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***** FIELD MAINTENANCE PRINT SET *****

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B-DD-7019937-0-DBU	DRAWING DIRECTORY
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B-DD-M3111-0	
B-DD-M3112-0	ENCLOSE UA,EC,PL,CS,TD AND BD DRAWING ALSO
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MP01484	FIELD MAINTENANCE PRINT SET (MDECS-AA)
MP01378	FIELD MAINTENANCE PRINT SET (DEUNA)
MP01477	FIELD MAINTENANCE PRINT SET (MS11-PB)
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D-IA-7018767-0-0	5V POWER HARNESS
B-DD-BC17C-0-DBP	CABLE MODEM EXTENSION

UNIT VARIATIONS
DECSA-AA
DECSA-BA
DECSA-CA
DECSA-DA
DECSA-EA
DECSA-FA

FIELD MAINTENANCE PRINT SET

DECSA

DIGITAL EQUIPMENT CORPORATION

MP01385

REVISION HISTORY

ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV
JB	DECSA-TW002	B						

USED ON OPTION/MODEL	

SHEET 1 OF 2

DRN. R.J. RILEY	DATE 2-11-83
CHK'D R.J. RILEY	DATE 2-11-83
PROJ. ENG. J. BUZYNSKI	DATE 2-11-83
FIELD SERV. T. RITTER	DATE 2-11-83

digital

TITLE: FIELD MAINTENANCE PRINT SET DECSA

SIZE	CODE	NUMBER	REV
K	TC	DECSA-0-DBF	B
DIST.			

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***** FIELD MAINTENANCE PRINT SET *****

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D-AD-BC17C-Ø-Ø	CABLE MODEM EXTENSION
B-DD-BC17D-Ø-DBP	CABLE NULL MODEM
D-AD-BC17D-Ø-Ø	CABLE NULL MODEM
B-DD-BC17L-Ø-DBP	EXTENSION CABLE
D-AD-BC17L-Ø-Ø	EXTENSION CABLE
B-DD-BC22D-Ø	CABLE, ASYNC NULL MODEM
D-UA-BC22D-Ø-Ø	CABLE, ASYNC NULL MODEM
B-DD-BC22E-Ø	CABLE, ASYNC MODEM
C-UA-BC22E-Ø-Ø	CABLE, ASYNC MODEM
B-DD-BC17E-Ø-DBP	CABLE, V.35 MODEM
D-AD-BC17E-Ø-Ø	CABLE, V.35 MODEM
E-ID-7019937-Ø-Ø	INTERCONNECT DIAGRAM, DECSA

UNIT VARIATIONS

FIELD MAINTENANCE PRINT SET

DECSA

DIGITAL EQUIPMENT CORPORATION

MPØ1385

REVISION HISTORY

ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV

USED ON OPTION/MODEL

DRN. R.J. RILEY	DATE 2-11-83
CHK'D R.J. RILEY	DATE 2-11-83
PROJ. ENG. J. BUZYNKSI	DATE 2-11-83
FIELD SERV. T. RITTER	DATE 2-11-83

d i g i t a l

TITLE:
FIELD MAINTENANCE PRINT SET
DECSA

SIZE	CODE	NUMBER	REV
K	TC	DECSA-Ø-DBF	B
DIST.			

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*** DRAWING DIRECTORY ***

UNIT VARIATIONS

VAR	TITLE
DECSA-AA	COMMUNICATIONS SERVER
DECSA-BA	COMMUNICATIONS SERVER
DECSA-CA	COMMUNICATIONS SERVER
DECSA-DA	COMMUNICATIONS SERVER
DECSA-EA	COMMUNICATIONS SERVER
DECSA-FA	COMMUNICATIONS SERVER

REVISION HISTORY

ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV
JB	DECSA-TW001	B						
JB	DECSA-TW002	C						

USED ON OPTION/MODEL

DRN.	DATE
R.J. RILEY	5-13-83
CHK'D	DATE
R.J. RILEY	5-13-83
PROJ. ENG.	DATE
J. BUZYNSKI	5-13-83
PROD.	DATE
B. SWAN	7-27-83

SHEET 1 OF 2

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TW

digital

TITLE:
DRAWING DIRECTORY, DECSA

SIZE	CODE	NUMBER	REV
K	DD	DECSA-0-DBF	C

DIST.

ITEM #	DRAWING NUMBER	DESCRIPTION	TYPE
1	K-PL-DECSA-Ø-DBP	COMMUNICATIONS SERVER UNA	E/M
2	B-DD-7Ø19937-Ø-Ø	COMMUNICATIONS SERVER	
3	K-DD-DCSAX-L	LINE CARD OPTIONS, DECSA	
4	K-DD-DCSAX-UA	UPGRADE KIT, DECSA	
5	K-PL-DECSK-A-DBP	COUNTRY KIT, DECSA	
6	K-RM-DECSA-Ø	REVISION MATRIX, DECSA	
7	K-TC-DECSA-Ø	FIELD MAINT. PRINT SET, DECSA	
8	K-SP-M3112-Ø-DBF1	M3112 ENG. SPECIFICATION	
9	K-SP-DECSA-Ø-DBF1	PAM ENG SPECIFICATION	

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

digital

TITLE:
DRAWING DIRECTORY
DECSA

SHEET 2 OF 2	SIZE	CODE	NUMBER	REV
	K	DD	DECSA-Ø-DBF	C

TW

DRAWING NO.	NO.SHTS	PART NO.	DESCRIPTION	REVISIONS
		7019937-00	ETHERNET COMMUNICATIONS SERVER W/1 PAM SET, NO LINE CARDS, 120V/240V 512 KBYTE MEMORY	- - - - - - - E3
		7019937-01	ETHERNET COMMUNICATIONS SERVER W/2 PAM SETS, NO LINE CARDS, 120V/240V 512 KBYTE MEMORY	- - - - - - - E3
		7019937-04	ETHERNET COMMUNICATIONS SERVER W/1 PAM SET, NO LINE CARDS, 120V/240V 1 MEG MEMORY	- - - - - - - E3
		MP-01355	COMMUNICATIONS SERVER (PRINT SET)	
B-TC-DECSA-0			COMMUNICATIONS SERVER (TC)	- - - - - - - B
E-UA-7019937-0-DRU	4		COMMUNICATIONS SERVER	- - - - - - - K
K-PL-7019937-0-DRP	3		COMMUNICATIONS SERVER (PL)	- - - - - - - K
P-DD-M7133-YA-0	1		11/24 C.P.U.	- - - - - - - A

NOTES:

REVISION HISTORY		A	B	C	D	E	F	H	J
	REV								
	ECO	INIT	MK0002	MK0003	MK0004	MK0005	MK0006	MK0007	MK0009
	DATE	17/8/84	19/8/84	01/4/85	02/4/85	03/5/85	05/5/85	08/5/86	11/6/86

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DRN: D. CHIASSON — DATE: 07-SEP-84

CHK'D: J. FALKOWSKI — DATE: 11-SEP-84 / 16-DEC-86

DES.ENG.: J. DOHERTY — DATE: 02-JUL-84

RESP.ENG.: J. DOHERTY — DATE: 02-JUL-84

J.C. Tremblay 12-12-86

MFG.ENG.: W. BROOKE — DATE: 10-AUG-84

digital

TITLE
COMMUNICATIONS SERVER

SHEET 1 OF 1 — EDIT: 6

DOCUMENT NUMBER

DD FILENAME: 7019937J.DDF

SIZE	CODE	NUMBER	REV
K	DD	7019937-0-0	J

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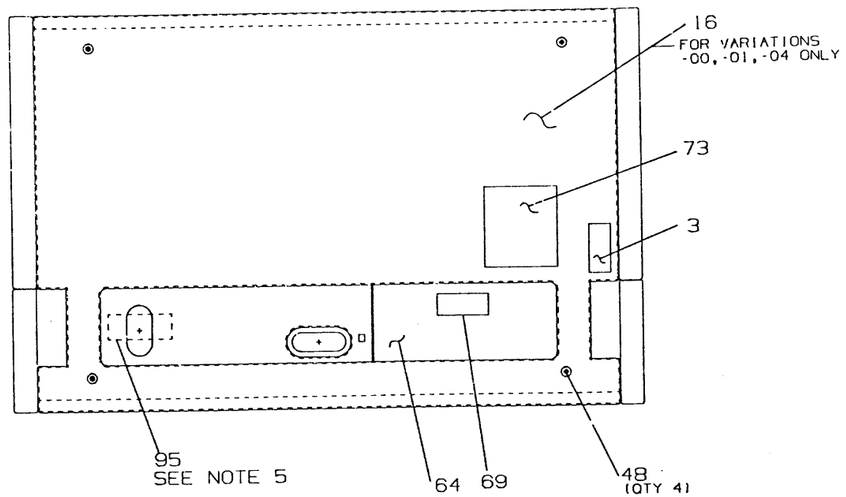
LEGEND

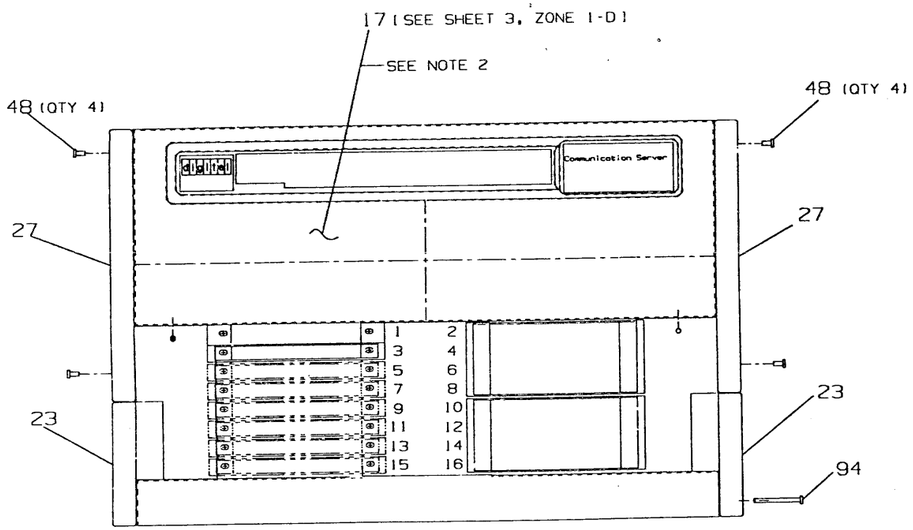
PART NO.	REV	VARIATION
7019937-00	E3	UNA-1 PAM SET
7019937-01	E3	UNA-2 PAM SETS
7019937-02		DELETED
7019937-03		DELETED
7019937-04	E3	UNA-1 PAM, 1 MEG

NOTE:

1. DELETED.
2. SCREW DRIVERS (ITEMS 87 AND 88), KEYS (PART OF ITEM 36), TURNAROUND CONNECTORS, (ITEM 90, QTY 2), POWER CORD (ITEM 93) AND CABLE CLIPS (ITEM 29, QTY 2) TO BE PLACED IN PLASTIC BAG (ITEM 84) AND TAPED TO TOP OF UNIT.
3. SET VOLTAGE SELECT SWITCH FOR 220/240; ALL VARIATIONS.
5. REMOVE ENTIRE REAR BACKING BEFORE INSTALLING LABEL

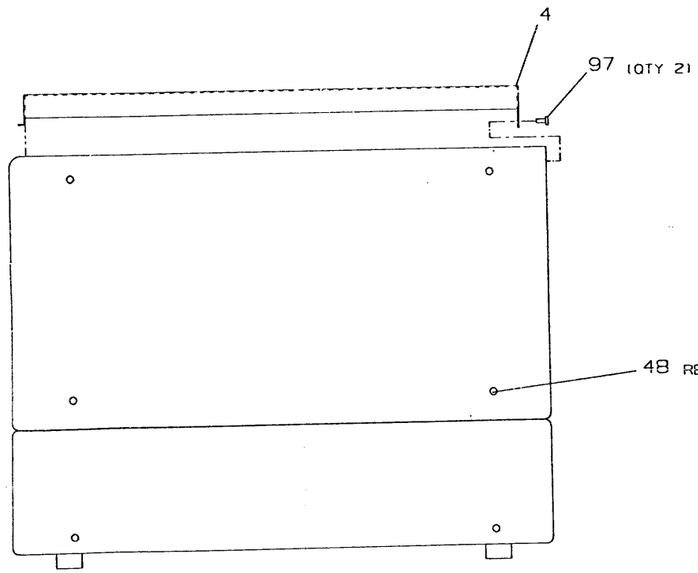


REAR VIEW



FRONT VIEW

VARIATION -01 SHOWN



RT. SIDE VIEW

(LESS REAR PANEL)

PLOT AT .50

CAUTION: OFF SHEET PARTS LIST EXISTS. REFER TO K-PL-7019937-0-D8P.

REVISIONS			
CHG	CHANGE NO.	REV.	
	INITIAL	A	7019937-MK001 B 8-JAN-84 J.DOHERTY
	7019937-MK002 C 10 OCT 84 D. BRAGDON J.DOHERTY		
	7019937-MK004 D 7 DEC 84 T. HAMEL MIKE LAWRENCE		
	7019937-MK005 E 27 MAR 85 D. BRAGDON J.DOHERTY		
	7019937-MK006 F 5-22-85 T. HAMEL M. LAWRENCE		
	7019937-MK007 H 8-20-85 T. HAMEL M. LAWRENCE		
	7019937-MK008 J 7-2-86 D. WHITE M. LAWRENCE		
	7019937-MK009 K 1-NOV-86 A. HAYNES M. LAWRENCE		

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 111)			
FINISH NUMBER: K-DD-7019937-0-0			
QUANTITY & VARIATION			
THIRD ANGLE PROJECTION	DR'N G.GRAVES	DATE 10OCT82	TITLE digital COMMUNICATION SERVER
DO NOT SCALE DRAWING	CH'D S.BAUCOM	DATE 18JAN83	
REMOVE BURRS AND BREAK SHARP CORNERS	DES. ENG. S.BAUCOM	DATE 18JAN83	
MATERIAL: SEE PARTS LIST	REP. ENG. J.BUZYNSKI	DATE 18JAN83	DOCUMENT NUMBER: SIZE E, CAGE UA, NUMBER 7019937-0-DBU, REV K
FINISH: NONE	MFG. ENG. V.ADAMEIZ	DATE 18JAN83	SCALE 1/2, SHEET 1 OF 4
	TOP DOC. K-DD-7019937-0-0		MKO

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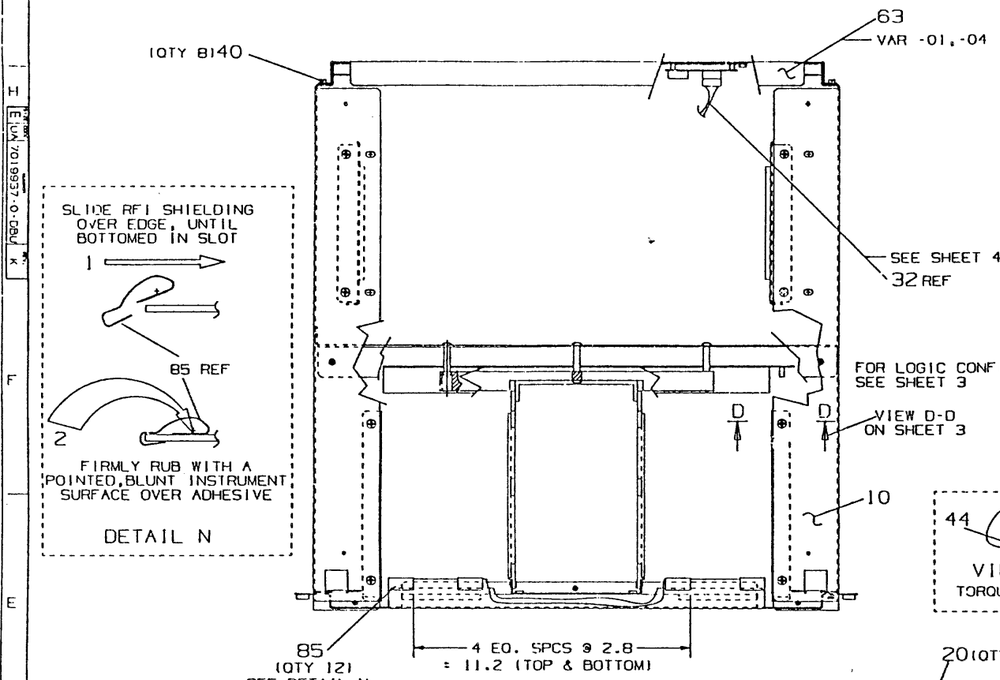

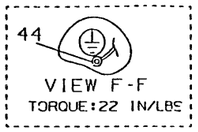

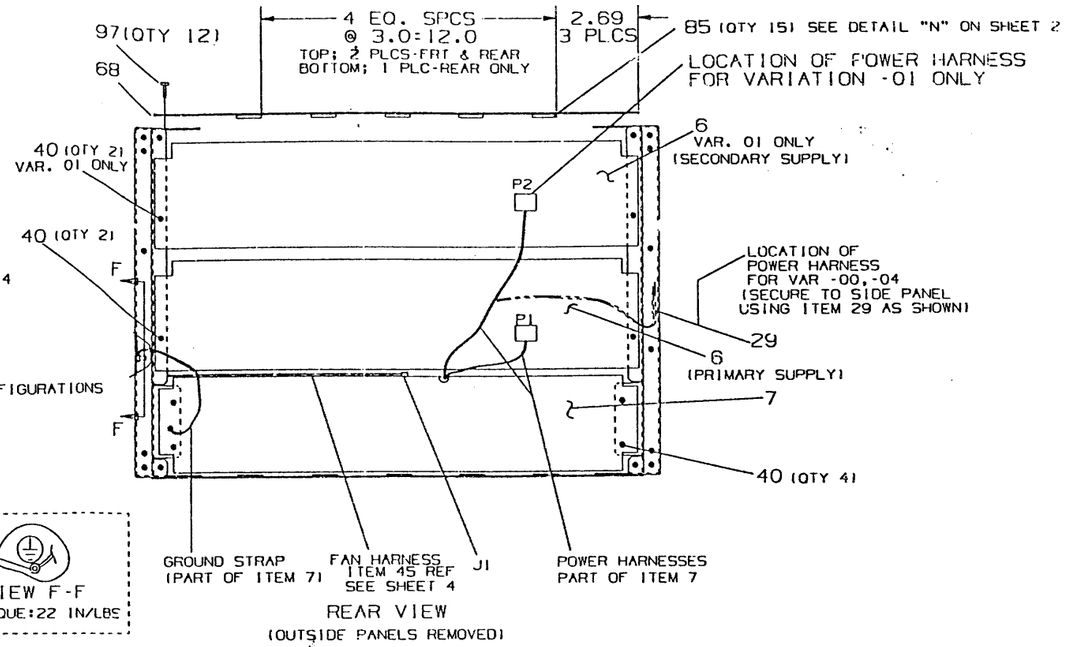

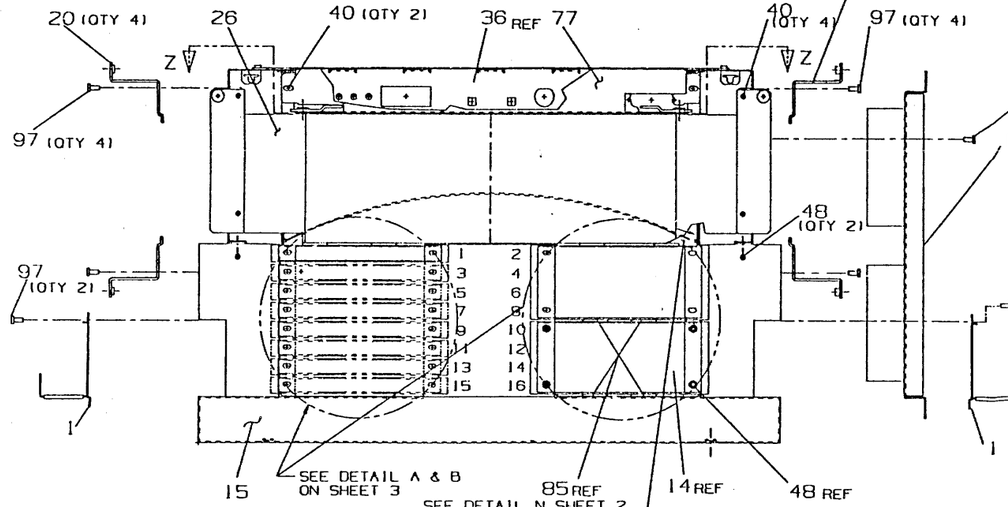

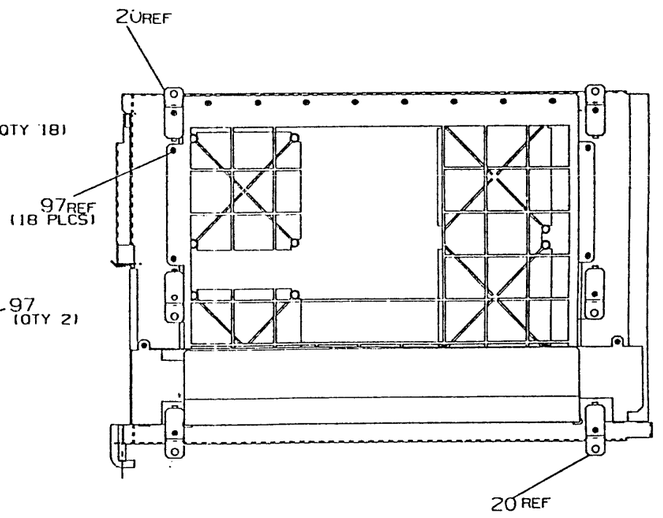

PLOT AT .25

REVISION HISTORY		
DATE	ECO HISTORY	REV

TITLE	DOCUMENT NUMBER	REV
COMMUNICATION SERVER	SIZE E UA 7019937 0-0BU	K
	SCALE 1/2 SHEET 2 OF 4	

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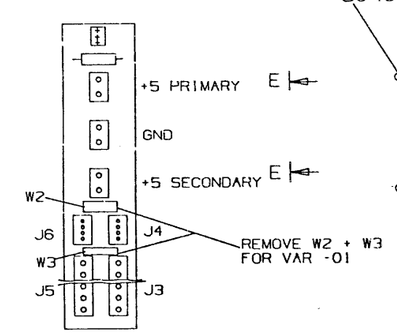
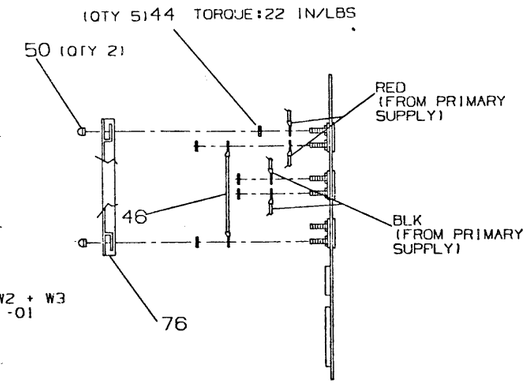
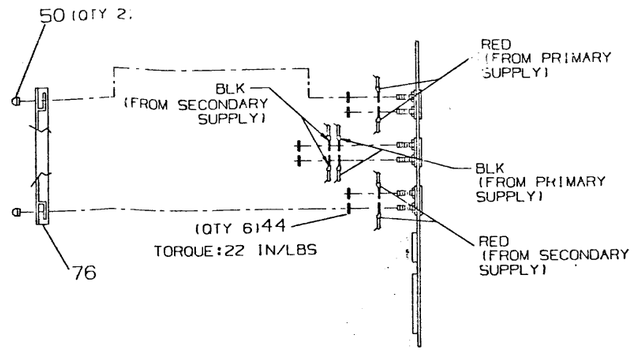


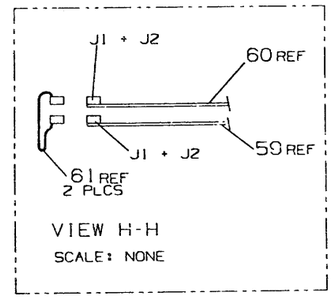
VIEW D-D
BACKPLANE CONNECTIONS
SCALE: NONE



VIEW E-E
VARIATIONS -00,-04 ONLY
SCALE: NONE

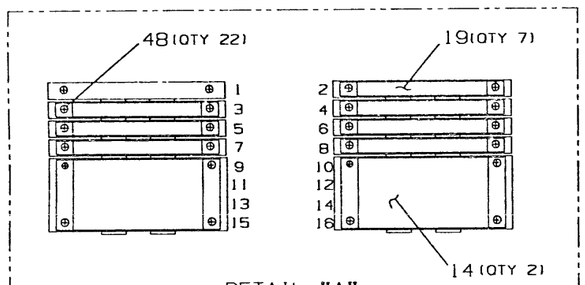


VIEW E-E
VARIATION -01 ONLY
SCALE: NONE

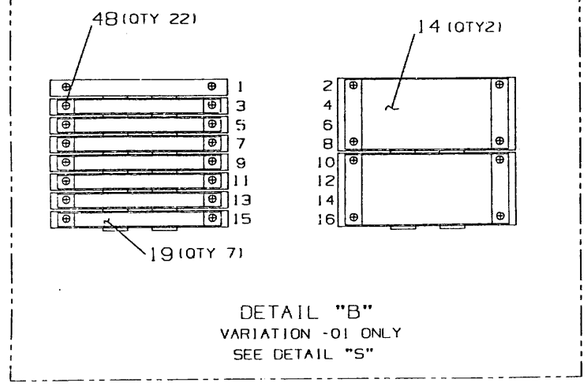


VIEW H-H
SCALE: NONE

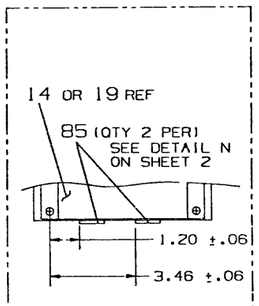
VIEW D-D CABLING
SECONDARY +15 PWR HARNESS (7018768) TO J6
SECONDARY PWR SUPPLY SIGNAL HARNESS (1700556-01) TO J5
PRIMARY +15 PWR HARNESS (7018748) TO J4
PRIMARY PWR SUPPLY SIGNAL HARNESS (1700336-01) TO J3



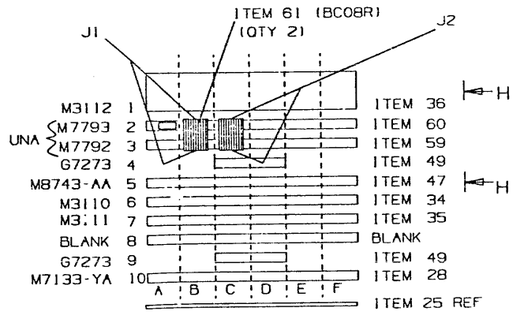
DETAIL "A"
VARIATIONS -00,-04 ONLY
SEE DETAIL "S"



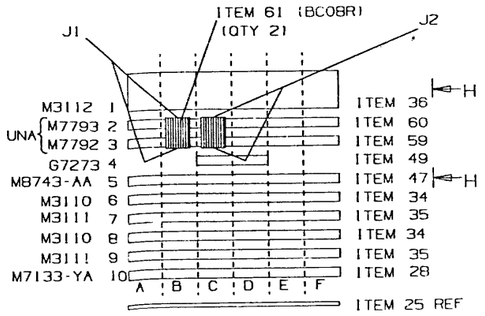
DETAIL "B"
VARIATION -01 ONLY
SEE DETAIL "S"



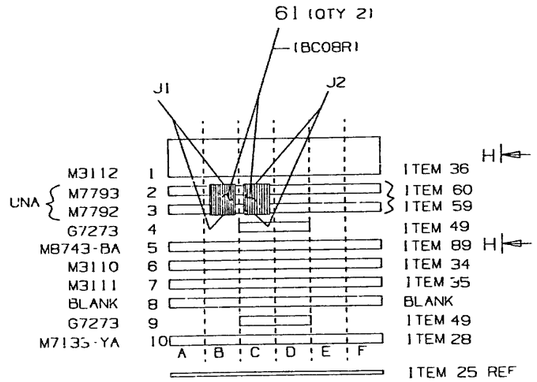
DETAIL "S"



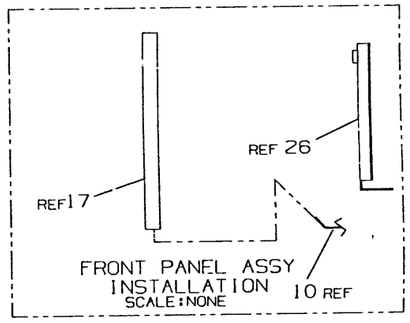
LOGIC CONFIGURATION
VARIATION -00 ONLY



LOGIC CONFIGURATION
VARIATION -01 ONLY



LOGIC CONFIGURATION
VARIATION -04 ONLY



PLOT AT .25

REVISION HISTORY		
DATE	ECO HISTORY	REV

TITLE	SIZE	CODE	DOCUMENT NUMBER	REV
COMMUNICATION SERVER	E	UA	7019937-0-DBU	K
	SCALE 1/2		SHEET 3 OF 4	

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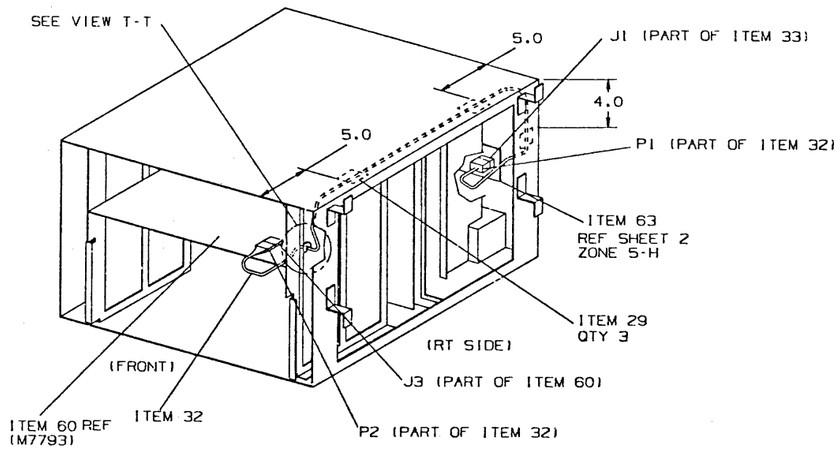
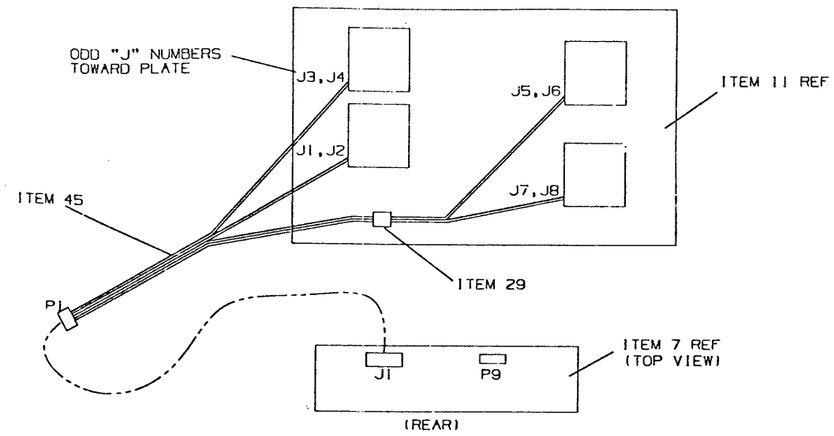
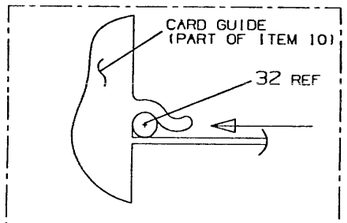


CABLE ROUTING
VARIATIONS -00,-01,-04
SCALE: NONE
DIMENSIONS ARE APPROX'MATE



CABLE ROUTING
FOR FAN PLATE ASSY



VIEW T-T
VARIATIONS -00,-01,-04
SLIDE CABLE UNDER FINGER

PLOT AT .25

REVISION HISTORY		
DATE	ECO HISTORY	REV

TITLE	SIZE	CODE	DOCUMENT NUMBER	REV
COMMUNICATION SERVER	E	UA	7019937-0-DBU	K
	SCALE 1/2		SHEET 4 OF 4	

MKO

AUTOMATED BY VAXKPL (V1.3) — P A R T S L I S T — SHEET A1 OF A3

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 E3	01 E3	04 E3
1	1	C-MD-7430432-0-D8U	74-30432-01		PLATE,CABLE,R.H.	1	1	1
2	2		70-19101-01		*** THIS ITEM IS NOT USED ***	-	-	-
3	3	A-PS-3516073-0-0	36-16073-00		LABEL,ID W/COPY VERTICAL	1	1	1
4	4	D-IA-7019563-0-D8U	70-19563-00		COVER ASSY (TOP)	1	1	1
5	5		70-19563-01		*** THIS ITEM IS NOT USED ***	-	-	-
6	6	E-AD-7018762-0-0	70-18762-00		POWER SUPPLY ASSY.	1	2	1
7	7	E-IA-7018763-0-0	70-18763-00		AC INPUT ASSY.	1	1	1
8	8		90-07032-00		*** THIS ITEM IS NOT USED ***	-	-	-
9	10	E-IA-7019090-0-D8U	70-19090-01		FRAME ASSY	1	1	1
10	11	E-AD-7020930-0-D8U	70-20930-01		FAN PLATE ASSY	1	1	1
11	12		90-09765-00		*** THIS ITEM IS NOT USED ***	-	-	-
12	14	B-MD-7426712-0-D8U	74-26712-01		PANEL,FILLER,L.C.	2	2	2
13	15	E-MD-7430503-0-D8U	74-30503-01		PANEL,LOWER FRONT	1	1	1
14	16	E-MD-7431196-0-D8U	74-31196-01		PANEL,REAR	1	1	1
15	17	E-IA-7020934-0-D8U	70-20934-01		UPPER FRONT PANEL ASSY.	1	1	1
16	13	B-MD-7427012-0-D8U	74-27012-01		*** THIS ITEM IS NOT USED ***	-	-	-
17	19	D-MD-7430547-0-D8U	74-30547-03		HANDLE,LC	7	7	7
18	20	D-IA-7427000-0-D8U	74-27000-01		TAB,MOUNTING	8	8	8
19	22		74-26979-01		*** THIS ITEM IS NOT USED ***	-	-	-
20	23	D-IA-7020953-0-D8U	70-20953-01		LOWER SIDE PANEL REWORK	2	2	2
21	24	E-MD-7426398-0-D8U	74-26398-02		*** THIS ITEM IS NOT USED ***	-	-	-
22	25	D-MD-7427950-0-D8U	74-27950-01		SHIELD,LOGIC	1	1	1
23	26	D-AD-7020935-0-D8U	70-20935-01		LOGIC COVER PLATE ASSY	1	1	1
24	27	D-IA-7020954-0-D8U	70-20954-01		LOGIC DIAGRAM, CONTROL MODULE	2	2	2
25	28	D-UA-M7133-0-0	M7133-YA		KDF11-UA CPU,LINE CLOCK,2 SER LNS,	1	1	1
26	29		12-13912-00		CLIP,CABLE 1/2	7	6	7
27	31	A-PA-3700670-0-0	37-00670-01		PKG COMM SERVER 7019937-00	1	1	1
28	32	D-IA-7018798-0-0	70-18798-04		UNA BULKHEAD CABLE ASSY.	1	1	1
29	33	D-AD-7018799-0-0	70-18799-01		*** THIS ITEM IS NOT USED ***	-	-	-
30	34	D-UA-M3110-0-0	M3110-00		PROTOCOL ASSIST #1 W SPECIAL CHAR	1	2	1
31	35	D-UA-M3111-0-0	M3111-00		PROTOCOL ASSIST #2 W SPECIAL CHAR	1	2	1
32	36	D-UA-M3112-0-0	M3112-00		CONSOLE BOOT TERMINATOR,HEX	1	1	1

REVISION HISTORY			KPL MATRIX FORMAT	SECTION A OF A
ENG	ECO NUMBER	REV	SECTION/VARIATION INDEX	
-	INITIAL	A	[A] 00,01,04	
JD	7019937-MK001	B	[B]	
JD	7019937-MK003	C	[C]	
MJL	7019937-MK004	D	[D]	
JD	7019937-MK005	E	[E]	
GG	7019937-MK006	F	[F]	
GG	7019937-MK007	H	[H]	
ML	7019937-MK008	J	[J]	
ML	7019937-MK009	K		

DRN: A.ROCHA
DATE: 08-JUN-82

CHK'D: B. CLARK
DATE: 08-JUN-82 16-Dec-86

DES.ENG: M.CONNELL
DATE: 08-JUN-82

RESP.ENG.: J.BUZYNSKI
DATE: 08-JUN-86
D.C. Rumley 12-12-86

MFG.ENG: R.WHITE
DATE: 08-JUN-86

D I G I T A L

TITLE PARTS LIST
COMMUNICATION SERVER

DOCUMENT NUMBER SIZE	CODE	NUMBER	REV
K	PL	7019937-0-D8P	K

RELEASE DATE: 01-DEC-86
RELEASE STATUS: RELEASED

BASIC PART NUMBER:	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
7019937	E-UA-7019937-0-D8U	K-DD-7019937-0-0	7019937K.PLS	11

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LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 E3	01 E3	04 E3
33	37		90-07636-00		*** THIS ITEM IS NOT USED ***	-	-	-
34	39		90-08905-01		*** THIS ITEM IS NOT USED ***	-	-	-
35	40		90-00049-16		SCREW,SEMS PAN PHIL 8-32	10	10	10
36	41		90-06563-00		*** THIS ITEM IS NOT USED ***	-	-	-
37	42		90-06650-00		*** THIS ITEM IS NOT USED ***	-	-	-
38	44		90-06585-00		NUT,HEX EXT TOOTH LCKWSHR 10-32X	6	7	6
39	45	D-IA-7018765-0-0	70-13765-00		FAN HARNESS ASSY.	1	1	1
40	46	C-IA-7020291-0-D3U	70-20291-00		WIRE, JUMPER	1	-	1
41	47		MDECC-AA		ECC MOS RAM (M8743-AA)	1	1	-
42	48		90-00049-40		SCREW,SEMS PAN PHIL 8-32	28	28	28
43	49	D-UA-37273-0-0	37273-00		BUS GRANT & NON-PROCESSOR GRANT JU	2	1	2
44	50		90-06610-00		NUT,CAP,RELOCK 10-32X .438AF NYLON	2	2	2
45	51		70-19306-01		*** THIS ITEM IS NOT USED ***	-	-	-
46	52		70-19307-01		*** THIS ITEM IS NOT USED ***	-	-	-
47	55		70-18250-03		*** THIS ITEM IS NOT USED ***	-	-	-
48	56		BC08S-05		*** THIS ITEM IS NOT USED ***	-	-	-
49	59	D-UA-M7792-0-0	M7792-00		DEUNA PORT MODULE(UNIBUS TO ETHERN	1	1	1
50	60	D-UA-M7793-0-0	M7793-00		PCL11-A,TXM REGISTERS HEX	1	1	1
51	61	D-UA-BC08R-0-0	BC08R-0F		H856 TO H956 3M SHIELDED,REVERSED	2	2	2
52	62		74-27538-01		*** THIS ITEM IS NOT USED ***	-	-	-
53	63	D-AD-7020935-0-D3U	70-20935-01		SHIELD REAR ASSY	1	1	1
54	64	A-PS-3620278-0-0	36-20278-02		LABEL,DECSA,SHORT	1	1	1
55	68	D-IA-7427540-0-D3U	74-27540-01		PANEL,FRAME	1	1	1
56	69	A-PS-3617674-0-0	36-17674-00		LABEL,SERIAL/POWER W/O UL + CSA LO	1	1	1
57	73	A-PS-3618307-0-0	36-18307-05		ASSY,04,01	1	1	1
58	76	C-MD-7427624-0-D3U	74-27624-01		SHIELD,BACKPLANE	1	1	1
59	77	A-PS-3620282-0-0	36-20282-01		LABEL,CONTROL PANEL ENGLISH	1	1	1
60	78		90-10139-01		*** THIS ITEM IS NOT USED ***	-	-	-
61	79		DMP11-AD		*** THIS ITEM IS NOT USED ***	-	-	-
62	80		74-26382-02		*** THIS ITEM IS NOT USED ***	-	-	-
63	81		74-26382-03		*** THIS ITEM IS NOT USED ***	-	-	-
64	82		74-27539-02		*** THIS ITEM IS NOT USED ***	-	-	-
65	83		74-27539-03		*** THIS ITEM IS NOT USED ***	-	-	-
66	84		99-06557-23		BAG,POLY RECLOSE 4 MIL THK CLEAR	1	1	1
67	85		12-21494-01		SHIELDING,RFI	47	47	47
68	86		90-03264-00		*** THIS ITEM IS NOT USED ***	-	-	-
69	87		47-00060-00		DRIVER,SCREW	1	1	1
70	88		47-00043-00		SCREWDRIVER,PHILLIPS #1	1	1	1
71	89	K-PL-MS11-P-D3P1	MS11 -PB		1MB ECC MOS RAM (M8743-BA,512K X 2	-	-	1
72	90		12-15336-02		CONN,D SUB 25POS SE	2	2	2
73	91	C-MD-7428989-0-D3U	74-28989-01		*** THIS ITEM IS NOT USED ***	-	-	-
74	92		90-09716-00		*** THIS ITEM IS NOT USED ***	-	-	-
75	93		17-00083-02		PWR CORD,TERM 3-14 SJT 125V	1	1	1
76	94		90-00062-68		SCREW,THD RL PAN,SERATD,F/METL	4	4	4
77	95	A-PS-3617905-0-0	36-17905-17		LABEL,WARNING EQUIP. RATING,220-24	1	1	1
78	97		90-00062-23		SCREW,THD RL, PAN,SERATD,F/METL	58	58	58

1 GEN: 1. VARIATIONS -02 AND -03 ARE NOT USED.

DIGITAL	TITLE	SIZE	CODE	DOCUMENT NUMBER	REV
	COMMUNICATION SERVER SECTION A OF A	K	PL	7019937-0-D9P	K

LINE ITEM	TOP DOCUMENT	PART NUMBER	MCN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 E3	01 E3	04 E3

2 GEN: THE M7133-YA IS THE PREFERRED VALUE ENGINEERED PART. HOWEVER, PART NUMBER M7133-00 MAY BE USED.

DIGITAL	TITLE	SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
	COMMUNICATION SERVER	A OF A	K	PL	7019937-0-DBP	K

AUTOMATED BY VAXKPL (V1.3) — P A R T S L I S T — SHEET A1 OF A3

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 E3	01 E3	04 E3
1	1	C-MD-7430432-0-D8U	74-30432-01		PLATE,CABLE,R.H.	1	1	1
2	2		70-19101-01		*** THIS ITEM IS NOT USED ***	-	-	-
3	3	A-PS-3616073-0-0	36-16073-00		LABEL,ID W/COPY VERTICAL	1	1	1
4	4	D-IA-7019563-0-D8U	70-19563-00		COVER ASSY (TOP)	1	1	1
5	5		70-19563-01		*** THIS ITEM IS NOT USED ***	-	-	-
6	6	E-AD-7018762-0-0	70-18762-00		POWER SUPPLY ASSY.	1	2	1
7	7	E-IA-7018763-0-0	70-18763-00		AC INPUT ASSY.	1	1	1
8	8		90-07032-00		*** THIS ITEM IS NOT USED ***	-	-	-
9	10	E-IA-7019090-0-D8U	70-19090-01		FRAME ASSY	1	1	1
10	11	E-AD-7020930-0-D8U	70-20930-01		FAN PLATE ASSY	1	1	1
11	12		90-09956-00		*** THIS ITEM IS NOT USED ***	-	-	-
12	14	B-MD-7426712-0-D8U	74-26712-01		PANEL,FILLER,L.C.	2	2	2
13	15	E-MD-7430503-0-D8U	74-30503-01		PANEL,LOWER FRONT	1	1	1
14	16	E-MD-7431196-0-D8U	74-31196-01		PANEL,REAR	1	1	1
15	17	E-IA-7020934-0-D8U	70-20934-01		UPPER FRONT PANEL ASSY.	1	1	1
16	18	B-MD-7427012-0-D8U	74-27012-01		*** THIS ITEM IS NOT USED ***	-	-	-
17	19	D-MD-7430547-0-D8U	74-30547-03		HANDLE,LC	7	7	7
18	20	D-IA-7427000-0-D8U	74-27000-01		TAB,MOUNTING	8	8	8
19	22		74-26979-01		*** THIS ITEM IS NOT USED ***	-	-	-
20	23	D-IA-7020953-0-D8U	70-20953-01		LOWER SIDE PANEL REWORK	2	2	2
21	24	E-MD-7426398-0-D8U	74-26398-02		*** THIS ITEM IS NOT USED ***	-	-	-
22	25	D-MD-7427950-0-D8U	74-27950-01		SHIELD,LOGIC	1	1	1
23	26	D-AD-7020935-0-D8U	70-20935-01		LOGIC COVER PLATE ASSY	1	1	1
24	27	D-IA-7020954-0-D8U	70-20945-01		LOGIC DIAGRAM, CONTROL MODULE	2	2	2
25	28	D-UA-M7133-0-0	M7133-YA		KDF11-UA CPU,LINE CLOCK,2 SER LNS,	1	1	1
26	29		12-18912-00		CLIP,CABLE 1/2	7	6	7
27	31	A-PA-3700670-0-0	37-00670-01		PKG COMM SERVER 7019937-00	1	1	1
28	32	D-IA-7016798-0-0	70-18798-04		UNA BULKHEAD CABLE ASSY.	1	1	1
29	33	D-AD-7016799-0-0	70-18799-01		*** THIS ITEM IS NOT USED ***	-	-	-
30	34	D-UA-M3110-0-0	M3110-00		PROTOCOL ASSIST #1 W SPECIAL CHAR	1	2	1
31	35	D-UA-M3111-0-0	M3111-00		PROTOCOL ASSIST #2 W SPECIAL CHAR	1	2	1
32	36	D-UA-M3112-0-0	M3112-00		CONSOLE BOOT TERMINATOR,HEX	1	1	1

REVISION HISTORY

ENG	ECO NUMBER	REV
	INITIAL	A
JD	7019937-MK001	B
JD	7019937-MK003	C
MJL	7019937-MK004	D
JD	7019937-MK005	E
GG	7019937-MK006	F
GG	7019937-MK007	H
ML	7019937-MK008	J
ML	7019937-MK009	K

KPL MATRIX FORMAT | SECTION A OF A

SECTION/VARIATION INDEX

[A] 00,01,04
[B]
[C]
[D]
[E]
[F]
[H]
[J]

DRN: A.ROCHA
DATE: 08-JUN-82

CHK'D: B. CLARK
DATE: 08-JUN-82 16-DEC-86

DES.ENG: M.CONNELL
DATE: 08-JUN-82

RESP.ENG.: J.BUZYNSKI
DATE: 08-JUN-86 12-12-86

MFG.ENG: R.WHITE
DATE: 08-JUN-86

D I G I T A L

TITLE PARTS LIST
COMMUNICATION SERVER

DOCUMENT NUMBER SIZE	CODE	NUMBER	REV
K	PL	7019937-0-D8P	K

RELEASE DATE: 01-DEC-86
RELEASE STATUS: RELEASED

BASIC PART NUMBER:	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
7019937	E-UA-7019937-0-D8U	K-DD-7019937-0-0	7019937K.PLS	11

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LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 E3	01 E3	04 E3
33	37		90-09636-00		*** THIS ITEM IS NOT USED ***	-	-	-
34	39		90-08905-01		*** THIS ITEM IS NOT USED ***	-	-	-
35	40		90-00049-16		SCREW,SEMS PAN PHIL 8-32	10	10	10
36	41		90-06563-00		*** THIS ITEM IS NOT USED ***	-	-	-
37	42		90-06660-00		*** THIS ITEM IS NOT USED ***	-	-	-
38	44		90-06585-00		NUT,HEX EXT TOOTH LCKWSHR 10-32X	6	7	6
39	45	D-IA-7018765-0-0	70-18765-00		FAN HARNESS ASSY.	1	1	1
40	46	C-IA-7020291-0-D3U	70-20291-00		WIRE, JUMPER	1	-	1
41	47		MDEC3-AA		ECC MOS RAM (M8743-AA)	1	1	-
42	48		90-00049-40		SCREW,SEMS PAN PHIL 8-32	28	28	28
43	49	D-UA-G7273-0-0	G7273-00		BUS GRANT & NON-PROCESSOR GRANT JU	2	1	2
44	50		90-07610-00		NUT,CAP,RELOCK 10-32X .438AF NYLON	2	2	2
45	51		70-19306-01		*** THIS ITEM IS NOT USED ***	-	-	-
46	52		70-19307-01		*** THIS ITEM IS NOT USED ***	-	-	-
47	55		70-18250-0J		*** THIS ITEM IS NOT USED ***	-	-	-
48	56		BC08S-05		*** THIS ITEM IS NOT USED ***	-	-	-
49	59	D-UA-M7792-0-0	M7792-00		DEUNA PORT MODULE(UNIBUS TO ETHERN	1	1	1
50	60	D-UA-M7793-0-0	M7993-00		PCL11-A,TXM REGISTERS HEX	1	1	1
51	61	D-UA-BC08R-0-0	.C08R-0F		H855 TO H856 3M SHIELDED,REVERSED	2	2	2
52	62		74-27538-01		*** THIS ITEM IS NOT USED ***	-	-	-
53	63	D-AD-7020955-0-D3U	70-20955-01		SHIELD REAR ASSY	1	1	1
54	64	A-PS-3620278-0-C	36-20278-02		LABEL,DECSA,SHORT	1	1	1
55	68	D-IA-7427540-0-D3U	74-27540-01		PANEL,FRAME	1	1	1
56	69	A-PS-3617674-0-0	36-17674-00		LABEL,SERIAL/POWER W/O UL + CSA LO	1	1	1
57	73	A-PS-3618307-0-0	36-18307-05		ASSY,04,01	1	1	1
58	76	C-MD-7427624-0-D3U	74-27624-01		SHIELD,BACKPLANE	1	1	1
59	77	A-PS-3620282-0-0	36-20282-01		LABEL,CONTROL PANEL ENGLISH	1	1	1
60	78		90-10339-01		*** THIS ITEM IS NOT USED ***	-	-	-
61	79		DMP11-AD		*** THIS ITEM IS NOT USED ***	-	-	-
62	80		74-26382-02		*** THIS ITEM IS NOT USED ***	-	-	-
63	81		74-26382-03		*** THIS ITEM IS NOT USED ***	-	-	-
64	82		74-27539-02		*** THIS ITEM IS NOT USED ***	-	-	-
65	83		74-27539-03		*** THIS ITEM IS NOT USED ***	-	-	-
66	84		99-06557-23		BAG,POLY RECLOSE 4 MIL THK CLEAR	1	1	1
67	85		12-21494-01		SHIELDING,RFI	47	47	47
68	86		90-08264-00		*** THIS ITEM IS NOT USED ***	-	-	-
69	87		47-00060-00		DRIVER,SCREW	1	1	1
70	88		47-00043-00		SCREWDRIVER,PHILLIPS #1	1	1	1
71	89	K-PL-MS11-P-D3P1	MS11 -P3		1MB ECC MOS RAM (M8743-BA,512K X 2	-	-	1
72	90		12-15336-02		CONN,D SUB 25POS SE	2	2	2
73	91	C-MD-7428989-0-D3U	74-28989-01		*** THIS ITEM IS NOT USED ***	-	-	-
74	92		90-09710-00		*** THIS ITEM IS NOT USED ***	-	-	-
75	93		17-00003-02		PWR CORD,TERM 3-14 SJT 125V	1	1	1
76	94		90-00062-68		SCREW,THD RL PAN,SERATD,F/METL	4	4	4
77	95	A-PS-3617905-0-0	36-17905-17		LABEL,WARNING EQUIP. RATING,220-24	1	1	1
78	97		90-00062-23		SCREW,THD RL, PAN,SERATD,F/METL	58	58	58

1 GEN: 1. VARIATIONS -02 AND -03 ARE NOT USED.

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							COMMUNICATION SERVER		K	PL	7019937-0-D9P	K

LINE ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 E3	01 E3	04 E3

2 GEN: THE M7133-YA IS THE PREFERRED VALUE ENGINEERED PART. HOWEVER, PART NUMBER M7133-00 MAY BE USED.

DIGITAL	TITLE	SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
	COMMUNICATION SERVER	SECTION A OF A	K	PL	7019937-0-DBP	K

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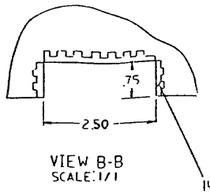
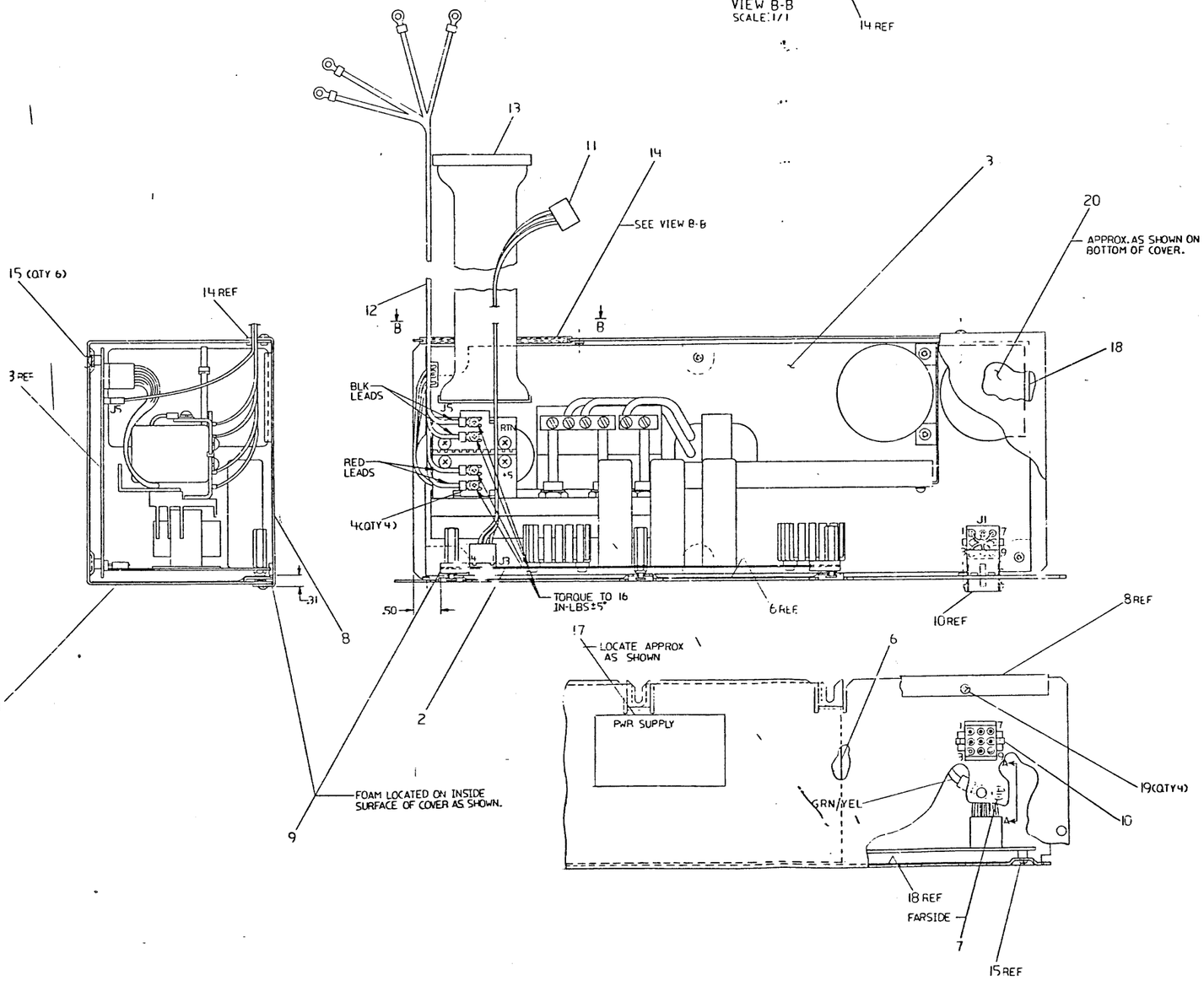
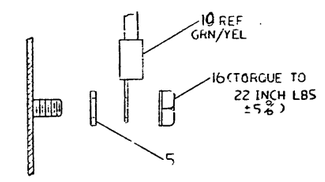
VIEW B-B
SCALE: 1/1







VIEW A-A
SCALE: NONE

CAUTION: SEE OFF SHEETS PARTS
K-PL-7018762-0-DBP(Z415C)

REVISION HISTORY		
DATE	ECO NUMBER	REV
17-MAR-82	DIN82-00191	B
10-MAR-82	DIN82-00117	C

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)

INCHES TOLERANCES	ANGLES ±0° 30'	SURFACE QUALITY	APPLICABLE DIMENSION RANGES (OVER/THRU)	DIMENSION RANGE IN INCHES: OVER 0 THRU .12	OVER .12 THRU 1.0	OVER 1.0 THRU 4.0	OVER 4.0 THRU 12.0	OVER 12.0 THRU 48.0
X ± .1								
XX ± .03				± .02		± .05	± .1	± .18
XXX ± .005				± .004	± .005	± .012	± .016	± .024

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: SEE PARTS LIST

FINISH

DRAWN	M.L. TOUSIGNANT	DATE 17-MAR-82
CHK'D		DATE 11-MAR-82
ENGR APP		DATE 22-MAR-82
PROJ MGR		DATE
WRLDWD		DATE

NEXT HIGH A-DOCT: C-UA-7019937-0-0

TITLE: digital
POWER SUPPLY ASSY

DOCUMENT NUMBER: SIZE E | CODE UA | 7018762-0-0 | REV C

SCALE | SHEET | OF

TW

AUTOMATED BY PRTLST.5R(55)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00
					VARIATION REVISION LEVEL:	00
1	1	E-IA-7426319-0-0	7426319-01		BRKT PWR SUPPLY MTG.	1
2	2		H7211-00		COMM OPT PS: +15V 2A,-15V 3A,+12	1
3	3		H7200-00		5V POWER MODULE: 5V 70A,300V 200	1
4	4		9010174-01		SCREW,SEMS PAN PHIL 8-	4
5	5		9007651-00		WASHER,LOCK EXTERNAL STEEL	1
6	6	C-MD-7425494-0-0	7425494-00		INSULATOR,P.C.BOARD	1
7	7		3612680-00		DECAL, GROUND SIGN PER 3E6 *	1
8	8	D-MD-7427005-0-0	7427005-01		COVER,POWER SUPPLY	1
9	9	SEE NOTE 1	9009059-01		TAPE,FOAM ADH .50 WDX .25	10
10	10	D-IA-7018784-0-0	7018784-00		AC INPUT EXTENDER	1
11	11	D-IA-7018768-0-0	7018768-00		COMM. PWR HARNESS	1
12	12	D-IA-7018767-0-0	7018767-00		5V PWR HARNESS	1
13	13		1700356-01		CABLE ASSY 24COND RIBBON 26"LG	1
14	14		9007035-00		GROMMET,CATERPILLAR POLYAMIDE	4
15	15		9009984-00		SCREW,SEMS PAN PHIL 6-	6
16	16		9006565-00		NUT,HEX EXT TOOTH LCKWSHR 10-32	1
17	17		9009255-00		LABEL, POWER SUPPLY, 2-15/16 " L	1
18	18	C-MD-7425401-0-0	7425401-00		INSULATOR,SHIELD	1
19	19		9010174-00		SCREW,SEMS PAN PHIL 6-	4
20	20	SEE NOTE	9009087-00		FOAM, TAPE, SINGLE SIDED 1/8 THK	4

REVISION HISTORY			BASIC PART NO: 7018762				
ENG	ECO NUMBER	REV	SECTION A OF A				
---	INITIAL	X03	SECTION.VARIATION INDEX	DRN: A.ROCHA	DATE: 28-SEP-82	D I G I T A L	
---	INITIAL	X04	[A]00	CHK'D: A.ROCHA	DATE: 28-SEP-82	TITLE PARTS LIST POWER SUPPLY ASSY	
---	INITIAL	A		DES.ENG: B. BLODGETT	DATE: 28-SEP-82	DOCUMENT NUMBER	
BB	7018762-ML001	B	[B]			SIZE / CODE / NUMBER / REV	
WS	7018762-TW002	C	[C]	RESP.ENG.: B.STANDISH	DATE: 28-SEP-82	K / PL / 7018762-0-DBP / C	
			[D]				
			[E]	MFG.ENG.: G.ABREU	DATE: 28-SEP-82	RELEASE DATE: 07-AUG-84	
			[F]	ASSEMBLY NUMBER: E-AD-7018762-0-0	TOP DOCUMENT NUMBER: E-UA-7019937-0-0	FILE NAME: Z4151C.PLS	EDIT # 16

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WIRE TABLE

ITEM NO.	DESCRIPTION AWG	COLOR	FROM POINT	CONN	TERM	TO POINT	CONN	TERM	REMARKS
2	—	BLU	—	LFI-N	—	—	CBI-5	—	
2	—	GRN/YEL	—	LFI-G	—	—	GND STUD	—	
2	—	BRN	—	LFI-L	—	—	CBI-3	—	
4	—	—	—	P5	—	—	P7	—	SEE NOTE 1
	—	BRN	17REF	(P7-1)	—	—	CBI-1	—	
	—	BRN	18REF	(SI-2A)	—	—	CBI-1	—	
	—	BRN	23REF	CBI-2	—	27REF	CBI-4	—	
	—	BRN	1 REF	TBI-3A	—	26REF	CBI-4	—	
	—	BLU	19REF	(SI-1)	—	—	CBI-6	—	
	—	ORN		(P7-4)	—	—		—	
	—	ORN	4REF	(SI-1B)	—	—	TBI-2A	—	
	—	ORN		(SI-2B)	—	—		—	
	—	RED	5REF	(SI-1A)	—	—	TBI-1A	—	
4	—	RED	6REF	(P7-3)	—	—	TBI-1A	—	SEE NOTE 1

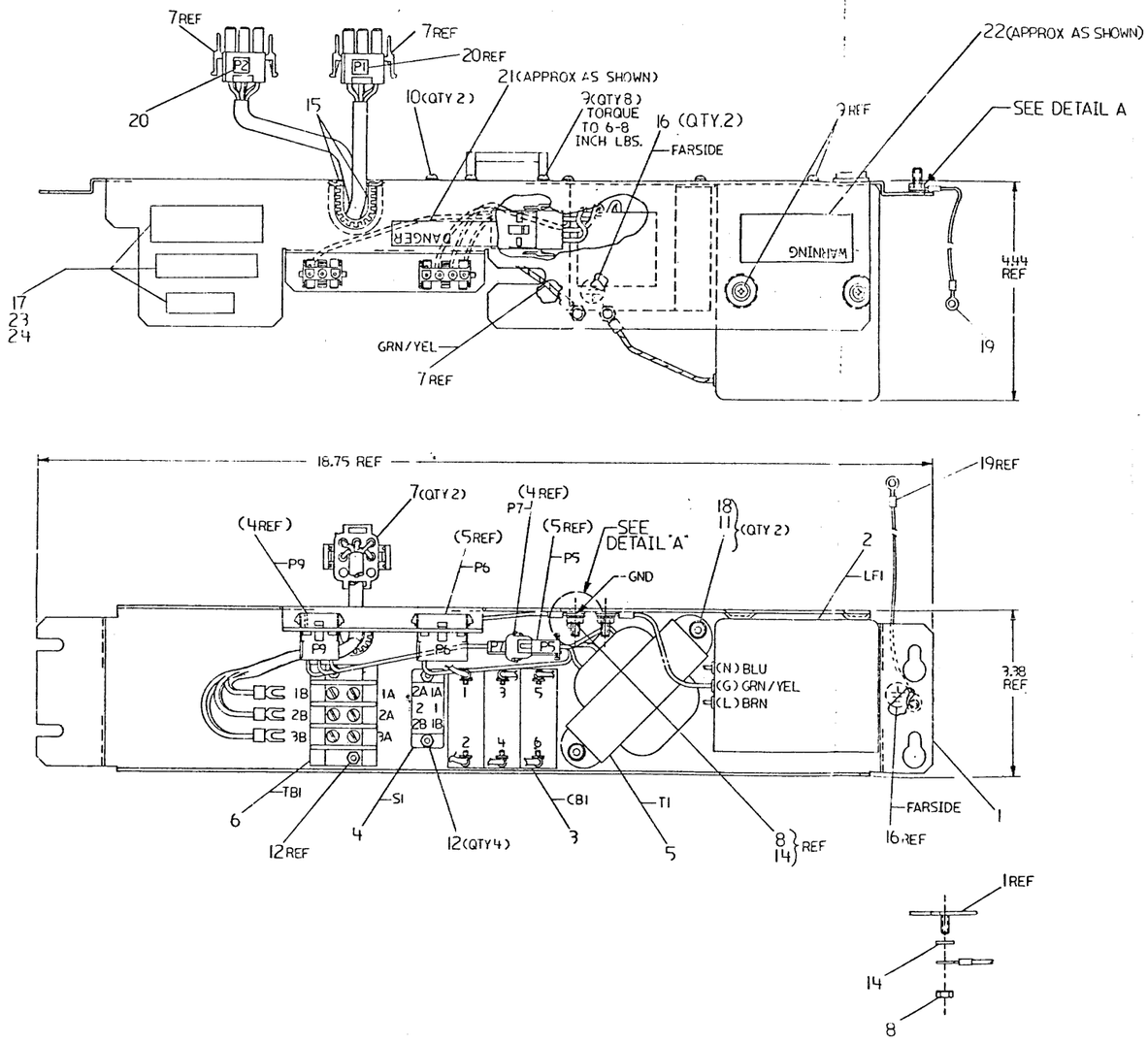
WIRE TABLE C

ITEM NO.	DESCRIPTION AWG	COLOR	FROM POINT	CONN	TERM	TO POINT	CONN	TERM	REMARKS
	—	RED	—	P1, P2	—	—	TBI-1B	—	
7	—	ORN	—	P1, P2	—	—	TBI-2B	—	
(QTY 2)	—	BRN	—	P1, P2	—	—	TBI-3B	—	
	—	GRN/YEL	—	P1, P2	—	—	GND STD	—	

PART NO	REV	VARIATION
7018763-00	B2	AS SHOWN

NOTES:

1 WIRE LIST ENTITIES WITH POINT NUMBERS REFERENCED, I.E. (1 REF.), ARE POINTS FROM THE D-IA-7018764-0-0, AC SWITCH ASS'Y, ITEM 4.



DETAIL "A"
SCALE: NONE
TYP 3 PLACES
(TORQUE TO 22 IN-LBS ± 5")

CAUTION : FOR PARTS LIST REFER TO K-PL-7018763-0-DBP.

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	ANGLES ± 0°30'	APPLICABLE DIMENSION RANGE (CHECK ONE)	DIMENSION RANGE IN INCHES: OVER 0 TO 12	OVER 12 TO 48	OVER 48 TO 120	OVER 120 TO 180	OVER 180 TO 240
X ± .1	SURFACE QUALITY	☐					
XX ± .02		☐	± .02	± .03	± .05	± .10	
XXX ± .005	MICROINCHES	☐	± .004	± .008	± .012	± .016	± .04
QUANTITY & VARIATION		☐				± .016	± .04

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: SEE PARTS LIST

DRN	L. Rice	DATE 19 FEB 82
CHK'D	[illegible]	DATE 2 MAR 82
	[illegible]	DATE 2 MAR 82
MFG ENG	B. Stelle	DATE 22 OCT 82
MFG MGR	[illegible]	DATE /

TITLE: AC INPUT ASSY

DOCUMENT NUMBER

SIZE: D | SCALE | SHT

AUTOMATED BY VAXKPL (V1.2)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QUANTITY PER VARIATION/REVISION 00 B2
1	1	E-IA-7426318-0-0	74-26318-01		PANEL,AC INPUT	1
2	2		12-25624-01		FILTER,LINE,LINE,EMI/RFI 115/250V	1
3	3		12-19732-01		CKT BKR 15/15/1.5A 3P MAGNETIC	1
4	4	D-IA-7018764-0-0	70-18764-00		AC SWITCH ASSY.	1
5	5		16-19934-01		XFMRA P=3 S=120V 300MA	1
6	6		90-07631-00		TERM BLOCK 03POS(2X02).437CC CL	1
7	7	D-IA-7019769-0-0	70-18769-00		AC POWER SUPPLY HARNESS	2
8	8		90-06565-00		NUT,HEX EXT TOOTH LCKWSHR 10-32X	3
9	9		90-10174-00		SCREW,SEMS PAN PHIL 6-32	8
10	10		90-09546-00		SCREW,SEMS PAN PHIL 4-40	2
11	11		90-06563-00		NUT,HEX EXT TOOTH LCKWSHR 8-32X	2
12	12		90-06557-00		NUT,HEX EXT TOOTH LCKWSHR 4-40X	4
13	13		90-06660-00		*** THIS ITEM IS NOT USED ***	-
14	14		90-07651-00		WASHER,LOCK EXTERNAL STEEL .	3
15	15	SEE NOTE 1	90-07035-00		GROMMET,CATERPILLAR POLYAMIDE 1	4
16	16		36-12680-00		LABEL,GROUND SYMBOL BLACK	2
17	17		36-16073-00		LABEL,ID W/COPY VERTICAL	1
18	18		90-10174-01		SCREW,SEMS PAN PHIL 8-32	2
19	19		70-11412-0X		CABLE CHASSIS GND.	1
20	20	A-DC-740972-0-0	74-09872-02		PWR HARNESS DECAL, BLACK ON CLEAR	1
21	21		36-15037-03		LABEL,"DANGER-HIGH CURRENT"	1
22	22		36-19551-01		LABEL,WARNING REMOVE POWER	1
23	23		36-17674-00		LABEL,SERIAL/POWER W/O UL + CSA LO	1
24	24		36-13211-01		DECAL,CLEAR PREPRINTED CSA 1-1/4 X	1

1 GEN: QTY. FOR ITEM 15 IS SHOWN IN INCHES.

REVISION HISTORY

ENG	ECO NUMBER	REV
	INITIAL	A
JB	7018763-TW001	B
ML	7018763-MK002	C

KPL MATRIX FORMAT | SECTION A OF A

SECTION/VARIATION INDEX

[A] 00
[B]
[C]
[D]
[E]
[F]
[H]
[J]

DRN: A. ROCHA
DATE: 10-AUG-82

CHK'D: A. ROCHA
DATE: ~~10-AUG-82~~ 19-AUG-86

DES.ENG: B. BLODGETT
DATE: 10-AUG-82

RESP.ENG.: B. STANDISH
DATE: 10-AUG-82 19-AUG-86

MFG.ENG: G. ABREU
DATE: 10-AUG-82

D I G I T A L

TITLE PARTS LIST
AC INPUT ASSY

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV
K	PL	7018763-0-D8P	C

RELEASE DATE: 18-AUG-36
RELEASE STATUS: RELEASED

BASIC PART NUMBER:	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
7018763	E-AD-7018763-0-0	E-UA-7019937-0-0	7018763C.PLS	1

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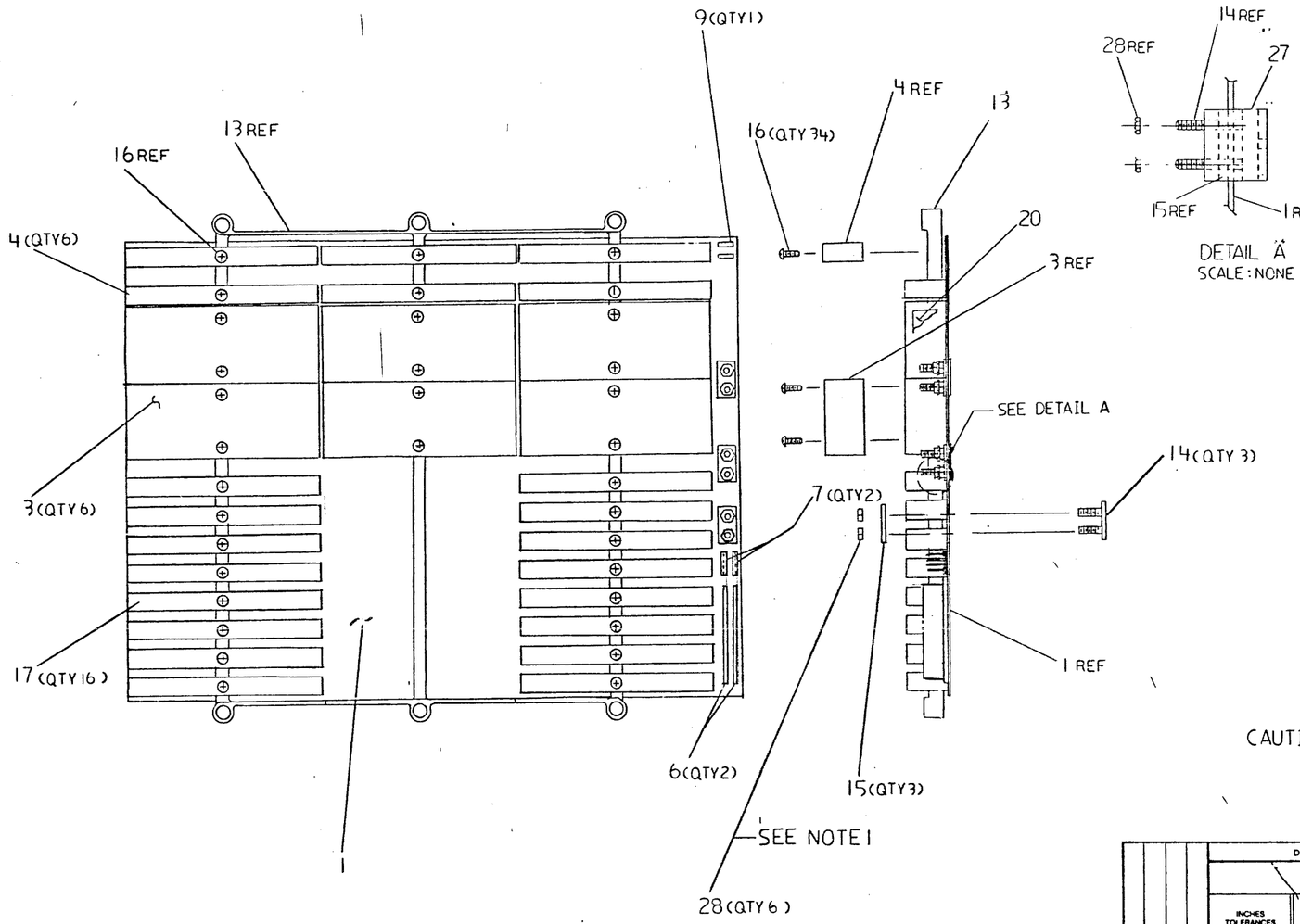
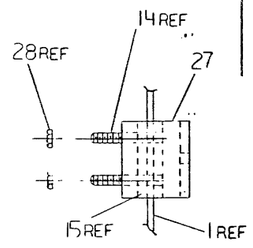
NOTES:
1. TORQUE ITEM28 (NUT) TO 22 IN/LBS ± 5% 6 PLACES.
2. THESE COMPONENTS NOT INSTALLED.
3. REMOVE PINS FROM CONN J3 & J5 BEFORE INSTALLING CONN.





DETAIL A
SCALE: NONE

SHT 2 OF 2 "E" SIZE

CAUTION: SEE OFF SHEETS PARTS LIST
K-PL-7019097-0-DBP(Z3440)

REVISION HISTORY			
DATE	ECO NUMBER	REV.	
4/84	7019097-TW001	B	J. BUZYNSKI
7/84	7019097-TW002	C	J. BUZYNSKI
7/84	7019097-TW003	D	J. BUZYNSKI

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	ANGLES ±0°30'	APPLICABLE DIMENSION RANGE (CHECK ONE)	DIMENSION RANGE IN INCHES					
			OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 60.0
X = ± .1	SURFACE QUALITY	☐	± .02		± .03	± .05	± .10	
XX = ± .02		☐						
XXX = ± .005	MICROINCHES	☐	± .004	± .008	± .012	± .016	± .024	± .04

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

DRN	M. Bertolo	DATE 22 July 82
CHK'D		DATE 5-5-83
DES. ENGR.	John Campbell	DATE 5-May-83
RESP. ENGR.	G. Marcus (for)	DATE 5-May-83
MFG. ENGR.	Nick Ehrico (for)	DATE 5-May-83
NEXT HIGHER ASSY	E-IA-7019090-0-DBU	

TITLE: digital
DECSA BACKPLANE

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV.
D	AD	7019097-0-0	D

SCALE NONE SHEET 1 OF 2

DRD 1000

SIZE CODE DAD 7019097-0-0 REV D

WIRE ADDS SIDE 2
0-1 FROM C1701 TO J3 PIN 6.

COMPONENT SIDE VIEW

16.5 F.B.S.
419.1 MM

12.00
304.8 MM
F.B.S.

AB11 AB12 AB13 AB14 AB15 AB16 AB17 AB18 AB19 AB20 AB21 AB22 AB23 AB24 AB25 AB26

C8 C17 C18 C33 C34 C15
C7 C19 C20 C35 C36 C14
C6 C21 C22 C37 C38 C13
C4 C23 C24 C39 C40 C12
C5 C25 C26 C47 C44 C11
C3 C27 C28 C45 C42 C10
C2 C29 C30 C43 C46 C9
C1 C31 C32 C41 C48 C16

J7 SK1 SK3 SK2 J5 J3

SEE NOTE 2
SEE NOTE 2
SEE NOTE 3

0-1

SIGNATURES	DATE
DRN.	
CHK. D.L.T.GEARY	5-1-84
MECH. ENG.	5/9/84
PROD. ENG.	
PROJ. ENG.	

digital

TITLE DECSA BACKPLANE

SIZE E | CODE | NUMBER E-AD-7019097-0-0 | REV D

SCALE 2/1 SHT. 2 OF 2

NEXT HIGHER ASY: E-AD-7019090-0-0

ETCH REV. B

REV	CHANGE NO	CHK

NOTES:

STEP	TYPE	TOKS
1	W RISE	STEP
2	W RISE	STEP
ASCENT		

E AD 7019097-0-0 D

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AUTOMATED BY PRTLST.3P(44)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
1	1	D-MD-5014989-0-0	5014989-00		DRILL & ETCH BRD.	1	
2	2		1004812-00		15 MFD 20V 10% S.TANT	16	C1-C16
3	3		1210258-01		CONN,CARD 288PIN SLOTTED OPEN EN	6	
4	4		1211425-00		CONN,CARD 72PIN SLOTTED DOUBLE	6	
5	6		1212518-04		PCB,HEADER 24POS(1X24).100CC STR	2	J3,J5
6	7		1216122-00		PCB,HEADER 04PIN(1X04).156CC KEY	2	J4,J6
7	9	BLANK			*** THIS ITEM IS NOT USED ***	-	
8	10		9009185-00		JUMPER, WIRE, INSULATED, BLACK B	3	W1-W3
9	11	BLANK			*** THIS ITEM IS NOT USED ***	-	
10	12		1017472-00		10 MFD 35V +75-10% AL EL	32	C17-C48
11	13		7426658-01		FRAME,BACK PLANE	1	
12	14		7427025-01		PLATE,STUD,PC BOARD	3	SK1-SK3
13	15		7427026-01		PLATE,PC BOARD	3	
14	16		9006120-06		SCREW, FILL POZI 8-	34	
15	17		1211425-03		CONN,CARD 72PIN	16	AB11-AB26
16	18	BLANK			*** THIS ITEM IS NOT USED ***	-	
17	20		7411881-01		DECAL	1	
18	22	SEE NOTE	9105740-44		WIRE(WRAP) 30AWG KYNAR UL14	42	
19	23	SEE NOTE	9107688-44		WIRE(WRAP) 24AWG KYNAR UL13	2	
20	24		9905016-05		CARTON,DIE CUT,SELF LOCK	1	
21	25	K-WL-7019097-0-DBW			WIRE LIST	REF	
22	26	BLANK			*** THIS ITEM IS NOT USED ***	-	
23	27	C-MD-7429166-0-DBU	7429166-01		BRACKET,GROUND	1	
24	28		9006565-00		NUT,HEX EXT TOOTH LCKWSHR 10-32	6	

25 NOTE: ITEMS 22 & 23 ARE IN INCHES.

REVISION HISTORY

ENG	ECO NUMBER	REV
---	INITIAL	A
JB	7019097-TW001	B
JB	7019097-TW002	C
JB	7019097-TW003	D

BASIC PART NO: 7019097

SECTION A OF A

SECTION.VARIATION INDEX
[A] 00
[B]
[C]
[D]
[E]
[F]
[H]
[J]
[K]
[L]
[M]
[N]

DRN: P. GROSSE	DATE: 28-SEP-82	D I G I T A L
CHK'D: F. GERRY	DATE: 28-SEP-82	TITLE PARTS LIST DECSA BACKPLANE
DES.ENG: J. WEAVER	DATE: 28-SEP-82	DOCUMENT NUMBER
RESP.ENG.: J. BUZYNSKI	DATE: 28-SEP-82	SIZE: K CODE: RL NUMBER: 7019097-0-DBP REV: D
MFG.ENG.: J. GRIEVE	DATE: 28-SEP-82	RELEASE DATE: 21-AUG-84
ASSEMBLY NUMBER: E-UA-7019097-0-0	TOP DOCUMENT NUMBER: E-IA-7019090-0-DBU	FILE NAME: Z3440D.PLS EDIT #: 37

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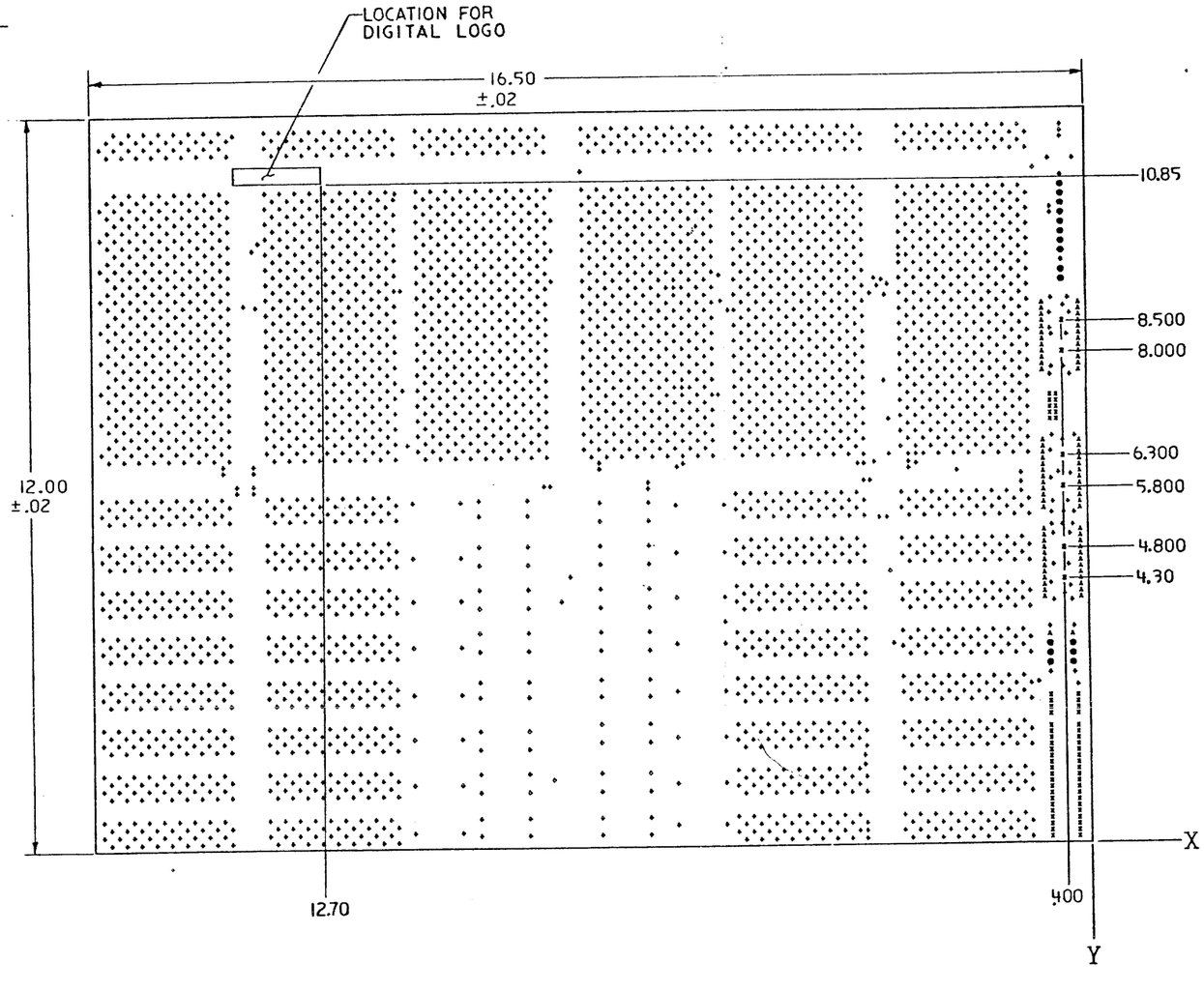
VIEWED FROM SIDE 1
COMPONENT SIDE



FOR HOLE TOLERANCES USE DEC STD 176										
SYMBOL	+	∧	X	◆	Z	W	Δ	□	◇	*
FIN HOLE SIZE	.042	.052	.035	.073	.203					
PLATED	X	X	X	X	X					
NON PLATED										
QTY.	0527	80	56	12	6					
◯=OFF GRD HOLE	0	6	0	10	0					
DRILL SIZE										

NOTE: ALL HOLE LOCATIONS ARE DESIGNED ON .025 GRID INCREMENTS FROM DATUM UNLESS SYMBOL IS CIRCLED.

DESIGN INFORMATION
CIRCUIT SIZE: X 16.50 Y 12.00 INCHES
CIRCUIT TYPE: PPE[] PTH[] ML[X]
CIRCUIT TECHNOLOGY: SD[] H012X13[X] H20[] OTHER[] ____
FINGER CONNECTOR DIM. PER _____ [] AS SHOWN[]
LAYER CONSTRUCTION PER C-MD-ELEN630-0-3 [] AS SHOWN[]
ARTWORK LAYOUT: MANUAL[] CAD[X]
ENG SPECIAL FEATURES:
SPECIAL NOTES:

FABRICATION INFORMATION
FABRICATE BOARD PER _____ [] AS SHOWN[X]
SOLDER MASK, SIDE 1[X] SIDE 2[X] NONE[]
SPECIFICATIONS AND STANDARDS:
MATERIALS AND WORKMANSHIP FOR ALL FABRICATED PRINTED WIRING
BOARDS MUST MEET OR EXCEED THE REQUIREMENTS OF DEC STD 176.
SPECIAL NOTES:

TOLERANCES INCHES UNLESS SPECIFIED	
.XXX ± .005	ANGLES ±0 DEG 30 MIN
.XX ± .010	
.X ± .020	

SIGNATURES	DATE
DRN: P.H.	4-MAY-82
CHK'D: E.T. GERRY	5-10-82
MECH ENG:	9-10-82
PROJ ENG:	9-10-82
MFG ENG:	9-20-82
SCALE: 1:1	
SHEET 1 OF 1	
NEXT HIGHER ASSY: D-AD-7019097-0 ETCH REV: B	

digital

TITLE: DRILL & ETCH DRAWING

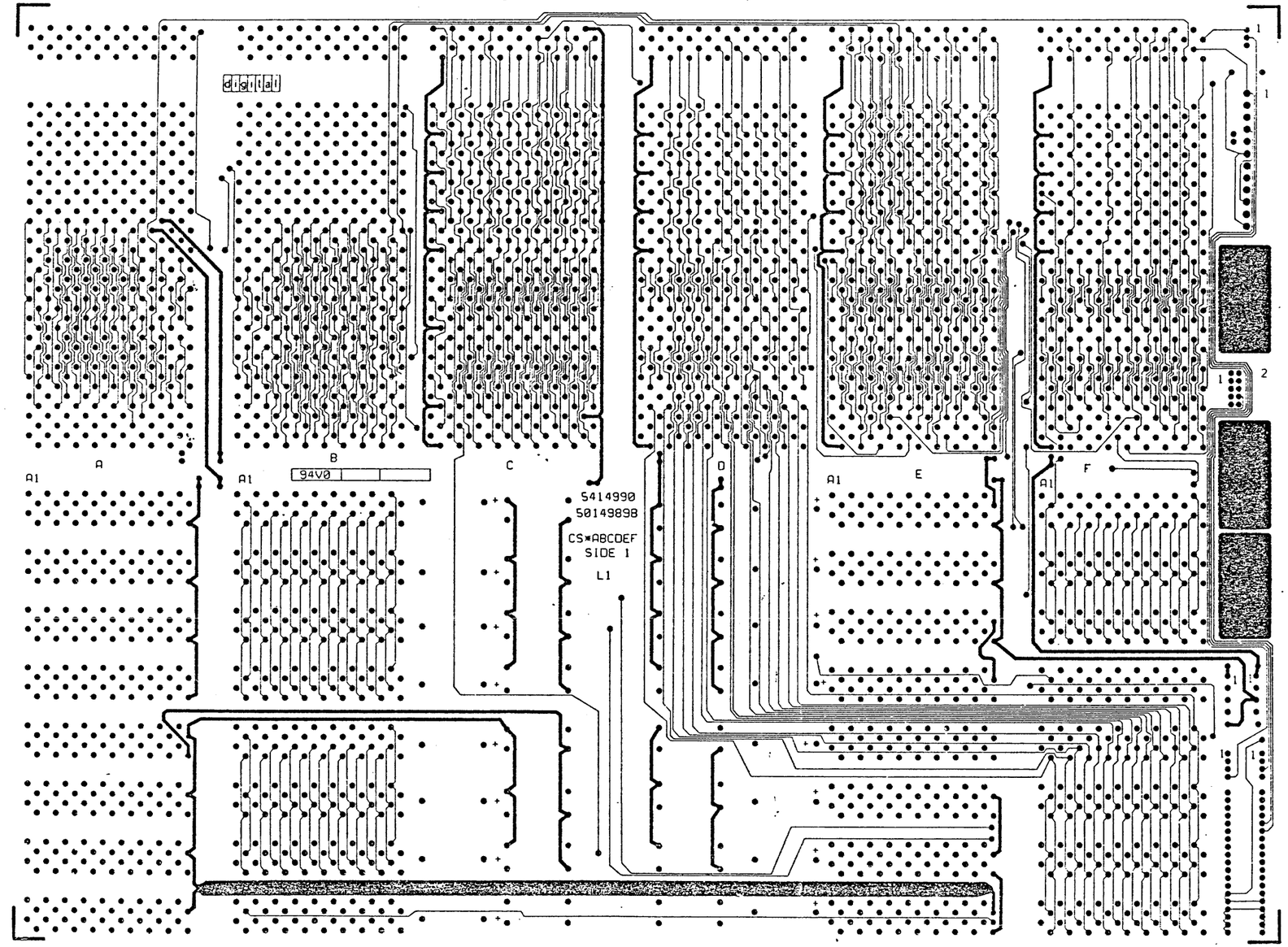
SIZE	CODE	NUMBER	REV
D	MD	5014989-0-0	A

TW 1 WO#170488

REV	CHANGE NO	CHK
A	0-0-6864105	MD

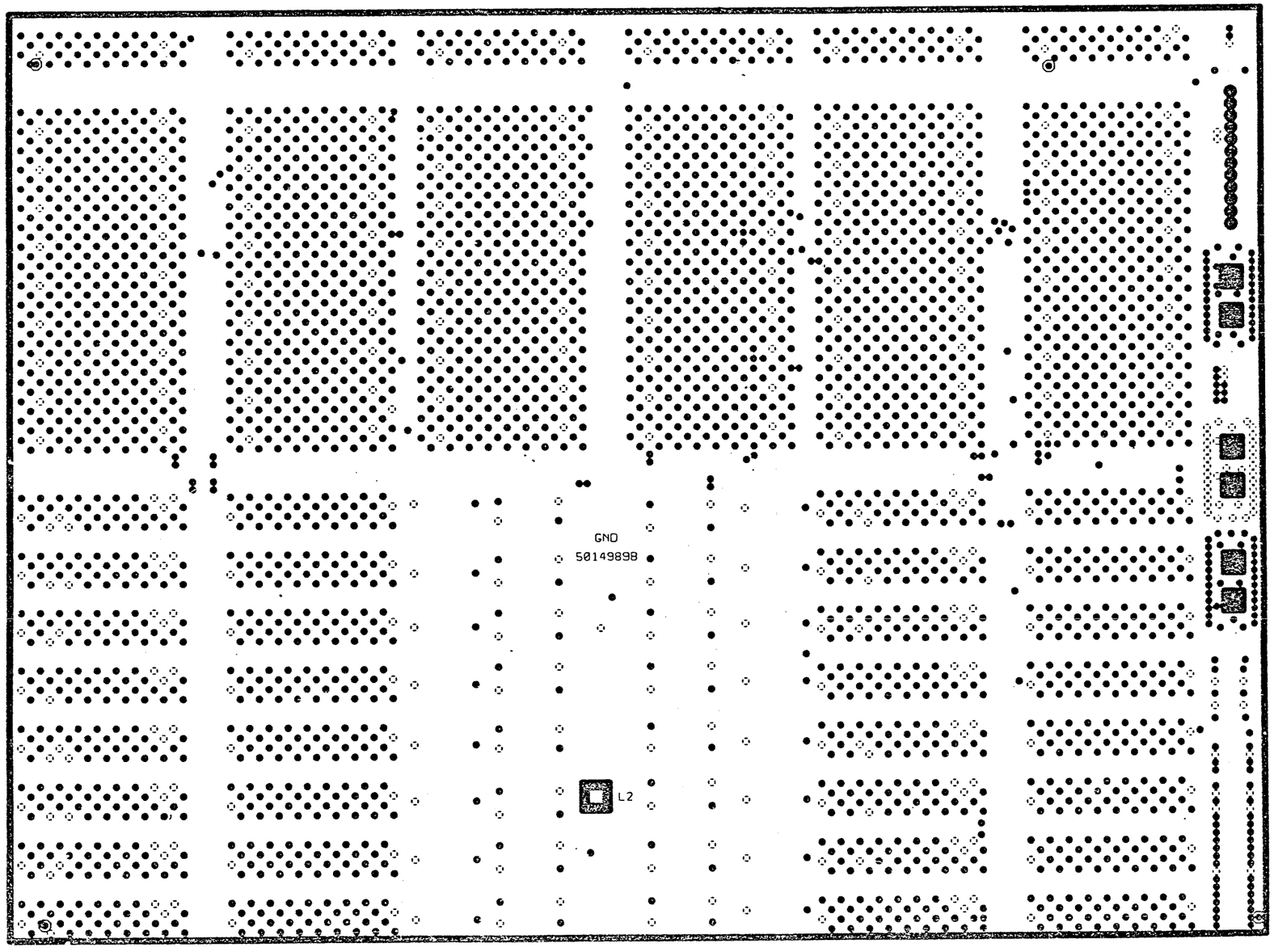
D MD 5014989-0-0 A B

LAYER 1



DRILL & ETCH DRAWING | E MD 5014989-0-0 | A

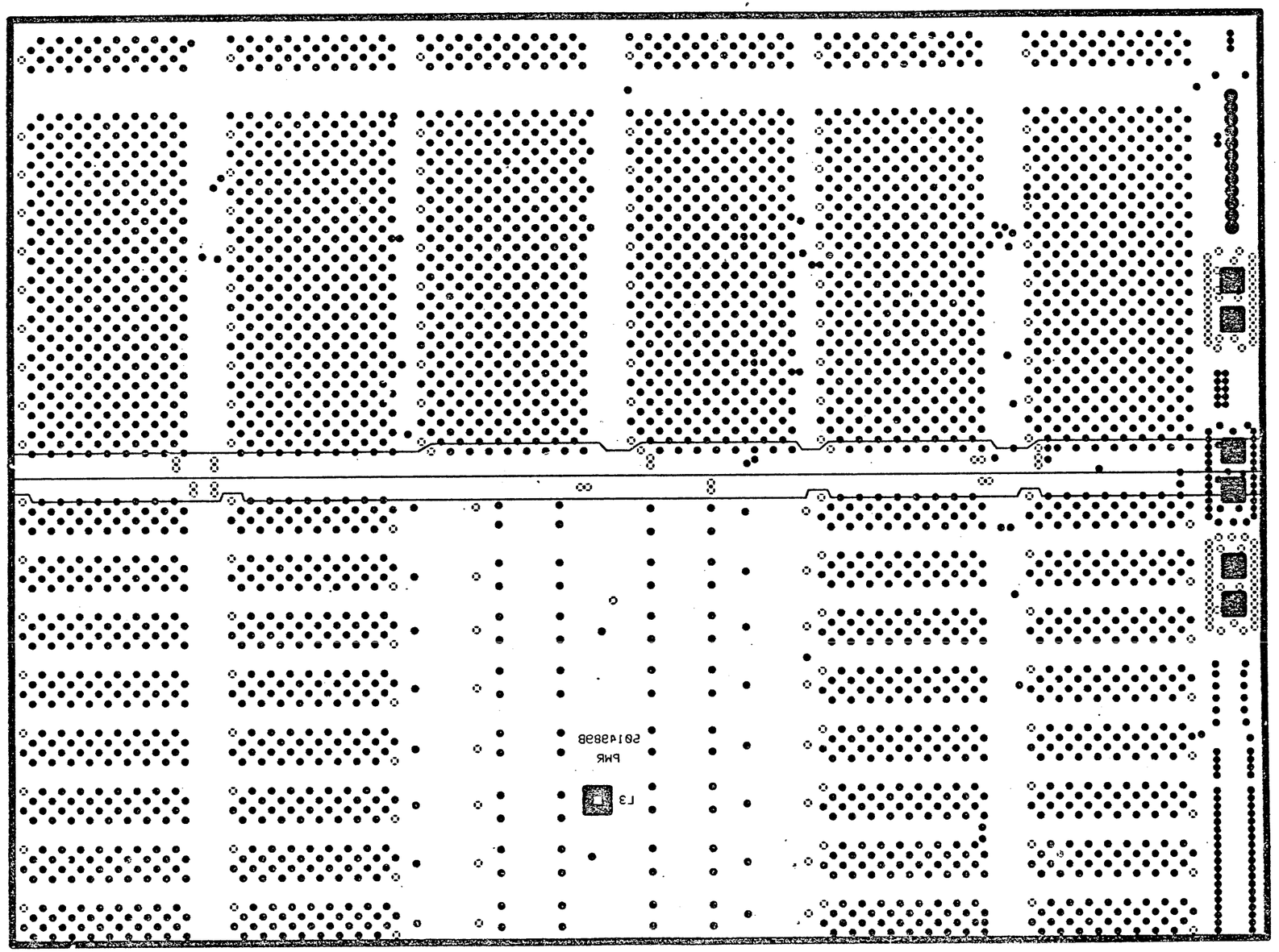
LAYER 2



DRILL & ETCH DRAWING

EMC 50149894-0-0 A

SHEET 3 OF 7



8	7	6	5	4	3	2	1			

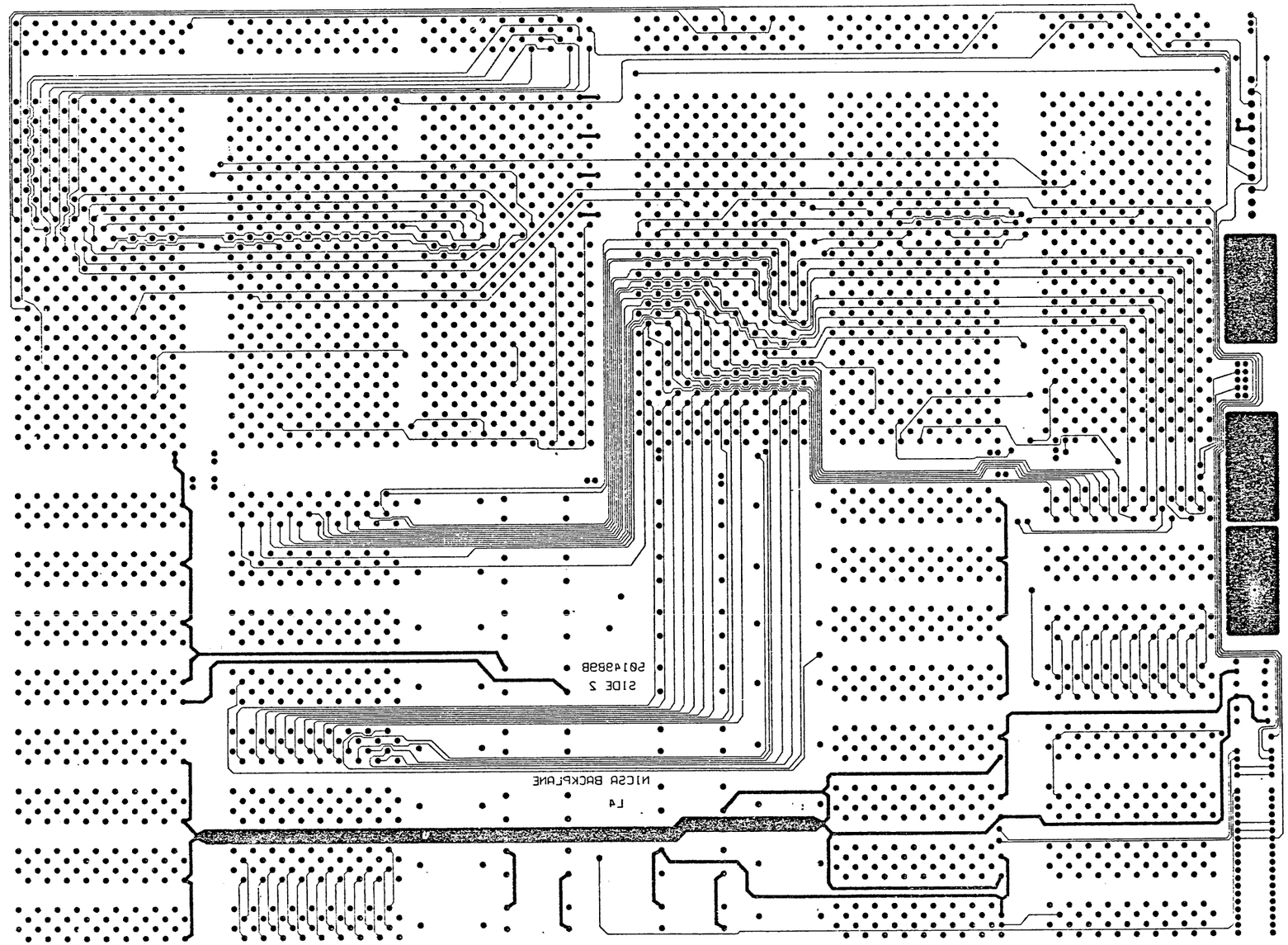
TITLE: DRILL & ETCH DRAWING

DOCUMENT NO. SIZE: E | NO: 5014980-3-0 | REV: A

SHEET 4 OF 4

5014980-3-0 REV A

LAYER 4



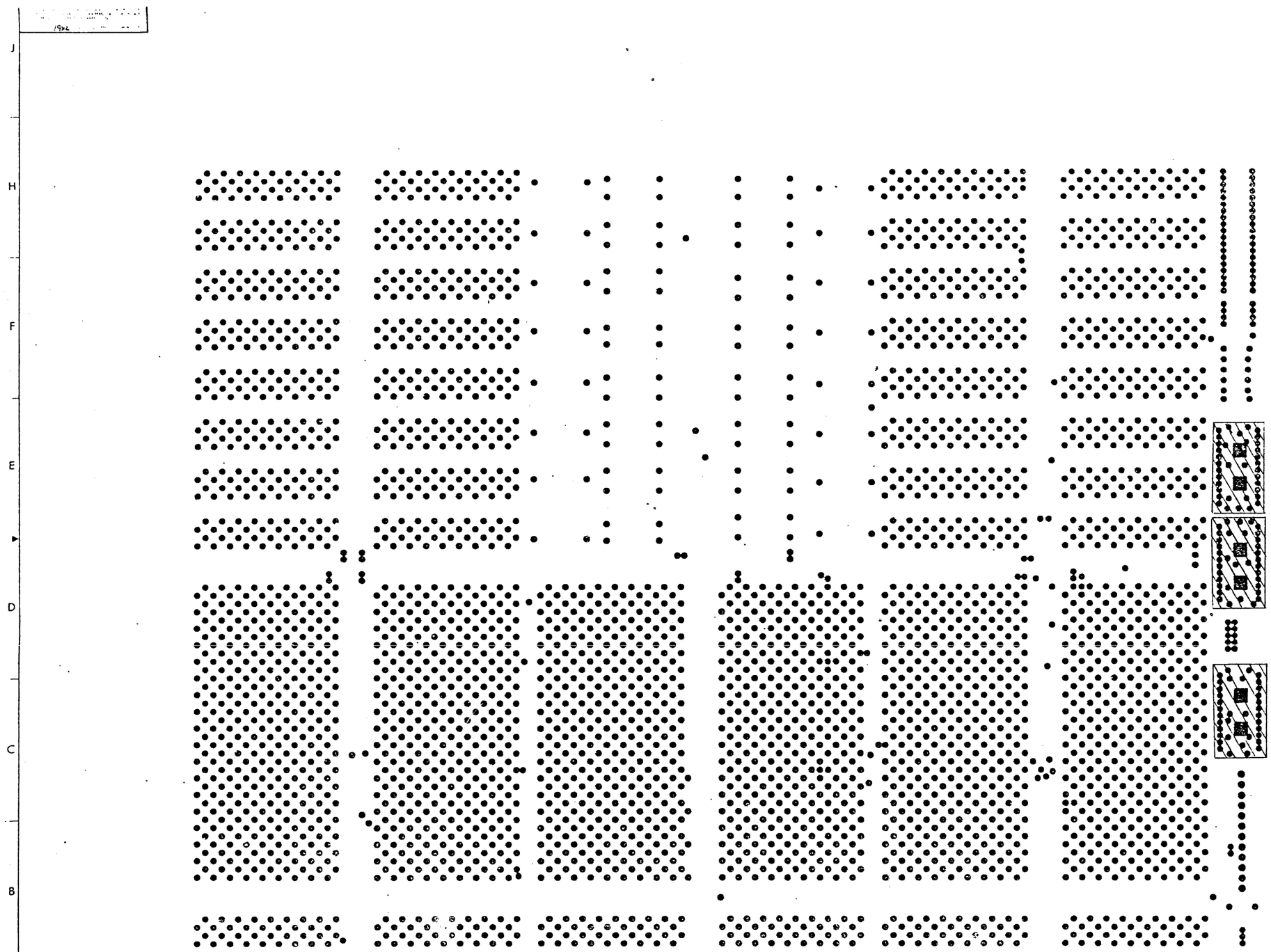
DRILL & ETCH DRAWING

E 5014988-0-0 A

SHEET 5 OF 7

J H F E D C B A

8 7 6 5 4 3 2 1



SOLDERMASK REWORK
VIEWED FROM SIDE 1

DRILL & ETCH DRAWING

E MO 50INSBS-0-0 A

8 7 6 5 4 3 2 1

1982

J

H

F

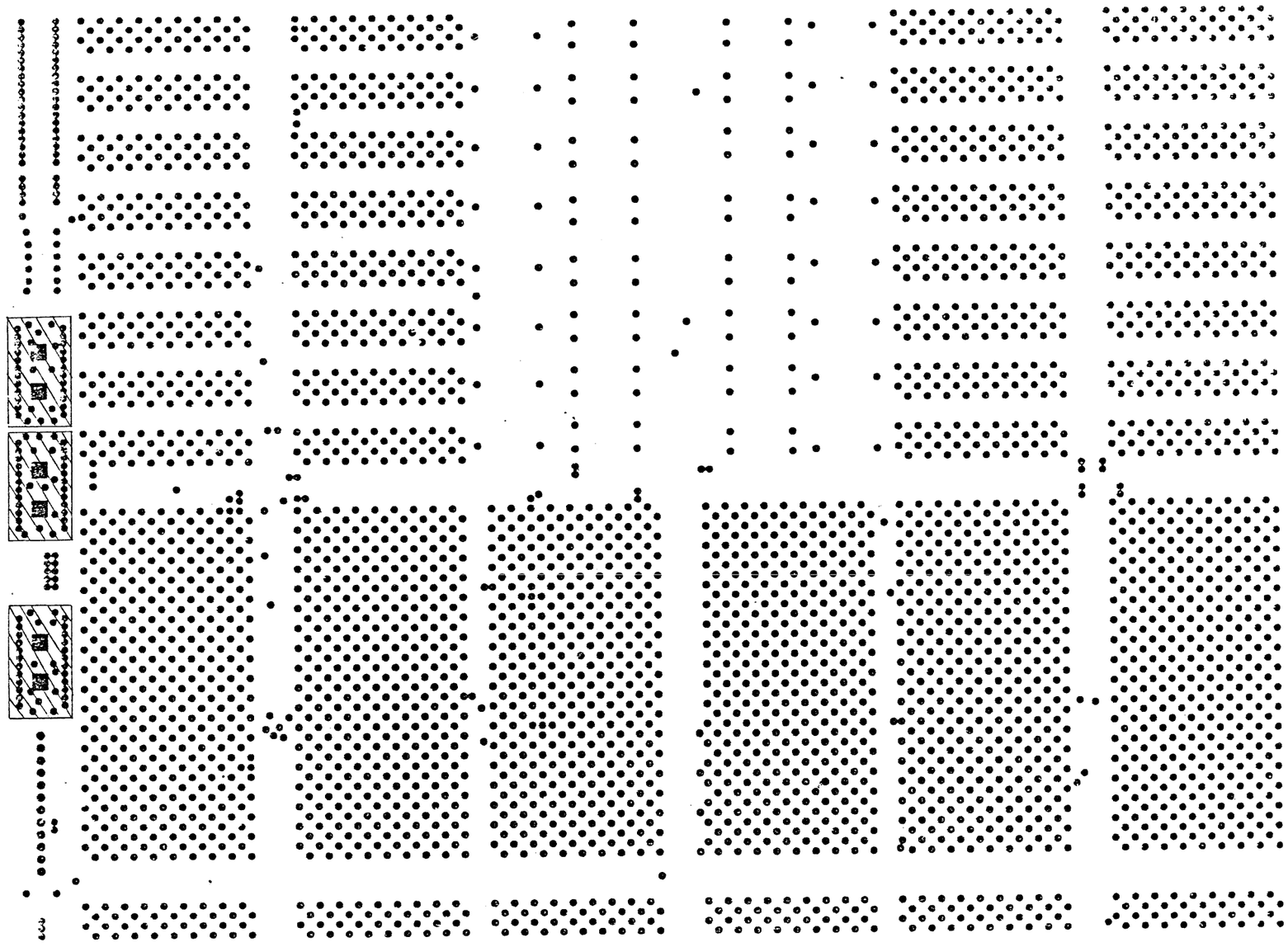
E

D

C

B

A



SOLDERMASK REWORK
VIEWED FROM SIDE 2

DRILL & ETCH DRAWING

E MD 5014989-0-0 A

5014989-0-0 A

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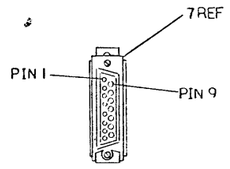
SIZE D | CODE IA | NUMBER 7018798-0-0 | REV C

WIRE TABLE

ITEM NO.	DESCRIPTION AWG	COLOR	FROM POINT	FROM CONNECTION	FROM TERM	TO POINT	TO CONNECTION	TO TERM	REMARKS
1	SHIELD	—	1	P1-1	8,6	—	—	—	SHIELD DRAIN WIRE
1	28	BLU	2	P1-2	8,6	19	P2-14	4,9	COLLISION PRESENCE +
		GRN	3	P1-9	8,6	18	P2-15	4,9	COLLISION PRESENCE -
1	28	WHT	4	P1-5	8,6	17	P2-6	4,9	RECEIVE +
		GRY	5	P1-12	8,6	16	P2-7	4,9	RECEIVE -
1	28	ORG	6	P1-3	8,6	15	P2-10	4,9	TRANSMIT+
		YEL	7	P1-10	8,6	14	P2-11	4,9	TRANSMIT-
1	24	RED	9	P1-13	8,6	11	P2-1	3,9	POWER
		VIO	10	P1-15	8,6	12	P2-20	3,9	FUSE LOW
		BLK	8	P1-6	8,6	13	P2-4	3,9	POWER RETURN

LEGEND

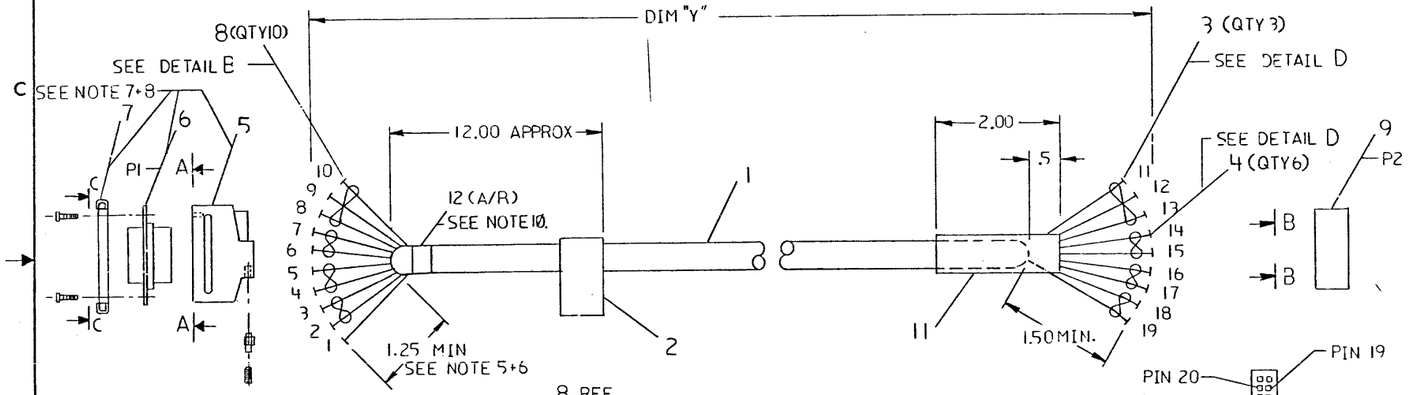
NUMBER	DIM "Y" (PRECUT)	REV
7018798-08	7 FT. 10 IN ± 2 IN.	B2
7018798-04	4 FT. 0 IN ± 2 IN.	B2
7018798-03	3 FT. 0 IN ± 2 IN.	A1
7018798-07	7 FT. 0 IN ± 2 IN	A1



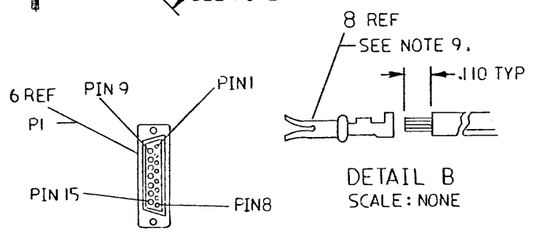
VIEW C-C

NOTES:

1. KEYING PLUG (ITEM 10) IS INSERTED INTO P2-2.
2. REMOVE JACKET & OUTER BRAID 1.50" TO ALLOW SEPARATION OF WIRES, P2 END.
3. STRIP FOIL SHIELD FROM WIRES, P2 SIDE.
4. CUT "SHIELD WIRE" FLUSH WITH OUTER JACKET, (P2 SIDE ONLY).
5. REMOVE JACKET & OUTER BRAID TO ALLOW SEPARATION OF WIRES, P1 SIDE.
6. STRIP FOIL SHIELD FROM WIRES 1.00 IN.
7. MOVE PLASTIC HOOD UP TO P1 CONNECTOR & ATTACH SLIDE LATCH ASSY. ITEM NO. 7 USING SLIDE LATCH ASSY SCREWS PROVIDED (DISCARD WASHERS & NUTS - ITEM NO. 7) TIGHTEN 3 IN - LBS. (DISCARD TWO CONNECTOR MOUNTING SCREWS HOOD ASSY) ITEM NO. 5.
8. TIGHTEN STRAIN RELIEF SET SCREW ON PLASTIC HOOD. 3 IN - LBS.
9. HAND CRIMP TOOLS: AMP P/N 90302-1 BERG ELECTRIC P/N HT-95
10. ADD ITEM NO.12 FLUSH WITH OUTER JACKET.
11. DO NOT USE MORE THAN 8FT (2.5M) OR ETHERNET SPECIFICATION MAY BE VIOLATED IN STANDARD CONFIGURATIONS.

