENT ROM (CM)

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
B0	ADDB2	L	L	L	L	H	L	L	H	A.PL.B
B1	ADDB3	L	L	L	L	H	L	L	H	A.PL.B
B2	SUBB2	L	L	H	L	L	H	H	L	A.MIN.B
B3	SUBB3	L	L	H	L	L	H	H	L	A.MIN.B
B4	MULB2	L	L	L	L	L	L	L	L	X
B5	MULB3	L	L	L	L	L	L	L	L	X
B6	DIVB2	L	L	L	L	L	L	L	L	X
B7	DIVB3	L	L	L	L	L	L	L	L	X
B8	BISB2	L	L	L	H	H	H	H	L	A+B
B9	BISB3	L	L	L	H	H	H	H	L	A+B
BA	BICB2	L	L	L	H	L	H	H	H	A*B
BB	BICB3	L	L	L	H	L	H	H	H	A*B
BC	XORB2	L	L	L	H	L	H	H	L	A⊕B
BD	XORB3	L	L	L	H	L	H	H	L	A⊕B
BE	MNEGB	H	L	H	L	L	H	H	L	∅.MIN.B
BF	CASEB	L	L	L	L	L	L	L	L	X
C0	MOVB	L	L	L	H	H	L	H	L	B
C1	CMPB	L	L	L	L	L	H	H	L	A.MIN.B.MIN.1
C2	MCOMB	L	L	L	H	L	H	L	H	B
C3	BITB	L	L	L	H	H	L	H	H	A*B
C4	CLRB	L	L	L	H	L	L	H	H	∅
C5	TSTB	L	L	L	H	H	L	H	L	B
C6	INCB	L	L	H	L	L	L	L	L	A.PL.1
C7	DECB	L	L	L	L	H	H	H	H	A.MIN.1
C8	CVTB	L	L	L	L	L	L	L	L	X
C9	MOVZBL	L	L	L	L	L	L	L	L	X
CA	MOVZB	L	L	L	L	L	L	L	L	X
CB	ROTL	L	L	L	L	L	L	L	L	X
CC	ACBE	L	L	L	L	L	L	L	L	X
CD	MOVAB	L	L	L	H	H	L	H	L	B
CE	PUSHAB	L	L	L	H	H	L	H	L	B

(SLOT 13)  
(VAX ALU INSTR. DEP ROM—230261-00)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA PATH CONTROL	SIZE CODE	DCS	NUMBER	M8229-0-1	REV.	B
SCALE	NONE	SHEET	19 OF 21	DIST.			

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 © 1977 DIGITAL EQUIPMENT CORPORATION

ROM		OP-	ROM DATA								FUNCTION
ADDR	CODE		M7	M6	M5	M4	M3	M2	M1	M0	
00	X		L	L	L	L	L	L	L	L	X
01	MOV		L	L	L	H	H	L	H	L	B
02	CMP		L	L	L	L	L	H	H	L	A.MIN.B.MIN.1
03	BIT		L	L	L	H	H	L	H	H	A*B
04	BIC		L	L	L	H	L	H	H	H	A*B
05	BIS		L	L	L	H	H	H	H	L	A+B
06	ADD		L	L	L	L	H	L	L	H	A.PL.B
07	MUL		L	L	L	L	L	L	L	L	X
08	X		L	L	L	L	L	L	L	L	X
09	MOV		L	L	L	H	H	L	H	L	B
0A	CMP		L	L	L	L	L	H	H	L	A.MIN.B.MIN.1
0B	BIT		L	L	L	H	H	L	H	H	A*B
0C	BIC		L	L	L	H	L	H	H	H	A*B
0D	BIS		L	L	L	H	H	H	H	L	A+B
0E	ADD		L	L	L	L	H	L	L	H	A.PL.B
0F	DIV		L	L	L	L	L	L	L	L	X
10	X		L	L	L	L	L	L	L	L	X
11	MOV		L	L	L	H	H	L	H	L	B
12	CMP		L	L	L	L	L	H	H	L	A.MIN.B.MIN.1
13	BIT		L	L	L	H	H	L	H	H	A*B
14	BIC		L	L	L	H	L	H	H	H	A*B
15	BIS		L	L	L	H	H	H	H	L	A+B
16	ADD		L	L	L	L	H	L	L	H	A.PL.B
17	ASH		L	L	L	L	L	L	L	L	X
18	X		L	L	L	L	L	L	L	L	X
19	MOV		L	L	L	H	H	L	H	L	B
1A	CMP		L	L	L	L	L	H	H	L	A.MIN.B.MIN.1
1B	BIT		L	L	L	H	H	L	H	H	A*B
1C	BIC		L	L	L	H	L	H	H	H	A*B
1D	BIS		L	L	L	H	H	H	H	L	A+B
1E	ADD		L	L	L	L	H	L	L	H	A.PL.B
1F	ASHC		L	L	L	L	L	L	L	L	X

11 COMP ROM ADDR, INSTR - 1B BYTE BIT ENCODING  
 IR (14:12) = 0 L H 15 11 10 9 8 7 6  
 IR (14:12) = 0 L L 15 11 10 9 14 13 12

REVISIONS		
CHK	CHANGE NO.	REV.

COMP MODE ALU INSTR DEP ROM - 23027BI-00 (SLOT 13)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH CONTROL	DCS	M8229-0-1	B
SCALE NONE	SHEET	23 OF 21	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"

D	7								6								5								4								3								2								1																											
	ALU ROM AMX 0 H		ALU ROM COND CIN H		ALU ROM CIN H		ALU ROM MODE H		ALU ROM S3 H		ALU ROM S2 H		ALU ROM S1 H		ALU ROM S0 H		ALU ROM AMX 0 H		ALU ROM COND CIN H		ALU ROM CIN H		ALU ROM MODE H		ALU ROM S3 H		ALU ROM S2 H		ALU ROM S1 H		ALU ROM S0 H		ALU ROM AMX 0 H		ALU ROM COND CIN H		ALU ROM CIN H		ALU ROM MODE H		ALU ROM S3 H		ALU ROM S2 H		ALU ROM S1 H		ALU ROM S0 H																													
C	ROM ADDR	OP-CODE	ROM DATA (M7-M0)								FUNCTION	ROM ADDR	OP-CODE	ROM DATA (M7-M0)								FUNCTION	ROM ADDR	OP-CODE	ROM DATA (M7-M0)								FUNCTION	ROM ADDR	OP-CODE	ROM DATA (M7-M0)								FUNCTION	ROM ADDR	OP-CODE	ROM DATA (M7-M0)								FUNCTION																					
	80	X	L	L	L	L	L	L	L	L	L	L	L	X	A0	JSR	L	L	L	L	L	L	L	L	L	L	L	X	C0	BPL	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	X	E0	EMT	L	L	L	L	L	L	L	L	L	L	L	L	L	X													
	81	JMP												X	A1	JSR												X	C1	BPL																					X																									
	82	X												X	A2	JSR												X	C2	BPL																				X																										
	83	SWAB												X	A3	JSR												X	C3	BPL																				X																										
	84	BR												X	A4	JSR												X	C4	BMI																				X																										
	85	BR												X	A5	JSR												X	C5	BMI																				X																										
	86	BR												X	A6	JSR												X	C6	BMI																				X																										
	87	BR												X	A7	JSR												X	C7	MI																					X																									
	88	BNE												X	A8	CLR	L	L	L	H	L	L	H	H	H	H	0	C8	BHI	L	L	L	H	L	L	H	H	H	H	0	E8	CLRB	L	L	L	H	L	L	H	H	H	0	E8	CLRB	L	L	L	H	L	L	H	H	H	0	E8	CLRB	L	L	L	H	L	L	H	H	H	0
	89	BNE												X	A9	COM	L	L	L	H	L	L	L	L	L	L	1	C9	BHI	L	L	L	H	L	L	L	L	L	L	L	1	E9	COMB	L	L	L	H	L	L	L	L	L	L	1	E9	COMB	L	L	L	H	L	L	L	L	L	L	1									
	8A	BNE												X	AA	INC	L	L	H	L	L	L	L	L	L	A.PL.1	CA	BHI	L	L	H	L	L	L	L	L	L	L	L	A.PL.1	EA	INCB	L	L	H	L	L	L	L	L	L	L	A.PL.1	EA	INCB	L	L	H	L	L	L	L	L	L	L	A.PL.1										
	8B	BNE												X	AB	DEC	L	L	L	L	H	H	H	H	H	A.MIN.1	CB	BHI	L	L	L	L	H	H	H	H	H	H	A.MIN.1	EB	DECB	L	L	L	L	H	H	H	H	H	H	A.MIN.1	EB	DECB	L	L	L	L	H	H	H	H	H	H	A.MIN.1											
	8C	BEQ												X	AC	NEG	H	L	H	L	L	H	H	L	0.MIN.B	CC	BLOS	H	L	H	L	L	H	H	L	L	L	0.MIN.B	EC	NEGB	H	L	H	L	L	H	H	L	L	L	0.MIN.B	EC	NEGB	H	L	H	L	L	H	H	L	L	L	0.MIN.B												
	8D	BEQ												X	AD	ADC	L	H	L	L	L	L	L	L	A.PL.C	CD	BLOS	L	H	L	L	L	L	L	L	L	L	A.PL.C	ED	ADCB	L	H	L	L	L	L	L	L	L	L	A.PL.C	ED	ADCB	L	H	L	L	L	L	L	L	L	L	A.PL.C												
	8E	BEQ												X	AE	SBC	L	H	H	L	H	H	H	H	A.MIN.C	CE	BLOS	L	H	H	L	H	H	H	H	H	H	A.MIN.C	EE	SBCB	L	H	H	L	H	H	H	H	H	H	A.MIN.C	EE	SBCB	L	H	H	L	H	H	H	H	H	H	A.MIN.C												
	8F	BEQ												X	AF	TST	L	L	L	H	H	H	H	H	A	CF	BLOS	L	L	L	H	H	H	H	H	H	A	EF	TSTB	L	L	L	H	H	H	H	H	H	A	EF	TSTB	L	L	L	H	H	H	H	H	H	A															
	90	BGE												X	B0	ROR	L	L	L	L	L	L	L	L	X	D0	BVC	L	L	L	L	L	L	L	L	L	L	X	F0	RORB	L	L	L	L	L	L	L	L	L	L	X	F0	RORB	L	L	L	L	L	L	L	L	L	L	X												
	91	BGE												X	B1	ROL	L	H	L	L	H	H	L	L	A.PL.A.PL.C	D1	BVC	L	L	L	L	L	L	L	L	L	X	F1	ROLB	L	H	L	L	H	H	L	L	L	L	A.PL.A.PL.C	F1	ROLB	L	H	L	L	H	H	L	L	L	L	A.PL.A.PL.C													
	92	BGE												X	B2	ASR	L	L	L	L	L	L	L	L	X	D2	BVC	L	L	L	L	L	L	L	L	L	X	F2	ASRB	L	L	L	L	L	L	L	L	L	L	X	F2	ASRB	L	L	L	L	L	L	L	L	L	L	X													
	93	BGE												X	B3	ASL	L	L	L	L	H	H	L	L	A.PL.A	D3	BVC	L	L	L	L	H	H	L	L	L	X	F3	ASLB	L	L	L	L	H	H	L	L	L	L	A.PL.A	F3	ASLB	L	L	L	L	H	H	L	L	L	L	A.PL.A													
	94	BLT												X	B4	MARK	L	L	L	L	L	L	L	L	X	D4	BVS	L	L	L	L	L	L	L	L	L	X	F4	X	L	L	L	L	L	L	L	L	L	L	X	F4	X	L	L	L	L	L	L	L	L	L	L	X													
	95	BLT												X	B5	MFPI	L	L	L	H	H	H	H	H	A	D5	BVS	L	L	L	L	H	H	H	H	H	X	F5	MFPD	L	L	L	H	H	H	H	H	H	A	F5	MFPD	L	L	L	H	H	H	H	H	H	A															
	96	BLT												X	B6	MTPI	L	L	L	H	H	H	H	H	A	D6	BVS	L	L	L	L	H	H	H	H	H	X	F6	MTPD	L	L	L	H	H	H	H	H	H	A	F6	MTPD	L	L	L	H	H	H	H	H	H	A															
	97	BLT												X	B7	SXT	L	L	L	L	L	L	L	L	X	D7	BVS	L	L	L	L	L	L	L	L	L	X	F7	X	L	L	L	L	L	L	L	L	L	L	X	F7	X	L	L	L	L	L	L	L	L	L	L	X													
	98	BGT												X	B8	X								X	D8	BCC										X	F8	X											X	F8	X									X																
	99	BGT												X	B9	X								X	D9	BCC										X	F9	X											X	F9	X									X																
	9A	BGT												X	BA	X								X	DA	BCC										X	FA	X											X	FA	X									X																
	9B	BGT												X	BB	X								X	DB	BCC										X	FB	X											X	FB	X									X																
	9C	BLE												X	BC	X								X	DC	BCS										X	FC	X											X	FC	X									X																
	9D	BLE												X	BD	X								X	DD	BCS										X	FD	X											X	FD	X									X																
	9E	BLE												X	BE	X								X	DE	BCS										X	FE	X											X	FE	X									X																
	9F	BLE												X	BF	X								X	DF	BCS										X	FF	X												X	FF	X									X															

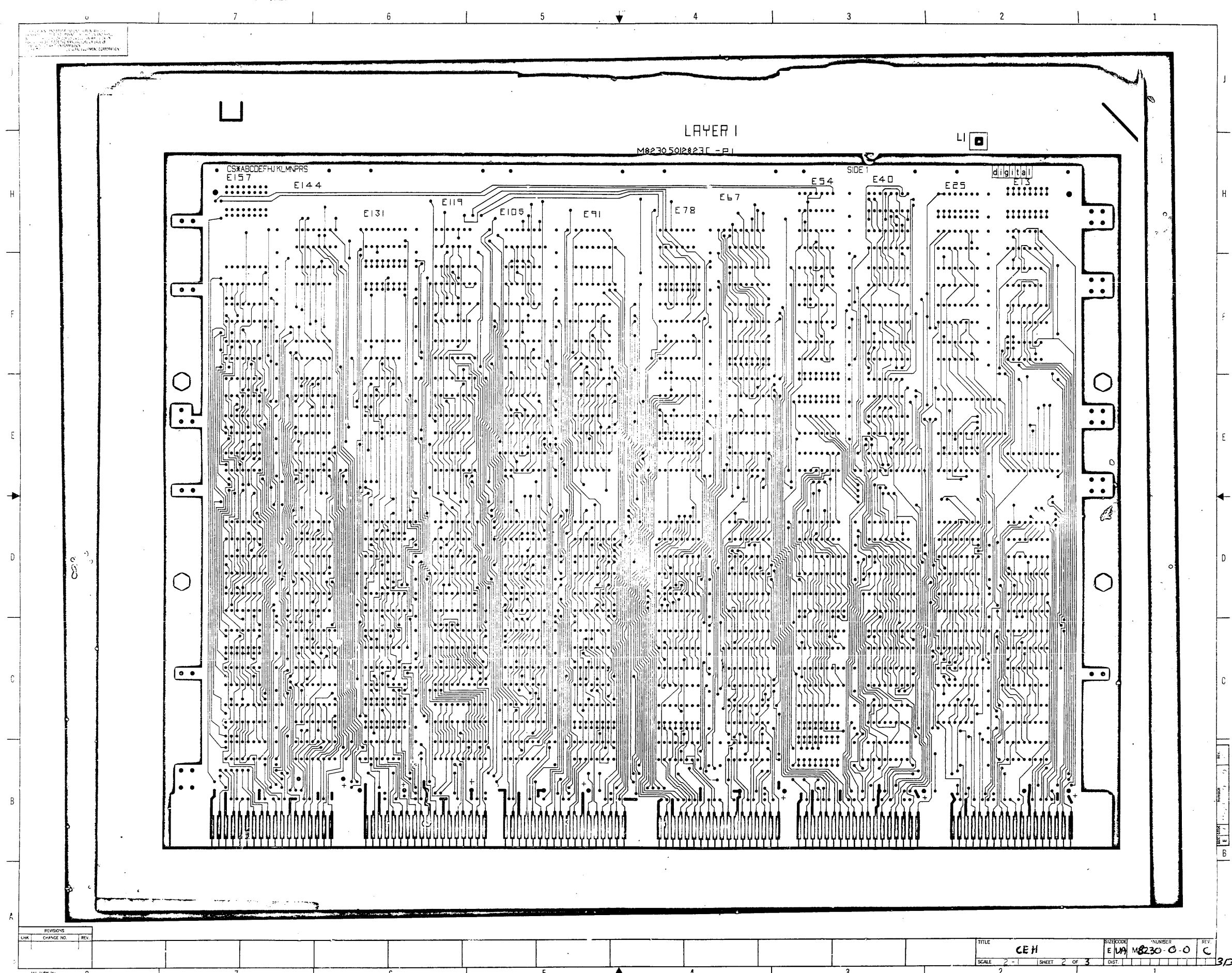
REVISIONS		
CHK	CHANGE NO.	REV.

COMP MODE ALU INSTR DEP. ROM — 23027B! (SLOT 13)

TITLE	DATA PATH CONTROL	SIZE CODE	D CS M8229-0-1	NUMBER	1	REV.	B
SCALE	NONE	SHEET	21 OF 21	DIST.			



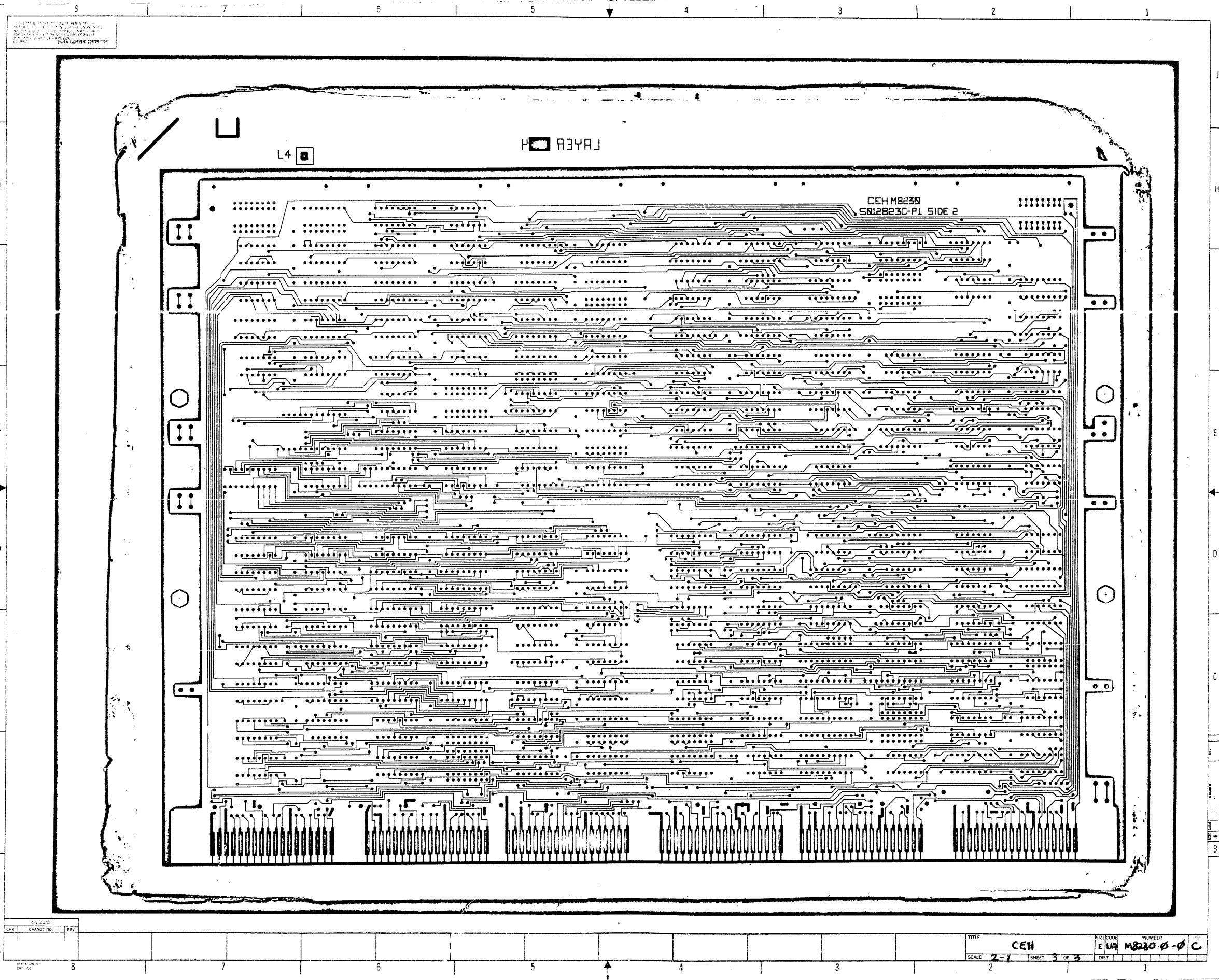




REV.	DATE	BY	CHK	APP

REV.	DATE	BY	CHK	APP

TITLE	CEH	SIZE CODE	E 1A	NUMBER	M8230-0-0	REV.	C
SCALE	2	SHEET	2	OF	3	DIST	3/3



STANDARD DRAWING SYMBOLS AND NOTATION  
 REFER TO THE APPROPRIATE DRAWING  
 FOR THE COMPLETE LIST OF SYMBOLS  
 AND NOTATION.

REV	CHANGED BY	DATE

TITLE: CEH  
 SCALE: 2-1 SHEET: 3 OF 3  
 NUMBER: E L4 M8230 0-0 C

34

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY DATE	ANTAL	CHECKED DATE	L. GIAMMARINO 7-5-77
ENG DATE	S. Jenkins 6-22-77	PROD DATE	Mike Jucella 6-21-77

## QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8230-0-0	REF DESIGNATION
1.	D-MD-5012823	5012823	ETCH BOARD	1	
2.		1012784	CAPACITOR, .047UF 50 V	85	C1-C5, C13-C92
3.		1012084-1	CAPACITOR, 8UF 25 V	7	C6-C12
4.		1300247	RESISTOR 120, 1/4W, 5%	6	R31, R33, R35, R37, R39, R41
5.		1300250	RESISTOR 150, 1/4W, 5%	6	R32, R34, R36, R38, R40, R42
6.		1300295	RESISTOR 330, 1/4W, 5%	14	R1, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29
7.		130365	RESISTOR 1K, 1/4W, 5%	3	R3, R4, R43
8.		1301424	RESISTOR 680, 1/4W, 5%	5	R2, R26, R30, R18, R28
9.		1301775	RESISTOR 820, 1/4W, 5%	9	R6, R8, R10, R12, R14, R16, R20, R22, R24
10.		1910531	I.C. DEC 74S181	1	E21
11.		1910532	I.C. DEC 74S00	11	E35, E50, E53, E103, E112, E113, E114, E117, E138, E123, E143
12.		1910534	I.C. DEC 74S04	14	E9, E14, E67, E81, E85, E90, E92, E102, E120, E125, E148, E151, E11, E140
13.		1910536	I.C. DEC 74S10	5	E78, E86, E105, E141, E142
14.		1910537	I.C. DEC 74S11	2	E51, E88
15.		1910539	I.C. DEC 74S20	2	E91, E119
16.		1910542	I.C. DEC 74S64	7	E12, E136, E137, E147, E152, E153, E154
17.		1910544	I.C. DEC 74S74	2	E52, E80
18.		1910545	I.C. DEC 74S112	2	E94, E111
19.		1910547	I.C. DEC 74S153	3	E118, E132, E145

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  
CEH

ASSY NO.  
E-UA-M8230-0-0  
SHEET 1 OF 3

SIZE	CODE	NUMBER	REV.
B	PL	M8230-0-0	B
INSERTION PARTS LIST DATA BASE REV			

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY DATE	ANTAL	CHECKED DATE	L. GIAMMARINO 7-5-77
ENG DATE	S. Jenkins 6-27-77	PROD DATE	Mike Tuller 6-21-77

SECTION  
ISSUED SECTION

QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8230-0-0	REF DESIGNATION
20.		1910548	I.C. DEC 74S157	6	E22, E24, E36, E38, E100, E155
21.		1910549	I.C. DEC 74S158	3	E20, E83, E87
22.		1910550	I.C. DEC 74S174	3	E32, E46, E47
23.		1910552	I.C. DEC 74S194	13	E23, E25, E34, E37, E39, E48, E63, E64, E74, E75, E82, E93, E99
24.		1910956	I.C. DEC 74S151	20	E3, E4, E5, E6, E15, E16, E17, E18, E57, E58, E59, E60, E69, E70, E71, E72, E110, E124, E126, E156
25.		1910957	I.C. DEC 74S175	5	E65, E77, E122, E131, E149
26.		1911415	I.C. DEC 10125	2	E68, E79
27.		1911469	I.C. DEC 8640	1	E116
28.		1911675	I.C. DEC 74S138	2	E66, E127
29.		1911676	I.C. DEC 74S139	1	E76
30.		1911712	I.C. DEC 74S51	2	E129, E139
31.		1912089	I.C. DEC 74S85	2	E10, E40
32.		1912096	I.C. DEC 74S86	1	E128
33.		1912388	I.C. DEC 74S02	1	E89
34.		1912389	I.C. DEC 74S08	5	E54, E95, E101, E104, E150
35.		1912586	I.C. DEC 85S68	8	E28, E29, E30, E31, E42, E43, E44, E45
36.		1912746	I.C. DEC 74S37	1	E62
37.		1912796	I.C. DEC 74148	2	E84, E97
38.		1913294	I.C. DEC 93S16	4	E7, E19, E61, 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  
CEH

ASSY NO.  
E-UA-M8230-0-0  
SHEET 2 OF 3

SIZE CODE  
B PL  
NUMBER  
M8230-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
B

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY DATE	ANTAL	CHECKED L. GIAMMARINO DATE 7-5-77	SECTION
ENG DATE	<i>S. Jenkins</i> 6-27-77	PROD DATE <i>Mike Zucchi</i> 6-21-77	ISSUED SECTION

QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8230-0-0	REF DESIGNATION
39		1913788	I.C. DEC 26S10	6	E1, E2, E26, E27, E55, E56
40		1913839	I.C. DEC 74LS165	8	E96, E98, E115, E133, E134, E135, E144, E146
41		23013B1-00	I.C. ROM 256X8	1	E106
42		23037B1-00	I.C. ROM 256X8	1	E107
43		23015B1-00	I.C. ROM 256X8	1	E108
44		23016B1-00	I.C. ROM 256X8	1	E109
45		23017B1-00	I.C. ROM 256X8	2	E8, E33
46		1210711-02	HANDLE	1	
47		9000024-01	EYELET	12	
		SPARES			E13, E41, E49, E121, E130, E157

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

CEH

ASSY NO.

E-UA-M8230-0-0

SIZE

B

CODE

PL

NUMBER

M8230-0-0

REV.

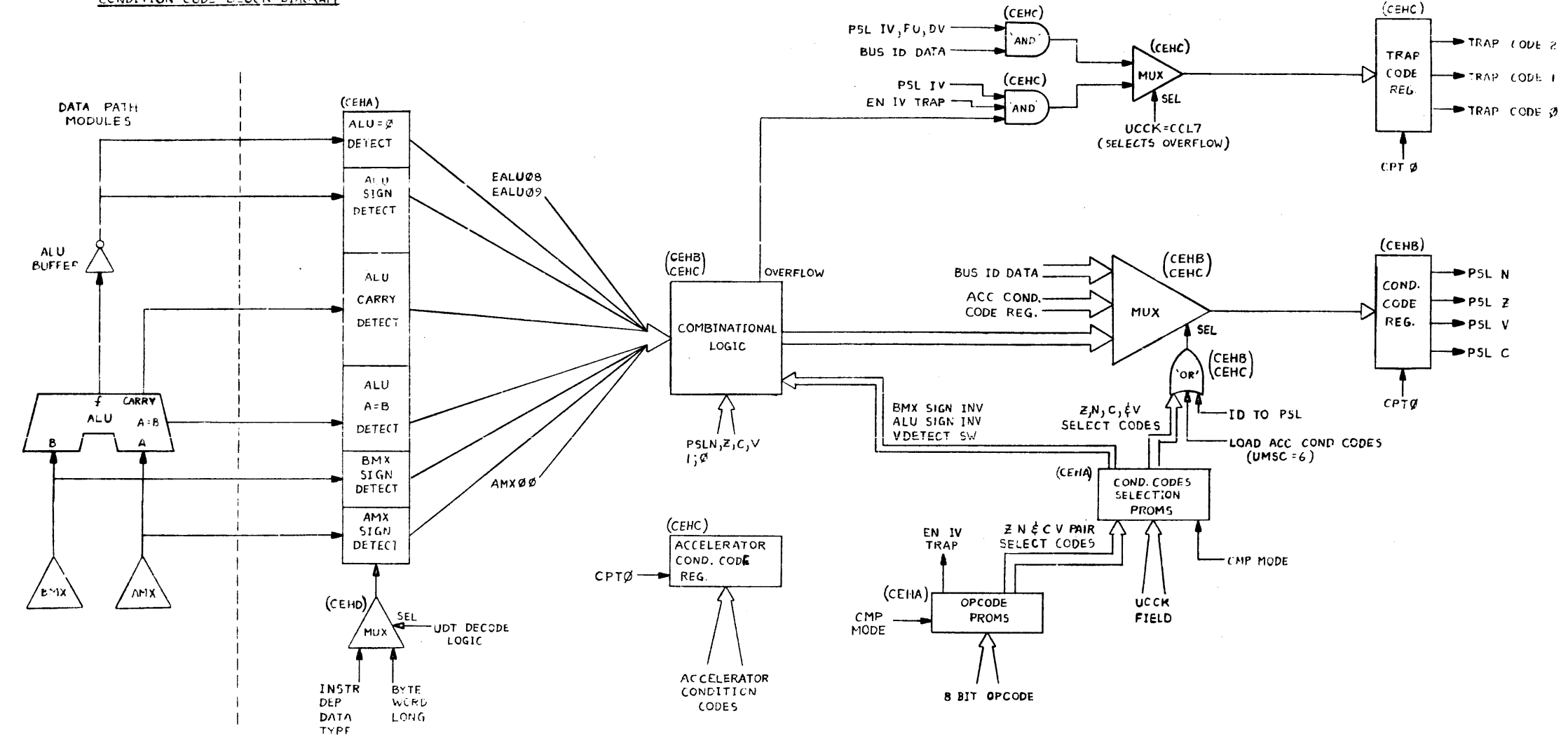
B

SHEET 3 OF 3

INSERTION PARTS LIST DATA BASE REV

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 SYSTEM, WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

CONDITION CODE BLOCK DIAGRAM



REV.	REV.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10

(CONDITION CODE BLOCK DIAGRAM)

DRN. AFM	5/18/77	FIRST USED ON	20-0000
CHK'D	5/20/77	TITLE	COND. CODES EXCEPT AND HIGH BITS
ENG. V. J. F.	6/20/77	PROJ. ENG. J. L.	6/20/77
PRD. J. L. S.	6/20/77		
NEXT HIGHER ACCT.			
SCALE		SIZE CODE	NUMBER
SHEET 1 OF 29	DIST.	D CS M0230-0-1	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 © 1977 DIGITAL EQUIPMENT CORPORATION

CONDITION CODE SELECTION CODES

DATA PATH CONDITION CODE DETECT SIGNALS

DETECT COND. DATA TYPE	AMX SIGN	BMX SIGN	ALU A=B	ALU CARRY	ALU SIGN	ALU = 0
BYTE	AMX07	BMX07	ALU(07:00) A=B	ALU CARRY 07	ALU 07	ALU (07:00) = 0
WORD	AMX15	BMX15	ALU(15:00) A=B	ALU CARRY 15	ALU 15	ALU (15:00) = 0
LONG QUAD	AMX31	BMX31	ALU(31:00) A=B	ALU CARRY 31	ALU 31	ALU (31:00) = 0
FLOAT DOUBLE	0	0	0	0	ALU 15	ALU (15:07) = 0

INSTRUCTION DEPENDENT ZN PAIR SELECT CODES

ZN CODE	CMP MODE	Z COND	ZSEL	N COND	NSEL	INV ALU SIGN	V DETECT SW
0	X	PSL Z	0	PSL N	0	X	X
1	X	ALU = 0	3	ALU SIGN	1	0	X
2	0	ALU A=B	2	ALU SIGN ⊕ SUB V DET	5	X	0
2	1	ALU A=B	2	ALU SIGN	1	1	X
3	0	ALU = 0	3	ALU SIGN	1	0	X
3	1	ALU = 0	3	PSL N	0	X	X
4	0	PSL Z	0	ALU SIGN	1	0	X
4	1	1	4	ALU SIGN	1	0	X
5	0	ALU = 0	3	0	4	X	X
5	1	UNUSED	X	UNUSED	X	X	X
6	0	UNUSED	X	UNUSED	X	X	X
6	1	UNUSED	X	UNUSED	X	X	X
7	0	UNUSED	X	UNUSED	X	X	X
7	1	UNUSED	X	UNUSED	X	X	X

ADD V DET = (AMX SIGN \* BMX SIGN \* ALU SIGN) + (AMX SIGN \* BMX SIGN \* ALU SIGN)  
 INC V DET = (AMX SIGN \* ALU SIGN)  
 SUB V DET = (AMX SIGN \* BMX SIGN \* ALU SIGN) + (AMX SIGN \* BMX SIGN \* ALU SIGN)  
 DEC V DET = (AMX SIGN \* ALU SIGN)  
 EXP V DET = EALL00 \* EALL00

INSTRUCTION DEPENDENT CV PAIR SELECT CODES

CV CODE	CMP MODE	C COND	CSEL	Y COND	YSEL	V DETECT SW	INV BMX SIGN
0	X	PSL C	0	0	5	0	X
1	X	0	3	0	5	0	X
2	X	ALU CARRY	1	ADD V DET	0	0	1
3 NI	X	ALU CARRY	1	INC V DET	0	1	0
4	X	ALU CARRY	5	SUB V DET	0	0	0
5 NI	X	ALU CARRY	5	DEC V DET	0	1	1
6 NI	X	PSL C	0	INC V DET	0	1	0
7 NI	X	PSL C	0	DEC V DET	0	1	1
8 NI	0	0	3	EXP V DET	0	1	X
8	1	1	7	0	5	0	X
9 NI	0	PSL C	0	EXP V DET	0	1	X
9 NI	1	1	7	1	5	1	X
A	0	ALU CARRY	1	0	5	0	X
A	1	ALU CARRY	1	SUB V DET	0	0	0
B	0	0	3	ALU ≠ 0	0	0	X
D	1	ALU ≠ 0	2	0	5	0	X
C	0	PSL C	0	ADD V DET	0	0	1
C	1	PSL C	0	PSL C ⊕ ALU SIGN	4	X	X
D NI	0	0	3	INC V DET	0	1	0
D NI	1	AMX SIGN	0	AMX SIGN ⊕ ALU SIGN	1	1	1
E	0	UNUSED	X	UNUSED	X	X	X
E NI	1	AMX SIGN	0	(AMX SIGN ⊕ ALU SIGN) + PSL V	2	1	1
F	0	UNUSED	X	UNUSED	X	X	X
F	1	UNUSED	X	UNUSED	X	X	X

NI: CANNOT BE USED WITH ZN CODE 2 (CMP MODE = 0) DUE TO USE OF V DETECT SW

REVISIONS		
CHK	CHANGE NO.	REV.

(CONDITION CODE DECODING TABLES)

TITLE	COND. CODES EXCEPT. AND HIGH BITS	SIZE CODE	NUMBER	REV.
SCALE	11	SHEET	2 OF 29	DIST.
D CS		M8230-0-1		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"

UCCX FIELD & ARITHMETIC TRAP CODES

UCCX FIELD DESCRIPTION

UCCX	OMP CODE	Z CONDITION	N CONDITION	C CONDITION	V CONDITION	ZSEL	NSEL	HW ALU SIGN		CSEL	VSEL	HW BANK SIGN	V DETECT SW
0	X	PSL Z	PSL N	PSL C	PSL V	0	0	X		0	3	X	X
1	N1	PSL Z	PSL N	PSL C	PSL V	0	0	X		0	3	X	0
2	0	PSL Z	PSL N	PSL C	1	0	0	X		0	5	X	1
2	1	X	X	X	X	X	X	X		X	X	X	X
3	X	(PSL Z) * (ALU = 0)	AMX SIGN	PSL C	PSL V	1	2	X		0	3	X	X
4	0	X	X	X	X	X	X	X		X	X	X	X
4	1	ALU = 0	ALU SIGN	AMX 00	0	3	1	0		4	5	X	0
5	X	ALU = 0	ALU SIGN	0	0	3	1	0		3	5	X	0
6	0	ALU = 0	ALU SIGN	PSL C	PSL V	3	1	0		0	3	X	X
6	1	PSL Z	PSL N	AMX 00	PSL V	0	0	X		4	3	X	X
7	X	INSTRUCTION DEPENDENT - OPCODE SELECTS ZH & CV PAIR SELECT CODES											

N1:UCCX=1 LOADS UBRANCH COND. CODES

ALU NDATA

A PLUS B L	A MINUS B L	ALU NDATA
H	H	ALU SIGN
H	L	$[\overline{\text{ALU SIGN}} * \text{AMX SIGN} * \overline{\text{EMX SIGN}}] + [\text{ALU SIGN} * (\text{AMX SIGN} + \text{EMX SIGN})]$
L	H	$[\overline{\text{ALU SIGN}} * \text{AMX SIGN} * \overline{\text{EMX SIGN}}] + [\text{ALU SIGN} * (\text{AMX SIGN} + \text{EMX SIGN})]$
L	L	X

ARITHMETIC TRAP CODES

TRAP CODE	TRAP CONDITION	ENABLE CONDITION	LOAD CONDITION
0	NO TRAP	1	ID TO CES
1	INTEGER OVERFLOW	(PSL IV) * (EN IV TRAP) PSL IV	UCCX = 7 ID TO CES
2	INTEGER DIVIDE BY ZERO	1	ID TO CES
3	FLOATING OVERFLOW	1	ID TO CES
4	FLOATING OR DECIMAL DIVIDE BY ZERO	1	ID TO CES
5	FLOATING UNDERFLOW	PSL FU	ID TO CES
6	DECIMAL OVERFLOW	PSL DV	ID TO CES
7	SUBSCRIPT RANGE	1	ID TO CES

REVISIONS		
CHK	CHANGE NO.	REV.

(CONDITION CODE & ARITHMETIC TRAP DECODING TABLES)

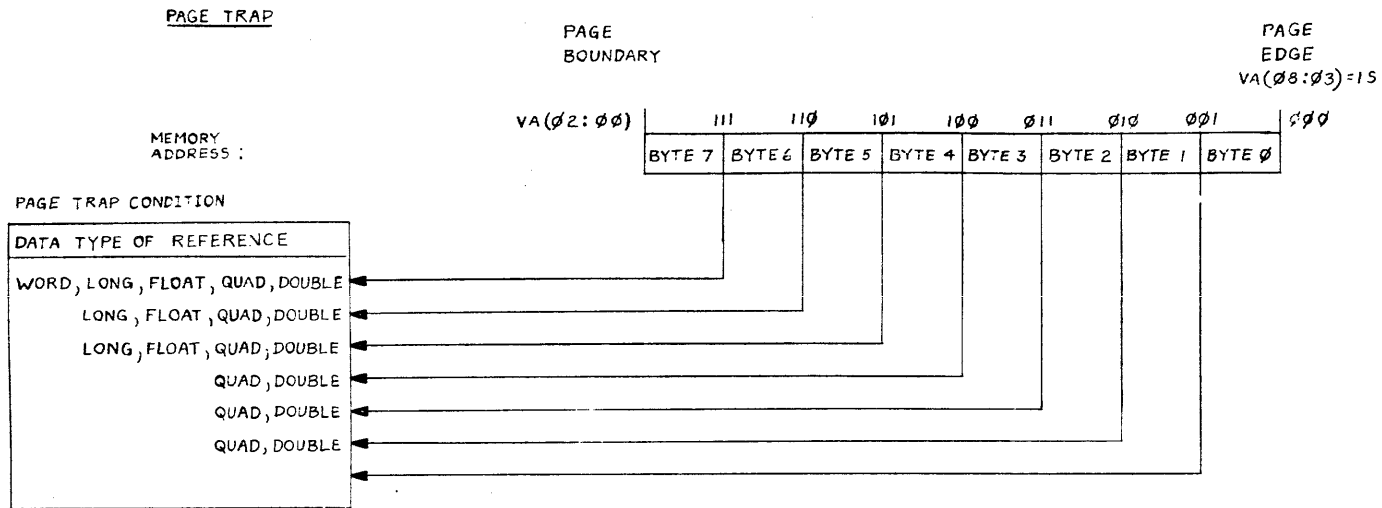
TITLE	COND. CODES EXCEPT. AND HIGH BITS	SIZE CODE	D	NUMBER	M8230-0-1	REV.	C
SCALE		SHEET	3 OF 29	DIST.			



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

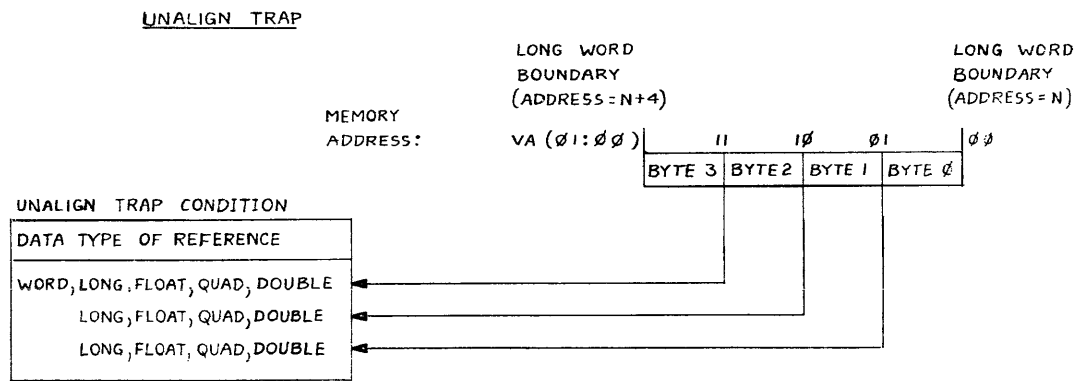
UTRAP LOGIC DESCRIPTION  
(CEHE)

D  
C  
B  
A



UTRAP VECTORS

UTRAP CONDITION	UTRAP VECTOR	PRIORITY
SYSTEM INIT	100	HIGHEST
CS PARITY ERROR	10F	
CDD ADDRESS ERROR	10E	
TIMEOUT	10D	
READ DATA SUBSTITUTE	10C	
CACHE PARITY ERROR	108	
TBUF PARITY ERROR	107	
RESERVED FLOAT OPERAND	106	
TBUF MISS	105	
PROTECTION VIOLATION	104	
MODIFY BIT	103	
PAGE TRAP	102	
UNALIGN TRAP	101	LOWEST



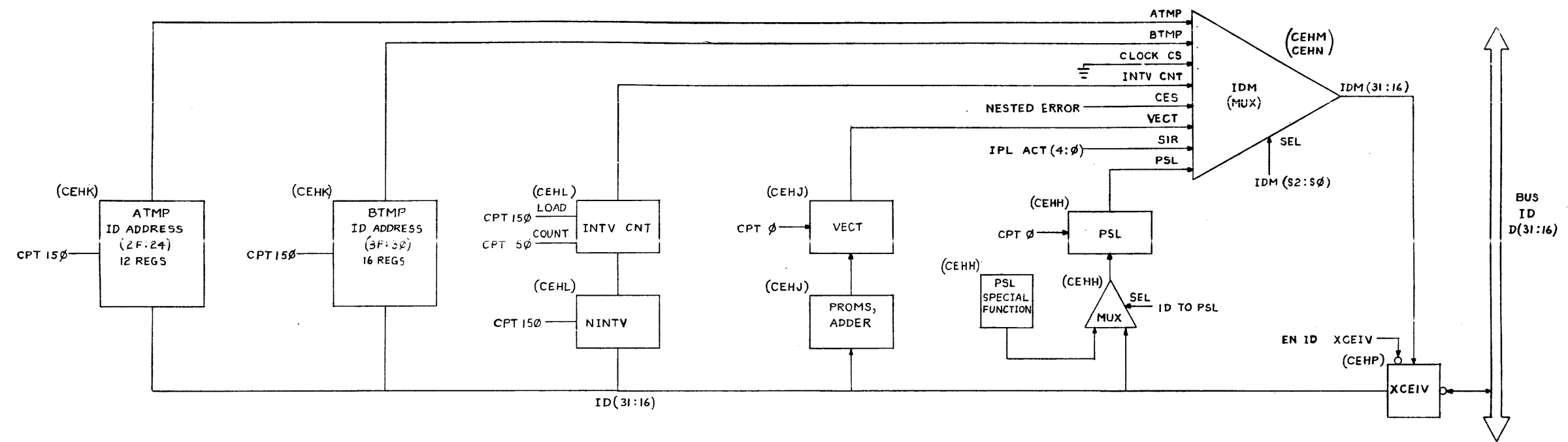
REVISIONS		
CHK	CHANGE NO.	REV.

(UTRAP LOGIC DESCRIPTION)

TITLE	COND. CODES EXCEPT. AND HIGH BITS	SIZE CODE	NUMBER	REV.
SCALE		D CS	M8230-0-1	C
		SHEET	4 OF 29	
		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

HIGH BITS BLOCK DIAGRAM



PSL REG HIGH BITS

BIT POS	NAME	LOAD CONDITION			ID TO PSL
		IACK FUNCTION	EACK FUNCTION	CHK CHMX FUNCTION (WITH ID TO PSL)	
31	CMP	∅	∅	ID 31	ID 31
30	TP	∅	∅	ID 30	ID 30
29, 28	∅	∅	∅	∅	∅
27	FPD	∅	∅	ID 27	ID 27
26	IS	IS	IS	ID 26	ID 26
25, 24	CUR MOD	∅	∅	IF ID 25, 24 > CUR MOD : CUR MOD ELSE ID 25, 24	ID (25, 24)
23, 22	PREV MOD	∅	CUR MOD	CUR MOD	ID (23, 22)
21	∅	∅	∅	∅	∅
20:16	IPL	IPL ACT	IPL	ID (20:16)	ID (20:16)

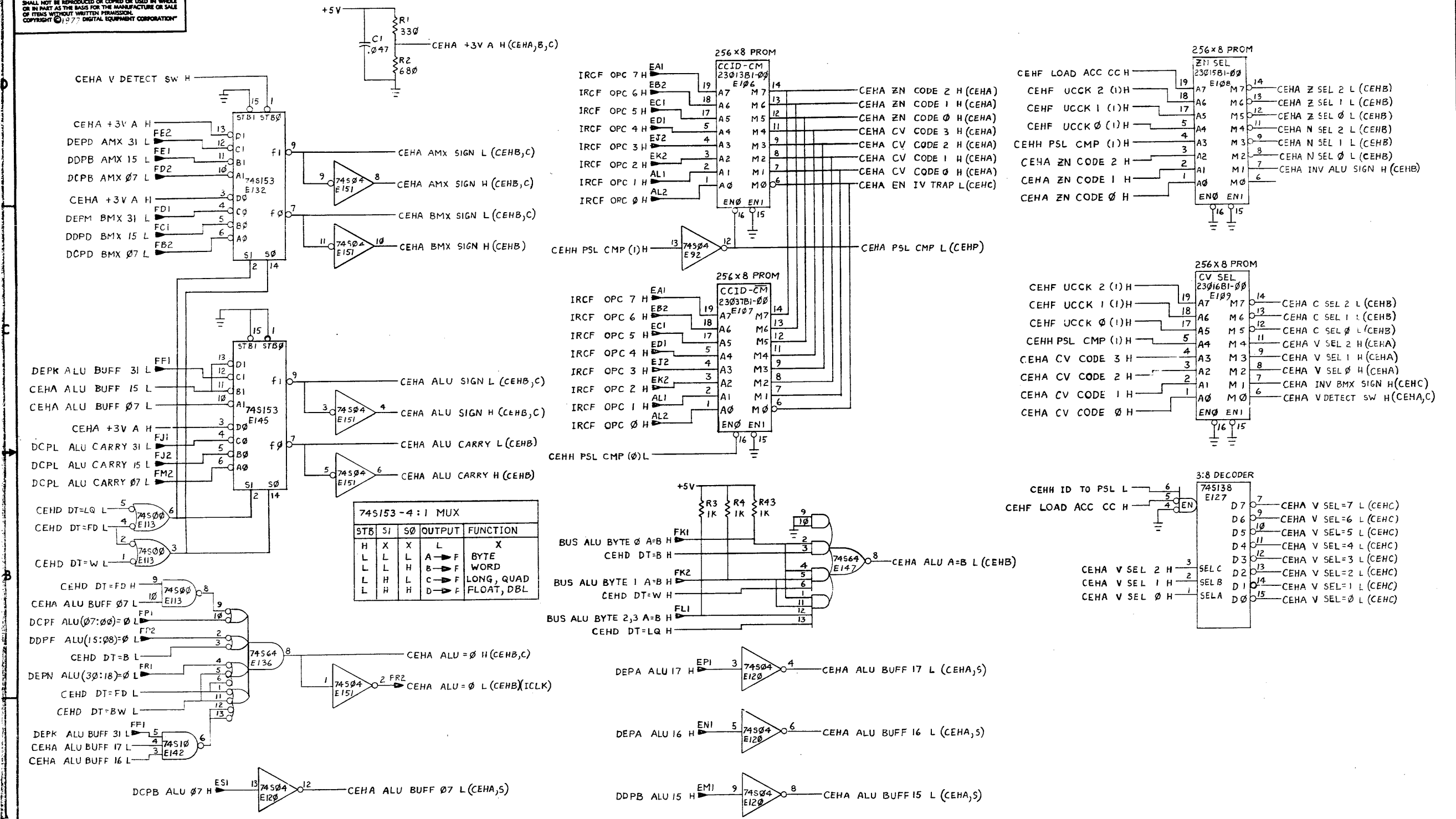
REVISIONS		
CHK	CHANGE NO.	REV.

(REGISTER BLOCK DIAGRAM)

TITLE	COND. CODES EXCEPT. AND HIGH BITS	SIZE CODE	DCS	NUMBER	M8230-0-1	REV.	C
SCALE	---	SHEET	5 OF 29	DIST.			

322

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



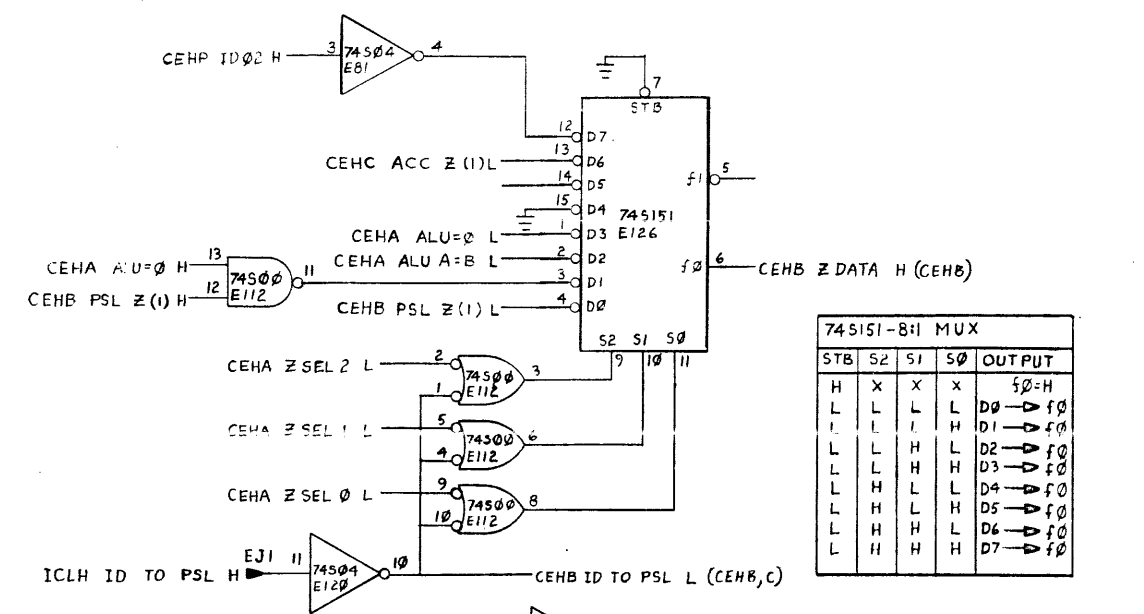
STB	SI	S0	OUTPUT	FUNCTION
H	X	X	A → F	BYTE
L	L	L	B → F	WORD
L	H	L	C → F	LONG, QUAD
L	H	H	D → F	FLOAT, DBL

(CONDITION CODE DETECTION & SELECTION LOGIC) (SLOT 14)

CHK	CHANGE NO.	REV.

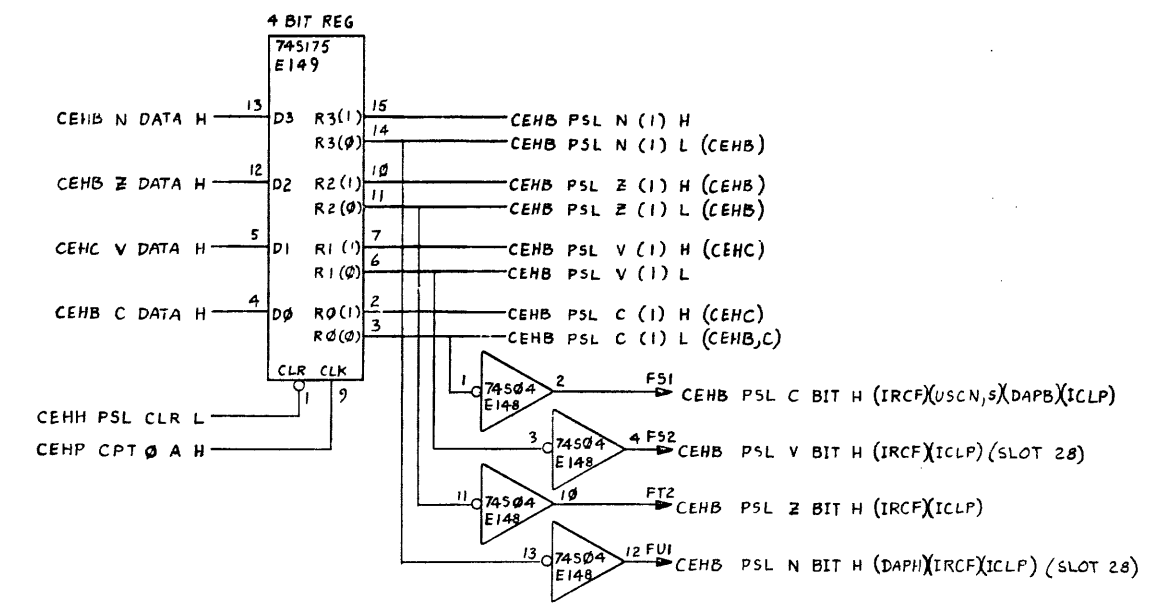
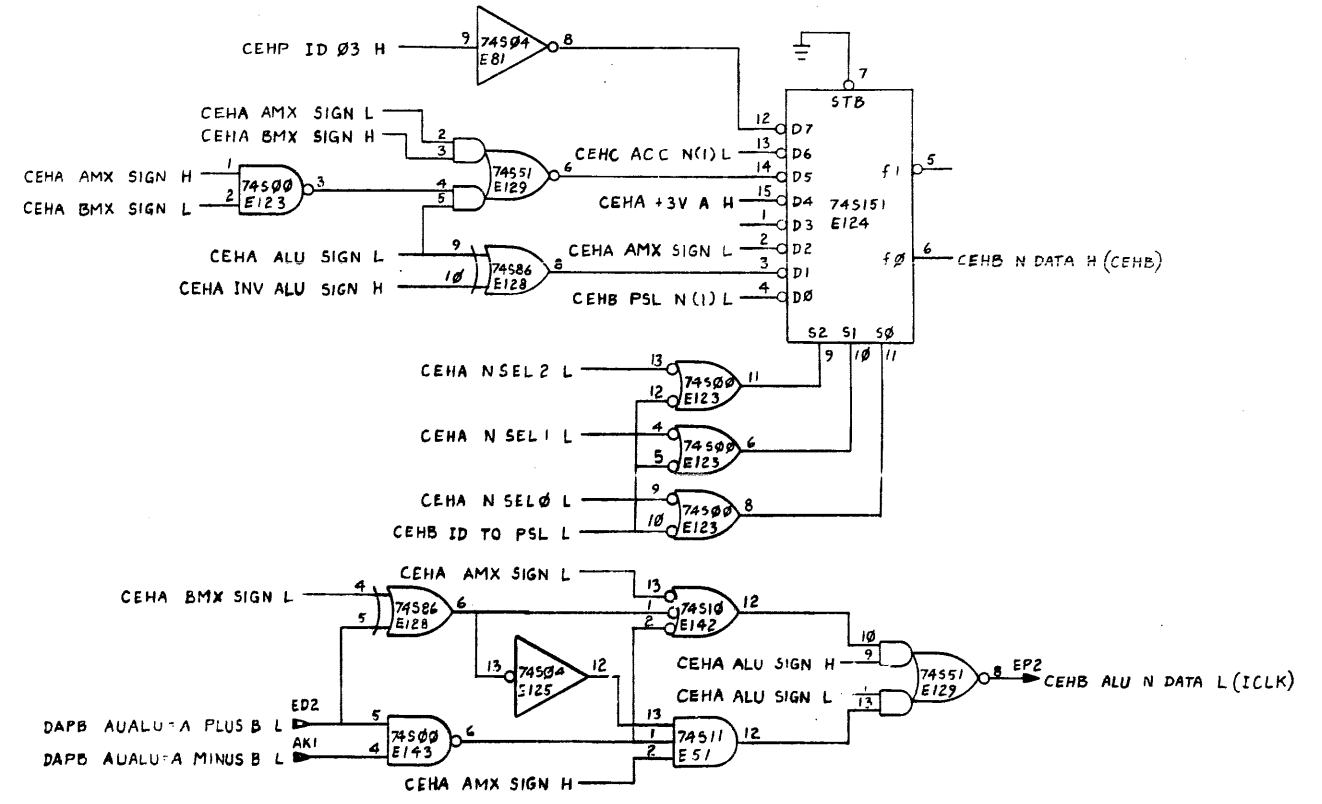
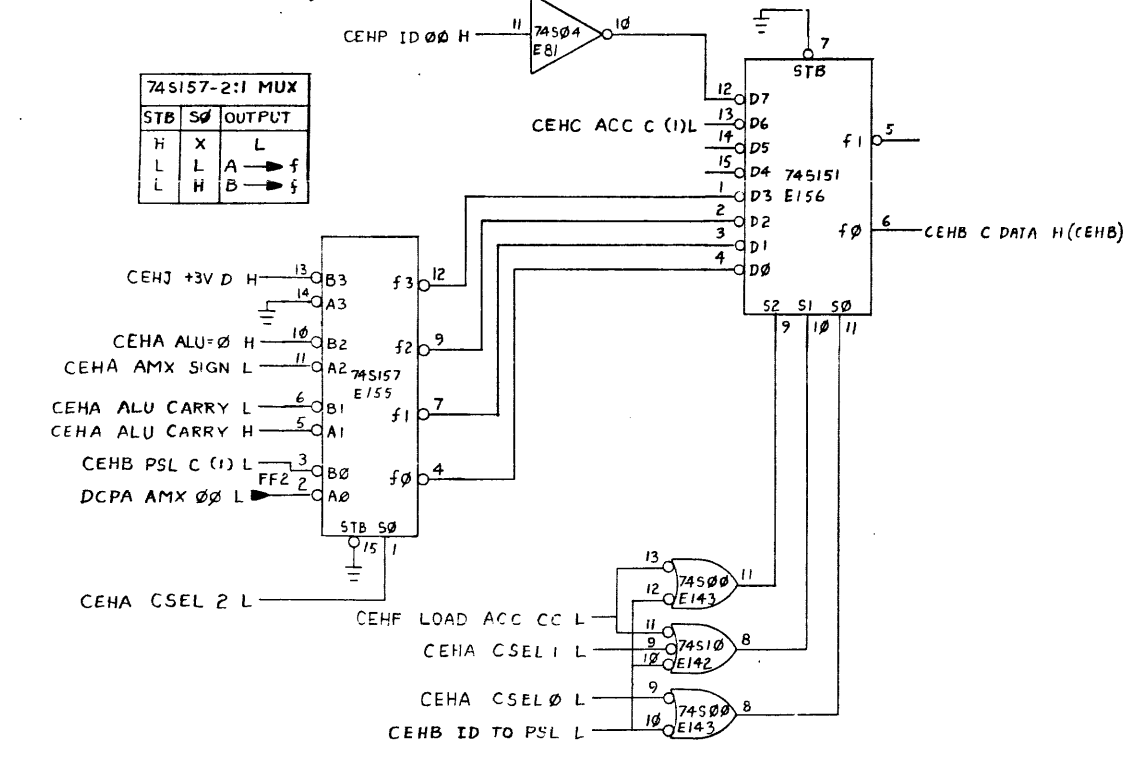
TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHA)	SIZE CODE	DCS M8230-0-1	NUMBER	C	REV.	
SCALE		SHEET	6 OF 29	DIST.			

"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"



STB	S2	S1	S0	OUTPUT
H	X	X	X	50=H
L	L	L	L	D0 → f0
L	L	L	H	D1 → f0
L	L	H	L	D2 → f0
L	L	H	H	D3 → f0
L	H	L	L	D4 → f0
L	H	L	H	D5 → f0
L	H	H	L	D6 → f0
L	H	H	H	D7 → f0

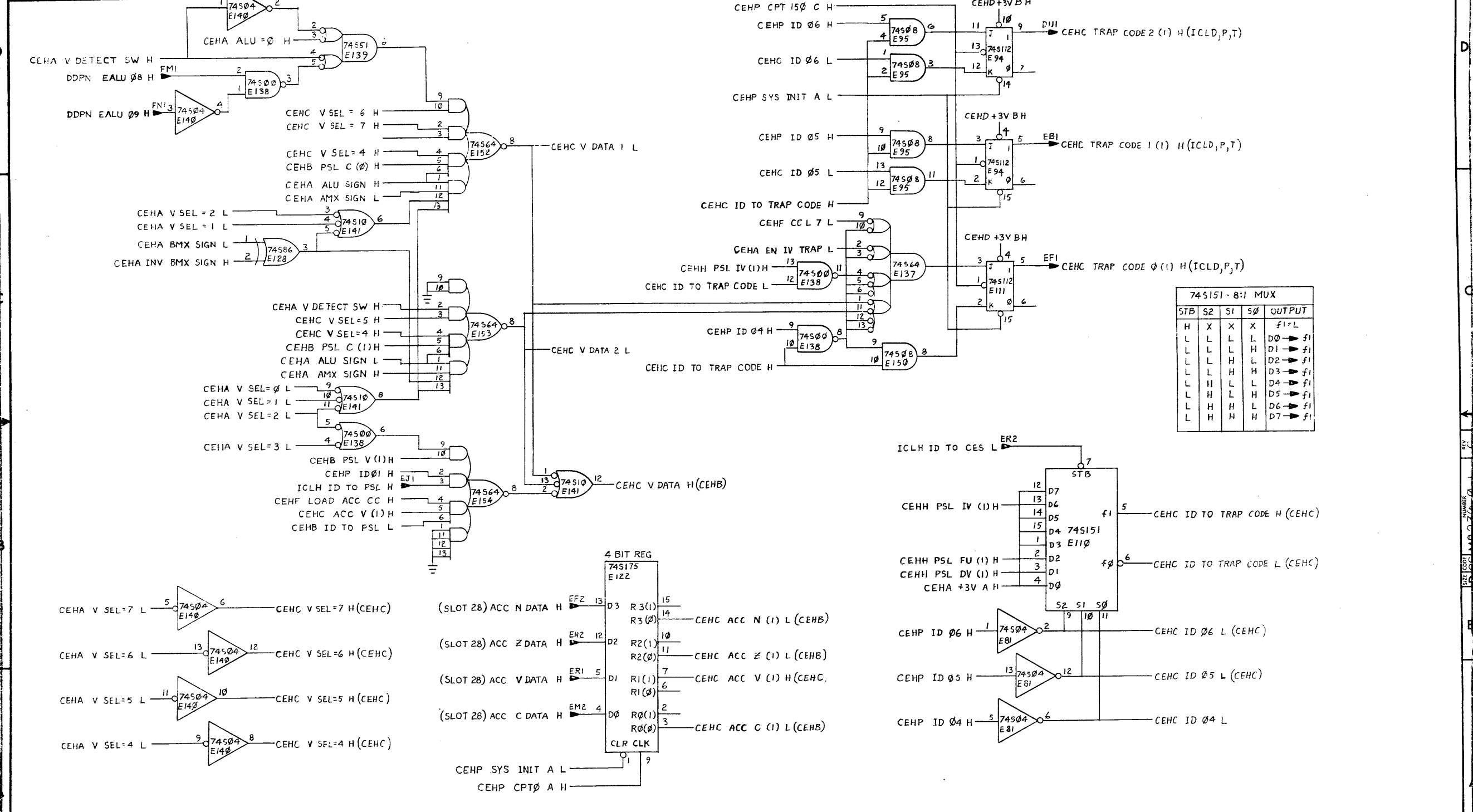
STB	S0	OUTPUT
H	X	L
L	L	A → f
L	H	B → f



(Z,C,N, & ALU N GENERATION) (SLOT 14)

TITLE	SIZE CODE	NUMBER	REV.
COND. CODES EXCEPT. AND HIGH BITS (CEHB)	D CS	M8230-0-1	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



745151 - 8:1 MUX

STB	S2	S1	S0	OUTPUT
H	X	X	X	f1=L
L	L	L	L	D0 → f1
L	L	L	H	D1 → f1
L	L	H	L	D2 → f1
L	L	H	H	D3 → f1
L	H	L	L	D4 → f1
L	H	L	H	D5 → f1
L	H	H	L	D6 → f1
L	H	H	H	D7 → f1

REVISIONS

CHK	CHANGE NO.	REV.

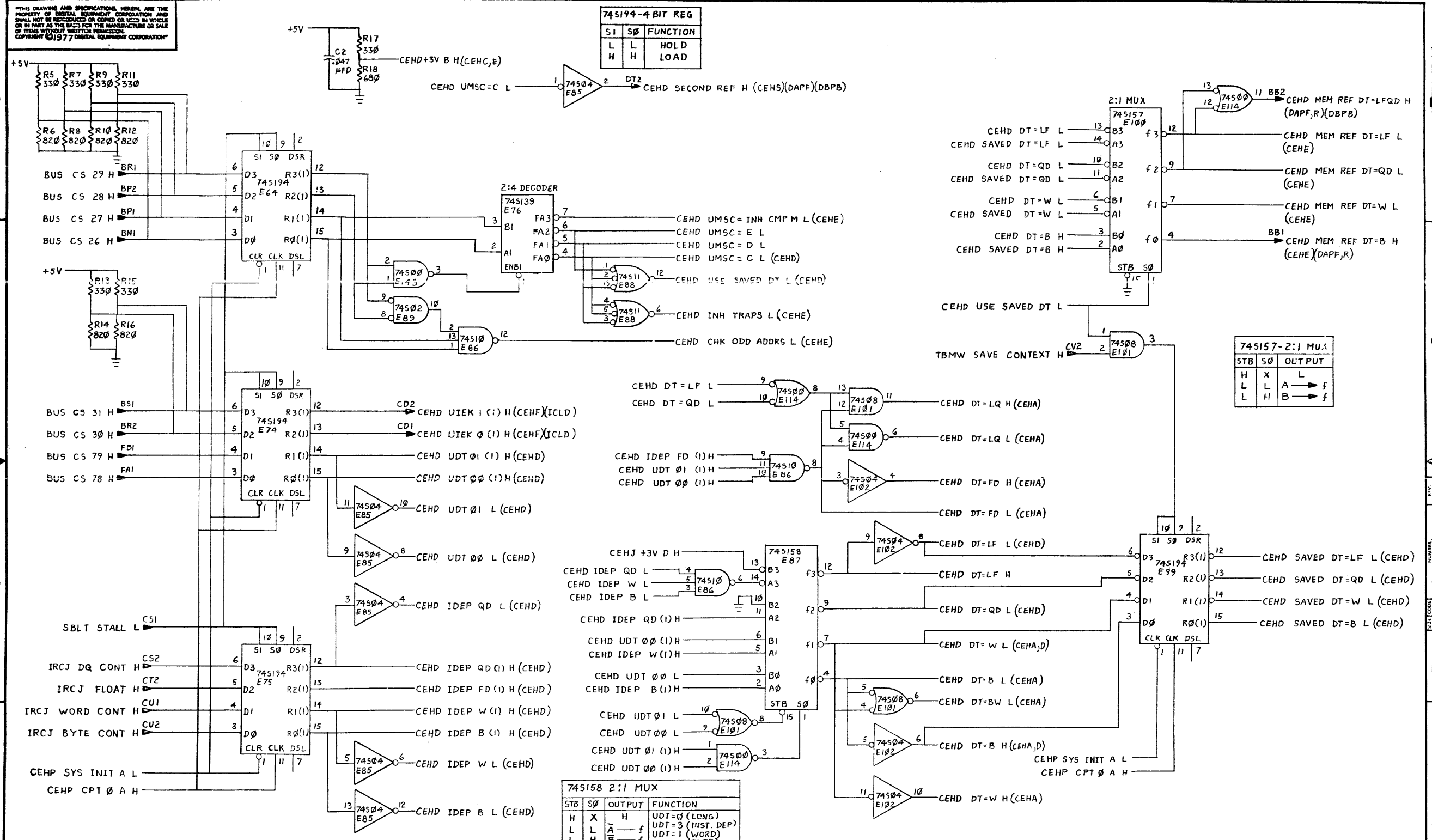
(V GENERATION & ARITHMETIC TRAP) (SLOT 14)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHC)	SIZE CODE	NUMBER	REV.
		D CS	M8230-0-1	C

SCALE: 1/8" = 1"

SHEET: 8 OF 29

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.



S1	S0	FUNCTION
L	L	HOLD
H	H	LOAD

STB	S0	OUTPUT
H	X	L
L	L	A
L	H	B

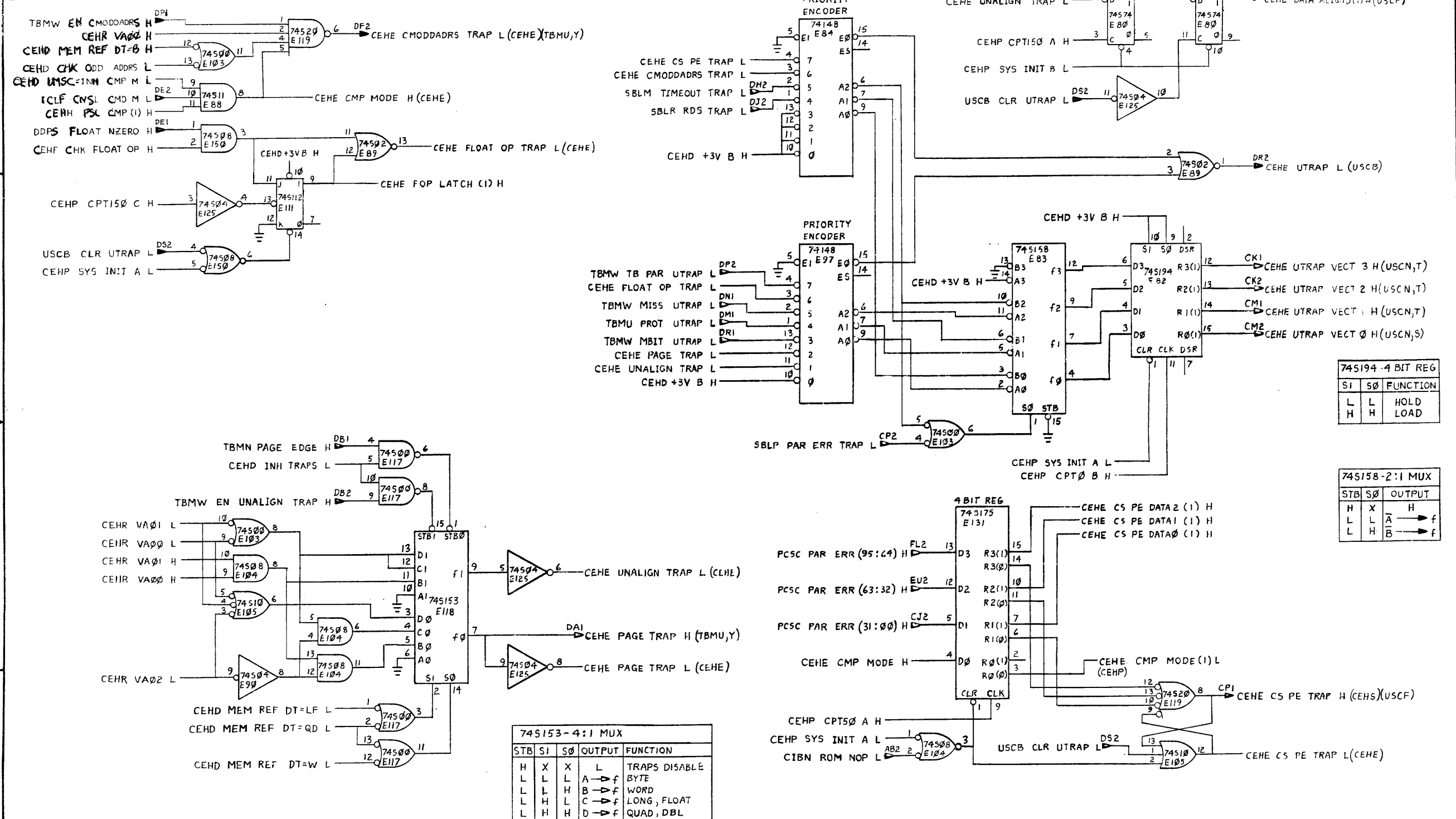
STB	S0	OUTPUT	FUNCTION
H	X	H	UDT=0 (LONG)
L	L	A	UDT=3 (INST. DEP)
L	L	B	UDT=1 (WORD)
L	H	B	UDT=2 (BYTE)

(UMSC (MEM. REF. FUNCTIONS), UIEK, UDT & DATA TYPE LOGIC) (SLOT 14)

CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
COND. CODES EXCEPT. AND HIGH BITS (CEHD)	D	CS	M8230-0-1	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



745153-4:1 MUX

STB	SI	S0	OUTPUT	FUNCTION
H	X	X	L	TRAPS DISABLE
L	L	L	A → f	BYTE
L	L	H	B → f	WORD
L	H	L	C → f	LONG, FLOAT
L	H	H	D → f	QUAD, DBL

745194-4 BIT REG

SI	S0	FUNCTION
L	L	HOLD
H	H	LOAD

745158-2:1 MUX

STB	S0	OUTPUT
H	X	H
L	L	A → f
L	H	B → f

REVISIONS

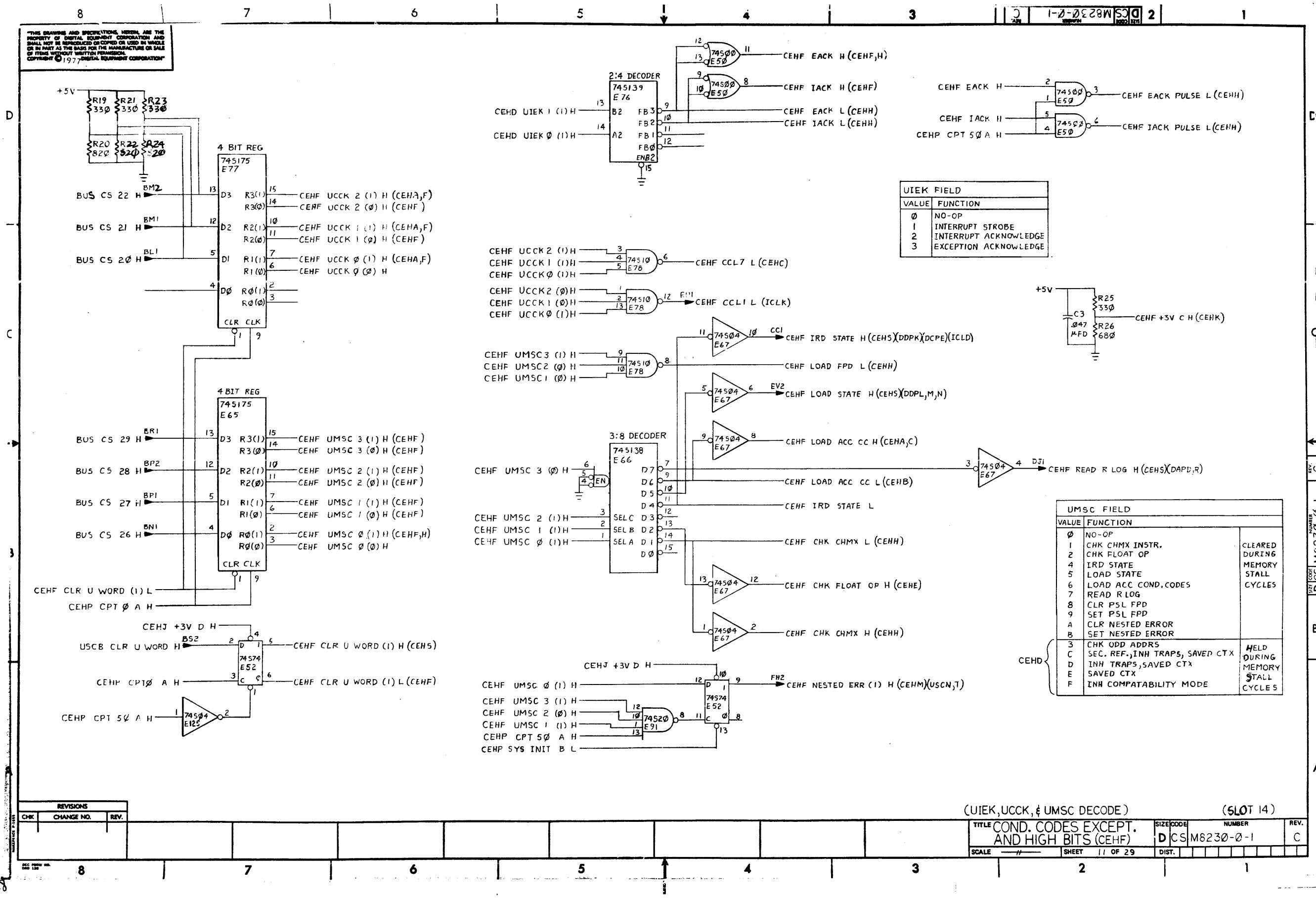
CHK	CHANGE NO.	REV.

(UTRAP LOGIC) (SLOT 14)

TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHE)	SIZE CODE	NUMBER	REV.
D	CS	M8230-0-1		C

SCALE: SHEET 10 OF 29

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



UIEK FIELD	
VALUE	FUNCTION
0	NO-OP
1	INTERRUPT STROBE
2	INTERRUPT ACKNOWLEDGE
3	EXCEPTION ACKNOWLEDGE

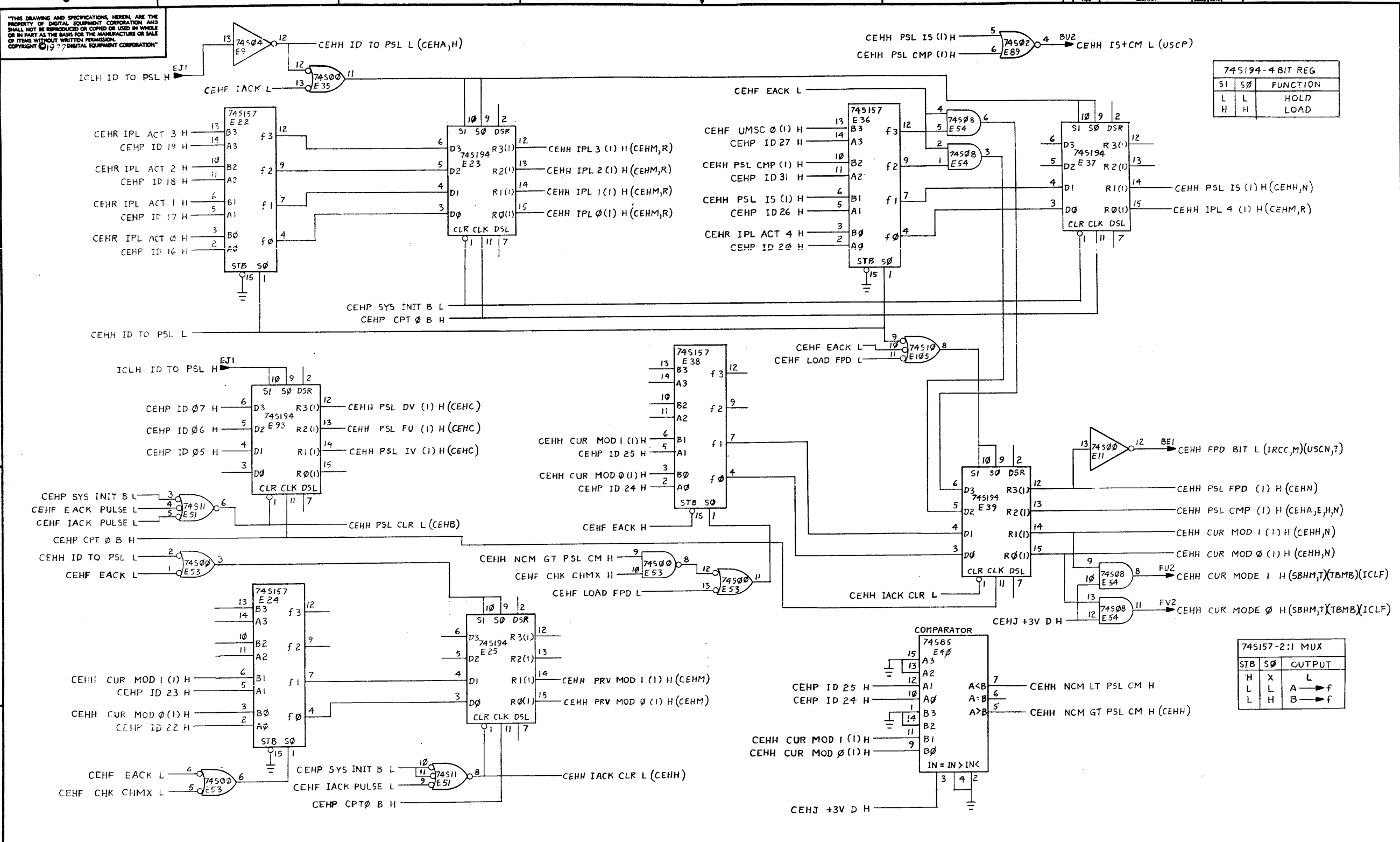
UMSC FIELD		
VALUE	FUNCTION	
0	NO-OP	
1	CHK CHMX INSTR.	CLEARED DURING MEMORY STALL CYCLES
2	CHK FLOAT OP	
4	IRD STATE	
5	LOAD STATE	
6	LOAD ACC COND. CODES	
7	READ R LOG	
8	CLR PSL FPD	HELD DURING MEMORY STALL CYCLES
9	SET PSL FPD	
A	CLR NESTED ERROR	
B	SET NESTED ERROR	
3	CHK ODD ADDR	
C	SEC. REF., INH TRAPS, SAVED CTX	
D	INH TRAPS, SAVED CTX	
E	SAVED CTX	
F	INH COMPATABILITY MODE	

REVISIONS		
CHK	CHANGE NO.	REV.

(UIEK, UCCK, & UMSC DECODE)		(SLOT 14)	
TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHF)	SIZE CODE	NUMBER
SCALE	#	D CS M8230-0-1	C
SHEET	11 OF 29	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



SI	SØ	FUNCTION
L	L	HOLD
H	H	LOAD

STB	SØ	OUTPUT
H	X	L
L	L	A → f
L	H	B → f

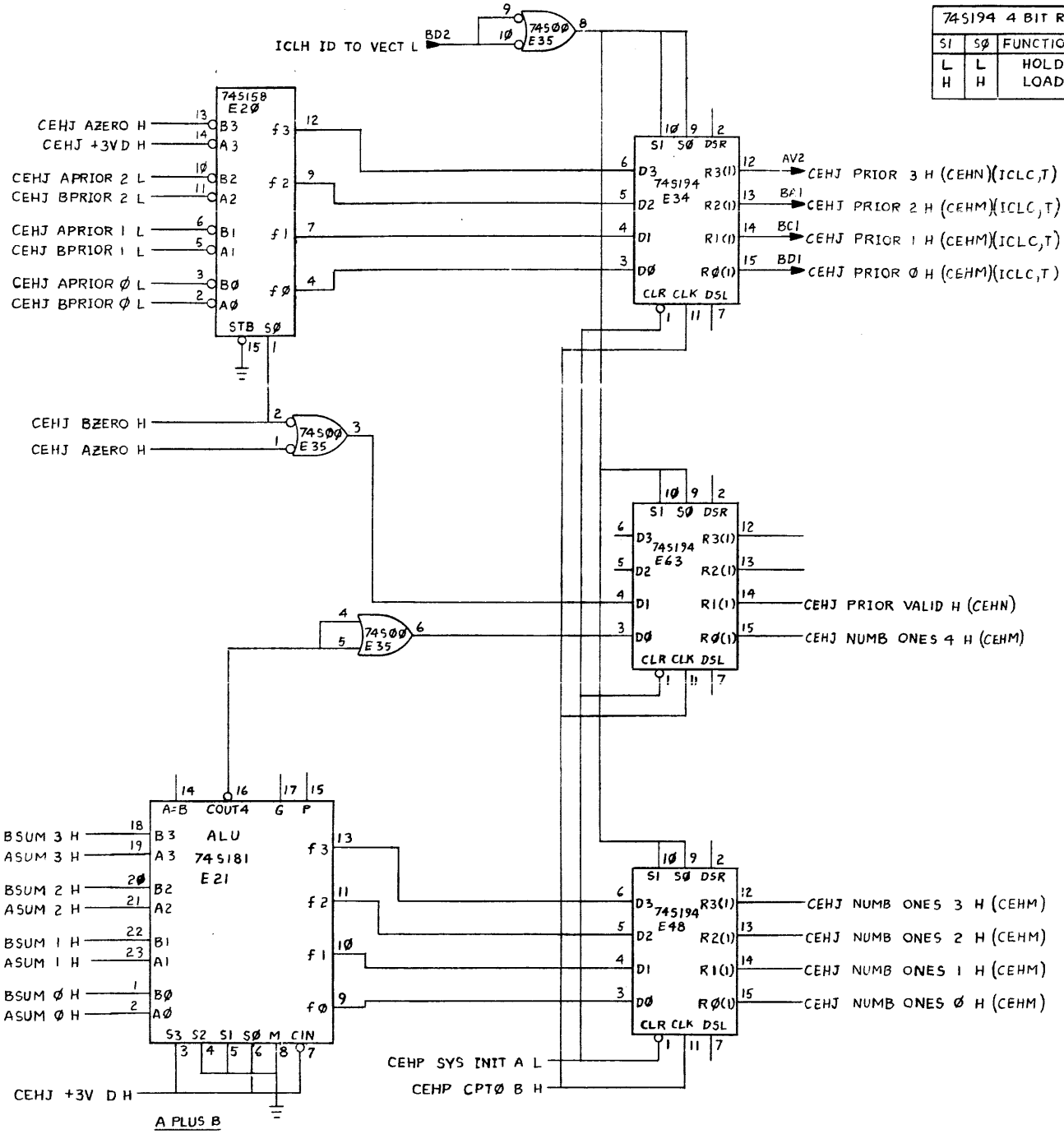
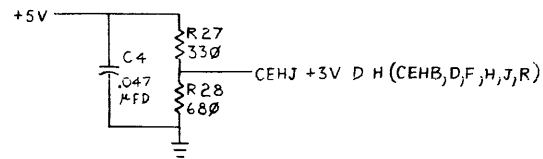
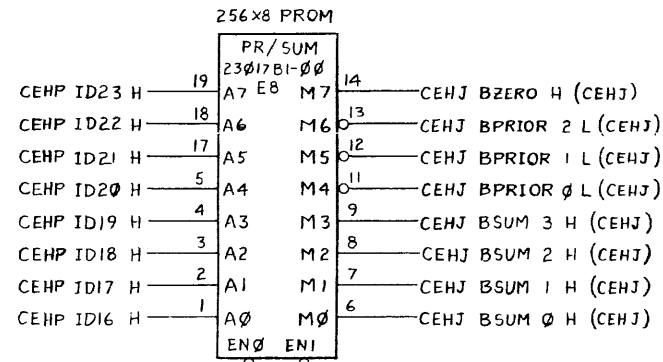
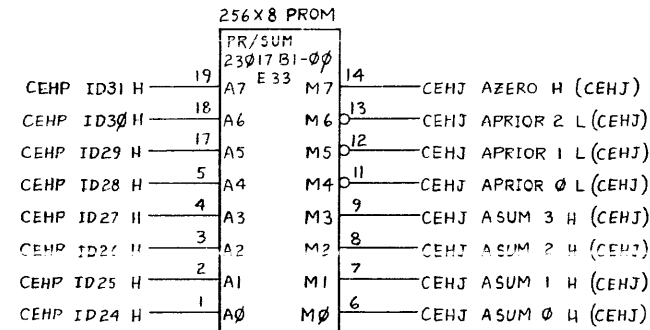
CHK	CHANGE NO.	REV.

(PSL REGISTER) (SLOT 14)  
 TITLE COND. CODES EXCEPT AND HIGH BITS (CEHH)  
 SIZE CODE NUMBER DCS M8230-0-1  
 SCALE SHEET 12 OF 29 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"

745158-2:1 MUX		
STBI	S0	OUTPUT
H	X	H
L	L	$\bar{A}$ → f
L	H	$\bar{B}$ → f

745194 4 BIT REG		
SI	S0	FUNCTION
L	L	HOLD
H	H	LOAD



REVISIONS		
CHK	CHANGE NO.	REV.

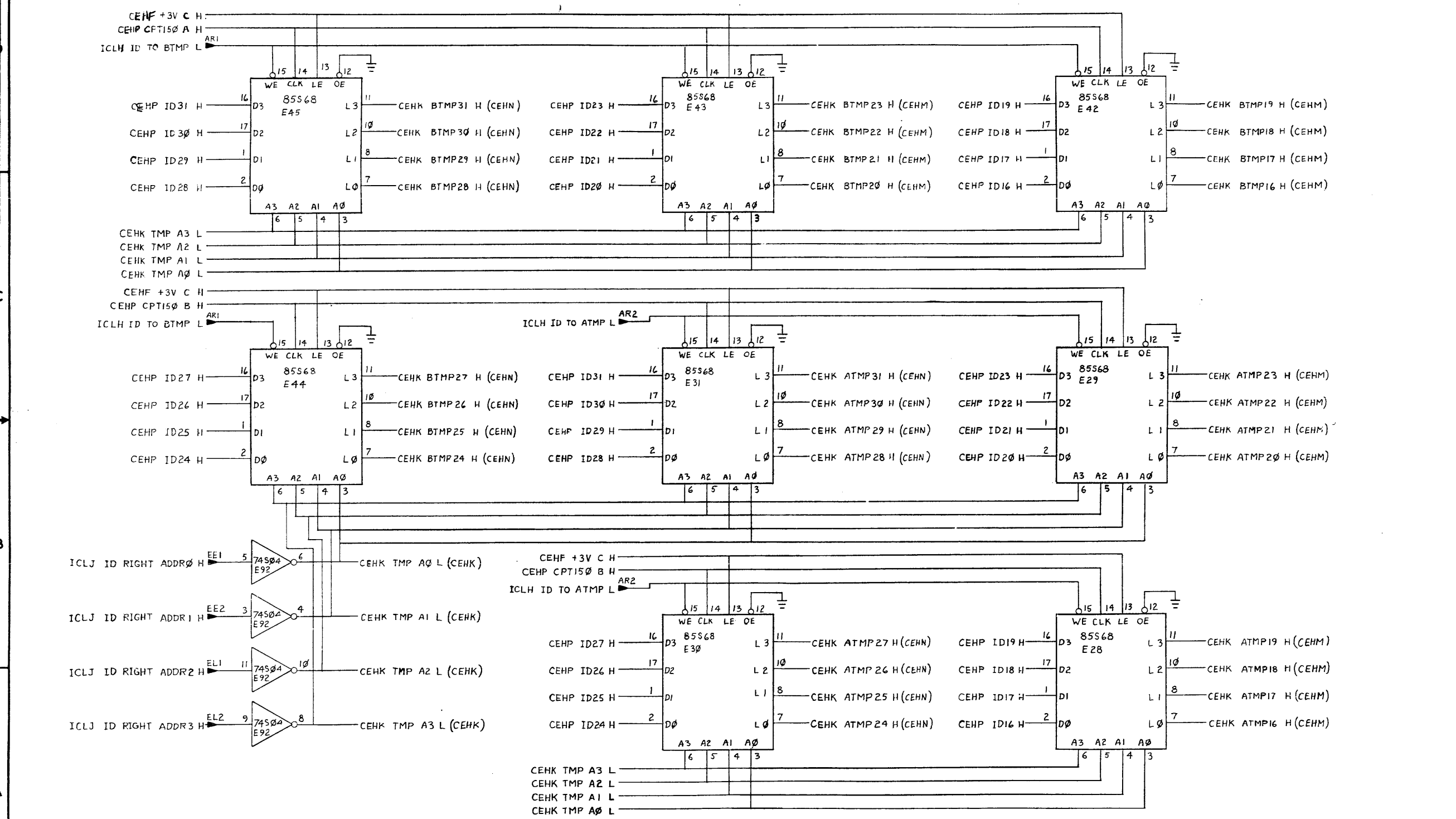
(VECTOR REG (VECT)) (SLOT 14)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHJ)	SIZE CODE	NUMBER	REV.
D	CS	M8230-0-1	C	

SCALE ——— SHEET 13 OF 29 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"

85S68 - 16 x 4 EDGE TRIGGERED REG



REVISIONS		
CHK	CHANGE NO.	REV.

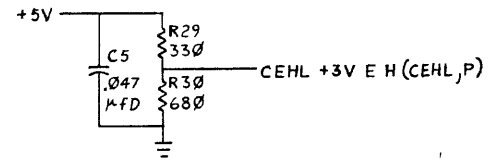
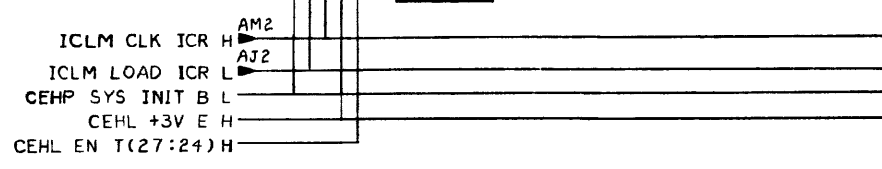
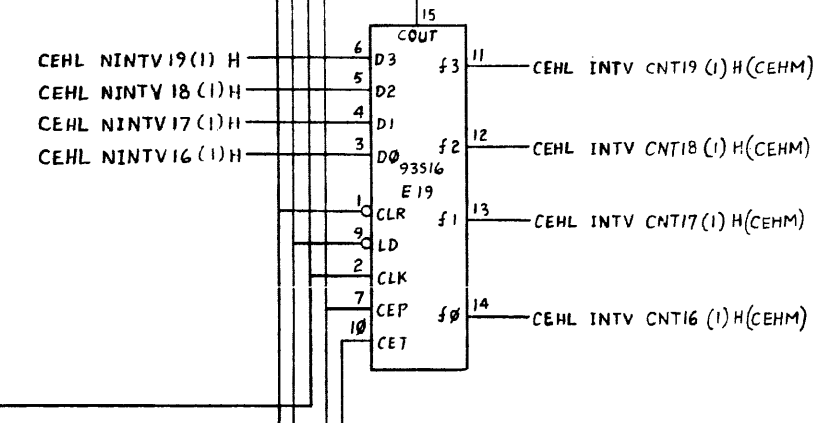
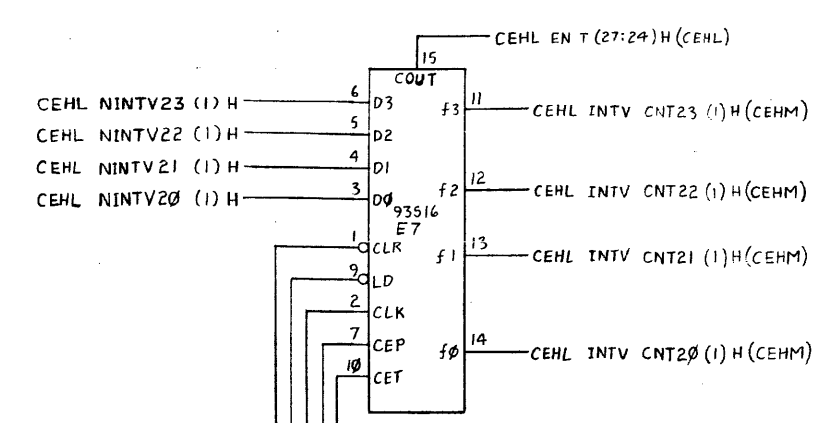
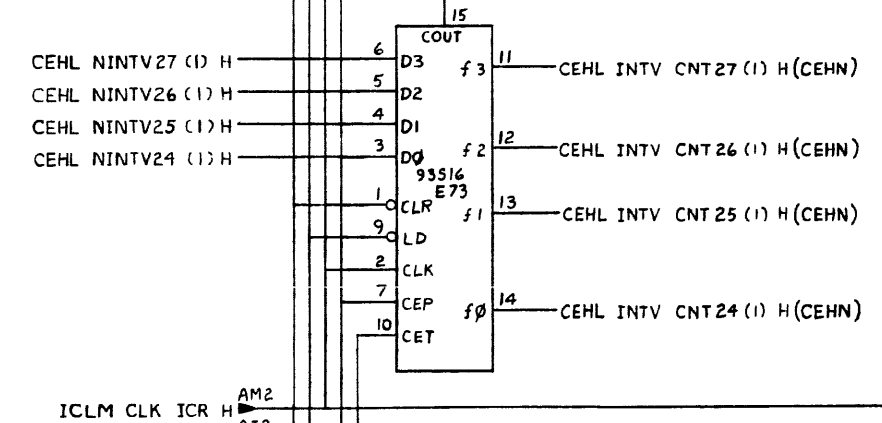
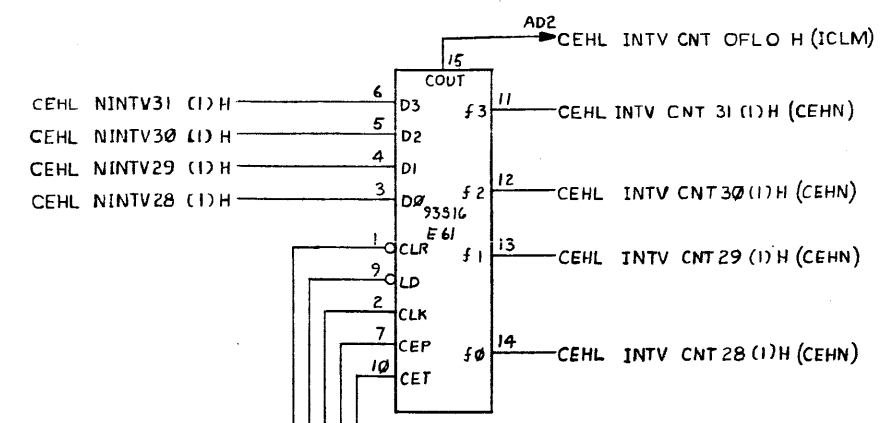
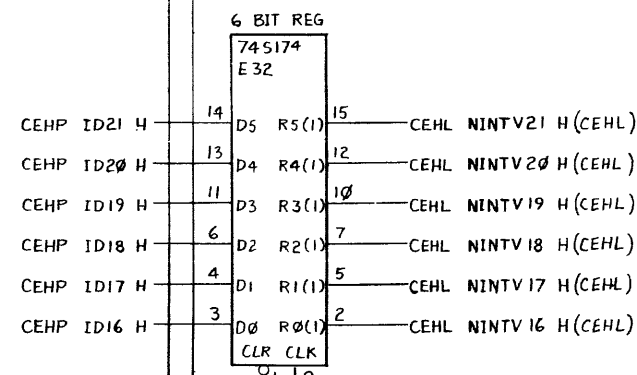
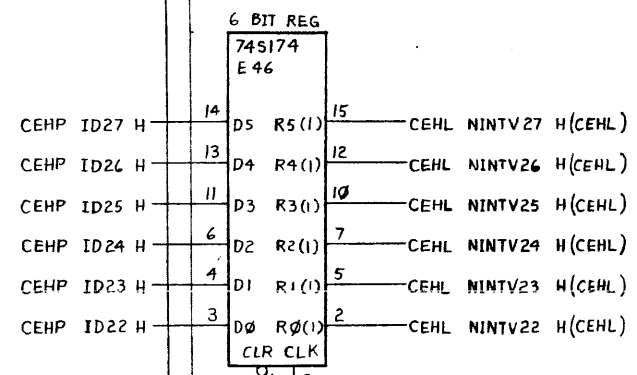
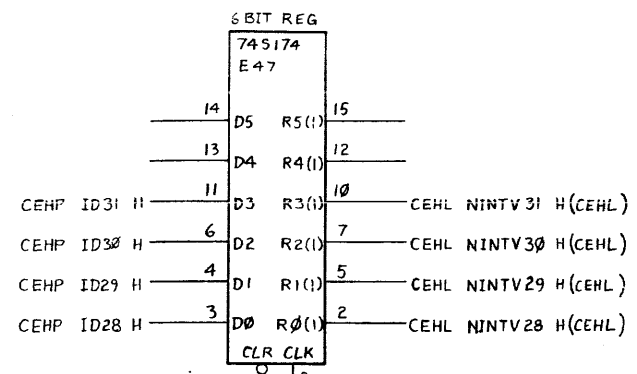
(ID REGISTERS (24 TO 3F) HIGH BITS) (SLOT 14)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHK)	SIZE CODE	D CS	NUMBER	M8230-0-1	REV.	C
SCALE	1/1	SHEET	14 OF 29	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

93516 - 4 BIT  
 BINARY COUNTER

1-0-0228W SCS 2



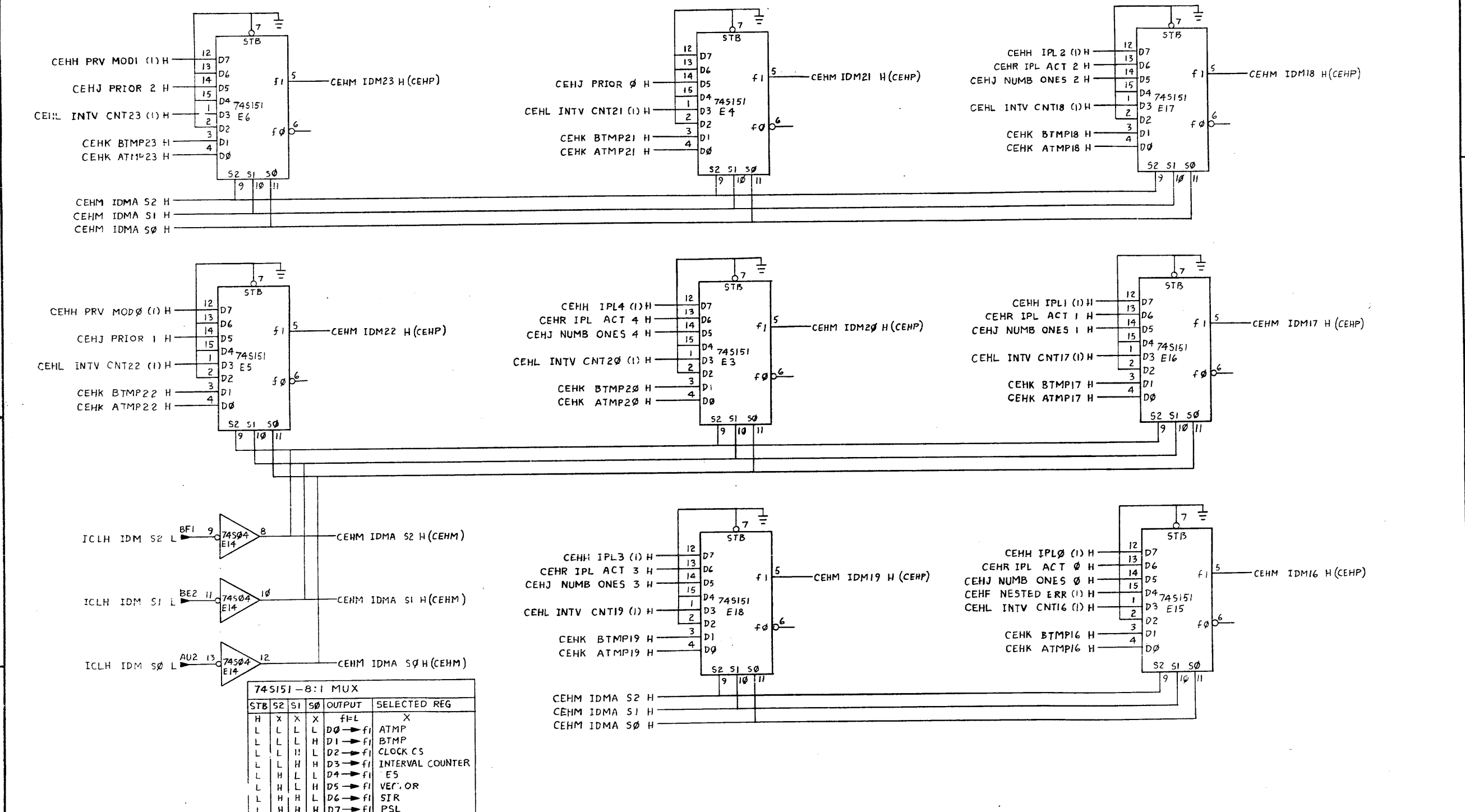
ICLN EN T(19:16) H AE2

(NEXT INTERVAL REG. & INTERVAL COUNTER HIGH BITS)  
 (SLOT 14)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHL)	SIZE CODE	D	NUMBER	M8230-0-1	REV.	C
SCALE	1/1	SHEET	15 OF 29	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"



74S151-8:1 MUX					
STB	S2	S1	S0	OUTPUT	SELECTED REG
H	X	X	X	f7-L	X
L	L	L	L	D0 → f1	ATMP
L	L	L	H	D1 → f1	BTMP
L	L	L	L	D2 → f1	CLOCK CS
L	L	H	H	D3 → f1	INTERVAL COUNTER
L	L	L	L	D4 → f1	E5
L	H	L	H	D5 → f1	VECT. OR
L	H	H	L	D6 → f1	SIR
L	H	H	H	D7 → f1	PSL

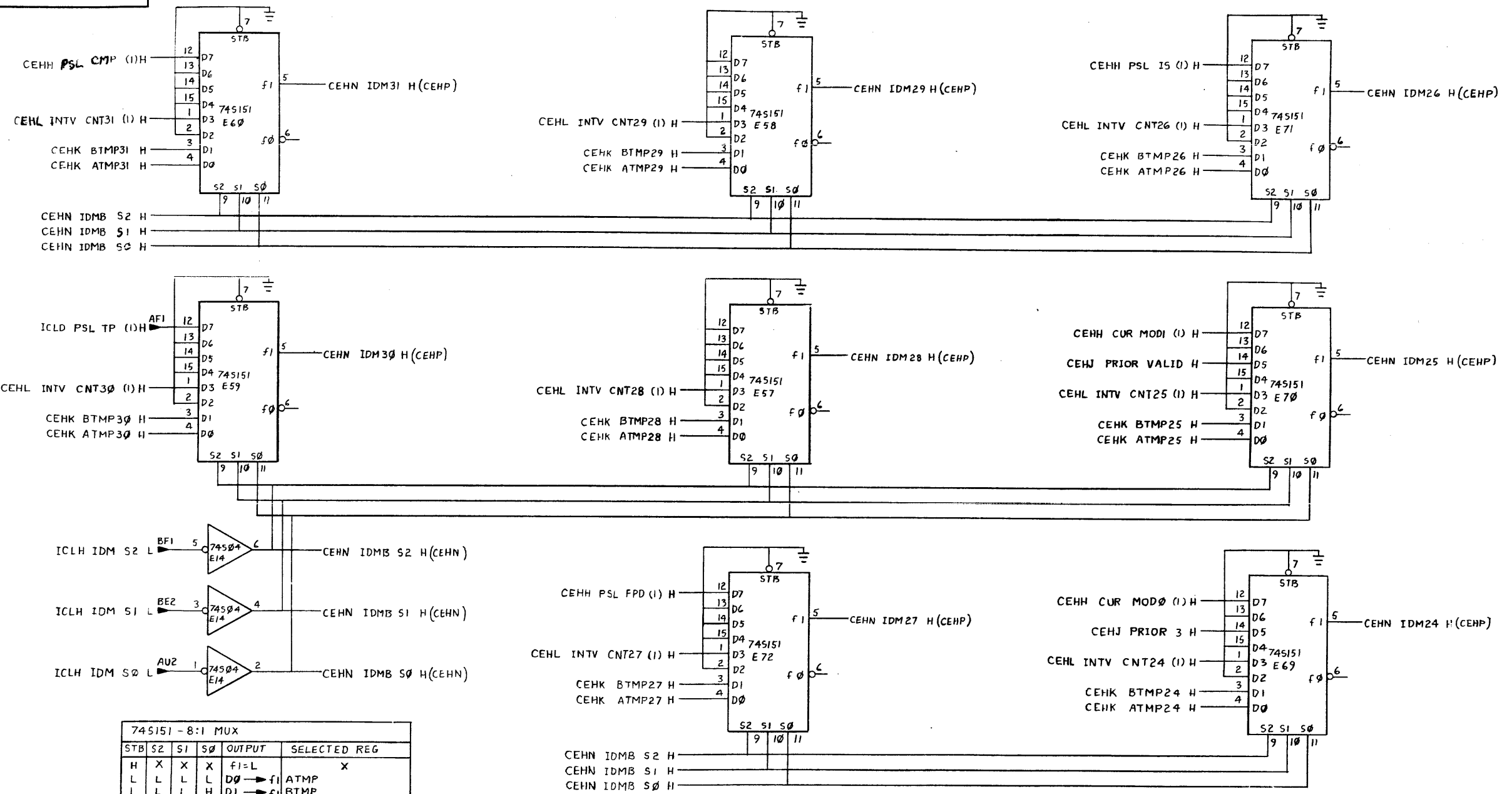
REVISIONS		
CHK	CHANGE NO.	REV.

