



## CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

NOTE: FOR FIELD MAINTENANCE PRINT SET  
SEE E-43-M110-K-1

UNIT VARIATIONS		PRINT SET	
VAR	TITLE		
M110-KK	32K X 16 MOS MEMORY SYSTEM (HALF-K)		
M110-KF	32K X 16 MOS MEMORY SYSTEM (HALF-F)		

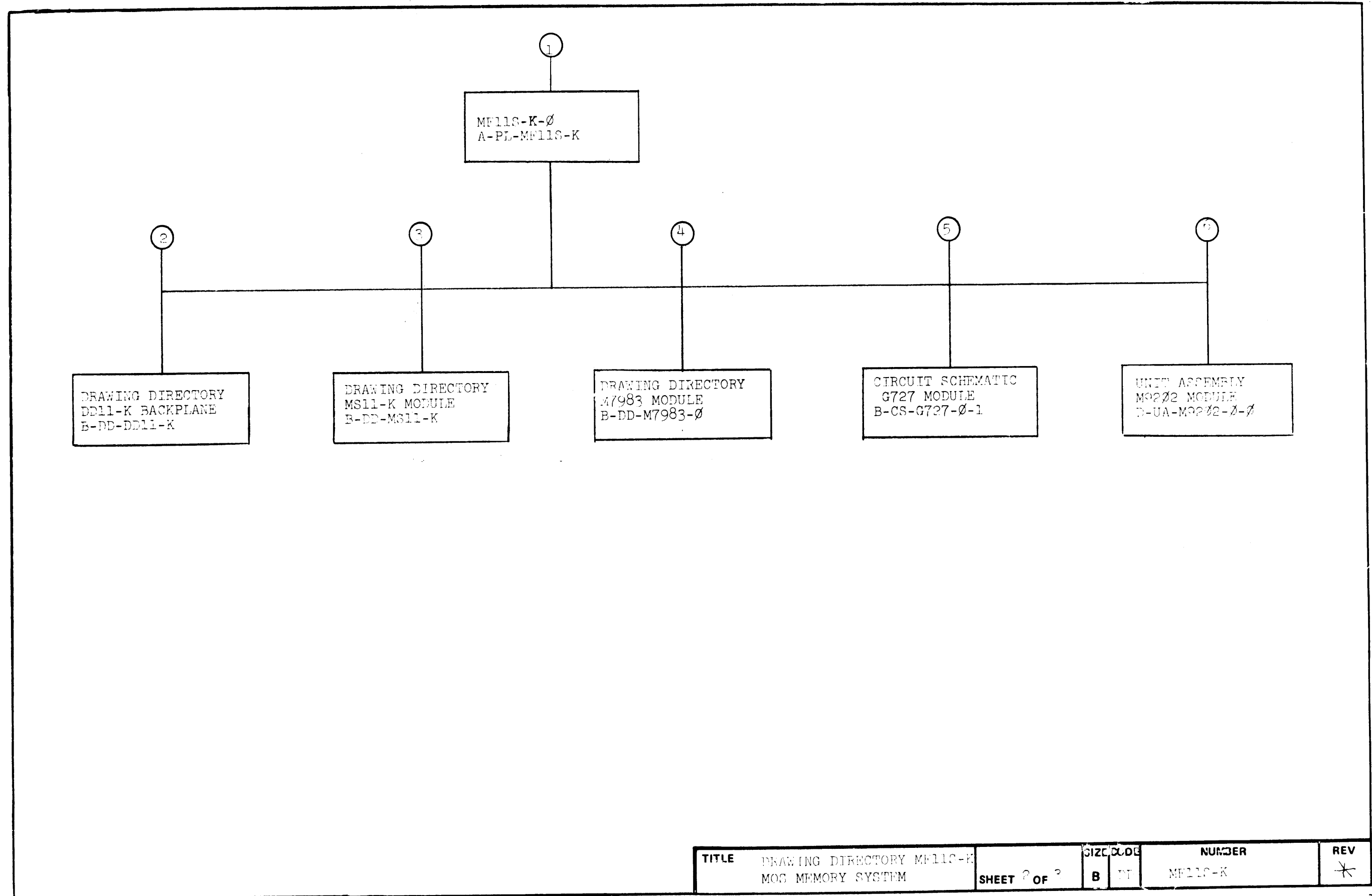
EN-01062-1A-16-R972-(325)

REVISIONS	CHG. NO.	REV

DATE			

USED ON OPTION/MODEL	DRN	DATE	TITLE	
11/34A	H. Darakjian	1 FEB 77	DRAWING DIRECTORY	
	CR'D.	DATE	M110-K	
	<i>F. Chisberg</i>	5 MAY 77	MOS MEMORY SYSTEM	
	PROJ ENG.	DATE		
	<i>J. B. Motta</i>	4/7/77		
	FRCD.	DATE	SIZE	CODE
	<i>J. B. Motta</i>	4/7/77	D	DD
	FIELD SERV.	DATE		
	<i>J. B. Motta</i>	7/2/77		
SHEET 1 OF 2			DIST	

REV \*



TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
DRAWING DIRECTORY MFLS-K MOS MEMORY SYSTEM	2	OF	3	B	MI	MFLS-K
						*

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
	MPZZ310	FIELD MAINTENANCE PRINT SET (MP)	-				
	B-TG-MF11S-K-1	FIELD MAINTENANCE PRINT SET (TG)	-				
1	A-PL-MF11S-K-Z	MF11S-K (PARTS LIST)	E/M				
	B-MU-MF11S-K-2	MF11S-K MODULE UTILIZATION	E				
	B-ES-MF11S-K-3	MF11S-K ERROR CHECK CODE	E				
	B-BD-MF11S-K-4	MF11S-K BLOCK DIAGRAM	E				
	D-FD-MF11S-K-5	MF11S-K FLOW DIAGRAM	E				
	A-SP-MF11S-K-6	MF11S-K SYSTEM SPECIFICATION	E				
	D-TD-MF11S-K-7	MF11S-K TIMING DIAGRAM	E				
	D-TD-MF11S-K-8	MF11S-K TIMING DIAGRAM	E				
	D-TD-MF11S-K-9	MF11S-K TIMING DIAGRAM	E				
	D-TD-MF11S-K-10	MF11S-K TIMING DIAGRAM	E				
	D-SP-23009Bi-0-i	MF11S-K PROM MAP	E				
	A-PL-MF11S-K-11	MF11S-K SHIPPING LIST	-				
2	B-DD-DD11-K	DRAWING DIRECTORY DD11-K BACKPLANE	E/M				
3	B-DD-MS11-K	DRAWING DIRECTORY MS11-K MODULE	E/M				
4	B-DD-M7983-Z	DRAWING DIRECTORY M7983 MODULE	E/M				
5	B-CS-G727-Z-1	CIRCUIT SCHEMATIC G727 MODULE	E/M				
6	D-JA-M9272-Z-Z	UNIT ASSEMBLY M9272 MODULE	E/M				

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL



TITLE DRAWING DIRECTORY  
MF11S-K MOD MEMORY SYSTEM

SHEET 2 OF 3

SIZE CODE  
B DD

NUMBER  
MF11S-K

REV  
\*

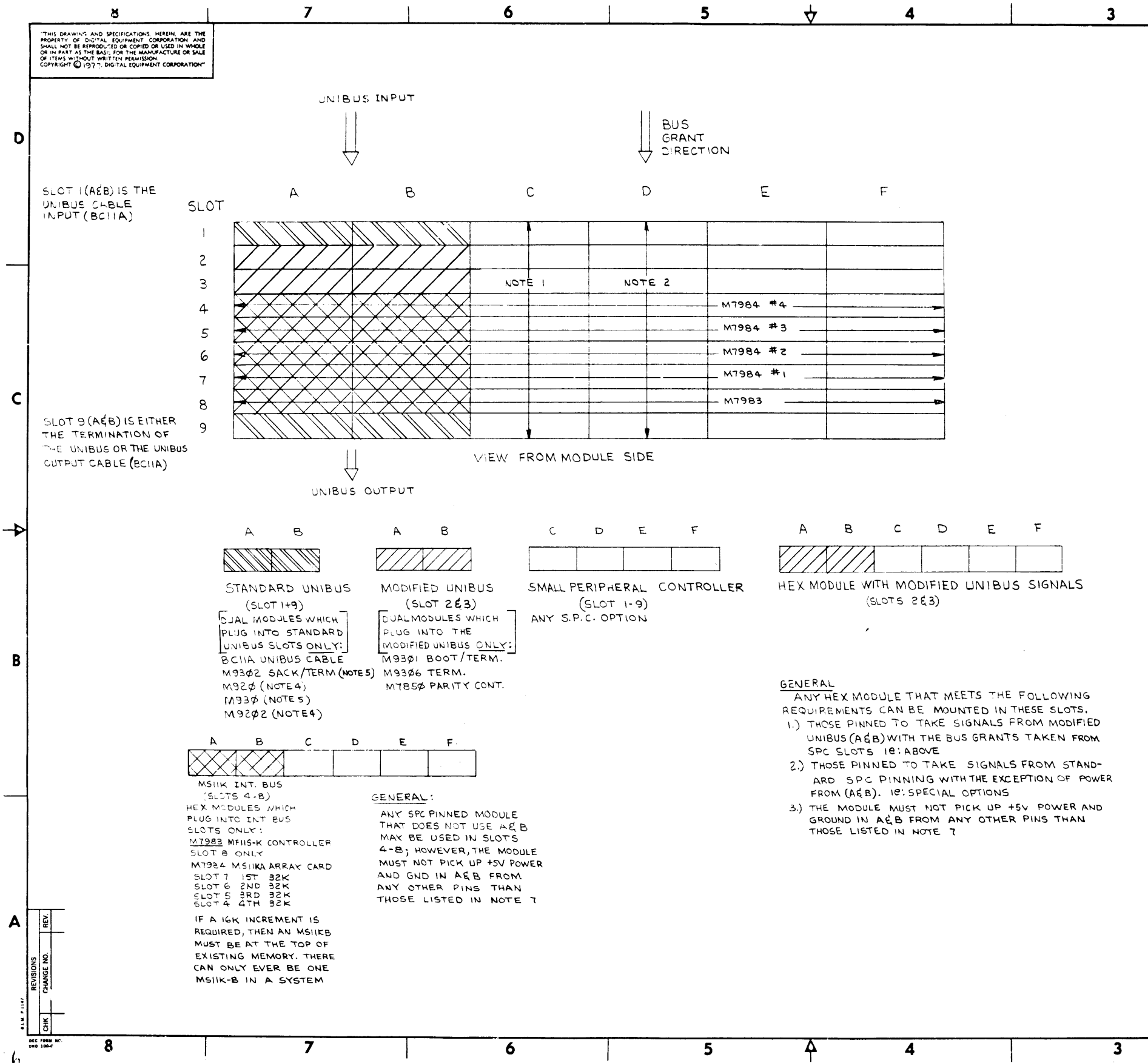


DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS						QUANTITY / VARIATION														
PARTS LIST																				
MADE BY H. DARAKJIAN		CHECKED <i>F. C. Kennedy</i>		SECTION		MFL1S-KK	MFL1S-KF													
DATE 1 FEB 77		DATE 5 MAY 78		ISSUED SECT.																
ENG G. B. MONTANO		PROD G. B. MONTANO		ISSUED SECT.																
DATE 4/2/77		DATE 4/1/77		ISSUED SECT.																
ITEM NO.	DWG NO. / PART NO.		DESCRIPTION																	
1	D-UA-M7984-AA-Ø		MS11-KA (M7984-AA)			1	1													
2	D-UA-M7983-Ø-Ø		MFL1S-K CONTROLLER (M7983)			1	1													
3	A-PL-DD11-KK-Ø		DD11-KK (BALL-K, BALL-L)			1	-													
4	A-PL-DD11-KF-Ø		DD11-KF (BALL-F, BALL-P)			-	1													
5	B-CS-G727-Ø-1		CARD, GRANT CONTINUITY (G727)			7	7													
6	D-UA-M92Ø2-Ø-Ø		CABLE, UNIBUS JUMPER (M92Ø2)			1	1													
7	D-MU-MFL1S-K-2		MFL1S-K MODULE UTILIZATION			REF	REF													
8	E-BS-MFL1S-K-3		MFL1S-K ERROR CHECK CODE			REF	REF													
9	D-BD-MFL1S-K-4		MFL1S-K BLOCK DIAGRAM			REF	REF													
10	D-FD-MFL1S-K-5		MFL1S-K FLOW DIAGRAM			REF	REF													
11	A-SP-MFL1S-K-6		MFL1S-K SYSTEM SPECIFICATION			REF	REF													
12	D-TD-MFL1S-K-7		MFL1S-K TIMING DIAGRAM			REF	REF													
13	D-TD-MFL1S-K-8		MFL1S-K TIMING DIAGRAM			REF	REF													
14	D-TD-MFL1S-K-9		MFL1S-K TIMING DIAGRAM			REF	REF													
15	D-TD-MFL1S-K-10		MFL1S-K TIMING DIAGRAM			REF	REF													
16	D-SP-23C09B1-0-1		MFL1S-K PROM MAP			REF	REF													
17	A-PL-MFL1S-K-11		MFL1S-K SHIPPING LIST			REF	REF													
TITLE						ASSY NO			SIZE CODE		NUMBER					REV.	ECO NO.			
MFL1S-K MOS MEMORY SYSTEM						P-DD-MFL1S-K			A PL		MFL1S-K-Ø					*				
						SHEET 1 OF 1			DIST.											

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

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- NOTES:**
1. REMOVE CAI TO CBI WIRE WRAP JUMPER TO INSTALL M9302 IN ANY SPC SLOT.
  2. G727 REQUIRED IN ANY UNUSED SPC SLOT (CONNECT 4 TO 5 TO MAINTAIN BUS GRANT CONTINUITY).
  3. GRANT DIRECTION IS SLOT 1 TO SLOT 9.
  4. USE M9202 TO INTERCONNECT SYSTEM UNITS. M9202 IS A 2 FT UNIBUS CABLE (SACK/TERM) FOR BUS UNIBUS LOADING.
  5. M9302 (SACK/TERM) AND M9306 (TERM) MUST NEVER BE INSTALLED IN ANY SLOT OTHER THAN SLOT 9 (A&B). POWER SUPPLY VOLTAGES WILL BE SHORTED OUT IF THESE TERMINATORS ARE MOUNTED IN THE MODIFIED UNIBUS SLOTS.
  6. MODIFIED UNIBUS SECTION CARRIES CORE AND VLS MEMORY VOLTAGE RAILS AND MEMORY PARITY CONTROL SIGNALS INSTEAD OF BUS GRANT AND SOME GND SIGNALS THAT ARE CONTAINED IN STANDARD UNIBUS SLOTS.
  7. THE +5V AND GROUND PINS ON CONNECTORS A&B, SLOTS 2 THRU 8, THAT CAN BE USED BY HEX MODULES OTHER THAN THE MF115-K SYSTEM ARE:  
+5V: -AA2, BA2  
GND: -AC2, BC2, AT1, BT1



- GENERAL**  
ANY HEX MODULE THAT MEETS THE FOLLOWING REQUIREMENTS CAN BE MOUNTED IN THESE SLOTS.
- 1) THOSE PINNED TO TAKE SIGNALS FROM MODIFIED UNIBUS (A&B) WITH THE BUS GRANTS TAKEN FROM SPC SLOTS 10: ABOVE
  - 2) THOSE PINNED TO TAKE SIGNALS FROM STANDARD SPC PINNING WITH THE EXCEPTION OF POWER FROM (A&B). 10: SPECIAL OPTIONS
  - 3) THE MODULE MUST NOT PICK UP +5V POWER AND GROUND IN A&B FROM ANY OTHER PINS THAN THOSE LISTED IN NOTE 7

QUANTITY & VARIATION		DESCRIPTION		DWG/PART NO	ITEM NO
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES	CLASS OF ACCURACY	NOMINAL DIMENSIONS IN PARALLEL INCHES			
10° 30'	(CHECK ONE)	0.14	0.2	0.4	0.6
SURFACE QUALITY	MEDIUM	0.2	0.4	0.8	1.2
FINISH	PREFERRED	0.4	0.8	1.6	2.4
DRN	PROV	1.0	1.6	2.4	3.6
CHK'D	PROD	1.6	2.4	3.6	4.8
ENG'D	FIN	2.4	3.6	4.8	6.0
DO NOT SCALE DIMS	NEXT HIGHER ACCY.	3.6	4.8	6.0	7.2
MATERIAL	SCALE	4.8	6.0	7.2	8.4
FINISH	SHEET	6.0	7.2	8.4	9.6
THIRD ANGLE PROJECTION		FIRST USED ON		REV	
REMOVE BURRS AND BREAK SHARP CORNERS		MF115-K		1	
DO NOT SCALE DIMS		MODULE UTILIZATION		1	
MATERIAL		SIZE		NUMBER	
FINISH		SCALE		REV	
		D		1	
		1 OF 1		1	

REV	CHANGE NO.	DATE

DEC FORM NO. 000 1084

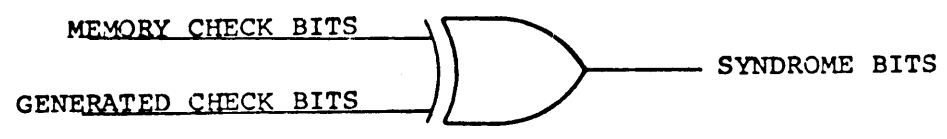
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### MODIFIED HAMMING CODE MATRIX

DATA BITS	BYTE 0							BYTE 1							BYTE 2							BYTE 3							CHECK BITS									
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	C <sub>1</sub>	C <sub>2</sub>	C <sub>4</sub>	C <sub>8</sub>	C <sub>16</sub>	C <sub>32</sub>
S <sub>1</sub>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
S <sub>2</sub>		X	X			X	X		X	X			X	X		X	X			X	X			X	X			X	X			X						
S <sub>4</sub>				X	X	X	X				X	X	X	X				X	X	X	X							X	X	X	X		X					
S <sub>8</sub>	X	X	X	X	X	X	X	X	X	X	X	X	X	X										X	X	X	X	X	X	X	X			X				
S <sub>16</sub>	X	X	X	X	X	X	X								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X			
S <sub>32</sub>								X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X		
S <sub>T</sub>	X		X	X	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							X

**NOTES:**

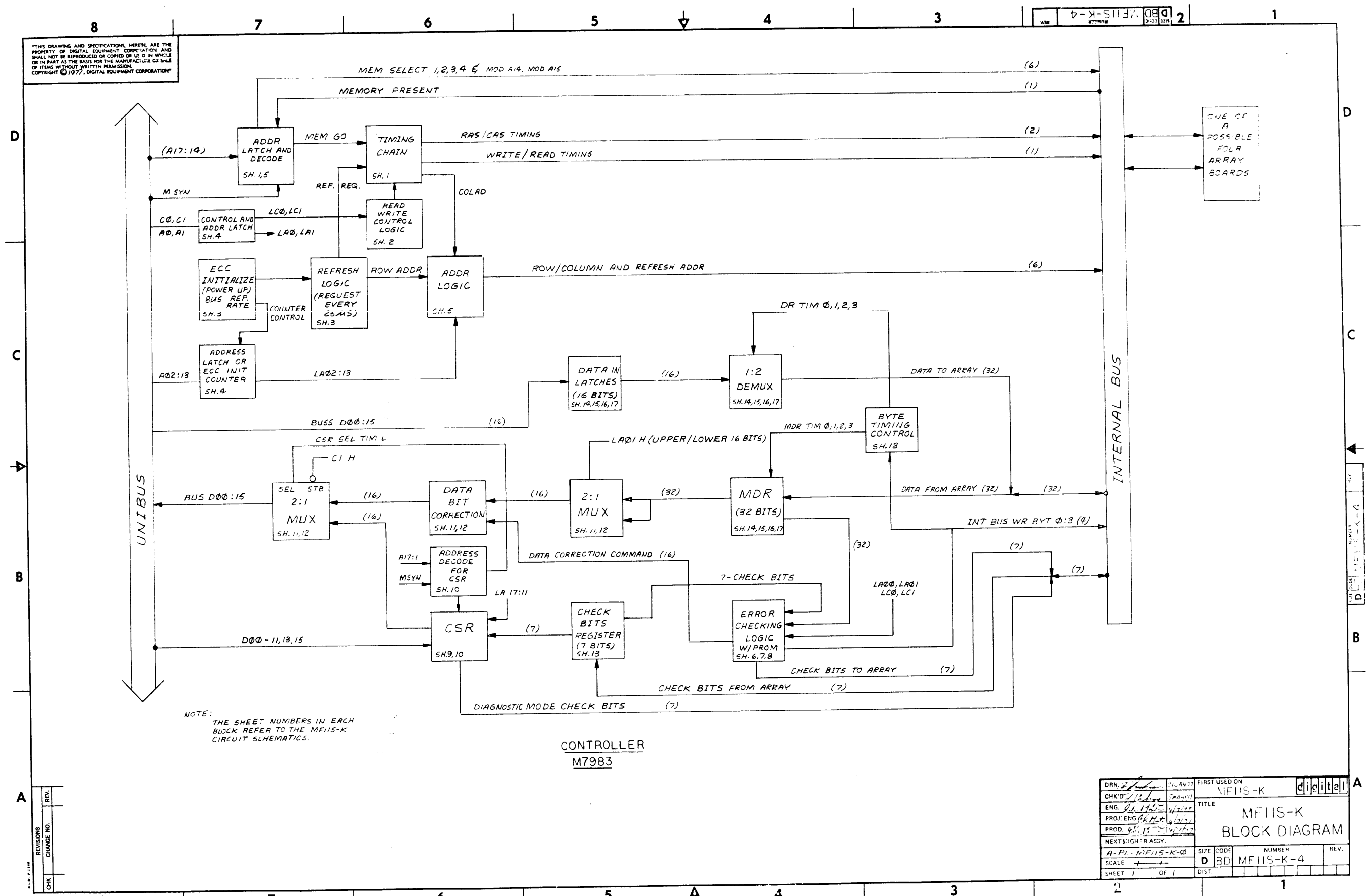
- EACH CHECK BIT IS THE RESULT OF ODD PARITY GENERATED ON THE DATA BITS DESIGNATED BY X. i.e. C<sub>1</sub> IS  $\sum(1,3,5,7,9,\dots,29,31)$ . C<sub>32</sub> IS  $\sum(8$  thru 31). THE EXCEPTION IS C<sub>T</sub>, WHICH IS THE RESULT OF EVEN PARITY.
- SYNDROME BITS (S<sub>1</sub> etc.) ARE FORMED BY A COMPARISON OF THE CHECK BITS READ FROM MEMORY AND THE NEW CHECK BITS GENERATED ON THE DATA READ FROM MEMORY.
- A SINGLE ERROR WILL CAUSE AN ODD NUMBER OF SYNDROME BITS TO GO HIGH  
 e.g. IF BIT 1 FAILS S<sub>1</sub>, S<sub>8</sub>, & S<sub>16</sub> WILL GO HIGH.  
 IF BIT 15 FAILS S<sub>1</sub>, S<sub>2</sub>, S<sub>4</sub>, S<sub>8</sub>, & S<sub>32</sub> WILL GO HIGH.  
 A DOUBLE ERROR WILL CAUSE AN EVEN NUMBER OF SYNDROME BITS TO GO HIGH.  
 e.g. IF BITS 0 & 1 FAIL S<sub>1</sub> & S<sub>T</sub> WILL GO HIGH; BUT S<sub>8</sub> & S<sub>16</sub> WILL NOT SINCE C<sub>8</sub> & C<sub>16</sub> ARE COMMON TO BITS 0 & 1 AND THE PARITY REMAINS UNCHANGED.



REV. NO.	REV.
CHG. NO.	CHG.

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
	ANGLES ±0.20°	CLASS OF ACCURACY (CHECK ONE)	
	SURFACE QUALITY IN	NOMINAL DIMENSION RANGE INCHES	
		OVER 0 TO 0.2	OVER 0.2 TO 1.2
		OVER 1.2 TO 4.0	OVER 4.0 TO 12.0
		OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
	<input checked="" type="checkbox"/> MICROINCHES	MEDIUM <input type="checkbox"/>	PREFERRED <input type="checkbox"/>
		±.004	±.008
		±.012	±.016
		±.024	±.04
		±.012	±.016
		±.025	±.04
		±.063	±.01
THIRD ANGLE PROJECTION	DRN <i>[Signature]</i>	FIRST USED ON	
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D <i>[Signature]</i>	MFIIS-K <b>digital</b>	
DO NOT SCALE DWG	ENG. <i>[Signature]</i>	TITLE	
	PROD. <i>[Signature]</i>	MFIIS-K	
	NEXT HIGHER ASSY.	ERROR CHECK CODE	
MATERIAL	A-PL-MFIIS-K-0	SIZE	CODE
FINISH		B	BS
	SCALE	NUMBER	
		MFIIS-K-3	
	SHEET 1 OF 1	DIST.	REV.

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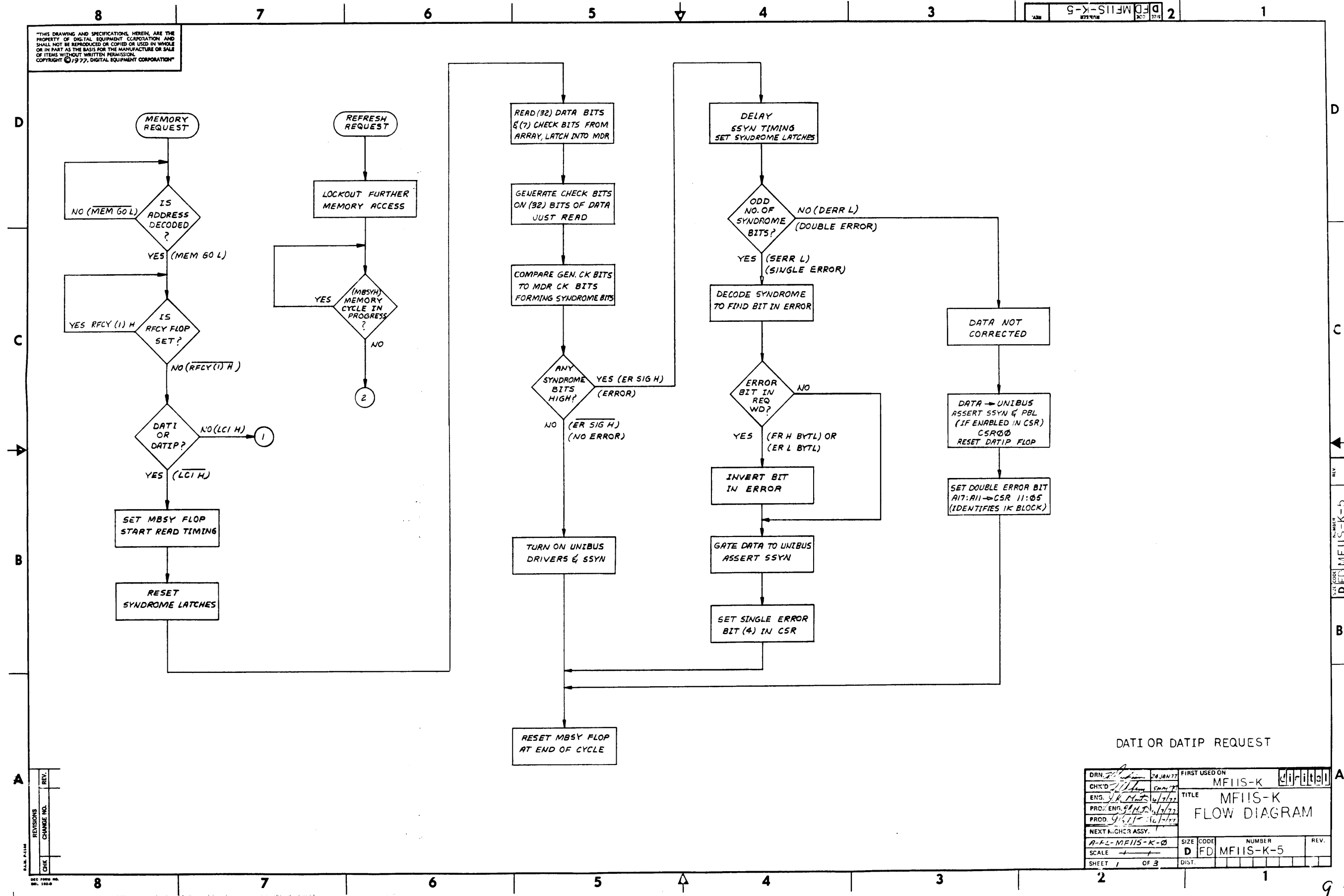
NOTE: THE SHEET NUMBERS IN EACH BLOCK REFER TO THE MF115-K CIRCUIT SCHEMATICS.

CONTROLLER  
M7983

REV.	
CHG	
REVISIONS	
CHANGE NO.	

DRN: 21-4477	FIRST USED ON	MF115-K
CHK'D: 1/1/77	TITLE	MF115-K BLOCK DIAGRAM
ENG: J.L. 1/2/77	SIZE	D
PROJ: ENG 66/115	CODE	BD
PROD: 8/2/77	NUMBER	MF115-K-4
NEXT HIGHER ASSY.	SCALE	1
A-PL-MF115-K-0	SHEET	1 OF 1

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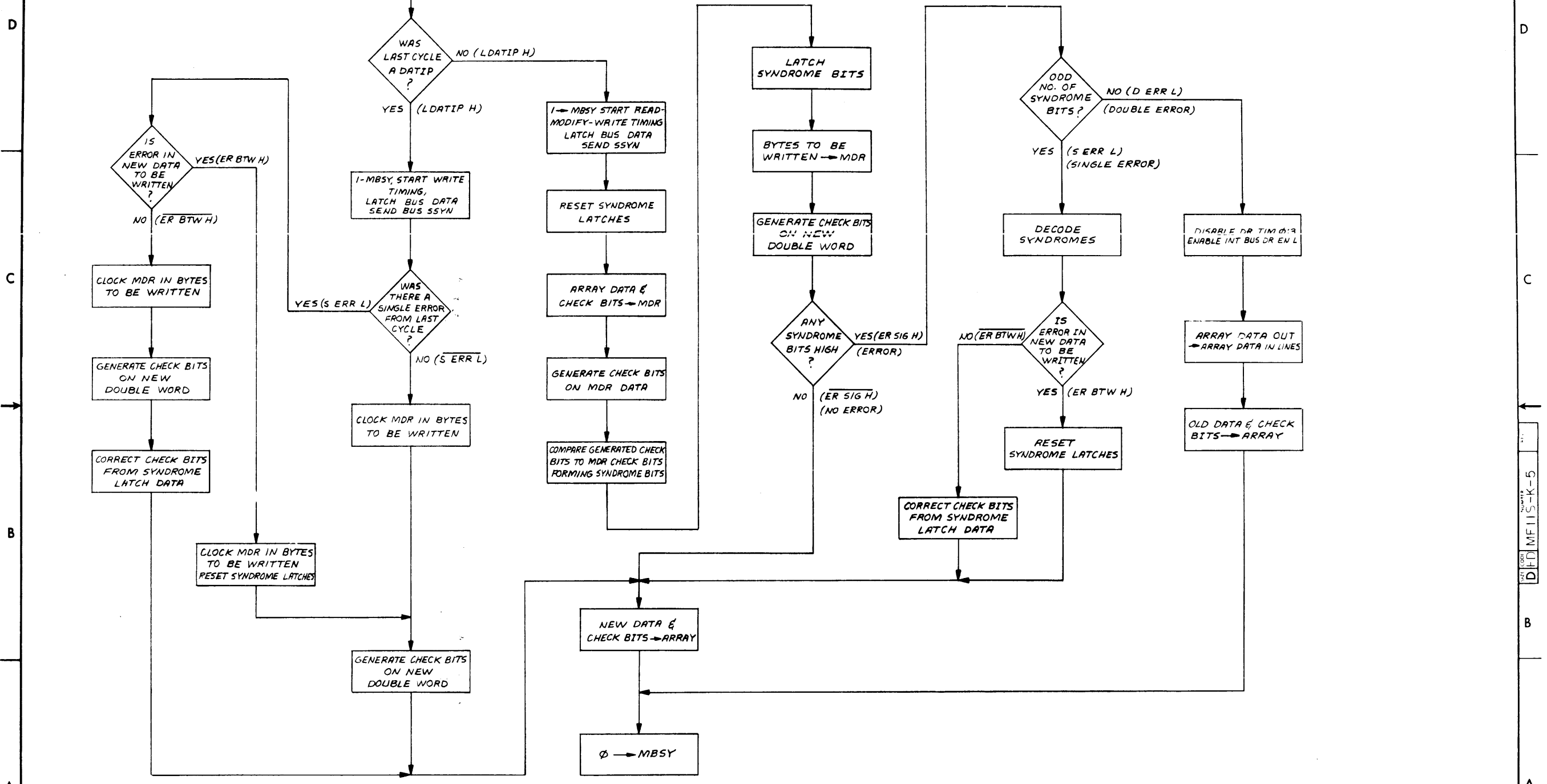
DATI OR DATIP REQUEST

DRN. 24 JAN 77	FIRST USED ON	MFIIIS-K
CHK'D 24 JAN 77	TITLE	MFIIIS-K
ENG. 24 JAN 77	FLOW DIAGRAM	
PROJ. ENG. 24 JAN 77	SIZE	CODE
PROD. 24 JAN 77	D	FD
NEXT IN CHGR ASSY.	NUMBER	REV.
A-K-L-MFIIIS-K-0	1	
SCALE	DIST.	
SHEET 1 OF 5		

REV.	
CHANGE NO.	
CHK	

D  
C  
B  
A  
 MFIIIS-K-5  
 9

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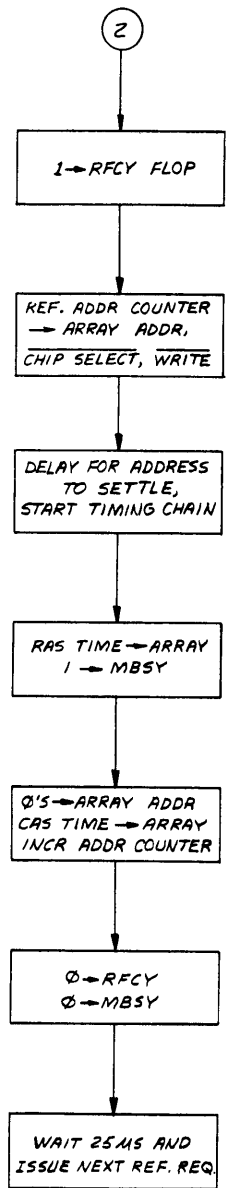
REVISIONS		
CHK	CHANGE NO.	REV.

DATE OR DATOB REQUEST		TITLE	SIZE CODE	NUMBER	REV.
		MFIIIS-K FLOW DIAGRAM	DFD	MFIIIS-K-5	
SCALE	SHEET 2 OF 3	DIST.			

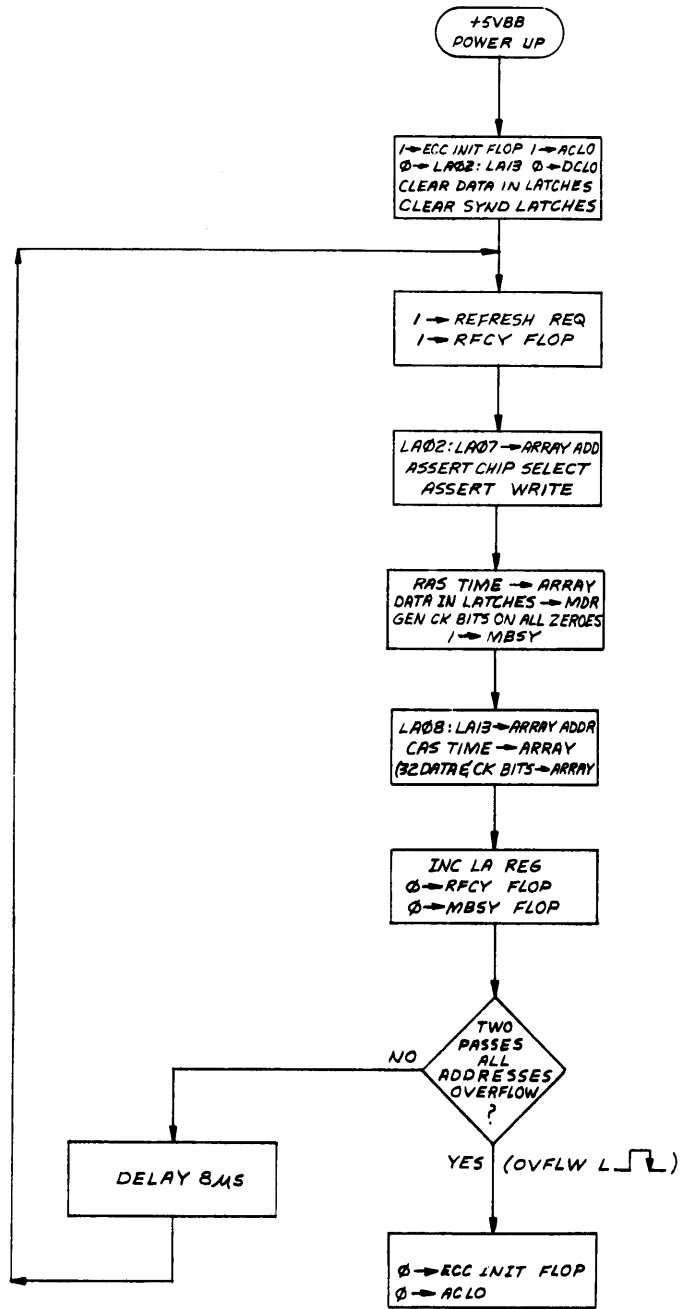
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9-K-S-111-M 2

REFRESH CYCLE



ECC INIT CYCLE



D/FD MF11S-K-5

A

REVISIONS		
CHK	CHANGE NO.	REV.

REFRESH CYCLE OR ECC INIT

TITLE	MF11S-K FLOW DIAGRAM	SIZE CODE	D/FD	NUMBR	MF11S-K-5	REV.	
SCALE		SHEET	3	OF	3	DIST.	

DEC FORM NO. DRG 118

8

7

6

5

4

3

2

1

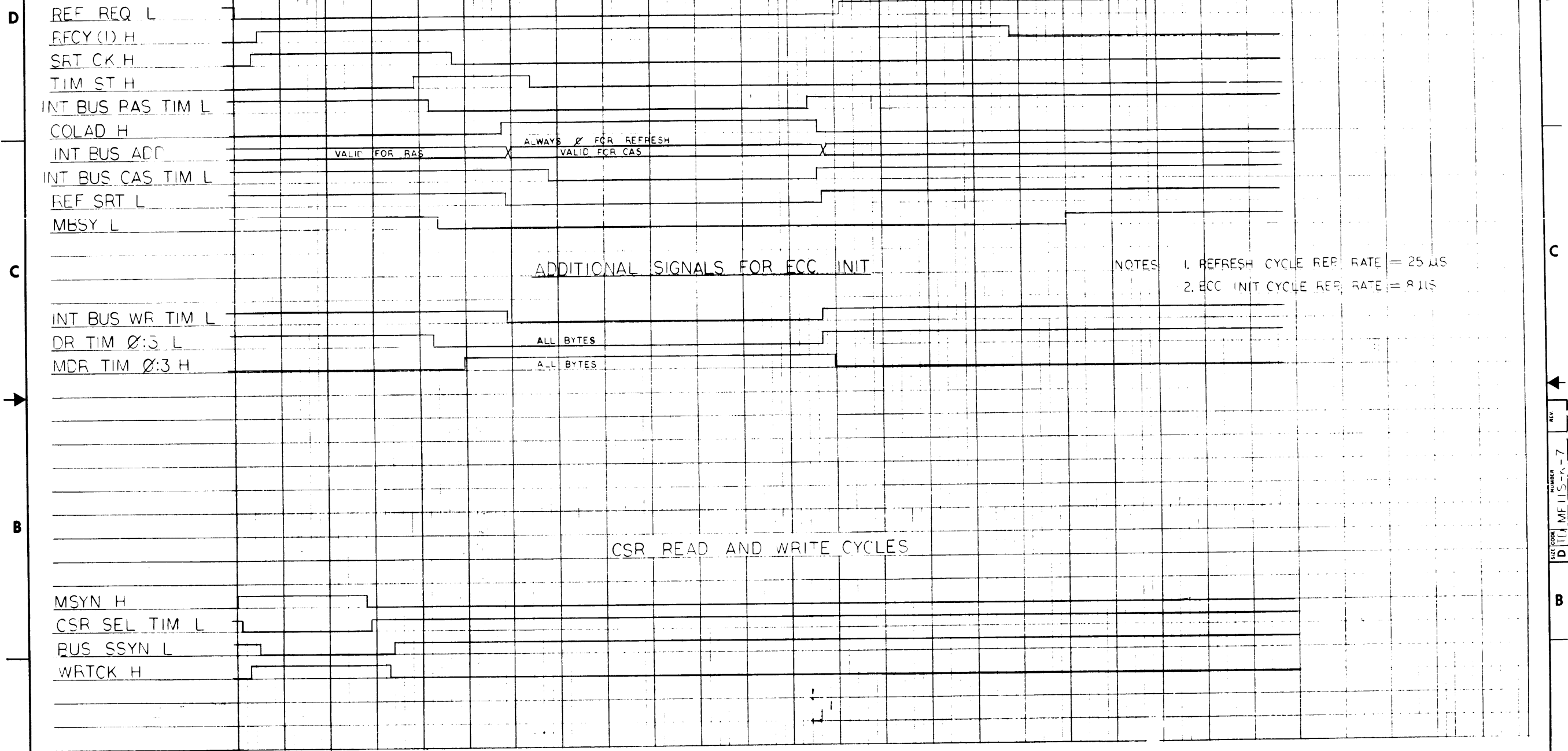
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2  
D  
MFIIS-K-7  
REV. 2/77

REFRESH AND ECC INIT CYCLES

TIME IN NANOSECONDS  
0 100 200 300 400 500 600 700 800 900 1000



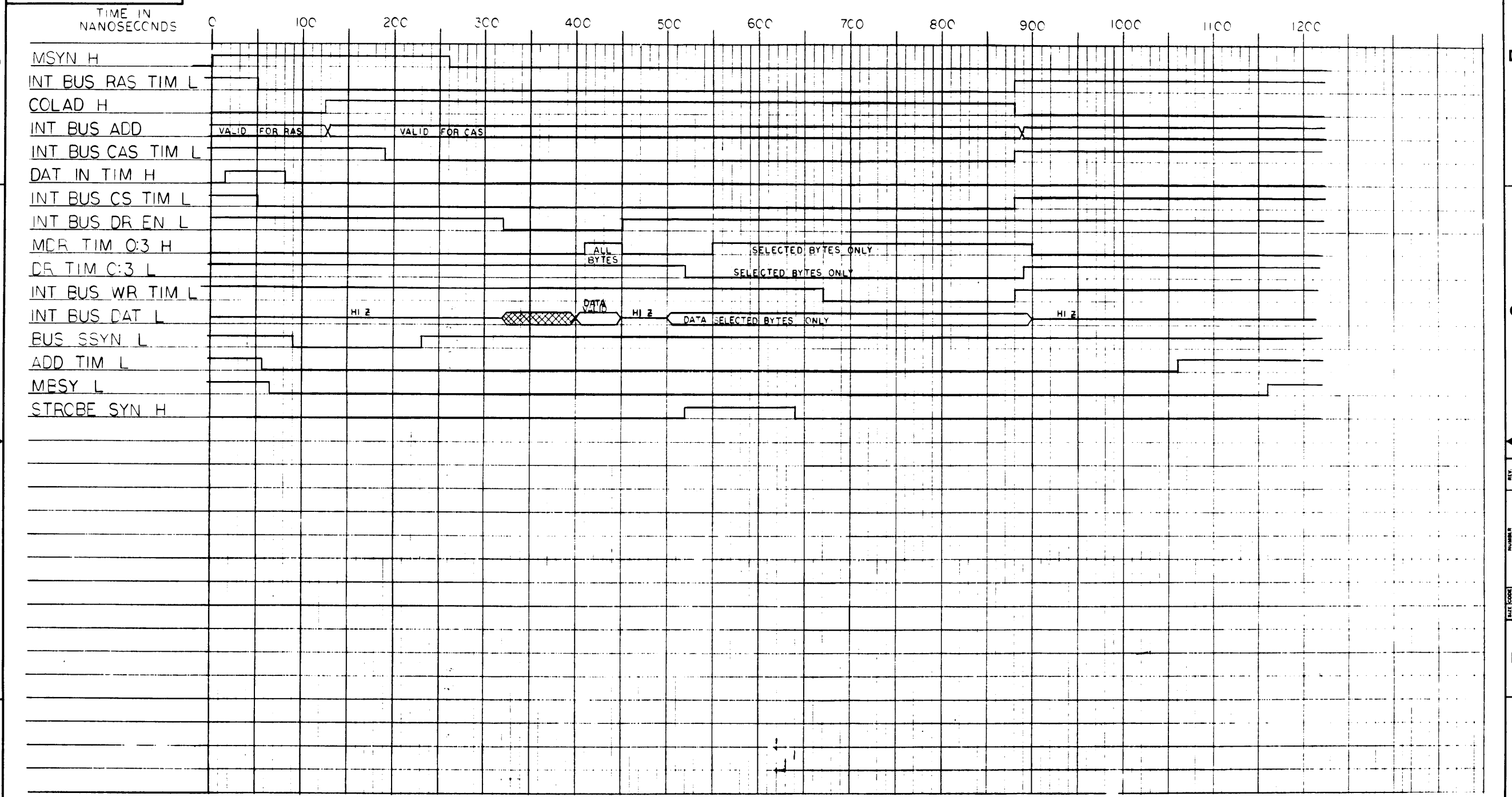
REV.	
CHG	
REVISE	
NO.	

DRN. <i>[Signature]</i>	3/1/77	FIRST USED ON	MFIIS-K
CHK'D <i>[Signature]</i>	5/11/77	TITLE	MFIIS-K
ENG. <i>[Signature]</i>	4/1/77		TIMING DIAGRAM
PROD. ENG. <i>[Signature]</i>	4/1/77		
PROD. <i>[Signature]</i>	4/1/77		
NEXT HIGHER ASSY.		SIZE CODE	NUMBER
A-PL-MFIIS-K- $\phi$		D	TD MFIIS-K-7
SCALE NONE		DIST.	
SHEET 1	OF 1		



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READ MODIFY WRITE CYCLE



REV.	
CHG. NO.	
DATE	

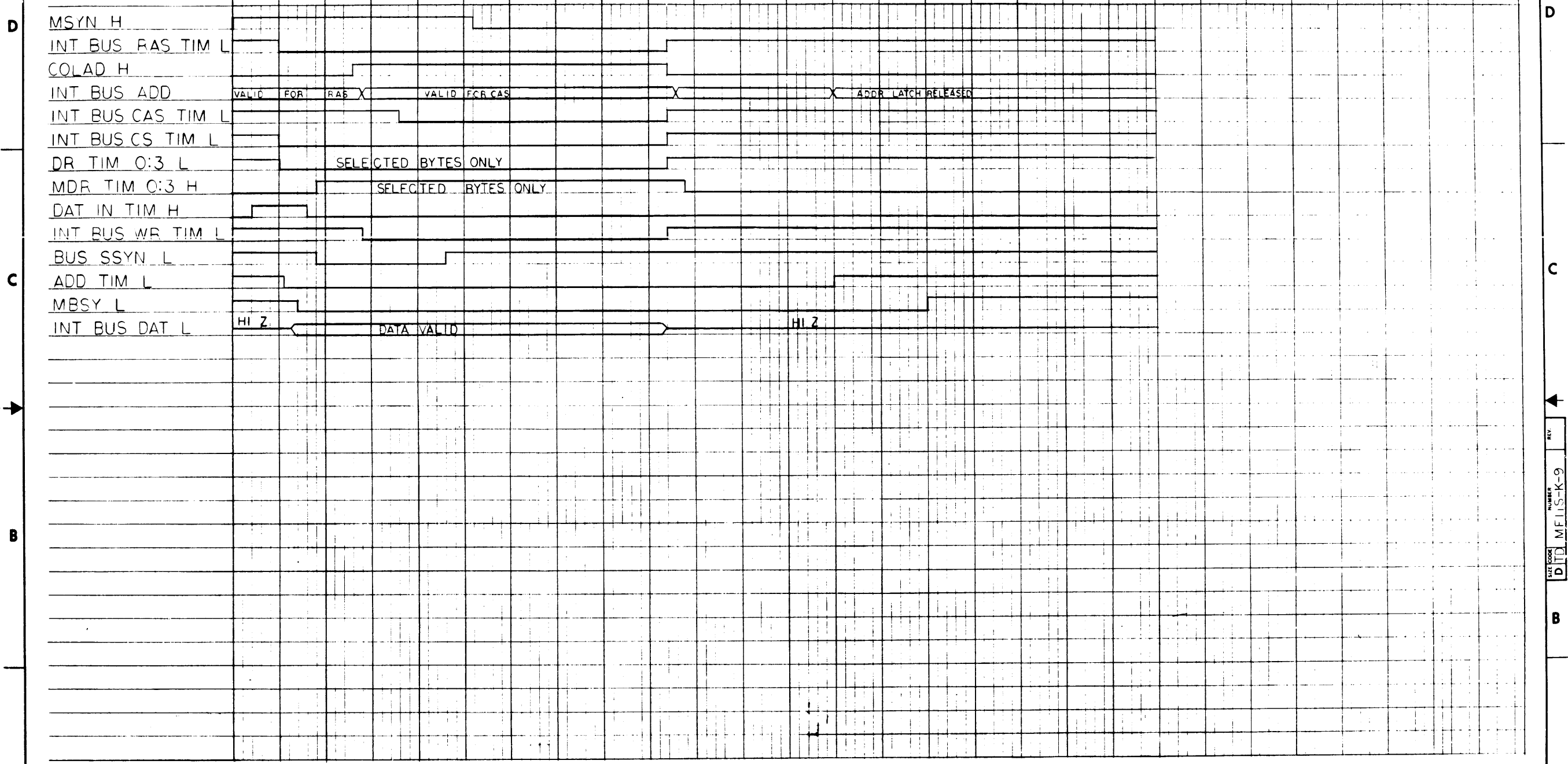
DRN. <i>[Signature]</i>	DATE <i>5/11/77</i>	FIRST USED ON	MFIIS-K
CHK'D. <i>[Signature]</i>	DATE <i>5/11/77</i>	TITLE	MFIIS-K
ENG. <i>[Signature]</i>	DATE <i>5/11/77</i>	TIMING DIAGRAM	
PROJ. ENG. <i>[Signature]</i>	DATE <i>5/11/77</i>	SIZE	CODE
PROD. <i>[Signature]</i>	DATE <i>5/11/77</i>	D	TD
NEXT HIGHER ASSY.		NUMBER	REV.
A-PL-MFIIS-K-0		MFIIS-K-8	
SCALE NONE		DIST.	
SHEET 1 OF 1			

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6-K-S111W DTD MFIIS-K-9 2

WRITE CYCLE

TIME IN NANOSECONDS 0 100 200 300 400 500 600 700 800 900 1000



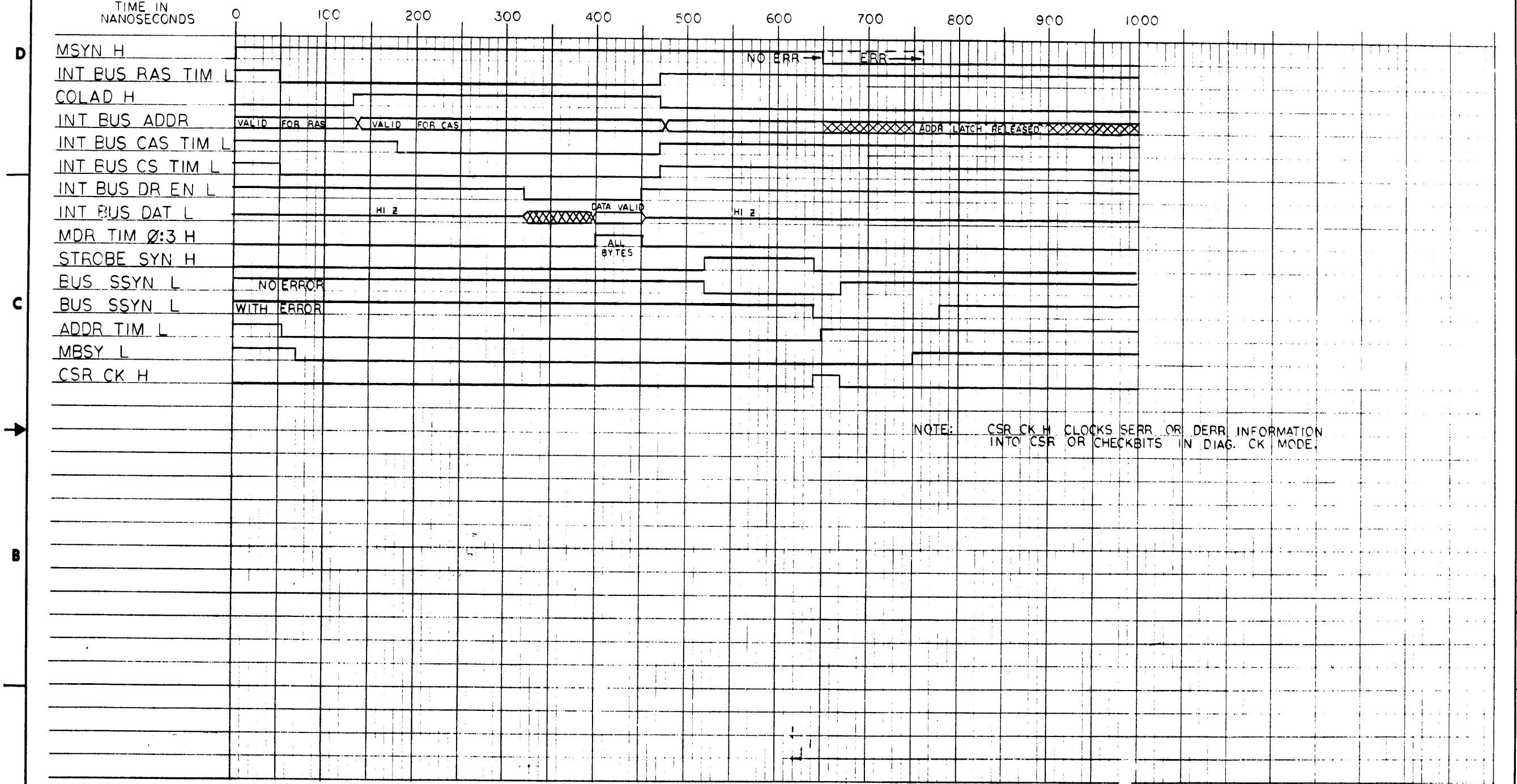
REVISIONS  
DATE  
BY  
CHK'D  
DATE  
BY  
CHG'D  
DATE  
BY

DRN. <i>[Signature]</i>	3/10/77	FIRST USED ON	MFIIS-K
CHK'D <i>[Signature]</i>	6/11/77	TITLE	MFIIS-K
ENG. <i>[Signature]</i>	6/11/77	TIMING DIAGRAM	
PROJ. ENG. <i>[Signature]</i>	6/11/77	SIZE CODE	D TD
PROD. <i>[Signature]</i>	6/11/77	NUMBER	MFIIS-K-9
NEXT HIGHER ASSY.	A-PL-MFIIS-K-10	REV.	
SCALE	NONE	DIST.	
SHEET	1	OF	1

8 7 6 5 4 3 2 1

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READ CYCLE



NOTE: CSR CK H CLOCKS SERR OR DERR INFORMATION INTO CSR OR CHECKBITS IN DIAG. CK MODE.

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

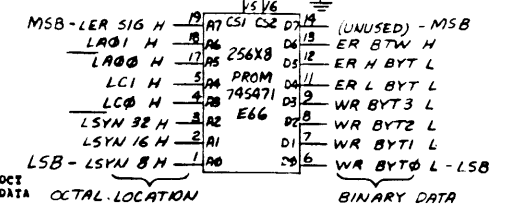
DRN	5/18/77	FIRST USED ON	MFIIS-K
CHK'D	5/18/77	TITLE	MFIIS-K
ENG.	5/18/77	TITLE	MFIIS-K
PROF. ENG.	5/18/77	TITLE	MFIIS-K
PRCD.	5/18/77	TITLE	MFIIS-K
NEXT HIGHER ASSY			
A-PL-MFIIS-K-0		SIZE CODE	D TD
SCALE NONE		NUMBER	MFIIS-K-10
SHEET / OF /		DIST.	1

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1-8-18600002 2 1

NOTES:

1. A0:A7 OF THE PROM CHIP IS REPRESENTED BY THE OCTAL LOCATION COLUMN. THE SIGNAL "LER SIG H" IS THE MSB OF THIS NUMBER.
2. D0:D7 OF THE PROM CHIP IS REPRESENTED BY THE BINARY DATA COLUMN. (UNUSED) IS THE MSB.
3. IN THE BINARY DATA, A 0 MEANS A LOW LOGIC LEVEL AND A 1 MEANS A HIGH LOGIC LEVEL.
4. OCTAL LOCATIONS X00 → X17 AND X40 → X57 ARE USED WHEN READING FROM THE ARRAY.
5. OCTAL LOCATIONS X20 → X37 AND X60 → X77 ARE USED WHEN WRITING INTO THE ARRAY.
6. OCTAL LOCATIONS 000 → 177 ARE USED FOR A NO ERROR CONDITION; AND LOCATIONS 200 → 377 ARE USED FOR ERRORS. THESE ERRORS ARE DETECTED DURING A READ (DATI), OR THE READ PORTION OF AN INTERNAL RMW, OR DURING A PREVIOUS DATIP.
7. IN THE EXAMPLE ON OCT LOC 130 INDICATES A NO ERROR CONDITION (LER SIG H). (L00 H, L00 L) MEANS OPERATE ON BYTE 2 OR 2 & 3. (LCI H, LCB H) MEANS DATA. BINARY DATA 00001011 DURING DATOB INDICATES LUS DATA (LOW BYTE) → ARRAY (BYTE 2).