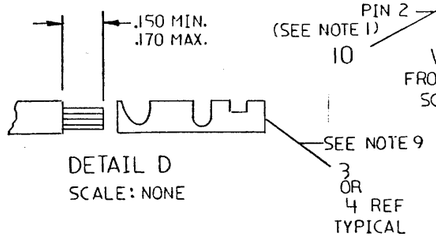


VIEW B-B
FROM WIRING SIDE
SCALE: NONE



VIEW A-A
FROM WIRING SIDE
SCALE: NONE

DETAIL B
SCALE: NONE



DETAIL D
SCALE: NONE

CAUTION: SEE OFF SHEET PARTS LIST
K-PL-7018798-0-DBF (MK117C.PLS)

REVISION HISTORY		
DATE	ECO NUMBER	REV
7-JUL-82	7018798-TW001	B
12-AUG-82	7018798-MK002	C

M. LAWRENCE

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	ANGLES ±0°30'	APPLICABLE DIMENSION RANGE (CHECK ONE)	DIMENSION RANGE IN INCHES: OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 60.0
X = ± .1	SURFACE QUALITY		± .02	± .03	± .05	± .10		
XX = ± .02			± .004	± .008	± .012	± .018	± .024	± .04
XXX = ± .005	MICROINCHES							

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: SEE PARTS LIST

FINISH

DRW		DATE 12 MAY 82
CHK'D		DATE
DES. ENG.		DATE
RESP. ENG.		DATE
MFG. ENG.	Dana K Duncan	DATE 25-JUL-82
NEXT HIGHER DOC.		

TITLE: digital
UNA BULKHEAD CABLE ASSY

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV
D	IA	7018798-0-0	C

SCALE — SHEET 1 OF —

DRD 1000

SIZE D | CODE IA | NUMBER 7018798-0-0 | REV C

DRAWING NO.	NO.SHTS	PART NO.	DESCRIPTION	REVISIONS
		5413867-00	PART REVISION	E1 F1 F2
		5413867-YA	PART REVISION	E1 F1 F2
K-PL-5413867-0-03P	4		H7211 COMMUNICATION REG	A B C D E F H
D-CS-5413867-0-1	2		H7211 COMMUNICATION REG	A B C D E F F
S-UA-5413867-0-0	3		H7211 COMMUNICATION REG	A B C D D E F
K-DD-5013866-0	1		DRAWING DIRECTORY	A
		5013866-00	ETCHED BOARD	B B B B B B B
K-PC-5413867-0-03G			PC DESIGN DATA BASE	B B B B B B B

NOTES:

REVISION HISTORY	PEV	B C D E F H
ECO NO	TW0001 TW0002 TW0003 TW0004 LK0005 MK0006	
DATE	NOV83 DEC83 APR83 NOV83 MAY83 JUN83	

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DRN: M. VACHEROT	DATE: 25JUN86	d i g i t a l
CHK'D: B. DUBOIS	DATE: 25JUN86	TITLE: H7211 COMMUNICATION REG
DES.ENG.: L. FIELD	DATE: 25JUN86	SHEET 1 OF 1 / EDIT: 6
RESP.ENG.: L. FIELD	DATE: 25JUN86	DOCUMENT NUMBER / DD FILENAME: 5413867.DDF
MFG.ENG.: A. RIVERA	DATE: 25JUN86	SIZE: K / CODE: DD / NUMBER: 5413867-0-0 / REV: H

DRAWING NO.	NO.SHTS	PART NO.	DESCRIPTION	REVISIONS
		5413857	PART REV	- - - - - - - - K1 K2 K3
K-PL-5413857-0-0*P	4		H7200 MAJOR BOARD	A B C D E F H J K L M
D-UA-5413857-0-0	3		H7200 MAJOR BOARD	A H H D E F H J J K L
D-CS-5413857-0-1	3		H7200 MAJOR BOARD	A B C D E F H J L L M
K-DD-5013856-0	1		H7200 MAJOR BOARD	- - - - - - - - - - A
		5013856	ETCHED BOARD	C C C C C C C C C C C

NOTES:

REVISION HISTORY	REV	A B C D E F H J K L M
	ECO NO	INIT TW0001 TW0002 TW0003 TW0004 TW0005 TW0006 TW0007 TW0101 TW0112 MK0012
	DATE	- 11/8/81 12/8/82 9/8/83 1/8/83 4/8/83 9/8/83 11/8/84 11/8/84 7/8/85 6/8/86

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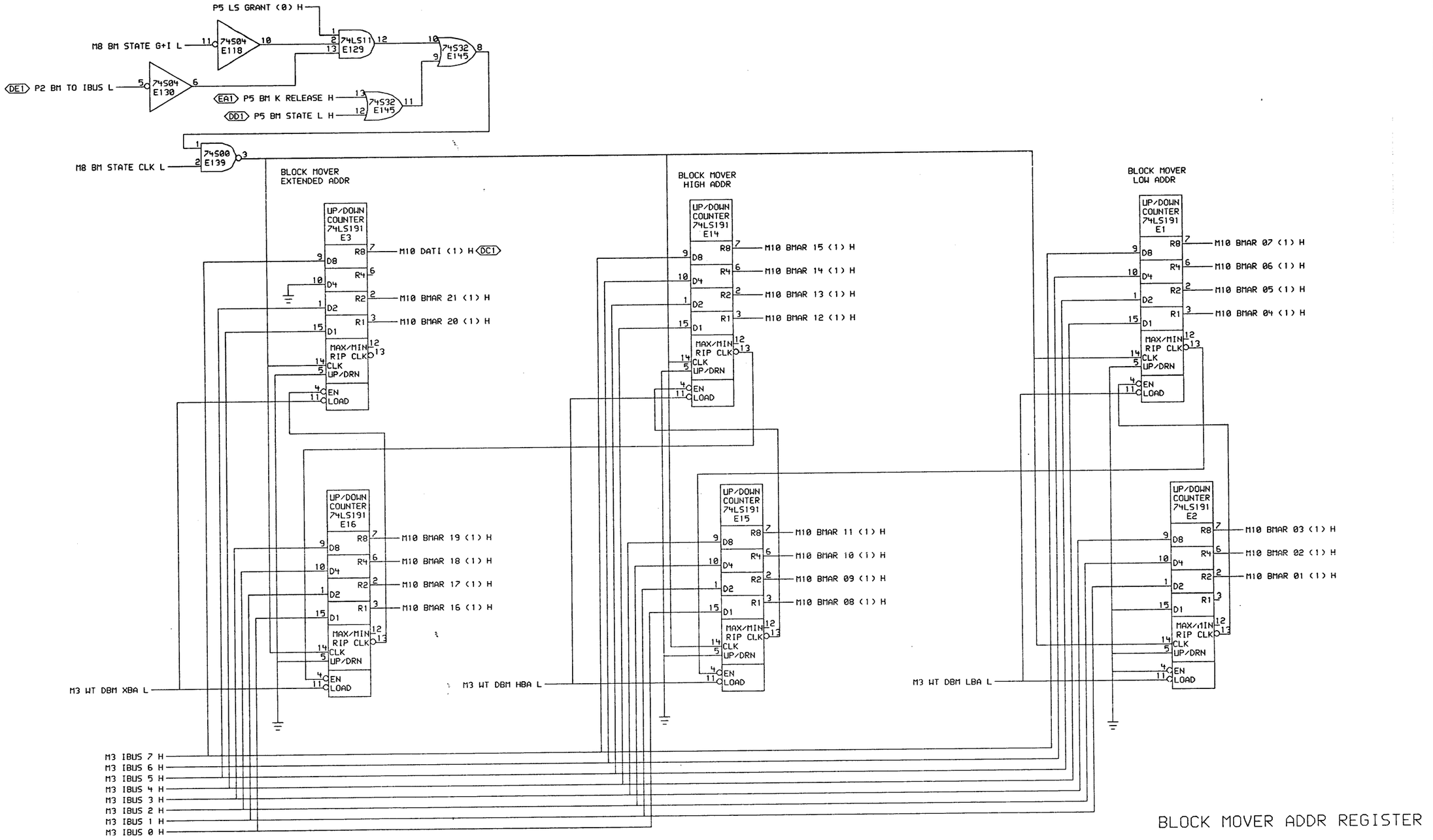
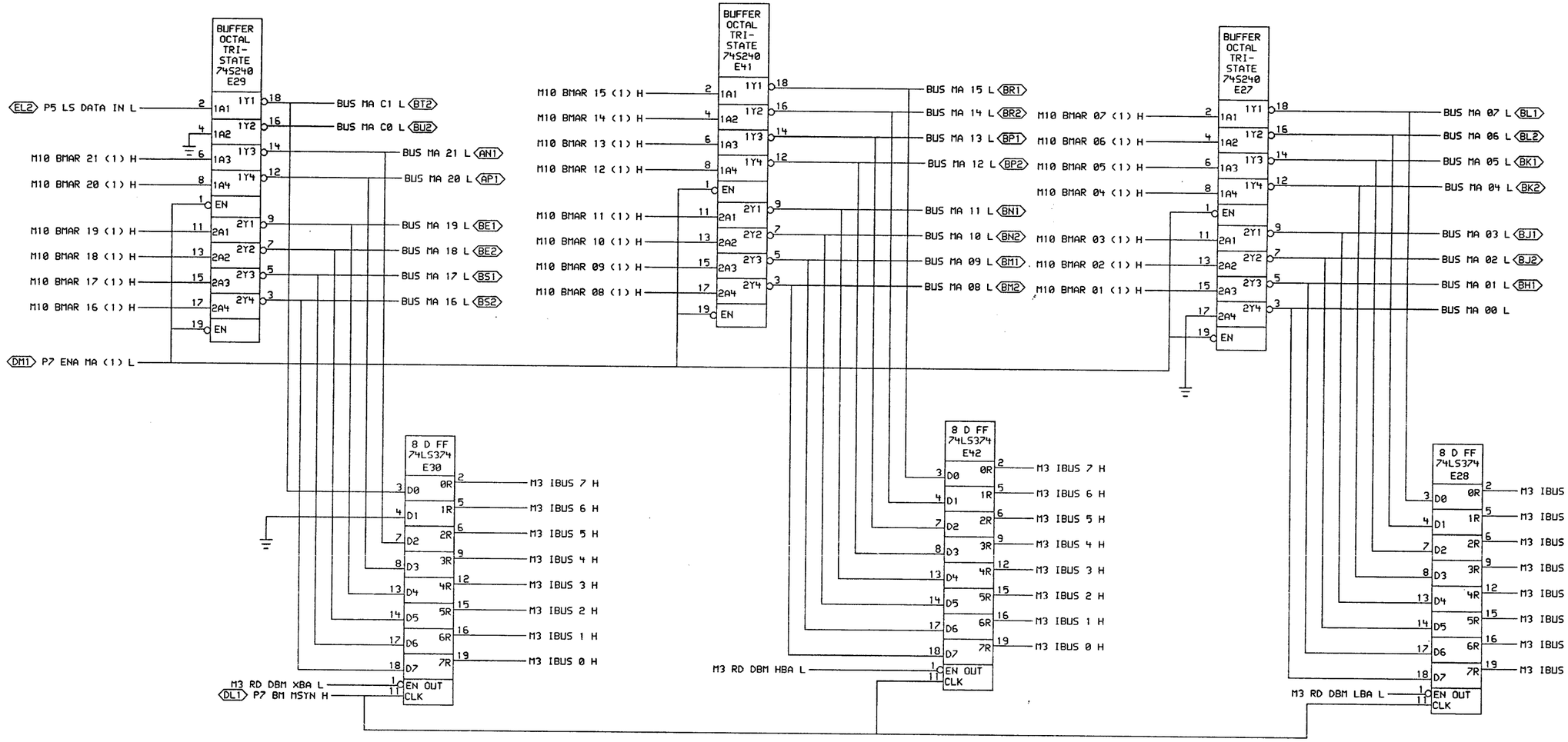
DRN: B. WOODRUFF	DATE: 27-JUN-86	d i g i t a l
CHK'D: R. DUBOIS	DATE: 27-JUN-86	TITLE: H7200 MAJOR BOARD
DES.ENG.: C. LANDINO	DATE: 16-NOV-81	SHEET 1 OF 1 / EDIT: 1
RESP.ENG.: O. PENA	DATE: 27-JUN-86	DOCUMENT NUMBER: DD FILENAME: 13857M.DDF
MFG.ENG.: A. RIVERA	DATE: 27-JUN-86	SIZE: K / CODE: DD / NUMBER: 5413857-0 / REV: M



	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST MICROPROCESSOR
	CHK'D.	DATE	BOARD LOCATION: AF6		SHEET 1 OF 1
DSKD:<COOKE>H10.DRW	02-NOV-82 09:35	NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS NUMBER M3110-0-M10 REV. A
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3110-0-0			



BLOCK MOVER ADDRESS DRIVERS AND
LAST MEMORY ADDRESS REGISTER

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST MICROPROCESSOR
	CHK'D.	DATE	BOARD LOCATION: AF6	SHEET 1 OF 1	
DSKD:<COOKE>M11.DRW	02-NOV-82 09:36	NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3110-0-0		NUMBER M3110-0-M11	REV. A

SPARE 1 — AV1
SPARE 2 — AV2
SPARE 3 — BD1
SPARE 4 — BD2
SPARE 5 — BF1
SPARE 6 — FU1
SPARE 7 — FU2

+5.0V

AA2
BA2
CA2
DA2
EA2
FA2

AT1
AC2
BT1
BC2
CT1
CC2
DT1
DC2
ET1
EC2
FT1
FC2

C1 10MFD 35V
C2 10MFD 35V
C3 10MFD 35V
C4 10MFD 35V
C5 10MFD 35V
C6 10MFD 35V

C7 47NFD 50V
C8 47NFD 50V
C9 47NFD 50V
C10 47NFD 50V
C11 47NFD 50V
C12 47NFD 50V
C13 47NFD 50V
C14 47NFD 50V
C15 47NFD 50V
C16 47NFD 50V
C17 47NFD 50V
C18 47NFD 50V
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C25 47NFD 50V
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C27 47NFD 50V

C27 47NFD 50V
C29 47NFD 50V
C30 47NFD 50V
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C34 47NFD 50V
C35 47NFD 50V
C36 47NFD 50V
C37 47NFD 50V
C38 47NFD 50V
C39 47NFD 50V
C40 47NFD 50V
C41 47NFD 50V
C42 47NFD 50V
C43 47NFD 50V
C44 47NFD 50V
C45 47NFD 50V
C46 47NFD 50V
C47 47NFD 50V

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST MICROPROCESSOR
	CHK'D.	DATE	BOARD LOCATION: AF6		
			SHEET 1 OF 1		
DSKD:<COOKE>M12.DRW	02-NOV-82 09:39		NEXT HIGHER ASSEMBLY:		SIZE K / CODE CS / NUMBER M3110-0-M12 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3110-0-0		

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS										
1			M3110-00	MODULE REV		-	-	C1	D1	E1	F1	F2	F3	F4		
2	D-UA-M3110-0-0	2		P.A.M.		A	B	C	D	E1	F	H	J	K		
3	K-PL-M3110-0-DBP	2		P.A.M.		A	A	B	C	C	D	E	E	E		
4	E-EC-5014976-0-0	3		ETCH CURCUIT DRAWING		A	A	B	C	D1	E	E	F	H		
5	D-MD-5014976-0-0	5		DRILL & ETCH DRAWING		A	A	A	A	A	B	B	B	B		
6			5014976-00	ETCHED BOARD		C	C	C	C	C	D1	D1	D1	D1		
7	K-CS-M3110-0-M1	1		P.A.M.		A	A	A	A	A	A	A	A	A		
8	K-CS-M3110-0-M2	1		P.A.M.		A	A	A	B	B	B	B	B	B		
9	K-CS-M3110-0-M3	1		P.A.M.		A	B	B	C	D	D	D	D	D		
10	K-CS-M3110-0-M4	1		P.A.M.		A	A	A	A	A	A	B	B	B		
11	K-CS-M3110-0-M5	1		P.A.M.		A	A	A	A	A	A	A	A	A		
12	K-CS-M3110-0-M6	1		P.A.M.		A	A	B	B	B	C	C	D	D		
13	K-CS-M3110-0-M7	1		P.A.M.		A	A	A	A	A	A	A	A	A		
14	K-CS-M3110-0-M8	1		P.A.M.		A	A	A	A	A	A	A	A	B		
15	K-CS-M3110-0-M9	1		P.A.M.		A	A	A	A	A	A	A	A	A		
16	K-CS-M3110-0-M10	1		P.A.M.		A	A	A	A	A	A	A	A	A		
17	K-CS-M3110-0-M11	1		P.A.M.		A	A	A	A	A	A	A	A	A		
18	K-CS-M3110-0-M12	1		P.A.M.		A	A	A	A	A	A	A	A	A		
19	K-CS-M3110-0-M13	1		P.A.M.		A	A	A	A	A	A	A	A	A		
20	K-CS-M3110-0-M14	1		P.A.M.						A	A	A	B	B		
21	K-PC-M3110-0-DBI			PC DATA BASE		C	C	C	C	C	D	D	E	F		
22	K-CS-M3110-0-DBS			CS DATA BASE		A	B	C	D	E	E	F	F	H		

NOTES:

DD REV	A	B	C	D	E	F	H	J	K		

REVISION HISTORY			CONT. REVISION HISTORY		
ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV
--	INITIAL	A			
	TW001	B			
	TW002	C			
	TW003	D			
	TW004	E			
	TW04A	F			
	MK005	H			
JD	MK006	J			
JD	MK007	K			

MADE BY: T. WALSH
DATE: 22 OCT 82

CHECKED BY: T. WALSH JUN-20-85
DATE: 22 OCT 82

DESIGN ENGINEER: J. BUZYNSKI
DATE: 22 OCT 82 J.C. Trembley 6-20-85

RESPONSIBLE ENG: M. LAWRENCE
DATE: 22 OCT 82

PRODUCTION ENG: B. BROOKE
DATE: 22 OCT 82

digital

TITLE DRAWING DIRECTORY

PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3110-0-0	K

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS										
1			M3110-0	MODULE REV		E2	E3	E4								
2	D-UA-M3110-0	2		P.A.M.		E2	E3	E4								
3	K-PL-M3110-0-DBP	2		P.A.M.		C	E	E								
4	E-EC-5014976-0-0	3		ETCH CIRCUIT DRAWING		D1	D2	D3								
5	D-MD-5014976-0-0	5		DRILL AND ETCH DRAWING		A	A	A								
6			5014976	ETCHED BOARD		C	C	C								
7	K-CS-M3110-0-M1	1		P.A.M.		A	A	A								
8	K-CS-M3110-0-M2	1		P.A.M.		B	B	B								
9	K-CS-M3110-0-M3	1		P.A.M.		D	D	D								
10	K-CS-M3110-0-M4	1		P.A.M.		B	B	B								
11	K-CS-M3110-0-M5	1		P.A.M.		A	A	A								
12	K-CS-M3110-0-M6	1		P.A.M.		B1	B1	B1								
13	K-CS-M3110-0-M7	1		P.A.M.		A	A	A								
14	K-CS-M3110-0-M8	1		P.A.M.		A	A	B								
15	K-CS-M3110-0-M9	1		P.A.M.		A	A	A								
16	K-CS-M3110-0-M10	1		P.A.M.		A	A	A								
17	K-CS-M3110-0-M11	1		P.A.M.		A	A	A								
18	K-CS-M3110-0-M12	1		P.A.M.		A	A	A								
19	K-CS-M3110-0-M13	1		P.A.M.		A	A	A								
20	K-CS-M3110-0-M14	1		P.A.M.		A	A	A								
21	K-PC-M3110-0-DBI			PC DATA BASE		C	C	C								
22	K-CS-M3110-0-DBS			CS DATA BASE		E	F	H								
					DD REV	H	J	K								

NOTES: SHEET 2 FOR ETCHED BOARD REV C, "SPECIAL REVS"

REVISION HISTORY			CONT. REVISION HISTORY		
ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV

MADE BY: T. WALSH
DATE: 22 OCT 82

CHECKED BY: T. WALSH
DATE: 22 OCT 82 JUN. 20, 85

DESIGN ENGINEER: J. BUZYNSKI
DATE: 22 OCT 84 J.C. Tremblay 6-20-85

RESPONSIBLE ENG: M. LAWRENCE
DATE: 22 OCT 82

PRODUCTION ENG: B. BROOKE
DATE: 22 OCT 82

d i g i t a l

TITLE DRAWING DIRECTORY

PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3110-0-0	K

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REV K | SIZE D | CODE UA | NUMBER M3110-0-0

COMPONENT SIDE VIEW

15.69 REF.

8.41 REF

7-2 7-1 6-6 6-5 6-4 6-3 6-2 6-1 5-1 55 53 54

TH2 TH1

E164 E152 E140 E137 E125 E113 E101 E89 E77 E66 E57 E53 E40 E26 E13
E151 E139 E136 E124 E112 E100 E88 E76 E65 E56 E52 E39 E25 E12
E163 E150 E138 E135 E123 E111 E99 E87 E75 E64 E55 E51 E38 E24 E11
E162 E149 E134 E122 E110 E98 E86 E74 E63 E54 E50 E37 E23 E10
E161 E148 E133 E121 E109 E97 E85 E73 E62 E49 E36 E22 E9
E160 E147 E132 E120 E108 E96 E84 E72 E48 E35 E34 E21 E8
E159 E146 E131 E119 E107 E95 E83 E71 E47 E33 E20 E7
E158 E145 E130 E118 E106 E94 E82 E70 E46 E32 E19 E6
E157 E144 E129 E117 E105 E93 E81 E69 E45 E31 E18 E5
E156 E143 E128 E116 E104 E92 E80 E68 E44 E30 E17 E4
E155 E142 E127 E115 E103 E91 E79 E67 E43 E29 E16 E3
E154 E141 E126 E114 E102 E90 E78 E66 E42 E28 E15 E2
E153 E140 E125 E113 E101 E89 E77 E65 E41 E27 E14 E1

C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C26 C27 C28 C29 C30 C31 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C44 R1

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

NOTES:

STEP E	↑ Y AXIS ——— STEP 0 TIMES
REPEAT	→ X AXIS ——— STEP 0 TIMES

CHK	CHANGE NO	REV
	M3110 TW4	F
	M3110-MK5	H
	M3110-MK6	J
	M3110-MK7	K

ETCH REV. DIP 2

SIGNATURES	DATE
DRN. P. GROSSE	4-13-84
CHK'D. F. GAROFALO	4-13-84
MECH. ENG.	4-6-84
PROJ. ENG.	4-6-84
PROD.	4-6-84
SCALE 2:1	
SHT. 1 OF 2	
NEXT HIGHER ASSY. K-DD-M3110-0	

digital

TITLE PROTOCOL ASSIST MICRO PROC

SIZE	CODE	NUMBER	REV
D	UA	M3110-0-0	K

MKO

1 WO# 302214

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REWORK INSTRUCTIONS: M3110-MK005.

WIRE ADDS SIDE 1: (P/N 9105740-55)

5-1 FROM E49-10 TO E49-19.

REWORK INSTRUCTIONS: M3110-MK006: ETCH REV. D1.

WIRE ADDS SIDE1 (P/N 9105740-55) SEE E-EC-5214976-0-0 REV. F FOR ETCH CUTS.

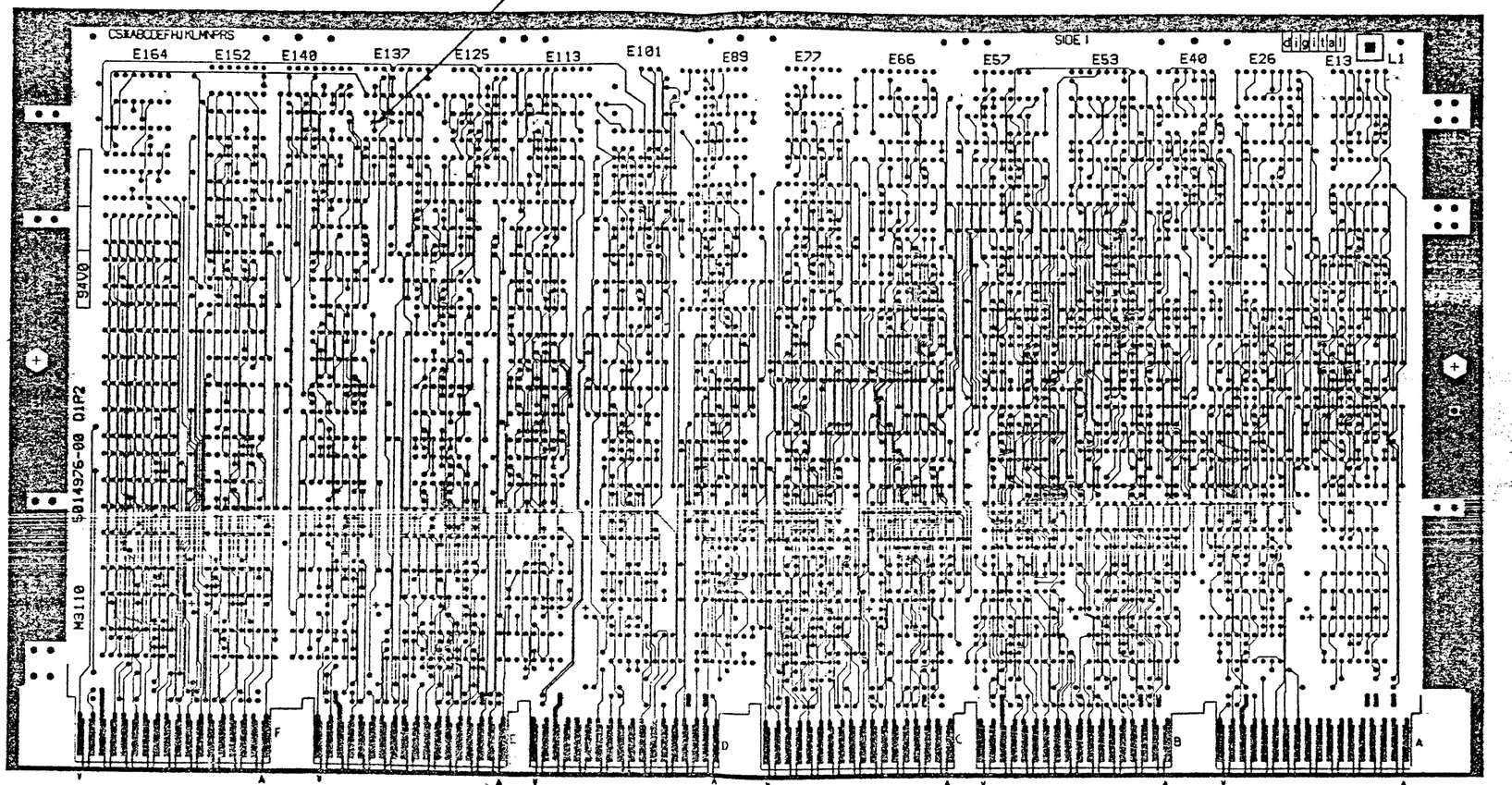
6-1 FROM E77-8 TO E136-13.
6-2 FROM E77-9 TO E88-13.
6-3 FROM E77-10 TO E88-12.
6-4 FROM E77-11 TO E89-8.
6-5 FROM E89-9 TO E88-10.
6-6 FROM E89-10 TO E76-3.

REWORK INSTRUCTIONS: M3110-MK007: ETCH REV D1

WIRE ADDS SIDE 1: (P/N 9105740-55) (SEE E-EC-5014976-0-0 REV H FOR ETCH CUTS)

7-1 FROM E134-8 TO E121-13
7-2 FROM E134-8 TO E139-10

LAYER 1



SIDE 1:
VIEWED SIDE 1.

DESCRIPTION	DRAWING NO	PART NO

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
AND THE FOLLOWING TOLERANCES APPLY (PER MIL-STD-11A)

INCHES TOLERANCES	ANGLES ±0°30'	APPLICABLE DIMENSION RANGE	SURFACE QUALITY	DIMENSION RANGE IN INCHES
X ± .1 .XX ± .02 .XXX ± .005				OVER 0 TO 6 · OVER 6 TO 12 · OVER 12 TO 24 · OVER 24 TO 48 · OVER 48 TO 72

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN	A Fraser	DATE 5-2-94
CHKD	Glen Cole	DATE 5-2-94
DES ENG		DATE
MFG ENG		DATE
QUALITY ASSURANCE		DATE

TITLE: ETCH CUT DRAWING

digital

SIZE: E · DOCUMENT NUMBER: 50-14926-00-3 · REV: H

SCALE: 2:1 · WEIGHT: K-00-4312-2

MKO

LAYER 4

SIDE 2
VIEWED SIDE1.

TITLE
ETCH CUT DRAWING

EIEC 5014976 - - - H

MKO

REWORK INSTRUCTIONS: M3112-MK225 ETCH REV. D1:

ETCH CUTS SIDE 1:

6-1 AT E136-13.

REWORK INSTRUCTIONS: M3110-MK207 ETCH REV D1

ETCH CUTS SIDE 2:

7-1 AT E134-6

7-2 AT E139-10

REVISIONS		
ITEM	CHANGE NO.	REV.

TITLE	SIZE/CODE	NUMBER	REV
ETCH CUT DRAWING	E	[illegible]	4
SCALE NONE	SHEET [illegible] OF [illegible]	DIST	

AUTOMATED BY PRTLST,4Q(50) — P A R T S L I S T — SHEET A1 OF A2

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
1	55	D-MD-5014976-0-0	5014976-00		DRILL & ETCH BD	1	
2	50		1012784-00		.047 MFD 50V +80-20% CER	41	C7-C47
3	49		1017472-00		10 MFD 35V +75-10% AL EL	6	C1-C6
4	53		1216988-02		HANDLE,MODULE,HEX TWO EJECTORS	1	
5	37		1300005-01		R NETWORK 13-1K 5.0 % 14PIN	2	E96,E117
6	47		1300316-00		470.0 .25 W 5.0 % CF	1	R1
7	52		1811660-39		OSCILLATOR, XTAL 40.5504 MHZ	1	E101
8	13		1910532-00		74S00 NAND GATE-QUAD 2IN	6	E25,E66,E93,E108,E133,E139
9	7		1910534-00		74S04 INVERTER GATE-HEX 1I	5	E11,E76,E118,E121,E130
10	12		1910536-00		74S10 NAND GATE-TRIPLE 3IN	3	E24,E77,E136
11	27		1910537-00		74S11 AND GATE-TRIPLE 3INP	4	E52,E92,E106,E149
12	29		1910539-00		74S20 NAND GATE-DUAL 4INPU	4	E56,E75,E88,E134
13	8		1910542-00		74S64 A-O-I GATE 4-2-3-2	5	E12,E13,E26,E131,E150
14	2		1910544-00		74S74 FF-D DUAL,EDGE TRIGG	7	E4,E74,E83,E85,E94,E107,E119
15	48		1910544-01		74S74-60GG-D DUAL,EDGE TRIG	4	E86,E95,E113,E124
16	39		1910545-00		74S112 FF-JK DUAL,EDGE TRIG	10	E98,E99,E120,E122,E123,E125,
						CONT	E135,E137,E162,E163
17	11		1910549-00		74S157 MUX 1 OF 2 (QUAD)	3	E23,E34,E48
18	3		1910550-00		74S174 FF-D HEX	2	E5,E20
19	20		1910956-00		74S151 MUX 1 OF 8	1	E37
20	21		1910957-00		74S175 FF-D QUAD COMMON CLO	3	E38,E51,E53
21	36		1911675-00		74S138 DECODER/DEMUX 3-8 LI	2	E90,E102
22	46		1911712-00		74S51 AND-OR GATE-INVERT D	1	E146
23	40		1912388-00		74S02 NOR GATE-QUAD 2IN,PO	4	E109,E110,E111,E152
24	32		1912389-00		74S08 AND GATE-QUAD 2IN,PO	5	E65,E82,E89,E105,E138
25	42		1912647-00		LS257 MUX 1 OF 2 (QUAD)	3	E126,E127,E128
26	35		1912660-00		74S253 MUX 1 OF 4 (DUAL)	6	E78,E79,E80,E81,E91,E103
27	28		1912728-00		74S251 MUX 1 OF 8 TRI-STA	3	E54,E55,E69
28	38		1912746-00	DEC	74S37 NAND GATE-QUAD 2IN	3	E97,E112,E148
29	24		1912799-00		LS00 NAND-GATE-QUAD 2IN,P	2	E46,E144

REVISION HISTORY			BASIC PART NO: M3110
ENG	ECO NUMBER	REV	SECTION A OF A
---	INITIAL	A	SECTION,VARIATION INDEX
JB	M3110-TW002	B	[A] 00
JB	M3110-TW03A	C	[B]
JB	M3110-TW04A	D	[C]
JD	M3110-MK005	E	[D]
			[E]
			[F]
			[H]
			[J]
			[K]
			[L]
			[M]
			[N]

DRN: P.TELLIER	DATE: 22-NOV-82	DIGITAL	
CHK'D: F.GAROFALO	DATE: 22-NOV-82	TITLE PARTS LIST PROTOCOL ASSIST MICRO PROC	
DES.ENG: J.COOKE	DATE: 22-NOV-82	DOCUMENT NUMBER	
RESP.ENG.: J.COOKE	DATE: 06-AUG-84	SIZE: K / CODE: PL / NUMBER: M3110-0-DBP / REV: E	
MFG.ENG.: R.WHITE	DATE: 06-AUG-84	RELEASE DATE: 31-AUG-84	
ASSEMBLY NUMBER: D-UA-M3110-0-0	TOP DOCUMENT NUMBER: *B-DD-M3110-0	FILE NAME: MK1134.PLS	EDIT #: 26

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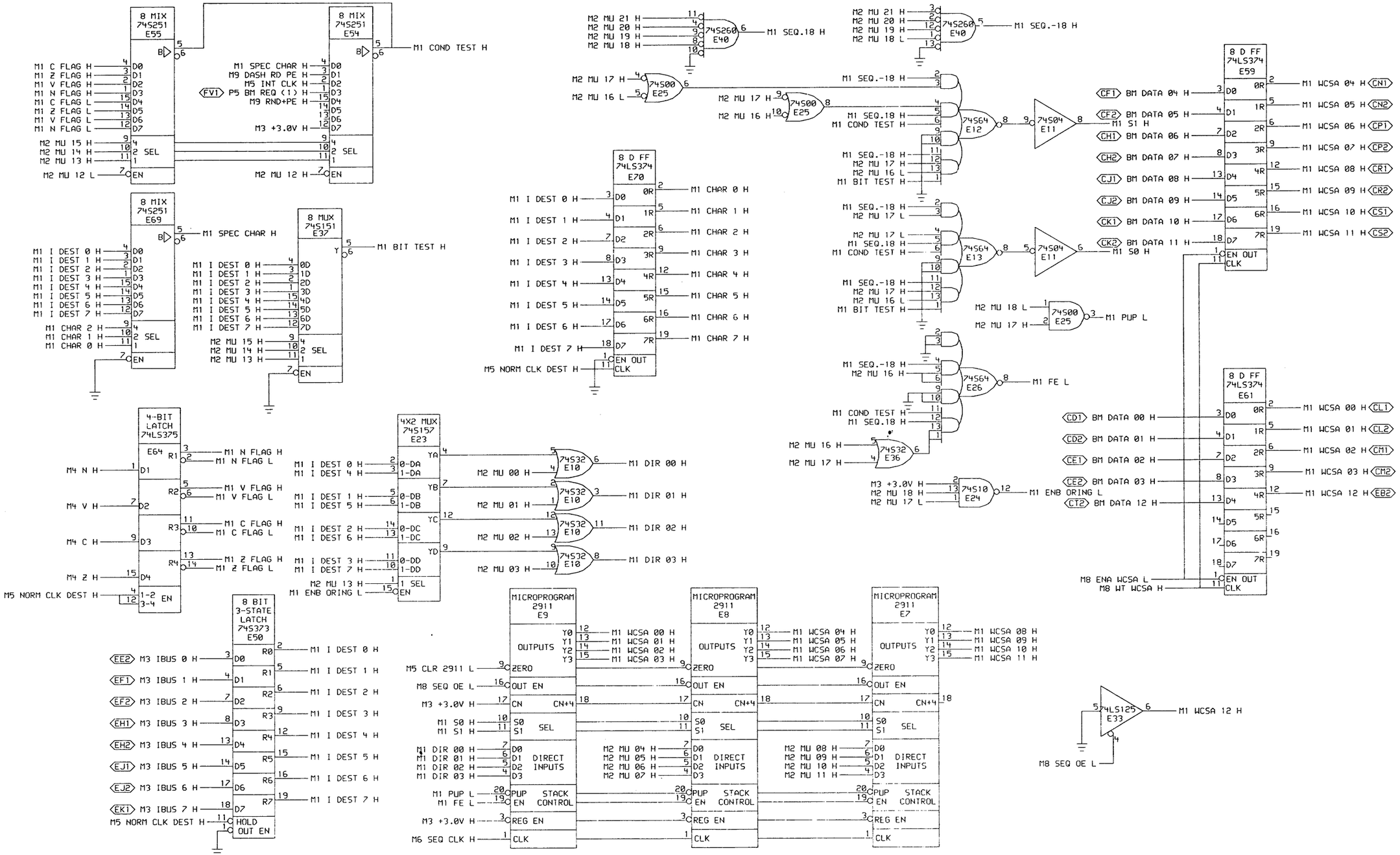
AUTOMATED BY PRTLST,4Q(50)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
30	23		1912805-00		LS08 AND GATE-QUAD 2IN,PO	2	E45,E73
31	43		1912808-00		LS11 AND GATE-TRIPLE 3IN	1	E129
32	44		1912813-00		LS27 NOR GATE-TRIPLE 3IN	1	E132
33	30		1912824-00		LS74 FF-D DUAL,EDGE TRIGG	2	E58,E63
34	45		1912833-00		LS109 FF-JK DUAL,POS EDGE	1	E140
35	31		1912871-00		LS375 LATCH	1	E64
36	34		1913245-00		2901 BIPOLAR MICROPROCESSO	2	E71,E72
37	6		1913340-00		74S32 OR GATE-QUAD 2IN	5	E10,E36,E87,E104,E145
38	14		1913462-00		74S240 OCTAL BUFFER,INVERTI	3	E27,E29,E41
39	26		1913670-00		74S373 LATCH,8BIT TRANS TRI	2	E50,E62
40	41		1913671-00		74S374 FF-D,OCTAL,TRI STATE	2	E115,E116
41	1		1913939-00		LS191 COUNTER,SYNCHR. UP/D	9	E1,E2,E3,E14,E15,E16,E141,E142,
						CONT	E143
42	22		1914085-00		74S260 NOR GATE-DUAL,POS	6	E40,E57,E84,E100,E147,E151
43	15		1914214-00		LS374 FF-D OCTAL EDGE TRIG	6	E28,E30,E42,E59,E61,E70
44	9		1914866-00	AM	93S48PCGEN/CHECK PARITY, 4B	2	E21,E39
45	19		1915193-00		LS244 DRIVER,LINE,OCTAL,I	3	E35,E47,E114
46	17		1915218-00		LS245 TRANSCEIVER,BUS,OCT	3	E32,E44,E60
47	18		1915932-00		LS125 BUFFER,QUAD BUS	1	E33
48	5		1916680-01		2911A MICROPROGRAM SEQUENC	3	E7,E8,E9
49	51		2114523-00		4K MOS RAM 55NS 18PIN	8	E153-E160
50	4		2119250-00		4KX4 STATIC RAM 55NS	6	E6,E17,E18,E19,E43,E68
51	25		23083B1-00		B1-01	1	E49
52	16		2306502-00		D2-01	1	E31
53	54		9009000-00		EYELET,ROLLED 0.1210DX0.156	12	
54	57		1215006-05		SKT,IC 22PIN DIP TIN SOLD	1	XE31
55	58		1914086-00		74S30 NAND GATE-POS 8IN	1	E164
56	59		1921315-01		74F86 EXCLUSIVE OR GATE,QU	1	E22
57	60		2114523-03		2147H-1 4K MOS RAM 35NS 18	1	E161
58	61		1921332-01		74F280 PARITY GEN/CHECK,9-B	1	E67
59	62		9105740-55		WIRE(WRAP) 30AWG KYNAR UL14	A/R	

DIGITAL	TITLE		SIZE	CODE	DOCUMENT NUMBER	REV
	PROTOCOL ASSIST MICRO PROC	SECTION A OF A	K	PL	M3110-0-DBP	E


8 MIX 74S251 E55
8 MIX 74S251 E54
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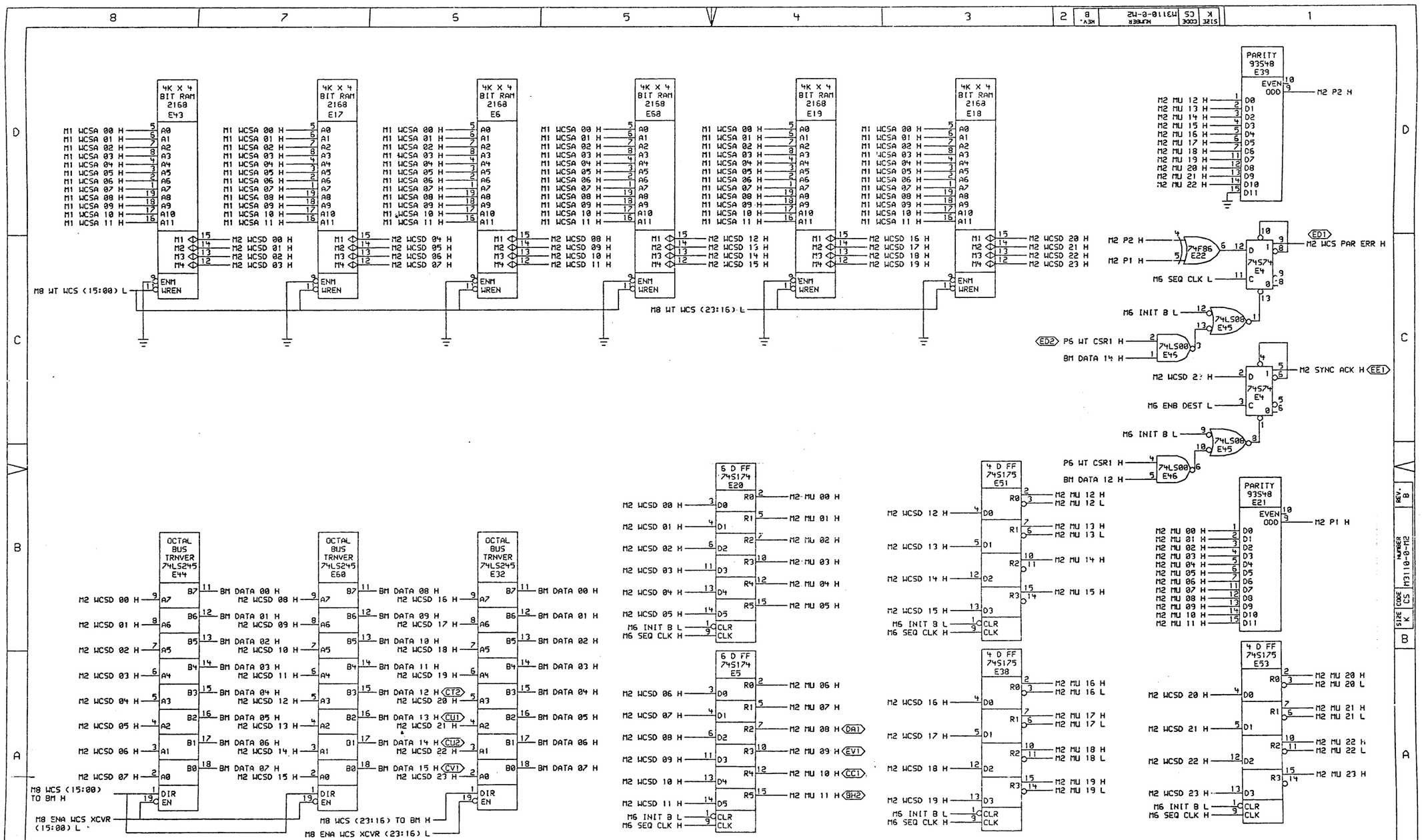
M1 Z FLAG H
M1 V FLAG H
M1 N FLAG H
M1 C FLAG L
M1 Z FLAG L
M1 V FLAG L
M1 N FLAG L
M2 MU 15 H
M2 MU 14 H
M2 MU 13 H
M2 MU 12 L
M1 COND TEST H
M1 SPEC CHAR H
M9 DASH RD PE H
M5 INT CLK H
FV1 P5 BM REQ (1) H
M9 RND+PE H
M3 +3.0V H
M2 MU 12 H
8 MIX 74S251 E69
M1 I DEST 0 H
M1 I DEST 1 H
M1 I DEST 2 H
M1 I DEST 3 H
M1 I DEST 4 H
M1 I DEST 5 H
M1 I DEST 6 H
M1 I DEST 7 H
M1 CHAR 2 H
M1 CHAR 1 H
M1 CHAR 0 H
M1 SPEC CHAR H
8 MUX 74S151 E37
M1 BIT TEST H
8 D FF 74LS374 E70
M1 CHAR 0 H
M1 CHAR 1 H
M1 CHAR 2 H
M1 CHAR 3 H
M1 CHAR 4 H
M1 CHAR 5 H
M1 CHAR 6 H
M1 CHAR 7 H
M5 NORM CLK DEST H
M2 MU 21 H
M2 MU 20 H
M2 MU 19 H
M2 MU 18 H
74S260 E40
M1 SEQ.18 H
M2 MU 17 H
M2 MU 16 L
74S00 E25
M1 SEQ.-18 H
74S64 E12
74S504 E11
M1 SI H
M1 SEQ.18 H
M1 COND TEST H
M2 MU 17 H
M2 MU 16 H
M1 BIT TEST H
74S64 E13
M1 S0 H
M2 MU 18 L
M2 MU 17 H
M1 PUP L
74S64 E26
M1 FE L
74S32 E36
M3 +3.0V H
74S10 E24
M1 ENB ORING L
8 D FF 74LS374 E59
CF1 BM DATA 04 H
CF2 BM DATA 05 H
CH1 BM DATA 06 H
CH2 BM DATA 07 H
CJ1 BM DATA 08 H
CJ2 BM DATA 09 H
CK1 BM DATA 10 H
CK2 BM DATA 11 H
M1 WCSA 04 H CN1
M1 WCSA 05 H CN2
M1 WCSA 06 H CP1
M1 WCSA 07 H CP2
M1 WCSA 08 H CR1
M1 WCSA 09 H CR2
M1 WCSA 10 H CS1
M1 WCSA 11 H CS2
EN OUT
CLK
8 D FF 74LS374 E61
CD1 BM DATA 00 H
CD2 BM DATA 01 H
CE1 BM DATA 02 H
CE2 BM DATA 03 H
CT2 BM DATA 12 H
M1 WCSA 00 H CL1
M1 WCSA 01 H CL2
M1 WCSA 02 H CM1
M1 WCSA 03 H CM2
M1 WCSA 12 H EB2
M8 ENA WCSA L
M8 WT WCSA H
4-BIT LATCH 74LS375
E64
M4 N H
M4 V H
M4 C H
M4 Z H
M5 NORM CLK DEST H
M1 N FLAG H
M1 N FLAG L
M1 V FLAG H
M1 V FLAG L
M1 C FLAG H
M1 C FLAG L
M1 Z FLAG H
M1 Z FLAG L
4X2 MUX 74S157 E23
M1 I DEST 0 H
M1 I DEST 4 H
M1 I DEST 1 H
M1 I DEST 5 H
M1 I DEST 2 H
M1 I DEST 6 H
M1 I DEST 3 H
M1 I DEST 7 H
M2 MU 13 H
M1 ENB ORING L
M2 MU 00 H
M2 MU 01 H
M2 MU 02 H
M2 MU 03 H
74S32 E10
M1 DIR 00 H
M1 DIR 01 H
M1 DIR 02 H
M1 DIR 03 H
8 BIT 3-STATE LATCH 74S373 E50
EE2 M3 IBUS 0 H
EF1 M3 IBUS 1 H
EF2 M3 IBUS 2 H
EH1 M3 IBUS 3 H
EH2 M3 IBUS 4 H
EJ1 M3 IBUS 5 H
EJ2 M3 IBUS 6 H
EK1 M3 IBUS 7 H
M1 I DEST 0 H
M1 I DEST 1 H
M1 I DEST 2 H
M1 I DEST 3 H
M1 I DEST 4 H
M1 I DEST 5 H
M1 I DEST 6 H
M1 I DEST 7 H
HOLD
OUT EN
MICROPROGRAM 2911 E9
MICROPROGRAM 2911 E8
MICROPROGRAM 2911 E7
OUTPUTS
ZERO
OUT EN
CN
CN+4
SEL
DIRECT INPUTS
PUP
EN
STACK CONTROL
REG EN
CLK
M5 CLR 2911 L
M8 SEQ OE L
M3 +3.0V H
M6 SEQ CLK H
M1 S0 H
M1 S1 H
M1 PUP L
M1 FE L
M1 WCSA 00 H
M1 WCSA 01 H
M1 WCSA 02 H
M1 WCSA 03 H
M1 WCSA 04 H
M1 WCSA 05 H
M1 WCSA 06 H
M1 WCSA 07 H
M1 WCSA 08 H
M1 WCSA 09 H
M1 WCSA 10 H
M1 WCSA 11 H
74LS125 E33
M1 WCSA 12 H
M8 SEQ OE L
DRN.
CHK'D.
ENG.
DATE
02-NOV-82
BOARD LOCATION: AF6
SHEET 1 OF 1
TITLE: PROTOCOL ASSIST MICROPROCESSOR
DSKD:<COOKE>H1.DRW
02-NOV-82 09:22
NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA
D-UA-M3110-0-0
SIZE K
CODE CS
NUMBER M3110-0-M1
REV. A



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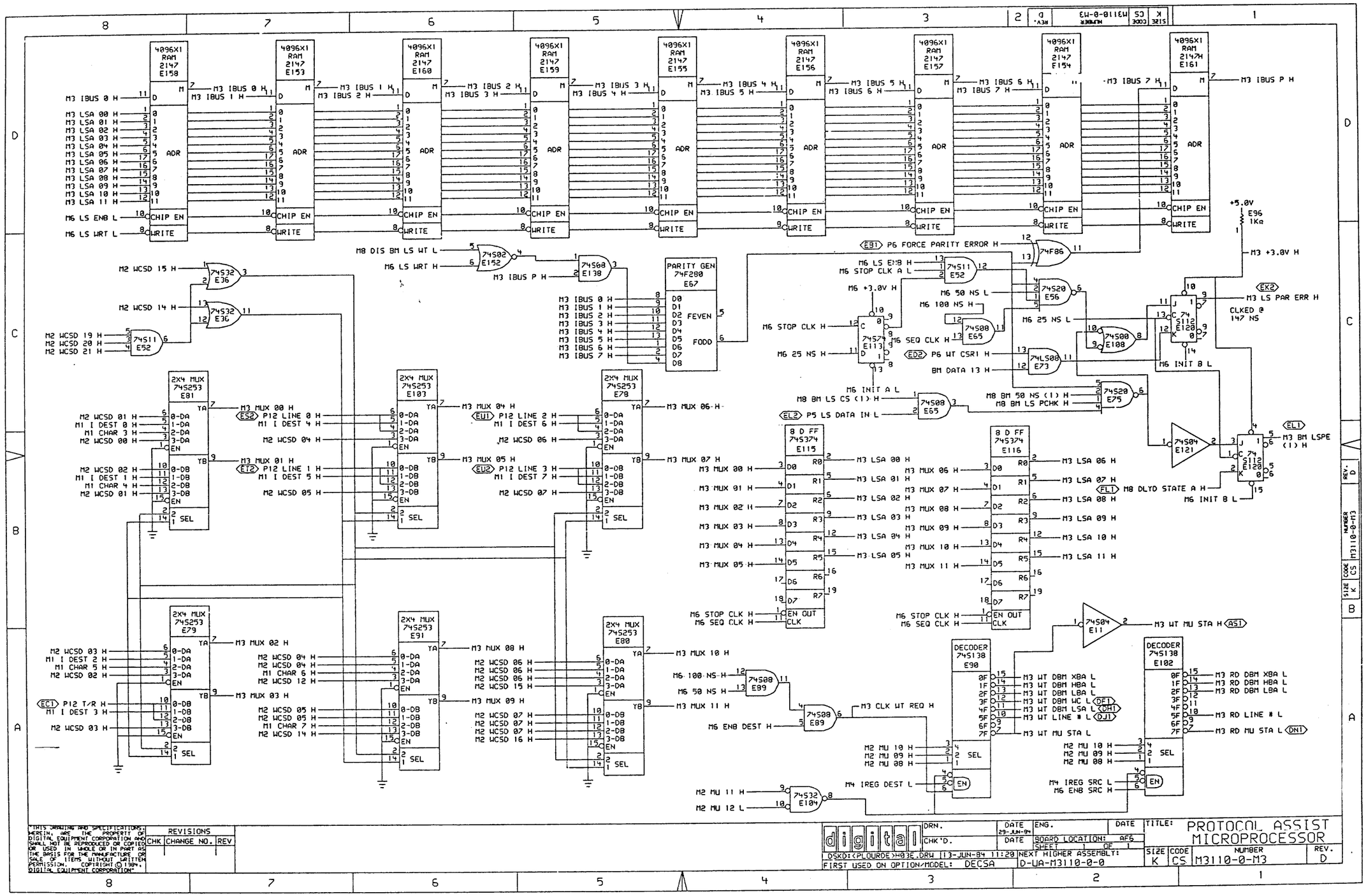
REVISIONS		
CHK	CHANGE NO.	REV

DRN.	DATE 17-APR-84	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION: AE6	
		SHEET 1 OF 1	
DSKD:<PLOURDE>M2.DRW	24-MAR-84 11:09	NEXT HIGHER ASSEMBLY: D-UA-M3110-0-0	
FIRST USED ON OPTION/MODEL: DECSA			

TITLE: PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M2	B

M3110-0-M2 | CODE CS | SIZE K | REV: B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4096X1 RAM 2147 E157
4096X1 RAM 2147 E154
4096X1 RAM 2147H E161
M3 IBUS 0 H
M3 IBUS 1 H
M3 IBUS 2 H
M3 IBUS 3 H
M3 IBUS 4 H
M3 IBUS 5 H
M3 IBUS 6 H
M3 IBUS 7 H
M3 IBUS P H
M3 LSA 00 H
M3 LSA 01 H
M3 LSA 02 H
M3 LSA 03 H
M3 LSA 04 H
M3 LSA 05 H
M3 LSA 06 H
M3 LSA 07 H
M3 LSA 08 H
M3 LSA 09 H
M3 LSA 10 H
M3 LSA 11 H
M6 LS ENB L
M6 LS WRT L
ADR
CHIP EN
WRITE
M8 DIS BM LS WT L
M6 LS WRT H
74S02 E152
74S68 E138
PARITY GEN 74F280 E67
M3 IBUS 0 H
M3 IBUS 1 H
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M3 IBUS 3 H
M3 IBUS 4 H
M3 IBUS 5 H
M3 IBUS 6 H
M3 IBUS 7 H
D0
D1
D2 FEVEN
D3
D4
D5
D6
D7
D8
FODD
+5.0V
E96
1KΩ
M3 +3.0V H
E31 P6 FORCE PARITY ERROR H
74F86
M6 LS ENB H
M6 STOP CLK A L
74S11 E52
M6 +3.0V H
M6 50 NS L
M6 100 NS H
74S08 E65
74S20 E56
M6 25 NS L
E74 M3 LS PAR ERR H
CLKED @ 147 NS
M6 STOP CLK H
74S74 E113
M6 SEQ CLK H
M6 25 NS H
E02 P6 WT CSR1 H
BM DATA 13 H
74LS08 E73
74S00 E108
74S112 E120
M6 INIT B L
M6 INIT A L
M8 BM LS CS (1) H
74S08 E65
M8 BM 50 NS (1) H
M8 BM LS PCHK H
74S20 E75
E L2 P5 LS DATA IN L
74S04 E121
E L1 M3 BM LSPE (1) H
M8 DLYD STATE A H
M6 INIT B L
8 D FF 74S374 E115
8 D FF 74S374 E116
M3 MUX 00 H
M3 MUX 01 H
M3 MUX 02 H
M3 MUX 03 H
M3 MUX 04 H
M3 MUX 05 H
M3 MUX 06 H
M3 MUX 07 H
M3 MUX 08 H
M3 MUX 09 H
M3 MUX 10 H
M3 MUX 11 H
M6 STOP CLK H
M6 SEQ CLK H
EN OUT
CLK
M3 LSA 00 H
M3 LSA 01 H
M3 LSA 02 H
M3 LSA 03 H
M3 LSA 04 H
M3 LSA 05 H
M3 LSA 06 H
M3 LSA 07 H
M3 LSA 08 H
M3 LSA 09 H
M3 LSA 10 H
M3 LSA 11 H
2X4 MUX 74S253 E81
2X4 MUX 74S253 E103
2X4 MUX 74S253 E78
2X4 MUX 74S253 E79
2X4 MUX 74S253 E91
2X4 MUX 74S253 E80
M2 WCSD 15 H
M2 WCSD 14 H
M2 WCSD 19 H
M2 WCSD 20 H
M2 WCSD 21 H
74S32 E36
74S32 E30
74S11 E52
M2 WCSD 01 H
M1 I DEST 0 H
M1 CHAR 3 H
M2 WCSD 00 H
M2 WCSD 02 H
M1 I DEST 1 H
M1 CHAR 4 H
M2 WCSD 01 H
0-DA
1-DA
2-DA
3-DA
EN
0-DB
1-DB
2-DB
3-DB
SEL
YA
YB
M3 MUX 00 H
M3 MUX 01 H
M3 MUX 04 H
M3 MUX 05 H
M3 MUX 07 H
M3 MUX 02 H
M3 MUX 03 H
M3 MUX 08 H
M3 MUX 09 H
M3 MUX 10 H
M3 MUX 11 H
E S2 P12 LINE 0 H
M1 I DEST 4 H
M2 WCSD 04 H
E T2 P12 LINE 1 H
M1 I DEST 5 H
M2 WCSD 05 H
E U1 P12 LINE 2 H
M1 I DEST 6 H
M2 WCSD 06 H
E U2 P12 LINE 3 H
M1 I DEST 7 H
M2 WCSD 07 H
M2 WCSD 03 H
M1 I DEST 2 H
M1 CHAR 5 H
M2 WCSD 02 H
E C1 P12 T/R H
M1 I DEST 3 H
M2 WCSD 03 H
M2 WCSD 04 H
M2 WCSD 05 H
M1 CHAR 6 H
M2 WCSD 12 H
M2 WCSD 05 H
M2 WCSD 07 H
M1 CHAR 7 H
M2 WCSD 14 H
M2 WCSD 06 H
M2 WCSD 04 H
M2 WCSD 05 H
M2 WCSD 07 H
M2 WCSD 16 H
M6 100 NS H
M6 50 NS H
M6 ENB DEST H
74S08 E89
M3 CLK WT REQ H
DECODER 74S138 E90
DECODER 74S138 E102
M3 WT DBM XBA L
M3 WT DBM HBA L
M3 WT DBM LBA L
M3 WT DBM WC L
M3 WT DBM LSA L
M3 WT LINE # L
M3 WT MU STA L
M3 RD DBM XBA L
M3 RD DBM HBA L
M3 RD DBM LBA L
M3 RD LINE # L
M3 RD MU STA L
D WT
D WT
D J1
M2 MU 10 H
M2 MU 09 H
M2 MU 08 H
M4 IREG DEST L
M4 IREG SRC L
M6 ENB SRC H
SEL
EN
M2 MU 11 H
M2 MU 12 L
74S32 E104
74S04 E11
M3 WT MU STA H
A S1
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REVISIONS
CHK
CHANGE NO.
REV
digital
DRN.
CHK'D.
DATE 29-JUN-84
ENG.
DATE
BOARD LOCATION: AF6
SHEET 1 OF 1
OSKD:<PLOURDE>H03E.DRW 13-JUN-84 11:20
NEXT HIGHER ASSEMBLY: D-UA-M3110-0-0
FIRST USED ON OPTION/MODEL: DECSA
TITLE: PROTOCOL ASSIST MICROPROCESSOR
SIZE K
CODE CS
NUMBER M3110-0-M3
REV. D
M3110-0-M3 D
SIZE K CODE CS

23-06502-00

512 X 8 ROM 27S27 E31

+5.0V E117 1KΩ

0M M4 I 03 H
1M M4 I 04 H
2M M4 I 05 H
3M M4 ENB LIT L
4M M4 SHORT CYC H
5M M4 IREG DEST L
6M M4 IREG SRC L
7M

M2 WCSD 16 H
M2 WCSD 17 H
M2 WCSD 18 H
M2 WCSD 19 H
M2 WCSD 20 H
M2 WCSD 21 H
ADR

M4 CALC H
EN
M6 SEQ CLK H
CLK

M2 MU 00 H — 74LS125 E33 — M4 C IN H
M4 CALC L

QUAD BUFFER 74LS244 E47

M2 MU 17 H — A0 — A0Y — M4 I 02 H
M2 MU 16 H — A1 — A1Y — M4 I 01 H
M2 MU 15 H — A2 — A2Y — M4 I 00 H
M2 MU 14 H — A3 — A3Y — M4 I 05 H
M4 CALC L — EN
M2 MU 13 H — B0 — B0Y — M4 I 04 H
M2 MU 12 H — B1 — B1Y — M4 I 03 H
M2 MU 03 H — B2 — B2Y — M4 I 08 H
M2 MU 02 H — B3 — B3Y — M4 I 07 H
M4 CALC L — EN
M2 MU 01 H — 74LS125 E33 — M4 I 06 H
M4 CALC L

+5.0V E117 1KΩ
M4 CALC H — 25, 15
M2 MU 13 H — 7A
M2 MU 21 H — 6A
M2 MU 20 H — 5A
M2 MU 19 H — 4A
M2 MU 18 H — 3A
M2 MU 17 H — 2A
M2 MU 16 H — 1A
0A

+5.0V E95 1KΩ
74S04 E11 — M4 ENB REG H
74S04 E76 — M4 MU/I H

7M M4 MU/I L
6M M4 I 08 H
5M M4 I 07 H
4M M4 I 06 H
3M M4 I 02 H
2M M4 I 01 H
1M M4 I 00 H
0M

74S471 E49 ROM 256 X 8
23-08381-00

4X2 MUX 74S157 E34

M2 MU 04 H — 0-DA
M2 MU 08 H — 1-DA — YA — M4 RB 0 H
M2 MU 05 H — 0-DB
M2 MU 09 H — 1-DB — YB — M4 RB 1 H
M2 MU 06 H — 0-DC
M2 MU 10 H — 1-DC — YC — M4 RB 2 H
M2 MU 07 H — 0-DD
M2 MU 11 H — 1-DD — YD — M4 RB 3 H
M4 ENB REG H — SEL
EN

4X2 MUX 74S157 E48

M2 MU 00 H — 0-DA
M4 RB 0 H — 1-DA — YA — M4 RA 0 H
M2 MU 01 H — 0-DB
M4 RB 1 H — 1-DB — YB — M4 RA 1 H
M2 MU 02 H — 0-DC
M4 RB 2 H — 1-DC — YC — M4 RA 2 H
M2 MU 03 H — 0-DD
M4 RB 3 H — 1-DD — YD — M4 RA 3 H
M4 CALC L — SEL
EN

M3 IBUS 3 H
M3 IBUS 2 H
M3 IBUS 1 H
M3 IBUS 0 H

+5.0V R1 470Ω

2901 FOUR BIT SLICE E71

M6 ENB DEST L — OUT EN
GEN
PROP
F SIGN
OVERFLOW
F=0
M4 QL H — QR SHIFT QL
M4 FL H — FR SHIFT FL
M4 C IN H — IN CARRY OUT
M4 I 08 H
M4 I 07 H
M4 I 06 H — I8 I7 I6 DESTINATION
M4 I 05 H
M4 I 04 H
M4 I 03 H — I5 I4 I3 ALU FUNCTION
M4 I 02 H
M4 I 01 H
M4 I 00 H — I2 I1 I0 SOURCE
M4 RA 0 H
M4 RA 1 H
M4 RA 2 H
M4 RA 3 H — A0 A1 A2 A3 'A' ADDRESS READ
M4 RB 0 H
M4 RB 1 H
M4 RB 2 H
M4 RB 3 H — B0 B1 B2 B3 'B' ADDRESS READ/WRITE
M6 SEQ CLK H — CLOCK
D0 D1 D2 D3

2901 FOUR BIT SLICE E72

M3 IBUS 7 H
M3 IBUS 6 H
M3 IBUS 5 H
M3 IBUS 4 H
OUT EN
GEN
PROP
F SIGN
OVERFLOW
F=0 — M4 N H, M4 V H, M4 Z H
QR SHIFT QL — M4 QL H
FR SHIFT FL — M4 FL H
IN CARRY OUT — M4 C H
I8 I7 I6 DESTINATION
I5 I4 I3 ALU FUNCTION
I2 I1 I0 SOURCE
A0 A1 A2 A3 'A' ADDRESS READ
B0 B1 B2 B3 'B' ADDRESS READ/WRITE
CLOCK
D0 D1 D2 D3

8 BIT 3-STATE LATCH 74S373 E52

M3 IBUS 0 H — D0 — R0
M3 IBUS 1 H — D1 — R1
M3 IBUS 2 H — D2 — R2
M3 IBUS 3 H — D3 — R3
M3 IBUS 4 H — D4 — R4
M3 IBUS 5 H — D5 — R5
M3 IBUS 6 H — D6 — R6
M3 IBUS 7 H — D7 — R7
M6 ENB SRC H — HOLD OUT EN

M2 MU 13 L
M2 MU 19 H
M2 MU 20 H
M2 MU 21 H
74S20 E56 — M4 CALC L

M4 CALC L — 74S04 E76 — M4 CALC H

QUAD BUFFER 74LS244 E114

A0 A0Y — M3 IBUS 7 H
A1 A1Y — M3 IBUS 6 H
A2 A2Y — M3 IBUS 5 H
P12 T/R H — A3 A3Y — M3 IBUS 4 H
EN
P12 LINE 3 H — B0 B0Y — M3 IBUS 3 H
P12 LINE 2 H — B1 B1Y — M3 IBUS 2 H
P12 LINE 1 H — B2 B2Y — M3 IBUS 1 H
P12 LINE 0 H — B3 B3Y — M3 IBUS 0 H
M3 RD LINE # L — EN

QUAD BUFFER 74LS244 E35

M2 MU 00 H — A0 A0Y — M3 IBUS 0 H
M2 MU 01 H — A1 A1Y — M3 IBUS 1 H
M2 MU 02 H — A2 A2Y — M3 IBUS 2 H
M2 MU 03 H — A3 A3Y — M3 IBUS 3 H
EN
M2 MU 04 H — B0 B0Y — M3 IBUS 4 H
M2 MU 05 H — B1 B1Y — M3 IBUS 5 H
M2 MU 06 H — B2 B2Y — M3 IBUS 6 H
M2 MU 07 H — B3 B3Y — M3 IBUS 7 H
EN

M4 ENB LIT L — 74S32 E36 — M4 ENB SRC L

REVISIONS		
CHK	CHANGE NO.	REV
	M3110-M4 5	B

DRN.	DATE	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION: AF5	
XTRA:<DENSMORE>H4.DRW 10-AUG-84 07:01		NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3110-0-0	

TITLE: PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M4	B

SHEET 1 OF 1

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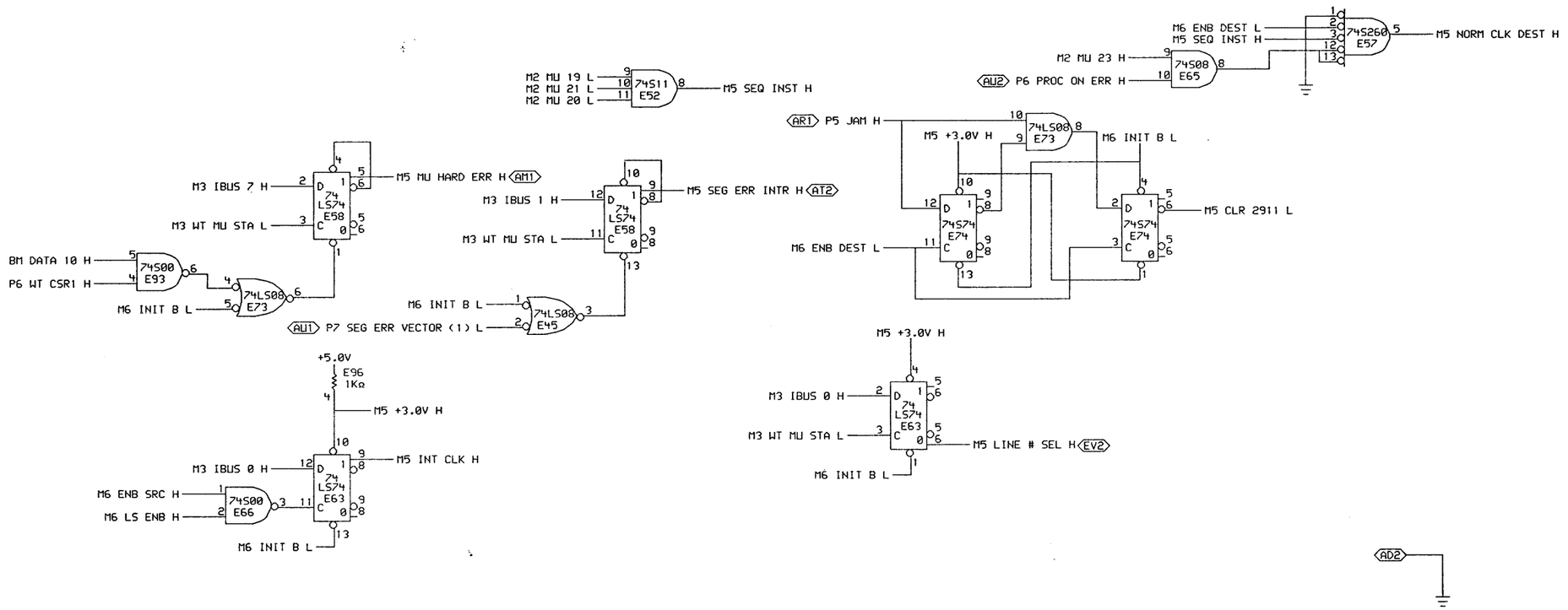
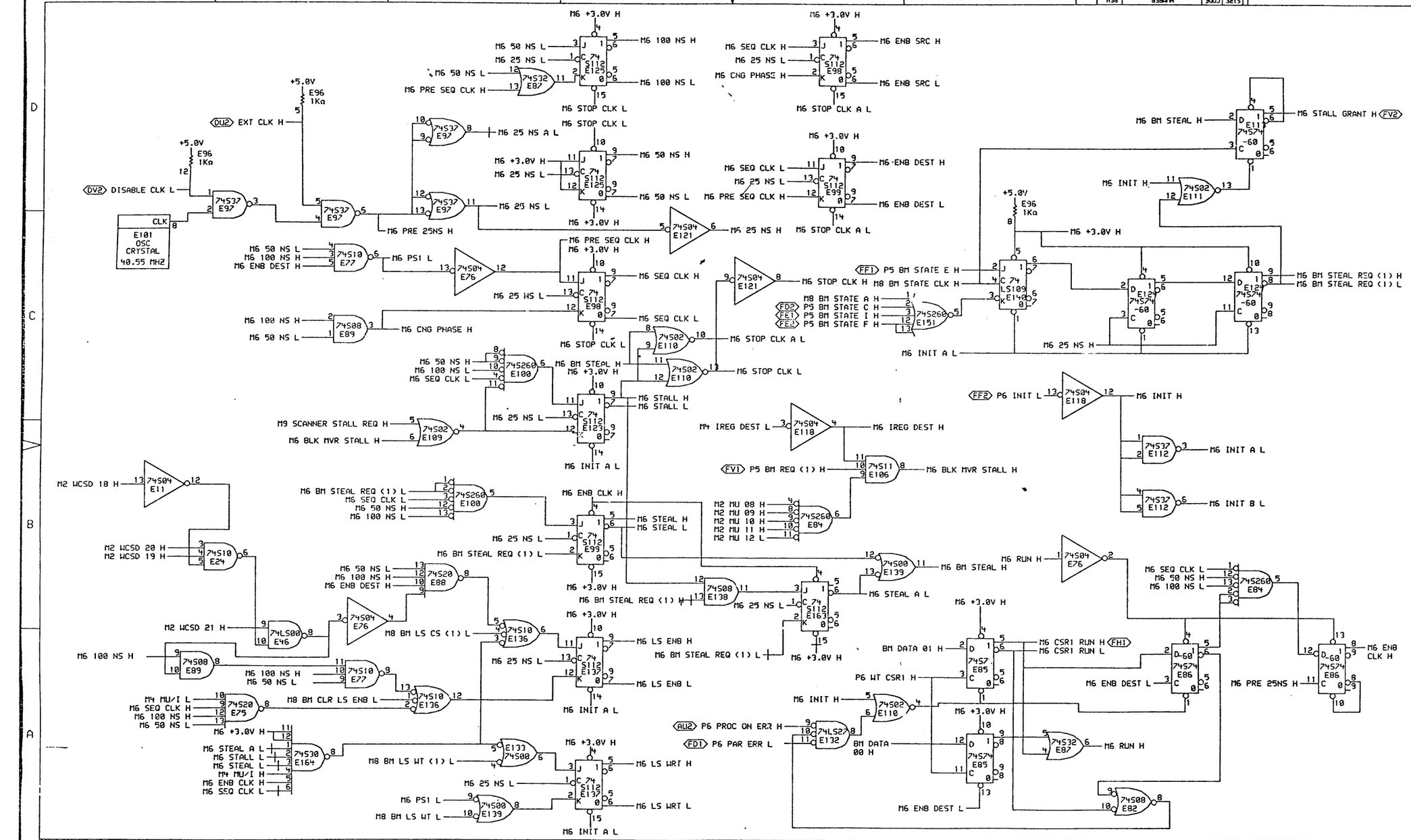


	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST MICROPROCESSOR
	CHK'D.	DATE	BOARD LOCATION: AF6		
			SHEET 1 OF 1		
DSKD:<COOKE>H5.DRW	02-NOV-82 09:31	NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3110-0-0		NUMBER M3110-0-M5	REV. A



REVISIONS		
CHK	CHANGE NO.	REV
	M3110-MK6	D

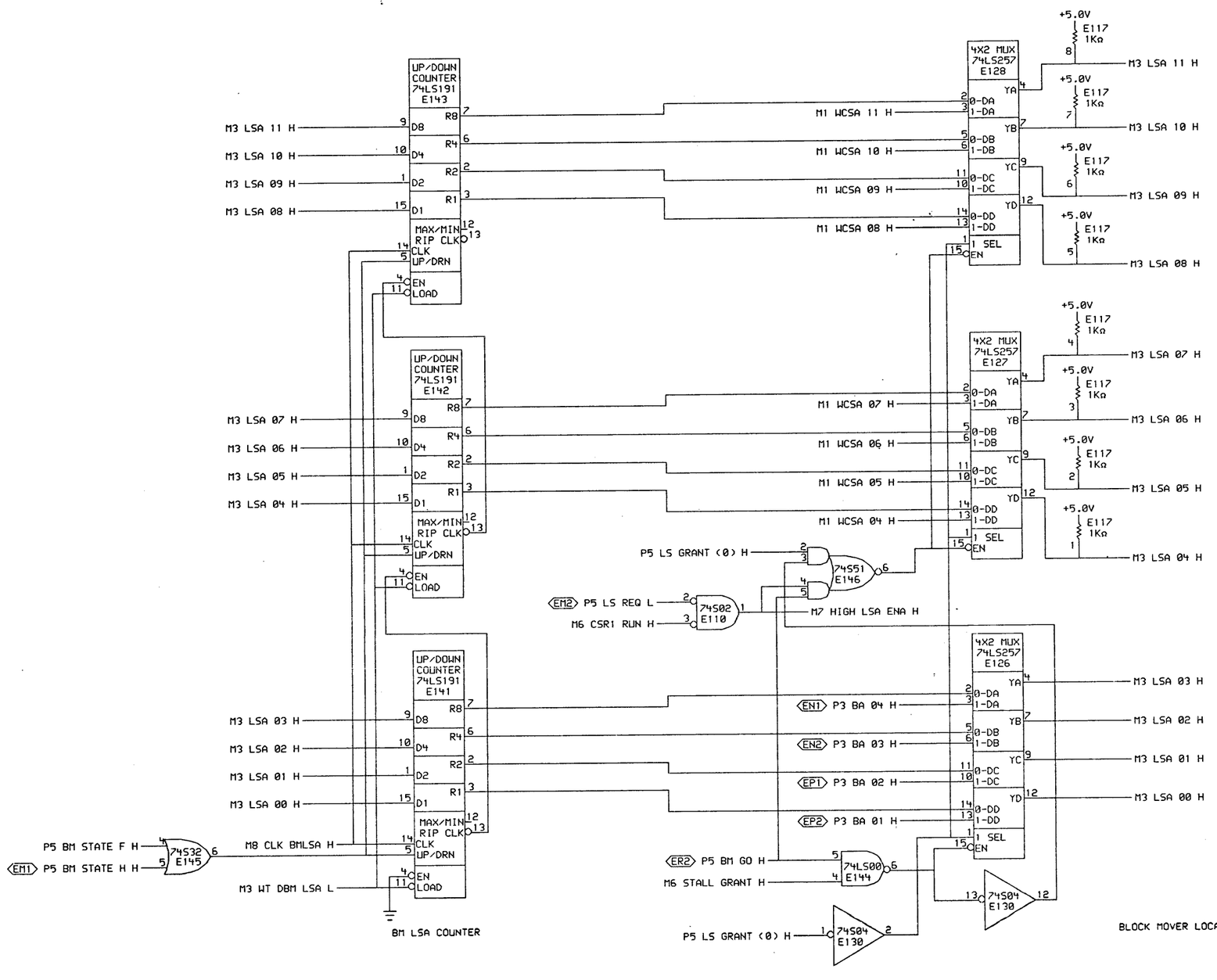
DRN. PLOURDE	DATE 18-SEP-84	ENG. M.LAWRENCE	DATE 9/18/84
CHK'D.	DATE	BOARD LOCATION: AE6	
		SHEET 1 OF 1	

XTRA:<DENSMORE>H886.DRW | 18-SEP-84, 10:36 | NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA | D-UA-M3110-0-0

TITLE: PROTOCOL ASSIST MICROPROCESSOR

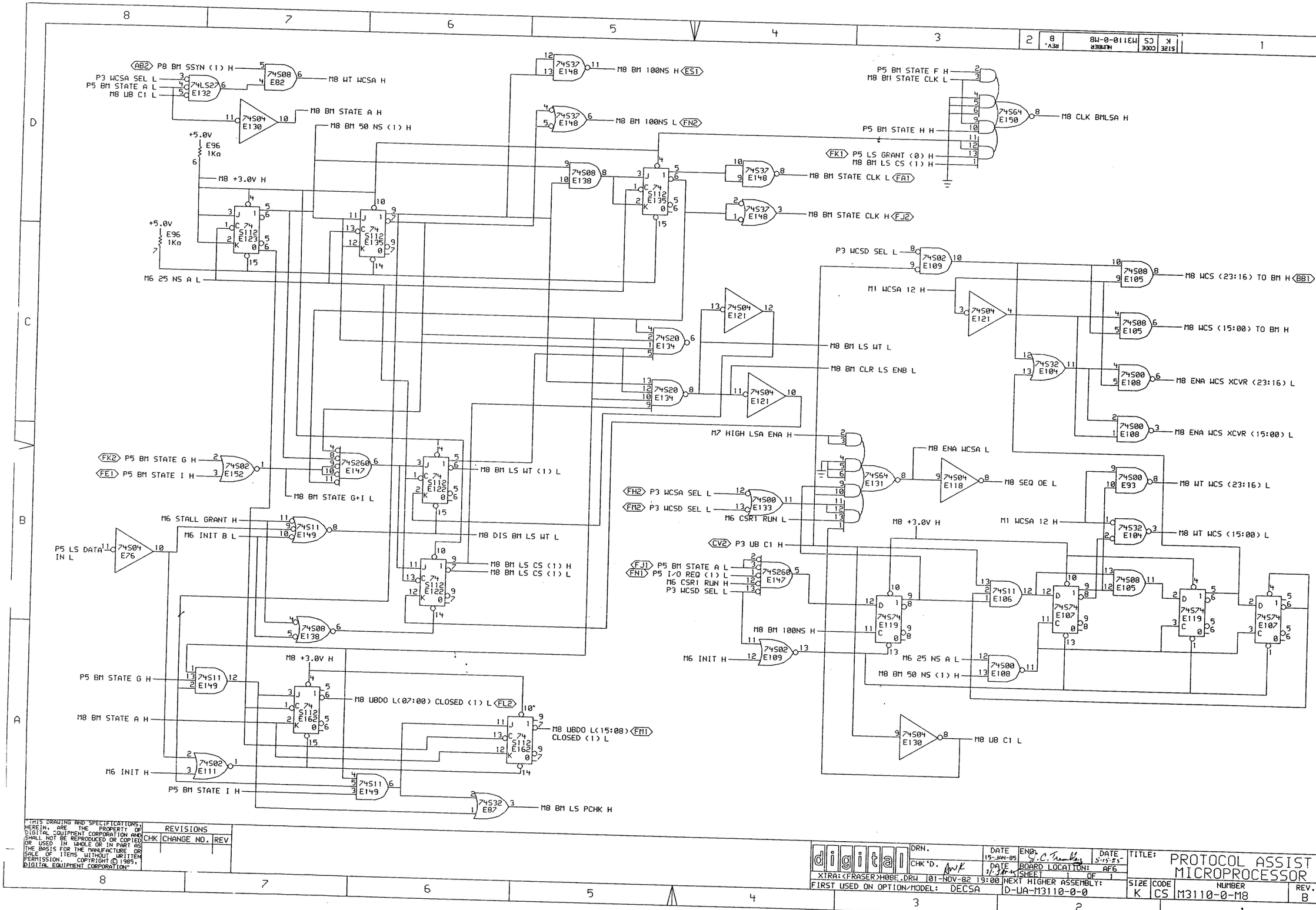
SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M6	D

MK0



BLOCK MOVER LSA WD CNT, & DMA CNTR

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST MICROPROCESSOR
	CHK'D.	DATE	BOARD LOCATION: AE6		SHEET 1 OF 1
DSKD:<COOKE>M7.DRW	02-NOV-82 09:34	NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3110-0-0		NUMBER M3110-0-M7	REV. A



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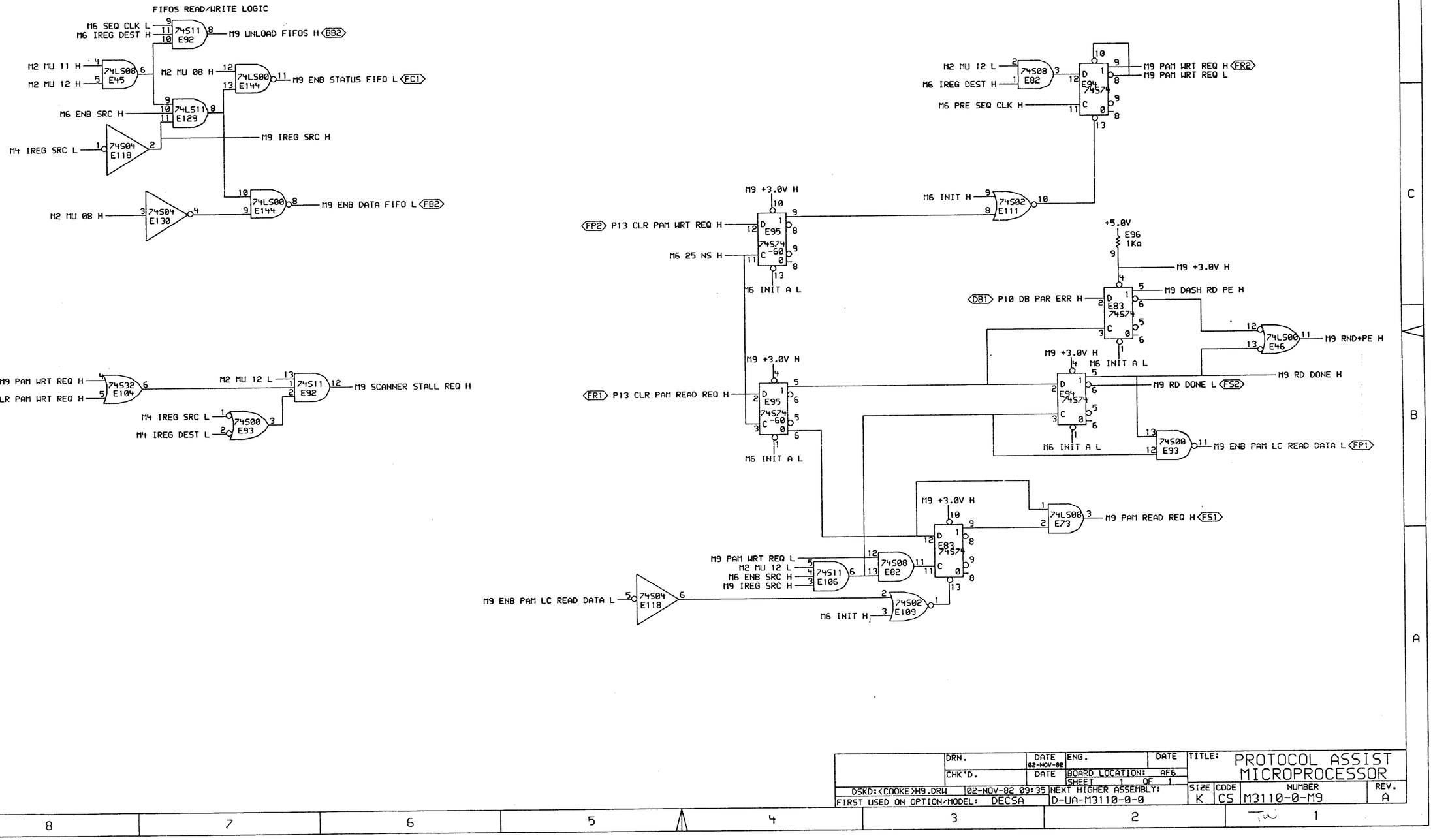
REVISIONS		
CHK	CHANGE NO.	REV

digital

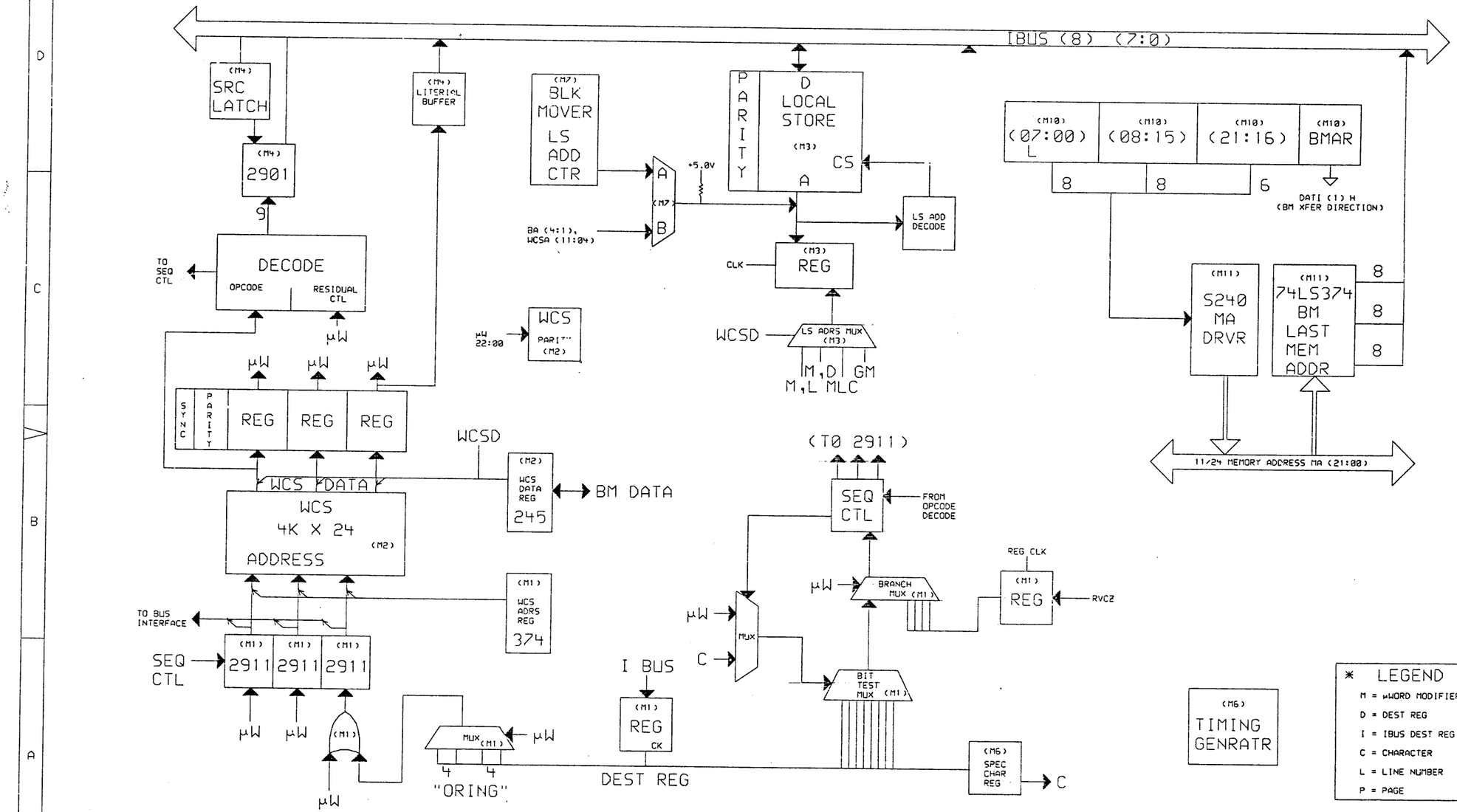
DRN.
CHK D. [illegible]
DATE 15-JAN-85
DATE 1/[illegible]
ENG J.C. Trombley
DATE 5-15-85
BOARD LOCATION: AF6
SHEET 1 OF 1
XTRA: <FRASER>H08E.DRW 01-NOV-82 19:00
NEXT HIGHER ASSEMBLY: D-UA-M3110-0-0
FIRST USED ON OPTION/MODEL: DECSA

TITLE: PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M8	B



	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST MICROPROCESSOR
	CHK'D.	DATE	BOARD LOCATION: AF6		
			SHEET 1 OF 1		
DSKD:<COOKE>M9.DRW	02-NOV-82 09:35	NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS NUMBER M3110-0-M9 REV. A
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3110-0-0			



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REVISIONS		
CHK	CHANGE NO.	REV

DRN. R. DAME	DATE 16-JAN-84	ENG.	DATE
CHK D.	DATE	BOARD LOCATION: SHEET OF	
DSKD:<PLOURDE>M13.DRW [05-DEC-83 11:05]		NEXT HIGHER ASSEMBLY: D-UA-M3110-0-0	
FIRST USED ON OPTION/MODEL: DECSA			

TITLE: PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M13	B

SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M14	B

8 7 6 5 4 3 2 1

D C B A

74LS00 E144 · 74S00 E25 · 74S00 E133 · 74S04 E11 · 74S08 E105 · 74S10 E136 · 74S37 E112 · 74S260 E151

74LS11 E129 · 74S00 E66 · 74S20 E88 · 74S08 E65 · E163 74S112 K C J E140 · 74S11 E92 · 74S51 E146 · +5.0V E96 1KΩ

74LS27 E132 · 74S00 E66 · 74S02 E111 · 74S00 E139 · 74S10 E24 · 74S32 E87 · 74S86 E22 · +5.0V E96 1KΩ

74LS109 E140 K C J · 74S00 E66 · 74S02 E152 · 74S10 E77 · 74S32 E145 · 74S86 E22 · +5.0V E96 1KΩ

74LS125 E33 · 74S00 E133 · 74S02 E152 · 74S37 E112 · 74S260 E57 · +5.0V E96 1KΩ

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REVISIONS		
CHK	CHANGE NO.	REV
///	M3110-MY6	B

digital

DRN. CAMP"	DATE 18-SEP-84	ENG. M.LAWRENCE	DATE
CHK'D.	DATE	BOARD LOCATION: AE5	
		SHEET 1 OF 1	

XTRA1(DENSMORE)H14E.DRW 18-SEP-84 10:08 | NEXT HIGHER ASSEMBLY: D-UA-M3110-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: PROTOCOL ASSIST MICROPROCESSOR

SIZE	CODE	NUMBER	REV.
K	CS	M3110-0-M14	B

MKO

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS
1			M3111-ØØ			C1 D1 D2 E2 F2 F3 H3
2	D-UA-M3111-Ø-Ø	2		PROTOCOL ASSIST BM SCANNER		A B C C D E F H J
3	K-PL-M3111-Ø-Ø	2		PROTOCOL ASSIST BM SCANNER		A B B C D E F H J
4	D-EC-5Ø14979-Ø-Ø	2		ETCH CUT DRAWING		A B C C D E F H J
5	D-MD-5Ø14979-Ø-Ø	5		DRILL & ETCH DRAWING		A A A A B B B C C
6			5Ø14979-ØØ	ETCHED BOARD		C C C C D1 D1 D1 E1 E1
7	K-CS-M3111-Ø-P1	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A B B
8	K-CS-M3111-Ø-P2	1		PROTOCOL ASSIST BM SCANNER		A A A A A A B B B
9	K-CS-M3111-Ø-P3	1		PROTOCOL ASSIST BM SCANNER		A A A A A A B C C
10	K-CS-M3111-Ø-P4	1		PROTOCOL ASSIST BM SCANNER		A A A A A B B C C
11	K-CS-M3111-Ø-P5	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A B B
12	K-CS-M3111-Ø-P6	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A B B
13	K-CS-M3111-Ø-P7	1		PROTOCOL ASSIST BM SCANNER		A A A A B B B C C
14	K-CS-M3111-Ø-P8	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A A A
15	K-CS-M3111-Ø-P9	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A B C
16	K-CS-M3111-Ø-P10	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A A A
17	K-CS-M3111-Ø-P11	1		PROTOCOL ASSIST BM SCANNER		A A B B B B B C D
18	K-CS-M3111-Ø-P12	1		PROTOCOL ASSIST BM SCANNER		A A B B C C D D E
19	K-CS-M3111-Ø-P13	1		PROTOCOL ASSIST BM SCANNER		A B B B B B B C C
20	K-CS-M3111-Ø-P14	1		PROTOCOL ASSIST BM SCANNER		A A B B B B B B B
21	K-CS-M3111-Ø-P15	1		PROTOCOL ASSIST BM SCANNER		A A B B B B B B B
22	K-CS-M3111-Ø-P16	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A A A
23	K-CS-M3111-Ø-P17	1		PROTOCOL ASSIST BM SCANNER		A A B B B B B B B
24	K-CS-M3111-Ø-P18	1		PROTOCOL ASSIST BM SCANNER		A A B B B B B B B
25	K-CS-M3111-Ø-P19	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A A A

NOTES:

DD REV	A	B	C	D	E	F	H	J	K

REVISION HISTORY			CONT. REVISION HISTORY		
ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV
	INITIAL	A			
JF	M3111-TW001	B			
	M3111-TW002	C			
	M3111-TW003	D			
	M3111-TW004	E			
ML	M3111-MK005	F			
ML	M3111-MK006	H			
ML	M3111-MK007	J			
ML	M3111-MK008	K			

MADE BY: T. F. WALSH
DATE: 19 OCT 82
CHECKED BY: T. F. WALSH
DATE: 22 OCT 82 16-JULY-85
DESIGN ENGINEER: J. BUZYNSKI
DATE: 22 OCT 82 J.C. Tremblay 16-JULY-85
RESPONSIBLE ENG: J. BUZYNSKI
DATE: 22 OCT 82 J.C. Tremblay 16-JULY-85
PRODUCTION ENG: W. S. ASHTON
DATE: 22 OCT 82

digital

TITLE DRAWING DIRECTORY

PROTOCOL ASSIST BM SCANNER

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3111-Ø-Ø	K

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS
26	K-CS-M3111-0-P20	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A A A
27	K-CS-M3111-0-P21	1		PROTOCOL ASSIST BM SCANNER		A A A A A A A A A
28	K-CS-M3111-0-P22	1		PROTOCOL ASSIST BM SCANNER		A A B B B B B B B
29	K-PC-M3111-0-DBI	-		PC DATA BASE		A A A A B B B C C
30	K-CS-M3111-0-DBS	-		CS DATA BASE		A B C C D E F H J
31	K-CS-M3111-0-P23	1		PROTOCOL ASSIST BM SCANNER		- - - - A A A B B

NOTES:

DD REV	A	B	C	D	E	F	H	J	K

REVISION HISTORY			CONT. REVISION HISTORY		
ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV

MADE BY:
DATE:

CHECKED BY:
DATE:

DESIGN ENGINEER:
DATE:

RESPONSIBLE ENG:
DATE:

PRODUCTION ENG:
DATE:

d i g i t a l

TITLE DRAWING DIRECTORY

PROTOCOL ASSIST BM SCANNER

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3111-0-0	K

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS
1			M3111-ØØ			E1 F1 H1
2	D-UA-M3111-Ø-Ø	2		PROTOCOL ASSIST BM SCANNER		C1 C2 C3
3	K-PL-M3111-Ø-Ø	2		PROTOCOL ASSIST BM SCANNER		C1 C2 C3
4	D-EC-5Ø14979-Ø-Ø	3		ETCH CUT DRAWING		C1 C2 C3
5	D-MD-5Ø14979-Ø-Ø	5		DRILL & ETCH DRAWING		A A A
6			5Ø14979-ØØ	ETCHED BOARD		C C C

NOTES:

SHEET 3 FOR ETCHED BOARD REV C, "SPECIAL REVS"

DD REV H J K

REVISION HISTORY			CONT. REVISION HISTORY		
ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV

MADE BY:
DATE:

CHECKED BY:
DATE:

DESIGN ENGINEER:
DATE:

RESPONSIBLE ENG:
DATE:

PRODUCTION ENG:
DATE:

d i g i t a l

TITLE DRAWING DIRECTORY

PROTOCOL ASSIST BM SCANNER

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3111-Ø-Ø	K

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS
1			M3111-ØØ			H2
2	D-UA-M3111-Ø-Ø	2		PROTOCOL ASSIST BM SCANNER		F1
3	K-PL-M3111-Ø-Ø	2		PROTOCOL ASSIST BM SCANNER		F1
4	D-EC-5Ø14979-Ø-Ø	3		ETCH CUT DRAWING		F1
5	D-MD-5Ø14979-Ø-Ø	5		DRILL & ETCH DRAWING		B
6			5Ø14979-ØØ	ETCHED BOARD		D1

NOTES:

SHEET 4 FOR ETCHED BOARD REV D1, "SPECIAL REVS"

DD REV K

REVISION HISTORY			CONT. REVISION HISTORY		
ENG	ECO NUMBER	REV	ENG	ECO NUMBER	REV

MADE BY:
DATE:

CHECKED BY:
DATE:

DESIGN ENGINEER:
DATE:

RESPONSIBLE ENG:
DATE:

PRODUCTION ENG:
DATE:

d i g i t a l

TITLE DRAWING DIRECTORY

PROTOCOL ASSIST BM SCANNER

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3111-Ø-Ø	K

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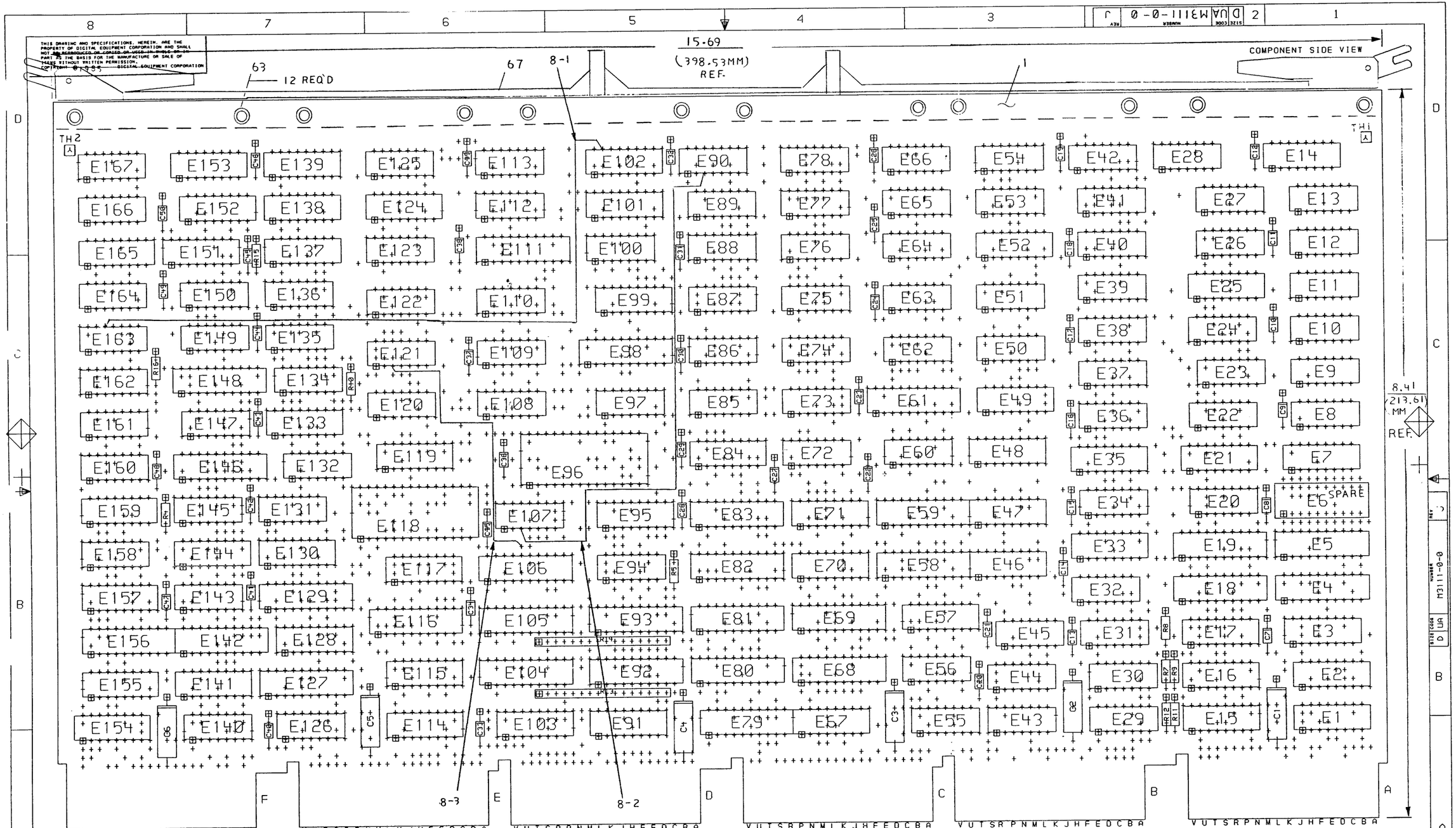

CHK	DRAWN BY	ENGINEER	CHANGE NO	DATE	REV
FJC	KRAWIECKI	J.C.TREMBLAY	MK007	4-9-85	H
AJC	KRAWIECKI	J.C. Tremblay 4-10-85	MK008	6-26-85	J

CHK	DRAWN BY	ENGINEER	CHANGE NO	DATE	REV

NOTES:
1. E6 IS A SPARE LOCATION.

