

**MM11-S
core memory
maintenance manual**

DRAWING DIRECTORY

CUSTOMER PRINT SET INDEX

SEQUENCE

SEQUENCE

THIS IS PRINT SET 1

MODULE UTILIZATION	D-MU-MM11-S-1
BLOCK DIAGRAM	D-8D-MM11-S-2
TIMING DIAGRAM	D-TP-MM11-S-3
* MEMORY DRIVERS	E-CS-G231- ϕ -1
* CONTROL & DATA LOGIC	E-CS-G11 ϕ - ϕ -1
STACK	E-CS-H213- ϕ -1
STACK	E-CS-H214-0-1
WIRED ASSY	D-AD-7008816-0-0
WIRE LIST	K-WL-MM11-S-4
MEMORY	A-PL-MM11-S-0
MEMORY	A-PL-MM11-M-0
ACCESSORY LIST	A-AL-MM11-S-5
G772 - SYSTEM	E-1A-7009562-0-0
UNIT HARNESS	

MFG PRINT SET
MFG TEST PRO FOR MMII/K,L,M,S,SP
A-SP-MMII-L-5

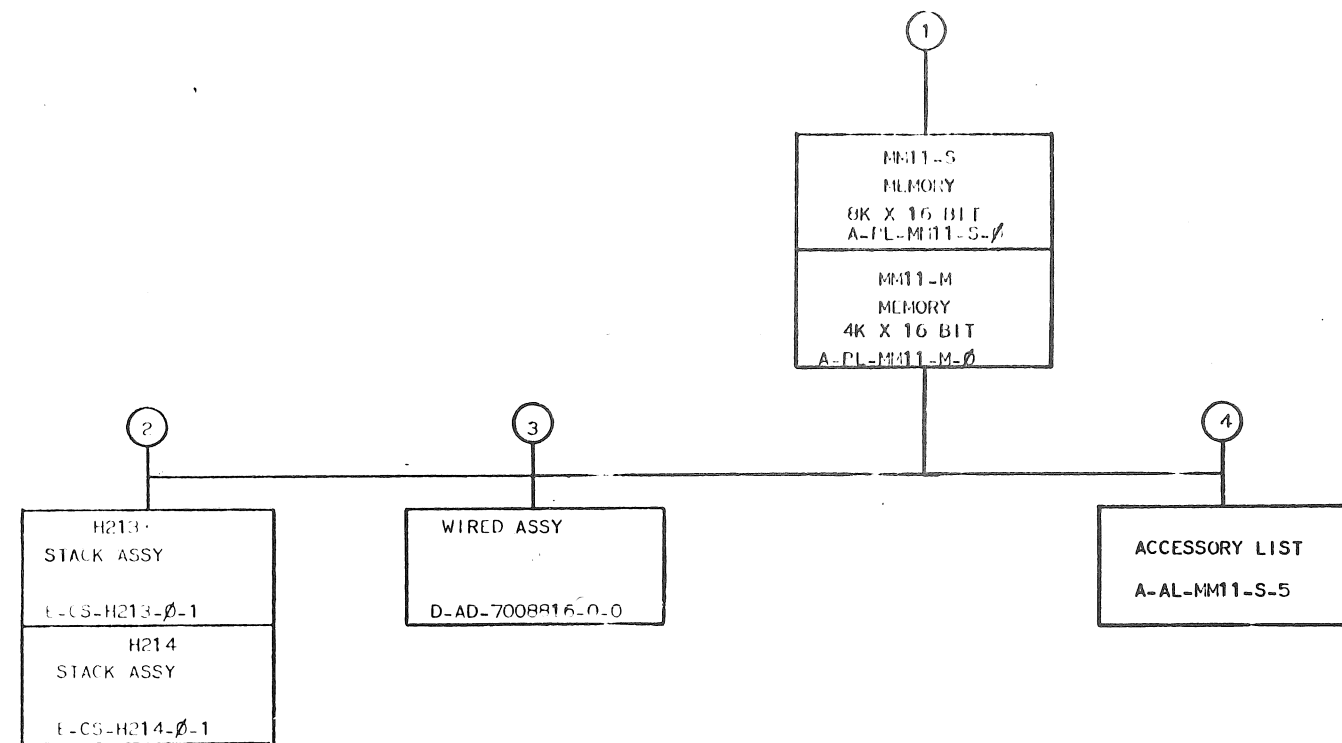
UNIT VARIATIONS

PRINT SET TYPE

[illegible]

* SPECIAL REVISION PRINTS ARE AVAILABLE ON "C" ETCH REV MODULES.
CARE SHOULD BE TAKEN TO INSURE THAT PROPER PRINTS ARE ORDERED.

REVISIONS													USED ON OPTION/MODEL		DRN.		DATE		TITLE									
DATE	CHG. NO.	REV											MM11-S		F. CARBERRY	2/1/72	MEMORY											
9/72	MM11S - 2	A											11 -		CHK'D	5-25-72												
10/72	MM11S - 3	B											MM11-M		J. Salazar	5-25-72												
11/72	MM11S - 4	C													PROJ. ENG.	5-25-72												
1-73	MISC-00107	D													P. Durand	5-25-72												
2-73	MISC-00111	E													PROD.	5-25-72												
2-73	MISC-00112	F													6-2-72	5-25-72												
2-73	MISC-00113	H													FIELD SERV.	5-25-72												
9-73	MM11S - 5	J													5-25-72													
1-74	MM11S - 6	K													SHEET 1 OF 3													



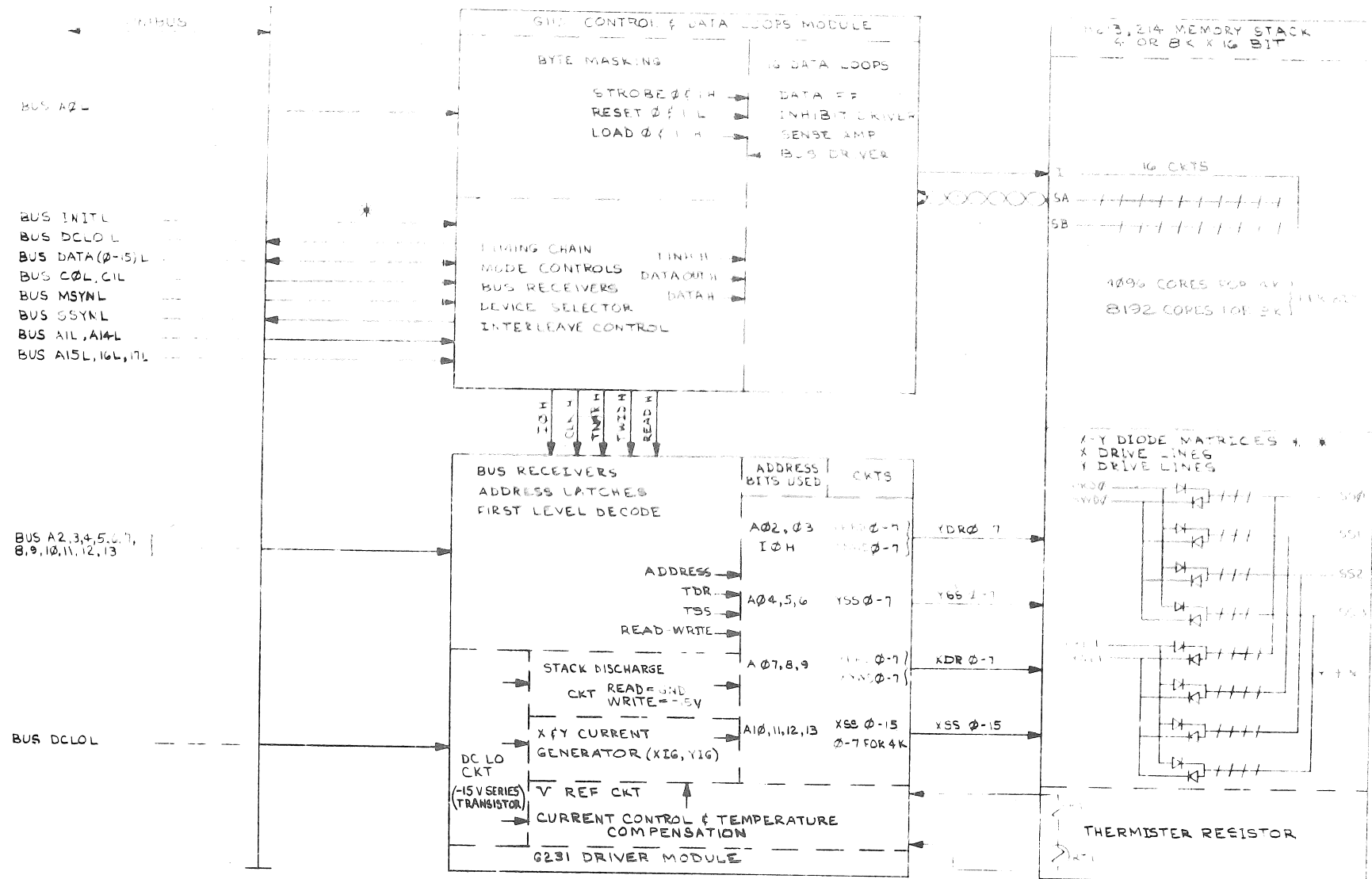
TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
MEMORY	2	3	B	DD	MM11-S	K

[illegible]

THESE 2 SLOTS ARE UNIBUS WIRED ON ALL 4 CONNECTORS

SLOT A,B. WILL BE
UNIBUS CONN OR TERMINATOR
SLOT C WILL BE POWER CONN

FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO		ITEM NO
MM11-S			PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN 23berry	DATE 2/4/72	EQUIPMENT CORPORATION		
		CHK 23berry	DATE 2-4-72	MAYNARD MERRICHAMPTON		
DECIMALS	ANGLES	ENG	DATE	TITLE MODULE UTILIZATION		
INR - 005	± 0° 30'	PROJ ENG	DATE			
IN - 02		PROD	DATE			
REMOVE BURRS AND BREAK - ✓ CORNERS SURFACE QUALITY		PROJ	DATE			
MATERIAL		NEXT HIGHER ASSY				
//		B-DD-MM11-S		SIZE CODE	NUMBER	REV
FINISH		SCALE		DMU MM11-S-1		
//		SHEET 1 OF 1		DST		



NOTES:
 * 1. ALL ARROWS SHOW SIGNAL FLOW DIRECTION.
 * 2. MATRIX SHOWN IS FOR ILLUSTRATION ONLY.
 * 3. TOTAL MATRIX HAS Y AXIS 8PRD, 8K, 8K, X AXIS 4L, 8K, 8K, 8K, X AXIS 8L, 8K, 8K, 8K.

