

**PDP-11/05-S, 11/10-S
systems engineering
drawings**

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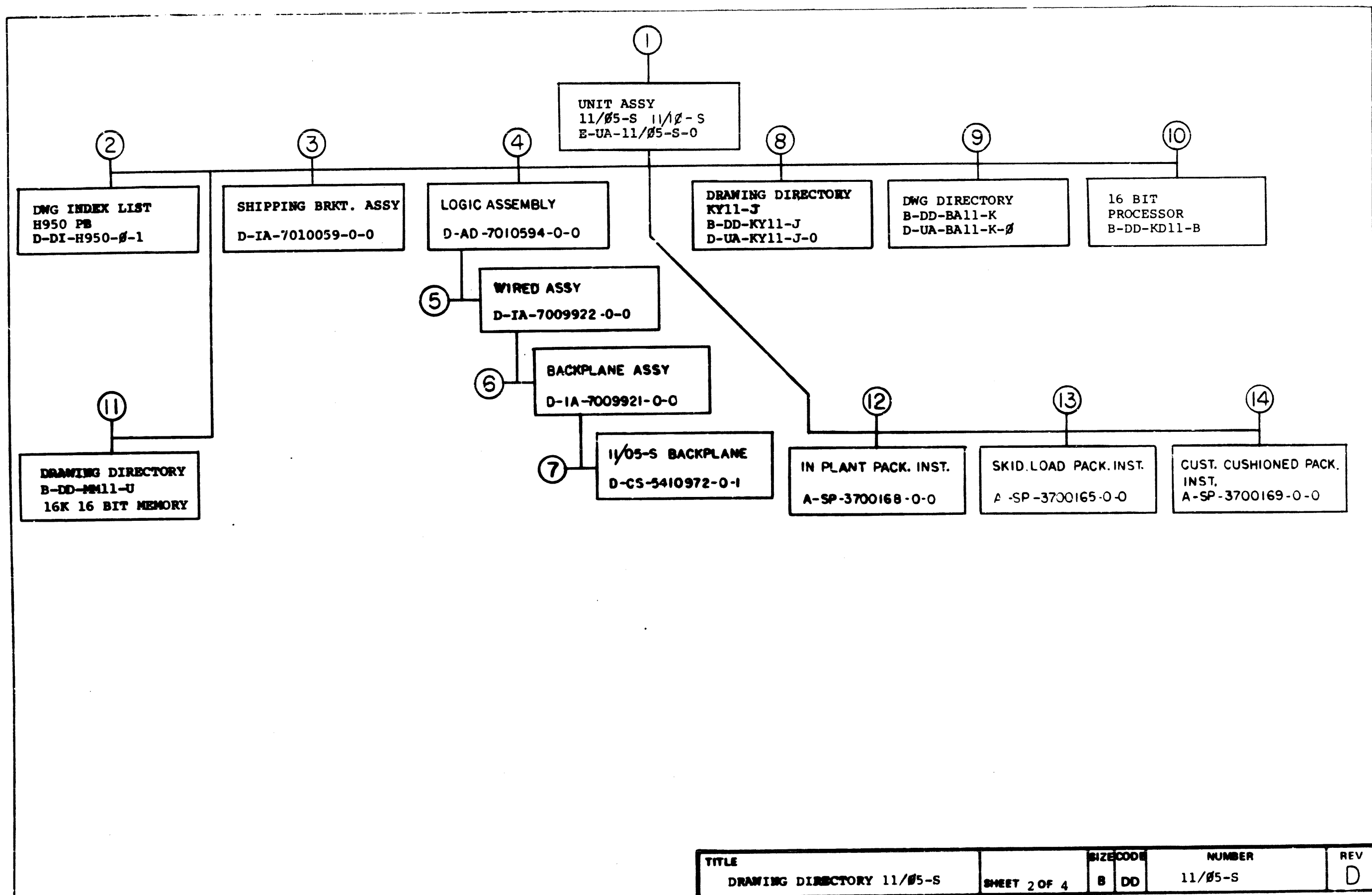
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D-AD-7009921-0-0
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NOTE: THIS PRINT SET IS ALSO APPLICABLE TO THE PDP 11/10-S COMPUTER.

REV. NO.		REV	
DATE	CHG. NO.	REV	
E.A. 11/05-S-1	A		
E.A. 11/05-S-2	B		
C.N. 11/05-S-3	C		
C.N. 11/05-S-4	D		

USED ON OPTICAL/MODEL		DRN.	DATE	TITLE			
		J. FERGUSON	7/12/74				
		CHK'D.	DATE				
		D. HEALY	7/12/74				
		PROJ. ENG.	DATE	DRAWING DIRECTORY 11/05-S			
		Ed. Anton	9/4/74				
		PROD.	DATE				
		R.K. Peters	10/1/74				
		FIELD SERV.	DATE	SIZE	CODE	NUMBER	REV
		R. L. Gates	9/13/74	B	DD	11/05-S	D
SHEET 1 OF 4		DIST					



CUSTOMER PRINT SET										CUSTOMER PRINT SET									
MFG. SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE	MFG. SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE				
X		1	E-UA-11/05-S-0	A	1	UNIT ASSY 11/05-S		X		11	B-DD-MM11-U		1	DRAWING DIRECTORY, MM11-U					
X			A-PL-11/05-S-0	A	2	UNIT ASSY 11/05-S-PL		X			D-CS-G114-0-1	#	9	16 K SENSE INHIBIT					
X			D-BS-KM11-0-MB	#	3	MAINTENANCE BOARD		X			D-CS-M8293-0-1	#	10	16 K UNIBUS TIMING					
X			A-SS-5509081-0-9	#	1	SILK SCREEN, MAINT. BD.		X			D-CS-G235-0-1	#	6	16 K X/Y DRIVE					
X			A-SS-5509081-0-10	#	1	SILK SCREEN, MAINT. BD.		X			D-CS-H217-0-1	#	3	STACK					
X			D-MU-11/05-S-MU		1	MODULE UTILIZATION		X			D-TD-MF11-U-1	#	1	MF11-U TIMING DIAGRAM					
X			D-CS-M930-0-1	#	1	BUS TERMINATOR M930													
X			D-CS-M997-0-1	#	1	BERG BACKPLANE CONN													
X			B-CS-G727-0-1	#	1	GRANT CONTINUITY													
X			A-SL-11/05-0-5	#	1	11/05 SOFTWARE LIST													
	K		A-SP-11/05-0-9	#		11/05 ACCEPTANCE PROCEDURE													
			A-SP-11/05-S-1			11/05-S ASSEMBLY PROCEDURE													
X			A-AL-11/05-0-4	B	1	11/05 ACCESSORY LIST													
X		4	D-IA-7010594-0-0	#	1	LOGIC ASSY													
X		5	D-AD-7009922-0-0	#	1	WIRED ASSY													
C			K-WL-7009922-0-1	#	1	WIRE LIST													
	K		A-WT-7009922-0	#	1	AWT REVISION STATUS													
X			A-SP-MF11-U-3	#	2	MF11-U/UP ACCEPTANCE PROCEDURE													
	K	6	D-IA-7009921-0-0	#	1	BACKPLANE ASSY													
X		7	D-CS-5410972-0-1	#	1	11/05-S BACKPLANE													
C		8	F-DD-KY11-J	#	3	DRAWING DIRECTORY KY11-JA													
C		9	B-DD-BA11-K	#	4	DWG DIR (BOX + P.S.)													
C		10	B-DD-KD11-B	#	3	16 BIT PROCESSOR													

CUSTOMER PRINT SET CODES

X = PRINT OF DOCUMENT INCLUDED IN PRINT SET

C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT

S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED

TITLE

DRAWING DIRECTORY 11/05-S

SHEET 3 OF 4

SIZE CODE

B DD

NUMBER

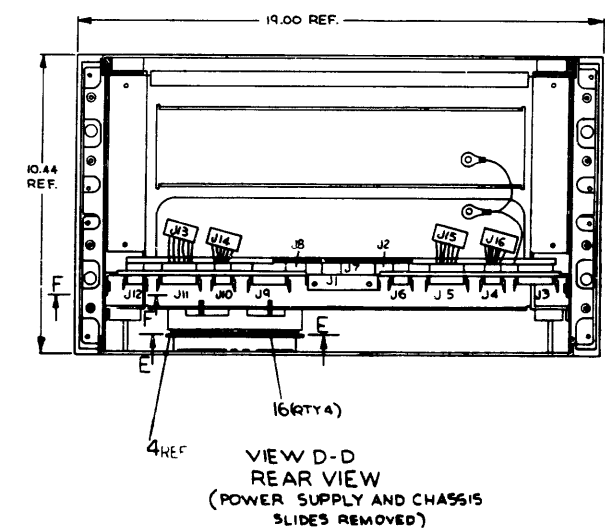
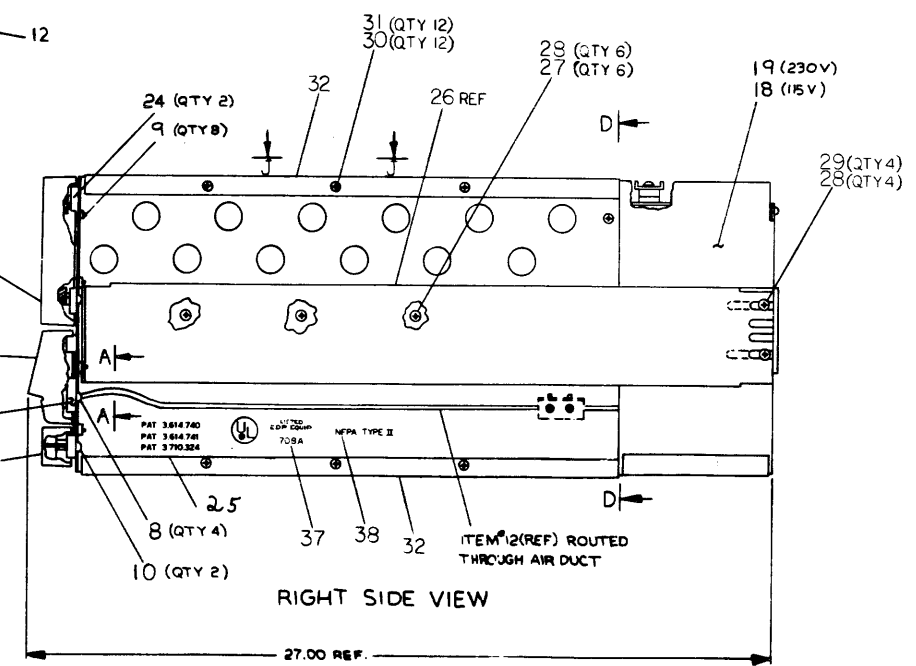
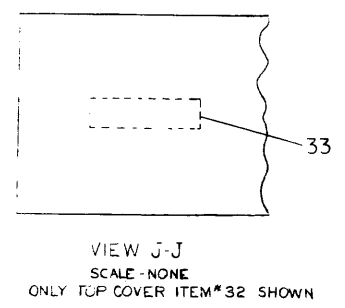
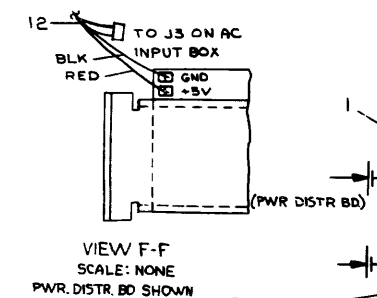
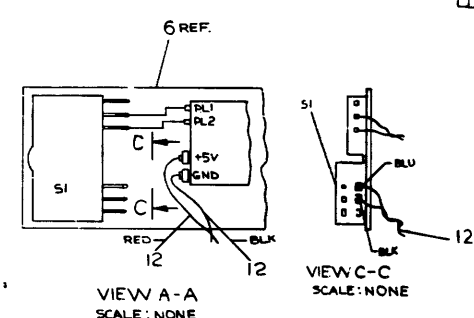
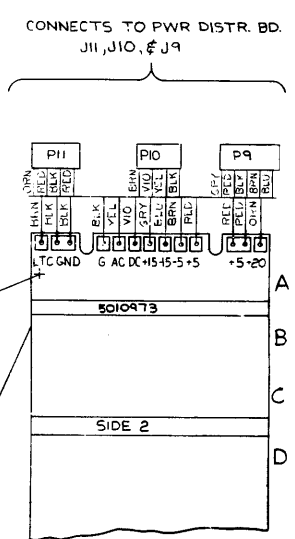
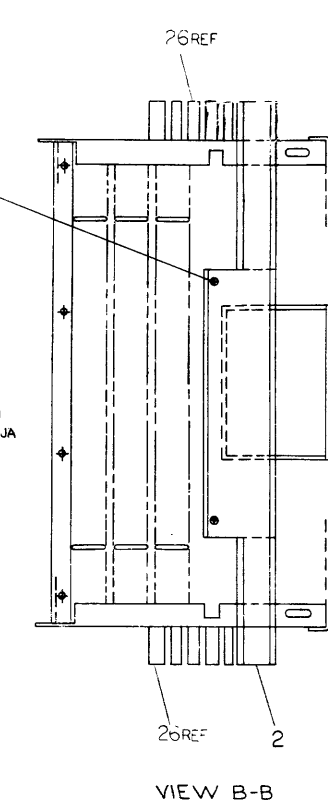
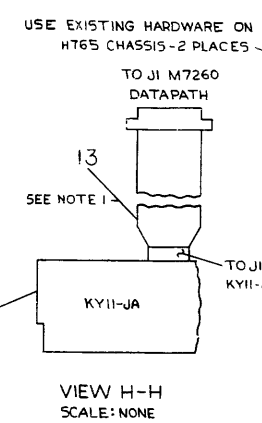
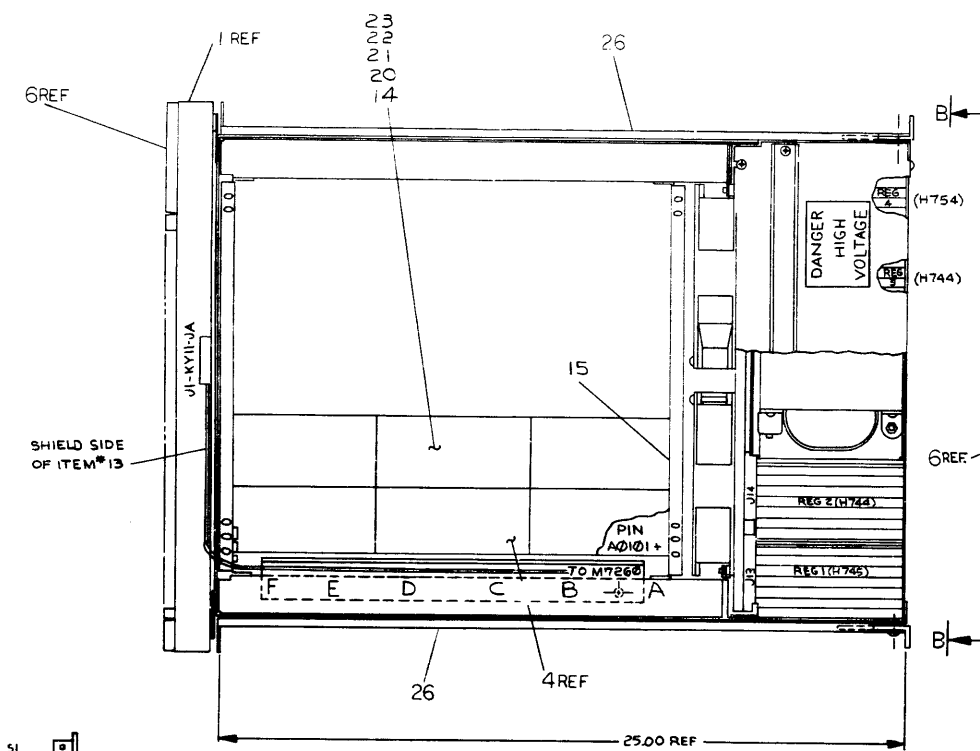
11/05-S

REV

D

NUMBER	VARIATION
11/05-SC	115VAC 50/60HZ
11/05-SD	123OVAC 50/60HZ

NOTES:
 1 CAUTION: OFF SHEET PARTS - 575
 EXISTS SEE A-PL-11/05-S-0
 2 USE ITEM #17 3FT LG CABLE ON K (11-1)
 3 FOLD PER ITEM #13 (CABLE FOLDING
 DIAGRAM) CALLED OUT ON THIS ASSY.
 4 FOR ADDITIONAL DETAILS REFER
 TO E-UA-B11-K-0
 5 TIGHTEN ALL SYSTEM UNIT MOUNTING
 SCREWS TO 13 IN LBS WITH A TORQUE
 SCREW DRIVER.



REV	DESCRIPTION	DATE	BY	CHKD
1	INITIAL RELEASE	11/05-5		
2	REVISION 1	11/05-5		
3	REVISION 2	11/05-5		
4	REVISION 3	11/05-5		
5	REVISION 4	11/05-5		
6	REVISION 5	11/05-5		
7	REVISION 6	11/05-5		
8	REVISION 7	11/05-5		
9	REVISION 8	11/05-5		
10	REVISION 9	11/05-5		
11	REVISION 10	11/05-5		
12	REVISION 11	11/05-5		
13	REVISION 12	11/05-5		
14	REVISION 13	11/05-5		
15	REVISION 14	11/05-5		
16	REVISION 15	11/05-5		
17	REVISION 16	11/05-5		
18	REVISION 17	11/05-5		
19	REVISION 18	11/05-5		
20	REVISION 19	11/05-5		
21	REVISION 20	11/05-5		
22	REVISION 21	11/05-5		
23	REVISION 22	11/05-5		
24	REVISION 23	11/05-5		
25	REVISION 24	11/05-5		
26	REVISION 25	11/05-5		
27	REVISION 26	11/05-5		
28	REVISION 27	11/05-5		
29	REVISION 28	11/05-5		
30	REVISION 29	11/05-5		
31	REVISION 30	11/05-5		
32	REVISION 31	11/05-5		
33	REVISION 32	11/05-5		
34	REVISION 33	11/05-5		
35	REVISION 34	11/05-5		
36	REVISION 35	11/05-5		
37	REVISION 36	11/05-5		
38	REVISION 37	11/05-5		
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97	REVISION 96	11/05-5		
98	REVISION 97	11/05-5		
99	REVISION 98	11/05-5		
100	REVISION 99	11/05-5		
101	REVISION 100	11/05-5		

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY
BILL BLODGET

CHECKED
D. HEALY

SECTION
1

DATE
7/3/74

DATE
7/10/74

ENG
R. E. Johnson

PROD
W. J. Plante

ISSUED SECT.
1

DATE
8-23-74

DATE
8/29/74

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	11/05-SC (115V 16K)	11/05-SD (230V 16K)	11/10-SC (15V 16K)	11/10-SD (230V 16K)	QUANTITY / VARIATION
1	D-UA-H950-PB-0	COVER, PANEL 5 & BEZEL (SNAP-ON)	1	1	1	1	
2	D-IA-7010059-0-0 *	SHIPPING BRKT. ASSY	1	1	1	1	
3	D-IA-7008360-0-0	CABLE TTY	1	1	1	1	
4	D-IA-7010594-0-0	LOGIC ASSEMBLY	1	1	1	1	
5	C-MD-7411701-0-0	SPACER, CHASSIS FRONT	2	2	2	2	
6	B-DD-KY11-JA	CONSOLE ASSY	1	1	-	-	
7	D-PS-1211474-0-0	STRIP, FILLER 1.75	1	1	1	1	
8	9006074-3	SCR, PHL HD TRUSS #10-32 x .68	4	4	4	4	
9	9006070-2	SCR, PHL HD FLAT #10-32 x .31	8	8	8	8	
10	9009633-1	SCR, PH HD PAN THD CUT #10-16 x 1.0	2	2	2	2	
11	B-ER-7010113-0-0	POWER HARNESS 3-3 IN.					
12	D-IA-7009908-0-0	CONSOLE PWR HARNESS	1	1	1	1	
13	D-MD-7412357-0-0	CABLE FOLDING DIAGRAM	REF REF REF REF	REF REF REF REF			
14	MM11-U	16K 16 BIT MEMORY	1	1	1	1	
15	A-DC-7412302-0-0	DECAL 11/05-S	1	1	1	1	
16	9006043-1	SCR, PH PAN HD #8-32 x 1.0	4	4	4	4	
17	D-MU-11/05-S-MU	MODULE UTILIZATION	REF REF REF REF	REF REF REF REF			
18	B-DD-BA11-KH	BASIC BOX +P.S. 115V	1	-	1	-	
19	B-DD-BA11-KJ	BASIC BOX +P.S. 230V	-	1	-	1	
20	B-DD-KD11-B	16 BIT PROCESSOR	1	1	1	1	
21	D-CS-M930-0-1	BUS TERMINATOR M930	2	2	2	2	
22	D-CS-M997 -0-1	BERG BACKPLANE CONN	1	1	1	1	

TITLE

UNIT ASSY 11/05-S

ASSY NO.
E-UA-11/05-S-0

SIZE CODE
A PL

NUMBER
11/05-S-0

REV.
D

ECO NO
11/05-S-00004

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

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY
R. BLODGET

CHECKED
D. HEALY

SECTION
1

DATE
7/4/74

DATE
7/10/74

ENG
R. E. Johnson

PROD
W. J. Plante

ISSUED SECT.
1

DATE
8-23-74

DATE
8/23/74

ITEM NO.	DWG NO. / PART NO.	DESCRIPTION	11/05-SC (115V 16K)	11/05-SD (230V 16K)	11/10-SC (15V 16K)	11/10-SD (230V 16K)	QUANTITY / VARIATION
23	B-CS-G727-0-1	GRANT CONTINUITY	3	3	3	3	
24	1209224	LATCH MOLDING	2	2	2	2	
25	A-DC-7409478-0-0	DECAL, PATENT	1	1	1	1	
26	* D-PS-1211825-0-0 *	SLIDE, 3 POS TILT	1	1	1	1	
27	9007651	WASHER EXTERNAL TOOTH #10	1	1	1	1	
28	9006071-3	SCREW, PHL TRUSS HD #10-32x.38	6	6	6	6	
29	9006565	NUT, KEPS, #10-32	10	10	10	10	
30	9006020-3	SCREW, PHL. TRUSS HD. #6/32x.25	4	4	4	4	
31	9006633	WASHER INTERNAL TOOTH LOCK #6	12	12	12	12	
32	D-IA-7009768-0-0	COVER, CHASSIS	12	12	12	12	
33	DEC-3-(374)-1825-N1174	COVER, CHASSIS	2	2	2	2	
		STICKER, "CONFIGURATION"					
		IN PLANT PACK. INST.	1	1	1	1	
34	A-SP-3700168-0-0	SKID LOAD PACK. INST.	REF REF REF REF	REF REF REF REF			
35	A-SP-3700165-0-0	CUST. CUSHIONED PACK. INST.	REF REF REF REF	REF REF REF REF			
36	A-SP-3700169-0-0	DECAL, UL	REF REF REF REF	REF REF REF REF			
37	A-DC-5309414-0	DECAL, NFPA	1	1	1	1	
38	A-DC-5309413-0	11/05-S ASSEMBLY PROCEDURE	1	1	1	1	
39	A-SP-11/05-S-1	CONSOLE ASSEMBLY	REF REF REF REF	REF REF REF REF			
40	B-DD-KY11-JB	TO BE MOUNTED IN SYSTEM ASSEMBLY AREA	-	-	-	-	
*							

TITLE

UNIT ASSY 11/05-S

ASSY NO.
E-UA- 11/05-S-0

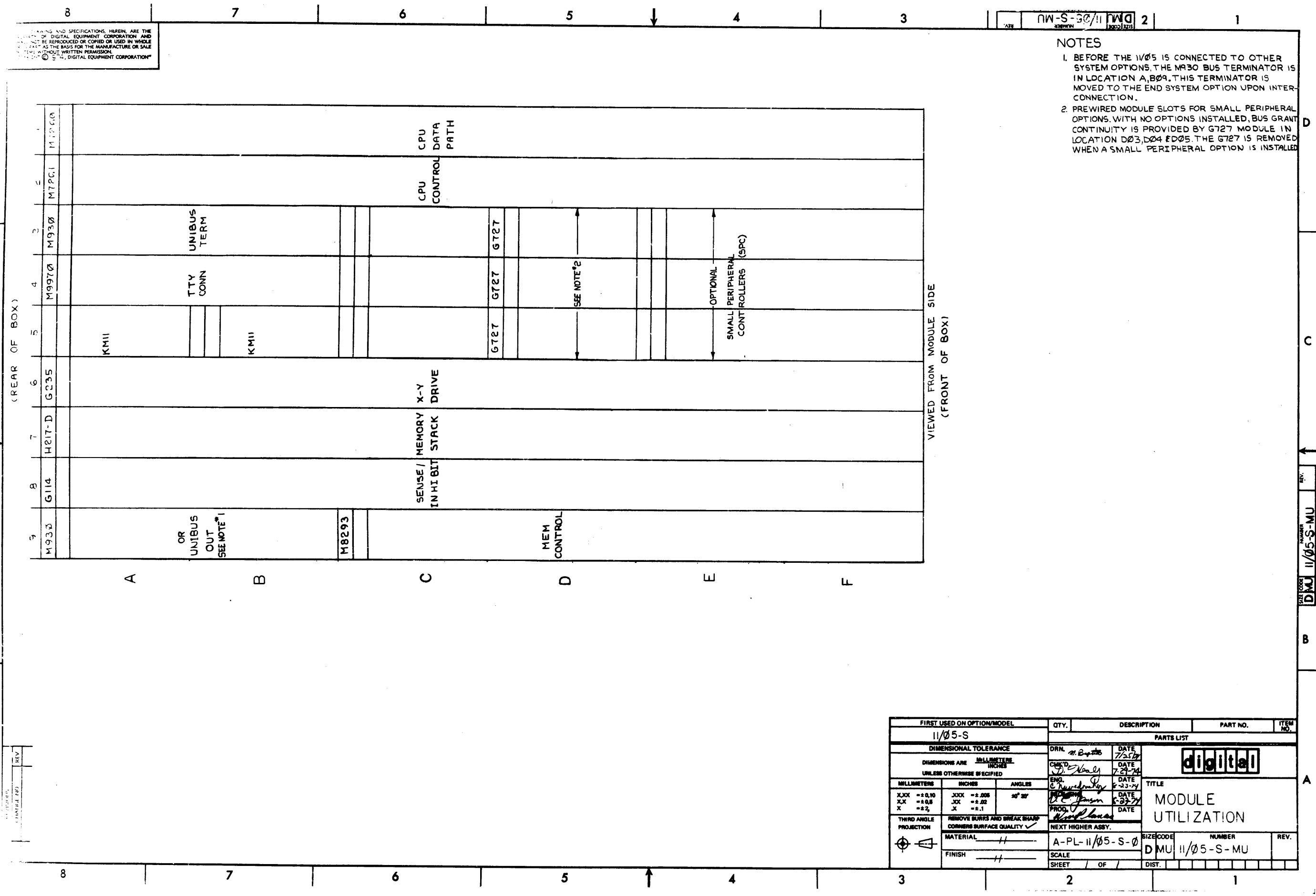
SIZE CODE
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NUMBER
11/05-S-0

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ECO NO

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



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FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05-S					
DIMENSIONAL TOLERANCE		PARTS LIST			
DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE SPECIFIED		DRN. <i>M. B. 2/28</i>	DATE 7/25/74	digital	
MILLIMETERS		CHK'D <i>D. Vally</i>	DATE 7/27/74	TITLE	
INCHES		ENG. <i>C. H. 2/28</i>	DATE 6-23-74	MODULE UTILIZATION	
ANGLES		PROG. <i>W. J. 2/28</i>	DATE	SIZE CODE	
THIRD ANGLE PROJECTION		NEXT HIGHER ASSY.		NUMBER	
MATERIAL <i>H</i>		A-PL-11/05-S-0		REV.	
FINISH <i>H</i>		SCALE		DIST.	
SHEET		OF		1	

DRAWING DIRECTORY

CUSTOMER PRINT SET INDEX

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SEQUENCE

SEQUENCE

16 BIT PROCESSOR KD11-B	B-DD-KD11-B
MICROPROGRAM FLOW	K-MP-KD11-B-1
MICROPROGRAM SYMBOLIC LISTING	K-MP-KD11-B-2
MICROPROGRAM BINARY LISTING	K-MP-KD11-B-3
MICROPROGRAM CROSS REF. LISTING	K-MP-KD11-B-4
DATA PATHS	E-CS-M7261- B -1
DATA PATH ROM PATTERNS	K-RL-M7261- B - 2
CONTROL LOGIC & MICROPROGRAMS	E-CS-M7261- B -1
CONTROL LOGIC ROM PATTERNS	K-RL-M7261- B - 2

UNIT VARIATIONS

PRINT SET TYPE

VARIATION

TITLE

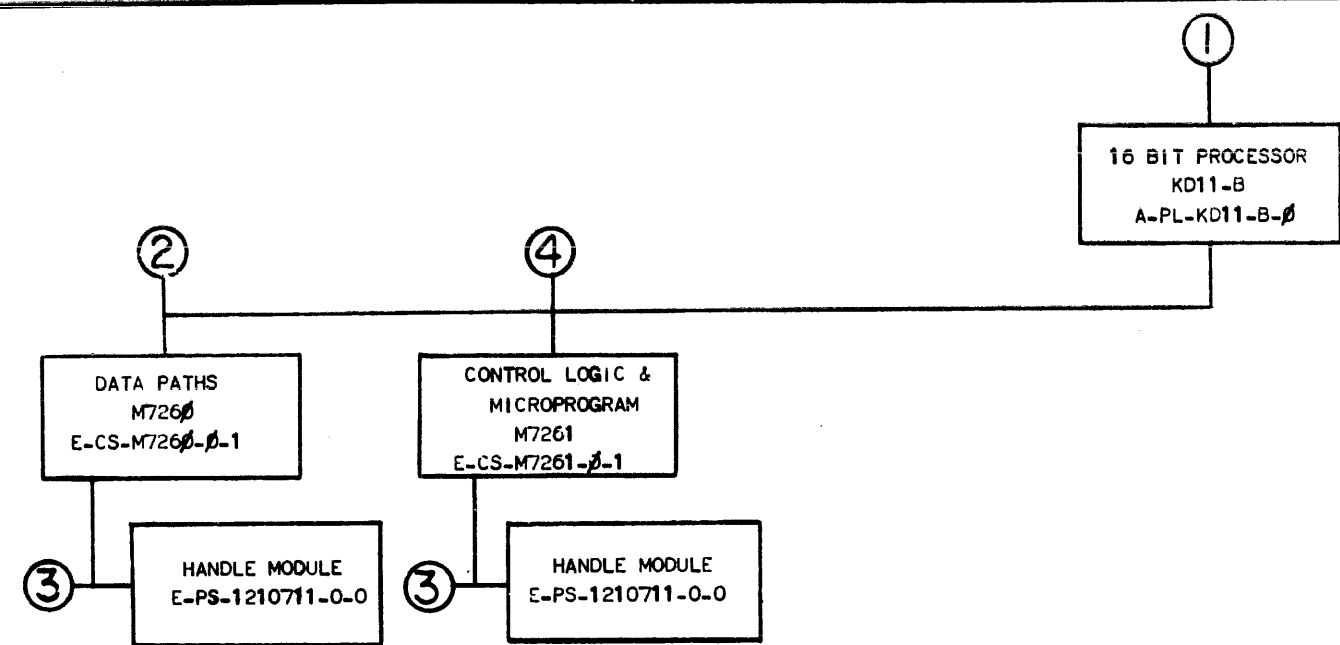
KD11-B

16 BIT PROCESSOR

KD111-B

REVISIONS		
DATE	CHG. NO.	REV
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<i>M.T.</i>	KDIB-00003	B
<i>M.T.</i>	KDIB-4	C
<i>D.R.</i>	KDIB-5	D
<i>D.R.</i>	KDIB-6	E

USED ON OPTION/MODEL		DRN.	DATE	TITLE									
		J. CAHILL	4/21/72	16 BIT PROCESSOR KDII-B									
		CHK'D.	DATE										
		<i>S. Techner</i>	<i>6-5-72</i>										
		PROJ. ENG.	DATE										
		<i>A. Tachy</i>	<i>5-16-72</i>										
		PROD.	DATE	SIZE		CODE		NUMBER				REV	
		FIELD SERV.	DATE	B	DD	KDII-B				E			
		SHEET 1 OF 3		DIST									



TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
16 BIT PROCESSOR KD11-B	2	3	B	DD	KD11-B	E

PAGE REVISION CONTROL SHEET

PAGE REVISIONS		REMARKS
SH NO.		
1	A	
2	A	
3	A	
4	A	
5	A	
6	A	
7	A	
8	A	
9	A	
10	A	
11	A	
12	A	
13	A	
14	A	
15	A	
16	A	
17	A	
18	A	
19	A	
20	A	
21	A	
22	A	

DATE	ENG.	ETCH REV.	ECO NO.
8-28-72	BA		KD112-2
9-21-72	MT		KD112-3
6-14-74	D.R.		KD112-6

DRN	DATE
G. TOWNE	8-21-72

CHKD.	DATE
<i>[Signature]</i>	8-21-72

ENG.	DATE
<i>[Signature]</i>	8-29-72

PROJ. ENG.	DATE
<i>[Signature]</i>	8-29-72

PROD.	DATE
<i>[Signature]</i>	8-29-72

NEXT HIGHER ASSY.	
B-DD-KD11-B	

SCALE	OF
1	22

SHEET	DIST.
1	

SIZE	CODE	NUMBER	REV.
K	MP	KD11-B-1	C

TITLE
MICROPROGRAM FLOW

FIRST USED ON OPTION/MODEL
KD11-B

digital	EQUIPMENT CORPORATION
	MAYNARD MASSACHUSETTS

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NOTES ON NOTATION:

1; MICROUTINES BEGIN WITH A COMMENT
THE FIRST CHARACTER OF WHICH IS '/';

2; ALL OTHER COMMENTS BEGIN WITH '//';

3; R[N] REFERS SCRATCH PAD REGISTER N;
R[7] IS ALSO REFERRED TO AS 'PC';

4; R[S] REFERS TO THAT REGISTER SPECIFIED
IN THE SOURCE PORTION OF THE CURRENT INST;
(IR<11:9>); LIKEWISE, R[D] REFERS TO THAT
REG SPECIFIED IN THE DESTINATION PORTION OF
THE CURRENT INST, (IR<2:0>);

5; K[N] REFERS TO THAT LOCATION OF THE
CONSTANTS CHIP CONTAINING THE CONSTANT N;

6; 'BUT' STANDS FOR 'BRANCH ON MICRO TEST';

```

LOC  NXT  * INSTRUCTION FETCH
002  053  F=1  SA=PC; DAT;
003  363  F=2  S=PC+2
005  364  F=3  PC=0; CKOFF
006  061  F=4  S;IR=UNIBUS DATA
007  001  F=5  S=0 SEX; BUT IR DECODE
      / IF DOUBLE OP INST GOTO S0=1 THRU S7=1 DEPENDING ON SOURCE MODE
      / IF SINGLE OP INST GOTO D0=1 THRU D7=1 DEPENDING ON DEST MODE (INCLUDING JSR)
      / IF BRANCH, CHANGE PC GOTO B=1
      / IF BRANCH, PC UNCHANGED GOTO B2=2
      / IF CLEAR OR SET COND CODE(S) GOTO CCM=1
      / IF INST=RTS GOTO R1=1
      / IF INST=RTI GOTO R2=1
      / IF INST=WAIT GOTO W=1
      / IF INST=HALT GOTO H=1
      / IF INST=RESET GOTO RST=1
      / IF INST=EMT GOTO E1=1
      / IF INST=BREAKPOINT TRAP GOTO BT=1
      / IF INST=IO? GOTO I1=1
      / IF INST=TRAP GOTO T=1
      / IF RESERVED INST (NONE OF THE ABOVE) GOTO RT=1

```

```

LOC  NXT  * SOURCE MODE 2 (REGISTER), GET SOURCE DATA
          / GET TO S0=1 FROM F=5 VIA BUT IR DECODE IR<1119>=2
201  007  S0=1  B=R[S]; BUT BYTE
          / IF BYTE INST GOTO SBE=1 (MUST BE EVEN BYTE)
207  001  S0=2  R[10]=B; BUT DESTINATION
          / IF IR<513> =0 GOTO D0=1
          /           =1      D1=1
          /           =2      D2=1
          /           =3      D3=1
          /           =4      D4=1
          /           =5      D5=1
          /           =6      D6=1
          /           =7      D7=1

```

```

LOC  NXT  * SOURCE MODE 1 (REG, DEFERRED) GET SOURCE DATA
          / GET TO S1=1 FROM F=5 VIA BUT IR DECODE IR<1119>
203  244  S1=1  BA=R[S]; DAT!! CKOFF! ALBYT
          / GET TO S1=2 FROM S2=3 VIA GOTO
          /           "      S3=5  "
          /           "      S6=5  "
244  007  S1=2  B=UNIBUS DATA; BUT BYTE; GOTO S0=2
          / IF ODD BYTE GOTO S0=1
          / IF EVEN BYTE GOTO SBE=1
          / IF NOT BYTE FALL THROUGH TO S0=2

```

```

LOC  NXT  * SOURCE MODE 2 (AUTO=INC,) GET SOURCE DATA
          / GET TO S2=1 FROM F=5 VIA BUT IR DECODE IR<1119>=2
205  301  S2=1  BA=R[S]; DAT!! ALBYT
301  014  S2=2  B=R[S]+1+BYTE; BAR
          / GET TO S2=3 FROM S4=1 VIA GOTO
214  244  S2=3  R[S]=B; CKOFF! GOTO S1=2

```

```

LOC  NXT  * SOURCE MODE 3 (AUTO=INC DEFERRED) GET SOURCE DATA
          / GET TO S3=1 FROM F=5 VIA BUT IR DECODE IR<1119>=3
207  016  S3=1  BA=R[S]; DAT! (MUST BE AN EVEN ADDRESS HERE)
216  017  S3=2  B=R[S]+2

```

```

      / GET TO S3.3 FROM S5.1 VIA GOTO
217 134 S3.3 R(SJ.8) CKOFF
      / GET TO S3.4 FROM S7.5 VIA GOTO
134 274 S3.4 B=UNIBUS DATA
274 244 S3.5 BA=B DATI CKOFF GOTO S1.2 ALBYT

```

```

LOC NXT * SOURCE MODE 4 (AUTO=DEC) GET SOURCE DATA
      / GET TO S4.1 FROM F.5 VIA BUT IR DECODE IR<1119>.4
211 014 S4.1 B,BA=RESJ.1-BYTE,BAR DATI ENABOVER GOTO S2.3 ALBYT

```

```

LOC NXT * SOURCE MODE 5 (AUTO=DEC DEFERRED) GET SOURCE DATA
      / GET TO S5.1 FROM F.5 VIA BUT IR DECODE IR<1119>.5
213 017 S5.1 B,BA=RESJ.2 DATI (MUST BE AN EVEN ADDRESS HERE) ENABOVER GOTO S3.3

```

```

LOC NXT * SOURCE MODE 6 (INDEXED) GET SOURCE DATA
      / GET TO S6.1 FROM F.5 VIA BUT IR DECODE IR<1119>.6
215 025 S6.1 BA=PC DATI (MUST BE EVEN ADDRESS HERE)
025 026 S6.2 B=PC+2
026 027 S6.3 PC=B CKOFF
027 030 S6.4 B=UNIBUS DATA
030 244 S6.5 BA=B+RESJ DATI CKOFF GOTO S1.2 ALBYT

```

```

LOC NXT * SOURCE MODE 7 (INDEXED DEFERRED) GET SOURCE DATA
      / GET TO S7.1 FROM F.5 VIA BUT IR DECODE IR<1119>.7
217 032 S7.1 BA=PC DATI (MUST BE AN EVEN ADDRESS HERE)
032 033 S7.2 B=PC+2
033 034 S7.3 PC=B CKOFF
034 035 S7.4 B=UNIBUS DATA
035 134 S7.5 BA=B+RESJ DATI (MUST BE AN EVEN ADDRESS) CKOFF GOTO S3.4

```

```

LOC  NXT  * SOURCE BYTE ODD
          / GETE TO SB0=1 FROM S1=2 VIA BUT BYTE (BYTE INST, AND SOURCE DATA ODD ADDR)
067  346  SB0=1 SHIFT B RIGHT) F SHIFT
346  324  SB0=2 SHIFT B RIGHT) F SHIFT
324  340  SB0=3 SHIFT B RIGHT) F SHIFT
340  361  SB0=4 SHIFT B RIGHT) F SHIFT
361  050  SB0=5 SHIFT B RIGHT) F SHIFT
050  020  SB0=6 SHIFT B RIGHT) F SHIFT
020  052  SB0=7 SHIFT B RIGHT) F SHIFT
052  047  SB0=8 SHIF* B RIGHT) GOTO SBE=1

```

```

LOC  NXT  * SOURCE EVEN BYTE
          / GET TO SBE=1 FROM SB0=8 VIA GOTO
          / GET TO SBE=1 FROM S1=2 VIA BUT BYTE, (BYTE INST AND SOURCE DATA EVEN ADDR)
          / GET TO SBE=1 FROM SB=1 VIA BUT BYTE, (BYTE INST,)
247  001  SBE=1 R[10]=8 SEX) BUT DESTINATION
          / IF IF<513> =0 GOTO DB=1
          / " " " " D1=1
          / " " " " D2=1
          / " " " " D3=1
          / " " " " D4=1
          / " " " " D5=1
          / " " " " D6=1
          / " " " " D7=1

```

```

LOC  NXT  * DEST, MODE 0 (REGISTER), GET DEST DATA, OP, AND REPLACE
          / GET TO DB=1 FROM SB=2 VIA BUT DESTINATION (IR<513>=0)
          / GET TO DB=1 FROM SBE=1 VIA BUT DESTINATION (IR<513>=0)
101  154  DB=1 B=R[D]) BUT MOVE
          / IF INST=MOVE, BAR (OTHER THAN MOVE) AND BYTE GOTO DB=1
          / IF INST=MOVE AND BYTE GOTO MB=0
          / IF INST=MOVE AND BYTE, BAR GOTO DB=3A
          / IF INST=MOVE, BAR AND BYTE, BAR FALL THROUGH TO DB=2
157  142  DB=2 R[11]=B) BUT UNARY
          / IF INST=JMP OR JSR GOTO ERY=1 (ILLEGAL INST, TRAP)
          / IF INST=SHAS GOTO SB1=1
          / IF INST=OTHER UNARY(CLR, COM, INC, DEC, NEG, ADC, SBC, TST, ROR, ROL, ASR, ASL) GOTO U1=1
          / GET TO DB=3 FROM U1=1 VIA GOTO
          / GET TO DB=3 FROM DB=1 VIA BUT BYTE (INST=MOVE AND BYTE, BAR)

```

```

162 332 D0=3 B,R(10) OP B; BUT NONMOD
/ THERE EXISTS A D03=A WHICH IS IDENTICAL TO D0=3 EXCEPT LOC=155
/ GET TO D0=3A FROM SR1=A VIA GOTO
/ IF NONMOD GOTO R2=2 (BUT SERVICE)
/ IF NOT NONMOD FALL THROUGH TO D0=4
/ GET TO D0=4 FROM R1=6 VIA GOTO
332 040 D0=4 R(D) B; BUT SERVICE
/ PRIORITIES ARE LISTED HIGHEST TO LOWEST
/ IF T BIT TRAP GOTO BT=1
/ IF STACK OVERFLOW GOTO ERT1A
/ IF POWERFAIL GOTO PF=1
/ IF BR7 GOTO BG=1
/ IF BR6 GOTO BG=1
/ IF INTERNAL LINE CLOCK GOTO LC=1
/ IF BR5 GOTO RG=1
/ IF HR4 GOTO RG=1
/ IF UATR RECEIVE GOTO URTR
/ IF UART TRANSMIT GOTO URTX
/ IF CONSOLE STOP GOTO H=1
/ IF NONE OF THE ABOVE GOTO F=1

```

```

LOC NXT * DEST. NONE 1 (REG,DEFERRED) GET DEST DATA, OP, AND REPLACE
/ GET TO D1=1 FROM S0=2 VIA BUT DESTINATION (IR<5:3>=1)
/ GET TO D1=1 FROM SBE=1 VIA BUT DESTINATION (IR<5:3>=1)
103 200 D1=1 B,BA,R(D); DATIP; BUT JSRMP; ALBT; CKOFF
/ NOTE DATA IN PAUSE HERE
/ IF INST=JMP GOTO J1=1
/ IF INST=JSR GOTO J2=1
/ IF INST NOT JMP OR JSR FALL THROUGH TO D1=2
/ GET D0 D1=2 FROM D2=3 VIA GOTO
/ GET TO D1=2 FROM D3=5 VIA GOTO
/ GET TO D1=2 FROM D4=5 VIA GOTO
200 210 D1=2 R,UNIBUS DATA; BUT BYTE
/ IF ODD BYTE GOTO D0=1
/ IF EVEN BYTE GO TO D2=1
/ IF NOT BYTE FALL THROUGH TO D1=3
210 143 D1=3 R(11) B; BUT UNARY
/ IF INST=SWAB GOTO S02=1
/ IF INST=OTHER UNARY (CLR, COM, INC, DEC, NEG, ADC, SRC, TST, ROR, ROL, ASR, ASL) GOTO U2=1
/ GET TO D1=4 FROM D1=1 VIA BUT UNARY (NON UNARY)
/ GET TO D1=4 FROM U2=1 VIA GOTO
/ GET TO D1=4 FROM S02=8 VIA GOTO
161 334 D1=4 B,R(10) OP B; BUT NONMOD
/ IF NONMOD GOTO R2=2 (BUT SERVICE)
/ IF NOT NONMOD FALL THROUGH TO D1=5
334 065 D1=5 DATO; ALBYT; CKOFF
/ GET TO D1=6 FROM D0=1A VIA GOTO

```

```

      / IF NONMOD GOTO B2-2 (BUT SERVICE)
      / IF NOT NONMOD FALL THROUGH TO D1-5
334 065 D1-5 DATI; ALBYT; CKOFF
      / GET TO D1-6 FROM D0-18 VIA GOTO
065 305 D1-6 DRIVERS-B; GOTO B2-2 (BUT SERVICE)

```

```

LOC  NXT  * DEST MODE 2 (AUTO-INC) GET DEST DATA, OP AND REPLACE
      / GET TO D2-1 FROM S0-2 VIA BUT DESTINATION (IR<5:3>=2)
      / GET TO D2-1 FROM SBE-1 VIA BUT DESTINATION (IR<5:3>=2)
105 331 D2-1 BA=R[D]; DATI; ALBYT
      / NOTE DATA IN PAUSE HERE
331 341 D2-2 B=R[D]+1+BYTE,BAR
      / GET TO D2-3 FROM D4-1 VIA GOTO
341 200 D2-3 R[D]=B; BUT JSRMP; GOTO D1-2; CKOFF
      / IF INST=JMP GOTO J1-1
      / IF INST=JSR GOTO J2-1
      / IF INST NOT JMP OR JSR FALL THROUGH TO D1-2

```

```

LOC  NXT  * DEST MODE 3 (AUTO-INC DEFERRED) GET DEST DATA, OP AND REPLACE
      / GET TO D3-1 FROM S0-2 VIA BUT DESTINATION (IR<5:3>=3)
      / GET TO D3-1 FROM SBE-1 VIA BUT DESTINATION (IR<5:3>=3)
107 160 D3-1 BA=R[D]; DATI
160 070 D3-2 B=R[D]+2
      / GET TO D3-3 FROM D5-1 VIA GOTO
070 071 D3-3 R[D]=B; CKOFF
      / GET TO D3-4 FROM D7-5 VIA GOTO
071 072 D3-4 B=UNIBUS DATA
072 200 D3-5 BA=B; DATI; BUT JSRMP; GOTO D1-2; ALBYT; CKOFF
      / NOTE DATA IN PAUSE HERE
      / IF INST=JMP GOTO J1-1
      / IF INST=JSR GOTO J2-1
      / IF INST NOT JMP OR JSR FALL THROUGH TO D1-2

```

```

LOC  NXT  * DEST MODE 4 (AUTO-DEC) GET DEST DATA, OP AND REPLACE
      / GET TO S4-1 FROM S0-2 VIA BUT DESTINATION (IR<5:3>=4)
      / GET TO S4-1 FROM SBE-1 VIA BUT DESTINATION (IR<5:3>=4)
111 341 D4-1 B,BA=R[D]-1+BYTE,BAR; DATI; ENABOVER; GOTO D2-3; ALBYT

```

```

LOC  NXT  * BEST MODE 5 (AUTO=DEC DEFERRED) GET DEST DATA, OP, AND REPLACE
          / GET TO D5=1 FROM SB=2 VIA BUT DESTINATION (IR<513>=5)
          / GET TO D5=1 FROM SBE=1 VIA BUT DESTINATION (IR<513>=5)
113  070  D5=1  B,BA=RDJ=2; DATI; ENABOVER; GOTO D3=3

```

```

LOC  NXT  * BEST MODE 6 (INDEXED) GET DTA, OP, AND REPLACE
          / GET TO D6=1 FROM SB=2 VIA BUT DESTINATION (IR<513>=6)
          / GET TO D6=1 FROM SBE=1 VIA BUT DESTINATION (IR<512>=6)
113  075  D6=1  BA=PC; DATI
075  077  D6=2  B=PC+2
077  057  D6=3  PC=0; CKOFF
057  300  D6=4  B=UNIBUS DATA
300  200  D6=5  B,BA=B+RDJ; DATI; BUT JSRMP; GOTO D1=2; ALBYT; CKOFF
          / NOTE DATA IN PUASE HERE
          / IF INST=JMP GOTO JI=1
          / IF INST=JSR GOTO JS=1
          / IF INST NOT JMP OR JSR FALL THROUGH TO D1=2

```

```

LOC  NXT  * BEST MODE 7 (INDEXED DEFERRED) GET DEST DATA, OP, AND REPLACE
          / GET TO D7=1 FROM SB=2 VIA BUT DESTINATION (IR<513>=7)
          / GET TO D7=1 FROM SBE=1 VIA BUT DESTINATION (IR<513>=7)
117  310  D7=1  BA=PC; DATI
310  104  D7=2  B=PC+2
104  320  D7=3  PC=0; CKOFF
320  100  D7=4  B=UNIBUS DATA
100  071  D7=5  BA=B+RDJ; DATI; CKOFF; GOTO D3=4

```

```

LOC  NXT  * DESTINATION MODE 0, BYTE
          / GET TO DB=1 FROM DB=1 VIA BUT BYTE (BYTE INST AND MOVE, BAR)
136  144  DB=1  R(11),B=B SEX; BUT UNARY
          / IF UNARY OTHER THAN JSR, JMP, OR SWAB (CLR, COM, INC, DEC, NEG, ABC, SRC, TST, ROR, ROL, ASR, ASL) GOTO U3=1

```

304 340 DBU=1 R(D)<710>_B; BUT SERVICE; GOTO F=1
 / PRIORITIES ARE LISTED HIGHEST TO LOWEST
 / IF T BIT TRAP GOTO BT=1
 / IF STACK OVERFLOW GOTO ERT1A
 / IF POWER FAIL GOTO PF=1
 / IF BR7 GOTO BG=1
 / IF BR6 GOTO BG=1
 / IF INTERNAL LINE CLOCK GOTO LC=1
 / IF HR5 GOTO BG=1
 / IF BR4 GOTO BG=1
 / IF UART RECEIVE GOTO URTR
 / IF UART TRANSMIT GOTO URTX
 / IF CONSOLE STOP GOTO H=1
 / IF NONE OF THE ABOVE GOTO F=1

LOC NXT * DESTINATION ODD BYTE
 / GET TO DO=1 FROM DI=2 VIA BUT BYTE (BYTE INST AND ODD ADDR)
 270 123 DO=1 SHIFT B RIGHT; F SHIFT
 123 124 DO=2 SHIFT B RIGHT; F SHIFT
 124 125 DO=3 SHIFT B RIGHT; F SHIFT
 125 126 DO=4 SHIFT B RIGHT; F SHIFT
 126 127 DO=5 SHIFT B RIGHT; F SHIFT
 127 130 DO=6 SHIFT B RIGHT; F SHIFT
 130 131 DO=7 SHIFT B RIGHT; F SHIFT
 131 132 DO=8 SHIFT B RIGHT
 132 145 DO=9 R(111),L,B SEX; BUT UNARY
 / IF UNARY OTHER THAN JSR, JMP, OR SWAP (CLR,COM,INC,DEC,NEG,ADC,SBC,TST,ROR,ROL,ASR,ASL) GOTO U4=1
 / IF NOT UNARY FALL THROUGH TO DO=10
 165 342 DO=10 L,R(101) OP B; BUT NONMOD
 / IF NONMOD GOTO B2=2 (BUT SERVICE)
 / IF NOT NONMOD FALL THROUGH TO DO=11
 342 135 DO=11 SHIFT B LEFT; F SHIFT
 135 136 DO=12 SHIFT B LEFT; F SHIFT
 136 137 DO=13 SHIFT B LEFT; F SHIFT
 137 140 DO=14 SHIFT B LEFT; F SHIFT
 140 141 DO=15 SHIFT B LEFT; F SHIFT
 141 142 DO=16 SHIFT B LEFT; F SHIFT
 142 143 DO=17 SHIFT B LEFT; F SHIFT
 143 065 DO=18 SHIFT B LEFT; DATO; CKOFF; GOTO D1=6; ALBYT

LOC NXT * DESTINATION EVEN BYTE
 / GET TO DE=1 FROM DI=2 VIA BUT BYTE (BYTE INST AND EVEN ADDR)

250 163 DE=1 R[111]_B SEX; GOTO D1=4; BUT UNARY
 / IF UNARY OTHER THAN JSR,JMP, OR SWAB (CLR,COM,INC,DEC,ADC,SBC,TST,ROR,ASR,ASL) GOTO U5=1
 / IF NOT UNARY FALL THROUGH TO D1=4

LOC NXT * UNARY OPERATORS GET SINGLE OPERAND IN H AND R[101]
 / GET TO U1=1 FROM D0=2 VIA BUT UNARY (INST=CLR,COM,INC,DEC,NEG,ADC,SBC,TST,ROR,ROL,ASR,ASL)
 352 162 U1=1 R[101]_B; PRE AUX; GOTO D0=3
 / GET TO U2=1 FROM D1=3 VIA BUT UNARY (INST=CLR,COM,...,ASL) SEE U1=1
 353 163 U2=1 R[101]_B; PRE AUX; GOTO D1=4
 / GET TO U3=1 FROM D0=1 VIA BUT UNARY (INST=CLR,COM,...,ASL) SEE U1=1
 354 164 U3=1 R[101]_B; PRE AUX; GOTO D0=2
 / GET TO U4=1 FROM D0=9 VIA BUT UNARY (INST=CLR,COM,...,ASL) SEE U1=1
 355 165 U4=1 R[101]_B; PRE AUX; GOTO D0=10
 / GET TO U5=1 FROM DE=1 VIA BUT UNARY (INST=CLR,COM,...,ASL) SEE U1=1
 373 163 U5=1 R[101]_B; PRE AUX; GOTO D1=4

LOC NXT * MOV8 INST
 / GET TO M8=0 FROM D0=1 VIA BUT MOVE (INST=MOVE AND BYTE)
 154 240 M8=0 PRE AUX
 240 152 M8=1 R[101] OP 8
 152 040 M8=2 R[D]_B SEX; BUT SERVICE
 / PRIORITIES ARE LISTED HIGHEST TO LOWEST
 / IF I BIT TRAP GOTO BT=1
 / IF STACK OVERFLOW GOTO ERT1A
 / IF POWER FAIL GOTO PF=1
 / IF BR7 GOTO BG=1
 / IF BR6 GOTO BG=1
 / IF INTERNAL LINE CLOCK GOTO LC=1
 / IF BR5 GOTO BG=1
 / IF BG4 GOTO BG=1
 / IF UART RECEIVE GOTO UTR
 / IF UART TRANSMIT GOTO UTX
 / IF CONSOLE STOP GOTO H=1
 / IF NONE OF THE ABOVE GOTO F=1

LOC NXT * BRANCH, CHANGE PC
 015 147 B=1 SHIFT 8 LEFT

```

/ IF BR7 GOTO BG=1
/ IF BR6 GOTO BG=1
/ IF INTERNAL LINE CLOCK GOTO LC=1
/ IF BR5 GOTO BG=1
/ IF BR4 GOTO BG=1
/ IF UARY RECEIVE GOTO URTX
/ IF UARY TRANSMIT GOTO URTX
/ IF CONSOLE STOP GOTO H=1
/ IF NONE OF THE ABOVE GOTO P=1

```

```

LOC NXT • BRANCH, CHANGE PC
815 147 B=1  SHIFT B LEFT
147 146 B=2  B=PC+8
146 848 B=3  PC=BI BUT SERVICE
/ PRIORITIES ARE LISTED HIGHEST TO LOWEST
/ IF T BIT TRAP GOTO BT=1
/ IF STACK OVERFLOW GOTO ERT1A
/ IF POWER FAIL GOTO PF=1
/ IF BR7 GOTO BG=1
/ IF BR6 GOTO BG=1
/ IF INTERNAL LINE CLOCK GOT LC=1
/ IF BR5 GOTO BG=1
/ IF BR4 GOTO BG=1
/ IF UARY RECEIVE GOTO URTX
/ IF UARY TRANSMIT GOTO URTX
/ IF CONSOLE STOP GOTO H=1
/ IF NONE OF THE ABOVE GOTO P=1

```

```

LOC NXT • CONDITION CODE MASK (FOR BOTH SET AND CLEAR)
151 358 CCM=1 B=8 AND K[17]
358 112 CCM=2 BUT DEST
/ IF INST= SET, GO TO SC=1
/ IF INST= CLEAR, GOTO CC=1

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LOC NXT • CLEAR CONDITION CODES
112 848 CC=1 PSW=PSW AND (B'BAR); BUT SERVICE
/ THIS EFFECTIVELY CLEARS THOSE BITS OF THE PSW WHICH ARE SET

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LOC NXT * SET CONDITION CODES
 116 040 SC=1 PSW_PSW OR 8; BUT SERVICE
 / PRIORITIES ARE LISTED HIGHEST TO LOWEST
 / IF T BIT TRAP GOTO RT=1
 / IF STACK OVERFLOW GOTO ERT1A
 / IF POWER FAIL GOTO PF=1
 / IF BR7 GOTO BG=1
 / IF BR6 GOTO BG=1
 / IF INTERNAL LINE CLOCK GOTO LC=1
 / IF BR5 GOTO BG=1
 / IF BR4 GOTO BG=1
 / IF UART RECEIVE GOTO URTR
 / IF UART TRANSMIT GOTO URTX
 / IF CONSOLE STOP GOTO H=1
 / IF NONE OF THE ABOVE GOTO F=1

LOC NXT * SWAB, MODE 0
 / GET TO SB1=1 FROM D0=2 VIA BUT UNARY (INST=SWAB AND MODE=0)
 / ROTATE LEFT ACCOMPLISHED VIA ASR
 166 172 SB1=1 ROTATE 8 LEFT; F SHIFT
 172 173 SB1=2 ROTATE 8 LEFT; F SHIFT
 173 174 SB1=3 ROTATE 8 LEFT; F SHIFT
 174 144 SB1=4 ROTATE 8 LEFT; F SHIFT
 144 176 SB1=5 ROTATE 8 LEFT; F SHIFT
 176 177 SB1=6 ROTATE 8 LEFT; F SHIFT
 177 006 SB1=7 ROTATE 8 LEFT; F SHIFT
 006 155 SB1=8 ROTATE 8 LEFT; PRE AUX; GOTO D0=3A

LOC NXT * SWAB, NOT MODE 0
 / GET TO SB2=1 FROM D1=3 VIA BUT UNARY (INST=SWAB)
 / ROTATE LEFT ACCOMPLISHED VIA ASR
 167 012 SB2=1 ROTATE 8 LEFT; F SHIFT
 012 220 SB2=2 ROTATE 8 LEFT; F SHIFT
 220 022 SB2=3 ROTATE 8 LEFT; F SHIFT
 022 023 SB2=4 ROTATE 8 LEFT; F SHIFT
 023 024 SB2=5 ROTATE 8 LEFT; F SHIFT
 024 031 SB2=6 ROTATE 8 LEFT; F SHIFT
 031 330 SB2=7 ROTATE 8 LEFT; F SHIFT
 330 163 SB2=8 ROTATE 8 LEFT; PRE AUX; GOTO D1=4

```

LOC  NXT  * JMP
          / GET TO J1=1 FROM D1=1 VIA BUT JSRMP (INST=JMP)
          / GET TO J1=1 FROM D2=3 VIA BUT JSRMP (INST=JMP)
          / GET TO J1=1 FROM D3=5 VIA BUT JSRMP (INST=JMP)
          / GET TO J1=1 FROM D6=5 VIA BUT JSRMP (INST=JMP)
204  260  J1=1  NOP
          / J1=1 MUST BE A NOP BECAUSE FOLLOWING A CKOFF, THE AMX WILL
          / BE FORCED TO TAKE DATA FROM THE UNIBUS.
260  040  J1=2  PC_B; BUT SERVICE
          / PRIORITIES ARE LISTED HIGHEST TO LOWEST
          / IF T BIT TRAP GOTO BT=1
          / IF STACK OVERFLOW GOTO ERT1A
          / IF POWER FAIL GOTO PF=1
          / IF BR7 GOTO BG=1
          / IF BR6 GOTO BG=1
          / IF INTERNAL LINE CLOCK GOTO LC=1
          / IF BR5 GOTO BG=1
          / IF BR4 GOTO BG=1
          / IF UART RECEIVE GOTO URTR
          / IF UART TRANSMIT GOTO URTX
          / IF CONSOLE STOP GOTO H=1
          / IF NONE OF THE ABOVE GOTO F=1

