

FIELD MAINTENANCE PRINT SET

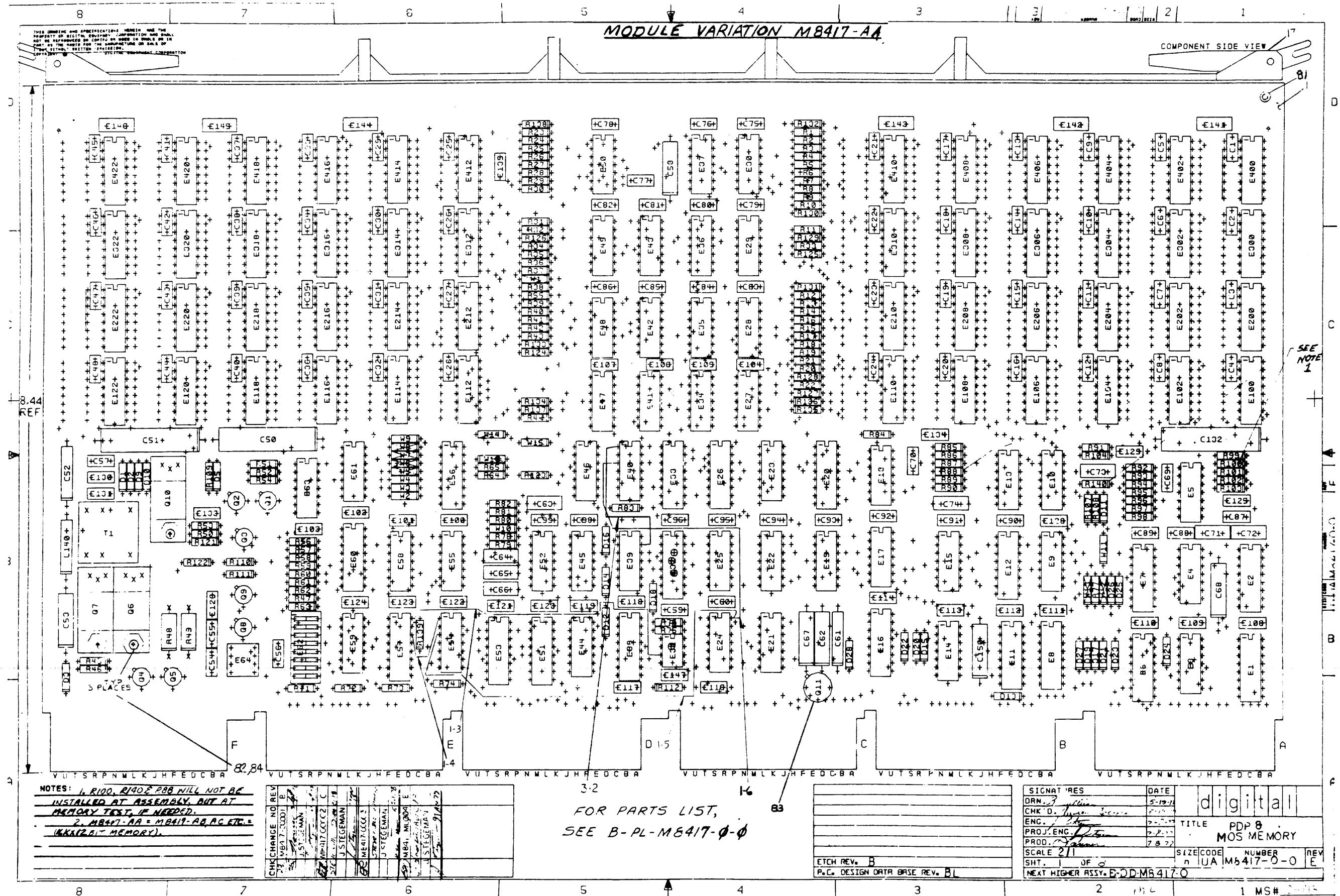
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ACCEPTANCE PROCEDURE |

MS8-C
**Field Maintenance
Print Set**

**Digital Equipment
Corporation**

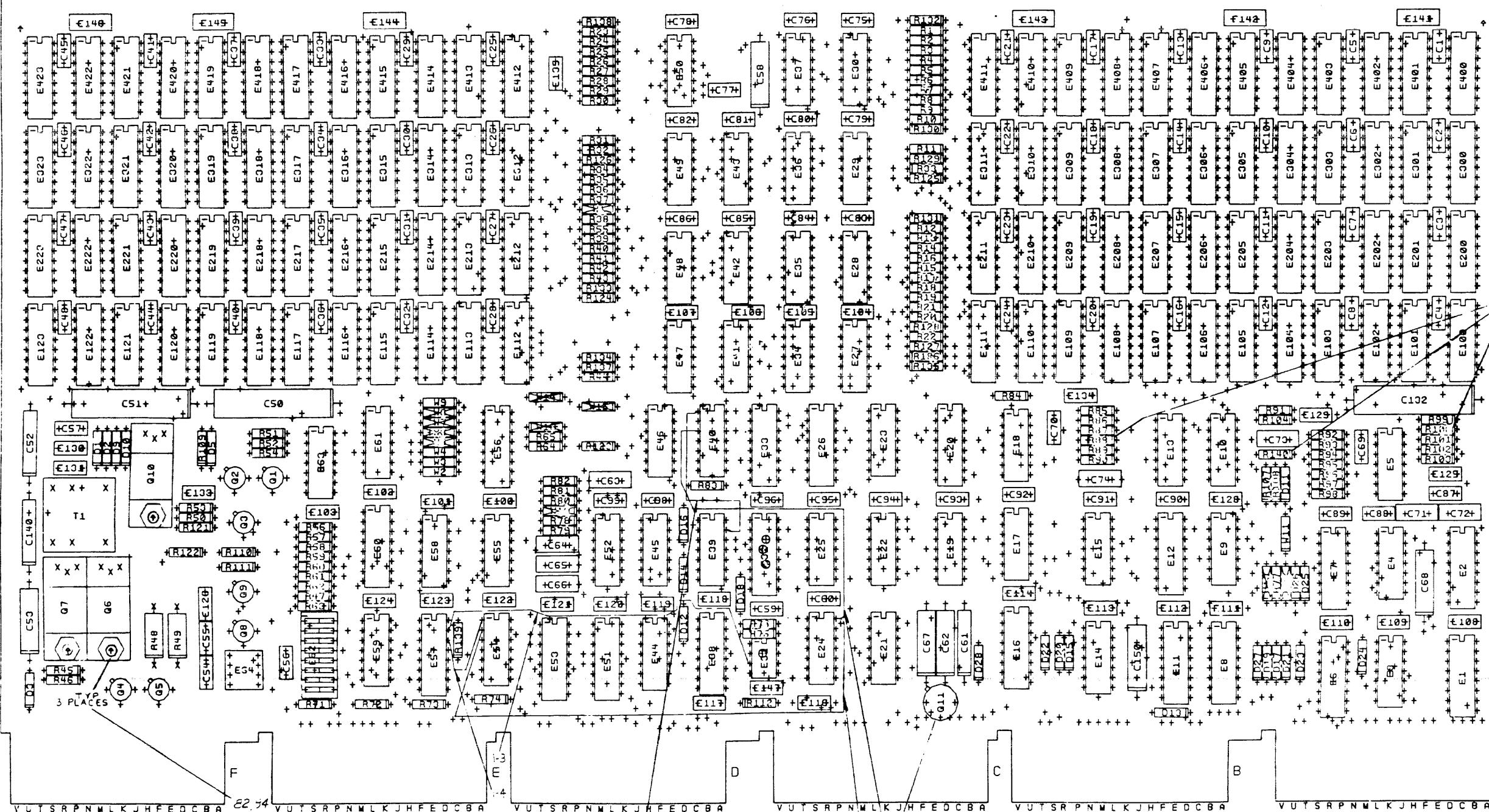
PRINT SET ORDER NO.
MPØØ447



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MODULE VARIATION M8417-BA

COMPONENT SIDE VIEW



NOTES:
1. R100, E100 & R00 WILL NOT BE
INSTALLED AT ASSEMBLY BUT AT
MEMORY TEST, IF NEEDED.
2. M8417-BA = M8417-B0, B0C, ETC =
(32KX12 BIT MEMORY).

CHG/CHANGE NO	REV
FOR PARTS LIST SEE B-PL M8417-0-0	

3.2
FOR PARTS LIST
SEE B-PL M8417-0-0

ETCH REV:	P.C. DESIGN DATA BASE REV:
SIGNATURES	
DRN:	DATE
CHK'D:	5-19-71
ENG:	Circ
PROJ. ENG:	7-2-71
PROD:	7-9-71
SCALE 2:1	SIZE CODE
SHT. 2 OF 8	NUMBER
NEXT HIGHER ASSY: 1 IN 3-1170	

digital	TITLE PDI
MOS MEMORY	
0 UA M8417-0-0	REV

8

7

6

5

4

3

2

1

LAYER 1

M8417

5012701B

CSABCDEFGHIJKLMNPRS

E423 E422 E421 E420 E419 E418 E417 E416 E415 E414 E413 E412

E60

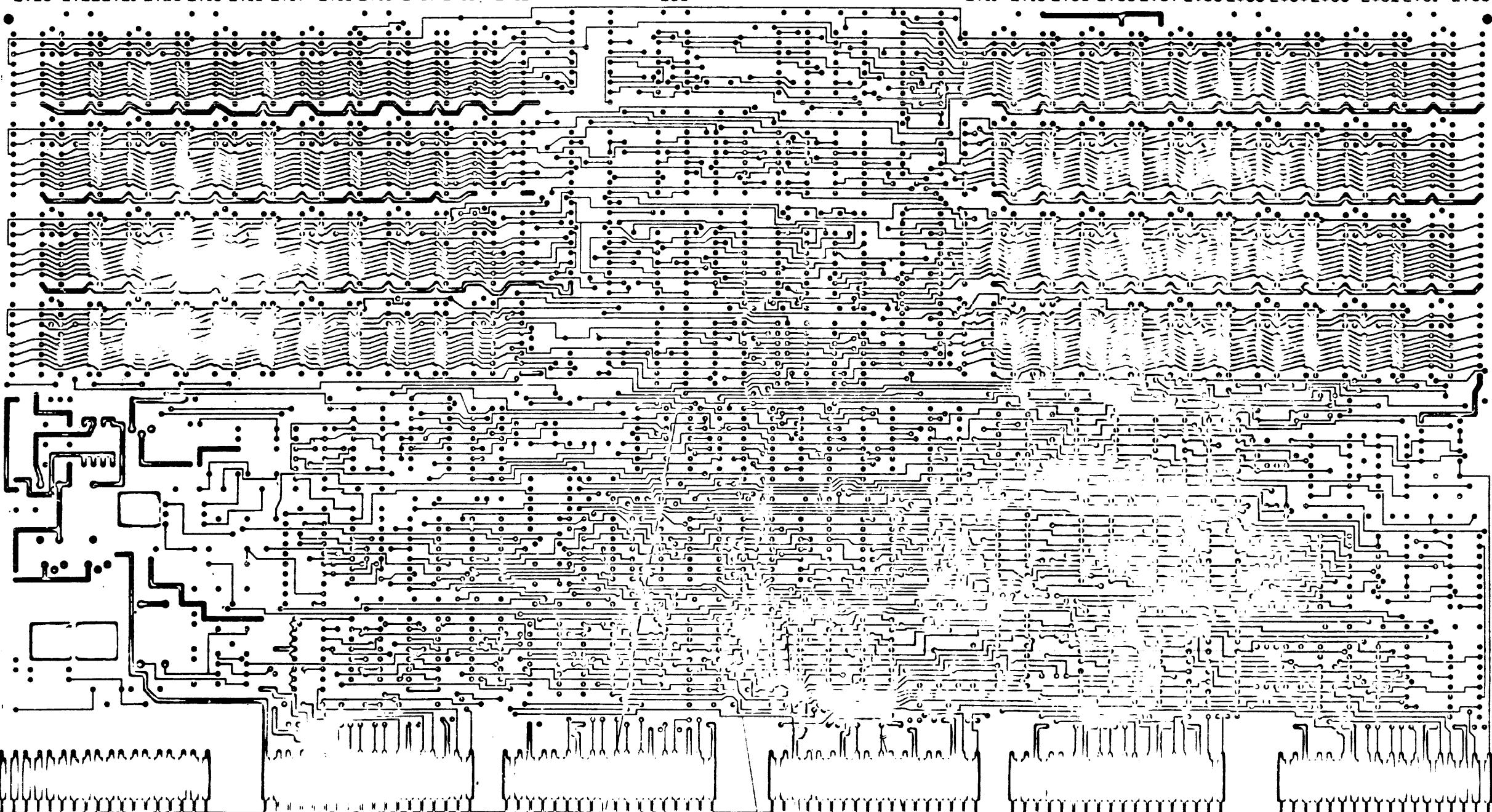
E37

E30

SIDE 1

digital

E411 E410 E409 E408 E407 E406 E405 E404 E403 E402 E401 E400



3-1

1-1

1-2

2-1

3

2 MC

PDP8
MOS MEMORY
2/1 SHEET 3 OF 8
DATE 1/11/83

2 MC
DJA M8417-2-0
REV E

163

8

7

6

5

4

3

1

DUA M8417-0-0

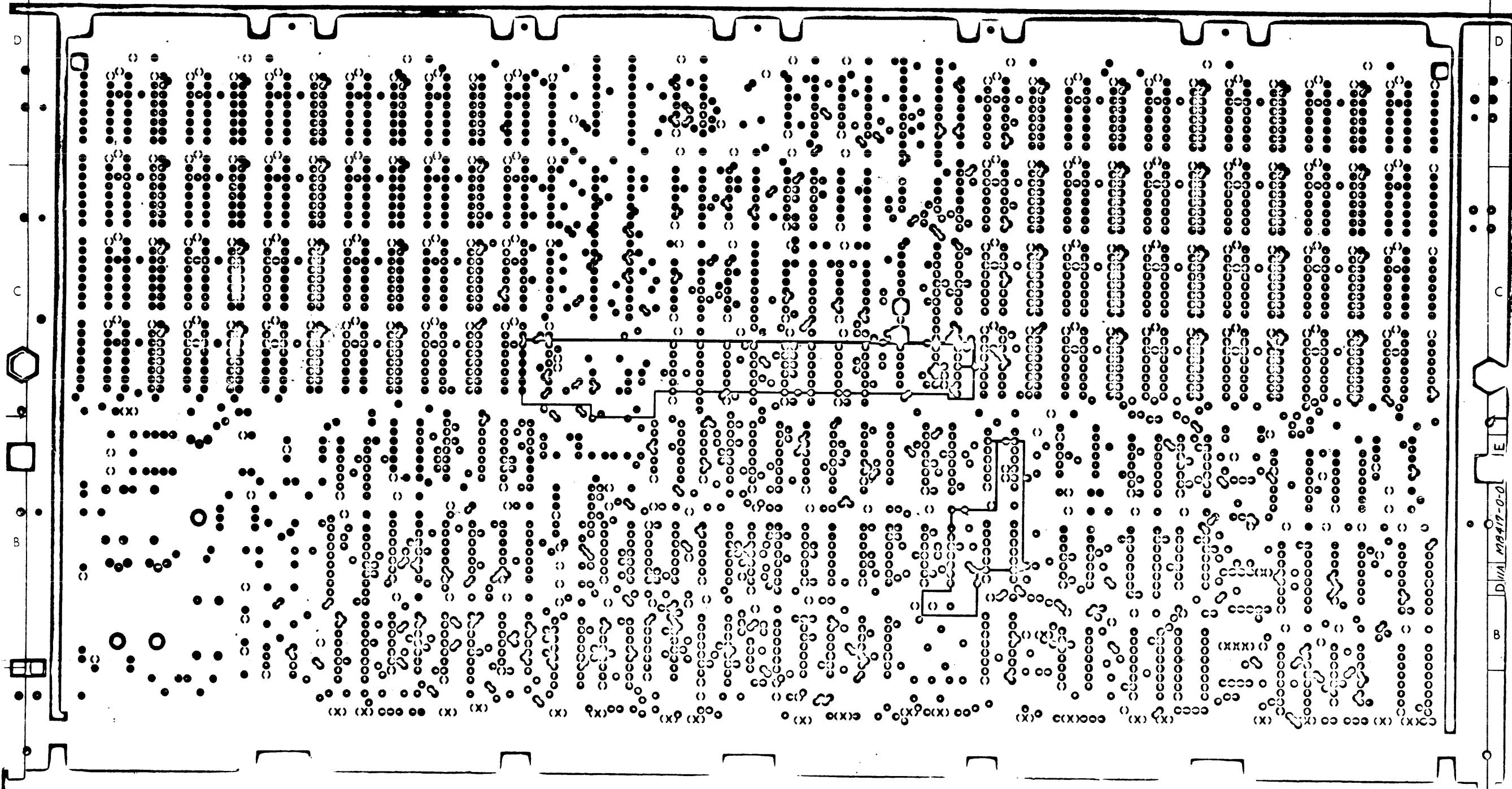
E

2

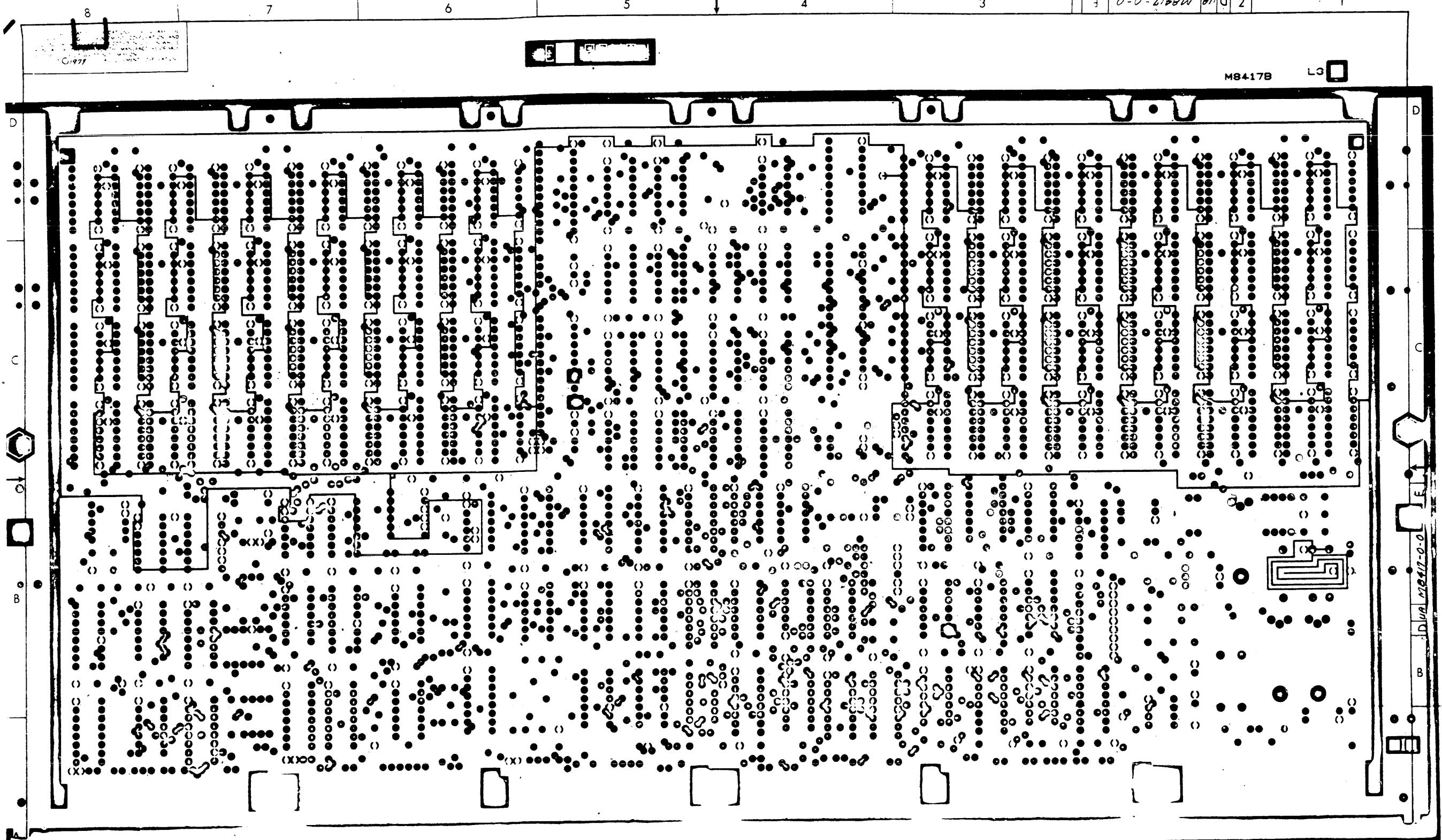
1

M8417

6012701B



TITLE PDP8
MOS MEMORY
SCALE 2/1 SHEET 4 OF 3
REV E
DUA M8417-0-0
164 8 7 6 5 4 3 2 1



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

PDPA
MOS MEMORY

SIZE 10.5" X 8.5"
DUA M8417-0-0

REV E

SCAL. 2/1 SHEET 5 OF 8 DIST.

