

pcpn



digital

MS11-C
bipolar memory
engineering drawings

THIS IS PRINT SET

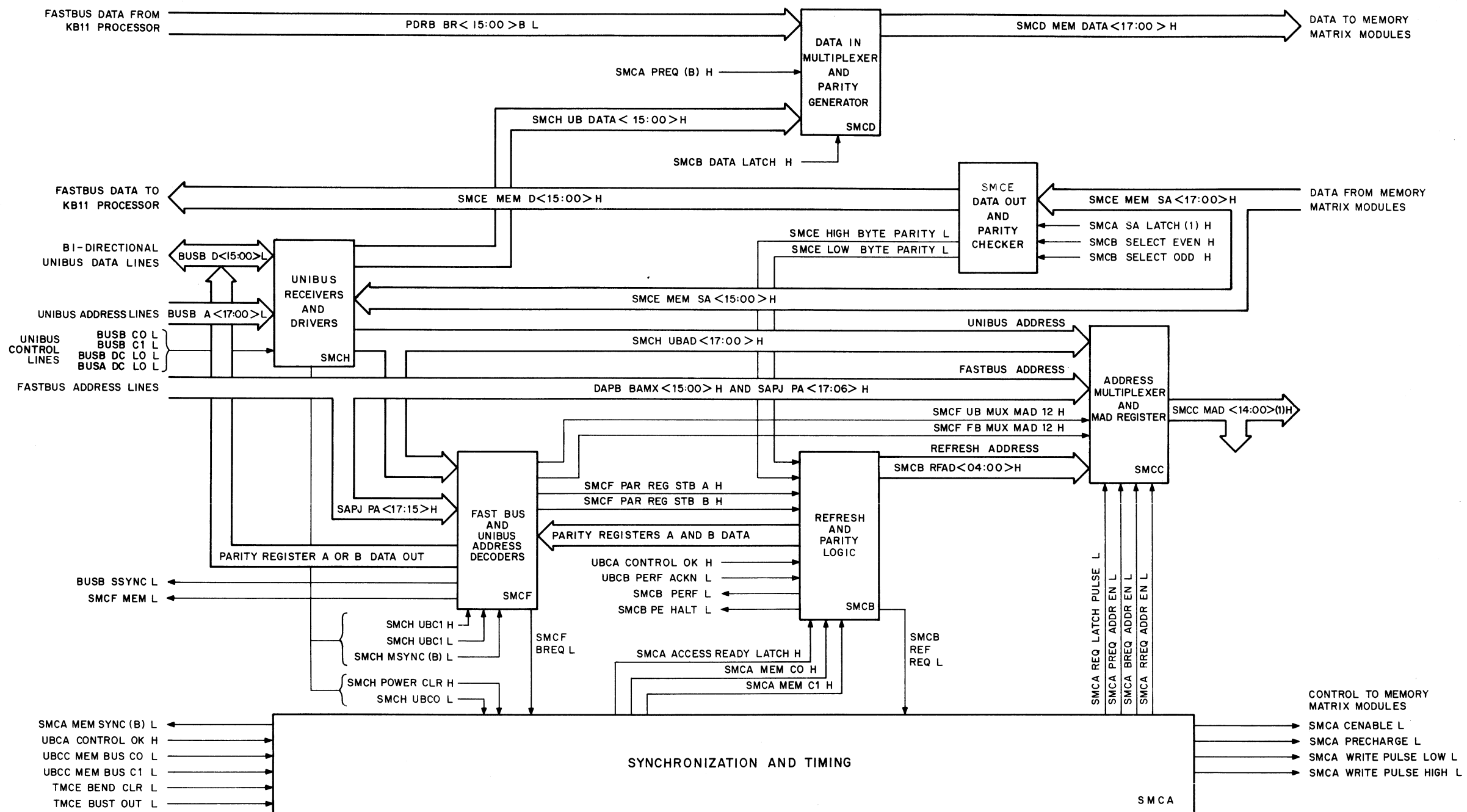
--	--	--	--

70

B-DD-MS11-C (SHEET ONE ONLY)
E-CS-~~M~~9111-YA-1
A-AL-MS11-0-2

[illegible]

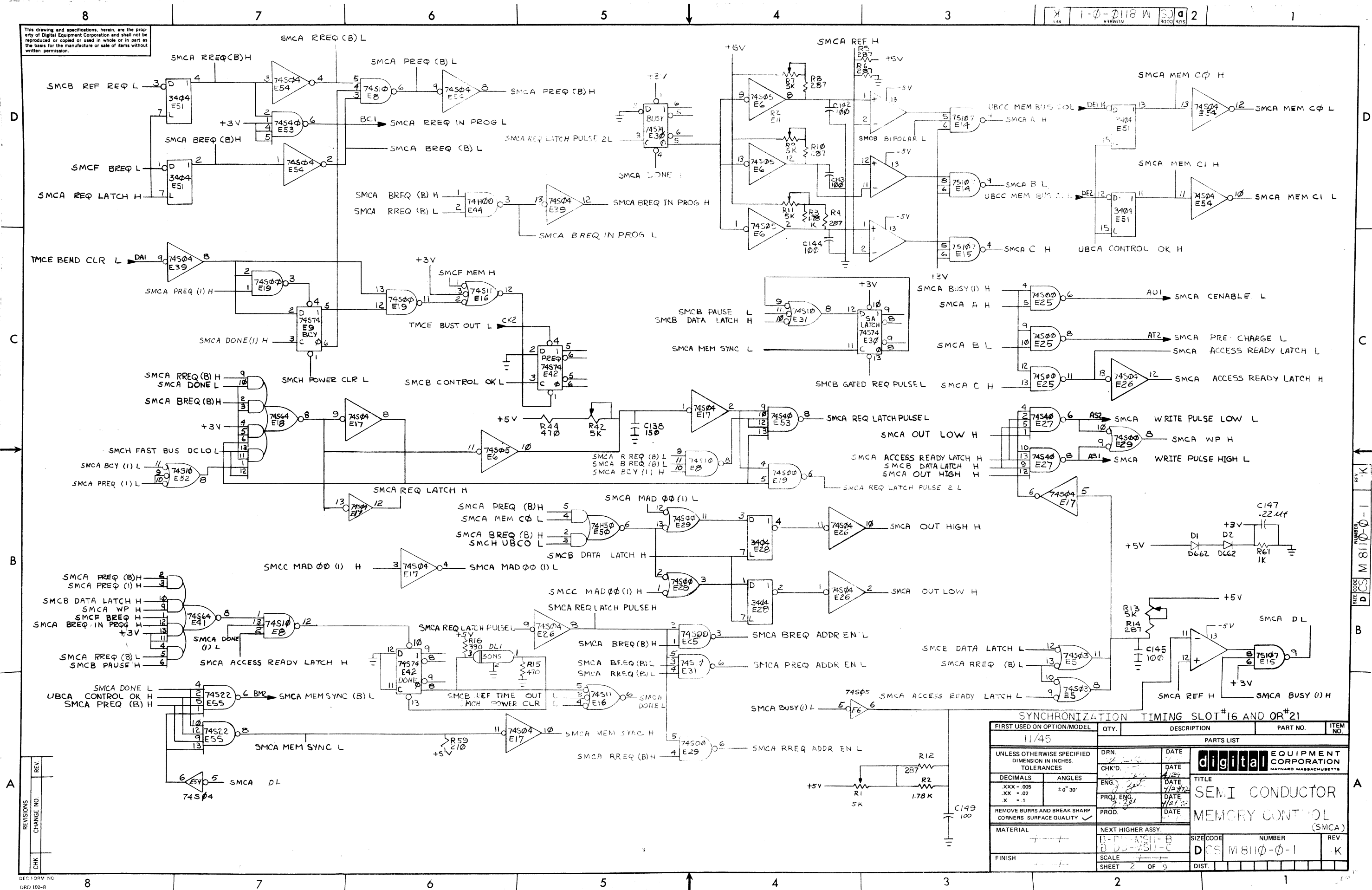
This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

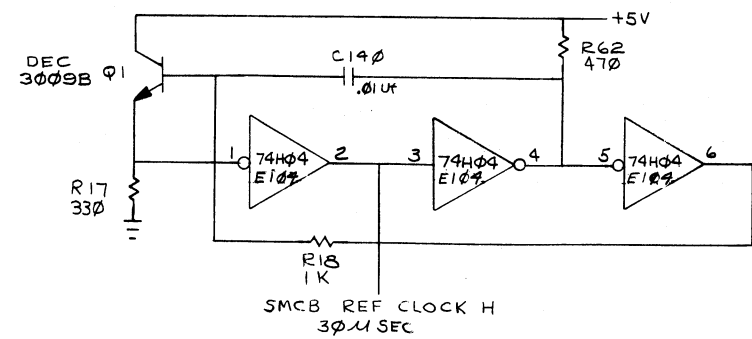


FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11145					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES					
DECIMALS	ANGLES	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
.XXX = .005	± 0° 30'	DATE			
.XX = .02		DATE			
.X = .1		DATE			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	TITLE BLOCK DIAGRAM		
		DATE			
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
				D BD	MS11-0-1
FINISH		SCALE		REV.	
		SHEET 1 OF 1			

REVISIONS	CHANGE NO.	REV.
CHK		

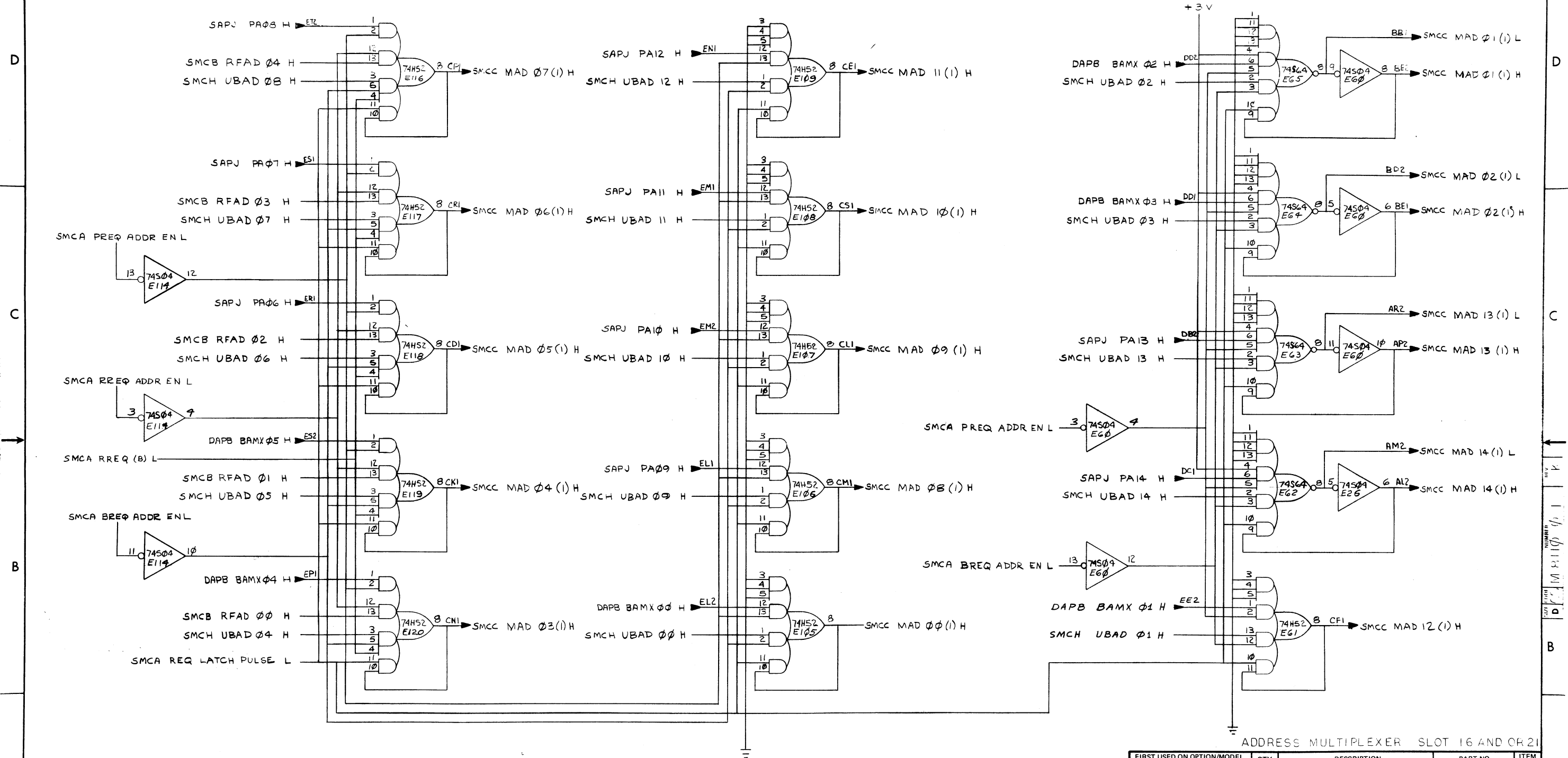
DEC FORM NO
DRD 100-A





FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN.	DATE	PARTS LIST	
		CHK'D	DATE	digital EQUIPMENT CORPORATION NATYARD MASSACHUSETTS	
DECIMALS	ANGLES	ENG'D	DATE	TITLE	
.XXX = .005	± 0° 30'	PROV. ENG.	DATE	SEMI CONDUCTOR	
.XX = .02		PROD.	DATE	MEMORY CONTROL	
.X = .1			DATE	(SMCB)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		NEXT HIGHER ASSY.		SIZE CODE NUMBER REV.	
MATERIAL		B-DD-MS11-B		DCS M8110-0-1 K	
FINISH		B-DD-MS11-C			
		SCALE			
		SHEET 3 OF 3			
		DIST.			

