MASTER DRAWING LIST

MAINTENANCE MANUALS NO.	TITLE	UNIT VARIATIONS PDP8/E-AA	PDP8/E-AB	PDP8/E-BA	-BB	-CA	-CB	-DA	-DB	-EA	-EB	-FA	-FB	-GA	-GB	-HA	-HB	-JA	-JB	-KA	-KB	-LA	-LB	-MA	PDP8/E-BB
PDP8/E-Ø	BASIC 8/E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

USED ON OPTIONS							

ISSUED DATE
JUN 1 1971

REVISIONS REV.	DATE	CHG. NO.	APP'D.
A	1/71	00012	J.L.L.
B	2/71	00014	J.P.
C	3/71	00016	D.C.
D	3/71	00018	R.V.
E	4/71	00019	L.N.
F	4/71	00020	J.P.
H	4/71	00024	R.V.

DRN. FERGUSON	DATE 11/25/71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D. K. GULICK	DATE 11/25/71	
ENG. PROVIDENT	DATE 12/7/70	TITLE PDP8/E
PROJ. ENG. VOGELSANG	DATE 12/7/70	
PROD. L. SAYLOR	DATE 12/8/70	
FIRST USED ON —/—		SIZE A · CODE ML · NUMBER PDP8/E-Ø · REV. H
SCALE —/—		
SHEET 1 OF 2		DIST

DRA 131

DC 16 (325) 1048 N471

PDP8/E-Ø	PRINT SET					DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.
X						D-DI-PDP8/E-Ø-1	C	2	PDP8/E DRAWING INDEX	
X						E-AR-PDP8/E-Ø-2		1	OPTION CONFIGURATION	
X						A-SP-PDP8/E-Ø-4	A	2	RECCOMENDED OMNIBUS MODULE ASSIGN	
X						D-TD-PDP8/E-Ø-5	A	2	TIMING DIAGRAM	
X						E-FD-PDP8/E-Ø-6		1	FLOW DIAGRAM	
X						E-CS-5409057-0-1	#	1	CONTROL BOARD	KC8-E
X						E-CS-G227-Ø-1	#	2	XY DRIVER	MM8-E
X						B-CS-G619-Ø-1	#	2	STACK BOARD	MM8-E
X						E-CS-G104-Ø-1	#	2	SENCE/INHIBIT	MM8-E
X						E-CS-M83ØØ-Ø-1	#	5	MAJOR REGISTER	KK8-E
X						E-CS-M831Ø-Ø-1	#	4	MAJOR REGISTER CONTROL	KK8-E
X						E-CS-M832-Ø-1	#	2	BUS LOADS	KK8-E
X						E-CS-M832Ø-Ø-1	#	2	BUS LOADS	KK8-E
X						E-CS-M833-Ø-1	#	2	TIMING GENERATOR	KK8-E
X						B-CS-M849-Ø-1	#	1	RFI SHIELD	KK8-E
X						E-CS-M865Ø-Ø-1	#	3	ASYNC. DATA CONTROL	KL8-E
X						D-IA-7007055-0-0	#	1	CABLE ASSEMBLY	KL8-E
						E-CS-M8650-YA-1	#	2	ASYNC. DATA CONTROL	KL8-E
						D-IA-BC01V-25-Ø	#	1	CABLE ASSY	KL8-E
						A-SP-KL8-E-1	#		ENGINEERING SPECIFICATION	KL8-E
X						D-CS-H724ØØ-1	#	1	H724 POWER SUPPLY SCHEMATIC (115V)	H724
X						D-CS-H724-A-1	#	1	H724A POWER SUPPLY SCHEMATIC (230V)	H724-A

TITLE	SHEET	SIZE	CODE	NUMBER	REV
PDP8/E	2 OF 3	A	ML	PDP8/E-Ø	H

DRA 132

DEC 16 (SS) 1018 1 NTI

PRINT SET PDP8/E-Ø						DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.
X						A-SL-PDP8/E-Ø-3	A	1	SOFTWARE LIST (PDP8/E)	
X						A-PL-SP8-EA-Ø		1	RECOMMENDED 1ST LEVEL SPARES	
X						A-PL-SP8-EB-Ø		5	RECOMMENDED 2ND LEVEL SPACES	
X						A-AL-LT33-Ø-12	#	1	TELETYPE ASR-33 ACCESSORY LIST	LT33
X						D-MD-7605994-0-0		2	FLIP CHIP PANEL DATA (CUSTOMER)	

TITLE	SHEET	SIZE	CODE	NUMBER	REV
PDP8/E	3 OF 3	A	ML	PDP8/E-Ø	H

DRA 132

DEC 16 (325) 1048 1 N/T

NOTES:
1. * (ASTERISK) INDICATES OPTIONAL EQUIPMENT.
2. FOR TEST EQUIPMENT REFER TO DRAWING E-AR-9305293-0-0

PDP8/E-AA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-A3 ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-9A ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-9B ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-CA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-CB ASSEMBLY E-UA-PDP8/E-0-0
PDP8/E-DA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-DB ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-EA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-EB ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-FA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-FB ASSEMBLY E-UA-PDP8/E-0-0
PDP8/E-GA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-GB ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-HA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-HB ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-JA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-JB ASSEMBLY E-UA-PDP8/E-0-0
PDP8/E-KA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-KB ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-LA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-LB ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-MA ASSEMBLY E-UA-PDP8/E-0-0	PDP8/E-MB ASSEMBLY E-UA-PDP8/E-0-0

(1)

(2) OMNIBUS ASSY (PDP8/E) D-UA-H919-0-0
- (3) OMNIBUS BOARD ETCH E-IA-5009005-0-0
- (4) CONN. BLOCK ASSY D-AD-7006952-0-0

(5) CONSOLE ASSY KC8-EA D-UA-KC8-E-0
- (6) CONTROL BOARD ASSEMBLY E-IA-5409057-0-0
  - (7) CONTROL BOARD ETCH D-IA-5009056-0-0
- (8) PANEL CONTROL (PDP8/E) D-IA-7408244-0-0
- (9) POWER SWITCH & HARNESS ASSY D-IA-7006994-0-0
  - (10) SWITCH ASSY (PDP8/E) C-AD-7006986-0-0
- (11) CONSOLE ASSY. KC8-EB D-UA-KC8-E-0
- (12) COVER PANEL(10 1/2) H950-QB D-UA-H950-Q-0
- (13) CONSOLE ASSY KC8-EC D-UA-KC8-E-0
- (14) POWER SWITCH & HARNESS ASSY D-IA-7007145-0-0
  - (10) SWITCH ASSY. PDP8/E C-AD-7006986-0-0
- (15) COVER PANEL(10 1/2) H950-QC D-UA-H950-Q-0

(16) H960-B CAB D-UA-H960-B-0 D-D1-H960-B-1

(17) MEMORY MM8-E E-CS-MM8-E-0 A-ML-MM8-E
- (18) EDGE CONN. H851 B-UA-H851-0-0
  - (19) ETCH BD H851 D-IA-5008903-0-0
- (20) MEMORY BOARD H220 D-UA-H220-0-0

(21) CENT PROCESSOR KK8-E D-UA-KK8-E-0
- (18) EDGE CONN H851 B-UA-H851-0-0
  - (19) ETCH BD H851 D-IA-5008903-0-0

(22) TELETYPE CONT (KL8-E) E-CS-M865-0-1

(23) * OMNIBUS EXPANDER D-UA-BE8-A-0 C-D1-BE8-A-1

(24) POWER SUPPLY H724 (115 V) D-UA-H720-0-0
- POWER SUPPLY H724A (230V) D-UA-H724-A-0

(25) * SYSTEM EXPANDER BA8-AA E-UA-BA8-AA-0 D-D1-BA8-A-1
- * SYSTEM EXPANDER BA8-AB A-PL-BA8-AB-0 D-D1-BA8-A-1
- * SYSTEM EXPANDER BA8-BA A-PL-BA8-BA-0 D-D1-BA8-A-1
- * SYSTEM EXPANDER BA8-BB A-PL-BA8-BB-0 D-D1-BA8-A-1

(26) SUPER COVER ASSY PDP8/E D-AD-7007074-0-0

(27) * TABLE ASSY D-UA-H952-HA-0 D-D1-H952-0-1

REVISIONS				
CHK	CHANGE NO.	REV.		
CC	EE-0001 2	A		
			LAWRENCE	2-16-71
CC	B1-0CC 4	B		

FIRST USED ON OPTION/MODEL: PDP8/E

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL
FINISH

DRN.	DATE	
CHK'D.	DATE 11/12/70	
ENG.	DATE 11/12/70	
PROJ. ENG.	DATE 11/12/70	
PROD.	DATE 11/12/70	

NEXT HIGHER ASSY: A ML PDP8/E-0
SCALE
SHEET 1 OF 1

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: DRAWING INDEX LIST (PDP8/E)

SIZE	CODE	NUMBER	REV.
D	D1	PDP8/E-0-1	B

DIST.

SIZE	CODE	NUMBER	REV.
D	D1	PDP8/E-0-1	B

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
	MECHANICAL		DEPT USAGE		
	PDP8E-AA ASSY	E-UA-PDP8E-AA-0			
	PDP8E-AA ASSY (PL)	C-PL-PDP8E-AA-0			
	PDP8E-AB ASSY	E-UA-PDP8E-AB-0			
	PDP8E-AB ASSY (PL)	C-PL-PDP8E-AB-0			
	PDP8E-BA ASSY	E-UA-PDP8E-BA-0			
	PDP8E-BA ASSY (PL)	C-PL-PDP8E-BA-0			
	PDP8E-BB ASSY	E-UA-PDP8E-BB-0			
	PDP8E-BB ASSY (PL)	C-PL-PDP8E-BB-0			
	PDP8E-CA ASSY	E-UA-PDP8E-CA-0			
	PDP8E-CA ASSY (PL)	C-PL-PDP8E-CA-0			
	PDP8E-CB ASSY	E-UA-PDP8E-CB-0			
	PDP8E-CB ASSY (PL)	C-PL-PDP8E-CB-0			
	PDP8E-DA ASSY	E-UA-PDP8E-DA-0			
	PDP8E-DA ASSY (PL)	C-PL-PDP8E-DA-0			
	PDP8E-DB ASSY	E-UA-PDP8E-DB-0			
	PDP8E-DB ASSY (PL)	C-PL-PDP8E-DB-0			
	PDP8E-EA ASSY	E-UA-PDP8E-EA-0			
	PDP8E-EA ASSY (PL)	C-PL-PDP8E-EA-0			
	PDP8E-EB ASSY	E-UA-PDP8E-EB-0			
	PDP8E-EB ASSY (PL)	C-PL-PDP8E-EB-0			
	PDP8E-FA ASSY	E-UA-PDP8E-FA-0			
	PDP8E-FA ASSY (PL)	C-PL-PDP8E-FA-0			
	PDP8E-FB ASSY	E-UA-PDP8E-FB-0			
	PDP8E-FB ASSY (PL)	C-PL-PDP8E-FB-0			
	PDP8E-GA ASSY	E-UA-PDP8E-GA-0			
	PDP8E-GA ASSY (PL)	C-PL-PDP8E-GA-0			
	PDP8E-GB ASSY	E-UA-PDP8E-GB-0			
	PDP8E-GB ASSY (PL)	C-PL-PDP8E-GB-0			
	PDP8E-HA ASSY	E-UA-PDP8E-HA-0			
	PDP8E-HA ASSY (PL)	C-PL-PDP8E-HA-0			
	PDP8E-HB ASSY	E-UA-PDP8E-HB-0			
	PDP8E-HB ASSY (PL)	C-PL-PDP8E-HB-0			
	PDP8E-JA ASSY	E-UA-PDP8E-JA-0			
	PDP8E-JA ASSY (PL)	C-PL-PDP8E-JA-0			
	PDP8E-JB ASSY	E-UA-PDP8E-JB-0			
	PDP8E-JB ASSY (PL)	C-PL-PDP8E-JB-0			
	PDP8E-KA ASSY	E-UA-PDP8E-KA-0			
	PDP8E-KA ASSY (PL)	C-PL-PDP8E-KA-0			
	PDP8E-KB ASSY	E-UA-PDP8E-KB-0			
	PDP8E-KB ASSY (PL)	C-PL-PDP8E-KB-0			
	PDP8E-LA ASSY	E-UA-PDP8E-LA-0			
	PDP8E-LA ASSY (PL)	C-PL-PDP8E-LA-0			
	PDP8E-LB ASSY	E-UA-PDP8E-LB-0			
	PDP8E-LB ASSY (PL)	C-PL-PDP8E-LB-0			
	PDP8E-MA ASSY	E-UA-PDP8E-MA-0			
	PDP8E-MA ASSY (PL)	C-PL-PDP8E-MA-0			
	PDP8E-MB ASSY	E-UA-PDP8E-MB-0			
	PDP8E-MB ASSY (PL)	C-PL-PDP8E-MB-0			
	CHASSIS (PDP8-E)	E-IA-7408233-0-0			
	COVER (PDP8-E)	E-IA-7408235-0-0			
	FILTER, SIDE	C-IA-7408250-0-0			
	BRACKET SUPPORT	C-MD-7408249-0-0			
	STRAIN RELIEF, CABLE	C-IA-7408247-0-0			
	COVER STRIP	C-MD-7407449-0-0			
	SLIDE CHASSIS 22"TRAVEL	D-IA-7408861-0-0			
	PACKAGE INSTRUCTION TEF/E	A-PL-2772028-0-0			
2.	OMNIBUS ASSY (PDP8-E)	D-UA-H919-0-0			
	OMNIBUS ASSY (PL)	A-PL-H919-0-0			
3	OMNIBUS BOARD ETCH	E-IA-5009005-0-0			
	ASSY & DRILLING HOLE LAYOUT	J-AH-E019-0-5			
	PRINTED CIRCUIT LAYOUT	PC-5009005			
4.	CONN BLOCK ASSY	D-AD-7008952-0-0			
	288 PIN CONN BLOCK	D-MD-7408514-0-0			
	MTG BAR CONN BLOCK	C-MD-7408242-0-0			
5.	CONSOLE ASSY (KC8-EA)	D-UA-KC8-E-0			
	CONSOLE ASSY (PL)	A-PL-KC8-E-0			
	BEZEL	E-SC-1210065-0-0			
	~~SUPPORT GLASS~~	~~D-IA-7408245-0-0~~			
	~~KNOB CONTROL PANEL~~	~~C-SC-1210114-0-0~~			
	~~SWITCH MTG BAR~~	~~C-MD-7408246-0-0~~			
6.	CONTROL BD ASSY	E-IA-5409057-0-0			
	ROCKER HANDLE	D-SC-1205849-12-0			
	ROCKER HANDLE	D-SC-1205849-13-0			
	~~SHAFT EXTENDER O/E~~	~~D-MD-7408453-0-0~~			
	SUPPORT GLASS	D-IA-7408245-0-0			
	KNOB CONTROL PANEL	C-SC-1210114-0-0			
	SWITCH MTG BAR	C-MD-7408246-0-0			

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
	MECHANICAL		DEPT USAGE		
7.	CONTROL BOARD (ETCH)	D-IA-5009056-0-0			
	ASSY & DRILLING HOLE LAYOUT	AH-5009056-5			
	PRINTED CIRCUIT LAYOUT	PC-5009056			
8	PANEL CONTROL	D-IA-7408244-0-0			
	PANEL CONTROL (PDP8-E)	C-SS-7408244-0-1			
	PANEL CONTROL (PDP8-E)	C-SS-7408244-0-2			
	PANEL CONTROL (PDP8-E)	C-SS-7408244-0-3			
	PANEL CONTROL (PDP8-E)	C-SS-7408244-0-4			
9	POWER SWITCH & HARNESS ASSY	D-IA-7006994-0-0			
10.	SWITCH ASSEMBLY	C-AD-7006986-0-0			
	SWITCH ASSEMBLY (PL)	A-PL-7006986-0-0			
11.	CONSOLE ASSY KC8-EB	D-UA-KC8-E -0			
	CONSOLE ASST KC8-EB (PL)	A-PL-KC8-E -0			
	JUMPER	B-IA-7007146-0-0			
12.	COVER PANEL (10-1/2)	D-UA-H950-Q-0			
	COVER PANEL (10-1/2) (PL)	A-PL-H950-Q-0			
	10-1/2 SNAP-ON BEZEL	E-SC-1209225-0-0			
	INLAY	C-CS-1209176-2-0			
13.	CONSOLE ASSY (KC8-EC)	D-UA-KC8-E -0			
	CONSOLE ASSY (PL)	A-PL-KC8-E -0			
14.	POWER SWITCH & HARNESS ASSY	D-IA-7007145-0-0			
15.	COVER PANEL (10-1/2)	D-UA-H950-Q-0			
	COVER PANEL (10-1/2) (PL)	A-PL-H950-Q-0			
	10-1/2 SNAP-ON BEZEL	E-SC-1209225-0-0			
	INLAY	C-MD-7408855-0-0			
16.	H960-B CAB	D-UA-H960-B-0			
	H960B CAB (PL)	A-PL-H960-B-0			
	DRAWING INDEX LIST	D-DI-H960-B-1			
17.	MEMORY MM8-E	D-UA-MM8-E-0			
	MEMORY MM8-E (PL)	A-PL-MM8-E-0			
	XY DRIVER	E-CS-G227-0-1			
	ETCH BOARD	5008832-0-0			
	SENSE INHIBIT G104	E-CS-G104-0-1			
	ETCH BOARD	5008847-0-0			
18.	EDGE CONNECTOR H851	B-UA-H851-0-0			
	EDGE CONNECTOR H851 (PL)	A-PL-H851-0-0			
	RECEP 36 PIN REWORK	B-MD-5509071-0-0			
19.	ETCH BOARD	D-IA-5008903-0-0			
	ASSY/DRILLING HOLE LAYOUT	C-AH-5008903-0-5			
	PC ETCH PATTEN	PC-5008903			
20.	MEMORY BOARD H220	D-UA-H220-0-0			
	MEMORY BOARD H220 (PL)	A-PL-H220-0-0			
	COVER PLATE	C-MD-5509025-0-0			
	PLANAR STACK BD	E-CS-G619-0-1			
	ETCH BD	5009037-0-0			

