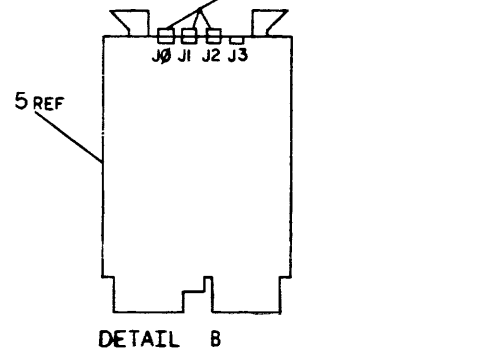
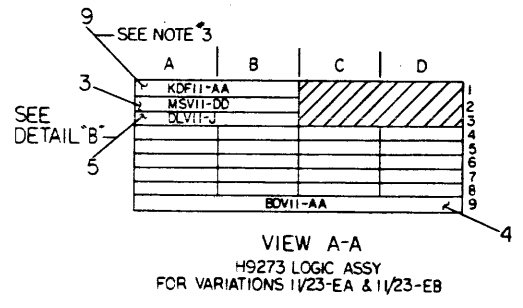
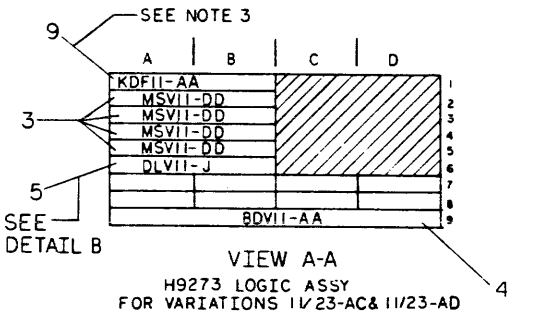
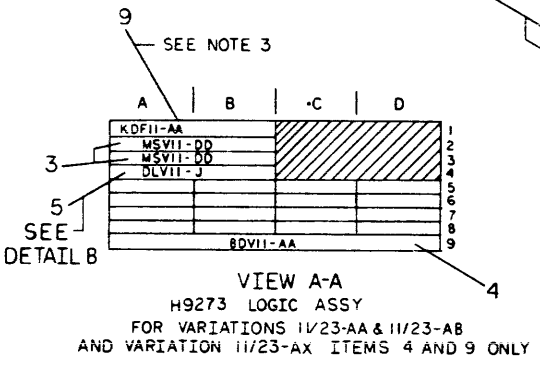


LEGEND	
NUMBER	VARIATION
11/23-AA	BA11-NC, KDF11-AA, (2)MSV11-DD, BDV11-AA, DLV11-J, 120V, 50-60HZ, 128KB
11/23-AB	BA11-ND, KDF11-AA, (2)MSV11-DD, BDV11-AA, DLV11-J, 240V, 50-60HZ, 128KB
11/23-AC	BA11-NC, KDF11-AA, (4)MSV11-DD, BDV11-AA, DLV11-J, 120V, 50-60HZ, 256KB
11/23-AD	BA11-ND, KDF11-AA, (4)MSV11-DD, BDV11-AA, DLV11-J, 240V, 50-60HZ, 256KB
11/23-AX	BA11-NC, KDF11-AA, BDV11-AA, DLV11-J, 120V, 50-60HZ FOR INTERNAL MANUFACTURING USE ONLY
11/23-EA	BA11-NC, KDF11-AA, (1)MSV11-DD, DLV11-J, BDV11-AA, 120V, 50-60HZ, 64KB
11/23-EB	BA11-ND, KDF11-AA, (1)MSV11-DD, DLV11-J, BDV11-AA, 240V, 50-60HZ, 64KB

- NOTES:
- INSTALL ITEM #8 (TEST CONNECTOR) ON ITEM 5 (DLV11-J) THREE (3) PLACES AS SHOWN.
 - ITEM #6 (LOGO) MUST BE APPLIED TO THE BEZEL SO THAT IT IS PARALLEL WITH THE TOP OF THE BEZEL AND COMPLETELY COVERS THE CAST IN LOGO ON THE BEZEL.
 - BEFORE INSTALLING (ITEM #9) KDF11-AA MODULE (M8186) AT HARDWARE REVISION AA OR EARLIER, CAPACITOR C3 MUST BE REMOVED FOR PROPER POWER UP SEQUENCE. REFER TO D-1A-M8186-0-0. THE CAPACITOR SHOULD NOT BE REMOVED ON MODULES AT HARDWARE REVISION: A5 OR C1 OR LATER.



CAUTION: OFF-SHEET PARTS LIST
K-PL-11/23-Q-DBP

11/23-0001	A	1
11/23-0002	B	1
11/23-0003	C	1
11/23-0004	D	1
11/23-0005	E	1
11/23-0006	F	1
11/23-0007	G	1
11/23-0008	H	1
11/23-0009	I	1
11/23-0010	J	1

DESCRIPTION		QTY	UNIT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
APPROX. WEIGHT	CLASS OF PRECISION	MIN.	MAX.
SURFACE QUALITY	CHECK ONE	MIN.	MAX.
QUANTITY & VARIATION	PREPARED	MIN.	MAX.
DATE	FIRST USED ON		
DESIGNED BY	TITLE		
PROJ. NO.	NO.		
SCALE	SCALE		
SEE PARTS LIST	SCALE		

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION				
					AA	AB	AC	AD	YX
1	1	E-UA-BA11-N-0	0BA11-NC	5.2" BOX, METAL COVER, H9273 BACK	1	-	1	-	1
2	2	E-UA-BA11-N-0	0BA11-ND	5.2" BOX, METAL COVER, H9273 BACK	-	1	-	1	-
3	3	A-PL-MSV11-D-0	MSV11-DC	32K 16 BIT MOS RAM, 16K CHIPS M80	2	2	4	4	-
4	4	D-UA-BDV11-A-0	BDV11-AA	M8012 WITH BOOTSTRAP DIAGNOSTIC	1	1	1	1	1
5	5	A-PL-DLV11-J-0	DLV11-J	4 SERIAL LINE PERIPHERAL INTF	1	1	1	1	-
6	6	A-PS-3616407-0-0	3616407-00	LABEL, PDP11/23	1	1	1	1	1
7	7	A-PS-3700323-0-0	3700323-00	PKG COMPUTER 11/03-L, -N & DPM23	1	1	1	1	1
8	8	C-UA-H3270-0-0	H3270-00	TEST CONNECTOR	3	3	3	3	-
9	9	K-PL-KDF11-A-DBP	KDF11-AA	M8186 + KTF11-AA (CHIP)	1	1	1	1	1
10	10	B-PL-11/23-0		SHIPPING LIST 11/23	1	1	1	1	1

11 NOTE: NOTE 1: SEE ITEM #5. PART #DLV11-J MUST BE M8043 CS REV E OR LATER.
 12 NOTE: NOTE 2: VARIATION YX IS FOR INTERNAL MANUFACTURING USE ONLY

REVISION HISTORY			BASIC PART NO: 11/23		DRN: P. TESLA		DATE: 15-JAN-79		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	DATE:	TITLE	PARTS LIST			
---	INITIAL	*	SECTION. VARIATION INDEX	D. BRIGHAM	11-APR-79	UNIT ASSY 11/23				
RL	11/23-ML001	A	(A) AA, AB, AC, AD, YX							
			(B)	DES. ENG.: J. KALAGHER	15-JAN-79					
			(C)			DOCUMENT NUMBER				
			(D)	RESP. ENG.: J. KALAGHER	15-JAN-79					
			(E)			SIZE	CODE	NUMBER	REV	
			(F)	MFG. ENG.: R. HAMILTON	11-APR-79	K	PL	11/23-0-DBP	A	
				ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:		EDIT #		
				E-UA-11/23-0-0		Z0212A.PLS		12		

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DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY PEG TESLA	CHECKED DATE <i>R. Hamilton</i> 11-4-79	SECTION 1
DATE 19 MAR 79	PROD <i>R. Hamilton</i>	ISSUED SECTION 1
ENG <i>J. Kellogg</i>	DATE 4-11-79	
DATE 11 APRIL 79		

QUANTITY / VARIATION											
11/23-AA	11/23-AB	11/23-AC	11/23-AD	11/23-EA	11/23-EB						

NOTES:
* THESE ITEMS ARE ONLY TO BE SHIPPED WITH FIRST SHIP TO CUSTOMER.

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	11/23-AA	11/23-AB	11/23-AC	11/23-AD	11/23-EA	11/23-EB							REF DESIGNATION
1		EK-BA11-N-TM-001	BA11-N TECHNICAL MANUAL	*	*	*	*	*	*							
2		ZJ012-RB	F11 BASIC CPU DOC/PT KIT	*	*	*	*	*	*							
3		ZJ269-RB	DLV11-J DIAG DOC/PT KIT	*	*	*	*	*	*							
4		ZJ254-RB	M8012 DIAGNOSTIC KIT	*	*	*	*	*	*							
5	B-TC-11/23-0-1	MP00740	11/23 FIELD MAINTENANCE PRINT SET	1	1	1	1	1	1							
6		EB-15115-78	MICROCOMPUTER PROCESSORS HANDBOOK	*	*	*	*	*	*							
7		EB-15114-78	MEMORIES AND PERIPHERALS HANDBOOK	*	*	*	*	*	*							
8		EK-KDF11-UG	KDF11-A USER'S GUIDE	1	1	1	1	1	1							

E.C.O. NO. 11/23-ML003

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		SHEET 1 OF 1		INSERTION PARTS LIST DATA BASE REV		

PARTS LIST

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION		
				AA	AB	AC
1	1	M8184-00	16 BIT MICROPROCESSOR	1	1	1
2	2	2115542-01	F1==11 MMV W/FLOAT PT RE	1	1	-
3	3	5700001-00	CTL/CTL HYBRID KEF11-AA	-	1	-
4	4	9905622-00	BOX, FOLDING	1	1	1

REVISION HISTORY			BASIC PART NO: KDF11		DRN:	DATE:	DIGITAL			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:		DATE:	PARTS LIST			
MT	KDF11A-MLO01	B	SECTION, VARIATION INDEX [A] AA,AB,AC	W.J. MAHER		21-JAN-80	DUAL HEIGHT CPL			
			[B]	R. BADEAU		21-JAN-80	DOCUMENT NUMBER			
			[C]				SIZE	CODE	NUMBER	REV
			[D]	R. BADEAU		21-JAN-80	K	PL	KDF11-A-DBF	B
			[E]	A. HOFFMAN		21-JAN-80	FILE NAME:			EDIT #
			[F]				Z0473B.PLS			4
				ASSEMBLY NUMBER: B-DD-KDF11-A-0		TOP DOCUMENT NUMBER:	FILE NAME:			EDIT #

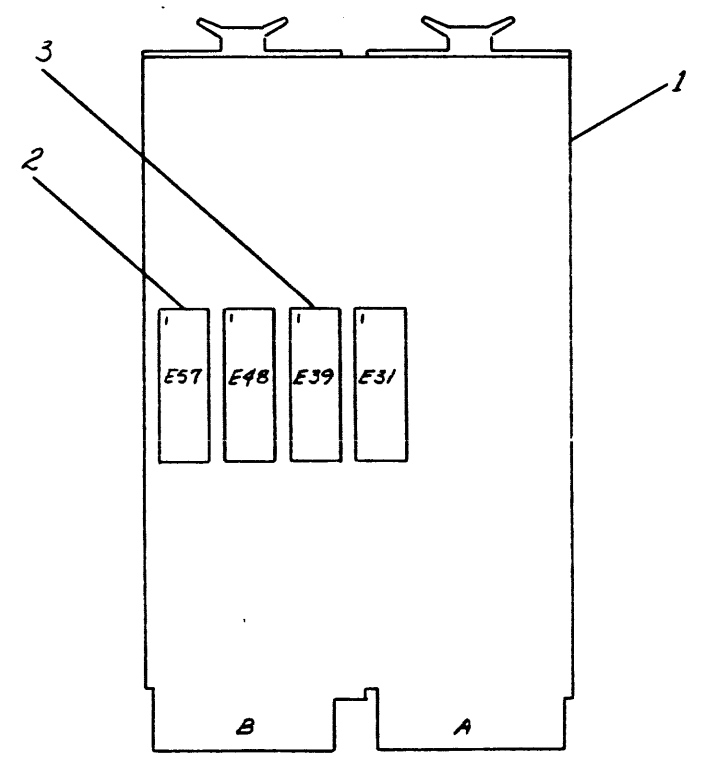
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SIZE CODE
 CUA KDF11-A-0
 REV B

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LEGEND	
NUMBER	DESCRIPTION
KDF11-AA	MB186 + KTF11-AA
KDF11-AB	MB186 + KTF11-AA + KEF11-AA
KDF11-AC	MB186

NOTES:
 1. FOR PROPER OPERATION OF FLOATING POINT (ITEM#3), THE MB186 MODULE (ITEM#1) MUST BE AT HARDWARE REVISION A6 OR C2 OR LATER.
 2. WHEN INSTALLING ITEMS#2 OR#3 ON ITEM#1 MAKE SURE THAT PIN 1 IS LOCATED AS SHOWN.



COMPONENT SIDE VIEW

FOR PARTS LIST SEE: K-PL-KDF11-A-DBP

REVISION HISTORY	
DATE	REV.
1/10/80	B
4/7/80	B

M. TEHRANIAN
 ILL. SC.

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)			
INCHES TOLERANCES ± 0' 30"	ANGLES ± 0' 30"	APPLICABLE DIMENSION RANGE (CHECK ONE)	OVER 0 TO 0.2
			OVER 0.2 TO 1.2
SURFACE QUALITY ✓ MICRONISHES	QUANTITY & VARIATION X = ± .1 XX = ± .02 XXX = ± .005	DIMENSIONS RANGE IN INCHES	OVER 1.2 TO 4.0
			OVER 4.0 TO 12.0
THIRD ANGLE PROJECTION		TITLE	
DO NOT SCALE DRAWING		digital	
REMOVE BURRS AND BREAK SHARP CORNERS		KDF11-A CPU UNIT ASSEMBLY	
MATERIAL		DOCUMENT NUMBER	
FINISH		C UA KDF11-A-0 B	

C
 B

D
 C
 B
 CUA KDF11-A-0
 REV B

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS															
				A0	A1	A2	A3	A3	A4	A5	A6	A6	A7	A8	A8				
		M8186	HARDWARE REVISION (ETCH A)	*	A	B	C	C	C1	C2	C2	C2	C3	C4	C4				
D-UA-M8186- ϕ - ϕ	3		KDF11A CPU	*	A	B	C	C	C	C1	C2	C3	C3	C3	C3				
B-PL-M8186- ϕ - ϕ	2		PARTS LIST	*	A	B	C	C	C	C1	C2	C3	C3	C3	C3				
D-CS-M8186- ϕ -1	4		KDF11A CPU	*	A	B	C	C	C1	C2	C2	C2	C3	C4	C4				
D-MD-5013326- ϕ - ϕ	5		DRILL & ETCH DRAWING	*	*	*	*	*	*	*	*	*	*	*	*				
	-	5013326	ETCH BOARD	A	A	A	A	A	A	A	A	A	A	A	A				
K-PC-M8186-0-DBI	-		P.C. DESIGN DATA BASE					C	C	C	C	C	C	C	C				
D-UA-M8186- ϕ - ϕ	5		KDF11A CPU					D	D	E	E	E	F	F1	F1				
B-PL-M8186- ϕ - ϕ	2		PARTS LIST					D	D	E	F	H	J	J1	J1				
D-CS-M8186- ϕ -1	4		KDF11A CPU					D	D	E	E	E	F	F1	F1				
D-MD-5013326- ϕ - ϕ	5		DRILL & ETCH DRAWING					D	D	D	D	D	D	D	D				
	-	5013326	ETCH BOARD					C	C	C	C	C	C	C	C				
		M8186	HARDWARE REVISION (ETCH C)					C ϕ	C ϕ	C1	C2	C2	C3	C4	C4				
		M8186	HARDWARE REVISION (ETCH D)												D ϕ	D ϕ			
D-UA-M8186- ϕ - ϕ	1		KDF11A CPU												H	H			
K-PL-M8186- ϕ -DBP	-		DATA BASE PARTS LIST												K	K			
D-CS-M8186- ϕ -1	4		KDF11A CPU												H	H			
D-MD-5013326- ϕ - ϕ	5		DRILL & ETCH DRAWING												E	F			
D-EC-5013326- ϕ - ϕ	2		ETCH CUT DRAWING												H	H			
K-PC-M8186- ϕ -DBI	-		P.C. DATA BASE DESIGN												D	D			
	-	5013326	ETCH BOARD												D	D			

NOTES:

1. THE HARDWARE REVISION IS STAMPED ON THE MODULE HANDLE. IT IS A TWO FIELD ALPHA-NUMERIC CHARACTER. THE FIRST FIELD INDICATES THE ETCH REVISION. THE SECOND FIELD INDICATES THE NUMBER OF MODIFICATIONS TO THE BASIC BOARD.
2. THERE WERE NO ETCH REVISION B BOARDS RELEASED TO PRODUCTION.

DATE	CHG NO.	REV.	*	REVISIONS												
				A	B	C	D	E	F	H	J	K	L	M		
3-79																
4-79	ML ϕ 01															
5-79	ML ϕ 02															
5-79	ML ϕ 03															
7-79	ML ϕ 04															
10-79	ML ϕ 05															
11-79	ML ϕ 06															
12-79	ML ϕ 07															
1-80	ML ϕ 08															
4-80	ML ϕ 09															
4-81	ML ϕ 10															
8-82	ML ϕ 11															

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USED ON OPTION/MODEL		DRN. RITA Z. BUREAU	28FEB79	TITLE	
KDF11A		CHK'D <i>D. Bosman</i>	15 MAY 81	KDF11A CPU	
		ENG. <i>G. Opp</i>	20MAY81	SIZE	CODE
		PROD. <i>G. Opp</i>	20MAY81	B	DD
				NUMBER	REV.
				M8186-0	M
				SHEET	OF

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JUMPER CONFIGURATIONS																																		
JUMPER	NAME	FUNCTIONALITY	SHIPPING STATUS																															
W1	MASTER CLOCK	IN=ENABLED	IN																															
W2	RESERVED FOR DEC USE	FACTORY CONFIGURED, DO NOT CHANGE	OUT																															
W3	RESERVED FOR DEC USE	FACTORY CONFIGURED, DO NOT CHANGE	IN																															
W4	EVENT LINE ENABLE	OUT=ENABLED	IN																															
W5,W6	POWER UP MODE	<table border="1"> <thead> <tr> <th>MODE</th> <th>NAME</th> <th>W5</th> <th>W6</th> <th>W5-IN</th> <th>W6-OUT</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>PC@24, PS@26</td> <td>OUT</td> <td>OUT</td> <td>IN</td> <td>OUT</td> </tr> <tr> <td>1</td> <td>CONSOLE ODT</td> <td>N</td> <td>OUT</td> <td>IN</td> <td>IN</td> </tr> <tr> <td>2</td> <td>BOOTSTRAP</td> <td>OUT</td> <td>IN</td> <td>IN</td> <td>IN</td> </tr> <tr> <td>3</td> <td>EXTENDED MICROCODE</td> <td>IN</td> <td>IN</td> <td>IN</td> <td>IN</td> </tr> </tbody> </table>	MODE	NAME	W5	W6	W5-IN	W6-OUT	0	PC@24, PS@26	OUT	OUT	IN	OUT	1	CONSOLE ODT	N	OUT	IN	IN	2	BOOTSTRAP	OUT	IN	IN	IN	3	EXTENDED MICROCODE	IN	IN	IN	IN		
MODE	NAME	W5	W6	W5-IN	W6-OUT																													
0	PC@24, PS@26	OUT	OUT	IN	OUT																													
1	CONSOLE ODT	N	OUT	IN	IN																													
2	BOOTSTRAP	OUT	IN	IN	IN																													
3	EXTENDED MICROCODE	IN	IN	IN	IN																													
W7	HALT/TRAP OPTION	IN=TRAP TO I ₀₈ ON HALT OUT=ENTER CONSOLE ODT ON HALT	OUT																															
W8	BOOTSTRAP ADDRESS	IN=POWER UP TO 17300 ₈ OUT=POWER UP TO ADDRESS SPECIFIED BY W9-W15	IN																															
W9-W15	USER SELECTABLE BOOTSTRAP ADDRESS	W9-W15 CORRESPOND TO ADDRESS BITS 9 THRU 15 RESPECTIVELY IN=LOGIC 1, OUT=LOGIC 0	IN																															
W16,W17	RESERVED FOR DEC USE	FACTORY CONFIGURED, DO NOT CHANGE	IN																															
W18	WAKE-UP CIRCUIT	OUT=ENABLED	IN																															

NOTES: 1. REFER TO PARTS LIST FOR ALL NUMBERED ITEMS.

2. W2 IS A SPARE JUMPER.

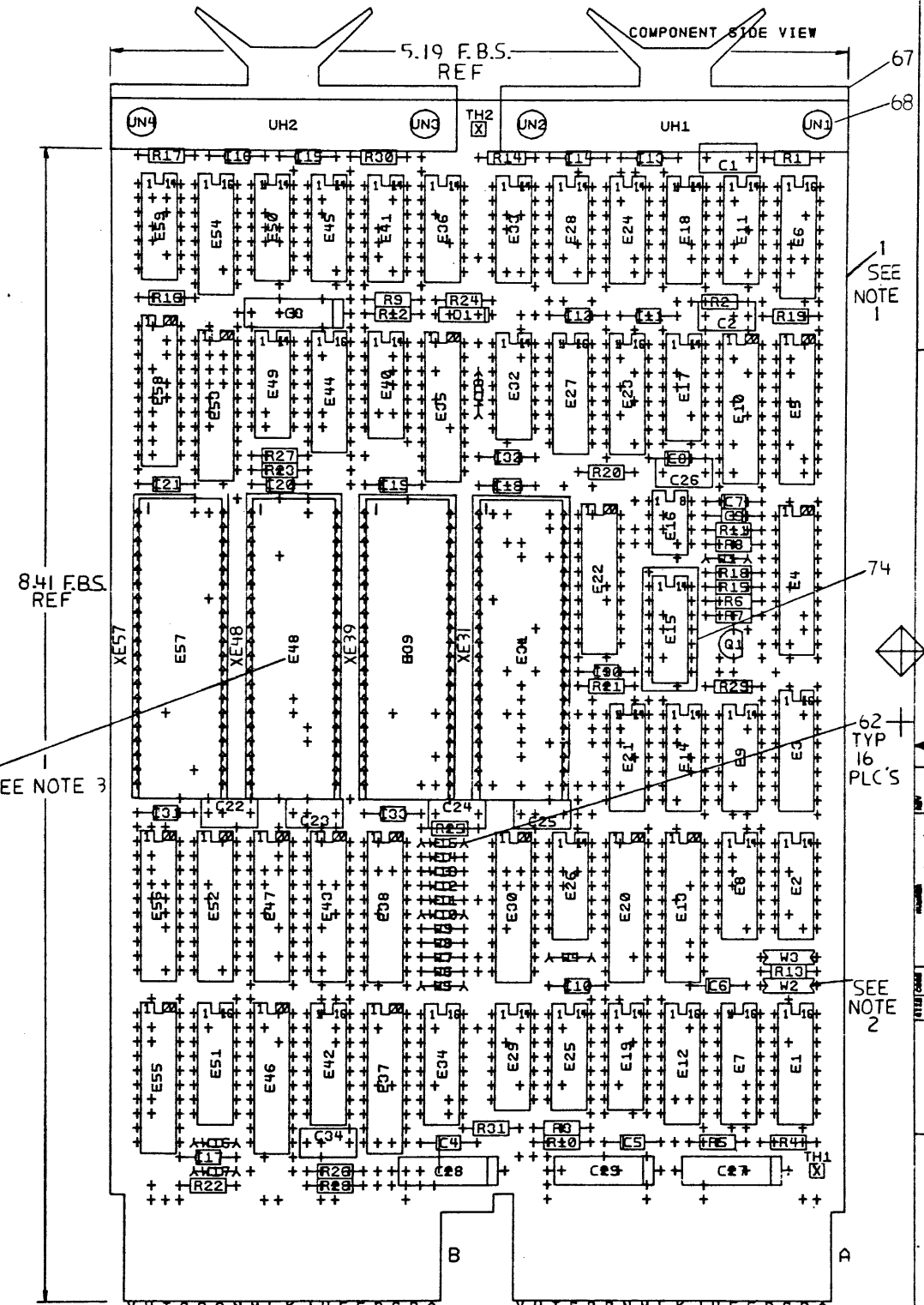
3. E39, E48 & E57 ARE SPARE IC'S.

STEP 6 → Y AXIS — STEP — TIMES
REPEAT → X AXIS — STEP — TIMES

CHANGE NO	REV
REDRAWN	H
M8186-M1010	

ETCH REV. D-P4

SIGNATURES	DATE	TITLE
DRN. <i>[Signature]</i>	29 Feb 71	digital
CHK'D. <i>[Signature]</i>	29 MAY 71	
MECH. ENG. <i>[Signature]</i>	29 MAY 71	
PROJ. ENG. <i>[Signature]</i>	29 MAY 71	
PROD. <i>[Signature]</i>	22 MAY 71	
SCALE 2:10		
SHT. 1 OF 1		
NEXT HIGHER ASSY. B-DD-M8186-0		



1 WO#264708

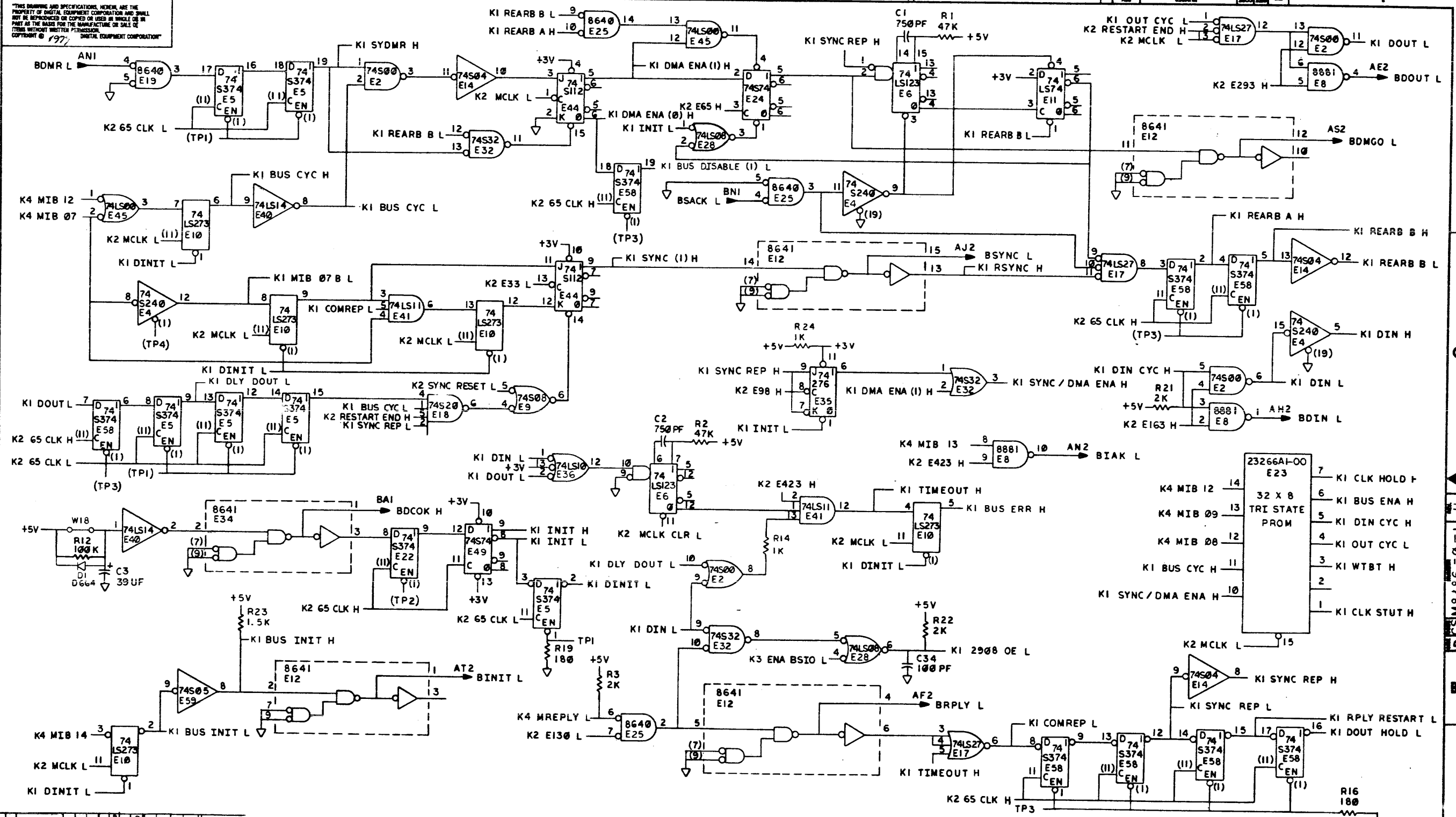
LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	1	D-MD-5013326-0-0	5013326-00	KDF11-CPU	1	
2	2		1912799-00	LS00 NAND-GATE-QUAD 2IN,P	1	E45
3	3		1910532-00	74S00 NAND GATE-QUAD 2IN	1	E2
4	4		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	1	E33
5	5		1910534-00	74S04 INVERTER GATE-HEX 1I	1	E14
6	6		1910535-00	74S05 INVERTER GATE-HEX 1	1	E59
7	7		1912805-00	LS08 AND GATE-QUAD 2IN,PO	1	E28
8	8		1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E9
9	9		1912807-00	LS10 NAND GATE-TRIPLE 3IN	1	E36
10	10		1912808-00	LS11 AND GATE-TRIPLE 3IN	1	E41
11	11		1913414-00	LS14 INVERTER GATE-HEX 3C	1	E40
12	12		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E18
13	13		1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E17
14	14		1913340-00	74S32 OR GATE-QUAD 2IN	1	E32
15	15		1910542-00	74S64 A-O-I GATE 4-2-3-2	2	E21,E50
16	16		1912824-00	LS74 FF-D DUAL,EDGE TRIGG	2	E11,E29
17	17		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	2	E24,E49
18	18		1912649-00	LS75 LATCH 4BIT,BISTABLE	1	E27
19	19		1910545-00	74S112 FF-JK DUAL,EDGE TRIG	1	E44
20	20		1912837-00	LS123 ONE SHOT-DUAL,RETRIG	1	E6
21	21		1912842-00	LS138 DECODER-THREE INPUT,	1	E54
22	22		1910550-00	74S174 FF-D HEX	1	E3
23	23		1910957-00	74S175 FF-D QUAD COMMON CLO	1	E1
24	24		1913777-00	LS240 DRIVER,LINE,OCTAL,T	2	E20,E30
25	25		1913462-00	74S240 OCTAL BUFFER,INVERTI	2	E4,E46
26	26		1913493-00	74S241 OCTAL BUFFER,TRI-STA	1	E13
27	27		1915193-00	LS244 DRIVER,LINE,OCTAL,T	1	E53
28	28		1912863-00	LS273 FF-D OCTAL W/CLEAR	1	E10
29	29		1915367-00	74276 FF-JK QUAD	1	E35
30	30		1913671-00	74S374 FF-D OCTAL TRISTATE	4	E5,E22,E38,E58

REVISION HISTORY			BASIC PART NO: M8186		DRN: VIN FARECHANIAN DATE: 18-JUN-79		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	T. SHETRAWSKI	DATE: 4-SEP-79	TITLE	PARTS LIST
	INITIAL		SECTION VARIATION INDEX					
RB	M8186-ML006	E	[A] 00				KDF11 CPU	
MT	M8186-ML007	F	[B]					
MT	M8186-ML008	H	[C]	DES.ENG:	ROY BADEAU	DATE: 4-SEP-79		
MT	M8186-ML009	J	[D]					
			[E]					
			[F]	RESP.ENG.:	ROY BADEAU	DATE: 4-SEP-79		DOCUMENT NUMBER
			[G]					
			[H]					
			[I]					
			[J]	MFG.ENG.:	AMALINDA SANYAL	DATE: 4-SEP-79	K PL	M8186-0-DBF
			[K]					
			[L]					
			[M]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
			[N]	D-UA-M8186-0-0			Z0224J.PLS	21

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
31	31	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	2	E19,E25
32	32	1911579-00	8641 TRANSCEIVER,BUS,QUA	2	E12,E34
33	33	1909705-00	DEC 8881 NAND GATE-QUAD 2IN 0	1	E8
34	34	1916028-01	9643 DRIVER,TTL TO MOS,D	1	E16
35	35	1915305-00	AM 2908 TRANSCEIVER,BUS,LATCH	6	E37,E43,E47,E52,E55,E56
36	36	1812131-00	OSCILLATOR, XTAL 13.824 MHZ	1	E15
37	37	23266A1-00	A1-07	1	E23
38	38	1311003-02	R NETWORK 14-330 14-680 16PIN	3	E7,E42-E51
39	39	1300005-02	R NETWORK 13-6.8K 5.0 % 14PIN	1	E26
40	40	1301317-00	10.0 .25 W 5.0 % CC	1	R20
41	41	1300250-00	150.0 .25 W 5.0 % CC	1	R29
42	42	1301322-00	180.0 .25 W 5.0 % CC	4	R15,R16,R18,R19
43	43	1301972-00	270.0 .25 W 5.0 % CC	1	R17
44	44	1303178-00	620.0 .25 W 5.0 % CC	1	R6
45	45	1301424-00	680.0 .25 W 5.0 % CC	6	R4,R5,R25-R28
46	46	1300365-00	1.0 K .25 W 5.0 % CC	4	R14,R24,R30,R31
47	47	1300391-00	1.50 K .25 W 5.0 % CC	2	R10,R23
48	48	1302398-00	2.0 K .25 W 5.0 % CC	4	R3,R13,R21,R22
49	49	1300417-00	2.20 K .25 W 5.0 % CC	1	R7
50	50	1312930-00	5.10 K .25 W 5.0 % CC	1	R11
51	51	1302177-00	47.0 K .25 W 5.0 % CC	2	R1,R2
52	52	1302466-00	100.0 K .25 W 5.0 % CC	1	R12
53	53	1000016-00	100.0 MMF 100V 5%200PPM DM15S	1	C34
54	54	1013398-00	750.0 MMF 100V 5%200PPMD15S	2	C1,C2
55	55	1001610-00	.01 MFD 50V +80-20% ZSUCER	4	C18,C19,C20,C21
56	56	1012784-00	.047 MFD 50V +80-20% CER	18	C4-C17,C30-C33
57	57	1010274-00	.22 MFD 50V -20+80 Z5U CER	5	C22-C26
58	58	1005306-00	6.8MFD 35V 10% S.TANT	1	C29
59	59	1004812-00	15 MFD 20V 10% S.TANT	2	C27,C28
60	60	1000076-00	39 MFD 10V 10% 150D S.TA	1	C3
61	61	1216116-00	SOCKET 40PIN	4	XE31,XE39,XE48,XE57
62	62	1215899-00	CLIP,JUMPER GOLD/TIN	15	W1,W4-W17
63	63	1215901-00	CONN 36POS STRAIGHT	1	
64	64	1503100-00	DEC3009B NPN 200MW SI 20 25	1	Q1
65	65	2115542-01	*** THIS ITEM IS NOT USED ***	-	
66	66	5700000-01	DAT/CTL HYBRID ASSY W/FP,DCF11-A	1	E31
67	67	9008337-06	HANDLE, FLIP CHIP, MAGENTA	2	
68	68	9006732-00	EYELET, ROLLED FLANGE, .121 OD X	4	
69	69	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	1	W3
70	70	1301808-00	22.0 K .25 W 5.0 % CC	1	R8
71	71	1300496-00	15.0 K .25 W 5.0 % CC	1	R9
72	72	1100114-00	D 664 QS\75PCB PIV= 25V SP	1	D1
73	73	9105740-22	WIRE(WRAP)30AWG UL1423	A/R	W18
74	74	9010213-01	SPACER, DUAL IN-LINE	1	

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							KDF11 CPU		K	PL	M8186-0-DRP	J



REV.	REV. NO.	REV. DATE	REV. BY
1	1		
2	1		
3	1		
4	1		
5	1		
6	1		
7	1		
8	1		

CHKD	REVISIONS	REV. NO.	REV. DATE	REV. BY
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8	1	1		

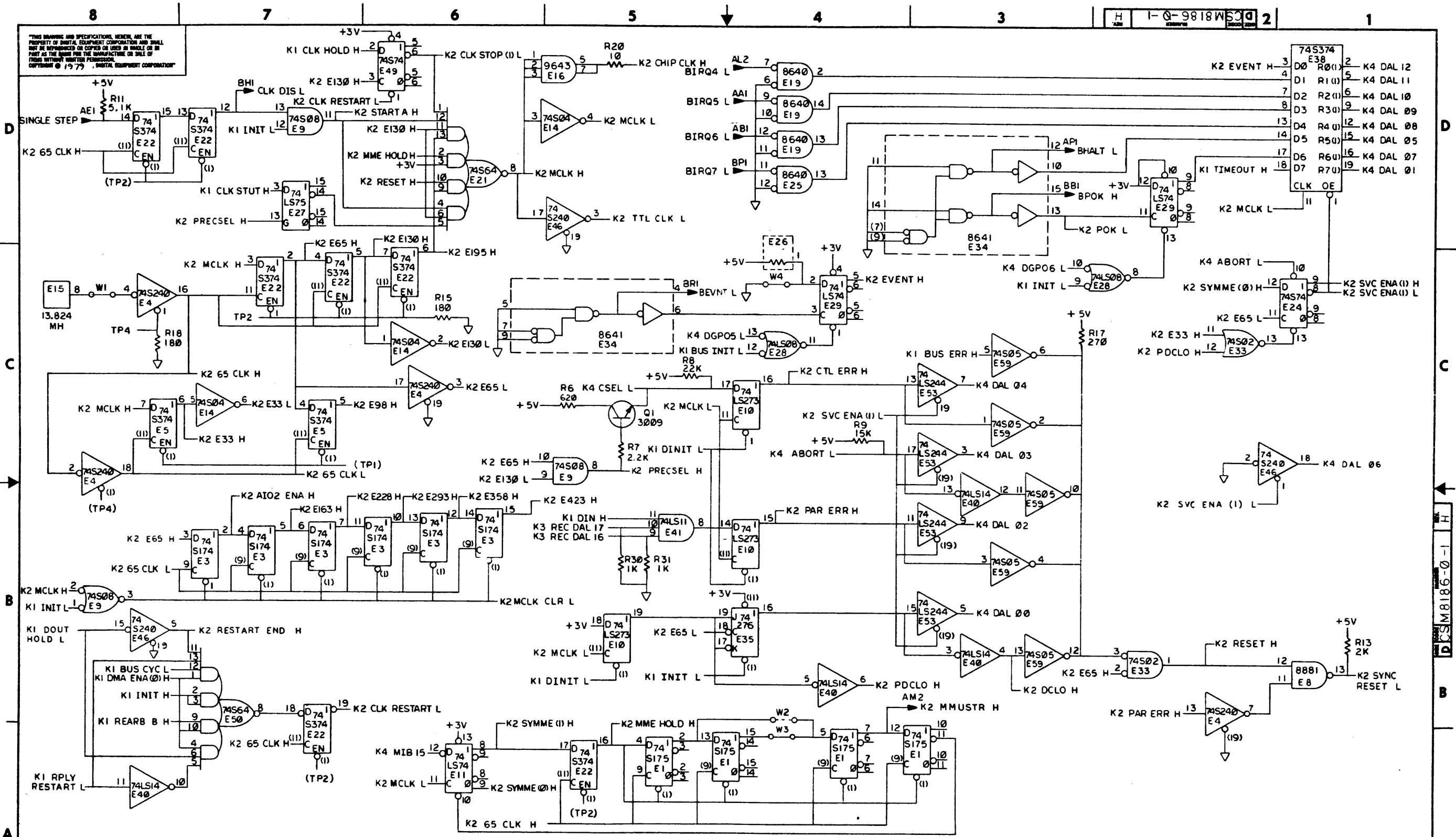
23266A1-00 E23 32 X 8 TRI STATE PROM	7	KI CLK HOLD F
	6	KI BUS ENA H
	5	KI DIN CYC H
	4	KI OUT CYC L
	3	KI WTBT H
	2	KI BUS CYC H
	1	KI CLK STUT H

8881 E8	1	AH2	BDIN L
74LS32 E32	3	KI SYNC/DMA ENA H	
74LS10 E10	4	KI BUS ERR H	
74LS14 E14	5	KI SYNC REP H	
74LS14 E14	8	KI SYNC REP L	
74LS14 E14	8	KI SYNC REP H	
74LS14 E14	8	KI SYNC REP L	
74LS14 E14	8	KI SYNC REP H	
74LS14 E14	8	KI SYNC REP L	
74LS14 E14	8	KI SYNC REP H	
74LS14 E14	8	KI SYNC REP L	

D CS M8186-0-1 H

D CS M8186-0-1 H

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REVISIONS		
CHK	CHANGE NO.	REV.

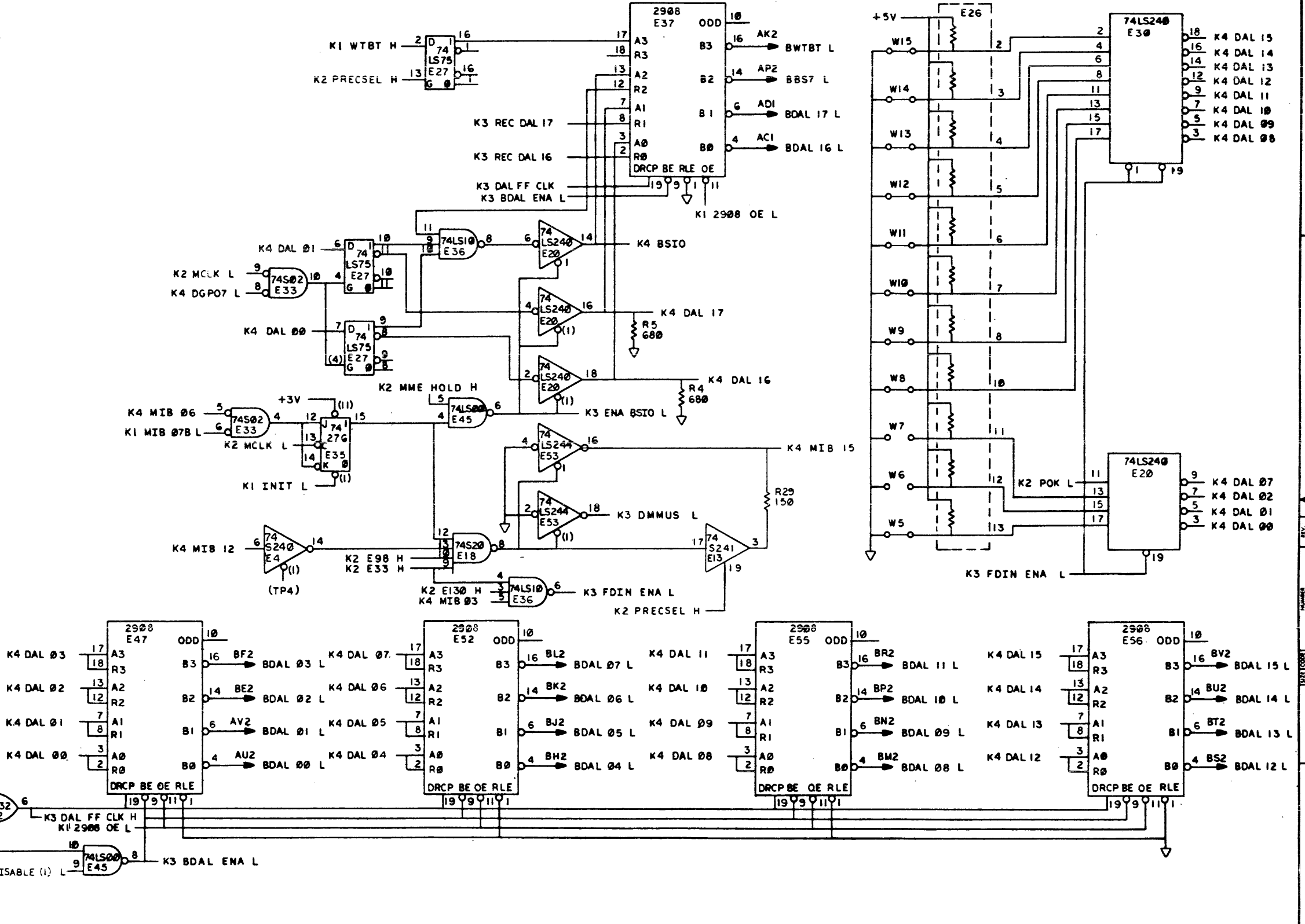
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- 330/680 TERM E51
- BDAL 15 L (BV2) 15
 - BDAL 14 L (BU2) 14
 - BDAL 13 L (BT2) 7
 - BDAL 12 L (BS2) 6
 - BDAL 11 L (BR2) 13
 - BDAL 10 L (BP2) 12
 - BDAL 09 L (BN2) 5
 - BDAL 08 L (BM2) 4
 - BDAL 07 L (BL2) 11
 - BDAL 06 L (BK2) 10
 - BDAL 05 L (BJ2) 3
 - BDAL 04 L (BH2) 2
 - BDAL 03 L (BF2) 9
 - BDAL 02 L (BE2) 1

- 330/680 TERM E7
- BIRQ 5 L (AA1) 13
 - BIRQ 6 L (AB1) 11
 - BIRQ 4 L (AL2) 10
 - BWTBT L (AK2) 9
 - BDIN L (AH2) 7
 - BDOUT L (AE2) 6
 - BIAK L (AN2) 15
 - BSYNC L (AJ2) 1
 - BRPLY L (AF2) 4
 - SDMR L (AP2) 14
 - BBS7 L (ADI) 5
 - BDAL 17 L (AC1) 2
 - BDAL 16 L (API) 3
 - BHALT L

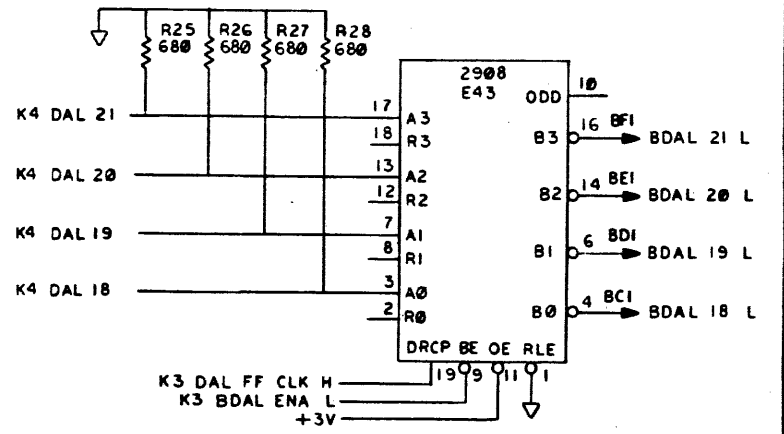
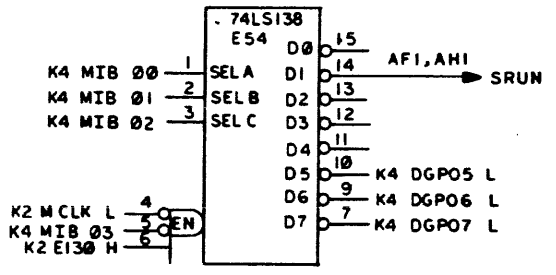
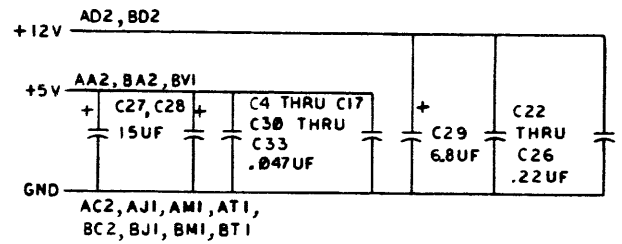
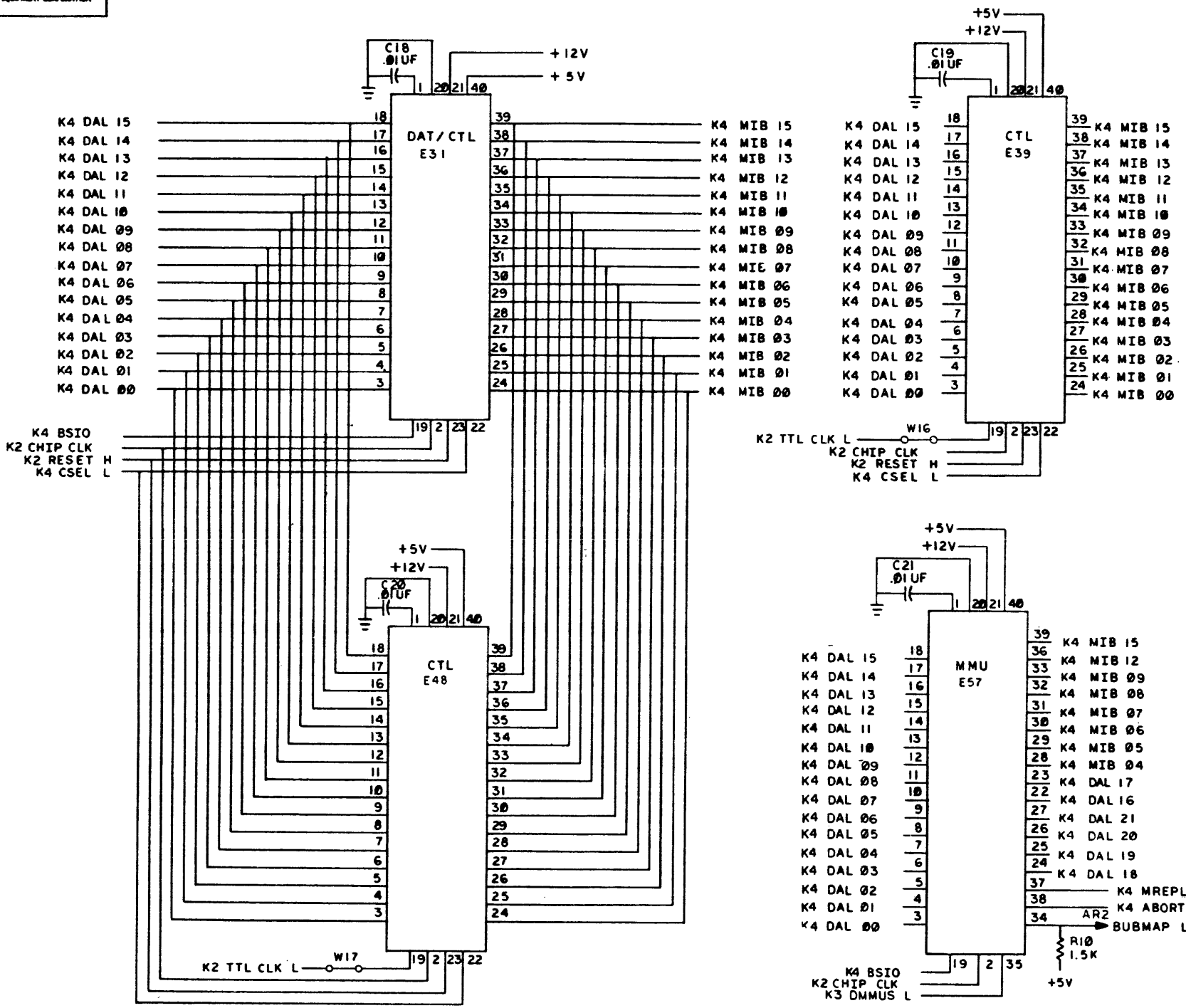
- 330/680 TERM E42
- BDMGO L (AS2) 12
 - BPOK H (BB1) 11
 - BDCOK H (BA1) 15
 - BINIT L (AT2) 14
 - BDAL 01 L (AV2) 1
 - BDAL 00 L (AU2) 2
 - BSACK L (BR1) 4
 - BEVENT L (BPI) 5
 - BIRQ 7 L (BF1) 13
 - BREF L (ARI) 6
 - BDAL 20 L (BD1) 9
 - BDAL 19 L (BC1) 7
 - BDAL 18 L

- K2 MMUSTR H (AM2) 5
- K2 EI63 H 4
- K1 BUS ENA H 2
- K2 EI30 L 3
- K1 INIT L (I) 1



REVISIONS		
CHK	CHANGE NO.	REV.

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REVISIONS		
CHK	CHANGE NO.	REV.