LOC  NXT  * JSR
          / GET TO J2=1 FROM D1=1 VIA BUT JSRMP (INST=JSR)
          / GET TO J2=1 FROM D2=3 VIA BUT JSRMP (INST=JSR)
          / GET TO J2=1 FROM D3=5 VIA BUT JSRMP (INST=JSR)
          / GET TO J2=1 FROM D6=5 VIA BUT JSRMP (INST=JSR)
212  261  J2=1  NOP
          / J2=1 MUST BE A NOP BECAUSE FOLLOWING A CKOFF, THE AMX WILL BE
          / FORCED TO TAKE DATA FROM THE UNIBUS.
261  262  J2=1A R[11]_R
262  214  J2=2  R,RA,R[6]-2; ENAHOVER
214  206  J2=3  R[6]_B; CKOFF; DATA
206  216  J2=4  DRIVERS_R[8]
216  263  J2=5  B_PC
263  264  J2=6  R[8]_B
264  265  J2=7  R_P[11]
265  040  J2=8  PC_B; BUT SERVICE
          / PRIORITIES ARE LISTED HIGHEST TO LOWEST
          / IF T BIT TRAP GOTO BT=1

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LOC  NXT  * JSR
          / GET TO J2=1 FROM D1=1 VIA BUT JSRMP (INST=JSR)
          / GET TO J2=1 FROM D2=3 VIA BUT JSRMP (INST=JSR)
          / GET TO J2=1 FROM D3=5 VIA BUT JSRMP (INST=JSR)
          / GET TO J2=1 FROM D6=4 VIA BUT JSRMP (INST=JSR)
212  261  J2=1  NOP
          / J2=1 MUST BE A NOP BECAUSE FOLLOWING A CKOFF, THE AMX WILL BE
          / FORCED TO TAKE DATA FROM THE UNIBUS,
261  262  J2=1A R[11]=0
262  214  J2=2  0,BA=R[6]=81 ENABOVER
263  264  J2=3  R[6]=0/ CKOFF/ DATO
264  216  J2=4  DRIVERS=R[9]
265  263  J2=5  0=PC
266  264  J2=6  R[8]=0
267  265  J2=7  0=R[11]
268  248  J2=8  PC=0/ BUT SERVICE
          / PRIORITIES ARE LISTED HIGHEST TO LOWEST
          / IF T BIT TRAP GOTO BT=1
          / IF STACK OVERFLOW GOT ERT1A
          / IF POWER FAIL GOTO PF=1
          / IF BR7 GOTO BG=1
          / IF BR6 GOTO BG=1
          / IF INTERNAL LINE CLOCK GOTO LC=1
          / IF BR5 GOTO BG=1
          / IF BR4 GOTO BG=1
          / IF UARY RECEIVE GOTO URTX
          / IF UARY TRANSMIT GOTO URTX
          / IF CONSOLE STOP GOTO H=1
          / IF NONE OF THE ABOVE GOTO P=1

```

```

LOC  NXT  * RTS
          / GET TO R1=1 FROM P=5 VIA BUT IR DECODE (INST=RTS)
269  221  R1=1  0A=R[6]=1 DAT1
270  222  R1=2  0=R[6]=2
271  223  R1=3  R[6]=0
272  224  R1=4  0=R[0]
273  225  R1=5  PC=0/ CKOFF
274  332  R1=6  0=UNIBUS DATA/ GOTO DB=4

```

```

LOC  NXT  * RTI
          / GET TO R2=2 FROM P=5 VIA BUT IR DECODE (INST=RTI)
277  230  R2=1  0A=R[6]=1 DAT1
278  231  R2=2  0=R[6]=2

```

```

231 232 R2=3  R[6]=0/ CKOFF
232 234 R2=4  PC=UNIBUS DATA
      / THERE IS NO R2=5 (ANY MORE)
234 235 R2=6  BA=R[6]/ DAT1
235 236 R2=7  B=R[6]+2
236 237 R2=8  R[6]=0/ CKOFF
237 385 R2=9  PS=UNIBUS DATA/ GOTO B2=2 (BUT SERVICE)

```

```

LOC  NXT  * WAIT
      / GET TO H=1 FROM P=5 VIA BUT IR DECODE (INST=WAIT)
      / GET TO H=1 FROM H=1 VIA GOTO IF BUT SERVICE IS FALSE
843 848 H=1    BUT SERVICE
      / THE MICRO PROGRAM WILL LOOP ON H=1 UNTIL SOME HIGHER
      / PRIORITY CONDITION IS RECOGNIZED BY THE 'BUT SERVICE' ROM SEE P1#1 ON
      / THE CONE PRINT;
      / PRIORITIES ARE LISTED HIGHEST TO LOWEST
      / IF T BIT TRAP GOTO BT=1
      / IF STACK OVERFLOW GOTO ERT1A
      / IF POWER FAIL GOT PF=1
      / IF BR7 GOTO BG=1
      / IF BR6 GOTO BG=1
      / IF INTERNAL LINE CLOCK GOTO LC=1
      / IF BR5 GOTO BG=1
      / IF BR4 GOTO BG=1
      / IF UART RECEIVE URTX
      / IF UART TRANSMIT TOTO URTX
      / IF CONSOLE STOP GOTO H=1
      / IF NONE OF THE ABOVE TOTO P=1

```

```

LOC  NXT  * HALT
      / GET TO H=1 FROM P=5 VIA BUT IR DECODE (INST=HALT)
      / GET TO H=1 FROM BUT SERVICE
841 382 H=1    B=PC
      / DISPLAY PC IN LIGHTS BY PUTTING IT INTO B
      / GET TO H=2 FROM CEI=3 VIA GOTO
      / GET TO H=2 FROM CDI=5 VIA GOTO
      / GET TO H=2 FROM CL=3 VIA GOTO
382 388 H=2    BA=R[17]/ BUT SWITCH
      / THE BA IS LOADED HERE SO THAT THE ADDRESS WILL BE INCREMENTED BY +1 WHEN EXAMINING (DEPOSITING INTO)
      / AND BY +2 WHEN EXAMINING (DEPOSITING INTO) SUCCESSIVE CORE MEMORY;
      / IF START DEPRESSED GOTO CS=1
      / IF CONTINUE DEPRESSED GOTO CCS=1

```

```

/ IF EXAMINE (1 ST) GOTO CE1=1
/ IF EXAMINE (NOT 1 ST) GOTO CE2=1
/ IF DEPOSIT (1 ST) GOTO CD1=1
/ IF DEPOSIT (NOT 1 ST) GOT CD2=1
/ IF LOAD GOTO CL=1
/ IF NO SWITCHES ARE DEPRESSED LOOP ON H=2

```

```

LOC NXT * EMT TRAP (VECTOR LOC=38)
/ GET TO ET=1 FROM F=5 VIA BUT IR DECODE (INST=EMT)
011 245 ET=1 B=K[38]
/ GET TO ET=2 FROM BT=1 VIA GOTO
/ GET TO ET=2 FROM IT=1 VIA GOTO
/ GET TO ET=2 FROM T=1 VIA GOTO
/ GET TO ET=1 FROM RT=1 VIA GOTO
/ GET TO ET=2 FROM ERT=1 VIA GOTO
/ GET TO ET=2 FROM PP=1 VIA GOTO
245 246 ET=2 R[12]=0
246 247 ET=3 B,BA=R[6]=21 ENABOVER
/ ET=4 HAS BEEN ELIMINATED
247 226 ET=5 R[6]=01 CKOFF1 DATO
226 251 ET=6 DIRVERS=PS
251 252 ET=7 B,BA=R[6]=21 ENABOVER
252 253 ET=8 R[6]=01 CKOFF1 DATO
253 254 ET=9 DIRVERS=PC
254 255 ET=10 BA=R[12]1 DAT11 CKOFF
255 256 ET=11 PC=UN[BUS DATA
256 257 ET=12 BA=R[12]=21 DAT11 CKOFF
257 385 ET=13 PS=UN[BUS DATA1 GOTO B2=2 (SERVICE)

```

```

LOC NXT * BREAKPOINT TRAP (VECTOR LOC=14) AND T BIT TRACE TRAP
/ GET TO BT=1 FROM ALL BUT SERVICE
/ GET TO BT=1 FROM F=5 VIA BUT IR DECODE (INST=BREAKPOINT)
045 245 BT=1 B=K[14]1 GOTO ET=2

```

```

LOC NXT * IOT (VECTOR LOC=28)
/ GET TO IT=1 FROM F=5 VIA BUT IR DECODE (INST=IOT)
273 245 IT=1 B=K[28]1 GOTO ET=2

```

```

LOC  NXT  * TRAP (VECTOR LOC=34)
          / GET TO Y=1 FROM P=5 VIA BUT IR DECODE (INST=TRAP)
021  245  Y=1  B=K[34]; GOTO ET=2

```

```

LOC  NXT  * RESERVED INST TRAP (VECTOR LOC=10)
          / GET TO RT=1 FROM P=5 VIA BUT IR DECODE (INST=NON VALID)
001  245  RT=1  B=K[10]; GOTO ET=2

```

```

LOC  NXT  * ERROR TRAP (BUS ERROR, STACK OVERFLOW, ILLEGAL INST) VECTOR LOC=4
          / THERE EXISTS ERT=1 (LOC=10) FOR BUS ERROR
          / THERE ALSO EXISTS ERT1A (LOC=46) FOR STACK OVERFLOW
          / ERT1A GOES TO ET2=2, A SEQUENCE WHICH DOESN'T HAVE THE
          / ENABOVER, WE DON'T WANT TO LOOK FOR STACK OVERFLOW WHILE
          / DOING THE STACK OVERFLOW TRAP, THE ET2=2 SEQUENCE REJOINS THE ET SEQUENCE AT ET=8
          / THERE ALSO EXISTS ERT1B (LOC=153) FOR ILLEGAL INST (JSR OR JMP, MODE 0)
010  245  ERT=1  B=K[4]; GOTO ET=2

```

```

LOC  NXT  * CONSOLE START SWITCH
          / GET TO CS=1 FOLLOWING RELEASE OF START SWITCH,
100  322  CS=1  IR=ZERO
          / CLOCKING THE IR TURNS ON THE RUN LIGHT
322  321  CS=2  BA,B=R[17]
321  040  CS=3  PC=01 BUT SERVICE
          / PRIORITIES ARE LISTED HIGHEST TO LOWEST
          / IF T BIT DRAP GOTO BT=1
          / IF STACK OVERFLOW GOTO ERT1A
          / IF POWER FAIL GOTO PF=1
          / IF BR7 GOTO BG=1
          / IF BR6 GOTO BG=1
          / IF INTERNAL LINE CLOCK GOTO LC=1
          / IF BR5 GOTO BG=1

```

```

      IF P=4 GOTO BG=1
      / IF UART RECEIVE GOTO URTN
      / IF UART TRANSMIT GOTO URTX
      / IF CONSOLE STOP GOTO H=1
      / IF NONE OF THE ABOVE GOTO P=1

```

```

LOC  NXT  * CONSOLE EXAMINE SWITCH - FIRST TIME IN SEQUENCE (DON'T INC R[17])
          / GET TO CE1=1 FROM H=2 VIA BUT SWITCH
          / GET TO CE1=1 FROM CE2=2 VIA GOTO
317  387  CE1=1 BA,B=R[17]; BUT SWITCH
          / DISPLAY ADDRESS BY PUTTING INTO THE B REGISTER WHILE EXAMINE IS DOWN
          / LOOP ON CE1=1 UNTIL SWITCH IS RELEASED
387  326  CE1=2 DAT=1 CKOFF
326  382  CE1=3 B=UNIBUS DATA; GOTO H=2

```

```

LOC  NXT  * CONSOLE EXAMINE SWITCH - OTHER THAN FIRST IN SEQUENCE (INC R[17])
          / GET TO CE2=1 FROM H=2 VIA BUT SWITCH
315  371  CE2=1 B=R[17]+2
          / R[17] IS IN BA FROM H=2, THIS WILL CAUSE +2 TO BECOME +1 WHEN EXAMINING REGISTERS;
371  317  CE2=2 R[17]+1; GOTO CE1=1

```

```

LOC  NXT  * CONSOLE DEPOSIT SWITCH - FIRST TIME IN SEQUENCE (DON'T INC R[17])
          / GET TO CD1=1 FROM H=2 VIA BUT SWITCH
          / GET TO CD1=1 FROM CD2=2 VIA GOTO
313  383  CD1=1 B=R[17]; BUT SWITCH
          / LOOP ON CD1=1 UNTIL DEPOSIT SWITCH IS RELEASED
383  374  CD1=2 BA=K[287],BAR; DAT=1 CKOFF
          / COMPLEMENT OF 287 & 177978 * SWITCH REGISTER ADDRESS
374  314  CD1=3 B=UNIBUS DATA
314  372  CD1=4 BA=R[17]; DAT=0 CKOFF
372  382  CD1=5 DRIVERS=0; GOTO H=2

```

LOC NXT • CONSOLE DEPOSIT SWITCH - OTHER THAN FIRST IN SEQUENCE (INC R[17])
 / GET TO CD2=1 FROM H=3) VIA BUT SWITCH
 312 337 CD2=1 B=R[17]+2
 / R[17] IS IN BA; THIS WILL CAUSE +2 TO BECOME +1 WHEN DEPOSITING INTO REGISTERS
 337 313 CD2=2 R[17]+B; GOTO CD1=1

LOC NXT • CONSOLE CONTINUE SWITCH
 / GET TO CC3=1 FROM H=2 VIA BUT SWITCH
 316 276 CC3=1 B=PC
 276 278 CC3=2 BUT SWITCH
 272 262 CC3=3 (R=ZERO) GOTO P=1
 / CLOCKING THE IR TURNS ON THE RUN LIGHT

LOC NXT • CONSOLE LOAD SWITCH
 / GET TO CL=1 FROM H=2 VIA BUT SWITCH
 311 375 CL=1 B=K(207); BARI DAT; CKOFF
 / COMPLEMENT OF 207 = 177578 = SWITCH REGISTER ADDRESS
 375 367 CL=2 B=UNIBUS DATA
 367 382 CL=3 R[17]+B; GOTO H=2
 / CL=3 GOES TO H=2 VIA GOTO; IF LOAD IS STILL DEPRESSED, THE BUT
 / SWITCH IN H=2 WILL TAKE US BACK TO CL=1. THUS, AS LONG AS LOAD IS
 / DEPRESSED, CHANGES IN THE SWITCHES WILL SHOW UP IN THE B REG (LIGHTS) AND IN R[17].

LOC NXT • POWER FAIL (VECTOR LOC=24)
 / GET TO PF=1 FROM SERVICE
 243 245 PF=1 B=K(24); GOTO ET=2

LOC NXT • RESTART FROM POWER FAIL (VECTOR LOC=24)
 / GET TO RS=1 MYSTERIOUSLY AS POWER COMES UP (NXT CHIPS, F092 AND F103 SHOWN ON THE CONP PRINT,
 / ARE DISABLED FORCING THE MICROPROGRAM TO RS=1 IN LOC 0;
 241 241 RS=1 B=K(24); DAT;
 241 347 RS=1A CKOFF

```

/ MUST DO CKOFF IN RS=1A BECAUSE OF CONFLICT BETWEEN
/ CKOFF AND INIT CREATED BY CKOFF ASSOCIATED WITH AUX CONTROL
347 074 RS=2 PC=UNIBUS DATA
074 351 RS=3 BA=K(24)+2( DAT1) CKOFF
351 385 RS=4 PS=UNIBUS DATA/ GOTO B2=2 (SERVICE)

```

```

LOC NXT * INTERRUPT SERVICING
/ GET TO INT=1 FROM BG=2 VIA BUT INT (TRUE)
325 246 INT=1 R(12)=UNIBUS DATA/ SET SLAVESYNC/ GOTO ET=3

```

```

LOC NXT * BUS GRANT SERVICE
/ GET TO BG=1 FROM BUT SERVICE
048 385 BG=1 BUT INTERRUPT/ GOTO B2=2 (BUT SERVICE)
/ IF INTERRUPT GOTO INT=1
/ IF NO INTERRUPT FALL THROUGH TO B2=2

```

```

LOC NXT * NOP * BRANCH CONDITION NOT TRUE (PC UNCHANGED)
/ B2=1 HAS BEEN ELIMINATED BECAUSE NEW1 IS NO LONGER
/ GET TO B2=2A FROM DB=3 VIA BUT NONMOD (TRUE)
/ GET TO B2=2B FROM D1=4 VIA BUT NONMOD (TRUE)
/ GET TO B2=2C FROM DB=18 VIA BUT NONMOD (TRUE)
/ GET TO B2=2D FROM P=5 VIA BUT IR DECODE, BRANCH INST, CONDITION NOT TRUE
/ GET TO B2=2 FROM RST=1 VIA GOTO
/ GET TO B2=2 FROM DB=4 VIA GOTO
/ GET TO B2=2 FROM DBB=2 VIA BUT NONMOD (TRUE)
/ GET TO B2=2 FROM MB=2 VIA GOTO
/ GET TO B2=2 FROM CC=1 VIA GOTO
/ GET TO B2=2 FROM SC=1 VIA GOTO
/ GET TO B2=2 FROM J2=8 VIA GOTO
/ GET TO B2=2 FROM RS=10 VIA GOTO
/ GET TO B2=2 FROM ET=13 VIA GOTO
385 048 B2=2 BUT SERVICE
/ PRIORITIES ARE LISTED HIGHEST TO LOWEST
/ IF T BIT TRAP GOTO BT=1
/ IF STACK OVERFLOW GOTO ERT1A
/ IF POWER FAIL GOTO PF=1
/ IF BR7 GOTO BG=1

```


ERY1A NOT EXPLICITLY SHOWN IN FLOW
08-3A NOT EXPLICITLY SHOWN IN FLOW
A145 NOT EXPLICITLY SHOWN IN FLOW
E12-2 NOT EXPLICITLY SHOWN IN FLOW
E12-3 NOT EXPLICITLY SHOWN IN FLOW
E12-5 NOT EXPLICITLY SHOWN IN FLOW
E12-6 NOT EXPLICITLY SHOWN IN FLOW
E12-7 NOT EXPLICITLY SHOWN IN FLOW
ERY1B NOT EXPLICITLY SHOWN IN FLOW
02-2A NOT EXPLICITLY SHOWN IN FLOW
02-2B NOT EXPLICITLY SHOWN IN FLOW
02-2C NOT EXPLICITLY SHOWN IN FLOW
02-2D NOT EXPLICITLY SHOWN IN FLOW

NAME	LOC	ABT	ALG	ALU	AUX	BAR	BLG	BRG	BUT	CON	CKD	CRI	FSH	PSW	SAM	SPA	SPF	TNS	NXT
A145	145	YES	PSW	AA	ON	L	+1	H	MOV	NON	ON	OFF	OFF	L	ROM	R0	WRI	ZRO	
B-1	015	NO	SP	ASL	OFF	H	BRG	SL	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	B-2
B-2	147	NO	SP	A+B	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	NON	B-3
B-3	146	NO	SP	RL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	BG-1
B2-2	305	NO	SP	AL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	BG-1
B2-2A	333	NO	SP	AL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	BG-1
B2-2B	335	NO	SP	AL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	BG-1
B2-2C	343	NO	SP	AL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	BG-1
B2-2D	013	NO	SP	AL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	BG-1
BG-1	040	NO	SP	AL	OFF	H	BRG	H	INT	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	B2-2
BT-1	045	NO	NUL	AL	OFF	H	BRG	L	CON	14	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
CC-1	112	NO	PSW	ABBAR	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	L	ROM	R0	REA	NON	BG-1
CCM-1	151	NO	NUL	AANDB	OFF	H	BRG	L	CON	360	OFF	OFF	OFF	H	ROM	R0	WRI	NON	CCM-2
CCM-2	350	NO	SP	AL	OFF	H	BRG	H	DST	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	CC-1
CCS-1	316	NO	SP	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	NON	CCS-2
CCS-2	276	NO	SP	AL	OFF	H	BRG	H	SW	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	DO-1
CCS-3	272	NO	SP	ZERO	OFF	H	BRG	H	IRC	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	F-1
CD1-1	313	NO	SP	AL	OFF	H	BRG	L	SW	NON	OFF	OFF	OFF	H	ROM	R17	REA	NON	CD1-2
CD1-2	303	NO	NUL	ABAR	OFF	L	BRG	H	CON	207	ON	OFF	OFF	H	ROM	R0	WRI	I	CD1-3
CD1-3	374	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	CD1-4
CD1-4	314	NO	SP	AL	OFF	L	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R17	REA	O	CD1-5
CD1-5	372	NO	SP	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	H-2
CD2-1	312	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R17	REA	NON	CD2-2
CD2-2	337	NO	SP	RL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R17	WRI	NON	CD1-1
CE1-1	317	NO	SP	AL	OFF	L	BRG	L	SW	NON	OFF	OFF	OFF	H	ROM	R17	REA	NON	CE1-2
CE1-2	307	NO	SP	AL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R0	REA	I	CE1-3
CE1-3	326	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	H-2
CE2-1	315	NO	SP	A+B	OFF	L	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R17	REA	NON	CE2-2
CE2-2	371	NO	SP	RL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R17	WRI	NON	CE1-1
CL-1	311	NO	NUL	ABAR	OFF	L	BRG	H	CON	207	ON	OFF	OFF	H	ROM	R0	WRI	I	CL-2
CL-2	375	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	CL-3
CL-3	367	NO	SP	RL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R17	WRI	NON	H-2
CS-1	100	NO	SP	ZERO	OFF	H	BRG	H	IRC	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	CS-2
CS-2	322	NO	SP	AL	OFF	L	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R17	REA	NON	CS-3
CS-3	321	NO	SP	RL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	BG-1
DO-1	101	NO	SP	AL	OFF	H	BRG	L	MOV	NON	OFF	OFF	OFF	H	IRD	R0	REA	NON	MB-0
DO-2	157	NO	SP	RL	OFF	H	BRG	H	UNY	NON	OFF	OFF	OFF	H	ROM	R11	WRI	NON	DO-17
DO-3	162	NO	SP	ABAR	OFF	H	BRG	L	NHD	NON	OFF	ON	OFF	H	ROM	R10	REA	NON	DO-4
DO-3A	155	NO	SP	ABAR	OFF	H	BRG	L	NHD	NON	OFF	ON	OFF	H	ROM	R10	REA	NON	DO-4
DO-4	332	NO	SP	RL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	IRD	R0	WRI	NON	BG-1
D1-1	103	YES	SP	AL	OFF	L	BRG	L	JON	NON	ON	OFF	OFF	H	IRD	R0	REA	TP	D1-2
D1-2	200	NO	NUL	AL	OFF	H	BRG	L	BYT	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	D1-3
D1-3	210	NO	SP	RL	OFF	H	BRG	H	UNY	NON	OFF	OFF	OFF	H	ROM	R11	WRI	NON	DO-18
D1-4	163	NO	SP	ABAR	OFF	H	BRG	L	NHD	NON	OFF	ON	OFF	H	ROM	R10	REA	NON	D1-5

NAME	LOC	ABT	ALG	ALU	AUX	BAR	BLG	BRG	BUT	CON	CKO	CRI	FSH	PSW	SAM	SPA	SPF	THS	NXT
D1-5	334	YES	SP	AL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R0	REA	N	D1-6
D1-6	065	NO	SP	BL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	D2-2
D2-1	105	YES	SP	AL	OFF	L	BRG	H	NON	NON	OFF	OFF	OFF	H	IRD	R0	REA	TP	D2-2
D2-2	331	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	IRD	R0	REA	NON	D2-3
D2-3	341	NO	SP	BL	OFF	H	BRG	H	JOJ	NON	ON	OFF	OFF	H	IRD	R0	WRI	NON	D1-2
D3-1	107	NO	SP	AL	OFF	L	BRG	H	NON	NON	OFF	OFF	OFF	H	IRD	R0	REA	I	D3-2
D3-2	160	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	IRD	R0	REA	NON	D3-3
D3-3	070	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	IRD	R0	WRI	NON	D3-4
D3-4	071	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	D3-5
D3-5	072	YES	SP	BL	OFF	L	BRG	H	JOJ	NON	ON	OFF	OFF	H	ROM	R0	REA	TP	D1-2
D4-1	111	YES	SP	A+B-1	OFF	L	+1	L	ENO	NON	OFF	OFF	OFF	H	IRD	R0	REA	TP	D2-3
D5-1	113	NO	SP	A-B-1	OFF	L	+1	L	ENO	NON	OFF	OFF	OFF	H	IRD	R0	REA	I	D3-3
D6-1	115	NO	SP	AL	OFF	L	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	I	D6-2
D6-2	075	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R7	REA	NON	D6-3
D6-3	077	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R7	WRI	NON	D6-4
D6-4	057	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	D6-5
D6-5	300	YES	SP	A+B	OFF	L	BRG	L	JOJ	NON	ON	OFF	OFF	H	IRD	R0	REA	TP	D1-2
D7-1	117	NO	SP	AL	OFF	L	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	I	D7-2
D7-2	310	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R7	REA	NON	D7-3
D7-3	104	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R7	WRI	NON	D7-4
D7-4	320	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	D7-5
D7-5	106	NO	SP	A+B	OFF	L	BRG	H	NON	NON	ON	OFF	OFF	H	IRD	R0	REA	I	D3-4
DB0-1	156	NO	SP	BL	OFF	H	SEX	L	UNY	NON	OFF	OFF	OFF	H	ROM	R11	WRI	NON	SB1-5
DB0-2	164	NO	SP	ABAR	OFF	H	BRG	L	WHD	NON	OFF	ON	OFF	H	ROM	R10	REA	NON	DB0-3
DB0-3	304	NO	SPR	BL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	IRD	R0	WRI	NON	BG-1
DBE-1	110	NO	SP	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	H-1
DE-1	250	NO	SP	BL	OFF	H	SEX	L	UNY	NON	OFF	OFF	OFF	H	ROM	R11	WRI	NON	D1-4
DO-1	270	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-2
DO-10	165	NO	SP	ABAR	OFF	H	BRG	L	WHD	NON	OFF	ON	OFF	H	ROM	R10	REA	NON	DO-11
DO-11	342	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-12
DO-12	135	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-13
DO-13	136	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-14
DO-14	137	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-15
DO-15	140	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-16
DO-16	141	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-17
DO-17	142	NO	SP	AL	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-18
DO-18	143	YES	SP	AL	OFF	H	BRG	SL	NON	NON	ON	OFF	OFF	H	ROM	R0	REA	N	D1-6
DO-2	123	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-3
DO-3	124	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-4
DO-4	125	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-5
DO-5	126	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-6
DO-6	127	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-7
DO-7	130	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	DO-8
DO-8	131	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	DO-9

NAME	LOC	ABT	ALG	AU	AUX	PAR	BLG	BRG	BUT	CON	CKO	CRI	FSH	PSW	SAM	SPA	SPF	TNS	NXT
DO-9	132	NO	SP	BL	OFF	H	SEX	L	UNY	NON	OFF	OFF	OFF	H	ROM	R11	WRI	NON	A145
ERT-1	010	NO	NUL	AL	OFF	H	HRG	L	CON	4	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
ERT1A	046	NO	NUL	AL	OFF	H	HRG	L	CON	4	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET2-2
ERT1B	153	NO	NUL	AL	OFF	H	HRG	L	CON	4	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
ET-1	011	NO	NUL	AL	OFF	H	BRG	L	CON	30	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
ET-10	254	NO	SP	AL	OFF	L	BRG	H	IRC	NON	ON	OFF	OFF	H	ROM	R12	REA	T	ET-11
ET-11	255	NO	SP	AL	OFF	H	HRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	ET-12
ET-12	256	NO	SP	A+B	OFF	L	+1	L	NON	NON	ON	ON	OFF	H	ROM	R12	REA	T	ET-13
ET-13	257	NO	SP	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	L	ROM	R0	REA	NON	ET-2
ET-2	245	NO	SP	BL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R12	WRI	NON	ET-3
ET-3	246	NO	SP	A+B-1	OFF	L	+1	L	ENO	NON	OFF	OFF	OFF	H	ROM	R6	REA	NON	ET-5
ET-5	247	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R6	WRI	0	ET-6
ET-6	226	NO	PSW	AL	OFF	H	HRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	ET-7
ET-7	251	NO	SP	A+B-1	OFF	L	+1	L	ENO	NON	OFF	OFF	OFF	H	ROM	R6	REA	NON	ET-8
ET-8	252	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R6	WRI	0	ET-9
ET-9	253	NO	SP	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	NON	ET-10
ET2-2	003	NO	SP	BL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R12	WRI	NON	ET2-3
ET2-3	004	NO	SP	A+B-1	OFF	L	+1	L	NON	NON	OFF	OFF	OFF	H	ROM	R6	REA	NON	ET2-5
ET2-5	036	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R6	WRI	0	ET2-6
ET2-6	037	NO	PSW	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	ET2-7
ET2-7	051	NO	SP	A+B-1	OFF	L	+1	L	NON	NON	OFF	OFF	OFF	H	ROM	R6	REA	NON	ET-8
F-1	062	NO	SP	AL	OFF	L	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	T	F-2
F-2	053	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R7	REA	NON	F-3
F-3	365	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R7	WRI	NON	F-4
F-4	364	NO	NUL	AL	OFF	H	BRG	L	IRC	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	F-5
F-5	061	NO	SP	BL	OFF	H	SEX	L	IRD	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	RT-1
H-1	041	NO	SP	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	NON	H-2
H-2	302	NO	SP	AL	OFF	L	BRG	H	SW	NON	OFF	OFF	OFF	H	ROM	R17	REA	NON	D6-5
INT-1	325	NO	SP	AL	OFF	H	BRG	H	SYS	NON	OFF	OFF	OFF	H	ROM	R12	WRI	NON	ET-3
IT-1	273	NO	NUL	AL	OFF	H	BRG	L	CON	20	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
J1-1	204	NO	SP	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	J1-2
J1-2	260	NO	SP	BL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	BG-1
J2-1	212	NO	SP	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	J2-1A
J2-1A	261	NO	SP	BL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R11	WRI	NON	J2-2
J2-2	262	NO	SP	A+B-1	OFF	L	+1	L	ENO	NON	OFF	OFF	OFF	H	ROM	R6	REA	NON	J2-3
J2-3	214	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R6	WRI	0	J2-4
J2-4	206	NO	SP	AL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	IRS	R0	REA	NON	J2-5
J2-5	216	NO	SP	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	NON	J2-6
J2-6	263	NO	SP	BL	OFF	H	BRG	H	NON	NON	OFF	OFF	OFF	H	IRS	R0	WRI	NON	J2-7
J2-7	264	NO	SP	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	ROM	R11	REA	NON	J2-8
J2-H	265	NO	SP	BL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	BG-1
LC-1	042	NO	NUL	AL	OFF	H	HRG	L	CON	100	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
MB-0	154	NO	SP	AL	ON	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	MB-1
MB-1	240	NO	SP	ABAR	OFF	H	BRG	L	NON	NON	OFF	ON	OFF	H	ROM	R10	REA	NON	MB-2

NAME	LOC	ABT	ALG	ALU	AUX	BAR	BLG	BRG	BUT	CON	CKO	CRI	FSH	PSW	SAM	SPA	SPF	TNS	NXT
MB-2	152	NO	SP	BL	OFF	H	SEV	H	SRV	NON	OFF	OFF	OFF	H	IRD	R0	WRI	NON	RG-1
PF-1	243	NO	NUL	AL	OFF	H	ERG	L	CON	24	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
R1-1	205	NO	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R6	REA	I	R1-2
R1-2	221	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R6	REA	NON	R1-3
R1-3	222	NO	SP	BL	OFF	H	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R6	WRI	NON	R1-4
R1-4	223	NO	SP	AL	OFF	H	ERG	L	NON	NON	OFF	OFF	OFF	H	IRD	R0	REA	NON	R1-5
R1-5	224	NO	SP	BL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	ROM	R7	WRI	NON	R1-6
R1-6	225	NO	NUL	AL	OFF	H	ERG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	DB-4
R2-1	227	NO	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R6	REA	I	R2-2
R2-2	230	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R6	REA	NON	R2-3
R2-3	231	NO	SP	BL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	ROM	R6	WRI	NON	R2-4
R2-4	232	NO	SP	AL	OFF	H	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	R2-6
R2-6	234	NO	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R6	REA	I	R2-7
R2-7	235	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R6	REA	NON	R2-8
R2-8	236	NO	SP	BL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	ROM	R6	WRI	NON	R2-9
R2-9	237	NO	NUL	AL	OFF	H	ERG	H	NON	NON	OFF	OFF	OFF	L	ROM	R0	REA	NON	R2-2
RS-1	220	NO	NUL	AL	OFF	L	ERG	H	CON	24	OFF	OFF	OFF	H	ROM	R0	WRI	I	RS-1A
RS-1A	241	NO	SP	AL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	ROM	R0	REA	NON	RS-2
RS-2	247	NO	SP	AL	OFF	H	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	WRI	NON	RS-3
RS-3	274	NO	NUL	A+B	OFF	L	+1	H	CON	24	ON	ON	OFF	H	ROM	R0	WRI	I	RS-4
RS-4	351	NO	SP	AL	OFF	H	ERG	H	NON	NON	OFF	OFF	OFF	L	ROM	R0	REA	NON	R2-2
RST-1	357	NO	SP	AL	OFF	H	ERG	H	INI	NON	ON	OFF	OFF	H	ROM	R0	REA	NON	R2-2
RT-1	201	NO	NUL	AL	OFF	H	ERG	L	CON	10	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
S0-1	201	NO	SP	AL	OFF	H	ERG	L	BYT	NON	OFF	OFF	OFF	H	IRS	R0	REA	NON	S0-2
S0-2	207	NO	SP	BL	OFF	H	ERG	H	DST	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	RT-1
S1-1	203	YES	SP	AL	OFF	L	ERG	H	NON	NON	ON	OFF	OFF	H	IRS	R0	REA	I	S1-2
S1-2	244	NO	NUL	AL	OFF	H	ERG	L	BYT	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	S0-2
S2-1	205	YES	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	IRS	R0	REA	I	S2-2
S2-2	321	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	IRS	R0	REA	NON	S2-3
S2-3	314	NO	SP	BL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	IRS	R0	WRI	NON	S1-2
S3-1	207	NO	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	IRS	R0	REA	I	S3-2
S3-2	216	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	IRS	R0	REA	NON	S3-3
S3-3	217	NO	SP	BL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	IRS	R0	WRI	NON	S3-4
S3-4	134	NO	NUL	AL	OFF	H	ERG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	S3-5
S3-5	274	YES	SP	BL	OFF	L	ERG	H	NON	NON	ON	OFF	OFF	H	ROM	R0	REA	I	S1-2
S4-1	211	YES	SP	A-B=1	OFF	L	+1	L	END	NON	OFF	OFF	OFF	H	IRS	R0	REA	I	S2-3
S5-1	213	NO	SP	A-B=1	OFF	L	+1	L	END	NON	OFF	OFF	OFF	H	IRS	R0	REA	I	S3-3
S6-1	215	NO	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	I	S6-2
S6-2	225	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R7	REA	NON	S6-3
S6-3	226	NO	SP	BL	OFF	H	ERG	H	NON	NON	ON	OFF	OFF	H	ROM	R7	WRI	NON	S6-4
S6-4	227	NO	NUL	AL	OFF	H	ERG	L	NON	NON	OFF	OFF	OFF	H	BAR	R0	REA	NON	S6-5
S6-5	237	YES	SP	A+B	OFF	L	ERG	H	NON	NON	ON	OFF	OFF	H	IRS	R0	REA	I	S1-2
S7-1	217	NO	SP	AL	OFF	L	ERG	H	NON	NON	OFF	OFF	OFF	H	ROM	R7	REA	I	S7-2
S7-2	232	NO	SP	A+B	OFF	H	+1	L	NON	NON	OFF	ON	OFF	H	ROM	R7	REA	NON	S7-3

NAME	LOC	ABT	ALG	ALU	AUX	BAR	BLG	BRG	BUT	CON	CKD	CRI	F8H	PSW	SAM	SPA	SPF	TNS	NXT
S7-3	033	NO	SP	BL	OFF	H	BRG	H	NON	NON	ON	OFF	OFF	H	ROM	R7	WRI	NON	S7-4
S7-4	034	NO	NUL	AL	OFF	H	BRG	L	NON	NON	OFF	OFF	OFF	H	RAR	R0	REA	NON	S7-5
S7-5	035	NO	SP	P-R	OFF	L	BRG	H	NON	NON	ON	OFF	OFF	H	IRS	R0	REA	Y	S3-4
SB1-1	166	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-2
SB1-2	172	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-3
SB1-3	173	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-4
SB1-4	174	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-5
SB1-5	144	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-6
SB1-6	176	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-7
SB1-7	177	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB1-8
SB1-8	006	NO	SP	ASR	ON	H	BRG	SL	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	D0-3A
SB2-1	167	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-2
SB2-2	012	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-3
SB2-3	220	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-4
SB2-4	022	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-5
SB2-5	023	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-6
SB2-6	024	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-7
SB2-7	031	NO	SP	ASR	OFF	H	BRG	SL	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB2-8
SB2-8	330	NO	SP	ASR	ON	H	BRG	SL	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	D1-4
SB2-1	047	NO	SP	BL	OFF	H	SEX	H	DST	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	RT-1
SB0-1	067	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-2
SB0-2	146	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-3
SB0-3	124	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-4
SB0-4	140	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-5
SB0-5	361	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-6
SB0-6	050	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-7
SB0-7	020	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	ON	H	ROM	R0	REA	NON	SB0-8
SB0-8	052	NO	SP	AL	OFF	H	BRG	SR	NON	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	SBE-1
SC-1	116	NO	PSW	AORR	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	L	ROM	R0	REA	NON	BG-1
T-1	021	NO	NUL	AL	OFF	H	BRG	L	CON	34	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
U1-1	352	NO	SP	BL	ON	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	D0-3
U2-1	153	NO	SP	BL	ON	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	D1-4
U3-1	354	NO	SP	BL	ON	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	DB0-2
U4-1	355	NO	SP	BL	ON	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	D0-10
U5-1	371	NO	SP	BL	ON	H	BRG	H	NON	NON	OFF	OFF	OFF	H	ROM	R10	WRI	NON	D1-4
URTR	064	NO	NUL	AL	OFF	H	BRG	L	CON	60	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
URTX	060	NO	NUL	AL	OFF	H	BRG	L	CON	64	OFF	OFF	OFF	H	ROM	R0	WRI	NON	ET-2
W-1	063	NO	SP	AL	OFF	H	BRG	H	SRV	NON	OFF	OFF	OFF	H	ROM	R0	REA	NON	BG-1

N A M	L O C	N X T	A L U	C F A R S U I H X	P S S P W 1 3 7	S S S B M P M B 0 0 1 T	B B S S A T P P R P F 2	C A T K B N O T S	A B L R G G	B U T
A145	145	0000	0000	0000	0 0 1 0	0 0 0 0	1 0 1 0	0 1 0 0	0 0 0 0	0101
B-1	015	1001	1000	1100	0 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	1111
B-2	147	1001	1001	0110	0 0 1 1	1 1 0 1	1 1 1 1	1 1 1 1	1 1 1 1	1111
B-3	146	1101	1111	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	1100
B2-2	305	1101	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	1100
B2-2A	333	1101	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	1100
B2-2B	335	1101	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	1100
B2-2C	343	1101	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	1100
B2-2D	019	1101	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	1100
BG-1	040	0011	1010	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	0001
BT-1	045	0101	1010	0000	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 0	1 1 1 1	1101
CC-1	112	1101	1111	0010	1 0 1 1	0 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	00 00
CCN-1	151	0001	0111	0001	1 0 1 1	1 0 0 1	1 1 1 1	1 1 0 0	1 1 1 1	10 11
CCN-2	350	1011	0101	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00
CCS-1	316	0100	0001	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 1 1	1 1 1 1	11 11
CCS-2	276	0100	0111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00
CCS-3	272	1100	1101	0011	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00
CD1-1	313	0011	1100	0000	1 0 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	0110
CD-2	303	0000	0011	1111	1 0 1 1	1 0 0 1	1 0 1 1	0 1 0 0	0 1 1 0	10 00
CD1-3	374	0011	0011	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11
CD1-4	314	0000	0101	0000	1 0 1 1	1 1 1 1	1 1 1 1	0 1 1 1	0 1 0 1	11 00
CD1-5	372	0011	1101	0101	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	11 00
CD2-1	312	0010	0000	0110	0 1 1 1	1 1 1 1	1 1 1 0	1 1 1 1	1 1 1 1	11 11
CD2-2	337	0011	0100	0101	1 0 1 1	1 1 1 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00
CE1-1	317	0011	1000	0000	1 0 1 1	1 1 1 1	1 1 1 1	0 1 1 1	1 1 1 1	11 11
CE1-2	307	0010	1001	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	0 1 1 0	11 00
CE1-3	326	0011	1101	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11
CE2-1	315	0000	0110	0110	0 1 1 1	1 1 1 1	1 1 1 0	0 1 1 1	1 1 1 1	11 11
CE2-2	371	0011	0000	0101	1 0 1 1	1 1 1 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00
CL-1	311	0000	0010	1111	1 0 1 1	1 0 0 1	1 0 1 1	0 1 0 0	0 1 1 0	10 00
CL-2	375	0000	1000	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11
CL-3	367	0011	1101	0101	1 0 1 1	1 1 1 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00
CS-1	100	0010	1101	0011	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00
CS-2	322	0010	1110	0000	1 0 1 1	1 1 1 1	1 1 1 1	0 1 1 1	1 1 1 1	11 11
CS-3	321	1101	1111	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00
DO-1	101	1001	0011	0000	1 0 1 1	1 0 0 1	0 0 1 1	1 1 1 0	1 1 1 1	11 11
DO-2	157	1001	1101	0101	1 0 1 1	1 0 1 1	1 1 1 1	1 1 0 0	1 1 1 1	11 00
DO-3	162	0010	0101	1111	1 1 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 1 1	11 11
DO-3A	155	0010	0101	1111	1 1 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 1 1	11 11
DO-4	332	1101	1111	0101	1 0 1 1	1 0 0 1	0 0 1 1	1 1 0 0	1 1 1 1	11 00

N A 4	L O C	N X T	A L U	C F A R S U I H X	P S S D S P P I W 1 3 P	S S S B M P M B 0 0 1 T	B B S S A T P P R P F 2	C A T K R N D T S	A R I R G G	B U T
D1-1	101	0111	1111	0000	1 0 1 1	1 0 0 0	0 0 1 1	0 1 1 0	0 0 10	1011
D1-2	200	0111	0111	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 11	0011
D1-3	210	1001	1100	0101	1 0 1 1	1 0 1 1	1 1 1 1	1 1 0 0	1 1 11	1010
D1-4	161	0010	0011	1111	1 1 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 11	0010
D1-5	134	1100	1010	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	0 0 01	11 00
D1-6	065	0011	1010	0101	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 00
D2-1	105	0010	0110	0000	1 0 1 1	1 0 0 0	0 0 1 1	0 1 1 0	1 0 10	11 00
D2-2	331	0001	1110	0110	0 1 1 1	1 0 0 1	0 0 1 0	1 1 1 0	1 1 11	11 11
D2-3	341	0111	1111	0101	1 0 1 1	1 0 0 1	0 0 1 1	1 1 0 0	0 1 11	11 00
D3-1	107	1000	1111	0000	1 0 1 1	1 0 0 1	0 0 1 1	0 1 1 0	1 1 10	11 00
D3-2	160	1100	0111	0110	0 1 1 1	1 0 0 1	0 0 1 0	1 1 1 0	1 1 11	11 11
D3-3	079	1100	0110	0101	1 0 1 1	1 0 0 1	0 0 1 1	1 1 0 0	0 1 11	11 00
D3-4	071	1100	0101	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 11	10 11
D3-5	072	0111	1111	0101	1 0 1 1	1 0 0 0	1 0 1 1	0 1 1 0	0 0 10	11 00
D4-1	111	0001	1110	1001	0 0 1 1	1 0 0 0	0 0 1 0	0 1 1 0	1 0 10	11 11
D5-1	113	1100	0111	1001	0 0 1 1	1 0 0 1	0 0 1 0	0 1 1 0	1 1 10	11 11
D6-1	115	1100	0010	0000	1 0 1 1	1 1 0 1	1 1 1 1	0 1 1 1	1 1 10	11 00
D6-2	075	1100	0000	0110	0 1 1 1	1 1 0 1	1 1 1 0	1 1 1 1	1 1 11	11 11
D6-3	077	1101	0000	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	0 1 11	11 00
D6-4	057	0011	1111	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 11	10 11
D6-5	300	0111	1111	0110	0 0 1 1	1 0 0 0	0 0 1 1	0 1 1 0	0 0 10	11 11
D7-1	117	0011	0111	0000	1 0 1 1	1 1 0 1	1 1 1 1	0 1 1 1	1 1 10	11 00
D7-2	310	1011	1011	0110	0 1 1 1	1 1 0 1	1 1 1 0	1 1 1 1	1 1 11	11 11
D7-3	104	0010	1111	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	0 1 11	11 00
D7-4	320	1011	1001	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 11	10 11
D7-5	106	1100	0110	0110	0 0 1 1	1 0 0 1	0 0 1 1	0 1 1 0	0 1 10	11 00
D80-1	156	1001	1011	0101	1 0 1 1	1 0 1 1	1 1 1 1	1 0 0 0	1 1 11	11 11
D80-2	164	0011	1011	1111	1 1 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 11	11 11
D80-3	304	1101	1111	0101	1 0 1 1	1 0 0 1	0 0 1 1	1 1 0 0	1 1 11	01 00
D8E-1	110	1101	1110	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 00
DE-1	250	1000	1100	0101	1 0 1 1	1 0 1 1	1 1 1 1	1 0 0 0	1 1 11	11 11
DO-1	270	1010	1100	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 10
DO-10	165	0001	1101	1111	1 1 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 11	11 11
DO-11	342	1010	0010	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01
DO-12	135	1010	0001	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01
DO-13	136	1010	0000	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01
DO-14	137	1001	1111	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01
DO-15	140	1001	1110	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01
DO-16	141	1001	1101	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01
DO-17	142	1001	1100	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 11	11 01

N A M	L O C	N X T		A L U	C R S U I H X	P S P P I W 1 3 F	S S S B M P M B 0 0 1 T	B B S S A T P P R P F 2	C A T K B N O T S	A L G G	B R G	B U T
DO-18	143	1100	1010	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	0 0 0 1	11 01	1111	
DO-2	123	1010	1011	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-3	124	1010	1010	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-4	123	1010	1001	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-5	126	1010	1000	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-6	127	1010	0111	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-7	132	1010	0110	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-8	131	1010	0101	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111	
DO-9	132	1001	1010	0101	1 0 1 1	1 0 1 1	1 1 1 1	1 0 0 0	1 1 1 1	11 11	1010	
ERT-1	010	0101	1010	0000	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	1 1 1 1	10 11	1101	
ERT1A	046	1111	1100	0000	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	1 1 1 1	10 11	1101	
ERT1B	153	0101	1010	0000	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	1 1 1 1	10 11	1101	
ET-1	011	0101	1010	0000	1 0 1 1	1 1 0 1	1 0 1 1	1 1 1 0	1 1 1 1	10 11	1101	
ET-10	254	0101	0010	0000	1 0 1 1	1 1 1 1	1 0 1 1	0 1 1 0	0 1 1 0	11 00	0000	
ET-11	255	0101	0001	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	11 11	1111	
ET-12	256	0101	0000	0110	0 1 1 1	1 1 1 1	1 0 1 0	0 1 1 0	0 1 1 0	11 11	1111	
ET-13	257	0011	1010	0000	1 0 1 1	0 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 11	1111	
ET-2	245	0101	1001	0101	1 0 1 1	1 1 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1111	
ET-3	246	0101	1000	1001	0 0 1 1	1 1 0 1	1 0 1 0	0 1 1 1	1 1 1 1	11 11	0100	
ET-5	247	0110	1001	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	0 1 0 1	11 00	1111	
ET-6	226	0101	0110	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	00 00	1111	
ET-7	251	0101	0101	1001	0 0 1 1	1 1 0 1	1 0 1 0	0 1 1 1	1 1 1 1	11 11	0100	
ET-8	252	0101	0100	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	0 1 0 1	11 00	1111	
ET-9	253	0101	0011	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 1 1	1 1 1 1	11 00	1111	
ET2-2	003	1111	1011	0101	1 0 1 1	1 1 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 11	1111	
ET2-3	004	1110	0001	1001	0 0 1 1	1 1 0 1	1 0 1 0	0 1 1 1	1 1 1 1	11 11	1111	
ET2-5	036	1110	0000	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	0 1 0 1	11 00	1111	
ET2-6	037	1101	0110	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	00 00	1111	
ET2-7	051	0101	0101	1001	0 0 1 1	1 1 0 1	1 0 1 0	0 1 1 1	1 1 1 1	11 11	1111	
F-1	062	1101	0100	0000	1 0 1 1	1 1 0 1	1 1 1 1	0 1 1 1	1 1 1 0	11 00	1111	
F-2	053	0000	1010	0110	0 1 1 1	1 1 0 1	1 1 1 0	1 1 1 1	1 1 1 1	11 11	1111	
F-3	365	0000	1011	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	0 1 1 1	11 00	1111	
F-4	364	1100	1110	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11	0000	
F-5	061	1111	1110	0101	1 0 1 1	1 0 0 1	1 0 1 1	1 0 1 0	1 1 1 1	11 11	0111	
H-1	041	0011	1101	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 1 1	1 1 1 1	11 11	1111	
H-2	302	0011	1111	0000	1 0 1 1	1 1 1 1	1 1 1 1	0 1 1 1	1 1 1 1	11 00	0110	
INT-1	325	0101	1001	0000	1 0 1 1	1 1 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1000	
IT-1	273	0101	1010	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 1	1 1 1 1	10 11	1101	
J1-1	204	0100	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00	1111	
J1-2	260	1101	1111	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00	1100	

N A M	L O C	N X T		A L U	C F A R S U I H X	P S S D S P P I W 1 3 P	S S S B M P M B 0 0 1 T	P R S S A T P P R P F 2	C A T K R N O T S	A B L R G G	B U T
J2-1	212	0100	1110	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00	1111
J2-1A	261	0100	1101	0101	1 0 1 1	1 0 1 1	1 1 1 1	1 1 0 0	1 1 1 1	11 00	1111
J2-2	262	0111	0011	1001	0 0 1 1	1 1 0 1	1 0 1 0	0 1 1 1	1 1 1 1	11 11	0100
J2-3	214	0111	1001	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	0 1 01	11 00	1111
J2-4	206	0111	0001	0000	1 0 1 1	1 0 0 1	1 0 0 1	1 1 1 0	1 1 1 1	11 00	1111
J2-5	216	0100	1100	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 1 1	1 1 1 1	11 11	1111
J2-6	263	0100	1011	0101	1 0 1 1	1 0 0 1	1 0 0 1	1 1 0 0	1 1 1 1	11 00	1111
J2-7	264	0100	1010	0000	1 0 1 1	1 0 1 1	1 1 1 1	1 1 1 0	1 1 1 1	11 11	1111
J2-8	265	1101	1111	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00	1100
LC-1	042	0101	1010	0000	1 0 1 1	1 0 1 1	1 1 1 1	1 1 1 0	1 1 1 1	10 11	1101
NB-0	154	0101	1111	0000	1 0 1 0	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00	1111
NB-1	240	1001	0101	1111	1 1 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 1 1	11 11	1111
NB-2	152	1101	1111	0101	1 0 1 1	1 0 0 1	0 0 1 1	1 0 0 0	1 1 1 1	11 00	1100
PF-1	043	0101	1010	0000	1 0 1 1	1 0 1 1	1 0 1 1	1 1 1 0	1 1 1 1	10 11	1101
R1-1	005	0110	1110	0000	1 0 1 1	1 1 0 1	1 0 1 1	0 1 1 1	1 1 1 0	11 00	1111
R1-2	221	0110	1101	0110	0 1 1 1	1 1 0 1	1 0 1 0	1 1 1 1	1 1 1 1	11 11	1111
R1-3	222	0110	1100	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	1 1 1 1	11 00	1111
R1-4	223	0110	1011	0000	1 0 1 1	1 0 0 1	0 0 1 1	1 1 1 0	1 1 1 1	11 11	1111
R1-5	224	0110	1010	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	0 1 1 1	11 00	1111
R1-6	225	0010	0101	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11	1111
R2-1	227	0110	0111	0000	1 0 1 1	1 1 0 1	1 0 1 1	0 1 1 1	1 1 1 0	11 00	1111
R2-2	230	0110	0110	0110	0 1 1 1	1 1 0 1	1 0 1 0	1 1 1 1	1 1 1 1	11 11	1111
R2-3	231	0110	0101	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	0 1 1 1	11 00	1111
R2-4	232	0110	0011	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00	1111
R2-6	234	0110	0010	0000	1 0 1 1	1 1 0 1	1 0 1 1	0 1 1 1	1 1 1 0	11 00	1111
R2-7	235	0110	0001	0110	0 1 1 1	1 1 0 1	1 0 1 0	1 1 1 1	1 1 1 1	11 11	1111
R2-8	236	0110	0000	0101	1 0 1 1	1 1 0 1	1 0 1 1	1 1 0 1	0 1 1 1	11 00	1111
R2-9	237	0011	1010	0000	1 0 1 1	0 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	10 00	1111
RS-1	000	0101	1110	0000	1 0 1 1	1 0 1 1	1 0 1 1	0 1 1 0	1 1 1 0	10 00	1101
RS-1A	241	0001	1000	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	0 1 1 1	11 00	1111
RS-2	147	1100	0011	0000	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	1 1 1 1	11 00	1111
RS-3	074	0001	0110	0110	0 1 1 1	1 0 1 1	1 0 1 0	0 1 1 0	0 1 1 0	10 00	1101
RS-4	351	0011	1010	0000	1 0 1 1	0 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00	1111
RST-1	357	0011	1010	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	0 1 1 1	11 00	1110
RT-1	001	0101	1010	0000	1 0 1 1	1 1 0 1	1 0 1 1	1 1 1 1	1 1 1 1	10 11	1101
S0-1	201	1111	1000	0000	1 0 1 1	1 0 0 1	1 0 0 1	1 1 1 0	1 1 1 1	11 11	0011
S0-2	007	1111	1110	0101	1 0 1 1	1 0 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1001
S1-1	203	0101	1011	0000	1 0 1 1	1 0 0 1	1 0 0 1	0 1 1 0	0 0 1 0	11 00	1111
S1-2	244	1111	1000	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11	0011
S2-1	205	0011	1110	0000	1 0 1 1	1 0 0 1	1 0 0 1	0 1 1 0	1 0 1 0	11 00	1111

N A M	L O C	N X T	A L U	C F A R S U I H X	P S S D S P P I W 1 3 P	S S S B M P M B 0 0 1 T	R B S S A T P P R P F 2	C A T K R N D T S	A B L R G G	B U T
82-2	301	1111 0011	0110	0 1 1 1	1 0 0 1	1 0 0 0	1 1 1 0	1 1 1 1	11 11	1111
82-3	014	0101 1011	0101	1 0 1 1	1 0 0 1	1 0 0 1	1 1 0 0	0 1 1 1	11 00	1111
83-1	207	1111 0001	0000	1 0 1 1	1 0 0 1	1 0 0 1	0 1 1 0	1 1 1 0	11 00	1111
83-2	016	1111 0000	0110	0 1 1 1	1 0 0 1	1 0 0 0	1 1 1 0	1 1 1 1	11 11	1111
83-3	017	1010 0011	0101	1 0 1 1	1 0 0 1	1 0 0 1	1 1 0 0	0 1 1 1	11 00	1111
83-4	134	0100 0011	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11	1111
83-5	274	0101 1011	0101	1 0 1 1	1 0 0 1	1 0 1 1	0 1 1 0	0 0 1 0	11 00	1111
84-1	211	1111 0011	1001	0 0 1 1	1 0 0 1	1 0 0 0	0 1 1 0	1 0 1 0	11 11	0100
85-1	213	1111 0000	1001	0 0 1 1	1 0 0 1	1 0 0 0	0 1 1 0	1 1 1 0	11 11	0100
86-1	215	1110 1010	0000	1 0 1 1	1 1 0 1	1 1 1 1	0 1 1 1	1 1 1 0	11 00	1111
86-2	025	1110 1001	0110	0 1 1 1	1 1 0 1	1 1 1 0	1 1 1 1	1 1 1 1	11 11	1111
86-3	026	1110 1000	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	0 1 1 1	11 00	1111
86-4	027	1110 0111	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11	1111
86-5	030	0101 1011	0110	0 0 1 1	1 0 0 1	1 0 0 1	0 1 1 0	0 0 1 0	11 00	1111
87-1	217	1110 0101	0000	1 0 1 1	1 1 0 1	1 1 1 1	0 1 1 1	1 1 1 0	11 00	1111
87-2	032	1110 0100	0110	0 1 1 1	1 1 0 1	1 1 1 0	1 1 1 1	1 1 1 1	11 11	1111
87-3	033	1110 0611	0101	1 0 1 1	1 1 0 1	1 1 1 1	1 1 0 1	0 1 1 1	11 00	1111
87-4	034	1110 0010	0000	1 0 1 1	1 0 0 1	0 0 0 1	1 1 1 0	1 1 1 1	10 11	1111
87-5	035	1010 0011	0110	0 0 1 1	1 0 0 1	1 0 0 1	0 1 1 0	0 1 1 0	11 00	1111
881-1	166	1000 0101	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-2	172	1000 0100	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-3	173	1000 0011	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-4	174	1001 1011	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-5	144	1000 0001	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-6	176	1000 0000	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-7	177	1111 1001	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
881-8	006	1001 0010	1110	0 0 1 0	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-1	167	1111 0101	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-2	012	0110 1111	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-3	220	1110 1101	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-4	022	1110 1100	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-5	023	1110 1011	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-6	024	1110 0110	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-7	031	0010 0111	1110	0 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
882-8	330	1000 1100	1110	0 0 1 0	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 01	1111
88E-1	047	1111 1110	0101	1 0 1 1	1 0 1 1	1 0 1 1	1 0 0 0	1 1 1 1	11 00	1001
880-1	067	0001 1001	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
880-2	346	0010 1011	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
880-3	324	0001 1111	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
880-4	340	0000 1110	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111

K-MP-KDII-B-3

MICROPROGRAM BINARY LISTING REV. B

5-JUN-74

PAGE 7 OF 7

N A M	L O C	N X T	A L U	C F A R S U I N X	P S S D S P P I W 1 3 P	S S S B M P M B 0 0 1 T	B B S S A T P P R P P 2	C A T K E N O T S	A B L R G G	B U T	
SB0-5	361	1101	0111	0000	1 0 0 1	1 0 0	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
SB0-6	050	1110	1111	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
SB0-7	020	1101	0101	0000	1 0 0 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
SB0-8	052	1101	1000	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 10	1111
SC-1	116	1101	1111	0100	1 0 1 1	0 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	00 00	1100
T-1	021	0101	1010	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 0 1	1 1 1 1	10 11	1101
U1-1	352	1000	1101	0101	1 0 1 0	1 0 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1111
U2-1	353	1000	1100	0101	1 0 1 0	1 0 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1111
U3-1	354	1000	1011	0101	1 0 1 0	1 0 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1111
U4-1	355	1000	1010	0101	1 0 1 0	1 0 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1111
U5-1	373	1000	1100	0101	1 0 1 0	1 0 1 1	1 0 1 1	1 1 0 0	1 1 1 1	11 00	1111
URTR	064	0101	1010	0000	1 0 1 1	1 1 1 1	1 0 1 1	1 1 0 1	1 1 1 1	10 11	1101
URTX	060	0101	1010	0000	1 0 1 1	1 0 0 1	1 1 1 1	1 1 1 0	1 1 1 1	10 11	1101
W-1	063	1101	1111	0000	1 0 1 1	1 0 0 1	1 0 1 1	1 1 1 0	1 1 1 1	11 00	1100

EQUIPMENT
CORPORATION

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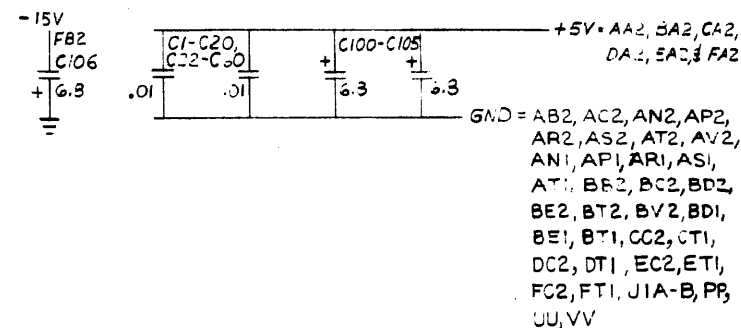
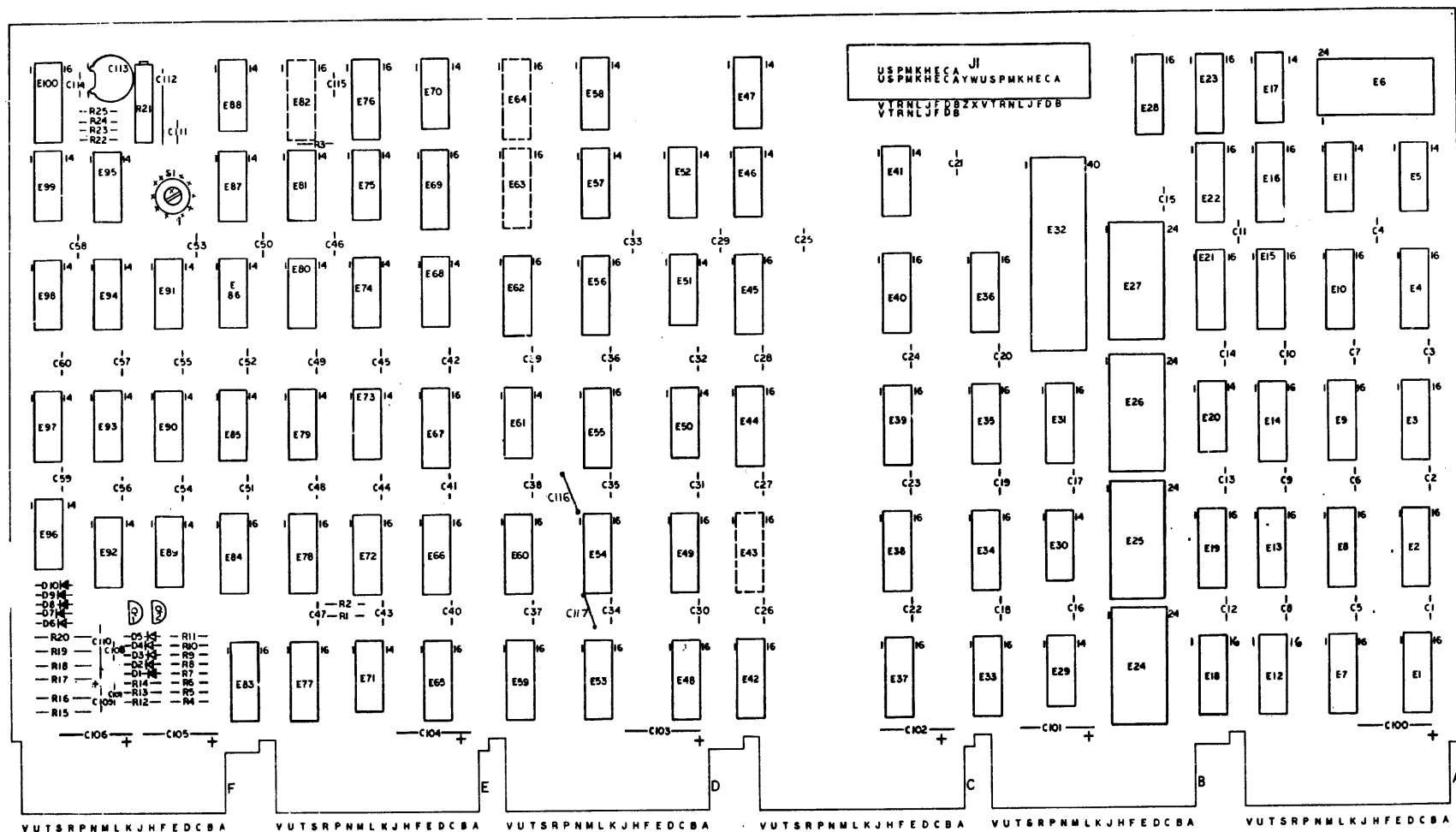
FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KD11-B			PARTS LIST		
DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK'D.	DATE				
ENG.	DATE				
PROJ. ENG.	DATE				
PROD.	DATE				
NEXT HIGHER ASSEMBLY		TITLE			
B-DD-KD11-B		MICROPROGRAM CROSS REFERENCE LISTING (KD11-B)			
SCALE <u>1/1</u>		SIZE	CODE	NUMBER	REV.
SHEET 1 OF 3		K	MP	KD11-B-4	
		DIST.			

PAGE REVISION CONTROL SHEET

[illegible]

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NOTES:

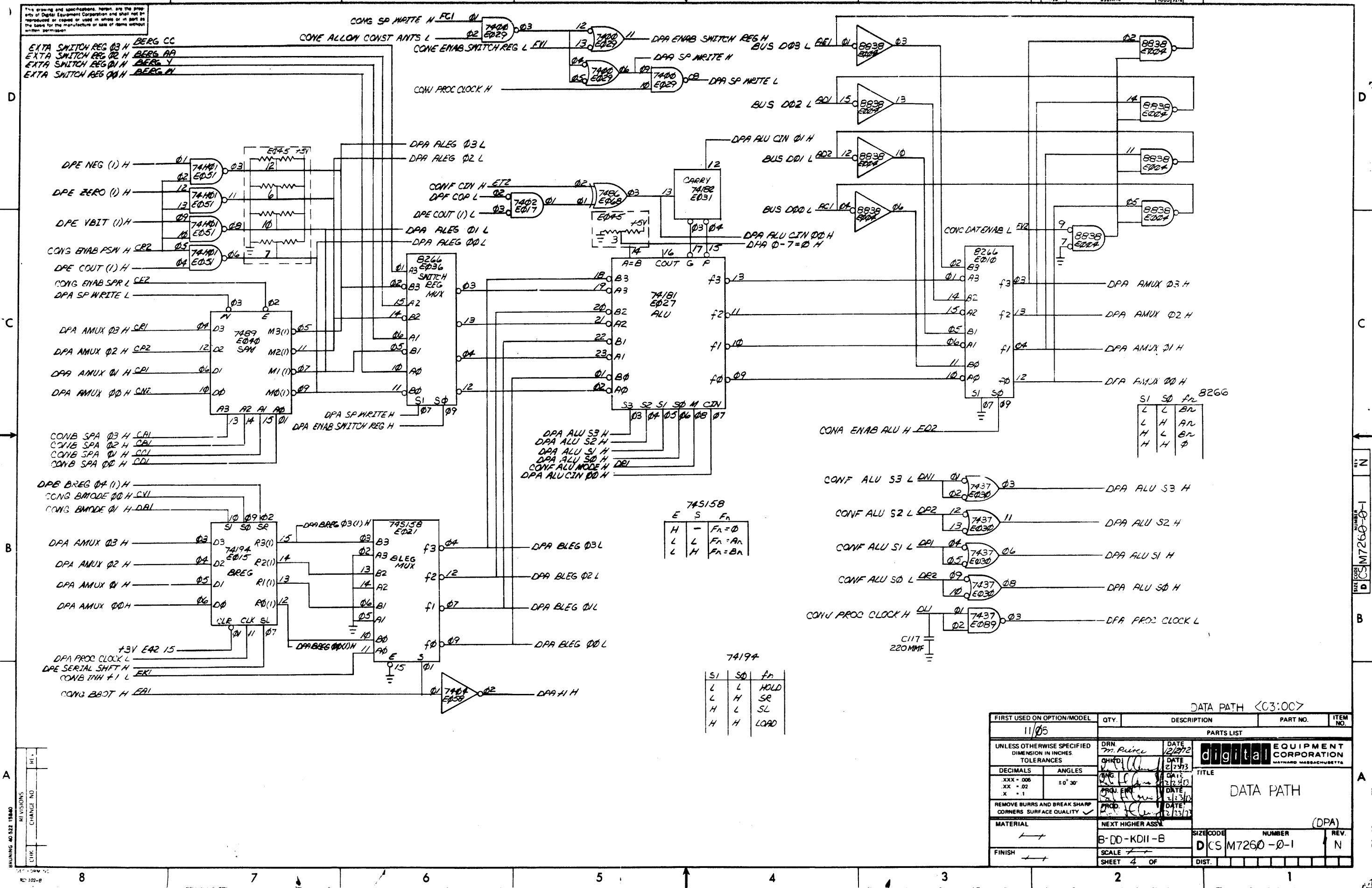


DEC 74174	8	16
DEC 74175	8	16
DEC 74199	8	16
DEC 1808	3	1
DEC 74182	8	16
DEC 74181	12	24
DEC 74157	8	16
DEC 74158	8	16
DEC 74153	8	16
DEC 74194	8	16
DEC 74150	12	24
DEC 8838	8	16
IC TYPE	GND	+5V

GND AND 5V ARE USUALLY PIN 7 AND 14
RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

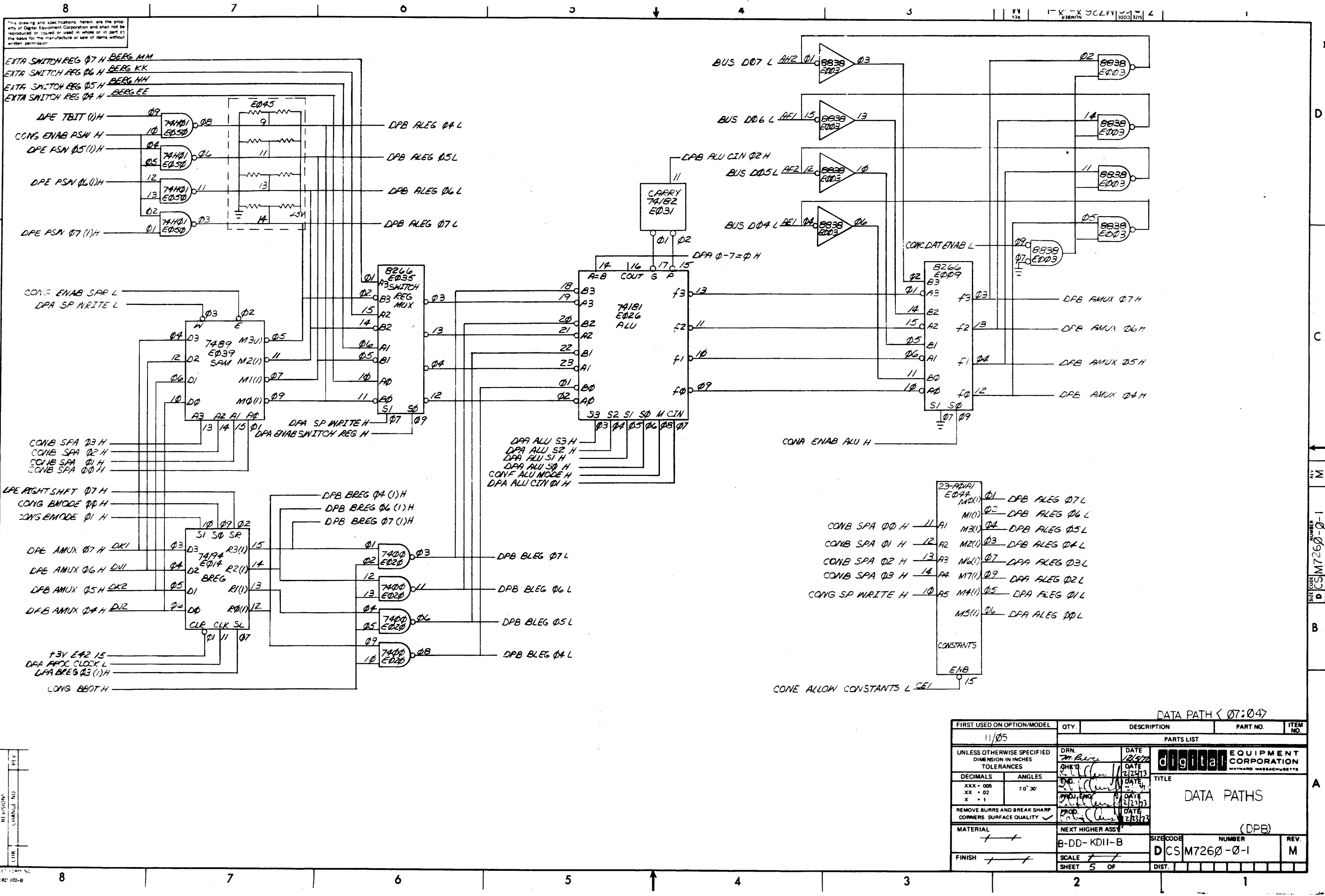
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
FIRST USED ON OPTION MODEL				
ETCH BOARD REV C				
PARTS LIST				
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
TITLE: DATA PATHS				
NEXT HIGHER ASSY: B-DD-KD11-B				
SCALE: 2 OF 2				
SHEET 2 OF 2				
SEMICONDUCTOR CONVERSION CHART				
DEC NO. EIA NO. DEC NO. EIA NO.				



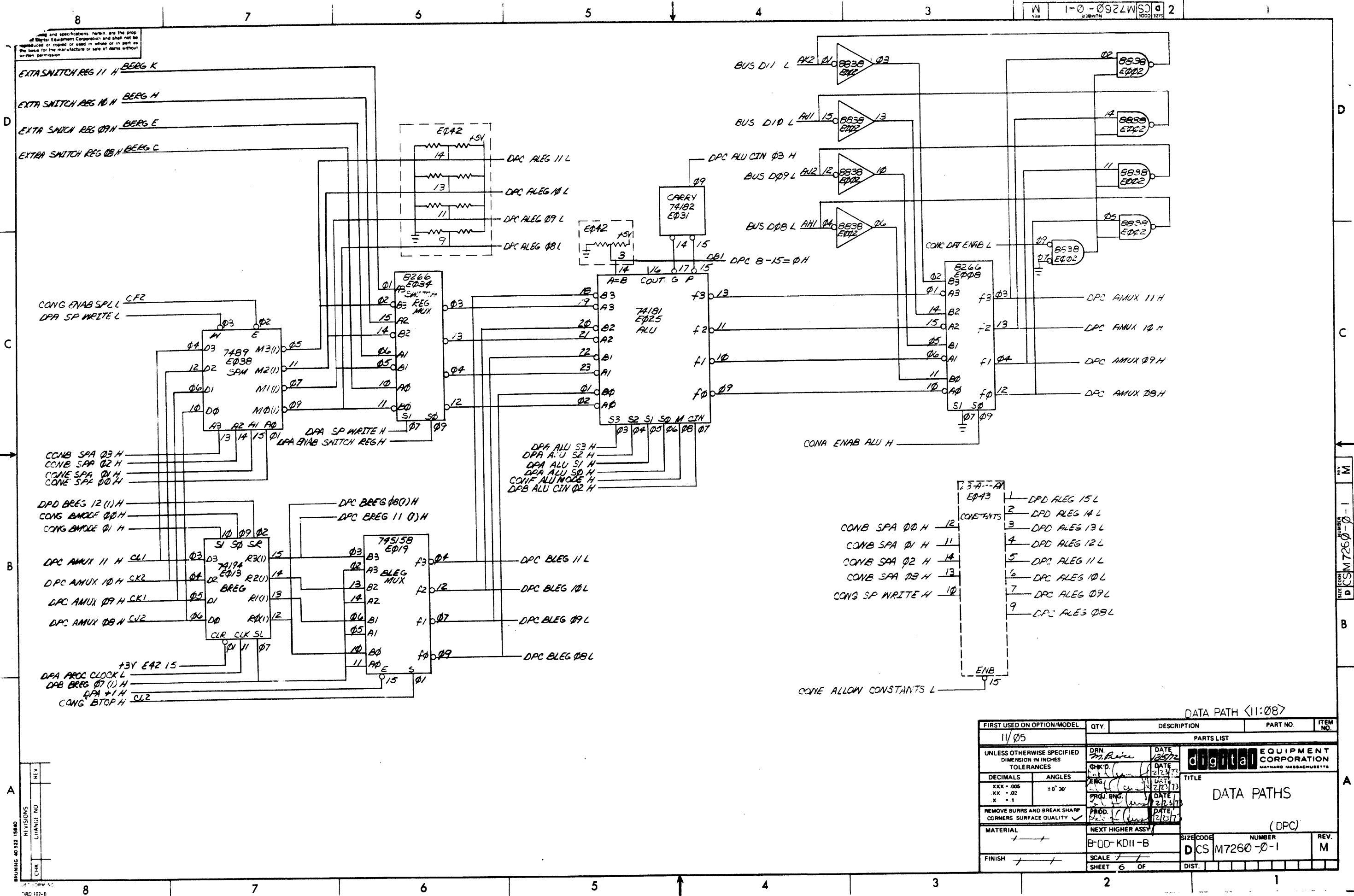
745158		
E	S	F _n
H	-	F _n = ∅
L	L	F _n = A _n
L	H	F _n = B _n

SI	SD	fn
L	L	HOLD
L	H	SR
H	L	SL
H	H	LOAD

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN M. RIVER	DATE 12/27/72	PARTS LIST	
DECIMALS		CHKD J. L. RIVER	DATE 2/23/73	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
ANGLES		INS. J. L. RIVER	DATE 2/23/73	TITLE	
XXX = .006 XX = .02 X = .1	± 0° 30'	PROJ. ENG. J. L. RIVER	DATE 11/3/73	DATA PATH	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD. J. L. RIVER	DATE 2/23/73		
MATERIAL		NEXT HIGHER ASSY.		(DPA)	
✓		B-DD-KD11-B		SIZE CODE	NUMBER
FINISH		SCALE		D/CS	M7260-0-1
✓		SHEET 4 OF		REV.	N
				DIST.	

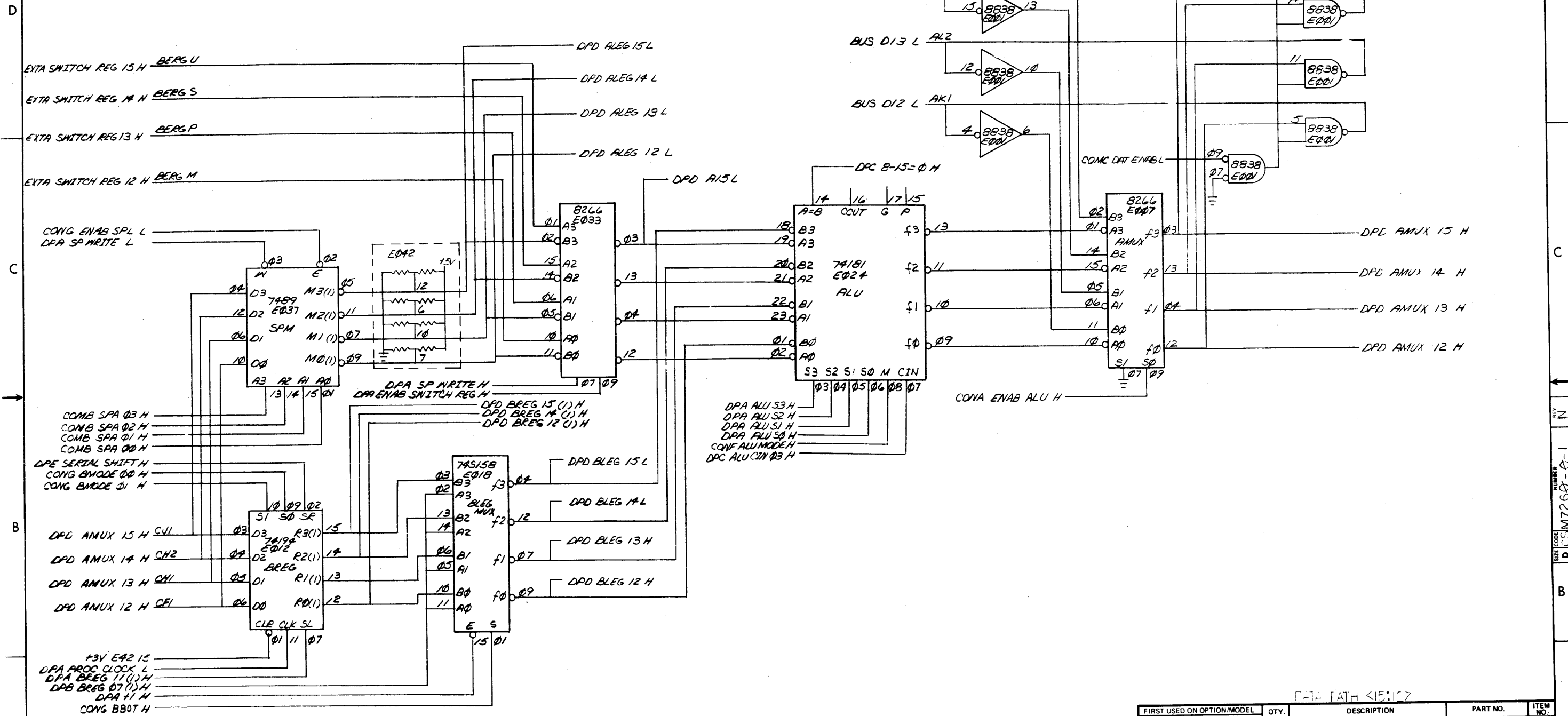


FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		CHK'D	DATE		
ANGLES		ENG.	DATE		
.XXX - .005 .XX - .02 .X - .1		PROD. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	TITLE DATA PATHS	
MATERIAL		NEXT HIGHER ASSY		(DPB)	
FINISH		B-DD-KD11-B		SIZE CODE	NUMBER
		SCALE		DCS M7260-0-1	REV. M
		SHEET 5 OF		DIST.	



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN. <i>M. Rowe</i>	DATE <i>12/27/72</i>	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
		CHK'D. <i>[Signature]</i>	DATE <i>2/23/73</i>		
DECIMALS	ANGLES	ENG. <i>[Signature]</i>	DATE <i>2/23/73</i>	TITLE DATA PATHS (DPC)	
.XXX - .005 .XX - .02 .X - .1	± 0° 30'	PROJ. ENG. <i>[Signature]</i>	DATE <i>2/23/73</i>		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD. <i>[Signature]</i>	DATE <i>12/27/72</i>		
MATERIAL + + +	NEXT HIGHER ASSY. B-00-KD11-B		SIZE CODE D CS	NUMBER M7260-0-1	REV. M
FINISH + + +	SCALE SHEET 6 OF		DIST.		

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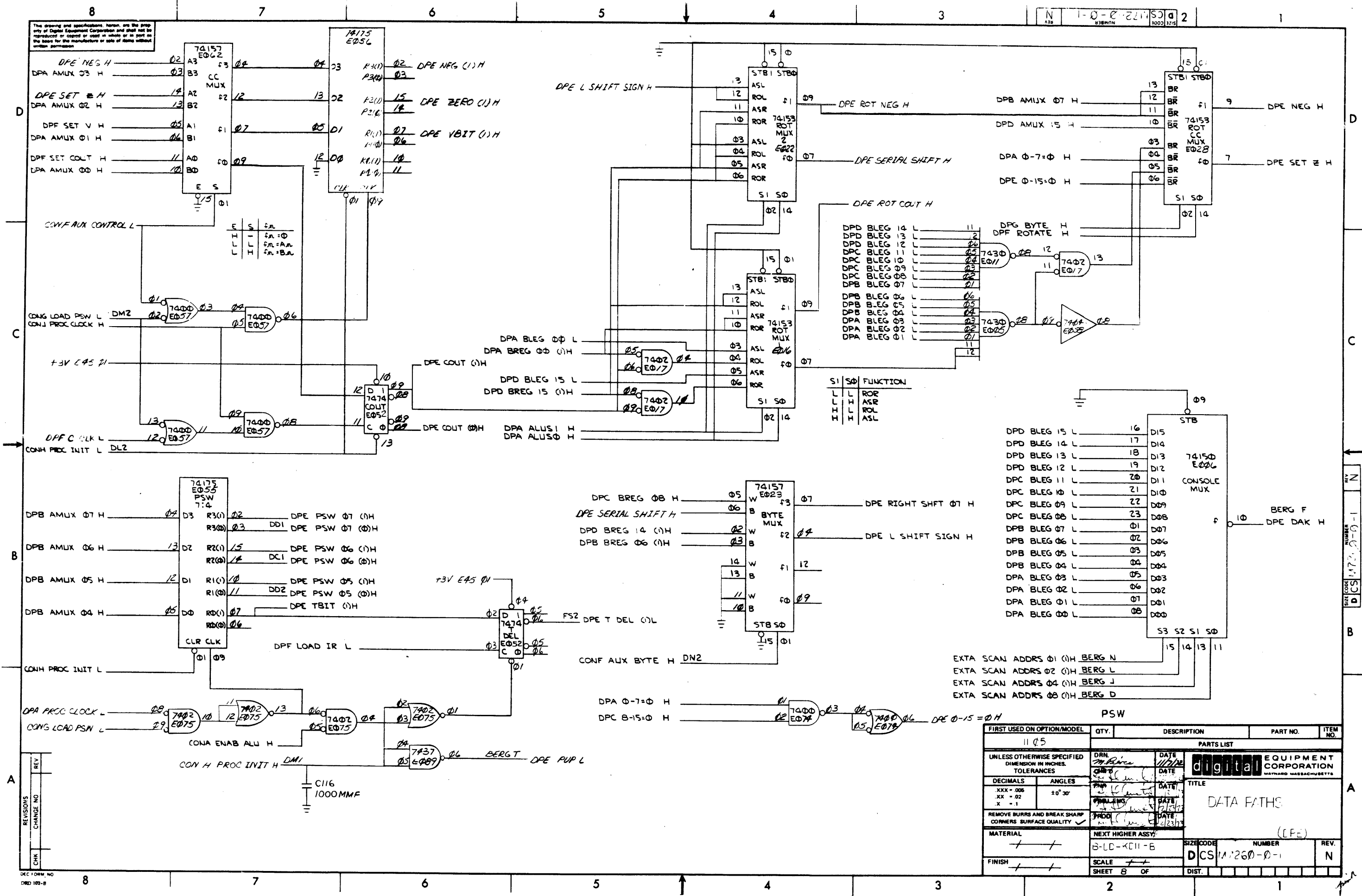
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS		CHK'D	DATE		
ANGLES		ENG.	DATE		
XXX ± .005		PROJ. ENG.	DATE		
XX ± .02		PROD.	DATE	DATA PATHS (DPD)	
X ± .1			DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY		SIZE CODE NUMBER REV.	
MATERIAL		B-DD-KDII-B		DCS M7260-0-1 N	
FINISH		SCALE		SHEET 7 OF DIST.	

REVISIONS
CHANGE NO.
CHK
REV

BRUNING 40 332 15840

7ND 102-B

REV
NUMBER
DCS M7260-0-1
B



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11 05					
UNLESS OTHERWISE SPECIFIED		DRN	DATE	PARTS LIST	
DIMENSION IN INCHES		DATE	DATE		
TOLERANCES		DATE	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		DATE	DATE		
ANGLES		DATE	DATE	TITLE	
XXX - .005		DATE	DATE		
.XX - .02		DATE	DATE	DATA PATHS	
X - .1		DATE	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	DATE	(LFE)	
MATERIAL		DATE	DATE		
NEXT HIGHER ASSY.		DATE	DATE	SIZE CODE	
B-LD-KCII-B		DATE	DATE		
FINISH		DATE	DATE	NUMBER	
SCALE		DATE	DATE		
SHEET 8 OF		DATE	DATE	REV.	
		DATE	DATE		



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION		PART NO.	ITEM NO.
11/05		PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN.	DATE	 DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS		
		<i>Dr. Rince</i>	<i>11/12</i>			
		PART	DATE			
		<i>Part 1</i>	<i>11/12</i>			
		ENG.	DATE			
DECIMALS	ANGLES	<i>Eng. 1</i>	<i>11/12</i>	TITLE DATA PATHS		
.XXX = .006	±0° 30'	MFG. ENG.	DATE			
.XX = .02		<i>Mfg. Eng. 1</i>	<i>11/12</i>			
.X = .1		PROD.	DATE			
<i>Prod. 1</i>	<i>11/12</i>					
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ☒		TITLE				
		DATA PATHS				
MATERIAL		NEXT HIGHER ASSY.		(DPG)		
<i>+</i> <i>+</i>		B-DD-KD11-E		SIZE CODE	NUMBER	REV.
FINISH		SCALE <i>++</i>		D CS	M7268-0-1	N
<i>+</i> <i>+</i>		SHEET 10 OF				
		DIST.				

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D

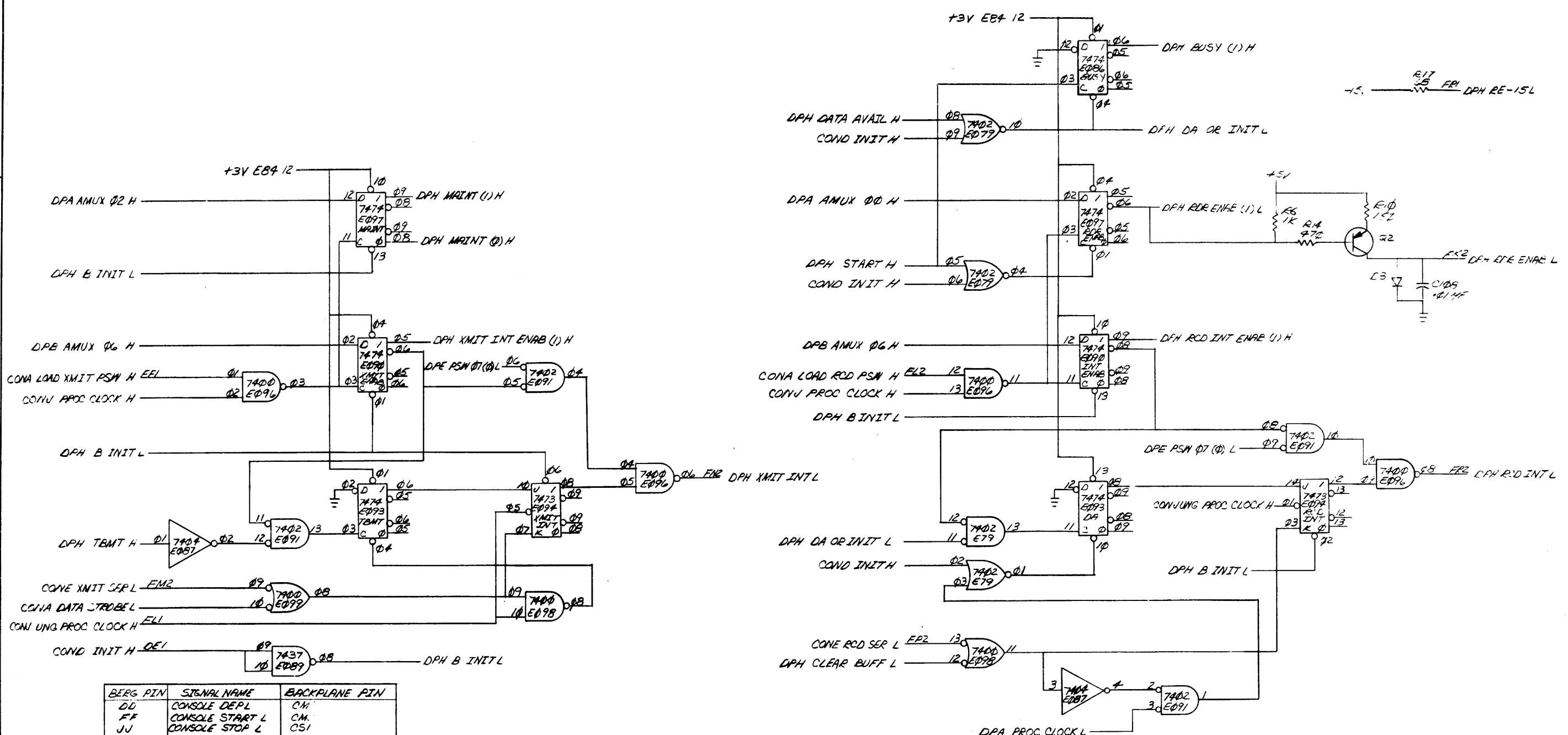
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B

A

REV	CHG	NO
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100		

BERG PIN	SIGNAL NAME	BACKPLANE PIN
DD	CONSOLE DEPL	CM
FF	CONSOLE START L	CM
JJ	CONSOLE STOP L	CS1
LL	CONSOLE CONT L	CS2
NN	CONSOLE EXAM L	CTR
RR	CONSOLE LOAD L	CUR
TT	CONSOLE RUN LAMP L	CUI



FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO.	ITEM NO.
11C					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		PARTS LIST			
DECIMALS	ANGLES	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
.XXX - .005	± 0° 30'	TITLE			
.XX - .02		DATA PATH			
.X - .1		(DPH1)			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.			
MATERIAL		B-TL-K11-B			
FINISH		SCALE			
		SHEET 12 OF			
		DIST.			
		SIZE CODE			
		NUMBER			
		REV.			
		N			

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THIS FACE SHEET CONTAINS THE FOLLOWING CHIP PART NUMBERS

PART NUMBER

- 23-AB1A1
- 23-AB2A1
- 23-AB3A1
- 23-AB4A1
- 23-AB5A1
- 23-AB6A1
- 23-AB8A1
- 23-A10A1
- 23-A11A1
- 23-A12A1
- 23-AB3A2

FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KDII-B					
PARTS LIST					
DRM.	C. Teschner	DATE	5-8-72	 DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
CHK'D.	M. Titell	DATE	5-15-72		
ENG.	M. Titell	DATE	5-15-72		
PRCJ. ENG.	M. Titell	DATE	5-15-72		
PROD.	R.H. Peterson	DATE	5/16/72		
NEXT HIGHER ASSEMBLY				TITLE	
B-DD-KDII-B				DATA PATH ROM PATTERNS	
SCALE		+ + +		SIZE CODE	
SHEET 1		OF 15		K RL M7260-0-8	
				REV.	