(ID DATA MULTIPLEXOR (IDM) BITS 23:16) (SLOT 14)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHM)	SIZE CODE	D CS	NUMBER	M8230-0-1	REV.	C
SCALE		SHEET	16	OF	29	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"

1-0-0829WSD 2



745151 - 8:1 MUX					
STB	S2	S1	S0	OUTPUT	SELECTED REG
H	X	X	X	f1=L	X
L	L	L	L	D0 → f1	ATMP
L	L	L	H	D1 → f1	BTMP
L	L	H	L	D2 → f1	CLOCK CS
L	L	H	H	D3 → f1	INTERVAL COUNTER
L	H	L	L	D4 → f1	CES
L	H	L	H	D5 → f1	VECTOR
L	H	H	L	D6 → f1	SIR
L	H	H	H	D7 → f1	PSL

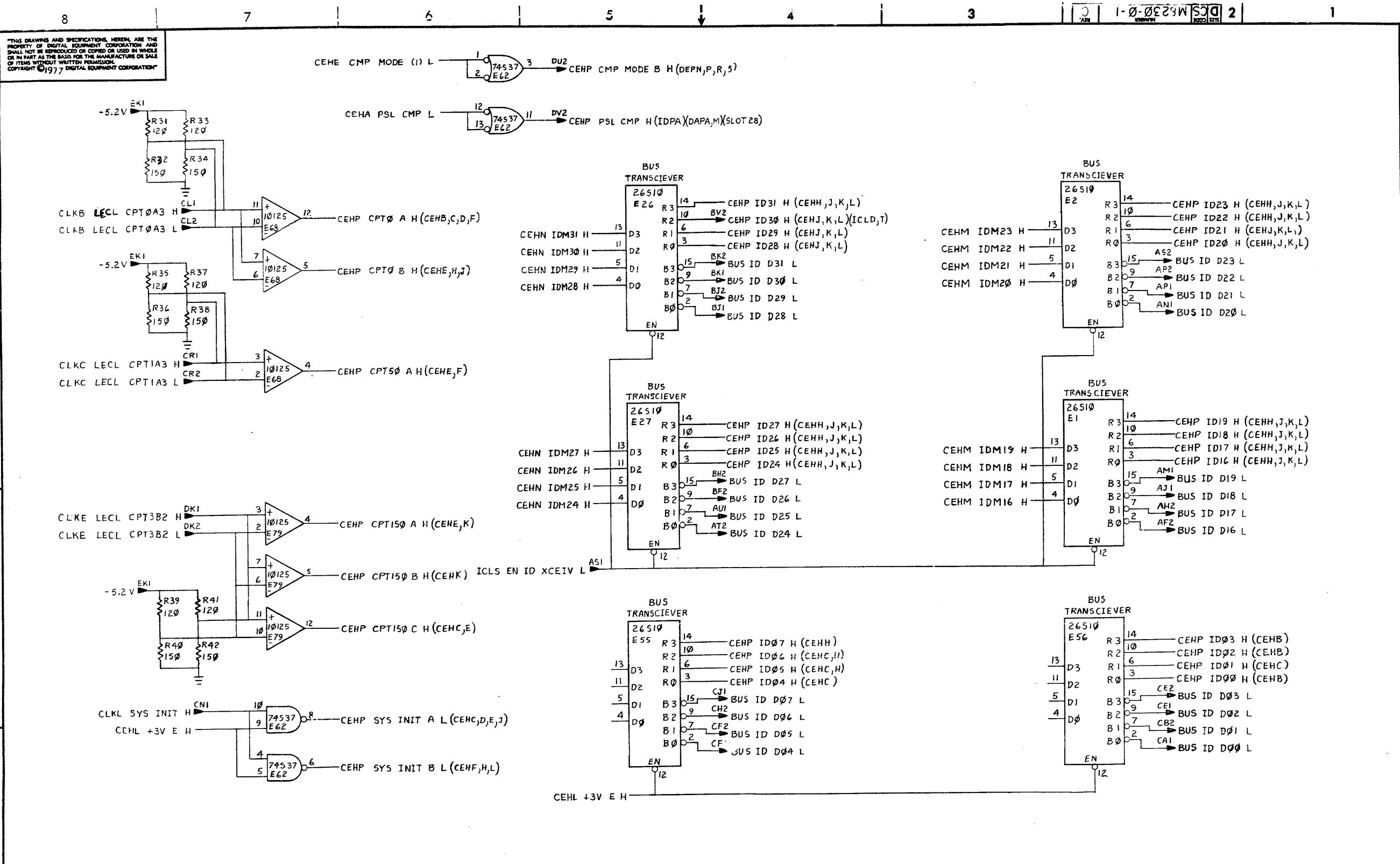
REVISIONS		
CHK	CHANGE NO.	REV.

(ID DATA MULTIPLEXOR (IDM) BITS 31:24) (SLOT 14)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHN)	SIZE CODE	DCS	NUMBER	M8230-0-1	REV.	C
SCALE	1/4"	SHEET	17	OF 29	DIST.		

334

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



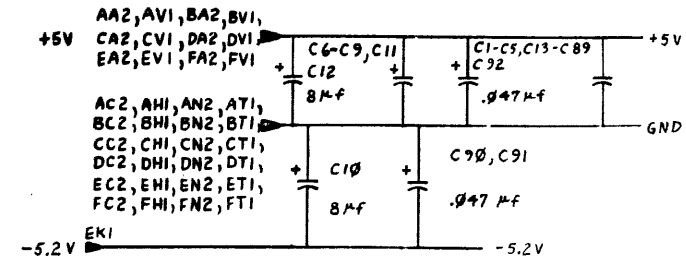
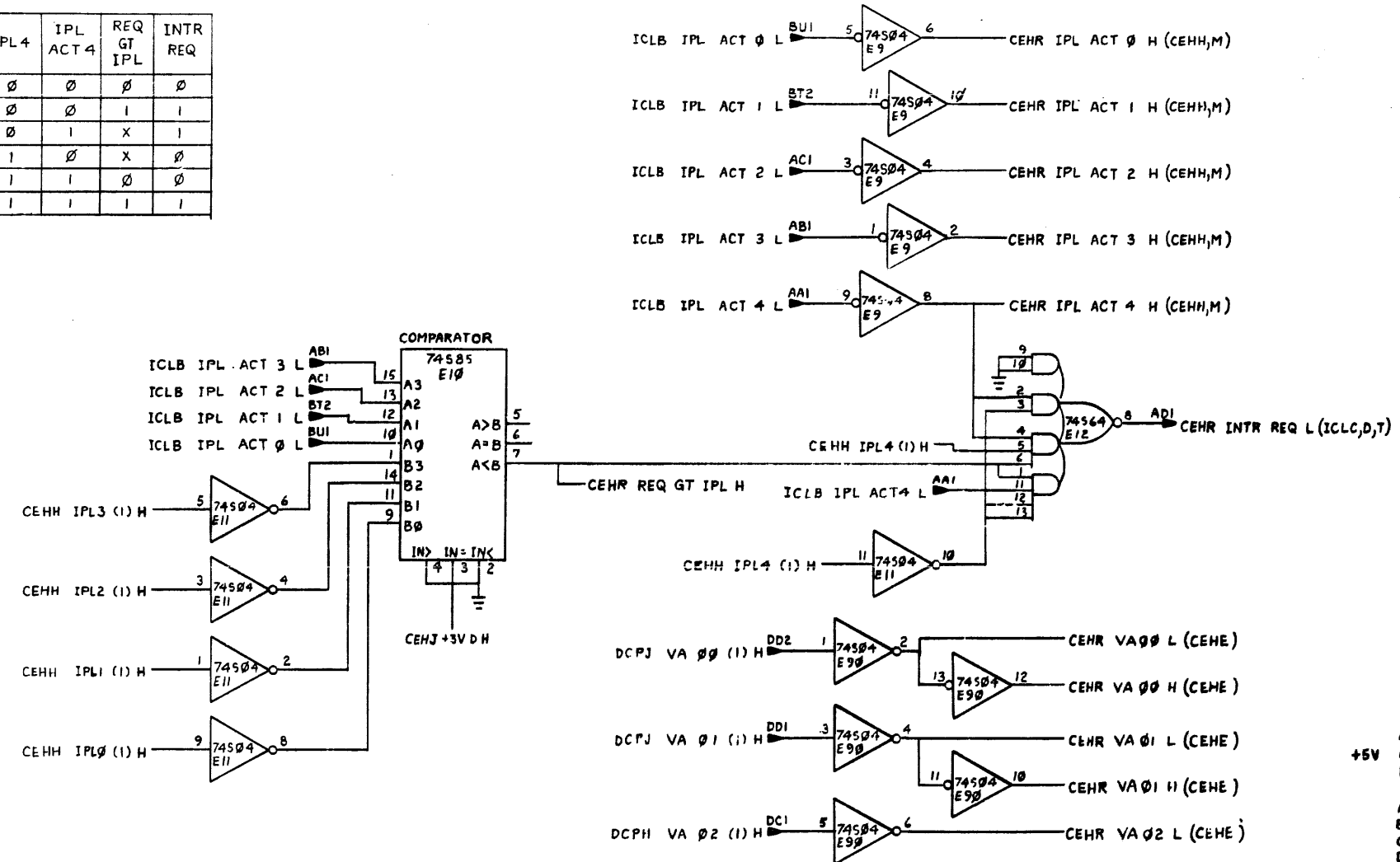
REVISIONS		
CHK	CHANGE NO.	REV.

(CLOCK LOGIC & ID XCIEVERS HIGH BITS) (SLOT 14)

TITLE	COND. CODES EXCEPT, AND HIGH BITS (CEHP)	SIZE CODE	D CS M8230-0-1	NUMBER		REV.	C
SCALE		SHEET	18 OF 29	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"

IPL4	IPL ACT 4	REQ GT IPL	INTR REQ
0	0	0	0
0	0	1	1
0	1	X	1
1	0	X	0
1	1	0	0
1	1	1	1



REVISIONS		
CHK	CHANGE NO.	REV.

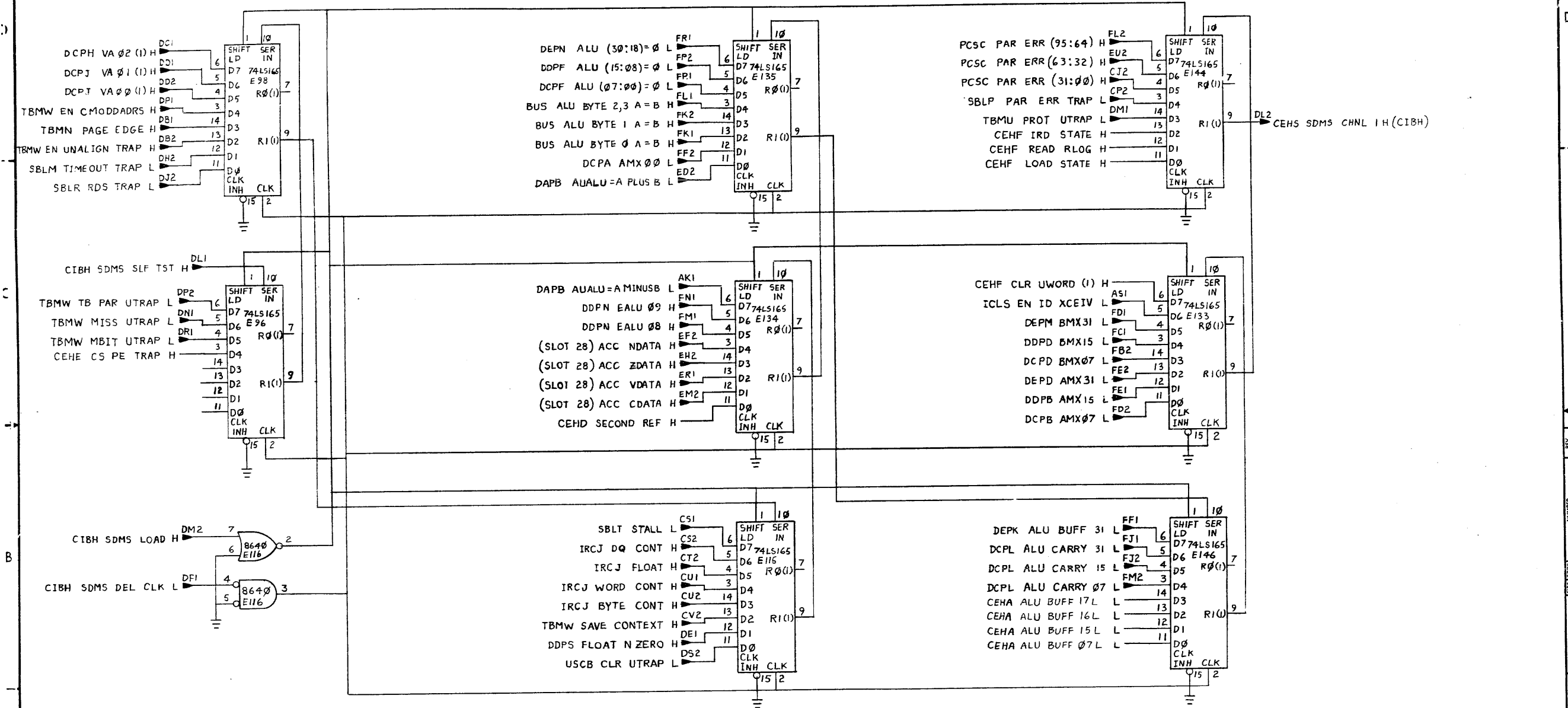
(INTERRUPT REQUEST LOGIC) (SLOT 14)  
 TITLE COND. CODES EXCEPT. AND HIGH BITS (CEHR) SIZE CODE NUMBER REV. C  
 DCS M8230-0-1  
 SCALE SHEET 19 OF 29 DIST.



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

74LS165 - 8 BIT SHIFT REG

1-0-03230W SCD 2



REVISIONS		
CHK	CHANGE NO.	REV.

(SDMS BUS LOGIC)		(SLOT 14)	
TITLE	COND. CODES EXCEPT, AND HIGH BITS (CEHS)	SIZE CODE	NUMBER
		D CS	M8230-0-1
SCALE		SHEET	20 OF 29
		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 OTHER EQUIPMENT WITHOUT PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.

Z & N SEL PROM (2:0)LS(0)

PROM ADDR	CCL	PROM DATA								INV ALU SIGN H X
		M7	M6	M5	M4	M3	M2	M1	M0	
00	CCL0	H	H	H	H	H	H	L	L	CM
01										
02										
03										
04										
05										
06										
07										
08		H	H	H	H	H	L	L	CM	
09										
0A										
0B										
0C										
0D										
0E										
0F										
10	CCL1	H	H	H	H	H	L	L	CM	
11										
12										
13										
14										
15										
16										
17										
18		H	H	H	H	H	L	L	CM	
19										
1A										
1B										
1C										
1D										
1E										
1F										

PROM ADDR	CCL	PROM DATA								INV ALU SIGN H X
		M7	M6	M5	M4	M3	M2	M1	M0	
20	CCL2	H	H	H	H	H	L	L	CM	
21										
22										
23										
24										
25										
26										
27										
28		H	H	H	H	H	L	L	CM	X
29										
2A										
2B										
2C										
2D										
2E										
2F										
30	CCL3	H	H	L	H	L	H	L	L	CM
31										
32										
33										
34										
35										
36										
37										
38		H	H	L	H	L	H	L	L	CM
39										
3A										
3B										
3C										
3D										
3E										
3F										

PROM ADDR	CCL	PROM DATA								INV ALU SIGN H X
		M7	M6	M5	M4	M3	M2	M1	M0	
40	CCL4	H	H	H	H	H	L	L	CM	X
41										
42										
43										
44										
45										
46										
47										
48		H	L	L	H	H	L	L	L	CM
49										
4A										
4B										
4C										
4D										
4E										
4F										
50	CCL5	H	L	L	H	H	L	L	L	CM
51										
52										
53										
54										
55										
56										
57										
58		H	L	L	H	H	L	L	L	CM
59										
5A										
5B										
5C										
5D										
5E										
5F										

PROM ADDR	CCL	PROM DATA								INV ALU SIGN L X
		M7	M6	M5	M4	M3	M2	M1	M0	
60	CCL6	H	L	L	H	H	L	L	L	CM
61										
62										
63										
64										
65										
66										
67										
68		H	H	H	H	H	L	L	L	CM
69										
6A										
6B										
6C										
6D										
6E										
6F										
70	CCL7	H	H	H	H	H	L	L	CM	ZN CODE=0
71		H	L	L	H	H	L	L	L	ZN CODE=1
72		H	L	H	L	H	L	L	L	ZN CODE=2
73		H	L	L	H	H	L	L	L	ZN CODE=3
74		H	H	H	H	H	L	L	L	ZN CODE=4
75		H	L	L	L	H	H	L	L	ZN CODE=5
76		H	H	H	H	H	L	L	L	ZN CODE=6
77		H	H	H	H	H	L	L	L	ZN CODE=7
78		H	H	H	H	H	L	L	CM	ZN CODE=0
79		H	L	L	H	H	L	L	L	ZN CODE=1
7A		H	L	H	H	H	L	H	L	ZN CODE=2
7B		H	L	L	H	H	L	L	L	ZN CODE=3
7C		L	H	H	H	H	L	L	L	ZN CODE=4
7D		H	H	H	H	H	L	L	L	ZN CODE=5
7E		H	H	H	H	H	L	L	L	ZN CODE=6
7F		H	H	H	H	H	L	L	L	ZN CODE=7

80 TO FF LOAD ACC C.C L L H L L H L L

(ZN SEL PROM TRUTH TABLE)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE COND. CODES EXCEPT AND HIGH BITS (CEHT) SIZE CODE NUMBER REV.  
 DCS M8230-0-1 C  
 SCALE SHEET 21 OF 29 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"

C & V SEL PROM (23016B1-00)

PROM ADDR	PROM DATA								CM	
	M7	M6	M5	M4	M3	M2	M1	M0		
00	CCL0	H	H	H	L	H	H	L	L	CM
01										
02										
03										
04										
05										
06										
07										
08										
09										
0A										
0B										
0C										
0D										
0E										
0F										
10		H	H	H	L	H	H	L	L	CM
11										
12										
13										
14										
15										
16										
17										
18										
19										
1A										
1B										
1C										
1D										
1E										
1F										

PROM ADDR	PROM DATA								CM	
	M7	M6	M5	M4	M3	M2	M1	M0		
20	CCL1	H	H	H	L	H	H	L	L	CM
21										
22										
23										
24										
25										
26										
27										
28										
29										
2A										
2B										
2C										
2D										
2E										
2F										
30		H	H	H	L	H	H	L	L	CM
31										
32										
33										
34										
35										
36										
37										
38										
39										
3A										
3B										
3C										
3D										
3E										
3F										

PROM ADDR	PROM DATA								CM	
	M7	M6	M5	M4	M3	M2	M1	M0		
40	CCL2	H	H	H	L	H	H	L	L	CM
41										
42										
43										
44										
45										
46										
47										
48										
49										
4A										
4B										
4C										
4D										
4E										
4F										
50		H	H	H	L	H	H	L	L	CM
51										
52										
53										
54										
55										
56										
57										
58										
59										
5A										
5B										
5C										
5D										
5E										
5F										

PROM ADDR	PROM DATA								CM	
	M7	M6	M5	M4	M3	M2	M1	M0		
60	CCL3	H	H	H	L	H	H	L	L	CM
61										
62										
63										
64										
65										
66										
67										
68										
69										
6A										
6B										
6C										
6D										
6E										
6F										
70		H	H	H	L	H	H	L	L	CM
71										
72										
73										
74										
75										
76										
77										
78										
79										
7A										
7B										
7C										
7D										
7E										
7F										

REVISIONS		
CHK	CHANGE NO.	REV.

(CV SEL PROM TRUTH TABLE)

TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHU)	SIZE CODE	NUMBER	REV.
SCALE	4	DCS	M8230-0-1	C
SHEET	22 OF 29	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

C & V SEL PROM (23016B1-00)

FROM ADDR	PROM DATA								CM	X	
	M7	M6	M5	M4	M3	M2	M1	M0			
80	CCL4	H	H	H	L	H	H	L	L	CM	X
81											
82											
83											
84											
85											
86											
87											
88											
89											
8A											
8B											
8C											
8D											
8E											
8F											
90		L	H	H	H	L	H	L	L	CM	
91											
92											
93											
94											
95											
96											
97											
98											
99											
9A											
9B											
9C											
9D											
9E											
9F											

PROM ADDR	PROM DATA								CM	
	M7	M6	M5	M4	M3	M2	M1	M0		
A0	CCL5	H	L	L	H	L	H	L	L	CM
A1										
A2										
A3										
A4										
A5										
A6										
A7										
A8										
A9										
AA										
AB										
AC										
AD										
AE										
AF										
B0		H	L	L	H	L	H	L	L	CM
B1										
B2										
B3										
B4										
B5										
B6										
B7										
B8										
B9										
BA										
BB										
BC										
BD										
BE										
BF										

PROM ADDR	PROM DATA								CM	
	M7	M6	M5	M4	M3	M2	M1	M0		
C0	CCL6	H	H	H	L	H	H	L	L	CM
C1										
C2										
C3										
C4										
C5										
C6										
C7										
C8										
C9										
CA										
CB										
CC										
CD										
CE										
CF										
D0		L	H	H	H	L	L	L	L	CM
D1										
D2										
D3										
D4										
D5										
D6										
D7										
D8										
D9										
DA										
DB										
DC										
DD										
DE										
DF										

PROM ADDR	PROM DATA								CM	CV CODE	Ø		
	M7	M6	M5	M4	M3	M2	M1	M0					
E0	CCL7	H	H	H	H	L	H	L	L	CM	CV CODE	Ø	
E1		H	L	L	H	L	H	L	L			1	
E2		H	H	L	L	L	L	H	L			2	
E3		H	H	L	L	L	L	L	H			3	
E4		L	H	L	L	L	L	L	L			4	
E5		L	H	L	L	L	L	H	H			5	
E6		H	H	H	L	L	L	L	H			6	
E7		H	H	H	L	L	L	H	H			7	
E8		H	L	L	H	H	L	L	H			8	
E9		H	H	H	H	H	L	L	H			9	
EA		H	H	L	H	L	H	L	L			A	
EB		H	L	L	H	H	L	L	L			B	
EC		H	H	H	L	L	L	H	L			C	
ED		H	L	L	L	L	L	L	H			D	
EE		H	H	H	L	H	H	L	L			Ex	
E0		H	H	H	L	H	H	L	L		CM	CV CODE	Ø
F1		H	L	L	H	L	H	L	L			1	
F2		H	H	L	L	L	L	H	L			2	
F3		H	H	L	L	L	L	L	H			3	
F4		L	H	L	L	L	L	L	L			4	
F5		L	H	L	L	L	L	H	H			5	
F6		H	H	H	L	L	L	L	H			6	
F7		H	H	H	L	L	L	H	H			7	
F8		L	L	L	H	L	H	L	L			8	
F9		L	L	L	H	L	H	L	H			9	
FA		H	H	L	L	L	L	L	L			A	
FB		H	L	H	H	L	H	L	L			B	
FC		H	H	H	H	L	L	L	L			C	
FD		L	L	H	L	L	H	H	H			D	
FE		L	L	H	L	H	L	H	H			E	
FF		H	H	H	L	H	H	L	L			FX	

REVISIONS		
CHK	CHANGE NO.	REV.

340

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.

CONDITION CODE INSTR. DEPENDENT PROM - CM (2303781-00)

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
00	HALT	L	L	L	L	L	L	H	
01	NOP	L	L	L	L	L	L	H	
02	REI	L	L	L	L	L	L	H	
03	BPT	L	L	L	L	L	L	H	
04	RET	L	L	L	L	L	L	H	
05	R5B	L	L	L	L	L	L	H	
06	LDPCTX	L	L	L	L	L	L	H	
07	SVPCTX	L	L	L	L	L	L	H	
08	---	L	L	L	L	L	L	H	
09	---	L	L	L	L	L	L	H	
0A	INDEX	L	H	L	L	L	L	H	
0B	CRC	L	L	H	L	L	L	H	
0C	PROBER	L	L	H	L	L	L	H	
0D	PROBEW	L	L	H	L	L	L	H	
0E	INSQUE	L	H	L	H	L	L	H	
0F	REMQUE	L	H	L	H	L	L	H	
10	BSBB	L	L	L	L	L	L	H	
11	BRB	L	L	L	L	L	L	H	
12	BNEQ	L	L	L	L	L	L	H	
13	BEQL	L	L	L	L	L	L	H	
14	BGTR	L	L	L	L	L	L	H	
15	BLEQ	L	L	L	L	L	L	H	
16	JSB	L	L	L	L	L	L	H	
17	JMP	L	L	L	L	L	L	H	
18	BGEQ	L	L	L	L	L	L	H	
19	BLSS	L	L	L	L	L	L	H	
1A	BGTRU	L	L	L	L	L	L	H	
1B	BLEQU	L	L	L	L	L	L	H	
1C	BVC	L	L	L	L	L	L	H	
1D	BVS	L	L	L	L	L	L	H	
1E	BCC	L	L	L	L	L	L	H	
1F	BCS	L	L	L	L	L	L	H	

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
20	ADDP4	L	L	L	H	L	H	L	H
21	ADDP6	L	L	L	H	L	H	L	H
22	SUBP4	L	L	L	H	L	H	L	H
23	SUBP6	L	L	L	H	L	H	L	H
24	CVTPN	L	L	L	L	L	L	H	
25	MULP	L	L	L	H	L	H	L	H
26	CVTNP	L	L	L	L	L	L	H	
27	DIVP	L	L	L	H	L	H	L	H
28	MOVC3	H	L	H	L	L	L	H	H
29	CMPC3	L	H	L	H	L	H	L	H
2A	SCANC	H	L	H	L	L	L	H	H
2B	SPANC	H	L	H	L	L	L	H	H
2C	MOVCS	L	H	L	H	L	H	L	H
2D	CMPC5	L	H	L	H	L	H	L	H
2E	MOVTC	L	H	L	H	L	H	L	H
2F	MOVTC	L	H	L	H	L	H	L	H
30	BSBW	L	L	L	L	L	L	L	H
31	BRW	L	L	L	L	L	L	L	H
32	CVTWL	L	L	H	L	L	L	H	H
33	CVTWB	L	L	L	H	L	H	H	L
34	MOVP	L	L	H	L	L	L	L	H
35	CMPP3	L	L	L	L	L	L	L	H
36	CVTPL	L	L	L	L	L	L	L	H
37	CMPP4	L	L	L	L	L	L	L	H
38	EDITPC	L	L	L	L	L	L	L	H
39	MATCHC	L	L	L	L	L	L	L	H
3A	LOCC	H	L	H	L	L	L	H	H
3B	SKPC	H	L	H	L	L	L	H	H
3C	MOVZWL	L	L	H	L	L	L	L	H
3D	ACEW	L	L	H	H	H	L	L	L
3E	MOVAV	L	L	H	L	L	L	L	H
3F	PUSHAW	L	L	H	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
40	ADDF2	L	L	H	H	L	L	L	H
41	ADDF3	L	L	H	H	L	L	L	H
42	SUBF2	L	L	H	H	L	L	L	H
43	SUBF3	L	L	H	H	L	L	L	H
44	MULF2	L	L	H	H	L	L	L	H
45	MULF3	L	L	H	H	L	L	L	H
46	DIVF2	L	L	H	H	L	L	L	H
47	DIVF3	L	L	H	H	L	L	L	H
48	CVTFB	L	L	L	H	L	H	H	L
49	CVTFW	L	L	L	H	L	H	H	L
4A	CVTFL	L	L	L	H	L	H	H	L
4B	CVTRFL	L	L	H	H	H	L	H	L
4C	CVTFB	L	L	H	L	L	L	H	H
4D	CVTFW	L	L	H	L	L	L	H	H
4E	CVTLF	L	L	H	L	L	L	H	H
4F	ACBF	L	L	H	H	L	L	H	H
50	MOVF	L	L	H	L	L	L	L	H
51	CMPP	L	L	H	L	L	L	H	H
52	MNEGF	L	L	H	L	L	L	H	H
53	TSTF	L	L	H	L	L	L	H	H
54	EMODF	L	L	H	H	L	L	L	H
55	POLYF	L	L	H	H	L	L	L	H
56	CVTFD	L	L	H	L	L	L	H	H
57	---	L	L	L	L	L	L	L	H
58	ADAWI	L	L	L	L	L	L	L	H
59	---	L	L	L	L	L	L	L	H
5A	---	L	L	L	L	L	L	L	H
5B	---	L	L	L	L	L	L	L	H
5C	---	L	L	L	L	L	L	L	H
5D	---	L	L	L	L	L	L	L	H
5E	---	L	L	L	L	L	L	L	H
5F	---	L	L	L	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
60	ADDD2	L	L	H	H	L	L	L	H
61	ADDD3	L	L	H	H	L	L	L	H
62	SUBD2	L	L	H	H	L	L	L	H
63	SUBD3	L	L	H	H	L	L	L	H
64	MULD2	L	L	H	H	L	L	L	H
65	MULD3	L	L	H	H	L	L	L	H
66	DIVD2	H	L	L	H	L	H	L	H
67	DIVD3	H	L	L	H	L	H	L	H
68	CVTDB	L	L	L	H	L	H	H	L
69	CVTDW	L	L	L	H	L	H	H	L
6A	CVTDL	L	L	L	H	L	H	H	L
6B	CVTRDL	L	L	H	H	H	L	H	L
6C	CVTBD	L	L	H	L	L	L	H	H
6D	CVTWD	L	L	H	L	L	L	H	H
6E	CVTLD	L	L	H	L	L	L	H	H
6F	ACBD	L	L	H	H	L	L	H	H
70	MOVD	L	L	H	L	L	L	L	H
71	CMPD	L	L	H	L	L	L	H	H
72	MNEGD	L	L	H	L	L	L	H	H
73	TSTD	L	L	H	L	L	L	H	H
74	EMODD	L	L	H	H	L	L	L	H
75	POLYD	L	L	H	H	L	L	L	H
76	CVTDF	L	L	H	H	L	L	L	H
77	---	L	L	L	L	L	L	L	H
78	ASHL	L	L	L	H	L	H	H	L
79	ASHQ	L	L	L	H	L	H	H	L
7A	EMUL	L	L	H	L	L	L	H	H
7B	EDIV	L	L	L	L	L	L	L	H
7C	CLRQ	L	L	H	L	L	L	L	H
7D	MOVQ	L	L	H	L	L	L	L	H
7E	MOVAQ	L	L	H	L	L	L	L	H
7F	PUSHAQ	L	L	H	L	L	L	L	H

REVISIONS		
CHK	CHANGE NO.	REV.

(CCID-CM PROM TRUTH TABLE)

TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHW)	SIZE CODE	NUMBER	REV.
SCALE	---	SHEET	24 OF 29	DIST.

8

7

6

5

4

3

2

1

CONDITION CODE INSTR. DEPENDENT PROM - CM (23037BI-00)

"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 with 8 columns: PROM ADDR, OP CODE, PROM DATA (M7-M0), and EN IV TRAP. Rows include instructions like ADD B2, SUB B2, MUL B2, etc.

Table with 8 columns: PROM ADDR, OP CODE, PROM DATA (M7-M0), and EN IV TRAP. Rows include instructions like ADD W2, SUB W2, MUL W2, etc.

Table with 8 columns: PROM ADDR, OP CODE, PROM DATA (M7-M0), and EN IV TRAP. Rows include instructions like ADD L2, SUB L2, MUL L2, etc.

Table with 8 columns: PROM ADDR, OP CODE, PROM DATA (M7-M0), and EN IV TRAP. Rows include instructions like BBS, BBC, BBSS, etc.

REVISIONS table with columns: CHK, CHANGE NO., REV.

342

"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"

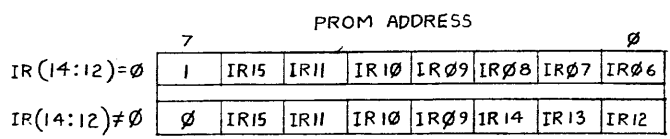
CONDITION CODE INSTR. DEPENDENT PROM - CMP MODE (23013Bi-00)

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
00	X	L	L	L	L	L	L	L	H
01	MOV	L	L	H	L	L	L	L	H
02	CMP	L	H	L	H	L	H	L	H
03	BIT	L	L	H	L	L	L	L	H
04	BIC	L	L	H	L	L	L	L	H
05	BIS	L	L	H	L	L	L	L	H
06	ADD	L	L	H	L	L	H	L	H
07	MUL	L	L	H	H	L	H	H	H
08	X	L	L	L	L	L	L	L	H
09	MOV	L	L	H	L	L	L	L	H
0A	CMP	L	H	L	H	L	H	L	H
0B	BIT	L	L	H	L	L	L	L	H
0C	BIC	L	L	H	L	L	L	L	H
0D	BIS	L	L	H	L	L	L	L	H
0E	ADD	L	L	H	L	L	H	L	H
0F	DIV	H	L	L	H	L	L	H	H
10	X	L	L	L	L	L	L	L	H
11	MOV	L	L	H	L	L	L	L	H
12	CMP	L	H	L	H	L	H	L	H
13	BIT	L	L	H	L	L	L	L	H
14	BIC	L	L	H	L	L	L	L	H
15	BIS	L	L	H	L	L	L	L	H
16	ADD	L	L	H	L	L	H	L	H
17	ASH	L	L	H	H	H	H	L	H
18	X	L	L	L	L	L	L	L	H
19	MOV	L	L	H	L	L	L	L	H
1A	CMP	L	H	L	H	L	H	L	H
1B	BIT	L	L	H	L	L	L	L	H
1C	BIC	L	L	H	L	L	L	L	H
1D	BIS	L	L	H	L	L	L	L	H
1E	ADD	L	L	H	L	L	H	L	H
1F	ASHC	L	L	H	H	H	H	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
20	X	L	L	L	L	L	L	L	H
21	MOV	L	L	H	L	L	L	L	H
22	CMP	L	H	L	H	L	H	L	H
23	BIT	L	L	H	L	L	L	L	H
24	BIC	L	L	H	L	L	L	L	H
25	BIS	L	L	H	L	L	L	L	H
26	ADD	L	L	H	L	L	H	L	H
27	XOR	L	L	H	L	L	L	L	H
28	X	L	L	L	L	L	L	L	H
29	MOV	L	L	H	L	L	L	L	H
2A	CMP	L	H	L	H	L	H	L	H
2B	BIT	L	L	H	L	L	L	L	H
2C	BIC	L	L	H	L	L	L	L	H
2D	BIS	L	L	H	L	L	L	L	H
2E	ADD	L	L	H	L	L	H	L	H
2F	X	L	L	L	L	L	L	L	H
30	X	L	L	L	L	L	L	L	H
31	MOV	L	L	H	L	L	L	L	H
32	CMP	L	H	L	H	L	H	L	H
33	BIT	L	L	H	L	L	L	L	H
34	BIC	L	L	H	L	L	L	L	H
35	BIS	L	L	H	L	L	L	L	H
36	ADD	L	L	H	L	L	H	L	H
37	X	L	L	L	L	L	L	L	H
38	X	L	L	L	L	L	L	L	H
39	MOV	L	L	H	L	L	L	L	H
3A	CMP	L	H	L	H	L	H	L	H
3B	BIT	L	L	H	L	L	L	L	H
3C	BIC	L	L	H	L	L	L	L	H
3D	BIS	L	L	H	L	L	L	L	H
3E	ADD	L	L	H	L	L	H	L	H
3F	SOB	L	L	L	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
40	X	L	L	L	L	L	L	L	H
41	MOVB	L	L	H	L	L	L	L	H
42	CMPB	L	H	L	H	L	H	L	H
43	BITB	L	L	H	L	L	L	L	H
44	BICB	L	L	H	L	L	L	L	H
45	BISB	L	L	H	L	L	L	L	H
46	SUB	L	L	H	L	H	L	L	H
47	X	L	L	L	L	L	L	L	H
48	X	L	L	L	L	L	L	L	H
49	MOVB	L	L	H	L	L	L	L	H
4A	CMPB	L	H	L	H	L	H	L	H
4B	BITB	L	L	H	L	L	L	L	H
4C	BICB	L	L	H	L	L	L	L	H
4D	BISB	L	L	H	L	L	L	L	H
4E	SUB	L	L	H	L	H	L	L	H
4F	X	L	L	L	L	L	L	L	H
50	X	L	L	L	L	L	L	L	H
51	MOVB	L	L	H	L	L	L	L	H
52	CMPB	L	H	L	H	L	H	L	H
53	BITB	L	L	H	L	L	L	L	H
54	BICB	L	L	H	L	L	L	L	H
55	BISB	L	L	H	L	L	L	L	H
56	SUB	L	L	H	L	H	L	L	H
57	X	L	L	L	L	L	L	L	H
58	X	L	L	L	L	L	L	L	H
59	MOVB	L	L	H	L	L	L	L	H
5A	CMPB	L	H	L	H	L	H	L	H
5B	BITB	L	L	H	L	L	L	L	H
5C	BICB	L	L	H	L	L	L	L	H
5D	BISB	L	L	H	L	L	L	L	H
5E	SUB	L	L	H	L	H	L	L	H
5F	X	L	L	L	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
60	X	L	L	L	L	L	L	L	H
61	MOVB	L	L	H	L	L	L	L	H
62	CMPB	L	H	L	H	L	H	L	H
63	BITB	L	L	H	L	L	L	L	H
64	BICB	L	L	H	L	L	L	L	H
65	BISB	L	L	H	L	L	L	L	H
66	SUB	L	L	H	L	H	L	L	H
67	X	L	L	L	L	L	L	L	H
68	X	L	L	L	L	L	L	L	H
69	MOVB	L	L	H	L	L	L	L	H
6A	CMPB	L	H	L	H	L	H	L	H
6B	BITB	L	L	H	L	L	L	L	H
6C	BICB	L	L	H	L	L	L	L	H
6D	BISB	L	L	H	L	L	L	L	H
6E	SUB	L	L	H	L	H	L	L	H
6F	X	L	L	L	L	L	L	L	H
70	X	L	L	L	L	L	L	L	H
71	MOVB	L	L	H	L	L	L	L	H
72	CMPB	L	H	L	H	L	H	L	H
73	BITB	L	L	H	L	L	L	L	H
74	BICB	L	L	H	L	L	L	L	H
75	BISB	L	L	H	L	L	L	L	H
76	SUB	L	L	H	L	H	L	L	H
77	X	L	L	L	L	L	L	L	H
78	X	L	L	L	L	L	L	L	H
79	MOVB	L	L	H	L	L	L	L	H
7A	CMPB	L	H	L	H	L	H	L	H
7B	BITB	L	L	H	L	L	L	L	H
7C	BICB	L	L	H	L	L	L	L	H
7D	BISB	L	L	H	L	L	L	L	H
7E	SUB	L	L	H	L	H	L	L	H
7F	X	L	L	L	L	L	L	L	H



REVISIONS

CHK	CHANGE NO.	REV.

(CCID-CM PROM TRUTH TABLE)

TITLE	COND. CODE EXCEPT AND HIGH BITS (CEHY)	SIZE CODE	DCS	NUMBER	M8230-0-1	REV.	C
SCALE	1/1	SHEET	26 OF 29	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

CONDITION CODE INSTR. DEPENDENT PROM - CMP MODE (23013BI-00)

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
80	X	L	L	L	L	L	L	L	H
81	JMP								
82	X								
83	SWAB								
84	BR								
85	BR								
86	BR								
87	BR								
88	BNE								
89	BNE								
8A	BNE								
8B	BNE								
8C	BEQ								
8D	BEQ								
8E	BEQ								
8F	BEQ								
90	BGE								
91	BGE								
92	BGE								
93	BGE								
94	BLT								
95	BLT								
96	BLT								
97	BLT								
98	BGT								
99	BGT								
9A	BGT								
9B	BGT								
9C	BLE								
9D	BLE								
9E	BLE								
9F	BLE								

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
A0	JSR	L	L	L	L	L	L	L	H
A1	JSR	L	L	L	L	L	L	L	H
A2	JSR	L	L	L	L	L	L	L	H
A3	JSR	L	L	L	L	L	L	L	H
A4	JSR	L	L	L	L	L	L	L	H
A5	JSR	L	L	L	L	L	L	L	H
A6	JSR	L	L	L	L	L	L	L	H
A7	JSR	L	L	L	L	L	L	L	H
A8	CLR	L	L	H	L	L	L	H	H
A9	COM	L	L	H	H	L	L	L	H
AA	INC	L	L	H	L	H	H	L	H
AB	DEC	L	L	H	L	H	H	H	H
AC	NEG	L	L	H	L	H	L	L	H
AD	ADC	L	L	H	L	L	H	H	H
AE	SBC	L	L	H	L	H	L	H	H
AF	TST	L	L	H	L	L	L	H	H
B0	ROR	L	L	H	H	H	L	L	H
B1	ROL	L	L	H	H	H	L	H	H
B2	ASR	L	L	H	H	H	L	L	H
B3	ASL	L	L	H	H	H	L	H	H
B4	MARK	L	L	L	L	L	L	L	H
B5	MFPI	L	L	H	L	L	L	L	H
B6	MTPI	L	L	H	L	L	L	L	H
B7	SXT	L	L	H	L	L	L	L	H
B8	X	L	L	L	L	L	L	L	H
B9	X	L	L	L	L	L	L	L	H
BA	X	L	L	L	L	L	L	L	H
BB	X	L	L	L	L	L	L	L	H
BC	X	L	L	L	L	L	L	L	H
BD	X	L	L	L	L	L	L	L	H
BE	X	L	L	L	L	L	L	L	H
BF	X	L	L	L	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
C0	BPL	L	L	L	L	L	L	L	H
C1	BPL								
C2	BPL								
C3	BPL								
C4	BMI								
C5	BMI								
C6	BMI								
C7	BMI								
C8	BHI								
C9	BHI								
CA	BHI								
CB	BHI								
CC	BLOS								
CD	BLOS								
CE	BLOS								
CF	BLOS								
D0	BVC								
D1	BVC								
D2	BVC								
D3	BVC								
D4	BVS								
D5	BVS								
D6	BVS								
D7	BVS								
D8	BCC								
D9	BCC								
DA	BCC								
DB	BCC								
DC	BCS								
DD	BCS								
DE	BCS								
DF	BCS								

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
E0	EMT	L	L	L	L	L	L	L	H
E1	EMT	L	L	L	L	L	L	L	H
E2	EMT	L	L	L	L	L	L	L	H
E3	EMT	L	L	L	L	L	L	L	H
E4	TRAP	L	L	L	L	L	L	L	H
E5	TRAP	L	L	L	L	L	L	L	H
E6	TRAP	L	L	L	L	L	L	L	H
E7	TRAP	L	L	L	L	L	L	L	H
E8	CLRB	L	L	H	L	L	L	H	H
E9	COMB	L	L	H	H	L	L	L	H
EA	INCB	L	L	H	L	H	H	L	H
EB	DECB	L	L	H	L	H	H	H	H
EC	NEGB	L	L	H	L	H	L	L	H
ED	ADCB	L	L	H	L	L	H	H	H
EE	SBCB	L	L	H	L	H	L	H	H
EF	TSTB	L	L	H	L	L	L	H	H
F0	RORB	L	L	H	H	H	L	L	H
F1	ROLB	L	L	H	H	H	L	H	H
F2	ASRB	L	L	H	H	H	L	L	H
F3	ASLB	L	L	H	H	H	L	H	H
F4	X	L	L	L	L	L	L	L	H
F5	MFPD	L	L	H	L	L	L	L	H
F6	MTPD	L	L	H	L	L	L	L	H
F7	X	L	L	L	L	L	L	L	H
F8	X	L	L	L	L	L	L	L	H
F9	X	L	L	L	L	L	L	L	H
FA	X	L	L	L	L	L	L	L	H
FB	X	L	L	L	L	L	L	L	H
FC	X	L	L	L	L	L	L	L	H
FD	X	L	L	L	L	L	L	L	H
FE	X	L	L	L	L	L	L	L	H
FF	X	L	L	L	L	L	L	L	H

REVISIONS		
CHK	CHANGE NO.	REV.

(CCID-CM PROM TRUTH TABLE)

TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHZ)	SIZE CODE	NUMBER	REV.
		DCS	M8230-0-1	C
SCALE	—#—	SHEET	27 OF 29	DIST.

344



"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"

PRIOR/SUM PROM (23017B1-00)

PROM ADDR	ZERO H	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
00		H	H	H	H	L	L	L	L
01		L	H	H	H	L	L	L	H
02		L	H	H	L	L	L	L	H
03		L	H	H	H	L	L	H	L
04		L	H	L	H	L	L	L	H
05		L	H	H	H	L	L	H	L
06		L	H	H	L	L	L	H	L
07		L	H	H	H	L	L	H	H
08		L	H	L	L	L	L	L	H
09		L	H	H	H	L	L	H	L
0A		L	H	H	L	L	L	H	L
0B		L	H	H	H	L	L	H	H
0C		L	H	L	H	L	L	H	L
0D		L	H	H	H	L	L	H	H
0E		L	H	H	L	L	L	H	H
0F		L	H	H	H	L	H	L	L
10		L	L	H	H	L	L	L	H
11		L	H	H	H	L	L	H	L
12		L	H	H	L	L	L	H	L
13		L	H	H	H	L	L	H	H
14		L	H	L	H	L	L	H	L
15		L	H	H	H	L	L	H	H
16		L	H	H	L	L	L	H	H
17		L	H	H	H	L	H	L	L
18		L	H	L	L	L	L	H	L
19		L	H	H	H	L	L	H	H
1A		L	H	H	L	L	L	H	H
1B		L	H	H	H	L	H	L	L
1C		L	H	L	H	L	L	H	H
1D		L	H	H	H	L	H	L	L
1E		L	H	H	L	L	H	L	L
1F		L	H	H	H	L	H	L	H

PROM ADDR	ZERO H	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
20		L	L	H	L	L	L	L	H
21		L	H	H	H	L	L	H	L
22		L	H	H	L	L	L	H	L
23		L	H	H	H	L	L	H	H
24		L	H	L	H	L	L	H	L
25		L	H	H	H	L	L	H	H
26		L	H	H	L	L	L	H	H
27		L	H	H	H	L	H	L	L
28		L	H	L	L	L	L	H	L
29		L	H	H	H	L	L	H	H
2A		L	H	H	L	L	L	H	H
2B		L	H	H	H	L	H	L	L
2C		L	H	L	H	L	L	H	H
2D		L	H	H	H	L	H	L	L
2E		L	H	H	L	L	H	L	L
2F		L	H	H	H	L	H	L	H
30		L	L	H	H	L	L	H	L
31		L	H	H	H	L	L	H	H
32		L	H	H	L	L	L	H	H
33		L	H	H	H	L	H	L	L
34		L	H	L	H	L	L	H	H
35		L	H	H	H	L	H	L	L
36		L	H	H	L	L	H	L	L
37		L	H	H	H	L	H	L	H
38		L	H	L	L	L	L	H	H
39		L	H	H	H	L	H	L	L
3A		L	H	H	L	L	H	L	L
3B		L	H	H	H	L	H	L	H
3C		L	H	L	H	L	H	L	L
3D		L	H	H	H	L	H	L	H
3E		L	H	H	L	L	H	L	H
3F		L	H	H	H	L	H	H	L

PROM ADDR	ZERO H	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
40		L	L	L	H	L	L	L	H
41		L	H	H	H	L	L	H	L
42		L	H	H	L	L	L	H	L
43		L	H	H	H	L	L	H	H
44		L	H	L	H	L	L	H	L
45		L	H	H	H	L	L	H	H
46		L	H	H	L	L	L	H	H
47		L	H	H	H	L	H	L	L
48		L	H	L	L	L	L	H	L
49		L	H	H	H	L	L	H	H
4A		L	H	H	L	L	L	H	H
4B		L	H	H	H	L	H	L	L
4C		L	H	L	H	L	L	H	H
4D		L	H	H	H	L	H	L	L
4E		L	H	H	L	L	H	L	L
4F		L	H	H	H	L	H	L	H
50		L	L	H	H	L	L	H	L
51		L	H	H	H	L	L	H	H
52		L	H	H	L	L	L	H	H
53		L	H	H	H	L	H	L	L
54		L	H	L	H	L	L	H	H
55		L	H	H	H	L	H	L	L
56		L	H	H	L	L	H	L	L
57		L	H	H	H	L	H	L	H
58		L	H	L	L	L	L	H	H
59		L	H	H	H	L	H	L	L
5A		L	H	H	L	L	H	L	L
5B		L	H	H	H	L	H	L	H
5C		L	H	L	H	L	H	L	L
5D		L	H	H	H	L	H	L	H
5E		L	H	H	L	L	H	L	H
5F		L	H	H	H	L	H	H	L

PROM ADDR	ZERO H	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
60		L	L	H	L	L	L	H	L
61		L	H	H	H	L	L	H	H
62		L	H	H	L	L	L	H	H
63		L	H	H	H	L	H	L	L
64		L	H	L	H	L	L	H	H
65		L	H	H	H	L	H	L	L
66		L	H	H	L	L	H	L	L
67		L	H	H	H	L	H	L	H
68		L	H	L	L	L	L	H	H
69		L	H	H	H	L	H	L	L
6A		L	H	H	L	L	H	L	L
6B		L	H	H	H	L	H	L	H
6C		L	H	L	H	L	H	L	L
6D		L	H	H	H	L	H	L	H
6E		L	H	H	L	L	H	L	H
6F		L	H	H	H	L	H	H	L
70		L	L	H	H	L	L	H	H
71		L	H	H	H	L	H	L	L
72		L	H	H	L	L	H	L	L
73		L	H	H	H	L	H	L	H
74		L	H	L	H	L	H	L	L
75		L	H	H	H	L	H	L	H
76		L	H	H	L	L	H	L	H
77		L	H	H	H	L	H	H	L
78		L	H	L	L	L	H	L	L
79		L	H	H	H	L	H	L	H
7A		L	H	H	L	L	H	L	H
7B		L	H	H	H	L	H	H	L
7C		L	H	L	H	L	H	L	H
7D		L	H	H	H	L	H	H	L
7E		L	H	H	L	L	H	H	L
7F		L	H	H	H	L	H	H	H

REVISIONS		
CHK	CHANGE NO.	REV.

(PRIOR/SUM PROM TRUTH TABLE)

TITLE	COND. CODES EXCEPT AND HIGH BITS	SIZE CODE	D CS	NUMBER	M8230-0-1	REV.	C
SCALE		SHEET	28 OF 29	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

PRIOR/SUM PROM (23Ø17B1-ØØ)

1-Ø-ØØ28M8230-Ø-1

ZERO H	PRIOR (2:Ø) L	SUM (3:Ø) H
--------	---------------	-------------

PROM ADDR	PROM DATA							
	M7	M6	M5	M4	M3	M2	M1	MØ
8Ø	L	L	L	L	L	L	L	H
81	L	H	H	H	L	L	H	L
82	L	H	H	L	L	L	H	L
83	L	H	H	H	L	L	H	H
84	L	H	L	H	L	L	H	L
85	L	H	H	H	L	L	H	H
86	L	H	H	L	L	L	H	H
87	L	H	H	H	L	H	L	L
88	L	H	L	L	L	L	H	L
89	L	H	H	H	L	L	H	H
8A	L	H	H	L	L	L	H	H
8B	L	H	H	H	L	H	L	L
8C	L	H	L	H	L	L	H	H
8D	L	H	H	H	L	H	L	L
8E	L	H	H	L	L	H	L	L
8F	L	H	H	H	L	H	L	H
9Ø	L	L	H	H	L	L	H	L
91	L	H	H	H	L	L	H	H
92	L	H	H	L	L	L	H	H
93	L	H	H	H	L	H	L	L
94	L	H	L	H	L	L	H	H
95	L	H	H	H	L	H	L	L
96	L	H	H	L	L	H	L	L
97	L	H	H	H	L	H	L	H
98	L	H	L	L	L	L	H	H
99	L	H	H	H	L	H	L	L
9A	L	H	H	L	L	H	L	L
9B	L	H	H	H	L	H	L	H
9C	L	H	L	H	L	H	L	L
9D	L	H	H	H	L	H	L	H
9E	L	H	H	L	L	H	L	H
9F	L	H	H	H	L	H	H	L

ZERO H	PRIOR (2:Ø) L	SUM (3:Ø) H
--------	---------------	-------------

PROM ADDR	PROM DAT							
	M7	M6	M5	M4	M3	M2	M1	MØ
AØ	L	L	H	L	L	L	H	L
A1	L	H	H	H	L	L	H	H
A2	L	H	H	L	L	L	H	H
A3	L	H	H	H	L	H	L	L
A4	L	H	L	H	L	L	H	H
A5	L	H	H	H	L	H	L	L
A6	L	H	H	L	L	H	L	L
A7	L	H	H	H	L	H	L	H
A8	L	H	L	L	L	L	H	H
A9	L	H	H	H	L	H	L	L
AA	L	H	H	L	L	H	L	L
AB	L	H	H	H	L	H	L	H
AC	L	H	L	H	L	H	L	L
AD	L	H	H	H	L	H	L	H
AE	L	H	H	L	L	H	L	H
AF	L	H	H	H	L	H	H	L
BØ	L	L	H	H	L	L	H	H
B1	L	H	H	H	L	H	L	L
B2	L	H	H	L	L	H	L	L
B3	L	H	H	H	L	H	L	H
B4	L	H	L	H	L	H	L	L
B5	L	H	H	H	L	H	L	H
B6	L	H	H	L	L	H	L	H
B7	L	H	H	H	L	H	H	L
B8	L	H	L	L	L	H	L	L
B9	L	H	H	H	L	H	L	H
BA	L	H	H	L	L	H	L	H
BB	L	H	H	H	L	H	H	L
BC	L	H	L	H	L	H	L	H
BD	L	H	H	H	L	H	H	L
BE	L	H	H	L	L	H	H	L
BF	L	H	H	H	L	H	H	H

ZERO H	PRIOR (2:Ø) L	SUM (3:Ø) H
--------	---------------	-------------

PROM ADDR	PROM DATA							
	M7	M6	M5	M4	M3	M2	M1	MØ
CØ	L	L	L	H	L	L	H	L
C1	L	H	H	H	L	L	H	H
C2	L	H	H	L	L	L	H	H
C3	L	H	H	H	L	H	L	L
C4	L	H	L	H	L	L	H	H
C5	L	H	H	H	L	H	L	L
C6	L	H	H	L	L	H	L	L
C7	L	H	H	H	L	H	L	H
C8	L	H	L	L	L	L	H	H
C9	L	H	H	H	L	H	L	L
CA	L	H	H	L	L	H	L	L
CB	L	H	H	H	L	H	L	H
CC	L	H	L	H	L	H	L	L
CD	L	H	H	H	L	H	L	H
CE	L	H	H	L	L	H	L	H
CF	L	H	H	H	L	H	H	L
DØ	L	L	H	H	L	L	H	H
D1	L	H	H	H	L	H	L	L
D2	L	H	H	L	L	H	L	L
D3	L	H	H	H	L	H	L	H
D4	L	H	L	H	L	H	L	L
D5	L	H	H	H	L	H	L	H
D6	L	H	H	L	L	H	L	H
D7	L	H	H	H	L	H	H	L
D8	L	H	L	L	L	H	L	L
D9	L	H	H	H	L	H	L	H
DA	L	H	H	L	L	H	L	H
DB	L	H	H	H	L	H	H	L
DC	L	H	L	H	L	H	L	H
DD	L	H	H	H	L	H	H	L
DE	L	H	H	L	L	H	H	L
DF	L	H	H	H	L	H	H	H

I O L I R N	PRIOR (2:Ø) L	SUM (3:Ø) H
----------------------------	---------------	-------------

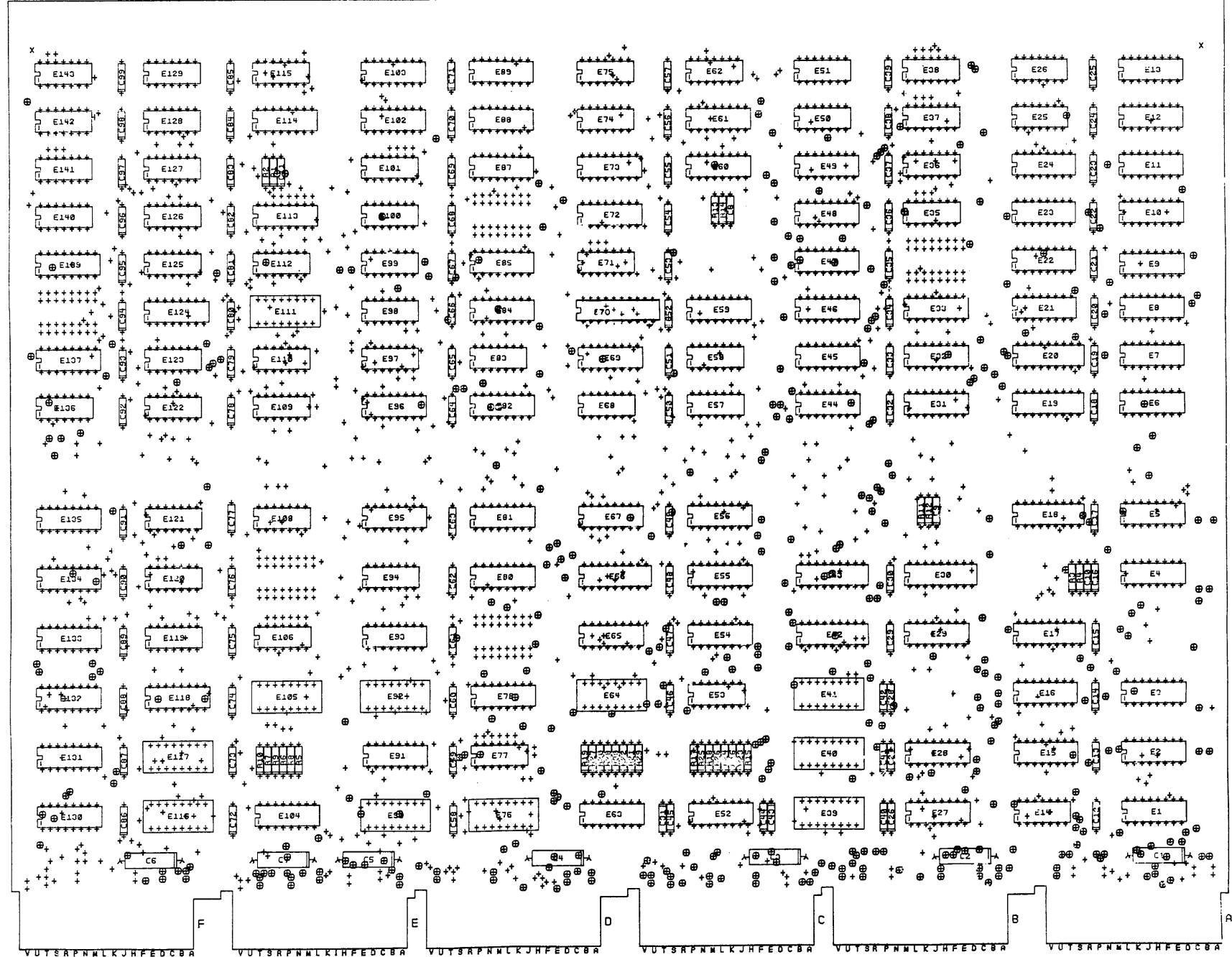
PROM ADDR	PROM DATA							
	M7	M6	M5	M4	M3	M2	M1	MØ
EØ	L	L	H	L	L	L	H	H
E1	L	H	H	H	L	H	L	L
E2	L	H	H	L	L	H	L	L
E3	L	H	H	H	L	H	L	H
E4	L	H	L	H	L	H	L	L
E5	L	H	H	H	L	H	L	H
E6	L	H	H	L	L	H	L	H
E7	L	H	H	H	L	H	H	L
E8	L	H	L	L	L	H	L	L
E9	L	H	H	H	L	H	L	H
EA	L	H	H	L	L	H	L	H
EB	L	H	H	H	L	H	H	L
EC	L	H	L	H	L	H	L	H
ED	L	H	H	H	L	H	H	L
EE	L	H	H	L	L	H	H	L
EF	L	H	H	H	L	H	H	H
FØ	L	L	H	H	L	H	L	L
F1	L	H	H	H	L	H	L	H
F2	L	H	H	L	L	H	L	H
F3	L	H	H	H	L	H	H	L
F4	L	H	L	H	L	H	L	H
F5	L	H	H	H	L	H	H	L
F6	L	H	H	L	L	H	H	L
F7	L	H	H	H	L	H	H	H
F8	L	H	L	L	L	H	L	H
F9	L	H	H	H	L	H	H	L
FA	L	H	H	L	L	H	H	L
FB	L	H	H	H	L	H	H	H
FC	L	H	L	H	L	H	H	L
FD	L	H	H	H	L	H	H	H
FE	L	H	H	L	L	H	H	H
FF	L	H	H	H	L	L	L	L

(PRIOR/SUM PROM TRUTH TABLE)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	COND. CODES EXCEPT AND HIGH BITS	SIZE CODE	D	NUMBER	M8230-Ø-1	REV.	C
SCALE		SHEET	29 OF 29	DIST.			

COMPONENT SIDE VIEW

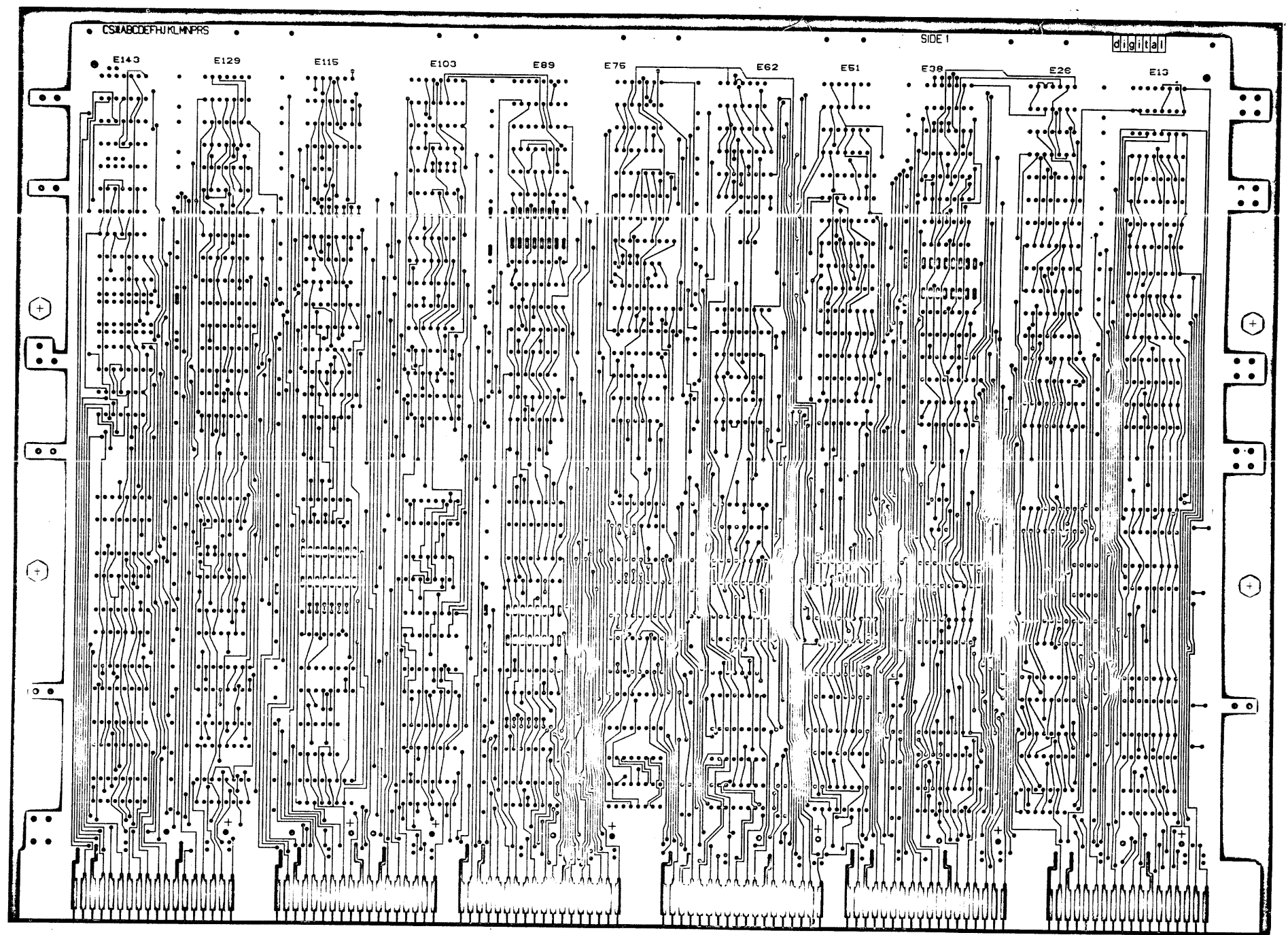


SIGNATURES		DATE	digital TCL	REV E
CHK'D	BY	M/2		
ENG.	BY			
PROJ.	BY			
SCALE	BY			
NEXT ISSUE DATE: 11/03/88			REV E	NUMBER M023700
ETCH REV. 88				
P.C. DESIGN DATA SHEET REV.				

CHG	NO	REV

NOTES:  
1-1-88-0-4

THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER OR FOR ANY PURPOSE WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.

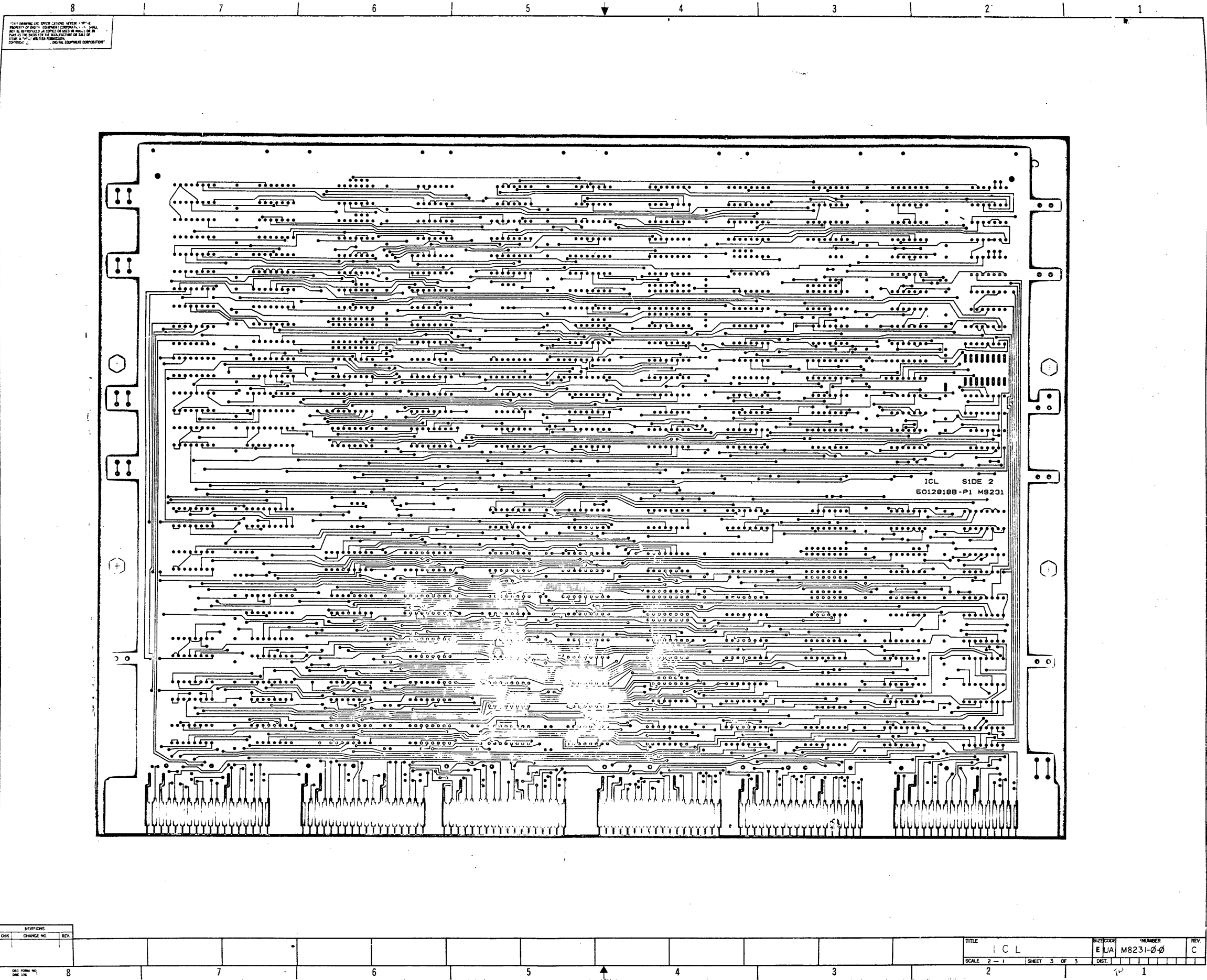


REVISIONS		
CHK	CHANGE NO.	REV.

348

TITLE	ICL	SIZE/BOOK	NUMBER	REV.
SCALE	2-1	SHEET	2 OF 3	C
DIST.				

M8231-0-0



THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND ARE NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE UNITED STATES GOVERNMENT.

ICL SIDE 2  
60128188-P1 M8231

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	ICL	SUBCODE	EUA	NUMBER	M8231-0-0	REV.	C
SCALE	2-1	SHEET	3 OF 3	DIST.			

M8231-0-0  
 EUA  
 C

349

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	D-MD-5012818-0-0	5012818-00	M8231	1	
2		1012084-01	8 MFD 25V GZ 30D AL EL	(10-12)	7 C1-C7
3		1012784-00	.047 MFD 50V XZ CER. \$		92 C8-C99
4		1300247-00	120 1/4W 5% CC	(13-00)	8 R15-R22
5		1300250-00	150 1/4W 5% CC	(13-00)	8 R23-R30
6		1300295-00	330 1/4W 5% CC	(13-00)	7 R1,R3,R5,R6,R7,R11,R13
7		1301424-00	680 1/4W 5% CC	(13-00)	4 R2,R4,R12,R14
8		1301775-00	820 1/4W 5% CC	(13-00)	3 R8,R9,R10
9		1910532-00	74S00 NAND GATE-QUAD 2IN		6 E57,E58,E110,E115,E122,E128
10		1910534-00	74S04 INVERTER GATE-HEX 1IN		13 E14,E38,E53,E75,E83,E94,E97, CONT E112,E119,E120,E125,E136,E143
11		1912389-00	74S08 AND GATE-QUAD 2IN,POS	14	2 E37,E141
12		1910536-00	74S10 NAND GATE-TRIPLE 3IN		5 E68,E98,E123,E129,E142
13		1910537-00	74S11 AND GATE-TRIPLE 3INPUT		3 E101,E109,E127
14		1910539-00	74S20 NAND GATE-DUAL 4INPUT		1 E108
15		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN		2 E35,E71
16		1911712-00	74S51 AND-OR GATE-INVERT DUAL 2W/2IN		4 E51,E74,E126,E140
17		1910542-00	74S64 A-O-I XFDR GATE,4-2-3-2	14	4 E26,E62,E36,E121
18		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER		5 E25,E50,E99,E100,E106
19		1912089-00	74S85 CMPRTR-4BIT MAGNITUDE	16P	1 E95
20		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER		2 E13,E113
21		1911675-00	74S138 DECODER-THREE INPUT		2 E09,E114
22		1911676-00	74S139 DECODER-DUAL TWO-INPUT		1 E96
23		1912796-00	74148 EXCODER,PRIORITY,0 TO 3 LINE		4 E32,E49,E73,E88
24		1910956-00	74S151 MUX 1 OF 8		17 E1-E7,E15,E28,E29,E31,E44,E45, CONT E46,E54,E55,E135
25		1910547-00	74S153 MUX 1 OF 4 (DUAL)		6 E60,E61,E130,E132,E133,E139
26		1910548-00	74S157 MUX 1 OF 2 (QUAD)		2 E69,E118
27		1910549-00	74S158 MUX 1 OF 2 (QUAD)		7 E64,E90,E92,E105,E111,E116, CONT E117

REVISION HISTORY			VARIATIONS FOR THIS ASSY.			FIRST USED ON:			DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
CHK	ECD NO	REV							TITLE		
PG	00003	C				MADE BY:	F.MULLIGAN	DATE:	21-APR-78	PARTS LIST	
						CHECKED:	F.MULLIGAN	DATE:		ICL	
						DSN.ENG.:	S.JENKINS	DATE:	21-APR-78		
						PROD.:	M.TERILLO	DATE:	21-APR-78	SIZE: K PL	DOCUMENT NUMBER: M8231-0-DBP
						RESP.ENG.:	S.JENKINS	DATE:	21-APR-78	ASSY.NO.:	E-UA-M8231-0-0
											REV: 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 1978. DIGITAL EQUIPMENT CORPORATION"

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
28	28	1910550-00	74S174 FF-D HEX	4	E8,E11,E22,E91
29	29	1910957-00	74S175 FF-D QUAD COMMON CLOCK	13	E16,E21,E33,E47,E67,E72,E85,
				CONT	E87,E93,E102,E103,E104,E124
30	30	1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	5	E48,E56,E59,E65,E81
31	31	1913839-00	74LS165 SHIFT REG.,8BIT \$	8	E27,E78,E80,E82,E84,E131,E134,
				CONT	E137
32	32	1912586-00	85S68 REGISTER,64BIT EDGE TRIG,TRIST	8	E17-E20,E30,E42,E43,E66
33	33	1913294-00	93S16 COUNTER,SYNCH UP BINARY	5	E9,E10,E12,E23,E24
34	34	1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	2	E52,E63
35	35	1913788-00	26S10 TRANSCEIVER,BUS,QUAD	4	E39,E40,E41,E76
36	36	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E77
37	37	23022B1-00	B1-01	1	E70
38	38	1210711-02	HANDLE ASSY,MOD DOEHLER-JARVIS	1	
39	39	9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	

40 NOTE: I C SPARE LOCATIONS ARE E34,E79,E86,E107,E138

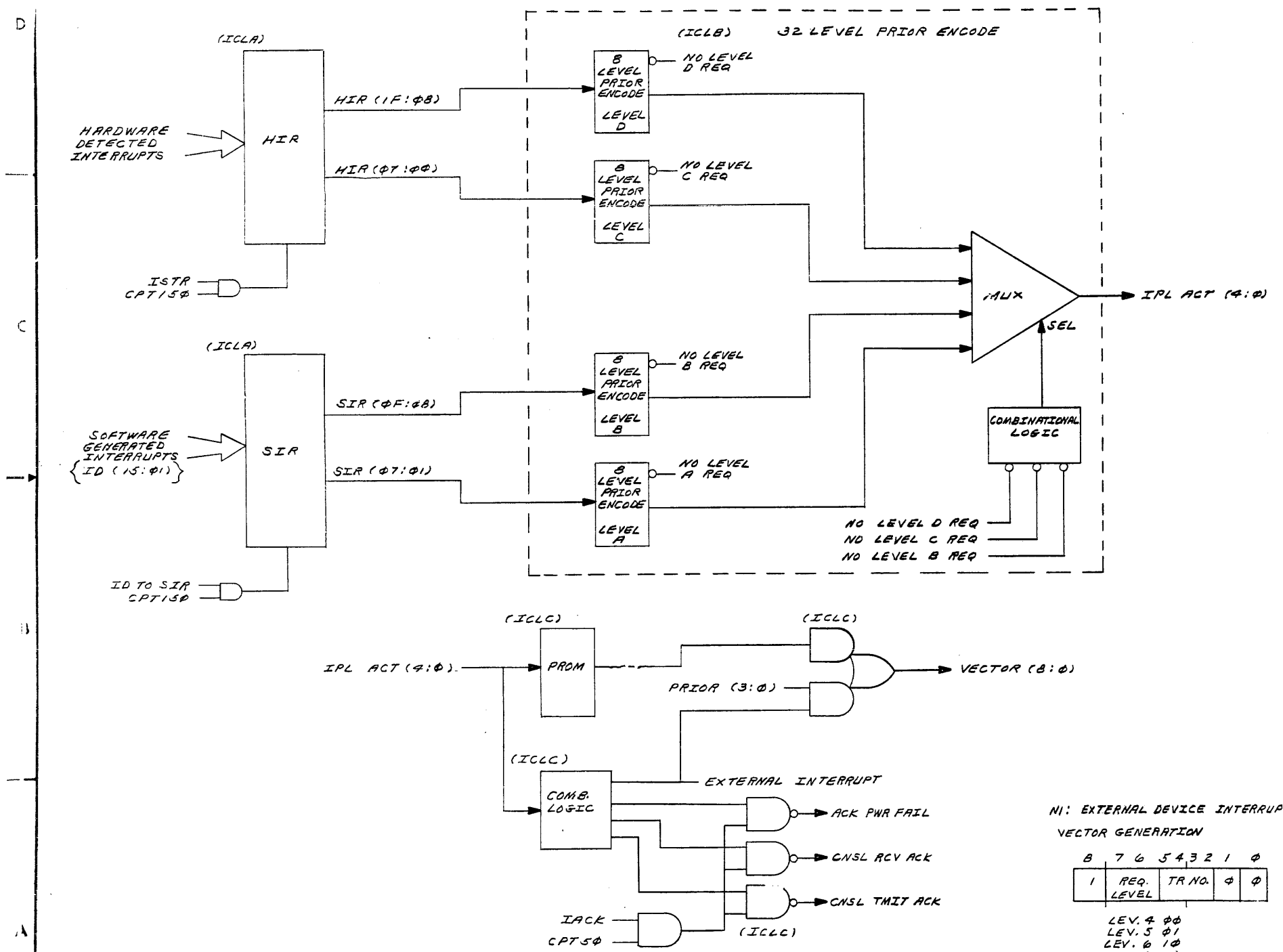
DIGITAL EQUIPMENT CORPORATION	TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
MAYNARD, MASSACHUSETTS			K	PL	MB231-0-DBP	IC





"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"

INTERRUPT ARBITRATION



INTERRUPT PRIORITY & VECTORS

IPL ACT	INTERRUPT CONDITION	VECTOR	PRIORITY
1F	NONE ASSIGNED	X	HIGHEST
1E	CPU POWER FAIL	$\phi C$	
1D	CPU TIMEOUT	$6\phi$	
1C	SBI FAULT	$5C$	
1B	SBI ALERT	$5B$	
1A	CARD RDS	$5A$	
19	SBI SILO COMPARE	$5\phi$	
18	INTERVAL TIMER	$C\phi$	
17	SBI REQ 7 (NI)	$1C\phi$ TO $1FC$	
16	SBI REQ 6 (NI)	$1B\phi$ TO $1BC$	
15	SBI REQ 5 (NI)	$1A\phi$ TO $17C$	
14	SBI REQ 4 (NI)	$1\phi\phi$ TO $13C$	
	CNSL RECEIVE INTR	$F\phi$	
	CNSL TRANSMIT INTR	$FC$	
13	NONE ASSIGNED	X	
12	NONE ASSIGNED	X	
11	NONE ASSIGNED	X	
10	NONE ASSIGNED	X	
$\phi F$	SIR $\phi F$	$BC$	
$\phi E$	SIR $\phi E$	$BB$	
$\phi D$	SIR $\phi D$	$BA$	
$\phi C$	SIR $\phi C$	$B\phi$	
$\phi B$	SIR $\phi B$	$AC$	
$\phi A$	SIR $\phi A$	$AB$	
$\phi 9$	SIR $\phi 9$	$A\phi$	
$\phi 8$	SIR $\phi 8$	$A\phi$	
$\phi 7$	SIR $\phi 7$	$9C$	
$\phi 6$	SIR $\phi 6$	$9B$	
$\phi 5$	SIR $\phi 5$	$9A$	
$\phi 4$	SIR $\phi 4$	$9\phi$	
$\phi 3$	SIR $\phi 3$	$8C$	
$\phi 2$	SIR $\phi 2$ OR AST DEL	$8B$	
$\phi 1$	SIR $\phi 1$	$8A$	
$\phi 0$	NO INTERRUPT	X	LOWEST

NI: EXTERNAL DEVICE INTERRUPT (SBI BUS)  
 VECTOR GENERATION

B	7	6	5	4	3	2	1	$\phi$
1	REQ.	TR NO.	$\phi$	$\phi$				
	LEVEL							

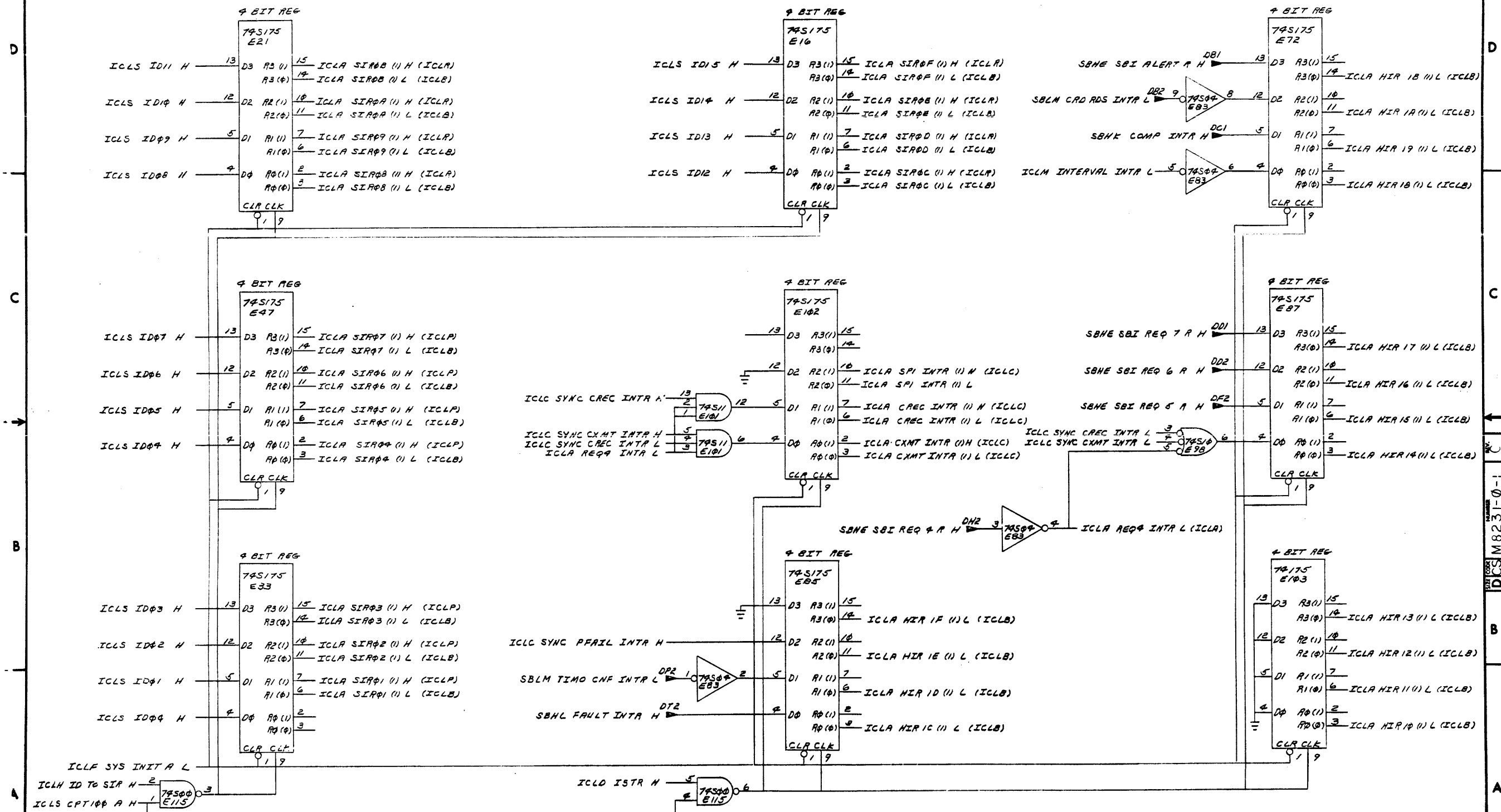
LEV. 4  $\phi\phi$   
 LEV. 5  $\phi 1$   
 LEV. 6  $1\phi$   
 LEV. 7  $11$

REVISIONS		
CHK	CHANGE NO.	REV.

(INTERRUPTS BLOCK DIAGRAM)		TITLE	SIZE CODE	NUMBER	REV.
		INTERRUPT CONTROL AND LOW BITS (ICL)	DCS	M8231-0-1	C
SCALE	SHEET	DIST.			
	2 OF 21				

REV. 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



(SOFTWARE & HARDWARE INTERRUPT REQUEST REGS (SIR & HIR)) (SLOT 15)

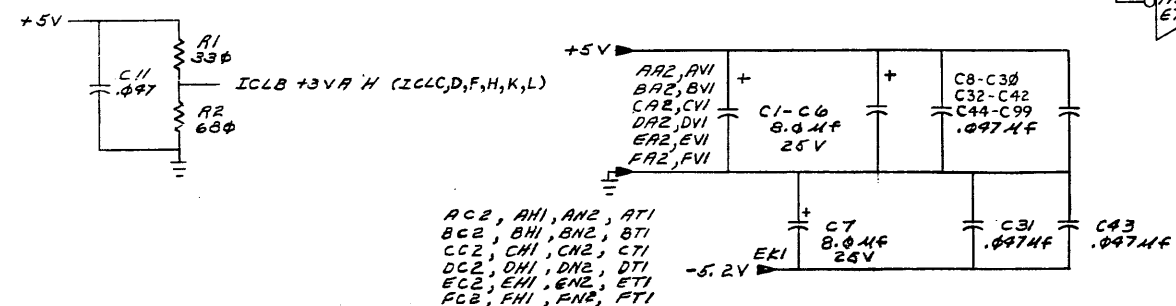
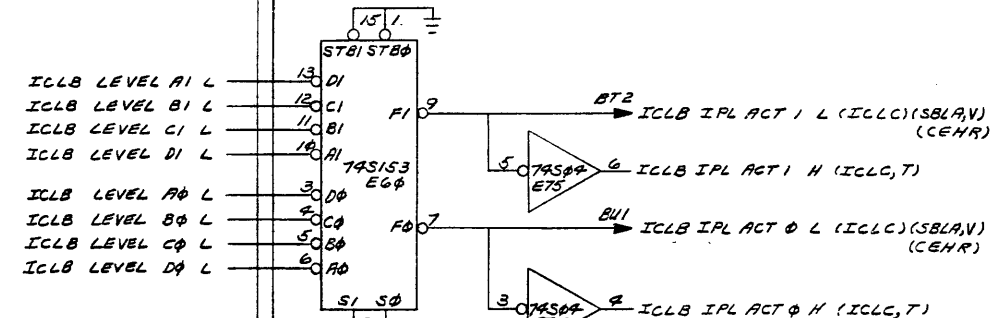
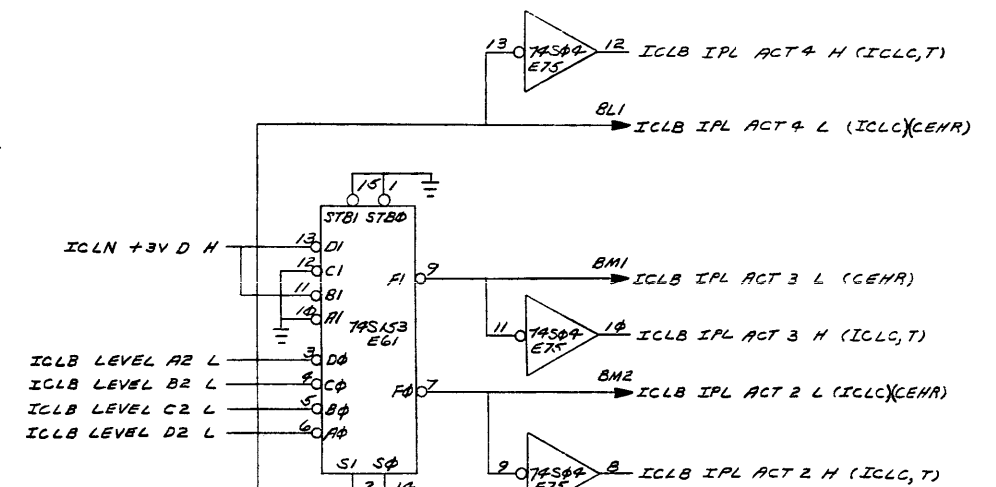
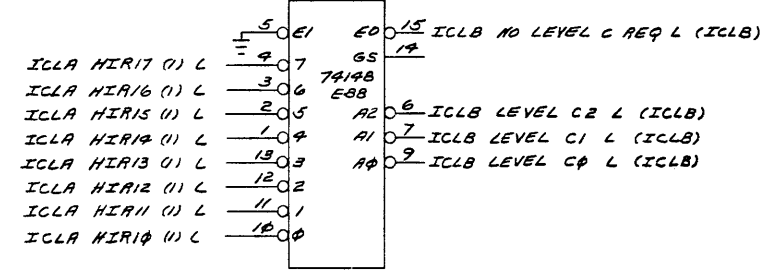
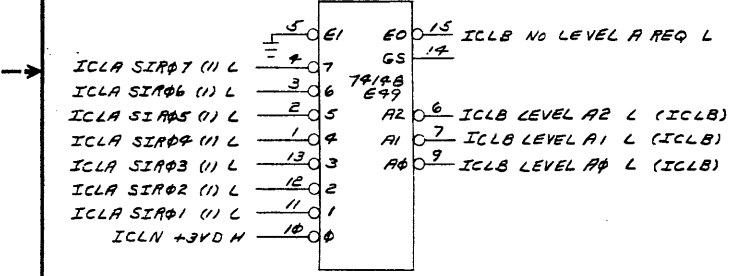
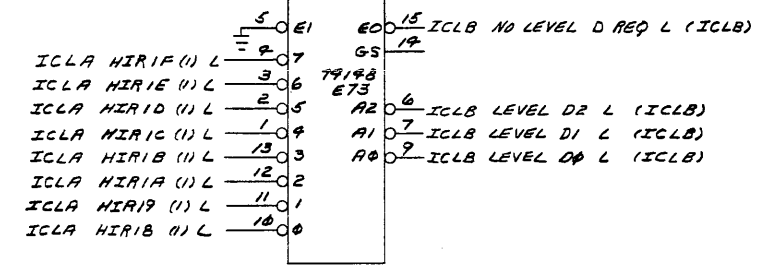
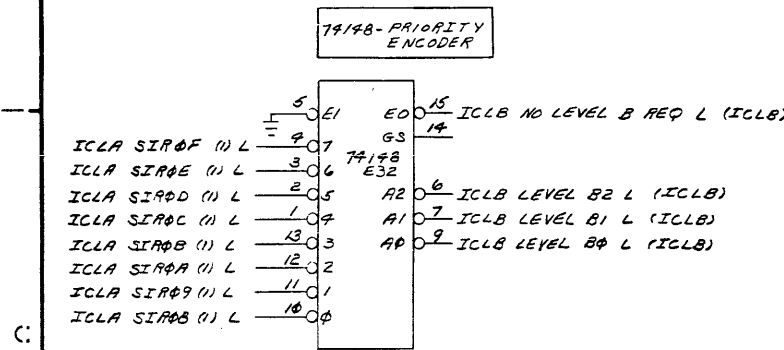
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLA)	SIZE CODE	D	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	3 OF 21	DIST.			

354

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

74S153-4:1 MUX				NO LEVEL D REQ L	NO LEVEL C REQ L	NO LEVEL B REQ L	SELECTED LEVEL
STB	SI	SΦ	OUTPUT	X	X	X	X
H	X	X	L	X	X	X	X
L	L	L	A → F	H	X	X	D (2:Φ)
L	L	H	B → F	L	H	X	C (2:Φ)
L	H	L	C → F	L	L	H	B (2:Φ)
L	H	H	D → F	L	L	L	A (2:Φ)

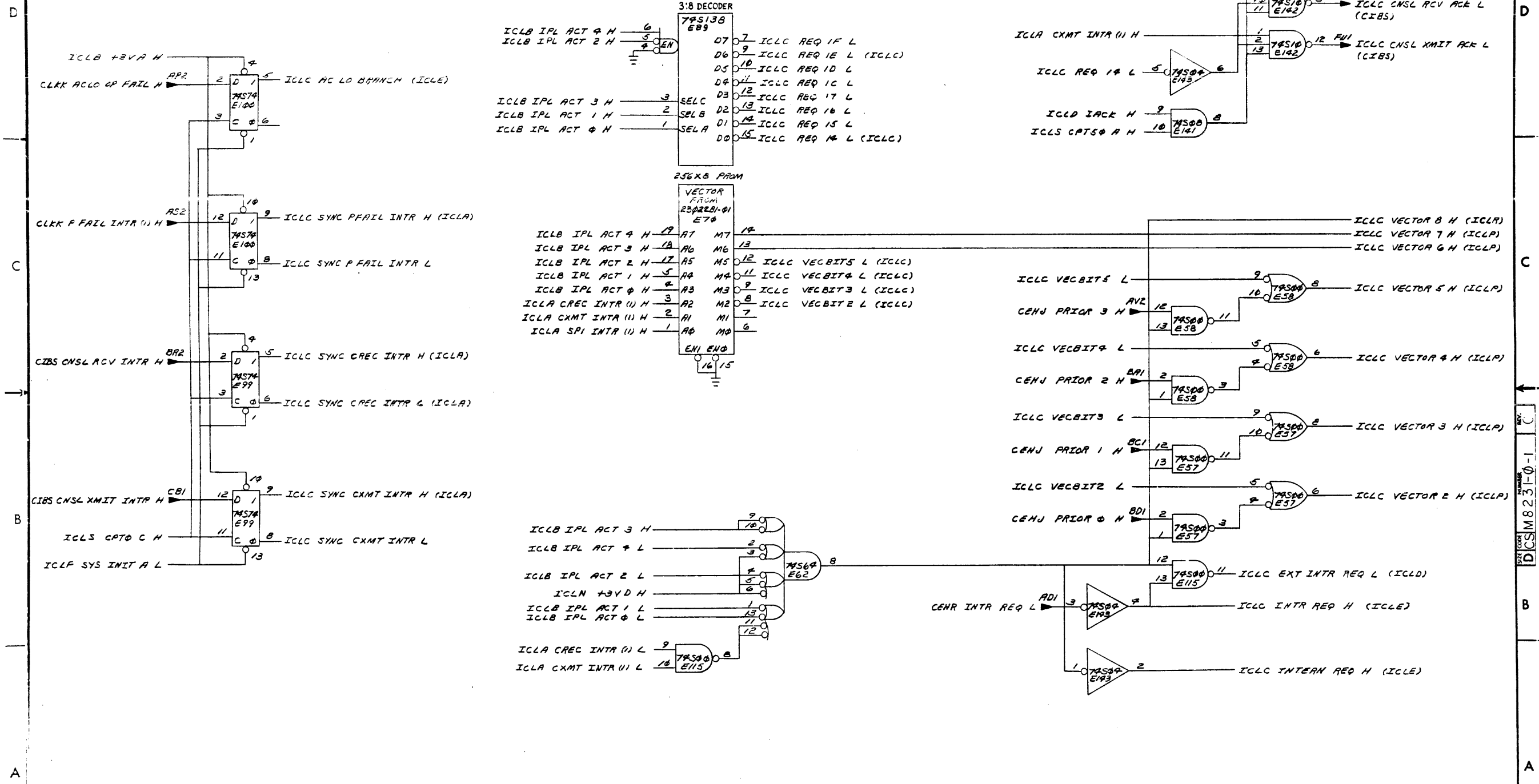


REVISIONS		
CHK	CHANGE NO.	REV.

