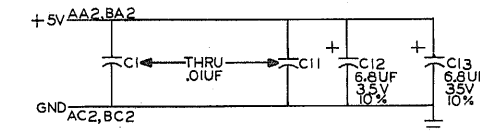
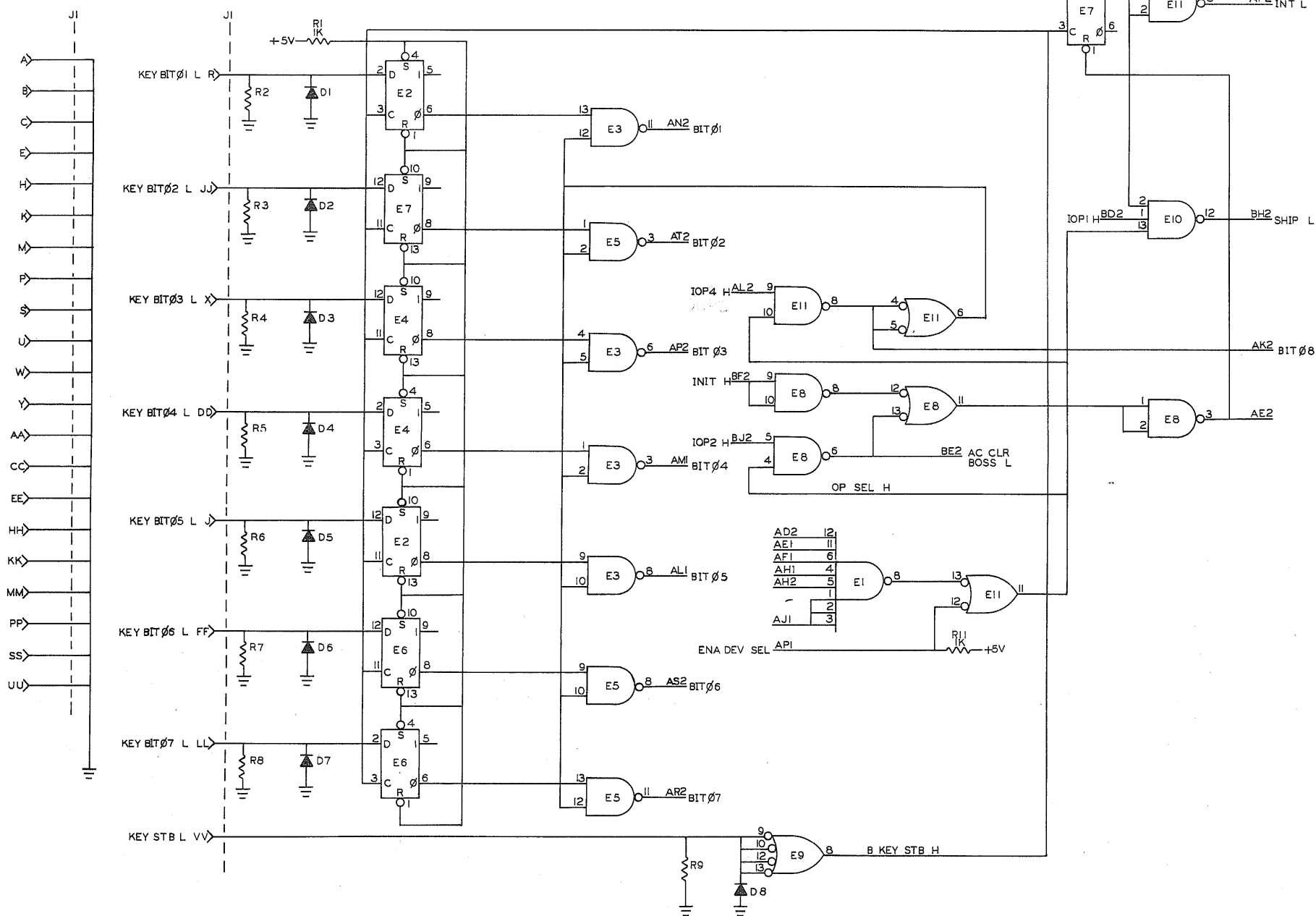