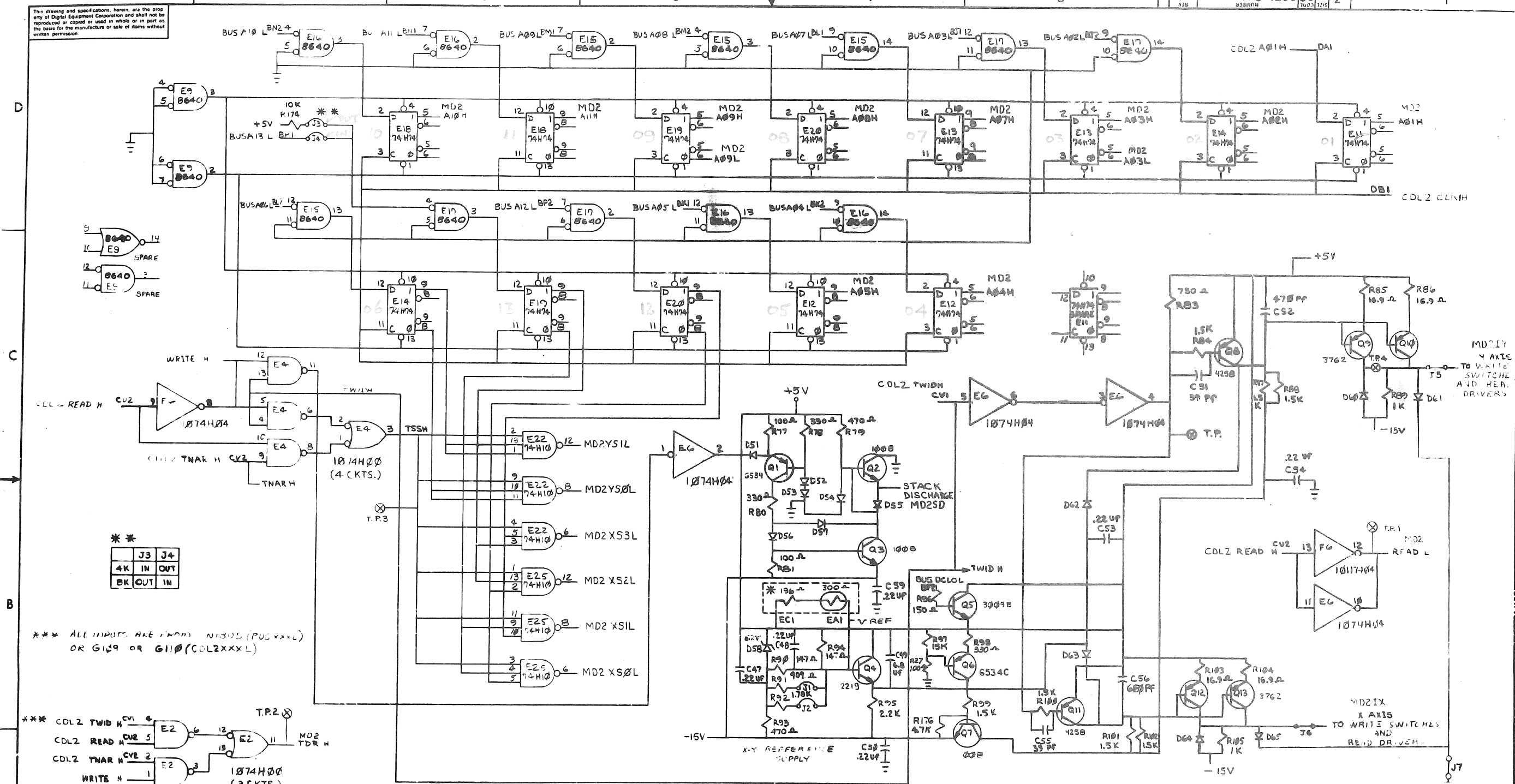
FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO.	ITEM NO.
MMII-S					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION MATTHAM, MASSACHUSETTS	
DECIMALS		CHK'D	DATE		
ANGLES		ENG.	DATE		
X.XX - .005		PROJ ENG	DATE		
XX - .02		PROD	DATE	TITLE BLOCK DIAGRAM	
X - .1					
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY					
MATERIAL					
NEXT HIGHER ASSY				SIZE CODE NUMBER REV	
FINISH					
SCALE					
SHEET 1 OF 2					

REV
 MMII-S-2
 DBD

MEMORY BANK	MACHINE ADDRESS	A1 A13	A5 A13	A6 A14 OR A01	A4 A15	A3 A16	A2 A17	A0 A18	A1 A19
0 4K	000000 017776	IN	IN	IN	IN	IN	IN		
1 4K	020000 037776		OUT	IN	IN	IN	IN		
2 4K	040000 057776		IN	OUT	IN	IN	IN		
3 4K	060000 077776		OUT	OUT	IN	IN	IN		
4 4K	080000 097776		IN	IN	OUT	IN	IN		
5 4K	100000 117776		OUT	IN	OUT	IN	IN		
6 4K	120000 137776		IN	OUT	OUT	IN	IN		
7 4K	140000 157776		OUT	OUT	OUT	IN	IN		
8 4K	160000 177776		IN	IN	IN	OUT	IN		
9 4K	180000 197776		OUT	IN	IN	OUT	IN		
10 4K	200000 217776		IN	OUT	IN	OUT	IN		
11 4K	220000 237776		OUT	OUT	IN	OUT	IN		
12 4K	240000 257776		IN	IN	OUT	IN	IN		
13 4K	260000 277776		OUT	OUT	IN	OUT	IN		
14 4K	280000 297776		IN	IN	OUT	IN	IN		
15 4K	300000 317776		OUT	IN	OUT	OUT	IN		
16 4K	320000 337776		IN	IN	OUT	OUT	IN		
17 4K	340000 357776		OUT	OUT	OUT	OUT	IN		
18 4K	360000 377776		IN	IN	IN	IN	OUT		
19 4K	380000 397776		OUT	IN	IN	IN	OUT		
20 4K	400000 417776		IN	OUT	IN	IN	OUT		
21 4K	420000 437776		OUT	OUT	IN	IN	OUT		
22 4K	440000 457776		IN	OUT	IN	IN	OUT		
23 4K	460000 477776		OUT	OUT	IN	IN	OUT		
24 4K	480000 497776		IN	IN	OUT	IN	OUT		
25 4K	500000 517776		OUT	IN	OUT	IN	OUT		
26 4K	520000 537776		IN	OUT	OUT	IN	OUT		
27 4K	540000 557776		OUT	OUT	OUT	IN	OUT		
28 4K	560000 577776		IN	IN	IN	OUT	OUT		
29 4K	580000 597776		OUT	IN	IN	OUT	OUT		
30 4K	600000 617776		IN	OUT	IN	OUT	OUT		
31 4K	620000 637776		OUT	IN	IN	OUT	OUT		
32 4K	640000 657776		IN	OUT	IN	OUT	OUT		
33 4K	660000 677776		OUT	OUT	IN	OUT	OUT		
34 4K	680000 697776		IN	IN	OUT	OUT	OUT		
35 4K	700000 717776		OUT	IN	OUT	OUT	OUT		
36 4K	720000 737776		IN	IN	OUT	OUT	OUT		
37 4K	740000 757776		OUT	OUT	OUT	OUT	OUT		
38 4K	760000 777776		IN	OUT	OUT	OUT	OUT		
39 4K	780000 797776		OUT	OUT	OUT	OUT	OUT		
40 4K	800000 817776		IN	IN	OUT	OUT	OUT		
41 4K	820000 837776		OUT	IN	OUT	OUT	OUT		
42 4K	840000 857776		IN	OUT	OUT	OUT	OUT		
43 4K	860000 877776		OUT	OUT	OUT	OUT	OUT		
44 4K	880000 897776		IN	IN	OUT	OUT	OUT		
45 4K	900000 917776		OUT	OUT	OUT	OUT	OUT		
46 4K	920000 937776		IN	IN	OUT	OUT	OUT		
47 4K	940000 957776		OUT	OUT	OUT	OUT	OUT		
48 4K	960000 977776		IN	IN	OUT	OUT	OUT		
49 4K	980000 997776		OUT	OUT	OUT	OUT	OUT		
50 4K	1000000 1017776		IN	IN	OUT	OUT	OUT		
51 4K	1020000 1037776		OUT	OUT	OUT	OUT	OUT		
52 4K	1040000 1057776		IN	IN	OUT	OUT	OUT		
53 4K	1060000 1077776		OUT	OUT	OUT	OUT	OUT		
54 4K	1080000 1097776		IN	IN	OUT	OUT	OUT		
55 4K	1100000 1117776		OUT	OUT	OUT	OUT	OUT		
56 4K	1120000 1137776		IN	IN	OUT	OUT	OUT		
57 4K	1140000 1157776		OUT	OUT	OUT	OUT	OUT		
58 4K	1160000 1177776		IN	IN	OUT	OUT	OUT		
59 4K	1180000 1197776		OUT	OUT	OUT	OUT	OUT		
60 4K	1200000 1217776		IN	IN	OUT	OUT	OUT		
61 4K	1220000 1237776		OUT	OUT	OUT	OUT	OUT		
62 4K	1240000 1257776		IN	IN	OUT	OUT	OUT		
63 4K	1260000 1277776		OUT	OUT	OUT	OUT	OUT		
64 4K	1280000 1297776		IN	IN	OUT	OUT	OUT		
65 4K	1300000 1317776		OUT	OUT	OUT	OUT	OUT		
66 4K	1320000 1337776		IN	IN	OUT	OUT	OUT		
67 4K	1340000 1357776		OUT	OUT	OUT	OUT	OUT		
68 4K	1360000 1377776		IN	IN	OUT	OUT	OUT		
69 4K	1380000 1397776		OUT	OUT	OUT	OUT	OUT		
70 4K	1400000 1417776		IN	IN	OUT	OUT	OUT		
71 4K	1420000 1437776		OUT	OUT	OUT	OUT	OUT		
72 4K	1440000 1457776		IN	IN	OUT	OUT	OUT		
73 4K	1460000 1477776		OUT	OUT	OUT	OUT	OUT		
74 4K	1480000 1497776		IN	IN	OUT	OUT	OUT		
75 4K	1500000 1517776		OUT	OUT	OUT	OUT	OUT		
76 4K	1520000 1537776		IN	IN	OUT	OUT	OUT		
77 4K	1540000 1557776		OUT	OUT	OUT	OUT	OUT		
78 4K	1560000 1577776		IN	IN	OUT	OUT	OUT		
79 4K	1580000 1597776		OUT	OUT	OUT	OUT	OUT		
80 4K	1600000 1617776		IN	IN	OUT	OUT	OUT		
81 4K	1620000 1637776		OUT	OUT	OUT	OUT	OUT		
82 4K	1640000 1657776		IN	IN	OUT	OUT	OUT		
83 4K	1660000 1677776		OUT	OUT	OUT	OUT	OUT		
84 4K	1680000 1697776		IN	IN	OUT	OUT	OUT		
85 4K	1700000 1717776		OUT	OUT	OUT	OUT	OUT		
86 4K	1720000 1737776		IN	IN	OUT	OUT	OUT		
87 4K	1740000 1757776		OUT	OUT	OUT	OUT	OUT		
88 4K	1760000 1777776		IN	IN	OUT	OUT	OUT		
89 4K	1780000 1797776		OUT	OUT	OUT	OUT	OUT		
90 4K	1800000 1817776		IN	IN	OUT	OUT	OUT		
91 4K	1820000 1837776		OUT	OUT	OUT	OUT	OUT		
92 4K	1840000 1857776		IN	IN	OUT	OUT	OUT		
93 4K	1860000 1877776		OUT	OUT	OUT	OUT	OUT		
94 4K	1880000 1897776		IN	IN	OUT	OUT	OUT		
95 4K	1900000 1917776		OUT	OUT	OUT	OUT	OUT		
96 4K	1920000 1937776		IN	IN	OUT	OUT	OUT		
97 4K	1940000 1957776		OUT	OUT	OUT	OUT	OUT		
98 4K	1960000 1977776		IN	IN	OUT	OUT	OUT		
99 4K	1980000 1997776		OUT	OUT	OUT	OUT	OUT		
100 4K	2000000 2017776		IN	IN	OUT	OUT	OUT		
101 4K	2020000 2037776		OUT	OUT	OUT	OUT	OUT		
102 4K	2040000 2057776		IN	IN	OUT	OUT	OUT		
103 4K	2060000 2077776		OUT	OUT	OUT	OUT	OUT		
104 4K	2080000 2097776		IN	IN	OUT	OUT	OUT		
105 4K	2100000 2117776		OUT	OUT	OUT	OUT	OUT		
106 4K	2120000 2137776		IN	IN	OUT	OUT	OUT		
107 4K	2140000 2157776		OUT	OUT	OUT	OUT	OUT		
108 4K	2160000 2177776		IN	IN	OUT	OUT	OUT		
109 4K	2180000 2197776		OUT	OUT	OUT	OUT	OUT		
110 4K	2200000 2217776		IN	IN	OUT	OUT	OUT		
111 4K	2220000 2237776		OUT	OUT	OUT	OUT	OUT		
112 4K	2240000 2257776		IN	IN	OUT	OUT	OUT		
113 4K	2260000 2277776		OUT	OUT	OUT	OUT	OUT		
114 4K	2280000 2297776		IN	IN	OUT	OUT	OUT		
115 4K	2300000 2317776		OUT	OUT	OUT	OUT	OUT		
116 4K	2320000 2337776		IN	IN	OUT	OUT	OUT		
117 4K	2340000 2357776		OUT	OUT	OUT	OUT	OUT		
118 4K	2360000 2377776		IN	IN	OUT	OUT	OUT		
119 4K	2380000 2397776		OUT	OUT	OUT	OUT	OUT		
120 4K	2400000 2417776		IN	IN	OUT	OUT	OUT		
121 4K	2420000 2437776		OUT	OUT	OUT	OUT	OUT		
122 4K	2440000 2457776		IN	IN	OUT	OUT	OUT		
123 4K	2460000 2477776		OUT	OUT	OUT	OUT	OUT		
124 4K	2480000 2497776		IN	IN	OUT	OUT	OUT		
125 4K	2500000 2517776		OUT	OUT	OUT	OUT	OUT		
126 4K	2520000 2537776		IN	IN	OUT	OUT	OUT		
127 4K	2540000 2557776		OUT	OUT	OUT	OUT	OUT		
128 4K	2560000 2577776		IN	IN	OUT	OUT	OUT		
129 4K	2580000 2597776		OUT	OUT	OUT	OUT	OUT		
130 4K	2600000 2617776		IN	IN	OUT	OUT	OUT		
131 4K	2620000 2637776		OUT	OUT	OUT	OUT	OUT		
132 4K	2640000 2657776		IN	IN	OUT	OUT	OUT		
133 4K	2660000 2677776		OUT	OUT	OUT	OUT	OUT		
134 4K	2680000 2697776		IN	IN	OUT	OUT	OUT		
135 4K	2700000 2717776		OUT	OUT	OUT	OUT	OUT		
136 4K	2720000 2737776		IN	IN	OUT	OUT	OUT		
137 4K	2740000 2757776		OUT	OUT	OUT	OUT	OUT		
138 4K	2760000 2777776		IN	IN	OUT	OUT	OUT		
139 4K	2780000 2797776		OUT	OUT	OUT	OUT	OUT		
140 4K	2800000 2817776		IN	IN	OUT	OUT	OUT		
141 4K	2820000 2837776		OUT	OUT	OUT	OUT	OUT		
142 4K	2840000 2857776		IN	IN	OUT	OUT	OUT		
143 4K	2860000 2877776		OUT	OUT	OUT	OUT	OUT		
144 4K	2880000 2897776		IN	IN	OUT	OUT	OUT		
145 4K	2900000 2917776		OUT	OUT	OUT	OUT	OUT		
146 4K	2920000 2937776		IN	IN	OUT	OUT	OUT		
147 4K	2940000 2957776		OUT	OUT	OUT	OUT	OUT		
148 4K	2960000 2977776		IN	IN	OUT	OUT	OUT		
149 4K	2980000 2997776		OUT	OUT	OUT	OUT	OUT		
150 4K	3000000 3017776		IN	IN	OUT	OUT	OUT		
151 4K	3020000 3037776		OUT	OUT	OUT	OUT	OUT		
152 4K	3040000 3057776		IN	IN	OUT	OUT	OUT		
153 4K	3060000 3077776		OUT	OUT	OUT	OUT	OUT		
154 4K	3080000 3097776		IN	IN	OUT	OUT	OUT		
155 4K	3100000 3117776		OUT	OUT	OUT	OUT	OUT		
156 4K	3120000 3137776		IN	IN	OUT	OUT	OUT		
157 4K	3140000 3157776		OUT	OUT	OUT	OUT	OUT		
158 4K	3160000 3177776		IN	IN	OUT	OUT	OUT		
159 4K	3180000 3197776		OUT	OUT					