(INTERRUPT PRIORITY ARBITRATION)		(SLOT 15)	
TITLE	INTERRUPT CONTROL AND LOW BITS (ICLB)	SIZE CODE	D CS
NUMBER	M8231-0-1	REV.	C
SHEET	4 OF 21	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"

1-0-1E28W 50 2

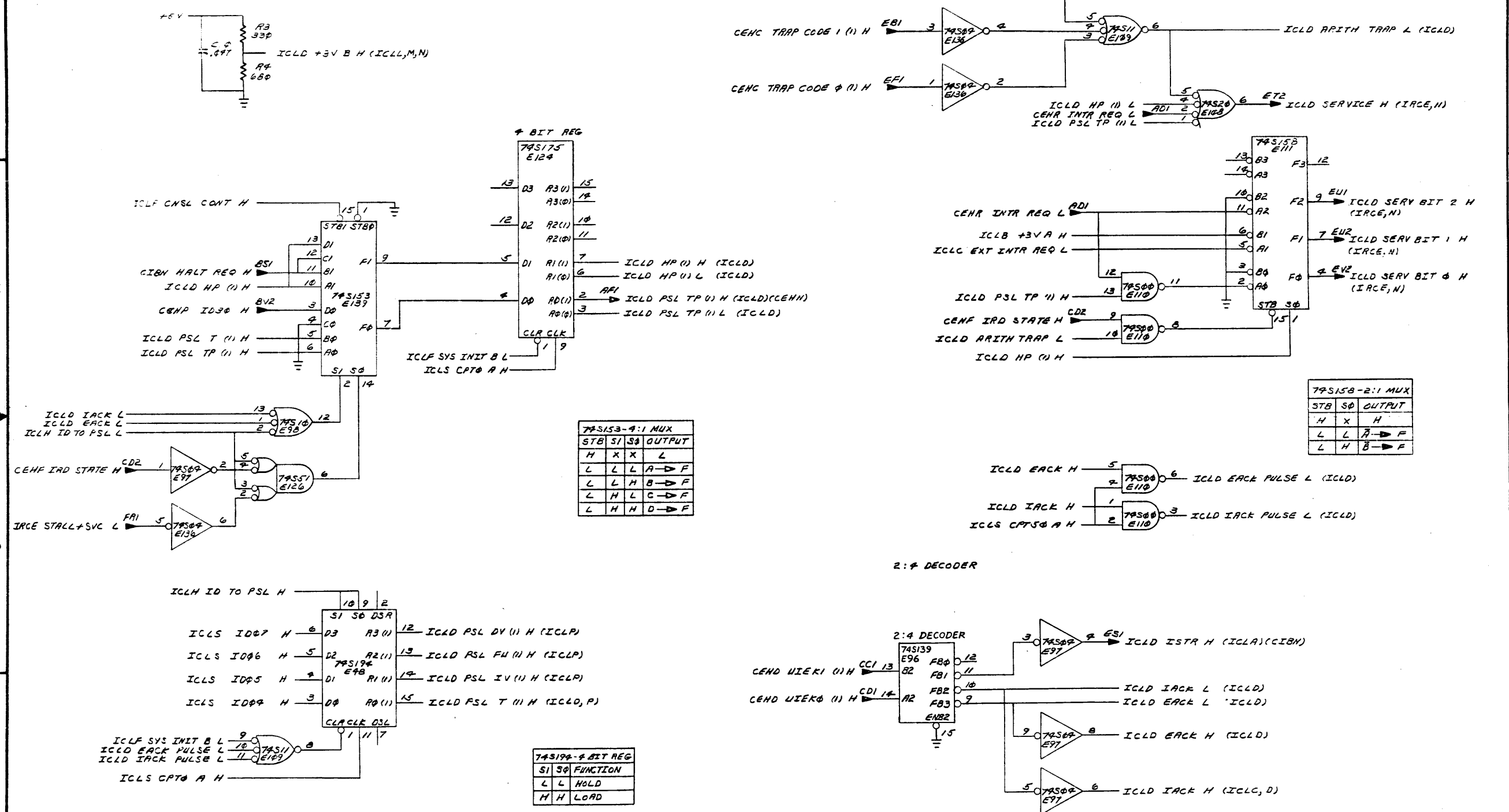


(INTERRUPT ACKNOWLEDGES & VECTOR GENERATION) (SLOT 15)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLC)	SIZE CODE	DCS	NUMBER	M8231-0-1	REV.	C
SCALE	+	SHEET	50F21	DIST.			

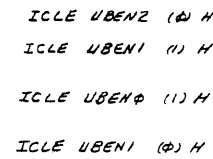
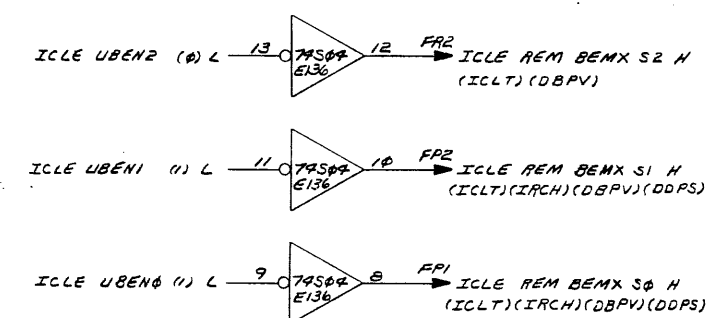
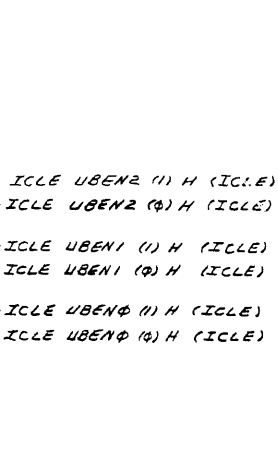
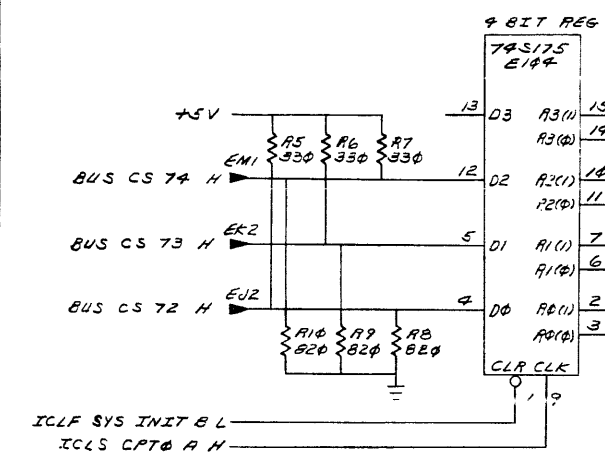
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(A FORK SERVICE LOGIC & PSL BITS) (SLOT 15)	
INTERRUPT CONTROL AND LOW BITS (ICLD)		SIZE CODE	NUMBER
D CS M8231-0-1		6 OF 21	C
SCALE	SHEET	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"



BEN (18:14) MUXES

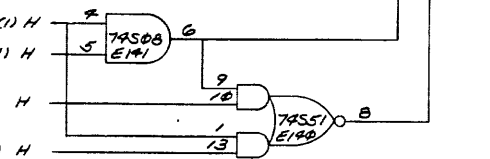
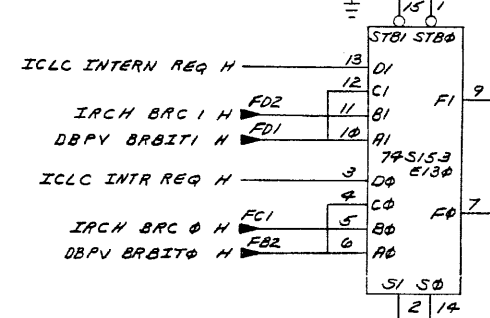
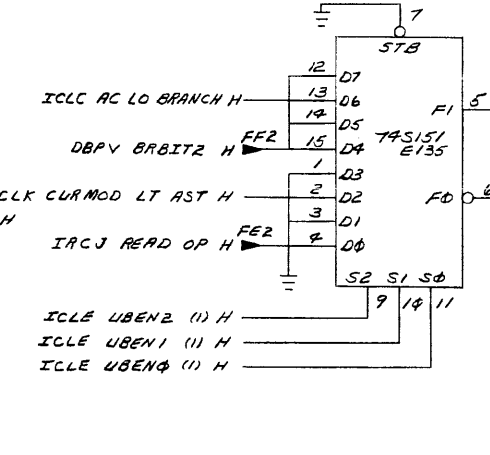
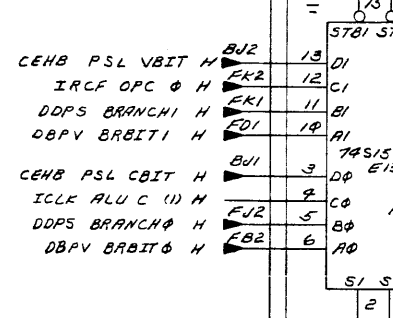
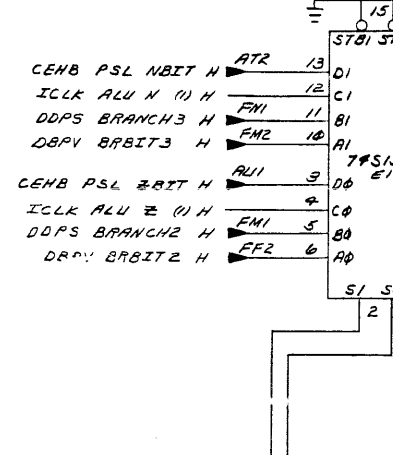
74S153-4:1 MUX		BEN SELECTED
STB	SI S0	OUTPUT
H	X X	L
L	L L	A → F 19, 18
L	L H	B → F 17, 14
L	H L	C → F 18
L	H H	D → F 1A

BEN (0F:08) MUXES

74S153-4:1 MUX		BEN SELECTED
STB	SI S0	OUTPUT
H	X X	L
L	L L	A → F 0D, 0C
L	L H	B → F 0B:08
L	H L	C → F 0F
L	H H	D → F 0E

BEN (0F:08) MUXES

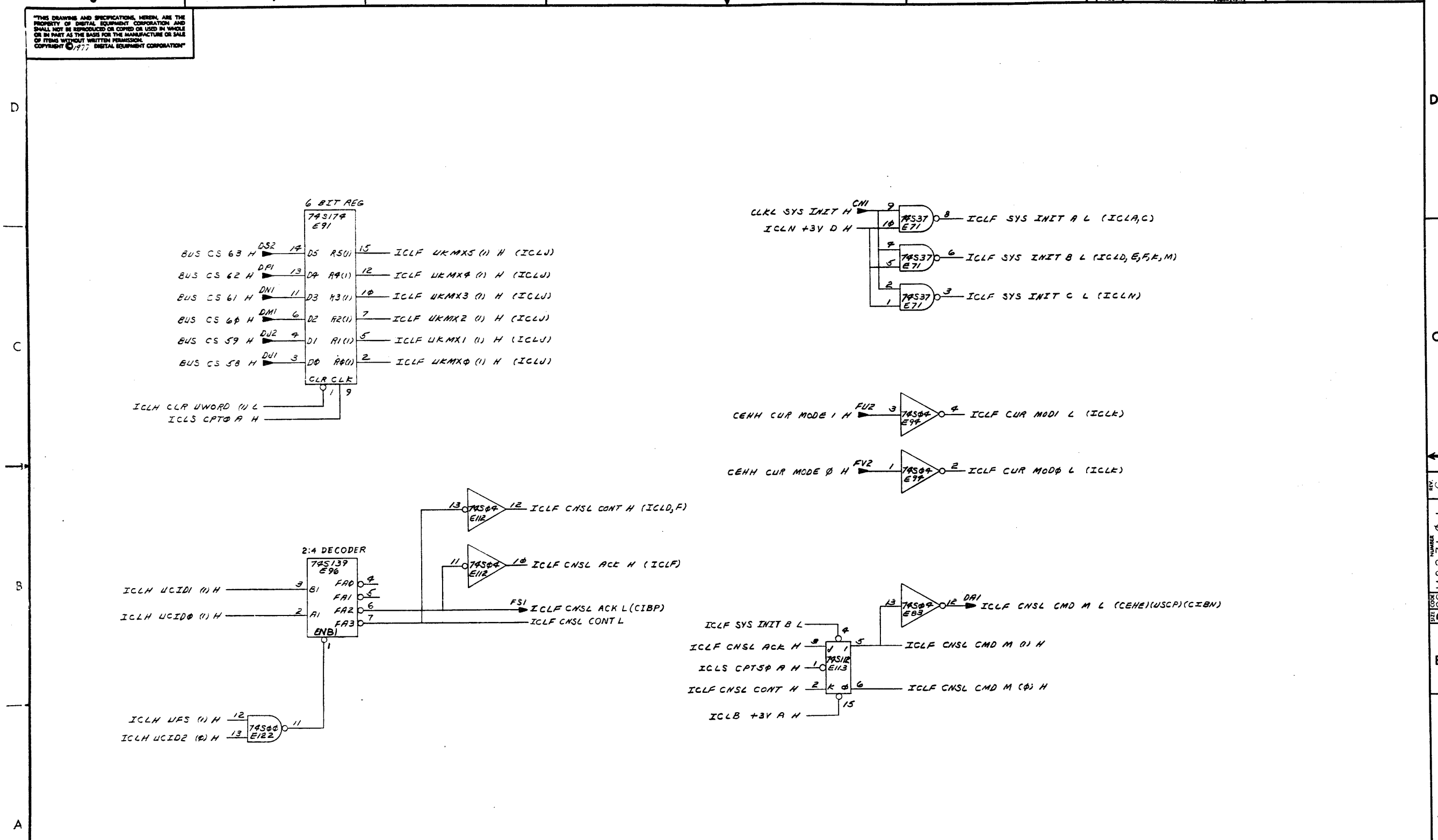
74S151-8:1 MUX		BEN SELECTED
STB	S2 S1 S0	OUTPUT
H	X X X	F1=L
L	L L L	D0 → F1 0B
L	L L H	D1 → F1 09
L	L H L	D2 → F1 0A
L	L H H	D3 → F1 0B
L	H L L	D4 → F1 0C
L	H L H	D5 → F1 0D
L	H H L	D6 → F1 0E
L	H H H	D7 → F1 0F



(UBEN & UBRANCH MULTIPLEXORS) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLE)	SIZE CODE	DCS	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	7 OF 21	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

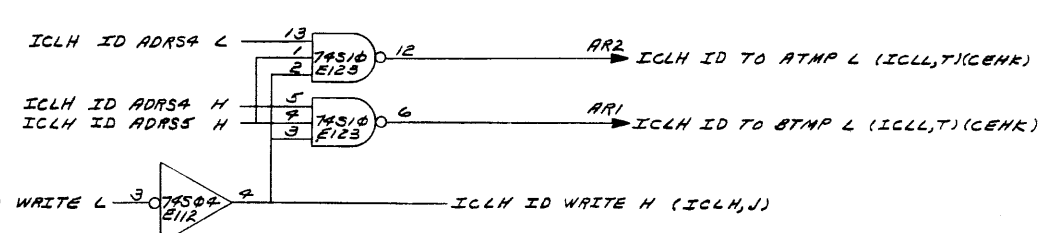
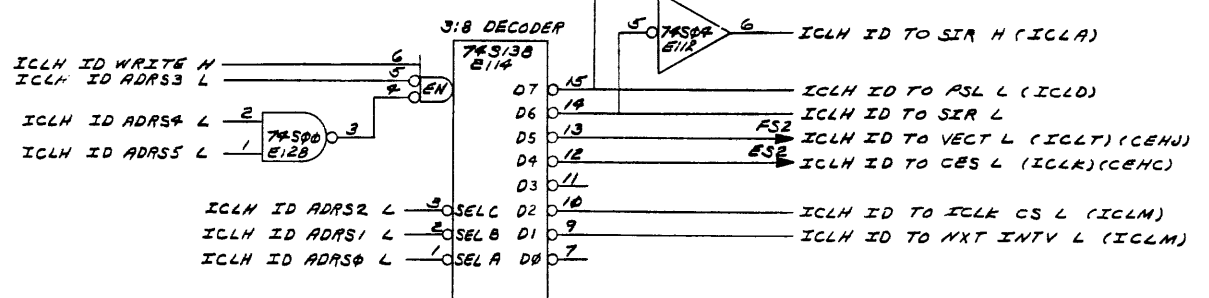
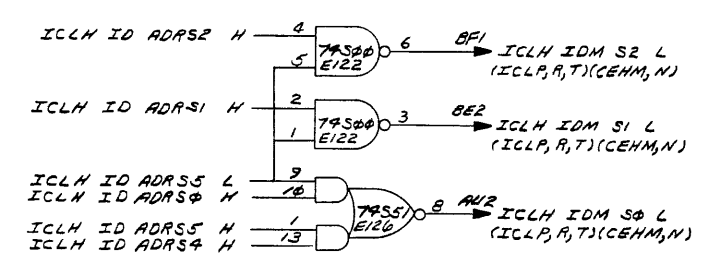
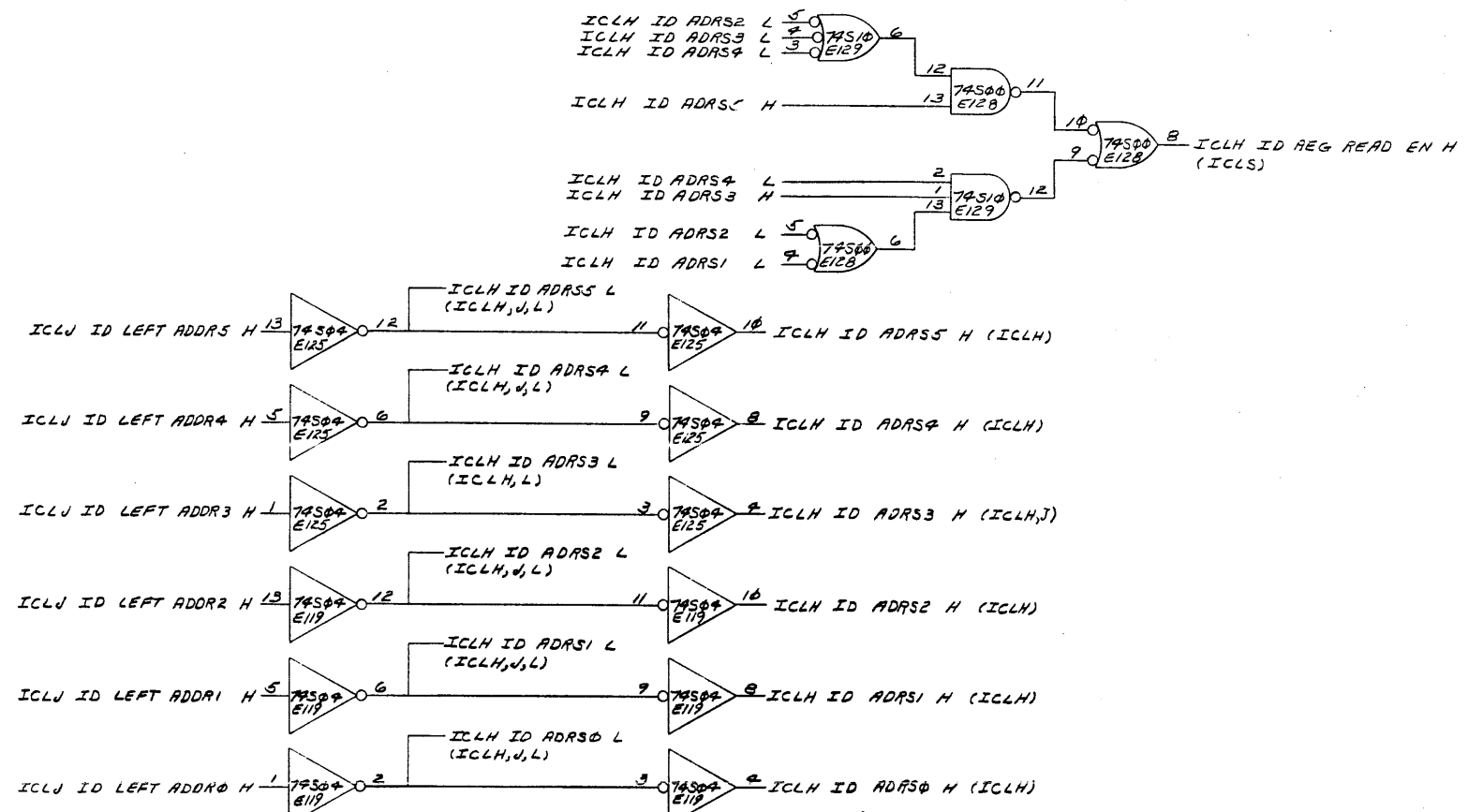
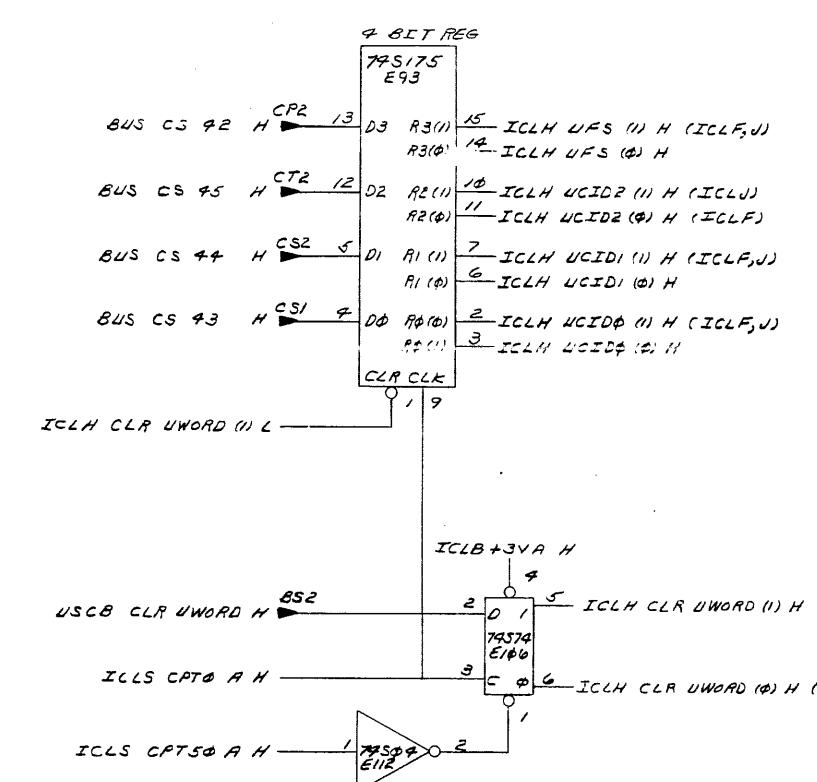


REVISIONS		
CHK	CHANGE NO.	REV.

(CONSOLE MODE CONTROL LOGIC & UKMX) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLF)	SIZE CODE	D	CS	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	8	OF 21	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



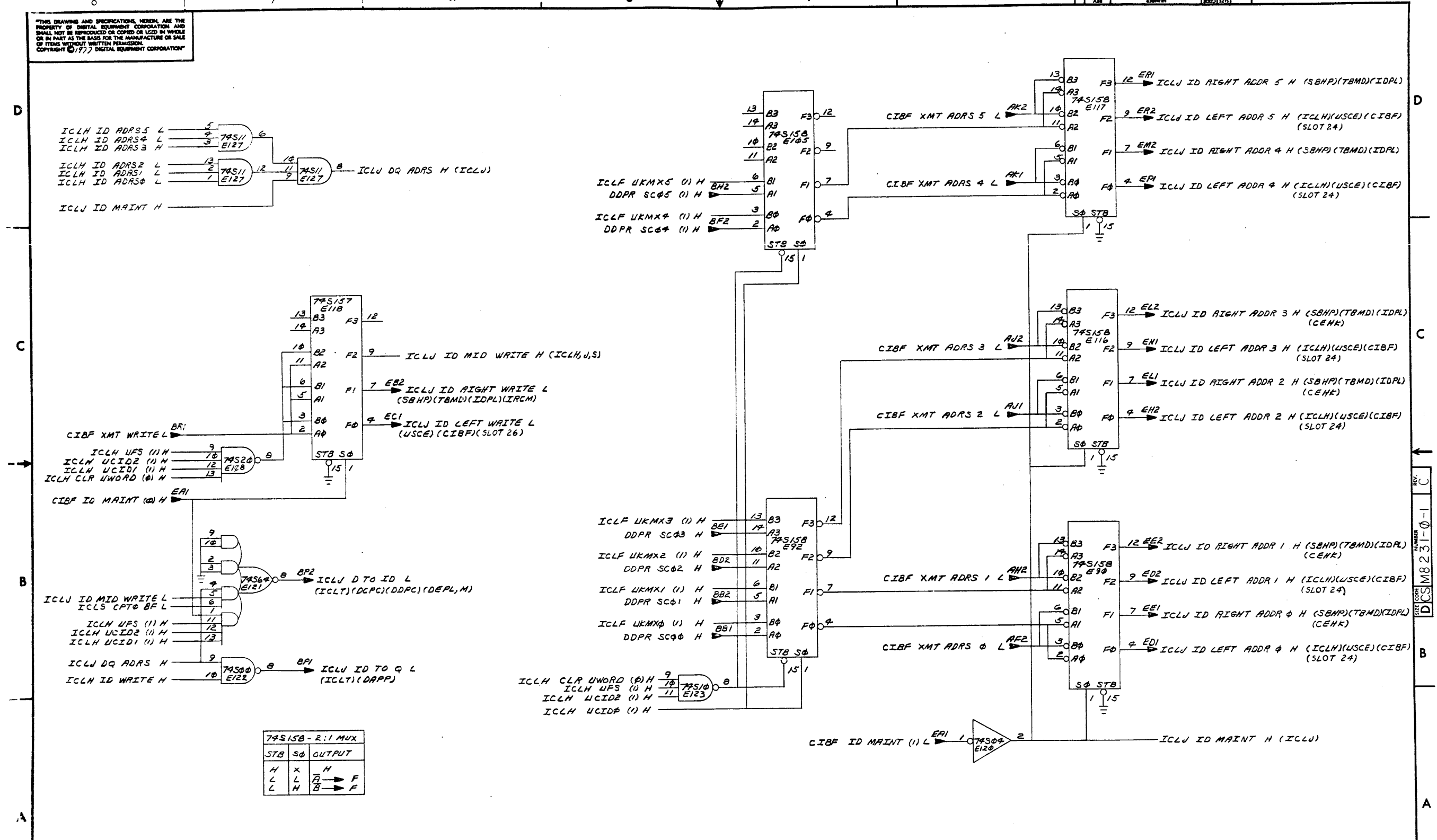
(ID ADDRESS DECODE, UFS & UCID) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLH)	SIZE/CODE	CS	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	9 OF 21	DIST.			

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 © 1977 DIGITAL EQUIPMENT CORPORATION



74S158-2:1 MUX

STB	S0	OUTPUT
H	X	H
L	L	F
L	H	F

REVISIONS

CHK	CHANGE NO.	REV.

(ID BUS CONTROL) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLJ)	SIZE CODE	DCS	NUMBER	M8231-0-1	REV.	C
SCALE	+	SHEET	10 OF 21	DIST.			

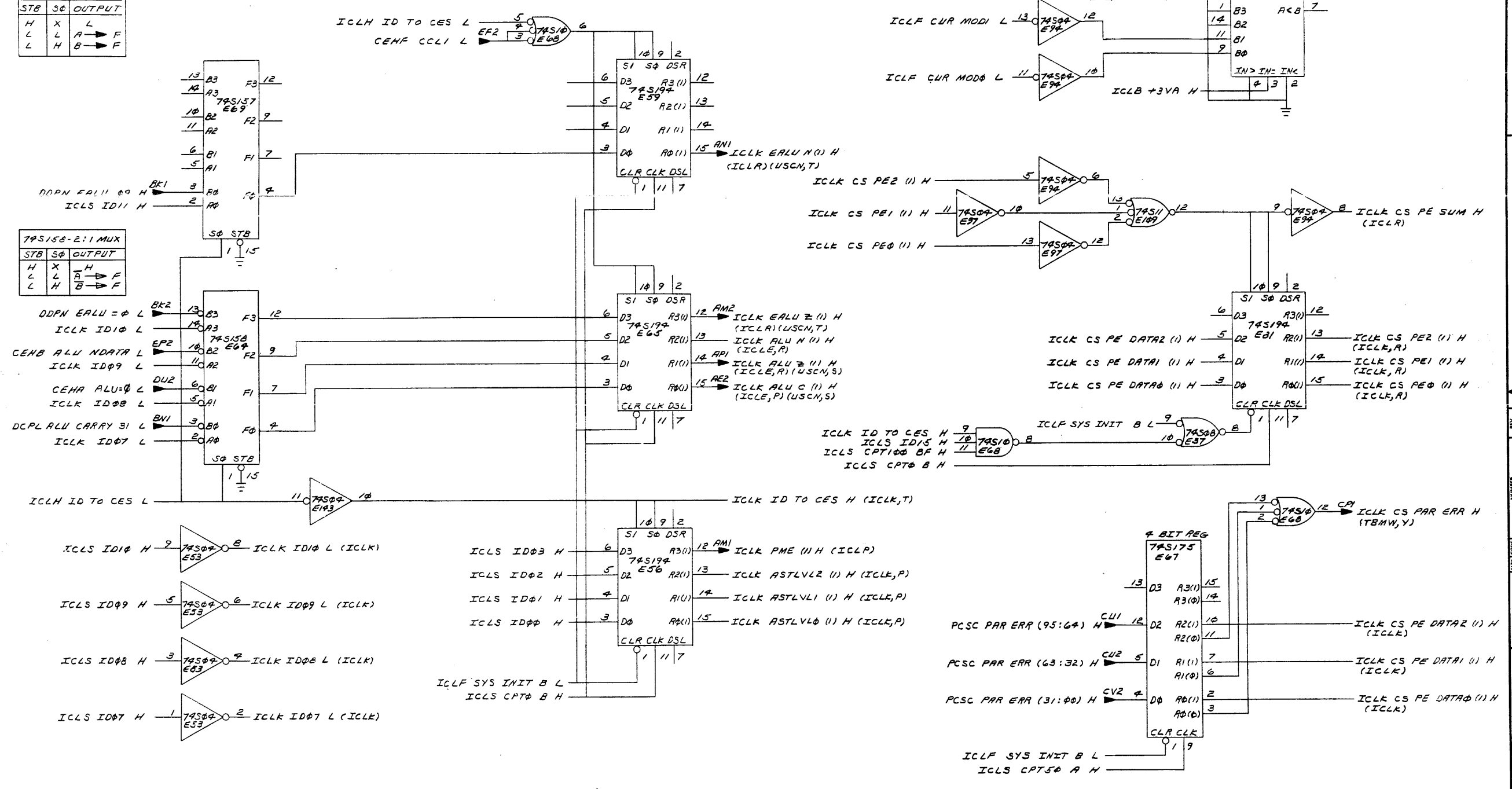
361

"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"

74S197-4 BIT REG		
SI	SΦ	FUNCTION
L	L	HOLD
H	H	LOAD

74S157-2:1 MUX		
STB	SΦ	OUTPUT
H	X	L
L	L	A → F
L	H	B → F

74S158-2:1 MUX		
STB	SΦ	OUTPUT
H	X	L
L	L	A → F
L	H	B → F



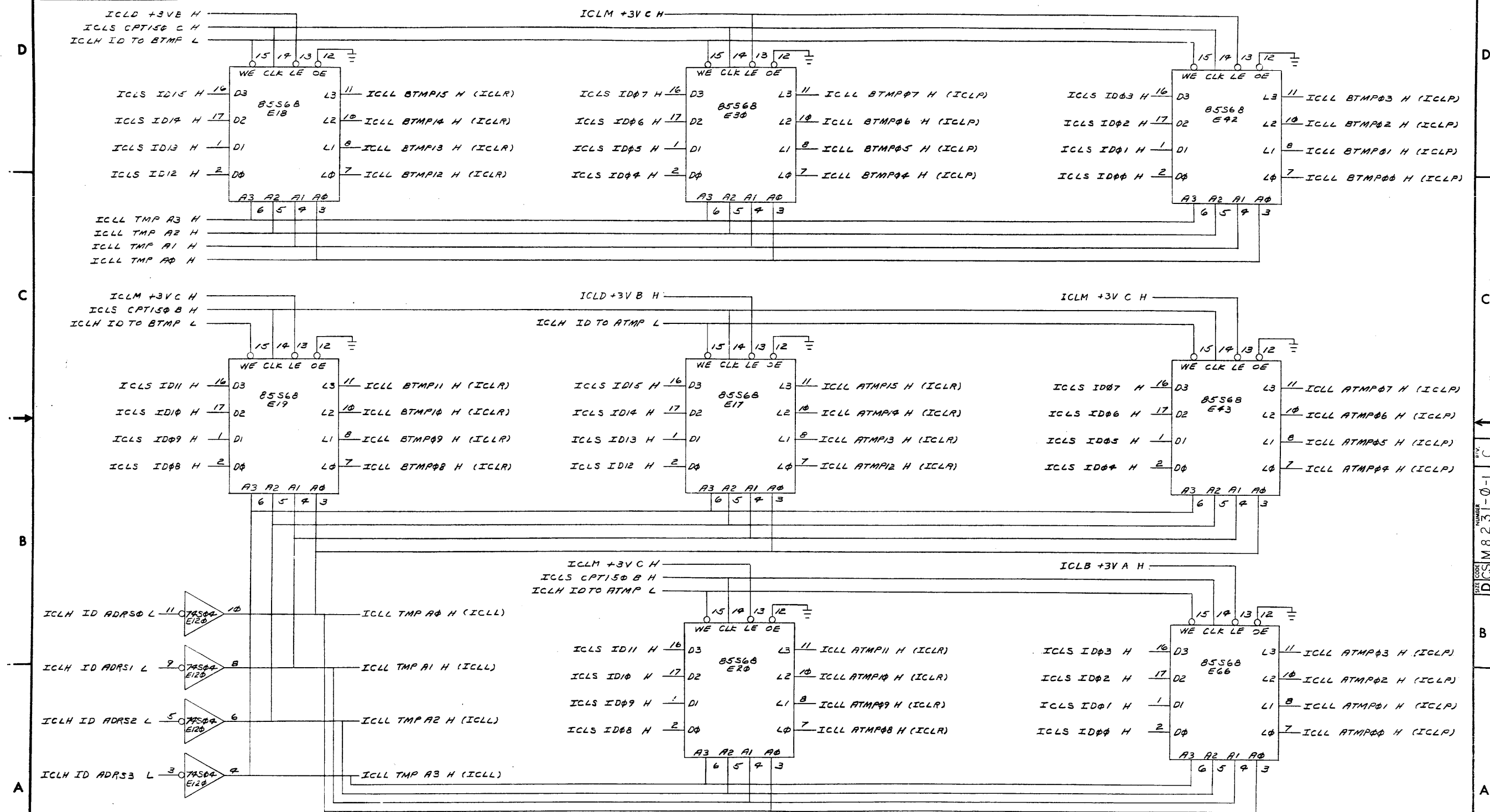
REVISIONS		
CHK	CHANGE NO.	REV.

(CPU ERROR/STATUS REG (CES)) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLK)	SIZE CODE	DCS	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	11 OF 21	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

85568-16x4 EDGE TRIGGERED REG

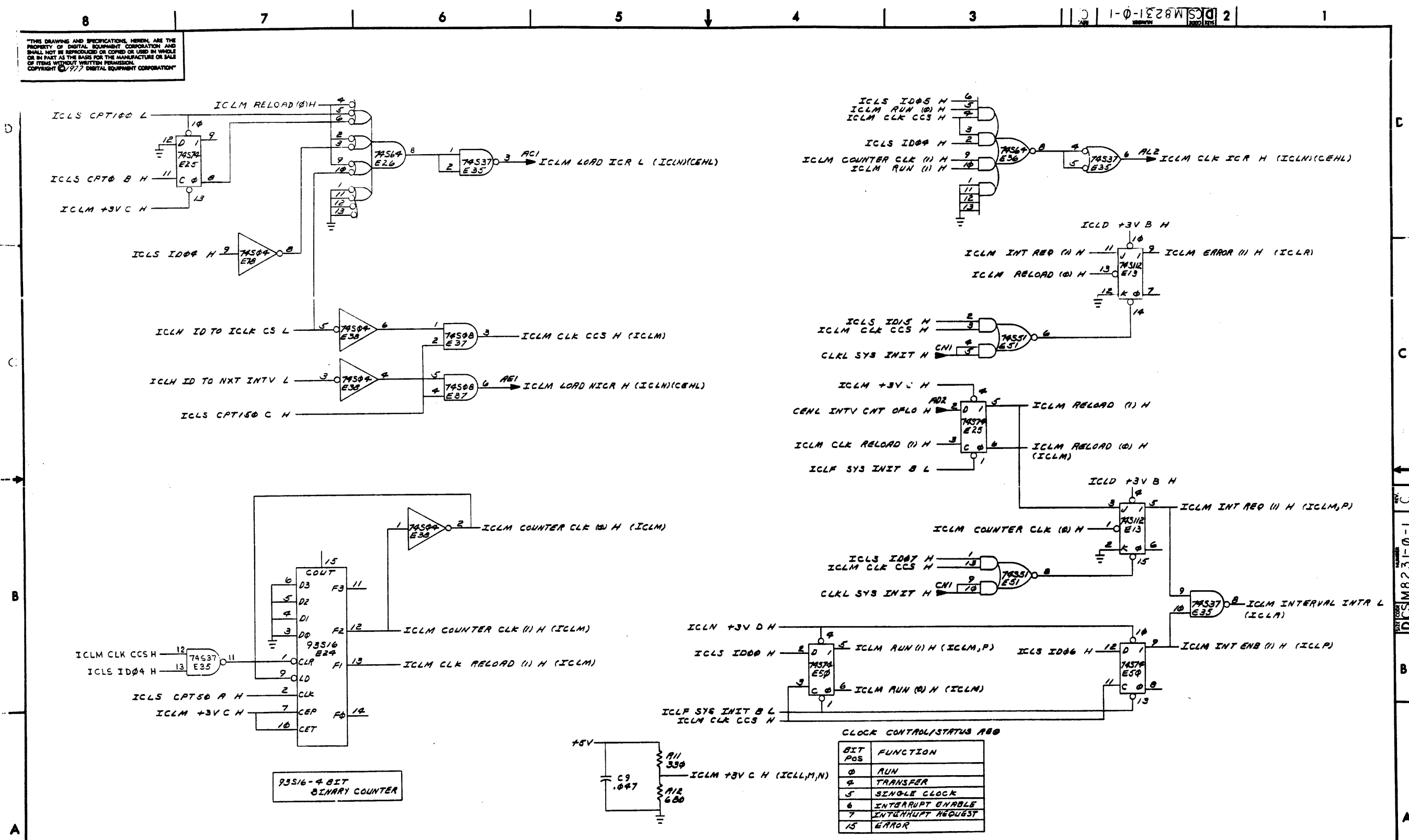


REVISIONS		
CHK	CHANGE NO.	REV.

(ID REGISTERS (24 TO 2F) LOW BITS) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLL)	SIZE CODE	DCS M8231-0-1	NUMBER	1	REV.	C
SCALE		SHEET	12 OF 21	DIST.			

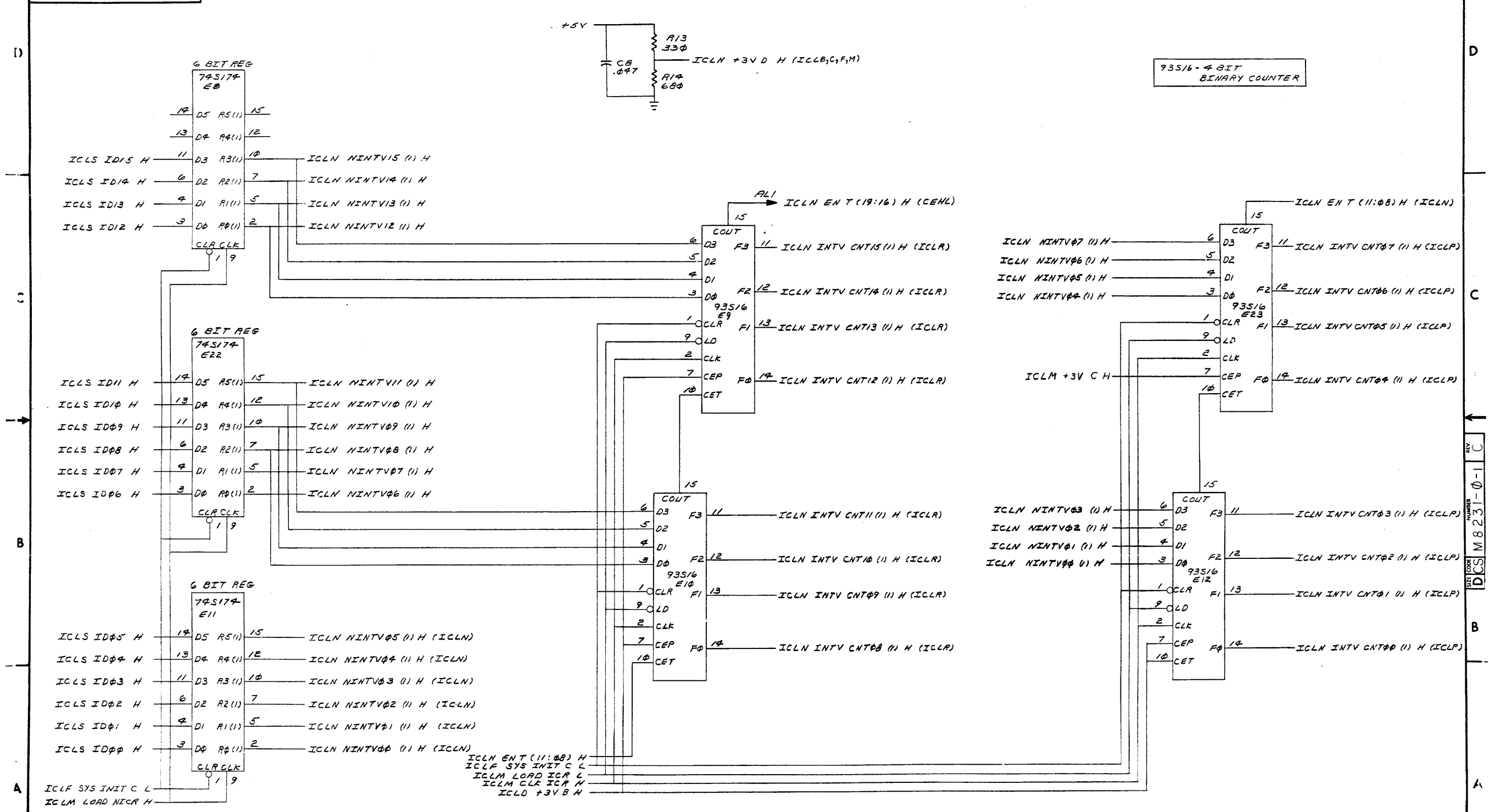
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(INTERVAL CLOCK CONTROL) (SLOT 15)			
TITLE	SIZE/SCALE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICLM)	DCS M8231-0-1	13 OF 21	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"



93S16 - 4 BIT BINARY COUNTER

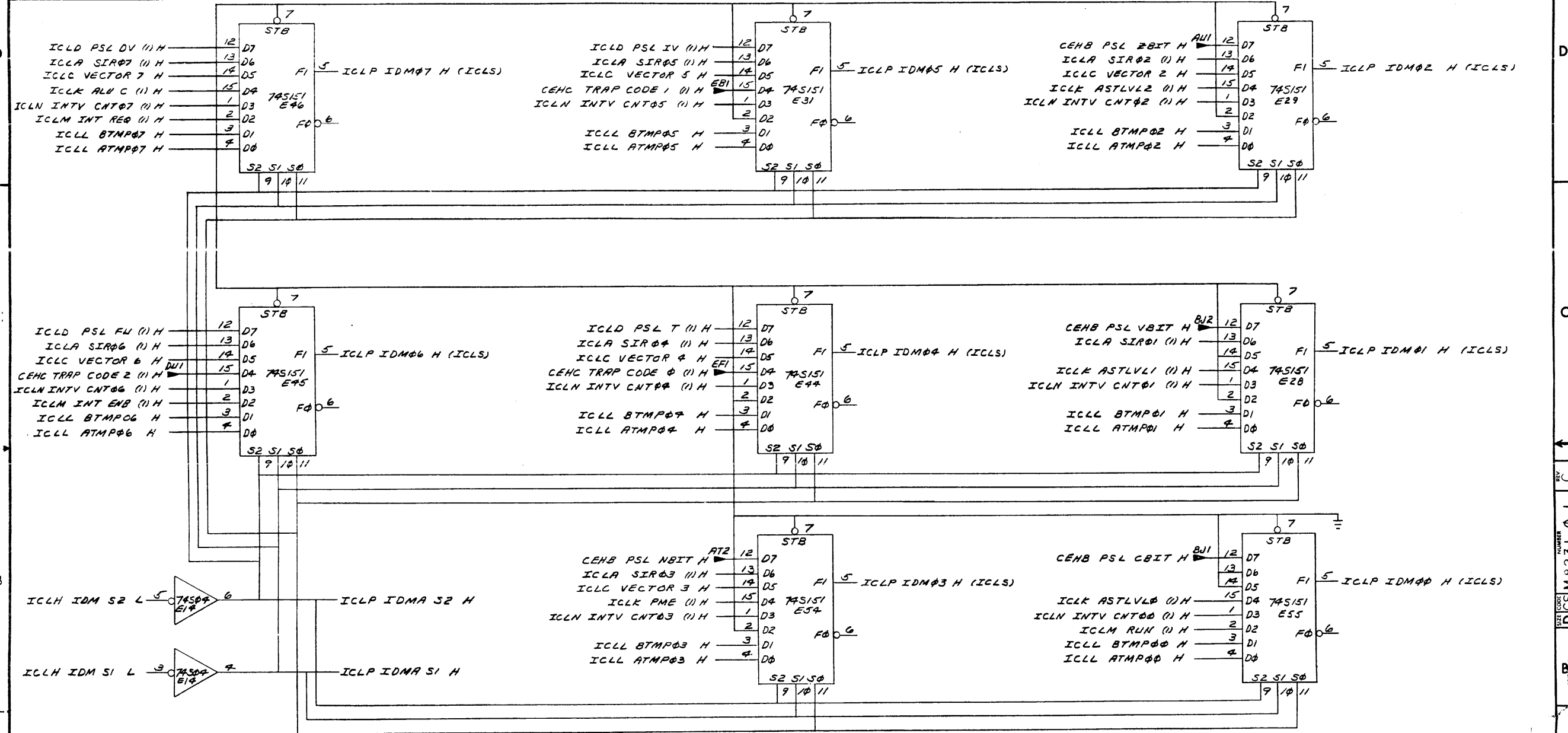
(NEXT INTERVAL REG & INTERVAL COUNTER LOW BITS) (SLOT 15)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLN)	SIZE CODE	D CS	NUMBER	M 8231-0-1	REV.	C
SCALE		SHEET	14 OF 21	DIST.			

DRAWING NUMBER DCS M8231-0-1

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 © DIGITAL EQUIPMENT CORPORATION



74S151 - 8:1 MUX					
STB	S2	S1	S0	OUTPUT	SELECTED REG
H	X	X	X	F1=L	X
L	L	L	L	D0=F1	ATMP
L	L	L	H	D1=F1	BTMP
L	L	H	L	D2=F1	CLOCK CS
L	L	H	H	D3=F1	INTERVAL COUNTER
L	H	L	L	D4=F1	CES
L	H	L	H	D5=F1	VECTOR
L	H	H	L	D6=F1	SIR
L	H	H	H	D7=F1	PSL

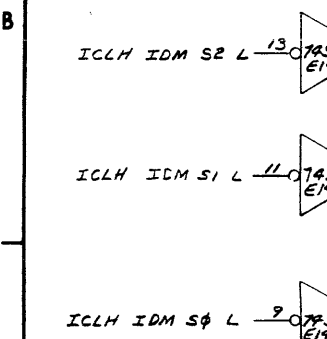
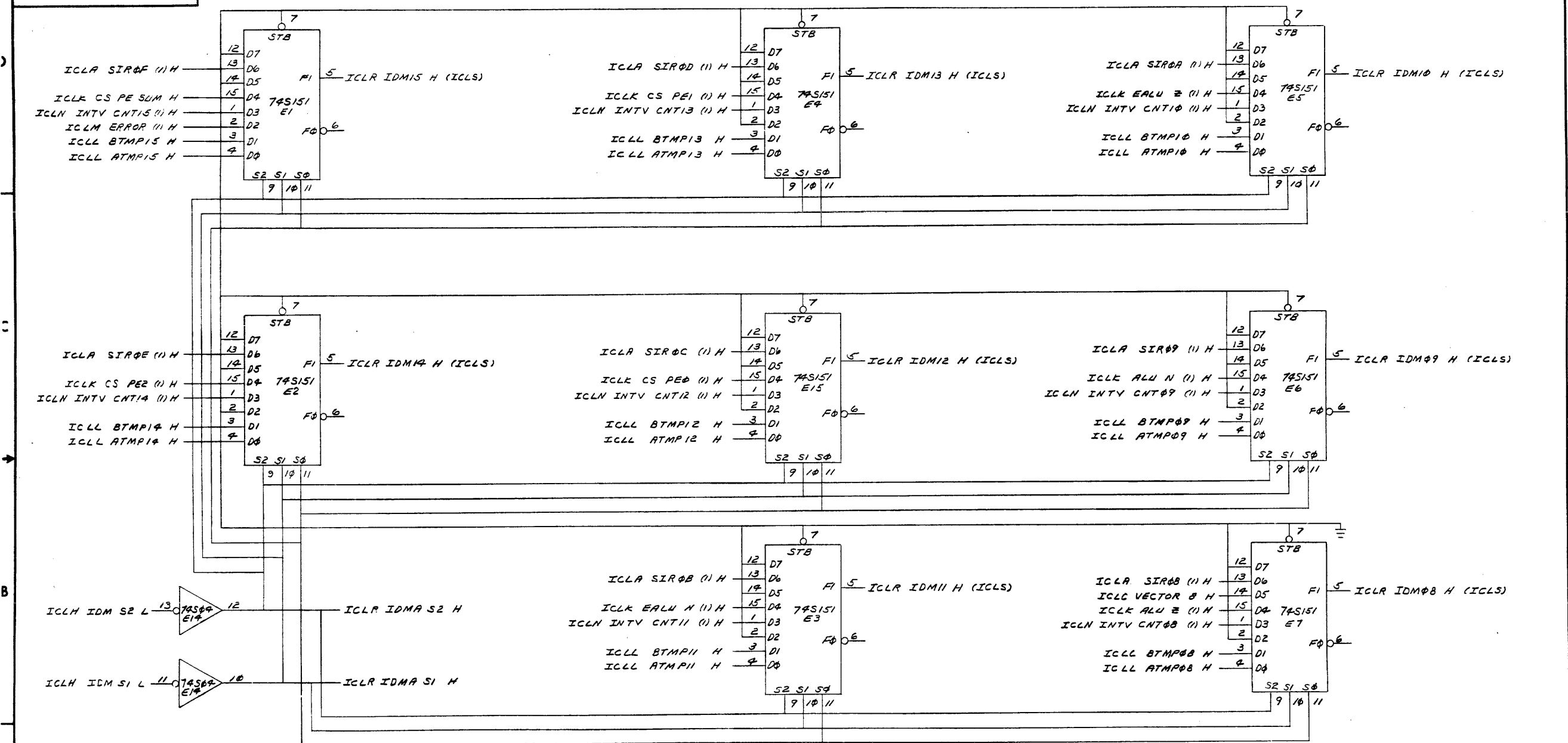
REVISIONS		
CHK	CHANGE NO.	REV.

(ID DATA MULTIPLEXOR (IDM) BITS 07:00) (SLOT 15)  
 TITLE INTERRUPT CONTROL AND LOW BITS (ICLP) DCS M8231-0-1  
 SCALE SHEET 15 OF 21 DIST. REV. C

REV. C  
 NUMBER 8231-0-1  
 DATE CODE

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

1-0-1828W 2



74S151 - 8:1 MUX					
STB	S2	S1	S0	OUTPUT	SELECTED REG
H	X	X	X	F1=L	X
L	L	L	L	D0-D7	ATMP
L	L	L	H	D1-D7	BTMP
L	L	H	L	D2-D7	CLOCK CS
L	L	H	H	D3-D7	INTERVAL COUNTER
L	H	L	L	D4-D7	CES
L	H	L	H	D5-D7	VECTOR
L	H	H	L	D6-D7	SIR
L	H	H	H	D7-D7	PSL

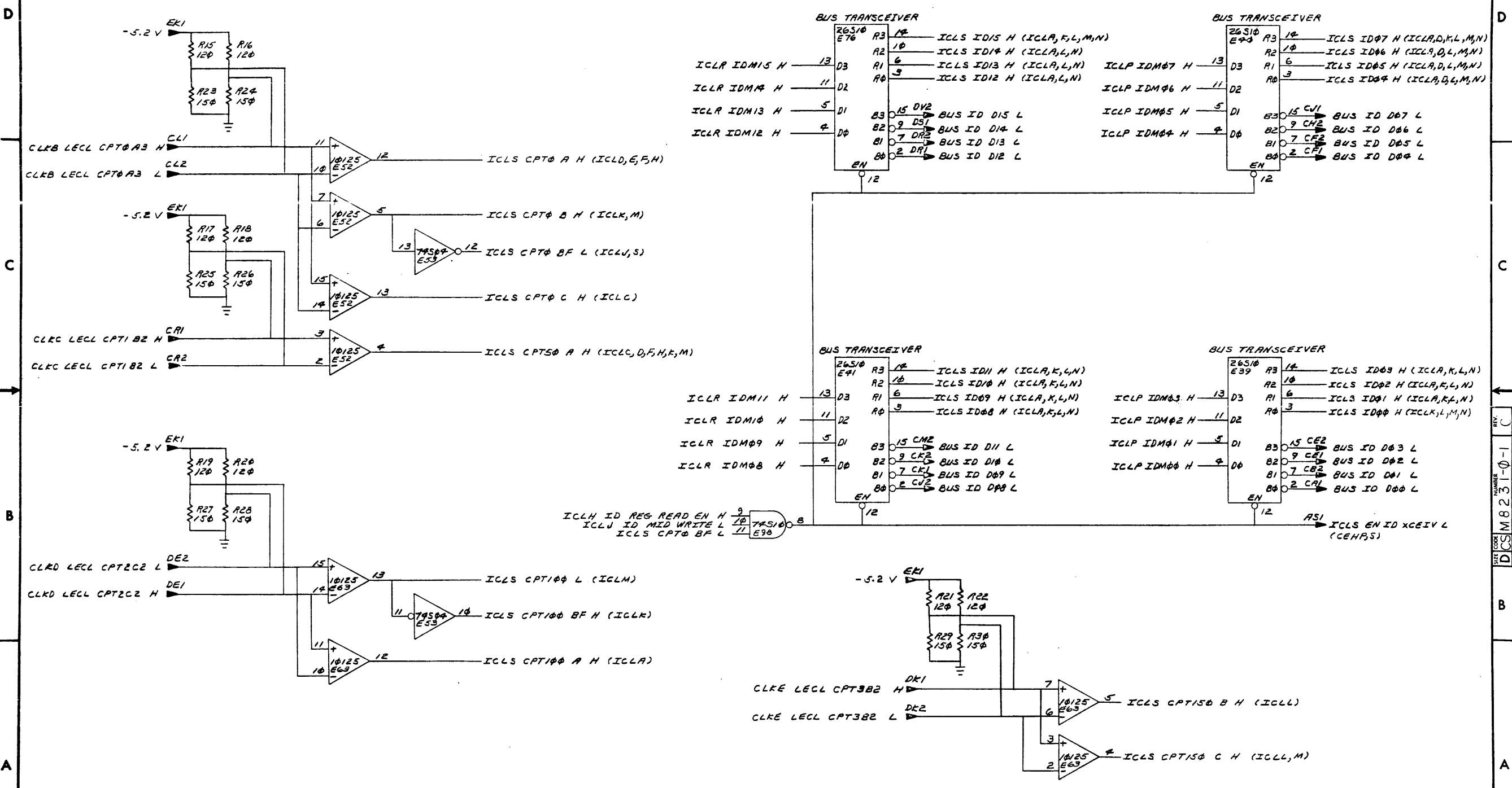
REVISIONS		
CHK	CHANGE NO.	REV.

(ID DATA MULTIPLEXOR (IDM) BITS 15:08) (SLOT 15)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICLR)	SIZE CODE	DCS	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	16 OF 21	DIST.			

REV. C NUMBER DCS M8231-0-1

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.

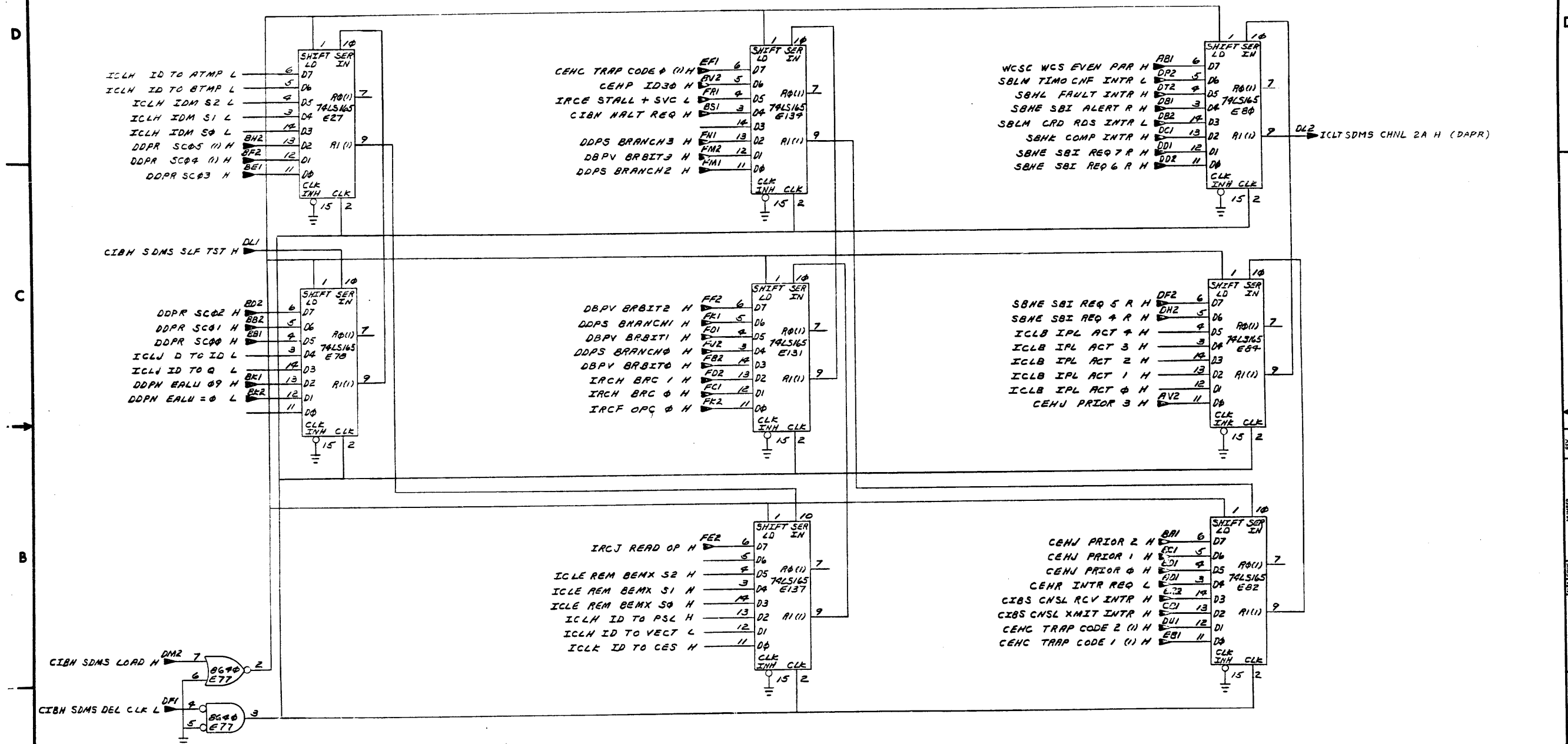
(CLOCK LOGIC & ID XCEIVERS LOW BITS) (SLOT 15)  
 TITLE INTERRUPT CONTROL AND LOW BITS (ICLS) SIZE CODE NUMBER REV.  
 DCS M8231-0-1 C  
 SCALE SHEET 17 OF 21 DIST.

REV. C NUMBER DCS M8231-0-1



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 OF DIGITAL EQUIPMENT CORPORATION.

74LS165 - 8 BIT SHIFT REG



REVISIONS		
CHK	CHANGE NO.	REV.

(SDMS BUS LOGIC)		(SLOT 15)	
TITLE	INTERRUPT CONTROL AND LOW BITS (ICLT)	SIZE CODE	NUMBER
SCALE	SHEET 18 OF 21	DCS	M8231-0-1
		DIST.	

REV. C  
NUMBER M8231-0-1  
DCS

TW 369

"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"

VECTOR PROM - (2302281-#1)

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
00	00	L	L	H	H	H	H	L	L	X
01										
02										
03										
04										
05										
06										
07										
08	01	H	L	H	H	H	L	L	L	84
09										
0A										
0B										
0C										
0D										
0E										
0F										
10	02	H	L	H	H	L	L	L	L	88
11										
12										
13										
14										
15										
16										
17										
18	03	H	L	H	H	L	L	L	L	8C
19										
1A										
1B										
1C										
1D										
1E										
1F										

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
20	04	H	L	H	L	H	H	L	L	90
21										
22										
23										
24										
25										
26										
27										
28	05	H	L	H	L	H	L	L	L	94
29										
2A										
2B										
2C										
2D										
2E										
2F										
30	06	H	L	H	L	L	H	L	L	98
31										
32										
33										
34										
35										
36										
37										
38	07	H	L	H	L	L	L	L	L	9C
39										
3A										
3B										
3C										
3D										
3E										
3F										

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
40	08	H	L	L	H	H	H	L	L	A0
41										
42										
43										
44										
45										
46										
47										
48	09	H	L	L	H	H	L	L	L	A4
49										
4A										
4B										
4C										
4D										
4E										
4F										
50	0A	H	L	L	H	L	H	L	L	A8
51										
52										
53										
54										
55										
56										
57										
58	0B	H	L	L	H	L	L	L	L	AC
59										
5A										
5B										
5C										
5D										
5E										
5F										

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
60	0C	H	L	L	L	H	H	L	L	B0
61										
62										
63										
64										
65										
66										
67										
68	0D	H	L	L	L	H	L	L	L	B4
69										
6A										
6B										
6C										
6D										
6E										
6F										
70	0E	H	L	L	L	L	H	L	L	B8
71										
72										
73										
74										
75										
76										
77										
78	0F	H	L	L	L	L	L	L	L	BC
79										
7A										
7B										
7C										
7D										
7E										
7F										

REVISIONS		
CHK	CHANGE NO.	REV.

(VECTOR PROM TRUTH TABLE)		TITLE	SIZE CODE	NUMBER	REV.
		INTERRUPT CONTROL AND LOW BITS (ICL)	DCS	M8231-0-1	C
SCALE	SHEET	DIST.			
	19 OF 27				

REV. C  
NUMBER M8231-0-1  
SIZE CODE DCS

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

VECTOR PROM - (2382281-81)

7 6 5 4 3 2 1

D 1-0-1828 M8231-0-1

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
8B	10	L	L	H	H	H	H	L	L	X
81										
82										
83										
84										
85										
86										
87										
89	11	L	L	H	H	H	H	L	L	X
89										
8A										
8B										
8C										
8D										
8E										
8F										
98	12	L	L	H	H	H	H	L	L	X
91										
92										
93										
94										
95										
96										
97										
99	13	L	L	H	H	H	H	L	L	X
99										
9A										
9B										
9C										
9D										
9E										
9F										

VECBIT (7,6)H  
VECBIT (5,2) L  
X

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
AB	14	L	L	H	H	H	H	L	L	188 TO 19C
A1										
A2										
A3										
A4										
A5										
A6										
A7										
A8	15	L	H	H	H	H	H	L	L	148 TO 17C
A9										
AA										
AB										
AC										
AD										
AE										
AF										
B8	16	H	L	H	H	H	H	L	L	188 TO 19C
B1										
B2										
B3										
B4										
B5										
B6										
B7										
B8	17	H	H	H	H	H	H	L	L	108 TO 1FC
B9										
BA										
BB										
BC										
BD										
BE										
BF										

VECBIT (7,6)H  
VECBIT (5,2) L  
X

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
C8	18	H	H	H	H	H	H	L	L	C8
C1										
C2										
C3										
C4										
C5										
C6										
C7										
C8	19	L	H	H	L	H	H	L	L	58
C9										
CA										
CB										
CC										
CD										
CE										
CF										
D8	1A	L	H	H	L	H	L	L	L	54
D1										
D2										
D3										
D4										
D5										
D6										
D7										
D8	1B	L	H	H	L	L	H	L	L	58
D9										
DA										
DB										
DC										
DD										
DE										
DF										

VECBIT (7,6)H  
VECBIT (5,2) L  
X

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
E8	1C	L	H	H	L	L	L	L	L	5C
E1										
E2										
E3										
E4										
E5										
E6										
E7										
E8	1D	L	H	L	H	H	H	L	L	68
E9										
EA										
EB										
EC										
ED										
EE										
EF										
F8	1E	L	L	H	H	L	L	L	L	DC
F1										
F2										
F3										
F4										
F5										
F6										
F7										
F8	1F	L	L	H	H	H	H	L	L	X
F9										
FA										
FB										
FC										
FD										
FE										
FF										

VECBIT (7,6)H  
VECBIT (5,2) L  
X

REVISIONS		
CHK	CHANGE NO.	REV.

(VECTOR PROM TRUTH TABLE)

TITLE	INTERRUPT CONTROL AND LOW BITS (ICL)	SIZE CODE	D CS	NUMBER	M8231-0-1	REV.	C
SCALE		SHEET	2 OF 2	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

DECODING LOGIC DESCRIPTION

(ICLD) HALT PENDING & TRACE TRAP PENDING

FUNCTION	HP LOAD COND	TP LOAD COND
ID TO PSL	HP	ID3D
IACK	HALT REQ	0
EACK	HALT REQ	0
CNSL CONT	0	PSL TP
DO NEXT INSTRUCTION (IMP STATE + STALL + SVC)	HALT REQ	PSL T

(ICLD) A FORK PRIORITY

CONDITION	SERV BIT CODE	PRIOR
ARITHMETIC TRAP	7	HIGHEST
HALT PENDING (HP)	5	↑
INTERRUPT REQ*EXT.DEV (NI)	6	
INTERRUPT REQ*INT.COND (HI)	4	↓
TRACE TRAP PENDING (TP)	1	
IDUF STALL	0	LOWEST
IBUF ERROR	0	
NEXT INSTRUCTION	0	

SVC {  
STALL {

NI - MUTUALLY EXCLUSIVE

(ICLF)  
(ICLH)  
(ICL)

UNWORD CONSOLE & ID BUS CONTROL

UFS	UCID	FUNCTIONS	
0	X	NO-OP	
1	0	NO-OP	
1	1	UNUSED	
1	2	CNSL ACK	
1	3	CNSL CONT	
1	4	ID DATA ← ID REG	ID ADDRS ← SC(5:0)
1	5		ID ADDRS ← UKMX
1	6	ID REG ← ID DATA	ID ADDRS ← SC(5:0)
1	7		ID ADDRS ← UKMX

(ICLH) ID ADDRESS DECODE

ID ADDR	ID REGISTER	ID REG READ EN H	IDM(S2:S0) L		
			S2	S1	S0
00	DQ (ID MAINT. ONLY)	L	X	X	X
09	NXT INTV	L	X	X	X
0A	CLOCK CS	H	H	L	H
0B	INTV CNT	H	H	L	L
0C	CES	H	L	H	H
0D	VECT	H	L	H	L
0E	SIR	H	L	L	H
0F	PSL	H	L	L	L
24-2F	ATWP	H	H	H	H
30-3F	BTWP	H	H	H	L

(ICLD) UIEK DECODE

UIEK	FUNCTION
0	NO-OP
1	ISTR
2	IACK
3	EACK

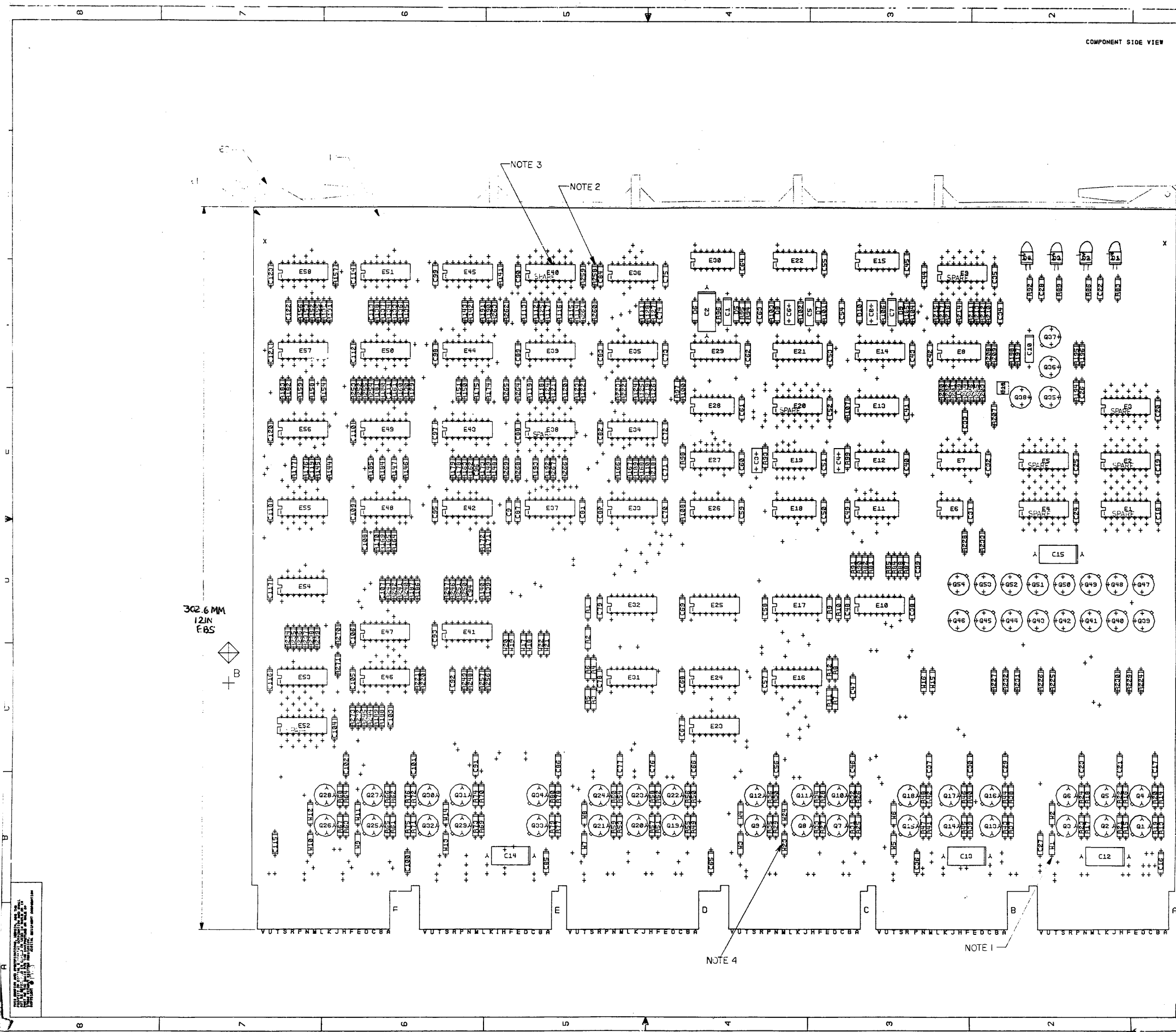
REVISIONS		
CHK	CHANGE NO.	REV.

(DECODING LOGIC DESCRIPTION)			
TITLE	SIZE/DATE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICL)	DCS	M8231-0-1	C
SCALE	DATE 2/07/71	D.W.T.	

372

DCS M8231-0-1 C

COMPONENT SIDE VIEW

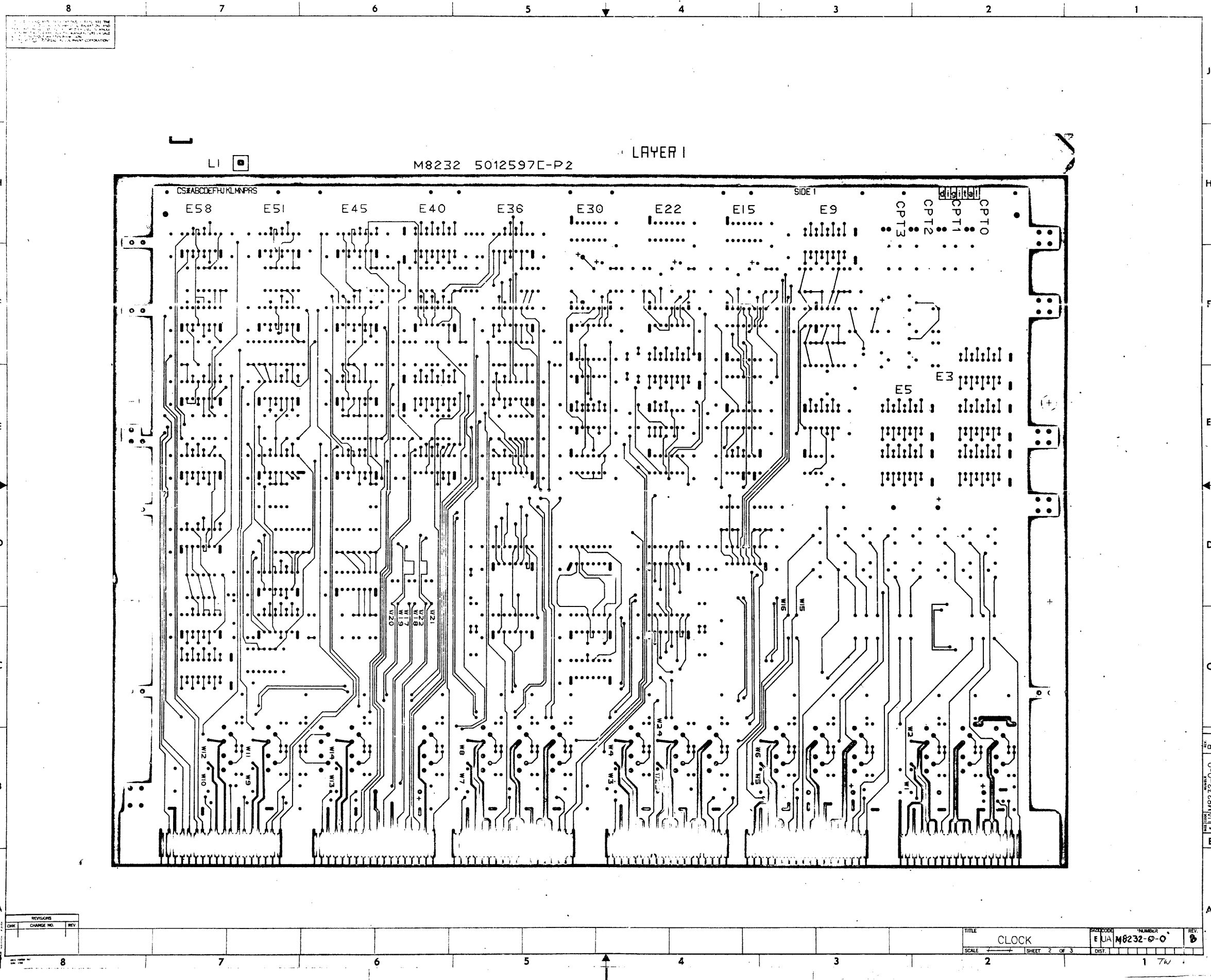


SIGNATURES		DATE	TITLE	REV
DRN. C. J. [Signature]	2/72	digital	0	
CHK. D. [Signature]	2/72	clock	0	
DES. [Signature]	2/72		0	
PROJ. ENG. [Signature]	2/72		0	
SCALE 1:1				
SHEET 1 OF 3				
REV. 0				
REV. 1				
REV. 2				
REV. 3				
REV. 4				
REV. 5				
REV. 6				
REV. 7				
REV. 8				
REV. 9				
REV. 10				

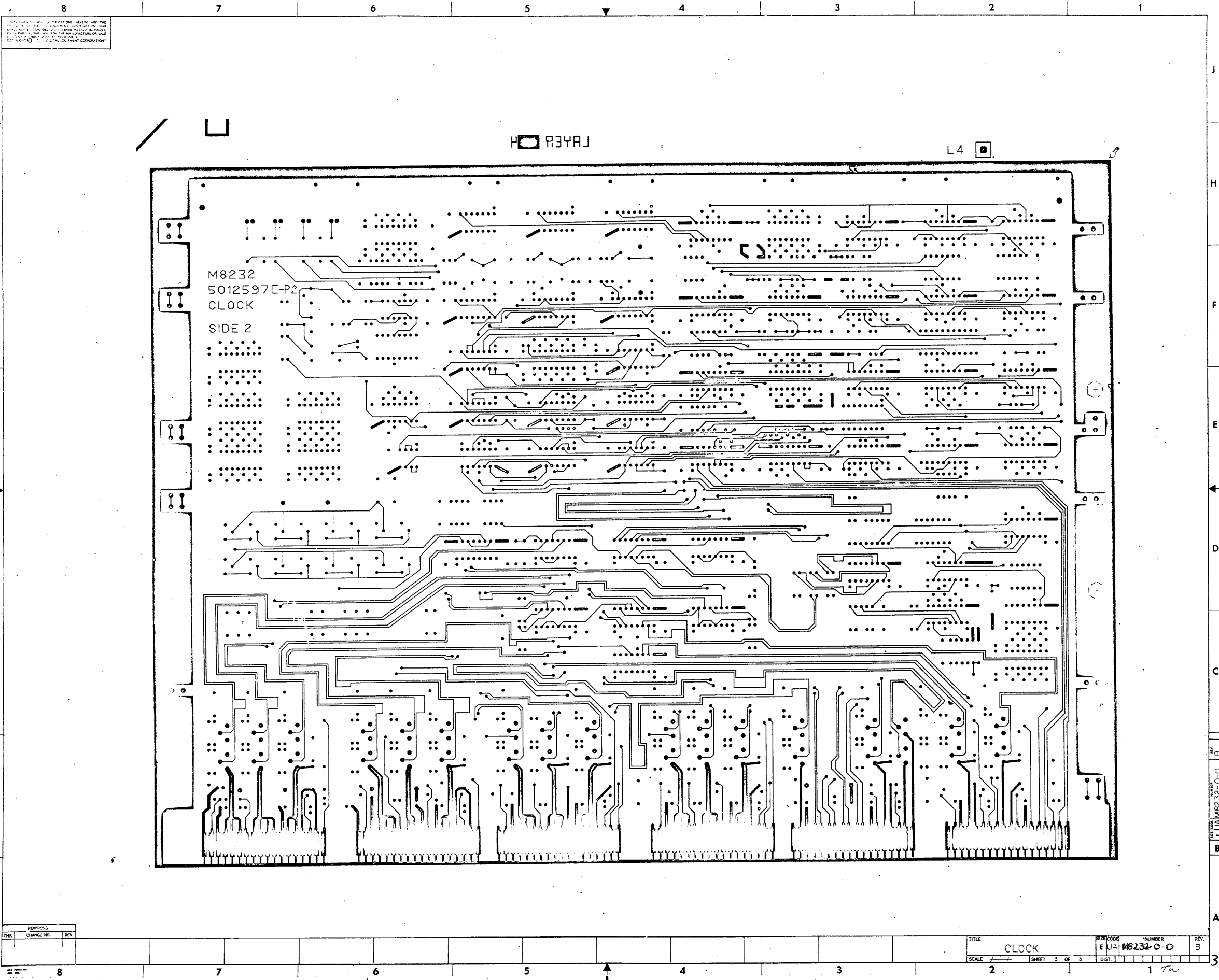
CHK	DATE	BY	REVISION

NOTES:  
 1. ALL THRU HOLES ARE OPTIONAL TO BE  
 2. INSERTED LATER DATE IF REQUIRED.  
 3. ALL THRU HOLES ARE 2.0mm DIA. AND 0.5mm  
 4. ALL THRU HOLES ARE 2.0mm DIA. AND 0.5mm  
 5. ALL THRU HOLES ARE 2.0mm DIA. AND 0.5mm  
 6. ALL THRU HOLES ARE 2.0mm DIA. AND 0.5mm

EUA M8232-0-0 B



374



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK	SIZE CODE	EUA	NUMBER	M8232-C-0	REV.	B
SCALE	1:1	SHEET	3 OF 3	DIST.	1	Tu	375

DATE: 11/11/82  
 DRAWN: EJA  
 CHECKED: M8232-C-0  
 REV: B

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1	1	E-ME-5012597-0-0	5012597-00	M8232	1		
2	2		1000021-00	220.0 MMF 100V 5%200PPM DM15S	2		C6,C8
3	3		1000024-00	470.0 MMF 100V 5%200PPM DM15S	2		C3,C4
4	4		1001776-00	1 MFD 35V 10% S.TANT	1		C5
5	5		1004813-00	10 MFD 20V 10% S.TANT	1		C2
6	6		1009964-00	.68 MFD 35V 10% 150D S.TA	3		C1,C7,C10
7	7		1011740-00	5600.0 MMF 50V 10% CW15C CER.	1		C11
8	8		1012084-01	8 MFD 25V G% 30D AL EL	4		C12-C15
9	9		1012784-00	.047 MFD 50V -20+80 CER	111		C9,C16-C125
10	10		1100114-00	D 664 QSN75PCB PIV= 25V SP	6		D5-D10
11	11		1110864-00	LED 2MCD@10MA	4		D1-D4
12	12		1300247-00	120 1/4W 5% CC	92		R1,R3,R5,R7,R9,R11,R13,R15,R17, CONT R19,R21,R23,R25,R27,R29,R31,R33, CONT R35,R37,R39,R41,R43,R45,R47,R49, CONT R51,R53,R55,R57,R59,R61,R63,R65, CONT R67,R69,R71,R73,R75,R77,R79,R82, CONT R85,R88,R91,R112,R114,R116,R118, CONT R120,R122,R129,R131,R133,R135, CONT R137,R139,R142,R144,R146,R148, CONT R150,R152,R158,R160,R162,R164, CONT R169,R171,R174,R176,R178,R180, CONT R182,R184,R186,R188,R190,R192, CONT R220,R222,R234,R236,R238,R240, CONT R242,R244,R246,R248,R250,R252, CONT R254,R256 R81,R84,R87,R90 R93,R99 R83,R86,R89,R92 R94,R97,R98,R100,R103,R108-R111, CONT R124-R128,R166-R168,R196,R218,
13	13		1300250-00	150 1/4W 5% CC	4		
14	14		1300271-00	220 1/4W 5% CC	2		
15	15		1300295-00	330 1/4W 5% CC	4		
16	16		1300365-00	1 K 1/4W 5% CC	28		

REVISION HISTORY		BASIC PART NO: M8232		DRN:	P.TELLIER	DATE:	16-JUL-79	D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	L.GIAMMARINO	DATE:	16-JUL-79	TITUE PARTS LIST			
---	INITIAL	B	SECTION VARIATION INDEX					CLOCK			
			[A] 00								
			[B]								
			[C]	DES.ENG:	B.FLAHIVE	DATE:	16-JUL-79				
			[D]								
			[E]	RESP.ENG.:	B.FLAHIVE	DATE:	16-JUL-79	DOCUMENT NUMBER			
			[F]					SIZE	CODE	NUMBER	REV
			[H]								
			[J]								
			[K]	MFG.ENG.:	M.TERELLA	DATE:	16-JUL-79	K	PL	M8232-0-DBP	B
			[L]								
			[M]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			[N]	E-UA-M8232-0-0		B-DD-M8232-0-0		M8232.PLS		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 (C) 1979, DIGITAL EQUIPMENT CORPORATION "

TW



LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
17	17	1300391-00	1.5 K 1/4W 5%	1	CONT R219,R224-R227,R229-R232
18	18	1300439-00	3.3 K 1/4W 5%	1	R195
19	19	1300479-00	10 K 1/4W 5%	2	R209
20	20	1301310-00	270 K 1/4W 5%	4	R104,R107
21	21	1301322-00	180 1/4W 5%	88	R199,R203,R210,R214
					R2,R4,R6,R8,R10,R12,R14,R16,R18,
					CONT R20,R22,R24,R26,R28,R30,R32,R34,
					CONT R36,R38,R40,R42,R44,R46,R48,R50,
					CONT R52,R54,R56,R58,R60,R62,R64,R66,
					CONT R68,R70,R72,R74,R76,R78,R80,
					CONT R113,R115,R117,R119,R121,R123,
					CONT R130,R132,R134,R136,R138,R140,
					CONT R143,R145,R147,R149,R151,R153,
					CONT R159,R161,R163,R165,R170,R172,
					CONT R175,R177,R179,R181,R183,R185,
					CONT R187,R189,R191,R193,R221,R223,
					CONT R235,R237,R239,R241,R243,R245,
					CONT R247,R249,R251,R253,R255,R257
22	22	1301423-00	6.8 K 1/4W 5%	1	R208
23	23	1301972-00	270 1/4W 5%	8	R141,R154-R157,R173,R228,R223
24	24	1302091-00	330 K 1/4W 5%	1	R198
25	25	1302092-00	220 K 1/4W 5%	4	R201,R205,R212,R216
26	26	1302394-00	30 K 1/4W 5%	6	R95,R96,R101,R102,R105,R106
27	27	1309595-00	1 M 1/4W 5%	4	R202,R206,R213,R217
28	28	1310867-00	680 K 1/4W 5%	1	R197
29	29	1312930-00	5.1 K 1/4W 5%	6	R194,R200,R204,R207,R211,R215
30	30	1510959-00	2N 3725 NPN 3.5WC SI 50 60 P	38	Q1-Q38
31	31	1511686-00	DEC5433 FET N 350MW 10 25 1A	16	Q39-Q54
32	32	1814057-00	OSCILLATOR, CRYSTAL 40.0 MHZ	1	E22
33	33	1814057-01	OSCILLATOR, CRYSTAL 42.1 MHZ	1	E15
34	34	1814057-02	OSCILLATOR, CRYSTAL 35.7 MHZ	1	E30
35	35	1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIG	3	E14,E21,E29
36	36	1910534-00	74S04 INVERTER GATE=HEX 1I	1	E18
37	37	1910537-00	74S11 AND GATE-TRIPLE 3INP	1	E13
38	38	1910544-00	74S74 FF-D DUAL,EDGE TRIGG	2	E27,E28
39	39	1910645-00	75452 DRIVER,PERIPH,DUAL,	1	E6
40	40	1911324-00	7414 INVERT-R,HEX 1IN SCH	1	E7
41	41	1911398-00	10101 OR/NOR GATE,4-2IN	5	E16,E17,E31,E32,E44
42	42	1911401-00	10104 AND GATE,QUAD 2IN	2	E48,E54
43	43	1911402-00	10105 OR/NOR GATE,2-3-2	4	E23,E24,E43,E53
44	44	1911404-00	10107 XOR/NOR GATE,3-2IN	1	E55
45	45	1911413-00	10121 OR/AND GATE,4WIDE	1	E49
46	46	1911414-00	10124 TTL TO ECL TRNSLTR	4	E33,E34,E35,E36
47	47	1911415-00	10125 ECL TO TTL TRNSLTR	2	E10,E37
48	48	1911416-00	10131 DUAL D MSTR/SL,FF	9	E42,E45,E46,E47,E50,E51,E56,E57,
					CONT E58
49	49	1911420-00	10174 DUAL 4 TO 1 MUX	1	E39
50	50	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1	E11

D	I	G	I	T	A	L	TITLE	SECTION	A	OF	A	SIZE	CODE	DOCUMENT NUMBER	REV
							CLOCK					K	PL	M8232-0-DBP	B

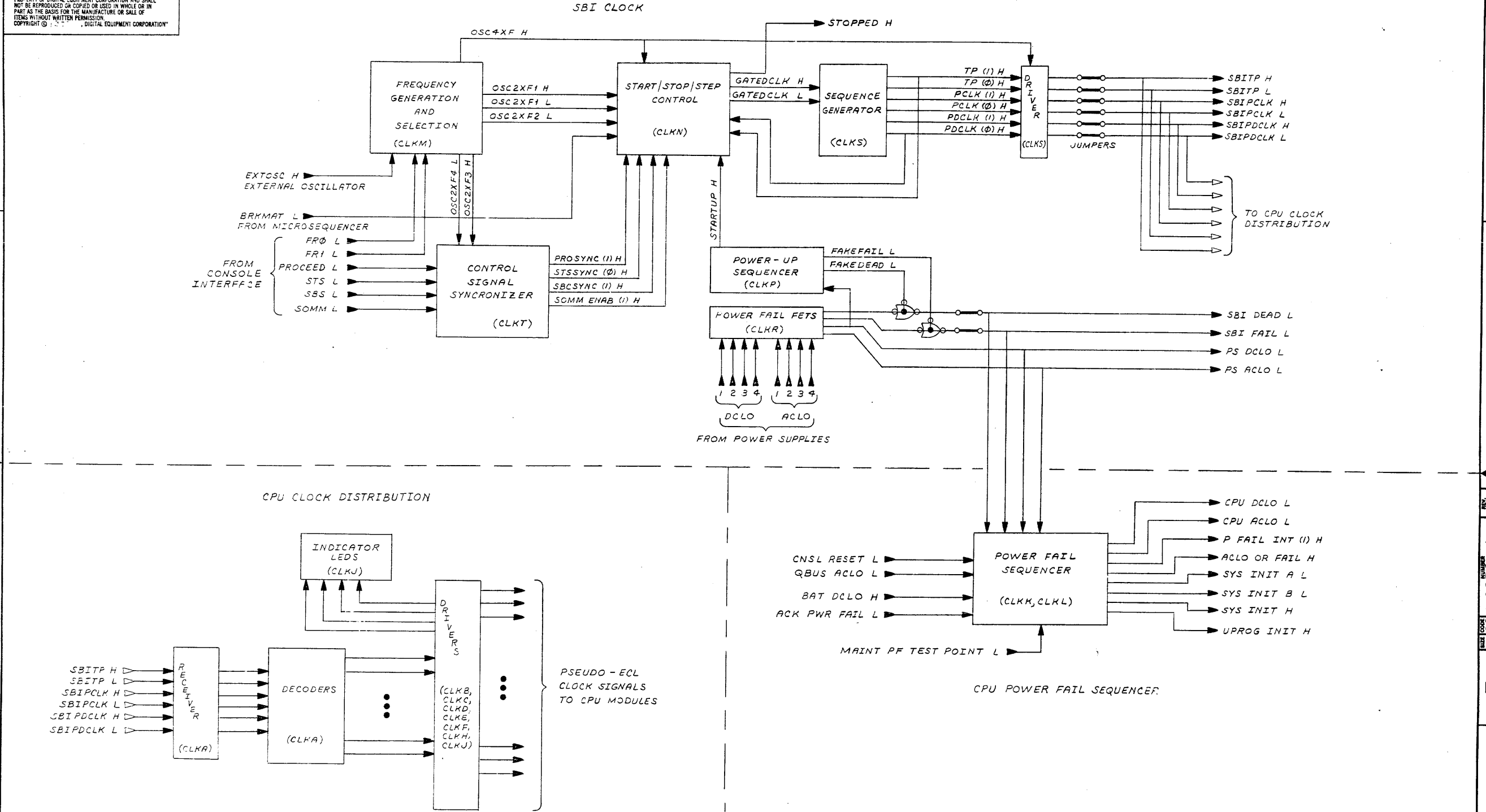
LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
51	51	1911507-00	10176 FF-D HEX	1	E41
52	52	191210R-00	339 VOLT CMPRTR,QUAD	1	E8
53	53	1912746-00	DEC 74637 NAND GATE-QUAD 2IN	1	E26
54	54	1912811-00	LS21 AND GATE-DUAL 4IN,PO	1	E12
55	55	191283R-00	LS132 NAND GATE-QUAD 2IN P	1	E19
56	56	1913220-00	10216 RECEIVER,TRIPLE LINE	1	E25
57	57	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	8	W15-W22
58	58	1210711-02	HANDLE,MODULE,HEX	1	
59	59	9000024-02	EYELET, FLAT FLANGE, .093 OD X .	12	
60	60	9007210-00	FUSE, REG BLOW, .750A, 250V, G	36	

NOTE: SPARE I.C. LOCATIONS ARE: E1-E5,E9,E38,E40,E52,E20

DIGITAL		TITLE	SECTION A OF A		SIZE	CODE	DOCUMENT NUMBER	REV
		CLOCK			K	PL	M8232-0-DBP	B

378

"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"



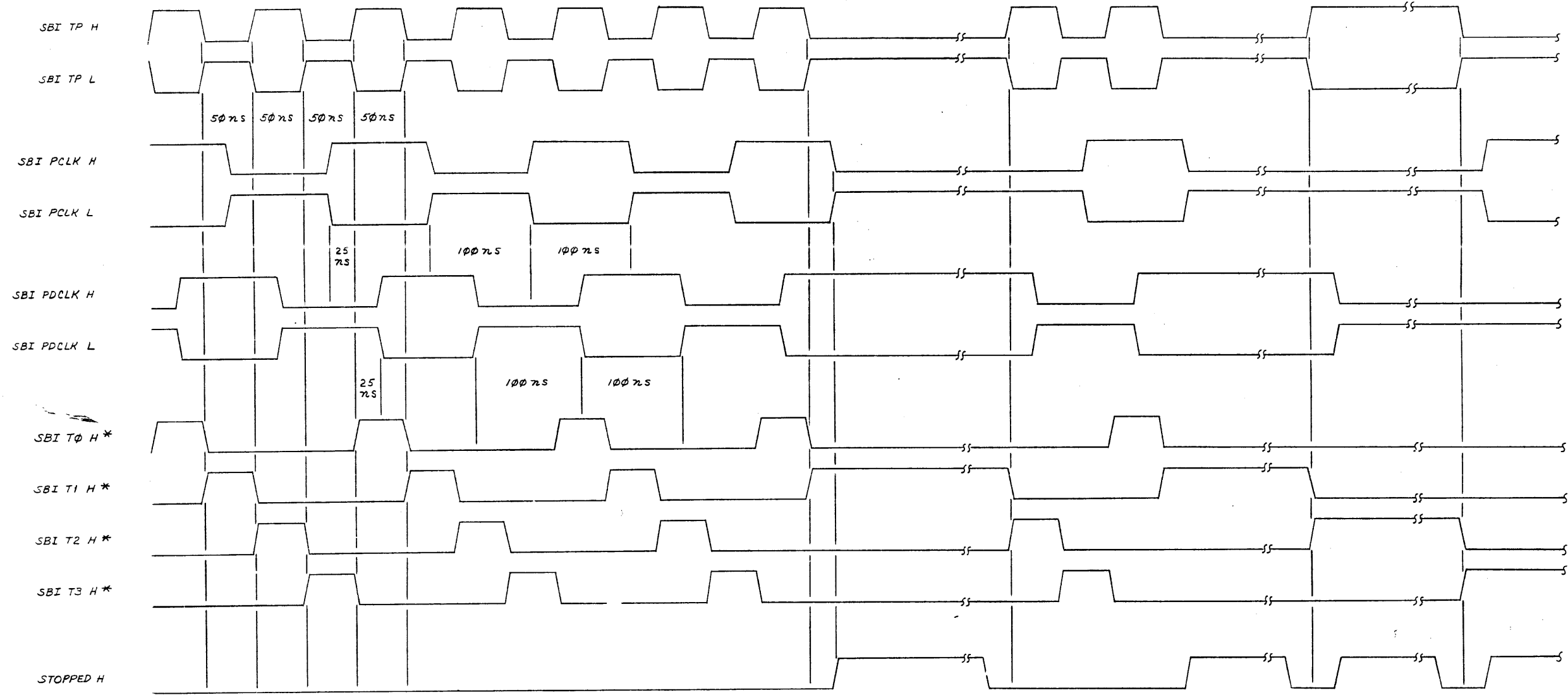
(BLOCK DIAGRAM) (SLOT 16)

REV.	CHANGE NO.	DATE
B	M8232-TW001	17 Mar 79
A	12	17 Mar 79

REVISIONS  
 CHK: B 51MS  
 17 Mar 79  
 23-46-179

DRN. S. Vincent 5-19-77	FIRST USED ON	digital
CHK'D J. ...		
ENG. ...		
PROJ. ENG. ...		
PROD. ...		
NEXT HIGHER ASSY.		
SCALE	SIZE CODE	NUMBER
SHEET 1 OF 22	D CS	M8232-0-1
	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



MODE ← NORMAL → ← SBC → ← STS →

\*NOTE: CPU AND SBI TIME STATES ARE NOT EQUIVALENT.  
 CPTφ = SBI T1    CPTP = SBI TP  
 CPT1 = SBI T2    CPPCLK = SBI PCLK  
 CPT2 = SBI T3    CPPDCLK = SBI PDCLK  
 CPT3 = SBI Tφ

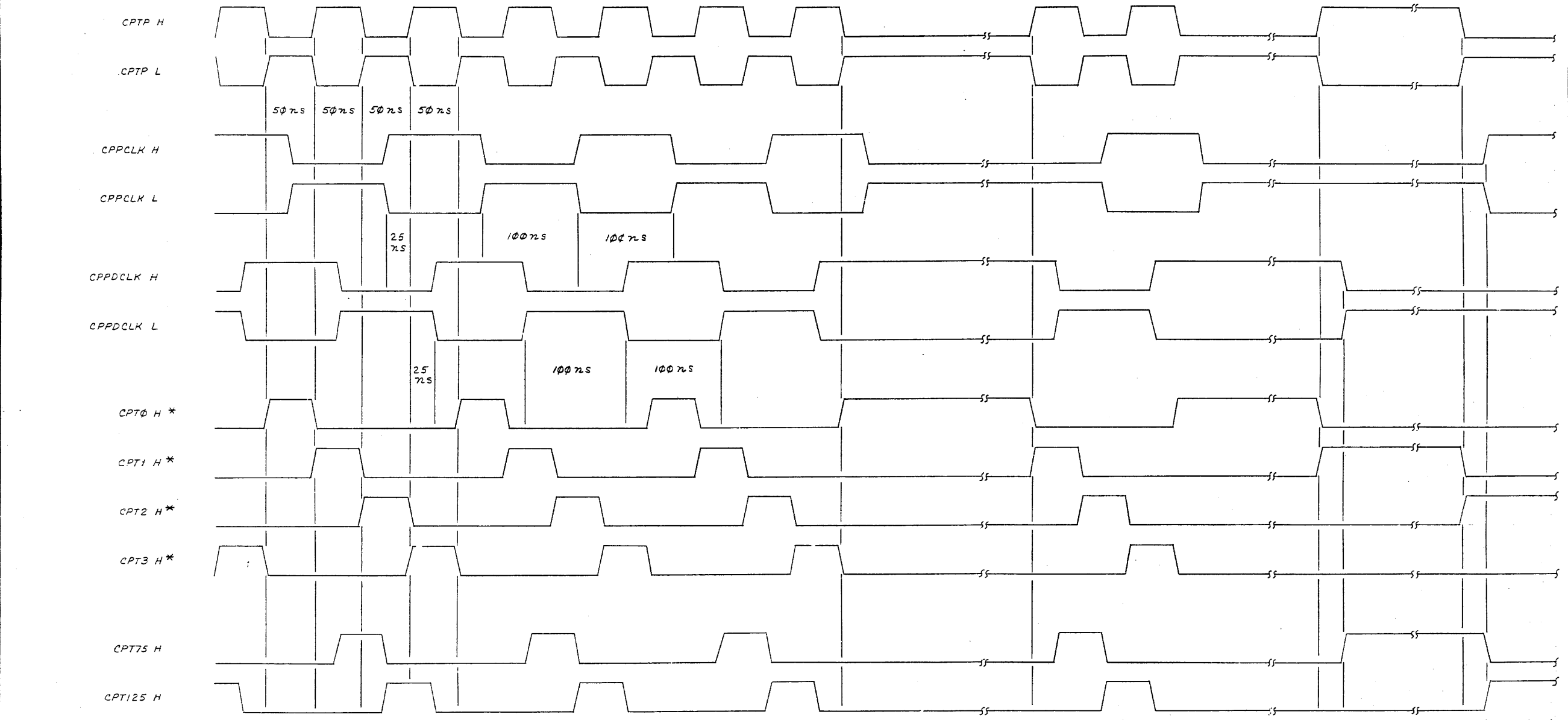
(SBI TIMING) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	#	SHEET	2 OF 22	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

SIZE CODE NUMBER REV. D CS M8232-0-1 B 2 1



\*NOTE: CPU AND SBI TIME STATES ARE NOT EQUIVALENT.  
 CPT0 = SBI T1    CPTP = SBI TP  
 CPT1 = SBI T2    CPPCLK = PCLK  
 CPT2 = SBI T3    CPPDCLK = PDCLK  
 CPT3 = SBI T0

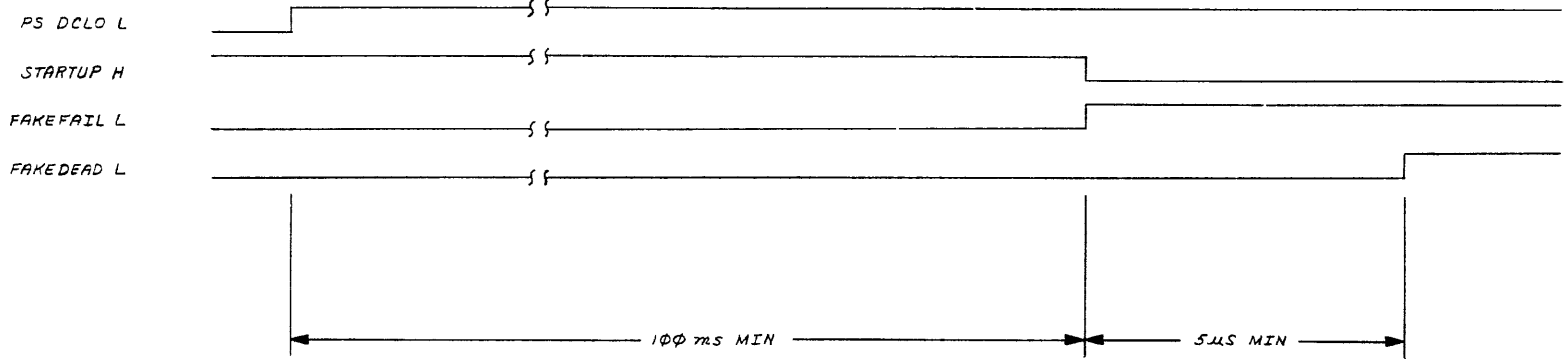
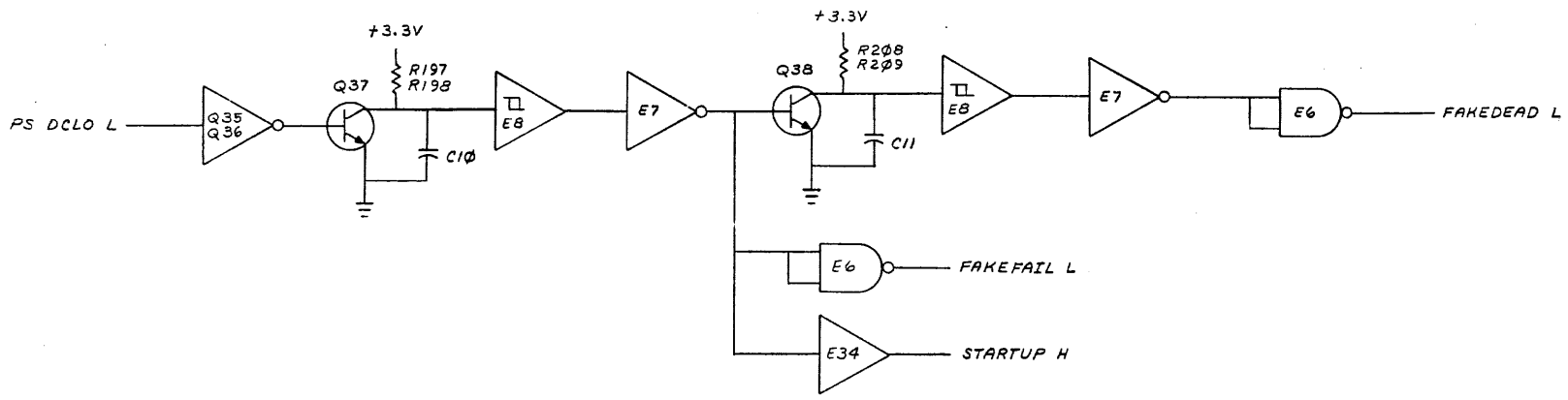
(CPU TIMING) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	3 OF 22	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

D CS M8232-0-1 B 2



(SBI CLOCK POWER UP SEQUENCER TIMING) (SLOT 16)

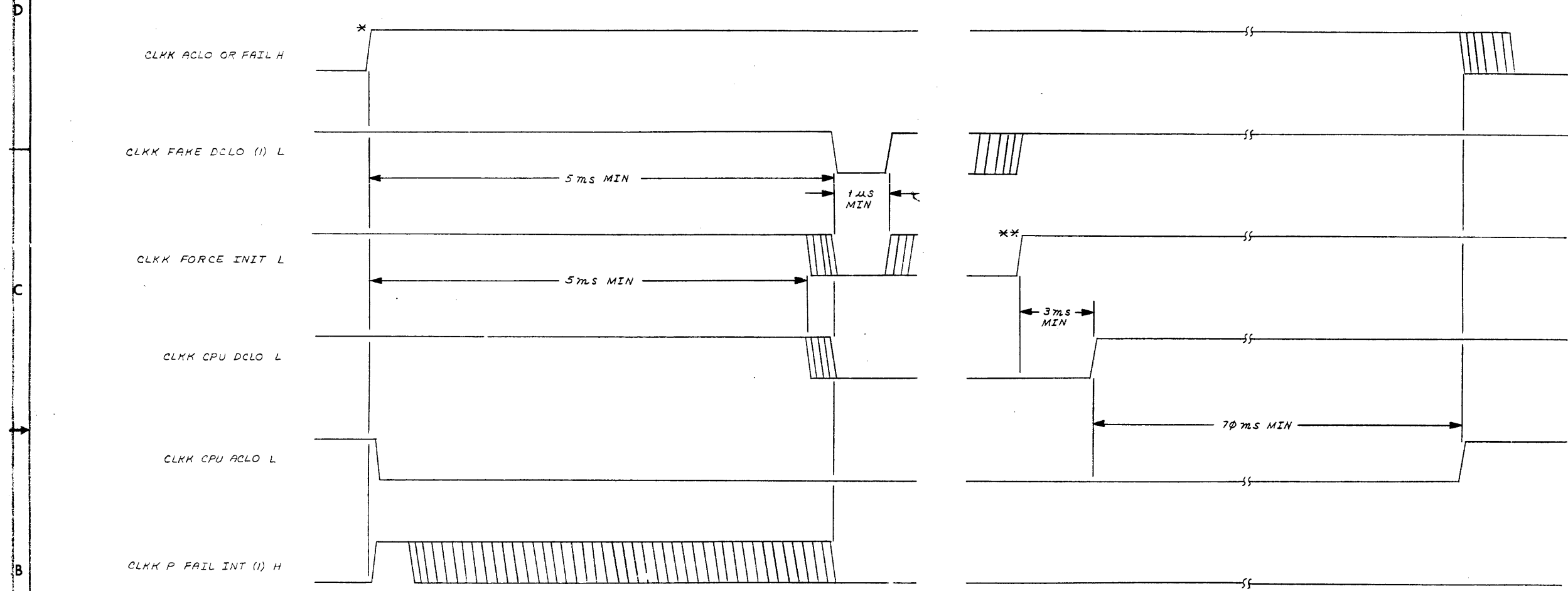
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	4 OF 22	DIST.		TW	1

382

"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. B 1-0-1  
 SIZE CODE DCS  
 NUMBER M8232-0-1  
 SHEET 2



POWER DOWN SEQUENCE  
 \* TRIGGERED FROM THE FIRST ASSERTION OF AN ACLO EQUIVALENT SIGNAL

POWER UP SEQUENCE  
 \*\* TRIGGERED FROM THE LAST DEASSERTION OF A DCLO EQUIVALENT SIGNAL

ACLO EQUIVALENT SIGNALS: CLKR PS ACLO L  
 BUS SBI FAIL L  
 CIBV QBUS ACLO L  
 IPCM BAT DCLO H  
 CLKL MAINT PF (I) H

DCLO EQUIVALENT SIGNALS: CLKR PS DCLO L  
 BUS SBI DEAD L  
 CLKK FAKE DCLO (I) L

(CPU POWER FAIL SEQUENCER TIMING) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	5 OF 22	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"

JUMPER DATA

JUMPER IDENTIFICATION	SCHEMATIC REFERENCE	PURPOSE	INSTALLATION DATA
W1 THROUGH W14	CLKB, CLKC CLKD, CLKE CLKF, CLKH	SEND ECL CLOCK SIGNALS TO THE ACCELERATOR (SLOT 24, 25, 26 AND 28)	INSTALLED ONLY WHEN ACCELERATOR IS INSTALLED
W23, W24	CLKC	SEND ECL CLOCK SIGNALS TO THE OPTIONAL CONTROL STORE (SLOT 16)	INSTALLED ONLY WHEN OPTIONAL CONTROL STORE IS INSTALLED
W15, W16	CLKR	DRIVE SBI FAIL AND SBI DEAD ONTO THE BUS IN THE EVENT OF POWER FAILURE IN THE CPU SUBSYSTEM	W15 THROUGH W22 ARE REMOVED ONLY WHEN THE CPU RECEIVES ITS CLOCK SIGNALS FROM ANOTHER DEVICE ON THE SBI (SUCH AS A SECOND CPU)
W17 THROUGH W22	CLKS	DRIVE THE SBI CLOCK SIGNALS ONTO THE BUS	

(JUMPER DATA)

(SLOT 16)

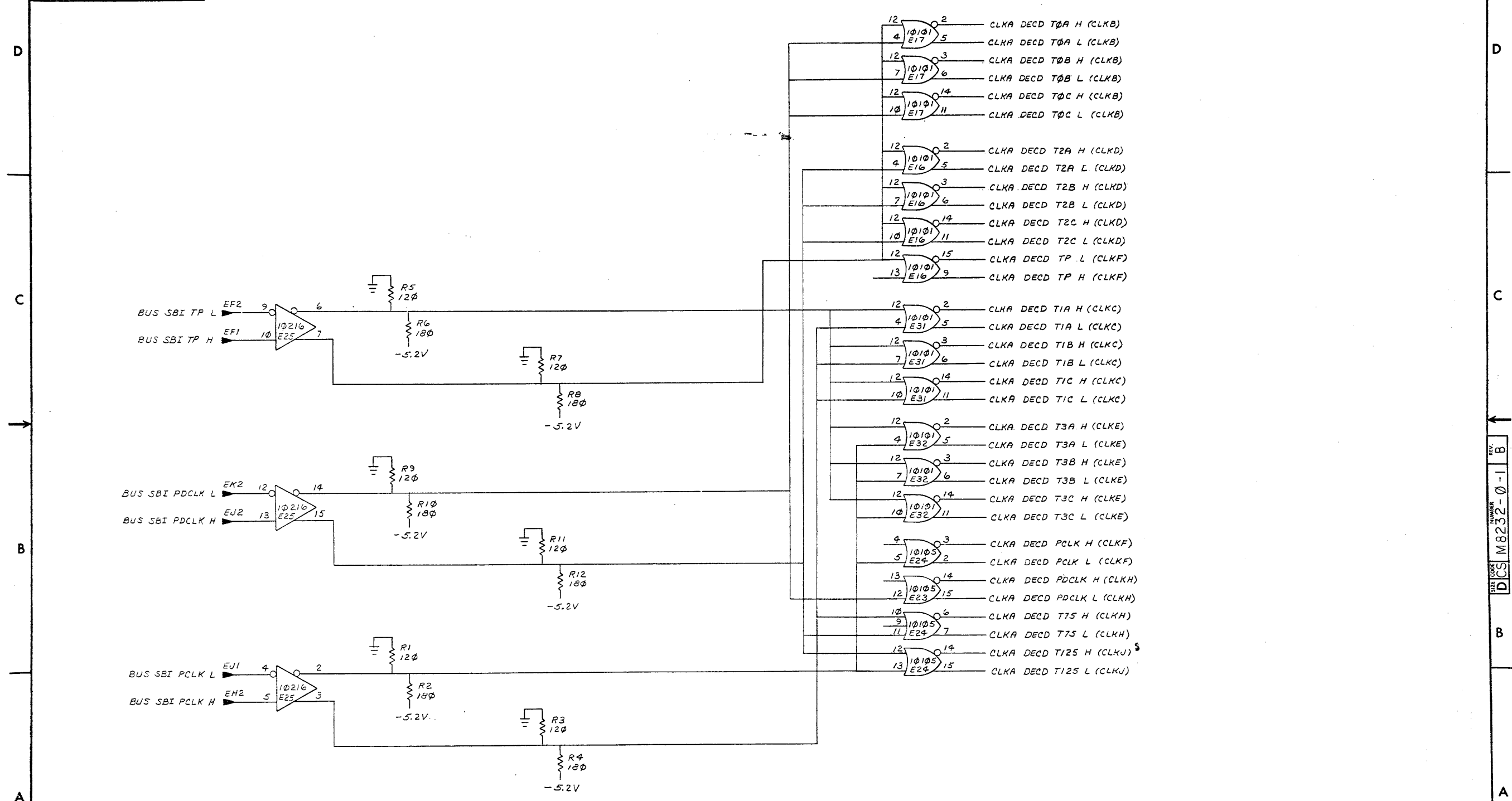
TITLE	CLOCK	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	6	OF	22	DIST.	