STEP E	↑ Y AXIS	STEP	TIMES
REPEAT	→ X AXIS	STEP	TIMES

ETCH REV. E1-P1

SIGNATURES	DATE
DRN. A. KRAWIECKI	4-9-85
CHK'D.	
MECH.ENG. J.C. Tremblay	4-10-85
PROJ.ENG. J.C. Tremblay	4-10-85
PROD. J.C. Tremblay	4-10-85
SCALE 2/1	
SHT. 1 OF 2	
NEXT HIGHER ASSY. K-DD-M3111-0	

digital

TITLE PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV
D	UA	M3111-0-0	J

MKO 1 WO# 30230

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SIZE D | CODE DUA | NUMBER M3111-0-0 | REV J

REWORK INSTRUCTIONS M3111-MK008:

WIRE ADDS SIDE 1 (P/N 9105740-55).

8-1 FROM E163-12 TO E102-15.
8-2 FROM E107-3 TO E90-3.
8-3 FROM PTH BELOW E107-3 TO E121-3.

SIZE D | CODE DUA | NUMBER M3111-0-0 | REV J

REVISION HISTORY

REV	ECO NUMBER	DATE

TITLE PROTOCOL ASSIST
B.M.SCANNER

DOCUMENT NUMBER

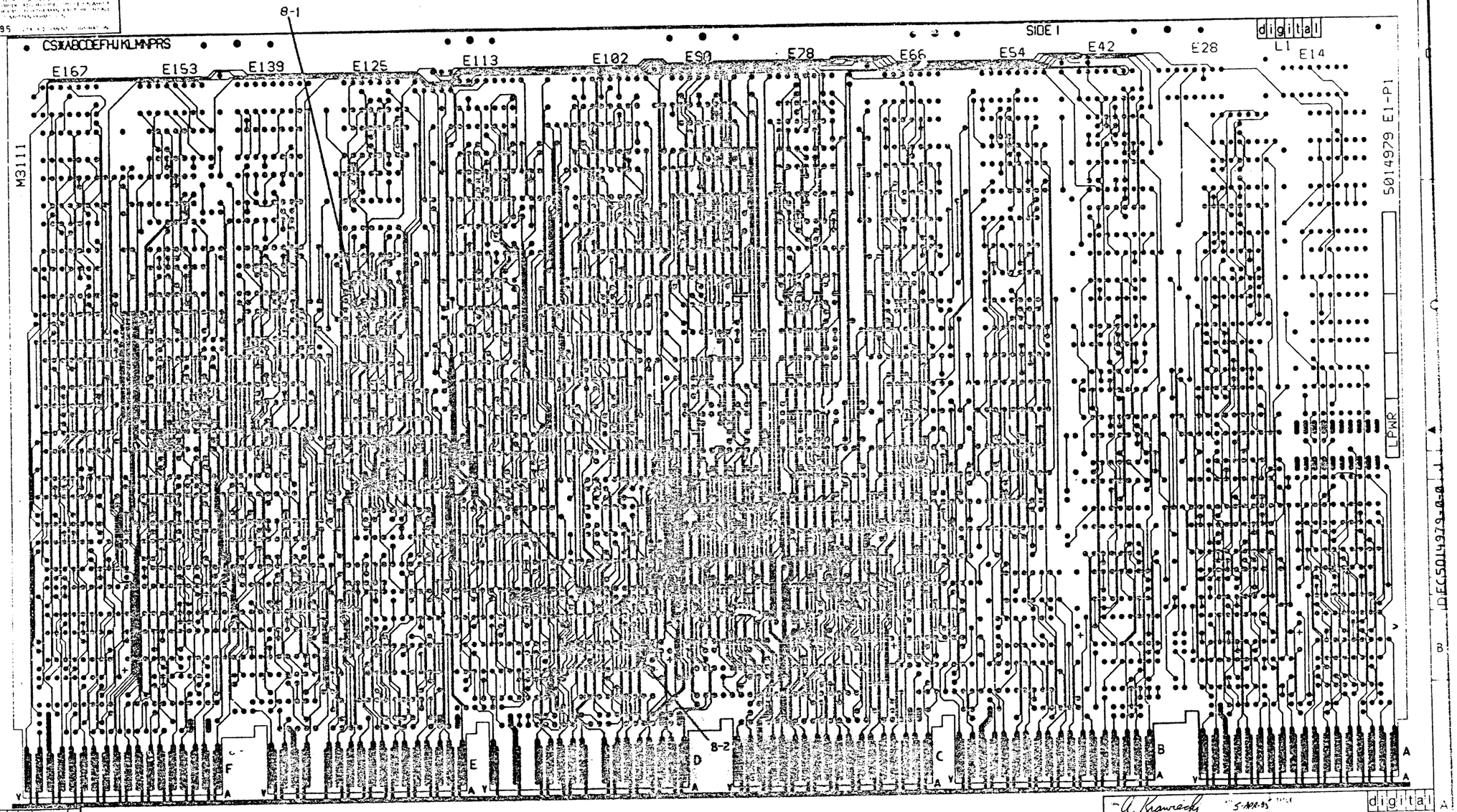
SIZE	CODE	NUMBER	REV
D	UA	M3111-0-0	J

SCALE NONE | SHEET 2 OF 2

MK0

BRUNING 40-522.5781.0
DRD 13KC
EN-01285-16-REVA(396)

EC 5014979-0-0 J

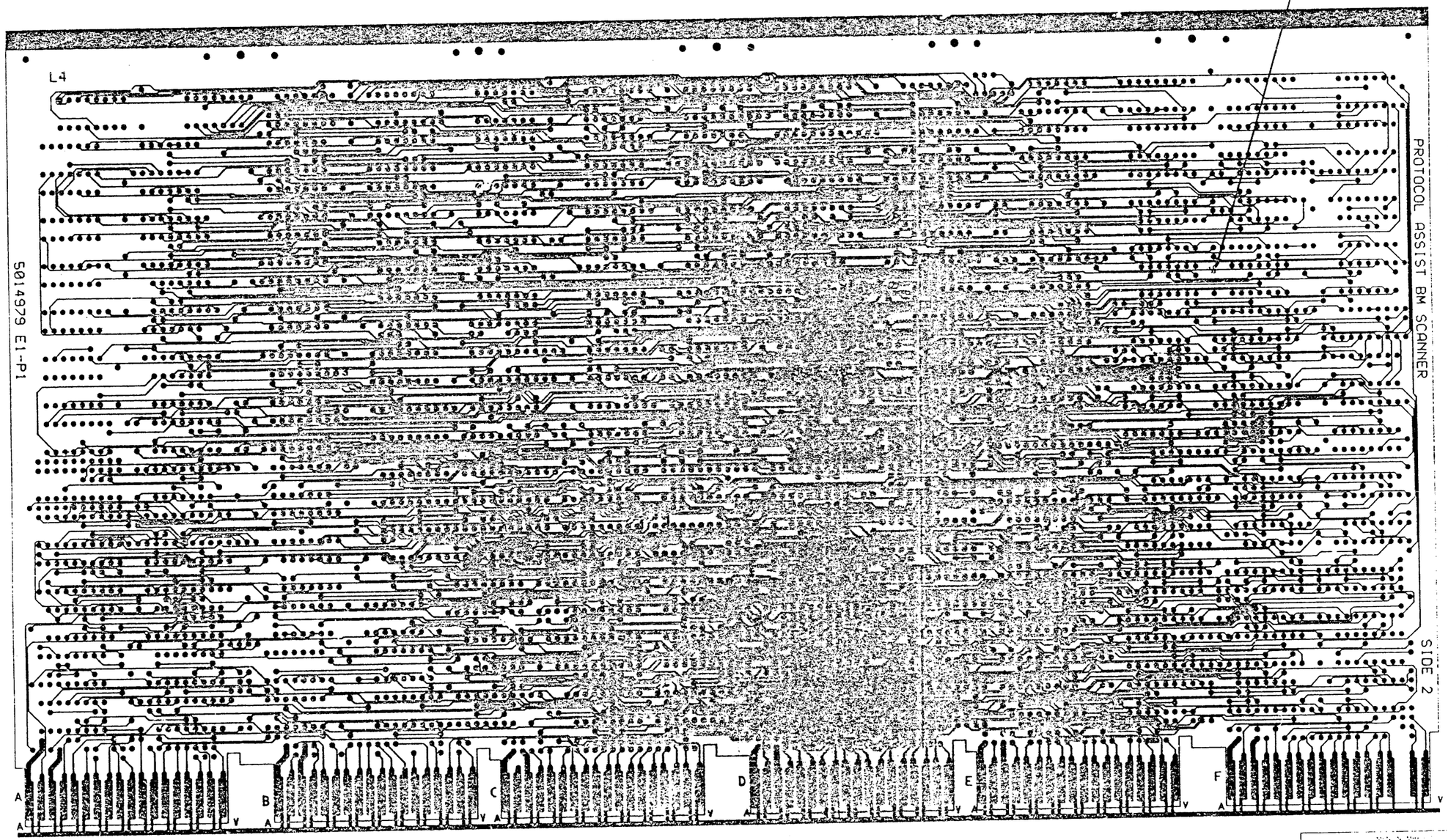


EC M3111-MY001	H		
EC M3111-MK0008	J		
M. Bonaventure 15-JAN-85			
J.C. TREMBLAY 15-JAN-85			
J.C. Tremblay 15 JAN 85			

A. Krawiecki	5-APR-85	digital
F.L. Carlone	10-APR-85	ETCH CUT DRAWING
J.C. Tremblay	10-APR-85	
J.C. Tremblay	10-APR-85	
M. Perry M. Lewis	4-12-85	D EC 5014979-0-0 J
K-DD-M3111-0		2/1

8 7 6 5 4 3 2 MKO 1

EC 5014979-0-0 J



ETCH CUT DRAWING

DEC 5014979-0-0 J

SCALE 2/1

MKO

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REV J | SIZE D | CODE EC | NUMBER 5014979-0-0

REWORK INSTRUCTIONS M3111-MK008: (ETCH REV. E1-P1).

ETCH CUTS SIDE 1:

8-1 CUT ETCH BELOW E121-3 AS SHOWN. (ONE PLACE ONLY)
8-2 CUT ETCH AT E107-3.

ETCH CUTS SIDE 2:

8-3 CUT ETCH CONNECTING TO E163-12 BETWEEN
E135 AND E149.

REVISION HISTORY

REV	ECO NUMBER	DATE

BRUNING 40-522 37810
DRO 138C
EN-01285-16-REVA(398)

TITLE: ETCH CUT DRAWING

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV.
D	EC	5014979-0-0	J

SCALE: NONE | SHEET 3 OF 3

MKO

AUTOMATED BY PRTLST,4Q(50) — P A R T S L I S T —

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00 / A1	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
1	1		5014979-00		DRILL AND ETCH PROTOCOL ASSIST	1	
2	65		1012784-00		.047 MFD 50V +80-20% CER	44	C7-C50
3	66		1017472-00		10 MFD 35V +75-10% AL EL	6	C1-C6
4	67		1216988-02		HANDLE,MODULE,HEX TWO EJECTORS	1	
5	61		1300309-00		390.0 .25 W 5.0 % CF	2	R8,R11
6	59		1300365-00		1.0 K .25 W 5.0 % CF	6	R4,R5,R9,R10,R15,R16
7	60		1301322-00		180.0 .25 W 5.0 % CF	2	R7,R12
8	68		1319037-00		R NETWORK 10-110 2.0 % 16PIN	2	R13,R14
9	4		1909705-00		DEC 8881 NAND GATE-QUAD 2IN O	1	E31
10	22		1910532-00		74S00 NAND GATE-QUAD 2IN	7	E62,E66,E109,E125,E149,E90,E113
11	8		1910534-00		74S04 INVERTER GATE-HEX 1I	4	E38,E94,E110,E145
12	20		1910536-00		74S10 NAND GATE-TRIPLE 3IN	2	E37,E54
13	21		1910537-00		74S11 AND GATE-TRIPLE 3INP	2	E50,E77
14	16		1910542-00		74S64 A-O-I GATE 4-2-3-2	2	E108,E27
15	6		1910544-00		74S74 FF-D DUAL,EDGE TRIGG	2	E60,E167
16	71		1910544-01		74S74-60GG-D DUAL,EDGE TRIG	3	E41,E78,E134
17	31		1910550-00		74S174 FF-D HEX	2	E95,E119
18	39		1910957-00		74S175 FF-D QUAD COMMON CLO	2	E14,E84
19	18		1911469-00		DEC 8640 RECEIVER,BUS,QUAD,U	6	E29,E30,E43,E44,E45,E55
20	2		1911579-00		/REPLACED BY 19-14987-00	4	E1,E2,E3,E17
21	17		1911675-00		74S138 DECODER/DEMUX 3-8 LI	5	E101,E102,E124,E138,E139
22	33		1912096-00		DEC 74S86 XOR GATE,QUAD 2IN	3	E34,E158,E166
23	35		1912125-00		74S135 XOR/NOR GATE-QUAD 2I	1	E33
24	30		1912388-00		74S02 NOR GATE-QUAD 2IN,PO	5	E85,E107,E120,E147,E161
25	29		1912389-00		74S08 AND GATE-QUAD 2IN,PO	2	E72,E112
26	52		1912646-00		LS253 MUX 1 OF 4 (DUAL)	8	E46-E49,E57,E67,E70,E71
27	43		1912661-00		74S189 MEMORY READ/WRITE	2	E144,E152
28	54		1912697-00		LS174 FF-D HEX W/CLEAR	1	E115
29	40		1912731-00		DEC 8646A TRANSCEIVER,4BIT BUS	2	E92,E93
30	55		1912746-00		DEC 74S37 NAND GATE-QUAD 2IN	1	E11

REVISION HISTORY			BASIC PART NO: M3111
ENG	ECO NUMBER	REV	SECTION A OF A
---	INITIAL	X01	SECTION,VARIATION INDEX
---	INITIAL	A	[A] 00
JB	M3111-IW001	B	[B]
JB	M3111-TW003	C	[C]
JB	INACTIVATE	D	[D]
JB	M3111-MK005A	E	[E]
ML	M3111-MK006	F	[F]
JCT	M3111-MK007	H	[H]
JCT	M3111-MK008	J	[J]
			[K]
			[L]
			[M]
			[N]

DRN: D.SIREEN	DATE: 04-FEB-82	D I G I T A L	
CHK'D: E.T.GERRY	DATE: 04-FEB-82 / 15-Jul-85	TITLE PARTS LIST PROTOCOL ASSIST B.M. SCANNER (PLUTO)	
DES.ENG: J.BUZYNSKI	DATE: 8-FEB-82 / 15-JUL-85	DOCUMENT NUMBER	
RESP.ENG.: J.C.TREMBLAY	DATE: 26-JUN-85 / 15-JUL-85	SIZE: K	CODE: PL — NUMBER: M3111-0-0 — REV: J
MFG.ENG.: W.BROOKE	DATE: 26-JUN-85	RELEASE DATE: 26-JUN-85	
ASSEMBLY NUMBER: D-UA-M3111-0-0	TOP DOCUMENT NUMBER: #K-DD-M3111-0	FILE NAME: MK1186.PLS	EDIT #: 33

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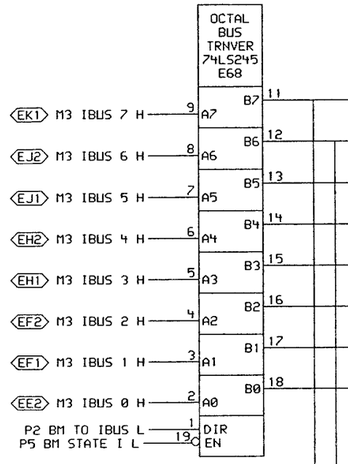
K

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00 A1	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
31	14		1912799-00		LS00 NAND-GATE-QUAD 2IN,P	4	E8,E40,E88,E89
32	13		1912801-00		LS02 NOR-GATE-QUAD 2IN	4	E24,E53,E63,E73
33	19		1912803-00		LS04 INVERTER GATE,HEX	2	E22,E131
34	12		1912805-00		LS08 AND GATE-QUAD 2IN,PO	7	E20,E36,E42,E64,E87,E97,E150
35	58		1912807-00		LS10 NAND GATE-TRIPLE 3IN	1	E136
36	10		1912808-00		LS11 AND GATE-TRIPLE 3IN	2	E13,E135
37	46		1912811-00		LS21 AND GATE-DUAL 4IN,PO	1	E126
38	9		1912813-00		LS27 NOR GATE-TRIPLE 3IN	3	E10,E75,E123
39	38		1912816-00		LS32 OR GATE-QUAD 2IN,POS	2	E74,E100
40	25		1912820-00		LS51 A-O-I GATE 2-WIDE 2I	3	E121,E122,E132
41	7		1912824-00		LS74 FF-D DUAL,EDGE TRIGG	6	E23,E26,E39,E65,E76,E163
42	5		1912833-00		LS109 FF-JK DUAL,POS EDGE	6	E21,E25,E52,E99,E133,E137
43	45		1912847-00		LS157 MUX 1 OF 2(QUAD)	3	E114,E157,E165
44	15		1912849-00		LS161 COUNTER,SYNCHR,4BIT	1	E151
45	3		1912851-00		LS169 COUNTER,SYNCH. UP/DO	1	E7
46	42		1912853-00		LS175 FF-D QUAD	3	E35,E153,E159
47	53		1912863-00		LS273 FF-D OCTAL W/CLEAR	2	E58,E59
48	36		1912867-00		LS298 MUX 1 OF 4,2IN W/S	1	E117
49	48		1913340-00		74S32 OR GATE-QUAD 2IN	4	E51,E86,E160,E28
50	47		1913493-00		74S241 OCTAL BUFFER,TRI-STA	1	E106
51	24		1913671-00		74S374 FF-D,OCTAL,TRI STATE	4	E79,E80,E82,E129
52	70		1913671-50		74S374 FF-D,OCTAL,TRI STATE	3	E61,E111,E148
53	34		1913788-00		26S10 TRANSCEIVER,BUS,QUA	2	E91,E103
54	51		1913939-00		LS191 COUNTER,SYNCHR. UP/D	1	E141
55	27		1914085-00		74S260 NOR GATE-DUAL,POS	4	E56,E140,E164,E143
56	23		1914086-00		74S30 NAND GATE-POS 8IN	2	E32,E162
57	41		1914214-00		LS374 FF-D OCTAL EDGE TRIG	4	E81,E83,E105,E142
58	11		1914438-00	DC	013 UNIBUS INTERRRUPT-BIP	2	E15,E16
59	56		1914451-00		LS393 COUNTER,BINARY,4BIT	2	E9,E12
60	44		1914768-00	C	67401J MEMORY FIFO,SERIAL	4	E128,E130,E154,E155
61	49		1915193-00		LS244 DRIVER,LINE,OCTAL,TR	3	E104,E127,E156
62	32		1915218-00		LS245 TRANSCEIVER,BUS,OCTA	2	E68,E69
63	26		1915219-00		LS373 FF-D OCTAL-TRANSPARE	4	E4,E5,E18,E19
64	57		23031K4-00	K4-01		1	E146
65	69		23042K4-00	K4-01		1	E98
66	72		23079C6-00	C6-01		1	E118
67	73		23080C6-00	C6-01		1	E96
68	28		23085B1-00	B1-01		1	E116
69	63		9009000-00	EYELET,ROLLED	0.1210DX0.156	12	
70	74		9105740-55	WIRE(WRAP)	30AWG KYNAR UL14	20	

DIGITAL	TITLE		SIZE	CODE	DOCUMENT NUMBER	REV
	PROTOCOL ASSIST B.M. SCANNER (PLUTO)	SECTION A OF A	K	PL	M3111-0-0	J

BLOCK MOVER
IBUS XCVR

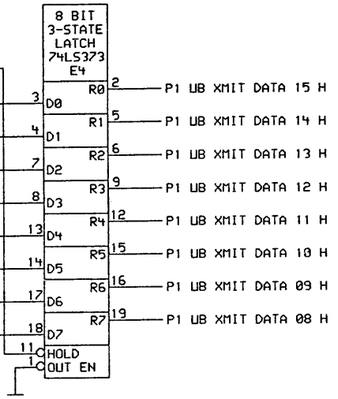
OCTAL BUS TRNVER 74LS245 E68



BM DATA 15 H CV1
BM DATA 14 H CU2
BM DATA 13 H CU1
BM DATA 12 H CT2
BM DATA 11 H CK2
BM DATA 10 H CK1
BM DATA 09 H CJ2
BM DATA 08 H CJ1

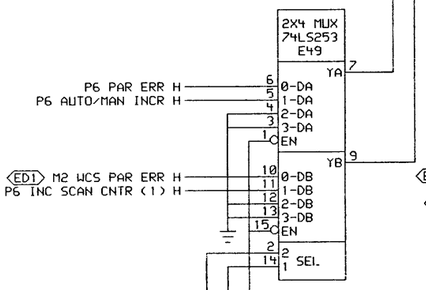
FM1 M8 UBDO L(15:08) CLOSED (1) L

8 BIT 3-STATE LATCH 74LS373 E4

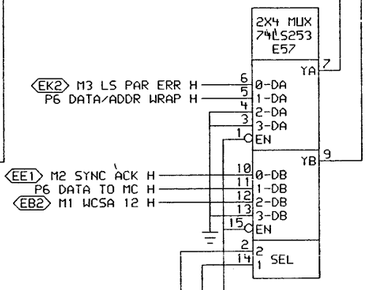


UNIBUS DATA OUT LATCH

2X4 MUX 74LS253 E49



2X4 MUX 74LS253 E57



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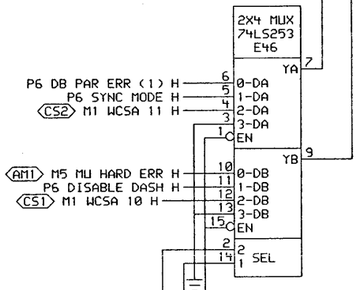
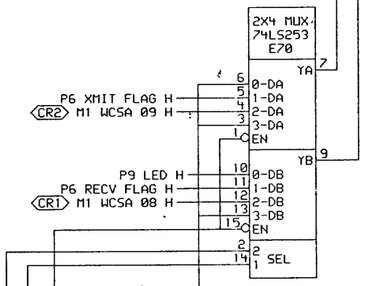
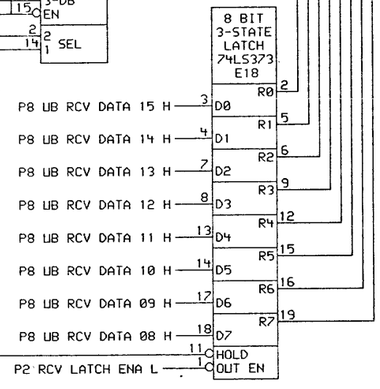


2X4 MUX 74LS253 E70



8 BIT 3-STATE LATCH 74LS373 E18



UNIBUS DATA IN LATCH (15:08)

P2 STMUX SEL 1 L
P2 STMUX SEL 0 L
P2 ENA STMUX L

P5 BM STATE D H
P7 LATCH CLK H
74S74 E60
P1 RCV LATCH (1) H
P1 RCV LATCH (1) L

P5 BM STATE A H
M8 BM 100NS H
74LS00 E88

BLOCK MOVER STMUX (15:08)

BLOCK MOVER XCVRS &
DATA PATH (15:08)

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REVISIONS		
CHK	CHANGE NO.	REV
EJC	MK0007	B

digital

DRN. WEAVER | DATE 11-APR-85 | ENG. JCTREMBLAY | DATE 4-15-85
CHK'D. [signature] | DATE 4/16/85 | BOARD LOCATION: AF2
XTRA:<DENSMORE>V12.DRW 11-APR-85 10:49 | SHEET 1 OF 1 | NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA | D-UA-M3111-0-0

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P1	B

MKO

BLOCK MOVER IBUS XCVR

OCTAL BUS TRNVER 74LS245 E69

M3 IBUS 7 H
M3 IBUS 6 H
M3 IBUS 5 H
M3 IBUS 4 H
M3 IBUS 3 H
M3 IBUS 2 H
M3 IBUS 1 H
M3 IBUS 0 H
P2 BM TO IBUS L
P5 BM STATE G L

BM DATA 07 H (CH2)
BM DATA 06 H (CH1)
BM DATA 05 H (CF2)
BM DATA 04 H (CF1)
BM DATA 03 H (CE2)
BM DATA 02 H (CE1)
BM DATA 01 H (CD2)
BM DATA 00 H (CD1)

(FL2) M8 UBDO L(07:00) CLOSED (1) L

8 BIT 3-STATE LATCH 74LS373 E5

P2 UB XMIT DATA 07 H
P2 UB XMIT DATA 06 H
P2 UB XMIT DATA 05 H
P2 UB XMIT DATA 04 H
P2 UB XMIT DATA 03 H
P2 UB XMIT DATA 02 H
P2 UB XMIT DATA 01 H
P2 UB XMIT DATA 00 H

UNIBUS DATA OUT LATCH

2X4 MUX 74LS253 E47

P6 MIC INTR REQ (1) H
P6 11/24 DASH BUS PE (1) H
(CP2) M1 WCSA 07 H
P6 ERR INTR ENA H
P6 DISABLE SCAN H
(CP1) M1 WCSA 06 H
P4 PULLUP C H

74S04 E94

P6 SYNCD MAINT MODE H
P6 CSR2 05 H
(CN2) M1 WCSA 05 H
P6 FORCE PARITY ERR H
P6 CSR2 04 H
(CN1) M1 WCSA 04 H
ADDR/VECT SEL L

2X4 MUX 74LS253 E71

2X4 MUX 74LS253 E48

P6 11/24 LNUM 3 H
(CM2) M1 WCSA 03 H
P6 PROC ON ERR H
P6 11/24 LNUM 2 H
(CM1) M1 WCSA 02 H
P7 SEG ERR VECTOR (1) H

2X4 MUX 74LS253 E67

(FH1) M6 CSR1 RUN H
P6 11/24 LNUM 1 H
(CL2) M1 WCSA 01 H
P6 11/24 LNUM 0 H
(CL1) M1 WCSA 00 H

P3 CSR2 SEL L
P3 CSR1 SEL L
P3 WCSA SEL L
P3 SEQA SEL L

74LS08 E87
74LS21 E126

P2 STMUX SEL 1 L
P2 STMUX SEL 0 L

P7 SEL VECTOR (1) L

74S11 E50

P2 ENA STMUX L

BLOCK MOVER STMUX (7:0)

P3 UB C1 H
P3 ADDR SEL L

74S32 E28
74S32 E51
74S32 E51

8 BIT 3-STATE LATCH 74LS373 E19

P8 UB RCV DATA 07 H
P8 UB RCV DATA 06 H
P8 UB RCV DATA 05 H
P8 UB RCV DATA 04 H
P8 UB RCV DATA 03 H
P8 UB RCV DATA 02 H
P8 UB RCV DATA 01 H
P8 UB RCV DATA 00 H
P1 RCV LATCH (1) L

BLOCK MOVER XCRS & DATA PATH (7:0)

P3 UB C1 L
P3 ADDR SEL H
P5 BM STATE A H
P3 UBLS SEL L

74S32 E160
74LS10 E136
74S08 E72

P2 RCV LATCH ENA L

P5 LS DATA IN H
(FV2) M6 STALL GRANT H

74S00 E109

P2 BM TO IBUS L (DE1)

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REVISIONS		
CHK	CHANGE NO.	REV
FCC	MK006	B

digital	DRN.	DATE 25-APR-85	ENG. JC TREMBLAY	DATE 25-APR-85	TITLE: PROTOCOL ASSIST BM SCANNER
	CHK JD 4/5/14	DATE	BOARD LOCATION: AF2		
XTRA: <DENSMORE>V13.DRW 14-FEB-85 16:26			SHEET 1 OF 1		
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0	SIZE K / CODE CS / NUMBER M3111-0-P2 / REV. B	

MKO

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P3	C

BT2 BUS MA C1 L
BU2 BUS MA C0 L
P7 BM MSYN H
P7 MASTER H
P8 BM SSYN (1) H
P3 UB C1 L
P3 UB C1 H CV2
P3 UB C0 H
BUS MSYN L BV1
P3 UB MSYN H
BUS SSYN L BU1
P3 UB SSYN H
P3 UB SSYN L
8640 E55
8881 E31
74S04 E110
74S00 E62
74S04 E38

BF2 BUS DCLO L
AN2 PB L
P3 UB DCLO H
8640 E30
8640 E29

+5.0V
R15 1KΩ
P3 PULLUP B H
P5 LS DATA IN L
P7 MASTER H
P7 LATCH CLK H
74S11 E50
74LS74 E76
P3 MERR (1) H
P3 MERR (1) L
P3 MERR (0) L

P6 INIT L
M3 IBUS 2 H
AS1 M3 WT MU STA H
74LS08 E87
74S00 E109

AN1 BUS MA 21 L
AP1 BUS MA 20 L
BE1 BUS MA 19 L
BE2 BUS MA 18 L
BS1 BUS MA 17 L
BS2 BUS MA 16 L
BR1 BUS MA 15 L
BR2 BUS MA 14 L
BP1 BUS MA 13 L
BP2 BUS MA 12 L
BN1 BUS MA 11 L
BN2 BUS MA 10 L
BM1 BUS MA 09 L
P7 MASTER H
BM2 BUS MA 08 L
BL1 BUS MA 07 L
8640 E29
8640 E43
8640 E44
8640 E30
74S30 E32
74S260 E56

BV2 ADDR/VECT SEL L
+5.0V
R5 1KΩ
74S86 E34
P3 BA 07 H

ADDR/VECT SEL	ADDR	VECTOR
0	771000-771110	140-146
1	771200-771310	130-136

BL2 BUS MA 06 L
BK1 BUS MA 05 L
P3 BA 05 H
8640 E45

BK2 BUS MA 04 L
BJ1 BUS MA 03 L
BJ2 BUS MA 02 L
BH1 BUS MA 01 L
P3 BA 04 H EN1
P3 BA 03 H EN2
P3 BA 02 H EP1
P3 BA 01 H EP2

AA1 BUS INIT L
P3 UB INIT H

P3 ADDR SEL H
P3 DB WINDOW SEL H
P3 UBLS SEL H
P3 I/O REG H
P3 UBLS SEL L
74LS04 E131
74LS32 E123
74S04 E110

P3 ADDR SEL H
P3 WCSD SEL L FM2
74S00 E113

23-085B1-00

256 X 8 ROM E116 74S471

0M P3 SEQA SEL L
1M
2M
3M
4M P3 WCSA SEL L FM2
5M P3 CSR2 SEL L
6M P3 CSR1 SEL L
7M
0A
1A
2A
3A
4A
5A
6A
7A
1S
2S
P5 SOFT GND L

4 D FF 74S175 E14

R0 P3 UBLS SEL H
D0
R1 P3 DB WINDOW SEL H
D1
R2 P3 ADDR SEL H
P3 ADDR SEL L
D2
R3
D3
CLR
CLK

P3 UB MSYN H
P12 DBM SSYN (1) L
74S32 E28
P7 MASTER H
P1 RCV LATCH (1) H
74S02 E161
74LS08 E42

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REVISIONS		
CHK	CHANGE NO.	REV
RC	MK0007	C

digital

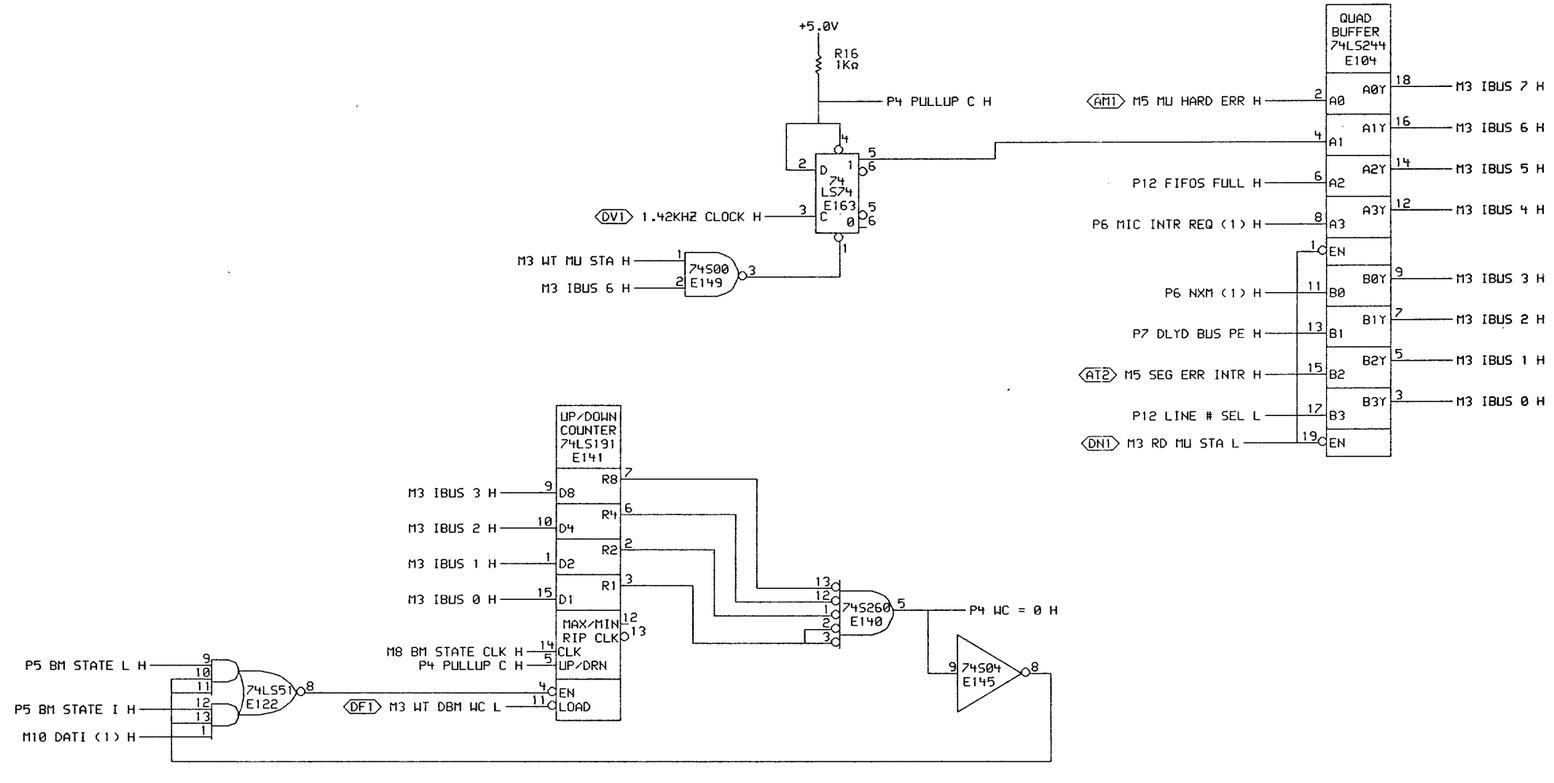
DRN. WEAVER
CHK'D
DATE 11-APR-85
ENG. JCTREMBLAY
DATE 4-15-85
DATE 4/16/85
BOARD LOCATION: AF2
SHEET 1 OF 1
NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0
FIRST USED ON OPTION/MODEL: DECSA
XTRA: <DENSMORE>V14.DRW 11-APR-85 10:52

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P3	C

MKO

REV. C
SIZE K | CODE CS | NUMBER M3111-0-P3 | REV. C



BLOCK MOVER LSA
WD CNT, & DMA CNTR

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REVISIONS		
CHK	CHANGE NO.	REV
FTC	MK0007	C

digital	DRN. WEAVER	DATE 11-APR-85	ENG. JCTREMBLAY	DATE 4-15-85	TITLE: PROTOCOL ASSIST BM SCANNER	
	CHK.	DATE 4/16/85	BOARD LOCATION: AF2			
	XTRA:<DENSMORE>V15.DRW 14-APR-85 10:53		NEXT HIGHER ASSEMBLY:		SHEET 1 OF 1	
	FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P4 / REV. C	

MKO

P7 PULLUP A H

P5 BM STATE A L — 74S02 E120

P5 LS GRANT (1) H

<ES1> M8 BM 100NS H — 74LS109 E133

P5 LS GRANT (0) H <FK1>

P3 ADDR SEL H — 74S74 -60 E135

P5 I/O REQ (1) H

P5 I/O REQ (1) L <FN1>

P3 UB MSYN H — 74S00 E125

P5 LS REQ L <EM2>

P3 LBLS SEL H — 74S00 E62

P7 INTR REQ L

P8 I/O & STATE A L — 74LS10 E136

74S00 E149

P5 BM GO H <ER2>

P1 RCV LATCH (1) L — 74LS08 E97

74LS04 E131

P5 ENA NPR H

M6 STALL GRANT H

P7 DLYD SSYN H

P7 SYNCD MASTER H

P4 WC = 0 H

031K4 16R6 E146 — LSB / MSB

<DH1> M3 WT DBM LSA L

P5 BM STATE K H — 74LS08 E97

P7 DLYD SSYN H

P5 BM STATE I H

P4 WC = 0 H

M10 DATI (1) H — 74S64 E108

P6 PROC ON ERR L

P5 BM STATE A H

<EL1> M3 BM LSPE (1) H

P3 MERR (1) H — 74LS32 E74

P6 NXM (1) H

P5 JAM H <AR1>

74LS109 E99

P5 BM REQ (1) H <FV1>

P6 INIT L

8 D FF 74S374 E148 -50

P5 BM STATE A H — D7

P3 UB MSYN H — D6

D5 D4 D3 D2 D1 D0

EN OUT CLK

R7 R6 R5 R4 R3 R2 R1 R0

P5 DLYD STATE A H <FL1>

P5 SYNCD BM REQ H

+5.0V — R4 1KΩ — 74S04 E145

P5 SOFT GND L

M8 BM STATE CLK H

P5 LS GRANT (0) H — 74LS51 E121

<DC1> M10 DATI (1) H

P5 LS GRANT (1) H

P3 UB CI H

74S04 E110

P5 LS DATA IN H

P5 LS DATA IN L <FL2>

74S04 E145 — P5 BM STATE A H

P4 PULLUP C H — 74S30 E162

P5 BM STATE A L <FJ1>

74S02 E161 — P5 BM STATE B H

74S02 E147 — P5 BM STATE C H <FD2>

74S02 E147 — P5 BM STATE D H

74S02 E161 — P5 BM STATE E H <FF1>

74S02 E147 — P5 BM STATE F H <FE2>

74S32 E160 — P5 BM STATE G L

74S04 E145 — P5 BM STATE G H <FK2>

74S02 E147 — P5 BM STATE H H <EM1>

74S32 E160 — P5 BM STATE I L

74S04 E145 — P5 BM STATE I H <FE1>

P7 DLYD SSYN H — 74S08 E112 — P5 BM K RELEASE H <EA1>

74S02 E161 — P5 BM STATE K H

74S02 E120 — P5 BM STATE L H <DD1>

BLOCK MOVER STATE

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REVISIONS		
CHK	CHANGE NO.	REV
FC	MKØØ7	B

digital

DRN. WEAVER | DATE 11-APR-85 | ENG. JCTREMBLAY | DATE 4-15-85

CHK'D | DATE 4/16/85 | BOARD LOCATION: AF7 | SHEET 1 OF 1

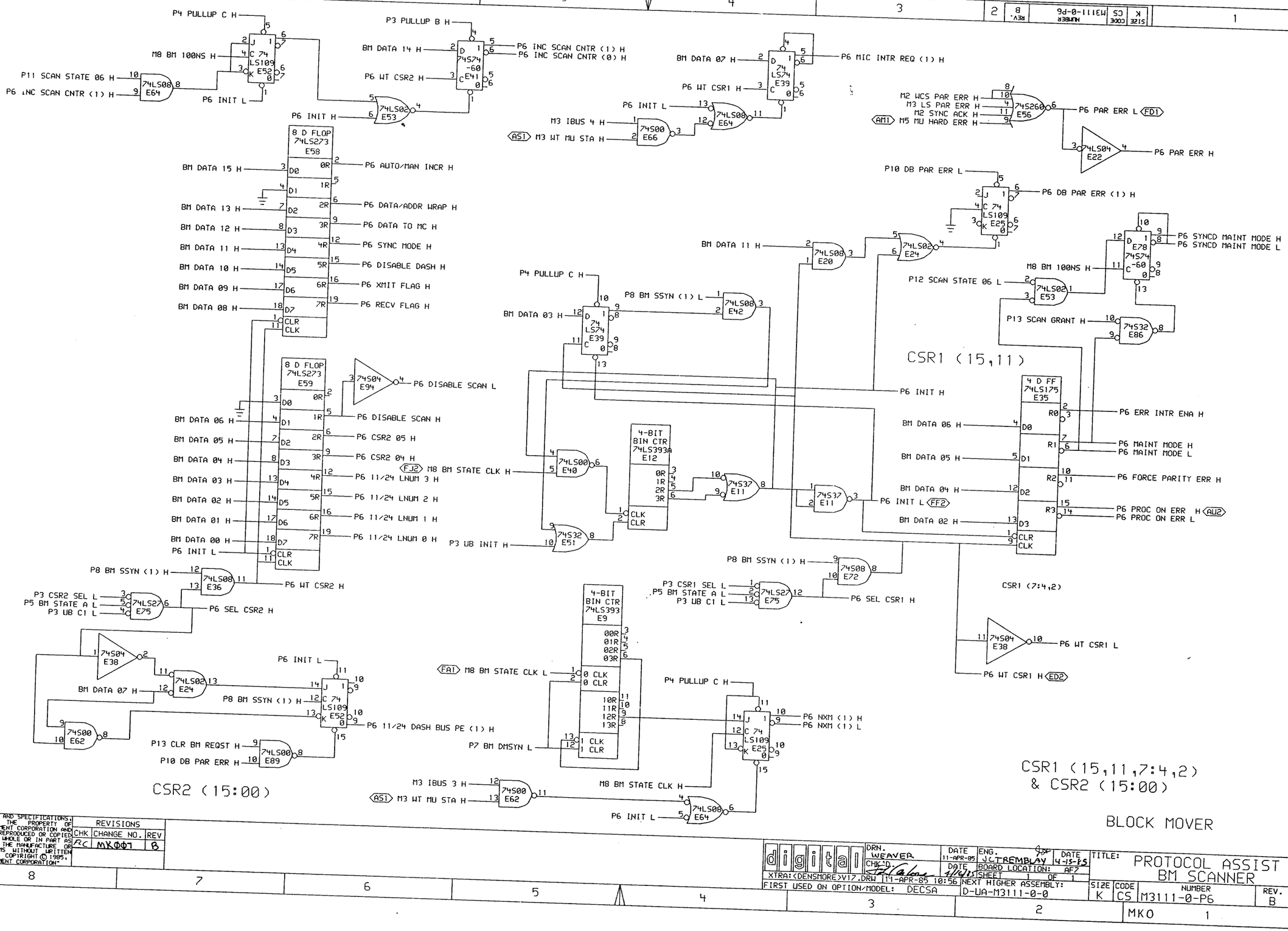
XTRA:<DENSMORE>V16.DRW 11-APR-85 10:54 | NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE K | CODE CS | NUMBER M3111-0-P5 | REV. B

MKO



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REVISIONS		
CHK	CHANGE NO.	REV
RC	MK0007	B

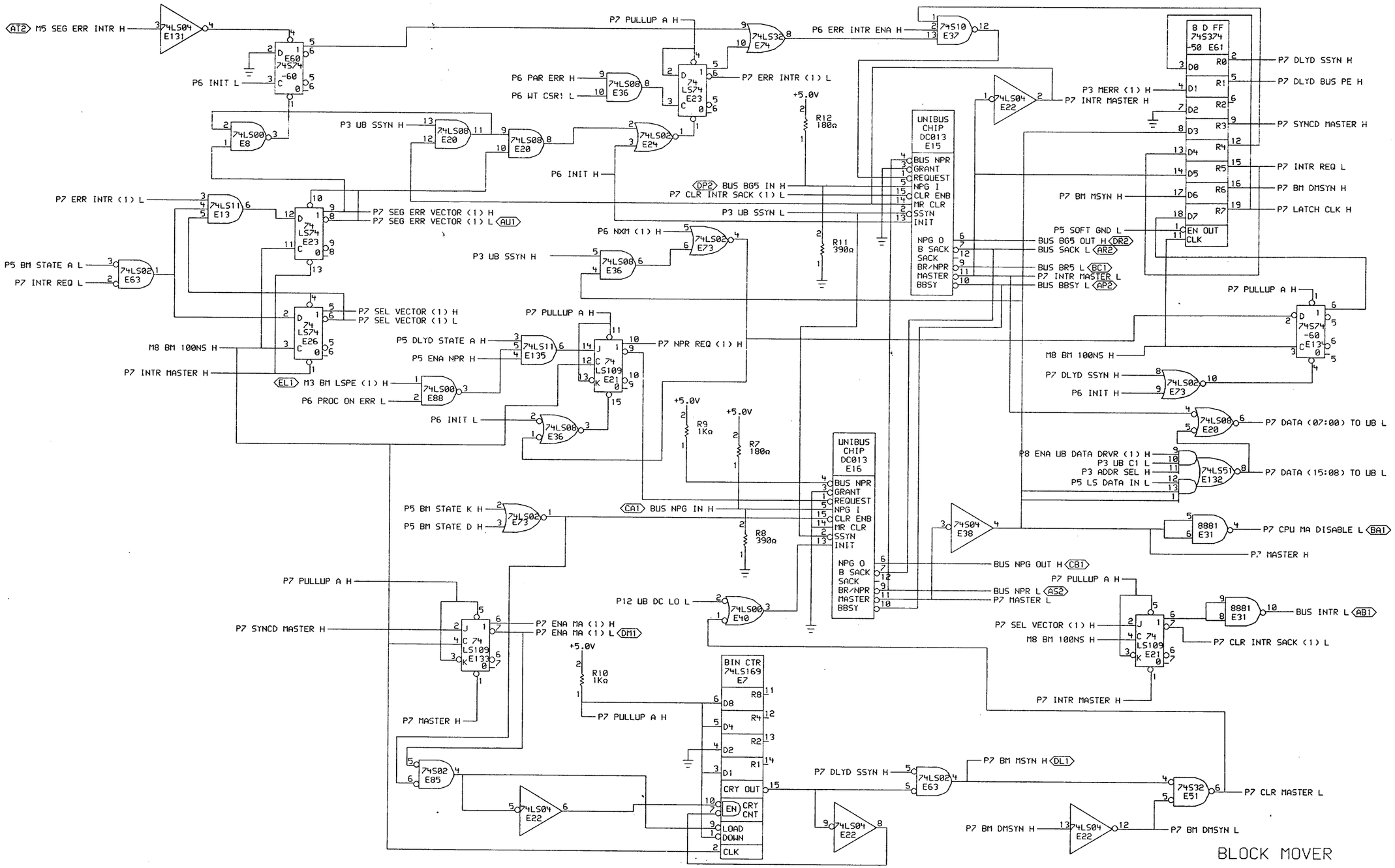
digital

DRN. WEAVER	DATE 11-APR-85	ENG. J.C. TREMBLAY	DATE 4-15-85
CHK'D	DATE 4/16/85	BOARD LOCATION: AE7	
XTRA:<DENSMORE>V17.DRW 11-APR-85 10:56		SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: DECSA		NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0	

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P6	B

MK0



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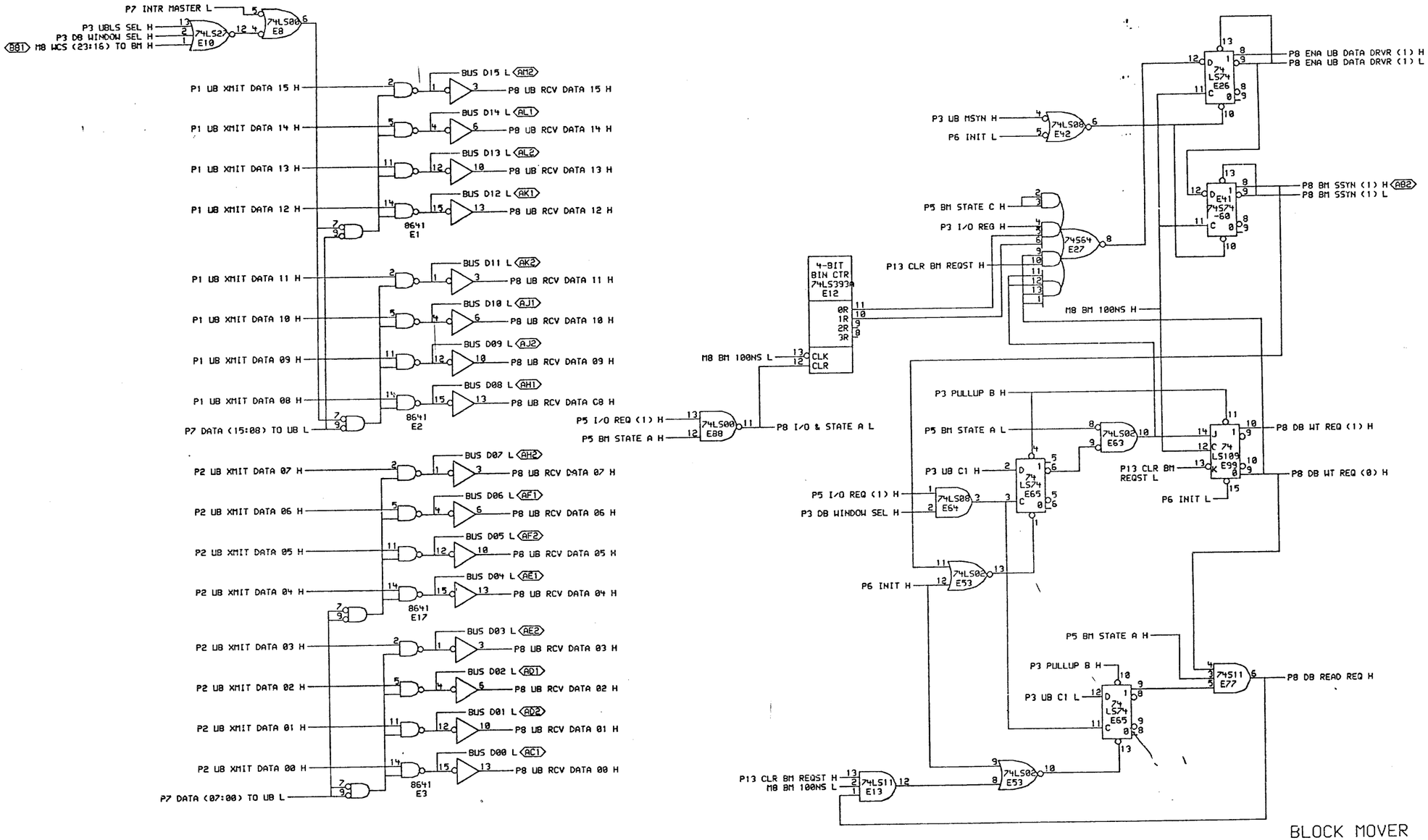
REVISIONS			
CHK	CHANGE NO.	REV
RLC	MK007	C

DRN. WEAVER	DATE 16-APR-85	ENG. JCTREMBLAY	DATE 4-16-85
CHK. JD	DATE 4/16/85	BOARD LOCATION: AF2	
XTRA:<DENSMORE>V18.DRW 16-APR-85 07:10		SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: DECSA		NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0	

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P7	C

MKO



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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN.	DATE	ENG.	DATE
CHK "D. Campos"	29-OCT-82		

DSKD:<COOKE>V19.DRW 29-OCT-82 13:55 NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0
FIRST USED ON OPTION/MODEL: DECSA

BOARD LOCATION: AF7
SHEET 1 OF 1

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P8	A

TW 1

COOKE, DSKD:<COOKE>V19.DPL 1, SCALE 2, "D" RELEASE PRV

DASH BUS INTERFACE AND DATA FIFO

(NOTE - LETTERS BY CLK 0 PINS SHOW ROUTING ORDER)

4 D FF 74S175 E84

P13 DATA STRB ENB H
P13 SYNC H
P12 QSYNC READ H
P13 INIT L
ES1 M8 BM 100NS H
ETCH DELAY
P6 DISABLE DASH H

D BUS DATA STB ENB L DM2
D BUS SYNC L DN2
D BUS READ L DP1
D BUS CLK 0 L DR1
26S10 E91

P9 READ H
P9 CONTROL PAR H
EB1 P6 FORCE PARITY ERR H
74S86 E34
74S135
E33

P9 SYNCD MAINT MODE H
74S08 E72
D BUS LED LINE L DS2
P9 LED H
P9 MASTER PAR ERR H
D BUS PAR ERR L DT2
D BUS SPAR L DU2
D BUS MPAR L DV2
26S10 E103
74S02 E107
P9 D BUS PAR ERR L
P9 MASTER PAR ERR H

SIP6 110 OHM R13
+5.0V
D BUS CLK 0 L
D BUS SYNC L
D BUS DATA STB ENB L
D BUS SPAR L
A BUS DATA 0 L
A BUS DATA 1 L
A BUS DATA 2 L
A BUS DATA 3 L

SIP6 110 OHM R14
+5.0V
A BUS DATA 4 L
A BUS DATA 5 L
A BUS DATA 6 L
A BUS DATA 7 L
D BUS MPAR L
D BUS PAR ERR L
D BUS READ L
D BUS LED LINE L

4 BIT TRANS CEIVER LATCH 8646 E92

XMIT DATA/ADRS 07 H
XMIT DATA/ADRS 06 H
XMIT DATA/ADRS 05 H
XMIT DATA/ADRS 04 H
P13 LATCH DATA IN L
OD TRN
PAR REC
BUS D0 / TRN D0 / REC D0
BUS D1 / TRN D1 / REC D1
BUS D2 / TRN D2 / REC D2
BUS D3 / TRN D3 / REC D3
REC LCH
TRN EN
TRN CLK
A BUS DATA 7 L DB2
A BUS DATA 6 L DD2
A BUS DATA 5 L DE2
A BUS DATA 4 L DF2

P9 RECV DATA BIT 7 H
P9 RECV DATA BIT 6 H
P9 RECV DATA BIT 5 H
P9 RECV DATA BIT 4 H

P13 XMIT DATA ENB H
P6 SYNCD MAINT MODE H
74S02 E85

4 BIT TRANS CEIVER LATCH 8646 E93

XMIT DATA/ADRS 03 H
XMIT DATA/ADRS 02 H
XMIT DATA/ADRS 01 H
XMIT DATA/ADRS 00 H
A BUS DATA 3 L DH2
A BUS DATA 2 L DJ2
A BUS DATA 1 L DK2
A BUS DATA 0 L DL2
P12 H

P9 RECV DATA BIT 3 H
P9 RECV DATA BIT 2 H
P9 RECV DATA BIT 1 H

P12 SCAN STATE 08 L
M8 BM 100NS H
P11 MEC VALID L
E163 74LS74

P11 CHANGE BIT 7 H
P11 CHANGE BIT 6 H
P11 CHANGE BIT 5 H
P11 CHANGE BIT 4 H
P11 CHANGE BIT 3 H
P11 CHANGE BIT 2 H
P11 CHANGE BIT 1 H
P11 CHANGE BIT 0 H
P9 MEC (0) H
4X2 MUX 74LS157 E165
4X2 MUX 74LS157 E157
1 SEL EN

P12 LOAD FIFOS H
P6 INIT L
BB2 M9 UNLOAD FIFOS H
FB2 M9 ENB DATA FIFO L
74S32 E28

64 X 4 FIFO 67401 E154
64 X 4 FIFO 67401 E155
D0 D1 D2 D3
DOUT 0 DOUT 1 DOUT 2 DOUT 3
SIN SO
RDY IN RDY OUT
CLR

QUAD BUFFER 74LS244 E156
QUAD BUFFER 74LS244 E156
A0 A1 A2 A3 EN
0Y 1Y 2Y 3Y

M3 IBUS 7 H
P9 CHAR 7 H
M3 IBUS 6 H
P9 CHAR 6 H
M3 IBUS 5 H
P9 CHAR 5 H
M3 IBUS 4 H
P9 CHAR 4 H
M3 IBUS 3 H
P9 CHAR 3 H
M3 IBUS 2 H
P9 CHAR 2 H
M3 IBUS 1 H
P9 CHAR 1 H
M3 IBUS 0 H
P9 CHAR 0 H

P9 DATA FIFO BITS 4:7 RDY OUT H
P9 DATA FIFO BITS 0:3 RDY OUT H
74LS08 E150
P9 DATA FIFO FULL L

LINE SCANNER

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REVISIONS		
CHK	CHANGE NO.	REV
	M3111-MK8	C

digital

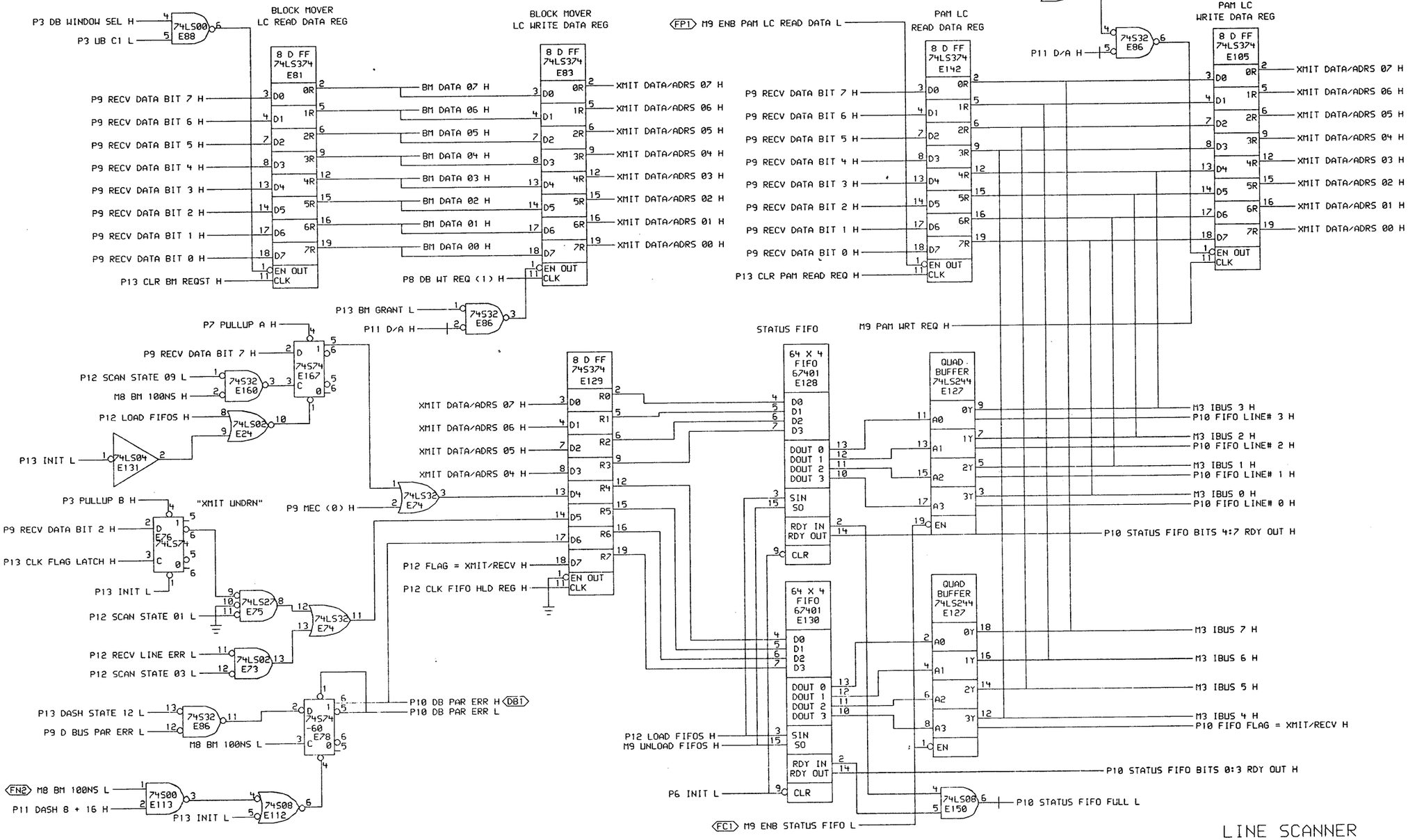
DRN. H.DORMANDY	DATE 17-JUL-85	ENG. J.C TREMBLAY	DATE 17-JUL-85
CHK "D"	DATE 17-JUL-85	BOARD LOCATION: AF7	
		SHEET 1 OF 1	

XTRA:<DENSMORE>V20.DRW 17-JUL-85 06:40 NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA D-UA-M3111-0-0

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P9	C

MKO



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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN.	DATE	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
	CHK D. Campos	29-OCT-82		29-OCT-82	
	DSKD:<COOKE>V21.DRW	29-OCT-82 13:56	BOARD LOCATION: AE7		
	FIRST USED ON OPTION/MODEL: DECSA		SHEET 1 OF 1		
			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P10	A

SCANNING ADDR BUFFER

MONITORED EVENTS REGISTER CHANGE DETECT LOGIC

P12 PG + DS15 H
P13 BM GRANT H
74S02 E107
P11 EXTRN CYCL L
P11 D/A H
74S00 E109
74S08 E112
4-BUF DRIVERS 74S241 E106
3A 2A 1A 0A EN
3AY 2AY 1AY 0AY
XMIT DATA/ADRS 07 H
XMIT DATA/ADRS 06 H
XMIT DATA/ADRS 05 H
XMIT DATA/ADRS 04 H
3B 2B 1B 0B EN
3BY 2BY 1BY 0BY
XMIT DATA/ADRS 03 H
XMIT DATA/ADRS 02 H
XMIT DATA/ADRS 01 H
XMIT DATA/ADRS 00 H
P12 SCAN REG# BIT 3 H
P12 SCAN REG# BIT 2 H
P12 SCAN REG# BIT 1 H
P12 SCAN REG# BIT 0 H

P11 CHANGE BIT 0 H
P11 CHANGE BIT 1 H
P11 CHANGE BIT 2 H
P11 CHANGE BIT 3 H
P11 CHANGE BIT 4 H
74S260 E164
P11 CHANGE BIT 5 H
P11 CHANGE BIT 6 H
P11 CHANGE BIT 7 H
74S260 E164
74S00 E149
P11 MON EVENT CHNG H
P13 DASH STATE 16 L
P13 DASH STATE 08 L
74S00 E125
P11 DASH 8 + 16 H
P6 SYNCD MAINT MODE L
74S00 E66
74S10 E54
P11 D/A H
P12 FIFO LOAD STATE L
P6 SYNCD MAINT MODE H
P6 DATA/ADDR WRAP H
74S00 E66

8 D FF 74S374 E82
D0 D1 D2 D3 P4 PULLUP C H P9 RECV DATA BIT 5 H P9 RECV DATA BIT 6 H P9 RECV DATA BIT 7 H
R0 R1 R2 R3 R4 R5 R6 R7
XMIT DATA/ADRS 00 H
XMIT DATA/ADRS 01 H
XMIT DATA/ADRS 02 H
XMIT DATA/ADRS 03 H
XMIT DATA/ADRS 04 H
XMIT DATA/ADRS 05 H
XMIT DATA/ADRS 06 H
XMIT DATA/ADRS 07 H
M8 BM 100NS H
P12 SCAN STATE 11 L
74S02 E85
EN OUT CLK
P12 SCAN STATE 12 L
P11 D/A H
74S02 E85
74S00 E90
P6 SYNCD MAINT MODE L

16X4 RAM 74S189 E144
0D 1D 2D 3D
0M 1M 2M 3M
ADR
EN WR
P9 RECV DATA BIT 0 H
P9 RECV DATA BIT 1 H
P9 RECV DATA BIT 2 H
P9 RECV DATA BIT 3 H

4 D FF 74LS175 E159
R0 R1 R2 R3
D0 D1 D2 D3
CLR CLK
P9 RECV DATA BIT 0 H
P9 RECV DATA BIT 1 H
P9 RECV DATA BIT 2 H
P9 RECV DATA BIT 3 H
74S86 E158
P11 CHANGE BIT 0 H
P11 CHANGE BIT 1 H
P11 CHANGE BIT 2 H
P11 CHANGE BIT 3 H

BIN CTR 74LS161 E151
D8 D4 D2 D1
8R R4 R2 R1
CRY OUT
EN CRY CNT
LOAD CLR CLK
P6 CSR2 05 H
P6 CSR1 04 H
74LS08 E87
E42 74LS08
P6 INC SCAN CNTR (0) H
P6 AUTO/MAN INCR H
74LS00 E40
P12 SCAN STATE 06 L
74S04 E110
P11 SCAN STATE 06 H
P3 PULLUP B H
BM DATA 15 H
P6 WT CSR2 H
74S10 E37
M8 BM 100NS H
74LS08 E150
P13 INIT L
BM DATA 14 H
74LS04 E22

16X4 RAM 74S189 E152
0D 1D 2D 3D
0M 1M 2M 3M
ADR
EN WR
P9 RECV DATA BIT 4 H
P9 RECV DATA BIT 5 H
P9 RECV DATA BIT 6 H
P9 RECV DATA BIT 7 H
M8 BM 100NS H
P12 SCAN STATE 04 L
74LS32 E100

4 D FF 74LS175 E153
R0 R1 R2 R3
D0 D1 D2 D3
CLR CLK
P13 INIT L
P9 RECV DATA BIT 4 H
P9 RECV DATA BIT 5 H
P9 RECV DATA BIT 6 H
P9 RECV DATA BIT 7 H
74S86 E166
P11 CHANGE BIT 4 H
P11 CHANGE BIT 5 H
P11 CHANGE BIT 6 H
P11 CHANGE BIT 7 H
P12 SCAN STATE 10 L
P13 DASH STATE 13 L
M8 BM 100NS H
74LS27 E123
P11 MEC VALID L

LINE SCANNER

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REVISIONS		
CHK	CHANGE NO.	REV
RLC	M3111-MK8	D

digital

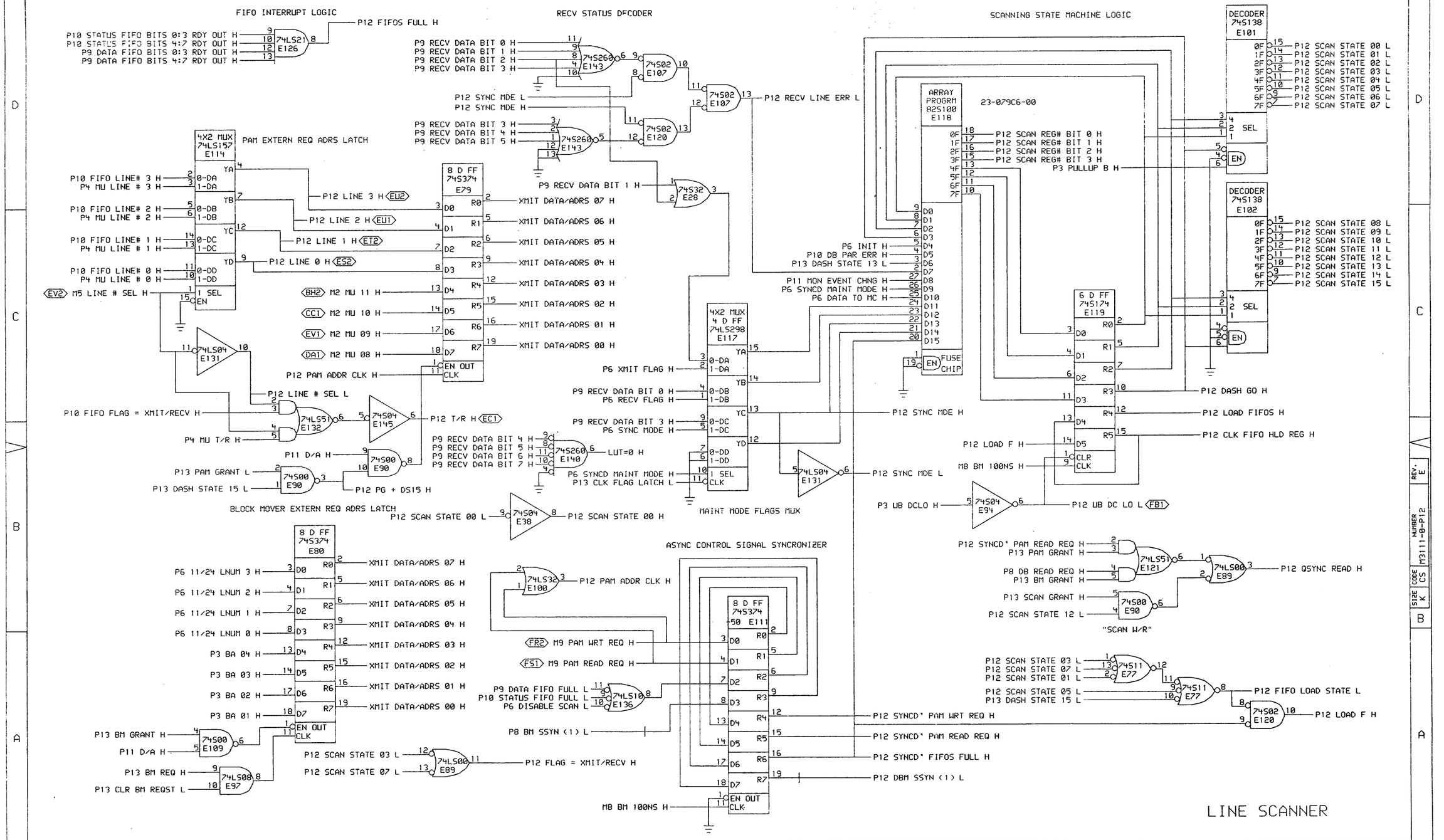
DRN
CHK D. [illegible] 15-JUN-85
DATE 28-JUN-85
ENG. J.C. TREMBLAY
DATE 15-JUN-85
BOARD LOCATION: AF7
SHEET 1 OF 1

XTRA:<DENSMORE>V22.DRW 28-JUN-85 05:19
FIRST USED ON OPTION/MODEL: DECSA
NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P11	D

MKO



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REVISIONS		
CHK	CHANGE NO.	REV
PLC	M3111-MK8	E

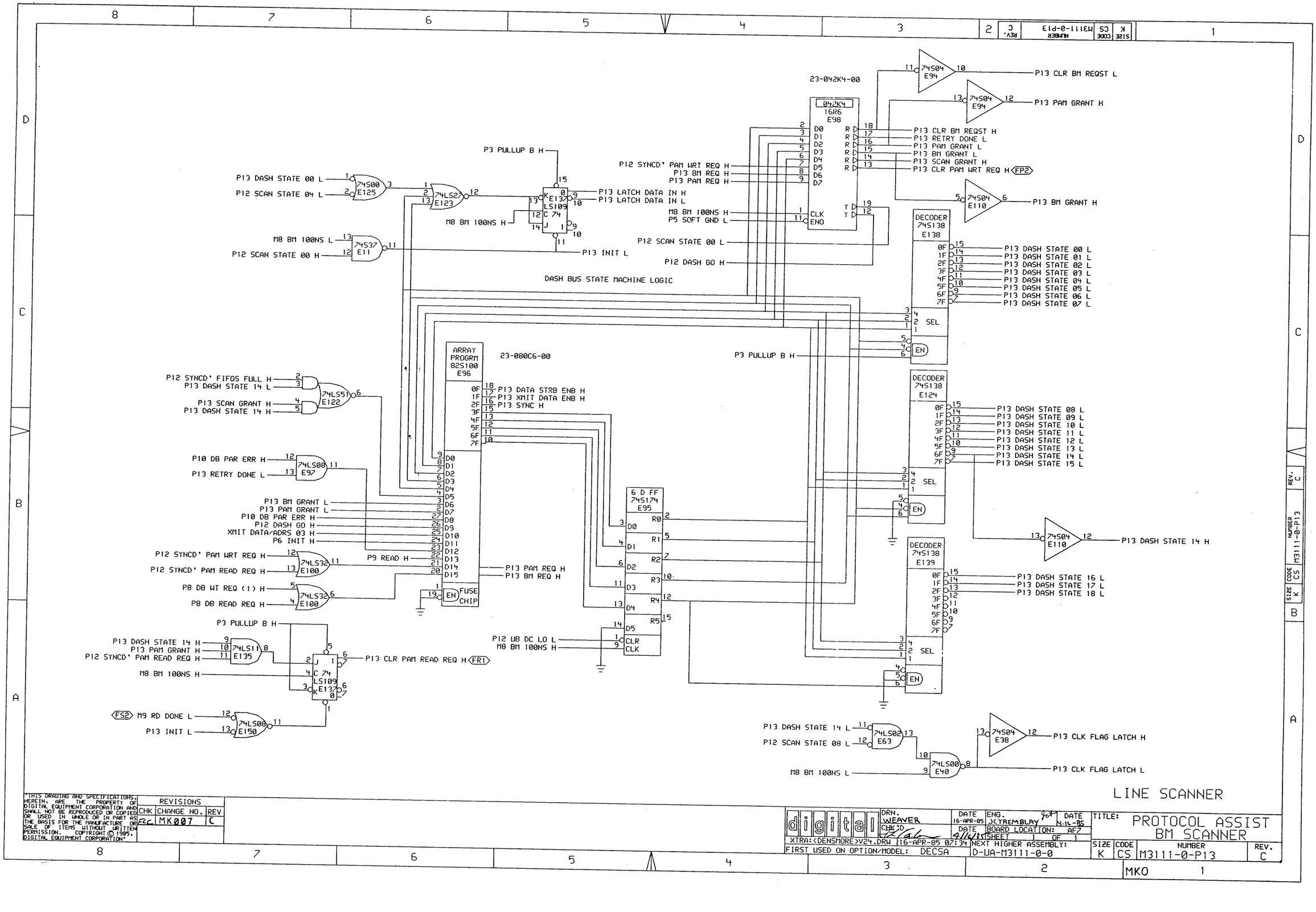
DRN T.D'Ammore	DATE 28-JUN-85	ENG. J.C.Tremblay	DATE 16-JULY-85
CHK D. Calvo	DATE 15-JUL-85	BOARD LOCATION:	AF7
		SHEET	1 OF 1

XTRA:<DENSMORE>V23.DRW 28-JUN-85 05:41 NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA D-UA-M3111-0-0

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P12	E

MKO



SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P13	C

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REVISIONS		
CHK	CHANGE NO.	REV
REC	MK007	C

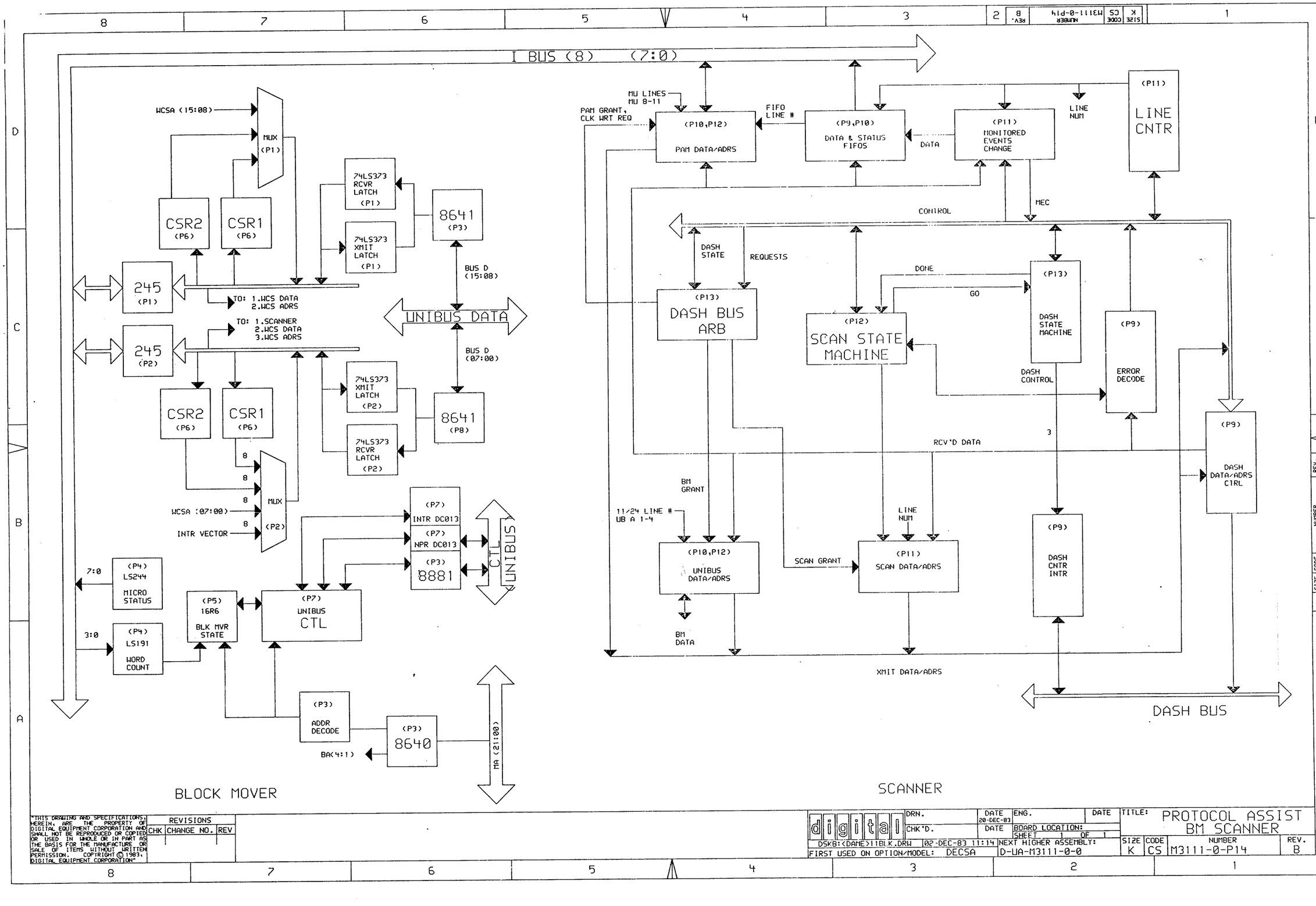
digital

DRN. WEAVER	DATE 16-APR-85	ENG. JCTREMBLAY	DATE 4-16-85
CHK'D	DATE 4/16/85	BOARD LOCATION: AF7	
XTRA:<DENSMORE>V24.DRW 16-APR-85 07:34		SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: DECSA		NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0	

TITLE: PROTOCOL ASSIST BM SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P13	C

MKO



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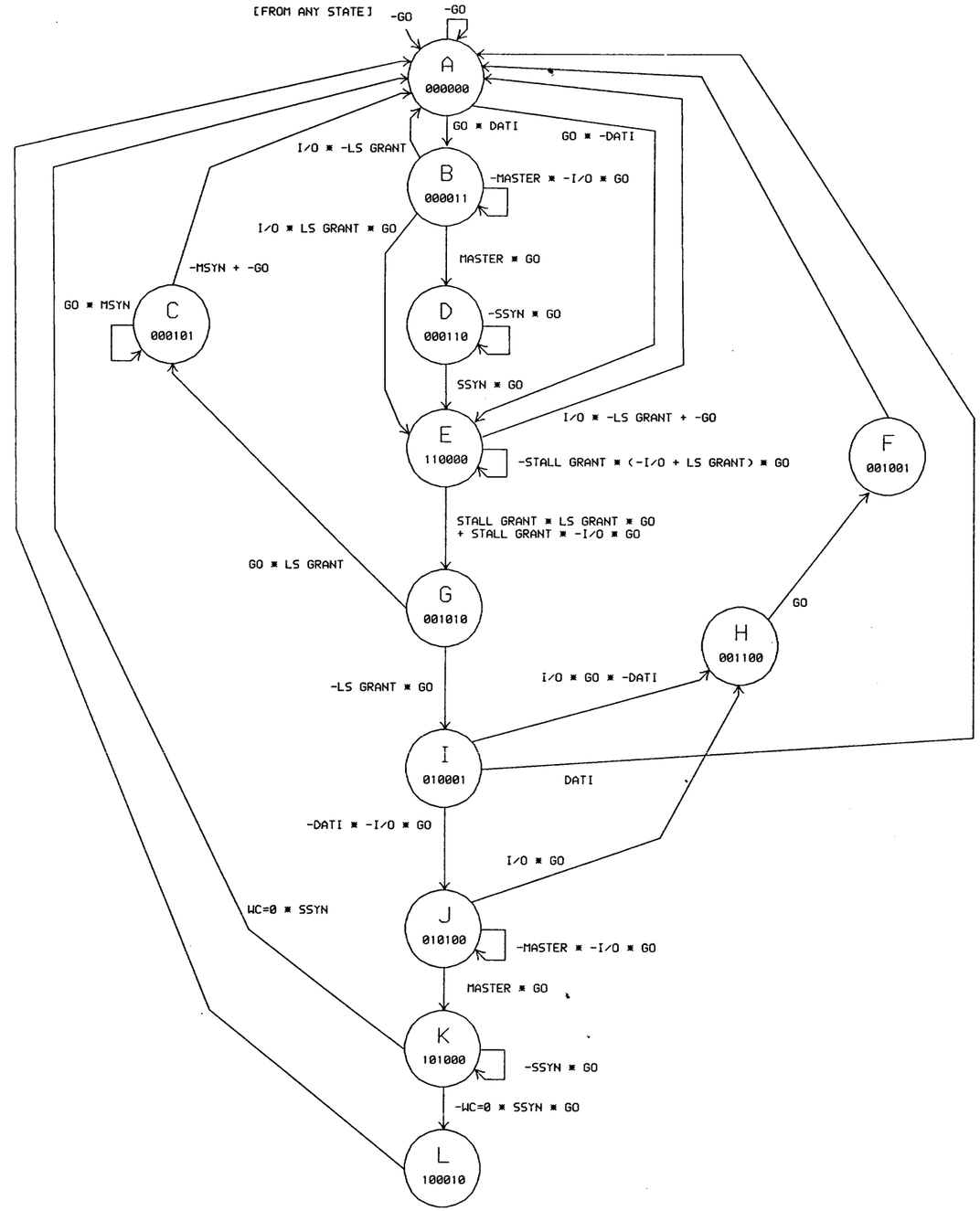
REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN.	DATE 20-DEC-83	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
	CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKB:<DANE>1TBLK.DRW 02-DEC-83 11:14			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P14 / REV. B
FIRST USED ON OPTION/MODEL: DECSA					



A
1. SETS LS GRANT IF I/O
2. SETS NPR IF BM REQ * -LSPE * -PROC ON ERR
3. ALL I/O ACCESS OTHER THAN LS OCCUR IN STATE A
4. OPEN RCVR LATCH
5. INTR VECTOR ARBITRATION
6. CLR STALL REQ

B

C
1. BM SSYN
2. CLR STALL REQ

D
1. CLOSE RCV LATCH WHEN SSYN
2. BM MSYN

E
1. μP STALL REQ

F
1. DEC BM LSA
2. CLR STALL REQ

G
1. ENA BM IBUS XCVR (07:00)
2. READ OR WRITE LS
3. INC BMLSA
4. BMAR + 1 IF DATI

H
1. DEC BMLSA

I
1. INC BMLSA
2. READ OR WRITE LS
3. ENA BM IBUS XCVR (15:08)
4. CLR BM REQ IF WC=0 * DATI
5. CLR STALL REQ
6. DEC WC IF DATI
7. BMAR + 1 IF DATI

J

K
1. CLR BM REQ WHEN WC=0
2. BM MSYN
3. BMAR + 1

L
1. BMAR + 1
2. WC-1

INPUTS

1. GO
2. I/O
3. DATI
4. STALL GRANT
5. MSYN
6. SSYN
7. MASTER
8. WC=0
9. LS GRANT (1) H

NOTES:

1. GO = I/O LS REQ + BM REQ
2. GO IF CLEARED BY THE FOLLOWING:
   A. INIT
   B. COMPLETED LS OPERATIONS BY THIS PAL
   C. (NXM + MEM ERR)
   D. BM LSPE * -PROC ON ERR

PAM BLOCK MOVER STATE DIAGRAM

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REVISIONS		
CHK	CHANGE NO.	REV

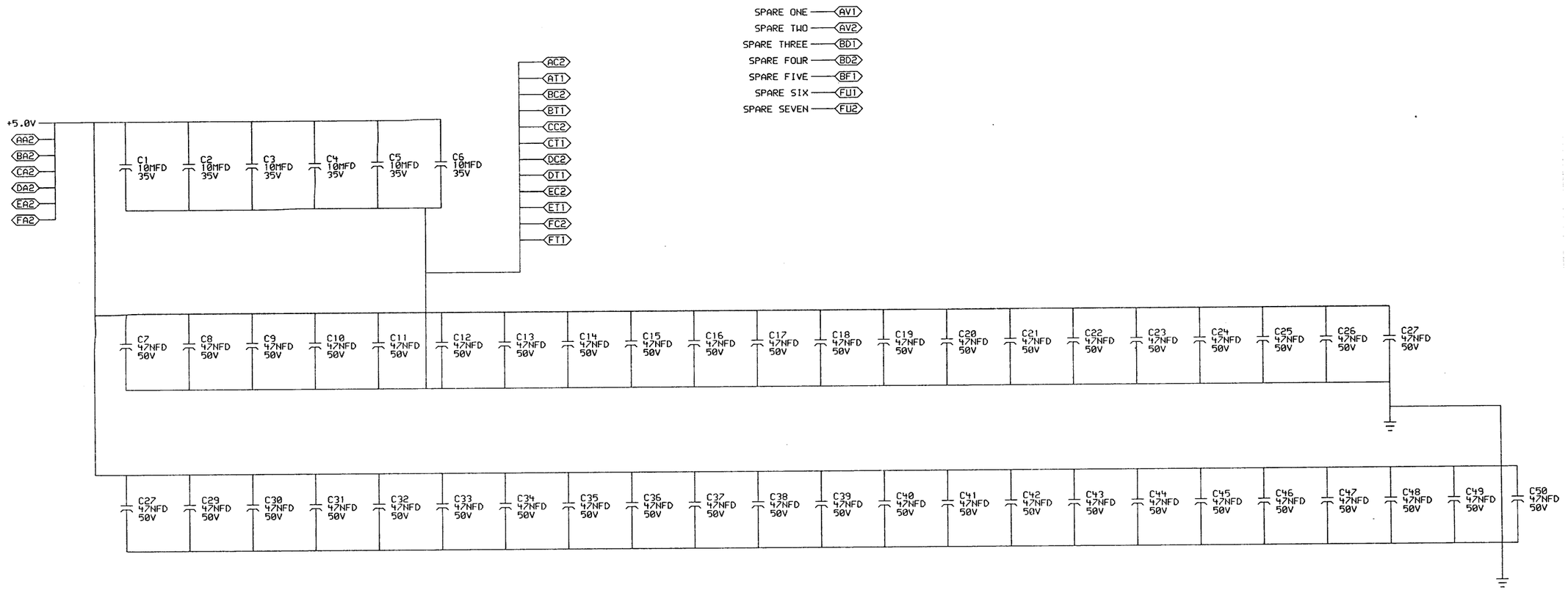
digital

DRN. | DATE 15-FEB-84 | ENG. | DATE
CHK'D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSKC:<DUVAL>V07.DRW | 15-FEB-84 10:39 | NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA | D-UA-M3111-0-0

TITLE: PAM BLOCK MOVER, SCANNER

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P15	B



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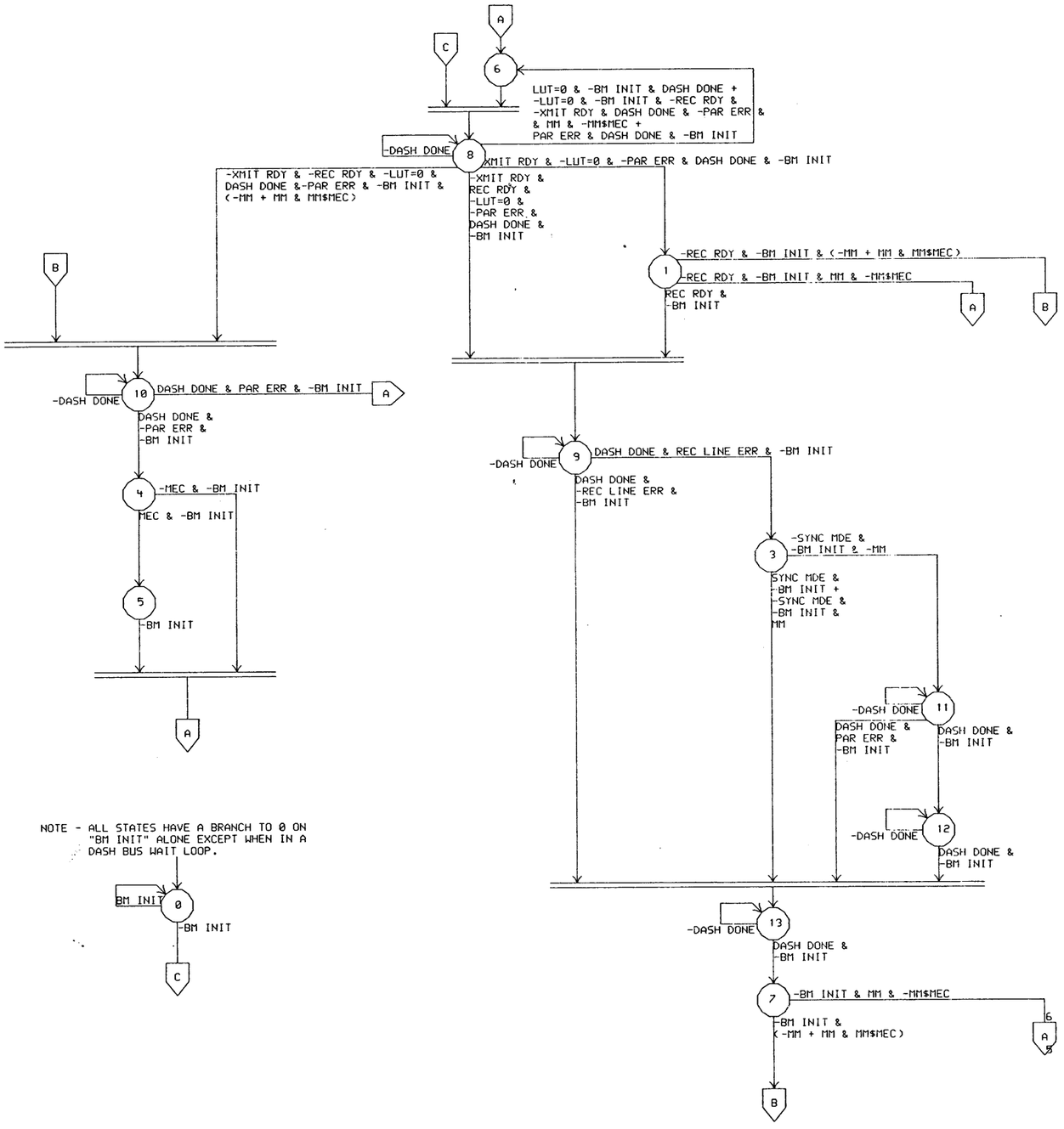
REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN.		DATE 29-OCT-82	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
CHK D. Cooper		DATE	BOARD LOCATION: AF2		
			SHEET 1 OF 1		
DSKD:<COOKE>V25.DRW	29-OCT-82 13:57		NEXT HIGHER ASSEMBLY:		
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3111-0-0		

SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P16	A

SIZE K | CODE CS | NUMBER M3111-0-P16 | REV. A



COMMENTS:

STATE 0: INIT STATE
THIS STATE DOES THE INIT
FOR THE SCANNER LOGIC

STATE 8: READ STATUS (#1001)
THIS STATE READS THE LINE
STATUS TO CHECK IF SERVICE
NEEDED.

STATE 9: READ RECV STATUS (#0001)
READS THE RECV STATUS REG
TO CHECK FOR RECV CHAR ERRORS

STATE 3: LOAD RECV ERR BITS
LOADS THE FIFO WITH THE CONTENTS
OF THE RECV STATUS REG. IF THERE
IS AN ERROR.

STATE 11: READ COMMAND REG. (#0011)
READ FOR A RMW OF THE LINE'S
COMMAND REG.

STATE 12: WRITE COMMAND REG. (#0011)
WRITES COMMAND REG. (NO PAR ERR)
SETTING BIT 5 (RESET ERROR)

STATE 13: READ RECV CHAR (#0000)
READ THE REC CHAR

STATE 7: LOAD RECV CHAR
LOADS THE RECV CHAR IN THE DATA
DATA FIFO AND THE LINE NUMBER IN
THE STATUS FIFO

STATE 1: LOAD XMIT FLAG
LOADS LINE NUMBER OF XMIT FLAG IN
STATUS FIFO

STATE 2: NOT USED

STATE 10: READ MON. EVENTS. (#1011)
READS THE MON. EVENTS REG ON THE
LINE ALSO READS OLD VALUE FROM RAM.

STATE 4: CHECK MEC
CHECKS OLD VALUE AGAINST NEW FOR
CHANGES ALSO WRITES RAM WITH NEW VALUE.

STATE 5: LOAD CHANGE DATA
LOADS FIFO WITH CHANGE DATA IF CHANGE

STATE 6: INCR CNTR
INCR. THE SCANNING CNTR TO POINT TO THE
NEXT LINE

REVISION HISTORY:
V.6 - SCM 4/1/82
V.7 - SCM 4/20/82

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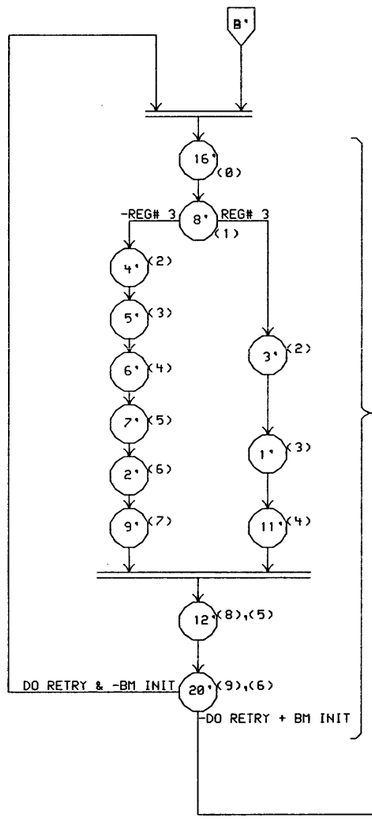
REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN.	DATE 20-DEC-83	ENG.	DATE	TITLE: SCANNER PLA STATE DIAGRAM
	CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKB:<DAME>SCANST.DRW 02-DEC-83 11:24			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P17 / REV. B
FIRST USED ON OPTION/MODEL: DECSA					

SIZE K | CODE CS | NUMBER M3111-0-P17 | REV. B

NOTES: -IN MAINT MODE ALL STATES ARE THE SAME
D/A IS ASSERTED OR NEGATED DEPENDING
THE ASSERTION OR NEGATION OF THE
DATA/ADRS WRAP BIT RESPECTIVELY.
FOR A DATA WRAP THE DATA FROM THE LAST
DASH BUS EXTERNAL WRITE IS WRAPED
AROUND. FOR AN ADDRESS WRAP THE ADDRESS
OF THE READ IS WRAPED AROUND.

DASH BUS CYCLE CONTROL

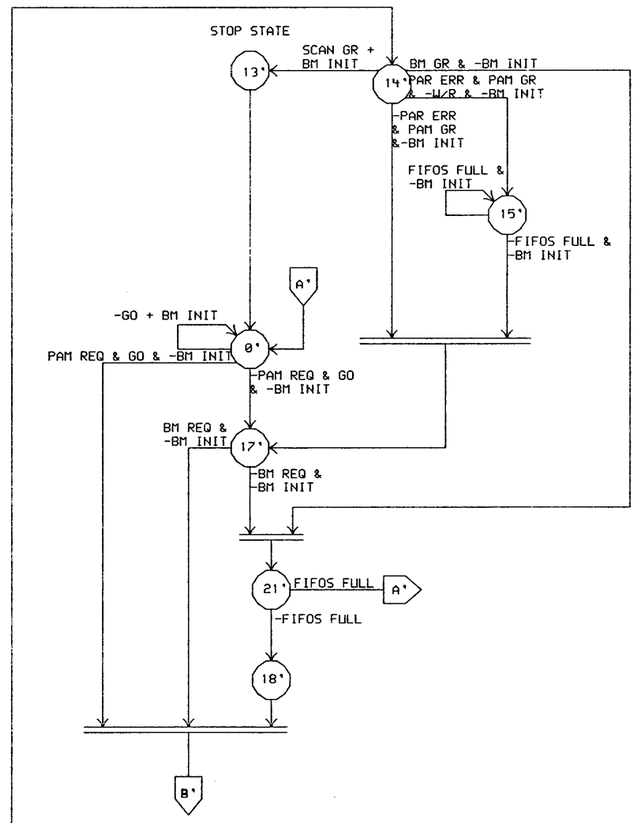


THESE STATES ARE THE DASH BUS CYCLE AND CANNOT BE INTERRUPTED BY BM INIT. THE NUMBERS IN PARENS CORROSPOND TO CLOCK CYCLES ON THE DASH TIMING DIAGRAMS THE LEFT SIDE ARE THE LONG CYCLES THE RIGHT SIDE ARE THE SHORT CYCLES

STATES 15',17', & 18'
BRANCH TO INIT (0')
IF "BM INIT" IS ASSERTED

A'

DASH BUS ARBITRATION



COMMENTS

STATE 0: INIT/IDLE STATE
LOOPS IN THIS STATE WHILE INIT OR DASH BUS CYCLE NOT REQESTED (NOT GO)

STATE 13: STOP STATE
STOP STATE IS ALWAYS PASSED THROUGH WHEN CYCLE(S) ARE DONE TO INFORM THE SCAN PLA THAT THE REQUEST FINISHED

STATE 14: LAST GRANT CHECK
CHECKS TO SEE WHO GOT SERVICED LAST (I.E. PAM,BLOCK MOVER OR SCANNER) AND GOES TO THE APPRORIATE STATE TO ARB. TO DETERMINE THE NEXT REQUESTOR TO GET SERVICE

STATE 15: PAR ERR LINE# LOAD
IN THE EVENT OF A PAM WRITE ACCESS PAR ERROR THIS STATE LOADS THE LINE NUMBER IN THE STATUS FIFO TO INFORM THE PAM OF THAT

STATE 8: DASH CYCLE LENGTH CHECK
THIS STATE BRANCHES TO DO A LONG OR SHORT DASH CYCLE DEPENDING ON THE REGISTER NUMBER MSB. IT IS ALSO CYCLE #1 IN ALL DASH CYCLES. (SEE NOTE AT LEFT FOR EXPLAINATION

STATE 17: BLOCK MOVER ARB.
THIS STATE ARBITRATES FOR THE BLCOK MOVER. IT IS ONLY ENTERED IF THE PAM DOES NOT WANT SERVICE OR HAS ALREADY HAD ONE DASH ACCESS THIS CYCLE. LEAVING THIS STATE SETS BLOCK MOVER GRANT IF THE BLOCK MOVER REQUESTED SERVICE.

STATE 18: SCANNER ARB.
AFTER PAM AND BLOCK MOVER HAVE HAD SERVICE, OR NEITHER HAVE REQUESTED SERVICE THIS STATE GRANTS THE SCANNER THE SERVICE IT ORIGINALLY REQUESTED

STATE 20: CHECK PAR ERR
LAST CYCLE IN DASH BUS ACCESS ALSO CHECKS IF A RETRY IS NEEDED AND HAS NOT BEEN DONE ONCE ALREADY (I.E. DO RETRY ASSERTED). ALSO CHECK IF AN INIT OCCURED DURING THE DASH BUS CYCLE

REVISION HISTORY:
++++++++++++++++
V.14 - SCM 4/8/82
V.15 - SCM 4/13/82

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REVISIONS		
CHK	CHANGE NO.	REV

digital

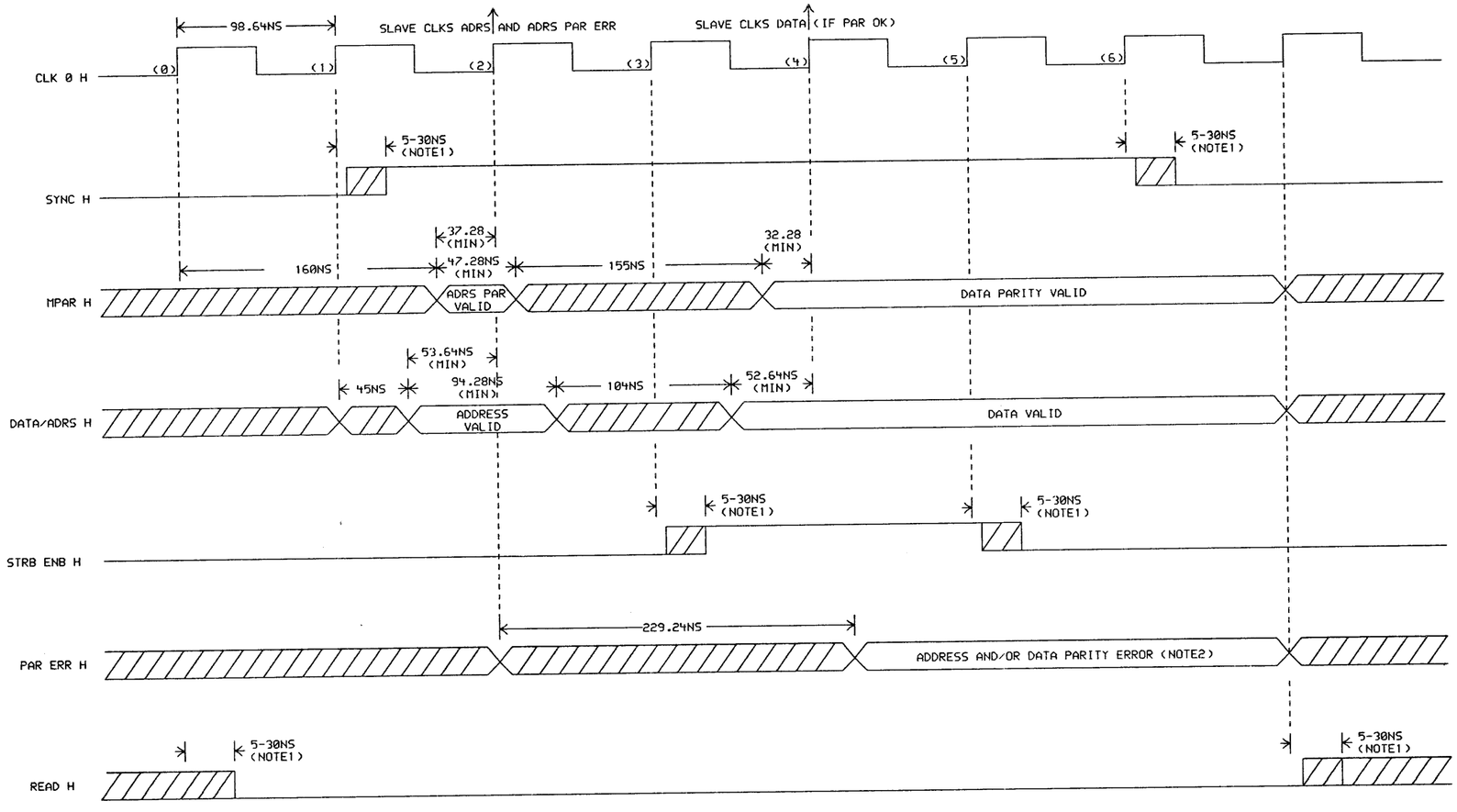
DRN.		DATE 10-FEB-84	ENG.	DATE	TITLE: DASH BUS PLA STATE DIAGRAM
CHK *D.		DATE	BOARD LOCATION:		
DSKC:<DUVAL>V05.DRW	18-FEB-84 09:04		SHEET 1 OF 1		
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P18 / REV. B

SIZE K | CODE CS | NUMBER M3111-0-P18 | REV. B

DASH BUS HARDWARE REGISTER WRITE CYCLE

(NOTE - ALL SIGNALS GENERATED AT MASTER ARE SHOW AT THE OUTPUT OF THE SLAVES RECEIVERS. ALL SIGNALS GENERATED BY THE SLAVE ARE SHOW AT THE INPUT TO THE SLAVES DRIVERS)

(NOTE - ALL TIMES ARE MAX TIMES UNLESS OTHERWISE SPECIFIED)



(NOTE1 - SYNC,DATA STRB ENB, READ, AND CLK 0 ARE IN THE SAME XCEIVER CHIP, KEEP EQUAL LOADING ON THE RECEIVER OUTPUT TO INSURE THERE WILL BE NO SKEW BETWEEN THESE SIGNALS SEE ELECTRICAL REQ. SEC. OF DASH BUS FUNC. SPEC.)

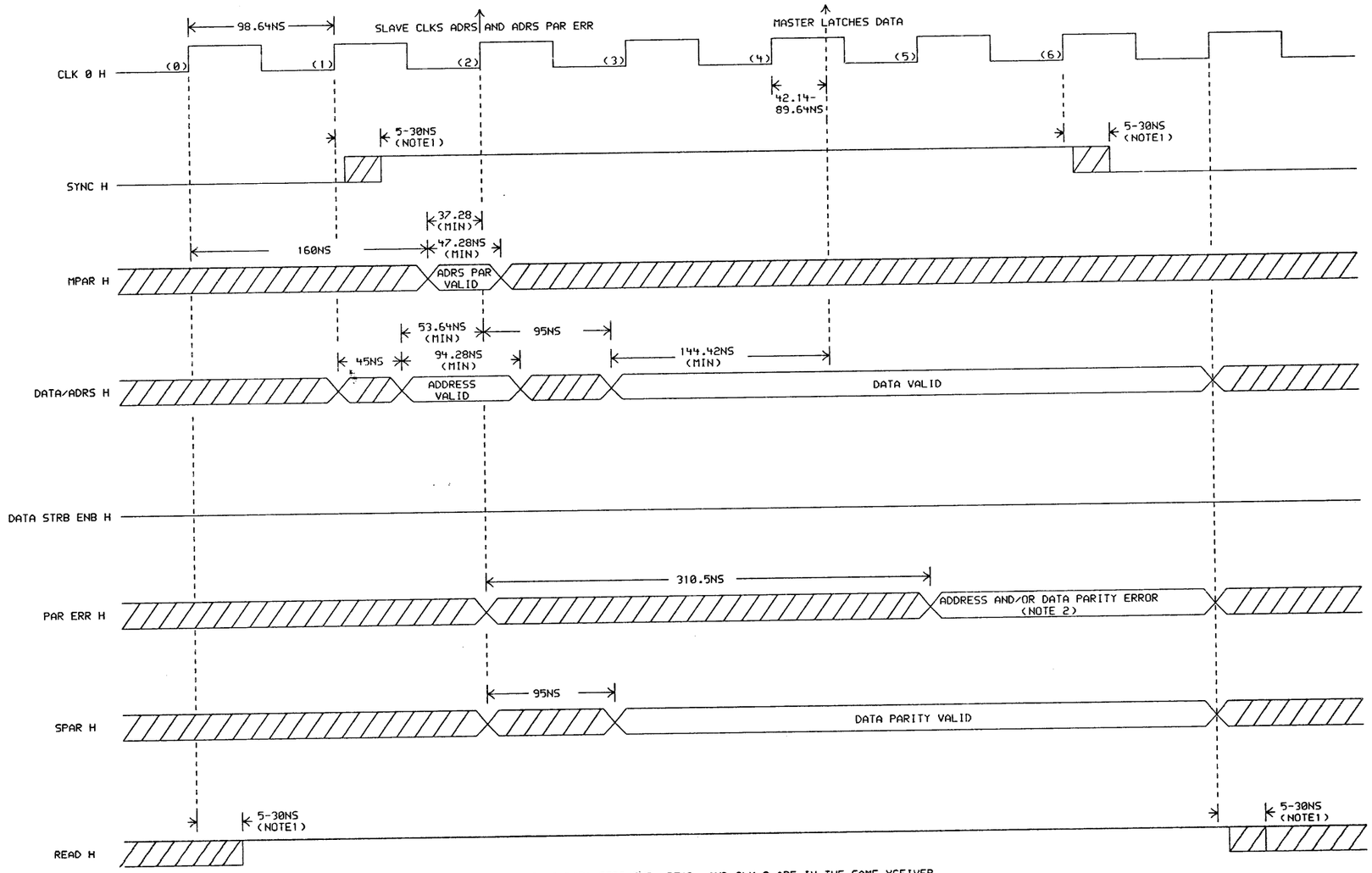
(NOTE2 - DATA OR ADDRESS PARITY ERROR SHOWN AT SLAVE AT LATEST TIME ALLOWED TO REPORT TO MASTER.)