165

8 7 6 5 4 3 2 D/A 16417-0-0 1

H A E Y A J

L4

PDP8 MOS MEMORY

M8417 6012701B

SIDE 2

2-2

166 8 7 6 5 4 3 2 1

PDP8
MOS MEMORY
D/A M8417-0-0
SCALE 211 SHEET 6 OF 8
REV E

8

7

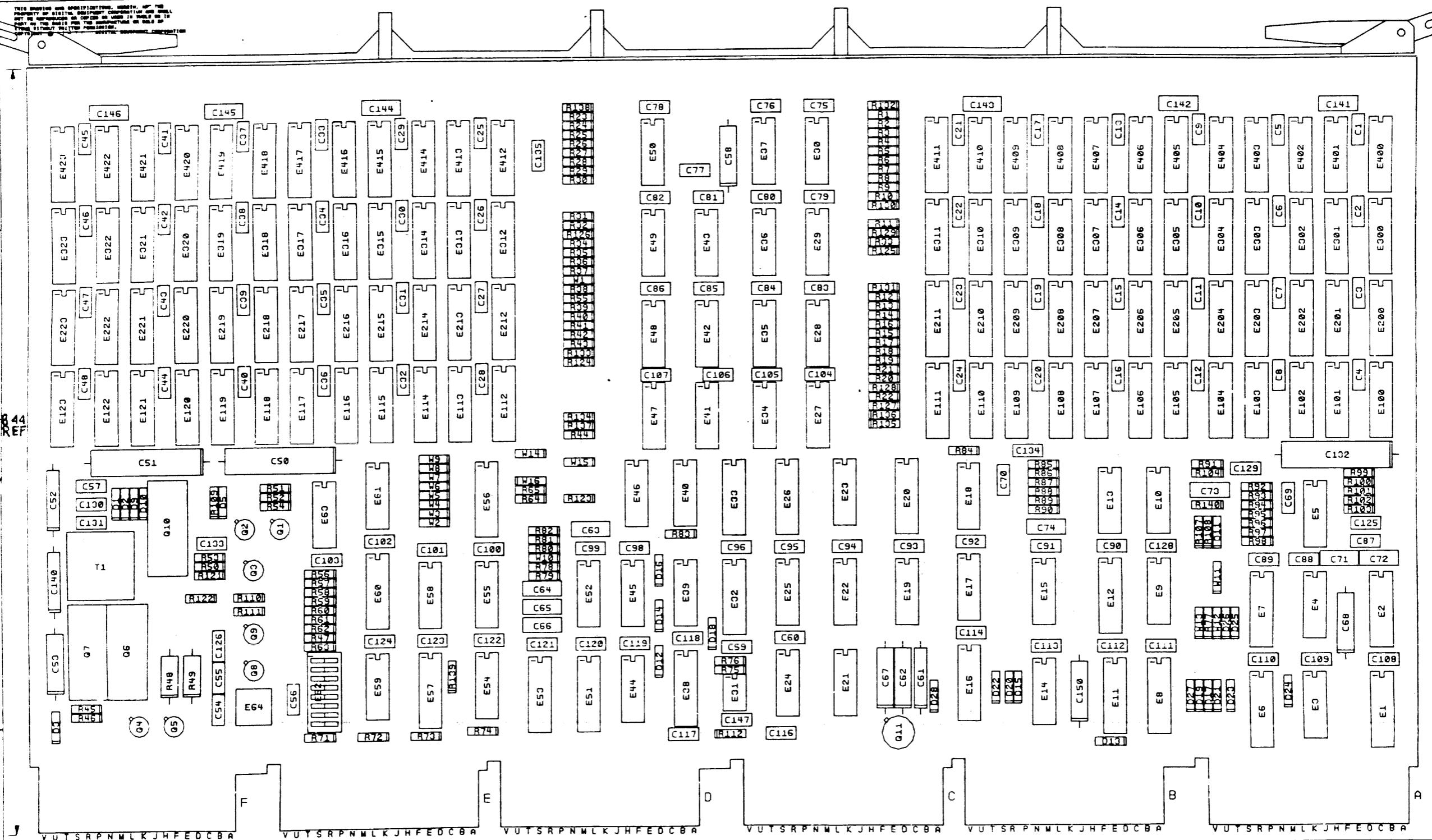
8

1

A

3

7



NOTES:

CHANCE NO	
REV	

DWG - REF ONLY

SIGNATURES	DATE	digital			
DRW: <i>Sullivan</i>	5-19-71				
CHK'D: <i>A. Bryan</i>	5-19-71				
ENG:	7/8/71	TITLE FDP 8			
PROJ. ENG. <i>J. D. Brown</i>	7/8/71	MOS MEMORY			
PROD. <i>C. L. Smith</i>	7-8-71				
SCALE 2:1	577 CODE NUMBER	REV			
SHT. 7 OF 8	0 UAM MOS 7-0-C	C			
NEXT HIGH? ASSY: B-DI-NR417-0					

8

7

6

1

1

1

1

167

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REWORK INSTRUCTIONS

ECO #1

ETCH CUTS SIDE 1:

1-1 CUT ETCH TO FREE E31-3

1-2 CUT ETCH TO FREE E31-3

WIRE ADDS SIDE 1:

1-3 WIRE E31-3 TO E57-15

1-4 WIRE E57-14 TO E54-1

1-5 WIRE E54-2 TO E24-14

1-6 WIRE E24-14 TO E40-3

ECO #2

ETCH CUTS SIDE 1:

2-1 CUT ETCH BETWEEN PIN CK1 & FEED THRU.

WIRE ADDS SIDE 2:

2-2 WIRE PIN CP2 TO FEEDTHRU ABOVE

CK2 PER PROCEDURE IN MODULE REWORK

SPECIFICATION A-SP-7665265-0-0

ECO #3

ETCH CUTS SIDE 1:

3-1 CUT ETCH TO FREE E40-1

WIRE ADDS SIDE 1:

3-2 FROM E40-1 TO E39-13.

REVISIONS		
CHK	CHANGE NO	REV

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1 1	D-UA-M8417-0-0		UNIT ASSY	REF	
2 2	D-UA-M8417-0-0		UNIT ASSY	REF	
3 3		5012701-00	50-12701 32KX12 MOS MEMORX	1	
4 4		1000006-00	10.0 MMF 100V 5&200PPM DM15S	1	C66
5 5		1000016-00	100.0 MMF 100V 5&200PPM DM15S	1	C64
6 6		1000042-00	1000.0 MMF 100V 5&200PPM DM15S	1	C65
7 7		1001610-01	.01 MFD 100V -20+80 25U DISC	53	C60,C75-C96,C98-C114,C116-C125,C126,C129, CONT C147
8 8		1005306-00	6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9 9		1010274-00	.22 MFD 50V -20+80 25U CER	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10 10		1010279-00	.47 MFD 25V 20% 2C023 CER.	6	C54-C56,C126,C130,C131
11 11		1012084-01	8 MFD 25V G8 30D AL EL	1	C52
12 12		1012121-00	220.0 MMF 100V 1&200PPM DM15S	6	C59,C63,C71-C74
13 13		1012219-00	47. MFD 30V G8 600D AL EL	3	C50,C51,C132
14 14		1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15 15		1104860-00	1N 746A VZ= 3.3 5%	1	D5
16 16		1105275-00	D 672 TR= 15NS PIV= 60V SI	21	D1,D2,D9-D27
17 17		1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18 18		1211164-04	SW,DIP 1P 1A 8POS	1	E62
19 19		1210711-02	HANDLE,MODULE,HEX	1	
20 20		1300250-00	150 1/4W 5% CC	1	R47
21 21		1300271-00	220 1/4W 5% CC	16	R123-R138
22 22		1300316-00	470 1/4W 5% CC	2	R46,R51
23 23		1300365-00	1 K 1/4W 5% CC	9	R45,R50,R53,R54,R82-R84,R103,R104
24 24		1300447-00	4.7 K 1/4W 5% CC	15	R55-R65,R77,R78-R81,R139
25 25		1300479-00	10 K 1/4W 5% CC	6	R71-R74,R121,R122
26 26		1302124-00	18 1/4W 5% CC	46	R1-R44,R90,R98
27 27		1302377-00	39 1/4W 5% CC	5	R52,R109-R112
28 28		1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29 29		1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY		SECTION 1 OF 8	RESP. ENG.: J. STEGEMAN	DATE: 30-MAY-78	D	I	G	I	T	A	L
ENG:	ECO NUMBER	REV	SECTION. VARIATION INDEX	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE PARTS LIST					
E.R10003	D					PDP8 MOS MEMORY					
J.SIM8417-ML004	E		1.AB	DSN.ENG.: J. STEGEMAN	DATE: 30-MAY-78	SIZE	CODE	DOCUMENT NUMBER	REV		
			2.AD	CHECKED: P. BOSSMAN	DATE: 30-MAY-78	K	PL	M8417-0-DBP	E		
			3.AC								
			4.AE								
			5.BB								
			6.BC								
			7.BD								
			8.BE								
			9.								
			10.								
			11.								
			12.	ASSEMBLY NUMBER: D-UA-M8417-0-0		PART NUMBER: M8417-AB	11				

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
30	30	1302872-00	681 1/4W 1% RN55D-F 100PPM	1	R89
31	31	1302956-00	196 1/4W 1% RN55D-F 100PPM	1	R94
32	32	1302957-00	121 1/4W 1% RN55D-F 100PPM	1	R101
33	33	1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	1	R76
34	34	1303067-00	422 1/4W 1% RN55D-F 100PPM	1	R99
35	35	1303110-00	19.6 1/4W 1% RN55D-F 100PPM	1	R93
36	36	1303226-00	68.1 1/4W 1% RN55D-F 100PPM	1	R86
37	37	1303311-00	46.4 K 1/4W 1% RN55D-F 100PPM	1	R75
38	38	1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R97
39	39	1304725-00	300 1/4W 1% RN55D-F 100PPM	1	R107
40	40	SEE NOTE 90	1.96 K 1/4W 1% RN55D-F 100PPM	1	R92
41	41		51.1 1/4W 1% RN55D-F 100PPM	1	R85
42	42		215 1/4W 1% RN55D-F 100PPM	2	R91,R102
43	43		825 1/4W 1% RN55D-F 100PPM	2	R95,R79
44	44	SEE NOTE 90	7.15 K 1/4W 1% RN55D-F 100PPM	1	R87
45	45		68 1/2W 5% CC	2	R48,R49
46	46		DEC3009B NPN 200MW SI 20 25	7	Q1-Q5,Q8,Q9
47	47		D 44C3 NPN 30WT SI 30 20 Y	2	Q6,Q7
48	48		XFMR, CONVERTER, RATIO 1:3 300UH	1	T1
49	49		7493 COUNTER, ASYNCH UP,BI	2	E21,E24
50	50		DEC 8881 NAND GATE-QUAD 2IN O	4	E3,E14,E17,E44
51	51		DEC 75107B-01 RECEIVER, LINE,DUA	3	E5,E10,E18
52	52		75451 DRIVER, PERIPH,DUAL,	1	E64
53	53		74800 NAND GATE-QUAD 2IN	6	E4,E34,E37,E42,E43,E55
54	54		74S03 NAND GATE-QUAD 2IN,O	1	E13
55	55		74S04 INVERTER GATE-HEX 1I	2	E22,E54
56	56		74S10 NAND GATE-TRIPLE 3IN	3	E19,E61,E63
57	57		74S20 NAND GATE-DUAL 4INPU	1	E59
58	58		74S64 A-O-I GATE 4-2-3-2	1	E15
59	59		74S74-60GG-D DUAL,EDGE TRIG	1	E39
60	60		74S112 FF-JK DUAL,EDGE TRIG	3	E7,E20,E32
61	61		74S158 MUX 1 OF 2 (QUAD)	2	E26,E33
62	62		DEC 8837 RECEIVER, BUS, HEX,UN	5	E6,E8,E16,E38,E57
63	63		DEC 8640 RECEIVER, BUS, QUAD,U	1	E45
64	64		8641 TRANSCEIVER, BUS, QUA	3	E1,E11,E51
65	65		74S139 DECODER-DUAL TWO-INP	1	E56
66	66		74S51 AND-OR GATE-INVERT D	1	E58
67	67		555CN TIMER, FUNCT.BLOCK	1	E31
68	68		74S133 NAND GATE-POSITIVE 1	1	E60
69	69	SEE NOTE 92	DEC 7812-02 VOLT REG, FIXED +12	1	Q10
70	70		74S02 NOR GATE-QUAD 2IN,P0	3	E9,E25,E46
71	71		74S08 AND GATE-QUAD 2IN,P0	1	E23
72	72		VOLT.REG.FIX -	1	Q11
73	73		LS75 LATCH 4BIT,BISTABLE	3	E2,E12,E53
74	74		DEC 74S37 NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50
75	75		LS04 INVERTER GATE-HEX 1I	1	E52
76	76		LS74 FF-D DUAL,EDGE TRIGG	1	E40
77	77		4K MOS RAM 200NS 1	48	E100,E102,E104,E106,E108,E110,E112,E114,

! D ! I ! G ! I ! T ! A ! L !	! TITLE	! SECTION	! 1 OF 8	! SIZE ! CODE !	DOCUMENT NUMBER	! REV !
! ! ! ! ! ! ! !	PDP8 MOS MEMORY	!	!	! K ! PL !	M8417-0-DBP	! E !
! ! ! ! ! ! ! !		!	!	! ! ! !		! ! ! !

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	*** THIS ITEM IS NOT USED ***	-	
79	79	2113914-01	*** THIS ITEM IS NOT USED ***	-	
80	80	SEE NOTE 91	*** THIS ITEM IS NOT USED ***	-	
81	81	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
82	82	USE WITH Q6,Q7,Q10	NUT,KEP , 4-40X 1/4 AF	3	
83	83	USE WITH Q11	TRANSIPADS #10146	1	
84	84	USE WITH Q6,Q7,Q10	SCREW,PAN ,PHIL, 4-40X 1/4	3	
85	85	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	6	W2,W3,W4,W9,W10,W11
86	86	9105740-55	WIRE(WRAP)30AWG	UL1423	A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)

88 NOTE: M8417-PA=M8417-BB,PC,BD,BE(32KX12)

89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB

90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.

91 NOTE: MIXING OF MOS FAMS IS NOT PERMITTED.

92 NOTE: REF ITEM #69 19-12448-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.

93 NOTE: -----

TITLE										! SIZE !	CODE !	DOCUMENT NUMBER	! REV !
0 ! I ! G ! 1 ! T ! A ! L !										! K ! PL !	! B !	M8417-0-DRP	! E !

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1	1	D-UA-M8417-0-0	UNIT ASSY		REF
2	2	D-UA-M8417-0-0	*** THIS ITEM IS NOT USED ***	-	
3	3	5012701-00	50-12701 32KX12 MOS MEMORX	1	
4	4	1000006-00	10.0 MMF 100V 5%200PPM DM15S	1	C66
5	5	1000016-00	100.0 MMF 100V 5%200PPM DM15S	1	C64
6	6	1000042-00	1000.0 MMF 100V 5%200PPM DM15S	1	C65
7	7	1001610-01	.01 MFD 100V -20+80 25U DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8	8	1005306-00	6.8MFD 35V 10% S.TANT	9	C53,C58,C67,C61,C62,C68,C140,C150
9	9	1010274-00	.22 MFD 50V -20+80 25U CER	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10	10	1010279-00	.47 MFD 25V 20% 2C023 CER.	6	C54-C56,C126,C130,C131
11	11	1012084-01	8 MFD 25V G% 300 AL EL	1	C52
12	12	1012121-00	220.0 MMF 100V 1%200PPM DM15S	6	C59,C63,C71-C74
13	13	1012219-00	47. MFD 30V G% 600D AL EL	3	C50,C51,C132
14	14	1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15	15	1104860-00	1N 746A VZ= 3.3 5%	1	D5
16	16	1105275-00	D 672 TR= 15NS PIV= 60V SI	21	D1,D2,D9-D27
17	17	1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18	18	1211164-04	SW,DIP 1P 1A 8POS	1	E62
19	19	1210711-02	HANDLE,MODULE,HEX	1	
20	20	1300250-00	150 1/4W 5%	1	R47
21	21	1300271-00	220 1/4W 5%	16	R123-R138
22	22	1300316-00	470 1/4W 5%	2	R46,R51
23	23	1300365-00	1 K 1/4W 5%	9	R45,R50,R53,R54,R82-R84,R103,R104
24	24	1300447-00	4.7 K 1/4W 5%	15	R55-R65,R77,R78,R81,R139
25	25	1300479-00	10 K 1/4W 5%	6	R71-R74,R121,R122
26	26	1302124-00	18 1/4W 5%	46	R1-R44,R90,R98
27	27	1302377-00	39 1/4W 5%	5	R52,R109-R112
28	28	1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29	29	1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY			SECTION 2 OF 8	RESP.ENG.: J. STEGEMAN	DATE: 30-MAY-78	D	I	G	I	T	A	L
ENG:	ECO NUMBER	REV	SECTION. VARIATION INDEX	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE		PARTS LIST				
E.R.00003	D		1.AB									
J.S.M8417-ML004	E		2.AD									
			3.AC									
			4.RE									
			5.BB									
			6.BC									
			7.BD									
			8.RE									
			9.									
			10.									
			11.									
			12.									
ASSEMBLY NUMBER: D-UA-M8417-0-0												
PART NUMBER: M8417-AD												

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30	30	1302872-00	681 1/4W 1% RN55D-F 100PPM	1	R89
31	31	1302956-00	196 1/4W 1% RN55D-F 100PPM	1	R94
32	32	1302957-00	121 1/4W 1% RN55D-F 100PPM	1	R101
33	33	1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	1	R76
34	34	1303067-00	422 1/4W 1% RN55D-F 100PPM	1	R99
35	35	1303110-00	19.6 1/4W 1% RN55D-F 100PPM	1	R93
36	36	1303226-00	68.1 1/4W 1% RN55D-F 100PPM	1	R86
37	37	1303311-20	46.4 K 1/4W 1% RN55D-F 100PPM	1	R75
38	38	1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R97
39	39	1304725-00	300 1/4W 1% RN55D-F 100PPM	1	R107
40	40	SEE NOTE 90	1.96 K 1/4W 1% RN55D-F 100PPM	1	R92
41	41	1305122-00	51.1 1/4W 1% RN55D-F 100PPM	1	R85
42	42	1305123-00	215 1/4W 1% RN55D-F 100PPM	2	R91,R102
43	43	1305143-00	825 1/4W 1% RN55D-F 100PPM	2	R95,R79
44	44	SEE NOTE 90	7.15 K 1/4W 1% RN55D-F 100PPM	1	R87
45	45	1309405-00	68 1/2W 5% CC	2	R48,R49
46	46	1503100-00	DEC3009H NPN 200MW SI 20 25	7	Q1-Q5,Q8,09
47	47	1510171-00	D 44C3 NPN 30WT SI 30 20 Y	2	Q6,Q7
48	48	1614234-00	XFMR, CONVERTER, RATIO 1:3 300UH	1	T1
49	49	1909054-00	7493 COUNTER, ASYNCH UP,BI	2	E21,E24
50	50	1909705-00	DEC 8881 NAND GATE-QUAD 2IN 0	4	E3,E14,E17,E44
51	51	1910268-01	DEC 75107B-01 RECEIVER, LINE,DUA	3	E5,E10,E18
52	52	1910406-00	75451 DRIVER, PERIPH, DUAL,	1	E64
53	53	1910532-00	74S00 NAND GATE-QUAD 2INS	6	E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03 NAND GATE-QUAD 2IN,0	1	E13
55	55	1910534-00	74S04 INVERTER GATE-HEX 11	2	E22,E54
56	56	1910536-00	74S10 NAND GATE-TRIPLE 3IN	3	E19,E61,E63
57	57	1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E59
58	58	1910542-00	74S64 A-O-I GATE 4-2-3-2	1	E15
59	59	1910544-01	74S74-60GG-D DUAL,EDGE TRIG	1	E39
60	60	1910545-00	74S112 FF-JK DUAL,EDGE TRIG	3	E7,E20,E32
61	61	1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E26,E33
62	62	1911116-00	DEC 8837 RECEIVER, BUS, HEX, UN	5	E6,E8,E16,E38,E57
63	63	1911169-00	DEC 8640 RECEIVER, BUS, QUAD, U	1	E45
64	64	19111579-00	8641 TRANSCEIVER, BUS, QUA	3	E1,F11,E51
65	65	19111676-00	74S139 DECODER-DUAL TWO-INP	1	E56
66	66	19111712-00	74S51 AND-OR GATE-INVERT D	1	E58
67	67	19111944-00	555CN TIMER, FUNCT.BLOCK	1	E31
68	68	19111983-00	74S133 NAND GATE-POSITIVE 1	1	E60
69	69	SEE NOTE 92	DEC 7812-02 VOLT REG, FIXED +12	1	Q10
70	70	1912048-02	74S02 NOR GATE-QUAD 2IN,PO	3	E9,E25,E46
71	71	1912388-00	74S08 AND GATE-QUAD 2IN,PO	1	E23
72	72	1912389-00	VOLT,REG.FIX -	1	Q11
73	73	1912541-00	L575 LATCH 4BIT,BISTABLE	3	E2,E12,E53
74	74	1912649-00	DEC 74S37 NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50
75	75	1912746-00	LS04 INVERTER GATE-HEX 11	1	E52
76	76	1912803-00	LS74 FF-D DUAL,EDGE TRIGG	1	E40
77	77	2113735-01	*** THIS ITEM IS NOT USED ***	-	-

TITLE						!SIZE!	CODE!	DOCUMENT NUMBER	!REV!
D	I	G	1	T	A	L			

PDPA MOS MEMORY

!SECTION 2 OF 8 !

! ! ! ! !

! K ! PL ! M8417-0-DBP ! E !

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR	
78	78	2114114-01	*** THIS ITEM IS NOT USED ***	-		
79	79	2113914-01	4K MOS RAM 200NS 1	48	E100, E102, E104, E106, E108, E110, E112, E114,	
				CONT	E116, E118, E200, E120, E122, E202, E204, E206,	
				CONT	E208, E210, E212, E214, E216, E218, E220, E222,	
				CONT	E300, E302, E304, E306, E308, E310, E312, E314,	
				CONT	E316, E318, E320, E322, E400, E402, E404, E406,	
				CONT	E408, E410, E412, E414, E416, E418, E420, E422	
80	80	SEE NOTE 91	2114475-01	*** THIS ITEM IS NOT USED. ***	-	
81	81	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12		
82	82	USE WITH Q6, Q7, Q10	9006557-00	NUT, KEP , 4-40X 1/4 AF	3	
83	83	USE WITH Q11	9007254-00	TRANSIPADS #10146	1	
84	84	USE WITH Q6, Q7, Q10	9008301-01	SCREW, PAN , PHIL, 4-40X 1/4	3	
85	85		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	6	W2, W3, W4, W9, W10, W11
86	86		9105740-55	WIRE(WRAP)30AWG	UL1423	A/R

87 NOTE: M8417-AA=M8417-AR,AC,AD,AE(16KX12)

88 NOTE: M8417-BA=M8417-BB,BC,BD,BE(32KX12)

89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB

90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.