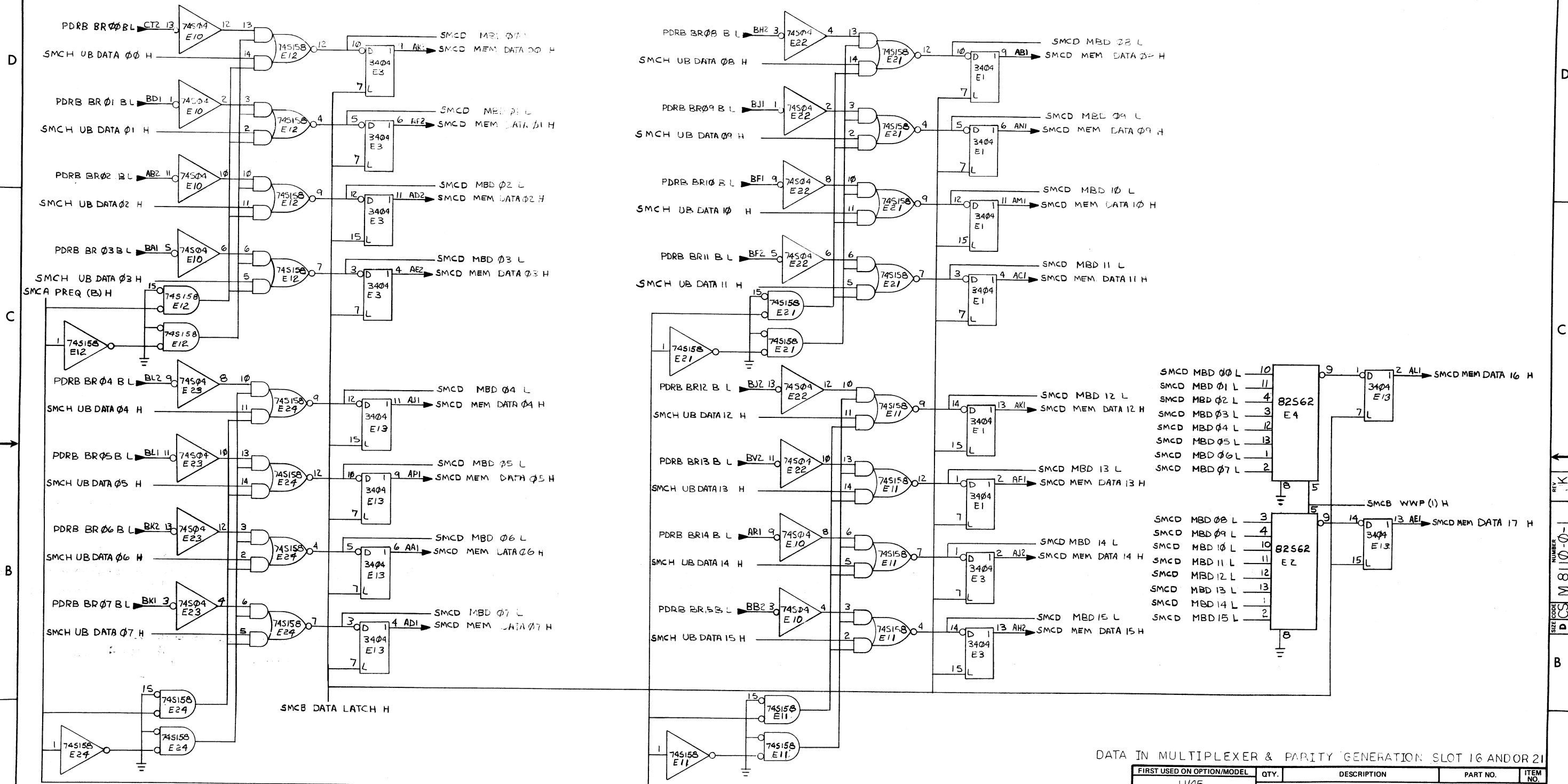
This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.



ADDRESS MULTIPLEXER SLOT 16 AND OR 21

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45			PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		ENG	DATE		
ANGLES		PROJ. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE		
MATERIAL		NEXT HIGHER ASSY.		TITLE	
FINISH		SCALE		SEMI CONDUCTOR MEMORY CONTROL (SMCC)	
		SHEET 4 OF 9		NUMBER DCS M8117-0-1	
				REV. K	

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

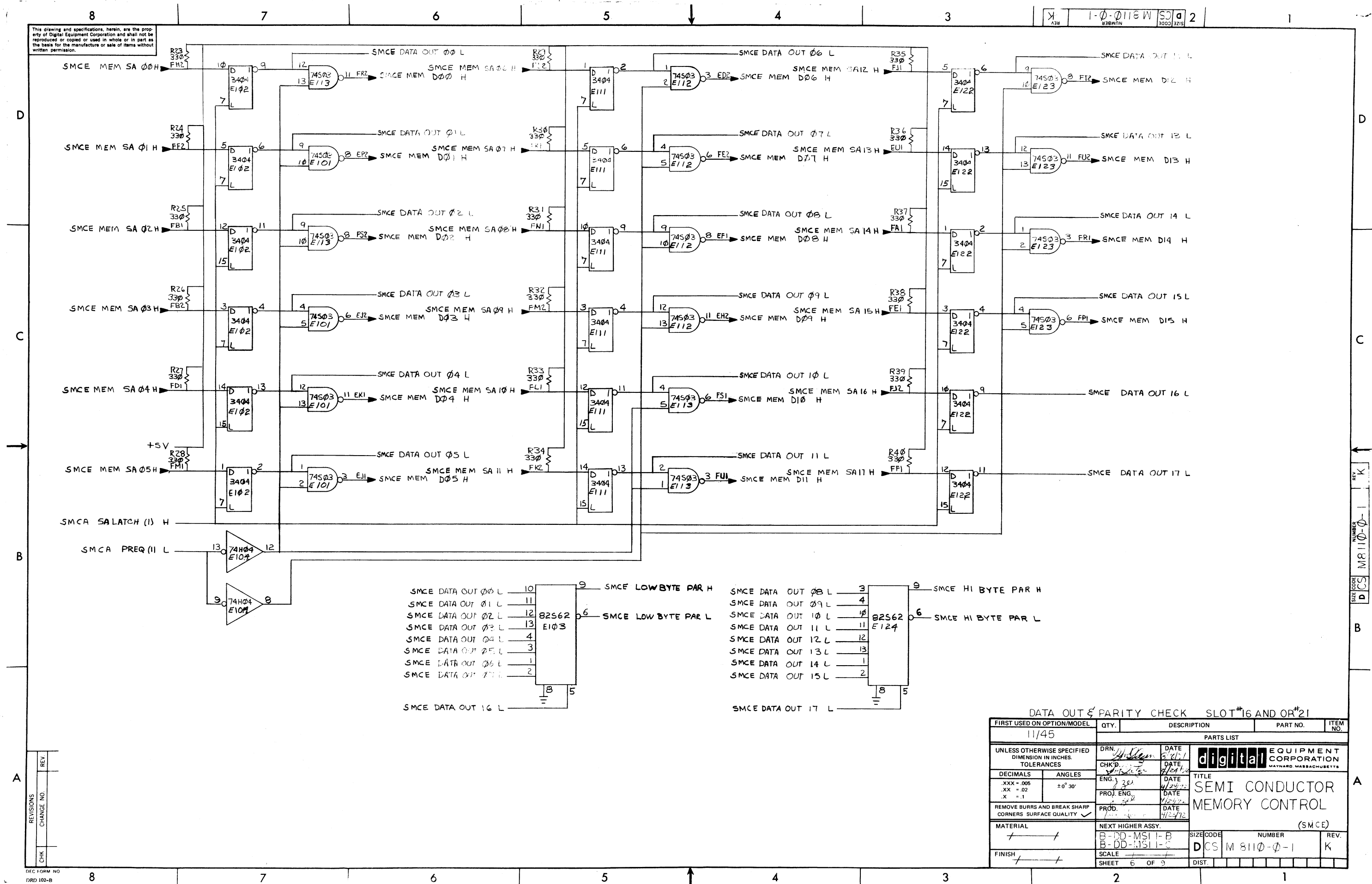


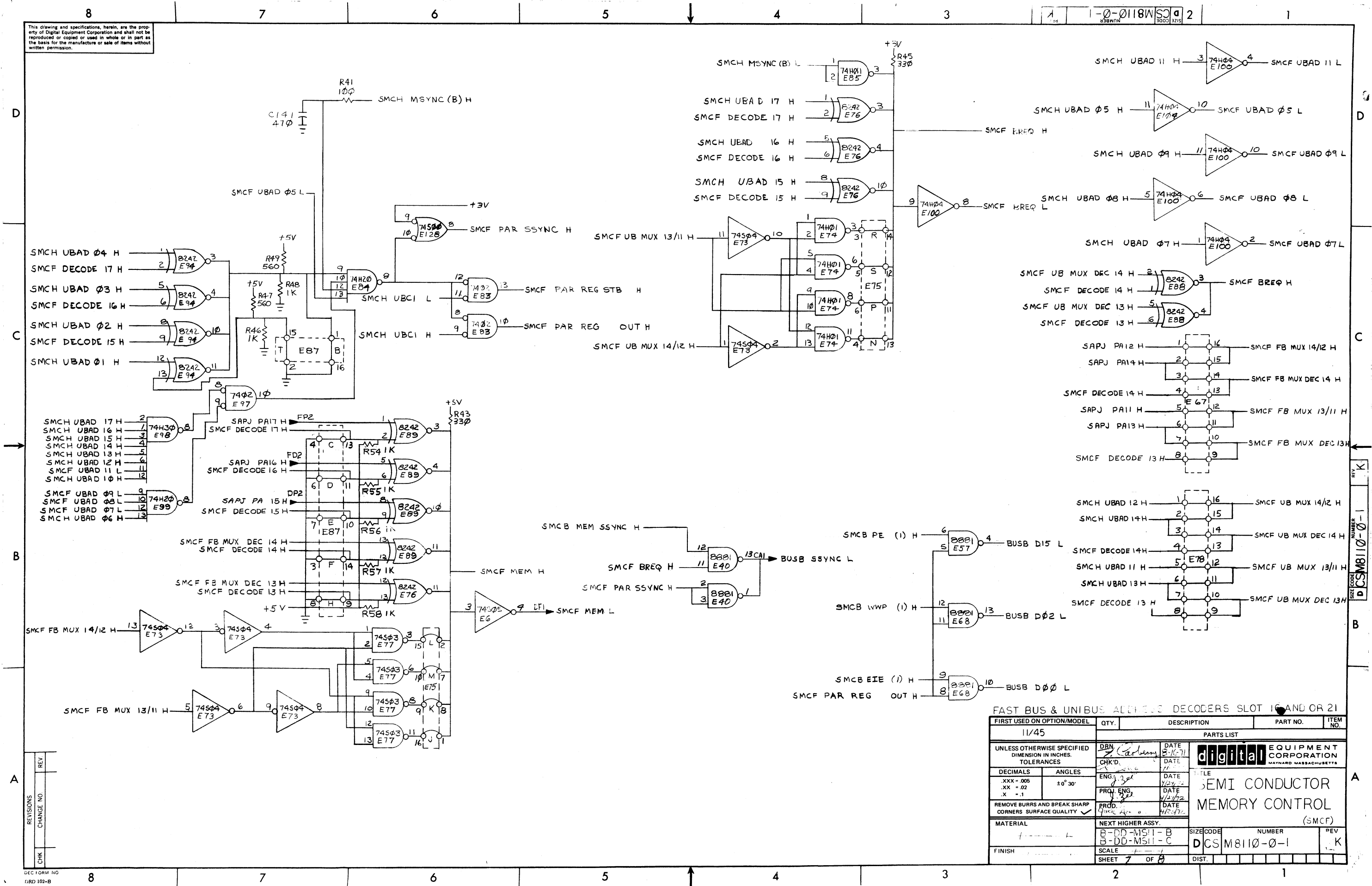
DATA IN MULTIPLEXER & PARITY GENERATION SLOT 16 AND/OR 21

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. <i>[Signature]</i>	DATE <i>8/13/71</i>	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	CHK'D. <i>[Signature]</i>	DATE <i>11/21/72</i>		
ANGLES	ENG. <i>[Signature]</i>	DATE <i>7/24/72</i>		
.XXX = .005 .XX = .02 .X = .1	PROJ. ENG. <i>[Signature]</i>	DATE <i>11/24/72</i>		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. <i>[Signature]</i>	DATE <i>11-24-72</i>	TITLE SEMI CONDUCTOR MEMORY CONTROL (SMCD)	
MATERIAL	NEXT HIGHER ASSY.			
FINISH	B-DD-M511-F B-DD-M511-C			
	SCALE			
	SHEET 5 OF 9		SIZE CODE D CS	NUMBER M 8110-0-1
			DIST.	REV. K