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
	CHK'D.	DATE	BOARD LOCATION:		
DSKD:<MATHEW>LCDSH.DRW 02-NOV-82 10:25			SHEET 1 OF 1		SIZE K / CODE CS / NUMBER M3111-0-P19 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		

DASH BUS HARDWARE REGISTER READ CYCLE

(NOTE - ALL SIGNALS GENERATED AT MASTER ARE SHOW AT THE OUTPUT OF THE SLAVES RECEIVERS. ALL SIGNALS GENERATED BY THE SLAVE ARE SHOW AT THE INPUT TO THE SLAVES DRIVERS)

(NOTE - ALL TIMES ARE MAX TIMES UNLESS OTHERWISE SPECIFIED)



(NOTE1 - SYNC,DATA STRB ENB, READ, AND CLK 0 ARE IN THE SAME XCEIVER CHIP, KEEP EQUAL LOADING ON THE RECEIVER OUTPUT TO INSURE THERE WILL BE NO SKEW BETWEEN THESE SIGNALS SEE ELECTRICAL REQ. SEC. OF DASH BUS FUNC. SPEC.)

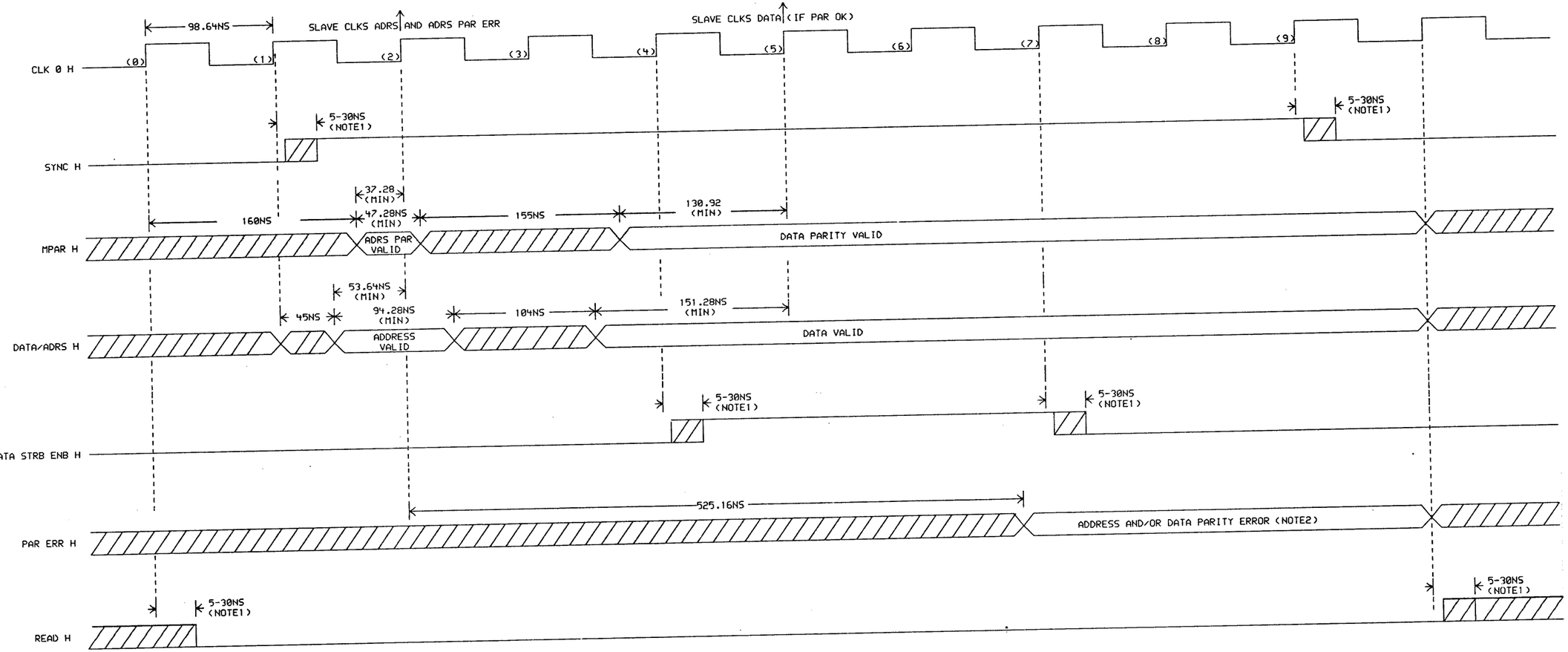
(NOTE2 - DATA PARITY ERROR SHOWN AT SLAVE AS REPORTED BY MASTER.)

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
	CHK'D.	DATE	BOARD LOCATION:		
DSKD:<MATHEW>LCDSR.DRW	02-NOV-82 10:24		SHEET 1 OF 1		
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P20 / REV. A

DASH BUS LSI REGISTER WRITE CYCLE

(NOTE - ALL SIGNALS GENERATED AT MASTER ARE SHOW AT THE OUTPUT OF THE SLAVES RECEIVERS. ALL SIGNALS GENERATED BY THE SLAVE ARE SHOW AT THE INPUT TO THE SLAVES DRIVERS)

(NOTE - ALL TIMES ARE MAX TIMES UNLESS OTHERWISE SPECIFIED)



(NOTE1 - SYNC,DATA STRB ENB, READ, AND CLK 0 ARE IN THE SAME XCEIVER CHIP, KEEP EQUAL LOADING ON THE RECEIVER OUTPUT TO INSURE THERE WILL BE NO SKEW BETWEEN THESE SIGNALS SEE ELECTRICAL REQ. SEC. OF DASH BUS FUNC. SPEC.)

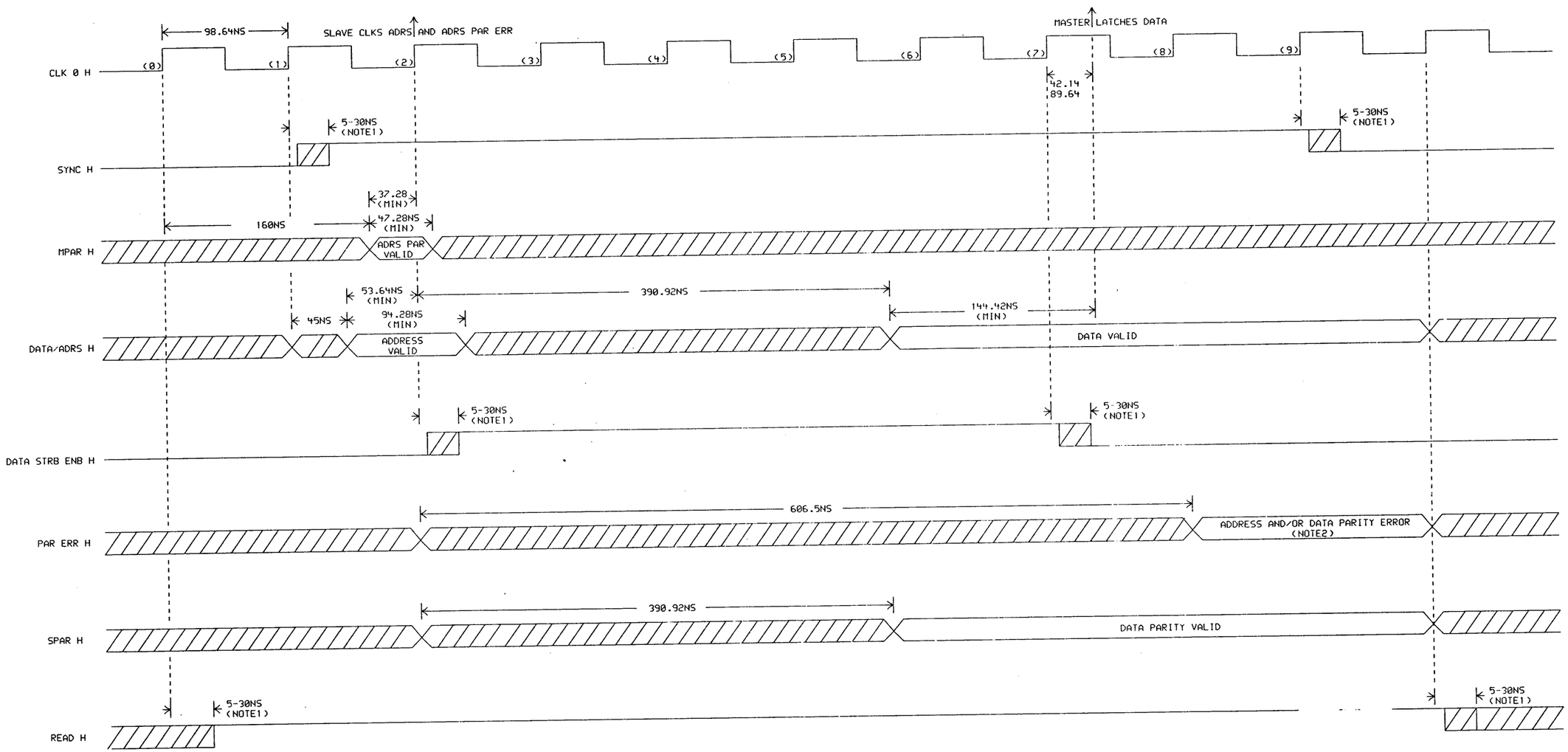
(NOTE2 - DATA OR ADDRESS PARITY ERROR SHOWN AT SLAVE AT LATEST TIME ALLOWED TO REPORT TO MASTER.)

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
	CHK'D.	DATE	BOARD LOCATION:		
DSKD:<MATHEW>LCDLW.DRW 02-NOV-82 10:23			SHEET 1 OF 1		SIZE K / CODE CS / NUMBER M3111-0-P21 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		

DASH BUS LSI REGISTER READ CYCLE

(NOTE - ALL SIGNALS GENERATED AT MASTER ARE SHOW AT THE OUTPUT OF THE SLAVES RECEIVERS. ALL SIGNALS GENERATED BY THE SLAVE ARE SHOW AT THE INPUT TO THE SLAVES DRIVERS)

(NOTE - ALL TIMES ARE MAX TIMES UNLESS OTHERWISE SPECIFIED)



(NOTE1 - SYNC,DATA STRB ENB, READ, AND CLK 0 ARE IN THE SAME XCEIVER CHIP, KEEP EQUAL LOADING ON THE RECEIVER OUTPUT TO INSURE THERE WILL BE NO SKEW BETWEEN THESE SIGNALS SEE ELECTRICAL REQ. SEC. OF DASH BUS FUNC. SPEC.)

(NOTE2 - DATA PARITY ERROR SHOWN AT SLAVE AS REPORTED BY MASTER.)

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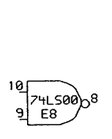
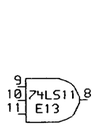
REVISIONS		
CHK	CHANGE NO.	REV

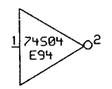
digital

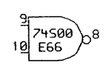
DRN.		DATE 20-DEC-83	ENG.	DATE	TITLE: PROTOCOL ASSIST BM SCANNER
CHK'D.		DATE	BOARD LOCATION:		
DSKB:<DAME>LCDLR.DRW	02-DEC-83 11:38		SHEET 1 OF 1		
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P22 / REV. B

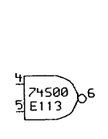
SIZE K | CODE CS | NUMBER M3111-0-P22 | REV. B

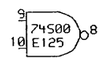


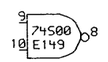


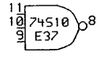


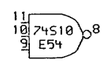


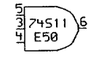


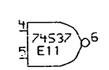


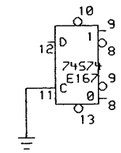


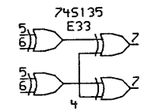


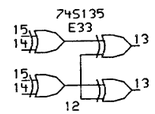


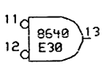












SIZE	CODE	NUMBER	REV.
K	CS	M3111-0-P23	B

REVISIONS		
CHK	CHANGE NO.	REV
FZC	MK007	B

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digital

DRN. WEAVER	DATE 18-APR-85	ENG. J.C.TREMBLAY	DATE 18-APR-85	TITLE: PROTOCOL ASSIST BM SCANNER	
CHK'D. F.CARBONE	DATE 18-APR-85	BOARD LOCATION: AE7			
XTRA:<DENSMORE>V26D.DRW 18-APR-85 05:11		SHEET 1 OF 1			
FIRST USED ON OPTION/MODEL: DECSA		NEXT HIGHER ASSEMBLY: D-UA-M3111-0-0		SIZE K / CODE CS / NUMBER M3111-0-P23 / REV. B	

MKO

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS					
						A1	B1	C1	D1	D2	D3
1			M3112-00	MODULE REV		A	B	C	D	E	E
2	D-UA-M3112-0-0	3		DECSA CONSOLE		A	B	C	D	E	F
3	K-PL-M3112-0-0	3		DECSA CONSOLE		A	A	B	C	C	C
4	D-EC-5014994-0-0	2		ETCH CUT DRAWING		A	A	A	B	B	B
5	D-MD-5014994-0-0	3		DRILL & ETCH DRAWING		B	B	B	C1	C1	C1
6			5014994	ETCHED BOARD		A	A	A	A	A	A
7	K-CS-M3112-0-K1	1		CONSOLE, COOT TERM.		A	A	A	A	A	A
8	K-CS-M3112-0-K2	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
9	K-CS-M3112-0-K3	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
10	K-CS-M3112-0-K4	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
11	K-CS-M3112-0-K5	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
12	K-CS-M3112-0-K6	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
13	K-CS-M3112-0-K7	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
14	K-CS-M3112-0-K8	1		CONSOLE, BOOT TERM.		A	B	B	C	C	C
15	K-CS-M3112-0-K9	1		CONSOLE, BOOT TERM.		A	A	A	B	B	B
16	K-CS-M3112-0-K10	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
17	K-CS-M3112-0-K11	1		CONSOLE, BOOT TERM.		A	A	A	A	A	A
18	K-CS-M3112-0-K12	1		CONSOLE, BOOT TERM.		A	A	A	B	B	C
19	K-PC-M3112-0-DBI			PC DATA BASE		A	B	B	C	C	C
20	K-CS-M3112-0-DBS			CS DATA BASE		B	B	C	D	D	E
21	K-CS-M3112-0-K13	1		CONSOLE, BOOT TERM.		A	B	C	A	A	B

NOTES:

	DD REV	A	B	C	D	E	F

REVISION HISTORY

ENG	ECO NUMBER	REV
	M3112-TW001	B
	M3112-TW002	C
	M3112-TW003	D
ML	M3112-MK004	E
ML	M3112-MK005	F

CONT. REVISION HISTORY

ENG	ECO NUMBER	REV

MADE BY: T. WALSH
DATE: 19 OCT 82

CHECKED BY: T. WALSH
DATE: 01 NOV 82

DESIGN ENGINEER: M. LAWRENCE
DATE: 01 APR 85

RESPONSIBLE ENG: M. LAWRENCE
DATE: 01 APR 85 J.C. Treadway 3-22-85

PRODUCTION ENG: W. BROOKE
DATE: 01 APR 85

d i g i t a l

TITLE DRAWING DIRECTORY

DECSA CONSOLE

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3112-0	F

SHEET 1 OF 1 MIO

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15.69 (398.53 MM) REF.

COMPONENT SIDE VIEW

45 REF

8.41 (213.61) MM REF.

SEE NOTE 5

SEE NOTE 5

SEE NOTE 4

42

SEE NOTE 3

J2 S1 S2 S4 XS2 XS4 XE22 XE46 TH1 TH2

E29 E22

E1 E2 E3 E4 E5 E6 E7 E8 E9 E10 E11 E12 E13 E14 E15 E16 E17 E18 E19 E20 E21 E23 E24 E25 E26 E27 E28 E30 E31 E32 E33 E34 E35 E36 E37 E38 E39 E40 E41 E42 E43 E44 E45 E47 E48 E49 E50 E51 E53 E54 E55 E56 E58 E59 E60 E62 E63 E64 E65 E67 E68 E69 E70 E71 E72 E73 E75 E76 E77 E78 E80 E81 E82 E83 E84

Q1 Q2 Q3 Q4 Q5

D1 D2 D3 D4 D5 D6 D7 D8 D10 D14 D16 D18 D20 D22 D24 D26

R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R22 R23 R24 R25 R26 R27 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41 R42 R43 R44 R45 R46

C1 C2 C3 C4 C5 C6 C7 C8 C10 C12 C14 C16 C18 C20 C21 C22 C24 C26 C28 C30 C31 C34 C36 C38 C40 C41 C42 C44 C45 C46 C48

SPARE

F E D C B A

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

CHK	DRAWN BY	ENGINEER	CHANGE NO	DATE	REV
JF	A.KRAWIECKI	J.BUZYNSKI	M3112-MK3	14-MAY-84	D
AC	A.KRAWIECKI	M.L.	MK004	02-APR-85	E

CHK	DRAWN BY	ENGINEER	CHANGE NO	DATE	REV

NOTES:
1. LED SHOULD NOT PROTRUDE BEYOND HANDLE.
2. PIN 1 IS ON SAME SIDE AS DATE CODE & VENDOR IDENTICATION. IDENTIFICATION NUMBERS SHOULD FACE MODULE.
3. E1 IS A SPARE LOCATION.
4. D26, D25 ARE MOUNTED IN S2 AND S4 RESPECTIVELY.
5. R38, E46 NOT NORMALLY INSERTED.

STEP E	↑ Y AXIS ___	STEP ___ TIMES
REPEAT	→ X AXIS ___	STEP ___ TIMES

ETCH REV. C1-P2

SIGNATURES	DATE
DRN. A. KRAWIECKI	MAR-84
CHK D. Lashevsky	MAR-84
MECH. ENG	5-15-84
PROJ. ENG	5-15-84
PROD. Bill Swan	5-15-84

digital

TITLE
DESCA CONSOLE

SCALE 2/1

SIZE	CODE	NUMBER	REV
D	UA	M3112-0-0	E

SHT. 1 OF 2

NEXT HIGHER ASSY. K-DD-M3112-0

MKO 1 WO# 302331

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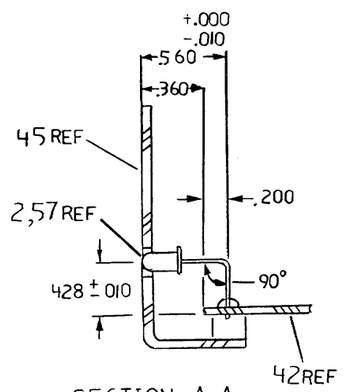
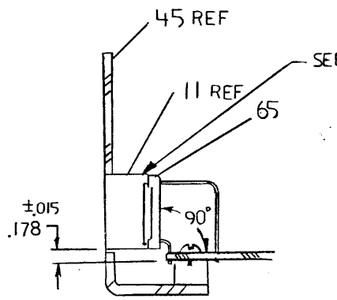
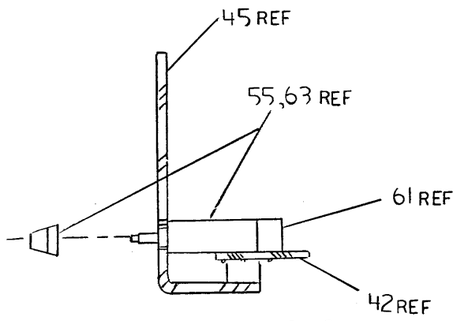


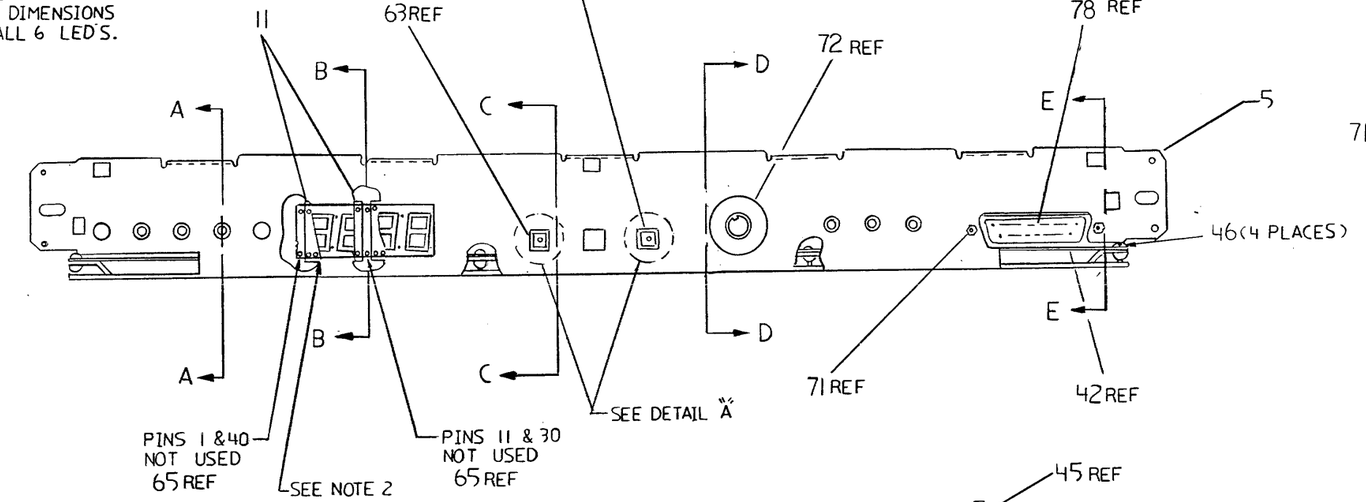
SECTION A-A
SCALE: NONE
NOTE: SAME DIMENSIONS FOR ALL 6 LED'S.

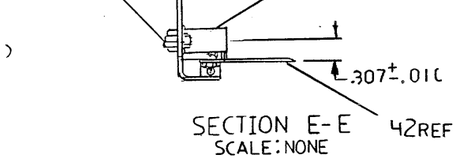


SECTION B-B 42 REF
SCALE: NONE

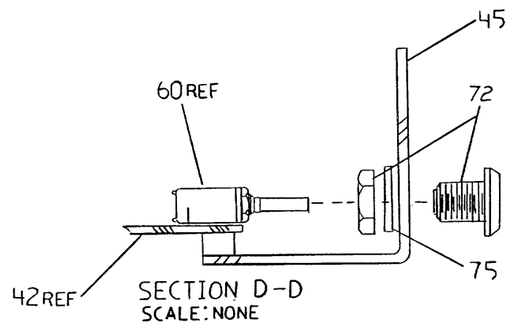


SECTION C-C
SCALE: NONE

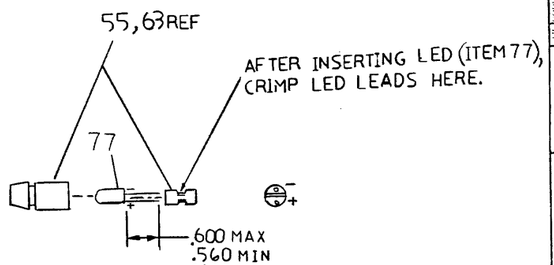




SECTION E-E
SCALE: NONE



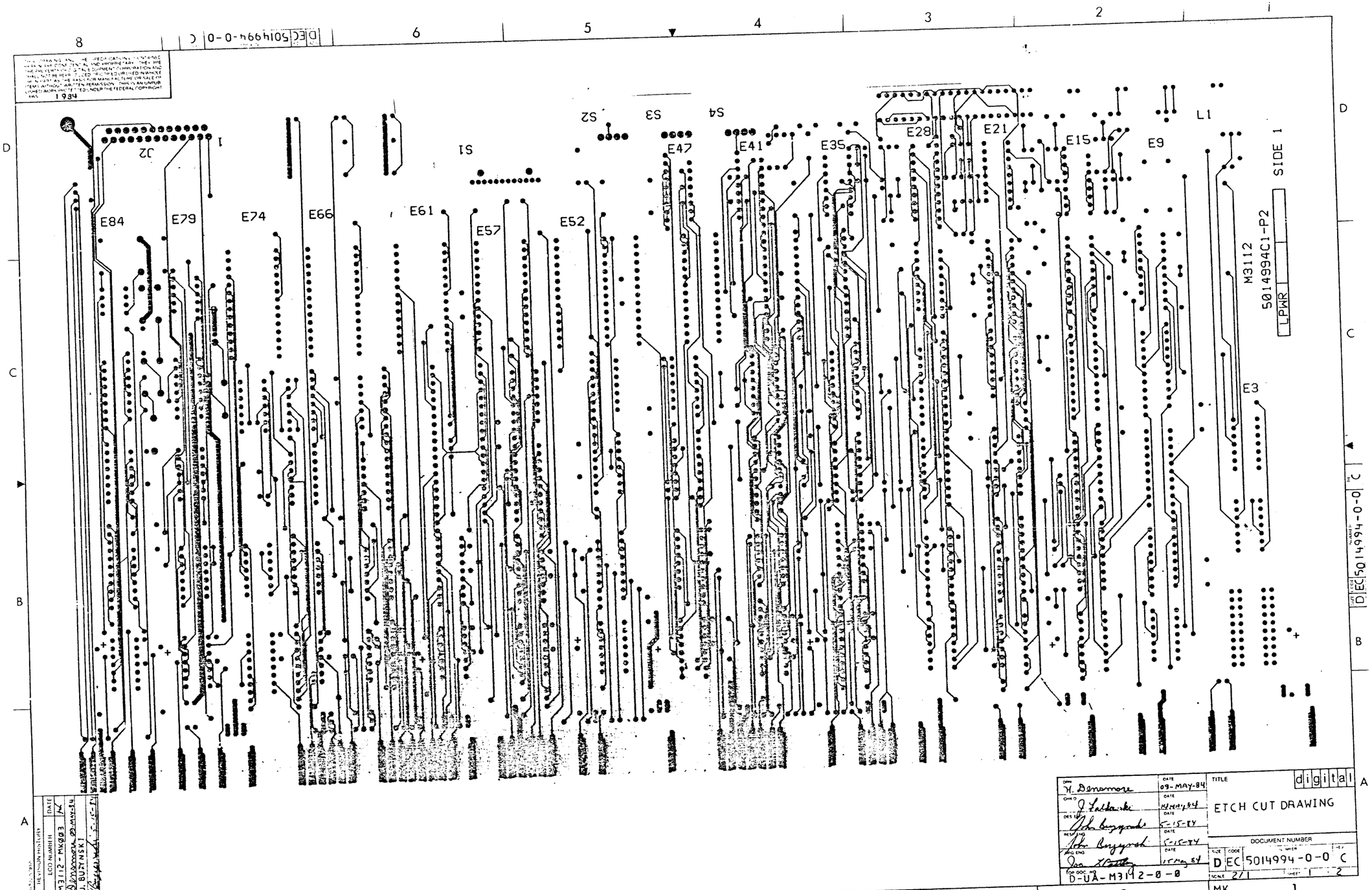
SECTION D-D
SCALE: NONE



DETAIL "A"
SCALE: NONE

REVISION HISTORY		
DATE	ECO NUMBER	REV

TITLE	DOCUMENT NUMBER		
DECSA CONSOLE	SIZE D / CODE UA / NUMBER M3112-0-0	REV E	
	SCALE 1:1	SHEET 2 OF 2	MKO


J2
E84
E79
E74
E66
E61
E57
E52
S1
S2
S3
S4
E47
E41
E35
E28
E21
E15
E9
L1
E3
SIDE 1
M3112
5014994C1-P2
LPWR
DEC 5014994-0-0 C
DEC 5014994-0-0 B
DRO 10GM
EN-01283-16-REV81966
REVISION HISTORY
REV
ECO NUMBER
DATE
C
M3112-MK003
14-MAY-84
H. Benamou 09-MAY-84
J. BURTNSKI
DRN H. Benamou 09-MAY-84
CHK'D J Latkanski 14-MAY-84
DES ENG John Bugynski 5-15-84
REL ENG John Bugynski 5-15-84
MFG ENG Jon Kelly 15-May-84
TOP DOC. NO D-UA-M3112-0-0
TITLE digital
ETCH CUT DRAWING
DOCUMENT NUMBER
SIZE D CODE EC 5014994-0-0 REV C
SCALE 2/1 SHEET 1 OF 2
MK

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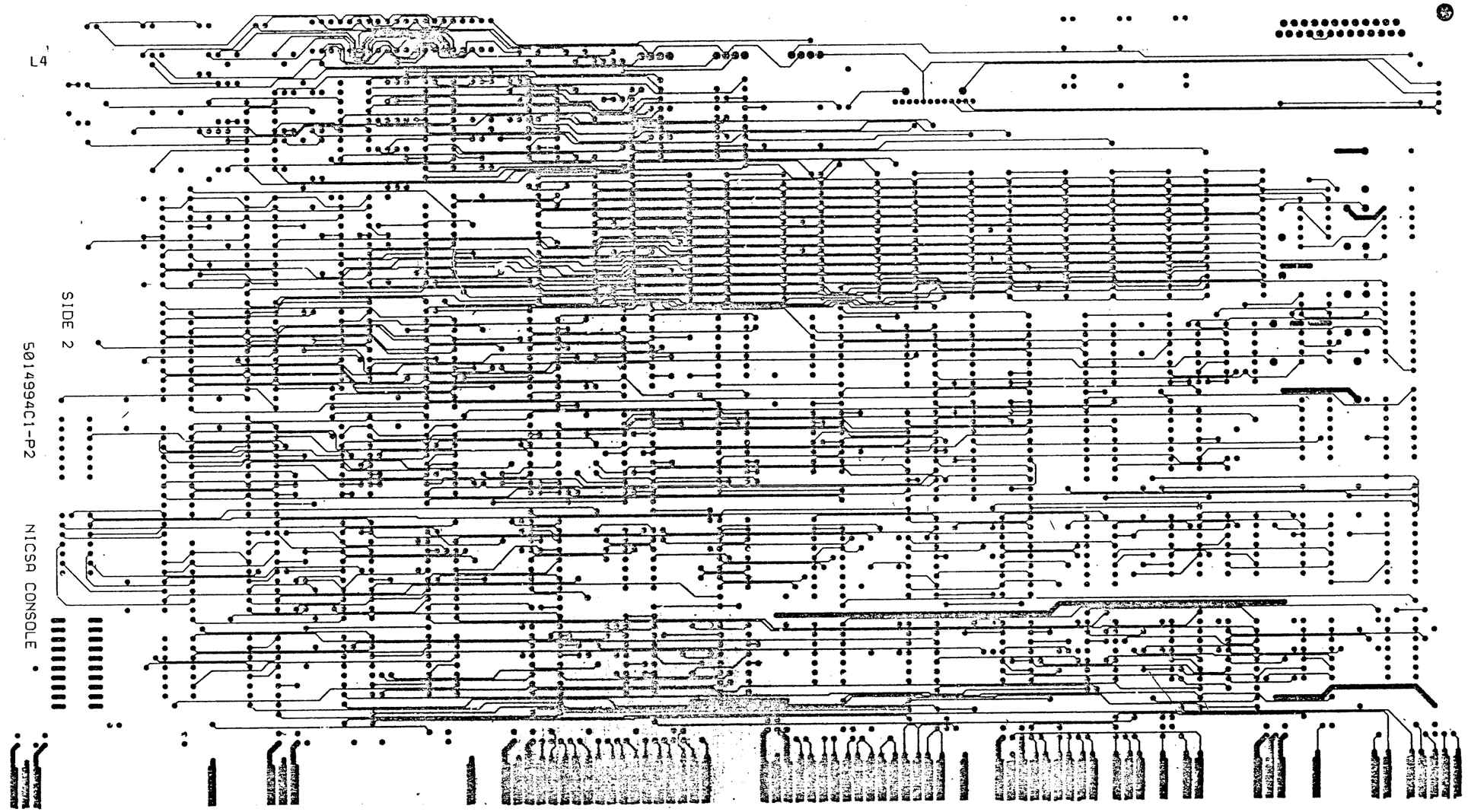
1984



REVISION HISTORY		
REV	ECO #	DATE

TITLE	DOCUMENT NUMBER		
ETCH CUT DRAWING	SIZE	CODE / NUMBER	REV
	D	EC 5014994-0-0	C
	SCALE 2/1	SHEET 2 OF 2	

MK

DEC 5014994-0-0 C

AUTOMATED BY VAXKPL (V1.1)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VAR/REV 00	QTY PER VAR/REV D2	REFERENCE DESIGNATORS
1	42	D-MD-5014994-0-0	50-14994-00		NISCA CONSOLE	1		
2	55		10-12784-00		.047 MFD 50V +80-20% CER	38		C1,C2,C9-C44
3	59		10-17472-00		10 MFD 35V +75-10% AL EL	8		C3-C8,C45,C46
4	1		11-01938-00		VZ= 2.4 5% 400 MW 1N4370A	5		D1-D5
5	3		11-05796-00		PIV= 400 IO= 1.00A 1N4004 DO-41	8		D17-D24
6	2		11-10324-01		LED 1MCD@10MA PIV=3 .750 MIN. LE	3		D6-D8
7	57		11-14384-00		LED 105MW 35MA GREEN	2		D14,D16
8	54		12-15006-07		SKT,IC 28PIN DIP TIN SOLD	1		XE46
9	64	#BLANK			*** THIS ITEM IS NOT USED ***	-		
10	63		12-18945-02		SW,PB,LT 1PST NO-MAINTAIN .25A	1		S4
11	61		12-19918-01		SKT,SWITCH 4PIN RT ANGLE	2		XS2,XS4
12	65		12-19919-01		SKT,IC 40PIN DIP GOLD PLATE	1		XE22
13	60		12-20006-01		SW,ROT 2P 4POS	1		S1
14	53		13-00005-01		R NETWORK 13-1K 5.0 % 14PIN	1		E37
15	35		13-00229-00		100.0 .25 W 5.0 % CF	3		R12,R36,R37
16	39		13-00316-00		470.0 .25 W 5.0 % CF	3		R31,R32,R34
17	17		13-00365-00		1.0 K .25 W 5.0 % CF	16		R1-R11,R33,R35,R41-R43
18	36		13-00447-00		4.70 K .25 W 5.0 % CF	5		R13,R15,R17,R19,R29
19	38		13-01522-00		27.0 .25 W 5.0 % CF	8		R21-R28
20	37		13-02377-00		39.0 .25 W 5.0 % CF	5		R14,R16,R18,R20,R30
21	40	BLANK	13-03312-00		*** THIS ITEM IS NOT USED ***	-		
22	41		13-09417-00		27.40 K .25 W 1.0 % RN55D-F10	2		R39,R40
23	52		13-11003-01		R NETWORK 14-180 14-390 16PIN	4		E31,E43,E59,E71
24	51		15-09649-01		3762 PNP 4W SI 40 35	5		Q1-Q5
25	50		18-11660-23		OSCILLATOR, XTAL 5.5296 MHZ	1		E9
26	31		19-09705-00		DEC 8881 NAND GATE-QUAD 2IN O	1		E80
27	49		19-10544-01		74S74-60GG-D DUAL,EDGE TRIG	1		E50
28	23		19-11469-00		DEC 8640 RECEIVER,BUS,QUAD,UN	6		E53,E54,E58,E62,E67,E75
29	13		19-11579-00		/REPLACED BY 19-14987-00	4		E24,E30,E36,E42
30	10		19-11675-00		74S138 DECODER/DEMUX 3-8 LI	1		E21
31	9		19-12646-00		LS253 MUX 1 OF 4 (DUAL)	8		E8,E10,E11,E14,E18-E20,E25
32	16		19-12661-00		74S189 MEMORY READ/WRITE	2		E33,E39

REVISION HISTORY		
ENG	ECO NUMBER	REV
	INITIAL	A
JB	M3112-TW001	B
JB	M3112-MK002	C
JB	M3112-MK003	D
ML	M3112-MK004	E
JB	M3112-MK005	F

KPL MODULE FORMAT | SECTION A OF A

SECTION/VARIATION INDEX

[A]	00	[M]	
[B]		[N]	
[C]		[P]	
[D]		[Q]	
[E]		[R]	
[F]		[S]	
[H]		[T]	
[J]		[V]	
[K]		[W]	
[L]		[Y]	

DRN: B.DEMPSKI
DATE: 11-JUN-82

CHK'D: F.GAROFALO
DATE: 11-JUN-82

DES.ENG: J.WEAVER
DATE: 11-JUN-82 3-19-86
J.L. Tremblay

RESP.ENG.: J.BUZYNSKI
DATE: 02-APR-85 3-19-86
J.C. Tremblay

MFG.ENG: W.BROOKE
DATE: 02-APR-85

D I G I T A L

TITLE PARTS LIST
DECSA CONSOLE

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV
K	PL	M3112-0-0	F

RELEASE DATE: 13-MAR-86
RELEASE STATUS: RELEASED

BASIC PART NUMBER:	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
M3112	D-UA-M3112-0-0	K-DD-M3112-0	MK1094.PLS	1

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AUTOMATED BY VAXKPL (V1.1)

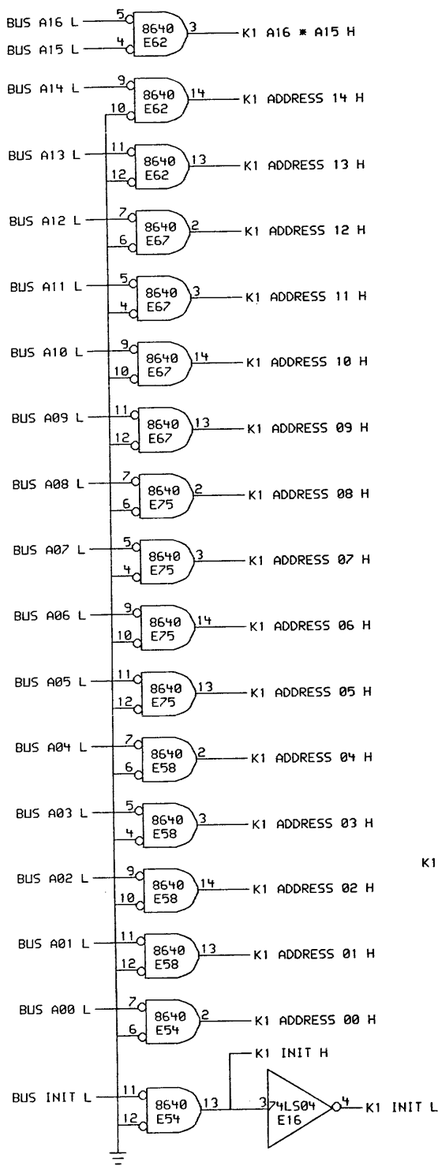
P A R T S L I S T

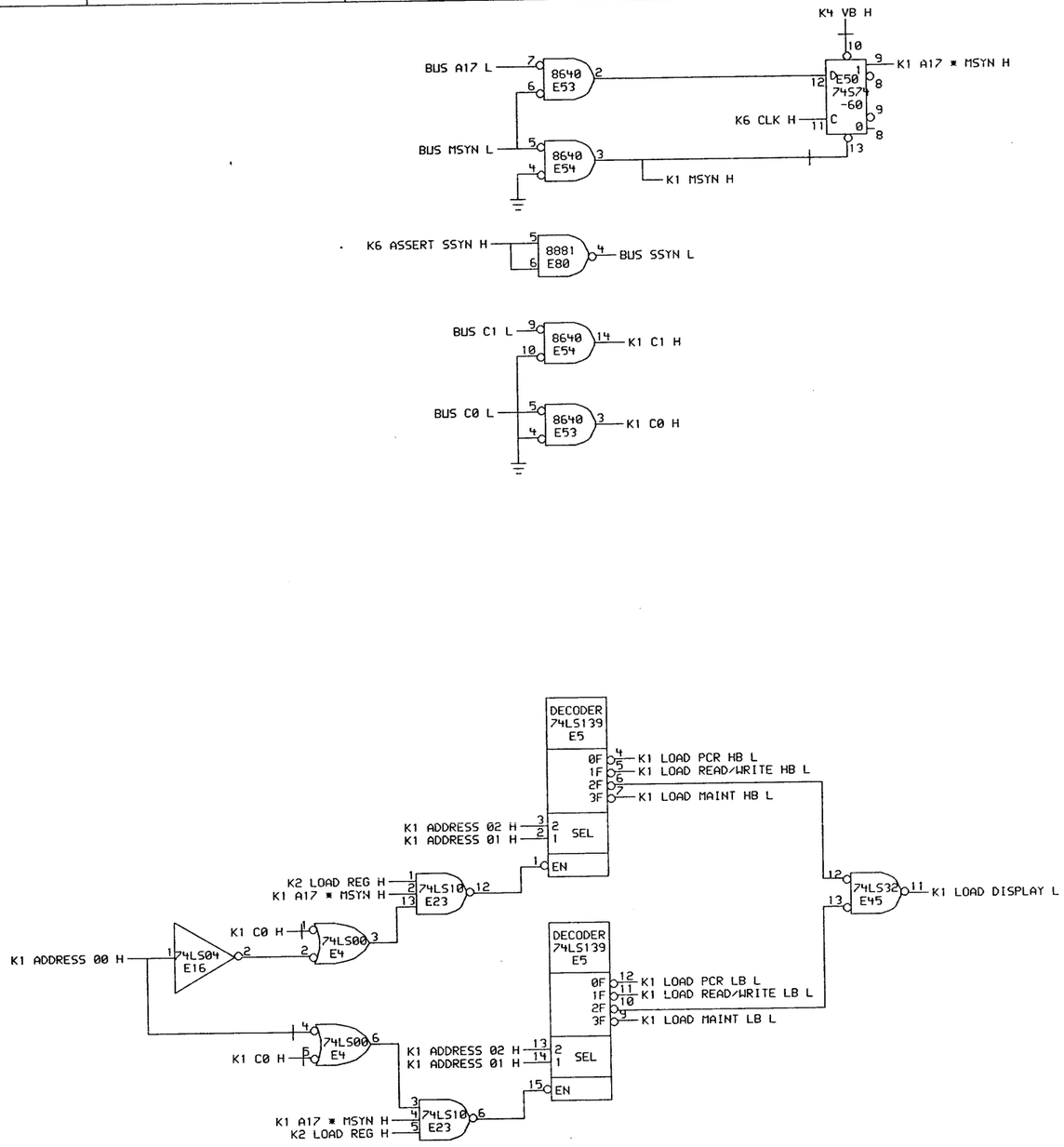
LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV		DESCRIPTION	QTY PER VAR/REV 00 02	REFERENCE DESIGNATORS
33	6		19-12799-00		LS00	NAND-GATE-QUAD 2IN,P	2	E4,E15
34	4		19-12803-00		LS04	INVERTER GATE,HEX	3	E2,E16,E56
35	27		19-12805-00		LS08	AND GATE-QUAD 2IN,PO	2	E65,E73
36	12		19-12807-00		LS10	NAND GATE-TRIPLE 3IN	2	E23,E51
37	48		19-12808-00		LS11	AND GATE-TRIPLE 3IN	1	E63
38	26		19-12810-00		LS20	NAND GATE-DUAL 4IN	1	E64
39	28		19-12811-00		LS21	AND GATE-DUAL 4IN,PO	3	E68,E72,E77
40	47		19-12813-00		LS27	NOR GATE-TRIPLE 3IN	1	E76
41	20		19-12816-00		LS32	OR GATE-QUAD 2IN,POS	4	E45,E48,E69,E70
42	33		19-12824-00		LS74	FF-D DUAL,EDGE TRIGG	1	E82
43	7		19-12843-00		LS139	DECODER, 2 OF 4(DUAL	2	E5,E41
44	14		19-12847-00		LS157	MUX 1 OF 2(QUAD)	3	E27,E32,E35
45	21		19-12851-00		LS169	COUNTER,SYNCH. UP/DO	1	E47
46	32		19-12853-00		LS175	FF-D QUAD	2	E81,E83
47	8		19-12863-00		LS273	FF-D OCTAL W/CLEAR	6	E6,E7,E12,E13,E17,E26
48	5		19-13414-00		LS14	INVERTER GATE-HEX SC	1	E3
49	11		19-13478-00	MAN	6710	SEGMENT DISPLAY LED,	2	E22,E29
50	15		19-13493-00		74S241	OCTAL BUFFER,TRI-STA	1	E28
51	19		19-13939-00		LS191	COUNTER,SYNCHR. UP/D	1	E44
52	24		19-14214-00		LS374	FF-D OCTAL EDGE TRIG	1	E55
53	22		19-14451-00		LS393	COUNTER,BINARY,4BIT	1	E49
54	18		19-15193-00		LS244	DRIVER,LINE,OCTAL,TR	1	E38
55	34		19-15415-00		9636	DRIVER,DUAL,EIA RS-4	1	E84
56	30		19-19542-01		9639	RECEIVER,LINE,DUAL	1	E79
57	25		21-17312-00			UART DL-11 SOFTWARE	1	E60
58	29		21-19305-01		201	SWITCH,ANALOG,QUAD	1	E78
59	46		90-08301-01			SCREW,MACH PAN PHIL 4-	4	
60	45		70-19151-00			CBT HANDLE ASSY.	1	
61	44	#BLANK				*** THIS ITEM IS NOT USED ***	-	
62	43		90-09185-00			JUMPER, WIRE, INSULATED, BLACK 8	4	W1-W4
63	55		12-18945-06			SW,PB,LT 1PST NO-MOMENTARY .25A	1	S2
64	56	#BLANK	12-09941-02			*** THIS ITEM IS NOT USED ***	-	
65	62		12-20449-01			*** THIS ITEM IS NOT USED ***	-	
66	66	#BLANK	11-19827-01			*** THIS ITEM IS NOT USED ***	-	
67	67	#BLANK				*** THIS ITEM IS NOT USED ***	-	
68	68	#BLANK				*** THIS ITEM IS NOT USED ***	-	
69	69	#BLANK	91-05740-55			*** THIS ITEM IS NOT USED ***	-	
70	70	#BLANK	91-07688-55			*** THIS ITEM IS NOT USED ***	-	
71	71		90-08451-01			SCREW LOCK,STANDOFF ONLY .060TH	2	
72	72		12-16178-06			LOCK,PLASTIC 3POS ASSY	1	
73	73		23-112E4-00			E4-01,E4-02,E4-03,E4-06,E4-07ROM	1	E34
74	74		23-113E4-00			E4-01,E4-02,E4-03,E4-06,E4-07ROM	1	E40
75	75		90-09750-00			O-RING, RUBBER, .94 OD X .75 ID	1	
76	76	#BLANK	91-07776-55			*** THIS ITEM IS NOT USED ***	-	
77	77		11-24447-01			LED 1.5MCD@20MA RED T1 .100CC	2	D25,D26
78	78		12-20398-07			CONN,D SUB 25PIN ASSY RT ANGLE	1	J2
79	79	SEE NOTE 3	23-421E4-00			E4-06,E4-11 U REF		
80	80					*** THIS ITEM IS NOT USED ***	-	
81	81					*** THIS ITEM IS NOT USED ***	-	

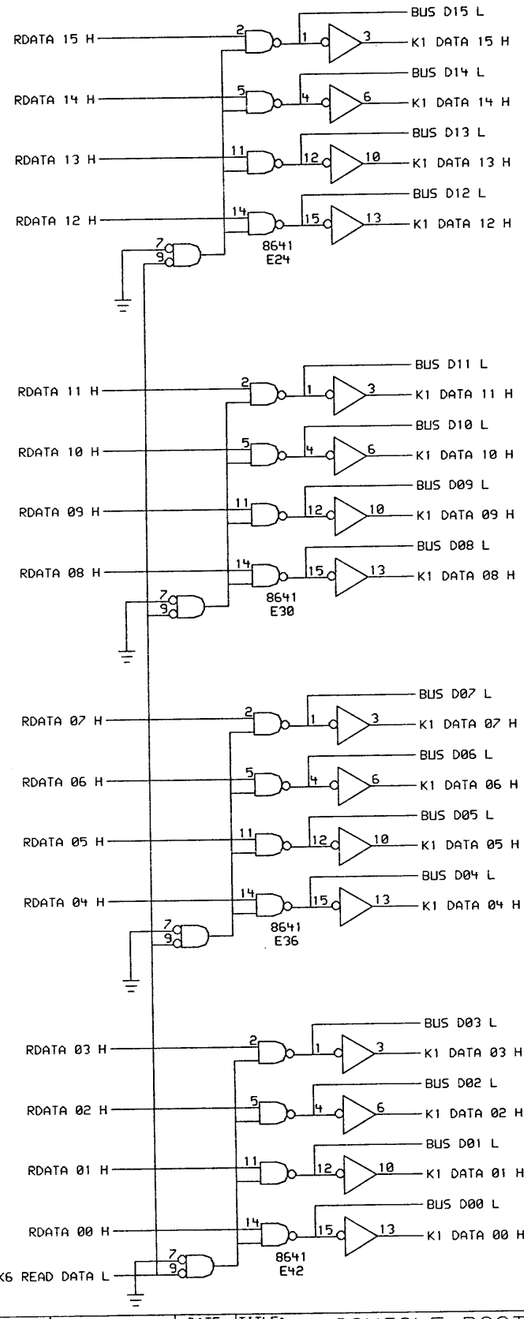
DIGITAL	TITLE	SIZE	CODE	DOCUMENT NUMBER	REV
	DECSA CONSOLE SECTION A OF A	K	PL	M3112-0-0	F

LINE ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VAR/REV 00 D2	REFERENCE DESIGNATORS

1 GEN: NOTE 1. R38 AND E46 ARE NOT NORMALLY INSERTED.
2 GEN: NOTE 2. E1 IS A SPARE IC LOCATION.
3 GEN: NOTE 3. LINE 79 E46 IS FOR MANUFACTURING USE ONLY.

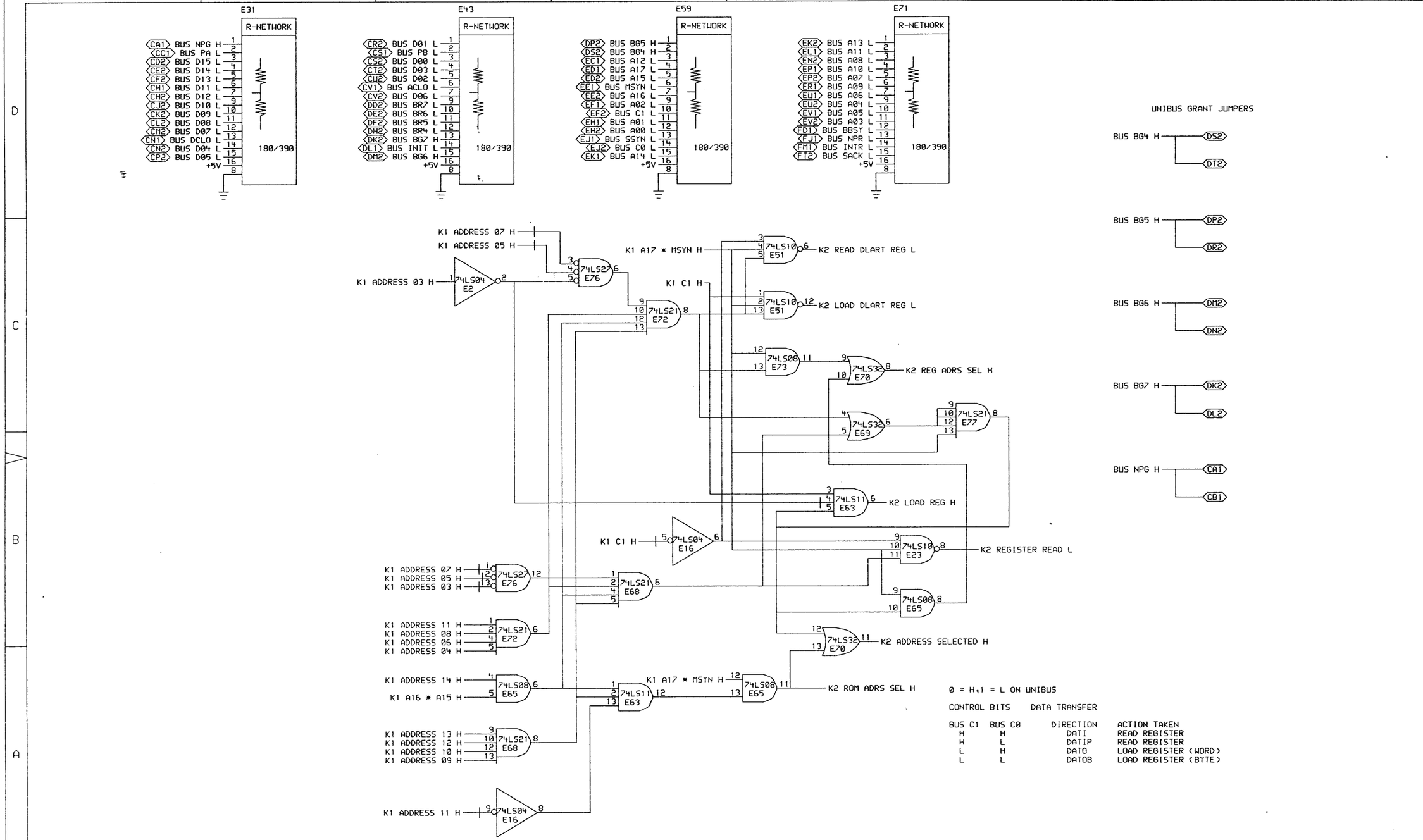






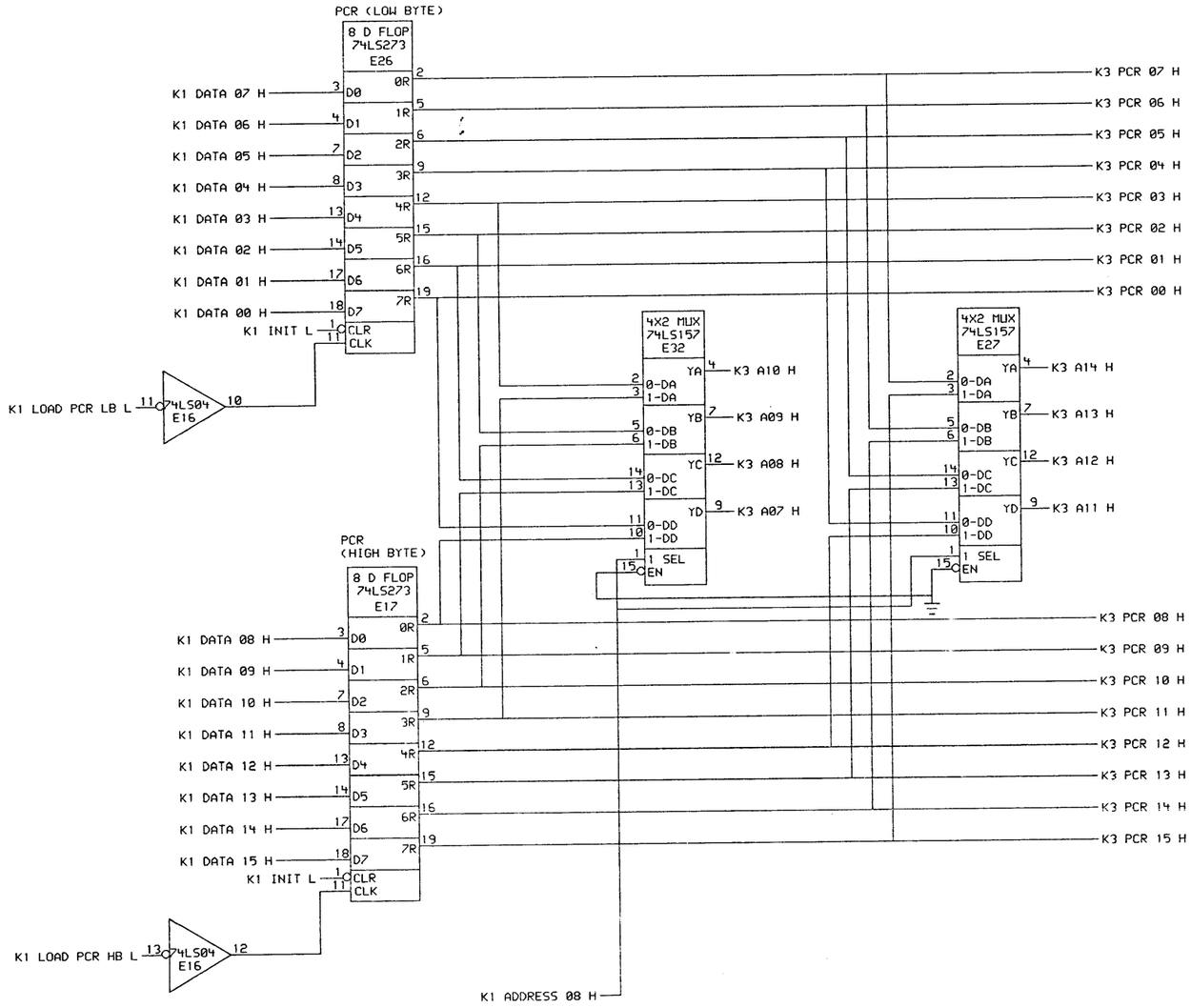
UNIBUS ADDRESS RECEIVERS, DATA TRANCEIVERS AND SSYN LOGIC

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE: CONSOLE, BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1		
			SHEET 1 OF 1		
DSKD:<WEAVER>M3112A.DRW 02-NOV-82 13:58			NEXT HIGHER ASSEMBLY:	SIZE K	CODE CS NUMBER M3112-0-K1 REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0		



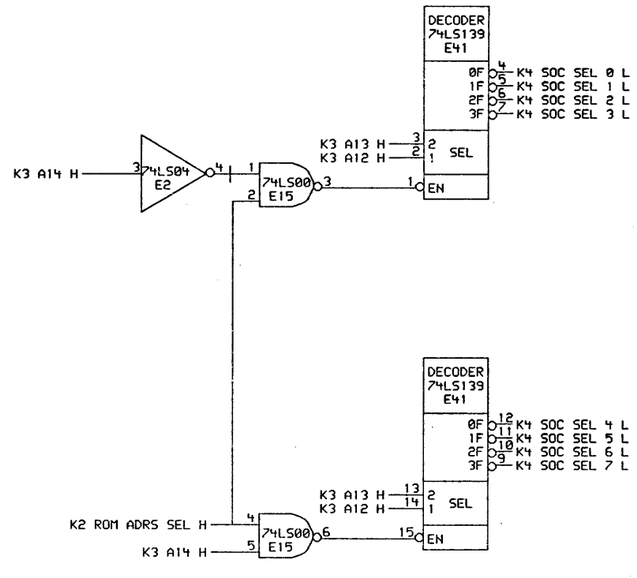
REGISTER DECODE AND UNIBUS TERMINATOR

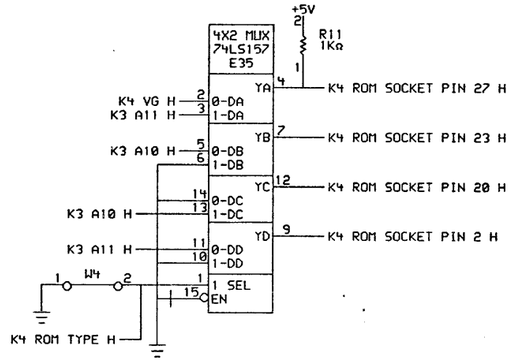
	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: CONSOLE,BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1		
			SHEET 1 OF 1		
DSKD:<WEAVER>M3112B.DRW 02-NOV-82 13:59			NEXT HIGHER ASSEMBLY:		SIZE K / CODE CS / NUMBER M3112-0-K2 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0		

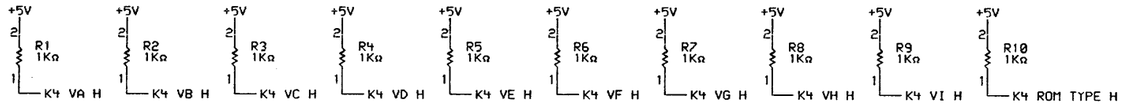


PAGE CONTROL REGISTER (PCR)

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE: CONSOLE, BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1	SHEET 1 OF 1	
DSKD:<LEAVER>M3112C.DRW 02-NOV-82 13:59			NEXT HIGHER ASSEMBLY:		SIZE K / CODE CS / NUMBER M3112-0-K3 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0		

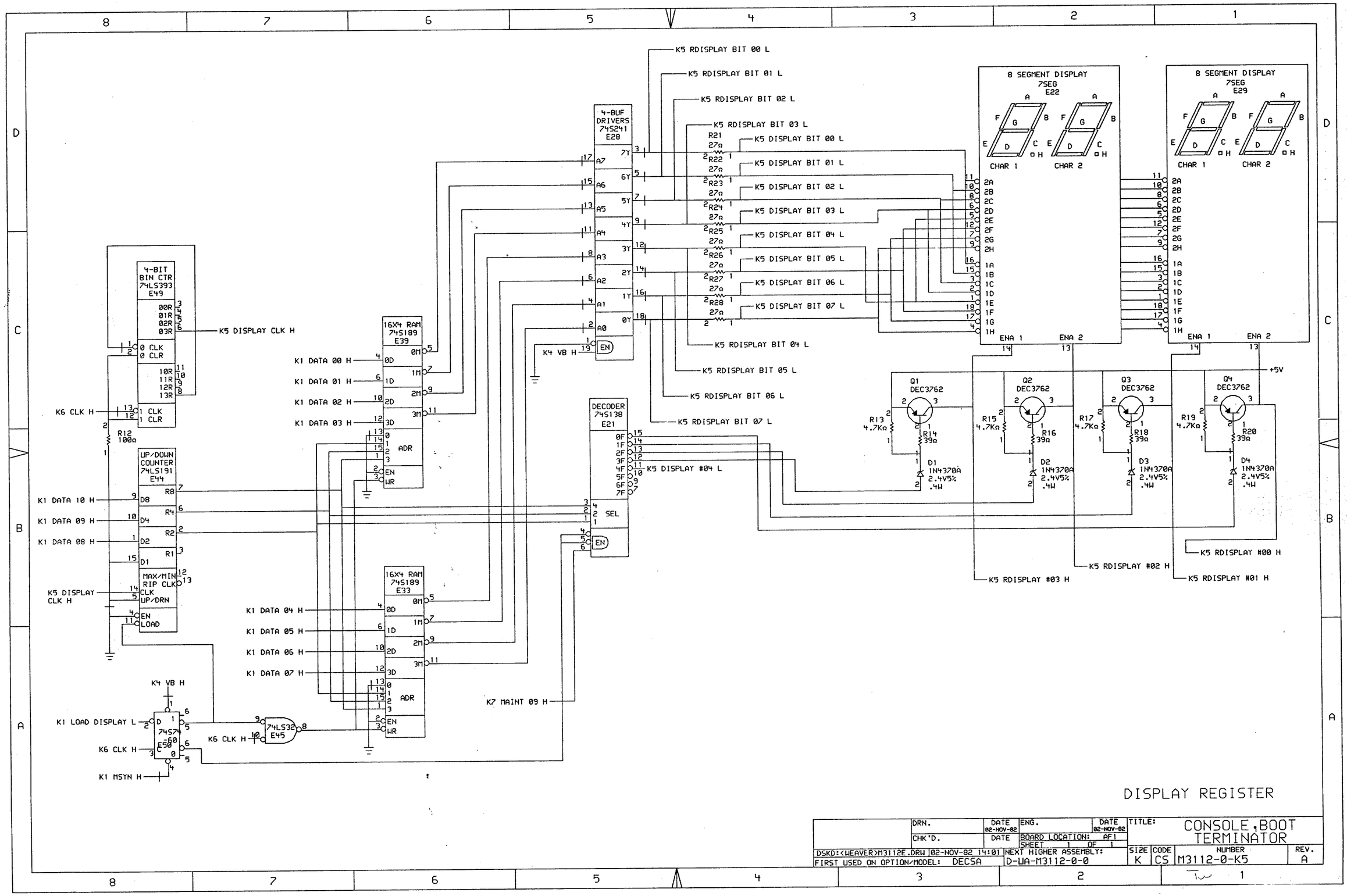






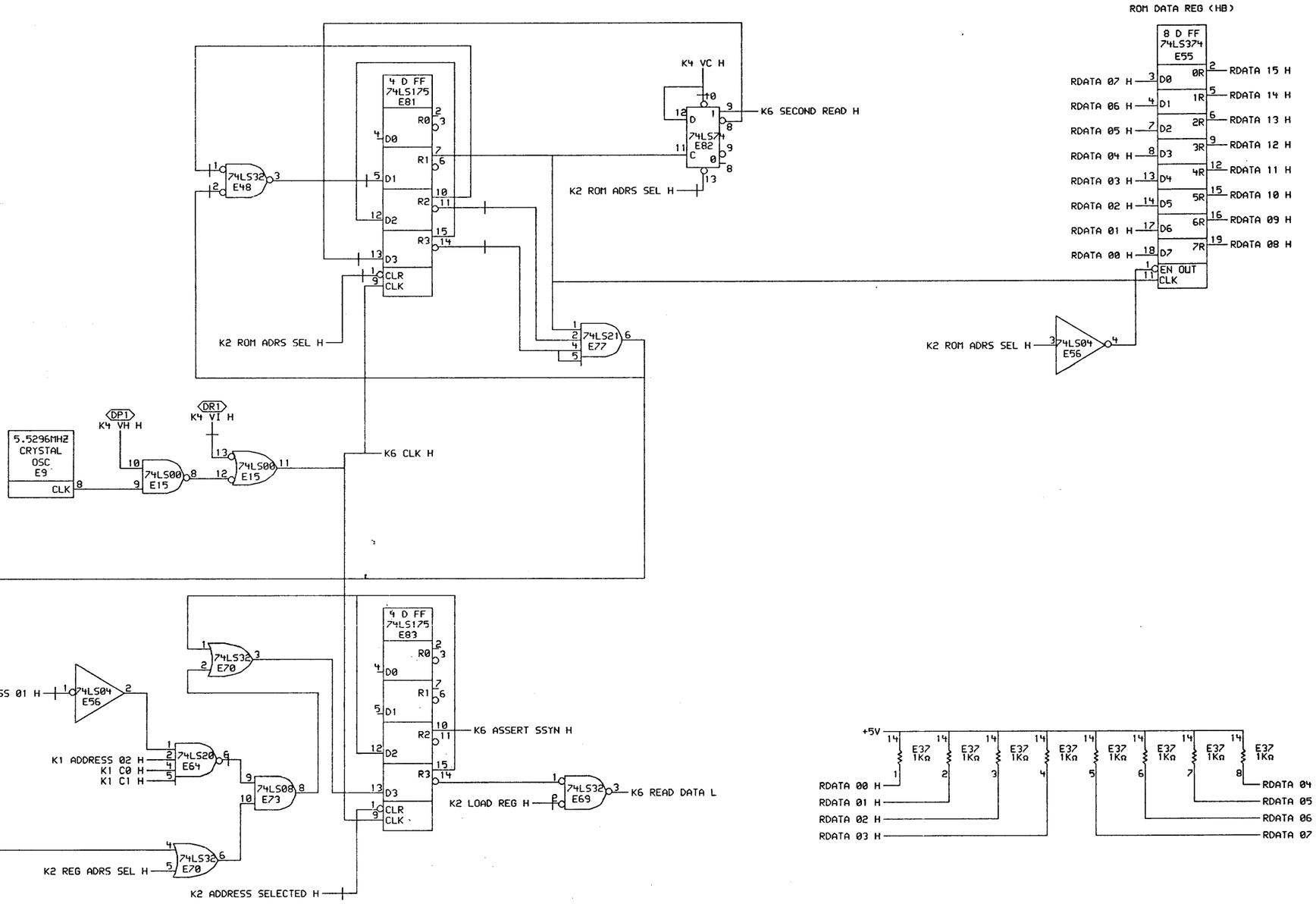
SOCKET SELECTION LOGIC

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE: CONSOLE, BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1	SHEET 1 OF 1	
DSKD:<WEAVER>M3112D.DRW 02-NOV-82 14:00			NEXT HIGHER ASSEMBLY:	SIZE K	CODE CS
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0	NUMBER M3112-0-K4	REV. A



DISPLAY REGISTER

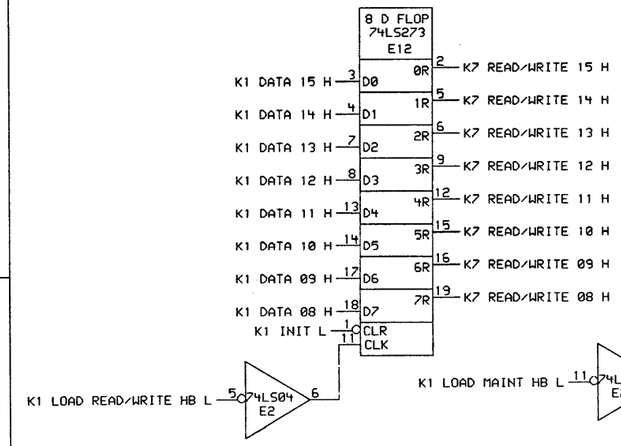
	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE: CONSOLE, BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1		
			SHEET 1 OF 1		
DSKD:<WEAVER>M3112E.DRW 02-NOV-82 14:01			NEXT HIGHER ASSEMBLY:	SIZE K	CODE CS NUMBER M3112-0-K5 REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0		



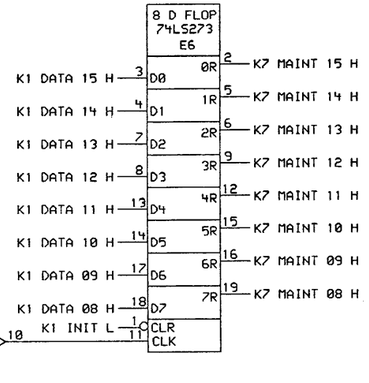
TIMING CIRCUIT AND ROM DATA REGISTER

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE:	CONSOLE, BOOT TERMINATOR	
	CHK'D.	DATE	BOARD LOCATION: AF1	SHEET 1 OF 1			
DSKD:<WEAVER>M3112F.DRW 02-NOV-82 14:01			NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS	NUMBER M3112-0-K6 REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0				

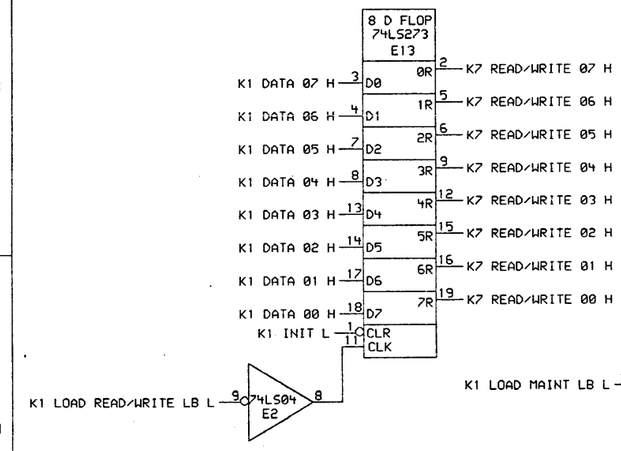
READ/WRITE REG (HB)



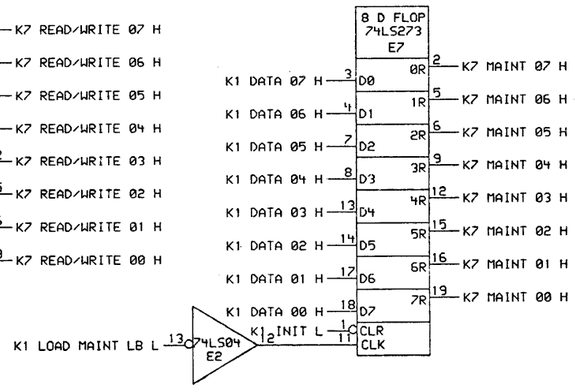
MAINTENANCE REGISTER (HB)

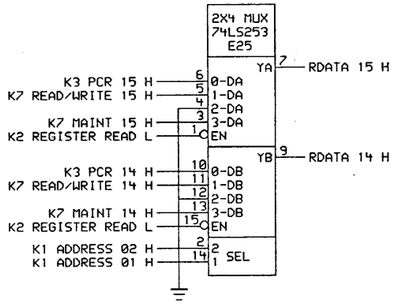


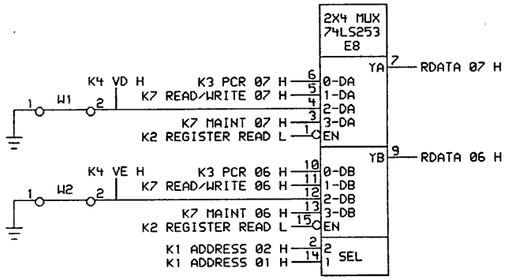
READ/WRITE REG (LB)

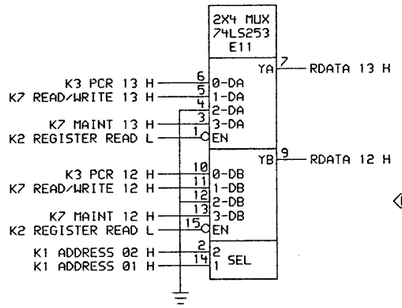


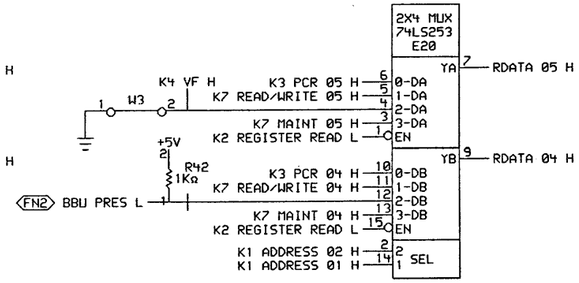
MAINTENANCE REGISTER (LB)

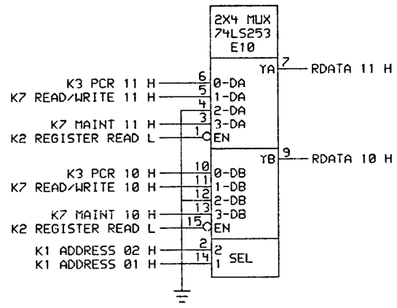


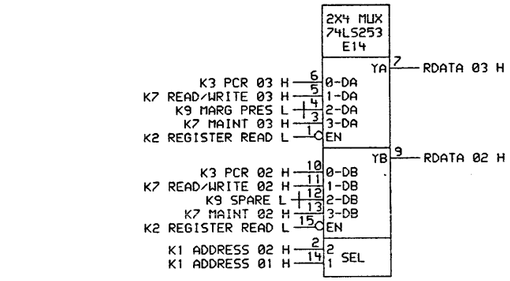


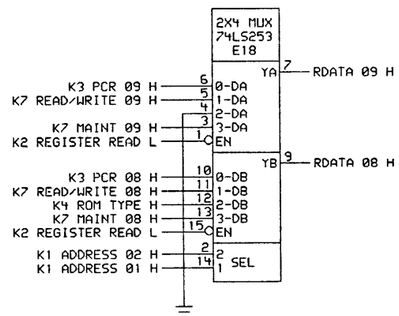


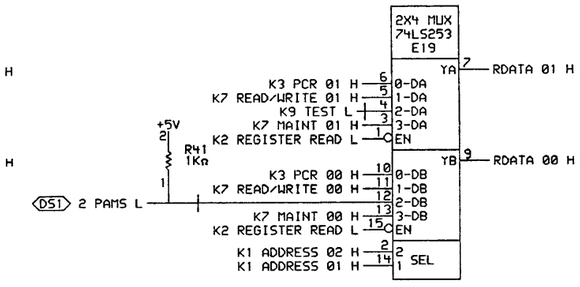






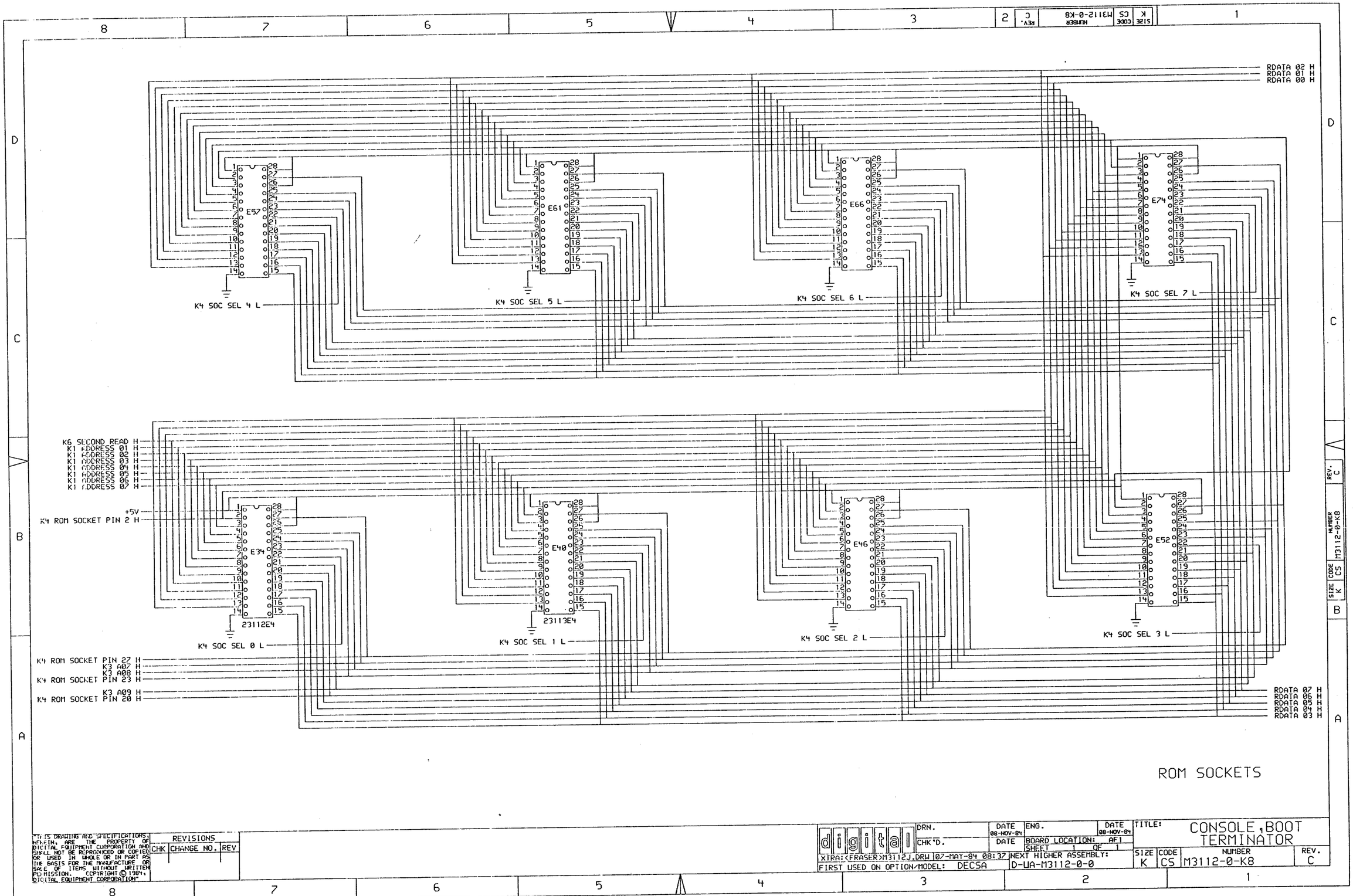






READ/WRITE REGISTER,CONFIGURATION REGISTER,MAINTENANCE REGISTER

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE: CONSOLE,BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1		
			SHEET 1 OF 1		
DSKD:<WEAVER>M3112H.DRW 02-NOV-82 14:01			NEXT HIGHER ASSEMBLY:		SIZE K / CODE CS / NUMBER M3112-0-K7 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0		



ROM SOCKETS

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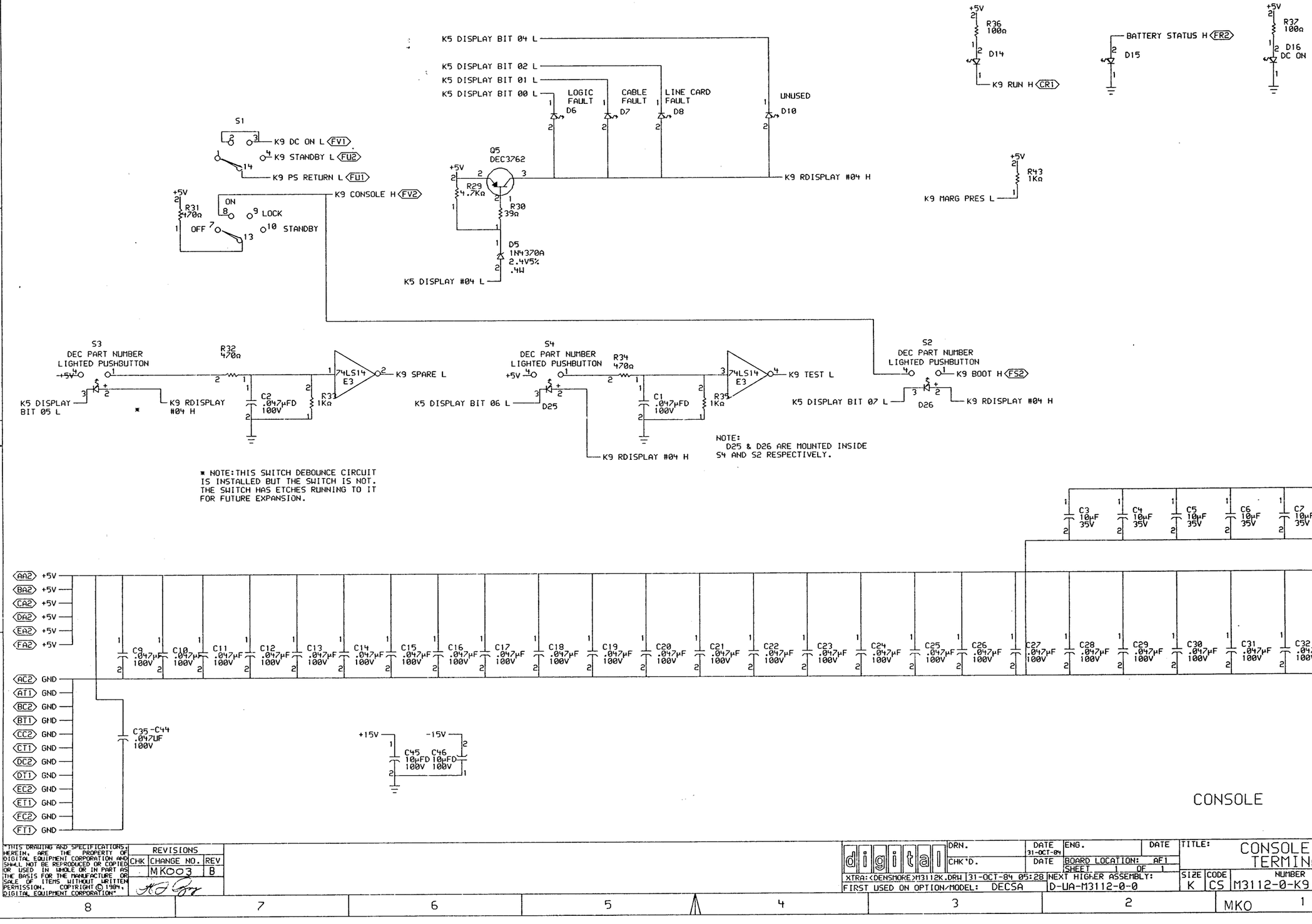
REVISIONS		
CHK	CHANGE NO.	REV

DRN.		DATE 08-NOV-84	ENG.
CHK D.		DATE	BOARD LOCATION: AF1
XTRA:<FRASER>M3112J.DRW 07-MAY-84 08:37			SHEET 1 OF 1
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3112-0-0

TITLE:	CONSOLE,BOOT TERMINATOR		
SIZE	CODE	NUMBER	REV.
K	CS	M3112-0-K8	C



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REVISIONS		
CHK	CHANGE NO.	REV
	MK003	B

digital

DRN.	DATE 31-OCT-84	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION: AF1	SHEET 1 OF 1

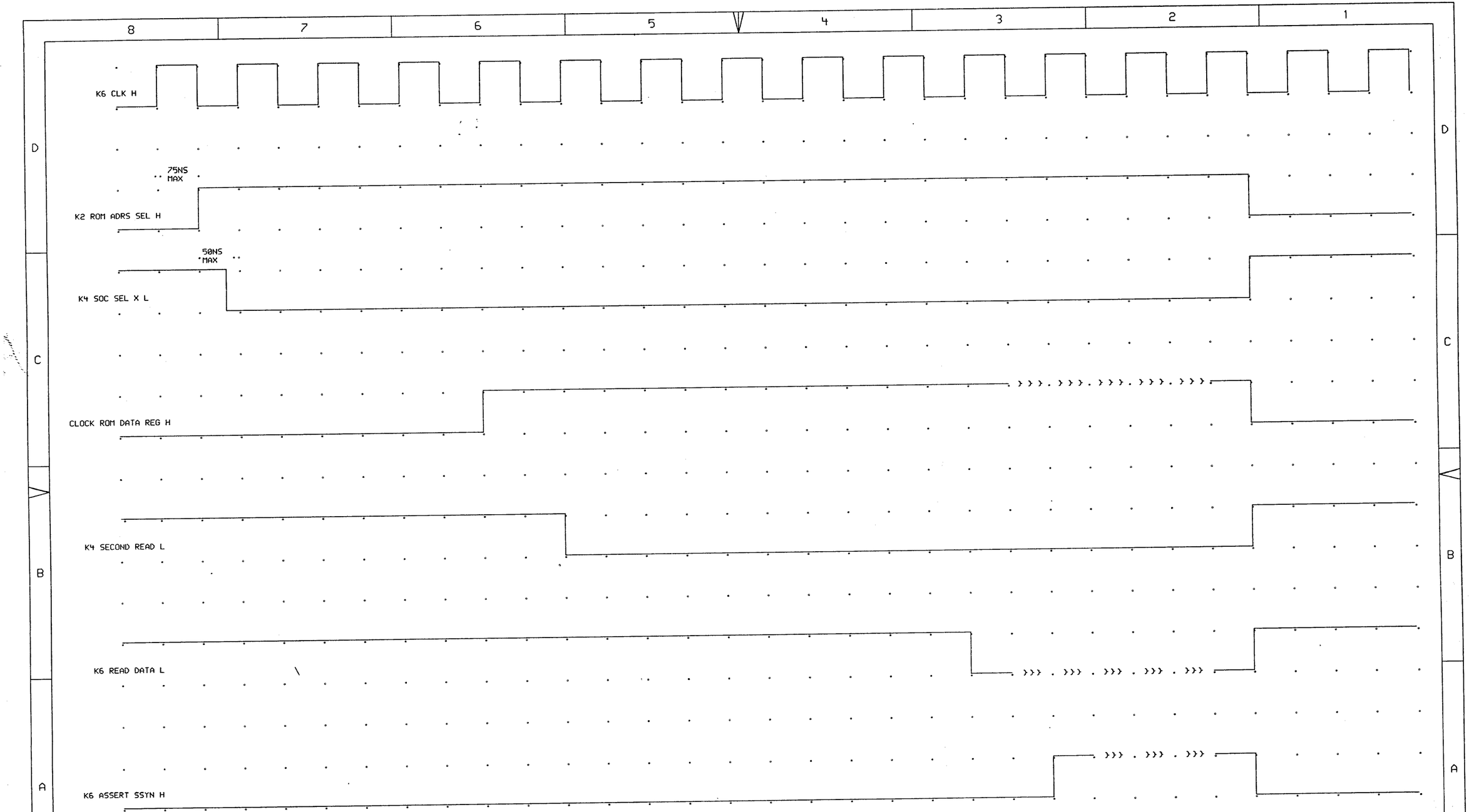
XTRA:<DENSMORE>M3112K.DRW | 31-OCT-84 05:28 | NEXT HIGHER ASSEMBLY: D-UA-M3112-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: CONSOLE,BOOT TERMINATOR

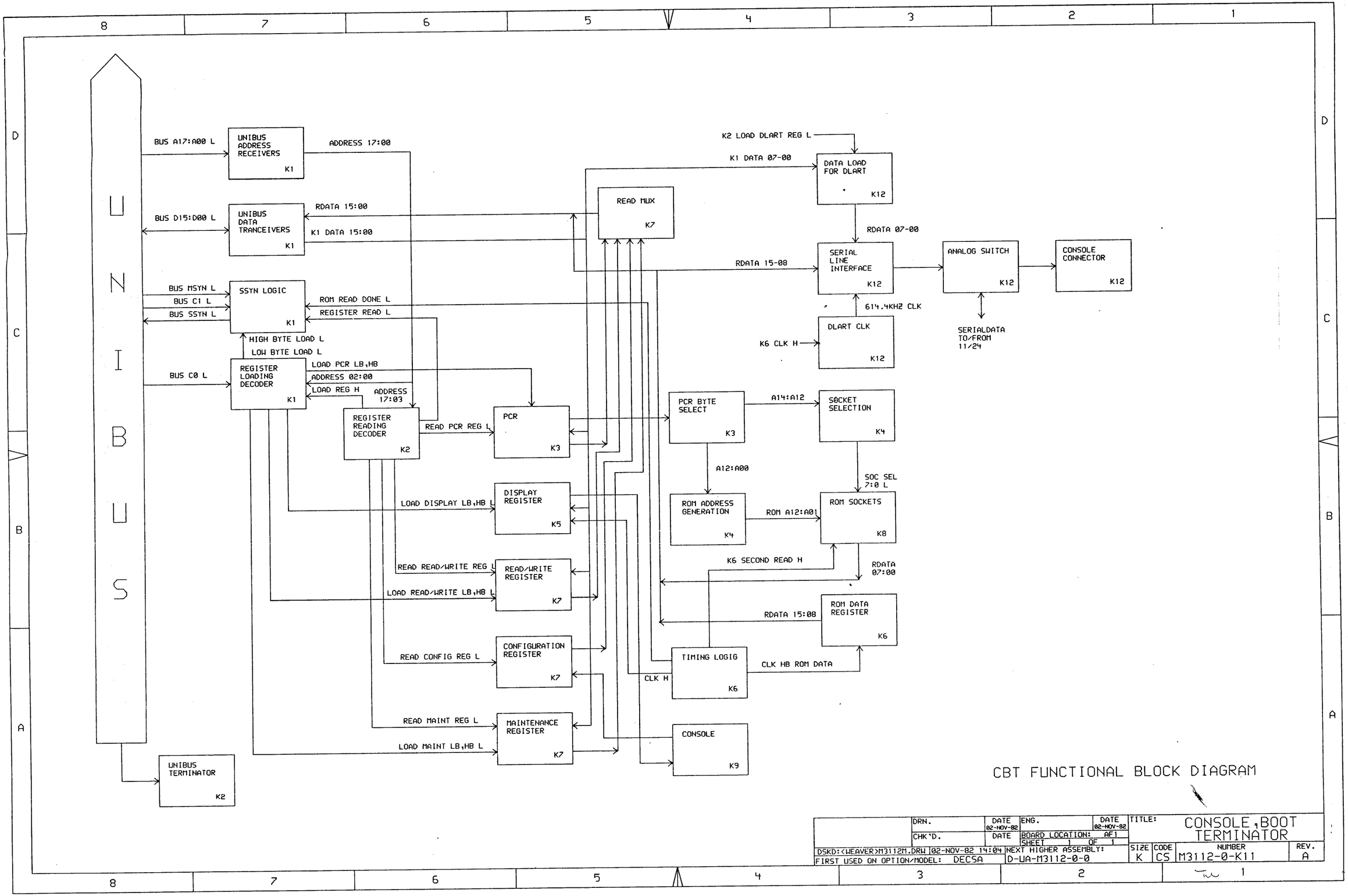
SIZE	CODE	NUMBER	REV.
K	CS	M3112-0-K9	B

MK0



TIMING DIAGRAM

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE:	CONSOLE,BOOT TERMINATOR	
	CHK'D.	DATE	BOARD LOCATION: AF1				
			SHEET 1 OF 1				
DSKD:<WEAVER>M3112L.DRW 02-NOV-82 14:03			NEXT HIGHER ASSEMBLY:		SIZE K	CODE CS	NUMBER M3112-0-K10	REV. A
FIRST USED ON OPTION/MODEL: DF SA			D-UA-M3112-0-0				



CBT FUNCTIONAL BLOCK DIAGRAM

	DRN.	DATE 02-NOV-82	ENG.	DATE 02-NOV-82	TITLE: CONSOLE, BOOT TERMINATOR
	CHK'D.	DATE	BOARD LOCATION: AF1		
			SHEET 1 OF 1		
DSKD:<WEAVER>M3112M.DRW 02-NOV-82 14:04			NEXT HIGHER ASSEMBLY:		SIZE K / CODE CS / NUMBER M3112-0-K11 / REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3112-0-0		

QUAD BUFFER 74LS244 E38

K1 DATA 00 H — A0 — A0Y — RDATA 00 H
K1 DATA 01 H — A1 — A1Y — RDATA 01 H
K1 DATA 02 H — A2 — A2Y — RDATA 02 H
K1 DATA 03 H — A3 — A3Y — RDATA 03 H
K2 LOAD DLART REG L — EN
K1 DATA 04 H — B0 — B0Y — RDATA 04 H
K1 DATA 05 H — B1 — B1Y — RDATA 05 H
K1 DATA 06 H — B2 — B2Y — RDATA 06 H
K1 DATA 07 H — B3 — B3Y — RDATA 07 H
EN

DLART DC319 E60

K2 READ DLART REG L — RD
K2 LOAD DLART REG L — ENO
WR[LB]
K1 ADDRESS 02 H — A2
K1 ADDRESS 01 H — A1
K1 ADDRESS 00 H — A0
K1 INIT H — CLR
CLK
[SI]
[PBRI]
BRS0
BRS1
BRS2
TEST
K4 VA H
[DAL0] … [DAL15]
RDATA 08 H … RDATA 15 H
[RTJCLK800]
[RTJCLK50]
[RTJCLK60]
1.25 MS CLK H (DU1)
RCV[IRQ]
XMIT[IRQ]
[SO]
[BRKIRQ]
[BRCLK]

PIN 8 = +12V

9635 E84
R39 27.4K
-12V
D20 1N4004
R40 27.4KΩ
9639 E79

BIN CTR 74LS169 E47

K4 VA H — D8 — R8
D4 — R4
D2 — R2
D1 — R1
CRY OUT
EN — CRY CNT
LOAD DOWN
K6 CLK H — CLK

K7 MAINT 15 H — 74LS04 E56

13201 E78 (×4)
GND=PIN 5
+15V=PIN 13
-15V=PIN 4
VREF=PIN 12=FLOATING

J2 STRAIGHT
R38 100Ω
NOTE: R38 NOT INSERTED.
(FRAME GROUND CONNECTED TO HANDLE)
+9 DATA TERM RDY H (FP1)
K9 API PRES H (FS1)
SO H (FM2)
SI H (FM2)

-15V (FB2) — D17 1N4004, D18 1N4004, D19 1N4004 — -12V
+15V (CU1) — D21 1N4004, D22 1N4004, D23 1N4004, D24 1N4004 — +12V

SERIAL LINE INTERFACE

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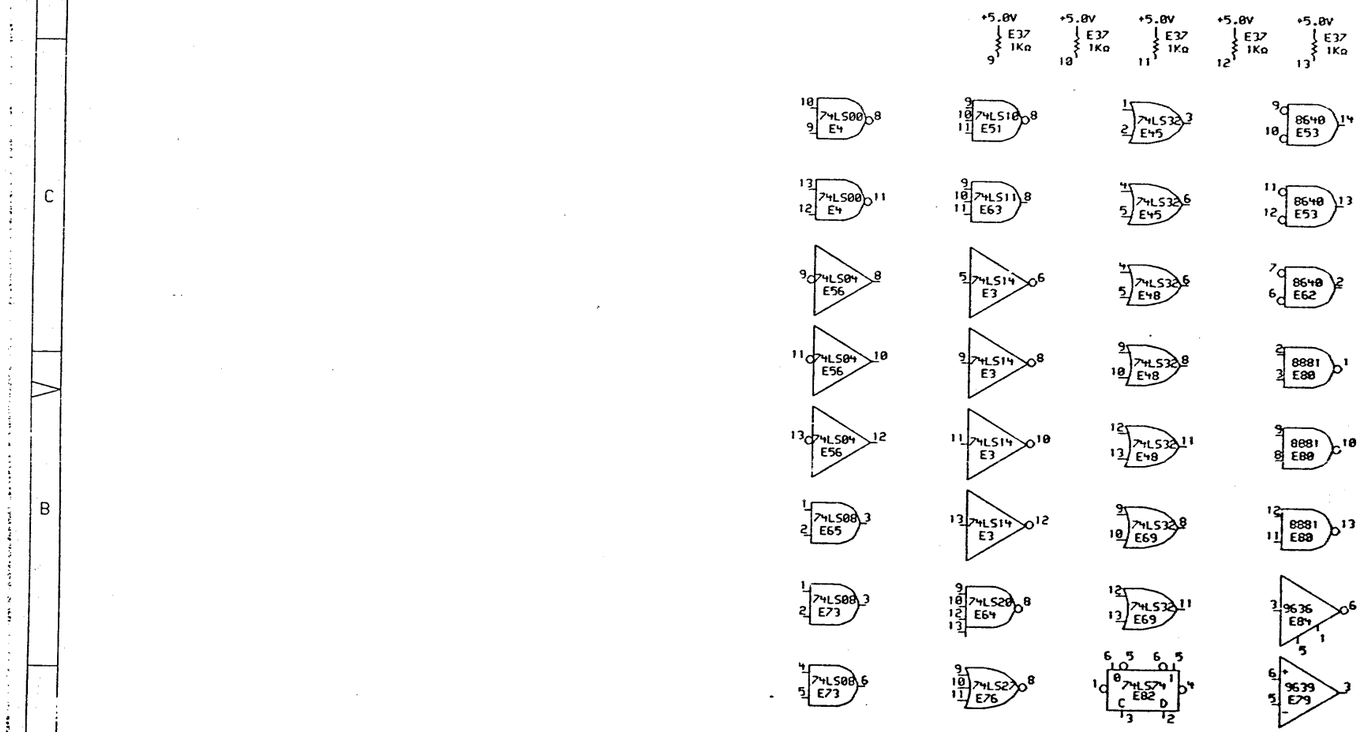
REVISIONS		
CHK	CHANGE NO.	REV
MK005		C

DRN. WEAVER — DATE 27-MAR-86 — ENG. B. MASKAS — DATE 27-MAR-86
CHK'D. CARTER — DATE 27-MAR-86 — PROJ LOCATION: NET — SHEET 1 OF 1
XTRA:<DENSMORE.LIS>M3112N.DPL;1 — NEXT HIGHER ASSEMBLY: D-UA-M3112-0-0
FIRST USED ON OPTION MODEL: DESSA

TITLE: CONSOLE,BOOT TERMINATOR
SIZE K — CAGE CODE 07128 — NUMBER M3112-0-K12 — REV C

plot length = 23.3 inches 1853 vectors

BENSON/VARIAN 4A.51 == 07-MAR-86 08:42:06 SCALE= 2.000 DMD=(362,501M3,12P.PLO,2



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REVISIONS		
CHK	CHANGE NO.	REV
	MK005	B

DRN. WEAVER	DATE 07-MAR-86	ENG. R. MASKAS	DATE 07-MAR-86
CHK C. CARTER	DATE 07-MAR-86	CORE LOCATION:	SHEET 1 OF 1
XTRA:<DENSMORE>M3112P.DPL;1 07-MAR-86 08:30		NEXT HIGHER ASSEMBLY	
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3112-0-0	

TITLE: CONSOLE,BOOT TERMINATOR

SIZE	CODE	NUMBER	REV.
K	CS	M3112-0-K13	B

DENSMORE, XTRA:<DENSMORE>M3112P.DPL;1, SCALE 1, "D" RELEASE BOX, SIGNED OFF

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS										
1			M3100-00	SYNC/ASYNC SERIAL LINE UNIT		A	B	C1	D1	C2	D2	D3				
2	D-UA-M3100-0-0	2		UNIT ASSEMBLY		A	B	C	D	E	E	F				
3	K-PL-M3100-0-DBP	2		PARTS LIST		A	B	C	D	C1	E	F				
4	K-PC-M3100-0-DBI	-		PC DATA BASE		D	D	D	E	D	E	E				
5	K-CS-M3100-0-DBS	-		SUDS DATA BASE		A	B	C	D	C	D	D				
6	K-CS-M3100-0-SLUI	1		SCHEMATIC		A	B	B	B	B	B	B				
7	K-CS-M3100-0-SLU2	1		SCHEMATIC		A	B	C	D	C	D	D				
8	K-CS-M3100-0-SLU3	1		SCHEMATIC		A	B	B	B	B	B	B				
9	K-CS-M3100-0-SLU4	1		SCHEMATIC		A	B	B	C	B	C	C				
10	K-CS-M3100-0-SLU5	1		SCHEMATIC		A	B	B	C	B	C	C				
11	K-CS-M3100-0-SLU6	1		SCHEMATIC		A	B	B	C	B	C	C				
12	K-CS-M3100-0-SLU7	1		SCHEMATIC		A	B	C	D	C	D	D				
13	K-CS-M3100-0-SLU8	1		SCHEMATIC		A	B	B	C	B	C	C				
14			5014426-00	ETCHED BOARD		C	D	D	E	D	E	E				
15	D-MD-5014426-0-0	6		DRILL AND ETCH DRAWING		A	B	B	C	B	C	C				
16	D-EC-5014426-0-0	3		ETCH CUT DRAWING		A	B	B	C	B	C	C				

NOTES:

DD REV	A	B	C	D	E	E	F					

REVISION HISTORY

ENG	ECO NUMBER	REV
--	INITIAL	A
	M3100-TW001	B
	M3100-TW002	C
	M3100-TW003	D
JD	M3100-MK004	E
ML	M3100-MK005	F

CONT. REVISION HISTORY

ENG	ECO NUMBER	REV

MADE BY: A. KRAWIECKI
DATE: 10 SEP 84

CHECKED BY: B. FRASER
DATE: 10 SEP 84 11-APR-85

DESIGN ENGINEER: J. DOHERTY
DATE: 10 SEP 84

RESPONSIBLE ENG: J. DOHERTY
DATE: 10 SEP 84 11-APR-85

PRODUCTION ENG: W. BROOKE
DATE: 10 SEP 84

d i g i t a l

TITLE DRAWING DIRECTORY

SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3100-0	F

SHEET 1 OF 1 MKO

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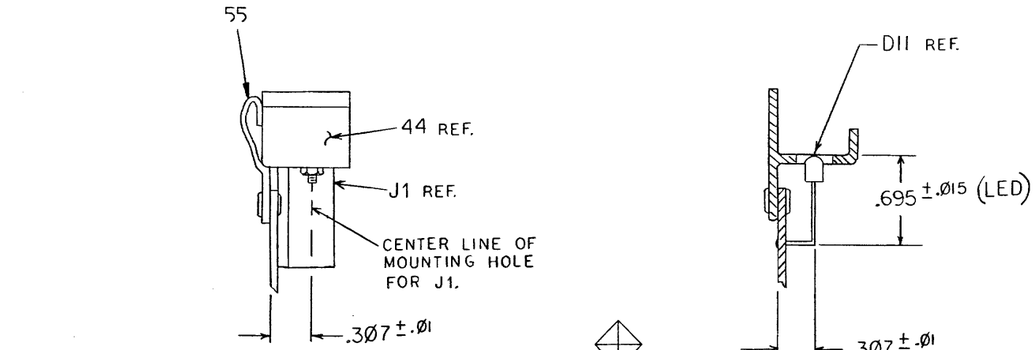
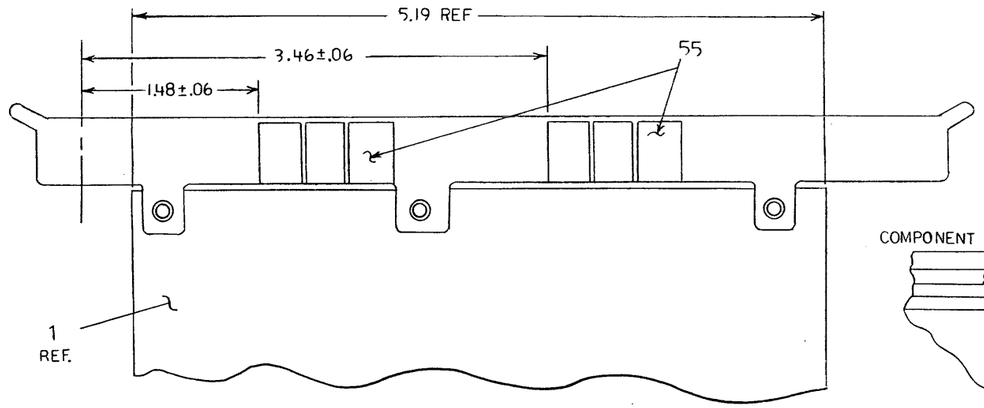
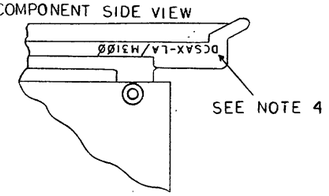


VIEW A - A
(SCALE 2:1)

SECTION B - B
(SCALE 2:1)



SIDE 2 VIEW
(NO SCALE)



NOTES:
1. UL RATING IS LPWR.
2. R4, C16-C23 ARE NOT INSTALLED. (OPT.)
3. E2 IS A SPARE LOCATION.
4. STAMP LOCATION / DIRECTION OF MODULE TYPE.