```

OCTAL ADDRESS 000 001 002 003 004 005 006 007 010 011 012 013 014 015 016 017 020 021 022 023 024 025 026 027 030 031 032 033 034 035 036 037
DECIMAL ADDRESS 0 1 2 3 4 5 6 7 10 11 12 13 14 15 16 17 20 21 22 23 24 25 26 27 30 31 32 33 34 35 36 37
EDCBA 00000 00001 00010 00011 00100 00101 00110 00111 01000 01001 01010 01011 01100 01101 01110 01111 10000 10001 10010 10011 10100 10101 10110 10111 11000 11001 11010 11011 11100 11101 11110 11111
DATA 1101111 1101111 1101111 1101101 1101011 1100101 1100011 1011101 1011000 1011000 1011001 1011011 1011011 1011011 1011011 1011011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011 1001011
OCTAL DATA 337 337 333 323 313 303 133 170 233 833 333 113 303 337 337 337 337 333 323 303 133 233 333 333 333 323 313 303 337 337 337
BR/CC (BRANCH OR CC OPERATOR)
BR/CC
BIC(B)
BIC(B)
CMP(B)
CMP(B)
ADD
SUB DIS ALU BITS H
MOV
MOV(B)
BIS(B)
BIS(B)
BIT(B)
BIT(B)
RI TRAP
RI TRAP
BR/CC
BR/CC
BIC(B)
CMP
CMP(B)
ADD
MOV
MOV(B)
BIS(B)
BIS(B)
BIT
BIT(B)
RI TRAP
RI TRAP

```

```

OCTAL ADDRESS 000 001 002 003 004 005 006 007 010 011 012 013 014 015 016 017 020 021 022 023 024 025 026 027 030 031 032 033 034 035 036 037
DECIMAL ADDRESS 0 1 2 3 4 5 6 7 10 11 12 13 14 15 16 17 20 21 22 23 24 25 26 27 30 31 32 33 34 35 36 37
EDCBA 00000 00001 00010 00011 00100 00101 00110 00111 01000 01001 01010 01011 01100 01101 01110 01111 10000 10001 10010 10011 10100 10101 10110 10111 11000 11001 11010 11011 11100 11101 11110 11111
DATA 1111111 1111111 1111111 1111111 1011011 1111011 1111011 1111011 1011011 1011011 1011011 1011011 1011011 1011011 1011011 1011011 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001 0000001
OCTAL DATA 377 377 377 366 365 363 345 349 267 067 363 077 001 377 377 377 377 377 377 377 377 377 377 377 377 377 377 377 377 377
SHAB DISAB V BIT ROM
ROR
ROR
ROL
ROL
ASL
ASL
CLR
CLR
INC
INC
DEC
DEC
BCD
BCD
BMI
BMI
BVS
BVS
NEG
NEG
SBC
SBC
TST
TST

```


DECIMAL ADDRESS	OCTAL ADDRESS	DATA
102	01000000	001
101	01000001	003
100	01000010	003
103	01000011	003
104	01000100	003
105	01000101	003
106	01000110	003
107	01000111	003
110	01001000	003
111	01001001	003
112	01001010	003
113	01001011	003
114	01001100	003
115	01001101	003
116	01001110	003
117	01001111	003
117	01001111	003
117	01001111	003
120	01010000	003
121	01010001	003
122	01010010	003
123	01010011	003
124	01010100	003
125	01010101	003
126	01010110	003
127	01010111	003
127	01010111	003
127	01010111	003
131	01011000	003
132	01011001	003
133	01011010	003
134	01011100	003
135	01011101	003
136	01011110	003
137	01011111	003

/(0Y4 (PIN # 9) CONF MPC 03 L
/(0Y3 (PIN #10) CONF MPC 02 L
/(0Y2 (PIN #11) CONF MPC 01 L
/(0Y1 (PIN #12) CONF MPC 04 L
OCTAL
DATA
BR (ALWAYS)
.....
BLT
.....

140	01100000	0101
141	01100001	0011
142	01100010	0101
143	01100011	0011
144	01100100	0101
145	01100101	0011
146	01100110	0101
147	01100111	0011
148	01101000	0101
149	01101001	0011
150	01101010	0101
151	01101011	0011
152	01101100	0101
153	01101101	0011
154	01101101	0011
155	01101110	0101
156	01101111	0011
157	01110000	0101
160	01110001	0011
161	01110001	0011
162	01110010	0101
163	01110011	0011
164	01110100	0101
165	01110101	0011
166	01110110	0101
167	01110111	0011
168	01111000	0101
169	01111001	0011
170	01111010	0101
171	01111011	0011
172	01111011	0011
173	01111011	0011
174	01111100	0101
175	01111101	0011
176	01111110	0101
177	01111111	0011

BEQ
.....
BLE
.....
/(A(PIN #05) IS DPE CC ZERO (1)H
/(B(PIN #06) IS DPE CC COUT (1)H
/(C(PIN #07) IS DPE CC NEG (1)H
/(D(PIN #04) IS DPE CC VBIT (1)H
/(E(PIN #03) IS DPF IR 10 (1)H
/(F(PIN #02) IS DPF IR 09 (1)H
/(G(PIN #01) IS DPF IR 08 (1)H
/(H(PIN #15) IS DPF IR 15 (1)H

OCTAL ADDRESS	DECIMAL ADDRESS	HEXEDCBA
300	192	11000000
301	193	11000001
302	194	11000001
303	195	11000010
304	196	11000011
305	197	11000010
306	198	11000011
307	199	11000111
310	200	11001000
311	201	11001001
312	202	11001010
313	203	11001011
314	204	11001100
315	205	11001101
316	206	11001110
317	207	11001111
320	208	11010000
321	209	11010001
322	210	11010010
323	211	11010011
324	212	11010100
325	213	11010101
326	214	11010110
327	215	11010111
330	216	11011000
331	217	11011001
332	218	11011010
333	219	11011011
334	220	11011100
335	221	11011101
336	222	11011110
337	223	11011111

BM1 *****

BVS *****

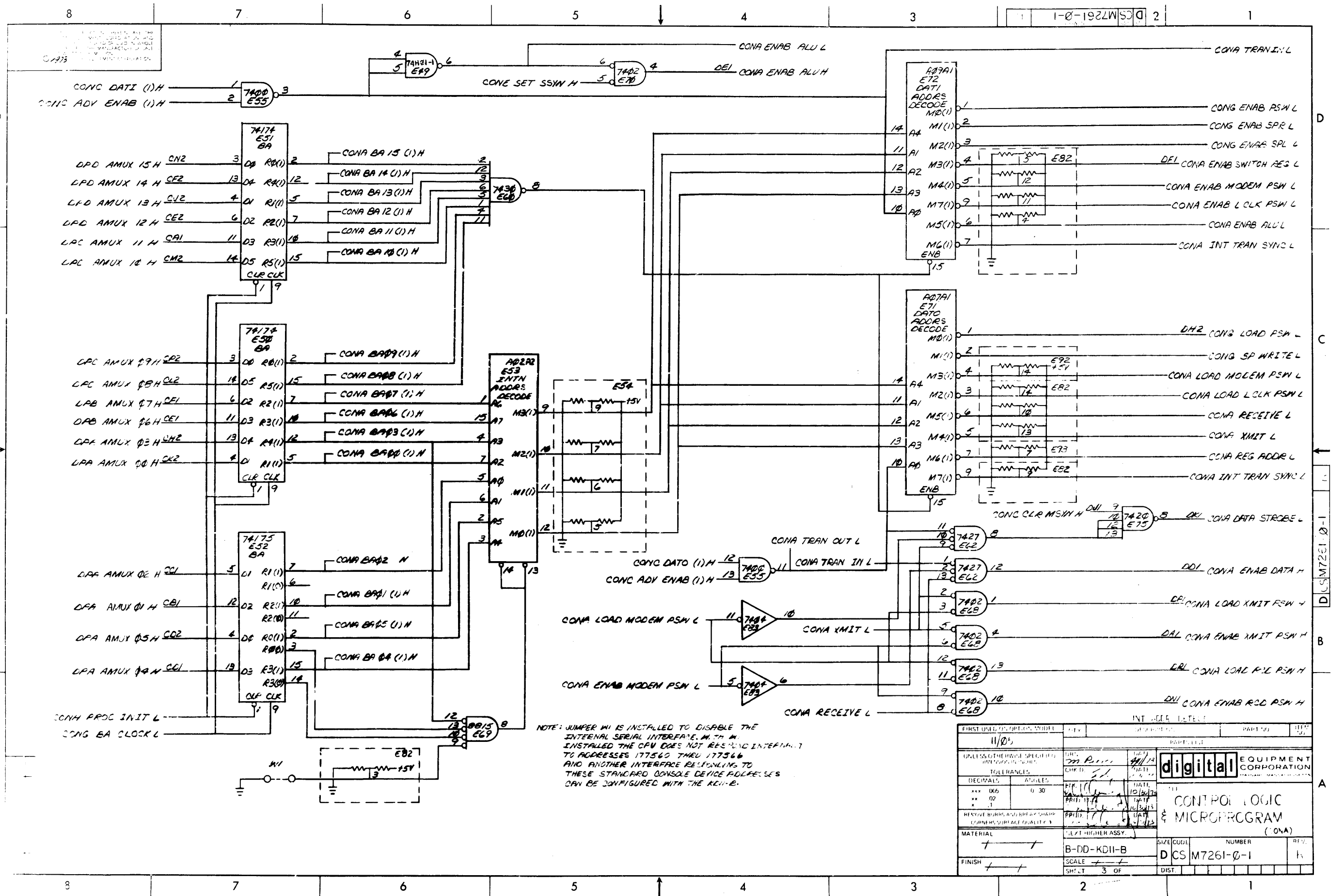
/(BVS (PIN # 9) CONF MPC 03 L
*/(BVS (PIN #10) CONF MPC 02 L
*/(BVS (PIN #11) CONF MPC 01 L
*/(BVS (PIN #12) CONF MPC 04 L
*/
OCTAL
DATA

340	224	11100000	0101	005
341	225	11100001	0011	003
342	226	11100010	0011	003
343	227	11100011	0011	003
344	228	11100100	0101	005
345	229	11100101	0011	003
346	230	11100110	0011	003
347	231	11100111	0011	003
350	232	11101000	0101	005
351	233	11101001	0011	003
352	234	11101010	0011	003
353	235	11101011	0011	003
354	236	11101100	0101	005
355	237	11101101	0011	003
356	238	11101110	0011	003
357	239	11101111	0011	003
360	240	11110000	0101	005
361	241	11110001	0101	005
362	242	11110010	0011	003
363	243	11110011	0011	003
364	244	11110100	0101	005
365	245	11110101	0011	003
366	246	11110110	0011	003
367	247	11110111	0011	003
370	248	11111000	0101	005
371	249	11111001	0011	003
372	250	11111010	0011	003
373	251	11111011	0011	003
374	252	11111100	0101	005
375	253	11111101	0101	005
376	254	11111110	0011	003
377	255	11111111	0011	003

BLOS *****

BCS *****

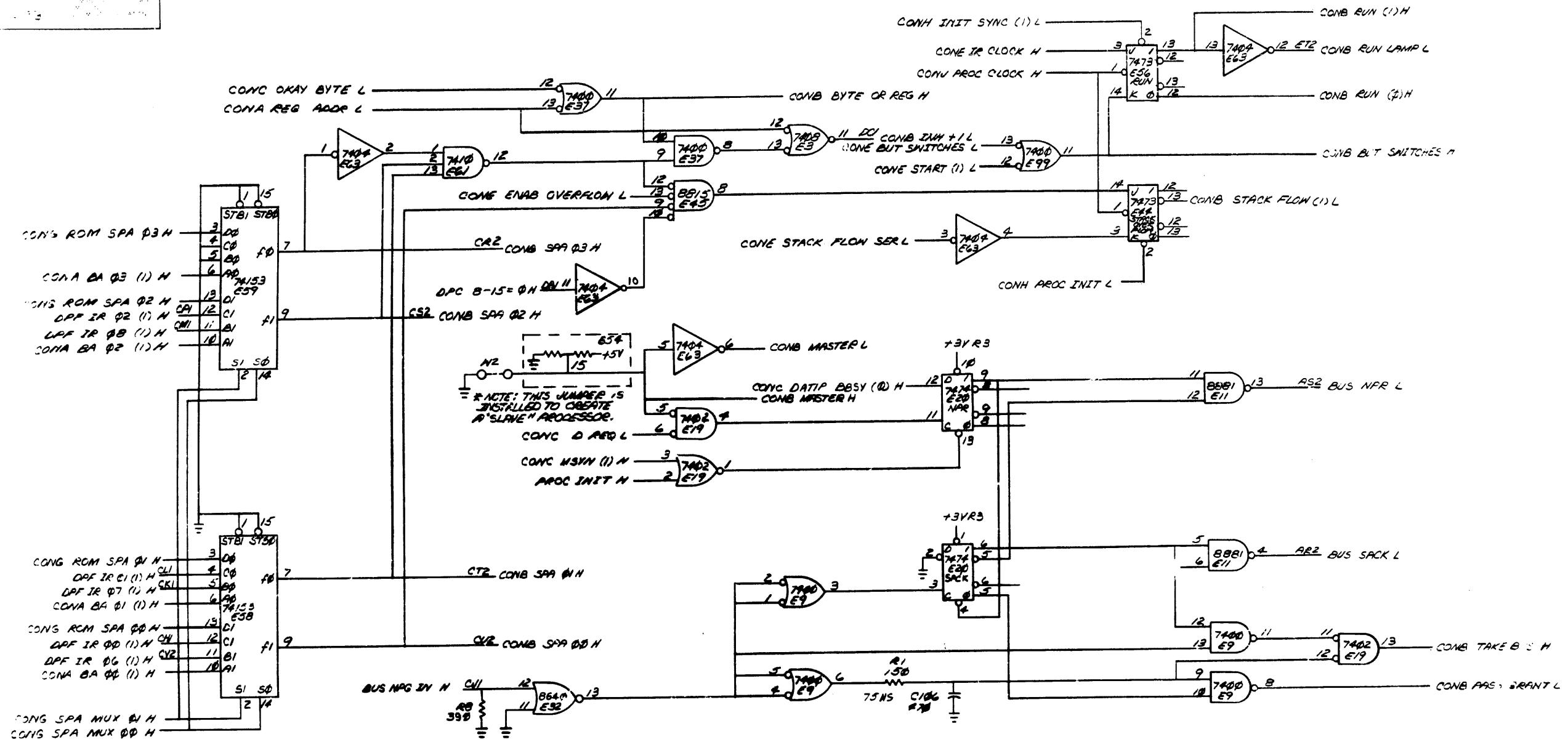
/(A (PIN #05) IS DPE CC ZERO (1)H
*/(B (PIN #06) IS DPE CC COUT (1)H
*/(C (PIN #07) IS DPE CC NEG (1)H
*/(D (PIN #04) IS DPE CC VBIT (1)H
*/(E (PIN #03) IS DPF IR 10 (1)H
*/(F (PIN #02) IS DPF IR 09 (1)H
*/(G (PIN #01) IS DPF IR 08 (1)H
/(H (PIN #15) IS DPF IR 15 (1)H



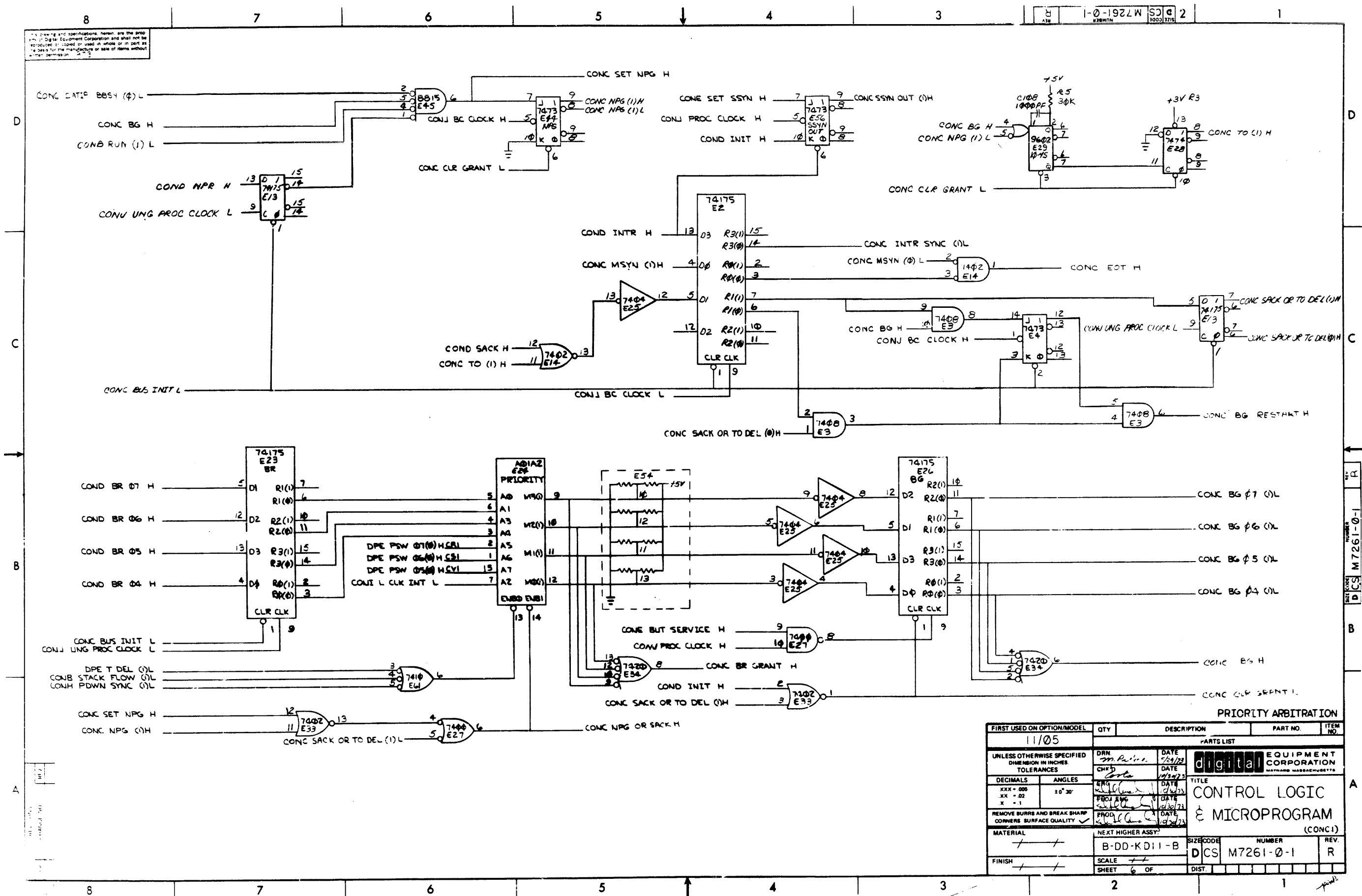
FIRST USED FOR MODEL		REV	DATE	PART NO.	REV
11/85					
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.		DATE	11/85	DATE	11/85
TOLERANCES		DATE	11/85	DATE	11/85
DECIMALS	FRACTIONS	DATE	11/85	DATE	11/85
XXX .005	0/30	DATE	11/85	DATE	11/85
XX .02		DATE	11/85	DATE	11/85
X .1		DATE	11/85	DATE	11/85
REMOVE BURRS AND BREAK SHARP CORNERS TO IMPROVE QUALITY		DATE	11/85	DATE	11/85
MATERIAL		DATE	11/85	DATE	11/85
+ + +		DATE	11/85	DATE	11/85
FINISH		DATE	11/85	DATE	11/85
+ + +		DATE	11/85	DATE	11/85

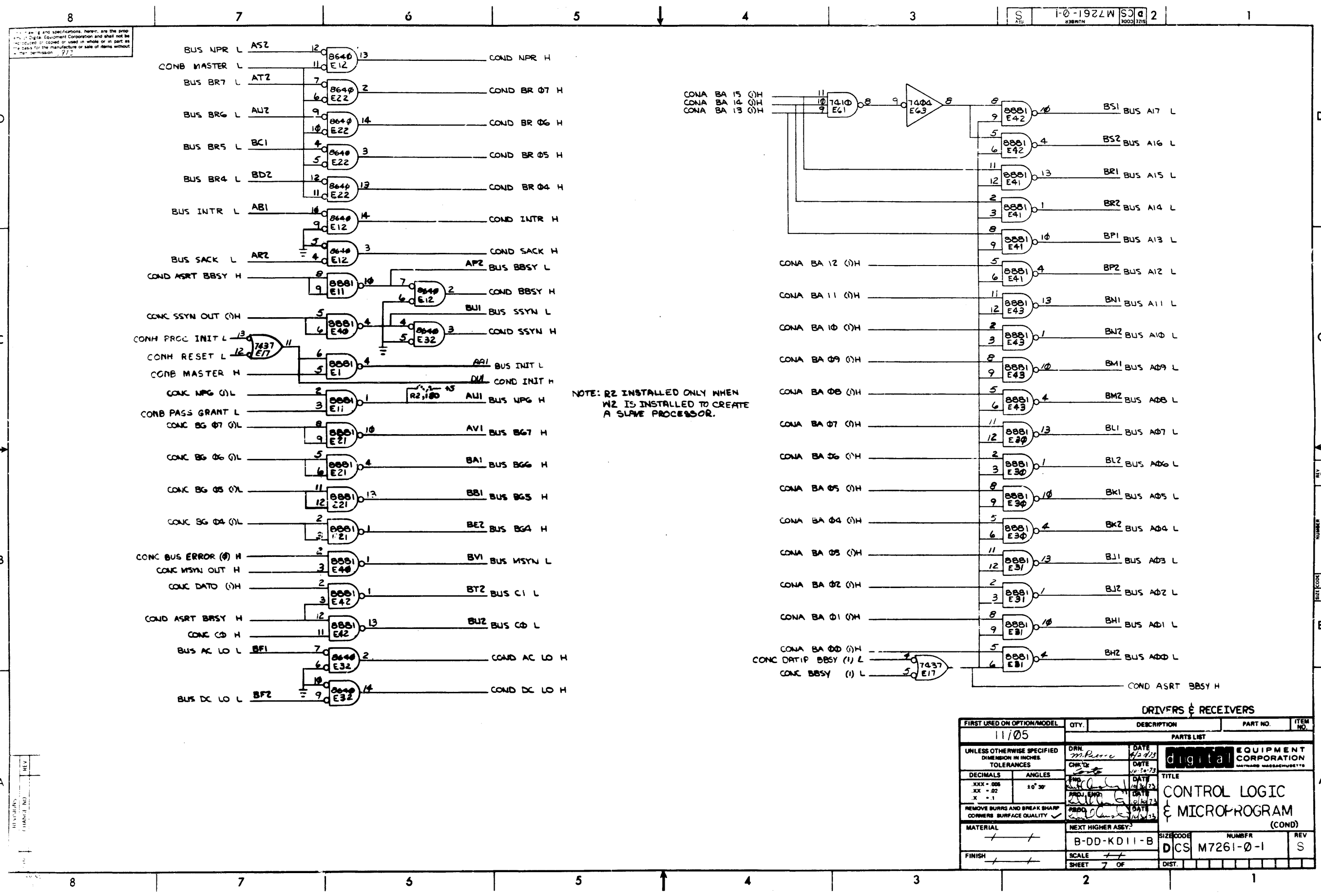
digital EQUIPMENT CORPORATION
CONTROL LOGIC & MICROPROGRAM (CONA)

SIZE CODE NUMBER
B-DD-KDII-B
D CS M7261-0-1
SCALE 3 OF
SHEET 3 OF



FIRST USED ON OPTION MODEL		QTY	DESCRIPTION	PART NO	ITEM NO
11/05					
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES		DATE	DATE	digital EQUIPMENT CORPORATION	
TOLERANCES		CHK D	DATE		
DECIMALS	ANGLES			TITLE	
xxx .005	0 .30				
xx .02				CONTROL LOGIC & MICROPROGRAM (CONB)	
.x .1					
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY V		DATE	DATE	SIZE CON- NUMBER REV.	
MATERIAL		DATE	DATE		
NEXT HIGHER ASSY				B-DD-KDII-B	
FINISH					
SCALE				D/CS M7261-0-1	
SHEET 4 OF					



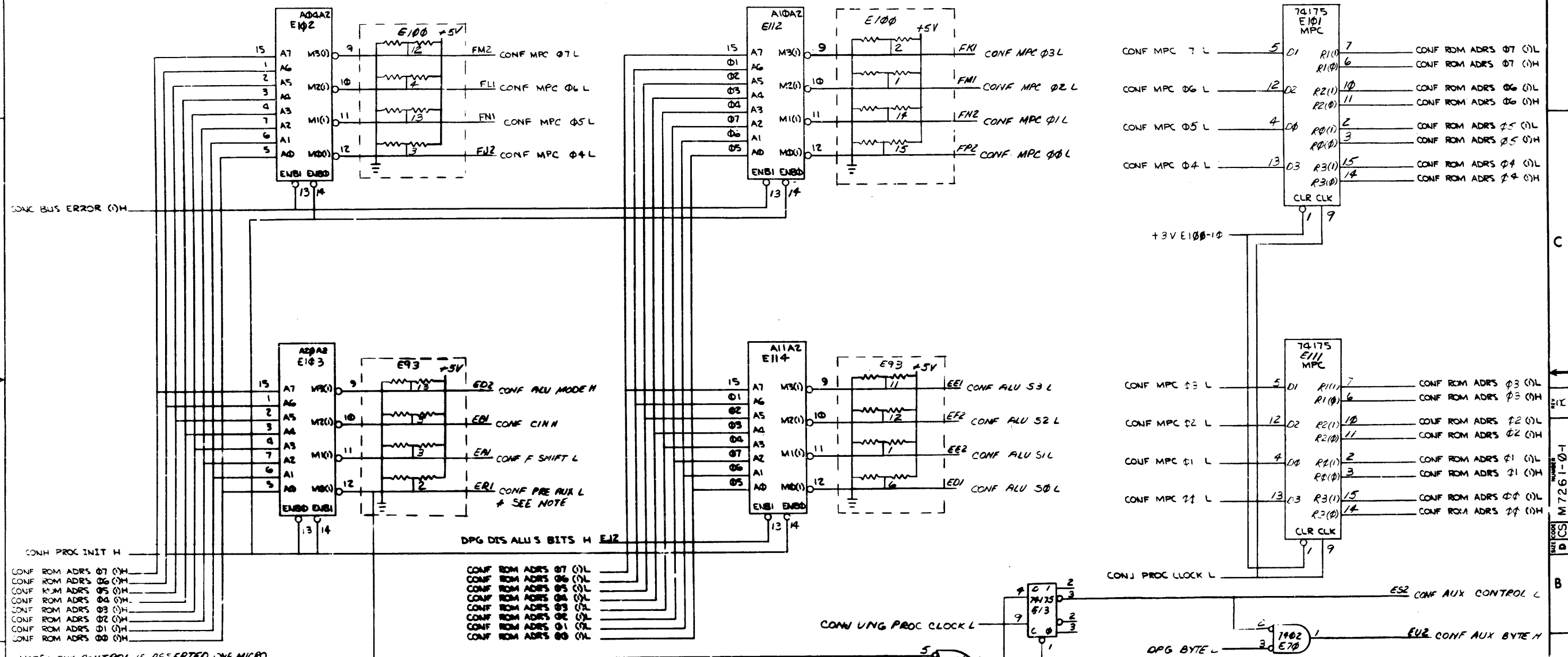


NOTE: R2 IS INSTALLED ONLY WHEN
W2 IS INSTALLED TO CREATE
A SLAVE PROCESSOR.

DRIVERS & RECEIVERS

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES		DATE 6/24/73	digital EQUIPMENT CORPORATION MILFORD, MASSACHUSETTS	
DECIMALS	ANGLES	DATE 6/24/73	TITLE CONTROL LOGIC & MICRO-PROGRAM (COND)	
.XXX - .008	± 0° 30'	DATE 6/24/73	SIZE CODE DCS M7261-0-1	
.XX - .02		DATE 6/24/73	NUMBR S	
.X - .1		DATE 6/24/73	REV	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 6/24/73	DIST.	
MATERIAL		NEXT HIGHER ASSEMBLY	SCALE	
FINISH		B-DD-KD11-B	SHEET 7 OF	

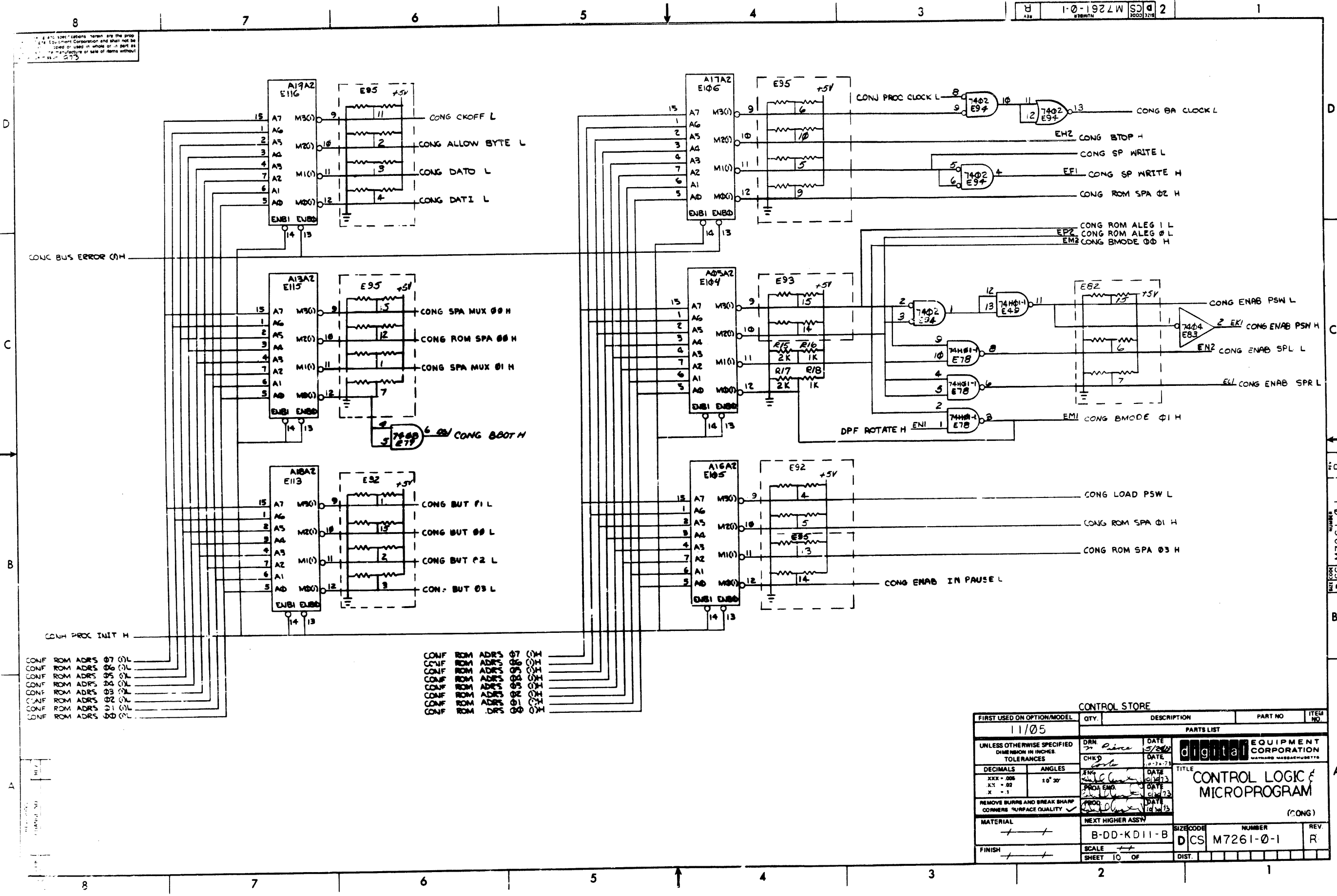
1. All dimensions and specifications herein are the property of Digital Equipment Corporation and shall not be reproduced, copied or used in whole or in part as part of any other design without the written permission of Digital Equipment Corporation.



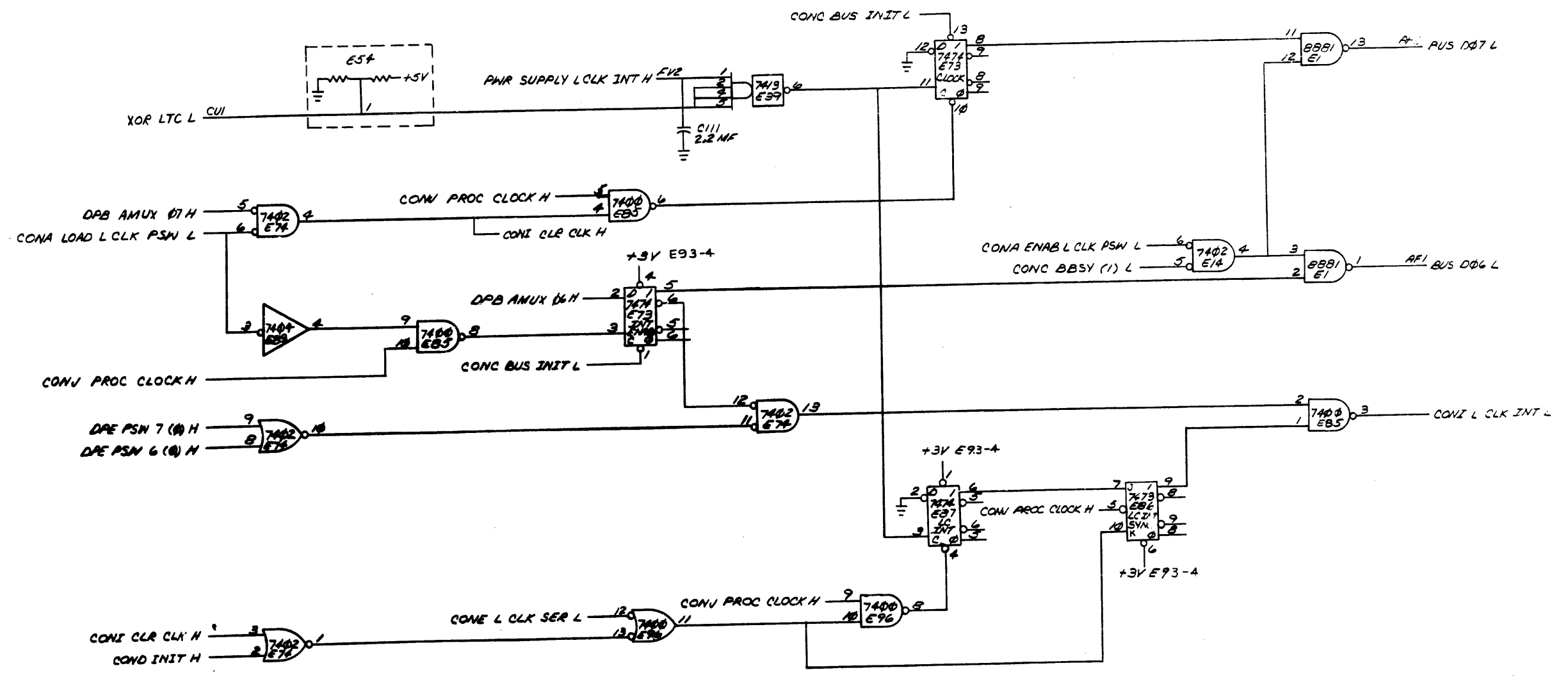
NOTE: AUX CONTROL IS ASSERTED ONE MICROSTEP EARLIER THAN IN TECH REV C AND E. THIS PIN (E103 PIN 12) CONNECTS TO ROM 23-A10A1 ON THE M7260 MODULE WHICH PREVIOUSLY CONNECTED TO CONF CKOFF L. THIS ETCH REV DOES NOT EVER SHUT ITS CLOCK OFF TO PERFORM AN AUX CONTROL.

MICRO PC			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
11/05			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		TOLERANCES	
DECIMALS	ANGLES		
XXX - .005	±0° 30'		
XX - .02			
X - .1			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY			
MATERIAL		NEXT HIGHER ASSY.	
FINISH		SCALE	
		SHEET 2 OF	
		DIST.	
		REV.	

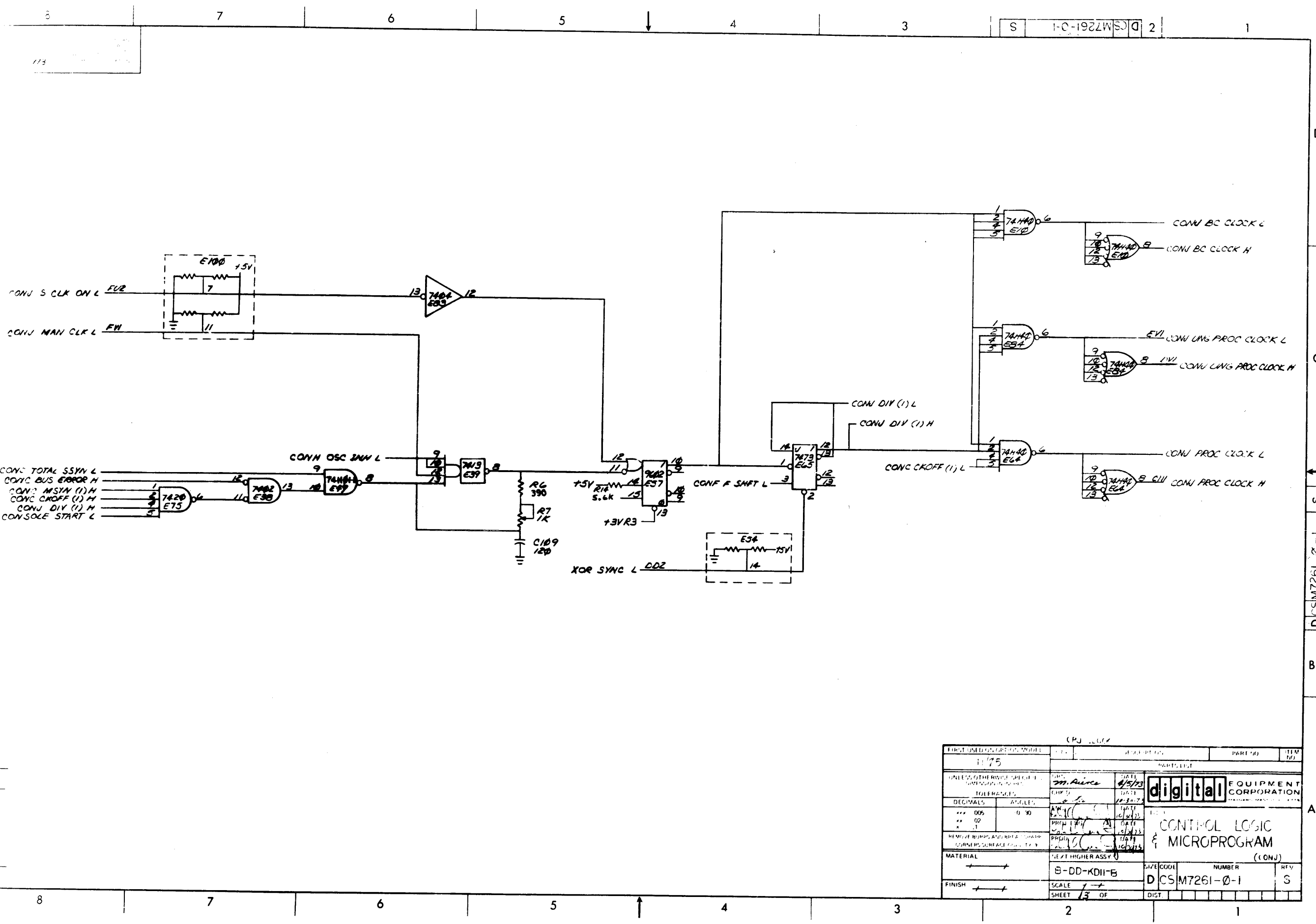
digital EQUIPMENT CORPORATION			
TITLE			
CONTROL LOGIC & MICROPROGRAM (CONF)			
SIZE CODE	NUMBER	REV.	
D/CS	M7261-0-1	R	



CONTROL STORE			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO. ITEM NO.
11/05			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES. TOLERANCES	DRN CHKD	DATE DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
DECIMALS ANGLES	REV PROJ ENG	DATE DATE	TITLE CONTROL LOGIC & MICROPROGRAM (CONJ)
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD	DATE	
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER
FINISH	B-DD-KD11-B	SCALE	REV.
	SHEET 10 OF	DIST.	



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		DRN. M. R. R. 11/05	DATE 11/05	PARTS LIST	
TOLERANCES		CHK'D.	DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	ENG.	DATE	TITLE	
.XXX - .005	.0 30'	DRP.	DATE	CONTROL LOGIC & MICROPROGRAM	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1		PROD.	DATE	(CONT)	
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH		B-DD-KD11-B		DCS M7261-0-1	REV. S
SCALE		SHEET 12 OF 14		DIST.	



FIRST USED (DATE) MODEL		PART NO		REV
1175		B-DD-KDII-B		S
UNLESS OTHERWISE SPECIFIED		TOLERANCES		
DECIMALS	ANGLES	UNLESS OTHERWISE SPECIFIED		
0.005	0.00	UNLESS OTHERWISE SPECIFIED		
0.02	0.01	UNLESS OTHERWISE SPECIFIED		
0.1	0.05	UNLESS OTHERWISE SPECIFIED		
REMOVE BUMP, ANGLE, AND CORNERS SURFACE FINISH		TEXT HIGHER ASSY		
MATERIAL		TEXT HIGHER ASSY		
FINISH		TEXT HIGHER ASSY		
SCALE		TEXT HIGHER ASSY		
SHEET		TEXT HIGHER ASSY		
OF		TEXT HIGHER ASSY		
1		TEXT HIGHER ASSY		
2		TEXT HIGHER ASSY		
3		TEXT HIGHER ASSY		
4		TEXT HIGHER ASSY		
5		TEXT HIGHER ASSY		
6		TEXT HIGHER ASSY		
7		TEXT HIGHER ASSY		
8		TEXT HIGHER ASSY		

digital EQUIPMENT CORPORATION

CONTROL LOGIC & MICROPROGRAM

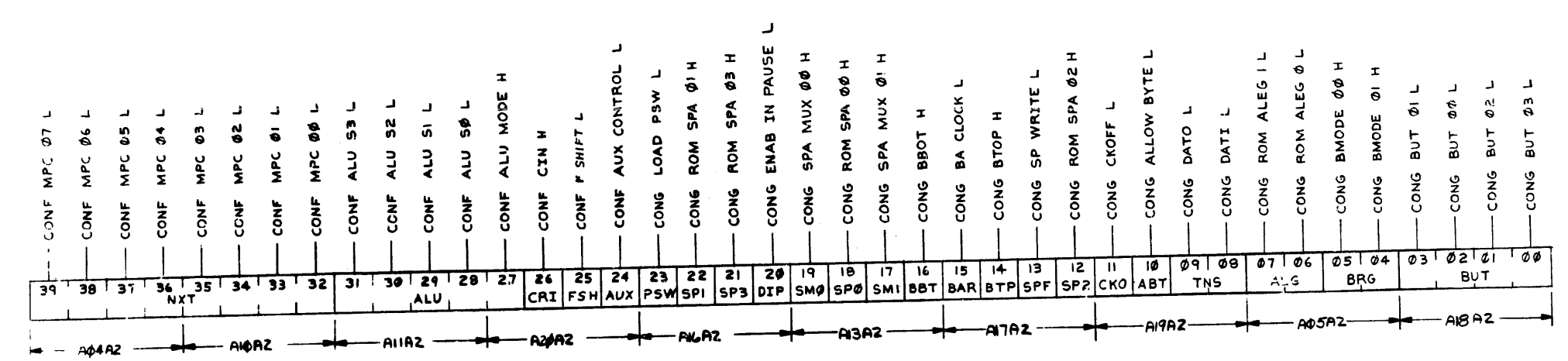
((CONJ))

SIZE CODE NUMBER REV

DCS M7261-0-1 S

SHEET 13 OF 13

ALL DIMENSIONS ARE THE PROPERTY OF THE CORPORATION AND SHALL NOT BE USED IN WHOLE OR IN PART AS A BASIS FOR THE DESIGN OR CONSTRUCTION OF ANY OTHER EQUIPMENT WITHOUT THE WRITTEN PERMISSION OF THE CORPORATION.



	31	30	29	28	27
AL	L	L	L	L	H
AA	L	L	L	L	L
AB	L	L	L	L	L
AB	L	L	L	L	L
0	L	L	L	L	L
A OR B	L	L	L	L	L
BL	L	L	L	L	L
A PLUS B	L	L	L	L	L
A XOR B	L	L	L	L	L
A-B	L	L	L	L	L
B	L	L	L	L	L
-I	L	L	L	L	L
A-I	L	L	L	L	L
A	L	L	L	L	L
ASL	L	L	L	L	L
ROL	L	L	L	L	L
ASR	L	L	L	L	L
ROR	L	L	L	L	L

26 CRI	23 PSW	14 BTP	10 ABT	05 04 BRG	03 02 01 00 BUT
OFF ON	H L	H L	H L	H L	H L
25 FSH	20 DIP	13 SPF	09 08 TNS	LOAD SLEFT SRIGHT HOLD	NON JMP/JSR IR DECODE BYTE CONST DEST MOV INTR INIT UNARY SWITCHES NON MOD SERVICE SSYNC ENOVFLO IR CLK
OFF ON	H L	H L	H L	H L	H L
24 AUX	19 SM0 17 SMI	15 BAR	11 CKO	07 06 ALG	
OFF ON	H L	H L	H L	H L	
	19 SM0 17 SMI	15 BAR	11 CKO	07 06 ALG	
	H L	H L	H L	H L	
	ROM IRS IRD BA				
	H L				

FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO	ITEM NO
11/05					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		PARTS LIST			
DECIMALS ANGLES		digital EQUIPMENT CORPORATION			
XX - 006		TITLE			
XX - 02		CONTROL LOGIC & MICROPROGRAM			
X - 1		REMOVED BURNS AND BREAK SHARP CORNERS SURFACE QUALITY			
MATERIAL		NEXT HIGHER ASSY			
FINISH		SCALE			
		SHEET 1A OF			
		DIST			

A07A1 27-JUL-72

23-A07A1

ROM LISTING 47261-8 REV. A

OCTAL DECIMAL
ADDRESS ADDRESS

EDCBA

OCTAL

DATA

000	0	00000	11111111	377
001	1	00001	11111111	377
002	2	00010	11111111	377
003	3	00011	11111111	377
004	4	00100	01111110	176
005	5	00101	11111111	377
006	6	00110	01111011	173
007	7	00111	11111111	377
010	8	01000	00111101	075
011	9	01001	10111111	277
012	10	01010	01111111	177
013	11	01011	11111111	377
014	12	01100	11111111	377
015	13	01101	11111111	377
016	14	01110	01111111	177
017	15	01111	11111111	377
020	16	10000	01010111	127
021	17	10001	11011111	337
022	18	10010	01100111	147
023	19	10011	11101111	357
024	20	10100	01011111	137
025	21	10101	11011111	337
026	22	10110	01101111	157
027	23	10111	11101111	357
030	24	11000	11111111	377
031	25	11001	11111111	377
032	26	11010	11111111	377
033	27	11011	11111111	377
034	28	11100	11111111	377
035	29	11101	11111111	377
036	30	11110	11111111	377
037	31	11111	11111111	377

****/(A(PIN #10) IS CONA TRAN OUT L
****/(B(PIN #11) IS Y3 OF F025
****/(C(PIN #12) IS Y2 OF F025
****/(D(PIN #13) IS Y1 OF F025
****/(E(PIN #14) IS Y4 OF F025

PSW ,TRAN OUT BA=177776
PSW ,TRAN OUT, BAR
LCLK ,TRANOUT
LCLK ,TRANOUT, BAR
GR<R0|R17> ,TRANOUT RA=1777XX
GR<R0|R17> ,TRANOUT, BAR
ODD BYTE (LCLK/TK/TP)

SWR ,TRANOUT BA=177590
SWR ,TRANOUT, BAR
TKS ,TRANOUT BA=177560
TKS ,TRANOUT, BAR
TPB ,TRANOUT BA=177564
TPB ,TRANOUT, BAR
TKB ,TRANOUT BA=177562
TKB ,TRANOUT, BAR
TPB ,TRANOUT BA=177566
TPB ,TRANOUT, BAR

4 OF 8
3