REVISIONS		
CHK	CHANGE NO.	REV.

384



"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.

(CPU CLOCK DECODER/BUFFER) (SLOT 16)

TITLE	CLOCK (CLKA)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	—#—	SHEET	7 OF 22	DIST.			

385

8

7

6

5

4

3

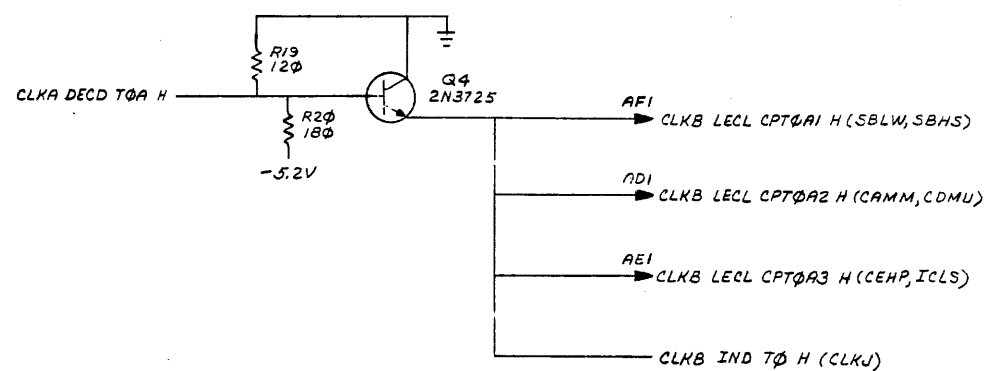
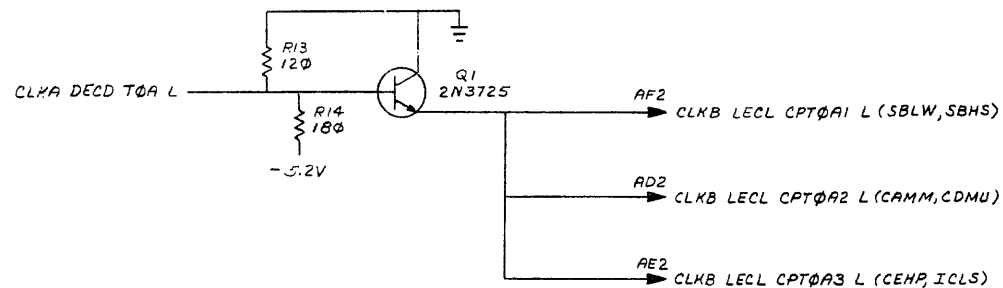
DCS M8232-0-1 B

2

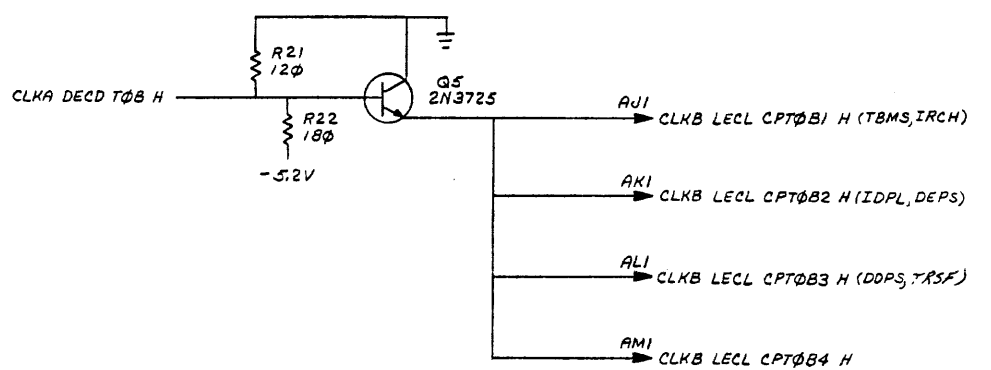
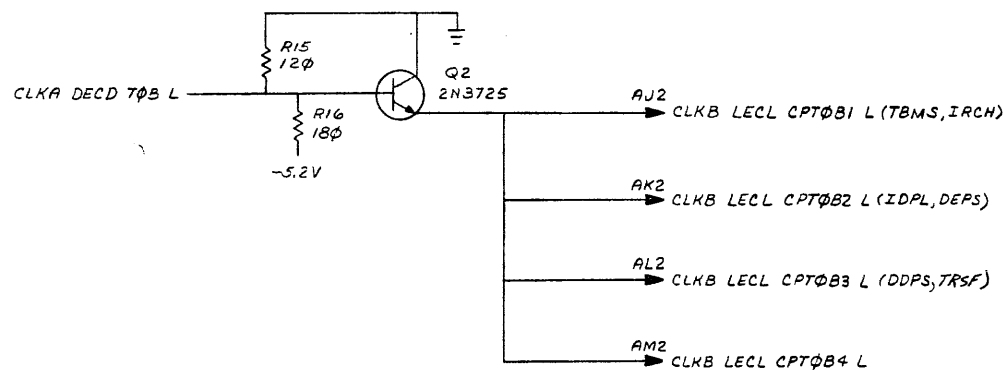
1

"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"

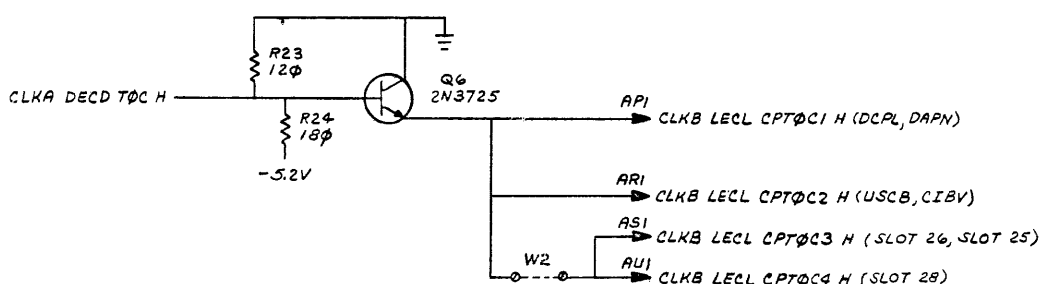
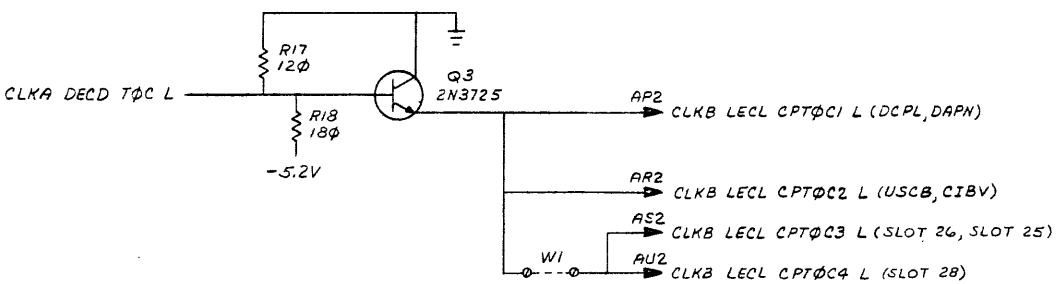
D



C



B



A

(CPU CLOCK TO DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKB)	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	8 OF 22	DIST.			

386

8

7

6

5

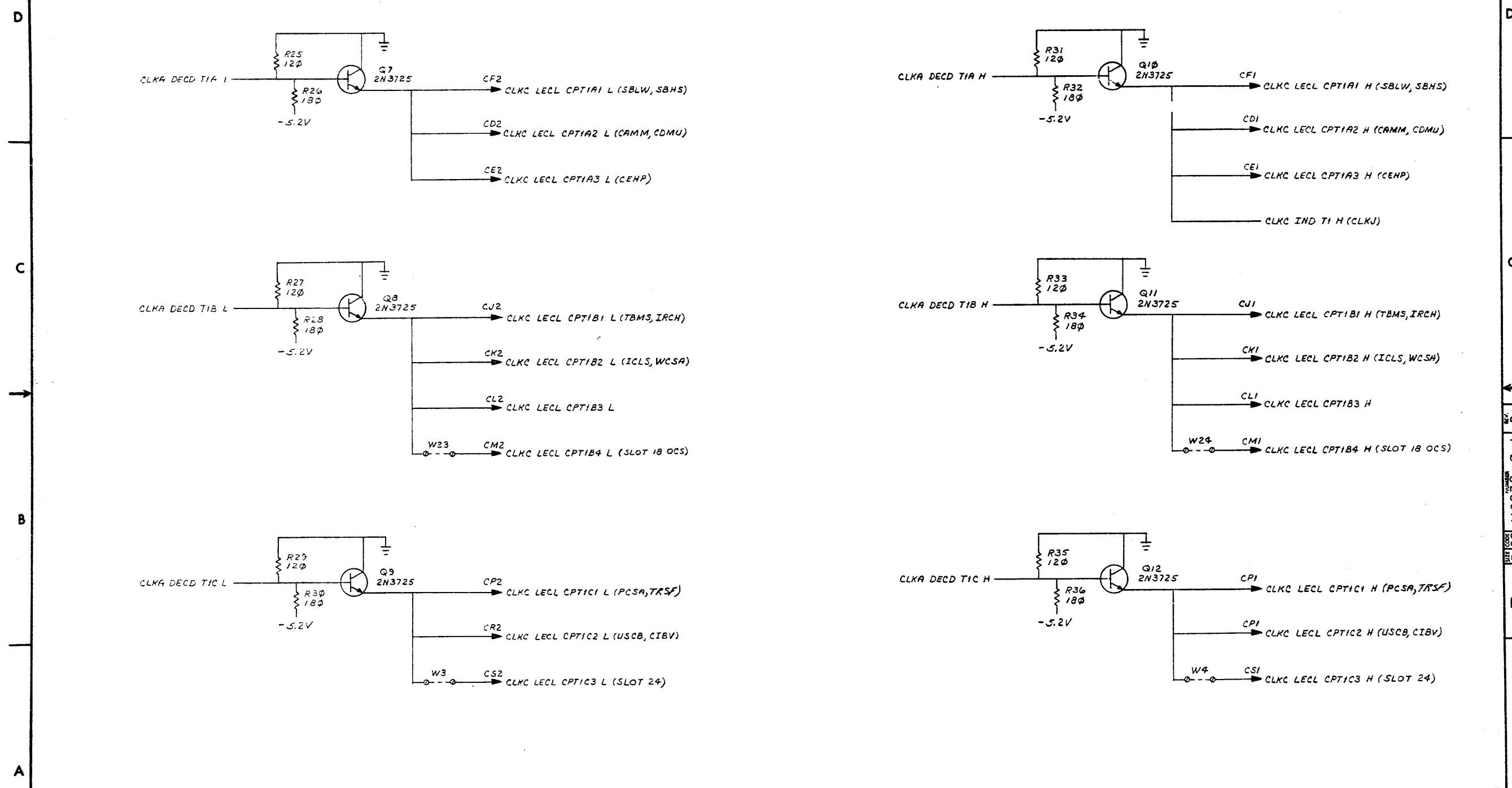
4

3

2

TW 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



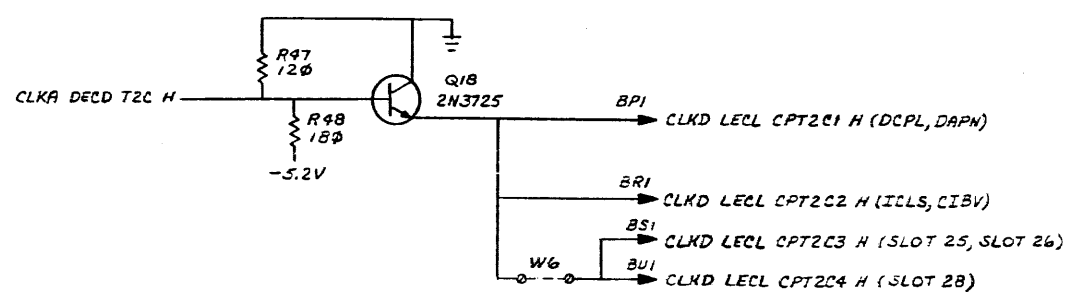
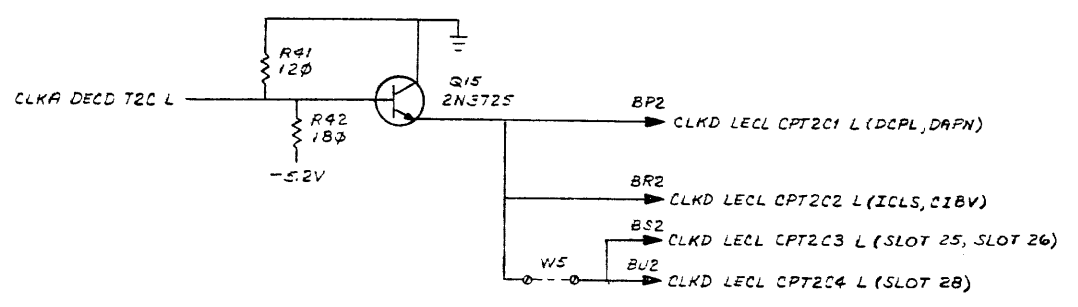
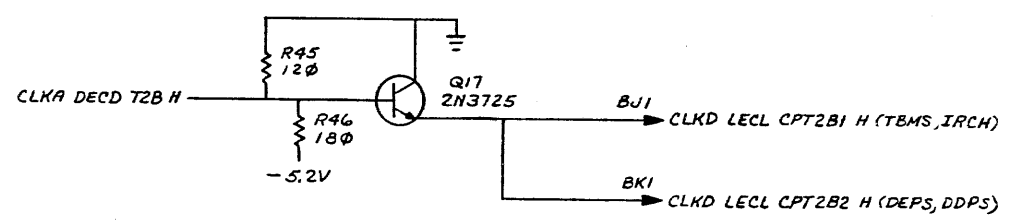
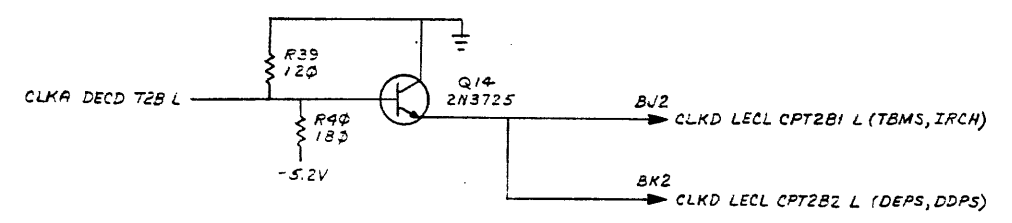
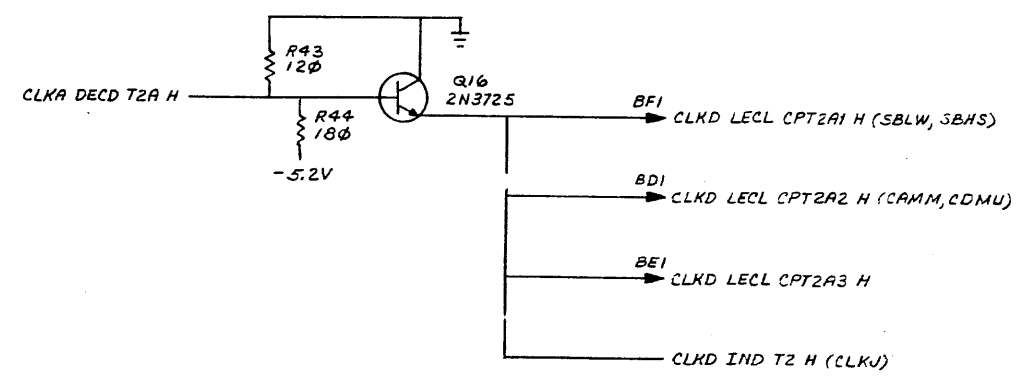
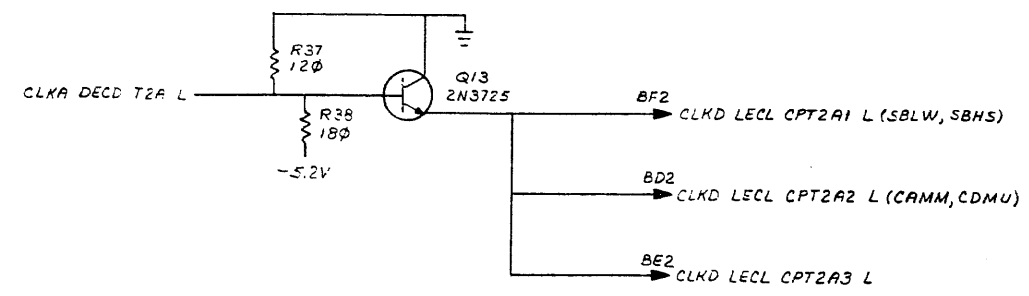
(CPU CLOCK T1 DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKC)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	---	SHEET	9 OF 22	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"

8 1-0-2329W 2



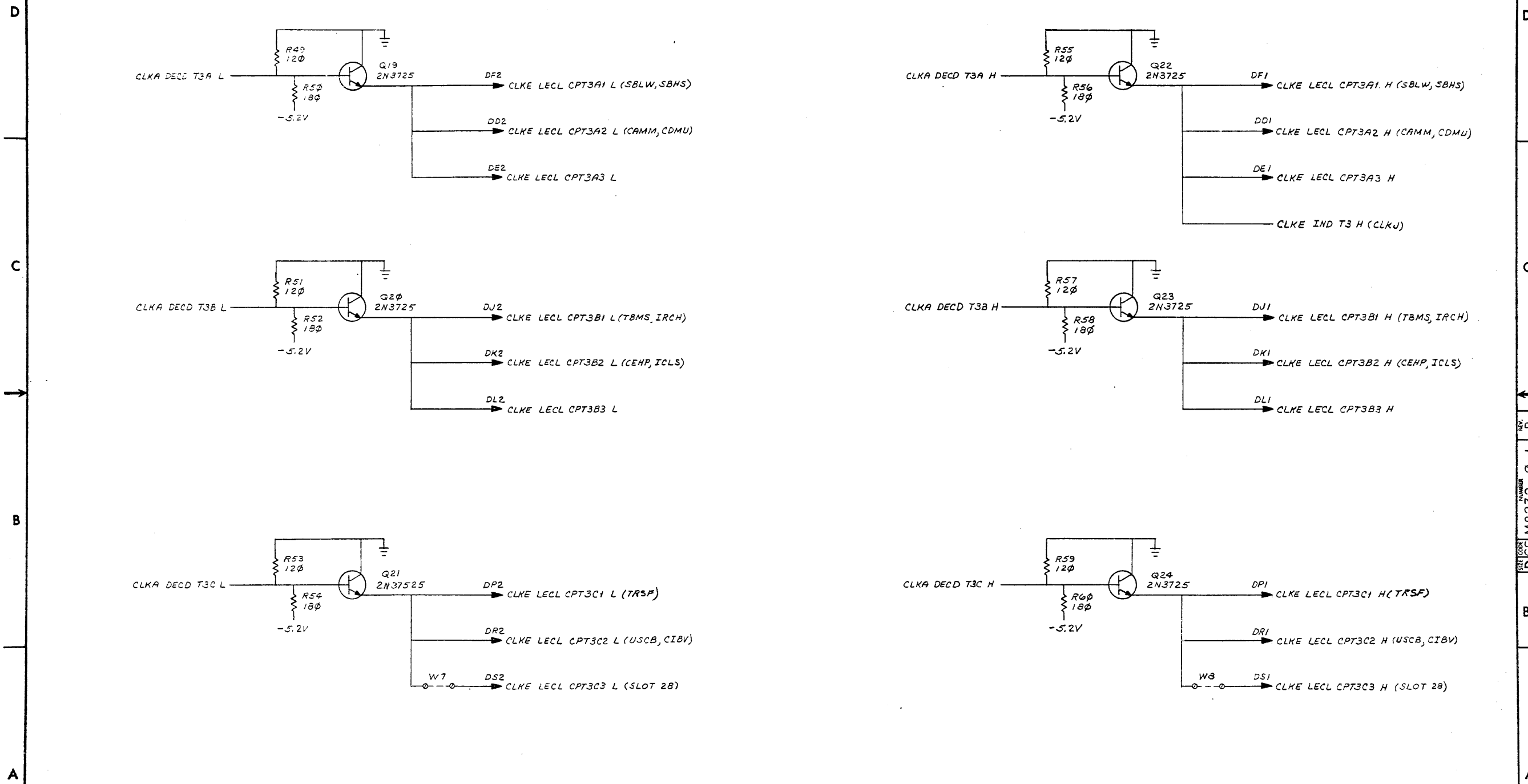
(CPU CLOCK T2 DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKD)	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1:1	SHEET	10 OF 22	DIST.			

388

"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"



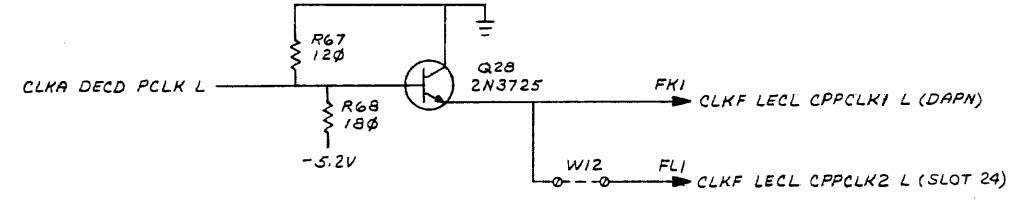
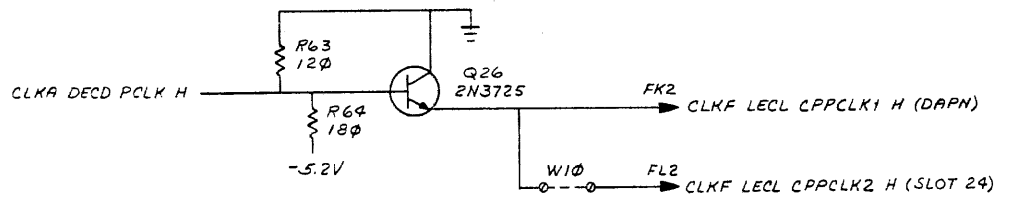
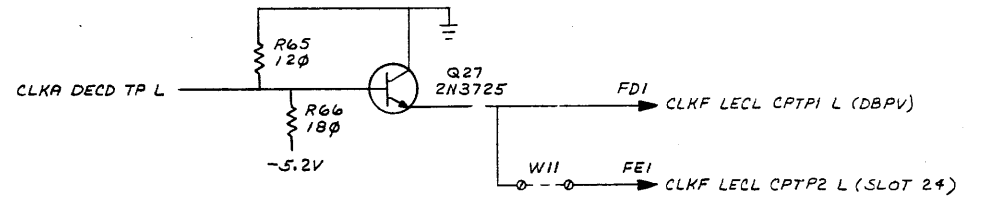
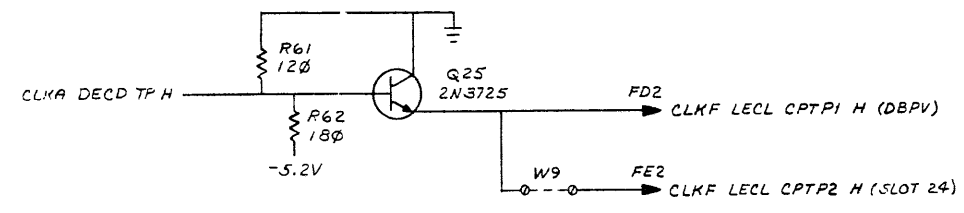
(CPU CLOCK T3 DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKE)	SIZE CODE	D	CS	NUMBER	M8232-0-1	REV.	B
SCALE	1:1	SHEET	11	OF 22	DIST.			

389

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



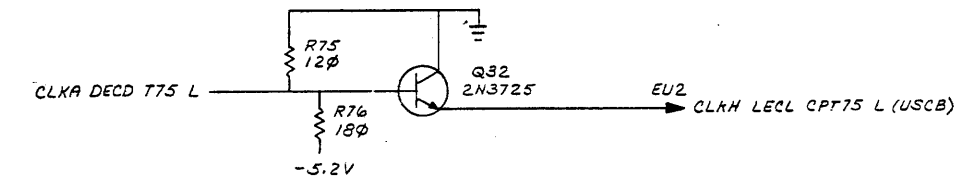
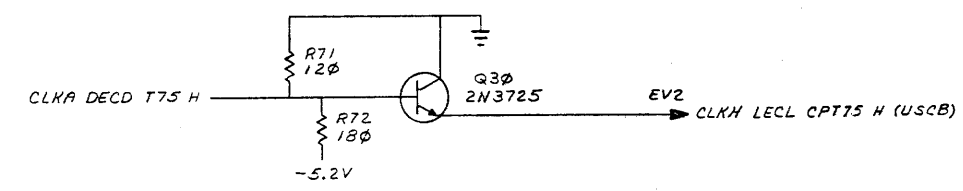
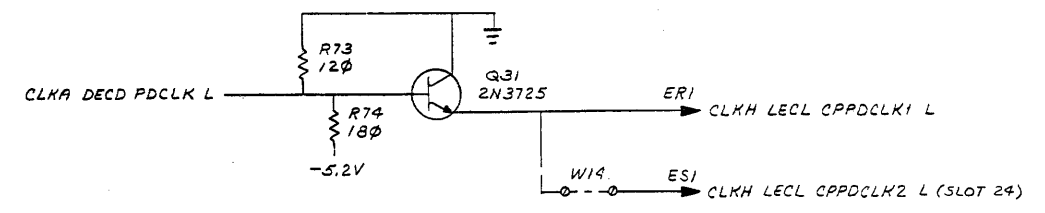
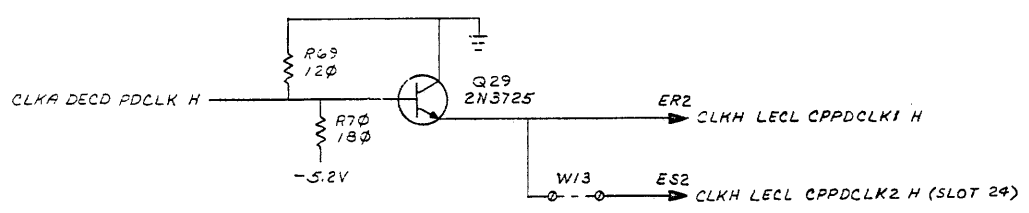
(CPU CLOCK TP, PCLK DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKF)	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE		SHEET	12 OF 22	DIST.			

REV. B  
NUMBER M8232-0-1  
DCS

"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.

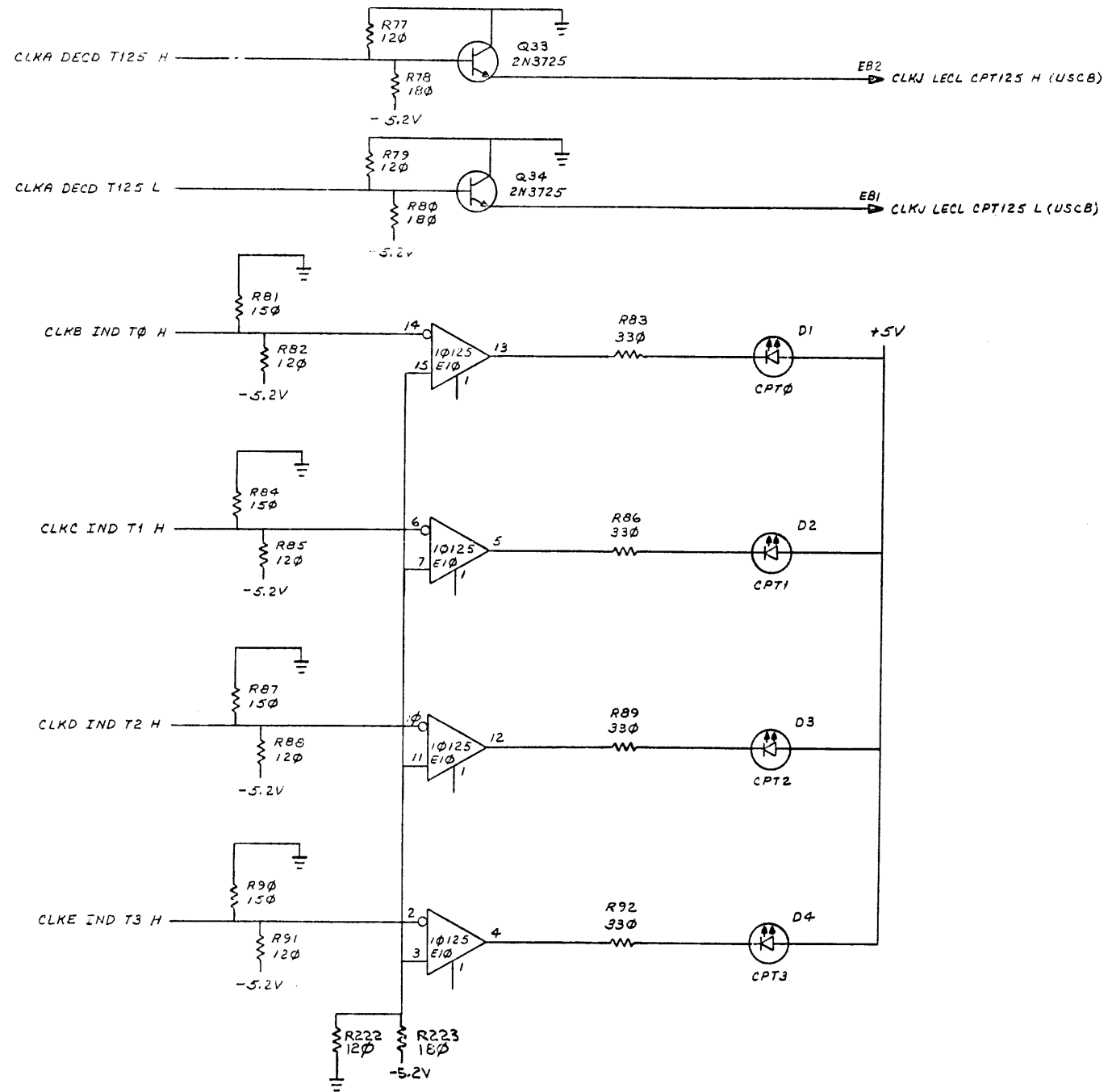
(CPU CLOCK PDCLK, T75 DRIVER) (SLOT 16)

TITLE	CLOCK (CLKH)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	13 OF 22	DIST.			

REV. B  
M8232-0-1  
D CS

"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"

1-0-2328W 2



(CPU CLOCK T125 DRIVER & LED DISPLAY) (SLOT 16)

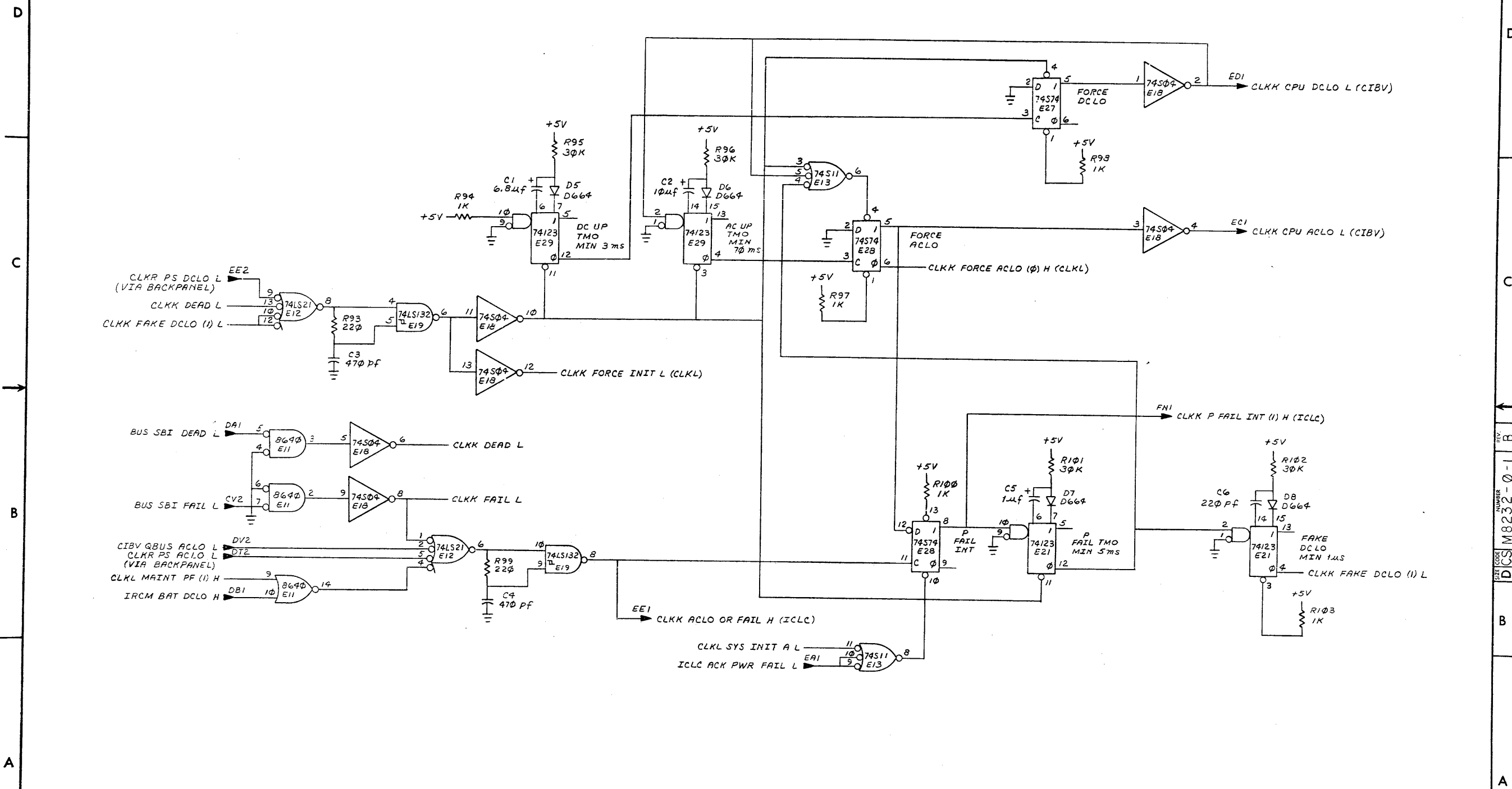
REVISIONS		
CHK	CHANGE NO.	REV

TITLE	CLOCK (CLKJ)	SIZE	0002	NUMBER	DCS M8232-0-1	REV.	B
SCALE	1:1	SHEET	14	OF	22	DATE	

392



"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"

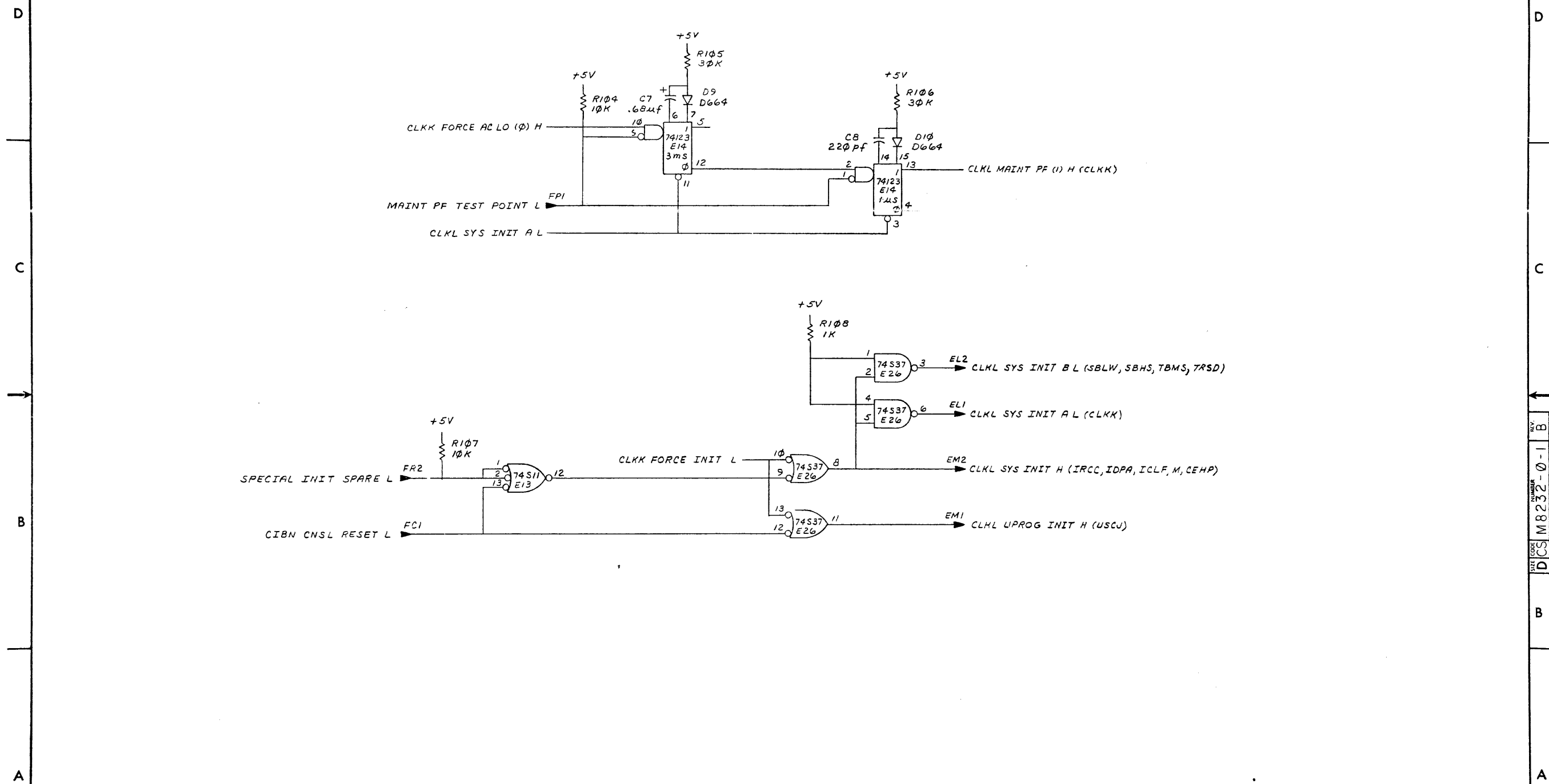


REVISIONS		
CHK	CHANGE NO.	REV.

(CPU POWER FAIL SEQUENCER) (SLOT 16)

8	7	6	5	4	3	2	1						
TITLE							CLOCK (CLKK)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE							1:1	SHEET	15 OF 22	DIST.			
							TW 1		393				

"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"



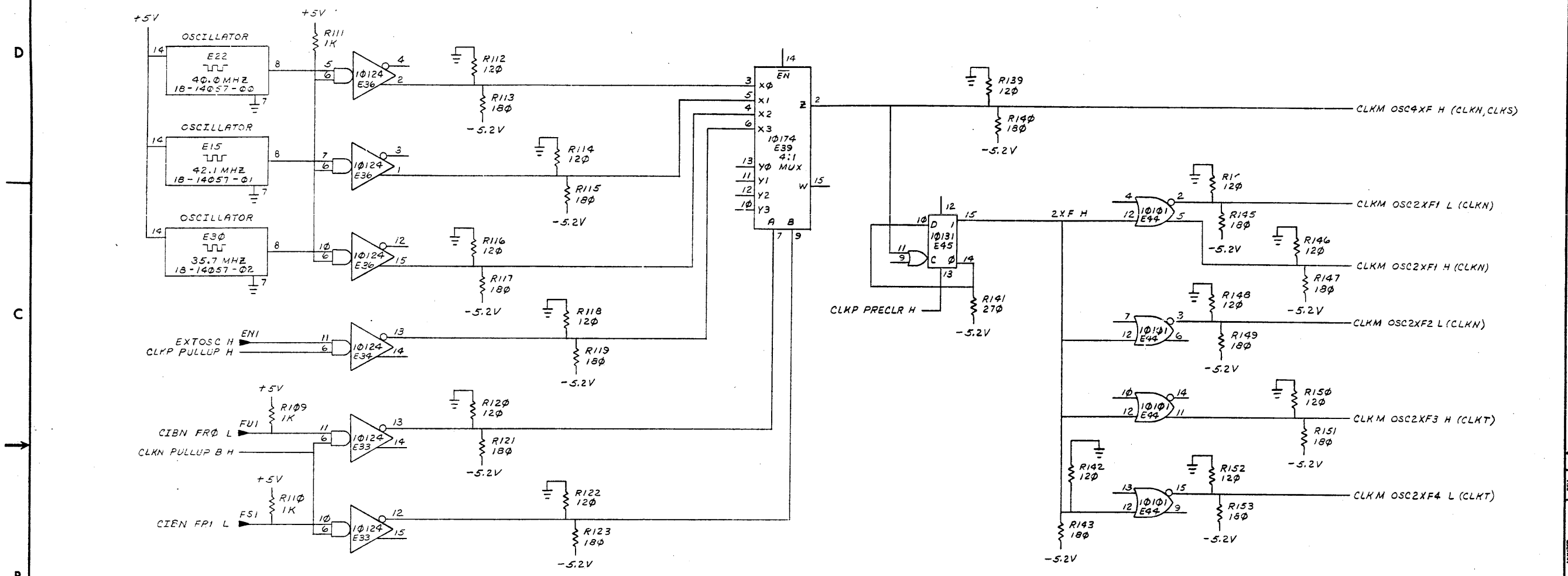
(CPU POWER FAIL SEQUENCER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKL)	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1:1	SHEET	16 OF 22	DIST.			

394

"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"



NOTE: EXTERNAL OSCILLATOR INPUT RANGE IS CONFIGURATION DEPENDANT. GUARANTEED MAXIMUM FREQUENCY IS 40.0 MHZ (200NS CYCLE). TYPICAL FREQUENCY IS 44.4 MHZ (100NS CYCLE). TYPICAL MINIMUM FREQUENCY IS LESS THAN 13.3 MHZ (600NS CYCLE). THE RELATION OF CYCLE TIME TO FREQUENCY IS:  $CYCLE\ (IN\ SECONDS) = \frac{0.0}{FREQUENCY\ (IN\ HERTZ)}$

10174		
A	B	FUNCTION
L	L	Z = X0
H	L	Z = X1
L	H	Z = X2
H	H	Z = X3

REVISIONS		
CHK	CHANGE NO.	REV.

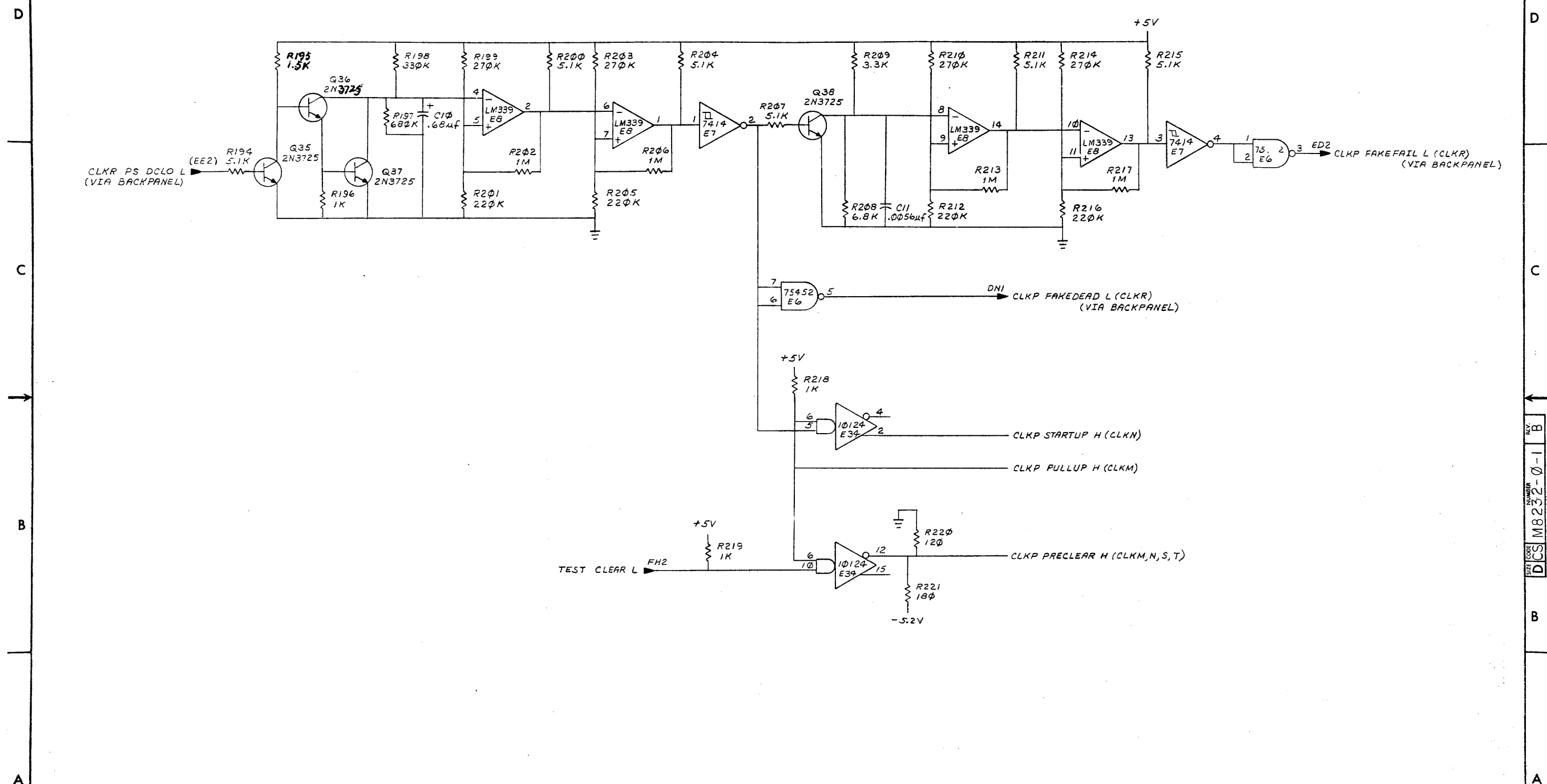
(SBI CLOCK FREQUENCY GENERATION & SELECTION)(SLOT 16)

TITLE	CLOCK (CLKM)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE		SHEET	17 OF 22	DIGT.			



"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"

8 1-0-2220W DCS M8232-0-1 2



(SBI CLOCK POWER UP SEQUENCE) (SLOT 16)

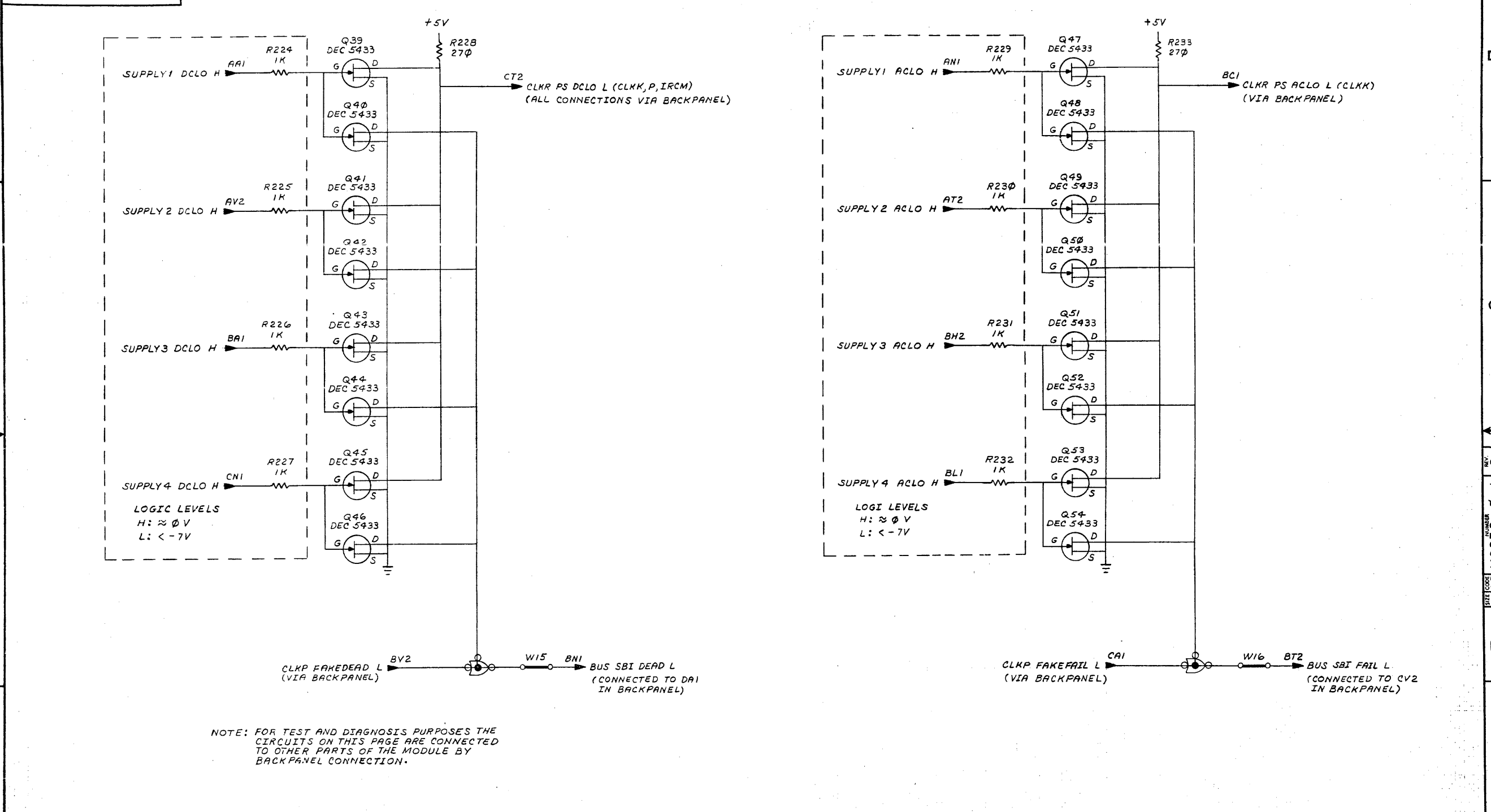
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKP)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	1	SHEET	19 OF 22	DIST.			

377

TW1

"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"



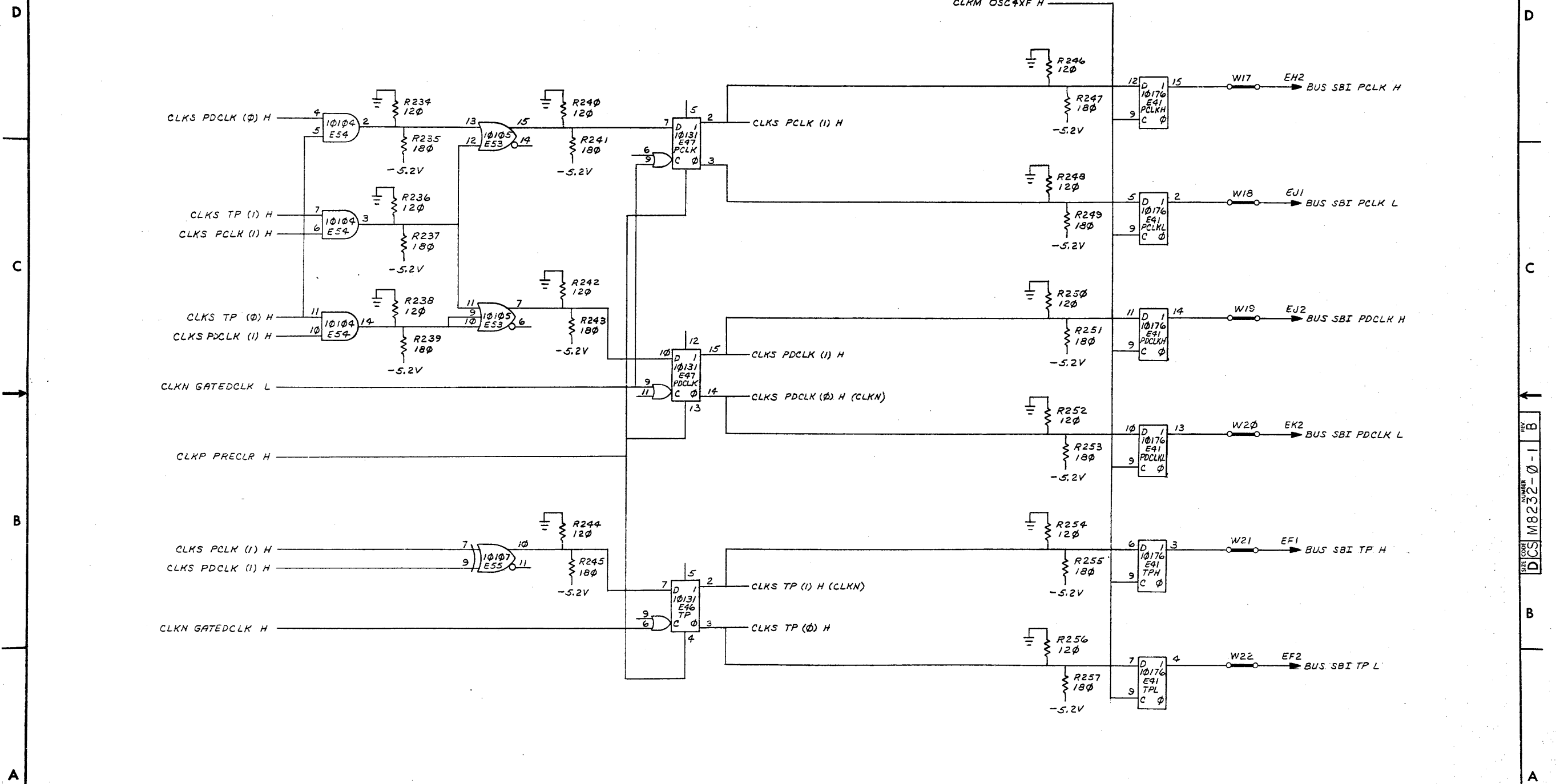
NOTE: FOR TEST AND DIAGNOSIS PURPOSES THE CIRCUITS ON THIS PAGE ARE CONNECTED TO OTHER PARTS OF THE MODULE BY BACKPANEL CONNECTION.

(POWER FAIL LEVEL TRANSLATION) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKR)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	20 OF 22	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"

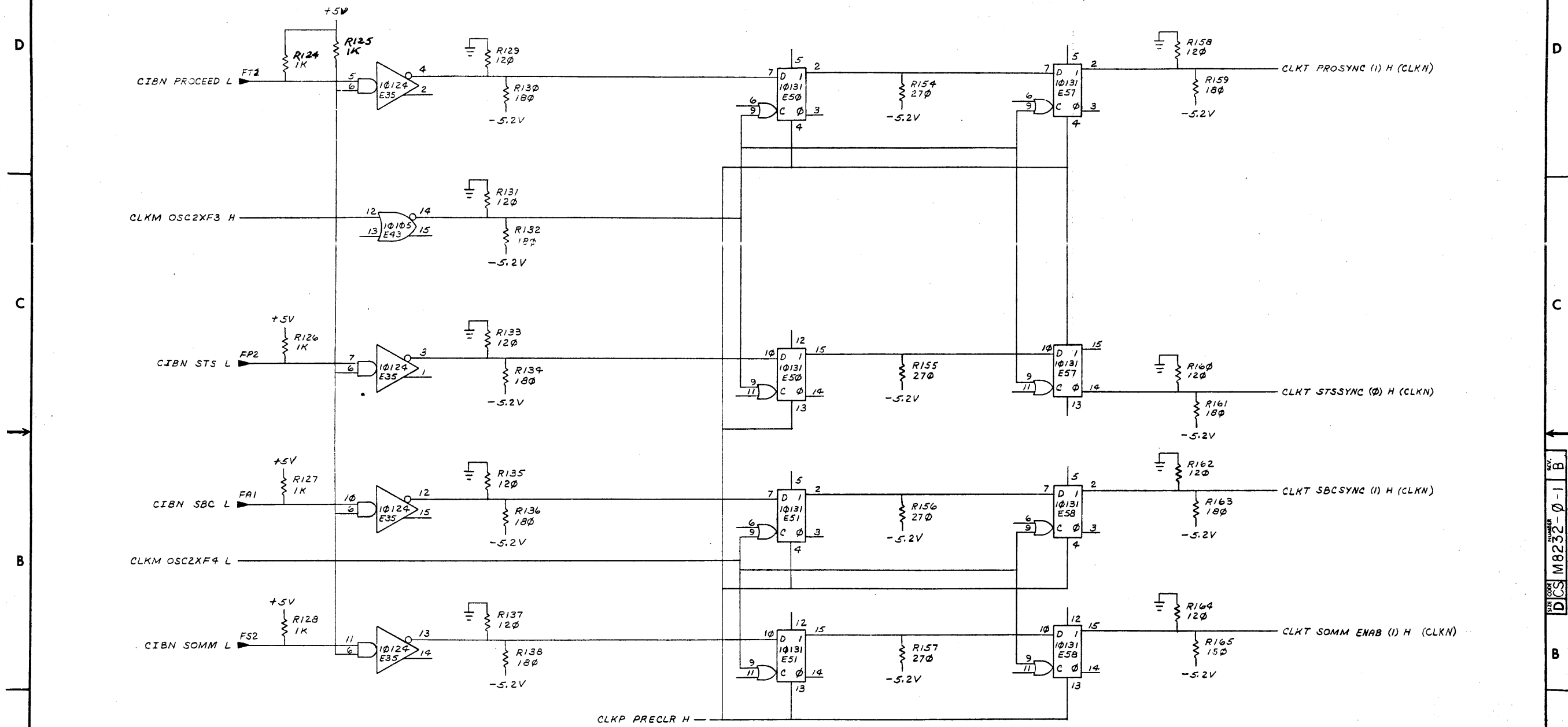


REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 16)  
(SBI CLOCK SEQUENCE GENERATOR & DRIVER)

TITLE	CLOCK (CLKS)	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	21 OF 22	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"



(SLOT 16)

(SBI CLOCK CONTROL SIGNAL SYNCHRONIZATION)

REVISIONS		
CHK	CHANGE NO.	REV.

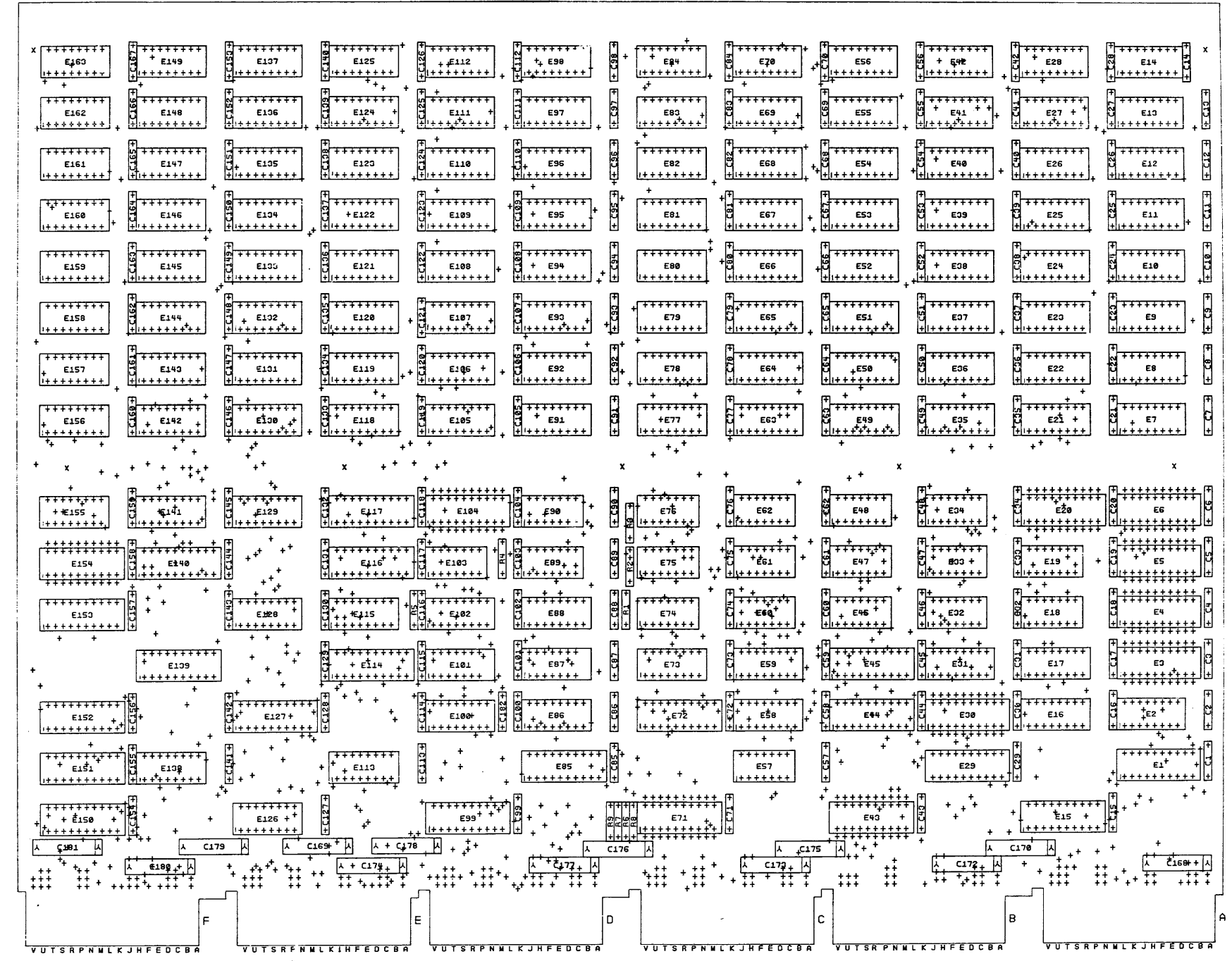
TITLE	CLOCK (CLKT)	SIZE CODE	DCS	NUMBER	M8232-0-1	REV.	B
SCALE	1/1	SHEET	22 OF 22	DIST.			



PREWORK INSTRUCTIONS  
 ECO #1  
 ETCH CUTS SIDE 2:  
 -1. BETWEEN E128-7 AND E128-8

COMPONENT SIDE VIEW

SIGNATURES		DATE
DIR.		8/7/77
CHK'D. BY		8/7/77
PROD. ENGR.		8/7/77
TITLE		CONTROL STORE
SCALE	1" = 10"	SIZE CODE
NEXT ISSUE: M8233-0-0 28333-0		

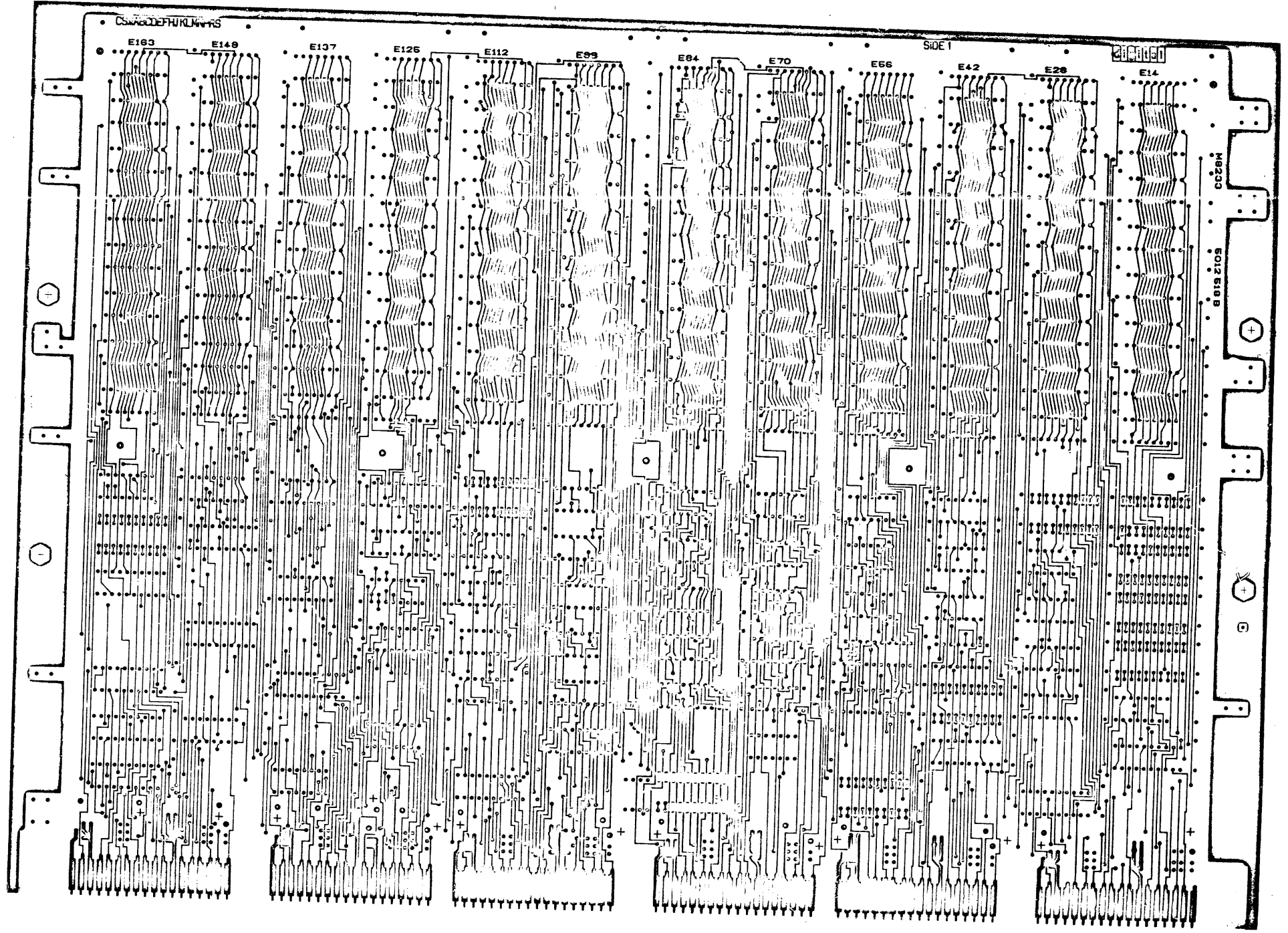


H  
F  
E  
D  
C  
B

NOTES:

1. THIS DRAWING IS THE PROPERTY OF  
 MICROELECTRONIC RESEARCH CORPORATION  
 2. IT IS TO BE KEPT IN CONFIDENCE  
 3. IT IS TO BE DESTROYED WHEN NO LONGER  
 REQUIRED

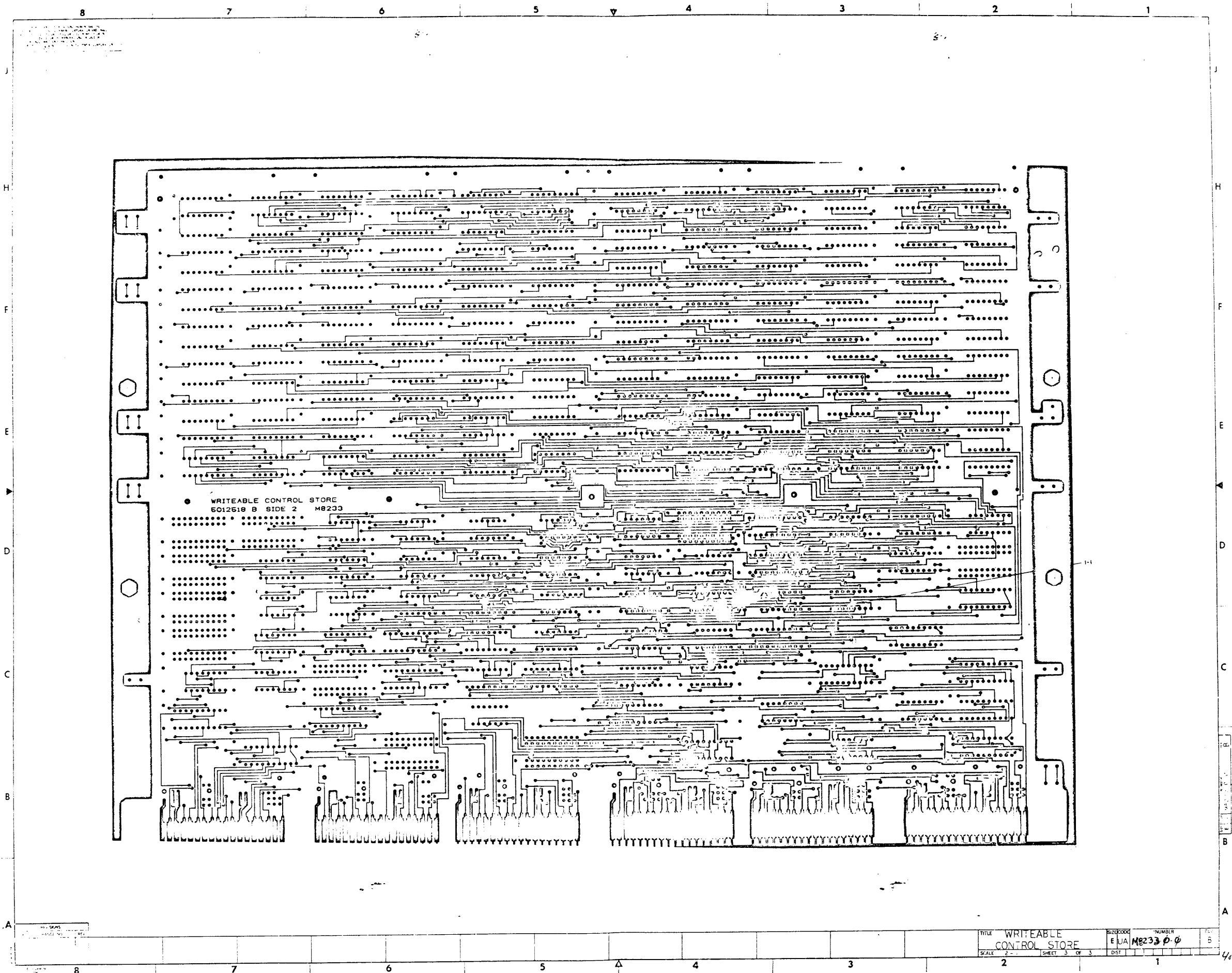
1. DRAWING AND SPECIFICATION NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE MANUFACTURER.  
 2. THIS DRAWING IS THE PROPERTY OF THE MANUFACTURER.  
 3. 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 THE MANUFACTURER.  
 4. DRAWING NO. 1377



REV	CHG	NO	REV

TITLE		WRITEABLE		SIZE CODE		NUMBER	
CONTROL STORE		EUA		M8233		φ-φ	
SCALE		2-1		SHEET		2 OF 3	
DIST		1		REV		B	

402



WRITEABLE CONTROL STORE  
6012618 B SIDE 2 M8233

TITLE	WRITEABLE CONTROL STORE	SHEET NO.	3	OF	3	REV.	5
SCALE	2-1	DST					
DESIGNER	EJA	NUMBER	M8233				

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MS 104809  
CS REV A  
ETCH REV 3

MADE BY <i>F. Smart</i>	CHECKED <i>F. Smart</i>	SECTION
DATE <i>6-1-77</i>	DATE <i>6-1-77</i>	
ENG <i>L. Dickey</i>	PROD <i>Mike Terrella</i>	ISSUED SECTION
DATE <i>6-8-77</i>	DATE <i>6-1-77</i>	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8233-0-0						
1	E-MD-5012518-0-0	5012518	ETCH BOARD	1						
2		1012084-01	CAPACITOR, 8 uf 25 V	13						
3		1012784	CAPACITOR, .047 uf 50 V	168						
4		1210711-02	HANDLE ASSY	1						
5		1300250	RESISTOR, 150, 1/4W, 5%	2						
6		1300247	RESISTOR, 120, 1/4W, 5%	2						
7		1300365	RESISTOR, 1K, 1/4W, 5%	5						
8		1913462	I.C. DEC 74S240	18						
9		1913788	I.C. DEC 26S10	8						
10		1913662	I.C. DEC 93425A	99						
11		1910532	I.C. DEC 74S00	8						
12		1910534	I.C. DEC 74S04	4						
13		1910546	I.C. DEC 74S140	2						
14		1910549	I.C. DEC 74S158	3						
15		1911573	I.C. DEC 74S280	4						
16		1910956	I.C. DEC 74S151	2						
17		1911415	I.C. DEC 10125	1						
18		1911675	I.C. DEC 74S138	1						

REF DESIGNATION

C168 thru C170, C172 thru C181  
C1 thru C167, C182  
R8, R9  
R6 R7  
R1 thru R5  
E1, E15, E29, E44, E45, E72, E85, E99, E150 thru  
E153, E139, E140, E114, E116, E117, E127  
E100, E73, E58, E59, E2, E16, E17, E31  
E129, E141, E155, E7 thru E14, E21 thru E28  
E35 thru E42, E49 thru E56, E63 thru E70,  
E77 thru E84, E91 thru E98, E105 thru E112,  
E118 thru E125, E130 thru E137, E142 thru  
E149, E156 thru E163  
E61, E62, E75, E76, E33, E34, E18, E48  
E89, E47, E60, E57  
E87, E101  
E113, E126, E138  
E32, E19, E46, E74  
E128, E115  
E86  
E102

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  
WRITEABLE CONTROL STORE

ASSY NO.  
E-UA-M8233-0-0  
SHEET 1 OF 2

SIZE	CODE	NUMBER	REV.
B	PL	M8233-0-0	B
INSERTION PARTS LIST DATA BASE REV			

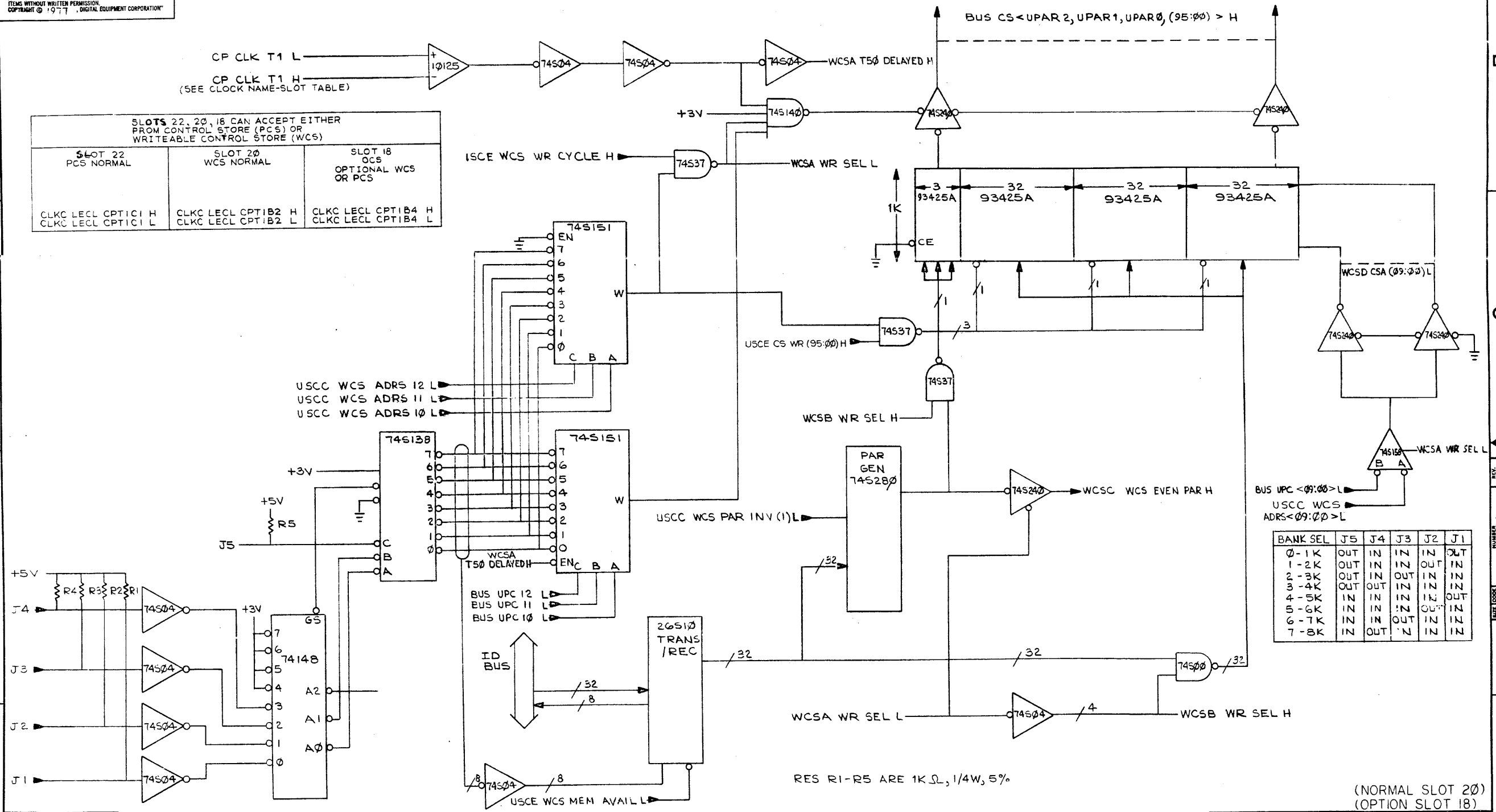
DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY <i>F. Smart</i> DATE <i>6-1-77</i>		CHECKED <i>F. Smart</i> DATE <i>6-1-77</i>												MS 104809 CS REV A ETCH REV B			
ENG <i>Lee Dickson</i> DATE <i>6-8-77</i>		PROD <i>Mike Tulla</i> DATE <i>6-1-77</i>															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8233-0-0													REF DESIGNATION
19		1912746	I.C. DEC 74S37	2													E90, E103
20		1912796	I.C. DEC 74148	1													E88
		9000024-01	EYELET	12													E3, E4, E5, E6, E20, E30, E43, E71, E104, E154
			I.C. SPARE	10													

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 <b>WRITEABLE CONTROL STORE</b>	ASSY NO. E-UA-M8233-0-0	SIZE <b>B</b>	CODE <b>PL</b>	NUMBER M8233-0-0	REV. <b>B</b>
		SHEET <b>2</b> OF <b>2</b>	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"

SLOTS 22, 20, 18 CAN ACCEPT EITHER PROM CONTROL STORE (PCS) OR WRITEABLE CONTROL STORE (WCS)

SLOT 22 PCS NORMAL	SLOT 20 WCS NORMAL	SLOT 18 OCS OPTIONAL WCS OR PCS
CLKC LECL OPTIC1 H CLKC LECL OPTIC1 L	CLKC LECL OPTIB2 H CLKC LECL OPTIB2 L	CLKC LECL OPTIB4 H CLKC LECL OPTIB4 L



BANK SEL	J5	J4	J3	J2	J1
0-1K	OUT IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN
1-2K	OUT IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN
2-3K	OUT IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN
3-4K	OUT IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN
4-5K	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN	OUT IN IN IN
5-6K	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN
6-7K	IN IN IN IN	IN IN IN IN	OUT IN IN IN	IN IN IN IN	IN IN IN IN
7-8K	IN IN IN IN	OUT IN IN IN	IN IN IN IN	IN IN IN IN	IN IN IN IN

REV.	CHG	CHANGE NO.	DATE	BY
1		00001		R
2		00002		L
3		00003		L
4		00004		L
5		00005		L
6		00006		L
7		00007		L
8		00008		L
9		00009		L
10		00010		L

DRN *R. J. ...* 3-23-77  
 CHK'D *...* 5-19-77  
 ENG. *...* 5-19-77  
 PROJ. ENG. *...* 5-19-77  
 PROD. *...* 6-15-77

FIRST USED ON **digital**

TITLE  
**WRITEABLE CONTROL STORE (BLOCK DIAGRAM)**

NEXT HIGHER ASSY.

SCALE  $\frac{1}{16}$

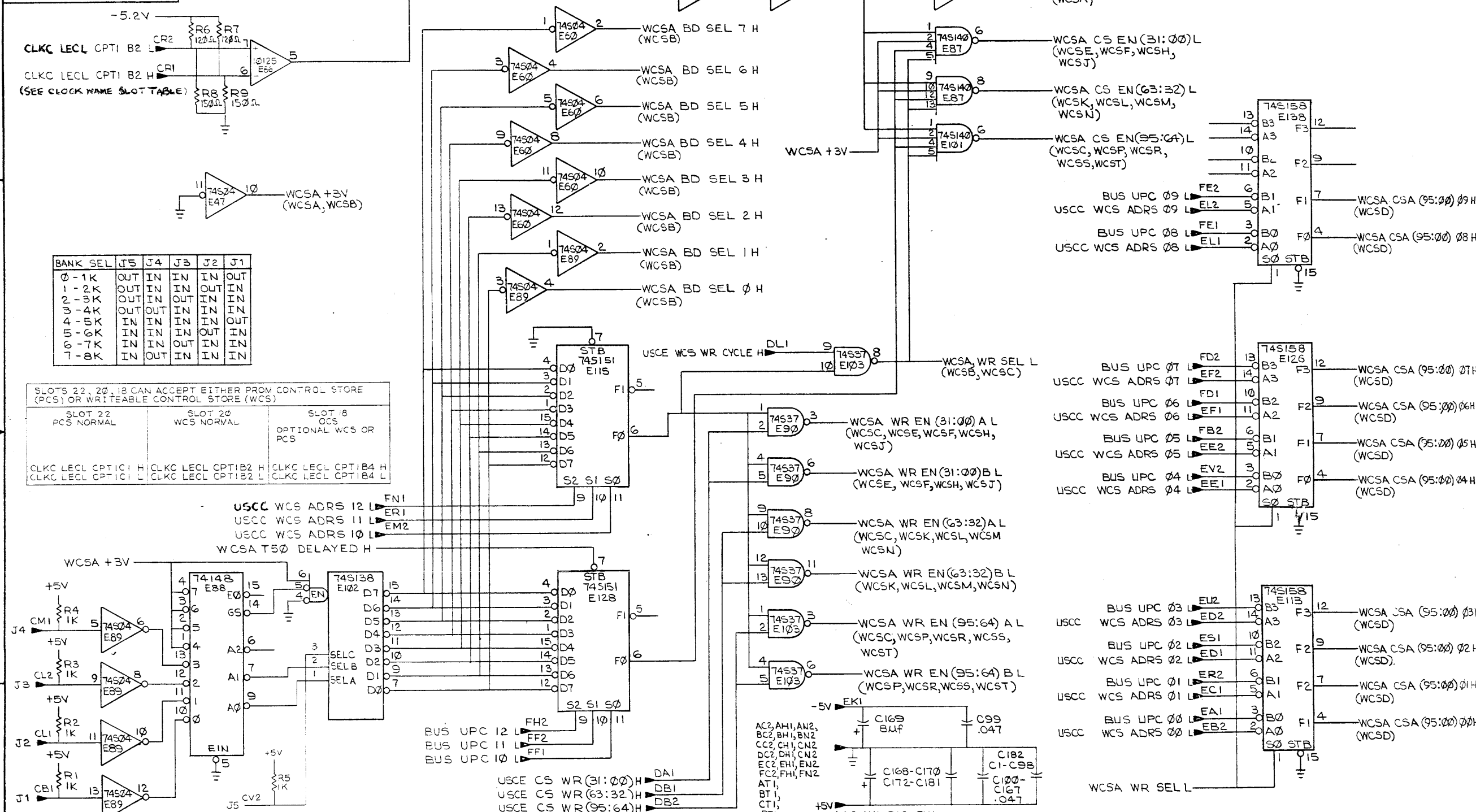
SHEET 1 OF 17

SIZE CODE NUMBER REV.  
**D CSM8233-0-1 C**

(NORMAL SLOT 20)  
 (OPTION SLOT 18)

RES R1-R5 ARE 1KΩ, 1/4W, 5%

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



BANK SEL	J5	J4	J3	J2	J1
0-1K	OUT	IN	IN	IN	OUT
1-2K	OUT	IN	IN	OUT	IN
2-3K	OUT	IN	OUT	IN	IN
3-4K	OUT	OUT	IN	IN	IN
4-5K	IN	IN	IN	IN	OUT
5-6K	IN	IN	IN	OUT	IN
6-7K	IN	IN	OUT	IN	IN
7-8K	IN	OUT	IN	IN	IN

SLOTS 22, 20, 18 CAN ACCEPT EITHER PROM CONTROL STORE (PCS) OR WRITABLE CONTROL STORE (WCS)		
SLOT 22 PCS NORMAL	SLOT 20 WCS NORMAL	SLOT 18 OCS OPTIONAL WCS OR PCS
CLKC LECL CPT1 C1 H CLKC LECL CPT1 C1 L	CLKC LECL CPT1 B2 H CLKC LECL CPT1 B2 L	CLKC LECL CPT1 B4 H CLKC LECL CPT1 B4 L

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 221	B

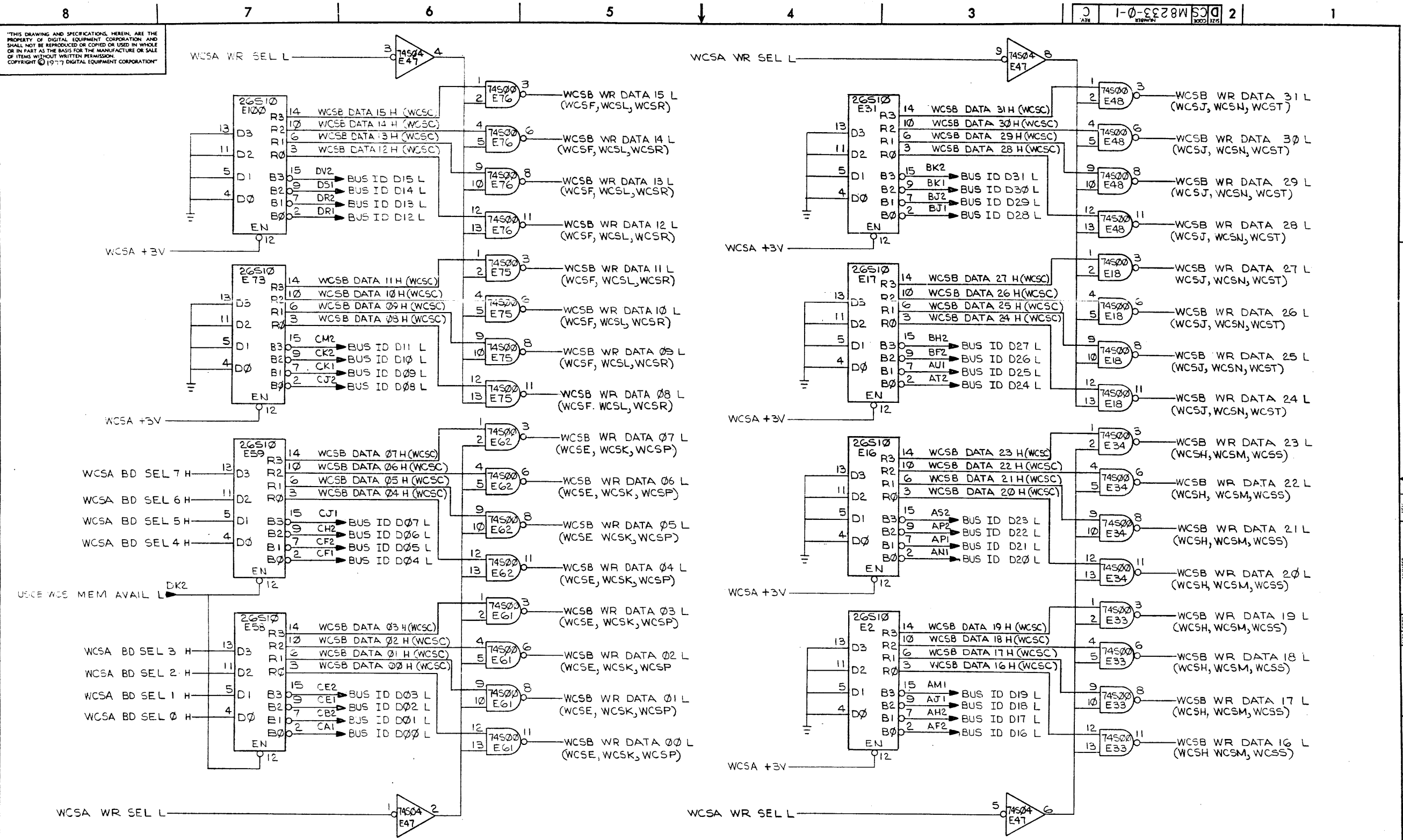
(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(ADRS AND BRD SELECTION)

TITLE WRITEABLE CONTROL STORE (WCSA) SIZE CODE NUMBER REV.  
D CS M8233-0-1 C

SCALE SHEET 2 OF 17 DIST. TW 1 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

1-0-3328W 50 2



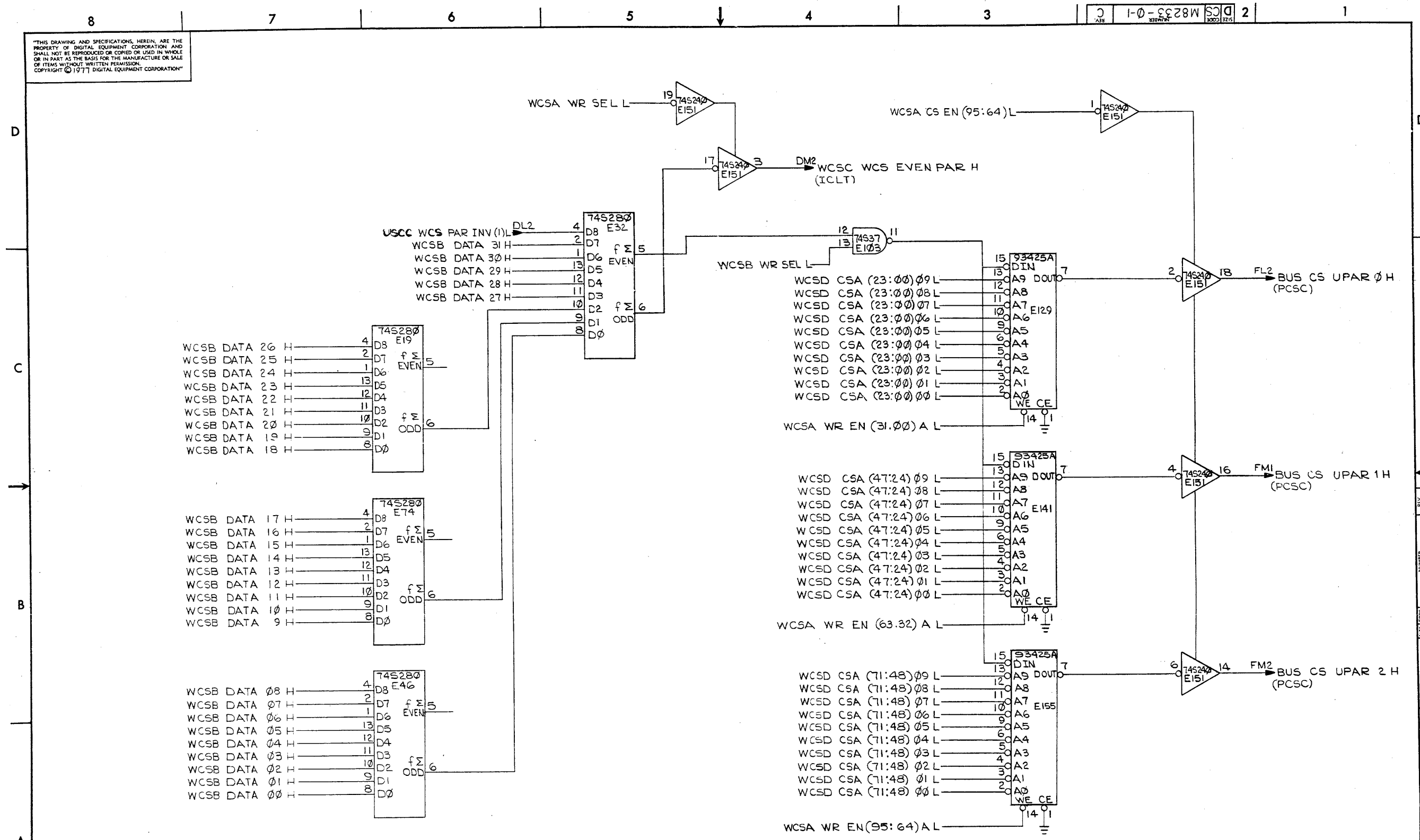
REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 001	B

(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(ID BUS TRANCEIVERS)

TITLE	WRITEABLE CONTROL STORE (WCSB)	SIZE CODE	D CS	NUMBER	M8233-0-1	REV.	C
SCALE	+	SHEET	3	OF	17	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"



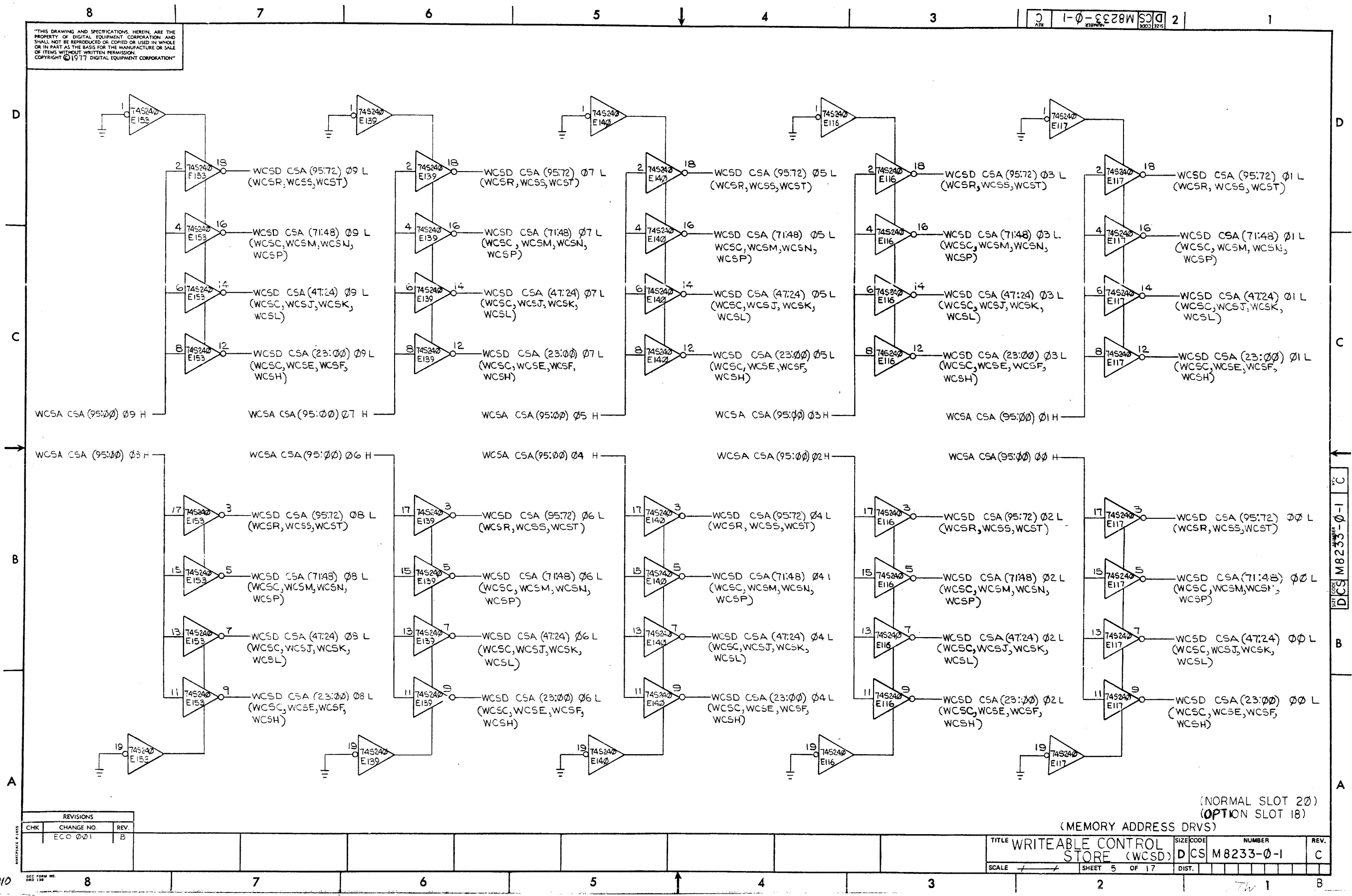
REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 001	B

TITLE		(PARITY)		SIZE CODE		NUMBER		REV.	
WRITEABLE CONTROL STORE (WCSC)		D CS		M8233-0-1		C		C	
SCALE		SHEET 4 OF 17		DIST.				409	

DATE CODE M8233-0-1 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 © 1977, DIGITAL EQUIPMENT CORPORATION"

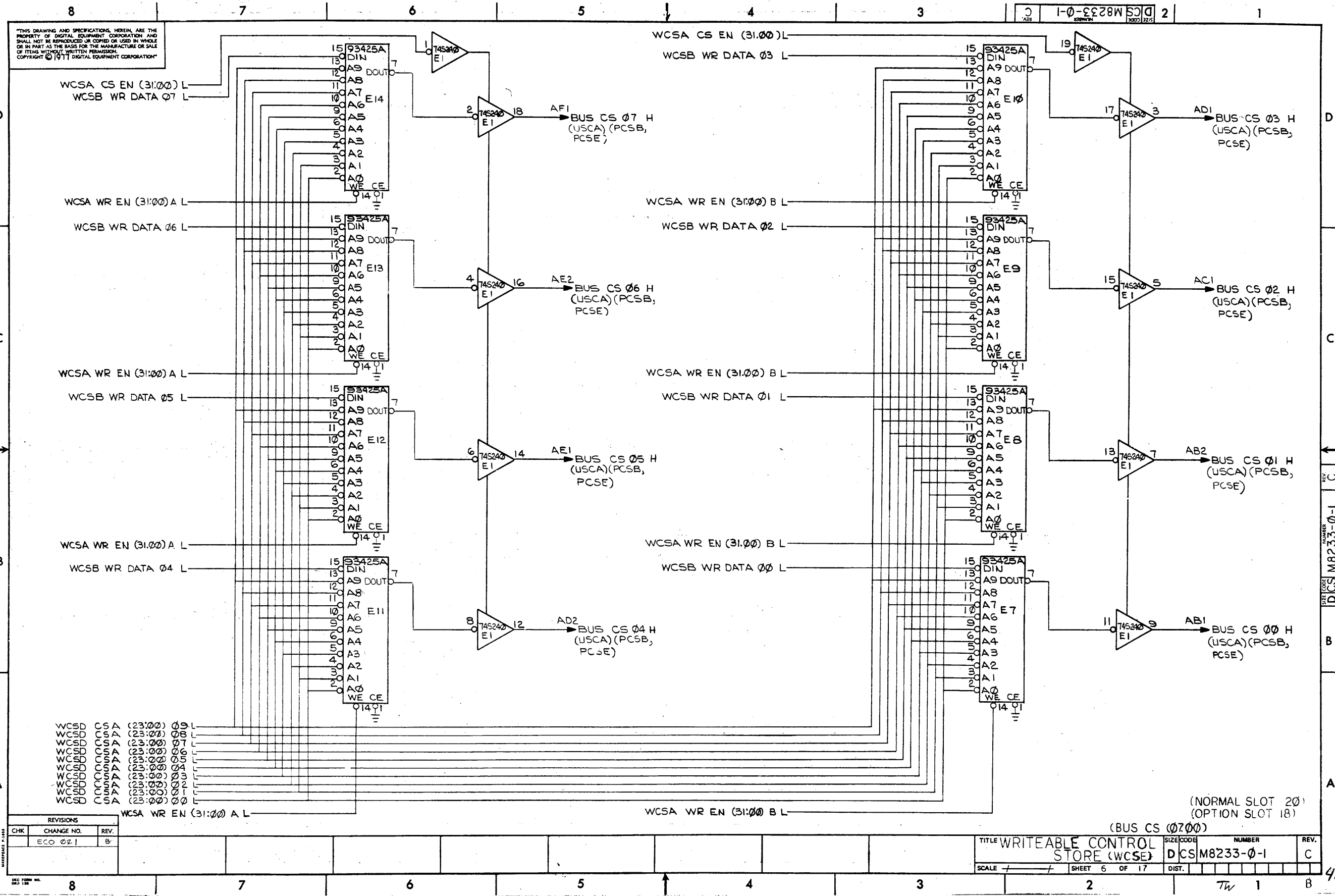
1-0-0028W 2



(NORMAL SLOT 20)  
(OPTION SLOT 18)

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 001	B

TITLE	WRITEABLE CONTROL STORE (WCS)	SIZE CODE	D CS	NUMBER	M 8233-0-1	REV.	C
SCALE		SHEET	5	OF	17	DIST.	



