

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

FIELD MAINTENANCE
PRINT SET

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1982 DIGITAL EQUIPMENT CORPORATION"

TABLE OF CONTENTS

K-TC-DMF32-0-1	DMF32 FIELD MAINT. PRINT SET (MP00965)
K-DD-DMF32-0	DMF32 OPTION - DRAWING DIRECTORY
D-UA-DMF32-0-0	DMF32 OPTION - UNIT ASSEMBLY
K-PL-DMF32-0-0	DMF32 OPTION - PARTS LIST
B-DD-M8396-0	COMBO BOARD - DRAWING DIRECTORY
D-UA-M8396-0-0	COMBO BOARD - UNIT ASSEMBLY
K-PL-M8396-0-DBP	COMBO BOARD - PARTS LIST
D-CS-M8396-0-COMA	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMB	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMC	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMD	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COME	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMF	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMH	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMJ	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMK	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COML	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMM	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMN	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMP	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMR	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMS	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMT	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMU	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMV	COMBO BOARD - CIRCUIT SCHEMATICS
D-CS-M8396-0-COMW	COMBO BOARD - CIRCUIT SCHEMATICS
D-EC-5014453-0-0	ETCH CUT DRAWING
E-AD-7018754-0-0	DMF32 I/O PANEL ASSY - ASSY DRAWING
K-PL-7018754-0-DBP	DMF32 I/O PANEL ASSY - PARTS LIST
B-DD-5414459-0	COMBO DISTRIBUTION PANEL - DRAWING DIRECTORY
D-UA-5414459-0-0	COMBO DISTRIBUTION PANEL - UNIT ASSEMBLY

UNIT VARIATIONS
COVERED BY THIS
PRINT SET

DMF32-AA
DMF32-AB
DMF32-AC

DMF32-0
FIELD MAINTENANCE PRINT SET

DIGITAL EQUIPMENT CORPORATION
PRINT SET ORDER NO. MP00965

REVISION HISTORY			USED ON OPTION/MODEL		RESPONSIBLE ENG. : M. REICH		d i g i t a l						
ENG	ECO NUMBER	REV			DATE : 21 APR 82								
---	INITIAL	A			MADE BY : R. J. RILEY								
RG	DMF32-MK001	B			DATE : 21 APR 82		TITLE FIELD MAINTENANCE PRINT SET						
					CHECKED BY  : S. DUNCANSON								
					DATE : 21 APR 82		(DMF32-0 OPTION)						
					PROJECT ENGINEER : M. REICH								
					DATE : 21 APR 82								
					FIELD SERVICE : G. SWITZER								
					DATE : 21 APR 82								
							SIZE CODE DOCUMENT NUMBER REV.						
							K TC DMF32-0-1 B						
							SHEET 1 OF 2						

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

FIELD MAINTENANCE

PRINT SET

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR
OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE
MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT (C) 1982 DIGITAL EQUIPMENT CORPORATION"

TABLE OF CONTENTS

(CONTINUED FROM SHEET 1)

K-PL-5414459-0-DBP	COMBO DISTRIBUTION PANEL - PARTS LIST
D-CS-5414459-0-1	COMBO DISTRIBUTION PANEL - CIRC. SCHEMATICS
D-EC-5014458-0-0	ETCH CUT DRAWING
D-UA-BC06R-0-0	CABLE I/O - UNIT ASSEMBLY
B-DD-H3248-0	DMF32 SL LOOP BACK MODULE - DRWG. DIRECTORY
D-UA-H3248-0-0	DMF32 SL LOOP BACK MODULE - UNIT ASSEMBLY
K-PL-H3248-0-DBP	DMF32 SL LOOP BACK MODULE - PARTS LIST
K-CS-H3248-0-0	DMF32 SL LOOP BACK MODULE - CIRC. SCHEMATIC
D-EC-5015167-0-0	ETCH CUT DRAWING
B-DD-H3249-0	DMF32 STAGGERED LOOP BACK MOD. - DRWG. DIRECT
D-UA-H3249-0-0	DMF32 STAGGERED LOOP BACK MOD. - UNIT ASSY.
K-PL-H3249-0-DBP	DMF32 STAGGERED LOOP BACK MOD. - PARTS LIST
K-CS-H3249-0-1	DMF32 STAGGERED LOOP BACK MOD. - CIR. SCHEM.
D-EC-5014985-0-0	ETCH CUT DRAWING
D-TD-M8396-0-0	TIMING DIAGRAM
D-BD-M8396-0-0	BLOCK DIAGRAM
D-GL-M8396-0-1	PAL LISTINGS
D-GL-M8396-0-2	FORWARD REFERENCING

UNIT VARIATIONS
COVERED BY THIS
PRINT SET

DMF32-AA

DMF32-AB

DMF32-AC

DMF32-0

FIELD MAINTENANCE PRINT SET

DIGITAL EQUIPMENT CORPORATION

PRINT SET ORDER NO. MP00965

REVISION HISTORY			USED ON OPTION/MODEL		RESPONSIBLE ENG. : M. REICH										
ENG	ECO NUMBER	REV			DATE : 21 APR 82			d	i	g	i	t	a	l	
					MADE BY : R. J. RILEY			TITLE FIELD MAINTENANCE PRINT SET							
					DATE : 21 APR 82										
					CHECKED BY : S. DUNCANSON										
					DATE : 21 APR 82			(DMF32-Ø OPTION)							
					PROJECT ENGINEER : M. REICH										
					DATE : 21 APR 82										
					FIELD SERVICE : G. SWITZER			SIZE	CODE	DOCUMENT NUMBER		REV.			
					DATE : 21 APR 82			K	TC	DMF32-Ø-1		B			
							SHEET 2 OF 2								

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

DRAWING DIRECTORY

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1982 DIGITAL EQUIPMENT CORPORATION"

FOR FIELD MAINTENANCE PRINT SET REFER TO K-TC-DMF32-0-1

UNIT VARIATIONS	
VARIATION	TITLE
DMF32-AA	DMF32 OPTION (7' CABLES)
DMF32-AB	DMF32 OPTION (10' CABLES)
DMF32-AC	DMF32 OPTION (12' CABLES)

REVISION HISTORY			USED ON OPTION/MODEL	RESPONSIBLE ENG. : M. REICH		d i g i t a l							
ENG	ECO NUMBER	REV		DATE : 2 FEB 82									
---	INITIAL	A		MADE BY : R. J. RILEY									
RG	DMF32-MK001	B		DATE : 2 FEB 82		TITLE		DRAWING DIRECTORY					
				CHECKED BY <i>RB</i> : R. J. RILEY									
				DATE : 2 FEB 82									
				DESIGN ENGINEER <i>B. Bateman</i> : M. REICH		DMF32 OPTION							
				DATE : 2 FEB 82									
				PRODUCTION ENG. : D. BATEMAN		SIZE		CODE	DOCUMENT NUMBER				REV.
				DATE : 2 FEB 82		K		DD	DMF32-0				B
						SHEET 1 OF 2							

F
I
N
DT
Y
P
EF
I
N
DT
Y
P
E

DRAWING NUMBER

DESCRIPTION

DRAWING NUMBER

DESCRIPTION

1 D-UA-DMF32-0-0
K-PL-DMF32-0-0DMF32 OPTION
DMF32 OPTION PARTS LISTE/M
E/M

9 A-SP-3700701-0-0

PKG. I/O FRAME H9544-SJ

M

2 B-DD-M8396-0

COMBO BOARD

E/M

10 K-SP-DMF32-0-2

DMF32 ENG. SPECIFICATION

E/M

3 D-AD-BC06R-0-0

CABLE, I/O (MJ11-A)

E/M

4 E-AD-7018754-0-0
D-IA-7426406-0-0
B-MD-7425880-0-0
K-PL-7018754-0-DBPDMF32 I/O PANEL ASSY
PLATE, OCTAL, I/O COMBO
SPACER, IO BOARD/PANEL
DMF32 I/O PANEL ASSYE/M
M
M
E/M

5 B-DD-5414459-0

COMBO DISTRIBUTION PANEL

E/M

6 B-DD-H3248-0

DMF32 SL LOOP BACK MODULE

E/M

7 B-DD-H3249-0

DMF32 STAGGERED LOOP BACK
MODULE

E/M

8 E-AR-H9544-SJ-DBU
K-PL-H9544-SJ-DBP
E-IA-7427040-0-DBU
A-PS-3700701-0-0FRAME, I/O NON-SHIELDED
FRAME, I/O NON-SHIELDED
FRAME, I/O NON-SHIELDED
PKG. I/O FRAME H9544-SJM
M
M
MTYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL

d i g i t a l

TITLE

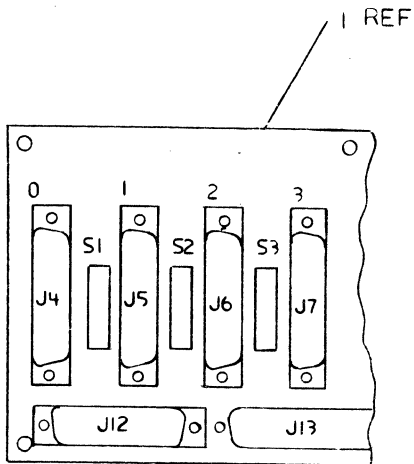
DRAWING DIRECTORY

DMF32 OPTION

SIZE | CODE | DOCUMENT NUMBER | REV.
K | DD | DMF32-0 | B

SHEET 2 OF 2

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1982 DIGITAL EQUIPMENT CORPORATION



COMPONENT SIDE I/O MODULE

COMMON SET-UP FOR ASYNC PORTS <1:3>				
SWITCH PACK 1/2	TERM	MODEM / TEST CONN	SWITCH ON DESCRIPTION USING DMF32 AND INTERFACE STANDARD NAMES	PIN NO.
1	OFF	OFF	RX D H CONNECTED TO SECONDARY RECEIVE DATA (SBB/119)	(PIN 1)
2	ON	ON	USER TX H CONNECTED TO ANALOG LOOPBACK (BELL AL/449 LL)	(PIN 18)
3	OFF	OFF	CAR H CONNECTED TO SEC. REC'D LINE SIG. DET. (SCF/122)	(PIN 12)
4	ON	ON	USER RX H CONNECTED TO TEST MODE IND. (BELL TM/449 TM)	(PIN 25)
5	ON	ON	RX D H CONNECTED TO RECEIVED DATA (BB/104)	(PIN 3)
6	ON	ON	RTS H CONNECTED TO REQUEST TO SEND (CA/105)	(PIN 4)
7	ON	ON	S.RTS H CONNECTED TO SEC. REQUEST TO SEND (SCA/120)	(PIN 19)
8	ON	OFF	CAR H CONNECTED TO DATA SET READY (CC/107)	(PIN 6)
9	ON	ON	CAR H CONNECTED TO REC'D LINE SIG. DET. (CF/109)	(PIN 8)
10	ON	ON	S.CAR H CONNECTED TO SEC. REC'D LINE SIG. DET. (SCF/122)	(PIN 12)

COMMON SET-UPS FOR SYNC PORT			
SWITCH PACK 3	MODEM H3248 SL LOOP	SWITCH ON DESCRIPTION USING DMF32 AND INTERFACE STANDARD NAMES	PIN NO.
1	ON	USER TX H CONNECTED TO ANALOG LOOPBACK (BELL AL/449 LL)	(PIN 18)
2	ON	DTE CLK H CONNECTED TO TRANS. SIG. EL. TMNG (DA/113)	(PIN 24)
3	ON	USER RX H CONNECTED TO TEST MODE IND. (BELL TM/449 TM)	(PIN 25)

DMF DEVICE CONFIGURATION
54-14453 DIP SWITCH PACK NO. 3

SW5	SW4	ACTIVE DEVICE
OFF	OFF	ASYNC + SYNC + LP
OFF	ON	ASYNC + SYNC + DR
ON	OFF	ASYNC + LP
ON	ON	ASYNC

DEVICE ADDRESS SWITCH SETTINGS
SWITCH PACK E75

ADDRESS RANGE	BIT SW #	12	11	10	9	8	7	6	5	4	3	2	1
760340		ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON		
760400		ON	ON	ON	ON	OFF	ON	ON	ON				
760440		ON	ON	ON	ON	OFF	ON	ON	OFF				
760500		ON	ON	ON	ON	OFF	ON	OFF	ON				
760540		ON	ON	ON	ON	OFF	ON	OFF	OFF				
760600		ON	ON	ON	ON	OFF	OFF	ON	ON				
760640		ON	ON	ON	ON	OFF	OFF	ON	OFF				
760700		ON	ON	ON	ON	OFF	OFF	OFF	ON				
760740		ON	ON	ON	ON	OFF	OFF	OFF	OFF				
761000		ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON		

REF COMBO BOARD
(M8396)

DEVICE PRIORITY SWITCH SETTINGS
SWITCH PACK E77

DEVICE PRIORITY	SW NO.	* 1	2	3	4	5	6	7	8	9	* 10
5		ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
6		ON	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF

* FOR MAINT ONLY

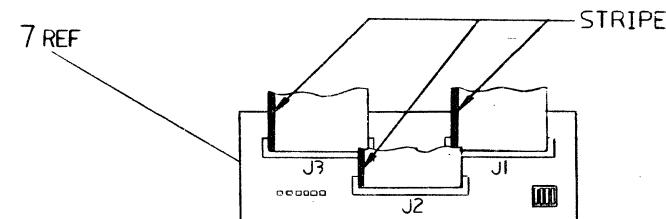
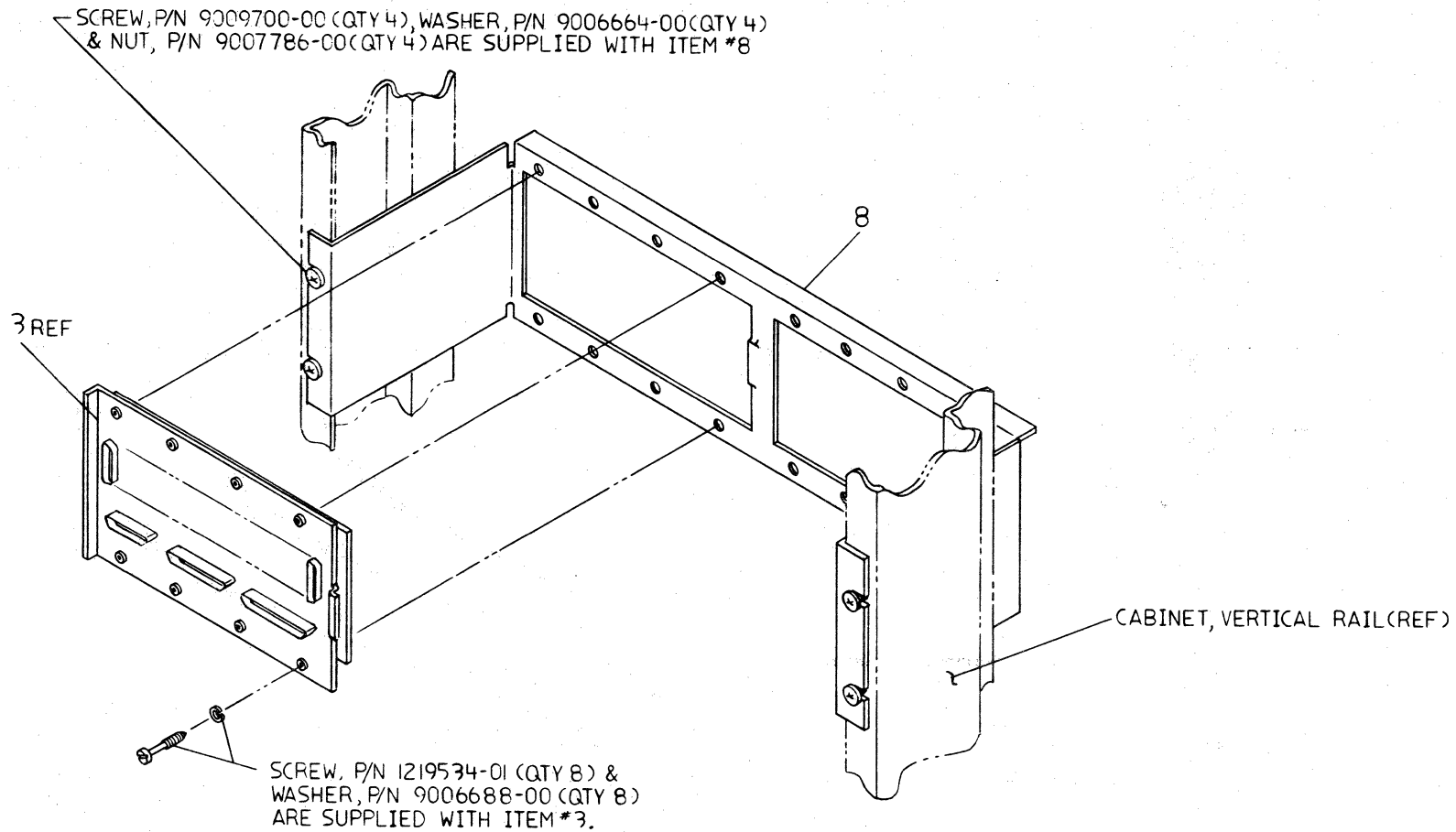


FIGURE B
FIELD SERVICE MAINTENANCE PROCEDURE.
DISCONNECT ITEM 3 (SHEET 1)
AND CONNECT ITEM 7 (SHOWN ABOVE)

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)			
INCHES TOLERANCES	ANGLES ± 0°30'	APPLICABLE DIMENSION RANGE (CHECK ONE)	
X = ± .1	SURFACE QUALITY	OVER 0 TO 1.2 ± .02	
XX = ± .02		OVER 1.2 TO 4.0 ± .03	
XXX = ± .005		OVER 4.0 TO 12.0 ± .04	
QUANTITY & VARIATION	MICROINCHES	OVER 12.0 TO 40.0 ± .05	
		OVER 40.0 TO 80.0 ± .06	
THIRD ANGLE PROJECTION	DATE	TITLE	
DO NOT SCALE DRAWING	DATE	DMF 32 OPTION	
REMOVE BURRS AND BREAK SHARP CORNERS	DATE	DOCUMENT NUMBER	
MATERIAL	DATE	DUA DMF 32-0-0	
FINISH	DATE	SCALE	
		SHEET 2 OF 3	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1973, DIGITAL EQUIPMENT CORPORATION



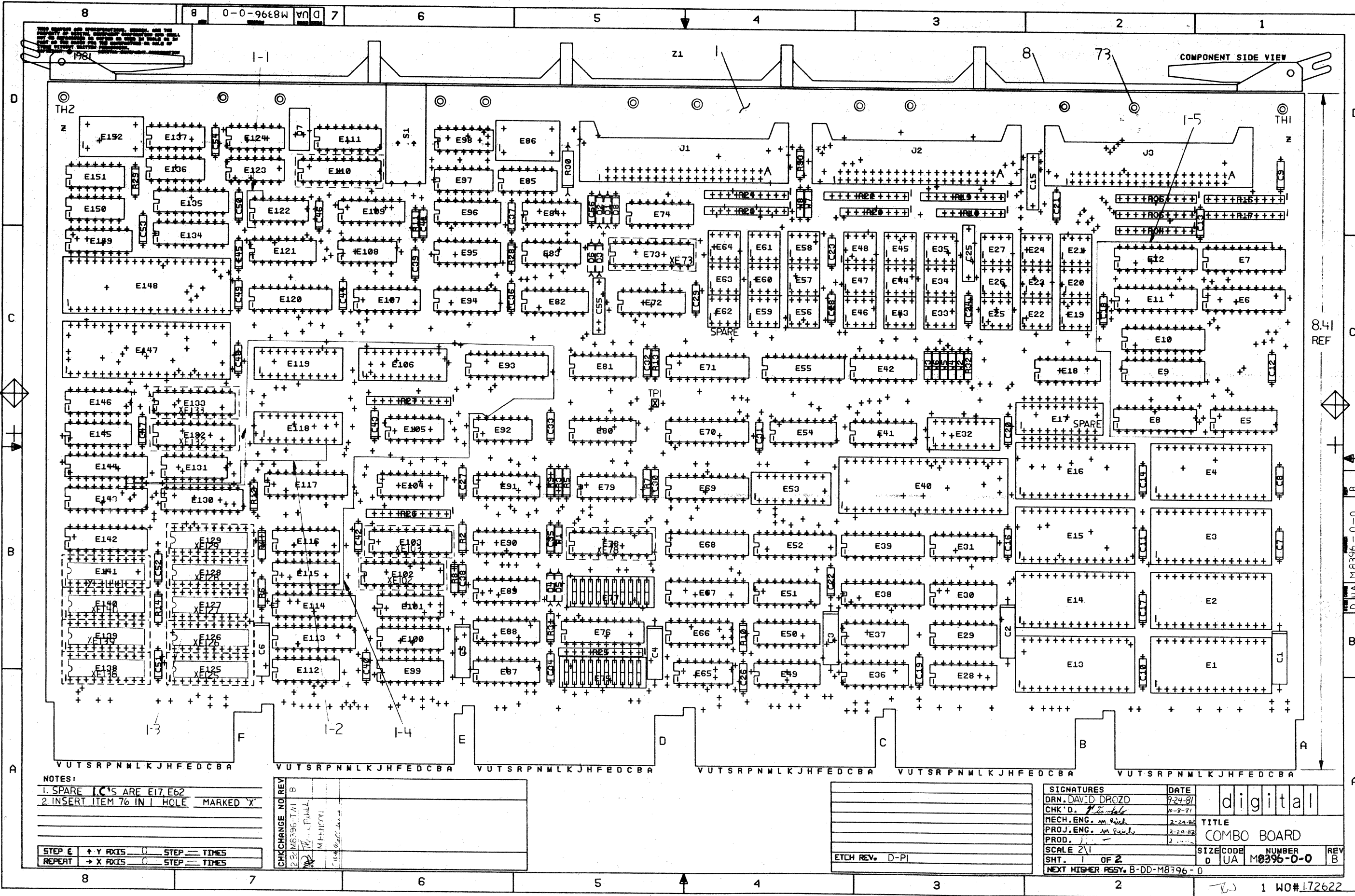
DESCRIPTION		DWG./PART NO.	ITEM NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES							
ANGLES 30° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES					
SURFACE QUALITY IN	MEDIUM ☐ PREFERRED ☐	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
		±.004	±.008	±.015	±.016	±.024	±.04
QUANTITY & VARIATION	MICROINCHES	±.012	±.016	±.025	±.04	±.063	±.1
THIRD ANGLE PROJECTION	DRN.	FIRST USED ON					
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D	TITLE					
DO NOT SCALE DWG	ENG.	DMF32 OPTION					
MATERIAL	PROJ. ENG.	SIZE CODE					
FINISH	PROD.	NUMBER					
	NEXT HIGHER ASSY.	D UA DMF32-0-0					
	SCALE	REV. B					
	SHEET 3 OF 3	DIST.					