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1-0-1329520 2



J3	J4
4K	IN OUT
BK	OUT IN

*** ALL INPUTS ARE FROM NIBUS (PUSXXXL) OR G159 OR G110 (COL2XXXL)

*** COL2 TWID H CV1 4
COL2 READ H CV2 5
COL2 TNAK H CV2 2
WRITE H 1

T.P.2

MD2 TDR H

1074H04 (3 CKTS.)

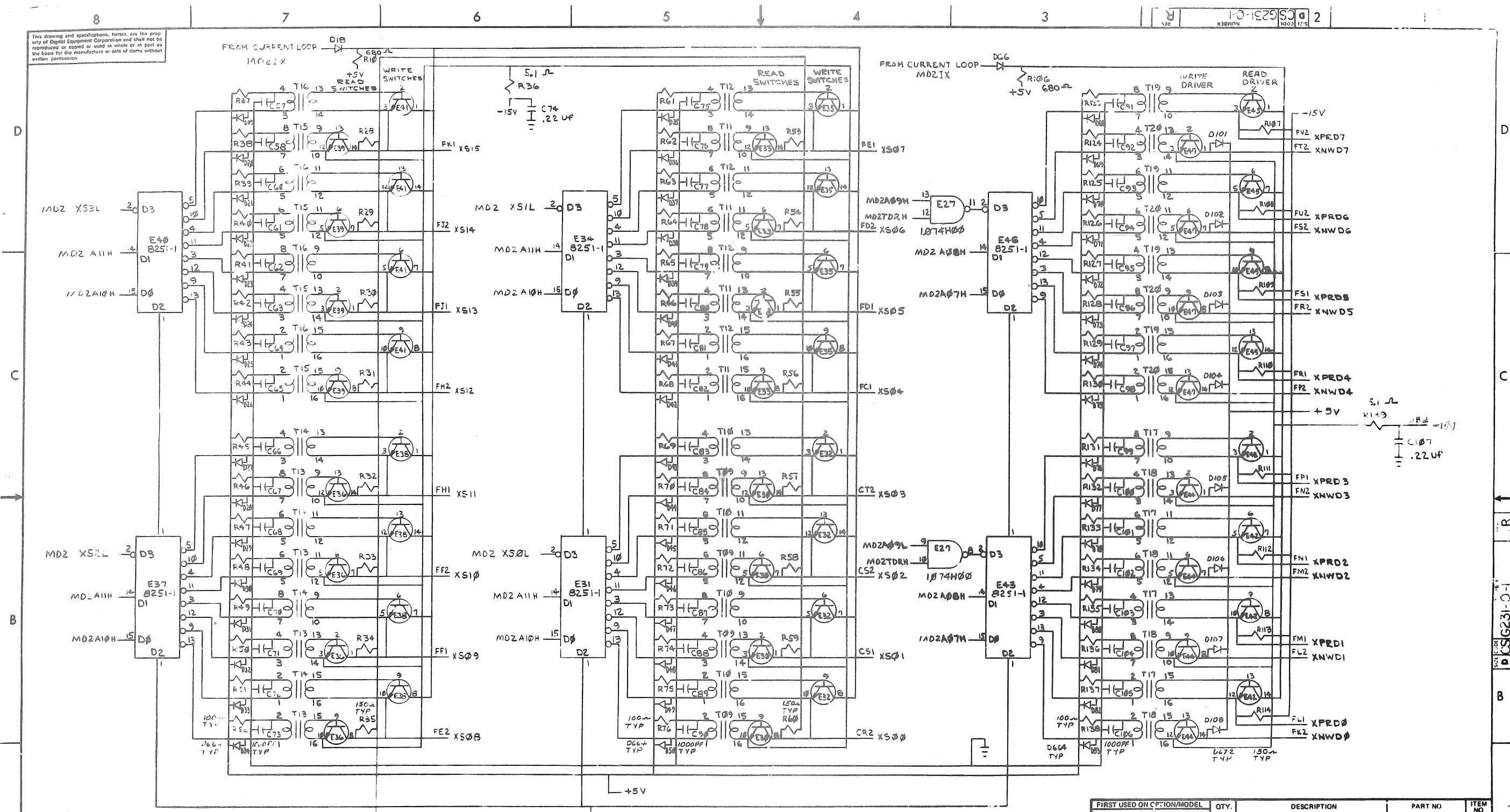
* THIS CIRCUIT IS ON STACK BOARD

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.								
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES <table border="1"> <tr> <th>DECIMALS</th> <th>ANGLES</th> </tr> <tr> <td>XXX - 0.05</td> <td>10° 30'</td> </tr> <tr> <td>XX - 0.2</td> <td></td> </tr> <tr> <td>X - 1</td> <td></td> </tr> </table> REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY MATERIAL FINISH					DECIMALS	ANGLES	XXX - 0.05	10° 30'	XX - 0.2		X - 1	
DECIMALS	ANGLES											
XXX - 0.05	10° 30'											
XX - 0.2												
X - 1												
DATE 9-29-71 DATE 1-25-72 DATE 1-25-72 DATE 1-25-72 PROJ. ENG. P.D.W. mlt PROD. R.P.H. mlt DATE 1-25-72												
PCP-11 MEMORY DRIVER												
SIZE CODE NUMBER REV. DCS G231-0-1 R												
SHEET 2 OF 4												