91 NOTE: MIXING OF MOS RAMS IS NOT PERMITTED.

92 NOTE: REF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.

93 NOTE: -----

D	I	G	I	T	A	L	TITLE	SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
							PDP8 MOS MEMORY	2 OF 8		K PL	MR417-A-DBP	E

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1 . 1	D-UA-M8417-0-0		UNIT ASSY		REF
2 . 2	D-UA-M8417-0-0		*** THIS ITEM IS NOT USED ***		-
3 . 3		5012701-00	50-12701 32KX12 MOS MEMORY	1	
4 . 4		1000006-00	10.0 MMF 100V 5%200PPM DM15S	1	C66
5 . 5		1000016-00	100.0 MMF 100V 5%200PPM DM15S	1	C64
6 . 6		1000042-00	1000.0 MMF 100V 5%200PPM DM15S	1	C65
7 . 7		1001610-61	.01 MFD 100V -20+80 ZSU DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8 . 8		1005306-00	6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9 . 9		1010274-00	.22 MFD 50V -20+80 ZSU CER	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10 . 10		1010279-00	.47 MFD 25V 20% 2CA23 CER.	6	C54-C56,C126,C130,C131
11 . 11		1012084-01	8 MFD 25V G% 30D AL EL	1	C52
12 . 12		1012121-00	220.0 MMF 100V 1%200PPM DM15S	6	C59,C63,C71-C74
13 . 13		1012219-00	47. MFD .30V G% 600D AL EL	3	C50,C51,C132
14 . 14		1101938-00	IN 4370A VZ= 2.4 5% .40W	1	D3
15 . 15		1104860-00	IN 7464 VZ= 3.3 5%	1	D5
16 . 16		1105275-00	D 672 TR= 15NS PIV= 60V SI	21	D1,D2,D9-D27
17 . 17		1109943-00	IN 4733A VZ= 5.1 5% 1W Y	1	D28
18 . 18		1211164-04	SW,DIP 1P 1A 6POS	1	E62
19 . 19		1210711-02	HANDLE,MODULE,HEX	1	
20 . 20		1300250-00	150 1/4W 5% CC	1	R47
21 . 21		1300271-00	220 1/4W 5% CC	16	R123-R138
22 . 22		1300316-00	470 1/4W 5% CC	2	R46,R51
23 . 23		1301365-00	1 K 1/4W 5% CC	9	R45,R50,R53,R54,R82-R84,R103,R104
24 . 24		1300447-00	4.7 K 1/4W 5% CC	15	R55-R65,R77,R78,R81,R139
25 . 25		1300479-00	10 K 1/4W 5% CC	6	R71-R74,R121,R122
26 . 26		1302124-00	18 1/4W 5% CC	46	R1-R44,R90,R98
27 . 27		1302377-00	39 1/4W 5% CC	5	R52,R109-R112
28 . 28		1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29 . 29		1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY			SECTION 3 OF 8	RESP.ENG.: J. STEGEMAN	DATE: 30-MAY-78	D	I	G	I	T	A	L
ENG!	ECO NUMBER	REV	SECTION VARIATION INDEX	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE		PARTS LIST				
E.R.100003	D		1.AB	MADE BY: L. METZGER	DATE: 30-MAY-78							
J.S.M8417-MLP04	E		2.AD									
			3.AC	CHECKED: P. BOSSMAN	DATE: 30-MAY-78							
			4.NE									
			5.RH									
			6.BC	DSN.ENG.: J. STEGEMAN	DATE: 30-MAY-78							
			7.BD									
			8.RE									
			9.	PPD.: C. TANNER	DATE: 30-MAY-78	K	PL	M8417-0-DBP				
			10.									
			11.									
			12.	ASSEMBLY NUMBER: D-UA-M8417-0-0		PART NUMBER: M8417-AC		11				

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
30	30	1302872-00	681 1/4W 1% RN55D-F 100PPM	1	R89
31	31	1302956-00	196 1/4W 1% RN55D-F 100PPM	1	R94
32	32	1302957-00	121 1/4W 1% RN55D-F 100PPM	1	R101
33	33	1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	1	R76
34	34	1303067-00	422 1/4W 1% RN55D-F 100PPM	1	R99
35	35	1303110-00	19.6 1/4W 1% RN55D-F 100PPM	1	R93
36	36	1303226-00	68.1 1/4W 1% RN55D-F 100PPM	1	R86
37	37	1303311-00	46.4 K 1/4W 1% RN55D-F 100PPM	1	R75
38	38	1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R97
39	39	1304725-00	300 1/4W 1% RN55D-F 100PPM	1	R107
40	40 SEE NOTE 90	1304833-00	1.96 K 1/4W 1% RN55D-F 100PPM	1	R92
41	41	1305122-00	51.1 1/4W 1% RN55D-F 100PPM	1	R85
42	42	1305123-00	215 1/4W 1% RN55D-F 100PPM	2	R91,R102
43	43	1305143-00	825 1/4W 1% RN55D-F 100PPM	2	R95,R79
44	44 SEE NOTE 90	1305253-00	7.15 K 1/4W 1% RN55D-F 100PPM	1	R87
45	45	1309405-00	68 1/2W 5% CC	2	R48,R49
46	46	1503100-00	DEC 30098 NPN 200MW SI 20 25	7	Q1-05,Q8,Q9
47	47	1510171-00	D 44C3 NPN 30WT SI 30 20 Y	2	Q6,07
48	48	1614234-00	XFMR, CONVERTER, RATIO 1:3 300UH	1	T1
49	49	1909054-00	7493 COUNTER, ASYNCH UP, RI	2	E21,E24
50	50	1909705-00	DEC 8881 NAND GATE-QUAD 2IN O	4	E3,E14,E17,E44
51	51	1910268-01	DEC 75107B-01 RECEIVER, LINE, DUA	3	E5,E10,E18
52	52	1910446-00	75451 DRIVER, PERIPH, DUAL,	1	E64
53	53	1910532-00	74S00 NAND GATE-QUAD 2INS	6	E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03 NAND GATE-QUAD 2IN,O	1	E13
55	55	1910534-00	74S04 INVERTER GATE-HEX 1I	2	E22,E54
56	56	1910536-00	74S10 NAND GATE-TRIPLE 3TN	3	E19,E61,E63
57	57	1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E59
58	58	1910542-00	74S64 A-O-I GATE 4-2-3-2	1	E15
59	59	1910544-01	74S74-60GG-D DUAL, EDGE TRIG	1	E39
60	60	1910545-00	74S112 FF-JK DUAL, EDGE TRIG	3	E7,E20,E32
61	61	1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E26,E33
62	62	1911116-00	DEC 8837 RECEIVER, BUS, HEX, UN	5	E6,E8,E16,E38,E57
63	63	1911469-00	DEC 8640 RECEIVER, BUS, QUAD, U	1	E45
64	64	1911579-00	8641 TRANSCEIVER, BUS, QUA	3	E1,E11,E51
65	65	1911676-00	74S139 DECODER-DUAL TWO-INP	1	E56
66	66	1911712-00	74S51 AND-OR GATE-INVERT D	1	E58
67	67	1911944-00	555CN TIMER, FUNCT.BLOCK	1	E31
68	68	1911983-00	74S133 NAND GATE-POSITIVE 1	1	E60
69	69 SEE NOTE 92	1912048-02	DEC 7812-02 VOLT REG, FIXED +12	1	Q10
70	70	1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3	E9,E25,E46
71	71	1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E23
72	72	1912541-00	VOLT,REG, FIX -	1	Q11
73	73	1912649-00	LS75 LATCH 4BIT,BISTABLE	3	E2,E12,E53
74	74	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50
75	75	1912803-00	LS04 INVERTER GATE-HEX 1I	1	E52
76	76	1912824-00	LS74 FF-D DUAL, EDGE TRIGG	1	E40
77	77	2113735-01	*** THIS ITEM IS NOT USED ***	-	

TITLE						SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
D	I	G	I	T	A	L	!	!	!	!
							!SECTION	3 OF 8	!	!
							!	!	K PL	M8417-0-DBP

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	4K MOS RAM 200NS 1	48	E100, E102, E104, E106, E108, E110, E112, E114, CONT E116, E118, E120, E122, E200, E202, E204, E206, CONT E208, E210, E212, E214, E216, E218, E220, E222, CONT E300, E302, E304, E306, E308, E310, E312, E314, CONT E316, E318, E320, E322, E400, E402, E404, E406, CONT E408, E410, E412, E414, E416, E418, E420, E422
79	79	2113914-01	*** THIS ITEM IS NOT USED ***	-	
80	80	SEE NOTE 91	*** THIS ITEM IS NOT USED ***	-	
81	81	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
82	82	USE WITH Q6, Q7, Q10	NUT, KEP , 4-40X 1/4 AF	3	
83	83	USE WITH Q11	TRANSIPADS #10146	1	
84	84	USE WITH Q6, Q7, Q10	SCREW, PAN ,PHI, 4-40X 1/4	3	
85	85	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	6	W2, W3, W4, W9, W10, W11
86	86	9105740-55	WIRE(wRAP)30AWG	UL1423	A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)

88 NOTE: M8417-BA=M8417-BB,BC,BD,BE(32KX12)

89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB

90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.

91 NOTE: MIXING OF MOS RAMS IS NOT PERMITTED.

92 NOTE: PEF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.

93 NOTE: -----

TITLE						SIZE	CODE	DOCUMENT NUMBER	REV
D	I	G	I	T	A	L			
								M8417-0-DRP	E

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1	1	D-UA-M8417-0-0	UNIT ASSY		REF
2	2	D-UA-M8417-0-0	*** THIS ITEM IS NOT USED ***	-	
3	3	5012701-00	50-12701 32KX12 MOS MEMORY	1	
4	4	1000006-00	10.0 MMF 100V 5%200PPM DM15S	1	C66
5	5	1000016-00	100.0 MMF 100V 5%200PPM DM15S	1	C64
6	6	1000042-00	1000.0 MMF 100V 5%200PPM DM15S	1	C65
7	7	1001610-01	.01 MFD 100V -20+80 ZSU DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8	8	1005306-00	.6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9	9	1010274-00	.22 MFD 50V -20+80 ZSU CER	6	C1-C48,C57,C69,C70,C133-C135,C141-C146
10	10	1010279-00	.47 MFD 25V 20% 2CA23 CER.	6	C54-C56,C126,C130,C131
11	11	1012084-01	8 MFD 25V G% 30D AL EL	1	C52
12	12	1012121-00	220.0 MMF 100V 1%200PPM DM15S	6	C59,C63,C71-C74
13	13	1012219-00	47. MFD 30V G% 600D AL EL	3	C50,C51,C132
14	14	1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15	15	1104860-00	1N 746A VZ= 3.3 5%	1	D5
16	16	1105275-00	D 672 TR= 15NS PIV= 60V SI	21	D1,D2,D9-D27
17	17	1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18	18	1211164-04	SW,DTP 1P 1A 8POS	1	E62
19	19	1210711-02	HANDLE, MODULE, HEX	1	
20	20	1300250-00	150 1/4W 5%	1	R47
21	21	1300271-00	220 1/4W 5%	16	R123-R138
22	22	1300316-00	470 1/4W 5%	2	R46,R51
23	23	1300365-00	1 K 1/4W 5%	9	R45,R50,R53,R54,R82-R84,R103,R104
24	24	1300447-00	4.7 K 1/4W 5%	15	R55-R65,R77,R78,R81,R139
25	25	1300474-00	10 K 1/4W 5%	6	R71-R74,R121,R122
26	26	1302124-00	18 1/4W 5%	46	R1-R44,R90,R98
27	27	1302377-00	39 1/4W 5%	5	R52,R109-R112
28	28	1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29	29	1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY			SECTION 4 OF 8	RESP.ENG.: J. STEGEMAN	DATE: 30-MAY-78	D	I	G	I	T	A	L	
ENG!	ECO NUMBER	REV	SECTION. VARIATION INDEX	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE		PARTS LIST					
E,R!00003	J.S!M8417-ML004	D	1.AB 2.AD 3.AC 4.AE 5.RB 6.BC 7.RD 8.RE 9. 10. 11. 12.	CHECKED: P. BOSSMAN	DATE: 30-MAY-78			PDP8 MOS MEMORY					
		E		DSN.ENG.: J. STEGEMAN	DATE: 30-MAY-78								
				PROD.: C. TANNER	DATE: 30-MAY-78	K	PL	M8417-0-DBP	SIZE:CODE: DOCUMENT NUMBER : REV			E	
				ASSEMBLY NUMBER: D-UA-M8417-0-0				PART NUMBER: M8417-AE					11

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
30	30	1302872-00	681 1/4W 1% RN55D-F 100PPM	1	R89
31	31	1302956-00	196 1/4W 1% RN55D-F 100PPM	1	R94
32	32	1302957-00	121 1/4W 1% RN55D-F 100PPM	1	R101
33	33	1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	1	R76
34	34	1303067-00	422 1/4W 1% RN55D-F 100PPM	1	R99
35	35	1303110-00	19.6 1/4W 1% RN55D-F 100PPM	1	R93
36	36	1303226-00	68.1 1/4W 1% RN55D-F 100PPM	1	R80
37	37	1303311-00	46.4 K 1/4W 1% RN55D-F 100PPM	1	R75
38	38	1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R97
39	39	1304725-00	300 1/4W 1% RN55T-F 100PPM	1	R107
40	40 SEE NOTE 90	1304833-00	1.96 K 1/4W 1% RN55D-F 100PPM	1	R92
41	41	1305122-00	51.1 1/4W 1% RN55D-F 100PPM	1	R85
42	42	1305123-00	215 1/4W .1% RN55D-F 100PPM	2	R91,R102
43	43	1305143-00	825 1/4W 1% RN55D-F 100PPM	2	R95,R79
44	44 SEE NOTE 90	1305253-00	7.15 K 1/4W 1% RN55D-F 100PPM	1	R87
45	45	1309405-00	68 1/2W 5% CC	2	R48,R49
46	46	15W31W0-00	DEC3009B NPN 200MW SI 20 25	7	Q1-Q5,Q8,Q9
47	47	1518171-00	D 44C3 NPN 30WT SI 30 20 Y	2	Q6,Q7
48	48	1614234-00	XFMTR, CONVERTER, RATIO 1:3 300UH	1	T1
49	49	1909054-00	7493 COUNTER, ASYNCH UP,BI.	2	E21,E24
50	50	1909705-00	DEC 8881 NAND GATE-QUAD 2IN 0	4	E3,E14,E17,E44
51	51	1910268-01	DEC 75107R-01 RECEIVER, LINE,DUA	3	E5,E10,E18
52	52	1910406-00	75451 DRIVER, PERIPH, DUAL,	1	E64
53	53	1910532-00	74S00 NAND GATE-QUAD 2INS	6	E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03 NAND GATE-QUAD 2IN,0	1	E13
55	55	1910534-00	74S04 INVERTER GATE-HEX 11	2	E22,E54
56	56	-1910536-00	74S10 NAND GATE-TRIPLE 3IN	3	E19,E61,E63
57	57	1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E59
58	58	1910542-00	74S64 A-O-I GATE 4-2-3-2	1	E15
59	59	1910544-01	74S74-60GG-D DUAL, EDGE TRIG	1	E39
60	60	1910545-00	74S112 FF-JK DUAL, EDGE TRIG	3	E7,E20,E32
61	61	1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E26,E33
62	62	1911116-00	DEC 8837 RECEIVER, BUS, HEX, UN	5	E6,E8,E16,E38,E57
63	63	1911469-00	DEC 8640 RECEIVER, BUS, QUAD, U	1	E45
64	64	1911579-00	8641 TRANSCEIVER, BUS, QUA	3	E1,E11,E51
65	65	1911676-00	74S139 DECODER-DUAL TWO-INP	1	E56
66	66	1911712-00	74S51 AND-OR GATE-INVERT D	1	E58
67	67	1911944-00	555CN TIMER, FUNCT. BLOCK	1	E31
68	68	1911983-00	74S133 NAND GATE-POSITIVE 1	1	E60
69	69 SEE NOTE 92	1912048-02	DEC 7812-02 VOLT REG, FIXED +12	1	Q10
70	70	1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3	E9,E25,E46
71	71	1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E23
72	72	1912541-00	VOLT,REG.FIX -	1	Q11
73	73	1912649-00	LS75 LATCH 4BIT,BISTABLE	3	E2,E12,E53
74	74	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50
75	75	1912803-00	LS04 INVERTER GATE-HEX 11	1	E52
76	76	1912824-00	LS74 FF-D DUAL, EDGE TRIGG	1	E40
77	77	2113735-01	*** THIS ITEM IS NOT USED ***	-	

TITLE						!			
D	I	G	I	T	A	L	PL	M8417-0-DBP	E
!	!	!	!	!	!	!	!	!	!

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	*** THIS ITEM IS NOT USED ***	-	
79	79	2113914-01	*** THIS ITEM IS NOT USED ***	-	
80	80 SEE NOTE 91	2114475-01	4K MOS RAM 200NS 1	48	E100,E102,E104,E106,E108,E110,E112,E114, CONT E116,E118,E120,E122,E200,E202,E204,E206, CONT E208,E210,E212,E214,E216,E218,E220,E222, CONT E300,F302,E304,E306,E308,E310,E312,E314, CONT E316,E318,E320,E322,E400,E402,E404,E406, CONT E408,E410,E412,E414,E416,E418,E420,E422
81	81	9000024-01	EYELET, ROLLED FLANGE, .121 OD X .12	12	
82	82 USE WITH Q6,Q7,Q10	9006557-00	NUT,KEP . . , 4-40X 1/4 AF	3	
83	83 USE WITH Q11	9007254-00	TRANSIPADS #10146	1	
84	84 USE WITH Q6,Q7,Q10	9008301-01	SCREW,PAN ,PHIL, 4-40X 1/4	3	
85	85	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	5	W2,W3,W4,W9,W11
86	86	9105740-55	WIRE(WRAP)30AWG	UL1423	A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)

88 NOTE: M8417-BA=M8417-BB,BC,BD,BE(32KX12)

89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB

90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.

91 NOTE: MIXING OF MUS RAMS IS NOT PERMITTED.

92 NOTE: REF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.

93 NOTE: -----

D	I	G	T	I	T	A	L	TITLE	SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
								PDP8 MOS MEMORY	4 OF 8		K PL	M8417-0-DBP	E

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1	1	D-UA-M8417-0-0		UNIT ASSY		REF
2	2	D-UA-M8417-0-0		*** THIS ITEM IS NOT USED ***	-	
3	3		5012701-00	50-12701 32KX12 MOS MEMORY	1	
4	4		1000006-00	10.0 MMF 100V 5%200PPM DM15S	1	C66
5	5		1000016-00	100.0 MMF 100V 5%200PPM DM15S	1	C64
6	6		1000042-00	1000.0 MMF 100V 5%200PPM DM15S	1	C65
7	7		1001610-01	.01 MFD 100V -20+80 25U DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8	8		1005306-00	6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9	9		1010274-00	.22 MFD 50V -20+80 25U CFR	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10	10		1010279-00	.47 MFD 25V 20% 2C023 CER.	6	C54-C56,C126,C130,C131
11	11		1012084-01	.8 MFD 25V G% 30D AL FL	1	C52
12	12		1012121-00	220.0 MMF 100V 1%200PPM DM15S	6	C59,C63,C71-C74
13	13		1012219-00	47. MFD 30V G% 60D AL FL	3	C50,C51,C132
14	14		1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15	15		1104860-00	1N 746A VZ= 3.3 5%	1	D5
16	16		1105275-00	D 672 TR= 1.5NS PIV= 60V SI	21	D1,D2,D9-D27
17	17		1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18	18		1211164-04	SW,DIP 1P 1A 8POS	1	E62
19	19		1210711-02	HANDLE,MODULE,HEX	1	
20	20		13000250-00	150 1/4W 5%	CC	1 R47
21	21		13000271-00	220 1/4W 5%	CC	16 R123-R138
22	22		13000316-00	470 1/4W 5%	CC	2 R46,R51
23	23		13000365-00	1 K 1/4W 5%	CC	9 R45,R50,R53,R54,R82-R84,R103,R104
24	24		13000447-00	4.7 K 1/4W 5%	CC	15 R55-R65,R77,R78,R81,R139
25	25		13000479-00	10 K 1/4W 5%	CC	6 R71-R74,R121,R122
26	26		1302124-00	18 1/4W 5%	CC	46 R1-R44,R90,R98
27	27		1302377-00	39 1/4W 5%	CC	5 R52,R109-R112
28	28		1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29	29		1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY		SECTION 5 OF 8		RESP.ENG.: J. STEGEMAN		DATE: 30-MAY-78		D I G 1 T A L	
ENG!	ECO NUMBER	REV	SECTION, VARIATION INDEX	MADE BY:	L. METZGER	DATE:	30-MAY-78	TITLE	PARTS LIST
E.R100003	J.S!M8417-ML004	I	D	1.AH					
		E	2.AD						
			3.AC						
			4.AE						
			5.BB						
			6.BC						
			7.BD						
			8.BE						
			9.						
			10.						
			11.						
			12.						
ASSEMBLY NUMBER: D-UA-M8417-0-0								PART NUMBER: M8417-BB	11

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
30	30	1302872-00	681 1/4W 1% RN55D-F 100PPM	1	R89
31	31	1302956-00	196 1/4W 1% RN55D-F 100PPM	1	R94
32	32	1302957-00	121 1/4W 1% RN55D-F 100PPM	1	R101
33	33	1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	1	R76
34	34	1303067-00	422 1/4W 1% RN55D-F 100PPM	1	R99
35	35	1303110-00	19.6 1/4W 1% RN55D-F 100PPM	1	R93
36	36	1303226-00	68.1 1/4W 1% RN55D-F 100PPM	1	R86
37	37	1303311-00	46.4 K 1/4W 1% RN55D-F 100PPM	1	R75
38	38	1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R97
39	39	1304725-00	300 1/4W 1% RN55D-F 100PPM	1	R107
40	40	SEE NOTE 90	1.96 K 1/4W 1% RN55D-F 100PPM	1	R92
41	41	1305122-00	51.1 1/4W 1% RN55D-F 100PPM	1	R85
42	42	1305123-00	215 1/4W 1% RN55D-F 100PPM	2	R91,R102
43	43	1305143-00	825 1/4W 1% RN55D-F 100PPM	2	R95,R79
44	44	SEE NOTE 90	7.15 K 1/4W 1% RN55D-F 100PPM	1	R87
45	45	1309405-00	68 1/2W 5% CC	2	R40,R49
46	46	1503100-00	DEC3009B NPN 200MW SI 20 25	7	Q1-05,Q8,Q9
47	47	1510171-00	D 44C3 NPN 30WT SI 30 20 Y	2	Q6,07
48	48	1614234-00	XFMER, CONVERTER, RATIO 1:3 300UH	1	T1
49	49	1909054-00	7493 COUNTER, ASYNCH UP, BI	2	E21,E24
50	50	1909705-00	DEC 8881 NAND GATE-QUAD 2IN 0	4	E3,E14,E17,E44
51	51	1910268-01	DEC 75107R-01 RFCEIVER, LINE, DUA	3	E5,E10,E18
52	52	1910406-00	75451 DRIVER, PFRIPH, DUAL	1	E64
53	53	1910532-00	74S00 NAND GATE-QUAD 2INS	6	E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03 NAND GATE-QUAD 2IN,0	1	E13
55	55	1910534-00	74S04 INVERTER GATE-HEX 1I	2	E22,E54
56	56	1910536-00	74S10 NAND GATE-TRIPLE 3IN	3	E19,E61,E63
57	57	1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E59
58	58	1910542-00	74S64 A-O-I GATE 4-2-3-2	1	E15
59	59	1910544-01	74S74-60GG-D DUAL, EDGE TRIG	1	E39
60	60	1910545-00	74S112 FF-JK DUAL, EDGE TRIG	3	E7,E20,E32
61	61	1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E26,E33
62	62	1911116-00	DEC 8837 RECEIVER, BUS, HEX, UN	5	E6,E8,E16,E38,E57
63	63	1911469-00	DEC 8640 RECEIVER, BUS, QUAD, U	1	E45
64	64	1911579-00	8641 TRANSCEIVER, BUS, QUA	3	E1,E11,E51
65	65	1911676-00	74S139 DECODER-DUAL TWO-INP	1	E56
66	66	1911712-00	74S51 AND-OR GATE-INVERT D	1	E58
67	67	1911944-00	555CN TIMER, FUNCT. BLOCK	1	E31
68	68	1911983-00	74S133 NAND GATE-POSITIVE 1	1	E60
69	69	SEE NOTE 92	1912048-02 DEC 7812-02 VOLT REG, FIXED +12	1	Q10
70	70	1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3	E9,E25,E46
71	71	1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E23
72	72	1912541-00	VOLT. REG.FIX -	1	Q11
73	73	1912649-00	LS75 LATCH 4BIT,BISTABLE	3	E2,E12,E53
74	74	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50
75	75	1912803-00	LS04 INVERTER GATE-HEX 1I	1	E52
76	76	1912824-00	LS74 FF-D DUAL, EDGE TRIGG	1	E40
77	77	2113735-01	4K MOS RAM 200NS 1	96	E100-E123,E200-E223,E300-E323,E400-E423

FDP8 MOS MEMORY

SECTION 5 OF

!SIZE!	CODE!	DOCUMENT NUMBER	! REV
!	!		!
!	K	PL	M8417-0-DBP
!	!		F
!	!		!

