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FIELD MAINTENANCE PRINT SET

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D-CS-M8186-Ø-1	KDF11-A CPU (CIRCUIT SCHEMATIC)

UNIT VARIATIONS COVERED BY THIS PRINT SET

KDF11-AA
KDF11-AB
KDF11-AC

KDF11-A
Field Maintenance
Print Set

Digital Equipment
Corporation

PRINT SET ORDER NO.
MPØØ734

REVISIONS	NR	REV	B	USED ON OPTION/MODEL	DRN.	DATE	TITLE:	digital		
	CHG. NO.	KDF11-A-MLØØ1	11/23-A		W.J. MAHER	7DEC78			FIELD MAINTENANCE PRINT SET KDF11-A	
	DATE	2/7/80			CHK'D	DATE				
					PROJ. ENG.	DATE				
					FIELD SERV.	DATE	SIZE	CODE	NUMBER	REV.
							B	TC	KDF11-A-1	B
							DIST.			
SHEET 1 OF 1										

SHEET A1 OF A1

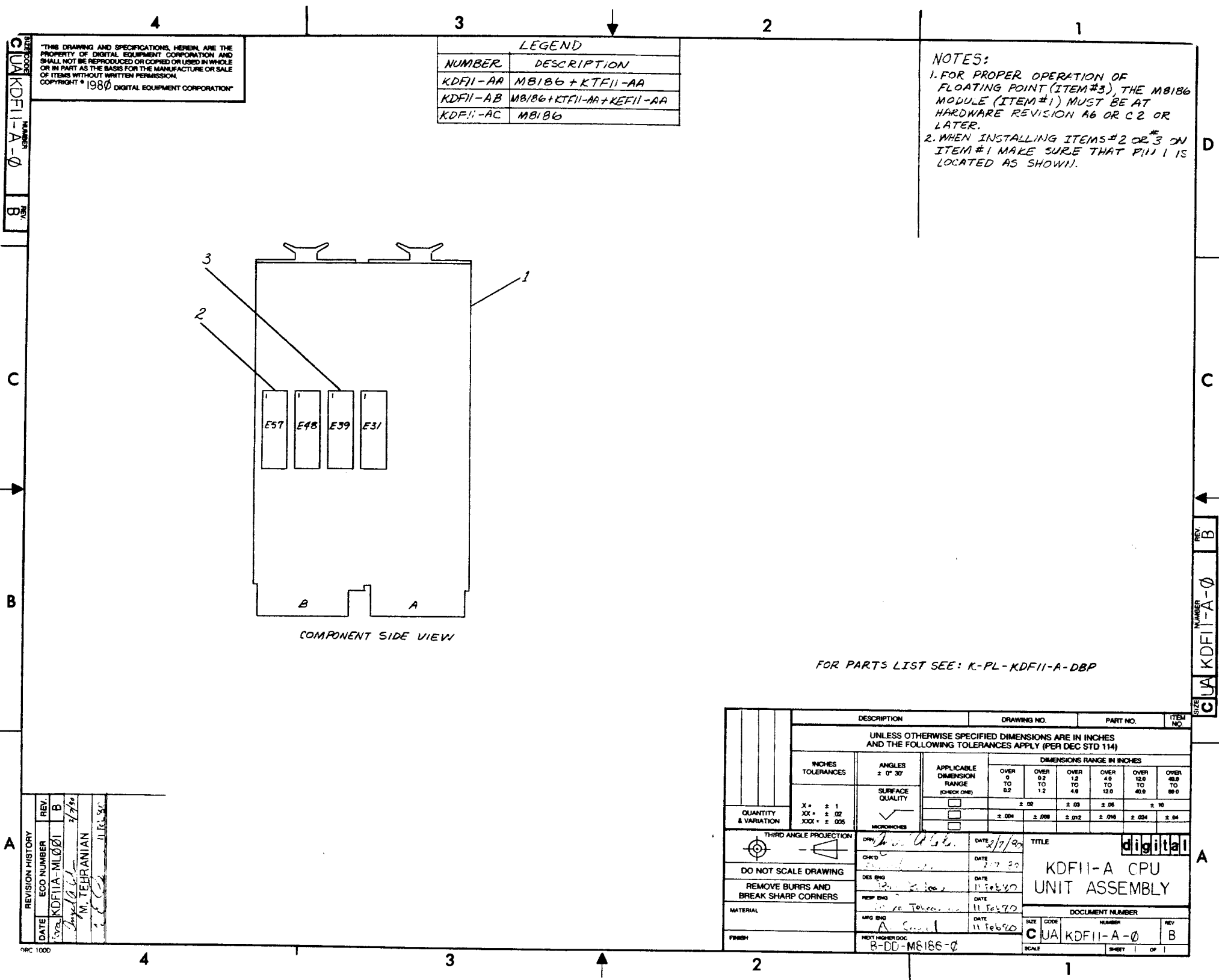
QUANTITY PER VARIATION
AA AB AC

1	1	M8186-00	16 BIT MICROPROCESSOR
2	2	2115542-01	F1=11 MMV W/FLOAT PT RE
3	3	5700001-00	CTL/CTL HYBRID KEF11-AA
4	4	9905622-00	BOX, FOLDING

REVISION HISTORY			BASIC PART NO: KDF11		DRN: P.BLODGETT		DATE: 21-JAN-80		D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A		CHK'D: W.J. MAHER		DATE: 21-JAN-80		TITLE		PARTS LIST	
MT	KDF11A-MLO01	B	SECTION. VARIATION INDEX		CHK'D: W.J. MAHER		DATE: 21-JAN-80		DUAL HEIGHT CPU			
			[A] AA,AB,AC		DES.ENG.: R. BADEAU		DATE: 21-JAN-80		DOCUMENT NUMBER			
			[B]		RESP.ENG.: R. BADEAU		DATE: 21-JAN-80		SIZE	CODE	NUMBER	REV
			[C]		MFG.ENG.: A. HOFFMAN		DATE: 21-JAN-80		K	PL	KDF11-A-DBP	B
			[D]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			[E]		B-DD-KDF11-A-0				Z0473D.PLS		4	
			[F]									