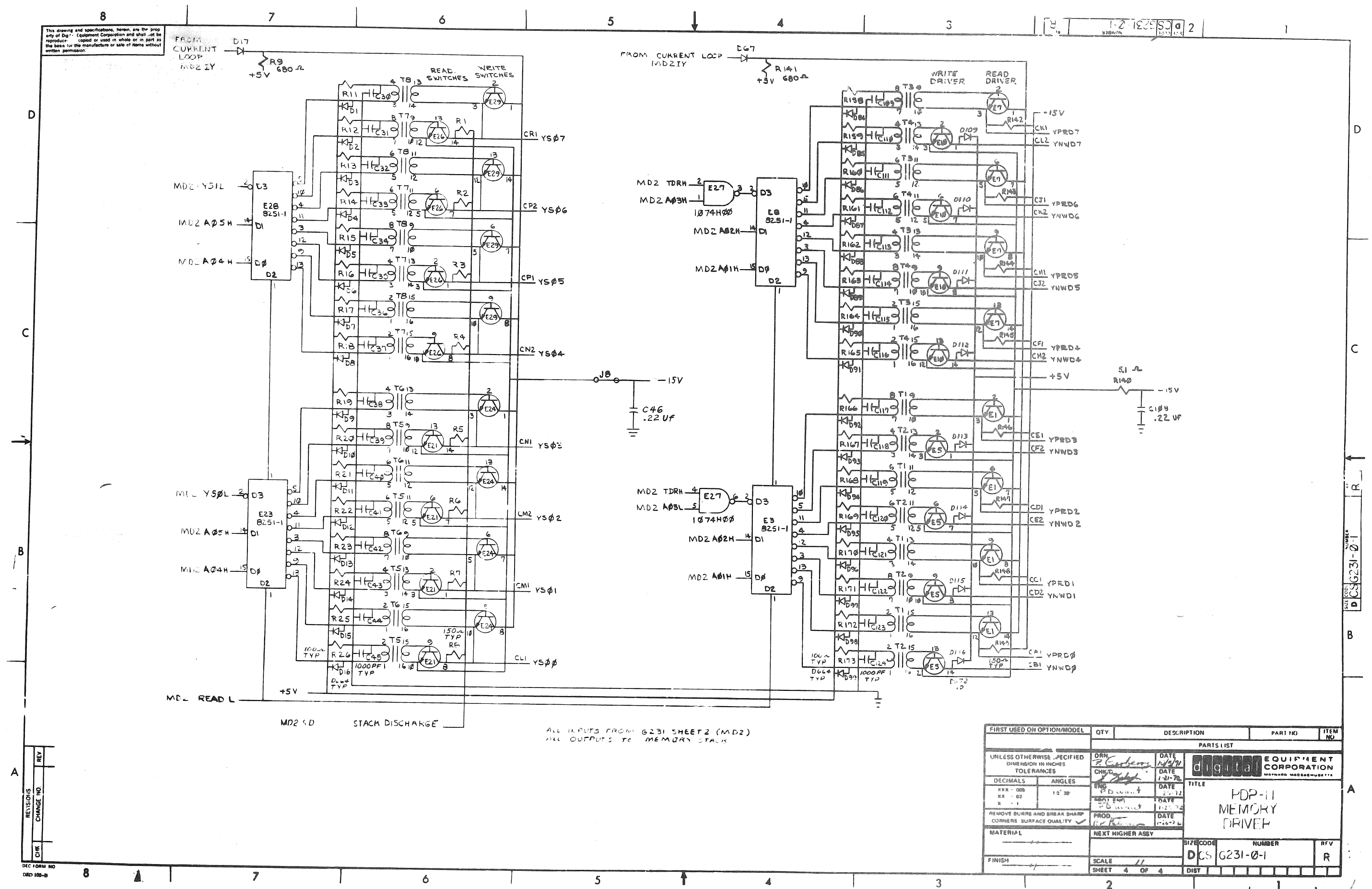
REV.	VS.	CHK.	NO.
1			

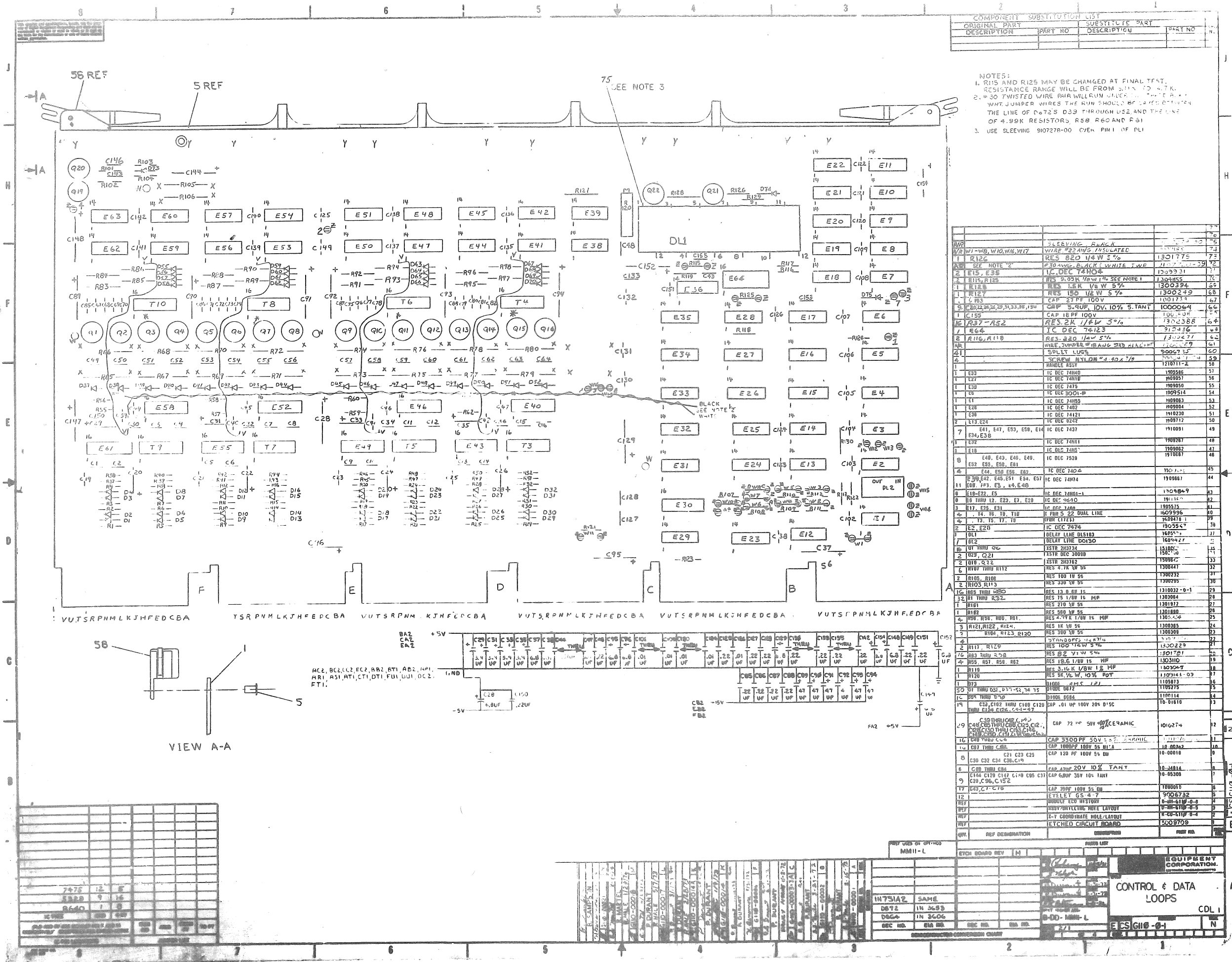
DEC FORM NO. 8

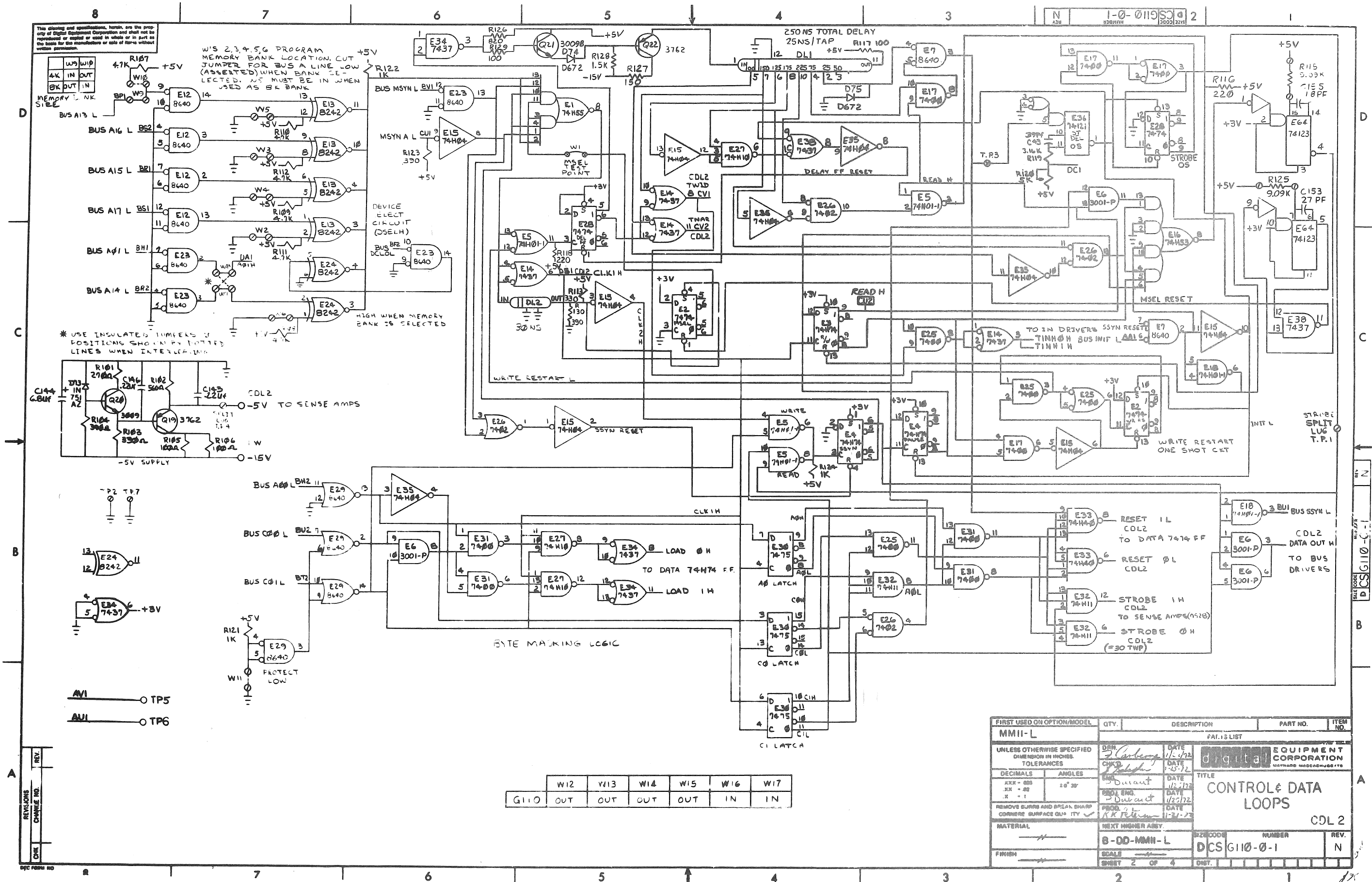
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FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN 10-1-71	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		CHKD 1-21-72	DATE	TITLE	
ANGLES		ENG. 1-25-72	DATE	PDP-11 MEMORY DRIVER	
.XXX = .005		PROJ. ENG. 1-25-72	DATE	SIZE CODE	
.XX = .02		PROD. 1-26-72	DATE	NUMBER	
.X = .1				REV.	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				DCS G231-0-1	
MATERIAL				SHEET 3 OF 4	
FINISH				DIST.	