EXAMPLE (SEE NOTE 7)  
 OCTAL LOCATION BINARY DATA  
 A7 → A0 D7D605D4D3D2D1D0  
 1 3 0 0 0 0 1 0 1 1

SIGNAL NAMES  
 LER SIG = LATCHED ERROR SIGNAL  
 L00 H, L00 L = LATCHED BUS 00, 01  
 LCB, LCI = LATCHED BUS CB, CI  
 LSYN 32, 16, 8 = LATCHED SYNDROMES 32, 16, 8  
 ER BTW = ERROR IN BYTE TO BE WRITTEN  
 ER H BYT = ERROR IN HIGH BYTE  
 ER L BYT = ERROR IN LOW BYTE  
 WR BYT 3, 2, 1, 0 = WRITE BYTE 3, 2, 1, 0 (BYTE(S) TO BE MODIFIED DURING DATA, DATOB)

D  
C  
B  
A

D  
C  
B  
A

DEC LOC	OCT LOC	BIN DATA	OCT DATA	DEC LOC	OCT LOC	BIN DATA	OCT DATA	DEC LOC	OCT LOC	BIN DATA	OCT DATA	DEC LOC	OCT LOC	BIN DATA	OCT DATA
0	000	00100000	000	32	040	00110000	000	64	100	00110000	000	96	140	00110000	000
1	001	00110000	000	33	041	00110000	000	65	101	00110000	000	97	141	00110000	000
2	002	00110000	000	34	042	00110000	000	66	102	00110000	000	98	142	00110000	000
3	003	00110000	000	35	043	00110000	000	67	103	00110000	000	99	143	00110000	000
4	004	00110000	000	36	044	00110000	000	68	104	00110000	000	100	144	00110000	000
5	005	00110000	000	37	045	00110000	000	69	105	00110000	000	101	145	00110000	000
6	006	00110000	000	38	046	00110000	000	70	106	00110000	000	102	146	00110000	000
7	007	00110000	000	39	047	00110000	000	71	107	00110000	000	103	147	00110000	000
8	010	00110000	000	40	050	00110000	000	72	110	00110000	000	104	150	00110000	000
9	011	00110000	000	41	051	00110000	000	73	111	00110000	000	105	151	00110000	000
10	012	00110000	000	42	052	00110000	000	74	112	00110000	000	106	152	00110000	000
11	013	00110000	000	43	053	00110000	000	75	113	00110000	000	107	153	00110000	000
12	014	00110000	000	44	054	00110000	000	76	114	00110000	000	108	154	00110000	000
13	015	00110000	000	45	055	00110000	000	77	115	00110000	000	109	155	00110000	000
14	016	00110000	000	46	056	00110000	000	78	116	00110000	000	110	156	00110000	000
15	017	00110000	000	47	057	00110000	000	79	117	00110000	000	111	157	00110000	000
16	020	00001100	014	48	060	00001100	014	80	120	00000011	003	112	160	00000011	003
17	021	00001100	014	49	061	00001100	014	81	121	00000011	003	113	161	00000011	003
18	022	00001100	014	50	062	00001100	014	82	122	00000011	003	114	162	00000011	003
19	023	00001100	014	51	063	00001100	014	83	123	00000011	003	115	163	00000011	003
20	024	00001100	014	52	064	00001100	014	84	124	00000011	003	116	164	00000011	003
21	025	00001100	014	53	065	00001100	014	85	125	00000011	003	117	165	00000011	003
22	026	00001100	014	54	066	00001100	014	86	126	00000011	003	118	166	00000011	003
23	027	00001100	014	55	067	00001100	014	87	127	00000011	003	119	167	00000011	003
24	030	00001100	014	56	070	00001100	014	88	130	00000011	003	120	170	00000011	003
25	031	00001100	014	57	071	00001100	014	89	131	00000011	003	121	171	00000011	003
26	032	00001100	014	58	072	00001100	014	90	132	00000011	003	122	172	00000011	003
27	033	00001100	014	59	073	00001100	014	91	133	00000011	003	123	173	00000011	003
28	034	00001100	014	60	074	00001100	014	92	134	00000011	003	124	174	00000011	003
29	035	00001100	014	61	075	00001100	014	93	135	00000011	003	125	175	00000011	003
30	036	00001100	014	62	076	00001100	014	94	136	00000011	003	126	176	00000011	003
31	037	00001100	014	63	077	00001100	014	95	137	00000011	003	127	177	00000011	003

DEC LOC	OCT LOC	BIN DATA	OCT DATA	DEC LOC	OCT LOC	BIN DATA	OCT DATA	DEC LOC	OCT LOC	BIN DATA	OCT DATA	DEC LOC	OCT LOC	BIN DATA	OCT DATA
128	240	00110000	000	160	240	00110000	000	192	300	00110000	000	224	340	00110000	000
129	241	00110000	000	161	241	00110000	000	193	301	00110000	000	225	341	00110000	000
130	242	00110000	000	162	242	00110000	000	194	302	00110000	000	226	342	00110000	000
131	243	00110000	000	163	243	00110000	000	195	303	00110000	000	227	343	00110000	000
132	244	00110000	000	164	244	00110000	000	196	304	00110000	000	228	344	00110000	000
133	245	00110000	000	165	245	00110000	000	197	305	00110000	000	229	345	00110000	000
134	246	00110000	000	166	246	00110000	000	198	306	00110000	000	230	346	00110000	000
135	247	00110000	000	167	247	00110000	000	199	307	00110000	000	231	347	00110000	000
136	250	00110000	000	168	250	00110000	000	200	310	00110000	000	232	350	00110000	000
137	251	00110000	000	169	251	00110000	000	201	311	00110000	000	233	351	00110000	000
138	252	00110000	000	170	252	00110000	000	202	312	00110000	000	234	352	00110000	000
139	253	00110000	000	171	253	00110000	000	203	313	00110000	000	235	353	00110000	000
140	254	00110000	000	172	254	00110000	000	204	314	00110000	000	236	354	00110000	000
141	255	00110000	000	173	255	00110000	000	205	315	00110000	000	237	355	00110000	000
142	256	00110000	000	174	256	00110000	000	206	316	00110000	000	238	356	00110000	000
143	257	00110000	000	175	257	00110000	000	207	317	00110000	000	239	357	00110000	000
144	260	01001100	114	176	260	01001100	114	208	320	01000011	103	240	360	01000011	103
145	261	01001100	114	177	261	01001100	114	209	321	01000011	103	241	361	01000011	103
146	262	01001100	114	178	262	01001100	114	210	322	01000011	103	242	362	01000011	103
147	263	01001100	114	179	263	01001100	114	211	323	01000011	103	243	363	01000011	103
148	264	01001100	114	180	264	01001100	114	212	324	01000011	103	244	364	01000011	103
149	265	01001100	114	181	265	01001100	114	213	325	01000011	103	245	365	01000011	103
150	266	01001100	114	182	266	01001100	114	214	326	01000011	103	246	366	01000011	103
151	267	01001100	114	183	267	01001100	114	215	327	01000011	103	247	367	01000011	103
152	270	01001100	114	184	270	01001100	114	216	330	01000011	103	248	370	01000011	103
153	271	01001100	114	185	271	01001100	114	217	331	01000011	103	249	371	01000011	103
154	272	01001100	114	186	272	01001100	114	218	332	01000011	103	250	372	01000011	103
155	273	01001100	114	187	273	01001100	114	219	333	01000011	103	251	373	01000011	103
156	274	01001100	114	188	274	01001100	114	220	334	01000011	103	252	374	01000011	103
157	275	01001100	114	189	275	01001100	114	221	335	01000011	103	253	375	01000011	103
158	276	01001100	114	190	276	01001100	114	222	336	01000011	103	254	376	01000011	103
159	277	01001100	114	191	277	01001100	114	223	337	01000011	103	255	377	01000011	103

DESCRIPTION		DWG PART NO	ITEM NO				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES							
ANGLES 30° 30'	CLASS OF ACCURACY CHECK ONE!	NOMINAL DIMENSION RANGE INCHES					
		OVER 0 TO 0.7	0.7 TO 1.2	1.2 TO 4.0	4.0 TO 12.0	12.0 TO 40.0	
SURFACE QUALITY IN	MEDIUM	-004	-008	-012	-016	-024	-04
		PREFERRED	012	016	025	04	063
QUANTITY & VARIATION	DRN	FIRST USED ON					
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D	TITLE					
DO NOT SCALE DWG	ENG.	MFIIS-K					
	PRD.	PROM MAP					
		(256X8)					
MATERIAL		SIZE CODE	NUMBER				
FINISH		D	SP 23009B1-0-1				
	SCALE		REV				
	OF 1						



DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON: OPTION / MODEL  
MS11-K

MADE BY R. Given	CHECKED <i>J. Boorman</i>	SECTION 1
DATE 1/17/77	DATE 14 FEB 77	
ENG <i>J. B. Menton</i>	PROD <i>J. B. Menton</i>	ISSUED SECTION 1
DATE 3/29/77	DATE 3/29/77	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	REF	QUANTITY	VARIATION	REF DESIGNATION
	D-CS-M7983-0-1		CIRCUIT SCHEMATIC	REF			
	D-UA-M7983-0-0		UNIT ASSEMBLY	REF			
	B-DD-M7983-0		DWG DIRECTORY	REF			
	D-MD-5012163-0-0		DRILL & ETCH DRAWING	REF			
1		10-01610-01	CAP .01 UF 100V 20% DISC	85			C4 thru C16, C21, C24 thru C36, C40, C41, C43, C47 thru C52, C57 thru C66, C68 thru C74, C78 thru C82, C95, C100 thru C102, C105 thru C107, C110 thru C114, C122 thru C125, C208, C300 thru C309
2		10-12084-01	CAP 8.0 UF 25V-10 To +75% AL EL	6			C142 thru C147
3		10-00015-00	CAP 82 PF 100V 5% DM	3			C202 thru C204
4		10-00025-00	CAP 560 PF 100V 5% DM	4			C200, C201, C206, C207
5		10-12121-00	CAP 220 PF 100V 5% DM	5			C205, C209 thru C212
6		11-10324-00	DIODE, LED	1			D1
7		11-04860-00	DIODE, 1N746A	1			D2
8		19-11469-00	I.C. 8640	7			E89, E98, E107, <b>E77</b> , E114, E115, E124
9		19-11579-00	I.C. 8641	4			E42, E51, E52, E53
10		19-09713-00	I.C. 8815	2			E49, E109
11		19-09705-00	I.C. 8881	2			E88, E122
12		19-10649-00	I.C. 8885	3			<b>E101</b> , E127, E129
13		19-13462-00	I.C. 746240	4			<b>E10, E12, E19, E29</b>
14		19-10532-00	I.C. 74S00	9			E2, E105, E40, E60, E75, E87, E119, E126, E130
15		19-12799-00	I.C. 74LS00	3			E103, E128, <b>E110</b>

ECO. NO.	
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	MF11S-K CONTROLLER	D-UA-M7983-0-0	B	PL	M7983-0-0	C
		SHEET 1 OF 4	INSERTION PARTS LIST DATA BASE REV C			

DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON: OPTION/MODEL  
MS11-K

MADE BY R. Given	CHECKED G. Eocsmann	SECTION 1
DATE 1/17/77	DATE 14 FEB 77	
ENG J.B. Manton	PROD J. Linn	ISSUED SECTION 1
DATE 3/29/77	DATE 3/29/77	

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION										REF DESIGNATION		
16		19-12801-00	I.C. 74LS02	1												E92
17		19-10533-00	I.C. 74S03	1												E131
18		19-10534-00	I.C. 74S04	5												E1, E76, E83, E121, E125
19		19-12803-00	I.C. 74LS04	1												E112
20		19-12389-00	I.C. 74S08	1												E86
21		19-10536-00	I.C. 74S10	3												E78, E102, E28
22		19-10539-00	I.C. 74S20	1												E82
23		19-10878-00	I.C. 7427	1												E111
24		19-10542-00	I.C. 74S64	1												E94
25		19-10544-00	I.C. 74S74	3												E96, E106, E120
26		19-12824-00	I.C. 74LS74	5												E61, E84, E97, E104, E118
27		19-09050-00	I.C. 7475	1												E91
28		19-09932-00	I.C. 7483A	1												E20
29		19-11983-00	I.C. 74S133	2												E108, E117
30		19-12125-00	I.C. 74S135	9												E36, E38, E39, E46, E47, E57, E58, E64, E65
31		19-11675-00	I.C. 74S138	2												E67, E68
32		19-11676-00	I.C. 74S139	1												E30
33		19-10547-00	I.C. 74S153	4												E70, E71, E81, E95
34		19-10655-00	I.C. 74157	10												E3, E7, E37, E56, E63, E72, E73, E85, E34, E62
35		19-10548-00	I.C. 74S157	1												E100
36		19-10652-00	I.C. 74174	3												E31, E32, E33

ECO. NO.

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	MS11-K CONTROLLER	D-4A-M7903-0-0	0	PL	M7983-0-0	C

SHEET 2 OF 4 INSERTION PARTS LIST DATA PAGE REV C

DIGITAL EQUIPMENT CORPORATION				QUANTITY / VARIATION										NOTES:		
PARTS LIST														USED ON: OPTION/MODEL MS11-K		
MADE BY R. Given		CHECKED <i>D. Bosman</i>												REF DESIGNATION		
DATE 1/17/77		DATE 14 FEB 77														
ENG <i>J. S. Mantor</i>		PROD <i>J. S.</i>														
DATE 3/29/77		DATE 3/29/77														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													
37		19-10957-00	I.C. 74S175	12												E9, E11, E13, E14, E21, E22, E23, E24, E41, E44, E48, E59
38		19-12853-00	I.C. 74LS175	1												E74
39		19-10035-00	I.C. 74197	3												E90, E99, E116
40		19-12857-00	I.C. 74LS197	2												E80, E123
41		19-13777-00	I.C. 74LS240	2												E45, E55
42		19-11573-00	I.C. 74S280	11												E4, E5, E6, E15, E16, E17, E25, E26, E27, E35, E79
43		19-11271-00	I.C. 74298	2												E43, E54
44		23-009B1	I.C. 74S471	1												E66
			I.C. SPARE	5												E50, E8, E18, E69, E93.
45		16-10662-00	INDUCTOR 100 UH	1												L1
46		16-11243-00	DELAY LINE 250NS TAPPED	4												DL1 thru DL4
47		13-02124-00	RES. 18 $\frac{1}{4}$ W 5% CC	3												R29, R34, R35
48		13-00229-00	RES. 100 $\frac{1}{4}$ W 5% CC	6												R17, R18, R42 thru R45
49		13-01322-00	RES. 180 $\frac{1}{4}$ W 5% CC	4												R19, R22, R23, R25
50		13-01972-00	RES. 270 $\frac{1}{4}$ W 5% CC	4												R20, R21, R24, R26
51		13-00295-00	RES. 330 $\frac{1}{4}$ W 5% CC	1												R28
52		13-00309-00	RES. 390 $\frac{1}{4}$ W 5% CC	1												<b>R32</b>
53		13-00316-00	RES. 470 $\frac{1}{4}$ W 5% CC	1												R7
54		13-01890-00	RES. 560 $\frac{1}{4}$ W 5% CC	1												R27
55		13-00447-00	RES. 4.7K $\frac{1}{4}$ W 5% CC	19												R1 thru R4, R6, R9, R11 thru R15, R30, R33, R36 thru R41
56		13-00488-00	RES. 12K $\frac{1}{4}$ W 5% CC	1												R10

E.C.O. NO.

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			SHEET 3 OF 4			INSERTION PARTS LIST DATA BASE REV C						



DIGITAL EQUIPMENT CORPORATION

PARTS LIST

QUANTITY / VARIATION

NOTES:

USED ON: OPTION/MODEL  
MS11-K

MADE BY DATE	R. Given 1/17/77	CHECKED DATE	J. Bouman 14 FEB 77	SECTION 1
ENG DATE	J. B. Manton 3/29/77	PROD DATE	J. J. 3/29/77	ISSUED SECTION 1

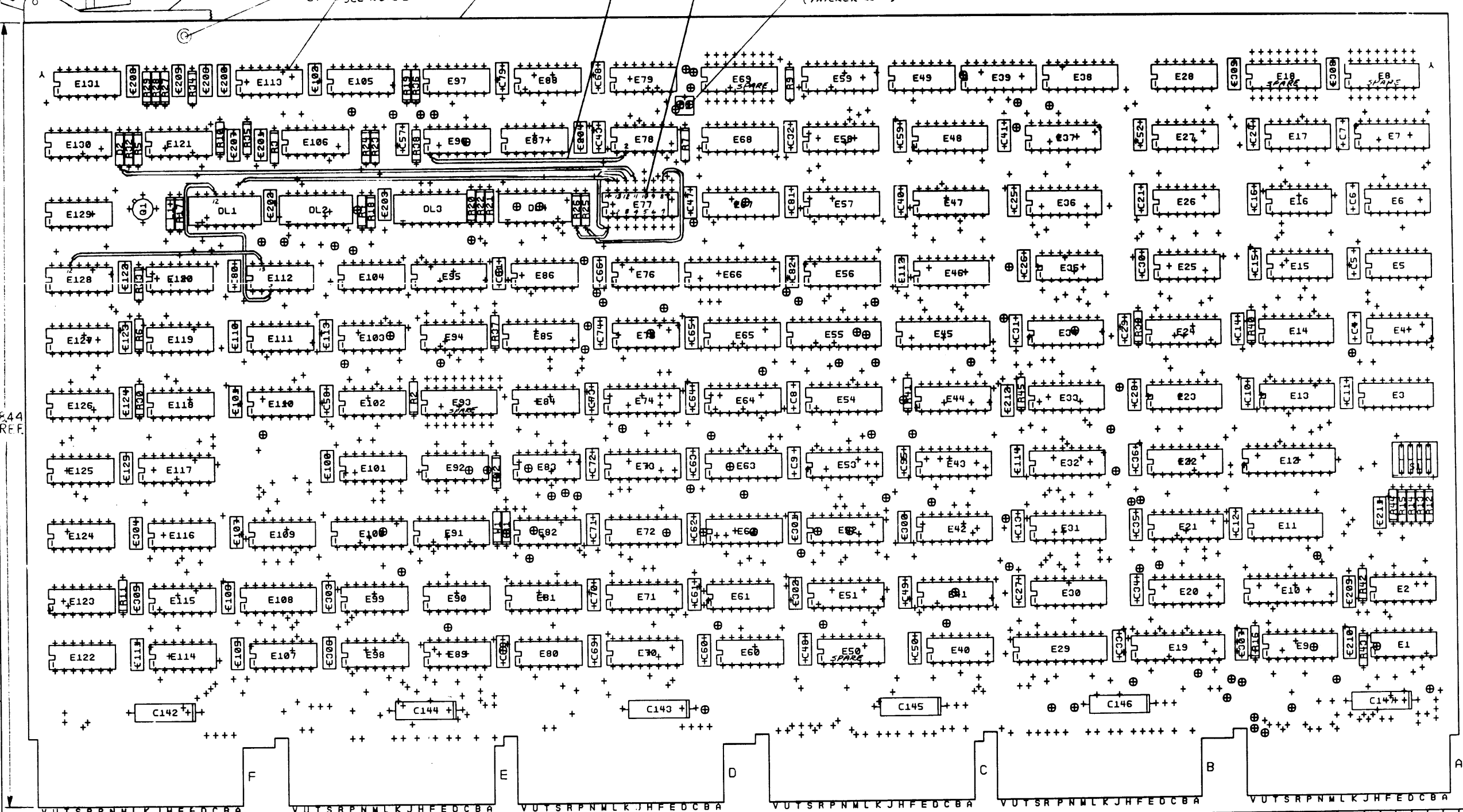
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION										REF DESIGNATION		
57		13-02514-00	RES. 39K 1/4W 5% CC RES. SPARE	1												R5 R8, R31
58		15-03100-00	TRANSISTOR 3009B	1												Q1
59		12-11164-00	SWITCH, DIP 4 POS.	1												S1
60		12-10711-02	HANDLE, HEX	1												
61		90-00024-01	EYELET	12												
62		5012163	ETCH CIRCUIT BOARD	1												
63		90-09185-00	WIRE, JUMPER, INS.	1												W1
64		13-00271-00	RES. 220, 1/4W, 5% CC	1												R16
65		19-11113-00	IC 11380	1												E113
66		91-05740-55	WIRE, #30 AWG, GRN	A/R												

ECO. NO.

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	MF11S-K CONTROLLER	D-UA-M7983-0-0	B	PL	M7983-0-0	C
EN-01140A-16-R276(325) DRB 125		SHEET 4 OF 4		INSERTION PARTS LIST DATA BASE REV C		

COMPONENT SIDE VIEW

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NOTES: REWORK INSTRUCTIONS:  
 1. CUT ETCH SPACES AS SHOWN ON SHEETS 245.  
 2. ADD IC 8640 FROM 8 ON SOME ETX SLOT.  
 3. CHANGE E13 TO: IC 11300 (11-11300) FROM IC 8640.  
 4. ADD JUMMERS, ITEM 66:  
 A) FROM D8 (ANODE) TO E11-11. B) FROM E11-8 TO BOTTOM OF RES.  
 C) FROM E11-12 TO E11-1. D) FROM E11-1 TO E11-2.  
 E) FROM E11-1 TO BOTTOM OF RES. F) FROM D11-12 TO E11-3.  
 G) FROM E11-13 TO E11-12. H) FROM E11-13 TO E11-12.  
 I) FROM E11-13 TO E11-12.

CHG	REV	NO	REV

ETCH REV.	D
P.C. DESIGN DATA BASE REV.	DL

SIGNATURES	DATE	digital
DRN <i>R. Sullivan</i>	1/25/77	
CHK'D <i>G. Brennan</i>	1/24/77	TITLE MFI-S-K CONTROLLER
ENG. <i>G. Brennan</i>	1/24/77	
PROJ. ENG. <i>G. Brennan</i>	1/24/77	SIZE CODE NUMBER REV D UVA M7983-0-0 C
PROD. <i>G. Brennan</i>	1/24/77	
SCALE 271	OF 6	NEXT HIGHER ASSY. BDD-M7983-0
SHT.		

8

7

6

5

4

3

2

0-0-EB6/LV DUA M7983-0-0 C

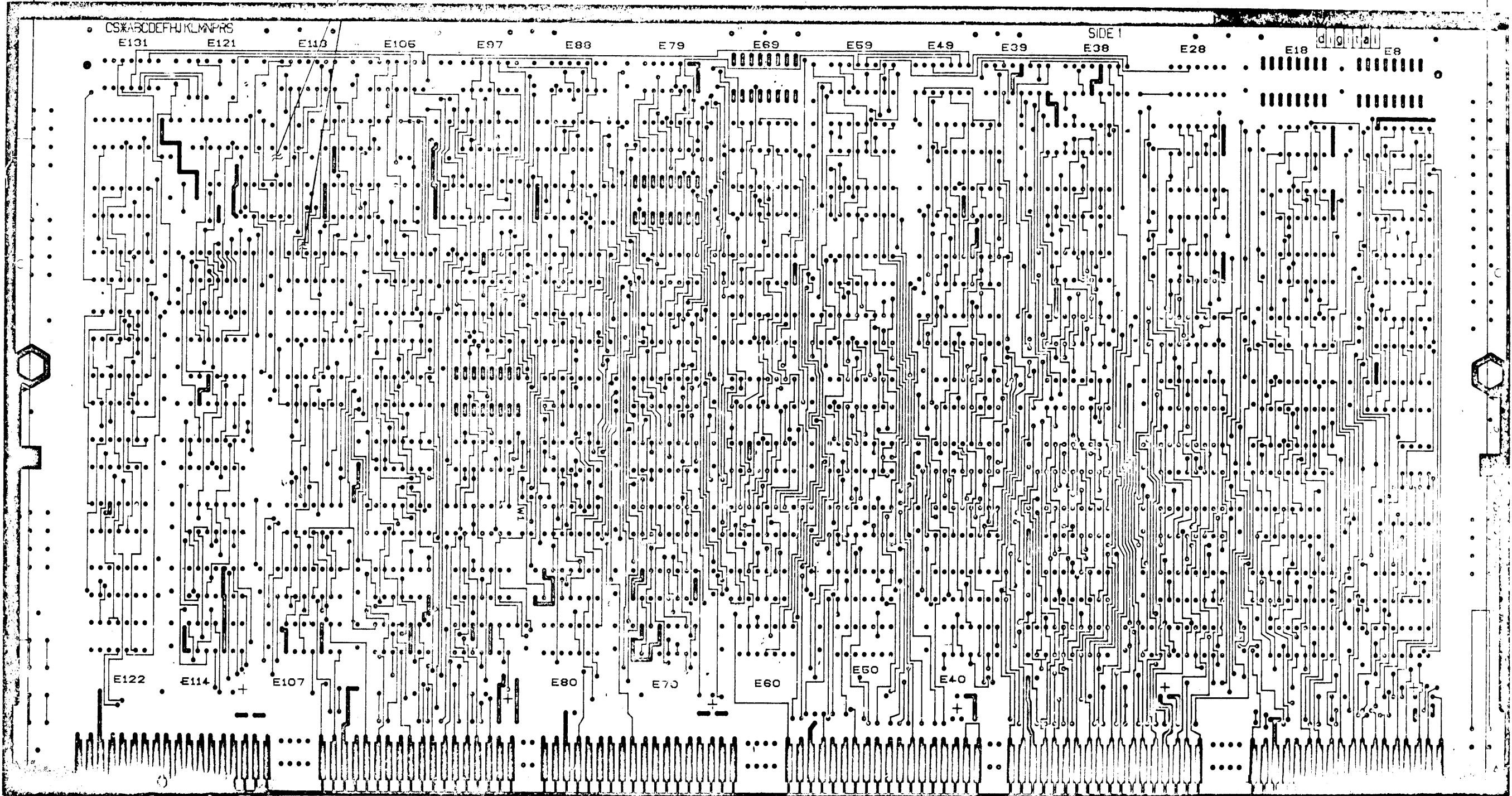
M880000

6012163 D

M7983

LAYER 1

CUT ETCH 2 PLACES APPROX AS SHOWN



TITLE		MF115-K CONTROLLER		DUA M7983-0-0 C	
SCALE	2/1	SHEET	2	OF	6

8

7

6

5

4

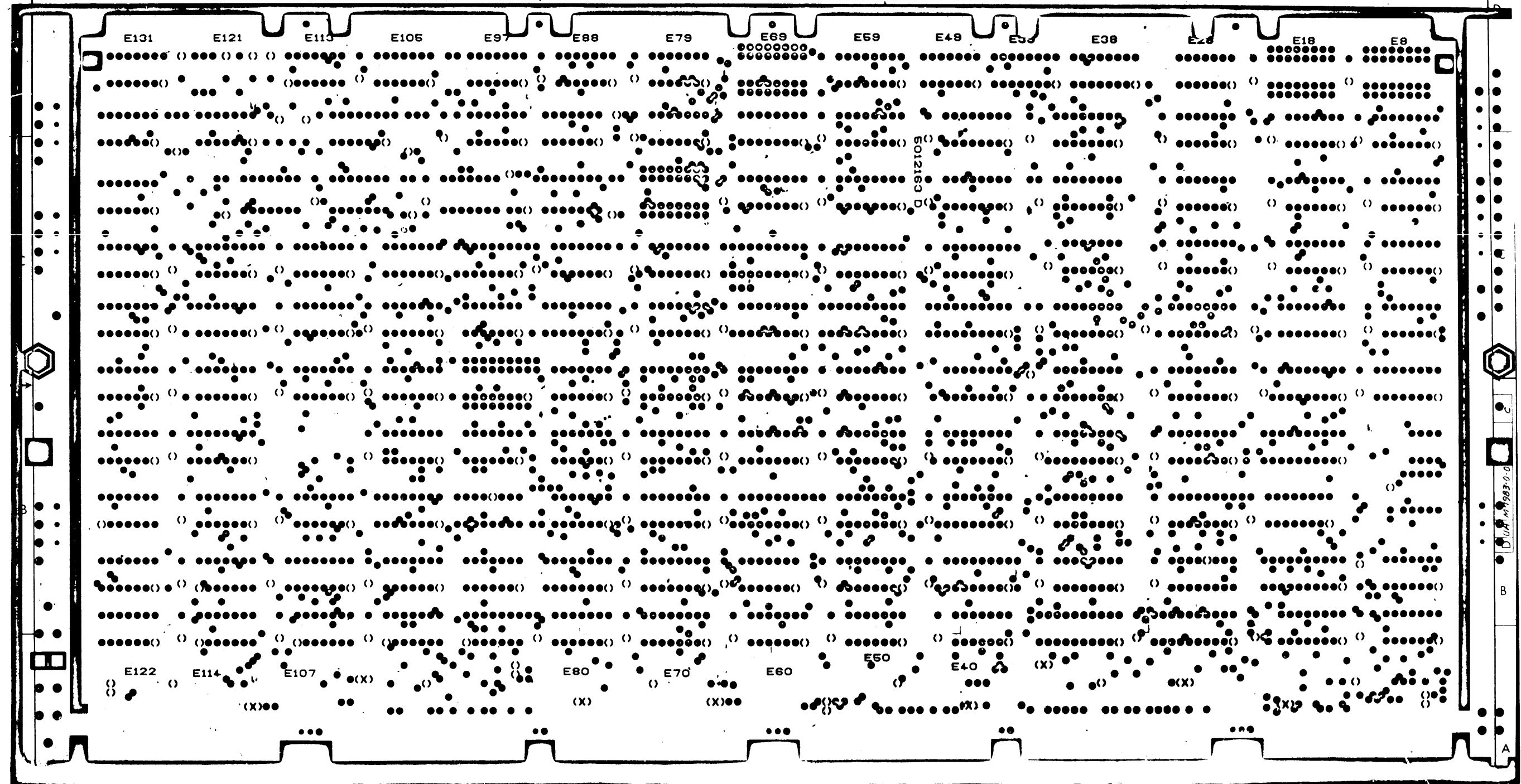
3

2

1

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MS80993 5012163 D M7983

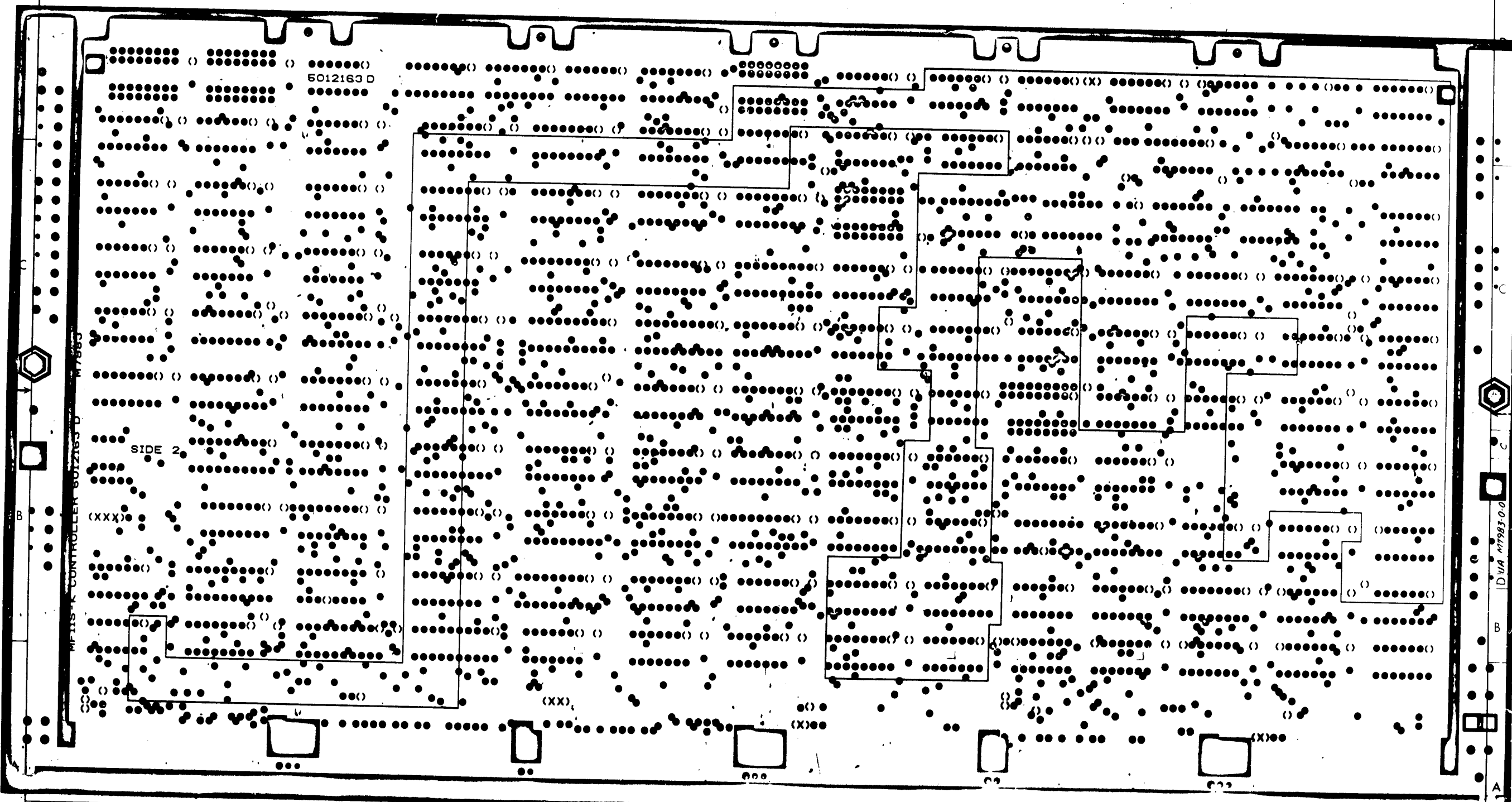


REV.	CHANGE NO.	REV.

TITLE	MFIIS-K CONTROLLER	SIZE CODE	D UA	NUMBER	M7983-0-0	REV	C
SCALE	E, 1	SHEET	3	OF	6	DIST.	

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DUA M7983-0-0 2



REVISIONS		
CHK	CHANGE NO	REV

TITLE	MF115-K CONTROLLER	SIZE	DUA	NUMBER	M7983-0-0	REV	C
SCALE	B/1	SHEET	4	OF	6	DIST	

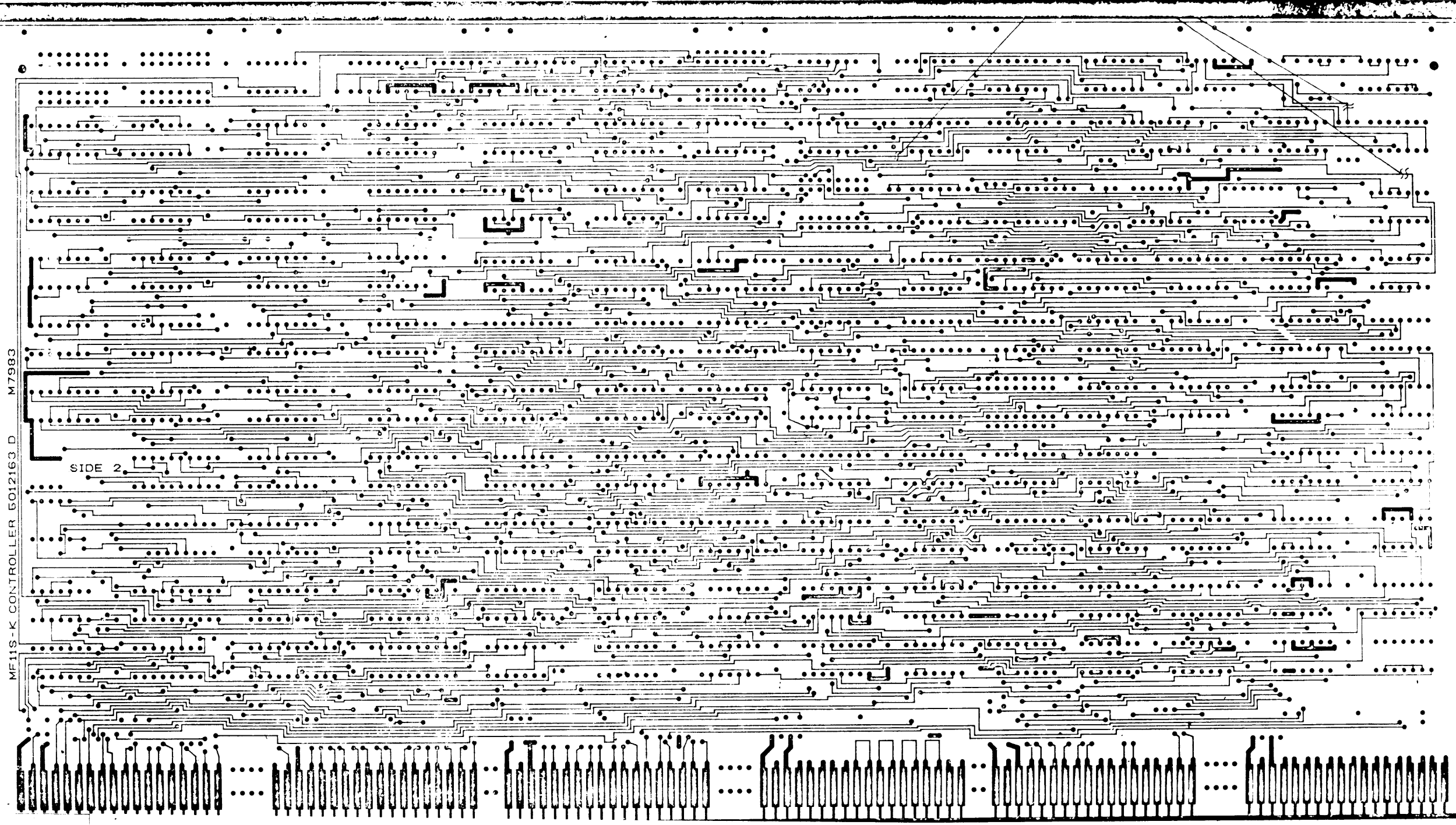
10-0-EP-1111 21

8340J

DO NOT ETCH IN PLACES  
APPROX AS SHOWN

MF115-K CONTROLLER 5012163 D M7983

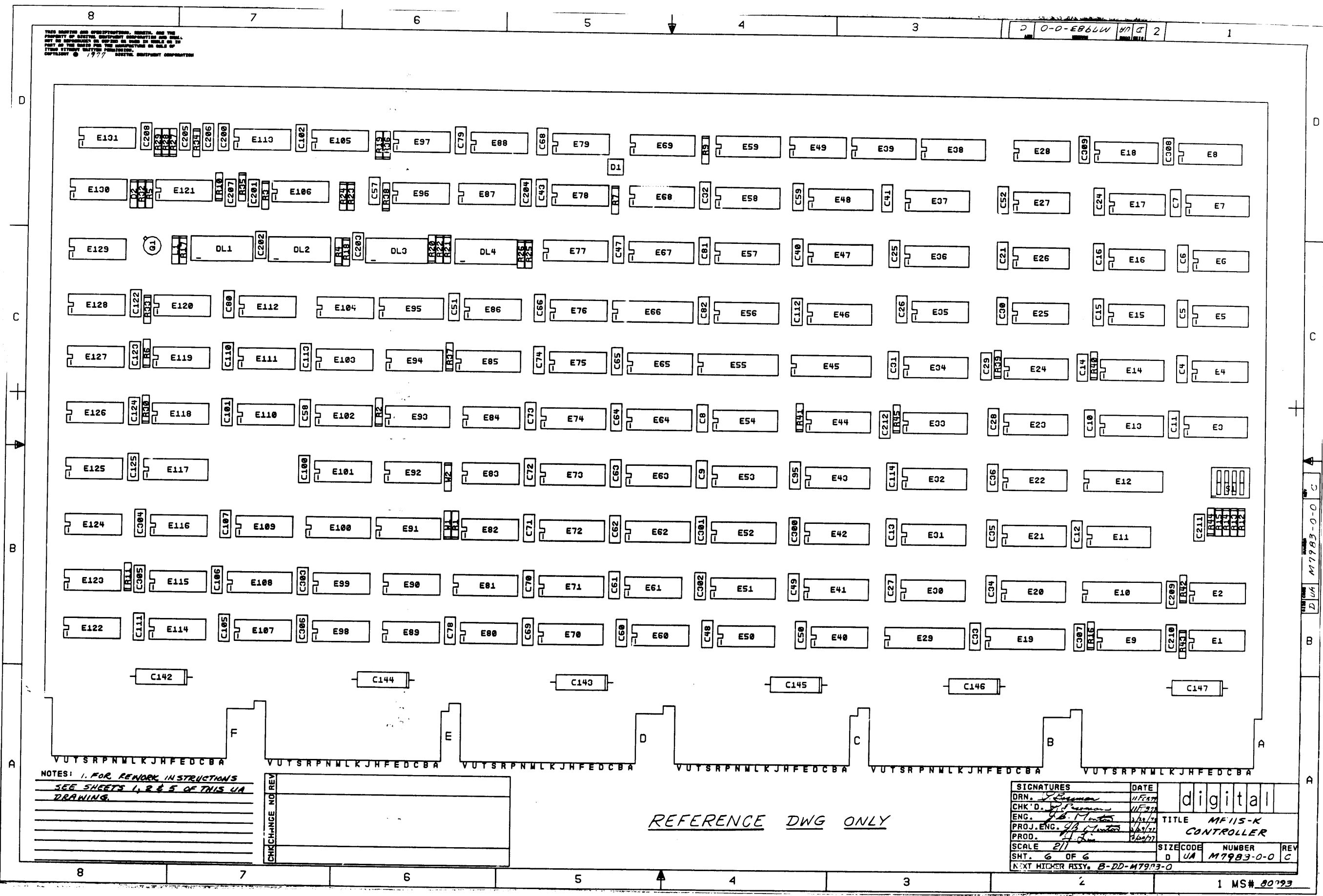
SIDE 2



MF115-K CONTROLLER		D 4A	117983-0-0
211	5		



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NOTES: 1. FOR REWORK INSTRUCTIONS SEE SHEETS 1, 2 & 5 OF THIS UA DRAWING.

CHANGE NO	REV

REFERENCE DWG ONLY

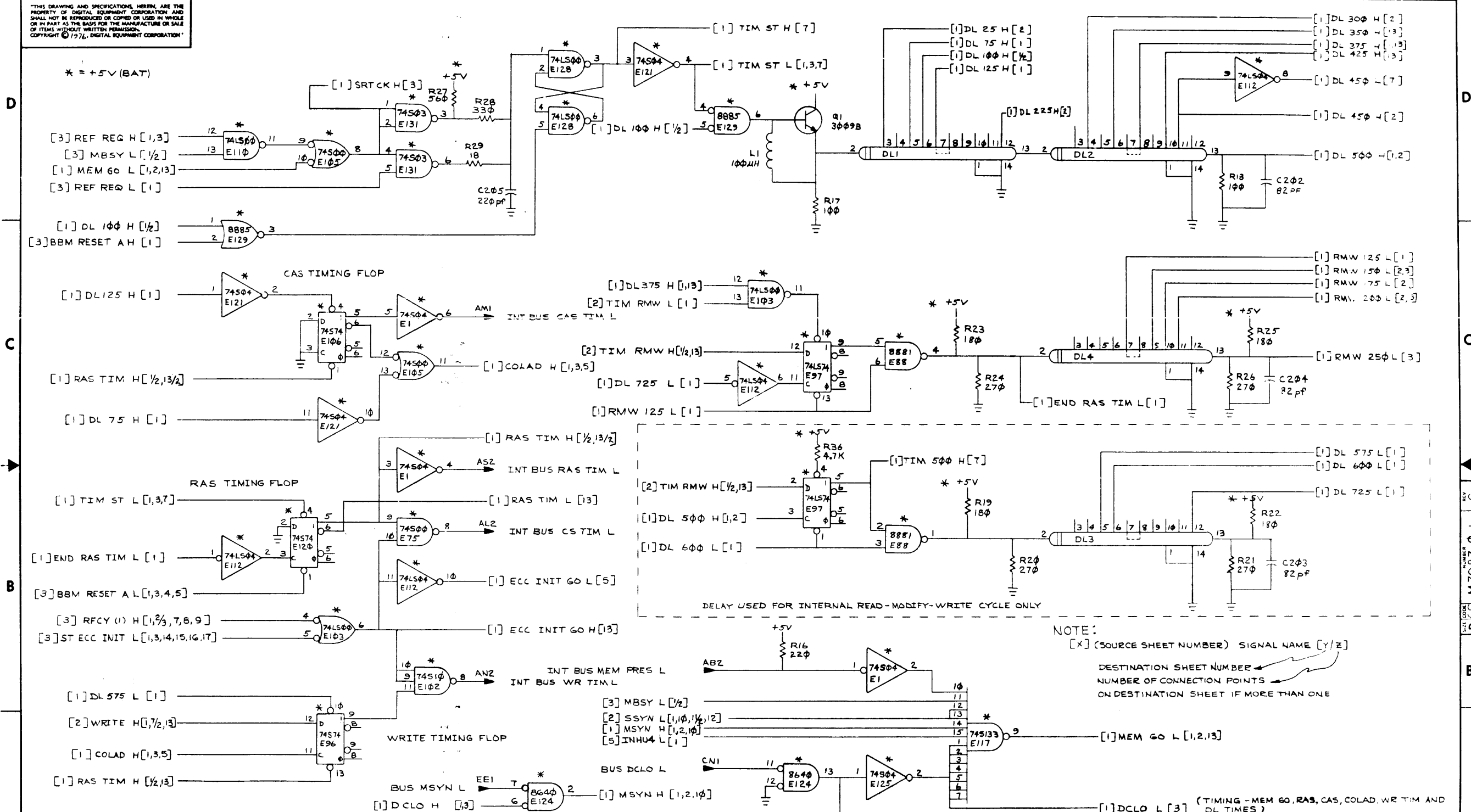
SIGNATURES	DATE	digital
DRN. <i>J. Berman</i>	11/8/77	
CHK'D. <i>J. Berman</i>	11/8/77	TITLE MF115-K CONTROLLER
ENG. <i>J. Berman</i>	11/8/77	
PROJ. ENG. <i>J. Berman</i>	11/8/77	SIZE CODE NUMBER REV D UA M7983-0-0 C
PROD. <i>J. Berman</i>	11/8/77	
SCALE 2/1		NEXT HIGHER ASSY: B-DD-M7983-0
SHT. 6 OF 6		

D UA M7983-0-0

1 MS# 80799

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1-0-8862W



NOTE:  
 [X] (SOURCE SHEET NUMBER) SIGNAL NAME [Y/Z]  
 DESTINATION SHEET NUMBER  
 NUMBER OF CONNECTION POINTS  
 ON DESTINATION SHEET IF MORE THAN ONE

DRN. <i>K. Nelson</i>	1/10/76	FIRST USED ON	MFIS-K
CHK'D <i>P. Brown</i>	8/29/77	TITLE	MFIS-K
ENG. <i>H. Nelson</i>	3/23/77		CONTROLLER
PROJ. ENG. <i>J. L. Brown</i>	4/1/77		
PROD. <i>J. L. Brown</i>	4/1/77		
NEXT HIGHER ASSY.			
BDD M7983-0	SIZE CODE	NUMBER	REV.
SCALE	D	CS M7983-0-1	C
SHEET 1 OF 18	DIST.		

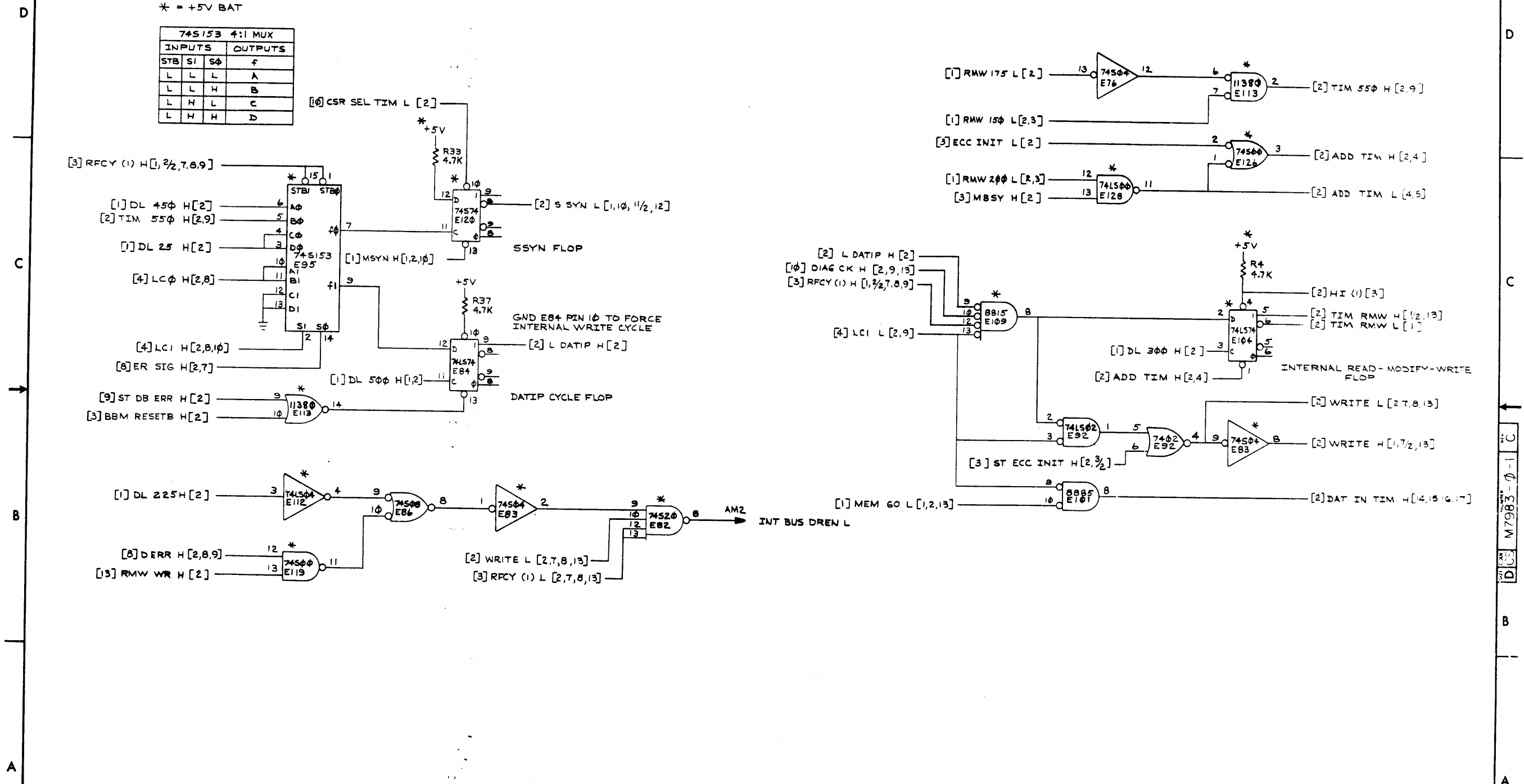
REV.	
CHANGE NO.	
CHK	



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\* = +5V BAT

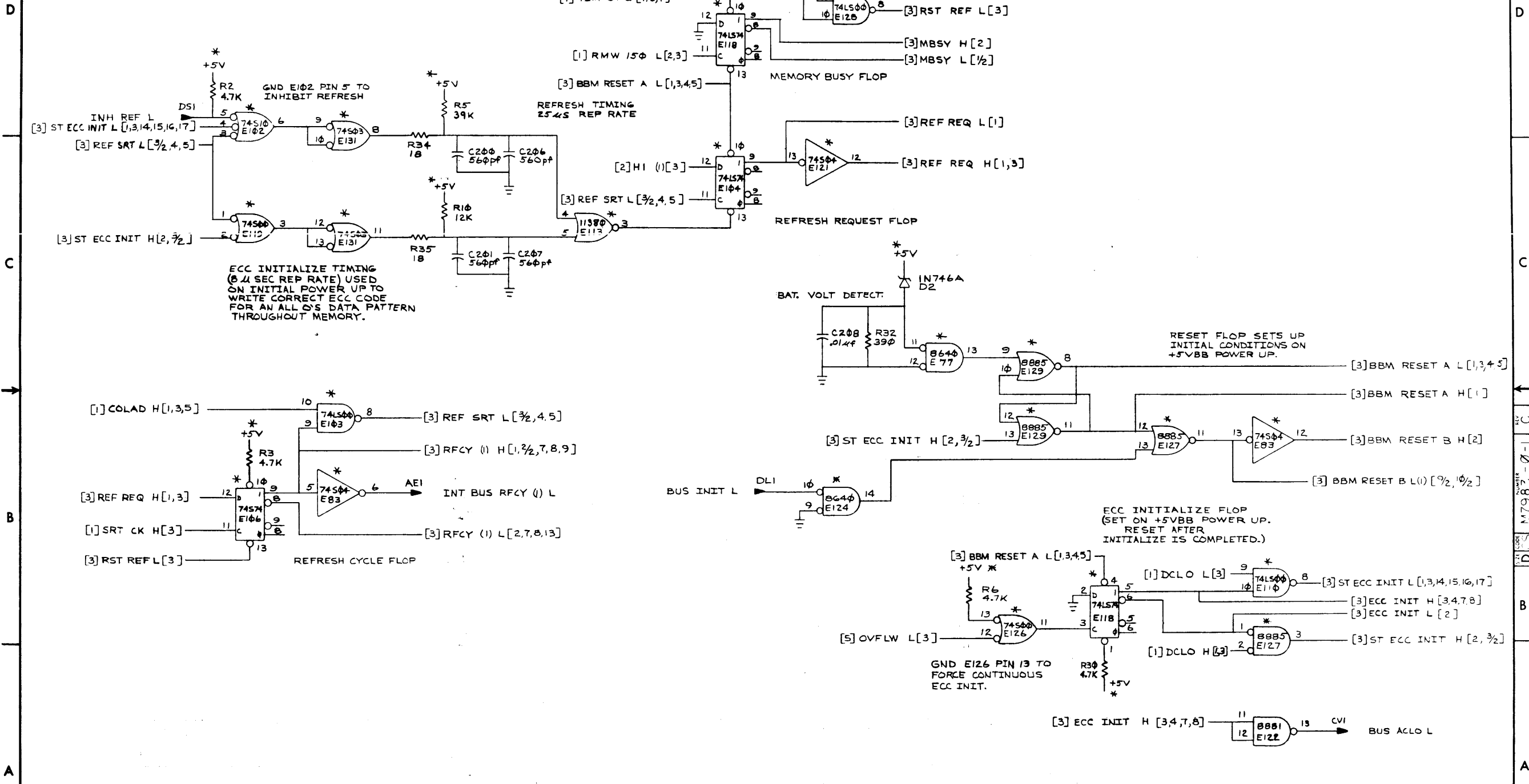
74S153 4:1 MUX			
STB	SI	Sφ	OUTPUTS
L	L	L	A
L	L	H	B
L	H	L	C
L	H	H	D



REVISIONS		
CHK	CHANGE NO.	REV.

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\* = +5V (BAT)



GND E102 PIN 5 TO INHIBIT REFRESH

REFRESH TIMING 25µs REP RATE

ECC INITIALIZE TIMING (6µs SEC REP RATE) USED ON INITIAL POWER UP TO WRITE CORRECT ECC CODE FOR AN ALL 0'S DATA PATTERN THROUGHOUT MEMORY.

BAT. VOLT DETECT.

RESET FLOP SETS UP INITIAL CONDITIONS ON +5VBB POWER UP.

ECC INITIALIZE FLOP (SET ON +5VBB POWER UP. RESET AFTER INITIALIZE IS COMPLETED.)

GND E126 PIN 13 TO FORCE CONTINUOUS ECC INIT.

(REFRESH AND ECC INITIALIZE)

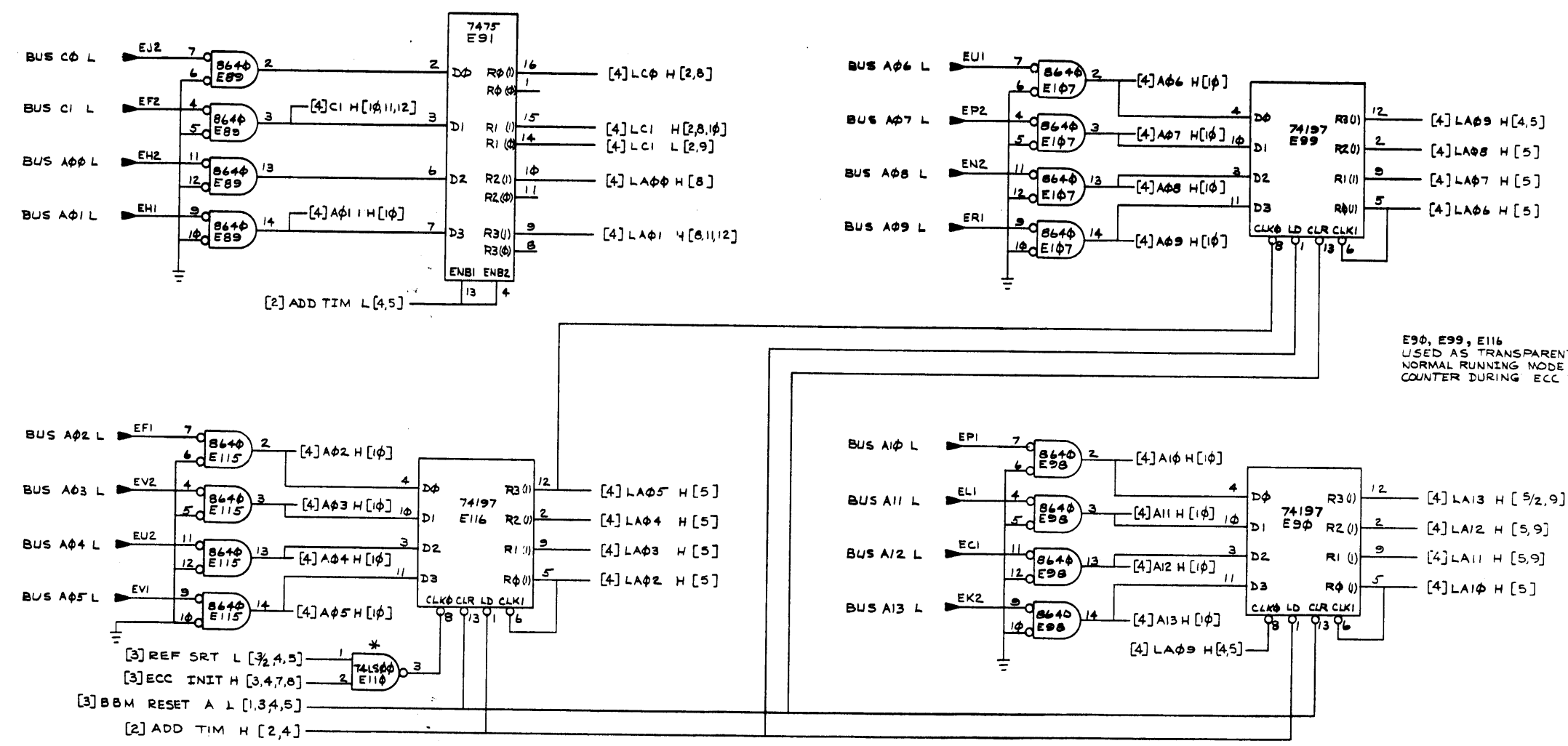
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MF11S-K CONTROLLER	D CS	M7983-0-1	C
SCALE	SHEET 3 OF 8	DIST.	