STEP E	↑ Y AXIS .000 STEP .0 TIMES
REPEAT	→ X AXIS 5.19 STEP 1 TIMES

CHK	CHANGE NO	REV
	M3100-TW3	D
	M3100-MK00	E
J.DOHERTY		
M3100-MK5		F
M.DeSimone	9/5/85	
M.LAWRENCE		

ETCH REV. E-P2

SIGNATURES	DATE
DRN BUD DEMPSKI	3-6-84
CHK'D. M Dunfey	3-7-84
MECH.ENG John Reynolds	4-23-84
PROJ.ENG John Reynolds	4-23-84
PROD. Al Brown	4-27-84

digital

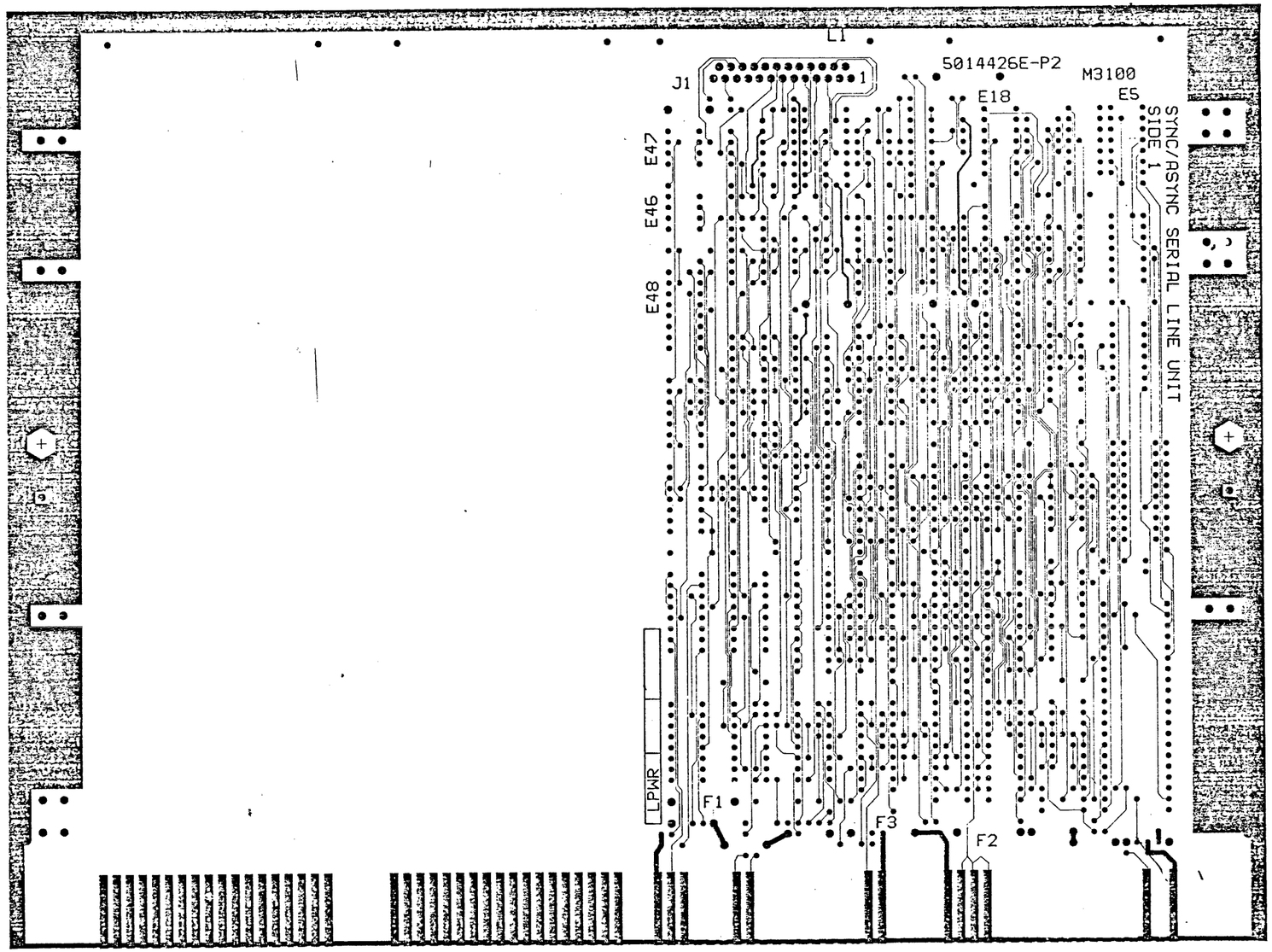
TITLE SYNC/ASYNC SERIAL LINE UNIT

SCALE 2:1 | SHT. 1 OF 1 | SIZE D | CODE UA | NUMBER M3100-00 | REV F

NEXT HIGHER ASSY. K-DD-M3100-0

WO# 302330

LAYER 1



digital

ETCH CUT DRAWING

DEC 5014426-0-0 C

1 of 2

LAYER 4

L4

5014426E-P2

SIDE 2

ETCH CUT DRAWING DEC 5014426-0-0 C

2 of 2

8 7 6 5 4 3 2 1

B

A

AUTOMATED BY PRTLST,40(50)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	QTY PER VARIATION D3	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:			
1	38	D-MD-5014426-0-0	5014426-00		MERC SYNC/ASYNC LINE UNIT	1		
2	40		1012784-00		.047 MFD 50V +80-20% CER	13		C1-C9,C11-C14
3	1		1105796-00		PIV= 400 IO= 1.00A 1N4004 DO-41	9		D1,D2,D3,D4,D5,D6,D7,D8,D9
4	2		1110324-01		LED 1MCD@10MA PIV=3 .750 MIN. LE	1		D11
5	42		1205747-00		FUSE, SUB-MINI, 5.000A, 125V, A	1		F1
6	48		1210929-02		FUSE, SUB-MINI 1.000A, 125V, S	2		F2,F3
7	43	BLANK	1220449-01		*** THIS ITEM IS NOT USED ***	-		
8	35		1300271-00		220.0 .25 W 5.0 % CF	2		R1,R11
9	36		1300295-00		330.0 .25 W 5.0 % CF	2		R2,R7
10	8		1909712-00		DEC 8242 COMPARATOR-4BIT N,	1		E6
11	28		1910534-00		74S04 INVERTER GATE-HEX 1I	1		E33
12	31		1910544-00		74S74 FF-D DUAL,EDGE TRIGG	2		E38,E8
13	22		1910545-00		74S112 FF-JK DUAL,EDGE TRIG	1		E22
14	32		1912388-00		74S02 NOR GATE-QUAD 2IN,PO	1		E39
15	29		1912389-00		74S08 AND GATE-QUAD 2IN,PO	1		E34
16	16		1912801-00		LS02 NOR-GATE-QUAD 2IN	1		E15
17	5		1912803-00		LS04 INVERTER GATE,HEX	2		E3,E10
18	19		1912805-00		LS08 AND GATE-QUAD 2IN,PO	1		E18
19	11		1912807-00		LS10 NAND GATE-TRIPLE 3IN	1		E9
20	7		1912808-00		LS11 AND GATE-TRIPLE 3IN	1		E5
21	34		1912813-00		LS27 NOR GATE-TRIPLE 3IN	1		E45
22	6		1912820-00		LS51 A-O-I GATE 2-WIDE 2I	1		E4
23	21		1912824-00		LS74 FF-D DUAL,EDGE TRIGG	4		E21,E23,E44,E7
24	27		1912842-00		LS138 DECODER-THREE INPUT,	1		E29
25	30		1912853-00		LS175 FF-D QUAD	1		E37
26	15		1912863-00		LS273 FF-D OCTAL W/CLEAR	1		E14
27	14		1913493-00		74S241 OCTAL BUFFER,TRI-STA	1		E13
28	26		1913671-00		74S374 FF-D,OCTAL,TRI STATE	1		E27
29	24		1913788-00		26S10 TRANSCEIVER,BUS,QUA	4		E25,E31,E42,E43
30	33		1914085-00		74S260 NOR GATE-DUAL,POS	1		E40

REVISION HISTORY			BASIC PART NO: M3100
ENG	ECO NUMBER	REV	SECTION A OF A
---	INITIAL	B	SECTION,VARIATION INDEX
JB	M3100-TW002	C	[A] 00
JB	M3100-TW003	D	[B]
JD	M3100-MK004	E	[C]
ML	M3100-MK005	F	[D]
			[E]
			[F]
			[H]
			[J]
			[K]
			[L]
			[M]
			[N]

DRN: F.SMART	DATE: 22-JAN-82	DIGITAL	
CHK'D: F GAROFALO	DATE: 22-JAN-82 (11-APR-85)	TITLE PARTS LIST SYNC/ASYNC SERIAL LINE UNIT	
DES.ENG: JOHN BUZYNSKI	DATE: 19-AUG-83	DOCUMENT NUMBER	
RESP.ENG.: M.LAWRENCE	DATE: 02-APR-85 (11-Apr-85)	SIZE: K / CODE: PL / NUMBER: M3100-0-0	REV: F
MFG.ENG.: W.BROOKE	DATE: 02-APR-85	RELEASE DATE: 03-APR-85	
ASSEMBLY NUMBER: D-UA-M3100-0-0	TOP DOCUMENT NUMBER: #K-DD-M3100-0	FILE NAME: MK1140.PLS	EDIT #: 16

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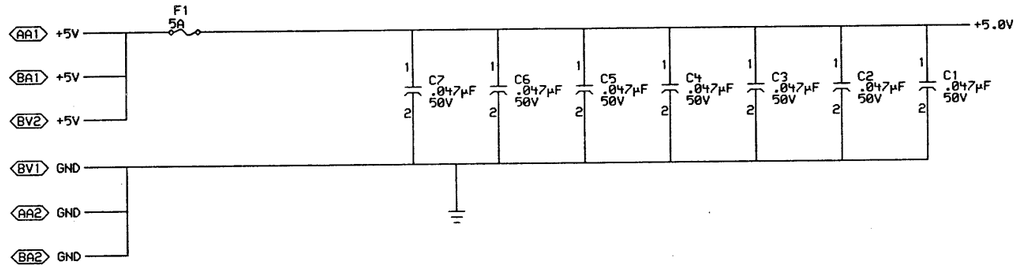
AUTOMATED BY PRTLST.4Q(50)

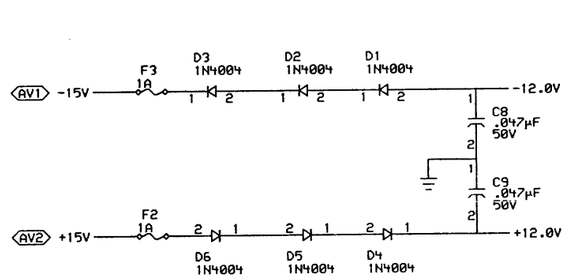
P A R T S L I S T

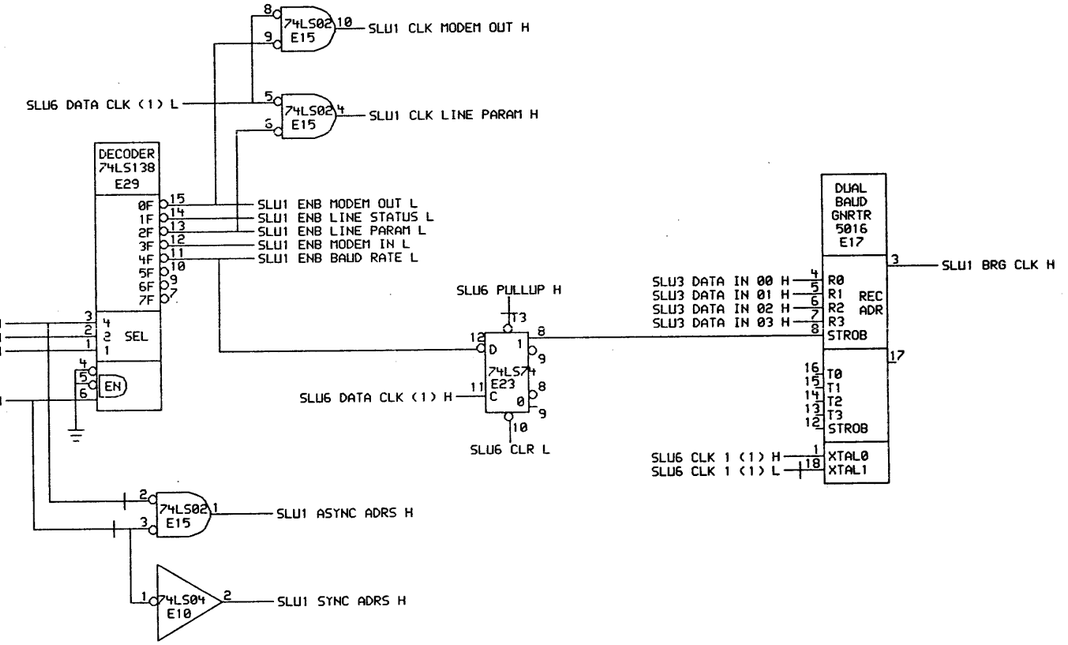
LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	QTY PER VARIATION D3	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:			
31	12		1914451-00		LS393 COUNTER,BINARY,4BIT	1		E11
32	25		1914866-00		AM 93S48PCGEN/CHECK PARITY, 4B	2		E26,E36
33	20		1915193-00		LS244 DRIVER,LINE,OCTAL,TR	2		E20,E32
34	17		1915219-00		LS373 FF-D OCTAL-TRANSPARE	2		E16,E28
35	23		1915415-00		9636 DRIVER,DUAL,EIA RS-	3		E24,E30,E41
36	13		1919542-01		9639 RECEIVER,LINE,DUAL	4		E12,E35,E46,E47
37	3		2112517-01		RECIEVER/TRANSMITTER	1		E1
38	18		2112623-00		DUAL BAUD RATE GEN/PROG DIVIDER,	1		E17
39	39		9009185-00		JUMPER, WIRE, INSULATED, BLACK B	1		W1
40	44	D-MD-7430547-0-DBU	7430547-02		HANDLE,LC	1		
41	45		9009000-00		EYELET,ROLLED 0.121ODX0.156	3		
42	51		1319728-01		R NETWORK 8-27K 1.0 % 10PIN	2		R5,R6
43	52		9008451-01		SCREW LOCK,STANDOFF ONLY .060TH	2		
44	54		1300365-00		1.0 K .25 W 5.0 % CF	6		R10,R12-R16
45	55		1221494-01		SHIELDING,RFI	2		
46	56		1912837-00		LS123 ONE SHOT-DUAL,RETRIG	1		E48
47	57		1005334-00		3.3MFD 20V 10% S.TANT	1		C15
48	58		1300539-00		120.0 K .25 W 5.0 % CF	1		R17
49	59		1013466-12		2200.0 MMF 50V 10% X7R CER	1		C10
50	60		1913670-00		74S373 LATCH,8BIT TRANS TRI-	1		E19
51	61		1220398-07		CONN,D SUB 25PIN ASSY RT ANGLE	1		J1

52 NOTE: 1.R4,C16-C23 ARE NOT INSTALLED.(OPTIONAL)
53 NOTE: 2.SPARE I.C. LOCATION E2.

DIGITAL	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
	SYNC/ASYNC SERIAL LINE UNIT		K	PL	M3100-0-0	F







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REVISIONS		
CHK	CHANGE NO.	REV

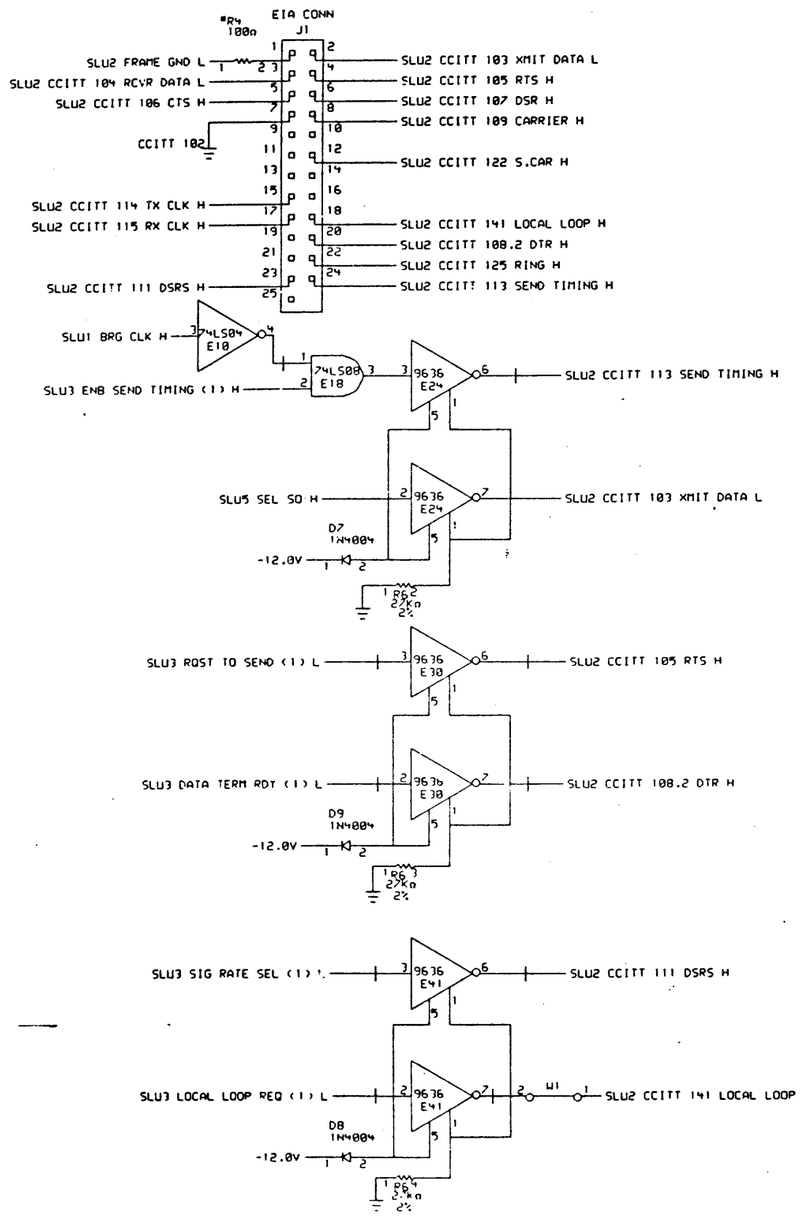
digital

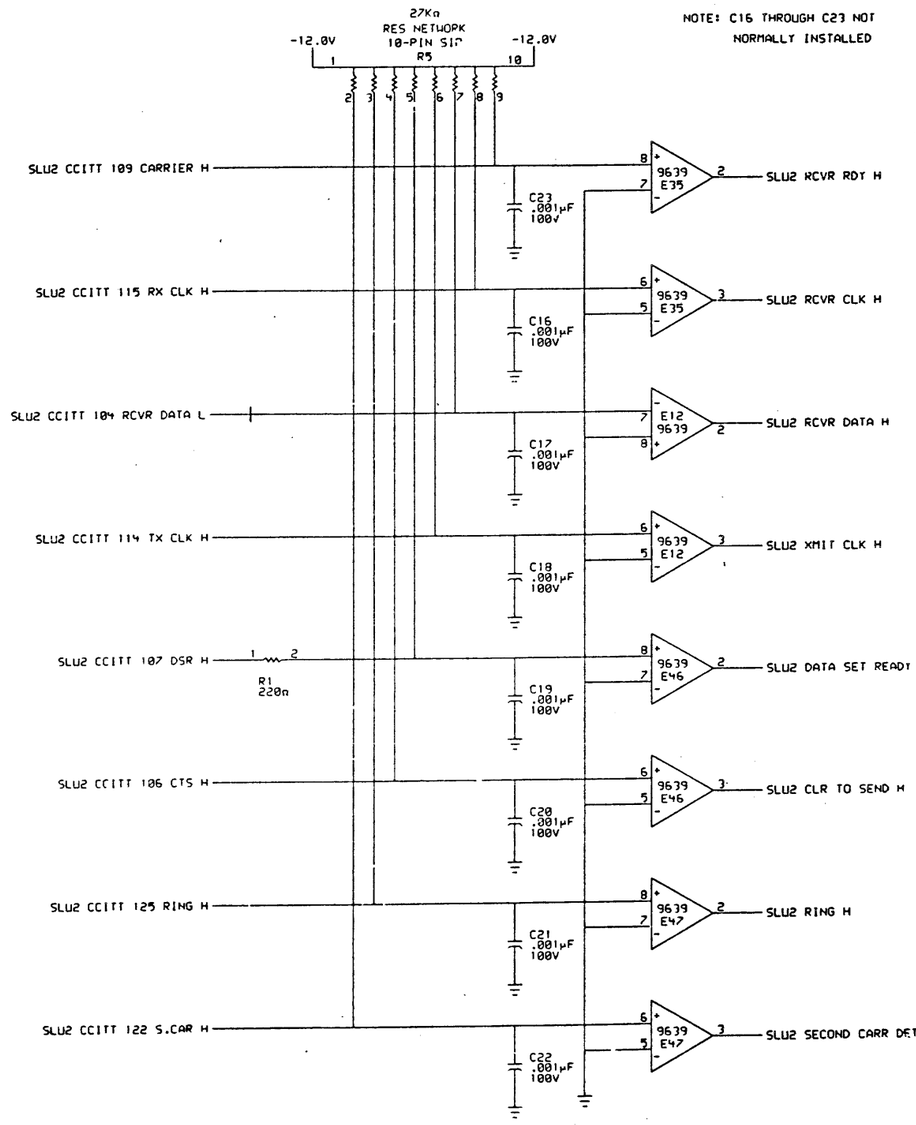
DRN. | DATE 20-MAY-83 | ENG | DATE 20-MAY-83
CHK D. Campos | DATE 5-19-83 | BOARD LOCATION:
DSKD:<CAMPOS>F3100A.DRW 20-MAY-83 11:34 | SHEET 1 OF 1 | NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: DECSA | D-UA-M3100-0-0

TITLE: SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3100-0-SLU1	B

TW





NOTE: C16 THROUGH C23 NOT NORMALLY INSTALLED

*DO NOT INSTALL

REVISIONS			
CHK	CHANGE NO.	REV

DRN. SCM	DATE 25-MAY-84	ENG.	DATE 25-MAY-84	TITLE: SYNC/ASYNC SERIAL LINE UNIT	
CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1			
DO NOT PLOT/PHOTO ALSO IN 10-MATRIX		NEXT HIGHER ASSEMBLY: D-UA-M3100-0-0		SIZE K / CODE CS / NUMBER M3100-0-SLU2	REV. D
FIRST USED ON OPTION-MODEL: DECSA					

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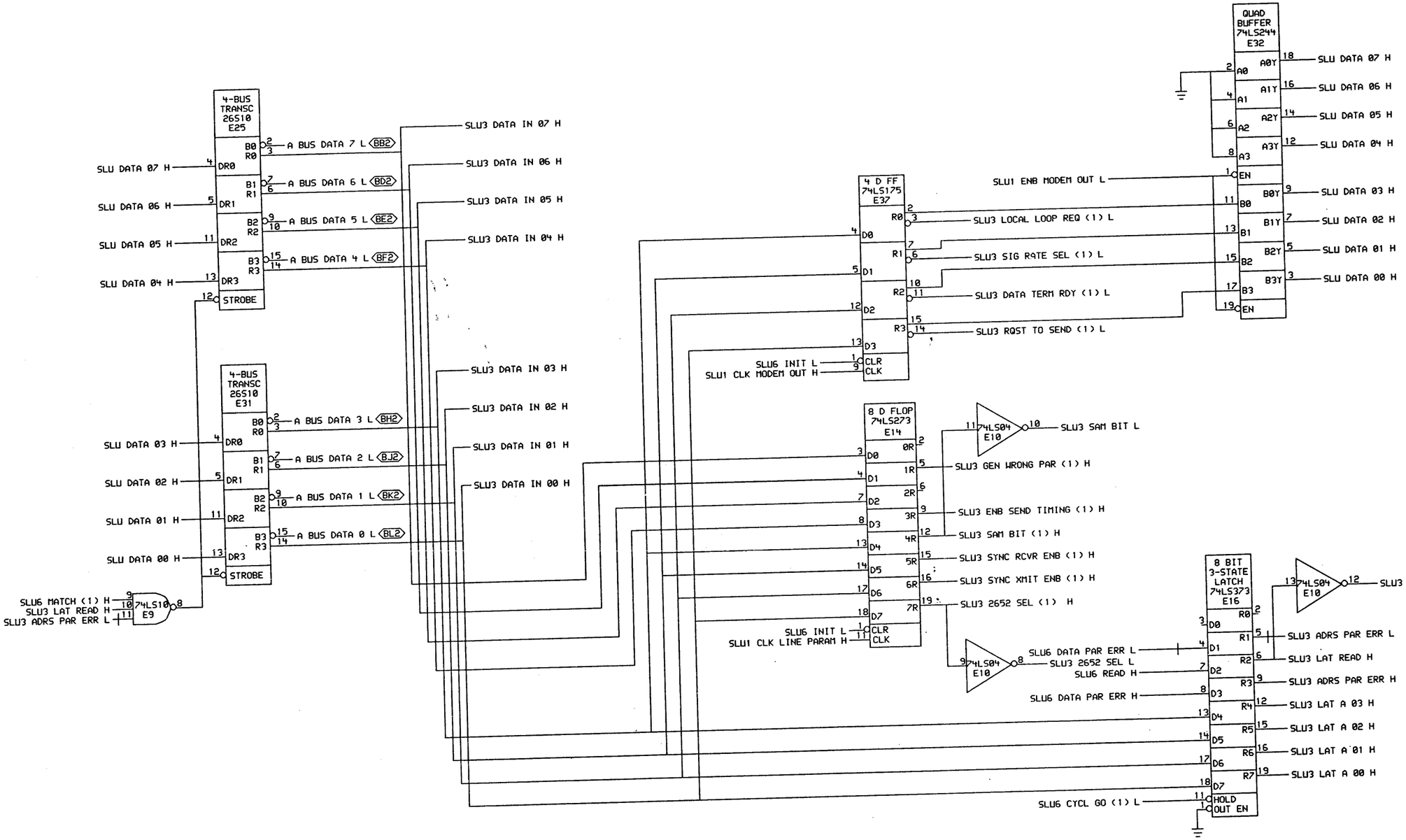

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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN.
CHK'D. Campos
DSKD:<CAMPOS>F3100C.DRW 20-MAY-83 11:34
FIRST USED ON OPTION/MODEL: DECSA

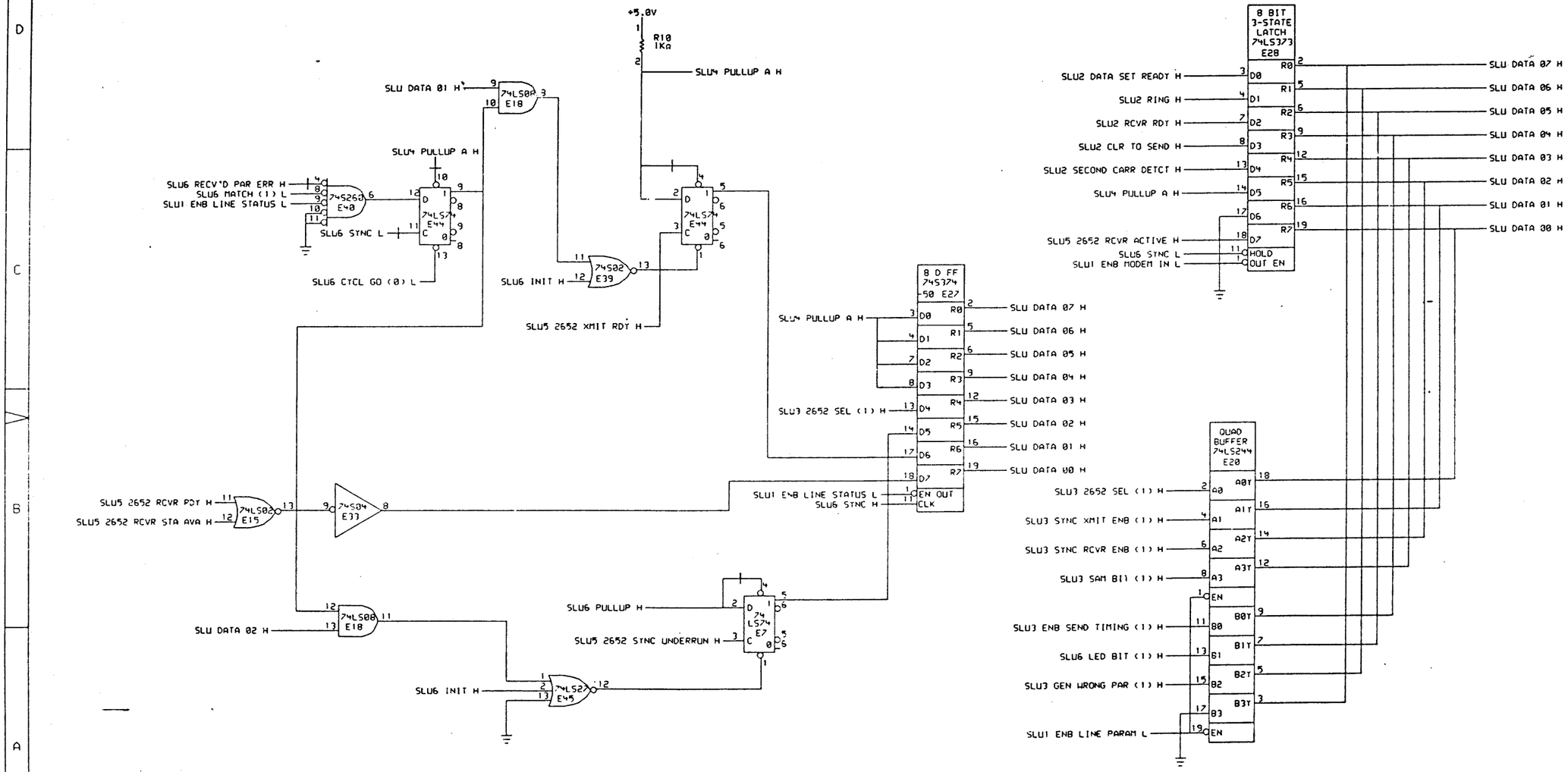
DATE 20-MAY-83 ENG.
DATE 6-14-83 BOARD LOCATION:
SHEET 1 OF 1
NEXT HIGHER ASSEMBLY: D-UA-M3100-0-0

DATE 20-MAY-83

TITLE: SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3100-0-SLU3	B

REV. B
NUMBER M3100-0-SLU3
CODE CS
SIZE K
B



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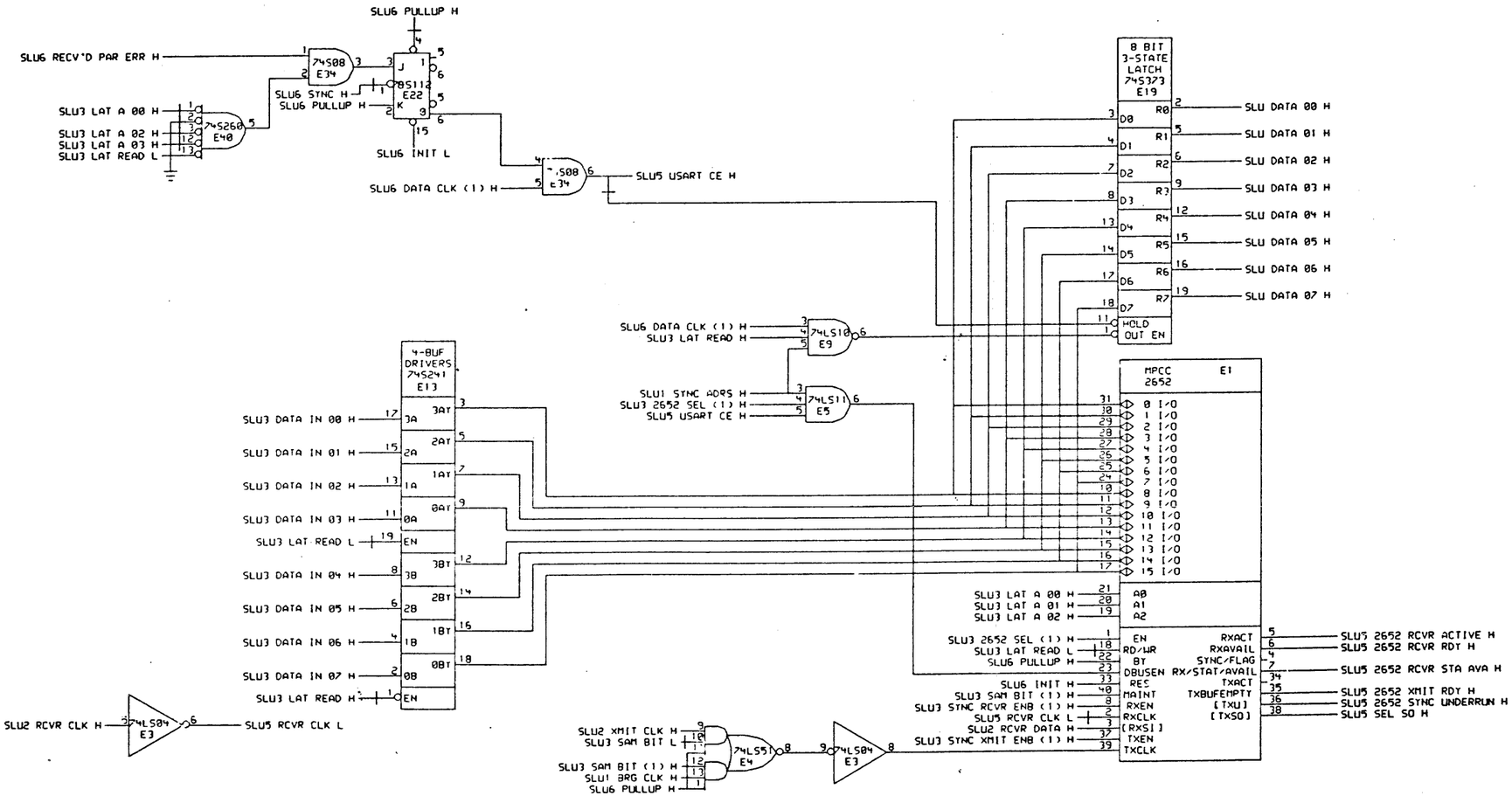
REVISIONS		
CHK	CHANGE NO.	REV

DRN. SCM
CHK'D.
DATE 25-MAY-84
ENG.
DATE
BOARD LOCATIONS:
SHEET 1 OF 1
NEXT HIGHER ASSEMBLY:
M3100-0-0

TITLE: SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3100-0-SLU4	C

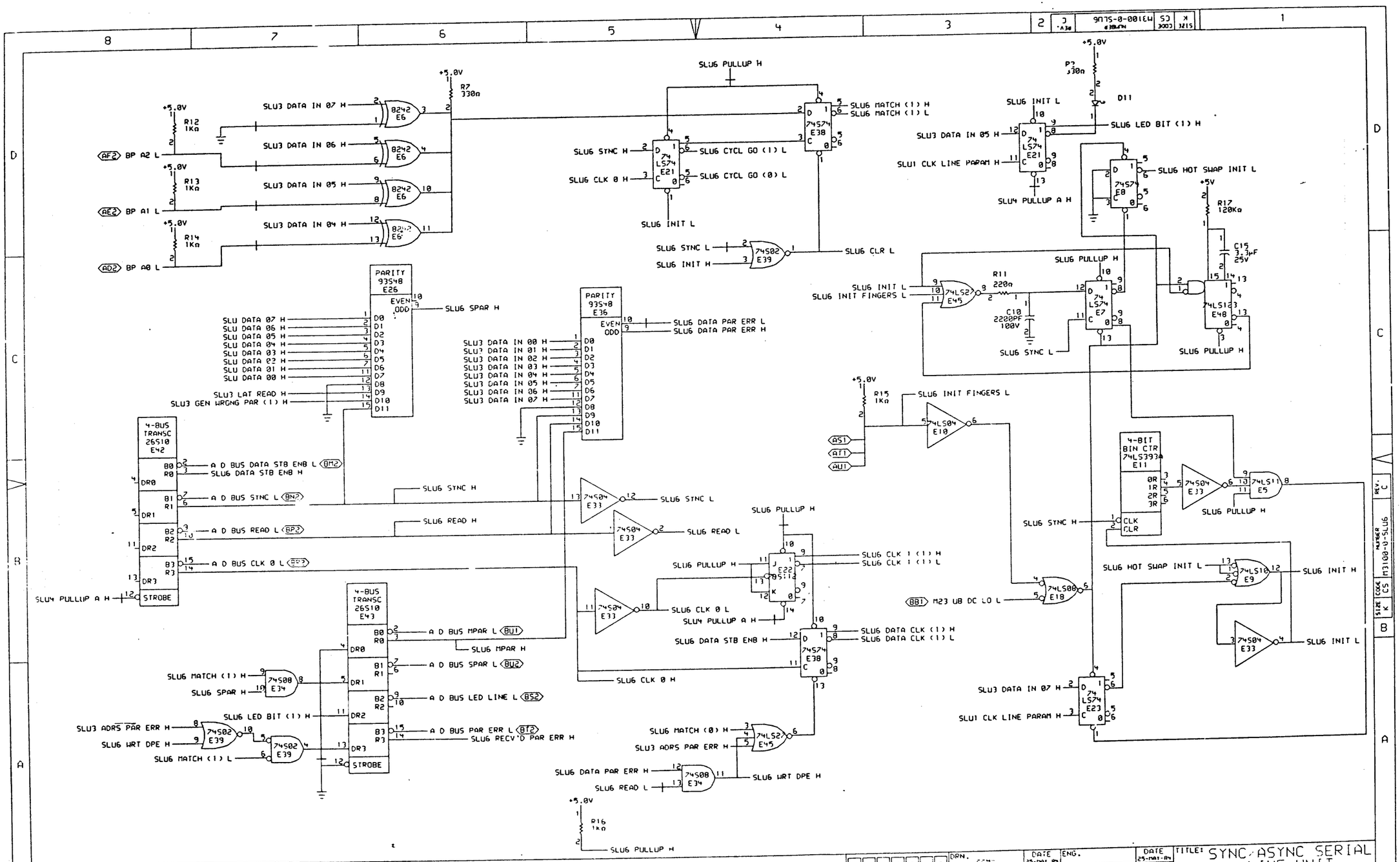


REVISIONS		
CHK	CHANGE NO.	REV

DRN. SCM | DATE 29-MAY-84 | ENG. | DATE 29-MAY-84
CHK'D. | DATE | BOARD LOCATION: SHEET 1 OF 1
ASSEMBLY NUMBER: 54-10-00 | 10-MAY-84 10:51 | NEXT HIGHER ASSEMBLY: D-UA-M3100-0-0
FIRST USED | MACHINE MODEL: DECSA

TITLE: SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3100-0-SLU5	C



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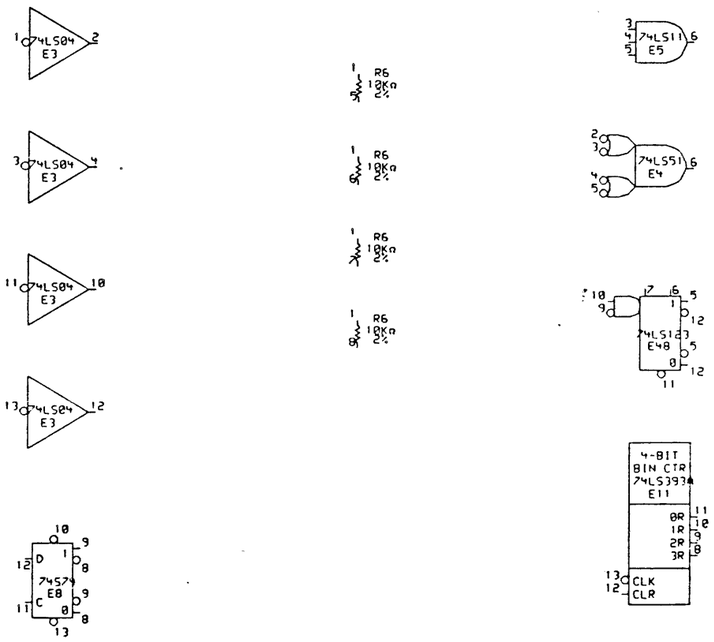
REVISIONS		
CHK	CHANGE NO.	REV

DRN. SCM	DATE 25-MAY-84	ENG.	DATE 25-MAY-84
CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1	
MACHINE PLOT	15:50	NEXT HIGHER ASSEMBLY: D-UA-M3100-0-0	
FIRST USED IN OPTION/MODEL:			

TITLE: SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3100-0-SLU6	C

SPARE GATES



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REVISIONS		
CHK	CHANGE NO.	REV

DRN. SCM	DATE 25-MAY-84	ENG.	DATE 25-MAY-84	TITLE: SYNC/ASYNC SERIAL LINE UNIT	
CHK'D.	DATE	BOARD LOCATION:			
		SHEET 1 OF 1			
ASSEMBLY DRAWING LAST CHANGED ON: 10-MAY-84 14:29		NEXT HIGHER ASSEMBLY: D-UA-M3100-0-0		SIZE K / CODE CS / NUMBER M3100-0-SLU7	REV. D
FIRST USED ON SYSTEM MODEL: DEC5A					

DASH BUS TRANSCEIVERS

DASH BUS

SLU DATA 7:0 8

(SLU3) 26S10 TR EN — DA0-3

(SLU3) LS373 ADRS LATCH — DATA PAR ERR, DA0-3, READ H → LAT READ H, ADRS PAR ERR, LAT ADRS 0-4

LAT READ L

SLU DATA IN 0-7

(SLU3) 26S10 TR EN — DA4-7

(SLU6) BUFFER — LAT READ H

(SLU6) 26S10 TR EN — SYNC, DATA STRB READ CLK0; +3.0V

(SLU6) PAR GEN EO — SYNC, LAT READ H GEN WRNG PAR

(SLU6) PAR CHK — MPAR

(SLU6) ADRS MATCH — DA 4-7 H, SLOT ID → MATCH

(SLU6) 26S10 TR EN — MPAR, SPAR, PAR ERR, LED LINE → ADRS PAR ERR H, DATA PAR ERR H

(SLU1) BAUD RATE GEN — SLU DATA IN 0-7

(SLU4) STATUS REG — 2652 SEL, MC

(SLU3) PARAMTR REG — SLU DATA IN 0-7

(SLU1) ADRS DECODE — 2652 SEL, CLK0,CLK1, MATCH H → READ MOD IN, WRT MOD OUT, READ MC

(SLU6) RCV DATA RETRY LATCH

(SLU5) 2652 (SYNC) CE ST CLK SO SI

(SLU3) MODEM OUT — WRT MOD OUT

(SLU4) MODEM IN

(SLU2) SERIAL LINE DRIVERS

(SLU2) SERIAL LINE RCVRS

(SLU2) RS232-C

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REVISIONS		
CHK	CHANGE NO.	REV

DRN. CAMP	DATE 25-MAY-84	ENG.	DATE 25-MAY-84
CHK'D.	DATE	BOARD LOCATION:	
USED ON PROPOSED SYSTEM:	10-MAY-84 11:16	HIGHER ASSEMBLY:	
FIRST USED IN OPTION MODEL: DEC A		D-UA-M3100-0-0	

TITLE: SYNC/ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3100-0-SLU8	C

SHEET 1 OF 1

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS	
1		-	M3101-00	V.35 LINE CARD		A1	A2
2	D-UA-M3101-0-0	1		UNIT ASSEMBLY		A	B
3	K-PL-M3101-0-DBP	2		PARTS LIST		A	B
4	K-CS-M3101-0-DBS	-		SUDS DATA BASE		A	A
5	K-CS-M3101-0-SL1	1		SCHEMATIC		A	A
6	K-CS-M3101-0-SL2	1		SCHEMATIC		A	A
7	K-CS-M3101-0-SL3	1		SCHEMATIC		A	A
8	K-CS-M3101-0-SL4	1		SCHEMATIC		A	A
9	K-CS-M3101-0-SL5	1		SCHEMATIC		A	A
10	K-CS-M3101-0-SL6	1		SCHEMATIC		A	A
11	K-CS-M3101-0-SL7	1		SCHEMATIC		A	A
12	K-CS-M3101-0-SL8	1		SCHEMATIC		A	A
13	K-CS-M3101-0-SL9	1		SCHEMATIC		A	A
14	K-CS-M3101-0-SL10	1		SCHEMATIC		A	A
15	K-CS-M3101-0-SL11	1		SCHEMATIC		A	A
16	K-CS-M3101-0-SL12	1		SCHEMATIC		A	A
17	K-CS-M3101-0-SL13	1		SCHEMATIC		A	A
18	K-PC-MM3101-0-DBI	-		PC DATA BASE		C	C
19	K-DD-5014991-0-0	1		DRAWING DIRECTORY		A	A
					DD REV	A	B

NOTES:

REVISION HISTORY

ENG	ECO NUMBER	REV
--	INITIAL	A
JD	M3101-MK001	B

CONT. REVISION HISTORY

ENG	ECO NUMBER	REV

MADE BY: A. KRAWIECKI
DATE: 10 SEP 84

CHECKED BY: J. FALKOWSKI
DATE: 10 SEP 84

DESIGN ENGINEER: J. DOHERTY
DATE: 10 SEP 84 10/14/84

RESPONSIBLE ENG: J. DOHERTY
DATE: 10 SEP 84 10/10/84

PRODUCTION ENG: W. BROOKE
DATE: 10 SEP 84

d i g i t a l

TITLE DRAWING DIRECTORY

V.35 LINE CARD

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3101-0-0	B

SHEET 1 OF 1 MKO

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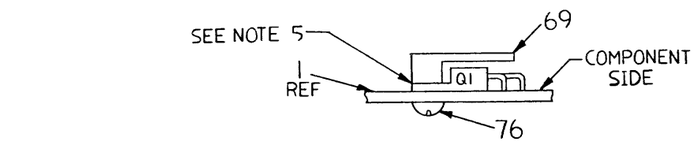
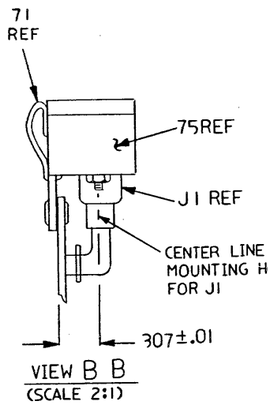
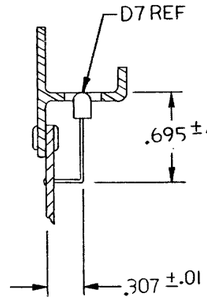
SIZE D | CODE UA | NUMBER M3101-0-0 | REV B



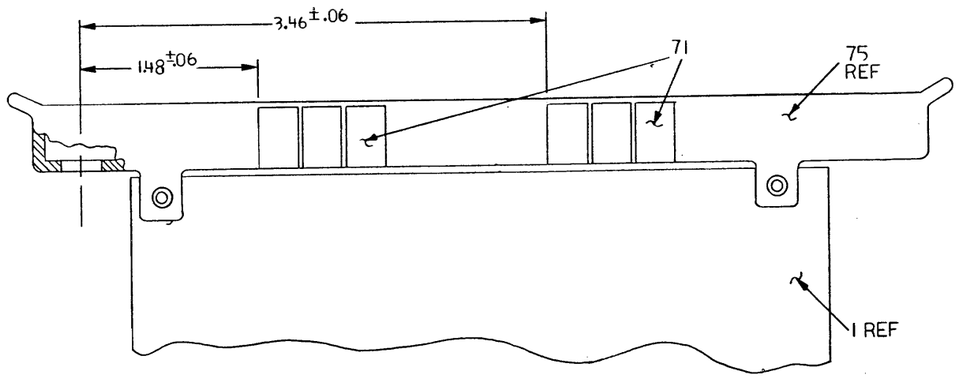
VIEW C-C
(NO SCALE)



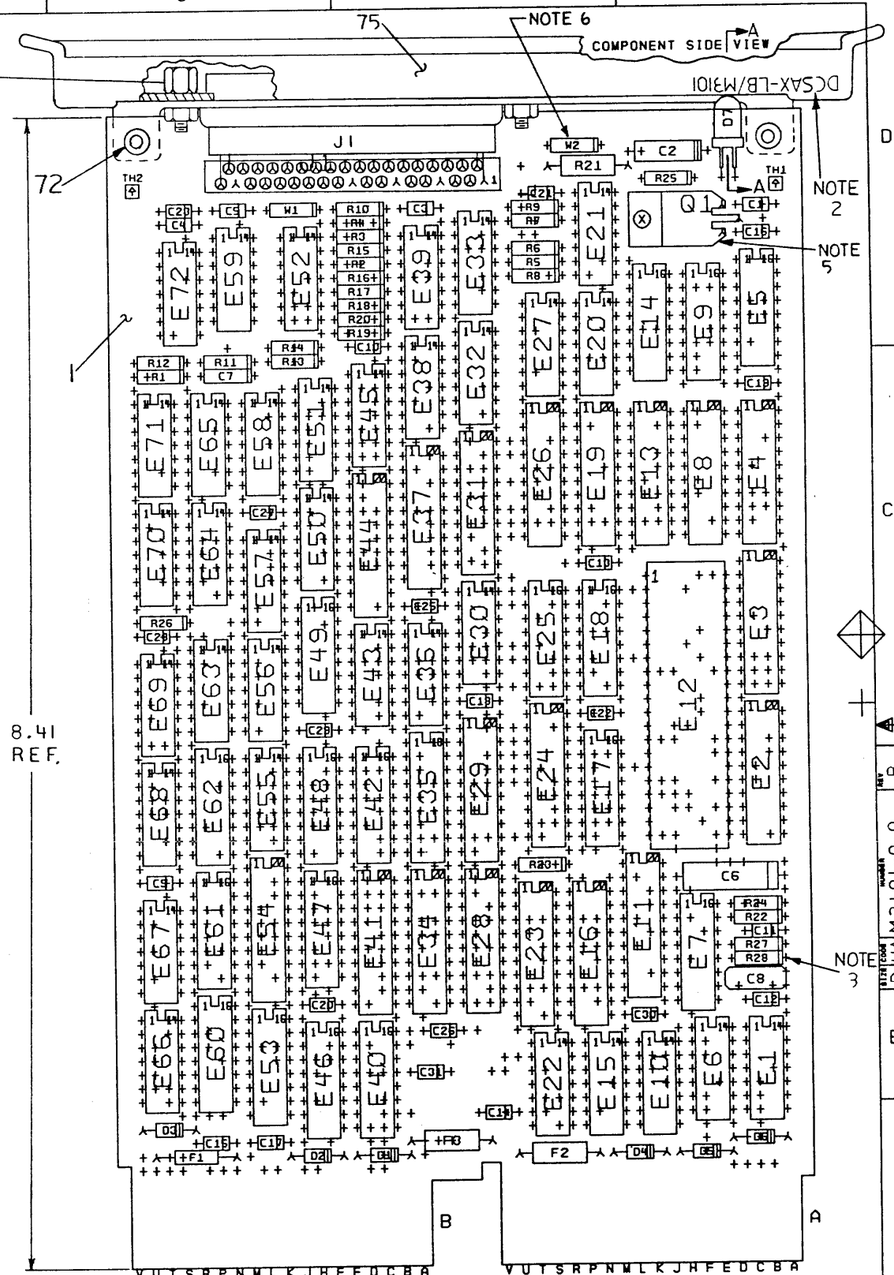
VIEW B B
(SCALE 2:1)



SECTION A-A
(SCALE 2:1)



SIDE 2 VIEW
(NO SCALE)



NOTES:
1. UL REQUIREMENT IS LPWR.
2. STAMP LOCATION/DIRECTION OF MODULE TYPE: DCSAX-LB/M3101
3. SPARE LOCATIONS ARE: E49, E65, R28
4. REF DESIGNATION C24 IS NOT USED

STEP E	↑ Y AXIS ___	STEP 0 TIMES
REPEAT	→ X AXIS 5.187	STEP 1 TIMES

CHK	CHANGE NO	REV
	M3101-MK001	B

5. INSTALL ITEM 77 (THERMAL COMPOUND) BETWEEN ITEM 68 (Q1) AND ITEM 69 (HEAT SINK).
6. W2 IS NOT NORMALLY INSTALLED.

ETCH REV. CIP2

SIGNATURES	DATE
DRN.	10DEC83
CHK'D.	20 DEC 83
MECH.ENG.	24 DEC 83
PROJ.ENG.	24 DEC 83
PROD.	24 DEC 83

digital

TITLE: V.35 LINE CARD

SCALE 2-1
SHT. 1 OF 1
NEXT HIGHER ASSY. B-DD-M3101-0-0

MKO

WO# 170481C

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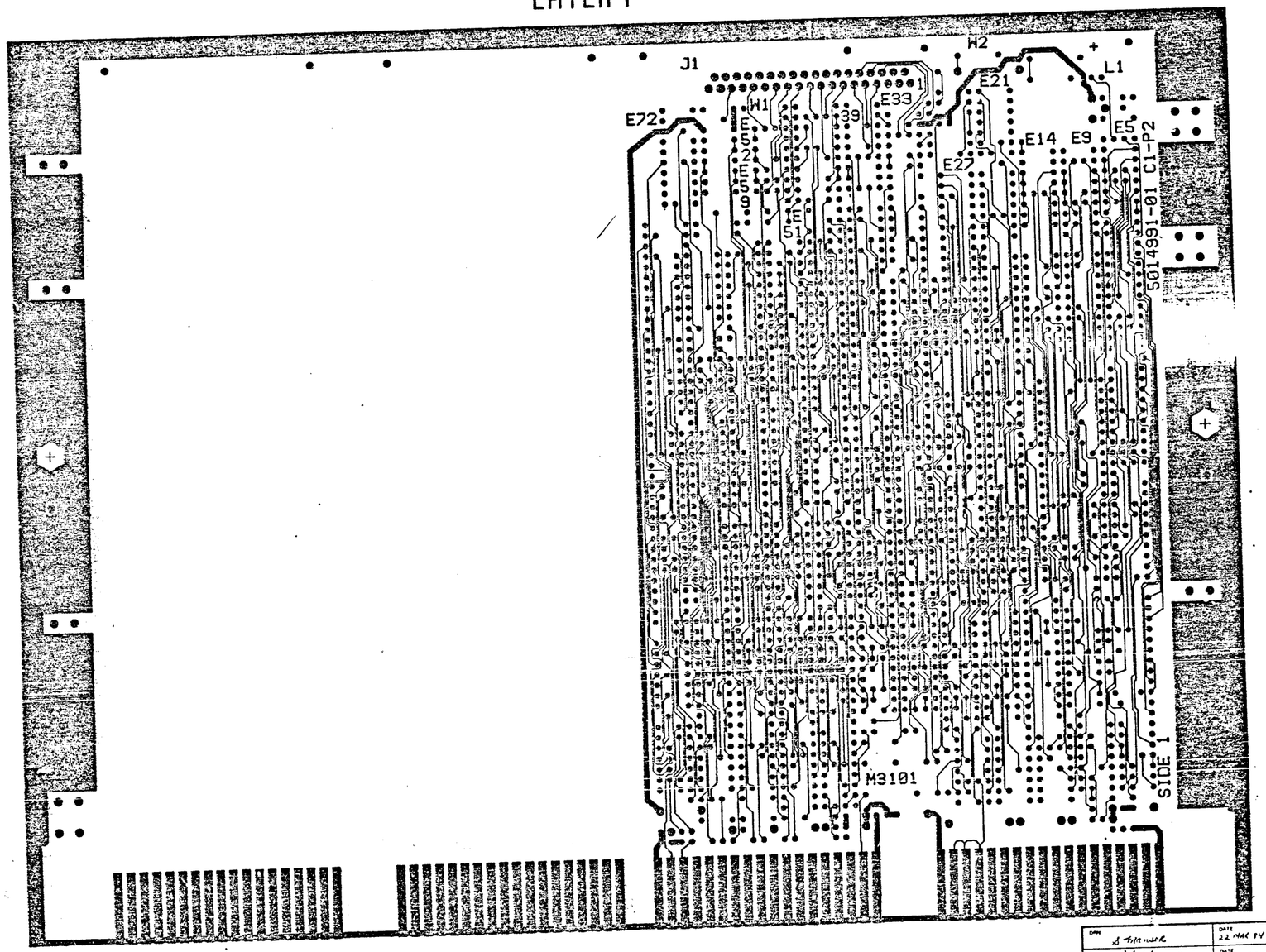
LAYER 1



REVISION HISTORY		
REV	ECO NUMBER	DATE

DRN B Fitzmaurice	DATE 22 MAR 84	TITLE ETCH CUT DRAWING
CHK'D J Fairfield	DATE 26 MAR 84	digital
DES ENG John Haggerty	DATE 26 Mar 84	
MFG ENG Jeff Haggerty	DATE 26 Mar 84	
MFG ENG Joan Craig	DATE 28 Mar 84	
TOP DOC NO B-DD-5014991-0-0		DOCUMENT NUMBER: SIZE D, CODE EC, NUMBER 5014991-0-0, REV A; SCALE 2/1, SHEET 1, OF 2

DRD 1024
EN-01283-16-REVA-1981

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LAYER 4

REVISION HISTORY		
DATE	ECO NUMBER	REV

TITLE: ETCH CUT DRAWING

DOCUMENT NUMBER			
SIZE	CODE	NUMBER	REV.
D	DEC	5014991 - 0 - 0	A

SCALE 2/1 SHEET 2 OF 2

DRD 137A

SAT CODE DEC 5014991 - 0 - 0 REV A

AUTOMATED BY PRTLST,4Q(50)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
1	1	D-MD-5014991-0-0	5014991-01		V.35 LINE CARD	1	
2	2		1105796-00		PIV= 400 IO= 1.00A 1N4004 DO-41	6	D1-D6
3	3		1220398-05		CONN,D SUB 37PIN ASSY RT ANGLE	1	J1
4	4		1300005-01		R NETWORK 13-1K 5.0 % 14PIN	1	E5
5	5		1300228-00		100.0 .50 W 5.0 % CF	1	R21
6	6		1300247-00		120.0 .25 W 5.0 % CF	3	R2,R5,R8
7	7		1300271-00		220.0 .25 W 5.0 % CF	1	R1
8	8		1300295-00		330.0 .25 W 5.0 % CF	2	R25,R26
9	9		1300365-00		1.0 K .25 W 5.0 % CF	2	R23,R24
10	10		1300539-00		120.0 K .25 W 5.0 % CF	1	R22
11	11		1301890-00		560.0 .25 W 5.0 % CF	2	R19,R20
12	12		1312928-00		51.0 .25 W 5.0 % CF	6	R3,R4,R6,R7,R9,R10
13	13		1312930-00		5.10 K .25 W 5.0 % CF	1	R27
14	14		1909712-00		DEC 8242 COMPARATOR-48IT N,	1	E1
15	15		1910268-00		DEC 75107B RECEIVER,LINE,DUAL,	2	E33,E39
16	16		1910322-00		DEC 1488L DRIVER,LINE,QUAD,EI	1	E59
17	17		1913130-00		DEC 1489A RECEIVER,LINE,QUAD,	1	E72
18	18		1910532-00		74S00 NAND GATE-QUAD 2IN	1	E38
19	19		1910534-00		74S04 INVERTER GATE-HEX 1I	1	E57
20	20		1910544-00		74S74 FF-D DUAL,EDGE TRIGG	2	E50,E68
21	21		1910545-00		74S112 FF-JK DUAL,EDGE TRIG	1	E62
22	22		1910548-00		74S157 MUX 1 OF 2 (QUAD)	1	E18
23	23		1911675-00		74S138 DECODER/DEMUX 3-8 LI	1	E48
24	24		1912388-00		74S02 NOR GATE-QUAD 2IN,PO	1	E67
25	25		1912389-00		74S08 AND GATE-QUAD 2IN,PO	1	E64
26	26		1912742-00		75112 DRIVER,DUAL LINE	1	E52
27	27		1912801-00		LS02 NOR-GATE-QUAD 2IN	2	E32,E55
28	28		1912803-00		LS04 INVERTER GATE,HEX	3	E15,E27,E30
29	29		1912805-00		LS08 AND GATE-QUAD 2IN,PO	1	E22
30	30		1912807-00		LS10 NAND GATE-TRIPLE 3IN	1	E70

REVISION HISTORY			BASIC PART NO: M3101
ENG	ECO NUMBER	REV	SECTION A OF A
JD	INITIAL	A	SECTION,VARIATION INDEX
JD	M3101-MK001	B	[A] 00
			[B]
			[C]
			[D]
			[E]
			[F]
			[H]
			[J]
			[K]
			[L]
			[M]
			[N]

DRN: S.HANSOR	DATE: 24-OCT-83	DIGITAL	
CHK'D: E.T.GERRY	DATE: 24-OCT-83	TITLE PARTS LIST V.35 LINE CARD	
DES.ENG: D.REMBOSKI	DATE: 25-OCT-83	DOCUMENT NUMBER	
		SIZE / CODE / NUMBER	REV
RESP.ENG.: J.BUZYNSKI	DATE: 25-OCT-83	K / PL / M3101-0-DBP	B
MFG.ENG.: BILL SWAN	DATE: 16-DEC-83	RELEASE DATE: 15-OCT-84	
ASSEMBLY NUMBER: D-UA-M3101-0-0	TOP DOCUMENT NUMBER: B-DD-M3101-0-0	FILE NAME: MK1141.PLS	EDIT # 15

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AUTOMATED BY PRTLST,40(50)

P A R T S L I S T

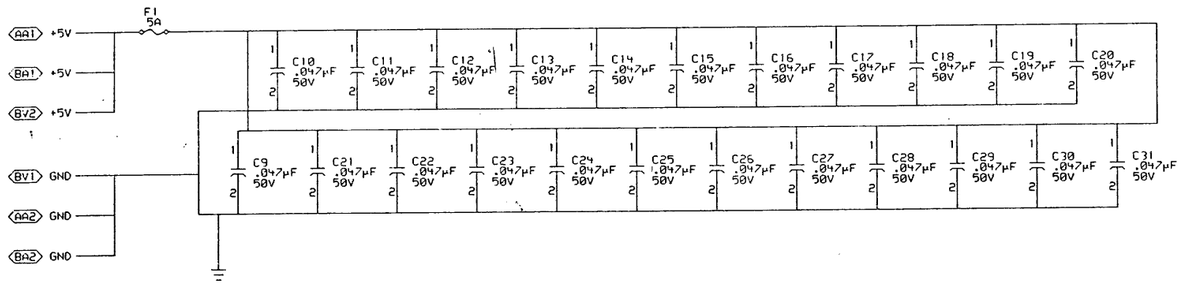
LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
31	31		1912813-00		LS27 NOR GATE-TRIPLE 3IN	1	E66
32	32		1912820-00		LS51 A-O-I GATE 2-WIDE 2I	1	E36
33	33		1912824-00		LS74 FF-D DUAL,EDGE TRIGG	7	E10,E43,E45,E51,E56,E58,E63
34	34		1912830-00		LS90 COUNTER,ASYNCH UP,DE	1	E71
35	35		1912837-00		LS123 ONE SHOT-DUAL,RETRIG	1	E7
36	36		1912847-00		LS157 MUX 1 OF 2(QUAD)	1	E25
37	37		1912849-00		LS161 COUNTER,SYNCHR,4BIT	3	E5,E9,E14
38	38		1912853-00		LS175 FF-D QUAD	1	E42
39	39		1912863-00		LS273 FF-D OCTAL W/CLEAR	1	E29
40	40		1913340-00		74S32 OR GATE-QUAD 2IN	1	E21
41	41		1913493-00		74S241 OCTAL BUFFER,TRI-STA	1	E24
42	42		1913670-00		74S373 LATCH,8BIT TRANS TRI	2	E41,E54
43	43		1913671-50		74S374 FF-D,OCTAL,TRI STATE	1	E16
44	44		1913788-00		26S10 TRANSCEIVER,BUS,QUA	4	E40,E46,E53,E60
45	45		1914085-00		74S260 NOR GATE-DUAL,POS	1	E69
46	46		1914866-00	AM	93S48PCGEN/CHECK PARITY, 48	3	E17,E47,E61
47	47		1915193-00		LS244 DRIVER,LINE,OCTAL,I	4	E3,E11,E28,E34
48	48		1915218-00		LS245 TRANSCEIVER,BUS,OCT	1	E2
49	49		1915219-00		LS373 FF-D OCTAL-TRANSPARE	1	E23
50	50		1915932-00		LS125 BUFFER,QUAD BUS	1	E20
51	51		2112517-01		RECIEVER/TRANSMITTER	1	E12
52	52		2112623-00		DUAL BAUD RATE GEN/PROG DIVIDER,	1	E35
53	53		2119250-00		4KX4 STATIC RAM 55NS	4	E4,E8,E13,E19
54	54		9009185-00		JUMPER, WIRE, INSULATED, BLACK 8	1	W1
55	55		1110324-01		LED 1MCD@10MA PIV=3 .750 MIN. LE	1	D7
56	56		1012784-00		.047 MFD 50V +80-20% CER	26	C1,C3-C5,C9-C23,C25-C31
57	57		1001776-00		1 MFD 35V 10% S.TANT	1	C2
58	58		1005334-00		3.3MFD 20V 10% S.TANT	1	C6
59	59		1013466-12		2200.0 MMF 50V 10% X7R CER	1	C7
60	60		23060K5-00		K5-03 PAL,OCTAL,REG	1	E26
61	61		23049K4-00		K4-03 PAL,HEX REG	1	E31
62	62		23131J5-00		J5-03 PAL,LOGIC	1	E37
63	63		23132J5-00		J5-03 PAL,LOGIC	1	E44
64	64		1205747-00		FUSE, SUB-MINI, 5.000A, 125V, A	1	F1
65	65		1210929-02		FUSE, SUB-MINI 1.000A, 125V, A	2	F2,F3
66	66		1316736-00		374.0 .25 W 1.0 % RN55D-F10	4	R11,R12,R15,R16
67	67		1316115-00		35.70 .25 W 1.0 % RN55D-F10	4	R13,R14,R17,R18
68	68		1914437-00		7905 VOLT REG,FIX -5V	1	Q1
69	69		7414765-00		HEATSINK	1	
70	70		1002424-00		1200.0 MMF 100V 5%200PPM MICA	1	C8
71	71		1221494-01		SHIELDING,RFI	2	
72	72		9009000-00		EYELET,ROLLED 0.1210DX0.156	2	
73	73		9008451-01		SCREW LOCK,STANDOFF ONLY .060TH	2	
74	75	D-MD-7430547-0-DBU	7430547-04		HANDLE,LC	1	
75	76		9006010-01		SCREW,MACH PAN PHIL 4-	1	
76	77		9008268-00		COMPOUND, THERMAL JOINT	A/R	

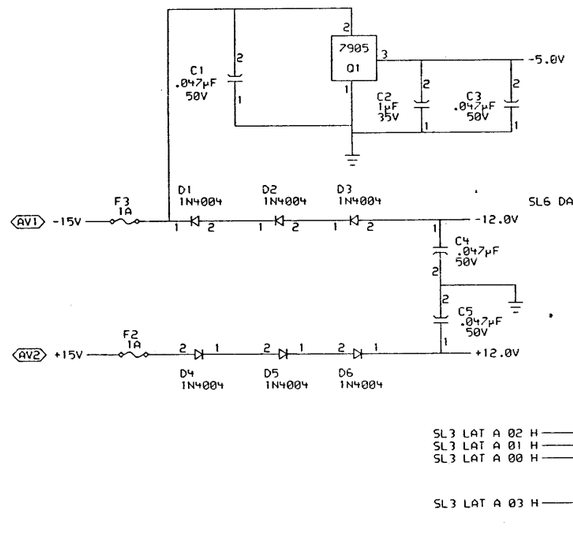
DIGITAL	TITLE	SECTION	SIZE	CODE	DOCUMENT NUMBER	REV
	V.35 LINE CARD	A OF A	K	PL	M3101-0-DBP	B

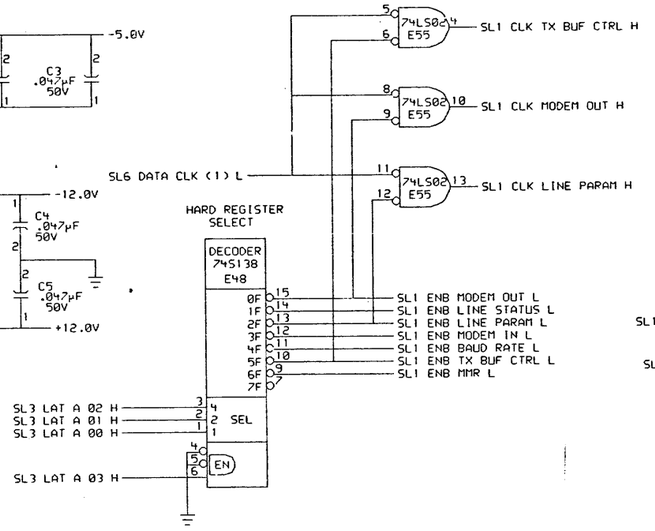
LINE ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
				VARIATION REVISION LEVEL:		

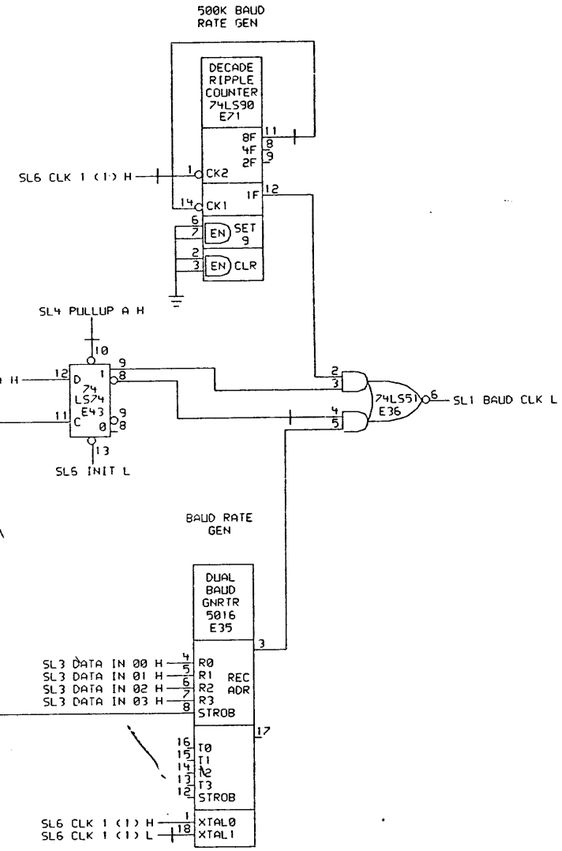
77 NOTE: DO NOT INSTALL JUMPER W2 (CUSTOMER OPTION).
78 NOTE: REF.DES. C24 IS NOT USED.
79 NOTE: SPARE LOCATIONS ARE E49,E65,R28.

DIGITAL	TITLE V.35 LINE CARD	SECTION A OF A	SIZE K	CODE PL	DOCUMENT NUMBER M3101-0-DBP	REV B









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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN. | DATE 04-MAY-84 | ENG. | DATE 04-MAY-84

CHK'D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSPD:<PLOURDE>HSL1.DRW 26-JAN-84 13:23 | NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0

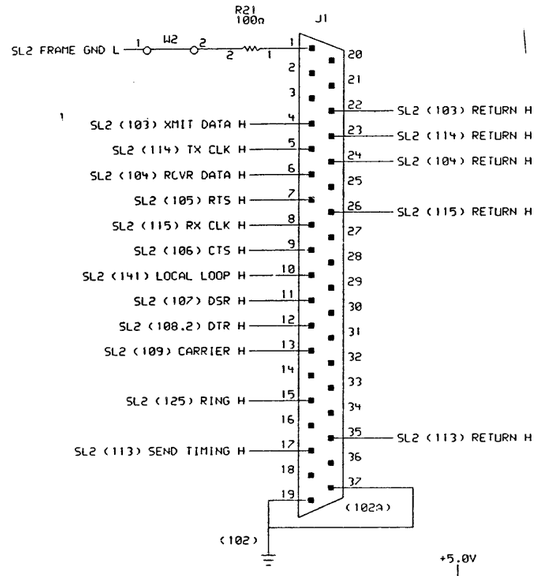
FIRST USED ON OPTION/MODEL: DECSA

TITLE: V.35 HIGH SPEED SYNC LINE CARD

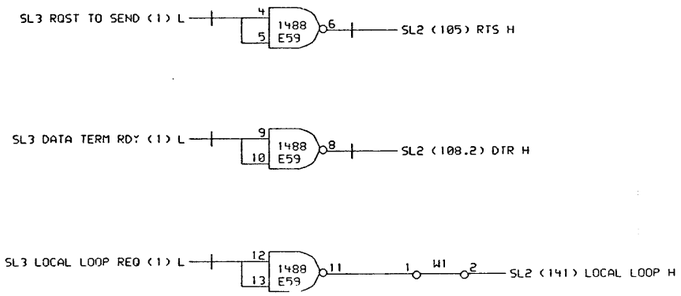
SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL1	A

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL1	A

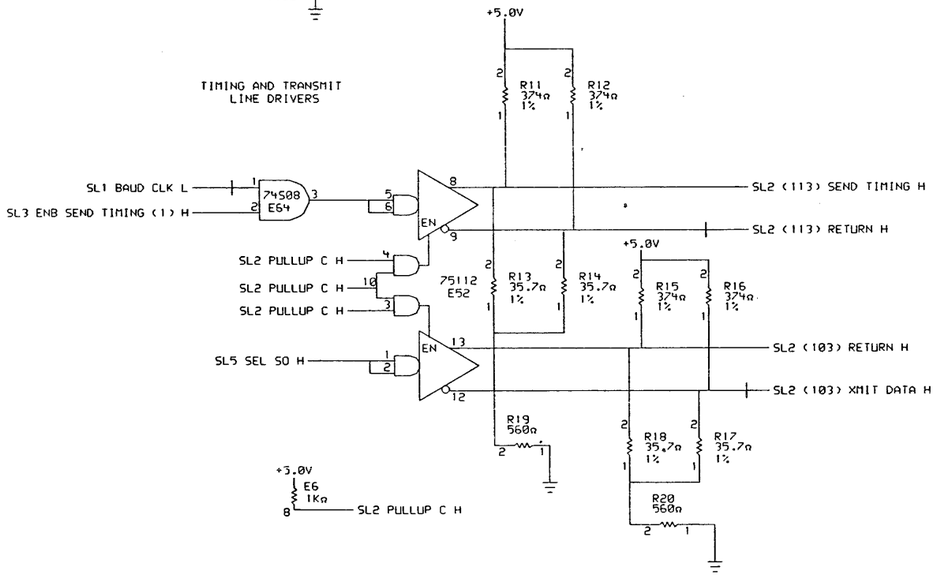
NOTE: W2 NOT NORMALLY INSTALLED



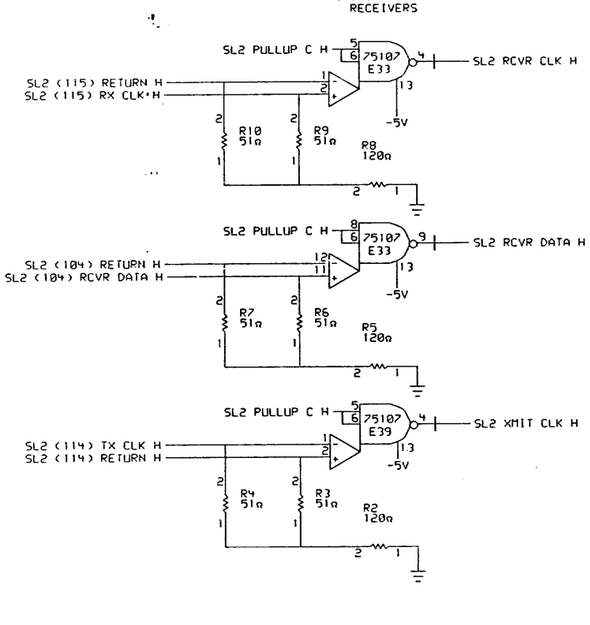
MODEM LINE DRIVERS



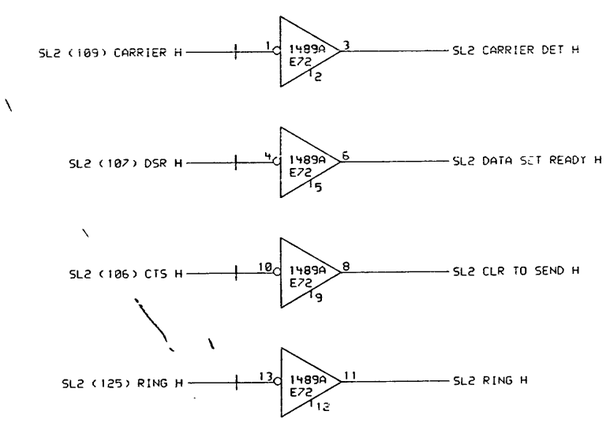
TIMING AND TRANSMIT LINE DRIVERS



TIMING AND DATA RECEIVERS



MODEM LINE RECEIVERS



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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN.	DATE 04-MAR-84	ENG.	DATE	TITLE: V.35 HIGH SPEED SYNC LINE CARD
	CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKD::<PLOURDE>MSL2.DRW 26-JAN-84 13:25			NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0		SIZE K / CODE CS / NUMBER M3101-0-SL2 / REV. A
FIRST USED ON OPTION/MODEL: DECSA					

DASH BUS TO LINE CARD TRANSCEIVERS

PARITY ERROR RETRY LATCH

8 BIT 3-STATE LATCH 74S373 E41

SLU DATA 07 H
SLU DATA 06 H
SLU DATA 05 H
SLU DATA 04 H
SLU DATA 03 H
SLU DATA 02 H
SLU DATA 01 H
SLU DATA 00 H
SL3 SOFT GND L
HOLD OUT EN

4-BUS TRANSC 26S10 E40

A BUS DATA 7 L (BB2) — SL3 DATA IN 07 H
A BUS DATA 6 L (BD2) — SL3 DATA IN 06 H
A BUS DATA 5 L (BE2) — SL3 DATA IN 05 H
A BUS DATA 4 L (BF2) — SL3 DATA IN 04 H

4-BUS TRANSC 26S10 E46

A BUS DATA 3 L (BH2) — SL3 DATA IN 03 H
A BUS DATA 2 L (BJ2) — SL3 DATA IN 02 H
A BUS DATA 1 L (BK2) — SL3 DATA IN 01 H
A BUS DATA 0 L (BL2) — SL3 DATA IN 00 H

STROBE

+5.0V
E6 1KΩ
SL3 PULLUP E H

SL6 RECV'D PAR ERR H
SL6 SYNC H
74S112 E62
SL6 INIT L

SL6 MATCH (1) H
SL3 LAT READ H
SL3 ADRS PAR ERR L
74LS10 E70

MODEM OUT REGISTER

4 D FF 74LS175 E42

SL3 DATA IN 03 H
SL3 DATA IN 02 H
SL3 DATA IN 01 H
SL3 DATA IN 00 H
SL6 INIT L
SL1 CLK MODEM OUT H

SL3 LOCAL LOOP REQ (1) L
SL3 DATA TERM RDY (1) L
SL3 RQST TO SEND (1) L

SL1 ENB MODEM OUT L

QUAD BUFFER 74LS244 E34

SLU DATA 07 H
SLU DATA 06 H
SLU DATA 05 H
SLU DATA 04 H
SLU DATA 03 H
SLU DATA 02 H
SLU DATA 01 H
SLU DATA 00 H

QUAD BUFFER 74LS244 E28

R23 1KΩ

SL6 LED BIT (1) H

LINE PARAMETER REGISTER

8 D FLOP 74LS273 E29

SL3 DATA IN 07 H
SL3 DATA IN 06 H
SL3 DATA IN 05 H
SL3 DATA IN 04 H
SL3 DATA IN 03 H
SL3 DATA IN 02 H
SL3 DATA IN 01 H
SL3 DATA IN 00 H
SL6 INIT L
SL1 CLK LINE PARAM H

SL3 GEN WRONG PAR (1) H
SL3 ENB SEND TIMING (1) H
SL3 MAINT MDE (1) H
SL3 SYNC RCVR ENB (1) H
SL3 SYNC XMIT ENB (1) H

SL1 ENB LINE PARAM L

74LS04 E15 — SL3 MAINT MDE L

DASH BUS ADDRESS LATCH

8 BIT 3-STATE LATCH 74S373 E54

SL6 DATA PAR ERR L
SL6 READ H
SL6 DATA PAR ERR H
SL3 DATA IN 03 H
SL3 DATA IN 02 H
SL3 DATA IN 01 H
SL3 DATA IN 00 H
SL6 CYCL GO (1) L
SL3 SOFT GND L
HOLD OUT EN

74S04 E15 — SL3 LAT READ L
74S04 E57 — SL3 LAT A 03 L

SL3 ADRS PAR ERR L
SL3 LAT READ H
SL3 ADRS PAR ERR H
SL3 LAT A 03 H
SL3 LAT A 02 H
SL3 LAT A 01 H
SL3 LAT A 00 H

+5.0V
E6 1KΩ
74S04 E57 — SL3 SOFT GND L

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REVISIONS

CHK	CHANGE NO.	REV

digital

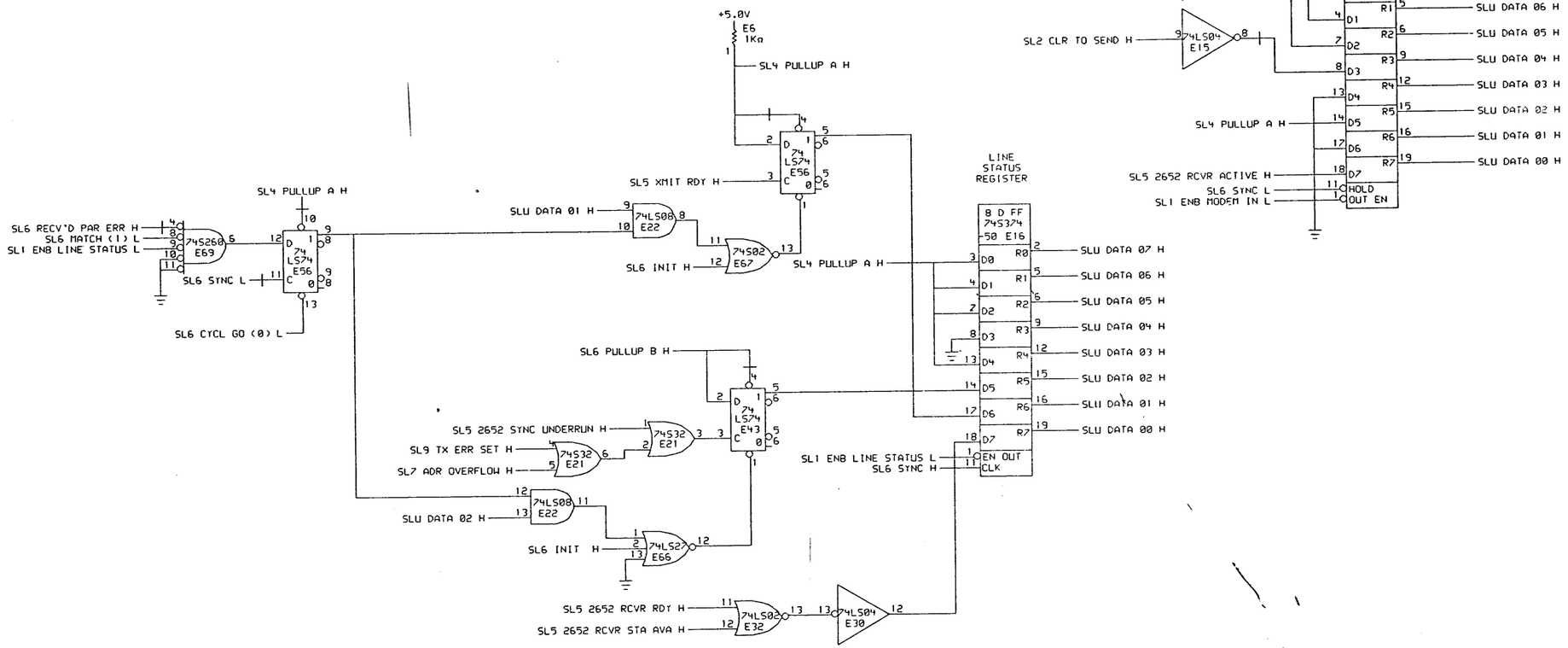
DRN.	DATE	ENG.	DATE
	04-MAY-84		
CHK'D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	

DSKD:<PLOURDE>MSL3.DRW 23-JAN-84 14:04 | NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL3	A



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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN. | DATE 04-MAY-84 | ENG. | DATE
CHK'D. | DATE | BOARD LOCATION: SHEET 1 OF 1
DSKD:(PLOURDE)HSL4.DPW 23-JAN-84 14:17 | NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0
FIRST USED ON OPTION/MODEL: DECSA

TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL4	A

DASH BUS TO LOCAL BUS BUFFER

4-BUF DRIVERS 74S241 E24

SL3 DATA IN 00 H → 17 3A — 3AY 3 → SL5 LOCAL BUS 00 H
SL3 DATA IN 01 H → 15 2A — 2AY 5 → SL5 LOCAL BUS 01 H
SL3 DATA IN 02 H → 13 1A — 1AY 7 → SL5 LOCAL BUS 02 H
SL3 DATA IN 03 H → 11 0A — 0AY 9 → SL5 LOCAL BUS 03 H
SL9 ENB DASH DATA IN H → 19 EN
SL3 DATA IN 04 H → 8 3B — 3BY 12 → SL5 LOCAL BUS 04 H
SL3 DATA IN 05 H → 6 2B — 2BY 14 → SL5 LOCAL BUS 05 H
SL3 DATA IN 06 H → 4 1B — 1BY 16 → SL5 LOCAL BUS 06 H
SL3 DATA IN 07 H → 2 0B — 0BY 18 → SL5 LOCAL BUS 07 H
SL9 ENB DASH DATA IN L → 1 EN

LOCAL BUS TO DASH BUS BUFFER

QUAD BUFFER 74LS244 E11

SL5 LOCAL BUS 00 H → 2 A0 — A0Y 18 → SLU DATA 00 H
SL5 LOCAL BUS 01 H → 4 A1 — A1Y 16 → SLU DATA 01 H
SL5 LOCAL BUS 02 H → 6 A2 — A2Y 14 → SLU DATA 02 H
SL5 LOCAL BUS 03 H → 8 A3 — A3Y 12 → SLU DATA 03 H
1 EN
SL5 LOCAL BUS 04 H → 11 B0 — B0Y 9 → SLU DATA 04 H
SL5 LOCAL BUS 05 H → 13 B1 — B1Y 7 → SLU DATA 05 H
SL5 LOCAL BUS 06 H → 15 B2 — B2Y 5 → SLU DATA 06 H
SL5 LOCAL BUS 07 H → 17 B3 — B3Y 3 → SLU DATA 07 H
SL9 ENB DASH DATA OUT L → 19 EN

LOCAL/DASH 2652 CONTROL SELECT

4X2 MUX 74S157 E18

SL9 2652 LOCAL REG 00 H → 2 0-DA
SL3 LAT A 00 H → 3 1-DA — YA 4
SL3 LAT A 01 H → 5 0-DB
6 1-DB — YB 7
SL3 LAT A 02 H → 14 0-DC
13 1-DC — YC 12
SL6 PULLUP B H → 11 0-DD
SL3 LAT READ L → 10 1-DD — YD 9
SL9 2652 LOCAL ENB L → 1 S SEL
15 EN

BUFFER MODE SELECT

SL6 PULLUP B H → 10
SL7 TXE 04 H → 12 D
SL9 TXE LATCH H → 11 C — 74LS74 E63 — 9 8 1 0 8 9 — 13 → SL6 INIT L

4X2 MUX 74LS157 E25

SL3 SYNC XMIT ENB (1) H → 2 0-DA
3 1-DA — YA 4
SL5 2652 XMIT RDY H → 5 0-DB
SL9 CLR SEND RAM H → 6 1-DB — YB 7 → SL5 XMIT RDY H
14 0-DC
13 1-DC — YC 12
11 0-DD
10 1-DD — YD 9
SL8 BUF MODE H → 1 S SEL
SL3 SOFT GND L → 15 EN

SL9 2652 DBEN L → 1
SL9 LOCAL DBEN L → 2 — 74S00 E38 — 3

MPCC 2652 E12

SL5 LOCAL BUS 00 H → 31 D0 I/O
SL5 LOCAL BUS 01 H → 30 D1 I/O
SL5 LOCAL BUS 02 H → 29 D2 I/O
SL5 LOCAL BUS 03 H → 28 D3 I/O
SL5 LOCAL BUS 04 H → 27 D4 I/O
SL5 LOCAL BUS 05 H → 26 D5 I/O
SL5 LOCAL BUS 06 H → 25 D6 I/O
SL5 LOCAL BUS 07 H → 24 D7 I/O
10 D8 I/O
11 D9 I/O
12 D10 I/O
13 D11 I/O
14 D12 I/O
15 D13 I/O
16 D14 I/O
17 D15 I/O
21 A0
20 A1
19 A2
SL9 2652 CE H → 1 EN — RXACT 5 → SL5 2652 RCVR ACTIVE H
18 RD/WR — RXAVAIL 6 → SL5 2652 RCVR RDY H
SL6 PULLUP B H → 22 BT — SYNC/FLAG 4
23 DBUSEN — RX/STAT/AVAIL 7 → SL5 2652 RCVR STA AVA H
SL6 INIT H → 33 RES — TXACT 34
SL3 MAINT MDE (1) H → 40 MAINT — TXBUFEMPTY 35 → SL5 2652 XMIT RDY H
SL3 SYNC RCVR ENB (1) H → 8 RXEN — [TXU] 36 → SL5 2652 SYNC UNDERRUN H
SL2 RCVR CLK H → 2 RXCLK — [TXSO] 38
3 [RXSI]
SL2 RCVR DATA H → 37 TXEN
39 TXCLK

SL6 PULLUP B H → 74S08 E64 → SL5 SEL SO H

SL2 XMIT CLK H → 9
SL3 MAINT MDE L → 10
11 — 74LS51 E36 — 8
SL3 MAINT MDE (1) H → 12
13
SL6 PULLUP B H → 1

SL1 BAUD CLK L → 3 — 74LS04 E30 — 4

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REVISIONS

CHK	CHANGE NO.	REV

digital

DRN. | DATE 04-MAY-84 | ENG. | DATE
CHK 'D. | DATE | BOARD LOCATION: SHEET 1 OF 1

DSKD:<PLOURDE>M3L5.DRW 23-JAN-84 14:18 | NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION-MODEL: DECSA | E-UA-M3101-0-0

TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL5	A

M3101-0-SL5 REV. A

SIZE K | CODE CS | NUMBER M3101-0-SL6 | REV. A

SL3 DATA IN 07 H
SL3 DATA IN 06 H
SL3 DATA IN 05 H
SL3 DATA IN 04 H
8242 E1
+5.0V
E6 1KΩ
AF2 BP A2 L
AE2 BP A1 L
AD2 BP A0 L
R26 330Ω
SL6 PRE MATCH H
SL4 PULLUP A H
SL2 PULLUP C H
SL6 SYNC H
SL6 CLK 0 H
74S74 E50
SL6 CYCL GO (1) L
SL6 CYCL GO (0) L
SL6 DB INIT L
SL6 MATCH (1) H
SL6 MATCH (1) L
74S74 E68
SL6 SYNC L
SL6 DB INIT H
74S02 E67
SL6 CLR L
HOT SWAP INIT CIRCUIT
R22 120KΩ
C6 3.3μF 100V
74LS123 E7
SL6 DB INIT L
APPROX. TIME: 180 MSEC
SL6 PULLUP B H
74LS03 E55
R1 220Ω
C7 .0022μF 100V
74LS74 E58
SL6 DB INIT L
SL6 DB INIT H
SL6 SYNC L
AS1
AT1
AU1
74LS04 E15
74LS08 E22
BB1 M23 UB DC LO L

PARITY 93S48 E47
SLU DATA 07 H
SLU DATA 06 H
SLU DATA 05 H
SLU DATA 04 H
SLU DATA 03 H
SLU DATA 02 H
SLU DATA 01 H
SLU DATA 00 H
SL3 LAT READ H
SL3 GEN WRONG PAR (1) H
EVEN
ODD
SL6 SPAR H

PARITY 93S48 E61
SL3 DATA IN 00 H
SL3 DATA IN 01 H
SL3 DATA IN 02 H
SL3 DATA IN 03 H
SL3 DATA IN 04 H
SL3 DATA IN 05 H
SL3 DATA IN 06 H
SL3 DATA IN 07 H
SL6 DATA PAR ERR L
SL6 DATA PAR ERR H

4-BUS TRANSC 26S10 E53
DR0
DR1
DR2
DR3
STROBE
A D BUS DATA STB ENB L (BM2)
SL6 DATA STB ENB H
A D BUS SYNC L (BN2)
A D BUS READ L (BP2)
A D BUS CLK 0 L (BR2)
SL2 PULLUP C H
SL6 SYNC H
SL6 READ H
74S04 E57
SL6 SYNC L
SL6 READ L
SL6 CLK 0 L
SL6 CLK 0 H

4-BUS TRANSC 26S10 E60
A D BUS MPAR L (BU1)
SL6 MPAR H
A D BUS SPAR L (BU2)
A D BUS LED LINE L (BS2)
A D BUS PAR ERR L (BT2)
SL6 RECV'D PAR ERR H
SL6 MATCH (1) H
SL6 SPAR H
74S08 E64
SL6 LED BIT (1) H
SL3 ADRS PAR ERR H
SL6 WRT DPE H
SL6 MATCH (1) L
74S02 E67
SL3 SOFT GND L

SL1 CLK LINE PARAM H
SL3 DATA IN 07 H
74S00 E38
SL3 PULLUP E H
SL6 PULLUP B H
SL6 CLK 1 (1) H
SL6 CLK 1 (1) L
74S112 E62
SL6 DATA STB ENB H
SL6 DATA CLK (1) H
SL6 DATA CLK (1) L
74S74 E68
SL6 CLK 0 H
SL6 MATCH (0) H
SL3 ADRS PAR ERR H
74LS27 E66
SL6 DATA PAR ERR H
SL6 READ L
74S08 E64
SL6 WRT DPE H
+5.0V
E6 1KΩ
SL6 PULLUP B H

R27 5.1KΩ
C8 1200PF 100V
SOFTWARE INIT CIRCUIT
APPROX. TIME: 3 MICRO SEC
74LS123 E7
74S04 E57
SL6 INIT L
SL3 PULLUP E H
SL6 DB INIT L
74LS10 E70
SL6 INIT H

R25 330Ω
LED BIT FLIP FLOP
D7
SL6 INIT L
SL3 DATA IN 05 H
SL1 CLK LINE PARAM H
74S74 E50
SL6 LED BIT (1) H
SL4 PULLUP A H

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REVISIONS

CHK	CHANGE NO.	REV

digital

DRN. | DATE 04-MAY-84 | ENG. | DATE

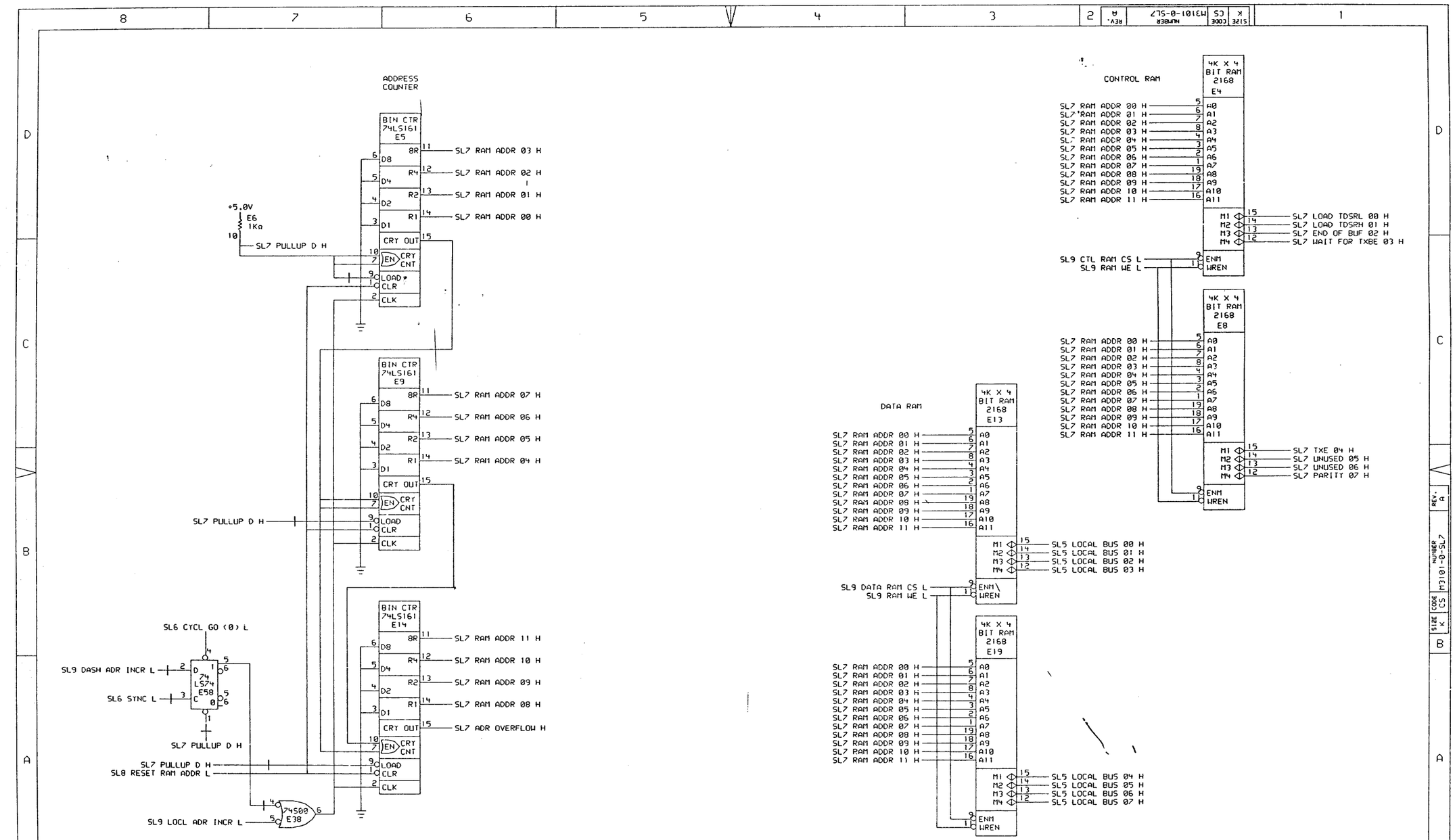
CHK'D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSKD:<PLOURDE>HSL6.DRW 23-JAN-84 14:20 | NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL6	A



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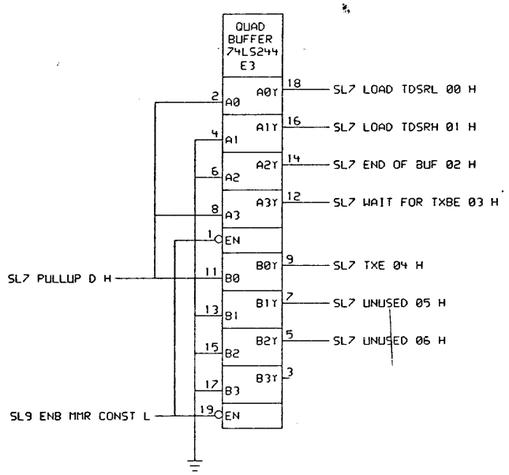
REVISIONS		
CHK	CHANGE NO.	REV

DRN.	DATE 04-MAY-84	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	
DSK D:<PLOURDE>HSLZ.DRW 26-JAN-84 13:41		NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL: DECSA		E-UA-M3101-0-0	

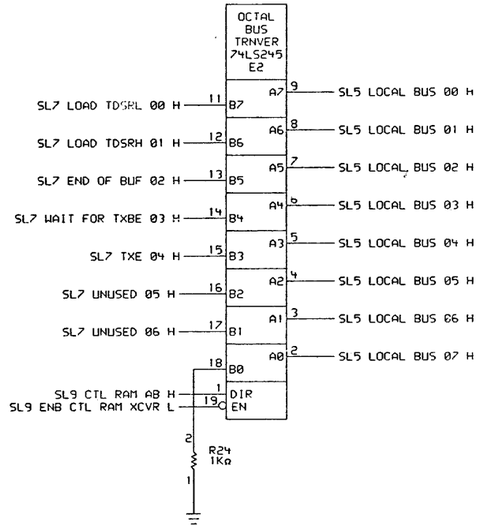
TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL7	A

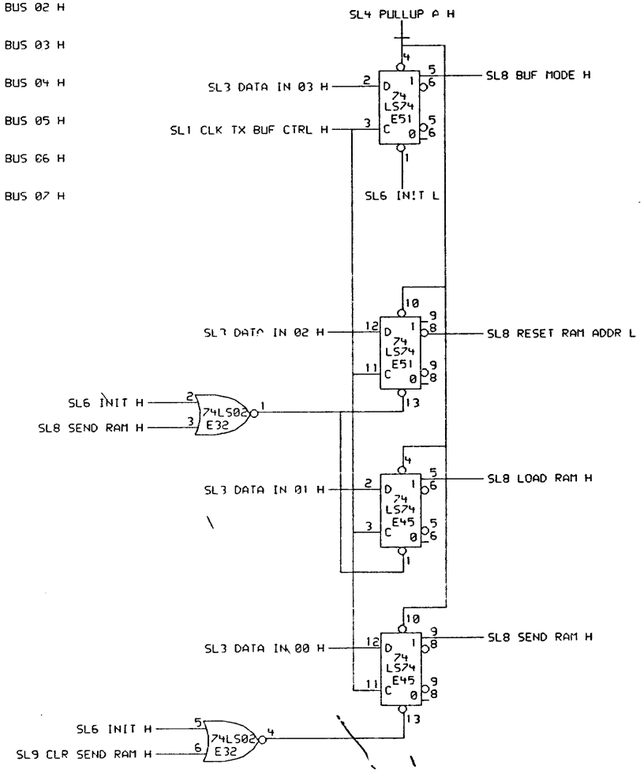
MMR CONSTANT REG



CONTROL RAM TRANCEIVER



TX BUFFER CONTROL REG



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REVISIONS		
CHK	CHANGE NO.	REV

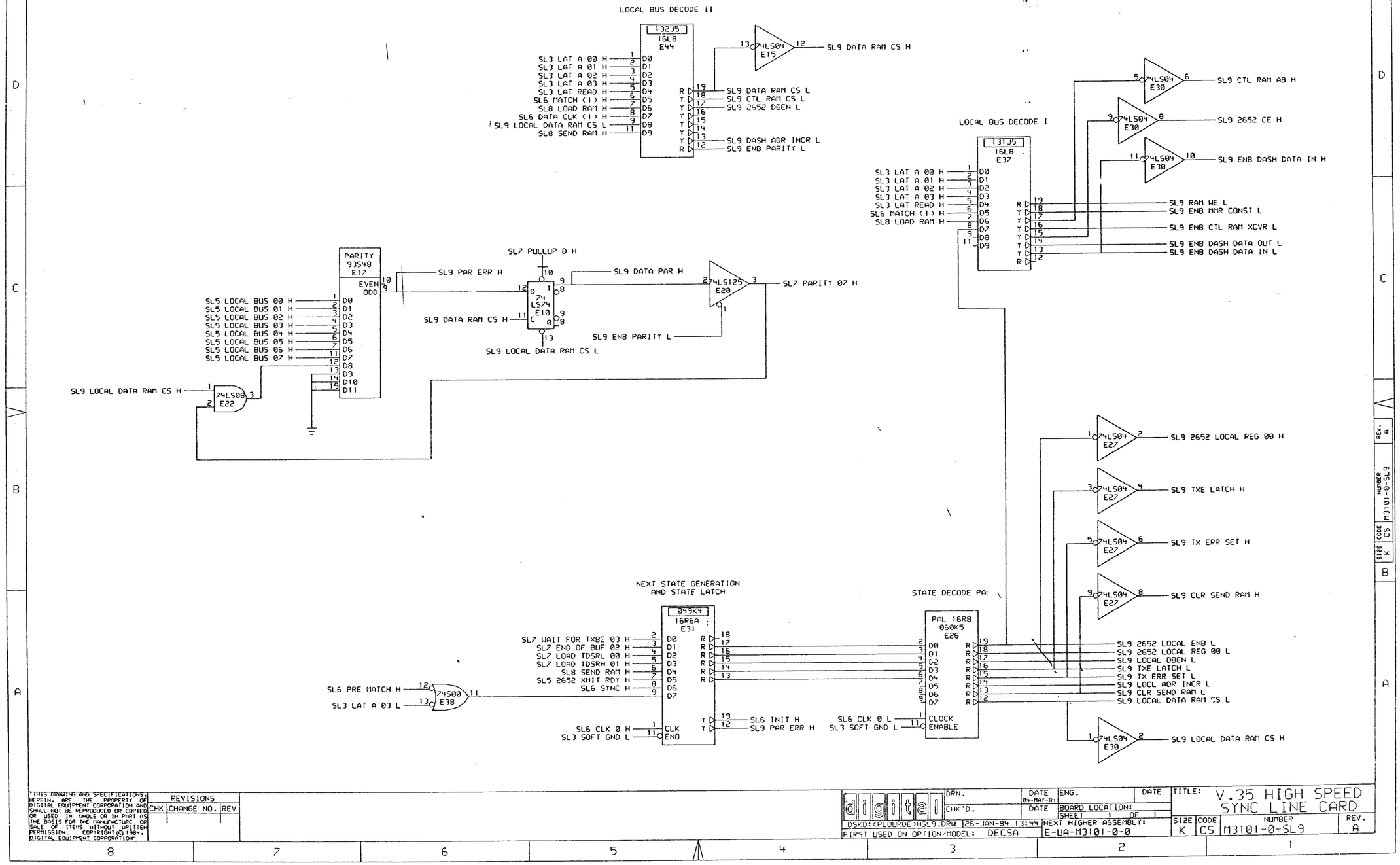
digital

DRN.		DATE 04-MAY-84	ENG.	DATE
CHK'D.		DATE	BOARD LOCATION:	
			SHEET 1 OF 1	
DSKD:<PLOURDE>HSL8.DPW 26-JAN-84 13:43			NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL: DECSA			E-UA-M3101-0-0	

TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL8	A

REV. A | NUMBER M3101-0-SL8 | CODE CS | SIZE K | B



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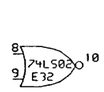
CHK	CHANGE NO.	REV

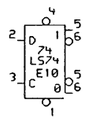
digital

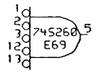
DRN.		DATE 04-MAY-84	ENG. DATE
CHK'D.		DATE	BOARD LOCATION:
			SHEET 1 OF 1
DSKD:<PLOURDE>HSL9.DRW	25-JAN-84 13:44	NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL:	DECSA	E-UA-M3101-0-0	

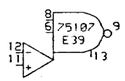
TITLE: V.35 HIGH SPEED SYNC LINE CARD

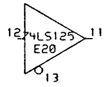
SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL9	A











AB2 —— SPARE PIN

AC2 —— SPARE PIN

BT1 —— SPARE PIN

BC2 —— SPARE PIN

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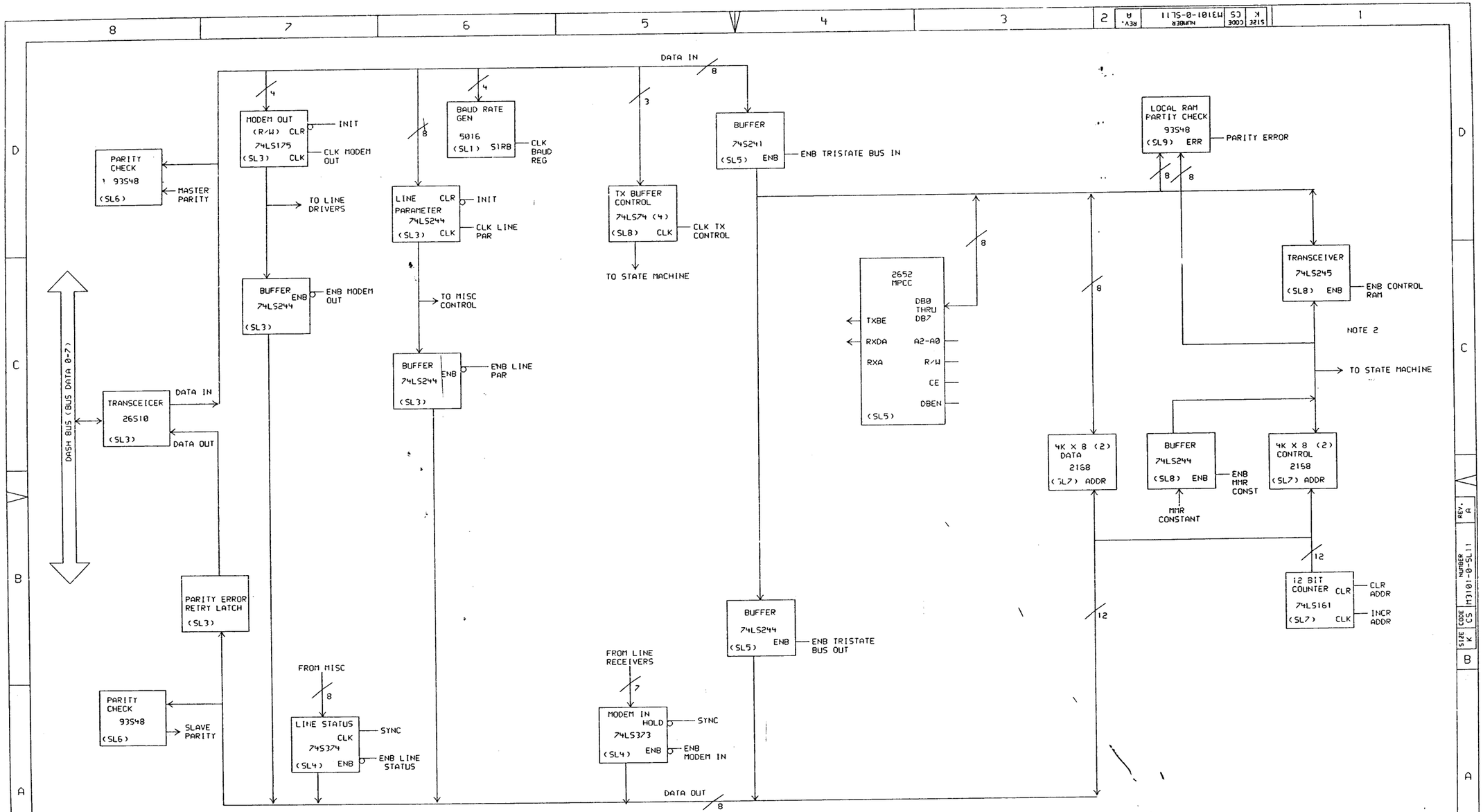
REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN.		DATE 04-MAY-84	ENG.	DATE	TITLE: V.35 HIGH SPEED SYNC LINE CARD
CHK'D.		DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKD: PLOUPDE>HSL10.DPW 26-JAN-84 14:00			NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0		SIZE K / CODE CS / NUMBER M3101-0-SL10 / REV. A
FIRST USED ON OPTION/MODEL: DECSA					

SIZE K | CODE CS | NUMBER M3101-0-SL10 | REV. A



NOTES: 1. THIS PATH IS FOR DIAGNOSTIC ACCESS
2. THE PATH OUT OF THE CONTROL RAM TO THE DASH BUS IS FOR DIAGNOSTIC ACCESS.