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[illegible]

REWORK INSTRUCTIONS

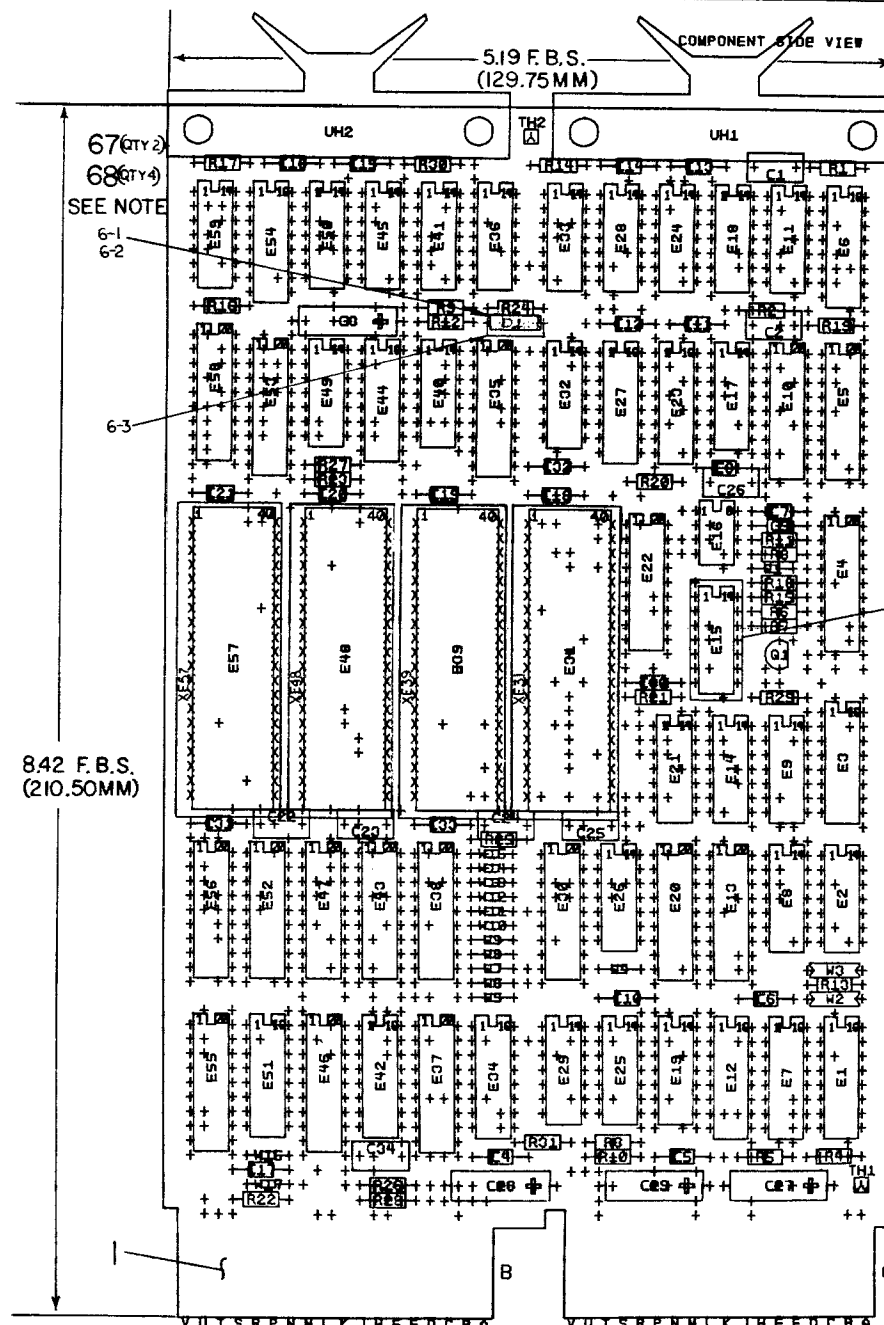
ECO*6

COMPONENT DELETES:
6-1 DELETE JUMPER W18

COMPONENT ADDS:
6-2 ADD DIODE D1 IN LOCATION PREVIOUSLY USED FOR W18. CATHODE IS TO THE RIGHT.

WIRE ADDS:
6-3 ADD WIRE FROM LEFT END OF D1 TO RIGHT END OF D1. USE RED WIRE 9105740-22. DO NOT GLUE DOWN WIRE.

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	MODE	NAME	W5	W6
		0	PC @ 24, PS @ 26	OUT	OUT
		1	CONSOLE ODT	IN	OUT
		2	BOOTSTRAP	OUT	IN
		3	EXTENDED MICROCODE	IN	IN
W7	HALT/TRAP OPTION	IN=TRAP TO IO ₈ ON HALT OUT=ENTER CONSOLE ODT ON HALT			OUT
W8	BOOTSTRAP ADDRESS	IN=POWER UP TO 173000 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



MODULE REWORK AT RELEASE

ETCH CUTS - SIDE 1

0-1 UNDER E13 BETWEEN E13-18 & E20-18

0-2 UNDER E13 BETWEEN E13-16 & FEEDTHRU TO THE RIGHT OF E13-5

NOTES: REFER TO PARTS LISTS FOR ALL NUMBERED ITEMS.