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1-0-3862W DCS M7983-0-1 2

\* = +5V (BAT)



E90, E99, E116  
USED AS TRANSPARENT LATCHES IN  
NORMAL RUNNING MODE OR AS ADDRESS  
COUNTER DURING ECC INITIALIZE

(ADDRESS BUFFER LATCHES BITS 0 THRU 13)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MFIIS-K CONTROLLER	DCS	M7983-0-1	C
SCALE	SHEET	OF	DIST.
	4	1/8	

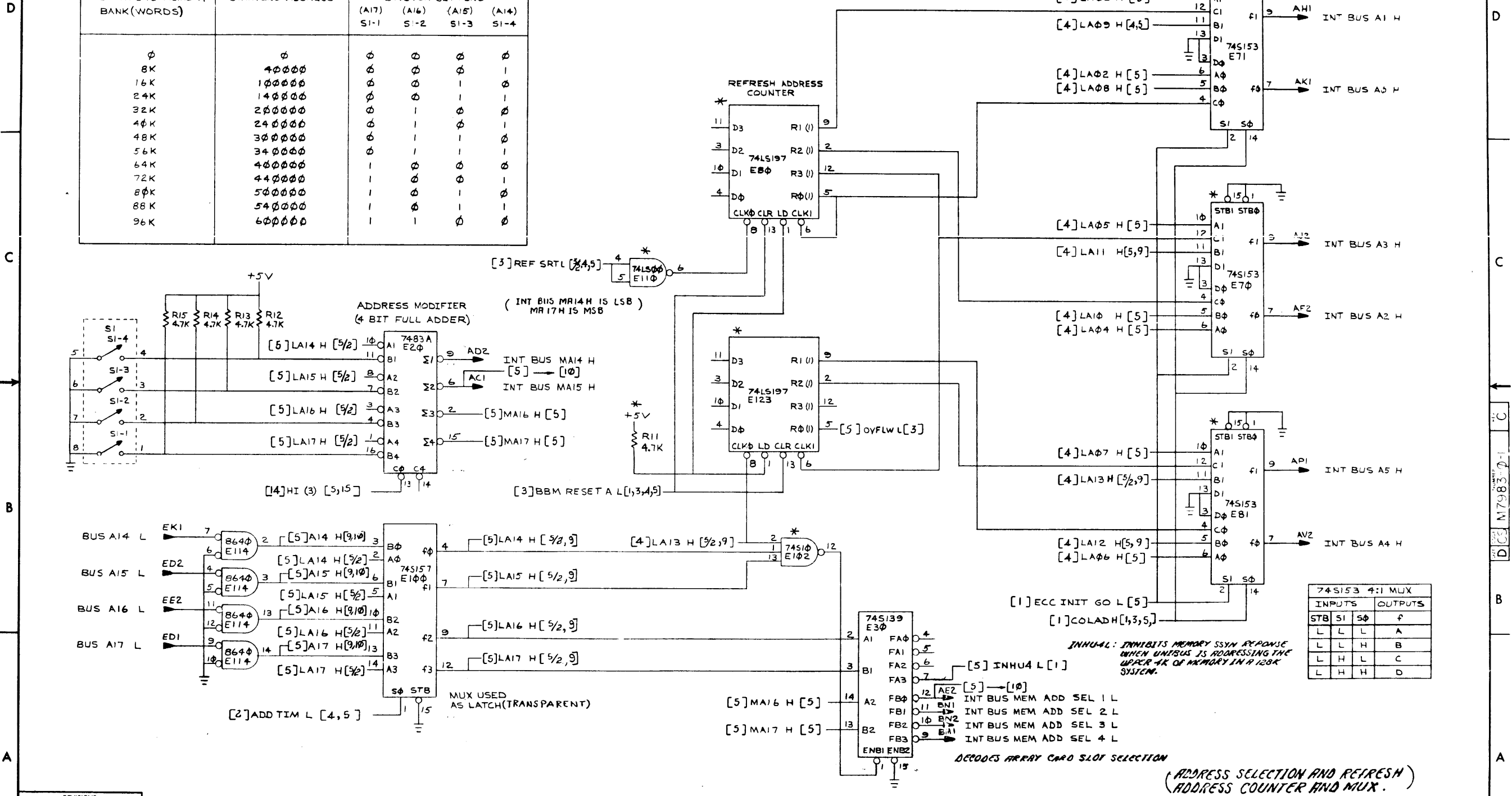
DEC FORM NO. 080 128

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\* = +5V (BAT)

1 = SWITCH ON  
0 = SWITCH OFF

STARTING MEMORY BANK (WORDS)	STARTING ADDRESS	SWITCH SETTING			
		(A17) S1-1	(A16) S1-2	(A15) S1-3	(A14) S1-4
0	0	0	0	0	0
8K	400000	0	0	0	1
16K	1000000	0	0	1	0
24K	1400000	0	0	1	1
32K	2000000	0	1	0	0
40K	2400000	0	1	0	1
48K	3000000	0	1	1	0
56K	3400000	0	1	1	1
64K	4000000	1	0	0	0
72K	4400000	1	0	0	1
80K	5000000	1	0	1	0
88K	5400000	1	0	1	1
96K	6000000	1	1	0	0



74S153 4:1 MUX

STB	SI	S0	f
L	L	L	A
L	L	H	B
L	H	L	C
L	H	H	D

INHUA L: INHIBITS MEMORY SSYN RESPONSE WHEN UNIBUS IS ADDRESSING THE UPPER 4K OF MEMORY IN A 128K SYSTEM.

INT BUS MEM ADD SEL 1 L  
INT BUS MEM ADD SEL 2 L  
INT BUS MEM ADD SEL 3 L  
INT BUS MEM ADD SEL 4 L

DECODES ARRAY CARD SLOT SELECTION  
(ADDRESS SELECTION AND REFRESH)  
(ADDRESS COUNTER AND MUX)

REVISIONS

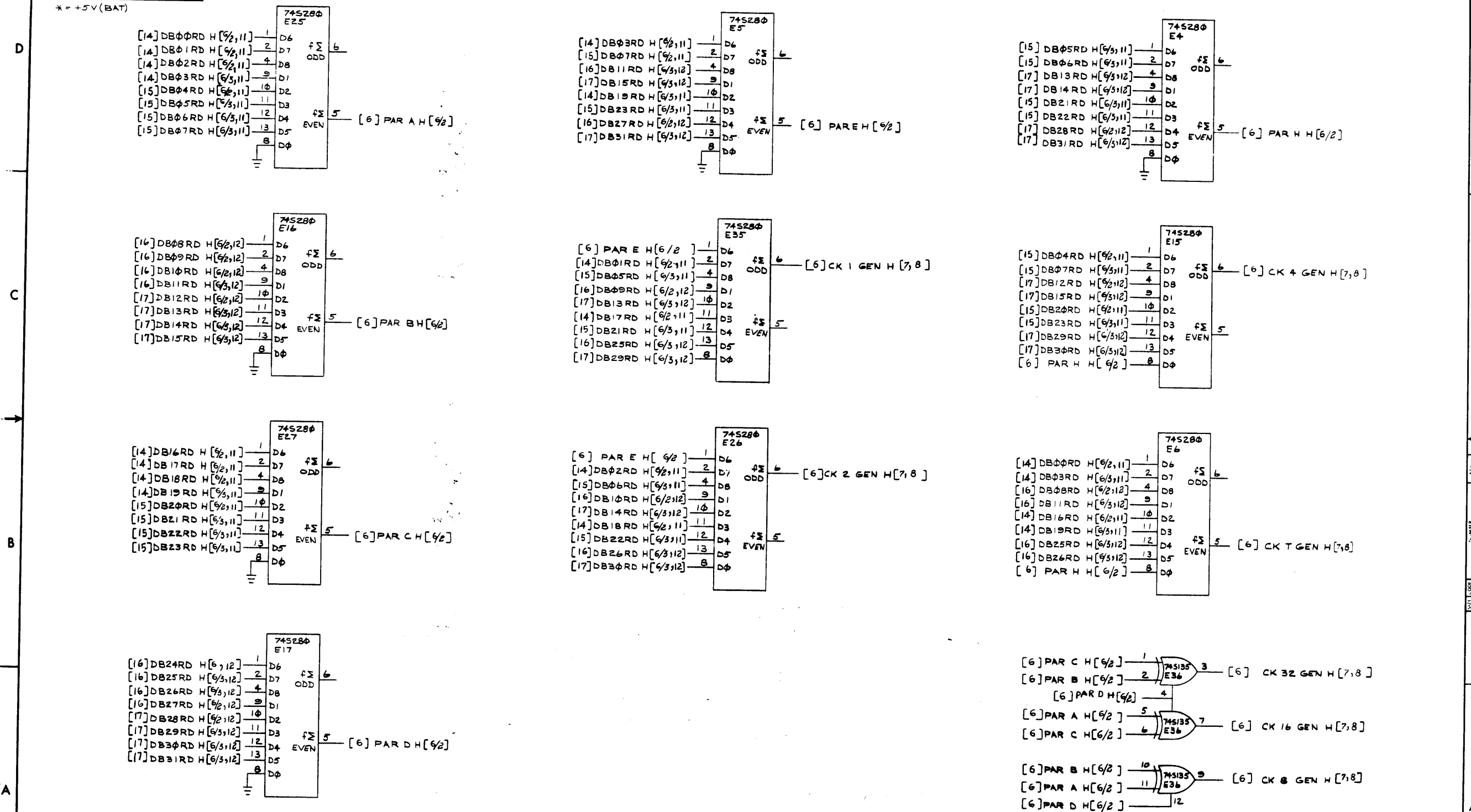
CHK	CHANGE NO.	REV.

TITLE: MF11S-K CONTROLLER  
SCALE: 1/4  
SHEET 5 OF 19  
D.C.S. M7983-0-1  
REV. C

32

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1-0-3862W SCD 2



REVISIONS		
CHK	CHANGE NO.	REV.

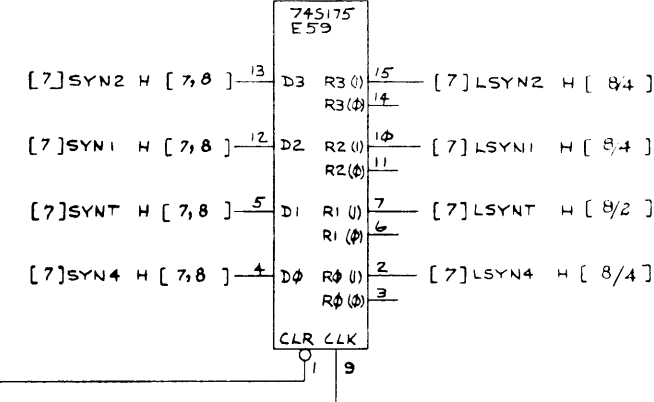
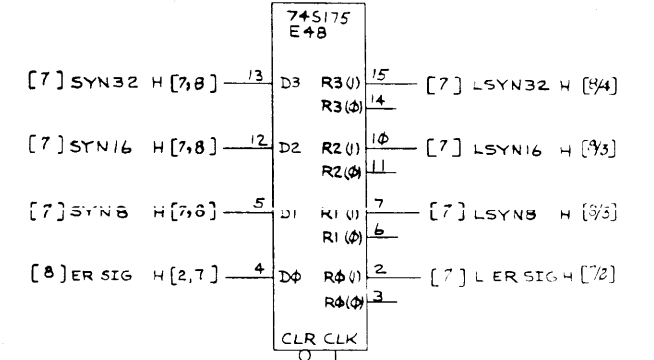
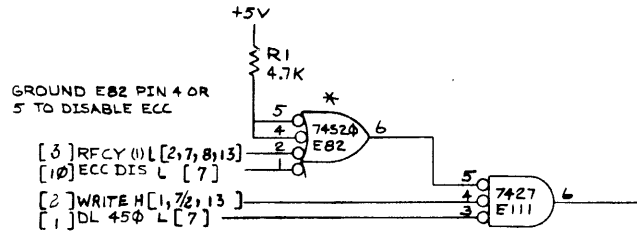
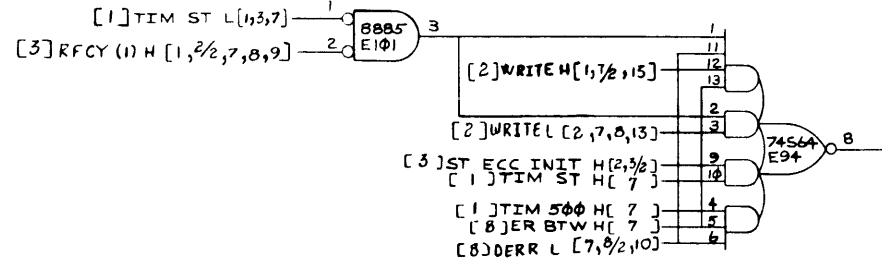
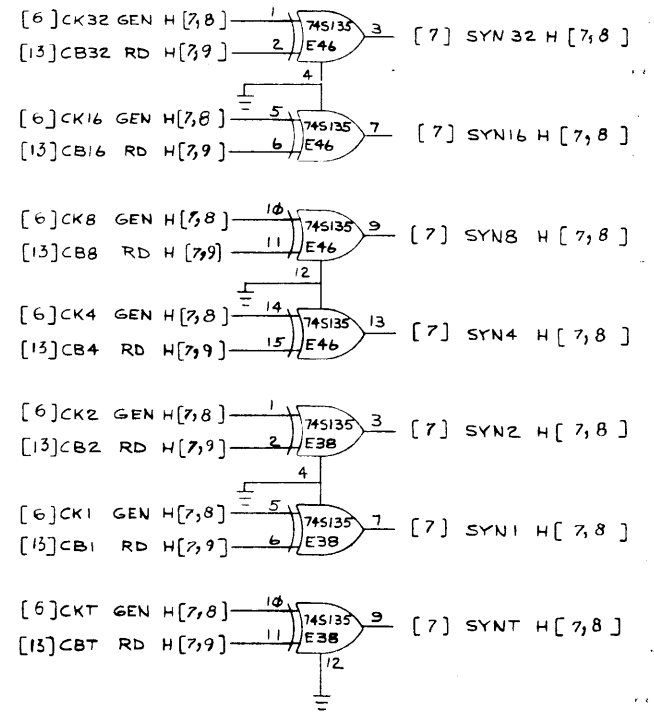
(CHECK BIT GENERATION)

DEC FORM NO. DND 138	8	7	6	5	4	3	2	1	TITLE MFIIS-K CONTROLLER	SIZE CODE DCS	NUMBER M7983-0-1	REV. C
									SCALE	SHEET 6 OF 18	DIST.	

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\* = +5V (BAT)  
 (REFERENCE INFORMATION)  
 1. CHECK BITS 1,2,4,8,16,32 ARE ODD PARITY.  
 2. CHECK BIT 7 IS EVEN PARITY.  
 3. CHECK BIT CODE FOR DATA - 2C40ES IS CK 1,2,4,8,16,32 = 1'S, CK 7 = 0

SYNDROME GENERATION ON CHECK BIT COMPARE



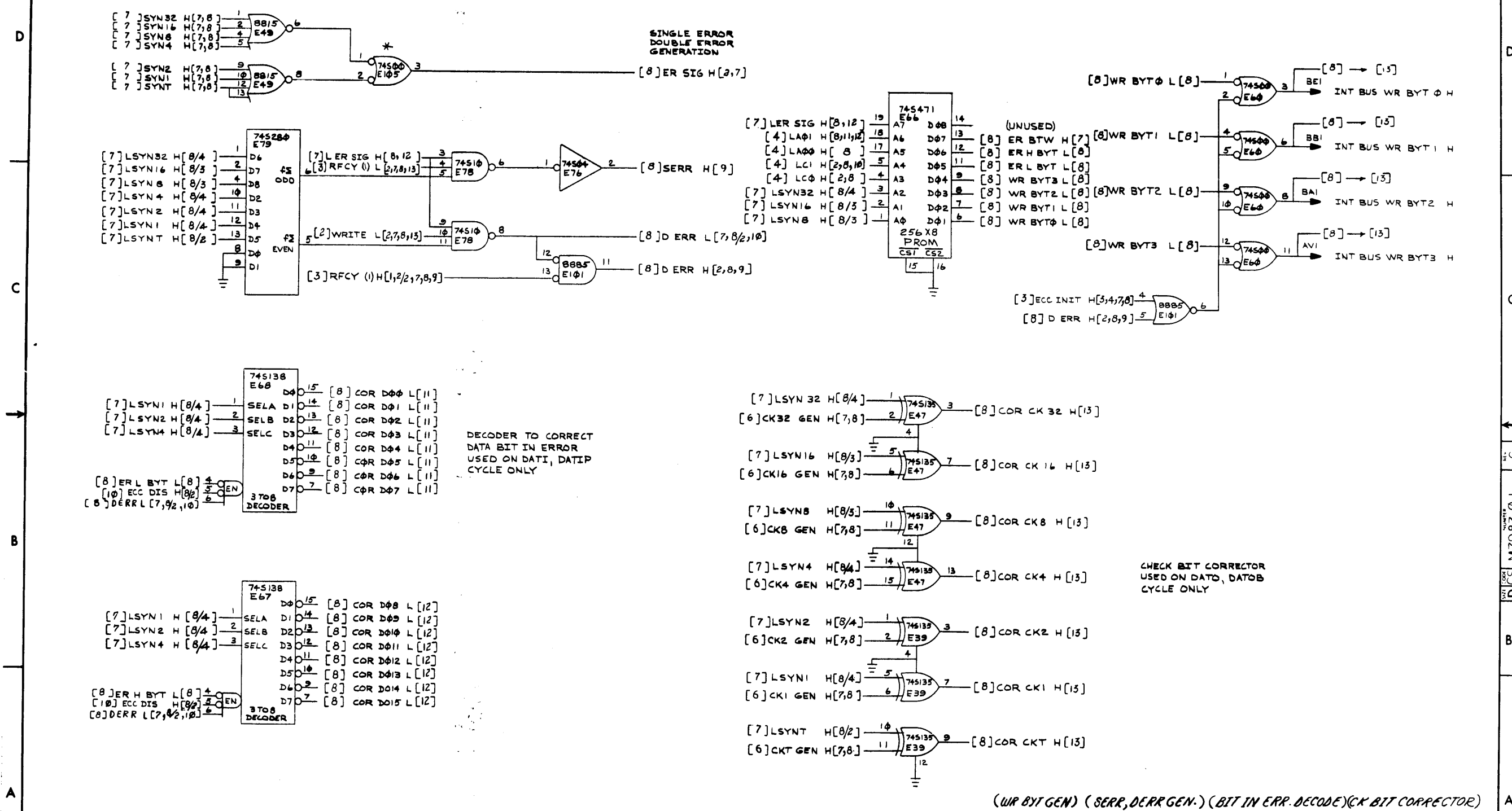
(SYNDROME GENERATION AND LATCHES)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MFIIS-K CONTROLLER	D CS	M7983-01	C
SCALE	SHEET 7 OF 18	DIST.	

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\* = +5V (BAT)



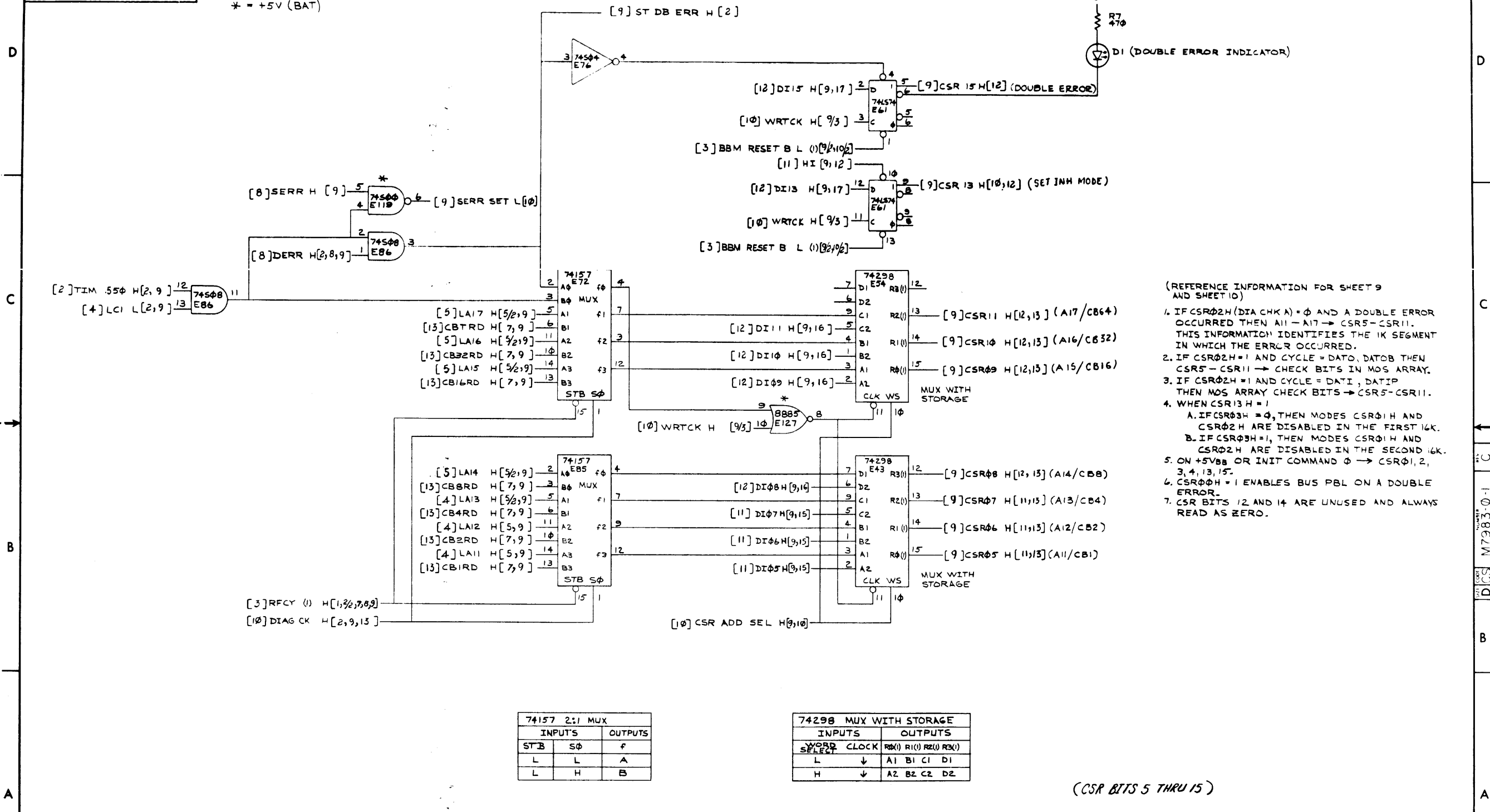
REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO. 8	7	6	5	4	3	2	1		
TITLE: MFIIS-K CONTROLLER							SIZE CODE: DCS	NUMBER: M7983-0-1	REV.: C
SCALE: 1							SHEET: 8	OF 18	DIST.:

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CONTROL AND STATUS REGISTER

\* = +5V (BAT)



- (REFERENCE INFORMATION FOR SHEET 9 AND SHEET 10)
- IF CSR02H (DIA CHK A) = 0 AND A DOUBLE ERROR OCCURRED THEN A11 - A17 → CSR5 - CSR11. THIS INFORMATION IDENTIFIES THE 1K SEGMENT IN WHICH THE ERROR OCCURRED.
  - IF CSR02H = 1 AND CYCLE = DAT0, DAT0B THEN CSR5 - CSR11 → CHECK BITS IN MOS ARRAY.
  - IF CSR02H = 1 AND CYCLE = DAT1, DAT1P THEN MOS ARRAY CHECK BITS → CSR5 - CSR11.
  - WHEN CSR13 H = 1
    - IF CSR03H = 0, THEN MODES CSR01H AND CSR02H ARE DISABLED IN THE FIRST 16K.
    - IF CSR03H = 1, THEN MODES CSR01H AND CSR02H ARE DISABLED IN THE SECOND 16K.
  - ON +5VB8 OR INIT COMMAND Φ → CSR01, 2, 3, 4, 13, 15.
  - CSR00H = 1 ENABLES BUS PBL ON A DOUBLE ERROR.
  - CSR BITS 12 AND 14 ARE UNUSED AND ALWAYS READ AS ZERO.

74157 2:1 MUX		
INPUT'S	OUTPUTS	
STB	SΦ	f
L	L	A
L	H	B

74298 MUX WITH STORAGE			
INPUTS	OUTPUTS		
WORD SELECT	CLOCK	R0(i)	R1(i) R2(i) R3(i)
L	↓	A1	B1 C1 D1
H	↓	A2	B2 C2 D2

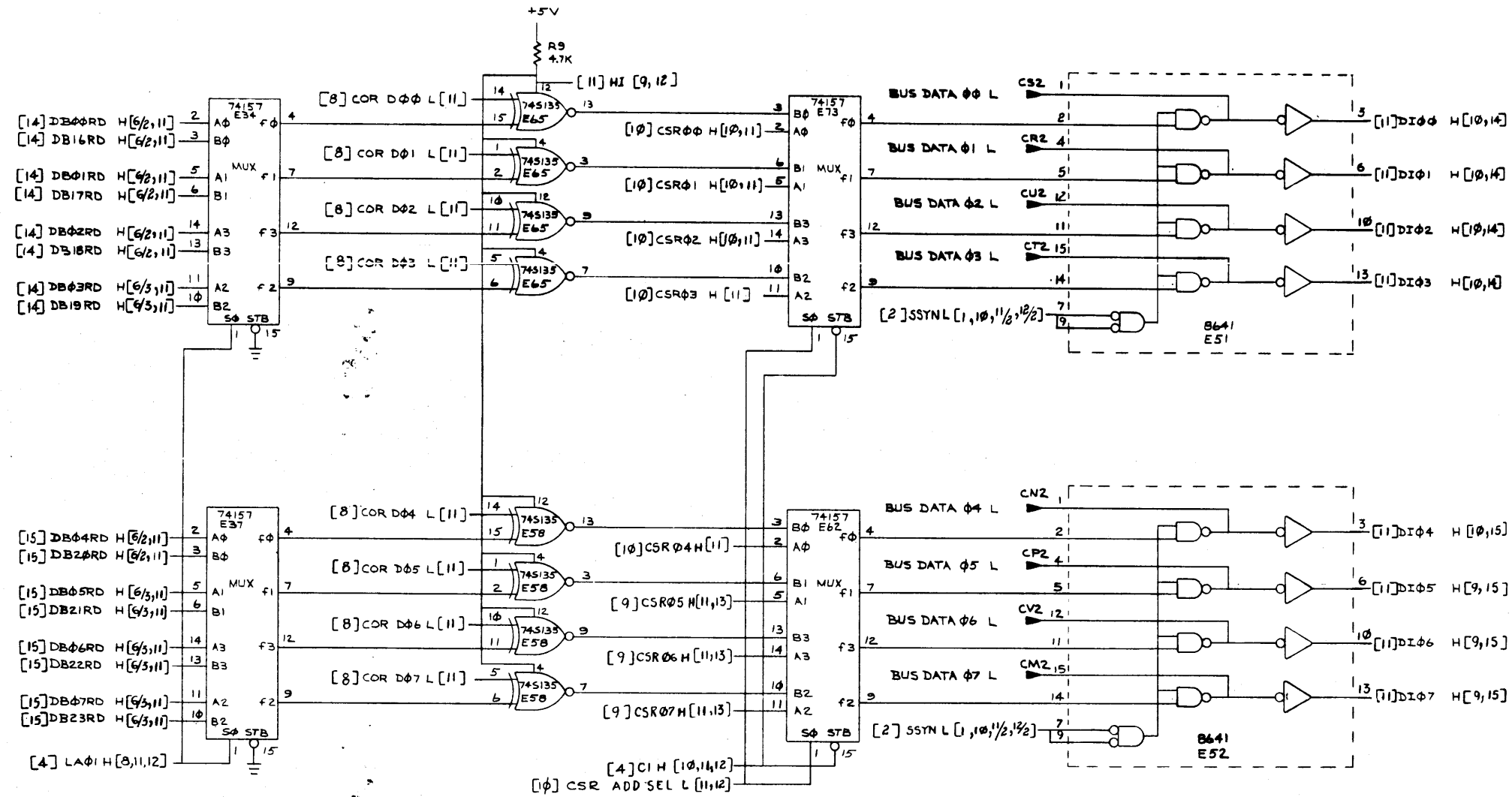
(CSR BITS 5 THRU 15)

REVISIONS		
CHK	CHANGE NO.	REV.





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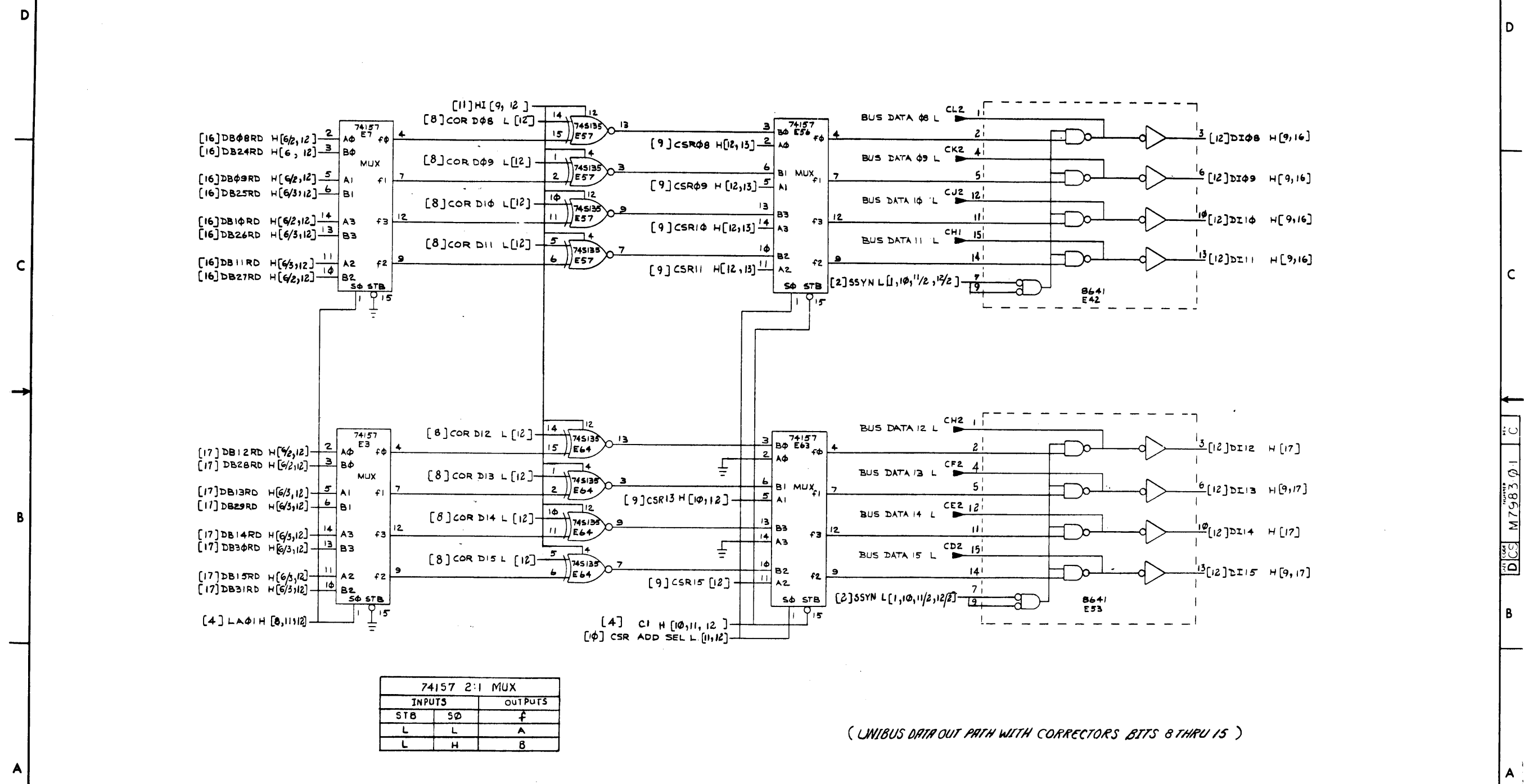
74157 2:1 MUX		
INPUTS		OUTPUTS
STB	Sφ	f
L	L	A
L	H	B

(UNIBUS DATA OUT PATH WITH CORRECTORS BITS 0 THRU 7)

REVISIONS		
CHK	CHANGE NO.	REV.

REV. 1 M7983-01

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74157 2:1 MUX		
INPUTS		OUTPUTS
STB	S0	f
L	L	A
L	H	B

(UNIBUS DATA OUT PATH WITH CORRECTORS BITS 8 THRU 15)

REVISIONS		
CHK	CHANGE NO.	REV.

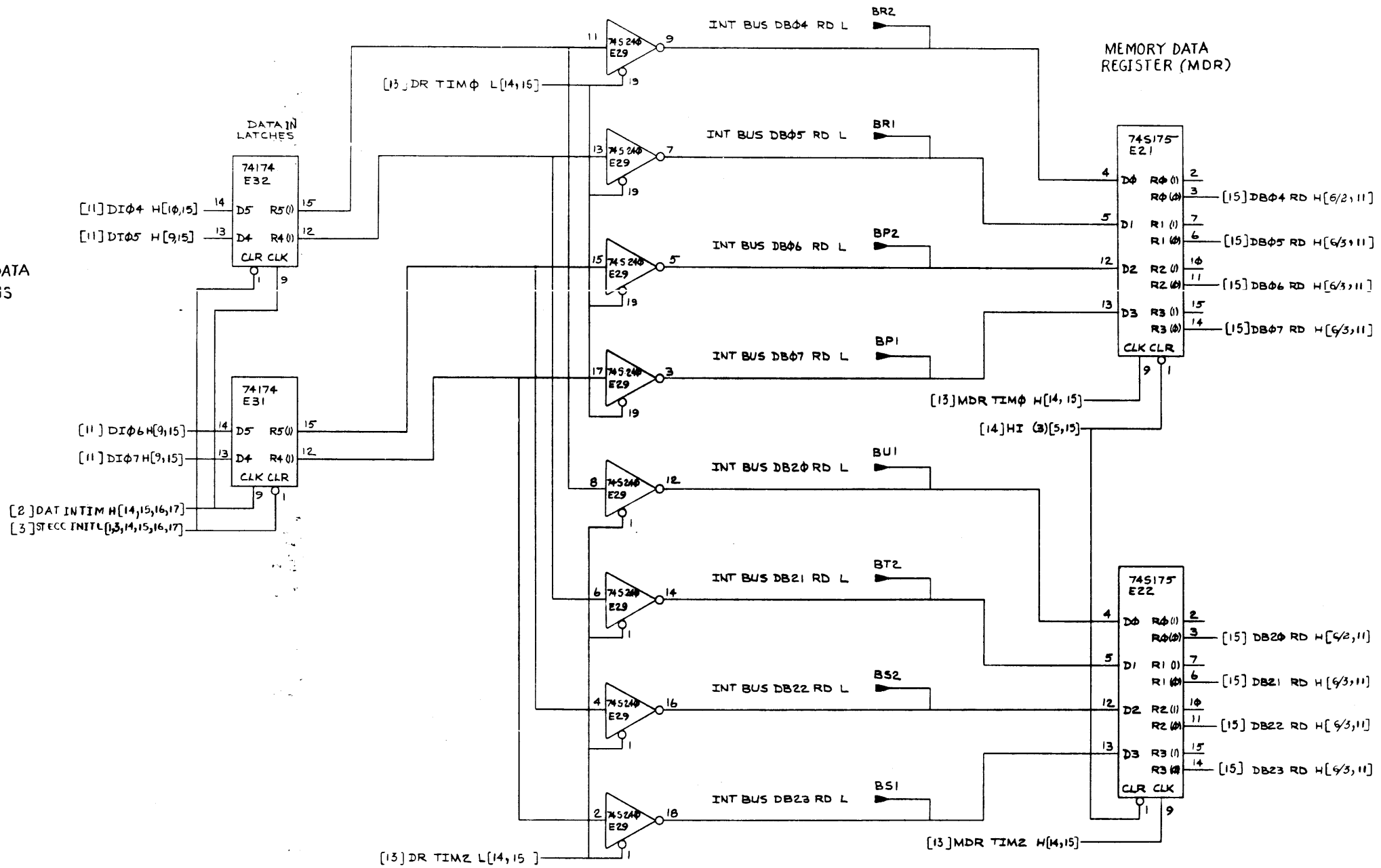




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1-0-8862W SCD 2

BUFFERED DATA FROM UNIBUS



(DATA IN LATCHES BITS 4 THRU 7, MDR BITS 4 THRU 7, 20 THRU 25.)

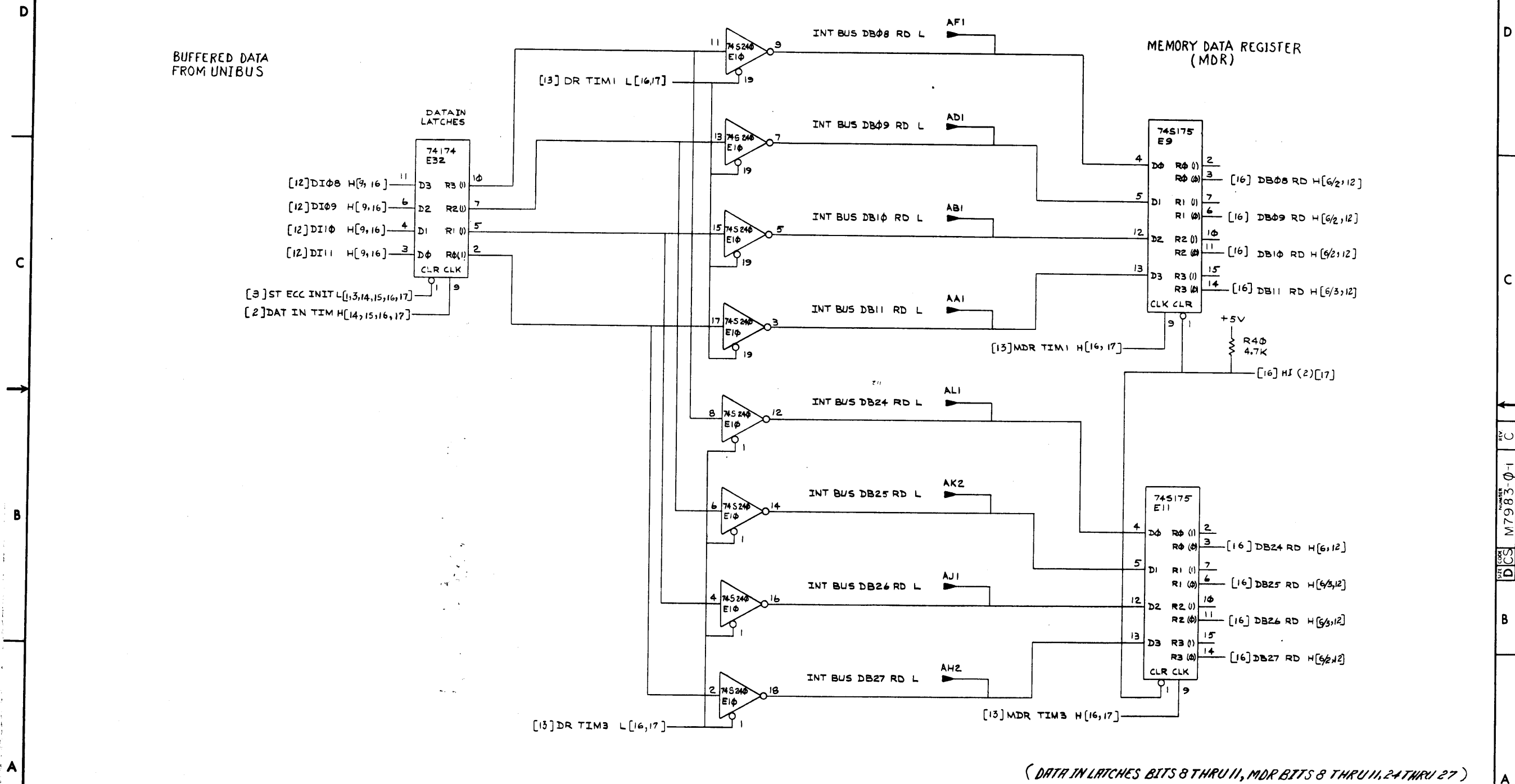
REV. C  
DUS M7983-01

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MF IIS-K CONTROLLER	D CS	M7983-01	C
SCALE	SHEET 15 OF 18	DIST.	

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1-0-8862W DCS M7983-0-1



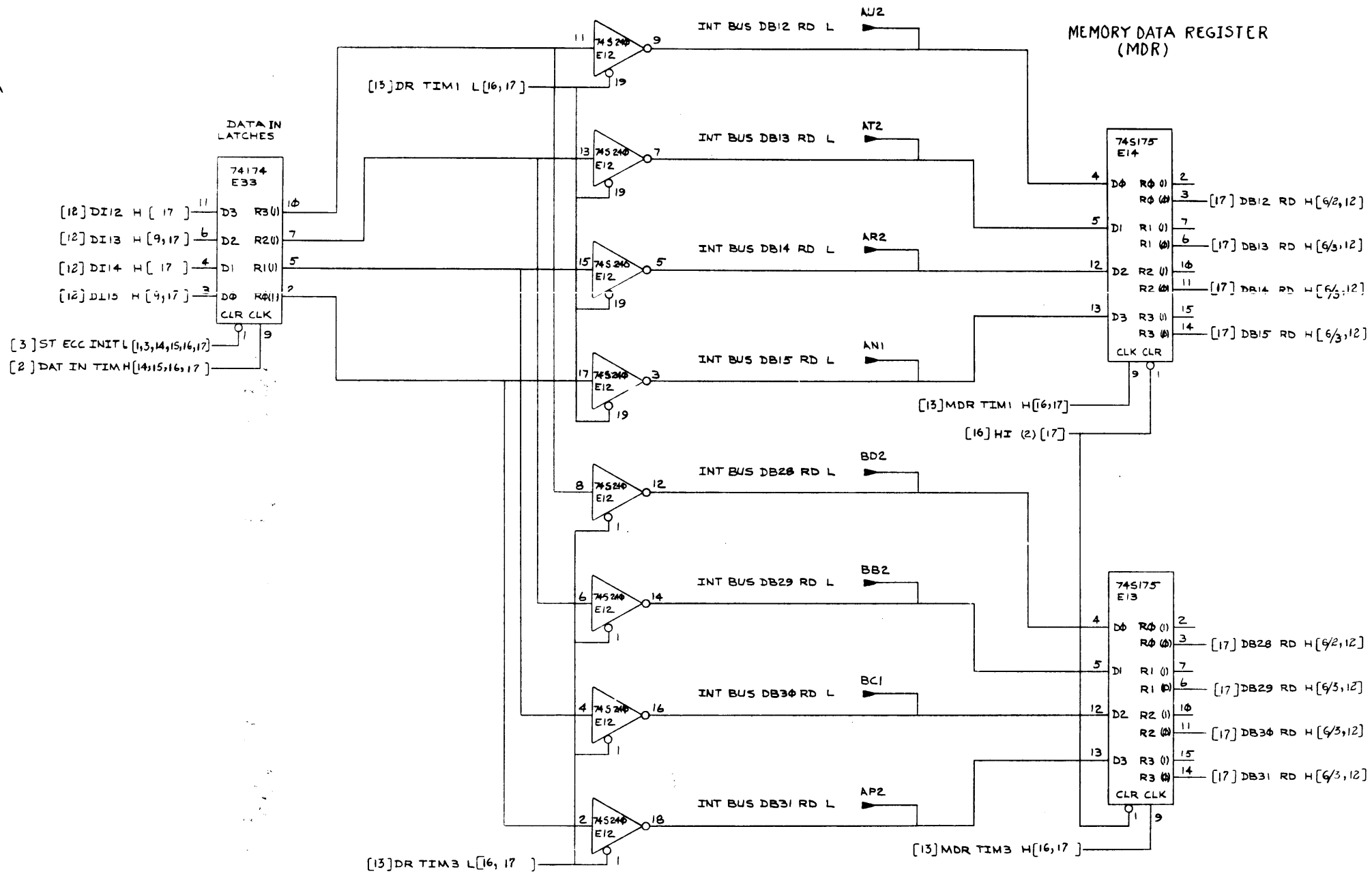
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
MFHS-K CONTROLLER	DCS	M7983-0-1	C
SCALE	SHEET 16 OF 18	DIST.	

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1-0-5862W DCS 2

BUFFERED DATA FROM UNIBUS



( DATA IN LATCHES BITS 12 THRU 15, MDR, BITS 12 THRU 15, 28 THRU 31 )

REV. C  
NUMBER M7983-01  
DCS

REVISIONS		
CHK	CHANGE NO.	REV.

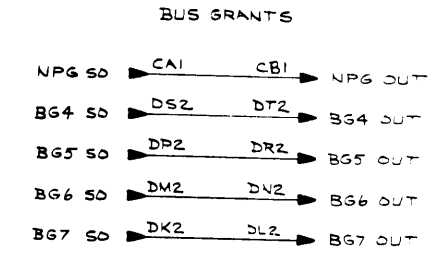
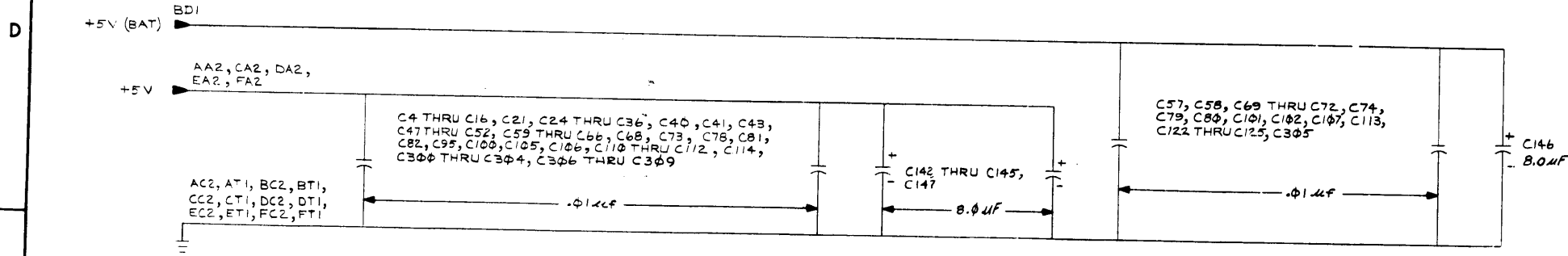
TITLE	SIZE CODE	NUMBER	REV.
MF11S-K CONTROLLER	DCS	M7983-01	C
SCALE	SHEET 17 OF 18	DIST.	



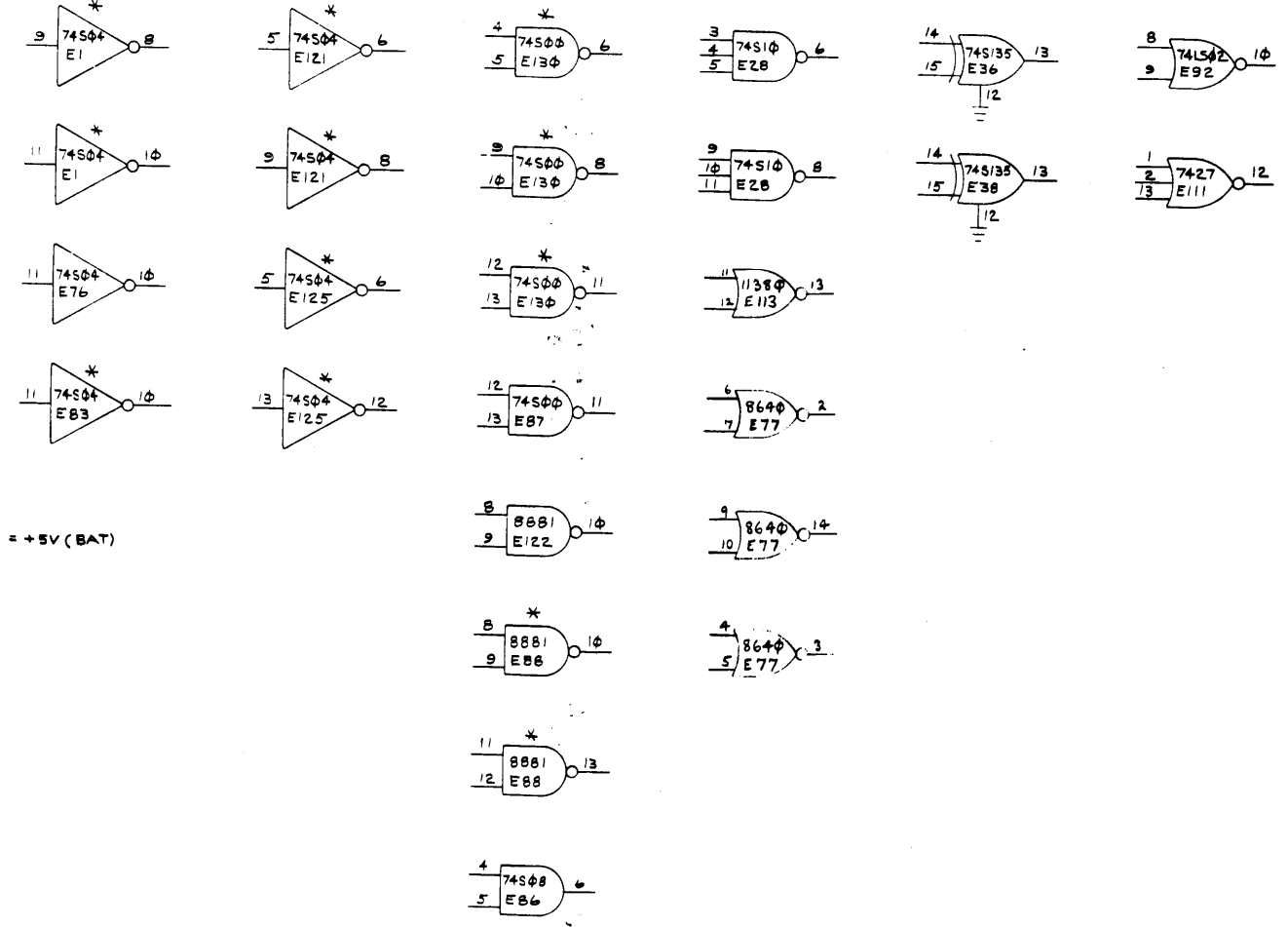
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1-0-8862W S1 2

POWER DISTRIBUTION



SPARES



\* = +5V (BAT)

NOTE:  
GND AND +5V ARE USUALLY PIN 7 AND 14  
RESPECTIVELY EXCEPTIONS ARE STATED BELOW:

IC	GND	+5V
8640	1	8
11380	1	8
74157	8	16
745175	8	16
745240	10	20
74LS240	10	20
7483A	12	5
745135	8	16
74174	8	16
745139	8	16
8641	8	16
74298	8	16
745471	10	20
745138	8	16
74LS175	8	16
745153	8	16
7475	12	5
745133	8	16

(POWER DISTRIBUTION, BUS GRANTS, SPARES)

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	SIZE CODE	NUMBER	REV.
MFIIS-K CONTROLLER	D CS	M7983-0-	C
SCALE	SHEET	OF	DIST.
	18	18	









DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES: * M7984-AA = M7984-AB, AC, AD, ETC. WITH DIFFERENT 4K MOS DEVICES * M7984-BA = M7984-BB, BC, BD, ETC. WITH DIFFERENT 4K MOS DEVICES		
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1		M7984-AA*					M7984-BA*					
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1		M7984-AB	M7984-AC	M7984-AD	M7984-AE	M7984-AF	M7984-BB	M7984-BC	M7984-BD	M7984-BE	M7984-BF	REF DESIGNATION
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													
	D-CS-M7984-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	REF	REF		REF	REF	REF	REF	REF		
	D-UA-M7984-0-0		UNIT ASSEMBLY	REF	REF	REF	REF	REF		REF	REF	REF	REF	REF		
	B-DD-M7984-0		DWG DIRECTORY	REF	REF	REF	REF	REF		REF	REF	REF	REF	REF		
	D-MD-5011997-0-0	5011997	DRILL & ETCH DRAWING	REF	REF	REF	REF	REF		REF	REF	REF	REF	REF		
1		21-13731-01	4K MOS RAM 16 PIN IN MOSTEK (275NS)	156	-	-	-	-		-	-	-	-	-	E5 thru E12, E17 thru E24, E28 thru E35, E39 thru E46, E49 thru E56, E60 thru E67, E81 thru E88, E90 thru E97, E99 thru E110, E111 thru E122, E124 thru E135, E137 thru E184, E70 THRU E77	
				-	-	-	-	-		78	-	-	-	-	E5, E6, E9, E10, E17, E18, E21, E22, E28, E29, E32, E33, E39, E40, E43, E44, E49, E50, E53, E54, E60, E61, E64, E65, E70, E71, E74, E75, E81, E82, E85, E86, E90, E91, E94, E95, E99, E100, E103, E104, E107, E108, E111, E112, E115, E116, E119, E120, E124, E125, E128, E129, E132, E133, E137, E138, E141, E142, E145, E146, E149, E150, E153, E154, E157, E158, E161, E162, E165, E166, E169, E170, E173, E174, E177, E178, E181, E182	
2		21-13735-01	4K MOS RAM 16 PIN IC MOSTEK (200NS)	-	156	-	-	-		-	-	-	-	-	SAME AS M7984-AB	
				-	-	-	-	-		-	78	-	-	-	SAME AS M7984-BB	
3		90-09185-00	JUMPER, INSULATED	5	5	5	5	5		-	-	-	-	-	W1, W2, W3, W4, X1	
				-	-	-	-	-		6	6	6	6	6	W1, W2, W3, W4, W6, X1	
4		50 11997	ETCH BOARD	1	1	1	1	1		1	1	1	1	1		
5		10 12084-01	CAP 8 UF 25V 10% S.TANT	13	13	13	13	13		13	13	13	13	13	C182 thru C186, C188 thru C195	
6		10 01610-01	CAP .01 UF 100V DISC	23	23	23	23	23		23	23	23	23	23	C156, C157, C159 thru C174, C176 thru C179, C181	
7		10 10274-01	CAP .22 UF 50V 80% 20% CER	155	155	155	155	155		155	155	155	155	155	C1 thru C155	
8		11 10994-00	DIODE ZENER 1N751A 5.1V - 5%	1	1	1	1	1		1	1	1	1	1	D1	
E.C.O. NO.	00003				TITLE MS11-K (ARRAY)					ASSY NO. D-UA-M7984-0-0		SIZE B	CODE PL	NUMBER M7984-0-0	REV. E	
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DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES: * M7984-AA = M7984-AB, AC, AD, ETC. WITH DIFFERENT 4K MOS DEVICES * M7984-BA = M7984-BB, BC, BD, ETC. WITH DIFFERENT 4K MOS DEVICES		
				M7984-AA*					M7984-BA*							
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 2		M7984-AB	M7984-AC	M7984-AD	M7984-AE	M7984-AF	M7984-BB	M7984-BC	M7984-BD	M7984-BE	M7984-BF	REF DESIGNATION
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1												
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													
9		12 10711-02	HANDLE HEX													
10		13 01972-00	RES 270 1/4W 5% CC													R94, R102
11		13 02124-00	RES 18 1/4W 5% CC													R1 thru R47, R50 thru R53, R56 thru R59, R65 thru R93
12		13 00365-00	RES 1K 1/4W 5% CC													R63, R95, R201 thru R205
13		13 02177-00	RES 47K 1/4W 5% CC													R48, R49, R54, R55, R60, R61, R62, R64, R103
14		19 10091-00	IC DEC 7437													E1, E47, E48
15		19 10533-00	IC DEC 74S03													E3
16		19 10534-00	IC DEC 74S04													E25
17		19 12746-00	IC DEC 74S37													E13, E14, E26, E27, E37, E57, E58, E68, E69, E89
18		19 12068-00	IC DEC 74128													E15, E36
19		19 11676-00	IC DEC 74S139													E2
20		19 13777-00	IC DEC 74LS240													E4, E16, E38, E59, E78, E79, E80, E98, E123, E136
21		90 06732-00	EYELET													
22		91 05740-55	WIRE, #30 AWG (GRN)													
23		91 07256-11	TUBING, CLEAR													
24		2113910-01	4K MOS RAM 16 PIN IC FUJITSU (250NS)													SAME AS M7984-AB
																SAME AS M7984-BB
25		21 13790-01	4K MOS RAM 16 PIN IC INTEL (250NS)													SAME AS M7984-AB
																SAME AS M7984-BB
26		21 13892-01	4K MOS RAM 16 PIN IC HITACHI (250NS)													SAME AS M7984-AB
																SAME AS M7984-BB
E.C.O. NO.																
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				SHEET 2 OF 9				INSERTION PARTS LIST DATA BASE REV								

DIGITAL EQUIPMENT CORPORATION PARTS LIST					QUANTITY / VARIATION										NOTES: * M7984-AA = M7984-AB, AC, AD, ETC. WITH DIFFERENT 4K MOS DEVICES * M7984-BA = M7984-BB, BC, BD, ETC. WITH DIFFERENT 4K MOS DEVICES
					M7984-AA*					M7984-BA*					
MADE BY DATE	P. BOSSMAN 6 DEC 76	CHECKED DATE	P. BOSSMAN 15 DEC 76	SECTION 3	M7984-AB	M7984-AC	M7984-AD	M7984-AE	M7984-AF	M7984-BB	M7984-BC	M7984-BD	M7984-BE	M7984-BF	REF DESIGNATION
ENG DATE	J. MANTON 12/20/76	PROD DATE	F.S. LIN 1/18/77	ISSUED SECTION 1											
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION												
27		11 14384-00	GREEN DIODE, LED		1	1	1	1	1	1	1	1	1	1	D3
28		11 09991-00	DIODE ZENER, IN754A 6.8V - 5%		1	1	1	1	1	1	1	1	1	1	D2
29		13 00202-00	RES 47 1/4W 5% CC		1	1	1	1	1	1	1	1	1	1	R100

E.C.O. NO.				
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			SHEET 3 OF 9	CODE PL
				NUMBER M7984-0-0
				REV. E
				INSERTION PARTS LIST DATA BASE REV



DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION								NOTES:		
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1				M7984-CA*				M7984-DA*		
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1				M7984-CB	M7984-CC				M7984-DB	M7984-DC
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7984-CB	M7984-CC							M7984-DB	M7984-DC	REF DESIGNATION
	D-CS-M7984- $\emptyset$ -1		CIRCUIT SCHEMATIC	REF	REF							REF	REF	
	D-UA-M7984- $\emptyset$ - $\emptyset$		UNIT ASSEMBLY	REF	REF							REF	REF	
	B-DD-M7984- $\emptyset$		DWG DIRECTORY	REF	REF							REF	REF	
	D-MD-5011997- $\emptyset$ - $\emptyset$	5011997	DRILL & ETCH DRAWING	REF	REF							REF	REF	
1		21-13825-01	16K MOS MEMORY 16 PIN MOSTEK (2 $\emptyset$ NS)	156	-							-	-	E5 thru E12, E17 thru E24, E28 thru E35, E39 thru E46, E49 thru E56, E6 $\emptyset$ thru E67, E7 $\emptyset$ thru E77, E81 thru E88, E9 $\emptyset$ thru E97, E99 thru E11 $\emptyset$ , E111 thru E122, E124 thru E135, E137 thru E184
				-	-							-	-	
				-	-							-	-	
				-	-							-	-	
				-	-							-	-	
2		21-14408-01	16K MOS MEMORY 16 PIN FUJITSU (2 $\emptyset$ NS)	-	156							-	-	E5, E9, E17, E21, E28, E32, E39, E43, E49, E53, E6 $\emptyset$ , E64, E7 $\emptyset$ , E74, E81, E85, E9 $\emptyset$ , E94, E99, E1 $\emptyset$ 3, E1 $\emptyset$ 7, E111, E115, E119, E124, E128, E132, E137, E141, E145, E149, E153, E157, E161, E165, E169, E173, E177, E181
				-	-							-	39	SAME AS M7984-CB SAME AS M7984-DB
3		90 09185-00	JUMPER, INSULATED	8	8							-	-	W1, W2, W3, W4, W7, W8, W9, X1
				-	-							7	7	W1, W2, W3, W4, W7, W9, X1
4		50 11997	ETCH BOARD	1	1							1	1	
5		10 12084-01	CAP 8 UF 25V 10% S.TANT	13	13							13	13	C182 thru C186, C188 thru C195
6		10 01610-01	CAP .01 UF 1 $\emptyset$ V DISC	23	23							23	23	C156, C157, C159 thru C174, C176 thru C179, C181
7		10 10274-01	CAP .22 UF 50V 80% CER	155	155							155	155	C1 thru C155
8		11 10994-00	DIODE ZENER 1N751A 5.1V - 5%	1	1							1	1	D1
9		12 10711-02	HANDLE HEX	1	1							1	1	
10		13 01972-00	RES 270 1/4W 5% CC	2	2							2	2	R94, R1 $\emptyset$ 2
E.C.O. NO.														
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				SHEET 4 OF 9				INSERTION PARTS LIST DATA BASE REV						

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION								NOTES:			
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1				M7984-CA*				M7984-DA*			
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1				M7984-CB	M7984-CC			M7984-DB	M7984-DC		
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION											REF DESIGNATION	
11		13 02124-00	RES 18 1/4W 5% CC	84	84					84	84			R1 thru R47, R5 $\emptyset$ thru R53, R56 thru R59, R65 thru R93	
12		13 00365-00	RES 1K 1/4W 5% CC	7	7					7	7			R63, R95, R2 $\emptyset$ 1 thru R2 $\emptyset$ 5	
13		13 02177-00	RES 47K 1/4W 5% CC	9	9					9	9			R48, R49, R54, R55, R6 $\emptyset$ , R61, R62, R64, R1 $\emptyset$ 3	
14		19 10091-00	IC DEC 7437	3	3					3	3			E1, E47, E48	
15		19 10533-00	IC DEC 74S $\emptyset$ 3	1	1					1	1			E3	
16		19 10534-00	IC DEC 74S $\emptyset$ 4	1	1					1	1			E25	
17		19 12746-00	IC DEC 74S37	10	10					10	10			E13, E14, E26, E27, E37, E57, E58, E68, E69, E89	
18		19 12068-00	IC DEC 74128	2	2					2	2			E15, E36	
19		19 11676-00	IC DEC 74S139	1	1					1	1			E2	
20		19 13777-00	IC DEC 74LS240	10	10					10	10			E4, E16, E38, E59, E78, E79, E8 $\emptyset$ , E98, E123, E136	
21		90 06732-00	EYELET	12	12					12	12				
22		91 05740-55	WIRE, #30 AWG (GRN)	A/R	A/R					A/R	A/R				
23		91 07256-11	TUBING, CLEAR	A/R	A/R					A/R	A/R				
24		11 14384-00	GREEN DIODE, LED	1	1					1	1			D3	
25		11 09991-00	DIODE ZENER IN754A 6.8V - 5%	1	1					1	1			D2	
26		13 00202-00	RES 47 1/4W 5% CC	1	1					1	1			R1 $\emptyset\emptyset$	

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				SHEET	5 OF 9	INSERTION PARTS LIST DATA BASE REV									

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION								NOTES:		
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1				M7984-EA*				* M7984-EA = M7984-EB, EC, ED, EE WITH DIFFERENT 4K MOS DEVICES		
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 2				M7984-EB	M7984-EC	M7984-ED	M7984-EE			
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7984-EB	M7984-EC	M7984-ED	M7984-EE						REF DESIGNATION	
	D-CS-M7984- $\beta$ -1		CIRCUIT SCHEMATIC	REF	REF	REF	REF							
	D-UA-M7984- $\beta$ - $\beta$		UNIT ASSEMBLY	REF	REF	REF	REF							
	B-DD-M7984- $\beta$		DWG DIRECTORY	REF	REF	REF	REF							
	D-MD-5011997- $\beta$ - $\beta$	5011997	DRILL & ETCH DRAWING	REF	REF	REF	REF							
1		21 13914-01	4K MOS RAM 16 PIN IC DEC (2 $\beta$ $\beta$ NS)	156	-	-	-						E5 thru E12, E17 thru E24, E28 thru E35, E39 thru E46, E49 thru E56, E6 $\beta$ thru E67, E7 $\beta$ thru E77, E81 thru E88, E9 $\beta$ thru E97, E99 thru E122, E124 thru E135, E137 thru E184	
2		21 13735-01	4K MOS RAM 16 PIN IC MOSTEK (2 $\beta$ $\beta$ NS)	-	156	-	-						SAME AS M7984-EB	
3		90 09185-00	JUMPER, INSULATED	6	6	6	6						W1, W2, W3, W4, W8, X1	
4		50 11997	ETCH BOARD	1	1	1	1							
5		10 12084-01	CAP, 8 UF 25V 10% S.TANT	13	13	13	13						C182 thru C186, C188 thru C195	
6		10 01610-01	CAP, .01 UF 1 $\beta$ $\beta$ V DISC	23	23	23	23						C156, C157, C159 thru C174, C176 thru C179, C181	
7		10 10274-01	CAP, .22 UF 5 $\beta$ V 80% 20% CER	155	155	155	155						C1 thru C155	
8		11 10994-00	DIODE ZENER 1N751A 5.1V - 5%	1	1	1	1						D1	
9		12 10711-02	HANDLE HEX	1	1	1	1							
10		13 01972-00	RES 270 1/4W 5% CC	2	2	2	2						R94, R1 $\beta$ 2	
11		13 02124-00	RES 18 1/4W 5% CC	84	84	84	84						R1 thru R47, R5 $\beta$ thru R53, R56 thru R59, R65 thru R93	
12		13 00365-00	RES 1K 1/4W 5% CC	7	7	7	7						R63, R95, R2 $\beta$ 1 thru R2 $\beta$ 5	
13		13 02177-00	RES 47K 1/4W 5% CC	9	9	9	9						R48, R49, R54, R55, R6 $\beta$ , R61, R62, R64, R1 $\beta$ 3	
E.C.O. NO.														
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								SHEET 6 OF 9		INSERTION PARTS LIST DATA BASE REV				

DRB 125

DIGITAL EQUIPMENT CORPORATION PARTS LIST					QUANTITY / VARIATION										NOTES:	
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1	M7984-EA*										* M7984-EA = M7984-EB, EC, ED, EE WITH DIFFERENT 4K MOS DEVICES	
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1	M7984-EB	M7984-EC	M7984-ED	M7984-EE								
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION		M7984-EB	M7984-EC	M7984-ED	M7984-EE							REF DESIGNATION	
14		19 10091-00	IC DEC 7437		3	3	3	3							E1, E47, E48	
15		19 10533-00	IC DEC 74S $\beta$ 3		1	1	1	1							E3	
16		19 10534-00	IC DEC 74S $\beta$ 4		1	1	1	1							E25	
17		19 12746-00	IC DEC 74S37		10	10	10	10							E13, E14, E26, E27, E37, E57, E58, E68, E69, E89	
18		19 12068-00	IC DEC 74128		2	2	2	2							E15, E36	
19		19 11676-00	IC DEC 74S139		1	1	1	1							E2	
20		19 13777-00	IC DEC 74LS24 $\beta$		10	10	10	10							E4, E16, E38, E59, E78, E79, E8 $\beta$ , E98, E123, E136	
21		90 06732-00	EYELET		12	12	12	12								
22		91 05740-55	WIRE, #30 AWG (GRN)		A/R	A/R	A/R	A/R								
23		91 07256-11	TUBING, CLEAR		A/R	A/R	A/R	A/R								
24		21 14114-01	4K MOS MEMORY 16 PIN IC MOTOROLA (2 $\beta$ $\beta$ NS)		-	-	156	-							SAME AS M7984-EB	
25		11 14384-00	GREEN DIODE, LED		1	1	1	1							D3	
26		11 09991-00	DIODE ZENER, IN754A 6.8V - 5%		1	1	1	1							D2	
27		13 00202-00	RES 47 1/4W 5% CC		1	1	1	1							R1 $\beta$ $\beta$	
28		21 14475-01	4K MOS RAM 16 PIN IC FIJITSU (2 $\beta$ $\beta$ NS)					156							SAME AS M7984-EB	
E.C.O. NO.																
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				SHEET 7 OF 9				INSERTION PARTS LIST DATA BASE REV								

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:						
MADE BY DATE P. BOSSMAN 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1		M7984-FA*										* M7984-FA = M7984-FB, FC WITH DIFFERENT 16K MOS DEVICES				
ENG DATE J. MANTON 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1		M7984-FB	M7984-FC													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M7984-FB	M7984-FC															
	D-CS-M7984-Ø-1		CIRCUIT SCHEMATIC	REF	REF															
	D-UA-M7984-Ø-Ø		UNIT ASSEMBLY	REF	REF															
	B-DD-M7984-Ø		DWG DIRECTORY	REF	REF															
	D-MD-5011997-Ø-Ø	5011997	DRILL & ETCH DRAWING	REF	REF															
1		21 13825-01	16K MOS MEMORY 16 PIN MOSTEK (2ØØNS)	78	-															E5, E6, E9, E1Ø, E17, E18, E21, E22, E28, E29, E32, E33, E39, E4Ø, E43, E44, E49, E5Ø, E53, E54, E6Ø, E61, E64, E65, E7Ø, E71, E74, E75, E81, E82, E85, E86, E9Ø, E91, E94, E95, E99, E1ØØ, E1Ø3, E1Ø4, E1Ø7, E1Ø8, E111, E112, E115, E116, E119, E12Ø, E124, E125, E128, E129, E132, E133, E137, E138, E141, E142, E145, E146, E149, E15Ø, E153, E154, E157, E158, E151, E162, E165, E166, E169, E17Ø, E173, E174, E177, E178, E181, E182
2		21 14408-01	16K MOS MEMORY 16 PIN FUJITSU (2ØØNS)	-	78															SAME AS M7984-FB
3		90 09185-00	JUMPER, INSULATED	8	8															W1, W2, W3, W4, W7, W9, W1Ø, X1
4		50 11997	ETCH BOARD	1	1															
5		10 12084-01	CAP 8 UF 25V 10% S.TANT	13	13															C182 thru C186, C188 thru C195
6		10 01610-01	CAP .01 UF 1ØØV DISC	23	23															C156, C157, C159 thru C174, C176 thru C179, C181
7		10 10274-01	CAP .22 UF 50V 80% 20% CER	155	155															C1 thru C155
8		11 10994-00	DIODE ZENER 1N751A 5.1V - 5%	1	1															D1
9		12 10711-02	HANDLE HEX	1	1															
10		13 01972-00	RES 270 1/4W 5% CC	2	2															R94, R1Ø2
11		13 02124-00	RES 18 1/4W 5% CC	84	84															R1 thru R47, R5Ø thru R53, R56 thru R59, R65 thru R93
E.C.O. NO.																				
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DRB 125							SHEET 8 OF 9				INSERTION PARTS LIST DATA BASE REV									

DIGITAL EQUIPMENT CORPORATION PARTS LIST					QUANTITY / VARIATION										NOTES:					
MADE BY P. BOSSMAN DATE 6 DEC 76		CHECKED P. BOSSMAN DATE 15 DEC 76		SECTION 1	M7984-FA*										* M7984-FA = M7984-FB, FC WITH DIFFERENT 16K MOS DEVICES					
ENG J. MANTON DATE 12/20/76		PROD F.S. LIN DATE 1/18/77		ISSUED SECTION 1	M7984-FB	M7984-FC														
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION		M7984-FB	M7984-FC													REF DESIGNATION	
12		13 00365	RES 1K 1/4W 5% CC		7	7													R63, R95, R2Ø1 thru R2Ø5	
13		13 02177-00	RES 47K 1/4W 5% CC		9	9													R48, R49, R54, R55, R6Ø, R61, R62, R64, R1Ø3	
14		19 10091-00	IC DEC 7437		3	3													E1, E47, E48	
15		19 10533-00	IC DEC 74SØ3		1	1													E3	
16		19 10534-00	IC DEC 74SØ4		1	1													E25	
17		19 12746-00	IC DEC 74S37		10	10													E13, E14, E26, E27, E37, E57, E58, E68, E69, E89	
18		19 12068-00	IC DEC 74128		2	2													E15, E36	
19		19 11676-00	IC DEC 74S139		1	1													E2	
20		19 13777-00	IC DEC 74LS240		10	10													E4, E16, E38, E59, E78, E79, E8Ø, E98, E123, E136	
21		90 06732-00	EYELET		12	12														
22		91 05740-55	WIRE, #30 AWG (GRN)		A/R	A/R														
23		91 07256-11	TUBING, CLEAR		A/R	A/R														
24		11 14384-00	GREEN DIODE, LED		1	1													D3	
25		11 09991-00	DIODE ZENER, 1N754A 6.8V - 5%		1	1													D2	
26		13 00202-00	RES 47 1/4W 5% CC		1	1													R1ØØ	
E.C.O. NO.		TITLE MS11-K (ARRAY)			ASSY NO. D-UA-M7984-Ø-Ø			SIZE B	CODE PL	NUMBER M7984-Ø-Ø			REV. E							
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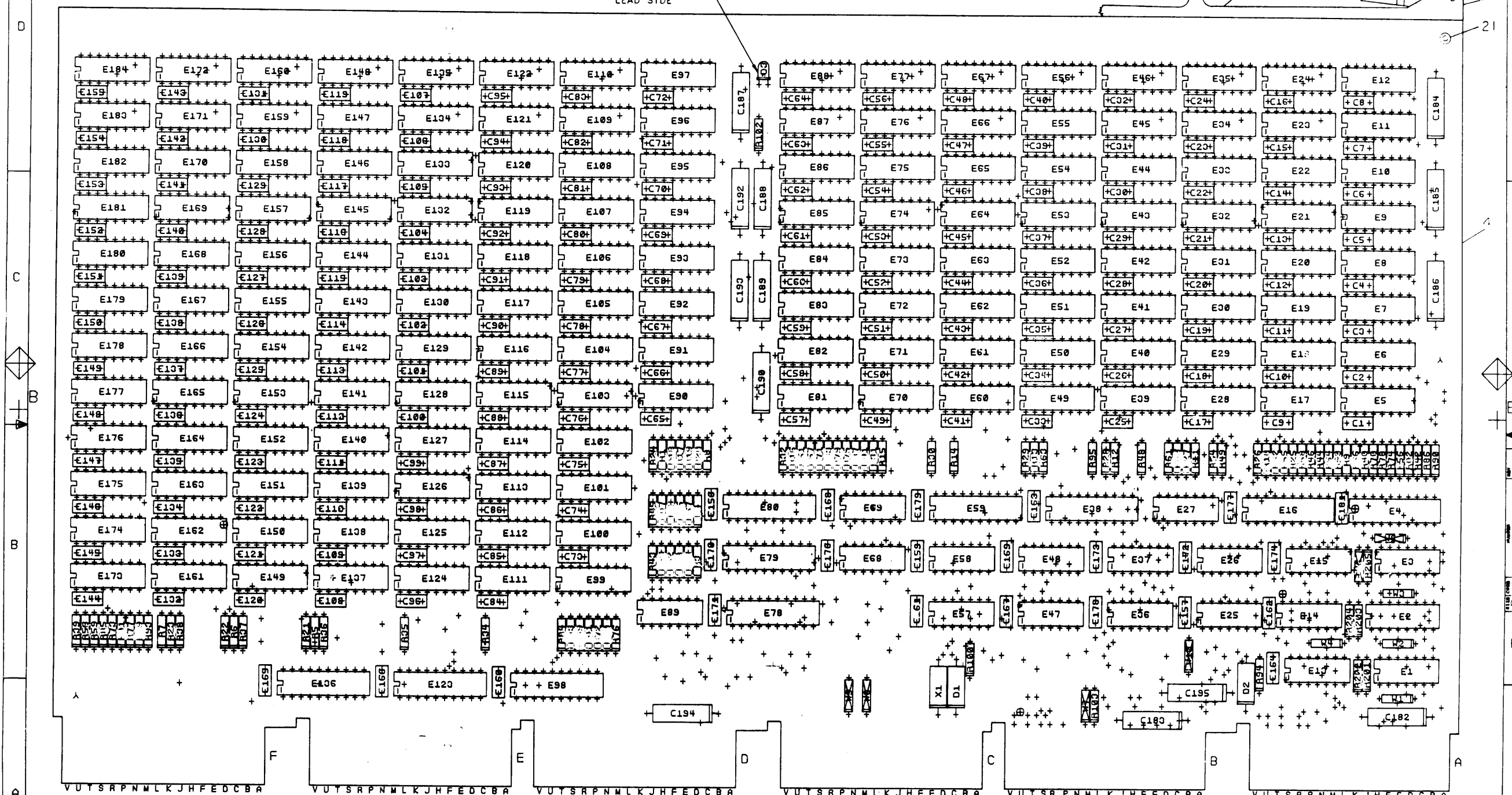
8 7 6 5 4 3 2 1

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MODULE VARIATION M7984-AA

CATHODE VIEW OF LED LEAD SIDE

COMPONENT SIDE VIEW



NOTES:

1. FOR PARTS LIST SEE K-PL-M7984-0-0

CHK	CHANGE	NO	REV

ETCH REV.	D-P1
P.C. DESIGN DATA BASE REV.	D-P1

SIGNATURES		DATE
DRN. E. DeVera		11/10/78
CHK'D. John...		11/10/78
ENG. ...		11/10/78
PROJ. ENG. ...		11/10/78
PROD.		
SCALE 2:1		
SHT. 1 OF 13		
NEXT HIGHER ASSY. B. DD-M7984-0		

digital
TITLE MS11-K (ARRAY)
SIZE CODE NUMBER 0 JJA M7984 0-0 E

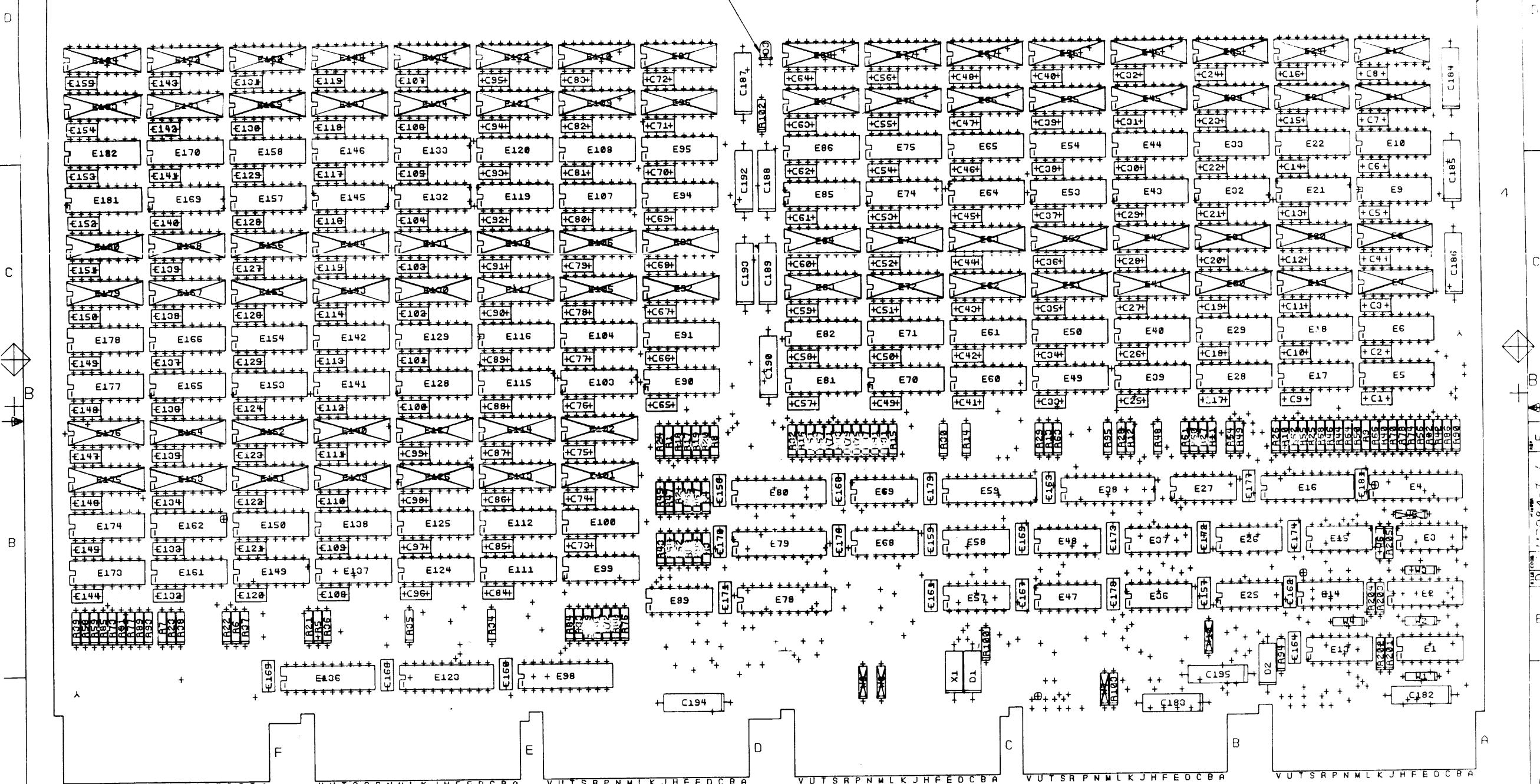
8 7 6 5 4 3 2 1 MS# 260728

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MODULE VARIATION M7984-BA

COMPONENT SIDE VIEW

CATHODE VIEW OF LED LEAD SIDE



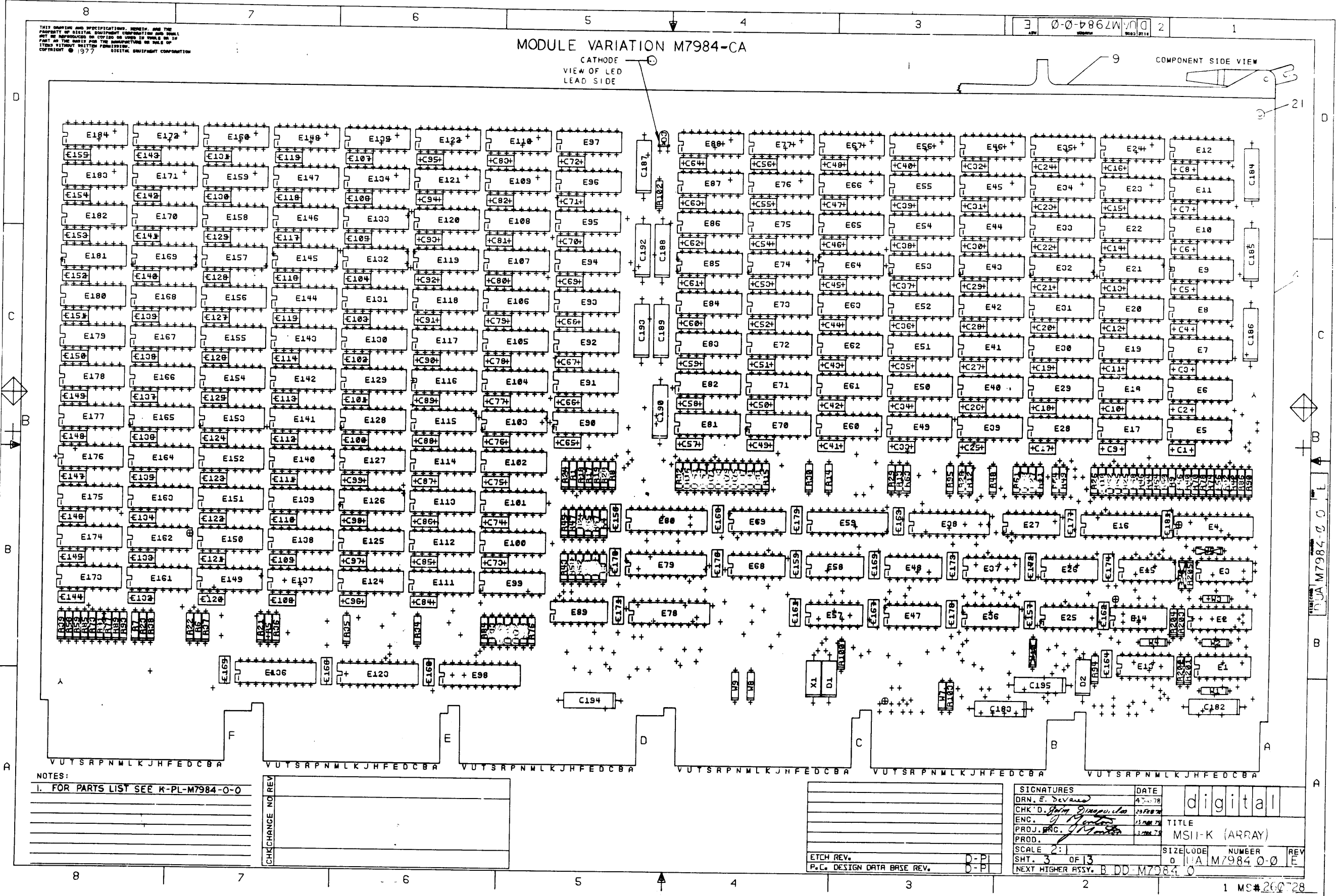
NOTES:  
1. FOR PARTS LIST SEE K-PL-M7984-0-0

CHG	NO	REV

ETCH REV.	D-PI
P.C. DESIGN DATA BASE REV.	D-PI

SIGNATURES		DATE	digital
DRN. E. DeVore		4/24/78	
CHK'D. <i>[Signature]</i>		5/2/78	TITLE
ENC. <i>[Signature]</i>		11/11/78	
PROJ. ENG. <i>[Signature]</i>		11/22/78	MS11-K (ARRAY)
PROD.			
SCALE 2:1	SIZE CODE	NUMBER	REV
SHT. 2 OF 13	D	UA	M7984-0-0
NEXT HIGHER ASSY. B-DD-M7984-0			





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MODULE VARIATION M7984-CA

2 DUM M7984-0-0

NOTES:

1. FOR PARTS LIST SEE K-PL-M7984-0-0

CHANGE NO	REV

SIGNATURES		DATE	digital
DRN. E. Devano		4-7-78	
CHK'D. John Simpson		2/28/78	TITLE
ENGR. J. Mendenhall		11-28-77	
PROJ. M.C. J. Mendenhall		1-28-78	SIZE CODE NUMBER
PROD.		1-28-78	
SCALE 2:1		SHT. 3 OF 13	REV
P.C. DESIGN DATA BASE REV.		D-P	E
NEXT HIGHER ASSY. B DD-M7984-0			

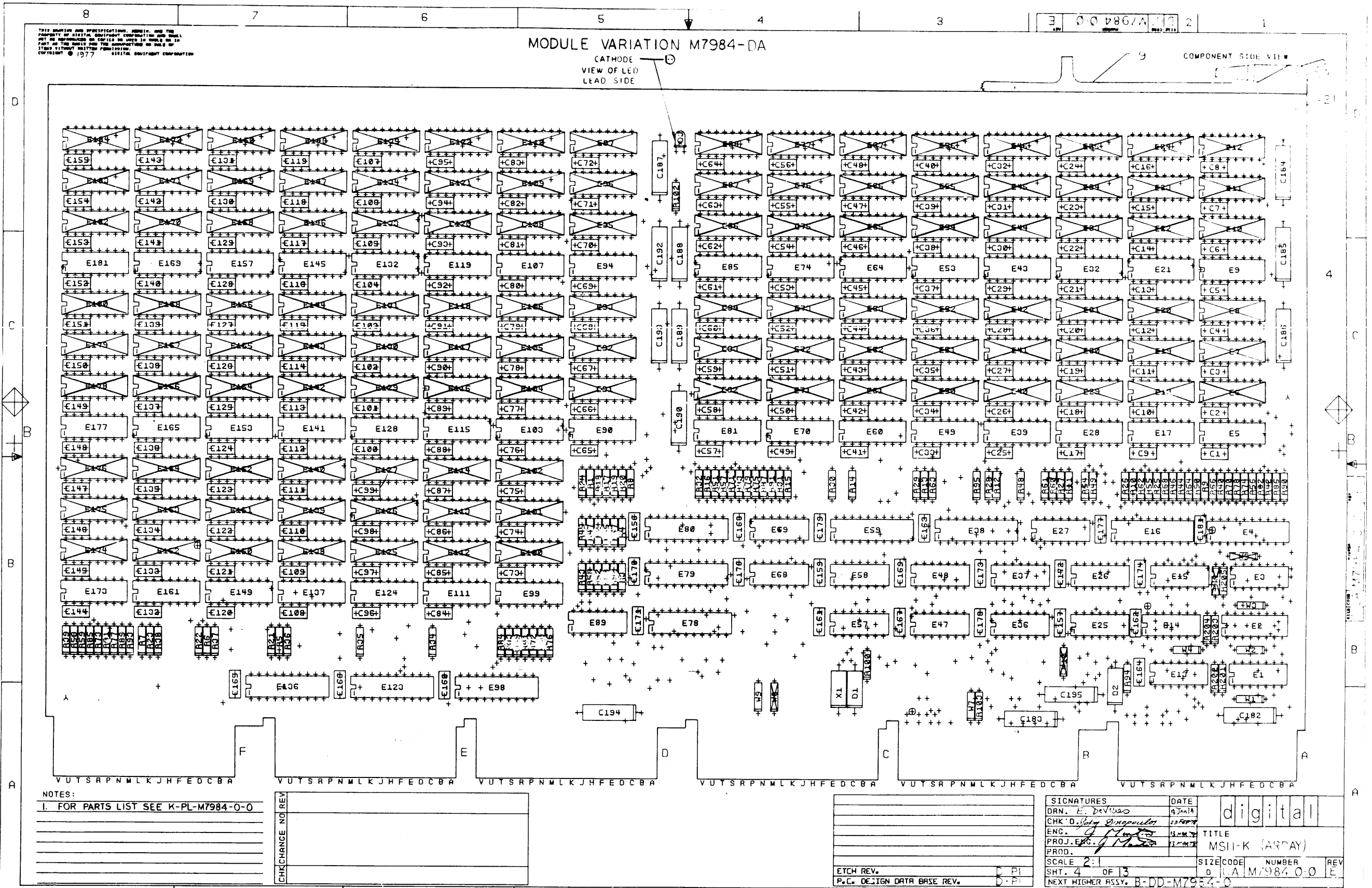
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### MODULE VARIATION M7984-DA

CATHODE  
VIEW OF LED  
LEAD SIDE

E 17984 0 0

COMPONENT SIDE VII



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### MODULE VARIATION M7984-EA

CATHODE VIEW OF LED LEAD SIDE

COMPONENT SIDE VIEW



NOTES:  
1. FOR PARTS LIST SEE K-PL-M7984-O-O

CHANGE NO	REV

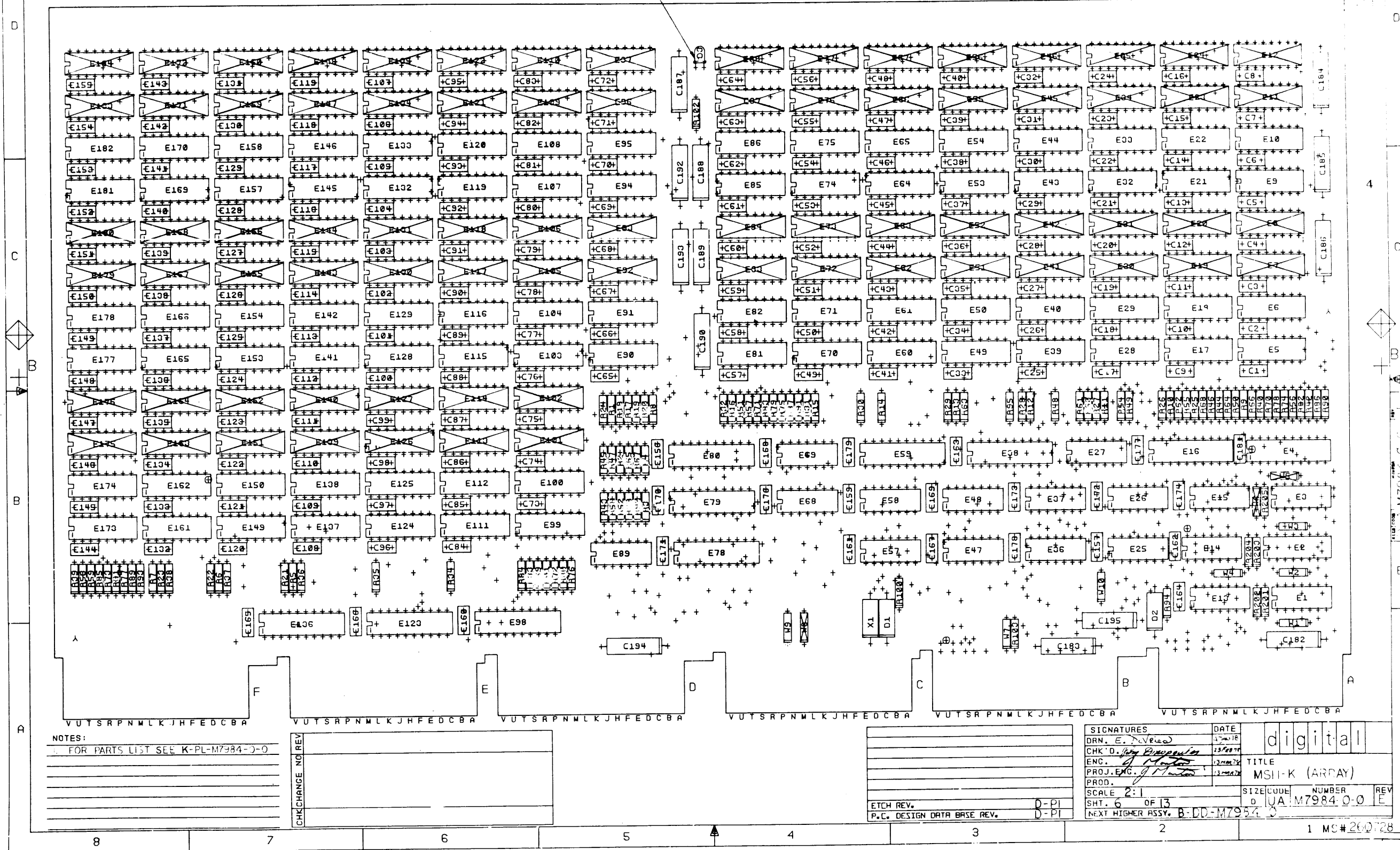
SIGNATURES		DATE	TITLE
DRN. <i>F. X. Vello</i>		11/20/78	
CHK'D. <i>[Signature]</i>		11/20/78	
ENC. <i>[Signature]</i>		11/20/78	
PROJ. ENG. <i>[Signature]</i>		11/20/78	
PROD.			
SCALE 2:1			
SHT. 5 OF 13			
NEXT HIGHER ASSY. B-DD-M7984-0			

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# MODULE VARIATION M7984-FA

COMPONENT SIDE VIEW

CATHODE  
VIEW OF LED  
LEAD SIDE



NOTES:  
FOR PARTS LIST SEE K-PL-M7984-0-0

CHG	CHANGE NO	REV

ETCH REV.	D-PI
P.C. DESIGN DATA BASE REV.	D-PI

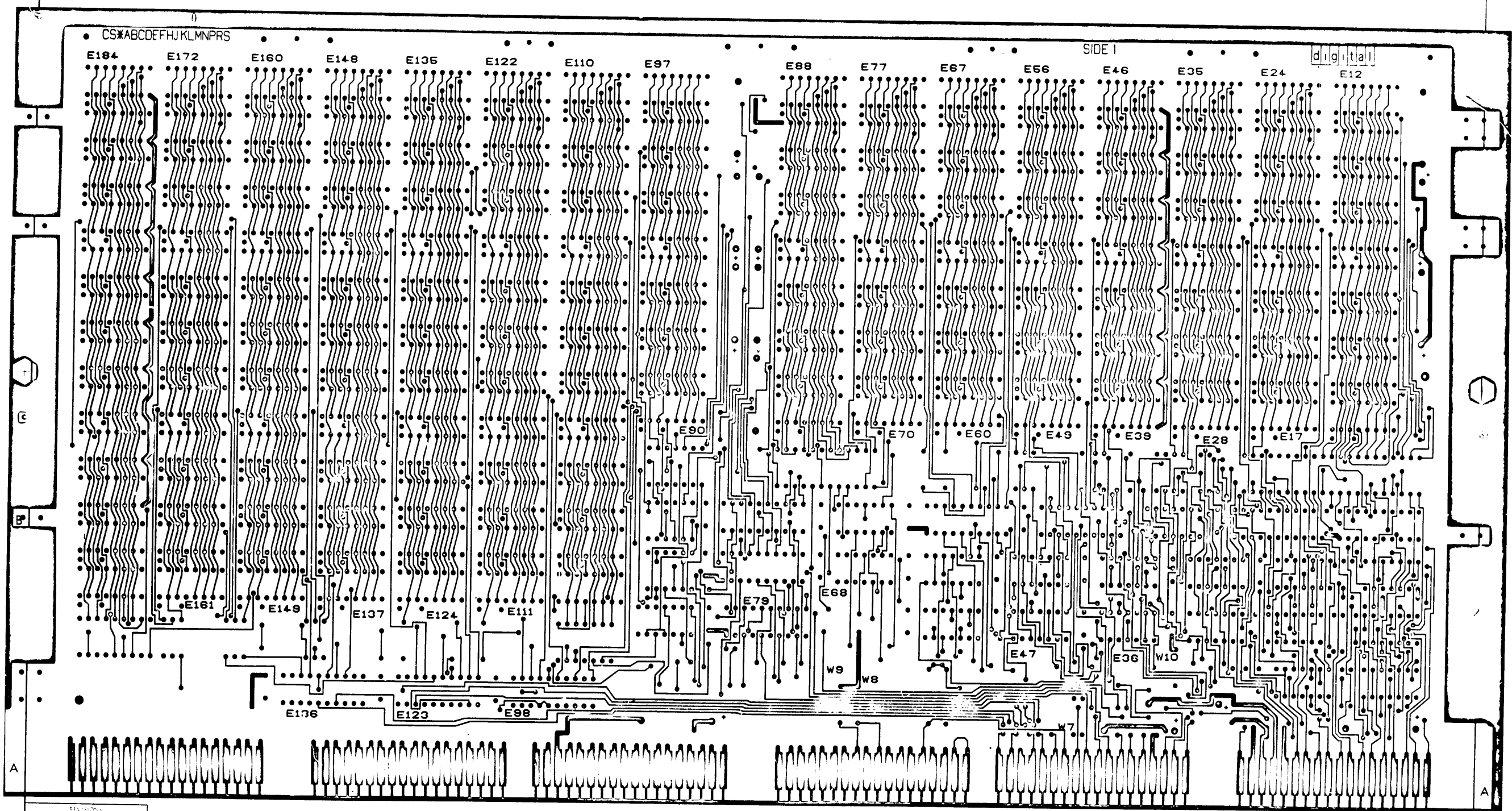
SIGNATURES	DATE	TITLE	SIZE	CODE	NUMBER	REV
DRN. E. [Signature]	12/20/76	MSII-K (AIRPAY)	D	UA	M7984-0-0	E
CHK'D. [Signature]	12/20/76					
ENC. [Signature]	12/20/76					
PROJ. ENG. [Signature]	12/20/76					
PROD.						
SCALE 2:1						
SHT. 6 OF 13						
NEXT HIGHER ASSY. B-DD-M7954						

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED

M7984 5011997 D-P1

LAYER 1

L1



REV.	DATE	BY	CHKD.

TITLE	MSI IK (ARRAY)	DESIGNER	DJA	PROJECT	M7984-0-0	DATE	E
SCALE	2/1	SHEET	7 OF 13				

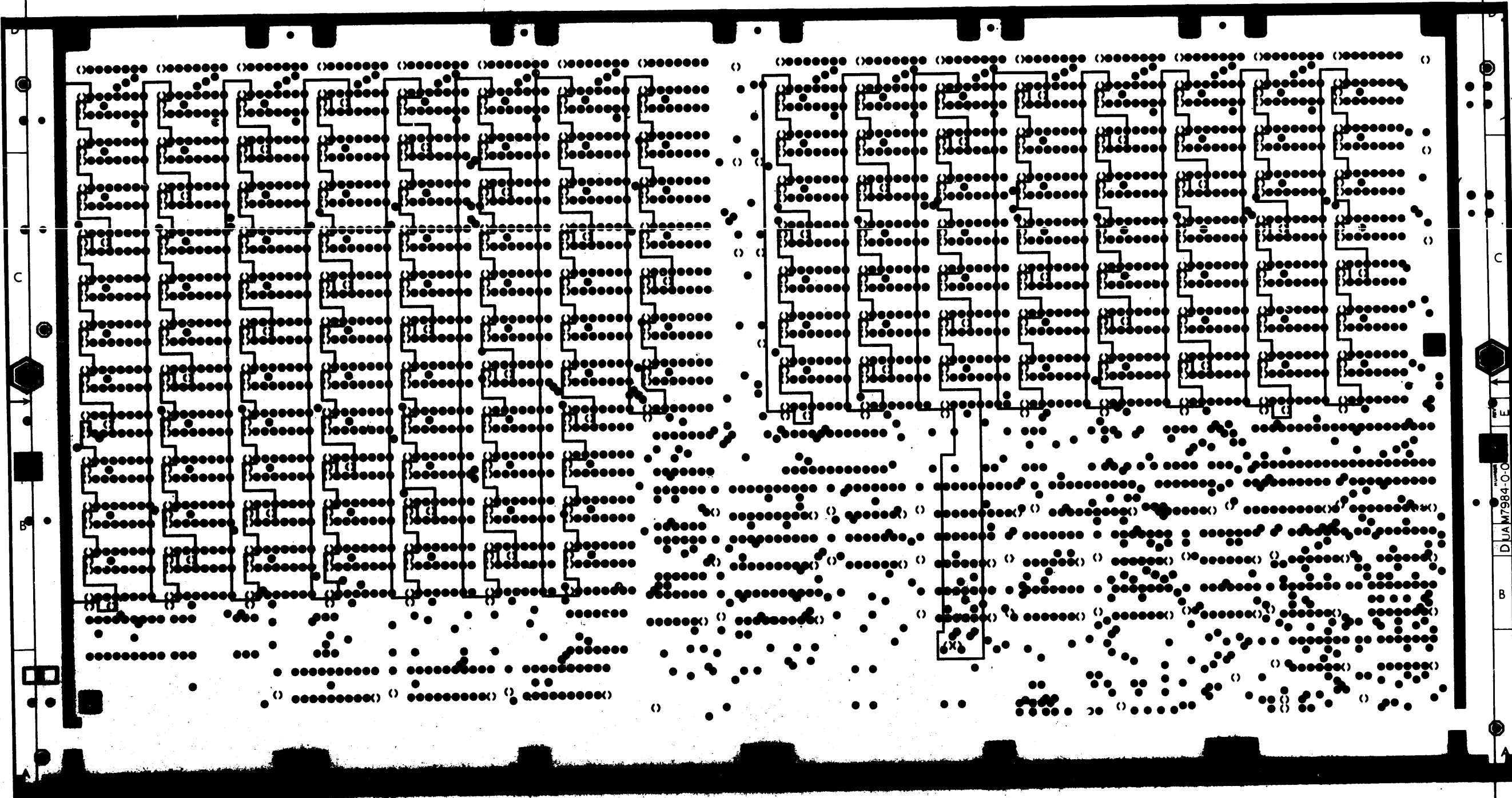
R 7 6 5 4 3 2 1



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M7984 5011997 D-P1

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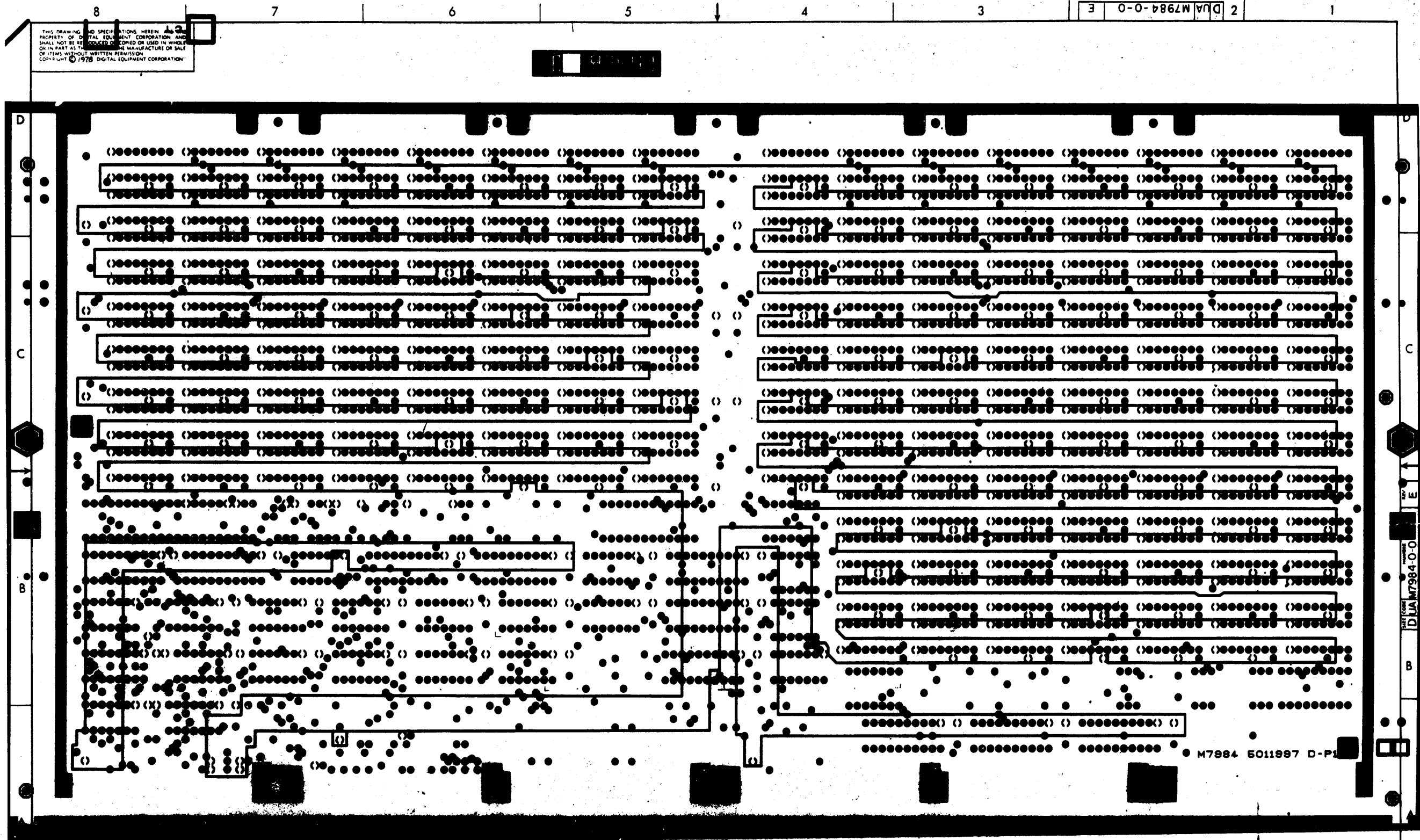


REVISIONS		
CHK	CHANGE NO	REV

TITLE	MS1K (ARRAY)	SIZE CODE	D UA	NUMBER	M7984-0-0	REV.	E
SCALE	2/1	SHEET	8	OF 13	DIST		

66

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2 DUA M7984-0-0 E

REVISIONS		
CHK	CHANGE NO	REV

TITLE: MSI IK (ARRAY)    SIZE/CD: D UA    NUMBER: M7984-0-0    REV: E  
 SCALE: 2/1    SHEET: 9 OF 13    DIST:   

8 7 6 5 4 3 2 1 67

8

7

6

5

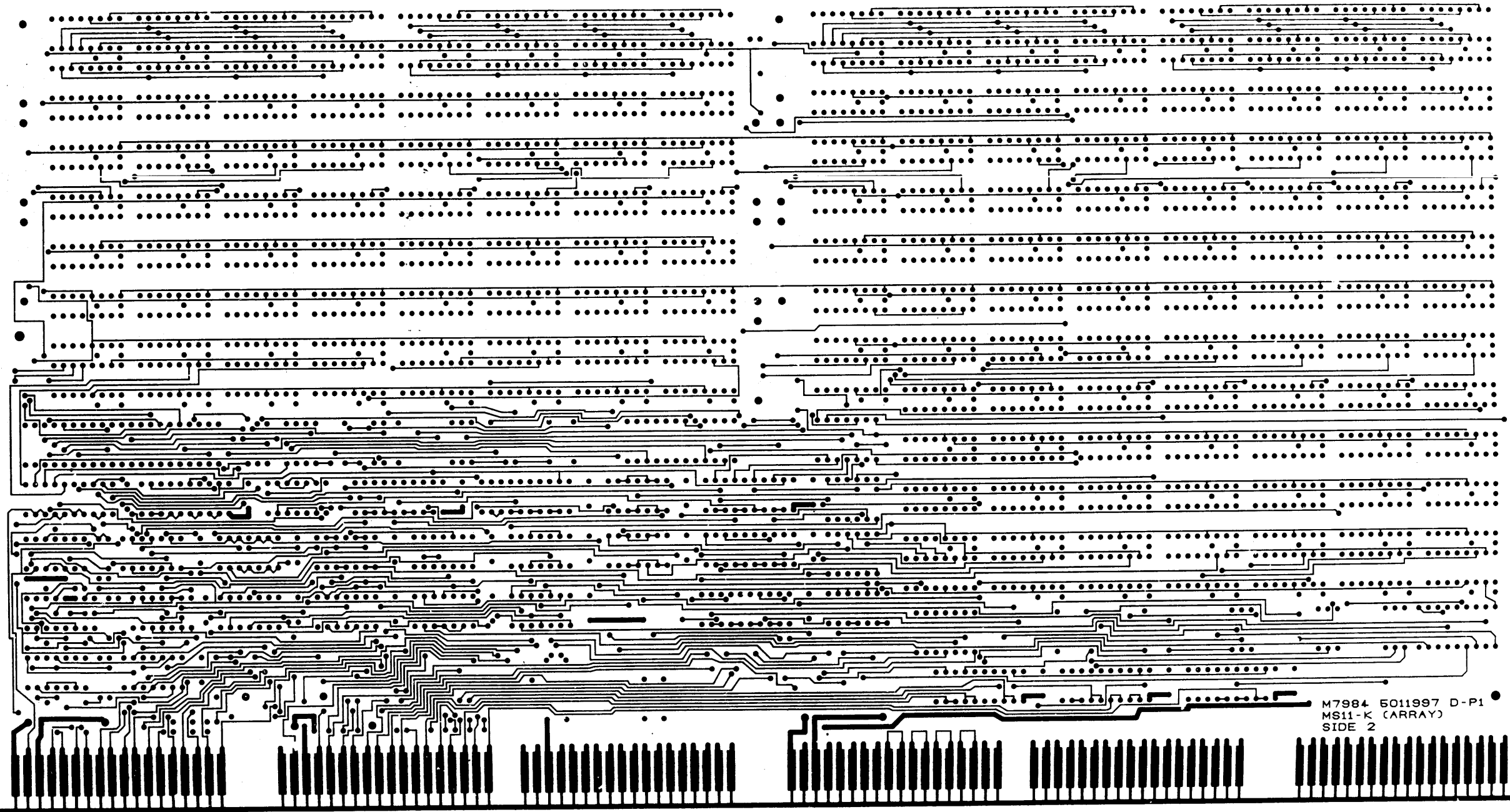
4

3

2 DUA M7984 0-0-0 E

1

LAYER 4



M7984 6011997 D-P1  
 MS11-K (ARRAY)  
 SIDE 2

A

A

REV	DATE	BY	CHK

TITLE	MS11K (ARRAY)	DESIGN	DUA	NUMBER	M7984-0-0	REV	E
SCALE	2/1	SHEET	10	OF	13	DIST	

68

4

4

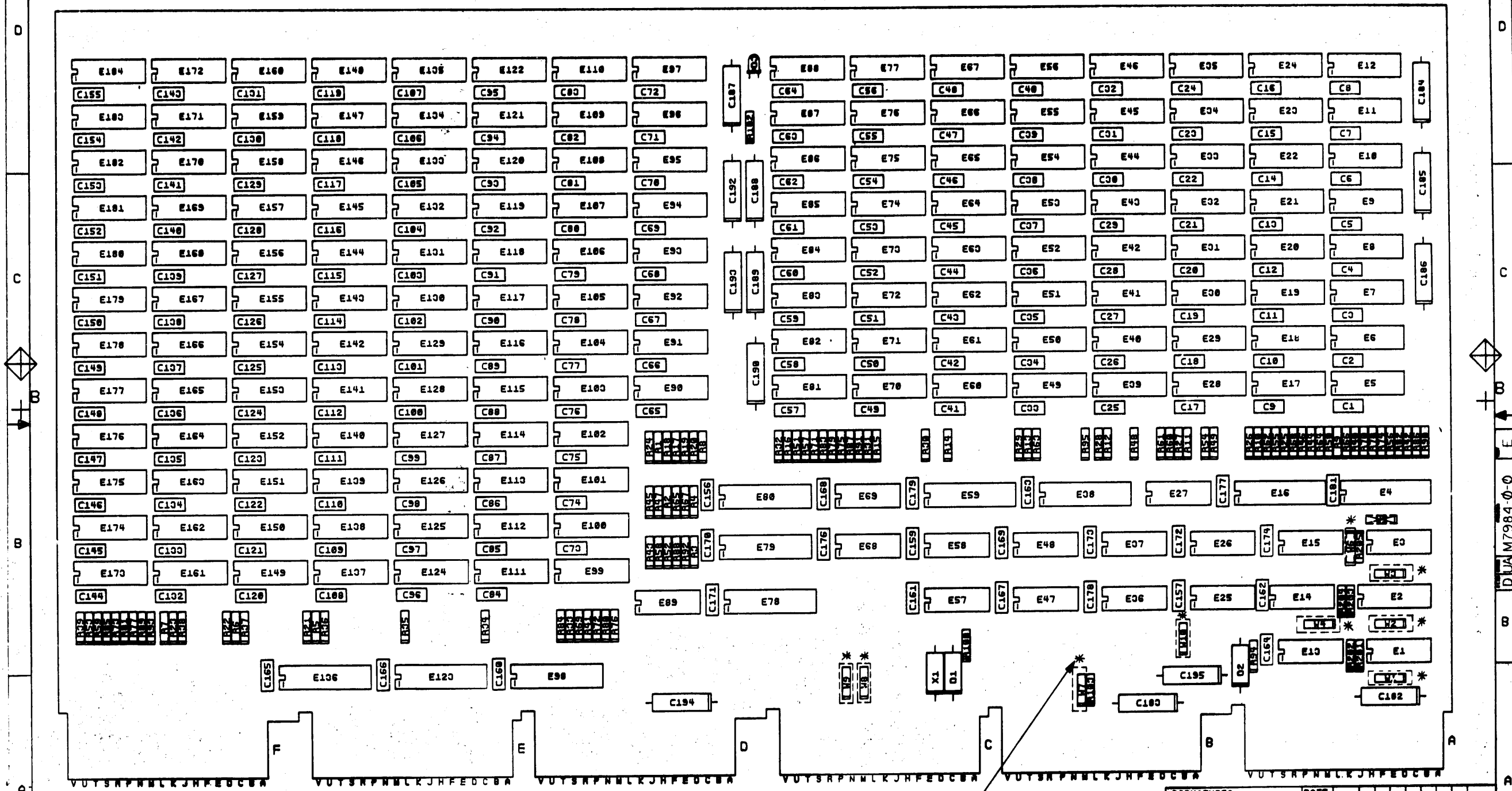
3

2

1



MODULE VARIATION M7984-AA, M7984-CA AND M7984-EA



NOTES:  
 1. FOR PARTS LIST SEE K-PI-M7984-0-0  
 2. INSERT W JUMPERS ACCORDING TO  
 MODULE VARIATION SEE D-UA-M7984-0-0  
 PAGE 1 OF 13 FOR M7984-AA  
 PAGE 3 OF 13 FOR M7984-CA  
 PAGE 5 OF 13 FOR M7984-EA