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
	MECHANICAL		DEPT USAGE		
21.	CENT PROCESSOR KK8-E	D-UA-KK8-E-0			
	CENT PROCESSOR KK8-E (PL)	A-PL-KK8-E-0			
	MA ? REGISTERS 0/01	E-CS-M830-0-0			
	ETCH BOARD	5009259-0-0			
	BUS LOADS LOADS M832	E-CS-M832-0-0			
	ETCH BOARD	5009104-0-0			
	TIMING GENERATOR	D-CS-M833-0-0			
	ETCH BOARD	5009105-0-0			
	MAJOR REG. CONT.	E-CS-M830-0-0			
	ETCH BOARD	5009278-0-0			
22.	TELETYPE CONT (KL8-E)	E-CS-M865-0-1			
	ETCH BOARD KL8-E	5008891-0-0			
23.	OMNIBUS EXPANDER	D-UA-BE8-A-0			
	OMNIBUS EXPANDER (PL)	A-PL-BE8-A-0			
	DRAWING INDEX LIST	C-DI-BE8-A-1			
24.	POWER SUPPLY H724	D-UA-H724-B-0			
	POWER SUPPLY H724 (PL)	A-PL-H724-0-0			
	POWER SUPPLY H724A	D-UA-H724-A-0			
	POWER SUPPLY H724A (PL)	A-PL-H724-A-0			
25.	SYSTEM EXPANDER BA8-AA	E-UA-BA8-AA-0			
	SYSTEM EXPANDER BA8-AA (PL)	A-PL-BA8-AA-0			
	DRAWING INDEX LIST	D-DI-BA8-A-1			
	SYSTEM EXPANDER BA8-AB	E-UA-BA8-AB-0			
	SYSTEM EXPANDER BA8-AB (PL)	A-PL-BA8-AB-0			
	DRAWING INDEX LIST	D-DI-BA8-A-1			
	SYSTEM EXPANDER BA8-BA	E-UA-BA8-BA-0			
	SYSTEM EXPANDER BA8-BA	A-PL-BA8-BA-0			
	DRAWING INDEX LIST	D-DI-BA8-A-1			
	SYSTEM EXPANDER BA8-BB	E-UA-BA8-BB-0			
	SYSTEM EXPANDER BA8-BB (PL)	A-PL-BA8-BB-0			
	DRAWING INDEX LIST	D-DI-BA8-A-1			
26.	SUPER COVER ASSY	D-AD-7007074-0-0			
	SUPER COVER ASSY	A-PL-7007074-0-0			
	COVER SUPER	E-IA-7408343-0-0			
	SCREEN BEZEL	D-IA-7407863-0-0			
	BEZEL (5-1/4)	D-SC-1209226-0-0			
	FILTER BEZEL	B-MD-7407866-0-0			
	RETAINER FILTER	C-MD-7407869-0-0			
	LATCH MOLDING	C-SC-1209224-0-0			
	RELIEF STRAIN	D-MD-7408419-0-0			
27.	TABLE ASSY H952-HA	E-UA-H952-HA-0			
	TABLE ASSY H952-HA	A-PL-H952-HA-0			
	DRAWING INDEX LIST	D-DI-H952-0-1			
1.	CONT.				
	PAD, FOAM	A-SC-1210302-0-0			
	BUMPER, FRONT PANEL	A-MD-7408611-1-0			
	BUMPER, FRONT PANEL	A-MD-7408612-3-0			
	SPACER, LATCH	B-MD-7408629-0-0			
	SHIPPING BRACKET	C-MD-7408867-0-0			
	CABLE, INTERCONNECTING	D-IA-7008288-3F-0			

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
	ELECTRICAL		DEPT USAGE		
1.	PDP8E-AA ASSY	A-ML-PDP8E-0			
	PDP8E-AB ASSY	A-ML-PDP8E-0			
	PDP8E-BA ASSY	A-ML-PDP8E-0			
	PDP8E-BB ASSY	A-ML-PDP8E-0			
	PDP8E-CA ASSY	A-ML-PDP8E-0			
	PDP8E-CB ASSY	A-ML-PDP8E-0			
	PDP8E-DA ASSY	A-ML-PDP8E-0			
	PDP8E-DB ASSY	A-ML-PDP8E-0			
	PDP8E-EA ASSY	A-ML-PDP8E-0			
	PDP8E-EB ASSY	A-ML-PDP8E-0			
	PDP8E-FA ASSY	A-ML-PDP8E-0			
	PDP8E-FB ASSY	A-ML-PDP8E-0			
	PDP8E-GA ASSY	A-ML-PDP8E-0			
	PDP8E-GB ASSY	A-ML-PDP8E-0			
	PDP8E-HA ASSY	A-ML-PDP8E-0			
	PDP8E-HB ASSY	A-ML-PDP8E-0			
	PDP8E-JA ASSY	A-ML-PDP8E-0			
	PDP8E-JB ASSY	A-ML-PDP8E-0			
	PDP8E-KA ASSY	A-ML-PDP8E-0			
	PDP8E-KB ASSY	A-ML-PDP8E-0			
	PDP8E-LA ASSY	A-ML-PDP8E-0			
	PDP8E-LB ASSY	A-ML-PDP8E-0			
	PDP8E-MA ASSY	A-ML-PDP8E-0			
	PDP8E-MB ASSY	A-ML-PDP8E-0			
	BASIC ASSY/CONFIG	E-AR-PDP8/E-0-2			
2.	OMNIBUS ASSY (PDP8-E)	A-ML-H919-0-0			
3.	OMNIBUS BOARD ETCH	E-IA-5009005-0-0			
	ASSY & DRILLING HOLE LAYOUT	AH-5009005-5			
	PRINTED CIRCUIT LAYOUT	PC-5009005			
6.	CONTROL BOARD ASSY	D-IA-5409057-0-0			
7.	CONTROL BOARD (ETCH)	E-IA-5009056-0-0			
	ASSY & DRILLING HOLE LAYOUT	AH-5009056-5			
	PRINTED CIRCUIT LAYOUT	PC-5009056			
17.	MEMORY MM8-E ASSY	A-ML-MM8-E			
21.	CENTRAL PROCESSOR KK8-E	A-ML-KK8-E			
22.	TELETYPE CONT (KL8-E)	A-ML-KL8-E			
23.	OMNIBUS EXPANDER	A-ML-BE8-A			
24.	CIRCUIT SCHEMATIC H724	D-CS-H724-B-1			
	CIRCUIT SCHEMATIC H724A	D-CS-H724 -A-1			
25.	SYSTEM EXPANDER BA8-AA	A-ML-BA8-AA			
	SYSTEM EXPANDER BA8-AB	A-ML-BA8-AB			
	SYSTEM EXPANDER BA8-BA	A-ML-BA8-BA			
	SYSTEM EXPANDER BA8-BB	A-ML-BA8-BB			

REVISIONS	
REV	
CHANGE NO	
CHK	

FIRST USED ON OPTION/MODEL: PDP8/E

DRN.		DATE
CHK'D.		DATE 1/4/70
ENG.		DATE 1/5/70
PROJ. ENG.		DATE
PROD.		DATE
NEXT HIGHER ASSY	A-ML-PDP8/E-0	
SCALE	—	
SHEET 2 OF		

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: DRAWING INDEX LIST (PDP8/E)

SIZE	CODE	NUMBER	REV
D	DI	PDP8/E-0-1	

DIST.

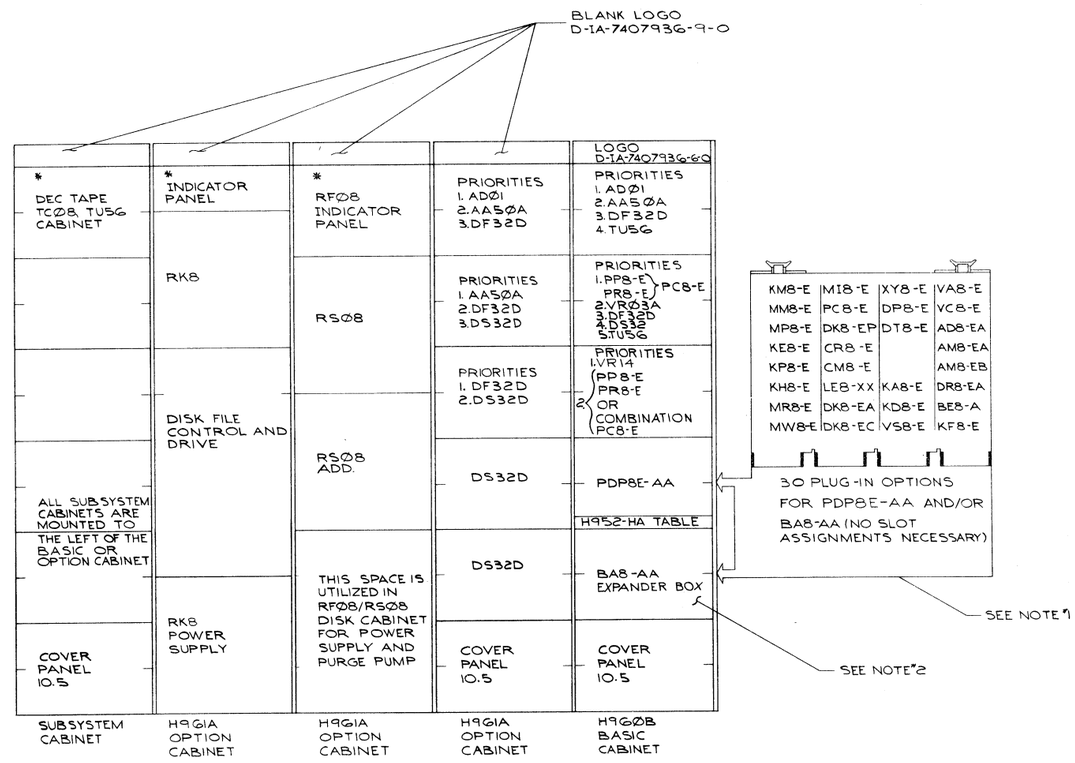
DEC FORM NO DRD 100

CABLES

OPTION NO.	LENGTH	MODULE TYPE FROM	MODULE TYPE TO	QTY	CABLE ASSY. NO
AD8-EA	SEE NOTE 3	A841	CUST UNIT	1	CUST. UNIT
AM8-EA	↑	A232	CUST. UNIT	↓	CUST UNIT
DK8-EP		M860, M518	CUST. UNIT		CUST. UNIT
DR8-EA		M823	CUST. UNIT		BC08-K, L
KF8-E		M848	724, 734 APS.	↑	7007128
LE-8		M841	CUST. UNIT	1	7006964
PC8-E		M840	PC04-BM, BL	2	BC08-K
PP8-E		↑	PC04-PL, PM	1	BC08-K
PR8-E		↑	PC04-RB	↓	BC08-K
PR8-ES		M840	PR8-ES		7007022
XY8-E		M842	CUST. UNIT		7006965
KV8-E		A316	VT01-A		7006947-0-0
DK8-EA		M882	724, 734 APS.		
DR8-EA		M823	DR8-EB		7007035
AM8-EA	↓	A232	AM8-EC, AM8-ED	↑	7007035
DK8-EP	SEE NOTE 3	M518	DK8-EF		7007035

NOTES:

1. TIMING BOARD (M833) MUST BE THE FIRST BOARD AFTER THE CONSOLE BOARD. BUS LOAD (M832) MUST BE IN THE LAST MODULE SLOT USED EVEN IF AN OMNIBUS EXPANDER IS USED
2. IF AN EXPANDER BOX (BA8-AA) IS USED A BC08H CABLE MUST RUN FROM THE LAST SLOT OF THE PDP8E-AA OMNIBUS TO THE LAST SLOT OF THE BA8-AA OMNIBUS
3. LENGTHS OF CABLES TO BE SPECIFIED AT TIME OF SYSTEM INSTALLATION.



* THE RK8, DEC TAPE, AND RF08/RS08 DISK SYSTEMS REQUIRE A DEDICATED CABINET

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP8-E		PARTS LIST		

UNLESS OTHERWISE SPECIFIED — DIMENSION IN INCHES — TOLERANCES: DECIMALS ±.005, FRACTIONS ±1/64, ANGLES ±0°30' — FORM: SURFACE QUALITY, SEMI-FINISH, BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

DRN: F. L. Upton DATE 3-20-70
CHK'D: G. P. Roy DATE 10/19/70
ENG: Patrick K. Hanlon DATE 10/20/70
PROJ. ENG.: Wayne Wooldridge DATE 10/20/70
PROD: Larry Gordon DATE 11/4/70

NEXT HIGHER ASSY: A-ML-PDP8-E

SCALE —

SHEET 1 OF 1

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: OPTION CONFIGURATION (PDP8/E)

SIZE E | CODE AR | NUMBER PDP8/E-0-2 | REV.

DIST. G

REVISIONS: REV. | CHANGE NO. | CHK

DEC FORM NO. DNE 100

REV. | NUMBER PDP8/E-0-2 | SIZE CODE E AR

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 11/24/70

TITLE RECOMMENDED OMNIBUS MODULE ASSIGNMENTS

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	REORDERED ASSIGNMENTS		ve	1/15/71	ve	1/15/71

ENG	APPD	SIZE	CODE	NUMBER	REV
Dave Chertkow	Dave Chertkow	A	SP	PDP8/E-0-4	A

DEC FORM NO. DRA 107

ENGINEERING SPECIFICATION [redacted] CONTINUATION SHEET

RECOMMENDED OMNIBUS MODULE ASSIGNMENTS

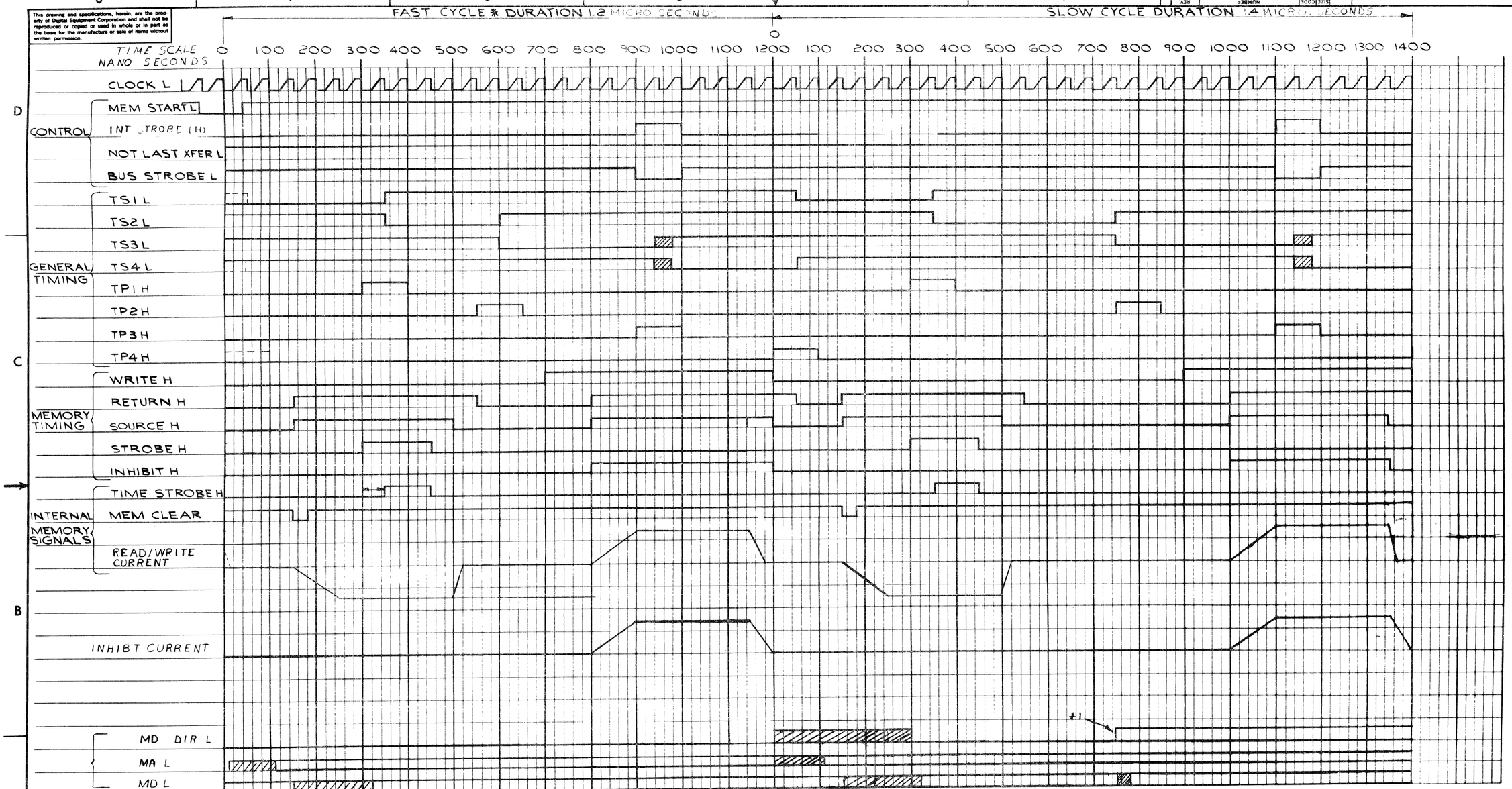
The following ordering of modules on the OMNIBUS will result in best case timing and permit widest margins:

	MODULE
	Control Panel
M833	Timing Board
M834	EAE
M8310	C.P. Major Register Control
M8300	C.P. Major Registers
M837	Extended Memory & Time Share Control
	.
	.
	.
	Other Non-Memory Options
	.
	.
	.
M835	External I/O Bus Interface
M849	R.F.I. Shield
G104	Memory Sense/Inhibit (0)
H220	Memory Stack (0)
G227	Memory X/Y Drivers (0)
	.
	.
	.
G104	Memory Sense/Inhibit (n)
H220	Memory Stack (n)
G227	Memory X/Y Drivers (n)
	.
	.
	.
	Other Memories
	.
	.
	.
G105	Memory Sense/Inhibit (Parity)
H220	Memory Stack (Parity)
G227	Memory X/Y Drivers (Parity)
M832	Bus Loads (Always in last slot)

SIZE	CODE	NUMBER	REV
A	SP	PDP8/E-0-4	A

DEC FORM NO 16-1022 DRA 108

SHEET 2 OF 2



*THIS PLOT SHOWS AN INITIAL FAST CYCLE
THE DOTTED LINES INDICATE A REGULAR CYCLE
*1: MD DIR GOES LOW ONLY IF F+ [D-AUTO INDEX]

CIRCUIT DELAYS ARE NEGLECTED IN THIS TIMING DIAGRAM

REVISIONS			
CHK	CHANGE NO.		REV
	BE-00019		A
		NARH	

FIRST USED ON OPT/MOD	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP8/E		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

		DATE
DRN.	J. Ferguson	1-9-71
CHK'D.	[illegible]	1/14/71
ENG.	[illegible]	1/12/71
PROJ. ENG.	[illegible]	1/12/71
PROD.	[illegible]	1/13/71