```

      /I =Y8 (PIN #9) CONA ENAB L CLK PSW L
      /I =Y7 (PIN #7) CONA INT TRAN SYNC L
      **/I =Y6 (PIN #6) CONA ENAB ALU L
      ***I =Y5 (PIN #5) CONA ENAB MODEM PSW L
      ****/I =Y4 (PIN #4) CONA ENAB SWITCH REG L
      *****/I =Y3 (PIN #3) CONG ENAB SPL L
      *****/I =Y2 (PIN #2) CONG ENAB SPR L
      *****/I =Y1 (PIN #1) CONG ENAB PSW L
      *****
      *****
      OCTAL      DECIMAL
      ADDRESS    ADDRESS    ZOCBA
000            0          00000 11111111 377
001            1          00001 11111111 377
002            2          00010 11111111 377
003            3          00011 11111111 377
004            4          00100 10011110 236
005            5          00101 11111111 377
006            6          00110 00111111 077
007            7          00111 11111111 377
010            8          01000 10011001 231
011            9          01001 11111111 377
012           10          01010 10111111 277
013           11          01011 11111111 377
014           12          01100 11111111 377
015           13          01101 11111111 377
016           14          01110 10010111 227
017           15          01111 11111111 377
020           16          10000 10001111 217
021           17          10001 11111111 377
022           18          10010 10001111 217
023           19          10011 11111111 377
024           20          10100 10011111 237
025           21          10101 11111111 377
026           22          10110 10011111 237
027           23          10111 11111111 377
030           24          11000 11111111 377
031           25          11001 11111111 377
032           26          11010 11111111 377
033           27          11011 11111111 377
034           28          11100 11111111 377
035           29          11101 11111111 377
036           30          11110 11111111 377
037           31          11111 11111111 377
      *****
      *****/( A(PIN #10) IS CONA TRAN IN L
      ***/( B(PIN #11) IS Y3 OF F025
      **/( C(PIN #12) IS Y2 OF F025
      */( D(PIN #13) IS Y1 OF F025
      /( E(PIN #14) IS Y4 OF F025
  
```

```

      PSW ,TRANIN BA=177776
      PSW ,TRANIN,BAR
      LCLK ,TRANIN BA=177546
      LCLK ,TRANIN,BAR
      GEN REG ,TRANIN BA=1777XX
      GEN REG ,TRANIN,BAR
      ODD BYTE ADDRESS (LCLK7TK/TP)

      SWR ,TRANIN BA=177570
      SWR ,TRANIN,BAR
      TKS ,TRANIN BA=177560
      TKS ,TRANIN,BAR
      TPS ,TRANIN BA=177564
      TPS ,TRANIN,BAR
      TKB ,TRANIN BA=177562
      TKB ,TRANIN,BAR
      TPB ,TRANIN BA=177566
      TPB ,TRANIN,BAR
  
```

A13A1

27-JUL-72

S-A13A1

ROM LISTING #7261-8 REV.A

```
/( #Y8 (PIN #9)
//(#Y7 (PIN #7) CONE LINE CLOCK SER L
//(#Y6 (PIN #6) CONE STACK FLOW L
//(#Y5 (PIN #5) CONE PWR FAIL SER L
//(#Y4 (PIN #4) CONE RCD SER L
//(#Y3 (PIN #3) CONE XMIT SER L
//(#Y2 (PIN #2)
//(#Y1 (PIN #1)
```

OCTAL ADDRESS	DECIMAL ADDRESS	EOCBA	OCTAL DATA
000	0	00000	1111111
001	1	00001	1111111
002	2	00010	1111111
003	3	00011	1111111
004	4	00100	1111111
005	5	00101	1111111
006	6	00110	1111111
007	7	00111	1111111
010	8	01000	1111111
011	9	01001	1111111
012	10	01010	1111011
013	11	01011	1111111
014	12	01100	1111111
015	13	01101	1111111
016	14	01110	1111011
017	15	01111	1111111
020	16	10000	1111111
021	17	10001	1111111
022	18	10010	1101111
023	19	10011	1111111
024	20	10100	1110111
025	21	10101	1111111
026	22	10110	1011111
027	23	10111	1111111
030	24	11000	1111111
031	25	11001	1111111
032	26	11010	1111111
033	27	11011	1111111
034	28	11100	1111111
035	29	11101	1111111
036	30	11110	1111111
037	31	11111	1111111

UART RCD INT MPC=64

UART XMIT INT MPC=60

ERT=1A STACK FLOW MPC=46

PWR FAIL MPC=43

LINE CLK INT MPC=42

```
////( A(PIN #10) IS CONN RUN GND L
//(# B(PIN #11) IS CONF MPC 00 L
//(# C(PIN #12) IS CONF MPC 02 L
//(# D(PIN #13) IS CONF MPC 01 L
//(# E(PIN #14) IS CONF MPC 04 L
```

```

    /I =Y8 (PIN #8) CONF MPC 05 L
    0/I =Y7 (PIN #7) CONF EXAM SW L
    00/I =Y6 (PIN #6) CONF DEP SW L
    000/I =Y5 (PIN #5) CONF MPC 00 L
    0000/I =Y4 (PIN #4) CONF MPC 04 L
    00000/I =Y3 (PIN #3) CONF MPC 01 L
    000000/I =Y2 (PIN #2) CONF MPC 02 L
    0000000/I =Y1 (PIN #1) CONF MPC 03 L
    00000000

OCTAL DECIMAL
ADDRESS ADDRESS EDCBA DATA
000 0 00000 1111000 370 CONTINUE
001 1 00001 1111011 373 TWO SW =CONT,DEP
002 2 00010 1111011 373 TWO SW EXAM,CONT
003 3 00011 1111011 373 TWO SW LOAD,CONT
004 4 00100 1111011 373 NO SW
005 5 00101 11001010 312 DEP SW1 GOTO 313
006 6 00110 10101000 256 EXAM GOTO TO 317
007 7 00111 11101110 356 LOAD GOTO TO 311
010 8 01000 1111000 370 CONT=CLR EXAM
011 9 01001 1111011 373 TWO SW =CONT,DEP
012 10 01010 11101011 353 TWO SW EXAM,CONT
013 11 01011 11101011 353 TWO SW LOAD,CONT
014 12 01100 10111011 273 NO SW 1ST EXAM
015 13 01101 11001010 312 DEP SW1
016 14 01110 10101100 254 EXAM AND 1ST EXAM 323
017 15 01111 11101110 356 LOAD GOTO 311
020 16 10000 1111000 370 CONT=CLR DEP
021 17 10001 1111011 373 TWO SW =CONT,DEP
022 18 10010 1111011 373 TWO SW EXAM,CONT
023 19 10011 11011011 333 TWO SW LOAD,CONT
024 20 10100 11011011 333 NO SW 1ST DEP
025 21 10101 11011010 332 DEP SW2 GOTO 312
026 22 10110 10101000 256 EXAM,1ST DEP 317
027 23 10111 11101110 356 LOAD GOTO 311
030 24 11000 00000100 004
031 25 11001 00000000 000
032 26 11010 00000000 000
033 27 11011 00000000 000
034 28 11100 00000000 000
035 29 11101 00000000 000
036 30 11110 00000000 000
037 31 11111 00000000 000
    *****
    00000/I A(PIN #10) IS CONE LOAD (1)L ,AND, DEP (1)L ,BAR
    00000/I B(PIN #11) IS CONE LOAD (1)L ,AND, EXAM (1)L ,BAR
    00000/I C(PIN #12) IS CONE CONT (1)L
    00000/I D(PIN #13) IS CONE 1ST EXAM (1)L
    00000/I E(PIN #14) IS CONE 1ST DEP (1)L
  
```


7063

ROM LISTING M7261-8 REV.A

27 JUL 72 25001A2

HEX ADDRESS	DECIMAL ADDRESS	HEX DATA
100	64	00000000
101	65	00000000
102	66	00000010
103	67	00000011
104	68	00000100
105	69	00000101
106	70	00000110
107	71	00000111
110	72	00001000
111	73	00001001
112	74	00001010
113	75	00001011
114	76	00001100
115	77	00001101
116	78	00001110
117	79	00001111
120	80	00010000
121	81	00010001
122	82	00010010
123	83	00010011
124	84	00010100
125	85	00010101
126	86	00010110
127	87	00010111
130	88	00011000
131	89	00011001
132	90	00011010
133	91	00011011
134	92	00011100
135	93	00011101
136	94	00011110
137	95	00011111

```
/( BY4 (PIN # 9) CONC SET 00 07 L
*/( BY8 (PIN #10) CONC SET 00 06 L
*/( BY2 (PIN #11) CONC SET 00 05 L
*/( BY1 (PIN #12) CONC SET 00 04 L
****
DATA
00000000
00000001
00000010
00000011
00000100
00000101
00000110
00000111
00001000
00001001
00001010
00001011
00001100
00001101
00001110
00001111
00010000
00010001
00010010
00010011
00010100
00010101
00010110
00010111
00011000
00011001
00011010
00011011
00011100
00011101
00011110
00011111
```

M7261-8 REV A

7063

HEX ADDRESS	DECIMAL ADDRESS	HEX DATA
140	96	01100000
141	97	01100001
142	98	01100010
143	99	01100011
144	100	01100100
145	101	01100101
146	102	01100110
147	103	01100111
150	104	01101000
151	105	01101001
152	106	01101010
153	107	01101011
154	108	01101100
155	109	01101101
156	110	01101110
157	111	01101111
160	112	01110000
161	113	01110001
162	114	01110010
163	115	01110011
164	116	01110100
165	117	01110101
166	118	01110110
167	119	01110111
170	120	01111000
171	121	01111001
172	122	01111010
173	123	01111011
174	124	01111100
175	125	01111101
176	126	01111110
177	127	01111111

```
/( A(PIN #05) IS CONC BR 07 (1)L
*/( B(PIN #06) IS CONC BR 06 (1)L
*/( C(PIN #07) IS CONC LCLK INT L
*/( D(PIN #08) IS CONC BR 05 (1)L
*/( E(PIN #09) IS CONC BR 04 (1)L
*/( F(PIN #02) IS DPE PSW 07 (0)H
*/( G(PIN #01) IS DPE PSW 06 (0)H
/( H(PIN #15) IS DPE PSW 05 (0)H
```

LCLK
LCLK
LCLK

/(0V4 (PIN 0 0) CONC SET 00 07 L
/(0V8 (PIN 00) CONC SET 00 06 L
/(0V2 (PIN 01) CONC SET 00 05 L
/(0V1 (PIN 018) CONC SET 00 04 L

DATA

HEFEDCBA

OCTAL ADDRESS

200	1000000	0111	007
201	1000000	1111	017
202	1000001	0111	007
203	1000010	1111	017
204	1000011	0111	007
205	1000100	1111	017
206	1000101	0111	007
207	1000110	1111	017
208	1000111	0111	007
209	1001000	1111	017
210	1001001	0111	007
211	1001010	1111	017
212	1001011	0111	007
213	1001100	1111	017
214	1001101	0111	007
215	1001110	1111	017
216	1001111	0111	007
217	1001000	1111	017
218	1001001	0111	007
219	1001010	1111	017
220	1001011	0111	007
221	1001100	1111	017
222	1001101	0111	007
223	1001110	1111	017
224	1001111	0111	007
225	1001000	1111	017
226	1001001	0111	007
227	1001010	1111	017
228	1001011	0111	007
229	1001100	1111	017
230	1001101	0111	007
231	1001110	1111	017
232	1001111	0111	007
233	1001000	1111	017
234	1001001	0111	007
235	1001010	1111	017
236	1001011	0111	007
237	1001100	1111	017

240	1010000	0111	007	LCLK
241	1010001	1011	013	
242	1010010	0111	007	
243	1010011	1111	017	
244	1010010	0111	007	
245	1010011	1011	013	
246	1010010	0111	007	
247	1010011	1101	019	
250	1010100	1111	007	
251	1010101	1011	013	
252	1010101	0111	007	
253	1010101	1111	017	
254	1010110	0111	007	
255	1010110	1011	013	
256	1010111	0111	007	
257	1010111	1110	014	
260	1011000	0111	007	
261	1011001	1011	013	
262	1011001	0111	007	
263	1011001	1111	017	
264	1011010	0111	007	
265	1011010	1011	013	
266	1011011	0111	007	
267	1011011	1101	015	
270	1011100	0111	007	
271	1011101	1011	013	
272	1011101	0111	007	
273	1011101	1111	017	
274	1011100	0111	007	
275	1011101	1011	013	
276	1011110	0111	007	
277	1011111	1111	017	
168	1010000	0111	007	
169	1010001	1011	013	
170	1010010	0111	007	
171	1010011	1111	017	
172	1010101	0111	007	
173	1010110	1011	013	
174	1010110	0111	007	
175	1010111	1110	014	
176	1011000	0111	007	
177	1011001	1011	013	
178	1011001	0111	007	
179	1011001	1111	017	
180	1011010	0111	007	
181	1011010	1011	013	
182	1011011	0111	007	
183	1011011	1101	015	
184	1011100	0111	007	
185	1011101	1011	013	
186	1011101	0111	007	
187	1011101	1111	017	
188	1011100	0111	007	
189	1011101	1011	013	
190	1011110	0111	007	
191	1011111	1111	017	

/(A(PIN #03) IS CONC BR 07 (1) L
/(C(PIN #06) IS CONC BR 06 (1) L
/(D(PIN #04) IS CONC BR 05 (1) L
/(E(PIN #03) IS CONC BR 04 (1) L
/(F(PIN #02) IS OPE PSW 07 (0) H
/(G(PIN #01) IS OPE PSW 06 (0) H
/(H(PIN #15) IS OPE PSW 05 (0) H

CTAL ADDRESS	DECIMAL ADDRESS	HEX DATA	ASSEMBLY
200	128	00000000	MPICDBA
201	129	00000001	
202	130	00000001	
203	131	00000010	
204	132	00000011	
205	133	00000100	
206	134	00000101	
207	135	00000110	
210	136	00000111	
211	137	00000001	
212	138	00000000	
213	139	00000101	
214	140	00000101	
215	141	00000110	
216	142	00000110	
217	143	00000111	
218	144	00000000	
219	145	00000001	
220	146	00000001	
221	147	00000010	
222	148	00000011	
223	149	00000100	
224	150	00000101	
225	151	00000110	
226	152	00000111	
227	153	00000000	
228	154	00000001	
229	155	00000010	
230	156	00000011	
231	157	00000100	
232	158	00000101	
233	159	00000110	
234	160	00000111	
235	161	00000000	
236	162	00000001	
237	163	00000010	

```

/( BY4 (PIN # 9) CONF MPC 04 L
/( BY8 (PIN #10) CONF MPC 01 L
/( BY2 (PIN #11) CONF MPC 02 L
/( BY1 (PIN #12) CONF MPC 00 L
****
DATA
001 011 STKFL
002 012 PHRF
003 013 LCLK
004 014 STKFL
005 015 PHRF
006 016 STKFL
007 017 RCD
008 018 STKFL
009 019 PHRF
010 020 STKFL
011 021 LCLK
012 022 PHRF
013 023 STKFL
014 024 RCD
015 025 STKFL
016 026 PHRF
017 027 STKFL
018 028 LCLK
019 029 PHRF
020 030 STKFL
021 031 XMIT
022 032 STKFL
023 033 PHRF
024 034 STKFL
025 035 LCLK
026 036 PHRF
027 037 STKFL
028 038 XMIT

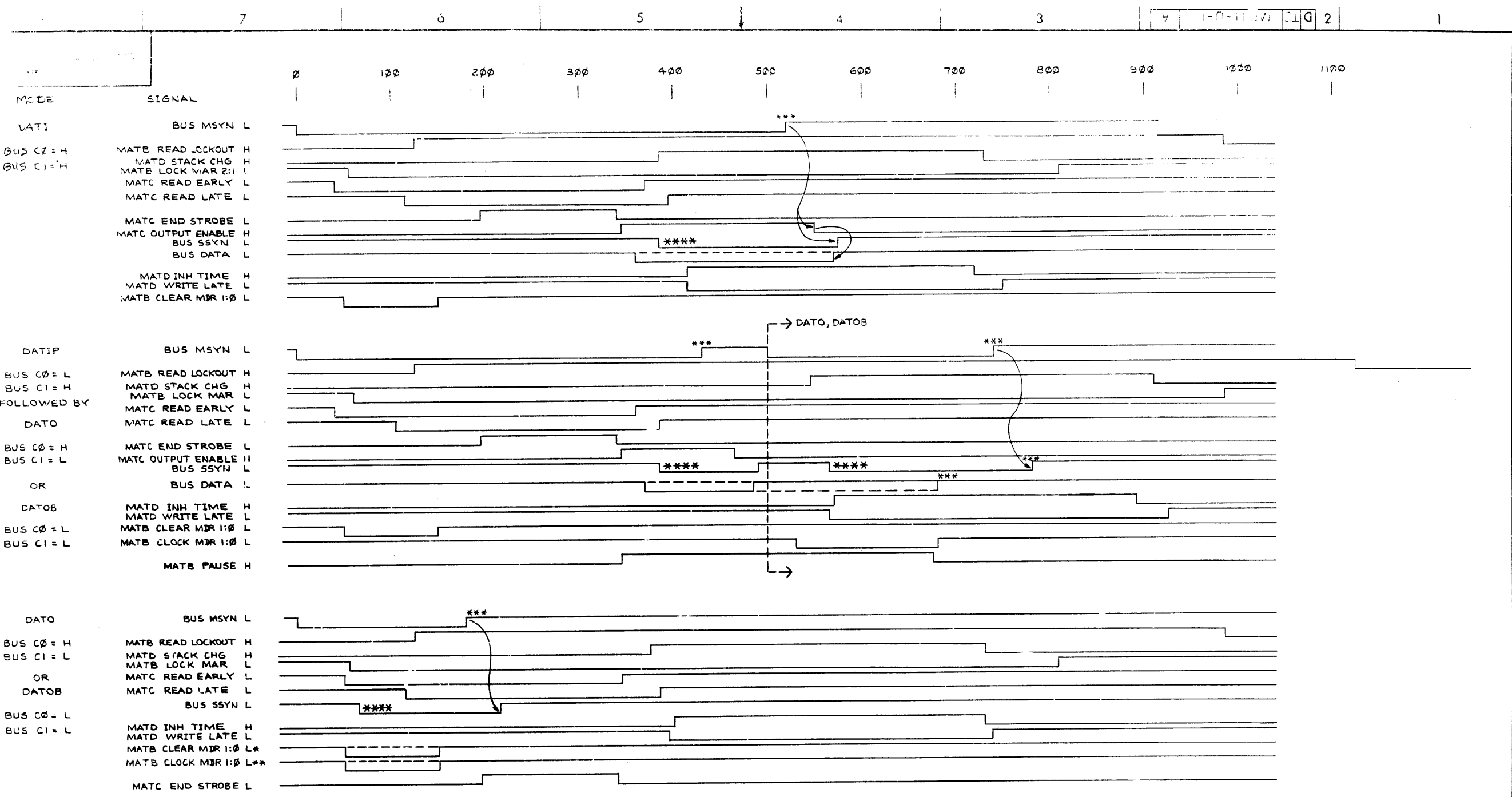
```

CTAL ADDRESS	DECIMAL ADDRESS	HEX DATA	ASSEMBLY
240	160	10100000	STKFL
241	161	10100001	PHRF
242	162	10100010	STKFL
243	163	10100011	LCLK
244	164	10100100	STKFL
245	165	10100101	PHRF
246	166	10100110	STKFL
247	167	10100111	RCD
248	168	10101000	STKFL
249	169	10101001	PHRF
250	170	10101001	STKFL
251	171	10101010	LCLK
252	172	10101011	STKFL
253	173	10101100	PHRF
254	174	10101101	STKFL
255	175	10101110	RCD
256	176	10101111	STKFL
257	177	10110000	PHRF
258	178	10110001	STKFL
259	179	10110010	LCLK
260	180	10110011	STKFL
261	181	10110100	PHRF
262	182	10110101	STKFL
263	183	10110110	STOP
264	184	10110111	STKFL
265	185	10111000	PHRF
266	186	10111001	STKFL
267	187	10111010	LCLK
268	188	10111011	STKFL
269	189	10111100	PHRF
270	190	10111101	STKFL
271	191	10111110	WAIT
272	192	0010	