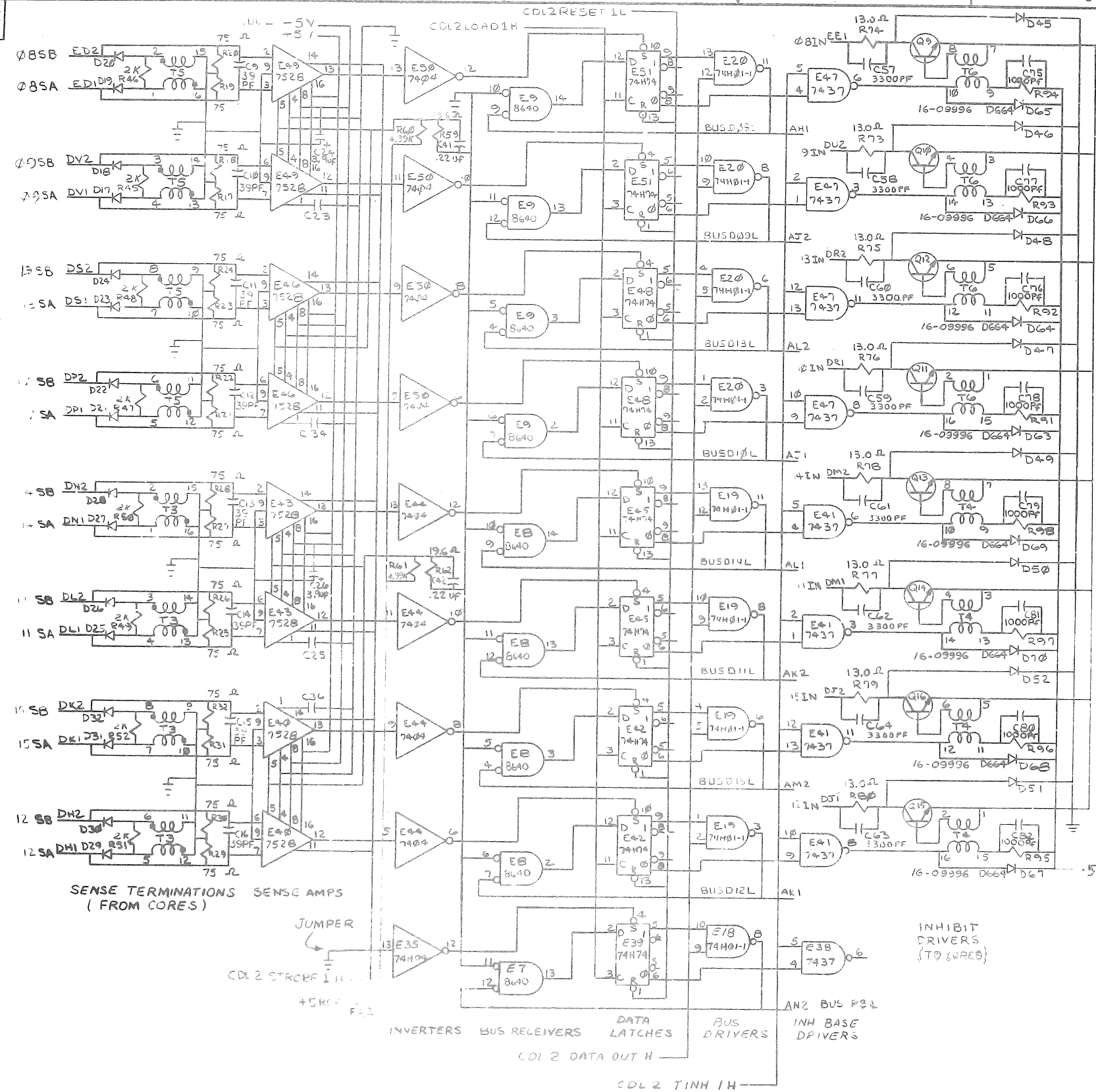


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N 1-0-0119 2 1

NOTE

1 ALL SIGNALS FROM UNIBUS (BUS DCL-DISL)
SHEET 2 (CDL2) OR STACK (28-A, B TO
15.5A B AND 08IN TO 15IN)



SENSE TERMINATIONS SENSE AMPS
(FROM CORES)

JUMPER

CDL2 STROBE 1H

INVERTERS BUS RECEIVERS DATA LATCHES BUS DRIVERS

CDL2 DATA OUT H

CDL2 TINH 1H

INHIBIT DRIVERS
(TO CORES)

INH BASE DRIVERS

AN2 BUS PCL

REVISIONS
CHANGE NO.
CHK

DEC FORM NO
DND 102-B

FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO	REV	
MMII-L						
PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES			DRN 2.75 CHK'D 1/27/72 1/28/72	DATE 1/27/72 1/28/72	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	ANGLES	ENG	DATE	TITLE		
XXX - .05 XX - .02 X - .01	± 0° 30'	DATE	DATE	CONTROL & DATA LOOPS		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROJ ENG	DATE			
MATERIAL		PROD.	DATE			
NEXT HIGHER ASSY.		CDL 4				
B-DD-MMII-L		SIZE CODE	NUMBER	REV.		
FINISH		DCS	G110-0-1	N		
SCALE						
SHEET + OF +						
DIST						



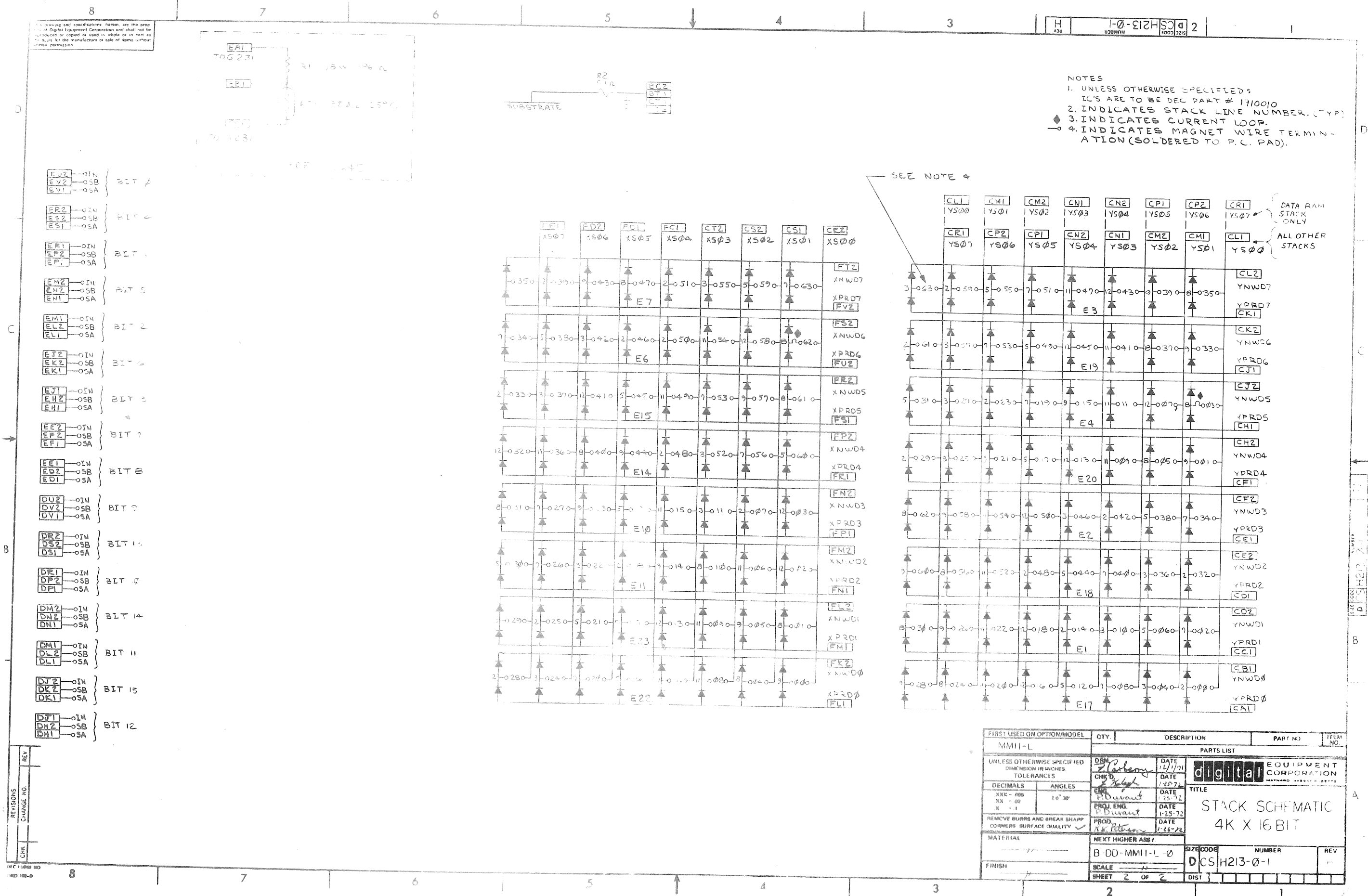
NOTES:
1. ALL COMPONENT LEADS TO BE
LESS THAN 1/16 INCHES LONG
ON SIDE TWO OF MODULE

* COMPONENT SUBSTITUTION LIST					
MODULE	ORIGINAL PART		SUBSTITUTE PART		ITEM NO
	DESCRIPTION	PART NO	DESCRIPTION	PART NO	
H213	2501-00 IC DIODE	1910010-00	2501-01 IC DIODE	1910010-01	2
H213	2501-00 IC DIODE	1910010-00	2501-03 IC DIODE	1910010-03	2
H213	2501-00 IC DIODE	1910010-00	2501-02 IC DIODE	1910010-02	2

LEGEND	
MODULE CONN.	BACK PANEL LOCATION
A	C
B	D
C	E
D	F

1	RT1	THERMISTOR 300 2%	1309785	15
1	R2	RESISTOR 5.1 1/4W 5%	1309422	15
1	R1	RESISTOR 196 1/8W 1%	1302956	14
8		EYELET	3006732	13
4		HANDLE, GREEN	8009337-01	12
1		NAME PLATE	9009238	11
2		JUMPER	4009239	10
16		4096-CORE MATS (STRUNG)	DIRM1-75	9
				8
10		SCREW, NYLON FLUSTERHC#40X19 LG	9009233	7
10		SCREW, F.H. NYLON #4-40X19 LG	9009234	6
10		STANDOFF, THREADED#4-40 1/2 IN LG	9009237	5
1		SUBSTRATE	55-10296	4
1		COVER PLATE	55-10201-02	3
	E14,E15,E17-E20,E22,E23	I.C. DIODE 2501	1910010 *	2
16	E1-E4, E6, E7, E10, E11,	PLANER MEMORY BOARD	5009713	1
REV.	REF DESIGNATION	DESCRIPTION	PART NO.	

[illegible][illegible]