DCS M8186-0-1 H

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FIELD MAINTENANCE PRINT SET

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TABLE OF CONTENTS

B-TC-BDV11-A-1	FIELD MAINTENANCE PRINT SET
D-UA-BDV11-A-0	UNIT ASSY (BDV11-A)
D-UA-M8012-0-0	UNIT ASSY (M8012)
B-PL-M8012-0-0	PARTS LIST (M8012)
D-CS-M8012-0-1	CIRCUIT SCHEMATIC (M8012)
A-SP-M8012-0-7	ENGINEERING SPEC (M8012)
A-PL-BDVLL-A	SHIPPING LIST (BDVLL-A)

UNIT VARIATIONS COVERED BY THIS PRINT SET
BDV11-AA

BDV11-A

**Field Maintenance
Print Set**

**Digital Equipment
Corporation**

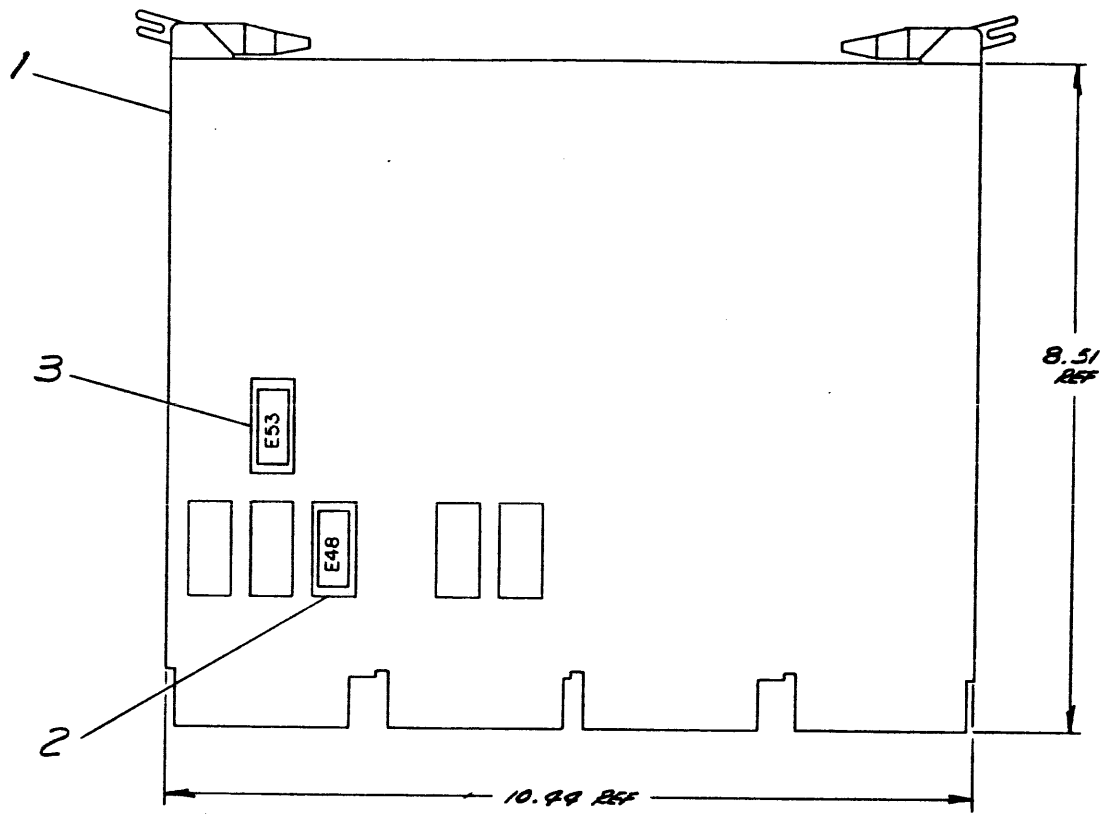
PRINT SET ORDER NO.
MP99489

REVISIONS	REV.	A	USED ON OPTION/MODEL	DRN.	DATE	TITLE: BDV11-A	digital		
	CHG. NO.	BDV11-A-1		BDV11-A	ROBICHAUD			13 SEPT 77	
	DATE	7-78			CHK'D			DATE	
				S. Roberts	25 OCT 77	SIZE	CODE	NUMBER	REV.
				PROJ. ENG.	DATE	B	TC	BDV11-A-1	A
				FIELD SERV.	DATE	DIST.			
			SHEET 1 OF 1	MC/Smith	25 Oct 77				

EN-0124-16 (REV. 5-1977)

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NOTES:
1. CHECK WORDS FOR BDVII-AA DIAGNOSTIC.
017092, 020656, 065162, 161744,
124453, 113667, 056040, 044734



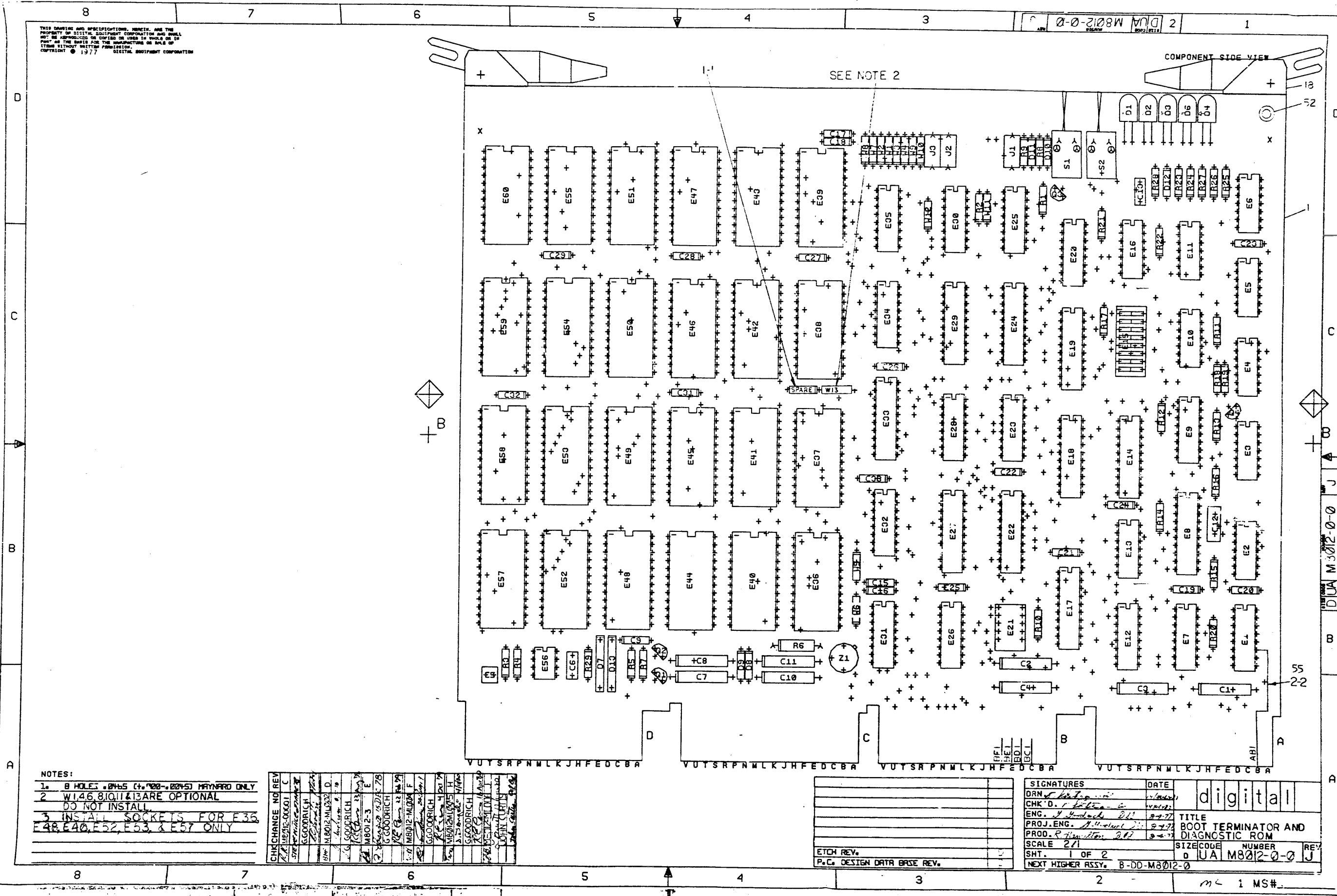
1	BDVII-A SHIPPING LIST	AA-BDVII-A	4
1	2K x 8 ROM	23046E2	3
1	2K x 8 ROM	23045E2	2
1	BOOT TERMINATOR AND DIAGNOSTIC ROM	D-UN-M09R2-1A	1

QUANTITY & VARIATION		DESCRIPTION		DRG. PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES 16° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE TOLERANCES			
SURFACE QUALITY IN	MEDIUM	OVER 6 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.9	OVER 4.9 TO 49.9
		0.012	0.008	0.012	0.008
FINISH		PREFERRED		0.012	0.008
THIRD ANGLE PROJECTION		FIRST USED ON		BDVII	
REMOVE BURRS AND BREAK SHARP CORNERS		TITLE		UNIT ASSY (BDVII)	
DO NOT SCALE DRWG		NEXT HIGHER ASSY.		SCALE NONE	
MATERIAL	B-DD-BDVN-A	SIZE	CODE	NUMBER	REV.
FINISH	SHEET 1 OF 1	D	JA	BDVII-A-0	A

REV.	REV.
CHANGE NO.	DATE
1	10/1/77
2	10/1/77
3	10/1/77
4	10/1/77
5	10/1/77
6	10/1/77
7	10/1/77
8	10/1/77

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2 DUA M8012-0-0



- NOTES:
1. 8 HOLES 04x5 (4x100-0045) MAYNARD ONLY
 2. W146, B1Q11 & B3ARE OPTIONAL
DO NOT INSTALL
 3. INSTALL SOCKETS FOR E35, E48, E40, E52, E53, & E57 ONLY

CHK	CHANGE NO	REV
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
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54	1	1
55	1	1
56	1	1
57	1	1
58	1	1
59	1	1
60	1	1

ETCH REV.	1
P.C. DESIGN DATA BASE REV.	1

SIGNATURES	DATE	TITLE
DRN <i>[Signature]</i>	11/1/77	digital
CHK'D. <i>[Signature]</i>	11/1/77	
ENG. <i>[Signature]</i>	11/1/77	
PROJ. ENG. <i>[Signature]</i>	11/1/77	BOOT TERMINATOR AND DIAGNOSTIC ROM
PROD. <i>[Signature]</i>	11/1/77	
SCALE 2/1		SIZE CODE NUMBER
SHT. 1 OF 2		0 U A M8012-0-0
NEXT HIGHER ASSY. B-DD-M8012-0		

mc 1 MS#

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REWORK INSTRUCTIONS

ECO # 1

COMPONENT DELETES SIDE 1:
 1-1. DELETE C30, .047µf (PIN 10/2784)
 COMPONENT ADDS SIDE 1:

ECO # 2

~~2-1 CUT ETCH SIDE 2 BETWEEN E-21
 PIN 11 AND FINGER A21~~
 2-2 ADD WIRE SIDE 1 BETWEEN E01
 PIN 11 AND FINGER A21

~~ECO # 5~~

~~WIRE ADDS, SIDE 1~~
~~5-1 ADD WIRE FROM FINGER BC1 TO E1 PIN 15~~
~~5-2 ADD WIRE FROM FINGER SD1 TO E1 PIN 14~~
~~5-3 ADD WIRE FROM FINGER DE1 TO E1 PIN 13~~
~~5-4 ADD WIRE FROM FINGER DF1 TO E1 PIN 12~~

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
BOOT TERMINATOR AND DIAGNOSTIC ROM		DUA	M8012-0-0	J
SCALE	SHEET	OF	DIST.	
2/1	2	2		

INT. LOCK DUA M8012-0-0 REV. J

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION		REFERENCE DESIGNATOR
					00	YA	
1	1		5012569-00	M8012	1	1	
2	2		1000024-00	470.0 MMF 100V 5%200PPM MICA	1	1	C12
3	3		1001610-01	.01 MFD50/100V +80-20% DISC	2	2	C6,C13
4	4		1004812-00	15 MFD 20V 10% S.TANT	4	4	C7,C8,C10,C11
5	5		1005306-00	6.8MFD 35V 10% S.TANT	4	4	C1-C4
6	6		1011740-00	5600.0 MMF 50V 10% CER	1	1	C5
7	7		1012784-00	.047 MFD 50V +80-20% CER	19	19	C9,C15-C29,C31-C33
8	8		1103441-00	1N 756A VZ= 8.2 5% .40W P	1	1	D11
9	9		1104860-00	1N 746A VZ= 3.3 5%	1	1	D10
10	10		1105275-00	D 672 TR= 15NS PIV= 60V SI	3	3	D8,D9,D12
11	11		1109991-00	1N 754A VZ= 6.8 5% .40W	2	2	D7,D13
12	12		1110864-00	LED 2MCD@10MA	4	4	D1-D4
13	13		1114384-00	LED 105MW 35MA GREEN	1	1	D6
14	14		1210209-00	SW,TOG,SPDT,.01A@6V,ON/ON,SUBMIN	2	2	S1,S2
15	15		1215006-06	SOCKET 24PIN IC LOW PROFILE	6	-	XE36,XE40,XE48,XE52,XE53,XE57
			CONT		-	24	XE37-XE39,XE41-XE47,XE49-XE51, XE54,XE55,XE58-XE60,XE36,XE40, XE48,XE52,XE53,XE57
							CONT
							CONT
16	16		1211164-01	SW,DIP 1P 1A 5POS	1	1	E21
17	17		1211164-04	SW,DIP 1P 1A 8POS	1	1	E15
18	18		1213113-01	HANDLE,MODULE	1	1	
19	19		1213974-06	JACK 2LINE RED	1	1	J2
20	20		1213974-07	JACK 2LINE BLACK	1	1	J1
21	21		1213974-03	JACK 2LINE PURPLE	1	1	J3
22	22		1300271-00	220.0 .25 W 5.0 % CC	6	6	R5,R7,R25-R28
23	23		1300365-00	1.0 K .25 W 5.0 % CC	14	14	R8,R11-R15,R17-R24
24	24		1300417-00	2.20 K .25 W 5.0 % CC	1	1	R4
25	25		1301322-00	180.0 .25 W 5.0 % CC	1	1	R10
26	26		1301830-00	560.0 .25 W 5.0 % CC	2	2	R1,R2
27	27		1311003-01	R NETWORK 14-180 14-390 16PIN	3	3	E1,E12,E26

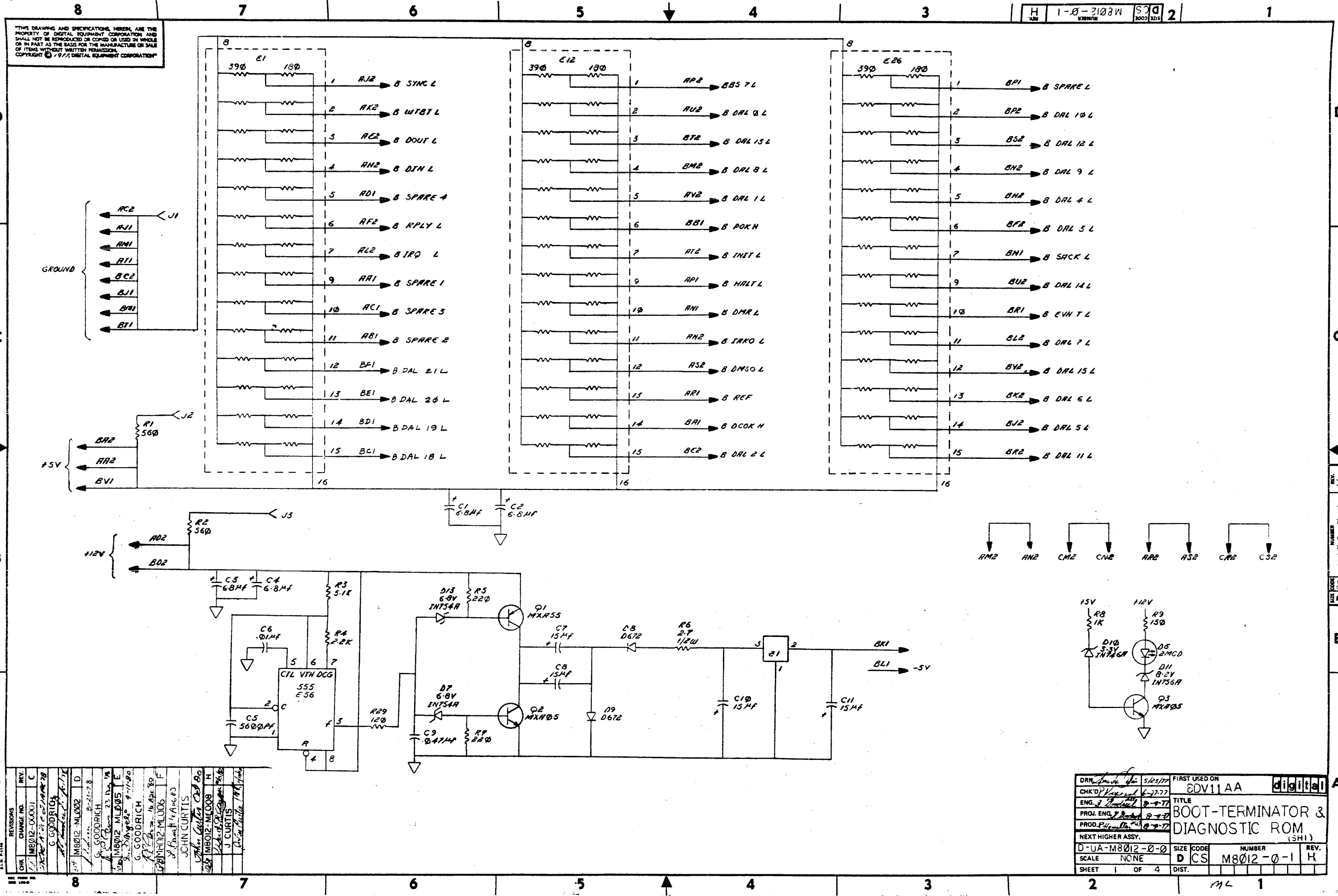
REVISION HISTORY		BASIC PART NO: M8012		DRN: A COLON		DATE: 25-APR-78		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	R KOPPENAL	DATE:	25-APR-78	TITLE	PARTS LIST
R.R	00001	C	SECTION.VARIATION INDEX	DES.ENG:	G GOODRICH <td>DATE:</td> <td>25-APR-78</td> <td colspan="2">DOCUMENT NUMBER</td>	DATE:	25-APR-78	DOCUMENT NUMBER	
BHF	MLO02	D	[A] 00, YA	RESP.ENG.:	G GOODRICH <td>DATE:</td> <td>25-APR-78</td> <td>SIZE</td> <td>CODE</td>	DATE:	25-APR-78	SIZE	CODE
G.G	M8012-MLO03	E	[B]	MFG.ENG.:	R HAMILTON <td>DATE:</td> <td>25-APR-78</td> <td>PL</td> <td>M8012-0-DBP</td>	DATE:	25-APR-78	PL	M8012-0-DBP
GG	M8012-MLO04	F	[C]	ASSEMBLY NUMBER:	D-UA-M8012-0-0 <td>TOP DOCUMENT NUMBER:</td> <td>#B-DD-M8012-0</td> <td>FILE NAME:</td> <td>Z0913H.PLS</td>	TOP DOCUMENT NUMBER:	#B-DD-M8012-0	FILE NAME:	Z0913H.PLS
JC	M8012-MLO06	H	[D]					EDIT #:	22
			[E]						
			[F]						
			[G]						
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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00	YA	
28	28		1309444-00	2.70 .50 W10.0 % CC	1	1	R6
29	29		1312930-00	5.10 K .25 W 5.0 % CC	2	2	R3,R16
30	30		1300247-00	120.0 .25 W 5.0 % CC	1	1	R29
31	31		1300250-00	150.0 .25 W 5.0 % CC	1	1	R9
32	32		1510705-00	XA 05 NPN 500MW SI 60 50 P	3	3	Q2-Q4
33	33		1510706-00	XA 55 PNP 500MW SI 60 50 P	1	1	Q1
34	34		1910741-00	7406 INVERTER GATE-HEX 1I	2	2	E6,E16
35	35		1911579-00	8641 TRANSCEIVER,BUS,QUA	1	1	E7
36	36		1911944-00	555CN TIMER,FUNCT.BLOCK	1	1	E56
37	37		1912541-00	79M05 VOLT REG, FIX -5V	1	1	Z1
38	38		1912647-00	LS257 MUX 1 OF 2 (QUAD)	6	6	E20,E23,E28,E31,E32,E34
39	39		1912729-00	DC 004 PROTOCOL,REG. SELECT	1	1	E8
40	40		1912803-00	774LS04 INVERTER GATE, HEX	2	2	E5,E13
41	41		1912807-00	LS10 NAND GATE-TRIPLE 3IN	1	1	E11
42	42		1912813-00	LS27 NOR GATE-TRIPLE 3IN	3	3	E2-E4
43	43		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	1	1	E10
44	44		1912842-00	LS138 DECODER-THREE INPUT,	1	1	E35
45	45		1912843-00	LS139 DECODER, 2 OF 4(DUAL	1	1	E30
46	46		1912853-00	LS175 FF-D QUAD	1	1	E25
47	47		1912863-00	LS273 FF-D OCTAL W/CLEAR	3	3	E27,E29,E33
48	48		1912868-00	LS299 SHIFT REG. 8-BIT UNI	2	2	E22,E24
49	49		1913040-00	DC 005 TRANSCEIVER 4BIT	4	4	E14,E17-E19
50	50		23208A1-00	A1-03,A1-04,A1-05	1	1	E9
51	51		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	6	6	W2,W3,W5,W7,W9,W12
52	52		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	8	8	
53	53	BLANK			0	0	
54	54		9107256-11	TUBING, THIN WALL, .027ID UL	A/R	A/R	
55	55		9105740-55	WIRE(WRAP)30AWG UL1423	A/R	A/R	
56	56	D-EC-5012569-0-0		ETCH CUT DRAWING	REF	REF	
57	57	D-MD-5012569-0-0		DRILL & ETCH DRAWING	REF	REF	
58	58	D-UA-M8012-0-0		UNIT ASSEMBLY	REF	REF	
59	59	D-CS-M8012-0-1		CIRCUIT SCHEMATIC	REF	REF	
60	60	B-DD-M8012-0		DRAWING DIRECTORY	REF	REF	

61 NOTE: IF 1215006-06 IS NOT AVAILABLE USE 1210693

D	I	G	I	T	A	L	TITLE	BOOT-TERM & DIAGNOSTIC ROM	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	M8012-0-DBP	H

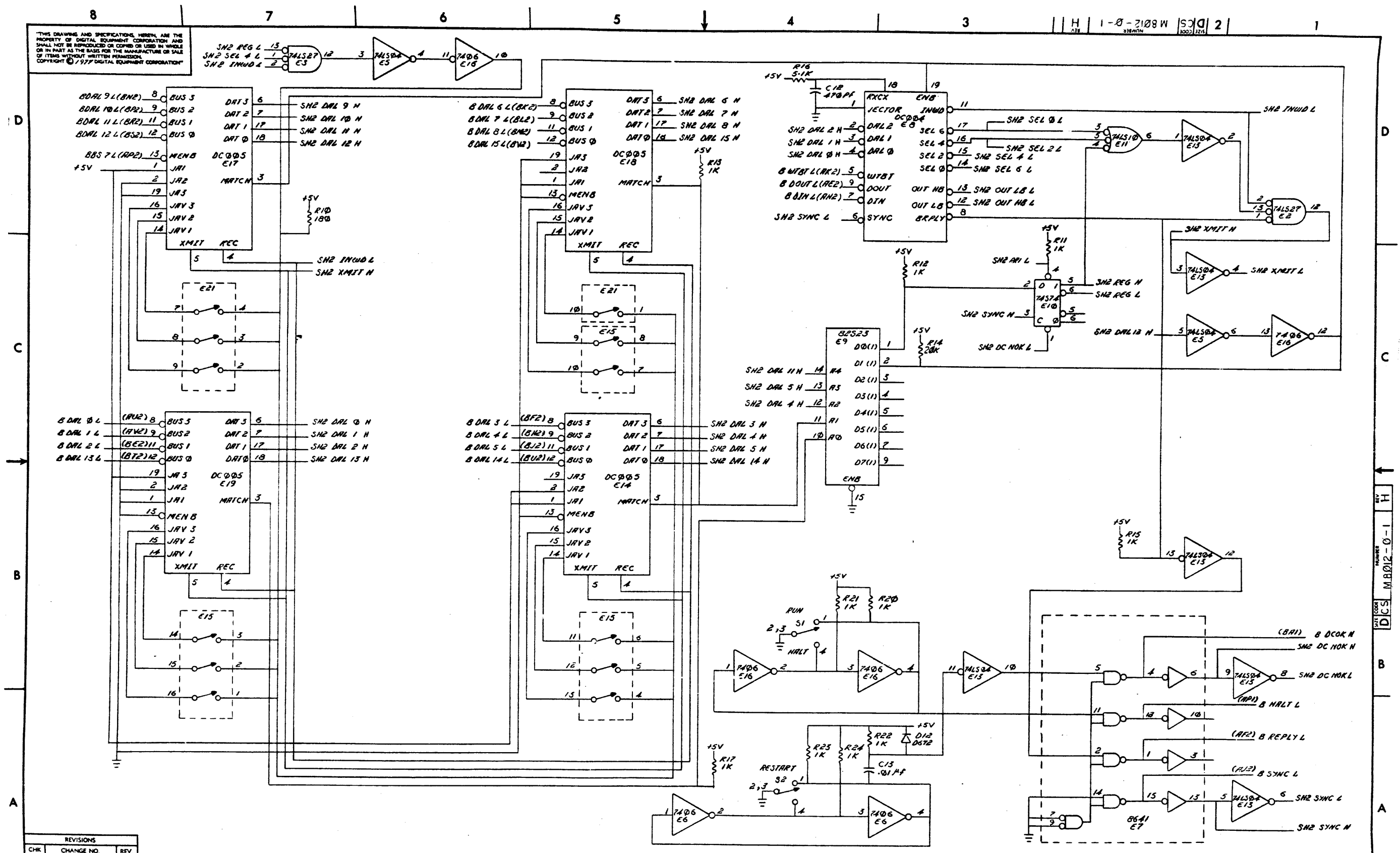


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REV.	CHANGE NO.	DATE	BY	CHKD.
1	00001	11-17-77	G. GOODRICH	J. CURTIS
2	00002	11-17-77	G. GOODRICH	J. CURTIS
3	00003	11-17-77	G. GOODRICH	J. CURTIS
4	00004	11-17-77	G. GOODRICH	J. CURTIS
5	00005	11-17-77	G. GOODRICH	J. CURTIS
6	00006	11-17-77	G. GOODRICH	J. CURTIS
7	00007	11-17-77	G. GOODRICH	J. CURTIS
8	00008	11-17-77	G. GOODRICH	J. CURTIS
9	00009	11-17-77	G. GOODRICH	J. CURTIS
10	00010	11-17-77	G. GOODRICH	J. CURTIS
11	00011	11-17-77	G. GOODRICH	J. CURTIS
12	00012	11-17-77	G. GOODRICH	J. CURTIS
13	00013	11-17-77	G. GOODRICH	J. CURTIS
14	00014	11-17-77	G. GOODRICH	J. CURTIS
15	00015	11-17-77	G. GOODRICH	J. CURTIS
16	00016	11-17-77	G. GOODRICH	J. CURTIS
17	00017	11-17-77	G. GOODRICH	J. CURTIS
18	00018	11-17-77	G. GOODRICH	J. CURTIS
19	00019	11-17-77	G. GOODRICH	J. CURTIS
20	00020	11-17-77	G. GOODRICH	J. CURTIS

DRN. <i>[Signature]</i>	5/25/77	FIRST USED ON	EDV11AA	digital
CHK'D. <i>[Signature]</i>	6-27-77	TITLE	BOOT-TERMINATOR & DIAGNOSTIC ROM	
ENG. <i>[Signature]</i>	8-9-77	PROL. ENG. <i>[Signature]</i>	8-9-77	
PROD. <i>[Signature]</i>	8-9-77	NEXT HIGHER ASSY.	(SH1)	
D-1A-M8012-0-0	SIZE CODE	NUMBER	REV.	
SCALE NONE	D CS	M8012-0-1	H	
SHEET 1 OF 4	DIST.			

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REVISIONS	CHK	CHANGE NO.	REV.

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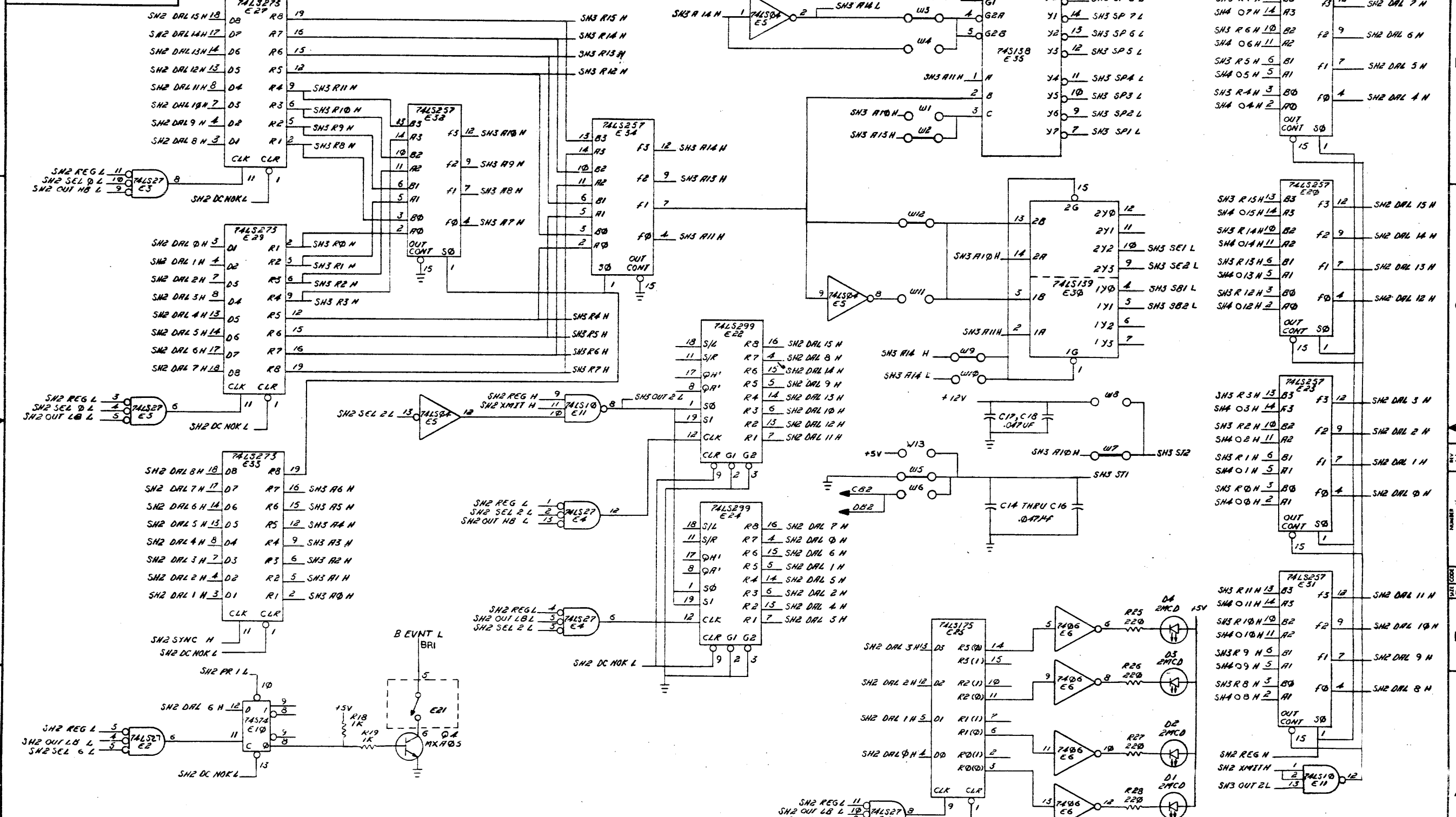
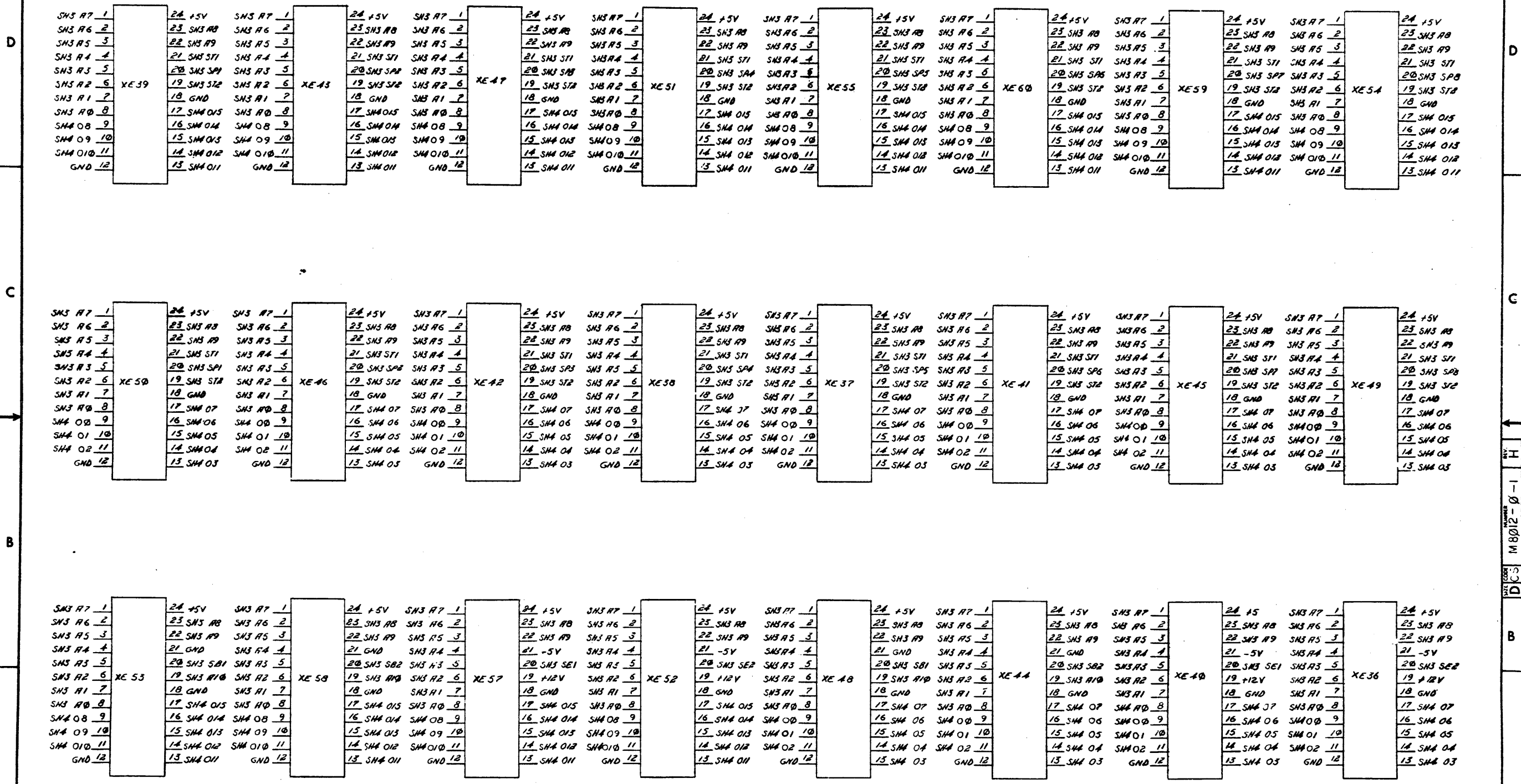


Table with 3 columns: CHK, CHANGE NO., REV.

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NOTES: ALL SIGNALS ON THIS SHEET EXCEPT THOSE CONNECTED TO PIN 20 OF ALL SOCKETS ON THIS SHEET ARE HIGH INPUTS AND OUTPUTS. THE SIGNALS CONNECTED TO PIN 20 OF ALL SOCKETS ON THIS SHEET ARE LOW.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	BOOT-TERMINATOR & DIAGNOSTIC ROM(SH4)	SIZE CODE	DCS	NUMBER	M8012-0-1	REV.	H
SCALE	NONE	SHEET	4 OF 4	DIST.			

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DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS						
ENGINEERING SPECIFICATION				DATE 27-May-77		
TITLE M8012 TERM, BOOT AND DISGNOSTIC BOARD - M8012						
REVISIONS						
REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	ECO CHANGE	00001	GOODRICH	3-78	<i>G. Goodrich</i>	<i>6/21/78</i>
ENG	<i>G. Goodrich</i> G. Goodrich	APPD	<i>[Signature]</i>	SIZE	CODE	NUMBER
				A	SP	M8012-0-7
						REV
						A

DEC 16-(392)-1079-N971
DRA 107

ENGINEERING SPECIFICATION		CONTINUATION SHEET
TITLE M8012 -- TERM, BOOT AND DIAGNOSTIC BOARD		
TABLE OF CONTENTS		
1.0	GENERAL DESCRIPTION	
1.1	GENERAL	
1.2	POWER REQUIREMENTS	
2.0	ROM	
2.1	ROM	
2.2	ROM PAGES	
3.0	BEVENT CLAMP (RTC DISABLE)	
3.1	GENERAL	
3.2	ADDRESS	
4.0	MAINTENANCE REGISTERS	
4.1	READ WRITE REGISTER	
4.2	DISPLAY REGISTER	
4.3	SWITCH REGISTER	
5.0	TERMINATION/PINOUT	
6.0	POWER OK LED, RESTART AND HALT SWITCHES	
7.0	ROM CODE	
8.0	TEST JACKS	
9.0	ROM ADDRESS MAP	
9.1	MASKED BOOT/DIAGNOSTIC ROM	
9.2	EPROM	
9.3	PROGRAM ROM	
9.4	ADDRESS JUMPERS	
10.0	PROGRAM ROM/PROM JUMPERS	

NOTE: THE LSI-11 BUS SPECIFICATION (DEC STD-160) IS REFERENCED BY AND SHALL BE CONSIDERED PART OF THIS SPECIFICATION		

SIZE	CODE	NUMBER
A	SP	M8012-0-7
		REV
		A

DEC FORM NO EN-01022-16-N370-(381)
DRA 108

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

1.0 GENERAL DESCRIPTION

1.1 DESCRIPTION

THE M8012 TERMINATOR, BOOTSTRAP AND DIAGNOSTIC BOARD IS A QUAD HEIGHT MODULE WHICH INTERFACES WITH THE LSI-11 BUS. IT PROVIDES THE FOLLOWING FEATURES:

- A) ROM SPACE FOR BOOTSTRAP/DIAGNOSTIC AND OTHER PROGRAMS.
- B) A 12 BIT READABLE SWITCH REGISTER
- C) A 16 BIT READ WRITE REGISTER
- D) A PROGRAMABLE RTC ENABLE
- E) A POWER OK LED
- F) A 4 LED DISPLAY REGISTER
- G) RESTART AND HALT SWITCHES
- H) 120 OHM LSI-11 BUS TERMINATION

1.2 POWER REQUIREMENTS

	TYPICAL		MAX
+5 VOLTS	1.25	1.6	AMPS
+12 VOLTS	0.05	0.07	AMPS

NOTE: POWER MUST BE ADDED FOR ANY ROMS USED.

SIZE A	CODE SP	NUMBER M8012-0-7	REV A
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ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

2.0 ROM

2.1 ROM

THE M8012 PROVIDES 2K WORDS OF MASKED ROM SOCKETS FOR BOOTSTRAPS AND DIAGNOSTICS WITH PADS FOR AN ADDITIONAL 2K WORDS FOR FUTURE USE.

IT ALSO PROVIDES SOCKETS FOR 4 2708 EPROMS (2K WORDS) AND PADS FOR 16 8316E/2716 (16K WORDS) ROM/EPROM. THESE PADS MAY BE USED FOR 2708 EPROMS (8K WORDS) BY CHANGING JUMPERS AND SUPPLYING -5 VOLT POWER THRU PINS CB2 AND DB2.

THE M8012-YA PROVIDES SOCKETS FOR THE ADDITIONAL 2K OF BOOT/DIAGNOSTIC ROMS AND FOR THE PROGRAM ROM/EPROM.

2.2 ROM PAGES

ALL ROM IS ACCESED IN A PAGED FORMAT OF 2 128 WORD PAGES AT THE FOLLOWING BUS ADDRESSES

173000 TO 173377	LOW PAGE
173400 TO 173777	HIGH PAGE

SIZE A	CODE SP	NUMBER M8012-0-7	REV A
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ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

TO CONTROL MAPPING OF THESE PAGES INTO PHYSICAL ROM ADDRESSES A PAGE CONTROL REGISTER IS USED AT BUS ADDRESS 177520. THIS REGISTER IS WORD OR BYTE ADDRESSABLE AND MAY BE READ OR WRITTEN AND IS CLEARED UPON THE NEGATION OF BDCOK.

THE PHYSICAL ROM ADDRESS IS GENERATED BY LATCHING DAL1-DAL7 AT SYNC AS A0-A6 AND USING THE LOW OR HIGH BYTE OF THE PAGE REGISTER (DEPENDING IF BUS ADDRESS IS IN LOW OR HIGH PAGE) AS A7-A14. TWO ROMS ARE ACCESSED AT A TIME, ONE AS LOW BYTE AND ONE AS HIGH BYTE.

NOTE THAT ANY PAGE IN PHYSICAL ROM MAY BE ACCESSED THROUGH THE LOW OR HIGH BUS PAGE.

IF THE BUS ADDRESS IS BETWEEN:

173000 AND 173377

173400 AND 173777

ROM ADR=SOURCE

ROM ADR=SOURCE

A0= DAL1 (LATCHED)
 A1= DAL2
 A2= DAL3
 A3= DAL4
 A4= DAL5
 A5= DAL6
 A6= DAL7
 A7= BIT0 (PAGE REG)
 A8= BIT1
 A9= BIT2
 A10= BIT3
 A11= BIT4
 A12= BIT5
 A13= BIT6
 A14= BIT7

A0= DAL1 (LATCHED)
 A1= DAL2
 A2= DAL3
 A3= DAL4
 A4= DAL5
 A5= DAL6
 A6= DAL7
 A7= BIT8 (PAGE REG)
 A8= BIT9
 A9= BIT10
 A10= BIT11
 A11= BIT12
 A12= BIT13
 A13= BIT14
 A14= BIT15

WHERE PHYSICAL ROM ADDRESS BIT=

SOURCE

SIZE	CODE	NUMBER	REV
A	SP	M8012-0-7	A

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

3.0 BEVENT CLAMP (REAL TIME CLOCK DISABLE)

3.1 GENERAL

A SINGLE BIT WRITE ONLY REGISTER CLAMPS BEVENTL LOW WHEN CLEARED. THIS ALLOWS PROGRAM CONTROL OF THE LSI-11 LINE TIME CLOCK FUNCTION. REGISTER IS CLEARED UPON NEGATION OF BDCOK. THE M8012 MODULE MUST BE LOCATED IN THE BACKPLANE PROVIDING BEVENT FOR PROPER OPERATION OF THIS FUNCTION. IT MAY BE DISABLED BY SWITCH SELECTION. SWITCH #5 OF E21 DISABLES THIS FUNCTION WHEN OFF.

3.2 ADDRESS

177546 BIT 6 BEVENT CLAMPED WHEN CLEAR (RTC OFF)

4.0 MAINTENANCE REGISTERS

4.1 READ WRITE REGISTER

A SIXTEEN BIT READ WRITE REGISTER IS PROVIDED AT ADDRESS 177522 FOR DIAGNOSTICS. THE REGISTER IS WORD OR BYTE ADDRESSABLE AND IS CLEARED UPON NEGATION OF BDCOK.

4.2 DISPLAY REGISTER

A 4 BIT WRITE ONLY REGISTER AT ADDRESS 177524 CONTROLS A 4 LED EDGE MOUNTED RED DISPLAY USED FOR DIAGNOSTICS. BITS 0-3 CORESPOND TO D1 TO D4 WITH A SET BIT TURNING THE RESPECTIVE LED OFF. THE REGISTER IS CLEARED (ALL LEDS ON) UPON NEGATION OF BDCOK.

4.3 SWITCH REGISTER

A 12 BIT READ ONLY REGISTER AT ADDRESS 177524 IS USED FOR MAINTENANCE AND SYSTEM CONFIGURATION (BITS 0-11). NOTE THAT THIS ADDRESS IS SHARED WITH THE DISPLAY REGISTER. E15 SWITCHES 1-8 CORESPOND TO BITS 0-7 AND E21 SWITCHES 1-4 CORESPOND TO BITS 8-11 WITH A ON SWITCH READ AS A 1 AND AN OFF SWITCH AS A 0.

SIZE	CODE	NUMBER	REV
A	SP	M8012-0-7	A

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

5.0 TERMINATION/PINOUT

ALL BUS LINES ARE TERMINATED BY A RESISTOR NETWORK OF 180 OHMS TO +5 AND 390 OHMS TO GND.

THE PINOUT AND BUS DRIVER/RECEIVER CHARACTERISTICS COMPLY WITH THE LSI-11 BUS SPECIFICATION (DEC STD-160)

6.0 POWER OK LED, RESTART AND HALT SWITCHES

A GREEN EDGE MOUNTED POWER OK LED IS PROVIDED AND IS LIGHTED WHEN +12 IS GREATER THAN 10 VOLTS AND +5 IS GREATER THAN 4V VOLTS.

A EDGE MOUNTED SWITCH (S2) REBOOTS THE SYSTEM BY DEASSERTING BDCOK FOR A NOMINAL 2 USEC WHEN IT IS CYCLED BACK AND FORTH ONCE. A SECOND EDGE MOUNTED SWITH (S1) ASSERTS BHALT WHEN POSITIONED WITH ITS LEVER AWAY FROM THE LED DISPLAY.

7.0 ROM CODE

SEE DIAGNOSTIC ENGINEERING DESIGN PLAN FOR THE BDV11-AA DIAGNOSTIC ROM, DIAGNOSTIC RETRIVAL NUMBER HP-046-10-S58 FOR BOOTSTRAPS/DIAGNOSTICS AND RESTRICTIONS ON EPROM AND PROGRAM ROM CODE

8.0 TEST POINTS

TIP JACKS ARE PROVIDED TO ALLOW MEASUREMENT OF THE 5 AND 12 VOLT POWER SUPPLIES. THE 5 AND 12 VOLT TEST JACKS HAVE A 560 OHM SERIES RESISTOR TO PREVENT DAMAGE BY ACCIDENTAL SHORTS.

JACK	FUNCTION	COLOR
J1	GND	BLACK
J2	+5	RED
J3	+12	PURPLE

SIZE A	CODE SP	NUMBER M8012-0-7	REV A
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ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

9.0 ROM ADDRESS MAP
SEE SECTION 9.4 FOR DESCRIPTION OF CHARACTERS USED TO BRACKET ADDRESSES IN 9.1 TO 9.3

9.1 MASKED BOOT/DIAGNOSTIC ROM

HIGH BYTE	LOW RYTE	CHIP ADDRESS
I I I E53 I I I	I I I E48 I I I	0-2K, (4K-6K) BOOT/DIAG [16K-18K], <20K-22K>
I I I E58 I I I	I I I E44 I I I	2K-4K, (6K-8K) RESERVED [18K-20K], <22K-24K>

9.2 EPROM SOCKETS (INTERNAL -5V POWER)

I I I E57 I I I	I I I E40 I I I	4K-5K, (0-1K) <16K-17K>, [20K-21K]
I I I E52 I I I	I I I E36 I I I	5K-6K, (1K-2K) <17K-18K>, [21K-22K]

9.3 PROGRAM ROM/EPROM

I I I E54 I I I	I I I E49 I I I	16K-18K, !16K-17K! :0-2K:, *0-1K*
I I I E59 I I I	I I I E45 I I I	18K-20K, !18K-19K! :2K-4K:, *1K-2K*

SIZE A	CODE SP	NUMBER M8012-0-7	REV A
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ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

9.2 PROGRAM ROM/EPROM CONTINUED

HIGH BYTE	LOW BYTE	CHIP ADDRESS
I E60 I	I E41 I	20K-22K, !20K-21K! :4K-6K!, *4K-5K*
I E55 I	I E37 I	22K-24K, !22K-23K! :6K-8K!, *6K-7K*
I E51 I	I E38 I	24K-26K, !17K-18K! :8K-10K!, *1K-2K*
I E47 I	I E42 I	26K-28K, !19K-20K! :10K-12K!, *3K-4K*
I E43 I	I E46 I	28K-30K, !21K-22K! :12K-14K!, *5K-6K*
I E39 I	I E50 I	30K-32K, !23K-24K! :14K-16K!, *7K-8K*

SIZE **A** CODE SP NUMBER M8012-0-7 REV **A**

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD

9.4 ADDRESS JUMPERS

THE CHARACTERS USED TO BRACKET VARIOUS ADDRESSES IN SECTIONS 9.1 TO 9.3 CORRESPOND TO THOSE IN THE TABLE BELOW. FOR EACH JUMPER COMBINATION LISTED BELOW A GIVEN CHIP WILL BE SELECTED AT THE ADDRESSES INDICATED BY THE BRACKETS

CHAR	W1	W2	W3	W4	W9	W10	W11	W12
NONE	R	I	I	R	I	R	R	I
()	X	X	X	X	I	R	I	R
[]	X	X	X	X	R	I	R	I
< >	X	X	X	X	R	I	I	R
! !	I	R	I	R	X	X	X	X
: :	R	I	R	I	X	X	X	X
* *	I	R	R	I	X	X	X	X

I=INSTALLED R=REMOVED X=DON'T CARE

NOTE: JUMPERS MUST NOT BE CONFIGURED AND CHIPS INSTALLED SUCH THAT 2 CHIPS RESPOND TO THE SAME ADDRESS.

10.0 PROGRAM ROM/EPROM JUMPERS

	W5	W6	W7	W8	W13	
8316E	I	R	I	R	R	NOTE 1
8316E	R	R	I	R	I	NOTE 2
2716	R	R	I	R	I	NOTE 3
2708	R	I	R	I	R	NOTE 4

NOTES:
 (1) CS1=0, CS2=0, CS3=0
 (2) CS1=0, CS2=0, CS3=1
 (3) +5 VOLT ONLY PARTS
 (4) 2708 WITH EXTERNAL -5 SUPPLIED BY CB2 & DB2.

SIZE **A** CODE SP NUMBER M8012-0-7 REV **A**

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS PARTS LIST						QUANTITY VARIATION												
MADE BY R. ROBICHAUD	CHECKED <i>S. Roberts</i>	SECTION																
DATE 13 SEP 77	DATE 25 OCT 77	1																
ENG <i>S. Roberts</i> 10/25/77	PROD <i>Hamilton - Home</i>	ISSUED SECT.																
DATE	DATE 11 Nov 77	1																
ITEM NO.	DWG NO./PART NO.	DESCRIPTION	BDV11-A															
1	MP00489	BDV11-A FIELD MAINTENANCE PRINT SET	1															
TITLE		ASSY NO.	SIZE	CODE	NUMBER				REV	ECO NO.								
BDV11-A SHIPPING LIST		<i>H</i>	A	PL	BDV11-A													
SHEET 1 OF 1		DIST																

DEC FORM
DRA 110

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FIELD MAINTENANCE PRINT SET

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TABLE OF CONTENTS

B-TC-BALL-N-1 B-DD-BALL-N E-UA-BALL-N-Ø K-PL-BALL-N-DBP D-IA-7014093-0-0 C-IA-7014091-0-0 B-DD-H9273-Ø E-UA-H9273-Ø-Ø B-DD-5412233-0 D-UA-5412233-0-0 D-CS-5412233-0-1 B-DD-H4Ø3-A D-UA-H4Ø3-A-Ø D-IA-7014092-0-0 D-AD-7013949-0-0 B-DD-5412985-0 D-UA-5412985-0-0 B-PL-5412985-0-0 D-CS-5412985-0-1 C-IA-7011411-0-0 D-AD-7013804-0-0 B-DD-H786-Ø D-UA-H786-Ø-Ø B-DD-5412530-0 E-UA-5412530-0-0 B-PL-5412530-0-0 D-CS-5412530-0-1 B-DD-5412532-0 D-UA-5412532-0-0 B-PL-5412532-0-0 D-CS-5412532-0-1 B-DD-5412528-0 D-UA-5412528-0-0 B-PL-5412528-0-0 D-CS-5412528-0-1	FIELD MAINTENANCE PRINT SET DRAWING DIRECTORY UNIT ASSY UNIT ASSY PARTS LIST HARNESS AC POWER HARNESS DC LOGIC ASSY DRAWING DIRECTORY LOGIC ASSY UNIT ASSY BACKPLANE DRAWING DIRECTORY BACKPLANE UNIT ASSY. BACKPLANE CIRCUIT SCHEMATIC AC INPUT BOX DRAWING DIRECTORY AC INPUT BOX UNIT ASSY SWITCH VOLTAGE SELECT ASSY BEZEL ASSY FRONT PANEL DRAWING DIRECTORY FRONT PANEL UNIT ASSY FRONT PANEL PARTS LIST FRONT PANEL CIRCUIT SCHEMATIC CABLE CONSOLE/BACKPLANE DOOR ASSY POWER SUPPLY DRAWING DIRECTORY POWER SUPPLY UNIT ASSY MASTER BOARD DRAWING DIRECTORY MASTER BOARD UNIT ASSY MASTER BOARD PARTS LIST MASTER BOARD CIRCUIT SCHEMATIC CONTROL BOARD DRAWING DIRECTORY CONTROL BOARD UNIT ASSY CONTROL BOARD PARTS LIST CONTROL BOARD CIRCUIT SCHEMATIC POWER MONITOR BOARD DRAWING DIRECTORY POWER MONITOR BOARD UNIT ASSY POWER MONITOR BOARD PARTS LIST POWER MONITOR BOARD CIRCUIT SCHEMATIC
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UNIT VARIATIONS COVERED BY THIS PRINT SET
BALL-NC
BALL-ND
BALL-NE
BALL-NF

BALL-N

Field Maintenance Print Set

Digital Equipment Corporation

Print Set Part Number **MP-** MPØØ487

REVISION HISTORY		REV.	DATE	ECO NUMBER	DRN.	DATE	TITLE BALL-N PRINT SET DOCUMENT NUMBER B TC BALL-N-1	digital SHEET 1 OF 1
A	A	5-82	BALL-N-MLØØ7	J. KALAGHER	5 SEPT 77			
				J. KALAGHER	5 SEPT 77			
				J. KALAGHER	9 SEPT 77			
				H.C. JANKE	20 SEPT 77			
NEXT HIGHER DOC. B-DD-BALL-N								

REV. A
NUMBER BALL-N-1
CODE B TC

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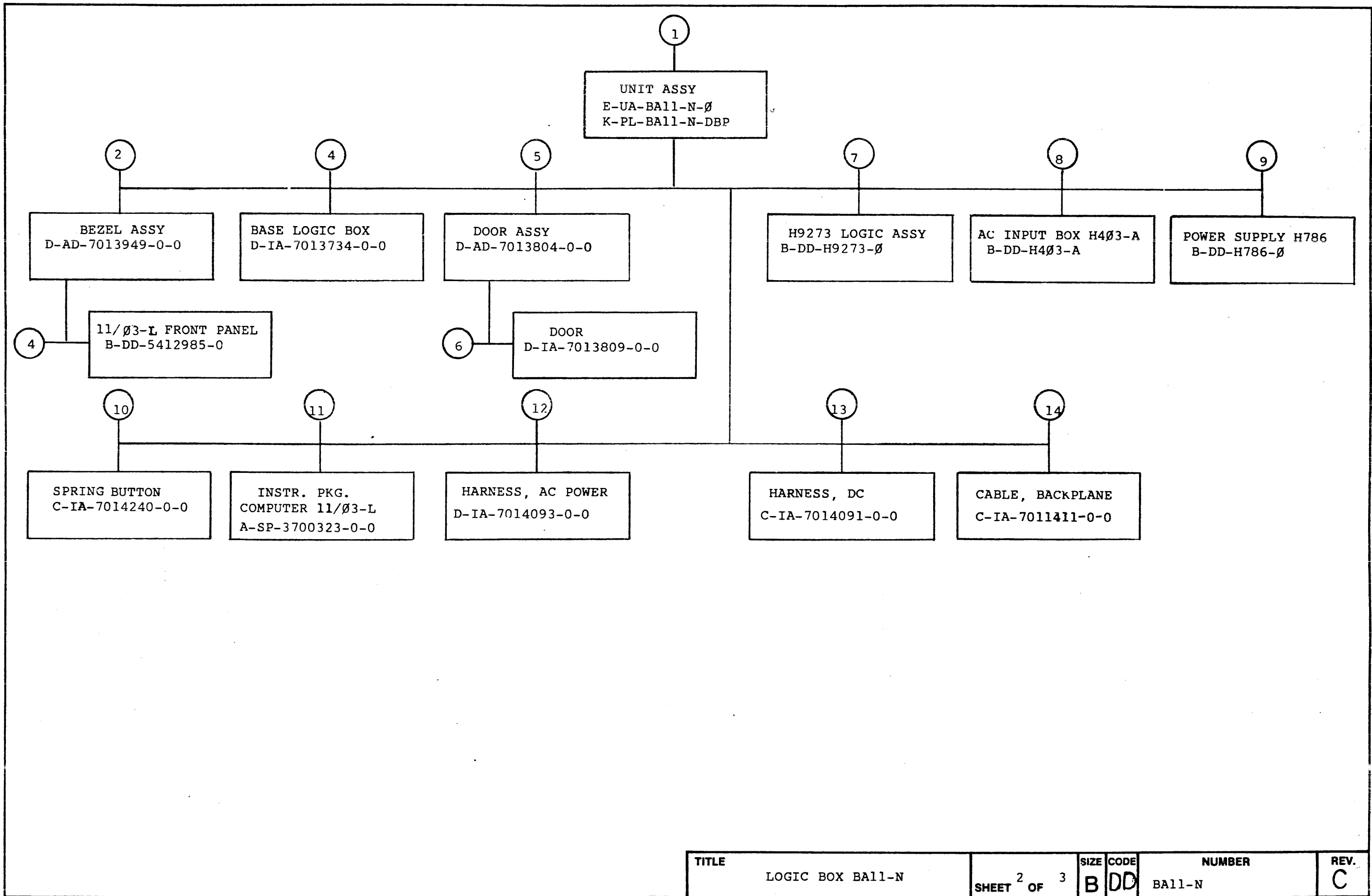
DRAWING DIRECTORY

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FOR FIELD MAINTENANCE PRINT SET SEE B-TC-BALL-N-1

UNIT VARIATIONS	
VAR	TITLE
BALL-NC	METAL COVER, H9273 BACKPLANE, CONSOLE H786, 115V
BALL-ND	METAL COVER, H9273 BACKPLANE, CONSOLE H786, 230V
BALL-NE	METAL COVER, H9273 BACKPLANE, NO CONSOLE H786, 115V
BALL-NF	METAL COVER, H9273 BACKPLANE, NO CONSOLE H786, 230V

REVISIONS	REV. C	USED ON OPTION/MODEL	DRN. B. BLOGETT	DATE 2MAY77	digital BALL-N LOGIC BOX					
	CHANGE NO. BALL-N-ML007	BALL-N	CHK'D. J. FALKOWSKI	DATE 2MAY77						
	CHK. <i>[Signature]</i>			PROJ. ENG. J. KALAGHER	DATE 9 SEPT 77	SIZE B	CODE DD	NUMBER BALL-N	REV C	
				PROD. R. HAMILTON	DATE 9 SEPT 77	DIST. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			SHEET 1 OF 3							



P

TITLE	LOGIC BOX BALL-N	SHEET 2 OF 3	SIZE	CODE	NUMBER	REV.
			B	DD	BALL-N	C

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP00487	FIELD MAINTENANCE PRINT SET (MP)	-	6	D-IA-7013809-0-0	DOOR	M
	B-TC-BALL-N-1	FIELD MAINTENANCE PRINT SET (TC)	-		B-MD-7418692-0-0	PIN	M
	E-UA-BALL-N-Ø	UNIT ASSEMBLY (BALL-N)	E/M				
	K-PL-BALL-N-DBP	UNIT ASSEMBLY (BALL-N) PARTS LIST	E/M				
	C-MD-7418384-0-0	CLAMP, HINGE	M				
	C-IA-7418276-0-0	BRACKET, SUPPORT	M				
	E-IA-7418275-0-0	COVER, LOGIC BOX	M	7	B-DD-H9273-Ø	LOGIC ASSY H9273	E/M
	C-MD-7418573-0-0	BRACKET, BEZEL MTG.	M				
	E-MD-7415313-0-0	BEZEL 5- 1/4" BLANK	M				
	A-PL-BALL-N-2	SHIPPING LIST					
2	D-AD-7013949-0-0	BEZEL ASSY WITH SEITCHES	E/M				
	E-MD-7415313-0-0	BEZEL 5- 1/4"	M				
	D-MD-7411945-0-0	FRAME	M	9	B-DD-H786-Ø	POWER SUPPLY H786	E/M
	B-MD-7411744-0-0	WINDOW	M				
3	B-DD-5412985-0	11/03-L FRONT PANEL BOARD	E/M	10	C-IA-7014240-0-0	SPRING, BUTTON ASSY	M
					C-MD-7418376-0-0	SPRING	M
					B-MD-7418693-0-0	BUTTON	M
4	D-IA-7014734-0-0	BASE LOGIC BOX ASSY.	M	11	A-SP-3700323-0-0	INSTR. PKG. COMPUTER 11/03-L	M
	E-IA-7418434-0-0	BASE LOGIC BOX	M				
	C-IA-7418436-0-0	BRKT, DOOR SUPP.	M				
	C-MD-7418433-0-0	SCREEN	M				
	B-MD-7418694-0-0	BUSHING	M	12	D-IA-7014093-0-0	HARNESS, AC POWER	E/M
5	D-AD-7013804-0-0	DOOR ASSEMBLY	M	13	C-IA-7014091-0-0	HARNESS DC	E/M
	C-MD-7418375-0-0	WINDOW	M				
	C-IA-7418374-0-0	STRAIN RELIEF	M				
				14	C-IA-7011411-0-0	CABLE, BACKPLANE	E/M

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

digital

TITLE
BALL-N LOGIC BOX

SHEET 3 OF 3

SIZE CODE
B DD

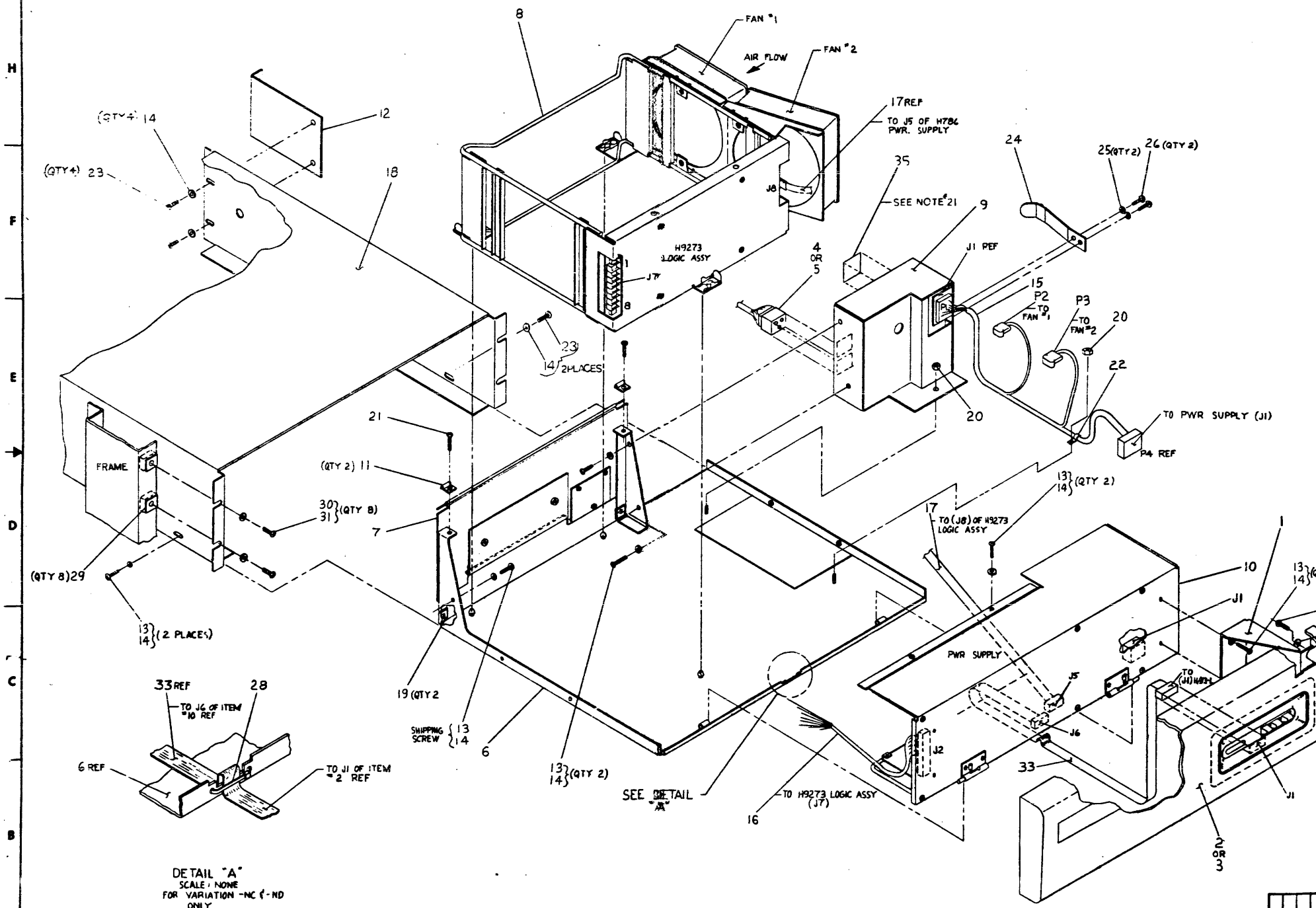
NUMBER
BALL-N

REV.
C

ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED AND ARE IN INCHES. DIMENSIONS IN PARENTHESES ARE GIVEN IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE TO BE USED IN CASE OF CONFLICT WITH THE DIMENSIONS IN INCHES. DIMENSIONS IN PARENTHESES ARE TO BE USED IN CASE OF CONFLICT WITH THE DIMENSIONS IN INCHES.