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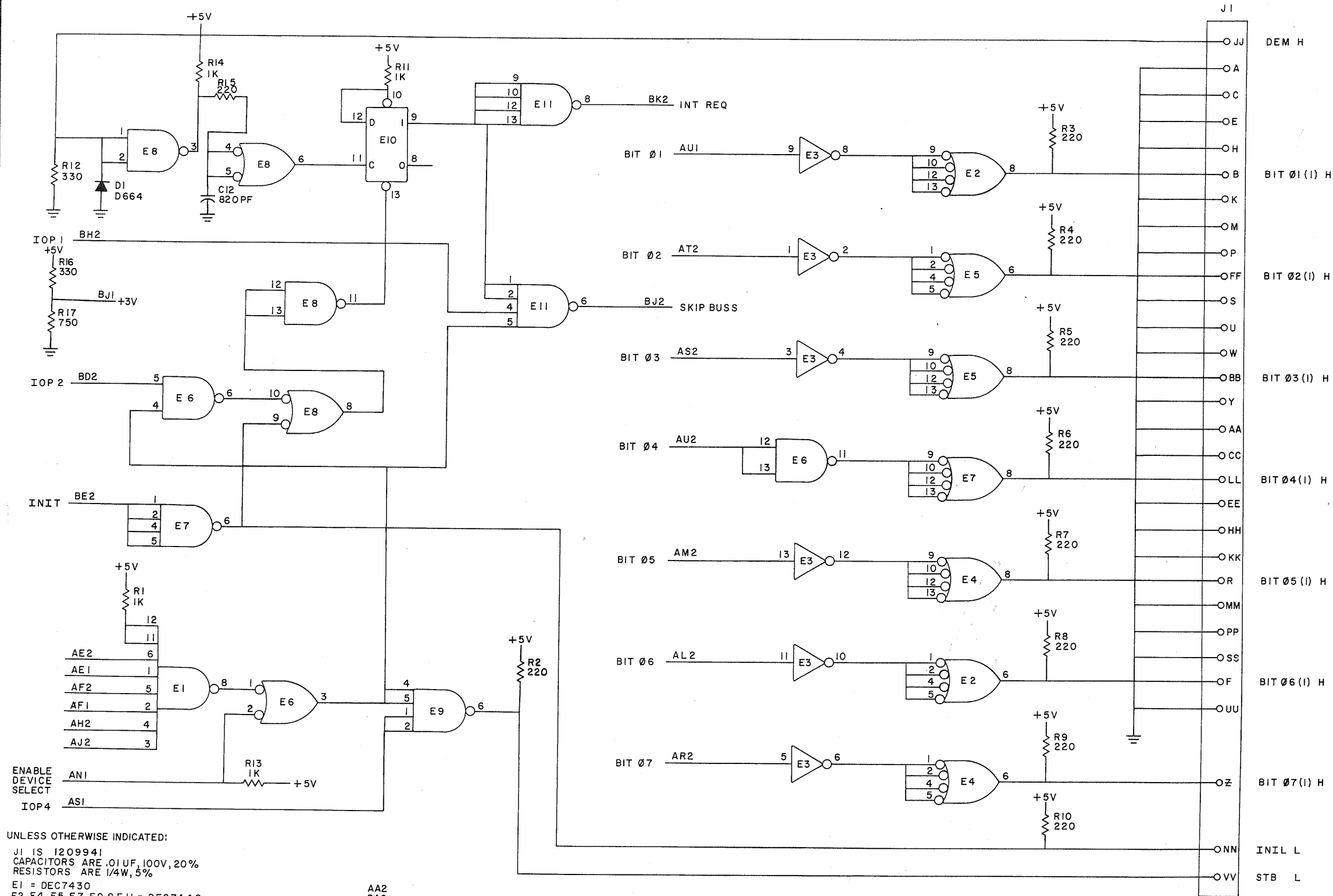
Q 1-0-8/LLW CS D
REV 1



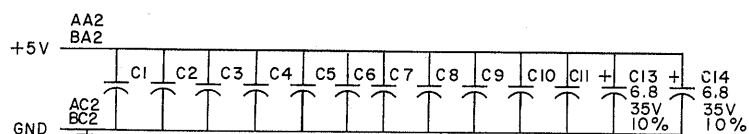
UNLESS OTHERWISE INDICATED:
CAPACITORS ARE .01UF, 100V, 20%
DIODES ARE DEC664
RESISTORS ARE 330, 1/4W, 5%
DEC7474 = E2, E4, E6, E7
DEC7400 = E3, E5, E8, E11
DEC7410 = E10
DEC7430 = E1
DEC7440 = E9
PIN 7 = GND
PIN 14 = +5V ON ALL IC'S