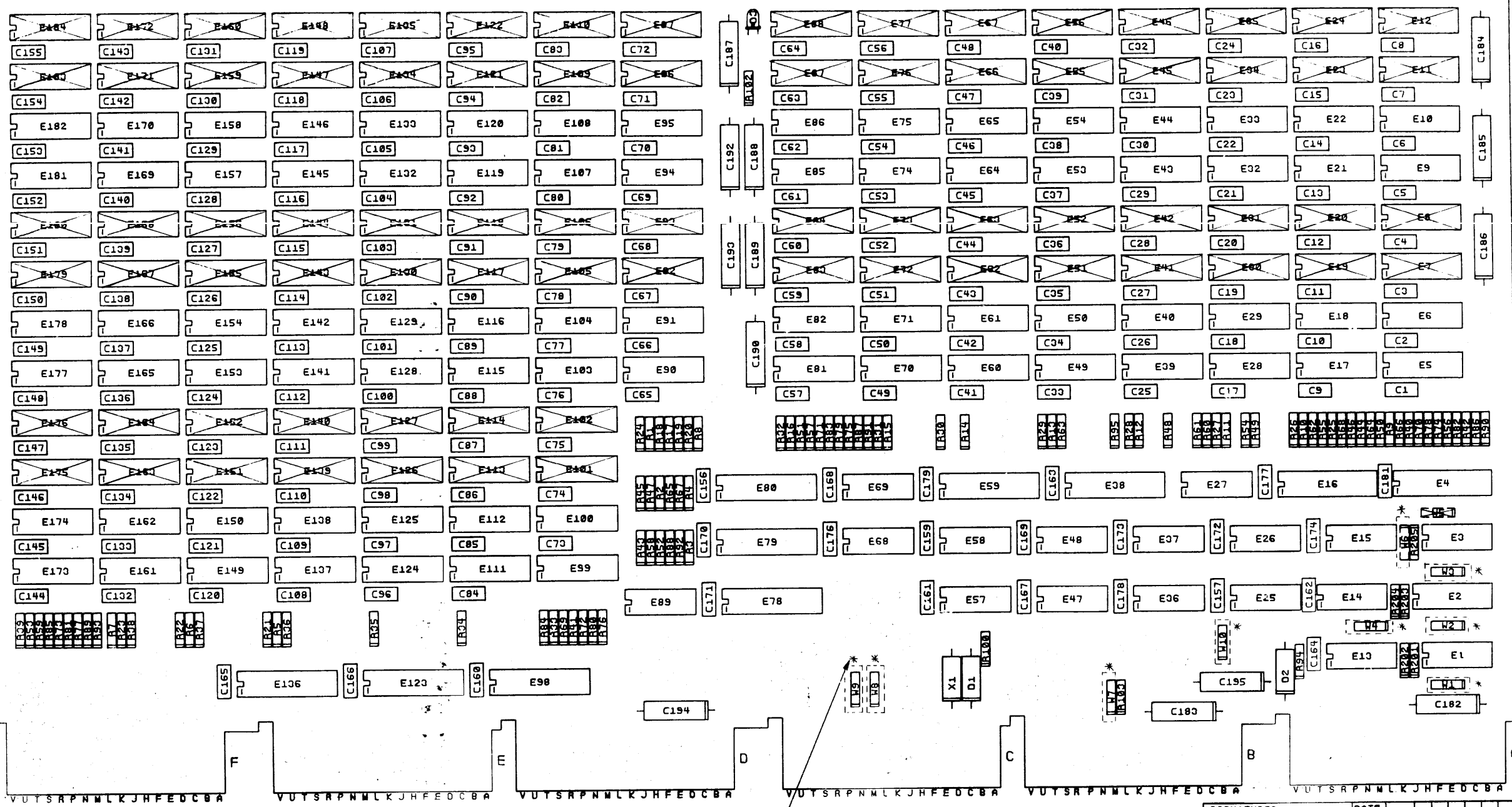
CHG	NO	REV

SEE NOTE 2  
 REFERENCE DRAWING

SIGNATURES	DATE	TITLE
DRN. F. DeVerno	12-10	digital
CHK. O. ...	12-10	
ENG. ...	12-10	MSII-K (ARRAY)
PROJ. ENG. ...	12-10	
SCALE 2:1	9726000	NUMBER
SHT. 1 OF 13	0	UA M7984-0-0 E
NEXT MEMBER ASSY. B-DD-M7984-0		

MODULE VARIATION M7984-BA, AND M7984-FA

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- NOTES:
- FOR PARTS LIST SEE K-PL-M7984-0-0
  - INSERT "J" JUMPERS ACCORDING TO MODULE VARIATION SEE D-UA-M7984-0-0
- PAGE 2 OF 13 FOR M7984-BA  
PAGE 6 OF 13 FOR M7984-FA

CHANGE NO	REV

SEE NOTE 2

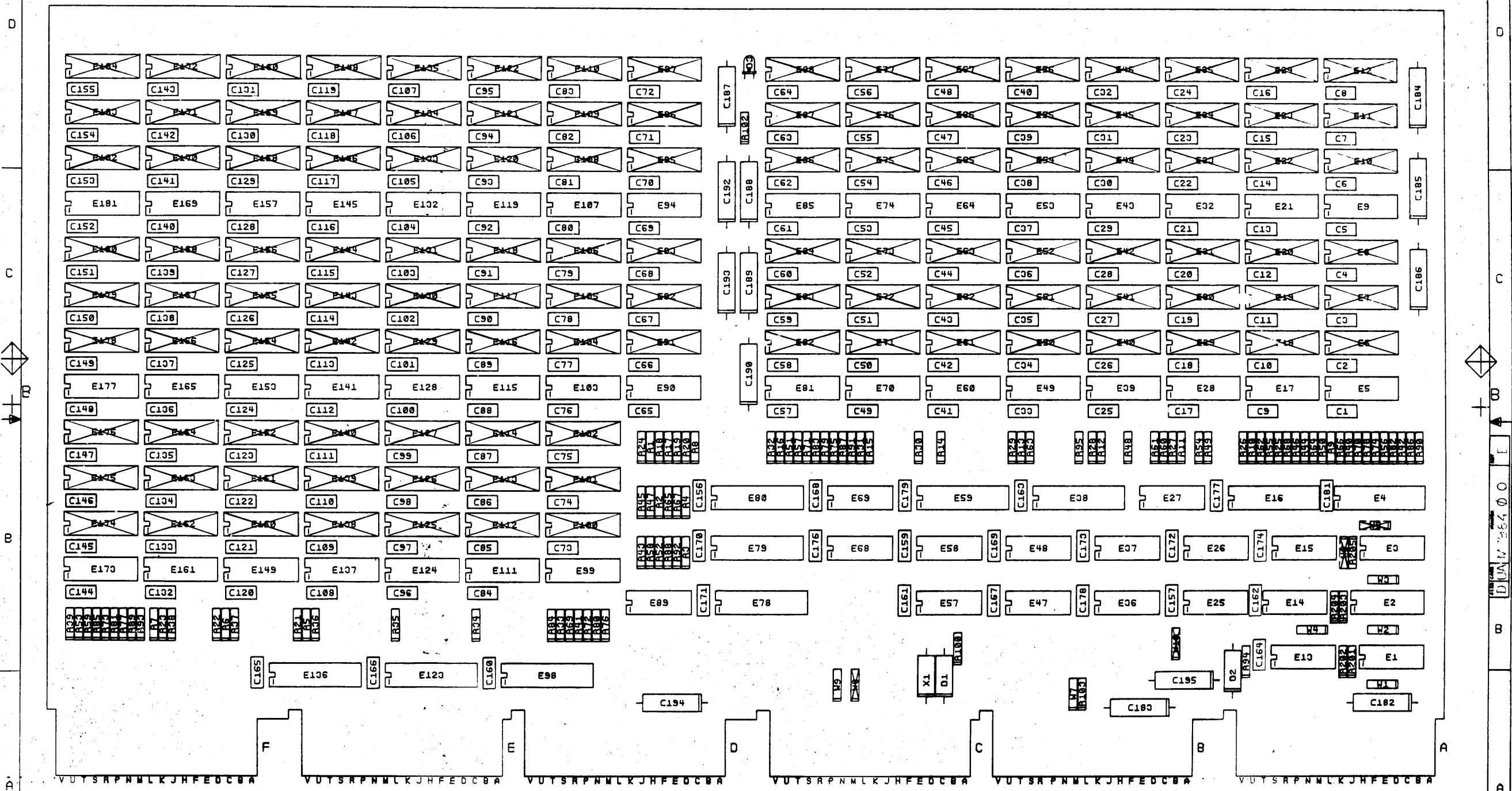
REFERENCE DRAWING

SIGNATURES	DATE	digital
DRN. <i>[Signature]</i>	7/24/78	
CHK'D. <i>[Signature]</i>	28/2/78	TITLE MSII K (ARRAY)
ENC. <i>[Signature]</i>	3/24/78	
PROJ. ENG. <i>[Signature]</i>	3/24/78	
PROD.		
SCALE		SIZE CODE
SHT. 12 OF 13		NUMBER
NEXT HIGHER ASSY. B-DD M7984-0		REV

1 MS# 260728

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MODULE VARIATION M7984-DA



NOTES:  
1. FOR PARTS LIST SEE K-PL-M7984-O-O

CHANGE NO	REV

REFERENCE DRAWING

SIGNATURES	DATE	TITLE
DRN. F. DeVries	17-78	digital
CHK'D. John Simpson	1-1-78	MSII-K (ARRAY)
ENC.	1-1-78	
PROJ. ENC. J. P. Jones	1-1-78	
PROD.		
SCALE 2:1	SIZE CODE	NUMBER
SHT. 13 OF 13	0	UA M7984 0 0 E
NEXT HIGHER ASSY. B-DD-M7984-0		

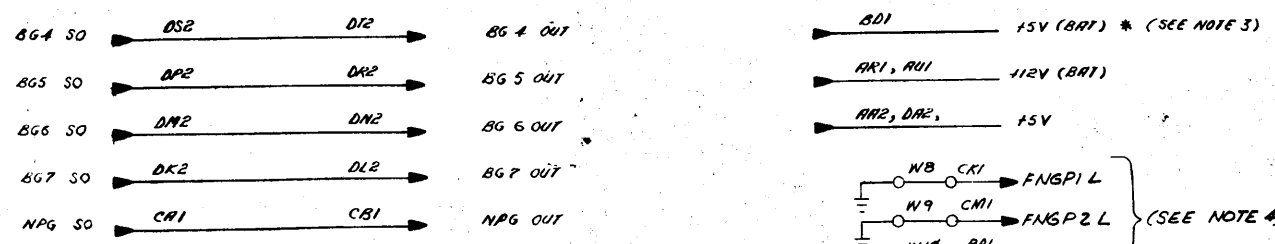
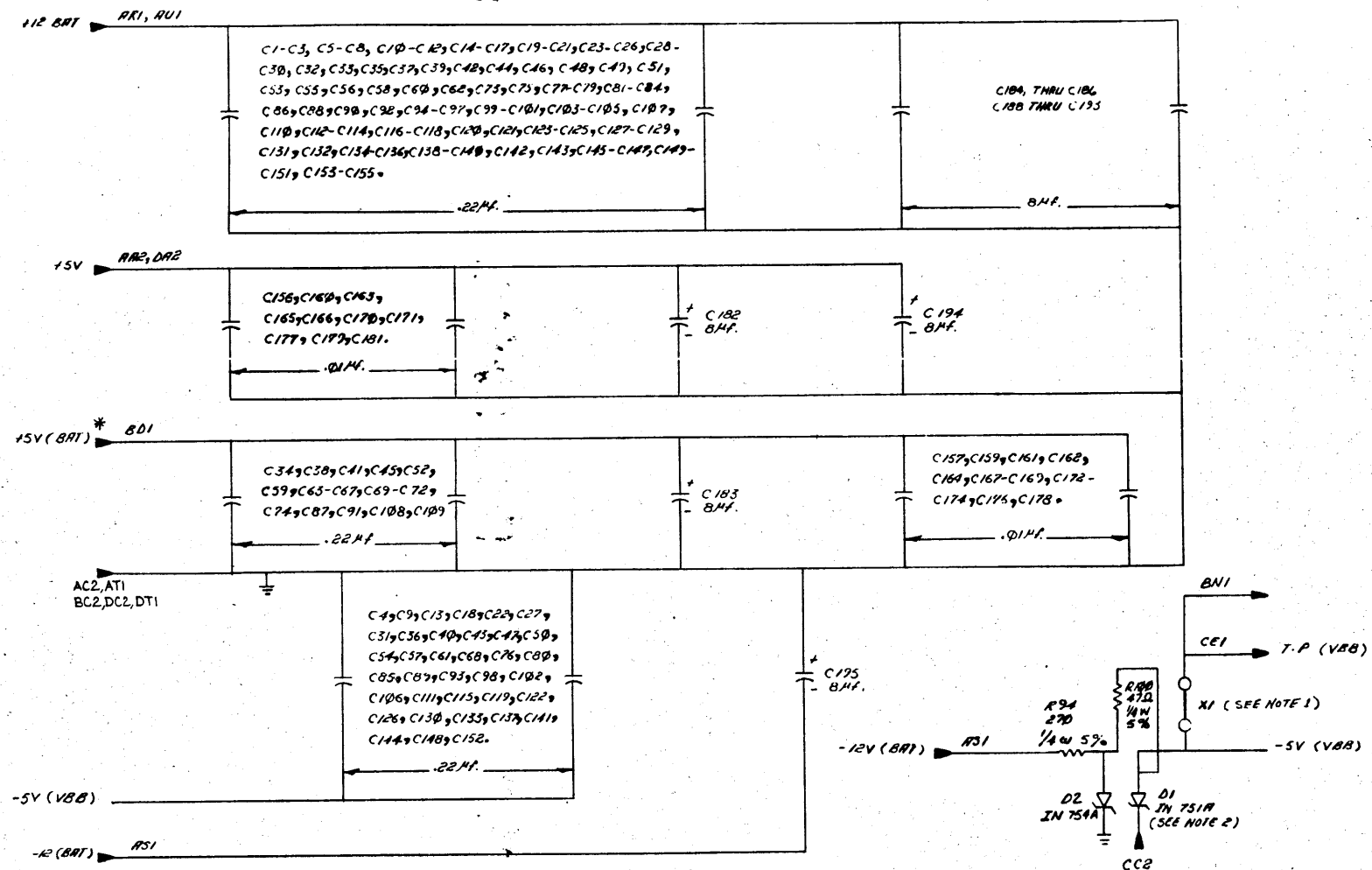
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NOTES:  
1. JUMPERS TO BE CONNECTED FOR EACH ARRAY CONFIGURATION AS FOLLOWS:

MODULE	VARS	JUMPER SETTINGS, AFF. JUMPER POSITION
AB, AC, AD, AE, AF, ETC.	W1, W2, W3, W4, X1	16K X 39, 4K RAM'S FULLY POPULATED
BB, BC, BD, ETC.	W1, W2, W3, W4, W6, X1	64K X 39, 4K RAM'S 1/2 POPULATED
CB, CC, ETC.	W1, W2, W3, W4, W7, W8, W9, X1	64K X 39, 16K RAM'S FULLY POPULATED
DB, DC, ETC.	W1, W2, W3, W4, W7, W9, X1	16K X 39, 16K RAM'S 1/4 POPULATED
EB, EC, ED, ETC.	W1, W2, W3, W4, W8, X1	16K X 39, 4K RAM'S FULLY POPULATED
FB, FC, ETC.	W1, W2, W3, W4, W7, W8, W9, W10, X1	32K X 39, 16K RAM'S 1/2 POPULATED

2. PIN CC2 MAY BE FLOATED TO VARY -5V (VBB). THE VARIABLE (VBB) IS APPLIED TO PIN CB1.  
3. (\*) INDICATES +5V BATTERY BACK-UP.  
4. JUMPERS TO BE CONNECTED FOR EACH ARRAY CONFIGURATION AS FOLLOWS:

	FNGP2L (W10)	FNGP2L (W9)	FNGP2L (W8)	ARRAY CONFIGURATION
AB, AC ETC.	1	1	1	16K X 39, 4K RAM'S FULLY POPULATED
BB, BC ETC.	1	1	1	64K X 39, 4K RAM'S 1/2 POPULATED
CB, CC ETC.	1	1	0	16K X 39, 4K RAM'S FULLY POPULATED
DB, DC ETC.	1	0	1	16K X 39, 16K RAM'S 1/4 POPULATED
EB, EC ETC.	0	0	1	32K X 39, 4K RAM'S 1/2 POPULATED
FB, FC ETC.	1	0	0	64K X 39, 16K RAM'S FULLY POPULATED



REV.	CHG.	NO.	DATE	BY	CHK.
1	K.T.	M7984-00001	1/17/77	J. MANTON	J. MANTON
2	J.B.	M7984-00002	2/24/77	J. MANTON	J. MANTON
3	J.B.	M7984-00003	3/1/77	J. MANTON	J. MANTON
4	J.B.	M7984-00004	3/1/77	J. MANTON	J. MANTON

DRY	17 Dec 76	FIRST USED ON	digital
CHK'D	17 Dec 76	TITLE	MS11-K
ENG.	1/25/77		(ARRAY)
PROJ. ENG.	1/25/77		
PROD.	1/18/77		
NEXT HIGHER ASSY.			
MF11S-K	SIZE CODE	NUMB. R	REV
SCALE NONE	D CS	M7984-0-1	E
SHEET 1	CF 1/7	DIST.	

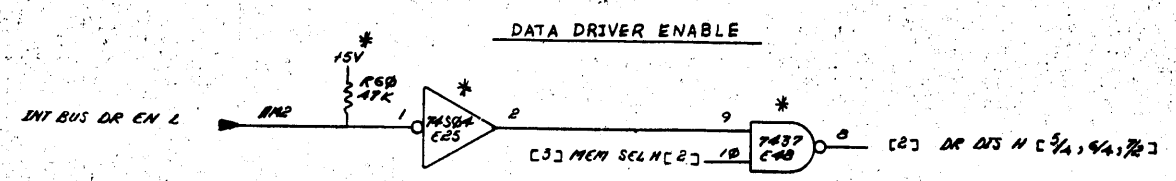
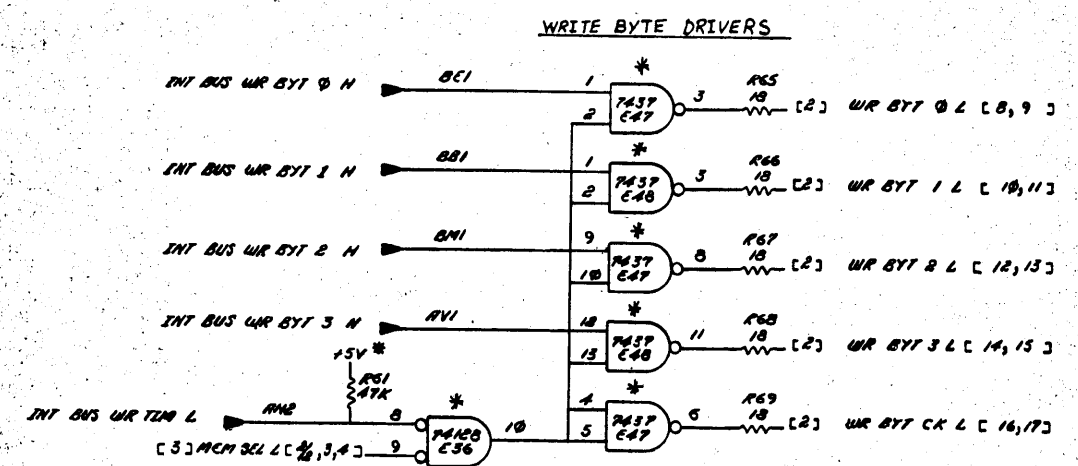
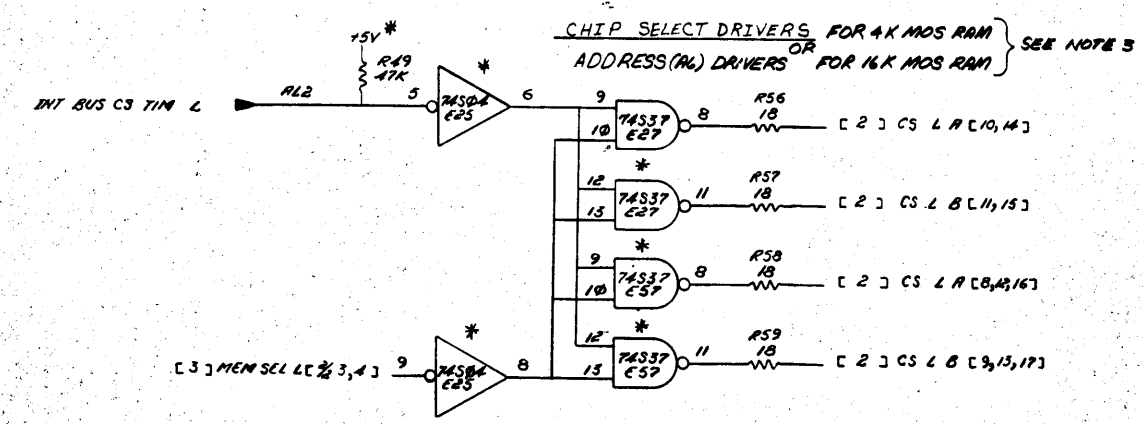
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1-0-862W DCS M7984-0-1 2

NOTES:  
 1. SIGNAL NAMES WILL BE REFERENCED AS FOLLOWS:  
 [ X ] SIGNAL NAME [ Y/Z ]  
 NUMBER OF CONNECTION POINTS ON DESTINATION SHEET.  
 DESTINATION SHEET NUMBER.  
 SOURCE SHEET NUMBER.

EXAMPLE:  
 [ 3 ] MEM SEL L [ 2,3,4 ]  
 DESIGNATION ( 2 ) IS AN IMPLIED ONE WHEN NOT SHOWN.

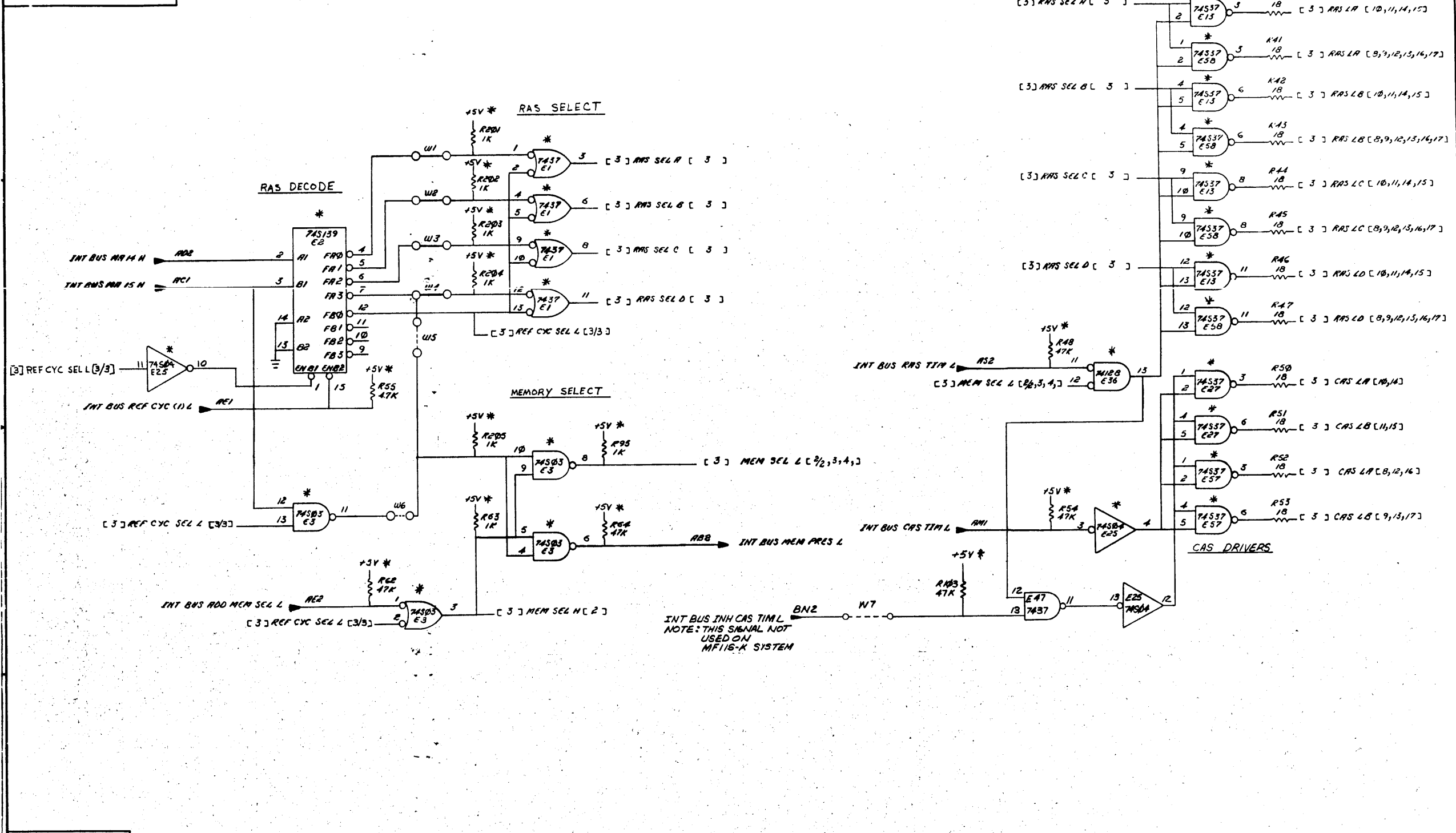
2. SIGNALS DESIGNATED (INT BUS) ARE CONNECTED VIA MODULE FINGERS TO INTERNAL BUS A-B3.  
 3. FOR 16K MOS RAM SIGNAL CSL IS ADDRESS (A6)



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE CODE	DCS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	2 OF 17	DIST.			

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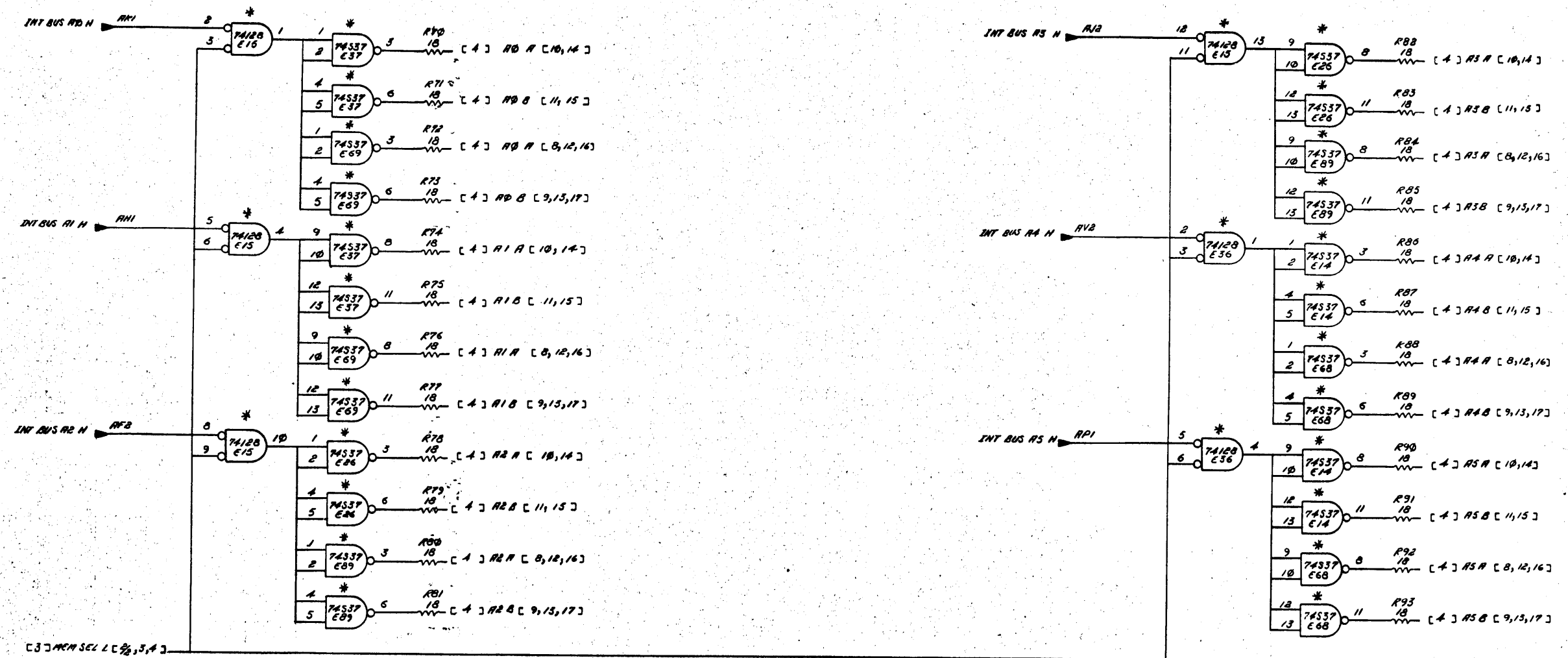


REVISIONS		
CHK	CHANGE NO.	REV.

74

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ADDRESS DRIVERS



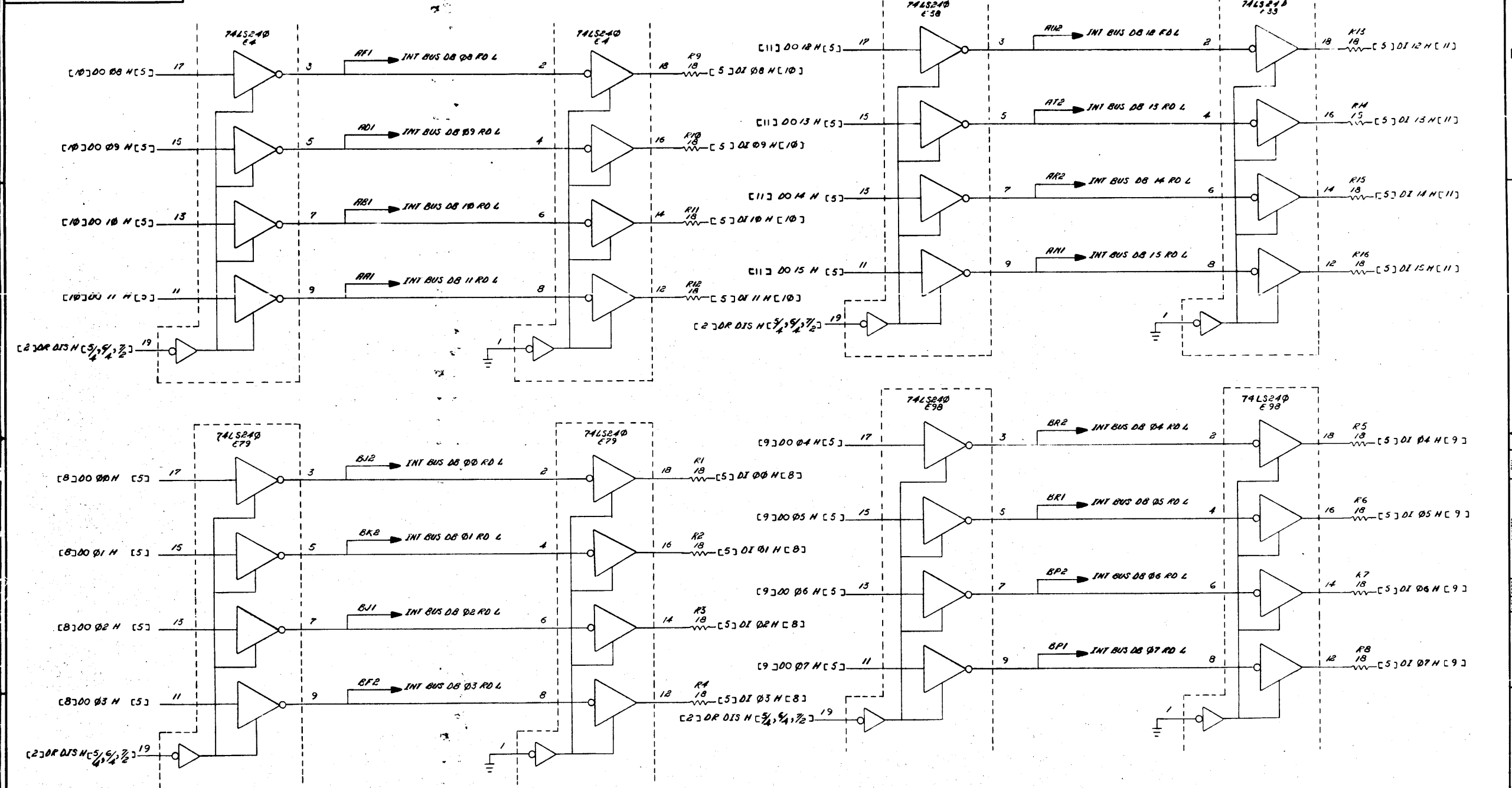
[3] MCMSEL L [2,3,4]

REVISIONS		
CHK	CHANGE NO.	REV.

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

TITLE	MS11-K (ARRAY)	SIZE/CODE	D CS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	4	OF	17	DIST.	

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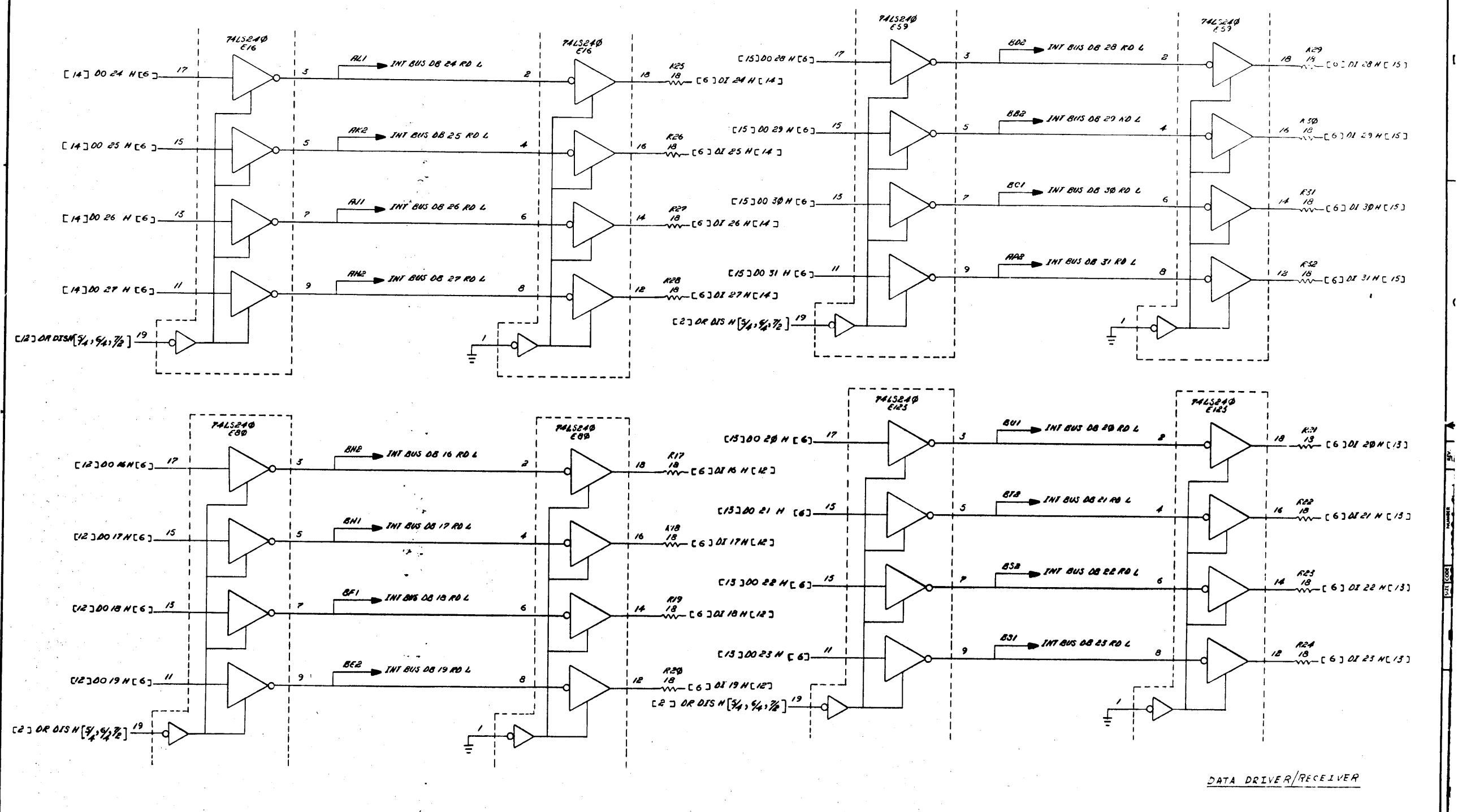
DATA DRIVER/RECEIVER

REVISIONS		
CHK	CHANGE NO.	REV.

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SCALE	NONE	SHEET	5 OF 17	DIST.			

76



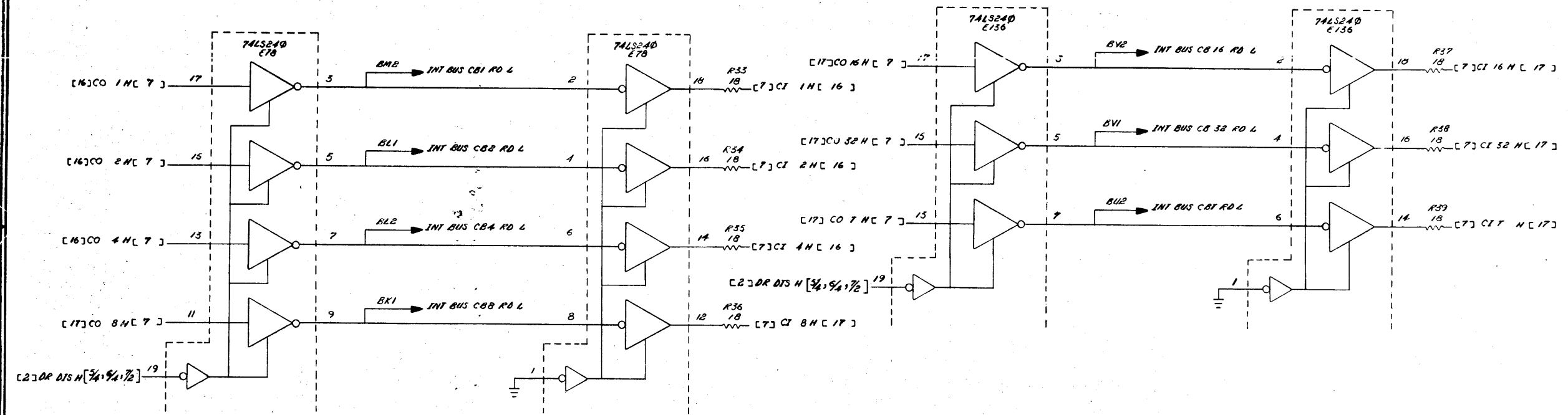


DATA DRIVER/RECEIVER

REVISIONS		
CHK	CHANGE NO.	REV.

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DCS M7984-0-1 E



DATA DRIVER/RECEIVER

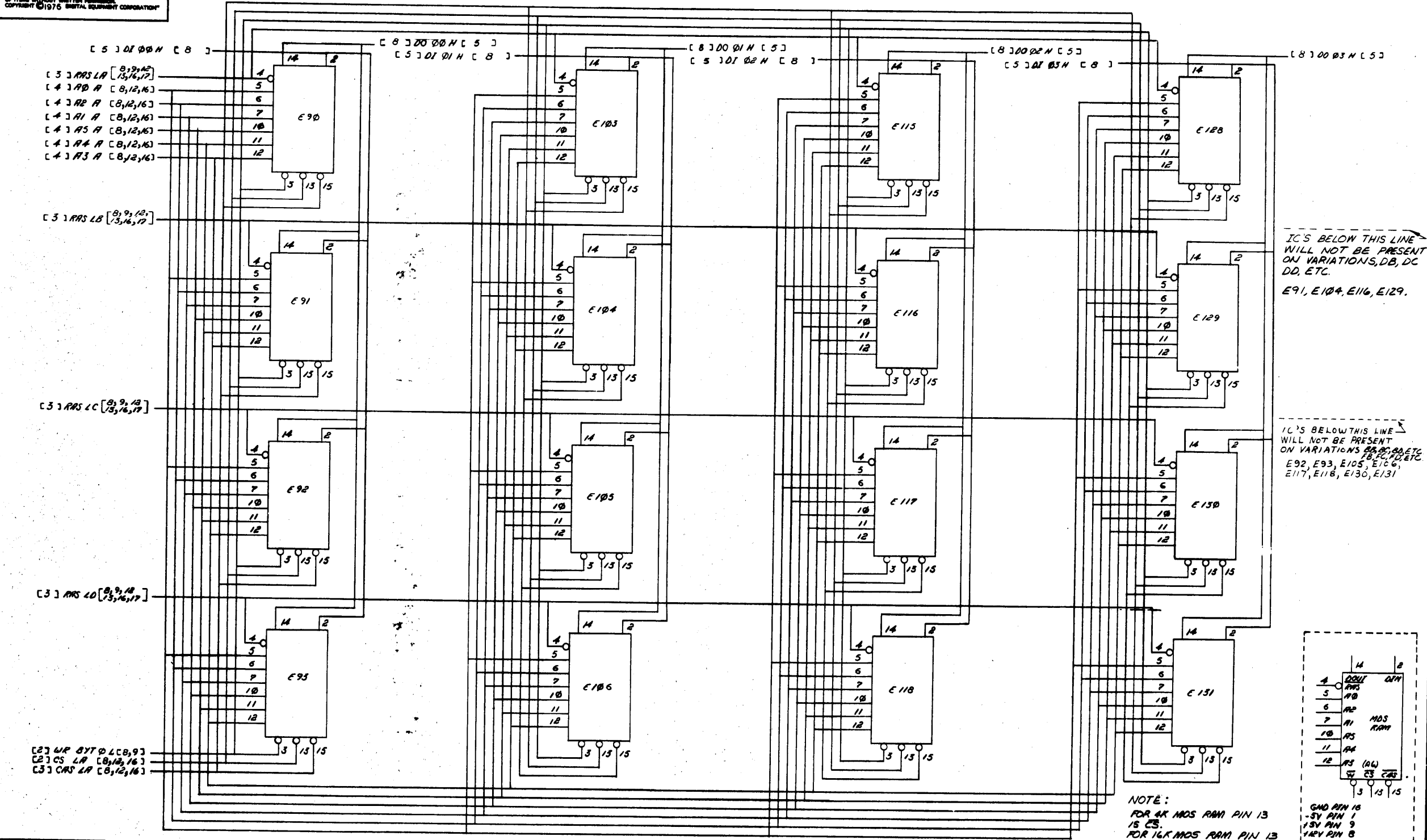
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE						SIZE/CODE		NUMBER		REV.
MS11-K (ARRAY)						DCS		M7984-0-1		E
SCALE NONE						SHEET 7 OF 17		DST.		

78

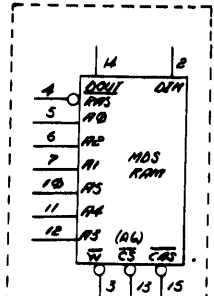
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DCS M7984-0-1 2



IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS, DB, DC DD, ETC.  
E91, E104, E116, E129.

IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS DB, DC, DD, ETC.  
E92, E93, E105, E106, E107, E108, E109, E110, E111, E112, E113, E114, E115, E117, E118, E130, E131.

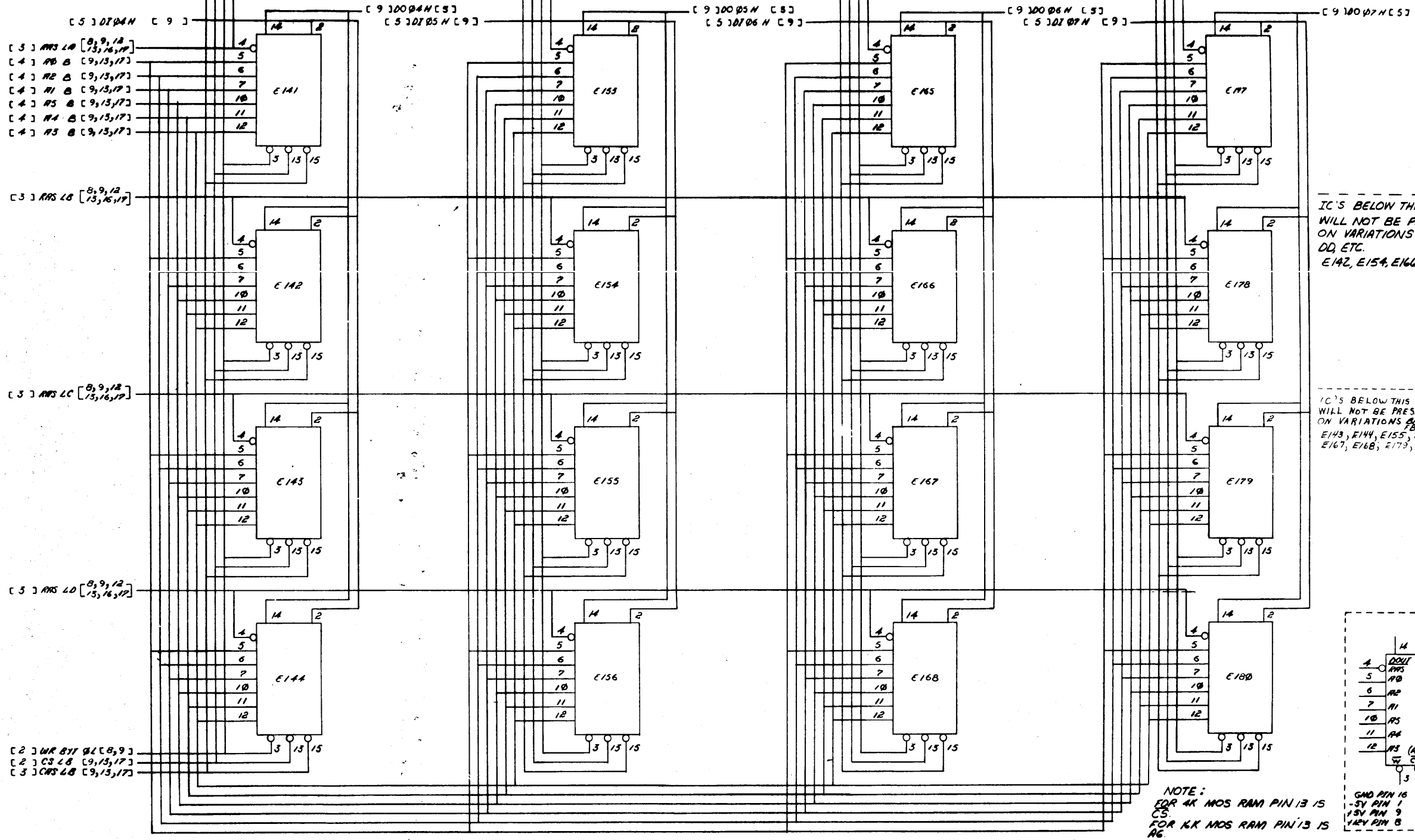


NOTE:  
FOR 4K MOS RAM PIN 13 IS CS.  
FOR 16K MOS RAM PIN 13 IS A6.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE CODE	DCS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	8	OF	17	DIST.	

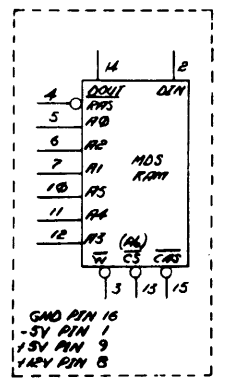
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IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS DE, DC, DD, ETC. E142, E154, E166, E178

IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS DE, DC, DD, ETC. E143, E144, E155, E156, E167, E168, E179, E180

NOTE:  
FOR 4K MOS RAM PIN 13 IS CS.  
FOR 16K MOS RAM PIN 13 IS A6.

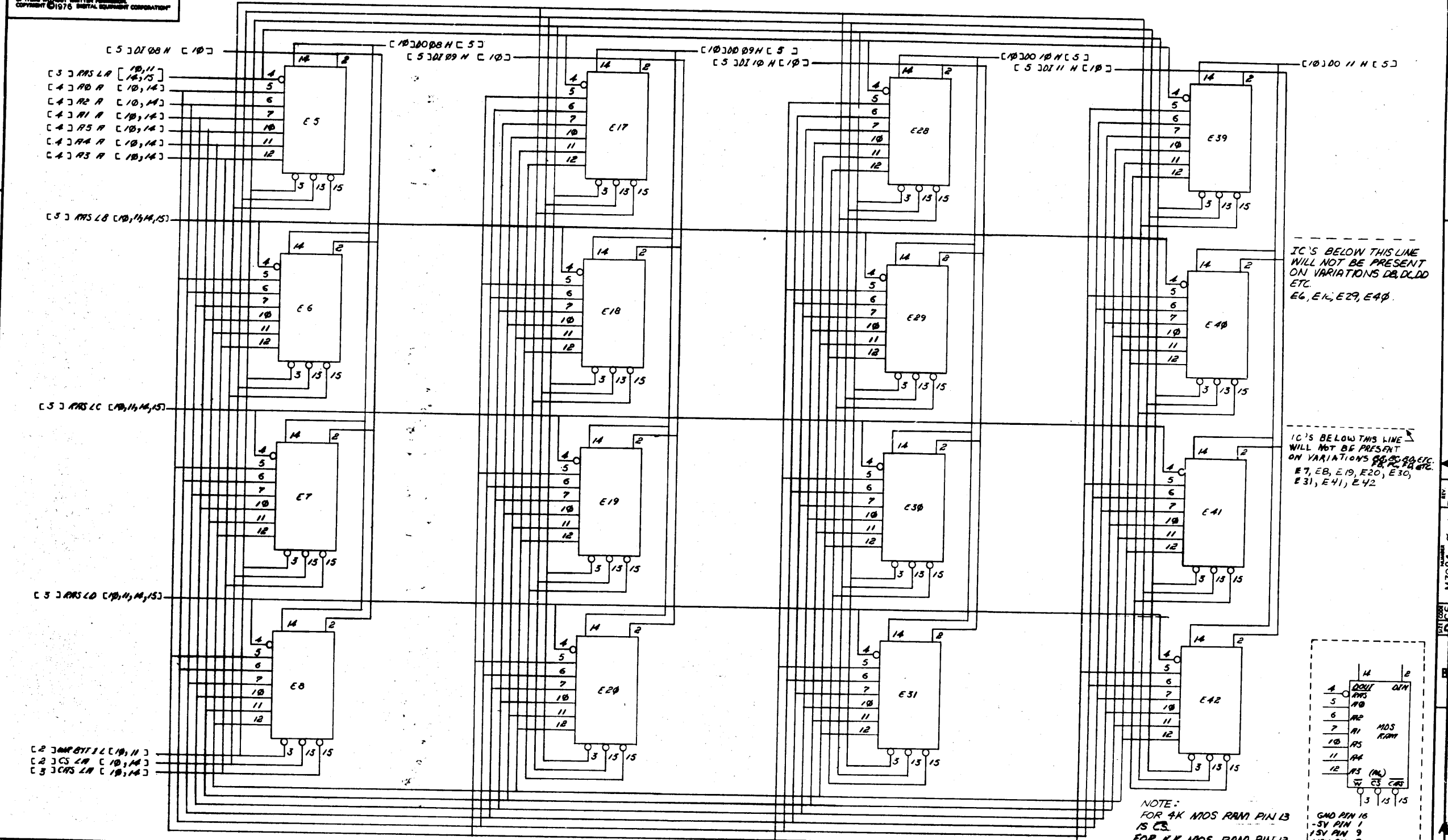


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE CODE	D CS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	9 OF 17	DIST.			

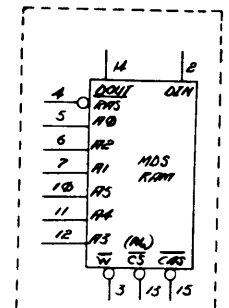
80

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IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS DB, DC, DD ETC. E6, E11, E29, E40.

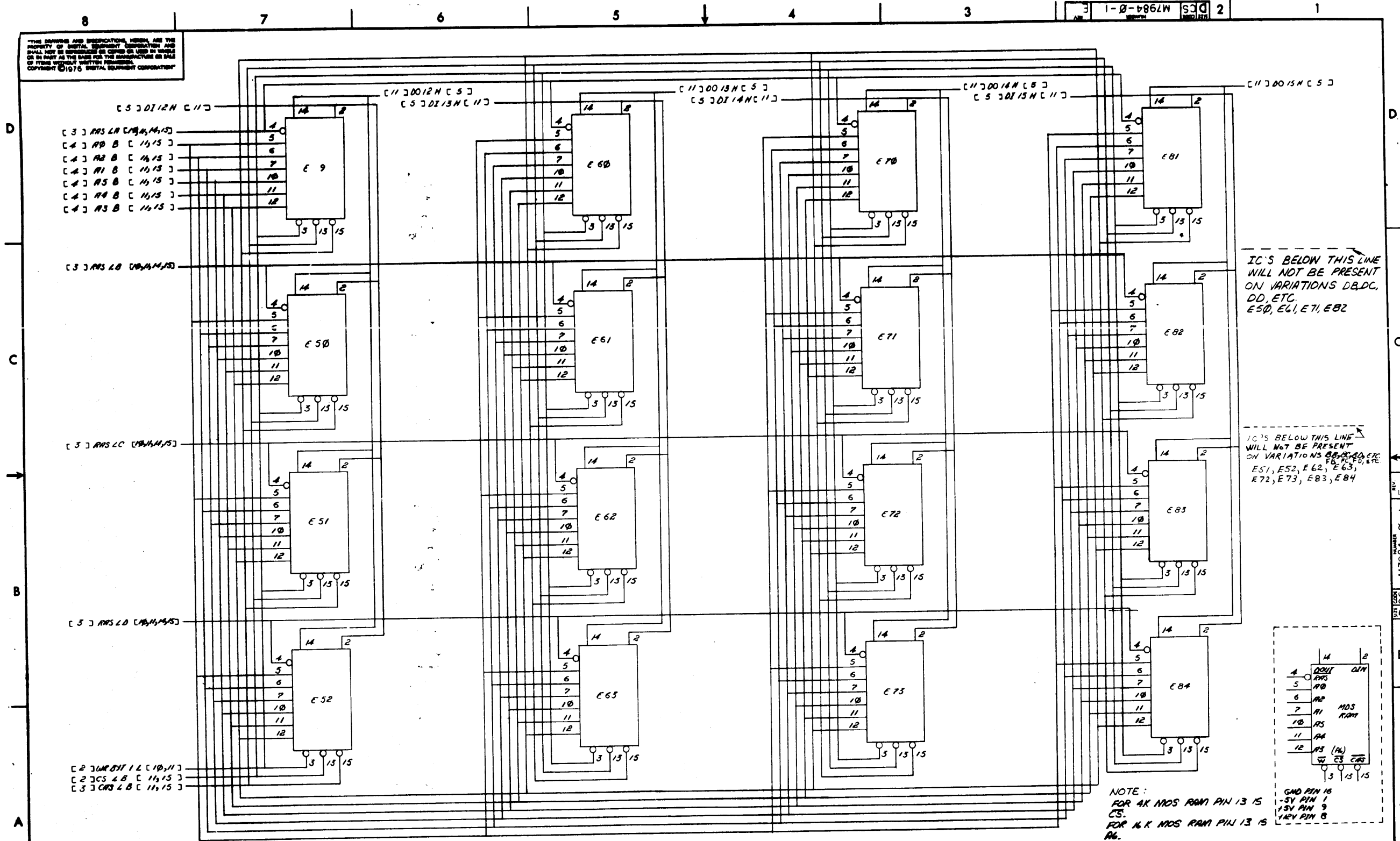
IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS DB, DC, DD ETC. E7, E8, E19, E20, E30, E31, E41, E42.



NOTE:  
FOR 4K MOS RAM PIN 13 IS CS.  
FOR 16K MOS RAM PIN 13 IS AG.

REVISIONS		
CHK	CHANGE NO.	REV.

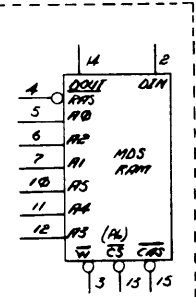
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IC'S BELOW THIS LINE  
WILL NOT BE PRESENT  
ON VARIATIONS DB,DC,  
DD, ETC.  
E50, E61, E71, E82

IC'S BELOW THIS LINE  
WILL NOT BE PRESENT  
ON VARIATIONS DB,DC,DD, ETC.  
E51, E52, E62, E63,  
E72, E73, E83, E84

NOTE:  
FOR 4K MDS RAM PIN 13 IS  
CS.  
FOR 16K MDS RAM PIN 13 IS  
A6.