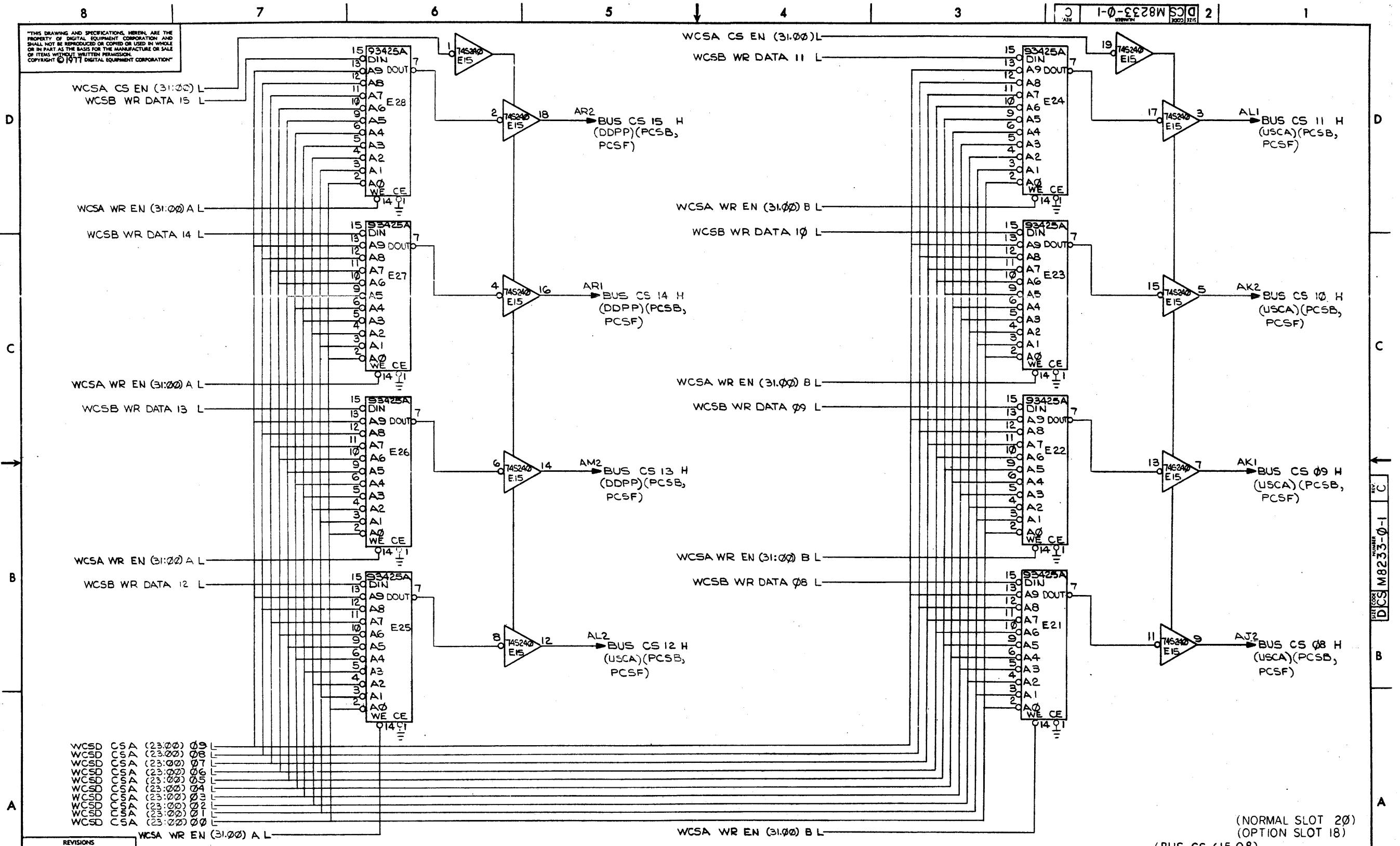
REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 021	B

TITLE	WRITEABLE CONTROL STORE (WCSE)	SIZE/CODE	D CS M8233-0-1	NUMBER		REV.	C
SCALE		SHEET	6 OF 17	DIST.			

D CS M8233-0-1

411

"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"



- WCSA CS EN (31:00) L
- WCSB WR DATA 15 L
- WCSA WR EN (31:00) A L
- WCSB WR DATA 14 L
- WCSA WR EN (31:00) B L
- WCSB WR DATA 10 L
- WCSA WR EN (31:00) A L
- WCSB WR DATA 13 L
- WCSA WR EN (31:00) B L
- WCSB WR DATA 09 L
- WCSA WR EN (31:00) A L
- WCSB WR DATA 12 L
- WCSA WR EN (31:00) B L
- WCSB WR DATA 08 L
- WCSA WR EN (31:00) A L
- WCSA WR EN (31:00) B L

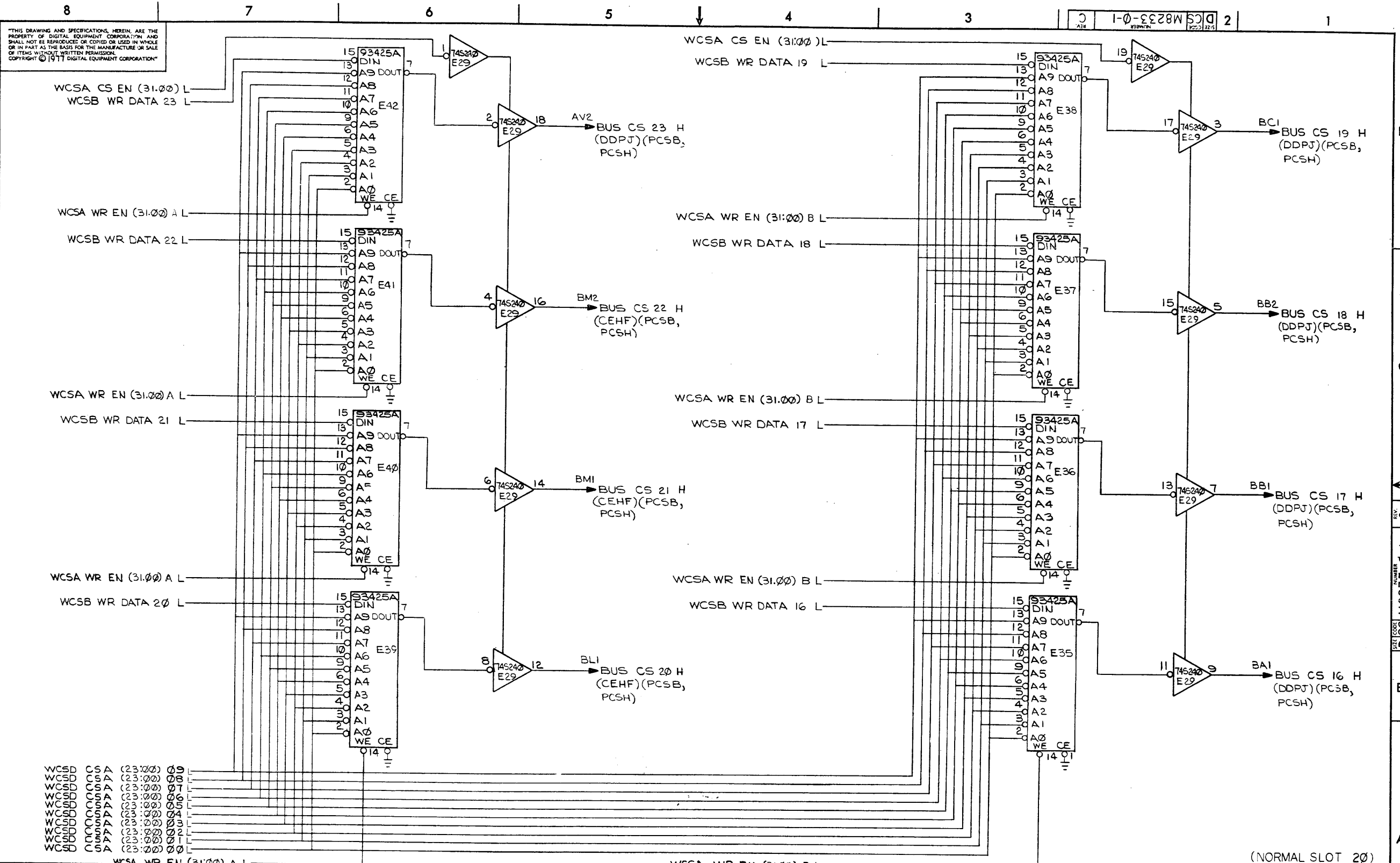
(NORMAL SLOT 20)  
(OPTION SLOT 18)

(BUS CS (15.08))

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 001	B

TITLE	WRITEABLE CONTROL STORE (WCSF)	SIZE/CODE	DCS M8233-0-1	NUMBER		REV.	C
SCALE		SHEET	7	OF	17	DIST.	

REV. C  
NUMBER  
DCS M8233-0-1



"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.
	ECO 02	B

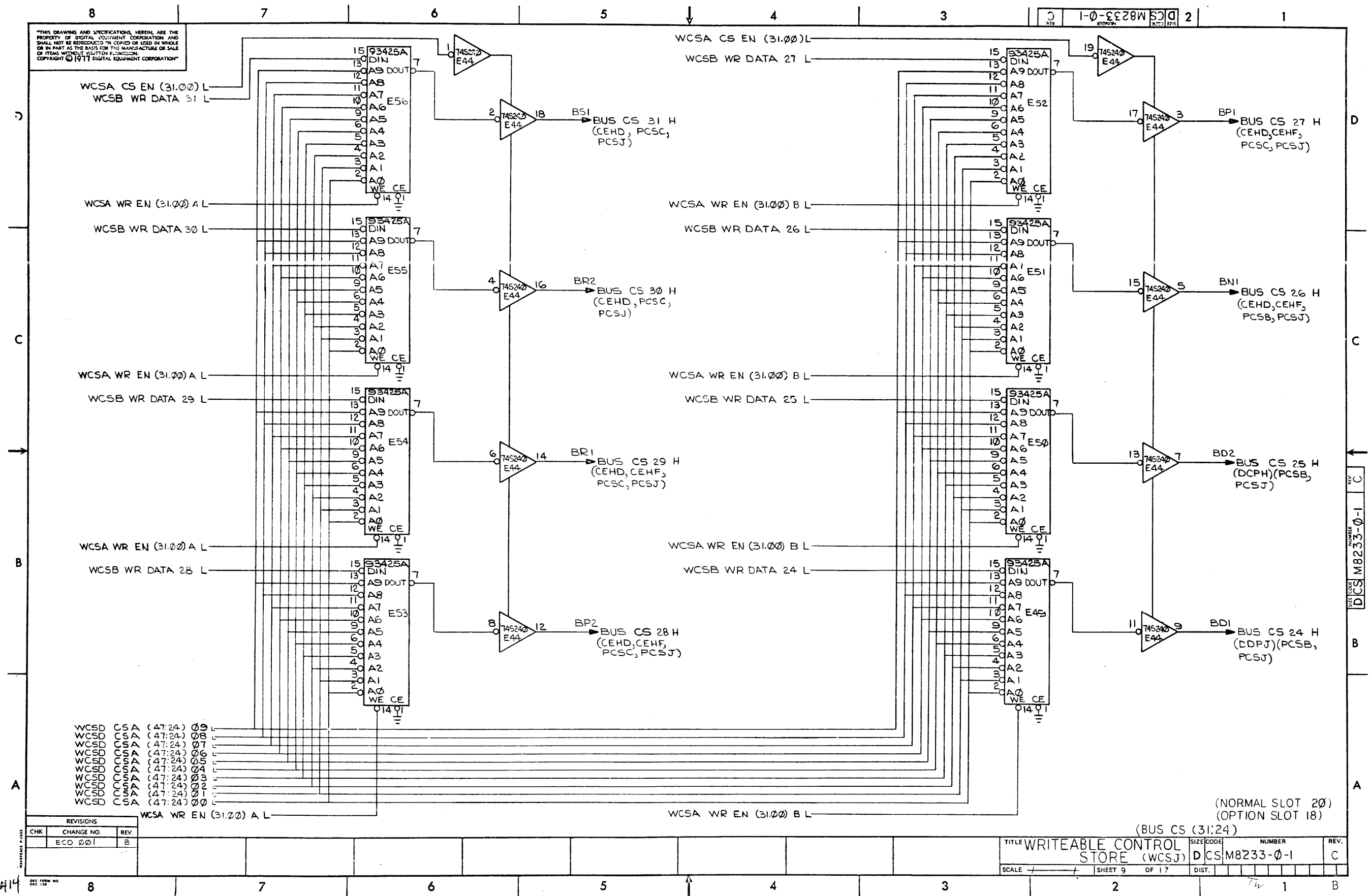
- WCS D CSA (23:00) 09
- WCS D CSA (23:00) 08
- WCS D CSA (23:00) 07
- WCS D CSA (23:00) 06
- WCS D CSA (23:00) 05
- WCS D CSA (23:00) 04
- WCS D CSA (23:00) 03
- WCS D CSA (23:00) 02
- WCS D CSA (23:00) 01
- WCS D CSA (23:00) 00

TITLE WRITEABLE CONTROL STORE (WCSH)		SIZE CODE	NUMBER	REV.
SCALE		SHEET 8 OF 17	DCS M8233-0-1	C

(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(BUS CS (23.16))

REV. C  
NUMBER DCS M8233-0-1

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



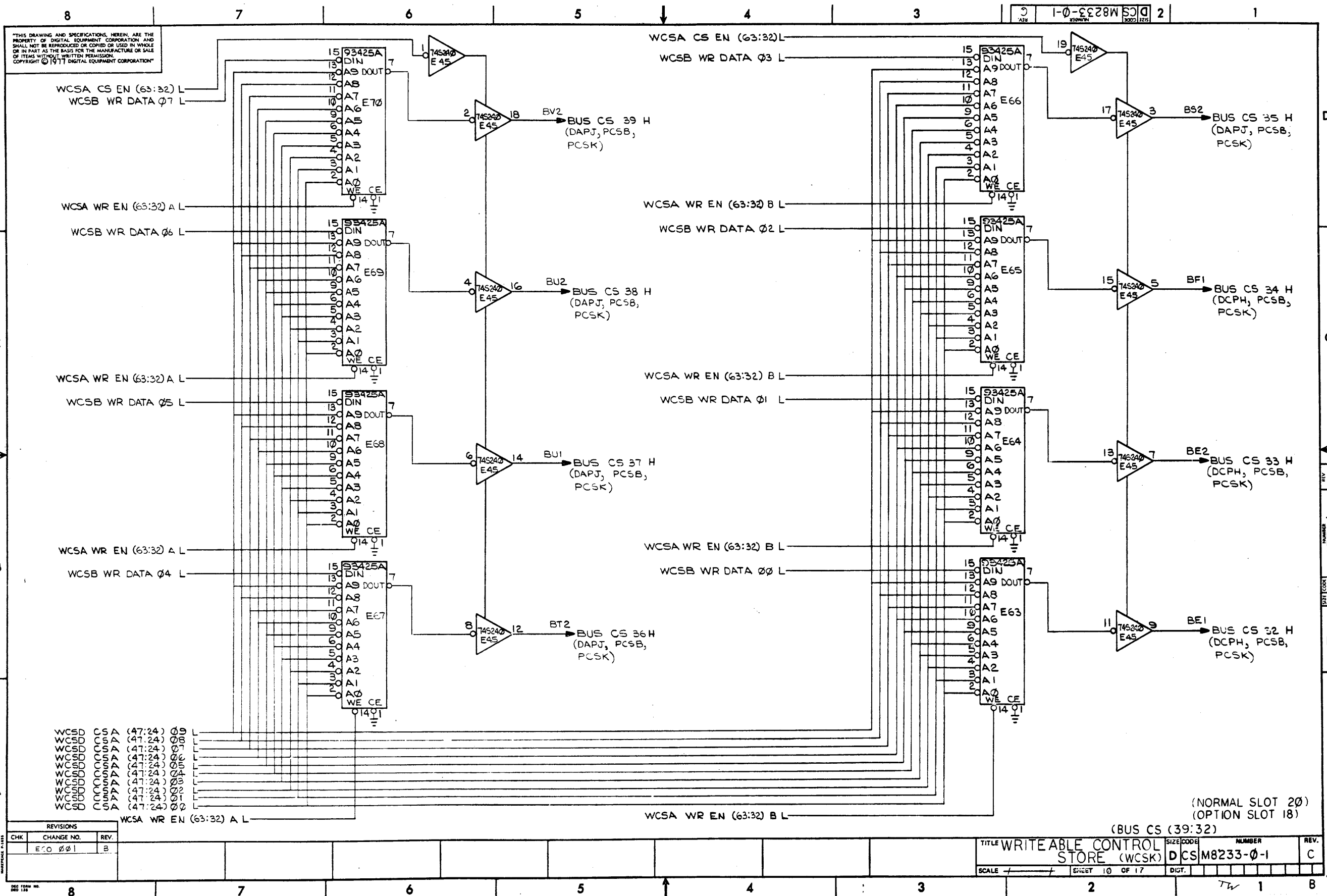
- WCSA CS EN (31:23) L
- WCSB WR DATA 31 L
- WCSA WR EN (31:23) A L
- WCSB WR DATA 30 L
- WCSA WR EN (31:23) A L
- WCSB WR DATA 29 L
- WCSA WR EN (31:23) A L
- WCSB WR DATA 28 L
- WCSA WR EN (31:23) B L
- WCSB WR DATA 27 L
- WCSA WR EN (31:23) B L
- WCSB WR DATA 26 L
- WCSA WR EN (31:23) B L
- WCSB WR DATA 25 L
- WCSA WR EN (31:23) B L
- WCSB WR DATA 24 L
- WCSA WR EN (31:23) A L
- WCSA WR EN (31:23) B L

(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(BUS CS (31:24))

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 201	B

TITLE	WRITEABLE CONTROL STORE (WCSJ)	SIZE CODE	D CS	NUMBER	M8233-0-1	REV.	C
SCALE	SHEET 9 OF 17		DIST.				

D CS M8233-0-1 REV. C



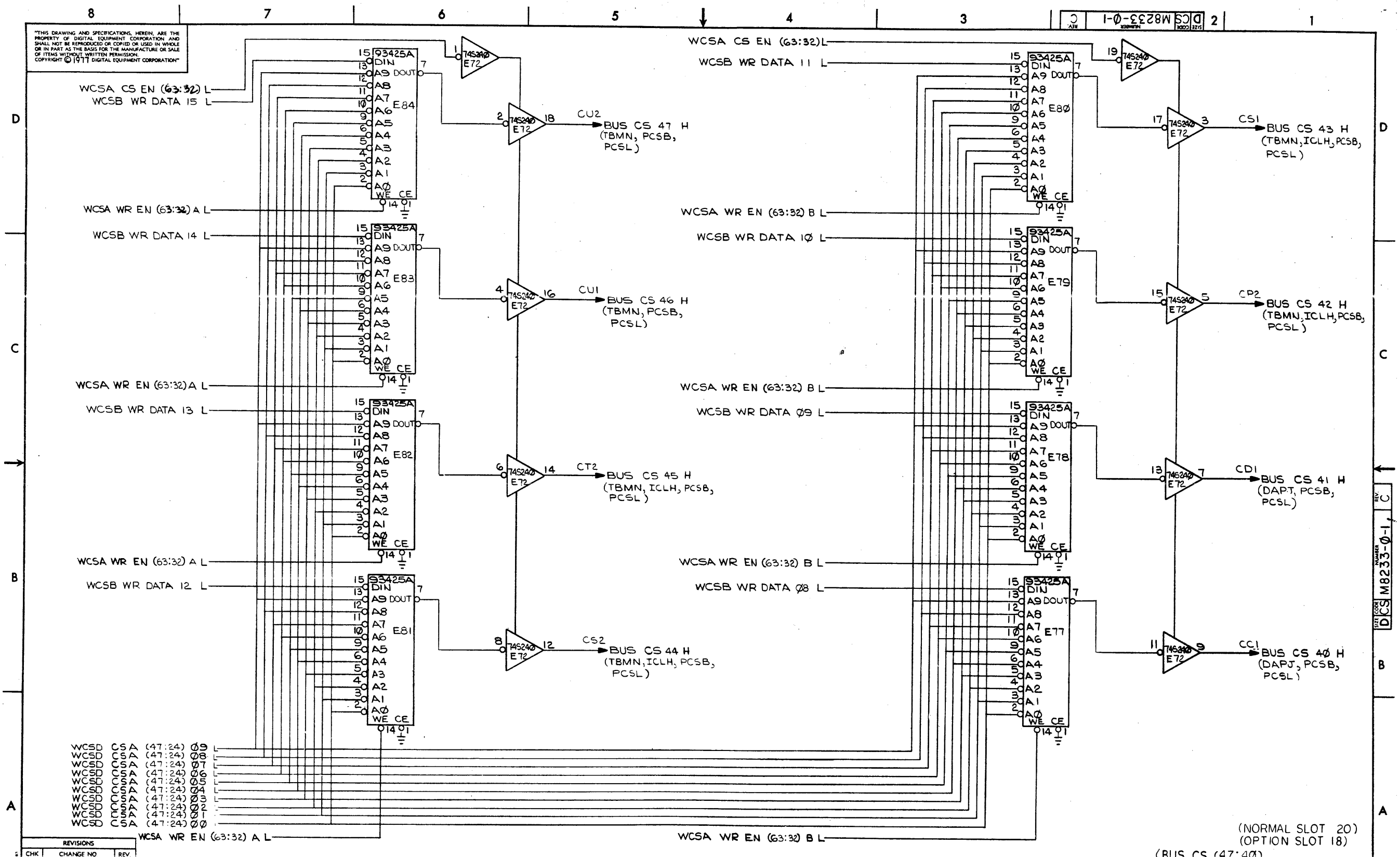
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV.
	E70 001	B

TITLE		WRITEABLE CONTROL STORE (WCSK)		SIZE CODE	NUMBER		REV.
DCS M8233-0-1		DCS M8233-0-1					C
SCALE	SHEET 10 OF 17		DIGT.				

"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"

1-0-2228W 2

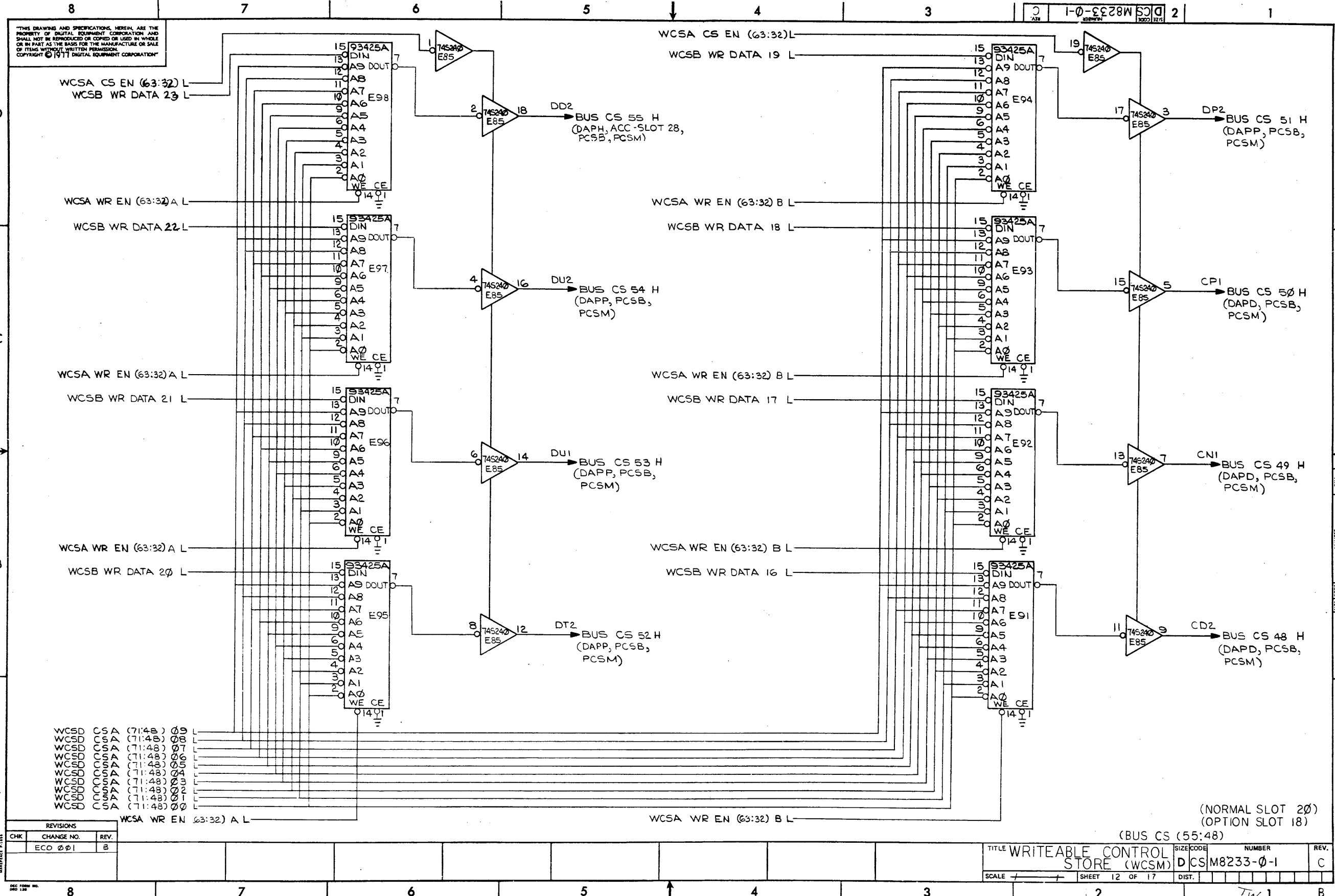


REVISIONS		
CHK	CHANGE NO	REV
	ECO 00	B

(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(BUS CS (47:40))

TITLE	WRITEABLE CONTROL STORE (WCSL)	SIZE CODE	DCS	NUMBER	M8233-0-1	REV.	C
SCALE		SHEET	11	OF	17	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"

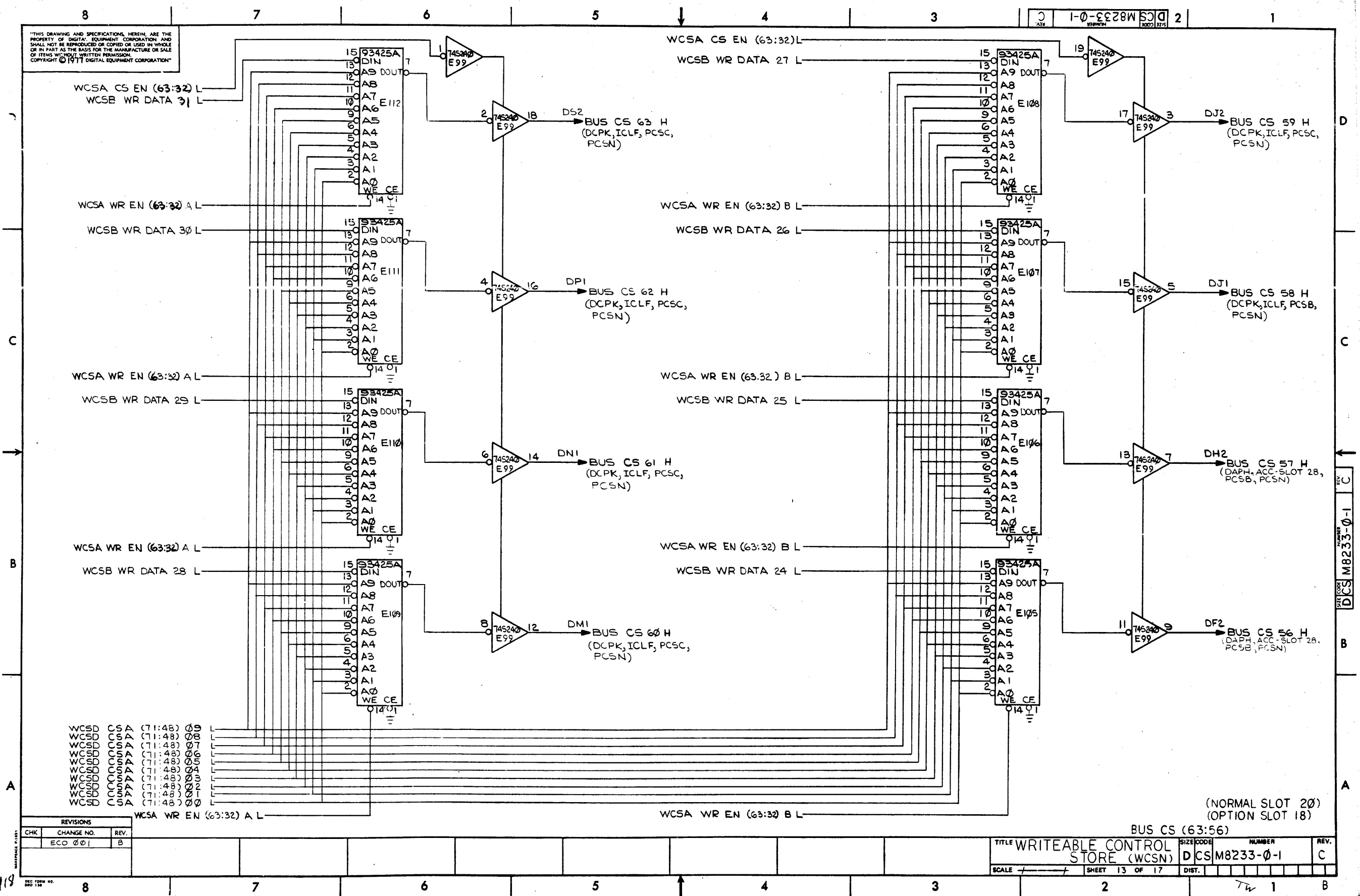
- WCSD CSA (7:48) 09 L
- WCSD CSA (7:48) 08 L
- WCSD CSA (7:48) 07 L
- WCSD CSA (7:48) 06 L
- WCSD CSA (7:48) 05 L
- WCSD CSA (7:48) 04 L
- WCSD CSA (7:48) 03 L
- WCSD CSA (7:48) 02 L
- WCSD CSA (7:48) 01 L
- WCSD CSA (7:48) 00 L

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 001	B

TITLE		WRITEABLE STORE CONTROL (WCSM)	SIZE CODE	D	NUMBER	M8233-0-1	REV.	C
SCALE	+	SHEET	12 OF 17	DIST.				

REV. C  
 NUMBER M8233-0-1  
 DIST. CODE DCS  
 SHEET 12 OF 17  
 SCALE +  
 SHEET 12 OF 17  
 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"

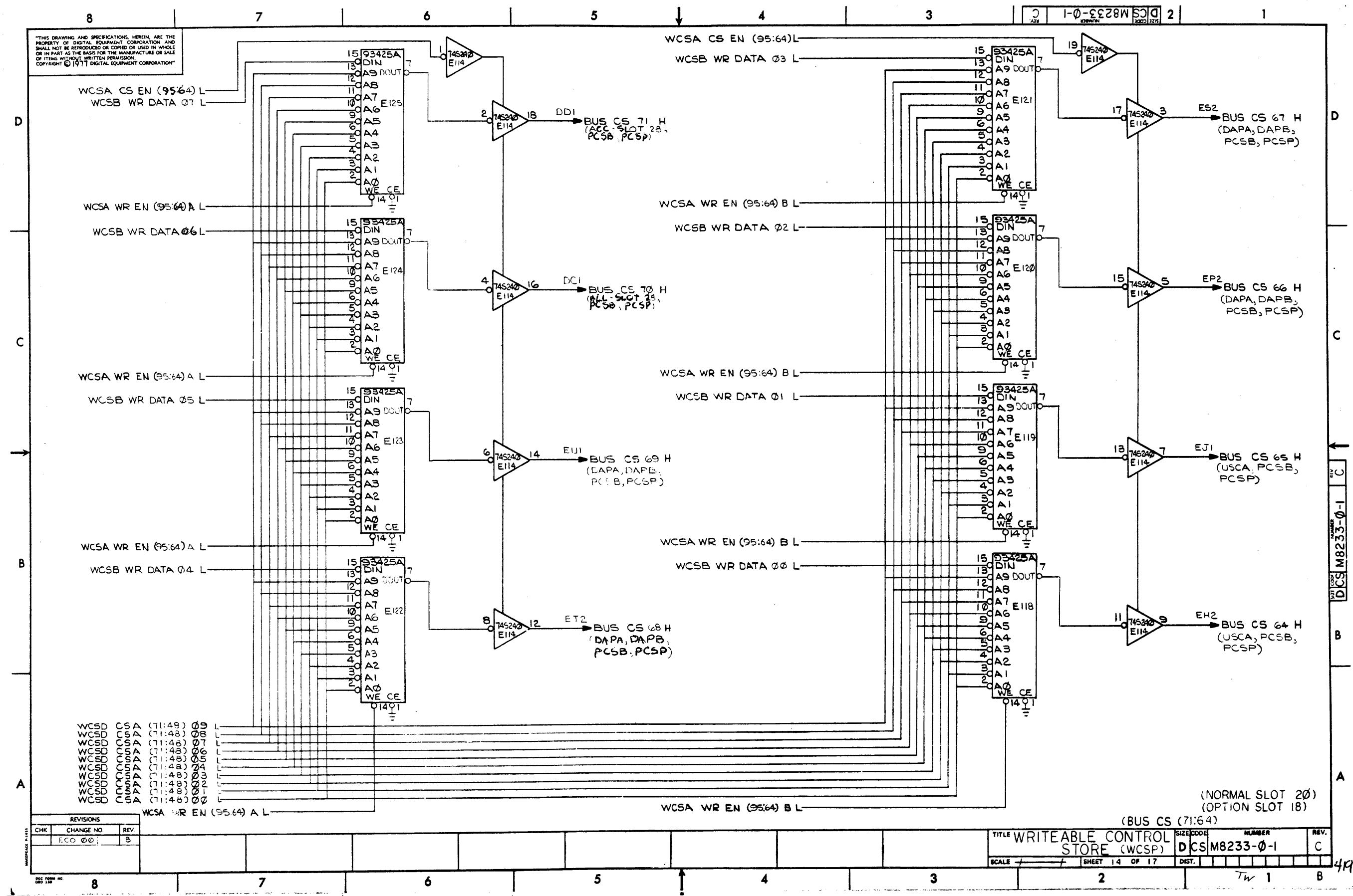


- WCSD C C S A (71:48) Q9 L
- WCSD C C S A (71:48) Q8 L
- WCSD C C S A (71:48) Q7 L
- WCSD C C S A (71:48) Q6 L
- WCSD C C S A (71:48) Q5 L
- WCSD C C S A (71:48) Q4 L
- WCSD C C S A (71:48) Q3 L
- WCSD C C S A (71:48) Q2 L
- WCSD C C S A (71:48) Q1 L
- WCSD C C S A (71:48) Q0 L

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 001	B

TITLE	WRITEABLE CONTROL STORE (WCSN)	SIZE CODE	DCS M8233-0-1	NUMBER		REV.	C
SCALE		SHEET	13 OF 17	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

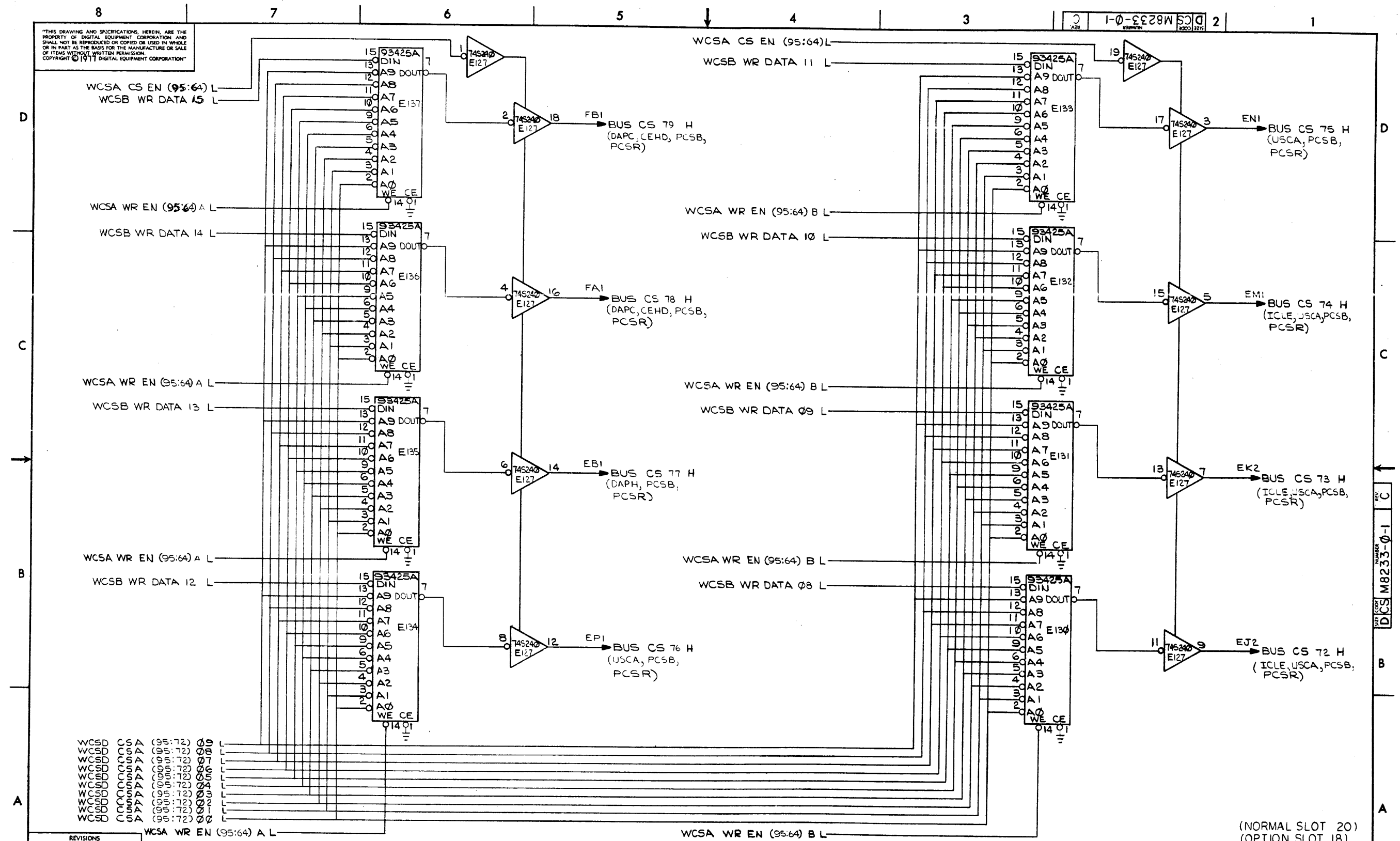


REVISIONS		
CHK	CHANGE NO.	REV
	ECO 001	B

TITLE		WRITEABLE CONTROL STORE (WCSP)		SIZE CODE	NUMBER		REV.
SCALE		SHEET 14 OF 17		DIST.	DCS M8233-0-1		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"

1-0-00288 2

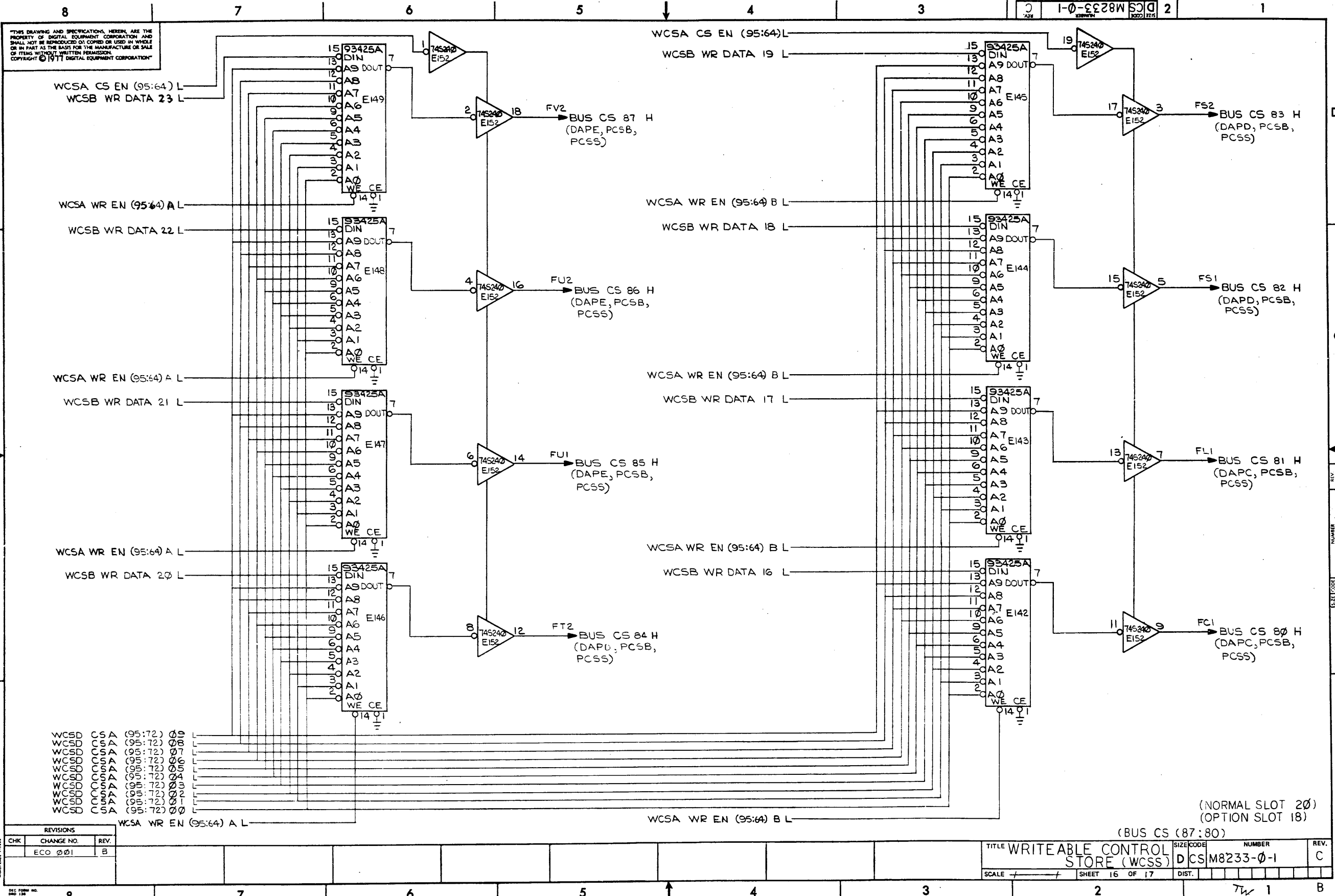


- WCSD CSA (95:72) 009
- WCSD CSA (95:72) 008
- WCSD CSA (95:72) 007
- WCSD CSA (95:72) 006
- WCSD CSA (95:72) 005
- WCSD CSA (95:72) 004
- WCSD CSA (95:72) 003
- WCSD CSA (95:72) 002
- WCSD CSA (95:72) 001
- WCSD CSA (95:72) 000

REVISIONS		
CHK	CHANGE NO.	REV.
ECO	001	B

(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(BUS CS (79:72))

TITLE	WRITEABLE CONTROL STORE (WCSR)	SIZE CODE	D CS M8233-0-1	NUMBER		REV.	C
SCALE		SHEET	15 OF 17	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

WCSA	CS	A	(95:72)	00	L
WCSA	CS	A	(95:72)	01	L
WCSA	CS	A	(95:72)	02	L
WCSA	CS	A	(95:72)	03	L
WCSA	CS	A	(95:72)	04	L
WCSA	CS	A	(95:72)	05	L
WCSA	CS	A	(95:72)	06	L
WCSA	CS	A	(95:72)	07	L
WCSA	CS	A	(95:72)	08	L
WCSA	CS	A	(95:72)	09	L
WCSA	CS	A	(95:72)	10	L
WCSA	CS	A	(95:72)	11	L
WCSA	CS	A	(95:72)	12	L
WCSA	CS	A	(95:72)	13	L
WCSA	CS	A	(95:72)	14	L
WCSA	CS	A	(95:72)	15	L

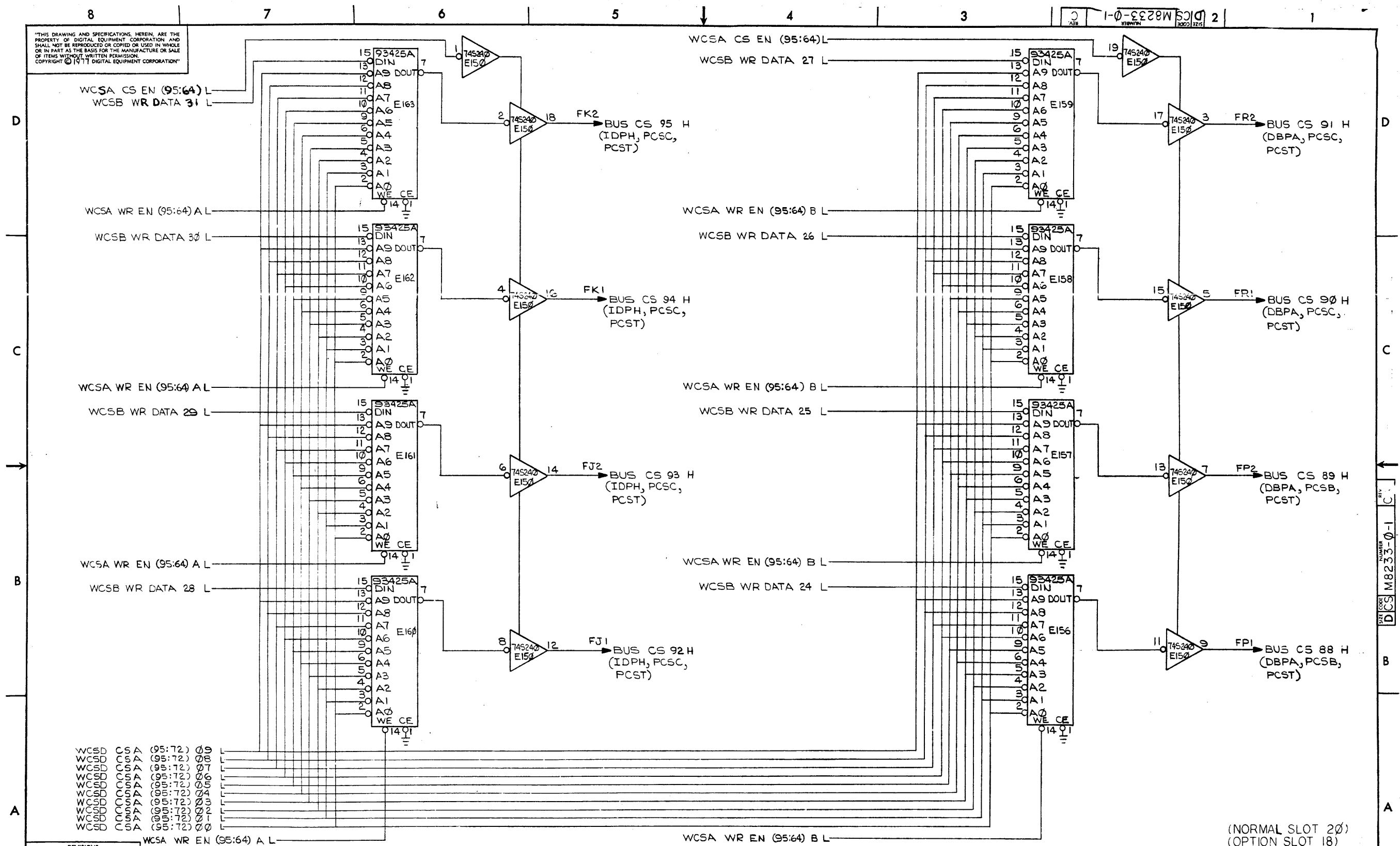
REVISIONS		
CHK	CHANGE NO.	REV.
ECO	001	B

TITLE		WRITEABLE CONTROL STORE (WCS)	SIZE CODE	NUMBER	REV.
SCALE		+		DCS M8233-0-1	C
SHEET		16	OF	17	
DIST.					

(NORMAL SLOT 20)  
(OPTION SLOT 18)

421

"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"



- WCSA CS EN (95:64) L
- WCSB WR DATA 31 L
- WCSA WR EN (95:64) A L
- WCSB WR DATA 30 L
- WCSA WR EN (95:64) A L
- WCSB WR DATA 29 L
- WCSA WR EN (95:64) A L
- WCSB WR DATA 28 L
- WCSA WR EN (95:64) B L
- WCSB WR DATA 25 L
- WCSA WR EN (95:64) B L
- WCSB WR DATA 24 L
- WCSA WR EN (95:64) A L
- WCSA WR EN (95:64) B L

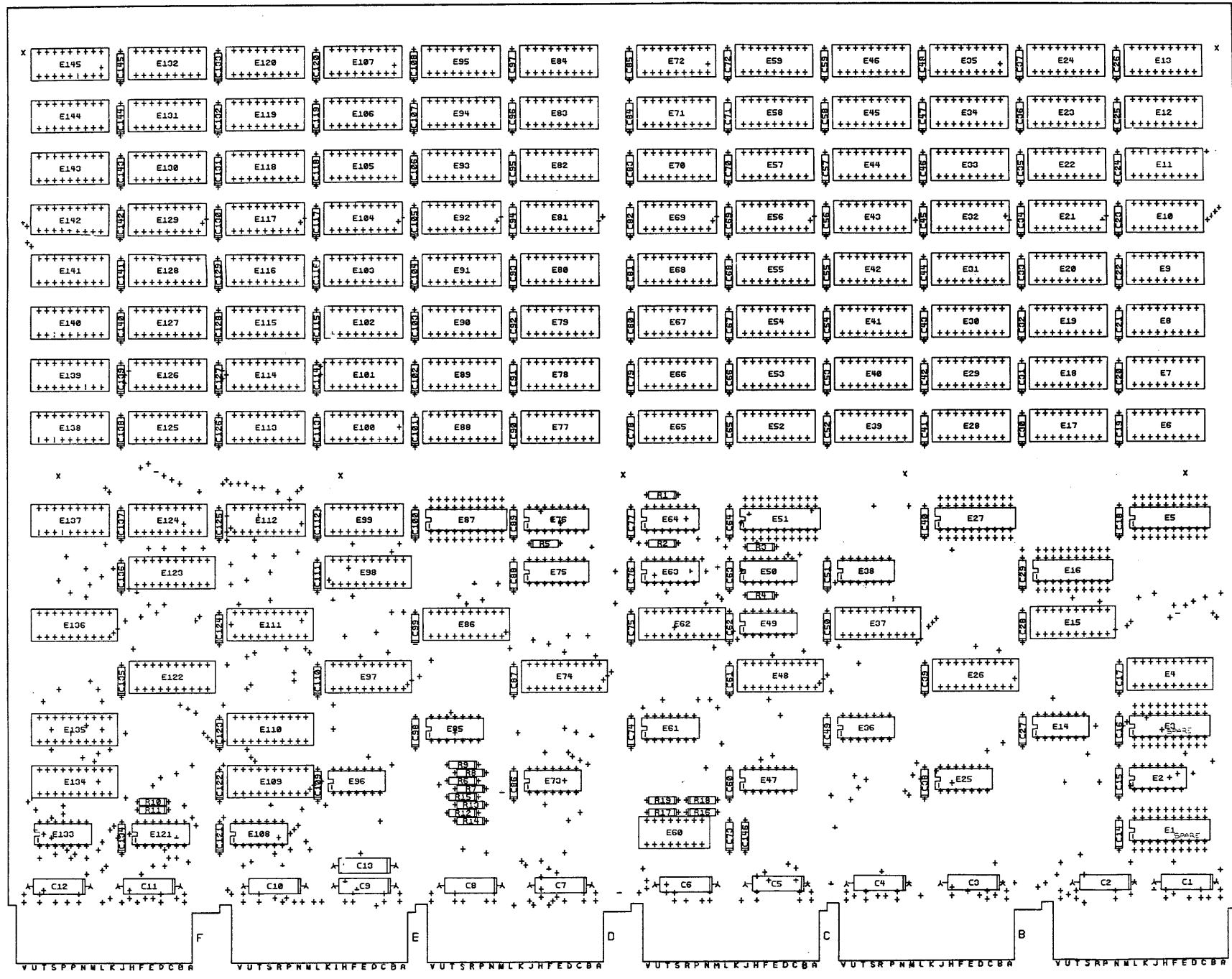
(NORMAL SLOT 20)  
(OPTION SLOT 18)  
(BUS CS (95:88))

REVISIONS		
CHK	CHANGE NO.	REV.
	ECC 001	B

TITLE	WRITEABLE CONTROL STORE (WCST)	SIZE CODE	DCS	NUMBER	M8233-0-1	REV.	C
SCALE		SHEET	17	OF 17	DIST.		

REV. NUMBER DCS M8233-0-1 C

COMPONENT SIDE VIEW



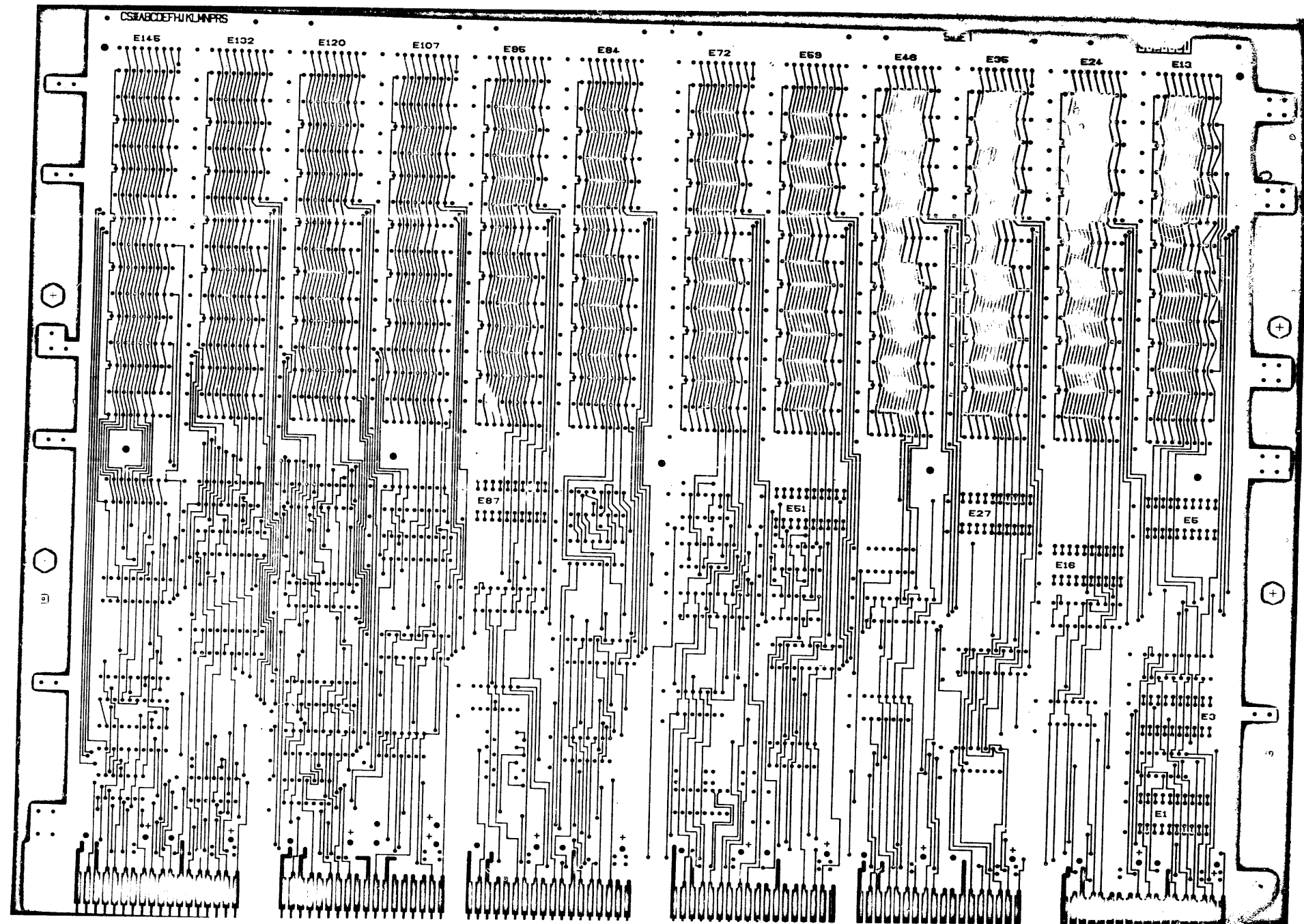
SIGNATURES	DATE	TITLE	REV
DRN. [Signature]	7/27/72	FROM CONTROL STORE	1A
CHK. [Signature]	7/27/72	PROJECT	1A
PROJ. ENG. [Signature]	7/27/72	SCALE 1:1	1A
DESIGNER [Signature]	7/27/72	REV. [Signature]	1A
ETCH REV.			
P.C. DESIGN DATA BASE REV.			

CHANGE NO.	REV.	DATE	BY	REASON

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE TO THE OUTSIDE UNLESS OTHERWISE SPECIFIED.
4. ALL DIMENSIONS ARE TO THE INSIDE UNLESS OTHERWISE SPECIFIED.
5. ALL DIMENSIONS ARE TO THE CENTER UNLESS OTHERWISE SPECIFIED.
6. ALL DIMENSIONS ARE TO THE OUTSIDE UNLESS OTHERWISE SPECIFIED.
7. ALL DIMENSIONS ARE TO THE INSIDE UNLESS OTHERWISE SPECIFIED.
8. ALL DIMENSIONS ARE TO THE CENTER UNLESS OTHERWISE SPECIFIED.
9. ALL DIMENSIONS ARE TO THE OUTSIDE UNLESS OTHERWISE SPECIFIED.
10. ALL DIMENSIONS ARE TO THE INSIDE UNLESS OTHERWISE SPECIFIED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.  
 THE DIMENSIONS OF THIS DRAWING ARE IN ACCORDANCE WITH THE MIL-STD-883C TEST METHOD 2000.10.  
 DATE: 1977



424

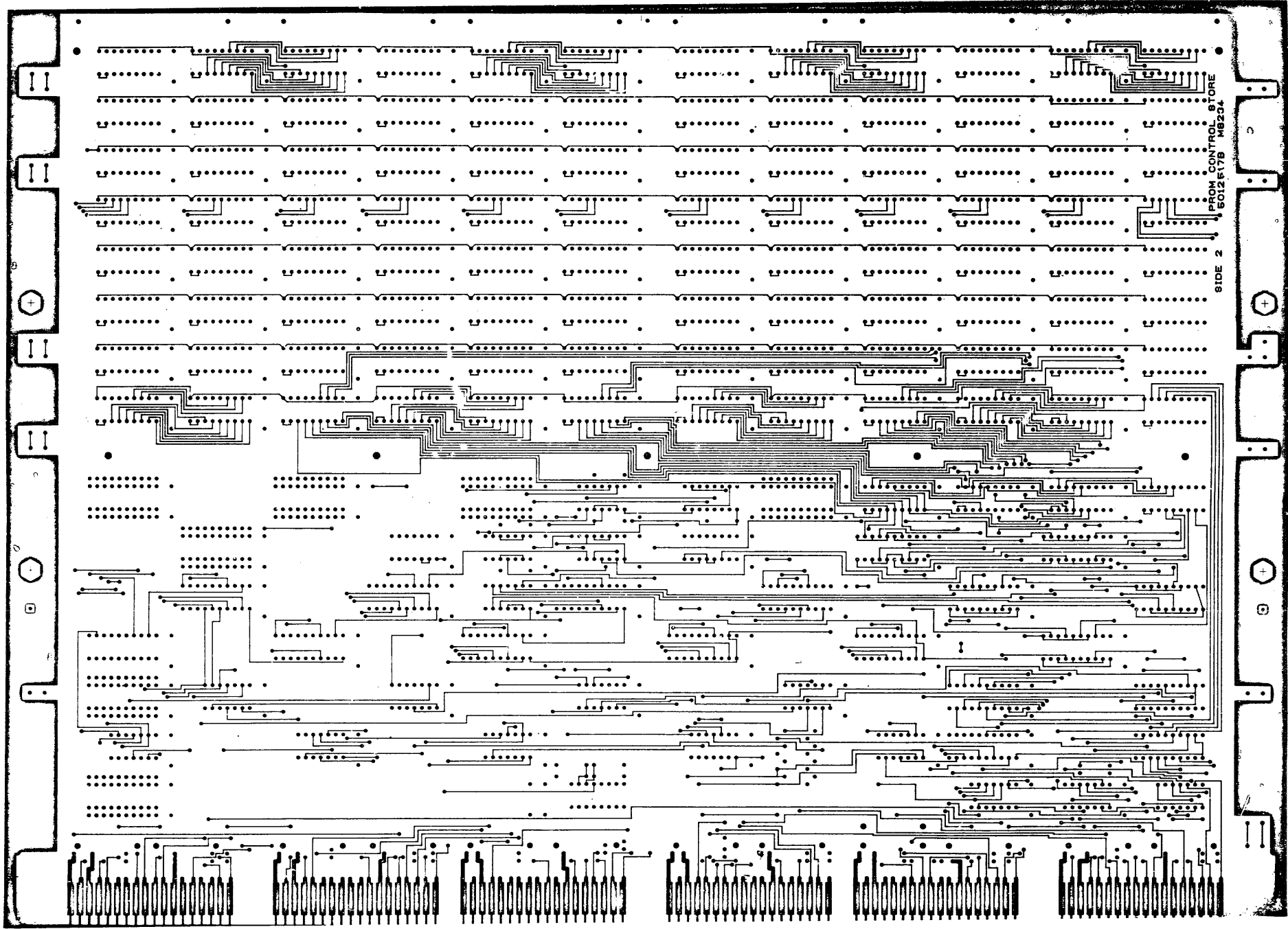
DATE	BY

8 7 6 5 4 3 2 1

TITLE	STANDARD NUMBER	REV.
PROM CONTROL STORE	E UA M82340-6	A
SCALE 1:1	SHEET 2 OF 3	DWG.



ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT SHALL 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 THE MANUFACTURER OR SALES OFFICE OF THE EQUIPMENT CORPORATION.  
 317



PROM CONTROL STORE  
 5012817B MB234  
 SIDE 2

DESIGNER  
 CHECKED BY  
 REV

TITLE	SIZE/CODE	NUMBER	REV
PROM CONTROL STORE	E JA	MB234-2-2	A
SCALE 2-1	SHEET 3 OF 3	DIST	

425

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:												
MADE BY <i>Frank E Smart</i>		CHECKED <i>Frank E Smart</i>												ETCH REV B CS REV A												
DATE <i>5-24-77</i>		DATE <i>5-24-77</i>													SECTION											
ENG <i>Lee Dickey</i>		PROD <i>Nick Terillo</i>												ISSUED SECTION												
DATE <i>8-17-77</i>		DATE <i>8-2-77</i>																								
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0																						REF DESIGNATION
1	E-MD-5012517-00	50-12517	ETCH BOARD	1																						
2		12-10711-2	MODULE HANDLE	1																						
3		90- <del>000</del> 24-01	MODULE HANDLE EYELETS	12																						
4		10-12784-0	CAPACITOR, .047UF, 50V	133																						C14-C146
5		10-12084-1	CAPACITOR, 8UF, 25V	13																						C1-C13
6		13-00365-0	RESISTOR, 1K, 1/4W, 5%	5																						R1-R5
7		13-00295-0	RESISTOR, 330 Ω, 1/4W, 5%	5																						R6, R8, R10, R12, R14
8		13-01775-0	RESISTOR, 820 Ω, 1/4W, 5%	5																						R7, R9, R11, R13, R15
9		13-00247-0	RESISTOR, 120 Ω, 1/4W, 5%	2																						R16, R17
10		13-00250-0	RESISTOR, 150 Ω, 1/4W, 5%	2																						R18, R19
11		19-11573-0	I.C. DEC 74S280	12																						E2, E14, E25, E36, E47, E61, E73, E85, E96, E108, E121, E133
12		19-13462	I.C. DEC 74S240	18																						E4, E15, E26, E37, E48, E62, E74, E86, E97, E98, E109, E110, E111, E122, E123, E134, E135, E136
13		19-10546-0	I.C. DEC 74S140	4																						E49, E50, E63, E64
14		19-10549-0	I.C. DEC 74S158	1																						E76
15		19-11675-0	I.C. DEC 74S138	1																						E75
16		19-11415-0	I.C. DEC 10125	1																						E60
17		19-10534	I.C. DEC 74S04	1																						E38
18			SPARES	7																						E1, E3, E5, E16, E27, E51, E87

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 PROM CONTROL STORE		ASSY NO. E-UA-8234-0-0		SIZE <b>B</b>	CODE <b>PL</b>	NUMBER M8234-0-0	REV. A
	426 DRB 125						SHEET 1 OF 6		INSERTION PARTS LIST DATA BASE REV		

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY <i>J. Smart</i>	CHECKED <i>J. Smart</i>	SECTION
DATE <i>5-24-77</i>	DATE <i>5-24-77</i>	
ENG <i>Lee Decker</i>	PROD <i>Mike Dulla</i>	ISSUED SECTION
DATE <i>8-17-77</i>	DATE <i>8-2-77</i>	

## QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0															REF DESIGNATION
19		23-044F1-00	PROM	1															E6
20		23-045F1-00	"	1															E10
21		23-046F1-00	"	1															E17
22		23-047F1-00	"	1															E21
23		23-048F1-00	"	1															E28
24		23-049F1-00	"	1															E32
25		23-050F1-00	"	1															E39
26		23-051F1-00	"	1															E43
27		23-052F1-00	"	1															E52
28		23-053F1-00	"	1															E56
29		23-054F1-00	"	1															E65
30		23-055F1-00	"	1															E69
31		23-056F1-00	"	1															E77
32		23-057F1-00	"	1															E81
33		23-058F1-00	"	1															E88
34		23-059F1-00	"	1															E92
35		23-060F1-00	"	1															E100
36		23-061F1-00	"	1															E104
37		23-062F1-00	"	1															E113
38		23-063F1-00	"	1															E117

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 PROM CONTROL STORE	ASSY NO. E-UA-M8234-0-0	SIZE <b>B</b>	CODE <b>PL</b>	NUMBER M8234-0-0	REV. A
		SHEET 2 OF 6	INSERTION PARTS LIST DATA BASE REV			

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY *J. Smart*      CHECKED *J. Smart*  
 DATE *5-24-77*      DATE *5-24-77*

ENG *Lee Duckey*      PROD *Mike Terilla*  
 DATE *8-17-77*      DATE *8-2-77*

SECTION

ISSUED SECTION

M8234-0-0

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION										REF DESIGNATION		
39		23-064F1-00	PROM	1												E125
40		23-065F1-00	"	1												E129
41		23-066F1-00	"	1												E138
42		23-067F1-00	"	1												E142
43		23-068F1-00	"	1												E99
44		23-069F1-00	"	1												E7
45		23-070F1-00	"	1												E11
46		23-071F1-00	"	1												E18
47		23-072F1-00	"	1												E22
48		23-073F1-00	"	1												E29
49		23-074F1-00	"	1												E33
50		23-075F1-00	"	1												E40
51		23-076F1-00	"	1												E44
52		23-077F1-00	"	1												E53
53		23-078F1-00	"	1												E57
54		23-079F1-00	"	1												E66
55		23-080F1-00	"	1												E70
56		23-081F1-00	"	1												E78
57		23-082F1-00	"	1												E82
58		23-083F1-00	"	1												E89

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  
**FROM CONTROL STORE**

ASSY NO.  
E-UA-M8234-0-0

SIZE <b>B</b>	CODE <b>PL</b>	NUMBER M8234-0-0
------------------	-------------------	---------------------

REV.  
A

SHEET 3 OF 6

INSERTION PARTS LIST DATA BASE REV

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:
MADE BY <i>J. Smart</i>		CHECKED <i>J. Smart</i>		M8234-0-0										
DATE <i>5-24-77</i>		DATE <i>5-24-77</i>												
ENG <i>Lee Dickey</i>		PROD <i>Mike Tesillo</i>												REF DESIGNATION
DATE <i>8-17-77</i>		DATE <i>8-2-77</i>												
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION
59		23-084F1-00	PROM	1										E93
60		23-085F1-00	"	1										E101
61		23-086F1-00	"	1										E105
62		23-087F1-00	"	1										E114
63		23-088F1-00	"	1										E118
64		23-089F1-00	"	1										E126
65		23-090F1-00	"	1										E130
66		23-091F1-00	"	1										E139
67		23-092F1-00	"	1										E143
68		23-093F1-00	"	1										E112
69		23-094F1-00	"	1										E8
70		23-095F1-00	"	1										E12
71		23-096F1-00	"	1										E19
72		23-097F1-00	"	1										E23
73		23-098F1-00	"	1										E30
74		23-099F1-00	"	1										E34
75		23-100F1-00	"	1										E41
76		23-101F1-00	"	1										E45
77		23-102F1-00	"	1										E54
78		23-103F1-00	"	1										E58

"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  
PROM CONTROL STORE

ASSY NO.  
E-UA-M8234-0-0  
SHEET 4 OF 6

SIZE CODE NUMBER  
B PL M8234-0-0  
INSERTION PARTS LIST DATA BASE REV

REV.  
A

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION											NOTES:			
MADE BY DATE	CHECKED DATE			SECTION												REF DESIGNATION		
ENG DATE	PROD DATE			ISSUED SECTION														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION															
79		23-104F1-00	PRCM	1													E67	
80		23-105F1-00	"	1													E71	
81		23-106F1-00	"	1													E79	
82		23-107F1-00	"	1													E83	
83		23-108F1-00	"	1													E90	
84		23-109F1-00	"	1													E94	
85		23-110F1-00	"	1													E102	
86		23-111F1-00	"	1													E106	
87		23-112F1-00	"	1													E115	
88		23-113F1-00	"	1													E119	
89		23-114F1-00	"	1													E127	
90		23-115F1-00	"	1													E131	
91		23-116F1-00	"	1													E140	
92		23-117F1-00	"	1													E144	
93		23-118F1-00	"	1													E124	
94		23-119F1-00	"	1													E9	
95		23-120F1-00	"	1													E13	
96		23-121F1-00	"	1													E20	
97		23-122F1-00	"	1													E24	
98		23-123F1-00	"	1													E31	
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.									
				PROM CONTROL STORE	E-UA-M8234-0-0	B	PL	M8234-0-0	A									
					SHEET 5 OF 6	INSERTION PARTS LIST DATA BASE REV												

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:				
MADE BY DATE		CHECKED DATE		SECTION														
ENG DATE		PROD DATE		ISSUED SECTION														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION				
99		23-124F1-00	PROM	1														E35
100		23-125F1-00	"	1														E42
101		23-126F1-00	"	1														E46
102		23-127F1-00	"	1														E55
103		23-128F1-00	"	1														E59
104		23-129F1-00	"	1														E68
105		23-130F1-00	"	1														E72
106		23-131F1-00	"	1														E80
107		23-132F1-00	"	1														E84
108		23-133F1-00	"	1														E91
109		23-134F1-00	"	1														E95
110		23-135F1-00	"	1														E103
111		23-136F1-00	"	1														E107
112		23-137F1-00	"	1														E116
113		23-138F1-00	"	1														E120
114		23-139F1-00	"	1														E128
115		23-140F1-00	"	1														E132
116		23-141F1-00	"	1														E141
117		23-142F1-00	"	1														E145
118		23-143F1-00	"	1														E137

E.C.O. NO.

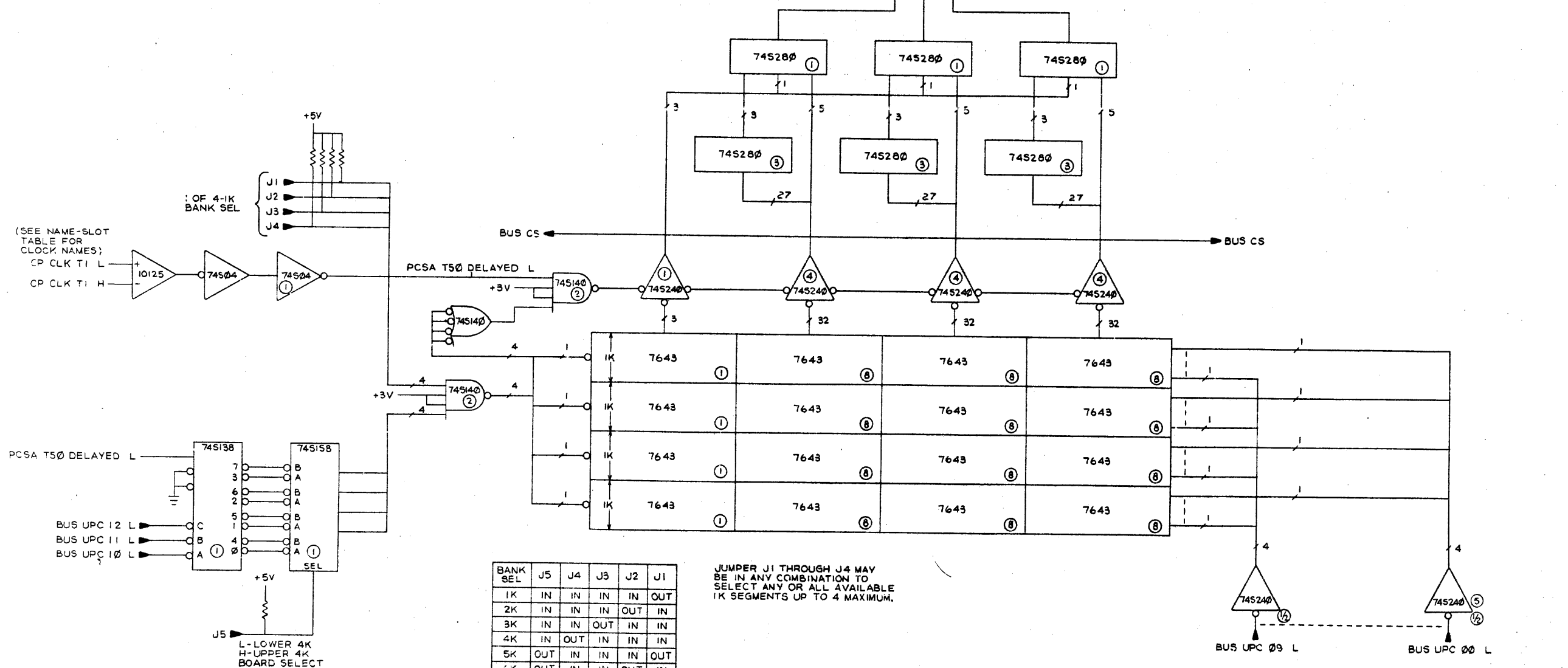
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"	TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
	PROM CONTROL STORE	E-UA-M8234-0-0	B	PL	M8234-0-0	A
SHEET 6 OF 6			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"

SLOTS 22, 20, 18 CAN ACCEPT EITHER PROM CONTROL STORE (PCS) OR WRITABLE CONTROL STORE (WCS)

SLOT 22 PCS NORMAL	SLOT 20 WCS NORMAL	SLOT 18 OCS (OPTIONAL CS, EITHER WCS OR PCS)
CLKC LECL CPTIC1 H CLKC LECL CPTIC1 L	CLKC LECL CPTIB2 H CLKC LECL CPTIB2 L	CLKC LECL CPTIB4 H CLKC LECL CPTIB4 L

PARITY ERROR INDICATORS  
TO CONSOLE AND T41



JUMPER J1 THROUGH J4 MAY BE IN ANY COMBINATION TO SELECT ANY OR ALL AVAILABLE 1K SEGMENTS UP TO 4 MAXIMUM.

BANK SEL	J5	J4	J3	J2	J1
1K	IN	IN	IN	IN	OUT
2K	IN	IN	IN	OUT	IN
3K	IN	IN	OUT	IN	IN
4K	IN	OUT	IN	IN	IN
5K	OUT	IN	IN	IN	OUT
6K	OUT	IN	IN	OUT	IN
7K	OUT	IN	OUT	IN	IN
8K	OUT	OUT	IN	IN	IN

(NORMAL SLOT 22)  
(BLOCK DIAGRAM) (OPTIONAL SLOT 20 OR 18)

DRN. A.M. [Signature]	5/19/77	FIRST USED ON	
CHK'D [Signature]	5/19/77		
ENG. [Signature]	5-17-77	TITLE	PROM CONTROL STORE
PROJ. ENG. [Signature]	5-17-77	SIZE CODE	D CS
PROD. [Signature]	6/2/77	NUMBER	M8234-0-1
NEXT HIGHER ASSY.		REV.	B1
SCALE	1/1	DIST.	
SHEET	1 OF 17		

REVISIONS

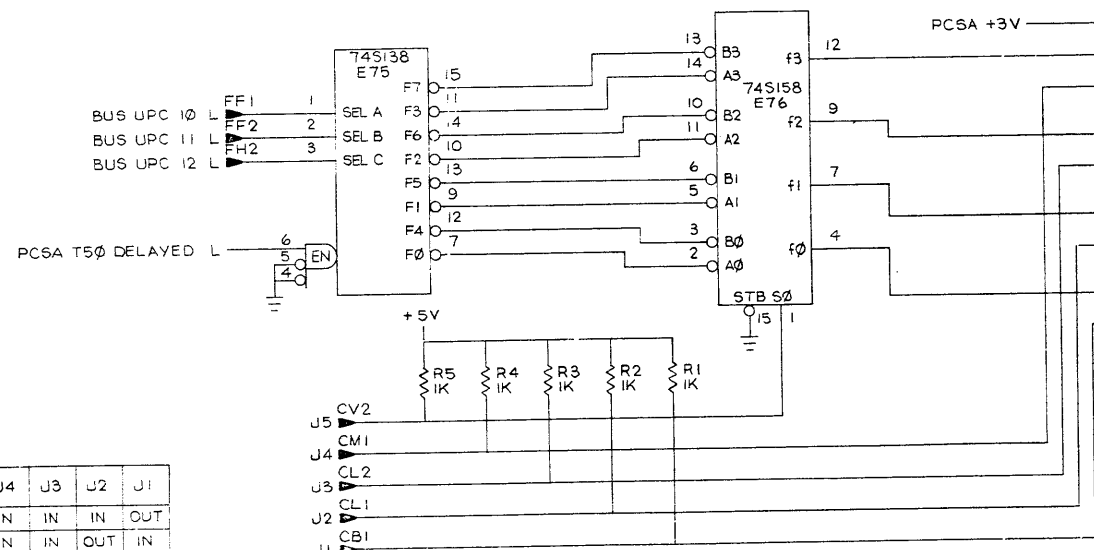
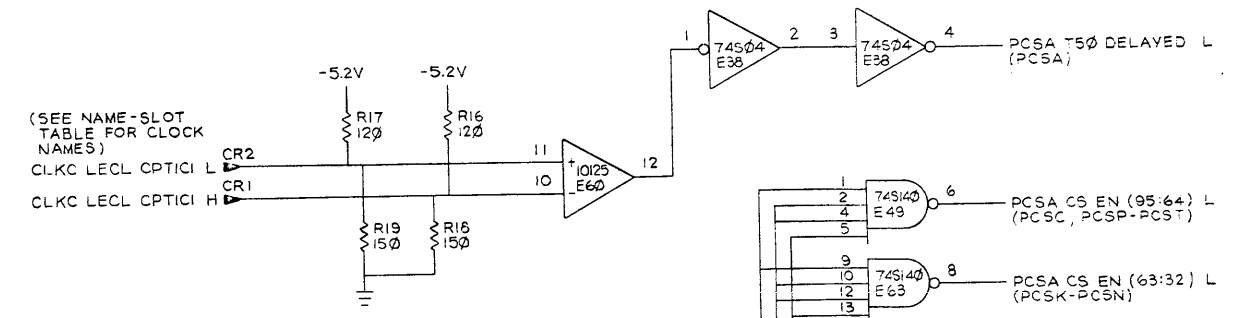
REV.	CHANGE NO.	BY	DATE
1	ECO 003	R. CRUSMAE	5-17-77
2	ECO 004	R. CRUSMAE	6-2-77



"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"

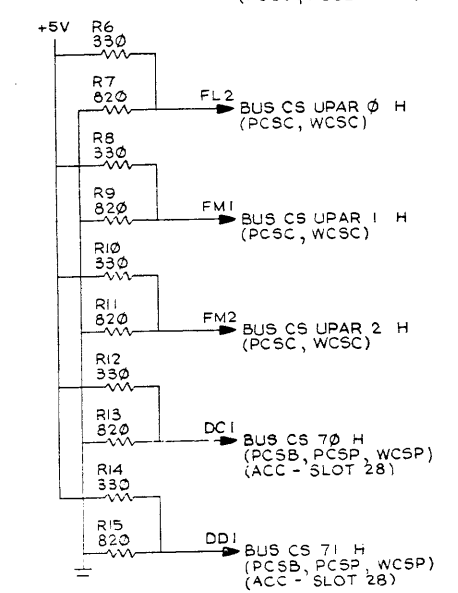
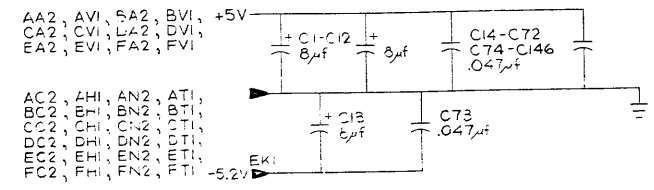
SLOTS 22, 20, 8 CAN ACCEPT EITHER PROM CONTROL STORE (PCS) OR WRITABLE CONTROL STORE (WCS)

SLOT 22 PCS NORMAL	SLOT 20 WCS NORMAL	SLOT 18 OCS (OPTIONAL CS EITHER WCS OR PCS)
CLKC LECL OPTICI H CLKC LECL OPTICI L	CLKC LECL OPTIB2 H CLKC LECL OPTIB2 L	CLKC LECL OPTIB4 H CLKC LECL OPTIB4 L



BANK SEL	J5	J4	J3	J2	J1
1K	IN	IN	IN	IN	OUT
2K	IN	IN	IN	OUT	IN
3K	IN	IN	OUT	IN	IN
4K	IN	OUT	IN	IN	IN
5K	OUT	IN	IN	IN	OUT
6K	OUT	IN	IN	OUT	IN
7K	OUT	IN	OUT	IN	IN
8K	OUT	OUT	IN	IN	IN

JUMPER J1 THROUGH J4 MAY BE IN ANY COMBINATION TO SELECT ANY OR ALL AVAILABLE 1K SEGMENTS UP TO 4 MAXIMUM

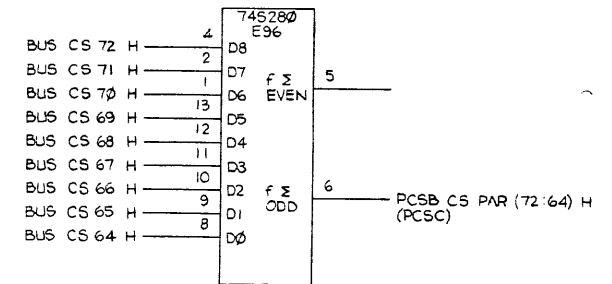
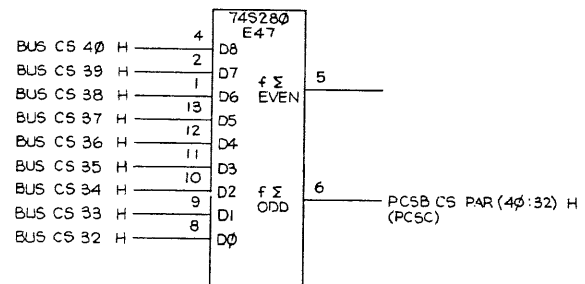
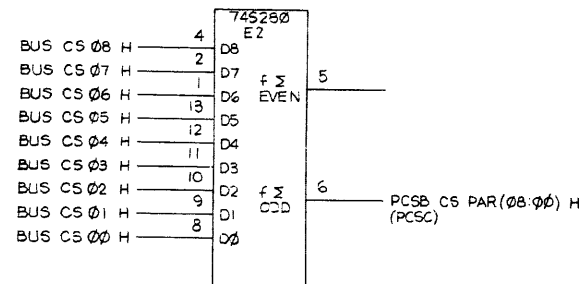
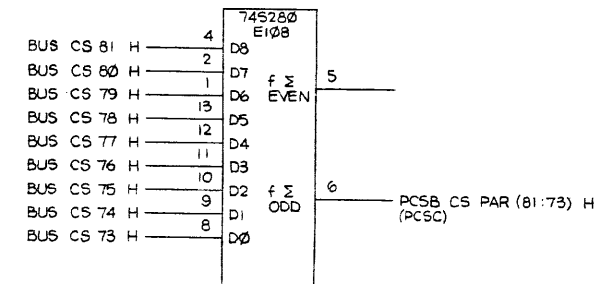
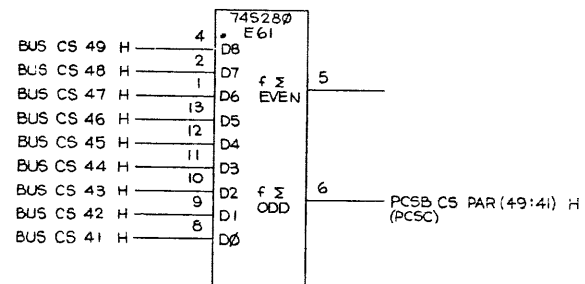
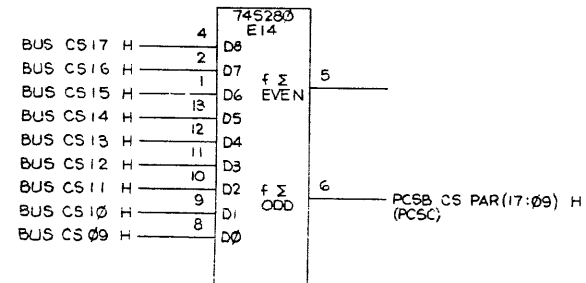
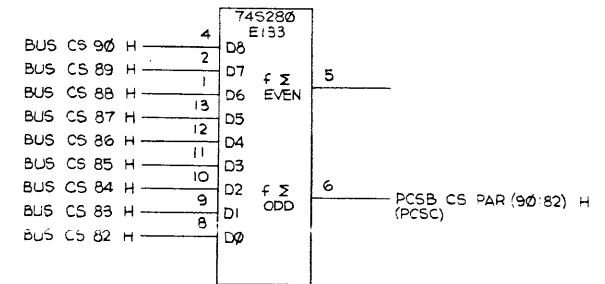
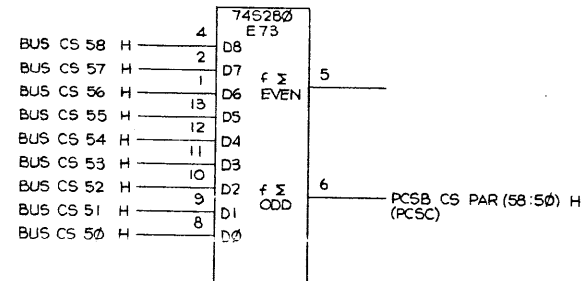
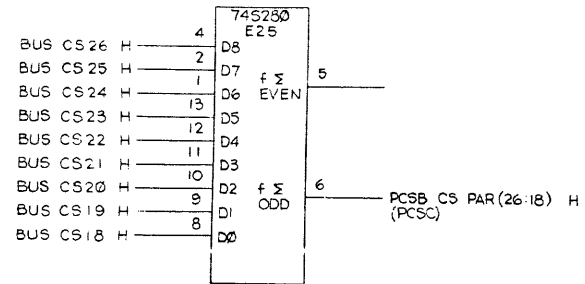


REVISIONS		
CHK	CHANGE NO.	REV.
	EC0023	B

(PROM MEMORY SELECT)		(NORMAL SLOT 22)	
(OPTION SLOT 20 OR 18)			
TITLE	PROM CONTROL STORE (PCSA)	SIZE CODE	D CS
NUMBER	M8234-0-1	REV.	B
SCALE	++	SHEET	2 OF 17
		DIST.	
		TW 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

8 7 6 5 4 3 2 1  
 DCS M8234-0-1  
 2



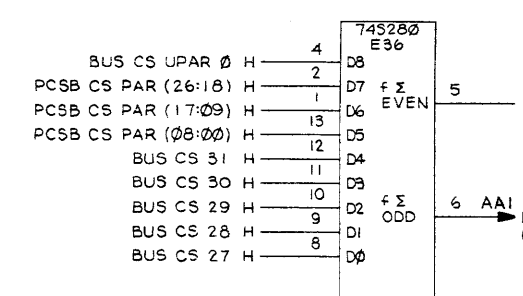
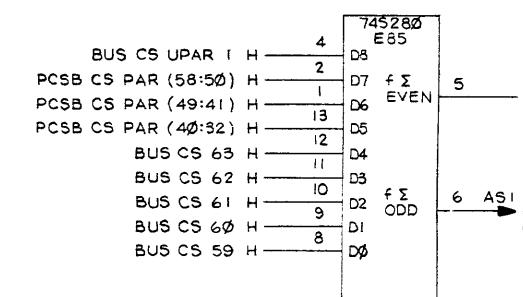
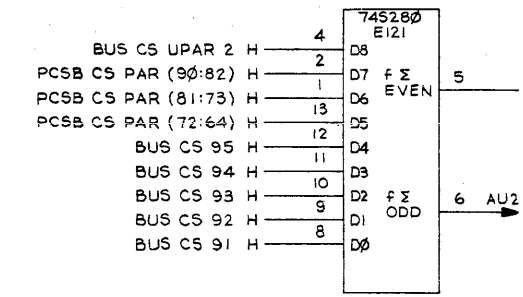
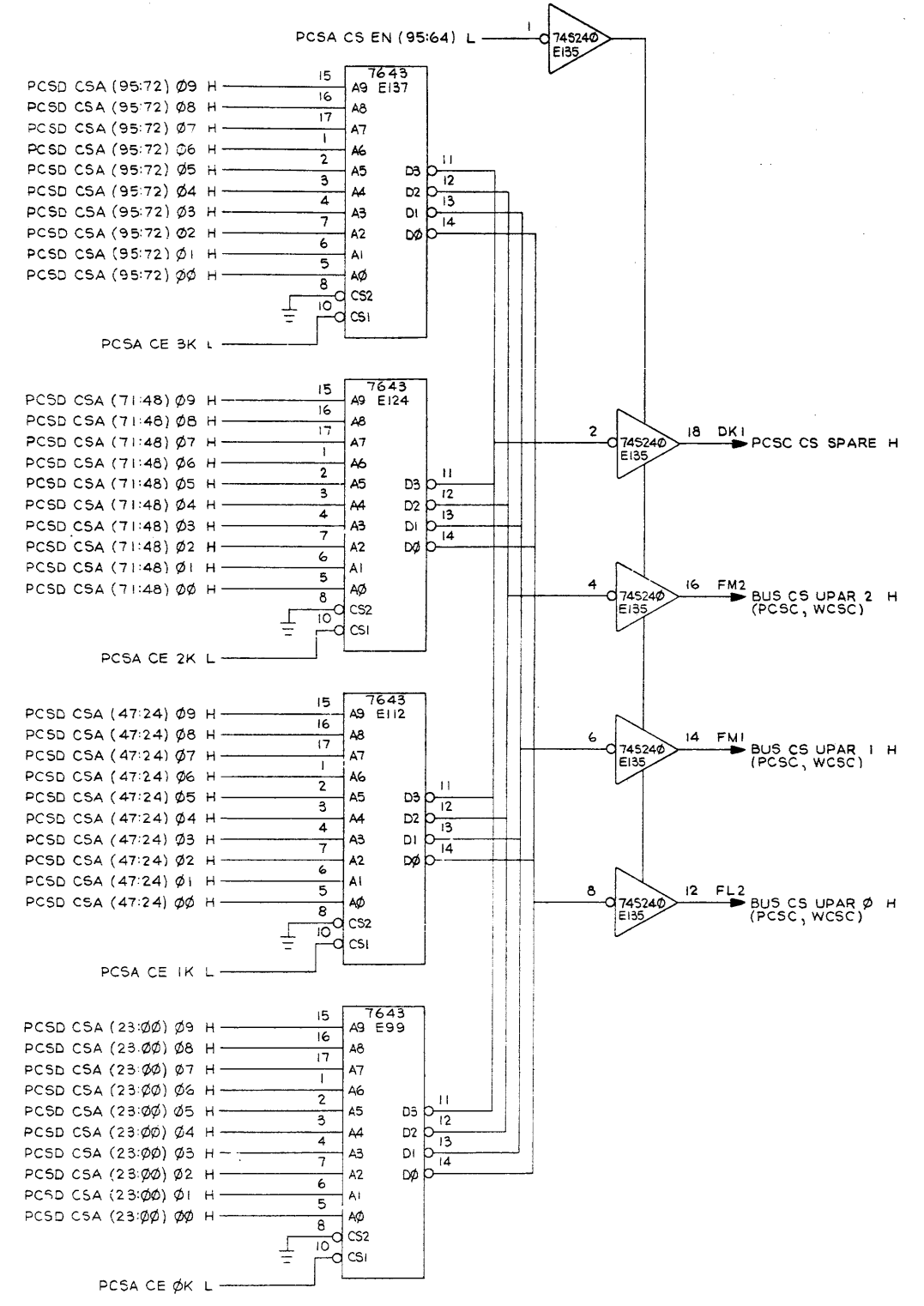
REVISIONS		
CHK	CHANGE NO	REV.
	ECC 023	8

(PARITY) (NORMAL SLOT 22)  
 (OPTION SLOT 20 OR 18)  
 TITLE PROM CONTROL STORE (PCSB) SIZE CODE NUMBER REV.  
 DCS M8234-0-1 B  
 SCALE 1:1 SHEET 3 OF 17 D'IST.

434

8 7 6 5 4 3 2 1  
 DCS M8234-0-1  
 B

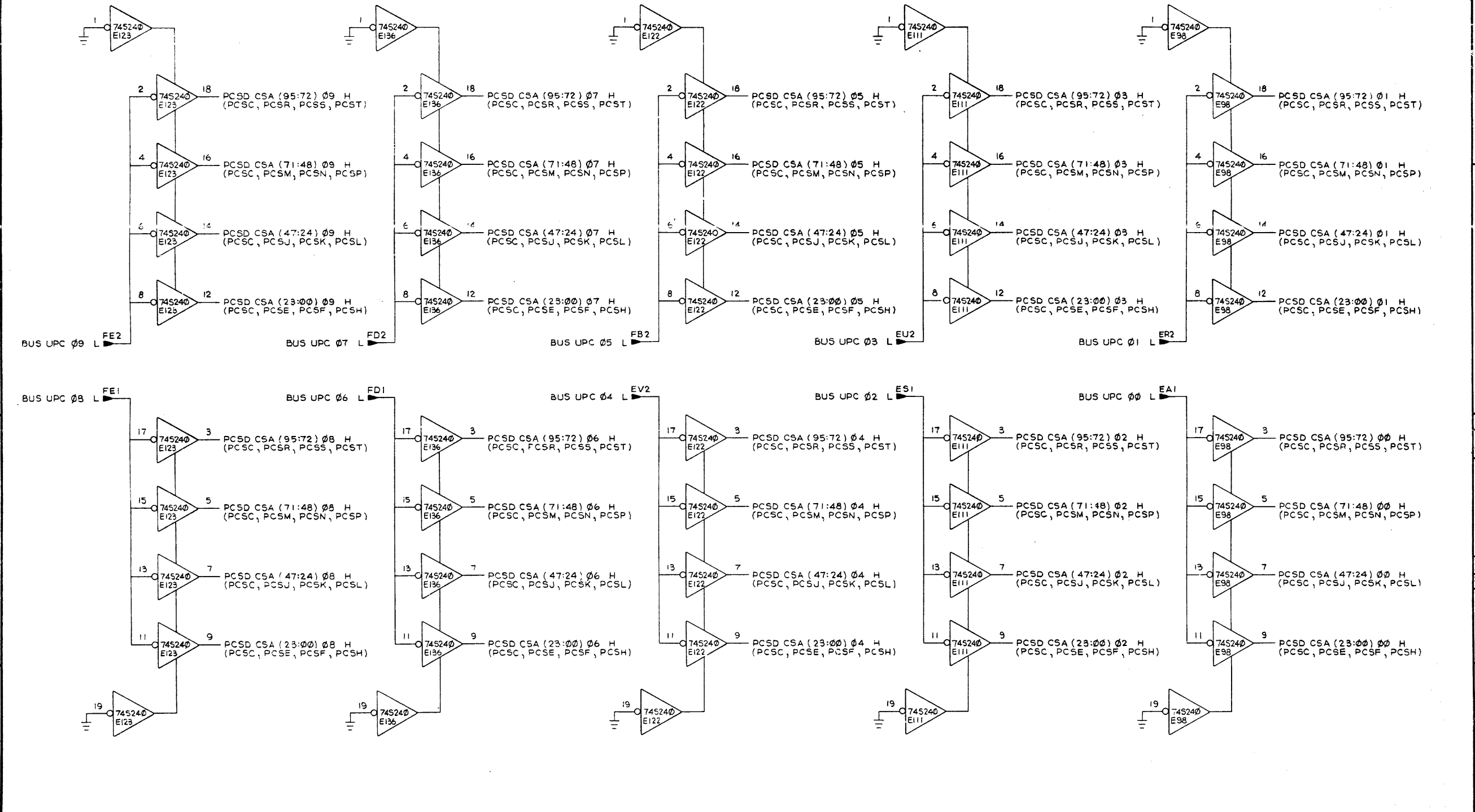
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

(PARITY CHECK)		(NORMAL SLOT 22)	
(OPTION SLOT 20 OR 18)			
TITLE	PROM CONTROL STORE (PCSC)	SIZE CODE	NUMBER
		D CS	M8234 - 0 - 1
SCALE	1/1	SHEET	4 OF 17
		DIST.	
			TW 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.