3. E39 & E48 ARE SPARE IC'S

STEP E + Y RCIS 0 STEP 0 TIMES

REPORT + X RCIS 5,250 STEP 2 TIMES

CHANGE NO	REV	DATE	BY	CHKD	APP'D
1	1	5-22-79	W. J. JONES	W. J. JONES	W. J. JONES
2	2	6-11-79	W. J. JONES	W. J. JONES	W. J. JONES
3	3	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
4	4	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
5	5	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
6	6	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
7	7	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
8	8	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
9	9	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES
10	10	7-15-79	W. J. JONES	W. J. JONES	W. J. JONES

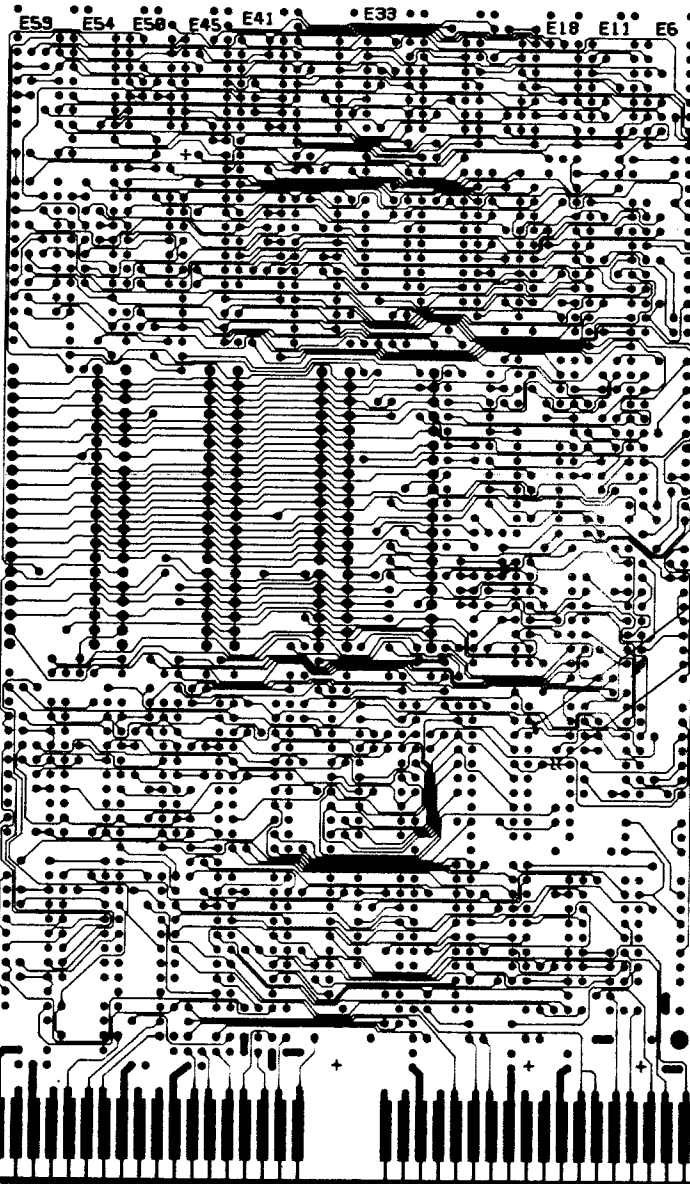
ETCH REV. C	P.C. DESIGN DATABASE REV. C/REV.394
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SIGNATURES	DATE	TITLE
DRN. W. J. JONES	5-22-79	KDF11 CPU
CHK. D. W. J. JONES	6-11-79	
MECH. ENG. W. J. JONES	7-15-79	
PROJ. ENG. W. J. JONES	7-15-79	
PROD. H. J. JONES	7-15-79	
SCALE 2/1	OF 5	
SHT.		
NEXT HIGHER REV. B-DD-M8186-0-0		

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5013326C M8186

digital



REVISIONS		
CHK	CHANGE NO.	REV.

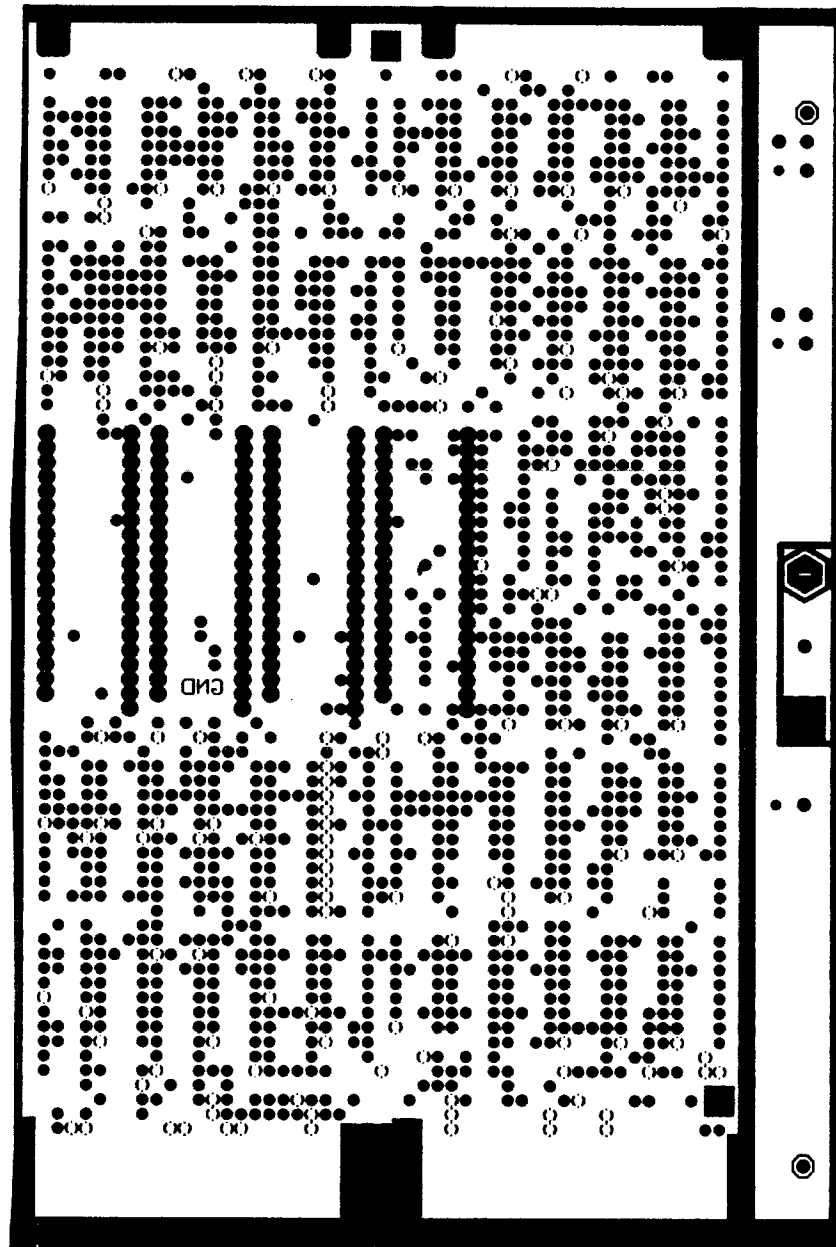
TITLE		SIZE/CODE	NUMBER	REV.
KDF11 CPU		DJA	M8186-0-0	F
SCALE	2/1	SHEET	2 OF 5	DIST