```

****
/( A(PIN #05) IS CONB STACKFLOW (1)L
/( B(PIN #06) IS CONB PDWN SYNC (1)L
/( C(PIN #07) IS CONB LCLK INT (1)L
/( D(PIN #04) IS CONE STOP (1)L
/( E(PIN #03) IS DPH RCD INT (1)L
/( F(PIN #02) IS DPH XMIT INT (1)L
/( G(PIN #01) IS DPG WAIT L
/( H(PIN #15) IS DPE T DEL (1)L

```

NOTES:

1. * IN THE DATOB MODE CLEAR MDR ONLY OCCURS IN THE BYTE NOT BEING ADDRESSED.
2. ** IN THE DATOB MODE CLOCK MDR ONLY OCCURS IN THE BYTE BEING ADDRESSED.
3. *** ACTUAL TIME DEPENDS ON BUS AND PROCESSOR DELAYS.
4. **** IN PARITY SYSTEMS BUS SSYN WILL BE 20 NS LATER THAN SHOWN FOR DATO-DATOB BUS MODES AND 150 NS LATER FOR DATI-DATIP MODES.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
MFII-U				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN 4-19-73	DATE	PARTS LIST	
TOLERANCES	CHK'D 4/30/73	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	ENG. 5/29/73	DATE	TITLE MFII-U	
ANGLES	PROJ. ENG. 5/29/73	DATE	TIMING DIAGRAM	
.XXX = .005	PROD. 6/11/73	DATE	(UNIBUS INTERFACE)	
.XX = .02			SIZE CODE NUMBER REV.	
.X = .1			D TD MFII-U-1 A	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1			DIST.	
MATERIAL	NEXT HIGHER ASSY.			
FINISH	B-DD-MFII-U			
SCALE	1			
SHEET	1 OF 1			

4
3
2
1

5 REF

7
5

C49 C35 C28 C24 C20 C16 C12 C10 C4

E33 E34 E37 E33 E32 E31 E30 E29 E28 E27 E26 E25 E24 E23 E22 E21 E20 E19 E18 E17 E16 E15 E14 E13 E12 E11 E10 E9 E8 E7 E6 E5 E4 E3 E2 E1

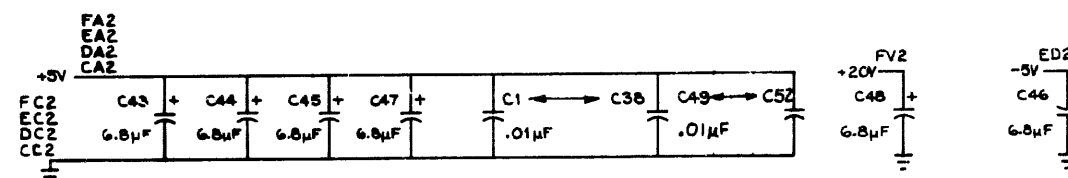
C50 C48 C47 C46 C45 C44 C43 C42 C41 C40 C39 C38 C37 C36 C35 C34 C33 C32 C31 C30 C29 C28 C27 C26 C25 C24 C23 C22 C21 C20 C19 C18 C17 C16 C15 C14 C13 C12 C11 C10 C9 C8 C7 C6 C5 C4 C3 C2 C1

0 5

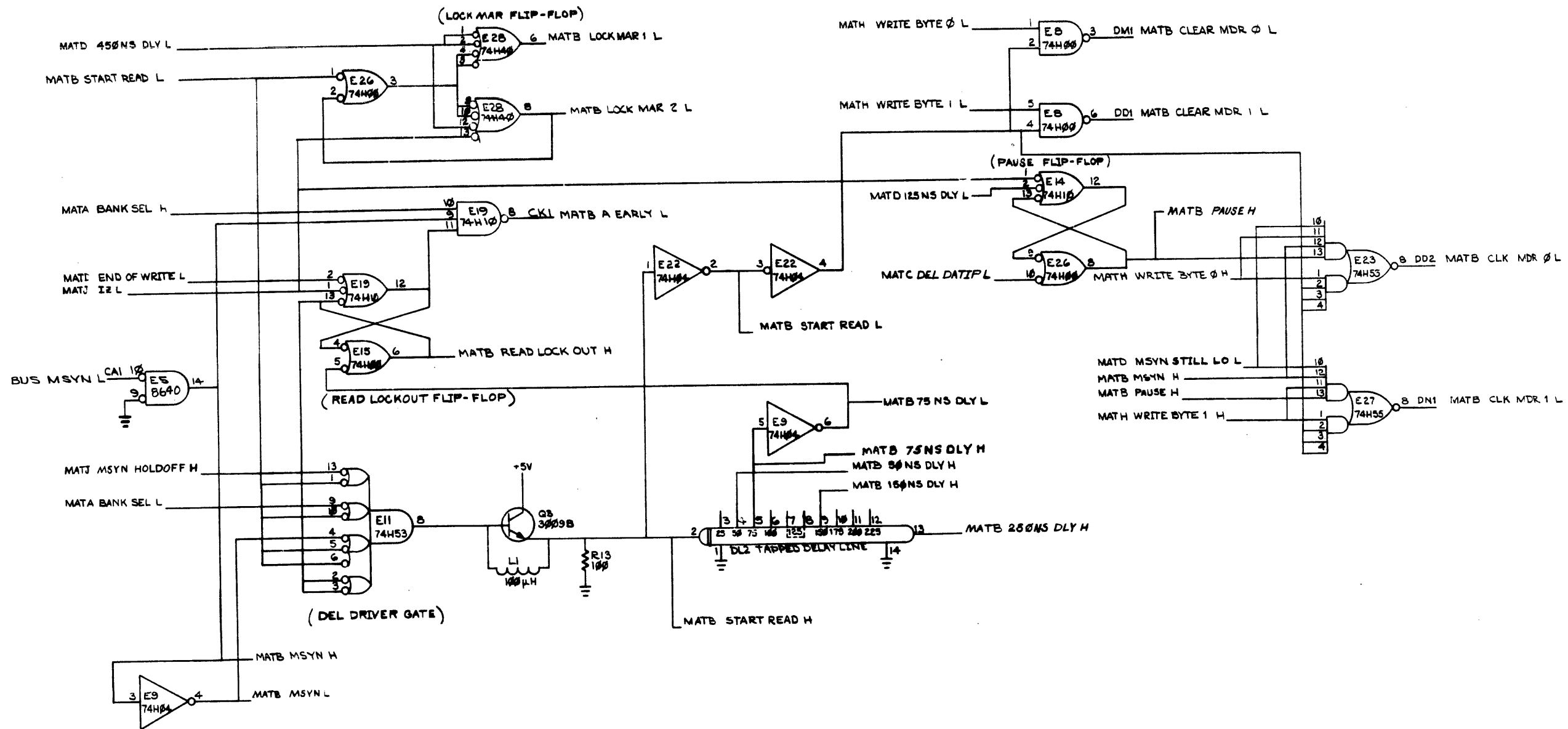
VUTSRPNMLKJHFE DCBA VUTSRPNMLKJHFE DCBA VUTSRPNMLKJHFE DCBA VUTSRPNMLKJHFE DCBA

REF	DESCRIPTION	VALUE	QTY
REF	XY COORDINATE	HOLE LOCATION	K-4H-M8 293-0-4
REF	ASSY/DRILLING HOLE LAYOUT		D-4H-M8 293-0-5
REF	MODULE ECO HISTORY		B-MH-M8 293-0-6
1	ETCHED CIRCUIT BOARD		5010473
8	EYELET GS-4-7		9006732
22	SPLIT LUGS		9006735
4	HANDLE FLIP-CHIP MAGENTA		9008337-6
2	C40,C41	CAP 82PF .00V $\pm 5\%$ DM	1000015
1	C39	CAP 1000PF 100V $\pm 5\%$ DM	1000042
43	C1 $\rightarrow$ 38,42,49-52	CAP .01uF 50V $\pm 20\%$	1001610
6	C43 $\rightarrow$ 48	CAP 6.8uF 35V $\pm 10\%$ S,TANT	1005306
1	D3	DIODE 1N746A 3.6V $\pm 5\%$ ZENER	1104860
3	D1,2,4	DIODE D672	1105275
3	R13,14,18	RES 100 $\frac{1}{4}W$ 5%	1300229
1	R17	RES 120 $\frac{1}{4}W$ 5%	1300247
1	R9	RES 750 $\frac{1}{2}W$ 5%	1300354
3	R16,R25,R27	RES 1K $\frac{1}{4}W$ 5%	1300363
10	R1 $\rightarrow$ 6,10,21,15,22	RES 2K $\frac{1}{4}W$ 5%	1302398
3	R7,11,5	RES 20K $\frac{1}{4}W$ 5%	1302391
2	R19,12	RES 560 $\frac{1}{4}W$ 5%	1301830
1	R20	RES 33K $\frac{1}{4}W$ 10%	1300510
1	Q1	TRANSISTOR DEC 6534 D	1503409
5	Q2,3,4,5,6	TRANSISTOR DEC 3003 B	1503100
2	L1,2	INDUCTOR .00uH	1610062
4	DL1,2,3,4	DELAY LINE 250NS,TAPPED	1611243
1	E28	IC DEC 74H40	1905536
5	E20,24,16,36,35	IC DEC 7475	1909050
5	E15,8,26, 37,38	IC DEC 74H00	1903056
5	E14,19,1,39, 8	IC DEC 74H10	1909057
2	E21,33	IC DEC 74H50	1903060
2	E11,25	IC DEC 74H53	1909062
2	E23,27	IC DEC 74H55	1909063
6	E31,4,6,17,7,5	IC DEC 3680	114432
4	E9,22,13,34	IC DEC 74H04	190993
1	E30	IC DEC 74B3	1309932
2	E29,32	IC DEC 74B5	910224
2	E3,10	IC DEC 8885	1910649
2	E2,12	IC DEC 7427	310879
2	R23,24	RES 330 $\frac{1}{4}W$ 5%	1300295
1	C33	CAP 120PF 100V $\pm 5\%$ DM	10000018
1	C54	CAP 220PF 100V $\pm 5\%$ DM	10000021
1	R26	RES 24K $\frac{1}{4}W$ 5%	1303177
1	R28	RES 511 $\frac{1}{4}W$ 1%	1302411
6	W1,W3 $\rightarrow$ W7	WIRE JUMPER	9107500-01

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
ETCH BOARD REV	C			
		DRG. 3. VALENTINE DATE 11-29-79 CRD. W. Major DATE 3/10/79 DRG. J. Baker DATE 5/14/79 PHOTO ENG. J. Baker DATE 5/14/79 PHOTO J. Baker DATE 5/14/79 NEXT HIGHER ASSY B-DD-MM11-U	EQUIPMENT CORPORATION NORTHAD MASSACHUSETTS TITLE 15K UNIBUS TIMING	
DEC NO.	EJA NO.	SCALE	DDC CODE NUMBER M8293-0-1	REV. E
OR CONVERSION CHART		SHEET 2 OF 10 DWT.		

[illegible]

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REVISIONS		
CHK	CHANGE NO	REV

READ START TIMING			
TITLE 16K UNIBUS TIMING (MATE)		SIZE CODE DCS	NUMBER M8293-0-1
SCALE	SHEET 4 OF 10	DIST.	REV. E

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PC2 DATIP CLR PAUSE 1 L CE2
ORIGINATES FROM M7259
PARITY CONTROL MODULE
(SHEET 3) VIA MFII-UP BACKPLANE

(WRITE DEL DRIVER)

(WRITE DEL DRIVER GATING)

(WRITE LATE FLIP-FLOP)

(INH FLIP-FLOP)

(WRITE LOCKOUT FLIP-FLOP)

(STACK CHG FLIP-FLOP)

REVISIONS			TITLE		SIZE CODE	NUMBER	REV.
CHK	CHANGE NO	REV	16K UNIBUS TIMING (MATD)		D CS	M8293-0-1	E
SCALE			SHEET 6 OF 10		DIST.		

3

7

6

5

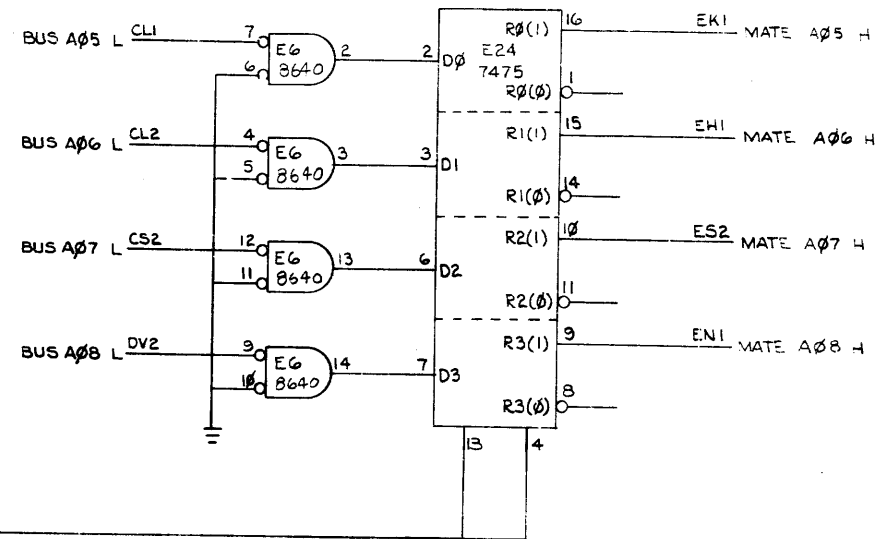
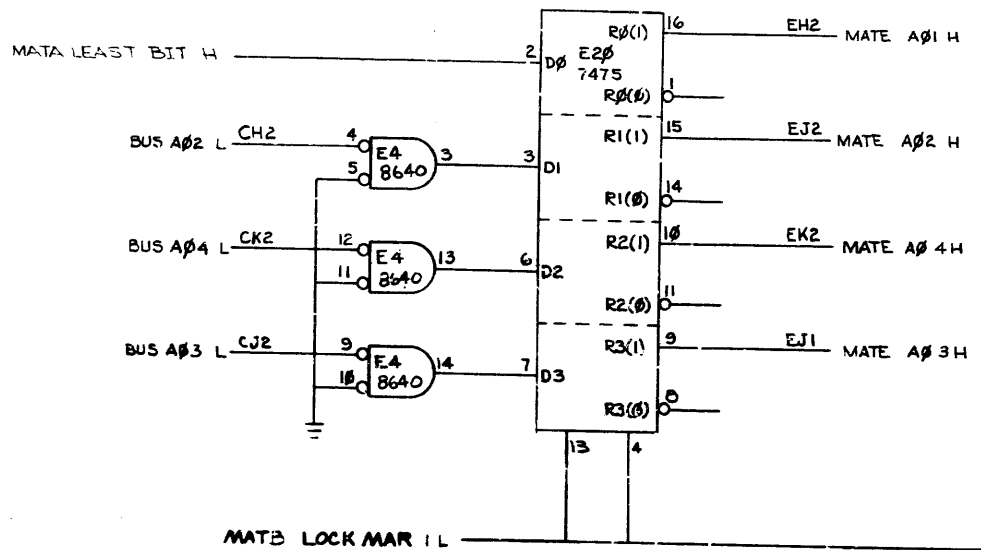
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3

3 7 8 9 10 11 12 13 14 15 16

1

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REV	DATE	BY

A01-A08 LATCHES

TITLE	16K UNIBUS TIMING	SIZE CODE	NUMBER	REV.
(MATE)		DCS	M8293-01	E
SCALE	SHEET 7 OF 10	DIST		

7

6

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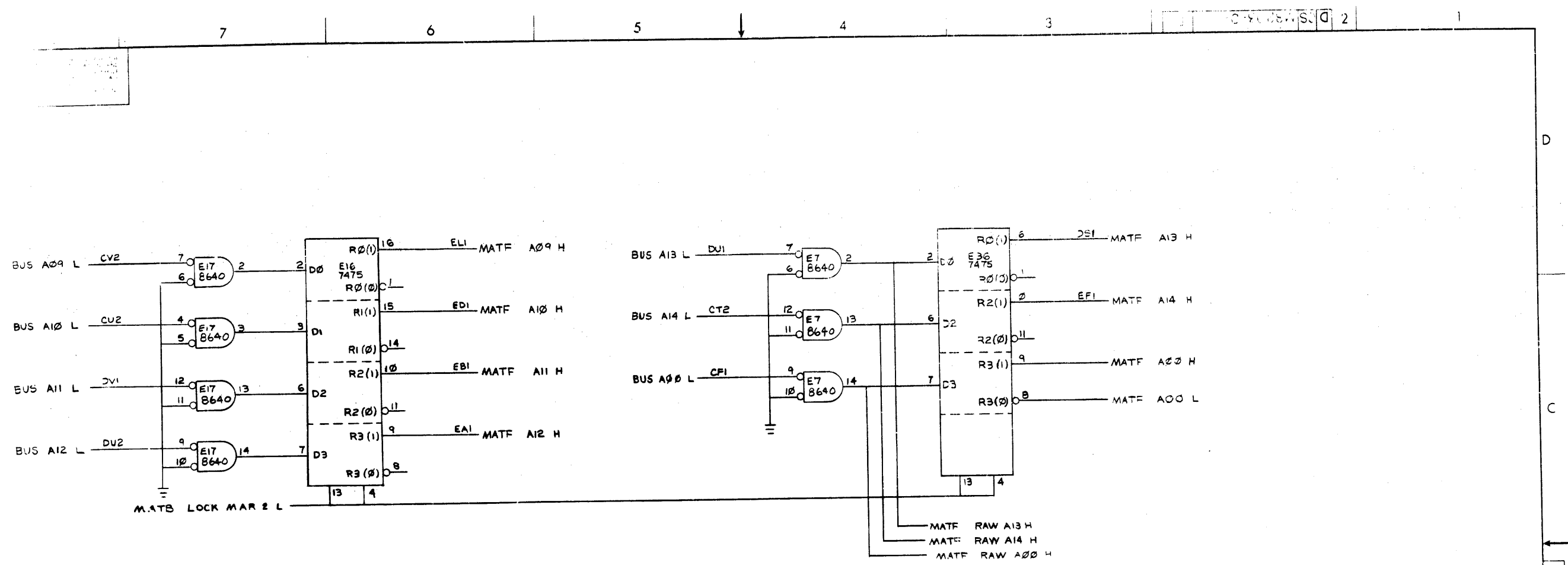
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1

DCS MB293-01

B

A

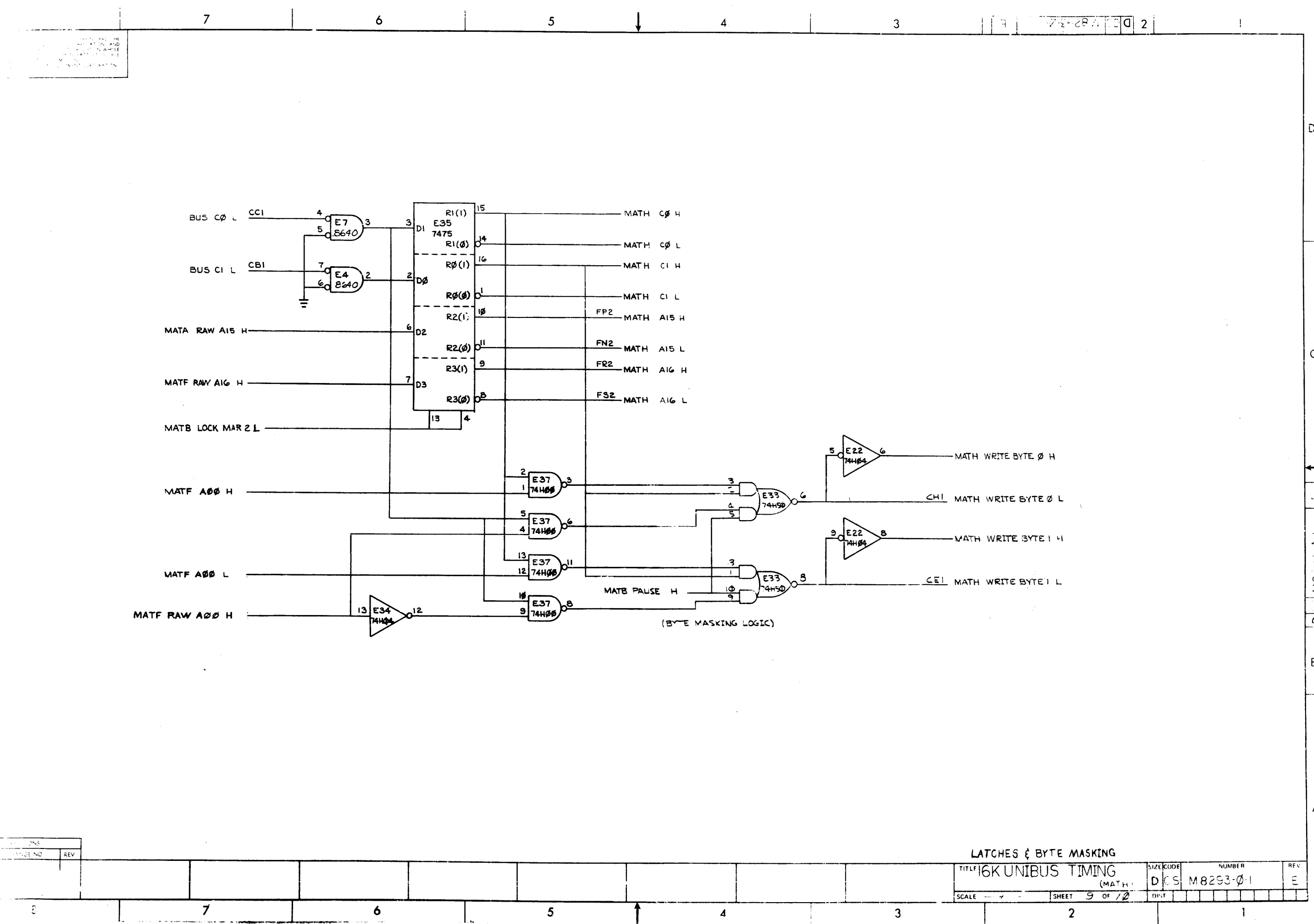


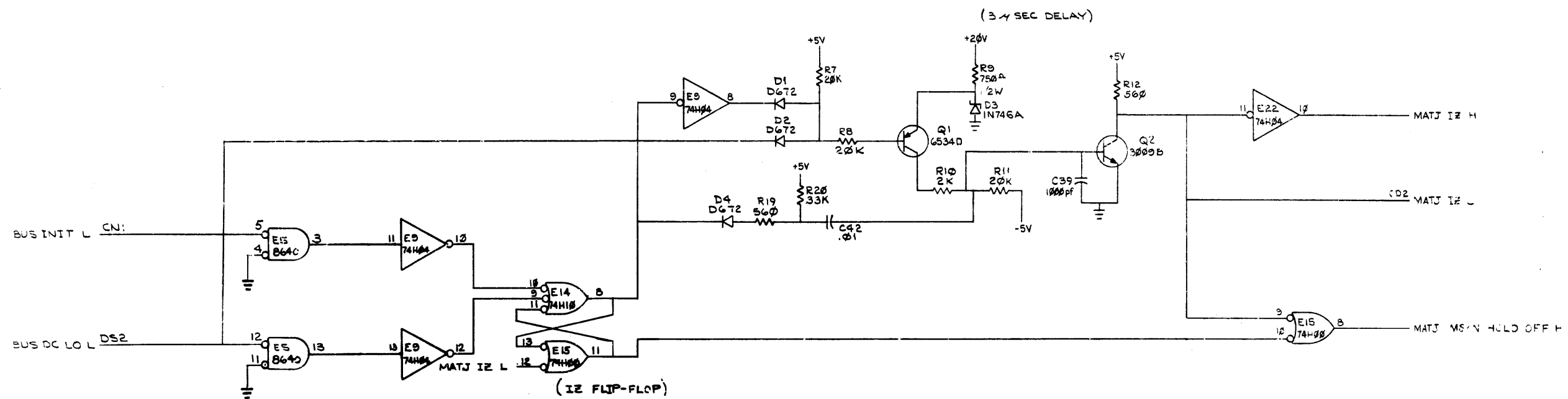
D
C
B
A

A09 A09 -- A13 LATCHES

DCS	M8293-2-1	REV. E
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7	6	5	4	3	2	1
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INIT & DCLO INITIALIZING

TITLE		SIZE/CD	NUMBER	REV.
16K UNIBUS TIMING (MATJ)		DCS	M8293-0-1	E
SCALE	SHEET 10 OF 10	DIST.		

PAGE REVISION CONTROL SHEET

SH NO.

1

2

3

4

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6

PAGE REVISIONS

C

D

D

D

D

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L

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K

K

K

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H

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F

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F

F

E

E

E

E

E

E

REMARKS

FIRST USED ON OPTION/MODEL

MF1HJ & MF11-UP

digital

EQUIPMENT CORPORATION

MAYNARD MASSACHUSETTS

TITLE

16K X-Y DRIVE

DATE

7/23/73

ECO NO.

1

ETCH REV.

D

ENG.

D

DATE

8-15-73

ECO NO.

2

ETCH REV.

D

ENG.

D

DATE

11-16-73

ECO NO.

3

ETCH REV.

D

ENG.

D

DATE

12-19-73

ECO NO.

4

ETCH REV.

D

ENG.

D

DATE

3/13/74

ECO NO.

5

ETCH REV.

D

ENG.

D

DATE

9-11-74

ECO NO.

6

ETCH REV.

D

ENG.

D

DATE

11-23-75

ECO NO.

7

ETCH REV.

D

ENG.

D

DATE

5-12-75

ECO NO.

8

ETCH REV.

D

ENG.

D

DRN.

B. BALLENTINE

DATE

2-8-73

CHK'D.

M. CHAND

DATE

4-9-73

ENG.

B. BALLENTINE

DATE

4/11/73

PROJ. ENG.

B. BALLENTINE

DATE

4/11/73

PROD.

B. BALLENTINE

DATE

4/11/74

NEXT HIGHER ASSY.

SIZE

B

CODE

CS

NUMBER

G235-0-1

REV.

M

DIST.

SHEET

1

OF

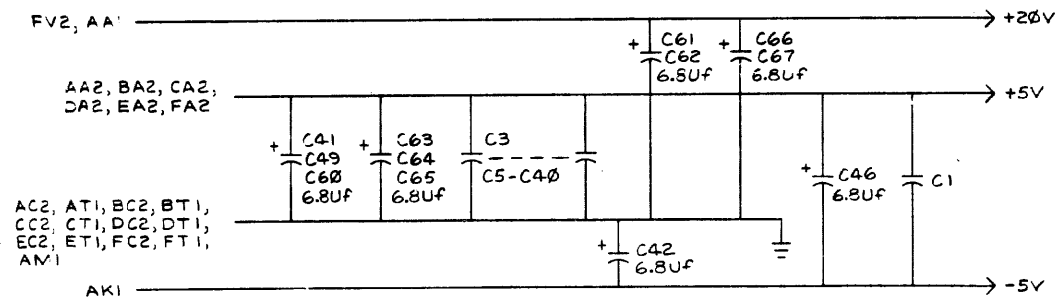
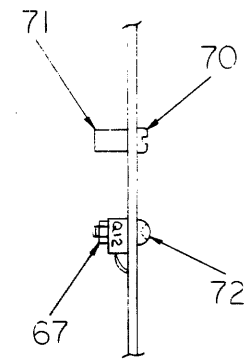
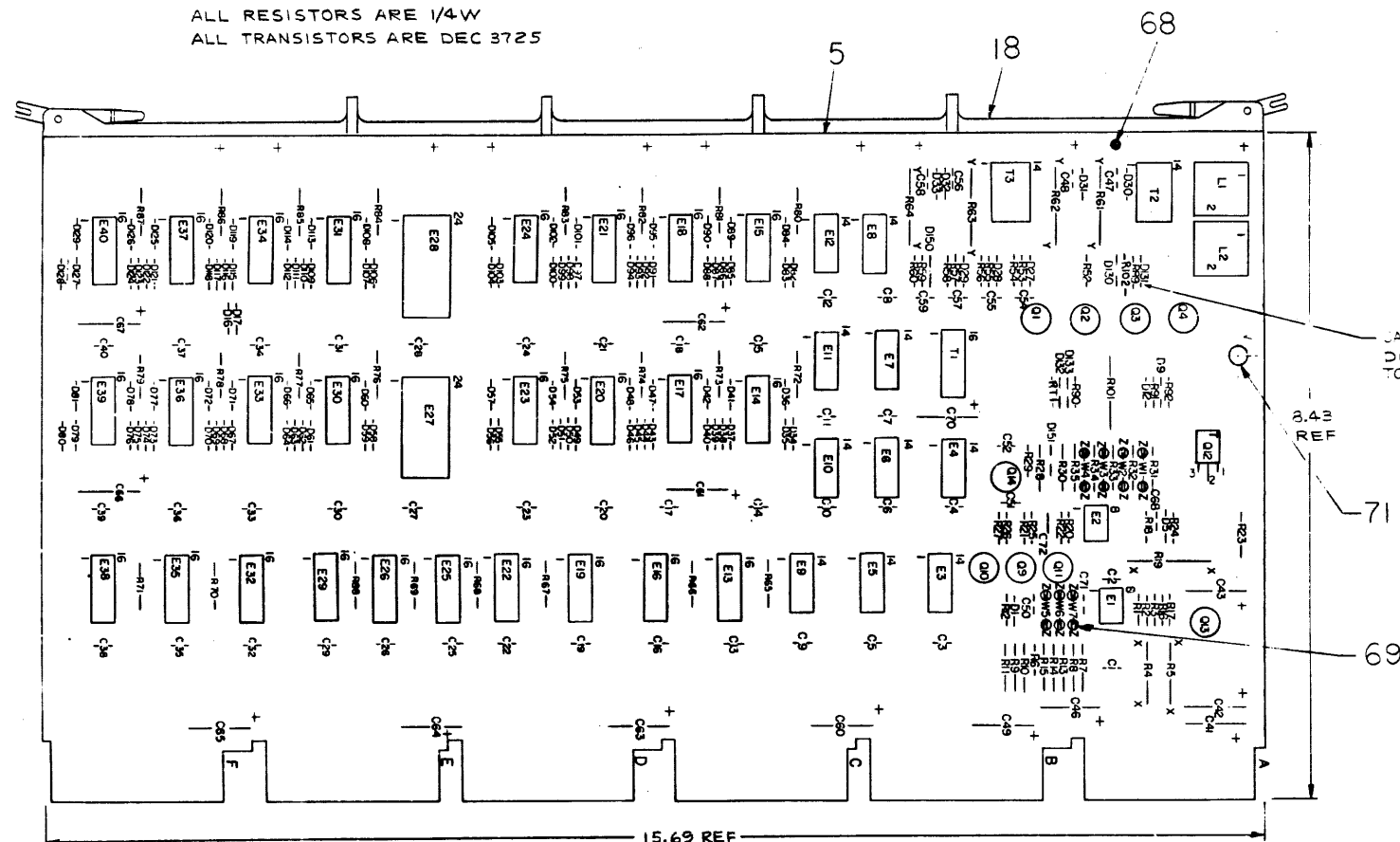
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NOTES:

- * INDICATES NOT USED ON MF11-U & MF11-UP (2 PLACES).
- ** INDICATES NOT USED ON MF11-U & MF11-UP, BUT ARE TIED TO UNUSED TERMINATORS ON THE G114 MODULE, WHICH FORCES THEM TO +5V (5 PLACES).
- 1 THERMISTOR LOCATED ON H217 STACK MODULE, 1 ON 6235
- UNLESS OTHERWISE INDICATED;
ALL DIODES ARE D672
ALL CAPACITORS ARE .01UF
ALL RESISTORS ARE 1/4W
ALL TRANSISTORS ARE DEC 3725

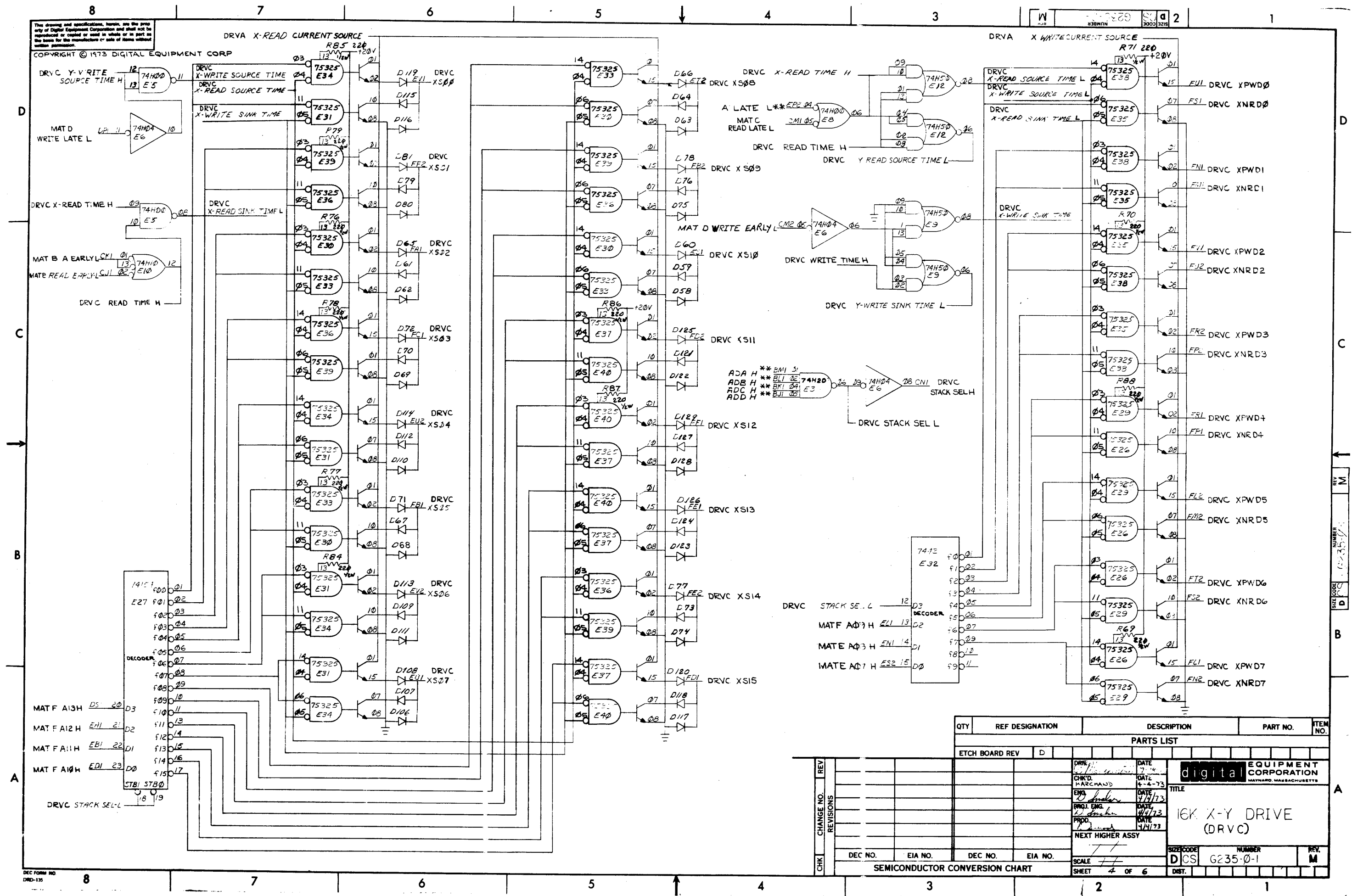


IC TYPE	GND	+5V	+20V
7412	7	—	—
41	—	—	—
7325	—	9	16
442	8	16	—
7454	12	24	—

GND AND 5V ARE USUALLY PIN 7 AND 14
SPECIFICALLY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
PARTS LIST				
FIRST USED ON OPTION MODEL				
MF11-U & MF11-UP				
ETCH BOARD REV D				
DRN	DATE	TITLE		
CHK'D	DATE	digital EQUIPMENT CORPORATION		
ENG	DATE	WAYNARD MANUFACTURING		
PROJ. ENG.	DATE	10K X-Y DRIVE		
PROD.	DATE	NEXT HIGHER ASSY		
DEC NO		EIA NO		REV. M
SCALE		SHEET 2 OF 6		DIST



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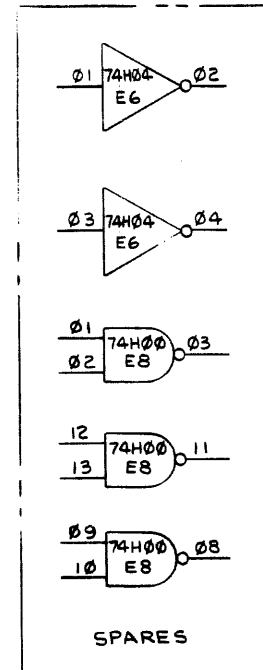
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DRVC Y-WRITE SINK TIME L
DRVC Y-READ SOURCE TIME L

DRVA Y READ CURRENT SOURCE

DRVA Y WRITE CURRENT SOURCE

DRVC Y-WRITE SOURCE TIME L
DRVC READ TIME H

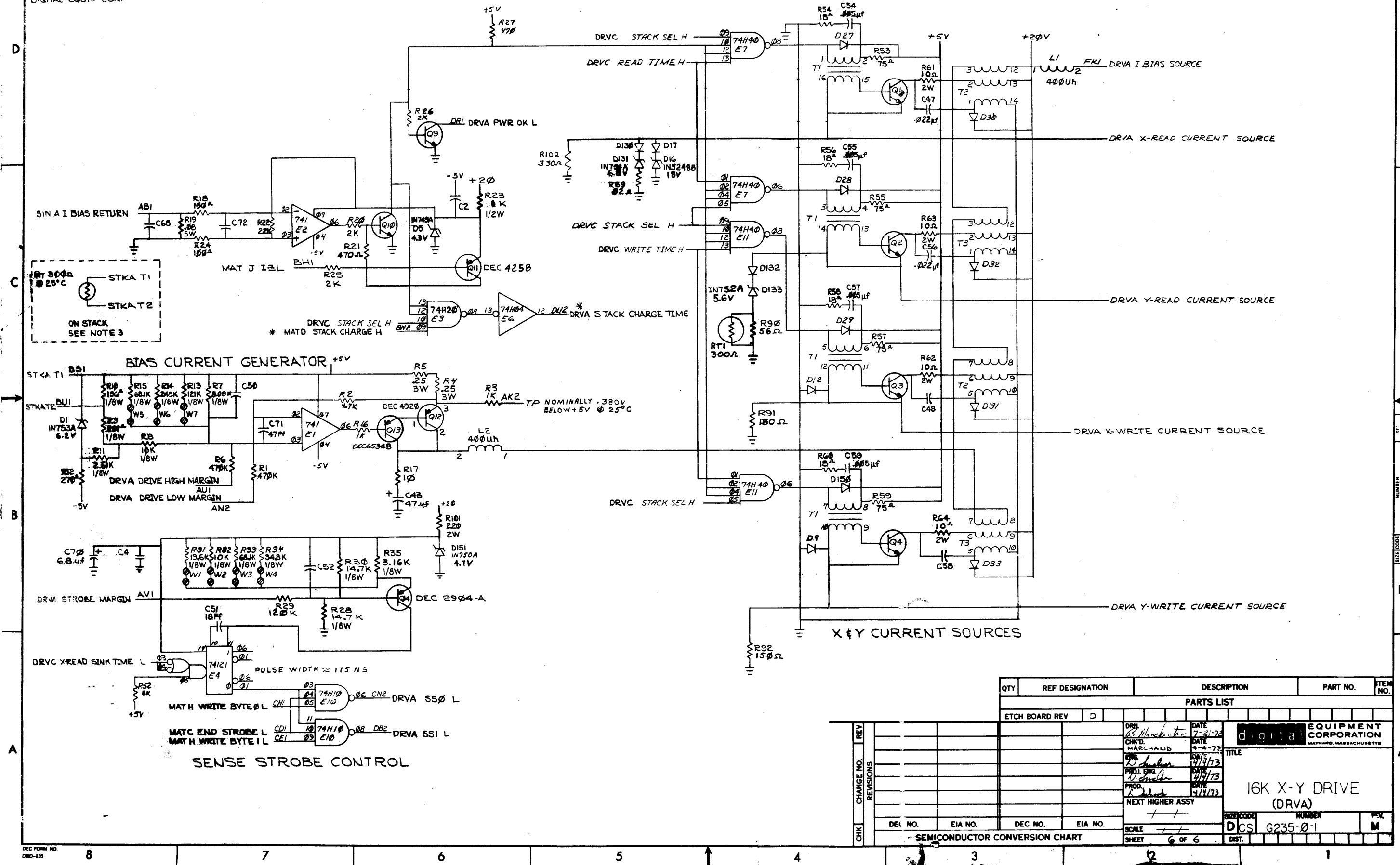


DRVC STACK SEL L
MATE A04 H E22 13
MATE A02 H E22 14
MATE A01 H E22 15

QTY	REF	DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST					
ETCH BOARD REV D					
REV	CHG	NO.	REVISIONS	DATE	BY
1				7-24-73	W. Markowitz
2				4-4-73	W. Markowitz
3				3/14/73	W. Markowitz
4				3/14/73	W. Markowitz
5				4/4/73	W. Markowitz
NEXT HIGHER ASSY			TITLE		
77			16K X-Y DRIVE (DRVB)		
DEC NO.	EIA NO.	DEC NO.	EIA NO.	SCALE	SHEET
				5 OF 6	
SEMICONDUCTOR CONVERSION CHART				SIZE CODE	NUMBER
				D/CS	G235-0-1
				DIST.	

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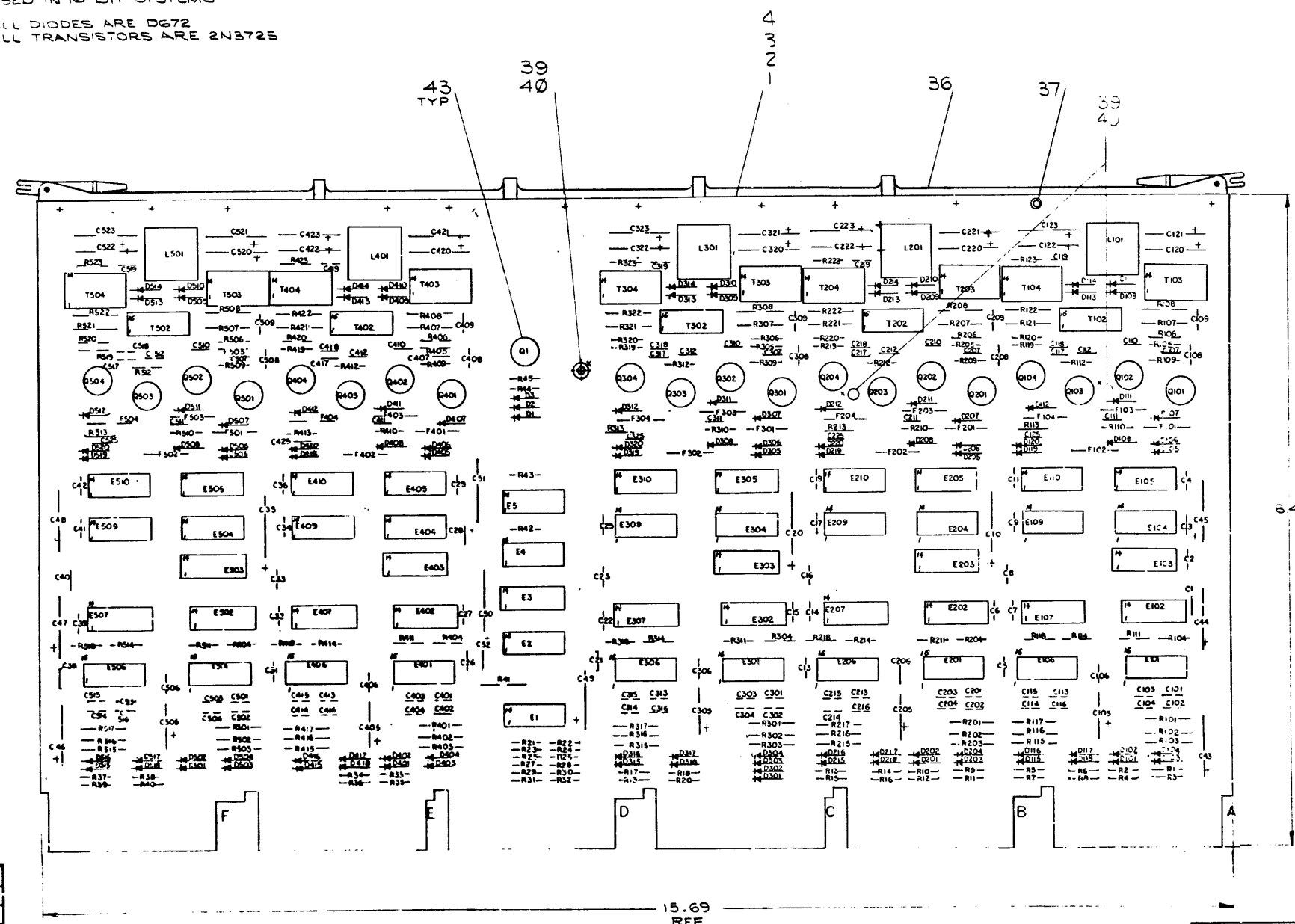
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QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
ETCH BOARD REV D				
REV	CHG	NO.	REVISIONS	
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NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS ARE IN OHMS 1/4W
2. ALL CAPACITANCE IS IN MICROFARADS
3. DATA BITS 17 & 18 ARE NOT USED IN 18 BIT SYSTEMS
4. DATA BIT 18 IS NOT USED IN 19 BIT SYSTEMS
5. DATA BITS 16, 17, 18 & 19 ARE NOT USED IN 16 BIT SYSTEMS
6. ALL DIODES ARE DG72
7. ALL TRANSISTORS ARE 2N3725



DEC 7380	1	8	-
DEC 7440	1	8	-
DEC 7528	9	16	8
C TYPE	GND	+5V	-5V
AND 5V ARE USUALLY PIN 7 AND 14 EXCEPTIONS ARE STATED ABOVE			
IC PIN LOCATIONS			

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
FIRST USED ON OPTION MODEL				
MF 11-U & MF 11-UP				
ETCH BOARD REV C				
PARTS LIST				
DATE 4-3-73				
CHK'D. DATE				
ENG. DATE				
PROD. ENG. DATE				
PROD. DATE				
NEXT HIGHER ASSY				
SCALE				
SHEET 2 OF 9				
DIST.				
REV. F				
TITLE				
16 K SENSE/INHIBIT				
SIZE CODE DCS				
NUMBER G114-0-1				
REV. F				

SEMICONDUCTOR CONVERSION CHART

D

C

B

A

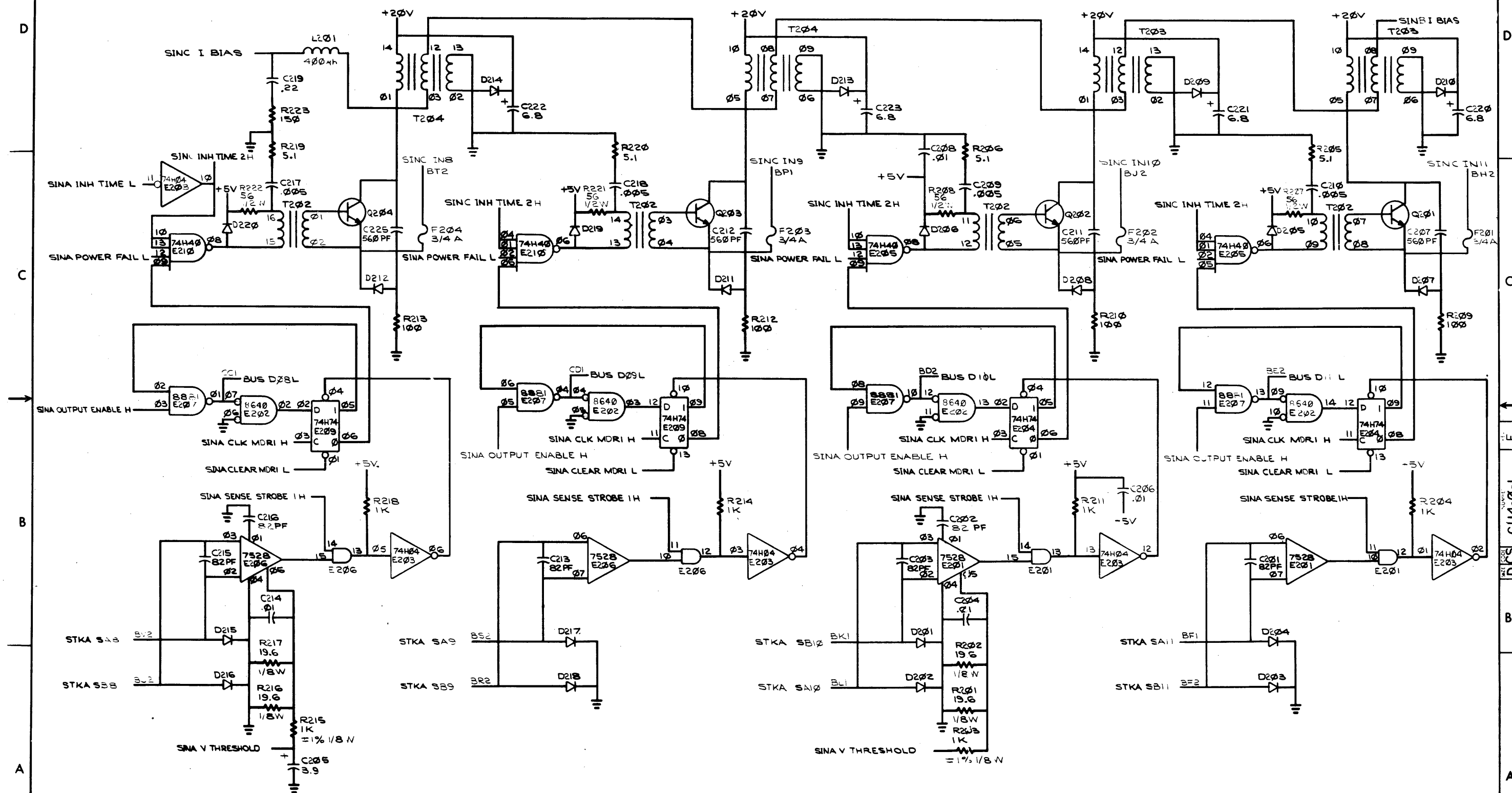
SIZE CODE DCS

NUMBER G114-0-1

REV. F

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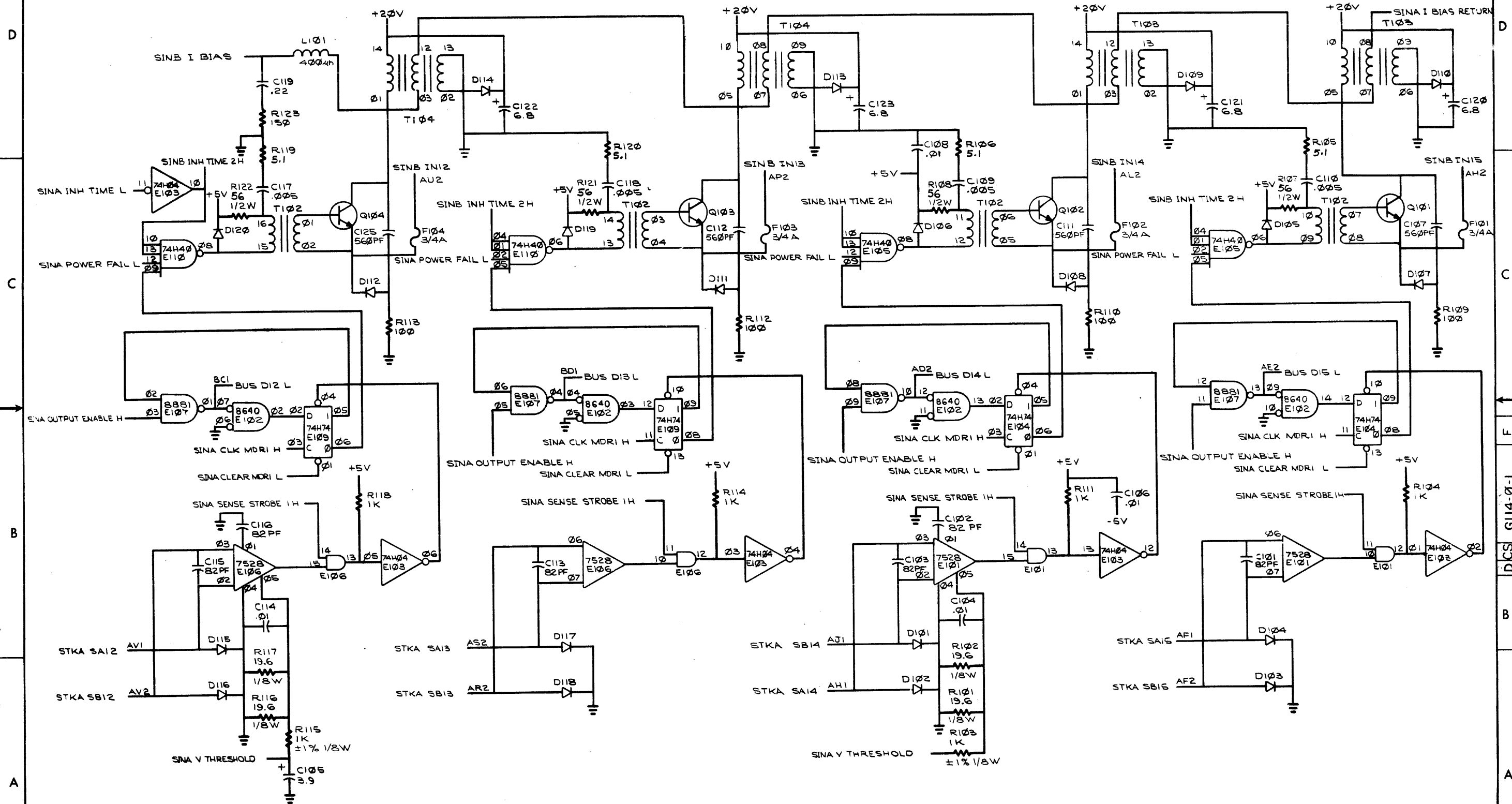
1-0-119 DCS 2



REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE CODE	NUMBER	REV.
16K SENSE/INHIBIT (SINC)		DCS	G114-0-1	F
SCALE		SHEET 7 OF 9	DIST.	

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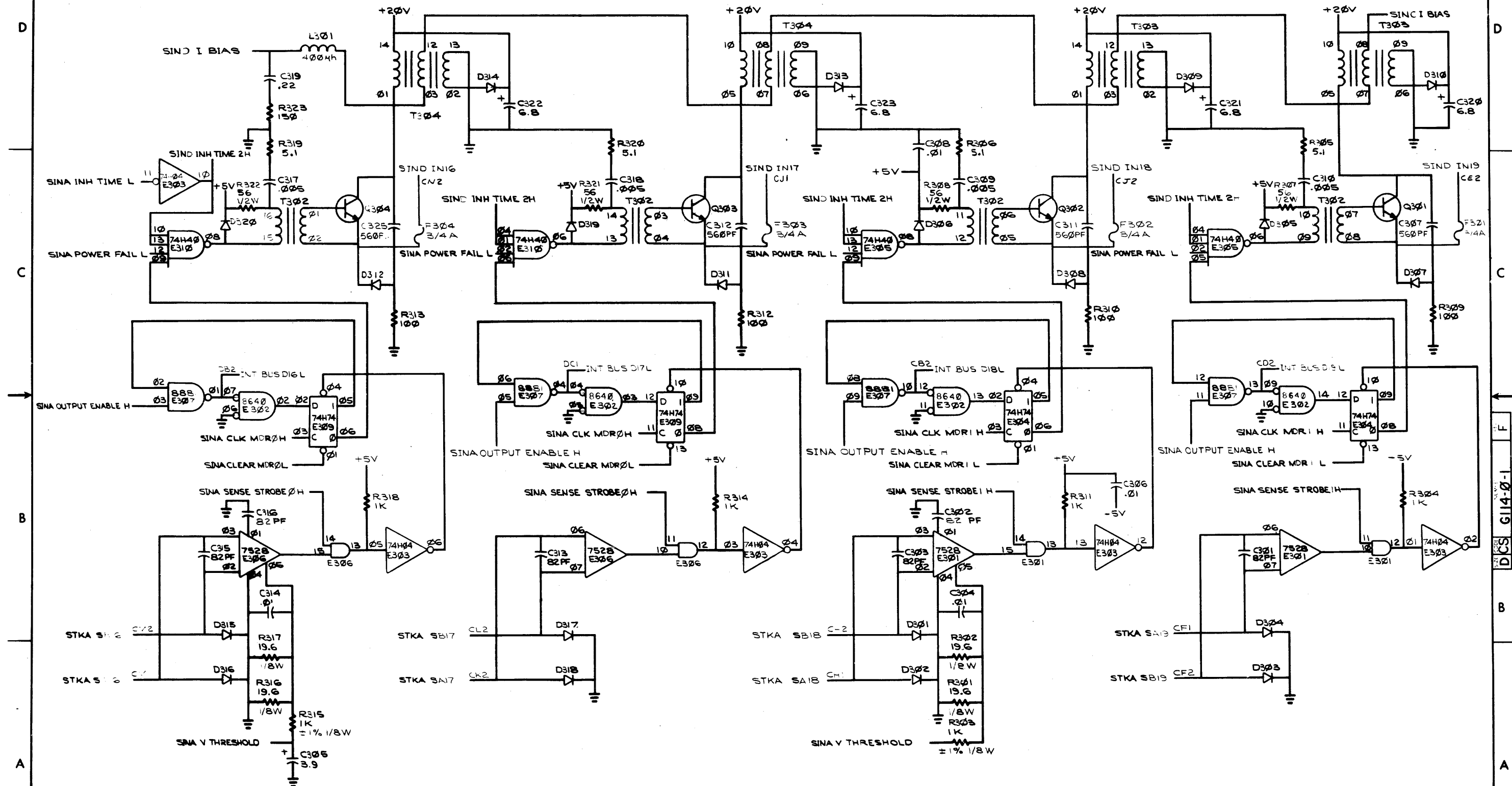
REVISIONS		
CHK	CHANGE NO	REV

100 SERIES SINB

TITLE	SIZE CODE	NUMBER	REV.
16K SENSE/INHIBIT (SINB)	DCS	6114-0-1	F
SCALE	SHEET 8 OF 9	DIST.	

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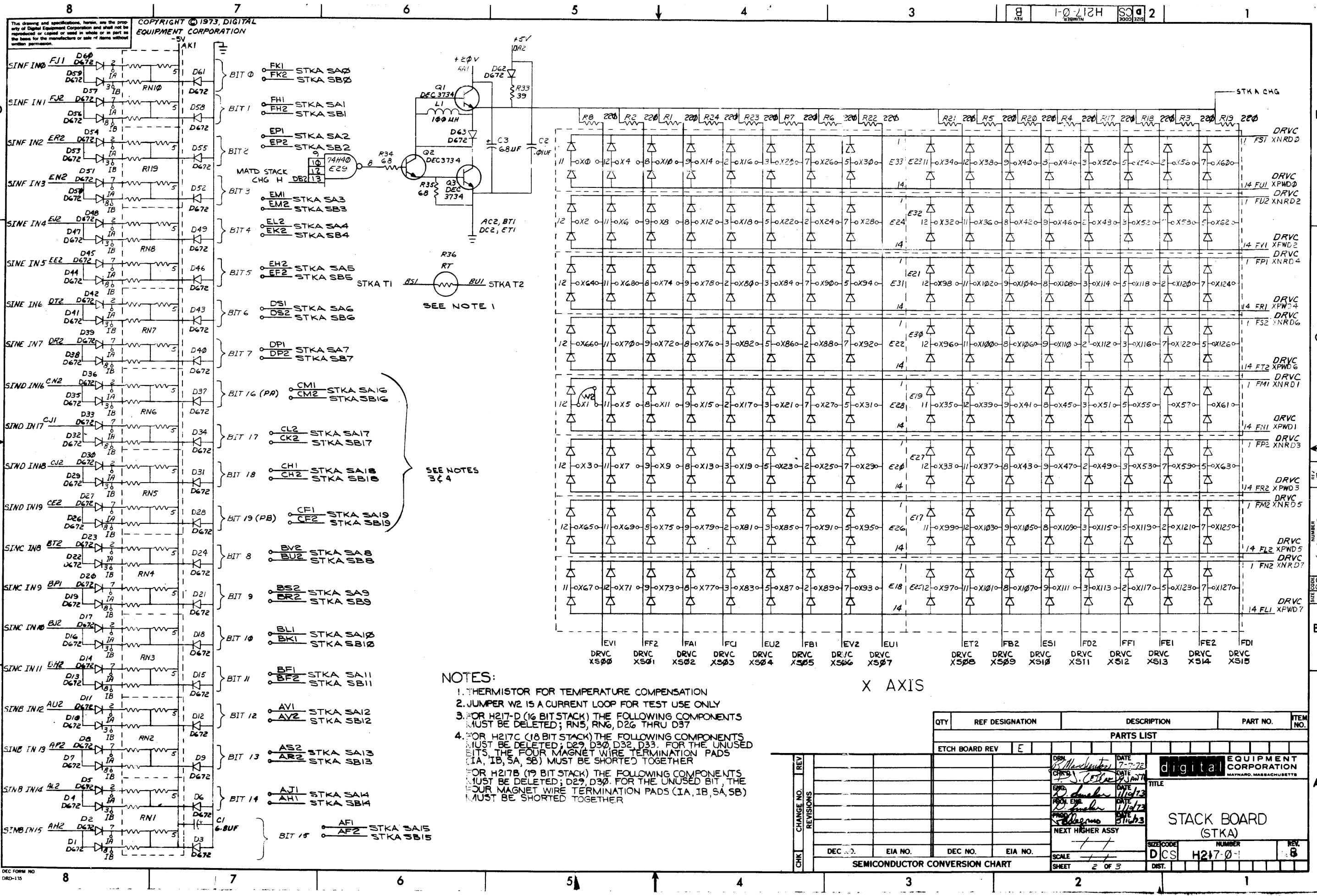
1-0-0-1119 DCS 300 1225



REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE CODE	NUMBER	REV.
16K SENSE/INHIBIT (SIND)		DCS	G114-0-1	F
SCALE		SHEET	9 OF 9	DIST.

300 SERIES SIND



8

7

6

5

4

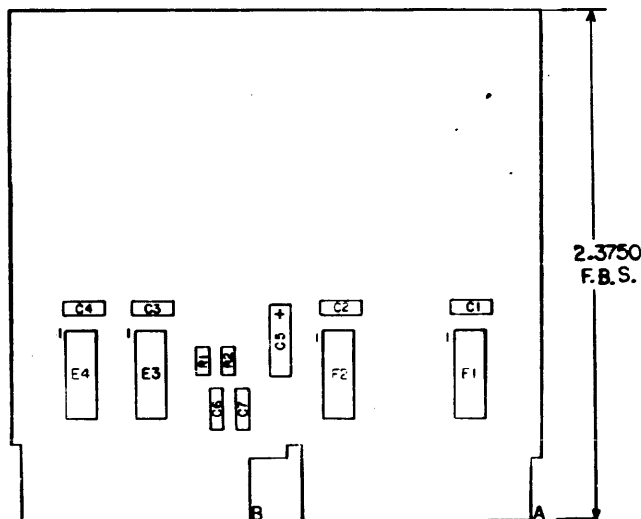
3

2

1

NOTES:

REF		COORDINATE HOLE LOCATION	K-CO-M930-0-4	1
REF		ASSY/ DRILLING HOLE LAYOUT	D-AH-M930-0-5	2
REF		MODULE ECO HISTORY	B-MH-M930-0-6	3
1		ETCHED CIRCUIT BOARD	5003696	4
4	C1 THRU C4	CAP .22 μ F 50V CER	1010274-21	5
2	C6,C7	CAP 1000pF 250V 20% DSC	1000043	6
1	C5	CAP 39 μ F 10V 10% TANT	1000076	7
2	R1,R2	RES 383 Ω 1/4W 1%	1305125	8
2	E1,E4	28 RES DIVIDER NETWORK	1312228-20	9
2	E2,E3	25 RES DIVIDER NETWORK	1312229-01	10

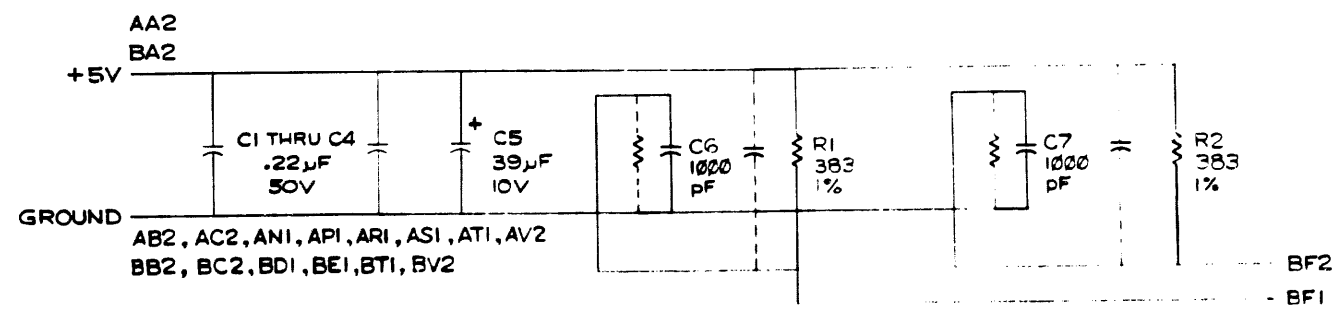
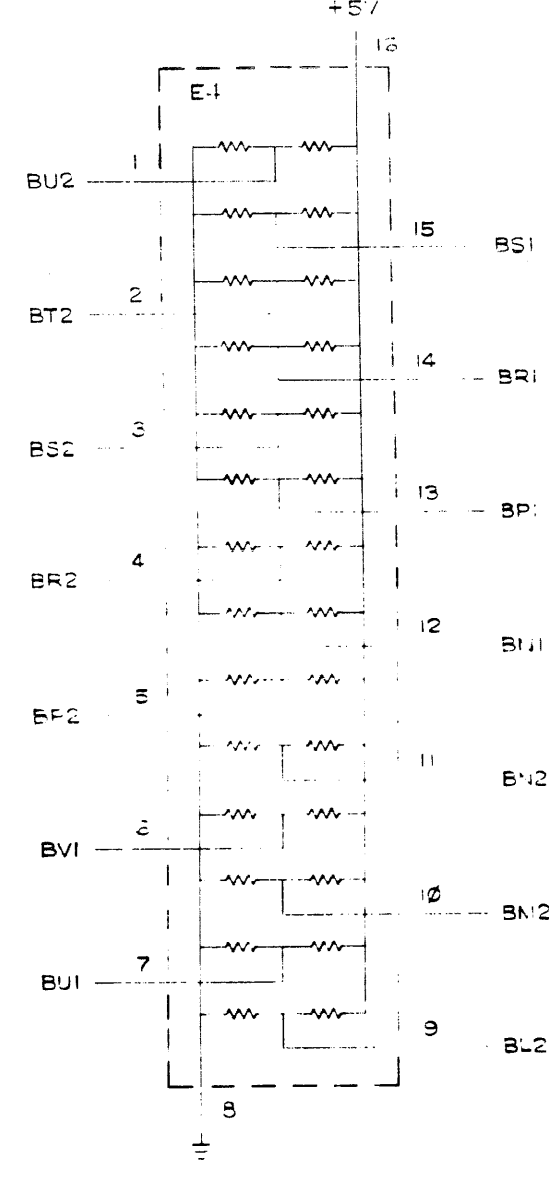
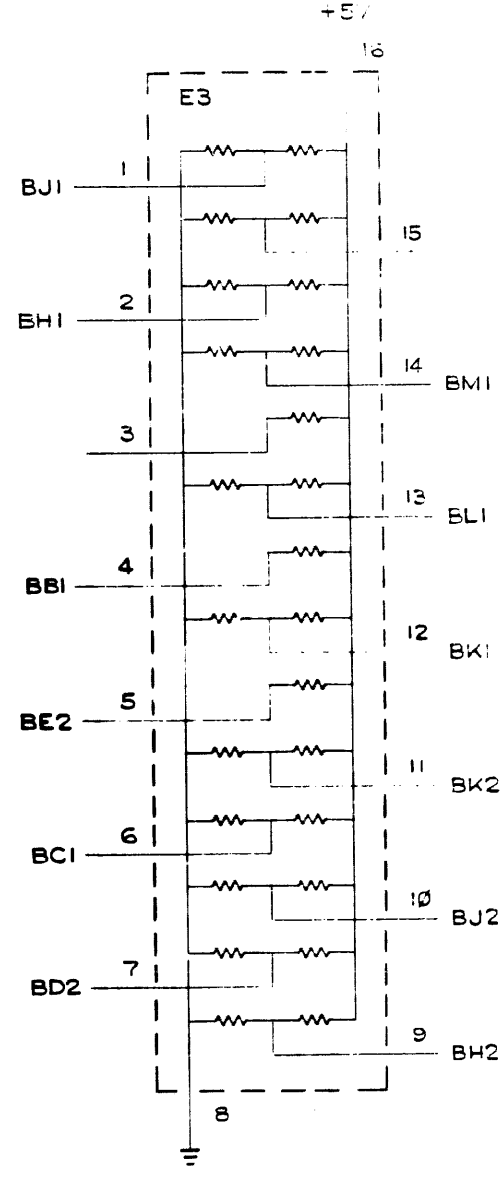
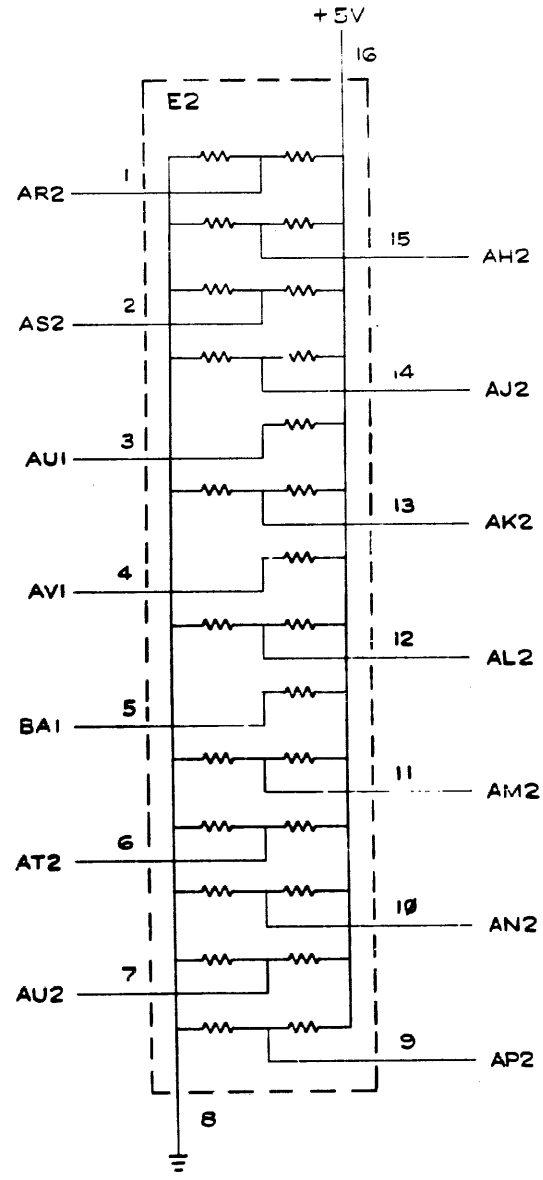
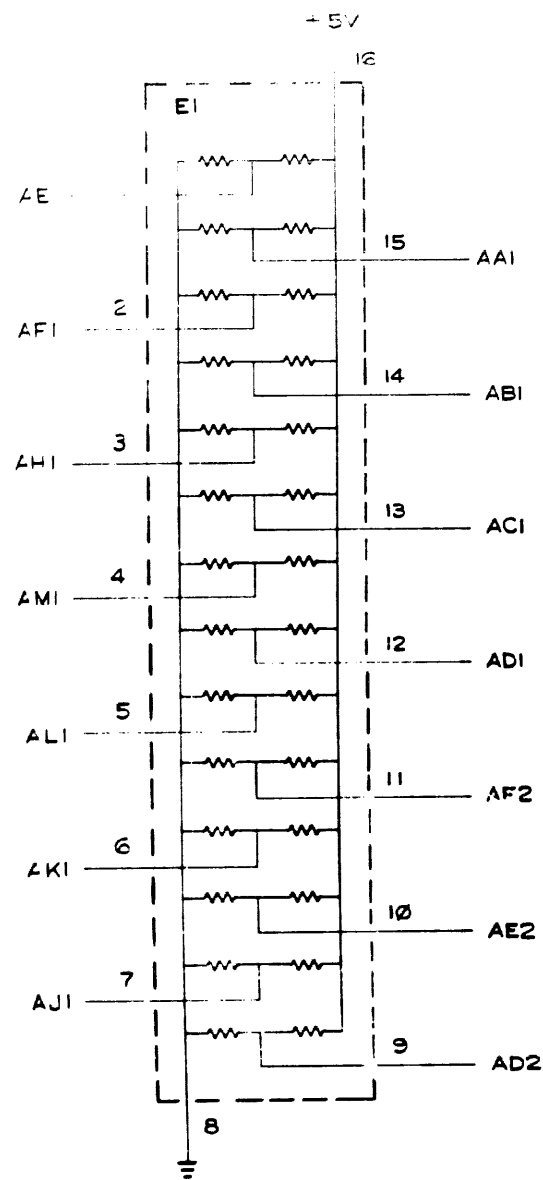
2.3750
F.B.S.

IC TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE		
IC PIN LOCATIONS		

FIRST USED ON OPTION MODEL
M930

QTY	REF. DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
ETCH BOARD REV. E-PS				
DRN. J. CARTER DATE 7-9-75				
CHKD. E. Morgan DATE 7-16-75				
ENG. DATE 7-16-75				
PROD. DATE 10-3-75				
NEXT HIGHER ASSY				
DEC. NO.	EIA NO.	DEC. NO.	EIA NO.	SCALE
SHEET 1 OF 2				
SEMICONDUCTOR CONVERSION CHART				
TITLE digital				
BUS TERMINATOR				
SIZE CODE	NUMBER	REV.		
D CS	M930-0-1	E		

REV. E
NUMBER
M930-0-1
SIZE CODE
D CS

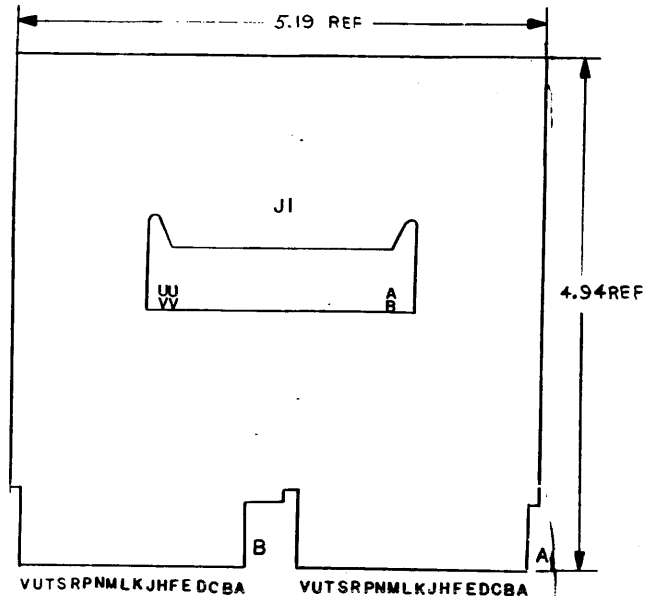


REVISIONS	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
BUS TERMINATOR	D CS	M330-0-1	E
SCALE	SHEET 2 OF 2	DIST	

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NOTES:



AD1 > J1-A
AD2 > J1-B
AE1 > J1-C
AE2 > J1-D
AH1 > J1-E
AF2 > J1-F
AK1 > J1-H
AH2 > J1-J
AL1 > J1-K
AK2 > J1-L
AM1 > J1-M
AL2 > J1-N
AN1 > J1-P
AN2 > J1-R
AP1 > J1-S
AP2 > J1-T
AR1 > J1-U
AR2 > J1-V
AS1 > J1-W
AS2 > J1-X

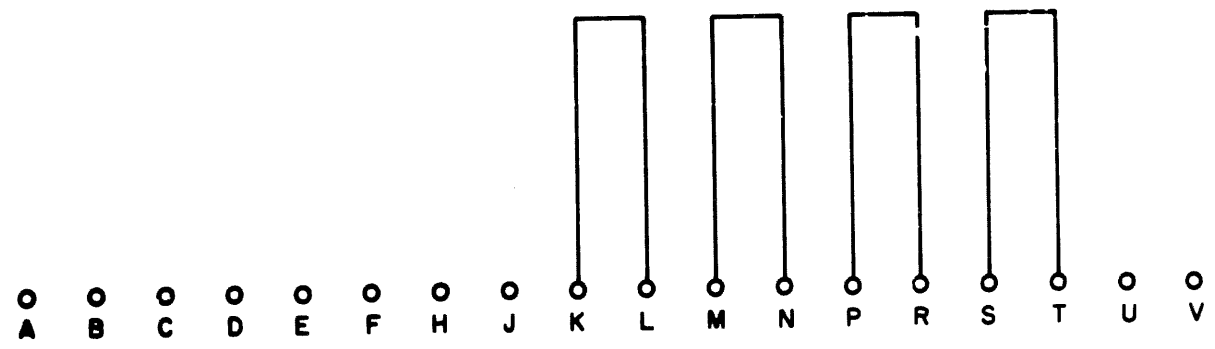
BD1 > J1-Y
BD2 > J1-Z
BE1 > J1-AA
BE2 > J1-BB
BH1 > J1-CC
BF2 > J1-DD
BK1 > J1-EE
BH2 > J1-FF
BL1 > J1-HH
BK2 > J1-JJ
BM1 > J1-KK
BL2 > J1-LL
BN1 > J1-MM
BN2 > J1-NN
BP1 > J1-PP
BP2 > J1-RR
BR1 > J1-SS
BR2 > J1-TT
BS1 > J1-VV
BS2 > J1-VV

REF	X-Y COORDINATE HOLE LOCATION	H-CO-M997-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M997-0-5	2
REF	MODULE ECO HISTORY	S-AH-M997-0-6	3
REF	ETCHED CIRCUIT BOARD	50.0338	4
REF	CONN., RT. ANGLE HEADER	12-09941	5

IC TYPE	GND	+ 5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.		
IC PIN LOCATIONS		

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
FIRST USED ON OPTION MODEL				
ETCH BOARD REV B				
PARTS LIST				
DRN	Silvia	DATE	3-22-74	
CHK'D	MS	DATE	3/23/74	
ENG	CSelme	DATE	3/23/74	
PROJ. ENG	CSelme	DATE	3/23/74	
PROD	CSelme	DATE	3/23/74	
NEXT HIGHER ASSY				
DEC NO.	EIA NO.	DEC NO.	EIA NO.	
SEMICONDUCTOR CONVERSION CHART				
SCALE	NONE			
SHEET	1 OF 1			
TITLE				
CABLE ADAPTER				
SIZE CODE	NUMBER	REV.		
DCS	M997-0-1	A		
DIST.				

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REVISIONS	CHK	CHG NO	REV

DRN	DATE
<i>OUTLER</i>	<i>11-19-69</i>
CHK'D	DATE
<i>P. J. Smith</i>	<i>6-1-70</i>
ENG	DATE
<i>J. E. Jones</i>	<i>1/28/70</i>
PROC	DATE

TRANSISTOR & DIODE CONVERSION CHART			
DEC	EIA	DEC	EIA

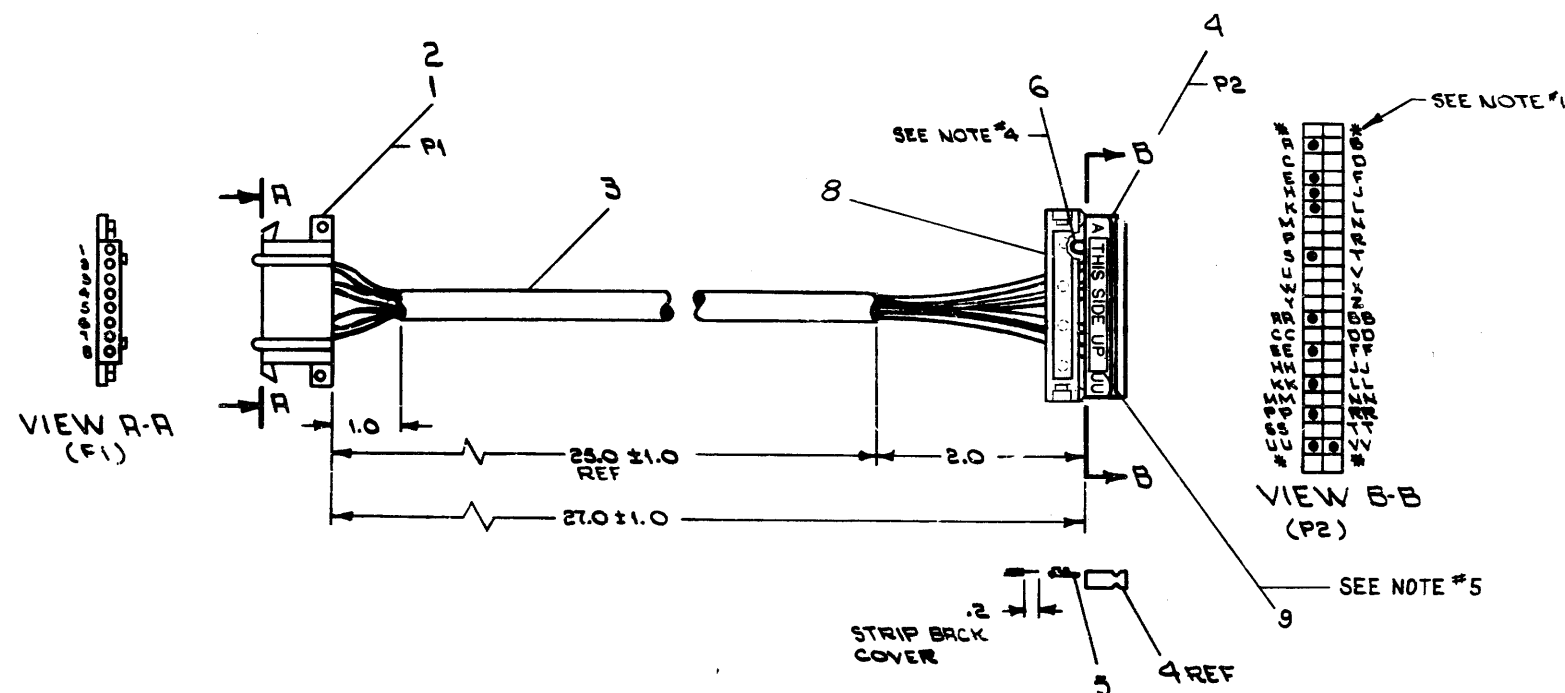
digital		EQUIPMENT CORPORATION		MAYNARD MASSACHUSETTS	
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TITLE GRANT CONTINUITY G727					
SIZE	CODE	NUMBER		REV	
B	CS	G727-0-1			
PRINTED CIRCUIT REV				A	

E. P. Kirk DIST 214344353

WIRE TABLE						
ITEM NO.	DESCRIPTION	PAIR NO.	FROM	TO	CONNECTION WITH	CONNECTION WITH
3	22 BLK	1	P1-2	2	P2-KK	5
3	RED		P1-3	2	P2-S	5
3,7	SHIELD		SEE NOTE #2	-	P2-A(NOTE#3)	5
3	BLK	2	P1-4	2	P2-EE	5
3	WHT		P1-5	2	P2-RR	5
3,7	SHIELD		SEE NOTE #2	-	P2-UU(NOTE#3)	5
3	BLK	3	P1-6	2	P2-PP	5
3	GRN		P1-7	2	P2-K	5
3,7	SHIELD		SEE NOTE #2	-	P2-VV(NOTE#3)	5
6	22 BLK	-	P2-E	5	P2-H	5

- NOTES:
- * ASTERISKS INDICATE CAVITIES NOT USED OR DESIGNATED BY LETTERS.
 - DRAIN WIRES TO BE CUT BACK TO OUTER INSULATION ON P1 END OF CABLE ONLY. SHIELDS TO BE CUT BACK TO OUTER INSULATION ON BOTH ENDS OF CABLES.
 - DRAIN WIRES ON P2 END OF CABLE TO BE EACH ENCLOSED WITH ITEM#7 (TUBING) FROM END OF CABLE JACKET TO POINT WHERE THEY ENTER P2 CONNECTOR.
 - ITEM#6(WIRE) TO BE APPROXIMATELY ONE(1) INCH LONG.
 - PLACE ITEM#9(THIS SIDE UP) STICKER ON LETTERED SIDE OF ITEM#4 (BERG HOUSING) AS SHOWN.



LABEL, THIS SIDE UP		361567	1
TRAIN RELIEF		2.1166	1
AIR TUB. #8 TEF. THIN WALL NAT		910728-11	7
AIR WIRE #22 AWG STRO TEF BLK		9107350-00	6
11 SOCKET, CRIMP #47216		1210089-07	5
1 HOUSING BERG #650-23-15		1210089-07	4
AIR CABLE, BELTEN #877-3PR SHLD		910723-0	3
6 CONTACT MATE-LOCK(FEMALE)		1209379-02	2
1 CONN. MATE-LOCK(FEMALE)		1209340-00	1
QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
FIRST USED ON OPTION / MODEL		DO NOT SCALE DRAWING	
PDP-8E		UNLESS OTHERWISE SPECIFIED	
		DIMENSION IN INCHES	
		TOLERANCES	
		ANGLES	
		± 0°30'	
		FINAL SURFACE QUALITY	
		REMOVE BURRS AND BREAK SHARP CORNERS	
		MATERIAL	
		SEE PARTS LIST	
		FINISH	
		NEXT HIGHER ASSY	
		A ML-KLB-E-0	
		SCALE	
		NONE	
		SHEET	
		OF	
		DIST	
		1	

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
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DRAWING DIRECTORY

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CUSTOMER PRINT SET INDEX

SEQUENCE

SEQUENCE

THIS IS PRINT SET

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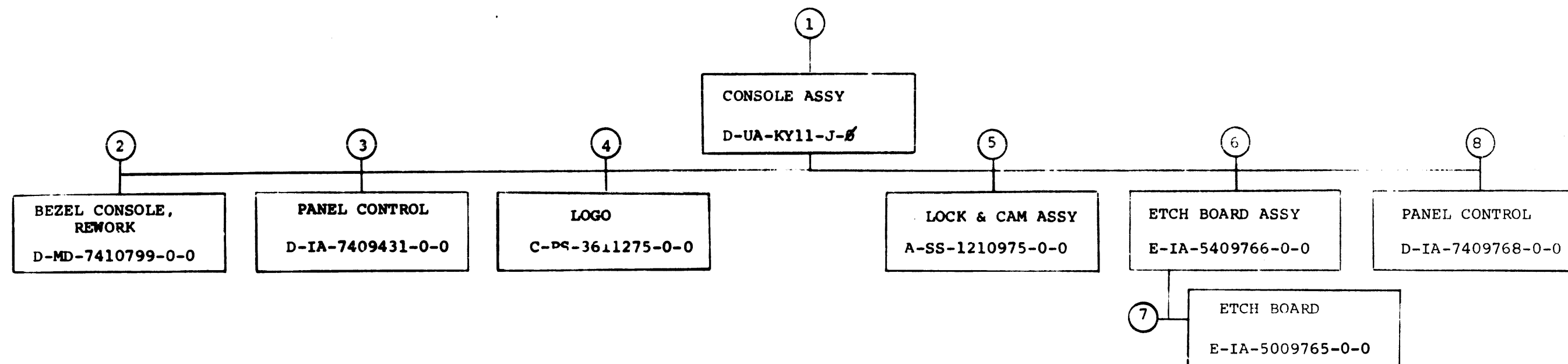
CONSOLE ASSY
CONSOLE ASSY (PL)
JUMPER POWER
I/O CABLE
CIRCUIT SCHEMATIC
ETCH BOARD ASSY

D-UA-KY11-J-Ø
A-PL-KY11-J-Ø
B-IA-7409730-0-0
C-UA-BCØ8R-Ø3-Ø
D-CS-5409766-Ø-1
E-IA-5409766-0-0

[illegible]

REVISIONS			
DATE	CHG. NO.	REV	
2/74	KY11J-00004	A	
3/74	KY11J-00005	B	
3/74	KY11J-00006	C	
3/74	KY11J-00007	D	

USED ON OPTION/MODEL		DRN.	DATE	TITLE CONSOLE ASSY						
11/05		CHK'D.	DATE							
		J.CAHILL	4-23-3							
		PROJ ENG.	DATE							
			8-29-73	SIZE		CODE	NUMBER			REV
		PROD.	DATE	B	DD	KY11-J			D	
			8-29-73							
		FIELD SERV.	DATE							
SHEET 1 OF 3			7-26-73	DIST						



TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
CONSOLE ASSY	2	4	B	DD	KY11-J	D

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY R. ROBICHAUD
DATE 12-8-71
ENG G. Graham