NUMBER	LEGEND			
	AMPS	PHASE	VOLTS	HZ
BA11-NC	12 A	SINGLE/3	115 V	50/60 HZ
BA11-ND	6 A	SINGLE/3	230 V	50/60 HZ
BA11-NE	12 A	SINGLE/3	115 V	50/60 HZ
BA11-NF	6 A	SINGLE/3	230 V	50/60 HZ

- NOTES:
- ASSEMBLY INSTRUCTIONS OPERATIONS TO BE PERFORMED PER HARDWARE STANDARDS NO. SP-745093-0 AND DEC'S WORKMANSHIP STANDARD.
 - INSTALL 1/4 TURN RECEPTACLE (ITEM 19) TO THE BASE (ITEM 6) AS SHOWN 2 PLACES.
 - ATTACH THE A.C. INPUT BOX (ITEM 9) TO THE STUD IN THE BASE (ITEM 6) USING "8-32 KEEP NUT (ITEM 20), AND TO THE DOOR SUPPORT BRKT. OF ITEM 6 USING "8 LOCK WASHER (ITEM 4) AND "8-32 X 25 LG SCREW (ITEM 13) 2 PLACES.
 - ATTACH THE LOGIC ASSY (ITEM 8) TO THE BASE. LOCK THE SNAPSLIDE FASTENERS IN PLACE; 3 PLACES AS SHOWN.
 - ATTACH THE DOOR ASSY (ITEM 7) TO THE BASE (ITEM 6) USING THE HINGE CLAMP (ITEM 11) AND "6-32 X .25 LG FLAT HD. SCREW (ITEM 21) 2 PLACES AS SHOWN.
 - ATTACH THE CONSOLE CABLE (ITEM 33) TO THE BASE WITH THE CABLE TIE (ITEM 28) AS SHOWN IN DETAIL "A" (FOR VARIATION NC AND ND ONLY).
 - ATTACH THE POWER SUPPLY (ITEM 10) TO THE BASE BY LATCHING THE HINGES.
 - ATTACH THE BEZEL MOUNTING BRKTS. (ITEM 1) TO THE PWR. SUPPLY (ITEM 10) WITH 4 "8-32 X .25 LG SCREWS (ITEM 13) AND 4 LOCK WASHERS (ITEM 14).
 - ATTACH THE BEZEL ASSY WITH SWITCHES (ITEM 2) OR THE BEZEL BLANK (ITEM 3) TO THE BEZEL MOUNTING BRKTS. (ITEM 1) WITH 4 "8-32 X .38 LG SCREWS (ITEM 22) AND 4 LOCK WASHERS (ITEM 14).
 - PLUG ONE END OF THE CONSOLE CABLE (ITEM 33) INTO J6 OF THE POWER SUPPLY ASSY (ITEM 10). PLUG THE OTHER END OF THIS CABLE INTO J1 OF THE BEZEL ASSY WITH SWITCHES (ITEM 2) (FOR VARIATION NC + ND ONLY).
 - PLUG ONE END OF THE BACKPLANE CABLE (ITEM 17) INTO J8 OF THE LOGIC ASSY (ITEM 8). PLUG THE OTHER END OF THIS CABLE INTO J5 OF THE PWR SUPPLY ASSY (ITEM 10).
- CONTINUED ON SHEET 2 OF 2



DETAIL "A"
SCALE: NONE
FOR VARIATION -NC & -ND ONLY

CAUTION: OFF SHEET PARTS LIST EXISTS. REFER TO K-PL-BA11-N-DBR.

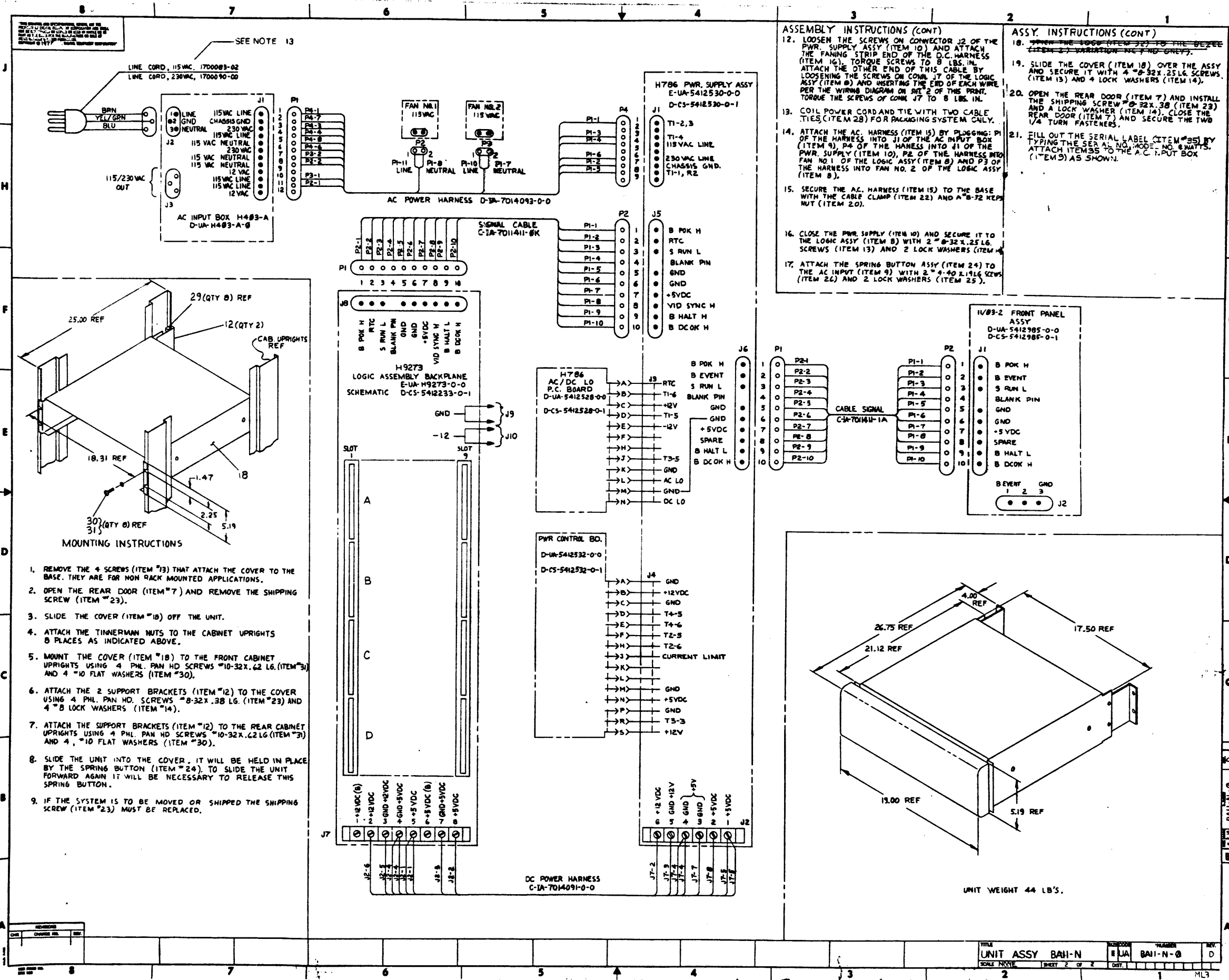
REV.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PRODUCTION	10/1/77	J. J. J.	J. J. J.
2	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.
3	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.
4	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.
5	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.
6	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.
7	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.
8	REVISED TO REFLECT CHANGES TO THE BEZEL ASSY	10/1/77	J. J. J.	J. J. J.

DESCRIPTION	QTY	UNIT	REV.
BEZEL ASSY WITH SWITCHES	1	EA	1
BEZEL BLANK	1	EA	1
BEZEL MOUNTING BRKT.	4	EA	1
CONSOLE CABLE	1	EA	1
DOOR ASSY	1	EA	1
FRAME	1	EA	1
LOGIC ASSY	1	EA	1
POWER SUPPLY	1	EA	1

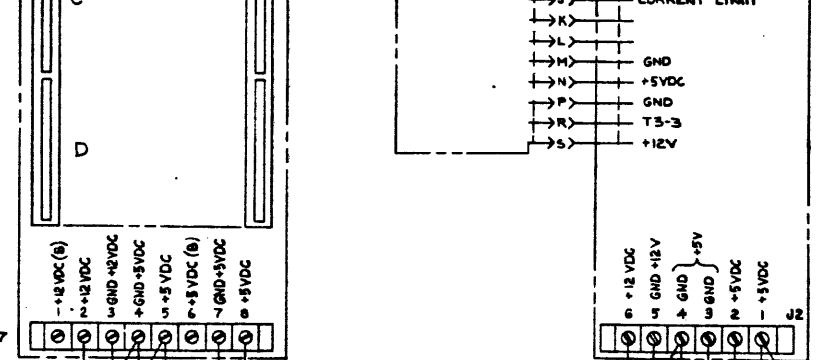
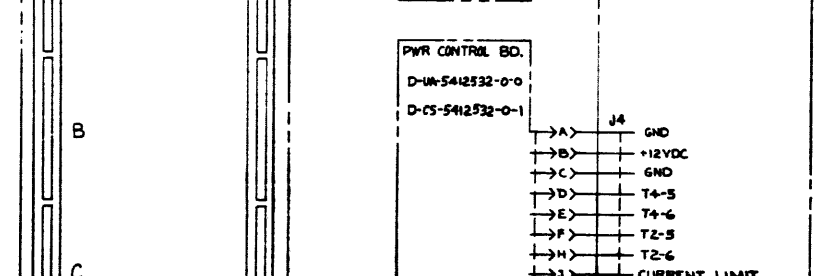
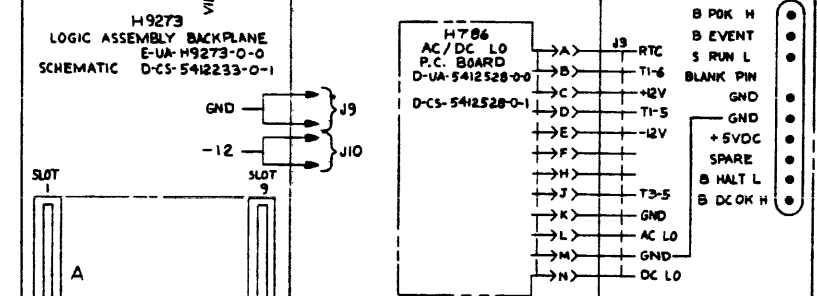
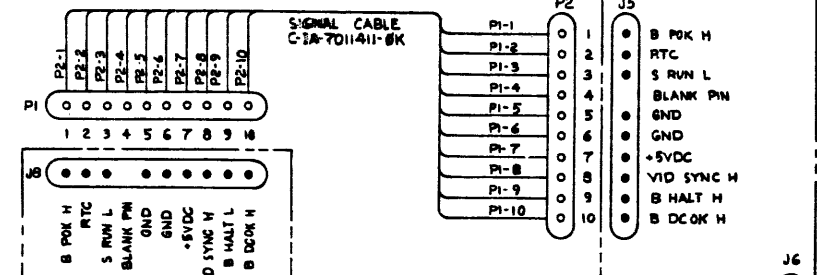
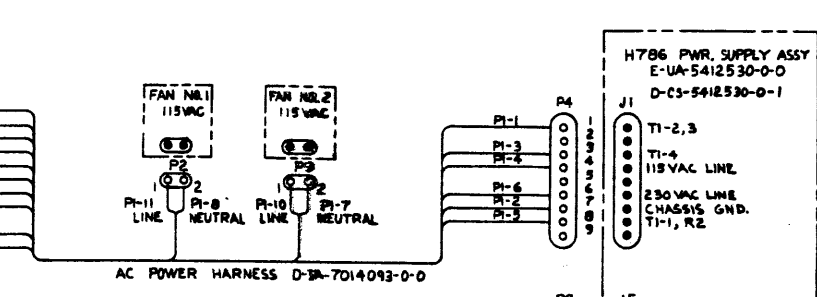
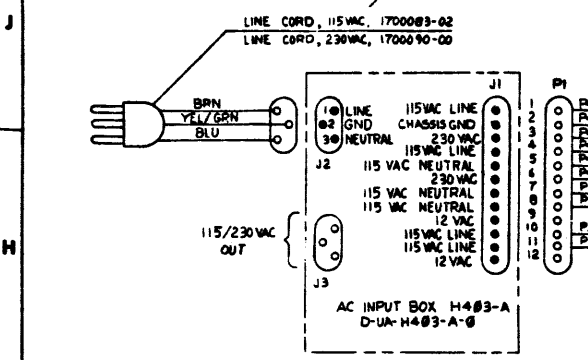
UNIT ASSY

SCALE: NONE

SHEET 1 OF 2



SEE NOTE 13



ASSEMBLY INSTRUCTIONS (CONT)

12. LOOSEN THE SCREWS ON CONNECTOR J2 OF THE PWR. SUPPLY ASSY (ITEM 10) AND ATTACH THE FANING STRIP END OF THE D.C. HARNESS (ITEM 16). TORQUE SCREWS TO 8 LBS. IN. ATTACH THE OTHER END OF THIS CABLE BY LOOSENING THE SCREWS ON CONN. J7 OF THE LOGIC ASSY (ITEM 8) AND INSERTING THE END OF EACH WIRE PER THE WIRING DIAGRAM ON INT. 2 OF THIS PRINT. TORQUE THE SCREWS OF CONN. J7 TO 8 LBS. IN.

13. COIL POWER CORD AND TIE WITH TWO CABLE TIES (ITEM 28) FOR PACKAGING SYSTEM ONLY.

14. ATTACH THE AC HARNESS (ITEM 15) BY PLUGGING: P1 OF THE HARNESS INTO J1 OF THE AC INPUT BOX (ITEM 9), P4 OF THE HARNESS INTO J1 OF THE PWR. SUPPLY (ITEM 10), P2 OF THE HARNESS INTO FAN NO. 1 OF THE LOGIC ASSY (ITEM 8) AND P3 OF THE HARNESS INTO FAN NO. 2 OF THE LOGIC ASSY (ITEM 8).

15. SECURE THE AC HARNESS (ITEM 15) TO THE BASE WITH THE CABLE CLAMP (ITEM 22) AND A "B-32 KEPS NUT (ITEM 20).

16. CLOSE THE PWR. SUPPLY (ITEM 10) AND SECURE IT TO THE LOGIC ASSY (ITEM 8) WITH 2 "B-32 X .25 L6 SCREWS (ITEM 13) AND 2 LOCK WASHERS (ITEM 14).

17. ATTACH THE SPRING BUTTON ASSY (ITEM 24) TO THE AC INPUT (ITEM 9) WITH 2 "4-40 X .1916 SCREWS (ITEM 26) AND 2 LOCK WASHERS (ITEM 25).

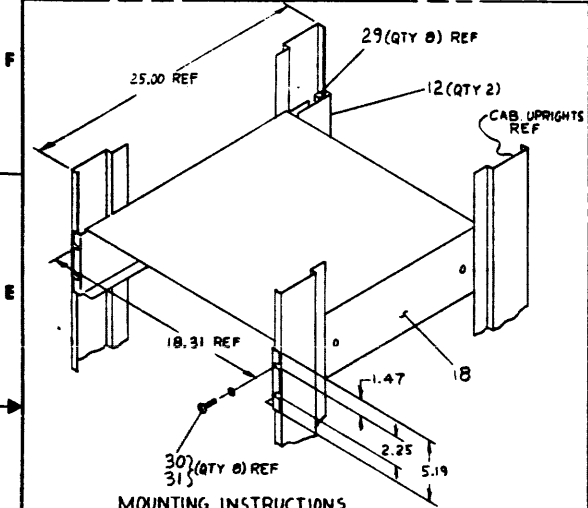
ASSY. INSTRUCTIONS (CONT)

18. ~~REMOVE THE SCREWS (ITEM 23) TO THE COVER (ITEM 7) AND REMOVE THE SHIPPING SCREW (ITEM 23).~~

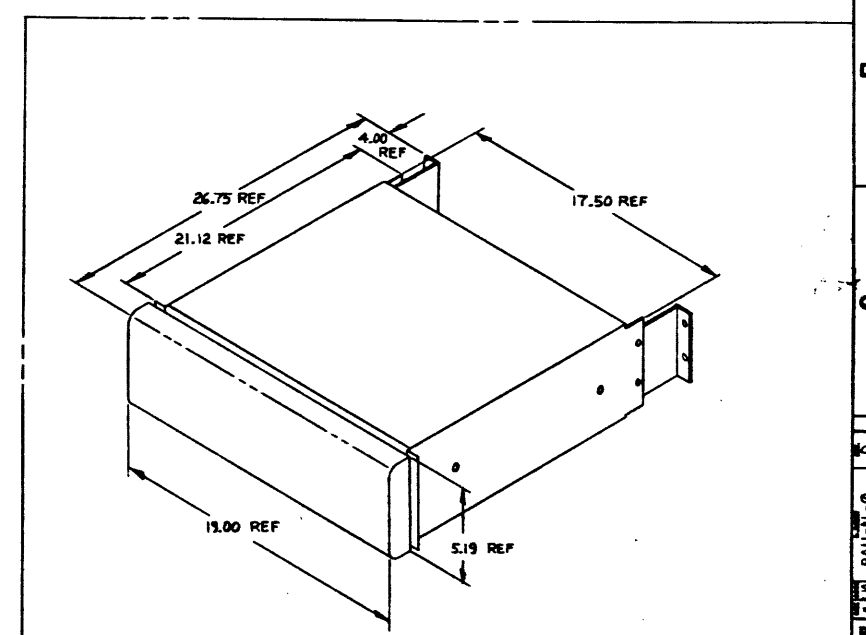
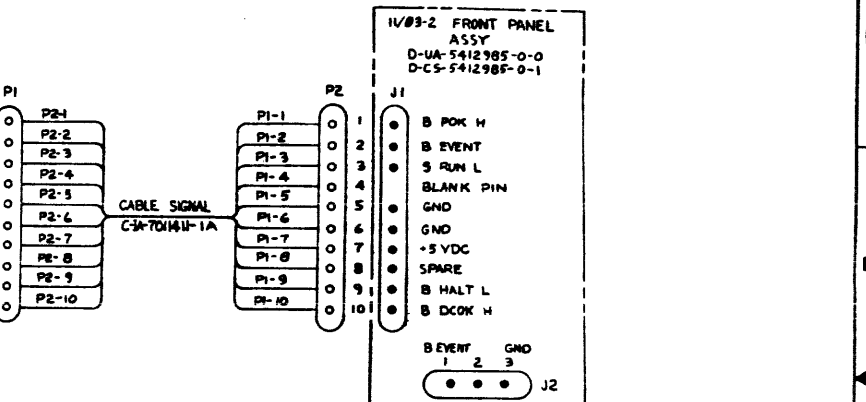
19. SLIDE THE COVER (ITEM 10) OVER THE ASSY. AND SECURE IT WITH 4 "B-32 X .25 L6 SCREWS (ITEM 13) AND 4 LOCK WASHERS (ITEM 14).

20. OPEN THE REAR DOOR (ITEM 7) AND INSTALL THE SHIPPING SCREW "B-32 X .38 (ITEM 23) AND A LOCK WASHER (ITEM 14). CLOSE THE REAR DOOR (ITEM 7) AND SECURE THE TWO 1/4 TURN FASTENERS.

21. FILL OUT THE SERIAL LABEL (ITEM 35) BY TYPING THE SERIAL NO., MODEL NO. & WATTS. ATTACH ITEM 35 TO THE A.C. INPUT BOX (ITEM 9) AS SHOWN.



- REMOVE THE 4 SCREWS (ITEM 13) THAT ATTACH THE COVER TO THE BASE. THEY ARE FOR NON RACK MOUNTED APPLICATIONS.
- OPEN THE REAR DOOR (ITEM 7) AND REMOVE THE SHIPPING SCREW (ITEM 23).
- SLIDE THE COVER (ITEM 10) OFF THE UNIT.
- ATTACH THE TINNEMAN NUTS TO THE CABINET UPRIGHTS IN PLACES AS INDICATED ABOVE.
- MOUNT THE COVER (ITEM 10) TO THE FRONT CABINET UPRIGHTS USING 4 PHL. PAN HD SCREWS "10-32 X .62 L6 (ITEM 31) AND 4 "10 FLAT WASHERS (ITEM 30).
- ATTACH THE 2 SUPPORT BRACKETS (ITEM 12) TO THE COVER USING 4 PHL. PAN HD. SCREWS "8-32 X .38 L6 (ITEM 23) AND 4 "8 LOCK WASHERS (ITEM 14).
- ATTACH THE SUPPORT BRACKETS (ITEM 12) TO THE REAR CABINET UPRIGHTS USING 4 PHL. PAN HD SCREWS "10-32 X .62 L6 (ITEM 31) AND 4 "10 FLAT WASHERS (ITEM 30).
- SLIDE THE UNIT INTO THE COVER. IT WILL BE HELD IN PLACE BY THE SPRING BUTTON (ITEM 24). TO SLIDE THE UNIT FORWARD AGAIN IT WILL BE NECESSARY TO RELEASE THIS SPRING BUTTON.
- IF THE SYSTEM IS TO BE MOVED OR SHIPPED THE SHIPPING SCREW (ITEM 23) MUST BE REPLACED.



DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY <i>B. Blodgett</i>	CHECKED <i>J. Kalay</i>	SECTION
DATE 3 MAY 77	DATE 9 AUG 77	
ENG <i>J. Kalay</i>	PROD <i>R. Hamilton JTK</i>	ISSUED SECTION
DATE 31 AUG 77	DATE 31 AUG 77	

QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	BALL-NC	BALL-ND	BALL-NE	BALL-NF									REF DESIGNATION
1	C-MD-7416573-0-0		BRKT. BEZEL MTG.	2	2	2	2									
2	D-AD-7013949-0-0		BEZEL ASSY WITH SWITCHES	1	1	-	-									
3	E-MD-7415313-02		BEZEL BLANK	-	-	1	1									
4		17-00083-02	LINE CORD (115V)USA	1	-	1	-									
5		17-00090-00	LINE CORD (250V)USA	-	1	-	1									
6	D-IA-7013734-0-0		BASE, LOGIC BOX	1	1	1	1									
7	D-AD-7013804-0-0		DOOR ASSY	1	1	1	1									
8	E-UA-H9273-0-0		LOGIC ASSY (H9273)	1	1	1	1									
9	D-UA-H403-A-0		AC INPUT BOX (H403-A)	1	1	1	1									
10	D-UA-H786-0-0		PWR. SUPPLY ASSY (H786)	1	1	1	1									
11	C-MD-7418384-0-0		CLAMP, HINGE	2	2	2	2									
12	C-IA-7418276-0-0		BRKT, SUPPORT	2	2	2	2									
13		90-06035 -01	SCR. PHL HD PAN #8-32X.25	11	11	11	11									
14		90-06634-00	WASHER, LOCK #8	21	21	21	21									
15	D-IA-7014093-0-0		HARNESS AC POWER	1	1	1	1									
16	C-IA-7014091-0-0		HARNESS DC	1	1	1	1									
17	C-IA-7011411-0K		CABLE BACKPLANE	1	1	1	1									
18	E-IA-7418275-0-0		COVER, LOGIC BOX	1	1	1	1									
19		90-08196-00	RECEPTACLE 1/4 TURN	2	2	2	2									
20		90-06563-00	NUT, KEPS #8-32	2	2	2	2									
21		90-08404-02	SCR. PHL HD FLAT #6-32X.31	2	2	2	2									
22		90-07082-00	CABLE CLAMP .31 DIA.	1	1	1	1									
23		90-06037-01	SCR. PHL HD PAN #8-32X.38	10	10	10	10									
24	C-IA-7014240-0-0		SPRING, BUTTON ASSY	1	1	1	1									
25		90-06632-00	WASHER, LOCK INT. TOOTH #4	2	2	2	2									
26		90-08032-01	SCREW PHL HD PAN #4-40X.19	2	2	2	2									
27		3613210-00	LABEL SERIAL	1	1	1	1									
28		90-07880-00	TIE, CABLE SST 1.5 M	3	3	2	2									
29		90-07786-00	NUT TINNEMAN #10-32	8	8	8	8									
30		90-07651-00	WASHER LOCK EXT. TOOTH #10	8	8	8	8									
31		90-06073-03	SCR, PHL TRUSS HD. #10-32 x 50	8	8	8	8									
32	C-MD-7419481-0-0		LOGO PDP 11/03-L	1	1	-	-									
33	C-IA-7011411-IA		CABLE CONSOLE	1	1	-	-									
34	A-SP-3700323-0-0		INSTR. PKG. COMPUTER 11/03-L	1	1	1	1									

E.C.O. NO. 00002
ML 00 3

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TITLE
UNIT ASSY BALL-N

ASSY NO.
E-UA-BALL-N-0

SHEET 1 OF 1

SIZE B
CODE PL
NUMBER BALL-N-0

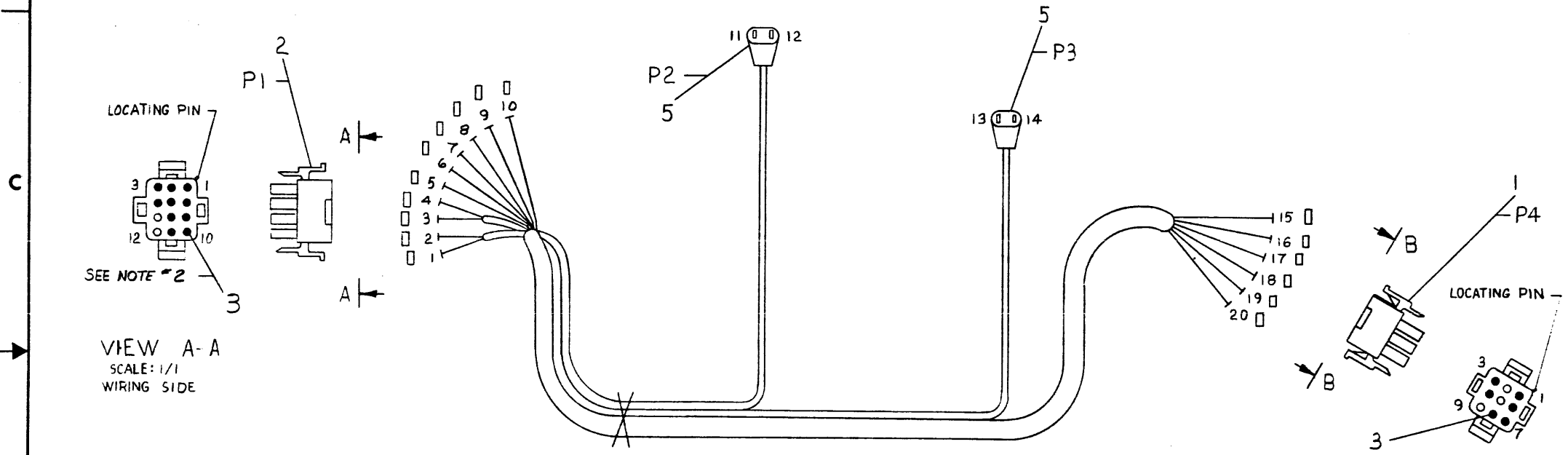
INSERTION PARTS LIST DATA BASE REV

REV.
B

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WIRE TABLE								
ITEM NO	DESCRIPTION		FROM			TO		
	AWG	COLOR	POINT	CONN	TERM	POINT	CONN	TERM
5	18	BLK	1	PI-10	3	13	P3	---
			2	PI-7	↑	14	P3	---
5	18	BLK	3	PI-11	↑	11	P2	---
			4	PI-8	↑	12	P2	---
10	14	BLK	5	PI-4	↑	19	P4-4	3
4	14	BLU	6	PI-5	↑	17	P4-8	---
11	14	BRN	7	PI-6	↑	16	P4-6	↑
7	18	BLK	8	PI-1	↑	18	P4-1	↓
9	18	GRN/YEL	9	PI-2	↓	20	P4-7	↓
8	18	BRN	10	PI-3	3	15	P4-3	3

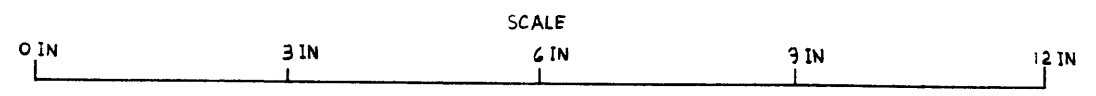
- NOTES:
- USE TIE WRAPS (X) ITEM #6 APPROXIMATELY AS SHOWN.
 - ITEM #3 CAN BE SUBSTITUTED BY P/N 121270-00 WHEN USING AN AUTOMATIC CRIMPING MACHINE.



VIEW A-A
 SCALE: 1/1
 WIRING SIDE

VIEW B-B
 SCALE: 1/1
 WIRING SIDE

DO NOT REDUCE
 FOR MANUFACTURING PURPOSES ONLY



CAUTION: OFF SHEET PARTS LIST EXISTS.
 REFER TO K-PL-7014093-0-DBP

REV	DATE	BY	CHK'D	DESCRIPTION
1	7/22/77	J. KALAGHER		INITIAL RELEASE
2	8/29/77	J. KALAGHER		REVISED TO 1000
3	1/28/78	J. KALAGHER		REVISED TO 1000
4	1/28/78	J. KALAGHER		REVISED TO 1000
5	1/28/78	J. KALAGHER		REVISED TO 1000
6	1/28/78	J. KALAGHER		REVISED TO 1000
7	1/28/78	J. KALAGHER		REVISED TO 1000
8	1/28/78	J. KALAGHER		REVISED TO 1000

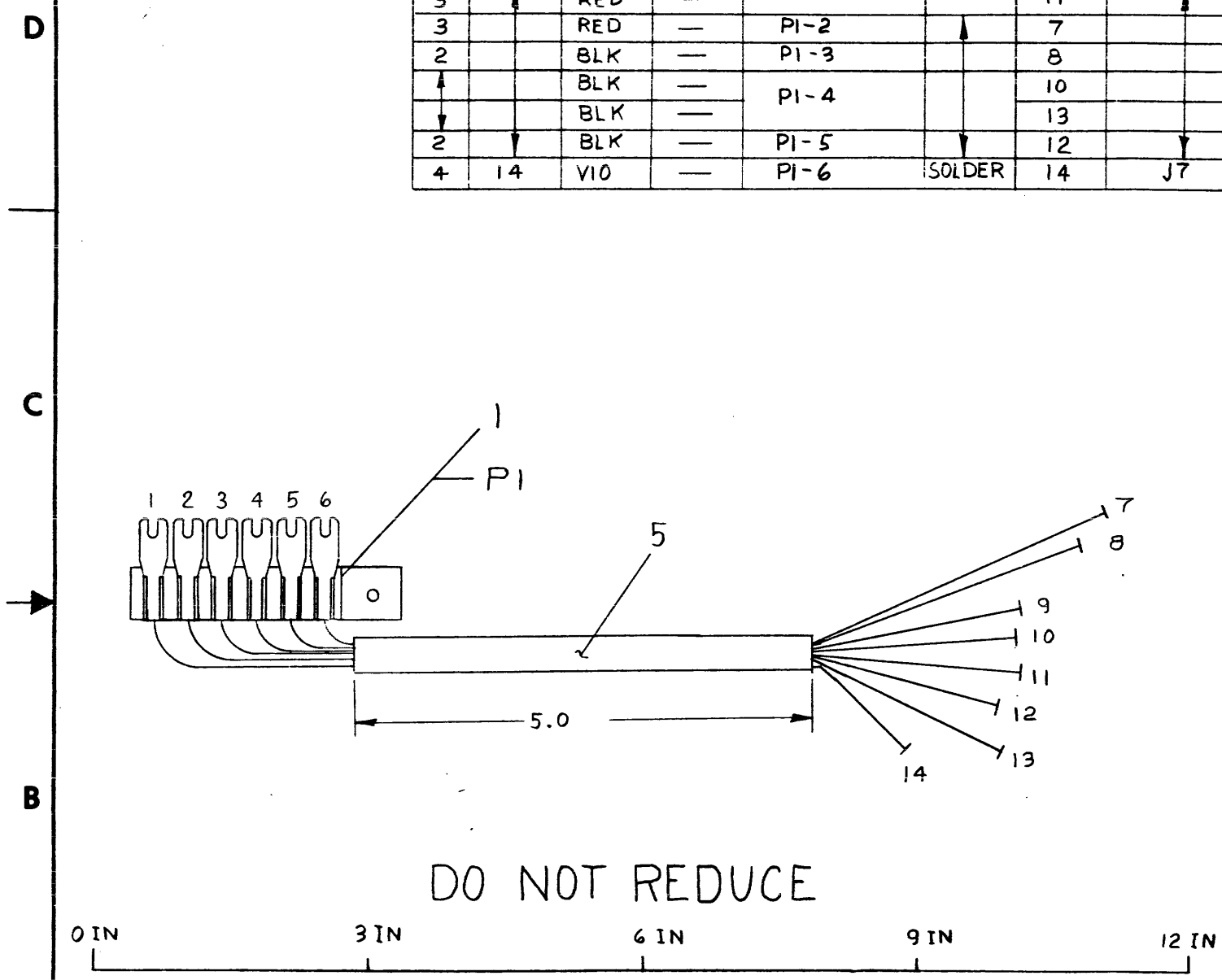
THIRD ANGLE PROJECTION	DESCRIPTION	DWG. PART NO.	ITEM NO.																			
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES																					
QUANTITY & VARIATION	ANGLES 10° 30'	BLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES																			
	<table border="1"> <tr> <th>OVER</th> <th>OVER</th> <th>OVER</th> <th>OVER</th> <th>OVER</th> </tr> <tr> <td>0</td> <td>0.2</td> <td>1.2</td> <td>2.0</td> <td>40.0</td> </tr> <tr> <td>0.2</td> <td>1.2</td> <td>2.0</td> <td>40.0</td> <td>80.0</td> </tr> <tr> <td>1.2</td> <td>2.0</td> <td>40.0</td> <td>80.0</td> <td>160.0</td> </tr> </table>			OVER	OVER	OVER	OVER	OVER	0	0.2	1.2	2.0	40.0	0.2	1.2	2.0	40.0	80.0	1.2	2.0	40.0	80.0
OVER	OVER	OVER	OVER	OVER																		
0	0.2	1.2	2.0	40.0																		
0.2	1.2	2.0	40.0	80.0																		
1.2	2.0	40.0	80.0	160.0																		
REMOVE BLURS AND BREAK SHARP CORNERS	SURFACE QUALITY IN MICROINCHES	<table border="1"> <tr> <th>IN</th> <th>IN</th> <th>IN</th> <th>IN</th> <th>IN</th> </tr> <tr> <td>0.004</td> <td>0.008</td> <td>0.012</td> <td>0.016</td> <td>0.024</td> </tr> <tr> <td>0.008</td> <td>0.016</td> <td>0.024</td> <td>0.032</td> <td>0.048</td> </tr> </table>		IN	IN	IN	IN	IN	0.004	0.008	0.012	0.016	0.024	0.008	0.016	0.024	0.032	0.048				
	IN	IN	IN	IN	IN																	
0.004	0.008	0.012	0.016	0.024																		
0.008	0.016	0.024	0.032	0.048																		
DO NOT SCALE DWG	DRN. 3	FIRST USED ON	digital																			
MATERIAL SEE PARTS LIST	CHK'D	TITLE	HARNESS AC POWER																			
FINISH	PROJ. ENG.	SIZE CODE	D 1A																			
	PROD.	NUMBER	7014093-0-0																			
		REV.	C																			
	SHEET	DIST.	1 ML3																			

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WIRE TABLE								
ITEM NO	DESCRIPTION		FROM			TO		
	AWG	COLOR	POINT	CONN.	TERM	POINT	CONN (REF)	TERM (REF)
3	14	RED	—	PI-1	SOLDER	9	J7	5
3	↑	RED	—			11	↑	5
3	↑	RED	—	PI-2	↑	7		8
2		BLK	—	PI-3		8		7
↑		BLK	—	PI-4		10		4
↓		BLK	—			13		4
2	↓	BLK	—	PI-5	↓	12	↓	3
4	14	VIO	—	PI-6	SOLDER	14	J7	2

NOTES:

- STRIP INSULATION BACK .38 INCH. POINTS 7-14



DO NOT REDUCE
FOR MANUFACTURING PURPOSES ONLY

A/R	DESCRIPTION	DWG./PART NO.	ITEM NO.
A/R	TUBING EXTRUDED .375 I.D.	9107245-00	5
A/R	WIRE, #14 AWG STRD (VIO)	9107370-77	4
A/R	WIRE, #14 AWG STRD (RED)	9107370-22	3
A/R	WIRE, #14 AWG STRD (BLK)	9107370-00	2
1	STRIP, CONNECTOR, (6 POSITION)	1212698-00	1

DESCRIPTION	DWG./PART NO.	ITEM NO.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES							
ANGLES 30° 30'	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES					
SURFACE QUALITY IN MICROINCHES	MEDIUM <input type="checkbox"/> PREFERRED <input type="checkbox"/>	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
		±.004	±.008	±.012	±.016	±.024	±.04
		±.012	±.016	±.025	±.04	±.063	±.1

REV.	CHANGE NO.	DATE	BY
A	00001	16-04-77	J. KALAGHER
B	00002	17-04-77	J. KALAGHER
		19-DEC-77	STEVE KITTLE
		22-DEC-77	J. KALAGHER

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH *++*

DRN. *B. B. Hodge* 12-06-77

CHK'D *J. F. Hodge* 20-06-77

ENG. *J. Kalagher* 17-06-77

PROJ. ENG. *J. Kalagher* 17-06-77

PROD. *R. Hamilton* 15-06-77

FIRST USED ON BAI1-N

TITLE HARNESS, D.C.

SIZE CODE C IA

NUMBER 7014091-0-0

REV. B

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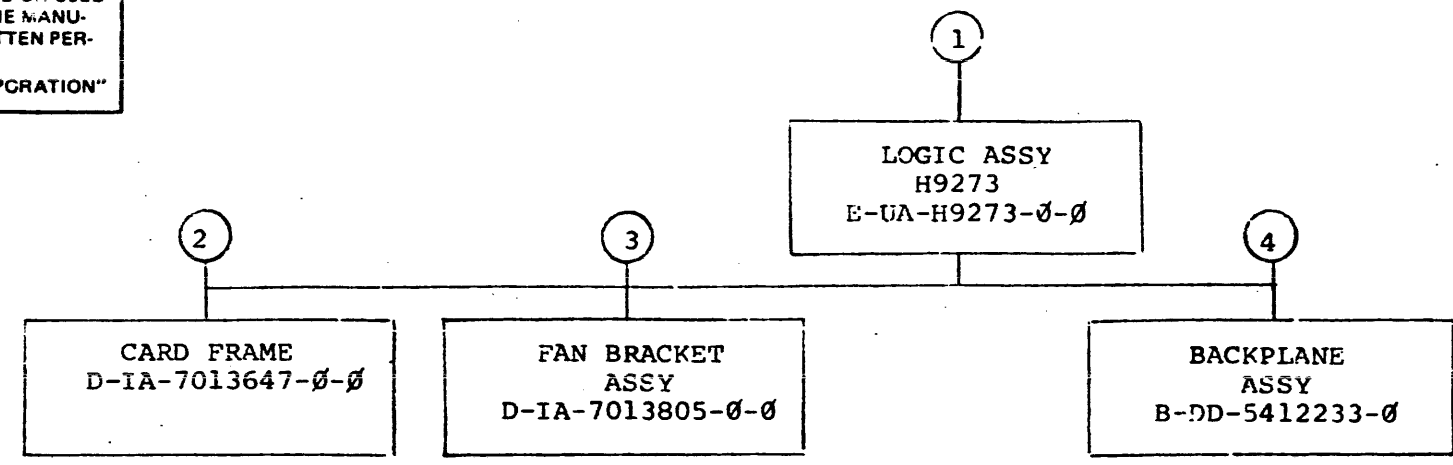
UNIT VARIATIONS

VAR	TITLE
H9273	LOGIC ASSY
H9273A	BACK PLANE LOGIC ASSY. UNIT

REVISIONS	CHANGE NO.	REV.	USED ON OPTION/MODEL			DRN.	DATE	TITLE			
	JA	H9273-1	A			V. SOUZA	22 APR 77	LOGIC ASSY			
	ER	H9273-2	B	H9273		<i>J. Falkowski</i>	2 MAY 77	digital H9273			
						<i>J. Kellogg</i>	9 SEPT 77				
								SIZE	CODE	NUMBER	REV
								B	DD	H9273-Ø	B
						PROD.	DATE	DIST.			
						<i>R Hamilton</i>	9 SEP 77				

SHEET 1 OF 3

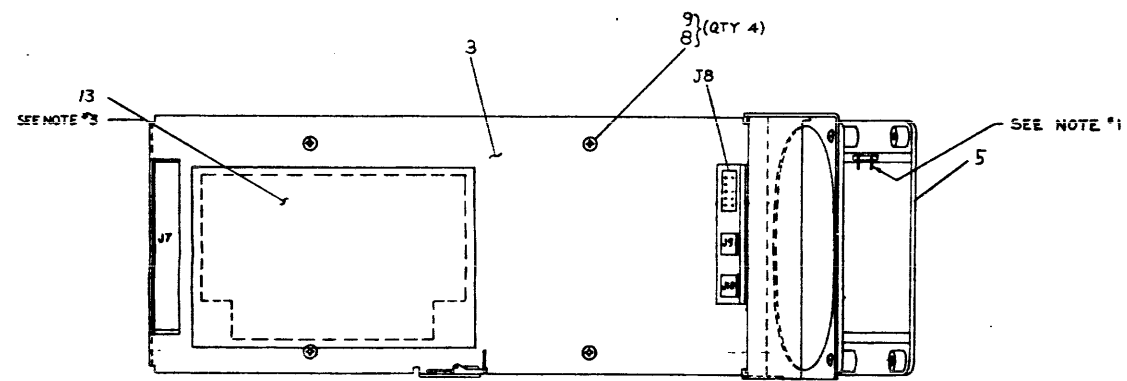
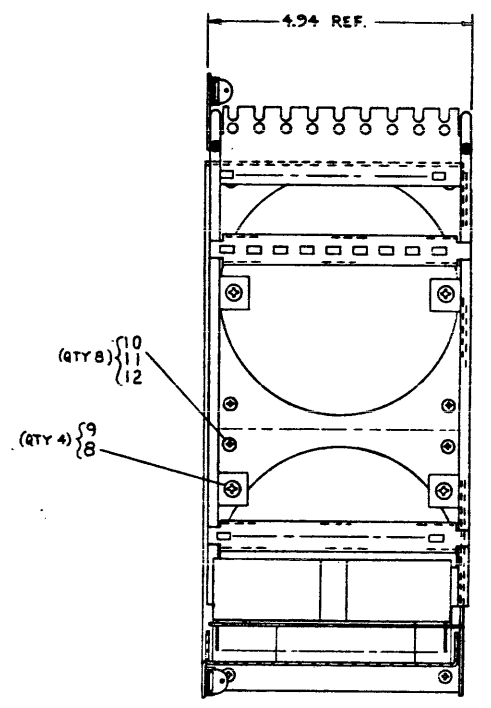
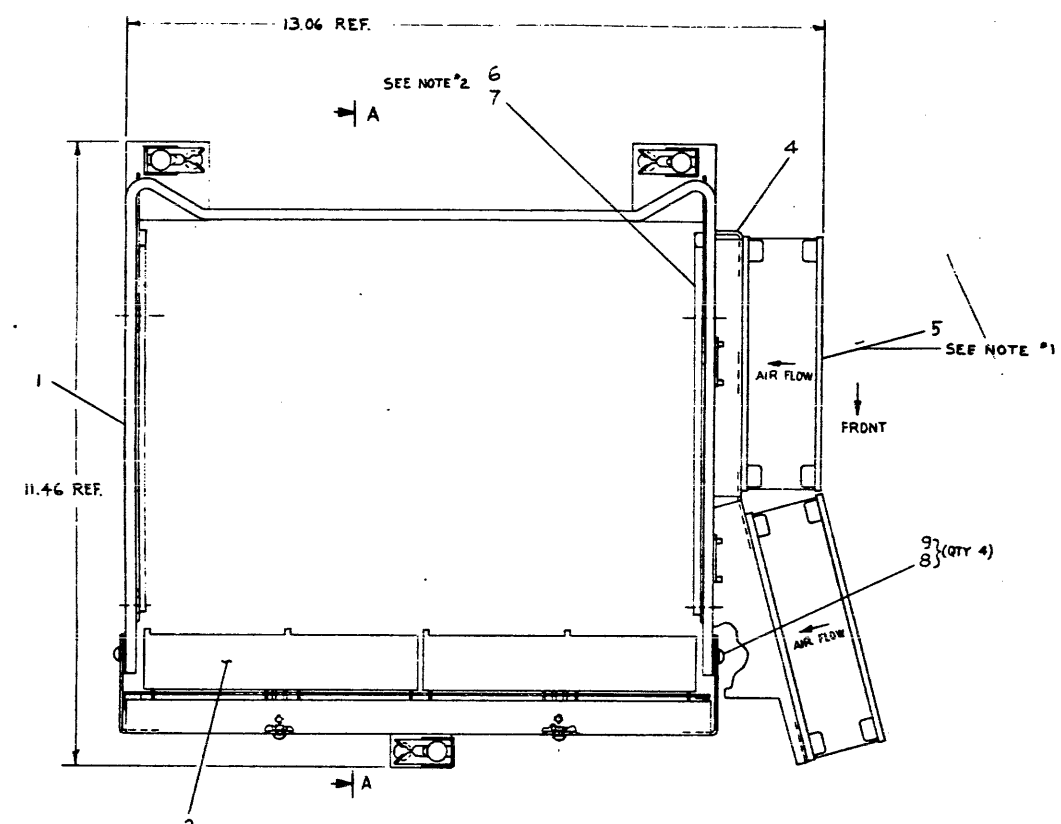
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TITLE	LOGIC ASSY H9273	SHEET 2 OF 3	SIZE CODE	B DD	NUMBER	H9273-Ø	REV	B
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- NOTES:
1. MOUNT FANS SO THAT THE TERMINALS ARE ON THE TOP TOWARDS THE FRONT.
 2. 5 NATURAL CARD GUIDES (ITEM *7) AND 4 MEGENTA CARD GUIDES (ITEM *8) ON EACH SIDE. INSTALL SO COLORS ALTERNATE.
 3. DECAL MUST COVER SILK SCREENING COMPLETELY.