V.35 DATA PATHS

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REVISIONS		
CHK	CHANGE NO.	REV

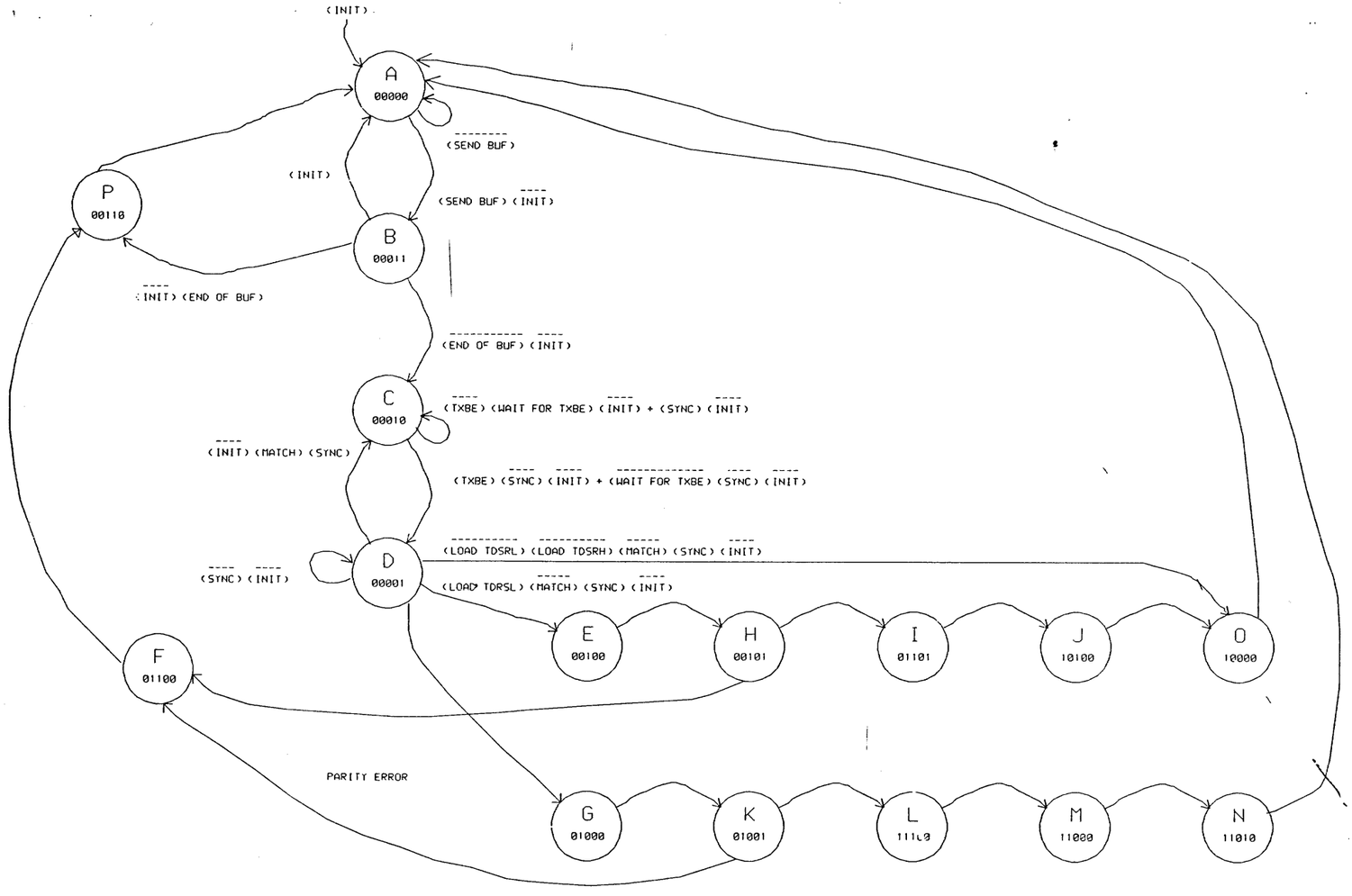
digital

DRN. | DATE 04-MAY-84 | ENG. | DATE
CHK D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSKD::PLOURDE>MSL11.DRW [26-JAN-84 14:00]
FIRST USED ON OPTION/MODEL: DECSA
NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0

TITLE: V.35 HIGH SPEED SYNC LINE CARD

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL11	A



STATE D LATCH TXE

STATE E LOCAL, DATA CS

STATE F SET TX ERR

STATE G LOCAL, DATA CS, REG 00

STATE H LOCAL, DATA CS, DBEN

STATE I LOCAL, DATA CS, DBEN

STATE J LOCAL, DATA CS, DBEN

STATE K LOCAL, DATA CS, DBEN, REG 00

STATE L LOCAL, DATA CS, DBEN, REG 00

STATE M LOCAL, DATA CS, DBEN, REG 00

STATE N LOCAL, DATA CS, ADR INCR, REG 00

STATE O LOCAL, DATA CS, ADR INCR

STATE P CLR SEND RAM

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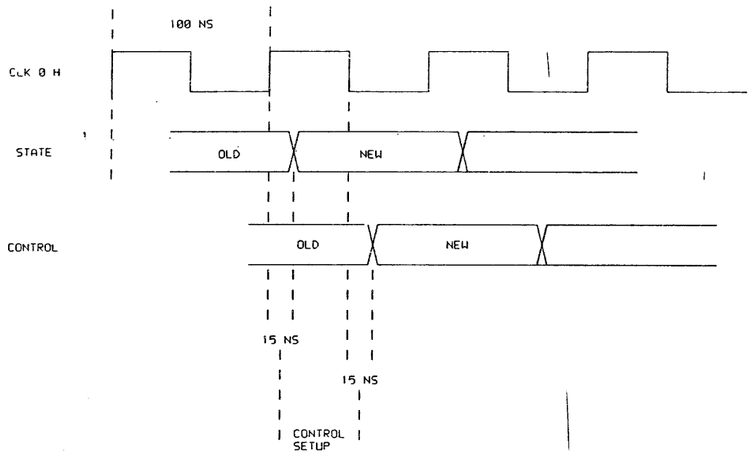
REVISIONS		
CHK	CHANGE NO.	REV

digital

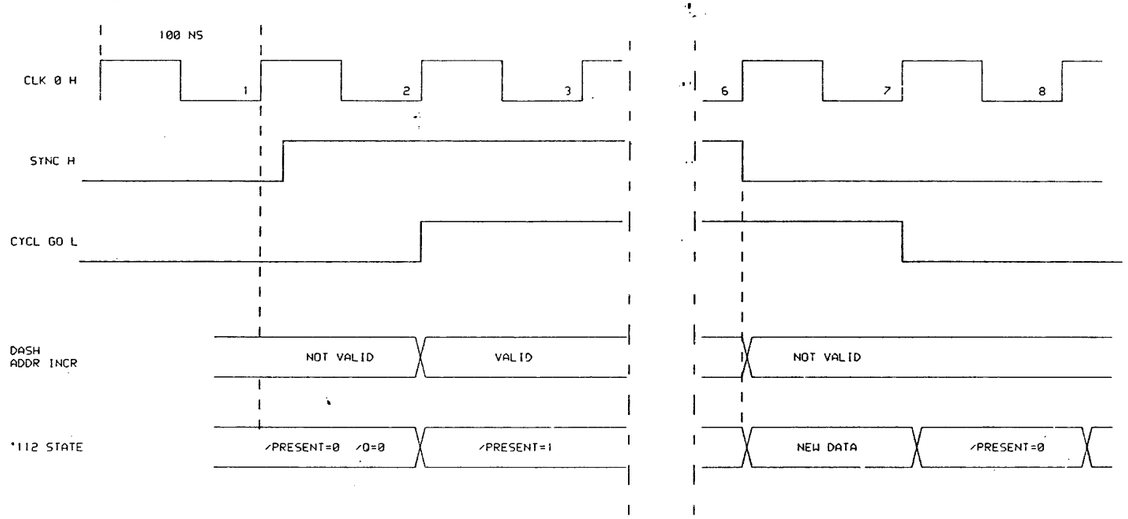
DRN.	DATE 8-MAY-84	ENG.	DATE	TITLE: V.35 HIGH SPEED SYNC LINE CARD
CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKD:<PL1>UPDS>HSL12.DRW 25-JAN-84 14:25		NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0		SIZE K / CODE CS / NUMBER M3101-0-SL12 / REV. A
FIRST USED ON OPTION/MODEL: DECSA				

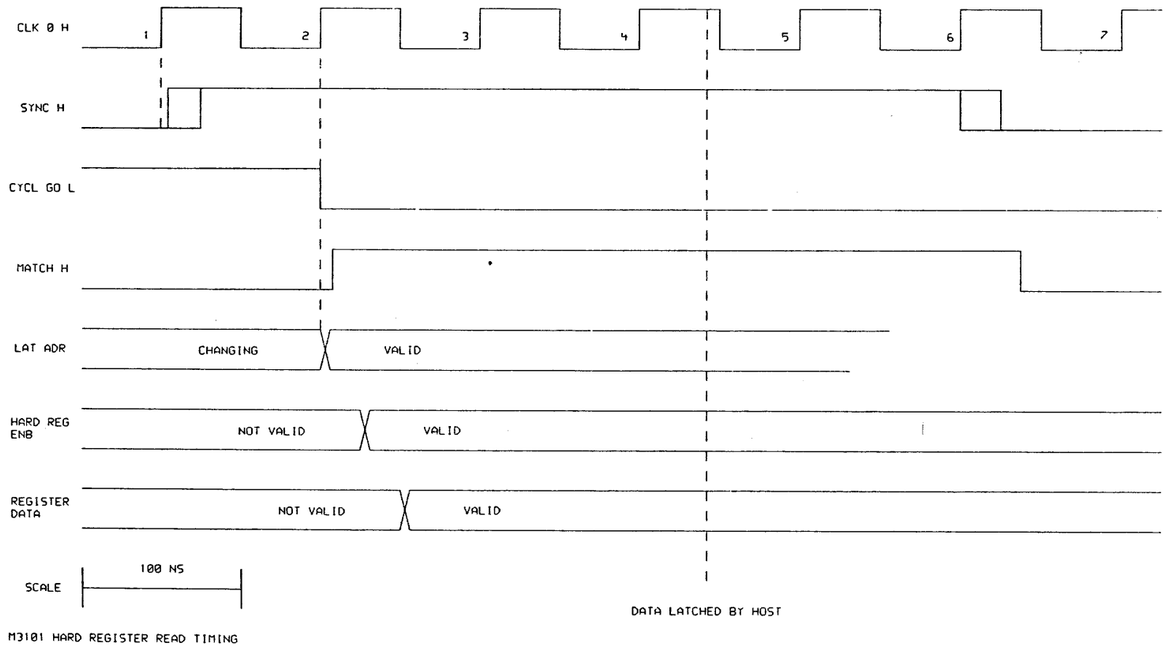
REV. A | SIZE K | CODE CS | NUMBER M3101-0-SL12

M3101 STATE MACHINE TIMING



M3101 DASH ADDRESS INCREMENT TIMING





M3101 HARD REGISTER READ TIMING

NOTES:
1. CONTROL SETUP TIME
   50NS - 15NS = 35 NS
2. 16R5A CLK TO
   DATA = 15NS MAX.
3. 16R8A SETUP BEFORE
   CLK = 20 NS MIN.

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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN.	DATE 04-MAY-84	ENG.	DATE	TITLE: V.35 HIGH SPEED SYNC LINE CARD
CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		

DSKD:<PLOURDE>HSL13.DRW 26-JAN-84 14:27 | NEXT HIGHER ASSEMBLY: E-UA-M3101-0-0

FIRST USED ON OPTION/MODEL: DECSA

SIZE	CODE	NUMBER	REV.
K	CS	M3101-0-SL13	A

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DRAWING DIRECTORY

ITEM	DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	TYPE	REVISIONS
1			M3102-00	DUAL RS-232 LINE CARD		A / B1 / C1 / D1 / E1 / D2 / E2 / E3 / E4
2	D-UA-M3102-0-0	1		UNIT ASSEMBLY		A / B / C / D / E / F / F / H / J
3	K-PL-M3102-0-DBP	2		PARTS LIST		A / B / C / D / E / D1 / F / H / J
4	K-CS-M3102-0-DBS			SUDS DATA BASE		A / B / C / D / E / D / E / E / E
5	K-CS-M3102-0-SLU1	1		SUDS SCHEMATIC		A / A / A / A / A / A / A / A / A
6	K-CS-M3102-0-SLU2	1		SUDS SCHEMATIC		A / A / A / B / C / B / C / C / C
7	K-CS-M3102-0-SLU3	1		SUDS SCHEMATIC		A / A / A / B / C / B / C / C / C
8	K-CS-M3102-0-SLU4	1		SUDS SCHEMATIC		A / A / A / A / B / A / B / B / B
9	K-CS-M3102-0-SLU5	1		SUDS SCHEMATIC		A / B / B / B / C / B / C / C / C
10	K-CS-M3102-0-SLU6	1		SUDS SCHEMATIC		A / A / B / B / B / B / B / B / B
11	K-CS-M3102-0-SLU7	1		SUDS SCHEMATIC		A / A / A / A / B / A / B / B / B
12	K-CS-M3102-0-SLU8	1		SUDS SCHEMATIC		A / A / A / A / A / A / A / A / A
13	K-CS-M3102-0-SLU9	1		SUDS SCHEMATIC		A / A / B / C / D / C / D / D / D
14	K-CS-M3102-0-SLU10	1		SUDS SCHEMATIC		A / A / A / B / B / B / B / B / B
15	K-PC-M3102-0-DBI			PC DATABASE		B / B / B / B / C / B / C / C / D
16			5014992-00	ETCHED BOARD		B / B / B / B / C / B / C / C / D
17	D-MD-5014992-0-0	2		DRILL AND ETCH DRAWINGS		A / A / A / A / B / A / B / B / C
18	D-EC-5014992-0-0	1		ETCH CUT DRAWING		A / B / C / C / D / C / D / D / E
					DD REV	A / B / C / D / E / F / F / H / J

NOTES:

REVISION HISTORY

ENG	ECO NUMBER	REV
--	INITIAL	A
	M3102-TW001	B
	M3102-TW002	C
	M3102-TW003	D
	M3102-TW004	E
	M3102-MK005	F
	M3102-MK006	H
ML	M3102-MK007	J

CONT. REVISION HISTORY

ENG	ECO NUMBER	REV

MADE BY: A. KRAWIECKI AWK 6-11-85
DATE: 10 SEP 84

CHECKED BY: J. FALKOWSKI AWK 6-11-85
DATE: 11 SEP 84

DESIGN ENGINEER: J. DOHERTY
DATE: 30 JUL 84 J.C. Tremblay 6-11-85

RESPONSIBLE ENG: J. DOHERTY
DATE: 30 JUL 84 J.C. Tremblay 6-11-85

PRODUCTION ENG: W. BROOKE
DATE: 10 AUG 84 J.C. Tremblay 6-11-85

d i g i t a l

TITLE DRAWING DIRECTORY

DUAL RS-232 LINE CARD

SIZE	CODE	DOCUMENT NUMBER	REV.
K	DD	M3102-0-0	J

SHEET 1 OF 1 MKO

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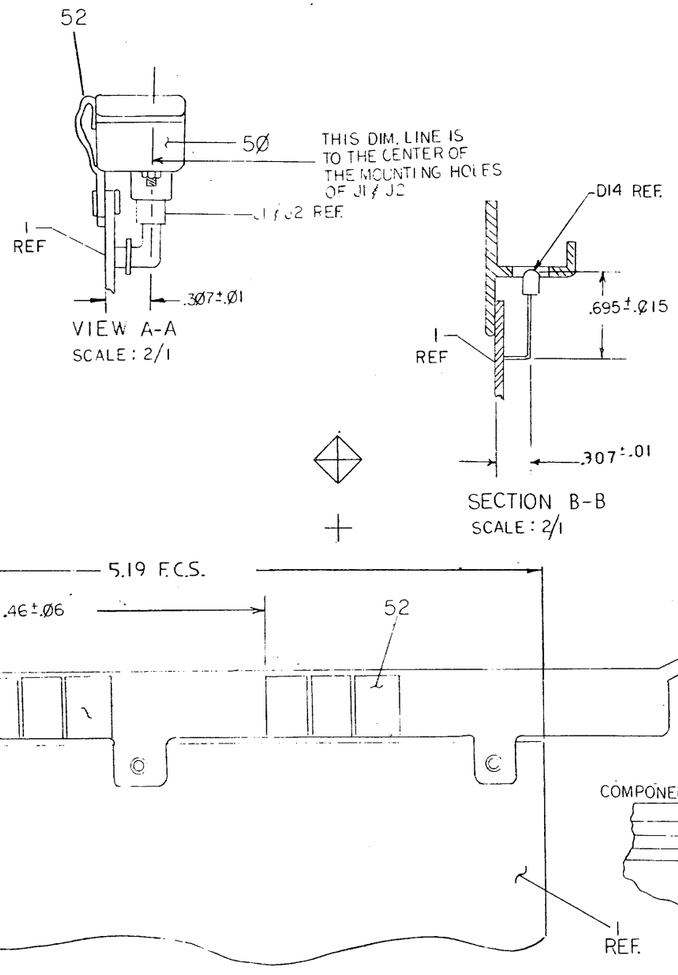
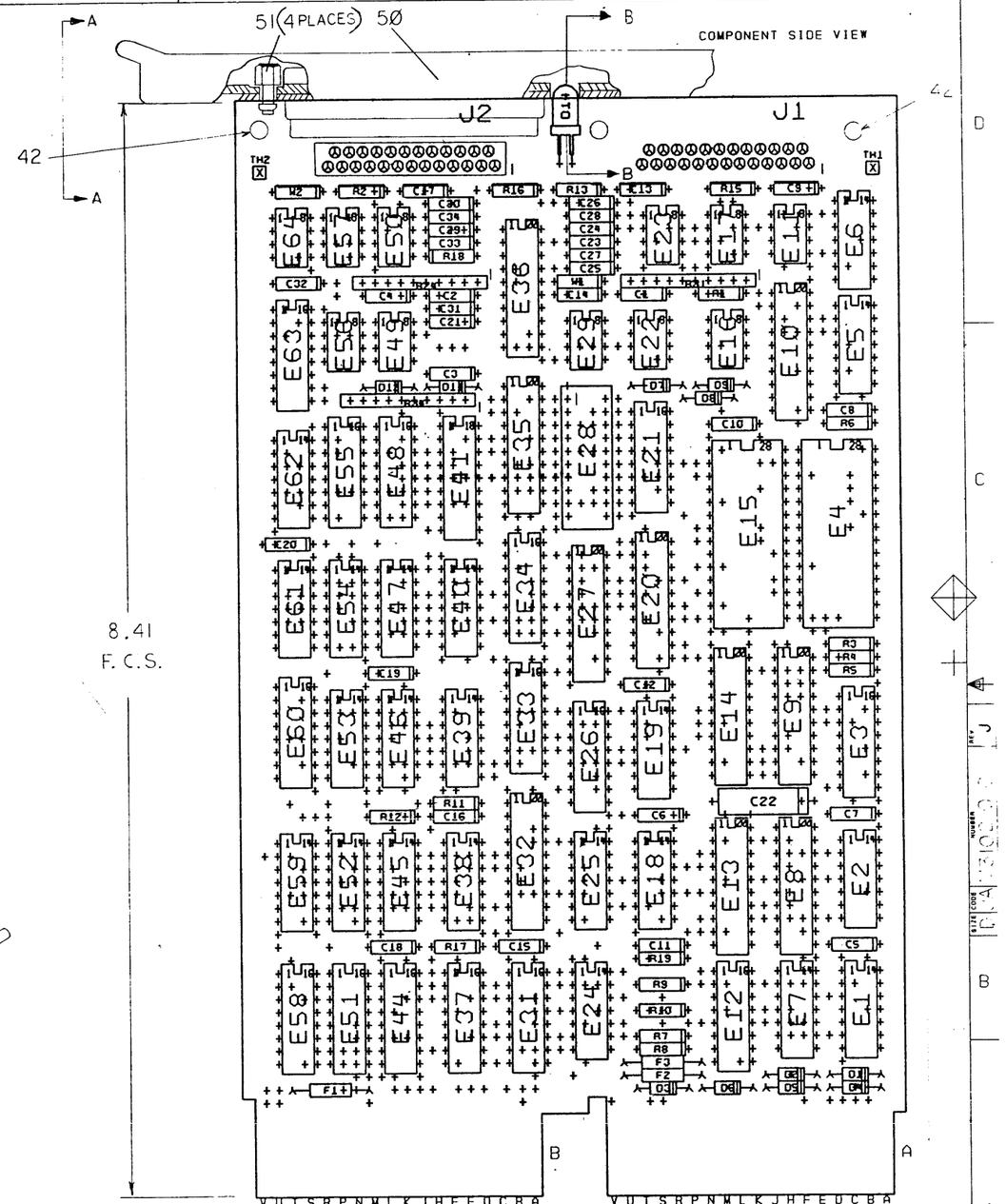




NOTES:
1. P.C. EDGE REPEAT: 2ML2.
2. STAMP LOCATION / DIRECTION OF MODULE TRAVEL.
3. E28 IS / SPARE LOCATION.
4. W1 REQ. IS LPWR.
5. R15, R16, C23-C34 OPTIONAL.

STEP	↑ Y AXIS	STEP Ø TIMES
REPEAT	→ X AXIS 5.250	STEP 1 TIMES

CHG NO	REV	CHANGE NO
	E	M3102-TW4
	F	M3102-MK005
	G	M3102-MK007
	H	M3102-MK008
	J	M3102-MK007

6. E30, E42 & E43 I.C. POSITIONS NOT USED.

ETCH REV. D P1

SIGNATURES	DATE
DRN Frank E Grant	11-17-83
CHK D.E.T.GERRY	11-18-83
MECH. ENG	6-6-84
PROJ. ENG	6-6-84
PROD	6-6-84

digital

TITLE DUAL RS-232 LINE CARD

SCALE 2:1 | SHT. 1 OF 1 | SIZE D | CODE UA | NUMBER M3102-Ø-Ø | REV J

NEXT HIGHER ASSY. B-DD-M3102-Ø-Ø

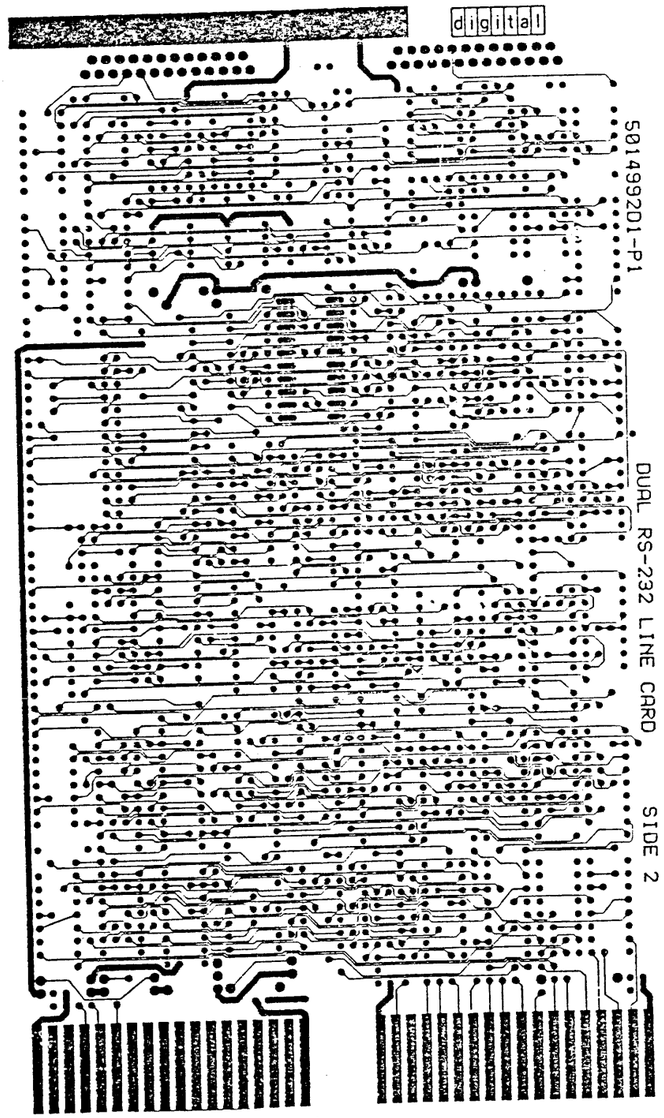
MK 1 WO# 173383

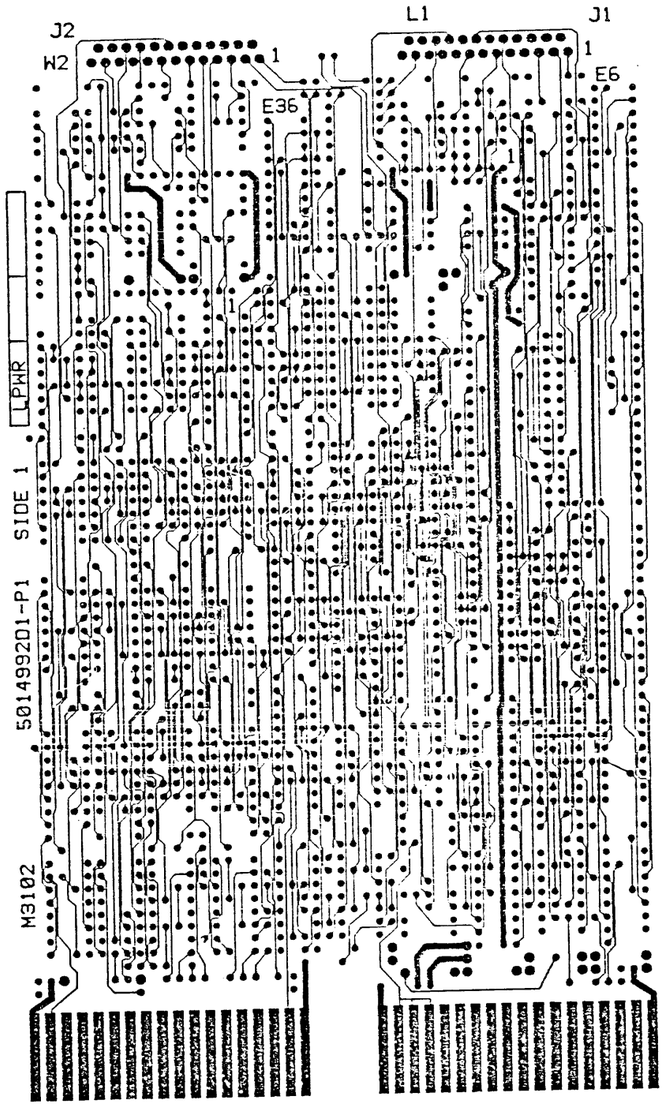
AUTOMATED BY PRTLST,4Q(50)

P A R T S L I S T

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00 E4	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
31	29		1914085-00		74S260 NOR GATE-DUAL,POS	1	E62
32	9		1914214-00		LS374 FF-D OCTAL EDGE TRIG	2	E10,E36
33	6		1914451-00		LS393 COUNTER,BINARY,4BIT	1	E6
34	11		1914866-00		AM 93S48PCGEN/CHECK PARITY, 4B	2	E12,E31
35	8		1915193-00		LS244 DRIVER,LINE,OCTAL,TR	3	E9,E27,E35
36	12		1915219-00		LS373 FF-D OCTAL-TRANSPARE	1	E32
37	13		1915415-00		9636 DRIVER,DUAL,EIA RS-	5	E16,E22,E29,E49,E56
38	10		1919542-01		9639 RECEIVER,LINE,DUAL	6	E11,E17,E23,E50,E57,E64
39	24		2112623-00		DUAL BAUD RATE GEN/PROG DIVIDER,	1	E41
40	4		2118623-00		2661-3COMMUNICATIONS,INTER	2	E4,E15
41	50	D-MD-7430547-0-DBU	7430547-01		HANDLE,LC	1	
42	42		9009000-00		EYELET,ROLLED 0.1210DX0.156	2	
43	38		9009185-00		JUMPER, WIRE, INSULATED, BLACK B	2	W1,W2
44	51		9008451-01		SCREW LOCK,STANDOFF ONLY .060TH	4	
45	52		1221494-01		SHIELDING,RFI	2	
46	54		1912837-00		LS123 ONE SHOT-DUAL,RETRIG	1	E3
47	55		1005334-00		3.3MFD 20V 10% S.TANT	1	C22
48	56		1300539-00		120.0 K .25 W 5.0 % CF	1	R19
49	57		1013466-12		2200.0 MMF 50V 10% X7R CER	1	C7

D I G I T A L	TITLE DUAL RS-232 LINE CARD	SECTION A OF A	SIZE K	CODE PL	DOCUMENT NUMBER M3102-0-DBP / REV J





B.K. Fraser	15-JAN-85	digital
A. Krawiecki	7-FEB-85	ETCH CUT DRAWING
Peter W Dube	6-Feb-85	
Peter W Dube	6-Feb-85	
	7-Feb-85	D EC 5014992-0-0 E
D-UA-M3102-0-0		2/1

AUTOMATED BY PRTLST,4Q(50) — P A R T S L I S T — SHEET A1 OF A2

LINE	ITEM	TOP DOCUMENT	PART NUMBER	MIN REV	DESCRIPTION	QTY PER VARIATION 00 E4	REFERENCE DESIGNATOR
					VARIATION REVISION LEVEL:		
1	40	D-MD-5014992-0-0	5014992-00		DRILL&ETCH BOARD M3102 DUAL RS-2	1	
2	39		1012784-00		.047 MFD 50V +80-20% CER	20	C1-C6,C8-C21
3	1		1105796-00		PIV= 400 IO= 1.00A 1N4004 DO-41	11	D1-D9,D11,D12
4	2		1110324-00		LED 1MCD@10MA PIV=3	1	D14
5	44		1205747-00		FUSE, SUB-MINI, 5.000A, 125V, A	1	F1
6	48		1210929-02		FUSE, SUB-MINI 1.000A, 125V, A	2	F2,F3
7	43		1220398-07		CONN,D SUB 25PIN ASSY RT ANGLE	2	J1,J2
8	31		1300271-00		220.0 .25 W 5.0 % CF	3	R1,R2,R18
9	35		1300295-00		330.0 .25 W 5.0 % CF	2	R10,R13
10	33		1300365-00		1.0 K .25 W 5.0 % CF	6	R7,R8,R9,R11,R12,R17
11	32		1300479-00		10.0 K .25 W 5.0 % CF	4	R3,R4,R5,R6
12	37		1319728-01		R NETWORK 8-27K 1.0 % 10PIN	3	R24,R31,R34
13	16		1909712-00		DEC 8242 COMPARATOR-4BIT N,	1	E24
14	21		1910534-00		74S04 INVERTER GATE-HEX 1I	1	E38
15	3		1910544-00		74S74 FF-D DUAL,EDGE TRIGG	3	E1,E45,E52
16	30		1910545-00		74S112 FF-JK DUAL,EDGE TRIG	1	E63
17	22		1912388-00		74S02 NOR GATE-QUAD 2IN,PO	1	E39
18	17		1912389-00		74S08 AND GATE-QUAD 2IN,PO	2	E25,E59
19	25		1912801-00		LS02 NOR-GATE-QUAD 2IN	2	E46,E47
20	5		1912803-00		LS04 INVERTER GATE,HEX	2	E5,E19
21	23		1912805-00		LS08 AND GATE-QUAD 2IN,PO	1	E40
22	7		1912807-00		LS10 NAND GATE-TRIPLE 3IN	2	E7,E18
23	26		1912813-00		LS27 NOR GATE-TRIPLE 3IN	1	E53
24	27		1912824-00		LS74 FF-D DUAL,EDGE TRIGG	3	E54,E61,E2
25	28		1912833-00		LS109 FF-JK DUAL,POS EDGE	1	E60
26	19		1912842-00		LS138 DECODER-THREE INPUT,	2	E34,E55
27	15		1912853-00		LS175 FF-D QUAD	4	E21,E26,E33,E48
28	14		1913493-00		74S241 OCTAL BUFFER,TRI-STA	1	E20
29	46		1913671-50		74S374 FF-D,OCTAL,TRI STATE	3	E8,E13,E14
30	20		1913788-00		26S10 TRANSCEIVER,BUS,QUA	4	E37,E44,E51,E58

REVISION HISTORY			BASIC PART NO: M3102				
ENG	ECO NUMBER	REV	SECTION A OF A	DRN: P TELLIER	12-JUN-85	DIGITAL	
---	INITIAL	X02	SECTION,VARIATION INDEX	CHK'D: F GAROFALO	12-JUN-85	TITLE PARTS LIST DUAL RS-232 LINE CARD	
---	INITIAL	A	[A] 00		20-JAN-82		
JB	M3102-TW001	B	[B]	DES,ENG: J. BUZYNSKI	12-JUN-85	DOCUMENT NUMBER	
JB	M3102-TW002	C	[C]		25-FEB-82	SIZE / CODE / NUMBER / REV	
JB	M3102-TW03A	D	[D]				
JB	M3102-TW004	E	[E]	RESP.ENG.: J. BUZYNSKI	12-JUN-85	K / PL / M3102-0-DBP / J	
JD	M3102-MK005	F	[F]		25-FEB-82		
JD	M3102-MK006	H	[H]				
PD	M3102-MK007	J	[J]	MFG.ENG.: D. VANASSE	12-JUN-85	RELEASE DATE: 12-JUN-85	
			[K]		25-FEB-82		
			[L]				
			[M]	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
			[N]	D-UA-M3102-0-0	#K-DD-M3102-0	MK1143.PLS	56

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AA1 +5.0V
BA1 +5.0V
BV2 +5.0V
AA2 GND
BA2 GND
BV1 GND
F1 5A
C13 .047µF 100V
C12 .047µF 100V
C11 .047µF 100V
C10 .047µF 100V
C9 .047µF 100V
C8 .047µF 100V
C6 .047µF 100V
C5 .047µF 100V
C14 .047µF 100V
C15 .047µF 100V
C16 .047µF 100V
C17 .047µF 100V
C18 .047µF 100V
C19 .047µF 100V
C20 .047µF 100V
C21 .047µF 100V

AV2 +15V
F2 1A
D6 1N4004
D5 1N4004
D4 1N4004
C2 .047µF 100V
C1 .047µF 100V
+12V
AV1 -15V
F3 1A
D3 1N4004
D2 1N4004
D1 1N4004
C4 .047µF 100V
C3 .047µF 100V
-12V

74LS02 E47
SLU7 DATA CLK (1) L
SLU1 CLK MODEM OUT A H
SLU1 CLK LINE PARAM A H
DECODER 74LS138 E34
0F
1F
2F
3F
4F
5F
6F
7F
SLU1 ENB MODEM OUT A L
SLU1 ENB LINE STATUS A L
SLU1 ENB LINE PARAM A L
SLU1 ENB MODEM IN A L
SLU1 ENB BAUD RATE A L
SLU4 LAT A 02 H
SLU4 LAT A 01 H
SLU4 LAT A 00 H
SEL
SLU7 LINE B (1) H
SLU4 LAT A 03 H
EN
SLU7 PULLUP A H
74LS74 E61
SLU7 DATA CLK (1) H
SLU7 CLR L

LINE A SEL

74LS04 E19
SLU1 LAT A 03 L

DUAL BAUD GNRTR 5016 E41
SLU4 DATA IN 00 H
SLU4 DATA IN 01 H
SLU4 DATA IN 02 H
SLU4 DATA IN 03 H
R0
R1
R2
R3
REC ADR
STROB
SLU1 BRG CLK A H
T0
T1
T2
T3
STROB
SLU1 BRG CLK B H
SLU7 CLK 1 (1) H
SLU7 CLK 1 (1) L
XTAL0
XTAL1

EXTERNAL XMIT BAUD RATE GEN

74LS02 E47
SLU7 DATA CLK (1) L
SLU1 CLK MODEM OUT B H
SLU1 CLK LINE PARAM B H
DECODER 74LS138 E55
0F
1F
2F
3F
4F
5F
6F
7F
SLU1 ENB MODEM OUT B L
SLU1 ENB LINE STATUS B L
SLU1 ENB LINE PARAM B L
SLU1 ENB MODEM IN B L
SLU1 ENB BAUD RATE B L
SLU4 LAT A 02 H
SLU4 LAT A 01 H
SLU4 LAT A 00 H
SEL
SLU7 LINE B (1) L
SLU4 LAT A 03 H
EN
SLU7 PULLUP A H
74LS74 E61
SLU7 DATA CLK (1) H
SLU7 CLR L

LINE B SEL

REG SELECT & BAUD RATE GEN

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: DUAL ASYNC SERIAL LINE UNIT
	CHK'D.	DATE	BOARD LOCATION:		
DSKD:<BUZYN5KI>M3102A.DRW 02-NOV-82 09:58			SHEET 1 OF 1		
FIRST USED ON OPTION/MODEL: DECSA			NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0		SIZE K / CODE CS / NUMBER M3102-0-SLU1 / REV. A

AA1 +5.0V
BA1 +5.0V
BV2 +5.0V
AA2 GND
BA2 GND
BV1 GND
F1 5A
C13 .047µF 100V
C12 .047µF 100V
C11 .047µF 100V
C10 .047µF 100V
C9 .047µF 100V
C8 .047µF 100V
C6 .047µF 100V
C5 .047µF 100V
C14 .047µF 100V
C15 .047µF 100V
C16 .047µF 100V
C17 .047µF 100V
C18 .047µF 100V
C19 .047µF 100V
C20 .047µF 100V
C21 .047µF 100V

AV2 +15V
F2 1A
D6 1N4004
D5 1N4004
D4 1N4004
+12V
C2 .047µF 100V
C1 .047µF 100V
C4 .047µF 100V
C3 .047µF 100V
-12V
AV1 -15V
F3 1A
D3 1N4004
D2 1N4004
D1 1N4004

SLU7 DATA CLK (1) L
74LS02 E47
SLU1 CLK MODEM OUT A H
74LS02 E47
SLU1 CLK LINE PARAM A H
DECODER 74LS138 E34
0F SLU1 ENB MODEM OUT A L
1F SLU1 ENB LINE STATUS A L
2F SLU1 ENB LINE PARAM A L
3F SLU1 ENB MODEM IN A L
4F SLU1 ENB BAUD RATE A L
5F SLU1 ENB BAUD RATE A L
6F
7F
SLU4 LAT A 02 H
SLU4 LAT A 01 H
SLU4 LAT A 00 H
SEL
SLU7 LINE B (1) H
SLU4 LAT A 03 H
EN
SLU7 PULLUP A H
74LS74 E61
SLU7 DATA CLK (1) H
SLU7 CLR L
LINE A SEL
74LS04 E19
SLU1 LAT A 03 L

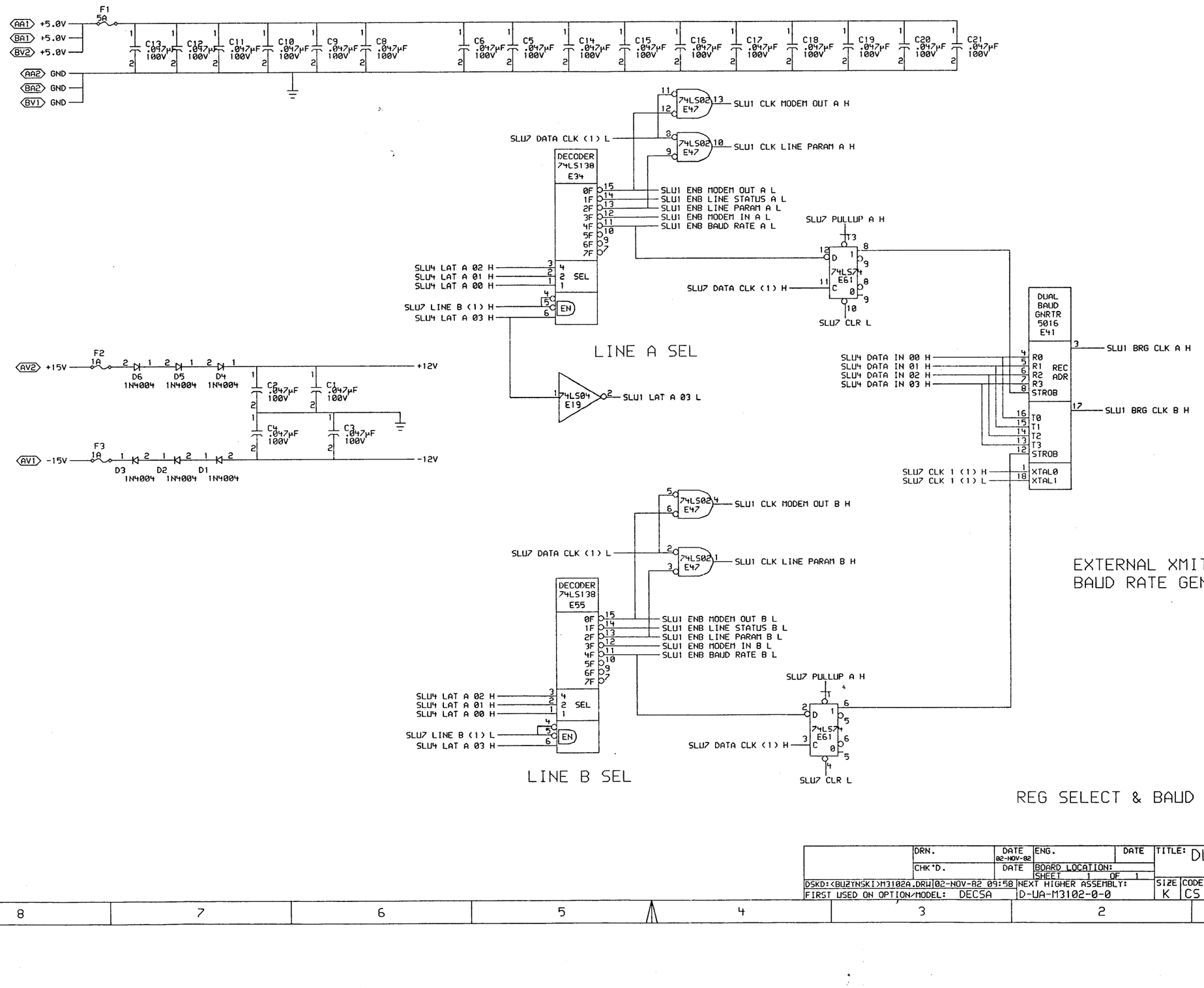
DUAL BAUD GNRTR 5016 E41
SLU4 DATA IN 00 H
SLU4 DATA IN 01 H
SLU4 DATA IN 02 H
SLU4 DATA IN 03 H
R0
R1 REC
R2 ADR
R3
STROB
T0
T1
T2
T3
STROB
XTAL0
XTAL1
SLU7 CLK 1 (1) H
SLU7 CLK 1 (1) L
SLU1 BRG CLK A H
SLU1 BRG CLK B H

EXTERNAL XMIT BAUD RATE GEN

SLU7 DATA CLK (1) L
74LS02 E47
SLU1 CLK MODEM OUT B H
74LS02 E47
SLU1 CLK LINE PARAM B H
DECODER 74LS138 E55
0F SLU1 ENB MODEM OUT B L
1F SLU1 ENB LINE STATUS B L
2F SLU1 ENB LINE PARAM B L
3F SLU1 ENB MODEM IN B L
4F SLU1 ENB BAUD RATE B L
5F SLU1 ENB BAUD RATE B L
6F
7F
SLU4 LAT A 02 H
SLU4 LAT A 01 H
SLU4 LAT A 00 H
SEL
SLU7 LINE B (1) L
SLU4 LAT A 03 H
EN
SLU7 PULLUP A H
74LS74 E61
SLU7 DATA CLK (1) H
SLU7 CLR L
LINE B SEL

REG SELECT & BAUD RATE GEN

	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: DUAL ASYNC SERIAL LINE UNIT
	CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKD:<BUZYNSKI>M3102A.DRW 02-NOV-82 09:58			NEXT HIGHER ASSEMBLY:	SIZE K	CODE CS
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3102-0-0	NUMBER M3102-0-SLU1	REV. A


AA1 +5.0V
BA1 +5.0V
BV2 +5.0V
AA2 GND
BA2 GND
BV1 GND
F1
5A
C13 .047µF 100V
C12 .047µF 100V
C11 .047µF 100V
C10 .047µF 100V
C9 .047µF 100V
C8 .047µF 100V
C6 .047µF 100V
C5 .047µF 100V
C14 .047µF 100V
C15 .047µF 100V
C16 .047µF 100V
C17 .047µF 100V
C18 .047µF 100V
C19 .047µF 100V
C20 .047µF 100V
C21 .047µF 100V
74LS02 E47
SLU1 CLK MODEM OUT A H
SLU7 DATA CLK (1) L
74LS02 E47
SLU1 CLK LINE PARAM A H
DECODER 74LS138 E34
0F
1F
2F
3F
4F
5F
6F
7F
SLU1 ENB MODEM OUT A L
SLU1 ENB LINE STATUS A L
SLU1 ENB LINE PARAM A L
SLU1 ENB MODEM IN A L
SLU1 ENB BAUD RATE A L
SLU4 LAT A 02 H
SLU4 LAT A 01 H
SLU4 LAT A 00 H
SEL
SLU7 LINE B (1) H
SLU4 LAT A 03 H
EN
SLU7 PULLUP A H
74LS74 E61
SLU7 DATA CLK (1) H
SLU7 CLR L
LINE A SEL
74LS04 E19
SLU1 LAT A 03 L
DUAL BAUD GNRTR 5016 E41
SLU4 DATA IN 00 H
SLU4 DATA IN 01 H
SLU4 DATA IN 02 H
SLU4 DATA IN 03 H
R0
R1
R2
R3
STROB
REC ADR
SLU1 BRG CLK A H
T0
T1
T2
T3
STROB
SLU1 BRG CLK B H
SLU7 CLK 1 (1) H
SLU7 CLK 1 (1) L
XTAL0
XTAL1
AV2 +15V
F2
1A
D6 1N4004
D5 1N4004
D4 1N4004
+12V
C2 .047µF 100V
C1 .047µF 100V
C4 .047µF 100V
C3 .047µF 100V
AV1 -15V
F3
1A
D3 1N4004
D2 1N4004
D1 1N4004
-12V
74LS02 E47
SLU1 CLK MODEM OUT B H
SLU7 DATA CLK (1) L
74LS02 E47
SLU1 CLK LINE PARAM B H
DECODER 74LS138 E55
SLU1 ENB MODEM OUT B L
SLU1 ENB LINE STATUS B L
SLU1 ENB LINE PARAM B L
SLU1 ENB MODEM IN B L
SLU1 ENB BAUD RATE B L
SLU4 LAT A 02 H
SLU4 LAT A 01 H
SLU4 LAT A 00 H
SEL
SLU7 LINE B (1) L
SLU4 LAT A 03 H
EN
SLU7 PULLUP A H
74LS74 E61
SLU7 DATA CLK (1) H
SLU7 CLR L
LINE B SEL
EXTERNAL XMIT BAUD RATE GEN
REG SELECT & BAUD RATE GEN
DRN.
DATE 02-NOV-82
ENG.
DATE
CHK'D.
DATE
BOARD LOCATION:
SHEET 1 OF 1
TITLE: DUAL ASYNC SERIAL LINE UNIT
DSKD:<BUZYNSKI>M3102A.DRW 02-NOV-82 09:58
NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0
FIRST USED ON OPTION/MODEL: DECSA
SIZE K
CODE CS
NUMBER M3102-0-SLU1
REV. A

NOTE: R15 IS NORMALLY NOT INSERTED

LINE A EIA CONN J1

R15 100Ω 1/2W

SLU2 FRAME GND L
SLU2 CCITT 104 RCVR DATA L
SLU2 CCITT 106 CTS H
CCITT 102
SLU2 CCITT 111 DSRS H

SLU2 CCITT 103 XMIT DATA L
SLU2 CCITT 105 RTS H
SLU2 CCITT 107 DSR H
SLU2 CCITT 109 CARRIER H
SLU2 CCITT 122 S.CAR H
SLU2 CCITT 141 LOCAL LOOP H
SLU2 CCITT 108.2 DTR H
SLU2 CCITT 125 RING H

SLU2 SLEW F H
SLU2 SLEW E H
SLU2 SLEW D H
SLU2 SLEW C H
SLU2 SLEW B H
SLU2 SLEW A H

R34 10-PIN SIP RES NETWORK 27KΩ

LEFT PORT J1

SLU6 XMIT DATA A H — 9636 E29 — SLU2 CCITT 103 XMIT DATA L
D7 1N4004, -12V, SLU2 SLEW A H

SLU5 RTS A (1) L — 9636 E16 — SLU2 CCITT 105 RTS H
SLU5 DATA TERM RDY A (1) L — 9636 E16 — SLU2 CCITT 108.2 DTR H
D9 1N4004, -12V, SLU2 SLEW B H

SLU5 SIG RATE SEL A (1) L — 9636 E22 — SLU2 CCITT 111 DSRS H
SLU5 LOCAL LOOP A (1) L — 9636 E22 — W1 — SLU2 CCITT 141 LOCAL LOOP H
D8 1N4004, -12V, SLU2 SLEW C H

27KΩ RES NETWORK 10-PIN SIP R31, -12V

NOTE: C23 THROUGH C28 ARE NOT NORMALLY INSERTED.

SLU2 CCITT 109 CARRIER H — C23 .001μF — 9639 E23 — SLU2 RCVR RDY A H

LEFT PORT J1

SLU2 CCITT 104 RCVR DATA L — C24 .001μF — E23 9639 — SLU2 RCVR DATA A H

SLU2 CCITT 107 DSR H — R1 220Ω — C25 .001μF — 9639 E11 — SLU2 DATA SET READY A H

SLU2 CCITT 106 CTS H — C26 .001μF — 9639 E11 — SLU2 CLR TO SEND A H

SLU2 CCITT 125 RING H — C27 .001μF — 9639 E17 — SLU2 RING A H

SLU2 CCITT 122 S.CAR H — C28 .001μF — 9639 E17 — SLU2 SECOND CARR DETET A H

LINE A LEVEL CONVERTERS

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REVISIONS

CHK	CHANGE NO.	REV

DRN. | DATE 13-JUN-84 | ENG. | DATE 13-JUN-84
CHK'D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSKD:<PLOURDE>M3102B.DRW 07-JUN-84 11:40 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0 | FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU2	C

REV. C | NUMBER M3102-0-SLU2 | CODE CS | SIZE K

NOTE: R15 IS NORMALLY NOT INSERTED

LINE A EIA CONN J1

R15 100Ω 1/2W

SLU2 FRAME GND L
SLU2 CCITT 104 RCVR DATA L
SLU2 CCITT 106 CTS H
CCITT 102
SLU2 CCITT 111 DSRS H

SLU2 CCITT 103 XMIT DATA L
SLU2 CCITT 105 RTS H
SLU2 CCITT 107 DSR H
SLU2 CCITT 109 CARRIER H
SLU2 CCITT 122 S.CAR H
SLU2 CCITT 141 LOCAL LOOP H
SLU2 CCITT 108.2 DTR H
SLU2 CCITT 125 RING H

R34 10-PIN SIP RES NETWORK 27KΩ

SLU2 SLEW F H
SLU2 SLEW E H
SLU2 SLEW D H
SLU2 SLEW C H
SLU2 SLEW B H
SLU2 SLEW A H

27KΩ RES NETWORK 10-PIN SIP R31

-12V

NOTE: C23 THROUGH C28 ARE NOT NORMALLY INSERTED.

LEFT PORT J1

SLU2 CCITT 109 CARRIER H — C23 .001μF — 9639 E23 — SLU2 RCVR RDY A H

SLU2 CCITT 104 RCVR DATA L — C24 .001μF — E23 9639 — SLU2 RCVR DATA A H

SLU2 CCITT 107 DSR H — R1 220Ω — C25 .001μF — 9639 E11 — SLU2 DATA SET READY A H

SLU2 CCITT 106 CTS H — C26 .001μF — 9639 E11 — SLU2 CLR TO SEND A H

SLU2 CCITT 125 RING H — C27 .001μF — 9639 E17 — SLU2 RING A H

SLU2 CCITT 122 S.CAR H — C28 .001μF — 9639 E17 — SLU2 SECOND CARR DETET A H

LEFT PORT J1

SLU6 XMIT DATA A H — 9636 E29 — SLU2 CCITT 103 XMIT DATA L

D7 1N4004 -12V SLU2 SLEW A H

SLU5 RTS A (1) L — 9636 E16 — SLU2 CCITT 105 RTS H

SLU5 DATA TERM RDY A (1) L — 9636 E16 — SLU2 CCITT 108.2 DTR H

D9 1N4004 -12V SLU2 SLEW B H

SLU5 SIG RATE SEL A (1) L — 9636 E22 — SLU2 CCITT 111 DSRS H

SLU5 LOCAL LOOP A (1) L — 9636 E22 — W1 — SLU2 CCITT 141 LOCAL LOOP H

D8 1N4004 -12V SLU2 SLEW C H

LINE A LEVEL CONVERTERS

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REVISIONS		
CHK	CHANGE NO.	REV

DRN.	DATE 13-JUN-84	ENG.	DATE 13-JUN-84
CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1	

DSKD:<PLOURDE>M3102B.DRW|07-JUN-84 11:40 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU2	C

REV. C | NUMBER M3102-0-SLU2 | CODE CS | SIZE K

NOTE: R16 IS NORMALLY NOT INSERTED

R16 100Ω 1/2W

LINE B EIA CONN J2

SLU3 FRAME GND L
SLU3 CCITT 104 RCVR DATA L
SLU3 CCITT 106 CTS H
CCITT 102
SLU3 CCITT 111 DSRS H
SLU3 CCITT 103 XMIT DATA L
SLU3 CCITT 105 RTS H
SLU3 CCITT 107 DSR H
SLU3 CCITT 109 CARRIER H
SLU3 CCITT 122 S.CAR H
SLU3 CCITT 141 LOCAL LOOP H
SLU3 CCITT 108.2 DTR H
SLU3 CCITT 125 RING H

RIGHT PORT J2

SLU6 XMIT DATA B H — 9636 E29 — SLU3 CCITT 103 XMIT DATA L

SLU5 RTS B (1) L — 9636 E49 — SLU3 CCITT 105 RTS H

SLU5 DATA TERM RDY B (1) L — 9636 E49 — SLU3 CCITT 108.2 DTR H

D11 1N4004 (-12V, SLU2 SLEW E H)

SLU5 SIG RATE SEL B (1) L — 9636 E56 — SLU3 CCITT 111 DSRS H

SLU5 LOCAL LOOP B (1) L — 9636 E56 — W2 — SLU3 CCITT 141 LOCAL LOOP H

D12 1N4004 (-12V, SLU2 SLEW D H)

27KΩ RES NETWORK 10-PIN SIP R24 (-12V, -12V)

NOTE: C29 THROUGH C34 ARE NOT NORMALLY INSERTED.

RIGHT PORT J2

SLU3 CCITT 109 CARRIER H — C29 .001μF — 9639 E57 — SLU3 RCVR RDY B H

SLU3 CCITT 104 RCVR DATA L — C30 .001μF — E57 9639 — SLU3 RCVR DATA B H

SLU3 CCITT 107 DSR H — R2 220Ω — C31 .001μF — 9639 E64 — SLU3 DATA SET READY B H

SLU3 CCITT 106 CTS H — C32 .001μF — 9639 E64 — SLU3 CLR TO SEND B H

SLU3 CCITT 125 RING H — C33 .001μF — 9639 E50 — SLU3 RING B H

SLU3 CCITT 122 S.CAR H — C34 .001μF — 9639 E50 — SLU3 SECOND CARR DETET B H

LINE B LEVEL CONVERTERS

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REVISIONS		
CHK	CHANGE NO.	REV

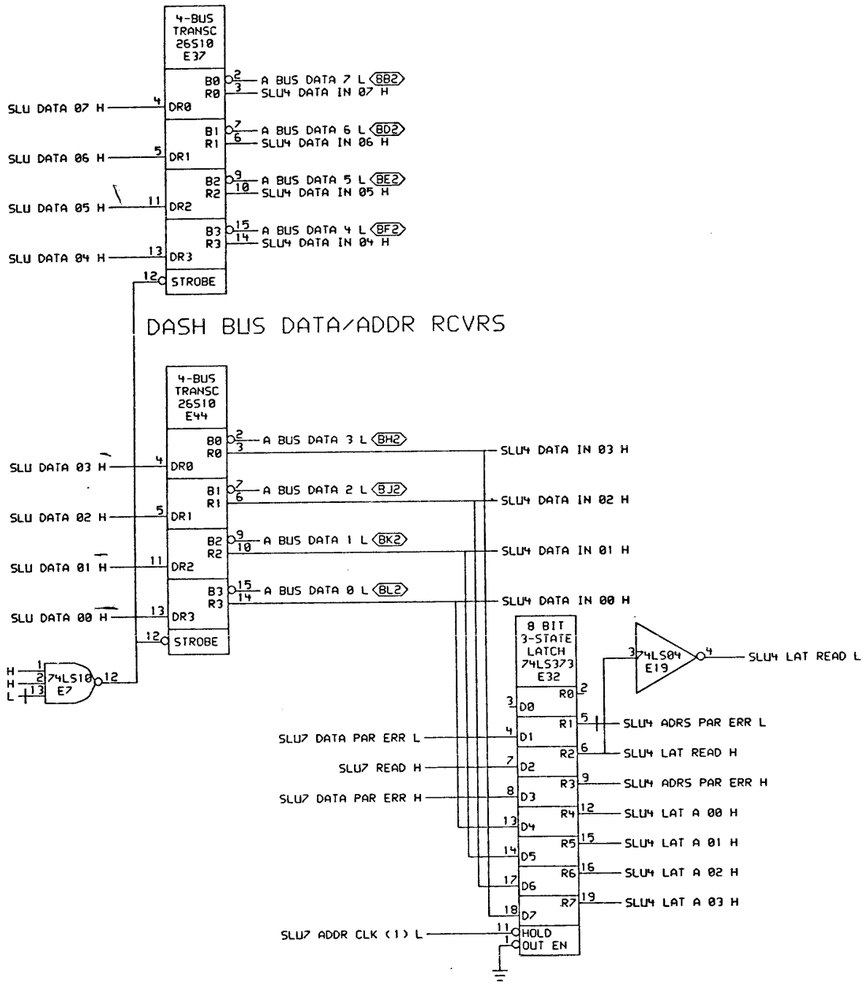
DRN.	DATE 13-JUN-84	ENG.	DATE 13-JUN-84
CHK'D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	

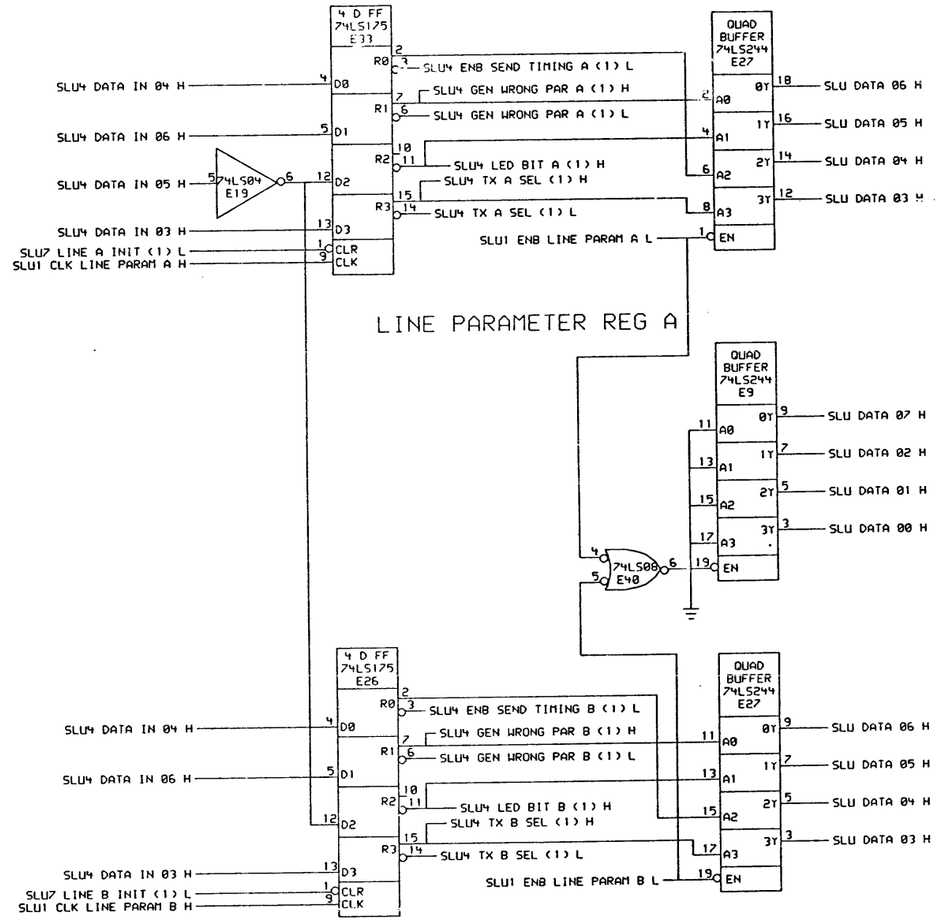
DSKD:<PLOURDE>M3102C.DRW 07-JUN-84 13:52
NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0
FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU3	C

REV. C
NUMBER M3102-0-SLU3
CODE CS
SIZE K





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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN. | DATE 13-JUN-84 | ENG. | DATE

CHK D. | DATE | BOARD LOCATION: | SHEET 1 OF

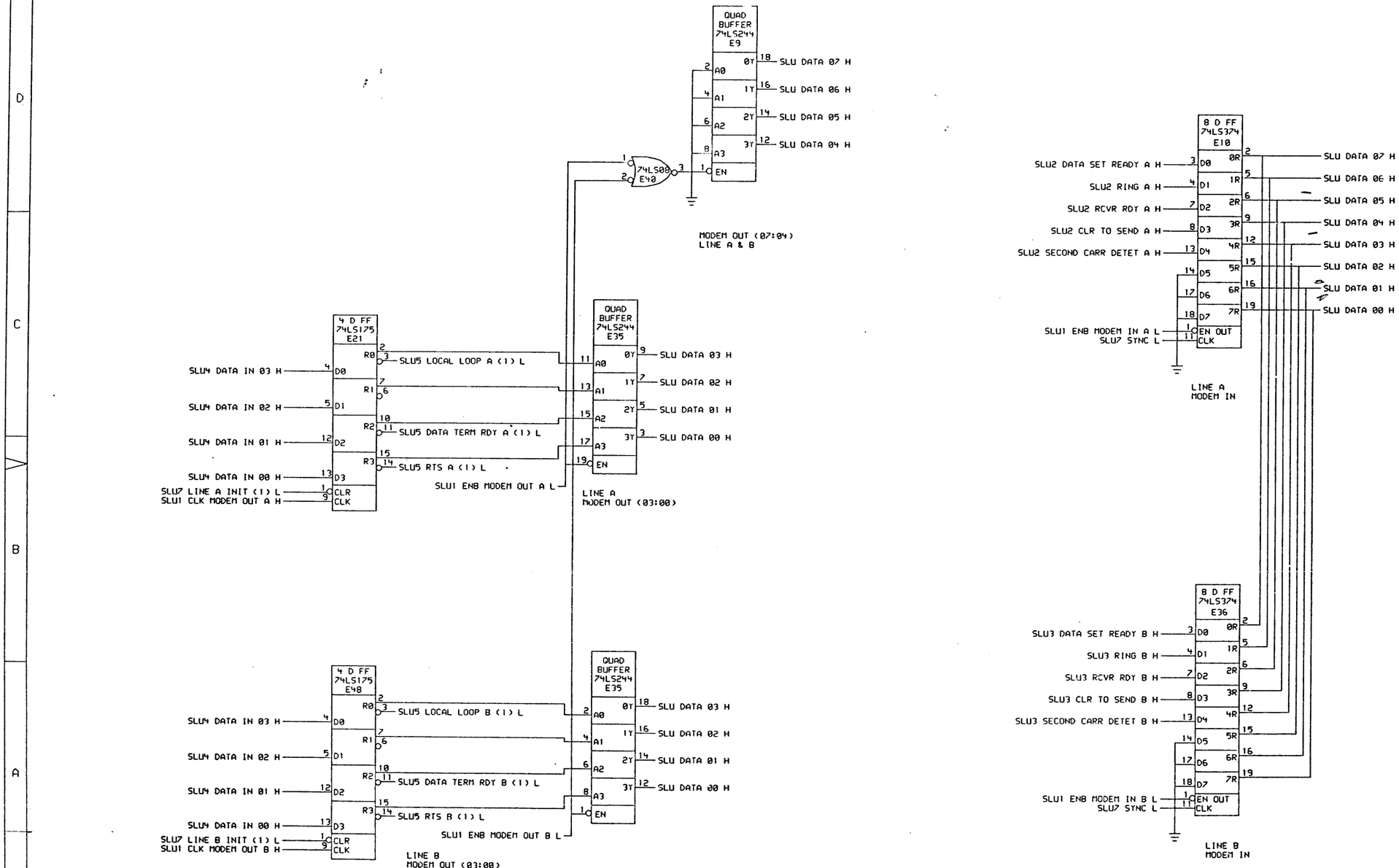
DSKD:<PLOURDE>M3102D.DPW 07-JUN-84 11:45 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU4	B

REV. B | NUMBER M3102-0-SLU4 | CODE CS | SIZE K



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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN. | DATE 18-JUL-84 | ENG. | DATE

CHK'D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSKC:<DUVAL>M3102E.DRW 08-JUN-84 11:16 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU5	C

SIZE K | CODE CS | NUMBER M3102-0-SLU6 | REV. B

SLU7 CLK 0 L

SLU7 DATA CLK (1) H
SLU7 INIT L
74LS10 E7

4-BIT BIN CTR 74LS393 E6
00R 01R 02R 03R
0 CLK 0 CLR
10R 11R 12R 13R
1 CLK 1 CLR

SLU7 PULLUP A H

SLU7 RECV'D PAR ERR H
74S08 E59
SLU7 SYNC L
74LS109 E60
SLU4 LAT A 00 H
SLU4 LAT A 02 H
SLU4 LAT A 03 H
SLU4 LAT READ L
74S260 E62
SLU7 INIT L

SLU7 DATA CLK (1) H
74S08 E59
SLU6 USART CE H

RCVR DATA RETRY LATCH

8 D FF 74S374 E14
D0 D1 D2 D3 D4 D5 D6 D7
R0 R1 R2 R3 R4 R5 R6 R7
EN OUT CLK
SLU DATA 00 H
SLU DATA 01 H
SLU DATA 02 H
SLU DATA 03 H
SLU DATA 04 H
SLU DATA 05 H
SLU DATA 06 H
SLU DATA 07 H

SLU1 LAT A 03 L
SLU7 LINE B (1) L
SLU6 USART CE H
74LS10 E18

SLU7 DATA CLK (1) H
SLU4 LAT READ H
74LS10 E18

LINE A

LINE B

4-BUF DRIVERS 74S241 E20
SLU4 DATA IN 00 H
SLU4 DATA IN 01 H
SLU4 DATA IN 02 H
SLU4 DATA IN 03 H
SLU4 LAT READ L
SLU4 DATA IN 04 H
SLU4 DATA IN 05 H
SLU4 DATA IN 06 H
SLU4 DATA IN 07 H
SLU4 LAT READ H
3A 2A 1A 0A EN 3B 2B 1B 0B EN
3AY 2AY 1AY 0AY 3BY 2BY 1BY 0BY

EPCI 2661 E15
0D 1D 2D 3D 4D 5D 6D 7D
RESET A0 A1 WR EN
BRCLK TXC RXC
DSR DCD CTS
RTS DTR DSCHG
TXRDY TXD
RXRDY RXD

SLU7 LINE A INIT (1) H
SLU4 LAT A 00 H
SLU4 LAT A 01 H
SLU4 LAT READ L
SLU7 CLK 1 (1) H
SLU2 RCVR CLK A H
74LS04 E5
SLU2 RCVR DATA A H
74LS04 E19
SLU6 UNDERRUN A H
SLU6 XMIT RDY A H
SLU6 XMIT DATA A H
SLU6 RCVR RDY A H
R3 10KΩ
R4 10KΩ
+5.0V

SLU2 XMIT CLK A H
SLU4 TX A SEL (1) L
SLU1 BRG CLK A H
SLU4 TX A SEL (1) H
74LS51 E28

EPCI 2661 E4
SLU7 LINE B INIT (1) H
SLU4 LAT A 00 H
SLU4 LAT A 01 H
SLU4 LAT READ L
SLU7 LINE B (1) H
SLU6 USART CE H
74LS10 E18
SLU7 CLK 1 (1) H
SLU3 RCVR CLK B H
SLU3 RCVR DATA B H
SLU6 UNDERRUN B H
SLU6 XMIT RDY B H
SLU6 XMIT DATA B H
SLU6 RCVR RDY B H
R5 10KΩ
R6 10KΩ

SLU3 XMIT CLK B H
SLU4 TX B SEL (1) L
SLU4 TX B SEL (1) H
SLU1 BRG CLK B H
74LS51 E28

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REVISIONS

CHK	CHANGE NO.	REV

digital

DRN. | DATE 24-JAN-84 | ENG. | DATE

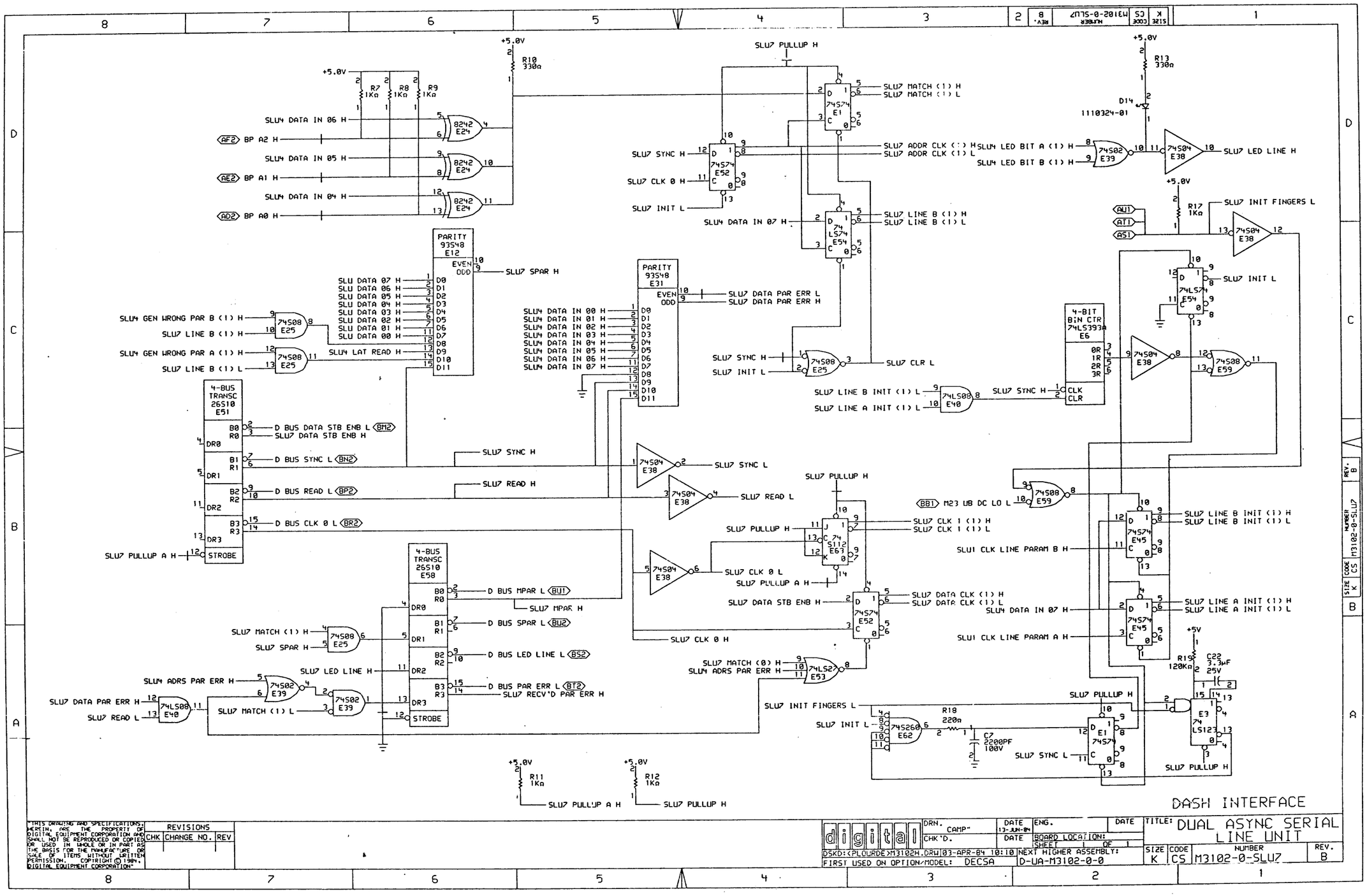
CHK'D. | DATE | BOARD LOCATION: | SHEET 1 OF 1

DSKC:<DUVAL>M3102FF.DRW 17-JAN-84 10:58 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU6	B



DASH INTERFACE

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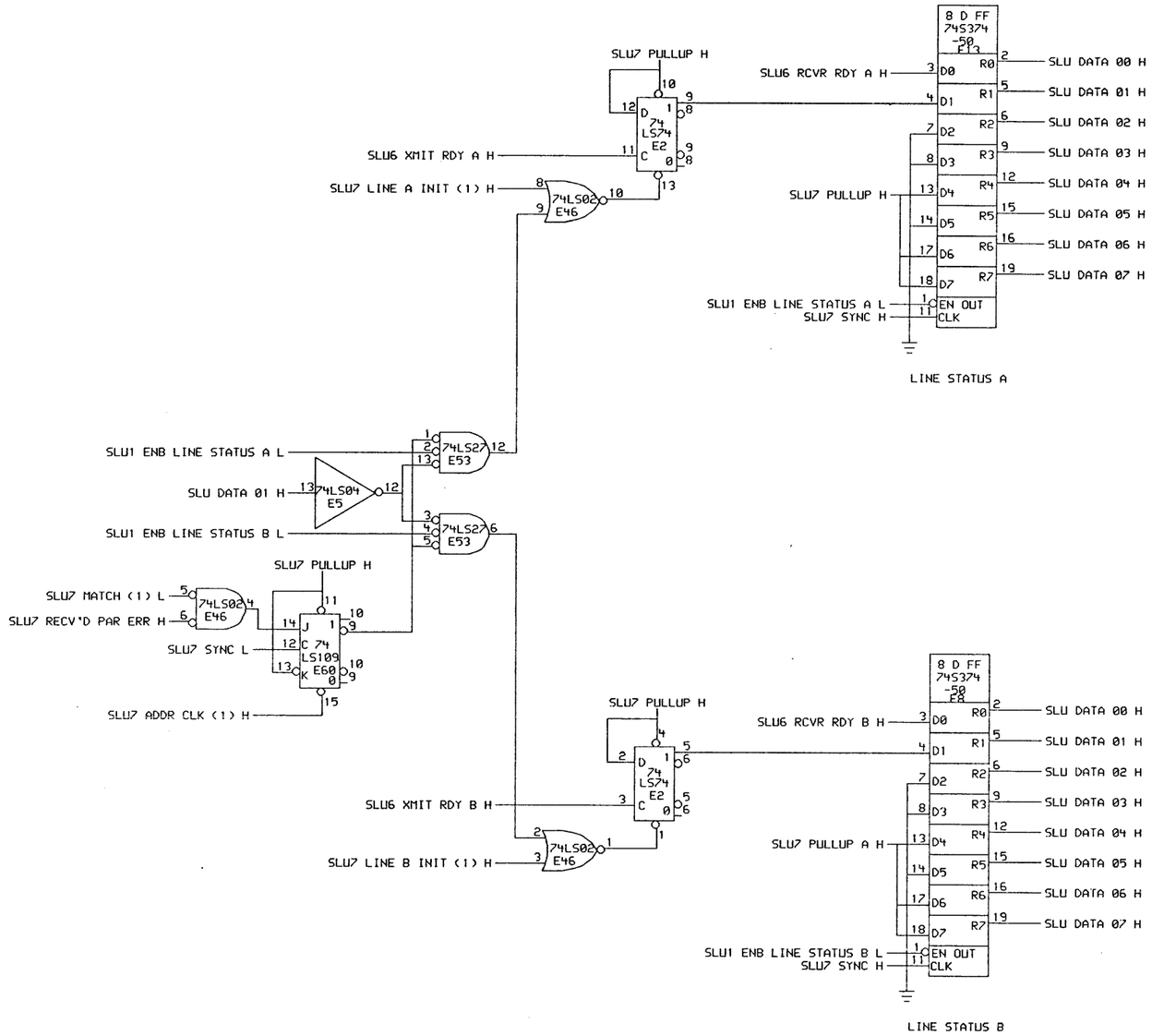
REVISIONS		
CHK	CHANGE NO.	REV

DRN. "CAMP"	DATE 13-JUN-84	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	
D5KD:<PLOURDE>M3102H.DRW 03-APR-84 10:10		NEXT HIGHER ASSEMBLY:	
FIRST USED ON OPTION/MODEL: DECSA		D-UA-M3102-0-0	

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU7	B



	DRN.	DATE 02-NOV-82	ENG.	DATE	TITLE: DUAL ASYNC SERIAL LINE UNIT
	CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1		
DSKD:<BLUZYNSKI>M3102J.DRW 02-NOV-82 10:12			NEXT HIGHER ASSEMBLY:	SIZE K	CODE CS NUMBER M3102-0-SLU8 REV. A
FIRST USED ON OPTION/MODEL: DECSA			D-UA-M3102-0-0		

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REVISIONS		
CHK	CHANGE NO.	REV

DRN. CAMP"	DATE 18-JUL-84	ENG.	DATE
CHK "D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	

DSKC:<DUVAL>M3102K.DRW 08-JUN-84 11:19 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU9	D

DASH BUS TRANSCEIVERS

DASH BUS

SLU DATA 7:0

(SLU4) 26S10 — DA0-3, TR EN

(SLU4) 26S10 — DA4-7, TR EN

(SLU7) 26S10 — SYNC, DATA STRB, READ CLK0, TR EN, +3.0V

(SLU7) 26S10 — MPAR, SPAR, PAR ERR, LED LINE, TR EN

LAT READ L

DATA PAR ERR

(SLU4) LS373 ADRS LATCH — DA8, DA0-3, READ H

LAT READ H, ADRS PAR ERR, DA8 H

LAT ADRS 0-4

LAT READ H

(SLU6) BUFFER

(SLU7) PAR GEN — EO

SYNC, LAT READ H, LAT DA 8

(SLU7) PAR CHK — MPAR

(SLU7) ADRS MATCH — DA 4-7 H, SLOT ID

MATCH

ADRS PAR ERR H

DATA PAR ERR H

(SLU8) STATUS REG A — MC

(SLU4) PARAMTR REG A — SLU DATA IN 0-7

(SLU6) 2661 LINE A — CE ST CLK SO SI

(SLU5) MODEM OUT A — WRT MOD OUT

(SLU5) MODEM IN A

(SLU1) ADRS DECODE A

READ MOD IN, WRT MOD OUT, READ MC

(SLU2) SERIAL LINE DRIVERS A

(SLU2) SERIAL LINE RCEIVRS A

(SLU2) RS232-C A

(SLU1) BAUD RATE GEN — SLU DATA IN 0-7

(SLU6) RCV DATA RETRY LATCH

(SLU8) STATUS REG B — MC

(SLU4) PARAMTR REG B — SLU DATA IN 0-7

(SLU6) 2661 LINE B — CE ST CLK SO SI

(SLU5) MODEM OUT B — WRT MOD OUT

(SLU5) MODEM IN B

(SLU1) ADRS DECODE B

READ MOD IN, WRT MOD OUT, READ MC

(SLU3) SERIAL LINE DRIVERS B

(SLU3) SERIAL LINE RCEIVRS B

(SLU3) RS232-C B

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REVISIONS			
CHK	CHANGE NO.	REV

DRN.	DATE 09-APR-84	ENG.	DATE 09-APR-84
CHK'D.	DATE 09-APR-84	BOARD LOCATION:	SHEET 1 OF 1

OSKD:<PLOURDE>M3102L.DPW|15-MAR-84 10:58 | NEXT HIGHER ASSEMBLY: D-UA-M3102-0-0

FIRST USED ON OPTION/MODEL: DECSA

TITLE: DUAL ASYNC SERIAL LINE UNIT

SIZE	CODE	NUMBER	REV.
K	CS	M3102-0-SLU10	B

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FIELD MAINTENANCE PRINT SET

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B-DD-KDF11-UA-0	CPU MODULE OPTION
K-GL-KDF11-UA-2	OPTION.TXT
B-PL-KDF11-UA-4	SHIPPING LIST
D-CS-M7133-0-1	CPU CIRCUIT SCHEMATIC (ETCH REV C & D ONLY)
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D-CS-M7133-0-2	
D-CS-M7133-0-3	
D-CS-M7133-0-4	
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D-CS-M7133-0-6	
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D-CS-M7133-0-12	
D-CS-M7133-0-13	
D-CS-M7133-0-14	
K-CS-M7133-YA-0	CPU CIRCUIT SCHEMATIC (ETCH REV E AND LATER)
D-UA-M7133-YA-0	

UNIT VARIATIONS COVERED BY THIS PRINT SET
KDF11-UA

Field Maintenance Print Set

KDF11-UA

Digital Equipment Corporation

MP01028

REV. C

SIZE	CODE	NUMBER
B	TC	KDF11-UA-3

REVISIONS		
REV	B	C
CHG. NO.	KDF11-UA-TW1	KDF11-UA-TW2
DATE	2-10-82	5-85

USED ON OPTION/MODEL
KDF11

SHEET 1 OF 1

DRN. A. ROCHA	DATE 11 DEC 80	
CHK'D R. Rocha	DATE 1-15-81	
PROJ. ENG. R. Rocha	DATE 1-15-81	
FIELD SERV. [illegible]	DATE 1-15-81	

digital

TITLE: 16BIT F11 UNIBUS PROCESSOR (M7133)

SIZE	CODE	NUMBER	REV.
B	TC	KDF11-UA-3	C

DIST.

DRB 124

TW

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY A. ROCHA DATE 11 DECEMBER 80	CHECKED DATE Ray Gruda 12/11	SECTION
ENG DATE Ray Gruda 12/11	PROD DATE Ray Gruda 12/11	ISSUED SECTION

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION KDF11-UA	NOTES: REF DESIGNATION
1.		M7133	CPU MODULE	1	
2.	B-PL-KDF11-UA-4		SHIPPING LIST	REF	

E.C.O. NO.

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DRB 125

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.
PARTS LIST		B	PL	KDF11-UA-0	A
	SHEET 1 OF 1	INSERTION PARTS LIST DATA BASE REV			

TW

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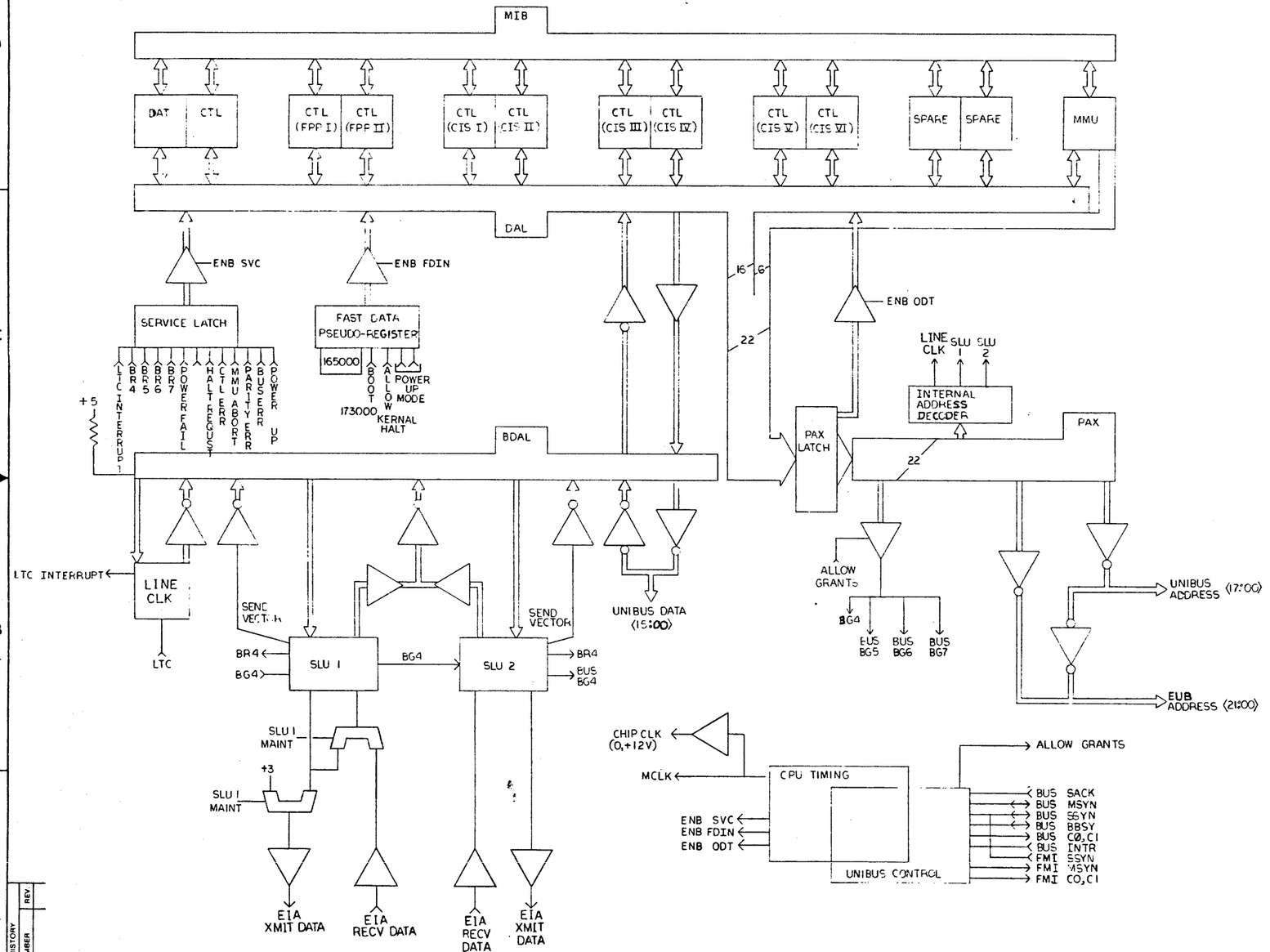

REVISION HISTORY	REV	DATE
ECO NUMBER		

DRN G. GRAVES	DATE 28 APR 81	TITLE digital
CHK'D R. BRUNELLE	DATE 14-JAN-82	DATA PATHS BLOCK DIAGRAM (M7133)
DES. ENG. R. BRUNELLE	DATE 14-JAN-82	
REL. ENG. R. BRUNELLE	DATE 14-JAN-82	DOCUMENT NUMBER
MFG. L. WILLIAMS	DATE 11/15/81	SIZE D · CODE BD · NUMBER KDF11-UA-1 · REV A
NEXT HIGHER DOC B-DD-KDF11-UA-0		SCALE NONE · SHEET 1 OF 1

TW

SIZE	CODE	NUMBER	REV
B	DD	KDF11-UA-0	B

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS
		KDF11-UA	PART REVISION	B1
MP01028				
B-PL-KDF11-UA-0			PARTS LIST	A
D-BD-KDF11-UA-1			BLOCK DIAGRAM	A
K-GL-KDF11-UA-2			OPTION TXT	A
B-TC-KDF11-UA-3			TABLE OF CONTENTS	C
B-PL-KDF11-UA-4			SHIPLIST	B

NOTES:

REVISION HISTORY		
DATE	ECO NO.	REV.
5-85	TW002	B

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DRN. D.GERRY	DATE 5-85	TITLE 16 BIT F11 UNIBUS PROCESSOR
CHK'D T.MCCULLOUGH	DATE 5-85	
DES. ENG R.GRAHAM	DATE 5-85	DOCUMENT NUMBER
RESP. ENG R.GRAHAM	DATE 5-85	SIZE B CODE DD NUMBER KDF11-UA-0 REV. B
MFG. ENG R.GRAHAM	DATE 5-85	SHEET 1 OF 1

DRB 128C
EN-01242-16-REVA(396)

THIS DOCUMENT CONTAINS THE TRUTH TABLES AND EQUATIONS
FOR THE ADDRESS DECODE PLA (E93 DEC PART# 23055C6-00) AND
THE TIMING PLA (E39 DEC PART# 23064C6-00). IT SHOULD BE OF SOME
HELP WHEN TRYING TO UNDERSTAND HOW THE ABOVE MENTIONED COMPONENTS
INTERACT WITH THE M7133 COMBINATIONAL LOGIC.

REVISION HISTORY			BASIC PART NO: KDF11				
ENG	ECO NUMBER	REV	NOTES:	DRN: RAY GRUDA	DATE: 09-MAR-82	DIGITAL	
	INITIAL	A		CHK'D: RAY GRUDA	DATE: 09-MAR-82	TITLE: PARTS LIST KDF11-UA (1124) PLA INFORMATION	
				DES.ENG.: RAY GRUDA	DATE: 09-MAR-82		
				RESP.ENG.: RAY GRUDA	DATE: 09-MAR-82	DOCUMENT NUMBER	
				MFG.ENG.: WALT BOWSE	DATE: 09-MAR-82	SIZE: K / CODE: GL / NUMBER: KDF11-UA-2 / REV: A	
				ASSEMBLY NUMBER: D-UA-M7133-0-0	TOP DOCUMENT NUMBER: B-DD-KDF11-UA-1	FILE NAME: Z4230A.KGL	SHEET 1 OF 11

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ADDRESS DECODE PLA E93 P/N 23Ø55C6-ØØ TRUTH TABLES PAGE 1

```
LREADL    1                    NOTE MNEMONIC    VALUE (SPACE=DON'T CARE)
CØ         1
IOPAGE      1
MAINTL       1
A11           1
A1Ø            1
A9              1
A8               1
A7                1
A6                 1
A5                  1
A4                   1
A3                    1
A2                     1
A1                      1
AØ                       1
GPR          1111111100
KT           11111110
PSW          Ø ØØØØØØØØØØØØ
SWR          Ø ØØØØØØØØØØØØ
SRØ          Ø ØØØØØØØØØØØØ
SR1          Ø ØØØØØØØØØØØØ
SR2          Ø ØØØØØØØØØØØØ
SR3          Ø ØØØØØØØØØØØØ
LTC          Ø ØØØØØØØØØØØØ
RS1          1 Ø1ØØØØØ1100
RB1          Ø ØØØØØØØ1100
TS1          1 Ø1ØØØØØ1100
TB1          Ø ØØØØØ100000
RS2          1 Ø1ØØØF10000
RB2          Ø ØØØØØØ10000
TS2          1 Ø1ØØØØ10000
TB2          Ø ØØØØØ100000
DOUT      ØØ
DIN       Ø
HBOUT     11                 Ø
LBOUT     11                 Ø
FSMAINT      1
```

D	I	G	I	T	A	L	TITLE	SHEET 2 OF 11	SIZE	CODE	DOCUMENT NUMBER	REV
							KDF11-UA (1124) PLA INFORMATION		K	GL	KDF11-UA-2	A

ADDRESS DECODE PLA E93 P/N 23055C6-00 TRUTH TABLES PAGE 2

ANDMATRIX

```
LCIMAA:AAAAAA:AAAA      IIXEED:DD
E PI10:      :          TT BB2:10
A AN  :      :          AS WR :
D GT  :      :          DS TD :
L EL  :      :          DY LL :
      :      :          LN    :
      :      :           L    :
      :      :                :
      :      :                :
  1   :      :    (  0)11 11  : 1
  0 00:000 00:000 (  1)11      :
  0 00:0000 0:000 (  2)11      :
  0 00:000001:100 (  3)11      :
  1 01:000001:100 (  4)11      :
  1 01:000010:000 (  5)11      :
 10 00:000000:0000(  6)        :1
0 0 00:000000:000 (  7)     1  :11
0 0 00:000001:100 (  8)     1  : 1
0 0 00:000010:000 (  9)     11 : 1
0 1 01:000001:100 ( 10)     1  :1
0 1 01:000010:000 ( 11)     11 :1
000 00:000 00:000 ( 12)     1 1: 1
001 01:000001:100 ( 13)     1  :
001 01:000010:000 ( 14)     1  :
110 00:000 00:0000( 15)     1 1: 1
111 01:000001:1000( 16)     1  :1
111 01:000010:0000( 17)     1 1:1
      :      :                :
LCIMAA:AAAAAA:AAAA      IIXEED:DD
R00A11:987654:3210      NN NNA:AA
E PI10:      :          TT BB2:10
L EL  :      :          DY LL :
      :      :          LN    :
      :      :           L    :
      :      :                :
      :      :                :
```

ORMATRIX

STATISTICS

NUMBER OF INPUTS = 16
NUMBER OF OUTPUTS = 8
NUMBER OF TERMS = 18
"1" INPUT DETECTIONS = 41
"0" INPUT DETECTIONS = 182
DON'T CARES = 65
NUMBER OF TERMS DRIVING MORE THAN ONE OUTPUT = 15

DIGITAL	TITLE	SHEET 3 OF 11	SIZE	CODE	DOCUMENT NUMBER	REV
	KDF11-UA (1124) PLA INFORMATION		K	GL	KDF11-UA-2	A

OPTION TEXT FOR 11/24 PLA'S

ADDRESS DECODER PLA EQUATION FILE E93 P/N 23055C6-00 PAGE 1

```
DEFINITIONS

INVERTIN 0
INVERTOUT 660000000000
INPUTS 'LREADL,C0,IOPAGE,MAINTL,A11,A10,A9,A8,A7,A6,A5,A4,A3,A2,A1,A0'
OUTPUTS 'INTADDL,INTSSYNL,X,ENBWTL,ENBRDL,DA2,DA1,DA0'
RADIX OCTAL
BIND '0011111111110000'
GPR=017700
END
BIND '0011111111000000'
KT=017600
END
BIND '0010111111111110'
PSW=027776              ;"ADDRESS OF THE PROC. STATUS WORD"
SWR=027570              ;"ADDRESS OF THE SWITCH REGISTER"
SR0=027572              ;"MEMORY MANAGEMENT STAT REG. 0"
SR1=027574              ;"MEMORY MANAGEMENT STAT. REG. 1"
SR2=027576              ;"MEMORY MANAGEMENT STAT. REG. 2"
SR3=022516              ;"MEMORY MANAGEMENT STAT. REG. 3
LTC=027546              ;"LINE TIME CLOCK ADDRESS"
RS1=027560              ;"RECEIVE CSR 1"
RB1=027562              ;"RECEIVE BUFFER 1"
TS1=027564              ;"TRANSMIT CSR 1"
TB1=027566              ;"TRANSMIT BUFFER 1"
RS2=026500              ;"RECEIVE CSR 2"
RB2=026502              ;"RECEIVE BUFFER 2"
TS2=026504              ;"TRANSMIT CSR 2"
TB2=026506              ;"TRANSMIT BUFFER 2"
END
BIND '1100000000000000'
DOUT=100000             ;"DATA OUT OPERATION"
END
BIND '1000000000000000'
DIN=0                   ;"DATA IN OPERATION"
END
BIND '1100000000000001'
HBOUT=140001            ;"HIGH BYTE DATA OUT"
LBOUT=140000            ;"LOW BYTE DATA OUT"
END
BIND '0001000000000000'
FSMAINT=0               ;"MAINTENANCE SELECT"
END
DATAPATHS
OUT=INTADDL,INTSSYNL,X,ENBWTL,ENBRDL,DA2,DA1,DA0
END
```

								TITLE		SIZE	CODE	DOCUMENT NUMBER	REV
D	I	G	I	T	A	L		KDF11-UA (1124) PLA INFORMATION	SHEET 4 OF 11	K	GL	KDF11-UA-2	A

```
EQUATIONS

OUT\200=GPR+KT+SR0+SR1+SR2+SR3+PSW+TS1+TB1+RB1          ;"SET INTADD WHEN AN INTERNAL REGISTER ACCESS IS OCCURRING"
OUT\300=RS1+RB1+TS1+TB1+RS2+RB2+TS2+TB2+SWR.HBOUT+LTC  ;"SET INTSSYNL WHEN AN INTERNAL REGISTER ACCESS IS OCCURING"
OUT\10=RS1.DIN                                         ;"SET ENBRD FOR A DATA IN TO THE RECEIVE CSR 1"
OUT\20=RS1.DOUT+RS1.LBOUT                              ;"SET ENBWT ON A DATA OUT OR DATA OUT BYTE FROM RS1"
OUT\11=RB1.DIN                                         ;"SET ENBRD AND DA0 ON A DATA IN TO RB1"
OUT\21=TB1.DOUT+TB1.LBOUT                              ;"SET ENBWT AND DA0 ON A DATA OUT OR A DATA OUT BYTE TO TB1"
OUT\12=TS1.DIN                                         ;"SET ENBRD AND DA1 ON A DATA IN TO TS1"
OUT\22=TS1.DOUT+TS1.LBOUT                              ;"SET ENBWT AND DA1 ON A DATA OUT OR A DATA OUT BYTE TO TS1"
OUT\13=LTC.DIN                                         ;"SET ENBRD, DA0, AND DA1 IF A DATA IN TO LTC"
OUT\23=LTC.DOUT+LTC.LBOUT                              ;"SET ENBWT, DA0, AND DA1 IF A DATA OUT OR A DATA OUT BYTE TO LTC"
OUT\14=RS2.DIN                                         ;"SET ENBRD AND DA2 ON A DATA IN TO RS2"
OUT\24=RS2.DOUT+RS2.LBOUT                              ;"SET ENBWT AND DA2 IF A DATA OUT OR A DATA OUT BYTE TO RS2"
OUT\15=RB2.DIN                                         ;"SET ENBRD, DA0, AND DA2 IF A DATA IN TO RB2"
OUT\25=TB2.DOUT+TB2.LBOUT                              ;"SET ENBWT, DA0, AND DA2 IF A DATA OUT OR A DATA OUT BYTE TO TB2"
OUT\16=TS2.DIN                                         ;"SET ENBRD, DA1, AND DA2 IF A DATA IN TO TS2"
OUT\26=TS2.DOUT+TS2.LBOUT                              ;"SET ENBWT, DA1, AND DA2 IF A DATA OUT OR A DATA OUT BYTE TO TS2"
OUT\327=SWR.DOUT+SWR.LBOUT                             ;"SET INTADD,INTSSYN, ENBWT, DA2, DA1, AND DA0 IF A DATA OUT OR A DATA OUT
                                                         TO THE SWITCH REGISTER"
OUT\331=FSMAINT                                        ;"SET INTADD, INTSSYN, ENBWT, ENBRD, AND DA0 IF MAINTENANCE IS SELECTED"
END
```

DIGITAL	TITLE		SIZE	CODE	DOCUMENT NUMBER	REV
	KDF11-UA (1124) PLA INFORMATION	SHEET 5 OF 11	K	GL	KDF11-UA-2	A

OPTION TEXT FOR 11/24 PLA'S

11/24 TIMING AND BUS CONTROL PLA E39 P/N 23Ø64C6-ØØ

MNEMONIC	VALUE (SPACE=DON'T CARE)		
AIO2	1		
AIO1	1		
AIOØ	1		
CTØ	1		
CT1	1		
LREAD	1		
Ø	1		
MCLK	1		
ENBPBT4	1		
CØ	1		
BUSREQ	1		
PAUSE	1		
BUSCYC	1		
PT2_4	1		
MMUCYC	1		
FSMAINT	1		
COUNTØ	ØØ		
COUNT1	1Ø		
COUNT2	Ø1		
COUNT3	11		
AWO	ØØØ	Ø	1
ARW	ØØ1	Ø	1
ARO	Ø11	Ø	1
DOUTB	1ØØ	Ø	1
DOUT	1Ø1	Ø	1
DIN	11Ø	Ø	1
NOP	111	Ø	1
DATO	1Ø	Ø	1

DIGITAL	TITLE	SHEET 6 OF 11	SIZE	CODE	DOCUMENT NUMBER	REV
	KDF11-UA (1124) PLA INFORMATION		K	SL	KDF11-UA-2	A

ANDMATRIX

```
AAACCL:Ø4ECBP:BPMF      ØLPCDB:LCN
IIITTP: CNØUA:UTMS       AAØIU:RHU
ØØØØ1E: LB SU:S2UM       TUONS:EGL
21Ø  A: KP RS:C_CA       AS OR:ACL
     D:  B EE:Y4YI       DE  E:DL
      :  T Q :C CN       DO  Q:OK
      :  4   :   T           D: D
      :      :                :
11110 : Ø    : 1  (  Ø)       : 1
Ø  Ø1 : Ø    :    (  1)       : 1
11Ø91 : Ø    :11  (  2)       : 1
1Ø Ø1 : Ø    : 1  (  3)       : 1
11Ø11 : Ø    :Ø1  (  4)       : 1
   1Ø : 11   :  Ø (  5)       : 1
   11 : 1Ø   :  Ø (  6)       : 1
   11 : 1    :  1 (  7)       : 1
   ØØ : 1Ø   :  1 (  8)       :  1
ØØ1   : Ø    : 1  (  9)   1   :
1ØØ   : Ø    : 1  ( 1Ø)   1   :
1     :   1  : 1  ( 11)   1   :
   ØØ :   1 Ø:    ( 12)   1   :
      : 111  :    ( 13)   1   :
Ø11   : Ø    : 1  ( 14)       :1
ØØ1   : Ø    : 1  ( 15)       :1
     1: 11   :    ( 16)       :1
   ØØ1:     Ø:Ø   ( 17)       :1
1    1:      : 1  ( 18)       :1
 1   1:      : 1  ( 19)       :1
  1  1:      : 1  ( 2Ø)       :1
1Ø  Ø : Ø    :Ø1 1( 21)       1:
     1: 1    Ø:Ø Ø1( 22)       1:
   Ø11: 1    Ø:Ø 11( 23)      1:
      : 11 1 :Ø  1( 24)       1:
   ØØ : Ø  1 :   1( 25)       1:
111   : Ø  1 : 1 1( 26)       1:
11ØØ  : Ø  1 : 1 1( 27)       1:
11Ø Ø : Ø  1 : 1 1( 28)       1:
11Ø   : Ø    :Ø1  ( 29)     1 :
11ØØ11: Ø 1  :Ø1  ( 3Ø)  1    :
      :  1  1:Ø   ( 31)  1    :
   Ø1 : 1    :  11( 32) 1     :
Ø  Ø1 : Ø    :   1( 33) 1     :
      :      :                :
AAACCL:Ø4ECBP:BPMF      ØLPCDB:LCN
IIITTP: CNØUA:UTMS       AAØIU:RHU
ØØØØ1E: LB SU:S2UM       TUONS:EGL
21Ø  A: KP RS:C_CA       AS OR:ACL
     D:  B EE:Y4YI       DE  E:DL
      :  T Q :C CN       DO  Q:OK
      :  4   :   T           D: D
```

ORMATRIX

D	I	G	I	T	A	L	TITLE		SIZE	CODE	DOCUMENT NUMBER	REV
							KDF11-UA (1124) PLA INFORMATION	SHEET 7 OF 11	K	GL	KDF11-UA-2	A

11/24 TIMING AND BUS CONTROL PLA E39 P/N 23Ø64C6-ØØ

STATISTICS

NUMBER OF INPUTS = 16
NUMBER OF OUTPUTS = 9
NUMBER OF TERMS = 34
"1" INPUT DETECTIONS = 11Ø
"Ø" INPUT DETECTIONS = 72
DON'T CARES = 362
NUMBER OF TERMS DRIVING MORE THAN ONE OUTPUT = Ø

OPTION TEXT FOR 11/24 PLA'S

11/24 TIMING AND BUS CONTROL PLA E39 P/N23064C6-00 PAGE 1

```
DEFINITIONS

INVERTIN 0
INVERTOUT 002000000000
INPUTS 'AIO2,AIO1,AIO0,CT0,CT1,LREAD,0,MCLK,ENBPBT4,C0,BUSREQ,PAUSE,BUSCYC,PT2_4,MMUCYC,FS MAINT'
OUTPUTS '0,LATADD,PAUSEO,C00,DINO,BUSREQO,LREADO,CHGCLKO,NULL'
RADIX OCTAL
BIND '000110000000000000'
COUNT0=000000
COUNT1=613000
COUNT2=004000
COUNT3=014000
END
BIND '111000010000010000'
AWO=000004
ARW=020004
ARO=060004
DOUTB=100004
DOUT=120004
DIN=140004
NOP=160004
END
BIND '110000010000010000'
DATO=100004
END
```

DIGITAL	TITLE: KDF11-UA (1124) PLA INFORMATION	SHEET 9 OF 11	SIZE: K	CODE: GL	DOCUMENT NUMBER: KDF11-UA-2	REV: A

TIMING DIAGRAMS AND DEFINITIONS

"MCLK, ENBPPT4, BUSCYC AND FS MAINT INPUT SIGNALS ARE ASSERTED LOW

"PT1= PHASE TIME ONE
"PT2=PHASE TIME TWO (USED FOR AIO DECODE)
"PT3=PHASE TIME THREE (USED IN BUS DATA CYCLES, THE OSC CLOCK TURNS OFF , GETS RESTARTED BY SSYN)
"ALSO USED IN ADDRESS AND LOCAL DATA CYCLES.
"PT4=PHASE TIME FOUR (USED ONLY IN A DATA IN CYCLE FOR DATA DESKEW)
"PBT1=PHASE BAR TIME ONE
"PBT2=PHASE BAR TIME TWO
"PBT3=PHASE BAR TIME THREE (RELOCATED ADDRESS STROBED , IF MMU CYCLE)
"PBT4=PHASE BAR TIME FOUR

```
"          S T A N D A R D     3 0 0 N S .     C Y C L E
"     PBT2 _________________ PBT1 , PBT2 _________________ PBT1
"   _____I  PT1  ,  PT2   I_________________I  PT1  ,  PT2  I_____

"          K T    R E L O C A T I O N      C Y C L E
"     PBT2 ____________________ PBT1 , PBT2 , PBT3 , PBT4 _______
"   _____I  PT1  ,  PT2  ,  PT3  I_____________________________I  PT1  ,

"          K T    R E L O C A T I O N      C Y C L E   W I T H   A B O R T
"     PBT2 ____________________ PBT1 , PBT2 , PBT3 , PBT4 _______
"   _____I  PT1  ,  PT2  ,  PT3  I_____________________________I PT1  ,

"          S T A N D A R D   A D D R E S S   C Y C L E
"     PBT2 ____________________ PBT1 , PBT2 _______
"   _____I  PT1  ,  PT2  ,  PT3  I_____________I  PT1  ,

"          D A T A   O U T ( B )   C Y C L E
"          O R   L O C A L   D O U T ( B )
"     PBT2 ____________________ PBT1 , PBT2 _________________ PBT1
"   _____I  PT1  ,  PT2  ,  PT3  I_____________I  PT1  ,  PT2  I_____

"          D A T A   I N     C Y C L E
"     PBT2 ________________________ PBT1 , PBT2 _________________ PBT1
"   _____I  PT1  ,  PT2  ,  PT3  ,  PT4  I_____________I  PT1  ,  PT2  I_____
```

								TITLE		SIZE	CODE	DOCUMENT NUMBER	REV
D	I	G	I	T	A	L		KDF11-UA (1124) PLA INFORMATION	SHEET 10 OF 11	K	GL	KDF11-UA-2	A

EQUATIONS

```
CHGCLKO=-MCLK.COUNT1.NOP
CHGCLKO=-MCLK.COUNT2.-AIO2
CHGCLKO=-MCLK.BUSCYC.COUNT2.DIN
CHGCLKO=-MCLK.DATO.COUNT2
CHGCLKO=-MCLK.DIN.COUNT3.-BUSCYC
CHGCLKO=MCLK.ENBPBT4.-MMUCYC.COUNT1
CHGCLKO=MCLK.COUNT3.-MMUCYC.-ENBPBT4
CHGCLKO=MCLK.COUNT3.MMUCYC
NULL=MCLK.COUNT0.-ENBPBT4.MMUCYC
C0O=ARW
C0O=DOUTB
C0O=C0.AIO2.PT2_4
C0O=C0.COUNT0.-PAUSE
C0O=C0.MCLK.ENBPBT4

LREADO=ARO
LREADO=ARW
LREADO=LREAD.MCLK.ENBPBT4
LREADO=LREAD.COUNT0.-PAUSE.-BUSCYC
LREADO=LREAD.AIO2.PT2_4
LREADO=LREAD.AIO1.PT2_4
LREADO=LREAD.AIO0.PT2_4

BUSREQO=FS MAINT.DATO.-BUSCYC.-CT1
BUSREQO=FS MAINT.LREAD.-MMUCYC.MCLK.-BUSCYC.-PAUSE

BUSREQO=FS MAINT.LREAD.MMUCYC.MCLK.COUNT2.-BUSCYC.-PAUSE
BUSREQO=FS MAINT.BUSREQ.MCLK.-BUSCYC.ENBPBT4
BUSREQO=FS MAINT.BUSREQ.-MCLK.COUNT0
BUSREQO=FS MAINT.BUSREQ.-MCLK.PT2_4.NOP
BUSREQO=FS MAINT.BUSREQ.DIN.-MCLK.-CT0
BUSREQO=FS MAINT.BUSREQ.DIN.-MCLK.-CT1

DINO=DIN.-BUSCYC.PT2_4.-MCLK

PAUSEO=COUNT2.LREAD.C0.-BUSCYC.DIN
PAUSEO=PAUSE.-BUSCYC.ENBPBT4

LATADD=MCLK.COUNT2.MMUCYC.FS MAINT
LATADD=-AIO2.COUNT2.-MCLK.FS MAINT

END
```

```
;"RESET MCLK ON PT2 IF AIO=NOP
;"RESET MCLK ON PT3 IF AN ADDRESS TYPE INST (AIO2=0)
;"RESET MCLK ON PT3 IF A LOCAL DIN
;"RESET MCLK ON PT3 IF A DATO(B)
;"RESET MCLK ON PT4 IF A DATA IN
;"SET MCLK ON PBT2 IF NEITHER MMUCYC NOR ENBPBT4 SET
;"SET MCLK ON PBT4 IF A REGULAR RESET
;"SET MCLK ON PBT4 IF A MMU CYCLE
;"THIS TERM IS FOR AN ENGINEERING FIX ONLY, IT WILL NOT ACTIVATE ANY OUTPUT
;"SET ON ARW (DATA IN PAUSE)
;"SET ON DOUTB (DATA OUT BYTE)
;"STAY LATCHED DURING PT2_4 IF NOT ADDRESS TYPE INST
;"STAY LATCHED DURING PT1 IF PAUSE=0
;"STAY LATCHED DURING -MCLK UNLESS A CHIP RESET

;"SET ON ARO (ADDRESS READ ONLY)
;"SET ON ARW (ADDRESS READ/WRITE , DATIP)
;"STAY LATCHED WHILE MCLK=0 UNLESS A CHIP RESET
;"STAY LATCHED DURING PT1 WHILE PAUSE =0 AND BUSCYC=1
;"*THE NEXT THREE TERMS KEEP LREAD LATCHED-
;"DURING PT2_4 UNLESS AIO=AWO (ADDRESS WRITE ONLY)

;"BUSREQ WILL NOT SET IF IN FS MAINT
;"SET BUSREQ ON A DATO(B) IF BUSCYC=1, RESET ON PT3
;"SET BUSREQ AT MCLK(PBT1) AND BUSCYC=1
;"AND PAUSE =0 IF NOT MMUCYC
;"SET BUSREQ IF DATI AND MMUCYC ON PBT2
;"KEEP IT LATCHED DURING -MCLK WHILE BUSCYC=1 UNLESS A CHIP RESET
;"KEEP IT LATCHED DURING PT1
;"KEEP IT LATCHED IF AIO=NOP
;"THESE TWO TERMS KEEP IT LATCHED IF A DATA IN --
;"-TILL PT4. PT4 IS USED AS THE SSYN DESKEW (75 NS)

;"SET DIN ON AIO=DIN WHILE IN PT2_4 AND BUSCYC=1

;"SET PAUSE IF A DIN AND PT3 AND BUSCYC AND LREAD AND C0
;"STAY LATCHED WHILE BUSCYC=1 UNLESS A CHIP RESET

;"SET LATADD DURING PBT4
;"SET LATADD ON PT3 WHILE AIO2=0 (ADDRESS CYCLE)
```

D	I	G	I	T	A	L	TITLE	SHEET 11 OF 11	SIZE	CODE	DOCUMENT NUMBER	REV
							KDF11-UA (1124) PLA INFORMATION		K	GL	KDF11-UA-2	A

DIGITAL EQUIPMENT CORPORATION
PARTS LIST

MADE BY A. ROCHA DATE 11 DECEMBER 80	CHECKED R. Sowda DATE 1-15-81	SECTION
ENG R. Sowda DATE 1-15-81	PROD R. Sowda DATE 1-15-81	ISSUED SECTION

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION KDF11-UA	NOTES: / REF DESIGNATION
1	D-BD-KDF11-UA-1	KDF11-UA-1	BLOCK DIA KDF11	1	
~~2~~	~~D-UA-M7133-0-0~~	~~M7133~~	~~CPU Module~~	~~1~~	
~~3~~	~~K-GL-KDF11-UA-2~~	~~KDF11-UA-2~~	~~OPTION.TXT~~	~~1~~	
4		ZJ013	LIBKIT (CPU 11/24)	REF	
5		MP01028	KDF11-UA MAINTENANCE PRINT SET	1	

E.C.O. NO. TW001

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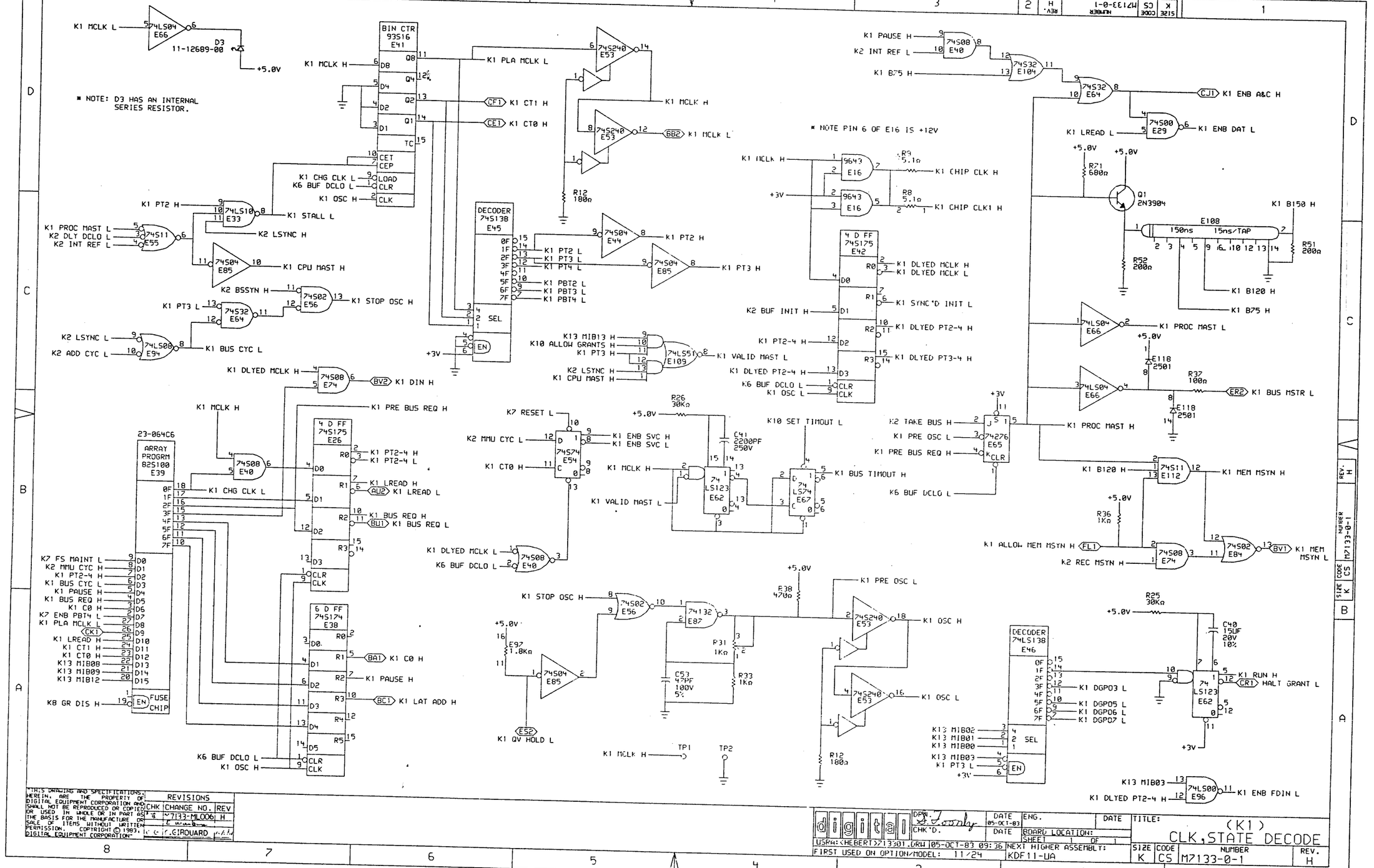
DRB 125

TITLE 16 BIT F11 UBUS PROC. (M7133) SHIP LIST	ASSY NO. B-DD-KDF11-UA-0	SIZE B	CODE PL	NUMBER KDF11-UA-4	REV. B
	SHEET 1 OF 1	INSERTION PARTS LIST DATA BASE REV			

TW



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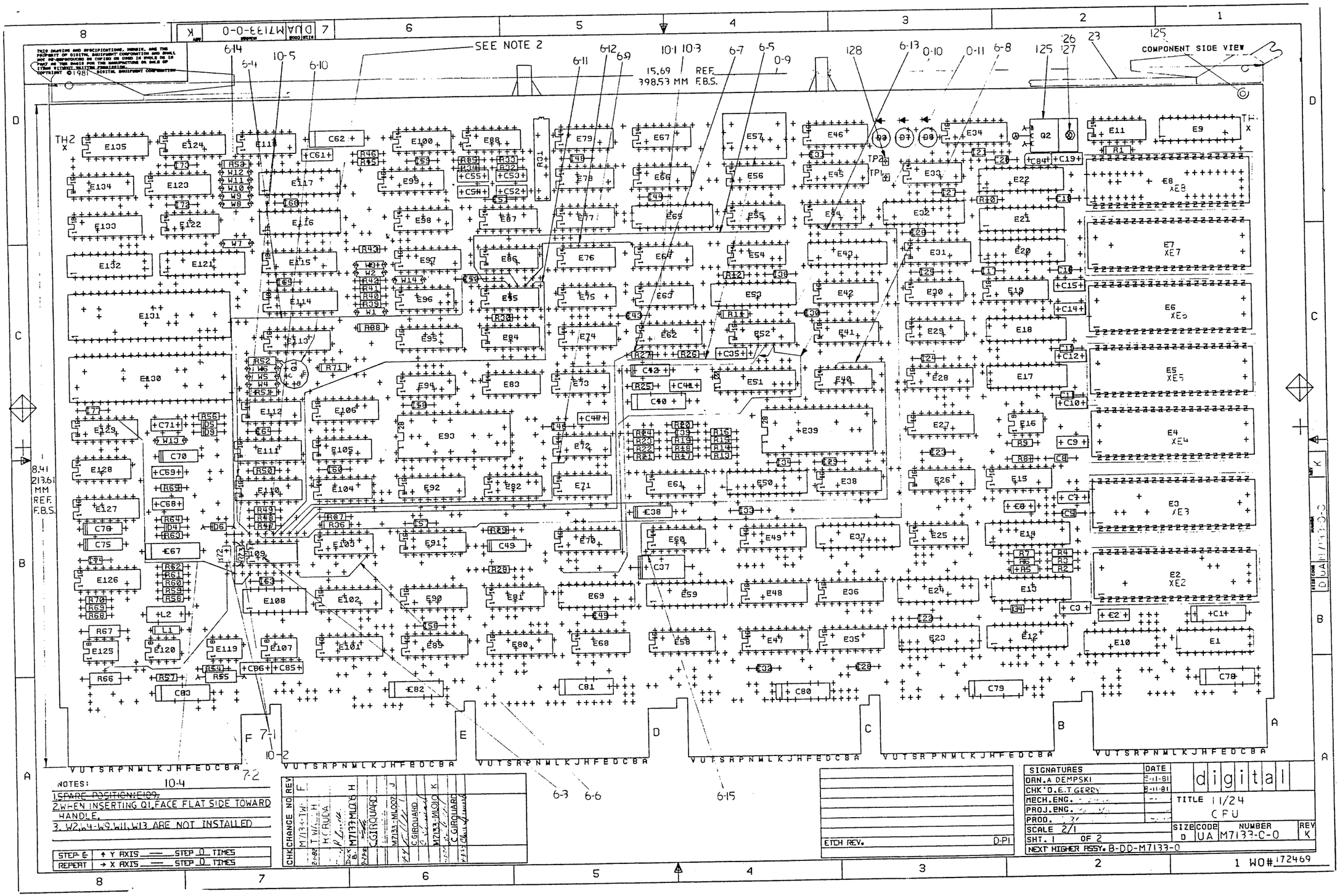
REVISIONS		
CHK	CHANGE NO.	REV
G	M7133-ML006	H

DRW. J. Gouday 05-OCT-83 | ENG. | DATE
CHK'D. | DATE | BOARD LOCATION:
SHEET 1 OF 1
USR#: <HEBERT>7133D1.DRW 05-OCT-83 09:36
FIRST USED ON OPTION/MODEL: 11/24
NEXT HIGHER ASSEMBLY: KDF11-UA

TITLE: (K1) CLK, STATE DECODE

SIZE	CODE	NUMBER	REV.
K	CS	M7133-0-1	H


COMPONENT SIDE VIEW
SEE NOTE 2
15.69 REF.
398.53 MM F.B.S.
8.41
213.61
MM
REF.
F.B.S.
TH2
TH1
NOTES:
1.SPARE POSITION:E109.
2.WHEN INSERTING Q1,FACE FLAT SIDE TOWARD HANDLE.
3. W2,W4-W9,W11,W13 ARE NOT INSTALLED
STEP E ↑ Y AXIS ___ STEP 0 TIMES
REPEAT → X AXIS ___ STEP 0 TIMES
CHK CHANGE NO REV
M7133-TW
TW/S=H
H CAUSA
M7133-ML002
M7133-ML003
C.GIROUARD
ETCH REV. D-P1
SIGNATURES
DRN. A DEMPSKI 8-11-81
CHK'D. E.T. GERRY 8-11-81
MECH. ENG.
PROJ. ENG.
PROD.
SCALE 2/1
SHT. 1 OF 2
digital
TITLE 11/24 CFU
SIZE D
CODE UA
NUMBER M7133-C-0
REV K
NEXT HIGHER ASSY. B-DD-M7133-0
1 WO# 172469

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REWORK INSTRUCTIONS
WIRE ADDS SIDE 1

~~0-6 FROM E67-2 TO E77-12.~~
~~0-7 FROM E67-1 TO E45-10.~~
~~0-8 FROM E103-3 TO E84-6~~
0-9 FROM E52-4 TO PTH BELOW E70-1.
0-10 FROM E52-5 TO E73-13.
0-11 FROM E52-6 TO PTH TO THE RIGHT OF E70-8.