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	*** THIS ITEM IS NOT USED ***	-	
79	79	2113914-01	*** THIS ITEM IS NOT USED ***	-	
80	80	SEE NOTE 91	2114475-01	*** THIS ITEM IS NOT USED ***	-
81	81		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12
82	82	USE WITH 06,07,010	9006557-00	NUT, KEP , 4-40X 1/4 AF	3
83	83	USE WITH 011	9007254-00	TRANSIPADS #10146	1
84	84	USE WITH 06,07,010	9008301-01	SCREW,PAN ,PHIL, 4-40X 1/4	3
85	85		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	5
86	86		9105740-55	WIRE(WRAP)30AWG	UL1423 A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)
 88 NOTE: M8417-BA=M8417-BB,BC,BD,RE(32KX12)
 89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB
 90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.
 91 NOTE: MIXING OF MOS RAMS IS NOT PERMITTED.
 92 NOTE: REF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.
 93 NOTE: -----

TITLE						SECTION	SIZE	CODE	DOCUMENT NUMBER	REV	
D	I	G	I	T	A	L	5 OF 8	K	PL	M8417-B-DRP	E

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1	1	D-UA-M8417-0-0		UNIT ASSY		REF
2	2	D-UA-M8417-0-0		*** THIS ITEM IS NOT USED ***	-	
3	3		5012701-00	5012701 32KX12 MOS MEMORY	1	
4	4		1000006-00	10.0 MMF 100V 58200PPM DM15S	1	C66
5	5		1000016-00	100.0 MMF 100V 58200PPM DM15S	1	C64
6	6		1000042-00	1020.0 MMF 100V 58200PPM DM15S	1	C65
7	7		1001610-01	.01 MFD 100V -20+80 ZSU DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8	8		1005306-00	6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9	9		1010274-00	.22 MFD 50V -20+80 ZSU CER	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10	10		1010279-00	.47 MFD 25V 20% 2CH23 CER.	6	C54-C56,C126,C130,C131
11	11		1012084-01	.8 MFD 25V G8 30D AL EL	1	C52
12	12		1012121-00	220.0 MMF 100V 18200PPM DM15S	6	C59,C63,C71-C74
13	13		1012219-00	47. MFD 30V G8 600D AL EL	3	C50,C51,C132
14	14		1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15	15		1104860-00	1N 746A VZ= 3.3 5%	1	D5
16	16		1105275-00	D 672 TR= 15NS PIV= 60V S1	21	D1,D2,D9-D27
17	17		1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18	18		1211164-04	SW,DIP 1P 1A 8POS	1	E62
19	19		1210711-02	HANDLE,MODULE,HEX	1	
20	20		1300250-00	150 1/4W 5%	CC	1 R47
21	21		1300271-00	220 1/4W 5%	CC	16 R123-R138
22	22		1300316-00	470 1/4W 5%	CC	2 R46,R51
23	23		1300365-00	1 K 1/4W 5%	CC	9 R45,R50,R53,R54,R82-R84,R103,R104
24	24		1300447-00	4.7 K 1/4W 5%	CC	15 R55-R65,R77,R78,R81,R139
25	25		1300479-00	10 K 1/4W 5%	CC	6 R71-R74,R121,R122
26	26		1302124-00	18 1/4W 5%	CC	46 R1-R44,R90,R98
27	27		1302377-00	39 1/4W 5%	CC	5 R52,R109-R112
28	28		1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29	29		1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY			SECTION 6 OF 8	RESP.ENG.: J. STEGEMAN	DATE: 30-MAY-78	D I G I T A L	
ENG:	ECO NUMBER	REV	SECTION VARIATION INDEX	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE	PARTS LIST
E,R00003	D			CHECKED: P. BOSSMAN	DATE: 30-MAY-78	PDP8 MOS MEMORY	
J,S:M8417-MLW04	E		1.AR 2.AD 3.AC 4.AE 5.RB 6.BC 7.RD 8.BE 9. 10. 11. 12.	DSN.ENG.: J. STEGEMAN	DATE: 30-MAY-78	SIZE	CODE DOCUMENT NUMBER REV
				PROD.: C. TANNER	DATE: 30-MAY-78	K PL	M8417-0-DBP E
				ASSEMBLY NUMBER: D-UA-M8417-0-0	PART NUMBER: M8417-BC	11	EDIT

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION					QTY	REFERENCE DESIGNATOR
30	30		.681	1/4W	1%	RN55D-F	100PPM	1	R89
31	31	1302956-00	196	1/4W	1%	RN55D-F	100PPM	1	R94
32	32	1302957-00	121	1/4W	1%	RN55D-F	100PPM	1	R101
33	33	1303045-00	3.16 K	1/4W	1%	RN55D-F	100PPM	1	R76
34	34	1303067-00	422	1/4W	1%	RN55D-F	100PPM	1	R99
35	35	1303110-00	19.6	1/4W	1%	RN55D-F	100PPM	1	R93
36	36	1303226-00	68.1	1/4W	1%	RN55D-F	100PPM	1	R86
37	37	1303311-00	46.4 K	1/4W	1%	RN55D-F	100PPM	1	R75
38	38	1303313-00	12.1 K	1/4W	1%	RN55D-F	100PPM	1	R97
39	39	1304725-00	300	1/4W	1%	RN55D-F	100PPM	1	R107
40	40	SEE NOTE 90	1.96 K	1/4W	1%	RN55D-F	100PPM	1	R92
41	41	1305122-00	51.1	1/4W	1%	RN55D-F	100PPM	1	R85
42	42	1305123-00	215	1/4W	1%	RN55D-F	100PPM	2	R91,R102
43	43	1305143-00	825	1/4W	1%	RN55D-F	100PPM	2	R95,R79
44	44	SEE NOTE 90	7.15 K	1/4W	1%	RN55D-F	100PPM	1	R87
45	45	1309405-00	68	1/2W	5%	CC		2	R48,R49
46	46	1503100-00	DEC30098	NPN	200MW	SI	20 25	7	Q1-Q5,Q8,Q9
47	47	1510171-00	D	44C3	NPN	30WT	SI 30 20 Y	2	Q6,Q7
48	48	1614234-00	XFMR, CONVERTER, RATIO 1:3	300UH				1	T1
49	49	1909054-00	7493	COUNTER, ASYNCH UP,BI				2	E21,E24
50	50	1909705-00	DEC	8881	NAND GATE-QUAD 2IN 0			4	E3,E14,E17,E44
51	51	1910268-01	DEC	75107B-01	RECEIVER, LINE,DUA			3	E5,E10,E18
52	52	1910406-00	75451	DRIVER, PERIPH, DUAL,				1	E64
53	53	1910532-00	74S00	NAND GATE-QUAD 2IN S				6	E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03	NAND GATE-QUAD 2IN,0				1	E13
55	55	1910534-00	74S04	INVERTER GATE-HEX 1I				2	E22,E54
56	56	1910536-00	74S10	NAND GATE-TRIPLE 3IN				3	E19,E61,E63
57	57	1910539-00	74S20	NAND GATE-DUAL 4INPU				1	E59
58	58	1910542-00	74S64	A-O-I GATE 4-2-3-2				1	E15
59	59	1910544-01	74S74-60GG-D	DUAL, EDGE TRIG				1	E39
60	60	1910545-00	74S112	FF-JK DUAL, EDGE TRIG				3	E7,E20,E32
61	61	1910549-00	74S158	MUX 1 OF 2 (QUAD)				2	E26,E33
62	62	1911116-00	DEC	8837	RECEIVER, BUS, HEX, UN			5	E6,E8,E16,E38,E57
63	63	1911469-00	DEC	8640	RECEIVER, BUS, QUAD, U			1	E45
64	64	1911579-00	8641	TRANSCEIVER, BUS, QUA				3	E1,E11,E51
65	65	1911676-00	74S139	DECODER-DUAL TWO-INP				1	E56
66	66	1911712-00	74S51	AND-OR GATE-INVERT D				1	E58
67	67	1911944-00	555CN	TIMER, FUNCT.BLOCK				1	E31
68	68	1911983-00	74S133	NAND GATE-POSITIVE 1				1	E60
69	69	SEE NOTE 92	1912048-02	DEC	7812-02	VOLT REG, FIXED +12		1	Q10
70	70		1912388-00	74S02	NOR GATE-QUAD 2IN,PO			3	E9,E25,E46
71	71		1912389-00	74S08	AND GATE-QUAD 2IN,PO			1	E23
72	72		1912541-00		VOLT,REG, FIX	-		1	Q11
73	73		1912649-00	LS75	LATCH 4BIT,BISTABLE			3	E2,E12,E53
74	74		1912746-00	DEC	74S37	NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50	
75	75		1912803-00	LS04	INVERTER GATE-HEX 1I			1	E52
76	76		1912824-00	LS74	FF-D DUAL,EDGE TRIGG			1	E40
77	77		2113735-01	***	THIS ITEM IS NOT USED ***	-		-	-

D	I	G	I	T	A	L	TITLE	!SECTION 6 OF 8	!SIZE!CODE!	DOCUMENT NUMBER	! REV !
							POP8 MOS MEMORY		!	K PL	M8417-0-DBP
									!	!	!

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	4K MOS RAM 200NS 1	96	E100-E123,E200-E223,E300-E323,E400-E423
79	79	2113914-01	*** THIS ITEM IS NOT USED ***	-	
80	80	SEE NOTE 91	*** THIS ITEM IS NOT USED ***	-	
81	81	2114475-01	EYFLET, ROLLED FLANGE, .121 OD X	12	
82	82	9000024-01	NUT,KEP , 4-40X 1/4 AF	3	
83	83	9006557-00	TRANSIPADS #10146	1	
84	84	USE WITH Q6,Q7,Q10	SCREW,PAN ,PHIL, 4-40X 1/4	3	
85	85	9007254-00	JUMPER, WIRE, INSULATED, BLACK B	5	W2,W3,W4,W9,W11
86	86	9008301-01	WIRE(WRAP)30AWG	UL1423	A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)
 88 NOTE: M8417-BA=M8417-HR,BC,BD,BE(32KX12)
 89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB
 90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.
 91 NOTE: MIXING OF MOS RAMS IS NOT PERMITTED.
 92 NOTE: REF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.
 93 NOTE: -----

D	I	G	I	T	A	L	TITLE	SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
							PUPIR MOS MEMORY	6 OF 8		K PL	M8417-n-DBP	E

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1	1	D-UA-M8417-0-0	UNIT ASSY		REF
2	2	D-UA-M8417-0-0	*** THIS ITEM IS NOT USED ***	-	
3	3	5012701-00	50-12701 32KX12 MOS MEMORY	1	
4	4	1000006-00	10.0 MMF 100V 58200PPM DM15S	1	C66
5	5	1000016-00	100.0 MMF 100V 58200PPM DM15S	1	C64
6	6	1000042-00	1000.0 MMF 100V 58200PPM DM15S	1	C65
7	7	1001610-01	.01 MFD 100V -20+80 25U DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8	8	1005306-00	6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9	9	1010274-00	.22 MFD 50V -20+80 25U CER	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10	10	1010279-00	.47 MFD 25V 20% 2C023 CER.	6	C54-C56,C126,C130,C131
11	11	1012084-01	8 MFD 25V G8 30D AL FL	1	C52
12	12	1012121-00	220.0 MMF 100V 18200PPM DM15S	6	C59,C63,C71-C74
13	13	1012219-00	47. MFD 30V G8 60RD AL EL	3	C50,C51,C132
14	14	1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15	15	1104860-00	1N 746A VZ= 3.3 5%	1	D5
16	16	1105275-00	D 672 TR= 15NS PIV= 60V SI	21	D1,D2,D9-D27
17	17	1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18	18	1211164-04	SW,DIP 1P 1A 8POS	1	E62
19	19	1210711-02	HANDLE,MODULE,HEX		
20	20	1300250-00	150 1/4W 5%	1	R47
21	21	1300271-00	220 1/4W 5%	16	R123-R138
22	22	1300316-00	472 1/4W 5%	2	R45,R51
23	23	1300365-00	1 K 1/4W 5%	9	R45,R50,R53,R54,R82-R84,R103,R104
24	24	1300447-00	4.7 K 1/4W 5%	15	R55-R65,R77,R78,R81,R139
25	25	1300479-00	10 K 1/4W 5%	6	R71-R74,R121,R122
26	26	1302124-00	18 1/4W 5%	46	R1-R44,R90,R98
27	27	1302377-00	39 1/4W 5%	5	R52,R109-R112
28	28	1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29	29	1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY			SECTION 7 OF 8	RESP.FNG.: J. STEGEMAN	DATE: 30-MAY-78	D	I	G	I	T	A	L
ENG	ECO NUMBER	REV	SECTION VARIATION INDEX	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE		PARTS LIST				
E,R100003	D		1.AB			PDP8 MOS MEMORY						
J,S!M8417-ML004	E		2.AD									
			3.AC	CHECKED: P. ROSSMAN	DATE: 30-MAY-78							
			4.AE									
			5.BH									
			6.HC	DSN.ENG.: J. STEGEMAN	DATE: 30-MAY-78							
			7.BU									
			8.RE									
			9.	PROD.: C.TANNER	DATE: 30-MAY-78	K	PL	M8417-0-DBP		E		
			10.									
			11.									
			12.	ASSEMBLY NUMBER: D-UA-M8417-0-0		PART NUMBER:	M8417-BD					

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION				QTY	REFERENCE DESIGNATOR
30	30	1302872-00	681	1/4W	1%	RN55D-F	100PPM	1 R89
31	31	1302956-00	196	1/4W	1%	RN55D-F	100PPM	1 R94
32	32	1302957-00	121	1/4W	1%	RN55D-F	100PPM	1 R101
33	33	1303045-00	3,16 K	1/4W	1%	RN55D-F	100PPM	1 R76
34	34	1303167-00	422	1/4W	1%	RN55D-F	100PPM	1 R99
35	35	1303110-00	19.6	1/4W	1%	RN55D-F	100PPM	1 R93
36	36	1303226-00	68.1	1/4W	1%	RN55D-F	100PPM	1 R86
37	37	1303311-00	46.4	K	1/4W	1%	RN55D-F	100PPM
38	38	1303313-00	12.1	K	1/4W	1%	RN55D-F	100PPM
39	39	1304725-00	300	1/4W	1%	RN55D-F	100PPM	1 R107
40	40	SEE NOTE 90	1.96 K	1/4W	1%	RN55D-F	100PPM	1 R92
41	41	1305122-00	51.1	1/4W	1%	RN55D-F	100PPM	1 R85
42	42	1305123-00	215	1/4W	1%	RN55D-F	100PPM	2 R91,R102
43	43	1305143-00	825	1/4W	1%	RN55D-F	100PPM	2 R95,R79
44	44	SEE NOTE 90	7.15 K	1/4W	1%	RN55D-F	100PPM	1 R87
45	45	1305253-00	68	1/2W	5%	CC		2 R48,R49
46	46	1309405-00	DEC3009B	NPN	200MW	S1 20 25		7 Q1-Q5,Q8,Q9
47	47	1510171-00	D 44C3	NPN	30WT	S1 30 20 Y		2 Q6,Q7
48	48	1614234-00	XFMX, CONVERTER, RATIO 1:3	300UH				1 11
49	49	1909054-00	7493	COUNTER, ASYNCH UP, RI				2 E21,E24
50	50	1909705-00	DEC 8881	NAND GATE-QUAD	2IN 0			4 E3,E14,E17,E44
51	51	1910268-01	DEC 75107B-01	RECEIVER, LINE, DUA				3 E5,E10,E18
52	52	1910406-00	75451	DRIVER, PERIPH, DUAL,				1 E64
53	53	1910532-00	74S00	NAND GATE-QUAD	2INS			6 E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03	NAND GATE-QUAD	2IN,0			1 E13
55	55	1910534-00	74S04	INVERTER GATE-HEX	1I			2 E22,E54
56	56	1910536-00	74S10	NAND GATE-TRIPLE	3IN			3 E19,E61,E63
57	57	1910539-00	74S20	NAND GATE-DUAL	4INPU			1 E59
58	58	1910542-00	74S64	A-O-I GATE	4-2-3-2			1 E15
59	59	1910544-01	74S74-60GG-D	DUAL, EDGE TRIG				1 E39
60	60	1910545-00	74S112	FF-JK DUAL, EDGE TRIG				3 E7,E20,E32
61	61	1910549-00	74S158	MUX 1 OF 2 (QUAD)				2 E26,E33
62	62	1911116-00	DEC 8837	RECEIVER, BUS, HEX, UN				5 E6,E8,E16,E38,E57
63	63	1911169-00	DEC 8640	RECEIVER, BUS, QUAD, U				1 E45
64	64	1911179-00	8641	TRANSCEIVER, BUS, QUA				3 E1,E11,E51
65	65	1911176-00	74S139	DECODER-DUAL TWO-INP				1 E56
66	66	19111712-00	74S51	AND-OR GATE-INVERT D				1 E58
67	67	19111944-00	555CN	TIMER, FUNCT. BLOCK				1 E31
68	68	19111983-00	74S133	NAND GATE-POSITIVE	1			1 E60
69	69	SEE NOTE 92	DEC 7812-02	VOLT REG, FIXED +12				1 Q10
70	70	1912388-00	74S02	NOR GATE-QUAD	2IN,PO			3 E9,E25,E46
71	71	1912389-00	74S08	AND GATE-QUAD	2IN,PO			1 E23
72	72	1912541-00	VOLT. REG. FIX	-				1 Q11
73	73	1912649-00	LS75	LATCH 4BIT, BISTABLE				3 E2,E12,E53
74	74	1912746-00	DEC 74S37	NAND GATE-QUAD	2IN			11 E27-E30,E35,E36,E41,E47-E50
75	75	1912803-00	LS04	INVERTER GATE-HEX	1I			1 E52
76	76	1912824-00	LS74	FF-D DUAL, EDGE TRIGG				1 E40
77	77	2113735-01	*** THIS ITEM IS NOT USED ***					-

! ! ! ! ! ! ! ! ! !	TITLE		! ! ! ! ! ! ! ! ! !	SIZE	CODE	DOCUMENT NUMBER	! REV !
D I G T A L	PROM MOS MEMORY		SECTION	7 OF 8	! ! ! !	K PL M8417-0-DBP	E !