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION		
					AA	AB	AC
1	1	B-DD-M8396-0-0	M8396-00	DMF32 I/O MUX, HEX	1	1	1
2	2	D-AD-BC06R-0-0	BC06R-07	CABLE I/O (MJ11-A)	3	0	0
3	3	F-AD-7018754-0-0	7018754-00	I/O PANEL COMBO	1	1	1
4	4	D-AD-BC06R-0-0	BC06R-10	CABLE I/O 10FT TM02	0	3	0
5	5	D-AD-BC06R-0-0	BC06R-12	CABLE I/O 12FT (MJ11)	0	0	3
6	6	D-AD-H3248-0-0	H3248-00	SINGLE RS232 LOOP BACK SYNC/ASYN	1	1	1
7	7	B-DD-H3249-0-0	H3249-00	TRIPLE STAGGERED LOOP BACK CONNE	REF	REF	REF
8	8	F-AR-H9544-SJ-DBU	H9544-SJ	BULKHEAD PANEL, NON SHIELDING	0	1	0
9	9	A-PS-3700701-0-0	3700701-02	PKG I/O FRAME H9544-SJ	0	1	0

REVISION HISTORY			BASIC PART NO: DMF32		DRN: P. TOUSIGNANT		DATE: 23-APR-82		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	A. ROCHA	DATE: 23-APR-82	TITLE	PARTS LIST		
---	INITIAL	A	SECTION. VARIATION INDEX	CHK'D:	A. ROCHA	DATE: 23-APR-82	DMF32 OPTION			
RG	DMF32-MK001	B	(A) AA, AB, AC	DES. ENG.:	M. REICH	DATE: 23-APR-82	DOCUMENT NUMBER			
			(B)	RESP. ENG.:	M. REICH	DATE: 23-APR-82	SIZE	CODE	NUMBER	REV
			(C)	DATE:	2-3-83		K	PL	DMF32-0-0	B
			(D)	DATE:	23-APR-82					
			(E)	DATE:	23-APR-82					
			(F)	DATE:	23-APR-82					
ASSEMBLY NUMBER:				TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #		
D-UA-DMF32-0-0				K-DD-DMF32-0		MK0831.PLS		13		

THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT (C) 1983. DIGITAL EQUIPMENT CORPORATION

DRB 126



NOTES:
1. SPARE IC'S ARE E17, E62
2. INSERT ITEM 76 IN 1 HOLE MARKED 'X'

STEP	E	Y AXIS	0	STEP	TIMES
REPEAT	X	X AXIS	0	STEP	TIMES

CHANCE NO	REV
23	M8396-TAI B
24	M8396-TAI B
25	M8396-TAI B
26	M8396-TAI B
27	M8396-TAI B
28	M8396-TAI B
29	M8396-TAI B
30	M8396-TAI B
31	M8396-TAI B
32	M8396-TAI B
33	M8396-TAI B
34	M8396-TAI B
35	M8396-TAI B
36	M8396-TAI B
37	M8396-TAI B
38	M8396-TAI B
39	M8396-TAI B
40	M8396-TAI B
41	M8396-TAI B
42	M8396-TAI B
43	M8396-TAI B
44	M8396-TAI B
45	M8396-TAI B
46	M8396-TAI B
47	M8396-TAI B
48	M8396-TAI B
49	M8396-TAI B
50	M8396-TAI B
51	M8396-TAI B
52	M8396-TAI B
53	M8396-TAI B
54	M8396-TAI B
55	M8396-TAI B
56	M8396-TAI B
57	M8396-TAI B
58	M8396-TAI B
59	M8396-TAI B
60	M8396-TAI B
61	M8396-TAI B
62	M8396-TAI B
63	M8396-TAI B
64	M8396-TAI B
65	M8396-TAI B
66	M8396-TAI B
67	M8396-TAI B
68	M8396-TAI B
69	M8396-TAI B
70	M8396-TAI B
71	M8396-TAI B
72	M8396-TAI B
73	M8396-TAI B
74	M8396-TAI B
75	M8396-TAI B
76	M8396-TAI B
77	M8396-TAI B
78	M8396-TAI B
79	M8396-TAI B
80	M8396-TAI B
81	M8396-TAI B
82	M8396-TAI B
83	M8396-TAI B
84	M8396-TAI B
85	M8396-TAI B
86	M8396-TAI B
87	M8396-TAI B
88	M8396-TAI B
89	M8396-TAI B
90	M8396-TAI B
91	M8396-TAI B
92	M8396-TAI B
93	M8396-TAI B
94	M8396-TAI B
95	M8396-TAI B
96	M8396-TAI B
97	M8396-TAI B
98	M8396-TAI B
99	M8396-TAI B
100	M8396-TAI B
101	M8396-TAI B
102	M8396-TAI B
103	M8396-TAI B
104	M8396-TAI B
105	M8396-TAI B
106	M8396-TAI B
107	M8396-TAI B
108	M8396-TAI B
109	M8396-TAI B
110	M8396-TAI B
111	M8396-TAI B
112	M8396-TAI B
113	M8396-TAI B
114	M8396-TAI B
115	M8396-TAI B
116	M8396-TAI B
117	M8396-TAI B
118	M8396-TAI B
119	M8396-TAI B
120	M8396-TAI B
121	M8396-TAI B
122	M8396-TAI B
123	M8396-TAI B
124	M8396-TAI B
125	M8396-TAI B
126	M8396-TAI B
127	M8396-TAI B
128	M8396-TAI B
129	M8396-TAI B
130	M8396-TAI B
131	M8396-TAI B
132	M8396-TAI B
133	M8396-TAI B
134	M8396-TAI B
135	M8396-TAI B
136	M8396-TAI B
137	M8396-TAI B
138	M8396-TAI B
139	M8396-TAI B
140	M8396-TAI B
141	M8396-TAI B
142	M8396-TAI B
143	M8396-TAI B
144	M8396-TAI B
145	M8396-TAI B
146	M8396-TAI B
147	M8396-TAI B
148	M8396-TAI B
149	M8396-TAI B
150	M8396-TAI B
151	M8396-TAI B

SIGNATURES	DATE	TITLE
DRN. DAV. D. DROZD	9-24-81	digital
CHK'D. J. J. J.	10-8-81	
MECH. ENG. M. RICH	2-24-82	
PROJ. ENG. M. RICH	2-24-82	
PROD. J. J. J.	2-24-82	
SCALE 2/1		
SHT. 1 OF 2		
NEXT HIGHER ASSY. B-DD-M8396-0		

SIZE CODE	NUMBER	REV
0 UA	M8396-0-0	B

8

8

0-0-9688W

0000 2218

6

5

4

3

2

1

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

REWORK INSTRUCTIONS:

WIRE ADDS:

- 1 ADD WIRE FROM E122-01 TO E122-13
- 2 ADD WIRE FROM E118-09 TO E144-09
- 3 ADD WIRE FROM E144-08 TO E92-13
- 4 ADD WIRE FROM E114-15 TO E92-13
- 5 ADD WIRE FROM E5-02 TO E7-12

D

D

C

C

B

B

A

A

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE
COMBO BOARD

DOCUMENT NUMBER		REV.
SIZE CODE	NUMBER	
DUA	M8396-0-0	B
SCALE	2/1	SHEET 2 OF 2

8

7

6

5

4

3

2

1

DRG 130A

Tw

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	2	1012084-01	8 MFD 25V +75-10% AL EL	6	C1-C6
2	3	1012784-00	.047 MFD 50V +80-20% CER	47	C7-C14, C16-C24, C26-C54, C56
3	4	1013466-11	.22 MFD 50V +80-20% Z5U CER	3	C15, C25, C55
4	5	1105796-00	1N 4004 PIV=400 I= 1A D041 SP	6	D1-D6
5	6	1105873-00	4M5-1A21 VZ= 5.1 1% .400W	1	D8
6	7	1117373-00	LED ASSY GREEN	1	D7
7	8	1209941-02	HEADER 100 40POS RT ANGLE	3	J1-J3
8	9	1211164-06	SW, DIP 10POS/1PST 5VDC100MA F	2	E75, E77
9	10	1214109-00	SW, TOG 1P ON/OFF/ON RT AN	1	S1
10	11	1215006-04	SKT, IC 20PIN DIP TIN PLATE	16	XE73, XE78, XE102, XE103, XE110, XE132, XE133, XE125, XE129, XE138, XE141, XE126, XE127, XE128, XE139, XE140
					CONT
					CONT
					CONT
11	8	1216988-02	HANDLE, MODULE, HEX TWO EJECTORS	1	R4, R6-R14, R28, R29
12	13	1300229-00	100.0 .25 W 5.0 % CC	12	R30
13	12	1300315-00	470.0 .50 W 5.0 % CC	1	R5, R31-R33
14	84	1300365-00	1.0 K .25 W 5.0 % CC	4	E104
15	14	1311003-01	R NETWORK 14-180 14-390 16PIN	1	R2, R3
16	16	1311422-00	178.0 .25 W 1.0 % RN55D-F10	2	R25-R27
17	17			0	R18
18	18	1312114-01	R NETWORK 8-470 5.0 % 10PIN	3	R20
19	19	1318824-00	R NETWORK 7-1M 5.0 % 8PIN	1	R19, R22-R24
20	20	1318825-00	R NETWORK 7-10K 2.0 % 8PIN	1	E86
21	21	1319038-00	R NETWORK 8-21.5K 1.0 % 10PIN	4	E152
22	22	1811660-02	OSCILLATOR, XTAL 5.0688 MHZ	1	E124
23	23	1814057-00	OSCILLATOR, XTAL 40.000 MHZ	1	E85, E122
24	40	1909004-00	DEC 7402 NOR GATE-QUAD 2IN	1	E108, E151
25	25	1910091-00	DEC 7437 AND GATE-QUAD 2IN, 6U	2	E84
26	25	1910532-00	74S00 NAND GATE-QUAD 2IN	2	
27	26	1910534-00	74S04 INVERTER GATE-HEX 1I	1	

REVISION HISTORY		BASIC PART NO: M8396		DRN: J.FERGUSON		DATE: 05-MAR-81		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: F.GAROFALO		DATE: 05-MAR-81		TITLE PARTS LIST	
---	INITIAL	B	SECTION VARIATION INDEX	DES.ENG: M.REICH		DATE: 05-MAR-81		COMBO BOARD	
			[A] 00	RESP.ENG.: M.REICH		DATE: 05-MAR-81		DOCUMENT NUMBER	
			[B]	MFG.ENG.: D.BATEMAN		DATE: 26-FEB-82		K PL M8396-0-DBF	
			[C]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: Z3915B.PLS	
			[D]	D-UA-M8396-0-0		B-DD-M8396-0-0		EDIT # 15	
			[E]						
			[F]						
			[G]						
			[H]						
			[J]						
			[K]						
			[L]						
			[M]						
			[N]						

"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT (C) 1982. DIGITAL EQUIPMENT CORPORATION"

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY 00	PER VARIATION	REFERENCE DESIGNATOR
28	27		1910544-00	74574 FF-D DUAL,EDGE TRIGG	2		E123,E136
29	28		1910547-00	74S153 MUX 1 OF 4 (DUAL)	2		E96,E109
30	29		1910549-00	74S158 MUX 1 OF 2 (QUAD)	1		E107
31	30		1910552-00	74S194 SHIFT REG.,4BIT RIGH	1		E131
32	31	BLANK			0		
33	32		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1		E65
34	33		1911579-00	8641 TRANSCEIVER,BUS,QUA	10	CONT	E28,E36,E49,E51,E87-E89,E99, E100,E112
35	34		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	2		E115,E116
36	35		1911675-00	74S133 DECODER/DEMUX 3-8 LIN	3		E80,E81,E111
37	36		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	2		E83,E137
38	37		1912647-00	LS257 MUX 1 OF 2 (QUAD)	2		E5,E18
39	38		1912655-00	LS670 REGISTER FILE 4X4,LO	4		E29,E30,E37,E50
40	39		1912697-00	LS174 FF-D HEX W/CLEAR	2		E54,E101
41	40		1912799-00	LS00 NAND-GATE-QUAD 2IN,P	1		E97
42	41		1912801-00	LS02 NOR-GATE-QUAD 2IN	1		E79
43	42		1912803-00	LS04 INVERTER GATE,HEX	2		E92,E93
44	43		1912824-00	LS74 FF-D DUAL,EDGE TRIGG	2		E105,E150
45	44		1912842-00	LS138 DECODER-THREE INPUT	1		E31
46	45		1912844-00	LS151 MUX 1 OF 8 & DATA	1		E66
47	46		1912845-00	LS153 MUX 1 OF 4 (DUAL)	4		E41,E42,E72,E74
48	47		1912860-00	LS259 LATCH 8BIT	3		E82,E94,E95
49	48		1913245-02	2901A-1 MICROPROCESSOR 4-	2		E147,E148
50	49		1913671-50	74S374 FF-D,OCTAL,TRI STATE	2		E113,E114
51	50		1913671-00	74S374 FF-D OCTAL TRISTATE	6		E71,E117,E130,E142-E144
52	51		1913888-00	DC 102A EQUALS CHECKER 8BIT	1		E76
53	52		1914214-00	LS374 FF-D OCTAL EDGE TRIG	11	CONT	E9,E10,E38,E39,E52,E55,E67-E70, E93
54	53		1914438-00	DC 013 UNIBUS INTERRUPT-BIP	2		E90,E91
55	54		1914866-00	AM 93S48PCGEN/CHECK PARITY,43	4		E121,E145,E146,E149
56	55		1915193-00	LS244 DRIVER,LINE,OCTAL,T	1		E120
57	56		1915415-00	9635 DRIVER,DUAL,EIA RS-	12	CONT	E21,E24,E26,E27,E35,E45,E47,E48, E57,E58,E60,E61
58	57		1915416-00	9637 RECEIVER,DUAL,RS-42	14	CONT	E19,E20,E22,E23,E25,E33,E34,E43, E44,E46,E56,E59,E63,E64
59	58		1916680-01	2911A MICROPROGRAM SEQUENC	3		E106,E118,E119
60	59		2112517-01	RECIEVER/TRANSMITTER	1		E40
61	60		2112623-05	DUAL BAUD RATE GEN,+5V ONLY	1		E53
62	61		2116957-03	1K MOS RAM 55NS 1	2		E134,E135
63	62		2118400-00	8046T BAUD RATE GEN.,PROGR	1		E32
64	63		2118623-00	2561-3COMMUNICATIONS,INTER	8		E1-E4,E13-E16
65	64		23001F5-00	F5-01	1		E141
66	65		23002F5-00	F5-01	1		E129
67	66		23003F5-00	F5-01	1		E125
68	67		23004F5-00	F5-01	1		E126
69	68		23005F5-00	F5-01	1		E128
70	69		23006F5-00	F5-01	1		E127
71	70		23007F5-00	F5-01	1		E138

TITLE

COMBO BOARD

SECTION A OF A

SIZE CODE DOCUMENT NUMBER REV

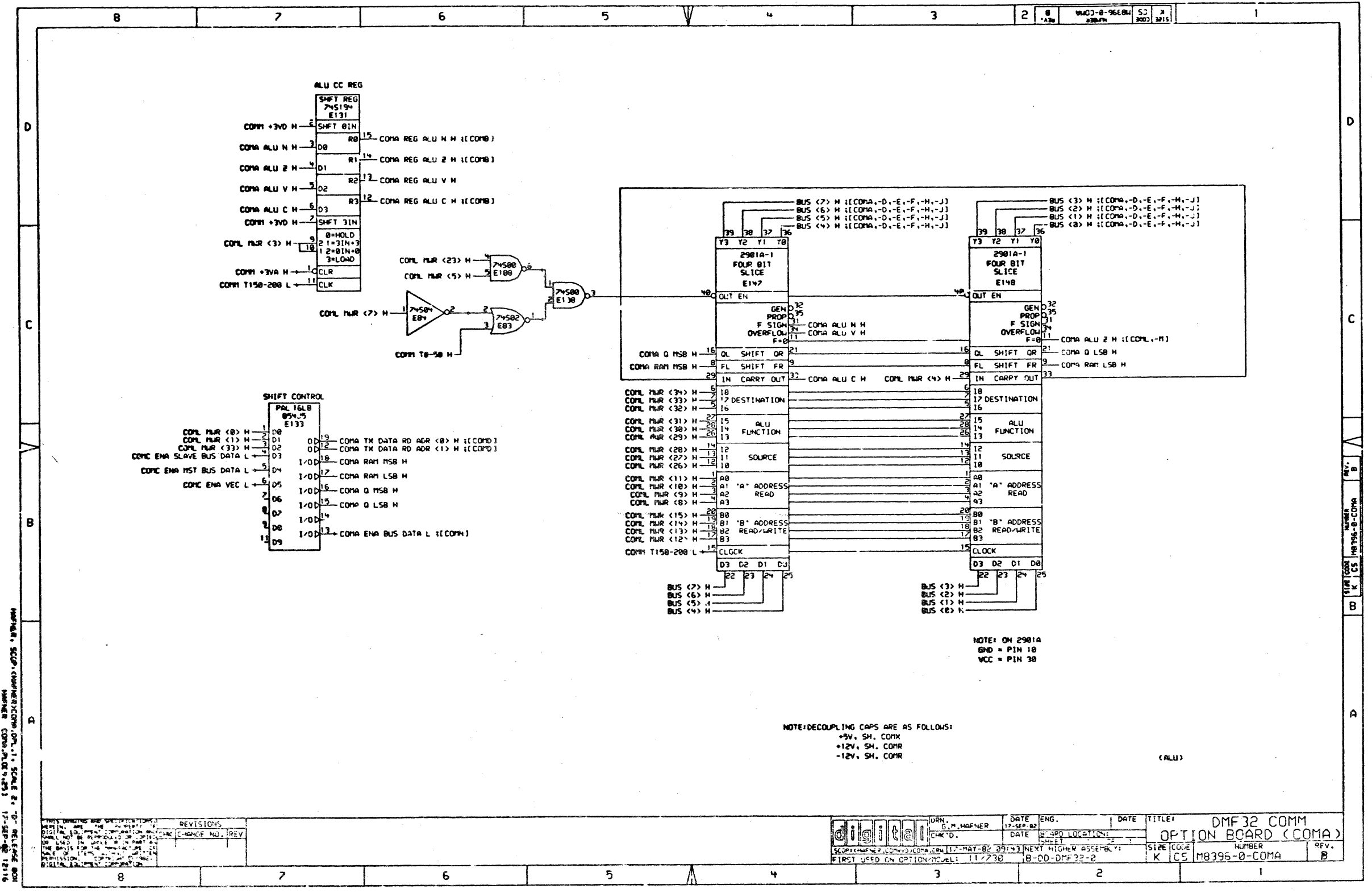
K PL M8396-0-DBP B

PARTS LIST

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
72	66	23007K5-00	K5-01	1	E78
73	82	23008F5-00	F5-01	1	E140
74	83	23009F5-00	F5-01	1	E139
75	67	23018K4-00	K4-01	1	E102
76	68	23028K4-00	K4-01	1	E73
77	69	23039K3-00	K3-01	1	E110
78	70	23053J5-00	J5-01	1	E132
79	71	23054J5-00	J5-01	1	E133
80	72	23059K3-00	K3-01	1	E103
81	1	5014453-00	DRILL & ETCH M8396	1	
82	73	9000024-01	EYELET, ROLL FLANGE .1210DX .192	12	
83	76	9009149-00	PIN, STAKING, P.C. BOARD, .025 X	1	TP1
84	74	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	8	W1-W8
85	85	9105740-55	WIRE(WRAP)30AWG UL1423	A/R	
86	86	1316395-02	R NETWORK 9-1.0K 2.0 % 10PIN	5	R16, R17, R34-R36
87	87	1913777-00	LS240 DRIVER, LINE, OCTAL T	3	E6-E8
88	88	1913462-00	74S240 OCTAL BUFFER, INVERT I	2	E11, E12

D-MD-5014453-D-P1

D I G I T A L										TITLE										COMBO BOARD										SECTION A OF A										SIZE										CODE										DOCUMENT NUMBER										REV									
																																								K										PL										M8396-0 DBP										B									