DATE 4-5-72

CHECKED C. TESCHNER
DATE 5-1-72
PROD R. K. PETERSON
DATE 5-10-72

SECTION 1
ISSUED SECT. 1

DWG NO. / PART NO.

DESCRIPTION

1	D-MD-7410799-0-0	CONSOLE BEZEL REWORK
2	B-IA-7409774-0-0	BEZEL CONTROL (1110)
3	E-IA-5409766-0-0	CONSOLE ETCH BOARD ASSY
4	P-IA-7409774-0-0	CONSOLE ETCH BOARD ASSY (1110)
5	A-PS-1210975-0-0	LOCK & CAM ASS'Y
6	9006020-1	SCR, PHL PAN HD. #6-32 X 1/4 LG
7	9006633	WASH INT TOOTH LOCK #6
8	9006003-1	SCR PHL PAN HD #2-56 X 3/8 LG
9	9008025-1	SCR PHL PAN HD #2-56 X 5/8 LG
10	1210790-0-0	SWITCH SPOT #10
11	G-MD-7409774-0-0	ACTUATOR REWORK
12	1210905-1	INSULATOR
13	B-IA-7409444-0-0	DETENT
14	9006686	WASH #2 SPLIT LOCK
15	9006000-4	SCR BINDER HD #2-56 X3/16 LG
16	1210904-1	SWITCH SPOT #10
17	C-UA-BC08R-03	I/O CABLE (3'-0" LG)
18	4901077	LUBE (FOR CAM LOCK)
19	B-IA-7409730-0-0	JUMPER, POWER
20	B-MD-7409068-0-0	SWITCH ADAPTER PLATE
21	P-MD-7409067-0-0	EXPANDER LEAF REWORK (1110)
22	9006449-2	SCR PAN HD #2-56 X 1/4 LG

TITLE

CONSOLE ASSY (PDP11/05)

ASSY NO.
D-UA-KY11-J-0

SIZE CODE
A PL

NUMBER
KY11-J-0

REV.
N

ECO NO.
KY11-J-00007

DEC FORM DEC 16 (325) 1031 N870
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY R. ROBICHAUD
DATE 12-8-71
ENG G. GRAHAM
DATE 4-5-72

CHECKED C. TESCHNER
DATE 5-1-72
PROD R. K. PETERSON
DATE 5-10-72

SECTION 1
ISSUED SECT. 1

DWG NO. / PART NO.

DESCRIPTION

23	B-IA-7409374-4-0	BEZEL CONTROL (1110)
24	A-PS-1210982-0-0	KEY LOCK SWITCH
25	B-IA-7409374-5-0	BEZEL CONTROL (UC15)
26	C-PS-3611275-0-0	LOGO (PDP-1105) NOTE VARIATIONS
27	D-IA-7409431-1-0	PANEL CONTROL (1105)
28	9009210-1	ADHESIVE TRANSFER TAPE 1/2 WIDE
29	1211052	CONSOLE PROTECTIVE COVER
30	D-IA-7409431-3-0	PANEL CONTROL (1110)
31	D-IA-7409768-0-0	PANEL CONTROL (GT40)
32	C-PS-3611275-4-0	LOGO (DEC GRAPHIC)
33	C-PS-3611275-5-0	LOGO (UC15)
34	D-IA-7409431-4-0	PANEL CONTROL (UC15)
35	C-UA-BC08R-64	I/O CABLE (4'-0" LG)
36	D-IA-7411393-0-0	INDICATOR PANEL (INDUSTRIAL)
37	C-MD-7411728-0-0	KEY LOCK SWITCH, REWORK
38	9009589	RETAINING RING .025 THK
39	9009339	TAPE CLOTH WATERPROOF 2" WIDE GRAY

TITLE

CONSOLE ASSY (PDP11/05)

ASSY NO.
D-UA-KY11-J-0

SIZE CODE
A PL

NUMBER
KY11-J-0

REV.
N

ECO NO.

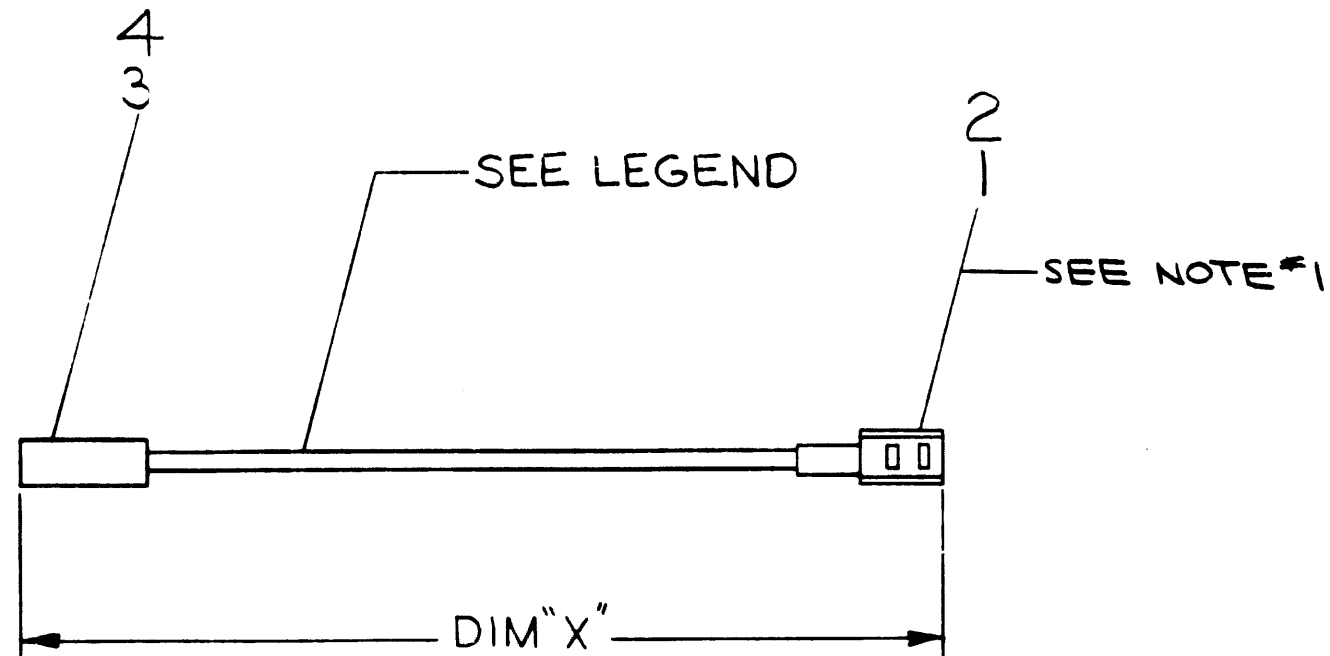
DEC FORM DEC 16 (325) 1031 N870
DRA 110

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LEGEND			
NUMBER	DIM "X"	COLOR	ITEM
7409730-01	5 1/2"	BLACK	5

NOTES:

1. ITEM *2 (SHRINK TUBING) TO COVER CONTACT AREA OF ITEM *1 (SOLDERLESS CONN.)



A/R	WIRE, #18 AWG, BLK	9107278-00	5
1	MINI FASTAB #60291-1	1210820-2	4
1	HOUSING, 1-480417-C	1210820-1	3
1	TUBING, SHRINK (WHITE)	9107252	2
1	SOLDERLESS CONN.-50902	9007917	1

FIRST USED ON OPTION MODEL
PDP-1105

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

DRN.	DATE
CBM/Cy	4-11-72
CHK'D.	DATE
C. Teschner	4-19-72
ENG.	DATE
J. Fisk	4-19-72
PROD. ENG.	DATE
D. Vukobratovic	4-28-72
PROD.	DATE
J. Fisk	4-28-72

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
JUMPER, POWER

NEXT HIGHER ASSEMBLY
/ /

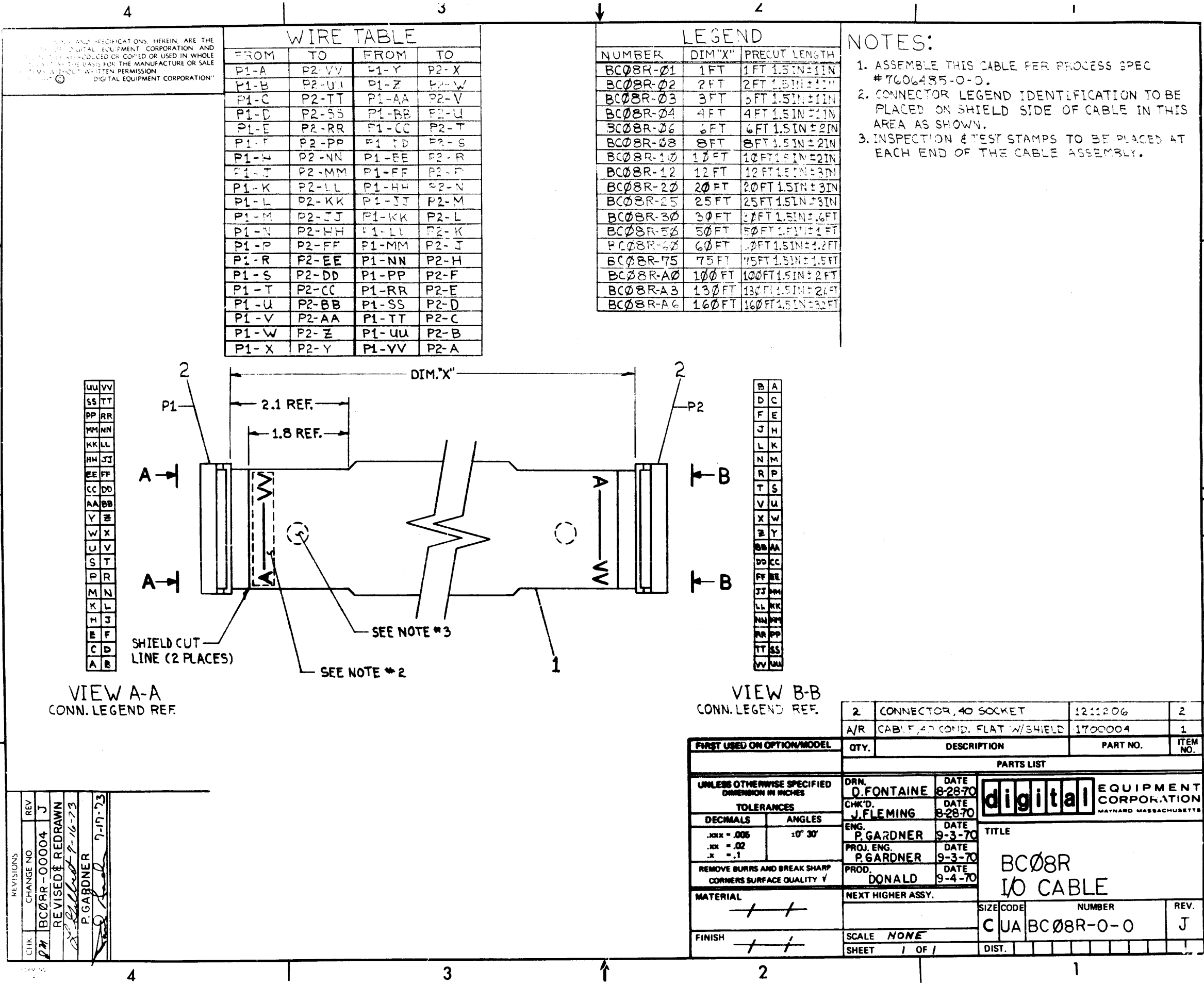
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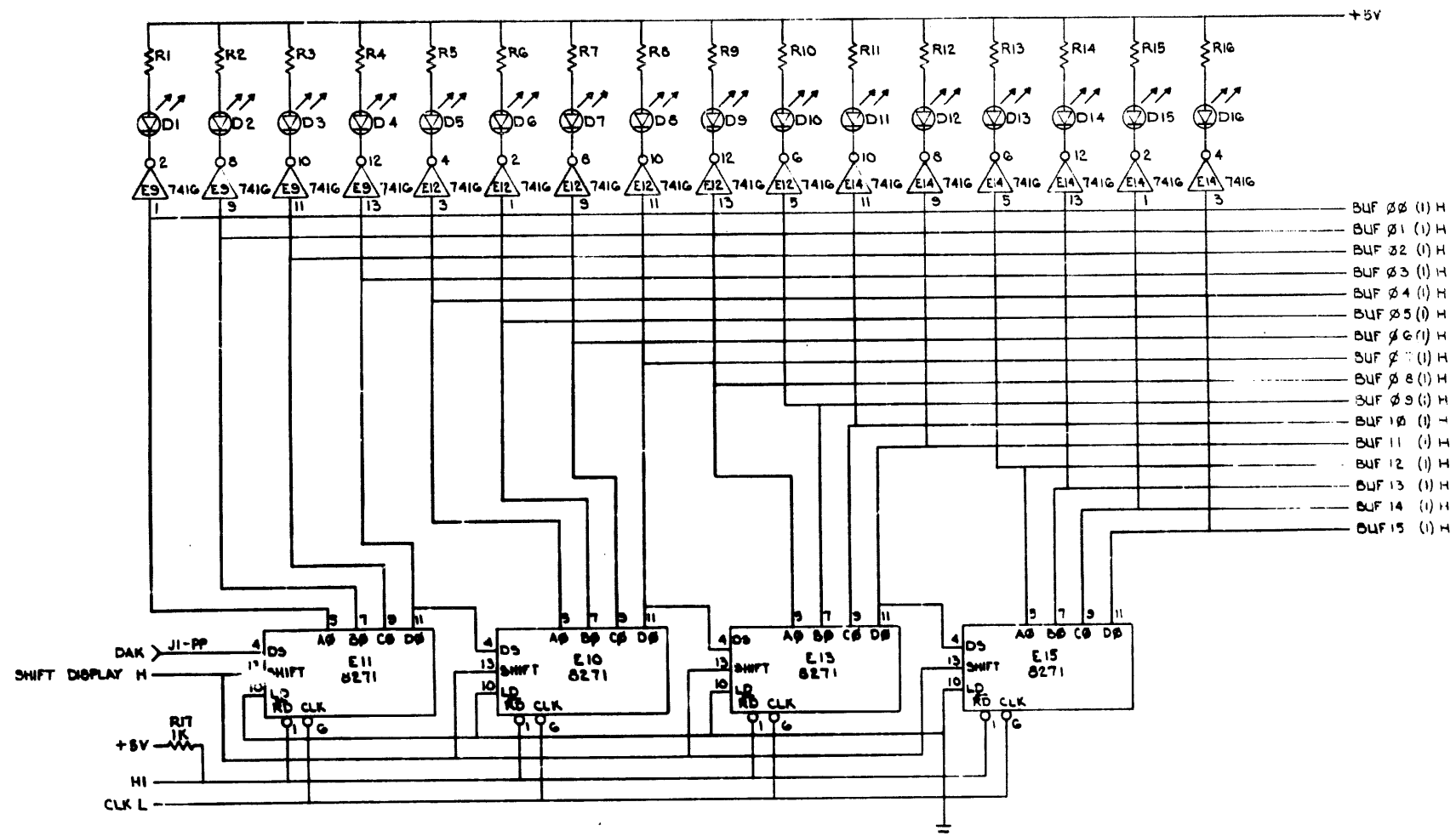
SHEET 1 OF

SIZE	CODE	NUMBER	REV
B	IA	7409730-0-C	

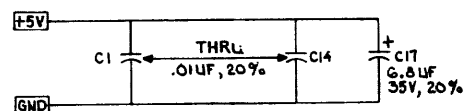
REV.
CHANGE NO.
CHK

DEC FORM NO.
DRB 109



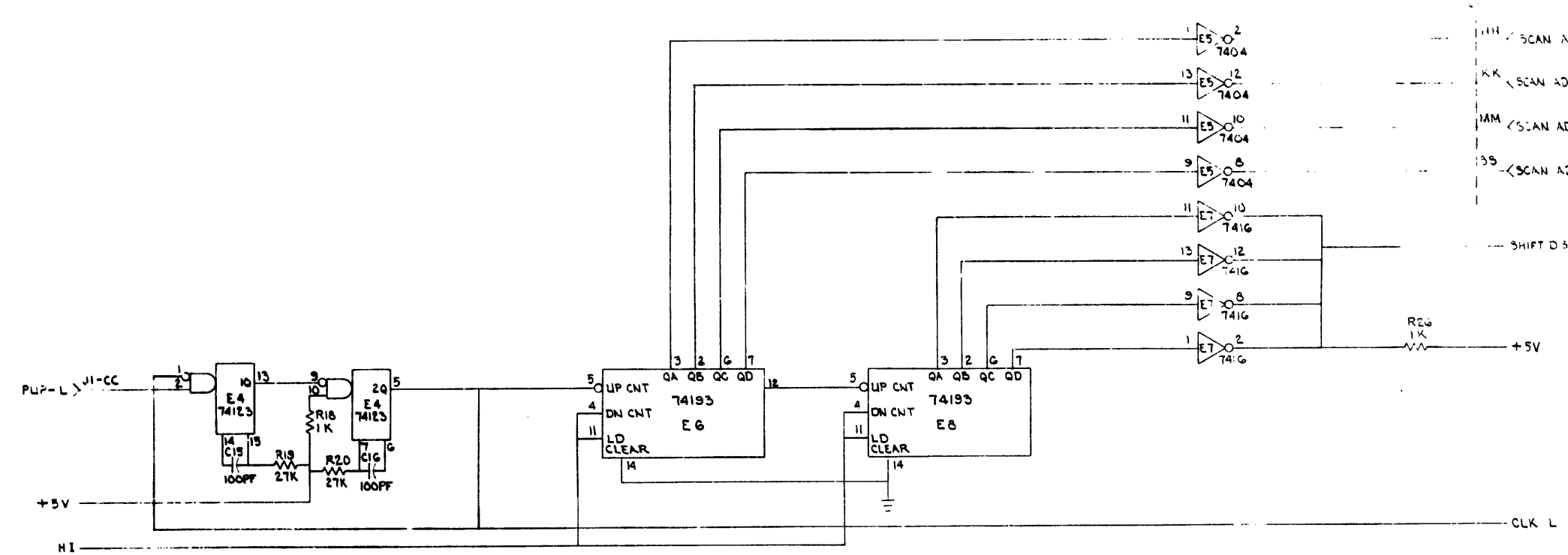
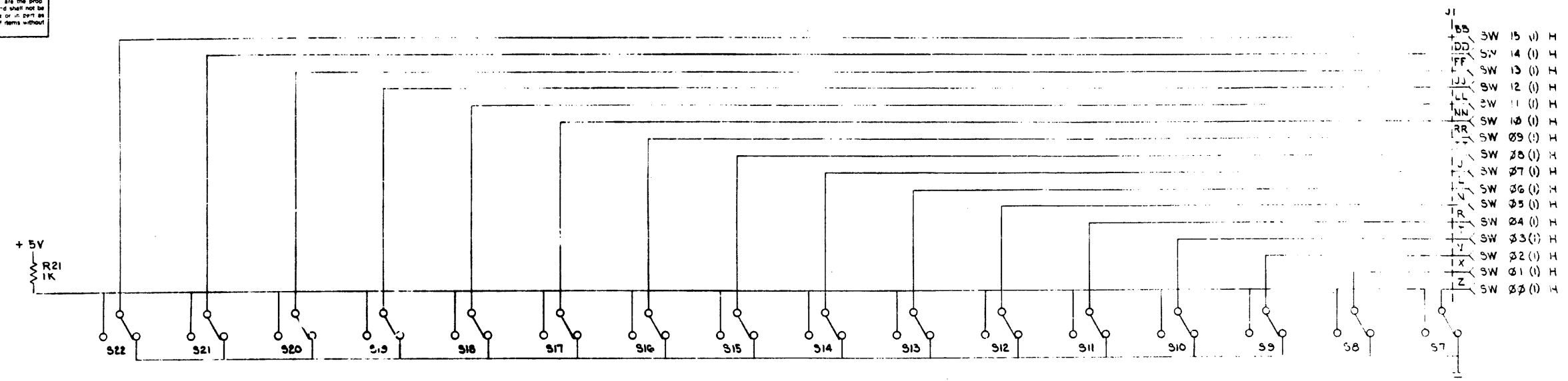


UNLESS OTHERWISE INDICATED:
 RESISTORS = 1/4W, 5%
 CAPACITORS = 100V, 5%
 DIODES ARE LIGHT EMITTING
 PIN 14 = +5V, PIN 7 = GND ON DEC 7404, 7416, 7417
 PIN 16 = +5V, PIN 8 = GND ON DEC 8271, 74125, 74103



QTY	REF DESIGNATION	DESCRIPTION										PART NO.	ITEM NO.
PARTS LIST													
ETCH BOARD REV	E												
		DRN. <i>Roger J. Zwettje</i>	DATE 18 Jan 72	digital EQUIPMENT CORPORATION WATYARD MASSACHUSETTS TITLE 11/05 CONSOLE									
		CHK'D.	DATE 22 Jan 72										
		ENG'D.	DATE 2-10-72										
		PROF'NG.	DATE 2-10-72										
		MOD.	DATE 2-10-72										
		<i>R. Patterson</i>											
		NEXT HIGHER ASSY E-2A84C9766-0-0											
DEC NO.	EIA NO.	SCALE		SIZES CODE	NL ABER							REV.	
		SHEET 1 OF 3		DICS	5409766-0-1							J	
R CONVERSION CHART		DIST.											

1. All dimensions are in inches unless otherwise specified.
2. All dimensions are to be maintained unless otherwise specified.
3. All dimensions are to be maintained unless otherwise specified.



QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
1	ETCH BOARD REV E			
1	DRN	ROGER J. DOUGLASS	DATE 20 JAN 72	
1	CHKD	DOUGLASS	DATE 10 JAN 72	
1	ENG	DOUGLASS	DATE 10 JAN 72	
1	PROJ. ENG	DOUGLASS	DATE 10 JAN 72	
1	PROD	DOUGLASS	DATE 10 JAN 72	
1	NEXT HIGHER ASSY	B-1A-5409766-0-0		
1	SCALE	3 OF 3		
1	SHEET	3 OF 3		

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

DEC NO	EIA NO	DEC NO	EIA NO

SCALE	3 OF 3	SHEET	3 OF 3
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SIZE CODE	NUMBER	REV
D	5409766-0-1	J

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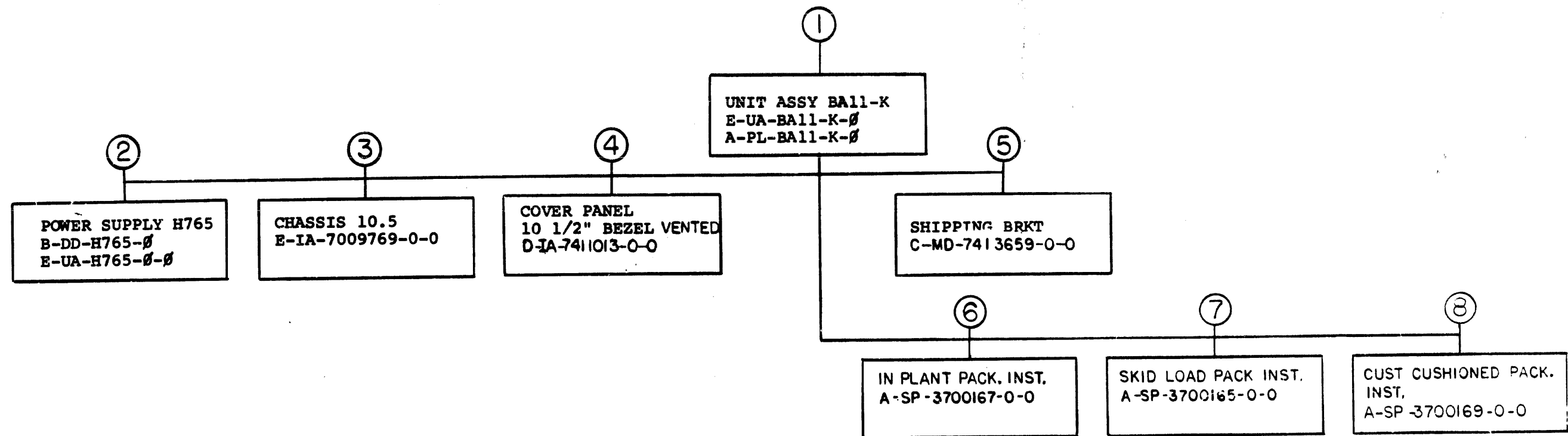
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SEQUENCE

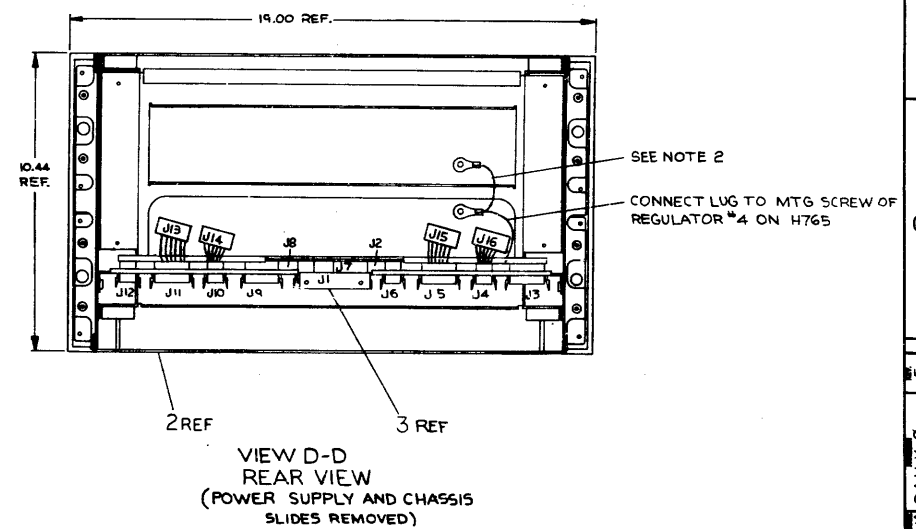
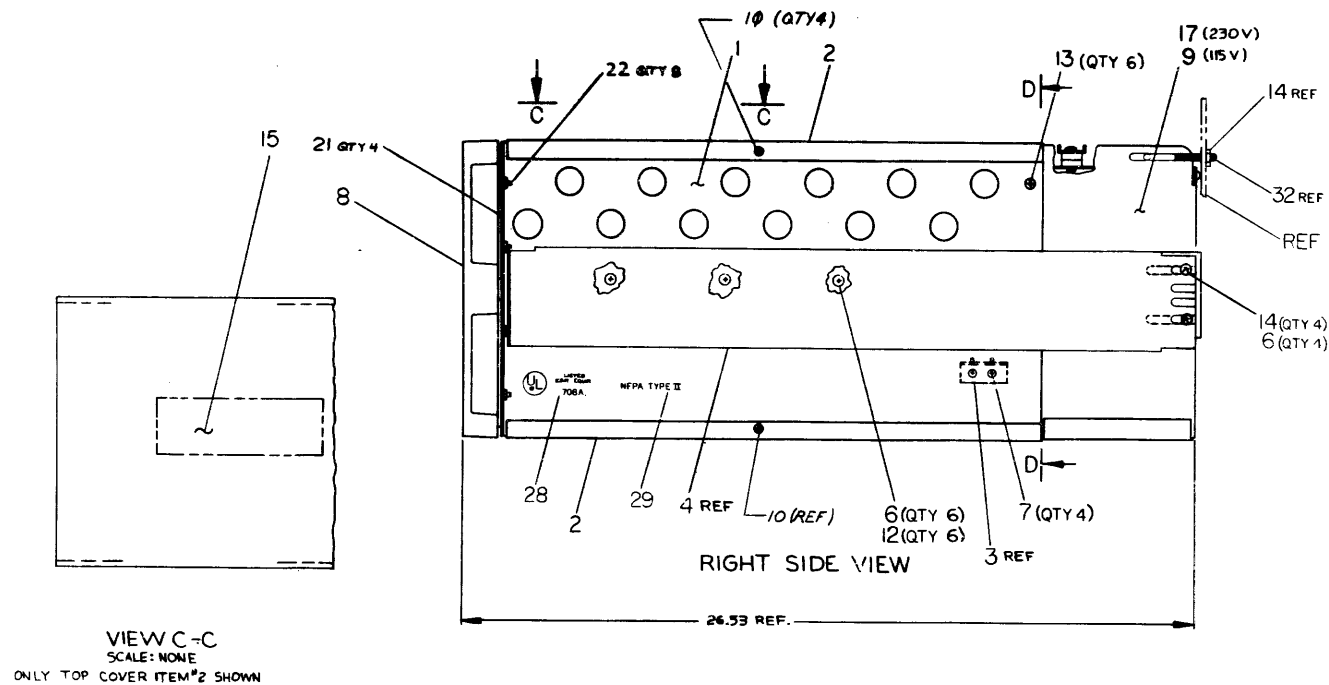
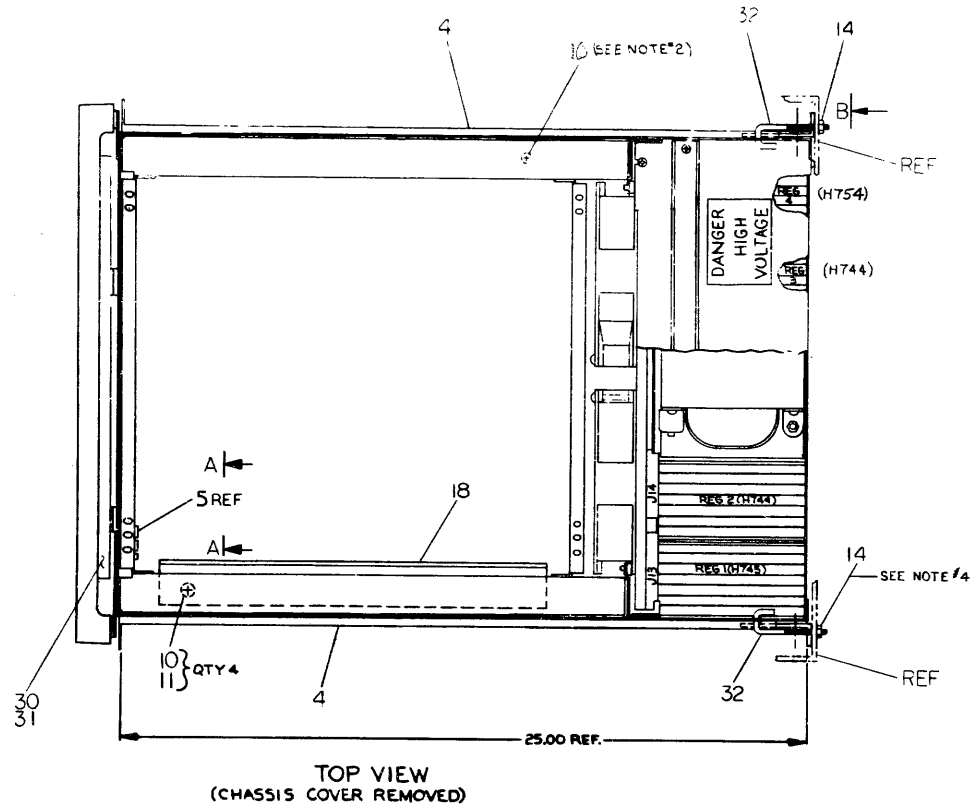
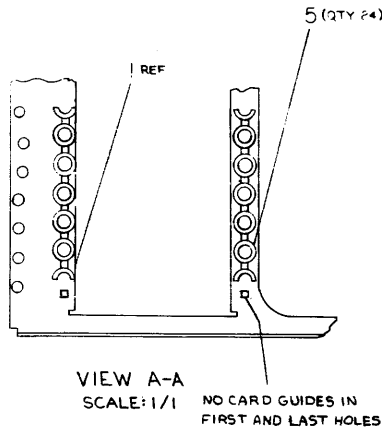
A-SP-3700167-0-0
A-SP-3700165-0-0
A-SP-3700169-0-0

[illegible]

REVISIONS			USED ON OPTION/MODEL				DRN.	DATE	TITLE									
DATE	CHG. NO.	REV					J. FERGUSEN	6/22/74	DRAWING DIRECTORY									
E.A.	BAIK-4	A					CHK'D.	DATE	BALL-K									
E.A.	BAIK-5	B				11/05-S	D. HEALY	7/3/74										
WRN	BAIK-7	C				11/35-S	PROJ ENG.	DATE										
BM.	BAIK-8	D					E. Anton	9/4/74										
	BAIK-9	E					PROD.	DATE	SIZE	CODE	NUMBER					REV		
							R. L. Petersen	10/1/74	B	DD	BALL-K					E		
							FIELD SERV.	DATE	DIST									
							R. L. Gates	9/13/74										
			SHEET	1	OF	4												

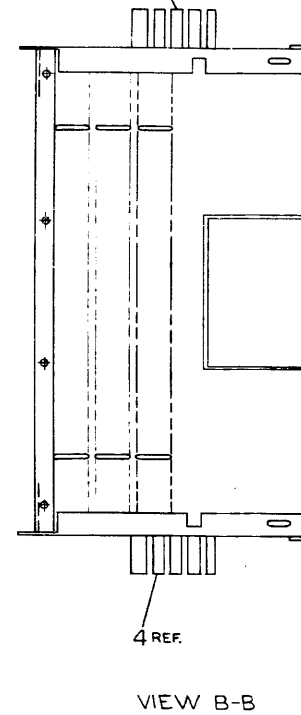


TITLE	SHEET	SIZE	CODE	NUMBER	REV
DRAWING DIRECTORY BALL-K	2 OF 4	B	DD	BALL-K	E

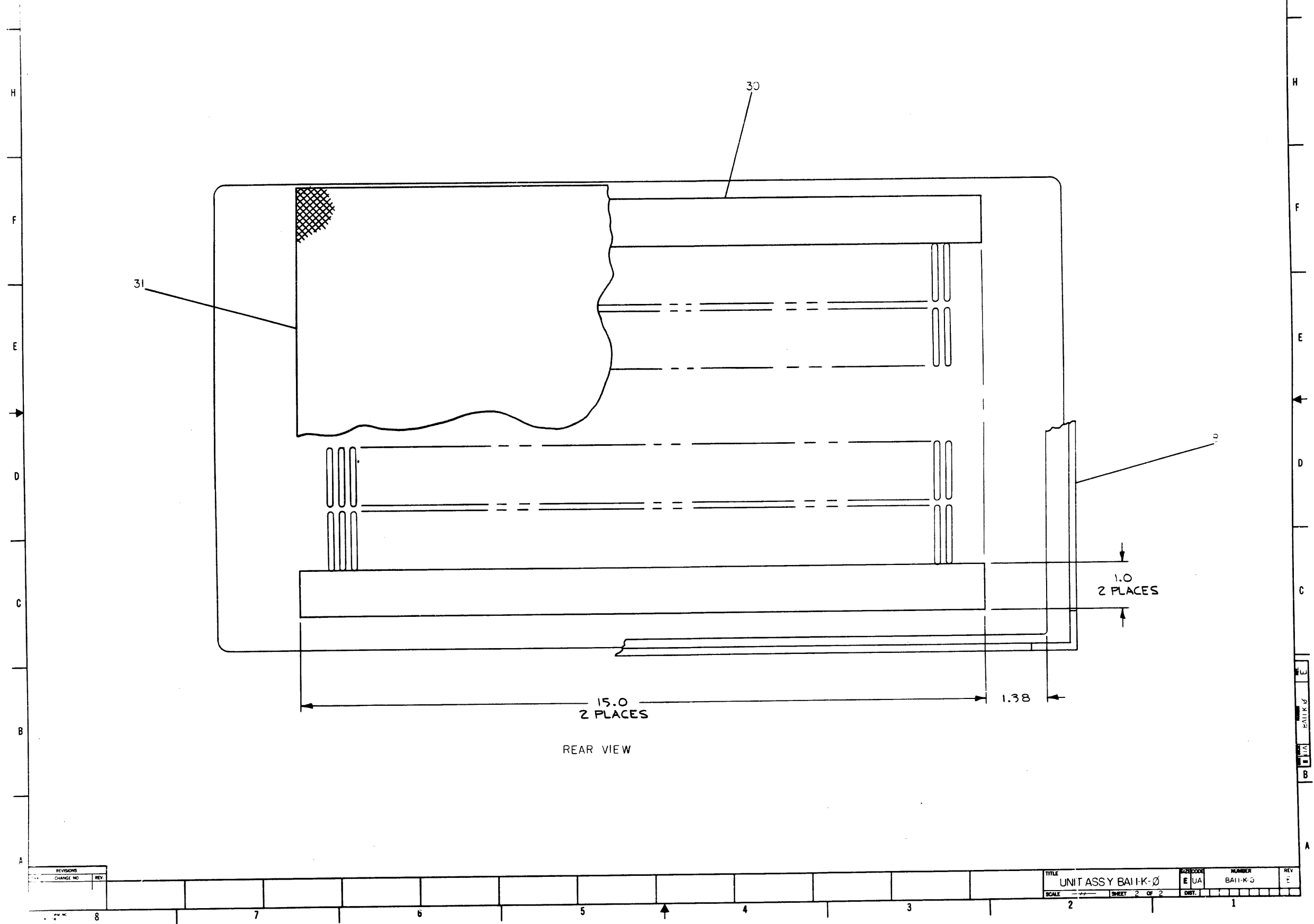


NUMBER	VARIATION
BALI-KE	115V 50/60HZ
BALI-KF	230V 50/60HZ
BALI-KH	115V 50/60HZ
BALI-KJ	230V 50/60HZ

- NOTES:
- CAUTION: OFF SHEET PARTS LISTS EXISTS SEE A-PL-BALI-K-0
 - GROUND LUG OF PWR DISTRIBUTION BD. ATTACHES TO SCREW ON CHASSIS
 - TIGHTEN ALL SYSTEM UNIT MOUNTING SCREWS TO 13 IN.-LBS WITH A TORQUE SCREW DRIVER
 - ATTACH SHIPPING BRACKETS TO POWER SUPPLY AND BOLT THROUGH HOLE IN CABINET RAILS



REV.	DESCRIPTION	DATE	BY	CHKD.	APP'D.
1	UNIT ASSY BALI-K	11/15/75	W. J. S.		
2	REVISION				
3	REVISION				
4	REVISION				
5	REVISION				
6	REVISION				
7	REVISION				
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98	REVISION				
99	REVISION				
100	REVISION				



REVISIONS	CHANGE NO.	REV.

TITLE	UNIT ASSY BATH-K-Ø	SIZE CODE	EUA	NUMBER	BATH-K-Ø	REV	E
SCALE	1:1	SHEET	2 OF 2	DATE			

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS										PARTS LIST									
MADE BY		BILL BLODGET		CHECKED		D. HEALY		SECTION											
DATE		6/26/74		DATE		6/27/74		1											
ENG		P. E. JANSON		PROD		W. LUCAS		ISSUED SECT.											
DATE		8-23-74		DATE		8-23-74		1											
DWG NO. / PART NO.										DESCRIPTION									
1 E-IA-7009769-0-0										CHASSIS 10.5									
2 D-IA-7009768-0-0										COVER, CHASSIS									
3 D-CS-5410864-0-1										POWER DISTRIBUTION BOARD									
4 D-PS-1211825-0-0										SLIDE, 3 POS TILT									
5 D-PS-1211630-0-0										CARD GUIDE									
6 9006071-3										SCREW, PHL TRUSS HD #10-32 X .38									
7 9006020-2										SCREW, PHL FLAT HD #6-32 X .25									
8 D-IA-7411013-0-0										COVER, PANEL 10 1/2 BEZEL (SNAP-ON/VENTED)									
9 B-DD-H765-A										POWER SUPPLY H765-A 115V 50/60 HZ									
10 9006020-3										SCREW, PHL, TRUSS HD #6-32 X .25									
11 9006033										WASHER EXTERNAL TOOTH #10									
12 9007651										SCREW, PHL FLAT HD (SPECIAL)									
13 9009599										NUT, KEPS, #10-32									
14 9006565										STICKER, "CONFIGURATION"									
15 DEC-3-(374)-1825-N1174										SHIPPING BRACKET									
16 D-IA-7010059-0-0										POWER SUPPLY H765-B, 230V 50/60 HZ									
17 B-DD-H765-B										CABLE TROUGH CHASSIS									
18 D-MD-7412184-0-0										SCR, PH, HD 1/2 X 1/2 X 1/2									
19 9008408-1										UNIBUS CABLE, 10 FT									
20 D-UA-BC11A-10-0										LATCH MOLDING									
21 1209224										SCR PH HD FLT #10-32 X .25									
22 9008007-2																			
TITLE UNIT ASSY BALL-K										ASSY NO. E-UA-BALL-K-0									
SIZE CODE A PL										NUMBER BALL-K-0									
SHEET 1 OF 2										DIST.									

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

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS										PARTS LIST									
MADE BY		BILL BLODGET		CHECKED		D. HEALY		SECTION											
DATE		6/26/74		DATE		6/27/74		1											
ENG		P. E. JANSON		PROD		W. LUCAS		ISSUED SECT.											
DATE		8-23-74		DATE		8-23-74		1											
DWG NO. / PART NO.										DESCRIPTION									
23 A-SP-3700167-0-0										IN PLANT PACK. INST.									
24 A-SP-3700165-0-0										SKID LOAD PACK INST.									
25 A-SP-3700169-0-0										CUST. CUSHIONED PACK. INST.									
26 A-SP-BALL-K-6										BALL-K BASIC CHECKOUT AND ACCEPTANCE PROCEDURE									
27 A-SP-BALL-K-7										BALL-K BASIC ASSEMBLY PROCEDURE									
28 A-DC-5309414-0										DECAL, UL									
29 A-DC-5309413-0										DECAL, NFPA									
30 21336-02										TAPE									
31 1211255 0-0										PRE FILTER									
32 C-MD-7413659 0 0										SHIPPING BRACKET									
TITLE UNIT ASSY BALL-K										ASSY NO. E-UA-BALL-K-0									
SIZE CODE A PL										NUMBER BALL-K-0									
SHEET 2 OF 2										DIST.									

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

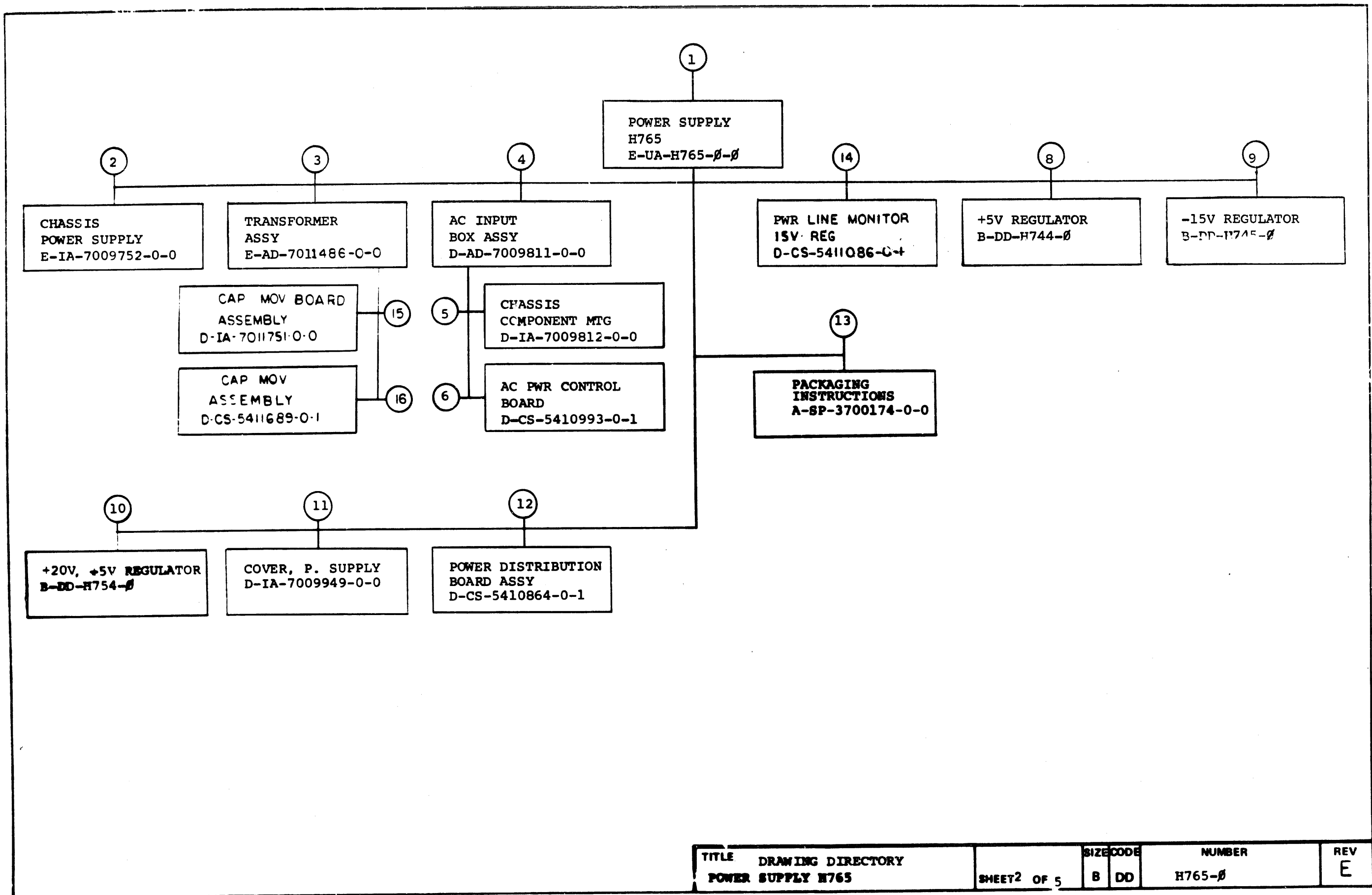
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D-CS-5410864-0-1
D-AD-7010131-0-0
D-CS-5411086-0-1
E-AD-7011486-0-0

[illegible]

DEC 16-1355-1063-1A-R072



TITLE	DRAWING DIRECTORY	SIZE	CODE	NUMBER	REV
POWER SUPPLY H765	SHEET 2 OF 5	B	DD	H765-Ø	E

CUSTOMER PRINT SET		ELECTRICAL					CUSTOMER PRINT SET		ELECTRICAL									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
MFG SET		FIND NO	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE	MFG SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE			
X		1	E-UA-H765-0 A-SP-H765-0-9	H	2	POWER SUPPLY H765 H765 POWER SUPPLY ASSEMBLY PROCEDURE		X		12	D-CS-5410864-0-1 D-IA-5010863-0-0 A-SP-5410864-0-8 A-SP-5410864-0-9	#	3 1	POWER DIST. BD. ASSY ETCHED CIRCUIT BOARD TEST PROCEDURE ASSEMBLY PROCEDURE				
X		3	E-AD-7011486-0-0 A-SP-7010014-0-8 A-CS-7010014-TA-1 A-UA-7010014-TA-0 A-PL-7010014-TA-0 A-SP-7011486-0-9	# A A A A		TRANSFORMER ASSY TEST PROCEDURE TESTER C.S. TESTER U.A. TESTER P.L. TRANSFORMER ASSY PROCEDURE		X		14	D-CS-5411086-0-1 A-SP-11/45-TA-2 A-SP-5411086-0-3 D-IA-7010138-0-0	#	4	PWR LINE MONITOR/15V REG TEST PROCEDURE ENGINEERING SPECIFICATION HARNESS INTERCONNECTION				
X		4	D-AD-7009811-0-0 A-SP-7009811-0-8 A-CS-7009811-TA-1 A-UA-7009811-TA-0 A-PL-7009811-TA-0 A-SP-7009811-0-9	#	2	AC INPUT BOX ASSY TEST PROCEDURE TESTER C.S. TESTER U. A. TESTER P.L. AC INPUT BOX ASSY PROCEDURE				15	D-IA-7011751-0-0			CAP MOV BOARD ASSY				
X		6	D-CS-5410993-0-1 A-SP-5410993-0-8 A-CS-5410993-TA-1 A-UA-5410993-TA-0 A-PL-5410993-TA-0	#	1	AC POWER CONTROL BD TEST PROCEDURE TESTER C. S. TESTER U.A. TESTER P.L.				16	D-CS-5411689-0-1			CAP MOV ASSY				
C		8	B-DD-H744-0	#	2	DRAWING DIRECTORY H744												
C		9	B-DD-H745-0	#	2	DRAWING DIRECTORY H745												
C		10	B-DD-H754-0	#	3	DRAWING DIRECTORY H754												
CUSTOMER PRINT SET CODES		X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED					TITLE		DRAWING DIRECTORY POWER SUPPLY H765		SHEET 3 OF 5		SIZE CODE B DO		NUMBER H765-0		REV E	

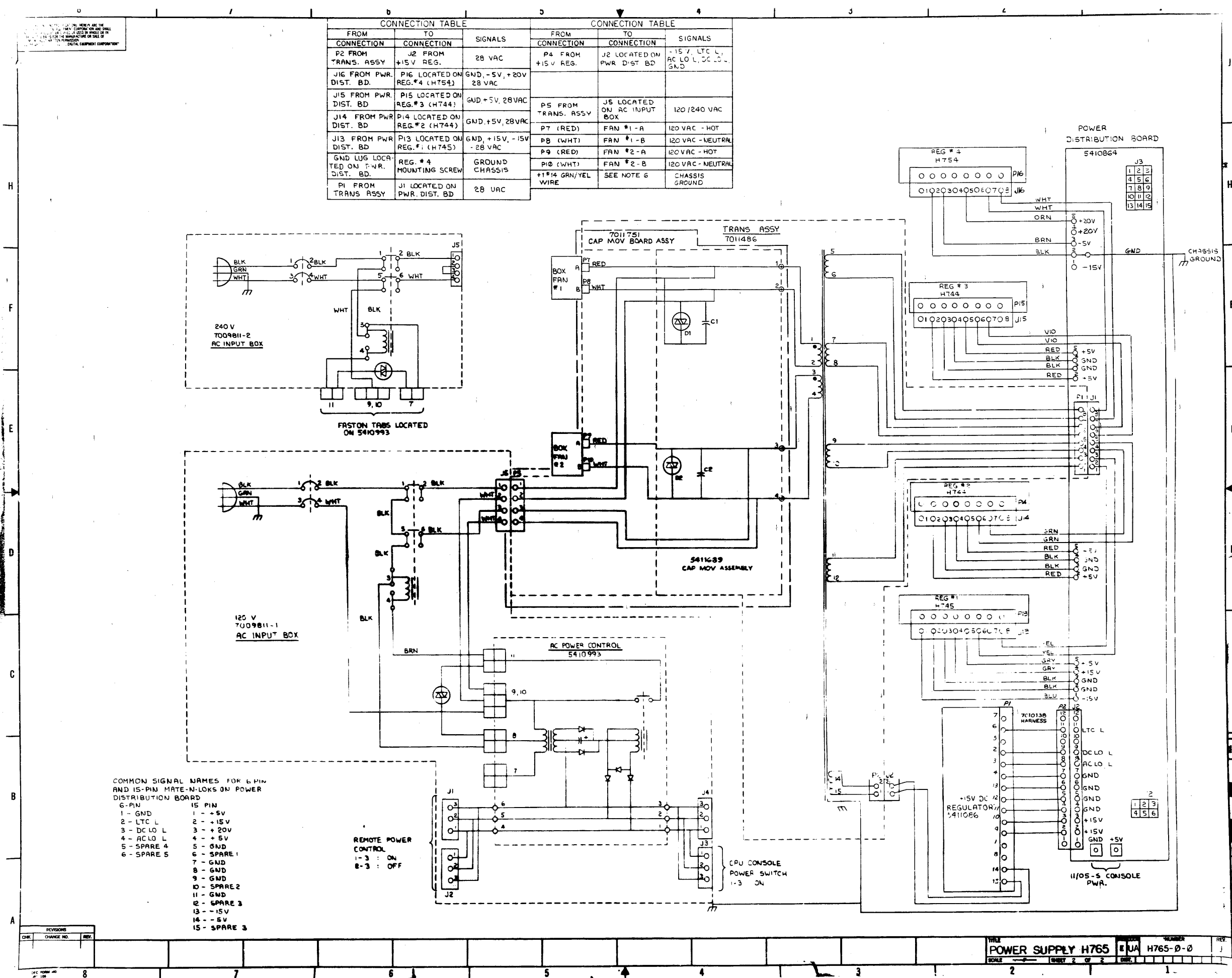
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MFG	SET	FIND NO	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE	MFG	SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE				
		1	E-UA-H765-0-0	H	2	POWER SUPPLY H765				6	D-CS-5410993-0-1		1	AC PWR CONTROL BD.					
											K-CO-5410993-0-4		1	X-Y COORDINATE HOLE LOC.					
			D-IA-7009950-0-0		1	THROUGH WIRE					D-AH-5410993-0-5		1	ASSY/DRILLING HOLE LAYOUT					
											B-MH-5410993-0-6		1	MODULE ECO HISTORY					
											5010992		REF	ETCH CIRCUIT BOARD					
		2	E-IA-7009752-0-0		1	CHASSIS, POWER SUPPLY													
			E-IA-7411682-0-0		1	CHASSIS, POWER SUPPLY													
			D-MD-7411685-0-0		1	SIDE, POWER SUPPLY													
			D-MD-7411684-0-0		1	HOUSING COMP. CHASSIS													
										8	B-DD-H744-0		2	DRAWING DIRECTORY H744					
		3	E-AD-7011486-0-0		2	TRANSFORMER ASSY													
			C-MD-7414301-0-0		1	COVER													
										9	B-DD-H745-0		2	DRAWING DIRECTORY H745					
		4	D-AD-7009811-0-0		2	AC INPUT BOX ASSY													
			A-DC-7412303-0-0		1	DECAL 115V													
			D-AD-7010131-0-0		1	POWER CORD				10	B-DD-H754-0		3	DRAWING DIRECTORY H754					
			A-DC-7412380-0-0		1	DECAL 230V													
			D-IA-7010302-0-0		1	POWER CONTROL HARN.													
			D-IA-7010301-0-0		1	POWER JUMPER													
			C-IA-7010300-0-0		1	VARISTOR ASSY													
			A-DC-7409873-0-0		1	DECAL (PLUG NUMBERS)				11	D-IA-7009949-0-0		1	COVER, POWER SUPPLY					
											C-MD-7412473-0-0		1	STRIP, CLAMP					
			D-IA-7009812-0-0	A	1	CHASSIS COMPONENT MTG.													
			D-IA-7411765-0-0		1	PLATE SWITCH													
			D-IA-7411766-0-0	B	1	PLATE COMPONENT MTG.													
CUSTOMER PRINT SET CODES		X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED						TITLE		DRAWING DIRECTORY POWER SUPPLY H765		SHEET 4 OF 5		SIZE CODE 8 DD		NUMBER H765-0		P.V. E	

CUSTOMER PRINT SET					MECHANICAL					CUSTOMER PRINT SET							
1	MFG SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE		MFG SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE		
		12	D-CS-5410864-0-1		3	POWER DIST. BD. ASSY											
			C-MD-7412192-0-0		1	SHIELD											
			D-MD-7411704-0-0		1	BRACKET, CONN. MTG.											
			C-IA-9305937-0-0			MATE-N-LOK FIXTURES											
			D-IA-5010863-0-0		1	ETCHED CIRCUIT BD.											
			K-CO-5410864-0-4			X-Y COORDINATE HOLE LOC.											
			D-AH-5410864-0-5		1	ASSY DRILLING HOLE LAYOUT											
			B-MH-5410864-0-6		1	MODULE ECO HISTORY											
			5010863		REF	ETCH CIRCUIT BOARD											
	X	13	A-SP-3700174-0-0	-	2	PACKAGING INSTRUCTIONS											
			A-PS-9905664-0-0	-	2	REGULAR SLOTTED CARTON											
			A-PS-9905665-0-0	-	2	LAMINATED BUILDUP											
		14	D-AH-5411086-0-5		1	ASSY DRILLING HOLE LAYOUT											
			B-MH-5411086-0-6		1	MODULE ECO HISTORY											
		15	D-AD-7011486-0-0		1	ASSEMBLY DRAWING											
		16	D-AH-5411689-0-5		1	ASSY DRILLING HOLE LAYOUT											
			D-MH-5411689-0-6		1	MODULE ECO HISTORY											
CUSTOMER PRINT SET CODES		X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED						TITLE		DRAWING DIRECTORY POWER SUPPLY H765		SHEET 5 OF 5		3 DD		NUMBER H765-2	REV E

NOTES

1. SEE TRANSFORMER ASSY E-AD-701001A SHEET 2 FOR ISOMETRIC ORIENTATION OF CLAMP & PLUG WIRES.
2. TIGHTEN FAN SCREWS TO 10 IN-LBS WITH A TORQUE SCREW DRIVER.
~~DO NOT REPLACE IN PLACE OF REGULAR WINDING CONNECTION BARS.~~
3. INSTALL A.B.S VINYL VIEW B-B ITEM #42 AND #43, CENTER 1/4 INCH FROM BOTTOM AND SIDES ON INSIDE WALL.
~~DO NOT EXCEED 100 INCHES IN UNDER MOUNTING SCREW HEAD OF TRANSFORMER ONLY.~~
6. GREEN, YEL GRN WIRE FROM TRANSFORMERS TO BE FASTENED UNDER REGULATOR MOUNTING SCREW.
7. IN EARLIER VERSIONS OF THE TRANSFORMER ASSEMBLY A CABLE CLAMP WAS USED IN PLACE OF THE 5 TIE WRAPS TO DRESS THE TRANSFORMER WIRES ALONG THE TRANSFORMER BODY.

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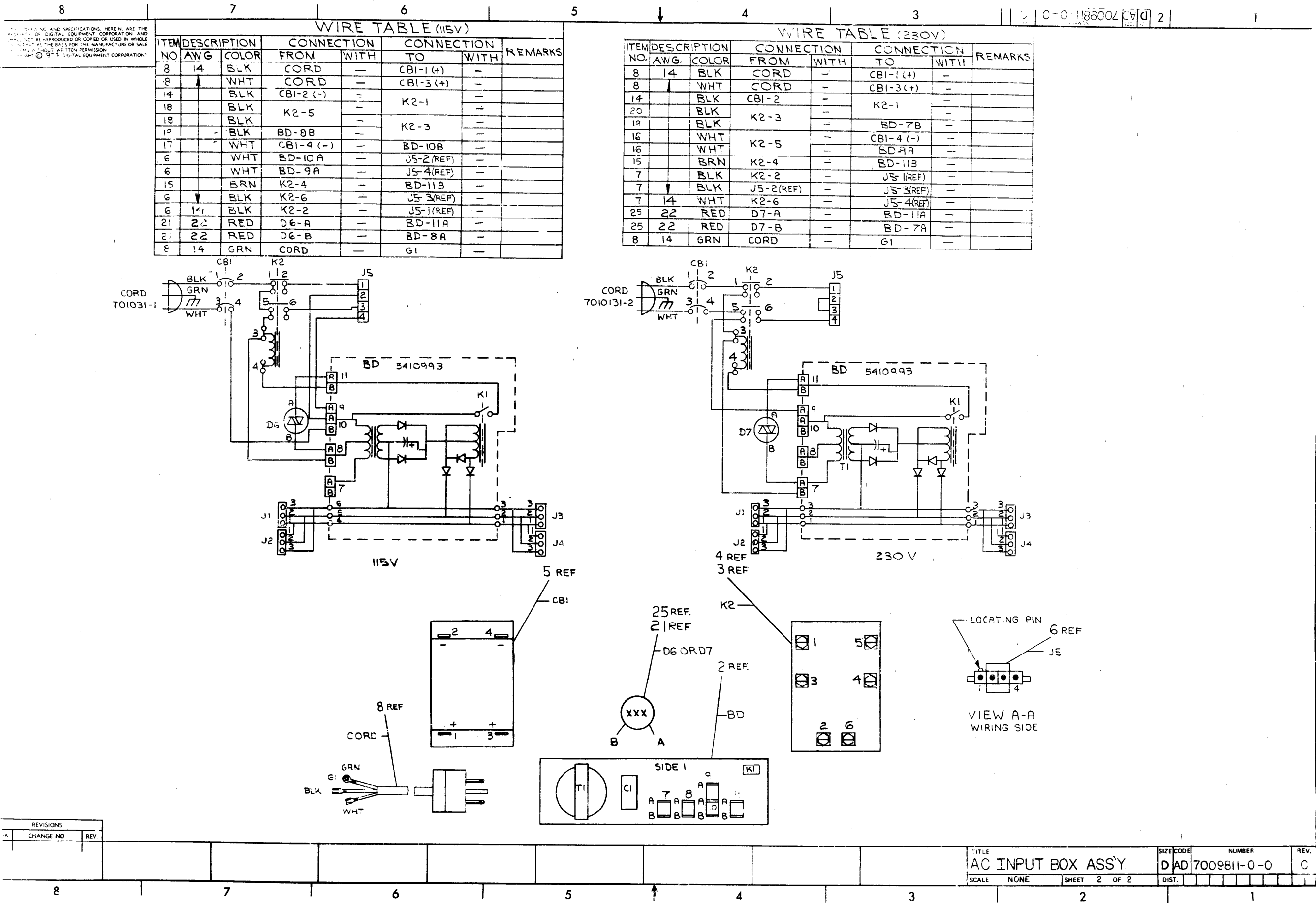


CONNECTION TABLE			CONNECTION TABLE		
FROM	TO	SIGNALS	FROM	TO	SIGNALS
P2 FROM TRANS. ASSY	J2 FROM +15V REG.	28 VAC	P4 FROM +15V REG.	J2 LOCATED ON PWR. DIST. BD	-15V, LTC L, AC LO L, DC LO L, GND
J16 FROM PWR. DIST. BD	P16 LOCATED ON REG. #4 (H754)	GND, -5V, +20V 28 VAC			
J15 FROM PWR. DIST. BD	P15 LOCATED ON REG. #3 (H744)	GND +5V, 28VAC	P5 FROM TRANS. ASSY	J5 LOCATED ON AC INPUT BOX	120/240 VAC
J14 FROM PWR. DIST. BD	P14 LOCATED ON REG. #2 (H744)	GND +5V, 28VAC	P7 (RED)	FAN #1 - A	120 VAC - HOT
J13 FROM PWR. DIST. BD	P13 LOCATED ON REG. #1 (H745)	GND, +15V, -15V -28 VAC	P8 (WHT)	FAN #1 - B	120 VAC - NEUTRAL
GND LUG LOCATED ON PWR. DIST. BD	REG. #4 MOUNTING SCREW	GROUND CHASSIS	P9 (RED)	FAN #2 - A	120 VAC - HOT
P1 FROM TRANS. ASSY	J1 LOCATED ON PWR. DIST. BD	28 VAC	P10 (WHT)	FAN #2 - B	120 VAC - NEUTRAL
			+1#14 GRN/YEL WIRE	SEE NOTE 6	CHASSIS GROUND

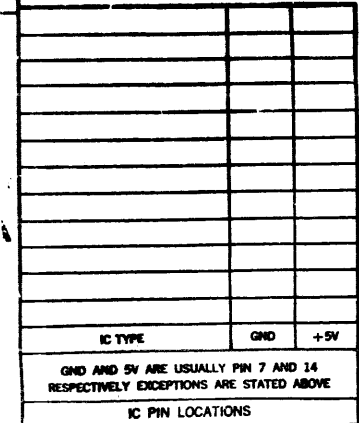
COMMON SIGNAL NAMES FOR 6-PIN AND 15-PIN MATE-N-LOKS ON POWER DISTRIBUTION BOARD

6-PIN	15-PIN
1 - GND	1 - +5V
2 - LTC L	2 - +15V
3 - DC LO L	3 - +20V
4 - AC LO L	4 - +5V
5 - SPARE 4	5 - GND
6 - SPARE 5	6 - SPARE 1
	7 - GND
	8 - GND
	9 - GND
	10 - SPARE 2
	11 - GND