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DUAL M8186-0-0 2

L2

5013326C M8186



D

C

B

A

D

C

B

A

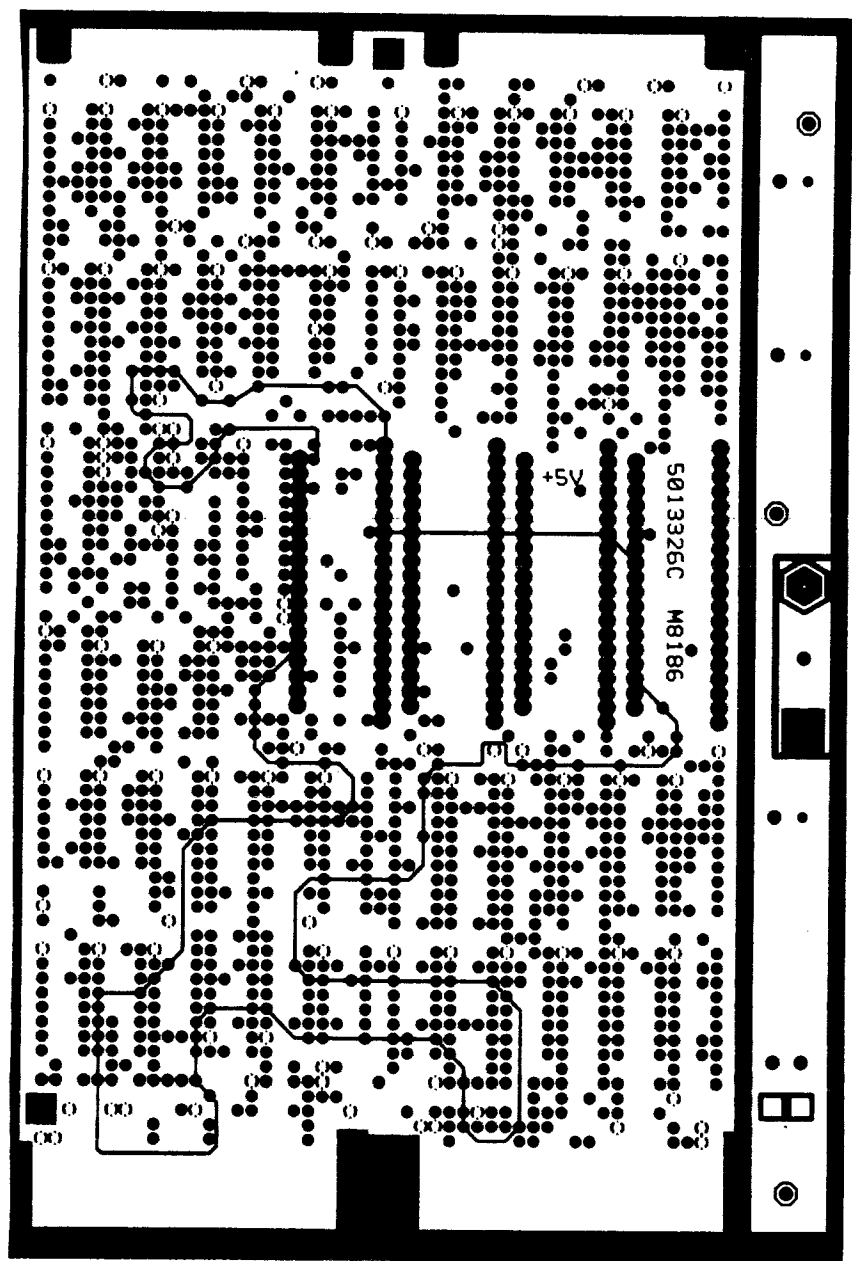
DUAL M8186-0-0 F

REVISIONS		
CHK	CHANGE NO	REV

TITLE KDFII CPU
SCALE 2/1 SHEET 3 OF 5
SIZE CODE DUAL M8186-0-0
NUMBER
REV. F

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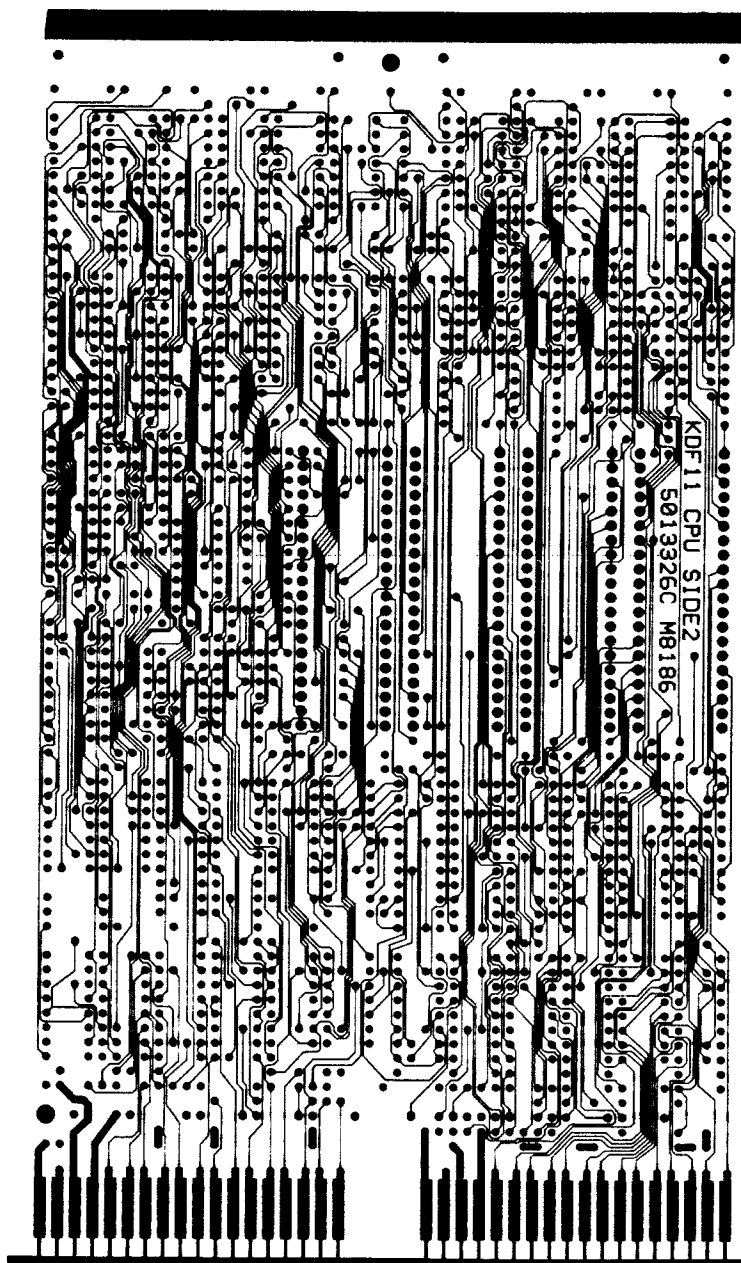