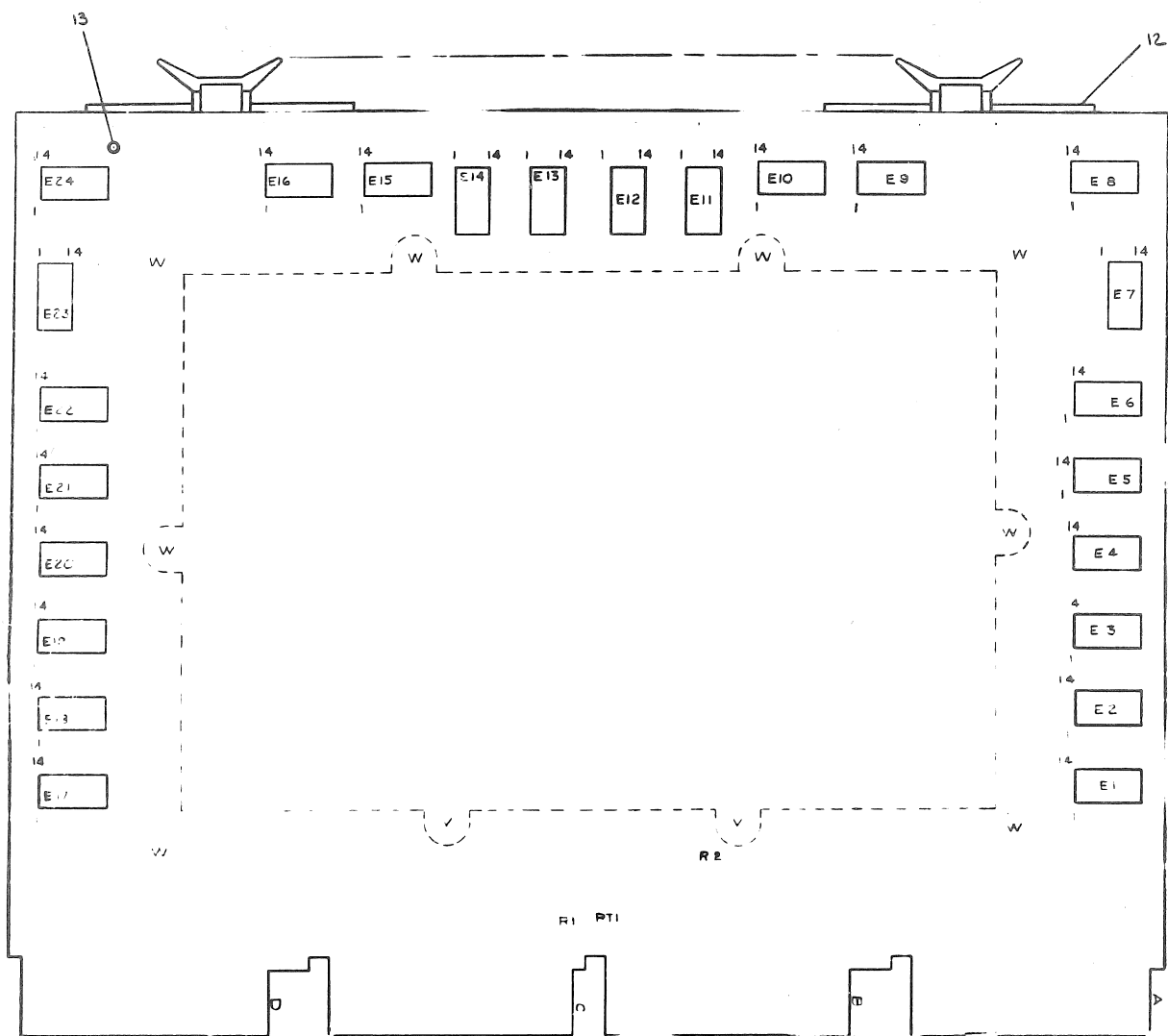
1. ALL COMPONENT LEADS TO BE LESS THAN 1/16 INCHES LONG ON SIDE TWO OF MODULE

NOTES:

1. ALL COMPONENT LEADS TO BE LESS THAN 1/16 INCHES LONG ON SIDE TWO OF MODULE

MODULES	COMPONENT SUBSTITUTION LIST			
	ORIGINAL PART	DESCRIPTION	SUBSTITUTE	PART NO.
H214, H215, H216	2501-00 - 3 sec	19 10010-00	2501-01	13 10010-00
H214, H215, H216	2501-00 - diode	19 10010-00	2501-02	13 10010-00
H214	2501-00 - diode	19 10010-00	2501-03	13 10010-00

2. FOR AMPEX STACKS H214, H215, AND H216, THE CORE TYPE 324-1899, R1 SHOULD BE 12-1899



LEGEND	
MODULE CONN.	BACK PANEL LOCATION
A	C
B	D
C	E
D	F

SEE NOTE 1

SIDE TWO

SIDE ONE

QTY	QTY	REF	DESCRIPTION	PART NO.
1	1	R1	THERMISTOR 300 2%	130978F
1	1	R2	RESISTOR 51.14W 5%	130942Z
1	1	R3 (SEE NOTE 2)	RESISTOR 19.18W 5%	13 2956
8	8		EYELET	300673Z
4	4		4-1/2" GREEN	3006337-0-1
2	2		TUMBLER	13 10010-00
1	1		PLATE PLATE	13 10010-00
1	1		BI92-CORE MATS (STRUNG)	13 10010-00
10	10		SCREW NYLON FIL STEEL 4-40 X 1/2 LG	3109213
10	10		SCREW FLAT HEAD NYLON 4-40 X 1/2 LG	3109214
10	10		STANDOFF - HEATED 4-40 X 1/2 LG	3109217
1	1		SUBSTRATE	50-1122
1	1		COVER PLATE	50-1021-1-2
24	24	E1 THRU E24	I.C. DIODE 2501	19-10010
1	1		PLANNER MEMORY BOARD	5009713

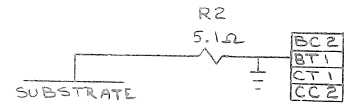
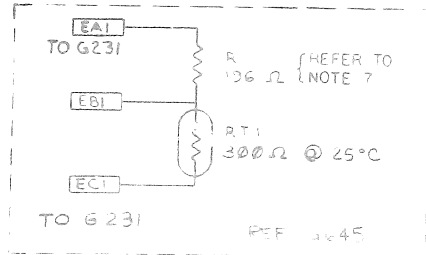
QTY	QTY	REF	DESCRIPTION	PART NO.
1	1	R1	THERMISTOR 300 2%	130978F
1	1	R2	RESISTOR 51.14W 5%	130942Z
1	1	R3 (SEE NOTE 2)	RESISTOR 19.18W 5%	13 2956
8	8		EYELET	300673Z
4	4		4-1/2" GREEN	3006337-0-1
2	2		TUMBLER	13 10010-00
1	1		PLATE PLATE	13 10010-00
1	1		BI92-CORE MATS (STRUNG)	13 10010-00
10	10		SCREW NYLON FIL STEEL 4-40 X 1/2 LG	3109213
10	10		SCREW FLAT HEAD NYLON 4-40 X 1/2 LG	3109214
10	10		STANDOFF - HEATED 4-40 X 1/2 LG	3109217
1	1		SUBSTRATE	50-1122
1	1		COVER PLATE	50-1021-1-2
24	24	E1 THRU E24	I.C. DIODE 2501	19-10010
1	1		PLANNER MEMORY BOARD	5009713

QTY	QTY	REF	DESCRIPTION	PART NO.
1	1	R1	THERMISTOR 300 2%	130978F
1	1	R2	RESISTOR 51.14W 5%	130942Z
1	1	R3 (SEE NOTE 2)	RESISTOR 19.18W 5%	13 2956
8	8		EYELET	300673Z
4	4		4-1/2" GREEN	3006337-0-1
2	2		TUMBLER	13 10010-00
1	1		PLATE PLATE	13 10010-00
1	1		BI92-CORE MATS (STRUNG)	13 10010-00
10	10		SCREW NYLON FIL STEEL 4-40 X 1/2 LG	3109213
10	10		SCREW FLAT HEAD NYLON 4-40 X 1/2 LG	3109214
10	10		STANDOFF - HEATED 4-40 X 1/2 LG	3109217
1	1		SUBSTRATE	50-1122
1	1		COVER PLATE	50-1021-1-2
24	24	E1 THRU E24	I.C. DIODE 2501	19-10010
1	1		PLANNER MEMORY BOARD	5009713

STACK SCHEMATIC
H214 8K X 16BIT
H215 8K X 16BIT
H216 8K X 16BIT

ECS H214-0-1

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7: FOR AMPEX STACKS H214,
H215, AND H216 WITH CORE
TYPE 324-1899, R1 SHOULD
BE 121 OHMS.

1. UNLESS OTHERWISE SPECIFIED:
IC'S E1-E24 ARE TO BE DEC PART # 1410-10

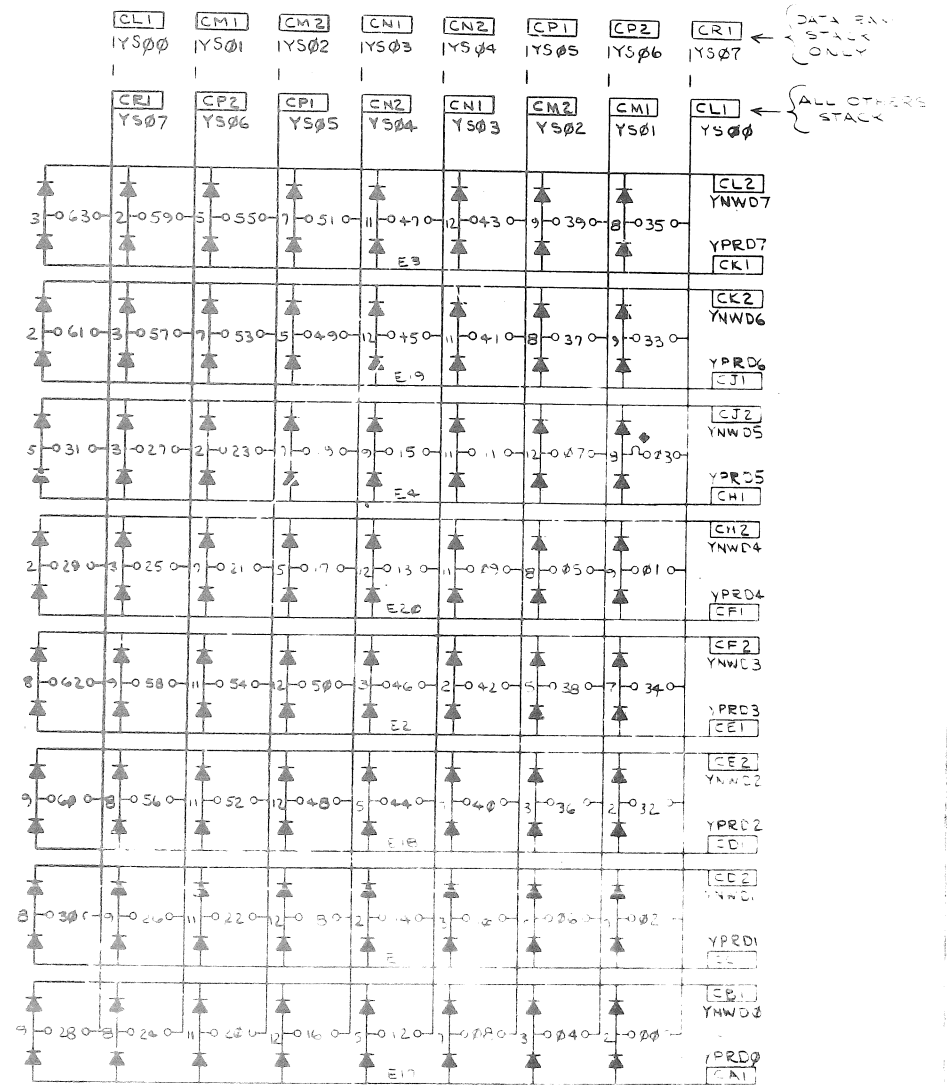
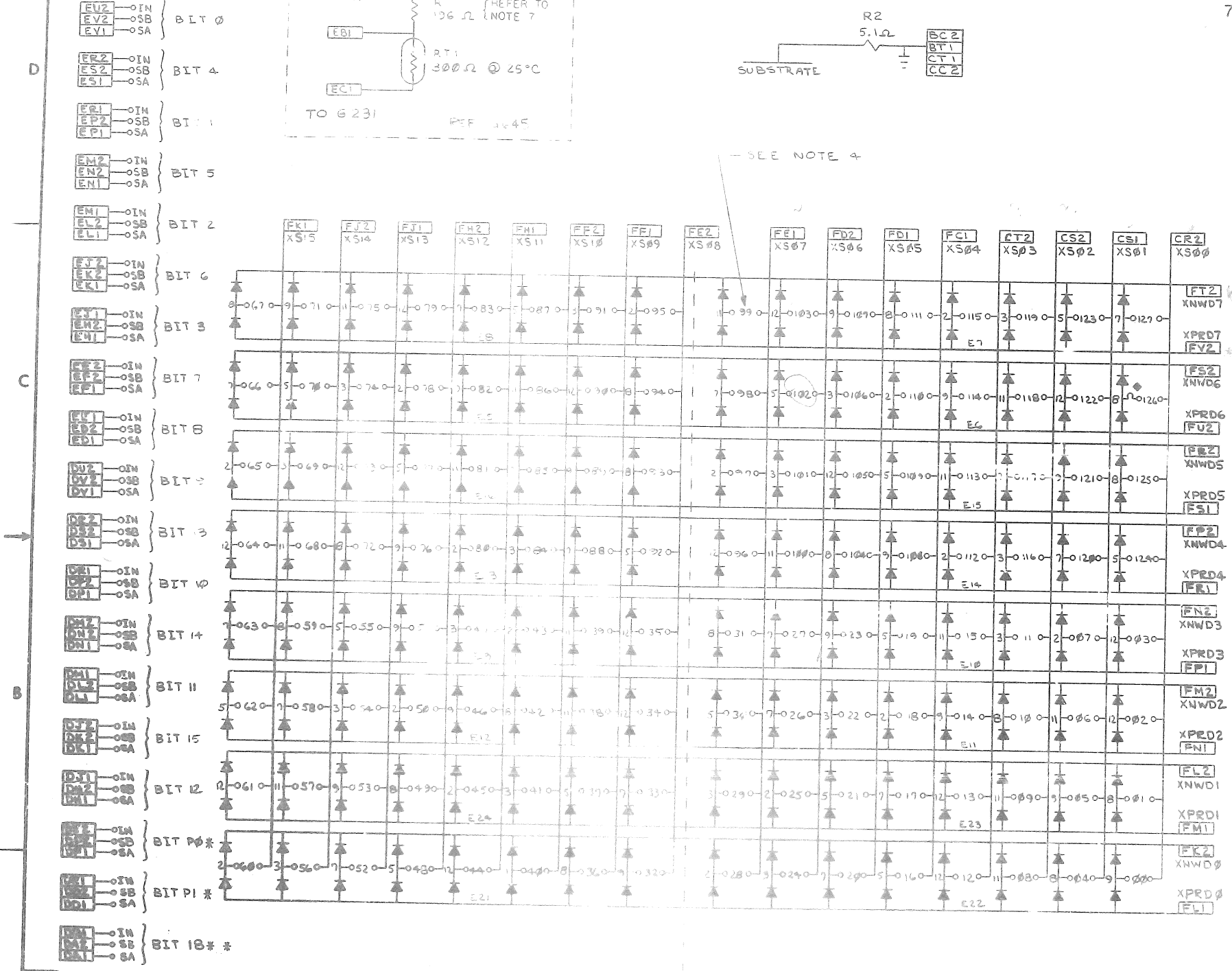
2. INDICATES STACK LINE NUMBER. (TYPE)