	12 - SPARE 3
	13 - -15V
	14 - -5V
	15 - SPARE 3

REMOTE POWER CONTROL
1-3 : ON
2-3 : OFF



NOTES:



1-27-76		B. KENNEDY		7/1/77		5410993-0001 B		A		REV.	
CHANGE NO.		REV.		REV.		REV.		REV.		REV.	
DEC NO.		EIA NO.		DEC NO.		EIA NO.		DEC NO.		EIA NO.	
SEMICONDUCTOR CONVERSION CHART											

DRAWING DIRECTORY

CUSTOMER PRINT SET INDEX

DRAWING DIRECTORY
CIRCUIT SCHEMATIC
UNIT ASS'Y

SEQUENCE

TB-DD-H744-~~0~~
D-CS-H744-~~0~~-1
E-UA-H744-0-0

SEQUENCE

TEST PROCEDURE A-SP-H744-~~1~~-3
MFG. SPE A-SP-H744-~~1~~-3
PACKAGING INSTRUCTIONS A-PI-3700074-0-0

THIS IS PRINT SET

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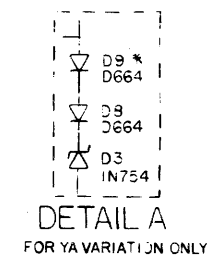
UNIT VARIATIONS

PRINT SET TYPE

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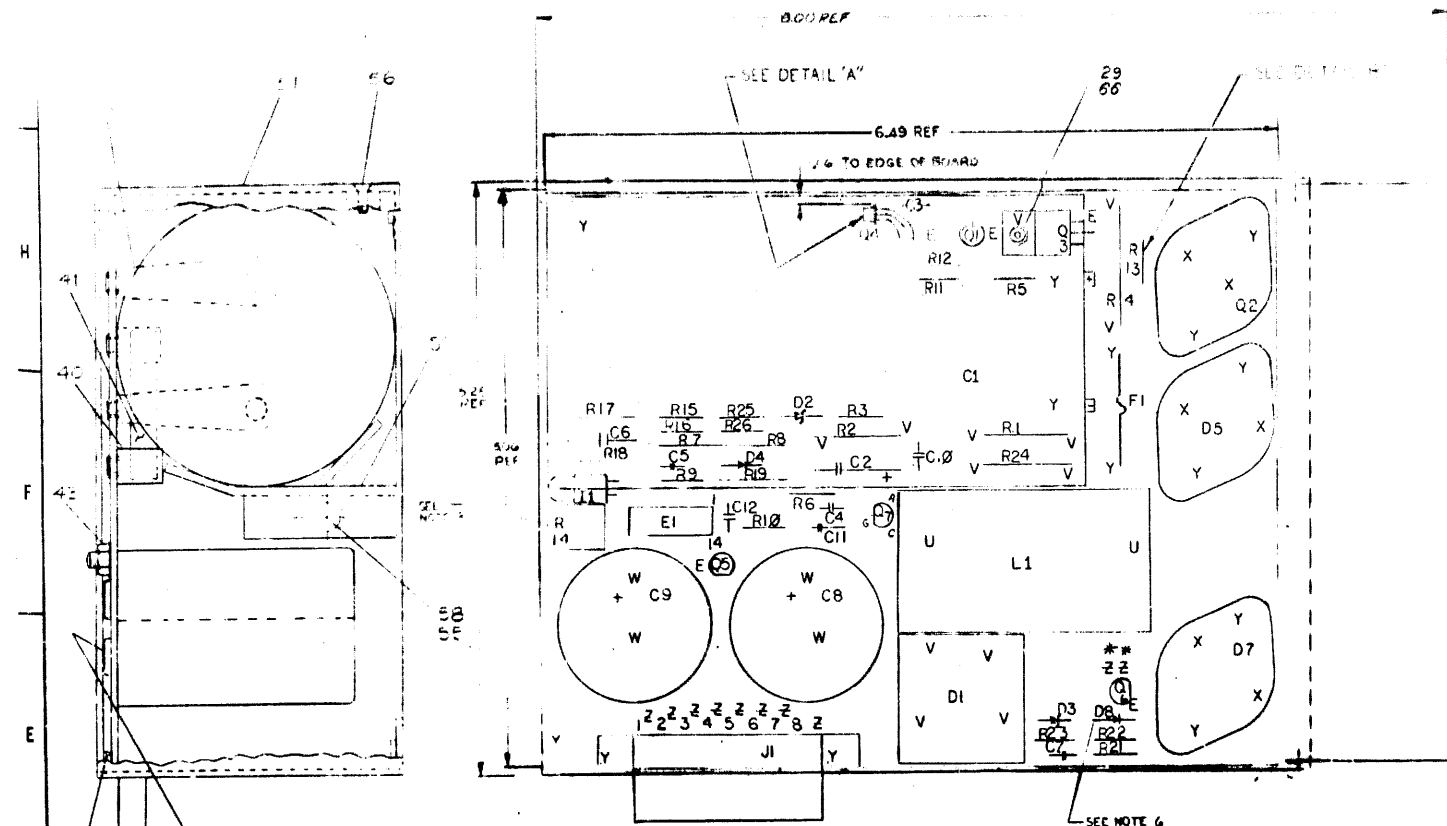
ELECTRICAL										MECHANICAL												
CUSTOMER PRINT SET					CUSTOMER PRINT SET																	
MFG SET					MFG SET																	
FIND NO.					FIND NO.																	
DRAWING NO.					DRAWING NO.																	
REV					REV																	
NO OF SHT					NO OF SHT																	
DESCRIPTION					DESCRIPTION																	
OPTION NO.					OPTION NO.																	
X					1	D-CS-H744-0-1	1	1	CIRCUIT SCHEMATIC	H744	X					1	E-VA-H744-0-0	1	1	UNIT ASSY	H744	
				X		A-SP-H744-0-3			TEST PROCEDURE	H744							D-PS-1210737-0-0	1	1	HEAT SINK	H744	
				X		A-SP-H744-0-8			MFG. SPEC	H744							D-IA-5309756-0-0	1	1	REGULATOR BRKIT	H744	
																	C-IA-5309756-0-0			COMPONENT COVER	H744	
																	C-IA-5309760-0-0	1	1	COMPONENT COVER	H744	
																	C-MD-5309759-0-0	1	1	CAPACITOR STRAP	H744	
																	2	A-PI-3700074-0-0	-	2	PACKAGING INSTRUCTION	H744
																		A-PS-9905211-0-0	-	2	OUTER CARTON	
																		A-PS-9905212-C-0	-	2	INNER PACKAGE	
																		C-IA-7412388-0			2.5 CAP -CLDER	H744

TITLE		SHEET 2 OF 2		SIZE	CODE	NUMBER	REV
+6V REGULATOR				B	DD	H744-0	K

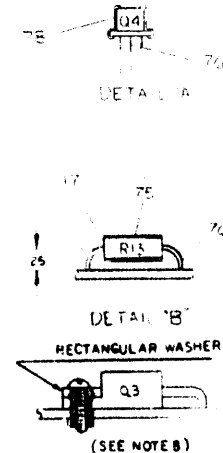


UNLESS OTHERWISE INDICATED:
RESISTORS ARE 1/4W, 5%

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
ETCH BOARD REV	F	H		
MPSA55		DRAWN <i>James V. DeLuca</i>	DATE 1/5-71	 EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
2N5302		ENG. <i>WILEY MOORE</i>	DATE 1-5-71	
D45H8		CHG. <i>W. DeLuca</i>	DATE 11/1/72	
MPSA05		PRD. <i>W. DeLuca</i>	DATE 11/1/72	
		CHK. <i>W. DeLuca</i>	DATE 11/1/72	
		NEXT HIGHER ASSY		TITLE 5V REGULATOR
DEC NO.	EIA NO.	SCALE	DRAWING CODE	NUMBER
		SHEET 1 OF 1	D/CS	H744 - 0-1
R CONVERSION CHART			DIST.	REV. 03



QTY	REF	DESIGNATION	DESIGNATION	PART NO.
1	21	IS-1	IS-1	1000000
1	22	IS-2	IS-2	1000000
1	23	IS-3	IS-3	1000000
1	24	IS-4	IS-4	1000000
1	25	IS-5	IS-5	1000000
1	26	IS-6	IS-6	1000000
1	27	IS-7	IS-7	1000000
1	28	IS-8	IS-8	1000000
1	29	IS-9	IS-9	1000000
1	30	IS-10	IS-10	1000000



NOTE B:
(1) SCREW HEAD SHOULD BE ON TOP OF
FLAT RECTANGULAR WASHER AS SHOWN.
APPLY 8 INCH LBS. OF TORQUE WHEN
SECURING Q3 TO CHT. BOARD BEFORE
SOLDERING.

NOTES: TORQUE APPLICATION
(1) APPLY 12 INCH LBS. OF TORQUE TO ALL
HARDWARE EXCEPT Q3.
(2) APPLY 16 INCH LBS. OF TORQUE TO ALL
Q3 AND Q10 HARDWARE.
(3) ALL HARDWARE TO BE TORQUED
BEFORE SOLDERING.

- NOTES:
3. R14 - 200K VARIABLE IN THIS LOCATION
DELETED ONLY FOR YA VARIATION.
 4. ITEMS 79, 80, 81 ADDED ONLY FOR YA
VARIATION.
 5. ITEM 87A ADDED ONLY FOR YA VARIATION.
 6. RELOCATING D8 AND ADDITION OF D9 ONLY
FOR YA VARIATION.
 7. USE D9 IN YA VARIATION ONLY.

QTY	REF	DESIGNATION	DESIGNATION	PART NO.
1	7	IS-1	IS-1	1000000
1	12	IS-2	IS-2	1000000
1	13	IS-3	IS-3	1000000
1	14	IS-4	IS-4	1000000
1	15	IS-5	IS-5	1000000
1	16	IS-6	IS-6	1000000
1	17	IS-7	IS-7	1000000
1	18	IS-8	IS-8	1000000
1	19	IS-9	IS-9	1000000
1	20	IS-10	IS-10	1000000

APPLY ITEM #6 (COMPOUND) BETWEEN TRANSISTOR
DIODES (D5, D7) AND ITEM #4 (WASHER) ALSO
BETWEEN ITEM #4 (WASHER) AND HEAT SINK (ITEM #
ALSO APPLY ITEM #63 (COMPOUND) BETWEEN ITEM #
(DIODE BRIDGE) AND ITEM #64 (HEAT SINK BRIDGE)

QTY	REF	DESIGNATION	DESIGNATION	PART NO.
1	1	WASHER #4	WASHER #4	1000000
1	2	HEAT SINK BRIDGE	HEAT SINK BRIDGE	1000000
1	3	COMPOUND THERMAL JOINT	COMPOUND THERMAL JOINT	1000000
1	4	RESISTOR 15K 1/4W 5%	RESISTOR 15K 1/4W 5%	1000000
1	5	RESISTOR 7.5K 1/4W 5%	RESISTOR 7.5K 1/4W 5%	1000000
1	6	RESISTOR 12K 1/4W 5%	RESISTOR 12K 1/4W 5%	1000000
1	7	TRANSISTOR 2N4238	TRANSISTOR 2N4238	1000000
1	8	WIRE MICRODOT	WIRE MICRODOT	1000000
1	9	CLAMP CABLE	CLAMP CABLE	1000000
1	10	POT 100K 1/4W 5%	POT 100K 1/4W 5%	1000000
1	11	RES 300K 1/4W 5%	RES 300K 1/4W 5%	1000000
1	12	RES 150K 1/4W 5%	RES 150K 1/4W 5%	1000000
1	13	RES 20K 1/4W 5%	RES 20K 1/4W 5%	1000000
1	14	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000
1	15	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000
1	16	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000
1	17	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000
1	18	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000
1	19	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000
1	20	DIODE ZENER 1N4754	DIODE ZENER 1N4754	1000000

QTY	REF	DESIGNATION	DESIGNATION	PART NO.
1	1	FLAT WASHER #4	FLAT WASHER #4	1000000
1	2	FLAT WASHER #4	FLAT WASHER #4	1000000
1	3	FLAT WASHER #4	FLAT WASHER #4	1000000
1	4	FLAT WASHER #4	FLAT WASHER #4	1000000
1	5	FLAT WASHER #4	FLAT WASHER #4	1000000

QTY	REF	DESIGNATION	DESIGNATION	PART NO.
1	1	FLAT WASHER #4	FLAT WASHER #4	1000000
1	2	FLAT WASHER #4	FLAT WASHER #4	1000000
1	3	FLAT WASHER #4	FLAT WASHER #4	1000000
1	4	FLAT WASHER #4	FLAT WASHER #4	1000000
1	5	FLAT WASHER #4	FLAT WASHER #4	1000000



5V REGULATOR

THIS IS PRINT SET

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A-SP-11/45-TA-2
A-SP-H745-Ø-8
A-PI-3700074-0-0

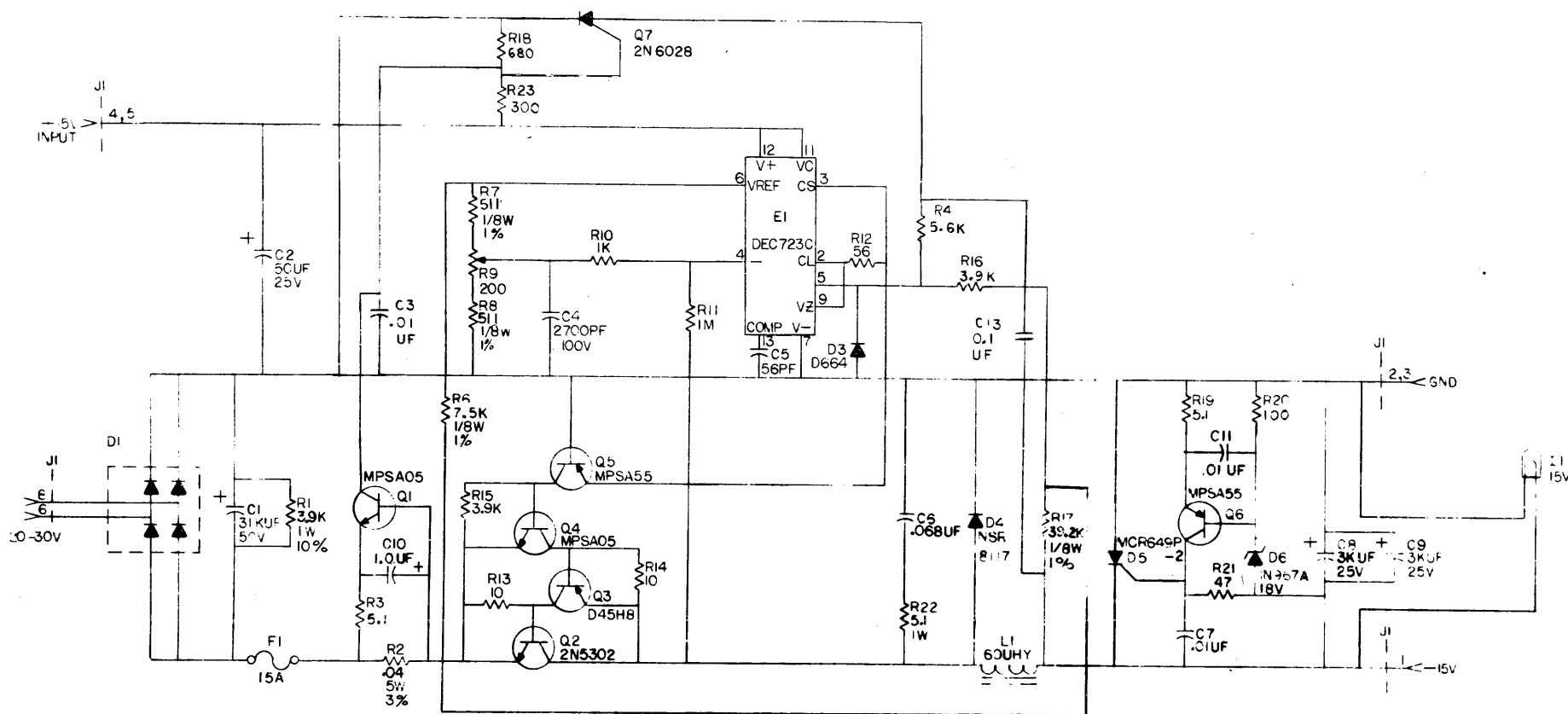
PRINT SET

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DRB 106

CUSTOMER PRINT SET					ELECTRICAL					CUSTOMER PRINT SET					MECHANICAL							
H745-1					FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO.	H745-1					FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO.	
X					1	D-CS-H745-0-1	T	1	CIRCUIT SCHEMATIC	H745	X					1	D-CS-H745-0-0	T	1	UNIT ARRAY	H745	
				X		A-SP-11/45-TA-2			TEST PROCEDURE	H745							D-PS-1210737-0-0		1	HEAT SINK	H745	
				X		A-SP-H745-0-8			MFG SPEC	H745							D-1A-5309756-0-0		1	REGULATOR BRKT	H745	
																	C-1A-5309761-0-0		1	2 - 5 CAP BRKT	H745	
																	C-MD-5309759-0-0		1	CAPACITOR STRAP	H745	
																	2	A-PI-3700074-0-0	-	2	PACKAGING INSTRUCTIONS	H745
																		A-PS-9905211-0-0	-	2	OUTER CARTON	H745
																		A-PS-9905212-0-0	-	2	INNER PACKAGE	H745

TITLE		SHEET 2 OF 2		SIZE	CO	NUMBER	REV
-15V REGULATOR		B		DD	H745-0		K



UNLESS OTHERWISE INDICATED:
RESISTORS = 1/4W, 5%

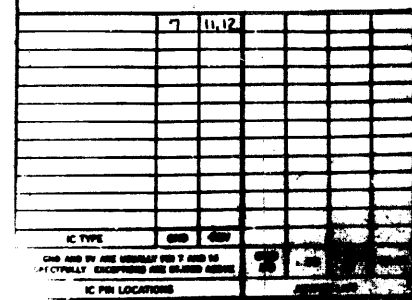
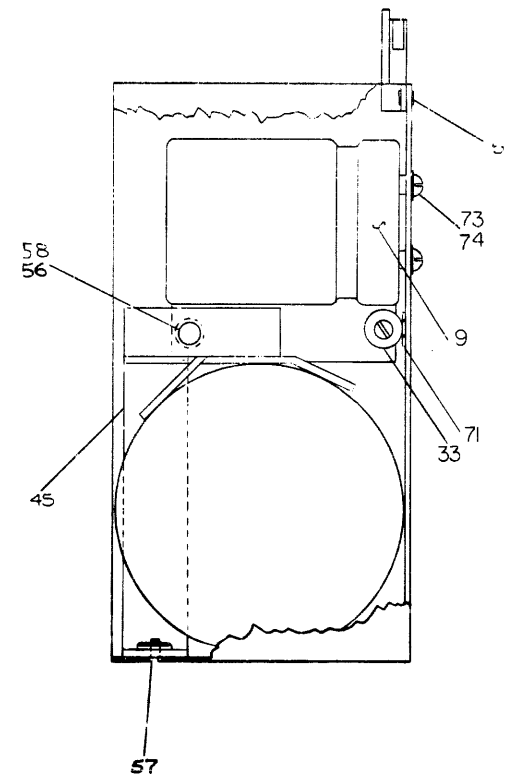
Q. BARON	A. BARON	H745-00016	T	Q. BARON	F. M. 21	A. BARON	4-17-75	S	H745-00015	A. BARON	3/10/74	R	H745-00014	D. MARTEL	1-6-78	P	H745-00013	D. MARTEL	1-6-78	N	H745-00012	D. MARTEL	1-6-78	M	H745-00011	G. POTTER	1-6-78	K	H745-00010	G. POTTER	1-6-78	J	H745-00009	G. POTTER	1-6-78	I	H745-00008	G. POTTER	1-6-78	H	H745-00007	G. POTTER	1-6-78	G	H745-00006	G. POTTER	1-6-78	F	H745-00005	G. POTTER	1-6-78	E	H745-00004	G. POTTER	1-6-78	D	H745-00003	G. POTTER	1-6-78	C	H745-00002	G. POTTER	1-6-78	B	H745-00001	G. POTTER	1-6-78	A	H745-00000	G. POTTER	1-6-78
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QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
1	D664	IN 3606	D45H8	
1	NSR 8117		2N 602b	
1	MCR 649P - 2			
1	IN 967A	SAME		
1	2N 5302			
1	MPS A05			
1	MPS A55			
NEXT HIGHER ASSY				
SEMICONDUCTOR CONVERSION CHART				
DEC NO	EIA NO	DEC NO	EIA NO	
SCALE		SCALE		
SHEET	OF	SHEET	OF	

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

-15V REG.

SIZE CODE NUMBER
DCS H745-0-1



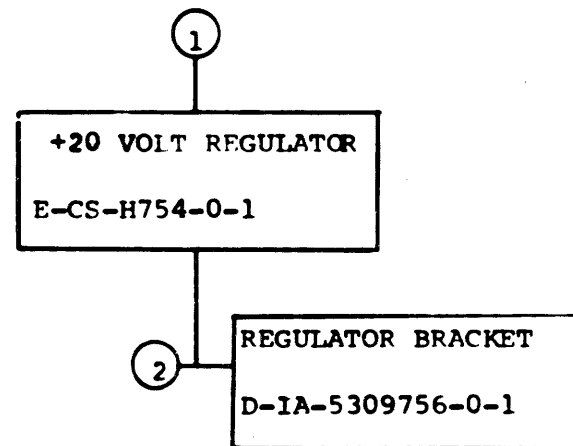
NOTE:

1. APPLY ITEM# 51 (THERMAL COMPOUND) BETWEEN TRANSISTOR AND INSULATOR, WASHER (ITEM# 52 ALSO BETWEEN WASHER & HEAT SINK FOR Q2,Q4,Q5) ALSO APPLY ITEM# 51 (THERMAL COMPOUND) BETWEEN ITEM #11,Q2,Q3,Q4,Q5 & Q6 & Q7 AND ITEM# 59 (HEAT SINK).

2. 1010623 MAY BE SUBSTITUTED FOR C13 (1000030).

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	
1	PACKING INSTRUCTIONS	AP-370007N-0-0	70	
1	R18	RES 50K 1/4W 5%	1301424	
1	R23	RES 300K 1/4W 5%	1301425	
1	R24 (SEE NOTE 2)	CAP 0.1UF 50V 20%	0000050	
1	R21	BCR PH #4-40 X 5/16 LG	000000-1	
1	L1	LAMP 15V	1209169	
4	SCR, PPH #4 X 5/16 LG, SELF TAPPING	8000482	83	
4	WASHER #1	3000632	82	
7	NUT KEPS #4-40	9000057	81	
6	SCR PHL PWH NO 1-40 1' LG	9000003-1	80	
1	HEAT SINK BRIDGE RECT	1210007	58	
1	SCR PHL PWH NO 3-3 1' LG	9000021	57	
1	SCR PHL FLT HD #6-32 X 3 1' LG	9000020-2	56	
1	WASHER LOCK #6	9000633	55	
8	CONTACT FEMALE	1200458	54	
2	SCR PHL PWH NO 1-40 1' LG	9000301-1	53	
6	EYELET OS-4-1	9000000	52	
3	INSULATOR WASHER	8000721	51	
1	WASHER LOCK #6	9000633	50	
1	SCR PHL PWH NO 3-3 1' LG	9000021	49	
1	SCR PHL PWH NO 1-40 1' LG	9000003-1	48	
1	INSULATOR BRKT	0-1A-5300736-0-2	46	
1	2.5 MOHME CAPACITOR	C-18-7412348-0-0	45	
2	STOP CAPACITOR	C-18-5300736-0-0	44	
1	HEAT SINK	0-PS-1210737-0-0	43	
1	CONN. WIRE-1/4 LOCK & PIN	1300048	42	
1	F1	FUSE CLIP	9007245	41
1	F1	FUSE 1/4 15	9007245	40
1	L1	REACTOR 60 HRY	1810009	39
1	E1	INTERLOCKED CIRCUIT BREAKER	1810413	38
1	Q3	TRANSISTOR 2N438	1510708	37
2	Q5,Q6	TRANSISTOR 105	1510708	36
2	Q1,Q4	TRANSISTOR 105	1510708	35
1	Q2	TRANSISTOR 2N438	1510708	34
1	R9	RES 500K 1/4W 5%	1300052	33
1	R20	RES 100K 1/4W 5%	1300052	32
1	R11	RES 1.5K 1/4W 5%	1300052	31
1	R4	RES 5.6K 1/4W 5%	1300052	30
2	R15,R16	RES 3.3K 1/4W 5%	1300052	29
2	R18,R13	RES 5.1K 1/4W 5%	1300052	28
1	R12	RES 50K 1/4W 5%	1300052	27
1	R21	RES 47K 1/4W 5%	1300052	26
1	R17	RES 3.3K 1/4W 5%	1300052	25
1	R10	RES 1.5K 1/4W 5%	1300052	24
2	R17,R14	RES 10K 1/4W 5%	1300052	23
1	R16	RES 7.5K 1/4W 5%	1300052	22
2	R19,R1	RES 10K 1/4W 5%	1300052	21
1	R22	RES 5.1K 1/4W 5%	1300052	20
1	R24	RES 10K 1/4W 5%	1300052	19
1	R2	RES 10K 1/4W 5%	1300052	18
1	R1	RES 3.3K 1/4W 5%	1300052	17
1	Q8	DIODE 1N4001	1300052	16
1	Q5	DIODE 1N4001	1300052	15
1	Q4	DIODE 1N4001	1300052	14
2	Q3	DIODE 1N4001	1300052	13
1	Q1	TRANSISTOR 2N438	1510708	12
1	D1	DIODE BRIDGE	11110714	11
1	C12	CAP 100UF 25V 10%	1010052	10
2	C1,C8	CAP 3.3UF 25V	1010052	9
1	C1	CAP 3.3UF 25V	1010052	8
1	C10	CAP 1.0UF 25V	1010052-01	7
1	C2	CAP 50UF 25V 10% 25V	1010052	6
1	C6	CAP 50UF 100V 10%	1000052	5
1	C4	CAP 2700PF 100V 5%	1001037	4
3	C11,C3	CAP 0.1UF 100V 20%	1001010	3
1	C5	CAP 0.01UF 100V 20%	1001010	2
1	ETCHED CIRCUIT BOARD	0-1A-5300736-0-0	1	1
1	INSULATOR WASHER	8000721	1	1
1	HEAT SINK	0-PS-1210737-0-0	1	1
1	WASHER LOCK #6	9000633	1	1
1	SCR PHL PWH NO 3-3 1' LG	9000021	1	1
1	SCR PHL PWH NO 1-40 1' LG	9000003-1	1	1
1	WASHER LOCK #6	9000633	1	1
1				

QTY	REF DESIGNATION	DESCRIPTION	PART NO.
1	ETCH BOARD REV	E	
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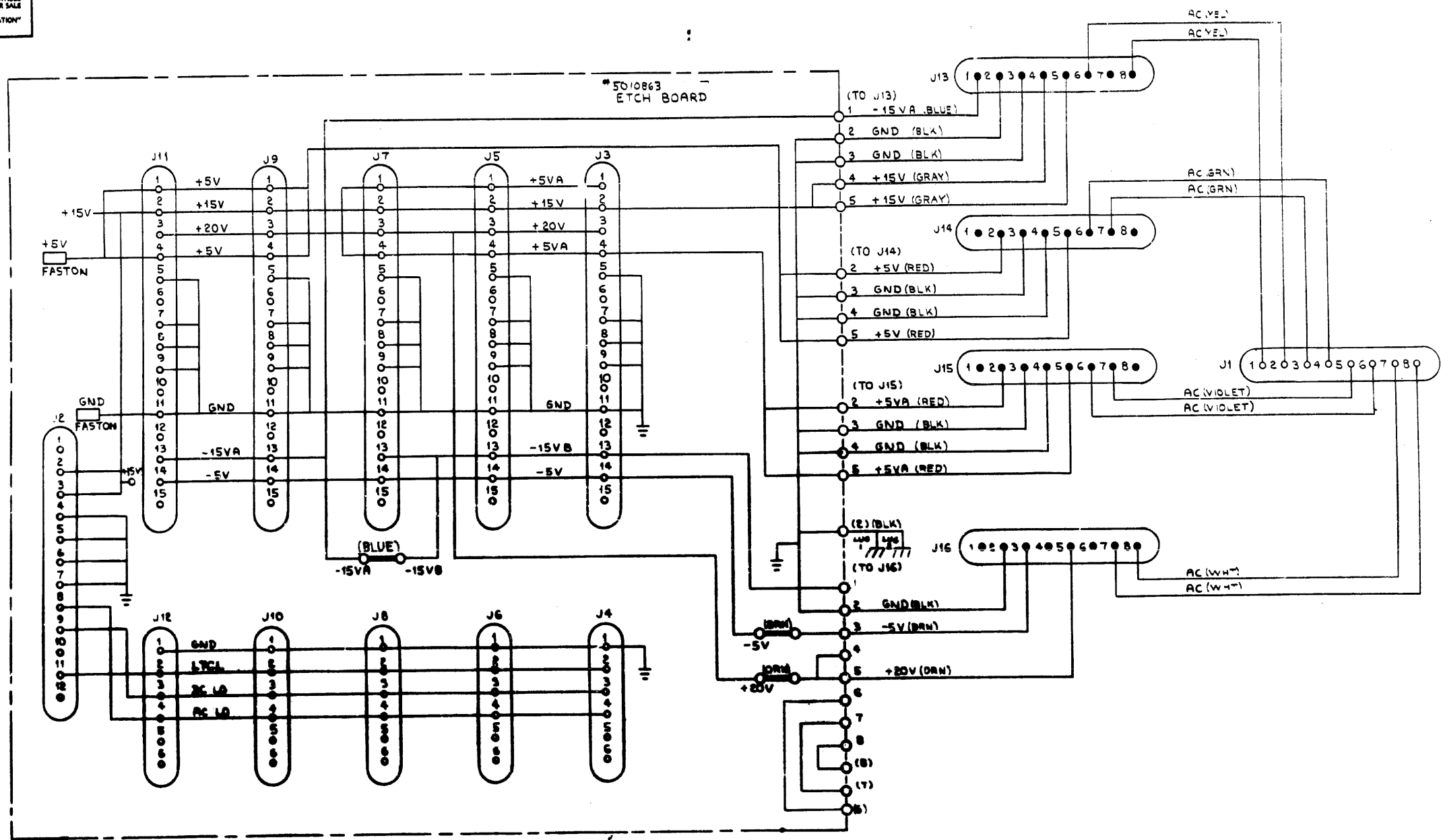


TITLE		SHEET 3 OF 3		SIZE CODE	NUMBER	REV
+20 VOLT REGULATOR				B DD	H754-0	



FIRST USED ON OPTION/MODEL		QTY		DESCRIPTION		PART NO.		UNIT	
H754		PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN V. B. 1/16" x 1/8" x 1/8"		DATE F-2-2-2		EQUIPMENT CORPORATION BIRMINGHAM, ALABAMA 35202			
		CHK'D V. B. 1/16" x 1/8" x 1/8"		DATE 2-2-2					
DECIMALS		ANGLES		TITLE		+20 VOLT REGULATOR			
XXX = .008 XX = .02 X = .1		± 0° 30'		TITLE					
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		ENG J. S. PROL. EN.		DATE F-2-2-2					
MATERIAL		NEXT HIGHER AMT.		D.C.S.		FL			
FINISH		SCALES		SHEET		OF 2			

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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE	CODE	NUMBER	REV.
PWR DIST BOARD		D	CS	5410364-0-1	P
SCALE	NONE	SHEET	2 OF 3	DIST.	

WIRE TABLE								
ITEM NO	DESCRIPTION		FROM		TO		LENGTH	SIGNAL NAME
	AWG	COLOR	CONNECTION	WITH	CONNECTION	WITH		
24	14	VE	J1-2	8	J13-6	7	12.5"	AC/H745
25		GRN	J1-3		J14-7		11"	AC/H744-1
25		GRN	J1-4		J14-6		11"	AC/H744-1
26		VIO	J1-5		J15-7		0"	AC/H744-2
26		VIO	J1-6		J15-6		10"	AC/H744-2
27		WH	J1-7		J16-8		11.25"	AC/H754
27		WH	J1-8	8	J16-7		11.25"	AC/H754
27		BLU	PDB J13-1	SOLDER	J13-1		5"	-15V
27		BLU	PDB J13-2		J13-2			GND
27		BLK	PDB J13-3		J13-3			GND
27		GRV	PDB J13-4		J13-4			+15V
27		GRV	PDB J13-5		J13-5			+15V
27		RED	PDB J14-2		J14-2			+5V
27		BLK	PDB J14-3		J14-3			GND
27		BLK	PDB J14-4		J14-4			GND
27		RED	PDB J14-5		J14-5			+5V
27		RED	PDB J15-2		J15-2			+5V
27		BLK	PDB J15-3		J15-3			GND
27		BLK	PDB J15-4		J15-4			GND
27		RED	PDB J15-5		J15-5			+5V
27		BLK	PDB J16-2		J16-2			GND
27		BRN	PDB J16-3		J16-3			-5V
28		CRN	PDB J16-5		J16-5	7	5"	+20V
28		BLU	PDP-15A		PDB-15B	SOLDER	1.75"	-15V
28		ORN	PDB J16-5		PDB +20V		5"	+20V
29		BRN	PDB J16-3		PDB -5V		2"	-5V
22	14	BLK	LUG 1	SOLDER	PDB J16-2	SOLDER	6"	GND
22	14	BLK	LUG 1	SOLDER	LUG 2	SOLDER	9.5"	GND

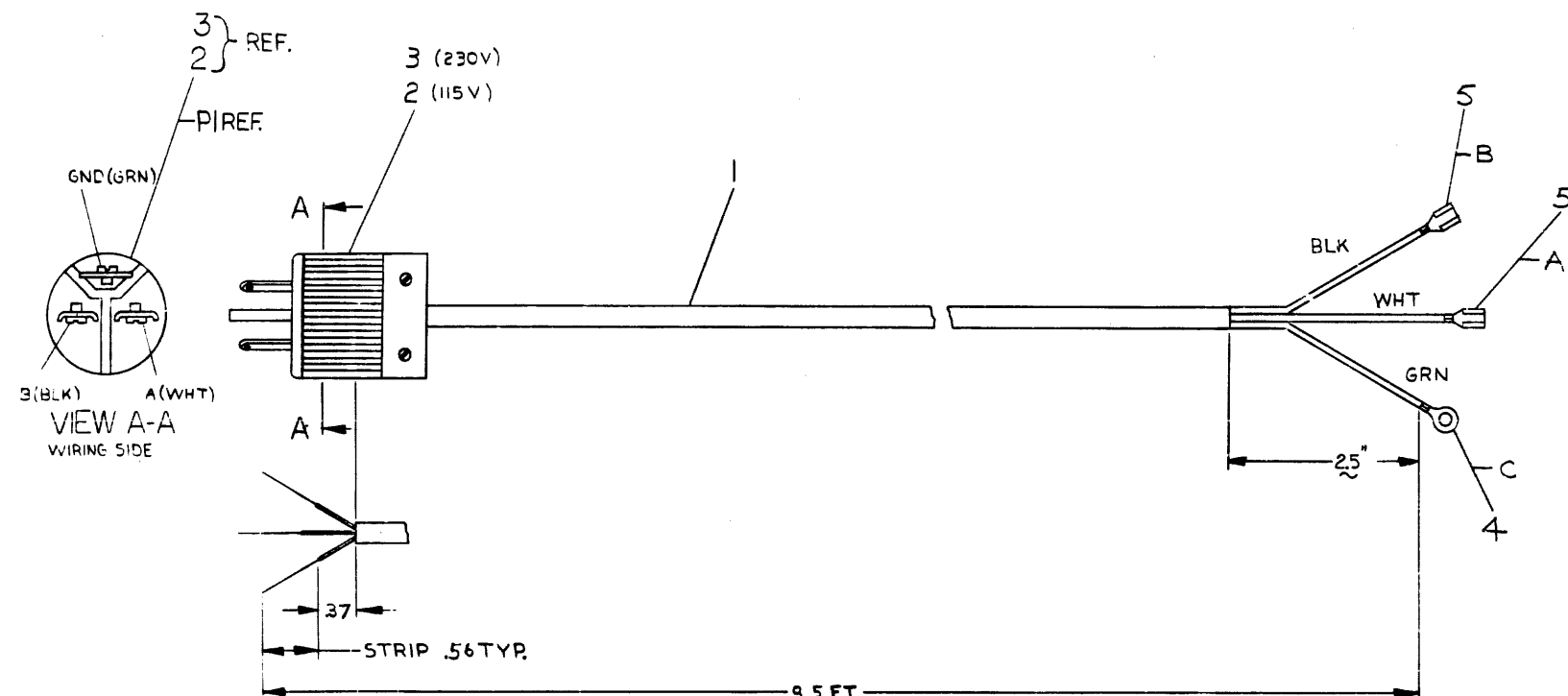
REVISIONS	
CHANGE NO	REV

TITLE		SIZE CODE	NUMBER	REV.
PWR DIST BOARD		D CS	5410864-0-1	F
SCALE	NONE	SHEET	3 OF 3	DIST

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WIRE TABLE							
ITEM NO.	DESCRIPTION	FROM	TO	REMARKS			
NO.	AWG	COLOR	CONN	WITH	CONN	W. TH	
1	14	BLK	PI-B	—	B	5	
1	14	WHT	PI-A	—	A	5	
1	14	GRN	PI-GND	—	C	4	

LEGEND	
NUMBER	VARIATION
7010131-1	115 V
7010131-2	230 V



2	2	CONN SOLD BLU	900729-0	5
1	1	CONN SOLD BLU	900729-8	4
1	1	PLUG MALE 230V	900733-3	3
1	1	PLUG MALE 5V	900733-9	2
9.5'	9.5'	CABLE	1700027	1

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
BA11-1					
PARTS LIST					
DIMENSIONAL TOLERANCE		DATE	DATE	TITLE	
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		DATE	DATE		
XXX - 0.005	XXX - 0.005	DATE	DATE	POWER CORD 115 & 230 V	
XXX - 0.005	XXX - 0.005	DATE	DATE		
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	DATE	DIA 7010131-0-0	
MATERIAL SEE PARTS LIST		DATE	DATE		
FINISH		DATE	DATE	DIA 7010131-0-0	
SCALE 1/1		DATE	DATE		
SHEET OF		DATE	DATE	DIA 7010131-0-0	
		DATE	DATE		

REV.	CHANGE NO.	DATE	BY
1	7010131-00001	8-10-74	B. WOLF
2	7010131-00002	9-17-74	B. WOLF

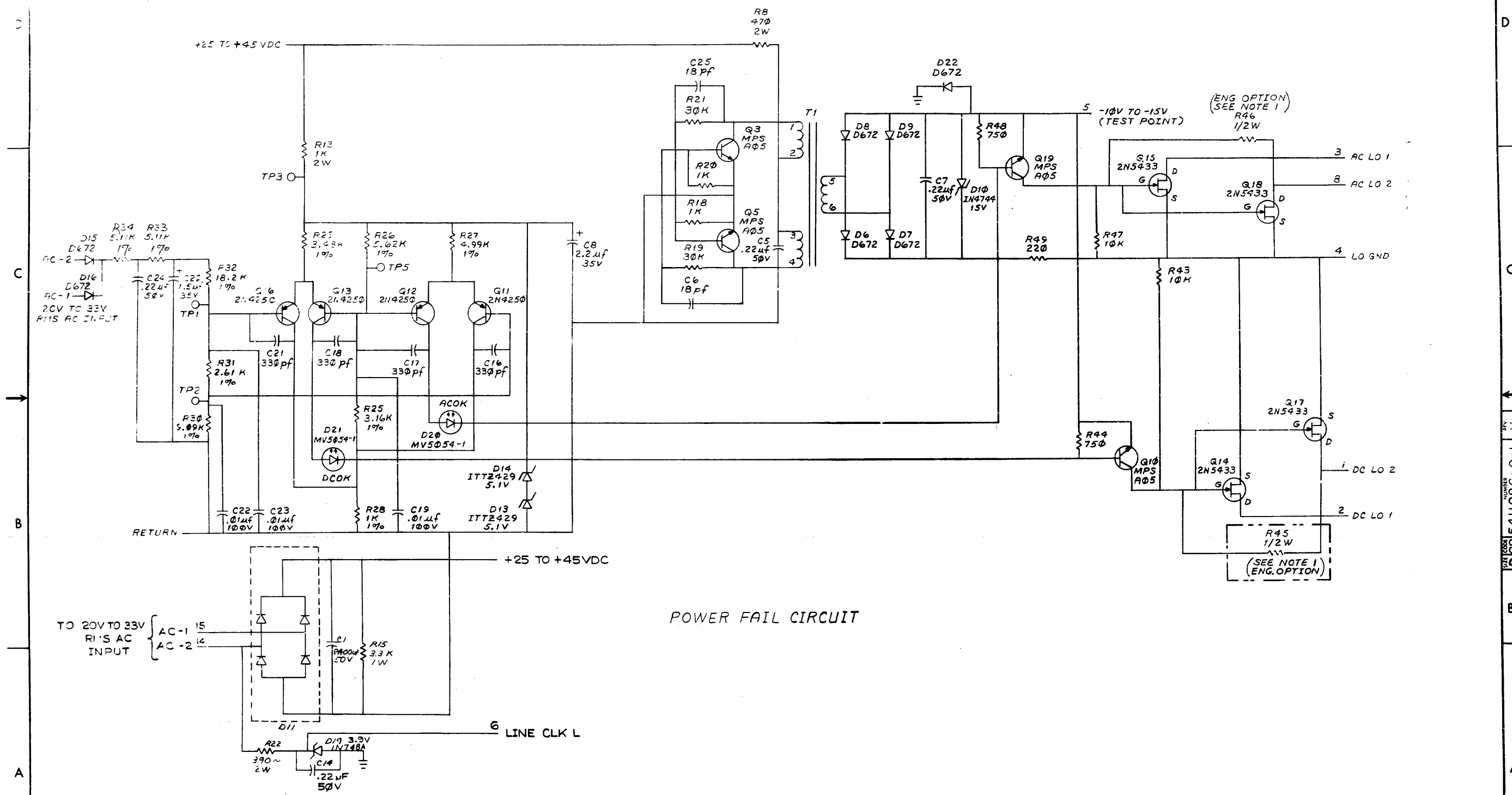
NOTES:

1	1	R29	RESISTOR 3.4K 1/4W 1	1305114	55
1	1	R28	RESISTOR 4.7K 1/4W 1	1305128	56
1	1	R27	RESISTOR 4.9K 1/4W 1	1305324	57
1	1	R35	RESISTOR 24.9K 1/4W 1	1305405	58
1	1	R24	RESISTOR 200 20% 62PP	1309150-10	59
1	1	R32	RESISTOR 18 2K 1/4W 1	1309412	60
1	2	P5, P6	RESISTOR 2.5W 5% WW	1309884	61
1	1	Q7	TRANSISTOR MJE3055	1510555	62
4	6	Q2, Q3, Q5, Q6, Q10, Q19	TRANSISTOR MPS405	1510705	63
1	2	Q4, Q9	TRANSISTOR MPS A55	1510706	64
1	1	Q8	TRANSISTOR 2N 4441	1505867	65
4	5	Q1, Q11, Q12, Q13, Q16	TRANSISTOR 2N 4250	1509142	66
4	4	Q14, Q15, Q17, Q18	TRANSISTOR 2N 5433	1511686	67
1	1	L1	INDUCTOR, 500 uH	1611868	68
1	1	T1	TRANSFORMER	1612026	69
1	1	E1	I.C. DEC 723	1910415	70
1	1		SCREW, PHM #4-40 X 7/8 LG	9006012-1	71
1	1		SCREW, PHM #6-32 X 1-4 LG	9006020-1	72
1	1		SCREW, PHM #6-32 X 7/8 LG	9006552	73
1	1		KEP NUT #4-40	9006557	74
1	2		KEP NUT #10-32	9006565	75
2	2		WASHER, ITTLKWR #10	9006635	76
1	2		WASHER, FLAT	9006668	77
1	2	(WI)	SPLIT LUG	9006953	78
1	1		SPACER, 1/4AF X 1-2	9006844	79
4	4		CABLE TIE	9007890	80
2	2		TERMINAL	9007330	81
2	2		SCREW, PHM #10-32 X 1-4 LG	9008007-1	82
1	2		TERMINAL	9008150	83
1	1		KEP NUT #6-32	9008185	84
1	A/R		COMPOUND, THERMAL JOINT	9008268	85
1	5		WASHER, MICA	9008424	86
1	2		WASHER, RING	9008440	87
1	1		FUSE HOLDER	9009141	88
1	1	R22	RESISTOR 390, 2W 10%	1301880	89
1	1	W1	JUMPER	9009185	90
2	12		WIRE #18 STRANDED BLK	9107550-0-0	91
REF	REF		MODULE TEST PROCEDURE	A-SP-11/45-TA-2	92
1	1		WASHER, RING	9006773	93
1	1		.010 INCH SHIM	7413721-0-0	94
REF	REF		ENG. SPEC AND TEST PROC.	A-SF-F411096	95

YA	QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
PARTS LIST					
ETCH BOARD REV D					
DRN	DATE	CHK'D	DATE	ENG	DATE
9/19/74	8-9-74	9/19/74	8-9-74	9/19/74	8-9-74
PROJ ENG	DATE	PROD	DATE	NEXT HIGHER ASSY	
9/19/74	8-9-74	9/19/74	8-9-74		
DEC NO EIA NO DEC NO EIA NO					
SEMICONDUCTOR CONVERSION CHART					
SCALE SHEET 2 OF 4					
digital EQUIPMENT CORPORATION					
TITLE F.W.R. LINE MONITOR/15V REG.					
SIZE CODE NUMBER REV.					
DCS 5411086-0-1 H					

IC TYPE	GND	+ 5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.		
IC PIN LOCATIONS		

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DATE 10-10-2010 BY 60322 UCBAW/MN
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JUSTICE, IS REQUIRED.



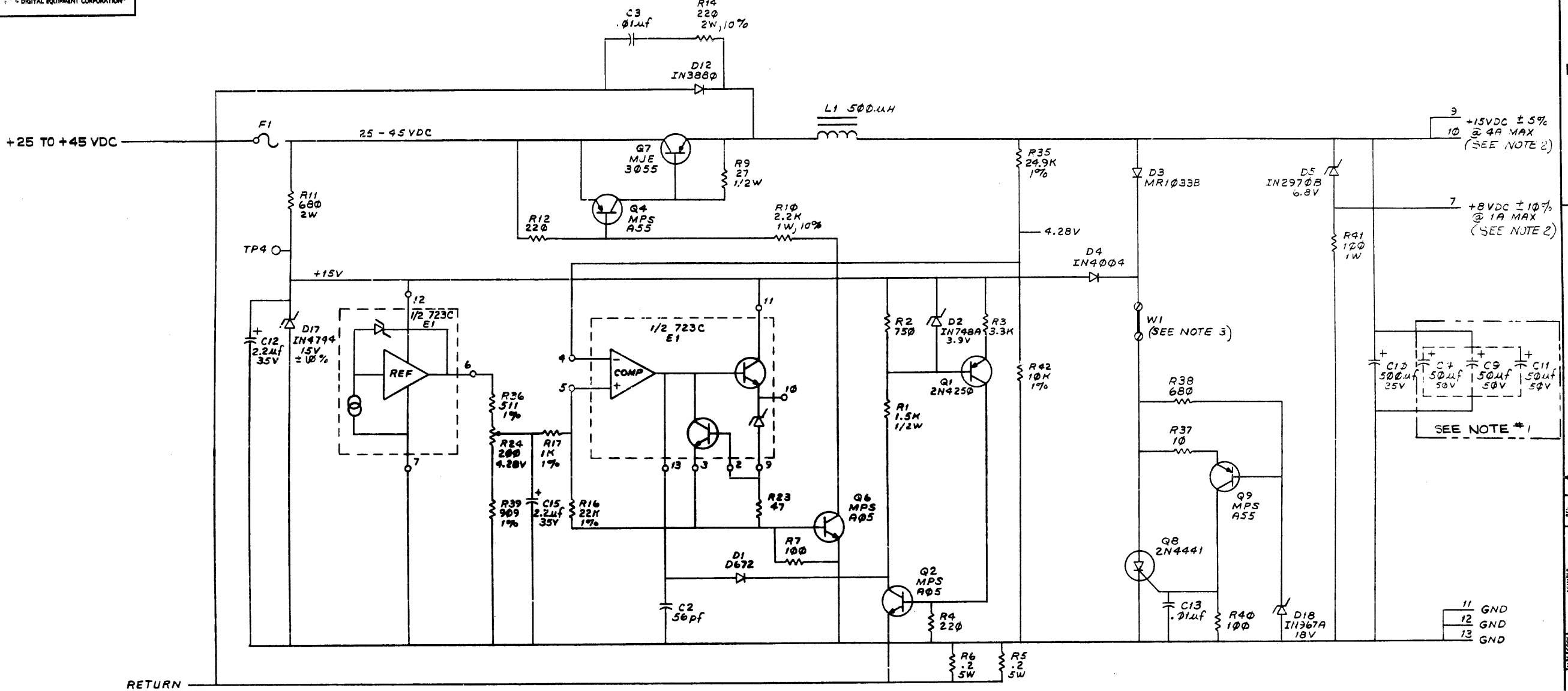
REV. H
NUMBER
DCS 5411086-0-1

B

A

REVISIONS		
CHK	CHANGE NO.	REV.

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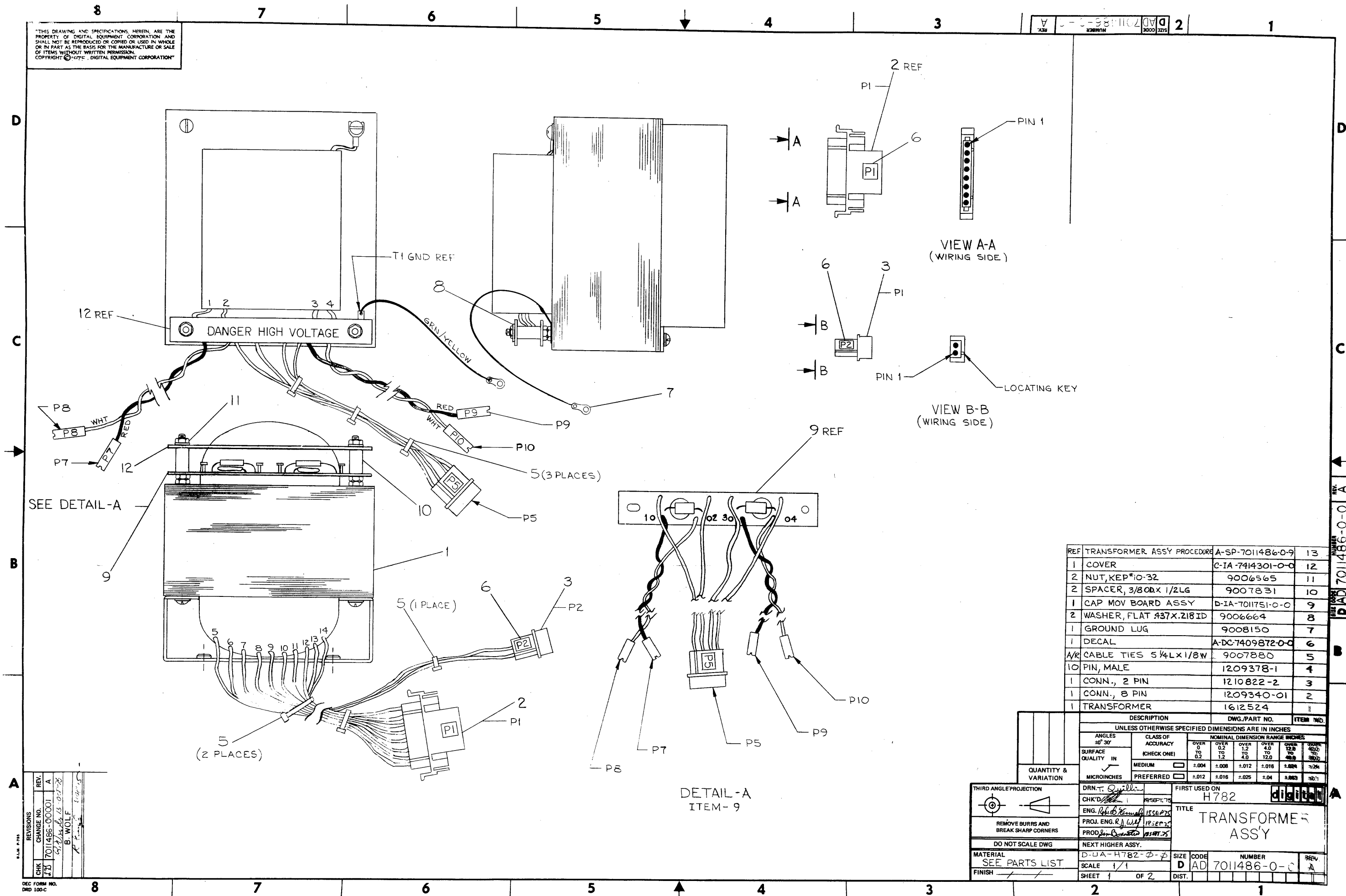


15V REGULATOR
(SEE NOTE #4)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		PWR. LINE MONITOR/15V REG.		NUMBER		REV.	
DCS 5411086-0-1		4					
SCALE		SHEET		OF			

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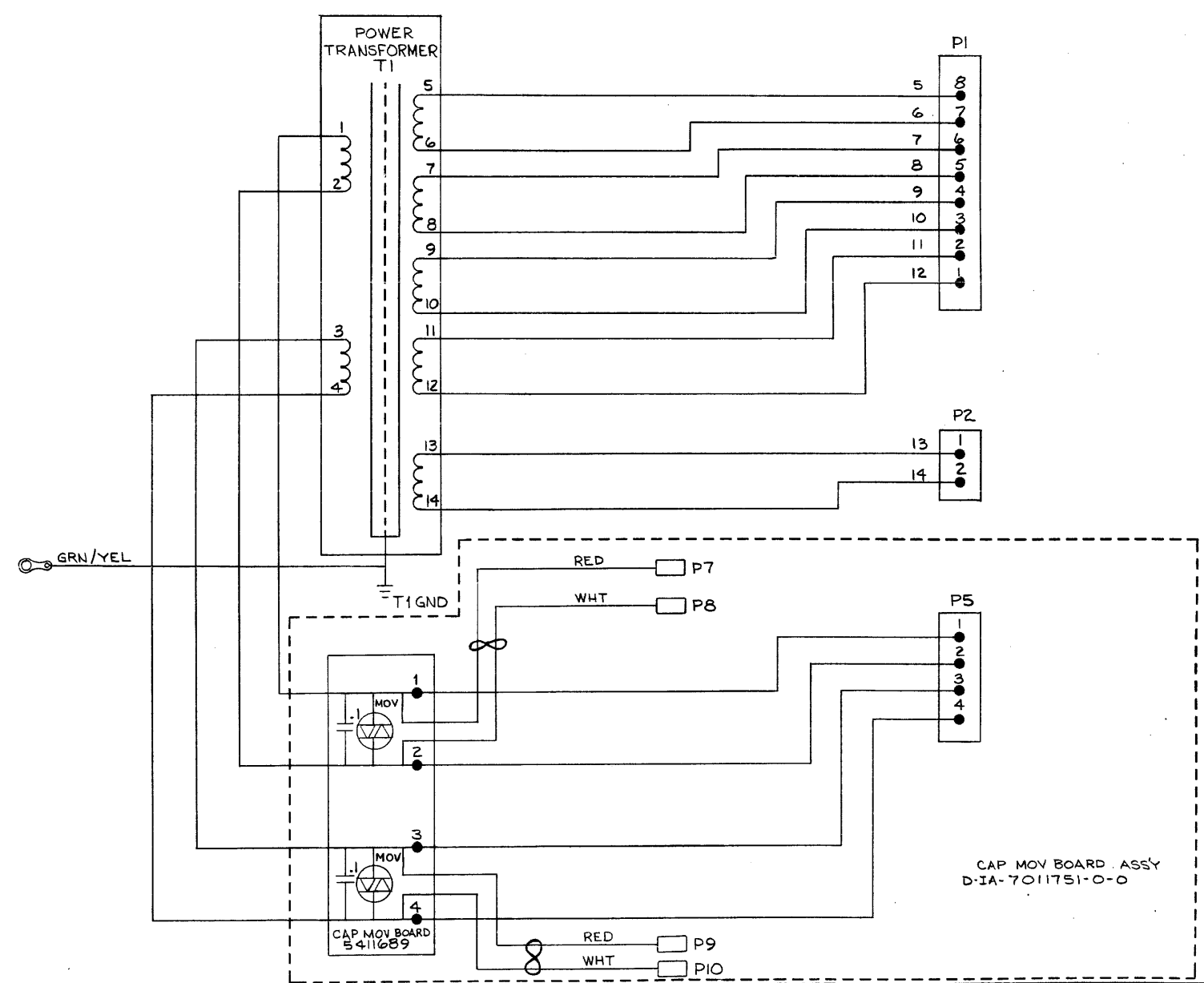


REF	TRANSFORMER ASSY PROCEDURE	A-SP-7011486-0-9	13
1	COVER	C-IA-7414301-0-0	12
2	NUT, KEP*10-32	9006565	11