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	*** THIS ITEM IS NOT USED ***	-	
79	79	2113914-01	4K MOS RAM 200NS 1	96	E100-E123,E200-E223,E300-E323,E400-E423
80	SEE NOTE 91	2114475-01	*** THIS ITEM IS NOT USED ***	-	
81	81	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
82	82 USE WITH Q6, Q7, Q10	9006557-00	NUT, KEP , 4-40X 1/4 AF	3	
83	83 USE WITH Q11	9007254-00	TRANSIPADS #10146	1	
84	84 USE WITH Q6, Q7, Q10	9008301-01	SCREW, PAN , PHIL, 4-40X 1/4	3	
85	85	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	5	W2,W3,W4,W9,W11
86	86	9105740-55	WIRE(WRAP)30AWG	UL1423	A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)
 88 NOTE: M8417-BA=M8417-BB,BC,BD,BE(32KX12)
 89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB
 90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.
 91 NOTE: MIXING OF MOS RAMS IS NOT PERMITTED.
 92 NOTE: REF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.
 93 NOTE: -----

TITLE						SECTION 7 OF 8			SIZE	CODE	DOCUMENT NUMBER	REV
D	I	G	I	T	A	L			K	PL	M8417-0-DBP	E

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
1	1	D-UA-M8417-0-0	UNIT ASSY		REF
2	2	D-UA-M8417-0-0	*** THIS ITEM IS NOT USED ***	-	
3	3	5012701-00	50-12701 32KX12 MOS MEMORY	1	
4	4	1000006-00	10.0 MMF 100V 58200PPM DM155	1	C66
5	5	1000016-00	100.0 MMF 100V 58200PPM DM155	1	C64
6	6	1000042-00	1000.0 MMF 100V 58200PPM DM155	1	C65
7	7	1001610-01	.01 MFD 100V -20+80 ZSU DISC	53	C60,C75-C96,C98-C114,C116-C125,C128,C129, CONT C147
8	8	1005306-00	6.8MFD 35V 10% S.TANT	8	C53,C58,C67,C61,C62,C68,C140,C150
9	9	1010274-00	.22 MFD 50V -20+80 ZSU CER	60	C1-C48,C57,C69,C70,C133-C135,C141-C146
10	10	1010279-00	.47 MFD 25V 20% 2CH23 CER.	6	C54-C56,C126,C130,C131
11	11	1012084-01	.8 MFD 25V G% 3MD AL EL	1	C52
12	12	1012121-00	220.0 MMF 100V 18200PPM DM155	6	C59,C63,C71-C74
13	13	1012219-00	.47. MFD 30V G% 60HD AL EL	3	C50,C51,C132
14	14	1101938-00	1N 4370A VZ= 2.4 5% .40W	1	D3
15	15	1104860-00	1N 746A VZ= 3.3 5%	1	D5
16	16	1105275-00	D 672 TH= 15NS PIV= 60V SI	21	D1,D2,D9-D27
17	17	1109943-00	1N 4733A VZ= 5.1 5% 1W Y	1	D28
18	18	1211164-04	SW,DIP 1P 1A SPOS	1	E62
19	19	1210711-02	HANDLE,MODULE,HEX	1	
20	20	1300250-00	150 1/4W 5%	CC	1 R47
21	21	1300271-00	220 1/4W 5%	CC	16 R123-R138
22	22	1300316-00	470 1/4W 5%	CC	2 R46,R51
23	23	1300365-00	1 K 1/4W 5%	CC	9 R45,R50,R53,R54,R82-R84,R103,R104
24	24	1300447-00	4.7 K 1/4W 5%	CC	15 R55-R65,R77,R78,R81,R139
25	25	1300479-00	10 K 1/4W 5%	CC	6 R71-R74,R121,R122
26	26	1302124-00	18 K 1/4W 5%	CC	46 R1-R44,R90,R98
27	27	1302377-00	39 K 1/4W 5%	CC	5 R52,R109-R112
28	28	1302859-00	5.76 K 1/4W 1% RN55D-F 100PPM	1	R96
29	29	1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM	2	R80,R108

REVISION HISTORY			SECTION 8 OF 8	RESP.ENG.: J. STEGEMAN	DATE: 30-MAY-78	! ! ! ! ! !					
ENG:	ECO NUMBER	REV	SECTION. VARIATION INDEX!	MADE BY: L. METZGER	DATE: 30-MAY-78	TITLE PARTS LIST					
E.R:00003	D		1.AB								
J.S: M8417-ML004	E		2.AD								
			3.AC	CHECKED: P. BOSSMAN	DATE: 30-MAY-78						
			4.AE								
			5.BB								
			6.HC								
			7.HD								
			8.HE								
			9.	DSN.ENG.: J. STEGEMAN	DATE: 30-MAY-78						
			10.								
			11.	PROD.: C. TANNER	DATE: 30-MAY-78	K	PL	M8417-0-DBP		E	
			12.	ASSEMBLY NUMBER: D-UA-M8417-0-0		PART NUMBER: M8417-BE		11			

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
30	30	1302872-00	681 1/4W 1% RN55D-F 100PPM	1	R89
31	31	1302956-00	196 1/4W 1% RN55D-F 100PPM	1	R94
32	32	1302957-00	121 1/4W 1% RN55D-F 100PPM	1	R101
33	33	1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	1	R76
34	34	1303067-00	422 1/4W 1% RN55D-F 100PPM	1	R99
35	35	1303110-00	19.6 1/4W 1% RN55D-F 100PPM	1	R93
36	36	1303226-00	68.1 1/4W 1% RN55D-F 100PPM	1	R86
37	37	1303311-00	46.4 K 1/4W 1% RN55D-F 100PPM	1	R75
38	38	1303313-00	12.1 K 1/4W 1% RN55D-F 100PPM	1	R97
39	39	1304725-00	300 1/4W 1% RN55D-F 100PPM	1	R107
40	40 SEE NOTE 90	1304833-00	1.96 K 1/4W 1% RN55D-F 100PPM	1	R92
41	41	1305122-00	51.1 1/4W 1% RN55D-F 100PPM	1	R85
42	42	1305123-00	215 1/4W 1% RN55D-F 100PPM	2	R91,R102
43	43	1305143-00	825 1/4W 1% RN55D-F 100PPM	2	R95,R79
44	44 SEE NOTE 90	1305253-00	7.15 K 1/4W 1% RN55D-F 100PPM	1	R87
45	45	1309405-00	68 1/2W 5% CC	2	R48,R49
46	46	1503100-00	DEC3009B NPN 200MW SI 20 25	7	Q1-Q5,Q8,Q9
47	47	1510171-00	D 44C3 NPN 30WT SI 30 20 Y	2	Q6,Q7
48	48	1614234-00	XFMR, CONVERTER, RATIO 1:3 300UH	1	11
49	49	1909054-00	7493 COUNTER, ASYNCH UP,BI	2	E21,E24
50	50	1909705-00	DEC 8881 NAND GATE-QUAD 2IN O	4	E3,E14,E17,E44
51	51	1910268-01	DEC 751078-01 RECEIVER, LINE,DUA	3	E5,E10,E18
52	52	1910406-00	75451 DRIVER, PERIPH, DUAL,	1	E64
53	53	1910532-00	74S00 NAND GATE-QUAD 2IN\$	6	E4,E34,E37,E42,E43,E55
54	54	1910533-00	74S03 NAND GATE-QUAD 2IN,O	1	E13
55	55	1910534-00	74S04 INVERTER GATE-HEX 1I	2	E22,E54
56	56	1910536-00	74S10 NAND GATE-TRIPLE 3TN	3	E19,E61,E63
57	57	1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E59
58	58	1910542-00	74S64 A-O-I GATE 4-2-3-2	1	E15
59	59	1910544-01	74S74-60GG-D DUAL, EDGE TRIG	1	E39
60	60	1910545-00	74S112 FF-JK DUAL, EDGE TRIG	3	E7,E20,E32
61	61	1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E26,E33
62	62	1911116-00	DEC 8837 RECEIVER, BUS, HEX, UN	5	E6,E8,E16,E38,E57
63	63	1911469-00	DEC 8640 RECEIVER, BUS, QUAD, U	1	E45
64	64	1911579-00	8641 TRANSCIEVER, BUS, QUA	3	E1,E11,E51
65	65	1911676-00	74S139 DECODER-DUAL TWO-INP	1	E56
66	66	1911712-00	74S51 AND-OR GATE-INVERT D	1	E58
67	67	1911944-00	S55CN TIMER, FUNCT, BLOCK	1	E31
68	68	1911983-00	74S133 NAND GATE-POSITIVE 1	1	E60
69	69 SEE NOTE 92	1912048-02	DEC 7812-H2 VOLT REG, FIXED +12	1	Q10
70	70	1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3	E9,E25,E46
71	71	1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E23
72	72	1912541-00	VOLT, REG.FIX -	1	Q11
73	73	1912649-00	LS75 LATCH 4BIT,BISTABLE	3	E2,E12,E53
74	74	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	11	E27-E30,E35,E36,E41,E47-E50
75	75	1912803-00	LS04 INVERTER GATE-HEX 1I	1	E52
76	76	1912824-00	LS74 FF-D DUAL, EDGE TRIGG	1	E40
77	77	2113735-01	*** THIS ITEM IS NOT USED ***	-	-

TITLE					
D	I	G	I	T	A

PDP8 MOS MEMORY

SECTION 8 OF 8

SIZE	CODE	DOCUMENT NUMBER	REV
K	PL	M8417-0-DBP	E

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	REFERENCE DESIGNATOR
78	78	2114114-01	*** THIS ITEM IS NOT USED ***	-	
79	79	2113914-01	*** THIS ITEM IS NOT USED ***	-	
80	80	SEE NOTE 91	2114475-01	4K MOS RAM 200NS 1	96 E100-E123,E200-E223,E300-E323,E400-E423
81	81		9000024-01	EYELFT, ROLLED FLANGE, .121 OD X	12
82	82	USE WITH Q6,Q7,Q10	9006557-00	NUT,KEP , 4-40X 1/4 AF	3
83	83	USE WITH Q11	9007254-00	TRANSIPADS #10146	1
84	84	USE WITH Q6,Q7,Q10	9008301-01	SCREW,PAN ,PHL, 4-40X 1/4	3
85	85		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	5 W2,W3,W4,W9,W11
86	86		9105740-55	WIRE(WRAP)30AWG	UL1423 A/R

87 NOTE: M8417-AA=M8417-AB,AC,AD,AE(16KX12)
 88 NOTE: M8417-BA=M8417-BB,BC,BD,BE(32KX12)
 89 NOTE: USED ON:OPTION/MODEL MS8-CA,MS8-CB
 90 NOTE: R87,R92 MAY BE REMOVED AT MODULE TEST IF NEEDED.
 91 NOTE: MIXING OF MOS RAMS IS NOT PERMITTED.
 92 NOTE: REF ITEM #69 19-12048-05 ACCEPTABLE SUBSTITUTE FOR 19-12048-02.
 93 NOTE: -----

TITLE						SECTION 8 OF 8			SIZE CODE DOCUMENT NUMBER REV		
D	I	G	I	T	A	L		K	PL	M8417-0-DBP	E

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
PARTS LIST

MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY	Tyrone Quillin	CHECKED W.Main
DATE	18 July 77	DATE 25-JUL-77
ENG	<i>Tyrone Quillin</i>	PROD <i>Phys. Exam.</i>
DATE	18 7 77	DATE 5-25-77

SECTION

DATE 25. JULY 77

ISSUED SECT.

QUANTITY VARIATION

TITLE

PDP-8 MCS MEMORY MS8-C

ASSY NO.

B-DD-MS8-C

SIZE CODE

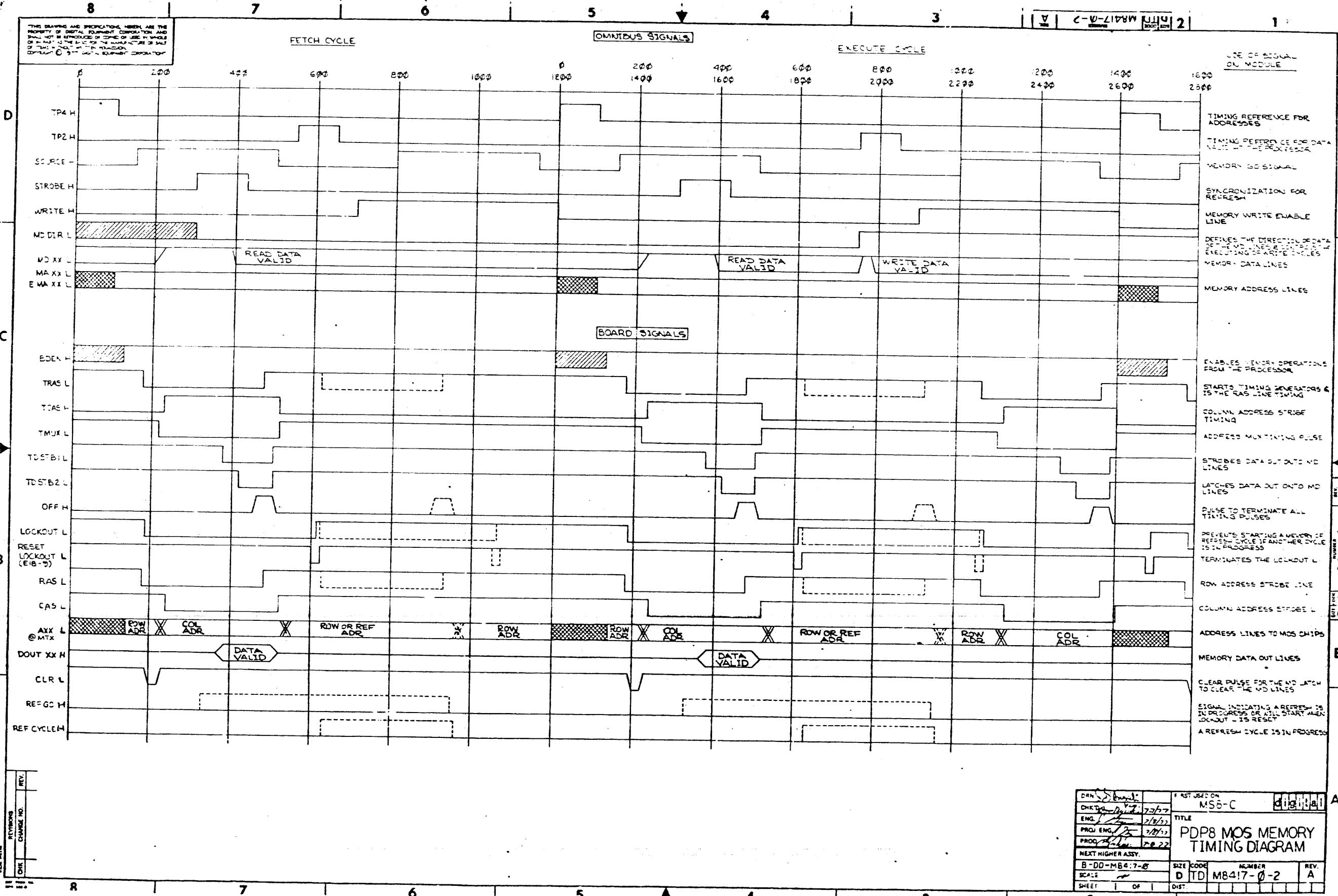
NUMBER

MS8-C-9

1

ECO NO.

DEC FORM
DRA 110



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MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 14 JUNE 77

TITLE MS8C Field Installation and Acceptance Procedure

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG
Bill Eak
APPRD
DEC 16-1079A-R873
DRA 107A

8/19/77
J. Strom
P/1, S/2

SIZE A	CODE SP	NUMBER MS8-C-3	REV.
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SHEET 1 OF 3

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MS8C Field Installation and Acceptance Procedure

I. General

This procedure defines the performance standards required of the MS8CA and MS8CB Memories. The MS8C can be installed in any PDP8A series computers. The Memory may be an add-on to PDP8E systems if a BA8C expander is used.

II. Inspection Add-on

After removing the M8417 from the packing material, inspect the module for the following:

1. Loose or broken components.
2. Inventory against shipping lists.

III. Installation

1. Switch/Field Selection

MS8-CA (1) One switch(only) must be off.
MS8-CB (2) Two switch(only) must be off.

Set-up switch as defined in the following table.
Switches off are the enable.

Address	Bank	Field
S1-1	0-16K	0-3
S1-2	16-32K	0-4-7
*S1-3	32-48K	1-0-3
*S1-4	48-64K	1-4-7
*S1-5	64-80K	2-0-3
*S1-6	80-96K	2-4-7
*S1-7	96-112K	3-0-3
*S1-8	112-128K	3-4-7

*NOTE: KT8A must be installed for these settings. Refer to the KT8A Installation and Acceptance Procedures for KT8A systems acceptance.

2. Install

Ensure power to PDP8A is off.
Insert the M8417 into slot 4 of the PDP8A.
If two memories are to be installed, install the second in slot 5.

IV. Acceptance

Perform the acceptance test as indicated in the following table. If problems are encountered, refer to the diagnostic listings for the type of error and for information on how to read the error printouts.

SIZE A	CODE SP	NUMBER MS8-C-3	REV.
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DEC FORM NO DEC 16-1022-N370
DRA 108

SHEET 2 OF 3

ENGINEERING SPECIFICATION

DIGITAL

CONTINUATION SHEET

TITLE MS8C Field Installation and Acceptance Procedure

Equipment Required:

1. 03,04 Console Terminal
2. PDP8A with MS8C Memory
- *3. Input device, either paper tape or OS8.
4. Diagnostics and listings.

*Programmers console is required to make Switch register settings on the paper tape version of the diagnostic.

<u>Program Name</u>	<u>Maindec #</u>	<u>Accept Time</u>
Extended Memory Address Test	08-DHKMA	30 Minutes
Extended Memory Checkerboard	08-DHKMC	30 Minutes

No Errors are Acceptable.

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS					
ENGINEERING SPECIFICATION					
DATE 18 July 77					
TITLE MSB-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION					
REVISIONS					
REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY
<i>Bill Eml</i>					
APPD	/tgs	8/1/77	A	SP	NUMBER MSB-C-2
SHEET 1 OF 7					
DEC FORM NO. EN-01022-16-N370-3031 DRA 108					

ENGINEERING SPECIFICATION					
CONTINUATION SHEET					
TITLE MSB-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION					
GENERAL DESCRIPTION: The MSB-C is a 32K X 12 MOS memory using 4096 bit MOS RAM's, packaged on a standard hex module and designed to interface to the PDP-8 OMNIBUS. It requires +5 and -15 Volts.					
DETAILED SPECIFICATIONS					
PACKAGING: DEC standard hex module. Multilayer printed circuit board with inner layers distributing the +12V, +5V, -5V and ground. The module has a standard metal handle with retractors.					
ADDRESS SPACE: May be 16K or 32K by 12 bits. For any of these options, the address space may be programmed by a dip switch to start on any 16K boundary from 0 to 128K. The memory size is programmed by a machine insertable jumper.					
STORAGE DEVICE: The MSB-C uses the 16 pin, address multiplexed, dynamic 4096 bit MOS RAM as the storage device.					
INTERFACE: The control logic is designed to provide complete timing for the RAM's. Connections are made on Connectors A thru E as outlined in Table I. It will perform Fetch, Defer and Execute cycles in accordance with the OMNIBUS specification. In addition, the logic will perform refresh cycles, every 13.5 usec synchronized to be hidden in between the Read and Write half of any cycle. The control, to insure data integrity, forces asynchronous refresh cycles if the processor timing is halted due to a halt or an I/O stall.					
Refresh is resynchronized with the processor by the use of the NTS Stall line. The processor timing is stalled at TPI from 0 to 500 nsec on restart.					
ROM ADRS L allows a ROM to overlay memory locations. The control performs a memory cycle but no data is put on the MD bus.					
SOURCE H is used as the memory go signal and also is used to clear the MD bus at the start of a Fetch, Defer or Execute cycle.					
The control requires initialization upon power up which is done by a positive transition on the POWER OK H line. The memory is ready for operation a maximum of 2.5 msec after POWER OK H. The memory is volatile so if power is lost, the memory data is lost.					
The memory requires +5V, -15V and Ground to operate. The memory array requires +12V, -5V, +5V and Ground to operate. The module generates -5V from -15V through a fixed regulator. The +12V is generated from +5 through a switching regulator. The least significant bit of the refresh counter alternately drives a pair of transistors switches connected to a 1:3 step up transformer. The voltage on the secondary is rectified and put into a fixed 12V regulator. The drive transistors are controlled to not turn on unless the +5V is greater than 3.8V to prevent current surges on the +5 supply.					
SIZE	CODE	NUMBER	REV		
A	SP	MSB-C-2			
SHEET 2 OF 7					
DEC FORM NO. EN-01022-16-N370-3031 DRA 108					

ENGINEERING SPECIFICATION																																																								
CONTINUATION SHEET																																																								
TITLE MSB-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION																																																								
<p>They also are turned off if the -5V supply falls below -3V to protect the MOS RAM's. An etch inductor and a pair of capacitors between the transformer center taps and +5V prevents switching noise from being injected onto the +5V supply lines. DAI and EPI are the -5V margin and +12V margin control pins. Supplying a bi-directional voltage to these pins allows margining of the array during manufacturing test.</p> <p>Both the -5V and the +12V supplies start automatically upon power up. Asynchronous refresh is also started automatically upon power up.</p> <p>All MA and EMA lines are terminated with a clamp diode to prevent undershoot. BANK SEL OL thru BANK SEL 3L are pulled up to +5 by a 10K resistor since they are unterminated in systems not extended beyond 32K.</p> <p>For manufacturing margining purposes, nodes in two resistor networks determining RAM timing are brought through buffer resistors to pins AA1 and BA1, T MARGIN 1 and T MARGIN 2.</p> <p>Test points from the board position switches are brought to the E connector for manufacturing test, as is a refresh disable line, EA1, and the refresh oscillator output, DB1.</p> <p>Four test points are brought to the connectors for the purpose of adjusting the internal timing on the module. They are TRAS L at CA1, TMUX L at AB1, TDSTBIL at BB1 and LOCKOUT L at CB1. These timing adjustments are made at module test.</p> <p>POWER: The memory requires +5V ± 5% and -15V ± 10% inclusive of all aberrations. The current required for operating and standby is shown below, assuming a maximum operating frequency of .83 MHz.</p> <table border="1"> <thead> <tr> <th colspan="4">16K</th> <th colspan="4">32K</th> </tr> <tr> <th colspan="2">OPERATE</th> <th colspan="2">STANDBY</th> <th colspan="2">OPERATE</th> <th colspan="2">STANDBY</th> </tr> <tr> <th>TYP</th> <th>MAX</th> <th>TYP</th> <th>MAX</th> <th>TYP</th> <th>MAX</th> <th>TYP</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>+5V</td> <td>2.3 A</td> <td>3.3 A</td> <td>1.7 A</td> <td>2.6 A</td> <td>2.6 A</td> <td>3.8 A</td> <td>2.0 A</td> <td>2.8 A</td> </tr> <tr> <td>-15V</td> <td>.05A</td> <td>.07A</td> <td>.05A</td> <td>.07A</td> <td>.05A</td> <td>.07A</td> <td>.05A</td> <td>.07A</td> </tr> <tr> <td>TOTAL WATTS</td> <td>12.2 W</td> <td>17.6 W</td> <td>9.3 W</td> <td>14.1 W</td> <td>13.8 W</td> <td>18.6 W</td> <td>10.8 W</td> <td>15.1 W</td> </tr> </tbody> </table> <p>SPEED: The access time assumes that no stall has occurred and is measured from SOURCE H to memory data on the MD lines.</p> <p>Taccess: 265 nsec Max 265 nsec Typ</p> <p>Tcycle: 1.2 usec Max Fetch Cycle 1.4 usec Max Execute Cycle</p>						16K				32K				OPERATE		STANDBY		OPERATE		STANDBY		TYP	MAX	TYP	MAX	TYP	MAX	TYP	MAX	+5V	2.3 A	3.3 A	1.7 A	2.6 A	2.6 A	3.8 A	2.0 A	2.8 A	-15V	.05A	.07A	.05A	.07A	.05A	.07A	.05A	.07A	TOTAL WATTS	12.2 W	17.6 W	9.3 W	14.1 W	13.8 W	18.6 W	10.8 W	15.1 W
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A	SP	MSB-C-2																																																						
SHEET 3 OF 7																																																								
DEC FORM NO. EN-01022-16-N370-3031 DRA 108																																																								

ENGINEERING SPECIFICATION																																																													
CONTINUATION SHEET																																																													
TITLE MSB-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION																																																													
HTBF: Calculated by DEC Part Count method using F = .5%/1000 Hours for Ground Fixed MOS RAM and F = .3%/1000 Hours for Ground Benign.																																																													
<table border="0"> <tr> <td colspan="2">GROUND BENIGN</td> <td colspan="2">GROUND FIXED</td> </tr> <tr> <td>16K X 12</td> <td>48.3K Hours</td> <td>23.4K Hours</td> <td></td> </tr> <tr> <td>32K X 12</td> <td>28.5K Hours</td> <td>15.0K Hours</td> <td></td> </tr> </table>						GROUND BENIGN		GROUND FIXED		16K X 12	48.3K Hours	23.4K Hours		32K X 12	28.5K Hours	15.0K Hours																																													
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32K X 12	28.5K Hours	15.0K Hours																																																											
ADJUSTMENTS: The internal memory timing is adjusted at module test by the removal or insertion of a resistor in the timing generators.																																																													
<table border="0"> <tr> <td>TRASL</td> <td>To</td> <td>TMUXL</td> <td></td> </tr> <tr> <td>CA1</td> <td></td> <td>AB1</td> <td></td> </tr> <tr> <td>25nsec < TD < 45nsec</td> <td></td> <td>OK</td> <td></td> </tr> <tr> <td>TD < 25 nsec</td> <td></td> <td>Insert R100</td> <td></td> </tr> <tr> <td>TRASL</td> <td>To</td> <td>TDSTBIL</td> <td></td> </tr> <tr> <td>CA1</td> <td></td> <td>BB1</td> <td></td> </tr> <tr> <td>200nsec < TD < 220nsec</td> <td></td> <td>OK</td> <td></td> </tr> <tr> <td>TD > 220nsec</td> <td></td> <td>Cut R92 Out</td> <td></td> </tr> <tr> <td>TD < 200nsec</td> <td></td> <td>Insert R140</td> <td></td> </tr> <tr> <td>TRASL</td> <td>To</td> <td>LOCKOUT L</td> <td></td> </tr> <tr> <td>CA1</td> <td></td> <td>CB1</td> <td></td> </tr> <tr> <td>130nsec < TD < 150nsec</td> <td></td> <td>OK</td> <td></td> </tr> <tr> <td>TD > 150nsec</td> <td></td> <td>Insert R88</td> <td></td> </tr> <tr> <td>TD < 130nsec</td> <td></td> <td>Cut R87 Out</td> <td></td> </tr> </table>						TRASL	To	TMUXL		CA1		AB1		25nsec < TD < 45nsec		OK		TD < 25 nsec		Insert R100		TRASL	To	TDSTBIL		CA1		BB1		200nsec < TD < 220nsec		OK		TD > 220nsec		Cut R92 Out		TD < 200nsec		Insert R140		TRASL	To	LOCKOUT L		CA1		CB1		130nsec < TD < 150nsec		OK		TD > 150nsec		Insert R88		TD < 130nsec		Cut R87 Out	
TRASL	To	TMUXL																																																											
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MARGINS: The memory should operate with all permutations of +5 ± 5% and -15V ± 10% with any program and stored content. It should also run at +5V and -15V with Pins AA1 and BA1 tied to any voltage source between Ground and +5V, with any program and stored contents.																																																													
SIZE	CODE	NUMBER	REV																																																										
A	SP	MSB-C-2																																																											
SHEET 4 OF 7																																																													
DEC FORM NO. EN-01022-16-N370-3031 DRA 108																																																													

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MS8-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION

ENVIRONMENTAL: DEC Std 102 Class "C".