REV.	NO.	DATE
1	1	11/21/72

DEC FORM NO
DRD 102-B





This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

D

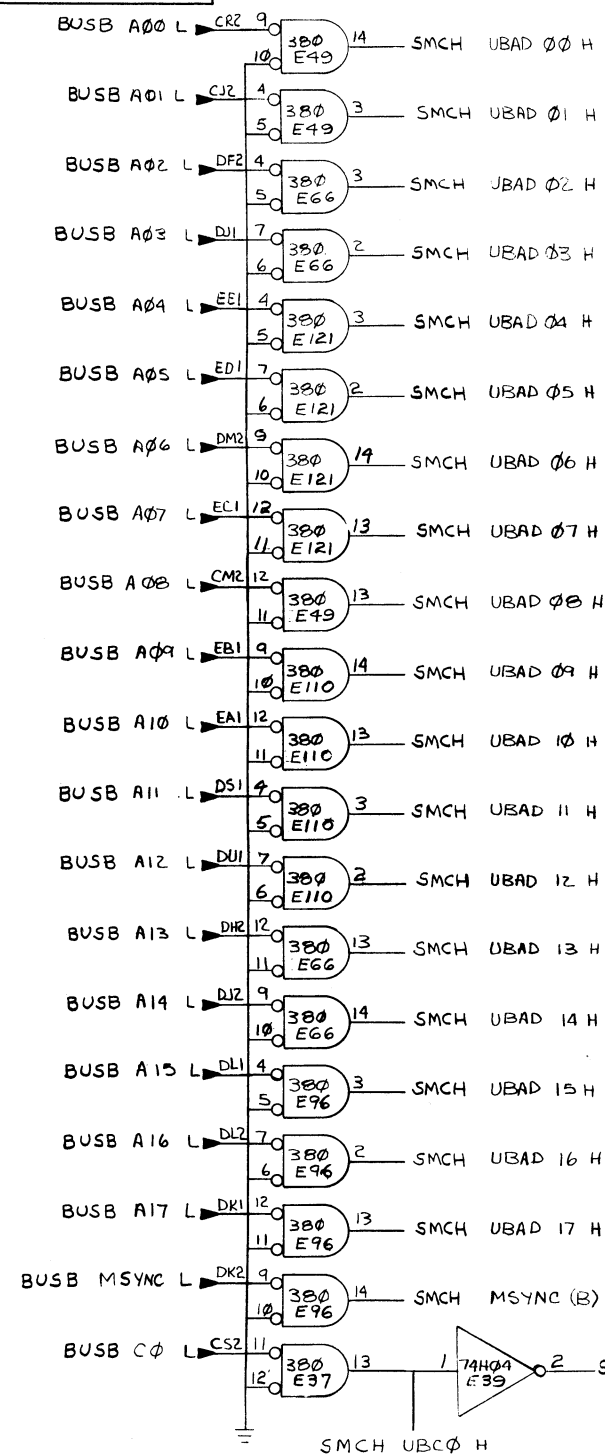
C

B

A

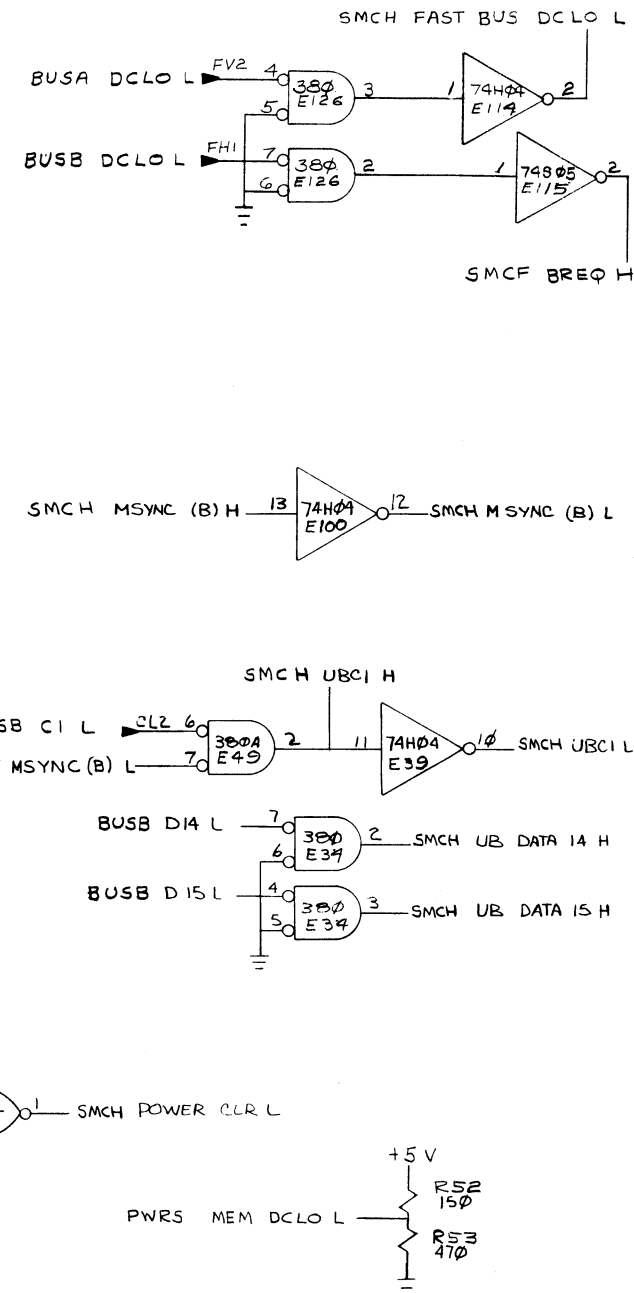
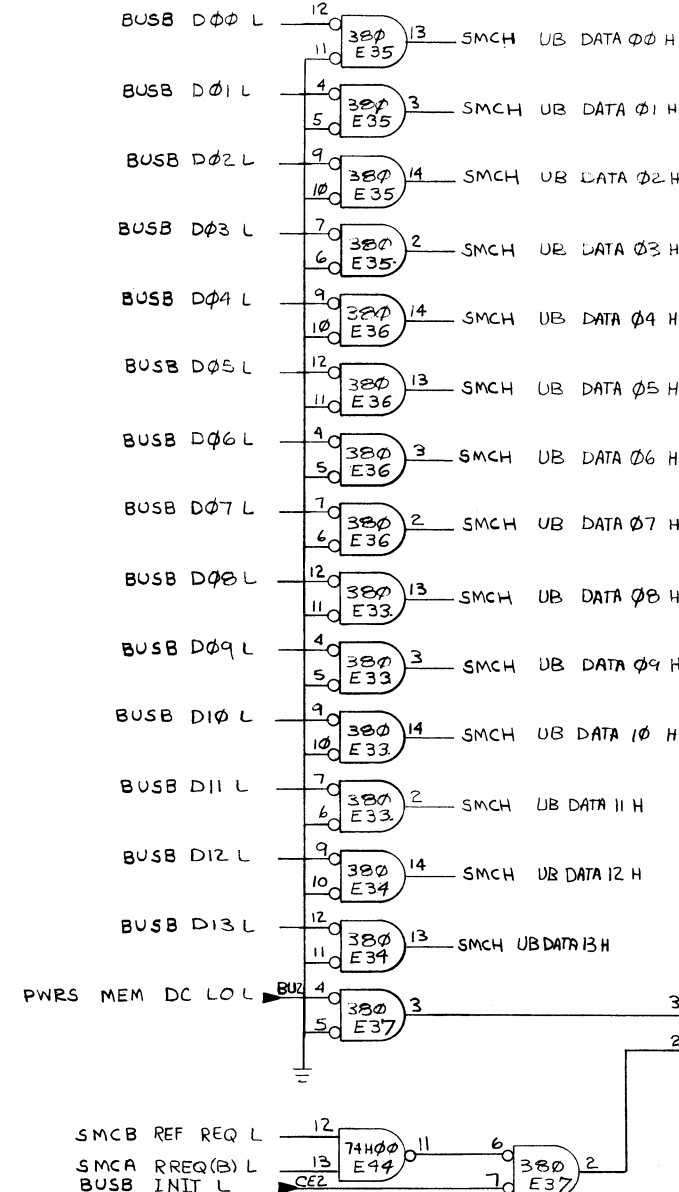
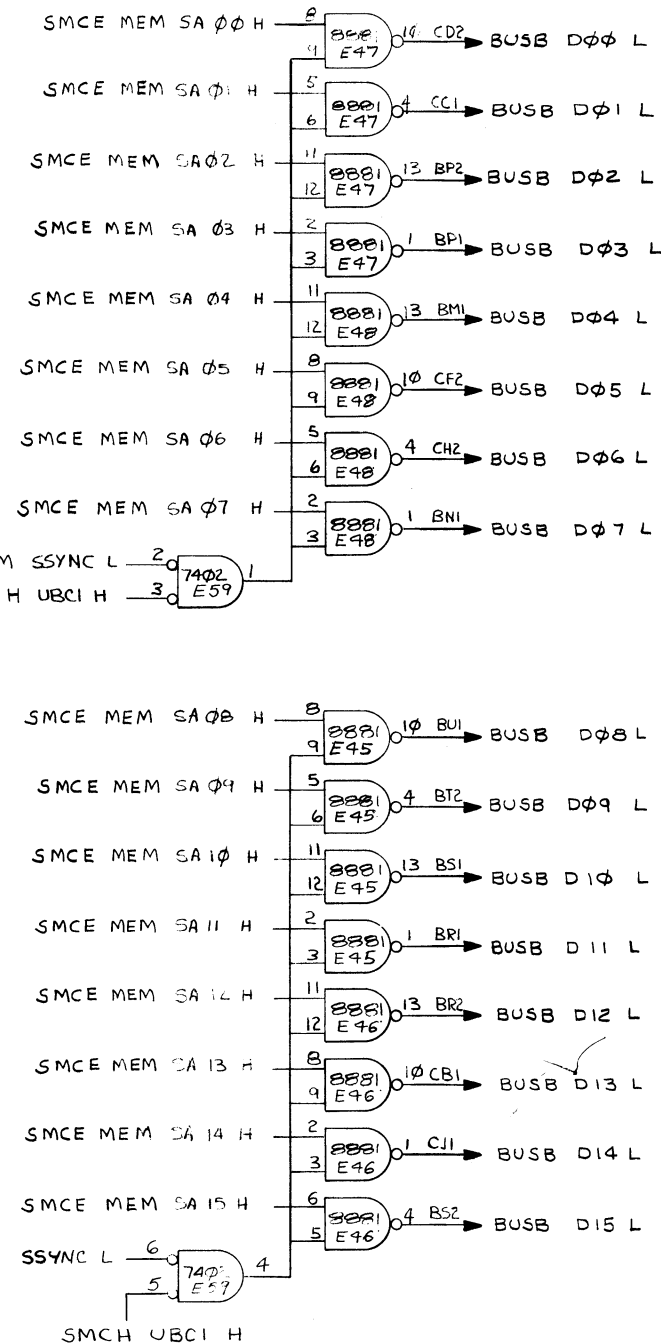
REV	CHANGE NO.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

DEC FORM NO. 1 (REV) 102-B



SMCB MEM SSYNC L → 7402 E59 → 1

SMCH UBC1 H → 3



D

C

B

A

UNIBUS RECEIVERS & DRIVERS SLOT 16 AND OR 21

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	CHK'D	DATE		
.XXX = .005	ENG.	DATE		
.XX = .02	PROJ. ENG.	DATE		
.X = .1	PROD.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY			TITLE SEMI CONDUCTOR MEMORY CONTROL	
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH			D05	M8110-0-1
	SCALE			REV
	SHEET 8 OF 9			K

A
TO SET UP MEMORY CONTROL FOR BIPOLAR MEMORY

1) CUT JUMPERS IN THE FOLLOWING LOCATIONS:

E8702 E7802
E8704 E7804
E8706 E7806
E8708 E7808

2) DECODE ADDRESS BITS 17-13 BY CUTTING THE FOLLOWING JUMPERS FOR A ONE AND LEAVING IN JUMPERS FOR A ZERO.

ADDRESS BIT	JUMPER	LOCATION
17	C	E8704
16	D	E8706
15	E	E8707
14	F	E8708
13	H	E8708

3) DECODE ADDRESS BITS 11 AND 12 FOR THE FAST BUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

12	11	JUMPER	LOCATION
0	0	J	E7501
0	1	K	E7508
1	0	L	E7502
1	1	M	E7507

4) DECODE ADDRESS BITS 11 AND 12 FOR THE UNIBUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

12	11	JUMPER	LOCATION
0	0	N	E7504
0	1	P	E7506
1	0	R	E7503
1	1	S	E7505

5) CUT JUMPER T, LOCATED AT E8702, TO SELECT PARITY REGISTER ADDRESS BIT 1 AS A 1. LEAVE IN FOR A 0.

6) TO ENABLE PARITY CONTROL REG. CUT JUMPER B LOCATED AT E8701.

7) CUT THE FOLLOWING RESISTORS OUT:

R2
R3

8) TIMING ADJUSTMENT

- A) SYNC PROBE 1
B) ALL MEASUREMENTS AT THE 1.5V POINTS OF LOW GOING EDGES UNLESS OTHERWISE NOTED.
C) ▲ POS. TRANSITION
D) * ADJUST WIDTH OF PULSE
E) LOOP ON DATA

TO ADJUST	PROBE 1	PROBE 2	ADJUST	FOR
ADDRESS SET-UP	E18 PIN 8	E25 PIN 8	R42	95 NS
PRE-CHARGE	E25 PIN 8	R9	R9	80 NS
ACCESS TIME	E25 PIN 8	▲ E27 PIN 13	R11	90 NS
MEM SYNC	E25 PIN 8	E55 PIN 6	R1	60/30 NS SEE NOTE 2
WRITE PULSE	* E27 PIN 8	—	R13	60 NS

NOTE 2: ADJUSTMENT FOR SINGLE/DOUBLE SYNCHRONIZING.
M8109 REV C ETCH - IF JUMPERS HAVE BEEN INSTALLED ON THE PREVIOUSLY UNUSED HALF (PINS 11, 12 ETC) OF THE FLIP FLOP AT E8 OF THE M8109, R1 OF THE M8110 SHOULD BE ADJUSTED TO 30NS. IF THE FLIP FLOP IS UNUSED, ADJUST R1 TO 60NS.
M8109 REV F ETCH - OBSERVE JUMPERS W6 AND W5 ON THE M8109. IF W6 IS IN AND W5 IS OUT, ADJUST R1 OF THE M8110 TO 60NS. IF W6 IS OUT AND W5 IS IN, ADJUST R1 FOR 30NS.

B
TO SET UP MEMORY CONTROL FOR MOS MEMORY

1) CUT JUMPERS IN THE FOLLOWING LOCATIONS:

E8701 E7801
E8703 E7803
E8705 E7805
E8707 E7807

2) DECODE ADDRESS BITS 17-15 BY CUTTING THE FOLLOWING JUMPERS FOR A ONE AND LEAVING IN JUMPERS FOR A ZERO.

ADDRESS BIT	JUMPER	LOCATION
17	C	E8704
16	D	E8706
15	E	E8707

3) DECODE ADDRESS BITS 13 AND 14 FOR THE FAST BUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

14	13	JUMPER	LOCATION
0	0	J	E7501
0	1	K	E7508
1	0	L	E7502
1	1	M	E7507

4) DECODE ADDRESS BITS 13 AND 14 FOR THE UNIBUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

14	13	JUMPER	LOCATION
0	0	N	E7504
0	1	P	E7506
1	0	R	E7503
1	1	S	E7505

5) CUT JUMPER T, LOCATED AT E8702, TO SELECT PARITY REGISTER ADDRESS BIT 1 AS A 1. LEAVE IN FOR A 0.

6) TO ENABLE PARITY CONTROL REG. CUT JUMPER B LOCATED AT E8701.

7) CUT THE FOLLOWING RESISTORS OUT:

R12
R4

8) TIMING ADJUSTMENT

- A) SYNC PROBE 1
B) ALL MEASUREMENTS AT THE 1.5V POINTS OF LOW GOING EDGES UNLESS OTHERWISE NOTED
C) ▲ POS. TRANSITION
D) * ADJUST WIDTH OF PULSE
E) LOOP ON DATA

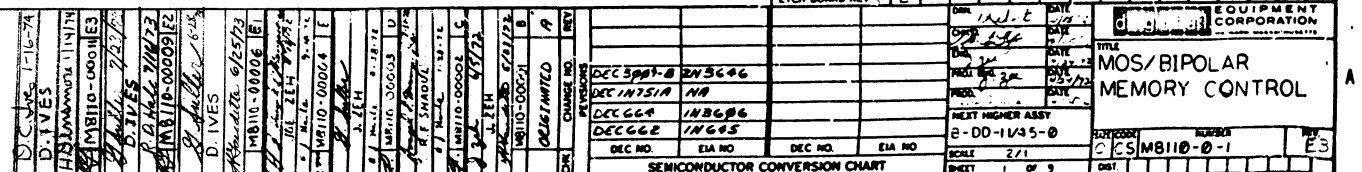
TO ADJUST	PROBE 1	PROBE 2	ADJUST	FOR
ADDRESS SET-UP	E18 PIN 8	E25 PIN 8	R42	95 NS
ENABLE	E25 PIN 8	E25 PIN 6	R7	70 NS
PRE-CHARGE	* E25 PIN 8	R9	R9	90 NS
ACCESS TIME	E25 PIN 8	▲ E27 PIN 13	R11	230 NS
MEM SYNC	E25 PIN 8	E55 PIN 6	R1	240/210 NS SEE NOTE 1
WRITE PULSE	* E27 PIN 8	—	R13	60 NS