1	- PACKAGING INSTRUCTIONS	ASP 120324-00	14
1	- DECAL IDENTIFICATION	361551700	13
8	CLIP, MOUNTING	9009165-00	12
8	WASHER, LOCK INT TOOTH #6	9006433-00	11
8	SCR, PH. PAN HD #6-32X.62	9006025-01	10
8	12 WASHER, LOCK INT. TOOTH #8	9006234-00	9
8	12 SCR, PH. PAN HD #8-32X.30	9006037-01	8
10	10 GUIDE, CARD (NATURAL)	1212405-08	7
8	8 GUIDE, CARD (MEGENTA)	1212405-09	6
2	FAN.	1213185-00	5
1	1 MOUNT FAN MTS	D-14-703805-0-0	4
1	1 BRACKET, BACKPLANE	D-14-701822-0-0	3
1	1 BACKPLANE ASSY	D-14-541233-0-0	2
1	1 CARD FRAME ASSY	C-14-703647-0-0	1

REV	DATE	BY	CHKD
1	11/27/53	W. J. GREEN	W. J. GREEN
2	12/1/53	W. J. GREEN	W. J. GREEN
3	12/1/53	W. J. GREEN	W. J. GREEN
4	12/1/53	W. J. GREEN	W. J. GREEN
5	12/1/53	W. J. GREEN	W. J. GREEN
6	12/1/53	W. J. GREEN	W. J. GREEN
7	12/1/53	W. J. GREEN	W. J. GREEN
8	12/1/53	W. J. GREEN	W. J. GREEN
9	12/1/53	W. J. GREEN	W. J. GREEN
10	12/1/53	W. J. GREEN	W. J. GREEN

H9273-A
 1/5273
 H9273
 LOGIC ASSY
 SCALE 1/1
 SEE PARTS LIST
 H9273-0
 1/1
 H9273-0-0
 1/1

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS														
B-MH-5412233-0-6	1		MODULE HISTORY	*	A													
D-UA-5412233-0-0	5		BACKPLANE	C	D													
D-CS-5412233-0-1	1		BACKPLANE	C	D													
D-MD-5012232-0-0	6		BACKPLANE	C	C													
		5012232	ETCHED CIRCUIT BOARD	D	D													
5412233-0-L			P.C. DESIGN DATA BASE	REF														
5412233-0-PL			INSERTION P/L DATA BASE	REF														

NOTES:

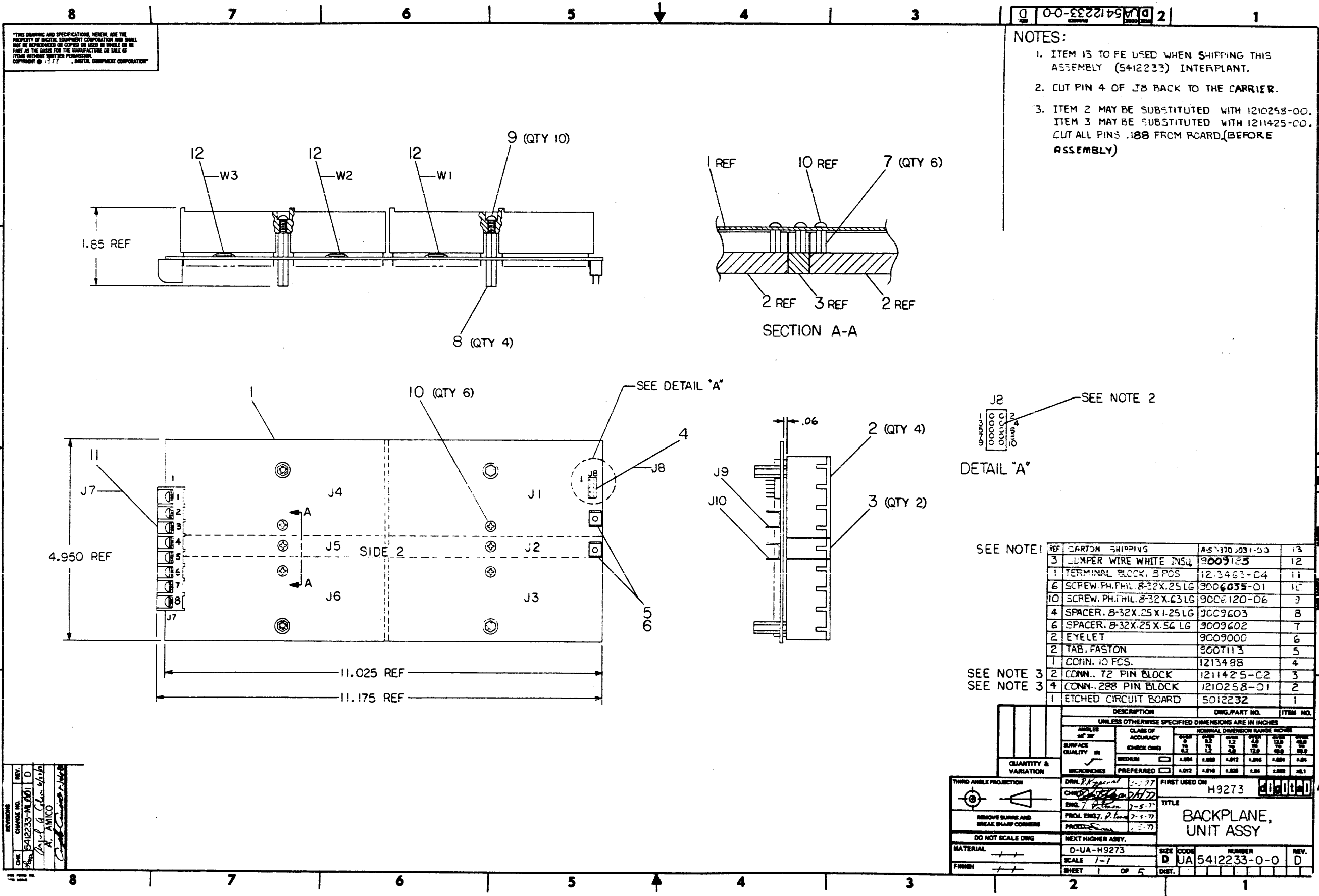
REVISIONS		DATE	CHG NO.	REV.	INITIAL
		6-80	ML001		D

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USED ON OPTION/MODEL	DRN	
H9273	R. KOPPENAL	3/16/77
	CHKD	<i>[Signature]</i> 7/5/77
	ENG	T. P. Pomeroy 7-5-77
	PROD.	Hamilton 7-5-77

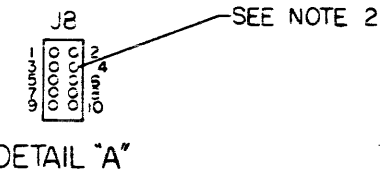
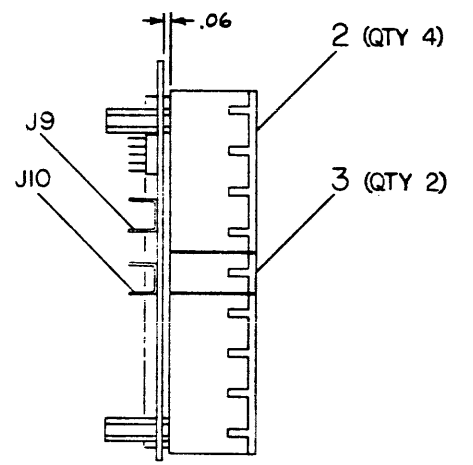
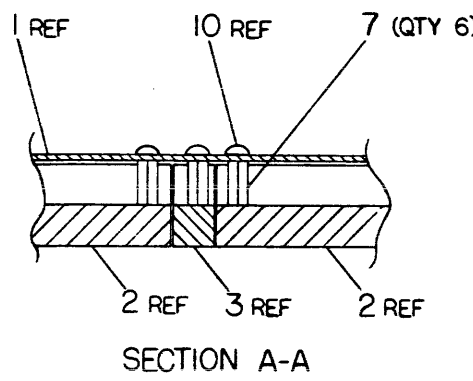
TITLE			
BACKPLANE ASSY			
SIZE	CODE	NUMBER	REV.
B	DD	5412233-0	D
SHEET 1 OF 1			



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D 00-5412233-00 2 1

- NOTES:
- ITEM 13 TO BE USED WHEN SHIPPING THIS ASSEMBLY (5412233) INTERPLANT.
 - CUT PIN 4 OF J8 BACK TO THE CARRIER.
 - ITEM 2 MAY BE SUBSTITUTED WITH 1210258-00. ITEM 3 MAY BE SUBSTITUTED WITH 1211425-00. CUT ALL PINS .188 FROM BOARD, (BEFORE ASSEMBLY)



SEE NOTE 1

REF	CARTON SHIPPING	AS-730 J031-00	ITEM NO.
3	JUMPER WIRE WHITE INSU	9009125	12
1	TERMINAL BLOCK, 8 POS	1213463-C4	11
6	SCREW, PH. PHIL. 8-32X.25 LG	3006035-01	10
10	SCREW, PH. PHIL. 8-32X.63 LG	9008120-06	9
4	SPACER, 8-32X.25 X 1.25 LG	3009603	8
6	SPACER, 8-32X.25 X .56 LG	3009602	7
2	EYELET	9009000	6
2	TAB, FASTON	5007113	5
1	CONN. 10 FCS.	1213488	4
2	CONN., 72 PIN BLOCK	1211425-C2	3
4	CONN., 288 PIN BLOCK	1210258-01	2
1	ETCHED CIRCUIT BOARD	5012232	1

SEE NOTE 3

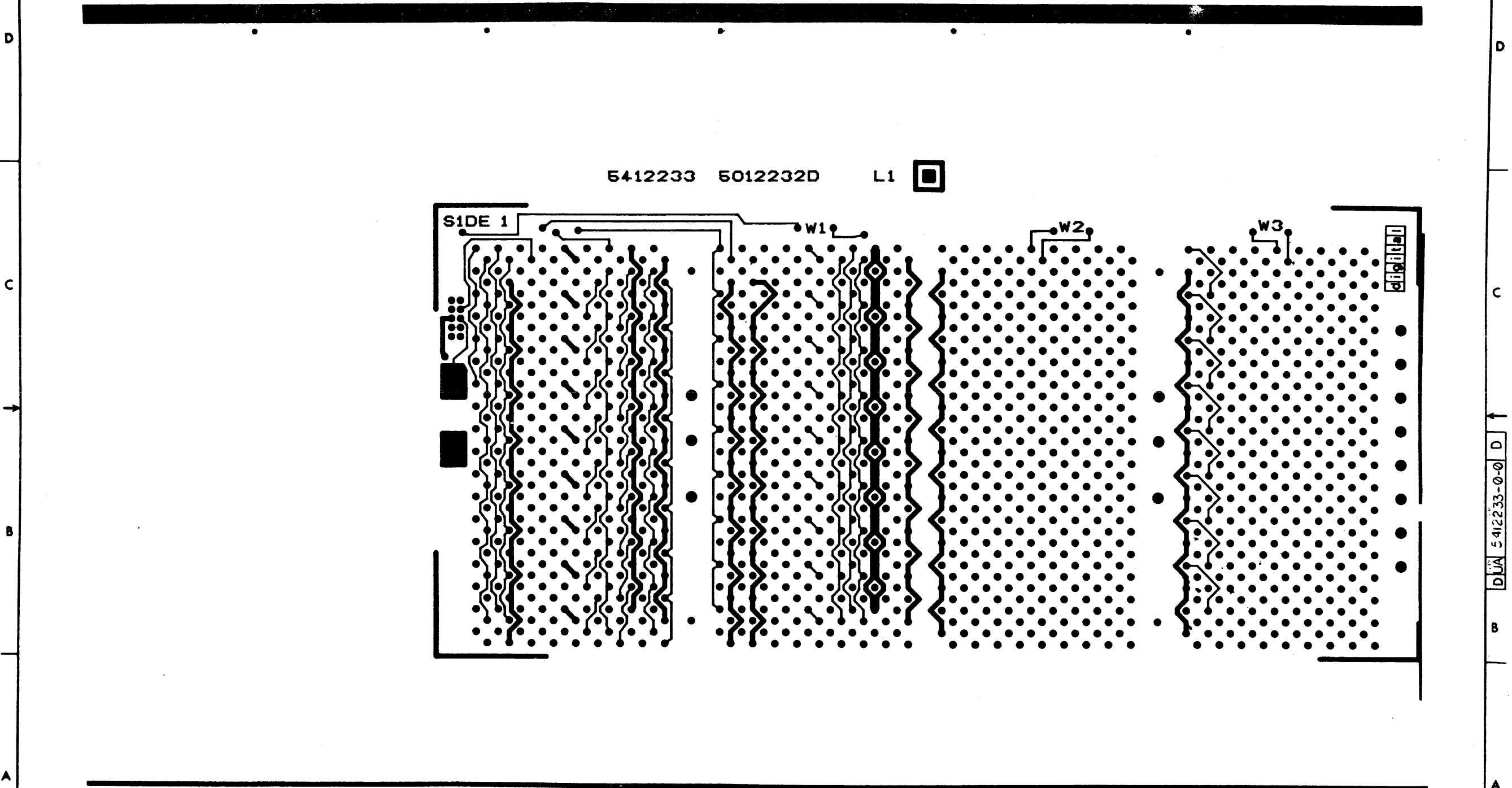
REV.	DATE	BY	CHKD
1	11/17/77	W. J. G.	A. MICO
2	12/1/77	W. J. G.	A. MICO
3	12/1/77	W. J. G.	A. MICO
4	12/1/77	W. J. G.	A. MICO
5	12/1/77	W. J. G.	A. MICO
6	12/1/77	W. J. G.	A. MICO
7	12/1/77	W. J. G.	A. MICO
8	12/1/77	W. J. G.	A. MICO

DESCRIPTION		DWG./PART NO.		ITEM NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES			
SURFACE QUALITY	CHECK ONE	0.005	0.005	0.005	0.005
QUANTITY & VARIATION	MICROMETERS	0.005	0.005	0.005	0.005
THIRD ANGLE PROJECTION		FIRST USED ON		TITLE	
DO NOT SCALE DWG		NEXT HIGHER ASSY.		SCALE	
MATERIAL		FINISH		SHEET	
D-UA-H9273		D-UA-H9273		D-UA-H9273	
SCALE 1-1		SHEET 1 OF 5		DIST.	

8 7 6 5 4 3 2 1

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DJA 5412233-0-0 D 2



VIEWED FROM SIDE 1

REVISIONS		
CHK	CHANGE NO.	REV

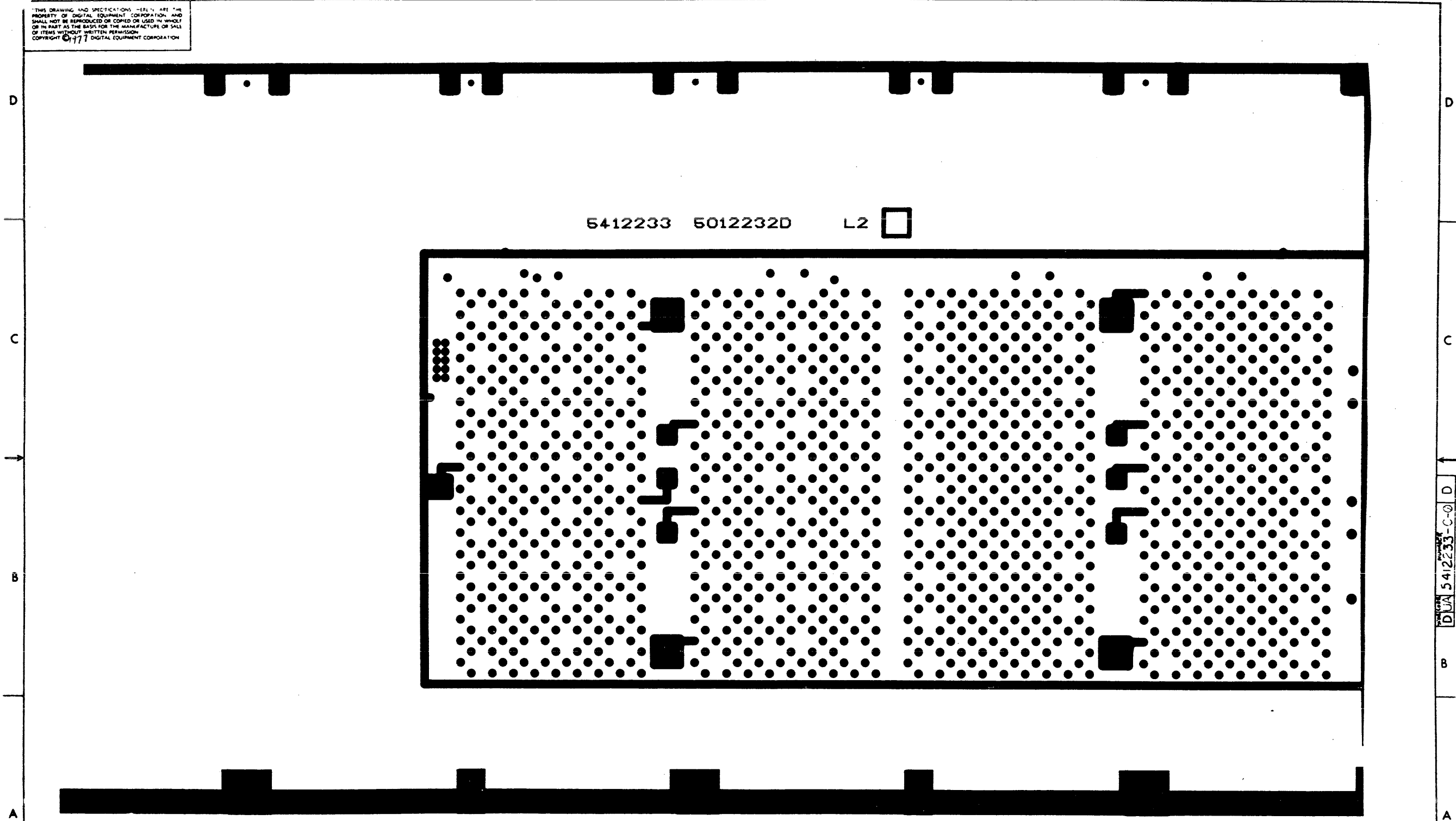
TITLE	BACKPLANE ASS'Y	SIZE CODE	D UA	NUMBER	5412233-0-0	REV.	D
SCALE	2:1	SHEET	2 OF 5	DIST.			

DJA 5412233-0-0 D

8 7 6 5 4 3 2 1

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DUA 5412233-0-0 2



VIEWED FROM SIDE 1

REVISIONS		
CHK	CHANGE NO.	REV

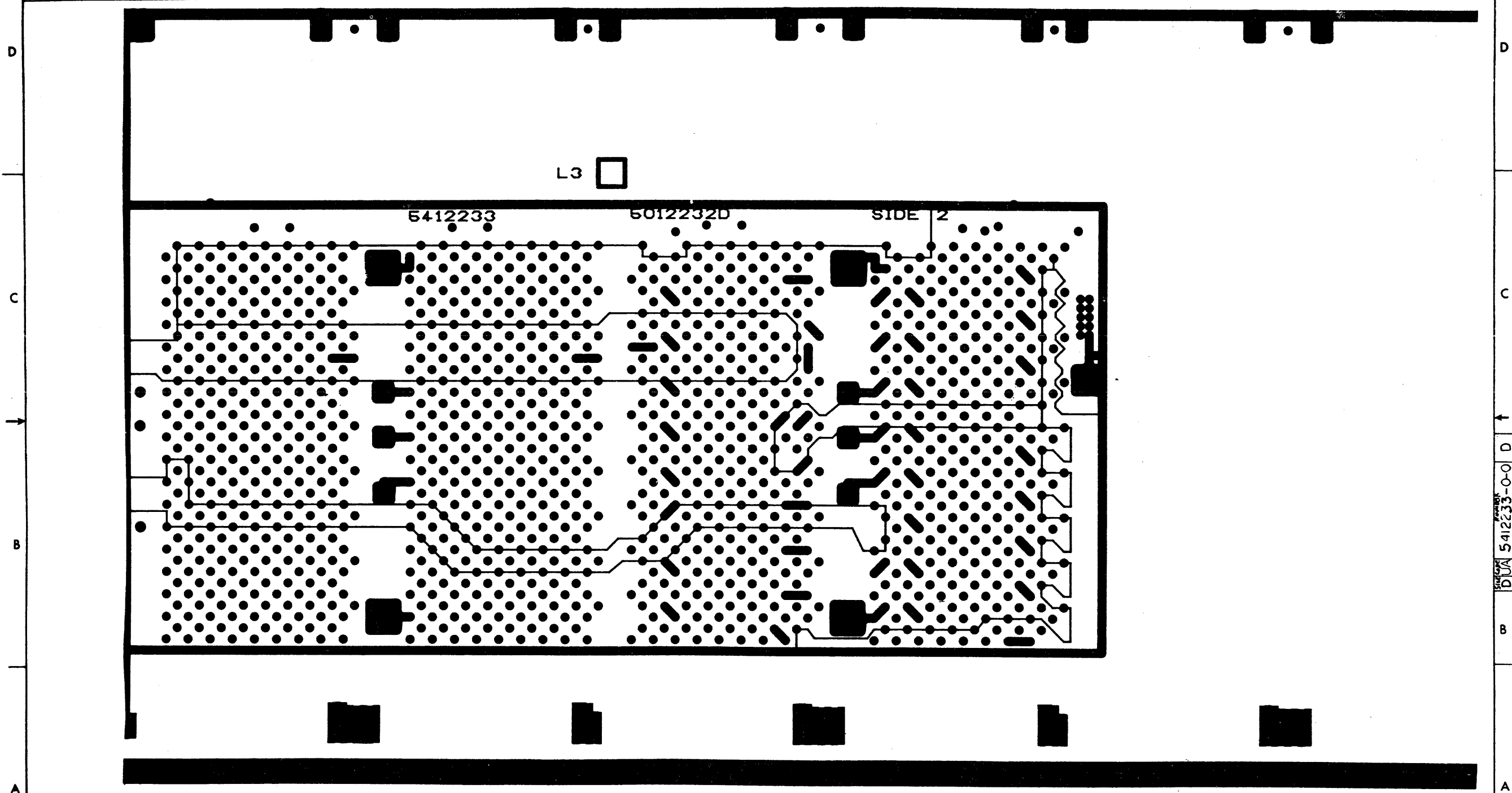
TITLE	BACKPLANE ASS'Y	SIZE CODE	DUA	NUMBER	5412233-0-0	REV.	D
SCALE	1:1	SHEET	3 OF 5	DIST			



DUA 5412233-C-0 D

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DUA 5412233-0-0 2



VIEWED FROM SIDE 2

REVISIONS		
CHK	CHANGE NO.	REV

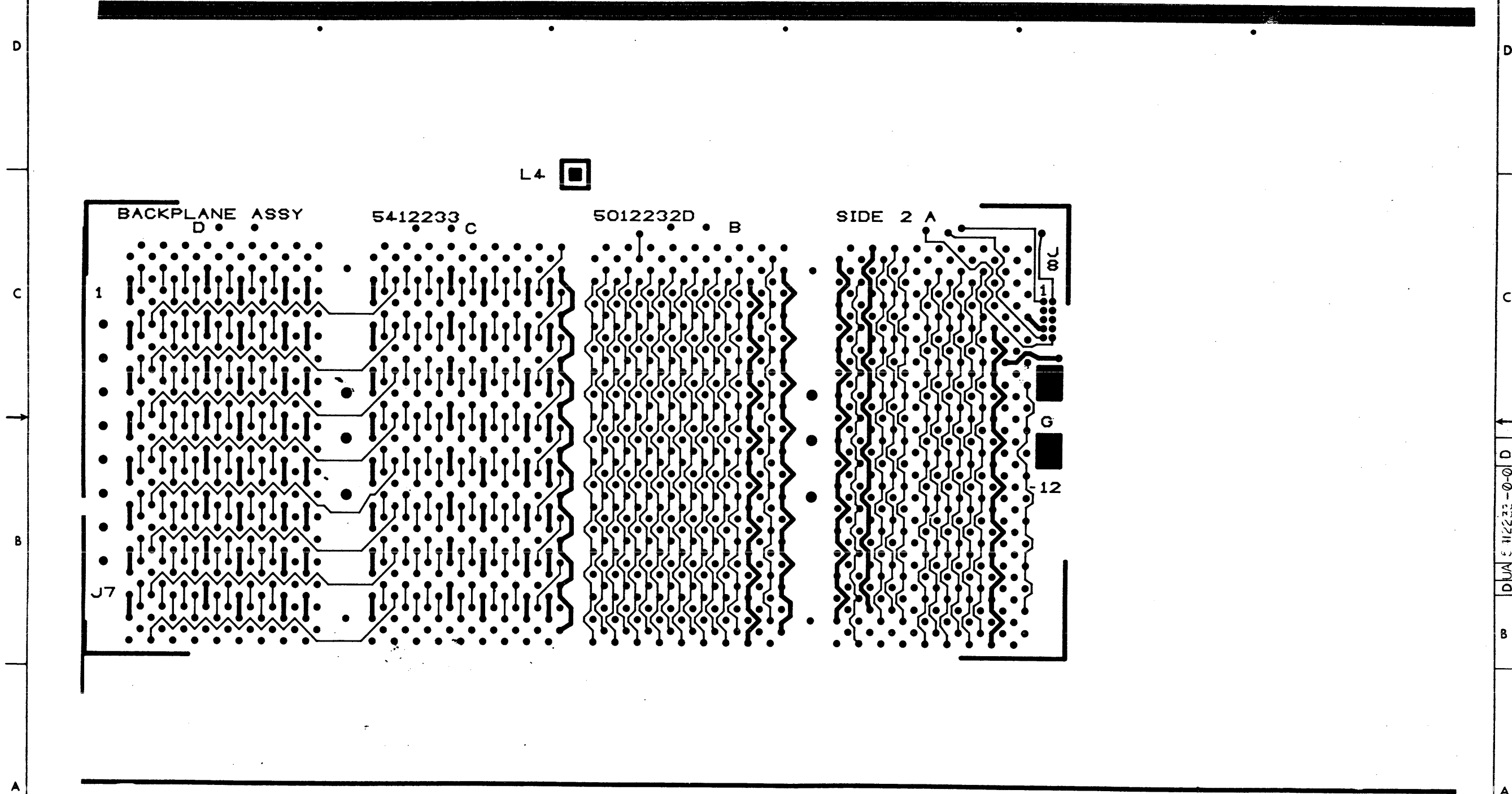
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SCALE	2:1	SHEET	4 OF 5	DIST			

DEC FORM NO 240 117

DUA 5412233-0-0 D

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DIA 5412233-0-0 2



VIEWED FROM SIDE 2

REVISIONS		
CHK	CHANGE NO.	REV

8	7	6	5	4	3	2	1	
TITLE BACKPLANE ASS'Y						SIZE CODE DUA	NUMBER 5412233-0-0	REV D
SCALE 2:1						SHEET 5 OF 5	DIST	

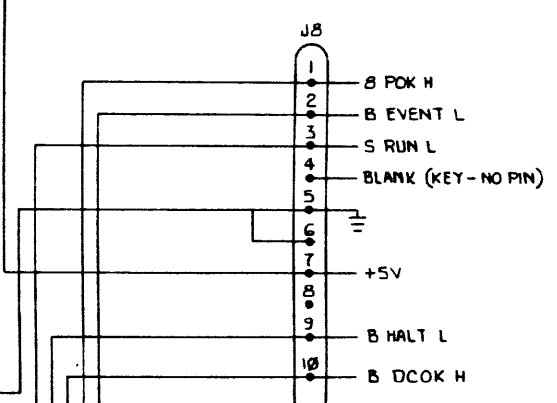
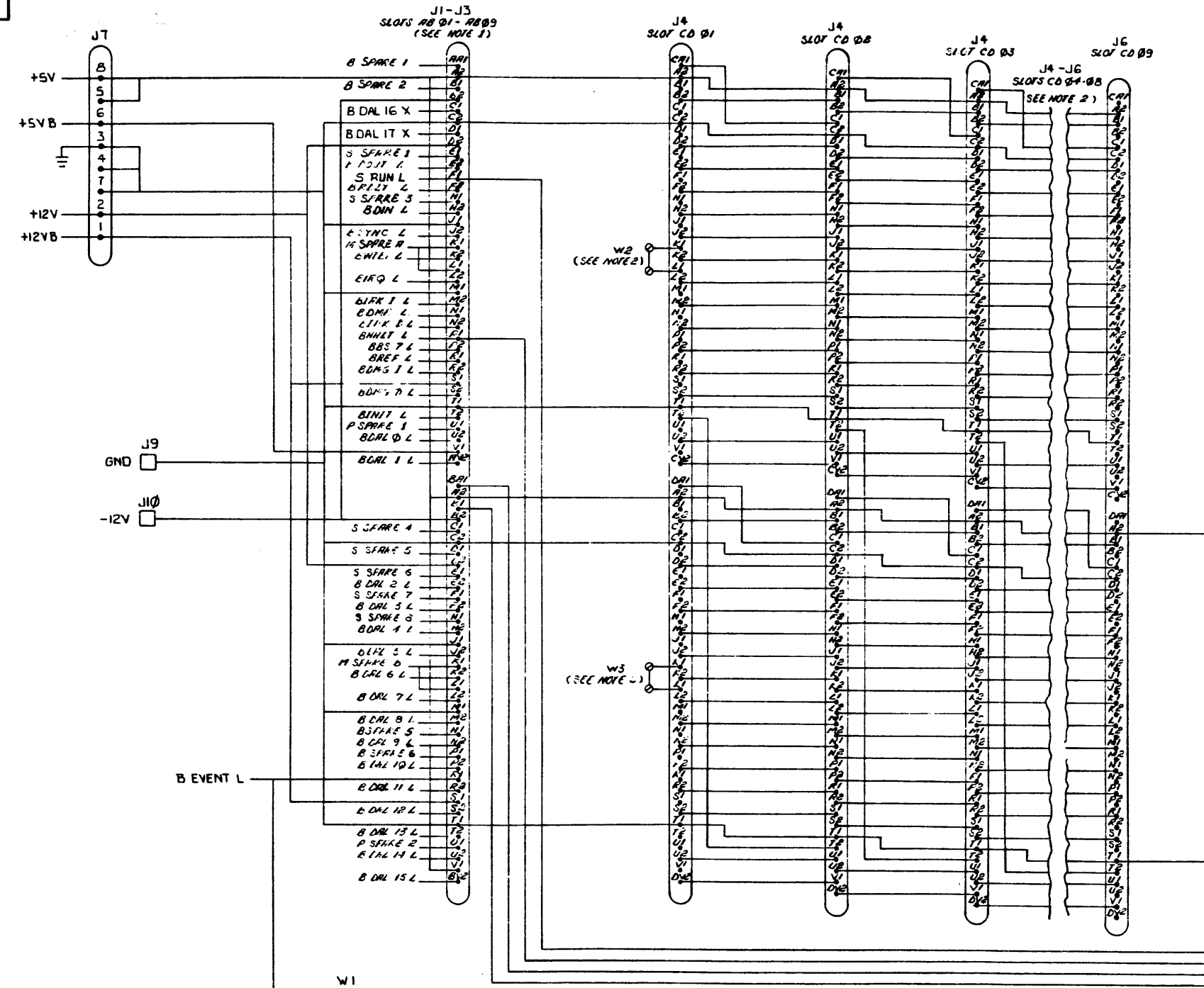
15 137

DUA 5412233-0-0 D

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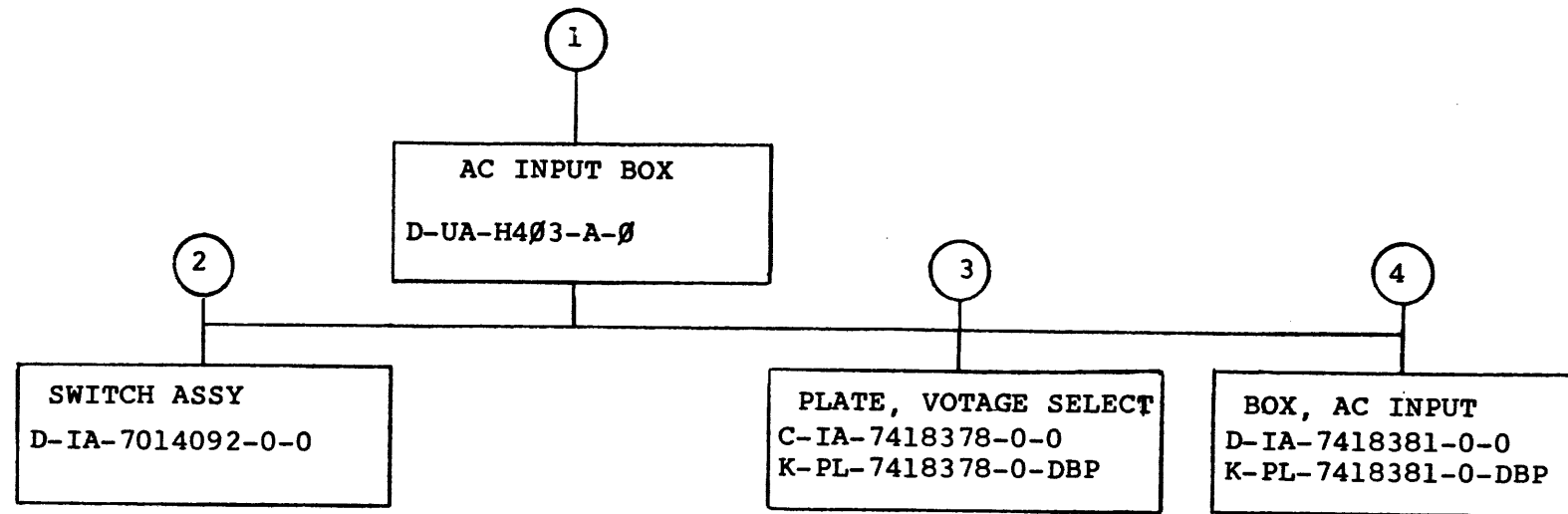
D 1-0-5412233-0-1

- NOTES:**
- ALL SIGNALS IN SLOTS AB 01 - AB 09 ARE BUSSED TO EACH SLOT OF CONNECTORS J1 - J3 WITH THE FOLLOWING EXCEPTIONS:
 - A. S SPARE 1-9: NOT BUSSED.
 - B. M SPARE 1-8: PINS AK1 AND AL1, BK1 AND BL1 ARE TIED TOGETHER RESPECTIVELY FOR EACH SLOT.
 - C. P SPARE 1-2: NOT BUSSED
 - D. PIAK 1 L; PIAK 0 L; BDMG 1 L; BDMG 0 L
 - THE SIGNALS IN SLOTS CD 01 - CD 09 ARE NOT BUSSED EXCEPT FOR +5V (CAZ, DA2) AND GND (CC2, CT1, DC2, DT1). EACH SLOT IS WIRED USING SLOT CD 02 AS AN EXAMPLE WITH THE FOLLOWING EXCEPTIONS:
 - A. SLOT CD 01 HAS TWO WIRE JUMPERS (W2, W3) WHICH ALLOW THE LSI-11 CPU TO RUN IN THIS SLOT. IF THIS BACKPLANE IS BEING USED AS AN EXTENDED BUS THEN THESE JUMPERS MUST BE REMOVED.



REV.	REV.
CHG.	CHG.
DATE	DATE
BY	BY
BY	BY

DRN	2/1/77	FIRST USED ON	H92T3
CHK	2/1/77	TITLE	BACK PLANE
ENGR	2-5-77		
PROJ. ENGR.	2-5-77		
PROD.	2-5-77		
NEXT HIGHER ASSY.			
D-UA-5412233-0-0	SIZE	CODE	NUMBER
SCALE	NONE	D	CS 5412233-0-1
SHEET	OF	DIST.	



TITLE	SIZE	CODE	NUMBER	REV.
AC INPUT BOX H403-A	B	DD	H4Ø3-A	B
SHEET 2 OF 3				

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	D-UA-H403-A-0	AC INPUT BOX H403-A	E/M				
	D-IA-7418381-0-0	BOX AC INPUT	M				
	C-IA-7418380-0-0	COVER, AC INPUT	M				
	C-IA-7418378-0-0	PLATE, VOLTAGE SELECT	M				
2	D-IA-7014092-0-0	SWITCH ASSY	E/M				
	C-IA-7418379-0-0	BRACKET, 12 PIN MATE-N-LOK	M				
	C-IA-7418377-0-0	CLAMP 12 PIN MATE-N-LOK	M				
3	C-IA-7418378-0-0	PLATE, VOLTAGE SELECT	M				
	K-PL-7418378-0-DBP	PLATE, VOLTAGE SELECT (PARTS LIST)	M				
	A-SS-7418378-0-1	SILK SCREEN (115V)	M				
	A-SS-7418378-0-2	SILK SCREEN (230V)	M				
	A-SS-7418378-0-4	SILK SCREEN (240V)	M				
	A-SS-7418378-0-5	SILK SCREEN (120V)	M				
4	D-IA-7418381-0-0	BOX, AC INPUT	M				
	K-PL-7418381-0-DBP	BOX, AC INPUT (PARTS LIST)	M				

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



TITLE AC INPUT BOX H403-A

SHEET 3 OF 3

SIZE CODE B DD

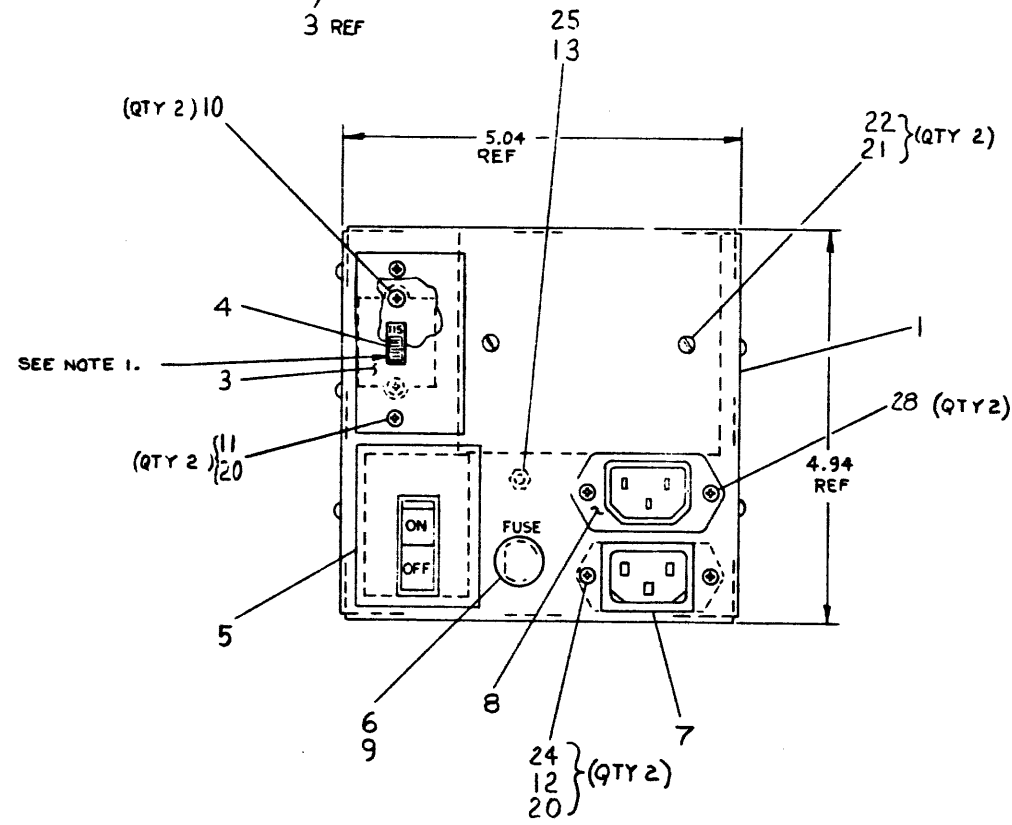
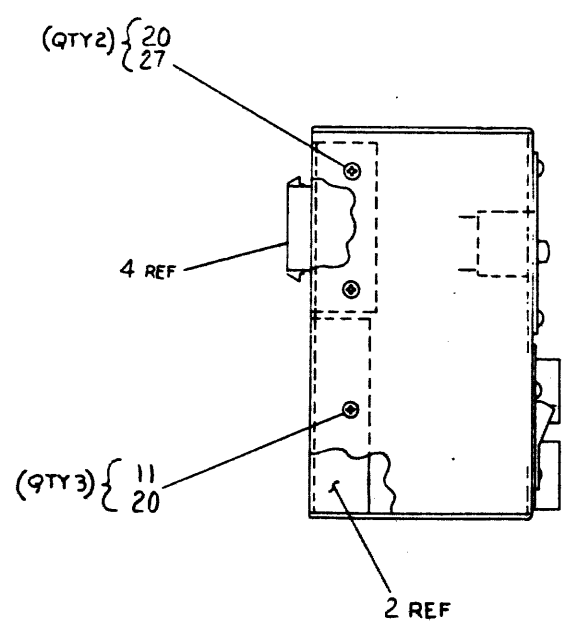
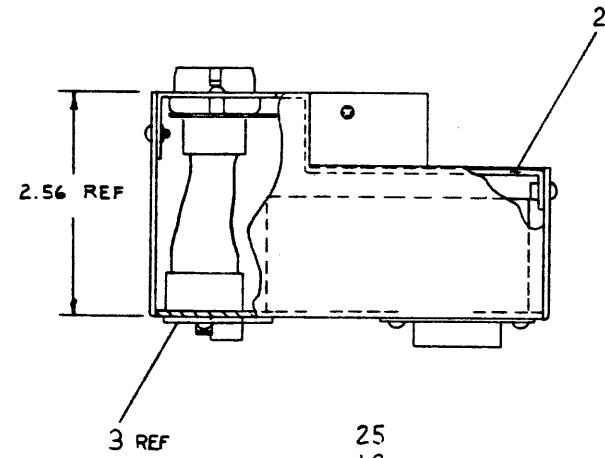
NUMBER H403-A

REV. B

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NOTES:

- MOUNT SWITCH AS SHOWN SO THAT WITH SWITCH LEVER DOWN 115V IS INDICATED ON TOP



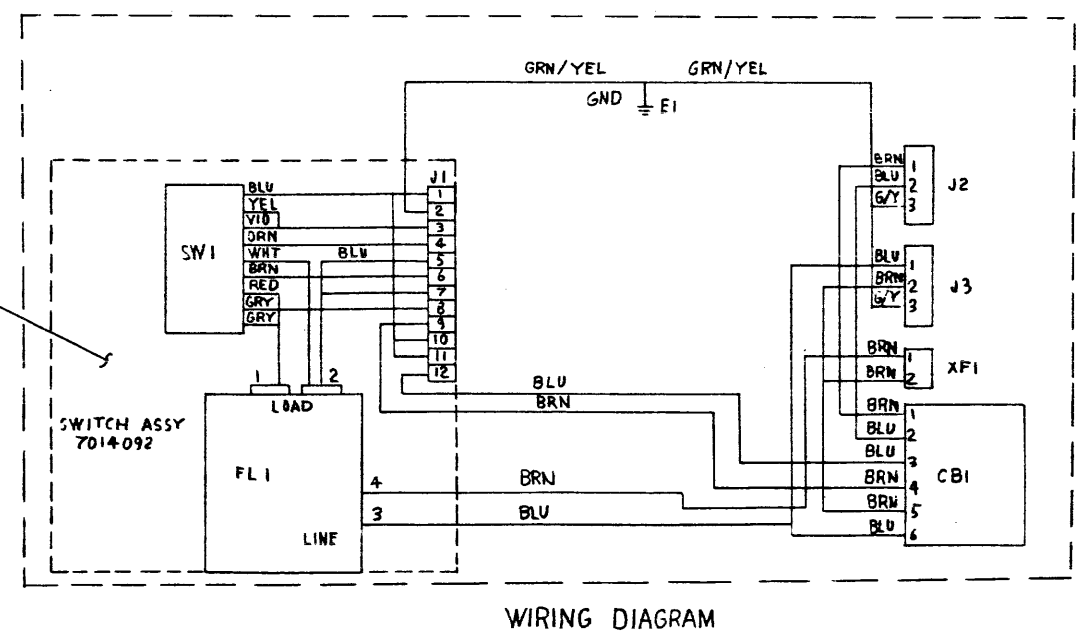
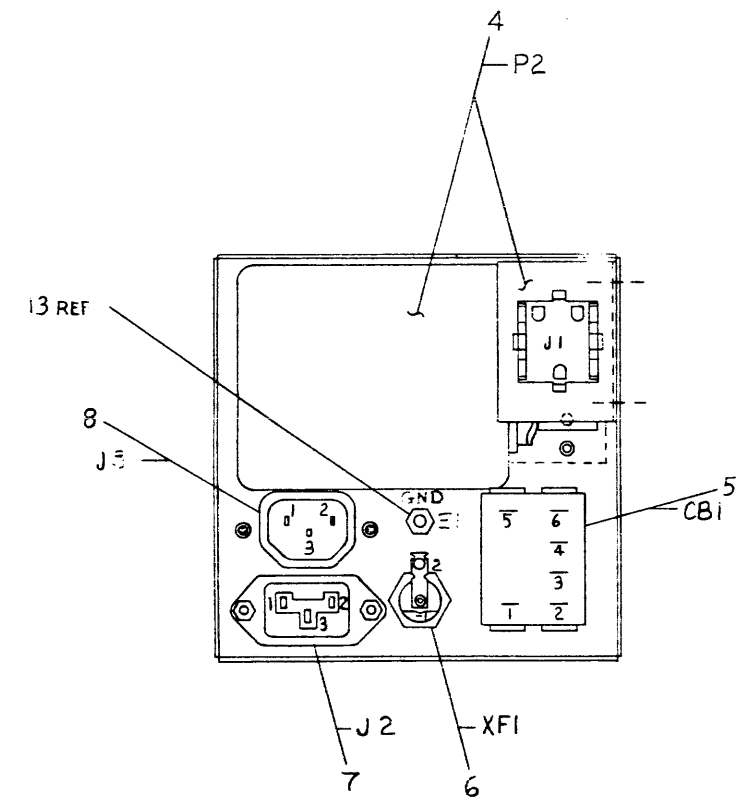
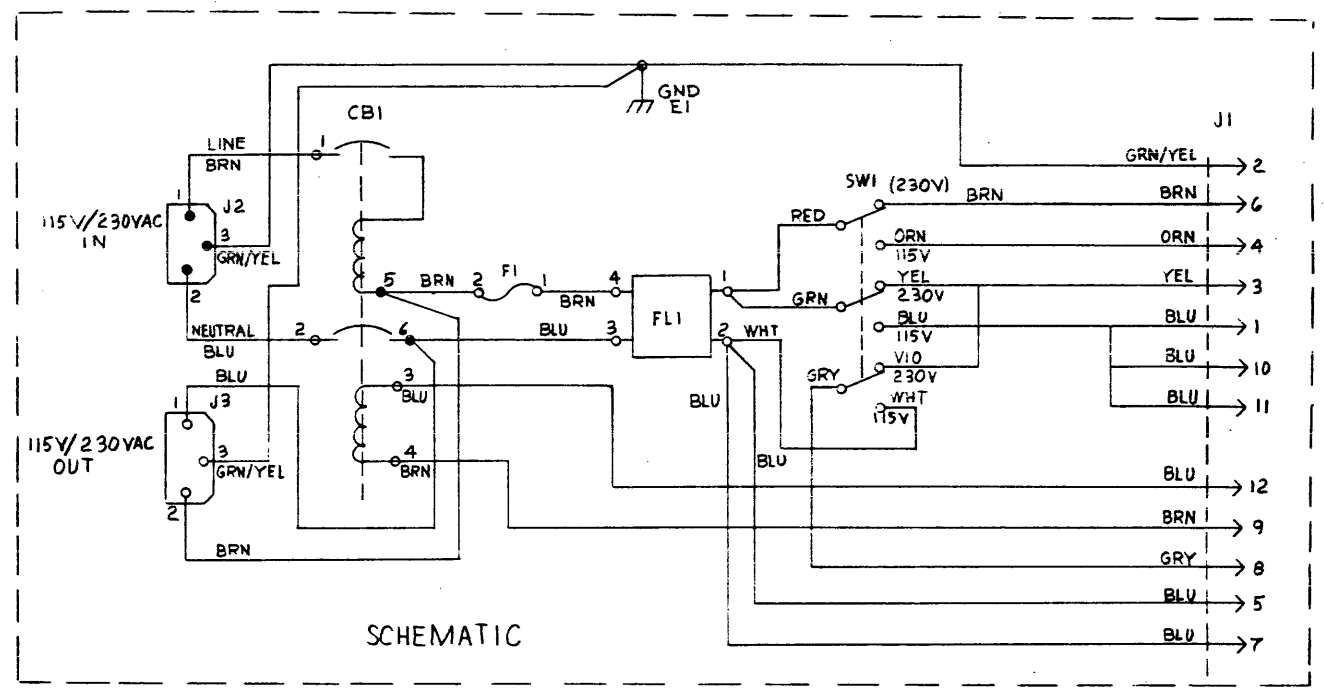
QTY	DESCRIPTION	DWG/PART NO.	ITEM NO.
2	SCR. PHL. FLAT HD. 4-40 X.31	9006010-02	28
2	SCR. PHL. PAN HD. 4-40 X.31	9006010-01	27
1	TUBING, SHRINK	9107305-02	26
1	WASHER, LOCK EXT. TOOTH #8	9008072-00	25
2	SCR. PHL. PAN HD. 4-40 X.38	9006011-01	24
4	TERMINAL, FASTON RED	9007970-00	23
2	WASHER, LOCK INT TOOTH #6	9006633-00	22
2	SCR. PHL. PAN HD #6-32 X.38	9006022-01	21
9	WASHER, LOCK INT TOOTH #4	9006632-00	20
2	PIN, MALE MATE-N-LOK	1213807-01	19
1	A/R WIRE #18 AWG 300V (BRN)	9107786-11	18
1	A/R WIRE #18 AWG 300V (BLU)	9107784-66	17
1	A/R WIRE #14 AWG (GRN/YEL)	9107777-54	16
2	TERMINAL, RING #10 (BLU)	9007928-00	15
1	TERMINAL, FASTON (BLU)	9007969-00	14
1	NUT, KEPS #8-32	9006563-00	13
2	NUT, KEPS #4-40	9006557-00	12
5	SCR. PH. PAN HD #4-40 X.25	9008301-01	11
2	SCR. PH. FLAT HD #4-40 X.25	9006009-02	10
1	FUSE 10A FAST BLOW	9008390-00	9
1	AC RECEPTACLE (FEMALE)	1214157-00	8
1	AC RECEPTACLE (MALE)	1213773-00	7
1	FUSE HOLDER	1212893-00	6
1	CIRCUIT BREAKER (15 AMP)	1214184-00	5
1	SWITCH ASSY	D-IA-7014092-0-0	4
1	PLATE, VOLTAGE SELECT	C-IA-7418378-0-0	3
1	COVER, AC INPUT	C-IA-7418380-0-0	2
1	BOX, AC INPUT	D-IA-7418381-0-0	1

REV.	DATE	BY	CHK
1	11-23-77	J. KALAGHER	J. KALAGHER
2	12-15-77	J. K. ASHLEY	J. K. ASHLEY
3	1-11-78	J. K. ASHLEY	J. K. ASHLEY
4	3-1-78	J. K. ASHLEY	J. K. ASHLEY
5	3-1-78	J. K. ASHLEY	J. K. ASHLEY
6	3-1-78	J. K. ASHLEY	J. K. ASHLEY
7	3-1-78	J. K. ASHLEY	J. K. ASHLEY
8	3-1-78	J. K. ASHLEY	J. K. ASHLEY

THIRD ANGLE PROJECTION		FIRST USED ON	
DRN. A. B. K. 11/23/77	CHK'D. J. K. 11/23/77	BAI-N	DIGITAL
ENG. J. K. 11/23/77	PROL. ENG. J. K. 11/23/77	TITLE	
PROD. K. H. 11/23/77		AC INPUT BOX	
		H403-A	
MATERIAL	E-UA-BAI-N-0	SIZE	CODE
SEE PARTS LIST	SCALE 1/1	D	JA
FINISH	SHEET 1 OF 2	DIST.	

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WIRE TABLE							
ITEM NO	AWG	COLOR	FROM		TO		
			CONN	TERM	CONN	TERM	
16	14	GRN/YEL	J3-3	SOLDER		15	2.25
16	14	GRN/YEL	J2-3	SOLDER	GND (E1)	15	2.25
4	18	GRN/YEL	P2 (J1-2)				
18		BRN	J2-1	SOLDER	CBI-1	23	5.50
18		BRN	J3-2	SOLDER	CBI-5	14	4.75
18		BRN	XFI-2	SOLDER			3.00
17		BLU	J2-2	SOLDER	CBI-2	23	4.50
17		BLU	P2 (J1-2)		CBI-3	23	4.00
18		BRN	P2 (J1-9)		CBI-4	23	4.00
4		BRN	P2 (FLI-4)		XFI-1	SOLDER	
4		BLU	P2 (FLI-3)				
4	18	BLU	J5-1	SOLDER	CBI-6		



REVISIONS		
CHK	CHANGE NO.	REV.

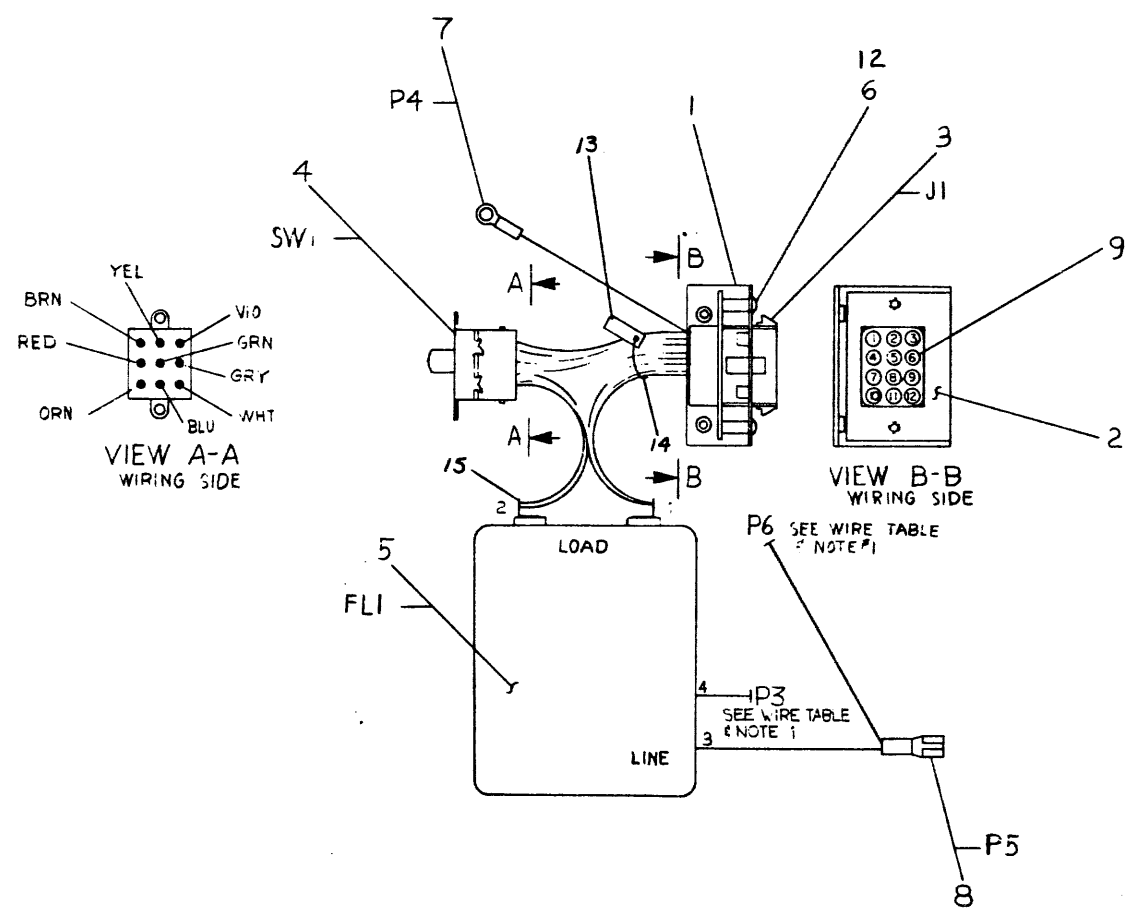
TITLE: AC INPUT BOX H403-A
 SCALE: 1/1
 SHEET: 2 OF 2
 SIZE CODE: DUA
 NUMBER: H403-A-0
 REV. B

REV. B
 NUMBER
 DUA H403-A-0

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WIRE TABLE							WIRE TABLE						
ITEM NO	DESCRIPTION	FROM	TO	PRECUT LENGTH	ITEM NO	DESCRIPTION	FROM	TO	PRECUT LENGTH				
AWG	COLOR	CONN	TERM		AWG	COLOR	CONN	TERM					
4	18	BLU	SW1	---	4	18	GRY	SW1	---				
11		BLU	J1-10	ITEM #9	4		BRN	SW1	---				
11		BLU	J1-11	ITEM #9	4		YEL	SW1	---				
4		ORN	SW1	---	4		VIO	SW1	---				
4		WHT	SW1	---	10		GRN/YEL	J1-2	ITEM #9				
11		BLU	J1-5	ITEM #9	5		BLU	FLI-3	---				
11		BLU	J1-7	ITEM #9	11		BLU	P6	---				
4		RED	SW1	---	5	18	BRN	FLI-4	---				
4	18	GRN	SW1	---									
			FLI-1	SOLDER									
				3.25 IN. ± .12									
				3.0 IN.									
				2.0 IN.									
				3.0 IN.									
				3.25 IN. ± .12									

NOTES:
 1. STRIP INSULATION 1/4 INCH AND TIN.