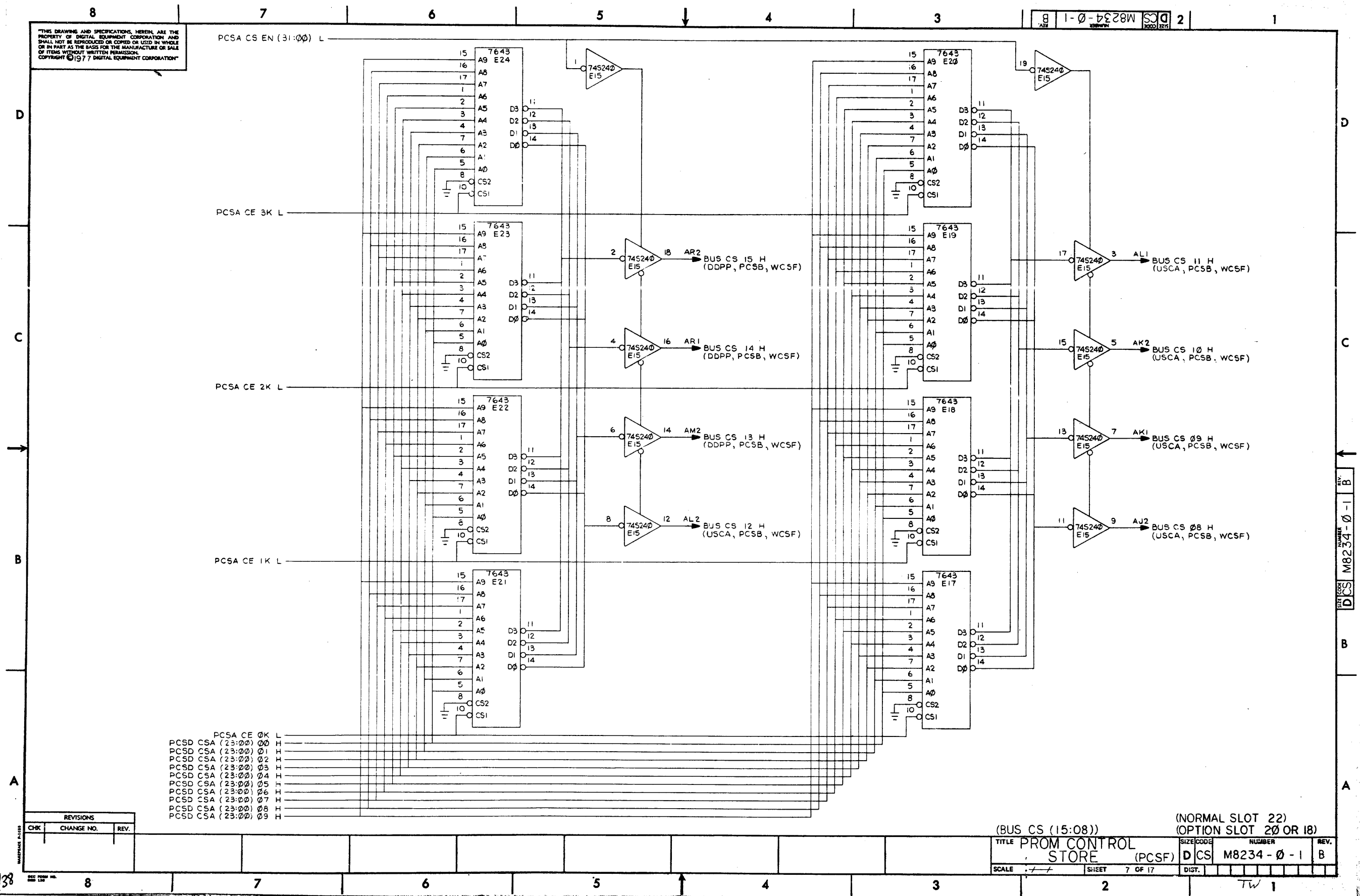


REVISIONS		
CHK	CHANGE NO.	REV.

(NORMAL SLOT 22)  
(PROM MEMORY DRIVERS) (OPTION SLOT 20 OR 18)  
**TITLE** PROM CONTROL STORE (PCSD)  
**SIZE CODE** D CS  
**NUMBER** M8234 - 0 - 1  
**REV.** B  
**SCALE** 1/8  
**SHEET** 5 OF 17  
**DIST.** TW 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"

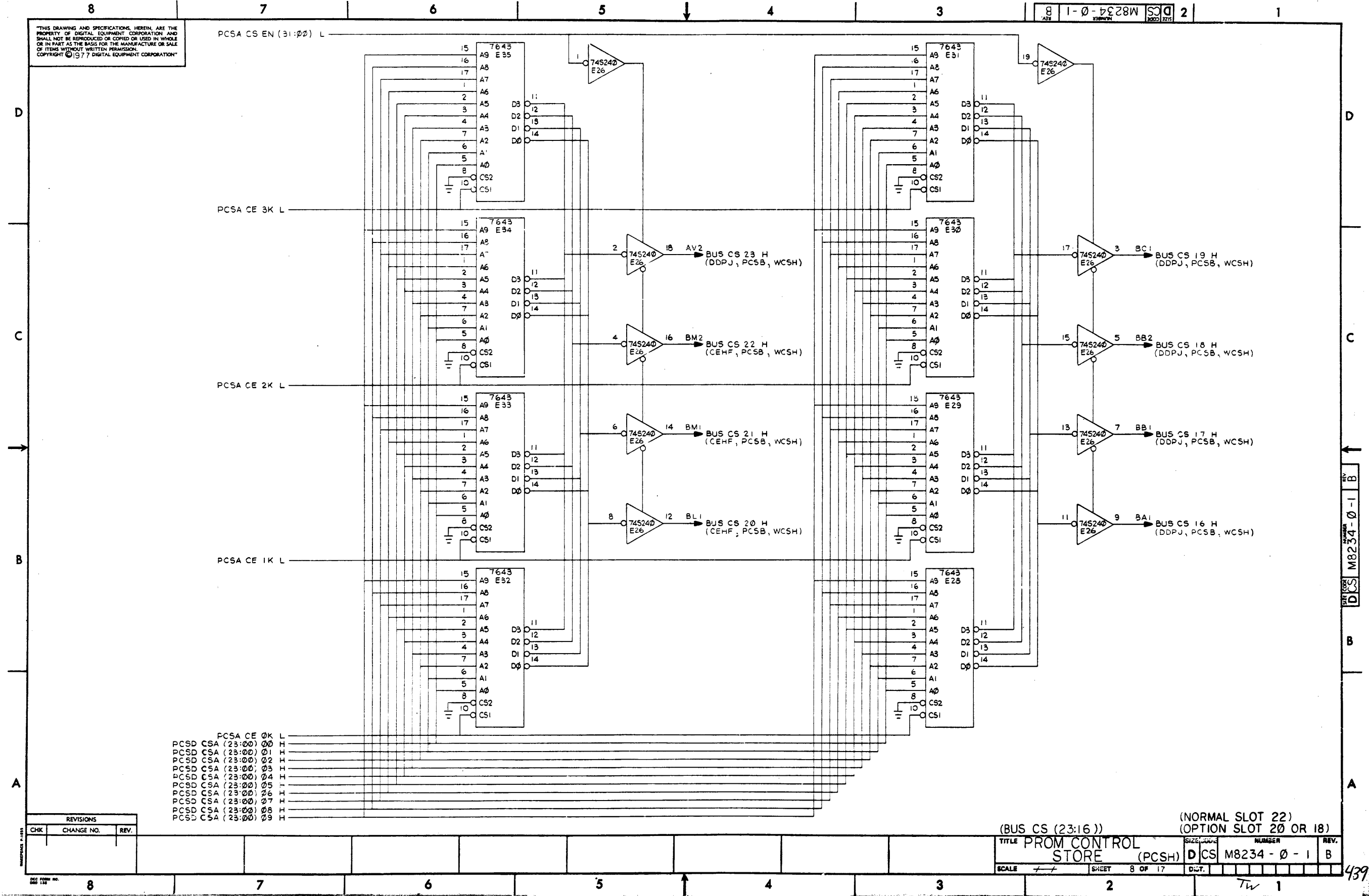


- PCSA CE 0K L
- PCSD CSA (23:00) 00 H
- PCSD CSA (23:00) 01 H
- PCSD CSA (23:00) 02 H
- PCSD CSA (23:00) 03 H
- PCSD CSA (23:00) 04 H
- PCSD CSA (23:00) 05 H
- PCSD CSA (23:00) 06 H
- PCSD CSA (23:00) 07 H
- PCSD CSA (23:00) 08 H
- PCSD CSA (23:00) 09 H

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (15:08))		(NORMAL SLOT 22)	
		(OPTION SLOT 20 OR 18)	
TITLE PROM CONTROL STORE (PCSF)		SIZE CODE DCS	NUMBER M8234-0-1
SCALE	SHEET 7 OF 17	DIST.	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



- PCSA CE 0K L
- PCSD CSA (23:00) 00 H
- PCSD CSA (23:00) 01 H
- PCSD CSA (23:00) 02 H
- PCSD CSA (23:00) 03 H
- PCSD CSA (23:00) 04 H
- PCSD CSA (23:00) 05 H
- PCSD CSA (23:00) 06 H
- PCSD CSA (23:00) 07 H
- PCSD CSA (23:00) 08 H
- PCSD CSA (23:00) 09 H

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (23:16)) (NORMAL SLOT 22)  
 (OPTION SLOT 20 OR 18)  
 TITLE PROM CONTROL STORE (PCSH) DCS M8234-0-1 B  
 SCALE 1:1 SHEET 8 OF 17 DLT. REV. 1

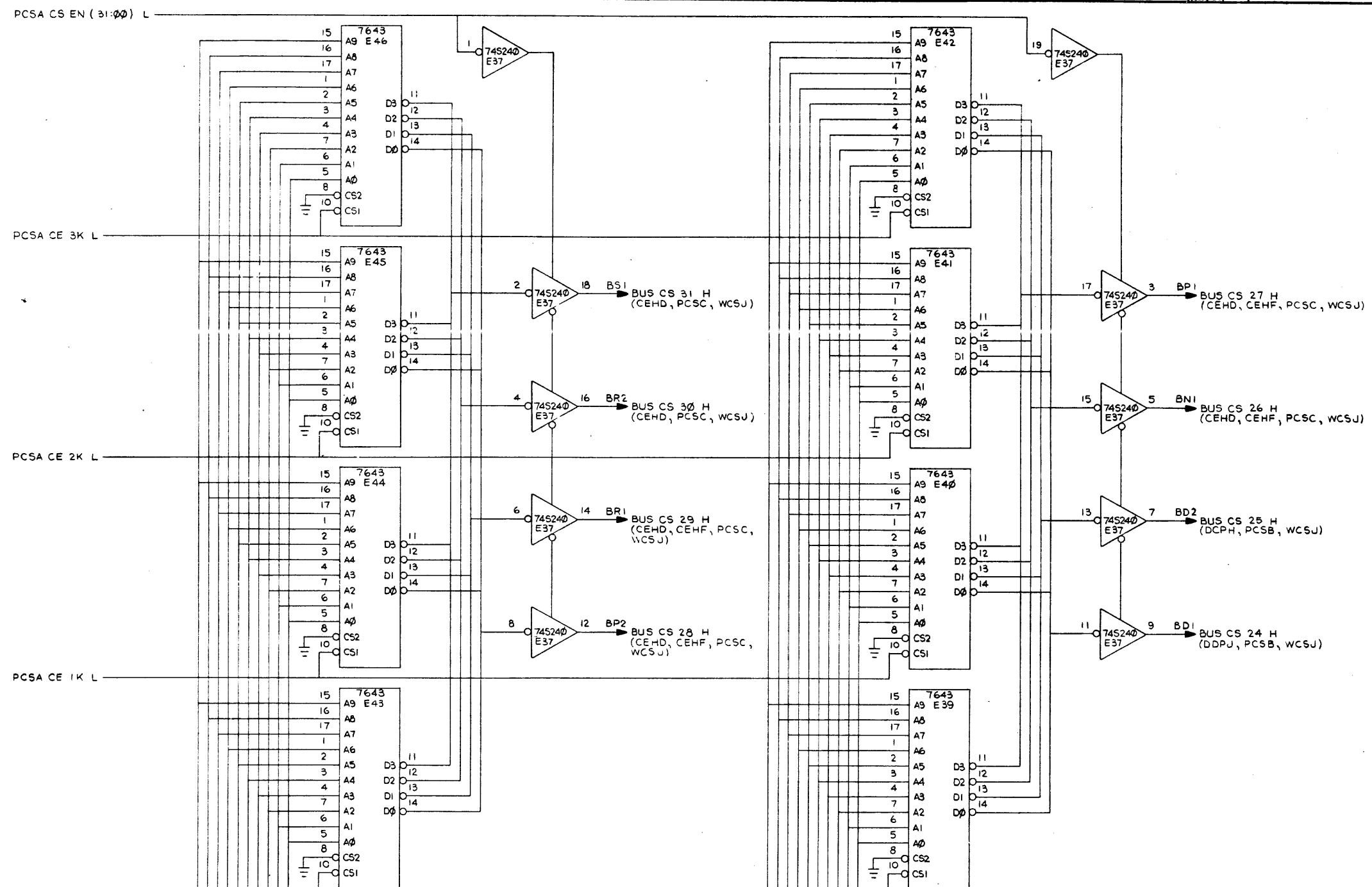
REV. 1  
 M8234-0-1 B

439

"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"

D  
C  
B  
A

D  
C  
B  
A



- PCSA CE 0K L
- PCSD CSA (47:24) 00 H
- PCSD CSA (47:24) 01 H
- PCSD CSA (47:24) 02 H
- PCSD CSA (47:24) 03 H
- PCSD CSA (47:24) 04 H
- PCSD CSA (47:24) 05 H
- PCSD CSA (47:24) 06 H
- PCSD CSA (47:24) 07 H
- PCSD CSA (47:24) 08 H
- PCSD CSA (47:24) 09 H

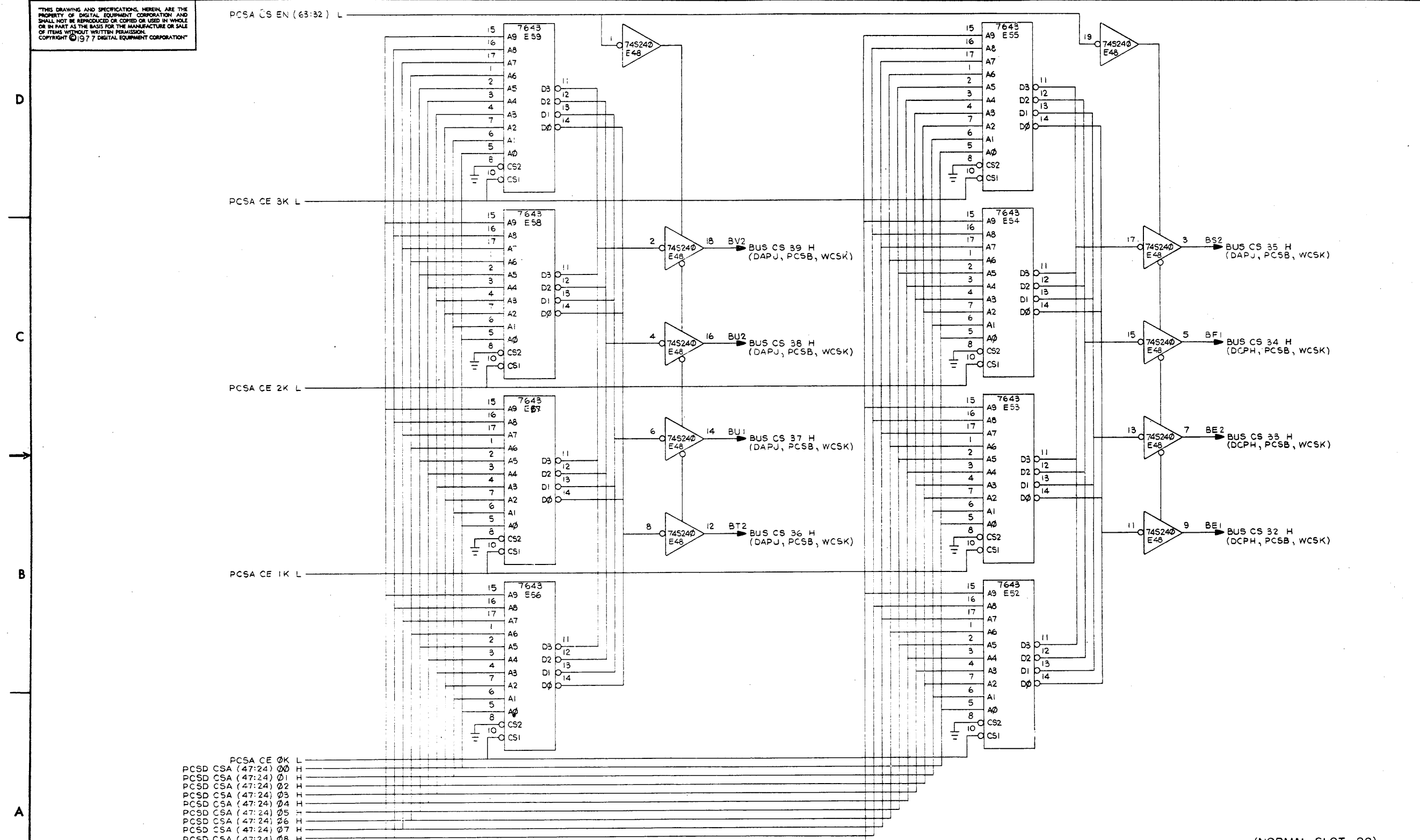
REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (31:24)) (NORMAL SLOT 22)  
 (OPTION SLOT 20 OR 18)

TITLE	PROM CONTROL STORE (PCSJ)	SIZE CODE	DCS	NUMBER	M8234-0-1	REV.	B
SCALE	1/1	SHEET	9 OF 17	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



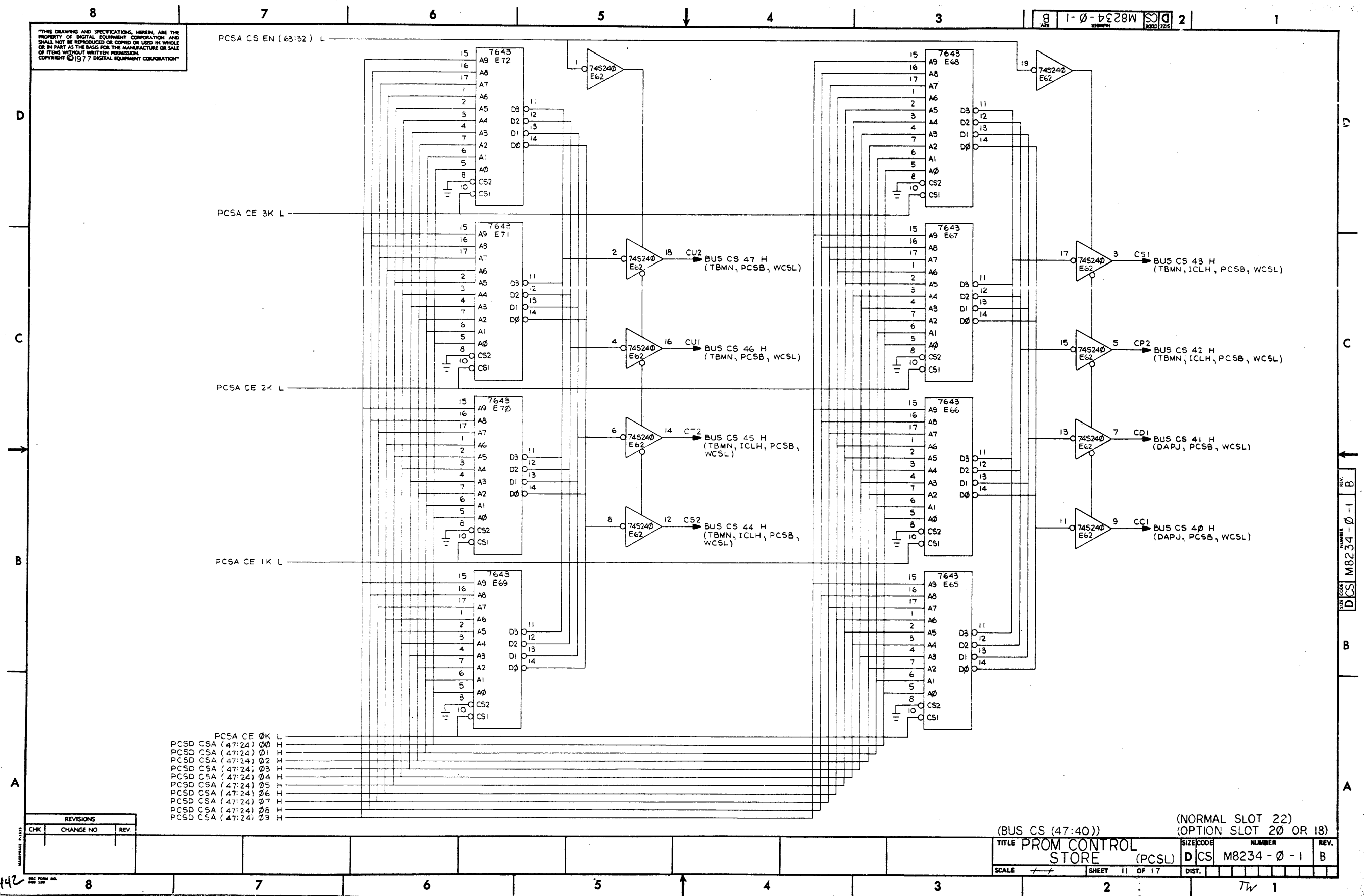
- PCSA CE 0K L
- PCSD CSA (47:24) 00 H
- PCSD CSA (47:24) 01 H
- PCSD CSA (47:24) 02 H
- PCSD CSA (47:24) 03 H
- PCSD CSA (47:24) 04 H
- PCSD CSA (47:24) 05 H
- PCSD CSA (47:24) 06 H
- PCSD CSA (47:24) 07 H
- PCSD CSA (47:24) 08 H
- PCSD CSA (47:24) 09 H

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (39:32))		(NORMAL SLOT 22)	
TITLE PROM CONTROL STORE (PCSK)		SIZE CODE DCS	NUMBER M8234-0-1
SCALE	SHEET 10 OF 17	DIST.	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"

1-0-b229W 2

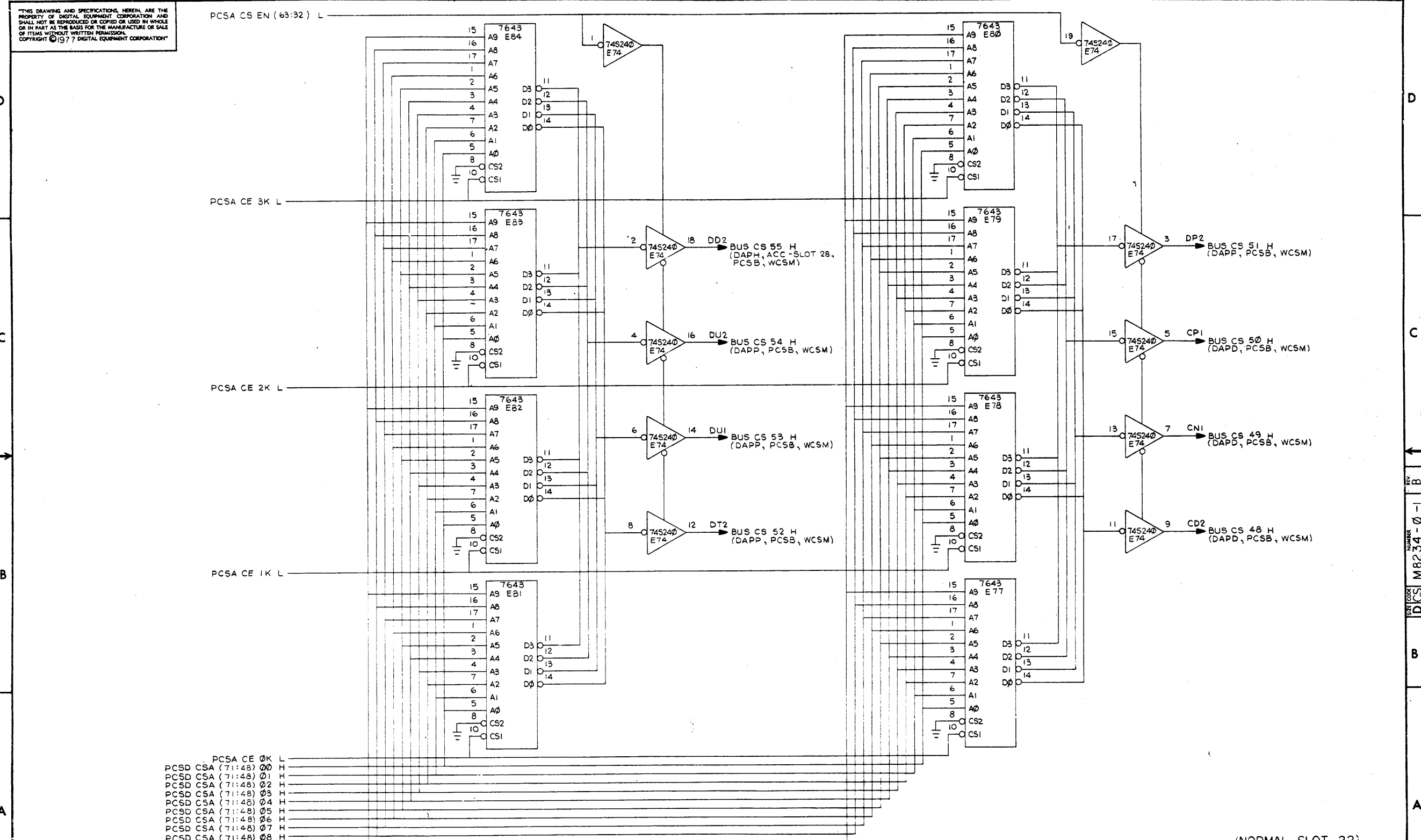


- PCSA CE 0K L
- PCSD CSA (47:24) 00 H
- PCSD CSA (47:24) 01 H
- PCSD CSA (47:24) 02 H
- PCSD CSA (47:24) 03 H
- PCSD CSA (47:24) 04 H
- PCSD CSA (47:24) 05 H
- PCSD CSA (47:24) 06 H
- PCSD CSA (47:24) 07 H
- PCSD CSA (47:24) 08 H
- PCSD CSA (47:24) 09 H

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (47:40)) (NORMAL SLOT 22)  
 (OPTION SLOT 20 OR 18)  
 TITLE PROM CONTROL STORE (PCSL) SIZE CODE DCS NUMBER M8234-0-1 REV. B  
 SCALE 1:1 SHEET 11 OF 17 DIST. TW 1

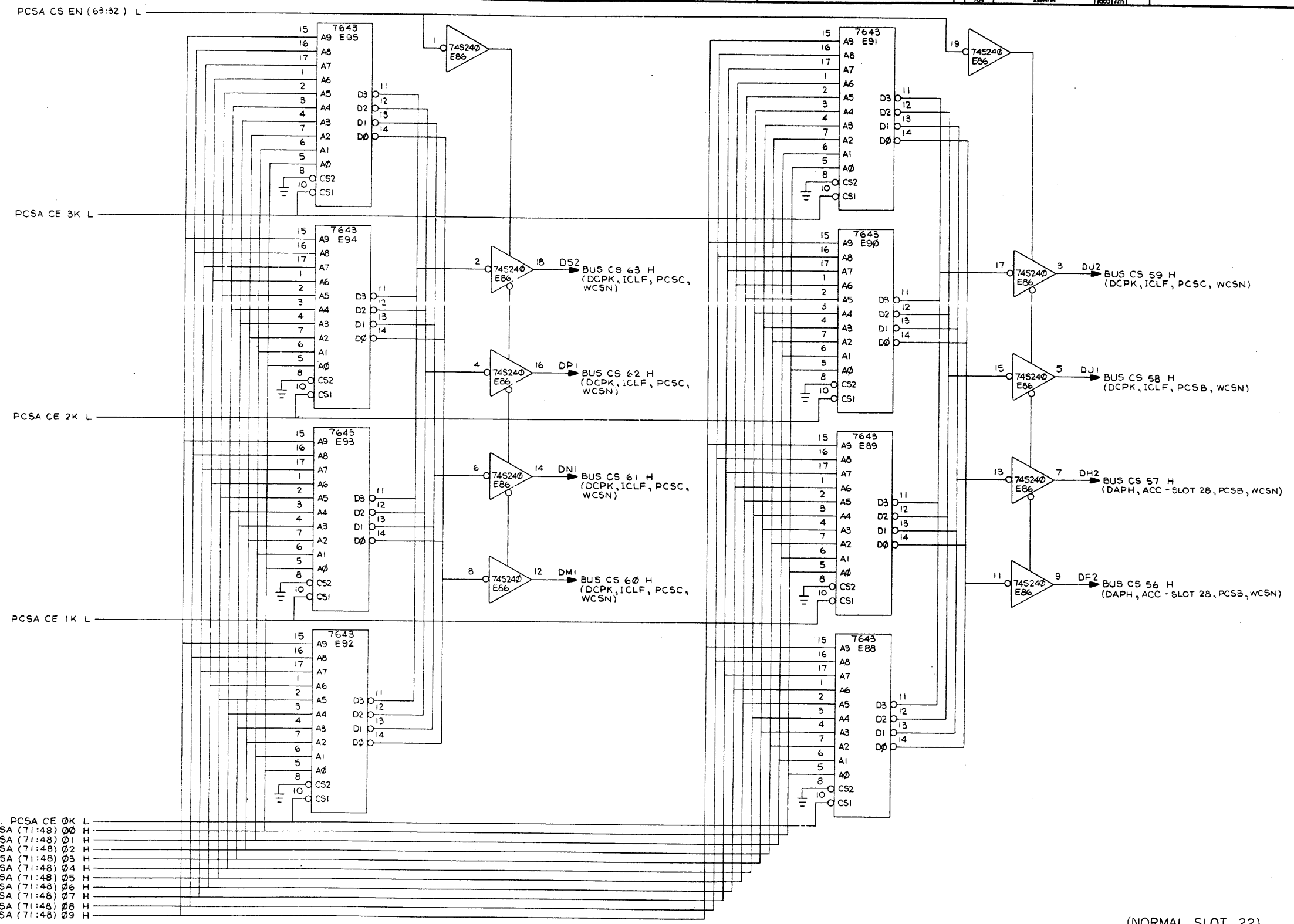
442



REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 003	B

(BUS CS (55:48))		(NORMAL SLOT 22)	
TITLE PROM CONTROL STORE (PCSM)		OPTION SLOT 20 OR 18	
SCALE	SHEET 12 OF 17	DIST.	REV. B

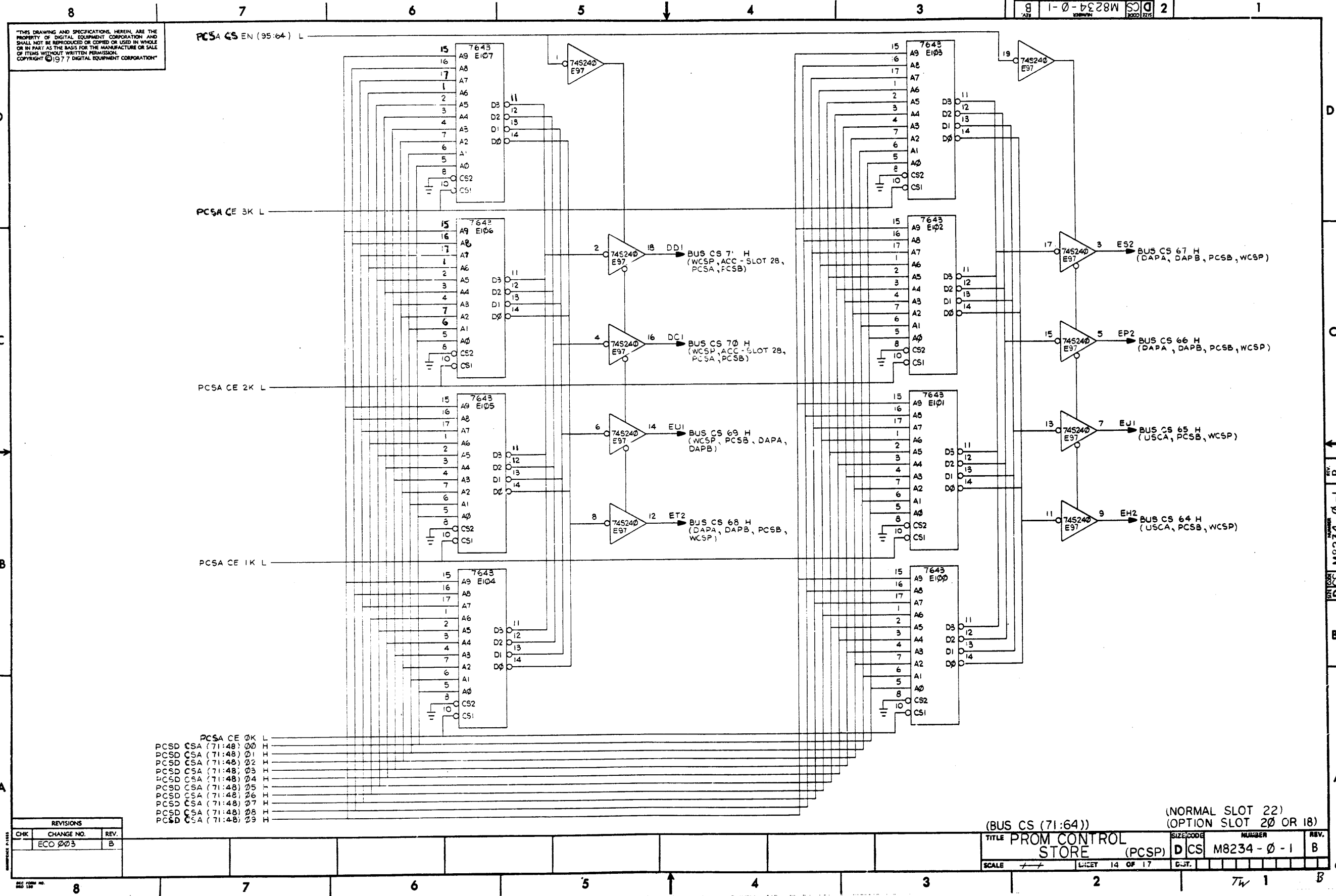
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION, AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



- PCSA CE 0K L
- PCSD CSA (71:48) 00 H
- PCSD CSA (71:48) 01 H
- PCSD CSA (71:48) 02 H
- PCSD CSA (71:48) 03 H
- PCSD CSA (71:48) 04 H
- PCSD CSA (71:48) 05 H
- PCSD CSA (71:48) 06 H
- PCSD CSA (71:48) 07 H
- PCSD CSA (71:48) 08 H
- PCSD CSA (71:48) 09 H

REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 003	B

(BUS CS (63:56))		(NORMAL SLOT 22) (OPTION SLOT 20 OR 18)	
TITLE PROM CONTROL STORE (PCSN)			REV. B
SCALE 1/1	SHEET 13 OF 17	DIST.	NUMBER M8234-0-1



"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.
	ECO 003	B

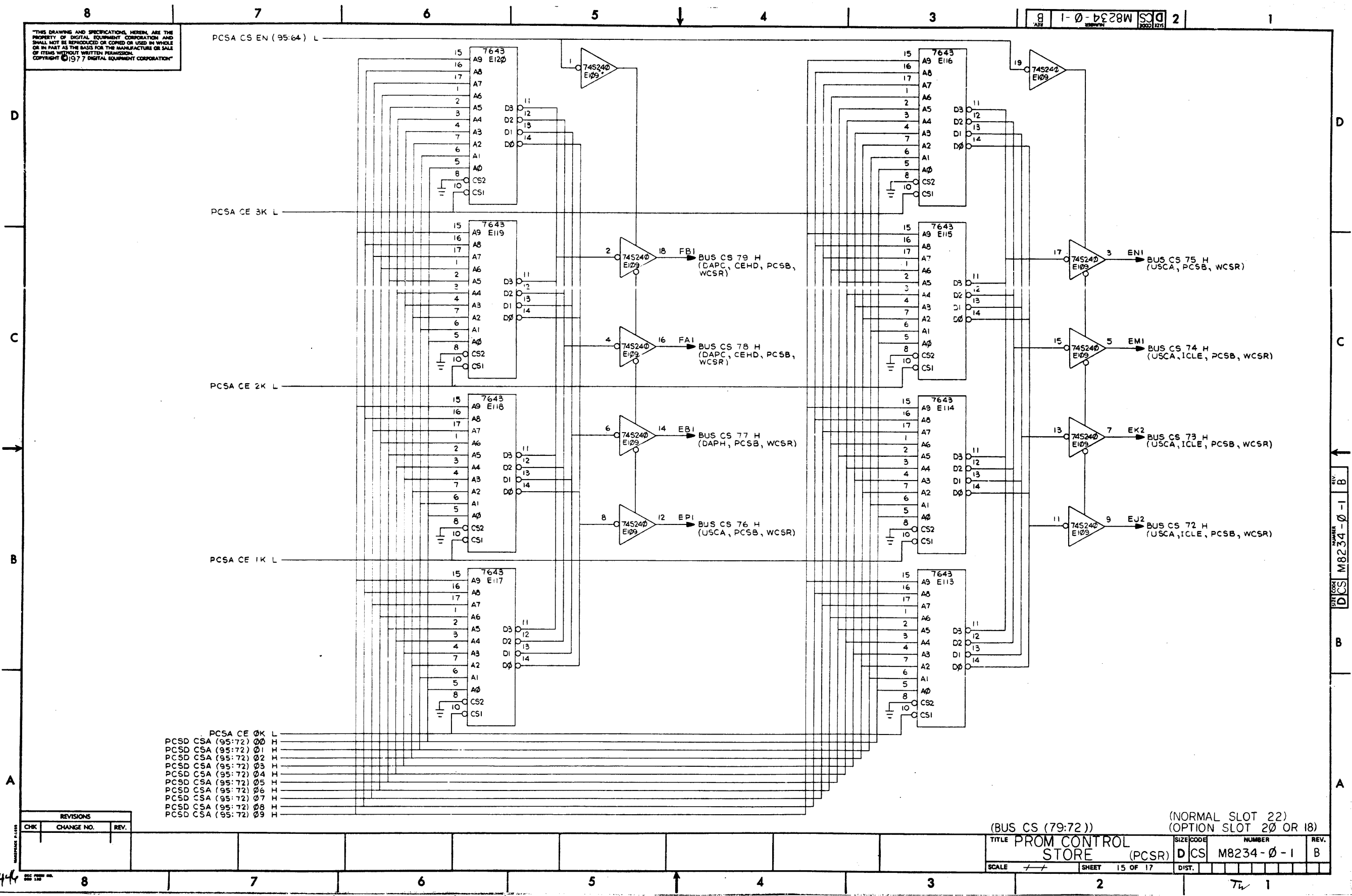
- PCSA CE 0K L
- PCSD CSA (71:48) 00 H
- PCSD CSA (71:48) 01 H
- PCSD CSA (71:48) 02 H
- PCSD CSA (71:48) 03 H
- PCSD CSA (71:48) 04 H
- PCSD CSA (71:48) 05 H
- PCSD CSA (71:48) 06 H
- PCSD CSA (71:48) 07 H
- PCSD CSA (71:48) 08 H
- PCSD CSA (71:48) 09 H

(BUS CS (71:64)) (NORMAL SLOT 22)  
 (OPTION SLOT 20 OR 18)

TITLE	PROM CONTROL STORE (PCSP)	SIZE/DATE	DCS	NUMBER	M8234-0-1	REV.	B
SCALE	1:1	SHEET	14	OF	17	EST.	

445

"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"



- PCSA CE 0K L
- PCSD CSA (95:72) 00 H
- PCSD CSA (95:72) 01 H
- PCSD CSA (95:72) 02 H
- PCSD CSA (95:72) 03 H
- PCSD CSA (95:72) 04 H
- PCSD CSA (95:72) 05 H
- PCSD CSA (95:72) 06 H
- PCSD CSA (95:72) 07 H
- PCSD CSA (95:72) 08 H
- PCSD CSA (95:72) 09 H

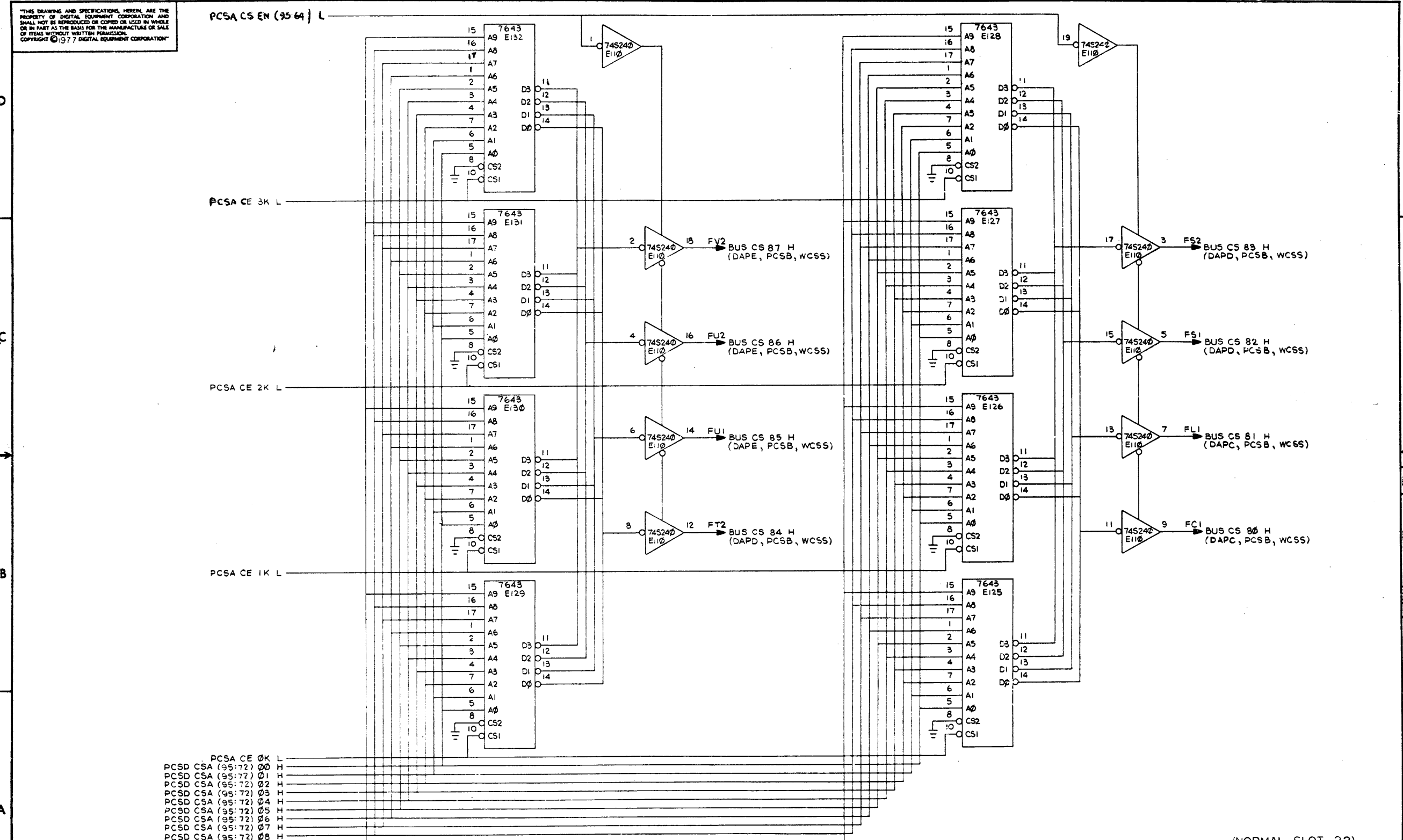
REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (79:72))		(NORMAL SLOT 22)	
(OPTION SLOT 20 OR 18)		TITLE PROM CONTROL STORE (PCSR)	
SIZE CODE	NUMBER	DIST.	REV.
DCS	M8234-0-1	B	B
SCALE	SHEET 15 OF 17		

"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"

D  
C  
B  
A

D  
C  
B  
A



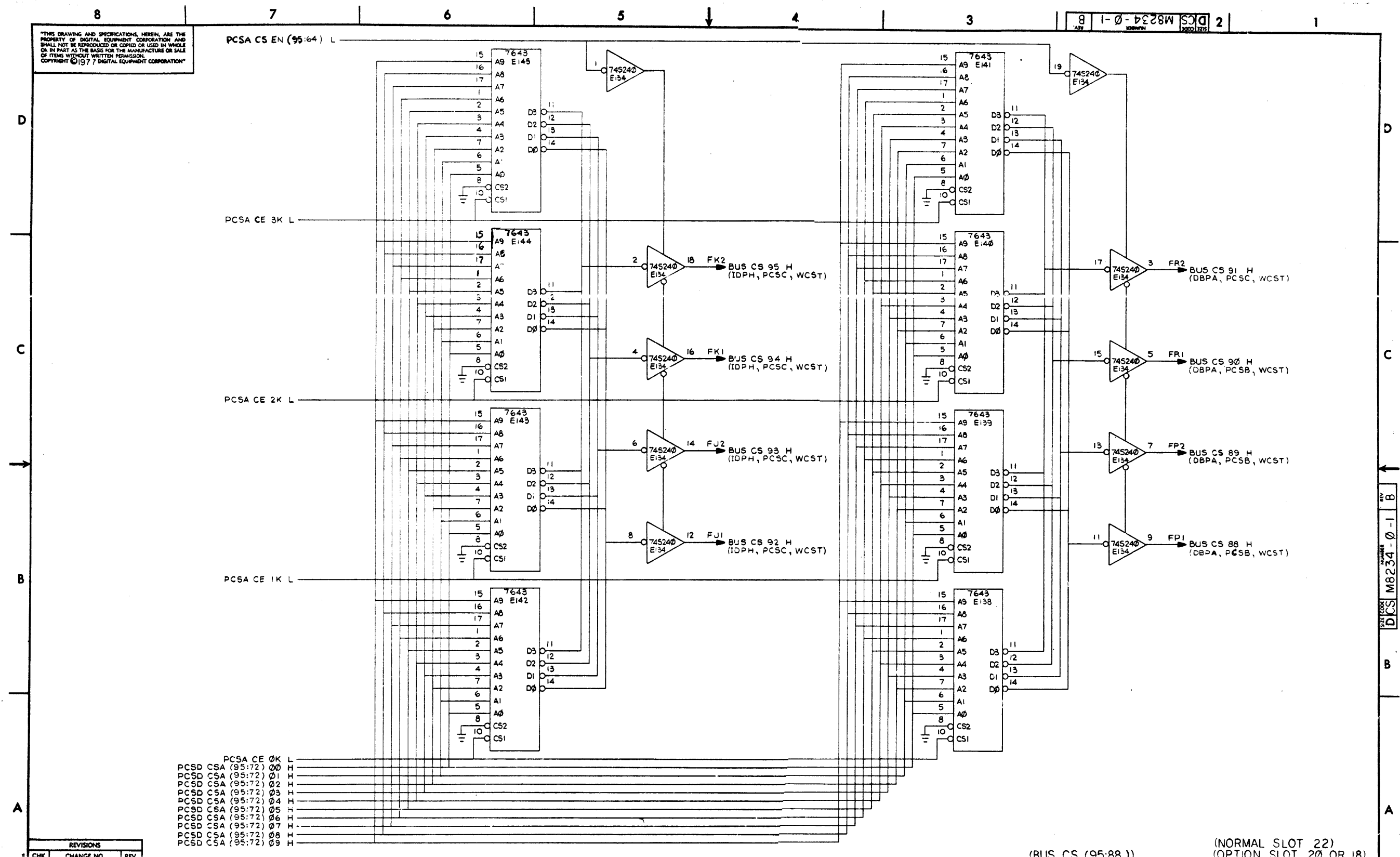
REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (87:80)) (NORMAL SLOT 22)  
 PROM CONTROL STORE (PCSS) (OPTION SLOT 20 OR 18)

TITLE	SIZE/SCALE	NUMBER	REV.
PROM CONTROL STORE (PCSS)	DCS	M8234-0-1	B
SCALE	SHEET	DIST.	
++	16 OF 17		

447

"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"



- PCSD CSA (95:72) 00 H
- PCSD CSA (95:72) 01 H
- PCSD CSA (95:72) 02 H
- PCSD CSA (95:72) 03 H
- PCSD CSA (95:72) 04 H
- PCSD CSA (95:72) 05 H
- PCSD CSA (95:72) 06 H
- PCSD CSA (95:72) 07 H
- PCSD CSA (95:72) 08 H
- PCSD CSA (95:72) 09 H

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (95:88)) (NORMAL SLOT 22)  
 (OPTION SLOT 20 OR 18)

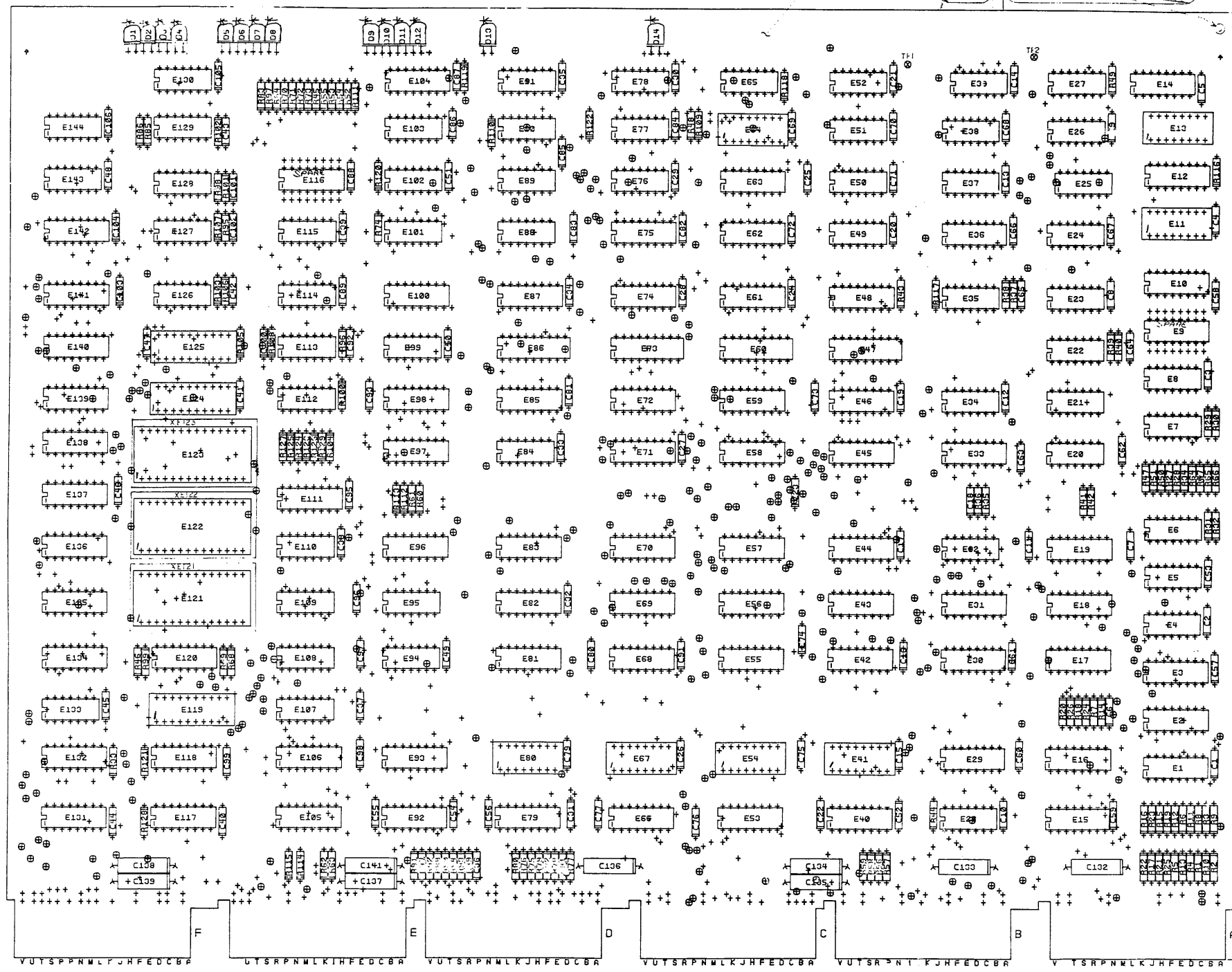
TITLE PROM CONTROL STORE (PCST) SIZE CODE NUMBER REV.  
 DCS M8234-0-1 B

SCALE 1:1 SHEET 17 OF 17 DIST. TW 1

448



COMPONENT SIDE VIEW



DATE	4/22/77
DRN	W. J. ...
CHK'D	...
ENG.	...
PROD. ENGR.	...
SHY.	...
EXT. APPROV.	...

REV.	1	DATE	4/22/77
REV.	2	DATE	...
REV.	3	DATE	...
REV.	4	DATE	...
REV.	5	DATE	...
REV.	6	DATE	...
REV.	7	DATE	...
REV.	8	DATE	...
REV.	9	DATE	...

11 1/8 IN.  
302.62 MM  
F.B.S.

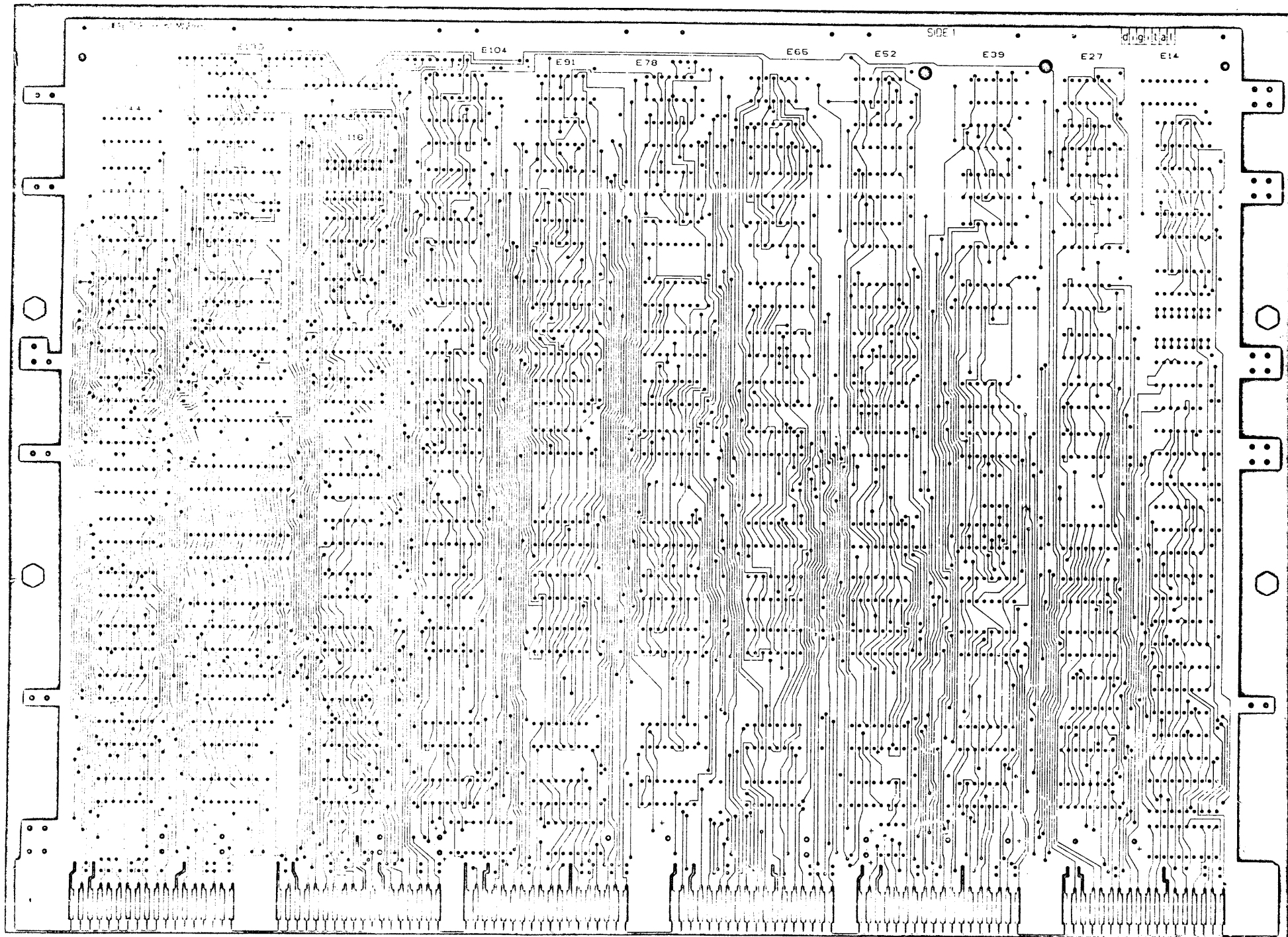
CHANGE NO.	...
REV.	...
DATE	...
BY	...
CHK'D	...
DATE	...
BY	...

NOTES:	...
...	...
...	...

E 144 M0235-00 K

449

LAYER 1

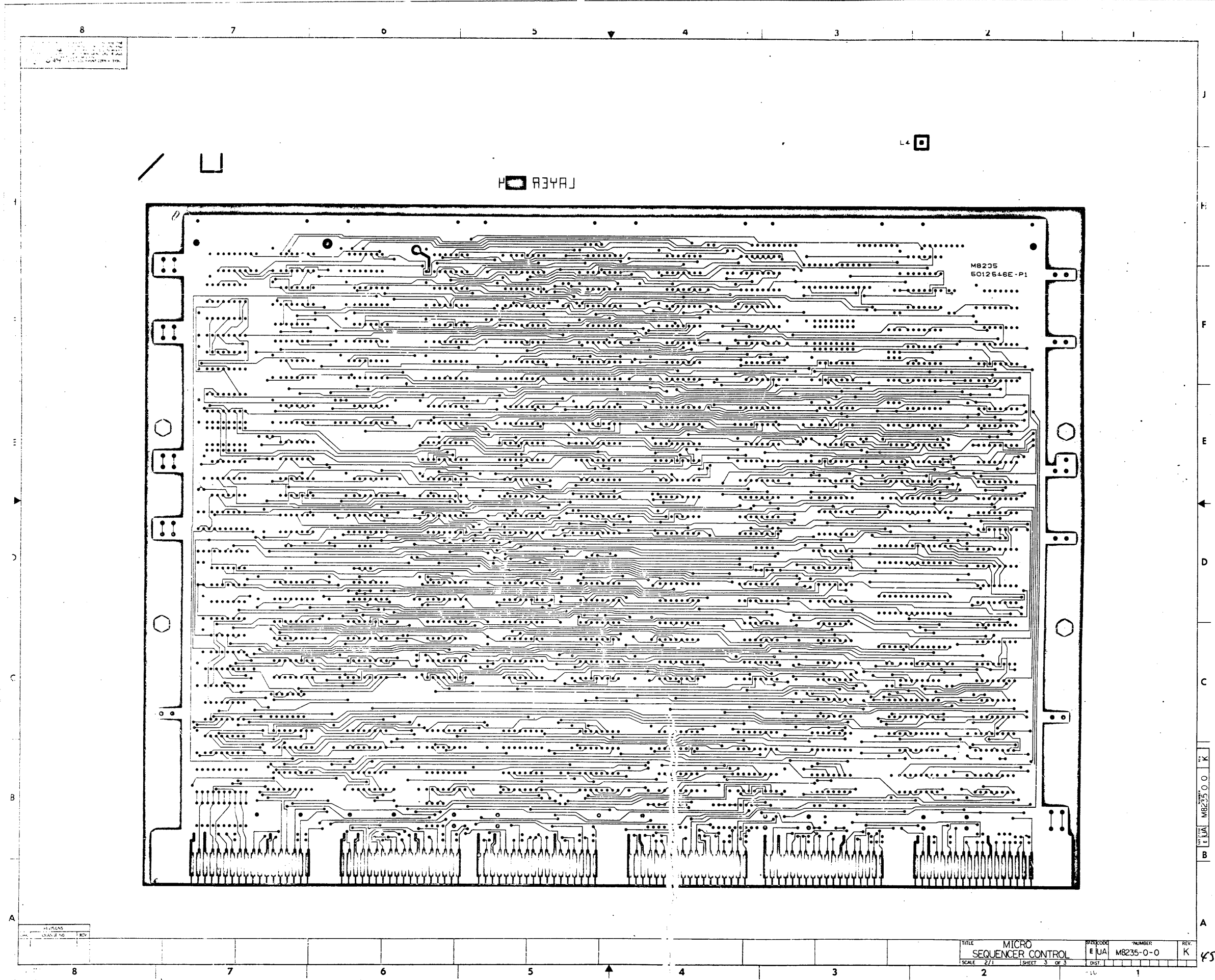


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K

450

MICRO SEQUENCER CONTROL

EUA M8235-0-C K



REV. 1  
DATE: 11/14/74  
BY: EJA

M8235  
6012646E-P1

H R34AJ

REV.	DATE	BY
1	11/14/74	EJA

TITLE	PROJ. NO.	NUMBER	REV.
MICRO SEQUENCER CONTROL	EJA	M8235-0-0	K

SCALE 2/1 SHEET 3 OF 3 DIST 1

EJA M8235 0 0 K

KS

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1	1	E-MD-5012546-0-0	5012546-00	M8235	1		
2	2		1012784-00	.047 MFD 50V -20+80 CER	103		C1-C77,C79-C89,C91-C93,C95-C106
3	3		1012084-01	8 MFD 25V G% 30D AL EL	9		C132-C139,C141
4	4		1110324-00	LED 1MCD@10MA PIV=3	14		D1-D14
5	5		9008085-00	TERM PCB 1POS SOLDER TURRET	2		TP1,TP2
6	6		1215006-07	SOCKET 28PIN IC LOW PROFILE	3		XE121,XE122,XE123
7	7		1300295-00	330 1/4W 5% CC	17		R1,R3,R4,R9,R12-R15,R18,R19,R22, CONT R23,R26,R60,R62,R112,R114
8	8		1301775-00	820 1/4W 5% CC	30		R2,R5-R8,R10,R11,R16,R17,R20, CONT R21,R24,R25,R27,R30,R32,R34,R36, CONT R37,R40,R41,R47,R50,R61,R63,R65, CONT R66,R69,R113,R115 R43,R44,R48,R49,R74,R95-R110, CONT R116-R129
9	9		1300365-00	1 K 1/4W 5% CC	35		R56,R50,R76,R78,R79,R81,R90-R93 CONT R57,R59,R75,R77,R80,R82,R87-R89, R94
10	10		1300247-00	120 1/4W 5% CC	10		E51,E89,E110
11	11		1300250-00	150 1/4W 5% CC	10		E103,E143
12	12		1910532-00	74S00 NAND GATE-QUAD 2IN6	3		E4,E6,E7
13	13		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	2		E49,E76,E94,E108,E133
14	14		1910533-00	74S03 NAND GATE-QUAD 2IN,0	3		E5,E114,E115,E144
15	15		1910534-00	74S04 INVERTER GATE-HEX 1I	5		E91,E109,E107
16	16		1910535-00	74S05 INVERTER GATE-HEX 1	4		E39
17	17		1910536-00	74S10 NAND GATE-TRIPLE 3IN	3		E27,E77,E78,E88,E95
18	18		1912389-00	74S08 AND GATE-QUAD 2IN,PO	1		E99
19	19		1910537-00	74S11 AND GATE-TRIPLE 3INP	5		E112,E113,E126-E130
20	20		1910539-00	74S20 NAND GATE-DUAL 4INPU	1		E52,E65
21	21		1910540-00	74S22 NAND GATE-DUAL 4INPU	7		E8,E20,E21,E22,E23,E32,E34,E35
22	22		1910542-00	74S64 A-O-I GATE 4-2-3-2	2		E14
23	23		1910543-00	74S65 A-O-I GATE 4-2-3-2	8		
24	24		1910545-00	74S112 FF-JK DUAL,EDGE TRIG	1		

REVISION HISTORY			BASIC PART NO: M8235			D I G I T A L		
ENG	ECO NUMBER	REV	SECTION A OF A	DRN:	M. FUNARO	DATE:	12-APR-78	
S,C	00004	F	SECTION, VARIATION INDEX	CHK'D:	F. GAROFALO	DATE:	12-APR-78	TITLE
LD	TW006	J	(A) 00					PARTS LIST
S,J	TW007	K	(B)	DES.ENG:	BOB SIMS	DATE:	18-MAY-78	MIRCO SEQ. CONTROL
			(C)					
			(D)	RESP.ENG.:	L. DICKEY	DATE:	18-MAY-78	DOCUMENT NUMBER
			(E)					
			(F)					
			(G)					
			(H)	MFG.ENG.:	M. TERELLA	DATE:	18-MAY-78	SIZE:CODE: NUMBER REV
			(I)					K PL M8235-0-DBP K
			(J)	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: EDIT #
			(K)	E-UA-M8235-0-0		M8235		Z0387J,PLS 15

"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 (C) 1979, DIGITAL EQUIPMENT CORPORATION "

452

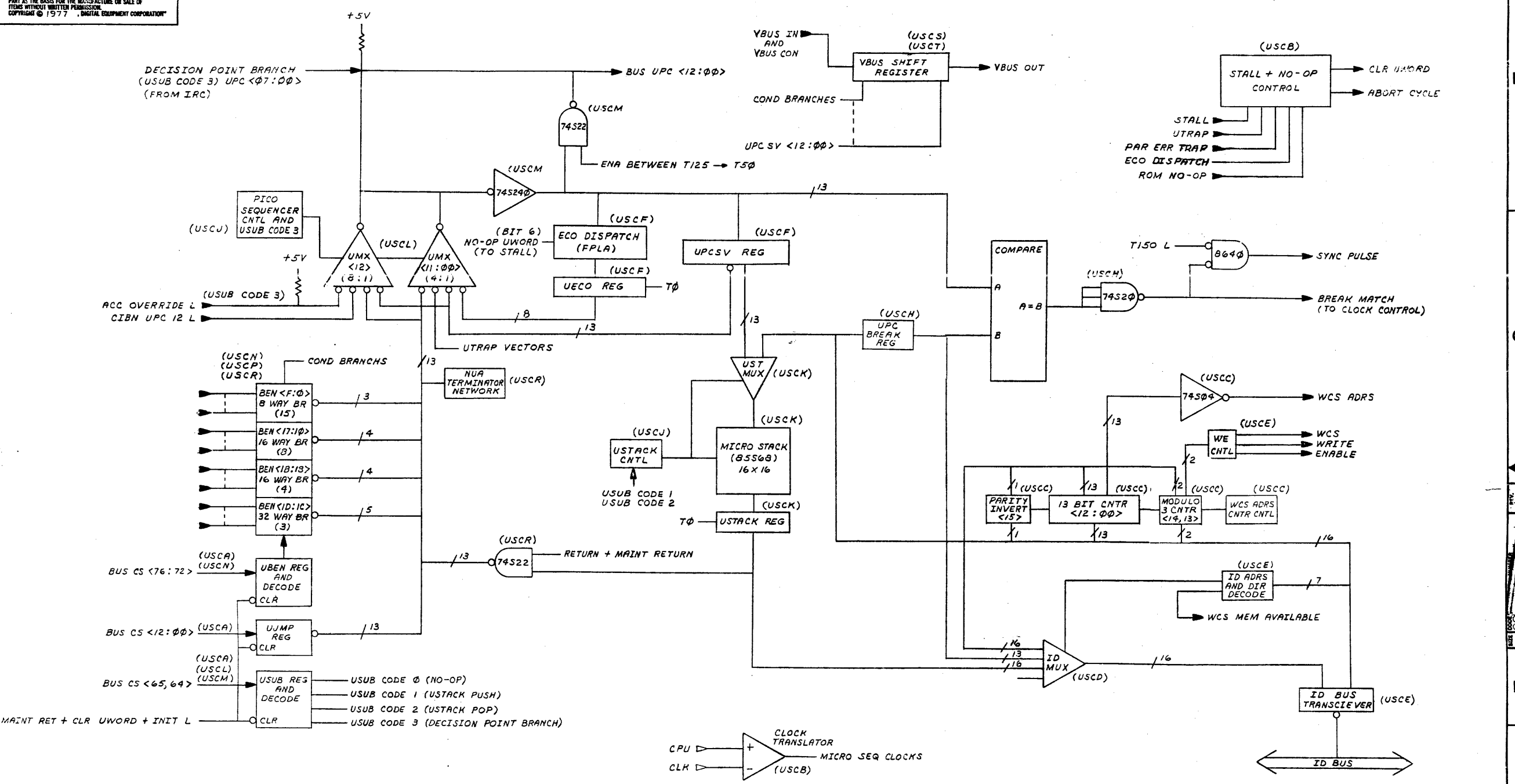
LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
25	25	1910546-00	74S140 NAND GATE-DUAL 4INPU	1	E28
26	26	1910547-00	74S153 MUX 1 OF 4 (DUAL)	13	E1,E31,E42,E43,E55,E56,E68,E69, CONT E53,E66,E81,E92,E93
27	27	1910548-00	74S157 MUX 1 OF 2 (QUAD)	5	E12,E48,E61,E74,E87
28	28	1910550-00	74S174 FF-D HEX	4	E2,E3,E58,E71
29	29	1910552-00	74S194 SHIFT REG., 4BIT RIGH	5	E10,E46,E59,E72,E85
30	30	1910950-00	74S74 FF-D DUAL (-45 VERSI	5	E26,E37,E38,E84,E90
31	31	1910956-00	74S151 MUX 1 OF 8	3	E17,E18,E29
32	32	1910957-00	74S175 FF-D QUAD COMMON CLO	6	E63,E96,E106,E136,E138,E140
33	33	1911415-00	10125 ECL TO TTL TRNSLTR	3	E40,E79,E92
34	34	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1	E101
35	35	1911675-00	74S138 DECODER/DEMUX 3-8 LIN	1	E105
36	36	1911676-00	74S139 DECODER-DUAL TWO-INP	1	E75
37	37	1911712-00	74S51 AND-OR GATE-INVERT D	1	E24
38	38	1912089-00	74S85 CMPRTR-4BIT MAGNITUD	4	E97,E98,E104,E111
39	39	1912586-00	DM 85S68N REGISTER,64BIT EDGE	4	E47,E60,E73,E86
40	40	1912660-00	74S253 MUX 1 OF 4 (DUAL)	6	E117,E118,E120,E131,E132,E134
41	41	1912728-00	74S251 MUX 1 OF 8 TRI-STA	1	E135
42	42	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	2	E50,E102
43	43	1912796-00	74148 EXCODER,PRIORITY,8 T	1	E64
44	44	1912820-00	LS51 A-O-I GATE 2-WIDE 2I	1	E25
45	45	1912865-00	LS283 ADDER-4BIT BINARY FU	2	E11,E13
46	46	1913462-00	74S240 OCTAL BUFFER,INVERTI	2	E124,E125
47	47	1913671-00	74S374 FF-D OCTAL TRISTATE	1	E119
48	48	1913839-00	74LS165 SHIFT REG., 8BIT	13	E15,E16,E19,E30,E33,E36,E45,E62, CONT E100,E137,E139,E141,E142
49	49	1913788-00	26S10 TRANSCEIVER,BUS,QUA	4	E41,E54,E67,E80
50	50	1913294-00	93S16 COUNTER,SYNCH UP BIN	4	E44,E57,E70,E83
51	51	23021C6-00	C5-02	1	E121
52	52	1210711-02	HANDLE,MODULE,HEX	1	
53	53	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
54	54	9105740-55	WIPE(WRAP)30AWG UL1423	A/R	
55	55	1300316-00	470 1/4W 5% CC	27	R29,R31,R33,R35,R38,R39,R42,R45, CONT R46,R51-R55,R64,R67,R68,R70-R73, CONT R83-R86,R111,R28
56	56	23039C6-00	C6-02	1	E122

0 NOTE: COMPONENTS NOT USED: C78,C90,C94,C107-C131,C140

1 NOTE: SPAKE I,C,S E9,E116

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							MIRCO SEQ. CONTROL		K	PL	M8235-0-DBP	K

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



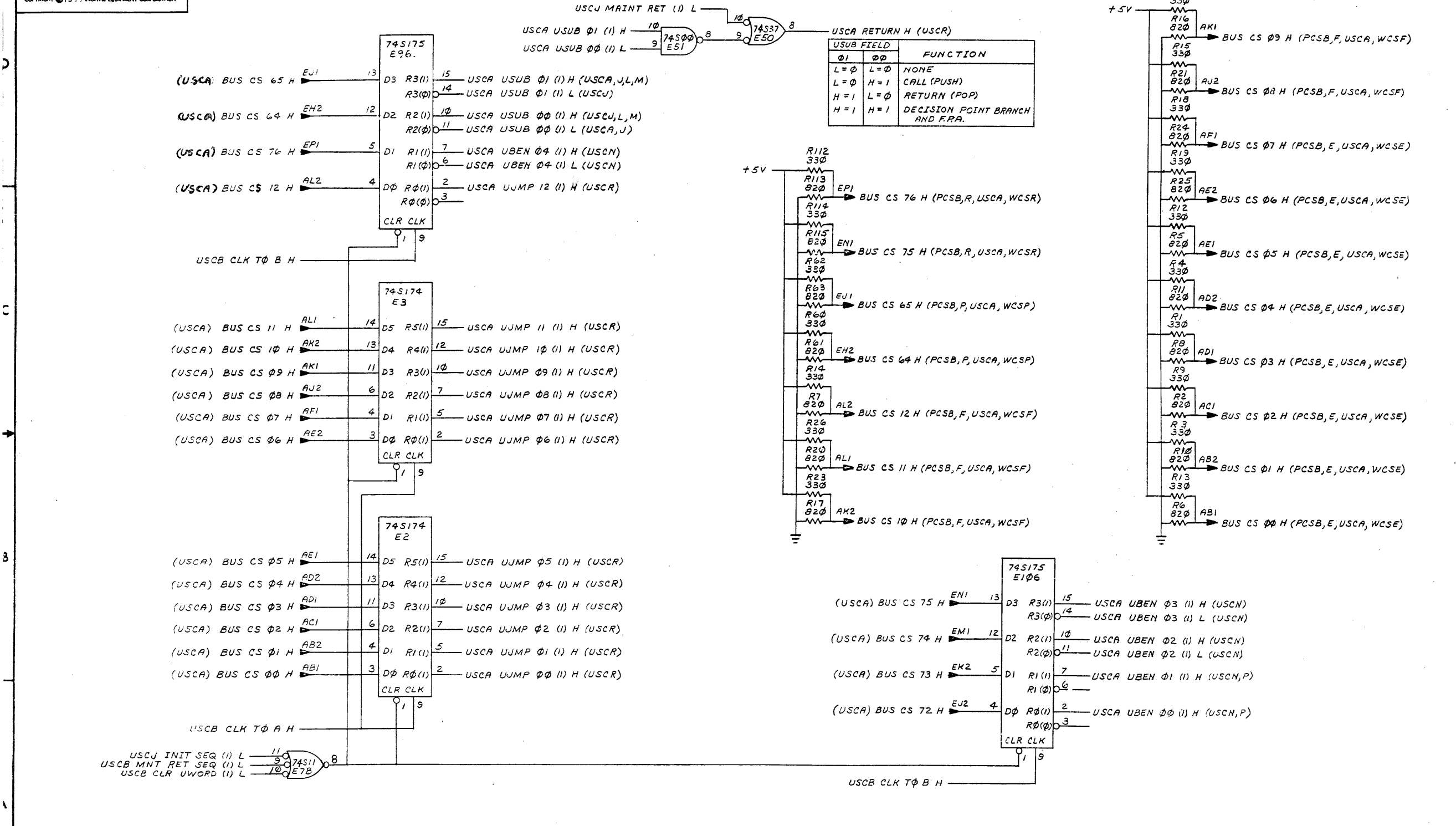
(BLOCK DIAGRAM) (SLOT 23)

DRN. <i>J. Gilmont</i>	6-23-77	FIRST USED ON	<i>digital</i>
CHK. <i>[Signature]</i>	<i>[Date]</i>	TITLE	MICRO SEQUENCER CONTROL
ENG. <i>[Signature]</i>	<i>[Date]</i>	PROJ. ENG. <i>[Signature]</i>	<i>[Date]</i>
PROD. <i>[Signature]</i>	<i>[Date]</i>	NEXT HIGHER ASSY.	
SCALE	SIZE	CODE	NUMBER
SHEET 1 OF 17	D	CS	M8235-0-1
			K

REV.	CHG.	NO.	BY	DATE	DESCRIPTION
1					
2					
3					
4					
5					
6					
7					
8					

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

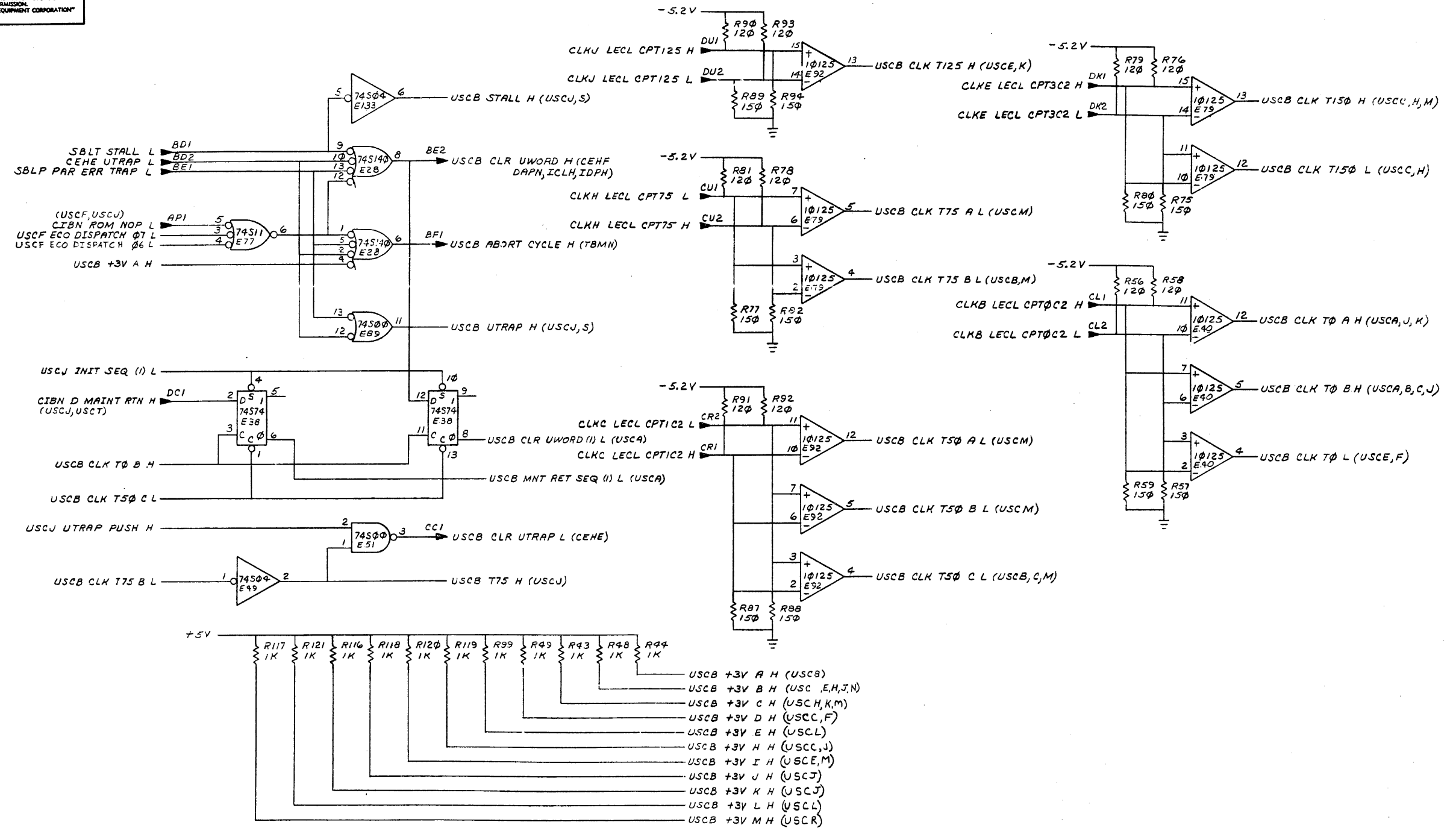
NOTE: IF NOTES ON RES VALUES ARE ON ORIGINAL CK FOR PROPER RESISTORS DESIGNATIONS.



REVISIONS			TITLE MICRO SEQUENCER CONTROL (USCA)				SIZE CODE DCS		NUMBER M8235-0-1		REV. 4
CHK	CHANGE NO.	REV.	SCALE	SHEET	2 OF 17	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

DCS M8235-0-1 K 2 1



REVISIONS		
CHK	CHANGE NO.	REV.

(CLOCK AND STALL CONTROL) (SLOT 23)

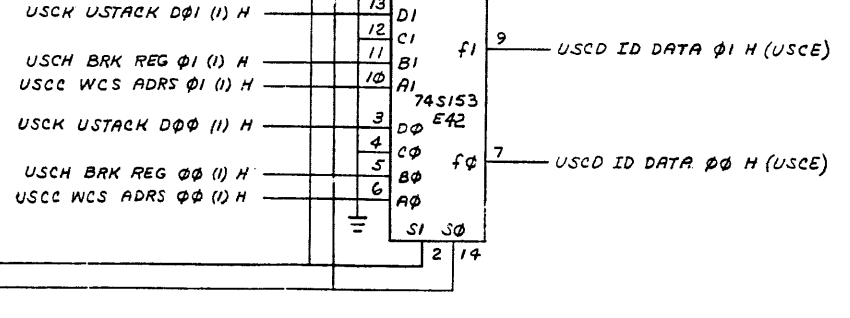
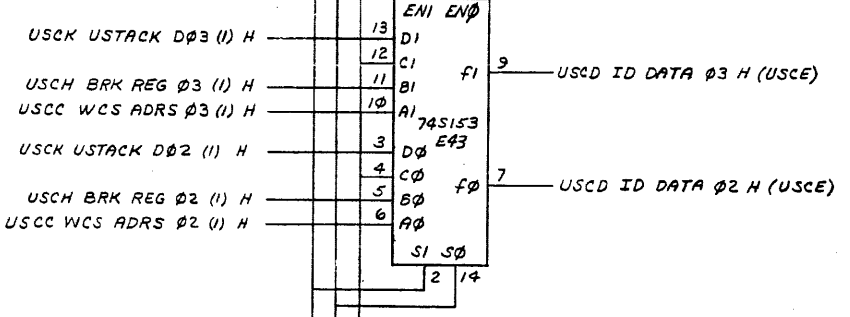
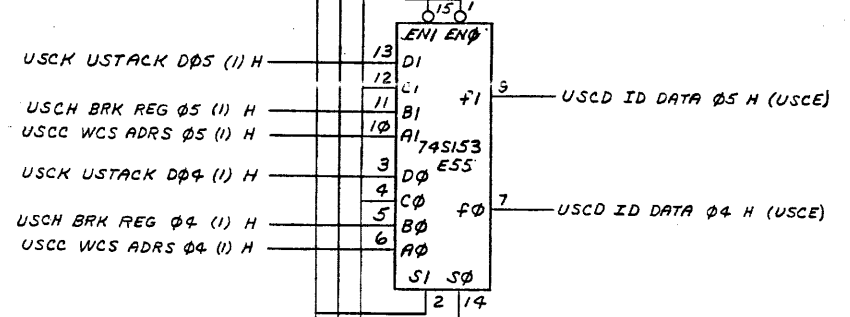
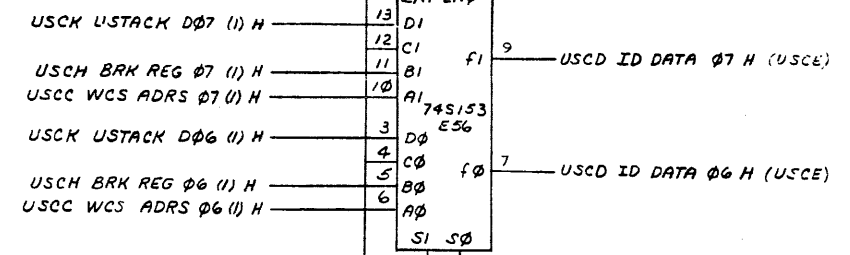
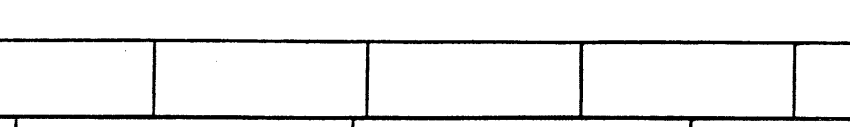
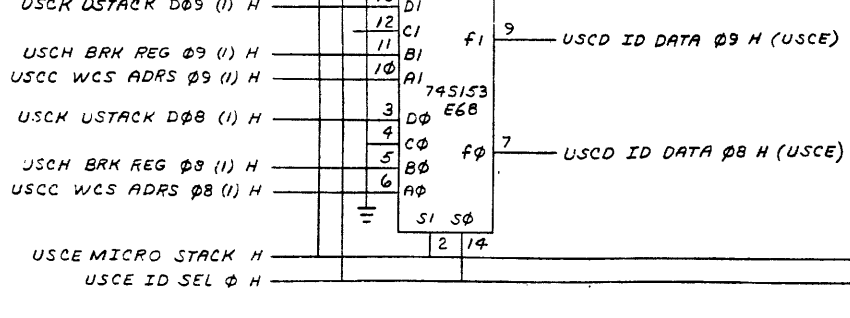
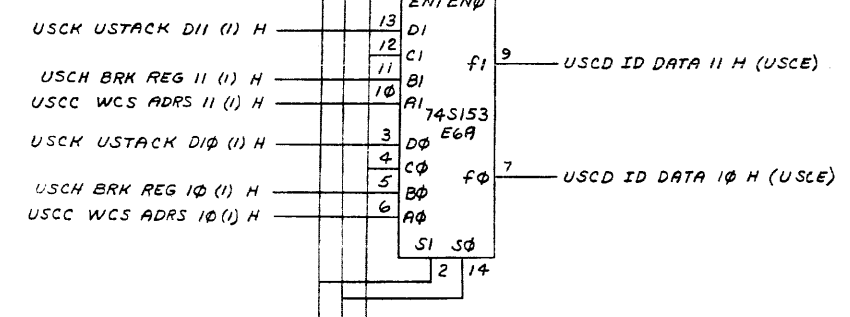
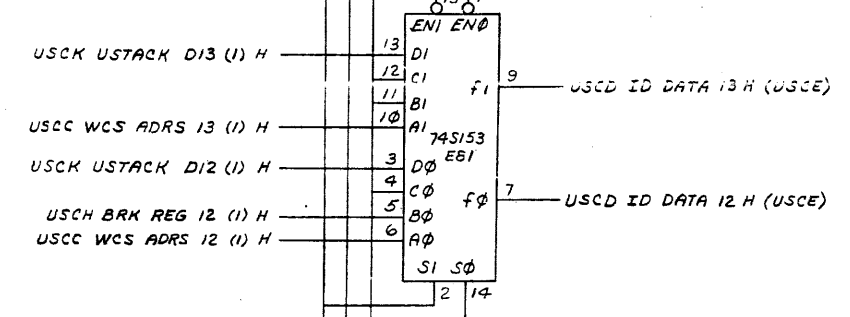
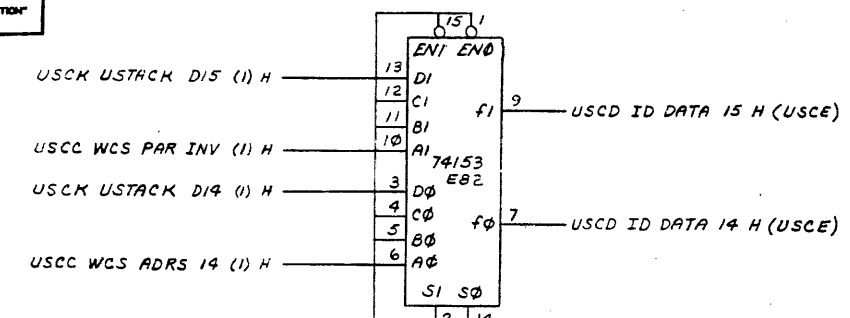
TITLE	MICRO SEQUENCER CONTROL (USCB)	SIZE CODE	D CS	NUMBER	M8235-0-1	REV.	K
SCALE		SHEET	3 OF 17	DIST.			





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

1-0-9228 DCS 2



SI	Sφ	DATA SOURCE	INPUT
L	L	WCS ADRS	A
L	H	UPC BREAK	B
H	L	NOT USED	C
H	H	USTACK	D

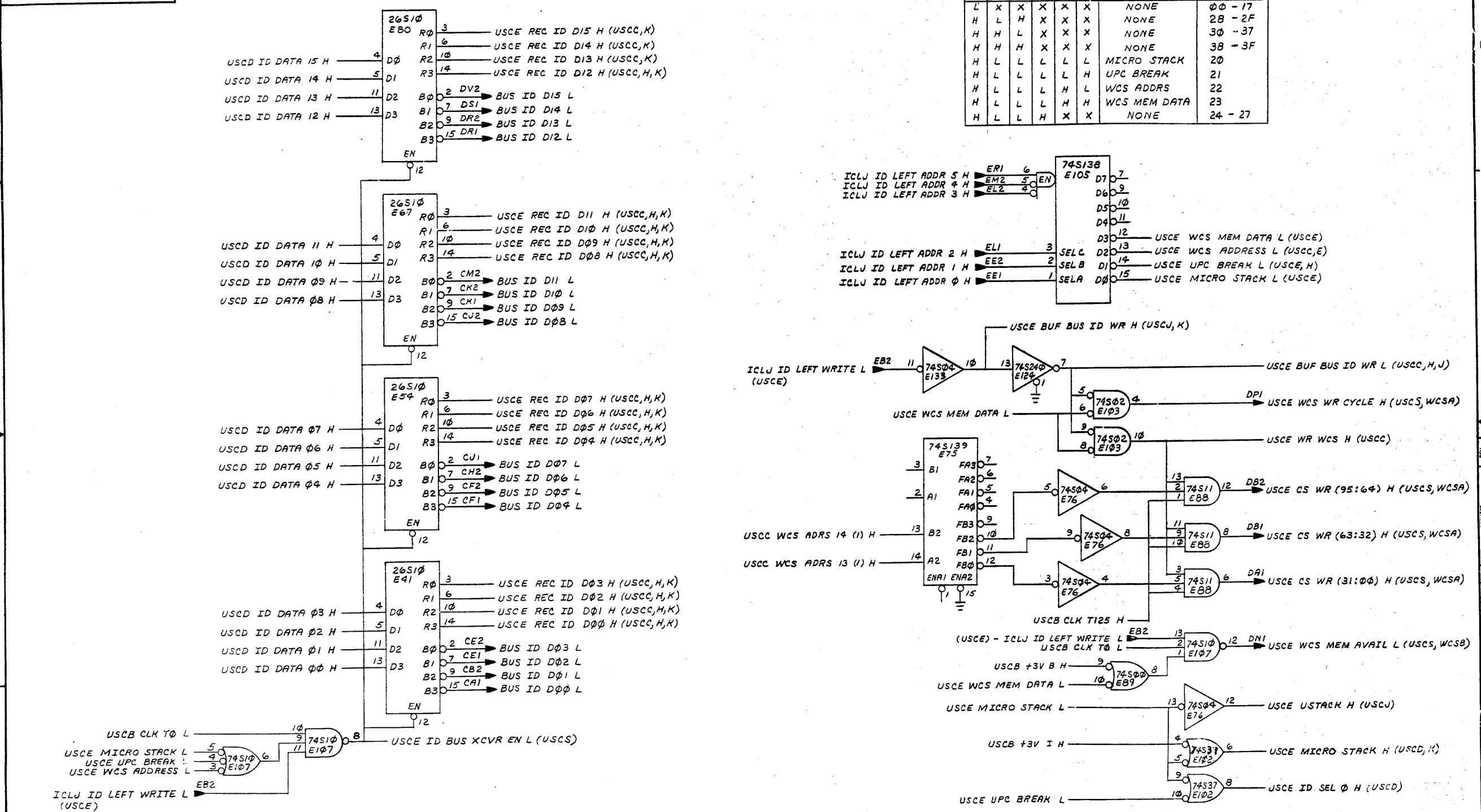
(ID BUS DATA MUX) (SLOT 23)

TITLE	MICRO SEQUENCER CONTROL (USCD)	SIZE CODE	D CS	NUMBER	M8235-0-1	REV.	K
SCALE	1/1	SHEET	5 OF 17	DIST.			

REVISIONS		
CHK	CHANGE NO.	REV.

45

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



ID ADRS BIT						FUNCTION	HEX ADDRESS
05	04	03	02	01	00		
L	X	X	X	X	X	NONE	00 - 17
H	L	H	X	X	X	NONE	20 - 2F
H	H	L	X	X	X	NONE	30 - 37
H	H	H	X	X	X	NONE	38 - 3F
H	L	L	L	L	L	MICRO STACK	20
H	L	L	L	L	H	UPC BREAK	21
H	L	L	L	H	L	WCS ADRES	22
H	L	L	L	H	H	WCS MEM DATA	23
H	L	L	H	X	X	NONE	24 - 27

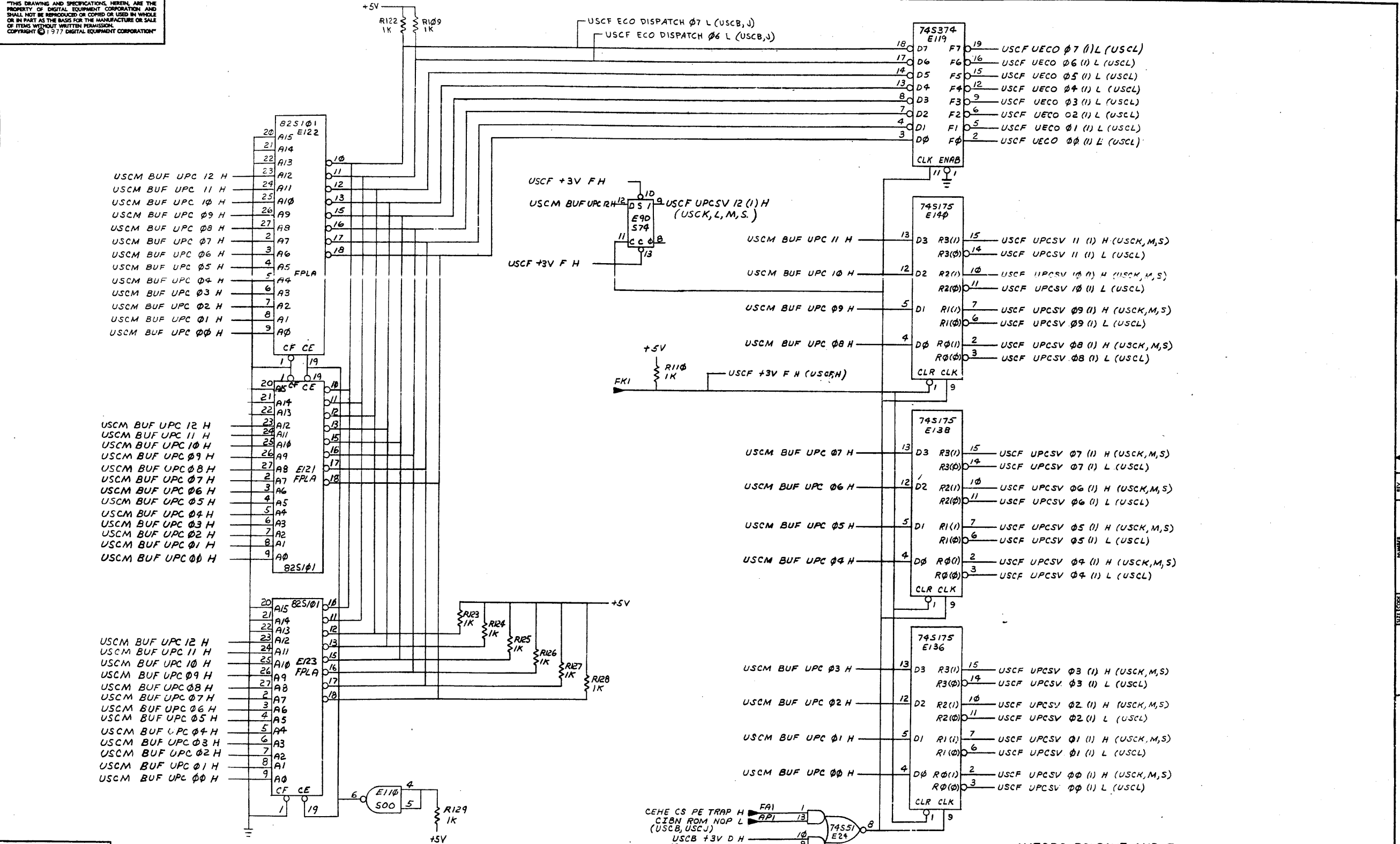
(ID BUS DRIVERS AND SELECTION DECODE) (SLOT 23)

REVISIONS			TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.	MICRO SEQUENCER CONTROL (USCE)		D CS		M8235-0-1		1

459

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 M8235-0-1



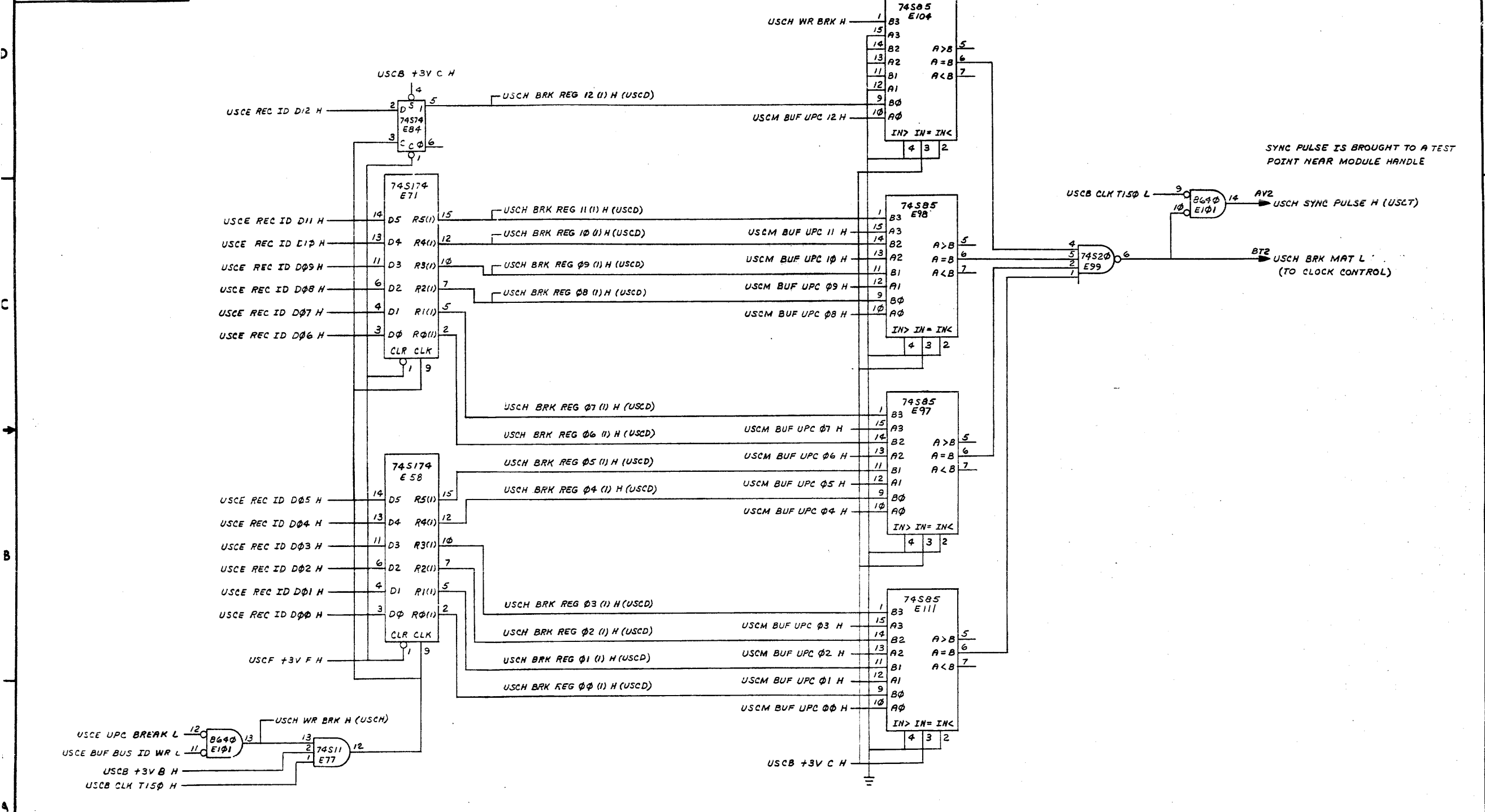
(MICRO PC SAVE AND ECO REGISTER) (SLOT 23)

TITLE	MICRO SEQUENCER CONTROL (USCF)	SIZE CODE	D CS	NUMBER	M8235-0-1	REV.	K
SCALE	1/1	SHEET	7 OF 17	DIST.			

REVISIONS		
CHK	CHANGE NO.	REV.