NEXT HIGHER ASSY: A-ML-PDP8/E-Ø

SCALE: NONE

SHEET 1 OF 2

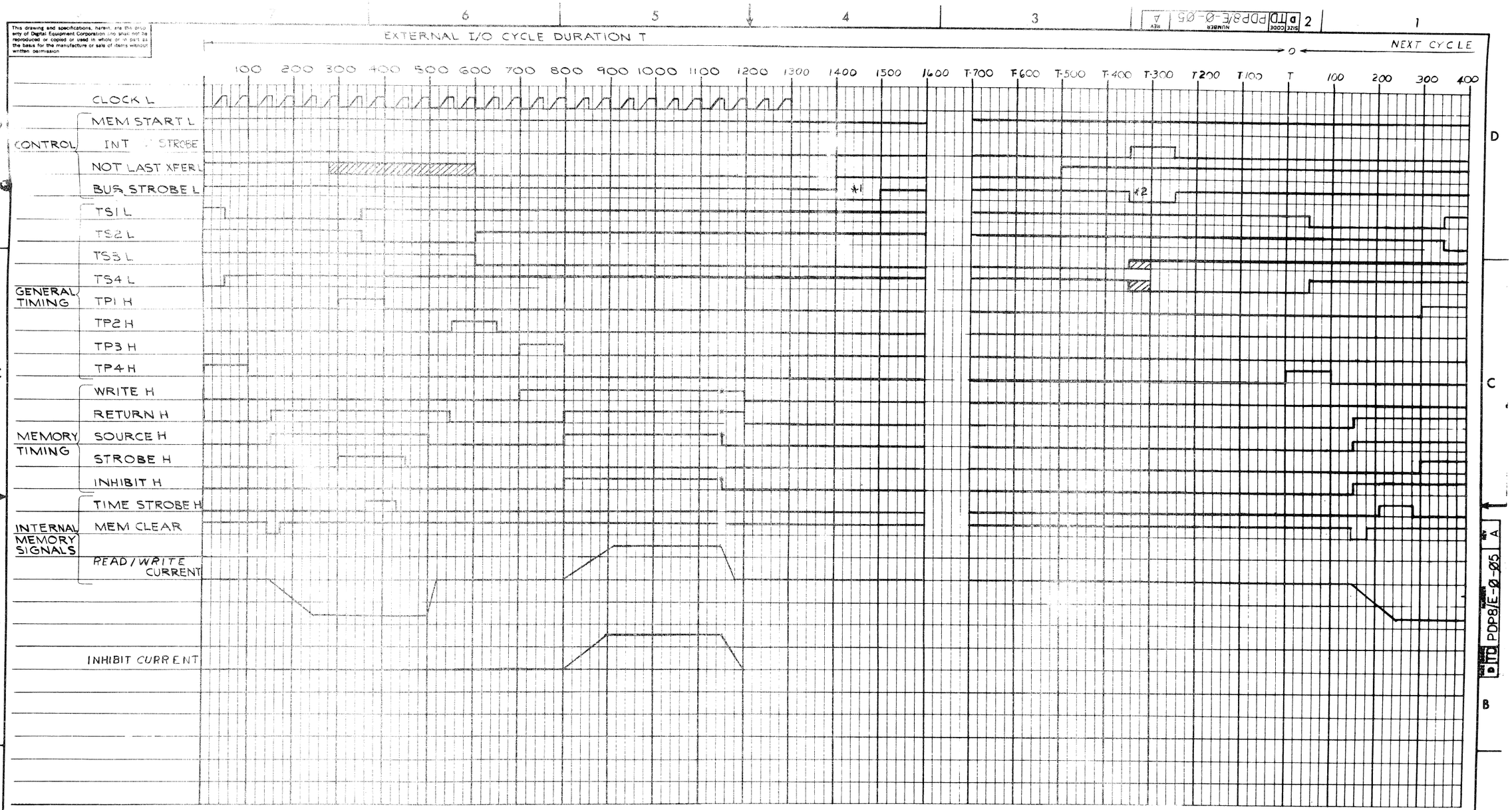
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: TIMING (PDP8/E)

SIZE	CODE	NUMBER	REV.
D	TD	PDP8/E-Ø-Ø5	A

DIST.

DEC FORM NO. DRD 102A



NOTE: * MEMORY SIGNALS TIME OUT, AS IN A FAST CYCLE

* 1 GENERATED BY PERIPHERAL TO STROBE DATA

* 2 GENERATED BY PERIPHERAL TO TERMINATE EXT. I/O CYCLE AND RESUME NORMAL OPERATION.

REVISIONS		
CHK	CHANGE NO.	REV

PARTS LIST			
QTY.	DESCRIPTION	PART NO.	ITEM NO.

FIRST USED ON OPT/MOD: PDP8/E

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY ✓
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —
FINISH —

		DATE
DRN.	B. Ferrazzini	1-7-71
CHK'D.	[illegible]	1/11/71
ENG.	Larry Harbin	1/12/71
PROJ. ENG.	Kevin Vogelsang	1/12/71
PROD.	Larry Sayler	1/13/71

NEXT HIGHER ASSY: A-ML-PDP8/E-Ø

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

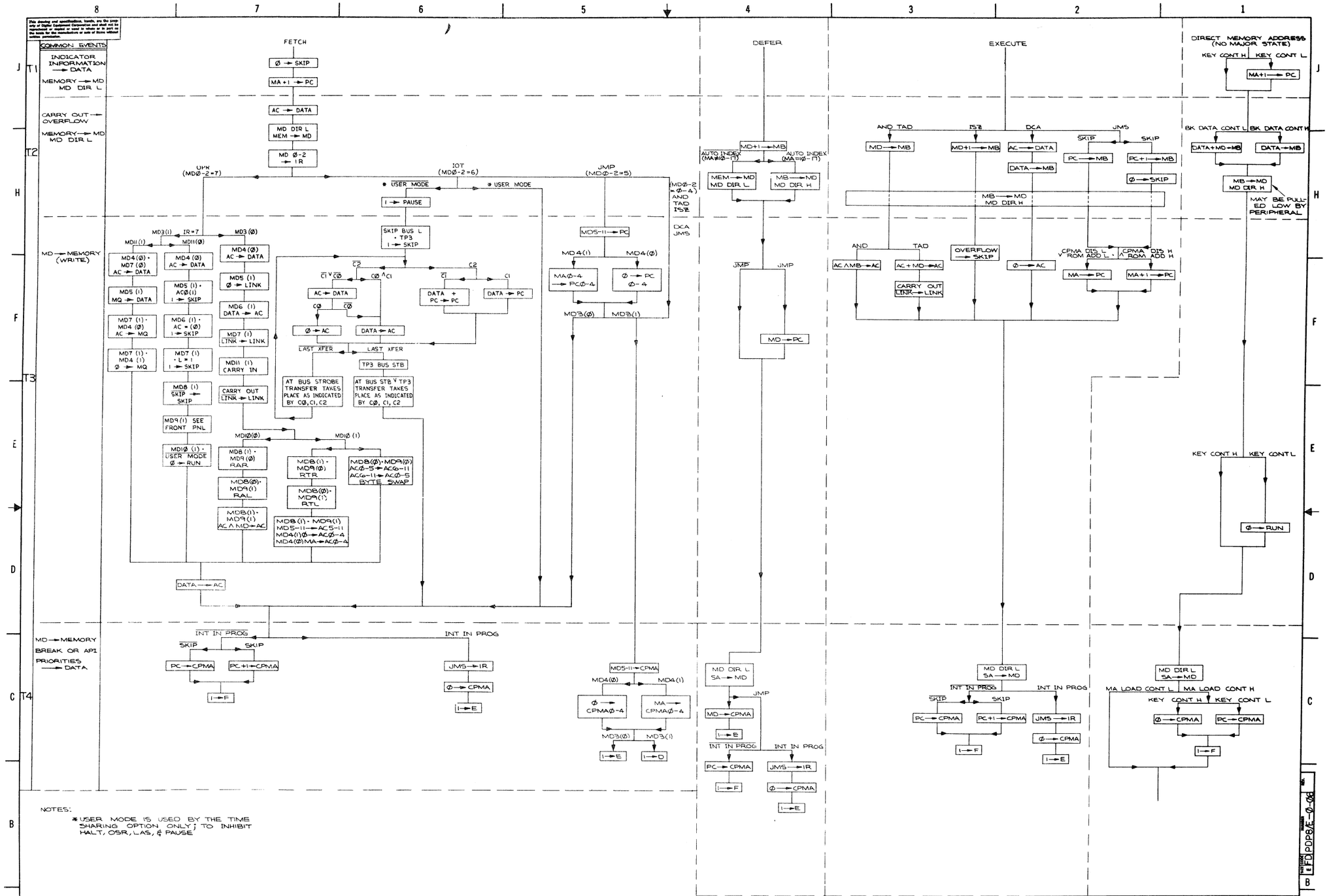
TITLE: TIMING (PDP8/E)

SIZE	CODE	NUMBER	REV.
D	TD	PDP8/E-Ø-Ø5	A

SCALE NONE
SHEET 2 OF 2
DIST.

DEC FORM NO. DRD 102A

ahp



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP8/E		PARTS LIST		

UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

DRN. DATE

CHKD. DATE

ENGR. DATE

PROJ. ENG. DATE

PROD. DATE

NEXT HIGHER ASSY. A-ML-PDP8/E-Ø

SCALE —

SHEET 1 OF 1

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE PROCESSOR FLOW CHART

SIZE	CODE	NUMBER	REV.
E	FD	PDP8/E-Ø-Ø6	

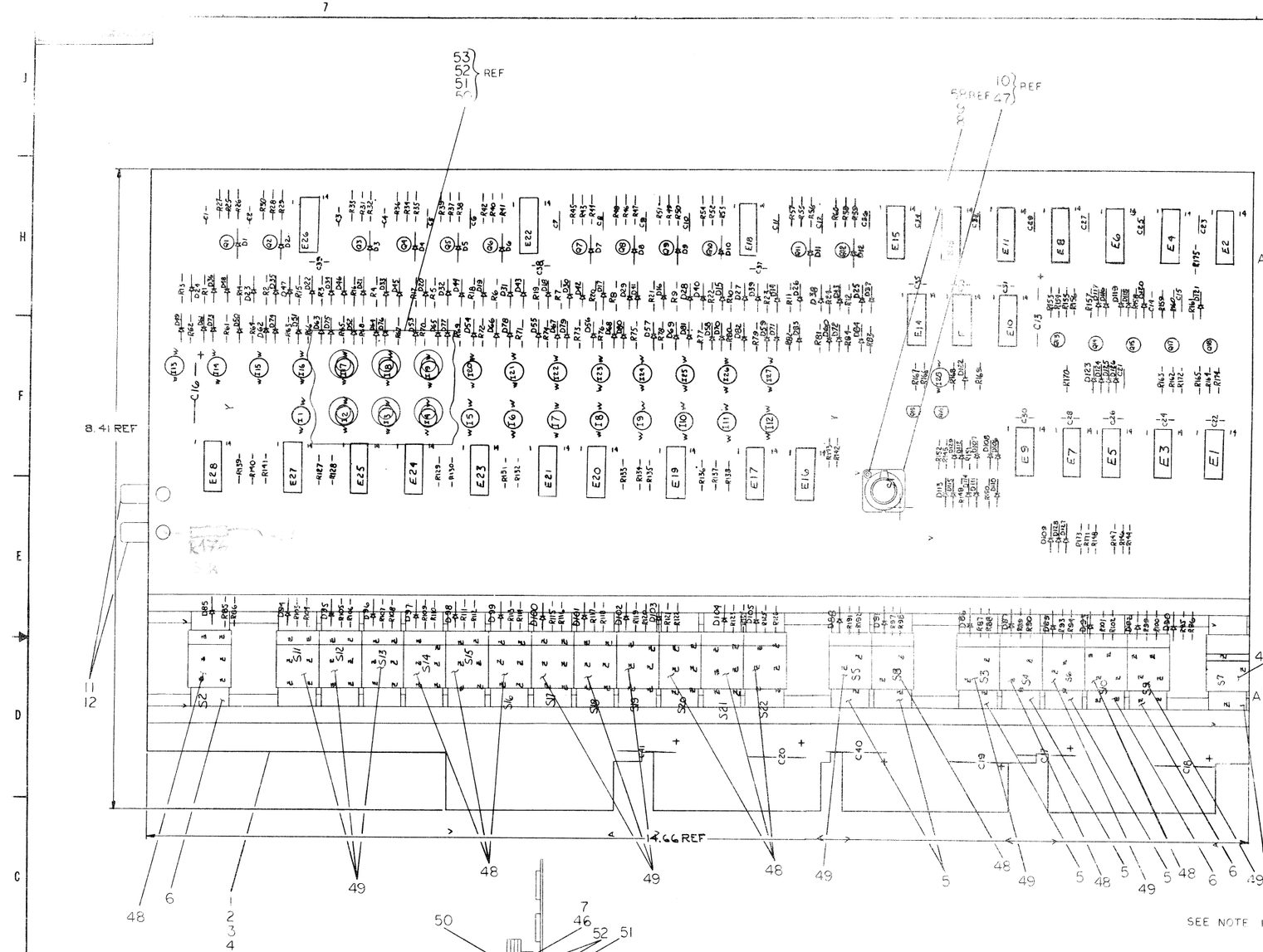
DIST.

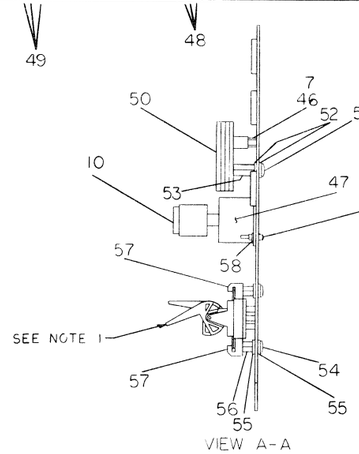
REVISIONS: REV. CHANGE NO. DR.

DEC FORM NO. SAE 100

NOTES

1. ITEM NO. 5 (MOMENTARY SWITCH) TO BE INSTALLED SO THAT ROCKER HANDLE IS DOWN WHEN IN "OFF" POSITION THIS LOCATION ONLY.





QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
		WASH INT TOOTH #4 HOLE	9006432	58
		SWITCH MTG BAR	CM07408245-0-0	57
		SPACER 1/4 AF × 1/4 LG × #6 HOLE	9006800	56
		WASH, WHT NYLON #6 × .032 THK	9006707	55
		SCR SLT HD PAN #6-32 × .44 NYLON	9008216	54
		SPACER 1/4 AF × 1/2 LG × #8 HOLE	9007977	53
		WASH, WHT NYLON #8 × .032 THK	9006713	52
		SCR PHL HD PAN 8-32 × .33 NYLON	9008381	51
1		SUPPORT GLASS	D1A7408245-0-0	50
10		ROCKER HANDLE, TERRA COTTA	1205849-13	49
11		ROCKER HANDLE, AMBER	1205849-12	48
	S1	ROTARY SWITCH	1210128	47
28	I1-I28	INDICATOR BULBS	1209219	46
3	E19, E23, E27	I.C. DEC 7416	1909928	45
6	E1, E4, E7, E17, E21, E25	I.C. DEC 8881	1909705	44
1	E15	I.C. DEC 314	1909704	43
2	E9, E10	I.C. DEC 7404	1909686	42
1	E11	I.C. DEC 384	1909486	41
9	E2, E13, E16, E18, E20, E22, E24, E26, E28	I.C. DEC 380	1909485	40
1	E14	I.C. DEC 7440	1905579	39
2	E5, E8	I.C. DEC 7410	1905576	38
3	E3, E6, E12	I.C. DEC 7400	1905575	37
4	Q13-Q16	TRANSISTOR DEC 65340	1503409-00	36
15	Q1-Q12, Q17-Q19	TRANSISTOR DEC 30098	1503100	35
3	R148, R171, R173	RES. 4.7K, 1/4W, 10%	1300448	34
2	R154, R169	RES. 100, 1/4W, 10%	1300231	33
4	R163, R165, R172, R174	RES. 27, 1/4W, 10%	1301420	32
12	R26, R29, R32, R35, R38, R41, R44, R47, R50, R53, R56, R59	RES. 220, 1/4W, 10%	1300275	31
48	R13-R24, R27, R30, R33, R36, R39, R42, R45, R48, R51, R54, R57, R60-R84	RES. 33K, 1/4W, 10%	1300510	30
15	R1-R12, R158-160	RES. 15K, 1/4W, 10%	1300494	29
29	R88, R90, R92, R94, R96, R98, R100, R102, R104, R106, R108, R110, R112, R114, R116, R118, R120, R122, R124, R126, R142-R147, R151, R152, R157	RES. 3K, 1/4W, 5%	1300432	28
1	R161	RES. 1.8K, 1/4W, 5%	1300398	27
22	R85-R87, R89, R91, R93, R95, R97, R99, R101, R103, R105, R107, R109, R111, R113, R115, R117, R119, R121, R123, R125	RES. 1.5K, 1/4W, 5%	1300391	26
6	R149, R150, R153, R155, R166, R168	RES. [illegible], 1/4W, 5%	1300365	25
5	R162, R164, R170, R175	RES. 470, 1/4W, 10%	1300317	24
27	R25, R28, R31, R34, R37, R40, R43, R46, R49, R52, R55, R58, R127-R141	RES. 390, 1/4W, 10%	1300310	23
1	R156	RES. 150, 1/4W, 10%	1300252	22
1	D120	DIODE D668	1102161	21
114	D1-D105, D109, D116-D119, D121, D122, D127-D162	DIODE D664	1100114	20
4	D106-D108, D110-D115, D123-D126, D129	DIODE D662	1100113	19
19	C21-C39	CAP. .01UF, 100V, 20% DISC	1001610	18
1	C13	CAP. 39UF, 10V, 10% S. TANT	1000076	17
7	C16-C20, C40, C41	CAP. 6.8UF, 35V, 20% S. TANT	1000067	16
1	C15	CAP. 330PF, 100V, 5% D.M.	1000023	15
12	C1-C12	CAP. 68PF, 100V, 5% D.M.	1000014	14
1	C14	CAP. 56PF, 100V, 5% D.M.	1000012	13
2		EYELET	9007827	12
2		TAB	9007112	11
1		LMB CONTROL PANEL	1204747	10
2		NUT, NYLON #4-40	9007992	9
2		SCREW, NYLON #4-40 × 1/2 LG	9006402-5	8
56		TERMINALS, SOLDERLESS	9007812	7
1		SWITCH, ROCKER R5-50-FB-PC	1205941	6
6		SWITCH, ROCKER R5-9-3-FB	1205375	5
1		ETCHED CIRCUIT BOARD	E1A-5009056-0-0	4
REF		MODULE ECO HISTORY	B-MH-5409057-0-6	3
REF		CIRCUIT SCHEMATIC	ECS-5409057-0-1	2
REF		X-Y COORDINATE HOLE	K-CO-5409057-0-4	1