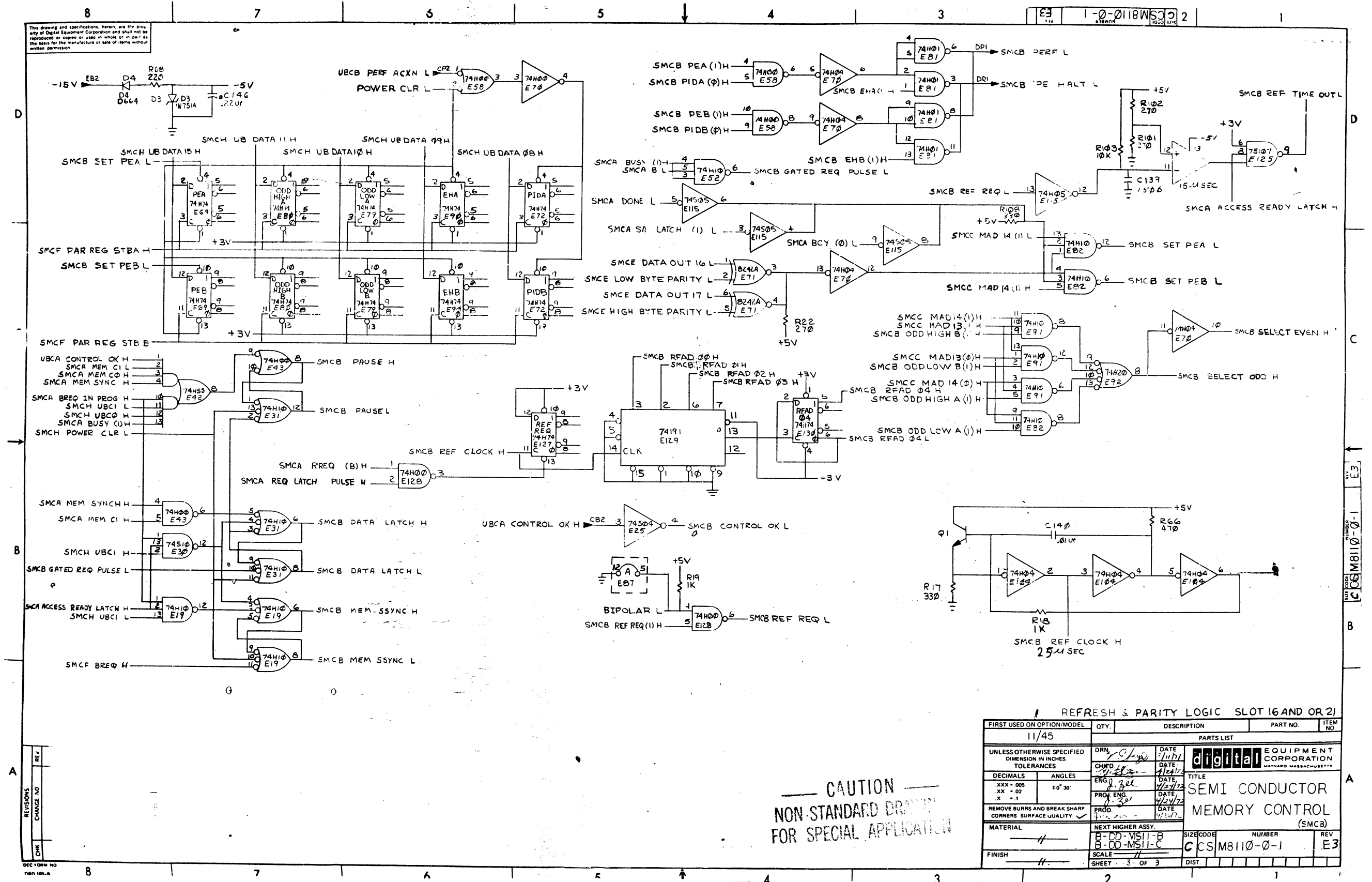
E 8705 (JUMPER A)

NOTE 1: ADJUSTMENT FOR SINGLE/DOUBLE SYNCHRONIZING.
M8109 REV C ETCH - IF JUMPERS HAVE BEEN INSTALLED ON THE PREVIOUSLY UNUSED HALF (PINS 11, 12 ETC) OF THE FLIP FLOP AT E8 OF THE M8109, R1 OF THE M8110 SHOULD BE ADJUSTED TO 210NS. IF THE FLIP FLOP IS UNUSED, ADJUST R1 TO 240NS.
M8109 REV F ETCH - OBSERVE JUMPERS W6 AND W5 ON THE M8109. IF W6 IS IN AND W5 IS OUT, ADJUST R1 OF THE M8110 TO 240NS. IF W6 IS OUT AND W5 IS IN, ADJUST R1 TO 210NS.

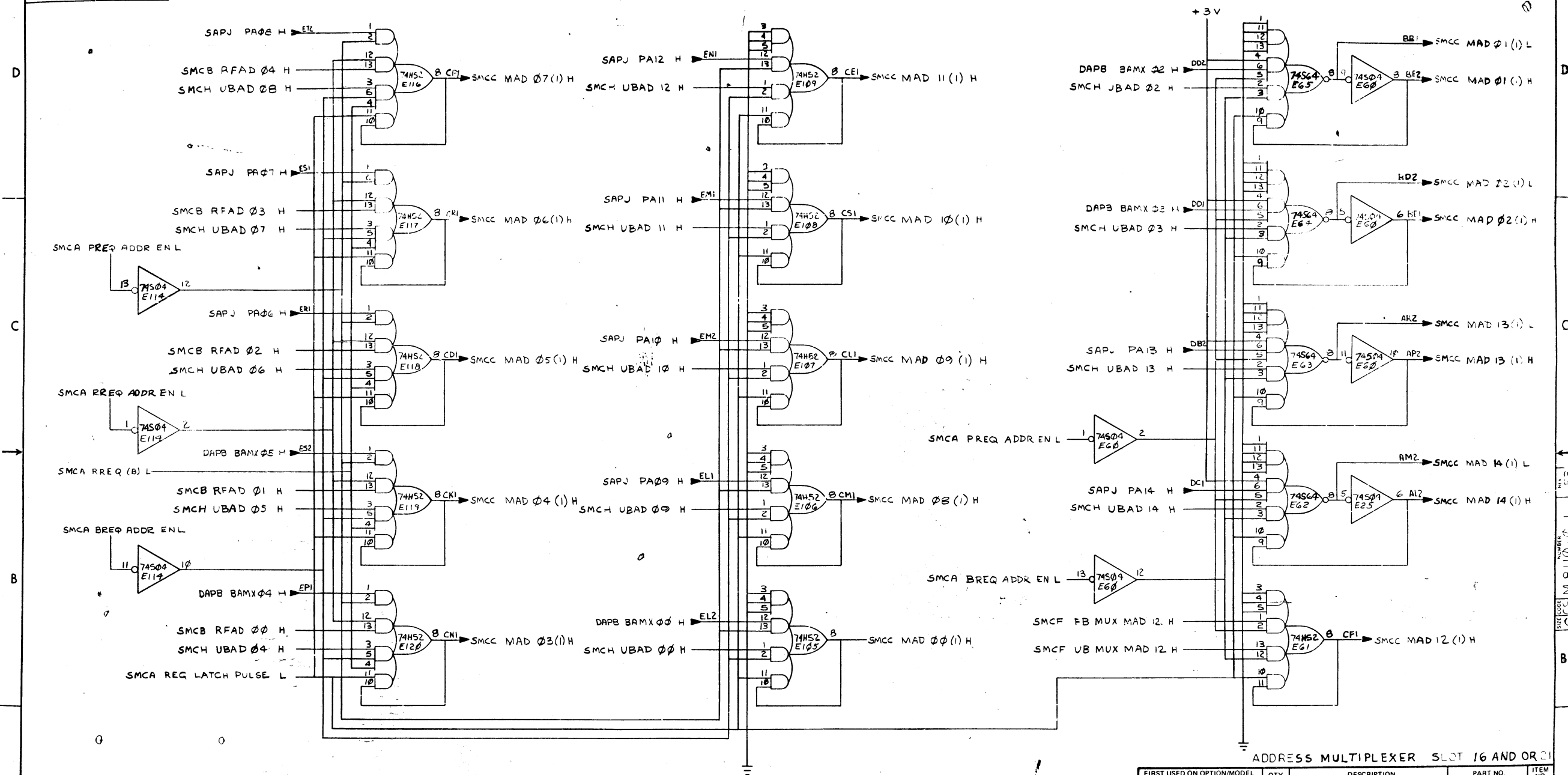
JUMPER NOTES SLOT #16 AND OR #21

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	TITLE		
.XXX ± .006	± 0° 30'	SEMI CONDUCTOR MEMORY CONTROL		
.XX ± .02		(SMC)		
.X ± .1				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV
— + —	B-DD-MS11-B	DCS	M8110-0-1	K
FINISH	SCALE			
— + —	SHEET 9 OF 9			



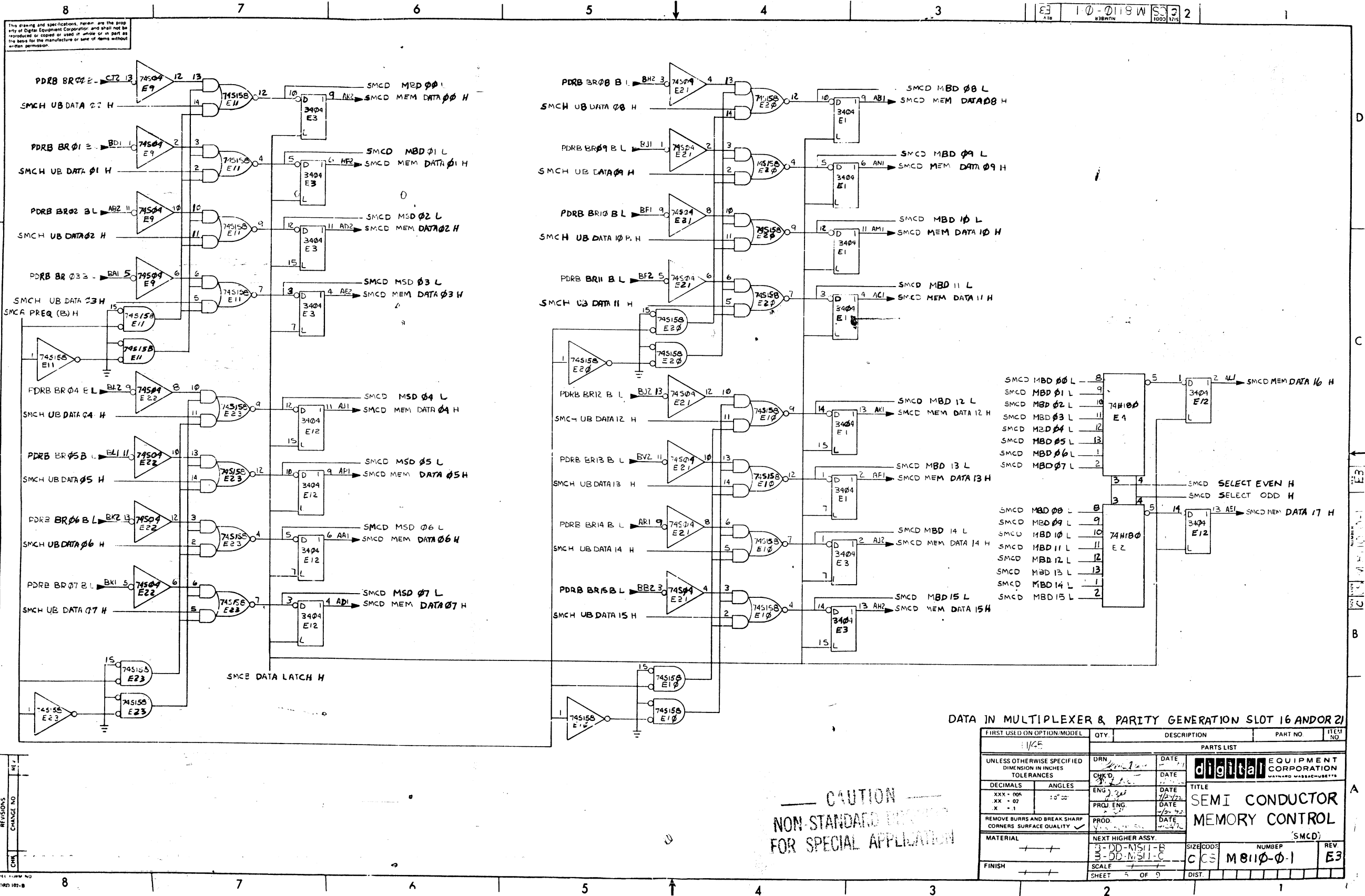


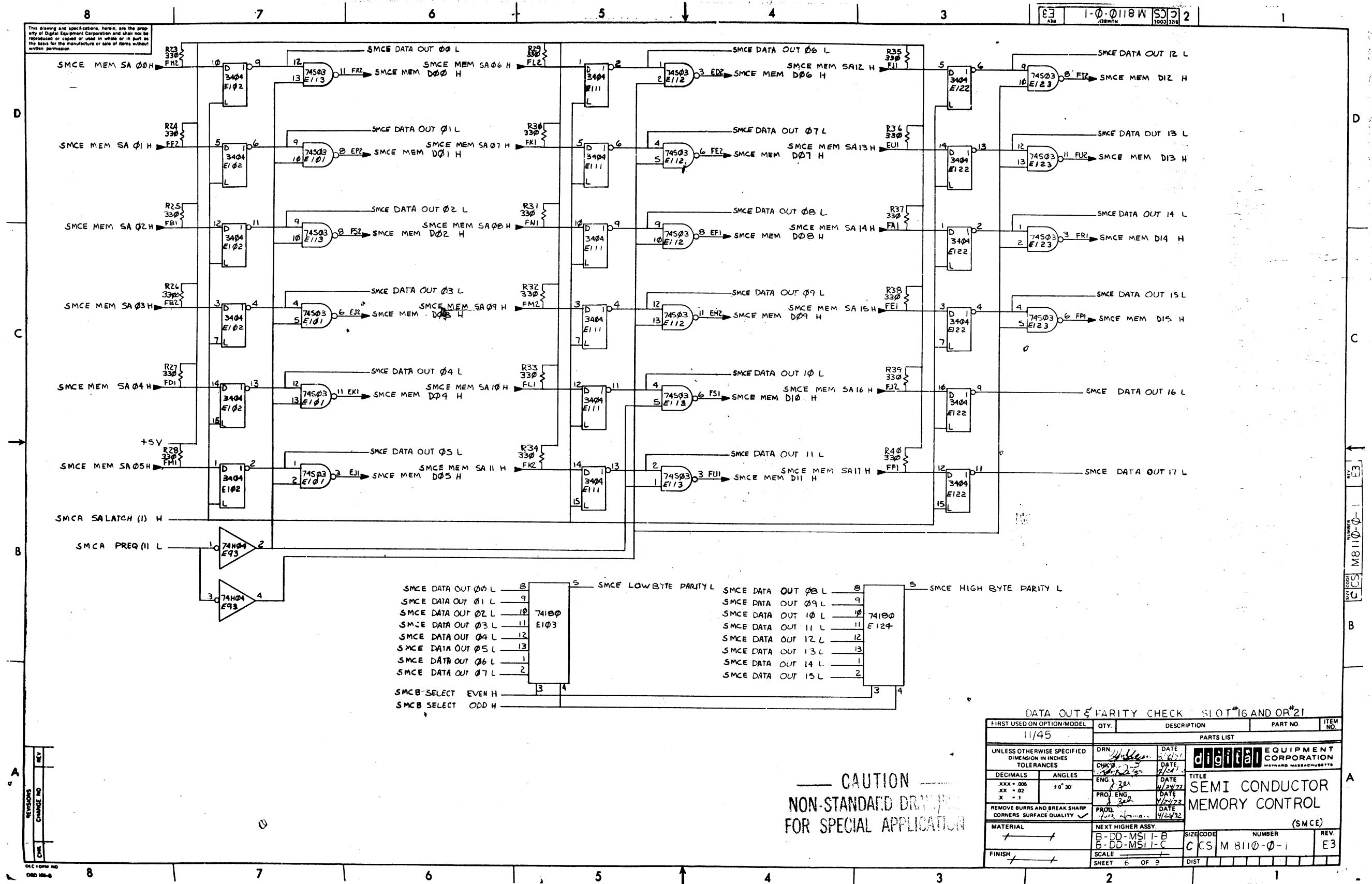
This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