REVISIONS		DATE		TRANSISTOR & DIODE CONVERSION CHART		TITLE	
CHK	NO. REV.	DATE	DATE	DEC	EIA	DEC	EIA
000001	D	9/14/71	9/14/71	DEC 664	1N3606		
DGN: <i>[Signature]</i> CHKD: <i>[Signature]</i> EAG: <i>[Signature]</i> PROD: <i>[Signature]</i>				EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		KEYBOARD INTERFACE SEC II NUMBER: M7718-0-1 PRINTED CIRCUIT REV: E	

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UNLESS OTHERWISE INDICATED:
J1 IS 1209941
CAPACITORS ARE .01UF, 100V, 20%
RESISTORS ARE 1/4W, 5%
E1 = DEC7430
E2, E4, E5, E7, E9 & E11 = DEC7440
E3 = DEC7404
E6 & E8 = DEC7400
E10 = DEC7474
PIN 7 = GND
PIN 14 = +5V ON EACH IC



REV	CHG	NO	REV
1		0001	C

DEC FORM NO.
DRC 102

DRN. S. COOPER
DATE 3/17/71
CHKD. [Signature]
DATE 3/23/71
ENG. [Signature]
DATE 5/12/71
PROD. [Signature]
DATE 9-2-71

TRANSISTOR & DIODE CONVERSION CHART			
DEC	EIA	DEC	EIA
D664	IN3606		

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
8/I INTERFACE

SIZE	CODE	NUMBER	REV.
C	CS	M7719-0-1	C
PRINTED CIRCUIT REV			D

SIZE	CODE	NUMBER	REV.
C	CS	M7719-0-1	C

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WIRE TABLE

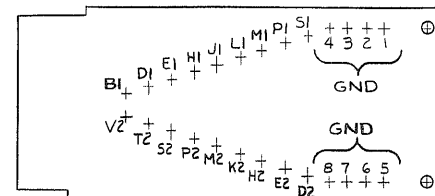
ITEM DESCRIPTION FROM TO						ITEM DESCRIPTION FROM TO					
NO.	AWG	COLOR	CONNECTION	WITH	CONNECTION WITH CUT POINT	NO.	AWG	COLOR	CONNECTION	WITH	CONNECTION WITH CUT POINT
2	24	BLK	PI - 4	SOLDER	P2 - A 6	1	24	WHT	PI - 7	SOLDER	P2 - UU 6
	TWP	ORN	DI		B	2	TWP	GRY	EZ		P2 - VV 10
		WHT	4		E			RED	I		P3 - H 11
		BRN	LI		F			GRY	P2		J 12
		WHT	3		P			YEL	3		P 13
		ORN	K2		R			BLU	SI		R 14
		WHT	I		Y			RED	6		W 15
		GRN	PI		Z			ORN	H2		X 16
		BLK	4		AA			RED	6		CC 17
		BLU	HI		BB			BLU	M2		DD 18
		BLK	3		EE			YEL	5		EE 19
		GRN	EI		FF			ORN	S2		FF 20
		BLK	2		HH			RED	8		HH 21
		BRN	BI		JJ			BRN	D2		JJ 22
24	WHT		7		MM			YEL	5		KK 23
TWP	BLU	PI - V2	SOLDER	P2 - NN 6	9			GRN	T2		LL 24
								RED	8		UU 25
								GRN	PI - MI	SOLDER	P3 - VV 6