DMF32 COMM OPTION BOARD (COMA) 17-SEP-82 1216

D
C
B
A

REV. B
NUMBER M8396-B-COMA
SIZE CODE K CS

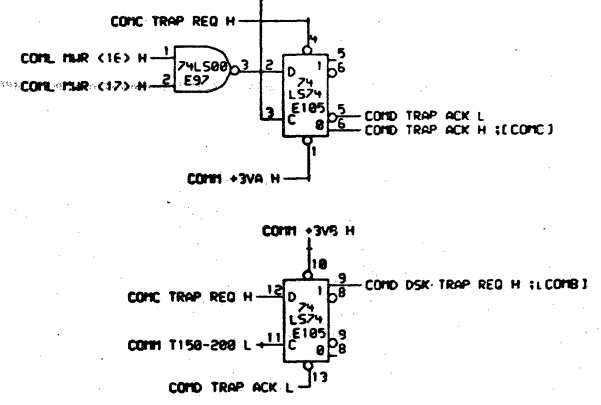
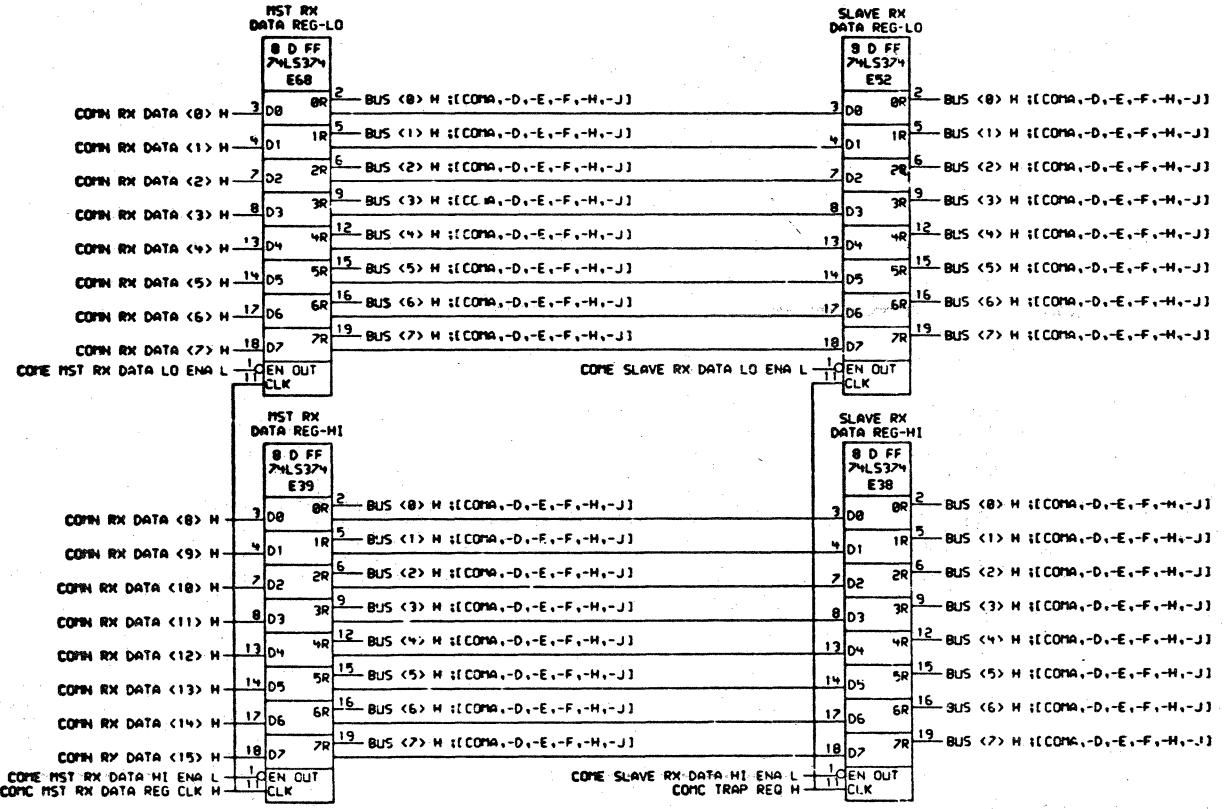
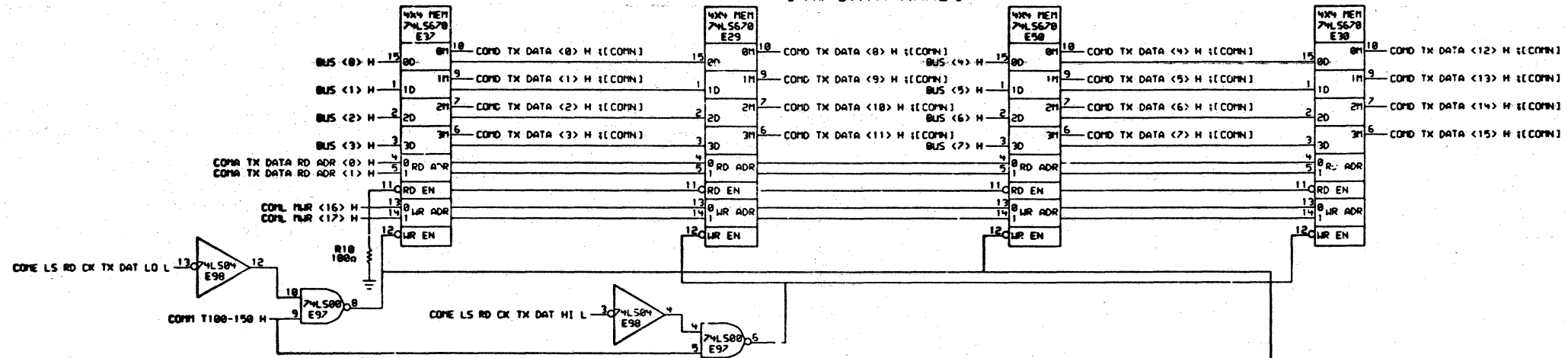
A

NOTE: DECOUPLING CAPS ARE AS FOLLOWS:
+5V, SH. COMA
+12V, SH. COMA
-12V, SH. COMA

(ALU)

REVISIONS		DATE		TITLE	
1	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
2	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
3	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
4	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
5	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
6	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
7	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)
8	17-SEP-82	17-SEP-82	17-SEP-82	DMF32 COMM	OPTION BOARD (COMA)

[TX DATA RAMS]

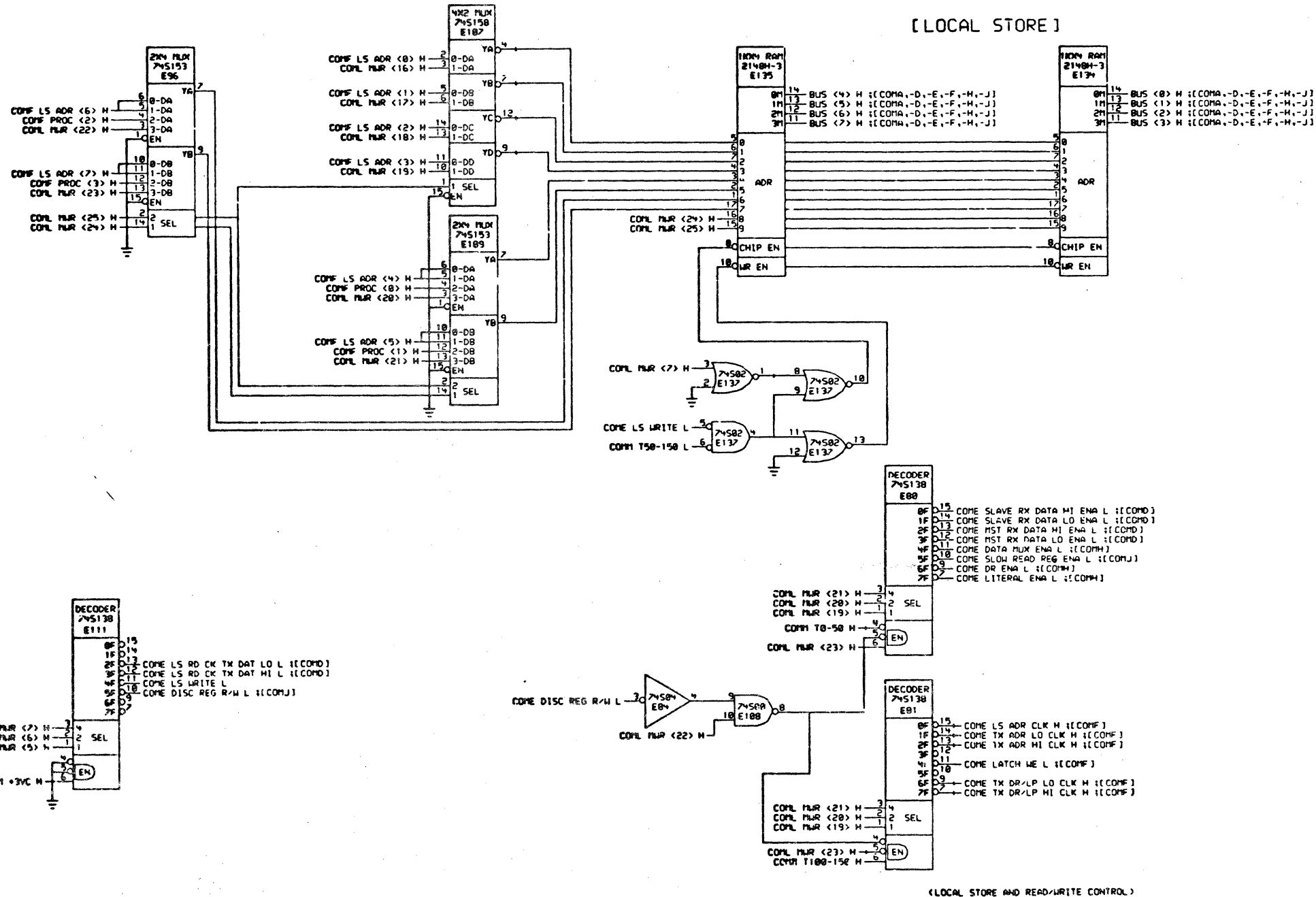


(UNITBUS INTERFACE-DATA REGISTERS)

REVISIONS	
CHG	NO. REV

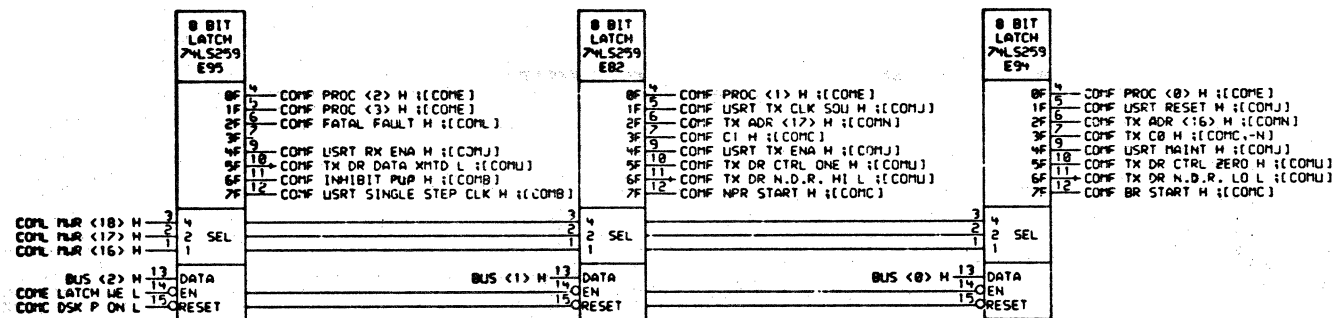
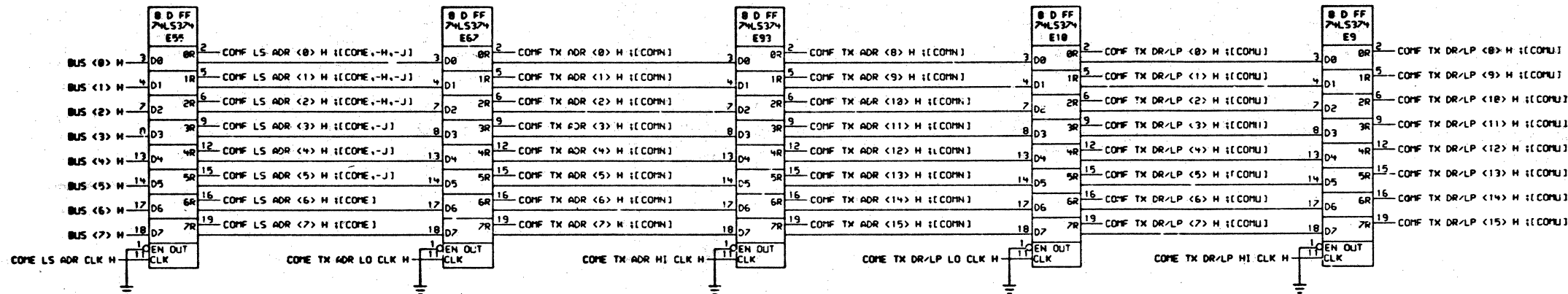
DRN. G.M. HAFNER	DATE 17-SEP-82	ENG.	DATE	TITLE: DMF32 COMM
CHK'D.	DATE	BOARD LOCATION:	SHEET 1 OF	OPTION BOARD (COMD)
SCOPE: CHMNR.COMM.V01.COMD.DRW (17-MAY-82 09:43) NEXT HIGHER ASSEMBLY:				SIZE: CODE
FIRST USED ON OPTION/MODEL: 11/230				NUMBER 18-DD-DMF32-0
REV. B				REV. B

WAFNER, SCOP(CHMNR.COMD.DRW.1), SCALE 2:1, RELEASE BOX
WAFNER, COMD, PLOT 4 (25) 17-SEP-82 12117



THIS DRAWING AND SPECIFICATION IS THE PROPERTY OF THE U.S. AIR FORCE. IT IS TO BE KEPT IN THE U.S. AIR FORCE AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE U.S. AIR FORCE.

INDIRECT ADDRESS REGISTER (IAR)

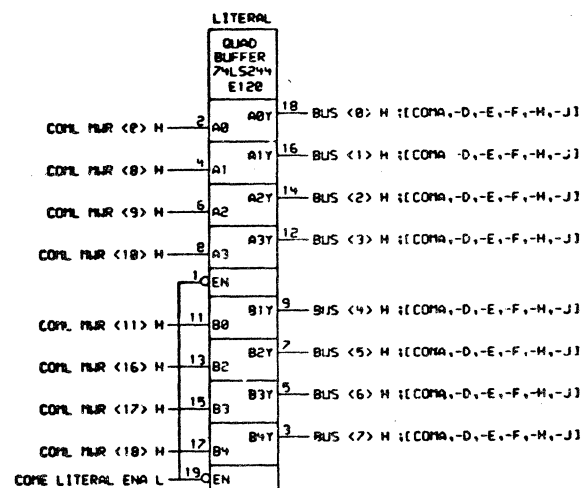
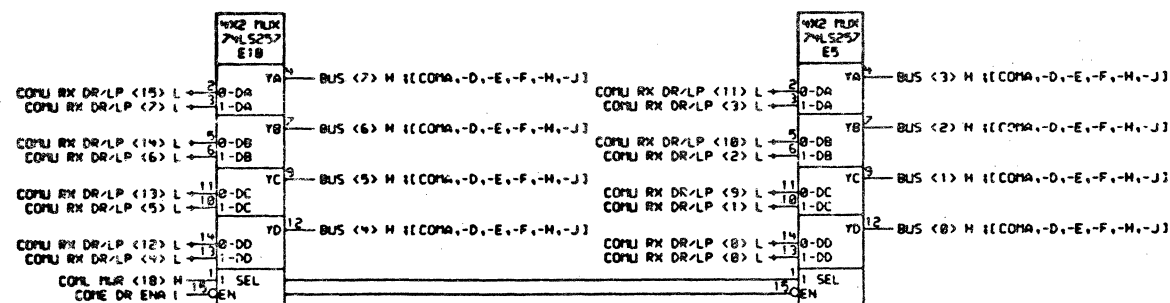
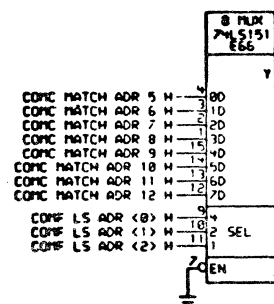
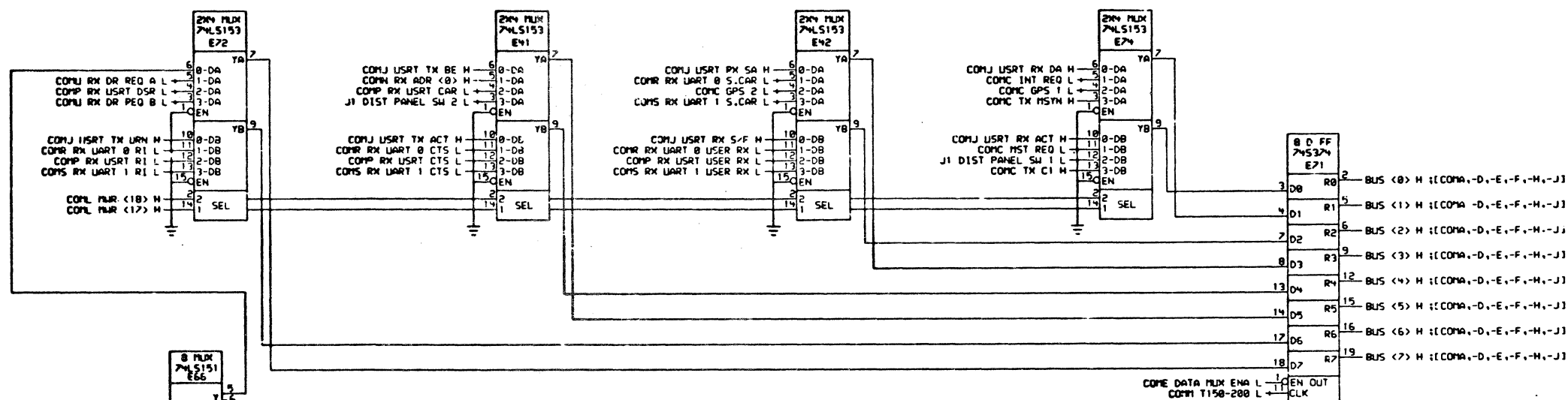


(DISCRETE WRITE REGS)

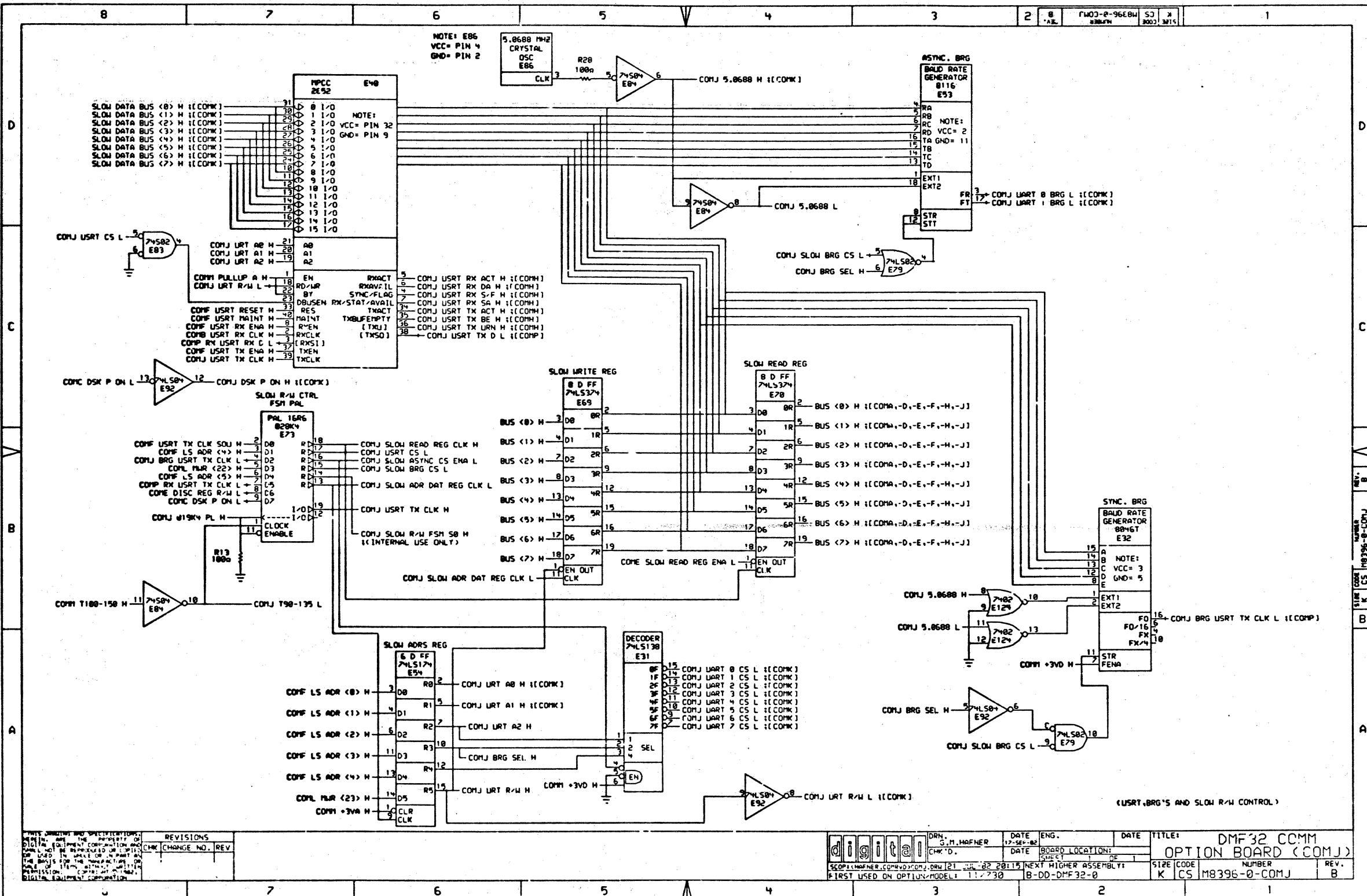
THIS DRAWING AND SPECIFICATIONS
ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
IN ANY FORM OR BY ANY MEANS
WITHOUT THE WRITTEN PERMISSION OF
DIGITAL EQUIPMENT CORPORATION.

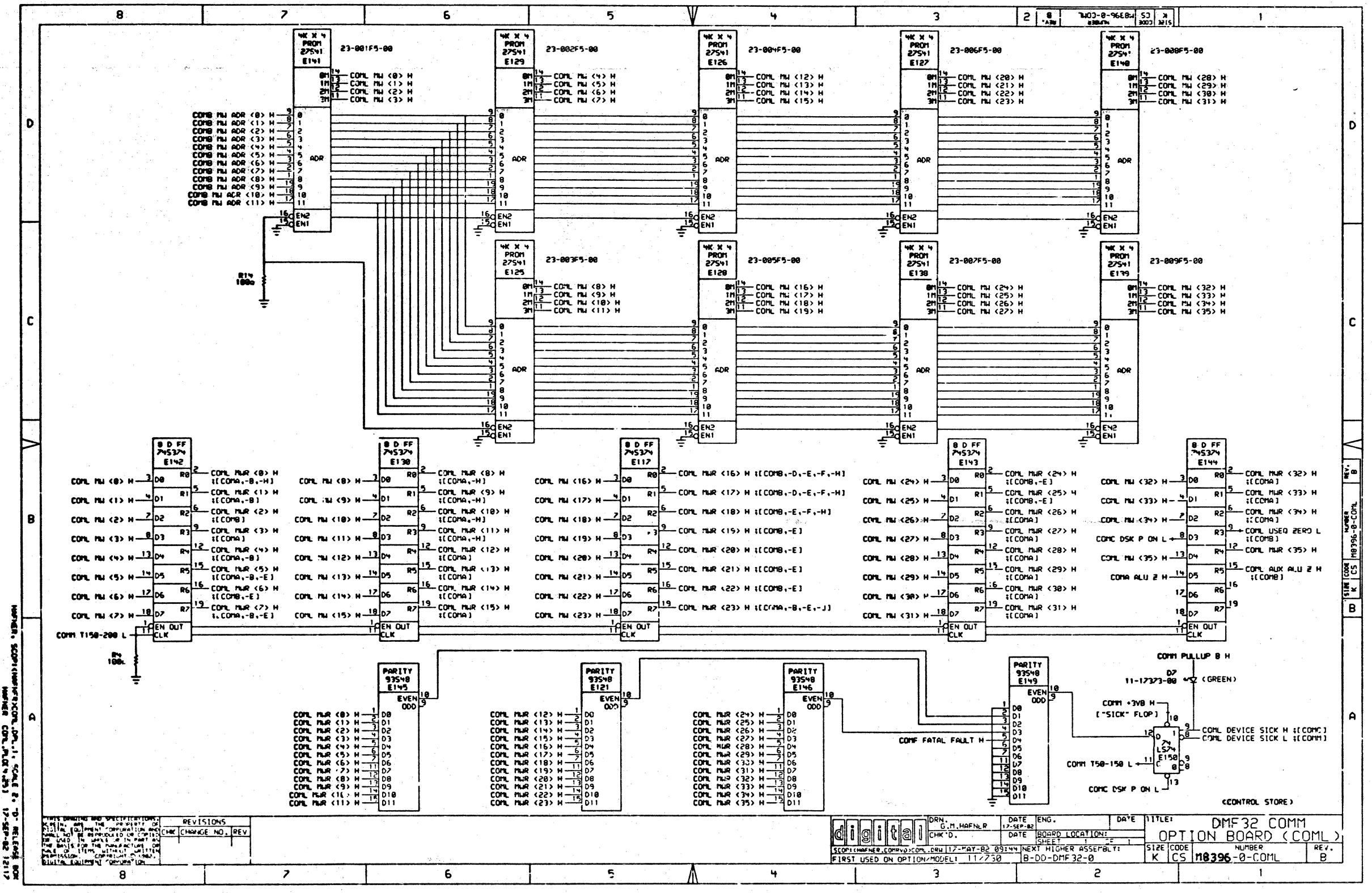
REV	CHANGE NO.	REV
1		

DATE	ENG.	DATE	TITLE
17-SEP-82	G.M. HAFNER	17-SEP-82	DMF32 COMM
DATE	BOARD LOCAT. CN:	DATE	OPTION BOARD (COMF)
17-SEP-82	CE 1	17-SEP-82	CE 1
SHEET		SHEET	
1		1	
SIZE	CODE	NUMBER	REV.
K	CS	M8396-0-COMF	B



(DATA FILE)





DMF32 COMM
OPTION BOARD (COML)
REVISION B
17-SEP-82 12117

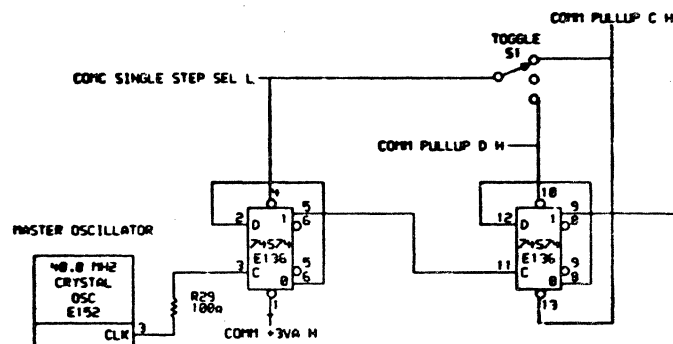
THIS DRAWING AND SPECIFICATIONS
ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR
TRANSMITTED IN ANY FORM OR BY
ANY MEANS, ELECTRONIC OR MECHANICAL,
INCLUDING PHOTOCOPYING, RECORDING,
OR BY ANY INFORMATION STORAGE
RETRIEVAL SYSTEM.