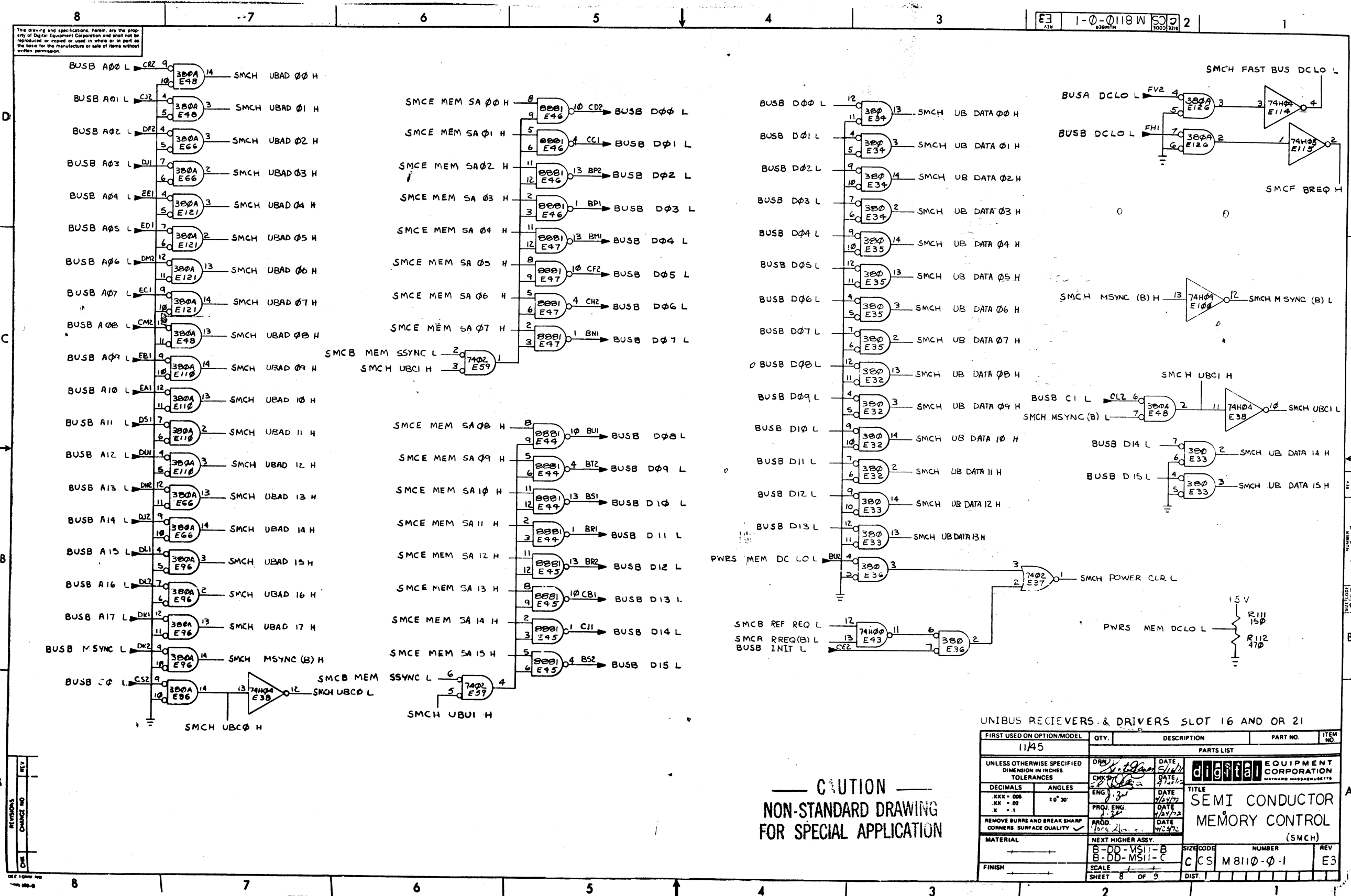


CAUTION
NON-STANDARD DRAWING
FOR SPECIAL APPLICATION

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	PARTS LIST	
DECIMALS		DATE	DATE	digital EQUIPMENT CORPORATION	
ANGLES		DATE	DATE	MAYNARD MASSACHUSETTS	
.XXX + .005		ENG	DATE	TITLE	
.XX + .02		PROJ. ENG.	DATE	SEMI CONDUCTOR	
.X + .1		PROD.	DATE	MEMORY CONTROL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	DATE	(SMCC)	
MATERIAL		NEXT HIGHER ASSY.		SIZE/CODE	NUMBER
+ + +		B-DD-MS11-B		CSS	MANIP-0-1
FINISH		SCALE		DIST.	REV.
+ + +		SHEET 4 OF 9			E3







CAUTION
NON-STANDARD DRAWING
FOR SPECIAL APPLICATION

UNIBUS RECEIVERS & DRIVERS SLOT 16 AND OR 21			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
1145			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DATE	DATE	DATE
DECIMALS	ANGLES	DATE	DATE
.XXX - .005	10° 30'	DATE	DATE
.XX - .02		DATE	DATE
.X - .1		DATE	DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	DATE	DATE
MATERIAL	DATE	DATE	DATE
FINISH	DATE	DATE	DATE
NEXT HIGHER ASSY.			
B-DD-VS11-B	SIZE CODE	NUMBER	REV
B-DD-MS11-C	C CS	M 8110-0-1	E3
SCALE			
SHEET 8 OF 9			

This drawing and specifications herein are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

A TO SET UP MEMORY CONTROL FOR BIPOLAR MEMORY

1) CUT JUMPERS IN THE FOLLOWING LOCATIONS:

E8702	E7802	E8603
E8704	E7804	E8604
E8706	E7806	E8607
E8708	E7808	E8608
		E8701

2) DECODE ADDRESS BITS 17-13 BY CUTTING THE FOLLOWING JUMPERS FOR A ONE AND LEAVING IN JUMPERS FOR A ZERO.

ADDRESS BIT	JUMPER	LOCATION
17	C	E8703
16	D	E8704
15	E	E8706
14	F	E8702
13	H	E8708

3) DECODE ADDRESS BITS 11 AND 12 FOR THE FAST BUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

12	11	JUMPER	LOCATION
0	0	J	E7501
0	1	K	E7508
1	0	L	E7502
1	1	M	E7507

4) DECODE ADDRESS BITS 11 AND 12 FOR THE UNIBUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

12	11	JUMPER	LOCATION
0	0	N	E7504
0	1	P	E7506
1	0	R	E7503
1	1	S	E7505

5) USE ETCH REV C OR LATER FOR PARITY CONTROL.

6) CUT THE FOLLOWING RESISTORS OUT:

R1
R2
R12
R3

7) TIMING ADJUSTMENT.

A) SYNC PROBE 1
B) ALL MEASUREMENTS AT THE 1.5V POINTS OF LOW GOING EDGES UNLESS OTHERWISE NOTED.

TO ADJUST	PROBE 1	PROBE 2	ADJUST	FOR
ADDRESS SET-UP	E17 PIN 8	E24 PIN 8	R42	95 NS
PRE-CHARGE	E24 PIN 8		R9	80 NS
ACCESS TIME	E24 PIN 8	E55 PIN 6	R11	80 NS

* ADJUST WIDTH OF PULSE.

B TO SET UP MEMORY CONTROL FOR MOS MEMORY

1) CUT JUMPERS IN THE FOLLOWING LOCATIONS:

E8701	E7801	E8603
E8703	E7803	E8604
E8705	E7805	E8607
E8707	E7807	E8608
		E8701

E8705 (JUMPER A)

2) DECODE ADDRESS BITS 17-15 BY CUTTING THE FOLLOWING JUMPERS FOR A ONE AND LEAVING IN JUMPERS FOR A ZERO.

ADDRESS BIT	JUMPER	LOCATION
17	C	E8703
16	D	E8704
15	E	E8706

3) DECODE ADDRESS BITS 13 AND 14 FOR THE FAST BUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

14	13	JUMPER	LOCATION
0	0	J	E7501
0	1	K	E7508
1	0	L	E7502
1	1	M	E7507

4) DECODE ADDRESS BITS 13 AND 14 FOR THE UNIBUS BY CUTTING THE JUMPERS FOR THE ADDRESS COMBINATION WHERE MEMORY EXISTS.

14	13	JUMPER	LOCATION
0	0	N	E7504
0	1	P	E7506
1	0	R	E7503
1	1	S	E7505

5) USE ETCH REV C OR LATER FOR PARITY CONTROL.

6) CUT THE FOLLOWING RESISTORS OUT:

R1
R2
R12
R4

7) TIMING ADJUSTMENT.

A) SYNC PROBE 1
B) ALL MEASUREMENTS AT THE 1.5V POINTS OF LOW GOING EDGES UNLESS OTHERWISE NOTED.

TO ADJUST	PROBE 1	PROBE 2	ADJUST	FOR
ADDRESS SET-UP	E17 PIN 8	E24 PIN 8	R42	95 NS
CENABLE	E24 PIN 8	E24 PIN 6	R7	70 NS
PRE-CHARGE	*E24 PIN 8		R9	90 NS
ACCESS TIME	E24 PIN 8	E55 PIN 6	R11	240/210 NS SEE NOTE 1.

* ADJUST WIDTH OF PULSE.

NOTE:

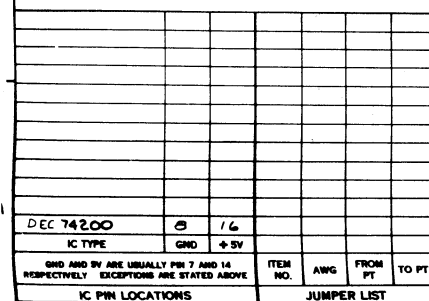
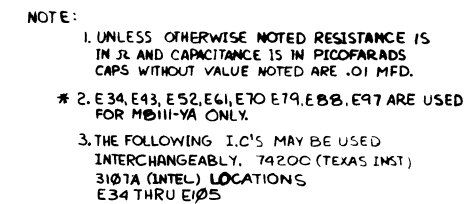
ADJUSTMENT FOR SINGLE/DOUBLE SYNCHRONIZING. M8109 REV C ETCH - IF JUMPERS HAVE BEEN INSTALLED ON THE PREVIOUSLY UNUSED HALF (PINS 11, 12, ETC.) OF THE FLIP FLOP AT E8 OF THE M8109, R11 OF THE M8110 SHOULD BE ADJUSTED TO 210 NS. IF THE FLIP FLOP IS UNUSED, ADJUST R11 TO 240 NS.

M8109 REV F ETCH - OBSERVE JUMPERS W6 AND W5 ON THE M8109. IF W6 IS IN AND W5 IS OUT, ADJUST R11 OF THE M8110 TO 240 NS. IF W6 IS OUT AND W5 IS IN, ADJUST R11 TO 210 NS.

JUMPER NOTES SLOT #16 AND OR #21

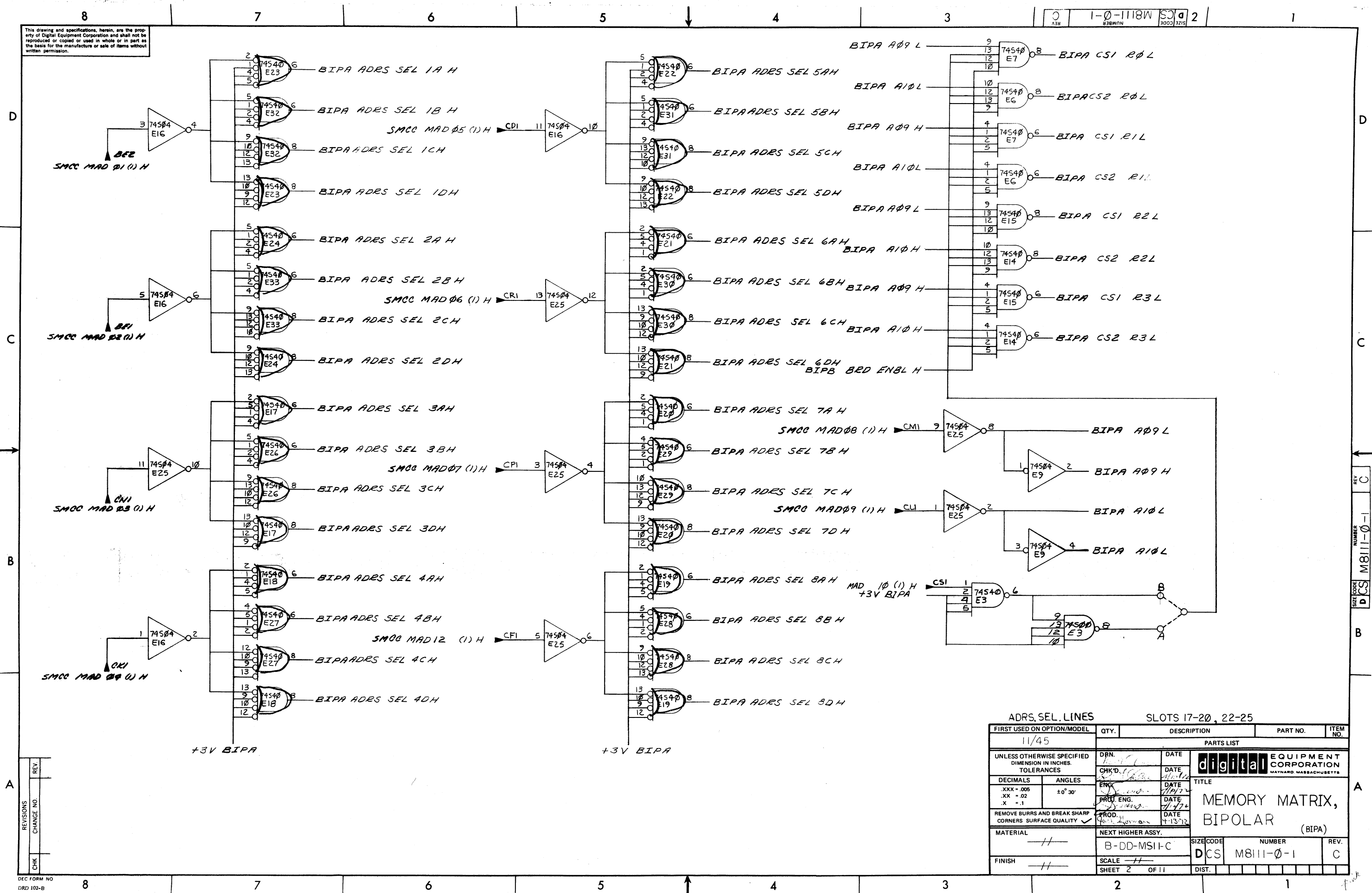
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XXX - .005	±0°30'	DATE 12/12/72		
.XX - .02		DATE 12/12/72		
.X - .1		DATE 12/12/72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 12/12/72		
NEXT HIGHER ASSY.		DATE 12/12/72		
MATERIAL	B-BB-MS11-B	SIZE/CODE	NUMBER	REV
FINISH	B-BB-MS11-C	C/CS	M8110-0-1	E3
SCALE		SHEET 9 OF 9		