E 834AJ



REVISIONS		
CHK	CHANGE NO	REV

TITLE KDF11 CPU		SIZE CODE D U A M 8186 - 0 - 0	NUMBER F
SCALE 2/1	SHEET 4 OF 5	DIST	

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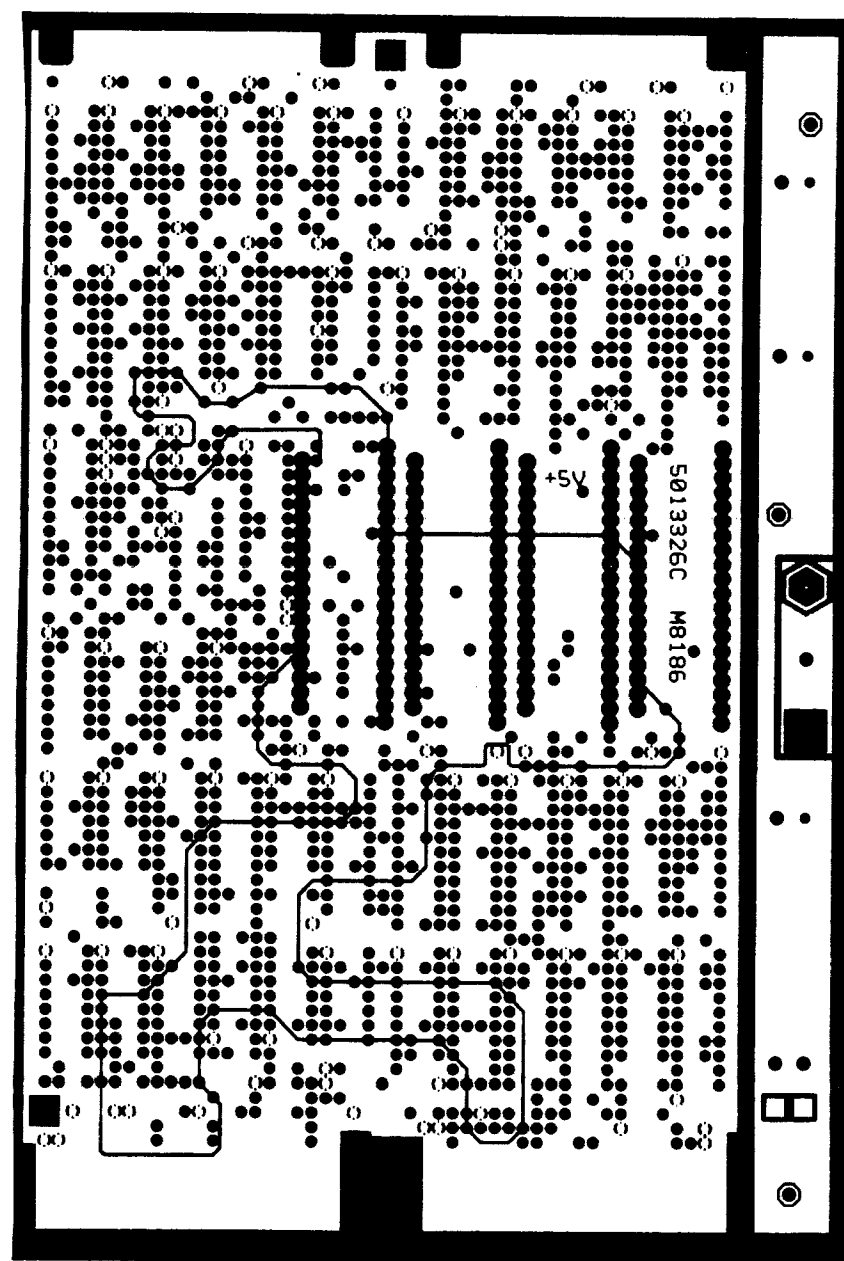


REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE/CODE	NUMBER	REV.
KDF11 CPU		DJA	M8186-0-0	F
SCALE 2/1	SHEET 5 OF 5	DIST		