LEGEND

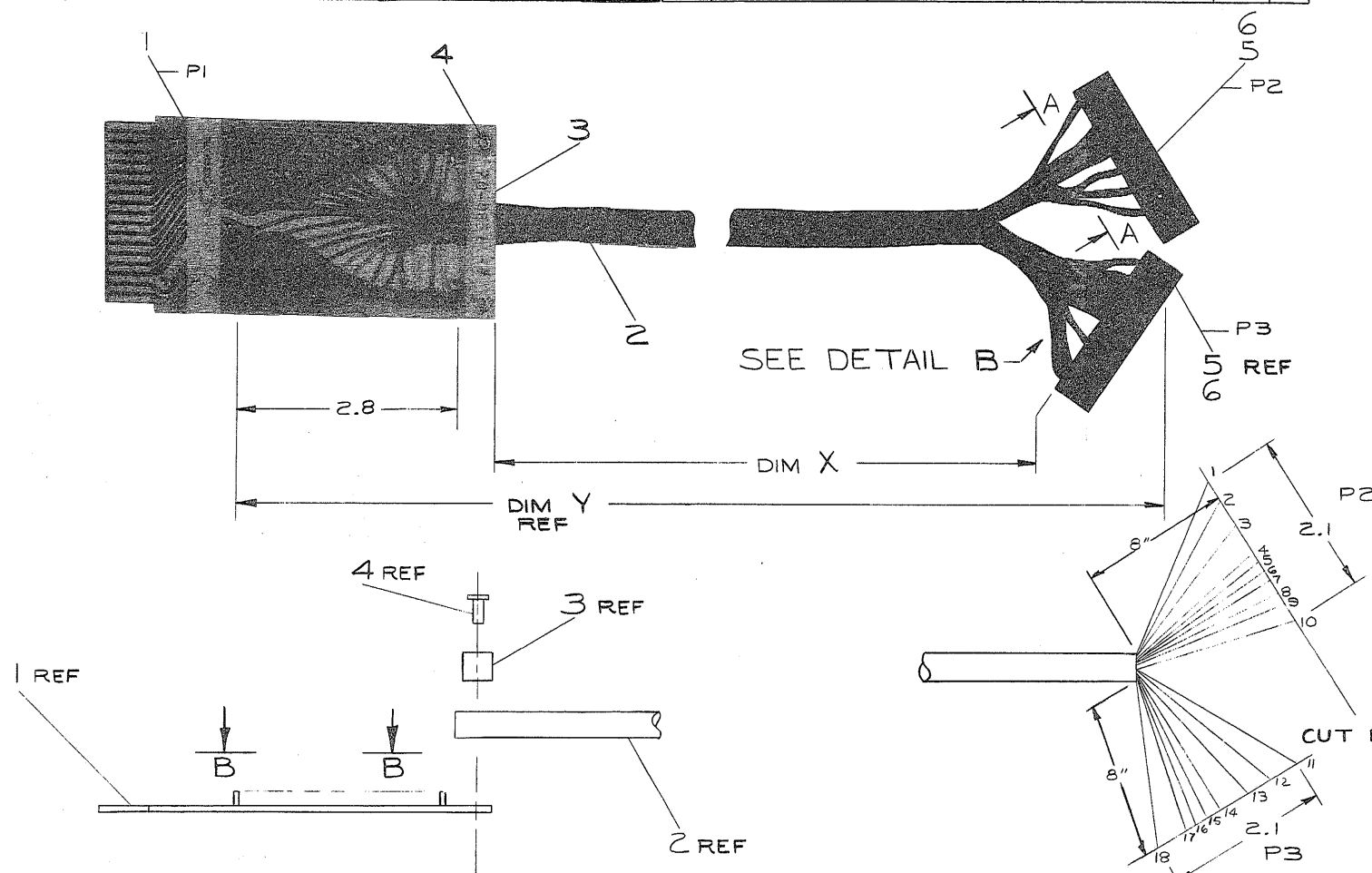
NUMBER	VARIATION	
	DIM X	DIM Y (PRECUT)
7008514-25	25 FT ± 3 IN	25 FT 5 IN ± 3 IN

NOTES:

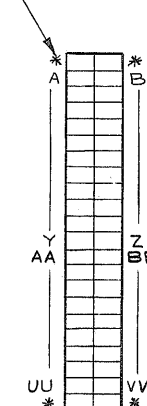
- * DENOTES CAVITIES NOT DESIGNATED BY LETTERS.
- MANUFACTURING SHOULD USE MACHINE CRIMPER. TOOL FOR CRIMPING PINS (ITEM #6) MUST BE HT66 FROM BERG ELECT.
- EACH LINE WITH ITS CORRESPONDING CUT POINT NUMBER REPRESENTS A TWISTED PAIR OF WIRES
- USE TIE WRAPS TO HOLD EACH BUNDLE OF TWISTED PAIRS FROM WHERE OUTER SHEATH STOPS TO BERG CONNECTOR.