CAUTION
NON-STANDARD DRAWING
FOR SPECIAL APPLICATION

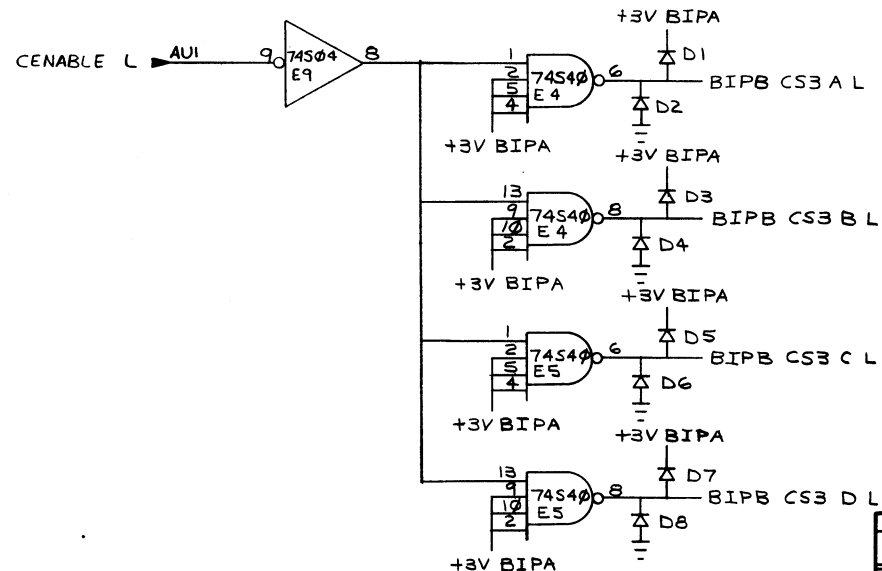
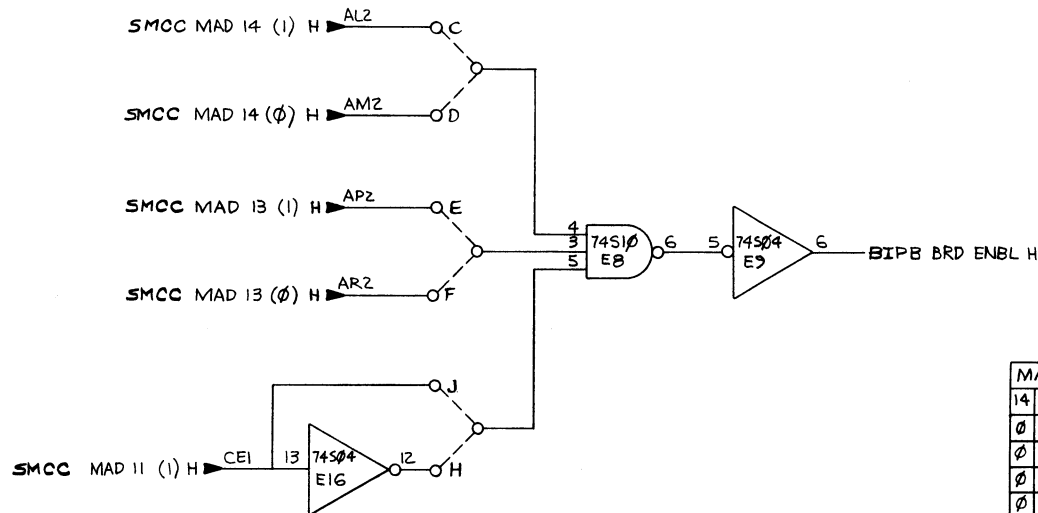
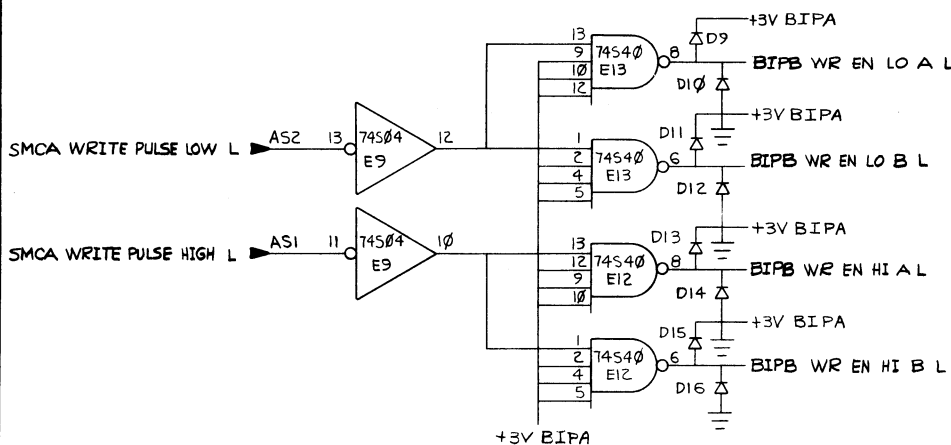
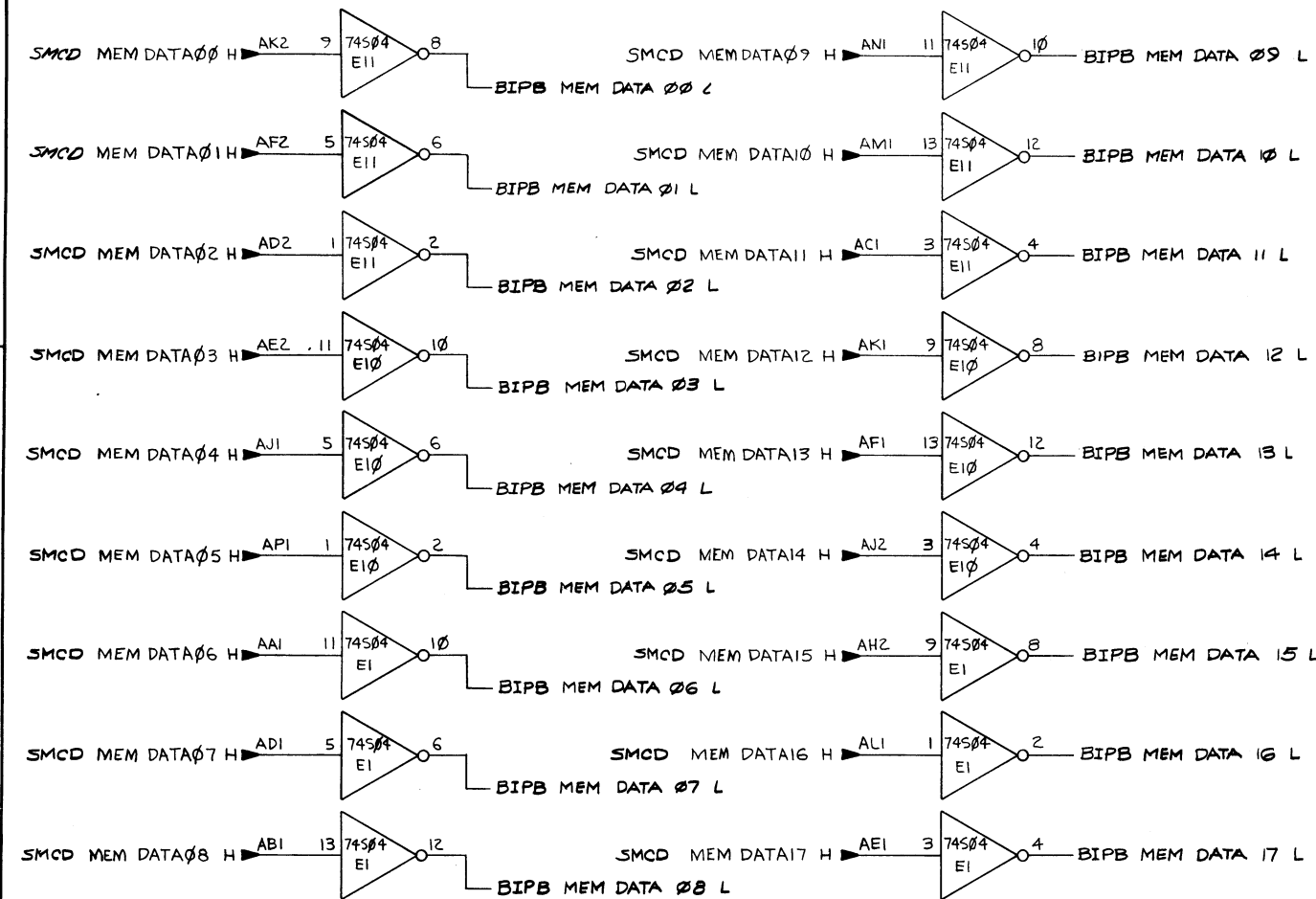


MB111-YA	MB111-O				
16	16		WIRE WRAPABLE PIN	9009149	16
12	12		EYELET	9006732	15
1	1		HANDLE MODULE	E-PS-121011-2	14
* 72	64	E34 THRU E105	IC 256 BIT BIPOLAR RAM	1910818-00	13
25	25	E3 THRU E7, E12 THRU E15, E17 THRU E24, E26 THRU E33	IC DEC 74S 40	1910541	12
1	1	E8	IC DEC 74S10	1910536	11
6	6	E1, E9, E10, E11, E16, E25	IC DEC 74S04	1910534	10
1	1	R1	RESISTOR 680Ω 1/4W 10%	1300350	9
1	1	R2	RESISTOR 330Ω 1/4W 10%	1300293	8
16	16	D1 THRU D16	DIODE D664	1100114	7
105	105	C1 THRU C105	CAP .01μF, 100V, 20% DISC	1001610	6
7	7	C106 THRU C112	CAP 6.8μF, 35V, 20%	1000067	5
1	1		ETCHED CIRCUIT BOARD	5009797	4
REF	REF		MODULE ECO HISTORY	B-MH-MB111-0-6	3
REF	REF		ASSY/DRILLING HOLE LAYOUT	E-MH-MB111-0-5	2
REF	REF		X-Y COORDINATE HOLE LOCATION	K-CO-MB111-0-4	1
QTY	QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

3472 J. SWANSON 3-7-73 61 Trade MSIII-0000 RM C ORIGINATED A CHANGE NO. REV	RETURNING D664 IN 3606		DEC NO. EIA NO. DEC NO. EIA NO.		D664 IN 3606	DEC NO. EIA NO.	DEC NO. EIA NO.	DEC NO. EIA NO.
	SEMICONDUCTOR CONVERSION CHART		NEXT HIGHER ASSY B-DD-MSII-C		SCALE 2/1	OF 11	D664 IN 3606	DEC NO. EIA NO.



This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

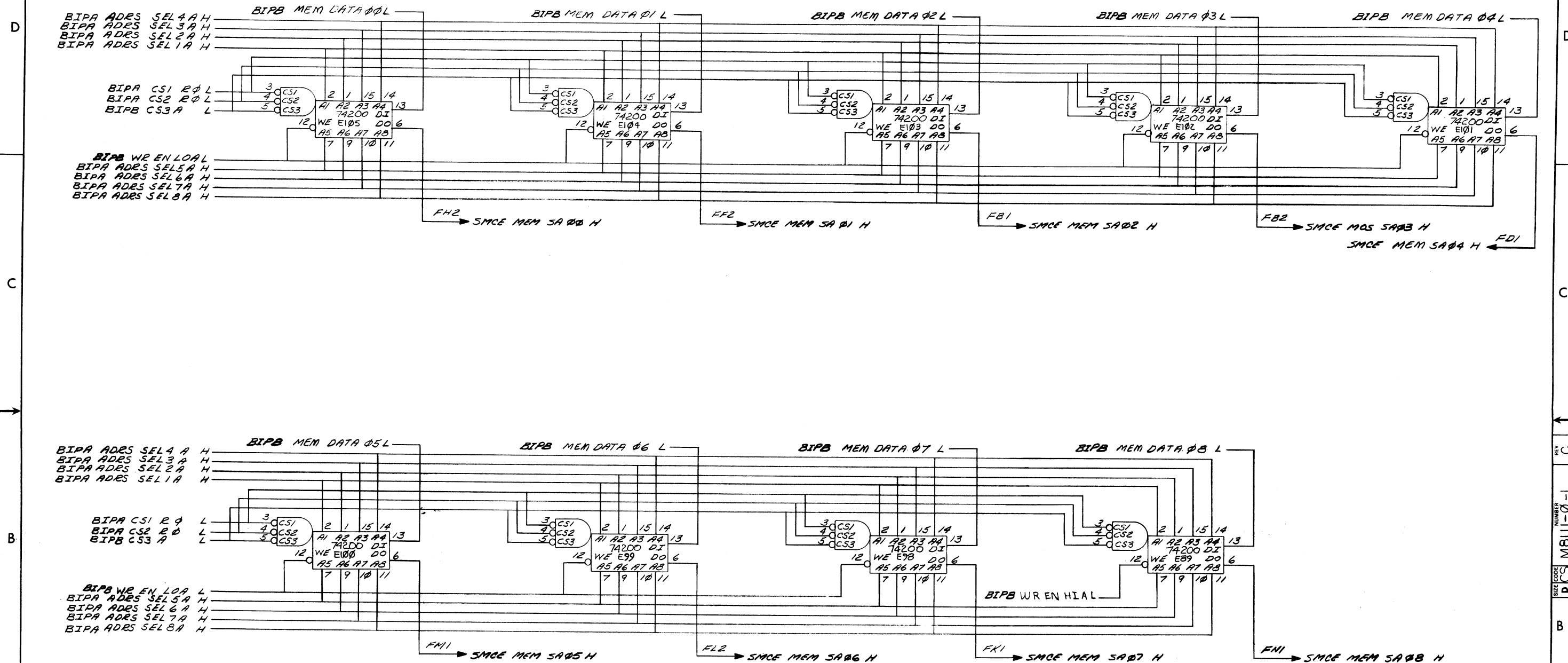


MAD BIT	K-WORD
14 13 11 10	1ST
0 0 0 0	2ND
0 0 0 1	3RD
0 0 1 0	4TH
0 0 1 1	5TH
0 1 0 0	6TH
0 1 0 1	7TH
0 1 1 0	8TH
0 1 1 1	9TH
1 0 0 0	10TH
1 0 0 1	11TH
1 0 1 0	12TH
1 0 1 1	13TH
1 1 0 0	14TH
1 1 0 1	15TH
1 1 1 0	16TH

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN	DATE	PARTS LIST	
DECIMALS .XXX = .005		CHK'D	10/28/71	digital EQUIPMENT CORPORATION	
ANGLES .XX = .02		ENG.	DATE	MAYNARD, MASSACHUSETTS	
X = .1		PROJ. ENG.	7/1/72	TITLE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	MEMORY MATRIX, BIPOLAR (BIPB)	
MATERIAL		NEXT HIGHER ASSY.	4-13-72	SIZE CODE	
FINISH		B-DD-MSII-C		NUMBER	
		SCALE		REV.	
		SHEET 3 OF 11		C	
		DIST.			