460

"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"



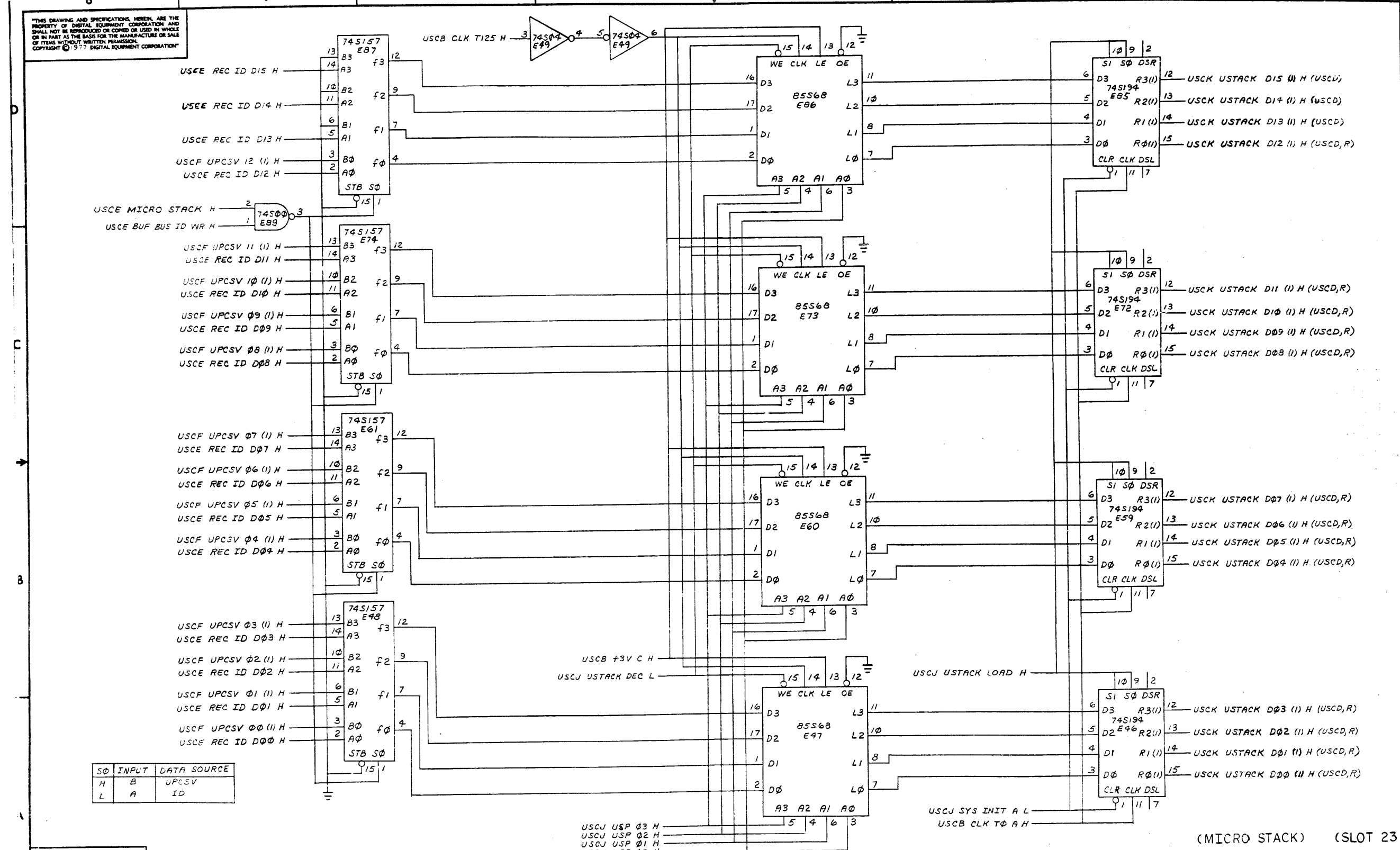
(MICRO BREAK REG AND COMPARE) (SLOT 23)

REVISIONS			TITLE		SIZE/COO	NUMBER	REV.
CHK	CHANGE NO.	REV.	MICRO SEQUENCER CONTROL (USCH)		DCS	M8235-0-1	1
			SCALE	SHEET	DIST.	8 OF 17	

441  
 REV. 1  
 DC  
 M8235-0-1



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



SØ	INPUT	DATA SOURCE
H	B	UPCSV
L	A	ID

REVISIONS		
CHK	CHANGE NO.	REV.

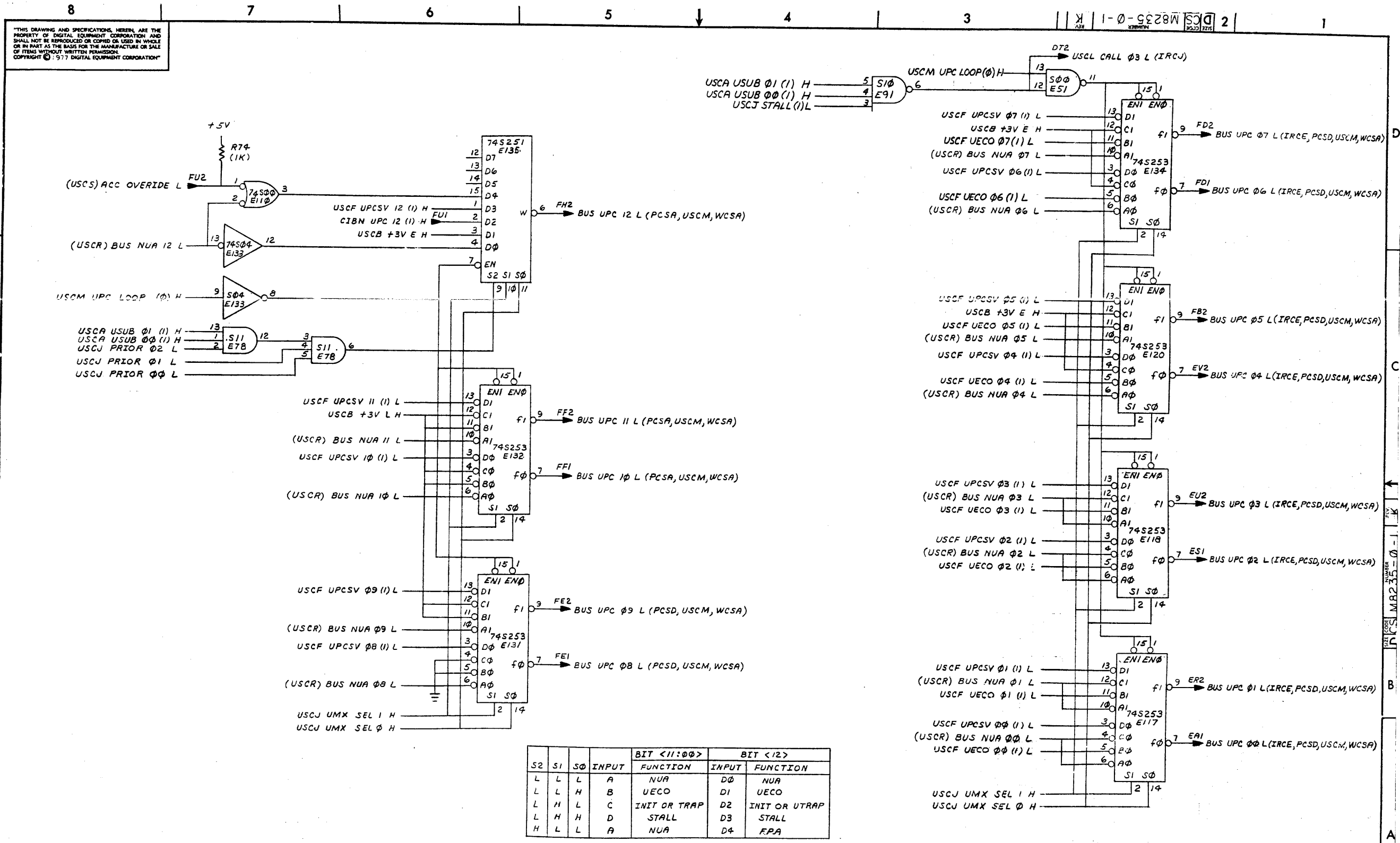
USCJ USP 03 H  
USCJ USP 02 H  
USCJ USP 01 H  
USCJ USP 00 H

TITLE MICRO SEQUENCER CONTROL (USCK) (MICRO STACK) (SLOT 23)

SCALE 1:1 SHEET 10 OF 17

SIZE CODE DCS NUMBER M8235-0-1 REV. K

"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"



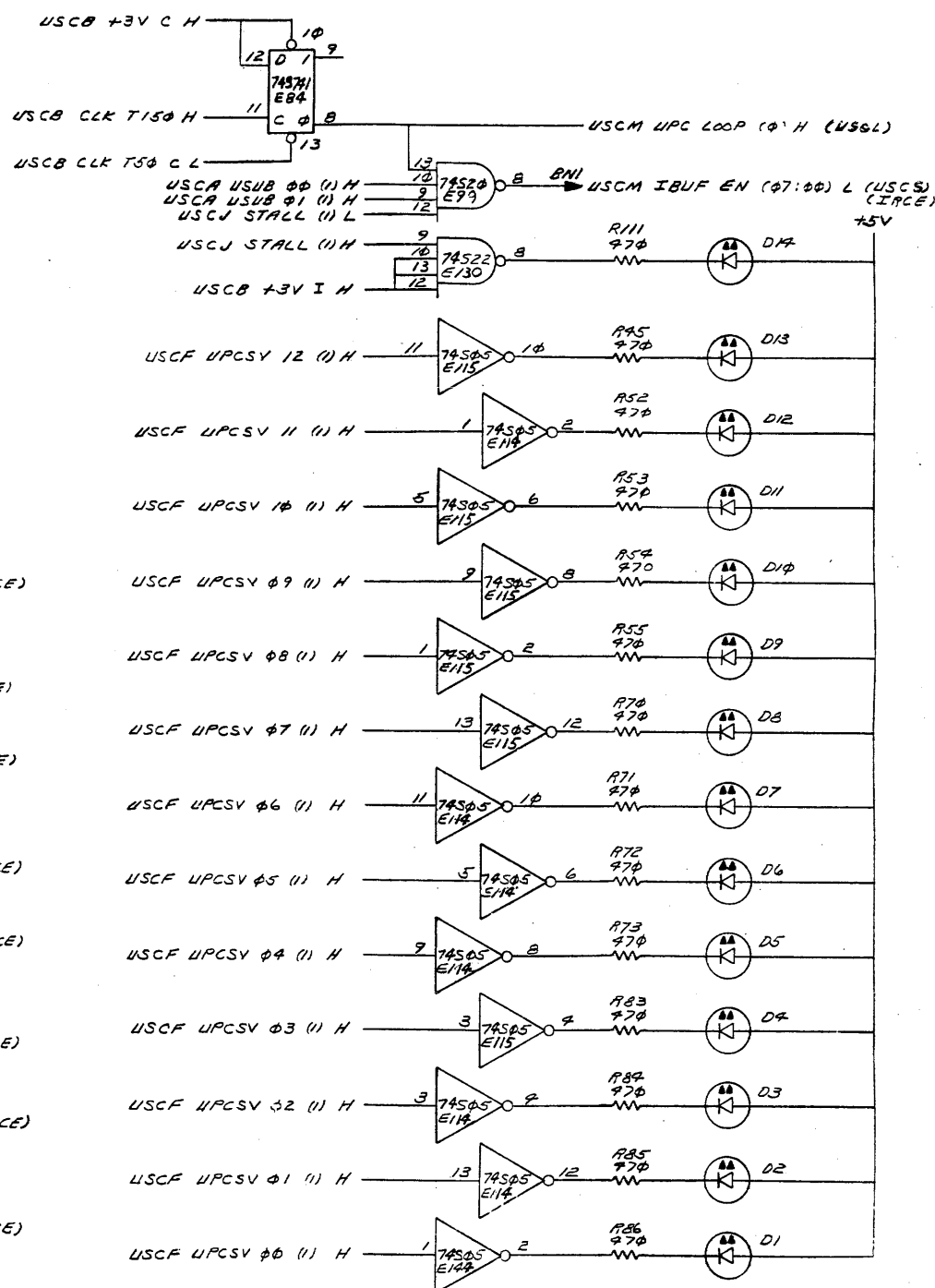
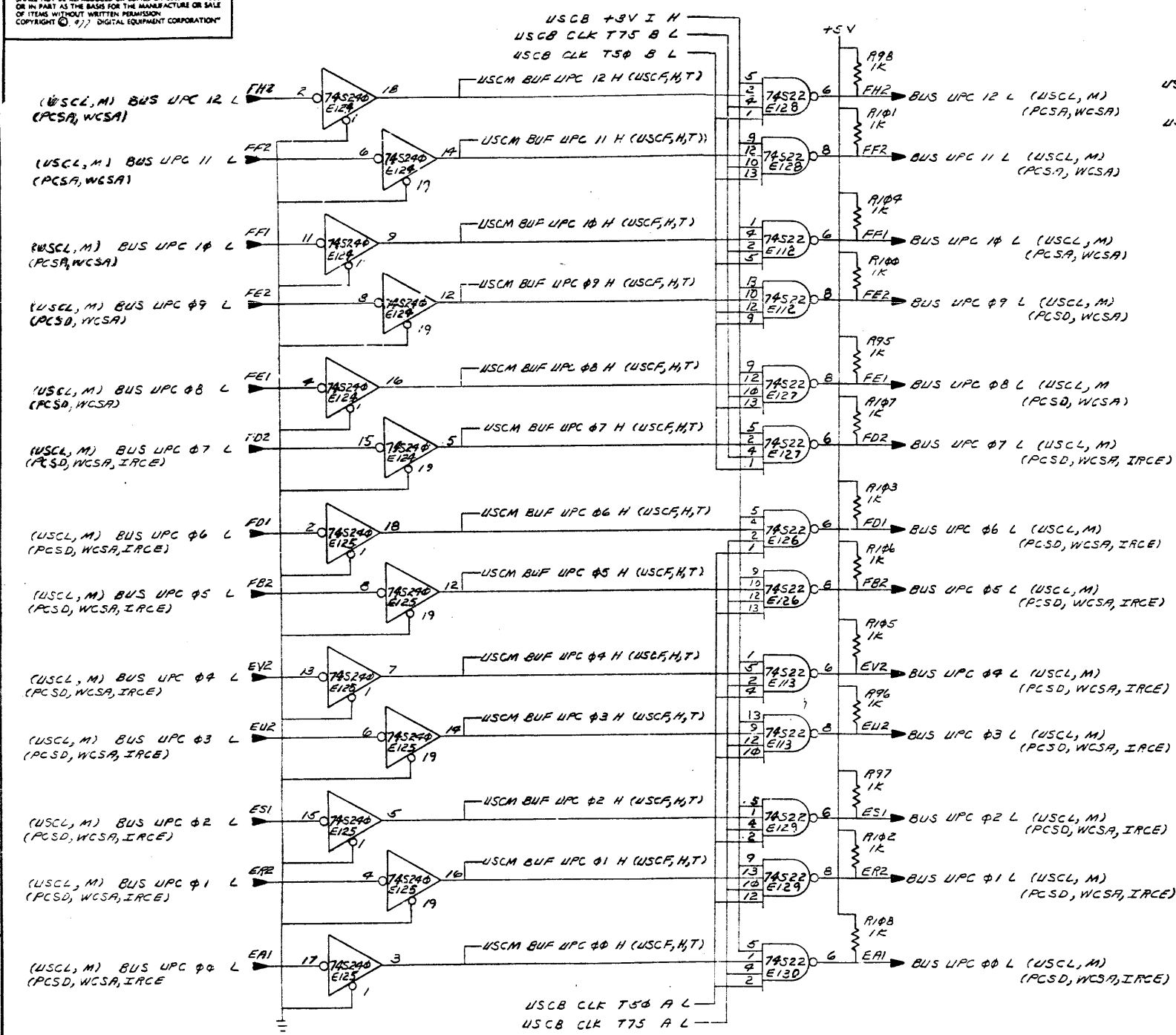
(MICRO MULTIPLEXER) (SLOT 23)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MICRO SEQUENCER CONTROL (USCL)	SIZE CODE	D CS	NUMBER	M8235-0-1	REV.	K
SCALE	1:1	SHEET	11 OF 17	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



LEDS ARE TO BE IN HEX NUMBERS WITH L12 TOWARD 'A' PADDLE AND L00 TOWARD 'F' PADDLE. LEDS ARE TO BE LOCATED BETWEEN HANDLES FOR VIEWING. LEADS POLARITIES AND NUMBER IS TO BE ETCHED BY EACH LED. LED LEADS WILL BE BENT SO LED LAYS FLAT AGAINST THE BOARD.

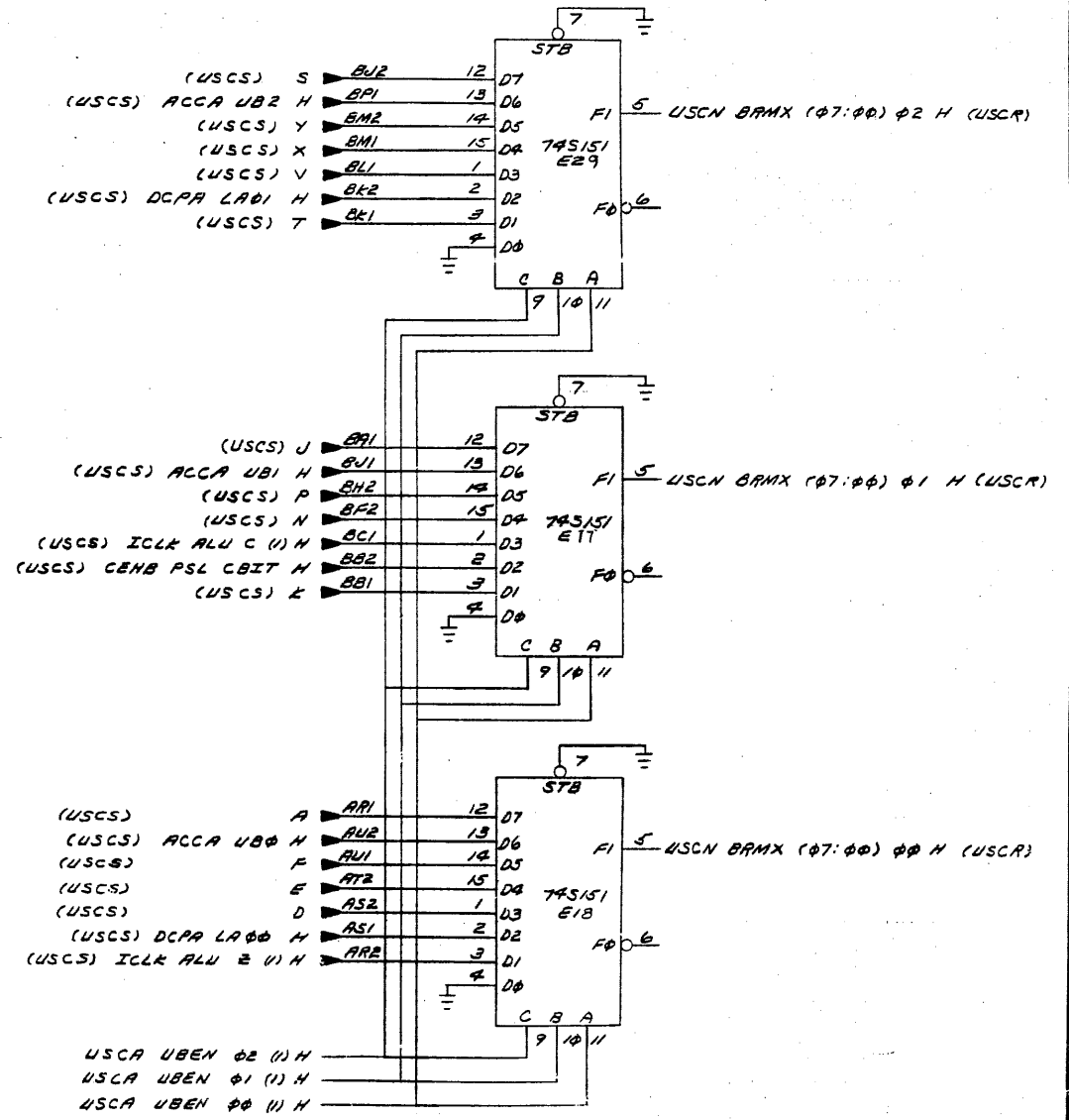
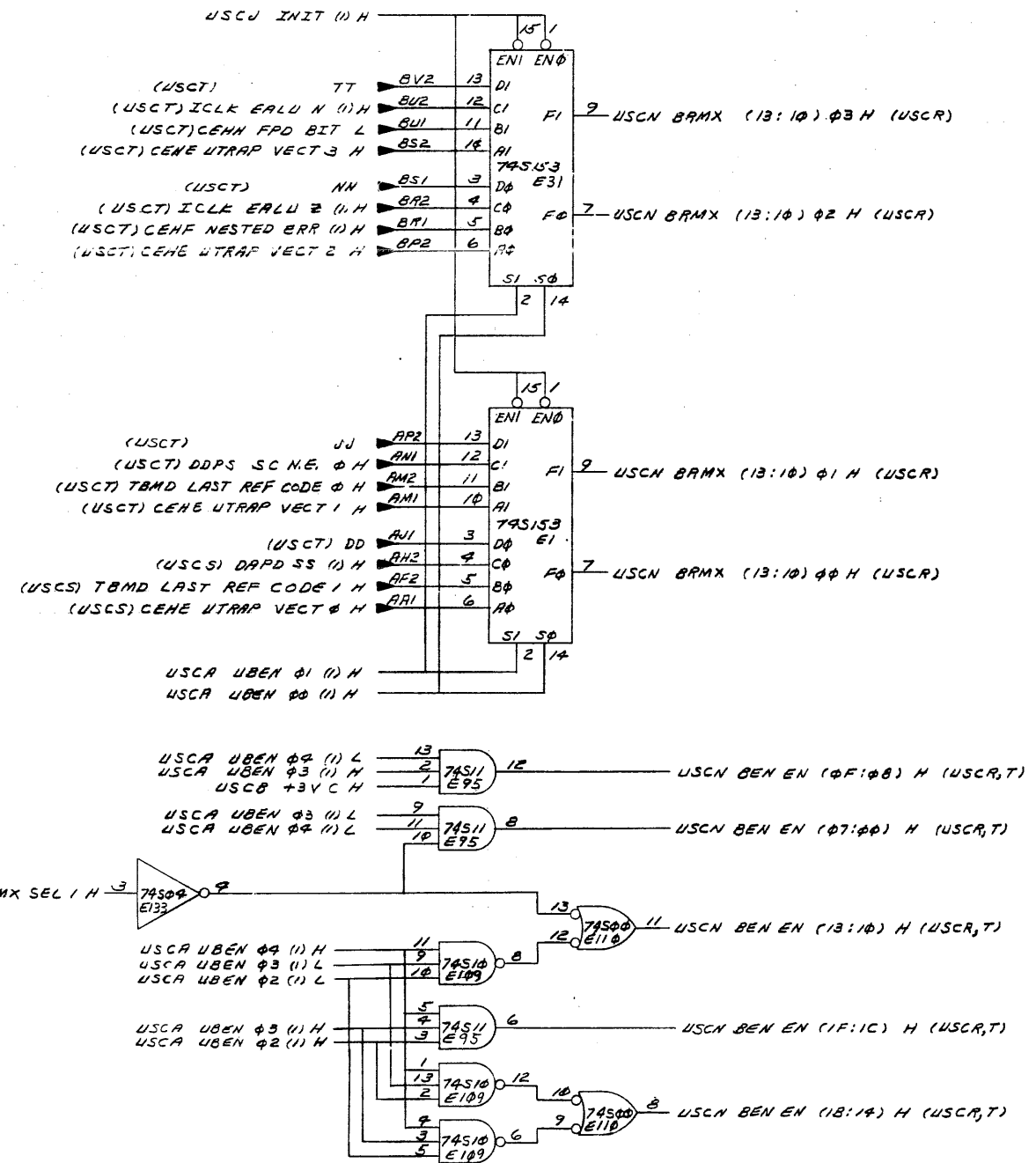
REVISIONS		
CHK	CHANGE NO.	REV.

(UPC LATCH)		(SLOT 23)	
TITLE MICRO SEQUENCER CONTROL (USCM)		SIZE CODE DCS	NUMBER M8235-0-1
SCALE	SHEET 12 OF 17	DIST.	REV. K

465

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

Φ7	Φ3	Φ2	Φ1	Φ0	FUNCTION	BEN EN	BEN
0	0	X	X	X	NORMAL	<07:00>	DETERMINED BY X
0	1	X	X	X	NORMAL	<0F:00>	DETERMINED BY X
1	0	X	X	X	NORMAL	<13:10>	DETERMINED BY X
1	1	X	X	X	NORMAL	<17:10>	DETERMINED BY X
1	0	X	X	X	NORMAL	<1B:10>	DETERMINED BY X
1	1	X	X	X	NORMAL	<1F:10>	DETERMINED BY X
0	0	Φ	Φ	Φ	INIT OR UTRAP	<13:10>	BEN 10



REVISIONS		
CHK	CHANGE NO.	REV.

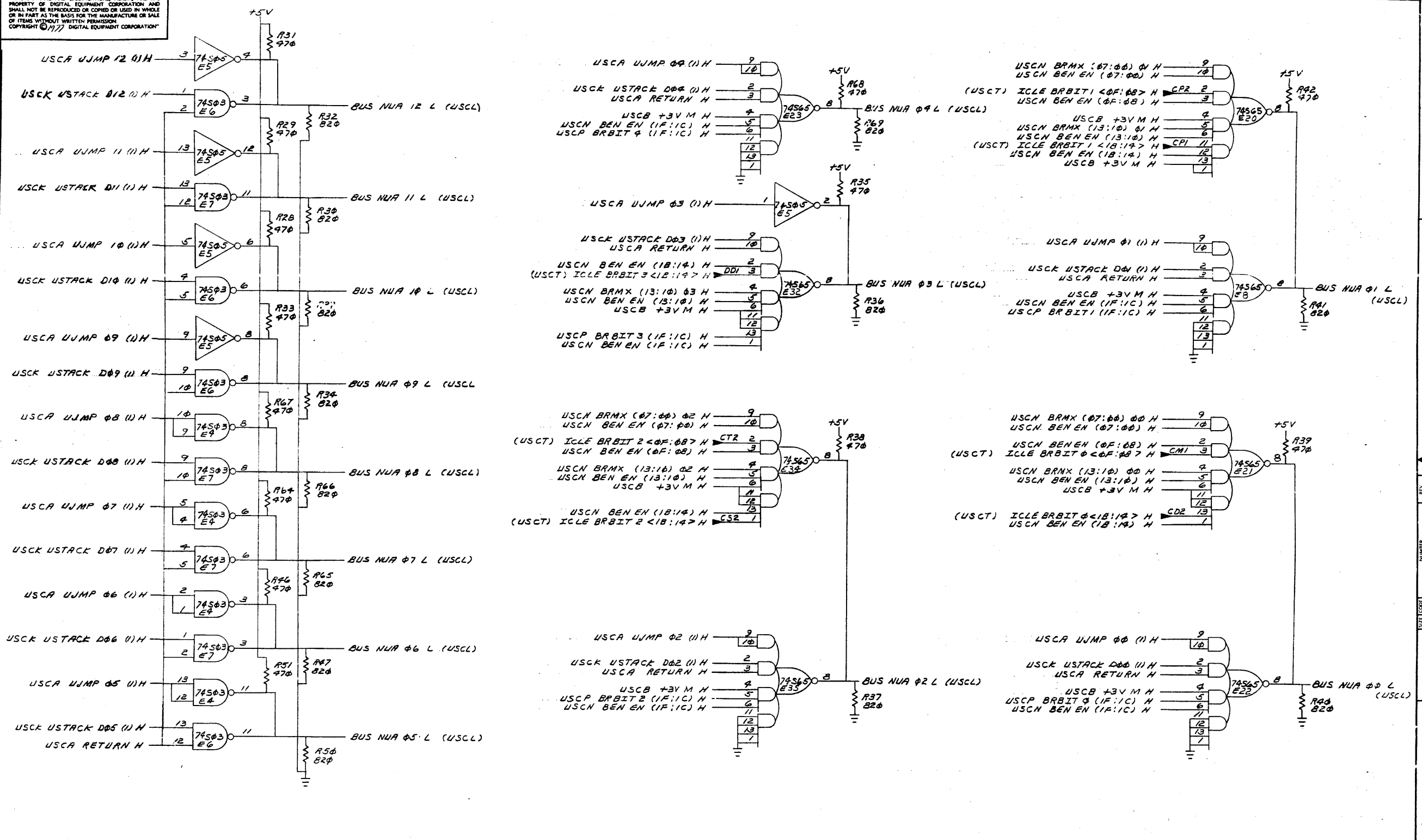
(BRANCH ENABLE CONTROL) (SLOT 23)

TITLE MICRO SEQUENCER CONTROL (USCN) SIZE CODE DCS NUMBER M8235-0-1 REV. K

SCALE SHEET 13 OF 17 DIST.



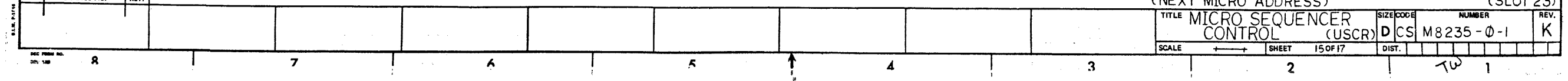
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

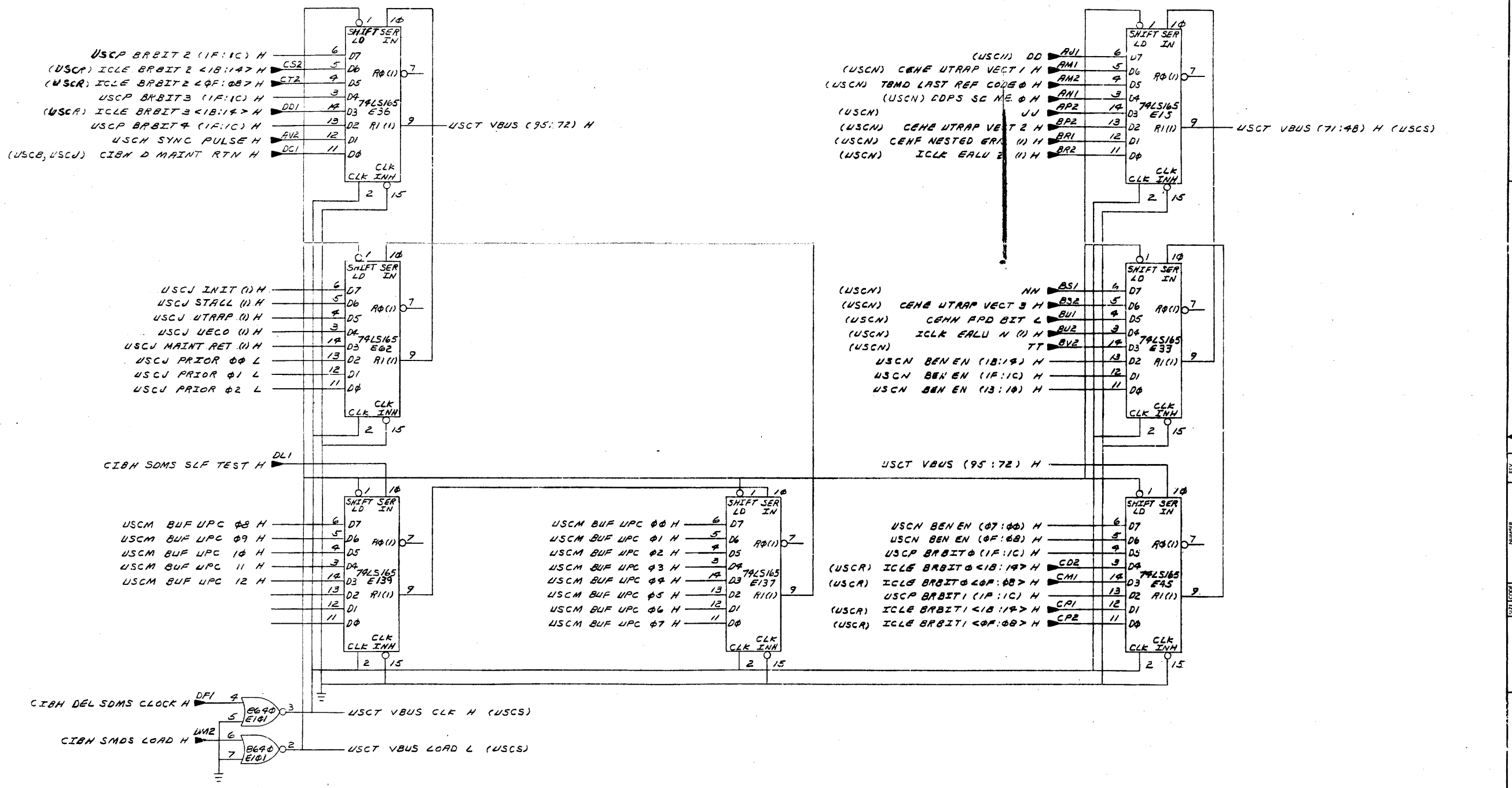
(NEXT MICRO ADDRESS) (SLOT 23)  
 TITLE MICRO SEQUENCER CONTROL (USCR) SIZE CODE NUMBER REV.  
 DCS M8235-0-1 K  
 SCALE SHEET 15 OF 17 DIST.

468





"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"

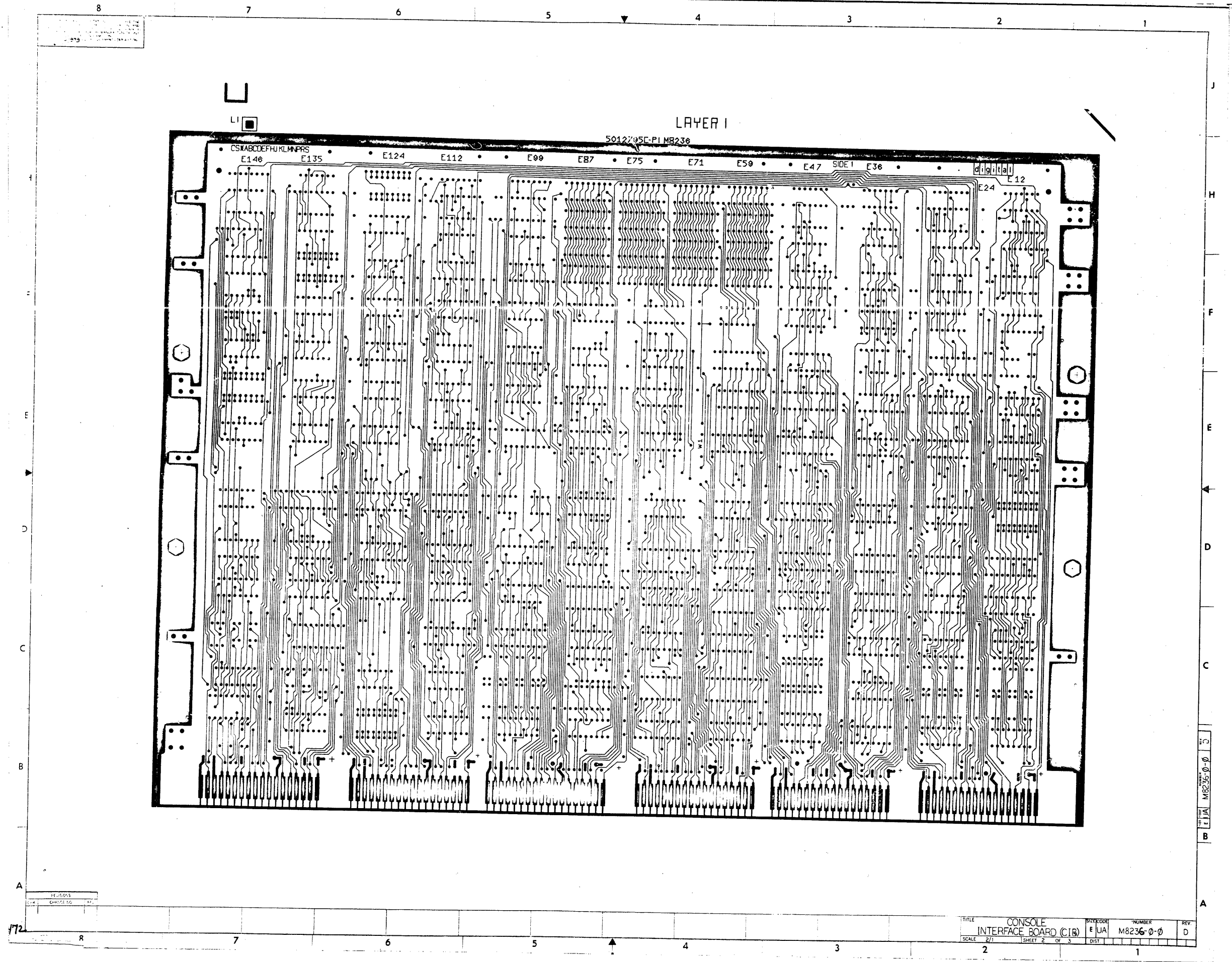


REVISIONS		
CHK	CHANGE NO.	REV.

(VBUS)	(SLOT 23)
TITLE MICRO SEQUENCER CONTROL (USCT)	SIZE CODE DCS NUMBER M8235-0-1 REV. K
SCALE	SHEET 17 OF 17 DIST.

470





LAYER 1

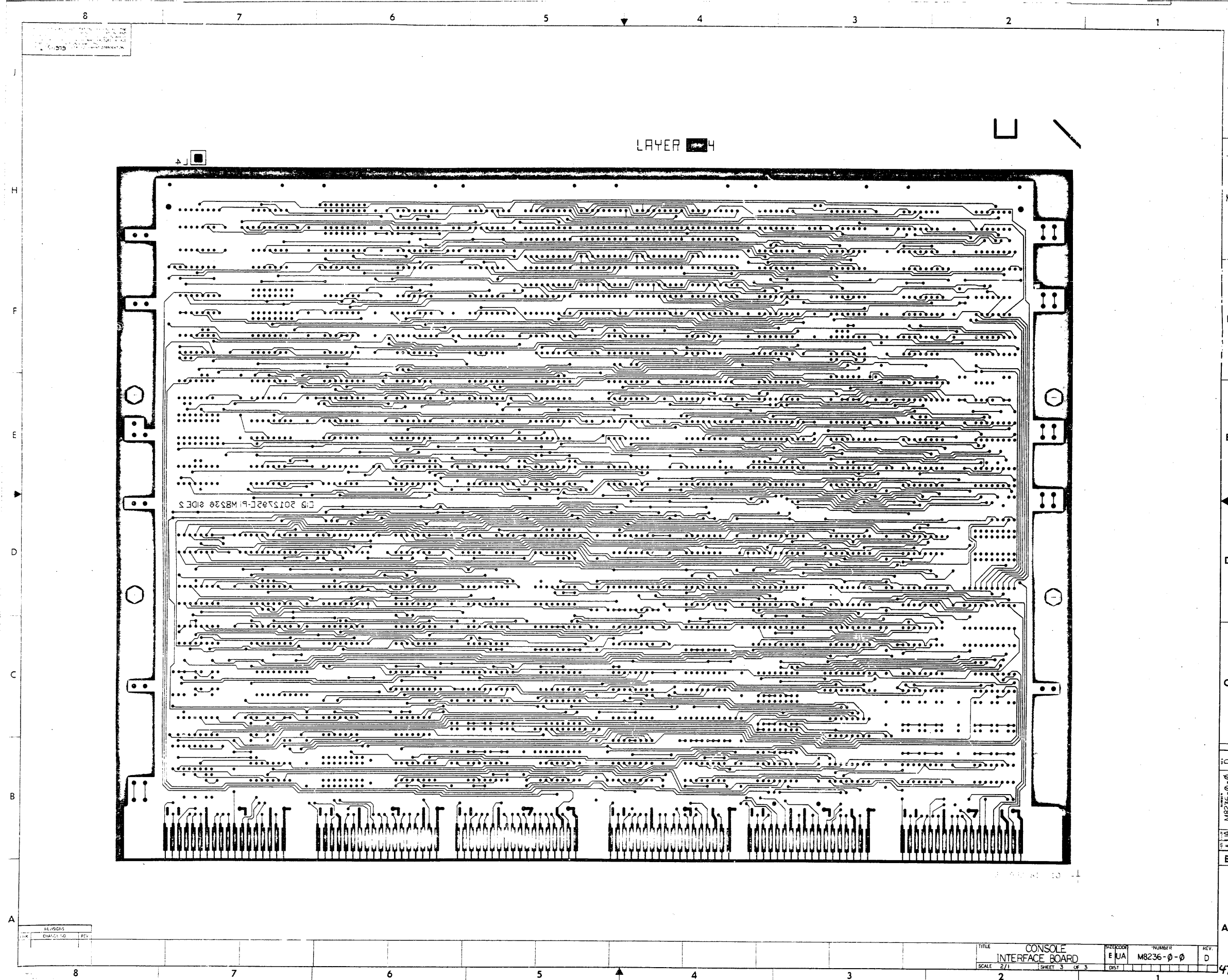
5012795C-PI M8236

CS A B C D E F G H I J K L M N P R S  
 E146 E135 E124 E112 E99 E87 E75 E71 E59 E47 SIDE 1 E36 digital E12

72 R

TITLE	CONSOLE	SIZE CODE	NUMBER	REV
INTERFACE BOARD (CIB)	EUA	M8236-0-0	D	
SCALE	2/1	SHEET	2	OF 3
DIST				





8  
7  
6  
5  
4  
3  
2  
1

J  
H  
F  
E  
D  
C  
B  
A

4

LAYER 4

8  
7  
6  
5  
4  
3  
2  
1

J  
H  
F  
E  
D  
C  
B  
A

8  
7  
6  
5  
4  
3  
2  
1

J  
H  
F  
E  
D  
C  
B  
A

HL-8183  
ENR-21-10  
REV

TITLE  
CONSOLE  
INTERFACE BOARD

SIZE CODE	NUMBER	REV.
E 1/4	M8236-0-0	D

SCALE 2/1 SHEET 3 OF 3

473

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1	1	5012795-00	CONSOLE INTERFACE BOARD	1	
2	2	1000016-00	100.0 MMF 100V 5%200PPM DM15S	3	C70,C73,C74
3	3	1012084-01	8 MFD 25V G% 30D AL EL	7	C63-C69
4	4	1012784-00	.047 MFD 50V -20+80 CER	64	C1-C26,C28-C62,C71,C72,C75
5	5	1300247-00	120 1/4W 5% CC	12	R37-R40,R119,R120,R123-R126, R129,R130
					CONT
6	6	1313469-00	240 1/4W 5% CC	64	R1-R32,R139-R170
7	7	1300250-00	150 1/4W 5% CC	8	R117,R118,R121,R127,R128,R131, R132,R122
					CONT
8	8	1301322-00	180 1/4W 5% CC	5	R101,R108,R133,R135,R137
9	9	1301972-00	270 1/4W 5% CC	32	R43-R74
10	10	1300309-00	390 1/4W 5% CC	7	R41,R99,R102,R109,R134,R136,R138
11	11	1301424-00	680 1/4W 5% CC	3	R36,R42,R100
12	12	1300365-00	1 K 1/4W 5% CC	34	R75-R88,R91-R98,R103-R107, R110-R115,R34
					CONT
13	13	1312930-00	5.1 K 1/4W 5% CC	2	R33,R116
14	14	1302391-00	20 K 1/4W 5% CC	3	R35,R89,R90
15	15	1311003-01	R NETWORK 14-180 14-390	3	E29,E43,E53
16	16	1300005-01	R NETWORK 13-1K RESISTORS 5% DIP	1	E51
17	17	1511686-00	DEC5433 FET N 350MW 10 25 1A	8	Q1-Q8
18	18	1910532-00	74S00 NAND GATE-QUAD 2IN	3	E46,E121,E123
19	19	1912799-00	LS00 NAND-GATE-QUAD 2IN,P	2	E24,E119
20	20	1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3	E12,E118,E134
21	21	1912801-00	LS02 NOR-GATE-QUAD 2IN	2	E35,E95
22	22	1910534-00	74S04 INVERTER GATE-HEX 1I	9	E16,E44,E101,E105,E107,E111, E114,E139,E146
					CONT
23	23	1912803-00	LS04 INVERTER GATE-HEX 1I	1	E47
24	24	1912805-00	LS08 AND GATE-QUAD 2IN,PO	2	E97,E129
25	25	1910536-00	74S10 NAND GATE-TRIPLE 3IN	1	E99
26	26	1910537-00	74S11 AND GATE-TRIPLE 3INP	2	E55,E98

REVISION HISTORY		BASIC PART NO:	M8236		DRN:	L. GIAMMARINO	DATE:	02-FEB-78		D I G I T A L				
ENG:	ECO NUMBER	REV	SECTION A OF A		CHK'D:	L. GIAMMARINO	DATE:	02-FEB-78		TITLE PARTS LIST				
W.H.	00002	B	SECTION VARIATION INDEX		CHK'D:	L. GIAMMARINO	DATE:	02-FEB-78		CONSOLE INTERFACE BOARD				
PG	00003	C	[A] 00											
BS	TW004	D	[B]											
BS	TW004	D	[C]		DES.ENG:	K. DUGGAN	DATE:	02-FEB-78		DOCUMENT NUMBER				
			[D]											
			[E]											
			[F]		RESP.ENG.:	K. DUGGAN	DATE:	02-FEB-78		SIZE CODE NUMBER REV				
			[G]											
			[H]											
			[I]											
			[J]		MFG.ENG.:	M. TERILLO	DATE:	02-FEB-78		K	PL	M8236-0-IBP	D	
			[K]											
			[L]											
			[M]		ASSEMBLY NUMBER:			TOP DOCUMENT NUMBER:			FILE NAME:	EDIT #		
			[N]		E-UA-M8236-0-0						Z0642D.PLS		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 (C) 1979, DIGITAL EQUIPMENT CORPORATION \*

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
					00	
27	27		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E132
28	28		1912810-00	LS20 NAND GATE-DUAL 4IN	1	E36
29	29		1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E108
30	30		1913340-00	74S32 OR GATE-QUAD 2IN	6	E10,E21,E22,E23,E82,E131
31	31		1911712-00	74S51 AND-OR GATE-INVERT D	1	E122
32	32		1912820-00	LS51 A-O-I GATE 2-WIDE 2I	2	E110,E144
33	33		1910542-00	74S64 A-O-I GATE 4-2-3-2	3	E33,E142,E143
34	34		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	5	E96,E109,E135,E145,E94
35	35		1912824-00	LS74 FF-D DUAL,EDGE TRIGG	2	E34,E81,
36	36		1912834-00	LS112 FF-JK DUAL,EDGE TRIG	1	E130
37	37		1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIG	1	E93
38	38		1912837-00	LS123 ONE SHOT-DUAL,RETRIG	2	E80,E112
39	39		1911675-00	74S138 DECODER/DEMUX 3-8 LIN	1	E120
40	40		1911676-00	74S139 DECODER-DUAL TWO-INF	3	E9,E11,E67
41	41		1910547-00	74S153 MUX 1 OF 4 (DUAL)	1	E78
42	42		1910548-00	74S157 MUX 1 OF 2 (QUAD)	8	E2,E15,E50,E63,E90,E91,E125,E136
43	43		1911330-00	74173 FF-D QUAD,TRISTATE	1	E106
44	44		1910550-00	74S174 FF-D HEX	2	E45,E83
45	45		1912697-00	LS174 FF-D HEX W/CLEAR	1	E17
46	46		1912853-00	LS175 FF-D QUAD	2	E30,E140
47	47		1912728-00	74S251 MUX 1 OF 8 TRI-STA	16	E6,E7,E18,E19,E31,E32,E64,E65,
						CONT E103,E104,E115,E116,E126,E127,
						CONT E137,E138
48	48		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	5	E14,E25,E61,E79,E100
49	49		1912863-00	LS273 FF-D OCTAL W/CLEAR	9	E3,E38,E39,E40,E89,E102,E117,
						CONT E128,E27
50	50	(SEE NOTE 75)	1910406-00	75451 DRIVER,PERIPH,DUAL,	3	
51	51		1913788-00	26S10 TRANSCEIVER,BUS,QUA	9	E1,E13,E26,E37,E48,E49,E62,E77,
						CONT E88
						E28
52	52		1911579-00	8641 TRANSCEIVER,BUS,QUA	1	E60,E76
53	53		1911415-00	10125 ECL TO TTL TRNSLTR	2	E20
54	54		1912730-00	DC 003 INTERRUPT,2 CIRCUIT	1	E4
55	55		1912729-00	DC 004 PROTOCOL,REG, SELECT	1	E41,E42,E52,E54
56	56		1913040-00	DC 005 TRANSCEIVER 4BIT	4	
57	57		1210711-02	HANDLE,MODULE,HEX	1	
58	58		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
59	59		1215006-03	SOCKET 18PIN IC LOW PROFILE	16	XE56-XE59,XE68-XE75,XE84-XE87
60	60		23144F1-00	F1-01	1	E56
61	61		23145F1-00	F1-01	1	E68
62	62		23146F1-00	F1-01	1	E84
63	63		23147F1-00	F1-01	1	E72
64	64		23148F1-00	F1-01	1	E58
65	65		23149F1-00	F1-01	1	E70
66	66		23150F1-00	F1-01	1	E86
67	67		23151F1-00	F1-01	1	E74
68	68		23236F1-00	F1-01	1	E57
69	69		23237F1-00	F1-01	1	E69
70	70		23238F1-00	F1-01	1	E85

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CONSOLE INTERFACE BOARD				K PL M9236-0-DBF	D

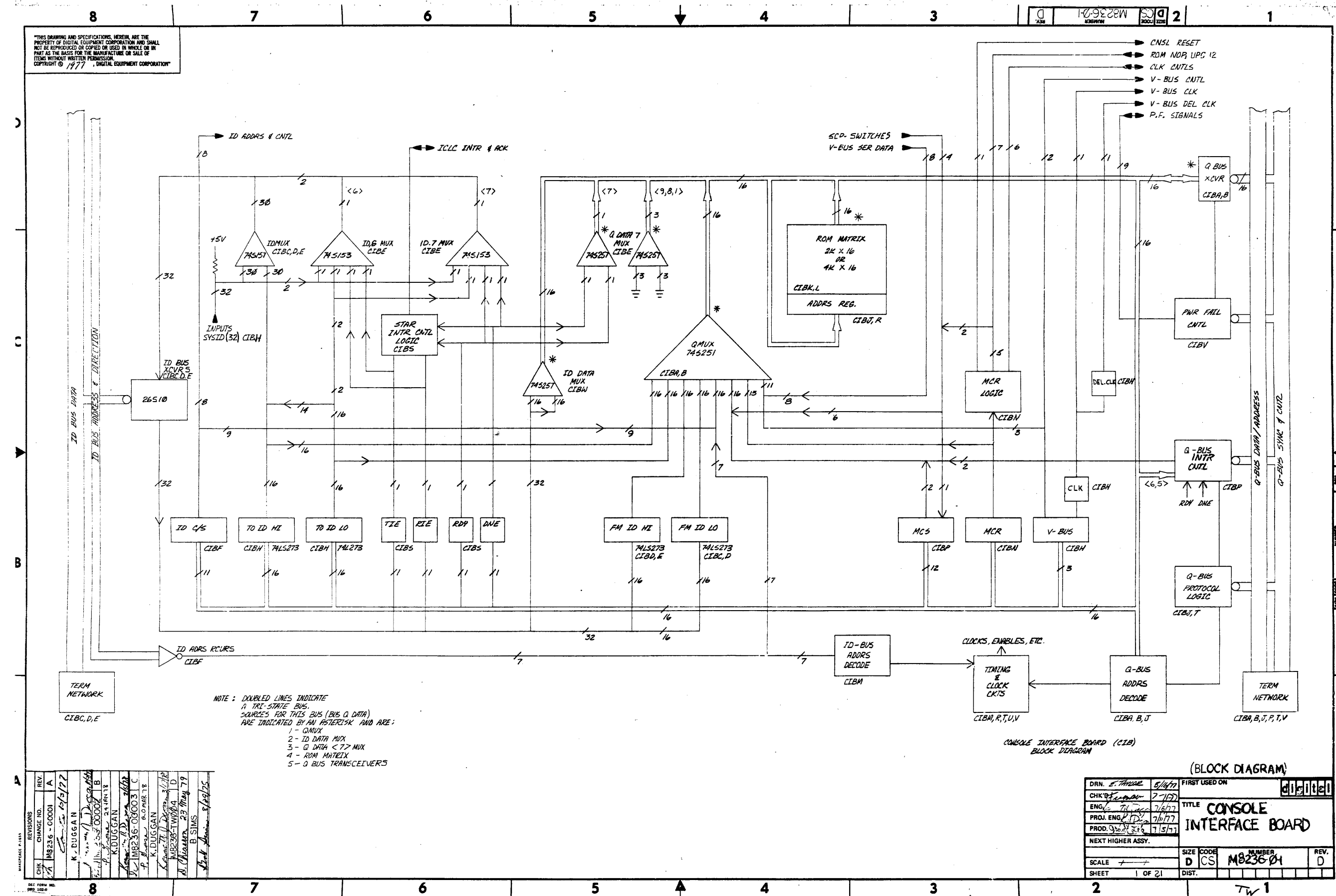
LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
71	71	23239F1-00	F1-01	1	E73
72	72	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	E66
73	73	1300479-00	10 K 1/4W 5% CC	1	R171
74	74	9105740-55	*** THIS ITEM IS NOT USED ***	-	

0 NOTE: REF DESIG. FOR ITEM 50 ARE E8,E92A,E92B

D	I	G	I	T	A	L	TITLE	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CONSOLE INTERFACE BOARD			K	PL	M8236-0-DBP	D

476

"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"



(BLOCK DIAGRAM)

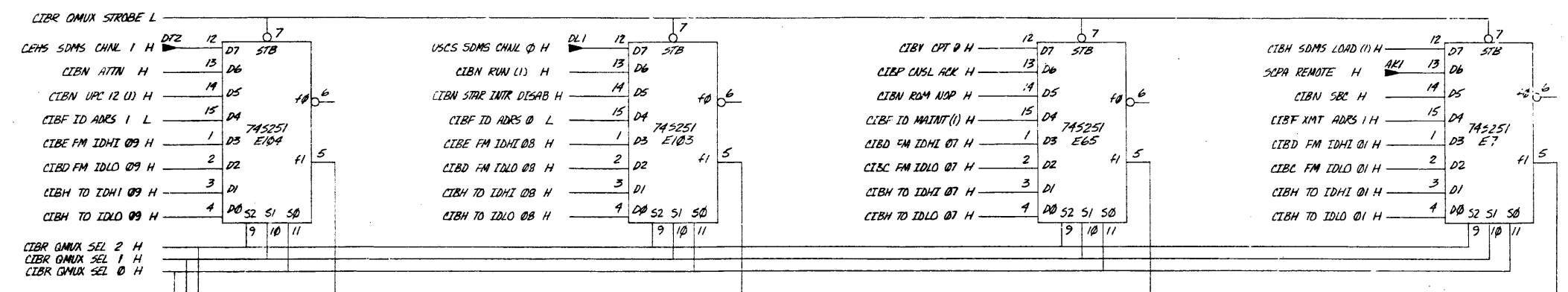
DRN. E. Thayer	5/15/77	FIRST USED ON	digital
CHK'D BY	7-1077	TITLE	CONSOLE INTERFACE BOARD
ENG. J. L. Jones	7/6/77	PROJ. ENG. J. L. Jones	7/6/77
PROD. Q. M. Smith	7/15/77	NEXT HIGHER ASSY.	
SCALE		SIZE CODE	D CS
SHEET	1 OF 21	NUMBER	M8236-04
		REV.	D
		DIST.	

TW 1

REVISIONS

REV.	DATE	BY	DESCRIPTION
A	10/5/77	K. DUGGAN	INITIAL DESIGN
B	11/1/77	K. DUGGAN	REVISED FOR MANUFACTURE
C	11/1/77	K. DUGGAN	REVISED FOR MANUFACTURE
D	11/1/77	K. DUGGAN	REVISED FOR MANUFACTURE
E	11/1/77	K. DUGGAN	REVISED FOR MANUFACTURE

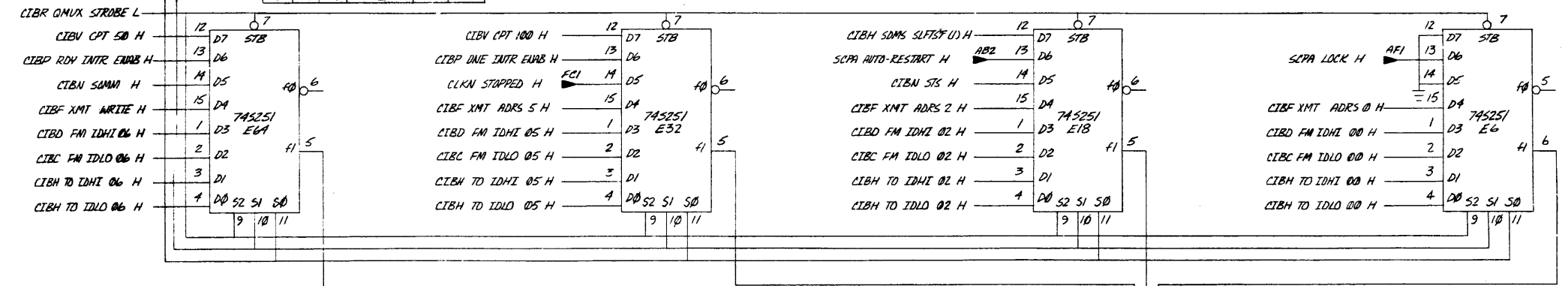
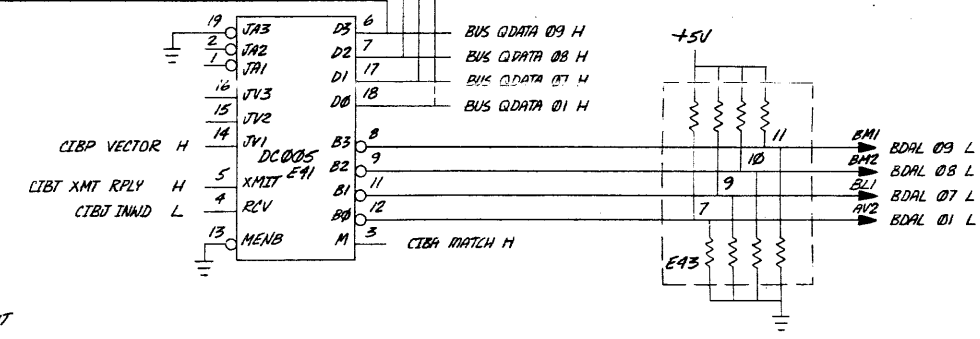
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



FUNCTION TABLE 745251

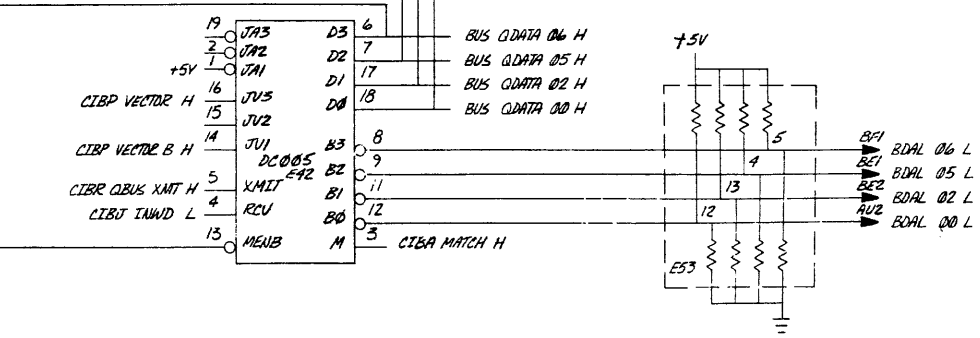
INPUTS			OUTPUTS		
C	B	A	S	V	W
X	X	X	H	Z	Z
L	L	L	L	D0	D0
L	L	H	L	D1	D1
L	H	L	L	D2	D2
L	H	H	L	D3	D3
H	L	L	L	D4	D4
H	L	H	L	D5	D5
H	H	L	L	D6	D6
H	H	H	L	D7	D7

H = HIGH LEVEL, L = LOW LEVEL  
 X = IRRELEVANT, Z = HIGH IMPEDENCE (OFF)  
 D0, D1, ..., D7 = THE LEVEL OF THE RESPECTIVE D INPUT



DC005 CONTROL

RECEIVE	TRANSMIT	MODE
L	L	DISABLE: BUS, DATA HI - Z
L	H	XMT: BUS ← DATA
H	L	RCV: DATA ← BUS
H	H	RCV: DATA ← BUS



NOTE: ALL UNMARKED REGISTERS ARE DIP LSI-11 BUS TERMINATORS PART NO. 13-11003-01 VALUES ARE 180Ω TO +5V AND 390Ω TO GND

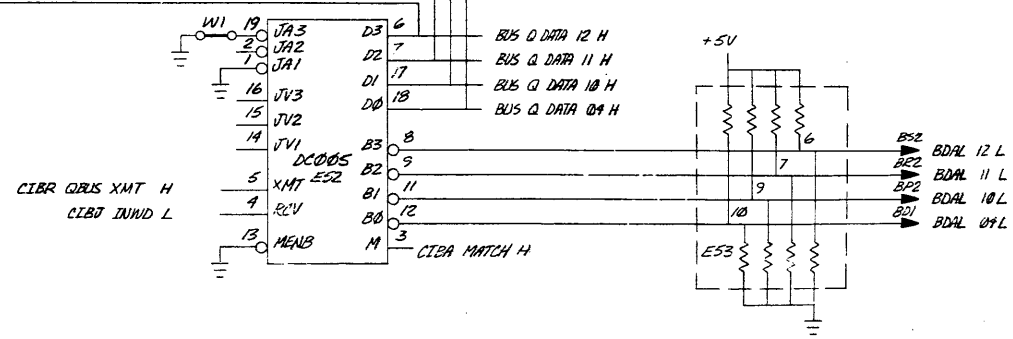
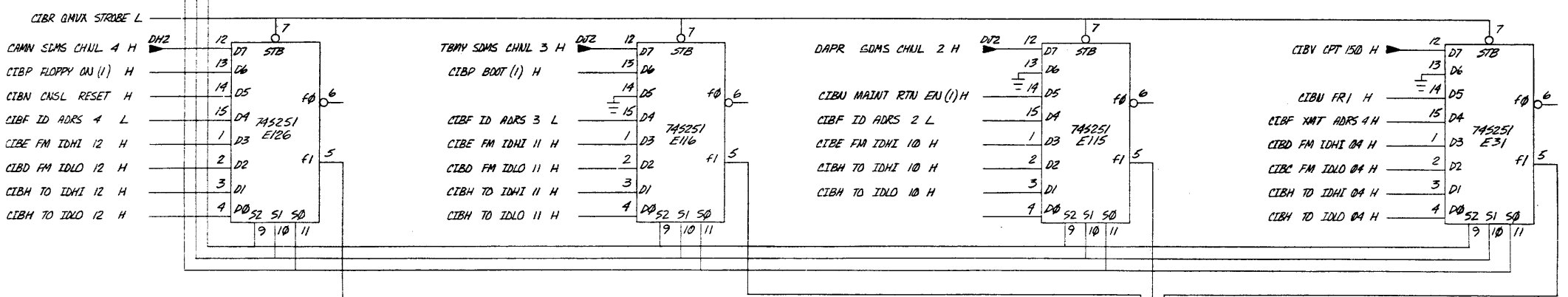
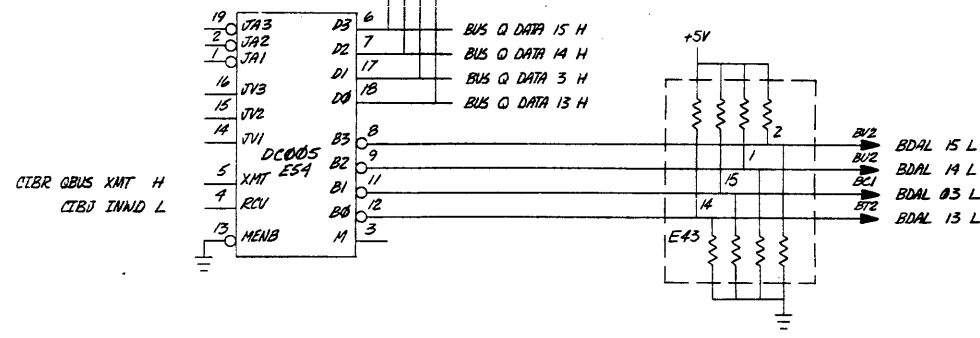
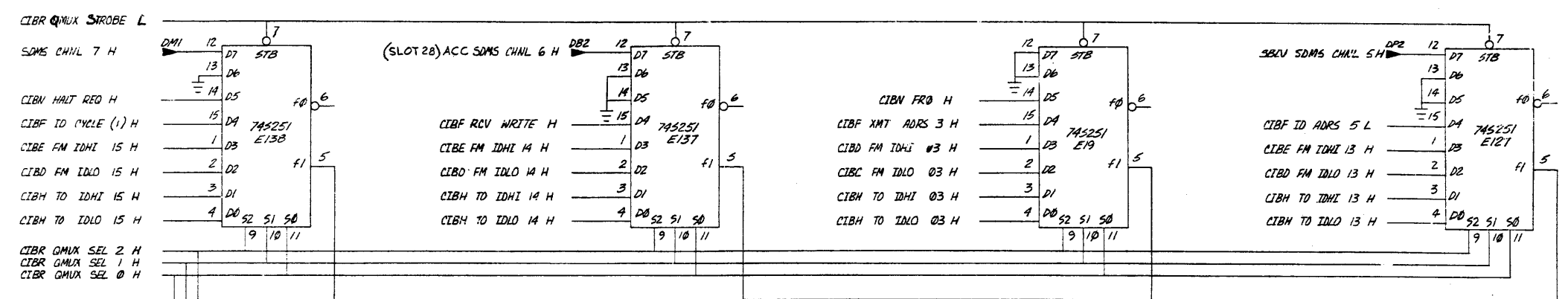
REVISIONS		
CHK	CHANGE NO.	REV.

(QMUX<9:5>, 2, 1, 0 QBUS TRANSCEIVERS (SLOT 29))

TITLE	CONSOLE (CIBA) INTERFACE BOARD	SIZE CODE	D CS	NUMBER	M8236-01	REV.	D
SCALE	+	SHEET	2 OF 21	DIST.			

TW 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

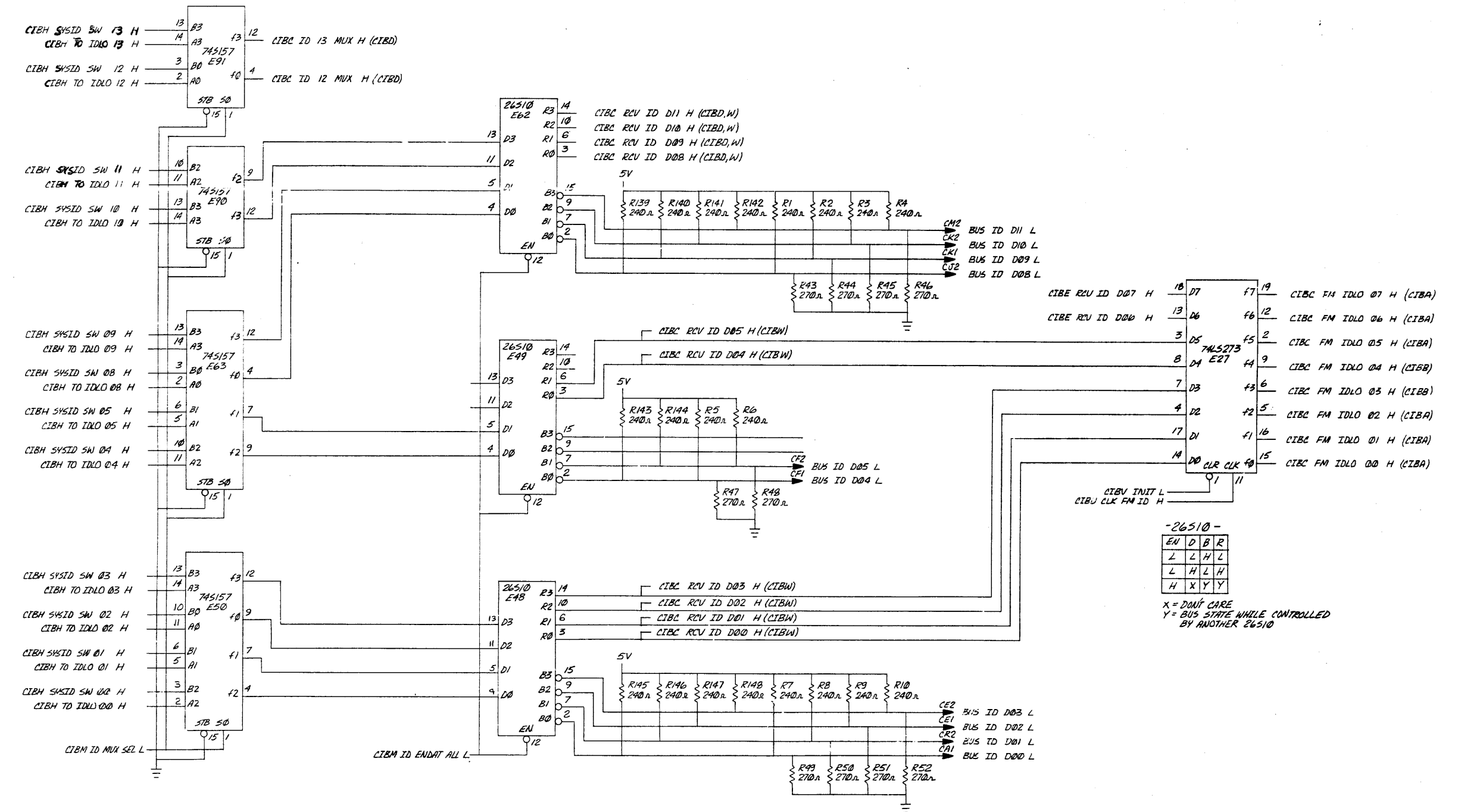


W1 INSTALLED : ADRS = 1730 XX  
 W1 REMOVED : ADRS = 1430 XX  
 VECTOR ADRS = 300,304

REVISIONS		
CHK	CHANGE NO.	REV.

(QMUX <15:10>, 4,3 QBUS TRANSCEIVERS (SLOT 29))			
TITLE CONSOLE INTERFACE BOARD (CIBB)		SIZE CODE D CS	NUMBER M8236-01
SCALE	SHEET 3 OF 21	DIST.	REV. D

"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"



-26510-

EN	D	B	R
L	L	H	L
L	H	L	H
H	X	Y	Y

X = DON'T CARE  
Y = BUS STATE WHILE CONTROLLED BY ANOTHER 26510

REVISIONS		
CHK	CHANGE NO.	REV.

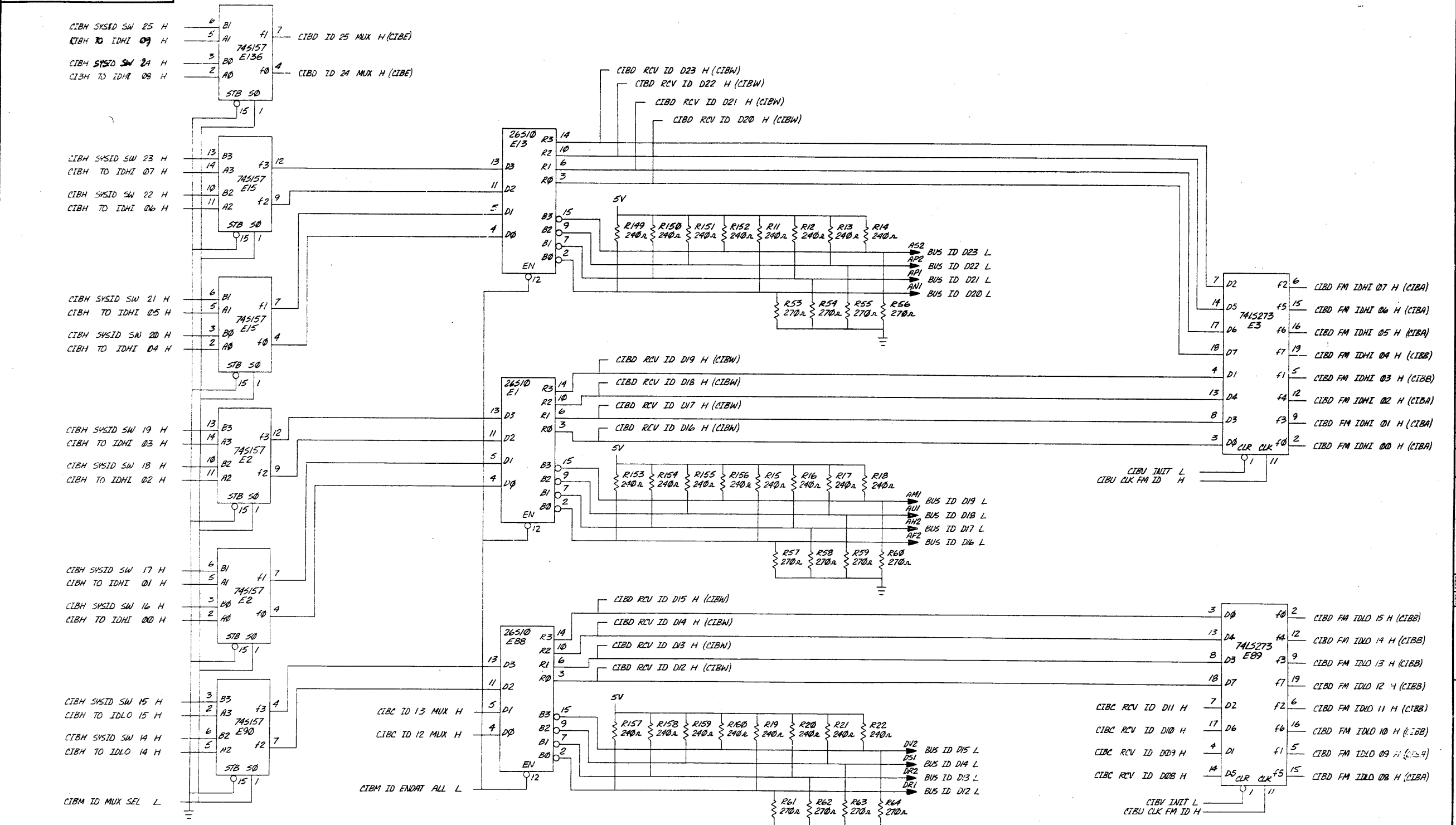
(ID MUX<13:00>, ID BUS<11:08>, <05:00>FROM ID LO <07:00>(SLOT 29))

TITLE		CONSOLE (CIBCI)		SIZE/TYPE	NUMBER	REV.
INTERFACE BOARD		(CIBCI)		D CS	M8236-01	D
SCALE	SHEET	4 OF 21		DIST.		

480



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.

(ID MUX<25:14> ID BUS<23:12>, FROM ID HI<07:00>, FROM ID LO<15:08>) (SLOT 29)

TITLE	CONSOLE INTERFACE BOARD (CIBD)	SIZE CODE	D CS	NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	5 OF 21	DIST.			

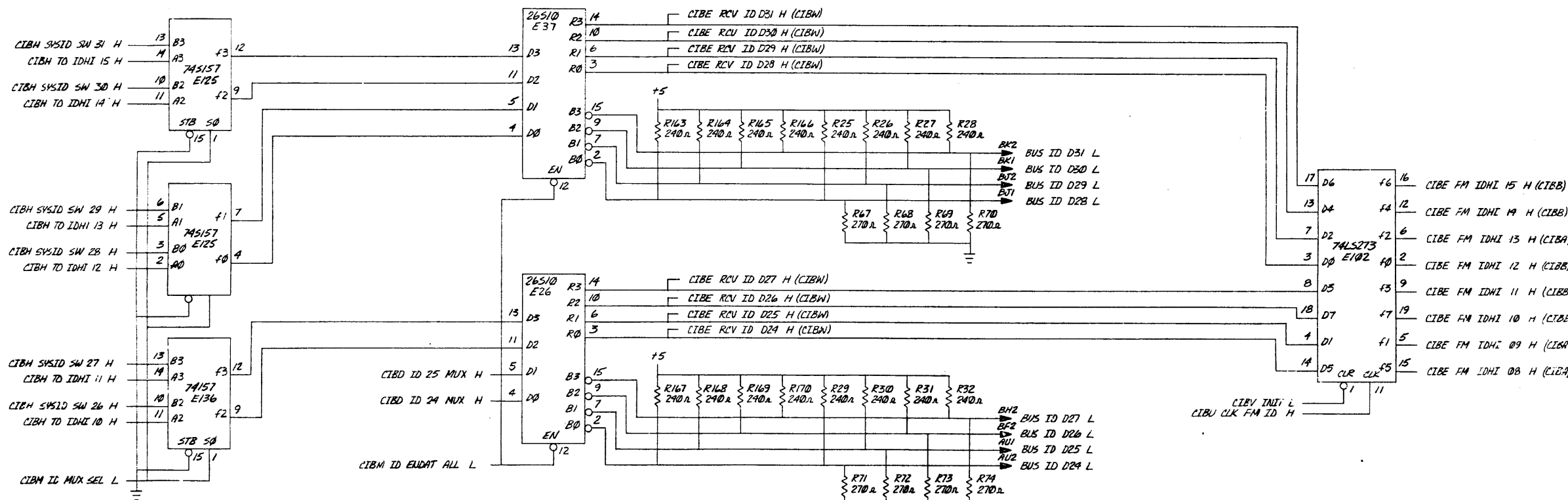
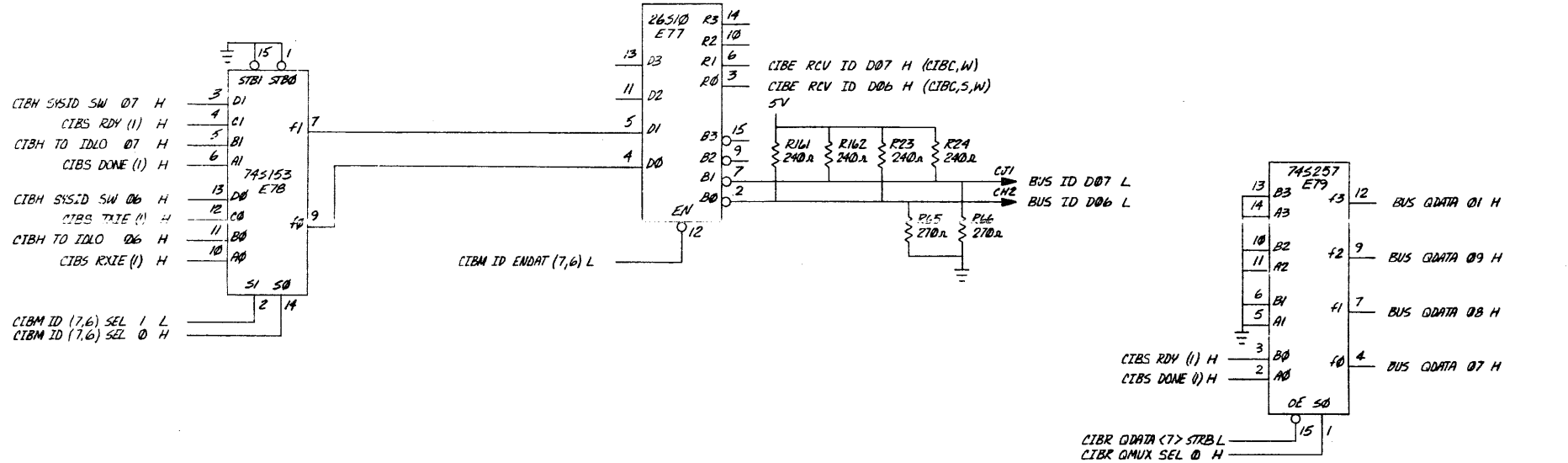
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

- 74S153 -  
FUNCTION TABLE

SELECT INPUT	DATA INPUTS					STROBE	OUTPUT
B A	D0	C1	C2	C3	G	Y	
X	X	X	X	X	X	H	L
L	L	L	X	X	X	L	L
L	L	H	X	X	X	L	H
L	H	X	L	X	X	L	L
L	H	X	H	X	X	L	H
H	L	X	X	L	X	L	L
H	L	X	X	H	X	L	H
H	H	X	X	L	L	L	L
H	H	X	X	H	L	L	H

SELECT INPUTS A AND B ARE COMMON TO BOTH SECTIONS.

H = HIGH LEVEL L = LOW LEVEL  
X = IRRELEVANT



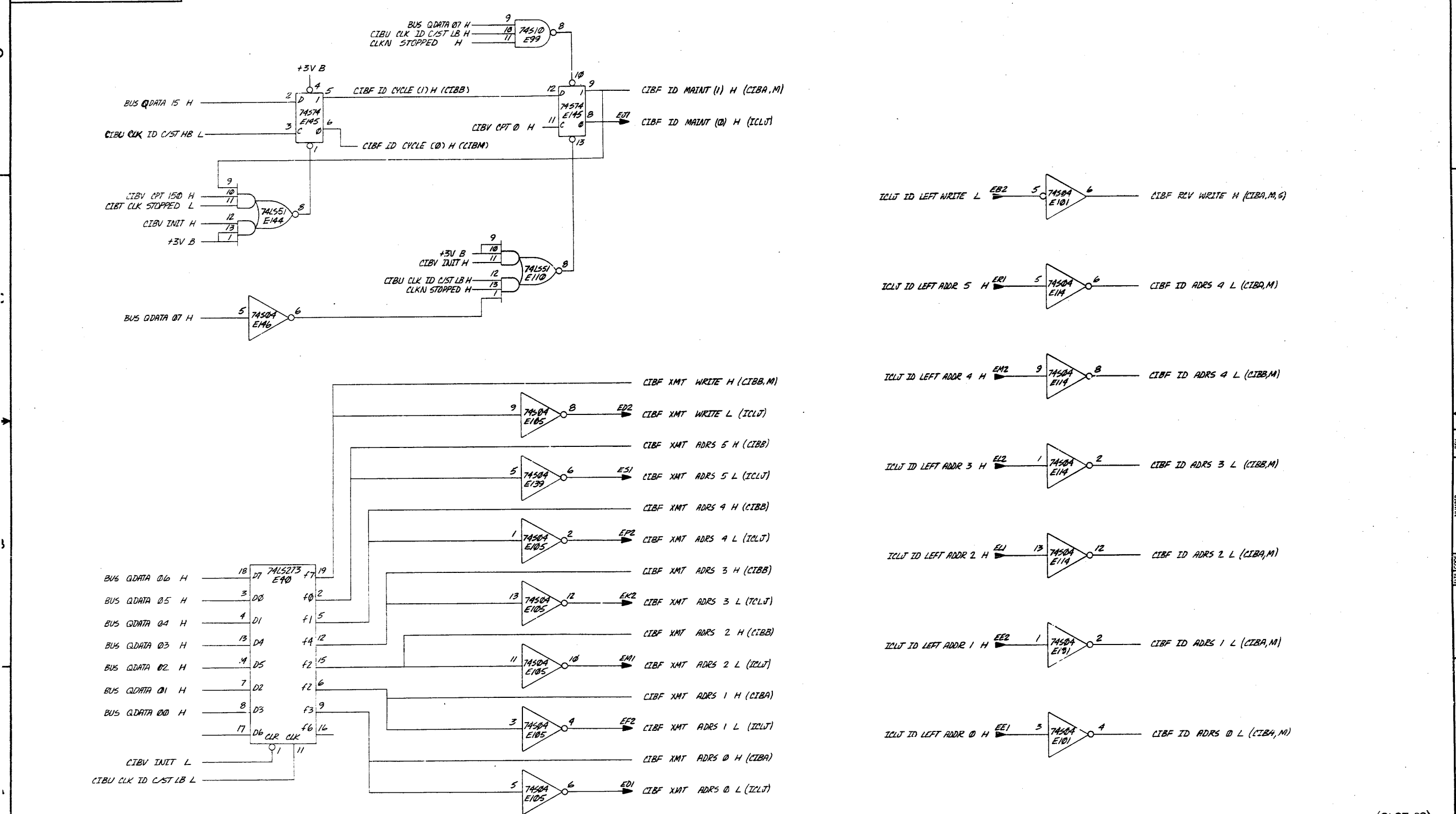
(ID <7:6> MUX, ID MUX <31:26>, ID BUS <31:24>, 7, 6 FROM ID HI <15:08>, QDATA <7> MUX (SLOT 29))

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONSOLE (CIB) INTERFACE BOARD	SIZE CODE	D CS	NUMBER	M8236-01	REV.	D
SCALE		SHEET	6 OF 21	DIST.			

482

"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"



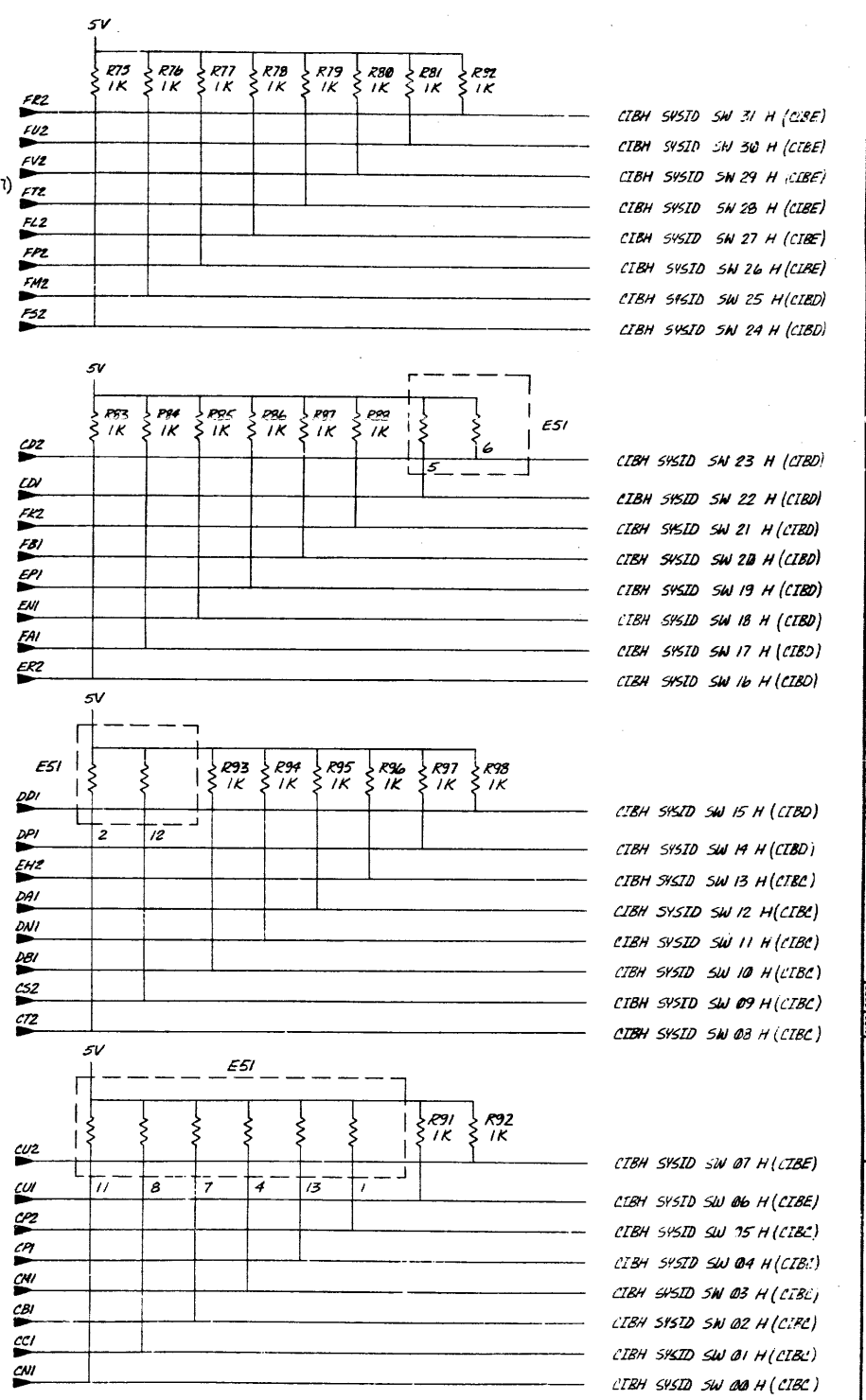
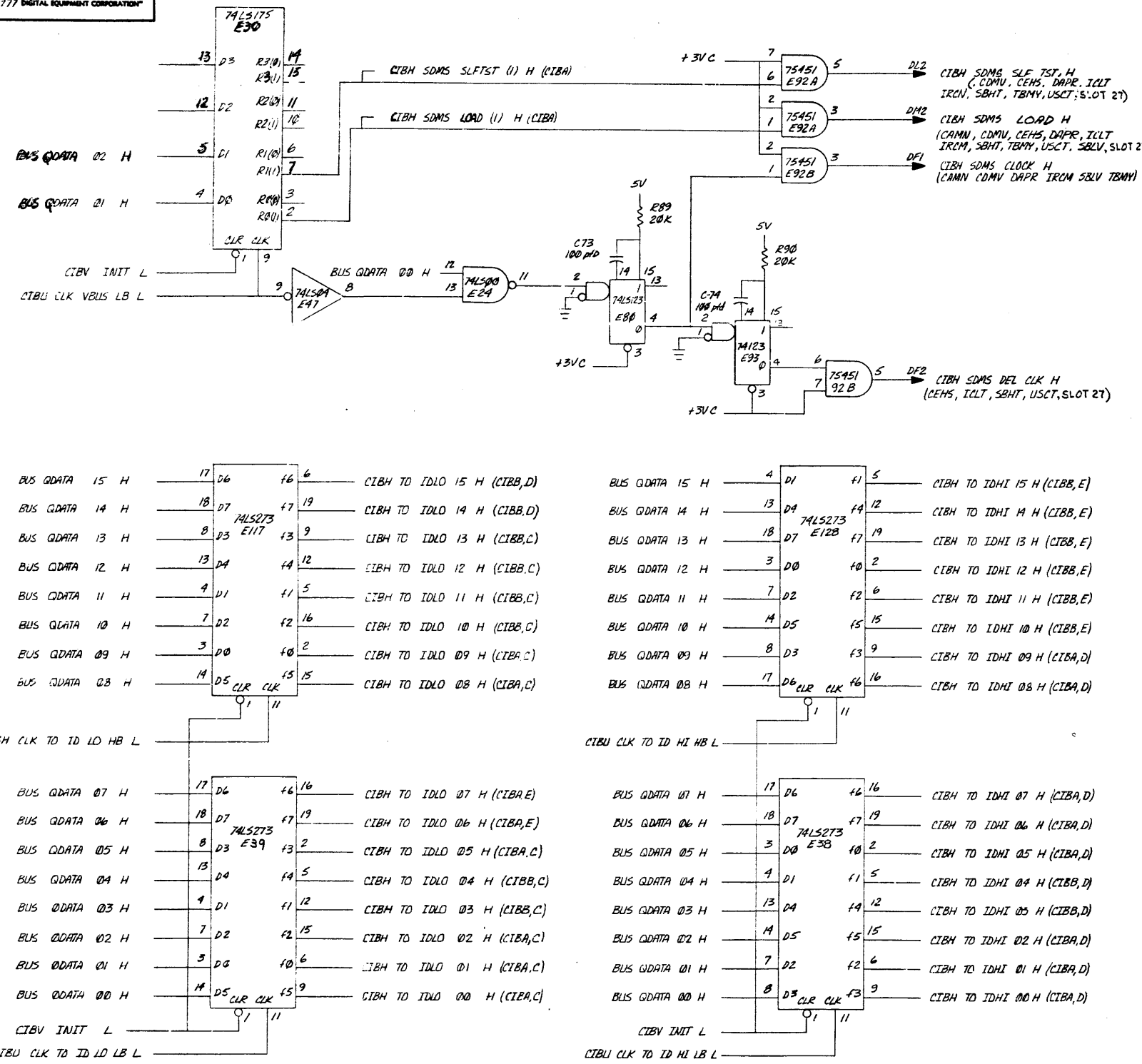
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 29)  
 (ID CONTROL/STATUS REG ID ADRS/CONTROL RECEIVERS)

TITLE	CONSOLE (CIBF) INTERFACE BOARD	SIZE CODE	DCS	NUMBER	M8236-01	REV.	D
SCALE	+	SHEET	7 OF 21	DIST.			

483

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

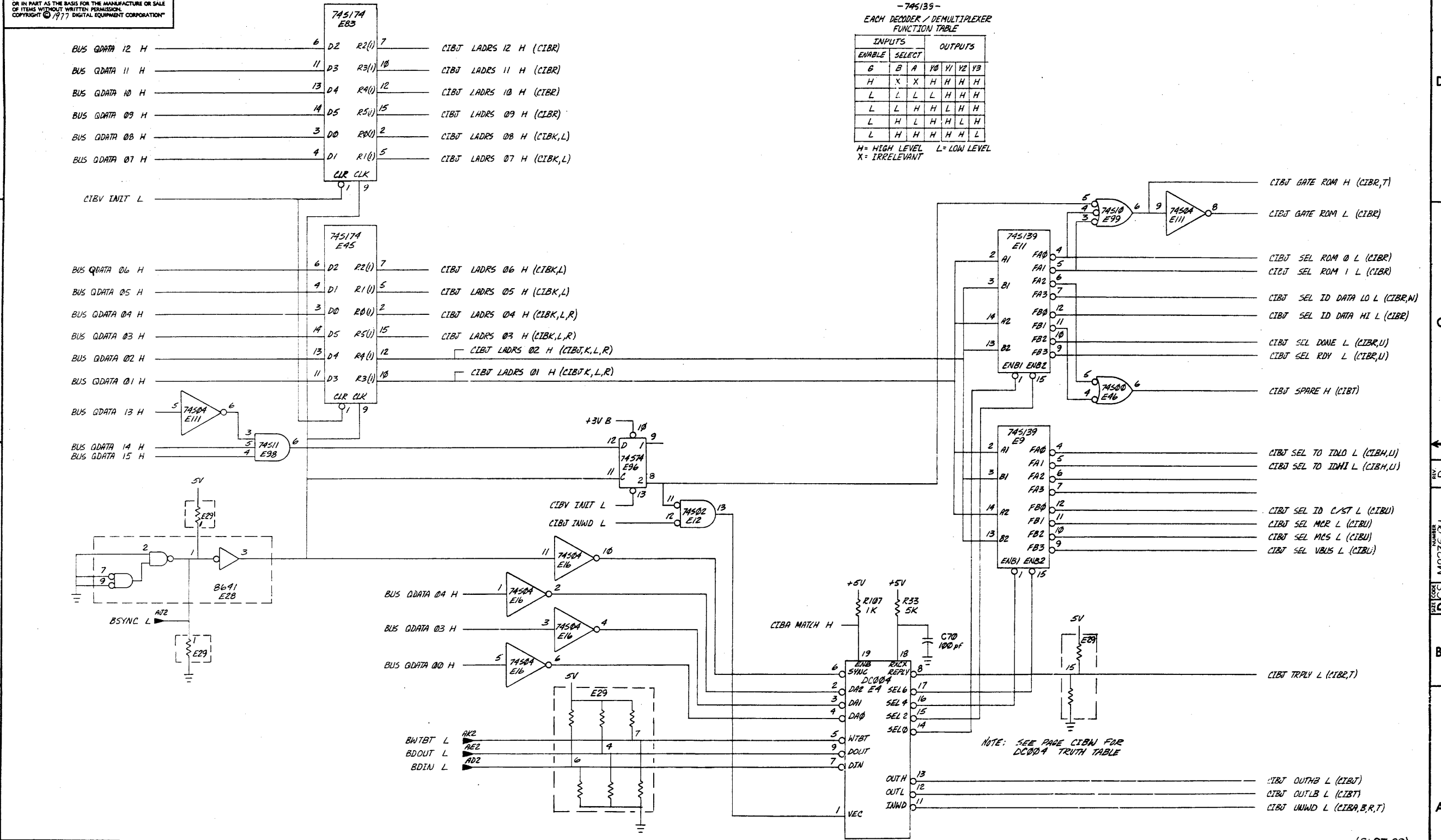


(TO ID LO, HI REGS. SYSTEM ID REG. VBUS CONTROL (SLOT 29))

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONSOLE INTERFACE BOARD (CIBH)	SIZE CODE	D CS	NUMBER	M8236-01	REV.	D
SCALE	+	SHEET	8 OF 21	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



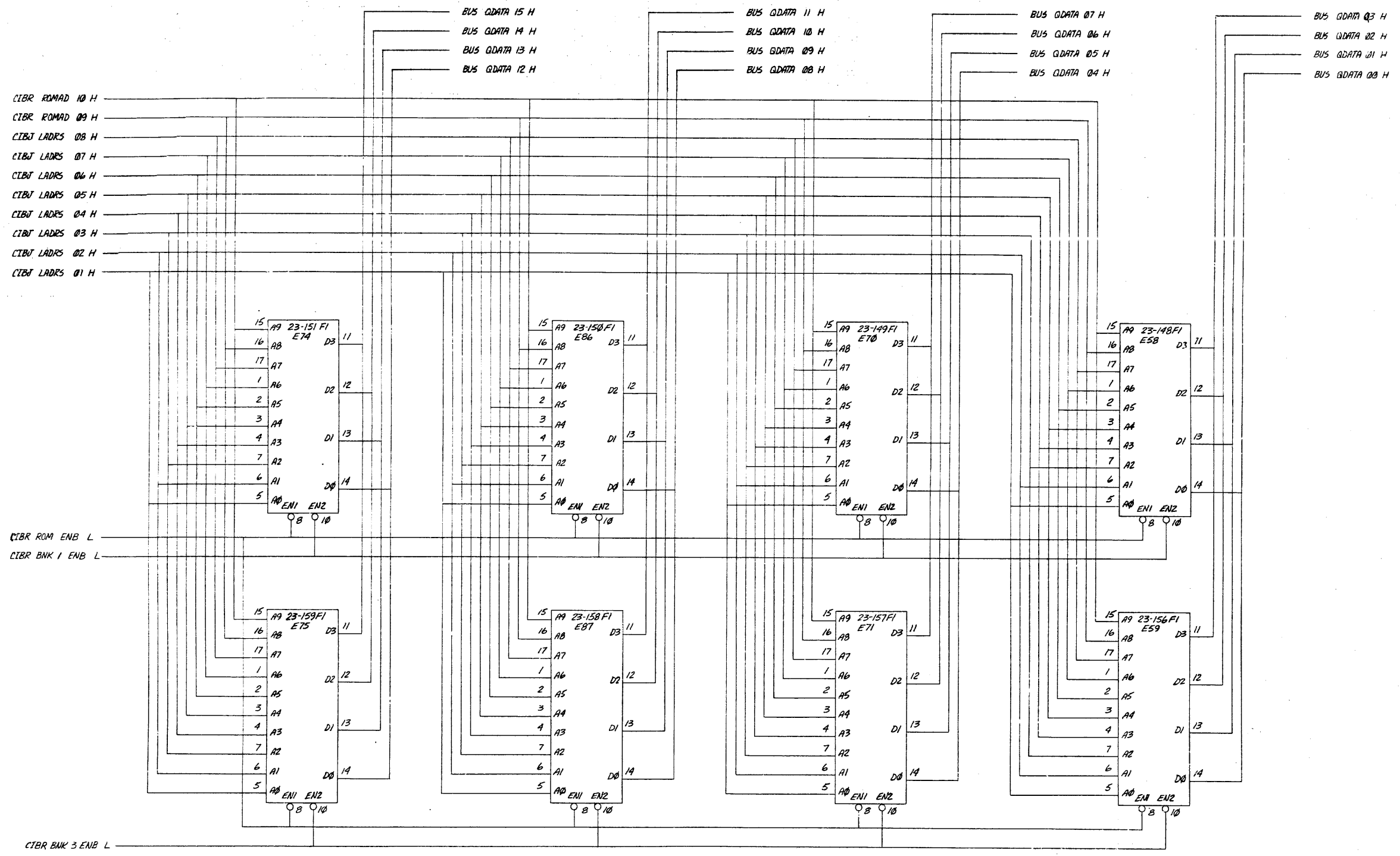
REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 29)  
 (ROM ADRS DECODE LATCH ADRS BITS <12:0> QBUS REG SELECTS)

TITLE	CONSOLE INTERFACE BOARD (CIBJ)	SIZE CODE	D/CS	NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	9 OF 21	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"

1-0-9228 M8236-01 2



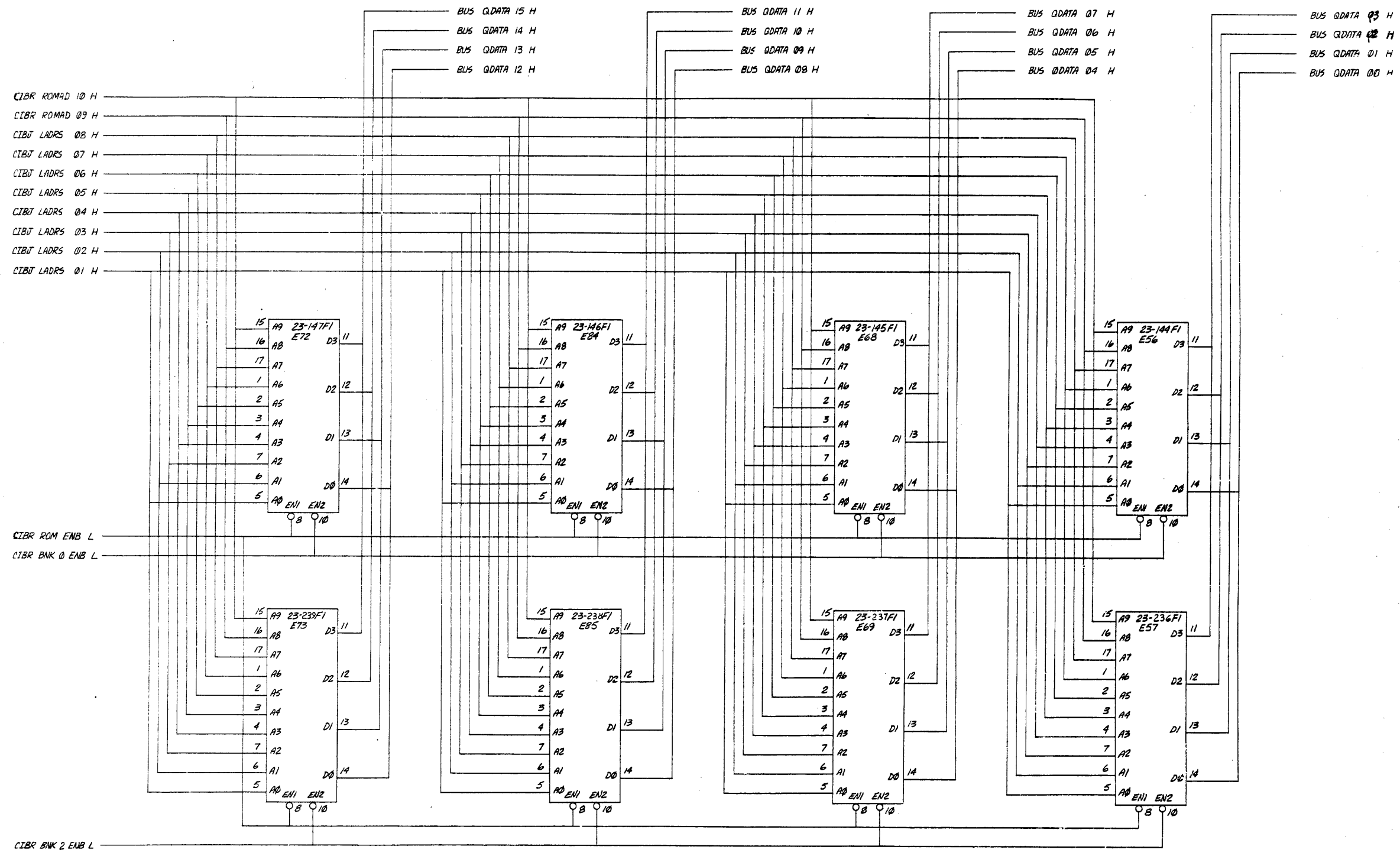
REVISIONS		
CHK	CHANGE NO.	REV.