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MS8-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION

TABLE 1

A CONN		B CONN	
SIDE 1	SIDE 2	SIDE 1	SIDE 2
T.P. T MARGIN 1	A +5V	T.P. T MARGIN 2	A +5V
T.P. TMUXL	B ---	T.P. T DSTB1L	B ---
GND	C GND	GND	C GND
MAOL	D EMAOL	HA4L	D ---
MATL	E EMAIL	MA5L	E ---
GND	F GND	GND	F GND
MA2L	H EMA2L	MA6L	H ---
MA3L	J ---	MA7L	J ---
MD0L	K MD DIR L	MD4L	K ---
MD1L	L SOURCE H	MD5L	L ---
MD2L	M STROBE H	MD6L	M ---
GND	N GND	GND	N GND
MD3L	P ---	MD7L	P ---
---	R ---	---	R STALL L
---	S WRITE H	---	S ---
GND	T GND	GND	T GND
---	U ROM ADRS L	---	U RUN L
---	V ---	---	V POWER OK H

C CONN		D CONN	
SIDE 1	SIDE 2	SIDE 1	SIDE 2
T.P. TRAS L	A +5V	T.P. -5V MARGIN	A ---
T.P. LOCKOUT I	B -15V	T.P. REF OSC H	B ---
GND	C GND	GND	C GND
---	D ---	MA8L	D ---
GND	E ---	MA9L	E ---
---	F GND	GND	F GND
---	H TP3H	MA10L	H ---
BUS STROBE L	J ---	MA11L	J ---
---	K ---	MD8L	K ---
NOT LAST XFER L	L ---	MD9L	L ---
GND	M ---	MD10L	M ---
---	N GND	GND	N GND
---	P ---	MD11L	P ---
GND	Q ---	---	R ---
---	R ---	---	S ---
GND	T GND	GND	T GND
---	U ---	---	U ---
---	V ---	---	V ---

DEC FORM NO EN-01022-15-N370-(381)
DRA 108

SHEET 5 OF 7

DEC FORM NO EN-01022-15-N370-(381)
DRA 108

SHEET 6 OF 7

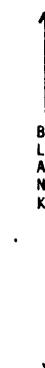
ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE MS8-C 32K PDP-8 MOS MEMORY ENGINEERING SPECIFICATION

TABLE 1
(Continued)

E CONN		F CONN	
SIDE 1	SIDE 2	SIDE 1	SIDE 2
T.P. REF DIS L	A ---		
T.P. POS 1	B BANK SEL 0L		
GND	C GND		
T.P. POS 2	D BANK SEL 1L		
T.P. POS 3	E ---		
GND	F GND		
T.P. POS 4	H ---		
T.P. POS 5	J ---		
T.P. POS 6	K ---		
T.P. POS 7	L BANK SEL 2L		
T.P. POS 8	M ---		
GND	N GND		
T.P. +12V MARGIN	P ---		
T.P. -5V	R BANK SEL 3L		
---	S ---		
---	T GND		
T.P. +12V	V ---		



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DEC FORM NO EN-01022-15-N370-(381)
DRA 108SIZE A CODE SP NUMBER MS8-C-12 REV
SHEET 7 OF 7

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M8417-AA (16K)							
X = SWITCH OPEN OR OFF							
0-16	X						
16-32		X					
32-48			X				
48-64				X			
64-80					X		
80-96						X	
96-112							X
112-128							X

M8417-BA (32K)							
X = SWITCH OPEN OR OFF							
0-32	X	X					
16-48		X	X				
32-64			X	X			
48-80				X	X		
64-96					X	X	
80-112						X	X
96-128							X

NOTES:

1. MODULE DESIGNATION: M8417-AA = M8417-AB,-AC,-AD,-AE, ETC.
16K MOS MEMORY
REFERENCE DESIGNATIONS NOT USED:

E101 E201 E301 E401
E103 E203 E303 E403
E105 E205 E305 E405
E107 E207 E307 E407
E109 E209 E309 E409
E111 E211 E311 E411
E113 E213 E313 E413
E115 E215 E315 E415
E117 E217 E317 E417
E119 E219 E319 E419
E121 E221 E321 E421
E123 E223 E323 E423

2. MODULE DESIGNATION: M8417-BA = M8417-BB,-BC,-BD,-BE, ETC.
32K MOS MEMORY

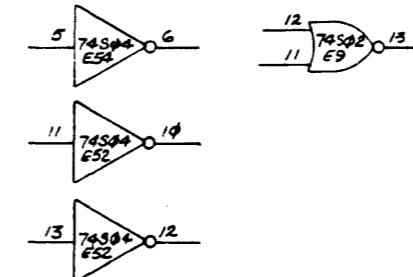
3. ALL 8837'S HAVE PINS 7 & 9 GROUNDED.

4. TIMING RESISTORS R87 AND R92 MAY BE REMOVED AT MODULE TEST FOR TIMING ADJUSTMENTS.

5. TIMING RESISTORS R88, R100, R140 MAY BE INSTALLED AT MODULE TEST FOR TIMING ADJUSTMENTS.

R88	3.16K 1/4W 1% MF	13-03045-00
R100	6.04K 1/4W 1% MF	13-13155-00
R140	1.21K 1/4W 1% MF	13-02871-00

SPARES



JUMPER CONFIGURATIONS		
JUMPER	M8417-AA (16K)	M8417-BA (32K)
W2	X	X
W3	X	X
W4	X	X
W9	X	X
W10	X	
W11	X	X

ALL JUMPERS ARE MACHINE INSERTABLE.

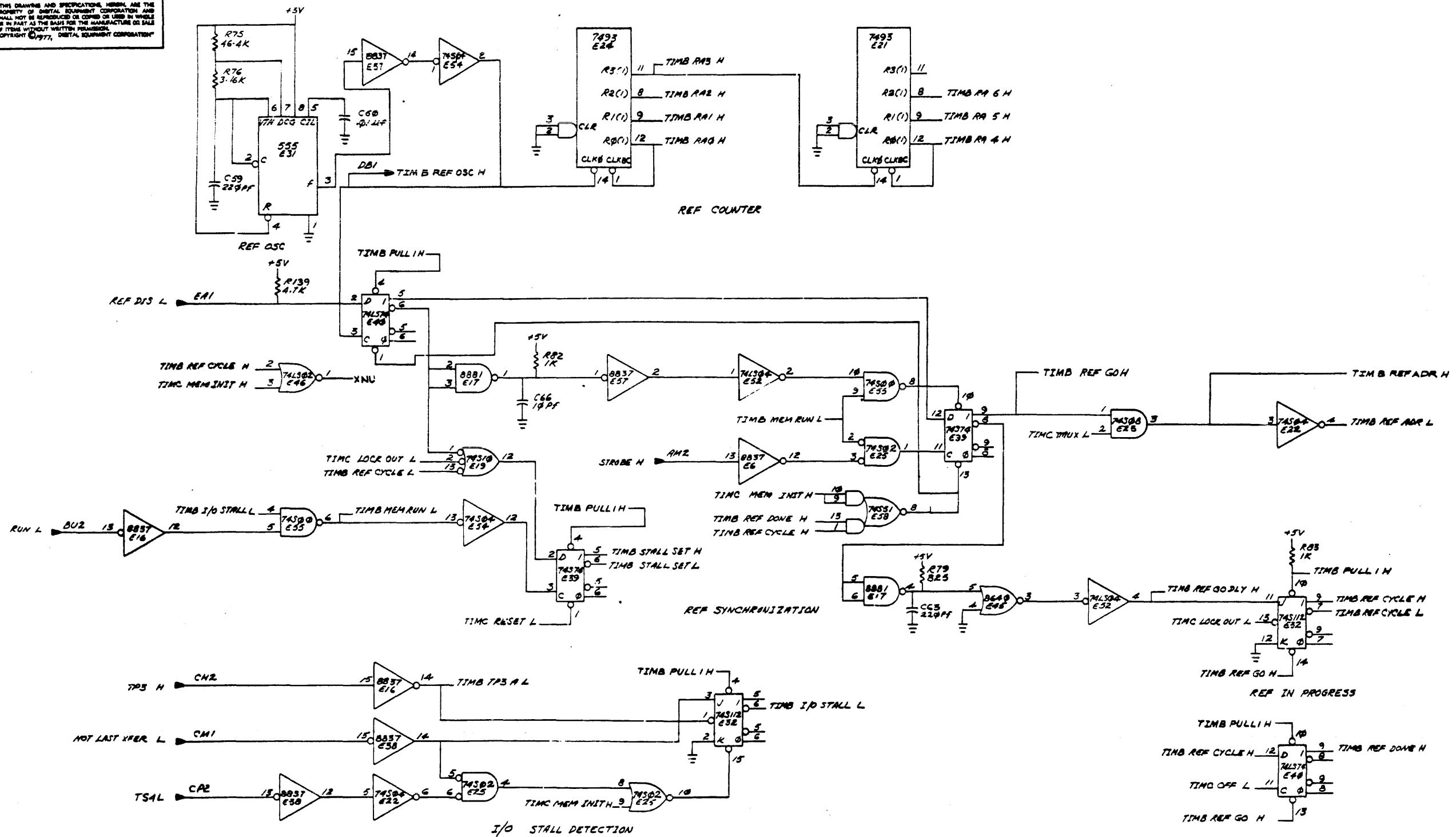
THESE JUMPERS ARE REMOVED:
W1, W5, W6, N7, W8, W12, W13, W14,
W15, W16

X = JUMPER INSTALLATION

IC PIN LOCATIONS					
IC TYPE	GND	+5	-5	+12	
555	/	8			
7493	10	5			
74LS75	12	5			
8640	/	8			
75107B	7	14	13		
MK4027	16	9	1	8	
OTHER 16 PIN IC's	8	16			
OTHER 14 PIN IC's	7	14			
75451	4	8			

REVISION	REV.
DATE	09/17/77
CHG. NO.	B
1. J. STEGEMAN	✓
2. J. STEGEMAN	✓
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187. J. STEGEMAN	✓
188. J. STEGEMAN	✓

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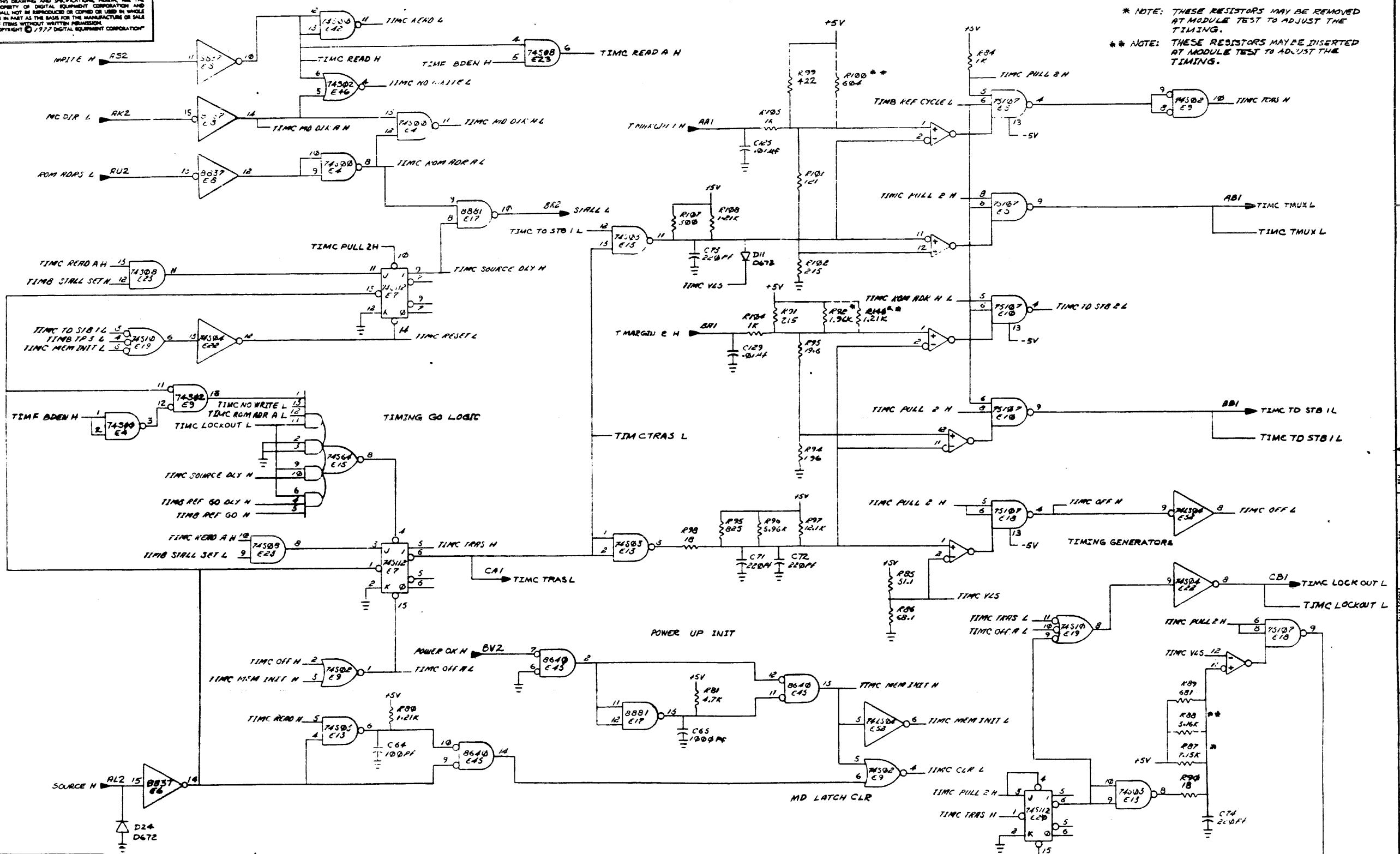
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CHEK	CHANGE NO.	REV.

TITLE		SIZE/CODE	NUMBER	REV.
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(TIM B)	PDP8 MOS MEMORY	DCS	M8417-0-1	

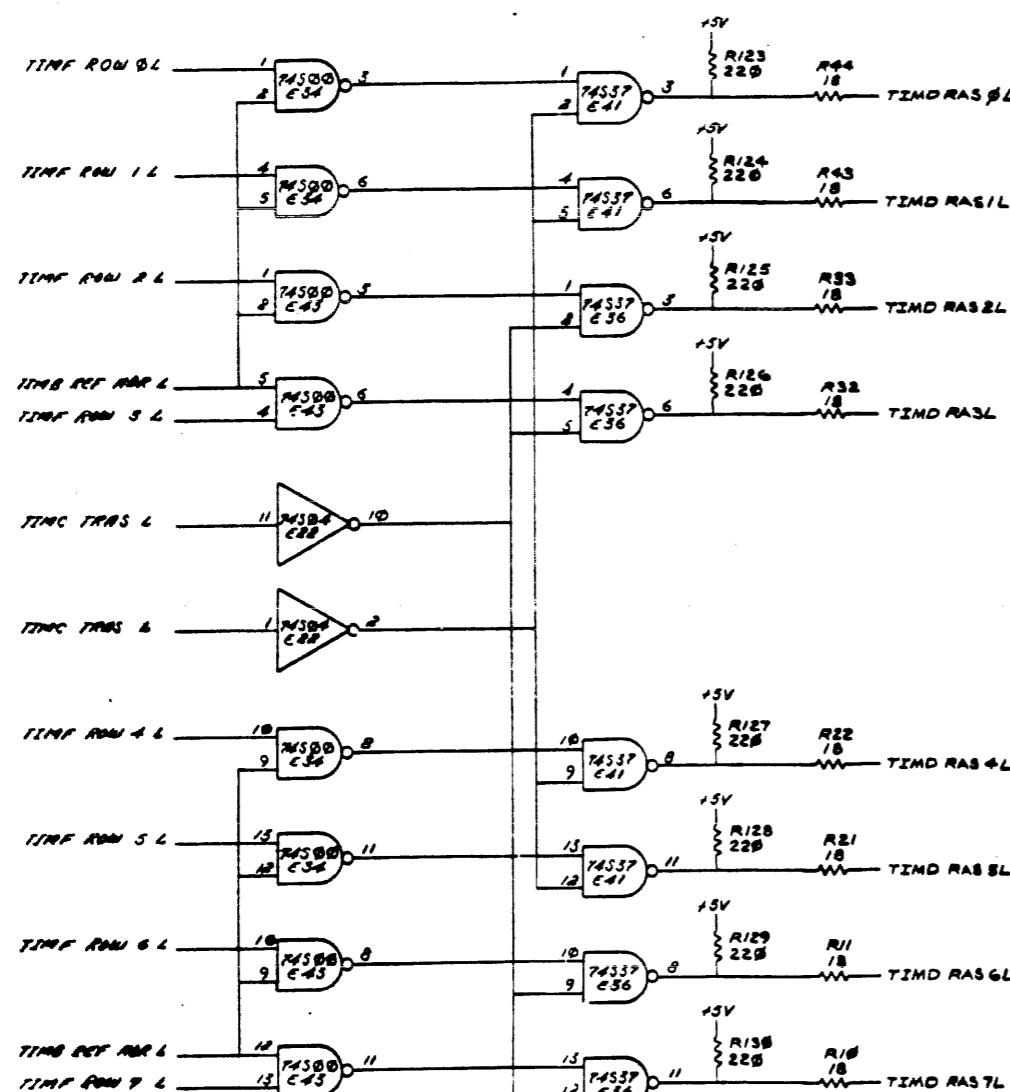
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* NOTE: THESE RESISTORS MAY BE REMOVED AT MODULE TEST TO ADJUST THE TIMING.

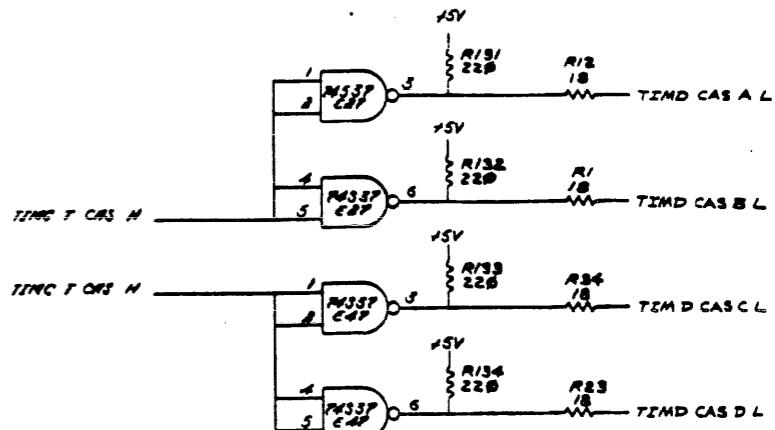
** NOTE: THESE RESISTORS MAY BE INSERTED AT MODULE TEST TO ADJUST THE TIMING.