3. INDICATES CURRENT LOOP

4. INDICATES MAGNET WIRE TERMINATION (DEDERED TO PC. PAD).

5. FOR H215 & H216 ONLY. PΦ=PA, P1=P2

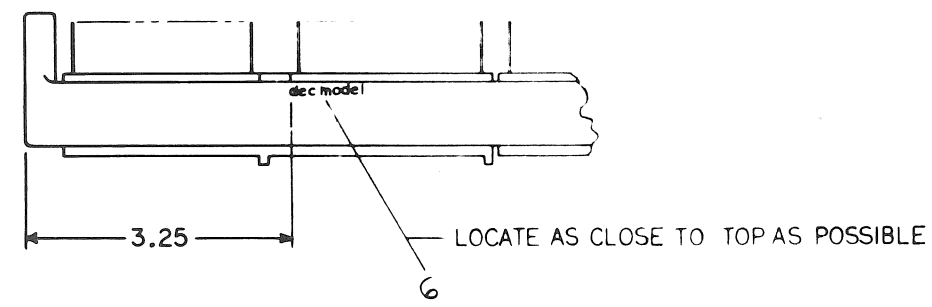
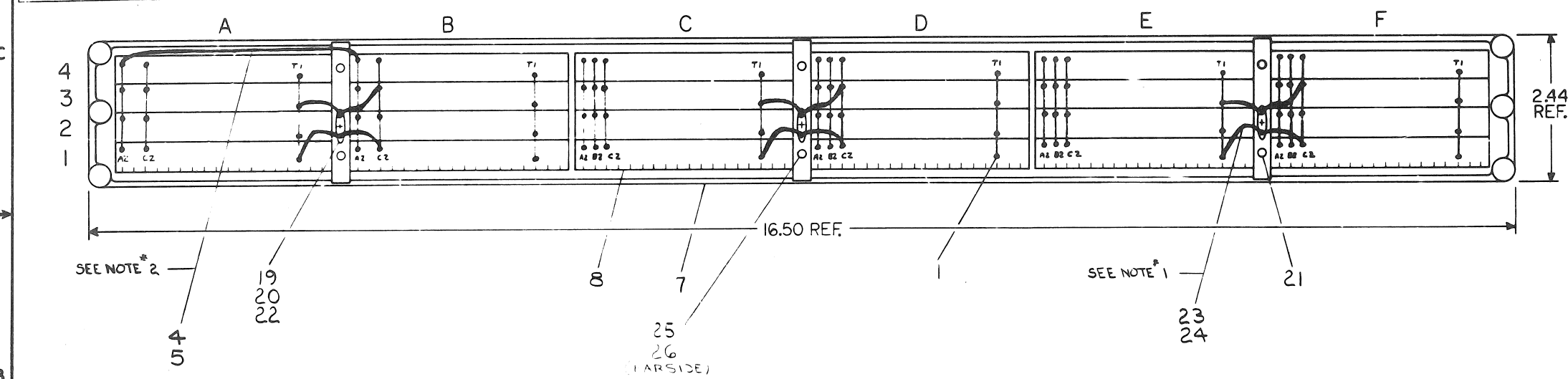
6. FOR H216 ONLY



FIRST USED ON OPTION MODEL		QTY	DESCRIPTION	PART NO	REV NO
MMII-L		PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN P. <i>Barney</i>	DATE 11/22/71	digital EQUIPMENT CORPORATION NORFOLK, MASSACHUSETTS	
		CHKD P. <i>Barney</i>	DATE 12-5-72		
DECIMALS	ANGLES	ENG. P. <i>Barney</i>	DATE 2-5-72	TITLE STACK SCHEMATIC	
XXX - .000	1 9' 30"	PROJ. ENG. P. <i>Barney</i>	DATE 12-5-72	(H214-8K X 16 BIT)	
XX - .02		PROD. P. <i>Barney</i>	DATE 1-26-72	(H215-8K X 18 BIT)	
X - .1				(H216-8K X 18 BIT)	
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY ☒		NEXT HIGHER ASSY.			
MATERIAL		B-BU-MMII-L-L-0		SIZE CODE	NUMBER
				DCS	H214-0-1
FINISH		SCALE	1/2"		
		SHEET	2 OF 2	DWG.	

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SIGNAL NAME	FROM PIN	TO PIN	COLOR	REMARKS	SIGNAL NAME	FROM PIN	TO PIN	COLOR	REMARKS	SIGNAL NAME	FROM PIN	TO PIN	COLOR	REMARKS
+5V	A4A2	B4A2	RED	SEE NOTE 2	QSA	E1V1	E3V1	RED	SEE NOTE 3	QSA	D1V1	D3V1	RED	SEE NOTE 3
	A01A2	B01A2	RED		QSB	E1V2	E3V2	WHT		QSB	D1V2	D3V2	WHT	
	B04A2	C04A2	RED		1SA	E1P1	E3P1	RED		1QSA	D1P1	D3P1	RED	
	B01A2	C01A2	RED		1SB	E1P2	E3P2	WHT		1QSB	D1P2	D3P2	WHT	
	C04L2	D04A2	RED		2SA	E1L1	E3L1	RED		11SA	D1L1	D3L1	RED	
	C04M2	E04A2	RED		2SB	E1L2	E3L2	WHT		11SB	D1L2	D3L2	WHT	
	E04A2	F04A2	RED		3SA	E1H1	E3H1	RED		12SA	D1H1	D3H1	RED	
	C01A2	D01A2	RED		3SB	E1H2	E3H2	WHT		12SB	D1H2	D3H2	WHT	
+5V	C01A2	E01A2	RED		4SA	E1S1	E3S1	RED		13SA	D1S1	D3S1	RED	
-15V	C04K1	D04B2	BLUE		4SB	E1S2	E3S2	WHT		13SB	D1S2	D3S2	WHT	
	C04L1	E04B2	BLUE		5SA	E1N1	E3N1	RED		14SA	D1N1	D3N1	RED	
	C04M1	F04B2	BLUE		5SB	E1N2	E3N2	WHT		14SB	D1N2	D3N2	WHT	
	C01B2	D01B2	BLUE		6SA	E1K1	E3K1	RED		15SA	D1K1	D3K1	RED	
-15V	C01B2	F01B2	BLUE	SEE NOTE 2	6SB	E1K2	E3K2	WHT		15SB	D1K2	D3K2	WHT	
					7SA	E1F1	E3F1	RED		PASA	D1F1	D3F1	RED	
					7SB	E1F2	E3F2	WHT		PASB	D1F2	D3F2	WHT	
					8SA	E1D1	E3D1	RED	SEE NOTE 3	P8SA	D1D1	D3D1	RED	SEE NOTE 3
					8SB	E1D2	E3D2	WHT		P8SB	D1D2	D3D2	WHT	



REV.	CHG.	NO.	DATE
A		1	7-17-73
B		2	9-24-73

NOTES:

- WIRES (ITEMS 23 & 24) FROM T1 AND C2 TO GROUND LUGS (ITEM 20) WILL BE SOLDERED AND PRESSED AS CLOSE TO THE CONNECTOR AS POSSIBLE.
- #24 AWG POWER WRAPS TO BE RUN AS SHOWN ALONG THE OUTSIDE OF THE FRAME BETWEEN THE PINS AND THE OUTSIDE EDGE OF THE FRAME.
- TWISTED PAIRS TO B* 30 AWG. ITEM 2 WRAPPED AS FOLLOWS:

QTY	DESCRIPTION	PART NO	ITEM NO
2	SCR. SPECIAL	3000070	26
1	GUIDE CENTER CARD	110698	25
A/R	TUBING #22 AWG WHITE	3107205	24
A/R	WIRE, BUS 22 AWG	3107560-1	23
6	WASHER INT TOOTH #8	3006634	22
4	SCR PIN TO PIN 3-32 X 1/8 SST	3006640	21
3	TERMINAL #2116-08-00 SH-XS	3007397	20
3	WICK -HL HD PAN 3-32 X 1/8 SST	3006035-1	19
1	DECAL (4)	8-X-5308754-1-0	8
1	DECAL (3)	8-X-5308754-0-0	17
1	DECAL (2)	8-X-5308754-0-0	16
1	DECAL (1)	8-X-5308754-0-0	15
1	DECAL (1)	8-X-5308753-1-0	14
1	DECAL (1)	8-X-5308753-0-0	13
1	DECAL (1)	8-X-5308753-0-0	12
1	DECAL (1)	8-X-5308753-0-0	11
1	DECAL (1)	8-X-5308753-0-0	10
1	DECAL (1)	8-X-5308753-0-0	9
3	288 PIN BLOCK	1210278	8
1	TEST NG. THREE BLOCK	01A7407507-0-0	7
1	LABELS, LOGIC SER NO.	A-55-7407184-0-0	6
A/R	W RE. 24 AWG SLD KYNAR INS. BLU	3107688-0-0	5
A/R	WIRE 24 AWG SLD KYNAR INS. RED	3107688-0-0	4
A/R	WIRE 24 AWG SLD KYNAR INS. WHT	3107688-0-0	3
A/R	WIRE 24 AWG SLD KYNAR INS. GRN	3107688-0-0	2
A/R	BUS STRIP	1205541	1