2	SPACER, 3/8ODX 1/2LG	9007831	10
1	CAP MOV BOARD ASSY	D-IA-7011751-0-0	9
2	WASHER, FLAT .437X.218ID	9006664	8
1	GROUND LUG	9008150	7
1	DECAL	A-DC-7409872-0-0	6
A/R	CABLE TIES 5/4LX1/8W	9007880	5
10	PIN, MALE	1209378-1	4
1	CONN., 2 PIN	1210822-2	3
1	CONN., 8 PIN	1209340-01	2
1	TRANSFORMER	1612524	1

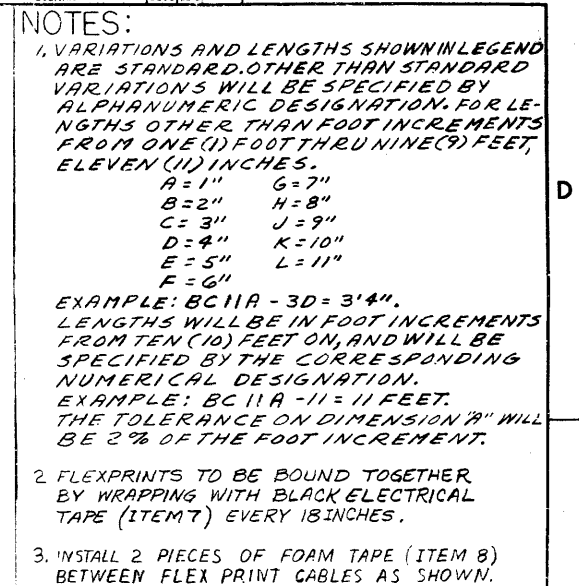
QUANTITY & VARIATION	DESCRIPTION	DWG. PART NO.	ITEM NO.
ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES	
SURFACE QUALITY IN MICROINCHES	MEDIUM PREFERRED	OVER 0 TO 0.2 OVER 0.2 TO 1.2 OVER 1.2 TO 4.0 OVER 4.0 TO 12.0 OVER 12.0 TO 48.0 OVER 48.0 TO 96.0	
THIRD ANGLE PROJECTION	DRN. T. Quillen	FIRST USED ON H782	digital
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D. R. J. Wolf	ENG. R. J. Wolf	15 SEP 75
DO NOT SCALE DWG	PROJ. ENG. R. J. Wolf	PROD. R. J. Wolf	15 SEP 75
MATERIAL SEE PARTS LIST	NEXT HIGHER ASSY.	TITLE TRANSFORMER ASSY	
FINISH	D-DA-H782-0-0	SIZE CODE D	NUMBER AD 7011486-0-0
	SCALE 1/1	SHEET 1 OF 2	DIST.

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WIRE TABLE							
ITEM NO.	DESCRIPTION		FROM		TO		WIRE LENGTH
	AWG	COLOR	CONNECTION	WITH	CONNECTION	WITH	
1	14	BLK	T1-1	---	CAP MOV BD-1	SOLDER	1.5 IN
↑	↑	↑	T1-2	---	CAP MOV BD-2	SOLDER	2.0 IN
			T1-3	---	CAP MOV BD-3	SOLDER	2.0 IN
			T1-4	---	CAP MOV BD-4	SOLDER	1.5 IN
			T1-5	---	PI-8	ITEM 4	12.0 IN
			T1-6	---	PI-7	↑	↑
			T1-7	---	PI-6		
			T1-8	---	PI-5		
			T1-9	---	PI-4		
			T1-10	---	PI-3		
			T1-11	---	PI-2	↓	
			T1-12	---	PI-1	ITEM 4	
↓	↓	↓	T1-13	---	P2-1	ITEM 4	↓
1	14	BLK	T1-14	---	P2-2	ITEM 4	12.0 IN
1	14	GRN/YEL	T1-GND	---	GND LUG (ITEM 7)	SOLDER	14.0 IN



REVISIONS		
CHK	CHANGE NO.	REV.



A/R	GRAY FOAM	9008881	8
A/R	BLK ELECTRICAL TAPE	3003260	7
4	CLAMP, CABLE	C-SC-120976000	6
A/R	TAPE #4032 1/2W X 3 1/4 L66	9007834	5
4	EYELET 6S-4-11 STIMSON	9006750	4
2	CABLE, "FLEXPRINT"	1700002-01	3
1	EXT. BUS CONN	A-PL-M919-Q-2	2
1	BUS CONN	A-PL-M929-Q-1	1
QTY.	DESCRIPTION	PART NO.	ITEM NO.

FIRST USED ON OPTION/MODEL PDP11	DO NOT SCALE DRAWING	DATE 11/17/69	PARTS LIST	
	UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES = .005 ± 1.64 = 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D R. Russ DATE 11/17/69 ENG. C. Blair DATE 11/16/69 PROJ. ENG. C. Blair DATE 11/16/69 PROD. DATE 11/16/69	digital EQUIPMENT CORPORATION NATHAN, MASSACHUSETTS	
	MATERIAL 	TITLE CABLE ASSY (BC1A)		
	FINISH 	NEXT HIGHER ASSY DUA-11/20-0-0 SCALE 1/1 SHEET 1 OF 2 SIZE CODE DUA BC1A-0-0 NUMBER REV. F		

[illegible]

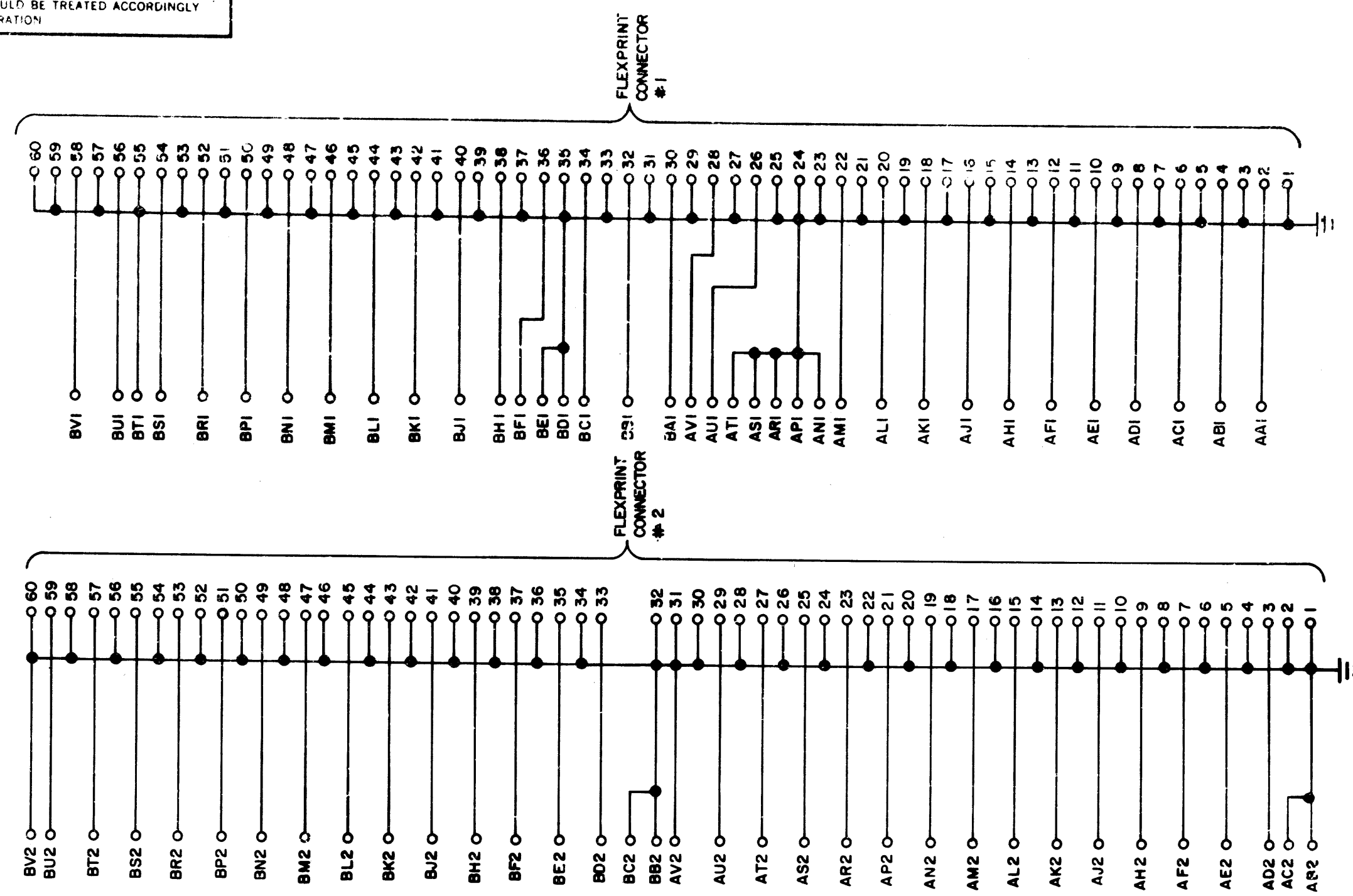
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LEGEND		
NUMBER	DIM "X" VARIATION	DIM "Y" (PRECUT) REF.
BC11A-02	2'0"±0.5"	2'1.5"
BC11A-03	3'0"±1.0"	3'1.5"
BC11A-04	4'0"±1.0"	4'1.5"
BC11A-05	5'0"±1.0"	5'1.5"
BC11A-06	6'0"±1.0"	6'1.5"
BC11A-07	7'0"±2.0"	7'1.5"
BC11A-08	8'0"±2.0"	8'1.5"
BC11A-09	9'0"±2.0"	9'1.5"
BC11A-10	10'0"±2.0"	10'1.5"
BC11A-11	11'0"±3.0"	11'1.5"
BC11A-12	12'0"±3.0"	12'1.5"
BC11A-13	13'0"±3.0"	13'1.5"
BC11A-14	14'0"±3.0"	14'1.5"
BC11A-15	15'0"±4.0"	15'1.5"
BC11A-16	16'0"±4.0"	16'1.5"
BC11A-17	17'0"±4.0"	17'1.5"
BC11A-18	18'0"±4.0"	18'1.5"
BC11A-19	19'0"±5.0"	19'1.5"
BC11A-20	20'0"±5.0"	20'1.5"
BC11A-21	21'0"±5.0"	21'1.5"
BC11A-22	22'0"±5.0"	22'1.5"
BC11A-23	23'0"±6.0"	23'1.5"
BC11A-24	24'0"±6.0"	24'1.5"
BC11A-25	25'0"±6.0"	25'1.5"
BC11A-0F	0'6"±0.5"	0'7.5"
BC11A-8F	8'6"±2.0"	8'7.5"

TITLE CABLE ASSY (BC11A)		SIZE CODE DUA	NUMBER BC11A-0-0	REV. F
SCALE		SHEET 2 OF 2		DIST

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REV A
NUMBER M919-0-1
SIZE CODE B CS

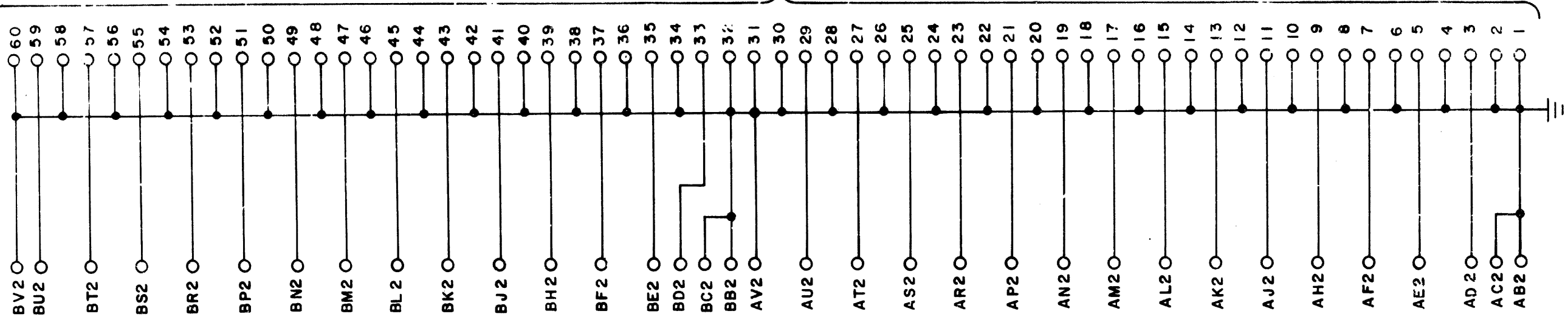


REVISIONS		DRN	DATE	TITLE	
CHK	CHG NO	BUTLER	10-20-69	BUS CONNECTOR M919	
27	00001	ENG	11-7-69	EQUIPMENT CORPORATION	
A		PROD		MAYNARD, MASSACHUSETTS	
		TRANSISTOR & DIODE CONVERSION CHART		SIZE CODE NUMBER REV	
		DEC EIA DEC EIA		B CS M919-0-1 A	
				PRINTED CIRCUIT REV	
				B	

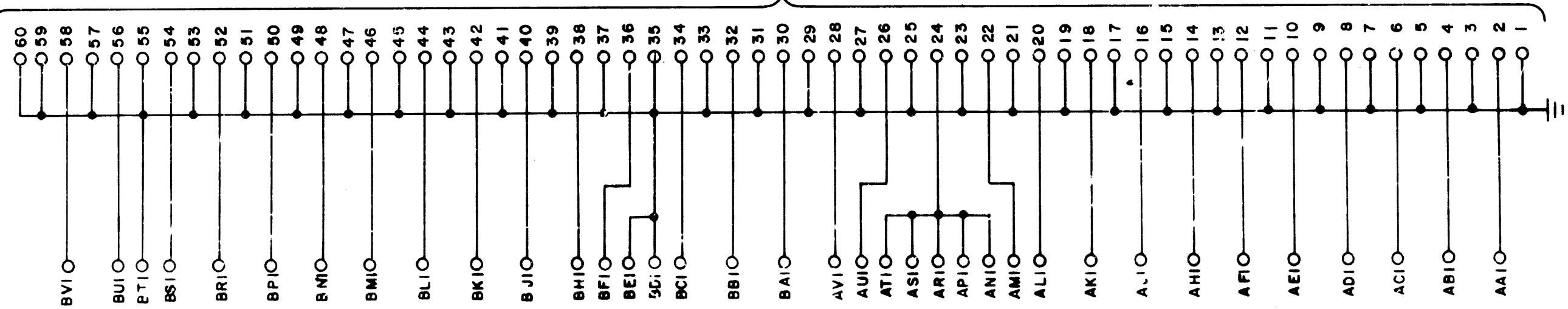
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REV
NUMB
SIZE
CODE
B
CS
M929-0-1

FLEX PRINT
CONNECTOR
#1



FLEX PRINT
CONNECTOR
#2



REVISIONS		DRN		DATE		TRANSISTOR & DIODE CONVERSION CHART				TITLE	
CHK	CHG	NO	REV	CHK'D	DATE	DEC	EIA	DEC	EIA	BUS CONNECTOR M929	
				ENG	DATE					SIZE	CODE
				PROD	DATE					B	CS
						EQUIPMENT CORPORATION				NUMBER	
						MAYNARD, MASSACHUSETTS				M929-0-1	
						PRINTED CIRCUIT REV				REV.	

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W130 PARTS REFERENCE

ITEM NO.	DRAWING REFERENCE	DESCRIPTION	PART NUMBER	QUANTITY
1	R1, R3, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31, R33, R35, R37, R39, R41, R43, R45, R47, R49, R51, R53, R55	15K, 1/4W, 5% RES.	1300496	28
2	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56	470, 1/4W, 5% RES.	1300316	28
3	Q1-Q56	DEC 3009B TRANSISTOR	1503100	56
4	PI	H527 BLOCK, CONNECTOR	1209123	1

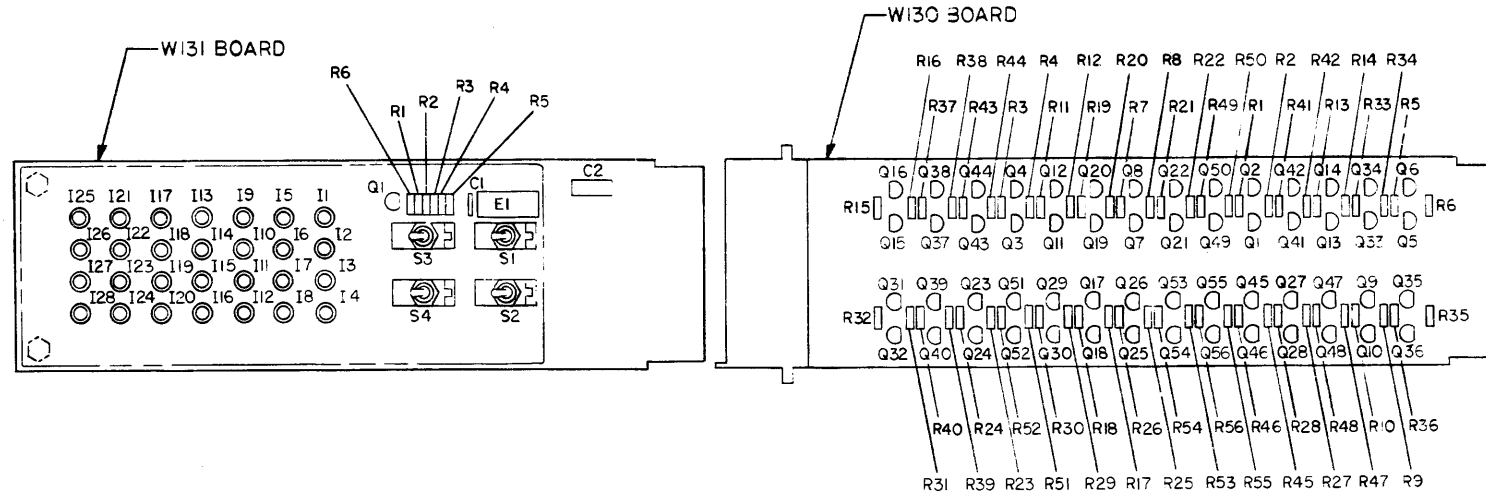
W131 PARTS REFERENCE

ITEM NO.	DRAWING REFERENCE	DESCRIPTION	PART NUMBER	QUANTITY
1	E1	DEC 7400N I.C.	1905575	1
2	C1	.01 MFD, 100V, 20% DC CAP.	1001610	1
3	C2	6.8 MFD, 35V, 20% ST. CAP.	1000067	1
4	R1, R2, R3, R4, R5	3K, 1/4W, 5% RES.	1300432	5
5	R6	330, 1/4W, 5% RES.	1300295	1
6	Q1	DEC 3009B TRANSISTOR	1503100	1
7	II-128	LAMP HUDSON, BLUE - 2309G	1209219	28
8	S1-S4	SWITCH, TOGGLE, SPST, 6AT-12	1201168	4

NOTES:

- THE KM11 IS A TWO MODULE (W130, W131) OPTION TO THE KA11 TO AID MAINTENANCE. THIS PREWIRED OPTION IS INSTALLED BY INSERTING THE W130 MODULE INTO LOCATION B02 AND INSERTING THE W131 MODULE INTO THE W130. NOTE THAT THE SWITCHES AND LIGHTS FACE TOWARD AND EXTEND BELOW THE CONSOLE. THE BOTTOM COVER MUST BE REMOVED WITH THE CHASSIS EXTERNAL TO THE CABINET.
- LABELS FOR THE INTERNAL MACHINE STATES LAMPS ARE NOTED ON THE W131 ETCH BOARD. SWITCHES PROVIDE A MANUAL CLOCK AND BUS RESPONSE AND ARE ACTIVE WHEN THE TOGGLE IS TOWARD THE NAME. NORMAL MACHINE OPERATION REQUIRES THAT ALL SWITCHES BE IN THE OFF POSITION.
- "M CLK ENABLE" AND "M CLK" PROVIDE A MANUAL CLOCK FOR THE KA11. "M CLK ENABLE" IS ACTIVATED WHILE THE PROCESSOR IS HALTED. EACH TOGGLE OF "M CLK" THEN STEPS THE PROCESSOR THROUGH THE SMALLEST PROCESSOR CLOCK INTERVALS, THE R/W STATES, THE NEXT HIGHEST CLOCK INTERVAL (S CLK) IS PROVIDED BY FOUR TOGGLES (2 COMPLETE SWITCH CYCLES) AND INDICATED BY THE R/W2 LAMP. R/W2 IS THE LAST (OR REST) R/W STATE IN A "S CLK" INTERVAL. NORMAL OPERATION IS RESUMED WHEN "M CLK" AND THEN "M CLK ENABLE" ARE RETURNED TO OFF.
- "NO TIME OUT" AND "SSYN" PROVIDE A MANUAL BUS RESPONSE TO THE PROCESSOR. IT IS USED WHEN OTHER DEVICES ARE NOT AVAILABLE. "NO TIME OUT" IS ACTIVATED, WHILE THE PROCESSOR IS HALTED, TO ELIMINATE AN ERROR TRAP ON MANUAL "SSYN" AT THE APPROPRIATE TIMES IN A BUS TRANSFER "SSYN" IS ACTIVATED AND DEACTIVATED.

COMPONENT PLACEMENT



PIN NOMENCLATURE

MODULE PROCESSOR

A

B

D

C

B

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

REV

NUMBER

DBS KM11-0-MB

FIRST USED ON OPTION/MODEL
PDPII

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES

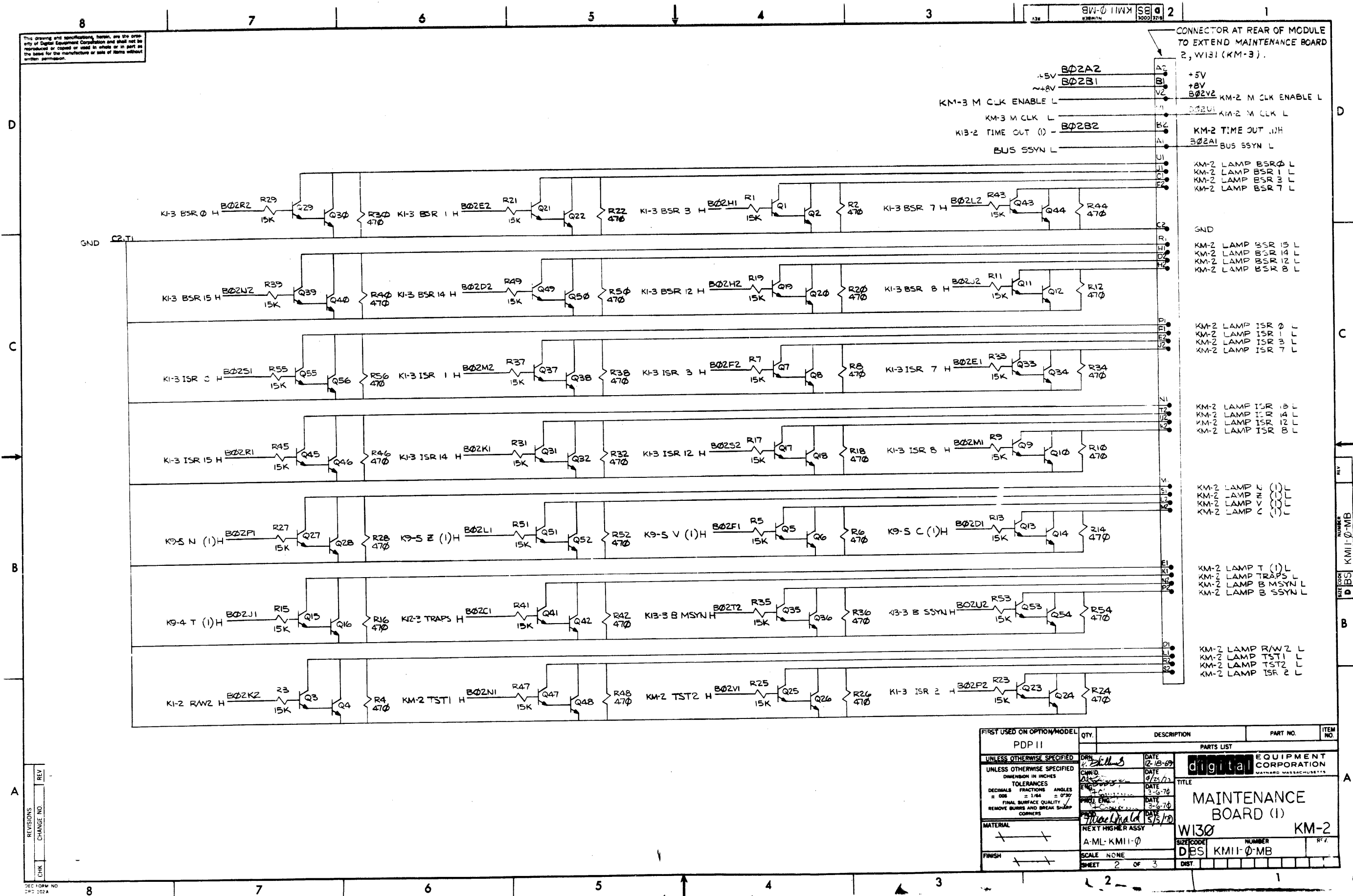
TOLERANCES
DECIMALS FRACTIONS ANGLES
± .008 ± 1/64 ± 0°30'
FINISH SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL
FINISH

SCALE
SHEET 1 OF 3

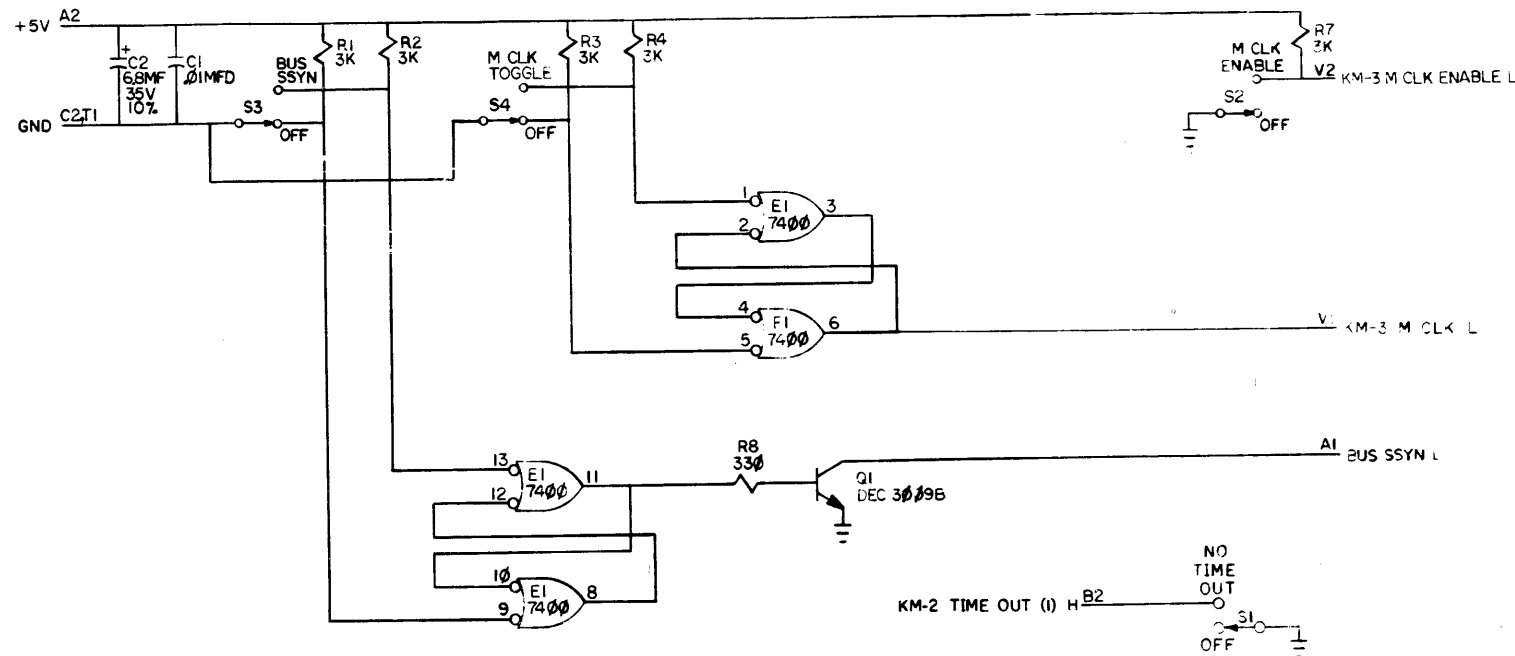
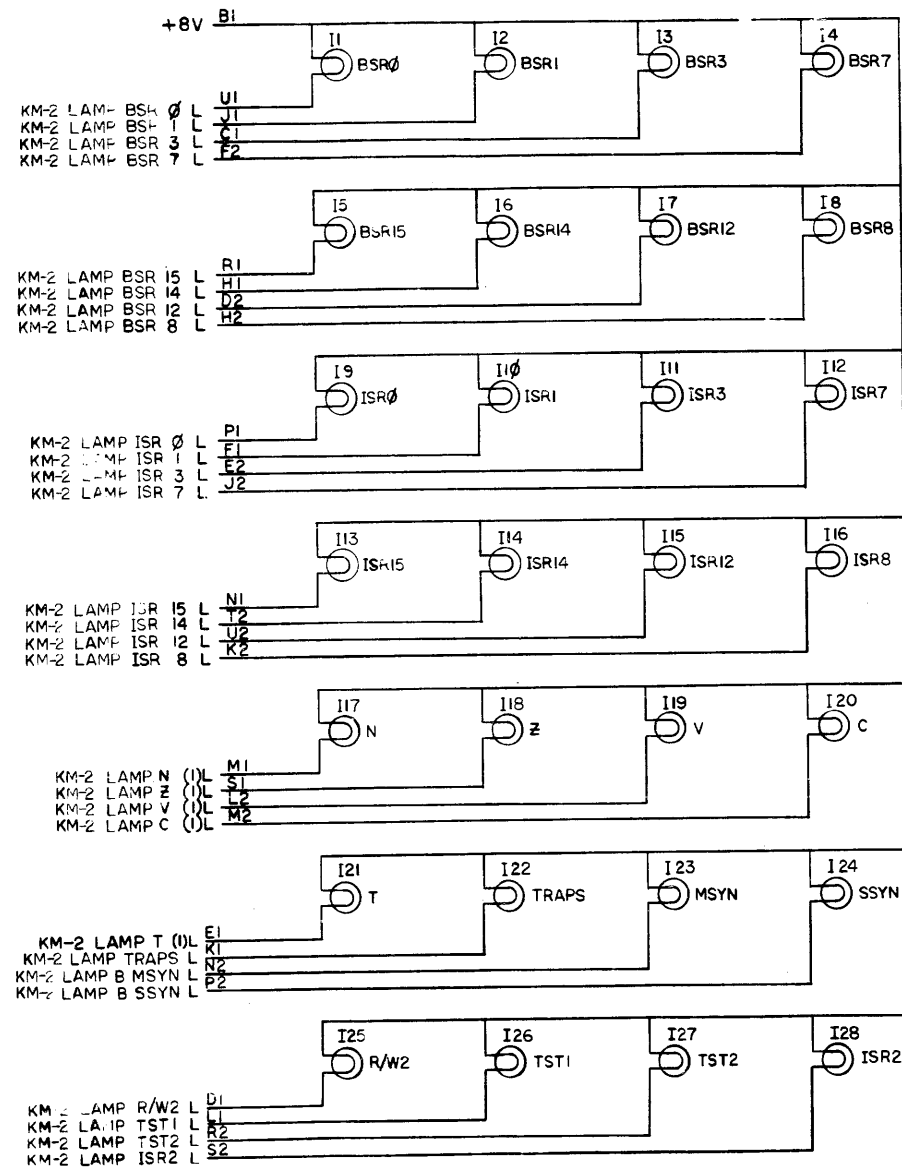
QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
TITLE MAINTENANCE BOARD (182) KM-1			
SIZE CODE A-ML-KM11-0			
NUMBER DBS KM11-0-MB			
REV. DIST.			

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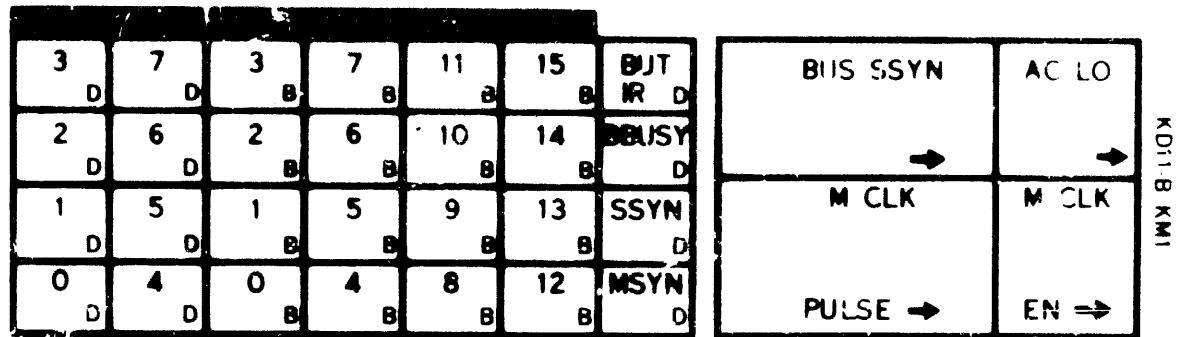
FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP 11					
UNLESS OTHERWISE SPECIFIED		DATE	PARTS LIST		
UNLESS OTHERWISE SPECIFIED		DATE	digital EQUIPMENT CORPORATION		
DIMENSION IN INCHES		DATE	TITLE		
TOLERANCES		DATE	MAINTENANCE BOARD (1)		
DECIMALS FRACTIONS ANGLES		DATE	W130 KM-2		
± .008 ± .030 ± .030		DATE	SIZE CODE DBS NUMBER KM11-0-MB		
FINAL SURFACE QUALITY		DATE	SCALE NONE		
REMOVE BURRS AND BREAK SHARP CORNERS		DATE	SHEET 2 OF 3		
MATERIAL		DATE	DIST		
FINISH		DATE			

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FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP 11				
UNLESS OTHERWISE SPECIFIED				
DIMENSIONS IN INCHES				
TOLERANCES				
DECIMALS	FRACTIONS	ANGLES		
± .005	± 1/64	± 0°30'		
FINAL SURFACE QUALITY				
REMOVE BURRS AND BREAK SHARP CORNERS				
MATERIAL				
FINISH				
NEXT HIGHER ASSEMBLY				
A-ME KM11-0				
SCALE NONE				
SHEET 2 OF 2				
PARTS LIST				
digital EQUIPMENT CORPORATION NORFOLK, MASSACHUSETTS				
TITLE				
MAINTENANCE BOARD(2)				
WI31 KM-3				
REV. CODE				
D BS KM11-0-MB				
REV.				

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D-JIM WHEN ASSERTED
B BRIGHT WHEN ASSERTED

5509081-0-9

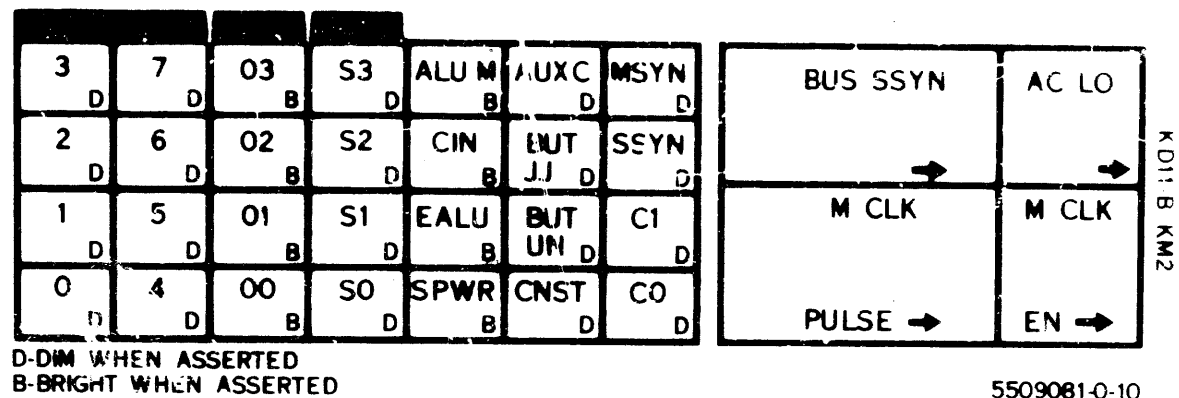
FIRST USED ON DPT, M10P
11/05

REVISIONS	REV.
	CHANGE NO.
CHK	

SPEC# 9200100-94 (BLACK)

DRN. A. Matten	DATE 5-11-72	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK'D. BW	DATE 5-12-72	TITLE MAINT MODULE OVERLAY (11/05 - KMI)			
ENG. J. J. J.	DATE 5-22-72				
PROJ. ENG. J. J. J.	DATE 5-22-72				
PROD. R. K. Peterson	DATE 5-24-72				
NEXT HIGHER ASSY C-IN-5509081-0-0		SIZE A	CODE SS	NUMBER 5509081 0-9	REV.
SCALE					
SHEET OF		DIST			

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FIRST USED ON OPT/MOD
11/05

REVISIONS	REV.
	CHANGE NO.
CHK	

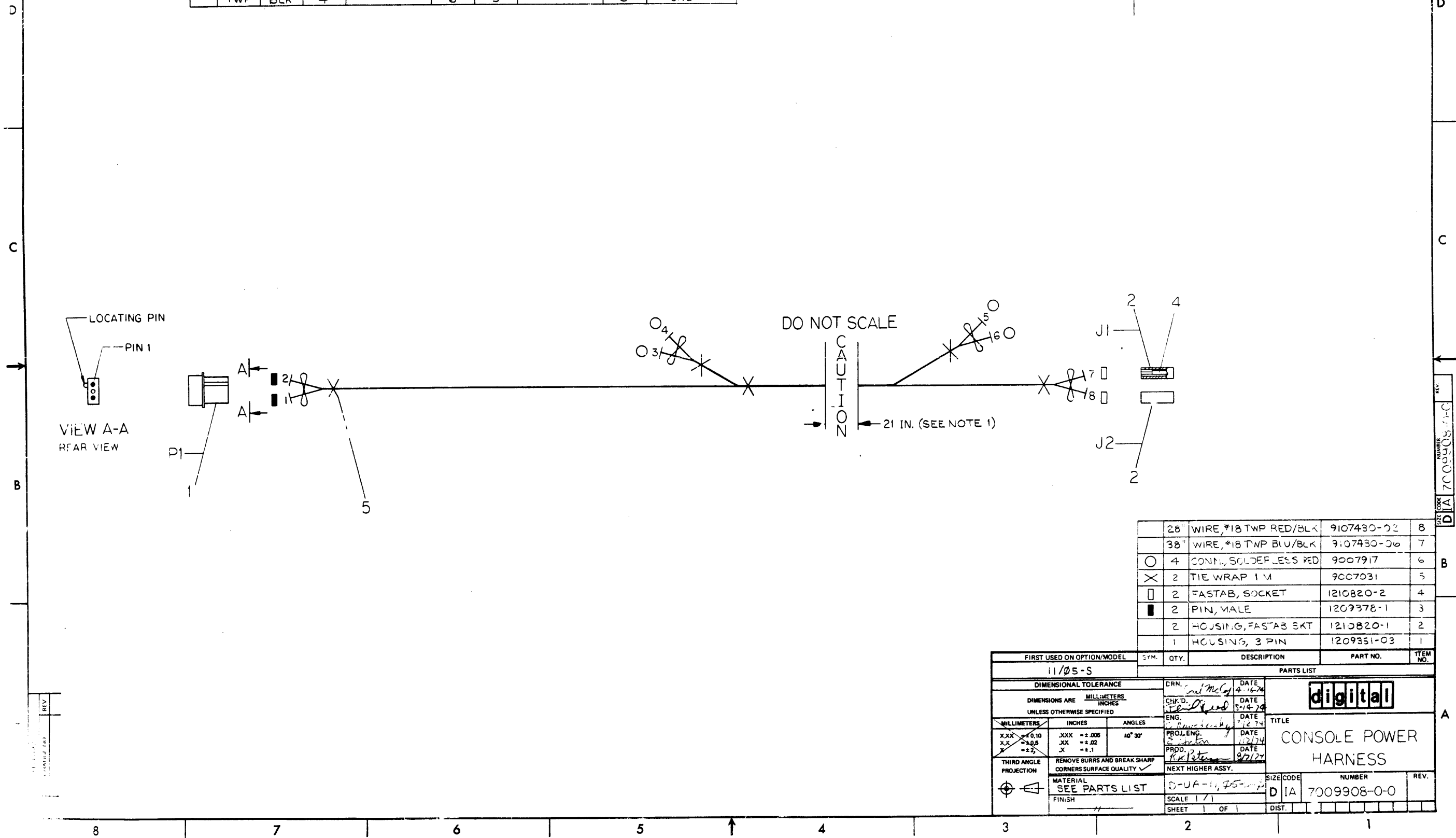
SPEC# 9200160-94 (BLACK)

DRN. D. Mattson	DATE 5/1/72	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHKD. B. J. O'Connell	DATE 5/1/72	TITLE MAINT MODULE OVERLAY (11/05-KM2)			
ENG. J. H. O'Connell	DATE 5/1/72				
PROJ. ENG. A. Feiler	DATE 5-23-72				
PROD. R. V. Peterson	DATE 5/24/72				
C-IA-5509081-0-0		SIZE A	CODE SS	NUMBER 5509081-0-10	REV.
SCALE					
SHEET OF		DIST. 3			

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WIRE TABLE									
ITEM		DESCRIPTION			FROM			TO	
NO.	AWG	COLOR	POINT	CONNECTION	WITH	POINT	CONNECTION	WITH	SIGNAL
7	*18	BLU	2	P3-1	3	7	J1-1	4	KEY SW
	TWP	BLK	1	P3-3	3	8	J2-1	4	KEY SW
8	*18	RED	3	—	6	6	—	6	+5
	TWP	BLK	4	—	6	5	—	6	GND

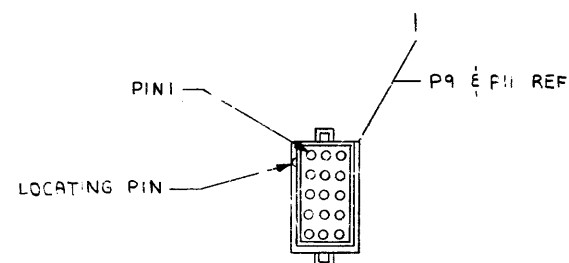
NOTES:
1. APPLY TIE WRAP (ITEM *5) EVERY 4 IN..



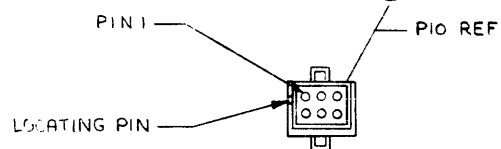
FIRST USED ON OPTION/MODEL		SYM.	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05-S						
PARTS LIST				digital		
DIMENSIONAL TOLERANCE				TITLE		
DIMENSIONS ARE MILLIMETERS INCHES				CONSOLE POWER HARNESS		
UNLESS OTHERWISE SPECIFIED				REV.		
MILLIMETERS	INCHES	ANGLES	DATE	SIZE CODE		
X.XX ±0.10	JXX ±.005	30° 30'	DATE	NUMBER		
X.X ±0.5	JXX ±.02		DATE	DIA 7009908-0-0		
X ±.25	JX ±.1		DATE	DIST.		
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY			SHEET 1 OF 1		
MATERIAL SEE PARTS LIST				FINISH		

WIRING TABLE										
ITEM NO	DESCRIPTION	FROM	TO	SIGNAL	LENGTH					
NO	AWG	COLOR	POINT	CONNECTION	WITH	POINT	CONNECTION	WITH	SIGNAL	LENGTH
7	#14	ORN	1	PII - 3	3	14	---	---	+20V	7 1/2
5	#14	RED	2	PII - 1	1	1	---	---	+5V	6
6	#14	BLK	3	PII - 8	8	23	---	---	GND	4 1/4
9	#14	RED	4	PII - 4	4	15	---	---	+5V	7 1/8
10	#18	BRN	5	PIO - 2	2	26	---	---	LTC	5 1/2
12	#18	YEL	7	PIO - 4	4	22	---	---	AC LO	3 3/4
11	#18	VIO	6	PIO - 3	3	21	---	---	DC LO	3 3/4
13	#14	BLK	8	PIO - 1	1	24	---	---	GND	4 7/8
8	#18	GRY	9	P9 - 2	2	20	---	---	+15V	7 1/4
5	#14	RED	10	P9 - 1	1	16	---	---	+5V	3 1/2
6	#14	BLK	11	P9 - 8	8	25	---	---	GND	7 1/4
10	#18	BRN	12	P9 - 14	14	18	---	---	-5V	4 3/4
9	#18	BLU	13	P9 - 13	13	19	---	---	-15V	5 1/8

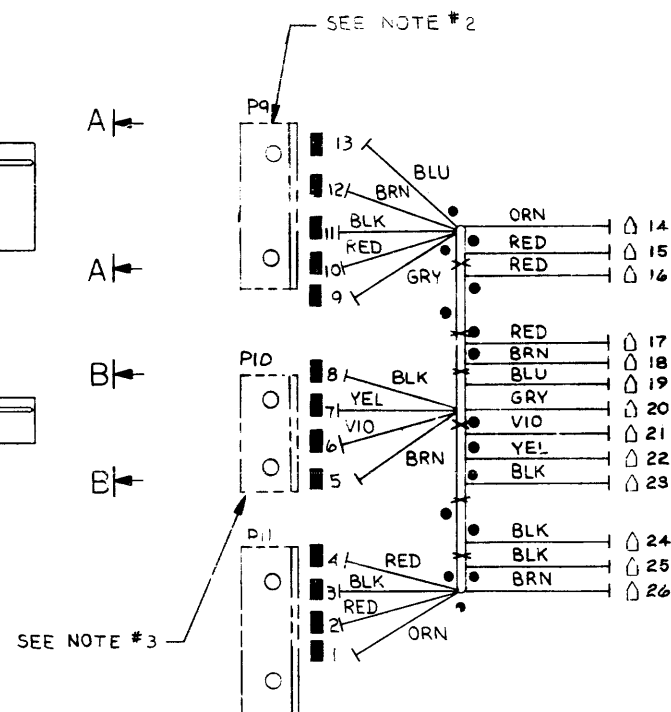
SEE NOTE #6



VIEW A-A
WIRING SIDE
FRONT VIEW



VIEW B-B
WIRING SIDE
REAR VIEW



SEE NOTE #3

NOTES:

1. USE TIE WRAPS (X) ITEM #4 AT BREAK-OUT POINTS SHOWN.
2. USE CONN. BRKT. #C-MD-9305761-H15-0, MOUNT WITH #6 WOOD SCREWS. USE MATING CONN. 1209350-15.
3. USE CONN. BRKT. #C-MD-9305761-H6-0, MOUNT WITH #6 WOOD SCREWS. USE MATING CONN. 1209350-06.
4. DOT (•) INDICATES NAIL LOCATIONS FOR ASSEMBLY USE ONLY. COVER NAILS WITH SHRINK TUBING TO PREVENT CUTTING HARNESS.
5. COMPONENTS TO BE LABELED WITH COMPONENT IDENTIFIERS USING DECALS ITEM #13.
6. WIRE LENGTH TOLERANCES WILL BE $\pm \frac{1}{8}$ INCHES.
- 0

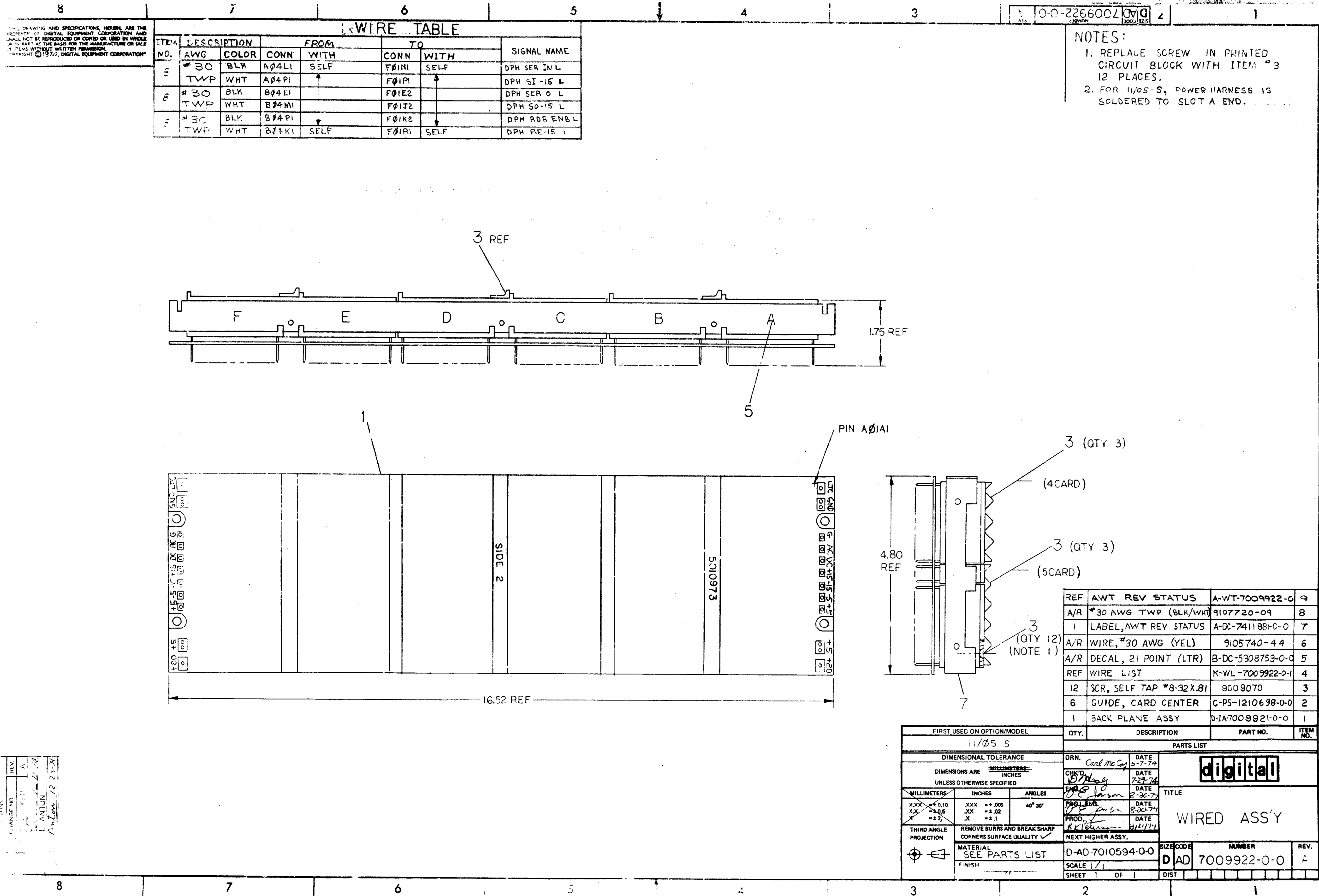
QTY.	DESCRIPTION	PART NO.	ITEM NO.
13	AIR DECALS, CABLE	A-DC-7409872-0-0	13
4	4" WIRE #18 AWG YEL	9107360-44	12
4	4" WIRE #18 AWG VIO	9107360-77	11
12	12" WIRE #18 AWG BRN	9107360-11	10
6	6" WIRE #18 AWG BLU	9107360-66	9
8	8" WIRE #13 AWG GRV	9107360-88	8
8	8" WIRE #14 AWG ORN	9107370-33	7
19	WIRE #14 AWG BLK	9107370-00	6
19	WIRE #14 AWG RED	9107370-22	5
X	6 TIE WRAP	9007031	4
13	PIN, MALE	1209378-01	3
1	CONN. 6 PIN HOUSING	1209351-06	2
2	CONN. 15 PIN HOUSING	1209351-15	1

FIRST USED ON: OPTION/MODEL		SYM.	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/05-1						
DIMENSIONAL TOLERANCE				DATE		
DIMENSIONS ARE $\frac{1}{16}$ INCHES UNLESS OTHERWISE SPECIFIED				6-10-74		
MILLIMETERS				DATE		
X.XX ± 0.10				6/26/79		
X.X ± 0.5				DATE		
X ± 2.0				12/7/74		
ANGLES				DATE		
30° 30'				12/7/74		
THIRD ANGLE PROJECTION				DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				12/7/74		
NEXT HIGHER ASSY.				DATE		
MATERIAL				DATE		
SEE PARTS LIST				12/7/74		
SCALE				DATE		
1/1				12/7/74		
SHEET				DATE		
OF				12/7/74		
DIST.				DATE		
				12/7/74		

digital

POWER HARNESS
3.5 IN

SIZE CODE NUMBER REV.
DIA 7010113-0-0 A



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DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

DATE 9/7/73

TITLE MF11-U/UP CUSTOMER ACCEPTANCE PROCEDURE

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG <i>P. Durant</i>	APPD <i>D. Shaw</i> 12-5-73	SIZE A	CODE SP	NUMBER MF11-U-3	REV
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DEC FORM NO.
DRA 107A

SHEET 1 OF 2

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MF11-U/UP CUSTOMER ACCEPTANCE PROCEDURE

1.0 Overview

- 1.1 This procedure contains directions pertaining to field assurance of the correct operation of an MF11-U/UP.
- 1.2 Prior to this acceptance, the option will have been installed, inspected, and connected and have power applied. Generally the memories shipped as add ons will have been configured and tested at the factory with their addresses beginning at 000000. Prior to running diagnostics, these memories must be re-configured for the customers system, as directed in the MF11-U/UP Customer Print Set. (See M8293 MAT A)
- 1.3 If this option is part of a PDP-11/40-11/45 installation, as opposed to an add on, then the system acceptance procedures provided with those systems should be utilized in place of this procedure.

2.0 Inspection

- 2.1 Assure presence of the following documentation:
 - 2.1.1 Customer Acceptance Form
 - 2.1.2 Key sheets (2)
 - 2.1.3 Accessory Checklist
 - 2.1.4 LIBKIT list for MF11-U/UP
 - 2.1.5 ECO Status Sticker (for mounting in expansion box)
 - 2.1.6 Waiver Sheet (if applicable)
 - 2.1.7 Documentation Update Card (if applicable).
- 2.2 Utilize the accessory checklist, and LIBKIT list to verify that all items are present.

3.0 Diagnostic Testing:

- 3.1 The following tests must be run without error for the times specified:

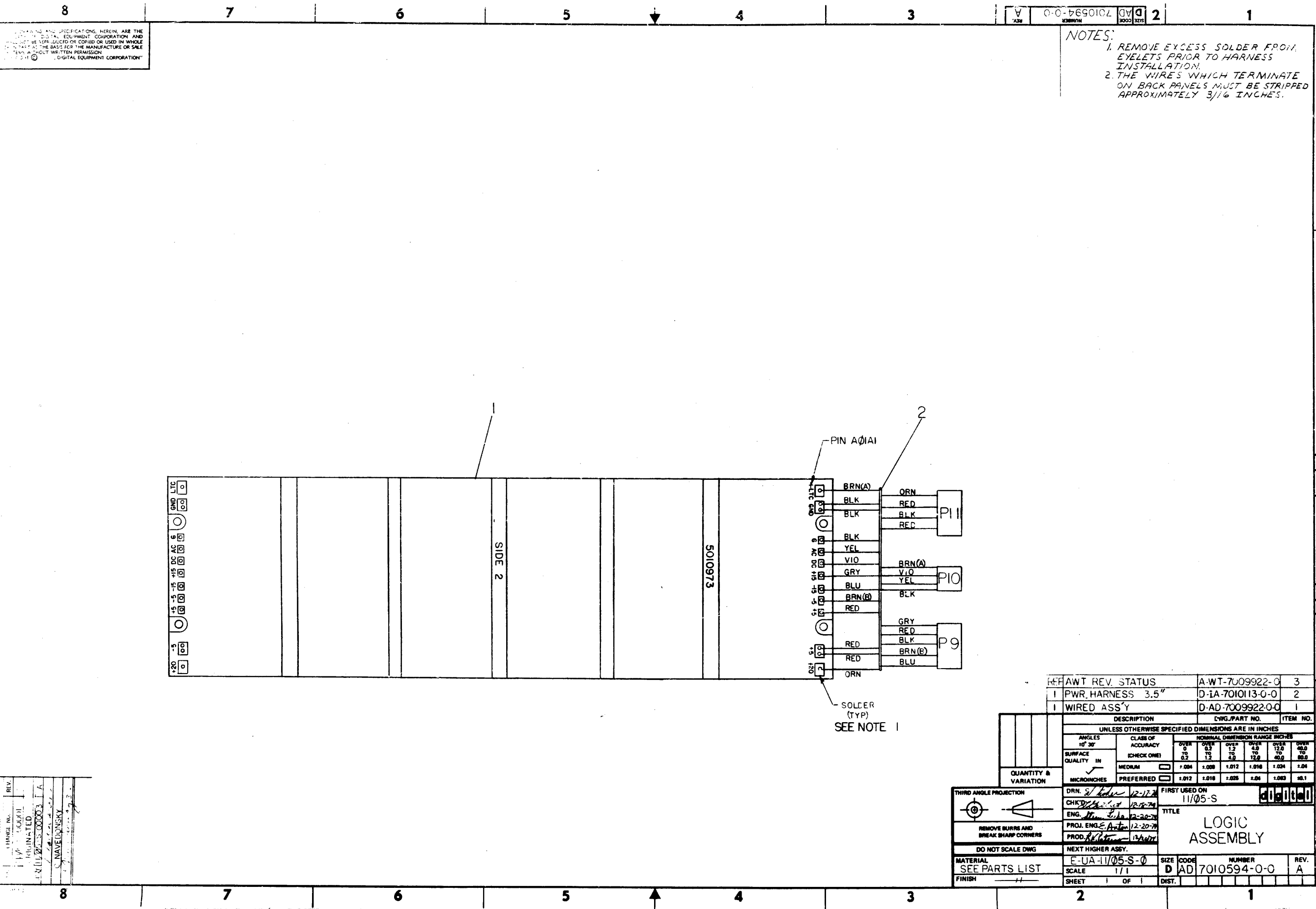
*Maindec-11-DZQMA Memory I/O 5 min/MF11-U/UP
Maindec-11-DZQMB Memory Exerciser 5 min/MF11-U/UP
Maindec-11-DCMFA Parity Test 2 passes/MF11-U/UP
(MF11-UP Memory Only)

*Only for add-on memories in systems with NPR devices

DEC FORM NO DEC 16-(381)-1022-N370
DRA 108

SIZE A	CODE SP	NUMBER MF11-U-3	REV
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SHEET 2 OF 2



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NOTES:
1. REMOVE EXCESS SOLDER FROM EYELETS PRIOR TO HARNESS INSTALLATION.
2. THE WIRES WHICH TERMINATE ON BACK PANELS MUST BE STRIPPED APPROXIMATELY 3/16 INCHES.

REV. STATUS	A-WT-7009922-0	3
PWR. HARNESS 3.5"	D-1A-7010113-0-0	2
WIRED ASS'Y	D-AD-7009922-0-0	1
DESCRIPTION	DWG. PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
ANGLES 10° 30°	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES
SURFACE QUALITY IN	MEDIUM	OVER 0 TO 0.5 OVER 0.5 TO 1.2 OVER 1.2 TO 4.0 OVER 4.0 TO 12.0 OVER 12.0 TO 48.0 OVER 48.0 TO 80.0
MICROINCHES	PREFERRED	±.004 ±.008 ±.012 ±.016 ±.024 ±.04
QUANTITY & VARIATION	DRN 8/12/72	FIRST USED ON 11/05-S
THIRD ANGLE PROJECTION	CHKD 12/12/72	ENG 12/20/72
REMOVE BURRS AND BREAK SHARP CORNERS	PROJ. ENG 12-20-72	PROD. 12-20-72
DO NOT SCALE DWG	NEXT HIGHER ASSY.	
MATERIAL SEE PARTS LIST	E-UA-11/05-S-0	SIZE CODE D AD 7010594-0-0
FINISH	SCALE 1/1	SHEET 1 OF 1

ACCESSORY LIST

D	DOCUMENT
DN	DOCUMENT CHANGE NOTICE
PA	PAPER TAPE ASCII
PB	PAPER TAPE BINARY
PM	PAPER TAPE READ-IN-MODE

XIT CHECK

BY _____ DATE _____

INSTALLATION CHECK

BY _____ DATE _____

MADE BY	E. Pellegrini
DATE	5/26/72
ENG	<i>20 Wick</i>
DATE	5-31-72

CHECKED C. Tschewer
DATE 5-31-72
PROD R. K. Petersen
DATE 5/31/72

SECTION	
ISSUED SECT.	

TITLE PDF-11/05 ACCESSORY LIST	ASSY. NO.	SIZE	CODE	NUMBER	REV	ECO NO
	11/05-0-0	A	AL	11/05-0-4	B	11/05-0-0003
SHEET 1 OF 1	DIST					