PARTS LIST

DEC NO.	EIA NO.
DEC 314	8
DEC 384	8
DEC 380	8
IC TYPE	GND / +5V

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

JUMPER LIST

SEMICONDUCTOR CONVERSION CHART

REV COLUMN

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

DRN. K. E. Esser DATE 1/1/71
CHK. DATE
DSIGN. DATE
PROJ. ENG. DATE
PROD. DATE

FIRST USED ON: D1A X-R-EA-2

SCALE 2/1
SHEET 1 OF 1

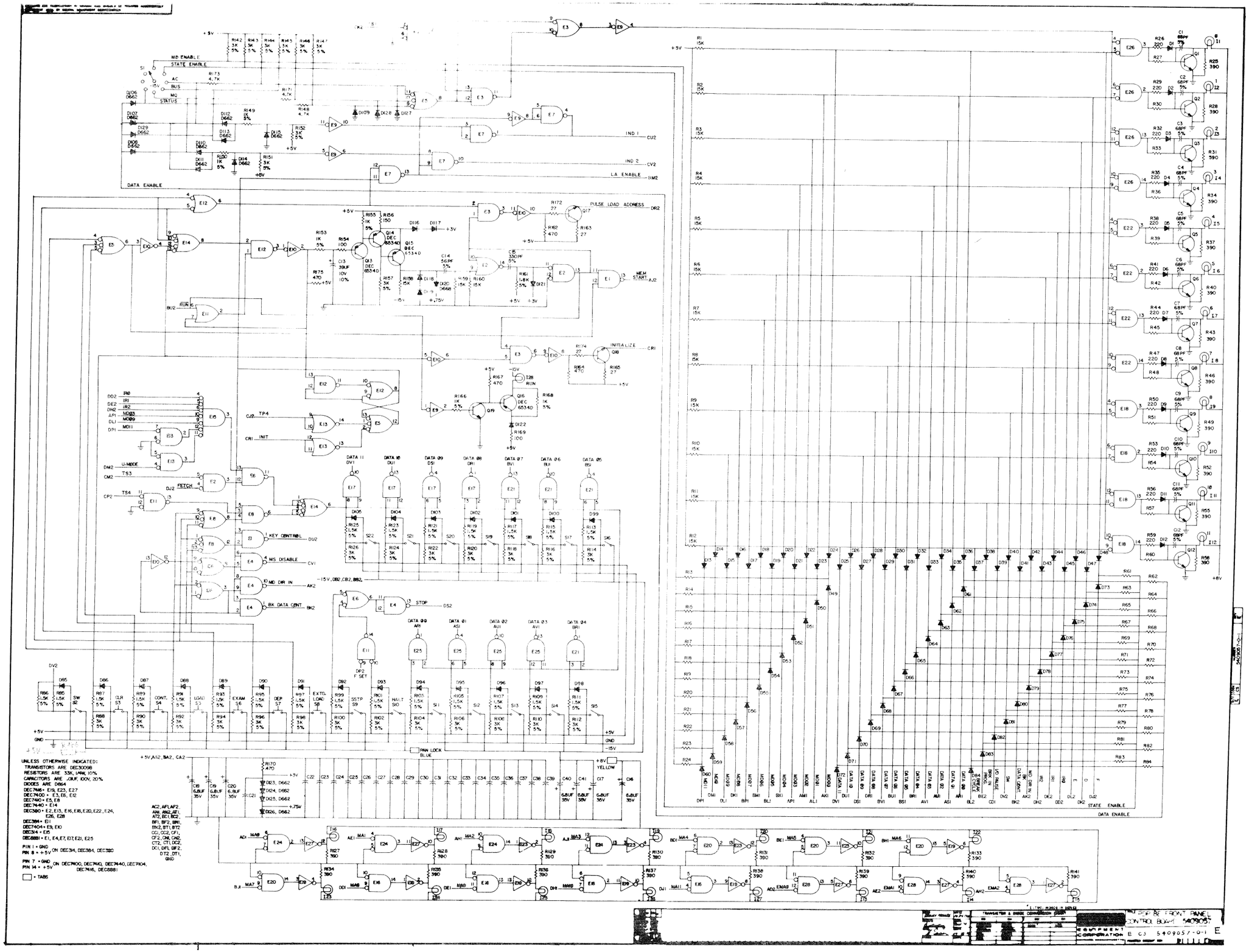
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: PDP 8/E FRONT PNL CONT BOARD

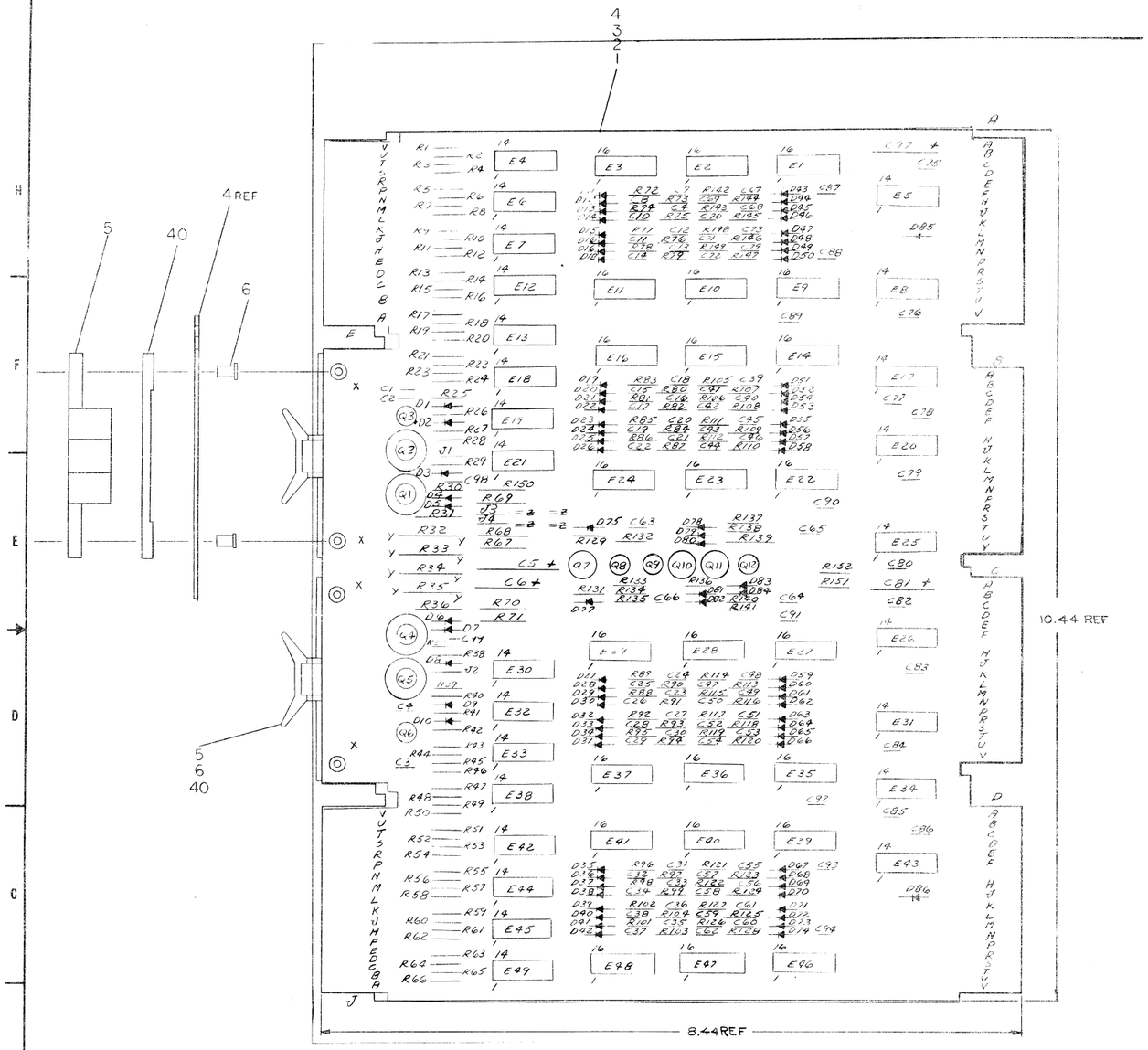
SIZE CODE: E1A NUMBER: 5409057-0-0 REV. E
DIST.

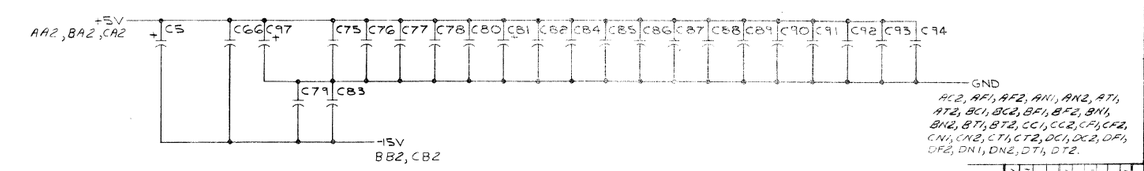
REVISIONS: D ORIGINATED 5/17/71 GREGORY ESSER; C 5409057-00002 5/17/71 GREGORY ESSER; B 5409057-00003 5/17/71 GREGORY ESSER; A 5/17/71 GREGORY ESSER

DIST CODE E1A 5409057-0-0 B


MD ENABLE
STATE ENABLE
DATA ENABLE
PULSE LOAD ADDRESS
MEM START
INITIALIZE
RUN
FETCH
KEY CONTROL
MS DISABLE
MD DIR IN
BK DATA CONT
STOP
PAN LOCK BLUE
YELLOW
STATE ENABLE
DATA ENABLE
UNLESS OTHERWISE INDICATED:
TRANSISTORS ARE DEC30098
RESISTORS ARE 33K, 1/4W, 10%
CAPACITORS ARE .001F, 100V, 20%
DIODES ARE D664
DEC7448 = E19, E23, E27
DEC7400 = E3, E6, E12
DEC7440 = E5, E8
DEC7410 = E14
DEC3880 = E2, E13, E16, E18, E20, E22, E24, E26, E28
DEC3864 = E11
DEC7404 = E9, E10
DEC314 = E15
DEC8881 = E1, E4, E7, E17, E21, E25
PIN 1 = GND
PIN 8 = +5V
ON DEC3864, DEC3880
PIN 7 = GND
PIN 14 = +5V
ON DEC7400, DEC7410, DEC7440, DEC7404, DEC7448, DEC8881
□ = TABS
AC2, AF1, AF2, AN1, AN2, AT1, AT2, BC1, BC2, BF1, BF2, BN1, BN2, BT1, BT2, CG1, CG2, CF1, CF2, CN1, CN2, CT2, CT1, DC2, DC1, DF1, DF2, DT2, DT1, GND
+5V, AA2, BA2, CA2
+8V
-15V
GND
DATA 11 DV1
DATA 10 DU1
DATA 09 DS1
DATA 08 DR1
DATA 07 BV1
DATA 06 BU1
DATA 05 BS1
DATA 00 AR1
DATA 01 AS1
DATA 02 AU1
DATA 03 AV1
DATA 04 BR1
STATE ENABLE
DATA ENABLE
TRANSISTOR & DIODE CORPORATION
CONTROL BUS
540905-0-1
EQUIPMENT CORPORATION
E C3 540905-0-1 E

NOTES





QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
4		HEAT SINK	1210001	44
1	R140	RES 68 1/4W, 5%	1300219	43
1	R139	RES 470 1/2W, 5%	1300315	42
4	R25, R28, R39, R42	RES 680 1/4W, 5%	1301424	41
2		SPACER (CABLE CLAMP)	1202704	40
A/R		WIRE #22AWG STRD TEF INS	0735055	39
8	E1, E9, E14, E22, E27, E35, E39, E46	I.C. DEC 8251	1909594	38
4	E5, E20, E26, E43	I.C. DEC 380	1909485	37
1	E25	I.C. DEC 74H11	1909267	36
4	E6, E17, E31, E34	I.C. DEC 74H10	1909057	35
16	E2, E3, E10, E11, E15, E16, E23, E24, E28, E29, E36, E37, E40, E41, E47, E48	PULSE TRANSFORMER	1609651	34
16	E4, E6, E7, E12, E13, E18, E19, E21, E30, E32, E33, E38, E42, E44, E45, E49	TRANSISTOR DEC4008	1510015	33
4	Q1, Q2, Q4, Q5	TRANSISTOR DEC 3762	1509649	32
2	Q3, Q6	TRANSISTOR DEC 4258	1505321	31
2	Q8, Q12	TRANSISTOR DEC 6534B	1503409-01	30
1	Q9	TRANSISTOR DEC 3008	1503100	29
3	Q7, Q10, Q11	TRANSISTOR DEC 1008	1503155	28
4	R32-R35	RES. 16.9, 2W, 1% BERYLLIUM	3100032	27
1	R67	RES. 34.8K, 1/8W, 1% MF	1303156	26
1	R68	RES. 14.7K, 1/8W, 1% MF	1302941	25
2	R134, R135	RES. 4.7K, 1/4W, 5%	1300447	24
4	R26, R27, R40, R41, R29, R30, R37, R131	RES. 3.9K, 1/4W, 5%	1300444	23
5	R38,	RES. 1.5K, 1/4W, 5%	1300391	22
2	R31, R36	RES. 750, 1/2W, 5%	1300354	21
37	R1-R16, R51-R66, R32, R137, R138, R141	RES. 330, 1/4W, 5%	1300295	20
1	R15	RES. 220, 1/4W, 5%	1300271	19
81	~~R17-R24, R43-R50, R52-R98, R101-R129, R142-R149~~	RES. 1.50, 1/4W, 5%	1300250	18
3	R133, R136, R152	RES. 100, 1/4W, 5%	1300229	17
4	R69-R71, R150	RES. 10, 1/2W, 5%	1300168	16
9	D1-D3, D8-D10, D75, D77, D81	DIODE DG72	1105275	15
76	D4-D7, D11-D74, D78-D80, D82-D86	DIODE DGG4	1100114	14
1	C5	CAP. 20UF, 50V-10-75% ELECT	1002839	13
22	C64-C66, C75-C80, C82-C94,	CAP. .01UF 100V, 20% DISC	1001610	12
3	C6, C81, C97	CAP. 39UF, 10V, 10% S.TANT	1000076	11
3	C63, C98, C99	CAP. .047UF, 16V, 10% DISC	1009678	10
~~2~~	~~C2, C3~~	~~CAP. 560PF, 100V, 5% D.M.~~	~~1000035~~	~~9~~
66	C8, C9, C11, C62, C67-C74	CAP. 680 PF, 100V, 5% DISC	1010312	8
2	C1, C4	CAP. 39PF, 100V, 5% D.M.	1000010	7
4		EYELET #6S4-11 STIMPSON	9000750	6
1		HANDLE FLIP CHIP GREEN	908337-01	5
1		ETCHED CIRCUIT BOARD	5008832	4
REF		MODULE HISTORY LIST	B-MH-G227-0-6	3
REF		ASSY/DRILLING HOLE LATOUT	E-AH-G227-0-5	2
REF		X-Y COORDINATE HOLE LOCK	K-CO-G227-0-4	1

PARTS LIST

DEC 3762	74	
DEC 4258	2N4258	
DEC 6534B	MPS6534	
DEC 3009B	2N 3646	
DEC 1008	NONE	
DEC D672	1N 3653	
DEC D664	1N 3606	
DEC NO.	EIA NO.	

SEMICONDUCTOR CONVERSION CHART

DEC3380	1	8	
DEC8251	8	16	
IC TYPE	GND	+5V	

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT
39	22	J4-A	J4-B
39	22	J3-A	J3-B
39	22	J2-A	J2-B
39	22	J1-A	J1-B

JUMPER LIST

REV	CHANGE NO.	REVISIONS
C		ORIGINATED
B		
A		

REV COLUMN D

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE X Y DRIVER & CURRENT SOURCE

FIRST USED ON D-UA-MM8-E-0

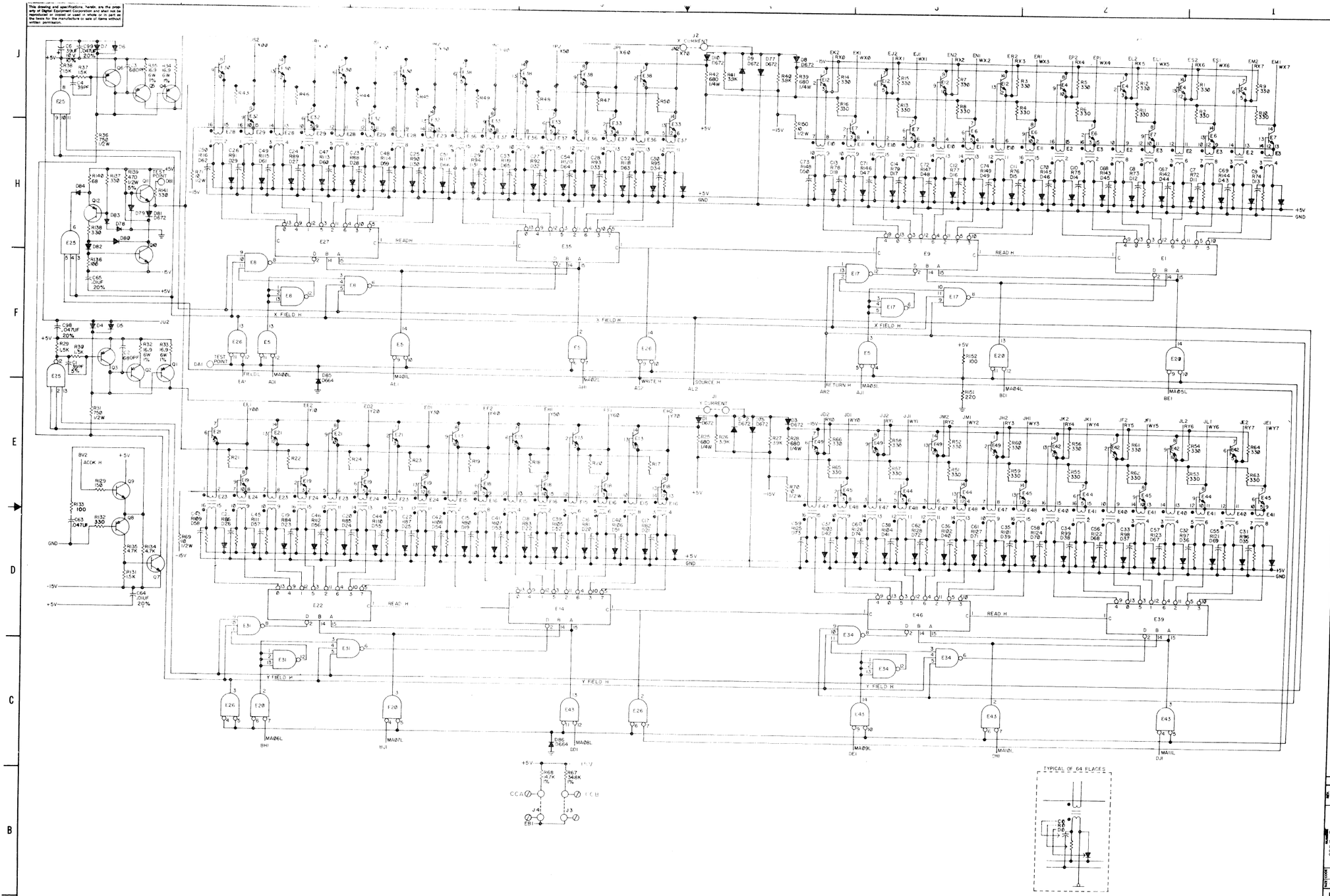
SIZE CODE ECS NUMBER G227-0-1 REV. D

SCALE 2/1 SHEET 2 OF 2

DIST.