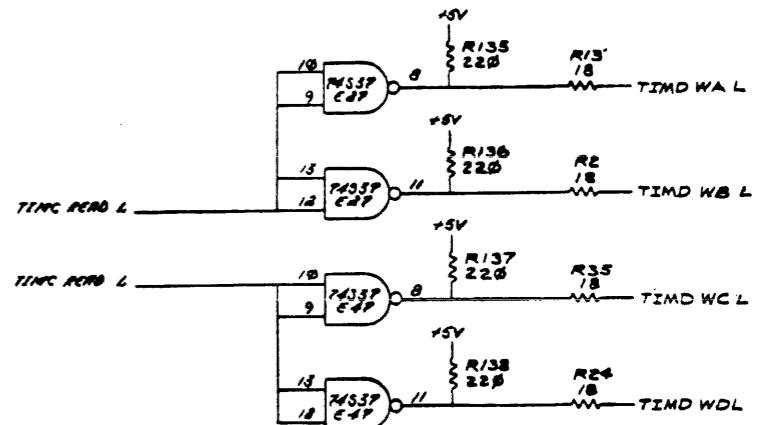
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OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE
OF ITEMS WITHOUT WRITTEN PERMISSION,
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RAS DRIVERS & SELECT



CAS DRIVERS



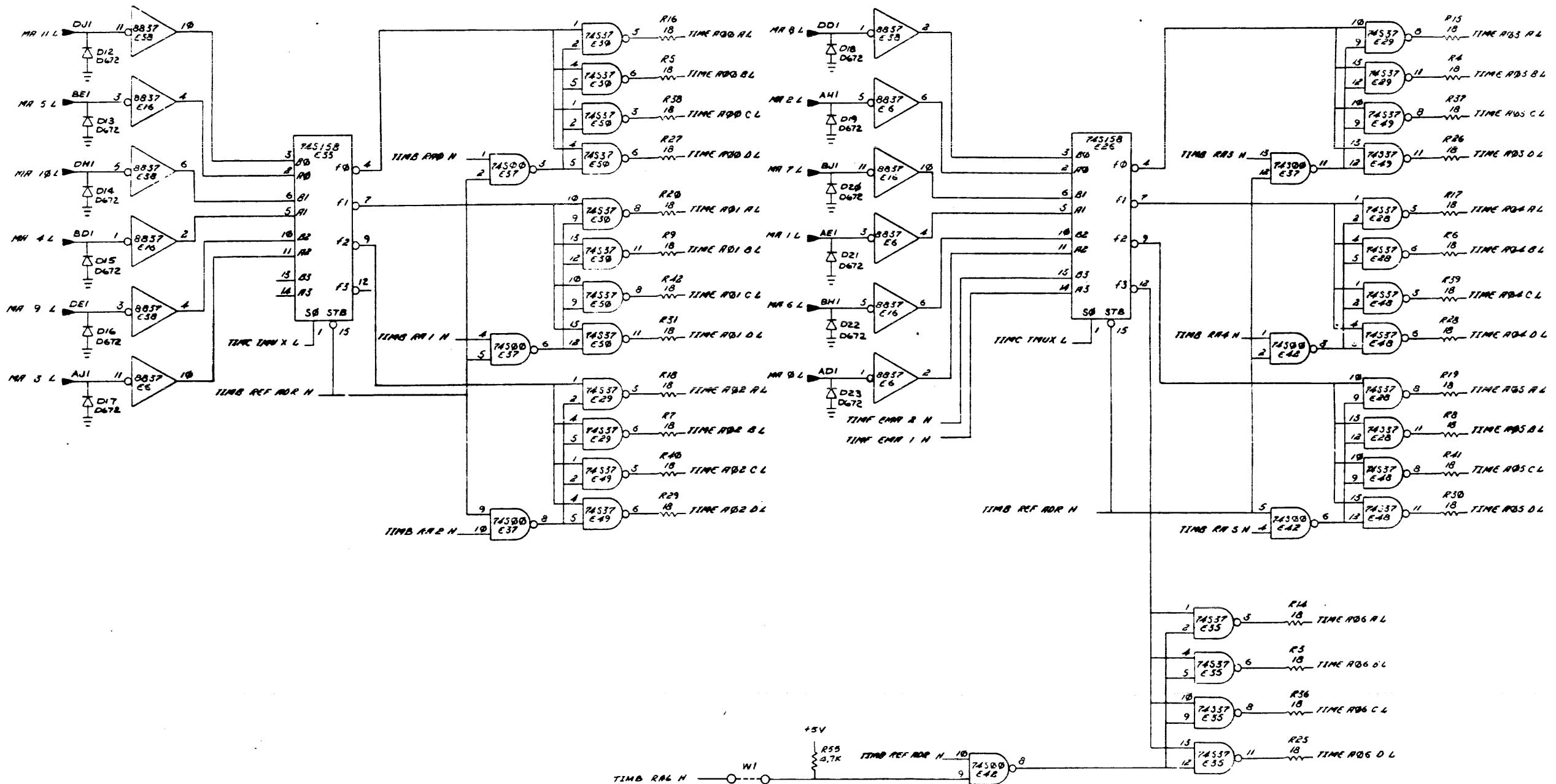
WRITE ENABLE DRIVERS

REVISIONS		
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SCALE	NONE	SHEET	4 OF 14	DIST.	

2 DGS M8417-0-1 1
PDP8 MOS MEMORY DCS M8417-2-1 E

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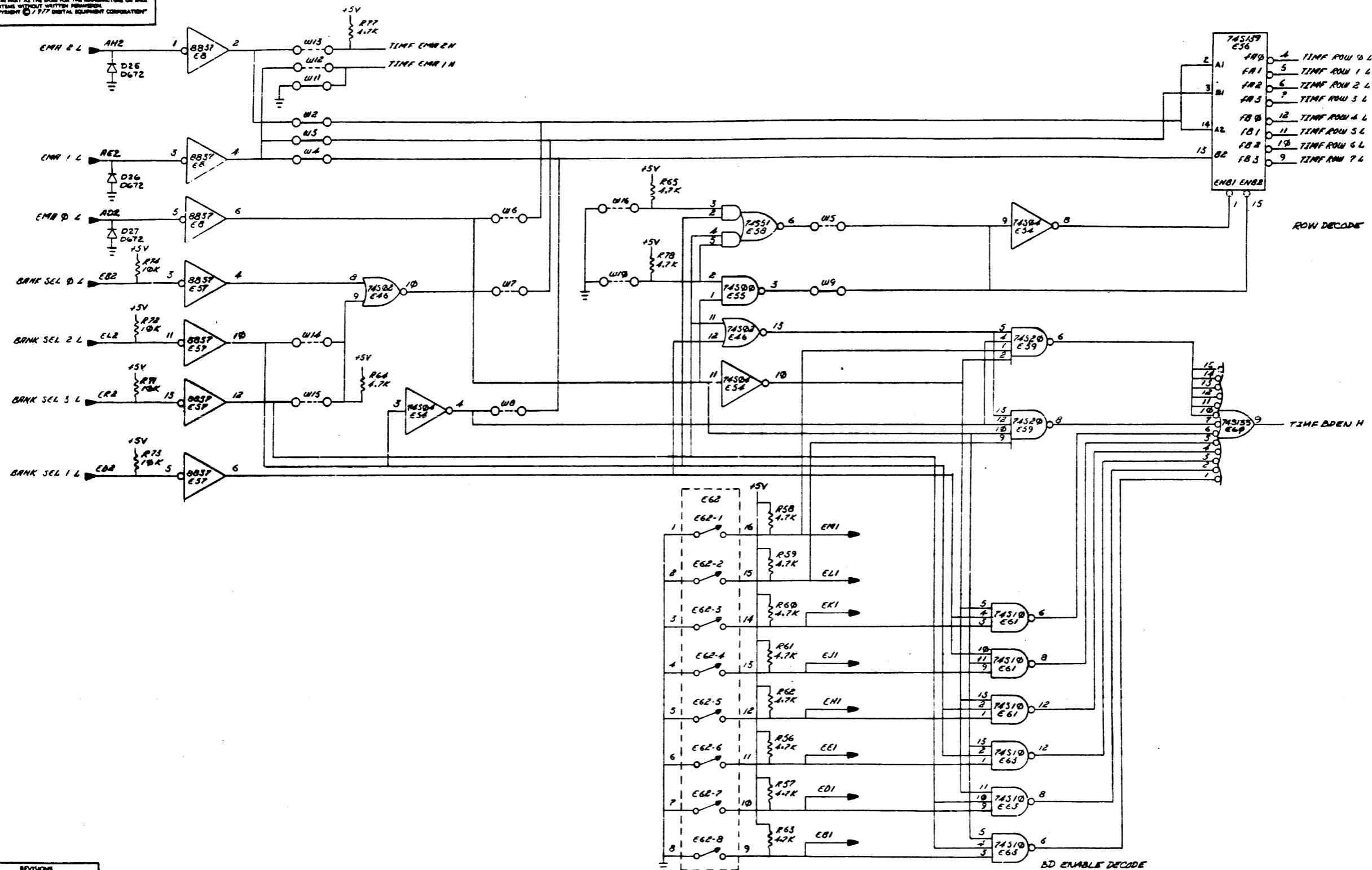


ROW, COLUMN & REF ADR MUX & ADR DRIVER

REVISIONS

TITLE		(TIME)	SIZE CODE	NUMBER	REV.
PDP8 MOS MEMORY			D(CS)	M8417-2-1	E
SCALE	NONE	SHEET 5 OF 14	DIST.		

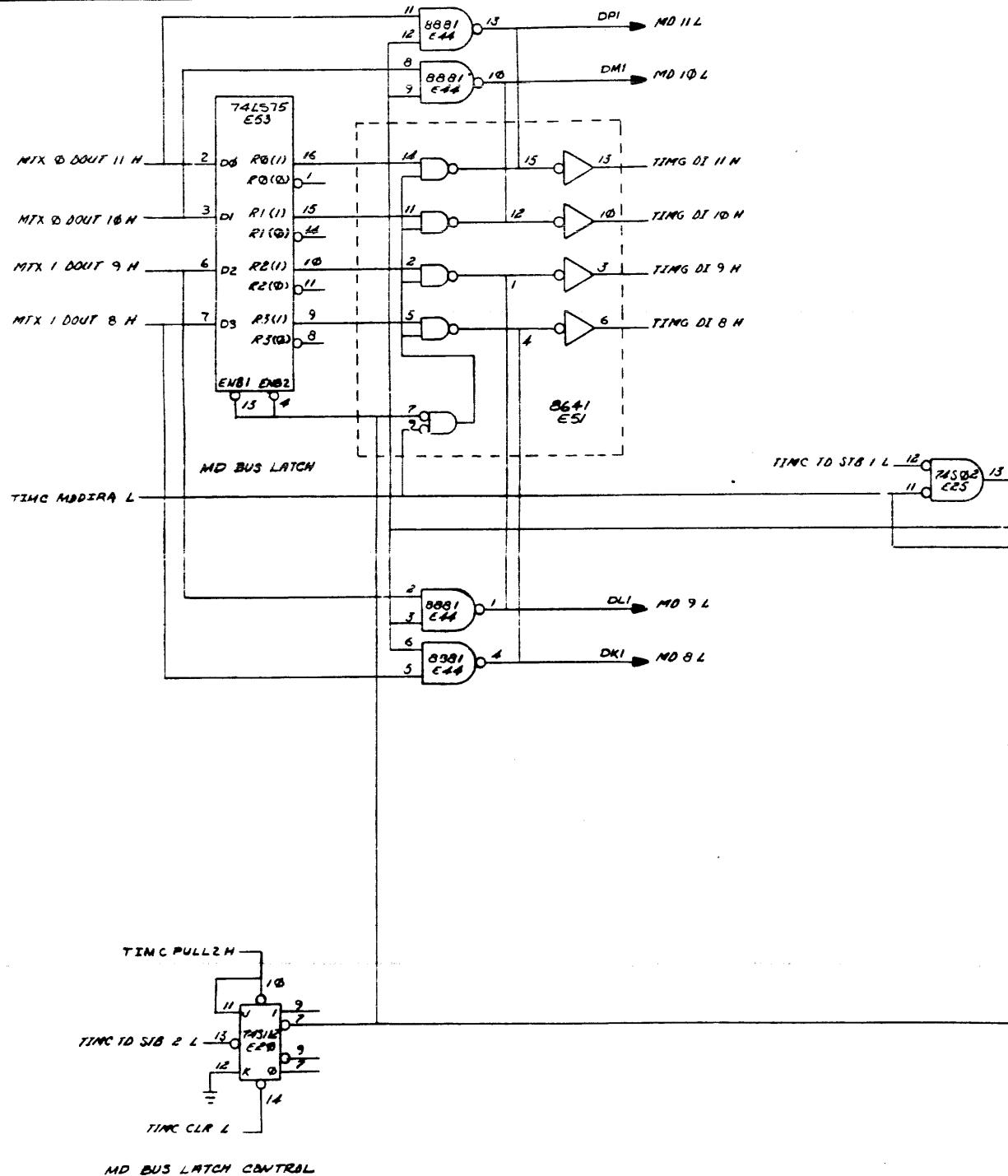
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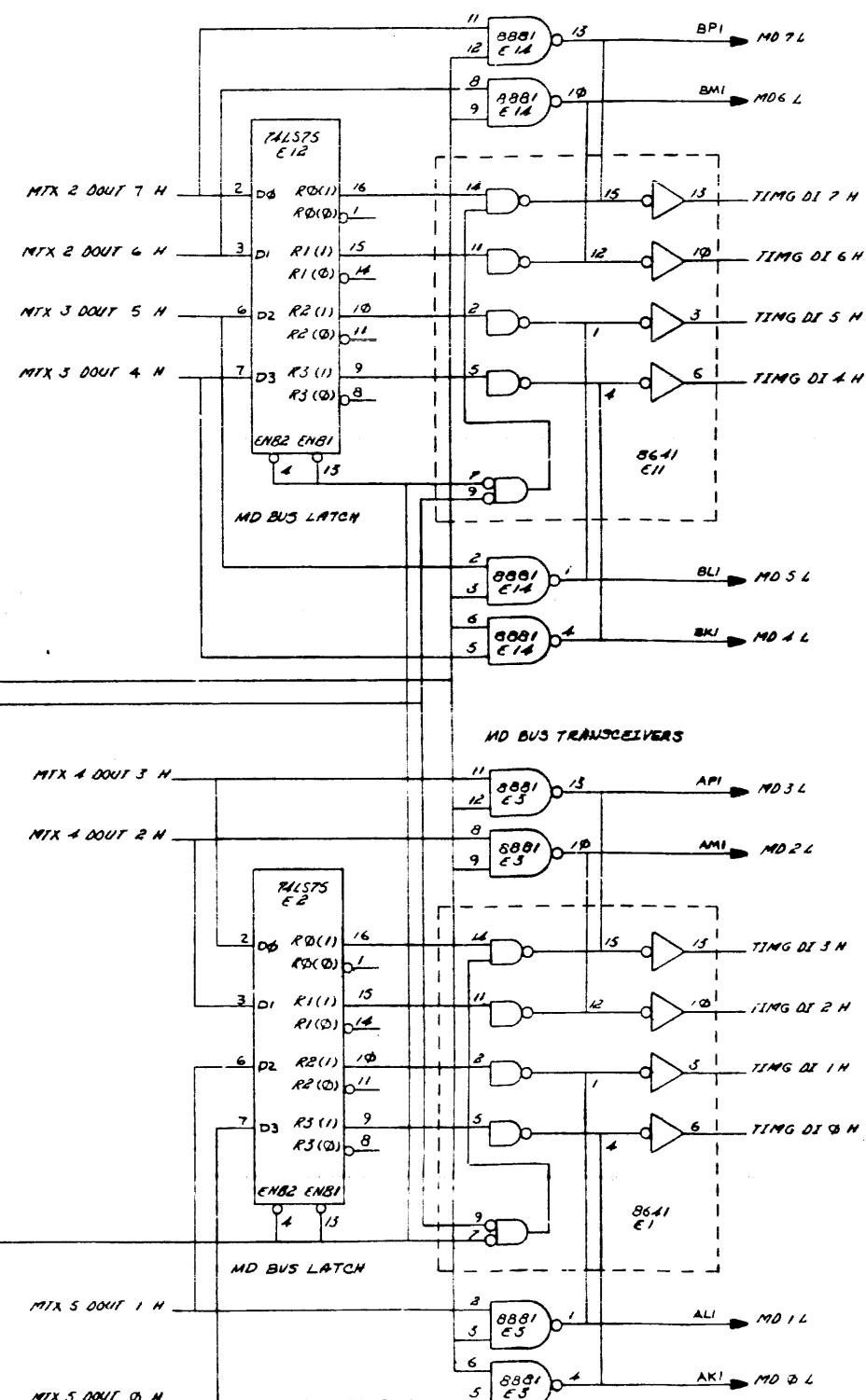
REVISIONS		
CHG	CHANGE NO.	REV

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MD BUS TRANSCEIVERS



3 E 2 DCS M8417-0-1

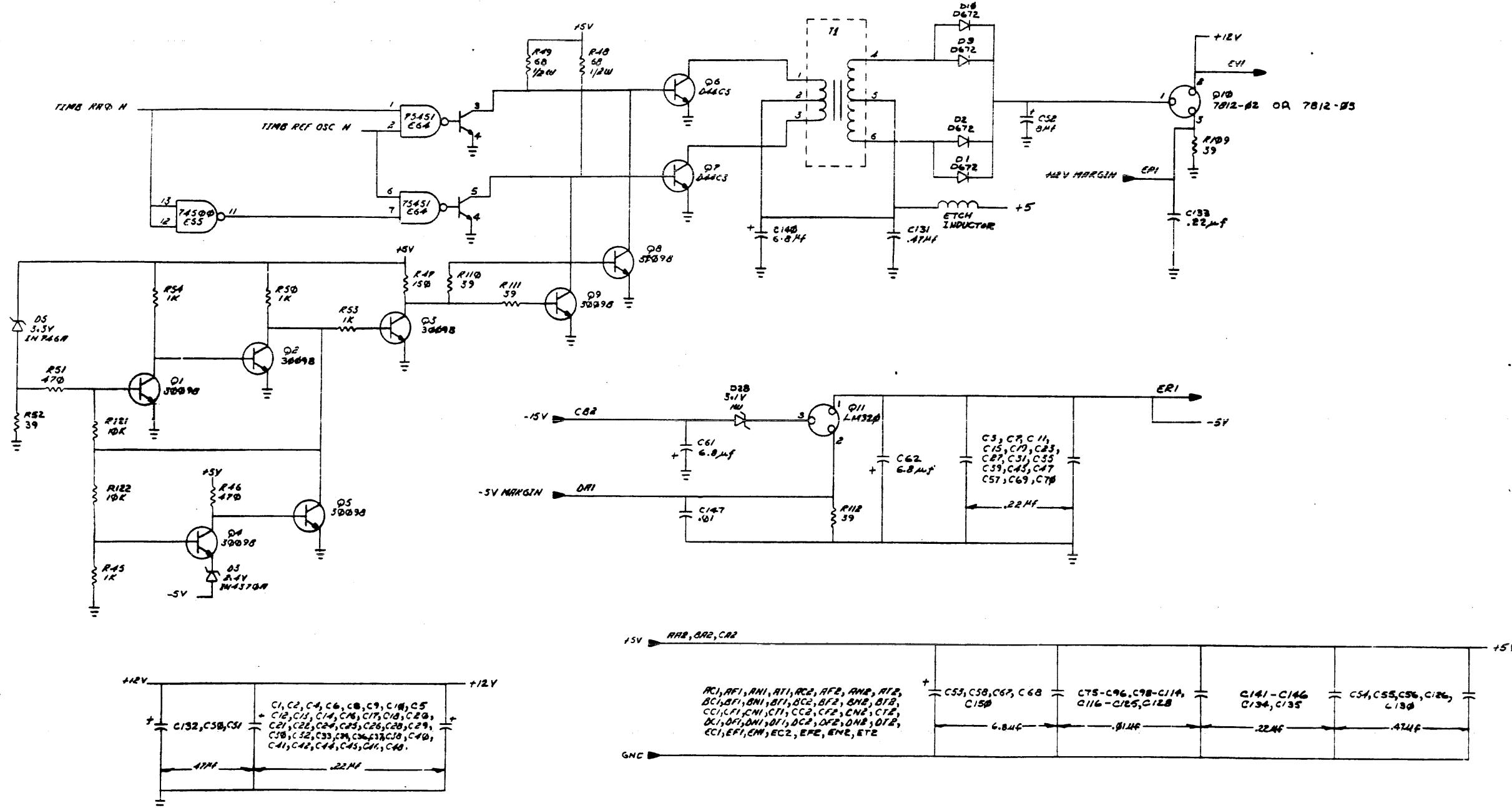


TITLE PDP8 MOS MEMORY (TIMG) SIZE CODE N NUMBER DCS M8417-0-1 REV. E
SCALE NONE SHEET 7 OF 14 DIST.

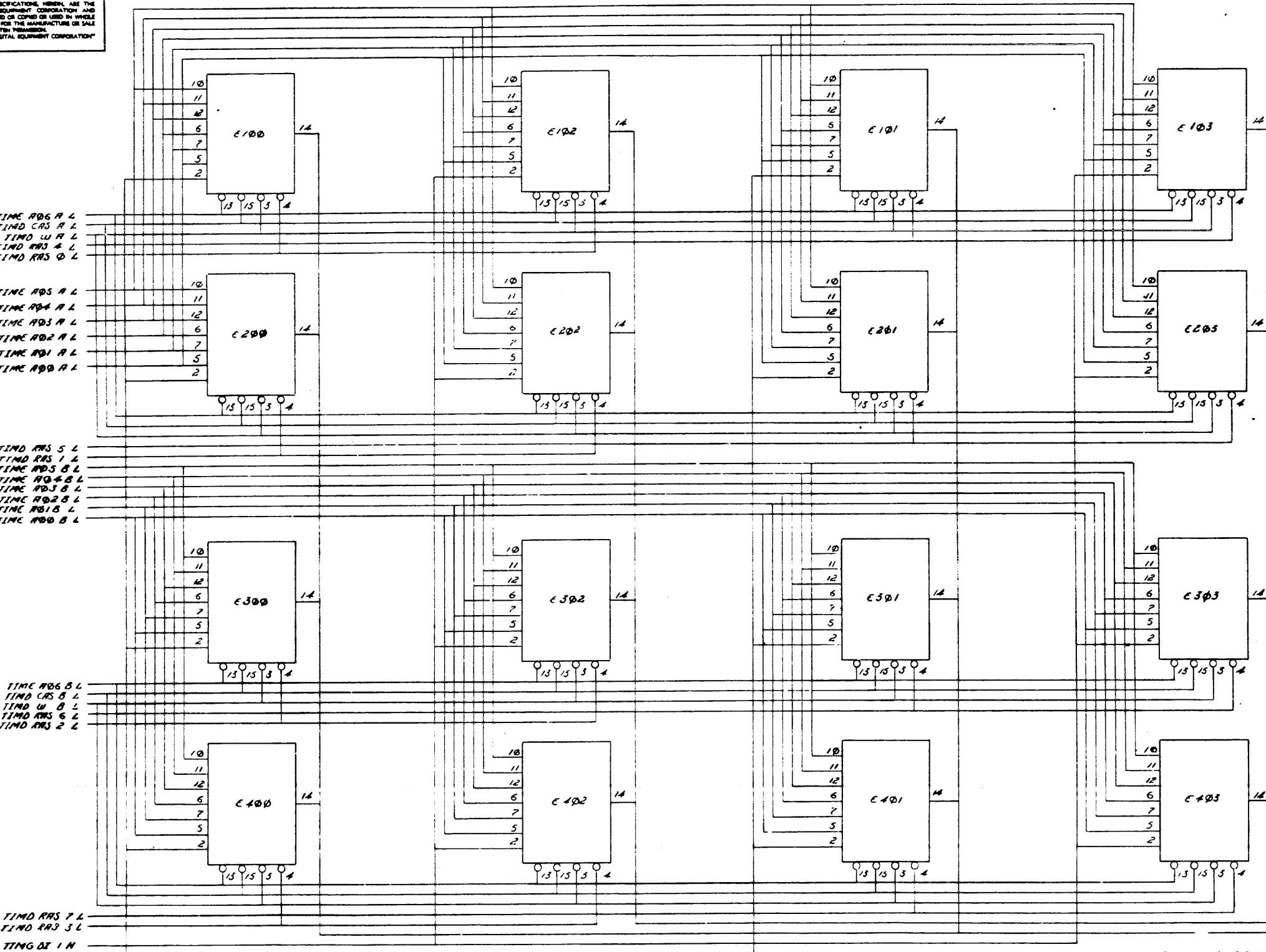
REVISIONS		
CHE	CHANGE NO.	REV.