REVISIONS		
CHK	CHANGE NO.	REV

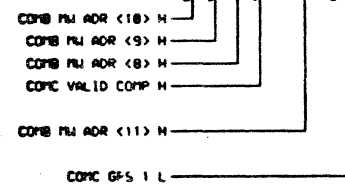
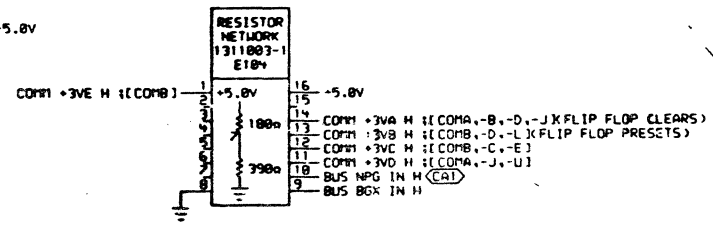
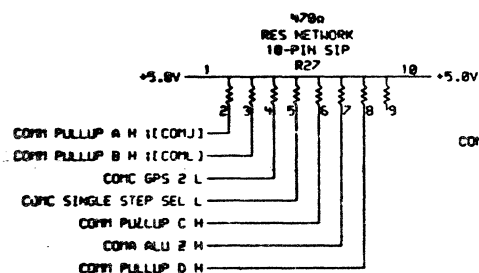
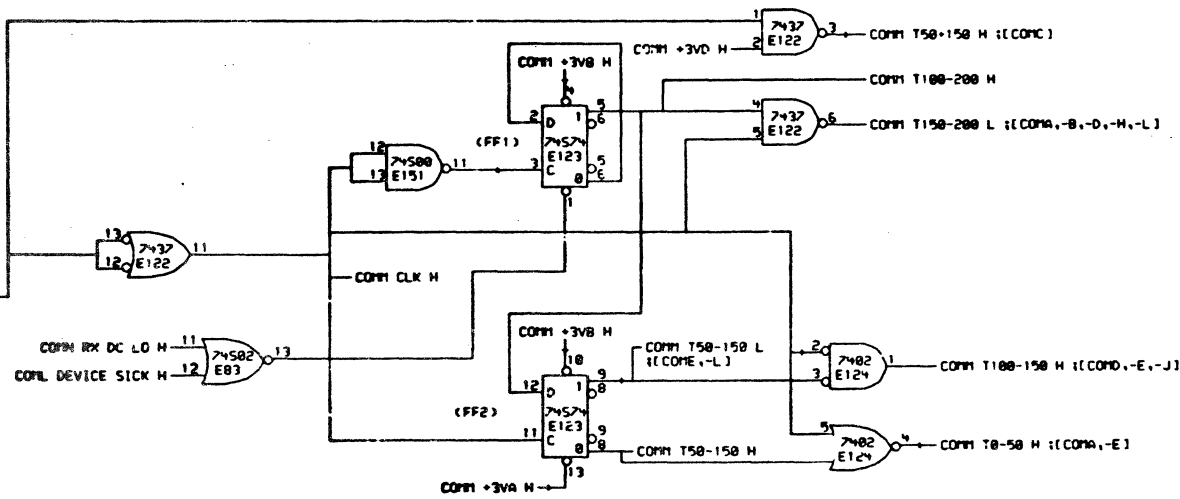
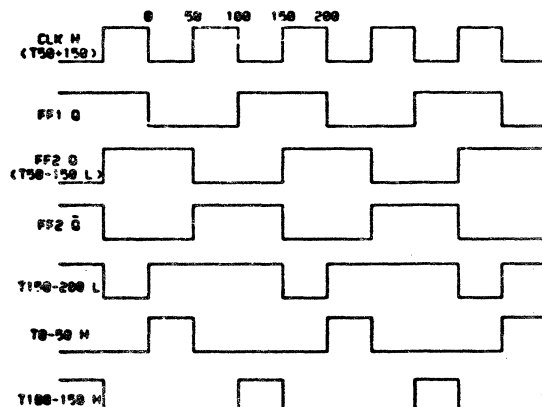
DRN. G.M. HAFNER CHK'D.	DATE 17-SEP-82	ENG. SHEET 1	DATE 17-SEP-82	TITLE DMF32 COMM OPTION BOARD (COML)
NEXT HIGHER ASSEMBLY: B-DD-DMF32-0				SIZE K
FIRST USED ON OPTION/MODEL: 11-730				NUMBER CS 118396-0-COML
				REV. B

CLOCK PHASE GENERATOR

DIVIDE-BY-FOUR & SINGLE STEP



NOTE: E152
VCC= PIN 4
GND= PIN 2

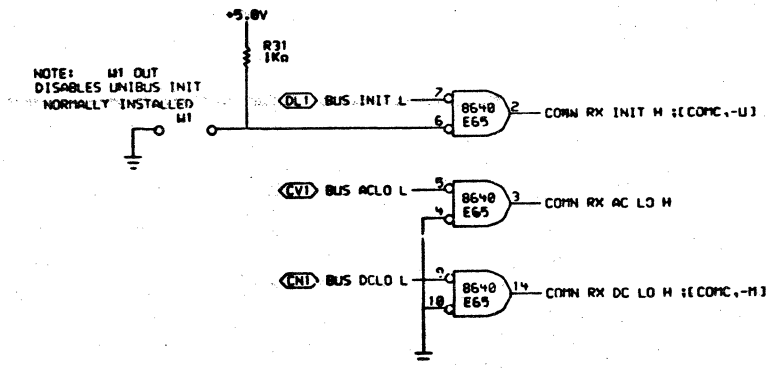
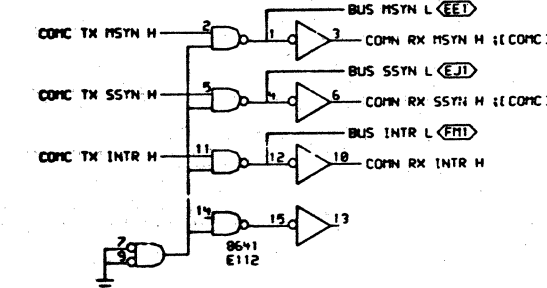
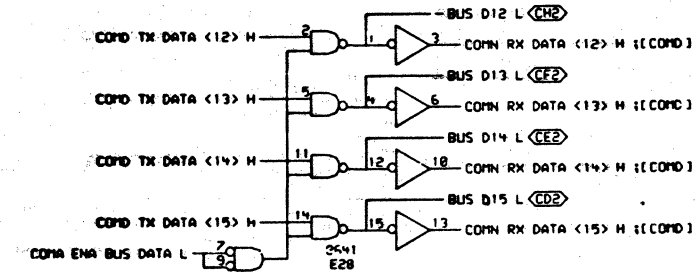
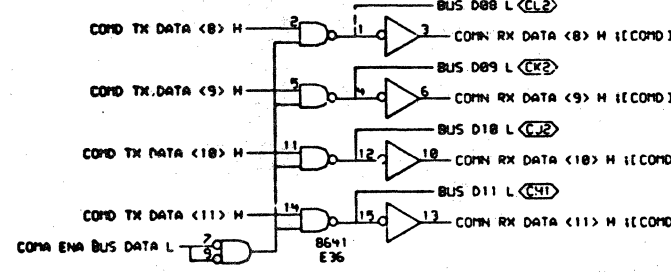
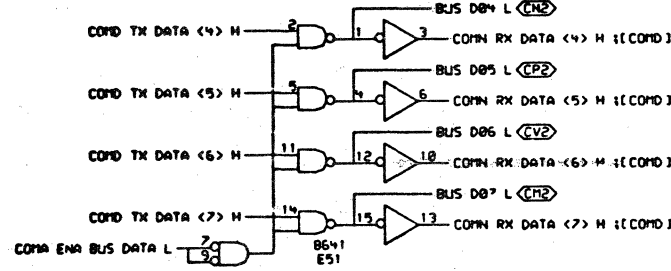
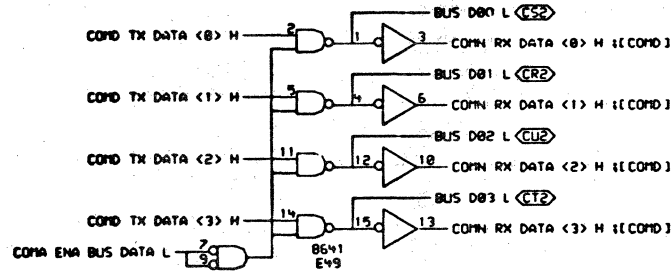
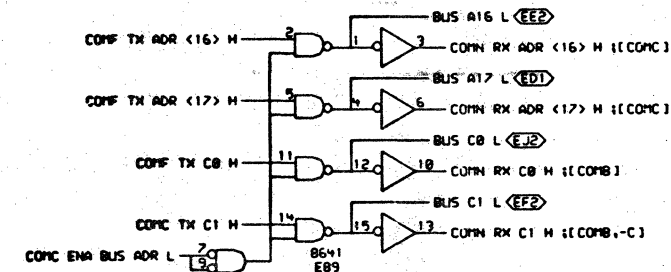
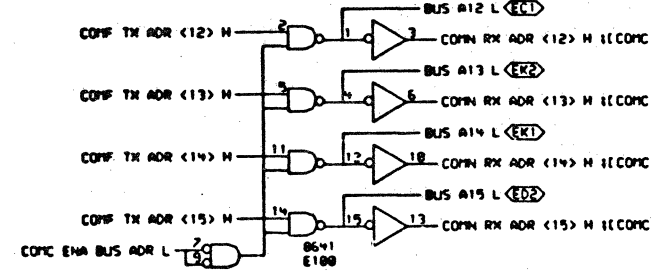
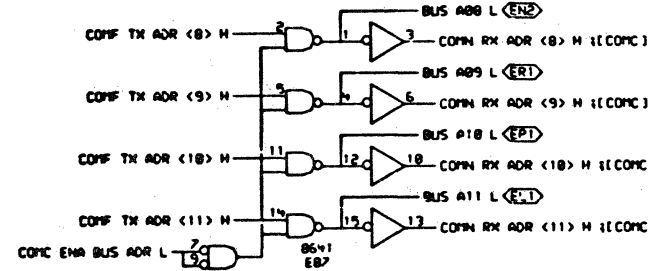
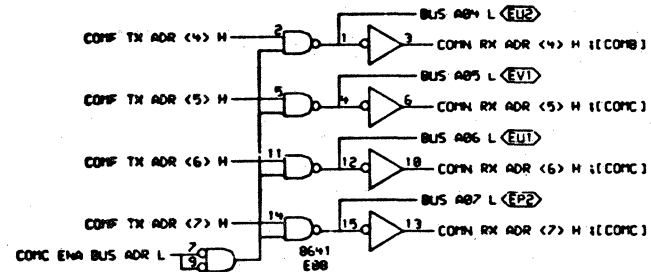
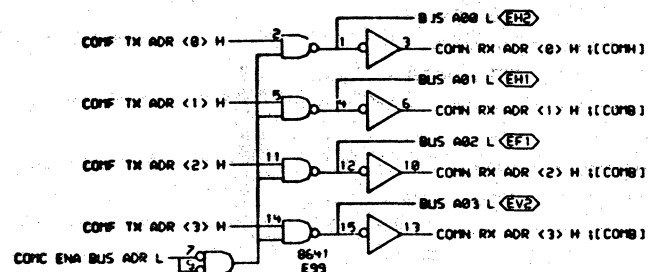


(MASTER CLOCK AND PULLUPS/PULLDOWNS)

NUMBER: SCOP (COMM) COMM, 1, SCALE 8, 17-SEP-82 12117

REVISIONS
CHG CHANGE NO. REV

digital	DRN: G.M. HAFNER	DATE: 17-SEP-82	ENG.	DATE	TITLE: DMF32 COMM
CHK'D.	DATE	LOCATION	REV.	OF	OPTION BOARD (COMM)
SCOP (COMM) COMM, 1, SCALE 8, 17-SEP-82 12117	NEXT HIGHER ASSEMBLY	SIZE: K	COLE: CS	NUMBER: M8396-0-COMM	REV. B
FIRST USED ON OPTION MODEL: 117-30	18-00-M8396-0				



(UNIBUS DRIVERS & RECEIVERS)

NOTES: SCOP (MAGNETIC) COPY, 1. SCALE 2. 0" REFERENCE BOX
MAGNETIC COPY, 1. SCALE 2. 0" REFERENCE BOX
MAGNETIC COPY, 1. SCALE 2. 0" REFERENCE BOX

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

REVISIONS	CHK	CHANGE NO.	REV.

digital	DRN. 5. H. MAGNETIC	DATE 12-SEP-82	ENG.	DATE	TITLE
	CHK'D.	DATE	BOARD LOCATION	OF	
SCOP (MAGNETIC) COPY, 1. SCALE 2. 0" REFERENCE BOX					SIZE CODE
FIRST USED ON OPTION MODEL: 11/730					NUMBER
NEXT HIGHER ASSEMBLY: B-DD-DMF32-0					REV. 5

REV. B
NUMBER
M8396-0-COMM
SIZE CODE
K CS
A

8

7

6

5

4

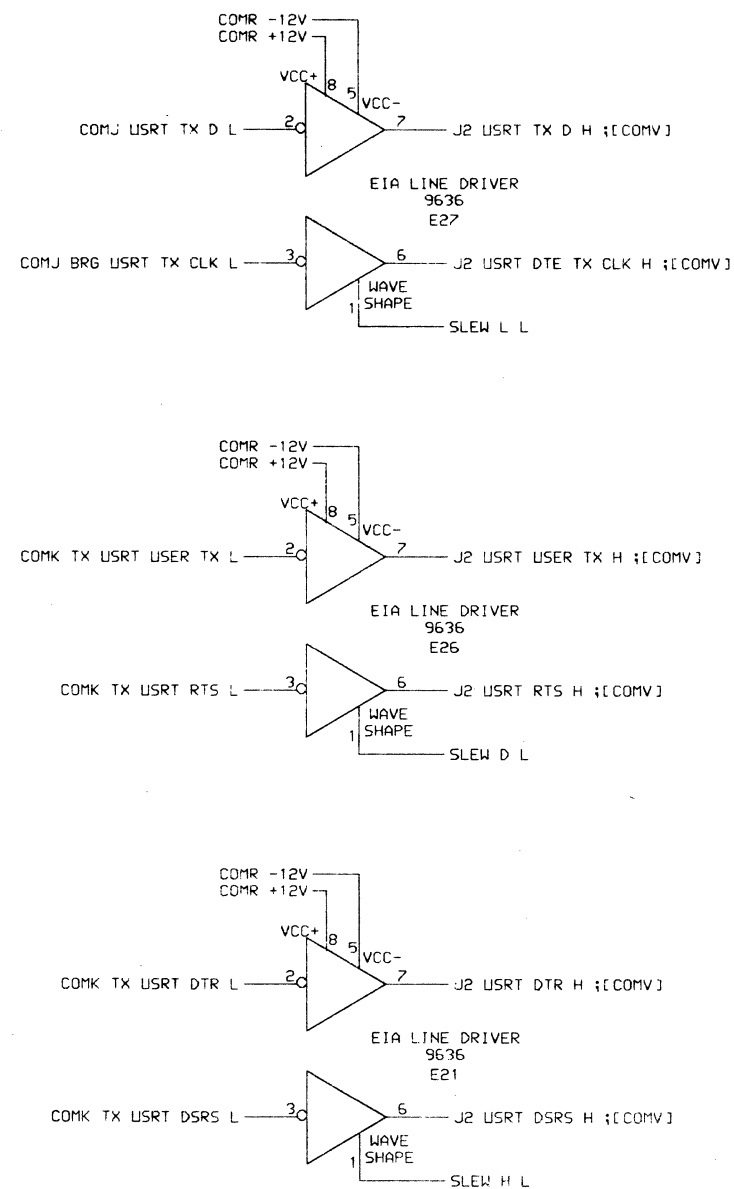
3

2

C

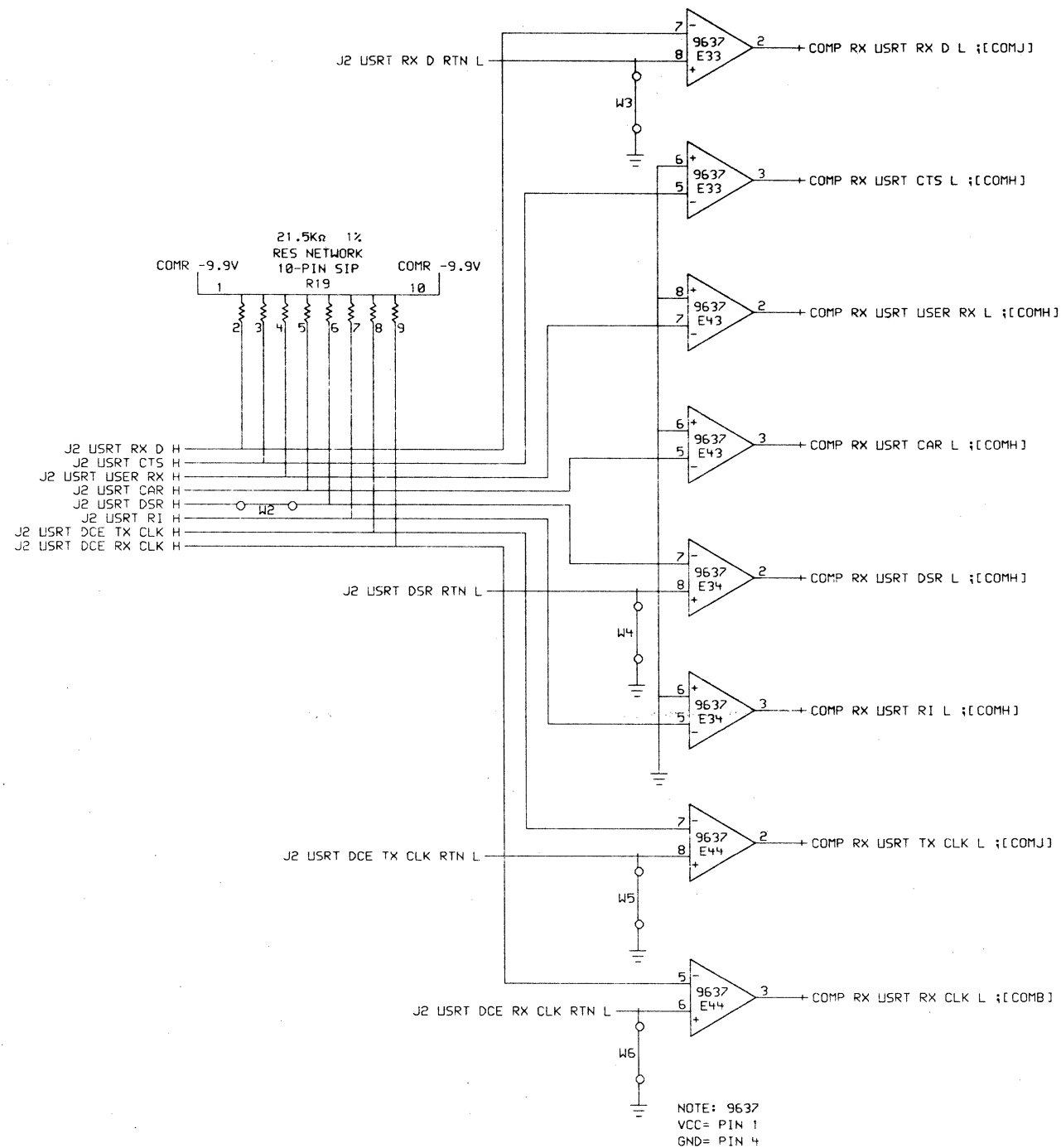
NUMBER
REV. C
CS M8396-0-COMP

1



NOTE: W2 NORMALLY INSTALLED
OPTIONAL RESISTOR IN PLACE OF
W2 ALLOWS E34-02 HIGH WHEN
INPUT(E34-08) IS GROUNDED

W3 THRU W6 NORMALLY INSTALLED
REMOVED FOR DIFFERENTIAL
RECEIVER ONLY

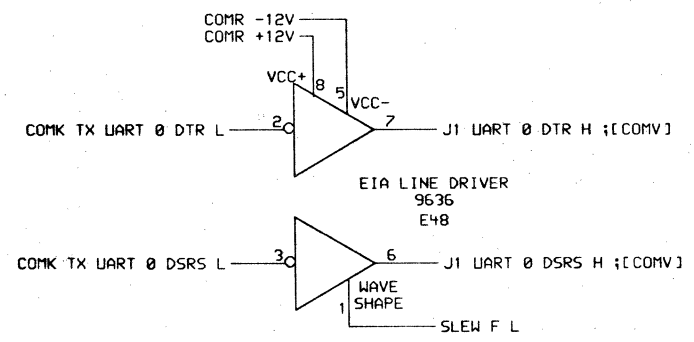
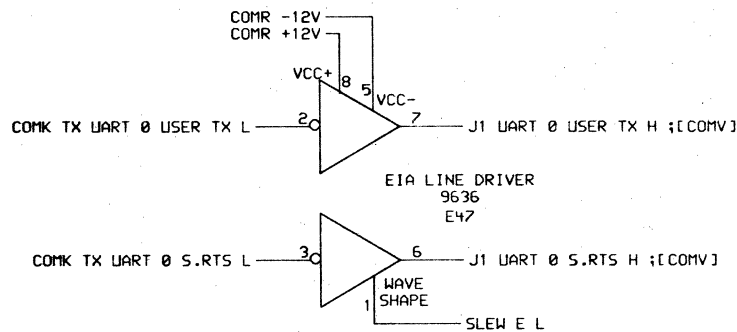
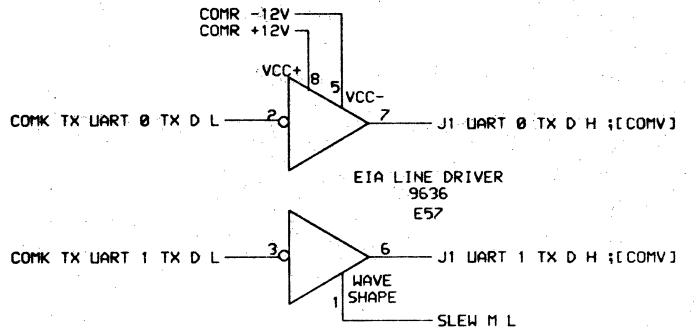