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E A34AJ



REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE CODE		NUMBER		REV													
KDF11 CPU		DUA M8186-0-0		F															
SCALE	2/1	SHEET	4	OF	5	DIST													
2										1									

AUTOMATED BY PRTLST.3L(32)

P A R T S L I S T

SHEET A1 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	1	II-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 SC	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-D-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 PARECHANIAN		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	D	SECTION VARIATION INDEX	DES.ENG:	ROY BADEAU	DATE:	4-SEP-79	DOCUMENT NUMBER	
RB	M8186-ML006	E	[A] 00	RESP.ENG.:	ROY BADEAU	DATE:	4-SEP-79	SIZE CODE NUMBER REV	
MT	M8186-ML007	F	[B]	MFG.ENG.:	AMALENDA SANYAL	DATE:	4-SEP-79	K	PL M8186-0-DBP J
MT	M8186-ML008	H	[C]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #
MT	M8186-ML009	J	[D]	D-UA-M8186-0-0				Z0224J.PLS	21
			[E]						
			[F]						
			[G]						
			[H]						
			[I]						
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			[K]						
			[L]						
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			[N]						

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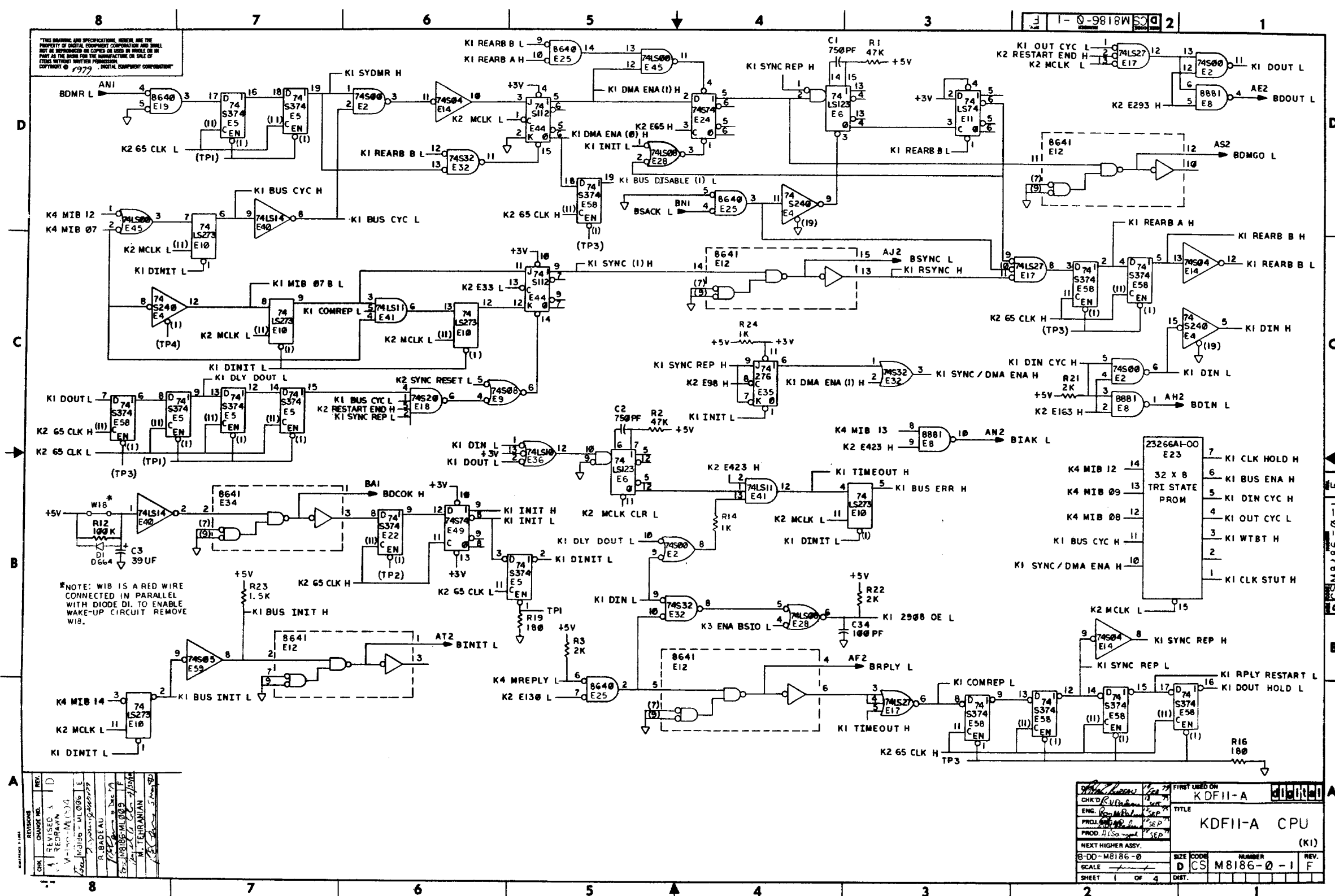
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P A R T S L I S T