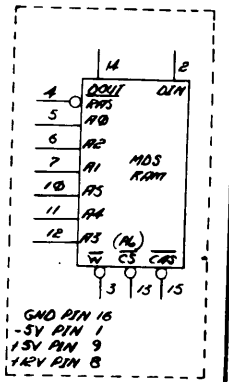
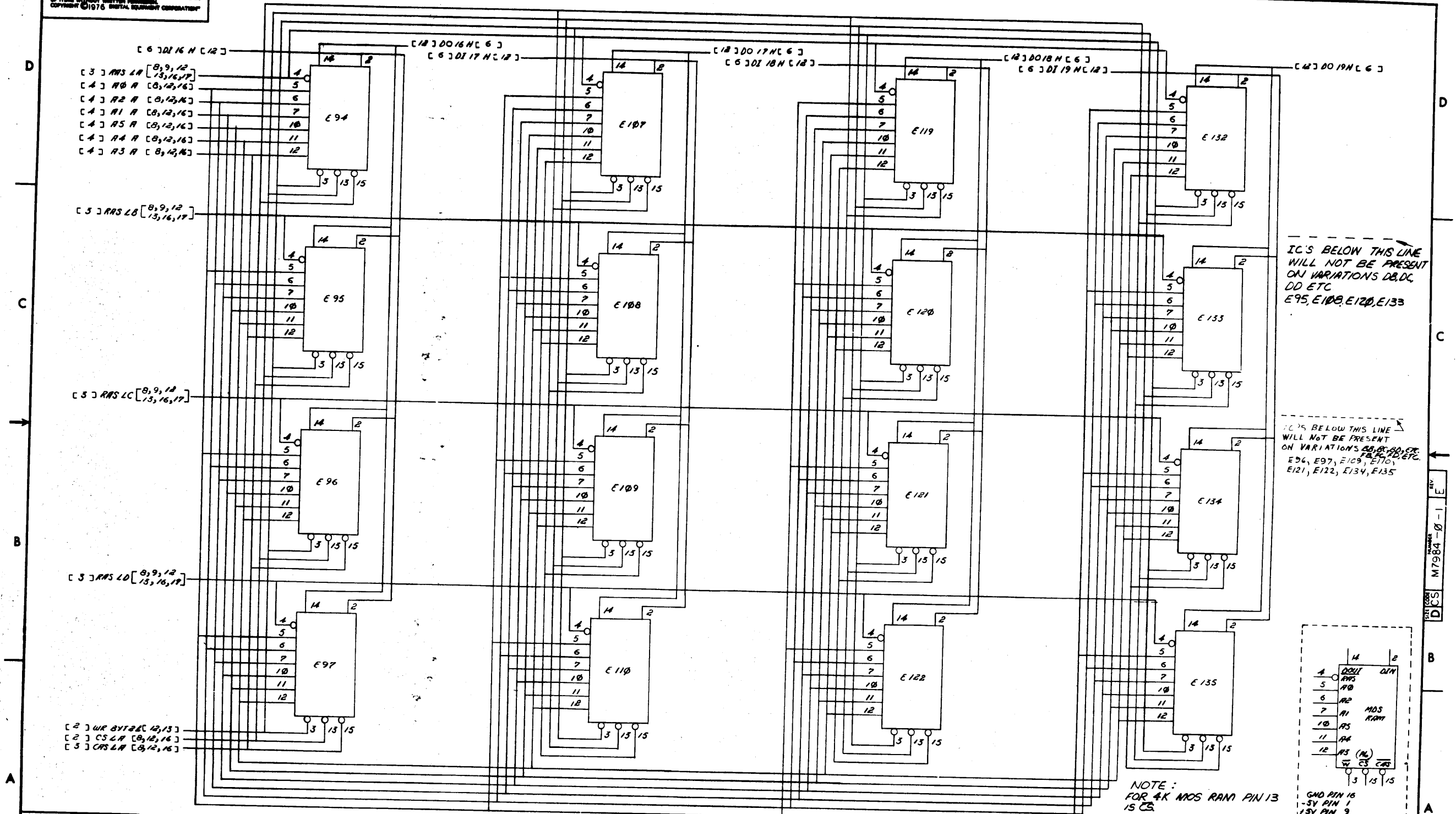


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE/CODE	DCS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	11 OF 17	DISP			

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DCS M7984-0-1 2

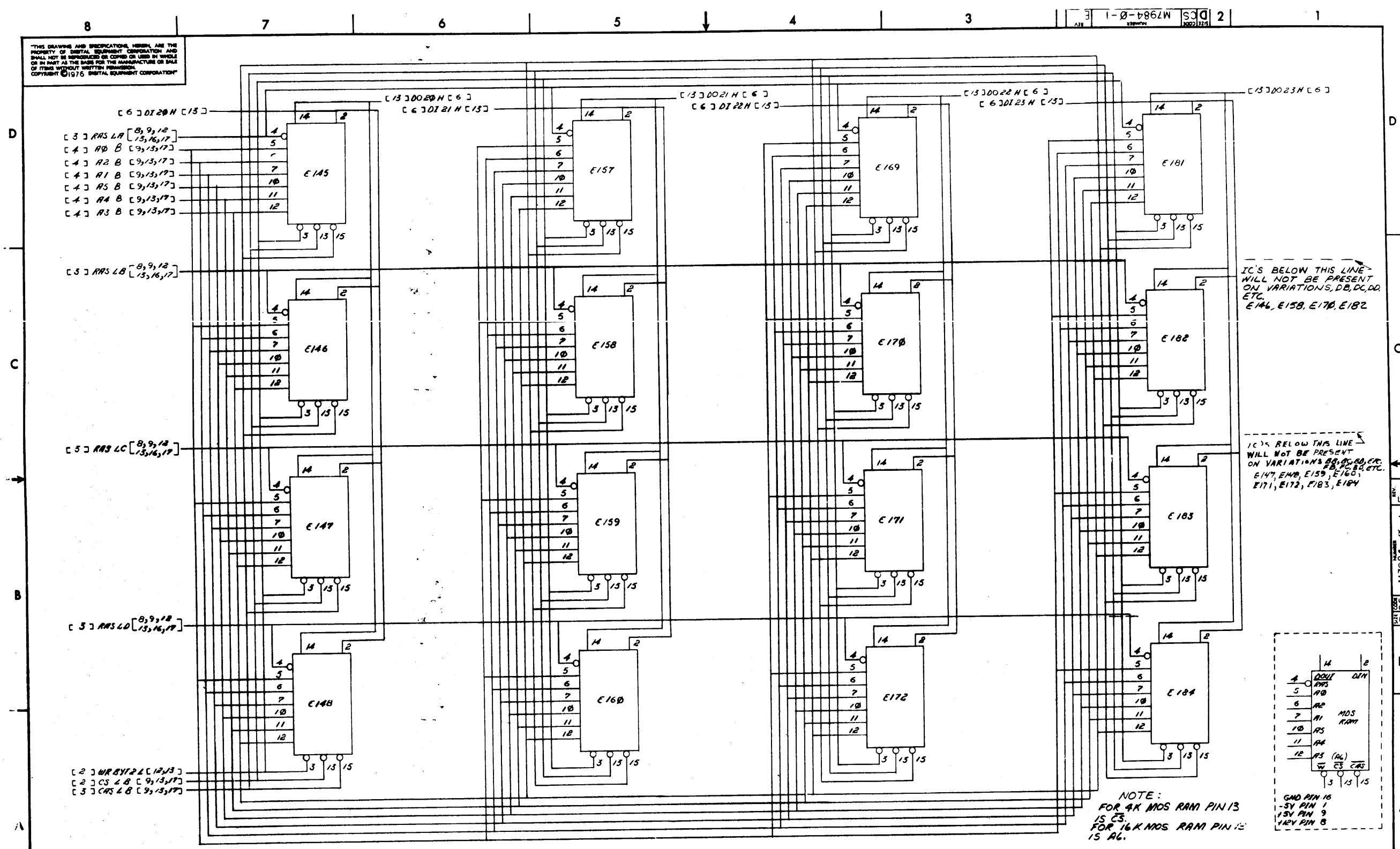


NOTE:  
FOR 4K MOS RAM PIN 13 IS CS.  
FOR 16K MOS RAM PIN 13 IS A6.

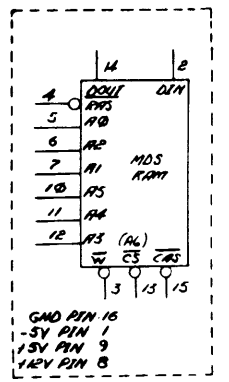
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE MS11-K (ARRAY) SIZE DCS NUMBER M7984-0-1 REV. E  
SCALE NONE SHEET 12 OF 17 DIST.

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NOTE:  
FOR 4K MOS RAM PIN 13  
IS CS.  
FOR 16K MOS RAM PIN 13  
IS AL.



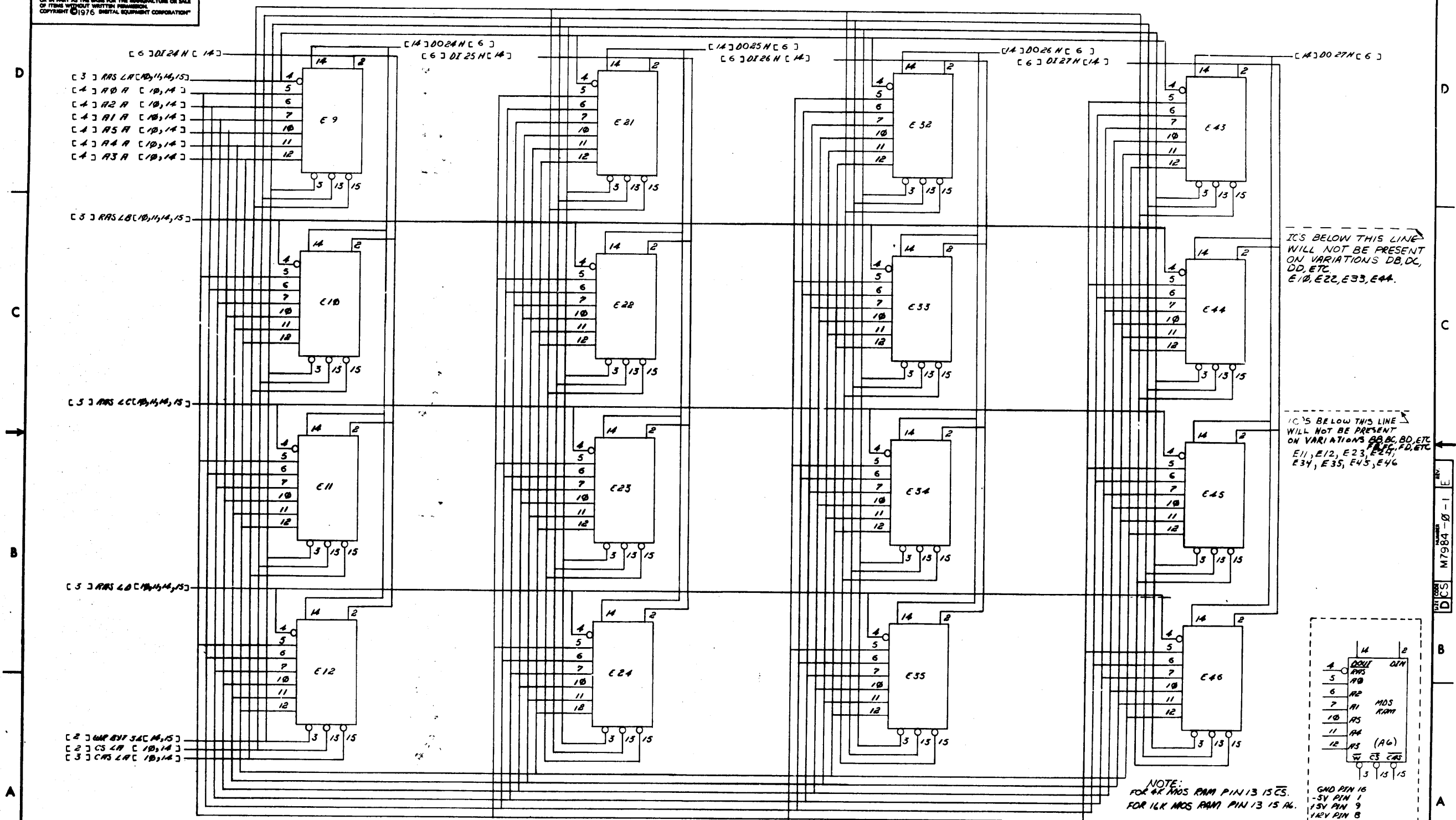
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE CODE	DCS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	13	OF	17	DIST.	

84

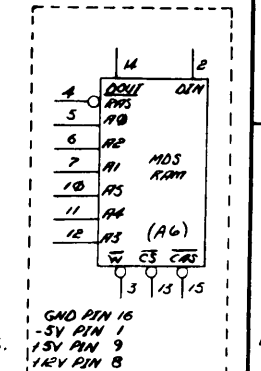


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IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS DB, DC, DD, ETC. E10, E22, E33, E44.

IC'S BELOW THIS LINE WILL NOT BE PRESENT ON VARIATIONS BA, BC, BD, ETC. E11, E12, E23, E24, E34, E35, E45, E46.

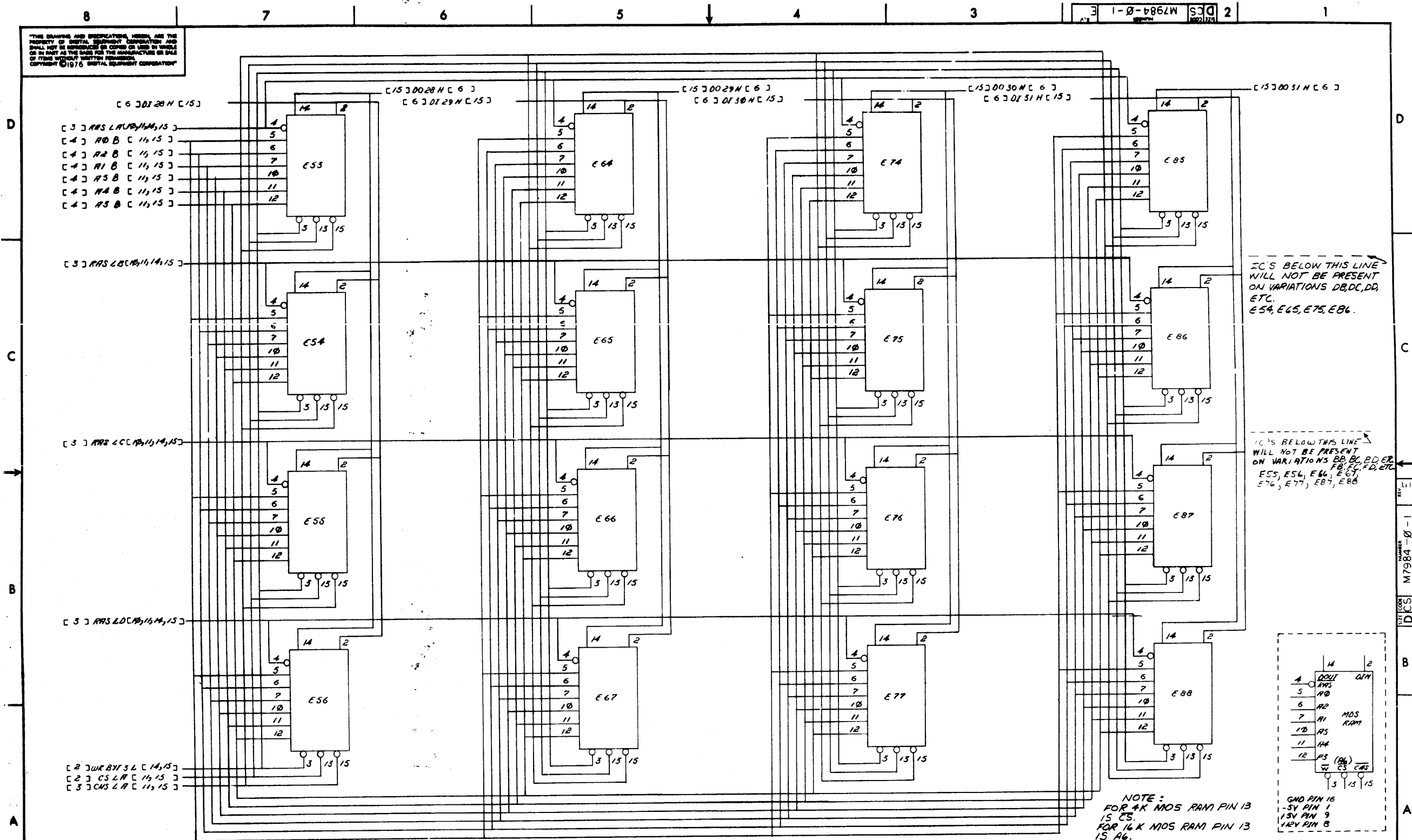


NOTE:  
FOR 4K MOS RAM PIN 13 IS CS.  
FOR 16K MOS RAM PIN 13 IS A6.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K(ARBA)	SIZE CODE	D E S I	NUMBER	M 7 9 8 4 - 0 - 1	REV.	E
SCALE	NONE	SHEET	14	OF	17	DIST.	

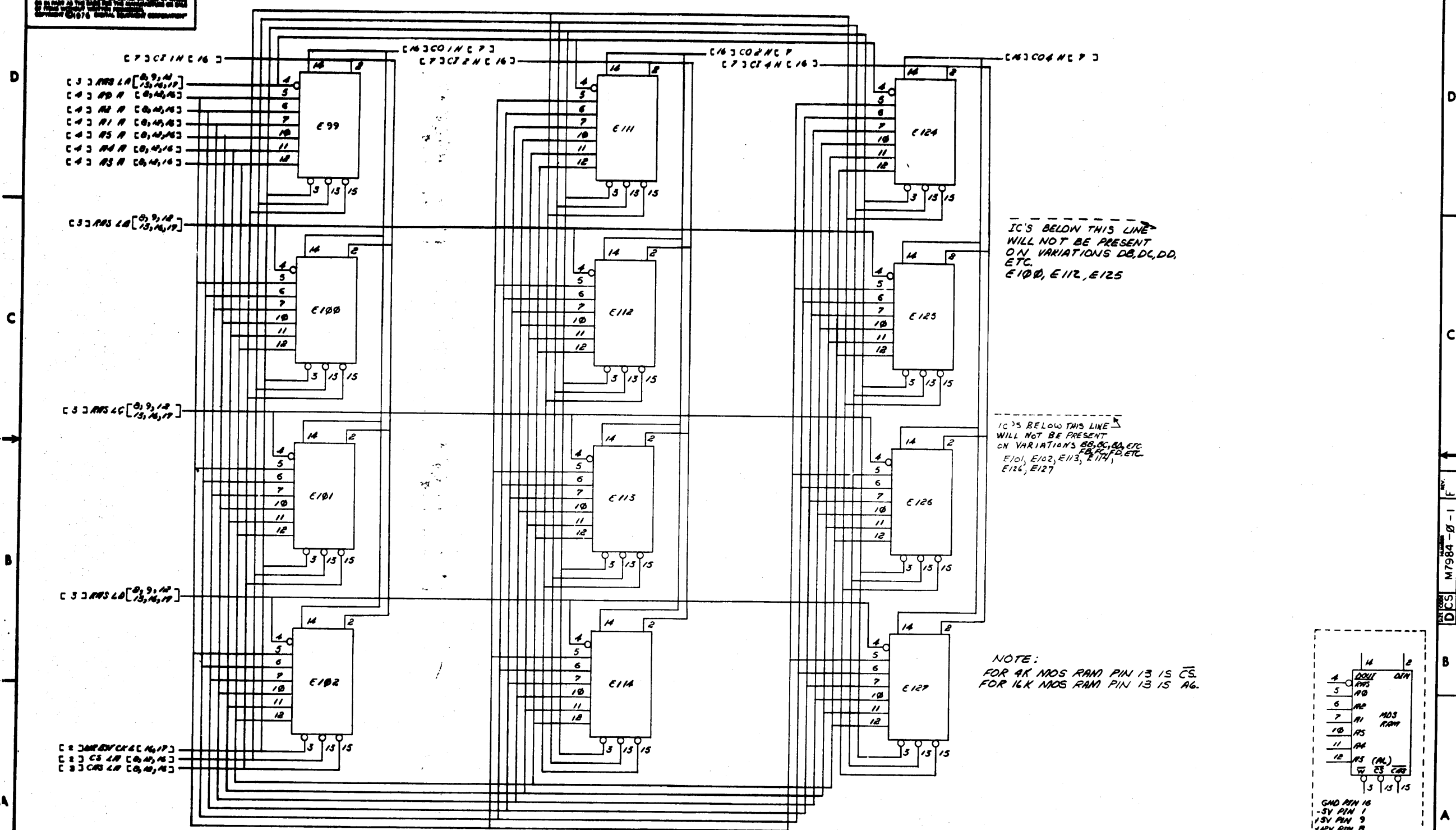
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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE/CODE	DCS	NUMBER	M7984-0-1	REV.	E
SCALE	NONE	SHEET	15	OF	17	DIST.	

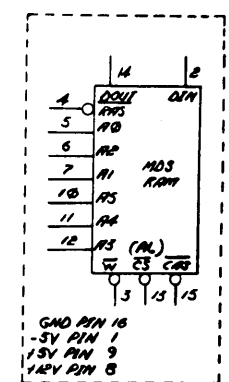
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IC'S BELOW THIS LINE  
WILL NOT BE PRESENT  
ON VARIATIONS DB, DC, DD,  
ETC.  
E100, E112, E125

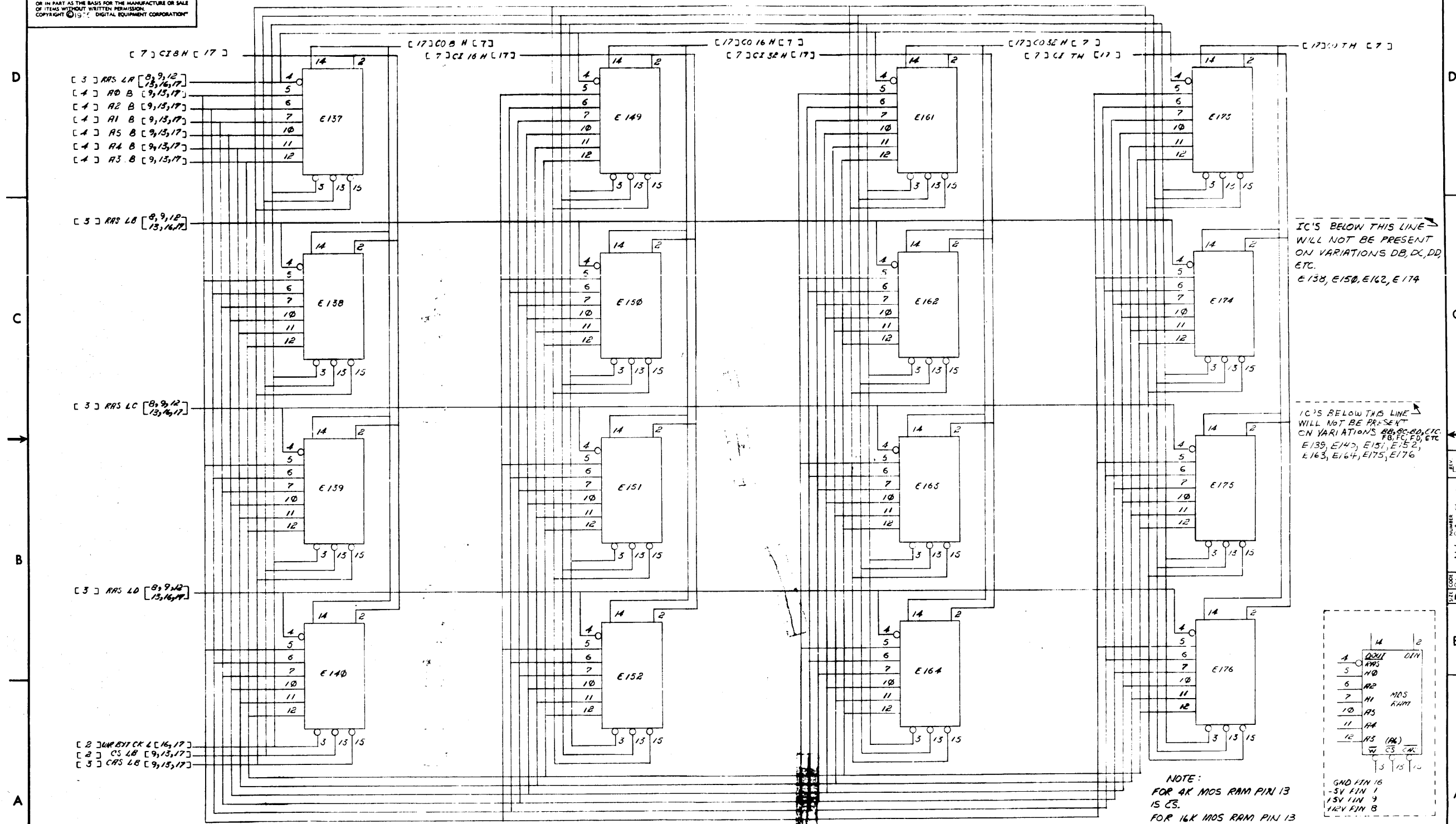
IC'S BELOW THIS LINE  
WILL NOT BE PRESENT  
ON VARIATIONS BB, CC, BA, ETC.  
E101, E102, E113, E114,  
E126, E127

NOTE:  
FOR 4K MOS RAM PIN 13 IS  $\bar{CS}$ .  
FOR 16K MOS RAM PIN 13 IS A6.



REVISED		
CHK	CHANGE NO.	REV.

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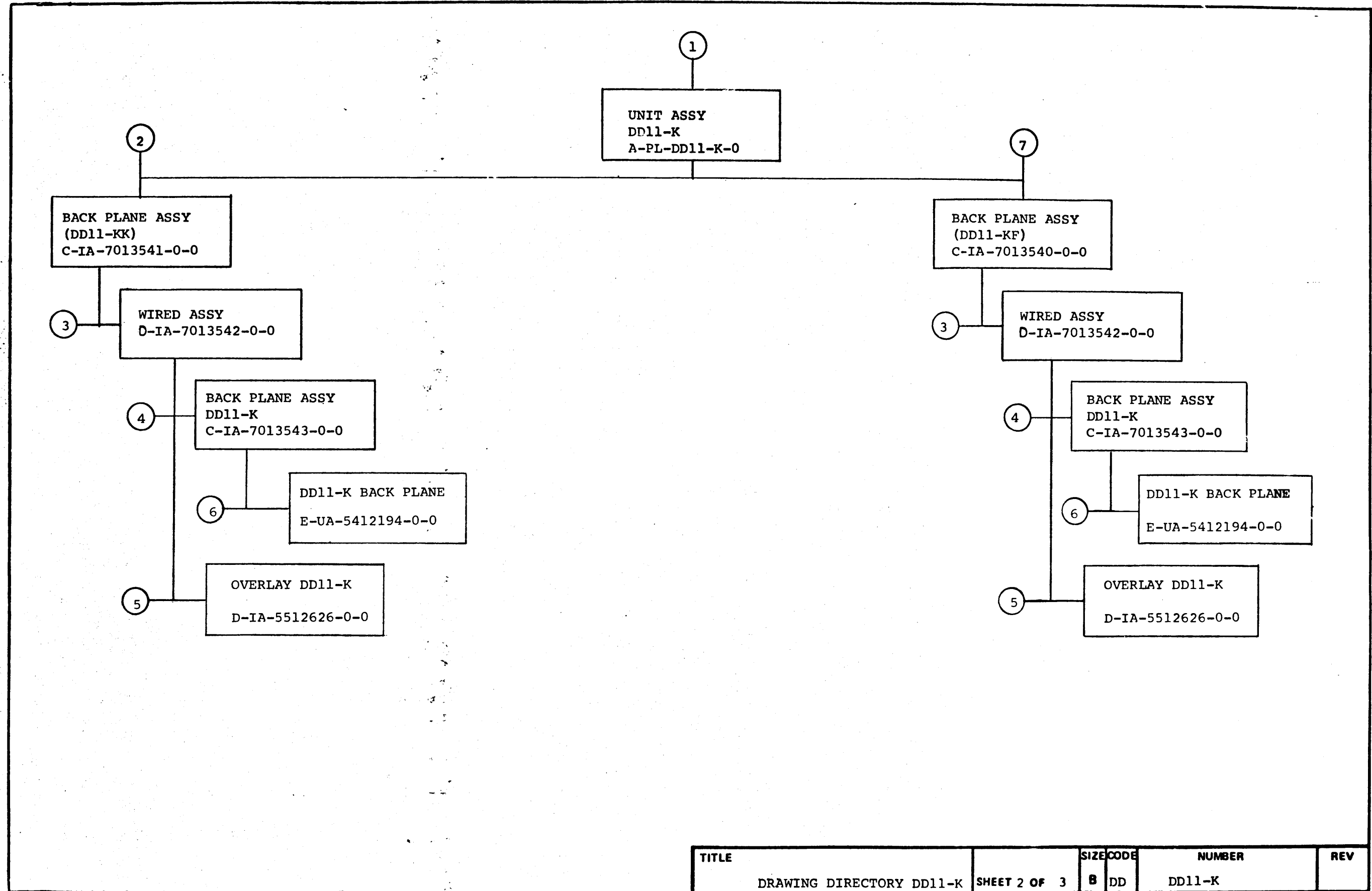
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	MS11-K (ARRAY)	SIZE CODE	DCS	NUMBER	M7-4-0-1	REV.	E
SCALE	NONE	SHEET	17	OF	17	DIST.	

88







TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
DRAWING DIRECTORY DD11-K	2	3	B	DD	DD11-K	

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00276	FIELD MAINTENANCE PRINT SET (MP)	-				
	B-TC-DD11-K-1	FIELD MAINTENANCE PRINT SET (TC)	-				
	A-PL-DD11-K-0	UNIT ASSY DD11-K	E/M				
2	C-IA-7013541-0-0	BACK PLANE ASSY DD11-KK	E/M				
	D-7011108-0-0	POWER HARNESS (BALL-K, BALL-L)	E/M				
3	D-IA-7013542-0-0	WIRED ASSY DD11-K	E/M				
	K-WL-7013542-0-1	WIRE LIST	E				
	A-WT-7013542-0	AWT REV STATUS	E				
	A-DC-7411881-1-0	DECAL, LOGIC REVISION	M				
			M				
4	C-IA-7013543-0-0	BACK PLANE ASSY DD11-K	M				
5	D-IA-5512626-0-0	OVERLAY DD11-K	E/M				
	D-SS-5512626-0-1	OVERLAY DD11-K (SILK SCREEN)	M				
6	E-UA-5412194-0-0	DD11-K BACKPLANE	E/M				
	E-MD-5012193-0-0	DRILL & ETCH DRAWING	E/M				
7	C-AD-7013540-0-0	BACK PLANE ASSY DD11-KF	E/M				
	D-IA-7011109-0-0	POWER HARNESS BALL-F	E/M				

EN-01082-02-16-R370-1289

TYPE: E ELECTRICAL  
M MECHANICAL  
E/M ELECTRO/MECHANICAL

digital

TITLE  
DRAWING DIRECTORY  
DD11-K

SHEET 3 OF 3

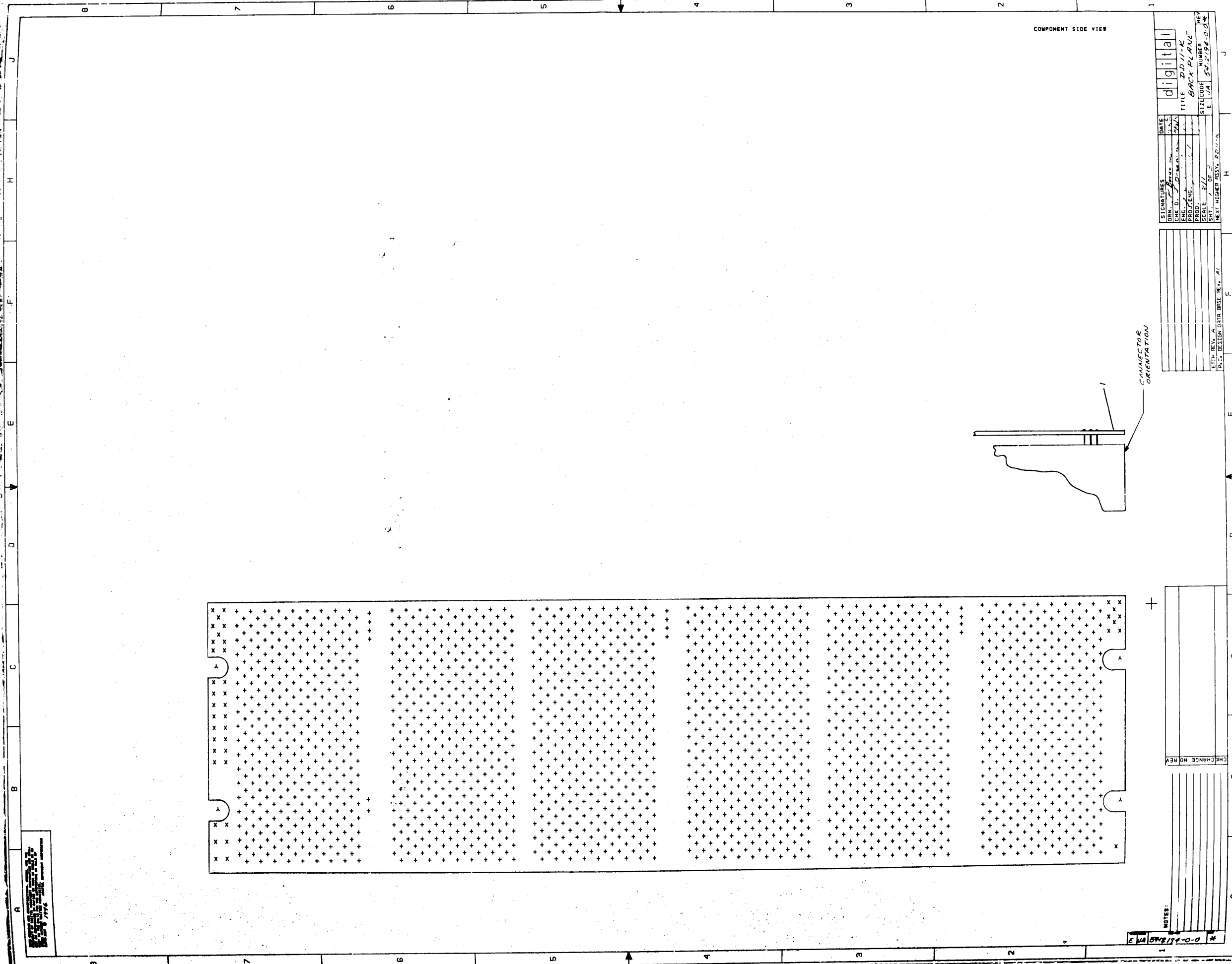
SIZE CODE  
B DD

NUMBER  
DD11-K

REV







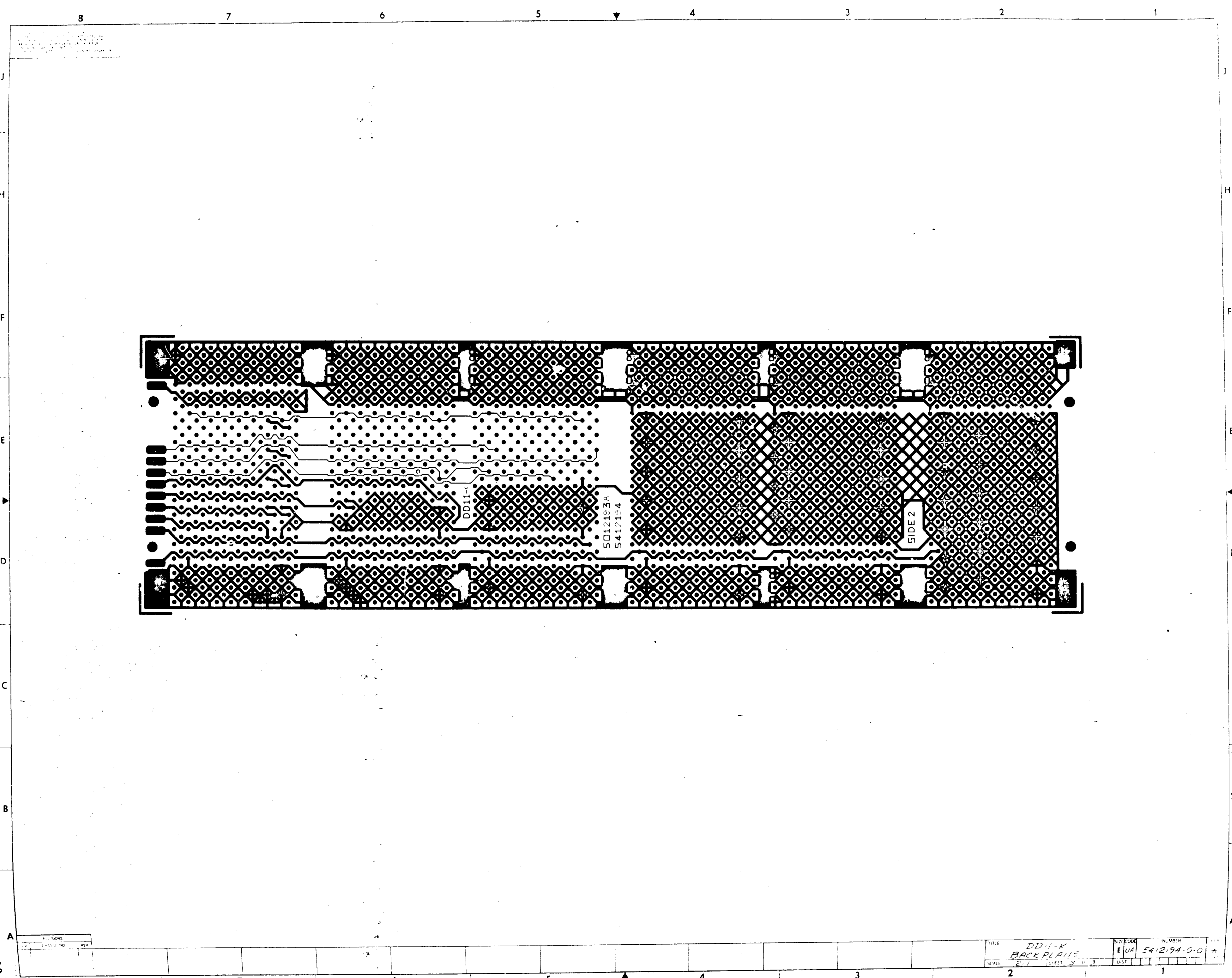
COMPONENT SIDE VIEW

SIGNATURES		DATE	digital
DRN. <i>[Signature]</i>	DATE		
DES. <i>[Signature]</i>	DATE		TITLE <i>DD1-K</i>
PROJ. ENG. <i>[Signature]</i>	DATE		BACK PLANE
PROJ. ENG. <i>[Signature]</i>	DATE		SIZE CODE NUMBER
SCALE <i>2/1</i>	DATE		REV. <i>1</i>
SYN. NUMBER <i>REV. 22-11-88</i>	DATE		REV. <i>1</i>
ETCH REV. <i>4</i>	DATE		REV. <i>1</i>
PACK. DESIGN OR THE BOARD	DATE		REV. <i>1</i>

NOTES:	CHANGE NO. REV.

100% INSPECTION  
 100% TESTED  
 100% CHECKED  
 100% APPROVED  
 100% RELEASED  
 100% SHIPPED  
 100% DELIVERED  
 100% RECEIVED  
 100% SATISFIED  
 100% COMPLETE





DATE	DESIGNED BY	CHKD BY

TITLE	DD-1-K BACK PLANE	SIZE CODE	NUMBER
SCALE	2:1	EUA	5412194-0-0
SHEET 3 OF 3		DATE	

96

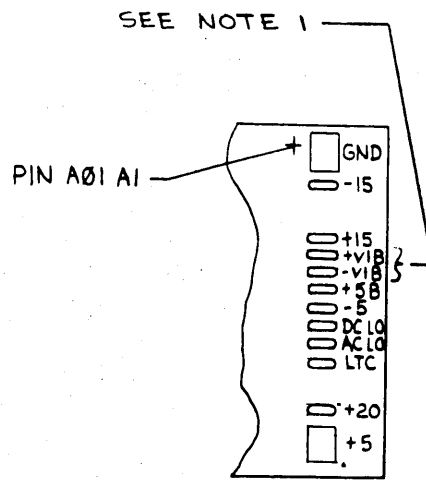
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WIRE TABLE

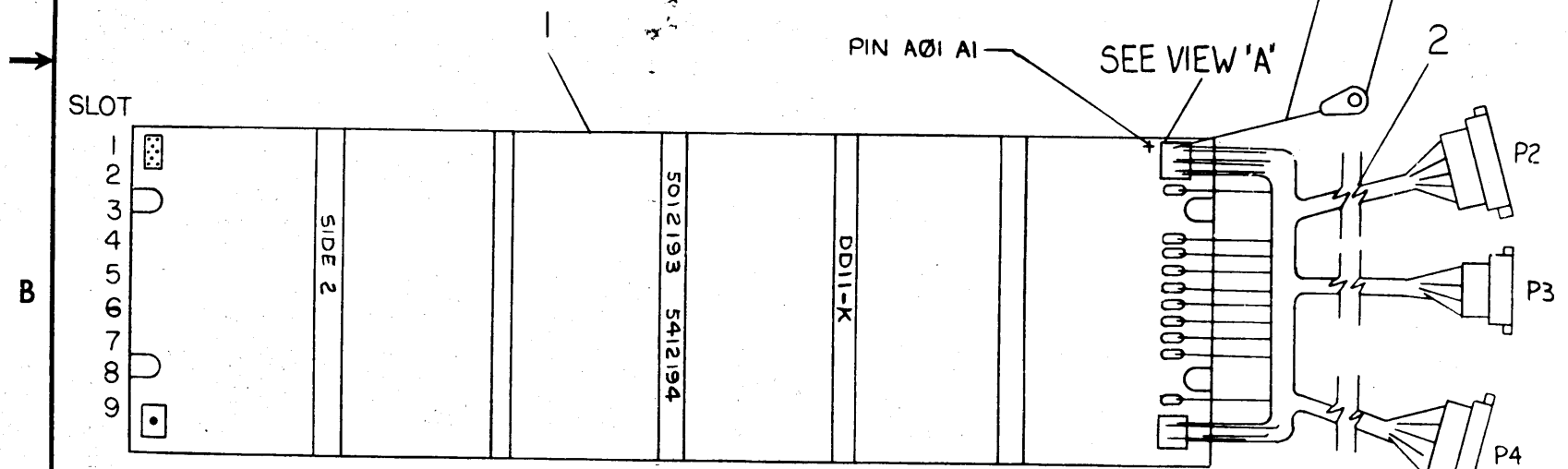
FROM			TO	FROM			TO
COLOR	POINT	CONNECTION	SIGNAL	COLOR	POINT	CONNECTION	SIGNAL
BLU	P4-13	SOLDER	-15 V	BRN	P2-14	SOLDER	-5V
RED	P4-4		+5V	BLK	P2-8		GND
RED	P4-1		+5V	GRN	P2-2		+15
BLK	P4-8		GND	GRN	P2-3		+20
ORN	P4-3		+20V	BLK	P2-9		GND
BLK	P4-9		GND	RED	P2-10	SOLDER	+5 B
WHT	P4-6		+VIB	ITEM#3	ITEM#4	SOLDER	GND
GRN	P4-15		-VIB				
YEL	P3-4		AC LO				
BLK	P3-1		GND				
BRN	P3-2		LTC				
VIO	P3-3		DC LO				
RED	P2-4		+5V				
RED	P2-1	SOLDER	+5V				

NOTES:

- +VIB & -VIB MAY BE SELECTED AS ±15V OR ±12V AT THE H785 REGULATOR. ±12V WILL BE USED FOR THE MS11-K. ±15V WILL BE USED FOR OTHER MEMORIES USED IN THE DD11-K.
- INSTALL TERMINAL (ITEM 4) UNDER LOGIC FRAME MTG. SCREW TO TIE LOGIC GROUND TO CHASSIS GROUND.
- THE BAI1-F POWER HARNESS (ITEM #2) IS NOT ELECTRICALLY COMPATIBLE WITH THE BAI1-L OR BAI1-K MOUNTING BOX.



VIEW A



QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	TERMINAL, SOLDER	9008150-00	4
A/R	WIRE, BLK STRD #14	9107370-00	3
1	POWER HARNESS BAI1-F	D-IA-7011109-0-0	2
1	WIRED ASSY DD11-K	C-IA-7013542-0-0	1

FIRST USED ON OPTION/MODEL DD11-KF		PARTS LIST	
DIMENSIONAL TOLERANCE		DRN	DATE
DIMENSIONS ARE <del>MILLIMETERS</del> INCHES		CHK'D	DATE
UNLESS OTHERWISE SPECIFIED		ENG.	DATE
MILLIMETERS	INCHES	ANGLES	
X,XX ±0.10	.XXX ±0.005	20° 30'	
X,X ±0.5	.X ±0.02		
X ±2	.X ±.1		
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	PROJ. ENG.	DATE
		PROV.	DATE
		NEXT HIGHER ASSY.	
MATERIAL SEE PARTS LIST	A-PL-DD11-K-Ø	TITLE	
FINISH		BACK PLANE ASSY (DD11-KF)	
		SIZE CODE	NUMBER
		C IA	7013540-0-0
		SCALE NONE	REV.
		SHEET 1 OF 1	
		DIST.	

REV.	
CHANGE NO.	
CHK	

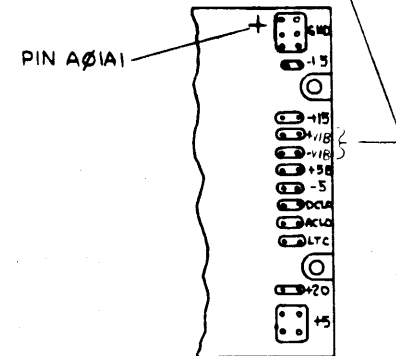
REV. NUMBER 7013540-0-0

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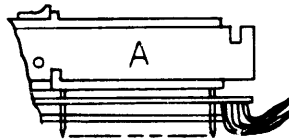
WIRE TABLE

FROM		TO		FROM		TO	
COLOR	POINT	CONNECTION	SIGNAL	COLOR	POINT	CONNECTION	SIGNAL
BLUE	P4-13	SOLDER	-15V	BRN	P2-14	SOLDER	-5V
RED	P4-4		+5V	BLK	P2-8		GND
RED	P4-1		+5V	GRAY	P2-2		+15
BLK	P4-8		GND	ORG	P2-3		+20
ORG	P4-3		+20V	BLK	P2-9		GND
BLK	P4-9		GND	RED	P2-12	SOLDER	+5V
WHT	P4-6		+VIB	ITEM 3	ITEM 4	SOLDER	GND
GRN	P4-15		-VIB				
YEL	P3-4		ACLO				
BLK	P3-1		GND				
BRN	P3-2		LTC				
VIO	P3-3		DCLO				
RED	P2-4		+5V				
RED	P2-1	SOLDER	+5V				

SEE NOTE 1



VIEW A



PIN A Ø1A1

SEE VIEW A

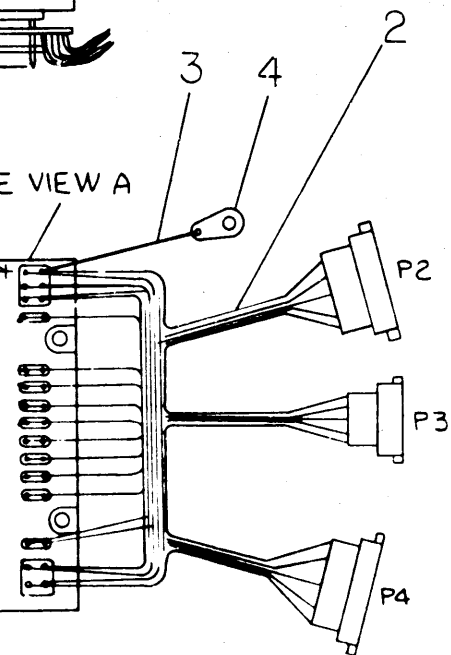
SLOT

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

SIDE 2

5012193 5412194

DDII-K



NOTES:

- +VIB & -VIB MAY BE SELECTED AS ±15V OR ±12V AT THE H785 REGULATOR. ±12V WILL BE USED FOR THE MS11-K. ±15V WILL BE USED FOR OTHER MEMORIES USED IN THE DD11-K.
- INSTALL TERMINAL (ITEM 4) UNDER LOGIC FRAME MOUNTING SCREW TO TIE LOGIC GROUND TO CHASSIS GROUND.

QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	TERMINAL, SOLDER	9008150-00	4
2"	WIRE, BLK STRD #14	9107370-00	3
1	POWER HARNESS (BAIL-K, BAIL-L)	D-IA-701108-0-0	2
1	WIRED ASSY DD11-K	D-IA-7013542-0-0	1

FIRST USED ON OPTION/MODEL		DDII-KK	
DIMENSIONAL TOLERANCE		DRY	
DIMENSIONS ARE INCHES UNLESS OTHERWISE SPECIFIED		DATE 9 NOV 76	
MILLIMETERS	INCHES	ANGLES	DATE 21 Feb 77
X,XX ±0.10	.XXX ±.005	±0° 30'	DATE 21 Feb 77
XX ±0.5	.XX ±.02		DATE 4 FEB 77
X ±.2	.X ±.1		
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	NEXT HIGHER ASSY.	
MATERIAL SEE PARTS LIST	A-PL-DDII-K-Ø	SCALE NONE	
FINISH + +		SHEET 1 OF 1	



TITLE  
BACKPLANE ASS'Y  
(DDII-KK)

SIZE CODE NUMBER REV.  
C IA 7013541-0-0

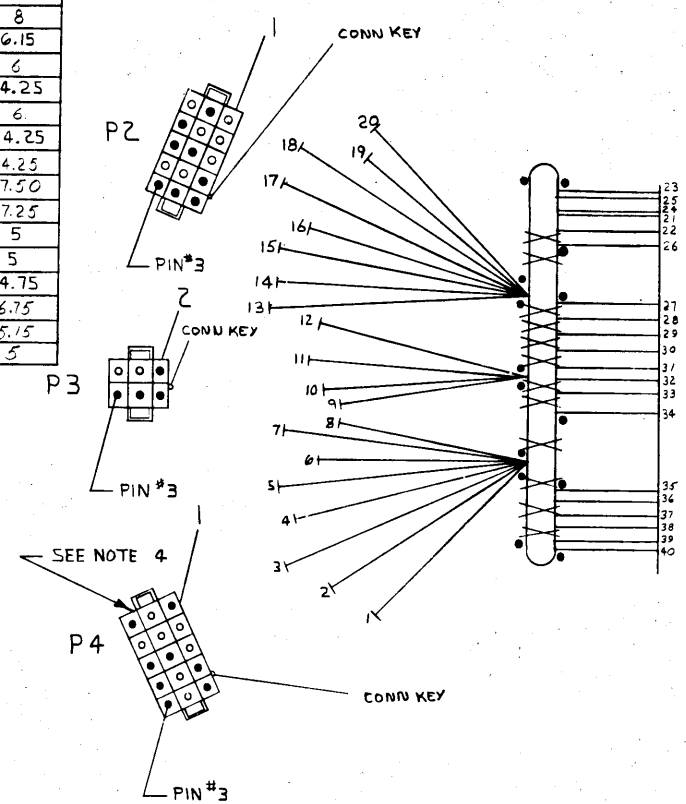
REV.	
CHANGE NO.	
CHK	

REV. NUMBER  
C IA 7013541-0-0

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NOTES:  
 1. USE TIE WRAPS (2) ITEM #4 AT BREAKOUT POINTS SHOWN  
 2. DOT (•) INDICATES NAIL LOCATION FOR ASS'Y USE ONLY. COVER NAILS WITH SHINK TUBING TO PREVENT CUTTING HARNESS.  
 3. WIRE LENGTH TOLERANCES WILL BE +1/8, -0 INCHES.  
 4. ALL CONN. SHOWN FROM WIRING SIDE.

ITEM NO.	DESCRIPTION	FROM			TO			SIGNAL	LENGTH
		AWG	COLOR	POINT	CONNECTION	WITH	POINT		
9	#18	BLU	1	P4-13	3	26	SOLDER	-15V	7
5	14	RED	2	P4-4		37		+5V	5
5	14	RED	3	P4-1		38		+5V	5
6	14	BLK	4	P4-8		21		GND	7.75
7	14	ORN	5	P4-3		35		+20V	5
6	14	BLK	6	P4-9		22		GND	8
13	18	WHT	7	P4-6		28		+5B	6.15
12	18	GFN	8	P4-15		29		-15B	6
12	18	YEL	9	P3-4		33		ACLD	4.25
6	14	BLK	10	F3-1		23		GND	6
10	18	BRN	11	P3-2		34		LTC	4.25
11	18	VIO	12	F3-3		32		DCLO	4.25
5	14	RED	13	P2-4		39		+5V	7.50
5	14	RED	14	F2-1		40		+5V	7.25
10	18	BRN	15	P2-14		31		-5V	5
6	14	BLK	16	P2-8		24		GND	5
8	18	GREY	17	P2-2		27		+15	4.75
7	14	ORN	18	P2-3		30		+20	6.75
6	14	BLK	19	P2-9		25		GND	5.15
5	14	RED	20	P2-12	3	30	SOLDER	+5B	5



DO NOT REDUCE SCALE

0 IN 6 IN 12 IN

FOR MANUFACTURING PURPOSES ONLY

FOR WIRE LENGTHS SEE WIRING TABLE

DESCRIPTION	DWG./PART NO.	ITEM NO.
1 POWER HARNESS DECALS	7409872-2-0	15
A/R WIRE #18 AWG, BRN	9107360-55	4
A/R WIRE #18 AWG, WHT	9107360-99	13
A/R WIRE #18 AWG, YEL	9107360-44	12
A/R WIRE #18 AWG, VIO	9107360-77	11
A/R WIRE #18 AWG, BRN	9107360-11	10
A/R WIRE #18 AWG, BLU	9107360-66	1
A/R WIRE #18 AWG, GREY	9107360-88	8
A/R WIRE #14 AWG, ORN	9107370-33	7
A/R WIRE #14 AWG, BLK	9107370-00	6
A/R WIRE #14 AWG, RED	9107370-22	5
12 TIE WRAP	9007031	4
20 PIN MALE	1209378-01	3
1 CONN. 6 PIN HOUSING	1209351-06	2
2 CONN. 15 PIN HOUSING	1209351-15	1

REV.	DATE	BY	CHKD.
1	5/1/78	D. BAHAY	P. FORRECA
2	5/1/78	D. BAHAY	P. FORRECA
3	5/1/78	D. BAHAY	P. FORRECA
4	5/1/78	D. BAHAY	P. FORRECA
5	5/1/78	D. BAHAY	P. FORRECA
6	5/1/78	D. BAHAY	P. FORRECA
7	5/1/78	D. BAHAY	P. FORRECA
8	5/1/78	D. BAHAY	P. FORRECA

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
ANGLES	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES	
±30°	OVER TO	OVER TO	OVER TO
SURFACE	CHECK ONLY	±0.2	±0.1
TOTALITY IN	MEDIUM	±0.004	±0.002
MICROMETERS	PREFERRED	±0.018	±0.004
THIRD ANGLE PROJECTION	DRN. P. B. 5/1/78	FIRST USED ON	DD11-D
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D. P. B. 5/1/78	TITLE	
DO NOT SCALE DWG	ENG. P. B. 5/1/78	POWER HARNESS (BAIL-K, BAIL-L)	
MATERIAL SEE PARTS LIST	PROD. ENG. P. B. 5/1/78	SIZE CODE	D IA 701108-0-0
FINISH	PROJ. ENG. P. B. 5/1/78	SCALE	1/1
	NEXT HIGHER ASSY.	SHEET	OF 1
		DIST.	

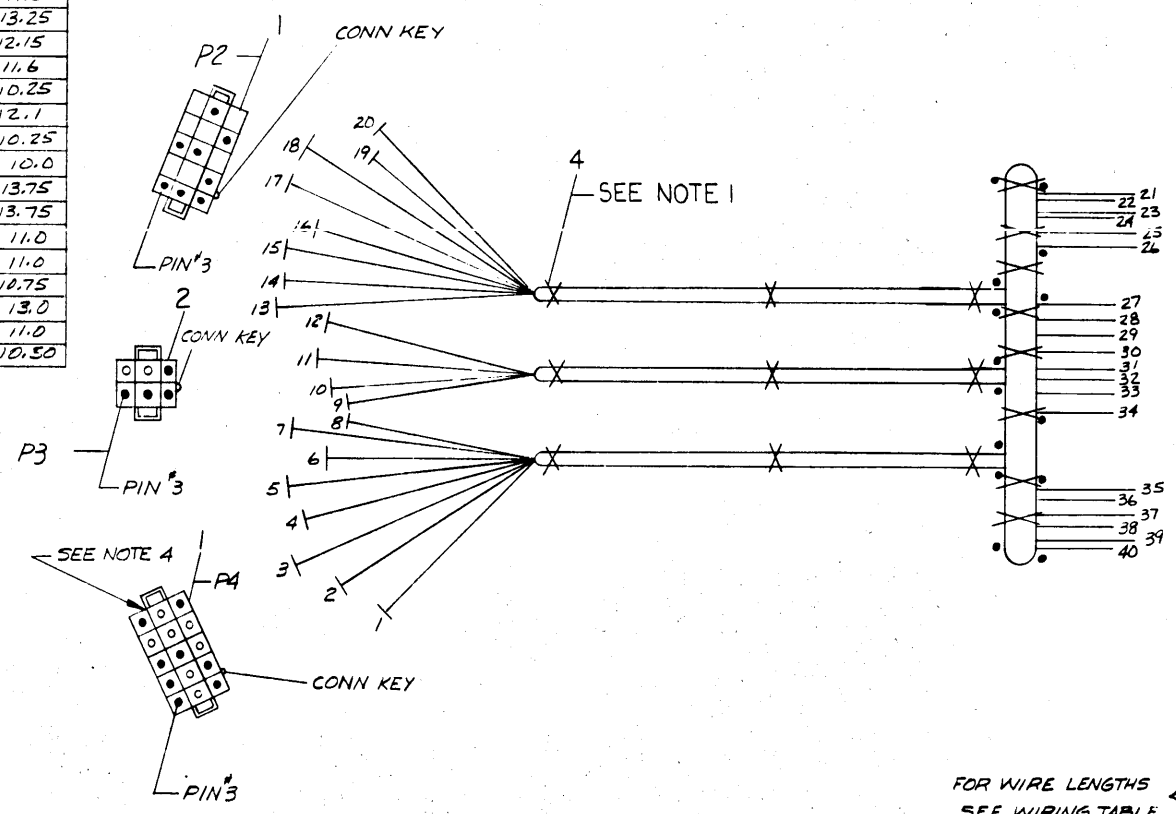
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0-0-601102 2

WIRING TABLE

ITEM NO	AWG	COLOR	POINT	FROM CONNECTION	WITH	POINT	TO CONNECTION	SIGNAL	LENGTH
4	18	BLU	1	P4-13	3	26	SOLDER	-15V	12.75
5	14	RED	2	P4-4		37		+5V	11
6	14	RED	3	P4-1		38		+5V	11.25
6	14	BLK	4	P4-8		21		GND	13.75
7	14	ORN	5	P4-3		35		+20V	11.0
6	14	BLK	6	P4-9		22		GND	13.25
13	18	WHT	7	P4-6		28		+5B	12.15
14	18	GRN	8	P4-15		29		-15B	11.6
12	18	YEL	9	P3-4		33		ACLO	10.25
6	14	BLK	10	P3-1		23		GND	12.1
10	18	BRN	11	P3-2		34		LTC	10.25
11	18	VID	12	P3-3		32		DCLO	10.0
5	14	RED	13	P2-4		39		+5V	13.75
5	14	RED	14	P2-1		40		+5V	13.75
5	14	BRN	15	P2-14		31		-5V	11.0
6	14	BLK	16	P2-8		24		GND	11.0
8	18	GRY	17	P2-2		27		+15	10.75
7	14	ORN	18	P2-3		36		+20	13.0
6	14	BLK	19	P2-9		25		GND	11.0
5	14	RED	20	P2-10	3	30	SOLDER	+5B	10.50

- NOTES:
1. USE TIE WRAPS (X) ITEM #4 AT BREAKOUT POINTS SHOWN.
  2. DOT (•) INDICATES NAIL LOCATION FOR ASSEMBLY USE ONLY. COVER NAILS WITH SHRINK TUBING.
  3. WIRE LENGTH TOL WILL BE ±.12 IN.
  4. ALL CONN SHOWN FROM WIRING TABLE.
  5. STRIP 1/8" INSULATION FROM POINTS 21 THRU 40 AND FULL TIN POINTS 21 THRU 40.