THIS DRAWING AND SPECIFICATIONS
HEREIN ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1983,
DIGITAL EQUIPMENT CORPORATION

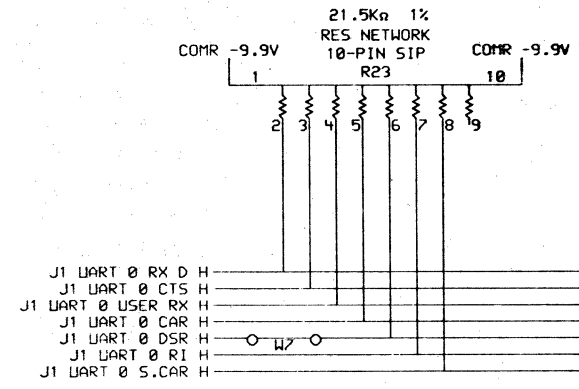
REVISIONS		
CHK	CHANGE NO.	REV

DRN. G.M.HAFNER	DATE 09-APR-83	ENG.	DATE	TITLE: DMF32 COMM OPTION BOARD (COMP)	
CHK'D.	DATE	BOARD LOCATION:	SHEET 1 OF 1	SIZE K	CODE CS
XTRA: <FRASER> COMP.DRW 111-FEB-83 05:12				NUMBER M8396-0-COMP	REV. C
FIRST USED ON OPTION/MODEL: 11/730					

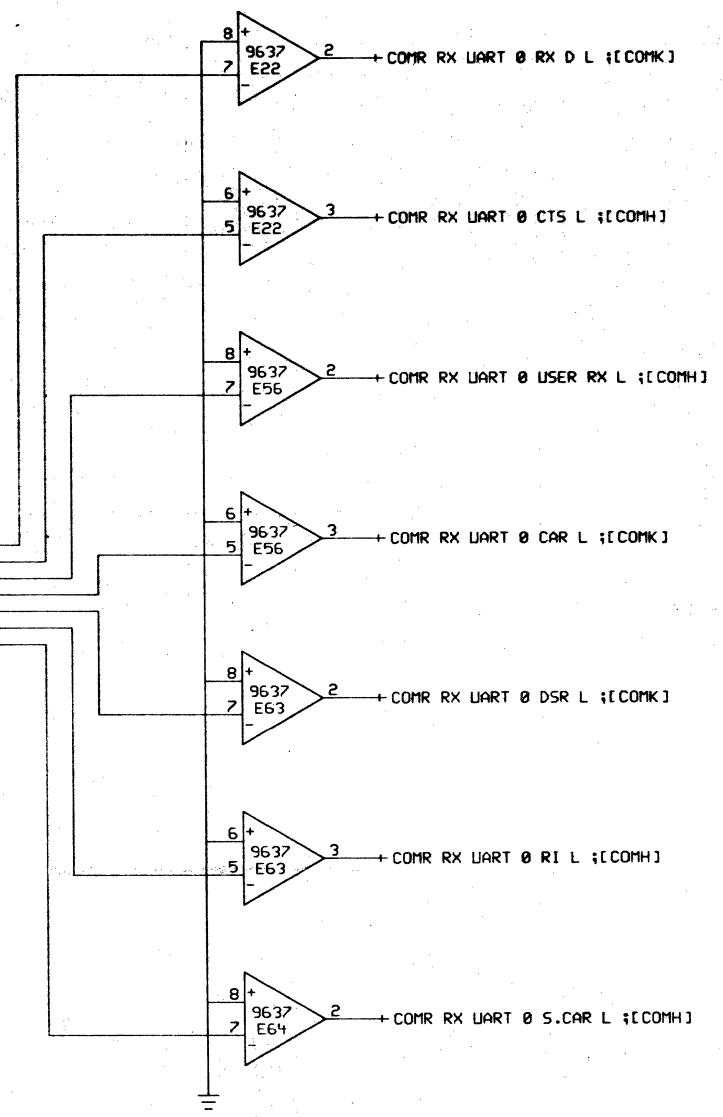
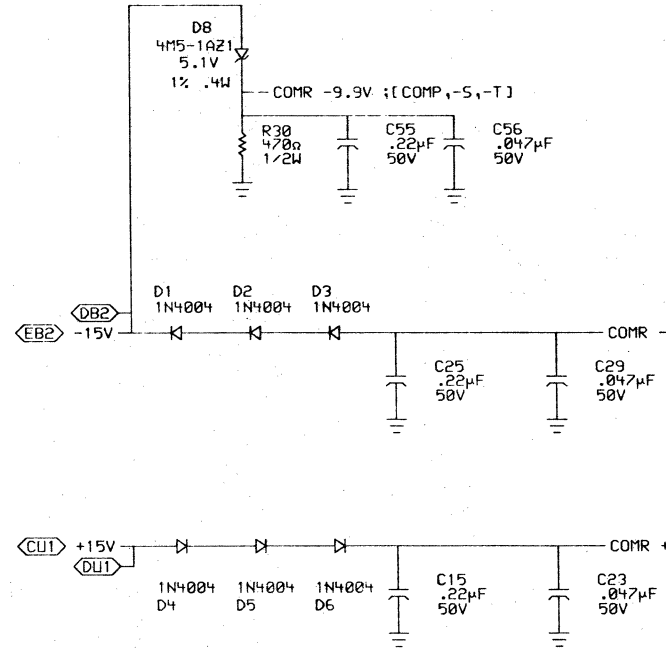
D
C
B
A



NOTE: 9636
GND= PIN 4



NOTE: W7 NORMALLY INSTALLED
OPTIONAL RESISTOR IN PLACE
OF W7 ALLOWS E63-02 HIGH
WHEN INPUT IS GROUNDED



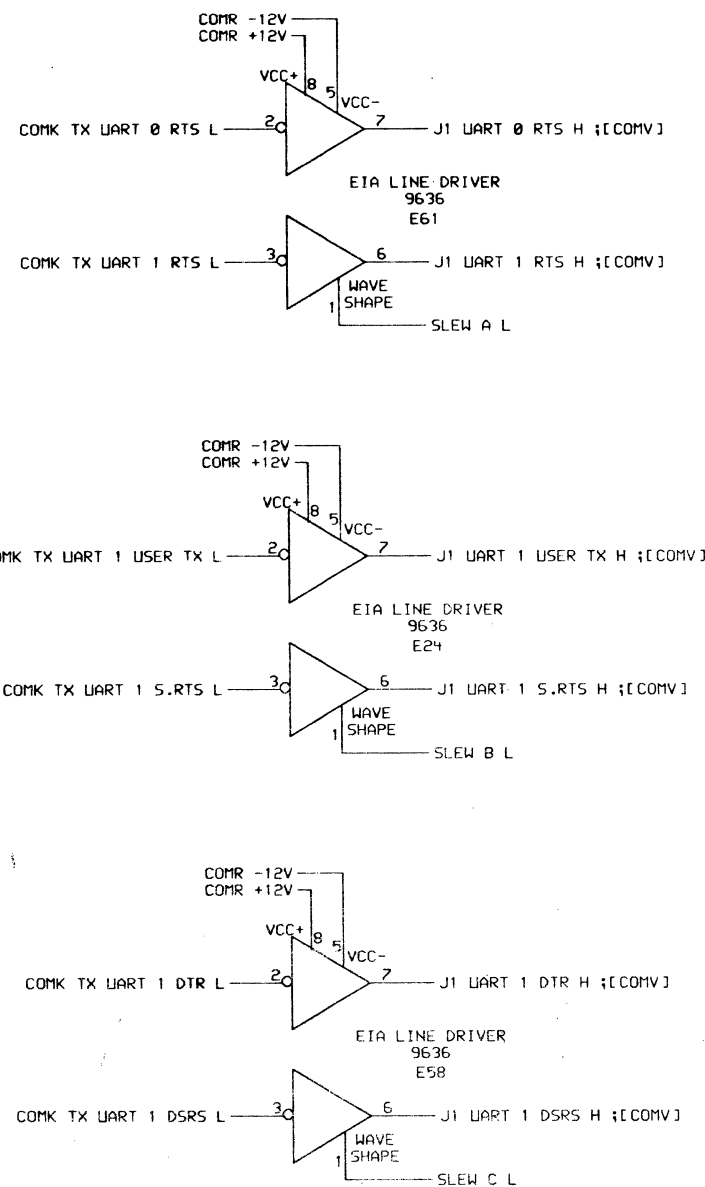
NOTE: 9637
VCC= PIN 1
GND= PIN 4

(ASYNC LINE 0 DRIVERS & RECEIVERS)

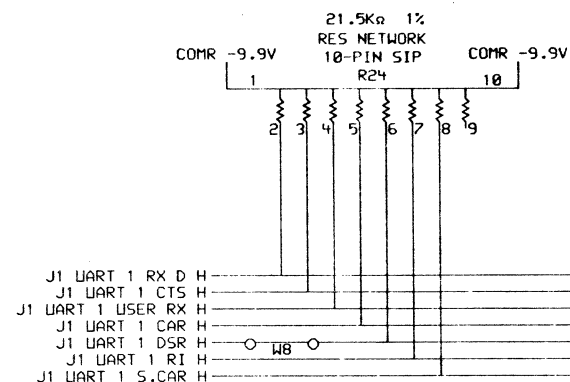
THIS DRAWING AND SPECIFICATIONS
HEREIN ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ANY ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1983,
DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV

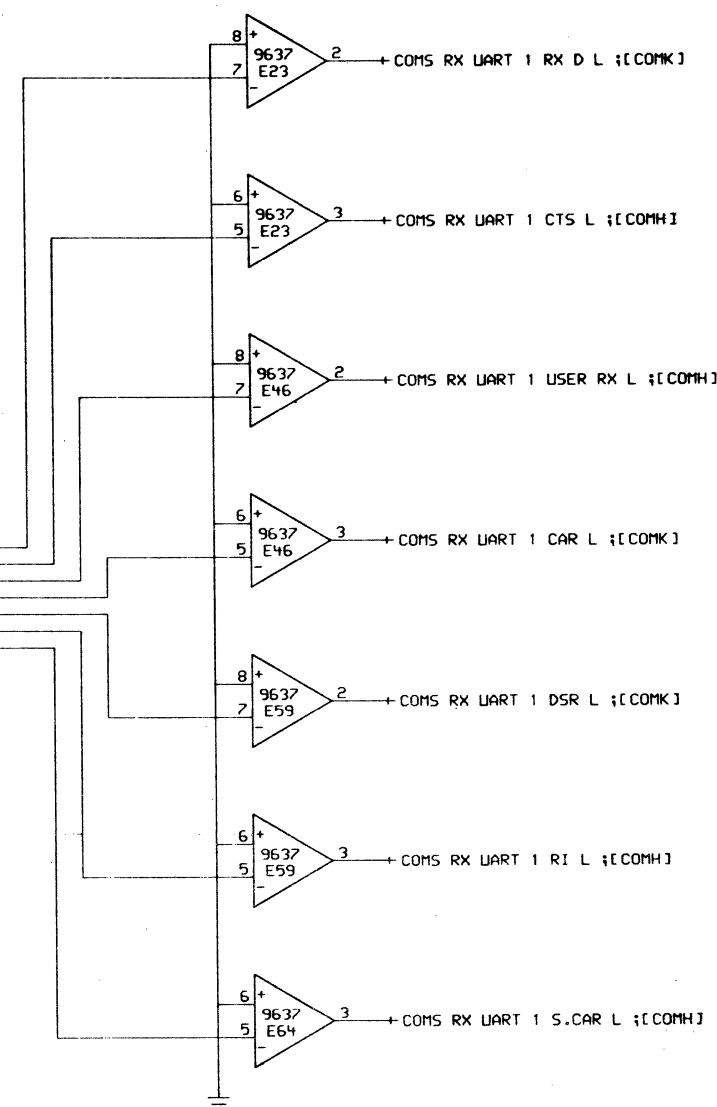
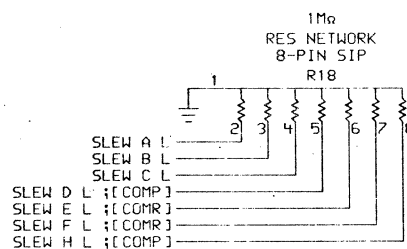
DRN. G.M.HAFNER	DATE 05-APR-83	ENG.	DATE	TITLE
CHK'D.	DATE	BOARD LOCATION:	SHEET 1 OF 1	DMF32 COMM OPTION BOARD (COMR)
XTRA: <FRASER>COMR.DRW		11-FEB-83 05:12	NEXT HIGHER ASSEMBLY:	SIZE CODE NUMBER REV.
FIRST USED ON OPTION MODEL: 11/730		B-DD-DMF32-0		K CS M8396-0-COMR C



NOTE: 9636
GND= PIN 4



NOTE: W8 NORMALLY INSTALLED
OPTIONAL RESISTOR IN PLACE
OF W8 ALLOWS E59-02 HIGH
WHEN INPUT IS GROUND



NOTE: 9637
VCC= PIN 1
GND= PIN 4

(ASYNC LINE 1 DRIVERS & RECEIVERS)

THIS DRAWING AND SPECIFICATIONS
HEREIN, ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
FOR USE IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1983,
DIGITAL EQUIPMENT CORPORATION

REVISIONS
CHK CHANGE NO. REV

DRN.
G.M.HAFNER
CHK'D.

DATE
05-APR-83
DATE

ENG.
DATE
SHEET 1 OF 1

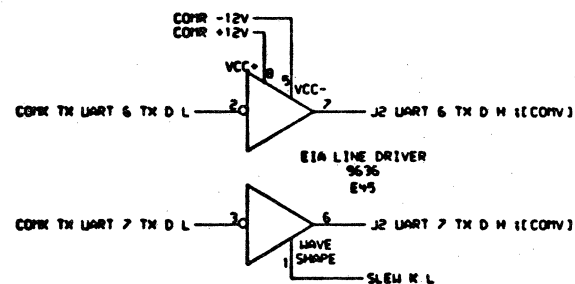
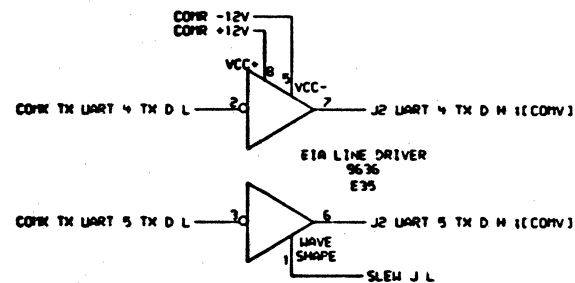
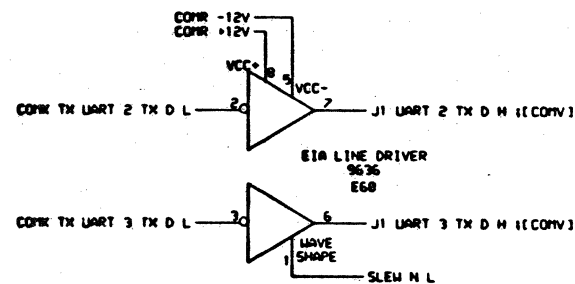
BOARD LOCATION:
NEXT HIGHER ASSEMBLY:

TITLE: DMF32 COMM
OPTION BOARD (COMS)

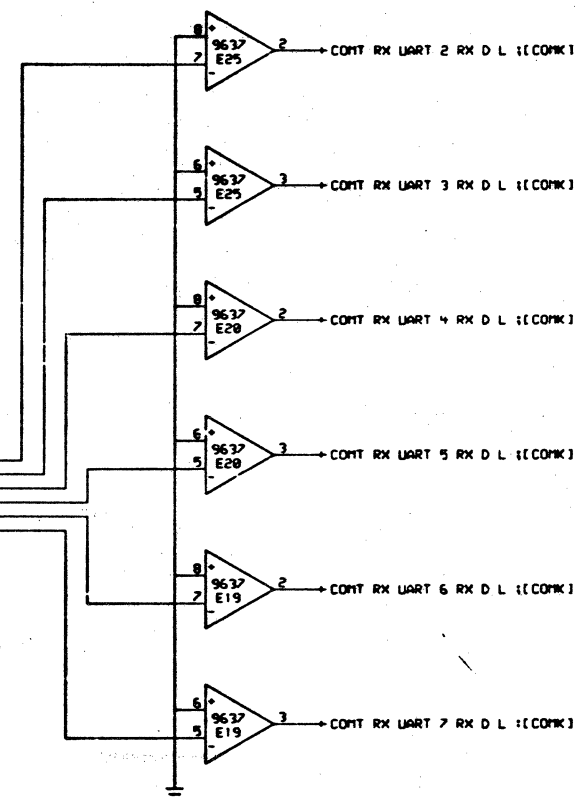
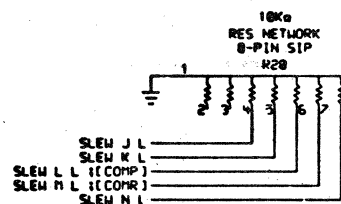
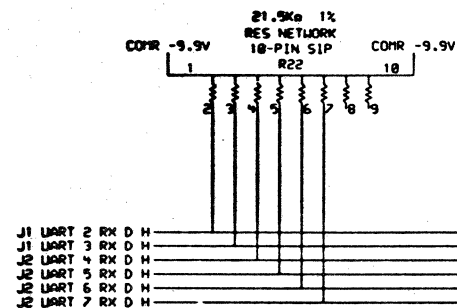
XTRA: <FRASER>COMS.DRW 11-FEB-83 05:13
FIRST USED ON OPTION MODEL: 11/730

B-DD-DMF32-0

SIZE CODE NUMBER REV.
K CS M8396-0-COMS C



NOTE: 9536
GND= PIN 4

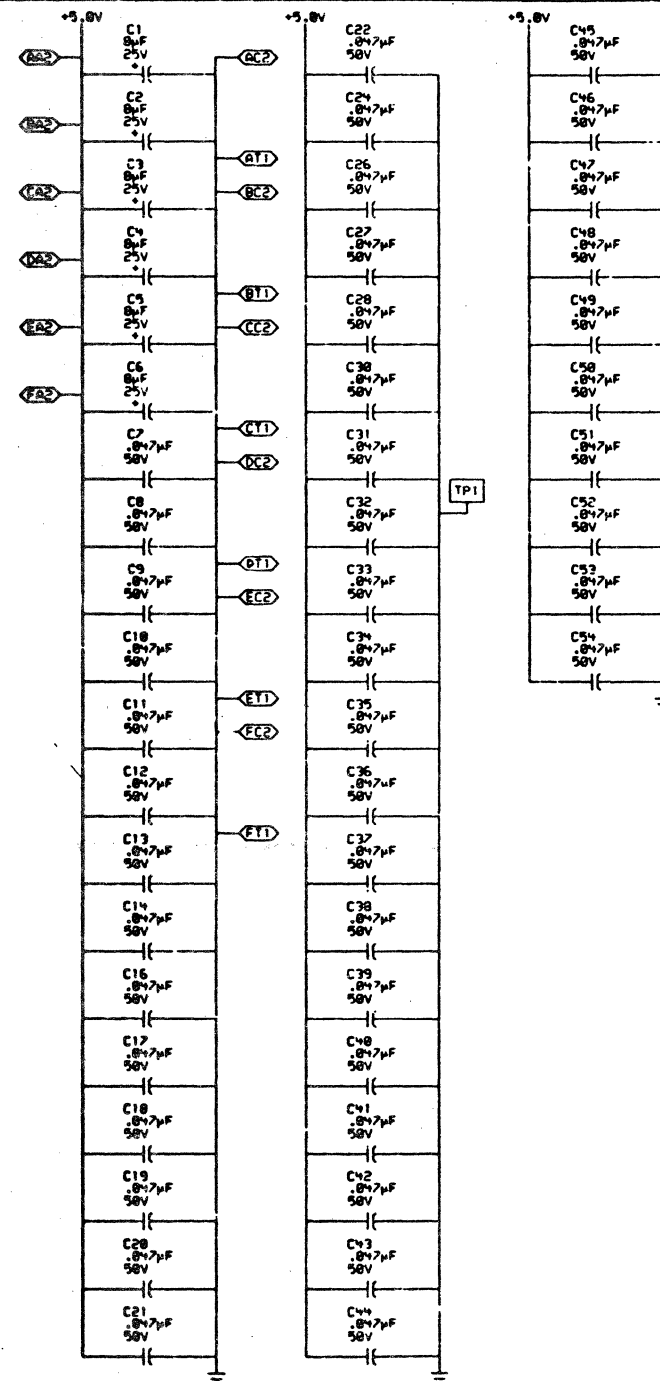


NOTE: 9637
VCC= PIN 1
GND= PIN 4

(ASYNC LINES (2:7) DRIVERS & RECEIVERS)