2	SHRINK SLEEVING 1/2" LG	9107253-00	15
1	CABLE TIE	9007031	14
1	TAS	9009532	13
2	WASHER, LOCK INT TOOTH #4	9006632-00	12
A/R	WIRE, 18 AWG 300V (BLU)	3107786-26	11
A/R	WIRE, 18 AWG 150V (GRN/YEL)	3107410-54	10
10	PIN, MALE MATE-N-LOK	1213907-01	9
1	TERM, QUICK CONN, (BLU)	9007969-00	8
1	TERM, RING #10 (RED)	9007930-00	7
2	SCREW PHL. PAN HD #4-40x25	9003301-01	6
1	FILTER, AC	1214183-00	5
1	SWITCH, VOLTAGE SELECT	1214155-00	4
1	CONN, FEMALE MATE-N-LOK	1212168-03	3
1	CLAMP 12 PIN MATE-N-LOK C-1A-7418377-0-0		2
1	BRKT, 12 PIN MATE-N-LOK C-1A-7418379-0-0		1

REV	DATE	BY	CHKD	DESCRIPTION
1	11/17/77	J. KALAGHER		ISSUED FOR MANUFACTURE
2	12/14/77	J. KALAGHER		REVISED TO ADD PARTS LIST
3	1/10/78	J. KALAGHER		REVISED TO ADD PARTS LIST
4	1/10/78	J. KALAGHER		REVISED TO ADD PARTS LIST
5	1/10/78	J. KALAGHER		REVISED TO ADD PARTS LIST
6	1/10/78	J. KALAGHER		REVISED TO ADD PARTS LIST
7	1/10/78	J. KALAGHER		REVISED TO ADD PARTS LIST
8	1/10/78	J. KALAGHER		REVISED TO ADD PARTS LIST

QUANTITY & VARIATION		DESCRIPTION		DWG. PART NO.		ITEM NO.	
1		SHRINK SLEEVING 1/2" LG	9107253-00	15			
1		CABLE TIE	9007031	14			
1		TAS	9009532	13			
2		WASHER, LOCK INT TOOTH #4	9006632-00	12			
A/R		WIRE, 18 AWG 300V (BLU)	3107786-26	11			
A/R		WIRE, 18 AWG 150V (GRN/YEL)	3107410-54	10			
10		PIN, MALE MATE-N-LOK	1213907-01	9			
1		TERM, QUICK CONN, (BLU)	9007969-00	8			
1		TERM, RING #10 (RED)	9007930-00	7			
2		SCREW PHL. PAN HD #4-40x25	9003301-01	6			
1		FILTER, AC	1214183-00	5			
1		SWITCH, VOLTAGE SELECT	1214155-00	4			
1		CONN, FEMALE MATE-N-LOK	1212168-03	3			
1		CLAMP 12 PIN MATE-N-LOK C-1A-7418377-0-0		2			
1		BRKT, 12 PIN MATE-N-LOK C-1A-7418379-0-0		1			

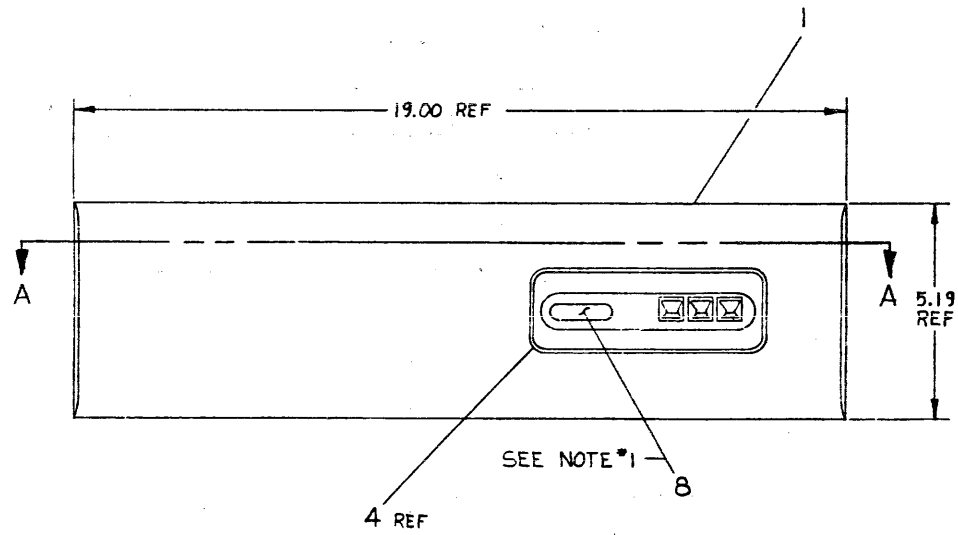
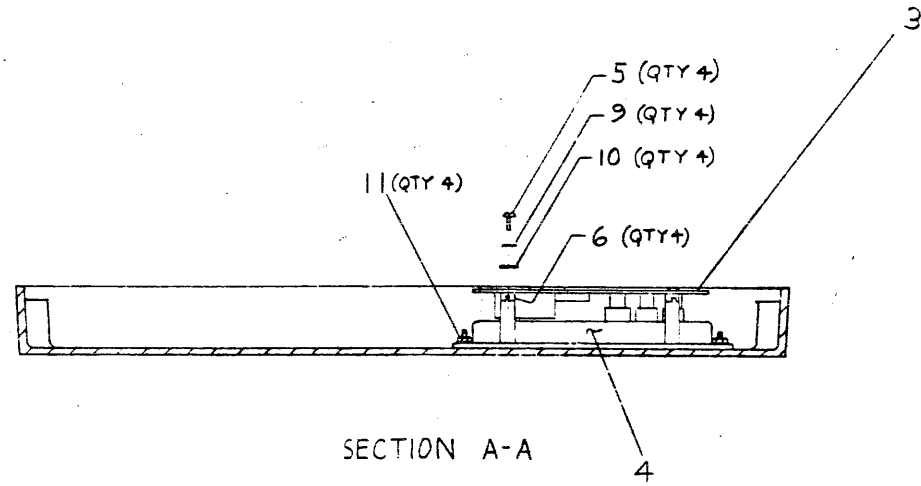
THIRD ANGLE PROJECTION		FIRST USED ON	
DRN. J. KALAGHER	18 MAR 78	H4B3-A	
CHK'D J. KALAGHER	2 APR 78		
ENG. J. KALAGHER	1 JUN 78		
PROL. ENG. J. KALAGHER	1 JUN 78		
PROD. J. KALAGHER	15 JUN 78		

MATERIAL		SCALE		NUMBER		REV	
SEE PARTS LIST	D-1A-H4B3-A-B	D	1A	7014092-0-0	C		
FINISH		SHEET	1	OF	1		

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NOTES:

1. ULTRASONICALLY WELD THE WINDOW (ITEM *8) TO THE FRAME (ITEM *4) BEFORE INSTALLING THE FRAME INTO THE BEZEL



QTY	DESCRIPTION	DWG./PART NO.	ITEM NO.
4	FASTENER, PUSH ON	9010032-00	11
4	WASHER, FLAT #6	9006653	10
4	L'WASHER #6	9006633	9
1	WINDOW	B-MD-7411744-00	8
4	WASHER, FLAT NO. 8	9006660-00	7
4	INSERT #6-32	9009601-00	6
4	SLR. PHL HD PAN #6-32x.38	9006022-01	5
1	FRAME	D-MD-7411945-02	4
1	11/03-L FRONT PANEL	0-UA-5412985-0-0	3
4	NUT, KEPS #8-32	9006563-00	2
1	BEZEL 5-1/4"	E-MD-7415313-03	1

QUANTITY & VARIATION		DESCRIPTION		DWG./PART NO.		ITEM NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES							
ANGLES 90° 30'	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES					
SURFACE QUALITY	(CHECK ONE)	OVER 0.2	OVER 0.5	OVER 1.0	OVER 1.5	OVER 2.0	OVER 3.0
MEDIUM	<input checked="" type="checkbox"/>	±.008	±.008	±.012	±.016	±.024	±.030
MICROMETRES		±.012	±.016	±.025	±.04	±.063	±.1
THIRD ANGLE PROJECTION		DRN. 9. A. 22-77		FIRST USED ON		digital	
REMOVE BURRS AND BREAK SHARP CORNERS		CHK'D 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. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.		TITLE		BEZEL ASSY	
DO NOT SCALE DWG		NEXT HIGHER ASSY.		MATERIAL		E-UA-B411-N-0	
MATERIAL SEE PARTS LIST		SCALE 1/2		SIZE CODE		D AD	
FINISH		SHEET 1 OF 1		NUMBER		7013949-0-0	
				REV.		A	

REV.	CHANGE NO.	DATE	BY	CHK
A				

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS											
D-UA-5412985-0-0	3		11/03-L FRONT PANEL	A	B										
B-PL-5412985-0-0	1		11/03-L FRONT PANEL	A	B										
D-CS-5412985-0-1	1		11/03-L FRONT PANEL	A	B										
D-MD-5012984-0-0	4		DRILL & ETCH DRAWING	A	B										
		5012984	ETCHED BOARD	B	C										
K-PC-5412985-0-DBG			P.C. DESIGN DATA BASE		C										
5412985-0-PL			INSERTION P/L DATA BASE	REF											

NOTES:

DATE	CHG NO.	REV.	DESCRIPTION
3/29/80	00001	B	

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USED ON OPTION/MODEL	DRN.	DATE
11/03-L	R. KOPPENAL	6-23-77
	<i>[Signature]</i>	8/17/77
	J. P. Tranter	8-17-77
	<i>[Signature]</i>	7-26-77

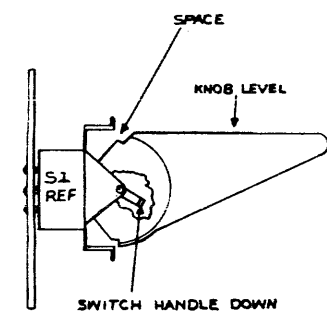
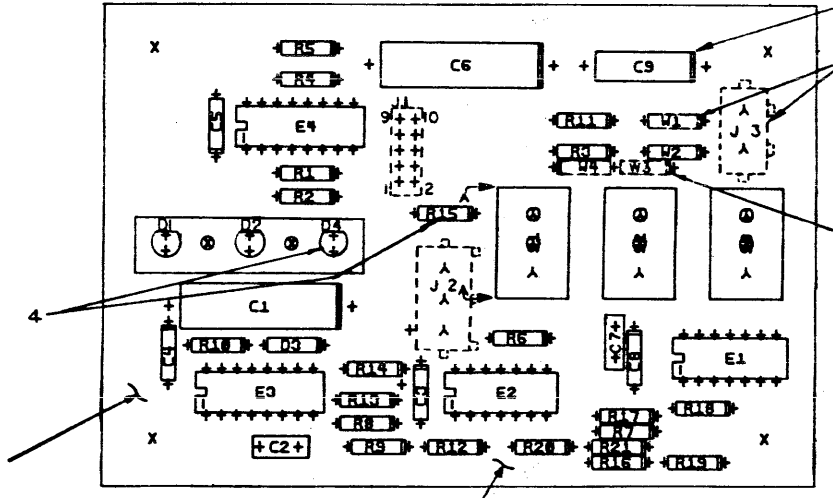
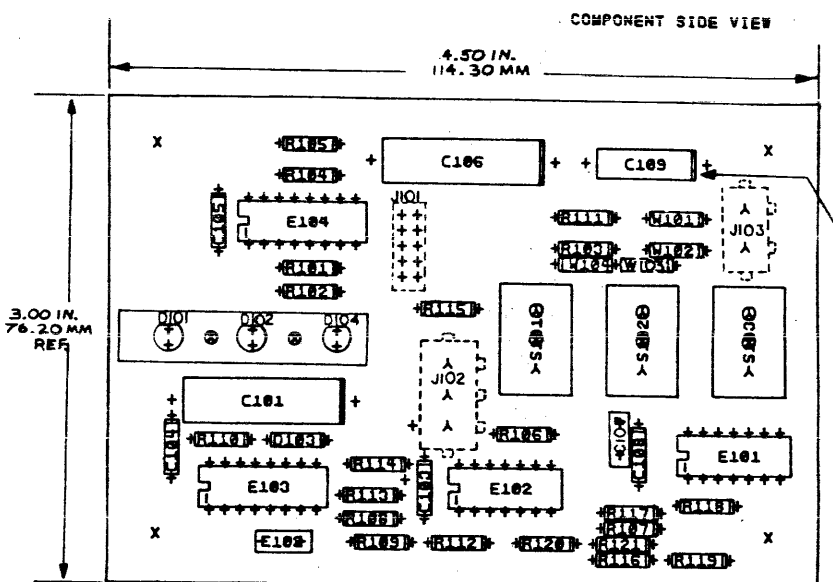
TITLE			
11/03-L FRONT PANEL			
SIZE	CODE	NUMBER	REV.
B	DD	5412985-0	B
SHEET 1 OF 1			

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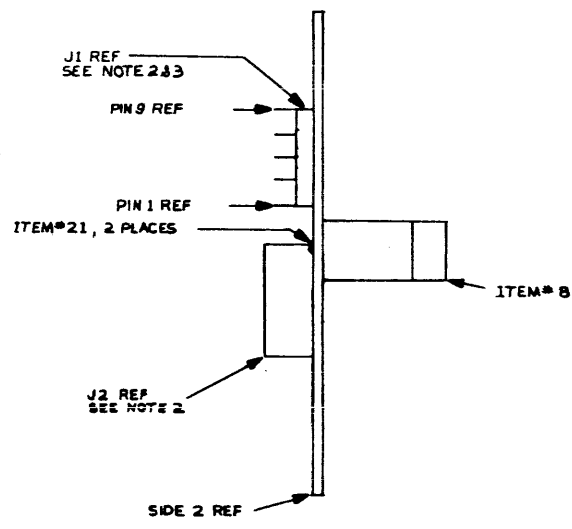
8-0-5412985-0-B 2 1

REFERENCE DESIGNATION CHART	
ACTUAL REF DESIG.	SUPERFICIAL REF DESIG.
E1	E101
E2	E102
E3	E103
E4	E104
S1-S3	S101 - S103
C1-C9	C101 - C109
D1-D4	D101 - D104
R1-R21	R101 - R121
J1-J3	J101 - J103
W1-W4	W101 - W104

SEE NOTE 4
SEE NOTE 4
SEE NOTE 244



NOTE: FOR S1, S2 AND S3 TO BE PROPERLY INSTALLED, SWITCH HANDLE MUST BE DOWN, SWITCH KNOB MUST BE LEVEL AND THERE MUST BE A SPACE AT THE TOP OF THE SWITCH ASSEMBLY.



NOTES:
5. W3 IS A FIELD OPTION AND MUST BE INSERTED ON SIDE 2.

NOTE: MULTI-REF DESIGNATIONS ARE USED TO ACCOMMODATE PANEL INSERTION TECHNIQUES. REFER TO CHART FOR CROSS-REFERENCE.

- NOTES:
- 8 HOLES .0465(+.003-.0045) MAYNARD ONLY
 - MOUNT J1, J2, J3, W1, W2 AND W4 ON SIDE 2 AFTER ALL OTHER COMPONENTS HAVE BEEN ASSEMBLED ONTO BOARD AND BOARD HAS BEEN RUN THROUGH WAVE SOLDER.
 - CUT PINS OF J1 OFF AT BASE OF COMPONENT
 - DO NOT INSERT W3, D4, C9 OR R20; THESE COMPONENTS ARE CUSTOMER OPTIONS.

CHANGE NO.	REV.	DATE	BY	CHK'D.
1	1	11/21/68	TOM PITMAN	

ETOH REV. C-P2	P.C. DESIGN DATA BRSE REV.
----------------	----------------------------

SIGNATURES		DATE	TITLE
DRN. <i>[Signature]</i>		11/21/68	digital
CHK'D. <i>[Signature]</i>		6-2-70	
PROJ. ENG. <i>[Signature]</i>		5-22-70	
PROD. <i>[Signature]</i>		4-27-70	

SCALE 2 to 1
SHT. 1 OF 3
NEXT HIGHER ASSY. B-DD-5412985-0

SIZE	CODE	NUMBER	REV.
D	UA	5412985-0-B	B

8

7

6

5

3

2

1

D

D

C

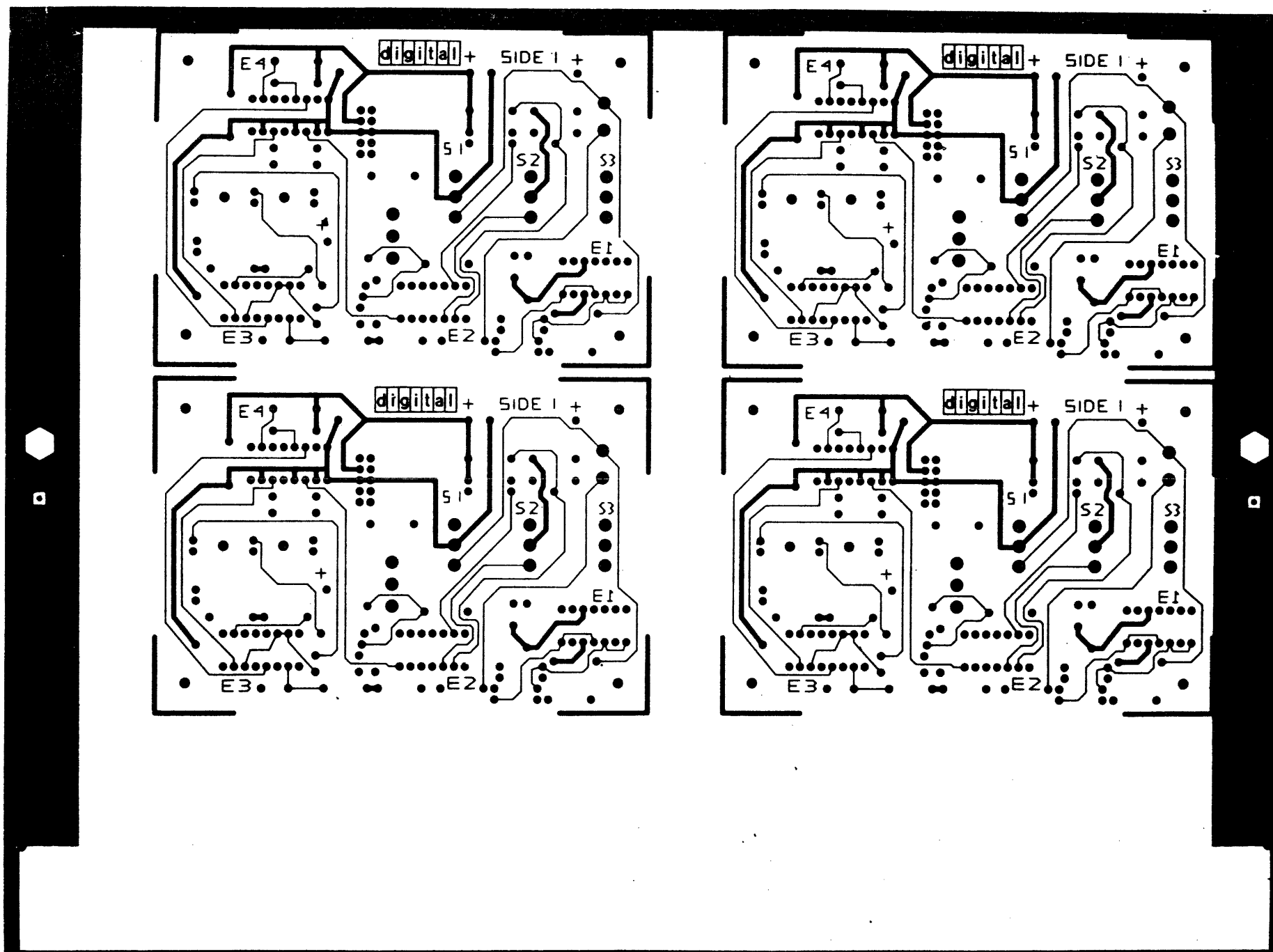
C

B

B

A

A



DIVISION		
CHK	CHANGE NO	REV

DIVISION		
CHK	CHANGE NO	REV

8

7

6

5

4

3

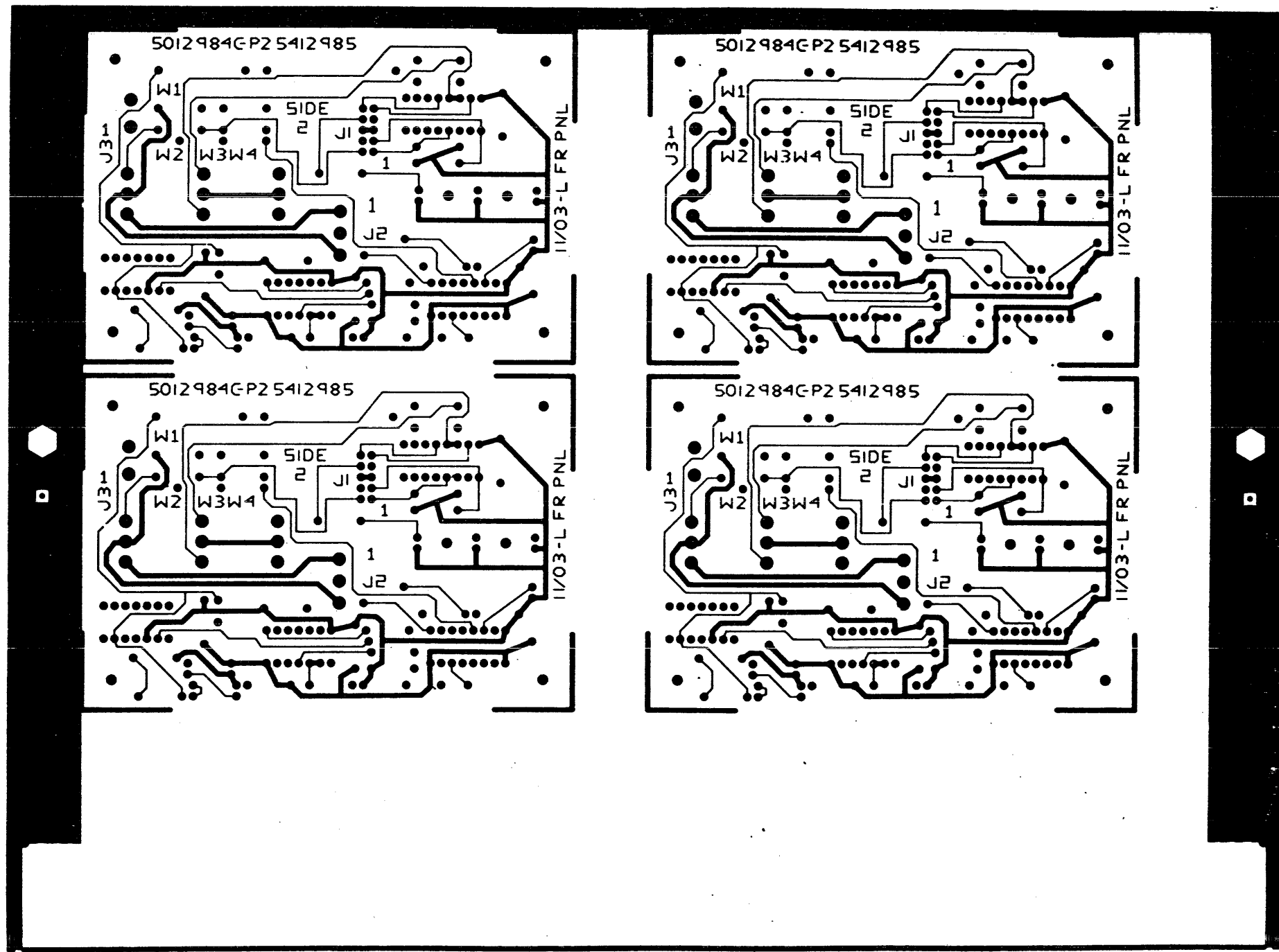
2

1

TITLE 11/03 - L FRONT PANEL		ST. NO.	NUMBER	REV
SCALE 2 1/2" = 1"		DUA	5412985-0-0	B
SHEET 2 OF 3		UNIT		

DJA 5412985-0-0 B

7 11/03-L-055-0-0



REV	DATE	BY

8	7	6	5	4	3	2	1	
TITLE: 11/03-L FRONT PANEL							DIA: 5412985-0-0	B
SCALE: 2x1							3	3

DIA 5412985-0-0 B

DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:
FOR ADDITIONAL INSERTION DATA SEE
D-UA-5412985-0-0

MADE BY DATE	R. KOPPENAL	CHECKED DATE	SECTION
ENG DATE	T. Pittman 8-17-77	PROD R. Hamelton DATE 7-26-77	1 ISSUED SECTION 1

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	5412985-0-0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	REF DESIGNATION
1	D-MD-5012984-0-0	5012984	ETCHED BOARD	1																					
2		1002433	CAP., 22 UF, 35V 2Ø TANT	1																					C1
3		1000023	CAP., 33Ø PF, 1ØØV 5% DM	1																					C2, C
4		1005335	CAP., 39 UF, 2ØV 10% TANT	1																					C6
5		1012784	CAP., .Ø47 UF, 5ØV CER	4																					C3, C4, C5, C8
6		1100114	DIODE, D664	1																					D3
7		1110324-ØØ	DIODE, MV5Ø54	2																					D1, D2
8		1210940-02	HOLDER, TRIPLE, LED	1																					
9		1210840-ØØ	SWITCH, TOGGLE, SPDT	2																					S2, S3
10		1210786-ØØ	KNOB, LIGHT GRAY	3																					
11		1213488-ØØ	CONNECTOR, 1Ø PIN HOUSING	1																					J1
12		1211342-Ø3	CONNECTOR, 3 PIN (P.C. TYPE)	1																					J2
13		1302388	RES., 2K, 1/4W, 5% CC	10																					R1-R8, R11, R12
14		1302514	RES., 39K, 1/4W, 5% CC	1																					R1Ø
15		1300479	RES., 10K, 1/4W, 5% CC	5																					R9, R16, R17, R18, R21
16		1300271	RES., 22Ø, 1/4W, 5% CC	2																					R13, R14
17		1911117	I.C. 8838	1																					E4
18		1910741	I.C., 74Ø6	1																					E2
19		1910436	I.C., 74123	1																					E3
20		9009185	JUMPER INSUIATED	3																					W1, W2, W4

E.C.O. NO. 00001

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		SHEET 1 OF 2	INSERTION PARTS LIST DATA BASE REV B			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:	
MADE BY R. KOPPENAL		CHECKED <i>[Signature]</i>		5412985-0-0													
DATE		DATE 6/17/77															SECTION 1
ENG - J. Finnan DJS		PRODR Hamilton															
DATE 2-17-77		DATE 7-26-77		ISSUED SECTION 1													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													REF DESIGNATION	
21		9008230-01	SCREW, SELF-TAPPING, #6-32 X .25	2													
22		1210841-00	SWITCH, MOMENTARY	1												S1	
23		1209350-03	CONNECTOR HOUSING	1												J2	
24		1209456-01	PIN MATE-N-LOC	3													
25		1212297-00	CONNECTOR 2 PIN P.C. MOUNT	1												J3	
26		1302466	RES. 100K, 1/4 W 5% CC.	1												R 19	
27		1300365	RES. 1K, 1/4 W 5% CC.	1												R 20	
28		1010279	CAP. .47 UF 25V	1												C7	
29		1912108	I.C. LM 339	1												E1	
30		9009575-01	SCREW, SELF-TAPPING #4 X .25	2													

E.C.O. NO.

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TITLE
11/03-L
FRONT PANEL

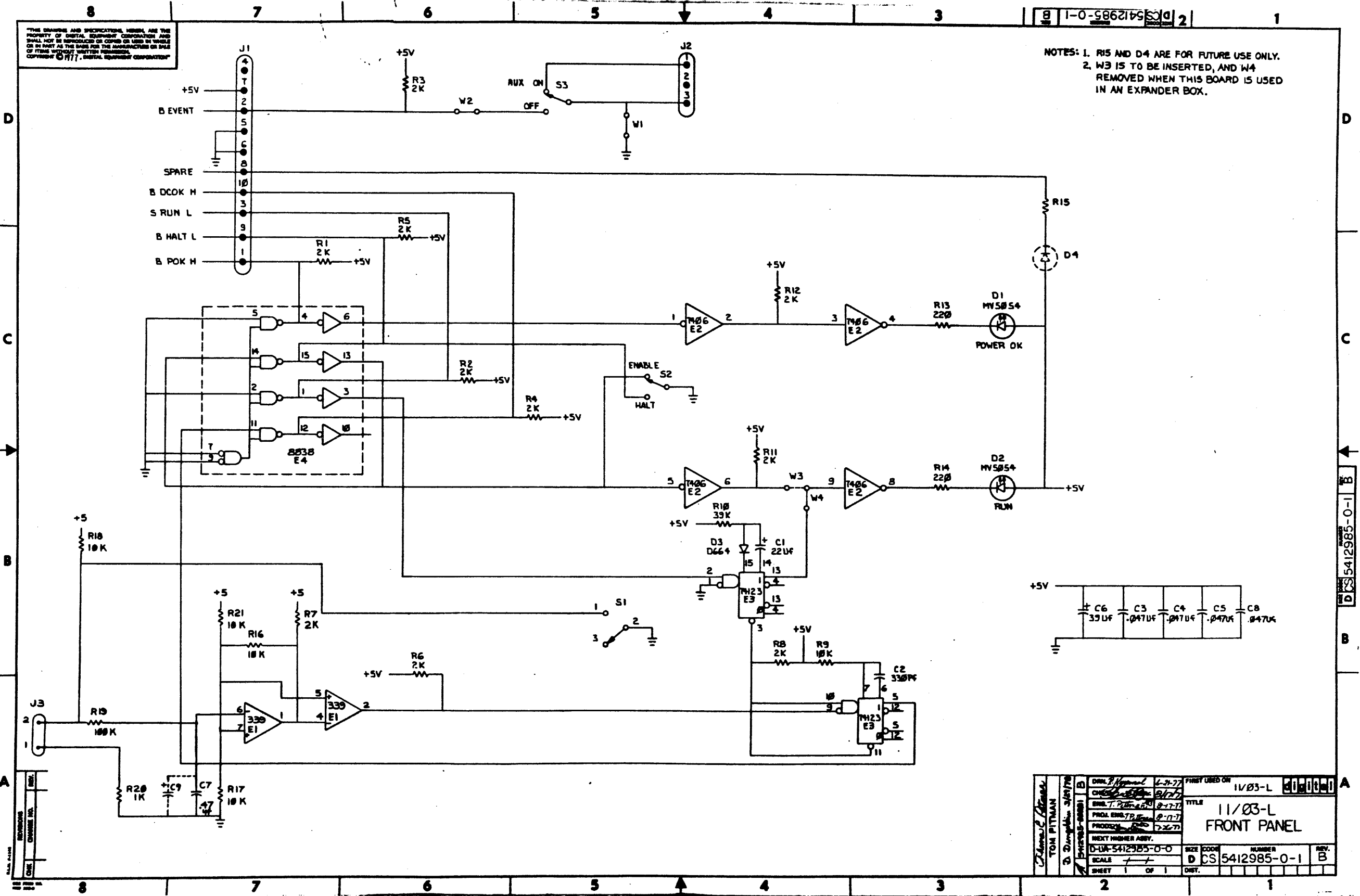
ASSY NO.
D-UA-5412985-0-0
SHEET 2 OF 2

SIZE CODE
B PL
NUMBER
5412985-0-0
INSERTION PARTS LIST DATA BASE REV B

REV.
B

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NOTES: 1. R15 AND D4 ARE FOR FUTURE USE ONLY.
 2. W3 IS TO BE INSERTED, AND W4 REMOVED WHEN THIS BOARD IS USED IN AN EXPANDER BOX.



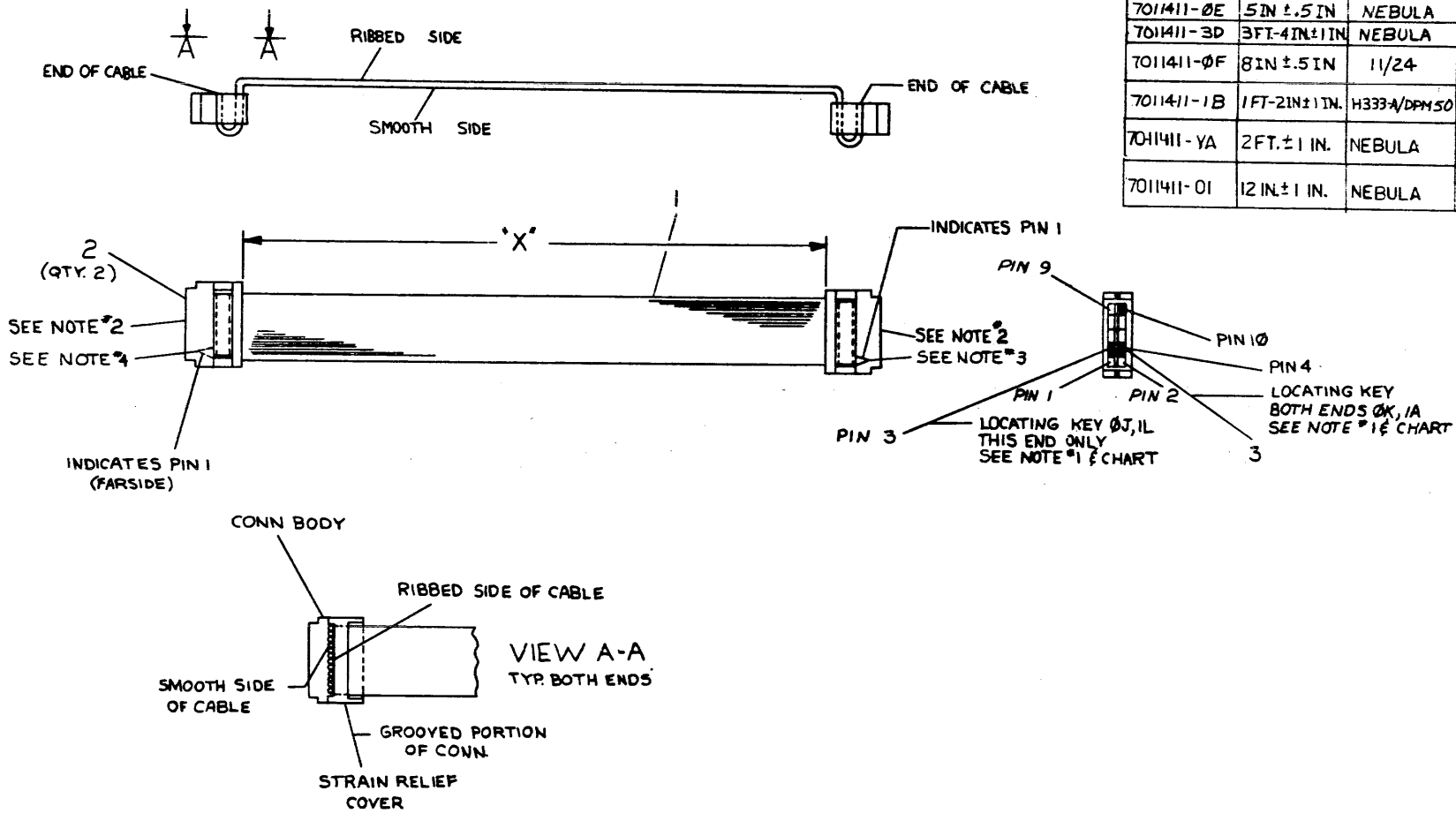
DESIGNED BY Tom Pitman	DATE 4-3-77	FIRST USED ON 11/03-L
CHECKED BY D. Dunham	DATE 8-17-77	
PROJ. ENG. BY T. Pitman	DATE 8-17-77	TITLE 11/03-L FRONT PANEL
PRODUCED BY D. Dunham	DATE 7-22-77	
NEXT HIGHER ASSY.		
D-11-5412985-0-0	SIZE CODE D	NUMBER 5412985-0-1
SCALE 1		REV. B
SHEET 1	OF 1	DIST.

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M 0-0-11411-0-0 2

NUMBER	DIM * X VARIATION	USED ON	KEY PIN
7011411-0J	8 IN ± .5 IN	BA11-L OR K	10 ONE END BOTH ENDS
7011411-0K	9 IN ± .5 IN	LS1-11	4
7011411-1D	1 FT-4 IN ± .1 IN	KY11-LB	
7011411-2D	2 FT-4 IN ± .1 IN	BA11-F/D01PF	10 ONE END
7011411-0H	7 IN ± .5 IN	H780, 1, 2, 3	
7011411-1F	1 FT-8 IN ± .1 IN	1104/34-7A	
7011411-1L	1 FT-10 IN ± .1 IN	BA11-L, H777	PIN 3 1 END
7011411-1A	1 FT-2 IN ± .1 IN	H787	4 BOTH ENDS
7011411-3J	3 FT-8 IN ± .1 IN	BA11-K, H785	
7011411-2J	2 FT-8 IN ± .1 IN	BA11-K-H785	NO KEY
7011411-5F	5 FT-6 IN ± .1 IN	1160	8 ONE END
7011411-12	12 FT ± .3 IN	XA570	
7011411-7	7 FT ± .2 IN	11780	
7011411-1C	1 FT-3 IN ± .1 IN	VT103	SEE NOTES 3 AND 4
7011411-2	2 FT ± .1 IN	VT103	SEE NOTES 3 AND 4
7011411-0E	5 IN ± .5 IN	NEBULA	10 BOTH ENDS
7011411-3D	3 FT-4 IN ± .1 IN	NEBULA	5 BOTH ENDS
7011411-0F	8 IN ± .5 IN	11/24	PIN 3 ONE END PIN 6 ONE END
7011411-1B	1 FT-2 IN ± .1 IN	H333A/DPH50	4 BOTH ENDS
7011411-YA	2 FT ± .1 IN	NEBULA	PIN 5 BOTH ENDS
7011411-0I	12 IN ± .1 IN	NEBULA	PIN 10 BOTH ENDS

NOTES:
 1. INSERT KEY IN PROPER CONNECTOR PIN AND BREAK OFF TAB.
 2. FOR ITEM (2) DRAWING IS SHOWING 3M CONNECTOR.
 3. FOR -1C AND -2 VARIATIONS, KEY PIN 6.
 4. FOR -1C AND -2 VARIATIONS, KEY PIN 5.



DESCRIPTION	DWG/PART NO.	ITEM NO.
1 TIE, CABLE	9007031	5
1 LABEL, CABLE IDENT.	9009532	4
AR KEY	9009707	3
2 CONN. CRIMP	1211206-02	2
AR CABLE, 10 CONDUCT	9107747-02	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
ANGLES 30° 30'	CLAS. OF ACCURACY
SURFACE QUALITY IN	(CHECK ONE)
MICROMETERS	PREFERRED
1.001	1.012
2.001	2.012
3.001	3.012
4.001	4.012
5.001	5.012
6.001	6.012
7.001	7.012
8.001	8.012
9.001	9.012
10.001	10.012

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH

DR. M. BAPTIST 5-20-75
 CHK'D. HEALY 6-13-75
 ENG. R. BARRY 6-18-75
 PROJ. ENGR. BARRY 6-18-75
 PROD. R. PETERSON 6-19-75

FIRST USED ON SEE LEGEND

TITLE
CABLE CONSOLE BACKPLANE

SIZE CODE
 D 1A 7011411-0-0

NUMBER
 REV. W

SHEET 1 OF 1

DIST.

REV.	CHANGE NO.	BY	DATE
1	7011411-0001	M	
2	7011411-0002	M	
3	7011411-0003	M	
4	7011411-0004	M	
5	7011411-0005	M	
6	7011411-0006	M	
7	7011411-0007	M	
8	7011411-0008	M	
9	7011411-0009	M	
10	7011411-0010	M	
11	7011411-0011	M	
12	7011411-0012	M	
13	7011411-0013	M	
14	7011411-0014	M	
15	7011411-0015	M	
16	7011411-0016	M	
17	7011411-0017	M	
18	7011411-0018	M	
19	7011411-0019	M	
20	7011411-0020	M	
21	7011411-0021	M	
22	7011411-0022	M	
23	7011411-0023	M	
24	7011411-0024	M	
25	7011411-0025	M	
26	7011411-0026	M	
27	7011411-0027	M	
28	7011411-0028	M	
29	7011411-0029	M	
30	7011411-0030	M	

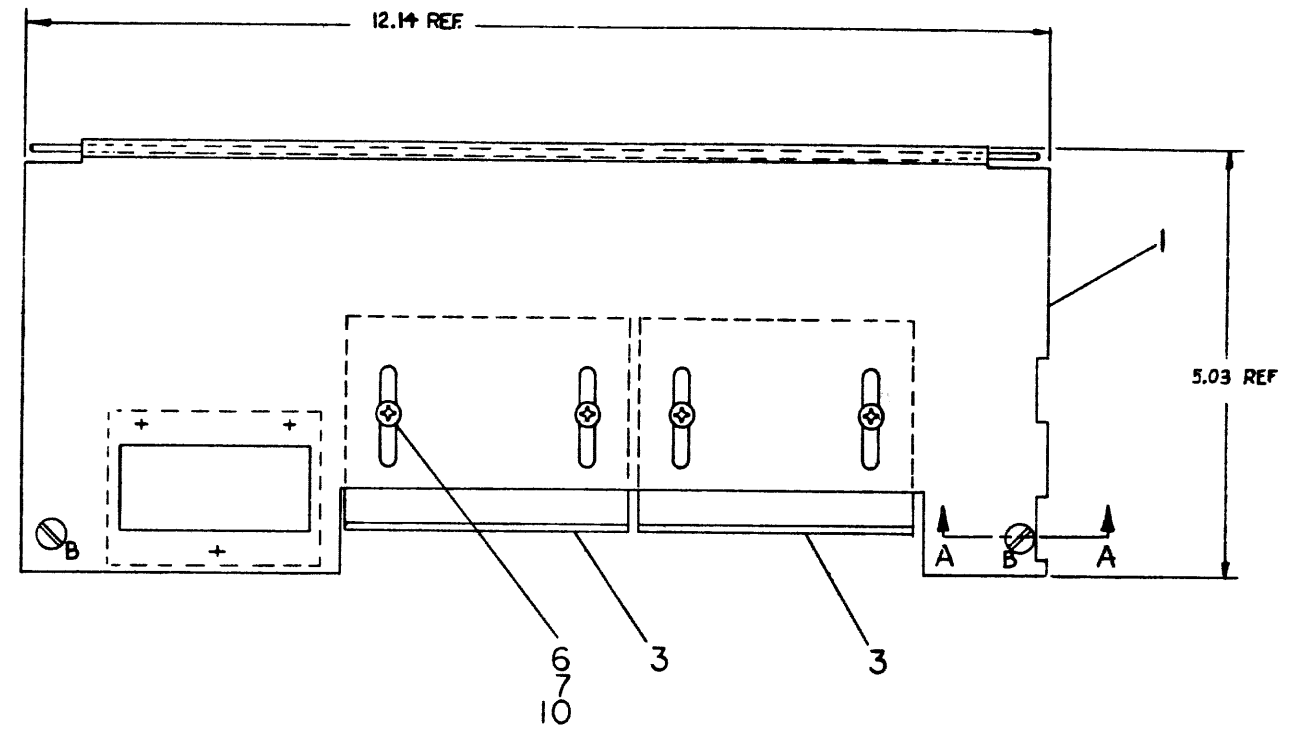
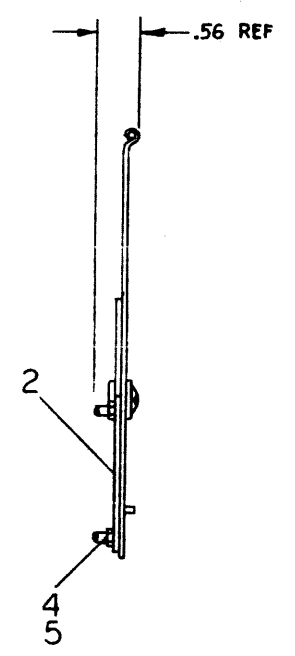
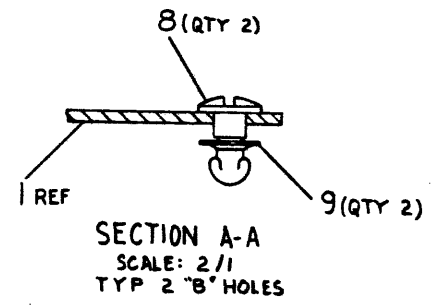
7011411-0-0

A

TW 1

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DWG PART NO. 7013804-0-0 2



QTY	DESCRIPTION	DWG. PART NO.	ITEM NO.
4	L. WASHER #8	9006634-00	10
2	RETAINER 1/4 TURN	9008200-00	9
2	FASTENER 1/4 TURN	9008343-00	8
4	WASHER FLAT #8	9006660-00	7
4	SCREW, PAN HD. #8-32 X 3/8	9006037-01	6
3	WASHER, FLAT #6-.032 THK.	9006653-00	5
3	KEP NUT #6-32	9006580-00	4
2	STRAIN RELIEF	C-1A-7418374-0-0	3
1	WINDOW	C-MD-7418375-0-0	2
1	DOOR	D-1A-7013809-0-0	1

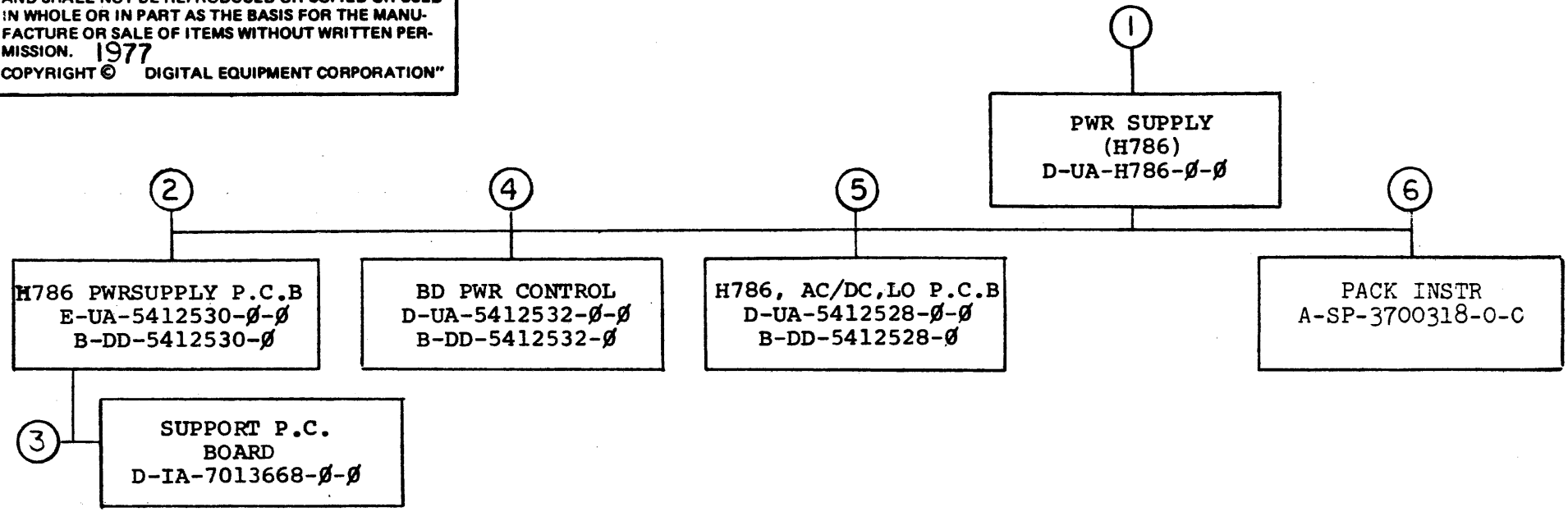
THIRD ANGLE PROJECTION		DRN. <i>[Signature]</i> 1/2/77		FIRST USED ON	
CHECKED BY <i>[Signature]</i>		ENGR. <i>[Signature]</i> 1/2/77		BAIL-N	
PROF. ENGR. <i>[Signature]</i> 1/2/77		PROF. <i>[Signature]</i> 1/2/77		TITLE	
DO NOT SCALE DWG		NEXT HIGHER ASSY.		DOOR ASSEMBLY	
MATERIAL SEE PARTS LIST		E-1A-BAIL-N-0		SIZE CODE NUMBER	
FINISH		SCALE NONE		D AD 7013804-0-0	
SHEET		OF		1	

REV.	CHANGE NO.	DESCRIPTION

D AD 7013804-0-0

A

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FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	D-UA-H786-Ø-Ø	PWR. SUPPLY (H786)	E/M				
	E-IA-7418236-Ø-Ø	CHASSIS, PWR SUPPLY	M				
	K-PL-H786-0-DBP	PWR SUPPLY (H786)	E/M				
	A-SP-H786-0-2	ENG. SPEC. H786 POWER SUPPLY	-				
	A-PS-3615632-0-0	H786 POWER SUPPLY REVISION LABEL	M				
2	B-DD-5412530-Ø	H786 POWER SUPPLY, MASTER BOARD	—				
3	D-IA-7013668-Ø-Ø	SUPPORT PRINTED CIRCUIT BOARD	M				
	C-MD-7418386-Ø-Ø	CARD SUPPORT	M				
	B-MD-7418387-Ø-Ø	TIE BAR	M				
	C-MD-7418385-Ø-Ø	RAIL	M				
4	B-DD-5412532-0	PWR. CONTROL BOARD,	—				
5	B-DD-5412528-0	H786 AC/DC LO PC BOARD,	—				
6	A-SP-3700318-0-0	PACK INSTR. P.S. H786	-				

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



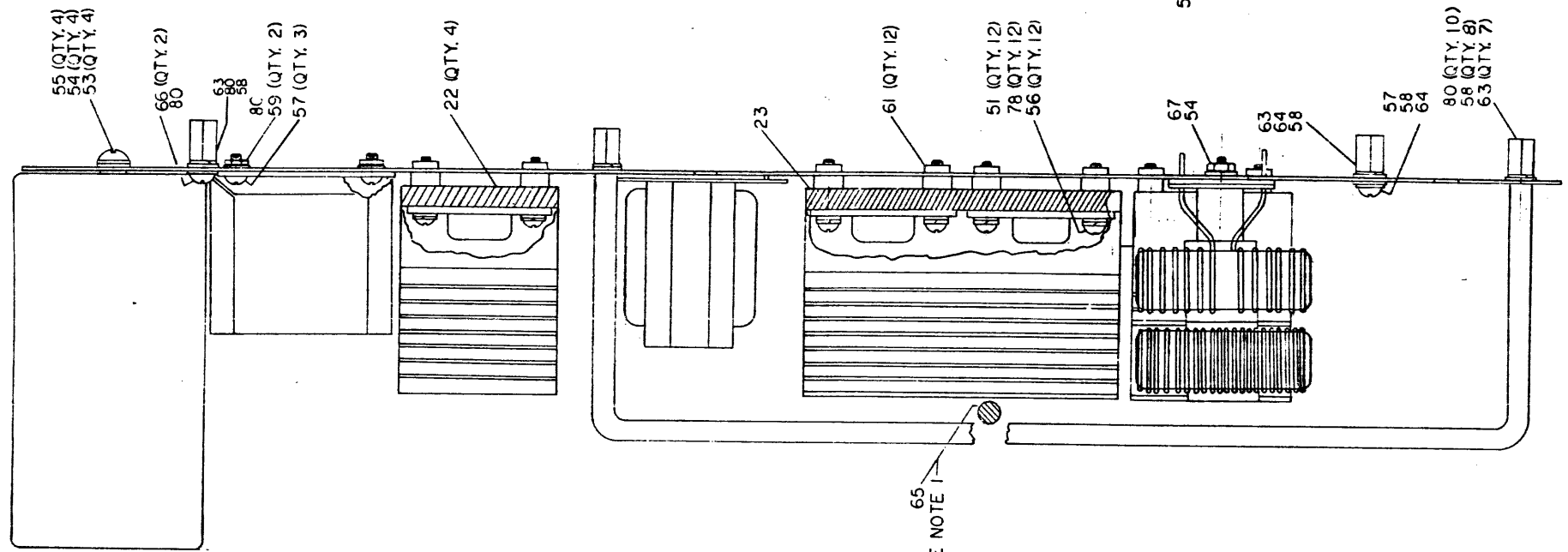
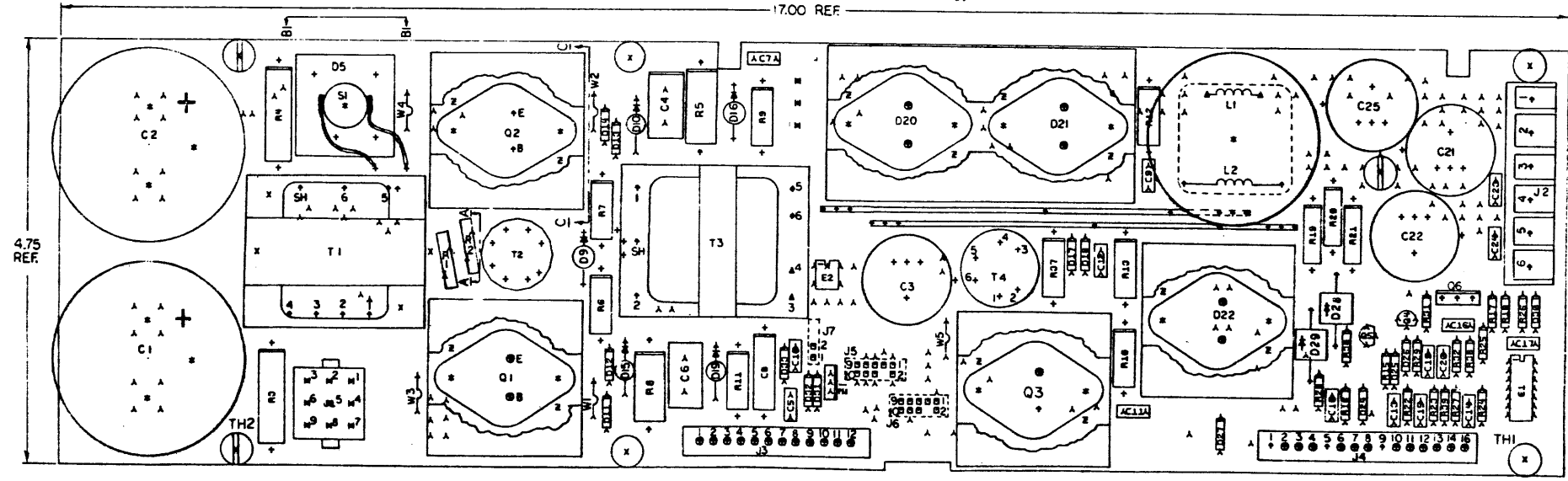
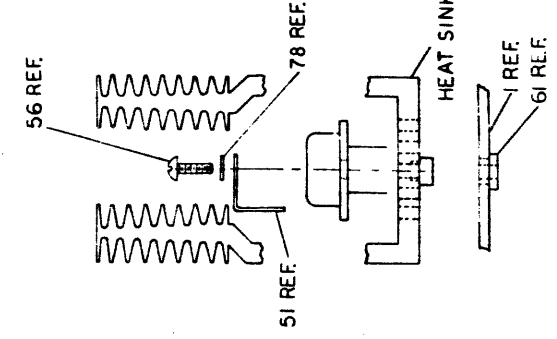
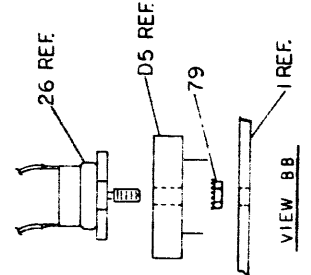
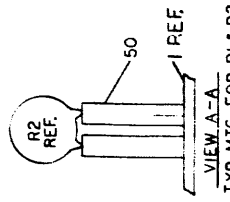
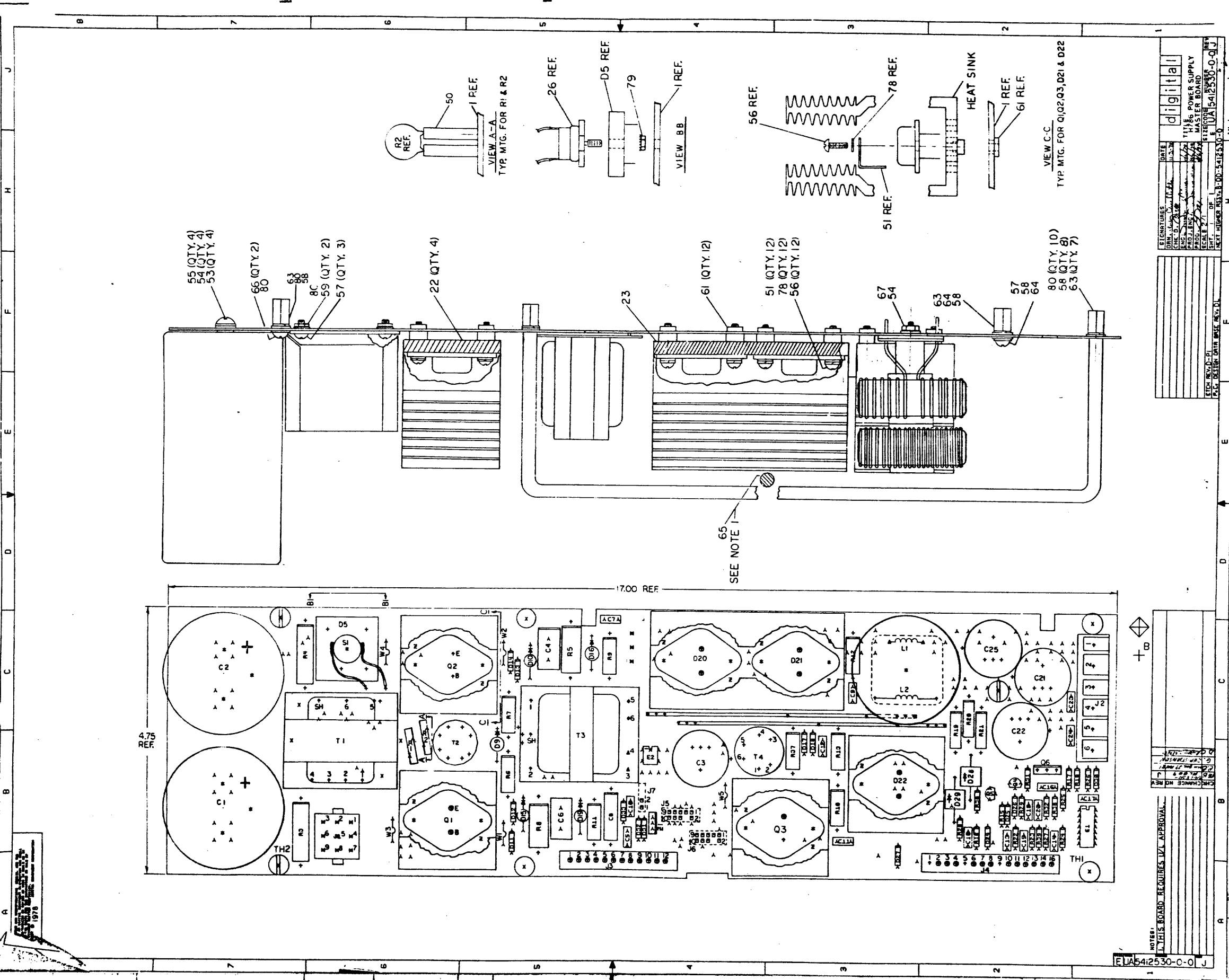
TITLE
H786 PWR. SUPPLY

SHEET 3 OF 3

SIZE CODE
B DD

NUMBER
H786 - Ø

REV
B



65
SEE NOTE 1

NOTES:
1. THIS BOARD REQUIRES I.V. APPROVAL.