ECO M7133-ML006 COMPONENT ADD SIDE1

6-3 E109(RIGHT AND INNERMOST PTH'S.)

WIRE ADDS SIDE1

6-4 FROM E85-10 TO E109-1(AT PTH BELOW E109-1).
6-5 FROM E85-11 TO E55-6
6-6 FROM E103-7 TO E109-7(AT PTH BELOW E109-7).
6-7 FROM E62-1 TO E109-8(AT PTH ABOVE E109-8).
6-8 FROM E40-12 TO E109-9(AT PTH ABOVE E109-9).
6-9 FROM E72-2 TO E109-10(AT PTH ABOVE E109-10).
6-10 FROM E109-11(AT PTH ABOVE E109-11) TO E109-12 (AT PTH ABOVE E109-12).
6-11 FROM E85-8 TO E109-11(AT PTH ABOVE E109-11).
6-12 FROM E85-9 TO E64-13(AT PTH ON LEFT OF E64-14).
6-13 FROM E44-2 TO E109-13(AT PTH ABOVE E109-13).
6-14 FROM E110-16 TO E109-14(AT PTH ABOVE E109-14).
6-15 FROM E60-12 TO E60-1.

REWORK INSTRUCTIONS

7-1 COMPONENT ADD: 7-1 R72 TO FORMER E109 PIN 1 AND PIN 20

7-2 WIRE ADD: 7-2 FROM PTH BELOW R72 PIN 1 TO PTH BELOW E125 PIN 3

REWORK INSTRUCTIONS ECO 010

COMPONENT DELETE

10-1 DELETE C42

COMPONENT ADDS

10-2 R73 TO FORMER E109 PINS 2 AND 19
10-3 C42 TO FORMER C42 PINS 1 AND 2

WIRE ADDS
10-4 FROM R73 PIN 1 TO E129 PIN 11
10-5 FROM R78 PIN 2 TO FORMER E109 PIN 20

REVISION HISTORY | REV | ECO NUMBER | DATE

DRD 100D

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)

FRACTIONAL TOLERANCES	ANGLES ± 0° 30'	APPLICABLE DIMENSION RANGE (CHECK ONE)	DIMENSION RANGE IN INCHES: OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 60.0
.X = ± .1	SURFACE QUALITY			± .02	± .03	± .05	± .10	
.XX = ± .03			± .004	± .008	± .012	± .018	± .024	± .04
.XXX = ± .005								

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRAWN		DATE
CHK'D		DATE
ENGR. ENGR.		DATE
PROJ. ENGR.		DATE
MFG. ENGR.		DATE
NEXT HIGHER ASSY.		

TITLE: 11/24 CPU

digital

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV.
D	UA	M7133-0-0	K

SCALE — SHEET 2 OF 2

K1 PROC MAST H
K1 LREAD H
74S11 E112
K2 PAR ERR H
K2 BUS PB L (CS1)
8640 E73
K2 BUS PA L (CC1)
8837 E70
74S04 E44
K2 DLY DCLO H
K12 BOOT L
74LS08 E86
8 D FLOP 74LS273 E43
K2 DLY DCLO L
K1 BUS TIMOUT H
K2 BUS ERR H
K2 BUF PAR ERR H
K13 MIB07
K13 MIB12
K13 MIB14
K13 MIB15
K6 BUF DCLO L
K1 MCLK L
K2 LSYNC L
K2 ADD CYC L
K2 SHORT INIT L
(DU2) K2 MMU CYC L
74S04 E44
K2 MMU CYC H
74LS04 E98
K2 SHORT INIT H
74S04 E44
K2 LSYNC H
K1 PROC MAST H
K7 UBXFER H
K1 B150 H
74S11 E112
R45 30KΩ
+5.0V
C62 10UF 20V 10%
74 LS123 E99
K6 AC TIM L
K1 ENB A&C H
8641 E95
(EE1) K2 BUS MSYN L
K2 REC MSYN H
(FD1) K2 BUS BBSY L
K2 REC BBSY H
(DL1) K2 BUS INIT L
74LS04 E66
K2 BUF INIT L
K2 BUF INIT H
(EJ1) K2 BUS SSYN L
74LS04 E98
K2 SSYN DONE H
+3V
74S74 E76
K1 MCLK L
K10 SEND VECT 1 L
K12 SEND VECT 2 L
74LS00 E86
K2 SEND SACK L
K1 PROC MAST H
74S00 E29
74S10 E30
K2 BSSYN H
K1 BUS REQ L
74S02 E84
K1 BUS TIMOUT H
74LS27 E63
K13 MREPLY L
K9 INT SSYN L
74LS08 E86
K9 INT ADD L
K2 INT BOOT SSYN L (CL1)
74S11 E55
K2 INT REF L
+5.0V
E97 1.8KΩ
74LS04 E98
K2 REC INTERUPT H
74S32 E64
K1 STOP OSC H
K13 MIB13
74S08 E40
K2 SEND GRANTS H
K2 LSYNC L
K2 REC BBSY H
K10 REC NPR H
K10 NO SACK L
K10 NPG(1) H
74LS260 E75
K2 BUS INTR L (FM1)
8837 E70
K2 REC INTERUPT H
K1 PAUSE H
74LS32 E71
K2 SSYN DONE H
74LS08 E86
K9 INT ADD L
K1 PRE BUS REQ H
74S11 E55
K2 TAKE BUS H
K1 OSC H
74S74 E54
K2 BUS FREE H
K2 BUF INIT L
K6 BUF ACLO H
74LS04 E66
K2 POWER OK H
+3V
74 LS74 E67
K2 P FAIL H
K2 P FAIL L
K1 DGP06 L
K6 BUF DCLO L
74LS08 E79

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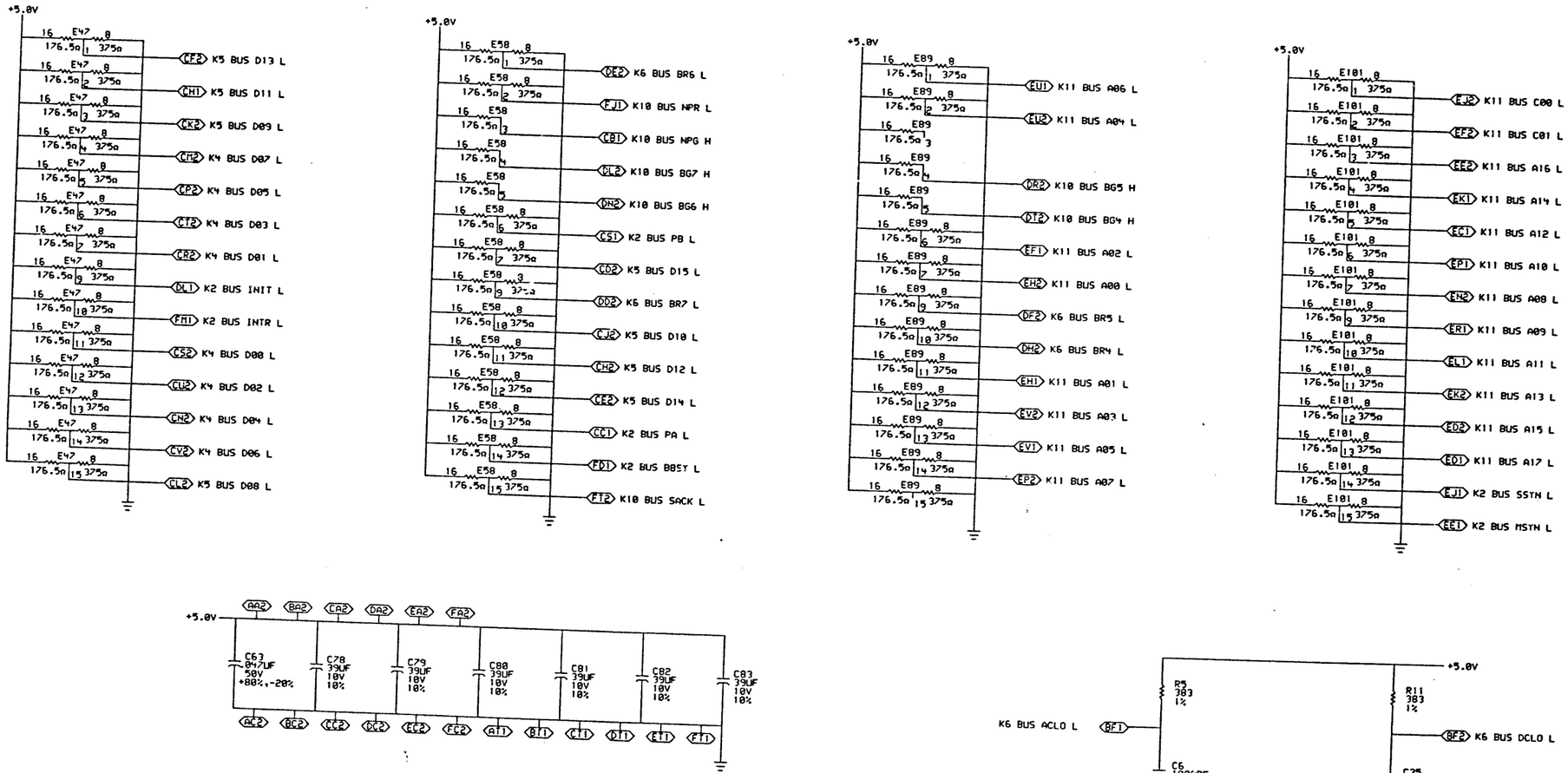
REVISIONS		
CHK	CHANGE NO.	REV
CG	M7133-M1006	H

digital	DRW. S. Looney	DATE 18-JUL-83	ENG.
	CHK D.	DATE	BOARD LOCATION:
USRA:<HEBERT>713302.DRW 18-JUL-83 10:30			SHEET 1 OF 1
FIRST USED ON OPTION/MODEL: 11/24		NEXT HIGHER ASSEMBLY: KDF11-UA	

DATE
TITLE: (K2) BUS CTL

SIZE	CODE	NUMBER	REV.
K	CS	M7133-0-2	H

SIZE K | CODE CS | NUMBER M7133-0-2 | REV. H



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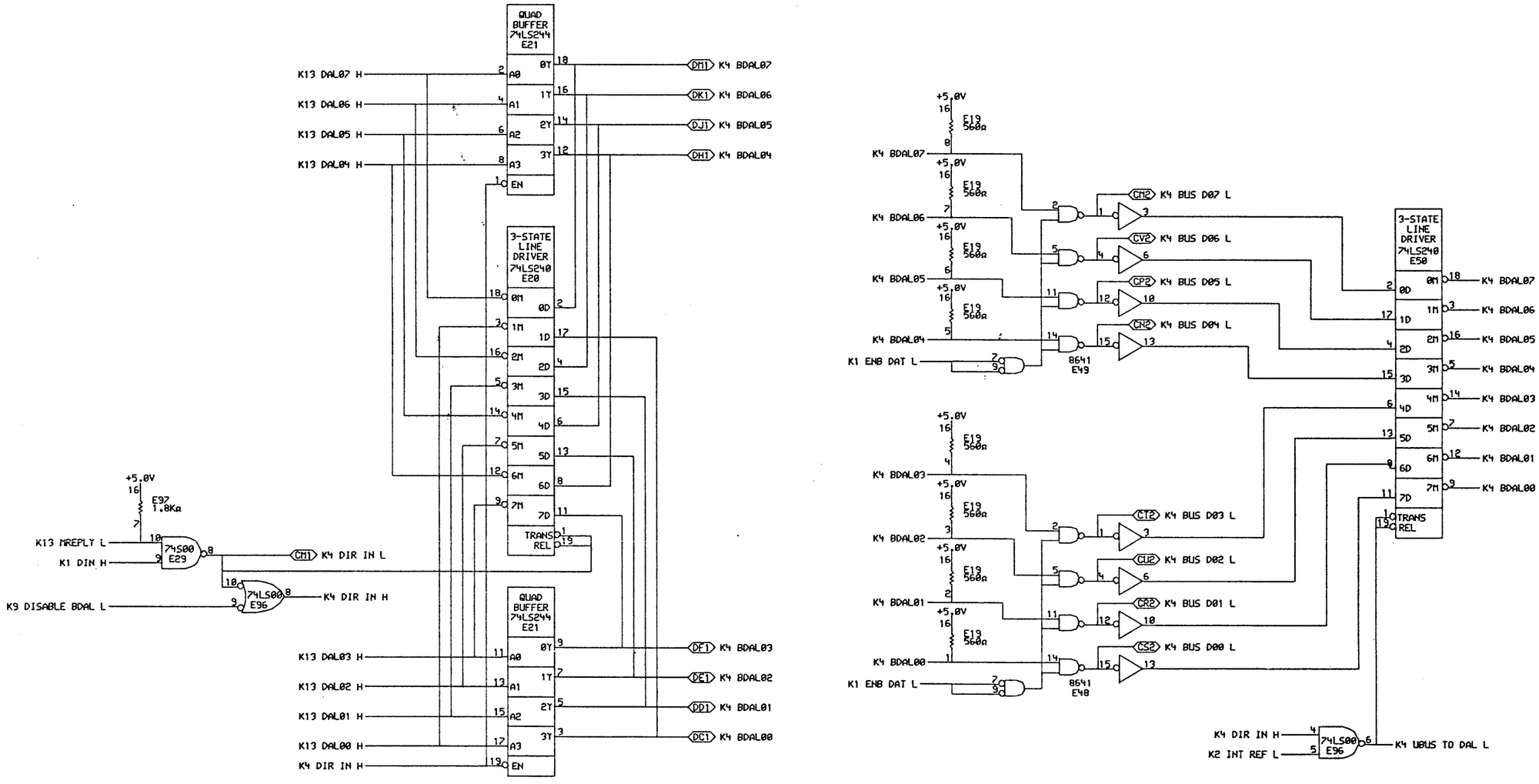
REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN. D. Landry DATE 12-JAN-84
CHK'D. DATE
ENG. DATE
BOARD LOCATION:
SHEET 1 OF 1
PB1:CG[ROUARD]M7133B3.DRW;1T JUN-84 09:15
FIRST USED ON OPTION/MODEL: 11/24
NEXT HIGHER ASSEMBLY: KDF11-UA

TITLE: (K3) BUS TERM

SIZE	CODE	NUMBER	REV.
K	CS	M7133-0-3	F



REVISIONS			CHK	CHANGE NO.	REV
CHK	CHANGE NO.	REV		M7133-T-W 5.2	D
K E	M7133-T-W1 D1		R. GRUDA	4 JUN 81	
KE/1 SI. AMI			R. GRUDA		
RE DRAWN					

CHK	CHANGE NO.	REV
	M7133-TW 5.3	E
R. GRUDA		

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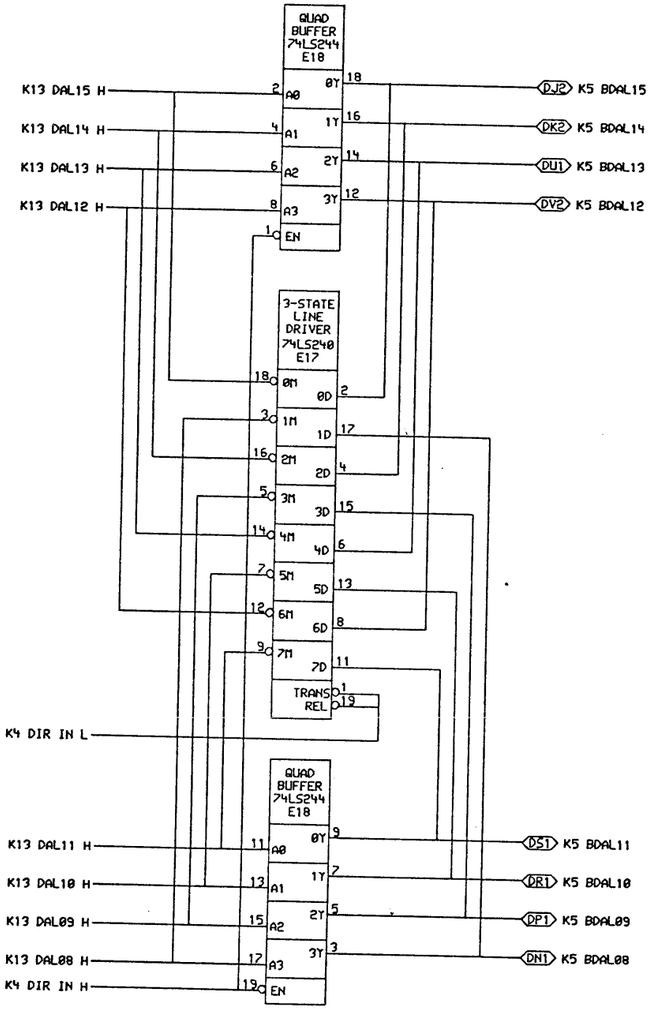
digital

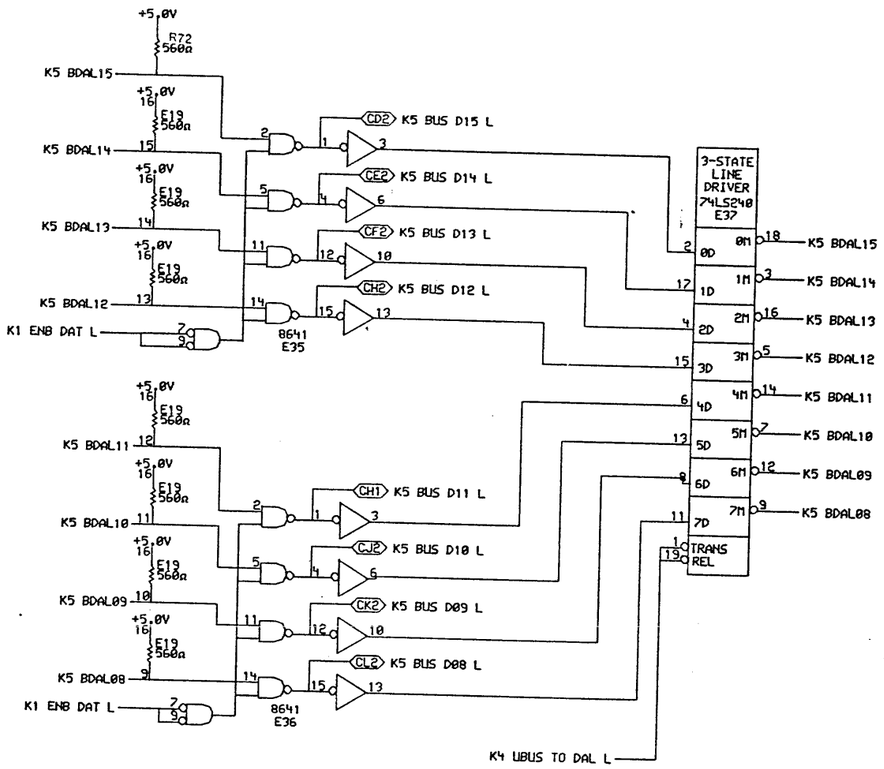
DRN.	DATE 10-MAR-81	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION:	SHEET 1 OF 1

C166,6004,M7133D4.DRW 10-MAR-81 09:26 | NEXT HIGHER ASSEMBLY: KDF11-UA | FIRST USED ON OPTION/MODEL: 11/24

TITLE: (K4) DAL-BDAL-DBUS

SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-4	E





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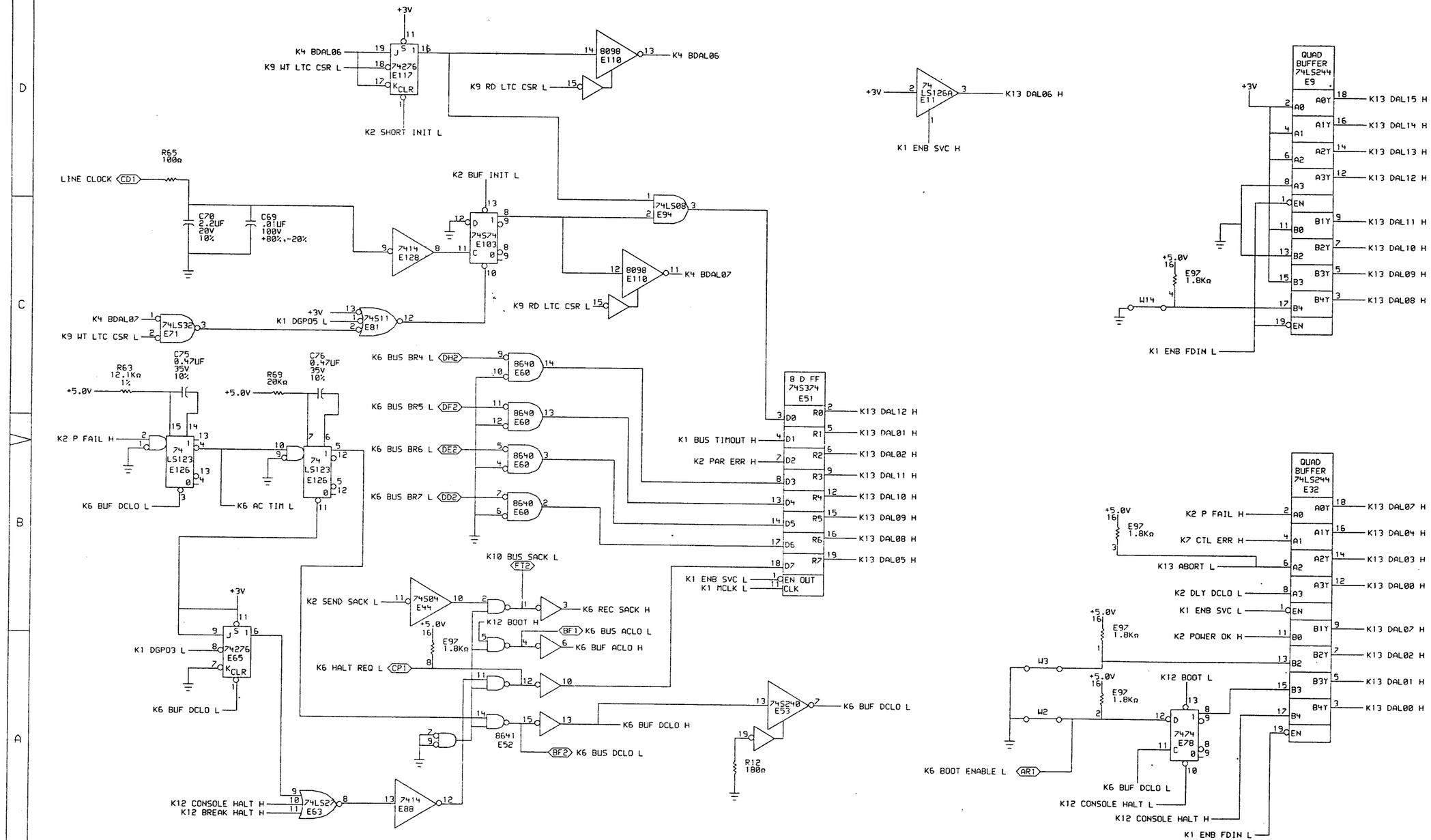
REVISIONS									
CHK	CHANGE NO.	REV	CHK	CHANGE NO.	REV	CHK	CHANGE NO	REV
H.D.	M7133-TWJ1N	C		M7133-TWD02	D		M7133-TWJ03	E	M7133 MLOC7	F
	REVISED AND REPAWN			R. GRUDA			R. GRUDA		C GIROUARD	

DRW.		DATE	ENGR	DATE	TITLE: (K5) DAL-BDAL-DBUS
CHK'D.		10-MAR-81		6-MAR-81	
(166,6004)213305.DRW 10-MAR-81 09:27		DATE	BOARD LOCATION:		
FIRST USED ON OPTION/MODEL: 11/24		NEXT HIGHER ASSEMBLY: KDF11-UA	SHEET 1 OF 1		
			SIZE D	CODE CS	NUMBER M7133-0-5 REV. F



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REVISIONS		
CHK	CHANGE NO.	REV
TA	M7133M0006	H

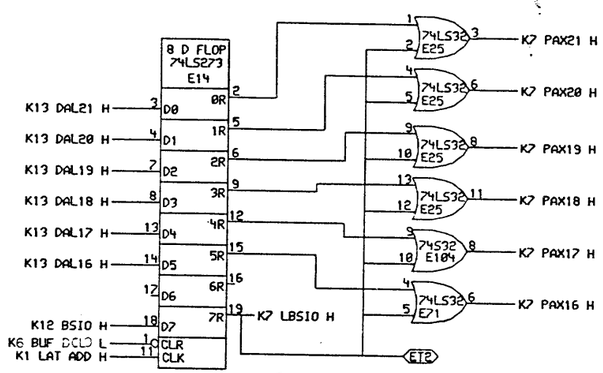
digital

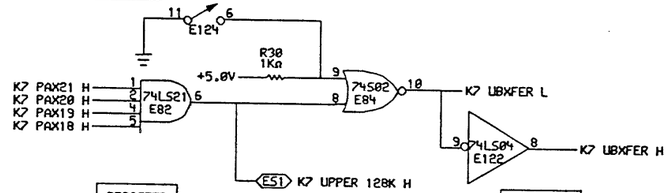
DRN: L. Looney	DATE: 18-JUL-83	ENG.	DATE
CHK: D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	

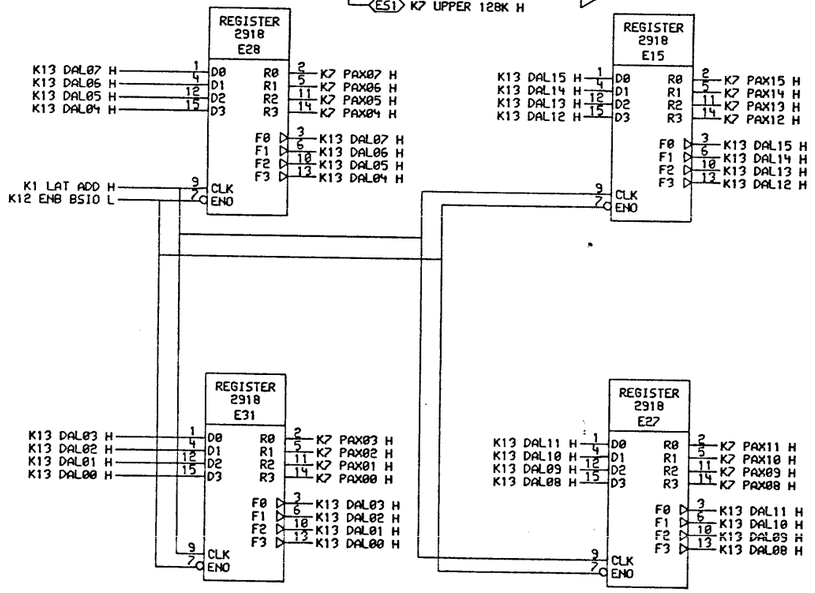
USRA:<HEBERT>713306.DRW 18-JUL-83 10:40 | NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: 11/24 | KDF11-UA

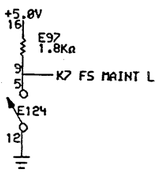
TITLE: (K6) FIXED DIN,SVC

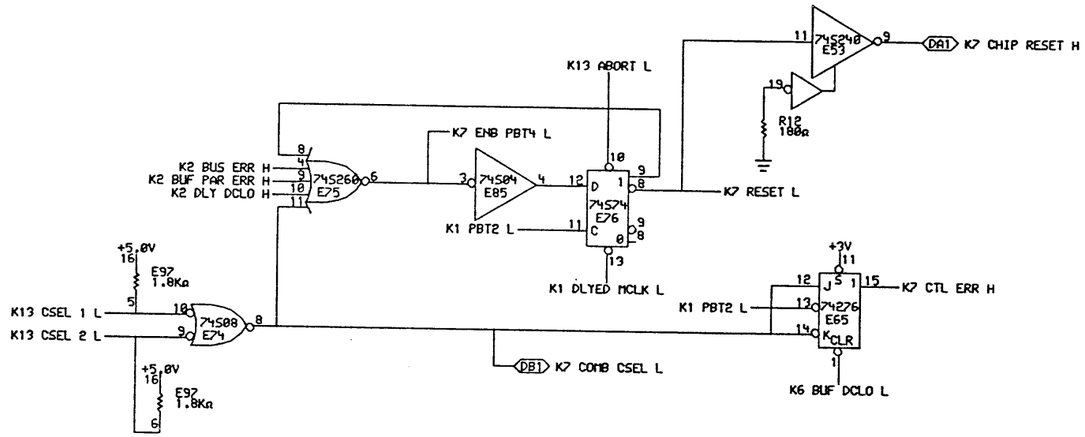
SIZE	CODE	NUMBER	REV.
K	CS	M7133-0-6	H

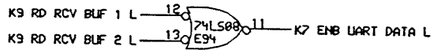












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REVISIONS		
CHK	CHANGE NO.	REV
	M7133-TW022	D
	M7133-TW023	E

CHK	CHANGE NO.	REV
	M7133-TW001	C
	REVISED AND RELEASED	

DRN	D. Landry	DATE	10-MAR-81	ENG.	
CHK'D.		DATE		BOARD LOCATION:	
L166.6004	M7133D7.DRW	10-MAR-81 09:27		NEXT HIGHER ASSEMBLY:	KDF11-UA
FIRST USED ON OPTION/MODEL:	11/24				

TITLE: (K7) PAX

SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-7	E

TW

* NOTE: PIN 2 OF UART IS -12V

REC/ TRANS UART E130

TRO → K8 UART SO H

K4 BDAL00 → T1
K4 BDAL01 → T2
K4 BDAL02 → T3
K4 BDAL03 → T4
K4 BDAL04 → T5
K4 BDAL05 → T6
K4 BDAL06 → T7
K4 BDAL07 → T8
TRAN REG

TRE → K8 XMT RDY 1 H
TBRE

K9 WT XMT BUF 1 L
K8 TCLK 1 H
TBRE
TRC

+5.0V → R39 10KΩ

CLS1
CLS2
+3V
CRL
K2 SHORT INIT H → RES CONT
SBS REG
SFD
EPE
PI

K12 REMOTE ACTIVE H → 8881 E83

U1

+5.0V → E134 1.8KΩ
+5.0V → E134 1.8KΩ
W5
W6
K12 REMOTE ACTIVE H

R1 → K8 UART D0
R2 → K8 UART D1
R3 → K8 UART D2
R4 → K8 UART D3
R5 → K8 UART D4
R6 → K8 UART D5
R7 → K8 UART D6
R8 → K8 UART D7
REC REG

K9 RD RCV BUF 1 L → RRD

REC TIM CONT
OE → K8 UART1 OE H
FE → K8 BREAK H
PE → K8 UART1 PE H

K8 UART SI 1 H → RRI
K8 RCLK 1 H → RRC
DRR
DR

C68 1200PF 100V 5%
300ns
R64 220Ω
D4 D664
K9 RD RCV BUF 1 L → 7414 E128

7414 E128 → 7414 E128 → K8 RDONE 1 H
K8 RDONE 1 L

4X2 MUX 74LS258 E129

74S10 E30 → 0-DA, 1-DA
K8 UART1 OE H → 0-DB
K9 UART2 OE H → 1-DB
K8 BREAK H → 0-DC
K9 UART2 FE H → 1-DC
K8 UART1 PE H → 0-DD
K9 UART2 PE H → 1-DD
K9 RD RCV BUF 1 L → 1 SEL
K7 ENB UART DATA L → EN

YA → K5 BDAL15
YB → K5 BDAL14
YC → K5 BDAL13
YD → K5 BDAL12

3-STATE LINE DRIVER 74LS240 E132

K8 UART D0 → 0D → 0M → K4 BDAL00
K8 UART D1 → 1D → 1M → K4 BDAL01
K8 UART D2 → 2D → 2M → K4 BDAL02
K8 UART D3 → 3D → 3M → K4 BDAL03
K8 UART D4 → 4D → 4M → K4 BDAL04
K8 UART D5 → 5D → 5M → K4 BDAL05
K8 UART D6 → 6D → 6M → K4 BDAL06
K8 UART D7 → 7D → 7M → K4 BDAL07
K7 ENB UART DATA L → TRANS REL

4X2 MUX 74LS257 E127

K8 RCVR CLK 1 H → 0-DA
K8 19.2K BAUD → 1-DA
TA → K8 RCLK 1 H

K12 SERIAL IN 1 H → 0-DB
K8 UART SO H → 1-DB
TB → K8 UART SI 1 H

K8 XMIT CLK 1 H → 0-DC
K8 19.2K BAUD → 1-DC
TC → K8 TCLK 1 H

K8 UART SO H → 0-DD
+3V → 1-DD
TD → K8 SERIAL OUT 1 H

K8 MAINT H → 1 SEL
EN

+5.0V → E134 1.8KΩ
74LS04 E122 → K8 BR DIS H

K12 REMOTE ACTIVE H
+5.0V
SP1 E135
E1-1
E1-8
E1-3
E1-4
E1-5
E1-6
E1-7
E134 1.8KΩ ×8

DUAL BAUD GNRTR 5016 E133

R0
R1 REC
R2 ADR
R3
STR08
+3V

T0
T1
T2
T3
STR08
+3V

XTAL0
XTAL1
2.76480 MHZ CRYSTAL OSC E57
CLK

74LS240 E53 → K8 GEN CLK H
R12 180Ω

K8 BR 2 H → E124 → K8 RCVR CLK 1 H
K8 BR 1 H → E124 → K8 XMIT CLK 1 H
K8 BR 2 H → E124

74LS04 E122 → K8 GEN CLK L

BIN CTR 74LS169 E123

+3V
D8
D4
D2
D1
CRY OUT
EN CRY CNT
LOAD DOWN
CLK
K8 GEN CLK H

R8
R4 → 307.2KHZ → K8 19.2K BAUD
R2
R1

+3V → J K → 74S276 E117 → K CLR
K4 BDAL02 → J
K9 WT XMT CSR 1 L → K
K8 MAINT H
K9 RD XMT CSR 1 L → 74S240 E121 → K4 BDAL02

+3V → J K → 74S276 E117 → K CLR
K4 BDAL00 → J
K9 WT XMT CSR 2 L → K
K2 SHORT INIT L

8098 E110 → K4 BDAL00
K9 RD XMT CSR 2 L

74LS04 E122
K9 UART SO 2 H → 74LS00 E96 → 7414 E105 → K8 SERIAL OUT 2 H

REVISIONS				CHK	CHANGE NO.	REV	CHK	CHANGE NO.	REV
CHK	CHANGE NO.	REV			M7133-TW002	D	H.D.	M7133-TW003	E
H.D.	M7133-TW001	C		R. GRUDA			R. GRUDA		
REVISED AND REDRAWN									

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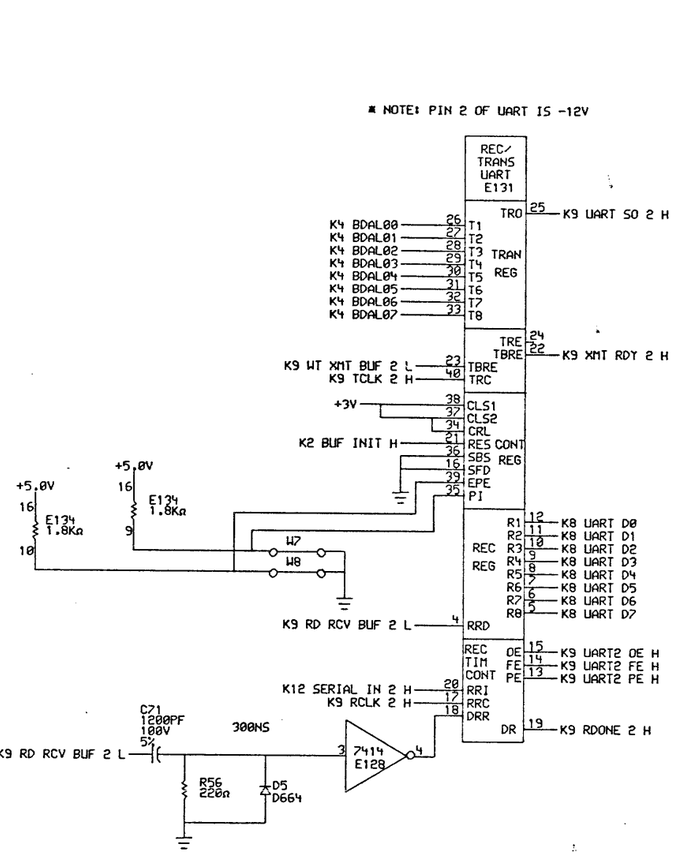
digital

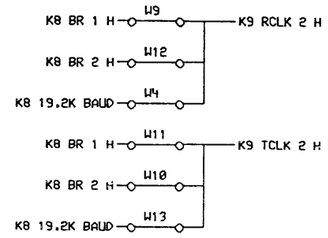
DRN: Looney DATE: 10-MAR-81
CHK: D. Grunke DATE: 22-MAR-81
ENG: R. Brown DATE: 22-MAR-81
BOARD LOCATION: D4/A14/C5 SHEET 1 OF 1
(166.6004.1213208.DRW 10-MAR-81 03:28) NEXT HIGHER ASSEMBLY: KDF11-UA
FIRST USED ON OPTION/MODEL: 11/24

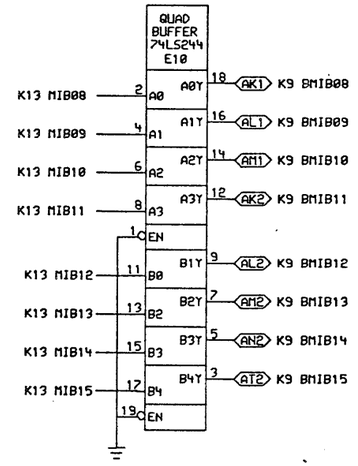
TITLE: (K8) SLU1,BAUD

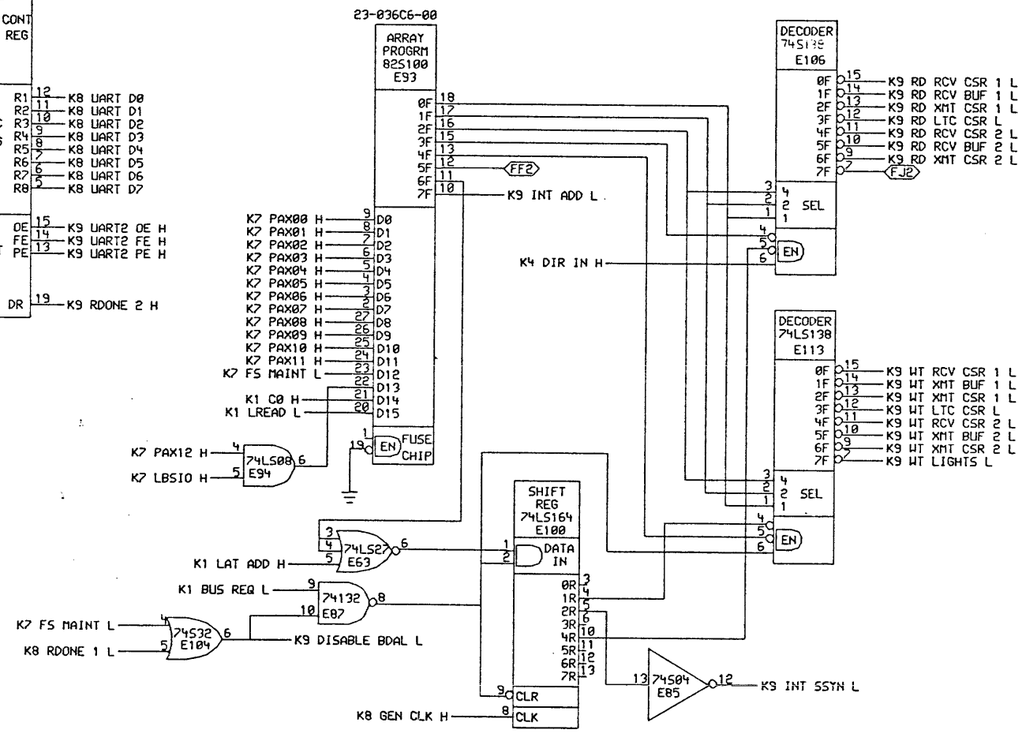
SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-8	E

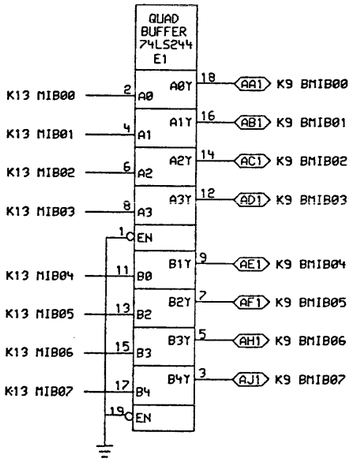
TW











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REVISIONS			CHK	CHANGE NO.	REV
CHK	CHANGE NO.	REV		M7133-TW002	D
	M7133-TW001	A	R. GRUDA		
	REVISED ALL PRINTS				

CHK	CHANGE NO.	REV
	M7133-TW003	E
R. GRUDA		

CHK	CHANGE NO.	REV
	M7133-TW004	F
R. GRUDA		

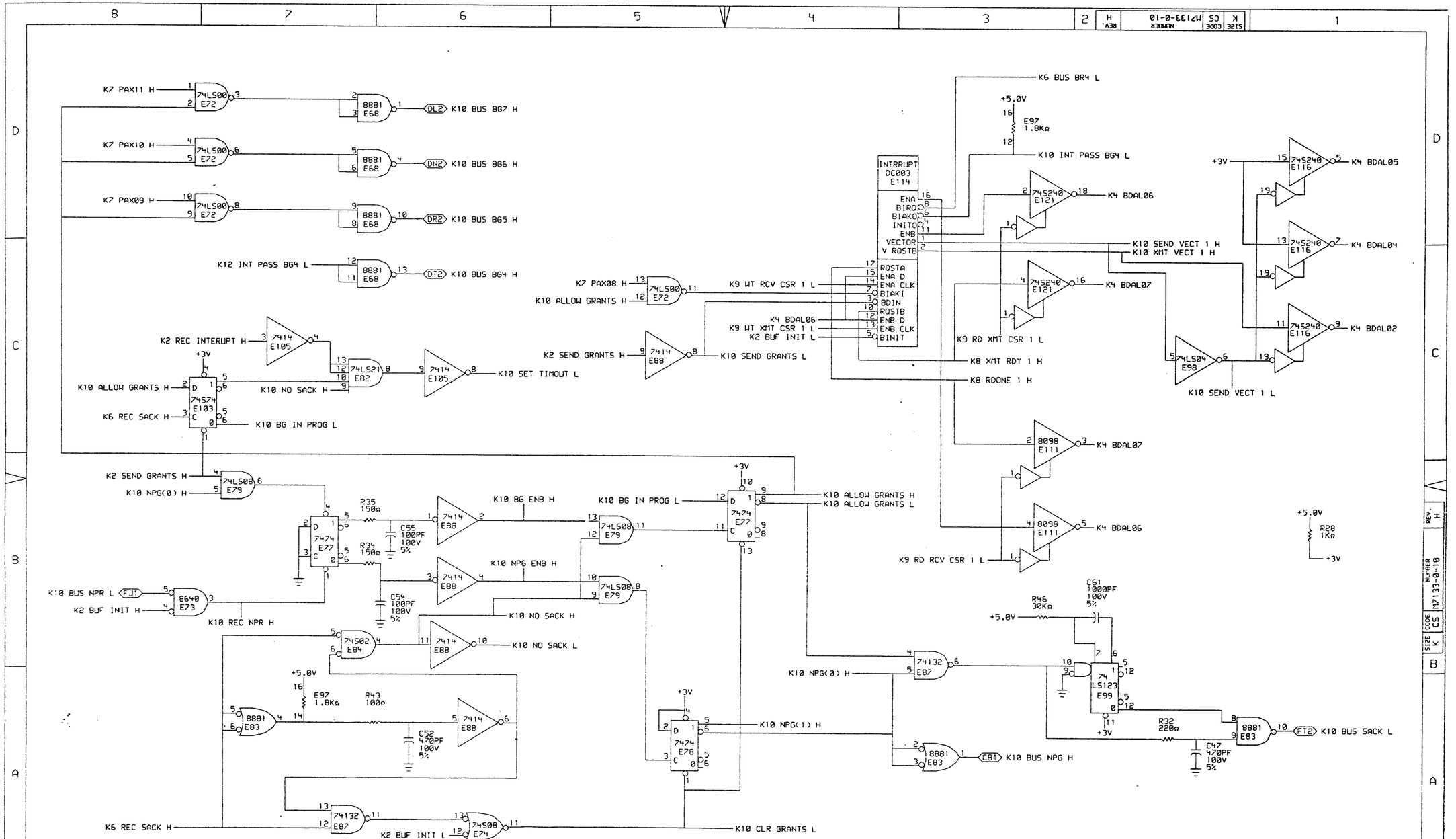
digital

DRN. S. Landry	DATE 10-MAR-81	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION:	
		SHEET 1 OF 1	

C166.6004 J1330S.DRW 10-MAR-81 09:28 | NEXT HIGHER ASSEMBLY: KDF11-UA | FIRST USED ON OPTION/MODEL: 11/24

TITLE: (K9) ADR DEC, MIBBUF, SLU2

SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-9	F



REVISIONS		
CHK	CHANGE NO.	REV
	M7133M0006	H

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digital

DRW. S.Toomey — DATE 18-JUL-83 — ENG. — DATE

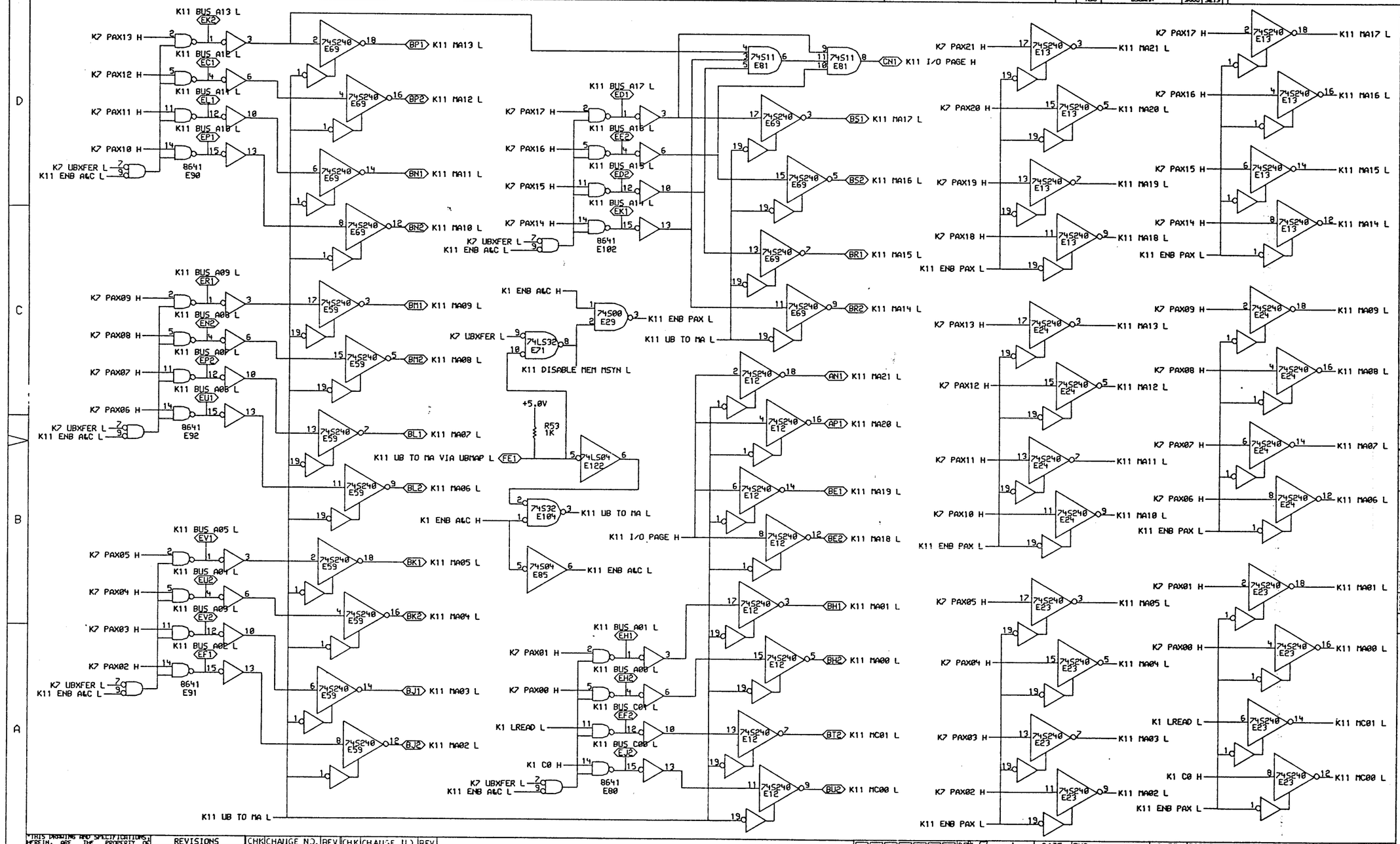
CHK'D. — DATE — BOARD LOCATION: — SHEET 1 OF 1

USRA:<HEBERT>713310.DRW 18-JUL-83 10:36 — NEXT HIGHER ASSEMBLY: KDF11-UA

FIRST USED ON OPTION/MODEL: 11/24

TITLE: (K10) SLU1,INTR,GRANTS

SIZE	CODE	NUMBER	REV.
K	CS	M7133-0-10	H



REVISIONS			CHK	CHANGE NO.	REV
CHK	CHANGE NO.	REV		M7133-TN002	D
K.G.	M7133-TW001	C	K.G.	M7133-TW004	E
REVISED: AMP			R. GRUDA		
RELEASED					

CHK	CHANGE NO.	REV
	M7133-TN002	D
R. GRUDA		

CHK	CHANGE NO.	REV
K.G.	M7133-TW004	E
R. GRUDA		

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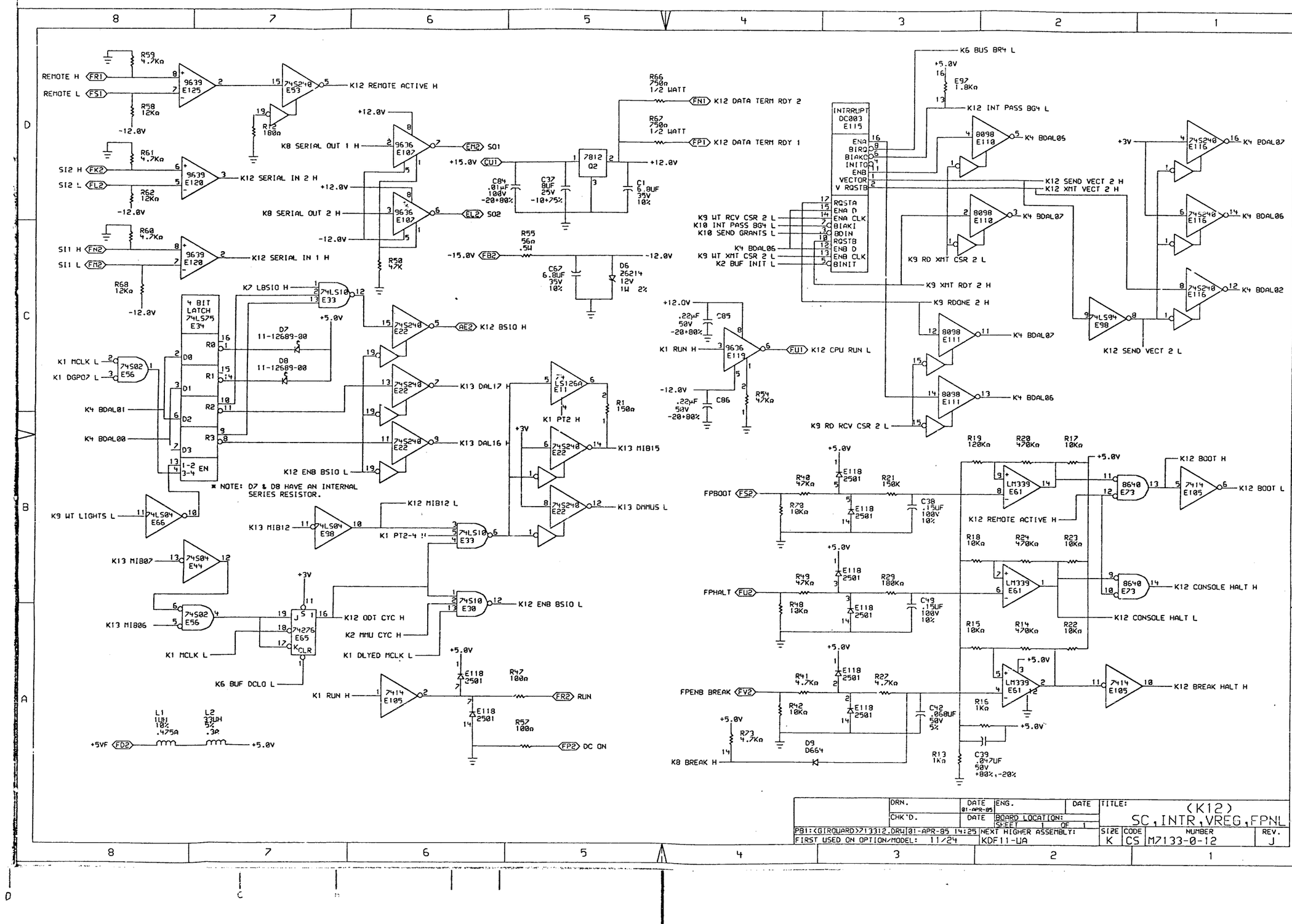
digital

DRN. J. Landry	DATE 10-MAR-81	ENG. Ray Gruda	DATE 12-MAR-81
CHK'D. Ray Gruda	DATE 12-MAR-81	BOARD LOCATION:	SHEET 1 OF 1

TITLE: (K11) ADDR LINES

L166.6004J213311.DRW 10-MAR-81 09:59 | NEXT HIGHER ASSEMBLY: KDF11-UA | FIRST USED ON OPTION/MODEL: 11/24

SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-11	E


REMOTE H FR1
REMOTE L FS1
R59 4.7Kα
R58 12Kα
-12.0V
9639 E125
74S240 E53
K12 REMOTE ACTIVE H
R63 180α
SI2 H FK2
SI2 L FL2
R61 4.7Kα
R62 12Kα
9639 E120
K12 SERIAL IN 2 H
SI1 H FM2
SI1 L FM2
R60 4.7Kα
R68 12Kα
K12 SERIAL IN 1 H
+12.0V
K8 SERIAL OUT 1 H
9636 E107
EM2 SO1
K8 SERIAL OUT 2 H
EL2 SO2
R50 47Ω
R66 750α 1/2 WATT
FN1 K12 DATA TERM RDY 2
R67 750α 1/2 WATT
FP1 K12 DATA TERM RDY 1
+15.0V CU1
7812 Q2
C84 .01μF 100V -20+80%
C37 8UF 25V -10+75%
C1 6.8UF 35V 10%
R55 56α .5W
-15.0V FB2
C67 6.8UF 35V 10%
D6 26214 12V 1W 2%
K7 LBS10 H
74LS10 E33
4 BIT LATCH 74LS75 E34
D7 11-12689-00
D8 11-12689-00
* NOTE: D7 & D8 HAVE AN INTERNAL SERIES RESISTOR.
74S240 E22
AE2 K12 BS10 H
K13 DAL17 H
K13 DAL16 H
K12 ENB BS10 L
K1 MCLK L
K1 DGP07 L
74S02 E56
K4 BDAL01
K4 BDAL00
1-2 EN 3-4
K9 WT LIGHTS L
74LS04 E66
K13 MI12
74LS04 E98
K12 MI12 L
K1 PT2-4 H
K13 MI07
74S04 E44
K13 MI06
74S276 E65
K12 ODT CYC H
K2 MMU CYC H
K1 DLYED MCLK L
K6 BUF DCLO L
74LS126A E11
K1 PT2 H
R1 150α
K13 MI15
K13 DMMUS L
74S240 E30
K12 ENB BS10 L
K1 RUN H
7414 E105
R47 100α
FR2 RUN
R57 100α
FP2 DC ON
L1 1UH 10% .475A
L2 33UH 5% .3Ω
+5VF FD2
+5.0V
K6 BUS BR4 L
E97 1.8Kα
K12 INT PASS BG4 L
INTRRUPT DC003 E115
ENA
BIRQ
BIAKO
INITO
ENB
VECTOR
V RQSTB
RQSTA
ENA D
ENA CLK
BIAKI
BDIN
RQSTB
ENB D
ENB CLK
BINIT
K9 WT RCV CSR 2 L
K10 INT PASS BG4 L
K10 SEND GRANTS L
K4 BDAL05
K9 WT XMT CSR 2 L
K2 BUF INIT L
8098 E110
K4 BDAL05
K12 SEND VECT 2 H
K12 XMT VECT 2 H
8098 E118
K4 BDAL07
K9 RD XMT CSR 2 L
K9 XMT RDY 2 H
K9 RDONE 2 H
74S240 E116
K4 BDAL07
K4 BDAL06
K4 BDAL02
74LS04 E98
K12 SEND VECT 2 L
8098 E111
K4 BDAL07
K4 BDAL06
K9 RD RCV CSR 2 L
+12.0V
.22μF 50V -20+80%
C85
K1 RUN H
9636 E119
FU1 K12 CPU RUN L
-12.0V
C86
R54 47Kα
R19 120Kα
R20 470Kα
R17 10Kα
E118 2501
FPBOOT FS2
R40 47Kα
R70 10Kα
R21 150K
C38 .15UF 100V 10%
LM339 E61
8640 E73
7414 E105
K12 BOOT H
K12 BOOT L
K12 REMOTE ACTIVE H
R18 10Kα
R24 470Kα
R23 10Kα
FPHALT FU2
R49 47Kα
R48 10Kα
R29 180Kα
C49 .15UF 100V 10%
K12 CONSOLE HALT H
K12 CONSOLE HALT L
R15 10Kα
R14 470Kα
R22 10Kα
FPENB BREAK FV2
R41 4.7Kα
R42 10Kα
R27 4.7Kα
C42 .068UF 50V 5%
R16 1Kα
R73 4.7Kα
D9 D664
K8 BREAK H
R13 1Kα
C39 .047UF 50V +80%,-20%
K12 BREAK HALT H
DRN.
CHK'D.
DATE 01-APR-85
ENG.
DATE
BOARD LOCATION:
SHEET 1 OF 1
TITLE: (K12) SC,INTR,VREG,FPNL
PB1:<GIRQUARD>213312.DRW 01-APR-85 14:25
NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: 11/24
KDF11-UA
SIZE K
CODE CS
NUMBER M7133-0-12
REV. J

F-11 HYBRID E4

[MIB 0] 24 — K13 MIB00
[MIB 1] 25 — K13 MIB01
[MIB 2] 26 — K13 MIB02
[MIB 3] 27 — K13 MIB03
[MIB 4] 28 — K13 MIB04
[MIB 5] 29 — K13 MIB05
[MIB 6] 30 — K13 MIB06
[MIB 7] 31 — K13 MIB07
[MIB 8] 32 — K13 MIB08
[MIB 9] 33 — K13 MIB09
[MIB 10] 34 — K13 MIB10
[MIB 11] 35 — K13 MIB11
[MIB 12] 36 — K13 MIB12
[MIB 13] 37 — K13 MIB13
[MIB 14] 38 — K13 MIB14
[MIB 15] 39 — K13 MIB15

K13 DAL00 H 3 — [DAL 0]
K13 DAL01 H 4 — [DAL 1]
K13 DAL02 H 5 — [DAL 2]
K13 DAL03 H 6 — [DAL 3]
K13 DAL04 H 7 — [DAL 4]
K13 DAL05 H 8 — [DAL 5]
K13 DAL06 H 9 — [DAL 6]
K13 DAL07 H 10 — [DAL 7]
K13 DAL08 H 11 — [DAL 8]
K13 DAL09 H 12 — [DAL 9]
K13 DAL10 H 13 — [DAL 10]
K13 DAL11 H 14 — [DAL 11]
K13 DAL12 H 15 — [DAL 12]
K13 DAL13 H 16 — [DAL 13]
K13 DAL14 H 17 — [DAL 14]
K13 DAL15 H 18 — [DAL 15]

[-C SEL] 22 — K13 CSEL 2 L

K1 CHIP CLK1 H 2 — CLK VBB 1
K1 MCLK L 19 — [BSIO]
K7 CHIP RESET H 23 — [RESET]

F-11 HYBRID E3

[MIB 0] 24 — K13 MIB00
[MIB 1] 25 — K13 MIB01
[MIB 2] 26 — K13 MIB02
[MIB 3] 27 — K13 MIB03
[MIB 4] 28 — K13 MIB04
[MIB 5] 29 — K13 MIB05
[MIB 6] 30 — K13 MIB06
[MIB 7] 31 — K13 MIB07
[MIB 8] 32 — K13 MIB08
[MIB 9] 33 — K13 MIB09
[MIB 10] 34 — K13 MIB10
[MIB 11] 35 — K13 MIB11
[MIB 12] 36 — K13 MIB12
[MIB 13] 37 — K13 MIB13
[MIB 14] 38 — K13 MIB14
[MIB 15] 39 — K13 MIB15

K13 DAL00 H 3 — [DAL 0]
K13 DAL01 H 4 — [DAL 1]
K13 DAL02 H 5 — [DAL 2]
K13 DAL03 H 6 — [DAL 3]
K13 DAL04 H 7 — [DAL 4]
K13 DAL05 H 8 — [DAL 5]
K13 DAL06 H 9 — [DAL 6]
K13 DAL07 H 10 — [DAL 7]
K13 DAL08 H 11 — [DAL 8]
K13 DAL09 H 12 — [DAL 9]
K13 DAL10 H 13 — [DAL 10]
K13 DAL11 H 14 — [DAL 11]
K13 DAL12 H 15 — [DAL 12]
K13 DAL13 H 16 — [DAL 13]
K13 DAL14 H 17 — [DAL 14]
K13 DAL15 H 18 — [DAL 15]

[-C SEL] 22 — K13 CSEL 1 L

K1 CHIP CLK1 H 2 — CLK VBB 1
K12 BSIO H 19 — [BSIO]
K7 CHIP RESET H 23 — [RESET]

F-11 HYBRID E5

[MIB 0] 24 — K13 MIB00
[MIB 1] 25 — K13 MIB01
[MIB 2] 26 — K13 MIB02
[MIB 3] 27 — K13 MIB03
[MIB 4] 28 — K13 MIB04
[MIB 5] 29 — K13 MIB05
[MIB 6] 30 — K13 MIB06
[MIB 7] 31 — K13 MIB07
[MIB 8] 32 — K13 MIB08
[MIB 9] 33 — K13 MIB09
[MIB 10] 34 — K13 MIB10
[MIB 11] 35 — K13 MIB11
[MIB 12] 36 — K13 MIB12
[MIB 13] 37 — K13 MIB13
[MIB 14] 38 — K13 MIB14
[MIB 15] 39 — K13 MIB15

K13 DAL00 H 3 — [DAL 0]
K13 DAL01 H 4 — [DAL 1]
K13 DAL02 H 5 — [DAL 2]
K13 DAL03 H 6 — [DAL 3]
K13 DAL04 H 7 — [DAL 4]
K13 DAL05 H 8 — [DAL 5]
K13 DAL06 H 9 — [DAL 6]
K13 DAL07 H 10 — [DAL 7]
K13 DAL08 H 11 — [DAL 8]
K13 DAL09 H 12 — [DAL 9]
K13 DAL10 H 13 — [DAL 10]
K13 DAL11 H 14 — [DAL 11]
K13 DAL12 H 15 — [DAL 12]
K13 DAL13 H 16 — [DAL 13]
K13 DAL14 H 17 — [DAL 14]
K13 DAL15 H 18 — [DAL 15]

[-C SEL] 22 — K13 CSEL 1 L

K1 CHIP CLK H 2 — CLK VBB 1
[BSIO] 19
K7 CHIP RESET H 23 — [RESET]

F-11 HYBRID E6

[MIB 0] 24 — K13 MIB00
[MIB 1] 25 — K13 MIB01
[MIB 2] 26 — K13 MIB02
[MIB 3] 27 — K13 MIB03
[MIB 4] 28 — K13 MIB04
[MIB 5] 29 — K13 MIB05
[MIB 6] 30 — K13 MIB06
[MIB 7] 31 — K13 MIB07
[MIB 8] 32 — K13 MIB08
[MIB 9] 33 — K13 MIB09
[MIB 10] 34 — K13 MIB10
[MIB 11] 35 — K13 MIB11
[MIB 12] 36 — K13 MIB12
[MIB 13] 37 — K13 MIB13
[MIB 14] 38 — K13 MIB14
[MIB 15] 39 — K13 MIB15

K13 DAL00 H 3 — [DAL 0]
K13 DAL01 H 4 — [DAL 1]
K13 DAL02 H 5 — [DAL 2]
K13 DAL03 H 6 — [DAL 3]
K13 DAL04 H 7 — [DAL 4]
K13 DAL05 H 8 — [DAL 5]
K13 DAL06 H 9 — [DAL 6]
K13 DAL07 H 10 — [DAL 7]
K13 DAL08 H 11 — [DAL 8]
K13 DAL09 H 12 — [DAL 9]
K13 DAL10 H 13 — [DAL 10]
K13 DAL11 H 14 — [DAL 11]
K13 DAL12 H 15 — [DAL 12]
K13 DAL13 H 16 — [DAL 13]
K13 DAL14 H 17 — [DAL 14]
K13 DAL15 H 18 — [DAL 15]

[-C SEL] 22 — K13 CSEL 2 L

K1 CHIP CLK H 2 — CLK VBB 1
[BSIO] 19
K7 CHIP RESET H 23 — [RESET]

F-11 MPROC MMU E2

[DAL00] 3 — K13 DAL00 H
[DAL01] 4 — K13 DAL01 H
[DAL02] 5 — K13 DAL02 H
[DAL03] 6 — K13 DAL03 H
[DAL04] 7 — K13 DAL04 H
[DAL05] 8 — K13 DAL05 H
[DAL06] 9 — K13 DAL06 H
[DAL07] 10 — K13 DAL07 H
[DAL08] 11 — K13 DAL08 H
[DAL09] 12 — K13 DAL09 H
[DAL10] 13 — K13 DAL10 H
[DAL11] 14 — K13 DAL11 H
[DAL12] 15 — K13 DAL12 H
[DAL13] 16 — K13 DAL13 H
[DAL14] 17 — K13 DAL14 H
[DAL15] 18 — K13 DAL15 H
[DAL16] 22 — K13 DAL16 H
[DAL17] 23 — K13 DAL17 H
[DAL18] 24 — K13 DAL18 H
[DAL19] 25 — K13 DAL19 H
[DAL20] 26 — K13 DAL20 H
[DAL21] 27 — K13 DAL21 H

K13 MIB04 28 — [MIB04/X0]
K13 MIB05 29 — [MIB05/X1]
K13 MIB06 30 — [MIB06/X2]
K13 MIB07 31 — [MIB07/SYNC]
K13 MIB08 32 — [MIB08/AIO0]
K13 MIB09 33 — [MIB09/AIO1]
K13 MIB12 36 — [MIB12/AIO2]
[MIB15/-MME] 39 — K13 MIB15

[BSIO] 19
[ABORT] 38 — AJ2 — K13 ABORT L
[MREPLY] 37 — AM2 — K13 MREPLY L
[UBMAP] 34 — AU1 — K13 UBMAP L

K13 DMMUS L — AV2 — 35 [DMMUS]

K1 CHIP CLK1 H 2 — CLK VBB 1

F-11 HYBRID E7

[MIB 0] 24 — K13 MIB00
[MIB 1] 25 — K13 MIB01
[MIB 2] 26 — K13 MIB02
[MIB 3] 27 — K13 MIB03
[MIB 4] 28 — K13 MIB04
[MIB 5] 29 — K13 MIB05
[MIB 6] 30 — K13 MIB06
[MIB 7] 31 — K13 MIB07
[MIB 8] 32 — K13 MIB08
[MIB 9] 33 — K13 MIB09
[MIB 10] 34 — K13 MIB10
[MIB 11] 35 — K13 MIB11
[MIB 12] 36 — K13 MIB12
[MIB 13] 37 — K13 MIB13
[MIB 14] 38 — K13 MIB14
[MIB 15] 39 — K13 MIB15

K13 DAL00 H 3 — [DAL 0]
K13 DAL01 H 4 — [DAL 1]
K13 DAL02 H 5 — [DAL 2]
K13 DAL03 H 6 — [DAL 3]
K13 DAL04 H 7 — [DAL 4]
K13 DAL05 H 8 — [DAL 5]
K13 DAL06 H 9 — [DAL 6]
K13 DAL07 H 10 — [DAL 7]
K13 DAL08 H 11 — [DAL 8]
K13 DAL09 H 12 — [DAL 9]
K13 DAL10 H 13 — [DAL 10]
K13 DAL11 H 14 — [DAL 11]
K13 DAL12 H 15 — [DAL 12]
K13 DAL13 H 16 — [DAL 13]
K13 DAL14 H 17 — [DAL 14]
K13 DAL15 H 18 — [DAL 15]

[-C SEL] 22 — K13 CSEL 2 L

K1 CHIP CLK H 2 — CLK VBB 1
[BSIO] 19
K7 CHIP RESET H 23 — [RESET]

F-11 HYBRID E8

[MIB 0] 24 — K13 MIB00
[MIB 1] 25 — K13 MIB01
[MIB 2] 26 — K13 MIB02
[MIB 3] 27 — K13 MIB03
[MIB 4] 28 — K13 MIB04
[MIB 5] 29 — K13 MIB05
[MIB 6] 30 — K13 MIB06
[MIB 7] 31 — K13 MIB07
[MIB 8] 32 — K13 MIB08
[MIB 9] 33 — K13 MIB09
[MIB 10] 34 — K13 MIB10
[MIB 11] 35 — K13 MIB11
[MIB 12] 36 — K13 MIB12
[MIB 13] 37 — K13 MIB13
[MIB 14] 38 — K13 MIB14
[MIB 15] 39 — K13 MIB15

K13 DAL00 H 3 — [DAL 0]
K13 DAL01 H 4 — [DAL 1]
K13 DAL02 H 5 — [DAL 2]
K13 DAL03 H 6 — [DAL 3]
K13 DAL04 H 7 — [DAL 4]
K13 DAL05 H 8 — [DAL 5]
K13 DAL06 H 9 — [DAL 6]
K13 DAL07 H 10 — [DAL 7]
K13 DAL08 H 11 — [DAL 8]
K13 DAL09 H 12 — [DAL 9]
K13 DAL10 H 13 — [DAL 10]
K13 DAL11 H 14 — [DAL 11]
K13 DAL12 H 15 — [DAL 12]
K13 DAL13 H 16 — [DAL 13]
K13 DAL14 H 17 — [DAL 14]
K13 DAL15 H 18 — [DAL 15]

[-C SEL] 22 — K13 CSEL 1 L

K1 CHIP CLK H 2 — CLK VBB 1
K1 MCLK L 19 — [BSIO]
K7 CHIP RESET H 23 — [RESET]

+5V — .047μF 50V — C=

*DECOUPLING CAPACITORS FOR +5V: C17, C21-C34, C36, C37, C43-C46, C48, C51, C52, C56, C59, C60, C64-C66, C72-C74, C77.

+5.0V
C11 .047UF 50V +80%,-20%
C8 .047UF 50V +80%,-20% — AV1
C13 .047UF 50V +80%,-20%
C16 .047UF 50V +80%,-20%
C5 .047UF 50V +80%,-20%
C18 .047UF 50V +80%,-20%
C20 .047UF 50V +80%,-20%

+12.0V
C10 .22UF 50V -20,+80%
C9 .22UF 50V -20,+80%
C7 .22UF 50V -20,+80%
C12 .22UF 50V -20,+80%
C14 .22UF 50V -20,+80%
C3 .22UF 50V -20,+80%
C15 .22UF 50V -20,+80%
C19 .22UF 50V -20,+80%

R7 1Kα — K13 DAL21 H — BD1
R6 1Kα — K13 DAL20 H — BD2
R3 1Kα — K13 DAL19 H — BB1
R4 1Kα — K13 DAL18 H — AR2
R2 1Kα — K13 DAL17 H — AS2
R10 1Kα — K13 DAL16 H — AD2

C2 .01UF 100V +80%,-20%

* NOTE: ON MMU & F-11 CHIPS, PIN 40 IS +5.0V AND PIN 21 IS +12.0V

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REVISIONS		
CHK	CHANGE NO.	REV
M7133 - TW5		F
A.RUSSCEVIC 4-MAY-82		
R.GRUDA		
H.ZIMMAN 5-MAY-82		

DRN.	DATE 05-MAY-82	ENG.	DATE
CHK'D.	DATE	BOARD LOCATION: SHEET 1 OF 1	

[203,7001]713313.DRW 05-MAY-82 11:09 NEXT HIGHER ASSEMBLY: KDF11-UA
FIRST USED ON OPTION/MODEL: 11/24

TITLE: (K13) FONZ CHIPS

SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-13	F

BAUD RATES

THERE ARE TWO SIMULTANEOUS BAUD RATES AVAILABLE.
BAUD RATE 1 IS SELECTED USING SWITCHES 5,6,7,& 8 OF E135.
BAUD RATE 2 IS SELECTED USING SWITCHES 1,2,3,& 4 OF E135.
BOTH ARE ACCORDING TO THE SWITCH SETTING PATTERN SHOWN BELOW.

	SWITCH E135			
BAUD RATE 1 (K8 BR1)	5	6	7	8
BAUD RATE 2 (K8 BR2)	1	2	3	4
BAUD RATES: 50	ON	ON	ON	ON
75	ON	ON	ON	OFF
110	ON	ON	OFF	ON
134.5	ON	ON	OFF	OFF
150	ON	OFF	ON	ON
200	ON	OFF	ON	OFF
300	ON	OFF	OFF	ON
600	ON	OFF	OFF	OFF
1200	OFF	ON	ON	ON
1800	OFF	ON	ON	OFF
2000	OFF	ON	OFF	ON
2400	OFF	ON	OFF	OFF
3600	OFF	OFF	ON	ON
4800	OFF	OFF	ON	OFF
9600	OFF	OFF	OFF	ON
19200	OFF	OFF	OFF	OFF

(IF REMOTE ACTIVE H IS ASSERTED, THEN 19200 IS ANY SETTING.)

SLU 1/SLU 2 BAUD RATE SELECTION

SLU 1

	SWITCH E124 1	2	3	4
XMIT RATE (K8 XMIT CLK 1)				
BAUD RATE 1	OFF	ON	—	—
BAUD RATE 2	ON	OFF	—	—
RCVR RATE (K8 RCVR CLK 1)				
BAUD RATE 1	—	—	ON	OFF
BAUD RATE 2	—	—	OFF	ON

SLU 2

	JUMPERS W4	W9	W10	W11	W12	W13
XMIT RATE (K9 TCLK 2)						
BAUD RATE 1	—	—	OUT	IN	—	OUT
BAUD RATE 2	—	—	IN	OUT	—	OUT
19.2K BAUD	—	—	OUT	OUT	—	IN
RCVR RATE (K9 RCLK 2)						
BAUD RATE 1	OUT	IN	—	—	OUT	—
BAUD RATE 2	OUT	OUT	—	—	IN	—
19.2K BAUD	IN	OUT	—	—	OUT	—

ODD/EVEN PARITY; STOP BITS

	SLU 1 W5	W6	SLU 2 W7	W8
ODD PARITY	—	IN	—	IN
EVEN PARITY	—	OUT	—	OUT
PARITY ENABLED	IN	—	IN	—
PARITY DISABLED	OUT	—	OUT	—

	W1
ONE STOP BIT	IN
TWO STOP BIT	OUT

(REMOTE ACTIVE H DEFAULTS TO ONE STOP BIT)

* NOTE: IF M9312 IS PRESENT, M9312 S1-2 MUST BE OFF.

CLOCK SETUP PROCEDURE

1. PUT PROBE ON K1 MCLK L AT PIN BB2
2. PUT MACHINE IN WAIT LOOP.
3. ADJUST POTENTIOMETER R31 WITH SCREWDRIVER UNTIL K1 MCLK L HAS A PERIOD OF 300ns.

SWITCH E124	5	ON	ENABLE FIELD SERVICE MAINT L
		OFF	NO FS MAINT
E124	6	ON	NO EFFECT ON UBXFER
		OFF	FORCES UBXFER L

JUMPERS

POWER UP TO:	W14
165000	IN
173000	OUT
	W3
ALLOW HALTS	IN
KERNEL HALT TRAPS TO 10	OUT
	W2
BOOT ON POWER UP	IN
POWER UP VIA 24	OUT

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REVISIONS			CHK	CHANGE NO.	REV
CHK	CHANGE NO.	REV		M7133-TW0022	D
J.D	M7133-TW0021	C		R. GRUDA	
	(REVISED AND REDRAWN)		CHK	CHANGE NO.	REV
				M7133-TW0023	E
				R. GRUDA	

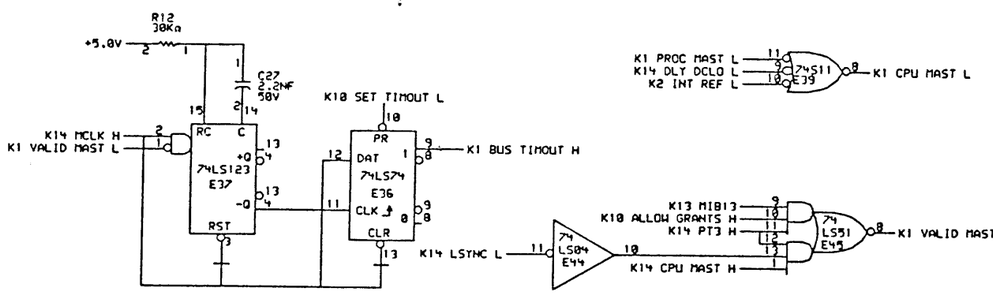
digital

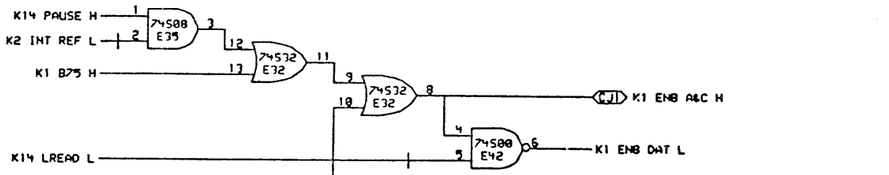
DRN.	DATE 10-MAR-81	ENG.	DATE 12-MAR-81
CHK'D	DATE 12-MAR-81	BOARD LOCATION:	
C166,6804)Z12314.DRW 10-MAR-81 09:30		SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: 11/24		NEXT HIGHER ASSEMBLY: KDF11-UA	

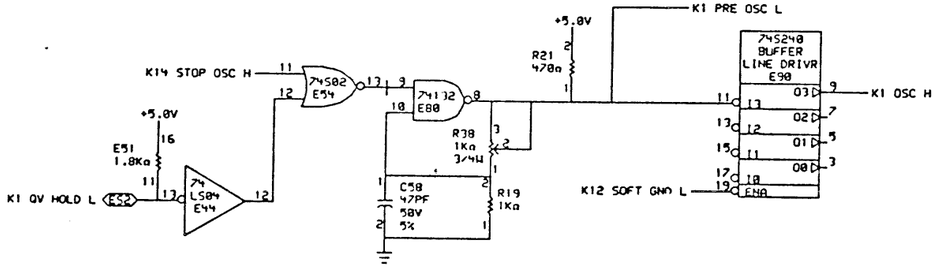
TITLE: (K14) SW,JMPR, CLK SETTINGS

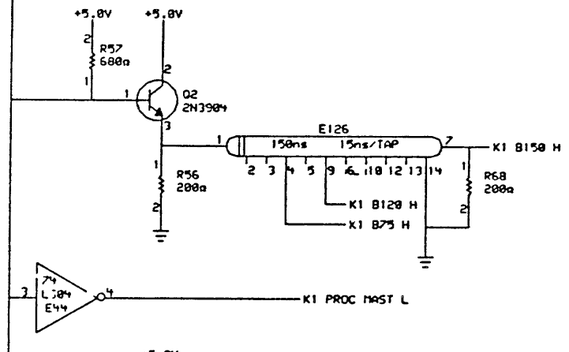
SIZE	CODE	NUMBER	REV.
D	CS	M7133-0-14	E

TW



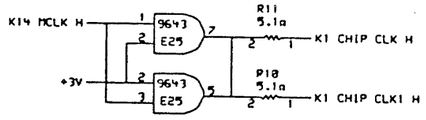


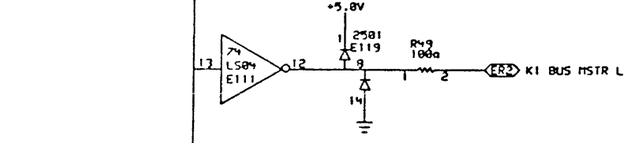


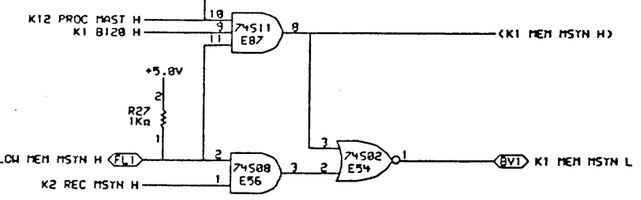


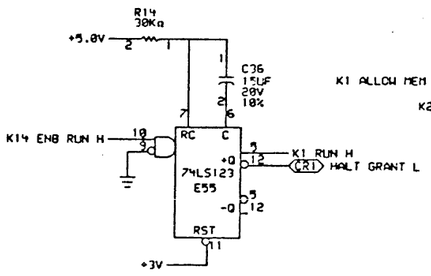
CLOCK SETUP PROCEDURE

1. PUT PROBE ON TP1.
2. PUT MACHINE IN WAIT LOOP.
3. ADJUST POTENTIOMETER R31 WITH SCREWDRIVER UNTIL K14 MCLK H HAS A PERIOD OF 300NS.