THIS DRAWING AND SPECIFICATIONS, TOGETHER WITH THE SCHEDULE OF MATERIALS, EQUIPMENT, COMPLETION, AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART IN THE MAKING OF THE MANUFACTURE OR SALE OF ITEMS WITHOUT THE WRITTEN PERMISSION OF THE CONTRACTING AGENCY.	REVISIONS		
	CHK	CHANGE NO.	REV

digital	DRN.	C.M. HAWNER	DATE	ENG.	DATE	TITLE	DMF32 COMM
	CHK'D.		DATE	SHEET	LOCATION	OPTION BOARD (COMT)	
SCOPE: HAWNER, COMD, DSC, T, DOW 12-MAY-82 0914H NEXT: HIGHWAY ASSEMBLY:							REV.
FIRST USED ON: OPTION BOARD 112230							B
R-DD-DMF 32-A							
SIZE							CODE
K C5							NUMBER
							M8396-U-COMT



THIS DRAWING AND SPECIFICATIONS
HEREIN, ARE THE PROPERTY OF
DIAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART OR
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1982
DIAL EQUIPMENT CORPORATION

REVISIONS		
DATE	CHANGE NO.	REV

digital	DRN	G.M. HAFNER	DATE	ENG	DATE	TITLE	DMF32 COM1M
	CHK'D.		DATE	ASSEMBLY LOCATION		OPTION BOARD (COMW)	
SCPI: HAFNER, COM'D: DMF32-117-MAY-82 03:44			NEXT HIGHER ASSEMBLY			S/N CODE	NUMBER
FIRST USED ON OPTION BOARD 117232			R-DD DMF32-8			K CS	M8396-2-COMW
						REV.	B

LA

COPYRIGHT (C) 1982. DIGITAL EQUIPMENT CORPORATION

NOTES:

[illegible]

COPYRIGHT© 1982 DIGITAL EQUIPMENT CORPORATION



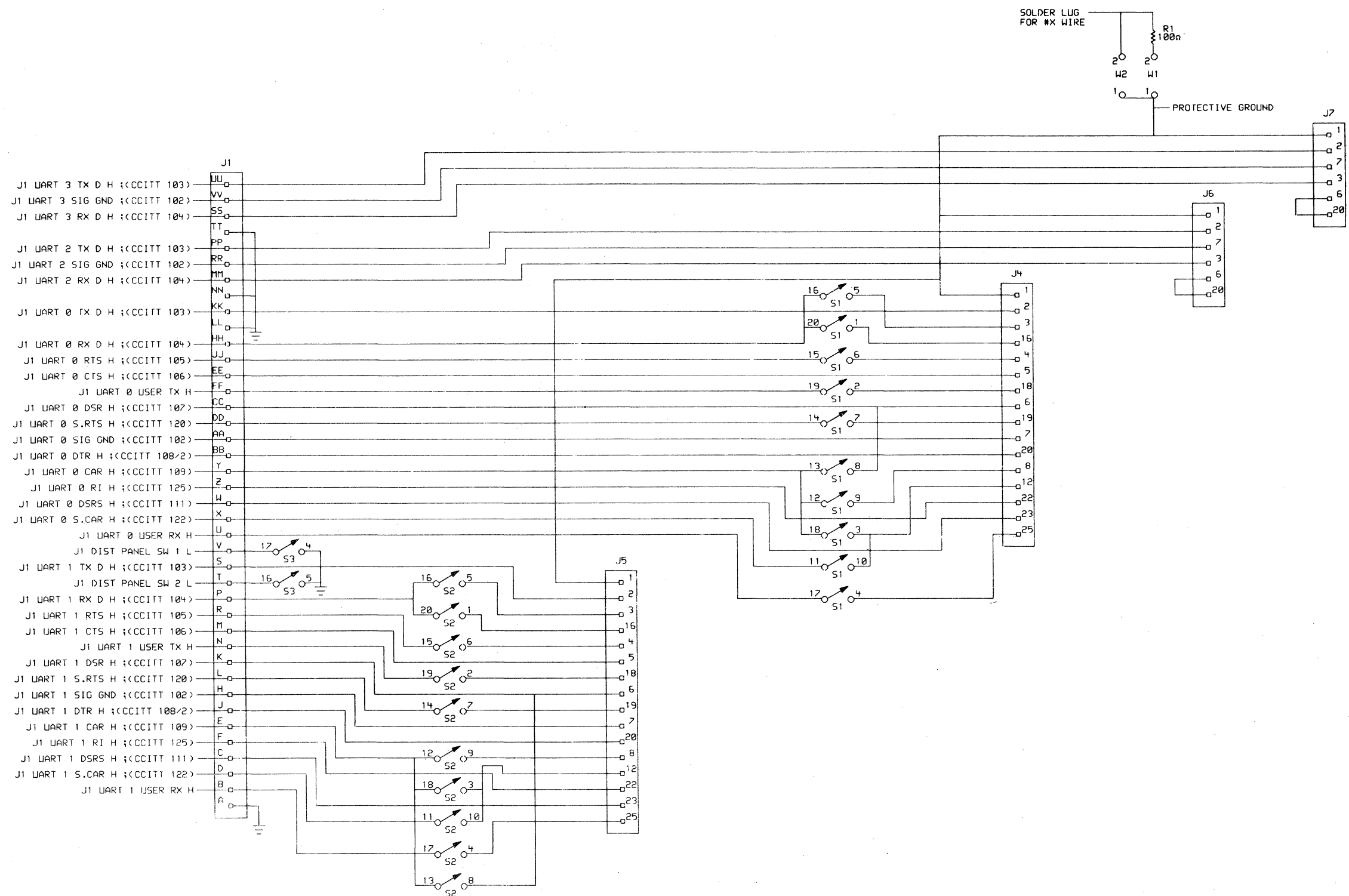
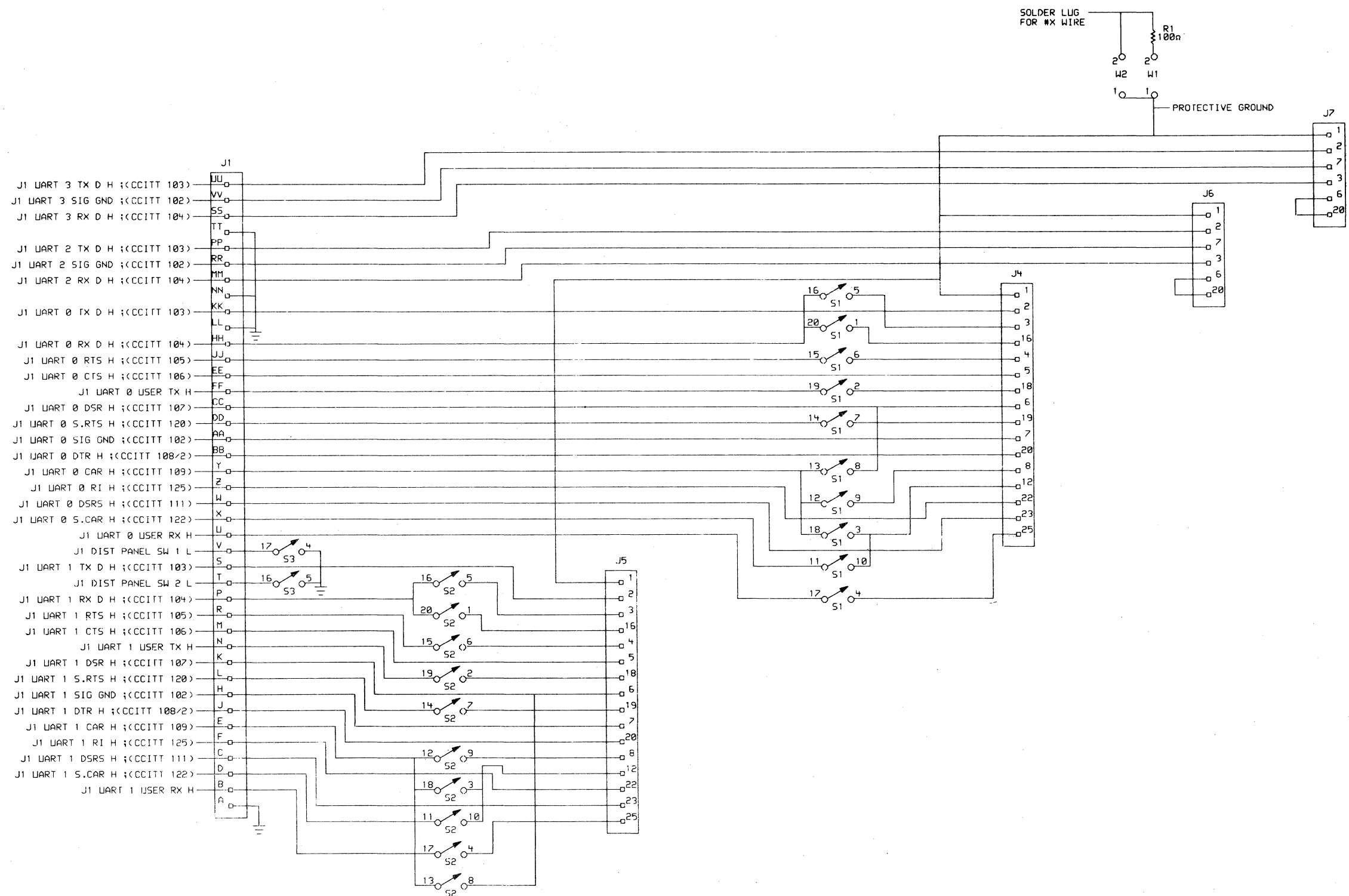
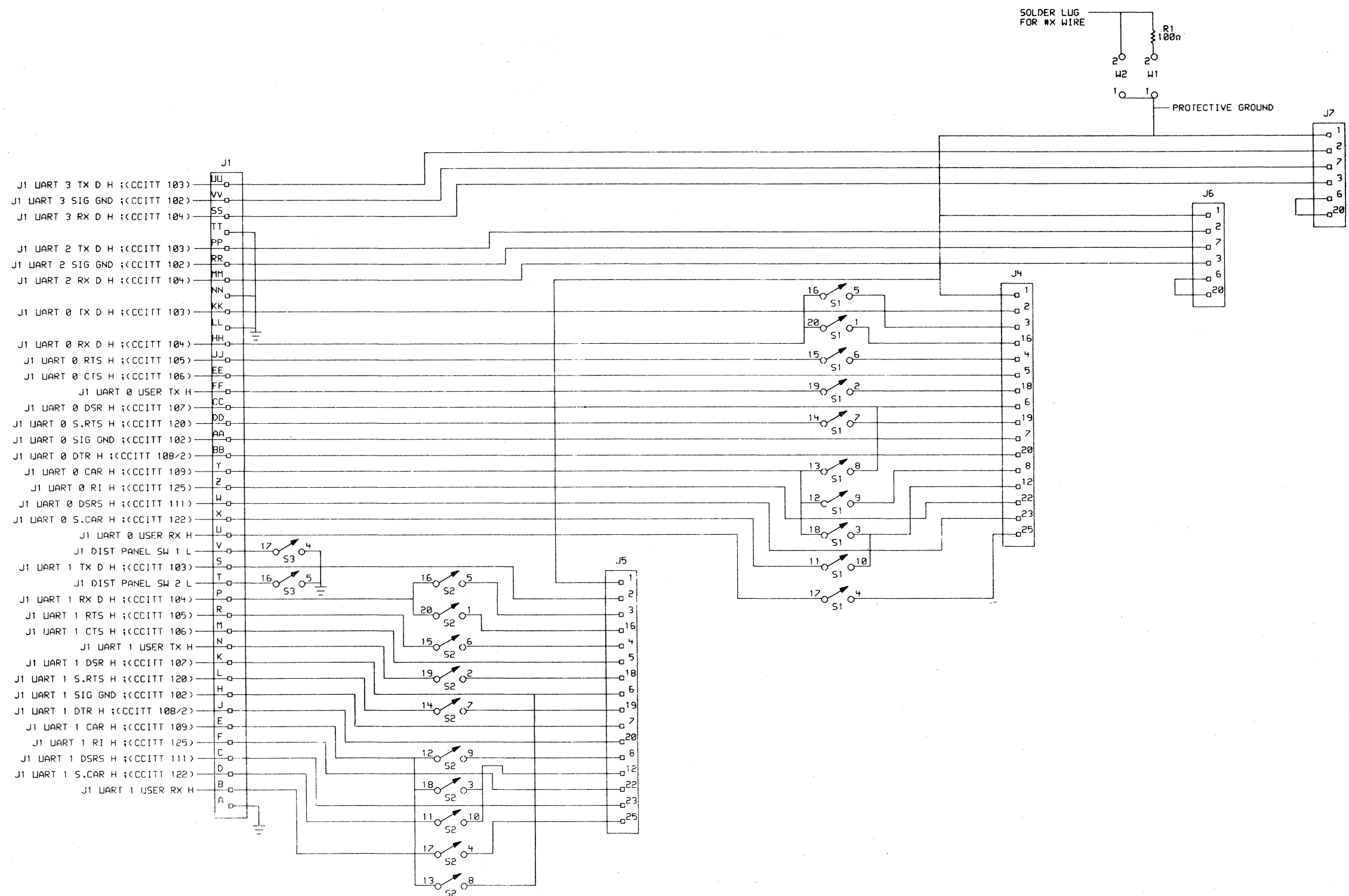
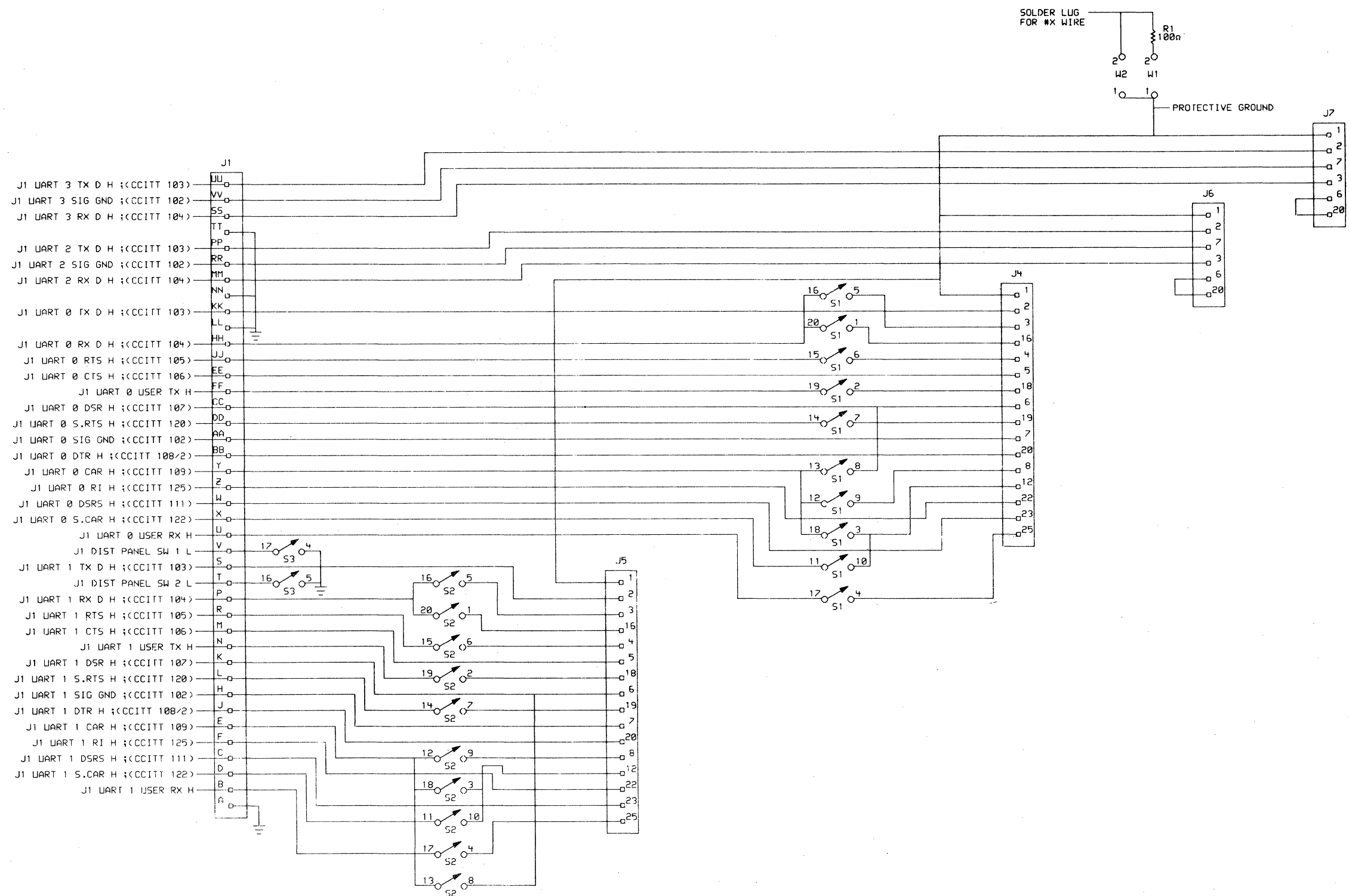
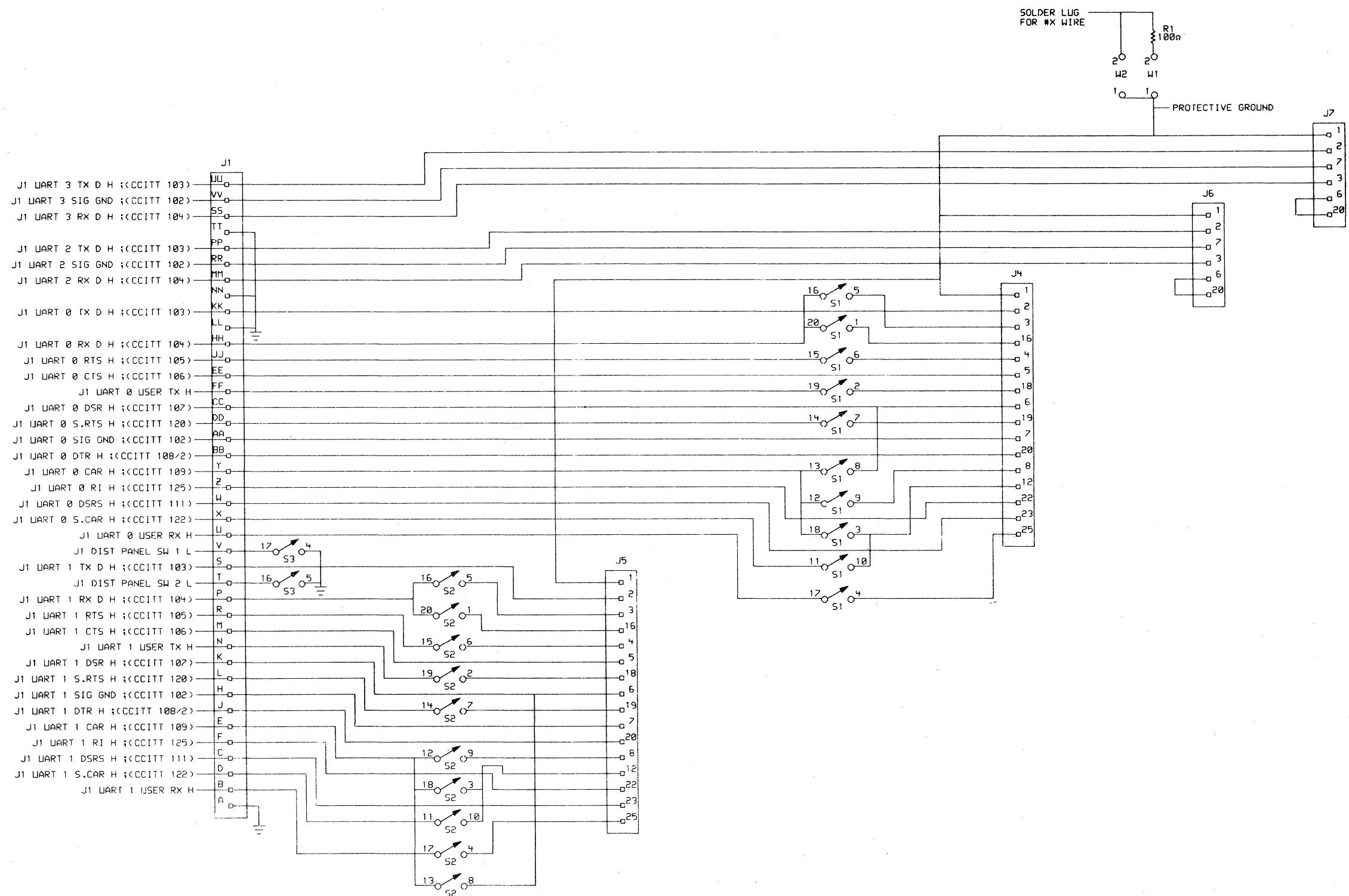
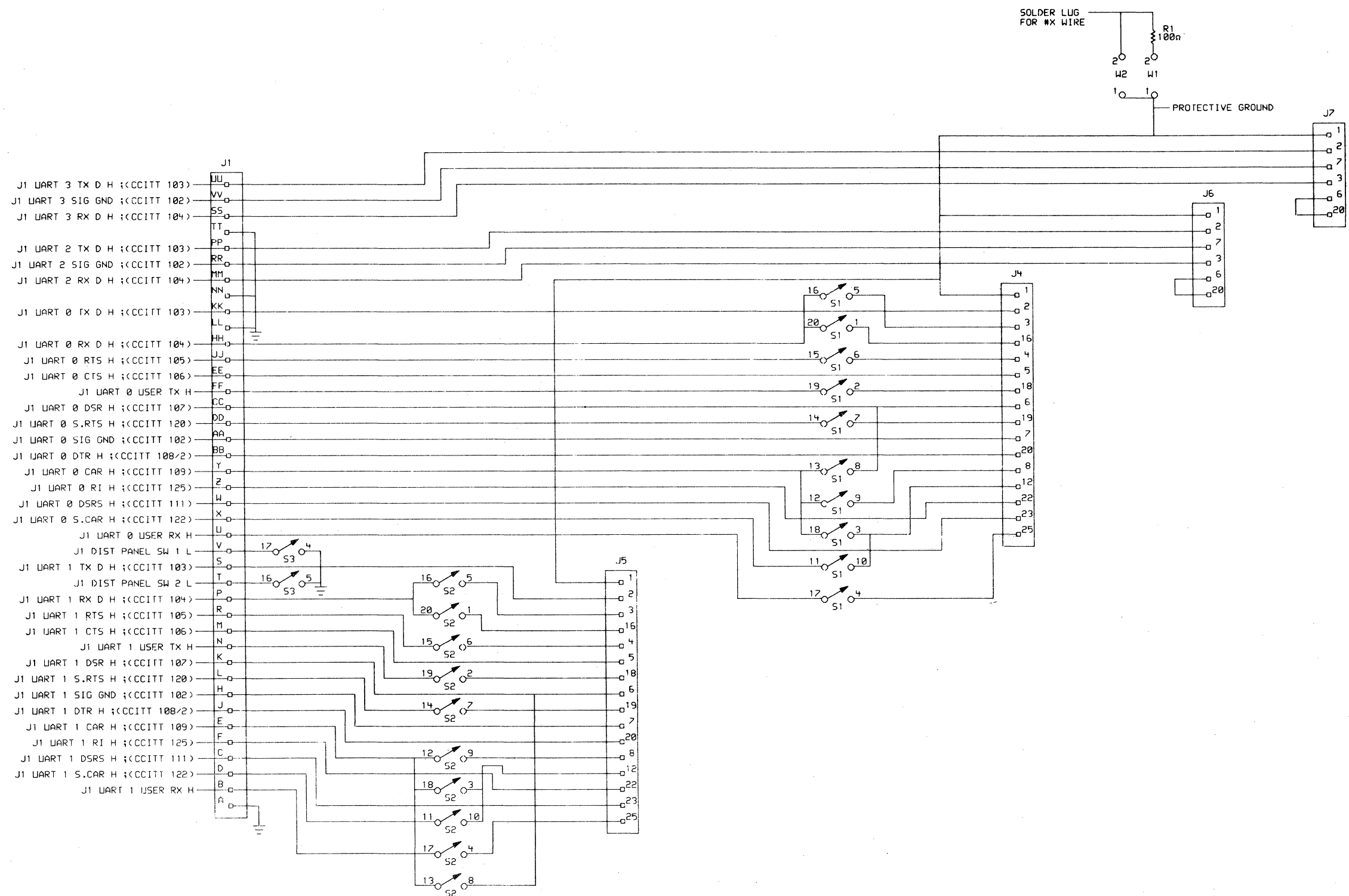
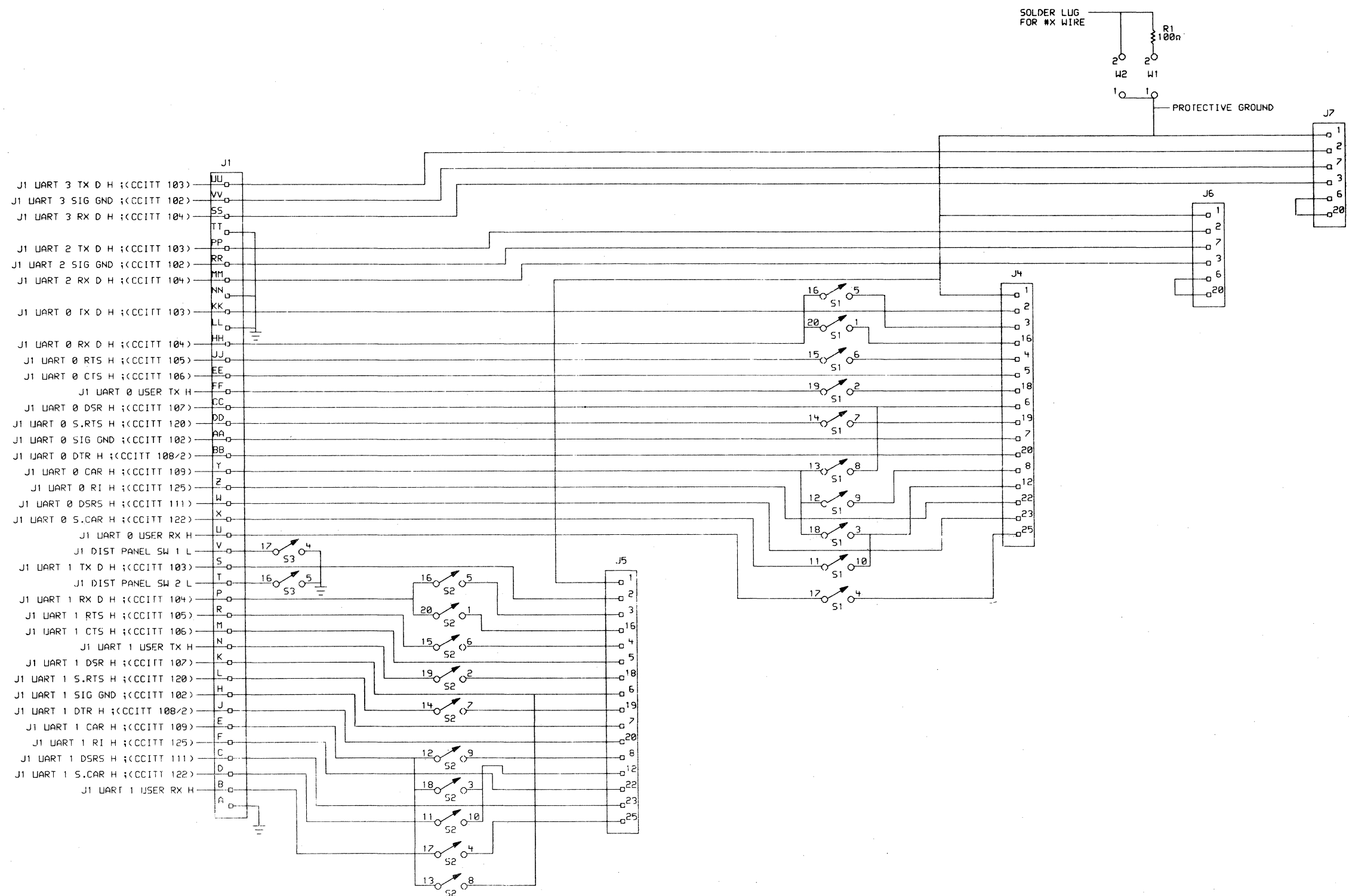
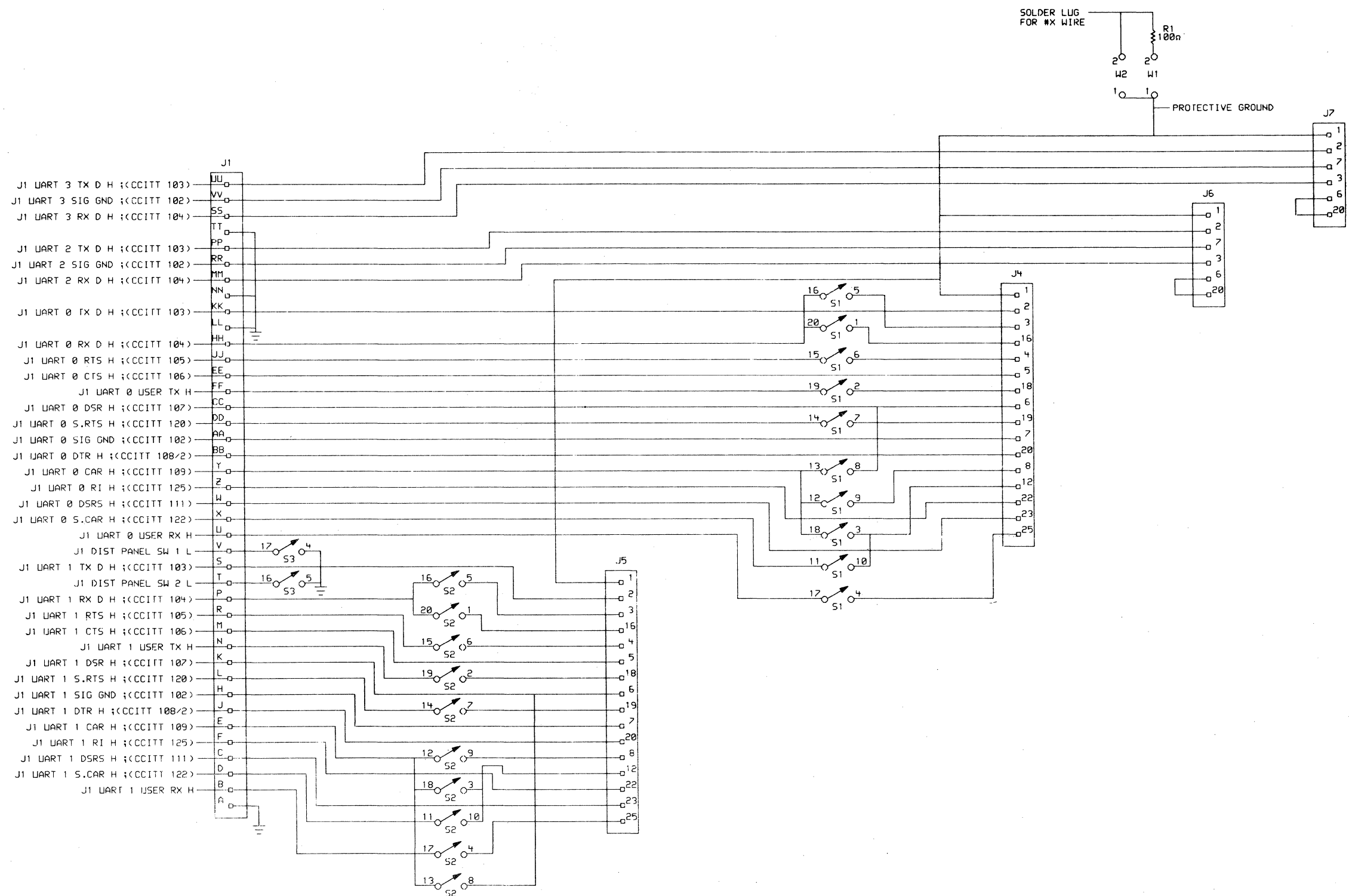
USED ON OPTION/MODEL		DRN	TITLE		
NEBULA		Thomas F Walsh	10-1-81	COMBO DIST PANEL	
		CHK'D			
		Thomas F Walsh	10-1-81		
		ENG.			
		2/24/82			
		PROD.			
		2/24/82			
		SIZE	CODE	NUMBER	REV.
		B	DD	5414459-0	B
		SHEET	OF		
		1	1		