ECS G227-0-1 B

Pink Blue



QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN. Bruce Frank DATE 11/1/72
CHK'D. DATE
ENG. DATE
PROJ. ENG. DATE
PROD. DATE

digital EQUIPMENT CORPORATION

TITLE X Y DRIVER AND CURRENT SOURCE

SIZE E CODE CS NUMBER REV.

SCALE

SHEET 2 OF 3

DIST

REVISIONS

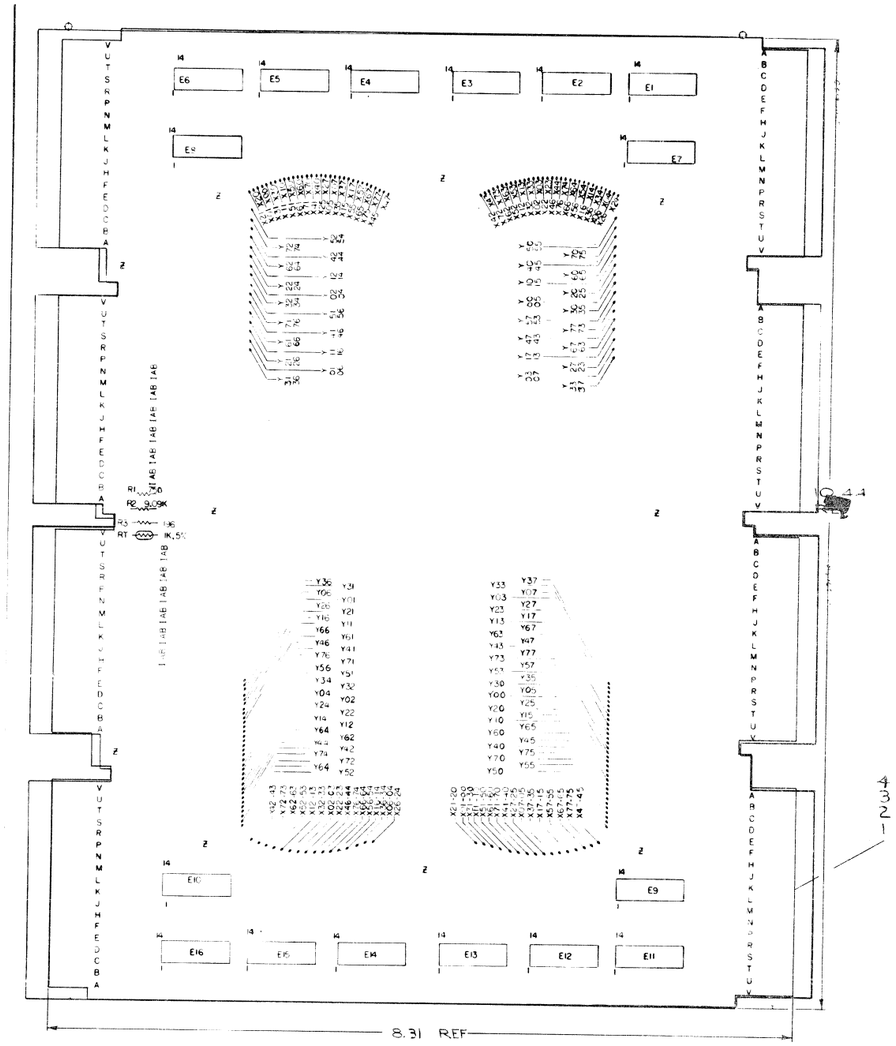
DIR	CHANGE NO.	REV

DEC FORM NO. 3M 1-69

G227-0-1

NOTES:

1. UNLESS OTHERWISE INDICATED:
   GND=AC2, AF1, AF2, AN1, AN2, AT1, AT2, BC1, BC2
   BF1, BF2, BN1, BN2, BT1, BT2, CC1, CC2, CF1, CF2
   CN1, CN2, CT1, CT2, DC1, DC2, DF1, DF2, DN1, DN2
   DT1, DT2
2. DIODE ARRAYS WILL BE MOUNTED BY STACK VENDOR. DIODE ARRAYS ARE DEC2501
3. THERMISTOR (RT) 1.0K, 1% AT 25°C



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
16	E1-E16	I.C. DEC 2501	1910010	9
1	RT	RES. 1K THERMISTOR 1%	1310071	8
1	R2	RES. 9.09 1/8W 1% MF	1304885	7
1	R3	RES. 196 1/8W 1% MF	1302956	6
1	R1	RES. 750 1/8W 1% MF	1302955	5
1		ETCHED CIRCUIT BOARD	5009057	4
REF		MODULE HISTORY LIST	B-MH-G619-06	3
REF		ASSY/DRILLING HOLE LAYOUT	E-AH-G619-05	2
REF		X-Y COORDINATE HOLE LOC	K-CO-G619-04	1

PARTS LIST

IC TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY. EXCEPTIONS ARE STATED ABOVE		

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

JUMPER LIST

DEC NO.	EIA NO.
D-UA-H220-0-0	

SEMICONDUCTOR CONVERSION CHART

REV COLUMN
PRINTED CIRCUIT BOARD REVISION
CIRCUIT SCH. REVISION

DRN. DATE
CHK'D. DATE
ENG. DATE
PROJ. ENG. DATE
PROD. DATE

FIRST USED ON

SCALE 2/1
SHEET 1 OF 2

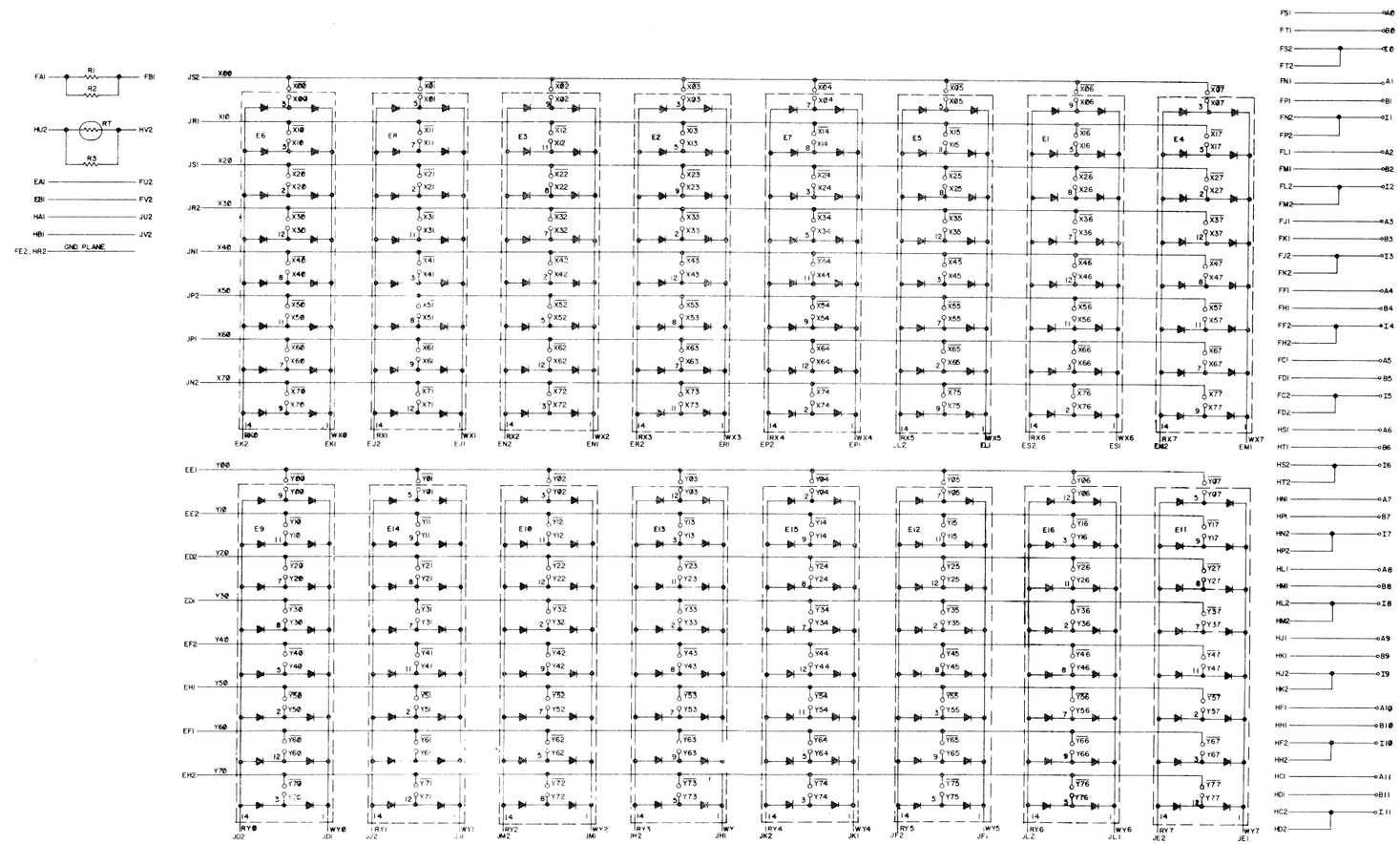
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
PLANAR
STACK BOARD
G619

SIZE CODE E CS NUMBER G619-0-1 REV.
DIST.

REVISIONS: REV. | CHANGE NO. | ECN

CS G619-0-1



	QTY.	DESCRIPTION	PART NO.	ITEM NO.
		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ±.005 FRACTIONS ±1/64 ANGLES ±0°30'
FINAL SURFACE QUALITY ✓
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

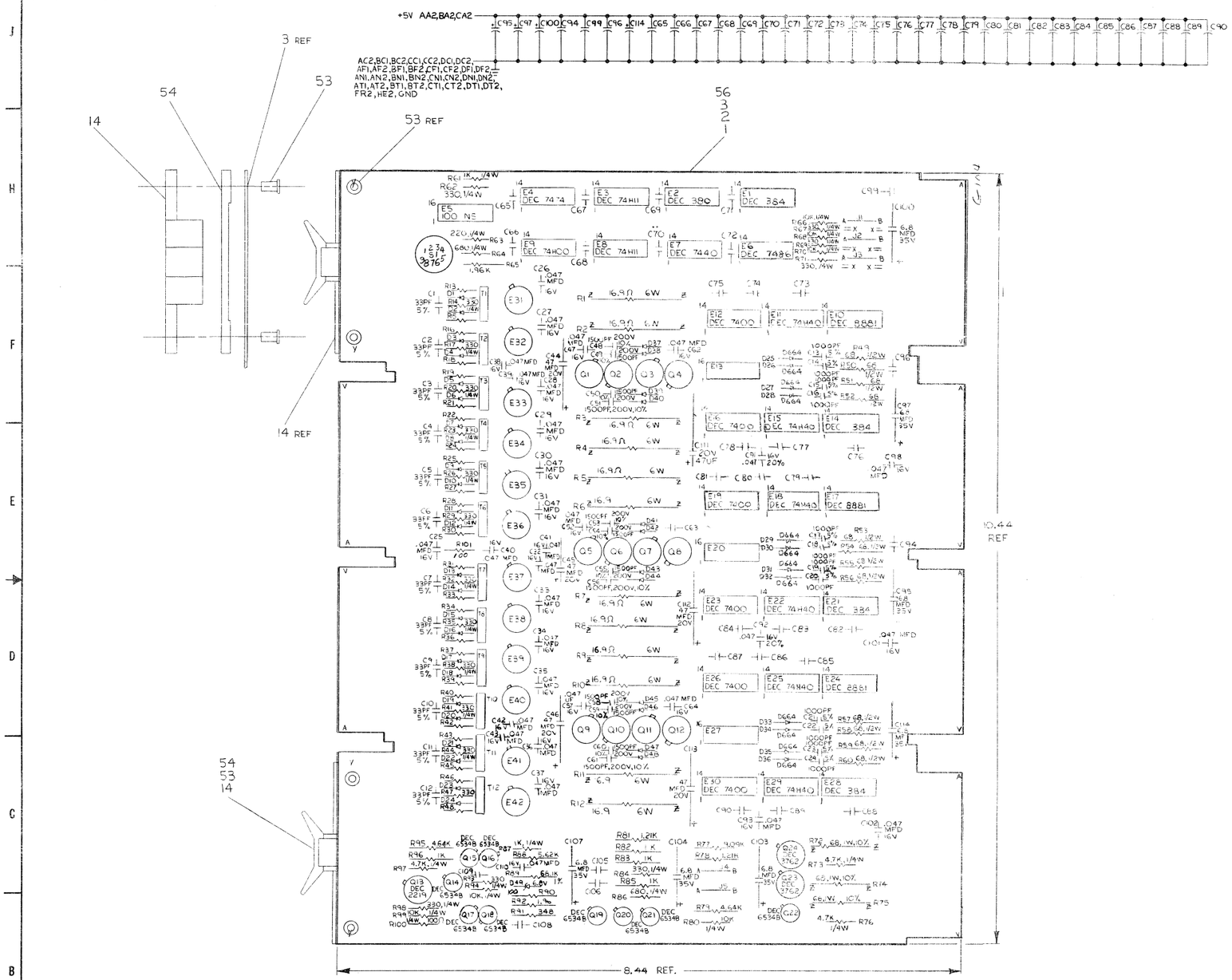
FINISH

DRN JEANNE FRENCH	DATE 7/3/70	digital EQUIPMENT CORPORATION
CHK'D. R. VOGELSANG	DATE 7/28/70	TITLE PLANAR STACK BOARD
ENG. R. VOGELSANG	DATE 7/28/70	
PROJ. ENG.	DATE	
PROD.	DATE	
SCALE	SHEET 2 OF 2	SIZE E CODE CS NUMBER 6619-0-1 REV. DIST. A

REVISIONS: REV. | CHANGE NO. | CHK

NUMBER 6619-0-1 REV. | NATCODE E CS | B

NOTES:



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
REF		ASSY/DRILLING HOLE LAYOUT	E-AH-G104-0-5	57
2	R90, R101	RES. 100, 1/8W, 1% 100 MFP	1302858	56
A/R		WIRE #22 AWG SOLID BUS	9107560-01	55
2		SPACER (CABLE CLAMP)	1202704	54
4		EYELET #GS4-11 E.B. STIMPSON	9006750	53
1	E6	IC. DEC 7486	1910011	52
3	E10, E17, E24	I.C. DEC 8881	1909705	51
4	E1, E14, E21, E28	I.C. DEC 384	1909486	50
1	E2	I.C. DEC 380	1909485	49
2	E3, E8	I.C. DEC 74H11	1909267	48
1	E9	I.C. DEC 74H00N	1909056	47
6	E11, E15, E18, E22, E25, E29	I.C. DEC 74H40N	1905586	46
1	E7	I.C. DEC 7440N	1905579	45
6	E12, E16, E19, E23, E26, E30	I.C. DEC 7400N	1905575	44
1	E4	I.C. DEC 7474N	1905547	43
12	E31-E42	I.C. MC 1540G	1905521	42
1	E5	100NS DELAY LINE	1610033-0	41
3	E13, E20, E27	PULSE TRANSFORMER	1609996	40
12	T1-T12	TRANSFORMER 17Z-5	1609478	39
12	Q1-Q12	TRANSISTOR DEC 3734	1510062	38
2	Q23, Q24	TRANSISTOR DEC 3762	1509649	37
9	Q14-Q22	TRANSISTOR DEC 6534-B	1503409-01	36
1	Q13	TRANSISTOR DEC 2219-S	1501881	35
12	R1-R12	RES. 16.9, 6W, 1%	1309679	34
12	R49-R60	RES. 68, 1/2W, 5% CC	1309405	33
1	R89	RES. 68.1K, 1/8W, 1% 100 MFP	1305252	32
1	R88	RES. 5.62K, 1/8W, 1% 100 MFP	1305128	31
1	R91	RES. 348, 1/8W, 1% 100 MFP	1304858	30
2	R79, R95	RES. 4.64K, 1/8W, 1% 100 MFP	1304856	29
1	R77	RES. 9.09K, 1/8W, 1% 100 MFP	1304855	28
2	R65, R92	RES. 1.96K, 1/8W, 1% 100 MFP	1304833	27
4	R82, R83, R85, R96	RES. 1K, 1/8W, 1% 100 MFP	1303114	26
2	R78, R81	RES. 1.21K, 1/8W, 1% 100 MFP	1302871	25
26	R13, R15, R16, R18, R19, R21, R22, R24, R25, R27, R28, R30, R31, R33, R34, R36, R37, R39, R40, R42 R43, R45, R46, R48	RES. 75 1/4W 5%	1302379	24
2	R64, R86	RES. 680, 1/4W, 5% CC	1301424	23
6	R66, R68, R70, R80, R94, R99	RES. 10K, 1/4W, 5% CC	1300479	22
3	R73, R76, R97	RES. 4.7K, 1/4W, 5% CC	1300447	21
2	R61, R87	RES. 1K, 1/4W, 5% CC	1300365	20
19	R14, R17, R20, R23, R26, R29, R32, R35, R38, R41, R44, R47, R62, R67, R69, R71, R84, R93, R98	RES. 330, 1/4W, 5% CC	1300295	19
1	R63	RES. 220, 1/4W, 5% CC	1300271	18
1	R100	RES. 100, 1/4W, 5% CC	1300229	17
3	R72, R74, R75	RES. 68, 1W, 10% CC	1300222	16
1	S1	ROTARY SWITCH	1210043-0	15
2		HANDLE FLIP CHIP - GREEN	9008337-01	14
1	D49	DIODE 1/4M 6.8AZ1	1109991	13
36	D1-D24, D37-D48	DIODE D672	1105275	12
12	D25-D36	DIODE D664	1100114	11
31	C25-C43, C47, C52, C57, C62, C64, C91-C93, C98, C101, C102, C110	CAP. .047MFD 16V 20% DISC	1009678	10
34	C63, C65-C90, C94, C96, C99, C105, C106, C108, C109	CAP. .01MFD 100V 20% DISC	1001610	9
6	C44-C46, C111-C113	CAP. 47MFD 20V 20% S. TANT	1000079	8
7	C95, C97, C100, C103, C104, C107, C114	CAP. 6.8MFD 35V 20% S. TANT	1000067	7
12	C48-C51, C53-C56, C58-C61	CAP. 1500PF 200V 10% DISC	1000054	6
12	C13-C24	CAP. 1000PF 100V 5% MICA	1000042	5
12	C1-C12	CAP. 33PF 100V 5% D. MICA	1000009	4
1		ETCHED CIRCUIT BOARD	5008847	3
REF		MODULE ECO HISTORY	B-MH-G104-0-6	2
REF		X-Y COORDINATE HOLE LOCATION	K-CO-G104-0-4	1