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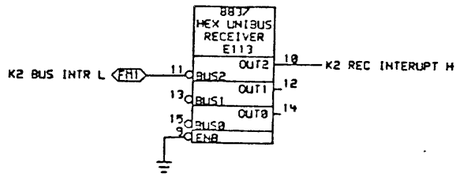
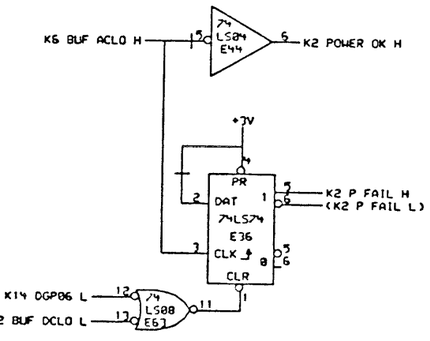
REVISIONS		
CHK	CHANGE NO.	REV

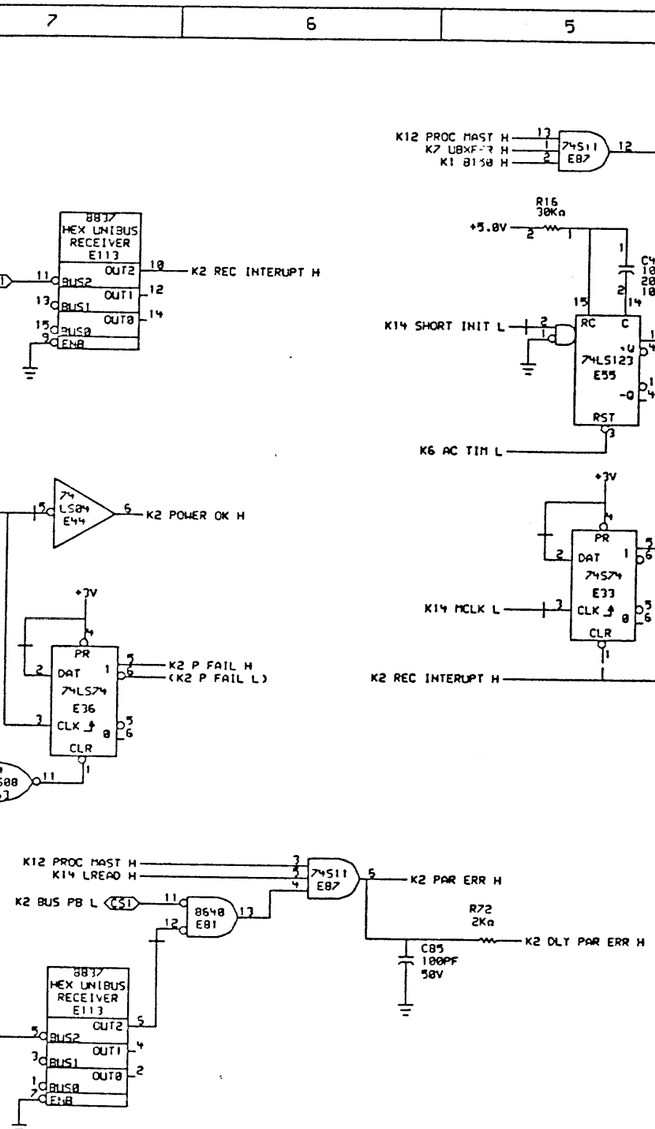
DRN	R.CARNEY	DATE 11-SEP-84	ENG.
CHK'D.		DATE	BOARD LOCATION:
PLOTTED: 02-SEP-84 09:21			SHEET 1 OF 15
FIRST USED ON OPTION/MODEL: 11/24			NEXT HIGHER ASSEMBLY: KDF11-UA

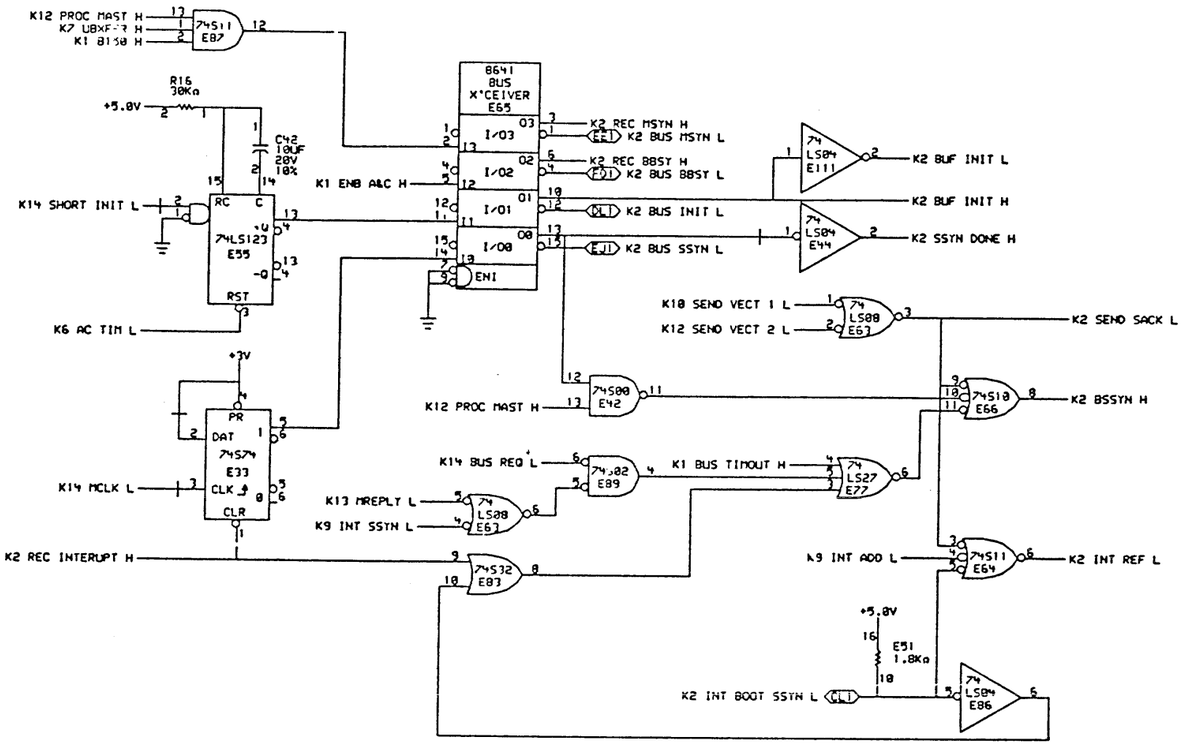
TITLE: (K1) CLK,STATE DECODE

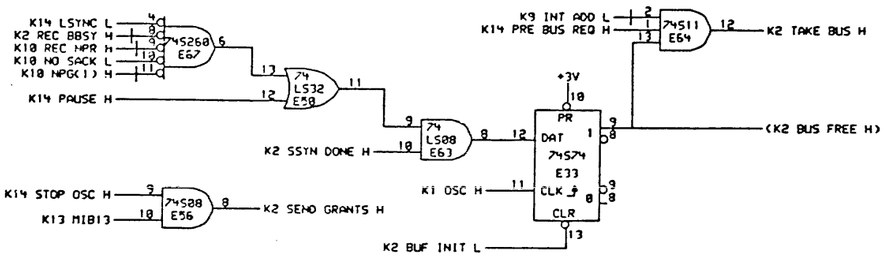
SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A











REVISIONS		
CHK	CHANGE NO.	REV

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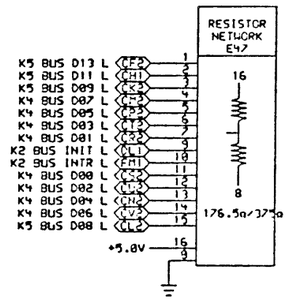
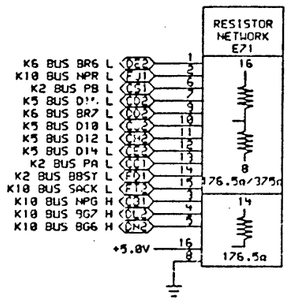
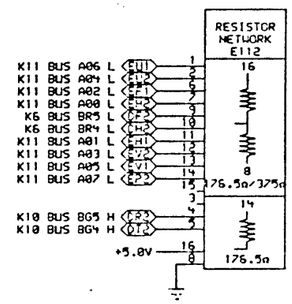
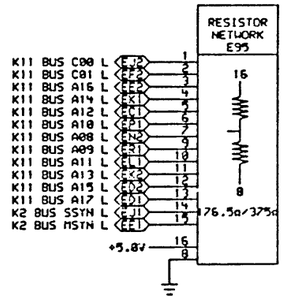
DRN	R.CARNET	DATE 11-SEP-84	ENG.	DATE 11-SEP-84	TITLE: (K2) BUS CTL
CHK'D.		DATE	DOCD LOCATION: SHEET 3 OF 15		
USAGE: KDJX[KDF32.DAT] 07-SEP-84 13:21			NEXT HIGHER ASSEMBLY: KDF11-UA		SIZE K | CODE CS | NUMBER M7133-YA-0 | REV. A
FIRST USED ON OPTION/MODEL: 11/24					

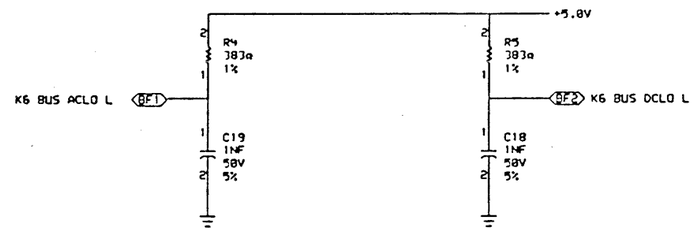
8 7 6 5 4 3 2 1











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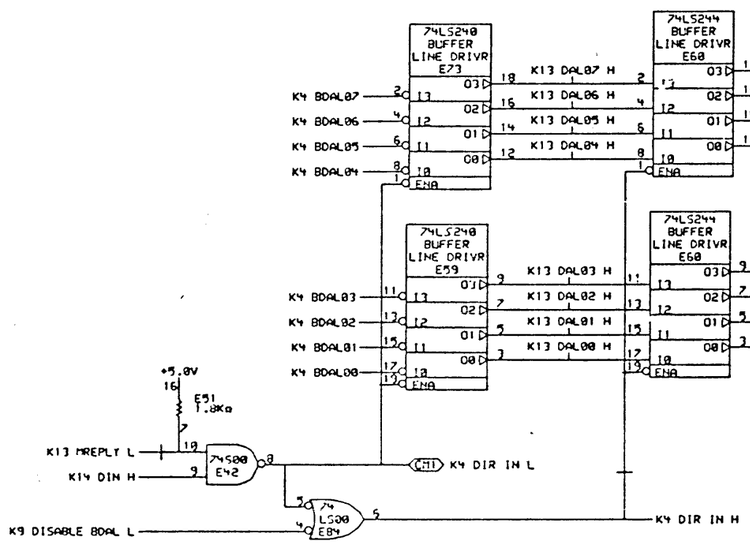
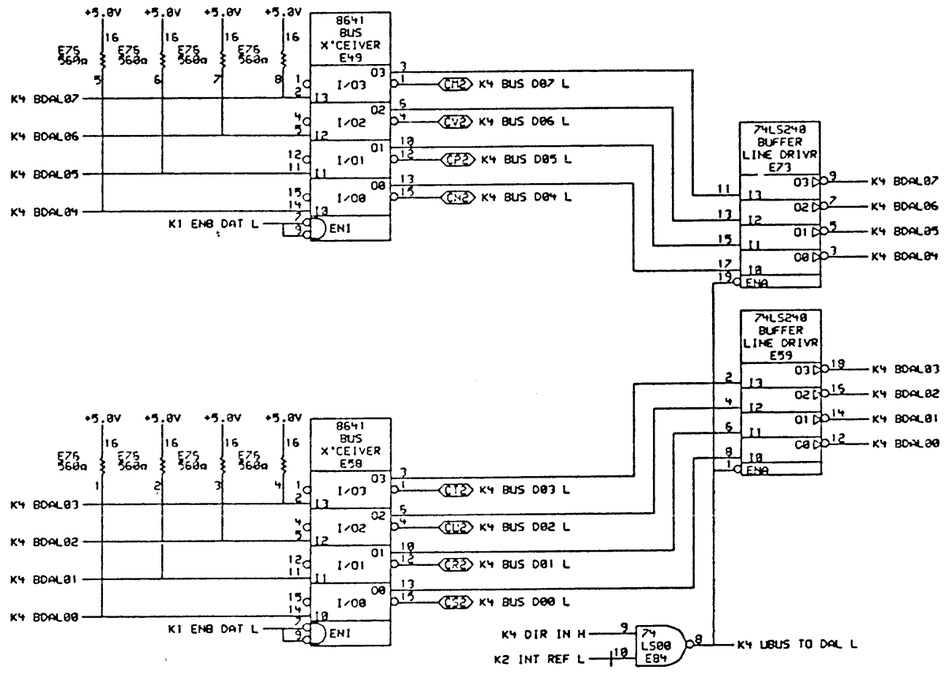
REVISIONS		
CHK	CHANGE NO.	REV

DRN. R.CARNEY	DATE 11-SEP-94	ENG.	DATE 11-SEP-94
CHK'D.	DATE	BOARD LOCATION: SHEET 3 OF 14	
USER<PSD>XDF903.CRW 02-SEP-94 09:22		NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K3) BUS TERM

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A





REVISIONS		
CHK	CHANGE NO.	REV

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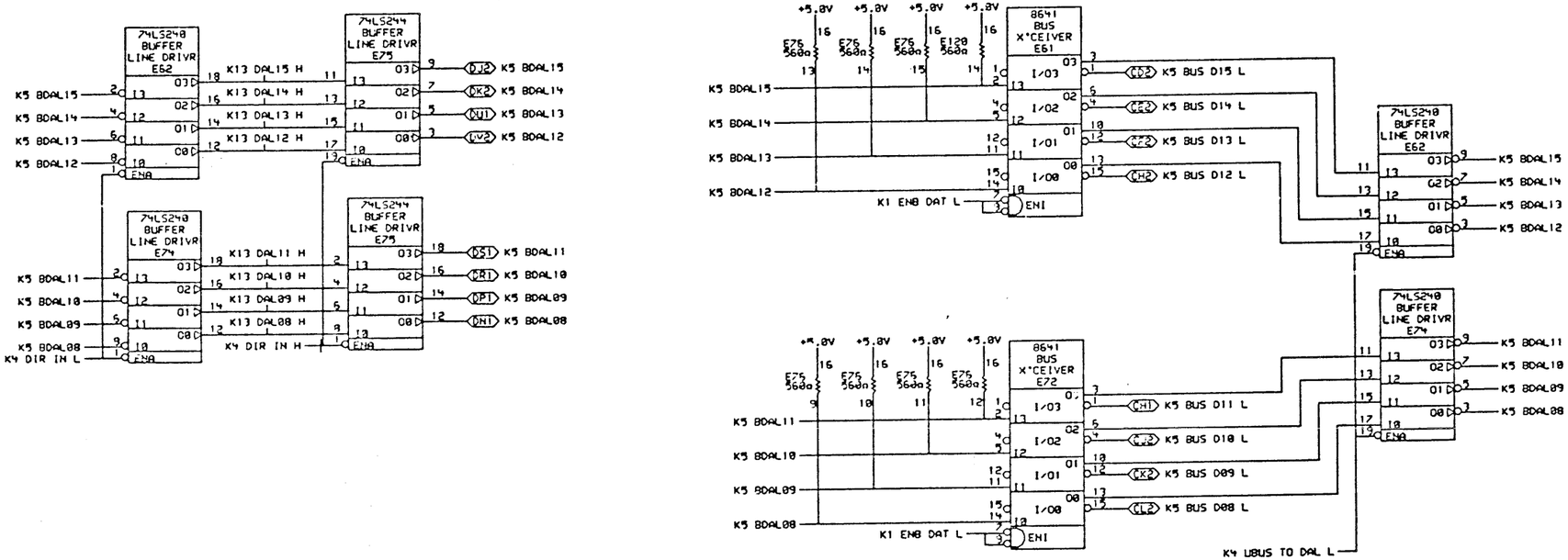
digital

DRN R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK D.	DATE	SCAD LOCATION: SHEET 4 OF 15	
W:\A8\KDF11A.CPU 12-SEP-84 09:22		NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K4) DAL-BDAL-DBUS

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A



REVISIONS		
CHK	CHANGE NO.	PEV

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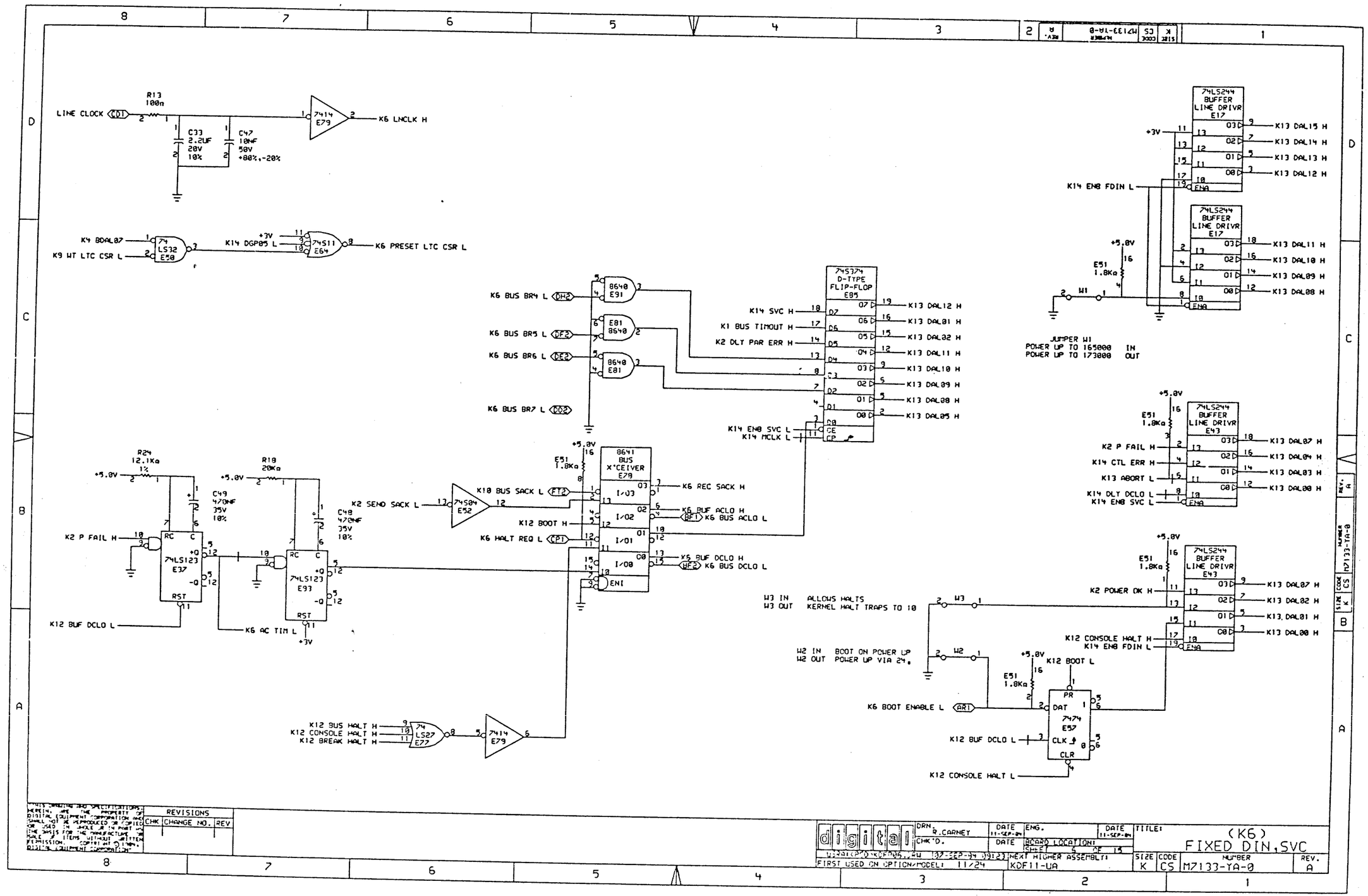
DRN. R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK'D.	DATE	BOARD LOCATION: SHEET 4 OF 15	

USER:KPSD KDF305.DRW 07-SEP-84 09:22
FIRST USED ON OPTION/MODEL: 11/24
NEXT HIGHER ASSEMBLY: KDF11-UA

TITLE: (K5) DAL-BDAL-DBUS

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A



REVISIONS		
CHK	CHANGE NO.	REV

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digital	DRN: R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84	TITLE: (K6) FIXED DIN,SVC
	CHK'D.	DATE	BOARD LOCATION: SHEET 4 OF 13		
12-SEP-84 09:23 KDF05.24	FIRST USED ON OPTION/MODEL: 11/24		NEXT HIGHER ASSEMBLY: KDF11-UA		SIZE K / CODE CS / NUMBER M7133-YA-0 / REV. A

SWITCH E128 SECTION 8
ON NO EFFECT ON UBXFER
OFF FORCES UBXFER L

8

E128

+5.0V

R37 1Kα

74 LS04 E86

74S02 E89

74 LS21 E28

K7 PAX21 H
K7 PAX20 H
K7 PAX19 H
K7 PAX18 H

K7 UBXFER H

K7 UBXFER L

E51 K7 UPPER 128K H

+5.0V +5.0V

E51 1.8Kα

E51 1.8Kα

K13 CSEL 1 L

K13 CSEL 2 L

74S08 E35

E81 K7 COMB CSEL L

+5.0V

E51 1.8Kα

K7 FS MAINT L

E128 7

K9 RD RCV BUF 1 L

K9 RD RCV BUF 2 L

74 LS08 E109

K7 ENB UART DATA L

SWITCH E128 SECTION 7
ON ENABLE FIELD SERVICE MAINT L
OFF NO FS MAINT

2918 QUAD D REGISTER E40

2918 QUAD D REGISTER E30

2918 QUAD D REGISTER E41

2918 QUAD D REGISTER E31

K13 DAL07 H
K13 DAL06 H
K13 DAL05 H
K13 DAL04 H
K13 DAL03 H
K13 DAL02 H
K13 DAL01 H
K13 DAL00 H

K12 ENB BSIO L
K14 LAT ADD H

K7 PAX07 H
K7 PAX06 H
K7 PAX05 H
K7 PAX04 H
K7 PAX03 H
K7 PAX02 H
K7 PAX01 H
K7 PAX00 H

K13 DAL15 H
K13 DAL14 H
K13 DAL13 H
K13 DAL12 H
K13 DAL11 H
K13 DAL10 H
K13 DAL09 H
K13 DAL08 H

K7 PAX15 H
K7 PAX14 H
K7 PAX13 H
K7 PAX12 H
K7 PAX11 H
K7 PAX10 H
K7 PAX09 H
K7 PAX08 H

74LS273 OCTAL D F/F E14

K13 DAL21 H
K13 DAL20 H
K13 DAL19 H
K13 DAL18 H
K13 DAL17 H
K13 DAL16 H
K14 BSIO H

K12 BUF DCLO L
K14 LAT ADD H

74 LS32 E16

74 LS32 E32

74 LS32 E50

K7 PAX21 H
K7 PAX20 H
K7 PAX19 H
K7 PAX18 H
K7 PAX17 H
K7 PAX16 H

ET2 K7 LBSIO H

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REVISIONS		
CHK	CHANGE NO.	REV

digital

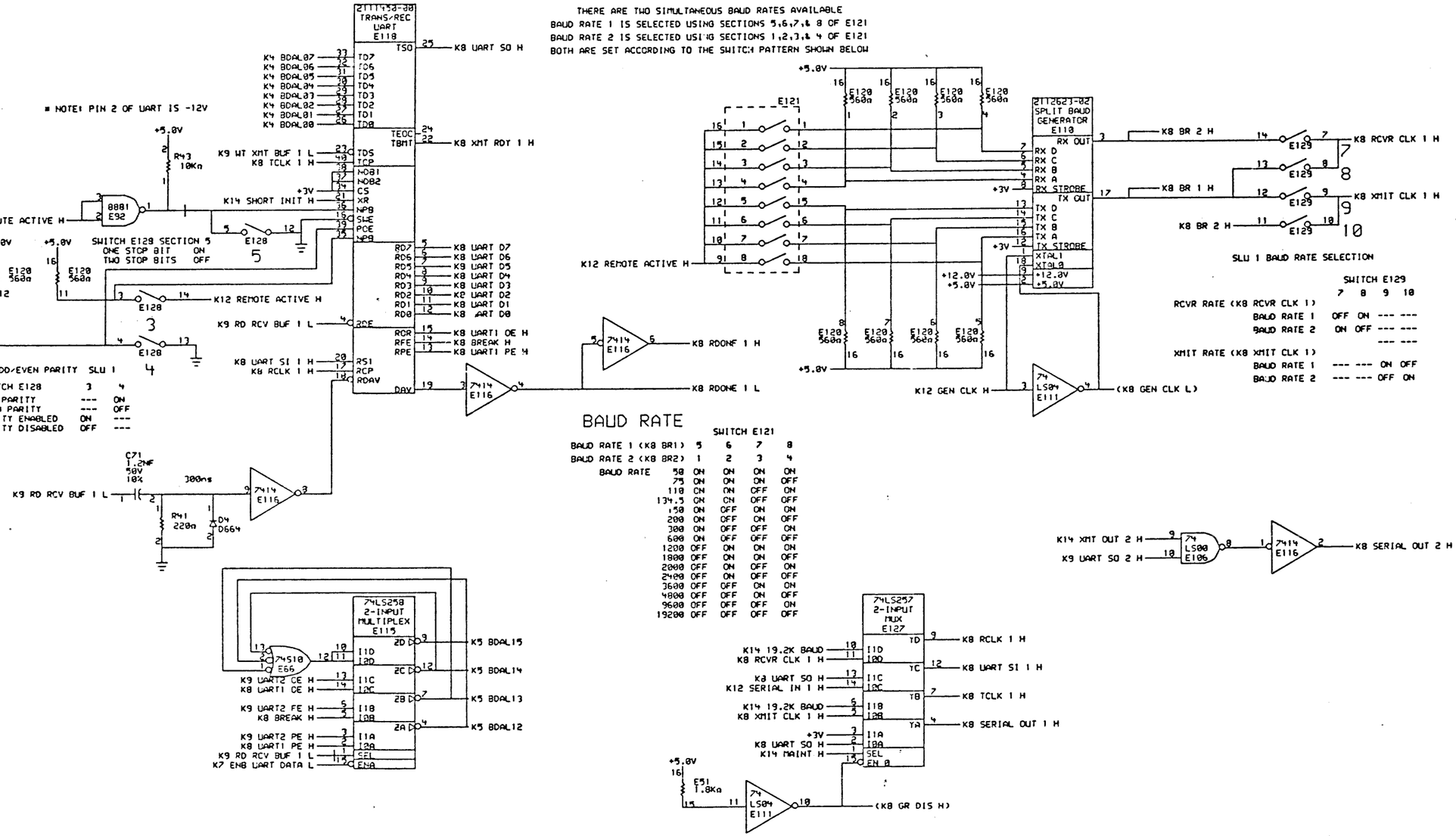
DRN: R.CARNEY | DATE: 11-SEP-84 | ENG. | DATE: 11-SEP-84
CHK'D. | DATE | BOARD LOCATION: SHEET 7 OF 15

USPA1:[PSD.K.CF807.004] 07-SEP-84 09:23 | NEXT HIGHER ASSEMBLY: KDF11-UA

FIRST USED ON OPTION/MODEL: 11/24

TITLE: (K7) PAX

SIZE K | CODE CS | NUMBER M7133-YA-0 | REV. A

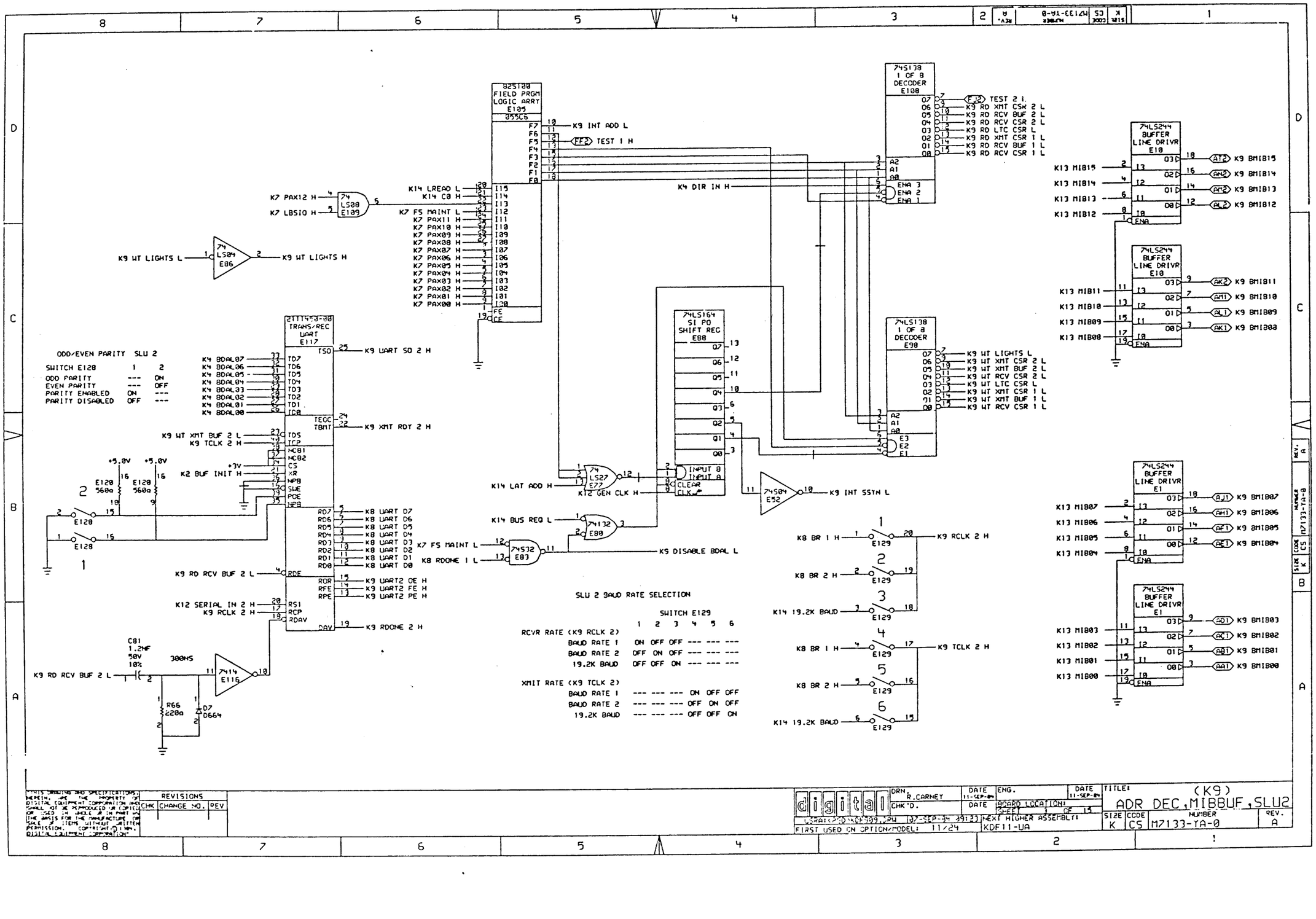


REVISIONS		
CHK	CHANGE NO.	REV

DRN. R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK'D.	DATE	BOARD LOCATION: SHEET 3 OF 15	
USER: CPD:[DF309.DRW]	07-SEP-84 09:23	NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K8) SLU1,BAUD

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A



REVISIONS		
CHK	CHANGE NO.	REV

DRN. R.CARNET	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK'D.	DATE	BOARD LOCATION: SHEET 3 OF 15	
SCHEMATIC: CF309.SCH 07-SEP-84 09:33		NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K9) ADR DEC,MIBBUF,SLU2

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A

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DC003 UNIBUS INTERRUPT E99
ENA ST
BIRQ
BIAKO
INITO
ENB ST
VECTOR
VEC RQST B
RQSTA
ENA DATA
ENA CLK
BIAKI
BDIN
RQSTB
ENB DATA
ENB CLK
BINIT

K10 ENA1 H
K6 BUS BR4 L
K10 INT PASS BG4 L
K10 ENB1 H
K10 SEND VECT 1 H
K10 XMT VECT 1 H
K8 RDONE 1 H
K9 WT RCV CSR 1 L
K8 XMT RDY 1 H
K4 BDAL06
K9 WT XMT CSR 1 L
"2 BUF INIT L
+5.0V
E51 1.8Kα
R40 1Kα
+3V
K7 PAX08 H
K10 ALLOW GRANTS H
74 LS00 E84
74 LS04 E86
K10 SEND VECT 1 L
K2 SEND GRANTS H
7414 E68
K10 SEND GRANTS L
K2 REC INTERUPT H
7414 E79
74 LS21 E28
K10 NO SACK H
K10 SET TIMOUT L
74574 E46
PR DAT CLK CLR
K6 REC SACK H
K10 BJ IN PROG L
K10 NPG(0) H
74 LS08 E69
R17 150α
R20 150α
C60 100PF 50V 5%
C56 100PF 50V 5%
74 LS74 E70
K10 BG IN PROG L
74 LS38 E69
K10 BUS NPR L
K2 BUF INIT H
8640 E91
K10 REC NPR H
74S02 E89
74S08 E56
K6 REC SACK H
K2 BUF INIT L
74132 E80
R26 120α
C61 470PF 50V 5%
K7 PAX11 H
K7 PAX10 H
K7 PAX09 H
K12 INT PASS BG4 L
8881 E97
K10 BUS BG7 H
K10 BUS BG6 H
K10 BUS BG5 H
K10 BUS BG4 H
R32 30Kα
C59 1NF 50V 5%
74LS123 E93
RC C +Q -Q RST
R25 220α
C55 470PF 50V 5%
8881 E92
K10 BUS SACK L
K10 BUS NPG H
K10 NPG(1) H
K10 NPG(0) H
(K10 CLR GRANTS L)

REVISIONS		
CHK	CHANGE NO.	REV

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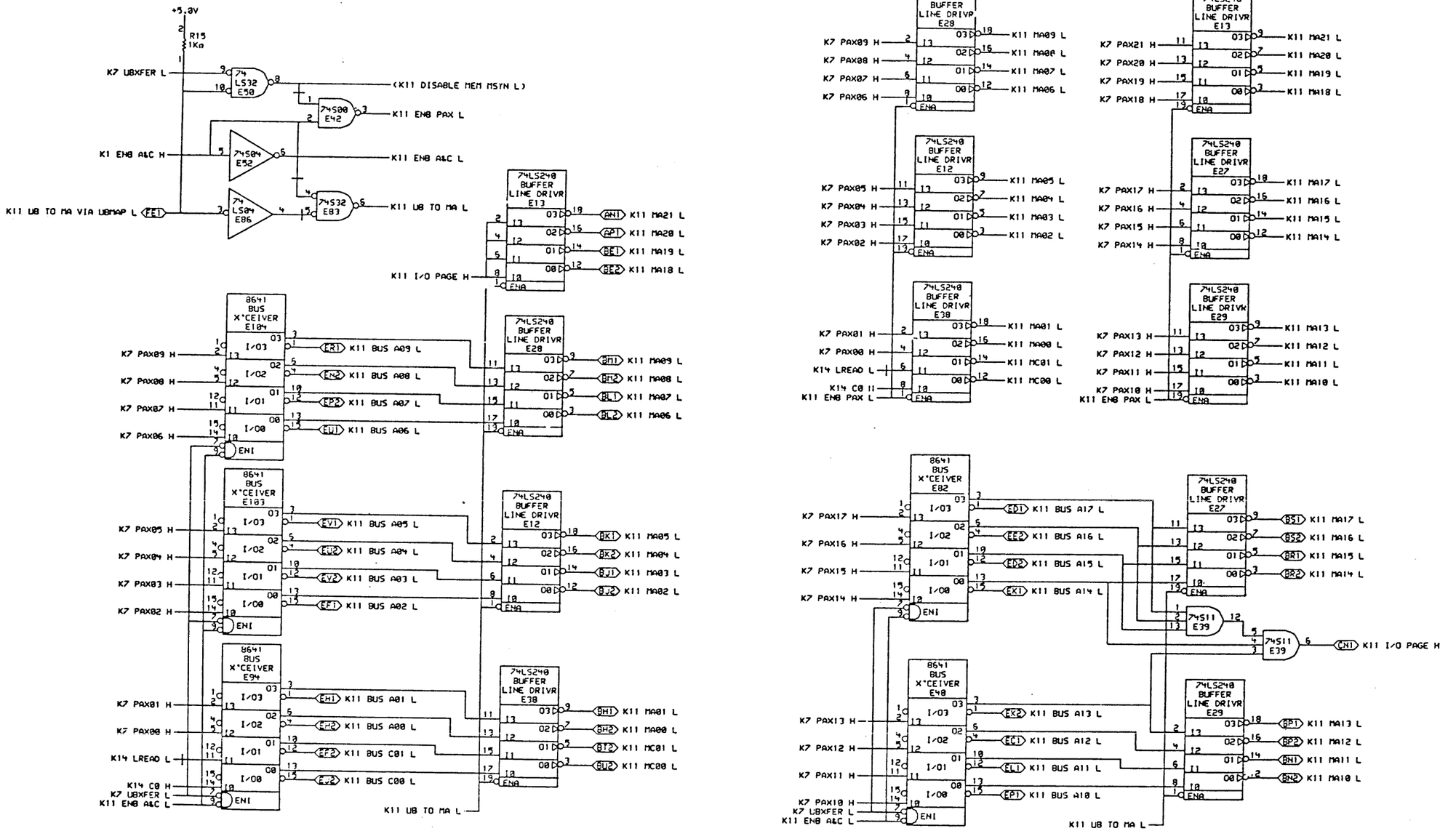
digital

DRN. R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK'D.	DATE	BOARD LOCATION: SHEET 14 OF 15	
USRAI<PSD>KDF11.CPU 07-SEP-84 09:24		NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K10) SLU1,INTR,GRANTS

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A



REVISIONS		
CHK	CHANGE NO.	REV

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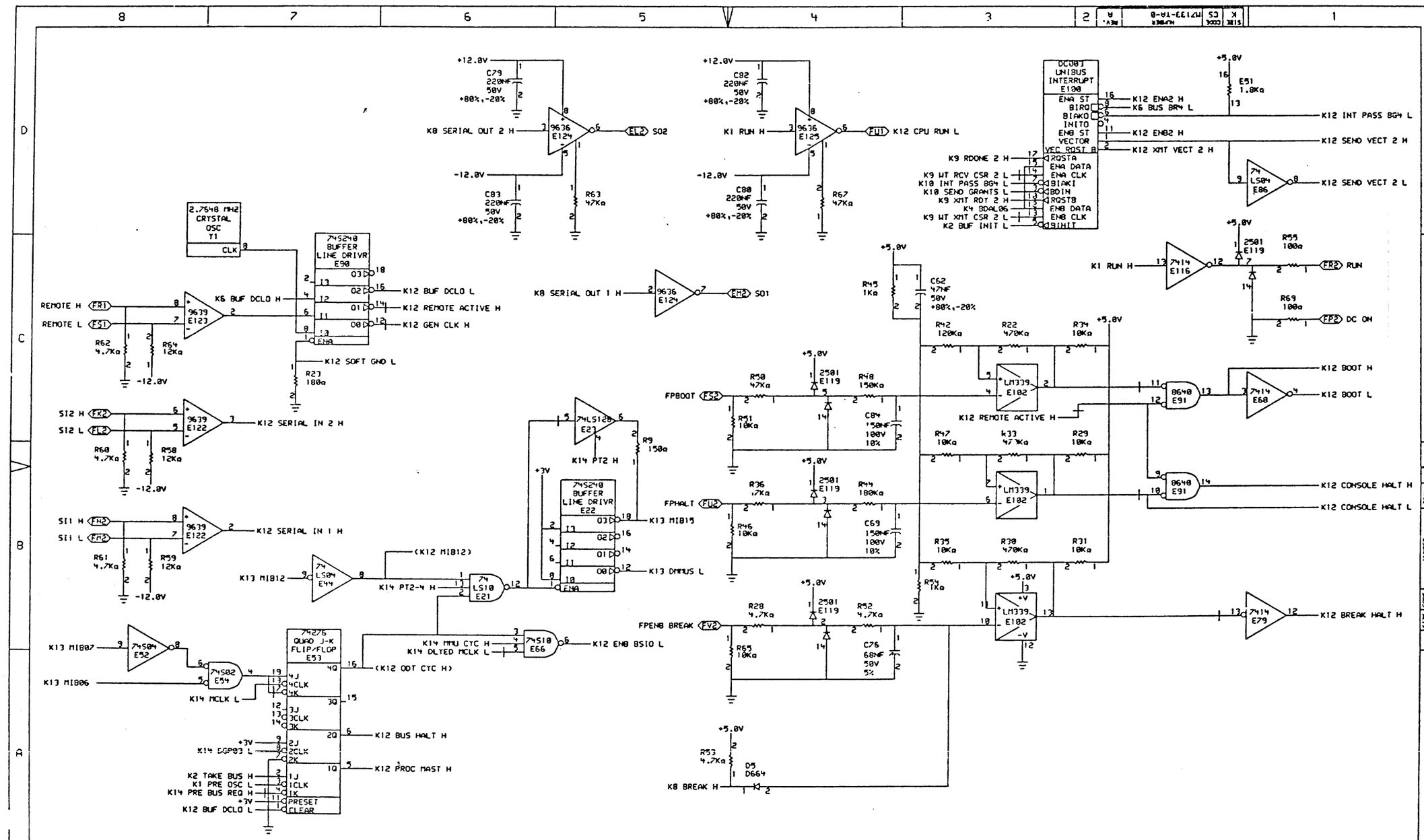
digital

DRN	R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84	TITLE: (K11) ADDR LINES
CHK'D.		DATE	BOARD LOCATION: SHEET 11 OF 15		

L:\2A1(250)\KDF11.2A4 '82-SEP-24 09:24 NEXT HIGHER ASSEMBLY: KDF11-UA

FIRST USED ON OPTION/MODEL: 11/24

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A



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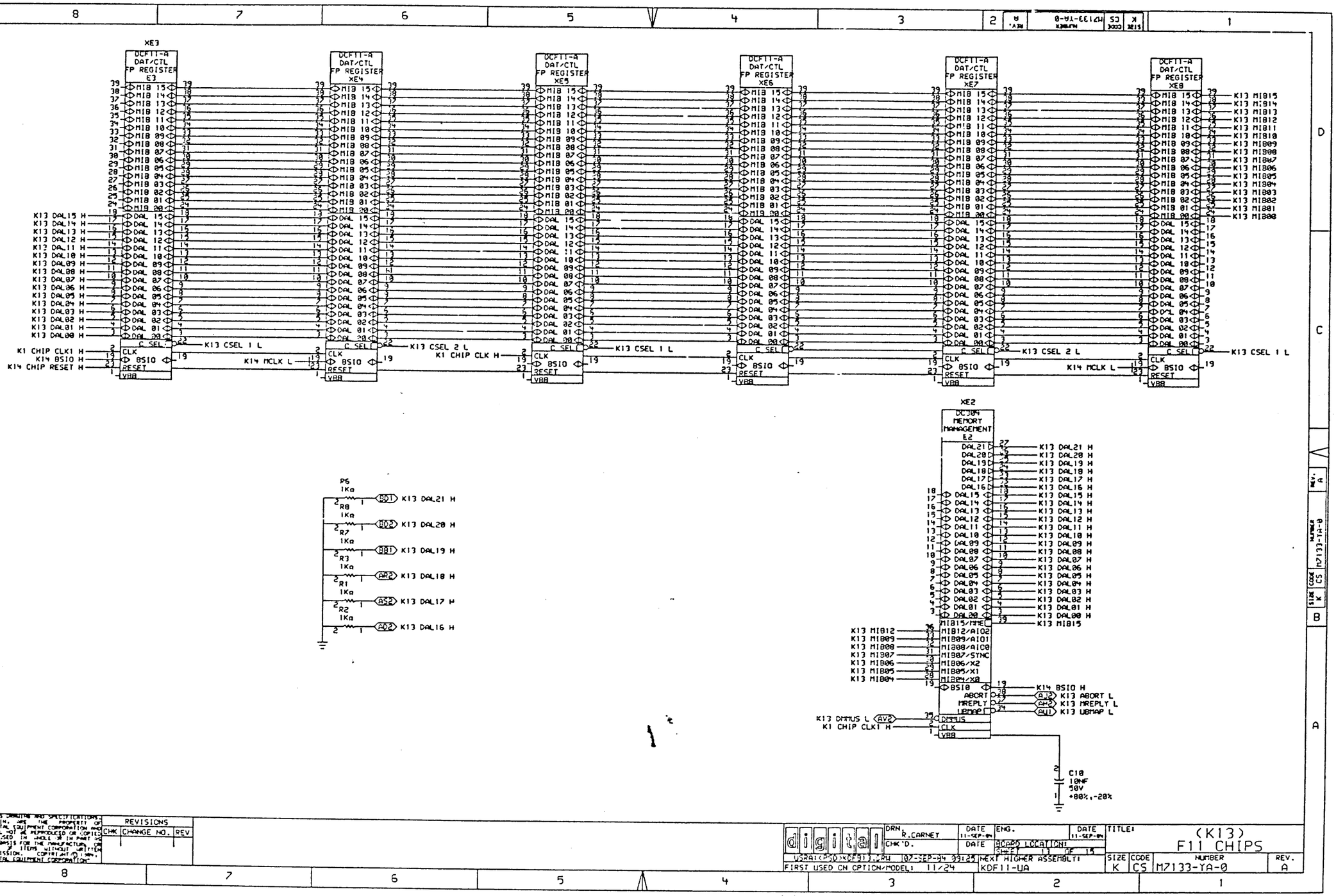
REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN: R.CARNET	DATE 19-DEC-85	ENG.	DATE 19-DEC-85
CHK'D.	DATE	BOARD LOCATION: SHEET 12 OF 15	
WIRED PLEASE REFER TO ECO: 11-DEC-85 09:32		NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K12) SC,INTR,VREG,FPNL

SIZE	CODE	NUMBER	REV.
K	CS	M7133-TA-0	A


XE3
DCF11-A DAT/CTL FP REGISTER E3
XE4
DCF11-A DAT/CTL FP REGISTER XE4
XE5
DCF11-A DAT/CTL FP REGISTER XE5
XE6
DCF11-A DAT/CTL FP REGISTER XE6
XE7
DCF11-A DAT/CTL FP REGISTER XE7
XE8
DCF11-A DAT/CTL FP REGISTER XE8
MIB 15
MIB 14
MIB 13
MIB 12
MIB 11
MIB 10
MIB 09
MIB 08
MIB 07
MIB 06
MIB 05
MIB 04
MIB 03
MIB 02
MIB 01
MIB 00
DAL 15
DAL 14
DAL 13
DAL 12
DAL 11
DAL 10
DAL 09
DAL 08
DAL 07
DAL 06
DAL 05
DAL 04
DAL 03
DAL 02
DAL 01
DAL 00
C SEL
CLK
BSIO
RESET
VBB
K13 DAL15 H
K13 DAL14 H
K13 DAL13 H
K13 DAL12 H
K13 DAL11 H
K13 DAL10 H
K13 DAL09 H
K13 DAL08 H
K13 DAL07 H
K13 DAL06 H
K13 DAL05 H
K13 DAL04 H
K13 DAL03 H
K13 DAL02 H
K13 DAL01 H
K13 DAL00 H
K1 CHIP CLK1 H
K14 BSIO H
K14 CHIP RESET H
K13 CSEL 1 L
K13 CSEL 2 L
K14 MCLK L
K1 CHIP CLK H
K13 MIB15
K13 MIB14
K13 MIB13
K13 MIB12
K13 MIB11
K13 MIB10
K13 MIB09
K13 MIB08
K13 MIB07
K13 MIB06
K13 MIB05
K13 MIB04
K13 MIB03
K13 MIB02
K13 MIB01
K13 MIB00
P6
1Ka
R8
R7
R3
R1
R2
RD1
RD2
BB1
AA2
AB2
AD2
K13 DAL21 H
K13 DAL20 H
K13 DAL19 H
K13 DAL18 H
K13 DAL17 H
K13 DAL16 H
XE2
DC304 MEMORY MANAGEMENT E2
DAL21
DAL20
DAL19
DAL18
DAL17
DAL16
DAL15
DAL14
DAL13
DAL12
DAL11
DAL10
DAL09
DAL08
DAL07
DAL06
DAL05
DAL04
DAL03
DAL02
DAL01
DAL00
MIB15/7FFE
MIB12/A102
MIB09/A101
MIB08/A100
MIB07/SYNC
MIB06/X2
MIB05/X1
MIB04/X0
BSIO
ABORT
MREPLY
UBMAP
DSSUS
CLK
VBB
K13 MIB12
K13 MIB09
K13 MIB08
K13 MIB07
K13 MIB06
K13 MIB05
K13 MIB04
K14 BSIO H
K13 ABORT L
K13 MREPLY L
K13 UBMAP L
K13 DATBUS L
K1 CHIP CLK1 H
C18
10nF
50V
+80%,-20%
REVISIONS
CHK
CHANGE NO.
REV
DRN.
R.CARNEY
DATE
11-SEP-84
ENG.
DATE
11-SEP-84
CHK'D.
DATE
SCALE: LOCATION:
SHEET 13 OF 15
USER:<P50>KDF11.;24 02-SEP-84 33:25
NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION/MODEL: 11/24
KDF11-UA
TITLE:
(K13)
F11 CHIPS
SIZE
K
CODE
CS
NUMBER
M7133-YA-0
REV.
A

XE130

DC370 GATE ARRAY E130

DLYED MCLK	2	K14 DLYED MCLK L
PAUSE	37	K14 PAUSE H
BUS REQ	43	(BU1) K14 BUS REQ L
DLY DCLO	41	K14 DLY DCLO L
LSYNC	42	K14 LSYNC L
STOP OSC	14	K14 STOP OSC H
CPU MAST	15	K14 CPU MAST H
CTL ERR	16	K14 CTL ERR H
CHIP RESET	18	(DA1) K14 CHIP RESET H
PREBUS REQ	11	K14 PRE BUS REQ H
LAT ADD	12	(BC1) K14 LAT ADD H
ENB RUN	7	K14 ENB RUN H
ENB SVC	32	K14 ENB SVC L
DIN	33	(BV2) K14 DIN H
ENB FDIN	23	K14 ENB FDIN L
LREAD H	35	K14 LREAD H
LREAD L	36	(AV2) K14 LREAD L
SHT INIT H	22	K14 SHORT INIT H
SHT INIT L	24	K14 SHORT INIT L
MMU CYC H	27	K14 MMU CYC H
MMU CYC L	28	(DL2) K14 MMU CYC L
MCLK H	25	K14 MCLK H
MCLK L	26	(AB2) K14 MCLK L
DAL06	13	K13 DAL06 H
C0	10	(BA1) K14 C0 H
DGP07	14	K14 DGP07 L
DGP06	1	K14 DGP06 L
DGP05	2	K14 DGP05 L
DGP03	4	K14 DGP03 L
PT2-4	20	K14 PT2-4 H
PT3 H	20	K14 PT3 H
PT2	19	K14 PT2 H
CT1	17	(CF1) K14 CT1 H
CT0	15	(CF1) K14 CT0 H

K13 MI815	45	MI815
K13 MI814	44	MI814
K13 MI812	43	MI812
K13 MI809	54	MI809
K13 MI808	53	MI808
K13 MI807	52	MI807
K13 MI803	51	MI803
K13 MI802	71	MI802
K13 MI801	72	MI801
K13 MI800	73	MI800
K1 OSC H	40	OSC
K12 BOOT L	29	BOOT
K1 BUS TIMOUT H	23	BUS TIMOUT
K2 PAR ERR H	59	BUF PAR ER
K12 BUF DCLO L	42	BUF DCLO
K13 ABORT L	31	ABORT
K7 FS MAINT L	19	FS MAINT
K2 BSSYN H	11	BSSYN
K1 CPU MAST L	12	CPU MAST
K7 COMB CSEL L	9	COMB CSEL

XE131

DC369 GATE ARRAY E131

SVC	2	K14 SVC H
MAINT	14	K14 MAINT H
XMT OUT 2	13	K14 XMT OUT 2 H
19.2K BAUD	15	K14 19.2K BAUD
BSIO	16	(AE2) K14 BSIO H
ENB LED 3	5	K14 ENB LED3 L
ENB LED 7	3	K14 ENB LED2 L
DAL17	57	K13 DAL17 H
DAL16	56	K13 DAL16 H
BDAL07	74	K4 BDAL07
BDAL06	68	K4 BDAL06
BDAL05	65	K4 BDAL05
BDAL04	62	K4 BDAL04
BDAL03	59	K4 BDAL03
BDAL02	77	K4 BDAL02
BDAL01	52	K4 BDAL01
BDAL00	71	K4 BDAL00

K4 BDAL06	7	BDAL06
K4 BDAL02	46	BDAL02
K4 BDAL01	48	BDAL01
K4 BDAL00	47	BDAL00
K14 LATCH ENB H	38	LATCH ENB
K12 GEN CLK H	39	GEN CLK
K9 WT LIGHTS H	44	WT LIGHTS
K12 ENB BSIO L	45	ENB BSIO
K7 LBSIO H	41	LBSIO
K14 SHORT INIT H	6	SHORT INIT
K2 BUF INIT H	3	BUF INIT H
K2 BUF INIT L	69	BUF INIT L
K6 LNCLK H	43	LNCLK
K6 PRESET LTC CSR L	42	PR LTC CSR
K9 WT LTC CSR L	40	WT LTC CSR
K9 RD LTC CSR L	39	RD LTC CSR
K8 UART D7	33	UART D7
K8 UART D6	34	UART D6
K8 UART D5	61	UART D5
K8 UART D4	49	UART D4
K8 UART D3	37	UART D3
K8 UART D2	31	UART D2
K8 UART D1	30	UART D1
K8 UART D0	28	UART D0
K7 ENB UART DATA L	63	EN UARTDAT
K8 XMT RDY 1 H	18	XMT RDY 1
K8 RDONE 1 H	17	RDONE1
K10 ENB1 H	55	ENB1
K10 ENA1 H	62	ENA1
K10 SEND VECT 1 L	75	SND VECT 1
K10 XMT VECT 1 H	58	XMT VECT 1
K9 RD RCV CSR 1 L	64	RDRCV CSR1
K9 RD XMT CSR 1 L	11	RDXMT CSR1
K9 WT XMT CSR 1 L	43	WTXMT CSR1
K9 XMT RDY 2 H	9	XMT RDY 2
K9 RDONE 2 H	53	RDONE2
K12 ENB2 H	54	ENB2
K12 ENA2 H	24	ENA2
K12 SEND VECT 2 L	23	SND VECT 2
K12 XMT VECT 2 H	138	XMT VECT 2
K9 RD RCV CSR 2 L	8	RDRCV CSR2
K9 RD XMT CSR 2 L	67	RDXMT CSR2
K9 WT XMT CSR 2 L	66	WTXMT CSR2

K14 MCLK L (11) and K14 DGP07 L (12) → 74S02 E89 (13) → K14 LATCH ENB H

K14 ENB LED3 L → D3 (1, 2) → +5.0V

K14 ENB LED2 L → D2 (1, 2) → +5.0V

K14 MCLK L (5) → 74 LS04 E111 (6, 1) → D1 (1, 2) → +5.0V

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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK D.	DATE	BOARD LOCATION: SHEET 14 OF 15	
L:\SA1\CP30\KDF814.CRU 02-SEP-84 39:25		NEXT HIGHER ASSEMBLY: KDF11-UA	
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K14) GATE ARRAYS

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A

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REVISIONS		
CHK	CHANGE NO.	REV

DRN R.CARNEY	DATE 11-SEP-84	ENG.	DATE 11-SEP-84
CHK 'D.	DATE	BOARD LOCATION: SHEET 15 OF 15	
\\SPAIN\P50\KDF11\24 02-SEP-84 19:25	NEXT HIGHER ASSEMBLY: KDF11-UA		
FIRST USED ON OPTION/MODEL: 11/24			

TITLE: (K15) POWER DECOUPLING

SIZE	CODE	NUMBER	REV.
K	CS	M7133-YA-0	A

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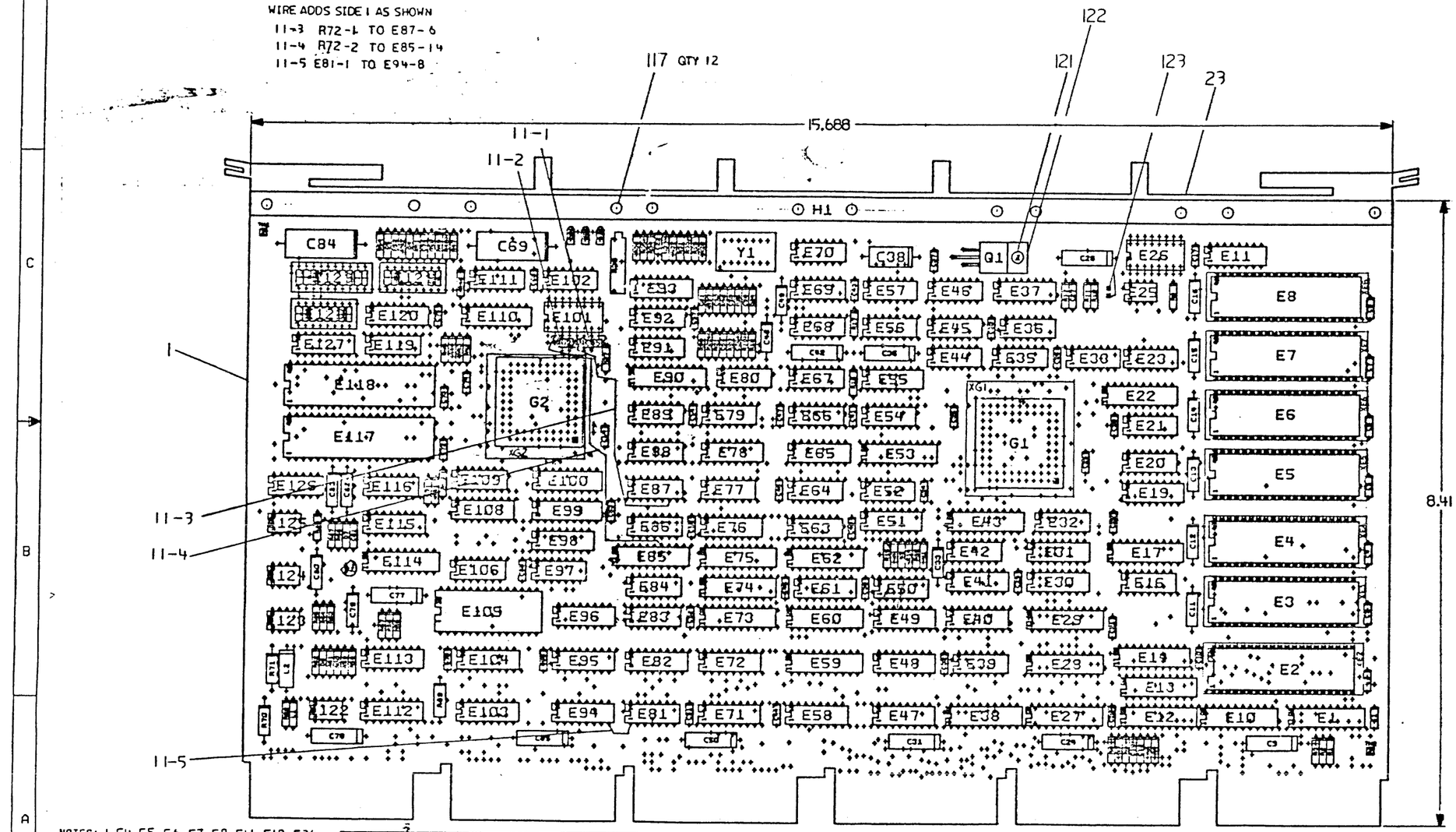
REWORK INSTRUCTION

ECO M7133-ML011

COMPONENT ADDS SIDE 1 AS SHOWN
11-1 C85
11-2 R72

WIRE ADDS SIDE 1 AS SHOWN
11-3 R72-1 TO E87-6
11-4 R72-2 TO E85-14
11-5 E81-1 TO E94-8

COMPONENT SIDE VIEW



NOTES: 1. E4, E5, E6, E7, E8, E11, E19, E26, E96, E101, E114 ARE SPARE SLOTS

STEP ↕	↑ Y AXIS ____ STEP ____ TIMES
REPEAT	→ X AXIS ____ STEP ____ TIMES

CH	CHANGE NO	REV
	M7133-ML011	A
	3-DD-M7133-0	0
	CLAIRE GIROUARD	

ETCH REV. E1-P3

SIGNATURES	DATE
DRN. W. Mason	
CHK'D.	
MECH. ENG.	
PROJ. ENG.	
PROD.	
SCALE 1.5/1	
SHT. 1 OF 1	

digital

TITLE: 11/24 CPU

SIZE	CODE	NUMBER	REV
D	UA	M7133-YA-0	A

TOP DOC NO. 3-DD-M7133-0

1 MS#400658E

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FIELD MAINTENANCE PRINT SET

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TABLE OF CONTENTS

DRAWING NO.	DESCRIPTION
B-DD-M8743-AA	MDECS-AA MEMORY (M8743)
K-PL-M8743-AA-DBP	PARTS LIST DATA BASE
D-UA-M8743-AA-0	MDECS-AA MEMORY
D-EC-5015117-AA-0	ETCH CUT DRAWING
D-CS-M8743-AA-MS01	MDECS-AA MEMORY
D-CS-M8743-AA-MS02	MDECS-AA MEMORY
D-CS-M8743-AA-MS03	MDECS-AA MEMORY
D-CS-M8743-AA-MS04	MDECS-AA MEMORY
D-CS-M8743-AA-MS05	MDECS-AA MEMORY
D-CS-M8743-AA-MS06	MDECS-AA MEMORY
D-CS-M8743-AA-MS07	MDECS-AA MEMORY
D-CS-M8743-AA-MS08	MDECS-AA MEMORY
D-CS-M8743-AA-MS09	MDECS-AA MEMORY
D-CS-M8743-AA-MS10	MDECS-AA MEMORY
D-CS-M8743-AA-MS11	MDECS-AA MEMORY
B-DD-MDECS-AA	DRAWING DIRECTORY (MDECS-AA)
D-BD-MDECS-AA-DBU	BLOCK DIAGRAM (MDECS-AA)
D-TD-MDECS-AA-DBU	TIMING DIAGRAM (MDECS-AA)
E-FD-MDECS-AA-3	FLOW DIAGRAM (MDECS-AA)

UNIT VARIATIONS COVERED BY THIS PRINT SET
MDECS-AA

MDECS-AA

Field Maintenance Print Set

Digital Equipment Corporation

MP01484

REVISIONS		
REV	CHG. NO.	DATE
A	ORIGINATED	9/28/82

USED ON OPTION/MODEL	
DECSA-A	

SHEET 1 OF 1

DRN.	P. Bozsman	DATE 13 AUG 82
CHK'D	P. Bozsman	DATE 13 Aug 82
PROJ. ENG.	James R. Jones	DATE 24 Sept 82
FIELD SERV.	Serge Martel	DATE 24 S. 82

digital

TITLE: MDECS MEMORY

SIZE	CODE	NUMBER	REV.
B	TC	MDECS-AA-1	A

DIST.

SIZE B | CODE TC | NUMBER MDECS-AA-1 | REV. A

DRB 124

ML2

SIZE	CODE	NUMBER	REV.
B	DD	M8743-AA	K

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS
		M8743-AA	MDECS-AA MEMORY	A B C D1 E1 E2 F1 F2 F3
D-UA-M8743-AA-0	2		MDECS-AA MEMORY	A B C D - D - E F
C-UA-M8743-AA-0	2		MDECS-AA MEMORY (SPECIAL REV)	- - - - C1 - C2 - -
K-CS-M8743-AA-MS01	1		MDECS-AA MEMORY	A B B C C C C C C
K-CS-M8743-AA-MS02	1		MDECS-AA MEMORY	A A A B B B B B B
K-CS-M8743-AA-MS03	1		MDECS-AA MEMORY	A A A A A A A A A
K-CS-M8743-AA-MS04	1		MDECS-AA MEMORY	A A A B B B B B B
K-CS-M8743-AA-MS05	1		MDECS-AA MEMORY	A A B C B1 D B D D
K-CS-M8743-AA-MS06	1		MDECS-AA MEMORY	A A A A B B B B B
K-CS-M8743-AA-MS07	1		MDECS-AA MEMORY	A A A B B B B B B
K-CS-M8743-AA-MS08	1		MDECS-AA MEMORY	A A A B C C D D D
K-CS-M8743-AA-MS09	1		MDECS-AA MEMORY	A A A A A A A A A
K-CS-M8743-AA-MS10	1		MDECS-AA MEMORY	A A A A A A A A A
K-CS-M8743-AA-MS11	1		MDECS-AA MEMORY	A A B C C C C C C
B-PL-M8743-AA-D3P	4		PARTS LIST (SPECIAL REV)	- - - - A1 - A1 - -
K-PC-M8743-AA-DBG	-		P.C. DESIGN DATA BASE	A A A B B B B B B
K-PL-M8743-AA-DBP	4		PARTS LIST DATA BASE (Z4446A)	A A A B - C - D E
K-CS-M8743-AA-DBS	-		SCHEMATIC DATA BASE (SUDS)	A B C D E F H H H
		5015117-00	ETCHED CIRCUIT BOARD	C C C D1 C D1 C D1 D1
B-DD-5015117-0	1		DRAWING DIRECTORY	- - - A B C D E E

NOTES:

1. Revision codes for Drawing K-CS-M8743-AA-MS05 and part 5015117-00 are purposely out of sequence, so that their revision codes correspond to the module revision at the top of the column.
2. "-" in revision code means: "This line item does not describe this module revision.

REVISIONS	REV.	CHG NO.	DATE
	A	ORIG.	4/82
	B	SH001 PP	12/82
	C	SH002	4/83
	D	SH003	5/83
	E	SH004	10/83
	F	SH005	1/84
	H	SH006	4/84
	J	SH007	6/84
	K	SH008	3/85

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USED ON OPTION/MODEL	
DECSA-A	

DRN.	D. Bossman	13 AUG 82
CHK'D	D. Bossman	16 AUG 82
ENG.	[signature]	28-JUN-83
PROD.	RA Hill	10 Sep 82

TITLE: MDECS-AA MEMORY

SIZE	CODE	NUMBER	REV.
B	DD	M8743-AA	K

SHEET 1 OF 1

DRB 126

SHO

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SEE NOTE 2

COMPONENT SIDE VIEW

NOTES: 1. THIS BOARD MEETS REQUIREMENTS UL RATING.
2. DO NOT INSTALL CROSSED OUT COMPONENTS.

STEP E	↑ Y AXIS ____ STEP ___ TIMES
REPEAT	→ X AXIS ____ STEP ___ TIMES

CHK	CHANGE NO	REV
	REDRAWN M8743-AA-SH003	D
RK	M8743-AA-SH007 J. LAVRANCHUK	E
	M8743-AA-SH008 C. HSU	F

ETCH REV. D1-P1

SIGNATURES	DATE
DRN. L BARRETT	31 MAY 83
CHK'D.	27-6-83
MECH.ENG.	29 JUN 83
PROJ.ENG.	29 JUN 83
PROD. Butch Moore	29 JUN 83
SCALE 2/1	
SHT. 1 OF 2	
NEXT HIGHER ASSY. B-DD-M8743-AA	

digital

TITLE: MDECS AA MEMORY

SIZE	CODE	NUMBER	REV
D	UA	M8743-AA-Ø	F

SHO 1 MS#____

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REWORK INSTRUCTIONS:

ECO #7:

WIRE ADDS, SIDE 1:

7-1. ADD WIRE FROM E1-4 TO E35-5.

ECO #8, REWORK:

COMPONENT DELETES:

8-1. DELETE SKT, IC XE2Ø, XE25, XE29 AND XE34
P/N 1219911-Ø1.

REVISION HISTORY

REV.	ECO NUMBER	DATE

TITLE: MDECS AA MEMORY

SIZE	CODE	NUMBER	REV.
D	UA	M8743-AA-Ø	F

SCALE: —11— | SHEET 2 OF 2

DRD 137C
EN-01284-16-REVA(396)

SHR

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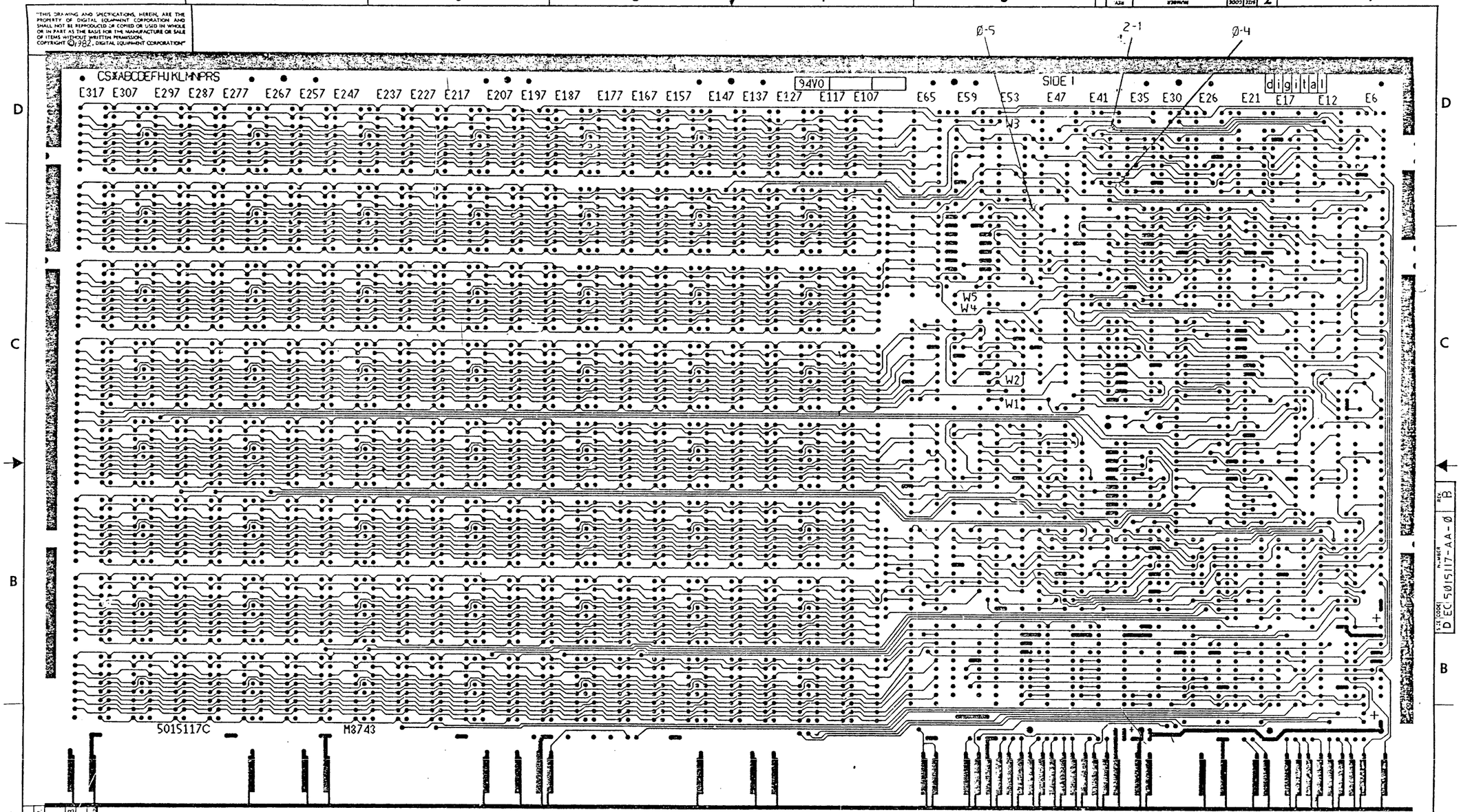

REVISIONS			
CHK	CHANGE NO.		REV.
GR	M8743-FA-		B
	SH002		
	J. Vincent 19 APR 83		
	J. LAVRANCHUK		

DRN	B Tuson	3/15/82
CHK'D	D Bruno	14 May 82
ENG	J Santos	5/17/82
PROJ. ENG	J Santos	6/17/82
PROD.	R G Hill	6/17/82
NEXT HIGHER ASSY.		
B-DD-M8743-AA		
SCALE 2/1		
SHEET 1 OF 3		

FIRST USED ON: MDECS-AA

TITLE: ETCH CUT DRAWING

SIZE	CODE	NUMBER	REV.
D	EC	5015117-AA-Ø	B

DIST.

SHO

SIZE D | CODE DEC | NUMBER 5015117-AA-Ø | REV B

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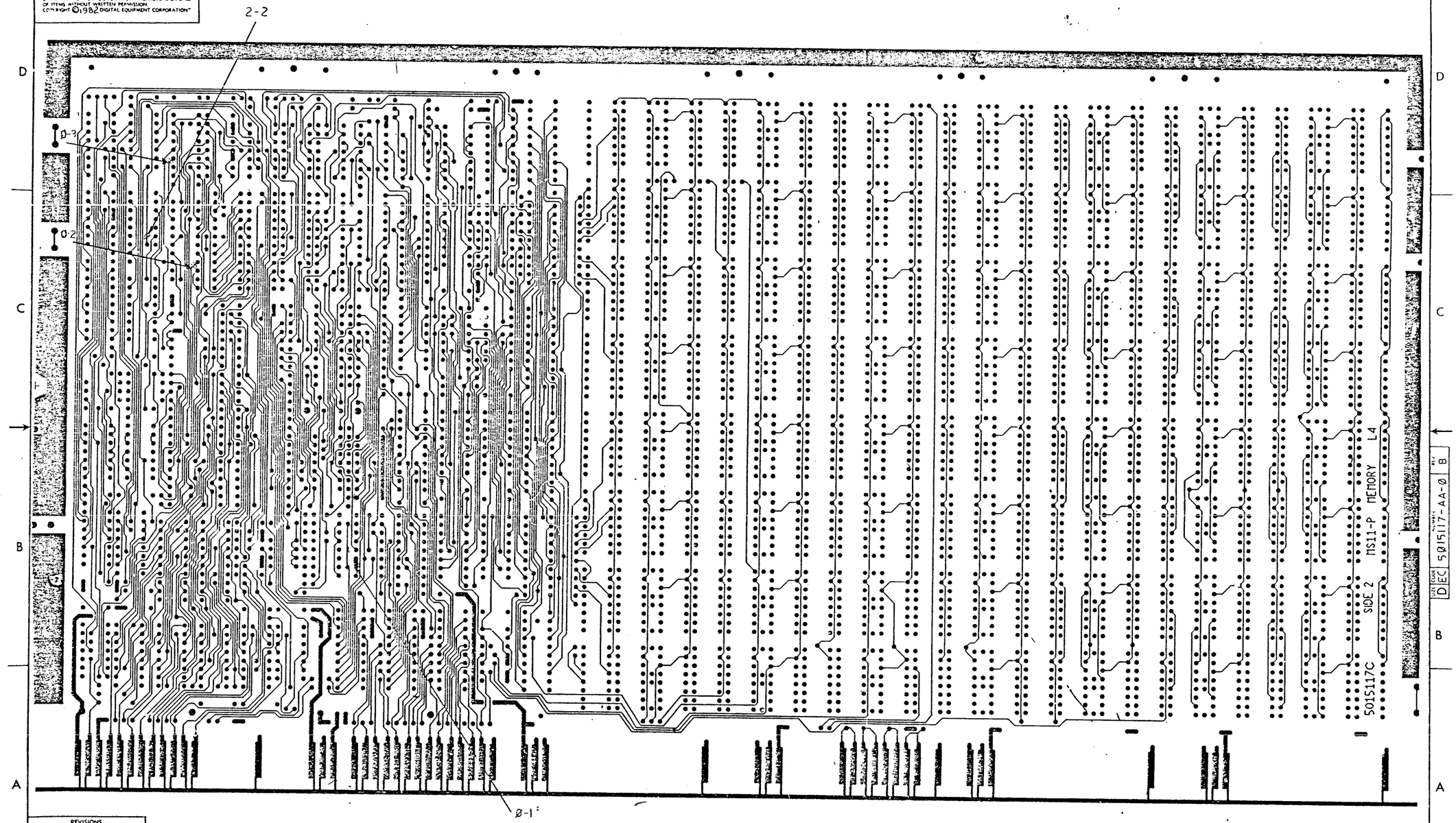

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
ETCH CUT DRAWING	D	EC	5015117-AA-Ø	B
SCALE 2/1 SHEET 2 OF 3	DIST.			

SHO

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FIRST RELEASE:

ETCH CUTS

SIDE 2

Ø-1: CUT ETCH AT E37-1Ø & 11.
Ø-2: CUT ETCH AT E16-8.
Ø-3: CUT ETCH AT E17-9.

SIDE 1

Ø-4: CUT ETCH AT E41-9.
Ø-5: CUT ETCH AT E46-1.

REWORK INSTRUCTIONS:

ETCH CUTS:

SIDE 1

2-1. CUT ETCH LEADING TO E41-1 NEAR D3.

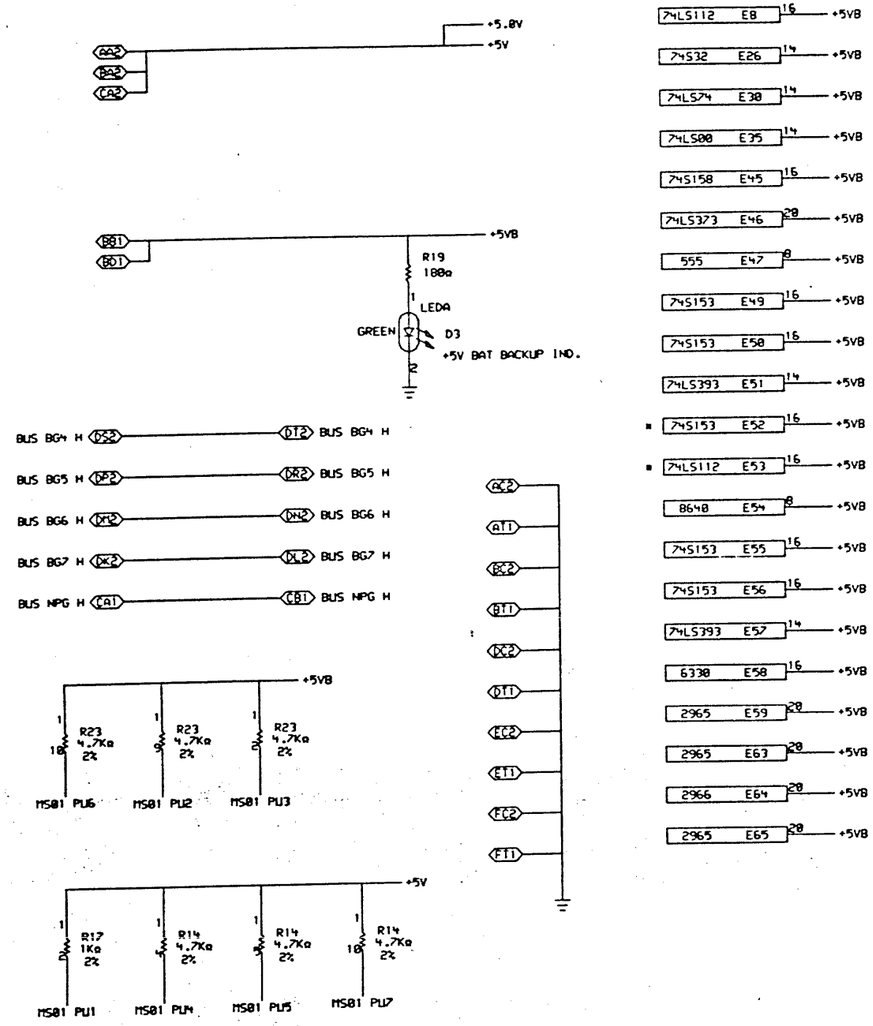
SIDE 2

2-2. CUT ETCH AT FEEDTHRU CONNECTED TO E11-8.

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
ETCH CUT DRAWING	D	EC	5Ø15117-AA-Ø	B
SCALE — SHEET 3 OF 3	DIST.			

SHO



POWER DISTRIBUTION

8648	E1	8	+5VB
74S02	E2	14	+5VB
74LS112	E8	16	+5VB
74S32	E26	14	+5VB
74LS74	E30	14	+5VB
74LS00	E35	14	+5VB
74S158	E45	16	+5VB
74LS373	E46	20	+5VB
555	E47	8	+5VB
74S153	E49	16	+5VB
74S153	E50	16	+5VB
74LS393	E51	14	+5VB
■ 74S153	E52	16	+5VB
■ 74LS112	E53	16	+5VB
8648	E54	8	+5VB
74S153	E55	16	+5VB
74S153	E56	16	+5VB
74LS393	E57	14	+5VB
6330	E58	16	+5VB
2965	E59	20	+5VB
2965	E63	20	+5VB
2966	E64	20	+5VB
2965	E65	20	+5VB

STARTING ADDRESS DECIMAL (K)	OCTAL	SWITCH SETTINGS FOR E38 PA17	PA16	PA15	PA14
0	00000000				
8	00040000				X
16	00100000			X	
24	00140000			X	X
32	00200000		X		
40	00240000		X		X
48	00300000		X	X	
56	00340000		X	X	X
64	00400000	X			
72	00440000	X			X
80	00500000	X		X	
88	00540000	X		X	X
96	00600000	X	X		
104	00640000	X	X		X
112	00700000	X	X	X	
120	00740000	X	X	X	X

X = OFF (OPEN)

STARTING ADDRESS RANGE DECIMAL (K)	OCTAL	SWITCH SETTINGS FOR E38 PA21	PA20	PA19	PA18
128-248	01000000-01740000				X
256-376	02000000-02740000			X	
384-504	03000000-03740000			X	X
512-632	04000000-04740000		X		
640-760	05000000-05740000		X		X
768-888	06000000-06740000		X	X	
896-1016	07000000-07740000		X	X	X
1024-1144	10000000-10740000	X			
1152-1272	11000000-11740000	X			X
1280-1400	12000000-12740000	X		X	
1408-1528	13000000-13740000	X		X	X
1536-1656	14000000-14740000	X	X		
1664-1784	15000000-15740000	X	X		X
1792-1912	16000000-16740000	X	X	X	
1920-2040	17000000-17740000	X	X	X	X

TO OBTAIN INCREMENTAL 8K BOUNDARIES WITHIN THE SPECIFIED RANGE, REPEAT SWITCH SETTINGS FROM 0-120K TABLE.
X = OFF (OPEN)

CSR STARTING ADDRESS OCTAL	SWITCH SETTINGS FOR E28 CSRA3	CSRA2	CSRA1	CSRA0
17772100				
17772102				X
17772104			X	
17772106			X	X
17772110		X		
17772112		X		X
17772114		X	X	
17772116		X	X	X
17772120	X			
17772122	X			X
17772124	X		X	
17772126	X		X	X
17772130	X	X		
17772132	X	X		X
17772134	X	X	X	
17772136	X	X	X	X

X = OFF (OPEN)

SWITCH CONFIGURATION

NOTES:

1. CHIPS POWER AND GND PINS ARE ALL STANDARD EXCEPT 8648 (+5VB PIN 8, GND PIN 1) AND 4164 (+5VB PIN 8,GND PIN 16). ALL RESISTOR ARE 1/4W 5% EXCEPT AS NOTED ON SCHEMATIC.
2. ■ E52 AND E53 ARE FUTURE OPTION.

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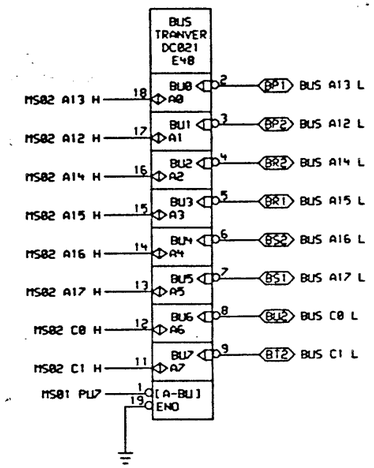
REVISIONS		
CHK	CHANGE NO.	REV

digital

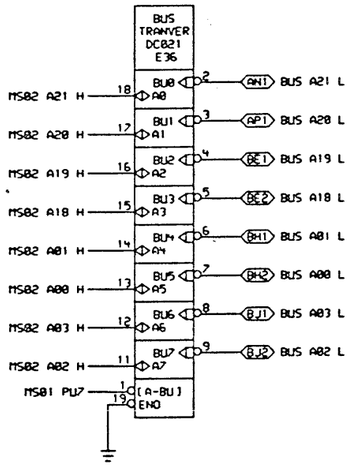
DRN. S. ROCHEFORT DATE 13-MAY-83
CHK'D P. BOSSMAN DATE 13-MAY-83
ENG DATE 13-MAY-83
BOARD LOCATION: SHEET 1 OF 1
13-APR-83 11:25 NEXT HIGHER ASSEMBLY: B-DD-M8743-AA
FIRST USED ON OPTION/MODEL: MDECS-AA

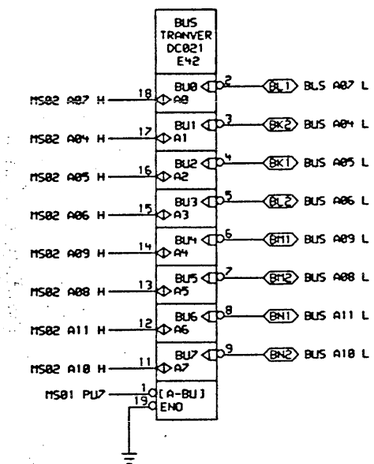
TITLE: MDECS-AA MEMORY

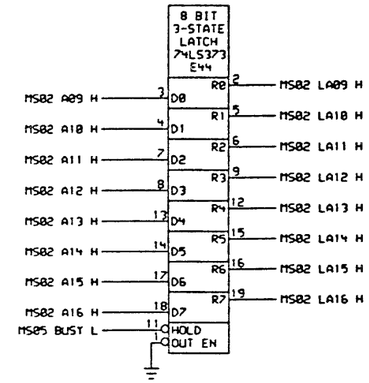
SIZE	CODE	NUMBER	REV.
K	CS	M8743-AA-MS01	C



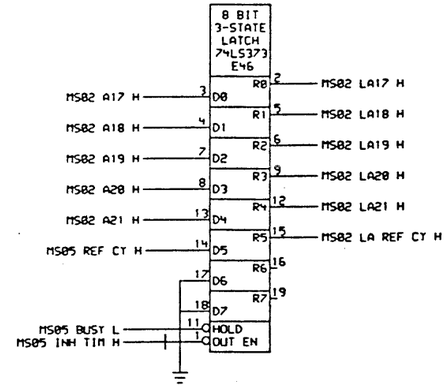
ADDRESS BUS RECEIVERS







ADDRESS LATCHES



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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN. S. ROCHEFORT	DATE 13-MAY-83	ENG.	DATE 13-MAY-83
CHK'D P. BOSSMAN	DATE 13-MAY-83	BOARD LOCATION: SHEET 1 OF 1	
13-APR-83 12:14	NEXT HIGHER ASSEMBLY: B-DD-M8743-AA		
FIRST USED ON OPTION/MODEL: MDECS-AA			

TITLE: MDECS-AA MEMORY

SIZE	CODE	NUMBER	REV.
K	CS	M8743-AA-MS02	B

MS03 D00 H
MS03 D01 H
MS03 D02 H
MS03 D03 H
MS02 C1 H
MS06 SSYN L
8641 E7
AC1 BUS D00 L
AD2 BUS D01 L
AD1 BUS D02 L
AE2 BUS D03 L
MS03 D04 H
MS03 D05 H
MS03 D06 H
MS03 D07 H
MS02 C1 H
MS06 SSYN L
8641 E13
AE1 BUS D04 L
AF2 BUS D05 L
AF1 BUS D06 L
AH2 BUS D07 L
MS06 BYT0 EN H
74S04 E12
MS06 BYT1 EN H
74S04 E12
MS03 D08 H
MS03 D09 H
MS03 D10 H
MS03 D11 H
MS02 C1 H
MS06 SSYN L
8641 E18
AH1 BUS D08 L
AJ2 BUS D09 L
AJ1 BUS D10 L
AK2 BUS D11 L
MS03 D12 H
MS03 D13 H
MS03 D14 H
MS03 D15 H
MS02 C1 H
MS06 SSYN L
8641 E22
AK1 BUS D12 L
AL2 BUS D13 L
AL1 BUS D14 L
AM2 BUS D15 L

DATA BUS TRANSCEIVERS

8 BIT 3-STATE LATCH 74S373 E14
8 BIT 3-STATE LATCH 74S373 E19
D0 D1 D2 D3 D4 D5 D6 D7
R0 R1 R2 R3 R4 R5 R6 R7
MS05 BUSY L
HOLD
OUT EN
MS03 D00 H
MS03 D01 H
MS03 D02 H
MS03 D03 H
MS03 D04 H
MS03 D05 H
MS03 D06 H
MS03 D07 H
MS03 D08 H
MS03 D09 H
MS03 D10 H
MS03 D11 H
MS03 D12 H
MS03 D13 H
MS03 D14 H
MS03 D15 H

DATA LATCHES

16-BIT EDC 2960 E15
MS06 LE OUT H
MS06 OE BYTE 0 L
MS06 OE BYTE 1 L
LCHEN[OUT]
EN[BYTE0]
EN[BYTE1]
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15
MS06 LE IN H
LCHEN[IN]
[CB0] [CB1] [CB2] [CB3] [CB4] [CB5] [CB6]
MS01 PU4
MS06 OE SC L
EN[SC]
[SC0] [SC1] [SC2] [SC3] [SC4] [SC5] [SC6]
MS03 CB/SYN X H
MS03 CB/SYN 0 H
MS03 CB/SYN 1 H
MS03 CB/SYN 2 H
MS03 CB/SYN 4 H
MS03 CB/SYN 8 H
[ERROR]
[MULT ERROR]
MS03 ERR L
MS03 MERR L
[ID0] [ID1] [ID2]
[DIAG0] [DIAG1]
[PASS THRU]
[GEN]
[CORRECT]
LCHEN[DIAG]
MS08 ECC INIT H
MS06 PASS THRU H
MS06 GENERTE L
MS06 CORRECT H
MS01 PU4
+5V

EDC LOGIC

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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN Don Edens | DATE 29-JUN-82 | ENG Jim Jenkins | DATE 29-JUN-82
CHK D. P. BOSSMAN | DATE 29-JUN-82 | BOARD LOCATION: | SHEET 1 OF 1
[710,1314]MDS03.DRW 25-JUN-82 13:14 | NEXT HIGHER ASSEMBLY: B-DD-M8743-AA
FIRST USED ON OPTION/MODEL: MDECS-AA

TITLE: MDECS-AA MEMORY

SIZE	CODE	NUMBER	REV.
D	CS	M8743-AA-MS03	A

ML2

MEMORY & CSR SELECT DECODER

SEE PAGE #1 FOR STARTING ADDRESS CHART.

SP1 E38

PA21 PA20 PA19 PA18 PA17 PA16 PA15 PA14

256X8 PROM 74S470 E33

256X8 PROM 74S470 E39

MS02 A21 H MS02 A20 H MS02 A19 H MS02 A18 H

MS02 A17 H MS02 A16 H MS02 A15 H MS02 A14 H

MS04 MEM SEL HI H
MS04 MEM SEL LO H
MS04 1ST 32K HI H
MS04 1ST 32K LO H
MS04 CSR HI BITS H
MS04 NA 15 H
MS04 NA 15 L

CSR ADDRESS DECODER

COMPARE 74LS85 E31

MS01 PUP
MS02 A01 H MS02 A02 H MS02 A03 H MS02 A04 H

SP3 E28

CSRA0 CSRA1 CSRA2 CSRA3

SEE PAGE #1 FOR CSR ADDRESS CHART.

MS06 SSYN L
MS04 CSR HI BITS H
MS02 A13 H MS02 A06 H MS02 A10 H MS02 A12 H MS08 MSYN H

74S133 E32

MS04 CSR SEL & MSYN L

3-STATE LINE DRIVER 74LS240 E43

MS02 A11 H MS02 A05 H MS02 A07 H MS02 A08 H MS02 A09 H

MS04 CSR SEL & MSYN L
MS08 CSR 13 H

MS04 CSR SEL & MSYN H
MS04 CSR 13 L

TRANS REL

CAS & WRITE ENABLE DRIVERS

MEMORY DRIVER 2966 E64

MS05 CAS L
MS06 WE TIM L
MS08 WAKE UP H

MS04 CAS A L
MS04 CAS B L
MS04 WE A L
MS04 WE B L

RAS BANK SELECTION

32 X 8 PROM 6330 E58

MS02 LA21 H
MS02 LA17 H
MS02 LA18 H
MS02 LA19 H
MS02 LA20 H
MS05 SEL/INIT H

ADR

MS05 RAS L

RAS DRIVERS

MEMORY DRIVER 2966 E64

MS08 WAKE UP H

MS04 RAS SEL 0 L
MS04 RAS SEL 1 L
MS04 RAS SEL 2 L
MS04 RAS SEL 3 L

PAGE 4 OF 11

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REVISIONS

CHA	CHANGE NO.	REV

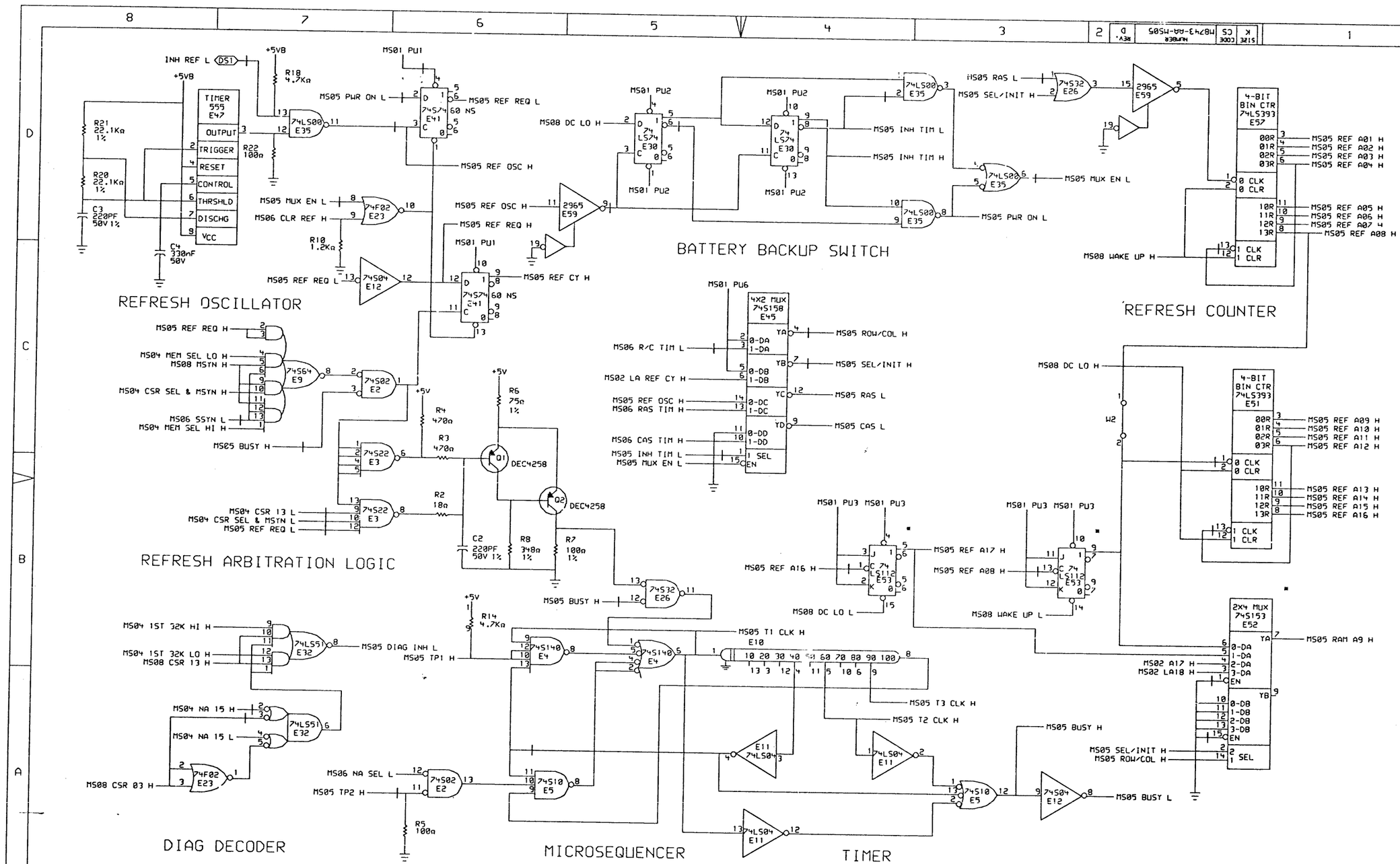
DRN S. ROCHEFORT 13-MAY-83 | ENG 13-MAY-83 | TITLE: MDECS-AA MEMORY

CHK'D | DATE | BOARD LOCATIONS

APVD | DATE 13-MAY-83 | SHEET | OF

NEXT HIGHER ASSEMBLY: MDECS-AA B-DD-M8743-AA

SIZE	CODE	NUMBER	REV.
K	CS	M8743-AA-MS04	B



* SEE NOTE #2, PAGE #1.

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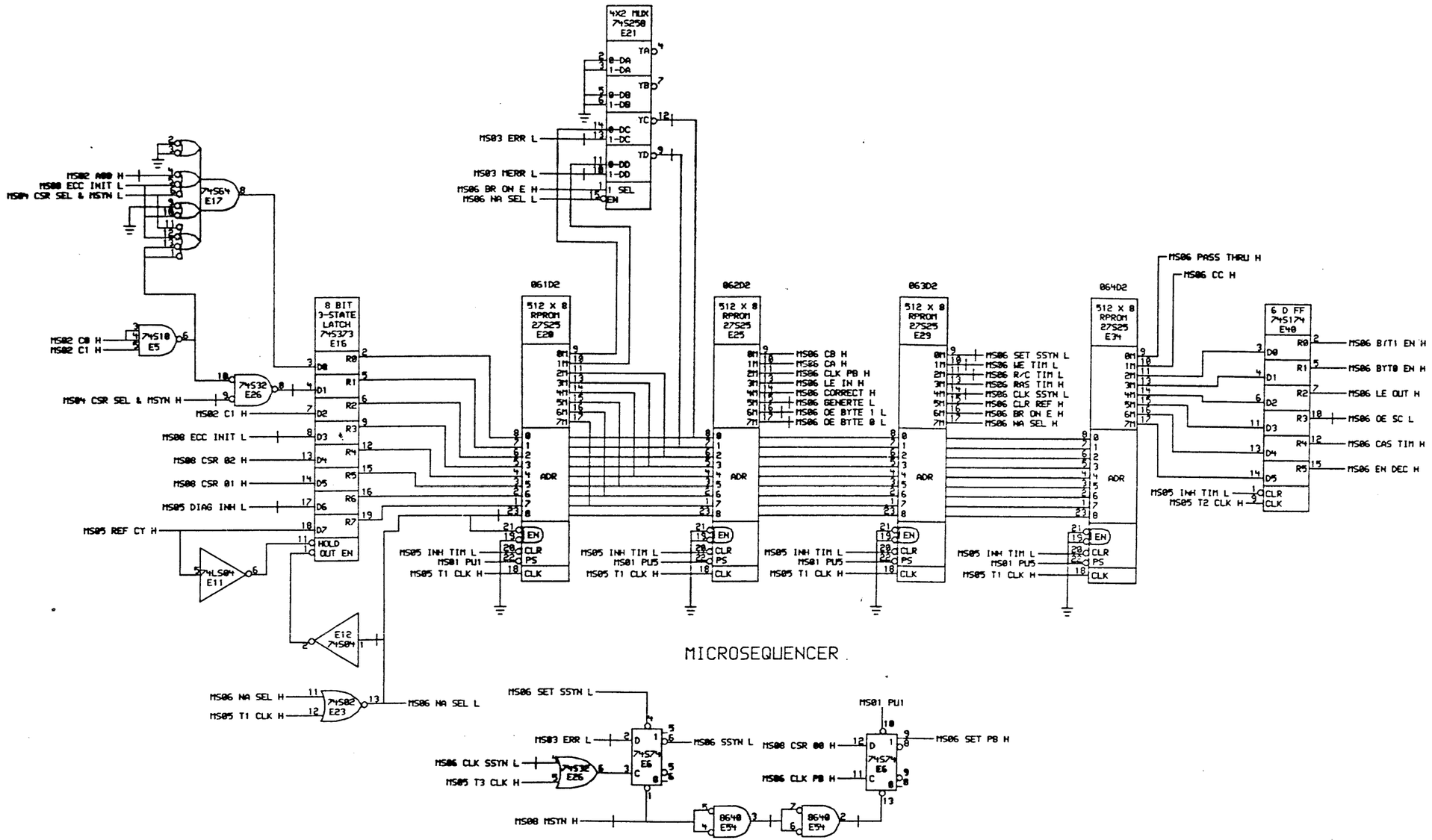
REVISIONS		
CHK	CHANGE NO.	REV

DRN. JIM LAVRANCHUK	DATE 20-JAN-84	ENG. JIM LAVRANCHUK	DATE 20-JAN-84
CHK'D P. BOSSMAN	DATE 20-JAN-84	BOARD LOCATION:	
20-JAN-84 12:00		SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: MS11-P		NEXT HIGHER ASSEMBLY: B-DD-M8743-AA	

TITLE: MDECS-AA MEMORY

SIZE	CODE	NUMBER	REV.
K	CS	M8743-AA-MS05	D



MICROSEQUENCER

PAGE 6 OF 11

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REVISIONS		
CHK	CHANGE NO.	REV

DRN Don Elsmo DATE 29-JUN-82
CHK'D P. BOSSMAN DATE 29-JUN-82
ENG DATE 29-JUN-82
BOARD LOCATION:
SHEET 1 OF 1
[718,1314]MDS06.DWG 25-JUN-82 13:06
FIRST USED ON OPTION/MODEL: DECS-AA
NEXT HIGHER ASSEMBLY: B-DD-M8743-AA

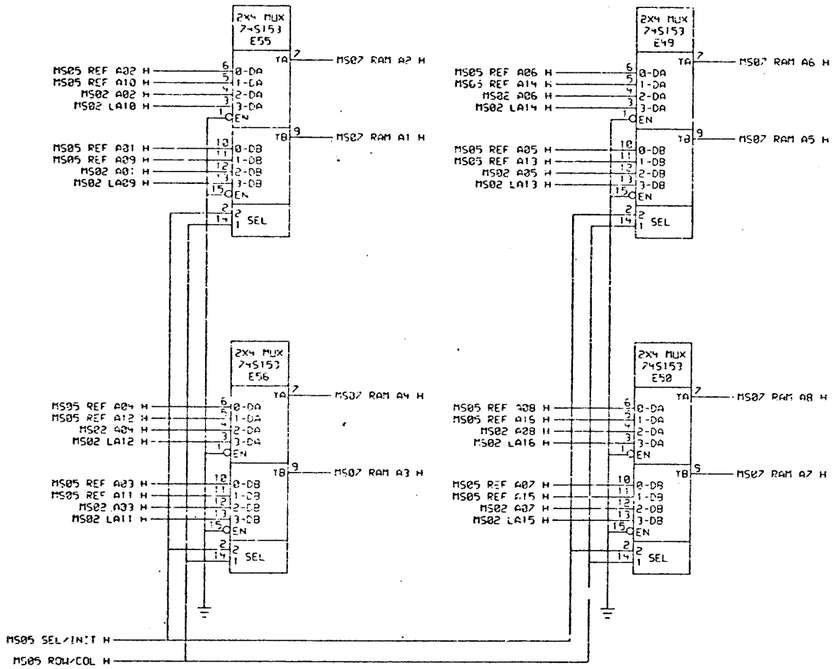
TITLE: MDECS-AA MEMORY

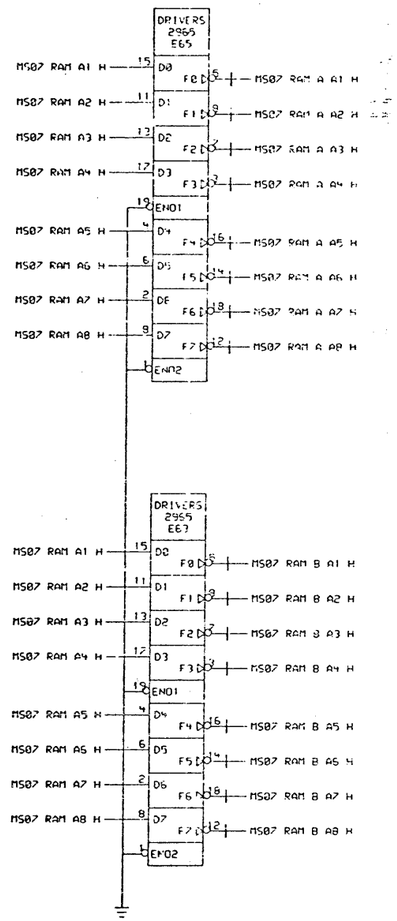
SIZE	CODE	NUMBER	REV.
D	CS	M8743-AA-MS06	A

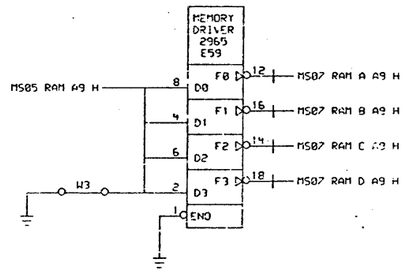
ML2

OBBARD J, [718,1314]MDS06.DPL, SCALE 2, "D" RELEASE BOX, SIGNED OFF

ARRAY ADDRESSING MUXES







ARRAY ADDRESS DRIVERS

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REVISIONS

CHANGE NO.	REV.
1	1

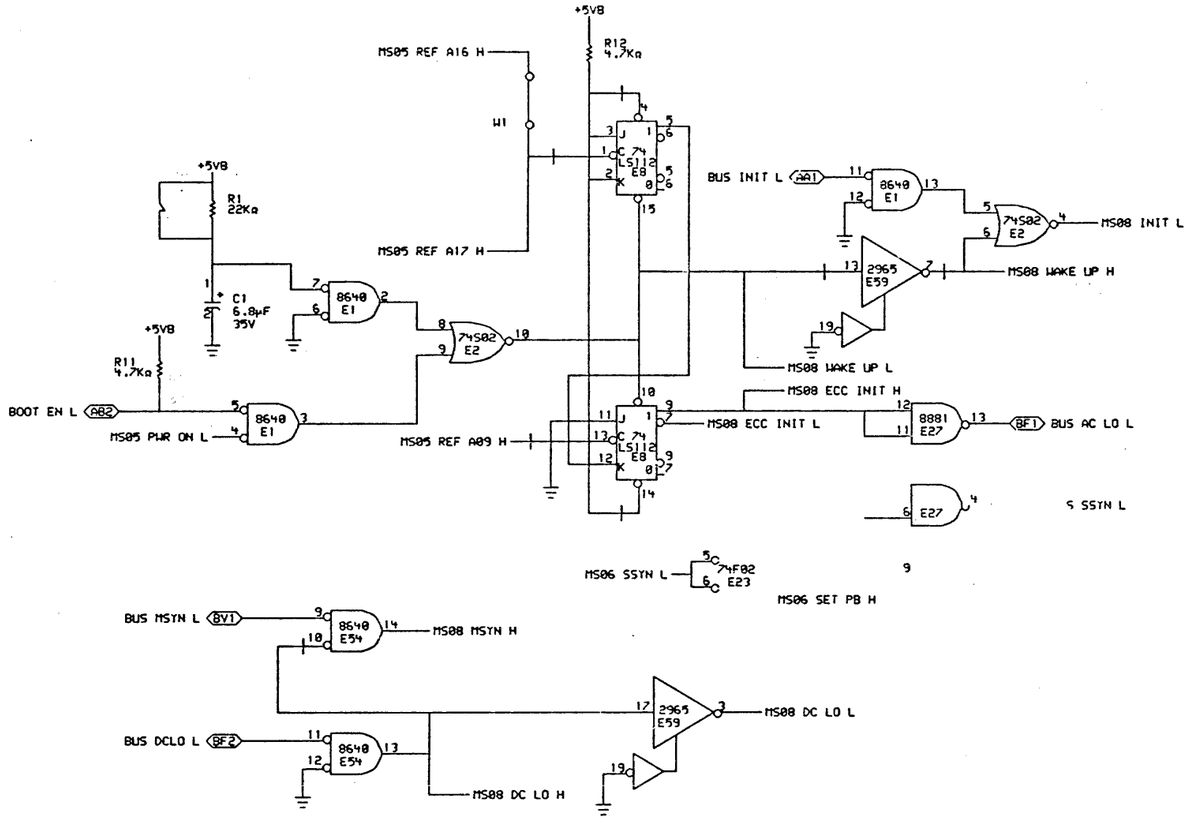
DRN	S. ROCHEFORT	DATE 13-MAR-83
ENG		DATE
CHK	D. BOSSMAN	DATE 13-MAR-83

TITLE: MDECS-AA MEMORY

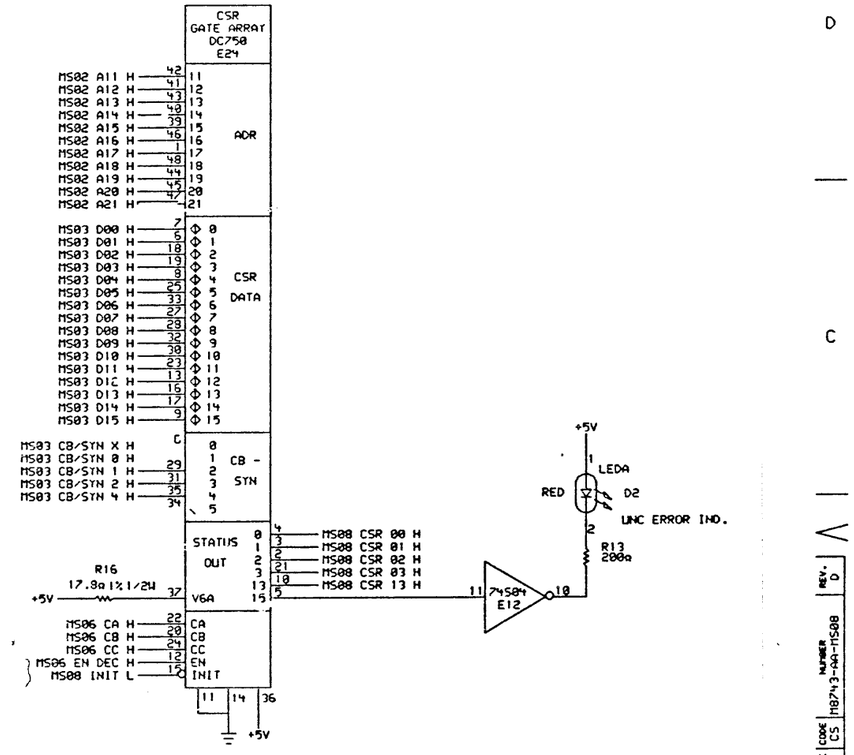
SIZE	CODE	NUMBER	REV.
K	CS	M8743-AA-MS07	B

NEXT HIGHER ASSEMBLY: B-DD-M8743-AA

FIRST USED ON: MDECS AA



UNIBUS CONTROL LOGIC



CSR LOGIC

JF 11

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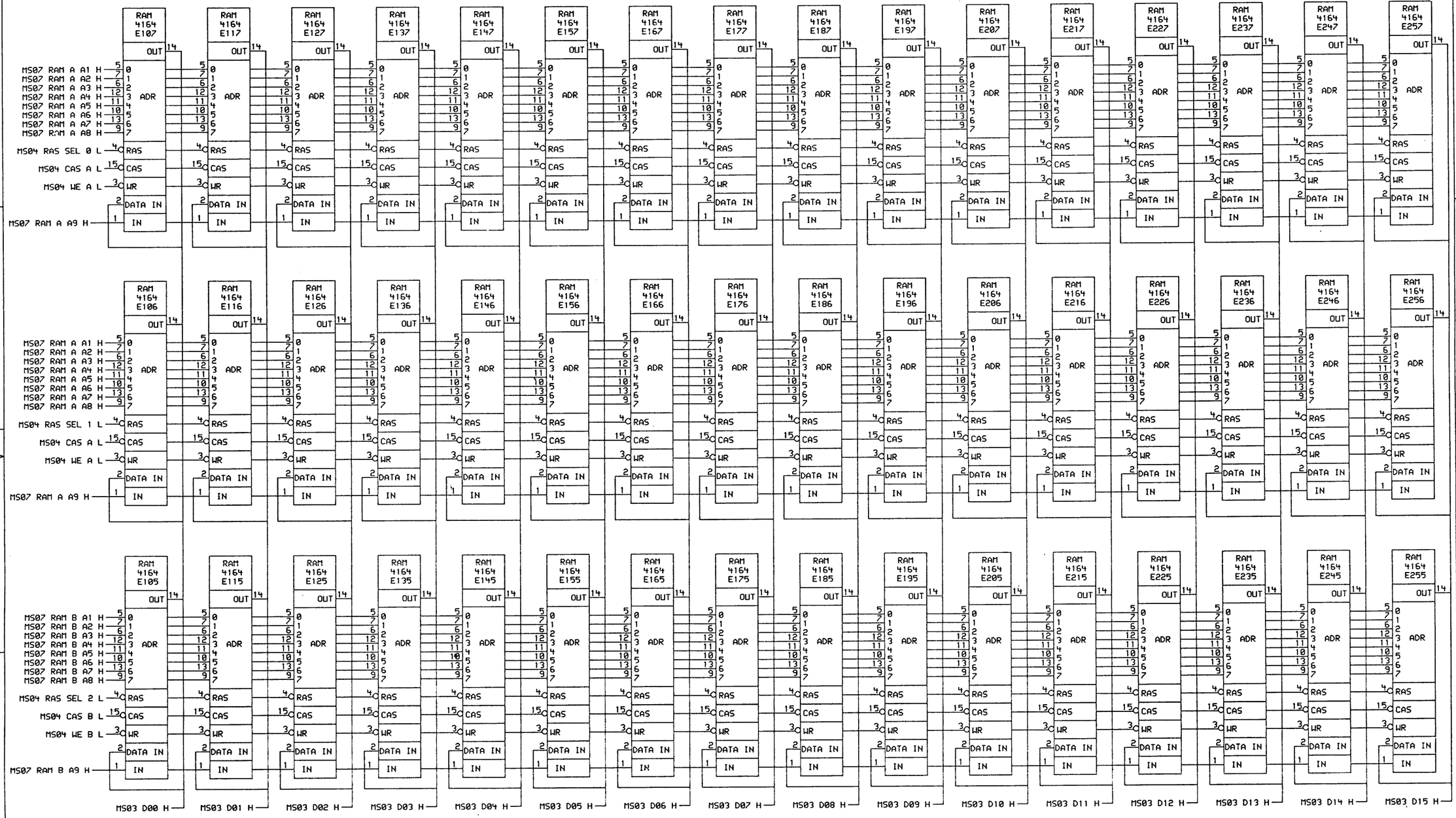
REVISIONS		
CHK	CHANGE NO.	REV

DATE	ENG.	TITLE:
2-APR-84	JIM LAVRANCHUK	MDECS-AA MEMORY
2-APR-84	BOARD LOCATION:	
02-APR-84 15:42	SHEET 1 OF 1	
	NEXT HIGHER ASSEMBLY: B-DD-M8743-AA	
	OPTION/MODEL: MDECS-AA	SIZE K, CODE CS, NUMBER M8743-AA-MS08, REV. D



MEMORY ARRAY

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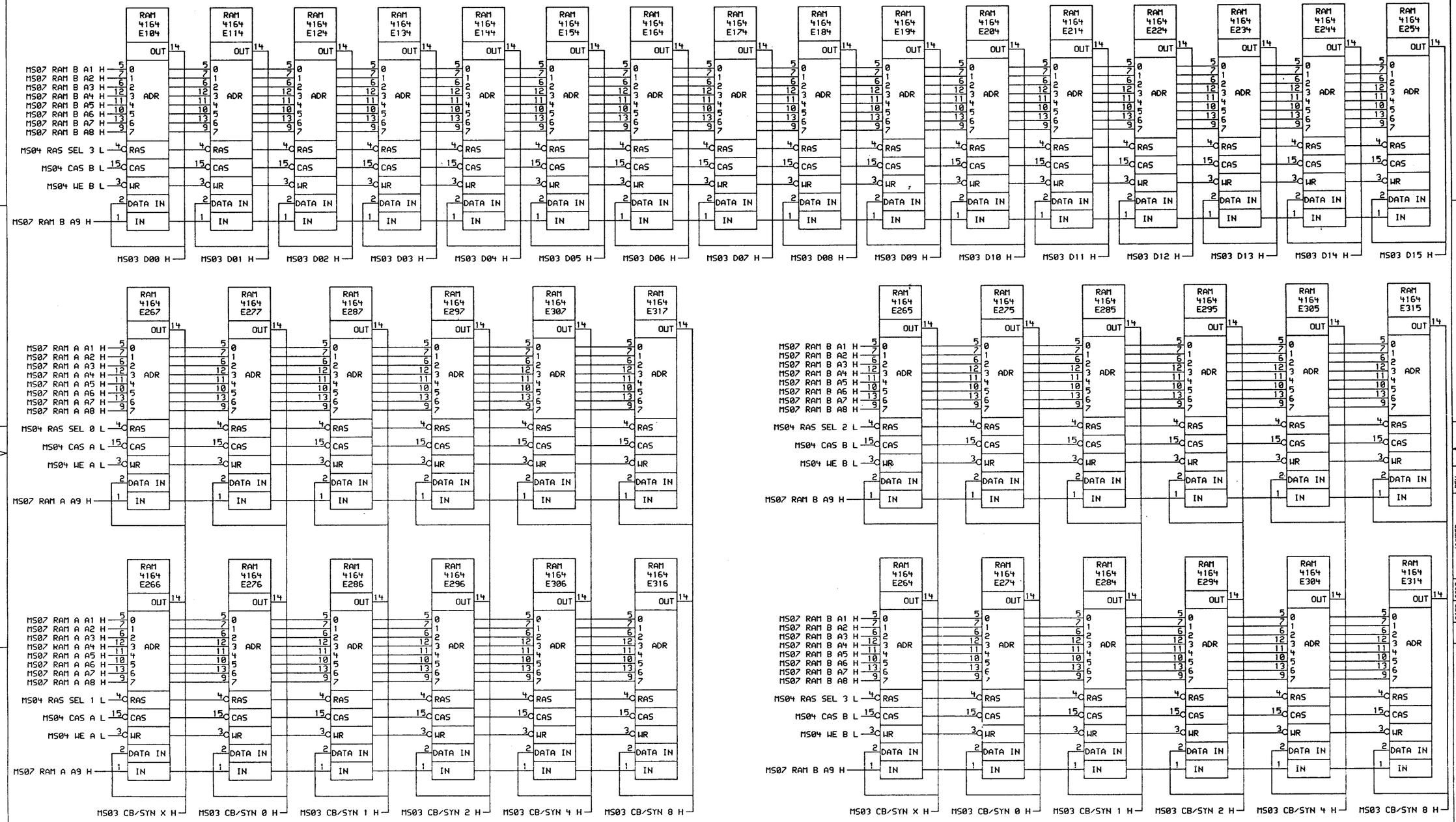
REVISIONS		
CHK	CHANGE NO.	REV

DRN Don Edens	DATE 29-JUN-82	ENG Jim Justice	DATE 29-JUN-82
CHK D. P. BOSSMAN	DATE 29-JUN-82	BOARD LOCATION:	
[710,1314]MDS09.DRW 25-JUN-82 12:43		SHEET 1 OF 1	
FIRST USED ON OPTION/MODEL: MDECS-AA		NEXT HIGHER ASSEMBLY: B-DD-M8743-AA	

TITLE: MDECS-AA MEMORY

SIZE	CODE	NUMBER	REV.
D	CS	M8743-AA-MS09	A

VL2



MEMORY ARRAY

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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN Don Edens DATE 29-JUN-82 | ENG Jim Fuentes DATE 29-JUN-82 | TITLE: MDECS-AA MEMORY

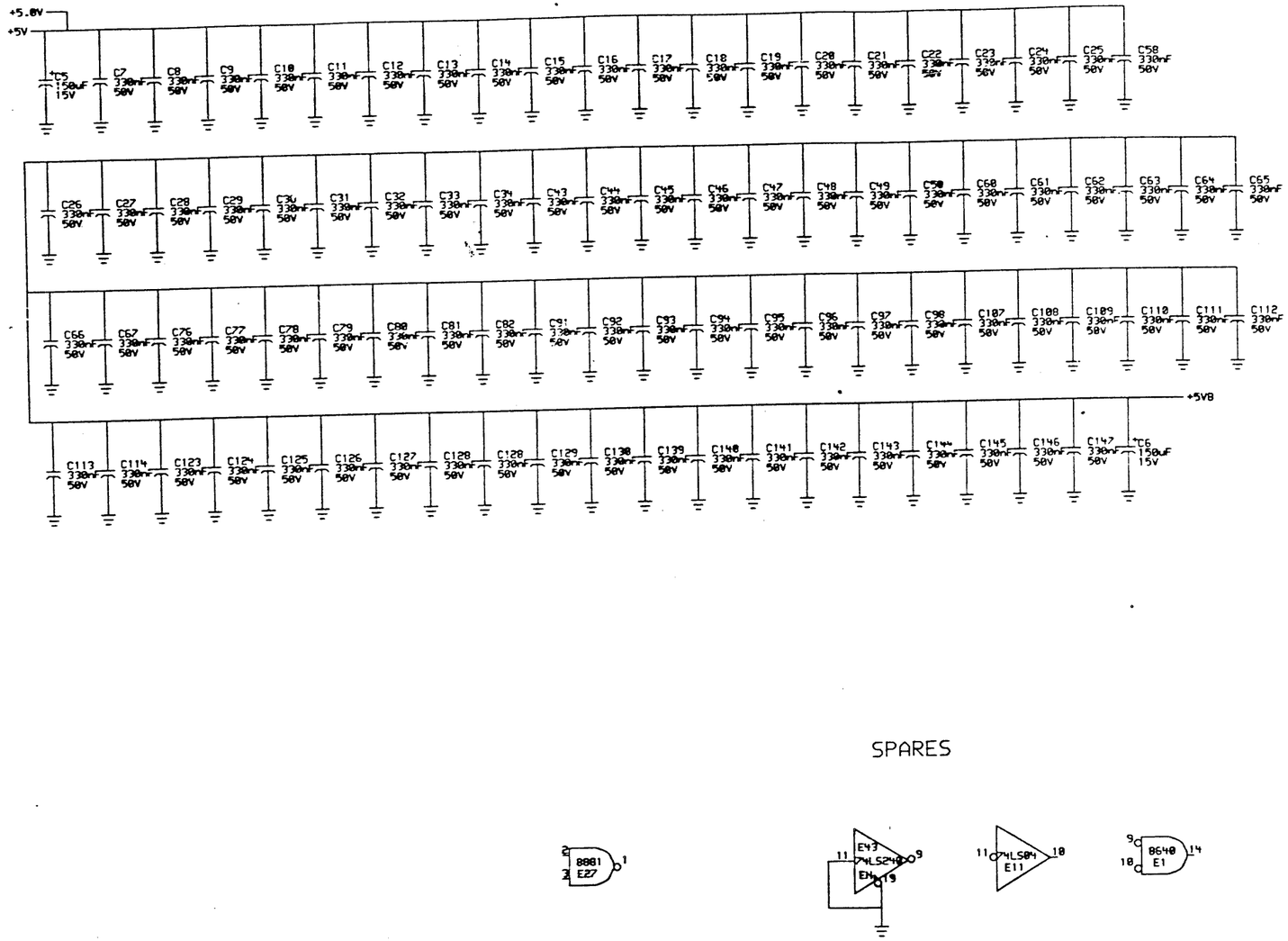
CHK'D P. BOSSMAN DATE 29-JUN-82 | BOARD LOCATION:

[710,1314]MDS10.DRW 25-JUN-82 11:36 | SHEET 1 OF 1 | NEXT HIGHER ASSEMBLY:

FIRST USED ON OPTION/MODEL: MDECS-AA | B-DD-M8743-AA

SIZE	CODE	NUMBER	REV.
D	CS	M8743-AA-MS10	A

M-2



SPARES

PAGE 11 OF 11

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REVISIONS		
CHK	CHANGE NO.	REV

digital

DRN Donaldson | DATE 29-APR-83 | ENG [signature] | DATE 29-APR-83 | TITLE: MDECS-AA MEMORY

CHK'D P. BOSSMAN | DATE 29-APR-83 | BOARD LOCATION: | SHEET 1 OF 1

14-JAN-83 14:46 | NEXT HIGHER ASSEMBLY: B-DD-M8743-AA

FIRST USED ON OPTION/MODEL: MDECS-AA

SIZE	CODE	NUMBER	REV.
K	CS	M8743-AA-MS11	B

SHO 1