FUA5412530-C-0 J

DATE	11/11/76	11/11/76	11/11/76
DESIGNED BY	W. J. ...	W. J. ...	W. J. ...
PROJECT	POWER SUPPLY	POWER SUPPLY	POWER SUPPLY
SCALE	1:1	1:1	1:1
EUA5412530-C-0 J			

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
1	1	D-MD-5012529-0-0	5012529-00	5412530	1		
2	2		1014240-00	2000 MFD 200V +75-10% AL EL	2		C1,C2
3	3		1014260-02	2100 MFD 40V +75-10% AL EL	1		C3
4	4		1014139-00	.0022 MFD 600V 10% POLYPROP	2		C4,C6
5	5		1010274-00	.22 MFD 50V +80-20% Z5U CER	5		C5,C10,C17,C23,C24
6	6		1000042-00	1000.0 MMF 100V 5X200PPM MICA	8		C7,C9,C11-C16
7	7		1004814-00	.47 MFD 20V 10% S.TANT	1		C8
8	8		1000004-00	.02 MFD 100V 20% Z5U DISC	2		C18,C19
9	9		1001610-01	.01 MFD50/100V +80-20% DISC	1		C20
10	10		1014260-00	11,000 MFD 6.3V +75-10% AL EL	2		C21,C25
11	11		1014260-01	3700 MFD 25V +75-10% AL EL	1		C22
12	12		1105796-00	1N 4004 PIV=400 I= 1A D041 SP	10		D11-D14,D17,D25,D27,D30-D32
13	13		1114245-00	NBS30600LPIV=600 I=30A	1		D5
14	14		1112594-02	A115M PIV=600 I= 3A	2		D9,D16
15	15		1112595-02	A114M PIV=600 I= 1A	2		D10,D15
16	16		1105648-00	1N 4744 VZ= 15.0 10% 1W	1		D33
17	17		1212297-02	MATE-N-LOK 9PIN UNIV HEADER	1		J1
18	18		1213463-05	TERM BLOCK 6POS .375 SPACING	1		J2
19	19		1214257-00	EDGE CARD 12POS STRAIGHT .156CC	1		J3
20	20		1214257-01	EDGE CARD 15POS STRAIGHT .156CC	1		J4
21	21		1112595-01	A114B PIV=200 I= 1A	1		D19
22	22		1211987-03	HEAT SINK	4		
23	23		1211987-04	HEAT SINK	1		
24	24		1214256-00	BUS BAR, INSULATED	2		
25	25		1912108-00	339 VOLT CMPRTR, QUAD	1		E1
26	26		1214259-02	THERMOSTAT, 0.185, C3148	1		S1
27	27		1314270-02	2.50 15.0 % NTC THERM	2		R1,R2
28	28		1314088-00	20.0 K 5.0 W 5.0 % WW	2		R3,R4
29	29		1301952-00	1.0 K 2.0 W 5.0 % CC	2		R5,R8
30	30		1314350-00	1.0 2.0 W10.0 % FUSE	3		R6,R7,R37

REVISION HISTORY		BASIC PART NO: 5412530		DRN:	R.KOPPENAL	DATE:	01-FEB-78	D I G I T A L		
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	K.GLEEZEN	DATE:	01-FEB-78	TITLE PARTS LIST		
P.G	00003	E	SECTION VARIATION INDEX					MASTER BOARD		
KG	00004	F	[A] 00	DES.ENG:	J.GREGORICH	DATE:	01-FEB-78	DOCUMENT NUMBER		
DC	5412530-ML005	H	[B]					SIZE	CODE	NUMBER
GC	5412530-ML006	J	[C]	MFG.ENG.:	R.HAMILTON	DATE:	01-FEB-78	K	PL	5412530-0-DBP
GC	5412530-ML007	K	[D]	ASSEMBLY NUMBER:	E-UA-5412530-0-0	TOP DOCUMENT NUMBER:				FILE NAME:
GC	5412530-ML008	L	[E]							20613M.PLS
G.C	5412530-ML009	M	[F]							EDIT #
			[H]							17
			[J]							
			[K]							
			[L]							
			[M]							
			[N]							

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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
					00	
31	31		1110488-00	1N 4733 VZ= 5.1 10% 1W N	1	D18
32	32		1301499-00	1.0 K 1.0 W 10.0 % CC	2	R9, R12
33	33		1300232-00	100.0 1.0 W 5.0 % CC	2	R10, R13
34	34		1314239-00	33.0 3.0 W 5.0 % WN	1	R11
35	35		1310632-00	2.37 K .25 W 1.0 % RN550-F10	2	R15, R17
36	36		1303044-00	100.0 K .25 W 1.0 % RN550-F10	1	R16
37	37		1304843-00	243.0 K .25 W 1.0 % RN550-F10	1	R18
38	38		1313014-00	.01 3.75 W 3.0 % WN	3	R19-R21
39	39		1300365-00	1.0 K .25 W 5.0 % CC	3	R22, R25, R32
40	40		1309595-00	1.0 M .25 W 5.0 % CC	4	R23, R26, R38, R39
41	41		1302666-00	10.0 M .25 W 5.0 % CC	2	R24, R27
42	42		1300202-00	47.0 .25 W 5.0 % CC	2	R28, R29
43	43		1301317-00	10.0 .25 W 5.0 % CC	2	R30, R31
44	44		1614274-00	XFMR P=AB S=87V	1	T1
45	45		1614272-00	PULSE XFMR 4 WOUND	1	T2
46	46		1614275-00	XFMR P=200-375V S=5V@3.5A	1	T3
47	47		1614273-00	PULSE XFMR, TRI-WOUND	1	T4
48	48		1614261-00	24.0 UH-80UH DUAL INDUCTOR	1	L1
49	49		1912048-02	DEC 7812 VOLT REG, FIX +12V	1	Z1
50	50		9009798-00	SPACER, CERAMIC .186 ODX.078 ID	4	
51	51		9009676-00	TERM LUG 1POS SOLDER	12	
52	52		9009149-00	PIN, STAKING, P.C. BOARD, .025 X	20	J5-J7
53	53		9006071-01	SCREW, PAN, PHIL 10-32X 3/8 SS	4	
54	54		9006660-00	WASHER, FLAT, .375 O.D. X .187 I	5	
55	55		9006636-00	WASHER, LOCK, INT, .38000 X .200ID	4	
56	56		9007794-01	SCREW, PAN, PHIL 6-32X 11/16SS	12	
57	57		9006021-01	SCREW, PAN, PHIL 6-32X 5/16 SS	3	
58	58		9006633-00	WASHER, LOCK, INT, .28000 X .146ID	8	
59	59		9008185-00	NUT, KEP 6-32X1/4 AF	2	
60	60	D-1A-7013668-0-0	7013668-00	P.C. BOARD STIFFENER	1	
61	61		1214789-00	INSERT, THREADED 6-32, BRASS, ELEC	12	
62	62		9009947-00	*** THIS ITEM IS NOT USED ***	-	
63	63		9006844-00	SPACER, HEX, THD'D, ALUM 6-32X 3	7	
64	64		9006653-00	WASHER, FLAT, .375 O.D. X .156 I	2	
65	65		9107240-00	WRAP, CABLE, .25000 VINYL	A/R	
66	66		9006020-01	SCREW, PAN, PHIL 6-32X 1/4 SS	2	
67	67		9006565-00	NUT, KEP 10-32X 3/8 AF	1	
68	68		1114543-00	UES2602 PIV=100 I=20A T03	2	D20, D21
69	69		1114246-00	UES-2603 PIV=150 I=30A T03	1	D22
70	70		1111205-00	SCREENED VZ= 5.7 2% .40W	1	D24
71	71		1109988-00	1N 9648 VZ= 13.0 5% .40W	1	D26
72	72		1110615-00	MR 752 PIV=200 I=22A A264 SM	2	D28, D29
73	73		1517910-00	2N 6547 NPN T0-3	2	Q1, Q2
74	74		1510969-00	2N 5038 NPN 140WC SI 90 50 Y	1	Q3
75	75		1510877-00	2N 6028 UJT 300MW R678	2	Q4, Q5
76	76		1505867-00	2N 4441 SCR@ 50V & 8A	1	Q6
77	77		9107460-22	WIRE STRND, 20AWG, IPVC UL1429	A/R	W1-W5
78	78		9007801-00	WASHER, LOCK, S.S. #6	12	

D	I	G	I	T	A	L	TITLE	MASTER BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5412530-0-DBP	M

AUTOMATED BY PRTLST.1D(7)

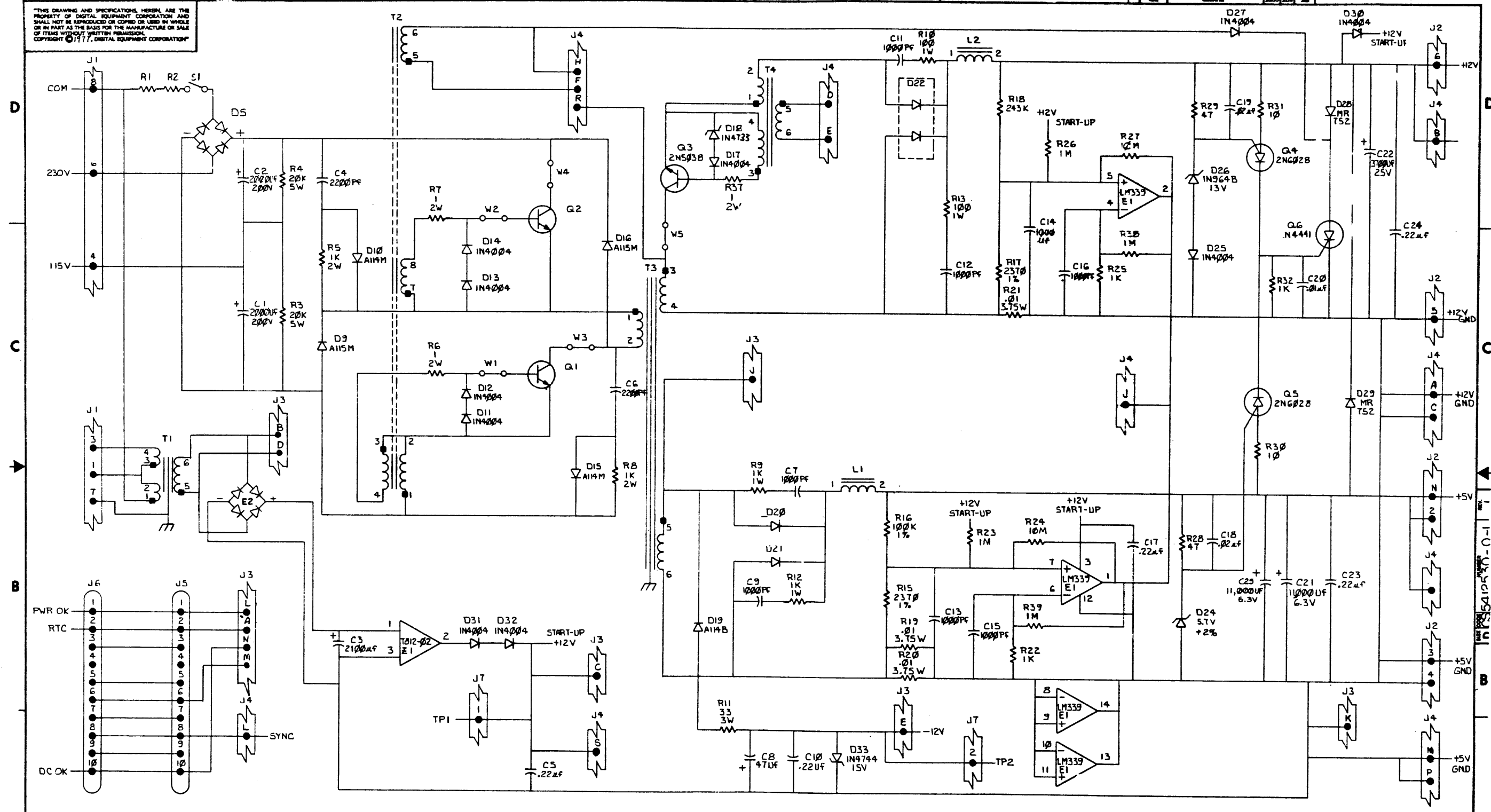
PARTS LIST

SHEET A3 OF A3

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
79	79		9006563-00	NUT, KEP	1		
80	80		9006566-00	WASHER, FLAT, 8-32 X1 1/32AF	10		
81	81		1115369-00	VM 18 PIV=100 I=1A	1		E2

D	I	G	I	T	A	L	TITLE	MASTER BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5412530-0-06P	M

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REV.	DATE	BY	CHKD
1	11/1/77	J. GREGORICH	
2	11/1/77	J. GREGORICH	
3	11/1/77	J. GREGORICH	
4	11/1/77	J. GREGORICH	
5	11/1/77	J. GREGORICH	
6	11/1/77	J. GREGORICH	
7	11/1/77	J. GREGORICH	
8	11/1/77	J. GREGORICH	
9	11/1/77	J. GREGORICH	
10	11/1/77	J. GREGORICH	
11	11/1/77	J. GREGORICH	
12	11/1/77	J. GREGORICH	
13	11/1/77	J. GREGORICH	
14	11/1/77	J. GREGORICH	
15	11/1/77	J. GREGORICH	
16	11/1/77	J. GREGORICH	
17	11/1/77	J. GREGORICH	
18	11/1/77	J. GREGORICH	
19	11/1/77	J. GREGORICH	
20	11/1/77	J. GREGORICH	
21	11/1/77	J. GREGORICH	
22	11/1/77	J. GREGORICH	
23	11/1/77	J. GREGORICH	
24	11/1/77	J. GREGORICH	
25	11/1/77	J. GREGORICH	
26	11/1/77	J. GREGORICH	
27	11/1/77	J. GREGORICH	
28	11/1/77	J. GREGORICH	
29	11/1/77	J. GREGORICH	
30	11/1/77	J. GREGORICH	
31	11/1/77	J. GREGORICH	
32	11/1/77	J. GREGORICH	
33	11/1/77	J. GREGORICH	
34	11/1/77	J. GREGORICH	
35	11/1/77	J. GREGORICH	
36	11/1/77	J. GREGORICH	
37	11/1/77	J. GREGORICH	
38	11/1/77	J. GREGORICH	
39	11/1/77	J. GREGORICH	
40	11/1/77	J. GREGORICH	

DRN: Kimmel	5-4-77	FIRST USED ON	H786 digital
CHKD: [Signature]	5/11/77	TITLE	MASTER BOARD
ENGR: [Signature]	5-16-77	SIZE	CODE
PROJ. ENGR: [Signature]	8-11-77	NUMBER	D CS 5412530-0-1
PROD: [Signature]	8/14/77	REV.	J
NEXT HIGHER ASSY.		SCALE	1/1
E-UA-5412530-0-0		SHEET	OF
		DIST.	

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS													
				A	B	C	D	E	F	G	H	I	J	K	L		
B-MH-5412532-0-6	1		MODULE HISTORY	*	A	B	C	N	A	I	N	A	A				
D-UA-5412532-0-0	1		CONTROL BOARD	C	D	E	F	H	J	J							
K-PL-5412532-0-DBP	2		CONTROL BOARD	C	D	E	F	H	J	K							
D-CS-5412532-0-1	1		CONTROL BOARD	C	C	D	D	E	F	H							
D-MD-5012531-0-0	4		DRILL & ETCH DRAWING	C	C	C	D	E	E	E							
		5012531	ETCHED BOARD	D	D	D	D	E	E	E							
K-PC-5412532-0-DBG			P.C. DESIGN DATA BASE	-	-	-	-	-	E	E							
D-EC-5012531-0-0	2		ETCH CUT DRAWING	-	-	-	-	-	A	A							

NOTES:

REVISIONS		REV.
DATE	CHG NO.	
10-77	00001	D
11-77	00002	E
2-78	00003	F
3-78	00004	H
3-81	ML005	J
5-82	ML006	K

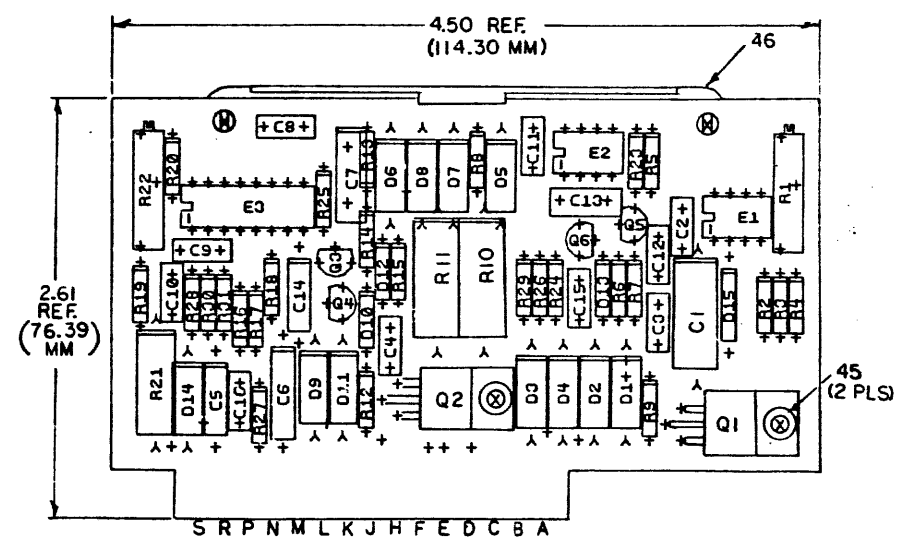
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USED ON OPTION/MODEL H786	DRN. RITA BUREAU	4-20-77	TITLE CONTROL BOARD
	CHK'D <i>[Signature]</i>	8-1-77	SIZE CODE B DD
	ENG. J. Gregory D88	8-1-77	NUMBER 5412532-0
	PROD. R Hamilton D88	8-1-77	REV. K
SHEET 1 OF 1			

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COMPONENT SIDE VIEW



NOTES:
 1. THIS BOARD REQUIRES U/L APPROVAL.
 2. THIS BOARD WILL NOT BE GR. TESTED.

CHK	CHANGE NO.	REV	DATE	BY	APP

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

SIGNATURES	DATE	TITLE
DRN. <i>Andy Onellita</i>	10-30-78	digital H786 CONTROL BOARD
CHK'D. <i>F. Marcano</i>	11-27-78	
ENG. <i>David E. Conroy</i>	1-28-79	
PROJ. ENG. <i>David E. Conroy</i>	1-28-79	
PROD. <i>F. Marcano</i>	1-28-79	
SCALE 2/1	SIZE CODE D JA	NUMBER 5412532-0-0
SHT. 1 OF 1	REV J	
NEXT HIGHER ASSY. 8-DD-5412532-0-0		

1 MS#104582

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
1	1	D-MD-5012531-0-0	5012531-00	5412532	1
2	2		1013669-02	.10 MFD 150V 5% M.POLYPROP	1 C1
3	3		1000009-00	33.0 MMF 100V 5%200PPM MICA	1 C2
4	4		1000055-00	2200.0 MMF 250V 20% Y5S DISC	2 C3,C4
5	5		1002627-00	2.2MFD 20V 10% S.TANT	1 C5
6	6		1005784-00	.01 MFD 100V 200V 10% MYL	1 C6
7	7		1010274-00	.22 MFD 50V +80-20% Z5U CER	4 C8,C10-C12
8	8		1000042-00	1000.0 MMF 100V 5%200PPM MICA	1 C13
9	9		1000016-00	100.0 MMF 100V 5%200PPM MICA	3 C9,C15,C16
10	10		1005328-00	.33 MFD 20V 10% S.TANT	1 C14
11	11		1112595-00	A114F PIV= 50 I= 1A	4 D1-D3,D5
12	12		1112595-01	A114B PIV=200 I= 1A	7 D4,D6-D9,D11,D14
13	13		1100114-00	D 664 QS\75PCB PIV= 25V SP	3 D10,D12,D13
14	14		1109991-01	4M6.8AZ1 VZ= 6.8 1% .40W	1 D15
15	15		1309143-07	1.0 K .75 W10.0 % POT	2 R1,R22
16	16		1304868-00	2.74 K .25 W 1.0 % RN55D-F10	1 R2
17	17		1304833-00	1.96 K .25 W 1.0 % RN55D-F10	1 R3
18	18		1302391-00	20.0 K .25 W 5.0 % CC	1 R4
19	19		1303187-00	*** THIS ITEM IS NOT USED ***	-
20	20		1300271-00	220.0 .25 W 5.0 % CC	2 R6,R14
21	21		1301317-00	10.0 .25 W 5.0 % CC	3 R7,R15,R25
22	22		1300417-00	2.20 K .25 W 5.0 % CC	1 R8
23	23		1300219-00	68.0 .25 W 5.0 % CC	2 R9,R12
24	24		1300288-00	270.0 2.0 W10.0 % CC	2 R10,R11
25	25		1300365-00	1.0 K .25 W 5.0 % CC	2 R13,R26
26	26		1309680-00	2.70 M .25 W 5.0 % CF	2 R16,R17
27	27		1305114-00	3.48 K .25 W 1.0 % RN55D-F10	1 R18
28	28		1309413-00	3.83 K .25 W 1.0 % RN55D-F10	2 R19,R20
29	29		1314239-00	33.0 3.0 W 5.0 % WW	1 R21
30	30		1300426-00	2.70 K .25 W 5.0 % CC	1 R23

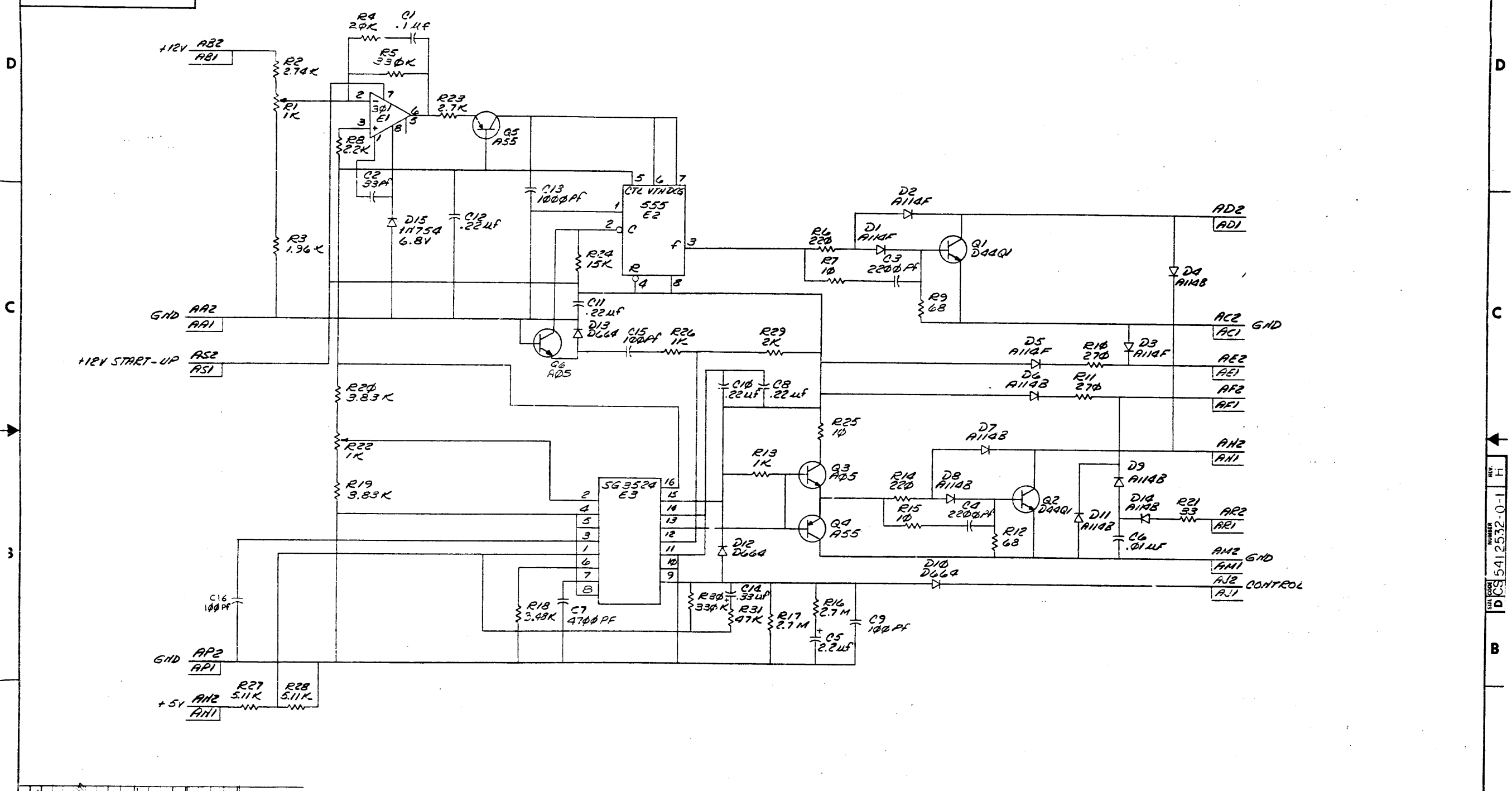
REVISION HISTORY		BASIC PART NO: 5412532		DRN:	R.BUREAU	DATE:	16-FEB-78	D I G I T A I L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	K.GLEASN	DATE:	16-FEB-78	TITLE PARTS LIST			
P.G	00003	F	SECTION.VARIATION INDEX	CHK'D:	K.GLEASN <td>DATE:</td> <td>16-FEB-78</td> <td colspan="4">CONTROL BOARD</td>	DATE:	16-FEB-78	CONTROL BOARD			
	5412532-ML004	H	[A] 00								
D.C	5412532-ML005	J	[B]								
D.C	5412532-ML006	K	[C]	DES.ENG:	J. GREGORICH	DATE:	16-FEB-78				
			[D]								
			[E]								
			[F]	RESP.ENG.:	J.GREGORICH	DATE:	16-FEB-78	DOCUMENT NUMBER			
			[G]					SIZE	CODE	NUMBER	REV
			[H]								
			[I]	MFG.ENG.:	R.HAMILTON	DATE:	16-FEB-78	K	PL	5412532-0-DBP	K
			[J]								
			[K]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			[L]	D-UA-5412532-0-0				Z0353K.PLS		12	
			[M]								
			[N]								

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
31	31	1300496-00	15.0 K .25 W 5.0 % CC	1	R24
32	32	1304854-00	5.11 K .25 W 1.0 % RN55D-F10	2	R27,R28
33	33	1302388-00	2.0 K .25 W 5.0 % CC	1	R29
34	34	1302091-00	330.0 K .25 W 5.0 % CC	2	R30,R5
35	35	1302177-00	47.0 K .25 W 5.0 % CC	1	R31
36	36	1514271-00	D 44Q1 NPN 31W SI	2	Q1,Q2
37	37	1510705-00	XA 05 NPN 500MW SI 60 50 P	2	Q3,Q6
38	38	1510706-00	XA 55 PNP 500MW SI 60 50 P	2	Q4,Q5
39	39	1910282-00	301AN OP AMP	1	E1
40	40	1911944-00	555CN TIMER,FUNCT.BLOCK	1	E2
41	41	1914250-00	3524 MODULATOR-REGULATING	1	E3
42	42	9009000-00	*** THIS ITEM IS NOT USED ***	-	
43	43	1001383-00	4700.0 MMF 100V 3%200PPM MICA	1	C7
44	44	7418695-00	*** THIS ITEM IS NOT USED ***	-	
45	45	9006732-00	EYELET,ROLLED 0.1210DX0.219	2	
46	46	1215993-00	RETAINER, CARD	1	

D	I	G	I	T	A	L	TITLE	CONTROL BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5412532-0-DBP	K

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REV.	CHANGE NO.	DATE	BY	CHK.
1				
2				
3				
4				
5				
6				
7				
8				

DRN	9-1-77	FIRST USED ON	H786	digital
CHK		TITLE	CONTROL BOARD	
ENG	9-1-77	PROJ. ENG.	2-1-77	
PROD	2-1-77	SCALE		
NEXT HIGHER ASSY.				
Q-UA	5412532-0-0	SIZE	CODE	NUMBER
SCALE				5412532-0-1
SHEET	1 OF 1	DIST.		

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																			
				A	B	C																	
		5412528	MODULE REV																				
B-DD-5412528-0	1		POWER MONITOR BOARD	A	B	C																	
D-UA-5412528-0-0	3		POWER MONITOR BOARD	A	B	C																	
K-PL-5412528-0-DBP	-		PARTS LIST DATA BASE	A	B	C																	
D-CS-5412528-0-1	1		POWER MONITOR BOARD	A	B	C																	
D-MD-5012527-0-1	4		DRILL & ETCH DRAWING	A	A	B																	
		5012527	ETCHED BOARD	B	B	C																	
K-PC-5412528-0-DBG	-		P.C. DESIGN DATA BASE (TAPED)	A	B	C																	

NOTES:

DATE	CHG NO.	REV.	REVISIONS																				
			A	B	C																		
10-77	0001	B																					
3-79	ML002	C																					

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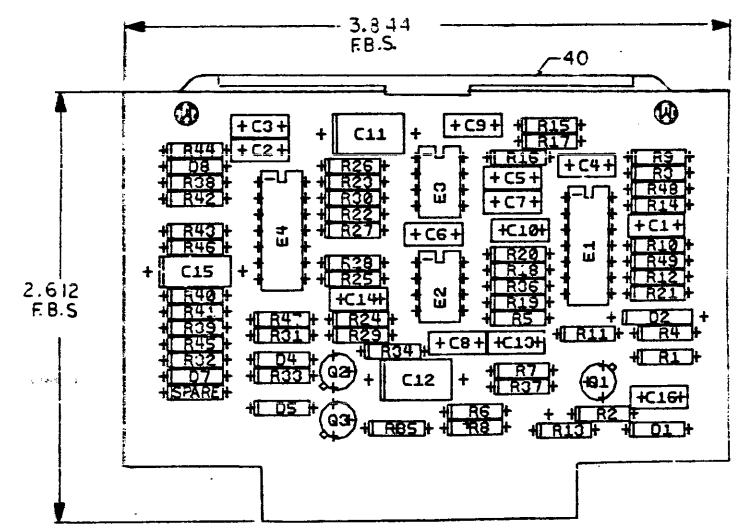
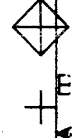
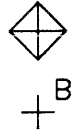
USED ON OPTION/MODEL	DRN.	DATE
H786	KOPPENAL	4-7-77
	CHK'D GLEAZER	8-31-77
	ENG. GREGORICH	8-1-77
	PR'D HAMILTON	8-1-77

TITLE POWER MONITOR BOARD			
SIZE B DD	CODE	NUMBER 5412528-0	REV. C
SHEET 1 OF 1			

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0 0-0-0-0-0 2 1

COMPONENT SIDE VIEW



NOTES:

CHG	NO	REV
02	MLOOR	C
	POWERS	
	CALDERAN	
	DE	

V U T S R P N M L K J H F E D C B A

V U T S R P N M L K J H F E D C B A

V U T S R P N M L K J H F E D C B A

V U T S R P N M L K J H F E D C B A

ETCH REV. C-P2
P.C. DESIGN DATA BASE REV. C

SIGNATURES	DATE	REV
DRN. D. POWERS	4-20-79	
CHK'D. <i>[Signature]</i>	5-2-79	
ENG. <i>[Signature]</i>	5-2-79	
PROJ. ENG. <i>[Signature]</i>	5-2-79	
SCALE 2/1		
SHT. 1 OF 3		
NEXT HIGHER ASSY. C-DD-5412528-0		

digital

TITLE H786
 POWER MONITOR
 SIZE CODE NUMBER REV
 0 UA 5412528-00 C

8

7

6

5

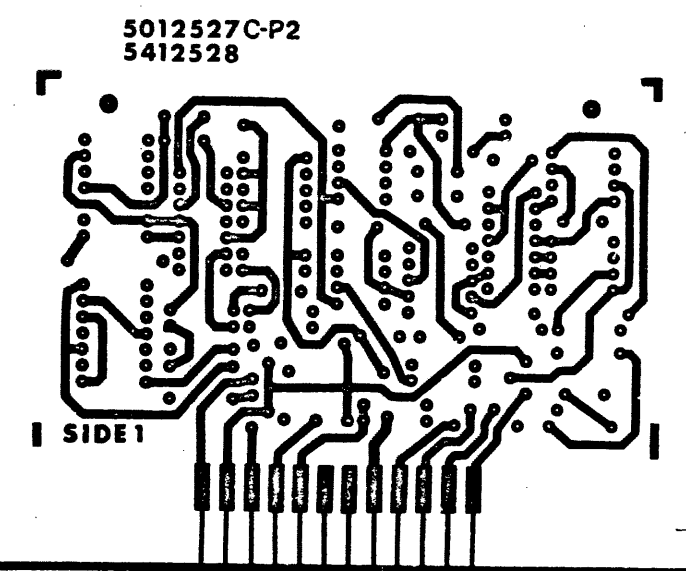
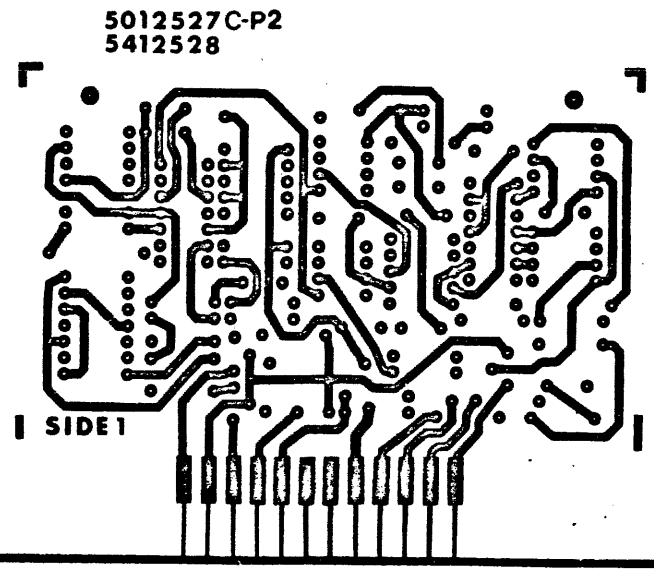
4

3

2

1

2 DUA 5412528-0-0 C



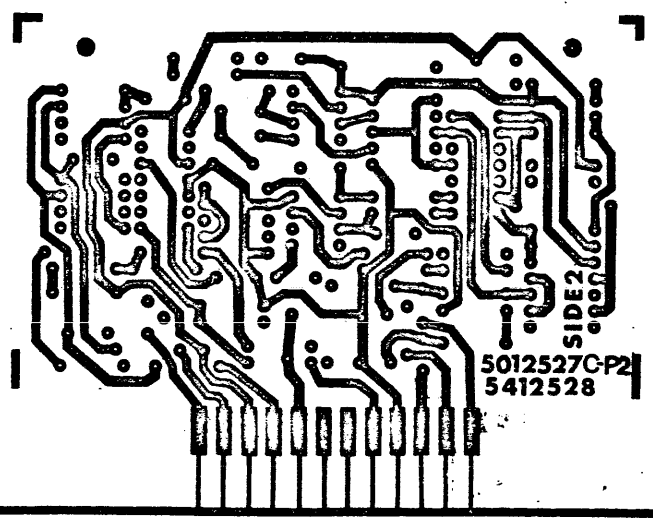
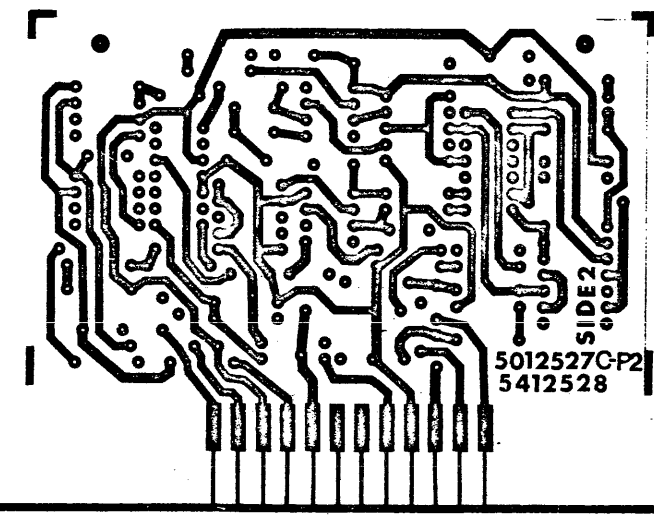
REVISIONS	
NO.	DESCRIPTION

TITLE	DRILL & ETCH DRAWING	DUA 5412528-0-0 C
SCALE	2:1	SHEET 2 OF 3

2 DUA 5412528-0-0 C

6 5 4 3

REV



B
A

D
C
B
A

REV	DATE	BY	CHKD

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

TITLE	SCALE	SHEET	OF	NO. SHEETS	REV
DRILL & ETCH DRAWING	2/1	3	3		
DUA	5412528-0-0	C			

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					UU		
1	1	D-MD-5012527-0-0	5012527-00	5412528	1		
2	2		1010274-00	.22 MFD 50V +80-20% Z5U CER	8		C1, C2, C3, C4, C9, C10, C13, C16
3	3		1000016-00	100.0 MMF 100V 5%200PPM MICA	1		C14
4	4		1001610-00	.01 MFD 50V +80-20% Z5U CER	2		C7, C8
5	5		1010031-03	.22 MFD 50V 10% M.POLYCARB	2		C11, C12
6	6		1005116-00	3300.0 MMF 200V 10% MET. MYLR	1		C15
7	7		1100125-00	1N 758A VZ= 10.0 5% .40W PPE	1		D1
8	8		1105873-00	4M5-1A21 VZ= 5.1 1% .400W	1		D2
9	9		1100114-00	D 664 QS\75PCB PIV= 25V SP	4		D4, D5, D7, D8
10	10		1301322-00	180.0 .25 W 5.0 % CC	1		R1
11	11		1301808-00	22.0 K .25 W 5.0 % CC	4		R2, R3, R9, R13
12	12		1300247-00	120.0 .25 W 5.0 % CC	1		R4
13	13		1313476-00	51.10 K .25 W 1.0 % RN550-F10	1		R5
14	14		1311320-00	90.90 K .25 W 1.0 % RN550-F10	1		R6
15	15		1309289-00	63.40 K .25 W .10% RN55E-B 2	1		R7
16	16		1300479-00	10.0 K .25 W 5.0 % CC	10		R10, R17, R20, R32, R33, R34, R38, R42, R49, R35
17	17		1305421-00	35.70 K .25 W 1.0 % RN550-F10	2	CONT	R11, R12
18	18		1300539-0J	120.0 K .25 W 5.0 % CC	1		R14
19	19		1305130-00	133.0 K .25 W 1.0 % RN550-F10	1		R8
20	20		1309595-00	1.0 M .25 W 5.0 % CC	6		R15, R18, R30, R37, R36, R44
21	21		1300447-00	4.70 K .25 W 5.0 % CC	2		R16, R19
22	22		1301775-00	820.0 .25 W 5.0 % CC	1		R21
23	23		1313167-00	833.0 K .25 W 1.0 % RN550-F 5	1		R25
24	24		1302395-00	56.0 K .25 W 5.0 % CC	6		R26, R27, R28, R29, R40, R41
25	25		1309680-00	2.70 M .25 W 5.0 % CC	1		R39
26	26		1302466-00	100.0 K .25 W 5.0 % CC	3		R31, R46, R47
27	27		1300398-00	1.80 K .25 W 5.0 % CC	1		R48
28	28		1510705-00	XA 05 NPN 500MW SI 60 50 P	1		Q1
29	29		1511686-00	DEC5433 FET N 350MW 10 25 1A	2		Q2, Q3

REVISION HISTORY			BASIC PART NO: 5412528		
ENG	ECO NUMBER	REV	SECTION A OF A	DRN:	R.KOPPENALL
	5412528-ML002	C	SECTION VARIATION INDEX	CHK'D:	K.GLEEZEN
			[A] 00	DES.ENG:	JIM GREGORICH
			[B]	RESP.ENG.:	JIM GREGORICH
			[C]	MFG.ENG.:	R.HAMILTON
			[D]	ASSEMBLY NUMBER:	D-UA-5412528-0-0
			[E]	TOP DOCUMENT NUMBER:	
			[F]	FILE NAME:	Z0411C.PLS
			[G]	EDIT #	3
			[H]		
			[I]		
			[J]		
			[K]		
			[L]		
			[M]		
			[N]		

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AUTOMATED BY PRTLST.3J(25)

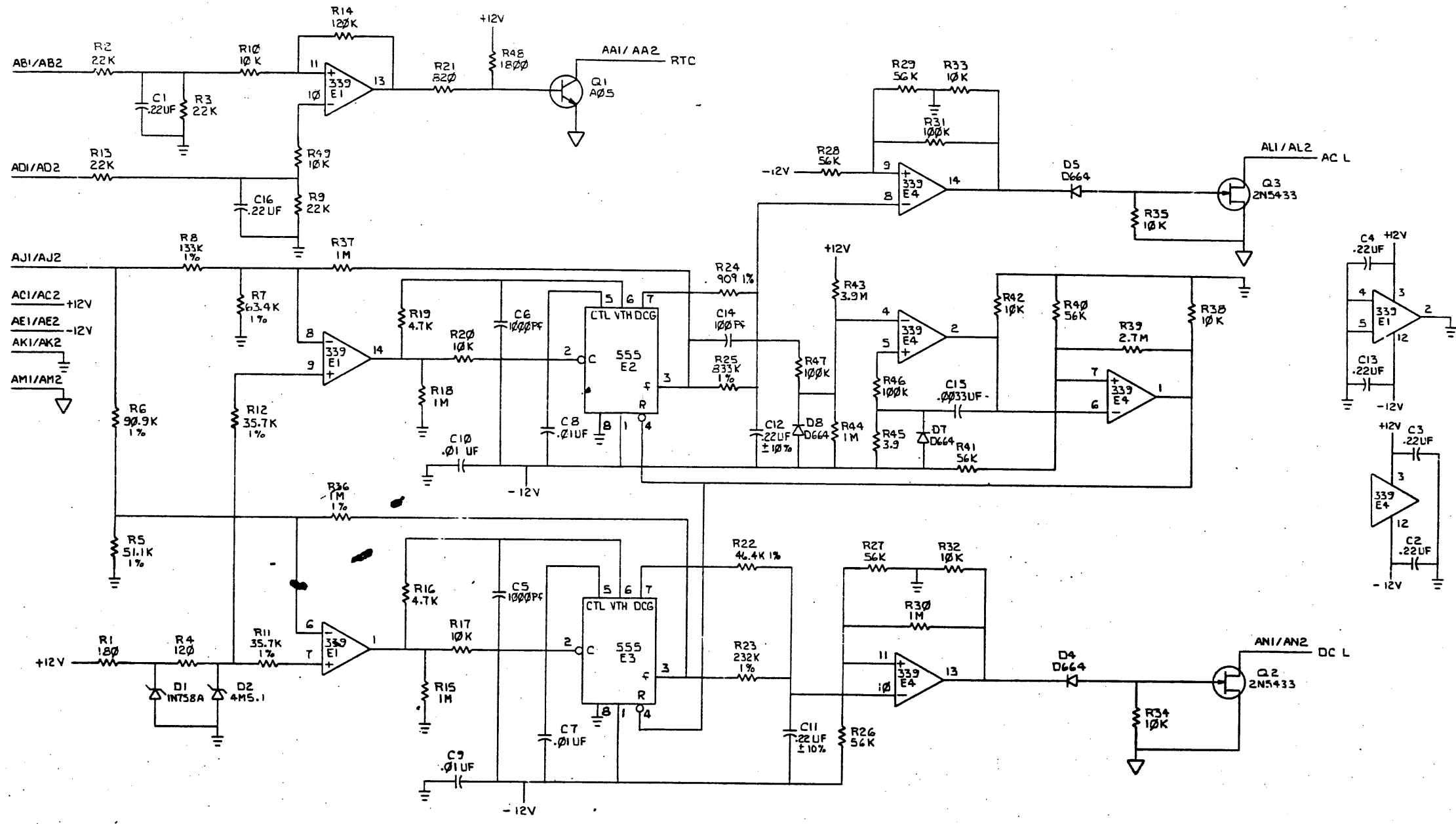
PARTS LIST

SHEET A2 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
30	30		1912108-00	339 VOLT CMPRTR, QUAD	2	E1, E4
31	31		1911944-00	555CN TIMER, FUNCT. BLOCK	2	E2, E3
32	32		1305424-00	232.0 K .25 W 1.0 % RN55D-F10	1	R23
33	33		1314387-00	3.90 M .25 W 5.0 % CC	2	R43, R45
34	34		1000042-00	1000.0 MMF 100V 5%200PPM MICA	2	C5, C6
35	35		7418695-00	*** THIS ITEM IS NOT USED ***	-	
36	36		9009000-00	*** THIS ITEM IS NOT USED ***	-	
37	37		9105740-55	*** THIS ITEM IS NOT USED ***	-	
38	38		1303311-00	46.40 K .25 W 1.0 % RN55D-F10	1	R22
39	39		1302685-00	909.0 .25 W 1.0 % RN55D-F10	1	R24
40	40		1215993-00	RETAINER, CARD	1	

D	I	G	I	T	A	L	TITLE	POWER MONITOR BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5412528-0-DBP	C

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REV.	CHG.	BY	DATE
1	5412528-0001	B	11/22/77
2	5412528-0002	C	11/25/77
3	5412528-0003	C	11/25/77
4	5412528-0004	C	11/25/77

REVISIONS

5412528-0001 B 11/22/77

5412528-0002 C 11/25/77

5412528-0003 C 11/25/77

5412528-0004 C 11/25/77

D. CALDERAN

David E. Calderan

DATE	6-6-77	FIRST USED ON	H786
CHKD	J. Calderan	BY	J. Calderan
ENGR	J. Calderan	DATE	8-1-77
PROJ. ENGR	J. Calderan	DATE	8-1-77
PROD. ENGR	J. Calderan	DATE	8-1-77
NEXT HIGHER ASSY.			
D-UA-5412528-0-0	SIZE CODE	NUMBER	REV.
SCALE	D CS	5412528-0-1	C
SHEET	1	OF	1
DIST.			

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
	MP00566	FIELD MAINTENANCE PRINT SET (MP)	-				
	B-TC-MSV11-D-1	FIELD MAINTENANCE PRINT SET (TC)	-				
1	A-PL-MSV11-D-0	PARTS LIST (MSV11-D)	E/M				
	D-BD-MSV11-D-4	MSV11D/E BLOCK DIAGRAM	E				
	D-FD-MSV11-D-5	MSV11 D/E FLOW DIAGRAM	E				
	D-TD-MSV11-D-6	MSV11 D/E TIMING DIAGRAM	E				
	A-SP-MSV11-D-3	MSV11-D SYSTEM SPECIFICATION	E/M				
	A-PL-MSV11-D-7	MSV11-D SHIPPING LIST	-				
	EK-MSV1D-OP-001	USERS MANUAL	E/M				
	D-08-MSV11-D-10	MSV11-D 32K MOS MEMORY	E				
2	B-DD-MSV11-D	DRAWING DIRECTORY MSV11-D MOS MEMORY SYSTEM	E/M				
3	B-DD-M8044-0	DRAWING DIRECTORY (M8044) MODULE	E/M				

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

digital

TITLE DRAWING DIRECTORY MOS MEM. SYSTEM
MSV11-D (32K X 16)

SHEET 3 OF 3

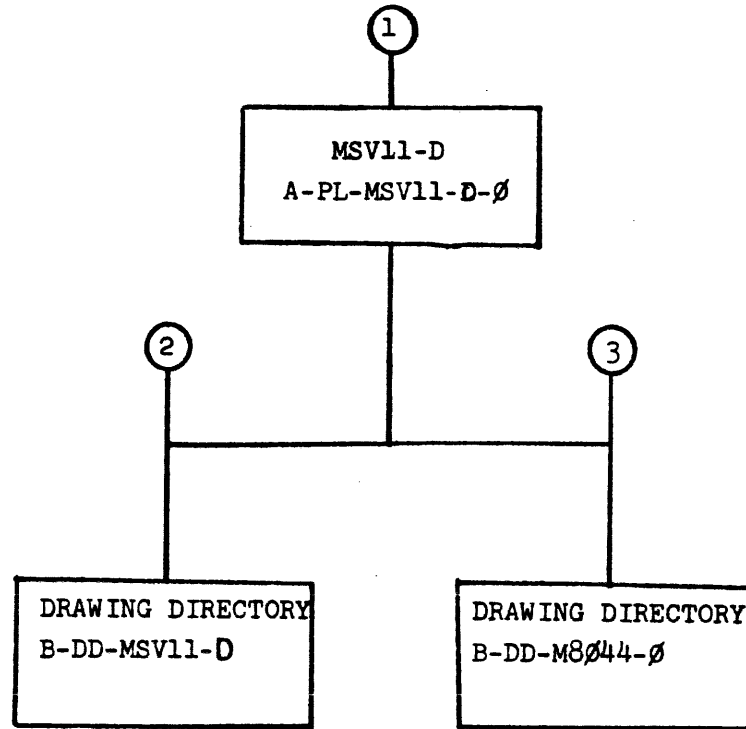
SIZE CODE B DD

NUMBER MSV11-D

REV A

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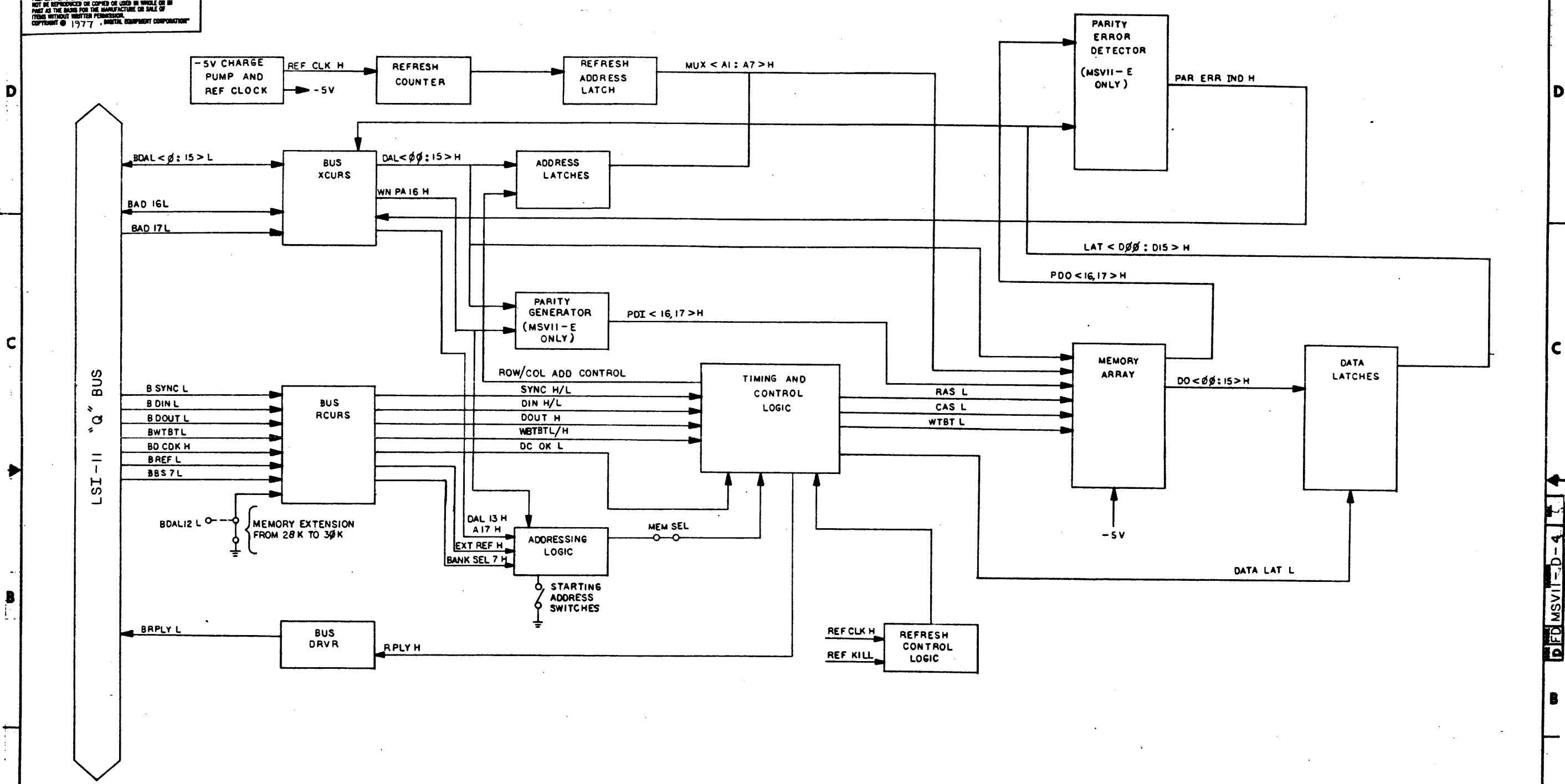
REV. A
 NUMBER MSVII-D
 SIZE CODE B DD



TITLE DRAWING DIRECTORY MSVII-D (32K X 16) MOS MEMORY SYSTEM	SHEET 2 OF 3	SIZE CODE B DD	NUMBER MSVII-D	REV A
--	--------------	-------------------	-------------------	----------

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MSVII-D-4 2

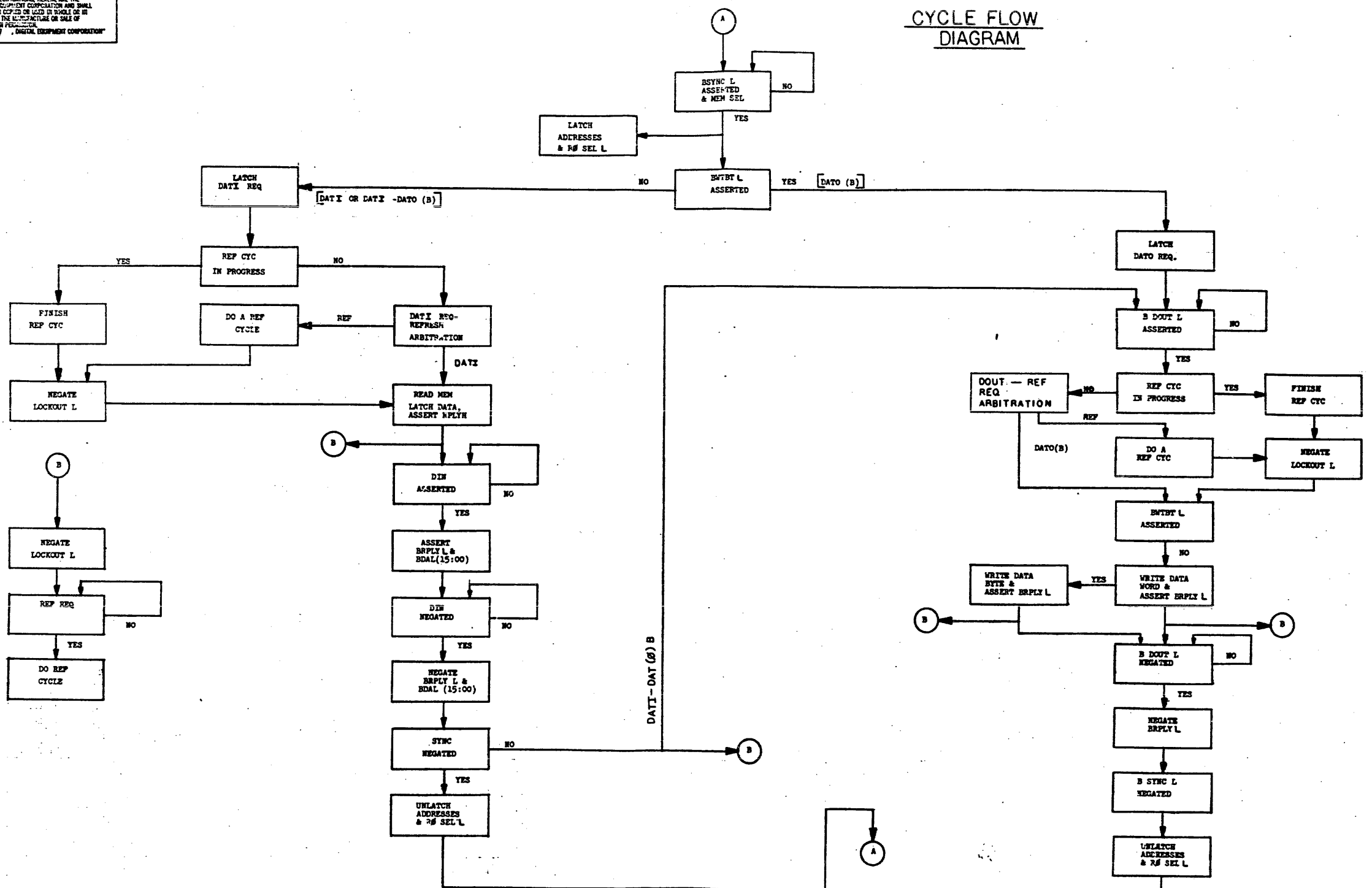


REV.	
CHG.	
REV.	
CHG.	

DRN. E. DeVellis	FIRST USED ON	2-21-78
CHK'D R. Given		2-21-78
ENG. R. Given		2-21-78
PROJ. ENG. R. Given		2-21-78
PROD. R. [unclear]		2-21-78
NEXT HIGHER ASSY.		
B-DD-MSVII-D/E	TITLE	MSVII D/E
SCALE	SIZE CODE	D BD
SHEET 1 OF 1	NUMBER	MSVII-D-4
	DIST.	

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CYCLE FLOW DIAGRAM

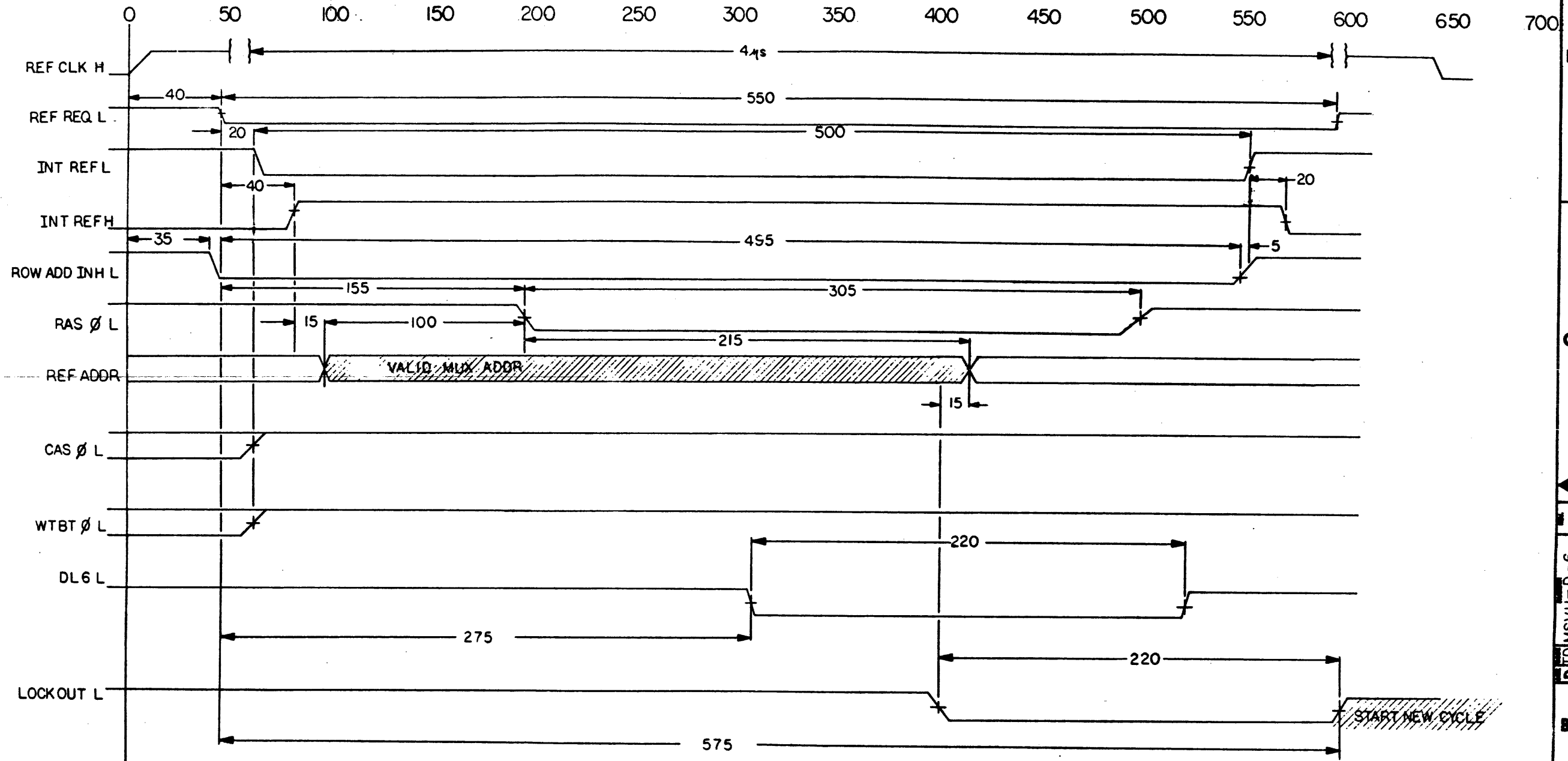


REV.	
CHG.	
NO.	

ORNL 2-12-77	FIRST USED ON	200000
CHG'D R. 2-21-78	TITLE	
ENGL R. 2-21-78	MSVII D/E	
PROJ ENGR P. 2-21-78	FLOW DIAGRAM	
PROD R. 2-21-78	NEXT HIGHER ASSY.	
	B-DD-MSVII-D/E	
	SCALE	D
	SHEET	1 OF 1
	NO.	FDMSVII-D-5
	REV.	