PARTS LIST

DEC 380	1	8		
DEC 384	1	8		
IC TYPE	GND	+5V		

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT
55	22	J5-A	J5-B
↕	↕	J4-A	J4-B
↕	↕	J3-A	J3-B
↕	↕	J2-A	J2-B
55	22	J1-A	J1-B

JUMPER LIST

DEC NO.	EIA NO.
DEC 3734	SAME
DEC 3762	SAME
DEC 6534-B	MPS6534
DEC 2219-S	2N 2219
1/4 M 6.8AZ1	1N4099
D672	1N3653
D664	1N3606

SEMICONDUCTOR CONVERSION CHART

REV	CHANGE NO	CHK	
C	G104-00002		R. VOGELSANG
B	ORIGINATED		Jessing

REVISIONS

REV COLUMN D

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH. REVISION

DRN. R.E. Hallen DATE 1/4/71
CHK'D. DATE 1-12-71 1-6-71
ENG. Vogelsang DATE 1/12/71
PROJ. ENG. Vogelsang DATE 1/12/71
PROD. DATE

FIRST USED ON D-UA-MM8-E-0

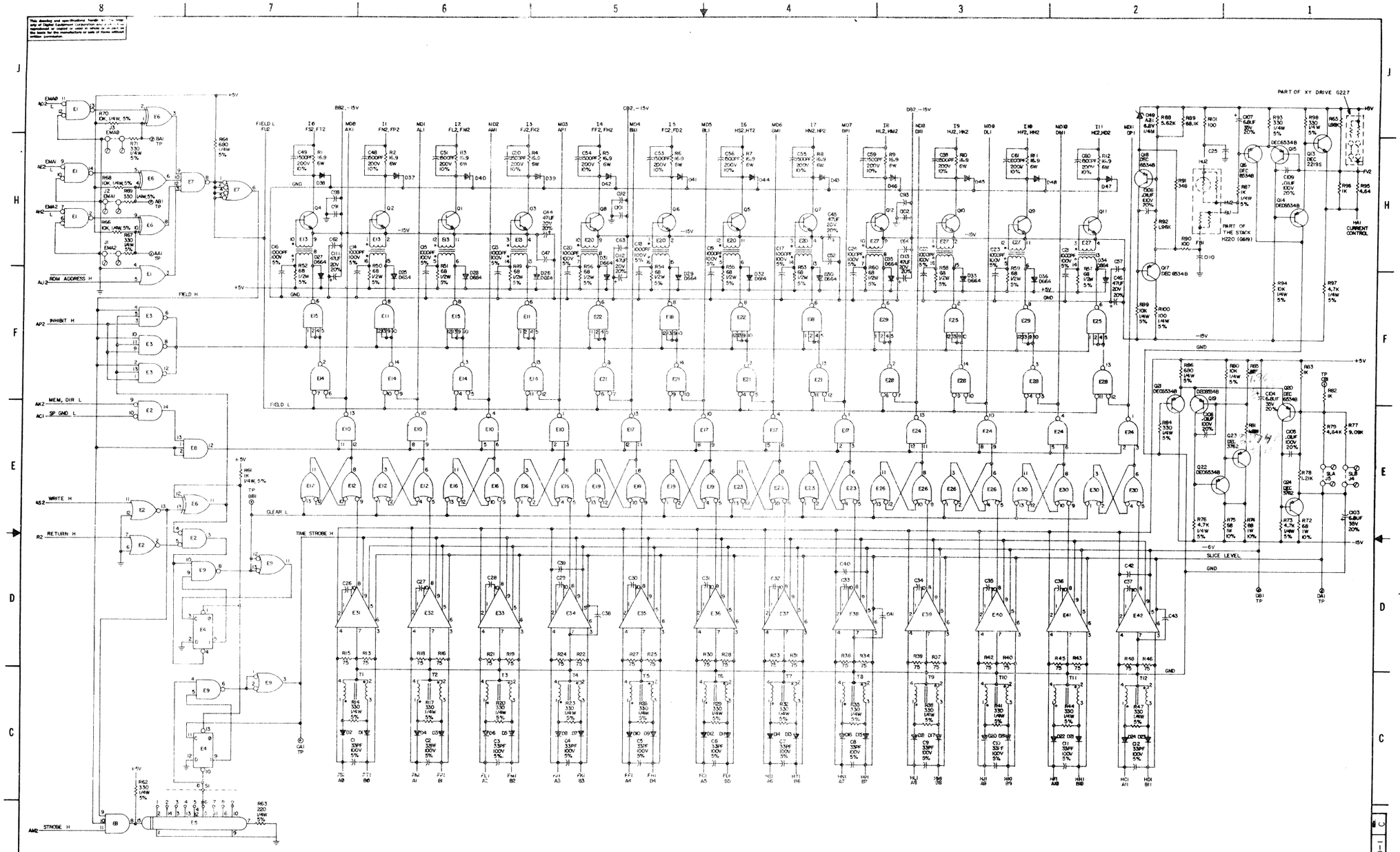
SCALE 2/1
SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE
SENSE INHIBIT
(G104)

SIZE E CODE CS NUMBER G104-0-1 REV. D

DIST.



QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FOR HIGH QUALITY REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH

DRN. Harry Hooper DATE 7/26/70
CHK'D. DATE
ENG. DATE
PROJ. ENG. DATE
PROD. DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE SENSE INHIBIT

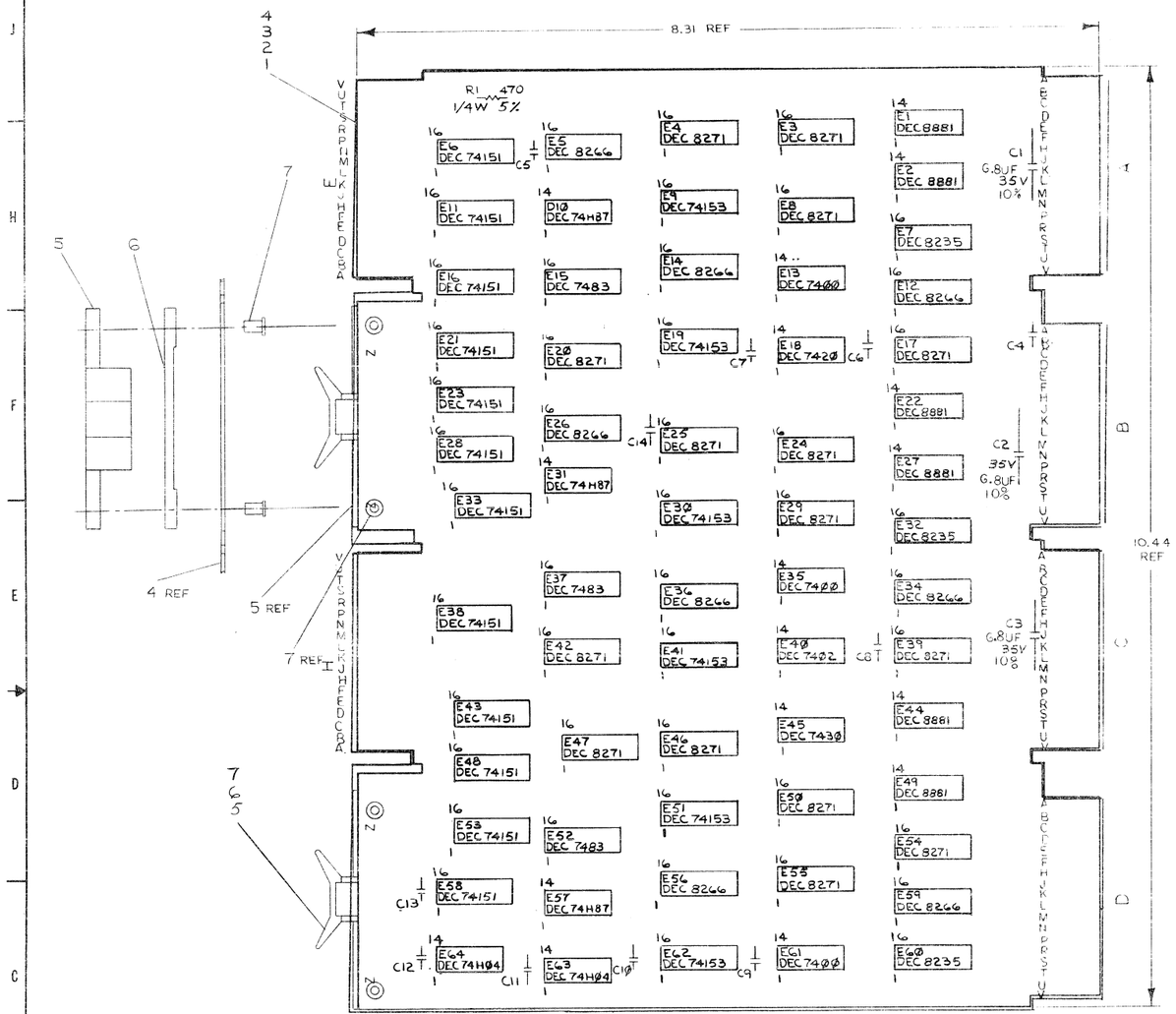
SIZE E CODE NUMBER G104-0-1 REV.

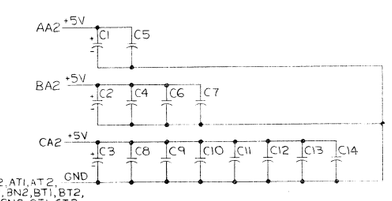
SCALE SHEET 2 OF 2 DIST. A B C D

REVISIONS REV. CHANGE NO. DATE

SIZE E CODE CS NUMBER G104-0-1 REV. C

NOTES:





AC2, AF1, AF2, AN1, AN2, AT1, AT2, BC1, BC2, BF1, BF2, BN1, BN2, BT1, BT2, CC1, CC2, CF1, CF2, CN1, CN2, CT1, CT2, DC1, DC2, DF1, DF2, DN1 & DT2

IC TYPE	GND	+5V
DEC 8235	8	16
DEC 7483	12	5
DEC 8271	8	16
DEC 8266	8	16
DEC 74153	8	16
DEC 74151	8	16

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

JUMPER LIST

QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
WA		WIRE #22 AWG SOLID	1907360-01	24
6	E9, E19, E30, E41, E51, E62	I.C. DEC 74153	1909937	23
12	E6, E11, E16, E21, E23, E28, E33, E38, E43, E48, E53, E58	I.C. DEC 74151	1909936	22
3	E7, E32, E60	I.C. DEC 8235	1909935	21
8	E5, E12, E14, E26, E34, E36, E56, E59	I.C. DEC 8266	1909934	20
3	E15, E37, E52	I.C. DEC 7483	1909932	19
2	E63, E64	I.C. DEC 74H04	1909931	18
3	E10, E31, E57	I.C. DEC 74H87	1909927	17
6	E1, E2, E22, E27, E44, E49	I.C. DEC 8881	1909705	16
15	E3, E4, E8, E17, E20, E24, E25, E29, E39, E42, E46, E47, E50, E54, E55	I.C. DEC 8271	1909615	15
1	E40	I.C. DEC 7402	1909004	14
1	E45	I.C. DEC 7430	1905578	13
1	E18	I.C. DEC 7420	1905577	12
3	E13, E35, E61	I.C. DEC 7400	1905575	11
1	R1	RESISTOR 470 1/4W 5%	1300316	10
11	C4 - C14	CAP .01UF 100V 20% DISC	1001610	9
3	C1, C2, C3	CAP .8UF 35V 20% STANT	0000067	8
4		EYELETS GS4-11 STIMPSON	9006750	7
1		SPACER (CABLE CLAMP)	1202704	6
1		HANDLE FLIP CHIP-MAGENTA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009250	4
REF		MODULE HISTORY LIST	D-AH-M8300-0-4	3
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8300-0-3	2
REF		X-Y COORDINATE HOLE LOCK	CO-M8300-0-4	1

PARTS LIST

REV. COLUMN B

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

DRN		DATE	1/7/71
CHKD		DATE	1-8-71
DES		DATE	
MFG ENG		DATE	1/11/71
PROD		DATE	

PRINT USED ON D-UA-KK8-E-0

SCALE 1/1

SHEET 1 OF 5

DEC NO | EIA NO

SEMICONDUCTOR CONVERSION CHART

REVISIONS

SYM	CHNG NO	REV
	M8300-0000	A

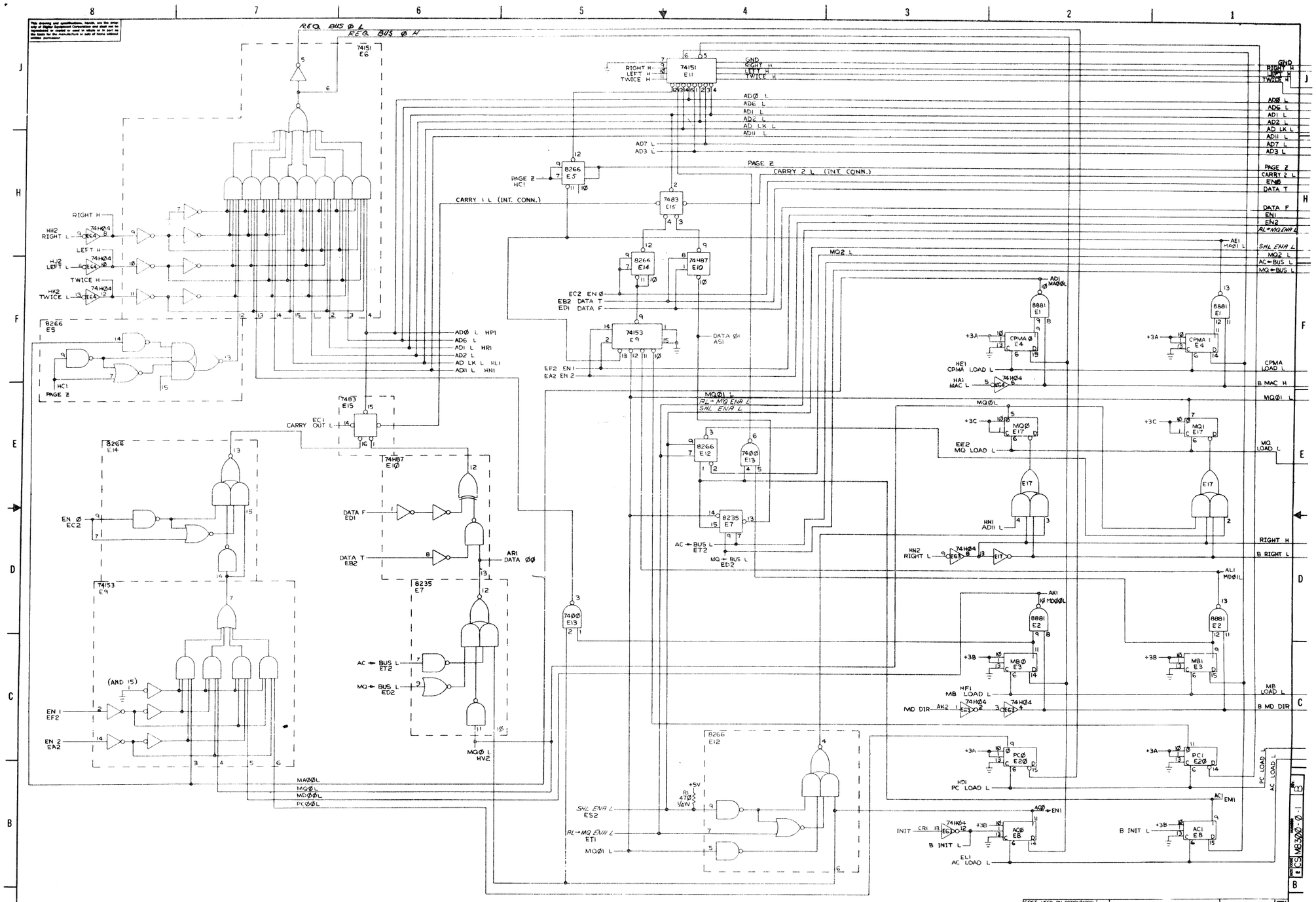
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

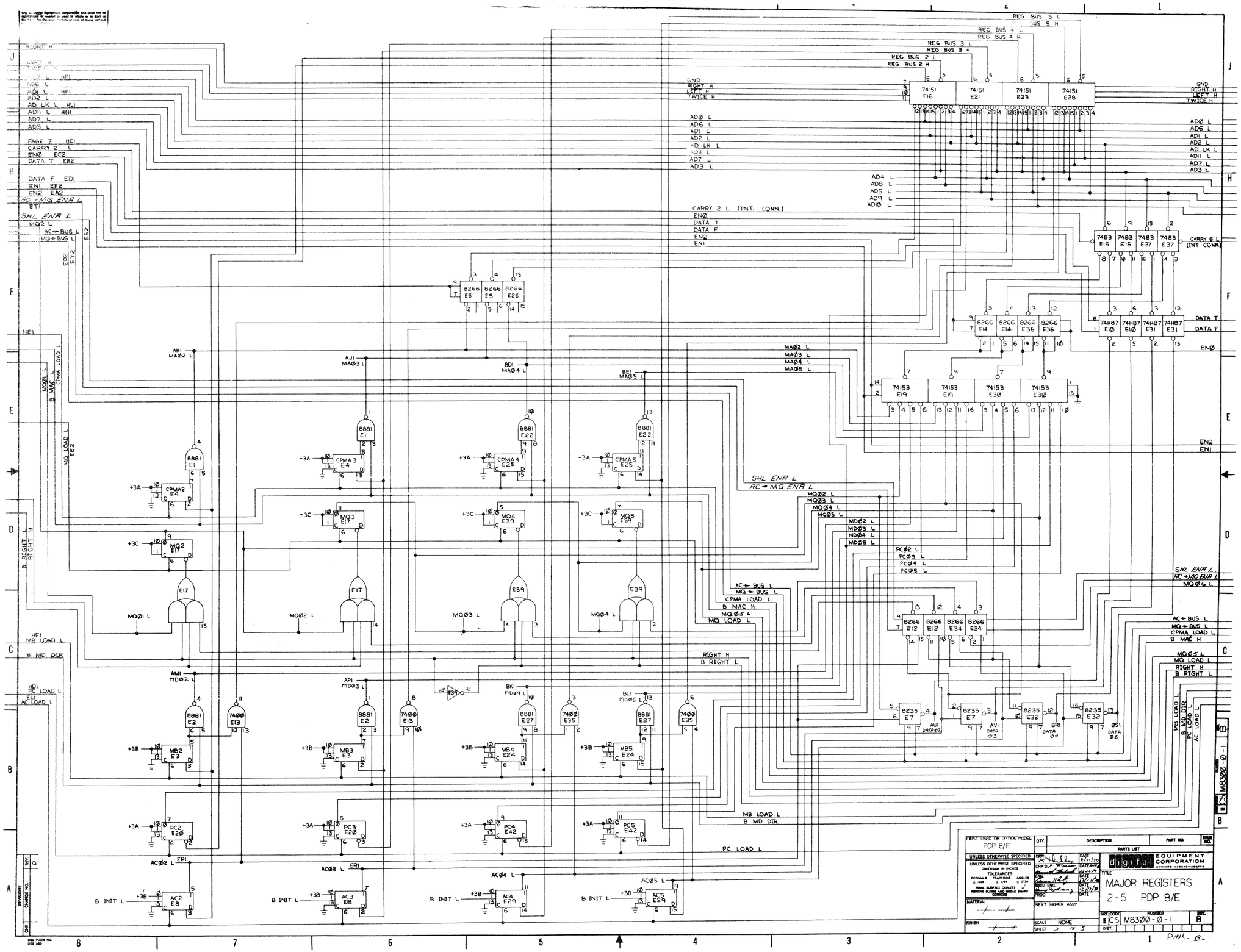
TITLE MAJOR REGISTERS (KK8/E)