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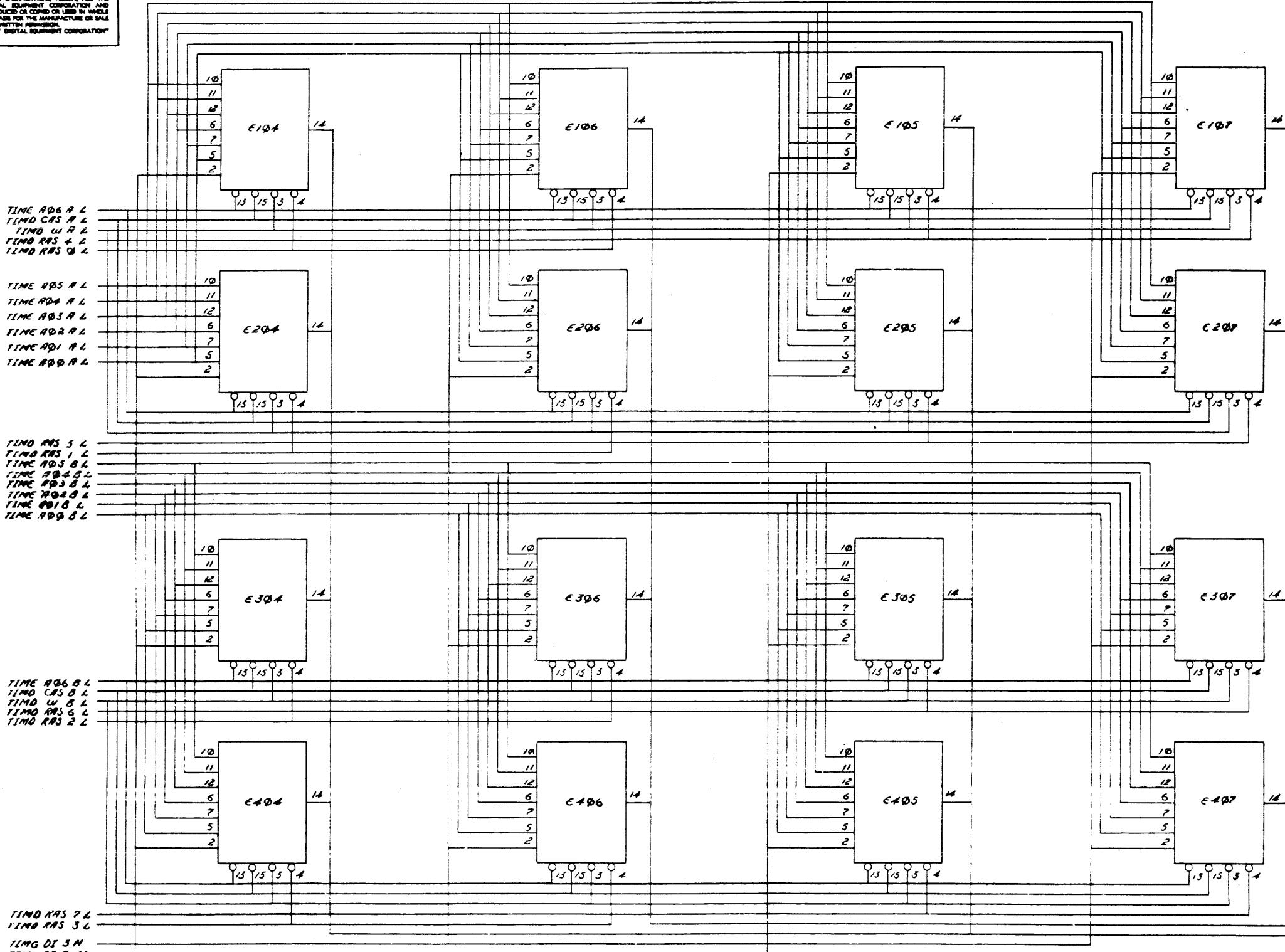


(ARRAY) DATA BITS Q.1
MTX 5

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE/CODE	NUMBER	REV.
PDP8 MOS MEMORY	DCS	M8417-0-1	E
SCALE NONE	SHEET 9 OF 14	DIST.	

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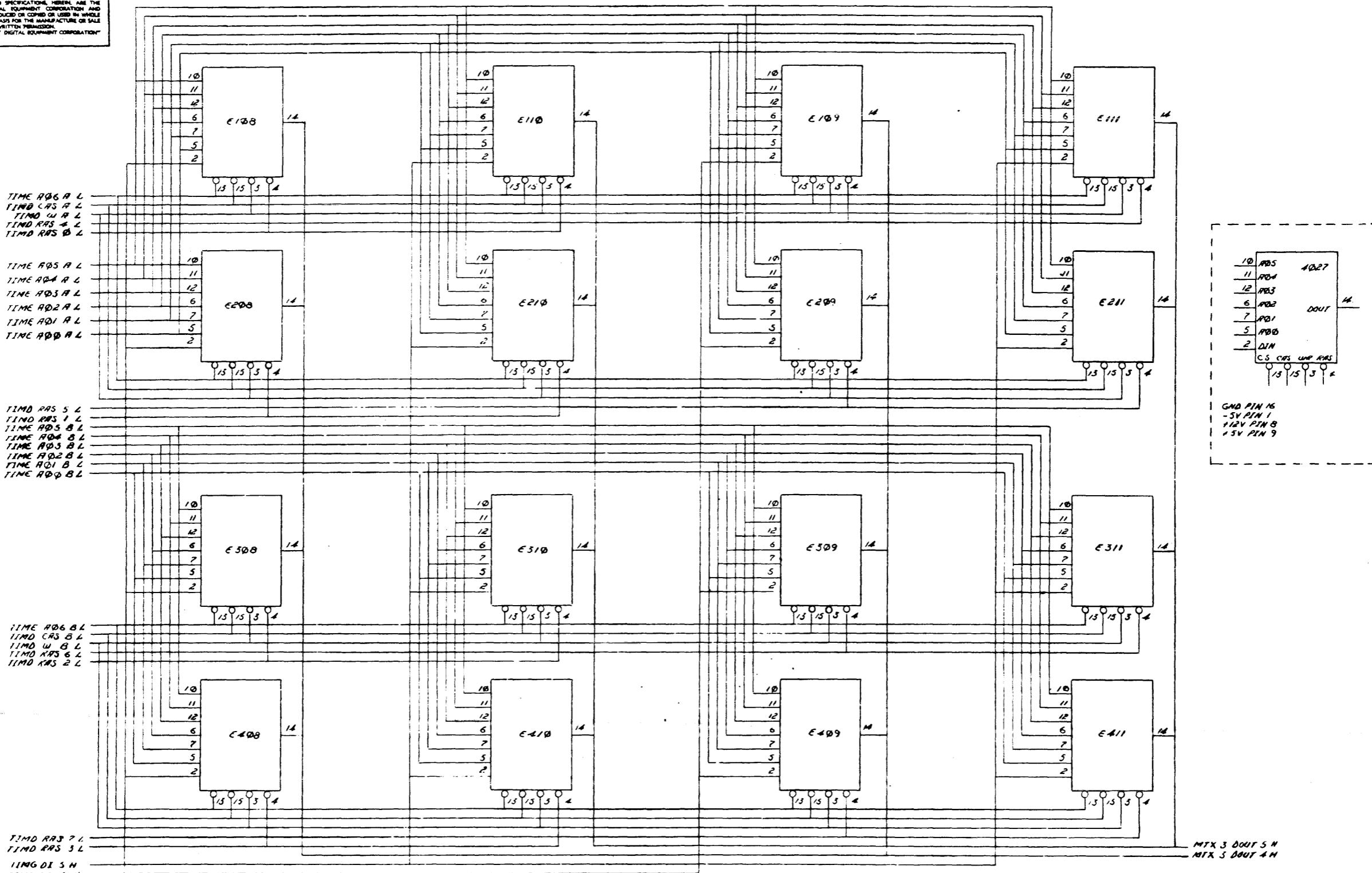


(ARRAY) DATA BITS 2,3
MTX 4

REVISIONS			CHIC			CHANGE NO			REV.		

TITLE PDP8 MOS MEMORY
SCALE NONE SHEET 10 OF 14 DIST.
SIZE CODE DCS NUMBER M8417-0-1 REV. E

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(ARRAY) DATA BITS 4,5
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REVISIONS		
CHN	CHANGE NO	REV

TITLE	PDP8 MOS MEMORY	SIZE CODE	M8417-Ø-1	REV.
SCALE	None	SHEET	11 OF 11	DIST.

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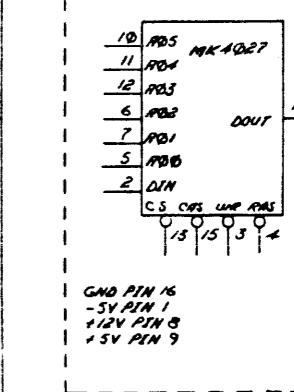
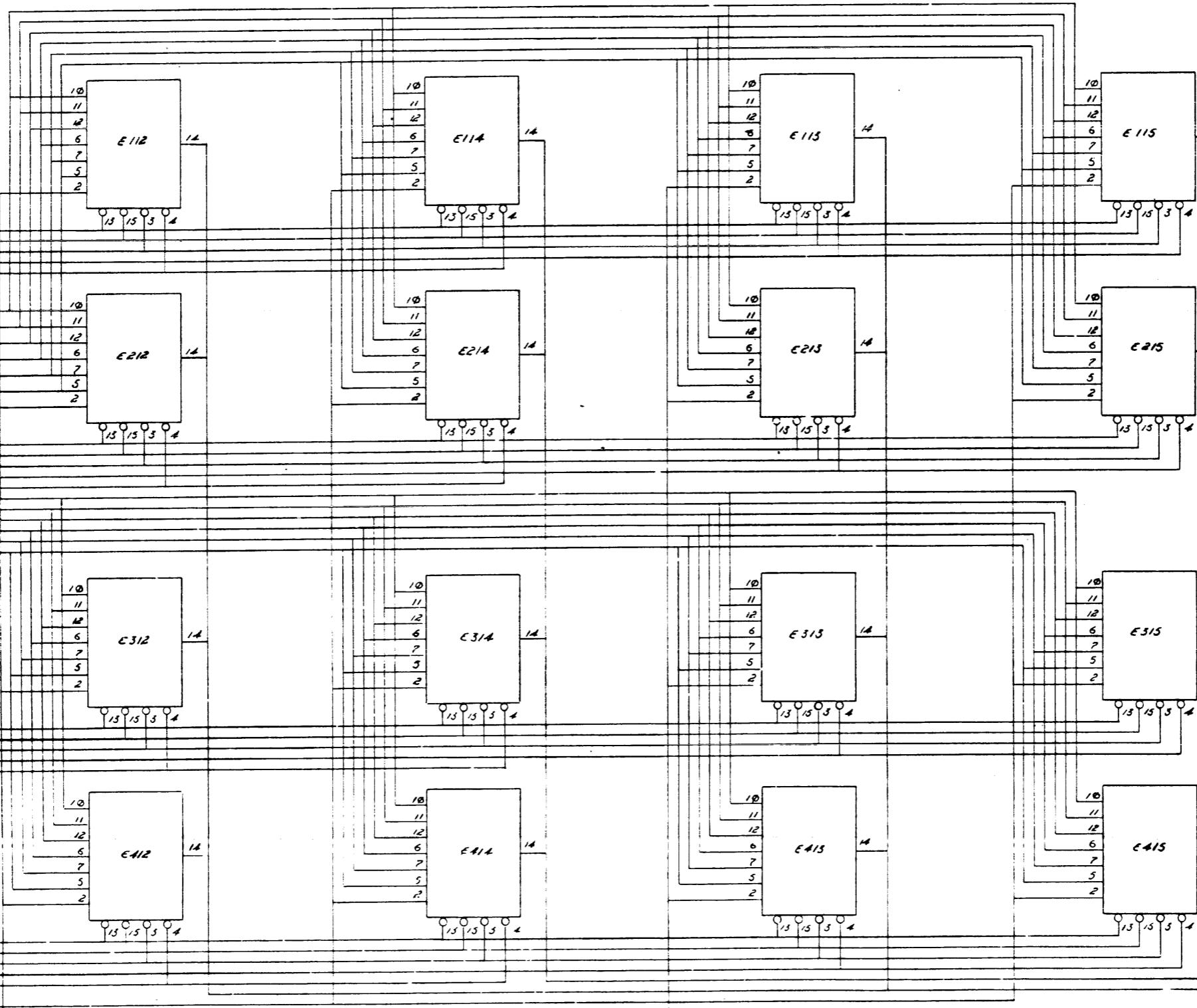
TIME ADG C L
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TIME W C L
TIME RAS A L
TIME RBS Q L

TIME RDG C L
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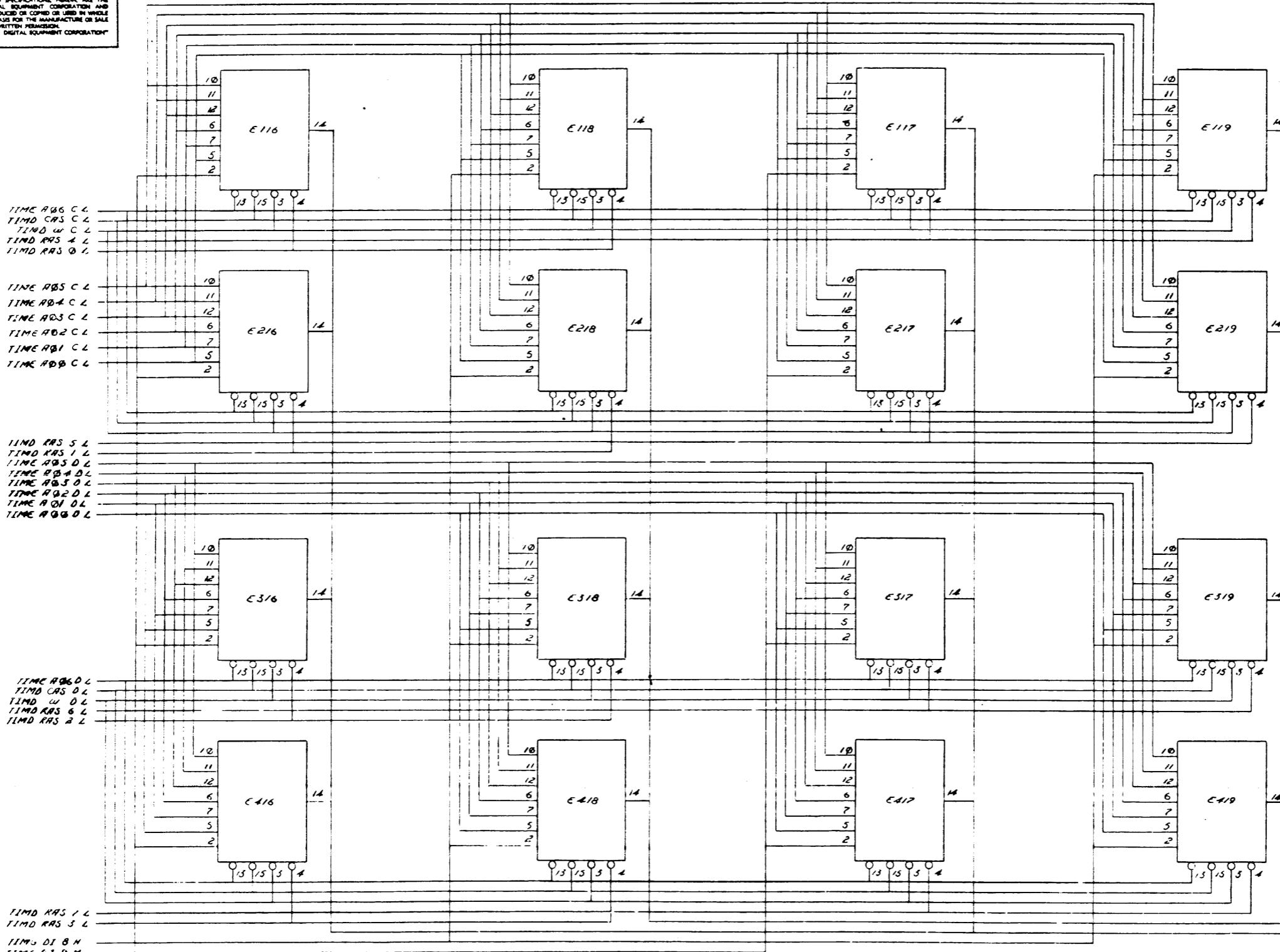
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MTX 2 DOUT P H
MTX 2 DOUT G H

REVISIONS		
CHK	CHANGE NO	REV
1		

TITLE	SIZE/CODE	NUMBER	REV.
PDP 8 MOS MEMORY	DCS	MF 417-0-1	E
SCALE NONE	SHEET 12 OF 14	DIST.	

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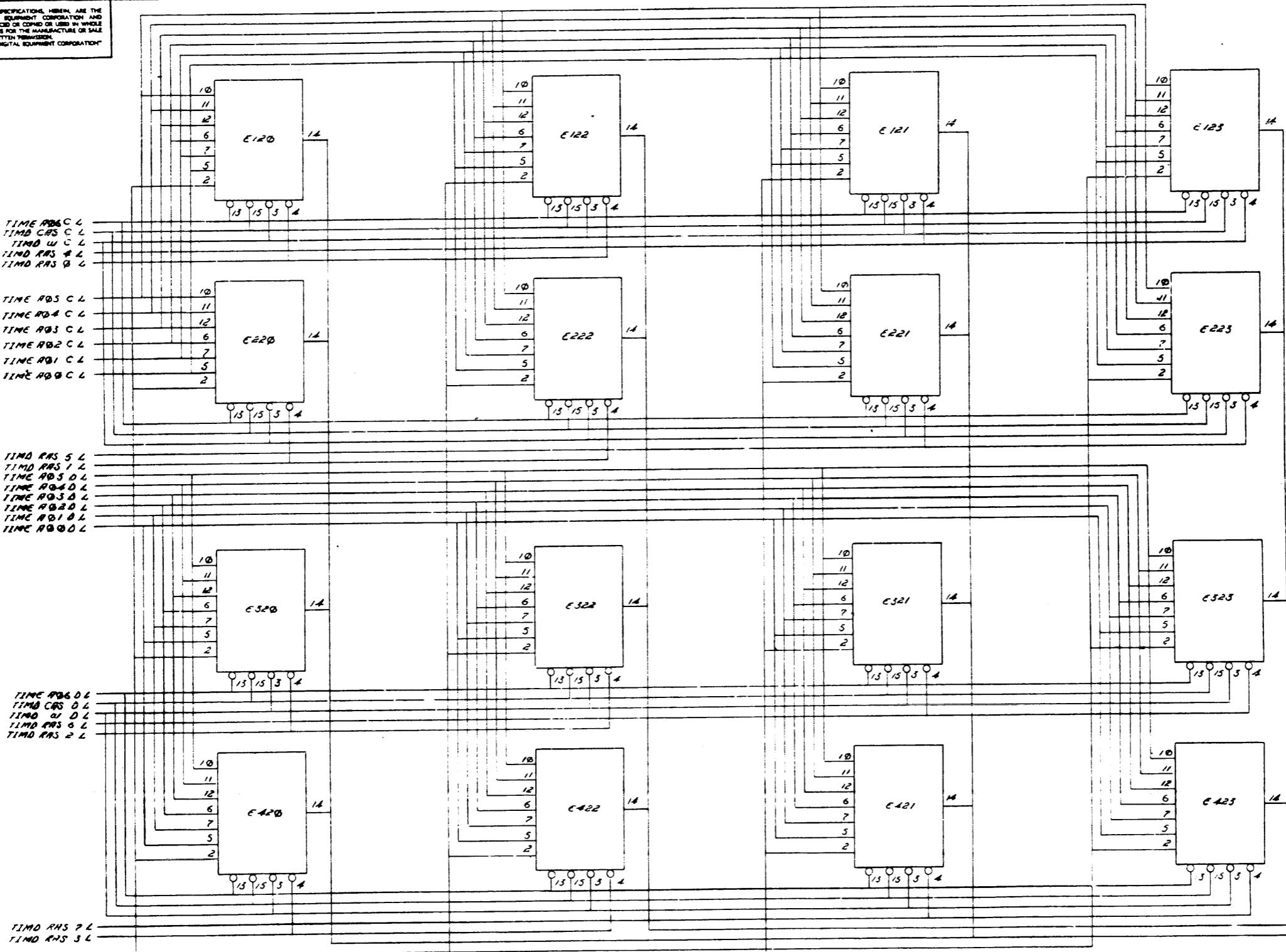


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			SCALE	NONE	SHEET 13 OF 14	DIST.								

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(ARRAY) DATA BITS 10, 11
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MTX 0 DOUT 11 N
MTX 0 DOUT 10 N

REVISIONS			TITLE			SIZE CODE		NUMBER		REV.	
CHK	CHANGE NO	REV	PDP8 MOS MEMORY			DCS		M8417-0-1		E	
1	1		SCALE	NONE	SHEET 14 OF 14	DIST					