8	7	6	5	4	3	2	1		
TITLE CONSOLE INTERFACE BOARD (CIBK)							SIZE CODE DCS	NUMBER M8236-01	REV. D
SCALE							SHEET 10 OF 21	DIST.	

48

"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"

1-0-9228W DCS 2



REVISIONS		
CHK	CHANGE NO.	REV.

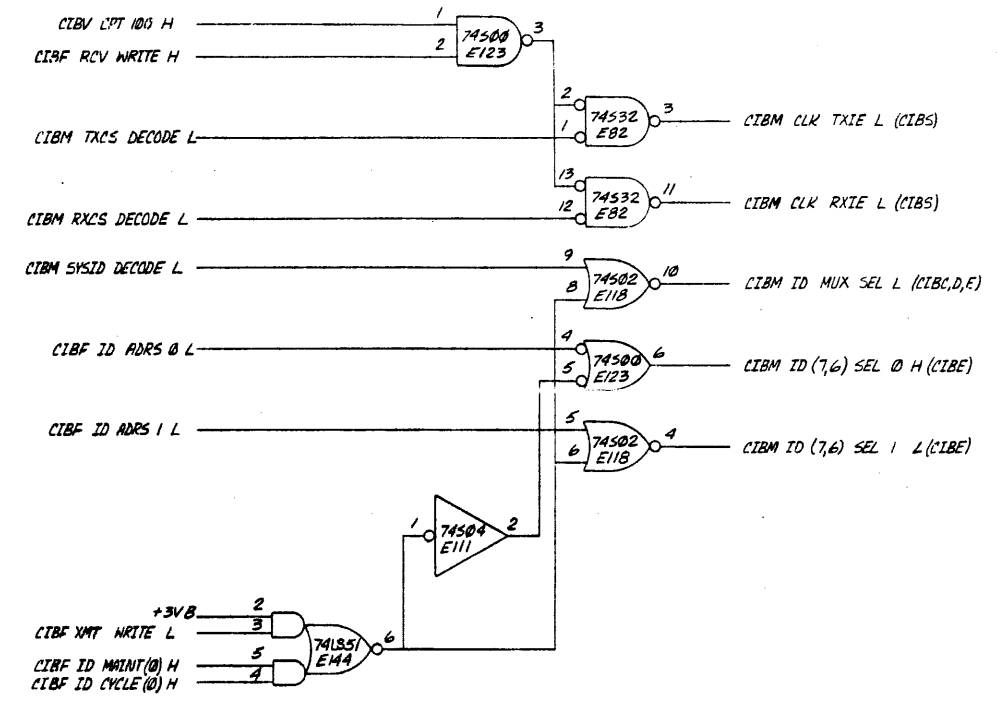
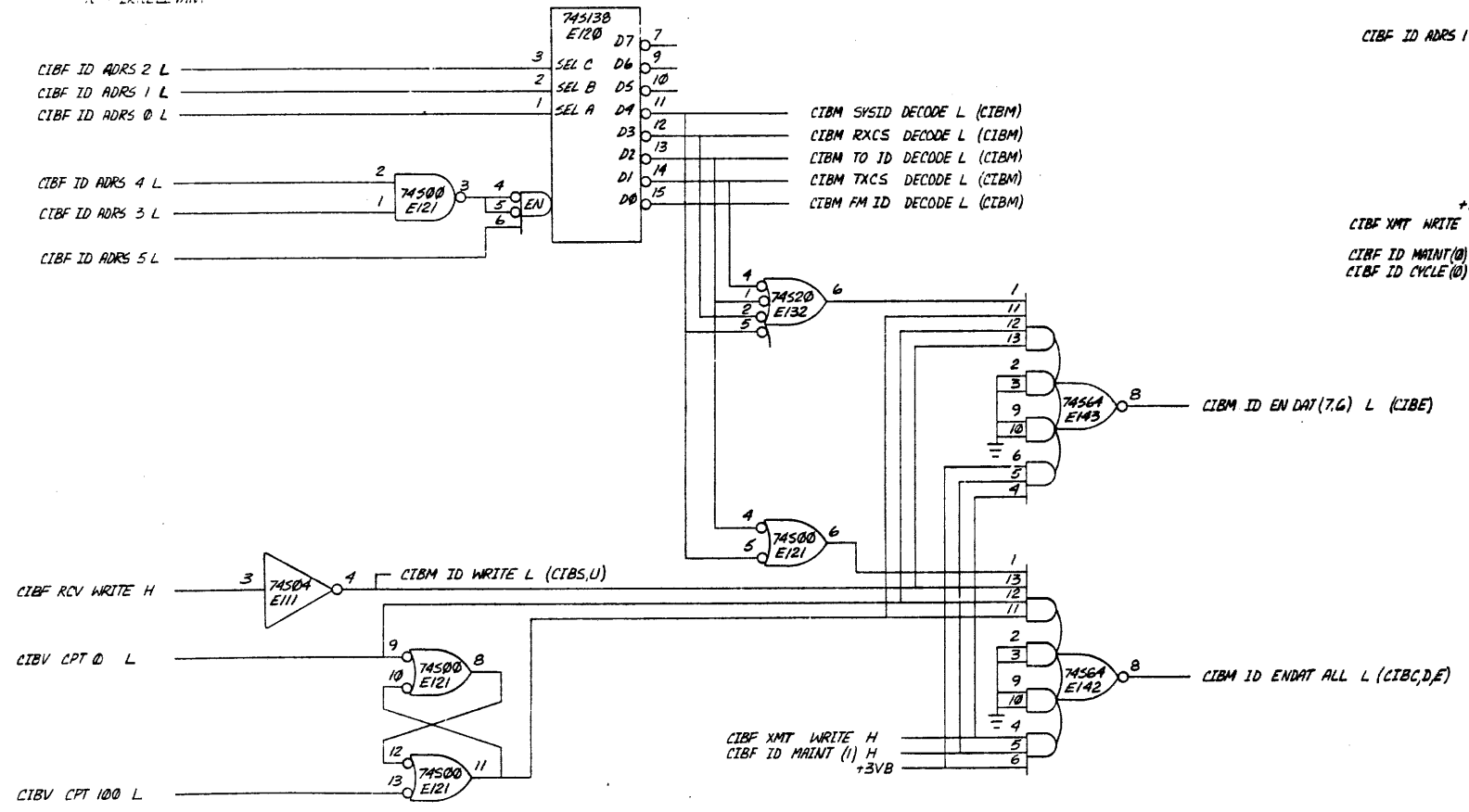
(ROM MATRIX (SLOT 29))  
 TITLE CONSOLE INTERFACE BOARD (CIBJ)  
 SIZE CODE DCS NUMBER M8236-0-1 REV. D  
 SCALE 1:1 SHEET 11 OF 21 DIST. 1

"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"

-745138-  
FUNCTION TABLE

INPUTS		OUTPUTS										
ENABLE	SELECT	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	
C	G2	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	H	H	H	H	L	H	H	H	H	H
H	L	H	L	L	H	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H	H

\*G2 = G2A + G2B  
H = HIGH LEVEL  
L = LOW LEVEL  
X = IRRELEVANT



ADRS <sub>0</sub>	NAME	ID (7,6) SEL 1 L	ID (7,6) SEL 0 H	ID MUX SEL L
03	SYSID	H	H	H
04	RXCS	L	L	L
05	TO ID	L	H	L
06	TXCS	H	L	L
07	FM ID	X	X	L

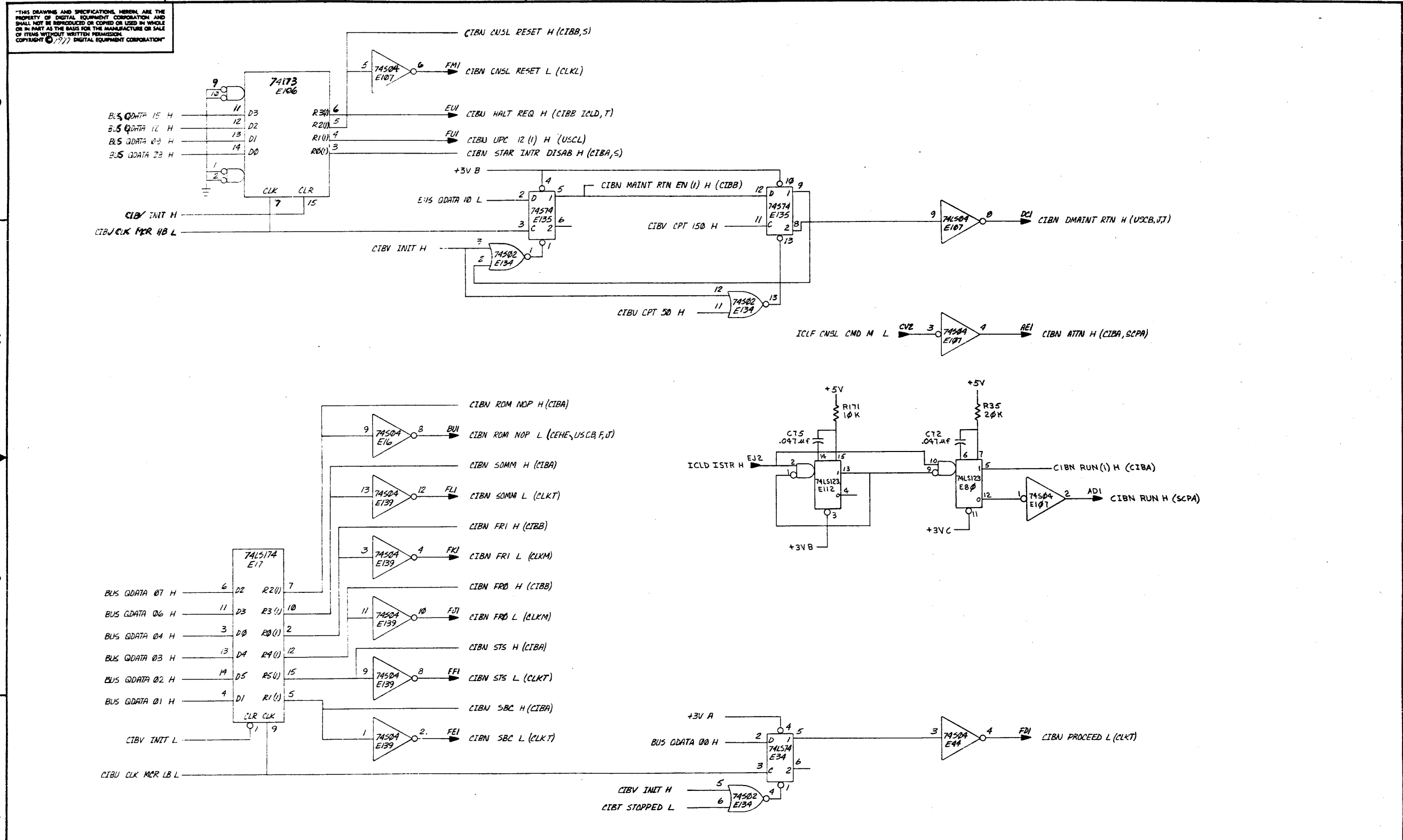
(SLOT 29)  
(ID BUS DATA ENABES, ID REG ADRS DECODE, ID MUX SELECT, CLOCKS)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONSOLE INTERFACE BOARD (CIBM)	SIZE CODE	D CS	NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	12 OF 21	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

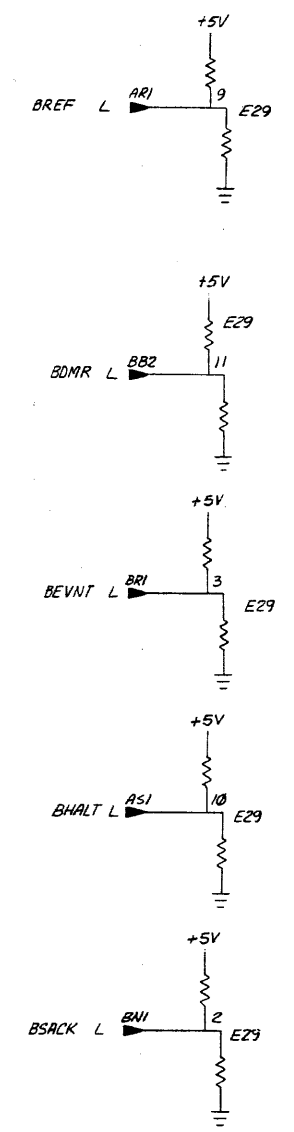
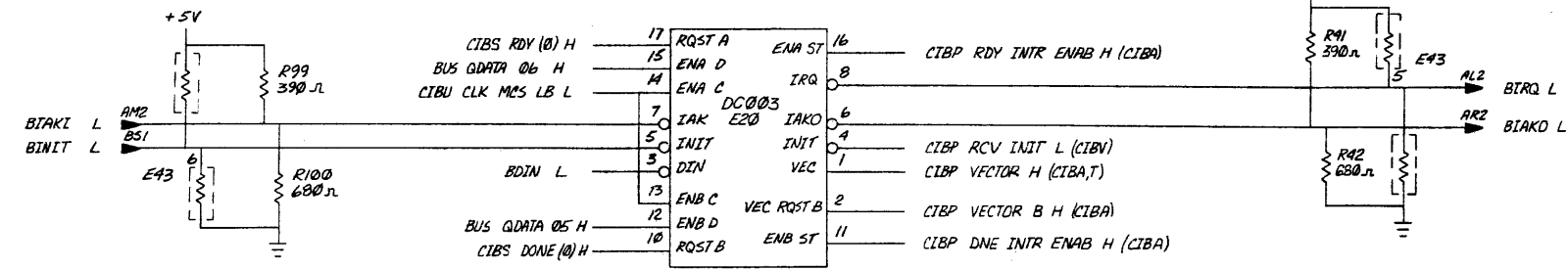
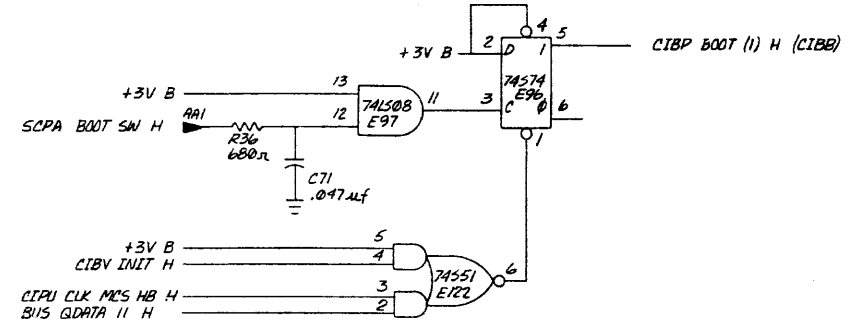
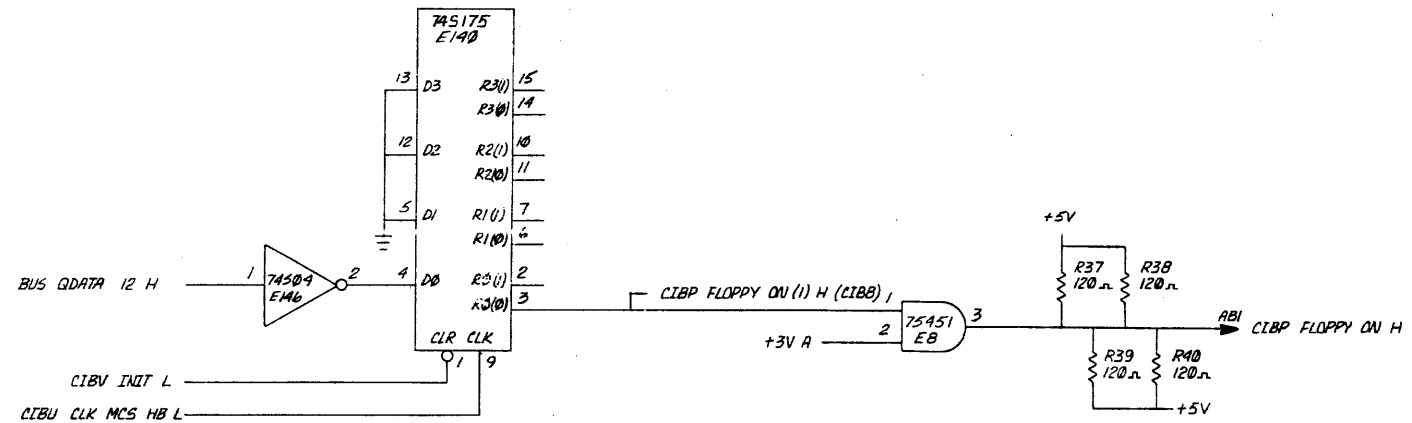
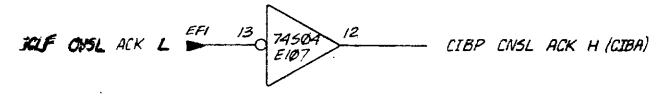


REVISIONS		
CHK	CHANGE NO.	REV.

(MACHINE CONTROL REG; RUN AND ATTENTION INDICATORS (SLOT 29))

TITLE	CONSOLE INTERFACE BOARD (CIBN)	SIZE CODE	D CS	NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	13 OF 21	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



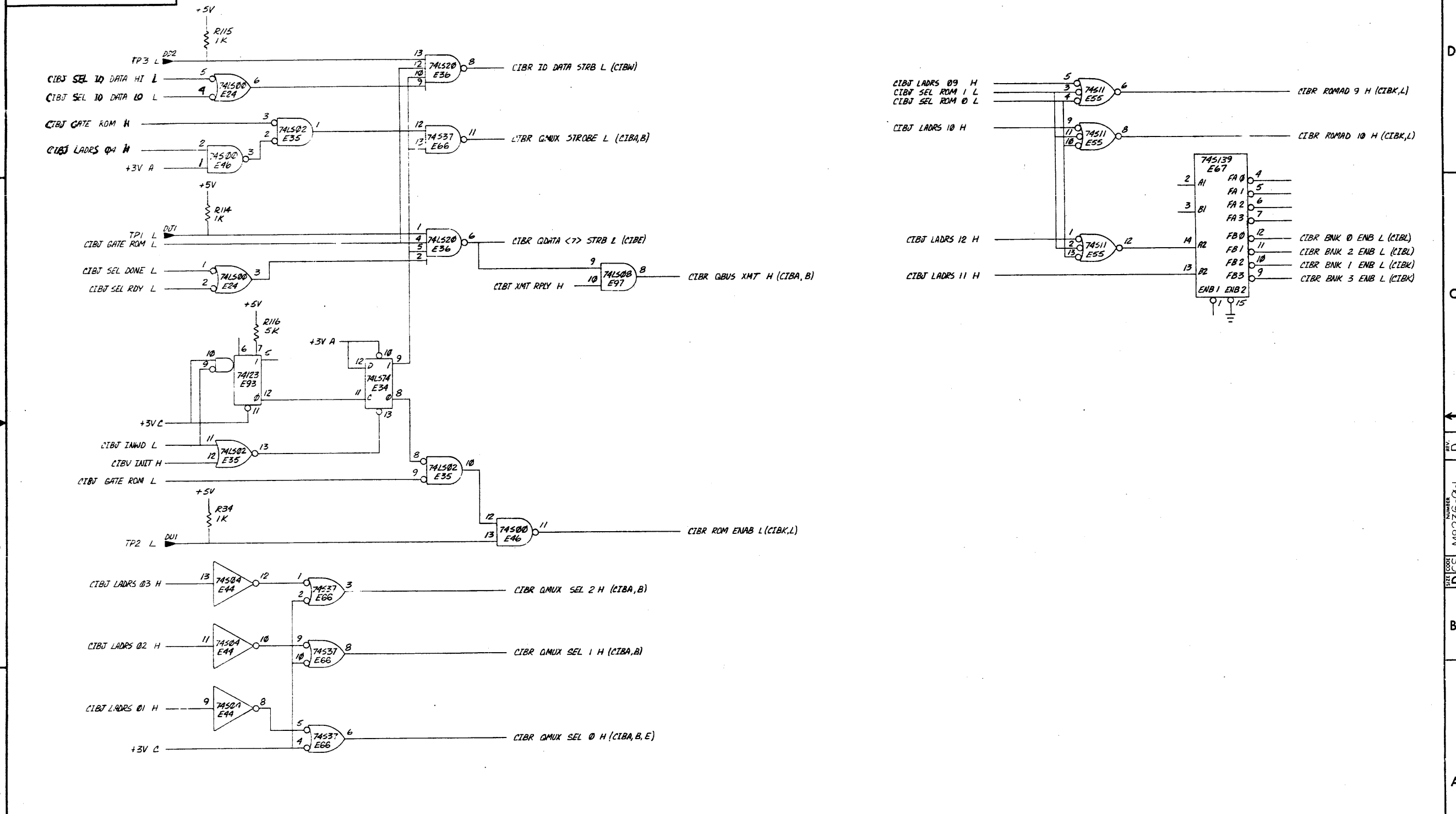
REVISIONS		
CHK	CHANGE NO.	REV.

(MACHINE CONTROL/STATUS, CONSOLE ACKNOWLEDGE (SLOT 29))

TITLE	CONSOLE INTERFACE BOARD (CIBP)	SIZE CODE	D CS	NUMBER	M82360-1	REV.	D
SCALE	1:1	SHEET	14 OF 21	DIST.			

490

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



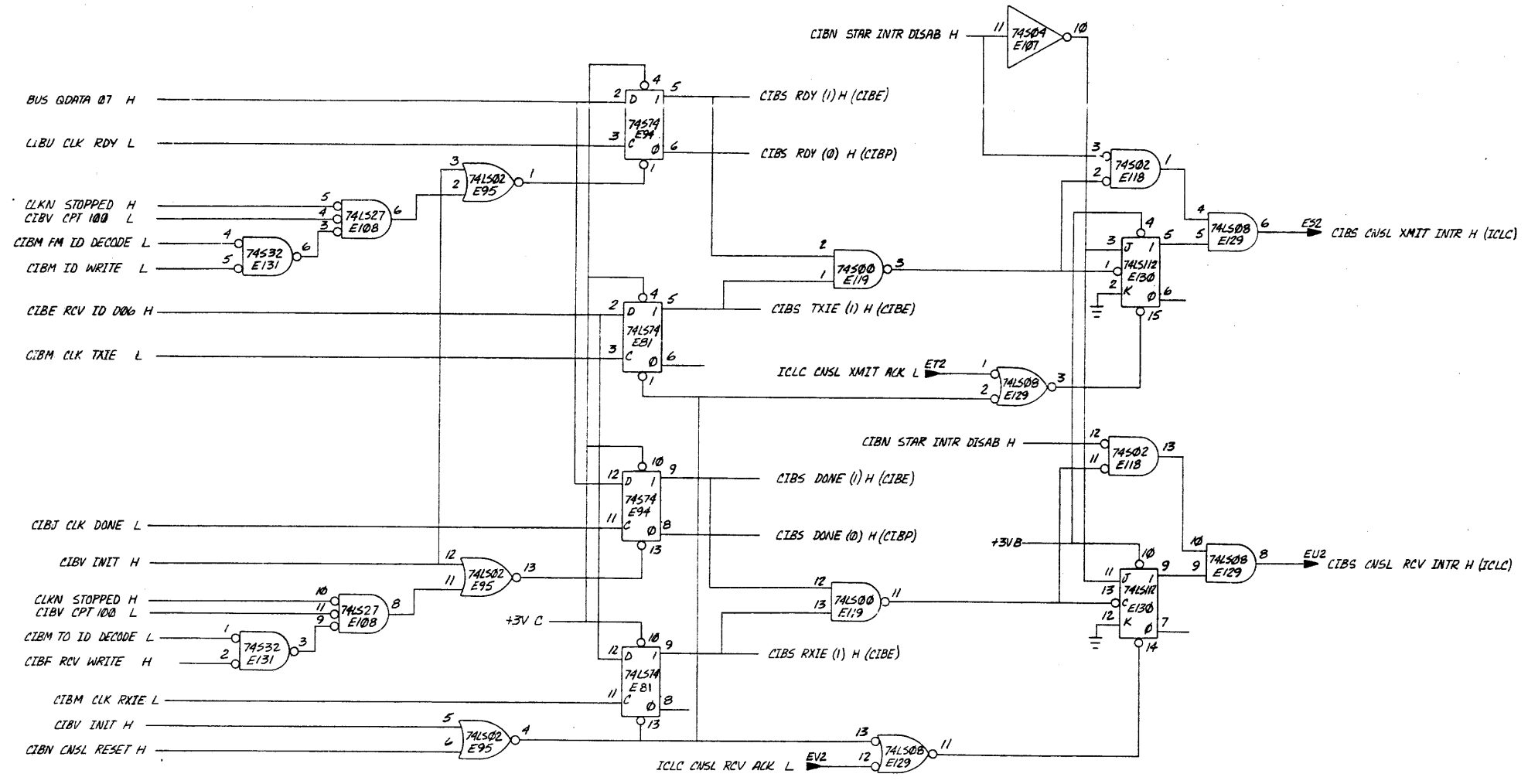
REVISIONS		
CHK	CHANGE NO.	REV.

(QMUX SELECTS ROM BANK DECODE, ENABLE ID DATA, QMUX STROBES QBUS XMT (SLOT 29))

TITLE	CONSOLE INTERFACE BOARD (CIBR)	SIZE CODE	D CS	NUMBER	M8236-01	REV.	D
SCALE	1:1	SHEET	15 OF 21	DIST.			

REV. D  
M8236-01  
D CS  
B  
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 © 1977 DIGITAL EQUIPMENT CORPORATION"

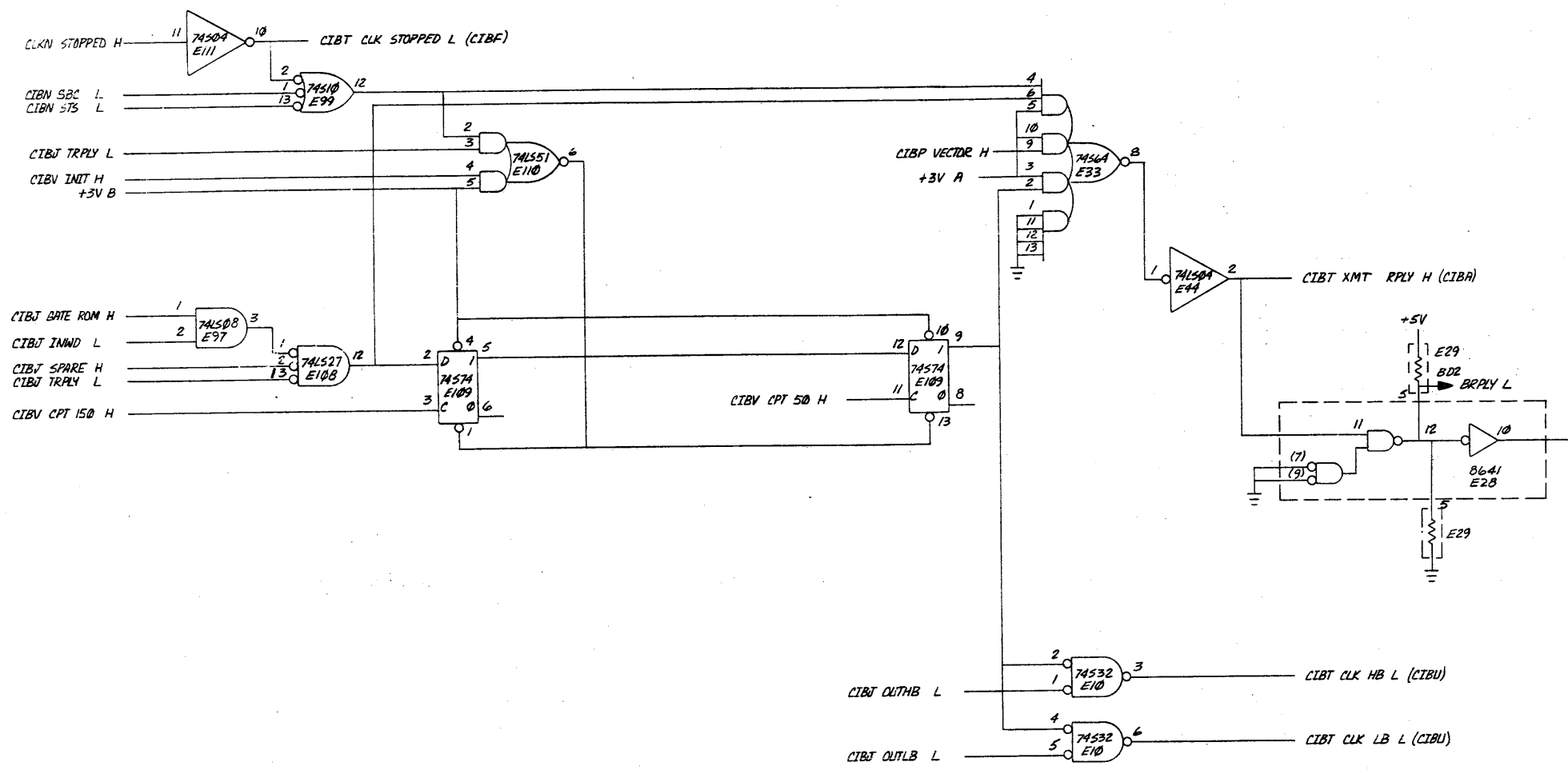


(READY, DONE, TRANSMIT AND RECEIVE INTERRUPT ENABLES (SLOT 29))

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CONSOLE (CIBS) INTERFACE BOARD	SIZE CODE	D CS	NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	16 OF 21	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

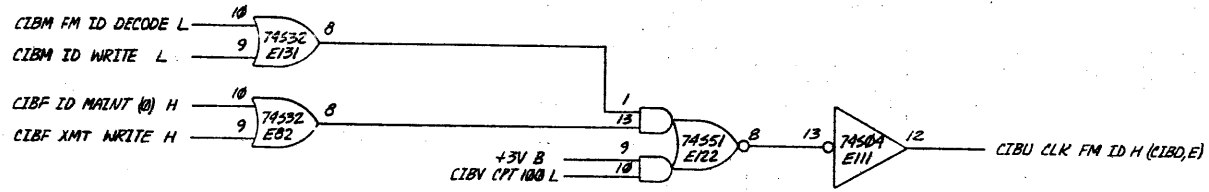
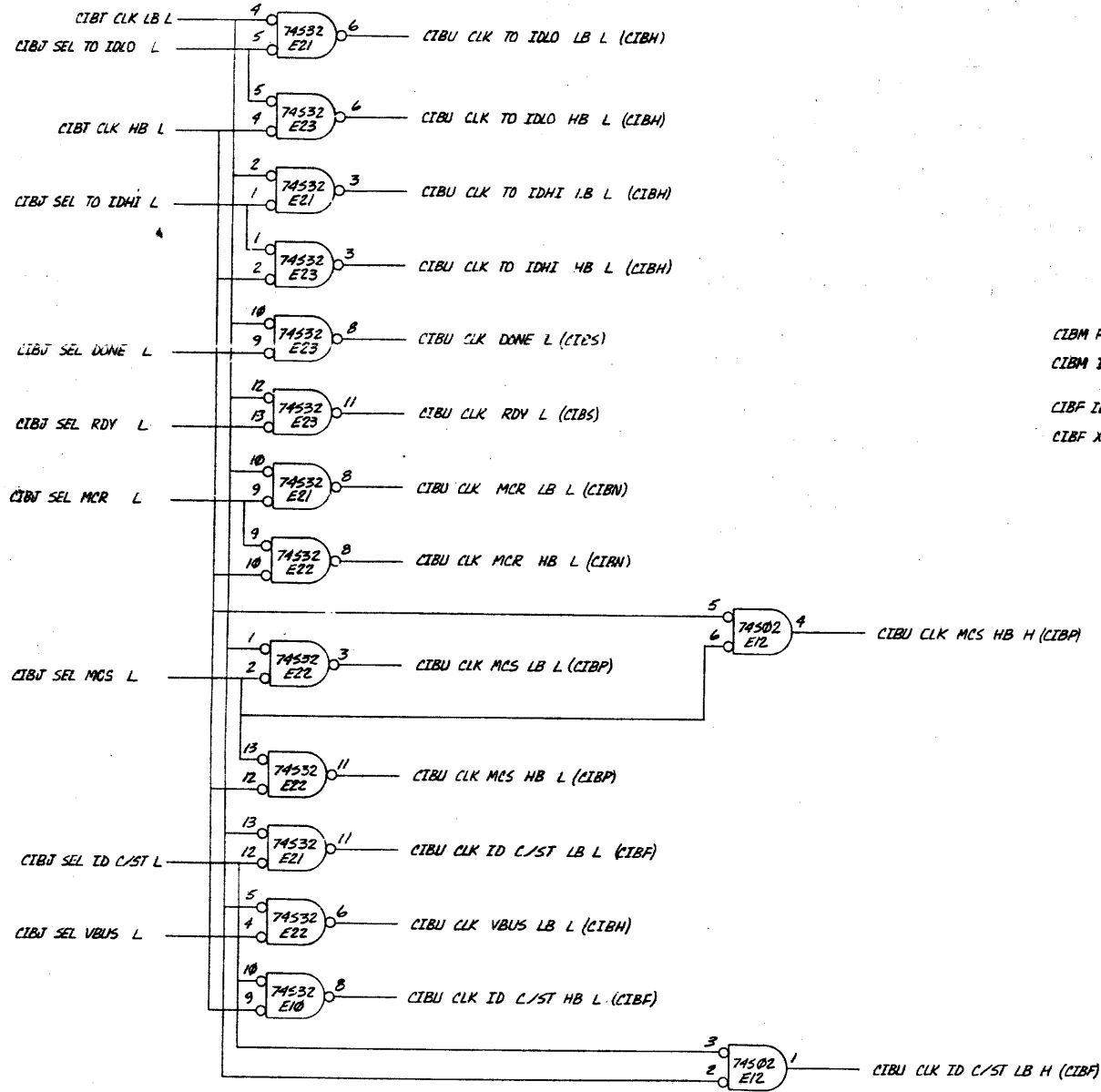


REVISIONS		
CHK	CHANGE NO.	REV.

(QBUS REPLY SYNCHRONIZER (SLOT 29))			
TITLE	CONSOLE (CIBT) INTERFACE BOARD	SIZE CODE	D CS
NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	17 OF 24

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

DIGITAL EQUIPMENT CORPORATION  
M8236-01  
D CS 2



REVISIONS		
CHK	CHANGE NO.	REV.

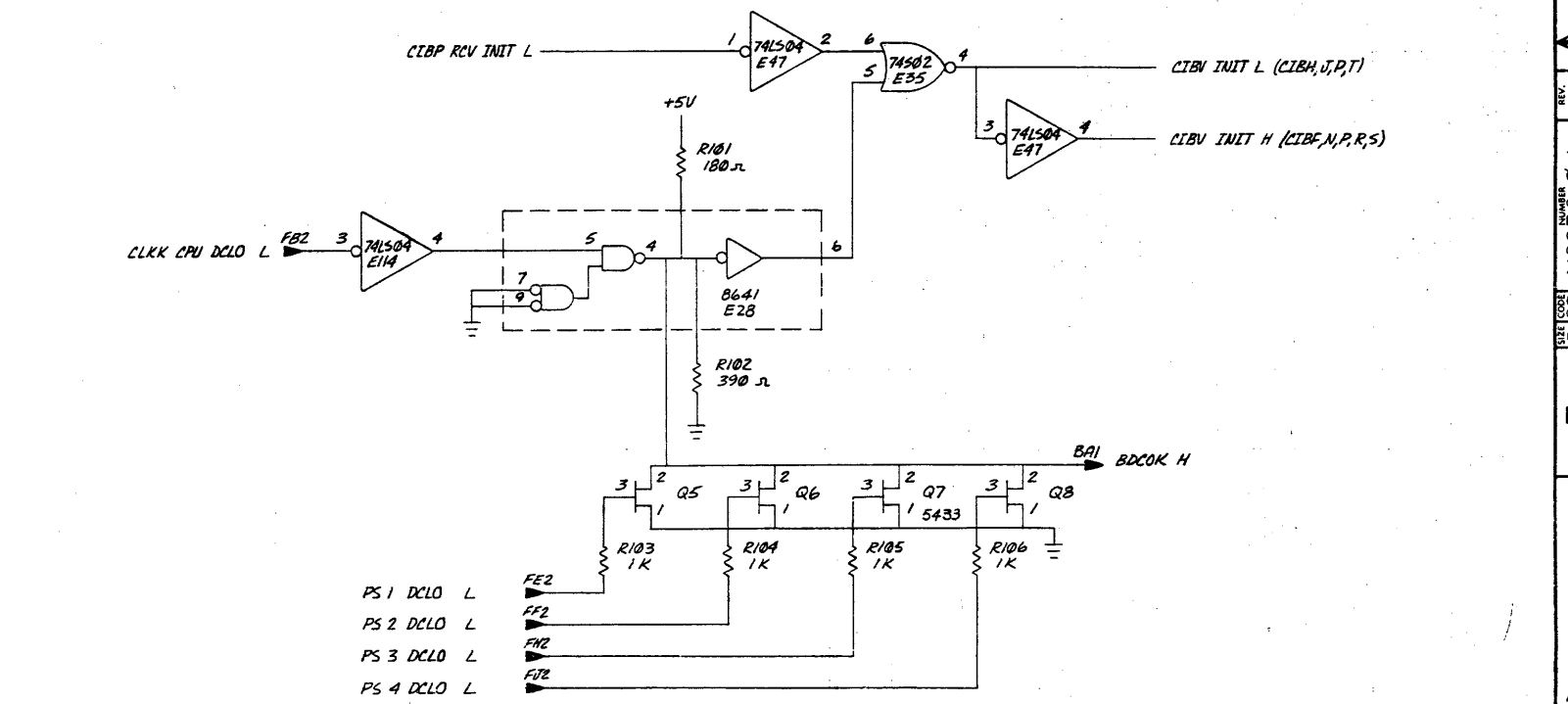
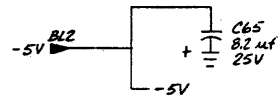
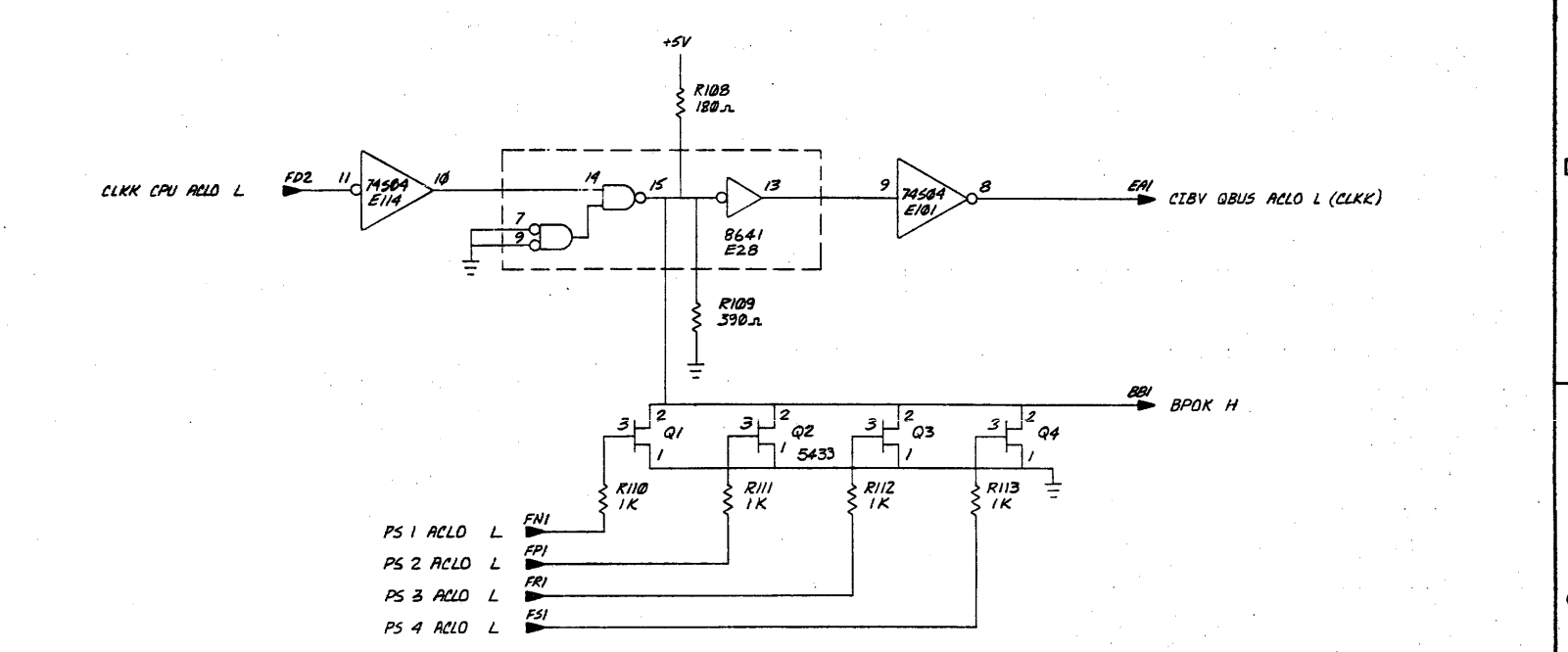
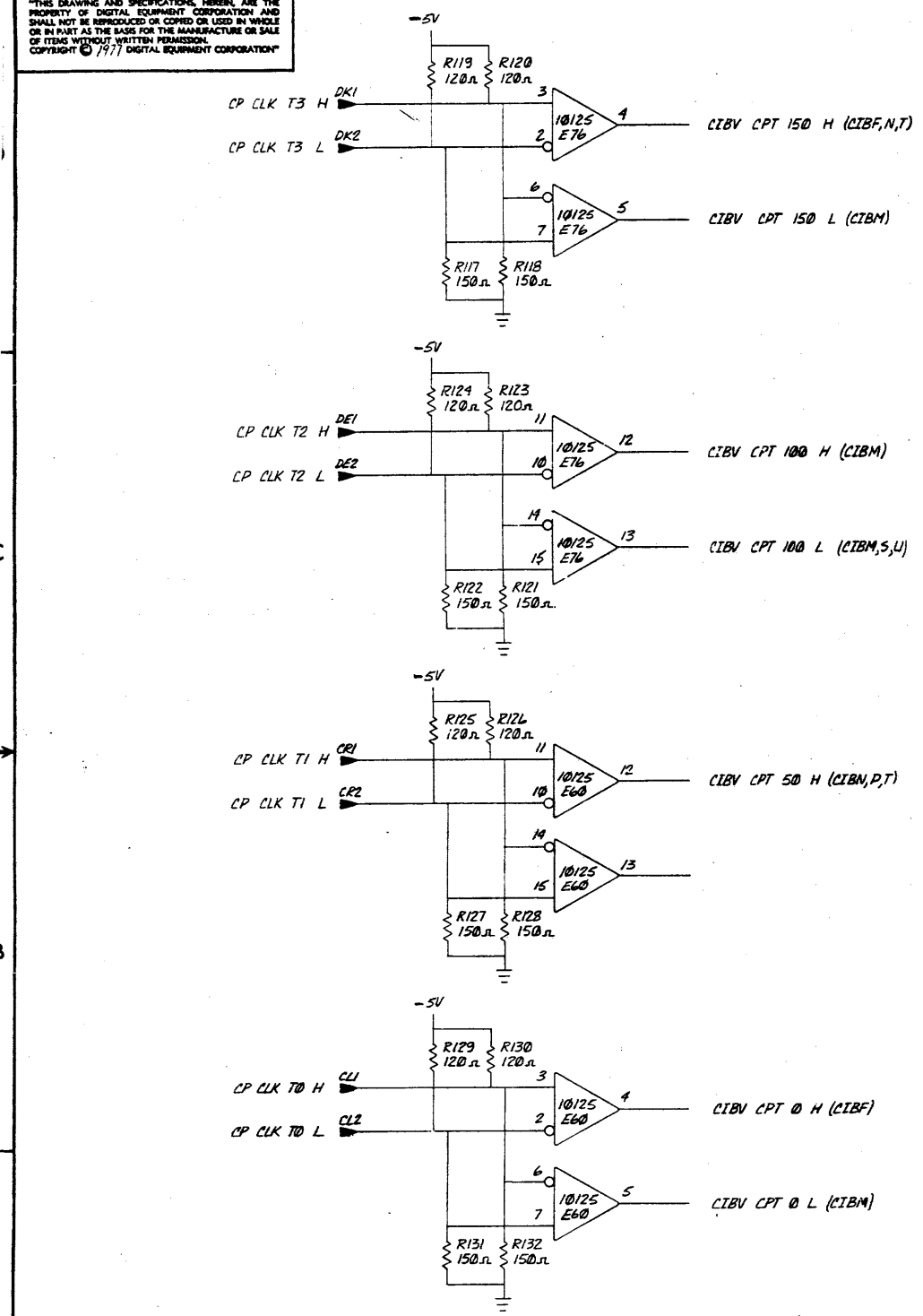
(ID REG CLOCKS (SLOT 29))  
 TITLE CONSOLE (CIBU) INTERFACE BOARD  
 SIZE CODE D CS NUMBER M8236-01 REV. D  
 SCALE SHEET 18 OF 21 DIST.

494

REV. D  
 REV. C  
 REV. B  
 REV. A

2w 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.

(ECL CLOCK RECEIVERS, DCLO AND ACLO (SLOT 29))		TITLE	SIZE CODE	NUMBER	REV.
		CONSOLE (CIBV)	D CS	M8236-0-1	D
		INTERFACE BOARD			
SCALE	SHEET	DIST.			
	19 OF 21				

"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 M8236-0-1

NOTE: SEE CIBT

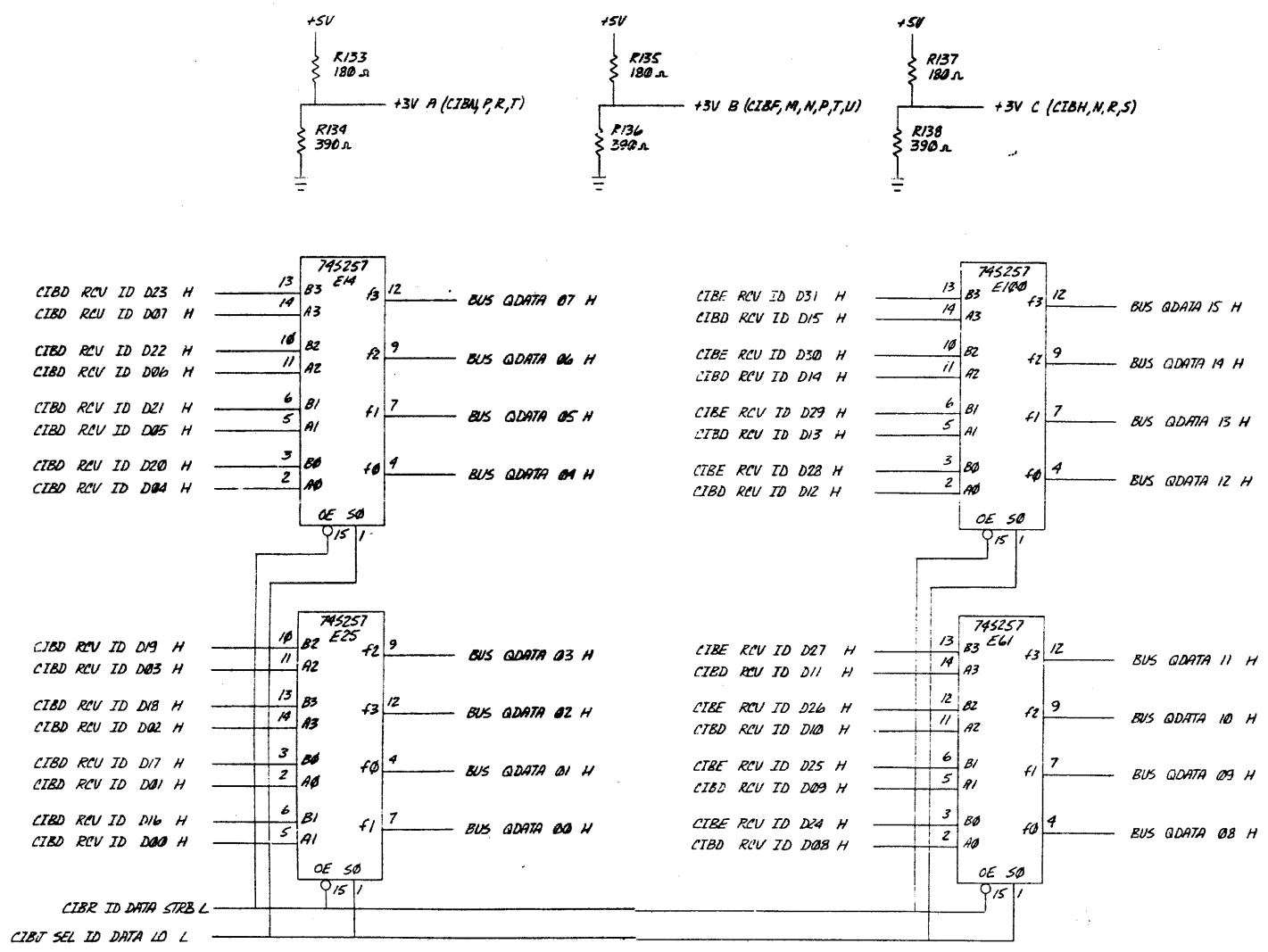
- DC004 -

TRUTH TABLE							
INPUTS				OUTPUTS			
BSYNC	ENB	BDAL 2	BDAL 1	SEL 6	SEL 4	SEL 2	SEL 0
H	X	X	X	H	H	H	H
L	L*	X	X	H	H	H	H
L	H*	L*	L*	L	H	H	H
L	H*	L*	H*	H	L	H	H
L	H*	H*	L*	H	H	L	H
L	H*	H*	H*	H	H	H	L

INPUTS				OUTPUTS				
BSYNC	ENB	BDOUT	EN*BT	BDAL 0	OUTLB	OUTHB	BRPLY	RXCX
H	X	X	X	X	H	H	H	L
L	X	H	X	X	H	H	H	L
L	L*	L	H	X	L	L	H	L
L	L*	L	L	H*	L	H	H	L
L	L*	L	L	L*	H	L	H	L
L	H*	L	H	X	L	L	L	H
L	H*	L	L	H*	L	H	L	H
L	H*	L	L	L*	H	L	L	H

INPUTS		OUTPUTS		INPUT		OUTPUTS		
BSYNC	ENB	BDIN	INWD	BRPLY	RXCX	VECTOR	BRPLY	RXCX
H	X	X	H	H	L	L	L	H
L	X	H	H	H	L	L	H	L
L	L*	L	L	H	L			
L	H*	L	L	L	H			

NOTES:  
 1.) H'S AND L'S MARKED WITH \* INDICATES THE STATE OF THE INPUT LINE AT THE FALLING EDGE OF BSYNC, ASSUMING THE PROPER SET-UP AND HOLD TIMES, OUTSIDE OF THIS INTERVAL, THE INPUT LEVEL ON THESE LINES IS X.  
 2.) "X" IMPLIES A DON'T CARE CONDITION.  
 3.) NOTE THAT "BRPLY" IS PRODUCED BY THREE MEANS. THE ACTUAL OUTPUT IS L IF ANY OF THE THREE TRUTH TABLES INDICATE L. THE OUTPUTS ARE H ONLY IF ALL THREE TRUTH TABLES INDICATE H. RXCX IS THE LOGICAL INVERSION OF BRPLY.

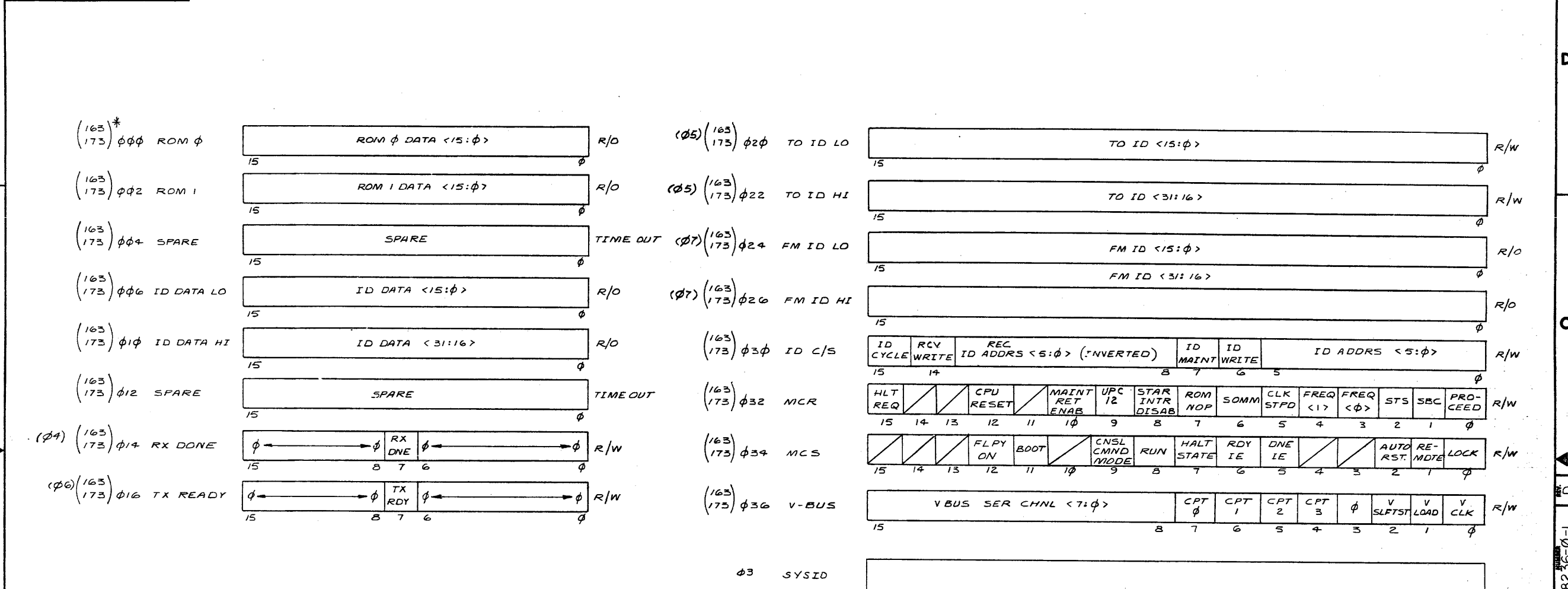


REVISIONS		
CHK	CHANGE NO.	REV.

(ID DATA MUX (SLOT 29))  
 TITLE CONSOLE (CIBW) INTERFACE BOARD  
 SIZE CODE DCS NUMBER M8236-0-1 REV. D  
 SCALE SHEET 20 OF 21 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



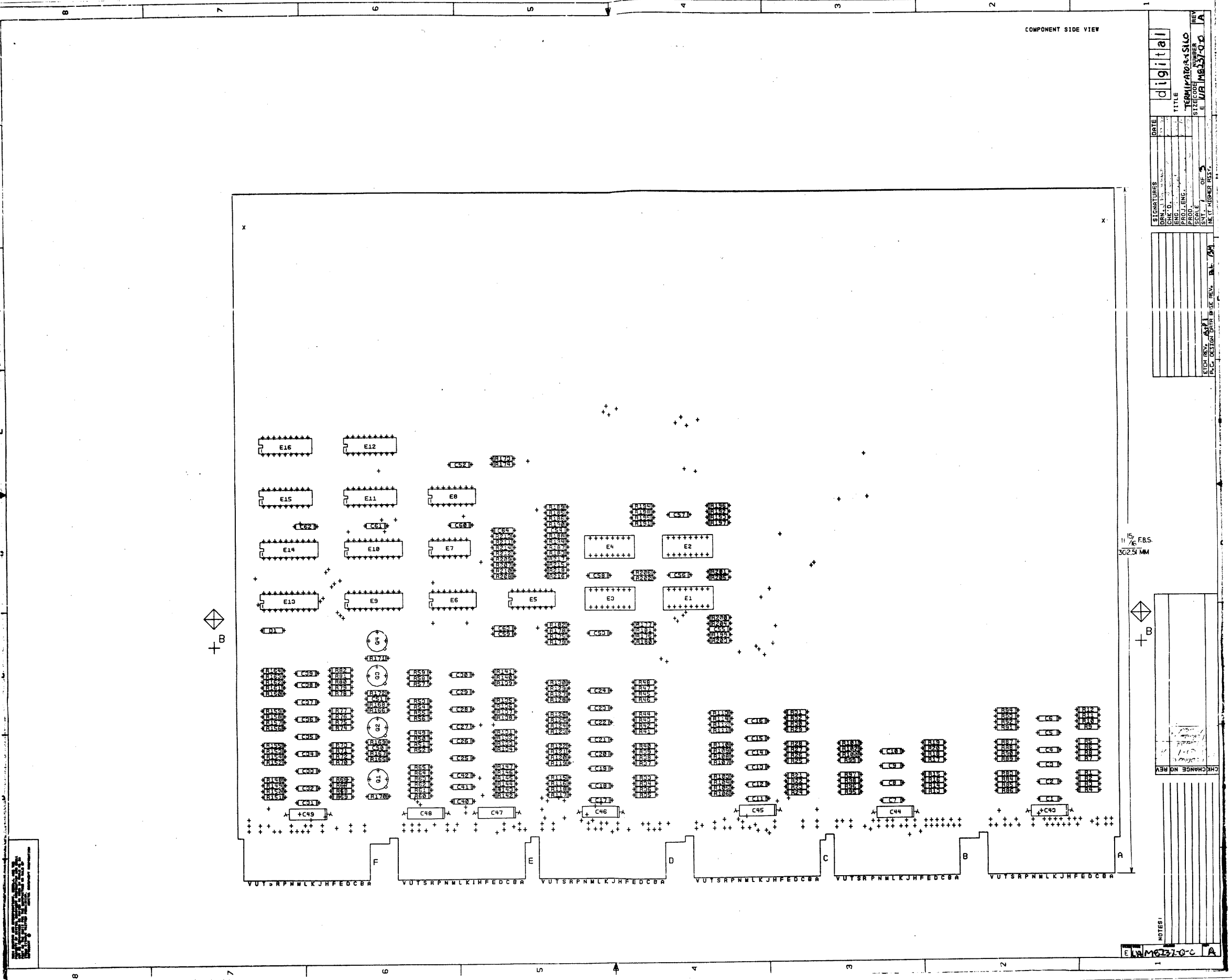
\* START ADRS DETERMINED BY JUMPER W1 ON M8236. SEE PAGE C18B OF M8236 PRINTS FOR JUMPER DEFINITION.

CONTENTS SELECTED BY BACK PANEL JUMPERS. JUMPER INDICATES A 1.

REV.	
CHG	
REVISIONS	
CHANGE NO.	

(CIB REGISTER DEFINITION (SLOT 29))

DRN. & DATE	8-15-77	FIRST USED ON	
CHK'D			
ENG.		TITLE	CONSOLE (CIBX) INTERFACE BOARD
PROJ. ENG.		NUMBER	M8236-0-1
PROD.		REV.	D
NEXT HIGHER ASSY.		SCALE	1:1
SHEET	21 OF 21	DIST.	



COMPONENT SIDE VIEW

DATE	REV.	1	1
SIGNATURES			
CHKD.			
ENG.			
PROJ. ENG.			
DESIGNER			
DRAWER			
DATE			
REV. NO.			
TITLE	digital		
TERMINATOR-SILO			
NUMBER			
REV.			
SIZE			
SCALE			
SYMBOLS			
REV. NO.			
PLC DESIGN UNIT BASE REV.			
REV.			

11 1/4 FBS  
302.5 MM

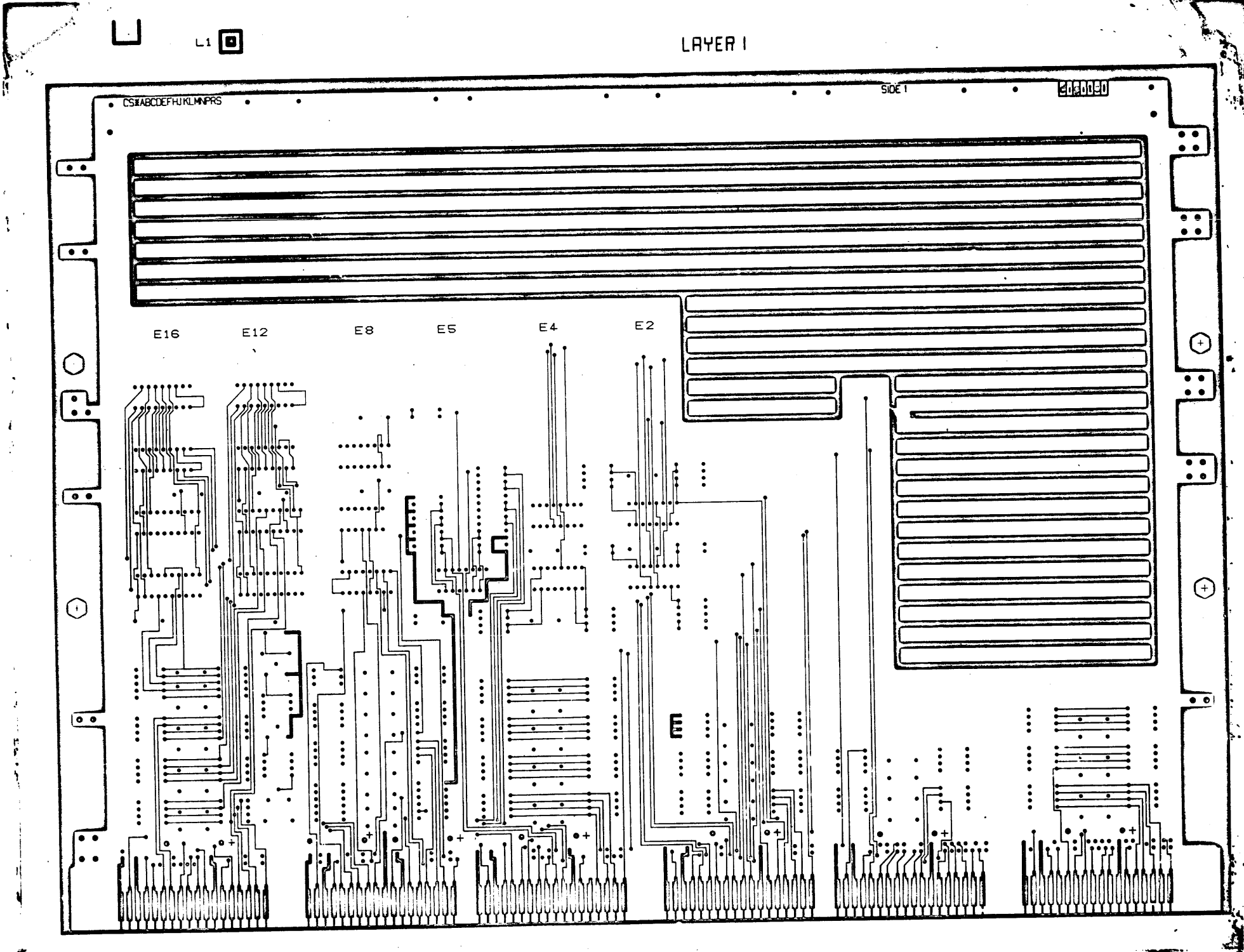
CHANGE NO REV

NOTES:

ELW M637-02 A

498

8 7 6 5 4 3 2 1



LAYER 1

DESIGNER	CHECKED BY	REV

TITLE	SCALE	SHEET	OF	DATE	NUMBER	REV
TERMINATOR - SILO	2:1	2	3		E I AM 8237-00	A

8 7 6 5 4 3 2 1

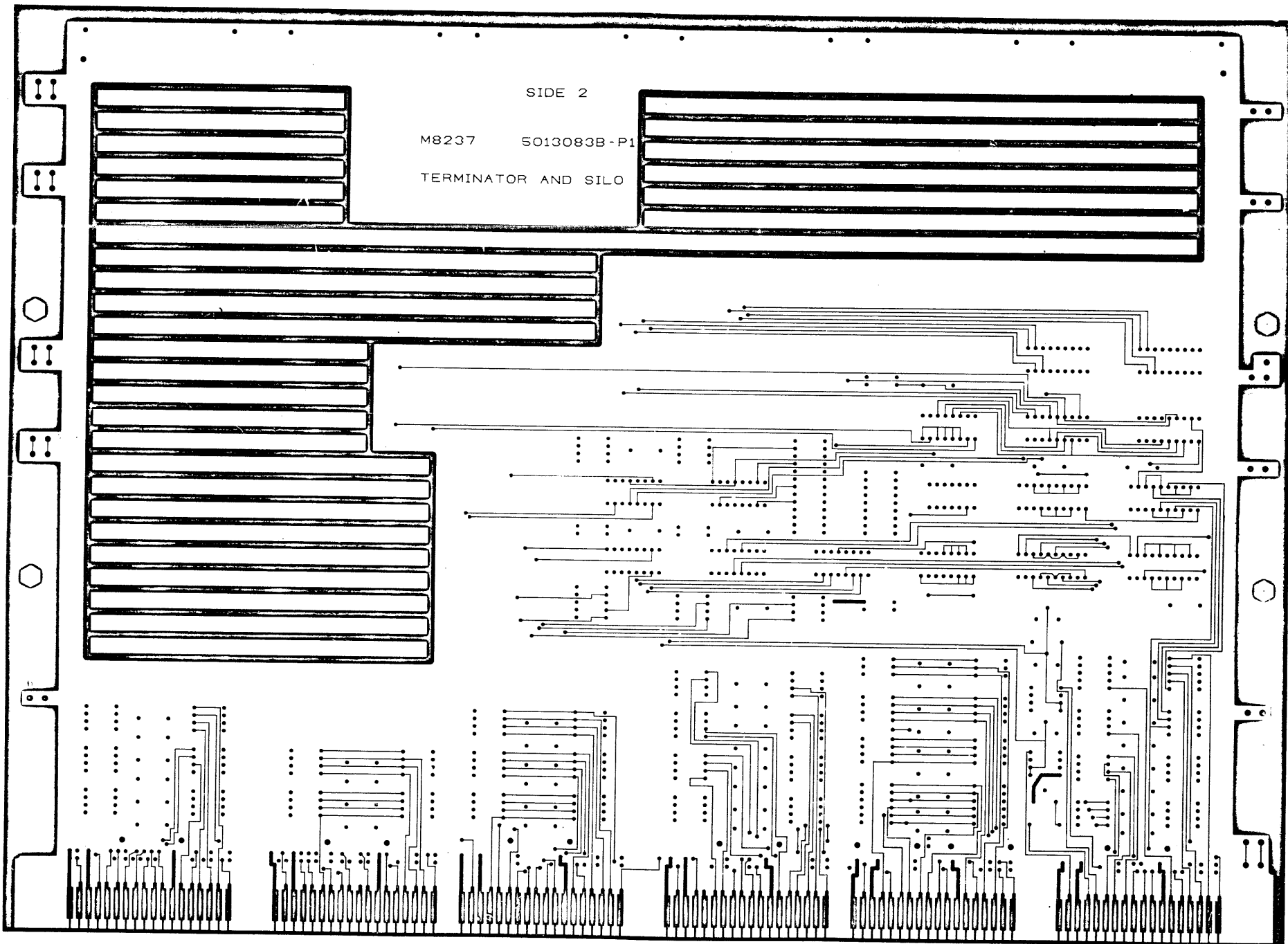
499

8 7 6 5 4 3 2 1

ALL DIMENSIONS IN THIS DRAWING ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

P 834AJ

L4



SIDE 2  
 M8237 5013083B-P1  
 TERMINATOR AND SILO

REVISIONS		
CHR.	CHANGE NO.	REV.

500

DEC FORM NO. 8

8 7 6 5 4 3 2 1

TITLE	DATE CODE	NUMBER	REV.
TERMINATOR + SILO	EUA	M8237-0-0	A
SCALE 2	SHEET 3	OF 3	DIST.

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY DATE	F. MALANSON 5/24/77	CHECKED DATE	SECTION	QUANTITY / VARIATION				NOTES:
ENG DATE	<i>Tom E. Malouche</i> 8-11-77	PROD DATE	ISSUED SECTION					
		<i>Frank E Smart</i> 8-11-77						
		<i>Mike Tulla</i> 8-16-77						

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	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	REF DESIGNATION
1	E-MD-5013083-0-0	5013083	ETCH BOARD	1																														
2		1012784	CAPACITOR, .047UF, 50V CER	57																														
3		1012084-01	CAPACITOR, 8UF, 25V	7																														
4		1103041-60	DIODE, FD777	1																														
5		1311422	RESISTOR, 178, 1/4W, 1%	84																														
6		1300365	RESISTOR, 1K, 1/4W, 5%	4																														
7		1300295	RESISTOR, 330, 1/4W, 5%	1																														
8		1301424	RESISTOR, 680, 1/4W, 5%	1																														
9		1302957	RESISTOR, 121, 1/4W, 1%	106																														
10		1301972	RESISTOR, 270, 1/4W, 5%	16																														
11		1300250	RESISTOR, 150, 1/4W, 5%	6																														
12		1511686	TRANSISTOR, DEC 5433 FET	4																														
13		1913294	IC DEC 93S16	1																														
14		1912731	IC DEC 8646	4																														
15		1912586	IC DEC 85S68	4																														
16		1913788	IC DEC 26S10	4																														
17		1910956	IC DEC 74S151	1																														
18		1910539	IC DEC 74S20	1																														
19		1911415	IC DEC 10125	1																														

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. COPYR:GHT © 1977 DIGITAL EQUIPMENT CORPORATION"	TITLE <b>TERMINATOR AND SILO</b>	ASSY NO.	SIZE <b>B</b>	CODE <b>PL</b>	NUMBER M8237-0-0	REV. <b>A</b>
SHEET <b>1</b> OF <b>2</b>			INSERTION PARTS LIST DATA BASE REV				

# DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY	F. MALANSON	CHECKED	<i>Frank E. Smart</i>
DATE	5/24/77	DATE	8-11-77

ENG	<i>Tom Embold</i>	PROD	<i>Mike Zullo</i>
DATE	8-11-77	DATE	8-16-77

QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	REF DESIGNATION
20		1210711-02	HEX HANDLE ASSEMBLY	1												
21		9000024-01	EYELET	12												

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"

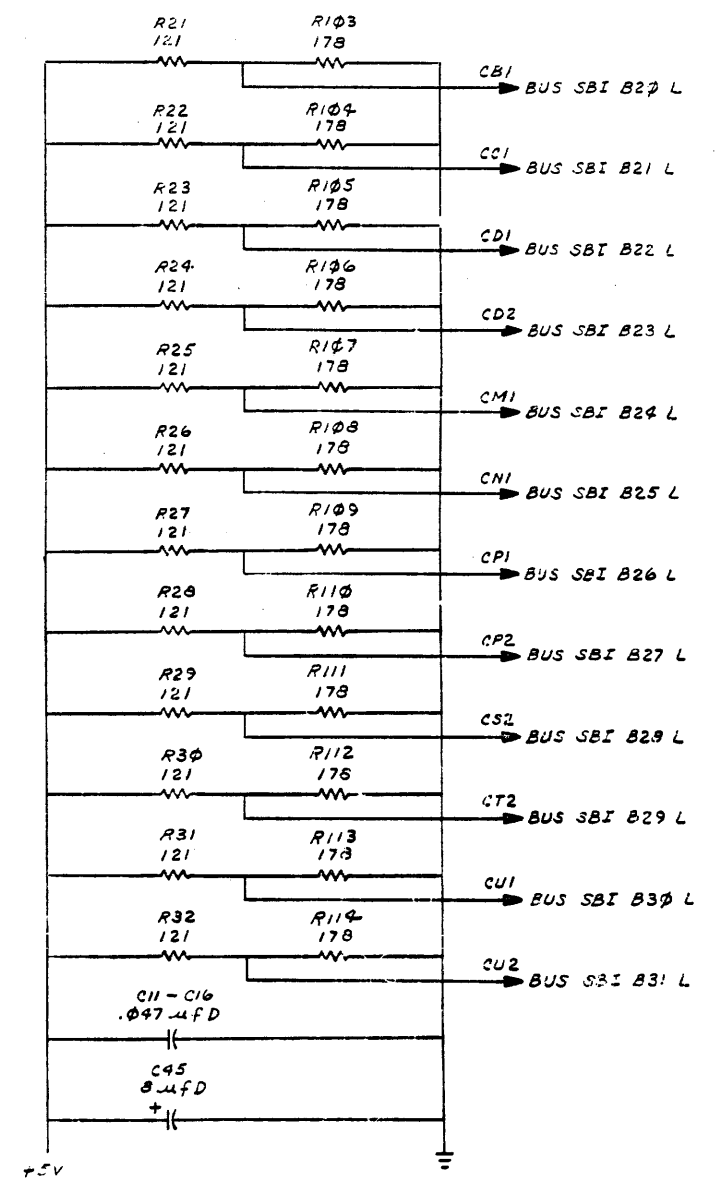
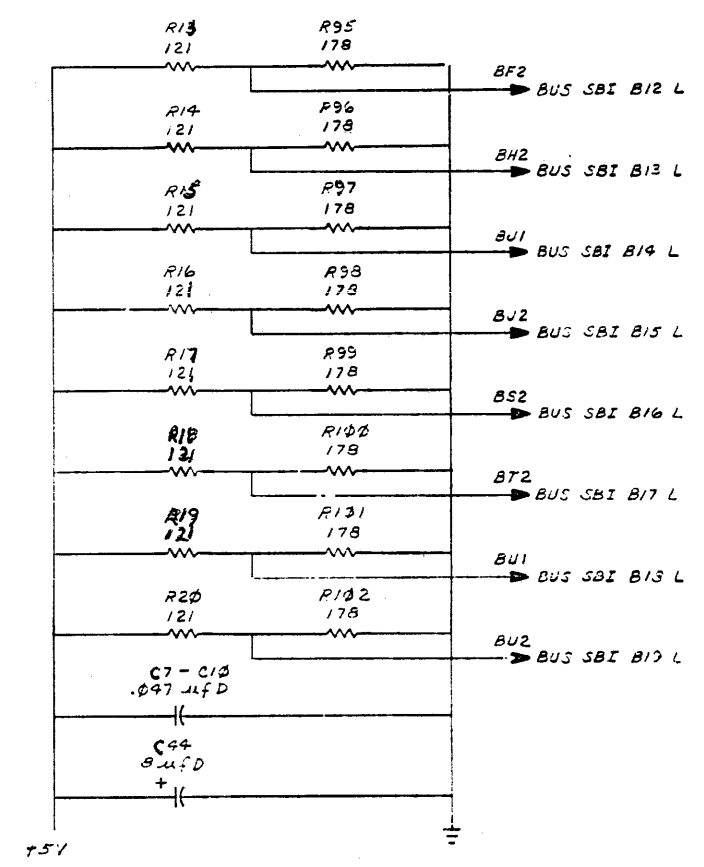
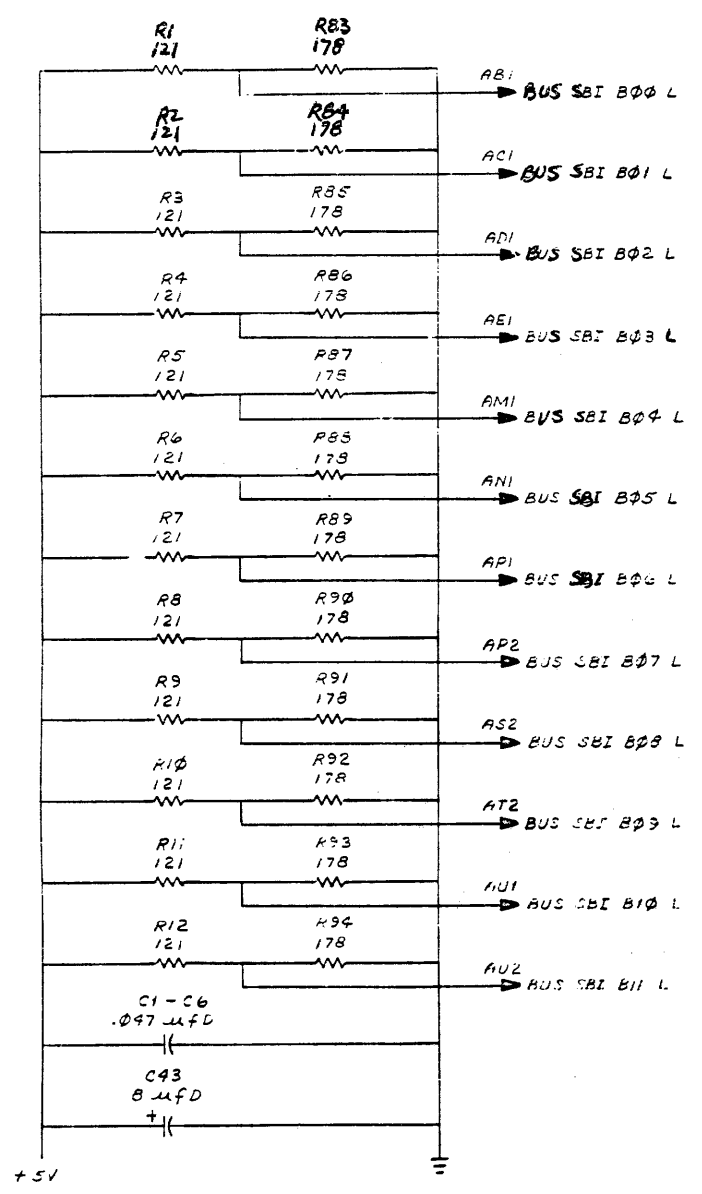
TITLE  
TERMINATOR AND SILO

ASSY NO.  
SHEET 2 OF 2

SIZE	CODE	NUMBER	REV.
B	PL	M8237-0-0	A

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



NOTE: UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS ARE 1/4W ± 1%.

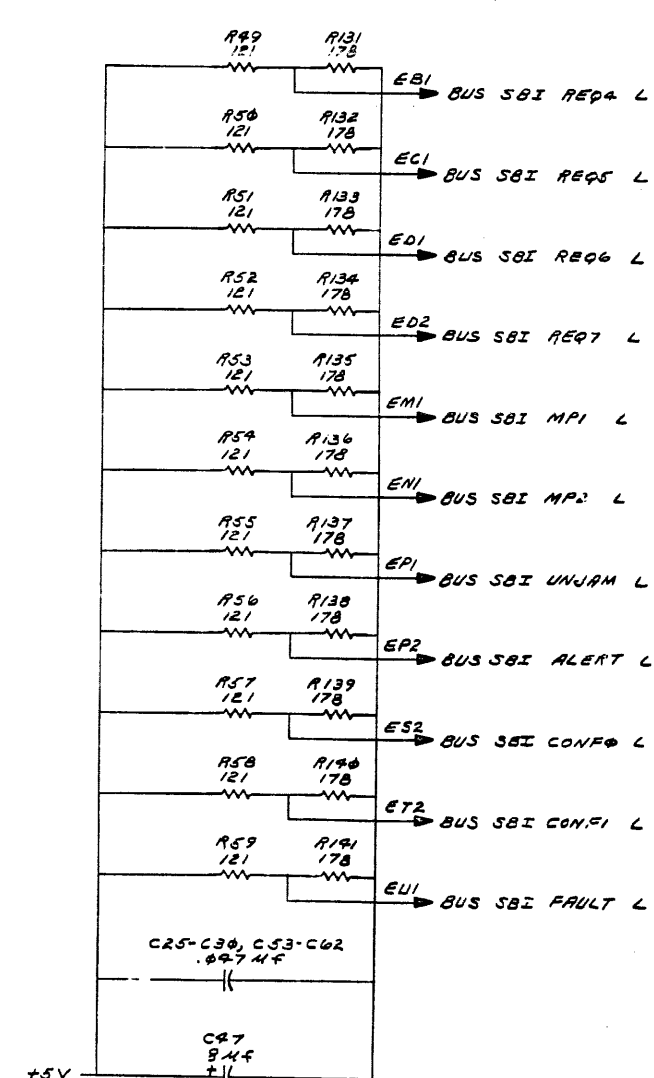
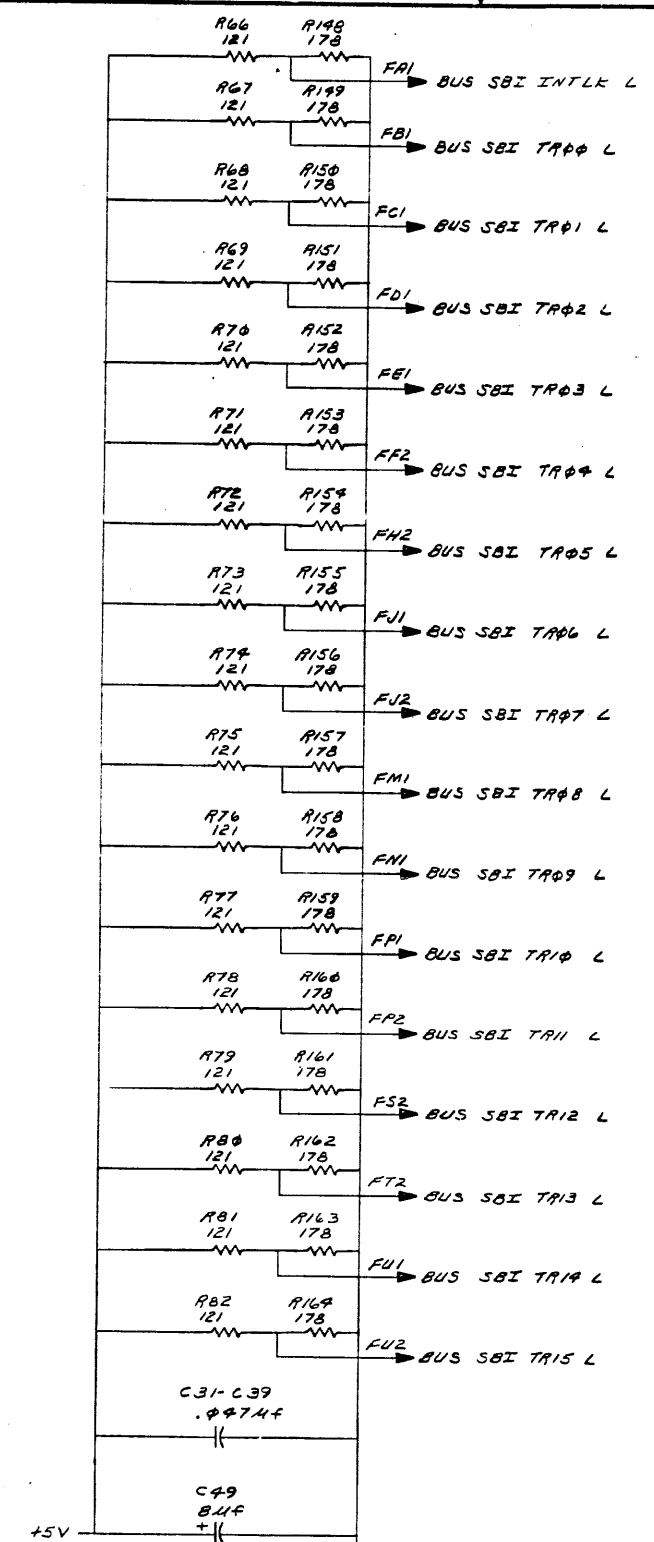
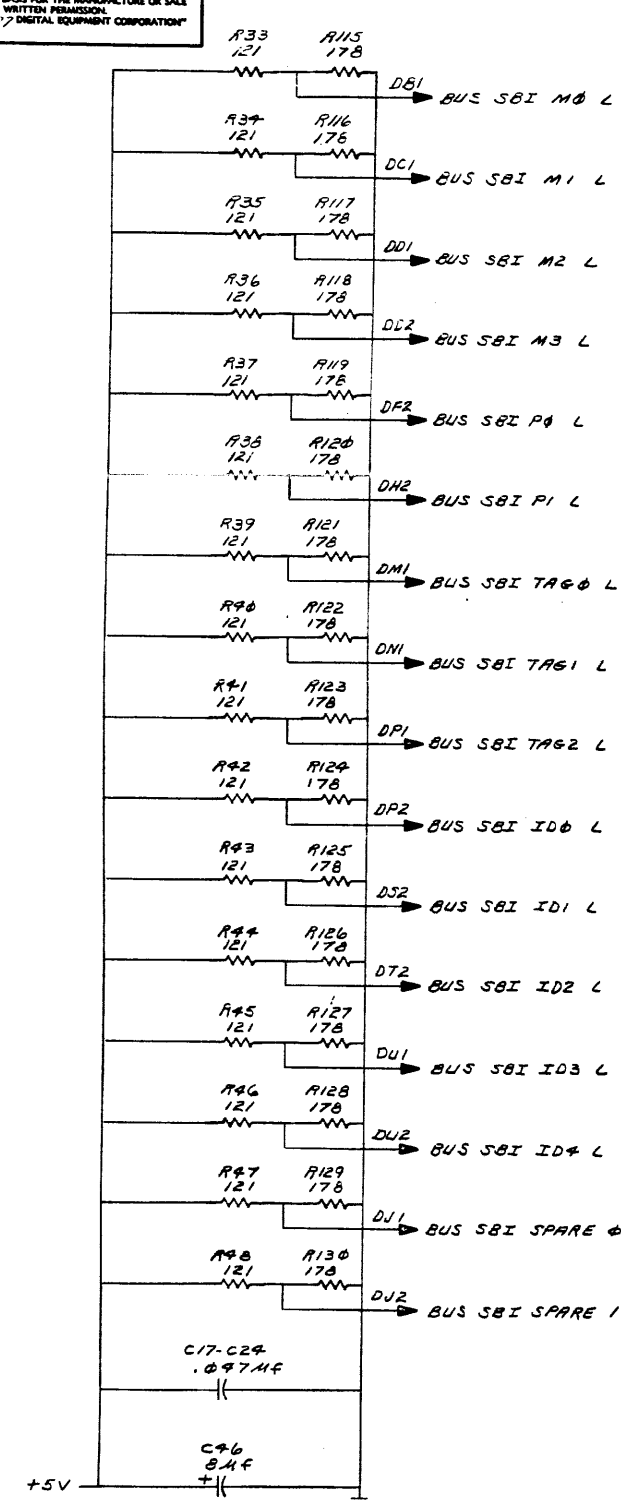
REV.	A
CHK.	FITZGERALD
DESIGNER	FERMOLOVICH
CHANGE NO.	M8237-0-1

(SBI TERMINATORS)

DRN.	7-26-77	FILED	CS-10-01
CHK'D	8-2-77	TITLE	TERMINATOR AND SILO (TRSA)
ENG.	8-2-77	PROJ. ENG.	
REC'D	8-1-77	NEXT HIGHER ACQY.	
SCALE		SIZE	D CS
FEET	1 OF 6	NUMBER	M8237-0-1
		REV.	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 © 1977 DIGITAL EQUIPMENT CORPORATION"

8 7 6 5 4 3 2 1



(SBI TERMINATORS)

TITLE	TERMINATOR AND SILO (TRSB)	SIZE CODE	D CS	NUMBER	M8237-0-1	REV.	A
SCALE	SHEET 2 OF 6		DIST.				

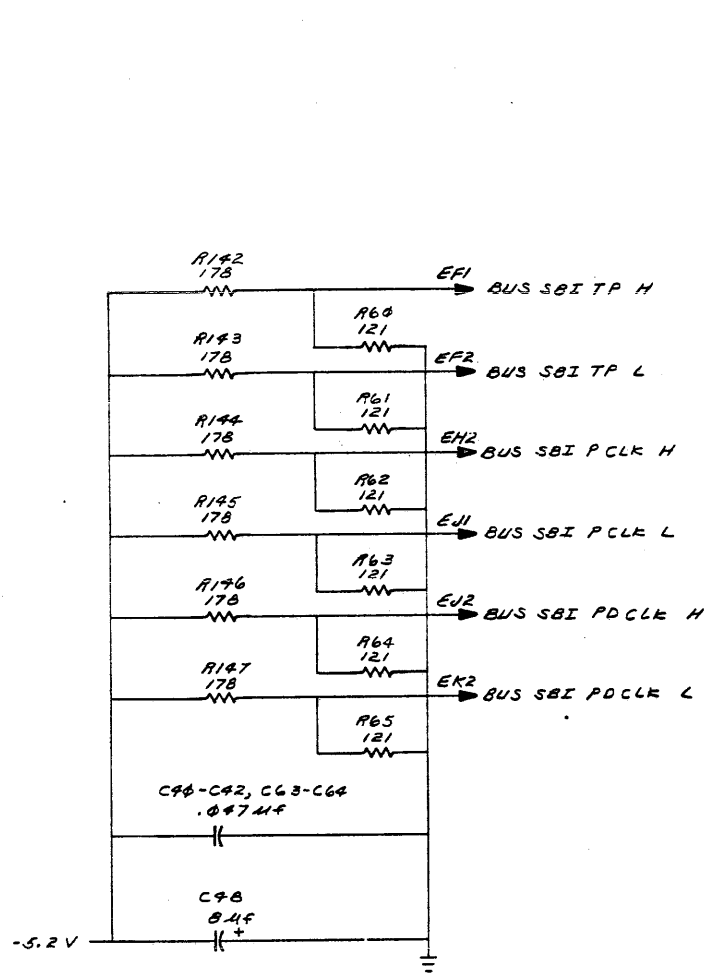
REVISIONS		
CHK	CHANGE NO.	REV.

504

8 7 6 5 4 3 2 1



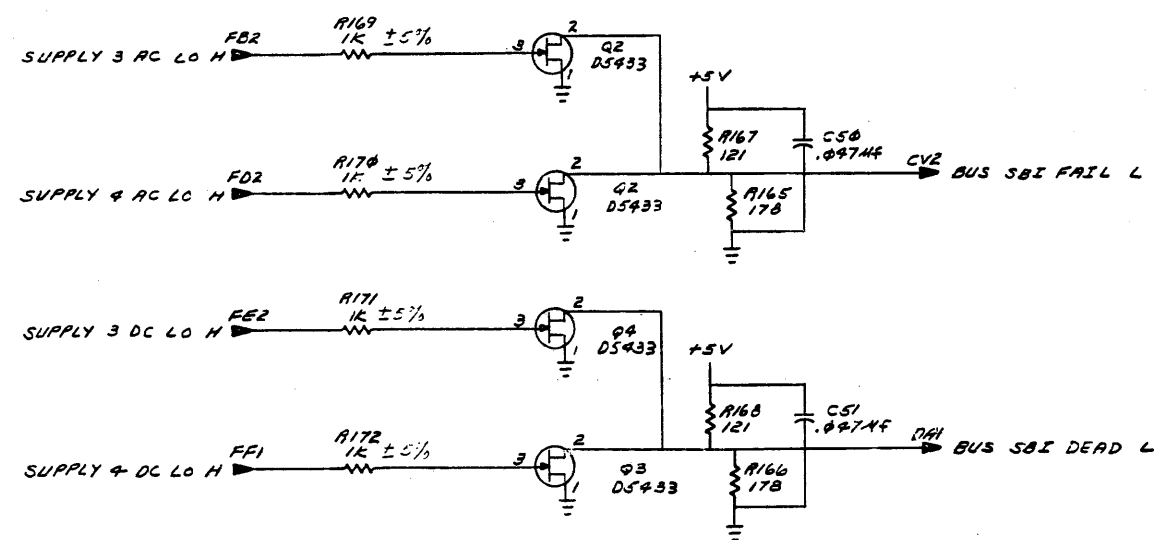
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



AA2, AV1 → +5V  
 BA2, BV1, CA2,  
 CV1, DA2, DV1,  
 EA2, EV1, FA2, FV1

AC2, AH1, AN2, AT1,  
 BC2, BH1, BN2, BT1,  
 CC2, CH1, CN2, CT1,  
 DC2, DH1, DN2, DT1,  
 EC2, EH1, EN2, ET1,  
 FC2, FH1, FN2, FT1

EK1 → -5.2V



REVISIONS		
CHK	CHANGE NO.	REV.

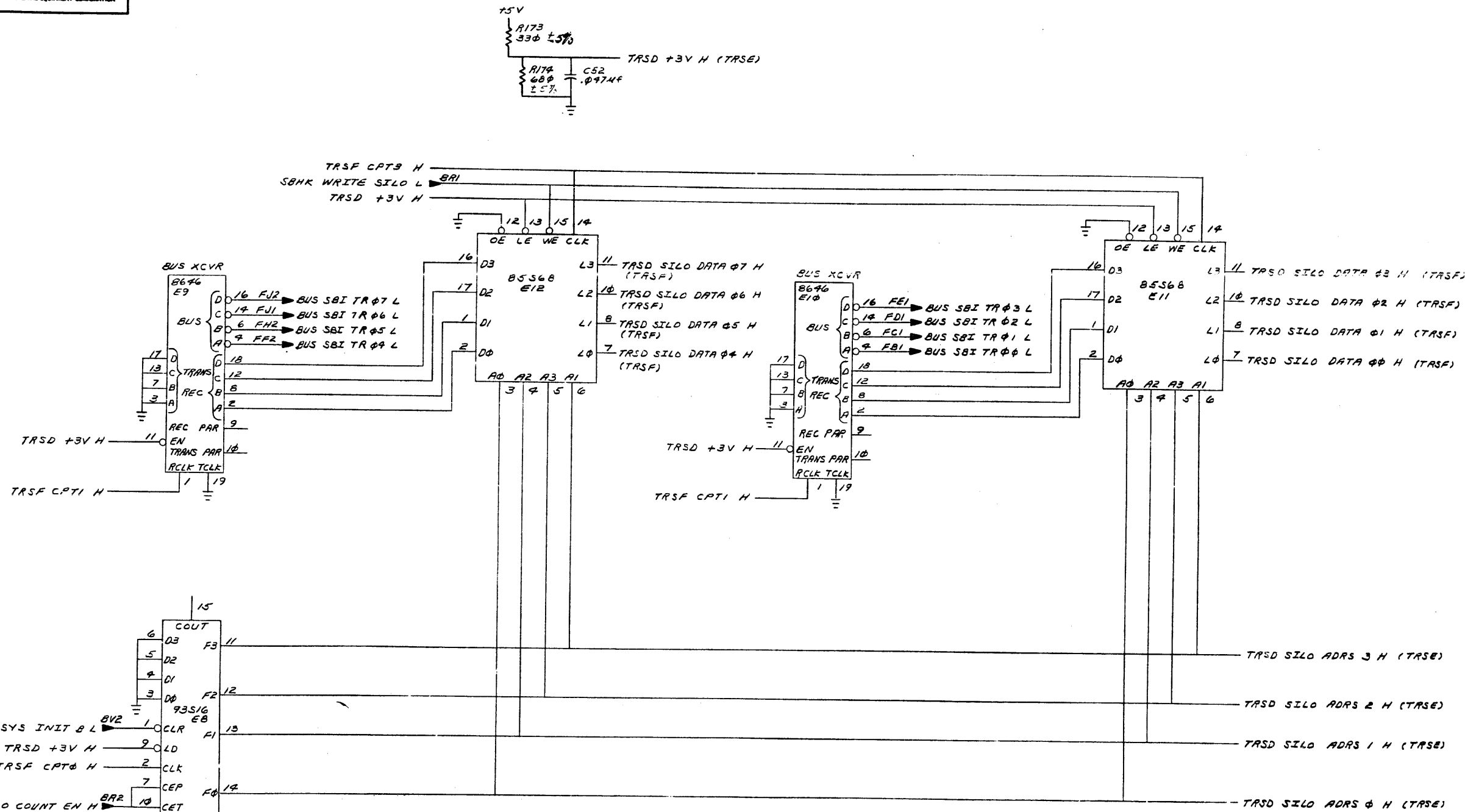
(SBI CLOCK TERMINATORS AND POWER FAIL SENSORS)

TITLE	TERMINATOR AND SLO (TRSC)	SIZE CODE	DCS	NUMBER	M8237-0-1	REV.	A
SCALE		SHEET	3 OF 6	DIST.			

505

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 OF DIGITAL EQUIPMENT CORPORATION.

1-0-228W SCS M8237-0-1



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
TERMINATOR AND SILO (TRSD)		DCS	M8237-0-1	A
SCALE	SHEET	4 OF 6	DIST.	

506

8

7

6

5

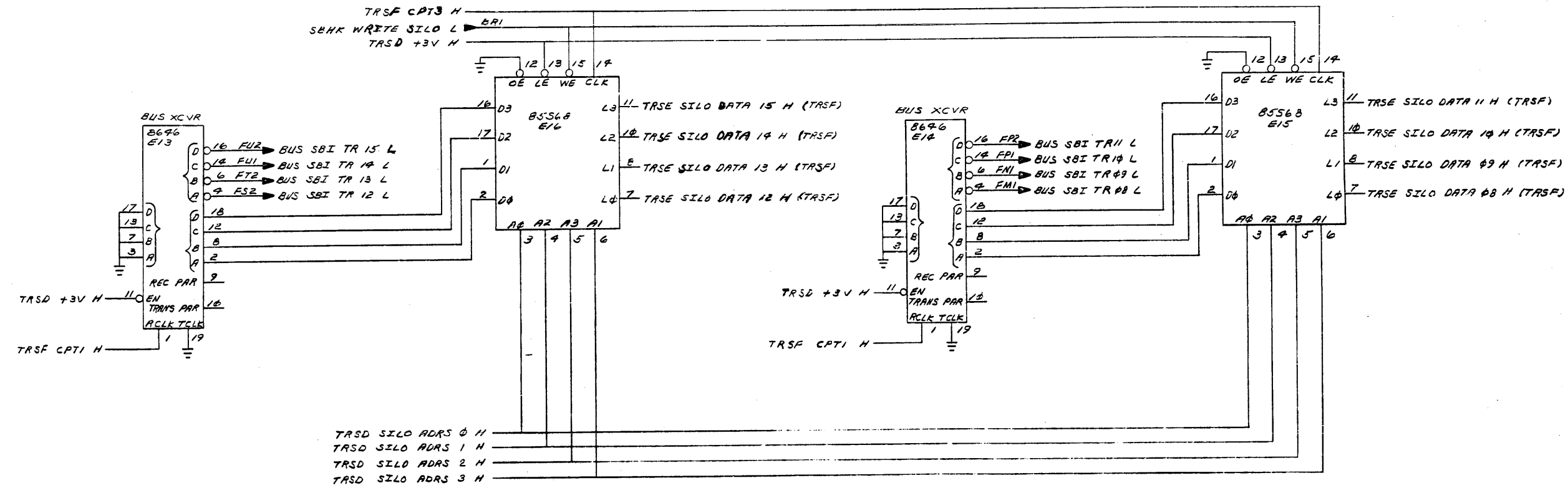
4

3

2

1

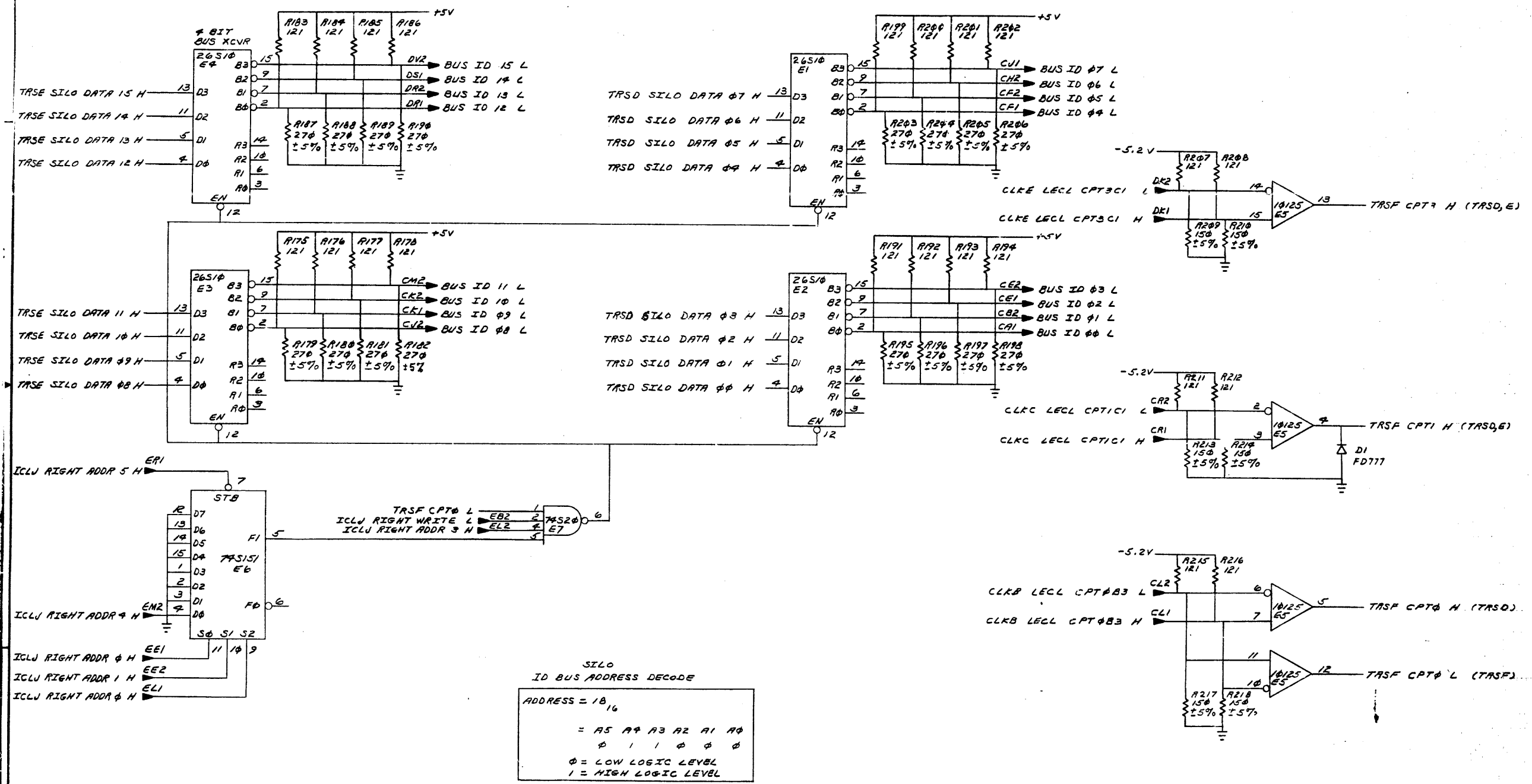
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		TERMINATOR AND SILO (TRSE)	SIZE CODE	DCS	NUMBER	M8237-0-1	REV.	A
SCALE	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 © 1977 DIGITAL EQUIPMENT CORPORATION



SILO  
ID BUS ADDRESS DECODE

ADDRESS = 18<sub>16</sub>

= A5 A4 A3 A2 A1 A0  
 0 1 1 0 0 0

0 = LOW LOGIC LEVEL  
 1 = HIGH LOGIC LEVEL

REVISIONS		
CHK	CHANGE NO.	REV.

(ID BUS INTERFACE)		TITLE	SIZE CODE	NUMBER	REV.
		TERMINATOR AND SILO (TRSF)	DCS	M8237-0-1	A
SCALE	SHEET	DIST.			
	6 OF 6				

508