DESCRIPTION	DWG. PART NO.	ITEM NO.
1 POWER HARNESS DECAL	7409972-2	6
17 WIRE #14 AWG (BRN)	9107370-11	5
14 WIRE #18 AWG (GRN)	9107360-55	14
12 WIRE #18 AWG (WHT)	9107360-99	73
12 WIRE #18 AWG (YEL)	9107360-44	12
11 WIRE #18 AWG (VID)	9107360-77	11
10 WIRE #18 AWG (BRN)	9107360-11	10
9 WIRE #18 AWG (BLU)	9107360-66	9
8 WIRE #18 AWG (GRY)	9107360-88	8
7 WIRE #14 AWG (ORN)	9107370-33	7
6 WIRE #14 AWG (BLK)	9107370-05	6
5 WIRE #14 AWG (RED)	9107370-22	5
4 TIE WRAP	9007031	4
3 PIN MALE	1209378-C1	3
2 CONN 6 PIN HOUSING	1209351-C6	2
1 CONN 15 PIN HOUSING	1209351-15	1

FOR WIRE LENGTHS SEE WIRING TABLE

DO NOT REDUCE SCALE 6 IN 12 IN FOR MANUFACTURING PURPOSES ONLY

REV.	CHANGE NO.	DATE	BY	REASON
1	1	10/11/75	D. BARRY	INITIAL
2	2	11/18/75	P. PORRECA	REVISED

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH

QUANTITY & VARIATION

DESCRIPTION DWG. PART NO. ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES			
	OVER 0 TO 1.25	OVER 1.25 TO 3.125	OVER 3.125 TO 12.5	OVER 12.5 TO 40.0
ANGLES	±0.2	±0.3	±0.4	±0.5
SURFACE QUALITY	IN	IN	IN	IN
MEDIUM	±0.004	±0.006	±0.008	±0.010
PREFERRED	±0.012	±0.018	±0.025	±0.031

DRN: [Signature] 11/3/75

CHK'D: [Signature] 11/19/75

ENGR: [Signature] 11/19/75

PROJ. ENGR: [Signature] 11/19/75

PROD. [Signature] 12-18-75

FIRST USED ON DD11-DF, PF

TITLE POWER HARNESS (BA11-F)

SIZE CODE D

NUMBER 701109-0-0

REV. B


SHEET 1 OF 1



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DIGITAL EQUIP. CORP.

REV. 1-0-1  
 SIZE CODE K WL  
 NUMBER 7013542-0-1

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
DDII-K				
PARTS LIST				
DRN. <i>H. Sandjian</i>	DATE 9 NOV 76	 <b>digital EQUIPMENT CORPORATION</b> MAYNARD, MASSACHUSETTS TITLE <h1 style="margin: 0;">WIRE LIST</h1> <h2 style="margin: 0;">DDII-K</h2>		
CHK'D. <i>E. McKing</i>	DATE 2 DEC 76			
ENG. <i>D. W. Law</i>	DATE 21 FEB 77			
PROJ. ENG. <i>G. B. Hunter</i>	DATE 21 FEB 77			
PROD. <i>A. Lee</i>	DATE 14 FEB 77			
NEXT HIGHER ASSEMBLY				
B-DD-DDII-K		SIZE CODE	NUMBER	REV.
SCALE	+	K WL	7013542-0-1	
SHEET	1 OF 1	DIST.		

REV.	
CHANGE NO.	
CHK	

DD11KK.P1 RUN NAME	WRP288.V34(63)-1 A/P PIN ORDER	23-AUG-76 BAY - ORDER PIN	Q	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 NC LENGTH EXCEPTIONS FLAG	PAGE 1	RUN NUMBER
+12V/+15V BB	A02R1	1-01 * P						2				1		1
+12V/+15V BB	A03R1	1-02 * P						2				1		1
+12V/+15V BB	A04R1	1-03 * P						2				1		1
+12V/+15V BB	A05R1	1-04 * P						2				1		1
+12V/+15V BB	A06R1	1-05 * P						2				1		1
+12V/+15V BB	A07R1	1-06 * P						2				1		1
+12V/+15V BB	A08R1	1-07 * P						2				1	2-7/8	1
+12V/+15V BB	A09R1	1-08 * P						2				1		1
+12V/+15V BB	A09U1	1-09 * P						2				1		1
+12V/+15V BB	A06U1	1-10 * P						2				1		1
+12V/+15V BB	A06U1	1-10 * P						2				1		1
+12V/+15V BB	A07U1	1-11 * P						2				1	11-7/8 1400000000	1
+15/+8V	C01U1	1-01 * P						2				1		2
+15/+8V	C02U1	1-02 * P						2				1		2
+15/+8V	C03U1	1-03 * P						2				1		2
+15/+8V	C04U1	1-04 * P						2				1		2
+15/+8V	C05U1	1-05 * P						2				1		2
+15/+8V	C06U1	1-06 * P						2				1		2
+15/+8V	C07U1	1-07 * P						2				1		2
+15/+8V	C08U1	1-08 * P						2				1		2
+15/+8V	C09U1	1-09 * P						2				1		2
+15/+8V	C09U1	1-09 * P						2				1	8-0/8 1400000000	2
+20V	A02U1	1-01 * P						1				0-1/8		3
+20V	A02V1	1-02 * P						2				0-4/8		3
+20V	A03V1	1-03 * P						1				0-1/8		3
+20V	A03U1	1-04 * P						2				0-1/8		3
+20V	A03V1	1-05 * P						2				0-4/8		3
+20V	A03V2	1-06 * P						1				1-3/8 1400000000		3
+20V	A03V2	1-06 * P						1				1-3/8 1400000000		3

DD11KK.P1 RUN NAME	WRP288.V34(63)-1 A/P PIN ORDER	23-AUG-76 BAY - ORDER PIN	Q	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 NC LENGTH EXCEPTIONS FLAG	PAGE 2	RUN NUMBER
+5V	A01A2	1-01 * P						2				1		4
+5V	A02A2	1-02 * P						2				1		4
+5V	A03A2	1-03 * P						2				1		4
+5V	A04A2	1-04 * P						2				1		4
+5V	A05A2	1-05 * P						2				1		4
+5V	A06A2	1-06 * P						2				1		4
+5V	A07A2	1-07 * P						2				1		4
+5V	A08A2	1-08 * P						2				1		4
+5V	A09A2	1-09 * P						2				1	3-2/8	4
+5V	A09A2	1-10 * P						2				1		4
+5V	A08A2	1-11 * P						2				1		4
+5V	A07A2	1-12 * P						2				1		4
+5V	A06A2	1-13 * P						2				1		4
+5V	A05A2	1-14 * P						2				1		4
+5V	A04A2	1-15 * P						2				1		4
+5V	A03A2	1-16 * P						2				1		4
+5V	A02A2	1-17 * P						2				1		4
+5V	A01A2	1-18 * P						2				1		4
+5V	A01A2	1-19 * P						2				1		4
+5V	A02A2	1-20 * P						2				1		4
+5V	A03A2	1-21 * P						2				1		4
+5V	A04A2	1-22 * P						2				1		4
+5V	A05A2	1-23 * P						2				1		4
+5V	A06A2	1-24 * P						2				1		4
+5V	A07A2	1-25 * P						2				1		4
+5V	A08A2	1-26 * P						2				1		4
+5V	A09A2	1-27 * P						2				1	3-2/8	4
+5V	A09A2	1-28 * P						2				1		4
+5V	A08A2	1-29 * P						2				1		4
+5V	A07A2	1-30 * P						2				1		4
+5V	A06A2	1-31 * P						2				1		4
+5V	A05A2	1-32 * P						2				1		4
+5V	A04A2	1-33 * P						2				1		4
+5V	A03A2	1-34 * P						2				1		4
+5V	A02A2	1-35 * P						2				1		4
+5V	A01A2	1-36 * P						2				1		4
+5V	A01A2	1-37 * P						2				1		4
+5V	A02A2	1-38 * P						2				1		4
+5V	A03A2	1-39 * P						2				1		4
+5V	A04A2	1-40 * P						2				1		4
+5V	A05A2	1-41 * P						2				1		4
+5V	A06A2	1-42 * P						2				1		4
+5V	A07A2	1-43 * P						2				1		4
+5V	A08A2	1-44 * P						2				1		4
+5V	A09A2	1-45 * P						2				1	3-2/8	4
+5V	A09A2	1-46 * P						2				1		4
+5V	A08A2	1-47 * P						2				1		4
+5V	A07A2	1-48 * P						2				1		4
+5V	A06A2	1-49 * P						2				1		4
+5V	A05A2	1-50 * P						2				1		4
+5V	A04A2	1-51 * P						2				1		4
+5V	A03A2	1-52 * P						2				1		4
+5V	A02A2	1-53 * P						2				1		4
+5V	A01A2	1-54 * X						2				1	63-6/8 1400000000	4

0D11K.P1		WRP288.V34(63)-1		23-AUG-76		27-DEC-76		11:30		PAGE 3					
RUN NAME	A/P	PIN ORDER	PIN	BAY	Q	DRAW	RV	RG	Y	X	Z	REMARKS	FLAG	NC LENGTH EXCEPTIONS	RUN NUMBER
+5V BB		B02D1		1-01 *	P										5
+5V BB		B03D1		1-02 *	P										5
+5V BB		B04D1		1-03 *	P										5
+5V BB		B05D1		1-04 *	P										5
+5V BB		B06D1		1-05 *	P										5
+5V BB		B07D1		1-06 *	P										5
+5V BB		B08D1		1-07 *	P										5
-12V/-15V BB		A02S1		1-01 *	P									6-0/8 1400000000	5
-12V/-15V BB		A03S1		1-02 *	P										6
-12V/-15V BB		A04S1		1-03 *	P										6
-12V/-15V BB		A05S1		1-04 *	P										6
-12V/-15V BB		A06S1		1-05 *	P										6
-12V/-15V BB		A07S1		1-06 *	P										6
-12V/-15V BB		A08S1		1-07 *	P										6
-15V		C01B2		1-01 *	P										7
-15V		C02B2		1-02 *	P										7
-15V		C03B2		1-03 *	P										7
-15V		C04B2		1-04 *	P										7
-15V		C05B2		1-05 *	P										7
-15V		C06B2		1-06 *	P										7
-15V		C07B2		1-07 *	P										7
-15V		C08B2		1-08 *	P										7
-15V		C09B2		1-09 *	P										7
-15V		C10B2		1-10 *	P										7
-15V		C11B2		1-11 *	P										7
-15V		C12B2		1-12 *	P										7
-15V		C13B2		1-13 *	P										7
-15V		C14B2		1-14 *	P										7
-15V		C15B2		1-15 *	P										7
-15V		C16B2		1-16 *	P										7
-15V		C17B2		1-17 *	P										7
-15V		C18B2		1-18 *	P										7
-15V		C19B2		1-19 *	P										7
-15V		C20B2		1-20 *	P										7
-15V		E03B2		1-21 *	P										7
-15V		E04B2		1-22 *	P										7
-15V		E05B2		1-23 *	P										7
-15V		E06B2		1-24 *	P										7
-15V		E07B2		1-25 *	P										7
-15V		E08B2		1-26 *	P										7
-15V		E09B2		1-27 *	P										7
-15V		E10B2		1-28 *	P										7
-15V		F07B2		1-29 *	P										7
-15V		F08B2		1-30 *	P										7
-15V		F09B2		1-31 *	P										7
-15V		F10B2		1-32 *	P										7
-15V		F11B2		1-33 *	P										7
-15V		F12B2		1-34 *	P										7
-15V		F13B2		1-35 *	P										7
-15V		F14B2		1-36 *	X										7
-15V														41-4/6 1400000000	7

0D11K.P1		WRP288.V34(63)-1		23-AUG-76		27-DEC-76		11:30		PAGE 4					
RUN NAME	A/P	PIN ORDER	PIN	BAY	Q	DRAW	RV	RG	Y	X	Z	REMARKS	FLAG	NC LENGTH EXCEPTIONS	RUN NUMBER
-5V		B02V2		1-01 *	P										8
-5V		B03V2		1-02 *	P										8
A BG IN		D01U2		1-01 *											9
A BG IN		F01B1		1-02 *											9
A BG OUT		D01V2		1-01 *											10
A BG OUT		F01A1		1-02 *											10
A BR OUT		D01J2		1-01 *											11
A BR OUT		F01P1		1-02 *											11
A BR OUT		F01U2		1-03 *											11
A IN		D01H1		1-01 *											12
A IN		E01M1		1-02 *											12
A IN															12
A INT A		D01T1		1-01 *											13
A INT A		F01U1		1-02 *											13
A INT B		C01J1		1-01 *											14
A INT B		F01K2		1-02 *											14
A INT ENB A		D01I1		1-01 *											15
A INT ENB A		F01V1		1-02 *											15
A INT ENB A															15
A INT ENB B		C01L1		1-01 *											16
A INT ENB B		F01W2		1-02 *											16
A INT ENB B															16
A OUT HIGH		D01K1		1-01 *											17
A OUT HIGH		E01N2		1-02 *											17
A OUT HIGH															17
A OUT LOK		D01O1		1-01 *											18
A OUT LOK		E01M1		1-02 *											18
A OUT LOK															18
A SEL 0		D01F1		1-01 *											19
A SEL 0		F01S2		1-02 *											19
A SEL 0															19
A SEL 4		D01E1		1-01 *											20
A SEL 4		E01P2		1-02 *											20
A SEL 4															20
A SEL 6		D01C1		1-01 *											21
A SEL 6		E01S1		1-02 *											21
A SEL 6															21

DD11KK.PI RUN NAME	WRP288.V34(63)-1 A/P PIN ORDER NAME	23-AUG-76 DAY - ORDER PIN	27-DEC-76 REMARKS	11130 NC LENGTH EXCEPTIONS FLAG	PAGE 5	RUN NUMBER
A SER 2	D01J1	1-01 *	1	N	4-1/8	22
A SER 2	E01T2	1-02 *	1	N	4-1/8 1400000000	22
A SER 2	D01V1	1-01 *	1	N	1	23
A SSSN IN H	E01S1	1-02 *	1	N	1-0/8 1400000000	23
A SSSN IN H	D01F1	1-01 *	1	N	1	24
AC LO L	D02F1	1-02 *	2	N	5-3/8	24
AC LO L	D03F1	1-03 *	1	N	1	24
AC LO L	C01V1	1-04 *	1	N	1	24
AC LO L	C02V1	1-05 *	2	N	1	24
AC LO L	C03V1	1-06 *	1	N	1	24
AC LO L	C04V1	1-07 *	1	N	1	24
AC LO L	C05V1	1-08 *	1	N	1	24
AC LO L	C06V1	1-09 *	2	N	1	24
AC LO L	C07V1	1-10 *	2	N	1	24
AC LO L	C08V1	1-11 *	1	N	1	24
AC LO L	C09V1	1-12 *	2	N	4-4/8	24
AC LO L	D09F1	1-13 *	1	N	19-7/8 1400000000	24
B BG IN	D02U2	1-01 *	1	N	3-7/8	25
B BG IN	F02B1	1-02 *	1	N	3-7/8 1400000000	25
B BG IN	D02V2	1-01 *	1	N	3-7/8	26
B BG OUT	F02A1	1-02 *	1	N	3-7/8 1400000000	26
B BG OUT	D02J2	1-01 *	1	N	6-5/8	27
B BR OUT	F02P1	1-02 *	2	N	1	27
B BR OUT	F02U2	1-03 *	1	N	7-5/8 1400000000	27
B BR OUT	D02H1	1-01 *	1	N	3-4/8	28
B IN	E02M1	1-02 *	1	N	3-4/8 1400000000	28
B IN	D02P1	1-01 *	1	N	6-3/8	29
B INI A	F02U1	1-02 *	1	N	6-3/8 1400000000	29
B INI A	C02J1	1-01 *	1	N	8-5/8	30
B INI B	F02K2	1-02 *	1	N	8-5/8 1400000000	30
B INI ENB A	D02M1	1-01 *	1	N	6-5/8	31
B INI ENB A	F02V1	1-02 *	1	N	6-5/8 1400000000	31
B INT ENB B	C02L1	1-01 *	1	N	8-1/8	32
B INT ENB B	F02H2	1-02 *	1	N	8-1/8 1400000000	32
B INT ENB B						

DD11KK.PI RUN NAME	WRP288.V34(63)-1 A/P PIN ORDER NAME	23-AUG-76 DAY - ORDER PIN	27-DEC-76 REMARKS	11130 NC LENGTH EXCEPTIONS FLAG	PAGE 6	RUN NUMBER
B OUT HIGH	D02K1	1-01 *	1	N	3-3/8	33
B OUT HIGH	E02M2	1-02 *	1	N	3-3/8 1400000000	33
B OUT HIGH	D02D1	1-01 *	1	N	4	34
B OUT LOW	E02N1	1-02 *	1	N	4-0/8 1400000000	34
B OUT LOW	D02F1	1-01 *	1	N	4-1/8	35
B SEL 0	E02S2	1-02 *	1	N	4-1/8 1400000000	35
B SEL 0	D02E1	1-01 *	1	N	4-3/8	36
B SFL 4	E02R2	1-02 *	1	N	4-3/8 1400000000	36
B SFL 4	D02C1	1-01 *	1	N	4-4/8	37
B SEL 6	E02S1	1-02 *	1	N	4-4/8 1400000000	37
B SEL 6	D02J1	1-01 *	1	N	4-1/8	38
B SER 2	E02T2	1-02 *	1	N	4-1/8 1400000000	38
B SER 2	D02V1	1-01 *	1	N	4-1/8 1400000000	39
B SSSN IN H	E02B1	1-02 *	1	N	1	39
B SSSN IN H	A01P2	1-01 *	2	N	13-5/8	40
B SSSN IN H	A02P2	1-02 *	1	N	1	40
B SSSN IN H	A03P2	1-03 *	2	N	1	40
B SSSN IN H	F01D1	1-04 *	2	N	1	40
B SSSN IN H	F02D1	1-05 *	1	N	1	40
B SSSN IN H	F03D1	1-06 *	2	N	1	40
B SSSN IN H	F04D1	1-07 *	1	N	1	40
B SSSN IN H	F05D1	1-08 *	2	N	1	40
B SSSN IN H	F06D1	1-09 *	1	N	1	40
B SSSN IN H	F07D1	1-10 *	2	N	1	40
B SSSN IN H	F08D1	1-11 *	1	N	1	40
B SSSN IN H	F09D1	1-12 *	2	N	12-5/8	40
B SSSN IN H	A09P2	1-13 *	1	N	36-2/8 1400000000	40
B SSSN IN H						
BG4 A	B01F2	1-01 *	1	N	7	41
BG4 A	D01S2	1-02 *	1	N	7-0/8 1400000000	41
BG4 B	C01J2	1-01 *	1	N	0-5/8	42
BG4 B	F02S2	1-02 *	1	N	0-5/8 1400000000	42
BG4 C	D02T2	1-01 *	1	N	0-5/8	43
BG4 C	D03S2	1-02 *	1	N	0-5/8 1400000000	43

DD11K.P1 RUN NAME	A/P PIN	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	11130 MC LENGTH FLAG	PAGE 7 EXCEPTIONS NUMBER	RUN NUMBER
8G4 D		D0372	1-01 * P							1		0-5/8	44	44
8G4 D		D0482	1-02 * X									0-5/8 1400000000	44	44
8G4 D														
8G4 E		D0472	1-01 * P							1		0-5/8	45	45
8G4 E		D0552	1-02 * X									0-5/8 1400000000	45	45
8G4 E														
8G4 F		D0572	1-01 * P							1		0-5/8	46	46
8G4 F		D0652	1-02 * X									0-5/8 1400000000	46	46
8G4 F														
8G4 H		D0672	1-01 * P							1		0-5/8	47	47
8G4 H		D0752	1-02 * X									0-5/8 1400000000	47	47
8G4 H														
8G4 J		D0772	1-01 * P							1		0-5/8	48	48
8G4 J		D0852	1-02 * X									0-5/8 1400000000	48	48
8G4 J														
8G4 K		D0872	1-01 * P							1		0-5/8	49	49
8G4 K		D0952	1-02 * X									0-5/8 1400000000	49	49
8G4 K														
8G4 L		B09E2	1-01 * H							1	TMP	7-1/8	50	50
8G4 L		D0972	1-02 * X									7-1/8 1400000000	50	50
8G4 L														
8G4 M		B01B1	1-01 * H							1	TMP	7-1/8	51	51
8G5 A		D01P2	1-02 * X									7-1/8 1400000000	51	51
8G5 A														
8G5 B		D01R2	1-01 * P							1		0-5/8	52	52
8G5 B		D02P2	1-02 * X									0-5/8 1400000000	52	52
8G5 B														
8G5 C		D02R2	1-01 * P							1		0-5/8	53	53
8G5 C		D03P2	1-02 * X									0-5/8 1400000000	53	53
8G5 C														
8G5 D		D03R2	1-01 * P							1		0-5/8	54	54
8G5 D		D04P2	1-02 * X									0-5/8 1400000000	54	54
8G5 D														
8G5 E		D04R2	1-01 * P							1		0-5/8	55	55
8G5 E		D05P2	1-02 * X									0-5/8 1400000000	55	55
8G5 E														
8G5 F		D05R2	1-01 * P							1		0-5/8	56	56
8G5 F		D06P2	1-02 * X									0-5/8 1400000000	56	56
8G5 F														
8G5 H		D06R2	1-01 * P							1		0-5/8	57	57
8G5 H		D07P2	1-02 * X									0-5/8 1400000000	57	57
8G5 H														

DD11K.P1 RUN NAME	A/P PIN	ORDER PIN	BAY - ORDER	Q	DRAW OPT	RV	RG	Y	X	Z	REMARKS	11130 MC LENGTH FLAG	PAGE 8 EXCEPTIONS NUMBER	RUN NUMBER
8G5 J		D07R2	1-01 * P							1		0-5/8	58	58
8G5 J		D08P2	1-02 * X									0-5/8 1400000000	58	58
8G5 J														
8G5 K		D08R2	1-01 * P							1		0-5/8	59	59
8G5 K		D09P2	1-02 * X									0-5/8 1400000000	59	59
8G5 K														
8G5 L		B09B1	1-01 * H							1	TMP	7-3/8	60	60
8G5 L		D09P2	1-02 * X									7-3/8 1400000000	60	60
8G5 L														
8G6 A		B01A1	1-01 * H							1	TMP	7-1/8	61	61
8G6 A		D01P2	1-02 * X									7-1/8 1400000000	61	61
8G6 A														
8G6 B		D01R2	1-01 * P							1		0-5/8	62	62
8G6 B		D02P2	1-02 * X									0-5/8 1400000000	62	62
8G6 B														
8G6 C		D02R2	1-01 * P							1		0-5/8	63	63
8G6 C		D03P2	1-02 * X									0-5/8 1400000000	63	63
8G6 C														
8G6 D		D03R2	1-01 * P							1		0-5/8	64	64
8G6 D		D04P2	1-02 * X									0-5/8 1400000000	64	64
8G6 D														
8G6 E		D04R2	1-01 * P							1		0-5/8	65	65
8G6 E		D05P2	1-02 * X									0-5/8 1400000000	65	65
8G6 E														
8G6 F		D05R2	1-01 * P							1		0-5/8	66	66
8G6 F		D06P2	1-02 * X									0-5/8 1400000000	66	66
8G6 F														
8G6 H		D06R2	1-01 * P							1		0-5/8	67	67
8G6 H		D07P2	1-02 * X									0-5/8 1400000000	67	67
8G6 H														
8G6 J		D07R2	1-01 * P							1		0-5/8	68	68
8G6 J		D08P2	1-02 * X									0-5/8 1400000000	68	68
8G6 J														
8G6 K		D08R2	1-01 * P							1		0-5/8	69	69
8G6 K		D09P2	1-02 * X									0-5/8 1400000000	69	69
8G6 K														
8G6 L		B09A1	1-01 * H							1	TMP	7-3/8	70	70
8G6 L		D09P2	1-02 * X									7-3/8 1400000000	70	70
8G6 L														
8G7 A		B01V1	1-01 * H							1	TMP	7-3/8	71	71
8G7 A		D01P2	1-02 * X									7-3/8 1400000000	71	71
8G7 A														

DD11KK.P1 RUN NAME	MRP288.V34(63)-1 A/P PIN ORDER	23-AUG-76 PAY ORDER	27-DEC-76 REMARKS	11130 NC LENGTH EXCEPTIONS FLAG	PAGE 9	RUN NUMBER
B67 B	001L2	1-01 * P	1	0-5/8		72
B67 B	D02K2	1-02 * X		0-5/8 1400000000		72
B67 C	D02L2	1-01 * P	1	0-5/8		73
B67 C	D03K2	1-02 * X		0-5/8 1400000000		73
B67 D	D03L2	1-01 * P	1	0-5/8		74
B67 D	D04K2	1-02 * X		0-5/8 1400000000		74
B67 E	D04L2	1-01 * P	1	0-5/8		75
B67 E	D05K2	1-02 * X		0-5/8 1400000000		75
B67 F	D05L2	1-01 * P	1	0-5/8		76
B67 F	D06K2	1-02 * X		0-5/8 1400000000		76
B67 H	D06L2	1-01 * P	1	0-5/8		77
B67 H	D07K2	1-02 * X		0-5/8 1400000000		77
B67 H	D07L2	1-01 * P	1	0-5/8		76
B67 J	D08K2	1-02 * X		0-5/8 1400000000		78
B67 J	D08L2	1-01 * P	1	0-5/8		79
B67 K	D09K2	1-02 * X		0-5/8		79
B67 K	A09V1	1-01 * H	1	7-5/8		80
B67 L	D09L2	1-02 * X		7-5/8 1400000000		80
B67 L	B01D2	1-01 * *	1	N 1		81
B67 L	B02D2	1-02 * *	2	N 1		81
B67 L	B03D2	1-03 * H	1	7-1/8		81
B67 L	D01H2	1-04 * P	2	1		81
B67 L	D02H2	1-05 * P	1	1		81
B67 L	D03H2	1-06 * P	2	1		81
B67 L	D04H2	1-07 * P	1	1		81
B67 L	D05H2	1-08 * P	1	1		81
B67 L	D06H2	1-09 * P	2	1		81
B67 L	D07H2	1-10 * P	2	1		81
B67 L	D08H2	1-11 * P	1	1		81
B67 L	D09H2	1-12 * H	1	0-1/8		81
B67 L	B09D2	1-13 * *	2	23-2/8 1400000000		81

DD11KK.P1 RUN NAME	MRP288.V34(63)-1 A/P PIN ORDER	23-AUG-76 PAY ORDER	27-DEC-76 REMARKS	11130 NC LENGTH EXCEPTIONS FLAG	PAGE 10	RUN NUMBER
B85 L	B01C1	1-01 * P	1	1		82
B85 L	B02C1	1-02 * P	2	1		82
B85 L	B03C1	1-03 * H	1	0-5/8		82
B85 L	D01F2	1-04 * P	1	1		82
B85 L	D02F2	1-05 * P	2	1		82
B85 L	D03F2	1-06 * P	1	1		82
B85 L	D04F2	1-07 * P	2	1		82
B85 L	D05F2	1-08 * P	1	1		82
B85 L	D06F2	1-09 * P	2	1		82
B85 L	D07F2	1-10 * P	1	1		82
B85 L	D08F2	1-11 * P	2	1		82
B85 L	D09F2	1-12 * H	1	0-3/8		82
B85 L	B09C1	1-13 * *	1	23-0/8 1400000000		82
B86 L	A01U2	1-01 * *	1	N 1		83
B86 L	A02U2	1-02 * *	2	N 1		83
B86 L	A03U2	1-03 * H	1	7-7/8		83
B86 L	D01E2	1-04 * P	2	1		83
B86 L	D02E2	1-05 * P	1	1		83
B86 L	D03E2	1-06 * P	2	1		83
B86 L	L04E2	1-07 * P	1	1		83
B86 L	L05E2	1-08 * P	2	1		83
B86 L	D06E2	1-09 * P	1	1		83
B86 L	D07E2	1-10 * P	2	1		83
B86 L	D08E2	1-11 * P	1	1		83
B86 L	D09E2	1-12 * H	1	7		83
B86 L	A09U2	1-13 * *	1	24-7/8 1400000000		83
B87 L	A01T2	1-01 * *	1	N 1		84
B87 L	A02T2	1-02 * *	2	N 1		84
B87 L	A03T2	1-03 * H	1	7-7/8		84
B87 L	D01C2	1-04 * P	2	1		84
B87 L	D02C2	1-05 * P	1	1		84
B87 L	D03C2	1-06 * P	2	1		84
B87 L	D04C2	1-07 * P	1	1		84
B87 L	D05C2	1-08 * P	2	1		84
B87 L	D06C2	1-09 * P	1	1		84
B87 L	D07C2	1-10 * P	2	1		84
B87 L	D08C2	1-11 * P	1	1		84
B87 L	D09C2	1-12 * H	1	7		84
B87 L	A09T2	1-13 * *	2	24-7/8 1400000000		84

DD11K.P1 RUN NAME	A/P PIN	ORDER PIN	RAY ORDER	Q	DRAM	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 NC LENGTH FLAG	PAGE 11 EXCEPTIONS	RUN NUMBER
BUS A00 L			1-01 * P							2			1		85
BUS A00 L			1-02 * P							1			N	0-2/8	85
BUS A00 L			1-03 * P							2			N	1	85
BUS A00 L			1-04 *							1			N	1	85
BUS A00 L			1-05 *							2			N	1	85
BUS A00 L			1-06 *							1			N	1	85
BUS A00 L			1-07 *							2			N	1	85
BUS A00 L			1-08 *							1			N	1	85
BUS A00 L			1-09 *							2			N	1	85
BUS A00 L			1-10 *							1			N	1	85
BUS A00 L			1-11 *							2			N	1	85
BUS A00 L			1-12 *							1			N	0-2/8	85
BUS A00 L			1-13 *							1			N	0-2/8	85
BUS A00 L			1							1			26-4/8	1400000000	85
BUS A01 L			1-01 * P							2			1		86
BUS A01 L			1-02 * P							1			1		86
BUS A01 L			1-03 *							2			N	0-2/8	86
BUS A01 L			1-04 *							2			1		86
BUS A01 L			1-05 *							1			1		86
BUS A01 L			1-06 *							2			1		86
BUS A01 L			1-07 *							1			1-4/8		86
BUS A01 L			1-08 *							2			1		86
BUS A01 L			1-09 *							1			1		86
BUS A01 L			1-10 *							2			1		86
BUS A01 L			1-11 *							1			2-4/8		86
BUS A01 L			1-12 *							2			N	10-1/8	86
BUS A01 L			1-13 *							2			1		86
BUS A01 L			1							1			30-3/8	1400000000	86
BUS A02 L			1-01 *							1			1		87
BUS A02 L			1-02 *							2			1		87
BUS A02 L			1-03 *							1			N	0-1/8	87
BUS A02 L			1-04 *							2			1		87
BUS A02 L			1-05 *							2			1		87
BUS A02 L			1-06 *							1			1		87
BUS A02 L			1-07 *							2			1		87
BUS A02 L			1-08 *							1			1-4/8		87
BUS A02 L			1-09 *							2			1		87
BUS A02 L			1-10 *							1			1		87
BUS A02 L			1-11 *							2			1		87
BUS A02 L			1-12 *							1			N	9-5/8	87
BUS A02 L			1-13 *							1			1		87
BUS A02 L			1							1			29-2/8	1400000000	87

DD11K.P1 RUN NAME	A/P PIN	ORDER PIN	RAY ORDER	Q	DRAM	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 NC LENGTH FLAG	PAGE 12 EXCEPTIONS	RUN NUMBER
BUS A03 L			1-01 * P							1			1		88
BUS A03 L			1-02 * P							2			1		88
BUS A03 L			1-03 *							1			N	9-5/8	88
BUS A03 L			1-04 *							2			1		88
BUS A03 L			1-05 *							1			1		88
BUS A03 L			1-06 *							2			1		88
BUS A03 L			1-07 *							1			1		88
BUS A03 L			1-08 *							2			1-4/8		88
BUS A03 L			1-09 *							1			1		88
BUS A03 L			1-10 *							2			1		88
BUS A03 L			1-11 *							1			1		88
BUS A03 L			1-12 *							2			N	10-5/8	88
BUS A03 L			1-13 *							1			1		88
BUS A03 L			1							1			31-6/8	1400000000	88
BUS A04 L			1-01 * P							2			1		89
BUS A04 L			1-02 * P							2			1		89
BUS A04 L			1-03 *							1			N	9-5/8	89
BUS A04 L			1-04 *							2			1		89
BUS A04 L			1-05 *							1			1-4/8		89
BUS A04 L			1-06 *							2			1		89
BUS A04 L			1-07 *							1			1		89
BUS A04 L			1-08 *							2			1-4/8		89
BUS A04 L			1-09 *							1			1		89
BUS A04 L			1-10 *							2			1		89
BUS A04 L			1-11 *							1			2		89
BUS A04 L			1-12 *							2			N	10-5/8	89
BUS A04 L			1-13 *							1			1		89
BUS A04 L			1							1			32-2/8	1400000000	89
BUS A05 L			1-01 * P							2			1-4/8		90
BUS A05 L			1-02 * P							2			1		90
BUS A05 L			1-03 *							1			N	9-3/8	90
BUS A05 L			1-04 *							2			1		90
BUS A05 L			1-05 *							1			1-4/8		90
BUS A05 L			1-06 *							2			1		90
BUS A05 L			1-07 *							1			1		90
BUS A05 L			1-08 *							2			1-4/8		90
BUS A05 L			1-09 *							1			1		90
BUS A05 L			1-10 *							2			1		90
BUS A05 L			1-11 *							1			1		90
BUS A05 L			1-12 *							2			N	10-5/8	90
BUS A05 L			1-13 *							1			1		90
BUS A05 L			1							1			32-4/8	1400000000	90

DD11KK.P1 RUN NAME	A/P PIN	ORDER PIN	RAY ORDER	G	DRAM	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11:30 PAGE 13 NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
SUS A06 L		B01L2	1-01 *	P						2			1-4/8	91
SUS A06 L		B03L2	1-02 *	P						2			1	91
SUS A06 L		B02L2	1-03 *	P						1			N 9-3/8	91
SUS A06 L		E02U1	1-04 *	P						2			1-4/8	91
SUS A06 L		E01U1	1-05 *	P						2			1	91
SUS A06 L		E03U1	1-06 *	P						2			1	91
SUS A06 L		E04U1	1-07 *	P						2			1	91
SUS A06 L		E05U1	1-08 *	P						2			1	91
SUS A06 L		E06U1	1-09 *	P						2			1-4/8	91
SUS A06 L		E08U1	1-10 *	P						2			1	91
SUS A06 L		E09U1	1-11 *	P						2			1-4/8	91
SUS A06 L		E07U1	1-12 *	P						2			N 10-3/8	91
SUS A06 L		B09L2	1-13 *	P						1			31-6/8 1400000000	91
SUS A07 L		B01L1	1-01 *	P						2			1-4/8	92
SUS A07 L		B03L1	1-02 *	P						2			1	92
SUS A07 L		B02L1	1-03 *	P						1			N 8-5/8	92
SUS A07 L		E02P2	1-04 *	P						2			1	92
SUS A07 L		E01P2	1-05 *	P						2			1-4/8	92
SUS A07 L		E03P2	1-06 *	P						2			1	92
SUS A07 L		E04P2	1-07 *	P						2			1	92
SUS A07 L		E05P2	1-08 *	P						2			1	92
SUS A07 L		E06P2	1-09 *	P						2			1-4/8	92
SUS A07 L		E08P2	1-10 *	P						2			1	92
SUS A07 L		E09P2	1-11 *	P						2			1-4/8	92
SUS A07 L		E07P2	1-12 *	P						2			N 9-3/8	92
SUS A07 L		B09L1	1-13 *	P						1			30-0/8 1400000000	92
SUS A08 L		B01M2	1-01 *	P						2			1-4/8	93
SUS A08 L		B03M2	1-02 *	P						2			1	93
SUS A08 L		B02M2	1-03 *	P						1			N 8-5/8	93
SUS A08 L		E01N2	1-04 *	P						2			1	93
SUS A08 L		E02N2	1-05 *	P						2			1	93
SUS A08 L		E03N2	1-06 *	P						2			1	93
SUS A08 L		E04N2	1-07 *	P						2			1	93
SUS A08 L		E05N2	1-08 *	P						2			1	93
SUS A08 L		E06N2	1-09 *	P						2			1-4/8	93
SUS A08 L		E08N2	1-10 *	P						2			1	93
SUS A08 L		E09N2	1-11 *	P						2			1-4/8	93
SUS A08 L		E07N2	1-12 *	P						2			N 9-1/8	93
SUS A08 L		B09M2	1-13 *	P						1			29-2/8 1400000000	93

DD11KK.P1 RUN NAME	A/P PIN	ORDER PIN	RAY ORDER	G	DRAM	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11:30 PAGE 14 NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
SUS A09 L		B01N1	1-01 *	P						2			1-4/8	94
SUS A09 L		B03N1	1-02 *	P						2			1	94
SUS A09 L		B02N1	1-03 *	P						1			N 9-1/8	94
SUS A09 L		E03P1	1-04 *	P						2			1	94
SUS A09 L		E02P1	1-05 *	P						2			1	94
SUS A09 L		E01P1	1-06 *	P						2			1	94
SUS A09 L		E04P1	1-07 *	P						2			1	94
SUS A09 L		E05P1	1-08 *	P						2			1	94
SUS A09 L		E06P1	1-09 *	P						2			1-4/8	94
SUS A09 L		E08P1	1-10 *	P						2			1	94
SUS A09 L		E09P1	1-11 *	P						2			1-4/8	94
SUS A09 L		E07P1	1-12 *	P						2			N 9-3/8	94
SUS A09 L		B09M1	1-13 *	P						1			31-0/8 1400000000	94
SUS A10 L		B01N2	1-01 *	P						1			1	95
SUS A10 L		B03N2	1-02 *	P						2			1	95
SUS A10 L		B02N2	1-03 *	P						1			N 8-5/8	95
SUS A10 L		E03P1	1-04 *	P						2			1	95
SUS A10 L		E02P1	1-05 *	P						2			1	95
SUS A10 L		E01P1	1-06 *	P						2			2	95
SUS A10 L		E04P1	1-07 *	P						2			1	95
SUS A10 L		E05P1	1-08 *	P						2			1	95
SUS A10 L		E06P1	1-09 *	P						2			1	95
SUS A10 L		E08P1	1-10 *	P						2			1-4/8	95
SUS A10 L		E09P1	1-11 *	P						2			1	95
SUS A10 L		E07P1	1-12 *	P						2			N 9-1/8	95
SUS A10 L		B09M2	1-13 *	P						1			29-2/8 1400000000	95
SUS A11 L		B01M1	1-01 *	P						1			1	96
SUS A11 L		B03M1	1-02 *	P						2			1	96
SUS A11 L		B02M1	1-03 *	P						1			N 8	96
SUS A11 L		E03L1	1-04 *	P						2			1	96
SUS A11 L		E02L1	1-05 *	P						2			1	96
SUS A11 L		E01L1	1-06 *	P						2			1	96
SUS A11 L		E04L1	1-07 *	P						2			1	96
SUS A11 L		E05L1	1-08 *	P						2			1	96
SUS A11 L		E06L1	1-09 *	P						2			1	96
SUS A11 L		E08L1	1-10 *	P						2			1-4/8	96
SUS A11 L		E09L1	1-11 *	P						2			1	96
SUS A11 L		E07L1	1-12 *	P						2			N 8-3/8	96
SUS A11 L		B09M1	1-13 *	P						1			27-7/8 1400000000	96



UN NAME	ORDER	Q	DRAW	PV	RG	Y	X	Z	REMARKS	27-DEC-76	11130	PAGE 15	RUN
A/P	PIN	NAME	ORDER	PIN	NAME	ORDER	PIN	NAME	ORDER	PIN	NAME	ORDER	PIN
US A12 L	B01P2												97
US A12 L	B02P2												97
US A12 L	B03P2												97
US A12 L	E03C1												97
US A12 L	E01C1												97
US A12 L	E02C1												97
US A12 L	E04C1												97
US A12 L	E05C1												97
US A12 L	E06C1												97
US A12 L	E07C1												97
US A12 L	E09C1												97
US A12 L	E08C1												97
US A12 L	B09P2												97
US A13 L	B21P1												98
US A13 L	B02P1												98
US A13 L	B03P1												98
US A13 L	E03K2												98
US A13 L	E02K2												98
US A13 L	E01K2												98
US A13 L	E04K2												98
US A13 L	E05K2												98
US A13 L	E06K2												98
US A13 L	E07K2												98
US A13 L	E09K2												98
US A13 L	E08K2												98
US A13 L	B09P1												98
US A14 L	B01R2												99
US A14 L	B02R2												99
US A14 L	B03R2												99
US A14 L	E04K1												99
US A14 L	E03K1												99
US A14 L	E02K1												99
US A14 L	E01K1												99
US A14 L	E05K1												99
US A14 L	E04K1												99
US A14 L	E07K1												99
US A14 L	E06K1												99
US A14 L	E09K1												99
US A14 L	E08K1												99
US A14 L	B09P2												99
US A14 L													99

UN NAME	ORDER	Q	DRAW	PV	RG	Y	X	Z	REMARKS	27-DEC-76	11130	PAGE 16	RUN
A/P	PIN	NAME	ORDER	PIN	NAME	ORDER	PIN	NAME	ORDER	PIN	NAME	ORDER	PIN
US A15 L	B01R1												100
US A15 L	B02R1												100
US A15 L	B03R1												100
US A15 L	E01D2												100
US A15 L	E02D2												100
US A15 L	E03D2												100
US A15 L	E04D2												100
US A15 L	E05D2												100
US A15 L	E06D2												100
US A15 L	E07D2												100
US A15 L	E08D2												100
US A15 L	E09D2												100
US A15 L	E08P1												100
US A15 L													100
US A16 L	B01S2												101
US A16 L	B02S2												101
US A16 L	B03S2												101
US A16 L	E04E2												101
US A16 L	E03E2												101
US A16 L	E02E2												101
US A16 L	E01E2												101
US A16 L	E05E2												101
US A16 L	E06E2												101
US A16 L	E07E2												101
US A16 L	E08E2												101
US A16 L	E09E2												101
US A16 L	B09S2												101
US A16 L													101
US A17 L	B01S1												102
US A17 L	B02S1												102
US A17 L	B03S1												102
US A17 L	E04D1												102
US A17 L	E03D1												102
US A17 L	E02D1												102
US A17 L	E01D1												102
US A17 L	E05D1												102
US A17 L	E06D1												102
US A17 L	E07D1												102
US A17 L	E08D1												102
US A17 L	E09D1												102
US A17 L	B09S1												102
US A17 L													102

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UN NAME	A/P	PI	NAME	ORDER	PIN	RAY	O	DRAM	RV	RG	Y	X	Z	REMARKS	NC	LENGTH	EXCEPTIONS	FLAG	RUN
US D00 L			C0982			1-01 *									N	1			103
US D00 L			C0982			1-02 *									N	1			103
US D00 L			C0752			1-03 *									N	1			103
US D00 L			C0652			1-04 *									N	1			103
US D00 L			C0552			1-05 *									N	1			103
US D00 L			C0452			1-06 *									N	1			103
US D00 L			C0352			1-07 *									N	1			103
US D00 L			C0252			1-08 *									N	1			103
US D00 L			C0152			1-09 *									N	7-3/8			103
US D00 L			A01C1			1-10 *	P								N	1			103
US D00 L			A02C1			1-11 *									N	1			103
US D00 L			A03C1			1-12 *									N	3-4/8			103
US D00 L			A09C1			1-13 *									N	20-7/8	1400000000		103
US D01 L			A09D2			1-01 *									N	3-4/8			104
US D01 L			A03D2			1-02 *	P								N	1-4/8			104
US D01 L			A01D2			1-03 *	P								N	7-7/8			104
US D01 L			A02D2			1-04 *									N	1			104
US D01 L			C04R2			1-05 *	P								N	1			104
US D01 L			C03R2			1-06 *	P								N	1			104
US D01 L			C02R2			1-07 *	P								N	1			104
US D01 L			C01R2			1-08 *	P								N	2-4/8			104
US D01 L			C05R2			1-09 *	P								N	1			104
US D01 L			C06R2			1-10 *	P								N	1			104
US D01 L			C07R2			1-11 *	P								N	1			104
US D01 L			C08R2			1-12 *	P								N	1			104
US D01 L			C09R2			1-13 *	P								N	23-3/8	1400000000		104
US D02 L			A01D1			1-01 *	P								N	1			105
US D02 L			A02D1			1-02 *	P								N	7-3/8			105
US D02 L			A03D1			1-03 *									N	1			105
US D02 L			C03U2			1-04 *	P								N	1			105
US D02 L			C02U2			1-05 *	P								N	1			105
US D02 L			C01U2			1-06 *	P								N	2-4/8			105
US D02 L			C05U2			1-07 *	P								N	7			105
US D02 L			C04U2			1-08 *	P								N	1			105
US D02 L			F04E2			1-09 *	P								N	1			105
US D02 L			F03E2			1-10 *	P								N	1			105
US D02 L			F02E2			1-11 *	P								N	1			105
US D02 L			F01E2			1-12 *	P								N	2-4/8			105
US D02 L			F05E2			1-13 *	P								N	1-4/8			105
US D02 L			F07E2			1-14 *	P								N	1			105
US D02 L			F08E2			1-15 *	P								N	1			105
US D02 L			F09E2			1-16 *	P								N	2			105
US D02 L			F06E2			1-17 *	P								N	7			105
US D02 L			C06U2			1-18 *	P								N	1-4/8			105
US D02 L			C08U2			1-19 *	P								N	1-4/8			105
US D02 L			C09U2			1-20 *	P								N	8-1/8			105
US D02 L			C07U2			1-21 *									N	1			105
US D02 L			A09D1			1-22 *									N	52-0/8	1400000000		105

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UN NAME	A/P	PI	NAME	ORDER	PIN	RAY	O	DRAM	RV	RG	Y	X	Z	REMARKS	NC	LENGTH	EXCEPTIONS	FLAG	RUN
JS D03 L			A01E2			1-01 *	P								N	1			106
JS D03 L			A02E2			1-02 *	P								N	7-1/8			106
JS D03 L			A03E2			1-03 *									N	1-4/8			106
JS D03 L			C03T2			1-04 *	P								N	2			106
JS D03 L			C01T2			1-05 *	P								N	1			106
JS D03 L			C04T2			1-06 *	P								N	2			106
JS D03 L			C05T2			1-07 *	P								N	7-7/8			106
JS D03 L			C02T2			1-08 *	P								N	1			106
JS D03 L			F02U1			1-09 *	P								N	1-4/8			106
JS D03 L			F01L1			1-10 *	P								N	1			106
JS D03 L			F03L1			1-11 *	P								N	1			106
JS D03 L			F04L1			1-12 *	P								N	1			106
JS D03 L			F05L1			1-13 *	P								N	1-4/8			106
JS D03 L			F06L1			1-14 *	P								N	1			106
JS D03 L			F08L1			1-15 *	P								N	1			106
JS D03 L			F09L1			1-16 *	P								N	1-4/8			106
JS D03 L			F07I1			1-17 *	P								N	7-7/8			106
JS D03 L			C07I2			1-18 *	P								N	1			106
JS D03 L			C08I2			1-19 *	P								N	1			106
JS D03 L			C09I2			1-20 *	P								N	8-3/8			106
JS D03 L			C06I2			1-21 *									N	1			106
JS D03 L			A09I2			1-22 *									N	53-2/8	1400000000		106
JS D04 L			A03E1			1-01 *	P								N	1-4/8			107
JS D04 L			A01E1			1-02 *	P								N	6-7/8			107
JS D04 L			A02E1			1-03 *									N	1			107
JS D04 L			C02I2			1-04 *	P								N	1-4/8			107
JS D04 L			C01I2			1-05 *	P								N	1			107
JS D04 L			C04I2			1-06 *	P								N	1			107
JS D04 L			C05I2			1-07 *	P								N	8-4/8			107
JS D04 L			C03I2			1-08 *	P								N	1			107
JS D04 L			F03I2			1-09 *	P								N	1			107
JS D04 L			F02I2			1-10 *	P								N	1			107
JS D04 L			F01I2			1-11 *	P								N	1			107
JS D04 L			F04I2			1-12 *	P								N	3			107
JS D04 L			F05I2			1-13 *	P								N	1			107
JS D04 L			F07I2			1-14 *	P								N	1			107
JS D04 L			F08I2			1-15 *	P								N	1			107
JS D04 L			F09I2			1-16 *	P								N	9-4/8			107
JS D04 L			C09I2			1-17 *	P								N	2			107
JS D04 L			C06I2			1-18 *	P								N	1-4/8			107
JS D04 L			C07I2			1-19 *	P								N	1			107
JS D04 L			A09I1			1-20 *									N	7-1/8			107
JS D04 L			A09I1			1-21 *									N	52-4/8	1400000000		107

111KK.PI IN NAME	A/P	PIN	ORDER	PIN	ORDER	BAY	C	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 NC	LENGTH	EXCEPTIONS	RUN NUMBER
IS D05 L				A03F2		1-01	*	P					2				1-4/8		108
IS D05 L				A01F2		1-02	*	P					2				1		108
IS D05 L				A02F2		1-03	*	P					2			N	6-5/8		108
IS D05 L				C02P2		1-04	*	P					2				1		108
IS D05 L				C01P2		1-05	*	P					2				1-4/8		108
IS D05 L				C03P2		1-06	*	P					2				1-4/8		108
IS D05 L				C05P2		1-07	*	P					2				1		108
IS D05 L				C04P2		1-08	*	P					2			N	7-5/8		108
IS D05 L				F04F1		1-09	*	P					1				1		108
IS D05 L				F03F1		1-10	*	P					2				1		108
IS D05 L				F02F1		1-11	*	P					2				2-4/8		108
IS D05 L				F01F1		1-12	*	P					2				1-4/8		108
IS D05 L				F05F1		1-13	*	P					2				1		108
IS D05 L				F07F1		1-14	*	P					2				1		108
IS D05 L				F08F1		1-15	*	P					2				2		108
IS D05 L				F09F1		1-16	*	P					2			N	7-5/8		108
IS D05 L				F06F1		1-17	*	P					1				1		108
IS D05 L				C06P2		1-18	*	P					2				1		108
IS D05 L				C07P2		1-19	*	P					2				1		108
IS D05 L				C08P2		1-20	*	P					2				1		108
IS D05 L				C09P2		1-21	*	P					2			N	6-5/8		108
IS D05 L				A09F2		1-22	*						1				50-0/8	1400000000	108
IS D06 L				A03F1		1-01	*	P					2				1		109
IS D06 L				A02F1		1-02	*	P					2				1		109
IS D06 L				A01F1		1-03	*	P					1			N	7-3/8		109
IS D06 L				C01V2		1-04	*	P					2				1		109
IS D06 L				C02V2		1-05	*	P					2				1-4/8		109
IS D06 L				C04V2		1-06	*	P					2				1		109
IS D06 L				C05V2		1-07	*	P					2				1-4/8		109
IS D06 L				C03V2		1-08	*	P					1			N	7		109
IS D06 L				F03F2		1-09	*	P					2				1		109
IS D06 L				F02F2		1-10	*	P					2				2		109
IS D06 L				F01F2		1-11	*	P					2				1		109
IS D06 L				F04F2		1-12	*	P					2				1		109
IS D06 L				F05F2		1-13	*	P					2				1		109
IS D06 L				F06F2		1-14	*	P					2				1		109
IS D06 L				F07F2		1-15	*	P					2				1		109
IS D06 L				F08F2		1-16	*	P					2				1		109
IS D06 L				F09F2		1-17	*	P					1			N	7		109
IS D06 L				C09V2		1-18	*	P					2				1		109
IS D06 L				C08V2		1-19	*	P					2				1		109
IS D06 L				C08V2		1-20	*	P					2				1		109
IS D06 L				C07V2		1-21	*	P					2				1		109
IS D06 L				C06V2		1-22	*						1			N	6-3/8		109
IS D06 L				A09F1		1-22	*						1				48-6/6	1400000000	109

111KK.PI IN NAME	A/P	PIN	ORDER	PIN	ORDER	BAY	C	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 NC	LENGTH	EXCEPTIONS	RUN NUMBER
JS D07 L				A03H2		1-01	*	P					2				1		110
JS D07 L				A02H2		1-02	*	P					2				1		110
JS D07 L				A01H2		1-03	*	P					1			N	6-2/8		110
JS D07 L				C01W2		1-04	*	P					2				1		110
JS D07 L				C02W2		1-05	*	P					2				1		110
JS D07 L				C03W2		1-06	*	P					2				1		110
JS D07 L				C04W2		1-07	*	P					2				1		110
JS D07 L				C05W2		1-08	*	P					2			N	8-1/8		110
JS D07 L				F05H1		1-09	*	P					1				1		110
JS D07 L				F04H1		1-10	*	P					2				1		110
JS D07 L				F03H1		1-11	*	P					2				1		110
JS D07 L				F02H1		1-12	*	P					2				1		110
JS D07 L				F01H1		1-13	*	P					2				1		110
JS D07 L				F06H1		1-14	*	P					2				1-4/8		110
JS D07 L				F07H1		1-15	*	P					3				1		110
JS D07 L				F09H1		1-16	*	P					2				1		110
JS D07 L				F08H1		1-17	*	P					2				1-4/8		110
JS D07 L				C08W2		1-18	*	P					2			N	8-1/8		110
JS D07 L				C09W2		1-19	*	P					2				1-4/8		110
JS D07 L				C09W2		1-20	*	P					2				2		110
JS D07 L				C07W2		1-21	*	P					2				1-4/8		110
JS D07 L				A09H2		1-22	*						1				51-1/8	1400000000	110
JS D08 L				A01H1		1-01	*	P					2				1		111
JS D08 L				A02H1		1-02	*	P					2				1		111
JS D08 L				A03H1		1-03	*	P					1			N	6-7/8		111
JS D08 L				C03L2		1-04	*	P					2				1		111
JS D08 L				C01L2		1-05	*	P					2				1-4/8		111
JS D08 L				C01L2		1-06	*	P					2				2-4/8		111
JS D08 L				C05L2		1-07	*	P					2				2		111
JS D08 L				C02L2		1-08	*	P					1			N	8-5/8		111
JS D08 L				F02K1		1-09	*	P					2				1		111
JS D08 L				F01K1		1-10	*	P					2				1-4/8		111
JS D08 L				F03K1		1-11	*	P					2				1		111
JS D08 L				F04K1		1-12	*	P					2				1		111
JS D08 L				F05K1		1-13	*	P					2				1-4/8		111
JS D08 L				F07K1		1-14	*	P					2				1		111
JS D08 L				F08K1		1-15	*	P					2				1		111
JS D08 L				F09K1		1-16	*	P					2				2		111
JS D08 L				F06K1		1-17	*	P					2			N	8-5/8		111
JS D08 L				C06L2		1-18	*	P					2				1		111
JS D08 L				C07L2		1-19	*	P					2				1-4/8		111
JS D08 L				C09L2		1-20	*	P					2				1		111
JS D08 L				C08L2		1-21	*	P					2				1		111
JS D08 L				A09H1		1-22	*						1				52-0/6	1400000000	111



D011KK.P1		WRP288.V34(63)-1		23-AUG-76		27-DEC-76		11130		PAGE 23				
RUN NAME	A/P	PIN NAME	ORDER	RAY	Q	DRAW	RV	RG	Y	X	Z	REMARKS	NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
BUS DIS L		C09D2		1-01 *									N 1	118
BUS DIS L		C08D2		1-02 *									N 1	118
BUS DIS L		C07D2		1-03 *									N 1	118
BUS DIS L		C06D2		1-04 *									N 1	118
BUS DIS L		C05D2		1-05 *									N 1	118
BUS DIS L		C04D2		1-06 *									N 1	118
BUS DIS L		C03D2		1-07 *									N 1	118
BUS DIS L		C02D2		1-08 *									N 1	118
BUS DIS L		C01D2		1-09 *									N 5-1/8	118
BUS DIS L		A02M2		1-10 *	P								1-4/8	118
BUS DIS L		A01M2		1-11 *	P								3-4/8	118
BUS DIS L		A03M2		1-12 *									19-1/8 1400000000	118
BUS DIS L		A09M2		1-13 *										118
C BG IN		D03U2		1-01 *									N 3-7/8	119
C BG IN		F03B1		1-02 *									3-7/8 1400000000	119
C BG IN														119
C BG OUT		D03V2		1-01 *									N 3-7/8	120
C BG OUT		F03A1		1-02 *									3-7/8 1400000000	120
C BG OUT														120
C BR OUT		D03J2		1-01 *									N 6-5/8	121
C BR OUT		F03P1		1-02 *									N 1	121
C BR OUT		F03U2		1-03 *									7-5/8 1400000000	121
C BR OUT														121
C IN		D03M1		1-01 *									N 3-4/8	122
C IN		E03M1		1-02 *									3-4/8 1400000000	122
C IN														122
C INI A		D03N1		1-01 *									N 6-3/8	123
C INI A		F03U1		1-02 *									6-3/8 1400000000	123
C INI A														123
C INI B		C03J1		1-01 *									N 8-5/8	124
C INI B		F03K2		1-02 *									8-5/8 1400000000	124
C INI B														124
C INT ENB A		D03M1		1-01 *									N 6-5/8	125
C INT ENB A		F03V1		1-02 *									6-5/8 1400000000	125
C INT ENB A														125
C INT ENB B		C03L1		1-01 *									N 8-1/8	126
C INT ENB B		F03H2		1-02 *									8-1/8 1400000000	126
C INT ENB B														126
C OUT HIGH		D03K1		1-01 *									N 3-3/8	127
C OUT HIGH		F03V2		1-02 *									3-3/8 1400000000	127
C OUT HIGH														127
C OUT LOW		D03D1		1-01 *									N 4	128
C OUT LOW		E03M1		1-02 *									4-0/8 1400000000	128
C OUT LOW														128