VIEW B-B
PI



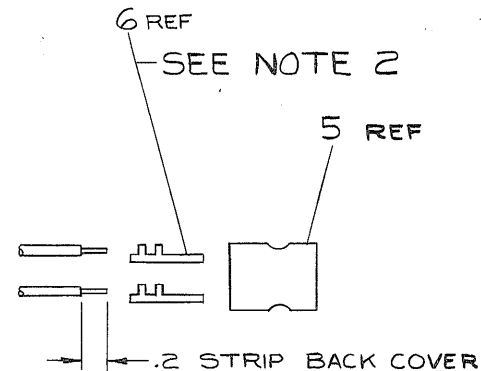
SEE NOTE 1



VIEW A-A
TYPICAL FOR P2 & P3

CUT LINES FOR CONNECTORS P2 & P3
SEE NOTE 3

DO NOT REDUCE
DETAIL B
SCALE: 1/1



36	SOCKET, #48015, BERG	1210089-4	6
2	HOUSING, #20383, BERG	1210090-0	5
2	EYELET, #A2231, STIMPSON	9006759	4
1	CABLE CLAMP	1202790	3
A/R	CABLE, 18 TWISTED PAIRS, 24 AWG, 7 STRAND MMJ.	9107700	2
1	MEMORY BUS CONNECTOR CARD	M304B	1

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
LC8-L		PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN W.F. McCarty	DATE 3/16/71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		CHK'D J. S. [unclear]	DATE 8-26-71		
ANGLES		ENG John R. Keith	DATE 9-16-71		
.XXX = .005 .XX = .02 .X = .1		PROJ. ENG John R. Keith	DATE 5-16-71		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD. R. X. [unclear]	DATE 9-22-71	INTERFACE CABLE	
MATERIAL		NEXT HIGHER ASSY.			
SEE PARTS LIST					
FINISH		SCALE NONE		SIZE CODE	NUMBER
		SHEET 1 OF 1		DIA	7008514-0-0
				DIST.	REV.
					L

REVISIONS		REV.
CHK	CHANGE NO.	A
PM	4.70mm 9-5-72	
KIRK	9-16-72	
	9-16-72	

DTC FORM 100
(REV) 100-A

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[illegible]

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE		LC8-L	
Abstract: The LC8-L is a parallel transfer interface to the LA30 DECwriter for the PDP8/I, 8/L, 12 and DC02 option. By use of pin compatible boards, it is a plug-in replacement (for keyboard and printer functions) wherever the M706, M707 boards are normally used.			
I. General: The LC8-L parallel interface is used with the LA30-P DECwriter. It may be used as a replacement for the console teletype control on the PDP8/I, 8/L, or 12 or as a control for additional LA30-P keyboard/printers. The instruction set is identical to that of the normal teletype control of these machines, with the following exceptions: 1. There is no paper tape reader on the LA30, hence no reader run. 2. There is no paper tape punch on the LA30. 3. The maximum input/output rate is 30 characters/second. 4. Output to the printer is only 7 bits (AC5-11). Eight bits can be sent, but bit-8 (AC4) is ignored. 5. If a non-printing character is sent to the LA30 printer, it does not go through a normal print cycle, but indicates that it is ready to print again in approximately 1-2 μsec. 6. The LA30 has no hardware TAB, FORM FEED or VERTICAL TAB features. 7. CARRIAGE RETURN takes several character times, but the printer Ready Flag is set again $\sim$2 usec. after a CAR RET instruction. When the next character is sent, however, the Ready Flag is not set again until the CAR RET has finished and this character has been printed.			
		SIZE A	CODE SP
		NUMBER LC8-L-1	REV