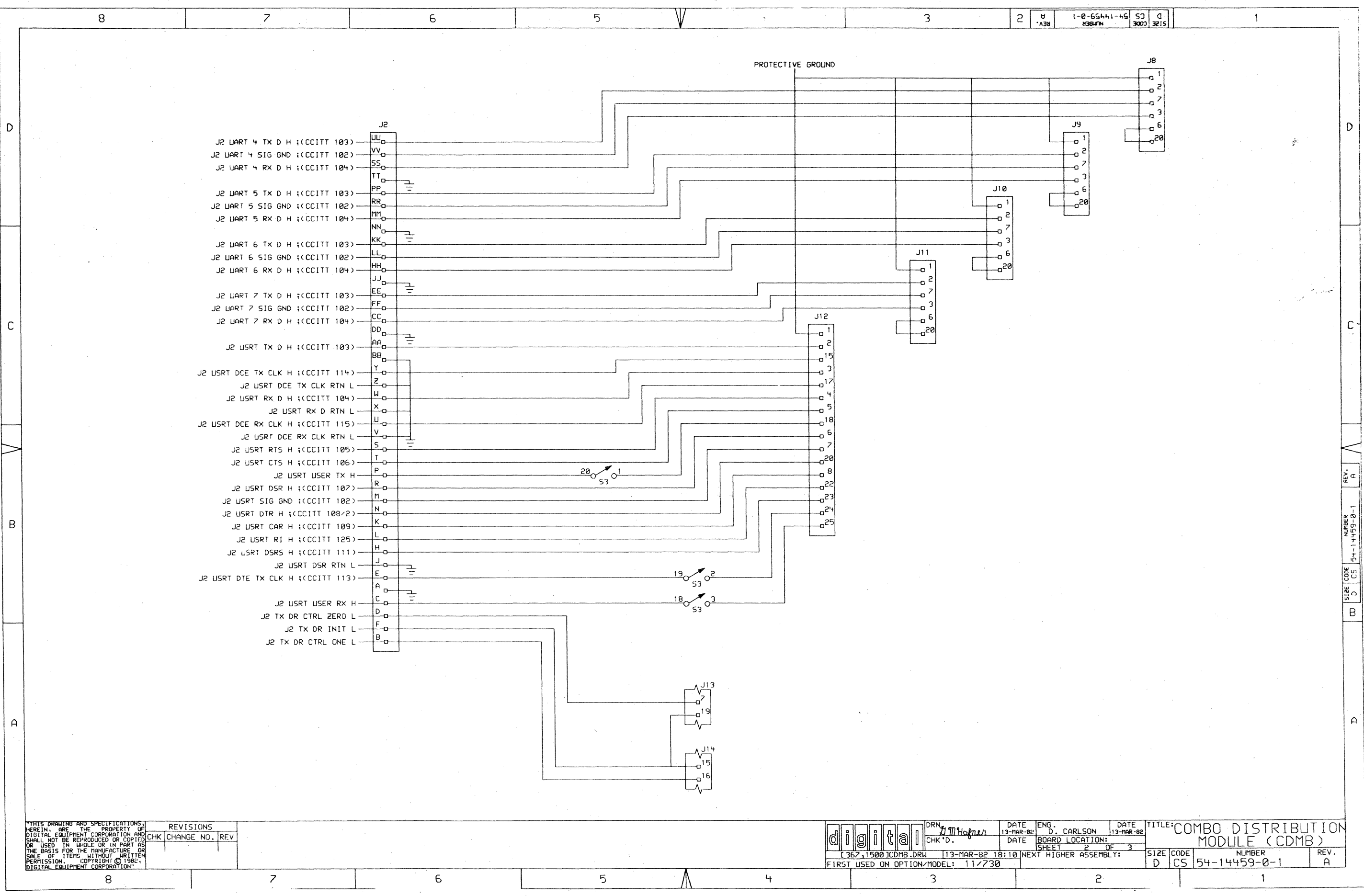
TN 1 HQ# 172694

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	2	3	5014458-00	DRILL & ETCH	1	
2	3	4	1211164-06	SW,DIP 10POS/1PST 5VDC100MA F	3	S1-S3
3	4	5	1215341-00	PCB,HEADER 40PIN(2X20).100CC STR	3	J1-J3
4	5	6	1216296-00	CONN,D SUB 37PIN ASSY STRAIGHT P	2	J13,J14
5	6	7	1217536-01	CONN,D SUB 25PIN ASSY STRAIGHT P	9	J4-J12
6	7	8	1300228-00	100.0 .50 W 5.0 % CC	1	R1
7	8	9	9009185-00	JUMPER, WIRE, INSULATED. BLACK B	2	W1,W2

REVISION HISTORY		BASIC PART NO: 5014458		DRN: T WALSH		DATE: 31-AUG-81		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: E.T.GERRY		DATE: 31-AUG-81		TITLE PARTS LIST	
---	INITIAL	A	SECTION VARIATION INDEX	DES.ENG: MATT BENSON		DATE: 25-FEB-82		COMBO DISTRIBUTION PANEL	
			[A] 00	RESP.ENG.: MATT BENSON		DATE:		DOCUMENT NUMBER	
			[B]	MFG.ENG.: P ANDERSON		DATE: 25-FEB-82		K PL 5414459-0-DBP	
			[C]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: 23914A.PLS	
			[D]	D-UA-5414459-0-0				REV A	
			[E]					EDIT # 4	
			[F]						
			[H]						
			[J]						
			[K]						
			[L]						
			[M]						
			[N]						

"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1982. DIGITAL EQUIPMENT CORPORATION"

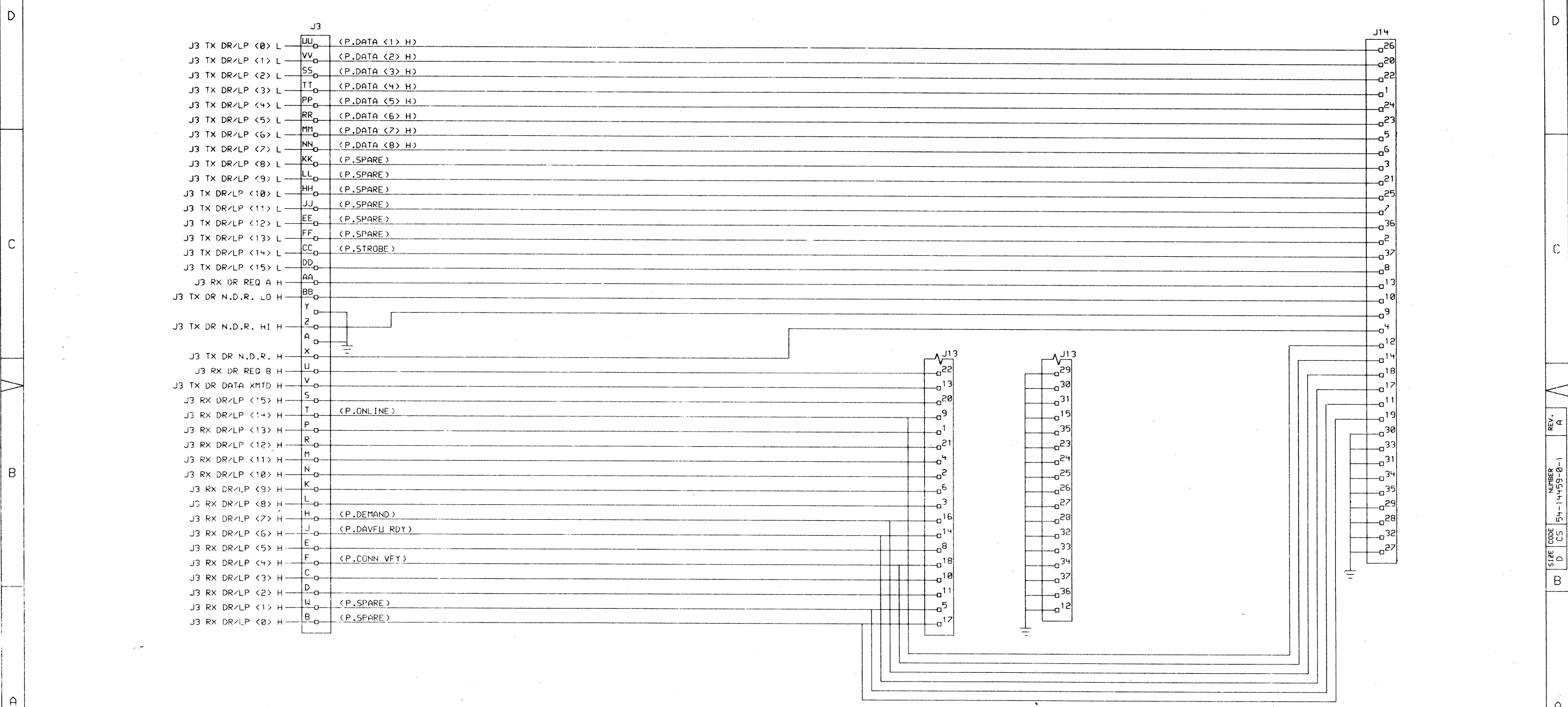




THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1982, DIGITAL EQUIPMENT CORPORATION.

REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN	DATE	ENG.	DATE	TITLE: COMBO DISTRIBUTION MODULE (CDMB)
	CHK'D.	13-MAR-82	D. CARLSON	13-MAR-82	
[367,1500] CDMB.DRW		113-MAR-82 18:10	NEXT HIGHER ASSEMBLY:		
FIRST USED ON OPTION/MODEL: 11/730		SHEET 2 OF 3		SIZE	CODE
				D	CS
				NUMBER	REV.
				54-14459-0-1	A



THIS DRAWING AND SPECIFICATIONS
HEREIN, ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1982,
DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV.

digital	DRN	DATE	ENG.	DATE	TITLE: COMBO DISTRIBUTION MODULE (CDMC)
	CHK'D.	13-MAR-82	D. CARLSON	13-MAR-82	
1367.1500ICDMC.DRW		13-MAR-82 18:11	NEXT HIGHER ASSEMBLY:		
FIRST USED ON OPTION/MODEL: 11/230		SHEET 3 OF 3		SIZE	CODE
				D	CS
				NUMBER	REV.
				54-14459-0-1	A

DEC FORM NO 1 (REV 10-64)

COMPONENT SIDE VIEW

D

C

B

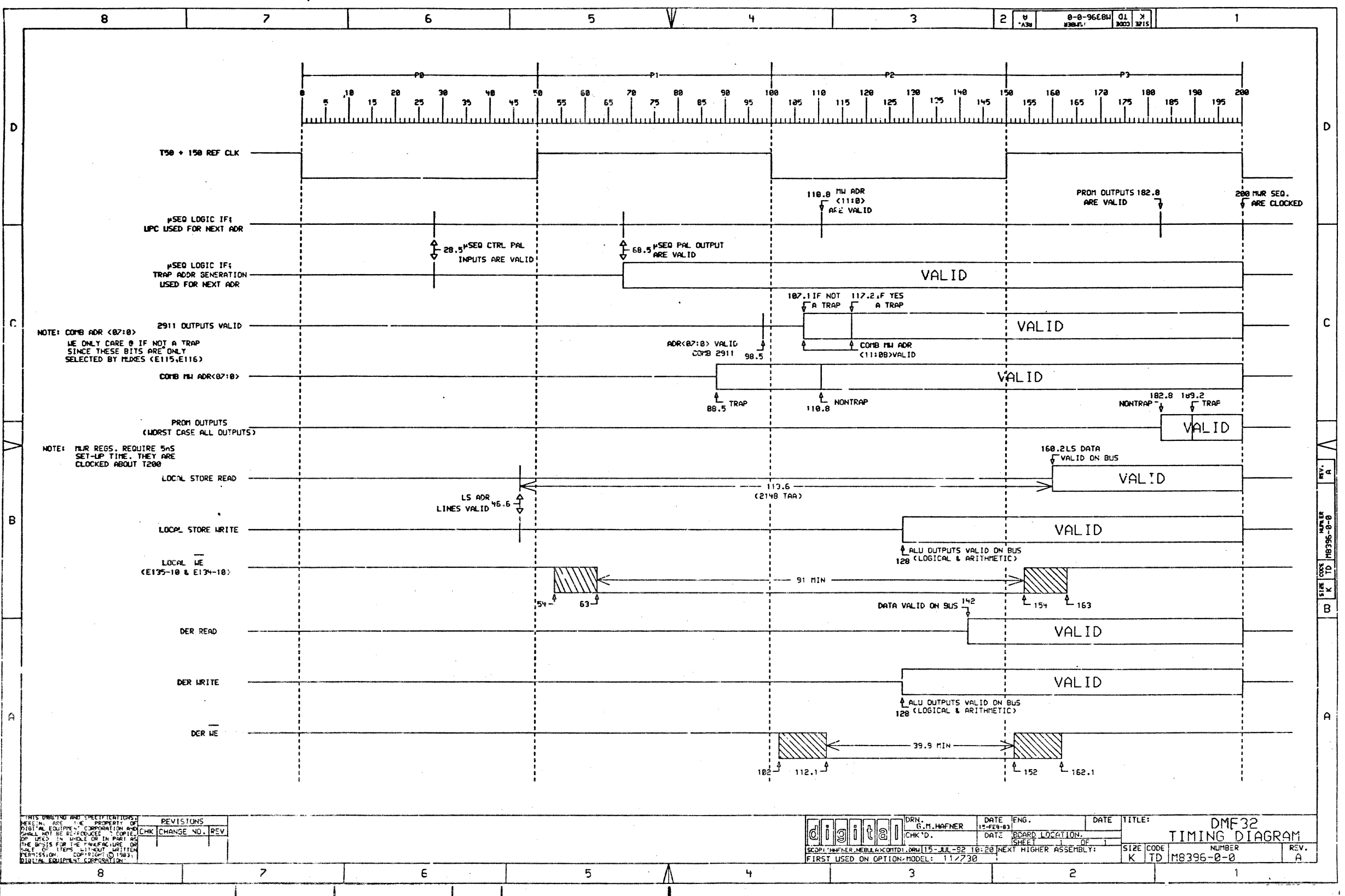
2

SIGNATURES		DATE	digital	
DRN. <i>Ron Love</i>		6/11/82		
CHK'D. E.T. GERRY		6-11-82		
MECH. ENG. <i>Glenn Brown</i>		9-24-82	TITLE DM-32SL	
PROJ. ENG. <i>Glenn Brown</i>		9-24-82	LOOPBACK MODULE	
PROD. <i>Paul G. Dixon</i>		7-24-82		
SCALE 2:1		SIZE	CODE	NUMBER
SHT. OF 1		D	UA	H3248-0-0
NEXT HATCH REEY				REV B