REFRESH CYCLE

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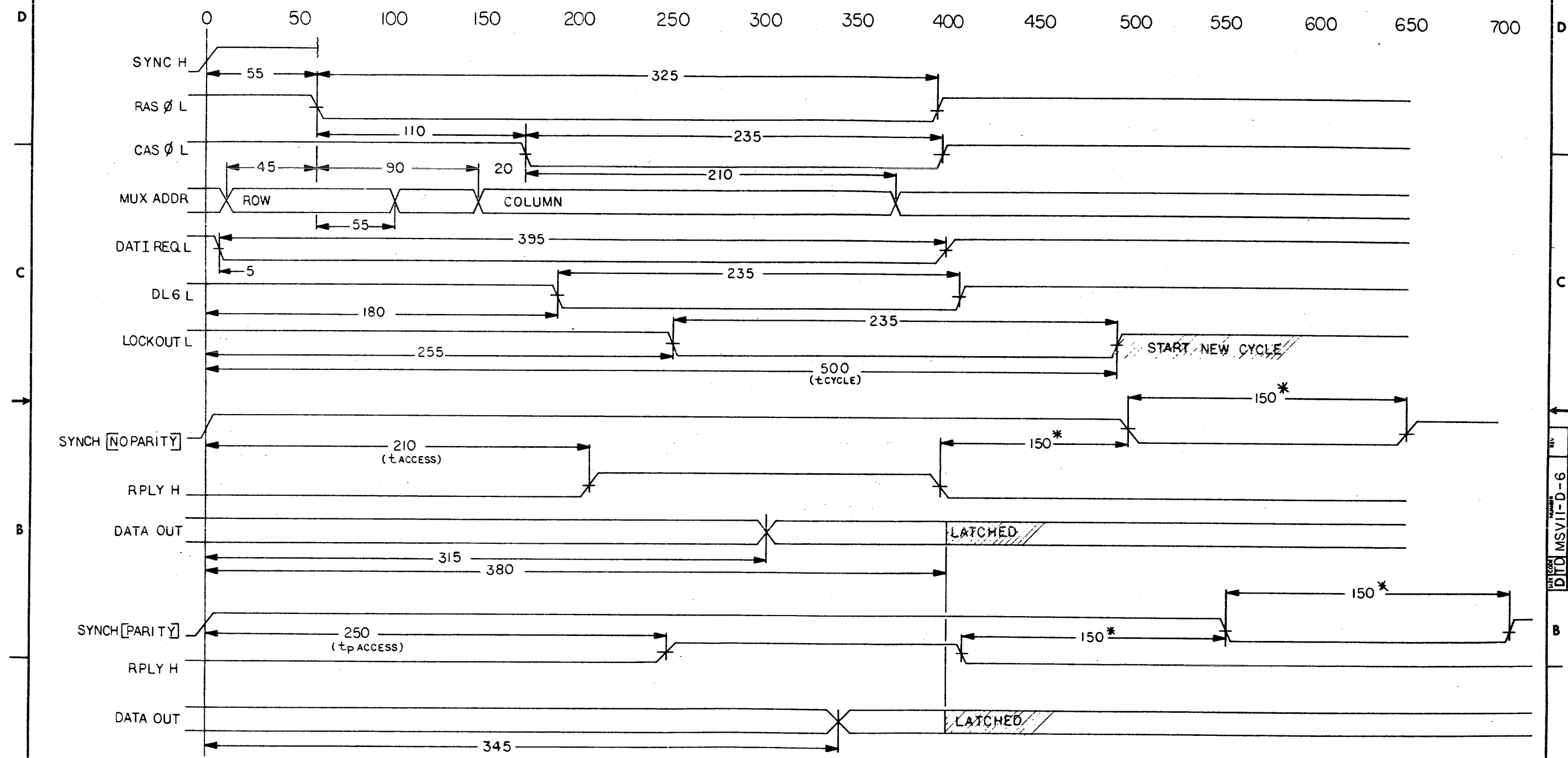
t_{cycle} = 575_{NS} (TYP); 600_{NS} (MAX)

REV.	
CHG	
REVISED	
CHANGE NO.	

DRN. E. DeVito	17 JAN 77	FIRST USED ON	digital
CHK'D R. Gruen	2-21-78	TITLE	MSVII D/E TIMING DIAGRAM
ENG. R. Gruen	2-21-78	SIZE	D TD MSVII-D-6
PROJ. ENG. R. Gruen	2-21-78	NUMBER	1
PROD. R. Gruen	2-21-78	REV.	
NEXT HIGHER ASSY.		SCALE	
B-DD-MSVII-D/E		SHEET	1 OF 4
		DIST.	

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DATI CYCLE



* SPECIFIED BUS MINIMUMS :
 $t_{ACCESS} = 210\text{ NS (TYP); } 225\text{ NS (MAX)}$
 $t_{pACCESS} = 250\text{ NS (TYP); } 265\text{ NS (MAX)}$
 $t_{CYCLE} = 500\text{ NS (TYP); } 520\text{ NS (MAX)}$

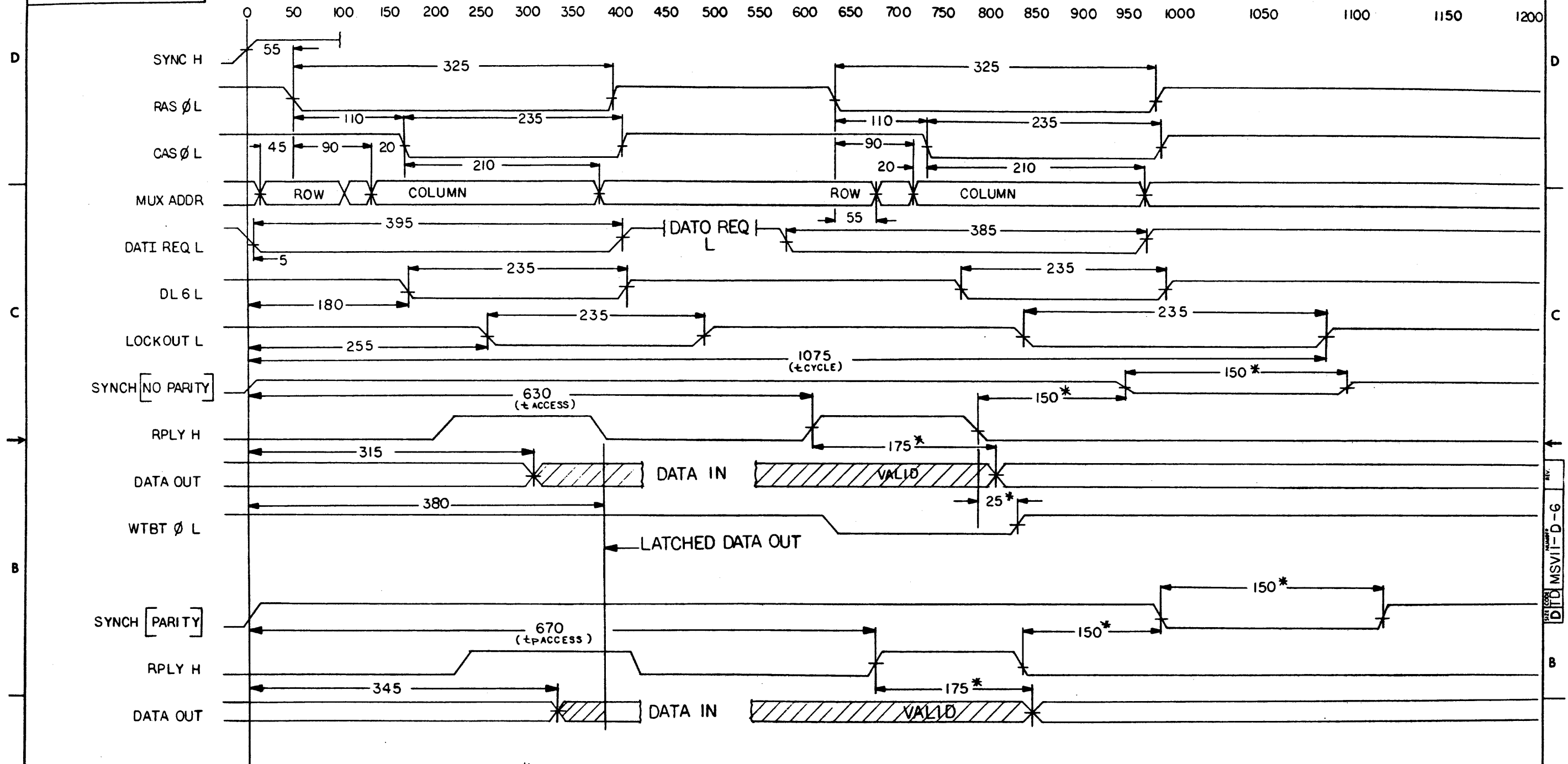
REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO. 138

REV. DTD MSVII-D-6

DATIO (B) CYCLE

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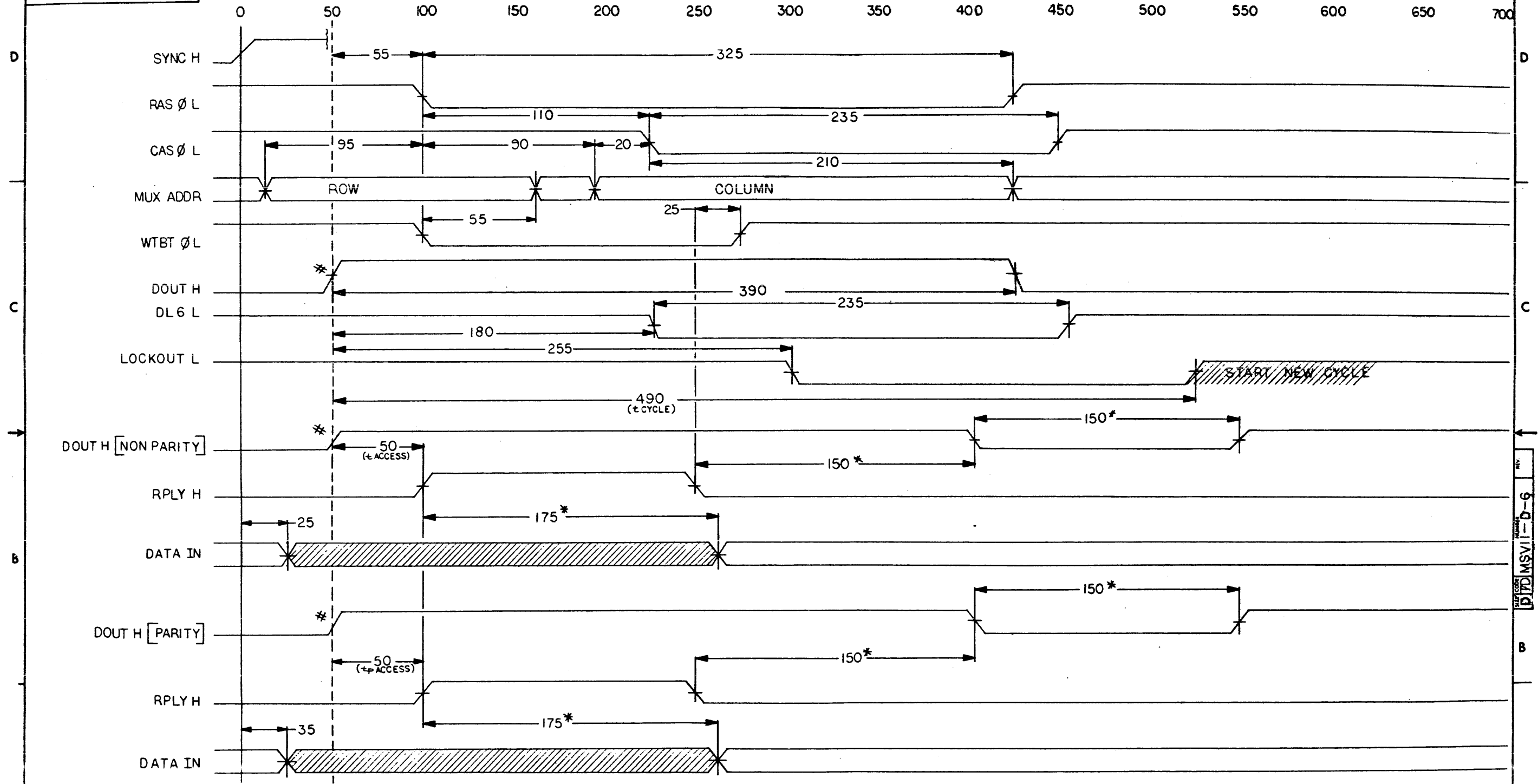
* SPECIFIED BUS MINIMUMS
 $t_{ACCESS} = 630\text{ns (TYP); } 650\text{ns (MAX)}$
 $t_{PACCESS} = 670\text{ns (TYP); } 690\text{ns (MAX)}$
 $t_{CYCLE} = 1075\text{ns (TYP); } 1100\text{ns (MAX)}$
 $t_{PCYCLE} = 1115\text{ns (TYP); } 1140\text{ns (MAX)}$

REVISIONS		
CHK	CHANGE NO.	REV.

DEC FORM NO. 10 128

DATA (B) CYCLE

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* SPECIFIED BUS MINIMUMS
 * TIME DEPENDENT ON PROCESSOR
 $t_{\text{ACCESS}} = 100 \text{ NS (TYP); } 110 \text{ NS (MAX)}$
 $t_{\text{P ACCESS}} = 100 \text{ NS (TYP); } 110 \text{ NS (MAX)}$
 $t_{\text{CYCLE}} = 545 \text{ NS (TYP); } 565 \text{ NS (MAX)}$
 SYNC H TO DOUT H SPECIFIED AT A MINIMUM OF 50 NS

REVISIONS		
CHK	CHANGE NO.	REV.

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																	
				* A	B	C	D														
B-DD-M8044-0	1		32K X 16 BIT MOS MEMORY	*	A	B	C	D													
D-UA-M8044-0-0	8		32K X 16 BIT MOS MEMORY	B	C	D	D	D													
D-CS-M8044-0-1	7		32K X 16 BIT MOS MEMORY	A	B	C	D	D													
D-MD-5013128-0-0	7		DRILL & ETCH DRAWING	B	C	C	C	C													
		5013128	ETCHED BOARD	C	D	D	D	D													
K-PC-M8045-0-DBC	-		P.C. DESIGN DATA BASE	C	D	D	D	D													
K-PL-M8044-AA-DBP	-		PARTS LIST DATA BASE	-	-	-	-	F													
K-PL-M8044-BA-DBP	-		PARTS LIST DATA BASE	-	-	-	-	F													
K-PL-M8044-CA-DBP	-		PARTS LIST DATA BASE	-	-	-	-	F													
K-PL-M8044-DA-DBP	-		PARTS LIST DATA BASE	-	-	-	-	F													

NOTES:	REVISIONS			
	DATE	CHG NO.	ORIG	REV.
	---			*
	5/78	ML001	A	
	12/78	ML002	B	
	7/80	ML003	C	
	10/80	ML004	D	

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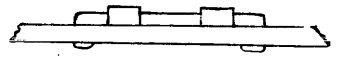


USED ON OPTION/MODEL MSV11-D		DRN K. HODGSON	2/28/77	TITLE 32K X 16 BIT MOS MEMORY
		CHK'D R. GIVEN	2/21/78	
		ENG. R. GIVEN	2/21/78	SIZE B DD
		PROD. R. MARTEL	2/21/78	NUMBER M8044-0
				REV. D
				SHEET 1 OF 1

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MODULE VARIATIONS AA/CA

- 1.
2. W2 THRU W5 SHOULD BE INSTALLED WITH ASSEMBLY SPACERS SO THAT THEY LOOK LIKE THE FOLLOWING:
3. R-PACKS SHOULD BE INSTALLED SO THAT LEADS DO NOT INTERFERE WITH OTHER COMPONENTS
4. ⊗ WIRE WRAP PIN.



5. MEMORY TYPE	JUMPER CONFIG	VARIATION
NON-PARITY	5-7	AA, CA

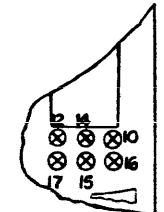
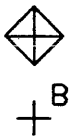
6. MEMORY SIZE	JUMPER CONFIG	VARIATION
4 K	17-15 17-14	AA
16 K	16-15 16-14	CA

7. OPTIONAL JUMPER J2 WILL ALLOW USER TO EXTEND USABLE MEMORY SPACE FROM 28K TO 30K. NORMAL JUMPER IS J1-3.

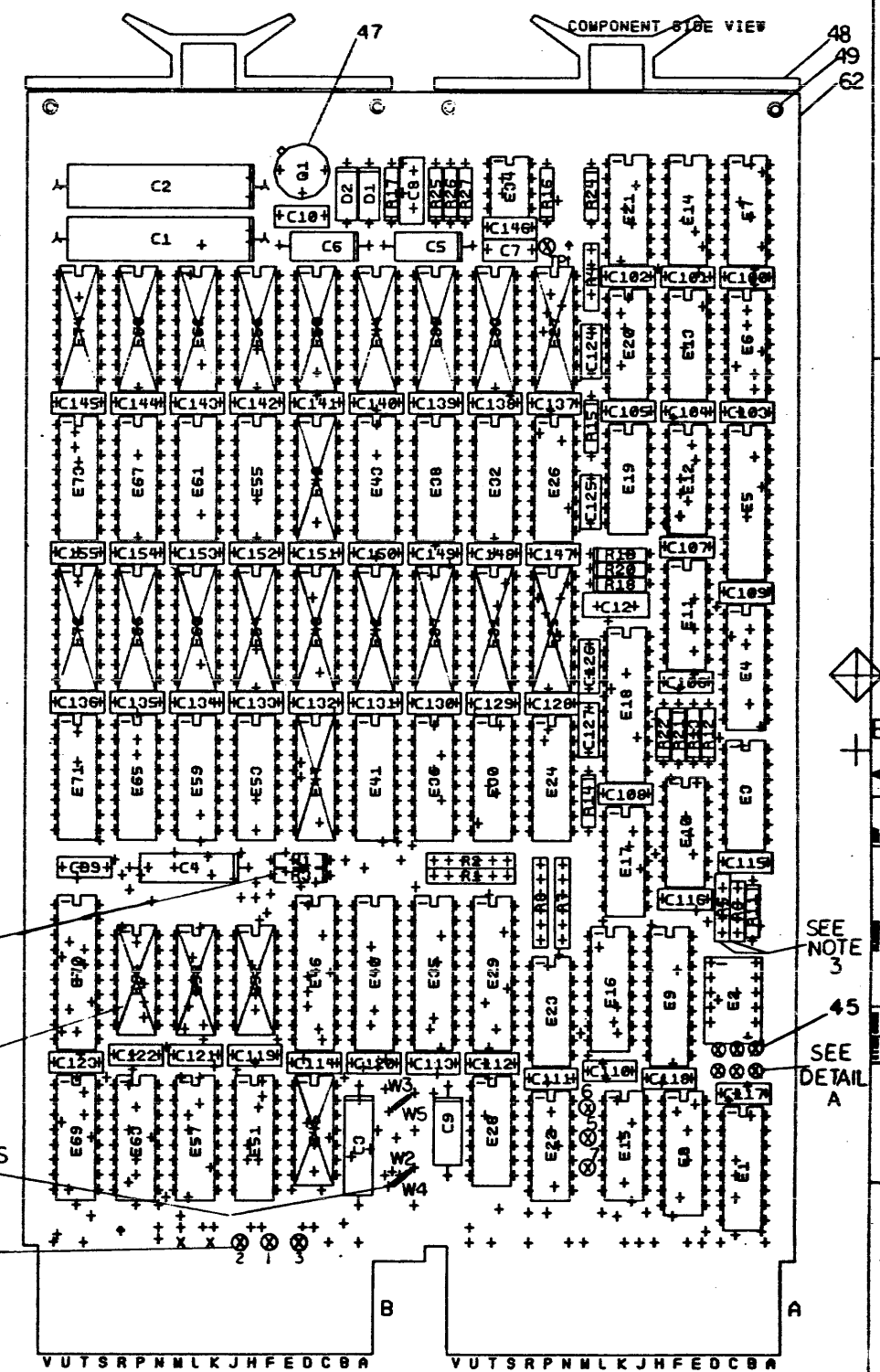
8. JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

9. MEMORY SIZE	W1	R3	VARIATION
4K	IN	OUT	AA
16K	OUT	IN	CA

10. THE FOLLOWING IC'S ARE NOT INSTALLED IN AA & CA VARIATIONS:
 E25, 27, 31, 33, 37, 39, 42, 44, 45, 47, 48, 49, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 72 & 74.



DETAIL A



SEE NOTE 9
 SEE NOTE 10
 SEE NOTES 2 & 8
 SEE NOTE 7

SEE NOTE 3
 SEE DETAIL A

NOTES:

CHK CHANGE NO	REV	DATE

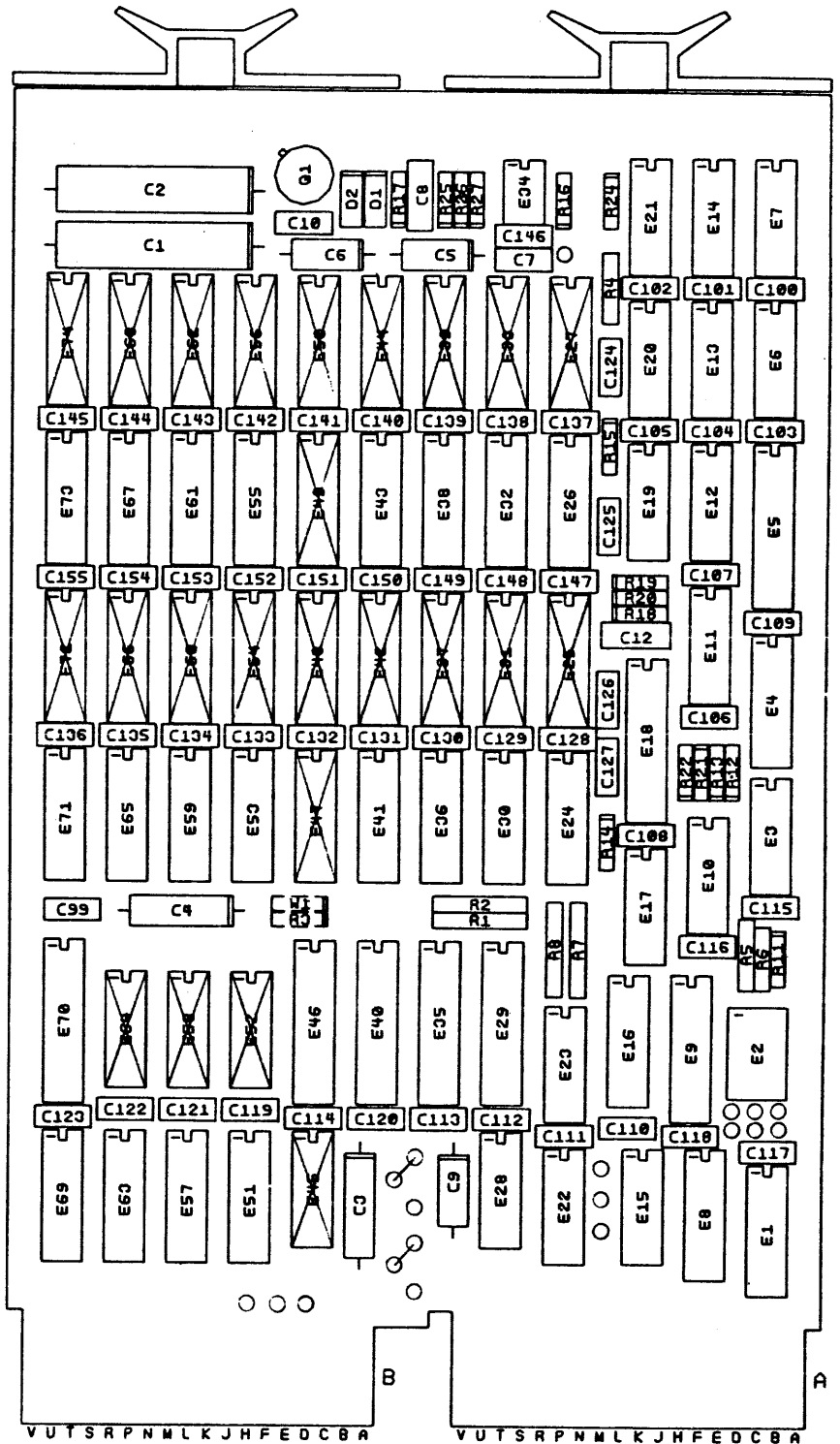
ETCH REV. D-P	P.C. DESIGN DATA BASE REV. J-EDM
---------------	----------------------------------

SIGNATURES	DATE	digital
DRN: [Signature]	7-7-72	
CHK: [Signature]	3-20-72	TITLE
ENC.		32K 16BIT MOS MEMORY
PROJ. ENG.		SCALE 2/1
PROD.		SIZE CODE NUMBER
		0 UA M8044-0-0 D
		REV
		1 MS#261966

8 7 6 5 4 3 2 1

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MODULE VARIATIONS AA'CA



NOTES:

CHK	CHANGE NO	REV

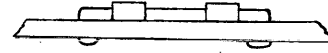
SIGNATURES		DATE	digital
DRN.			
CHK'D		3-2-	
ENC.			TITLE
PROJ. ENG.			32K 16 BIT MOS MEMORY
PROD.			SIZE CODE NUMBER
SCALE 2/1			0 UA M8044-0-0
SHT. 2 OF 8			REV
NEXT HIGHER ASSY. F-100-MPC-14-0-0			

8 7 6 5 4 3 2 1 ml 1 MS#261966

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MODULE VARIATIONS BA & DA

- 1.
2. W2 THRU W5 SHOULD BE INSTALLED WITH ASSEMBLY SPACERS SO THAT THEY LOOK LIKE THE FOLLOWING:



3. R PACKS SHOULD BE INSTALLED SO THAT LEADS DO NOT INTERFERE WITH OTHER COMPONENTS
4. ⊗ WIRE WRAP PIN.

5. MEMORY TYPE	JUMPER CONFIG	VARIATION
NON-PARITY	5-7	BA, DA

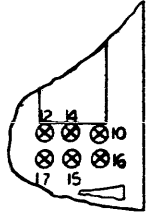
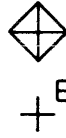
6. MEMORY SIZE	JUMPER CONFIG	VARIATION
8K	17-15 12-14	BA
32K	16-15 10-14	DA

7. OPTIONAL JUMPER I-2 WILL ALLOW USER TO EXTEND USABLE MEMORY SPACE FROM 28K TO 30K. NORMAL JUMPER IS I-3.

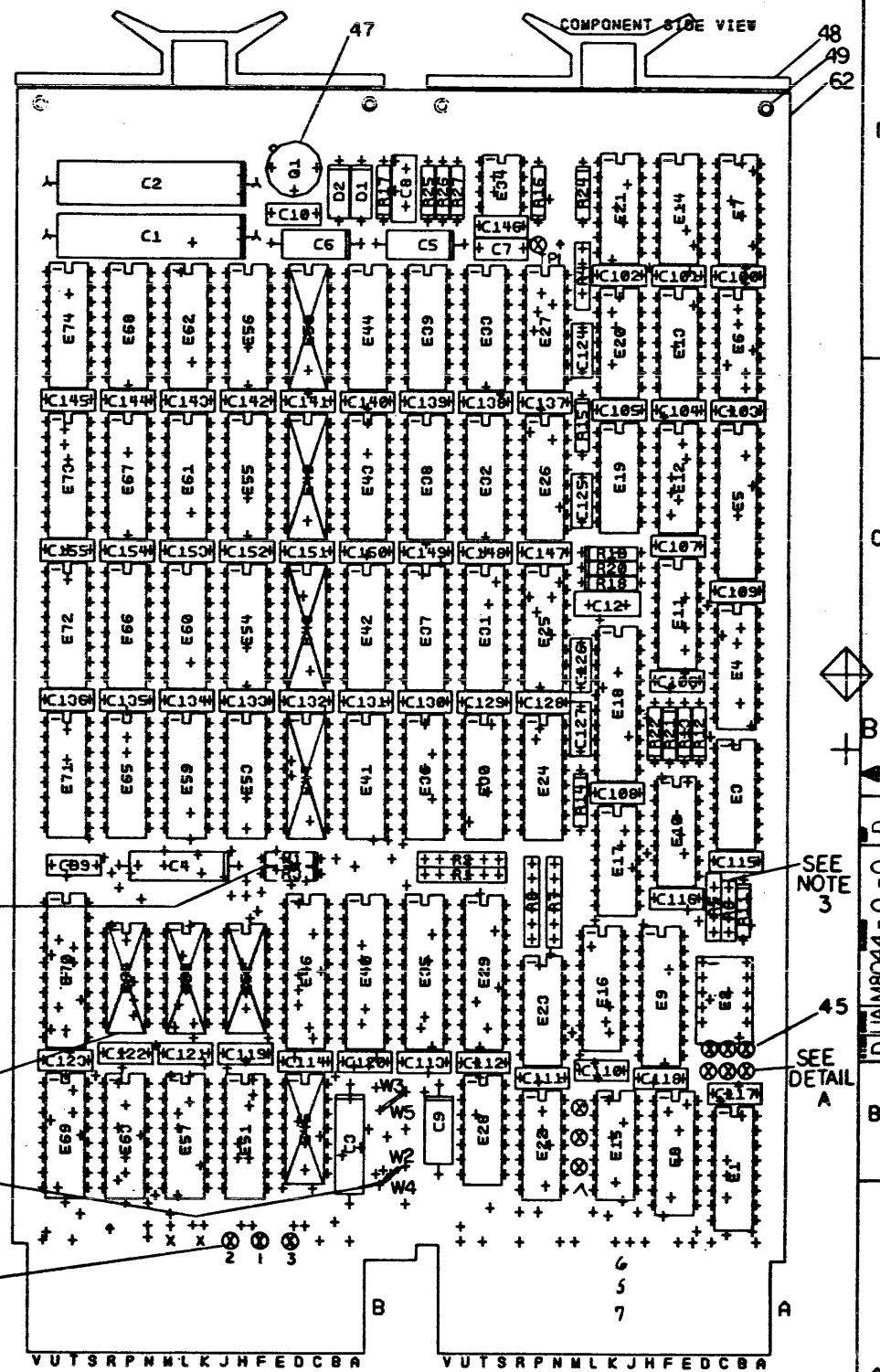
8. JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

9. MEMORY SIZE	W1	R3	VARIATION
8K	IN	OUT	BA
32K	OUT	IN	DA

10. THE FOLLOWING IC'S ARE NOT INSTALLED IN BA & DA VARIATIONS: E45, 47, 48, 49, 50, 52, 58 & 64.



DETAIL A



NOTES:

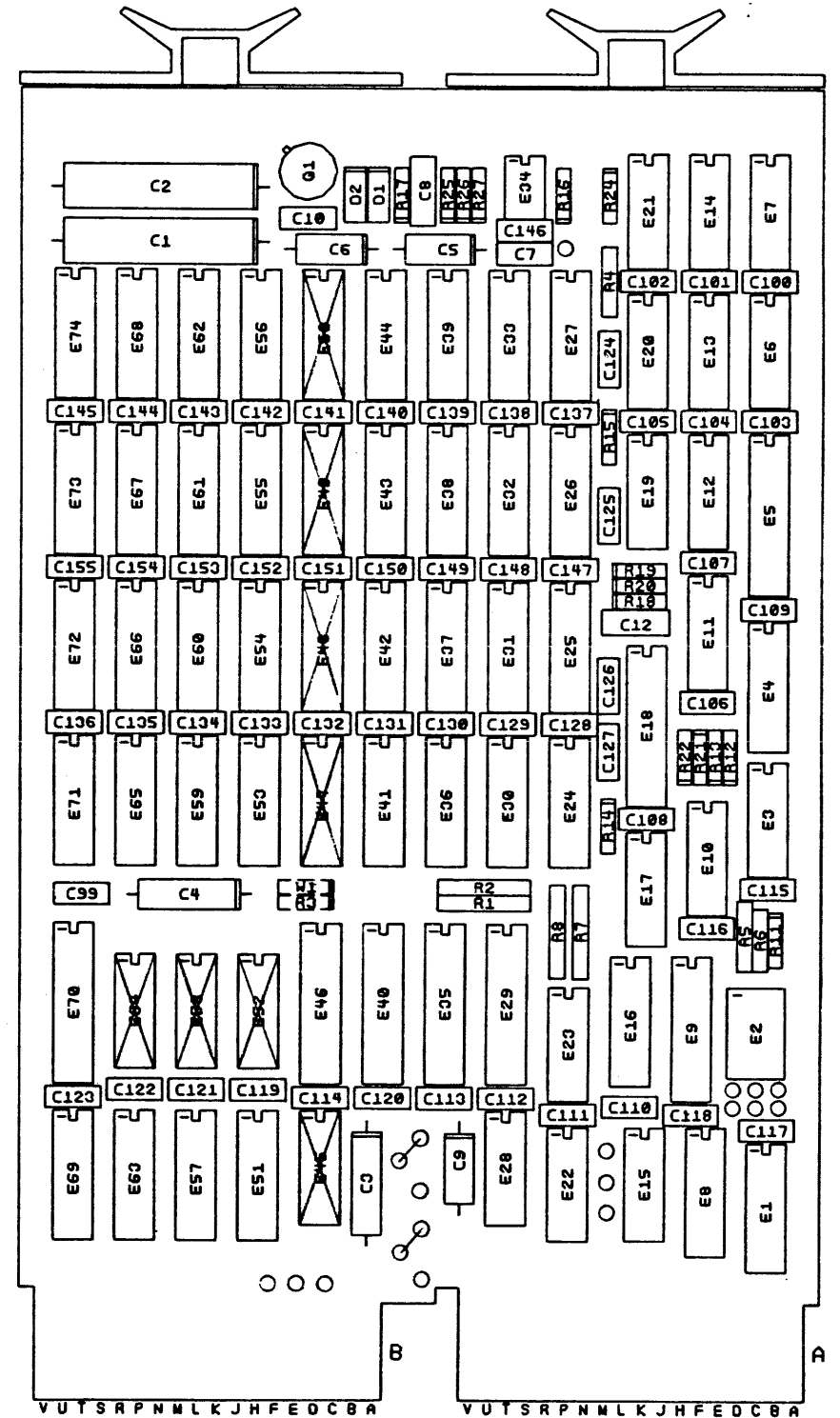
CHECK	NO	REV

ETCH REV. D-PI	P.C. DESIGN DATA BRSE REV. D-1 (DM)
----------------	-------------------------------------

SIGNATURES	DATE	digital
DRN. V. J. 2/76	2/20/76	
CHK'D. R. B. 2/76	2-27-76	
ENG.		
PROJ. ENG.		TITLE
PROD.		32K 16BIT MOS MEMORY
SCALE 2/1		SIZE CODE
SHT. 5 OF 8		NUMBER
NEXT HIGHER ASSY: B-DD-M8044-0		REV
		D U A M 8044 - 0 - 0 D

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MODULE VARIATIONS BA DA



NOTES:

CHG	NO	REV

SIGNATURES		DATE	digital
DRN.		3-2-74	
CHK'D.	(Signature)	3-2-74	
ENC.			TITLE
PROJ. ENC.			32K 16 BIT MOS MEMORY
PROD.			SIZE CODE
SCALE 2/1			NUMBER
SHT. 4 OF 8			REV
NEXT HIGHER ASSY: B-DD-M8044-0-0			D U A M 8 0 4 4 - 0 - 0 D

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NOTES:

1. ● = WIRE WRAP PIN

2.

TYPE MEMORY	JUMPER CONFIGURATION
NON PARITY	5 TO 7
PARITY	5 TO 6

3.

TYPE	JUMPER CONFIGURATION
4K	17 TO 15 & 17 TO 14
8K	17 TO 15 & 12 TO 14
16K	16 TO 15 & 16 TO 14
32K	16 TO 15 & 16 TO 14

4.

DEC (K)	OCTAL	SWITCH SETTING (X = OFF)				
		SI-1	SI-2	SI-3	SI-4	SI-5
0	000000					
4	020000					X
8	040000				X	
12	060000				X	X
16	100000			X		
20	120000			X		X
24	140000			X	X	
28	160000			X	X	X
32	200000	X				
36	220000	X				X
40	240000	X			X	
44	260000	X			X	X
48	300000	X	X			
52	320000	X	X	X		X
56	340000	X	X	X	X	
60	360000	X	X	X	X	X
64	400000	X				
68	420000	X				X
72	440000	X			X	
76	460000	X			X	X
80	500000	X		X		
84	520000	X		X		X
88	540000	X		X	X	
92	560000	X		X	X	X
96	600000	X	X			
100	620000	X	X			X
104	640000	X	X		X	
108	660000	X	X		X	X
112	700000	X	X	X		
116	720000	X	X	X		X
120	740000	X	X	X	X	
124	760000	X	X	X	X	X

5. NORMAL JUMPER 1 TO 3. OPTIONAL JUMPER 1 TO 2 WILL ALLOW USER TO EXTEND USABLE MEMORY SPACE FROM 28K TO 30K.

6.

JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

7.

MEMORY SIZE	W1	R3
4K	IN	OUT
8K	IN	OUT
16K	OUT	IN
32K	OUT	IN

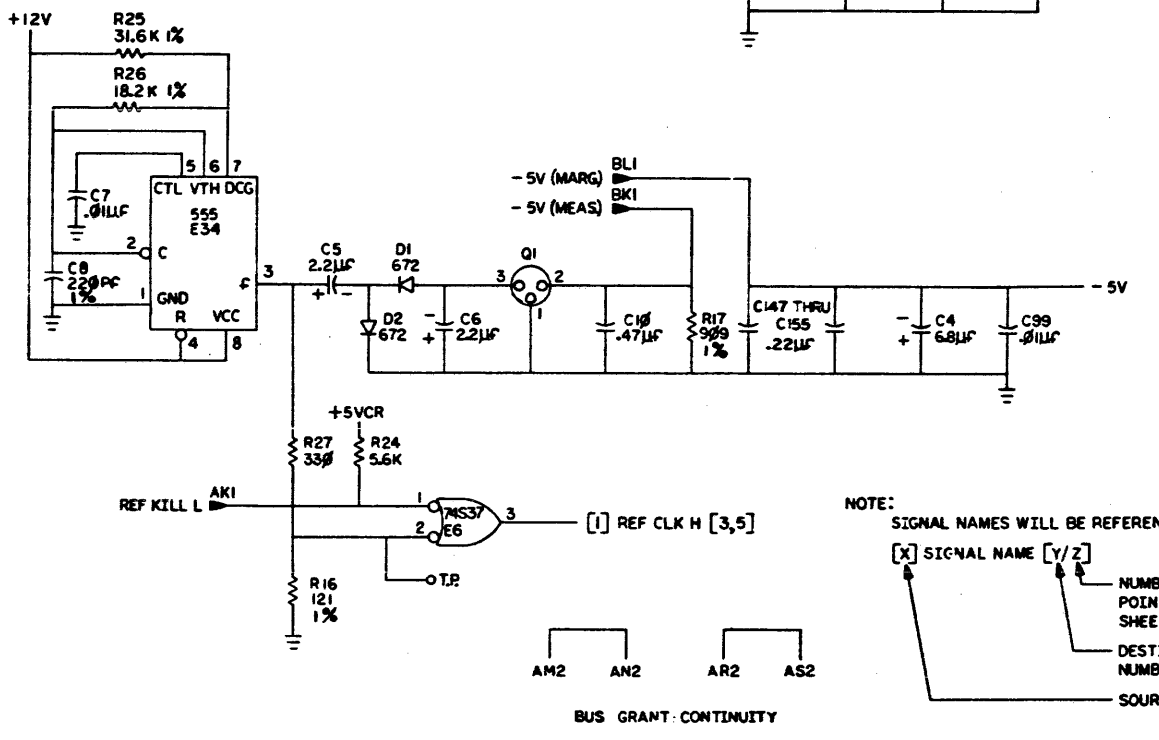
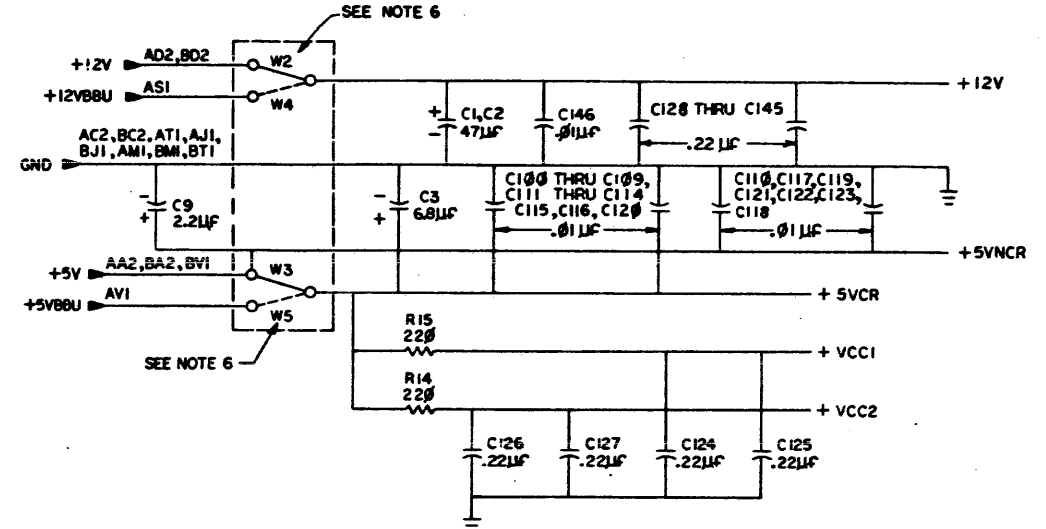
8.

OPTION DESIGNATION	PRIMARY VARIATION	SYSTEM DESCRIPTION
MSVII-DA	M8044-AA	4K X 16 BITS
MSVII-DB	M8044-BA	8K X 16 BITS
MSVII-DC	M8044-CA	16K X 16 BITS
MSVII-DD	M8044-DA	32K X 16 BITS

9.

IC TYPE	+5V	GND	+12V	-5V
555		1	8	
MOS	9	16	8	1
74S373	20	10		
74LS393	14	7		
74S280	14	7		
74S74	14	7		
74S10	14	7		
74S11	14	7		
8641	16	8		
8640	8	1		
74S240	20	10		
74S37	14	7		
74S22	14	7		
1KX4 PROM	18	9		
74S02	14	7		
74LS75	5	12		
74S32	14	7		
74LS00	14	7		
74LS240	20	10		

10. THESE I.C.'S USED ONLY IN 8K & 32K CONFIG'S.



NOTE:
[X] SIGNAL NAME [Y/Z]
NUMBER OF CONNECTION POINTS ON DESTINATION SHEET.
DESTINATION SHEET NUMBER.
SOURCE SHEET NUMBER.

REVISIONS

REV.	CHANGE NO.	BY	DATE
1	1	R. GIVEN	11/23/76
2	2	R. GIVEN	12/13/76
3	3	R. GIVEN	12/13/76
4	4	R. GIVEN	12/13/76

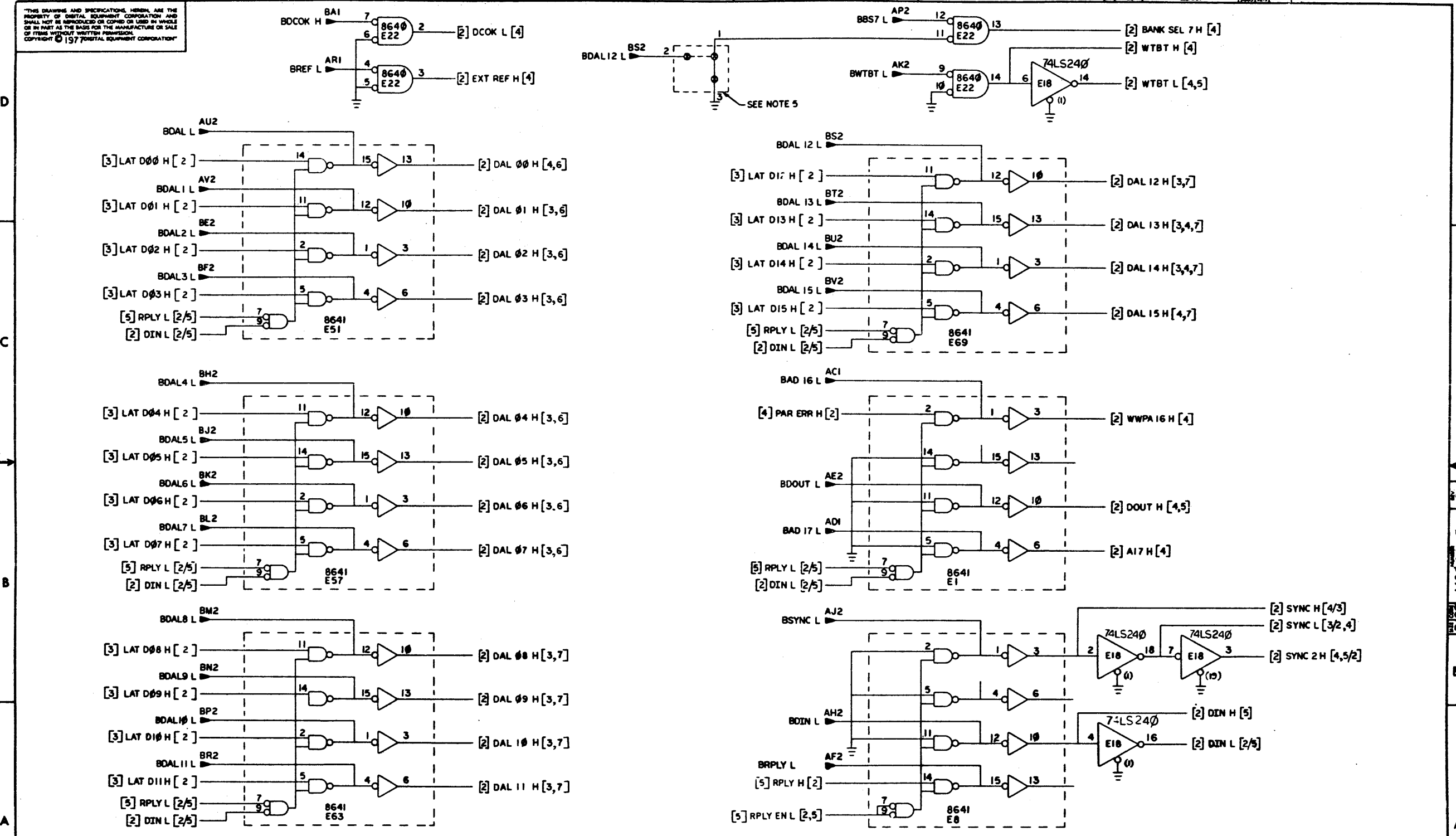
DESIGNERS

DESIGNER	DATE
RON GIVEN	11/23/76
RON GIVEN	12/13/76
RON GIVEN	12/13/76

DRN: Ron Given 10-25-76	FIRST USED ON: MSVII-D
CHKD: R. Given 2-21-77	TITLE: 32K 16BIT MOS MEM
ENGR: R. Given 2-21-77	SIZE CODE: D CS
PROJ. ENG. R. Given 2-21-77	NUMBER: M8044-0-1
PROD. ENG. R. Given 2-21-77	REV: D
NEXT HIGHER ASSY:	SHEET 1 OF 7
B-DD-M8044-0	DIST. ML 1

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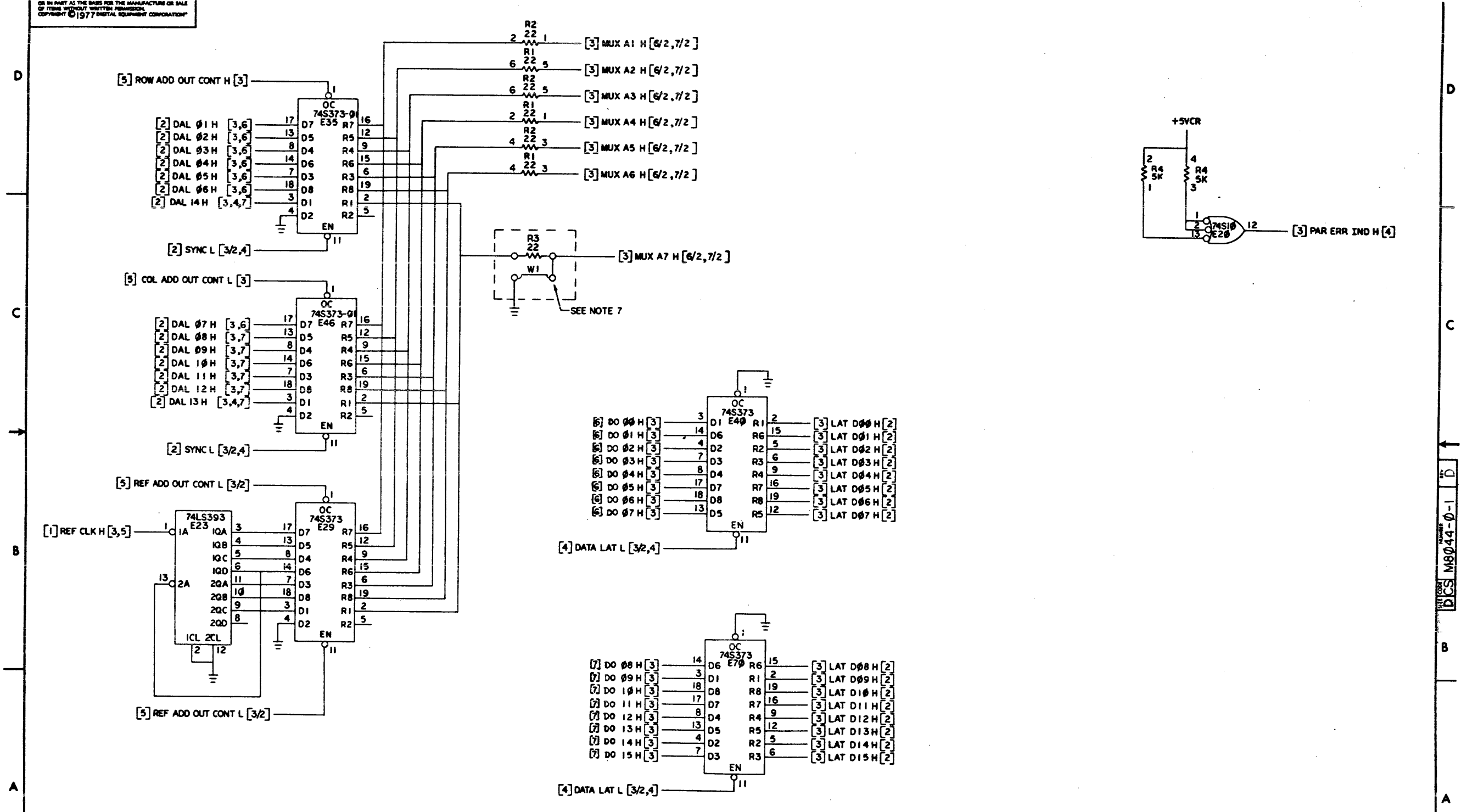
DCS M8044-0-1 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: 32K 16BIT MOS MEM
 SIZE CODE: DCS
 NUMBER: M8044-0-1
 REV: D
 SCALE: SHEET 2 OF 7
 DIST.:

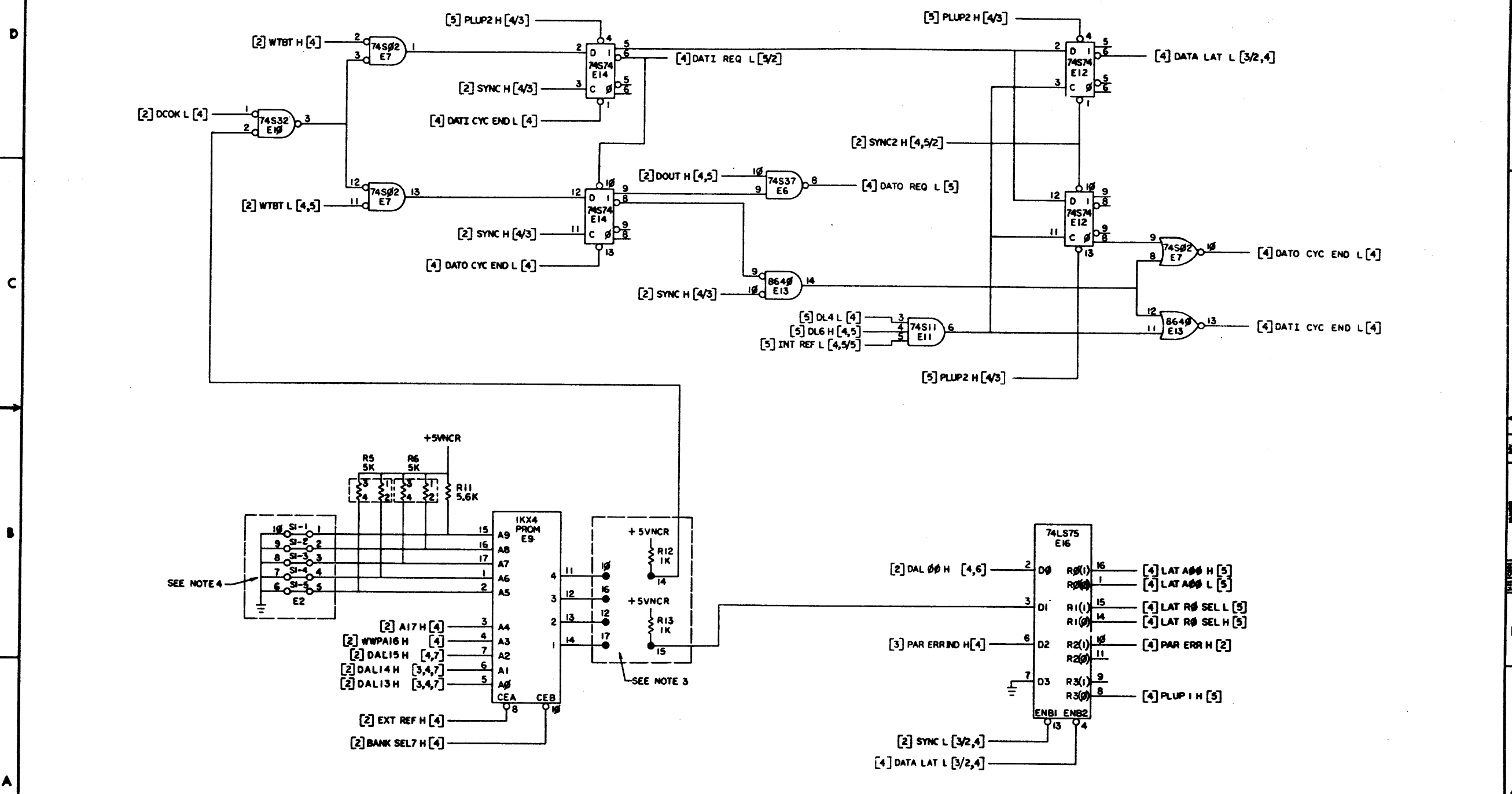
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REVISIONS		
CHK	CHANGE NO.	REV.