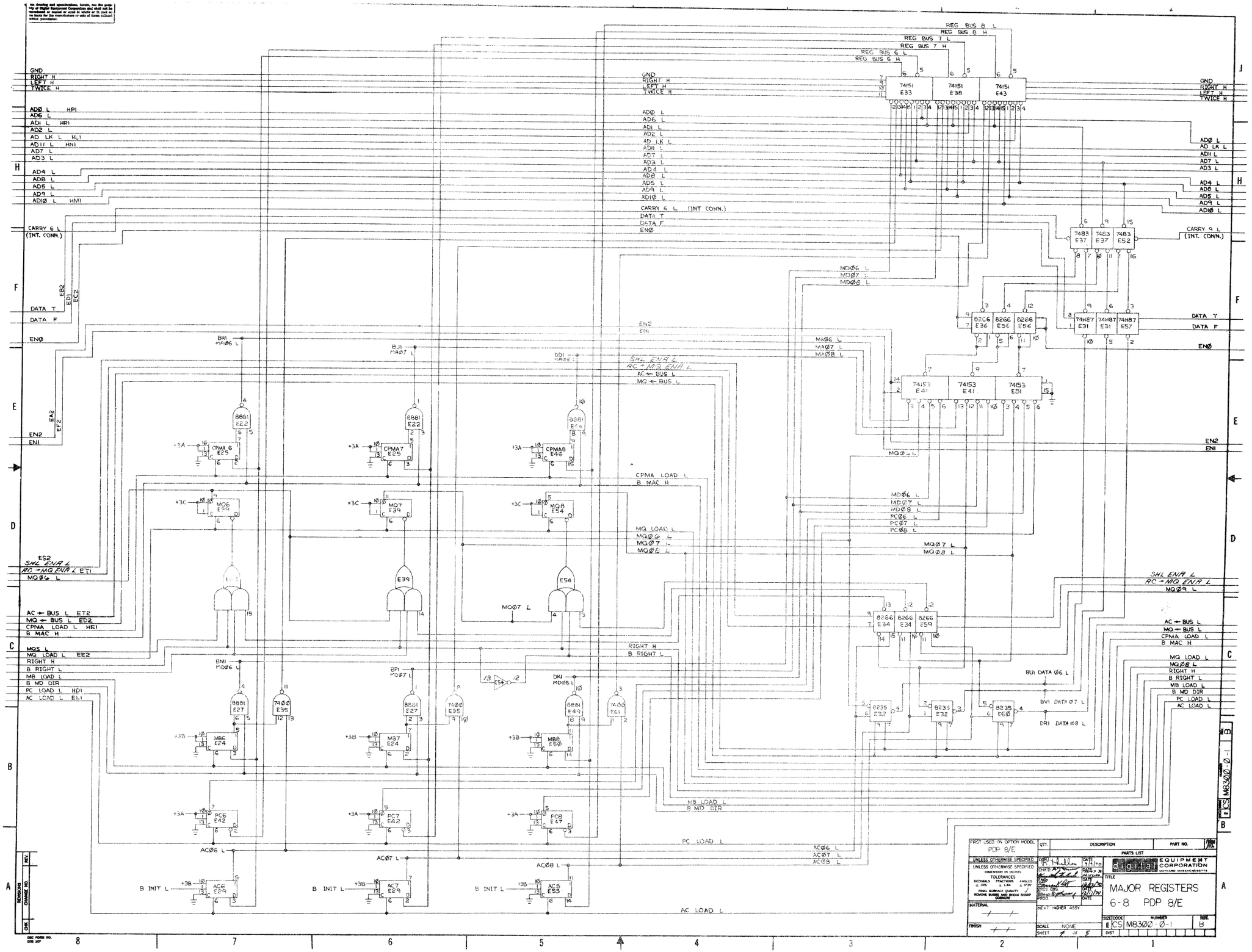
NOTE CODE E | NUMBER CS M8300-0-1 | REV. B

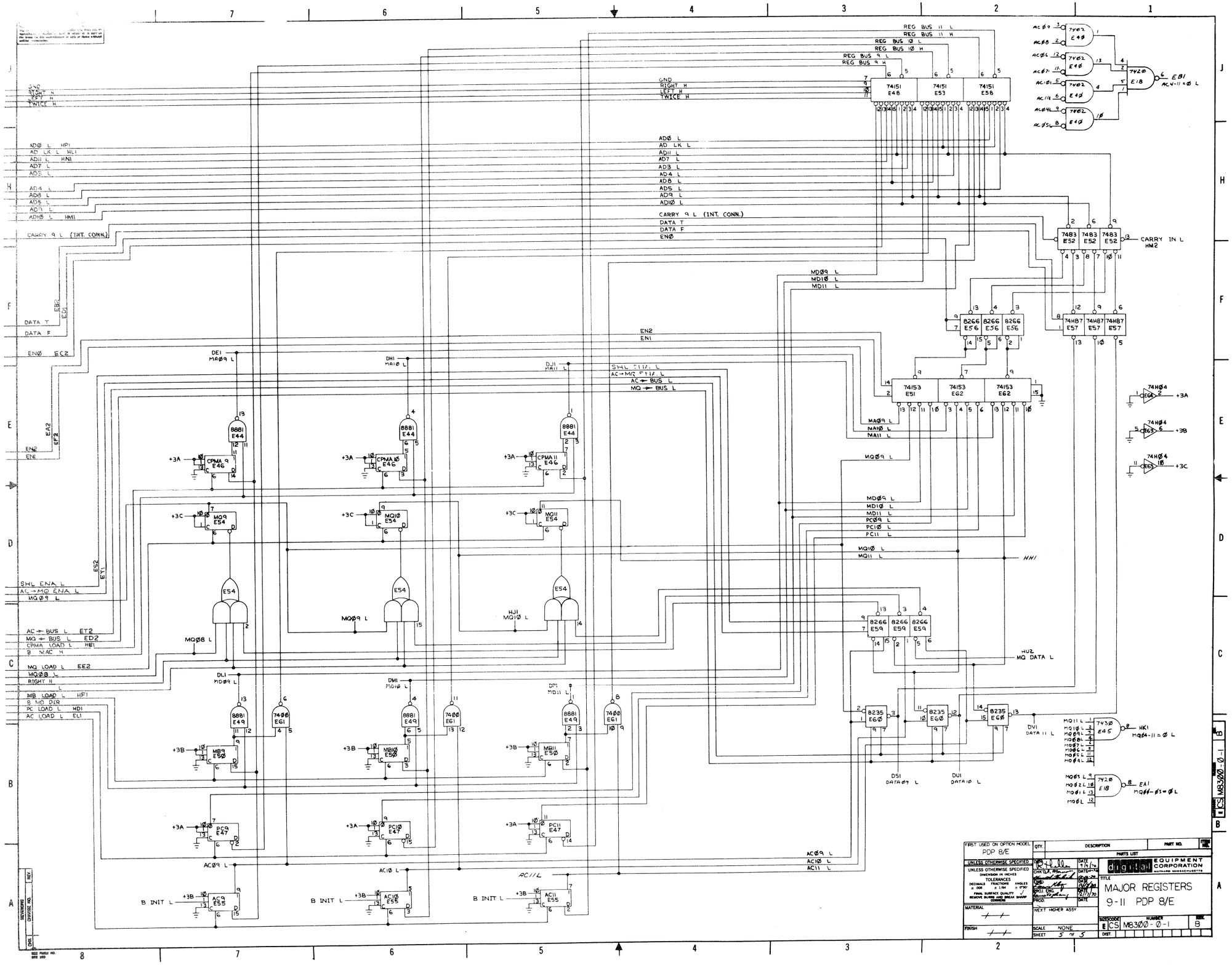
DIST.

M8300-0-1

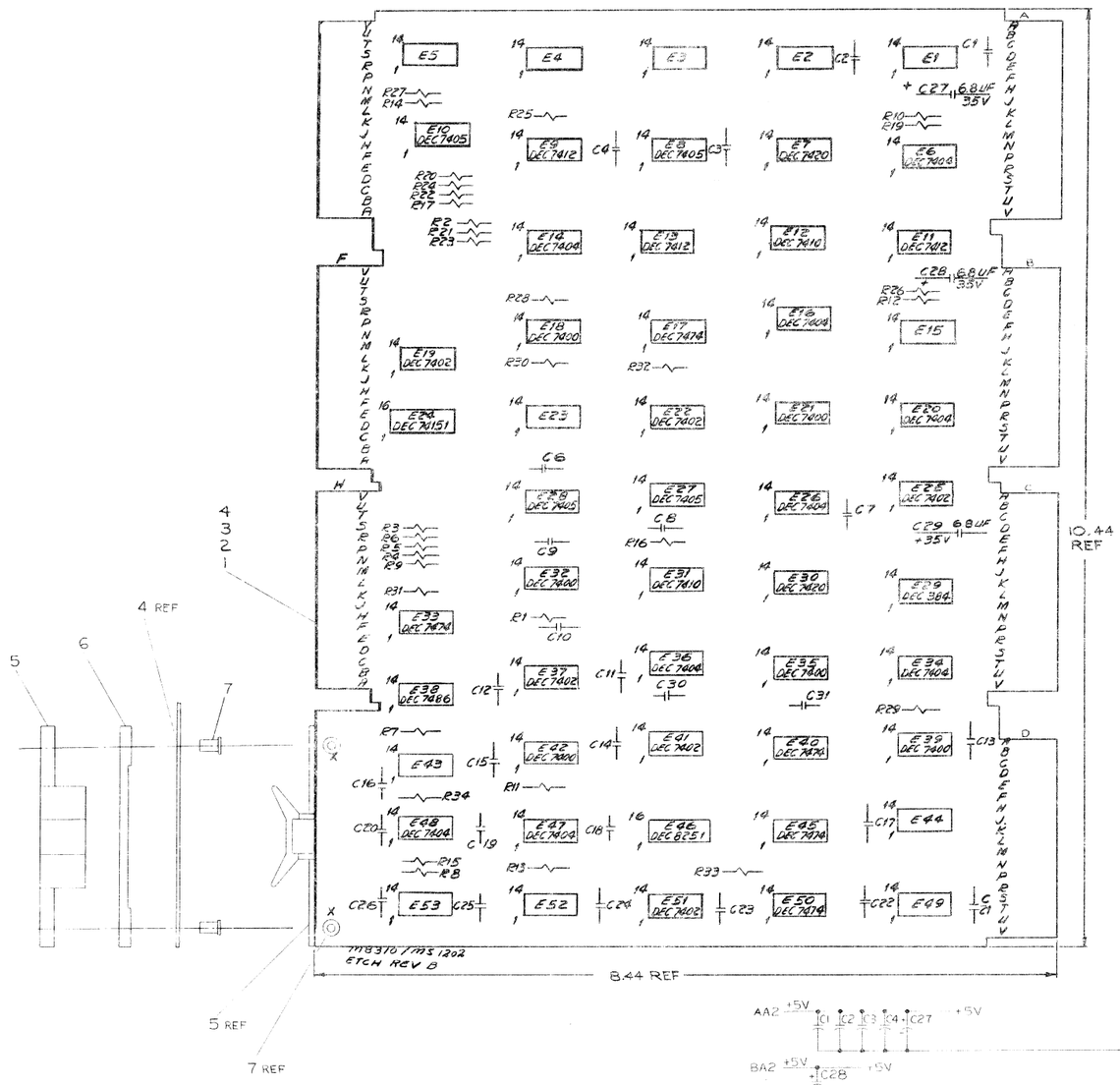

REQ BUS Ø L
REQ BUS Ø H
74151 E6
74151 E11
8266 E5
74483 E15
8266 E14
74H87 E10
74153 E9
8266 E12
8235 E7
74ØØ E13
8881 E1
8881 E2
CPMA Ø E4
CPMA 1 E4
MQØ E17
MQ1 E17
MBØ E3
MB1 E3
PCØ E2Ø
PC1 E2Ø
ACØ E8
AC1 E8
74H04
8266 E8
8266 E14
74153 E9
8266 E12
R1 470Ω ¼W
+5V
CARRY IN TO A 7483 ADDER IS PIN 13
CARRY OUT OF A 7483 ADDER IS PIN 14 THUS
CARRY 2 L (INT CONN)
7483 E17
7483 E15
7483 E37
7483 E37
CARRY 6 L (INT CONN)
DENOTES CONN. BETWEEN E37 PIN 14 & E15 PIN 13
WHILE CARRY 6 L IS INTERNAL TO E37
AND CARRY 2 L IS INTERNAL TO E15
FOR SIMPLICITY OF DRAWING THE FOLLOWING
PROCEDURES HAVE BEEN USED TO ELIMINATE LINES:
74153 E19
74153 E30
THIS DENOTES A CONNECTION BETWEEN E19 PIN 14 AND
E30 PIN 14, E19 PIN 2 AND E30 PIN 2 (ALSO PINS
1 AND 15 ON EACH I.C.). THIS ALSO IS TRUE FOR
OTHER CASES SUCH AS 8266, 74H87, AND 74151.
FIRST USED ON OPTION/MODEL
PDP 8/E
QTY.
DESCRIPTION
PART NO.
ITEM NO.
PARTS LIST
UNLESS OTHERWISE SPECIFIED
digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS
TITLE
MAJOR REGISTERS
Ø & 1 PDP 8/E
MATERIAL
FINISH
NEXT HIGHER ASSY
A-ML-KK8-E
SCALE NONE
SHEET 2 OF 5
SIZE CODE
E CS
NUMBER
M8300-Ø-1
REV.
B
DIST
CS M8300-Ø-1


MAJOR REGISTERS
2-5 PDP 8/E
DIGITAL EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS
CS M8300-0-1
B
SCALE NONE
SHEET 3 OF 5
PDP 8/E
PARTS LIST
DESCRIPTION
PART NO.
NEXT HIGHER ASSY
MATERIAL
FINISH
REVISIONS
CHANGE NO.
REV
DWN
CHK'D
PROD
PROJ ENG
DATE
SIZE CODE
NUMBER
REV.
DIST.
PINK - B




MAJOR REGISTERS
9-11 PDP 8/E
CS M8300-0-1
B
PDP 8/E
DIGITAL EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS
PARTS LIST
DESCRIPTION
PART NO.
QTY.
FIRST USED ON OPTION MODEL
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH
NEXT HIGHER ASSY
SCALE NONE
SHEET 5 OF 5
SIZE CODE
NUMBER
REV.
DIST.
REG BUS 11 L
REG BUS 11 H
REG BUS 10 L
REG BUS 10 H
REG BUS 9 L
REG BUS 9 H
GND
RIGHT H
LEFT H
TWICE H
AD0 L
AD LK L
AD11 L
AD7 L
AD3 L
AD4 L
AD8 L
AD5 L
AD9 L
AD10 L
CARRY 9 L (INT. CONN.)
DATA T
DATA F
EN0
CARRY IN L
HM2
MD09 L
MD10 L
MD11 L
EN2
EN1
SHL ENA L
AC→MQ ENA L
MQ09 L
AC ← BUS L
MQ ← BUS L
CPMA LOAD L
B NAC H
MQ LOAD L
MQ08 L
RIGHT H
MB LOAD L
S MQ DIR
PC LOAD L
AC LOAD L
B INIT L
AC09 L
AC10 L
AC11 L
MA09 L
MA10 L
MA11 L
MQ09 L
PC09 L
PC10 L
PC11 L
HN1
HU2
MQ DATA L
DV1
DATA 11 L
DS1
DATA 09 L
DU1
DATA 10 L
HK1
MQ04-11 = 0 L
EA1
MQ00-03 = 0 L
EB1
AC-11 = 0 L
+3A
+3B
+3C

NOTES:



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	E38	I.C. DEC 7486	1910011	23
3	E9, E11, E13	I.C. DEC 7412	1909955	22
1	E24	I.C. DEC 74151	1909936	21
4	E8, E10, E27, E28	I.C. DEC 7405	1909930	20
12	E1-E5, E23, E43, E44, E49, E52, E53, E15	I.C. DEC 8881	1909705	19
9	E6, E14, E16, E20, E26, E34, E36, E47, E48	I.C. DEC 7404	1909686	18
1	E46	I.C. DEC 8251	1909594	17
1	E29	I.C. DEC 384	1909486	16
6	E19, E22, E25, E37, E41, E51	I.C. DEC 7402	1909004	15
2	E7, E30	I.C. DEC 7420	1905577	14
2	E12, E31	I.C. DEC 7410	1905576	13
6	E18, E21, E32, E35, E39, E42	I.C. DEC 7400	1905575	12
5	E17, E33, E40, E45, E50	I.C. DEC 7474	1905547	11
33	R1-R17, R19-R34	RES. 470, 1/4W, 5%	1300316	10
27	C1-C4, C6-C26, C30, C31	CAP. .01UF, 100V, 20% DISC	1001610	9
3	C27-C29	CAP. 6.8UF, 35V, 20% S. TANT	1000067	8
2		EYELETS GS4-11 STIMPSON	9006750	7
1		SPACER (CABLE CLAMP)	1202704	6
1		HANDLE, FLIP CHIP - MAGENTA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009278	4
REF		MODULE ECO HISTORY	B-MH-M8310-0-6	3
REF		ASSY/DRILLING HOLE LAYOUT	D-MH-M8310-0-5	2
REF		X Y COORDINATE HOLE LOC.	K-CO-M8310-0-4	1