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE LC8-L			
8. It is possible, by changing an internal switch for the LA3Ø keyboard to generate lower case characters. Normally this is set so that only upper case character codes are generated whether the keyboard is in SHIFT or not. 9. The LA3Ø Printer cannot print lower case characters, these are interpreted as upper case. 10. There is no BELL; CNTRL G is treated as non-printing. 11. End of Line (>80 characters) is trapped and any subsequent characters sent before a CAR RET are not printed. II. Physical The LC8-L consists of two double height M-series logic boards which are pin compatible, for such signals as BMB3-8, IOPs, AC input and output lines, with the M7Ø6 and M7Ø7 teletype control boards. The M706 is replaced by the M7718 and the M7Ø7 by the M7719. The WØ76D teletype connector is no longer used, nor is the module slot into which it plugs. Instead, the M7718 and M7719 have each only a single module handle (on the 'B' half of each board), in the area where the 'A' handles would normally be, two H855 4Ø pin Berg connectors are mounted with their pins pointing to the handle ends of the boards. The LA3Ø-P cable plugs into these connectors. III. Specifications - Environment Operating Temperature : 0 - 55°C Operating humidity : 10 - 90% non condensing Storage temperature : -15 +65°C IV. Specifications - Operating A. Type of transmission - Parallel Type of reception - Parallel			
SIZE A	CODE SP	NUMBER LC8-L-1	REV

ENGINEERING SPECIFICATION		CONTINUATION SHEET																									
TITLE LC8-L																											
B. Control Signals: 1. Receiver Strobe - sent to the LA3Ø Printer to enable printing of a character. There is no printer buffer internal to the M7719, the data for transmission to the LA3Ø is established on the Output Data lines at the start of the output IOT instruction and Receiver Strobe is asserted during IOP4 of this same instruction. 2. Demand - sent by the LA3Ø Printer to request the next character, stays true until the next Receive Strobe. 3. Transmitter Strobe - sent by the LA3Ø keyboard and used on the M7718 to strobe the character generated by the keyboard into the keyboard buffer in the M7718. C. Number of Data Elements per Character - seven D. Logic Levels Between LA3Ø and LC8-L - TTL E. Cable between LA3Ø and LC8-L Standard length is 25 feet. The cable used terminates in an M9Ø4 connector at the LA3Ø and two H856 4Ø pin connectors at the LC8-L. Connector #1 plugs into the M7718, Connector #2 into the M7719. The cable assembly is part # V. Programming The LC8-L uses the standard PDP8/I teletype keyboard/teleprinter instruction set with the following changes: <table><tr><td>KSF</td><td>6Ø31</td><td>Skip if keyboard flag is set</td></tr><tr><td>KCC</td><td>6Ø32</td><td>Clear AC & keyboard flag</td></tr><tr><td>KRS</td><td>6Ø34</td><td>Read keyboard buffer, static</td></tr><tr><td>KRB</td><td>6Ø36</td><td>Clear AC, clear keyboard flag and read keyboard buffer</td></tr><tr><td>TSF</td><td>6Ø41</td><td>Skip if printer flag is set</td></tr><tr><td>TCF</td><td>6Ø42</td><td>Clear printer flag</td></tr><tr><td>TPC</td><td>6Ø44</td><td>Load printer buffer and print</td></tr><tr><td>TLS</td><td>6Ø46</td><td>Clear printer flag, load printer buffer & print</td></tr></table>				KSF	6Ø31	Skip if keyboard flag is set	KCC	6Ø32	Clear AC & keyboard flag	KRS	6Ø34	Read keyboard buffer, static	KRB	6Ø36	Clear AC, clear keyboard flag and read keyboard buffer	TSF	6Ø41	Skip if printer flag is set	TCF	6Ø42	Clear printer flag	TPC	6Ø44	Load printer buffer and print	TLS	6Ø46	Clear printer flag, load printer buffer & print
KSF	6Ø31	Skip if keyboard flag is set																									
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KRB	6Ø36	Clear AC, clear keyboard flag and read keyboard buffer																									
TSF	6Ø41	Skip if printer flag is set																									
TCF	6Ø42	Clear printer flag																									
TPC	6Ø44	Load printer buffer and print																									
TLS	6Ø46	Clear printer flag, load printer buffer & print																									
SIZE A	CODE SP	NUMBER LC8-L-1	REV																								

TITLE LC8-L

VI Device Codes

The instruction list in Section V assumed that the LC8-L was replacing the console teletype (device codes 03 and 04). Any device codes that would normally have been used for a serial interface with the M706, M707 may be used with the M7718 and M7719 by wiring the appropriate combinations of BMB 3-8 to pins AD2, AE1, AF1, AH1, AH2, AJ1 on the M7718 and pins AE2, AE1, AF2, AF1, AH2, AJ2 on the M7719.

SIZE	CODE	NUMBER	REV
A	SP	LC8-L-1	

[illegible]

POP 9-183 Stedman