REVISIONS	REV
CHANGE NO.	
CHK	

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.



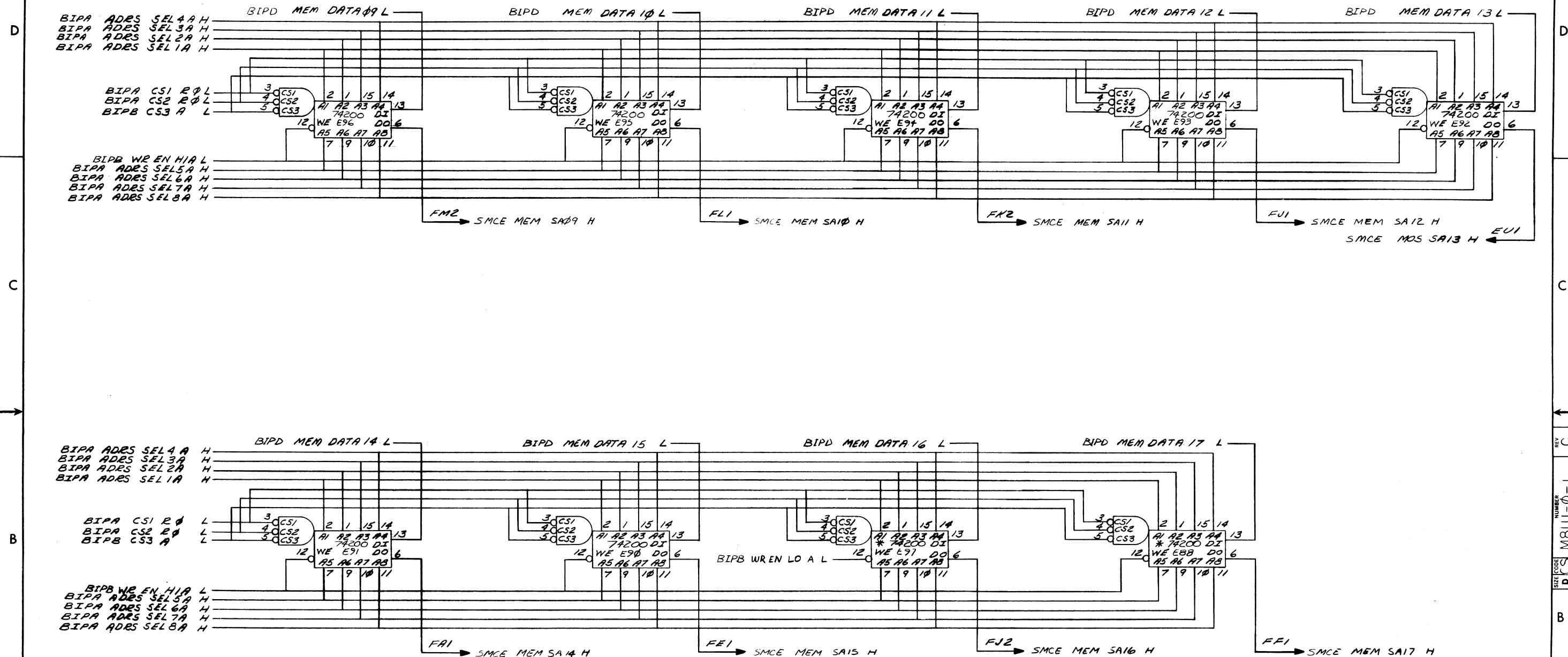
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
		CHK'D.	DATE		
DECIMALS	ANGLES	ENG.	DATE	TITLE MEMORY MATRIX, BIPOLAR (BIPC)	
.XXX = .005 .XX = .02 .X = .1	±0° 30'	PROD. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE		
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH		B-DD-MSII-C		DCS	M8111-0-1
		SCALE			
		SHEET 4 OF 11		DIST.	

REV.	CHANGE NO.
1	1

DEC FORM NO
DRD 102-B

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

1-0-1118W SC 2



ROW 0 BITS 09-17 SLOTS 17-20, 22-25

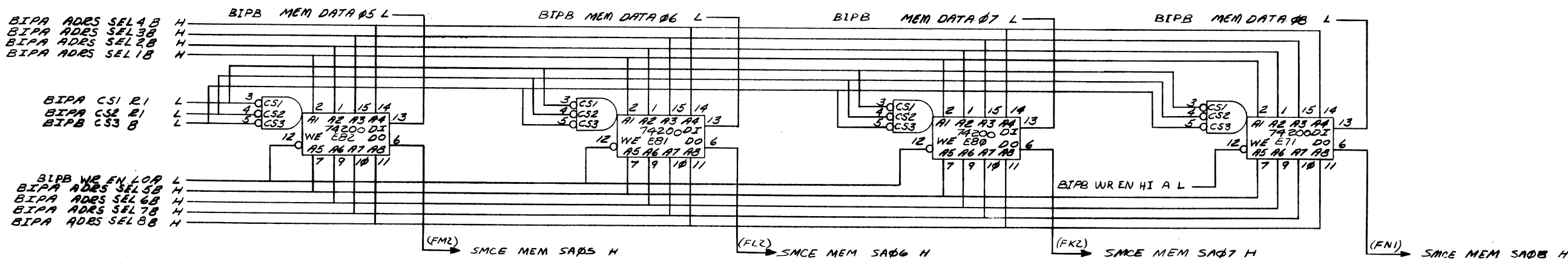
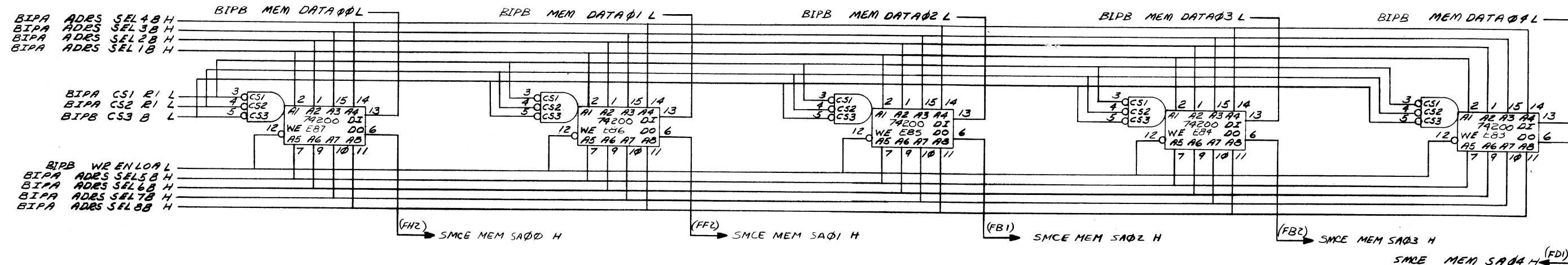
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN. CHKD. ENG. PROD. ENG. PROD.	DATE 9-7-71 DATE 11/10/70 DATE 11/14/72 DATE 7/10/72 DATE 1/13/78	PARTS LIST	
DECIMALS		ANGLES		digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
.XXX - .005		± 0° 30'		TITLE	
.XX - .02		X = .1		MEMORY MATRIX, BIPOLAR (BIPD)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.		SIZE CODE	
MATERIAL		B-DD-MS11-C		NUMBER	
FINISH		SCALE		DCS M8111-0-1	
SHEET 5 OF 11		DIST.		REV. C	

REV.	CHG.	NO.
1	1	1

DEC FORM NO
DRD 102-B

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

1-0-1118W SCS 2

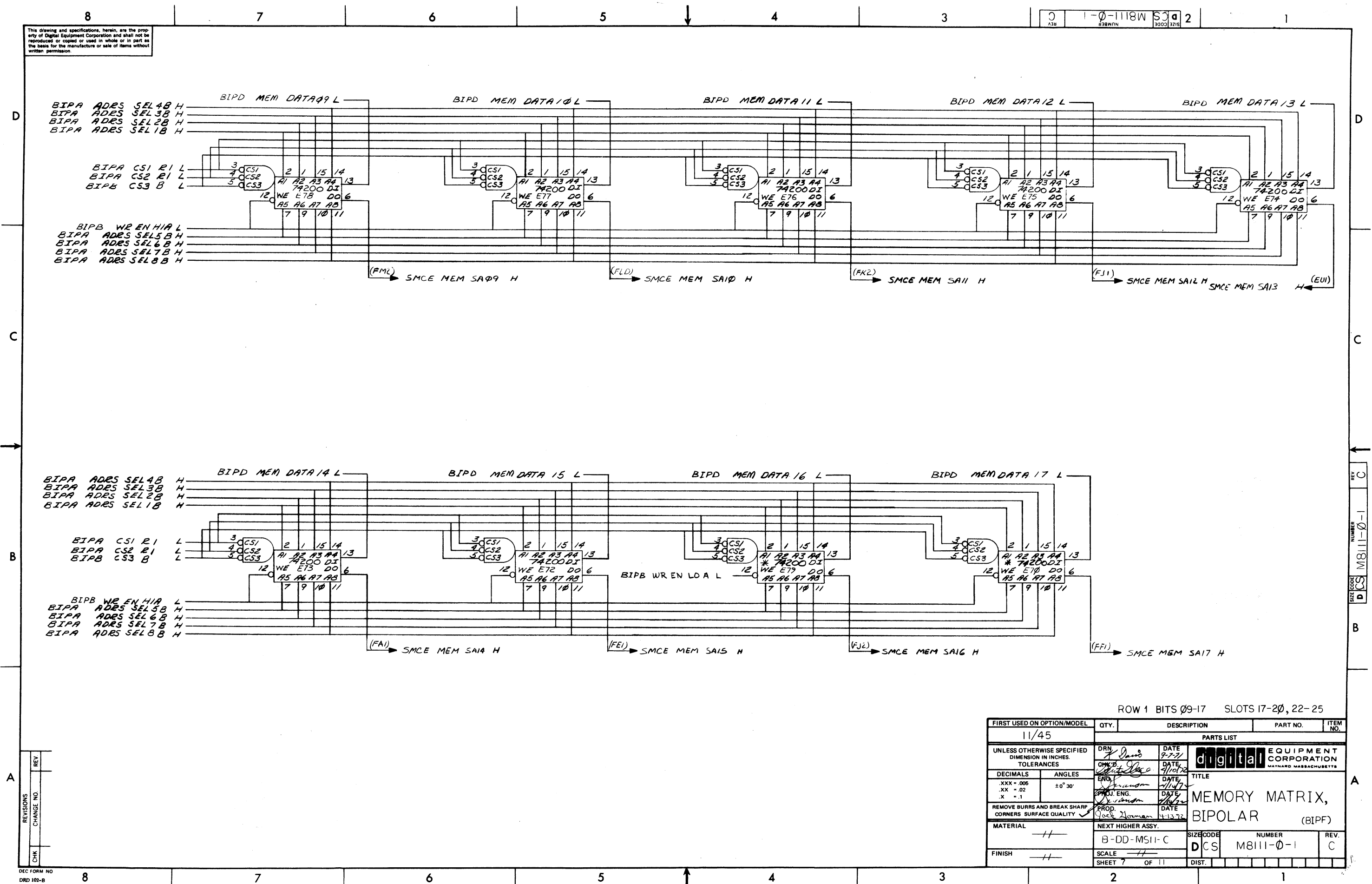


ROW 1 BITS 00-08 SLOTS 17-20, 22-25

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN. <i>F. Davis</i>	DATE 9-7-71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		CHK'D. <i>John P. Davis</i>	DATE 4/10/72		
ANGLES		ENG. <i>John P. Davis</i>	DATE 4/10/72		
.XXX = .005 .XX = .02 .X = .1		PROD. ENG. <i>John P. Davis</i>	DATE 4/10/72		
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY ✓		PROD. <i>John P. Davis</i>	DATE 4-13-72	TITLE MEMORY MATRIX, BIPOLAR (BIPE)	
MATERIAL --/--		NEXT HIGHER ASSY. B-DD-MS11-C			SIZE CODE D CS
FINISH --/--		SCALE SHEET 6 OF 11			NUMBER M8111-0-1
		DIST.			REV. C

REV.	CHANGE NO.
1	1

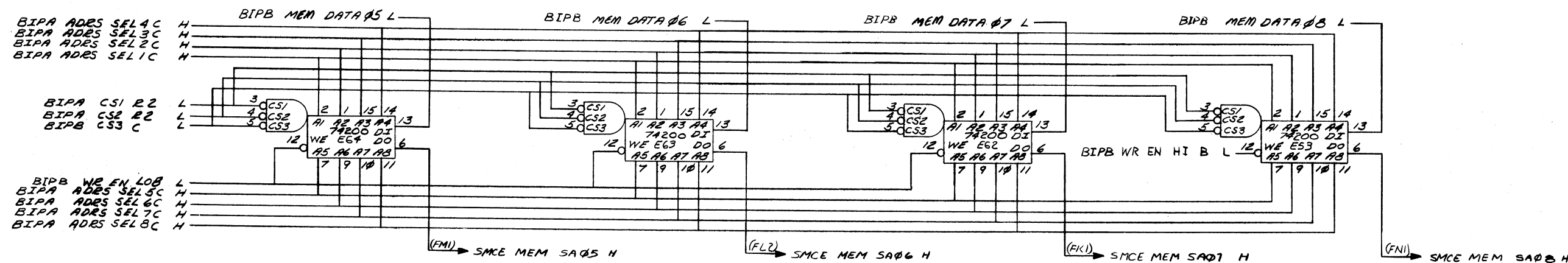
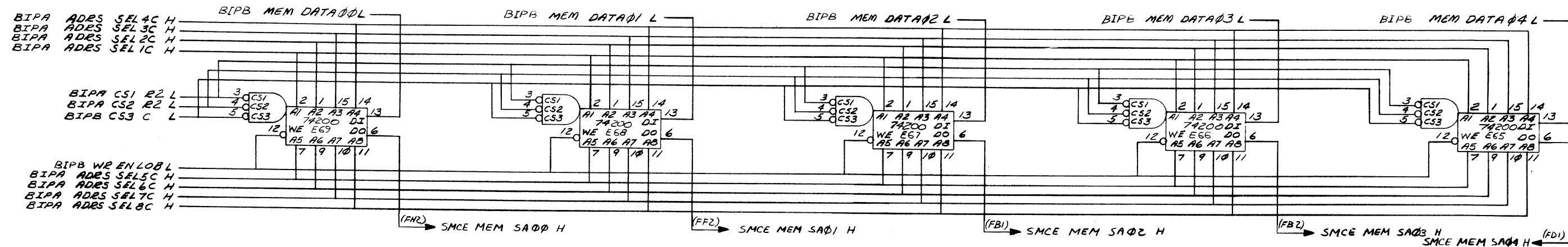
DEC FORM NO
DRD 102-B