FIRST USED ON OPTION/MODEL		QTY		DESCRIPTION		PART NO		ITEM NO	
MM11-S									
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.		TOLERANCES		DATE		DATE		DATE	
DECIMALS		ANGLES		DATE		DATE		DATE	
.XXX - .005		± 0° 30'		2-19-72		2-19-72		2-19-72	
.XX - .02				2-19-72		2-19-72		2-19-72	
.X - .1				2-19-72		2-19-72		2-19-72	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				2-19-72		2-19-72		2-19-72	
MATERIAL		NEXT HIGHER ASSY.		B-DD-MM11-S		SIZE CODE		NUMBER	
FINISH				SCALE		SHEET		OF	
				1 OF 1		DIST.			

digital

EQUIPMENT CORPORATION

WIRELESS ASS'Y

MM11-S

B-DD-MM11-S

7008816-0-0

REV. A

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REV	NUMBER	SIZE CODE	2
MMI	S-4	WL	

REVISIONS	CHANGE NO	REV
CHK		

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS FRACTIONS ANGLES
0.05 1/32 0.30
FINAL WORKMAN QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

NOTE

QTY	DESCRIPTION	PART NO	ITEM NO
PARTS LIST			
DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DATE	DATE	TITLE	
DATE	DATE	WIRE LIST	
DATE	DATE	CODE NUMBER REV	
DATE	DATE	K WL MMI-S-4	

DIGITAL EQUIPMENT CORPORATION

MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY	F. CARREPP	CHECKED	<i>[Signature]</i>	SECTION
DATE	11/17/72	DATE	1-16-72	
ENG	<i>[Signature]</i>	PROD	<i>[Signature]</i>	ISSUED SECT.
DATE	11/17/72	DATE	1/16/72	

[illegible]

QUANTITY VARIATION

[illegible]

TITLE	ASSY NO	SIZE CODE	NUMBER
MEMOR		A PL	MM11-0
	SHEET	OF	

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
PARTS LIST

MADE BY	F. CARBERRY	CHECKED	<i>J. Kalygh</i>	SECTION
DATE	2-1-72	DATE	2-16-72	
ENG	<i>P. Durant</i>	PROD	<i>Jack Norman</i>	ISSUED SECT.
DATE	5-22-72	DATE	6-2-72	

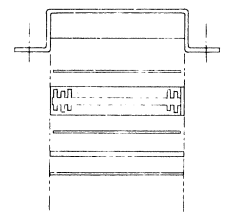
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DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				LEGEND		QUANTITY / VARIATION												
ACCESSORY LIST				D DOCUMENT DN DOCUMENT CHANGE NOTICE PA PAPER TAPE ASCII PB PAPER TAPE BINARY PM PAPER TAPE READ-IN-MODE		MM11-S SYSTEM	MM11-S OPTION						KIT CHECK	BY	DATE	INSTALLATION CHECK	BY	DATE
MADE BY BYF. CARBERRY DATE 5/11/72		CHECKED Kalagher DATE 6-1-72		SECTION														
ENG P. Durant DATE 5/22/72		PROD J. Gorman DATE 5-2-72		ISSUED SECT.														
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION																
1	1210699	GUIDES, EXTRACTOR				-	2											
2	9006011-1	SCR, 4-40 x 3/8, PHL PAN HD				-	2											
3	9006014-1	SCR, 4-40 x 5/8, PHL PAN HD				-	2											
4	1210826	GUIDES, CARD				-	2											
5	C-MD-7409450-0-0	GUIDES, CARD, REWORKED				-	1											
6	9006036-1	SCR, 8-32 x 5/16, PHL PAN HD				-	6											
7	9006634	WASHER, #8, INT TOOTH				-	6											
8	1209856-0-02	HOLDERS, MODULE				-	2											
9	9006632	WASHER, #4, INT TOOTH				-	4											
10	LIBKIT 11-MM11-07	SEALED SOFTWARE KIT				1	1											
11	MM11-S	PRINT SET				1	1											
12	DEC-11-HCMME-D	MAINT MANUAL				1	1											
13						-	1											
14																		
	7008562	G772 SYSTEM UNIT HARNESS*				1	1											
	*NOTE: FOR 11/45-11/50 CPU WITH S/N LESS THAN 2000 USE HARNESS 7008855-2E.																	
	FOR 11/35-11/40 CPU WITH S/N LESS THAN 6000 OR H960-D,E WITH																	
	S/N LESS THAN 7000 USE 7008909-17.																	
	NOTE: MM11-M ALSO USES THIS ACCESSORY LIST																	

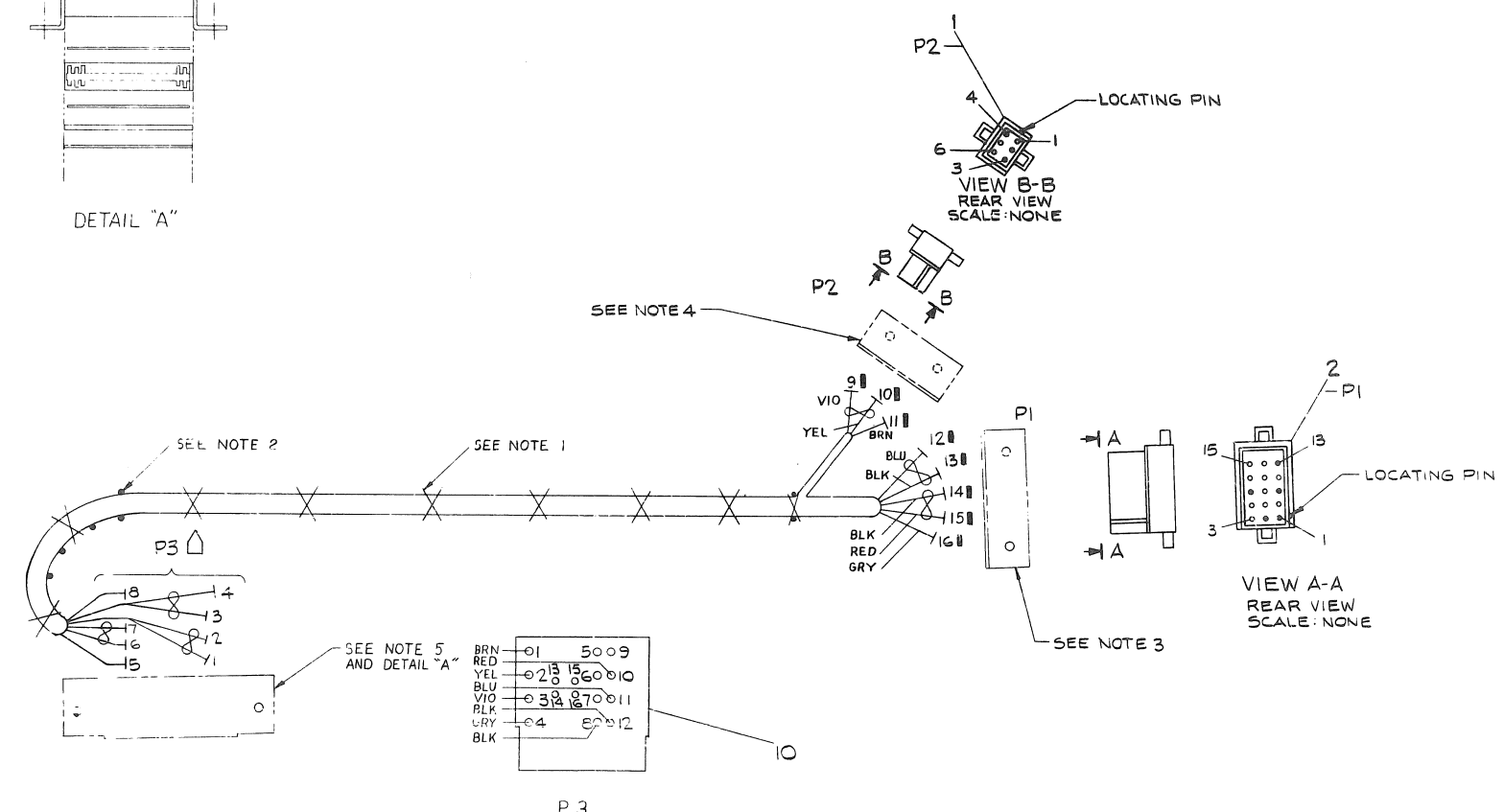
TITLE		ASSY. NO.		SIZE	CODE	NUMBER		REV.	ECO NO
MM11-S MEMORY				A	AL	MM11-S-5		A	MM11S-00006
SHEET 1 OF 1									

WIRE TABLE									
ITEM NO.	WIRE	COLOR	POINT	CONNECTION	TERM	POINT	CONNECTION	TERM	SIGNAL
5	14	RED	3	P3-10	SOLD	15	P1-1	3	+5V
	TWP	BLK	4	P3-8	SOLD	14	P1-7	3	GND
9	14	GRY	5	P3-4	SOLD	16	P1-2	3	+15V
6	14	BLK	1	P3-12	SOLD	13	P1-9	3	GND
	TWP	BLU	2	P3-11	SOLD	12	P1-13	3	-15V
8	18	BRN	8	P3-1	SOLD	11	P2-2	3	LTc
7	18	VIO	6	P3-3	SOLD	9	P2-3	3	DcLo
	TWP	YEL	7	P3-2	SOLD	10	P2-4	3	AcLo
11	22	-	-	P3-13	SOLD	-	P3-14	SOLD	DcLo
11	22	-	-	P3-15	SOLD	-	P3-16	SOLD	AcLo

- NOTES:
- USE TIE WRAPS (X) ITEM #4 APPROXIMATELY EVERY THREE (3) INCHES WHEN NECESSARY AND AT EVERY BREAKOUT POINT.
 - DOT (•) INDICATES NAIL LOCATIONS FOR ASSEMBLY USE ONLY, COVER NAILS WITH SHRINK TUBING TO PREVENT CUTTING HARNESS.
 - USE CONN BRKT C-MD-930576-H6-3 MOUNT WITH WOOD SCREWS. USE MATING CONN 1209350-3.
 - USE CONN BRKT C-MD-930576-H6-3 MOUNT WITH WOOD SCREWS. USE MATING CONN 1209350-06.
 - USE CONN. HOLD DOWN B-MD-9305767-0-1, USE TAPE DEC 9008734 & CONN H907 DEC (1209123) REMOVE PINS & FLANGES A, SHOWN IN DETAIL "A". MOUNT WITH WOOD SCREWS.



DETAIL "A"



CAUTION - DRAWING SIZE AND SCALE REDUCED FOR MICROFILM NOT TO BE USED FOR PRODUCTION

A/R BUSS WIRE #22AWG	9107560-01	11
1 POWER CONN	67712	0
A/R WIRE #14AWG GRY	9107370-88	9
A/R WIRE #18AWG BRN	9107360-11	9
A/R WIRE #18TWP YEL/VIO	9107430-47	7
A/R WIRE #14TWP BLK/BLU	9107440-06	6
A/R WIRE #14TWP BLK/RED	9107440-02	5
X A/R WRAP TIE	9007031	4
8 PIN MALE	1209378-06	3
1 HOUSING CONN. 15 PIN	1209351-15	2
SYM 1 HOUSING CONN. 6 PIN	1209351-06	1

FIRST USED ON OPTION MODEL		QTY	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES		DATE			
DECIMALS	ANGLES	TITLE			
XXX + .001	XXX ± .01	EQUIPMENT CORPORATION			
REMOVE BURRS AND BREAK EDGES	CORNER R	7772 SYSTEM			
MATERIAL		UNIT HARNESS			
SEE PARTS LIST		REVISION			
FINISH	SCALE 1/1	E: A 7009562-0-0			