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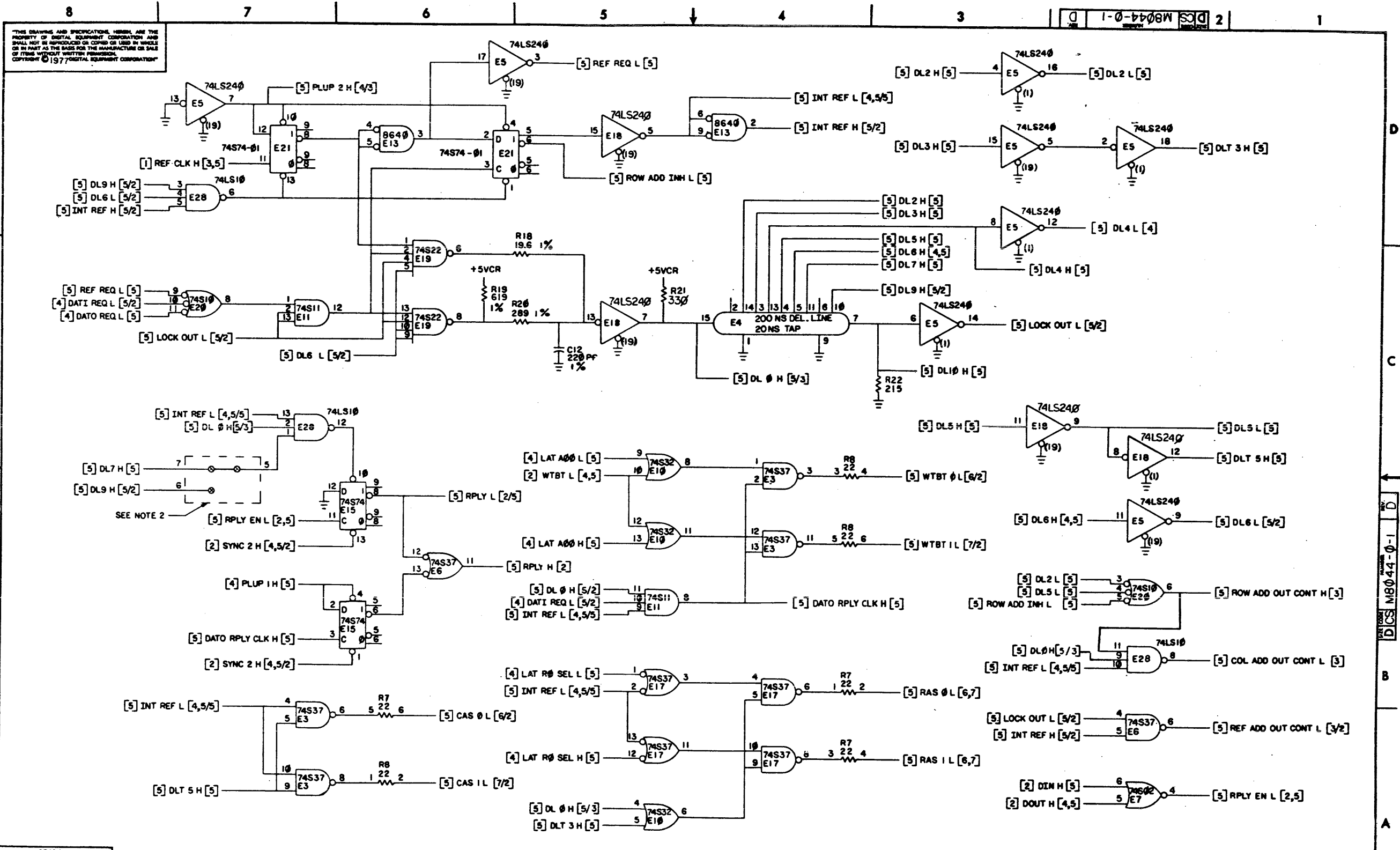
DCS M8044-0-1 2



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: 32K 16 BIT MOS MEM
 SCALE: / / SHEET: 4 OF 7
 NUMBER: DCS M8044-0-1
 REV: D

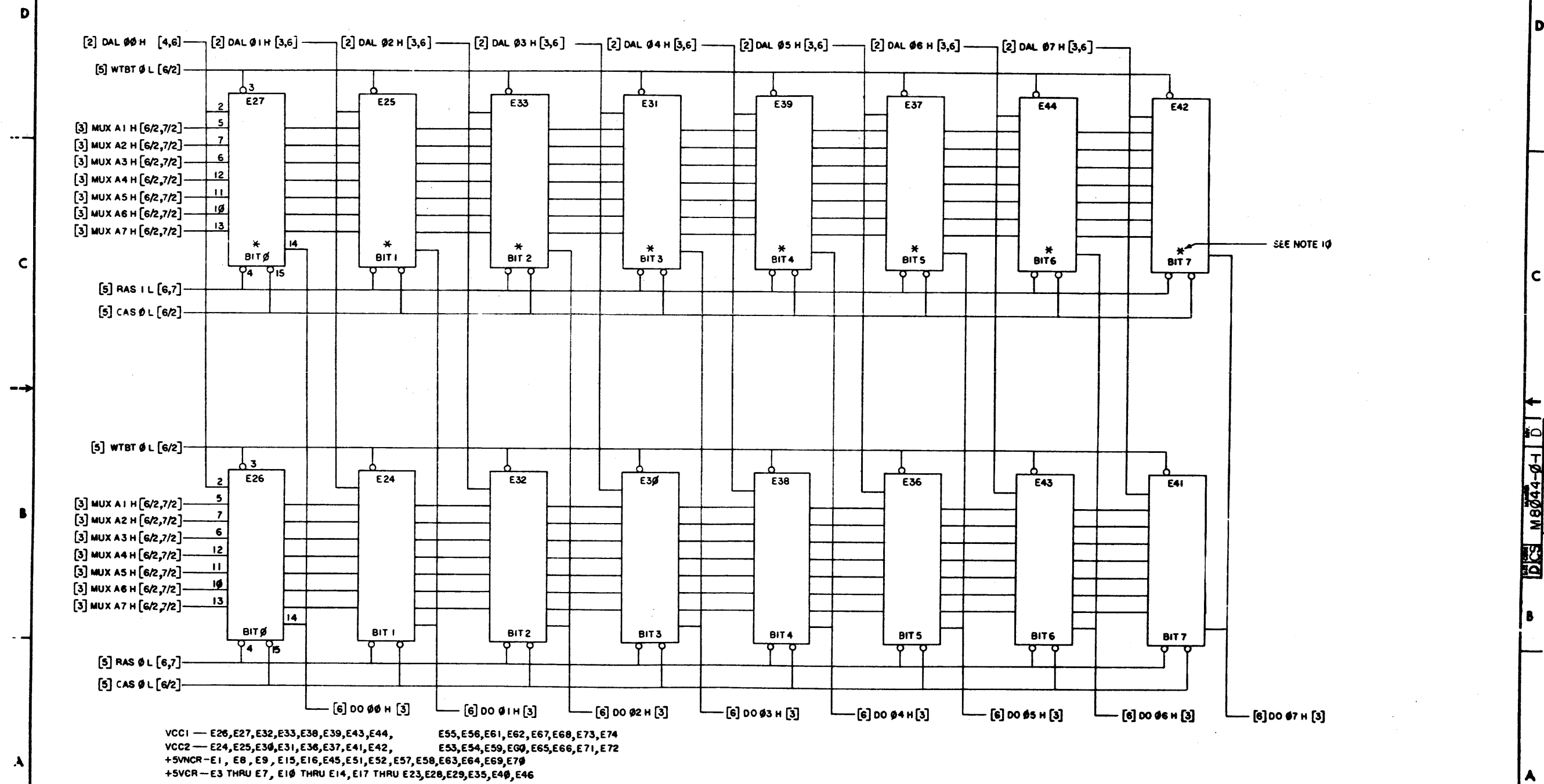
DCS M8044-0-1



REVISIONS		
CHK	CHANGE NO.	REV.

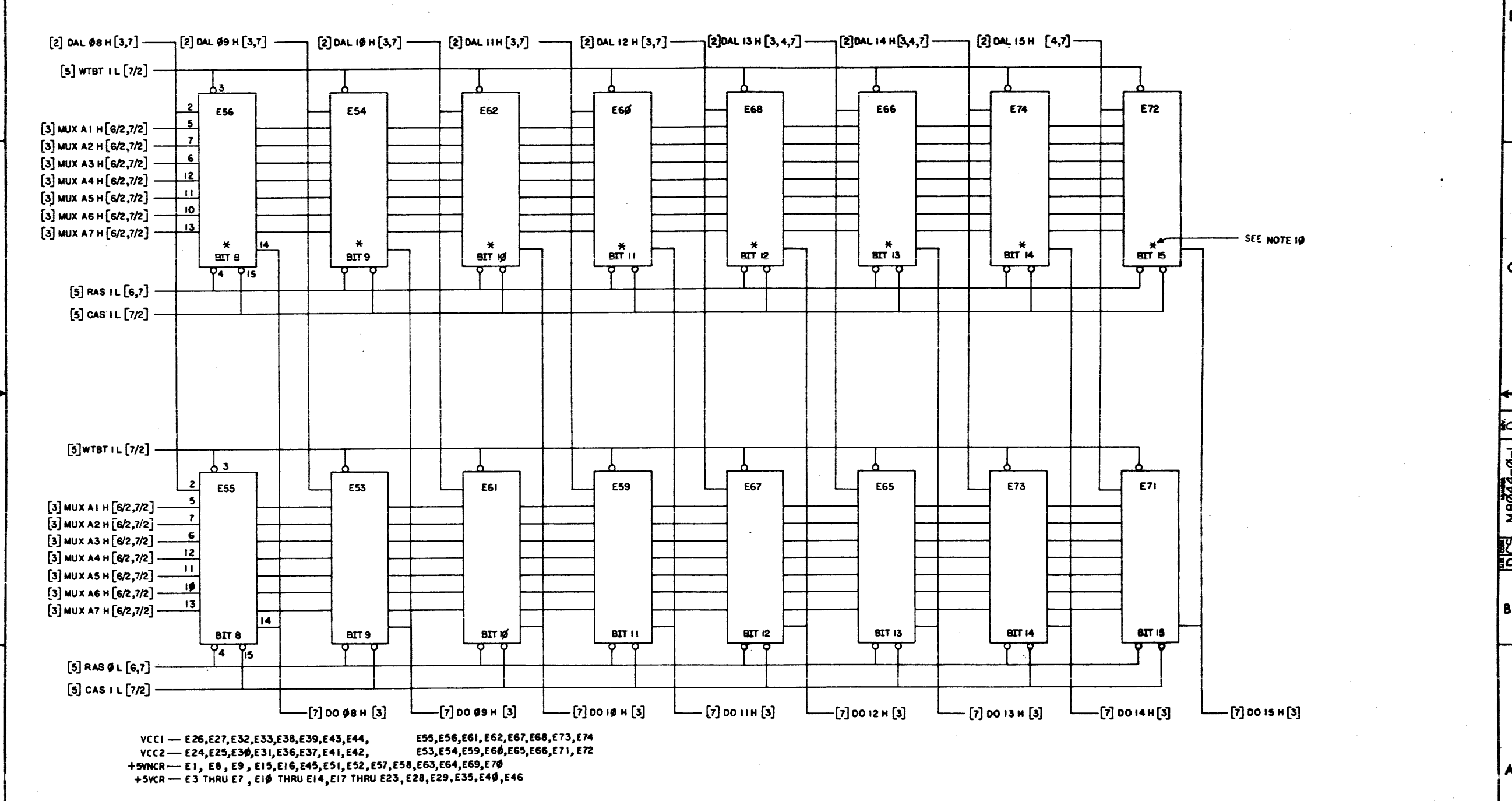
TITLE	SIZE/CODR	NUMBER	REV.
32K 16BIT MOS MEM	D CS	M8044-0-1	D
SCALE	SHEET	5 OF 7	DWT.

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REVISIONS		
CHK	CHANGE NO.	REV.

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VCC1 — E26, E27, E32, E33, E38, E39, E43, E44, E55, E56, E61, E62, E67, E68, E73, E74
 VCC2 — E24, E25, E30, E31, E36, E37, E41, E42, E53, E54, E59, E60, E65, E66, E71, E72
 +5VNCR — E1, E8, E9, E15, E16, E45, E51, E52, E57, E58, E63, E64, E69, E70
 +5VCR — E3 THRU E7, E10 THRU E14, E17 THRU E23, E28, E29, E35, E40, E46

REVISIONS		
CHK	CHANGE NO.	REV.

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION	
				J	JA
1	1	M8043-00	DLV11-J,4-SERIAL LINE PERIPHEREL	1	1
2	2	9905622-00	BOX,FOLDING	1	-
3	3	7018204-00	D315 SLU EXPANSION ASSY	-	1
4	4	9009701-00	SCREW,PAN,PHIL,SENS 6-32X .312L	-	4
5	5	3700273-00	INSTR PKG KIT OPTION IBV11-A	-	1
6	6 C-UA-H315-B-0	OH315-00	MODEM TEST CONNECTOR	1	4

REVISION HISTORY		BASIC PART NO: DLV11		DRN: B. CSERPES		DATE: 02-MAR-82		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	L. GILBERT	DATE:	02-MAR-82	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX					DLV11-JA INSTALLATION ARRANG.	
			[A] J,JA						
			[B]	DES.ENG.:	J.CURTIS	DATE:	02-MAR-82		
			[C]						DOCUMENT NUMBER
			[D]	RESP.ENG.:	J.CURTIS	DATE:	02-MAR-82	SIZE	CODE
			[E]					NUMBER	REV
			[F]	MFG.ENG.:	N.POLLITT	DATE:	02-MAR-82	K	PL
				ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #
				D-AR-DLV11-J-4		B-DD-DLV11-J-0		DLV11A.PLS	7

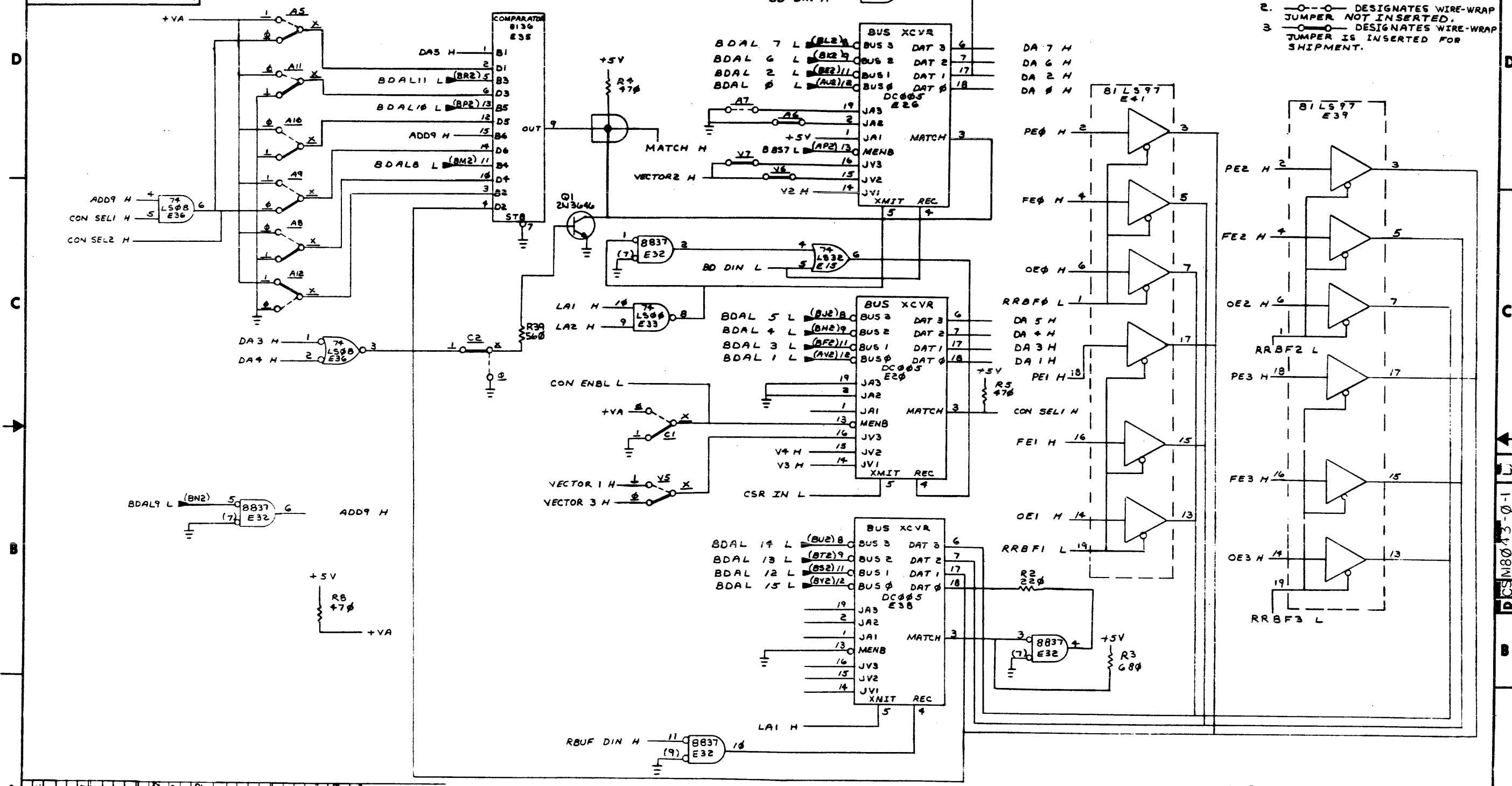
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EQ.43.19.01.13.01

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1-0-ES08W500 2 1 MR

- NOTES:
1. UNDERLINED TERM DESIGNATES LABEL IN ETCH.
 2. DESIGNATES WIRE-WRAP JUMPER NOT INSERTED.
 3. DESIGNATES WIRE-WRAP JUMPER IS INSERTED FOR SHIPMENT.



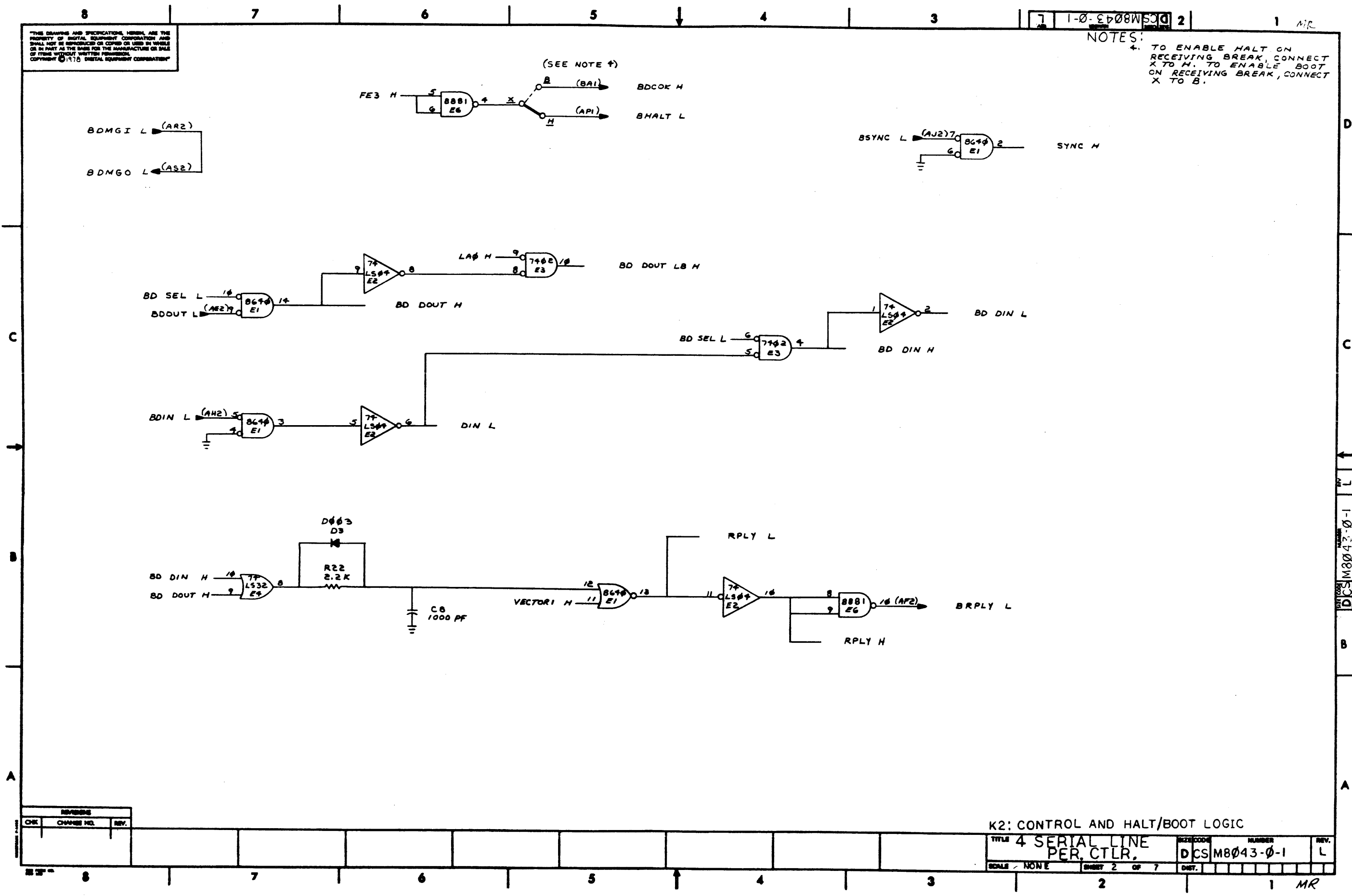
REV.	CHG.	BY	DATE	DESCRIPTION
1		T. ZAJAC	11/15/78	INITIAL DESIGN
2		T. ZAJAC	12/15/78	REVISED FOR MANUFACTURE
3		T. ZAJAC	1/15/79	REVISED FOR MANUFACTURE
4		T. ZAJAC	2/15/79	REVISED FOR MANUFACTURE
5		T. ZAJAC	3/15/79	REVISED FOR MANUFACTURE
6		T. ZAJAC	4/15/79	REVISED FOR MANUFACTURE
7		T. ZAJAC	5/15/79	REVISED FOR MANUFACTURE
8		T. ZAJAC	6/15/79	REVISED FOR MANUFACTURE
9		T. ZAJAC	7/15/79	REVISED FOR MANUFACTURE
10		T. ZAJAC	8/15/79	REVISED FOR MANUFACTURE
11		T. ZAJAC	9/15/79	REVISED FOR MANUFACTURE
12		T. ZAJAC	10/15/79	REVISED FOR MANUFACTURE
13		T. ZAJAC	11/15/79	REVISED FOR MANUFACTURE
14		T. ZAJAC	12/15/79	REVISED FOR MANUFACTURE
15		T. ZAJAC	1/15/80	REVISED FOR MANUFACTURE
16		T. ZAJAC	2/15/80	REVISED FOR MANUFACTURE
17		T. ZAJAC	3/15/80	REVISED FOR MANUFACTURE
18		T. ZAJAC	4/15/80	REVISED FOR MANUFACTURE
19		T. ZAJAC	5/15/80	REVISED FOR MANUFACTURE
20		T. ZAJAC	6/15/80	REVISED FOR MANUFACTURE
21		T. ZAJAC	7/15/80	REVISED FOR MANUFACTURE
22		T. ZAJAC	8/15/80	REVISED FOR MANUFACTURE
23		T. ZAJAC	9/15/80	REVISED FOR MANUFACTURE
24		T. ZAJAC	10/15/80	REVISED FOR MANUFACTURE
25		T. ZAJAC	11/15/80	REVISED FOR MANUFACTURE
26		T. ZAJAC	12/15/80	REVISED FOR MANUFACTURE
27		T. ZAJAC	1/15/81	REVISED FOR MANUFACTURE
28		T. ZAJAC	2/15/81	REVISED FOR MANUFACTURE
29		T. ZAJAC	3/15/81	REVISED FOR MANUFACTURE
30		T. ZAJAC	4/15/81	REVISED FOR MANUFACTURE
31		T. ZAJAC	5/15/81	REVISED FOR MANUFACTURE
32		T. ZAJAC	6/15/81	REVISED FOR MANUFACTURE
33		T. ZAJAC	7/15/81	REVISED FOR MANUFACTURE
34		T. ZAJAC	8/15/81	REVISED FOR MANUFACTURE
35		T. ZAJAC	9/15/81	REVISED FOR MANUFACTURE
36		T. ZAJAC	10/15/81	REVISED FOR MANUFACTURE
37		T. ZAJAC	11/15/81	REVISED FOR MANUFACTURE
38		T. ZAJAC	12/15/81	REVISED FOR MANUFACTURE
39		T. ZAJAC	1/15/82	REVISED FOR MANUFACTURE
40		T. ZAJAC	2/15/82	REVISED FOR MANUFACTURE
41		T. ZAJAC	3/15/82	REVISED FOR MANUFACTURE
42		T. ZAJAC	4/15/82	REVISED FOR MANUFACTURE
43		T. ZAJAC	5/15/82	REVISED FOR MANUFACTURE
44		T. ZAJAC	6/15/82	REVISED FOR MANUFACTURE
45		T. ZAJAC	7/15/82	REVISED FOR MANUFACTURE
46		T. ZAJAC	8/15/82	REVISED FOR MANUFACTURE
47		T. ZAJAC	9/15/82	REVISED FOR MANUFACTURE
48		T. ZAJAC	10/15/82	REVISED FOR MANUFACTURE
49		T. ZAJAC	11/15/82	REVISED FOR MANUFACTURE
50		T. ZAJAC	12/15/82	REVISED FOR MANUFACTURE

KI: BUS ADDRESS/DATA LOGIC		FIRST USED ON	
DRN. <i>William</i>	307AN7	DLV11-J	
CHK'D <i>William</i>	317BY		
ENG. <i>James</i>	2 MAR 79	TITLE	
PROJ. ENG. <i>James</i>	2 MAR 79	4 SERIAL LINE	
PROD. <i>William</i>	13 MAR 79	PER. CTLR.	
NEXT HIGHER ASSY.			
B-DD-ME043-0	SIZE CODE	NUMBER	REV.
SCALE NONE	D	CSM8043-0-1	-L
SHEET 1 OF 7	DIST.		

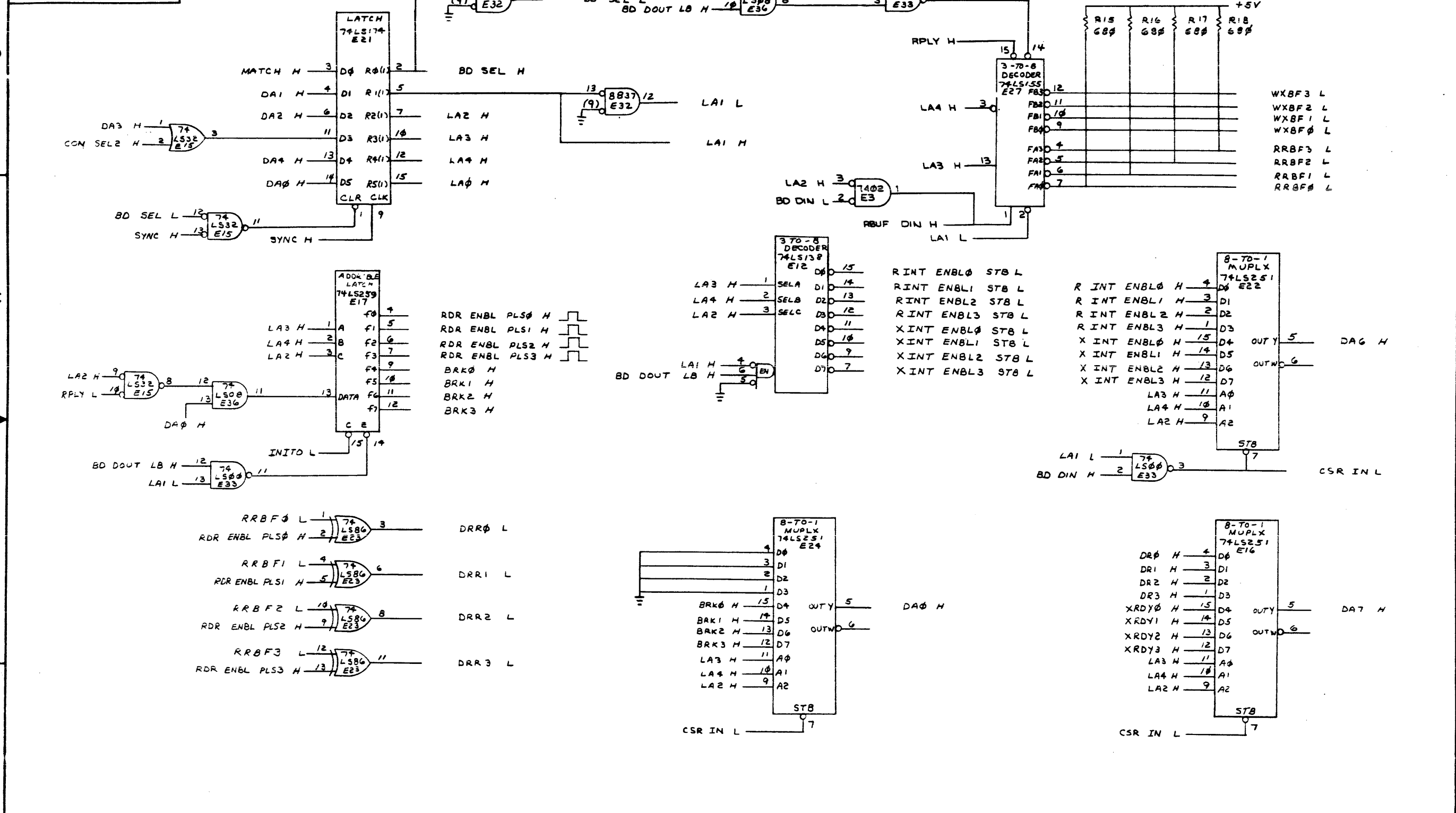
DCSM8043-0-1 L

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NOTES:
 4. TO ENABLE HALT ON RECEIVING BREAK, CONNECT X TO H. TO ENABLE BOOT ON RECEIVING BREAK, CONNECT X TO B.

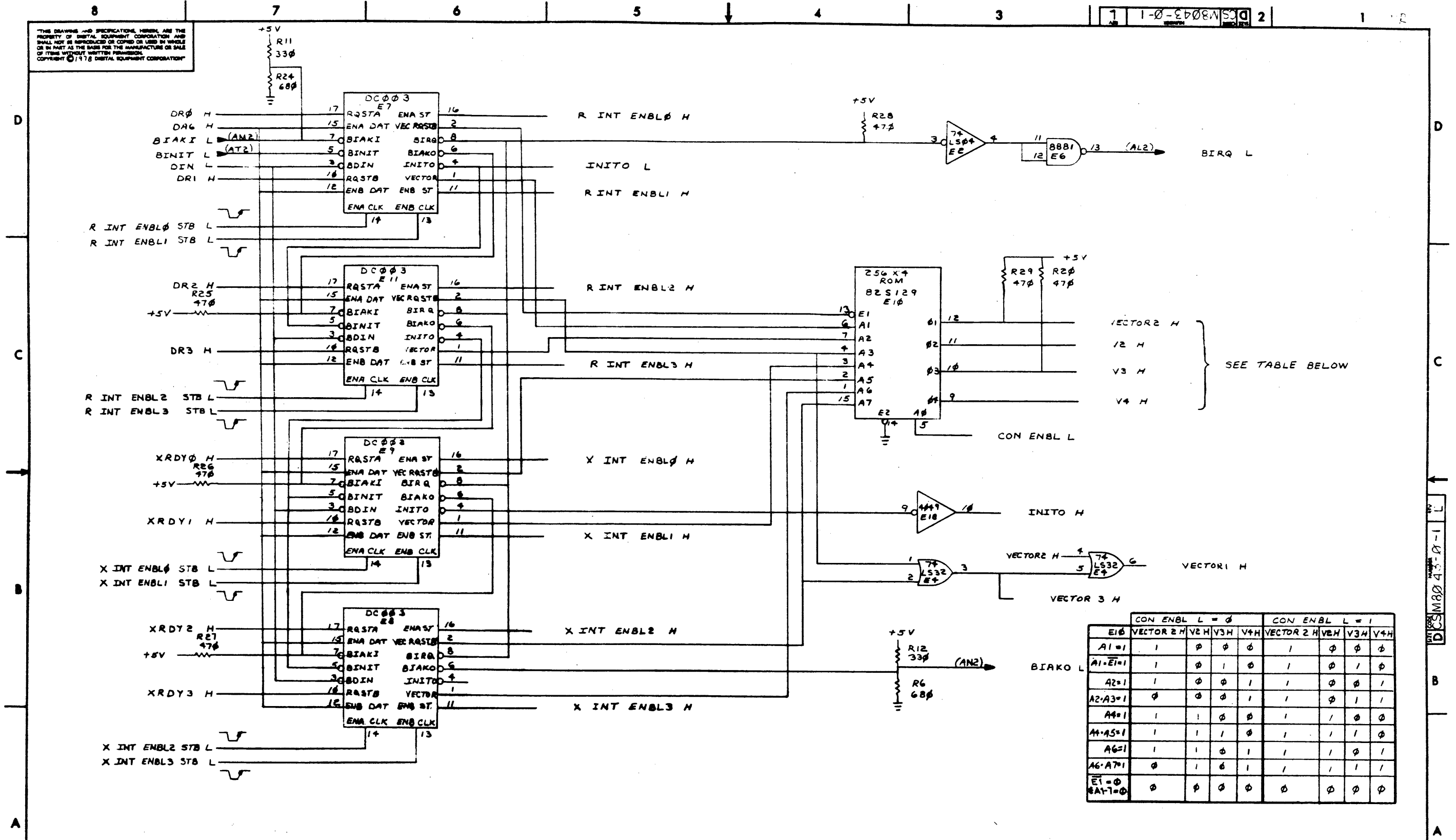


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REVISIONS		
CHK	CHANGE NO.	REV.

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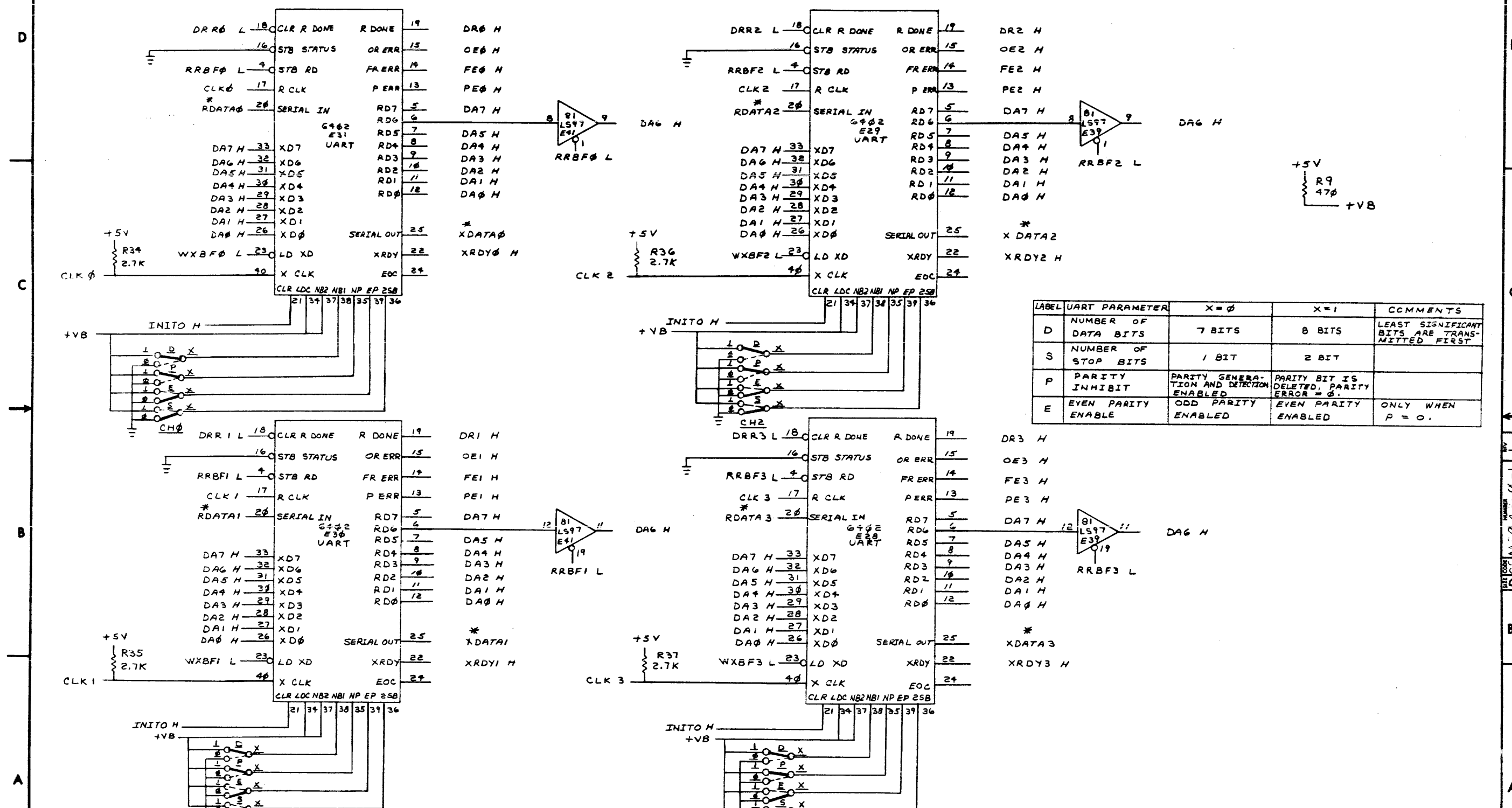
SEE TABLE BELOW

E10	CON ENBL L = 0				CON ENBL L = 1			
	VECTOR 2 H	V2 H	V3 H	V4 H	VECTOR 2 H	V2 H	V3 H	V4 H
A1=1	1	0	0	0	1	0	0	0
A1=1	1	0	1	0	1	0	1	0
A2=1	1	0	0	1	1	0	0	1
A2·A3=1	0	0	0	1	1	0	1	1
A4=1	1	1	0	0	1	1	0	0
A4·A5=1	1	1	1	0	1	1	1	0
A6=1	1	1	0	1	1	1	0	1
A6·A7=1	0	1	0	1	1	1	1	1
E1=0	0	0	0	0	0	0	0	0
A1=1	0	0	0	0	0	0	0	0

REVISIONS		
CHK	CHANGE NO.	REV.

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NOTES:
 * S, Y HIGH = MARK = 1
 Y LOW = SPACE = 0



LABEL	UART PARAMETER	X = 0	X = 1	COMMENTS
D	NUMBER OF DATA BITS	7 BITS	8 BITS	LEAST SIGNIFICANT BITS ARE TRANSMITTED FIRST
S	NUMBER OF STOP BITS	1 BIT	2 BIT	
P	PARITY INHIBIT	PARITY GENERATION AND DETECTION ENABLED	PARITY BIT IS DELETED, PARITY ERROR = 0.	
E	EVEN PARITY ENABLE	ODD PARITY ENABLED	EVEN PARITY ENABLED	ONLY WHEN P = 0.

K5: UART LOGIC

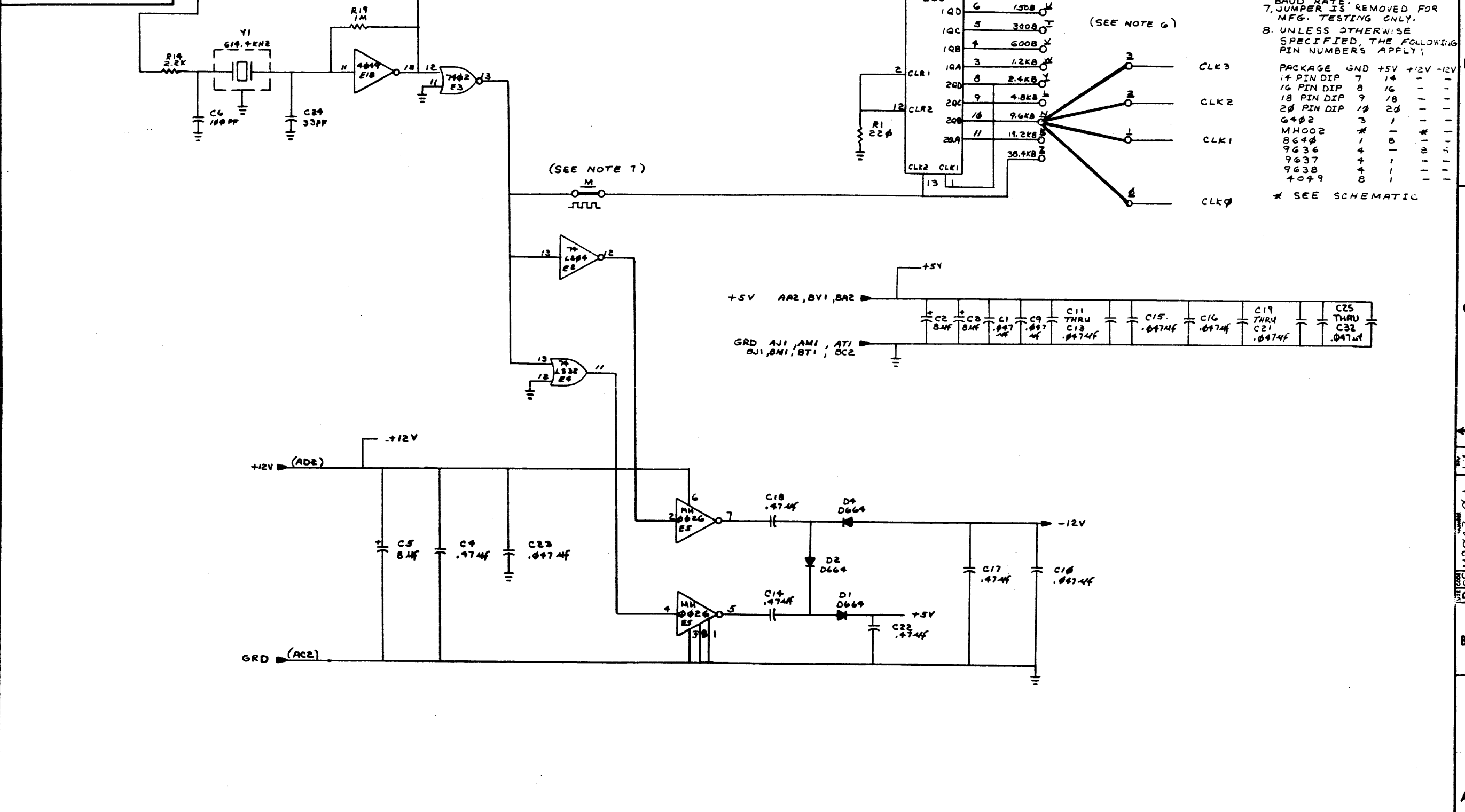
CHK	CHANGE NO.	REV.

TITLE	4 SERIAL LINE PER. CTLR.	SIZE CODE	NUMBER	REV.
SCALE	NONE	SHEET	5 OF 7	DIST.

DCS M8043-0-1

DCS M8043-0-1 L

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NOTES:
 6 CLK0-3 ARE WIREWRAP JUMPED TO REQUIRED BAUD RATE.
 7 JUMPER IS REMOVED FOR MFG. TESTING ONLY.
 8 UNLESS OTHERWISE SPECIFIED, THE FOLLOWING PIN NUMBERS APPLY:

PACKAGE	GND	+5V	+12V	-12V
14 PIN DIP	7	14	-	-
16 PIN DIP	8	16	-	-
18 PIN DIP	9	18	-	-
20 PIN DIP	10	20	-	-
24 PIN DIP	3	1	-	-
MH002	*	-	*	-
8640	1	8	-	-
9636	4	-	8	5
9637	4	1	-	-
9638	4	1	-	-
4049	8	1	-	-

* SEE SCHEMATIC

REV.	CHANGE NO.	REV.

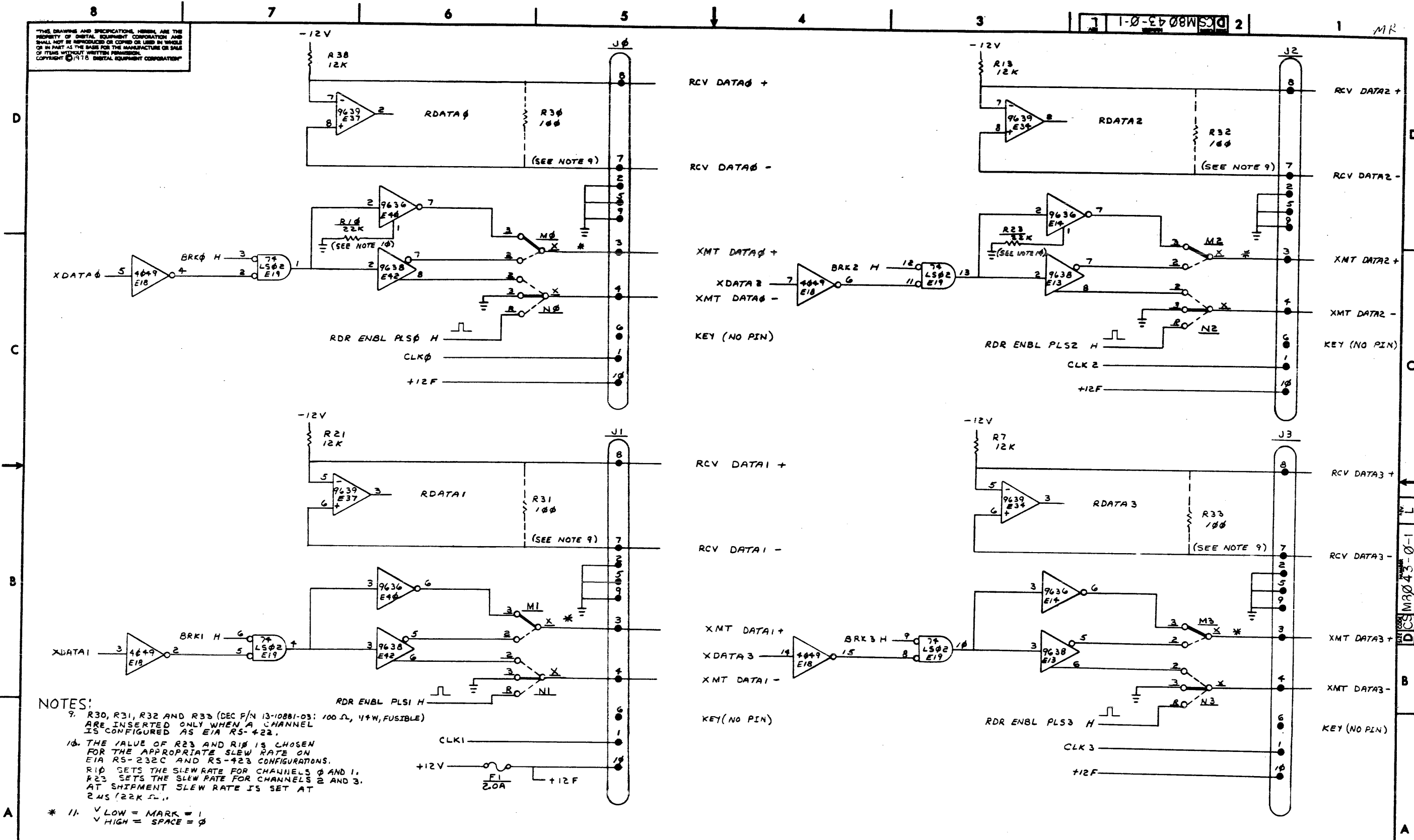
K6: PWR DIST, BAUD RATE GEN & -12V. CIRCUITRY

TITLE	4 SERIAL LINE PER. CTRL.	SIZE CODE	NUMBER	REV.
SCALE	NONE	SHEET	6 OF 7	DIST.
DCSM8043-0-1		L		MR

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DCS M8043-01 2

MR



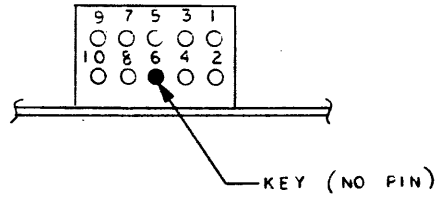
- NOTES:
- R30, R31, R32 AND R33 (DEC F/N 13-10881-03; 100 Ω, 1/4W, FUSIBLE) ARE INSERTED ONLY WHEN A CHANNEL IS CONFIGURED AS EIA RS-422.
 - THE VALUE OF R23 AND R10 IS CHOSEN FOR THE APPROPRIATE SLEW RATE ON EIA RS-232C AND RS-423 CONFIGURATIONS. R10 SETS THE SLEW RATE FOR CHANNELS 0 AND 1. R23 SETS THE SLEW RATE FOR CHANNELS 2 AND 3. AT SHIPMENT SLEW RATE IS SET AT 2 NS (22K Ω).
- * 11. ✓ LOW = MARK = 1
 ✓ HIGH = SPACE = 0

REVISIONS		
CHK	CHANGE NO.	REV.

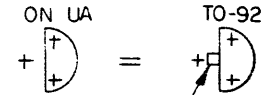
K7: LINE INPUT/OUTPUT LOGIC
 TITLE 4 SERIAL LINE PER. CTRL.
 SIZE CODE DCS M8043-01 NUMBER L REV. L
 SCALE NONE SHEET 7 OF 7 DIST.

DCS M8043-01

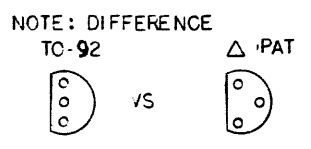
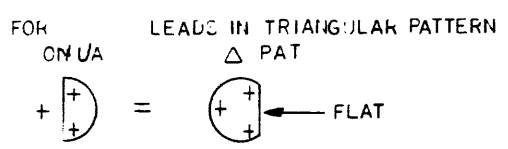
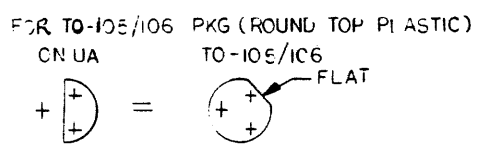
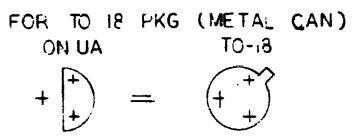
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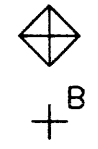
NOTES:
1. PLACEMENT OF Q1 FOR TO 92 (LEADS IN-LINE)



BEND MIDDLE LEAD OUT



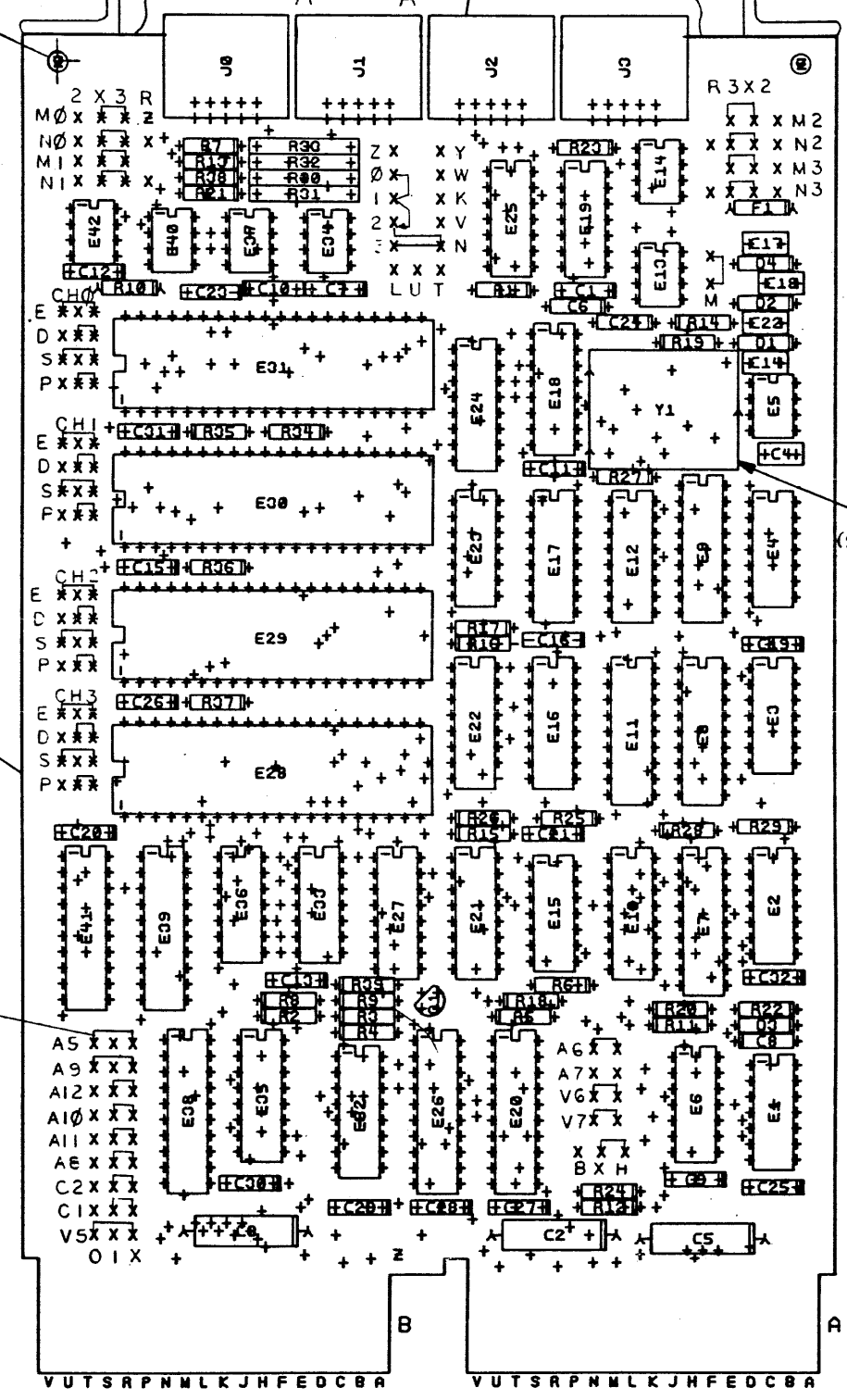
DETAIL A-A
4 PLACES



48 (QTY 2)

9 (QTY 4)

COMPONENT SIDE VIEW



53 (SEE NOTE 1)

56

NOTES: 1. R30 THRU R33 OPTIONAL
2. CASE OF Y: MUST BE INSULATED FROM PCB WITH ITEM #53
3. S DESIGNATES WIRE WRAP JUMPER (ITEM #56) INSULATED FOR SHIPMENT

CHANGE NO	REV	DATE	BY	CHK'D
1	1	12/14/71	T. ZAJAC	
2	1	12/14/71	BRYAN LOCKE	
3	1	12/14/71	M. B. MRS. H.	
4	1	12/14/71	R. GALLEGOS	
5	1	12/14/71	B. LOCKE	

ETCH REV.	DATE	BY
E-PI		
C		

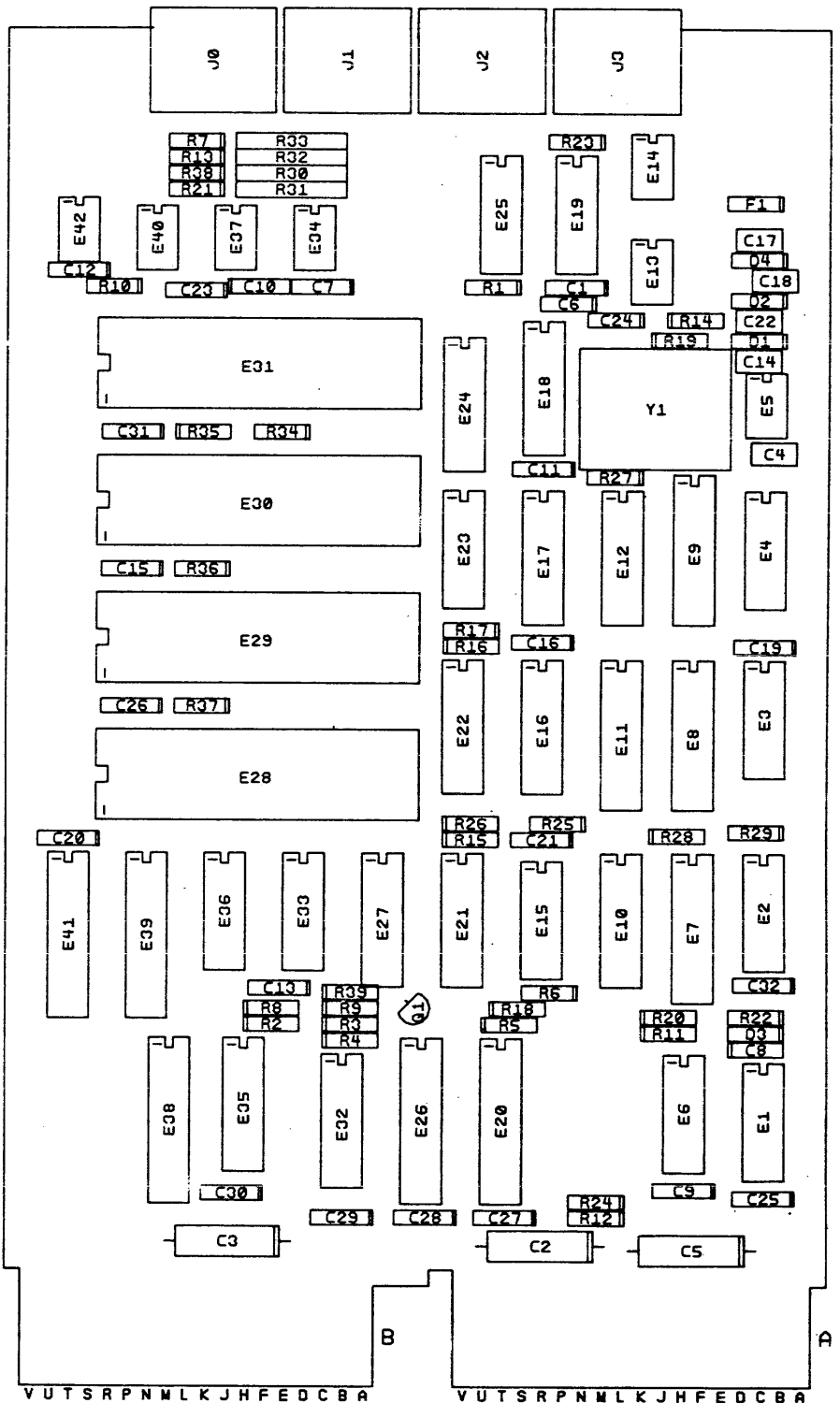
SIGNATURES	DATE
DRN. [Signature]	12/14/71
CHK'D. [Signature]	12/14/71
ENG. [Signature]	12/14/71
PROJ. ENG. [Signature]	12/14/71
PROD. K. MERCADE	12/14/71

TITLE 4 SERIAL LINE
PER. CTLR

SCALE 2/1
SHT. 1 OF 2
NEXT HIGHER ASSY. 8-DD-M8043-0

SIZE CODE NUMBER REV
D UA M8043-0-0 J

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D
C
B
A

D
C
B
A

VUTSRPNMLKJHFEDCBA VUTSRPNMLKJHFEDCBA

NOTES:

CHG	CHANGE NO	REV

SIGNATURES	DATE	digital
DRN.		
CHK'D.		TITLE 4 SERIAL LINE
ENG.		PER. CTLR
PROJ. ENG.		
PROD.		
SCALE 2/1	SIZE CODE	NUMBER
SHT. 2 OF 2	D UA	M8043-0-0 J
NEXT HIGHER ASSY. B-DD-M8043-0		