1 HQ#172898

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
				00
1	1	5015167-00	CIRCUIT DRILL & ETCH	1
2	2	1216296-02	CONN,D SUB 25SKT ASSY STRAIGHT P	1
3	3	BLANK	*** THIS ITEM IS NOT USED ***	-

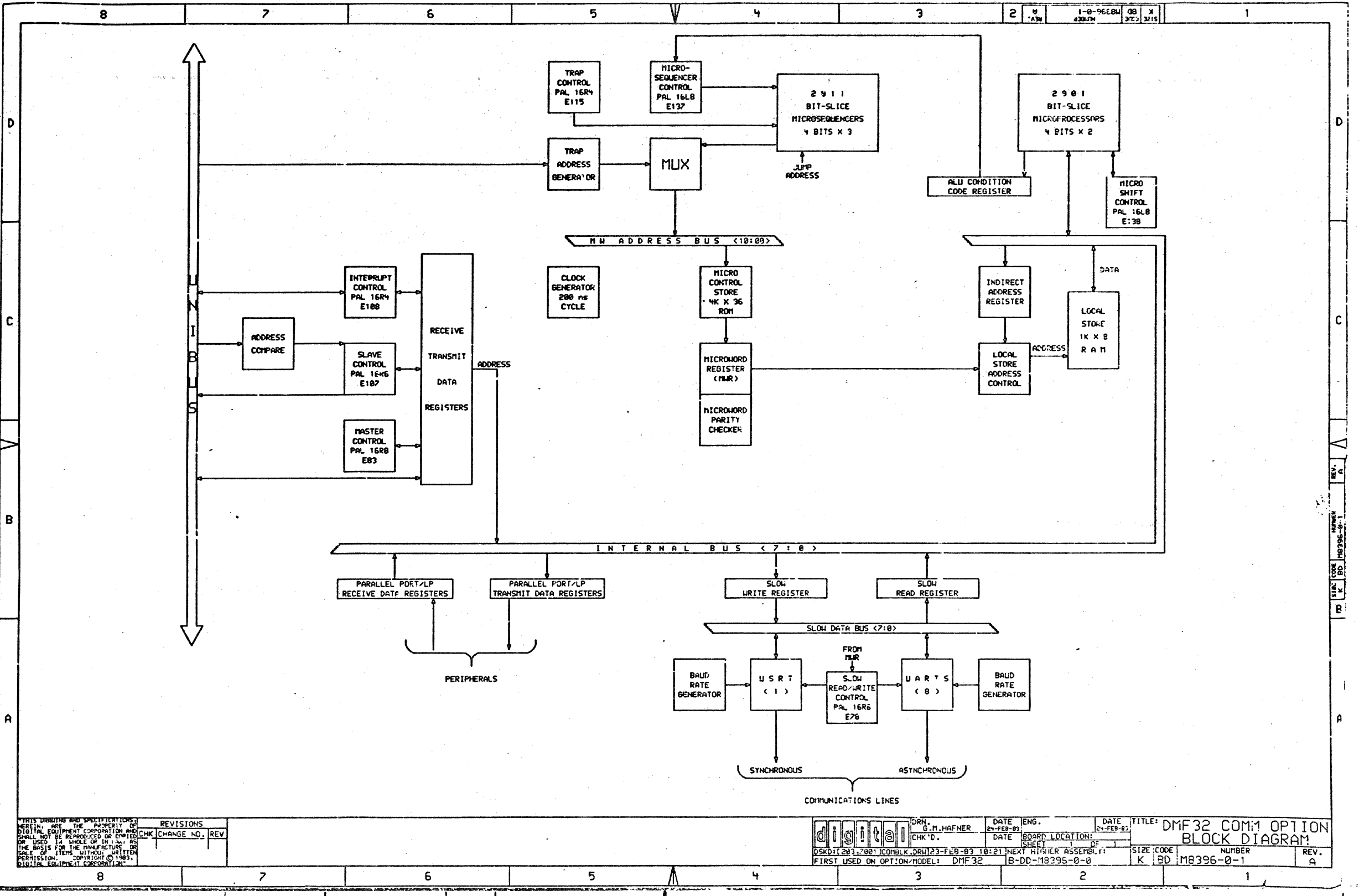
REVISION HISTORY			BASIC PART NO: 5415168			DRN: B. WALDIE			DATE: 9-OCT-81			D I G I T A L		
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: F. GAROFALO			DATE: 13-OCT-81			TITLE PARTS LIST				
---	INITIAL	A	SECTION. VARIATION INDEX	DATE: 13-OCT-81			DMF-32SL LOOP BACK							
MB	H3248-TW001	B	[A] 00	DES.ENG.: M. BENSON			DATE: 13-OCT-81							
			[B]	RESP.ENG.: M. BENSON			DATE: 13-OCT-81			DOCUMENT NUMBER				
			[C]	MFG.ENG.: P. ANDERSON			DATE: 13-OCT-81			SIZE CODE NUMBER REV				
			[D]	ASSEMBLY NUMBER:			TOP DOCUMENT NUMBER:			FILE NAME:				
			[E]	D-UA-H3248-0-0						Z3026B.PLS				
			[F]							EDIT #				
"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1982. DIGITAL EQUIPMENT CORPORATION"														



THIS DRAWING AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART FOR THE MANUFACTURE OF ANY OTHER EQUIPMENT WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1983, DIGITAL EQUIPMENT CORPORATION.

REVISIONS	
CHK	CHANGE NO. REV

digital	DRN. G.M. HAFNER	DATE 15-FEB-83	ENG.	DATE	TITLE: DMF32
	CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1	SIZE CODE K	NUMBER TD M8396-0-0
SCOPI: HAFNER, NEBLA, CONT'D. DRW 15-JUL-82 10:20		NEXT HIGHER ASSEMBLY:		REV. A	
FIRST USED ON OPTION MODEL: 11/730					



THIS DRAWING AND SPECIFICATIONS
HEREIN ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR
TRANSMITTED IN ANY FORM OR BY
ANY MEANS, ELECTRONIC OR MECHANICAL,
INCLUDING PHOTOCOPYING, RECORDING,
OR BY ANY INFORMATION STORAGE
RETRIEVAL SYSTEM, WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1983,
DIGITAL EQUIPMENT CORPORATION.

REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN. G.M. HAFNER	DATE 24-FEB-83	ENG.	DATE 24-FEB-83	TITLE: DMF32 COMM OPTION BLOCK DIAGRAM
	CHK'D.	DATE	BOARD LOCATION:	SHEET 1	SIZE: CODE
	OSKDI (2911, 2901) COMBLK.DRW (23-FEB-83) 10:21	NEXT HIGHER ASSEMBLY:	NUMBER	REV. A	
	FIRST USED ON OPTION/MODEL: DMF32	B-DD-18396-0-0	K	BD	M8396-0-1

PART NUMBER: 23-039K3-00

DEVICE TYPE: PAL16R4

SCHEMATIC SHEET 81D-C5-M8396-0-COMB

LOCATION/DESCRIPTION: E115/TRAP CONTROL FSM
ASSIGNED PIN NUMBER:

1= T135-130	8= RX.CLK	15= NC
2= MUR<2>	9= /PON	16= NC
3= MUR<25>	10= GND	17= NC
4= TRAP.REQ	11= GND	18= MUR<7>
5= MUR<5>	12= /TRAP	19= USRT.RX.CLK
6= MUR<6>	13= PL	20= VCC
7= S.STEP.CLK	14= S0	

EQUATIONS:

```

/S0:=
MUR<25>#MUR<7>#MUR<6>#MUR<5>#S0# /PON
MUR<25>#MUR<7>#MUR<6>#MUR<5># /TRAP.REQ# /S0# /PON
MUR<24>#MUR<7>#MUR<6>#MUR<5># /TRAP.REQ# /S0# /PON
MUR<7># /TRAP.REQ# /S0# /PON
MUR<6># /TRAP.REQ# /S0# /PON
MUR<5># /TRAP.REQ# /S0# /PON

```

```

IF (VCC) TRAP:=
MUR<25>#MUR<7>#MUR<6>#MUR<5>#TRAP.REQ# /S0# /PON
MUR<24>#MUR<7>#MUR<6>#MUR<5>#TRAP.REQ# /S0# /PON
MUR<7>#TRAP.REQ# /S0# /PON
MUR<6>#TRAP.REQ# /S0# /PON
MUR<5>#TRAP.REQ# /S0# /PON

```

```

IF (VCC) /USRT.RX.CLK:=
/RX.CLK# /S.STEP.CLK
/RX.CLK# S.STEP.CLK

```

PART NUMBER: 23-059K3-00

DEVICE TYPE: PAL16R4

SCHEMATIC SHEET 81D-C5-M8396-0-COMB

LOCATION/DESCRIPTION: E108/INTERRUPT CONTROL FSM
ASSIGNED PIN NUMBER:

1= T135.0R.135	8= RX.ADR<14>	15= TX.INTR
2= RX.ADR<17>	9= RX.ADR<13>	16= EN.VEC
3= INT.MST	10= GND	17= S0
4= RX.SSTN	11= GND	18= PL
5= RX.ADR<16>	12= VALD.COMP	19= VAL.ADR
6= BR.STRT	13= SICK	20= VCC
7= RX.ADR<15>	14= INT.REQ	

EQUATIONS:

```

/TX.INTR:=
/TX.INTR# /INT.REQ# S0# /PL
/EN.VEC# /INT.REQ# S0# /PL
/TX.INTR# EN.VEC# INT.REQ# /PL
/BR.STRT# /PL
/SICK# /PL
/PX.SSTN# /PL

```

```

/EN.VEC:=
/TX.INTR# EN.VEC# /INT.REQ# BR.STRT# SICK# /PL
/EN.VEC# /INT.REQ# S0# /RX.SSTN# BR.STRT# SICK# /PL
/TX.INTR# INT.REQ# S0# /INT.MST# BR.STRT# SICK# /PL
/INT.MST# /PL

```

```

/INT.REQ:=
/TX.INTR# EN.VEC# /INT.REQ# BR.STRT# SICK# /PL
/TX.INTR# INT.REQ# S0# BR.STRT# SICK# /PL
/TX.INTR# EN.VEC# S0# BR.STRT# SICK# /PL
/EN.VEC# INT.REQ# S0# BR.STRT# SICK# /PL
/RX.ADR<16># /PL

```

```

/S0:=
/TX.INTR# EN.VEC# INT.REQ# S0# BR.STRT# SICK# /PL
/TX.INTR# EN.VEC# INT.REQ# S0# BR.STRT# SICK# /PL
/TX.INTR# EN.VEC# INT.REQ# S0# BR.STRT# SICK# /PL
/RX.ADR<17># /PL

```

```

IF (VCC) /VALD.ADR:=
RX.ADR<17>#RX.ADR<16>#RX.ADR<15>#RX.ADR<14>
/RX.ADR<13># /VALD.COMP

```

23-039K3-00
23-059K3-00

THIS DRAWING AND SPECIFICATIONS
HEREIN ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1982,
DIGITAL EQUIPMENT CORPORATION

REVISIONS

CHK CHANGE NO. REV

digital	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D.	30-DEC-82			COMM OPTION ROM AND PAL LISTINGS
D5K:SLCM01.T2P(4,32)		30-DEC-82	11:12	NEXT HIGHER ASSEMBLY:	SIZE CODE
FIRST USED ON OPTION/MODEL:		DMF 32	8-DD-M8396-0-0		NUMBER
					REV.
					A

8

7

6

5

4

3

2

1

0-0-96E84

79

K

3215

PART NUMBER: 23-018K4-00

DEVICE TYPE: PAL16R6

SCHEMATIC SHEET #1D-CS-M8396-0-COMC

LOCATION/DESCRIPTION: E107/SLAVE I/O FSM
ASSIGNED PIN NUMBER:

1= TX5.0R.135
2= VAL.ADR
3= RX.MSYN
4= RX.C1
5= TRAP.ACK
6= PL
7= PON

8= RX.SSYN
9= TX.MSYN
10= GND
11= GND
12= NC
13= S0
14= EN.DAT

15= S1
16= TRAP.REG
17= NC
18= TX.SSYN
19= MST.RX.DAT.REG.CLK
20= VCC

EQUATIONS:

TX.SSYN1=
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=RX.MSYN=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=TRAP.ACK=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=RX.C1=PL
PON=PL
VAL.ADR=PL

TRAP.REG1=
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=VAL.ADR=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=RX.MSYN=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=RX.MSYN=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
PON=PL
RX.C1=PL

EN.DAT1=
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=TRAP.ACK=RX.C1=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=RX.MSYN=PL
VAL.ADR=PL

S0=
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=TRAP.ACK=RX.C1=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=RX.MSYN=PL
RX.SSYN=PL

S1=
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
TX.SSYN1=TRAP.REG=EN.DAT=S1=S0=PL
TRAP.ACK=PL

IF VCC /MST.RX.DAT.REG.CLK1=
TX.MSYN
RX.SSYN
RX.C1

PART NUMBER: 23-028K4-00

DEVICE TYPE: PAL16R6

SCHEMATIC SHEET #1D-CS-M8396-0-COMU

LOCATION/DESCRIPTION: E78/SLOW R/H CONTROL FSM
ASSIGNED PIN NUMBER:

1= TX5.0R.135
2= STC.SOU
3= LS.ADR<4>
4= BRG.L.K
5= BUR<22>
6= LS.ADR<5>
7= RX.STC

8= DER
9= PON
10= GND
11= GND
12= PL
13= ADR.DAT.REG.CLK
14= S0

15= B.CS
16= A.CS
17= S.CS
18= SLO.RD.REG.CLK
19= STC
20= VCC

EQUATIONS:

SLO.RD.REG.CLK1=
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
STC.SOU=PL

ADR.DAT.REG.CLK1=
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
PON=PL
RX.STC=PL

S.CS1=
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0
LS.ADR<5>=LS.ADR<4>=PON=PL
ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
LS.ADR<4>=PL

A.CS1=
ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0
LS.ADR<5>=PON=PL
DER=PL

B.CS1=
ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=S0
LS.ADR<5>=LS.ADR<4>=PON=PL
BUR<22>=PL

S01=
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=PL
SLO.RD.REG.CLK=ADR.DAT.REG.CLK=S.CS=A.CS=B.CS=PL
LS.ADR<5>=PL

IF VCC /STC1=
STC.SOU=RX.STC

PART NUMBER: 23-007K5-00

DEVICE TYPE: PAL16R8

SCHEMATIC SHEET #1D-CS-M8396-0-COMC

LOCATION/DESCRIPTION: E83/MASTER CONTROL FSM
ASSIGNED PIN NUMBER:

1= TX5.0R.135
2= RX.SSYN
3= DMA.MST
4= N.C.
5= C1
6= TX.C0
7= NPR.STRT

8= SICK
9= PL
10= GND
11= GND
12= S1
13= S0
14= MST.RD

15= TX.MSYN
16= EN.DAT
17= S2
18= TX.C1
19= EN.AD
20= VCC

EQUATIONS:

EN.AD1=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0=NPR.STRT=SICK
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0=NPR.STRT=SICK
EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=DMA.MST=NPR.STRT=SICK
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK

EN.DAT1=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0
TX.SSYN=NPR.STRT=SICK=PL
EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=DMA.MST=C1=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL

MST.REG1=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=DMA.MST=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
NPR.STRT=PL
SICK=PL
NPR.STRT=PL

TX.MSYN1=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=RX.SSYN=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=RX.SSYN=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=RX.SSYN=NPR.STRT=SICK=PL

S21=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0=RX.SSYN=PL
EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=DMA.MST=PL
NPR.STRT=PL
SICK=PL
N.C.=PL

S11=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=NPR.STRT=SICK=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=RX.SSYN=NPR.STRT=SICK=PL
RX.SSYN=PL

S01=
EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=DMA.MST=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=RX.SSYN=PL
NPR.STRT=PL
SICK

TX.C11=
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=TX.C0=RX.SSYN=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
TX.C1=EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=PL
EN.AD=EN.DAT=MST.REG=TX.MSYN=S2=S1=S0=DMA.MST=C1=PL
DMA.MST=PL

23-018K4-00
23-028K4-00
23-007K5-00

THIS DRAWING AND SPECIFICATIONS
HEREIN ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1982
DIGITAL EQUIPMENT CORPORATION

REVISIONS

CHK CHANGE NO. REV

digital	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D	30-DEC-82			COMM OPTION ROM AND PAL LISTINGS
DSK:GLCH02.12P(4,32)		30-DEC-82 11:09		NEXT HIGHER ASSEMBLY:	SIZE CODE NUMBER REV.
FIRST USED ON OPTION MODEL: DMF 32		B-DD-M8396-0-0			K GL M8396-0-0 A

8

7

6

5

4

3

2

1

8

7

6

5

4

3

2

1

8-0-96E8H

70

K

3215

PART NUMBER: 23-053J5-00

DEVICE TYPE: PAL16L8

SCHEMATIC SHEET 810-CS-M8396-0-L0MB

LOCATION/DESCRIPTION: E137/MICRO-SEQUENCE CONTROL
ASSIGNED PIN NUMBER:

1= TUR(0)	8= REG.ALU.Z	15= NC
2= TUR(1)	9= REG.ALU.C	16= NC
3= TUR(2)	10= GND	17= FE
4= TUR(5)	11= ALX.ALU.Z	18= PUP
5= TUR(6)	12= S1	19= S0
6= TUR(7)	13= DAT.CO	20= VCC
7= REG.ALU.N	14= I.PUP	

EQUATIONS:

IF[VCC] /S0:=
TUR(7)
+TUR(6)
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=REG.ALU.N
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=REG.ALU.Z
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=REG.ALU.C
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=DAT.CO

IF[VCC] /S1:=
TUR(2)=TUR(7)
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=REG.ALU.N
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=REG.ALU.Z
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=REG.ALU.C
+TUR(2)=TUR(1)=TUR(0)=TUR(7)=TUR(6)=DAT.CO

IF[VCC] FE:=
TUR(2)=TUR(7)=I.PUP
+TUR(2)=TUR(6)=I.PUP
+TUR(7)=TUR(6)=TUR(2)=TUR(1)=TUR(0)=I.PUP
+TUR(7)=TUR(6)=TUR(2)=TUR(1)=TUR(0)=I.PUP

IF[VCC] /PUP:=
TUR(2)=TUR(7)
+TUR(2)=TUR(6)
+TUR(7)=TUR(6)=TUR(2)=TUR(1)=TUR(0)

PART NUMBER: 23-054J5-00

DEVICE TYPE: PAL16L8

SCHEMATIC SHEET 810-CS-M8396-0-C0MA

LOCATION/DESCRIPTION: E138/SHIFT CONTROL
ASSIGNED PIN NUMBER:

1= TUR(0)	8= NC	15= 0.LSB
2= TUR(1)	9= NC	16= 0.MSB
3= TUR(33)	10= GND	17= RAM.LSB
4= EN.SLAVE.DAT	11= NC	18= RAM.MSB
5= EN.MST.DAT	12= TX.DAT.RD.ADR(1)	19= TX.DAT.RD.ADR(0)
6= EN.VEC	13= EN.BUS.DAT	20= VCC
7= NC	14= NC	

EQUATIONS:

IF[TUR(33)] /RAM.MSB:=
TUR(33)=TUR(1)
+TUR(1)=TUR(0)=RAM.LSB
+TUR(1)=TUR(0)=0.LSB

IF[TUR(33)] /RAM.LSB:=
TUR(1)=TUR(0)
+TUR(0)=0.MSB
+TUR(1)=TUR(0)=RAM.MSB

IF[TUR(33)] /0.MSB:=
TUR(1)=TUR(0)
+TUR(0)=RAM.LSB
+TUR(1)=TUR(0)=0.LSB

IF[TUR(33)] /0.LSB:=
TUR(1)
+TUR(1)=TUR(0)=0.MSB
+TUR(1)=TUR(0)=RAM.MSB

IF[VCC] /TX.DAT.RD.ADR(0):=
EN.SLAVE.DAT=EN.MST.DAT=EN.VEC

IF[VCC] /TX.DAT.RD.ADR(1):=
EN.SLAVE.DAT=EN.MST.DAT=EN.VEC
+EN.SLAVE.DAT=EN.MST.DAT=EN.VEC

IF[VCC] EN.BUS.DAT:=
EN.SLAVE.DAT=EN.MST.DAT=EN.VEC
+EN.SLAVE.DAT=EN.MST.DAT=EN.VEC
+EN.SLAVE.DAT=EN.MST.DAT=EN.VEC

23-053J5-00
23-054J5-00

THIS DRAWING AND SPECIFICATIONS
HEREIN ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN WHOLE OR IN PART AS
THE BASIS FOR THE MANUFACTURE OR
SALE OF ITEMS WITHOUT WRITTEN
PERMISSION. © TRIMCO 1982
DIGITAL EQUIPMENT CORPORATION

REVISIONS	
CHK	CHANGE NO. REV

digital	DRN J. M. Hoffman	DATE 30-DEC-82	ENG.	DATE	TITLE: COMM OPTION ROM AND PAL LISTINGS
		DATE	BOARD LOCATION: SHEET 3 OF 3	SIZE CODE K GL	NUMBER M8396-0-0
DSK:GLCM03.T2P(4,32)		130-DEC-82 11:13		NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL: DMF 32		B-DD-M8396-0-0			