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45		PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN <i>J Davis</i>	DATE 9-7-71	 DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
		CHK'D <i>John Doe</i>	DATE 9/10/72		
		END <i>John Doe</i>	DATE 11/14/72		
		PROJ. ENG. <i>John Doe</i>	DATE 1/16/72		
DECIMALS .XXX = .006 .XX = .02 .X = .1	ANGLES ±0° 30'	PROD. <i>John Doe</i>	DATE 4-13-72	TITLE MEMORY MATRIX, BIPOLAR (BIPF)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL — / —	NEXT HIGHER ASSY. B-DD-MS11-C		SIZE CODE D CS	NUMBER M811-0-1	REV. C
FINISH — / —	SCALE SHEET 7 OF 11		DIST		

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

1-0-1118W SC 2



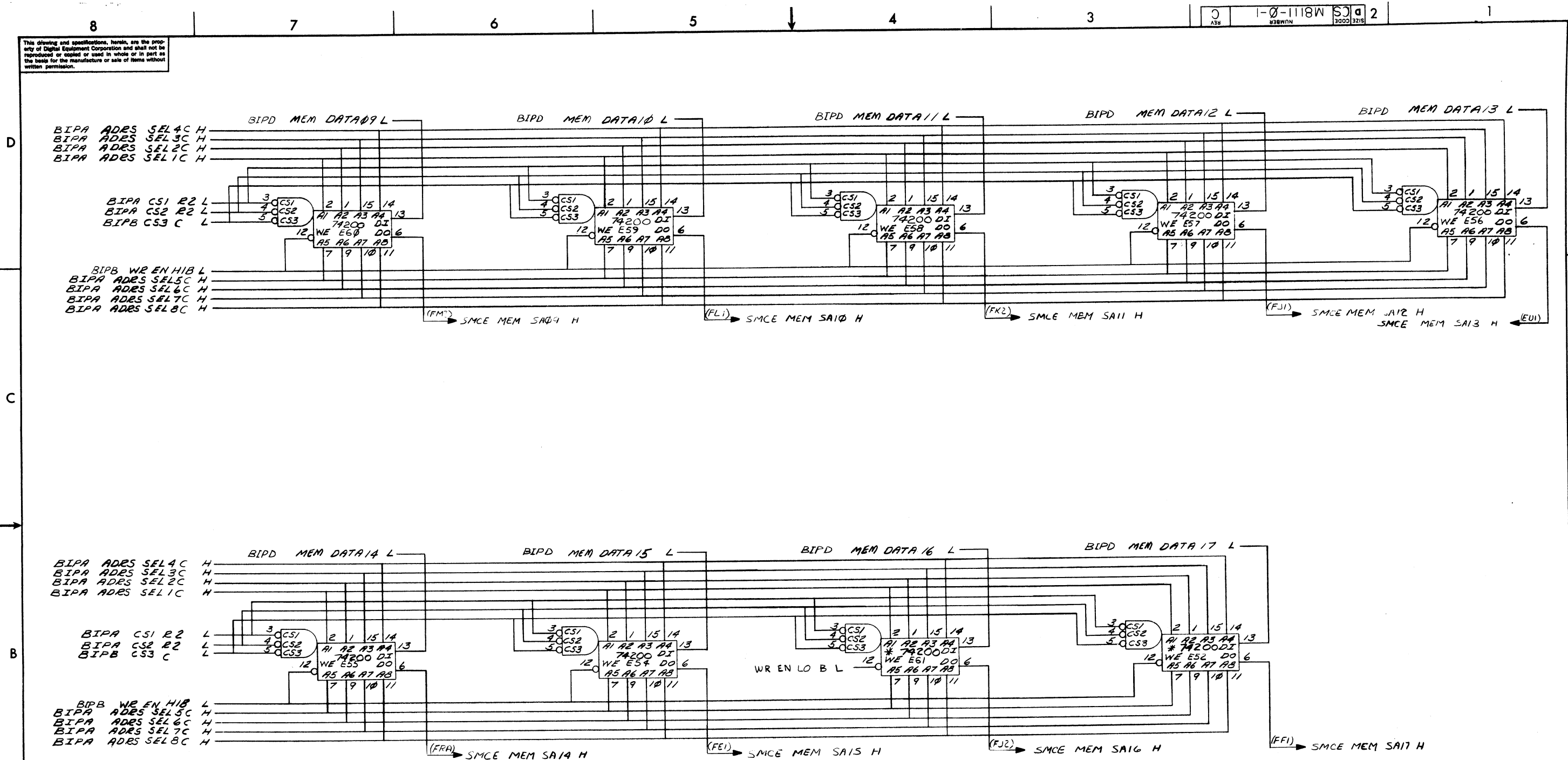
ROW 2 BITS 00-08 SLOTS 17-20, 22-25

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN A. Davis	DATE 9-7-71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS ANGLES	CHKD A. Davis	DATE 11/10/72		
.XXX = .006 .XX = .02 .X = .1	ENG. A. Davis	DATE 11/14/72	TITLE MEMORY MATRIX, BIPOLAR (BIPH)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. Jack Norman	DATE 4-13-72		
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
FINISH	B-DD-MSII-C	DCS	M8111-0-1	C
SCALE	SHEET 8 OF 11	DIST.		

REVISIONS
CHANGE NO.
CHK

DEC FORM NO
DRD 102-B

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.



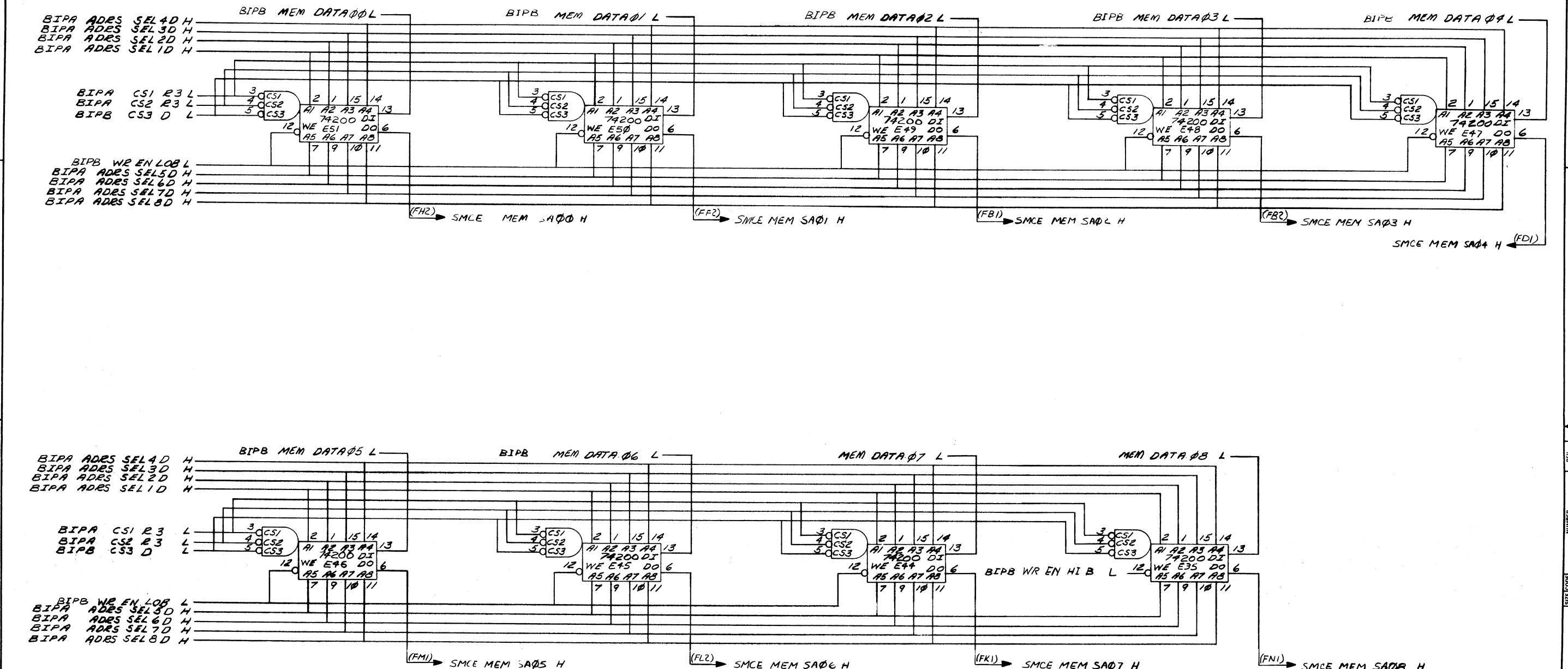
REV	CHG	NO
1	1	1

DEC FORM NO
DRD 102-B

ROW 2 BITS 09-17 SLOTS 17-20, 22-25

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN. <i>A. S. S.</i> DATE 9-7-71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS .XXX ± .006 .XX ± .02 .X ± .1		CHKD. <i>A. S. S.</i> DATE 9-10-72		
ANGLES ± 0° 30'		ENG. <i>A. S. S.</i> DATE 11-4-72	TITLE MEMORY MATRIX, BIPOLAR (BIPJ)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD. <i>A. S. S.</i> DATE 11-13-72		
MATERIAL 11		NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH 11		B-DD-MSII-C	DCS	M8111-0-1
		SCALE 11	SHEET 9 OF 11	REV. C
			DIST.	

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.

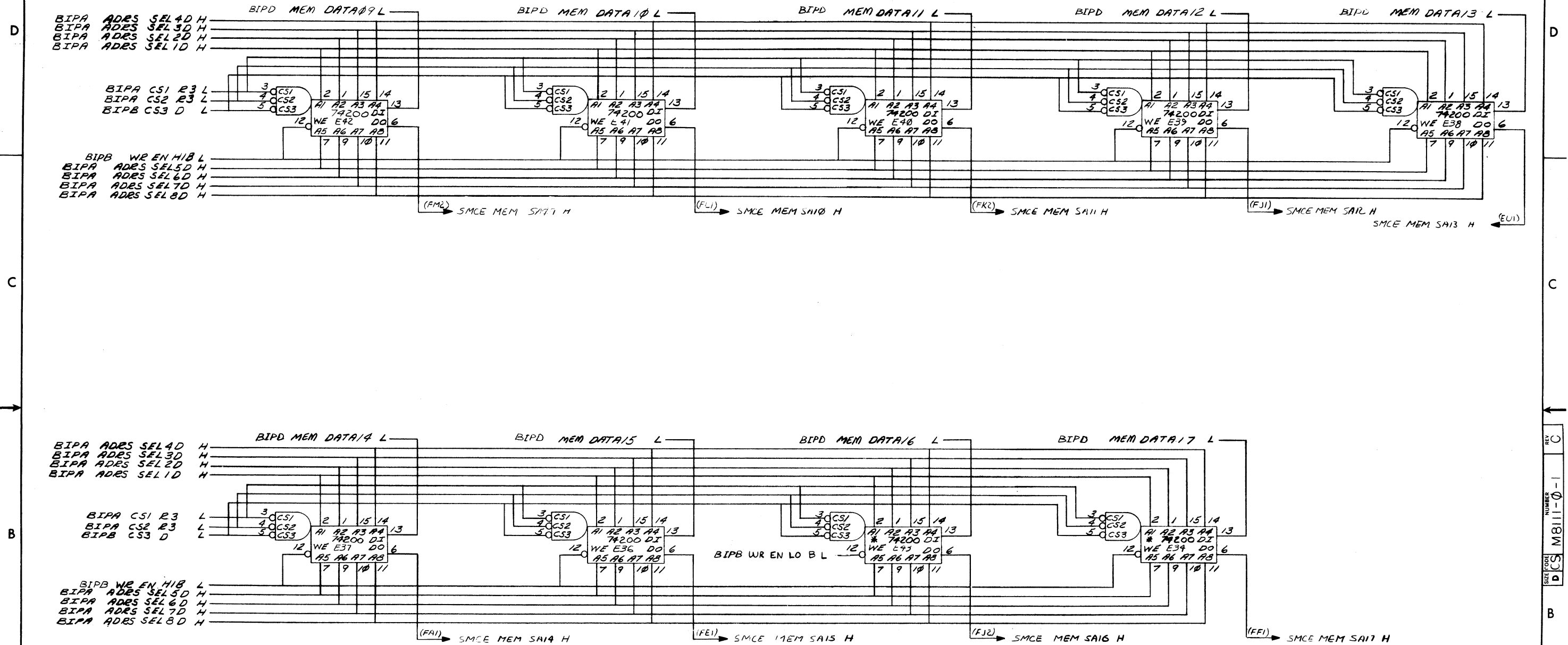


REV	NO.
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

DEC FORM NO
DRD 102-B

ROW 3 BITS 00-08		SLOTS 17-20, 22-25	
FIRST USED ON OPTION/MODEL 11/45	QTY.	DESCRIPTION	PART NO.
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DATE 9-7-71	DATE 9-7-71
DECIMALS	ANGLES	DATE 9-7-71	DATE 9-7-71
.XXX ± .005	± 0° 30'	DATE 9-7-71	DATE 9-7-71
.XX ± .02		DATE 9-7-71	DATE 9-7-71
.X ± .1		DATE 9-7-71	DATE 9-7-71
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 9-7-71	DATE 9-7-71
MATERIAL	NEXT HIGHER ASSY.	TITLE	
FINISH	B-DD-MSII-C	MEMORY MATRIX, BIPOLAR (BIPK)	
SCALE	10 OF 11	SIZE CODE D CS	NUMBER M8111-0-1
SHEET	10 OF 11	REV. C	

This drawing and specifications, herein, are the property of Digital Equipment Corporation and shall not be reproduced or copied or used in whole or in part as the basis for the manufacture or sale of items without written permission.



ROW 3 BITS 09 17

SLOT 17-20 22-25

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XXX = .005	± 0° 30'	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
.XX = .02		TITLE		
.X = .1		MEMORY MATRIX, BIPOLAR (BIPL)		
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY		DATE 4/13/78		
MATERIAL		NEXT HIGHER ASSY.		
FINISH		B-DD-MS11-C		
SCALE		SIZE CODE DCS		
SHEET 11 OF 11		NUMBER M8111-0-1		
		REV. C		

REV.	CHG.	NO.
1	1	1

DEC FORM NO. DRD 100-B



DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS 01754