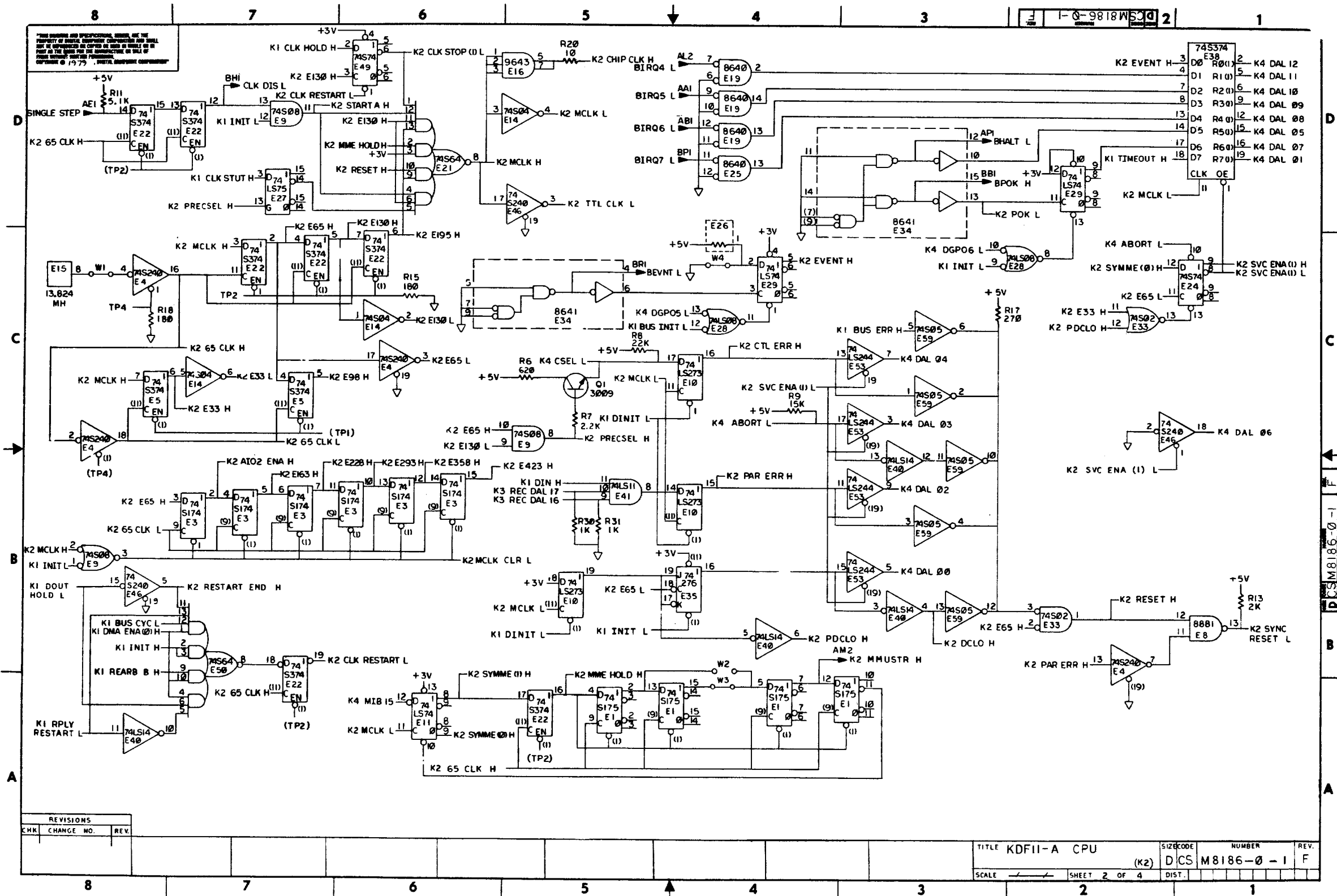
SHEET A2 OF A2

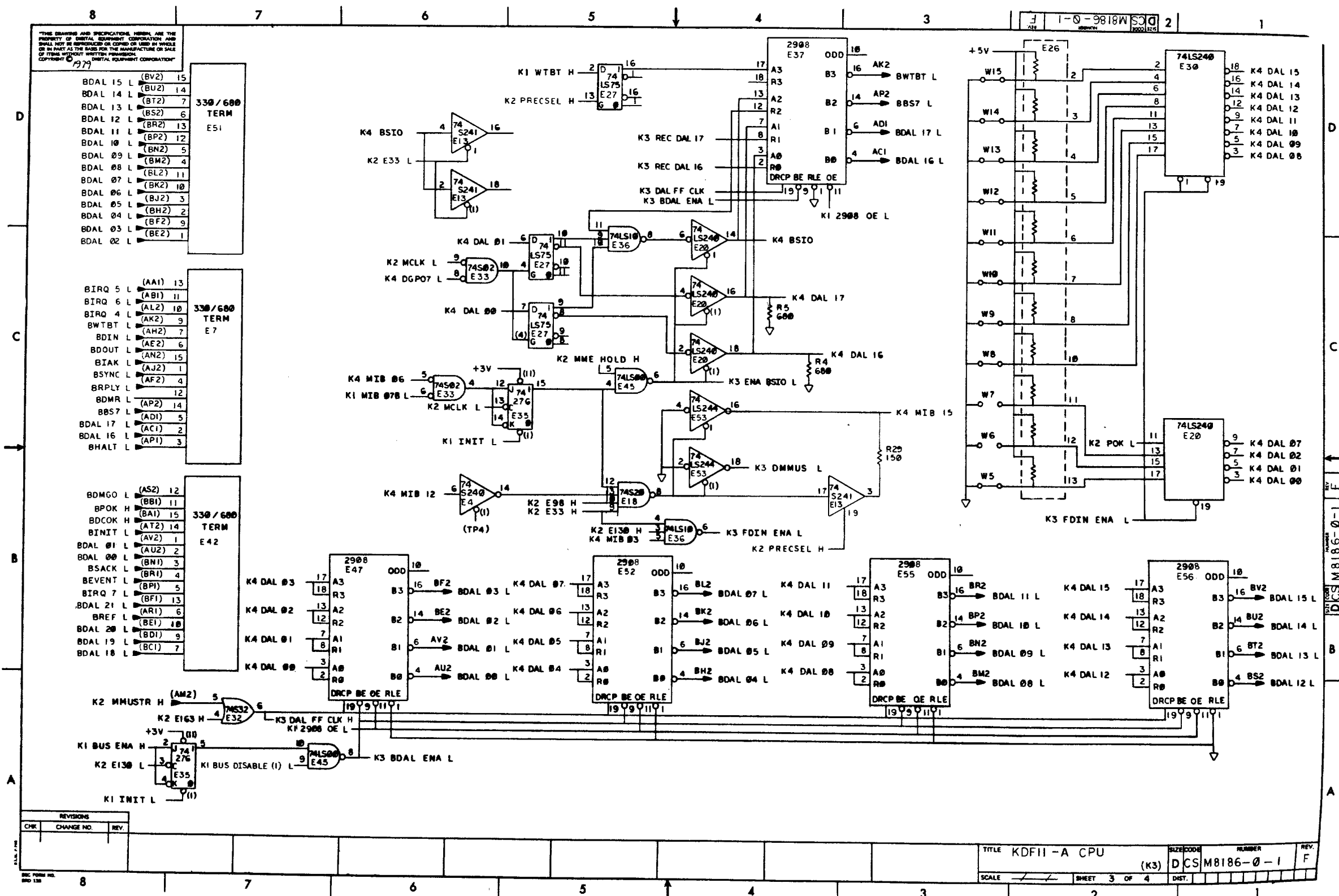
LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
31	31		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	2	E19,E25
32	32		1911579-00	8641 TRANSCEIVER,BUS,QUA	2	E12,E34
33	33		1909705-00	DEC 8881 NAND GATE-QUAD 2IN U	1	E8
34	34		1916028-01	9643 DRIVER,TTL TO MOS,D	1	E16
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		1302388-00	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%200FFM DM15S	1	C34
54	54		1013398-00	750.0 MMF 100V 5%200FFMD15S	2	C1,C2
55	55		1001610-00	.01 MFD 50V +80-20% Z5UCER	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-DBP	J