D011KK.P1		WRP288.V34(63)-1		23-AUG-76		27-DEC-76		11130		PAGE 24				
RUN NAME	A/P	PIN NAME	ORDER	RAY	Q	DRAW	RV	RG	Y	X	Z	REMARKS	NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
C SEL W		D03F1		1-01 *									N 4-1/8	129
C SEL W		E03S2		1-02 *									4-1/8 1400000000	129
C SEL W														129
C SEL 4		D03E1		1-01 *									N 4-3/8	130
C SEL 4		E03R2		1-02 *									4-3/8 1400000000	130
C SEL 4														130
C SEL 6		D03C1		1-01 *									N 4-4/8	131
C SEL 6		E03S1		1-02 *									4-4/8 1400000000	131
C SEL 6														131
C SER 2		D03J1		1-01 *									N 4-1/8	132
C SER 2		E03T2		1-02 *									4-1/8 1400000000	132
C SER 2														132
C SSYN IN H		D03V1		1-01 *									N 1	133
C SSYN IN H		E03M1		1-02 *									1-0/8 1400000000	133
C SSYN IN H														133
C0 L		B03U2		1-01 *									N 1	134
C0 L		B02U2		1-02 *									N 1	134
C0 L		F01U2		1-03 *									N 8-5/8	134
C0 L		E04J2		1-04 *									N 1	134
C0 L		E03J2		1-05 *	P								N 1	134
C0 L		E02J2		1-06 *	P								N 1	134
C0 L		E01J2		1-07 *	P								N 2-4/8	134
C0 L		E05J2		1-08 *	P								N 1	134
C0 L		E06J2		1-09 *	P								N 1	134
C0 L		E07J2		1-10 *	P								N 1	134
C0 L		E08J2		1-11 *	P								N 1	134
C0 L		E09J2		1-12 *	P								N 7-1/8	134
C0 L		B09U2		1-13 *									27-2/8 1400000000	134
C0 L														134
C1 L		B01T2		1-01 *									N 1	135
C1 L		B02T2		1-02 *									N 1	135
C1 L		H03T2		1-03 *									N 7-7/8	135
C1 L		F01F2		1-04 *	P								N 1	135
C1 L		E02F2		1-05 *	P								N 1	135
C1 L		E03F2		1-06 *	P								N 1	135
C1 L		E04F2		1-07 *	P								N 1-4/8	135
C1 L		E05F2		1-08 *	P								N 1	135
C1 L		E07F2		1-09 *	P								N 1	135
C1 L		E08F2		1-10 *	P								N 1	135
C1 L		E09F2		1-11 *	P								N 2	135
C1 L		E06F2		1-12 *									N 8-3/8	135
C1 L		B09T2		1-13 *									27-2/8 1400000000	135
C1 L														135
D BG IN		F04U2		1-01 *									N 3-7/8	136
D BG IN		F04V1		1-02 *									3-7/8 1400000000	136
D BG IN														136

DD11K.P1 RUN NAME	A/P	FIN	ORDER	PIN	BAY	0	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130	PAGE 25	NC LENGTH EXCEPTI FLAG	RUN NUMBER
D BG OUT			D24V2		1-01 *							1			N	3-7/8		137
D BG OUT			F24A1		1-02 *											3-7/8 1400000000		137
D BR OUT			D24J2		1-01 *							1			N	0-5/8		138
D BR OUT			F24U1		1-02 *							2			N	1		138
D BR OUT			F24U2		1-03 *											7-5/8 1400000000		138
D IN			D24H1		1-01 *							1			N	3-4/8		139
D IN			E24M1		1-02 *											3-4/8 1400000000		139
D INT A			D24A1		1-01 *							1			N	0-3/8		140
D INT A			F24U1		1-02 *											6-3/8 1400000000		140
D INT B			C24J1		1-01 *							1			N	0-5/8		141
D INT B			F24K2		1-02 *											8-5/8 1400000000		141
D INT ENB A			D24M1		1-01 *							1			N	6-5/8		142
D INT ENB A			F24V1		1-02 *											6-5/8 1400000000		142
D INT ENB B			C24L1		1-01 *							1			N	0-1/8		143
D INT ENB B			F24H2		1-02 *											0-1/8 1400000000		143
D OUT HIGH			D24K1		1-01 *							1			N	3-3/8		144
D OUT HIGH			E24M2		1-02 *											3-3/8 1400000000		144
D OUT LOW			C24D1		1-01 *							1			N	4		145
D OUT LOW			E24N1		1-02 *											4-0/8 1400000000		145
D SEL 4			D24F1		1-01 *							1			N	4-1/8		146
D SEL 4			E24S2		1-02 *											4-1/8 1400000000		146
D SEL 4			D24E1		1-01 *							1			N	4-3/8		147
D SEL 4			F24R2		1-02 *											4-3/8 1400000000		147
D SEL 6			D24C1		1-01 *							1			N	4-4/8		148
D SEL 6			E24S1		1-02 *											4-4/8 1400000000		148
D SER 2			D24J1		1-01 *							1			N	4-1/8		149
D SER 2			E24I2		1-02 *											4-1/8 1400000000		149
D SSV I H			D24V1		1-01 *							1			N	1		150
D SSV I H			E24B1		1-02 *											1-0/8 1400000000		150

DD11K.P1 RUN NAME	A/P	FIN	ORDER	PIN	BAY	0	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130	PAGE 26	NC LENGTH EXCEPTI FLAG	RUN NUMBER
DC L			F21F2		1-01 *							1			N	1		151
DC L			E22F2		1-02 *							2				4-7/8		151
DC L			C21M1		1-03 *							2				1		151
DC L			C22M1		1-04 *							2				1		151
DC L			C23M1		1-05 *							2				1		151
DC L			C24M1		1-06 *							2				1		151
DC L			C25M1		1-07 *							2				1		151
DC L			C26M1		1-08 *							2				1		151
DC L			C27M1		1-09 *							2				1		151
DC L			C28M1		1-10 *							2				1		151
DC L			C29M1		1-11 *							2				1		151
DC L			E29F2		1-12 *							2				3-7/8		151
DC L					1-13 *							2				18-0/8 1400000000		151
E BG IN			D25U2		1-01 *							1			N	3-7/8		152
E BG IN			F25B1		1-02 *											3-7/8 1400000000		152
E BG OUT			D25V2		1-01 *							1			N	3-7/8		153
E BG OUT			F25A1		1-02 *											3-7/8 1400000000		153
E BP OUT			D25J2		1-01 *							1			N	6-5/8		154
E BR OUT			F25P1		1-02 *							2			N	1		154
E BR OUT			F25U2		1-03 *											7-5/8 1400000000		154
E IN			D25H1		1-01 *							1			N	3-4/8		155
E IN			E25V1		1-02 *											3-4/8 1400000000		155
E INT A			D25M1		1-01 *							1			N	0-3/8		156
E INT A			F25U1		1-02 *											0-3/8 1400000000		156
E INT B			C25J1		1-01 *							1			N	8-5/8		157
E INT B			F25K2		1-02 *											8-5/8 1400000000		157
E INT ENB A			D25V1		1-01 *							1			N	6-5/8		158
E INT ENB A			F25V1		1-02 *											6-5/8 1400000000		158
E INT ENB B			C25I1		1-01 *							1			N	0-1/8		159
E INT ENB B			F25K2		1-02 *											0-1/8 1400000000		159
E OUT HIGH			E25A1		1-01 *							1			N	3-3/8		160
E OUT HIGH			F25V2		1-02 *											3-3/8 1400000000		160
E OUT LOW			D25O1		1-01 *							1			N	4		161
E OUT LOW			E25I1		1-02 *											4-2/8 1400000000		161

DD11K.PI RUN NAME	MR28.V34(63)-1 23-AUG-76 A/P PIN ORDER	DAY - PIN	0 DRAW	RV	RG	Y	X	Z	REMARKS	11:30 PAGE 27 NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
E SEL 0	D05F1	1-01 *						1		N 4-1/8	162
E SEL 0	E05S2	1-02 *								4-1/8 1400000000	162
E SEL 4	D05E1	1-01 *						1		N 4-3/8	163
E SEL 4	E05R2	1-02 *								4-3/8 1400000000	163
E SEL 6	D05C1	1-01 *						1		N 4-4/8	164
E SEL 6	E05B1	1-02 *								4-4/8 1400000000	164
E SER 2	D05J1	1-01 *						1		N 4-1/8	165
E SER 2	E05T2	1-02 *								4-1/8 1400000000	165
E SSY IN H	D05V1	1-01 *						1		N 1	166
E SSY IN H	E05B1	1-02 *								1-0/8 1400000000	166
F BC IN	D06U2	1-01 *						1		N 3-7/8	167
F BC IN	F06B1	1-02 *								3-7/8 1400000000	167
F BC OUT	D06V2	1-01 *						1		N 3-7/8	168
F BC OUT	F06A1	1-02 *								3-7/8 1400000000	168
F BR OUT	D06J2	1-01 *						1		N 6-5/8	169
F BR OUT	F06P1	1-02 *						2		N 1	169
F BR OUT	F06Q2	1-03 *								7-5/8 1400000000	169
F IN	D06H1	1-01 *						1		N 3-4/8	170
F IN	E06M1	1-02 *								3-4/8 1400000000	170
F INT A	D06H1	1-01 *						1		N 6-3/8	171
F INT A	F06U1	1-02 *								6-3/8 1400000000	171
F INT B	C06J1	1-21 *						1		N 8-5/8	172
F INT B	F06P2	1-02 *								8-5/8 1400000000	172
F INT 5	D06V1	1-01 *						1		N 6-5/8	173
F INT 5	F06V1	1-02 *								6-5/8 1400000000	173
F INT 5	C06U1	1-01 *						1		N 8-1/8	174
F INT 5	F06H2	1-02 *								8-1/8 1400000000	174

DD11K.PI RUN NAME	MR28.V34(63)-1 23-AUG-76 A/P PIN ORDER	DAY - PIN	0 DRAW	RV	RG	Y	X	Z	REMARKS	11:30 PAGE 28 NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
F OUT HIGH	D06M1	1-01 *						1		N 3-3/8	175
F OUT HIGH	E06P2	1-02 *								3-3/8 1400000000	175
F OUT LOW	D06D1	1-01 *						1		N 4	176
F OUT LOW	E06M1	1-02 *								4-0/8 1400000000	176
F SEL 0	D06F1	1-01 *						1		N 4-1/8	177
F SEL 0	E06S2	1-02 *								4-1/8 1400000000	177
F SEL 4	D06F1	1-01 *						1		N 4-3/8	178
F SEL 4	E06M2	1-02 *								4-3/8 1400000000	178
F SEL 6	D06C1	1-01 *						1		N 4-4/8	179
F SEL 6	E06S1	1-02 *								4-4/8 1400000000	179
F SER 2	D06J1	1-01 *						1		N 4-1/8	180
F SER 2	E06Y2	1-02 *								4-1/8 1400000000	180
F SSY IN H	D06V1	1-01 *						1		N 1	181
F SSY IN H	E06H1	1-02 *								1-0/8 1400000000	181
F01D2	F01D2	1-01 *						2		N 1-6/8	182
F01D2	F01P2	1-02 *						1		N 8-4/8	182
F01D2	F01N1	1-03 *								2-2/8 1400000000	182
F01E1	F01E1	1-01 *						1		N 2-3/4	183
F01E1	F01V2	1-02 *								2-3/8 1400000000	183
F01L2	F01L2	1-01 *						1		N 1	184
F01L2	F01P1	1-02 *								1-0/8 1400000000	184
F01M2	F01M2	1-01 *						1		N 1	185
F01M2	F01S1	1-02 *								1-2/8 1400000000	185
F01P2	F01P2	1-01 *						1		N 6-4/8	186
F01P2	F01S2	1-02 *								6-4/8 1400000000	186
F02D2	F02D2	1-01 *						2		N 1-6/8	187
F02D2	F02P2	1-02 *						1		N 8-4/8	187
F02D2	F02N1	1-03 *								2-2/8 1400000000	187





3011KK.PI RUN NAME	MRP288.V34(63)-1 A/P PIN ORDER NAME	23-AUG-76 RAY - ORDER	Q	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 MC LENGTH FLAG	PAGE 31 EXCEPTIONS	RUN NUMBER
F07L2	F07L2	1-01 *	1									N 1		214
F07L2	F07R1	1-02 *	1										1-0/8 1400000000	214
F07M2	F07M2	1-01 *	1									N 1		215
F07M2	F07B1	1-02 *	1										1-0/8 1400000000	215
F07P2	F07P2	1-01 *	1									N 0-4/8		216
F07P2	F07S2	1-02 *	1									0-4/8 1400000000		216
F08D2	F08D2	1-01 *	2									N 1-6/8		217
F08D2	F08R2	1-02 *	1									N 0-4/8		217
F08D2	F08A1	1-03 *	1									2-2/8 1400000000		217
F08E1	F08E1	1-01 *	1									N 2-3/8		218
F08E1	F08V2	1-02 *	1									2-3/8 1400000000		218
F08L2	F08L2	1-01 *	1									N 1		219
F08L2	F08R1	1-02 *	1									1-0/8 1400000000		219
F08M2	F08M2	1-01 *	1									N 1		220
F08M2	F08S1	1-02 *	1									1-0/8 1400000000		220
F08P2	F08P2	1-01 *	1									N 0-4/8		221
F08P2	F06S2	1-02 *	1									0-4/8 1400000000		221
F09D2	F09D2	1-01 *	2									N 1-6/8		222
F09D2	F09R2	1-02 *	1									N 0-4/8		222
F09D2	F09A1	1-03 *	1									2-2/8 1400000000		222
F09E1	F09E1	1-01 *	1									N 2-3/8		223
F09E1	F09V2	1-02 *	1									2-3/8 1400000000		223
F09L2	F09L2	1-01 *	1									N 1		224
F09L2	F09R1	1-02 *	1									1-0/8 1400000000		224
F09M2	F09M2	1-01 *	1									N 1		225
F09M2	F09S1	1-02 *	1									1-0/8 1400000000		225
F09P2	F09P2	1-01 *	1									N 0-4/8		226
F09P2	F09S2	1-02 *	1									0-4/8 1400000000		226

3011KK.PI RUN NAME	MRP288.V34(63)-1 A/P PIN ORDER NAME	23-AUG-76 RAY - ORDER	Q	DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 MC LENGTH FLAG	PAGE 32 EXCEPTIONS	RUN NUMBER
2ND (01)	A21C2	1-01 *	P											227
2ND (01)	A2C2	1-02 *	P											227
2ND (01)	A2C2	1-03 *	P											227
2ND (01)	A74C2	1-04 *	P											227
2ND (01)	A75C2	1-05 *	P											227
2ND (01)	A76C2	1-06 *	P											227
2ND (01)	A77C2	1-07 *	P											227
2ND (01)	A78C2	1-08 *	P											227
2ND (01)	A79C2	1-09 *	P											227
2ND (01)	A79T1	1-10 *	P											227
2ND (01)	A79T1	1-11 *	P											227
2ND (01)	A79T1	1-12 *	P											227
2ND (01)	A79T1	1-13 *	P											227
2ND (01)	A79T1	1-14 *	P											227
2ND (01)	A79T1	1-15 *	P											227
2ND (01)	A79T1	1-16 *	P											227
2ND (01)	A79T1	1-17 *	P											227
2ND (01)	A79T1	1-18 *	P											227
2ND (01)	A79T1	1-19 *	P											227
2ND (01)	A79T1	1-20 *	P											227
2ND (01)	A79T1	1-21 *	P											227
2ND (01)	A79T1	1-22 *	P											227
2ND (01)	A79T1	1-23 *	P											227
2ND (01)	A79T1	1-24 *	P											227
2ND (01)	A79T1	1-25 *	P											227
2ND (01)	A79T1	1-26 *	P											227
2ND (01)	A79T1	1-27 *	P											227
2ND (01)	A79T1	1-28 *	P											227
2ND (01)	A79T1	1-29 *	P											227
2ND (01)	A79T1	1-30 *	P											227
2ND (01)	A79T1	1-31 *	P											227
2ND (01)	A79T1	1-32 *	P											227
2ND (01)	A79T1	1-33 *	P											227
2ND (01)	A79T1	1-34 *	P											227
2ND (01)	A79T1	1-35 *	P											227
2ND (01)	A79T1	1-36 *	P											227
2ND (01)	A79T1	1-37 *	P											227
2ND (01)	A79T1	1-38 *	P											227
2ND (01)	A79T1	1-39 *	P											227
2ND (01)	A79T1	1-40 *	P											227
2ND (01)	A79T1	1-41 *	P											227
2ND (01)	A79T1	1-42 *	P											227
2ND (01)	A79T1	1-43 *	P											227
2ND (01)	A79T1	1-44 *	P											227
2ND (01)	A79T1	1-45 *	P											227
2ND (01)	A79T1	1-46 *	P											227
2ND (01)	A79T1	1-47 *	P											227
2ND (01)	A79T1	1-48 *	P											227
2ND (01)	A79T1	1-49 *	P											227
2ND (01)	A79T1	1-50 *	P											227
2ND (01)	A79T1	1-51 *	P											227
2ND (01)	A79T1	1-52 *	P											227
2ND (01)	A79T1	1-53 *	P											227
2ND (01)	A79T1	1-54 *	X											227

DLINK.PI RUN NAME	WRP288.V34(63)-1 A/P PIN ORDER NAME	23-AUG-76 RAY - ORDER	Q	DRAM	PV	RG	Y	X	Z	REMARKS	27-DEC-76	11:30 PAGE 33 NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
IND (02)	D01C2	1-01 * P							1			1	228
IND (02)	D02C2	1-02 * P							2			1	228
IND (02)	D03C2	1-03 * P							1			1	228
IND (02)	D04C2	1-04 * P							2			1	228
IND (02)	D05C2	1-05 * P							1			1	228
IND (02)	D06C2	1-06 * P							2			1	228
IND (02)	D07C2	1-07 * P							2			1	228
IND (02)	D08C2	1-08 * P							2			1	228
IND (02)	D09C2	1-09 * P							2			2-1/8	228
IND (02)	D09T1	1-10 * P							2			1	228
IND (02)	D08T1	1-11 * P							1			1	228
IND (02)	D07T1	1-12 * P							2			1	228
IND (02)	D06T1	1-13 * P							1			1	228
IND (02)	D05T1	1-14 * P							2			1	228
IND (02)	D04T1	1-15 * P							1			1	228
IND (02)	D03T1	1-16 * P							2			1	228
IND (02)	D02T1	1-17 * P							1			1	228
IND (02)	D01T1	1-18 * P							2			1-3/8	228
IND (02)	E01C2	1-19 * P							1			1	228
IND (02)	E02C2	1-20 * P							2			1	228
IND (02)	E03C2	1-21 * P							1			1	228
IND (02)	E04C2	1-22 * P							2			1	228
IND (02)	E05C2	1-23 * P							1			1	228
IND (02)	E06C2	1-24 * P							2			1	228
IND (02)	E07C2	1-25 * P							2			1	228
IND (02)	E08C2	1-26 * P							2			1	228
IND (02)	E09C2	1-27 * P							2			2-1/8	228
IND (02)	E09T1	1-28 * P							2			1	228
IND (02)	E08T1	1-29 * P							1			1	228
IND (02)	E07T1	1-30 * P							2			1	228
IND (02)	E06T1	1-31 * P							2			1	228
IND (02)	E05T1	1-32 * P							2			1	228
IND (02)	E04T1	1-33 * P							1			1	228
IND (02)	E03T1	1-34 * P							2			1	228
IND (02)	E02T1	1-35 * P							1			1	228
IND (02)	E01T1	1-36 * P							2			1-5/8	228
IND (02)	F01C2	1-37 * P							1			1	228
IND (02)	F02C2	1-38 * P							2			1	228
IND (02)	F03C2	1-39 * P							1			1	228
IND (02)	F04C2	1-40 * P							2			1	228
IND (02)	F05C2	1-41 * P							1			1	228
IND (02)	F06C2	1-42 * P							2			1	228
IND (02)	F07C2	1-43 * P							2			1	228
IND (02)	F08C2	1-44 * P							2			1	228
IND (02)	F09C2	1-45 * P							1			2-1/8	228
IND (02)	F09T1	1-46 * P							2			1	228
IND (02)	F08T1	1-47 * P							1			1	228
IND (02)	F07T1	1-48 * P							2			1	228
IND (02)	F06T1	1-49 * P							1			1	228
IND (02)	F05T1	1-50 * P							2			1	228
IND (02)	F04T1	1-51 * P							1			1	228
IND (02)	F03T1	1-52 * P							2			1	228
IND (02)	F02T1	1-53 * P							1			1	228
IND (02)	F01T1	1-54 * X							1			1	228
IND (02)												57-3/8 1400000000	226

DLINK.PI RUN NAME	WRP288.V34(63)-1 A/P PIN ORDER NAME	23-AUG-76 RAY - ORDER	Q	DRAM	PV	RG	Y	X	Z	REMARKS	27-DEC-76	11:30 PAGE 34 NC LENGTH EXCEPTIONS FLAG	RUN NUMBER
IND (03)	E09E1	1-01 * P							2			2-3/8	229
IND (03)	E09E1	1-02 * P							1			0-1/8	229
IND (03)	E09E1	1-03 * P							2			0-4/8	229
IND (03)	E09E2	1-04 * P							1			1-2/8	229
IND (03)	E09E2	1-05 * P							2			0-5/8	229
IND (03)	E09E1	1-06 * P							1			0-1/8	229
IND (03)	E09E1	1-07 * P							2			0-1/8	229
IND (03)	E09E1	1-08 * P							2			0-1/8	229
IND (03)	E09E1	1-09 * P							2			1-7/8	229
IND (03)	E09E1	1-10 * P							1			4-4/8	229
IND (03)	E09E1	1-11 * P							2			1-7/8	229
IND (03)	E09E1	1-12 * P							1			0-1/8	229
IND (03)	E09E1	1-13 * P							2			0-1/8	229
IND (03)	E09E1	1-14 * P							1			0-1/8	229
IND (03)	E09E1	1-15 * P							2			0-5/8	229
IND (03)	E09E1	1-16 * P							2			1-2/8	229
IND (03)	E09E1	1-17 * P							2			0-4/8	229
IND (03)	E09E1	1-18 * P							1			0-1/8	229
IND (03)	E09E1	1-19 * P							2			2-3/8	229
IND (03)	E09E1	1-20 * P							2			6-3/8	229
IND (03)	E09E1	1-21 * P							1			1	229
IND (03)	E09E1	1-22 * P							2			1	229
IND (03)	E09E1	1-23 * P							1			1	229
IND (03)	E09E1	1-24 * P							2			1	229
IND (03)	E09E1	1-25 * P							1			1	229
IND (03)	E09E1	1-26 * P							2			1	229
IND (03)	E09E1	1-27 * P							2			1	229
IND (03)	E09E1	1-28 * P							2			1	229
IND (03)	E09E1	1-29 * P							2			1	229
IND (03)	E09E1	1-30 * P							1			1	229
IND (03)	E09E1	1-31 * P							2			1	229
IND (03)	E09E1	1-32 * P							2			1	229
IND (03)	E09E1	1-33 * P							2			1	229
IND (03)	E09E1	1-34 * P							2			1	229
IND (03)	E09E1	1-35 * P							1			1	229
IND (03)	E09E1	1-36 * P							2			1	229
IND (03)	E09E1	1-37 * P							2			1	229
IND (03)	E09E1	1-38 * P							1			1	229
IND (03)	E09E1	1-39 * P							2			1	229
IND (03)	E09E1	1-40 * P							1			1	229
IND (03)	E09E1	1-41 * P							2			1	229
IND (03)	E09E1	1-42 * P							2			1	229
IND (03)	E09E1	1-43 * P							2			1	229
IND (03)	E09E1	1-44 * P							2			1	229
IND (03)	E09E1	1-45 * P							1			1	229
IND (03)	E09E1	1-46 * P							2			1	229
IND (03)	E09E1	1-47 * P							1			1	229
IND (03)	E09E1	1-48 * P							2			1	229
IND (03)	E09E1	1-49 * P							1			1	229
IND (03)	E09E1	1-50 * P							2			1	229
IND (03)	E09E1	1-51 * P							1			1	229
IND (03)	E09E1	1-52 * P							2			1	229
IND (03)	E09E1	1-53 * P							1			1	229
IND (03)	E09E1	1-54 * X							1			1	229
IND (03)												45-4/8 1400000000	229
IND (03)	E09E1	1-01 * P							1			3-1/8	230
IND (03)	E09E1	1-02 * P							1			3-7/8 1400000000	230
IND (03)	E09E1	1-01 * P							1			3-1/8	231
IND (03)	E09E1	1-02 * P							1			3-7/8 1400000000	231
IND (03)	E09E1	1-01 * P							1			6-5/8	232
IND (03)	E09E1	1-02 * P							2			1	232
IND (03)	E09E1	1-01 * P							1			7-5/8 1400000000	232
IND (03)	E09E1	1-02 * P							1			3-4/8	233
IND (03)	E09E1	1-02 * P							1			3-4/8 1400000000	233

011KK.PI RUN NAME	WR228.V34(63)-1 A/P PIN NAME	ORDER PIN	BAY - ORDER	0 DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11:30 NC LENGTH EXCEPTIONS FLAG	PAGE 35	RUN NUMBER
INT A	D07J1		1-01 *						1			N	6-3/8	234
INT A	F07J1		1-02 *											234
INT A														234
INT B	C07J1		1-01 *						1			N	8-5/8	235
INT B	F07K2		1-02 *											235
INT B														235
INT ENB A	D07M1		1-01 *						1			N	6-5/8	236
INT ENB A	F07V1		1-02 *											236
INT ENB A														236
INT ENB B	C07L1		1-01 *						1			N	8-1/8	237
INT ENB B	F07H2		1-02 *											237
INT ENB B														237
OUT HIGH	D07F1		1-01 *						1			N	3-3/8	238
OUT HIGH	E07M2		1-02 *											238
OUT HIGH														238
OUT LOW	D07D1		1-01 *						1			N	4	239
OUT LOW	E07N1		1-02 *											239
OUT LOW														239
OUT LO*	D07F1		1-01 *						1			N	4-0/8	240
OUT LO*	E07S2		1-02 *											240
OUT LO*														240
SEL 0	D07E1		1-01 *						1			N	4-1/8	241
SEL 0	E07R2		1-02 *											241
SEL 0														241
SEL 4	D07E1		1-01 *						1			N	4-3/8	241
SEL 4	E07R2		1-02 *											241
SEL 4														241
SEL 6	D07C1		1-01 *						1			N	4-3/8	242
SEL 6	E07S1		1-02 *											242
SEL 6														242
SER 2	D07J1		1-01 *						1			N	4-1/8	243
SER 2	E07I2		1-02 *											243
SER 2														243
SSYN IN H	D07V1		1-01 *						1			N	1	244
SSYN IN H	E07B1		1-02 *											244
SSYN IN H														244
ALT GRANT	C01R1		1-01 *	P					2					245
ALT GRANT	C02P1		1-02 *	P					1					245
ALT GRANT	C03E1		1-03 *	P					2					245
ALT GRANT	C04R1		1-04 *	P					1					245
ALT GRANT	C05R1		1-05 *	P					2					245
ALT GRANT	C06R1		1-06 *	P					1					245
ALT GRANT	C07R1		1-07 *	P					2					245
ALT GRANT	C08R1		1-08 *	P					1					245
ALT GRANT	C09R1		1-09 *	X					1					245
ALT GRANT														245

011KK.PI RUN NAME	WR228.V34(63)-1 A/P PIN NAME	ORDER PIN	BAY - ORDER	0 DRAW	RV	RG	Y	X	Z	REMARKS	27-DEC-76	11:30 NC LENGTH EXCEPTIONS FLAG	PAGE 36	RUN NUMBER
ALT REG	C01P1		1-01 *	P					2					246
ALT REG	C02P1		1-02 *	P					1					246
ALT REG	C03R1		1-03 *	P					2					246
ALT REG	C04P1		1-04 *	P					1					246
ALT REG	C05P1		1-05 *	P					2					246
ALT REG	C06P1		1-06 *	P					1					246
ALT REG	C07P1		1-07 *	P					2					246
ALT REG	C08P1		1-08 *	P					1					246
ALT REG	C09P1		1-09 *	X					1					246
ALT REG														246
B A00 L	A04K1		1-01 *	P					1					247
B A00 L	A05K1		1-02 *	P					2					247
B A00 L	A06K1		1-03 *	P					2					247
B A00 L	A07K1		1-04 *	P					2					247
B A00 L	A08K1		1-05 *	P					2					247
B A00 L														247
B A01 H	A04H1		1-01 *	P					1					248
B A01 H	A05H1		1-02 *	P					2					248
B A01 H	A06H1		1-03 *	P					2					248
B A01 H	A07H1		1-04 *	P					2					248
B A01 H	A08H1		1-05 *	P					2					248
B A01 H														248
B A02 H	A04F2		1-01 *	P					1					249
B A02 H	A05F2		1-02 *	P					2					249
B A02 H	A06F2		1-03 *	P					2					249
B A02 H	A07F2		1-04 *	P					2					249
B A02 H	A08F2		1-05 *	P					2					249
B A02 H														249
B A03 H	A04J2		1-01 *	P					1					250
B A03 H	A05J2		1-02 *	P					2					250
B A03 H	A06J2		1-03 *	P					2					250
B A03 H	A07J2		1-04 *	P					2					250
B A03 H	A08J2		1-05 *	P					2					250
B A03 H														250
B A04 H	A04V2		1-01 *	P					1					251
B A04 H	A05V2		1-02 *	P					2					251
B A04 H	A06V2		1-03 *	P					2					251
B A04 H	A07V2		1-04 *	P					2					251
B A04 H	A08V2		1-05 *	P					2					251
B A04 H														251
B A05 H	A04P1		1-01 *	P					1					252
B A05 H	A05P1		1-02 *	P					2					252
B A05 H	A06P1		1-03 *	P					2					252
B A05 H	A07P1		1-04 *	P					2					252
B A05 H	A08P1		1-05 *	P					2					252
B A05 H														252
B ADD SYN SEL 1 L	A07E2		1-01 *	P					1					253
B ADD SYN SEL 1 L	A08E2		1-02 *	P					1					253
B ADD SYN SEL 1 L														253



DI1KK.P1 UN NAME	A/P PIN NAME	ORDER PIN	RAY ORDER	0 DRAW	RV OPT	RG Y	X	Z	REMARKS	27-Dec-76	11:30 NC LENGTH EXCEPTIONS FLAG	PAGE 39	RUN NUMBER
B DB05 RD L	B04R1	1-01 * P											271
B DB05 RD L	B05P1	1-02 * P											271
B DB05 RD L	B06R1	1-03 * P											271
B DB05 RD L	B07R1	1-04 * P											271
B DB05 RD L	B08R1	1-05 * P											271
B DB06 RD L	B04P2	1-01 * P									4-0/8 1400000000		271
B DB06 RD L	B05P2	1-02 * P											272
B DB06 RD L	B06P2	1-03 * P											272
B DB06 RD L	B07P2	1-04 * P											272
B DB06 RD L	B08P2	1-05 * P											272
B DB07 RD L	B04P1	1-01 * P									4-0/8 1400000000		272
B DB07 RD L	B05P1	1-02 * P											273
B DB07 RD L	B06P1	1-03 * P											273
B DB07 RD L	B07P1	1-04 * P											273
B DB07 RD L	B08P1	1-05 * P											273
B DB08 RD L	A04P1	1-01 * P									4-0/8 1400000000		273
B DB08 RD L	A05P1	1-02 * P											274
B DB08 RD L	A06P1	1-03 * P											274
B DB08 RD L	A07P1	1-04 * P											274
B DB08 RD L	A08P1	1-05 * P											274
B DB09 RD L	A04D1	1-01 * P									4-0/8 1400000000		274
B DB09 RD L	A05D1	1-02 * P											275
B DB09 RD L	A06D1	1-03 * P											275
B DB09 RD L	A07D1	1-04 * P											275
B DB09 RD L	A08D1	1-05 * P											275
B DB10 RD L	A04B1	1-01 * P									4-0/8 1400000000		276
B DB10 RD L	A05B1	1-02 * P											276
B DB10 RD L	A06B1	1-03 * P											276
B DB10 RD L	A07B1	1-04 * P											276
B DB10 RD L	A08B1	1-05 * P											276
B DB11 RD L	A04A1	1-01 * P									4-0/8 1400000000		277
B DB11 RD L	A05A1	1-02 * P											277
B DB11 RD L	A06A1	1-03 * P											277
B DB11 RD L	A07A1	1-04 * P											277
B DB11 RD L	A08A1	1-05 * P											277
B DB12 RD L	A04U2	1-01 * P									4-0/8 1400000000		277
B DB12 RD L	A05U2	1-02 * P											278
B DB12 RD L	A06U2	1-03 * P											278
B DB12 RD L	A07U2	1-04 * P											278
B DB12 RD L	A08U2	1-05 * P											278

DI1KK.P1 UN NAME	A/P PIN NAME	ORDER PIN	RAY ORDER	0 DRAW	RV OPT	RG Y	X	Z	REMARKS	27-Dec-76	11:30 NC LENGTH EXCEPTIONS FLAG	PAGE 40	RUN NUMBER
B DB13 RD L	A04T2	1-01 * P											279
B DB13 RD L	A05T2	1-02 * P											279
B DB13 RD L	A06T2	1-03 * P											279
B DB13 RD L	A07T2	1-04 * P											279
B DB13 RD L	A08T2	1-05 * P											279
B DB14 RD L	A04R2	1-01 * P									4-0/8 1400000000		279
B DB14 RD L	A05P2	1-02 * P											280
B DB14 RD L	A06R2	1-03 * P											280
B DB14 RD L	A07R2	1-04 * P											280
B DB14 RD L	A08P2	1-05 * P											280
B DB16 RD L	R04R2	1-01 * P									4-0/8 1400000000		281
B DB16 RD L	R05H2	1-02 * P											281
B DB16 RD L	R06H2	1-03 * P											281
B DB16 RD L	R07H2	1-04 * P											281
B DB16 RD L	R08H2	1-05 * P											281
B DB17 RD L	R04H1	1-01 * P									4-0/8 1400000000		281
B DB17 RD L	R05H1	1-02 * P											282
B DB17 RD L	R06H1	1-03 * P											282
B DB17 RD L	R07H1	1-04 * P											282
B DB17 RD L	R08H1	1-05 * P											282
B DB18 RD L	R04F1	1-01 * P									4-0/8 1400000000		283
B DB18 RD L	R05F1	1-02 * P											283
B DB18 RD L	R06F1	1-03 * P											283
B DB18 RD L	R07F1	1-04 * P											283
B DB18 RD L	R08F1	1-05 * P											283
B DB19 RD L	B04E2	1-01 * P									4-0/8 1400000000		284
B DB19 RD L	B05E2	1-02 * P											284
B DB19 RD L	B06E2	1-03 * P											284
B DB19 RD L	B07E2	1-04 * P											284
B DB19 RD L	B08E2	1-05 * P											284
B DB20 RD L	B04U1	1-01 * P									4-0/8 1400000000		284
B DB20 RD L	B05U1	1-02 * P											285
B DB20 RD L	B06U1	1-03 * P											285
B DB20 RD L	B07U1	1-04 * P											285
B DB20 RD L	B08U1	1-05 * P											285
B DB21 RD L	B04I2	1-01 * P									4-0/8 1400000000		285
B DB21 RD L	B05I2	1-02 * P											286
B DB21 RD L	B06I2	1-03 * P											286
B DB21 RD L	B07I2	1-04 * P											286
B DB21 RD L	B08I2	1-05 * P											286

JD11KK.PI RUN NAME	A/P NAME	ORDER PIN	BAY - ORDER	Q DRAW	RV OPT	RG Y	X	Z	REMARKS 27-DEC-76	1113P MC LENGTH FLAG	PAGE 41 EXCEPTIONS	RUN NUMBER
IB DB22 RD L	A452		1-01 * P									287
IB DB22 RD L	A452		1-02 * P									287
IB DB22 RD L	A452		1-03 * P									287
IB DB22 RD L	A452		1-04 * P									287
IB DB22 RD L	A452		1-05 * P							4-0/8 1400000000		287
IB DB23 RD L	A451		1-01 * P									288
IB DB23 RD L	A451		1-02 * P									289
IB DB23 RD L	A451		1-03 * P									289
IB DB23 RD L	A451		1-04 * P									289
IB DB23 RD L	A451		1-05 * P							4-0/8 1400000000		289
IB DB24 RD L	A451		1-01 * P									289
IB DB24 RD L	A451		1-02 * P									289
IB DB24 RD L	A451		1-03 * P									289
IB DB24 RD L	A451		1-04 * P									289
IB DB24 RD L	A451		1-05 * P							4-0/8 1400000000		289
IB DB25 RD L	A442		1-01 * P									290
IB DB25 RD L	A442		1-02 * P									290
IB DB25 RD L	A442		1-03 * P									290
IB DB25 RD L	A442		1-04 * P									290
IB DB25 RD L	A442		1-05 * P							4-0/8 1400000000		290
IB DB26 RD L	A401		1-01 * P									291
IB DB26 RD L	A401		1-02 * P									291
IB DB26 RD L	A401		1-03 * P									291
IB DB26 RD L	A401		1-04 * P									291
IB DB26 RD L	A401		1-05 * P							4-0/8 1400000000		291
IB DB27 RD L	A442		1-01 * P									292
IB DB27 RD L	A442		1-02 * P									292
IB DB27 RD L	A442		1-03 * P									292
IB DB27 RD L	A442		1-04 * P									292
IB DB27 RD L	A442		1-05 * P							4-0/8 1400000000		292
IB DB28 RD L	B402		1-01 *									293
IB DB28 RD L	B402		1-02 *									293
IB DB28 RD L	B402		1-03 *									293
IB DB28 RD L	B402		1-04 *									293
IB DB28 RD L	B402		1-05 *									293
IB DB29 RD L	B442		1-01 *									294
IB DB29 RD L	B442		1-02 *									294
IB DB29 RD L	B442		1-03 *									294
IB DB29 RD L	B442		1-04 *									294
IB DB29 RD L	B442		1-05 *									294
IB DB29 RD L	B442									4-0/8 1400000000		294

DD11KK.PI RUN NAME	A/P NAME	ORDER PIN	BAY - ORDER	Q DRAW	RV OPT	RG Y	X	Z	REMARKS 27-DEC-76	1113P MC LENGTH FLAG	PAGE 42 EXCEPTIONS	RUN NUMBER
IB DB31 RD L	B442		1-01 * P									295
IB DB31 RD L	B442		1-02 * P									295
IB DB31 RD L	B442		1-03 * P									295
IB DB31 RD L	B442		1-04 * P									295
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		295
IB DB31 RD L	B442											296
IB DB31 RD L	B442		1-01 * P									296
IB DB31 RD L	B442		1-02 * P									296
IB DB31 RD L	B442		1-03 * P									296
IB DB31 RD L	B442		1-04 * P									296
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		296
IB DB31 RD L	B442											297
IB DB31 RD L	B442		1-01 * P									297
IB DB31 RD L	B442		1-02 * P									297
IB DB31 RD L	B442		1-03 * P									297
IB DB31 RD L	B442		1-04 * P									297
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		297
IB DB31 RD L	B442											298
IB DB31 RD L	B442		1-01 * P									298
IB DB31 RD L	B442		1-02 * P									298
IB DB31 RD L	B442		1-03 * P									298
IB DB31 RD L	B442		1-04 * P									298
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		298
IB DB31 RD L	B442											299
IB DB31 RD L	B442		1-01 * P									299
IB DB31 RD L	B442		1-02 * P									299
IB DB31 RD L	B442		1-03 * P									299
IB DB31 RD L	B442		1-04 * P									299
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		299
IB DB31 RD L	B442											300
IB DB31 RD L	B442		1-01 * P									300
IB DB31 RD L	B442		1-02 * P									300
IB DB31 RD L	B442		1-03 * P									300
IB DB31 RD L	B442		1-04 * P									300
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		300
IB DB31 RD L	B442											301
IB DB31 RD L	B442		1-01 * P									301
IB DB31 RD L	B442		1-02 * P									301
IB DB31 RD L	B442		1-03 * P									301
IB DB31 RD L	B442		1-04 * P									301
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		301
IB DB31 RD L	B442											302
IB DB31 RD L	B442		1-01 * P									302
IB DB31 RD L	B442		1-02 * P									302
IB DB31 RD L	B442		1-03 * P									302
IB DB31 RD L	B442		1-04 * P									302
IB DB31 RD L	B442		1-05 * P							4-0/8 1400000000		302



DD11K.P1 RUN NAME	A/P PIN	NAME	ORDER PIN	RAY ORDER	Q	DRAW	PV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 AC LENGTH EXCEPTIONS FLAG	PAGE 45	RUN NUMBER
J OUT LOW		D08D1		1-01 *										N 4		321
J OUT LOW		E08N1		1-02 *										4-0/8 1400000000		321
J OUT LOW																
J SEL 0		D08F1		1-01 *										N 0-1/8		322
J SEL 0		E08S2		1-02 *										4-1/8 1400000000		322
J SEL 0																
J SEL 4		D08E1		1-01 *										N 4-3/8		323
J SEL 4		E08R2		1-02 *										4-3/8 1400000000		323
J SEL 4																
J SEL 6		D08C1		1-01 *										N 4-4/8		324
J SEL 6		E08S1		1-02 *										4-4/8 1400000000		324
J SEL 6																
J SER 2		D08J1		1-01 *										N 4-1/8		325
J SER 2		E08T2		1-02 *										4-1/8 1400000000		325
J SER 2																
J SSV IN H		D08V1		1-01 *										N 1		326
J SSV IN H		E08R1		1-02 *										1-0/8 1400000000		326
J SSV IN H																
K A IN		D08H1		1-01 *										N 3-4/8		327
K A IN		E08M1		1-02 *										3-4/8 1400000000		327
K A IN																
K BG IN		D08U2		1-01 *										N 3-7/8		328
K BG IN		F08B1		1-02 *										3-7/8 1400000000		328
K BG IN																
K BG OUT		D08V2		1-01 *										N 3-7/8		329
K BG OUT		F08A1		1-02 *										3-7/8 1400000000		329
K BG OUT																
K BR OUT		D08J2		1-01 *										N 6-5/8		330
K BR OUT		F08F1		1-02 *										N 1		330
K BR OUT		F08U2		1-03 *										7-5/8 1400000000		330
K BR OUT																
K INI A		D08V1		1-01 *										N 6-3/8		331
K INI A		F08U1		1-02 *										6-3/8 1400000000		331
K INI A																
K INI B		C08J1		1-01 *										N 8-5/8		332
K INI B		F08K2		1-02 *										8-5/8 1400000000		332
K INI B																
K INI EBA		D08V1		1-01 *										N 6-5/8		333
K INI EBA		F08V1		1-02 *										6-5/8 1400000000		333
K INI EBA																

DD11K.P1 RUN NAME	A/P PIN	NAME	ORDER PIN	RAY ORDER	Q	DRAW	PV	RG	Y	X	Z	REMARKS	27-DEC-76	11130 AC LENGTH EXCEPTIONS FLAG	PAGE 46	RUN NUMBER
K INI EBA B		C08L1		1-01 *										N 6-1/8		334
K INI EBA S		F08H2		1-02 *										8-1/8 1400000000		334
K INI EBA R																
K OUT HIGH		D08K1		1-01 *										N 3-3/8		335
K OUT HIGH		E08A2		1-02 *										3-3/8 1400000000		335
K OUT HIGH																
K OUT LOW		D08D1		1-01 *										N 4		336
K OUT LOW		E08U1		1-02 *										4-2/8 1400000000		336
K OUT LOW																
K SEL 0		D08F1		1-01 *										N 4-1/8		337
K SEL 0		E08S2		1-02 *										4-1/8 1400000000		337
K SEL 0																
K SEL 4		D08E1		1-01 *										N 4-3/8		338
K SEL 4		E08R2		1-02 *										4-3/8 1400000000		338
K SEL 4																
K SEL 6		F08C1		1-01 *										N 4-4/8		339
K SEL 6		F08S1		1-02 *										4-4/8 1400000000		339
K SEL 6																
K SER 2		D08J1		1-01 *										N 4-1/8		340
K SER 2		E08T2		1-02 *										4-1/8 1400000000		340
K SER 2																
K SSV IN H		D08V1		1-01 *										N 1		341
K SSV IN H		E08R1		1-02 *										1-0/8 1400000000		341
K SSV IN H																
LTC		C08I1		1-01 *										1		342
LTC		C08O1		1-02 *										1		342
LTC		C08D1		1-03 *										1		342
LTC		C08U1		1-04 *										1		342
LTC		C08D1		1-05 *										1		342
LTC		C08E1		1-06 *										1		342
LTC		C08I1		1-07 *										1		342
LTC		C08O1		1-08 *										1		342
LTC		C08U1		1-09 *										1		342
LTC														8-3/8 1400000000		342

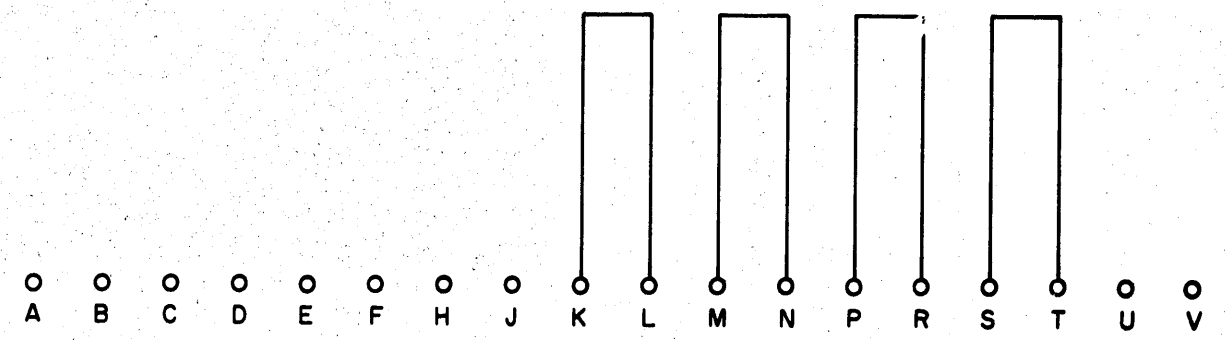


DD11KCP1 RUN NAME	WRP288.V34(63)-1 A/P NAME	ORDER PIN	BAY ORDER	23-AUG-76 G	27-DEC-76 REMARKS	11:30 NC LENGTH EXCEPTIONS FLAG	PAGE 47	RUN NUMBER
MSYN L	MSYN L	MSYN L	MSYN L	MSYN L	MSYN L	MSYN L	MSYN L	MSYN L
1-01 *	R01V1	1	1-01 *			N 1		343
1-02 *	R02V1	2	1-02 *			N 1		343
1-03 *	R03V1	1	1-03 *	H	TMP	7-5/8		343
1-04 *	E01E1	2	1-04 *	P				343
1-05 *	E02E1	2	1-05 *	P				343
1-06 *	E03E1	2	1-06 *	P				343
1-07 *	E04E1	2	1-07 *	P				343
1-08 *	E05E1	1	1-08 *	P				343
1-09 *	E06E1	2	1-09 *	P				343
1-10 *	E07E1	2	1-10 *	P				343
1-11 *	E08E1	2	1-11 *	P				343
1-12 *	E09E1	2	1-12 *	H				343
1-13 *	B09V1	1	1-13 *			6-5/8		343
						24-2/8	1400000000	343
1-01 *	A01U1	1	1-01 *			N 3-6/8		344
1-02 *	C01A1	2	1-02 *	P		N 0-1/8		344
1-03 *	C01B1	2	1-03 *	P		0-5/8		344
1-04 *	C02A1	1	1-04 *	P		N 0-1/8		344
1-05 *	C02B1	2	1-05 *	P		0-5/8		344
1-06 *	C03A1	1	1-06 *	P		N 0-1/8		344
1-07 *	C03B1	2	1-07 *	P		0-5/8		344
1-08 *	C04A1	1	1-08 *	P		N 0-1/8		344
1-09 *	C04B1	2	1-09 *	P		0-5/8		344
1-10 *	C05A1	1	1-10 *	P		N 0-1/8		344
1-11 *	C05B1	2	1-11 *	P		0-5/8		344
1-12 *	C06A1	1	1-12 *	P		N 0-1/8		344
1-13 *	C06B1	2	1-13 *	P		0-5/8		344
1-14 *	C07A1	1	1-14 *	P		N 0-1/8		344
1-15 *	C07B1	2	1-15 *	P		0-5/8		344
1-16 *	C08A1	1	1-16 *	P		N 0-1/8		344
1-17 *	C08B1	2	1-17 *	P		0-5/8		344
1-18 *	C09A1	1	1-18 *	P		N 0-1/8		344
1-19 *	C09B1	2	1-19 *	P		0-5/8		344
1-20 *	A09U1	1	1-20 *			N 3-7/8		344
						13-6/8	1400000000	344
1-01 *	A01S2	1	1-01 *			N 1		345
1-02 *	A02S2	2	1-02 *	H	TMP	13-7/8		345
1-03 *	A03S2	1	1-03 *	P				345
1-04 *	F01U1	2	1-04 *	P				345
1-05 *	F02U1	2	1-05 *	P				345
1-06 *	F03U1	2	1-06 *	P				345
1-07 *	F04U1	2	1-07 *	P				345
1-08 *	F05U1	2	1-08 *	P				345
1-09 *	F06U1	2	1-09 *	P				345
1-10 *	F07U1	2	1-10 *	P				345
1-11 *	F08U1	2	1-11 *	P				345
1-12 *	F09U1	2	1-12 *	H				345
1-13 *	A09S2	1	1-13 *			12-7/8		345
						36-6/8	1400000000	345

DD11KCP1 RUN NAME	WRP288.V34(63)-1 A/P NAME	ORDER PIN	BAY ORDER	23-AUG-76 G	27-DEC-76 REMARKS	11:30 NC LENGTH EXCEPTIONS FLAG	PAGE 48	RUN NUMBER
PAR DET	PAR DET	PAR DET	PAR DET	PAR DET	PAR DET	PAR DET	PAR DET	PAR DET
1-01 *	A01S1	1	1-01 *	P		1		346
1-02 *	A02S1	2	1-02 *	P		1		346
1-03 *	A03S1	1	1-03 *	P		N 5-5/8		346
1-04 *	C01C1	2	1-04 *	P				346
1-05 *	C02C1	1	1-05 *	P		N 1		346
1-06 *	C03C1	2	1-06 *	P		N 1		346
1-07 *	C04C1	1	1-07 *	P		N 1		346
1-08 *	C05C1	2	1-08 *	P		N 1		346
1-09 *	C06C1	1	1-09 *	P		N 1		346
1-10 *	C07C1	2	1-10 *	P		N 1		346
1-11 *	C08C1	1	1-11 *	P		N 1		346
1-12 *	C09C1	2	1-12 *	P		N 1		346
1-13 *	A09S1	1	1-13 *			N 4-6/8		346
						28-3/8	1400000000	346
1-01 *	A02E2	1	1-01 *			N 1		347
1-02 *	A03E2	1	1-02 *					347
1-01 *	A02P1	1	1-01 *	P		1-0/8	1400000000	347
1-02 *	A03P1	1	1-02 *	P				346
1-01 *	A02S1	1	1-01 *	P		1-0/8	1400000000	346
1-02 *	A03S1	1	1-02 *	P				346
1-01 *	A03A2	2	1-01 *	P		1		349
1-02 *	A02N2	2	1-02 *	P		1-0/8	1400000000	349
1-03 *	A01N2	1	1-03 *	P				350
1-04 *	C01S1	2	1-04 *	P		6-3/8		350
1-05 *	C02S1	2	1-05 *	P				350
1-06 *	C03S1	2	1-06 *	P		1		350
1-07 *	C04S1	2	1-07 *	P		1-4/8		350
1-08 *	C05S1	2	1-08 *	P				350
1-09 *	C06S1	2	1-09 *	P				350
1-10 *	C07S1	2	1-10 *	P				350
1-11 *	C08S1	2	1-11 *	P		2-4/8		350
1-12 *	C09S1	2	1-12 *	P		0-3/8		350
1-13 *	A09S2	1	1-13 *			N 0-3/8		350
						26-6/8	1400000000	350
1-01 *	A02A1	1	1-01 *	P				351
1-02 *	A03A1	2	1-02 *	P				351
1-03 *	A04A1	2	1-03 *	P				351
1-04 *	A05A1	2	1-04 *	P				351
1-05 *	A06A1	2	1-05 *	P				351
1-06 *	A07A1	1	1-06 *	P		5-2/8	1400000000	351
								351



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REVISIONS	CHK	CHG NO.	REV.

DRN. <i>BUTLER</i>	DATE <i>11-19-69</i>
CHK'D <i>P. Lo Stark</i>	DATE <i>6-F-1370</i>
ENB <i>D. E. Johnson</i>	DATE <i>1/23/70</i>
PROD.	DATE

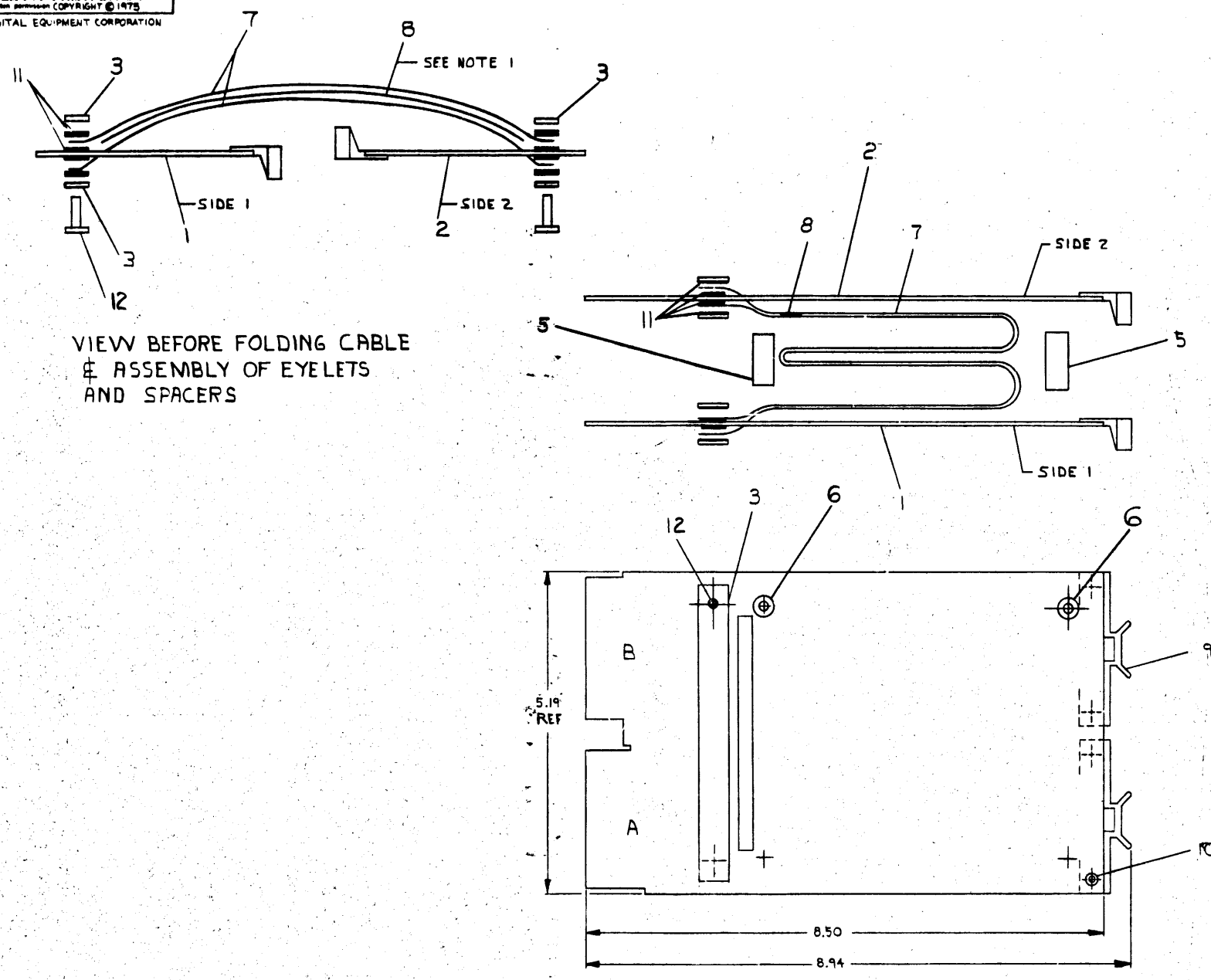
TRANSISTOR & DIODE CONVERSION CHART			
DEC	EIA	DEC	EIA

**digital**  
EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS

TITLE GRANT CONTINUITY G727			
SIZE B	CODE CS	NUMBER G727-0-1	REV.
PRINTED CIRCUIT REV.			A

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- NOTES:
1. FOAM (ITEM#8) TO BE PLACED BETWEEN CABLES (ITEM#7) AND ALL FOLDS.
  2. FLEX PRINTS TO BE BOUND TOGETHER BY WRAPPING WITH BLACK ELECTRICAL TAPE (ITEM#4) EVERY 8 INCHES.



QTY	DESCRIPTION	PART NO	ITEM NO.
4	EYELET	9006745	12
A/R	TAPE, ADHESIVE TRANSFER	9009074	1
8	EYELET	9006732	10
4	HANDLE, FLIP-CHIP MAGENTA	9008337-06	9
A/R	FOAM, GRAY	9003881	8
2	CABLE, FLEXPRINT (2'LG)	1700002-01	7
4	EYELET	9008223	6
4	SPACEK	B-MD-7413-88-0-0	5
A/R	BLACK ELECTRICAL TAPE	9009507	4
4	CLAMP, CABLE	B-MD-7413489-0-0	3
1	ETCHED CIRCUIT BOARD	D-CS-541579-0-1	2
1	ETCHED CIRCUIT BOARD	D-CS-541577-0-1	1

FIRST USED ON OPTION/MODEL		PARTS LIST	
PDP/11		PARTS LIST	
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN: <i>J. Sullivan</i>	DATE: 1/28/75	digital EQUIPMENT CORPORATION MAYFORD MASSACHUSETTS
TOLERANCES	CHK'D: <i>K. Johnson</i>	DATE: 6-7-75	
DECIMALS	ANGLES	ENG: <i>[Signature]</i>	TITLE: CABLE, UNIBUS (JUMPER)
.XXX - .008	±0° 30'	DATE: 2-2-75	
.XX - .02		DATE: 2-2-75	
.X - .1		DATE: 2-2-75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	FRD: <i>[Signature]</i>	DATE: 2-2-75	
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE: DUA M9202-φ-φ
SEE PARTS LIST			NUMBER: A
FINISH	SCALE: NONE	SHEET 1 OF 1	DIST.:

REV	CHG NO	REV
1	00001	A
2	00002	A
3	00003	A
4	00004	A
5	00005	A
6	00006	A
7	00007	A
8	00008	A

DESIGNED BY: *[Signature]*  
DRAWN BY: *[Signature]*  
CHECKED BY: *[Signature]*  
DATE: 1/28/75