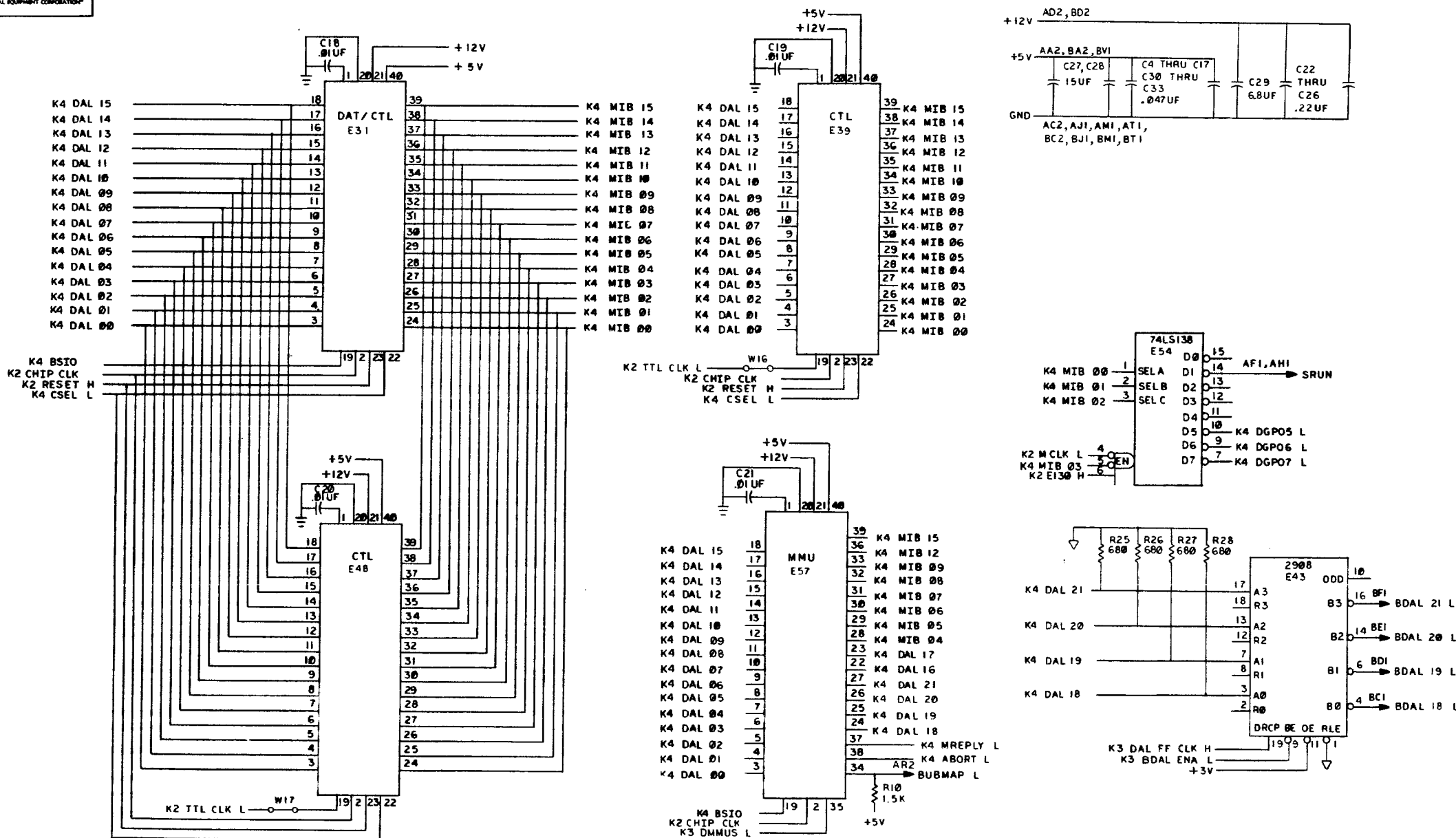
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CHK'D	10/1/77	ENG.	W. J. BROWN
PROJ. MGR.	10/1/77	PROD. MGR.	10/1/77
NEXT HIGHER ASSY.		SIZE	CODE
B-D-M8186-0		D	CS
SCALE		SHEET	1 OF 4
TITLE	KDFII-A CPU		
NUMBER	M8186-0-1		
REV.	F		





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1-0-9818 WSC 2



REVISIONS		
CHK	CHANGE NO	REV

TITLE KDFII A CPU
 SCALE 1:1
 SHEET 4 OF 4
 NUMBER DCS M8186-0-1
 REV. F