PARTS LIST

IC TYPE	GND	+5V
DEC 74151	8	16
DEC 8251	8	16
DEC 384	1	8

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY. EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

JUMPER LIST

DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

REV.	CHANGE NO.
A	M8310-00001
B	M8310-00002

REVISIONS

REV COLUMN

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

DRN LOUIS KLOTZ DATE 1/5/71
CHKD DATE
ENG DATE
MKT. ENG. DATE
PROD. DATE
FIRST USED ON D-UA-KK8-E-0
SCALE 2/1
SHEET 1 OF 1

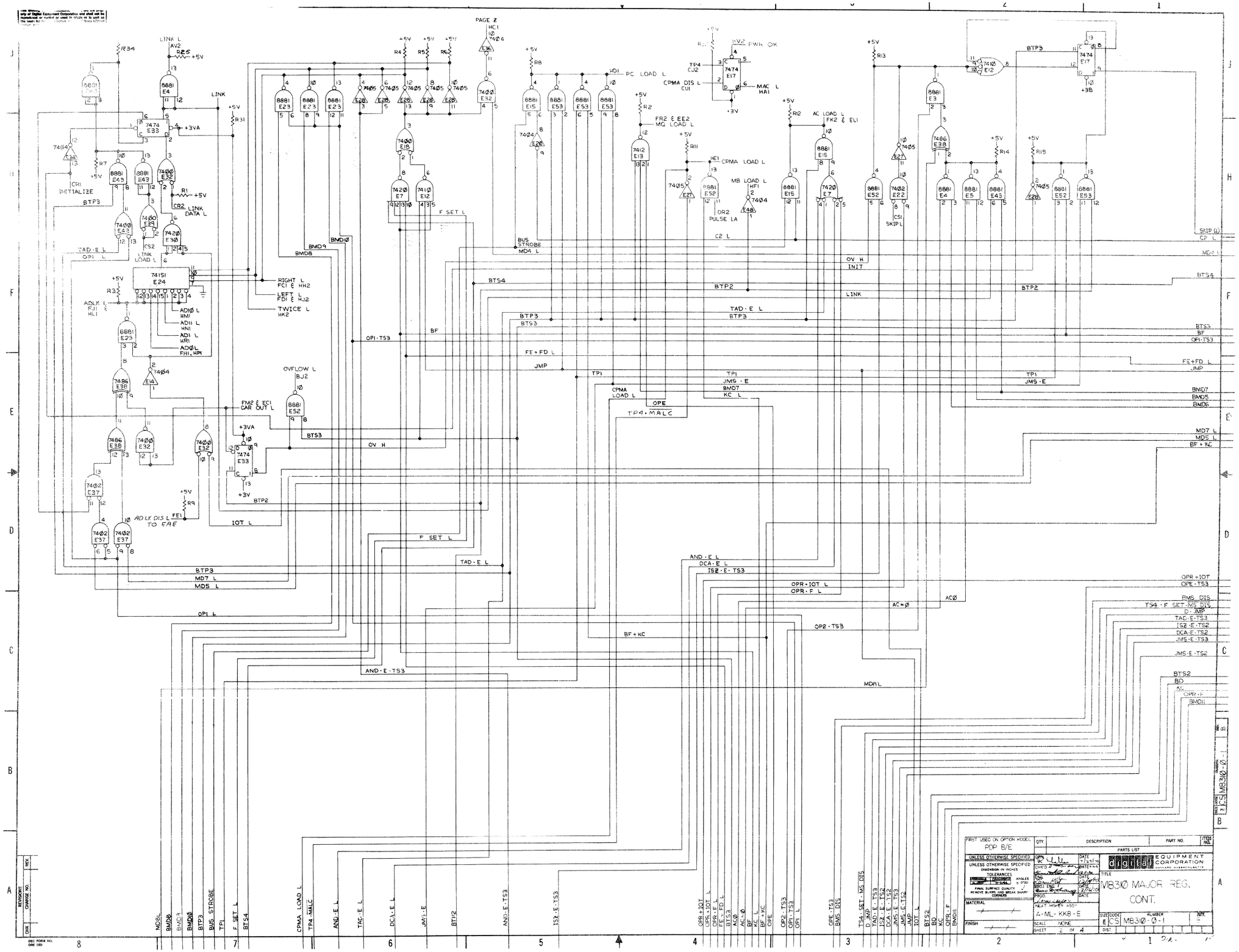
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

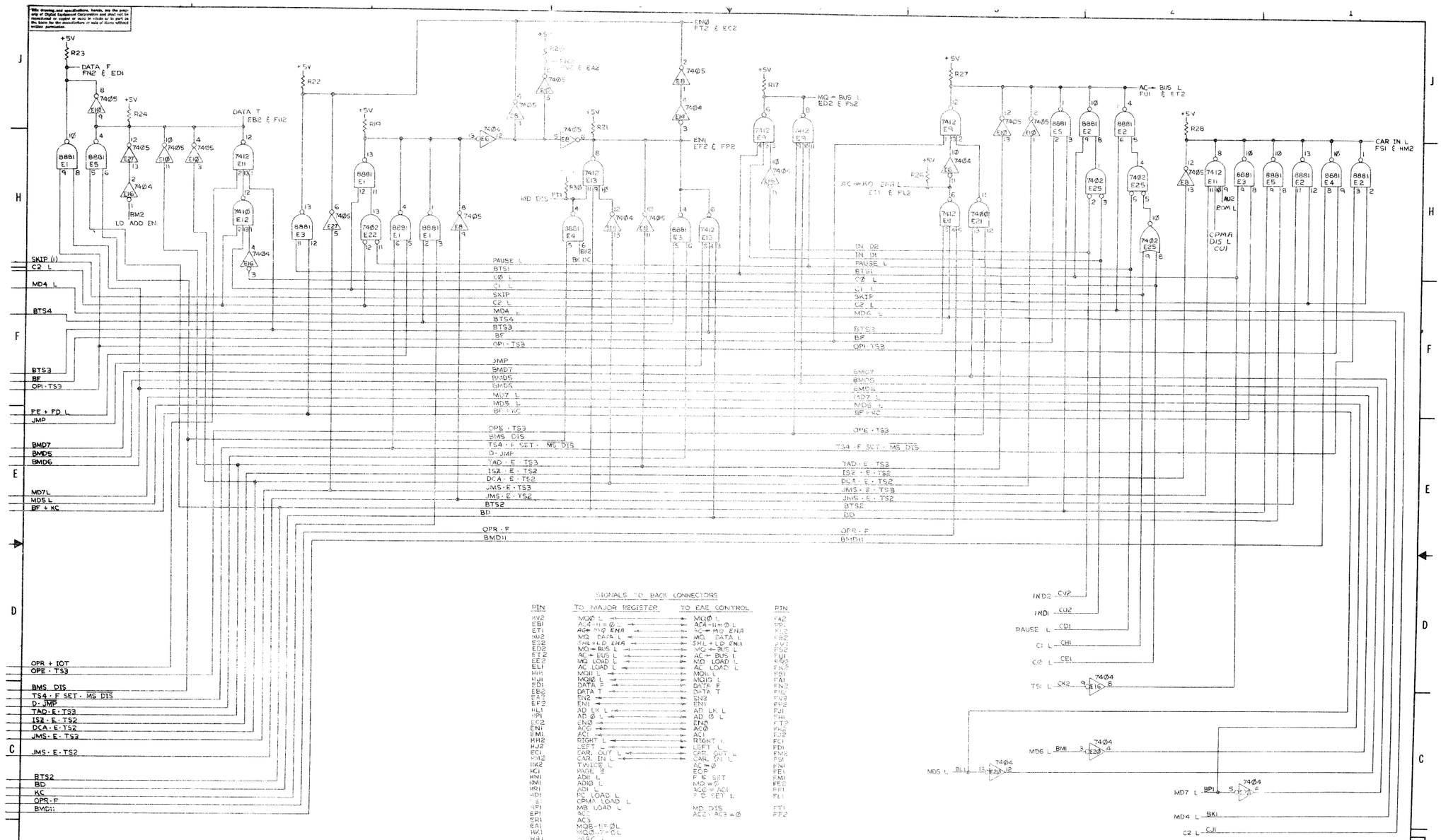
TITLE MAJOR REG. CONT. (M8310)

SIZE E CODE CS NUMBER M8310-0-1 REV. B

DIST. SYM-VFB

M8310-0-1


PAGE Z
LINK L
LINK
INITIALIZE
BTP3
TAD·E L
OPI L
LINK LOAD L
LINK DATA L
RIGHT L
LEFT L
TWICE L
ADLK L
ADØ L
AD11 L
AD1 L
ADØ L
OVFLOW L
FM2 & EC1
CAR OUT L
BTS3
OV H
BTP2
IOT L
AD LK DIS L
TO EAE
F SET L
TAD·E L
BTP3
MD7 L
MD5 L
OPI L
BMD9
BMDØ
BMD8
BUS STROBE
MD4 L
BTS4
BF
OPI·TS3
FE+FD L
JMP
TP1
CPMA LOAD L
OPE
TP4·MALC
PC LOAD L
FR2 & EE2
MQ LOAD L
CPMA LOAD L
MB LOAD L
DR2
PULSE LA
PWR OK
CPMA DIS L
MAC L
AC LOAD L
FK2 & EL1
C2 L
OV H
INIT
LINK
TAD·E L
BTP3
JMS·E
BMD7
KC L
AND·E L
DCA·E L
ISZ·E·TS3
OPR+IOT L
OPR·F L
AC=Ø
ACØ
OP2·TS3
BF+KC
AND·E·TS3
MDRL
SKIP L
CSI
SKIP (L)
CP L
MD4 L
BTS4
BTP2
BTS3
BF
OPI·TS3
FE+FD L
JMP
BMD7
BMD5
BMD6
MD7 L
MD5 L
BF+KC
OPR+IOT
OPE·TS3
RMS DIS
TS4·F SET·MS DIS
D·JMP
TAD·E·TS3
ISZ·E·TS2
DCA·E·TS2
JMS·E·TS3
JMS·E·TS2
BTS2
BD
KC
OPR·F
BMDII
FIRST USED ON OPTION MODEL
PDP 8/E
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH
QTY.
DESCRIPTION
PART NO.
PARTS LIST
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
TITLE
M8310 MAJOR REG. CONT.
A-ML-KK8-E
SCALE NONE
SHEET 2 OF 4
SIZE E
CODE CS
NUMBER M8310-0-1
REV.
DIST.
DEC FORM NO. DNE 189



SIGNALS TO BACK CONNECTORS

PIN	TO MAJOR REGISTER	TO EAE CONTROL	PIN
HV2	MQØ L →	MQØ L	FA2
EB1	AC4-11 = Ø L →	AC4-11 = Ø L	FP1
ET1	AC → MQ ENA	AC → MQ ENA	FV1
NU2	MQ DATA L →	MQ DATA L	FB2
ES2	SHL + LD ENA →	SHL + LD ENA	FV1
ED2	MQ → BUS L →	MQ → BUS L	FS2
ET2	AC → BUS L →	AC → BUS L	FU1
EE2	MQ LOAD L →	MQ LOAD L	FR2
EL1	AC LOAD L →	AC LOAD L	FN2
HH1	MQII L →	MQII L	FR1
HJ1	MQIQ L →	MQIQ L	FA1
FD1	DATA F →	DATA F	FN2
EB2	DATA T →	DATA T	FN2
EA2	ENØ →	ENØ	FV2
EF2	ENI →	ENI	FF2
HL1	AD LK L →	AD LK L	FJ1
HP1	AD Ø L →	AD Ø L	FH1
EC2	ENØ →	ENØ	FT2
EN1	ACØ →	ACØ	FK2
EM1	AC1 →	AC1	FD2
HH2	RIGHT L →	RIGHT L	FC1
HJ2	LEFT L →	LEFT L	FD1
EC1	CAR. OUT L →	CAR. OUT L	FM2
HM2	CAR. IN L →	CAR. IN L	FS1
HK2	TWICE L →	AC = Ø	FN1
KC1	PAGE Z →	EOP	FE1
HN1	ADI L →	F & SET	FM1
HM1	ADIØ L →	MQ = Ø	FE2
HR1	ADI L →	ACØ = AC1	FF1
HD1	PC LOAD L →	F & SET L	FL1
HE1	CPMA LOAD L →		
HF1	MB LOAD L →	MD DIS	FT1
EP1	AC5 →	ACØ · AC3 = Ø	FF2
ER1	AC3 →		
EA1	MQ8-11 = ØL →		
HK1	MQØ-7 = ØL →		
HA1	MAC L →		

RIGHT L	LEFT L	TWICE L	PAGE Z	DATA TO REGISTER	ISF
L	L	L	L	MA ← Ø-4 MQ ← 5-11	PAGE ADDRESSING
L	L	H	L	MAX A AC4	AND
L	H	L	L	ADDER (X+2)	RTR
L	H	H	L	ADDER (X-1)	RAR
H	L	L	L	ADDER (X+2)	RTL
H	L	H	L	ADDER (X+1)	RAL
H	H	L	L	ADDER (X+6)	BYTE SWAP
H	H	H	L	ADDER X	NO SHIFT
X	X	X	H	Ø ← Ø ← 4 SELECT ← 5-11	DIRECT/INDIRECT

ENØ	ENI	EN2	INPUT TO ADDER
L	L	L	PC
L	L	H	MQ
L	H	L	MQ
L	H	H	MA
H	Y	X	H(ARITHMETIC ZERO)

DATA T	DATA F	INPUT TO ADDER
L	L	DATA BUS NOT
L	H	DATA BUS
H	L	H(ARITHMETIC ZERO)
H	H	L(ARITHMETIC ONE)

BIT X OF THE REGISTER SELECTED HERE ← IS ADDED TO ← BIT X OF THE DATA BUS AS SELECTED HERE AND THE SUM (ADDER X) IS FED TO A MULTIPLEXER TO BE DECODED AS ABOVE. THE OUTPUT OF THIS MULTIPLEXER IS LOADED INTO WHICH EVER REGISTER IS CLOCKED.

SHL ENA L	AC4-MQ ENA L	DATA ← MQ
L	L	MQX+1 Ø-10 MQ DATA ← MQII
L	H	MQX+1 Ø-10 MQ DATA ← MQII
H	L	AC (IN COMPLEMENT TO REDEFINE)
H	H	11 (Ø ← MQ)

FIRST USED ON OPTION MODEL PDP 8/E	QTY.	DESCRIPTION	PART NO.	ITEM NO.
		PARTS LIST		

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES FRACTIONS ± ANGLES ± DECIMALS ± FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN. DATE 1/1/70
CHK. D. DATE 1-14-70
ENG. DATE
PROJ. ENG. DATE 1/14/70
PROD. DATE

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE M8310 MAJOR REG. CONT.

NEXT HIGHER ASSY A-ML-KM8-E

SIZE E CODE CS NUMBER M8310-0-1 REV. B

SCALE NONE

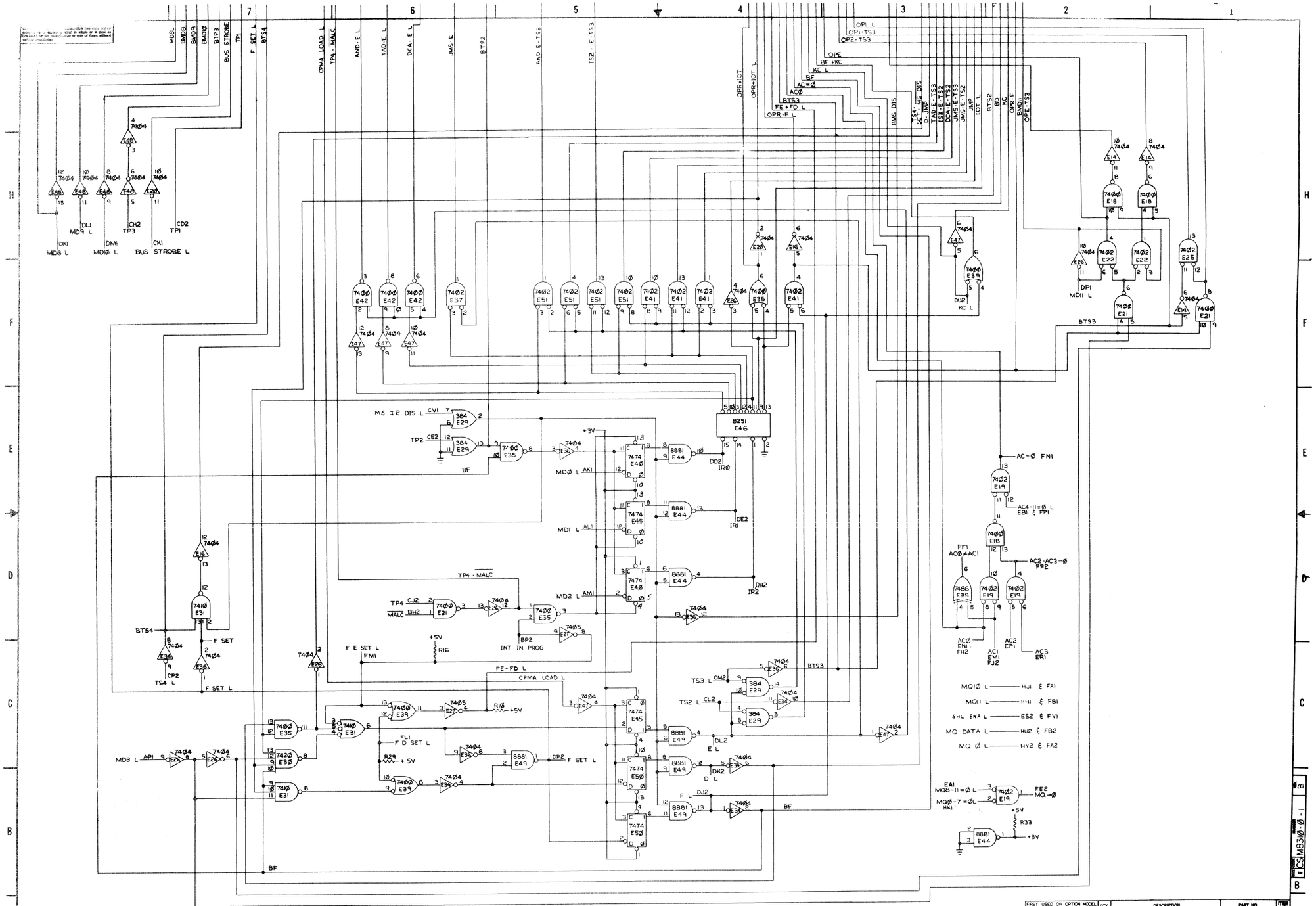
SHEET 3 OF 4

DIST

REVISIONS REV. CHANGE NO. CHK.

DEC FORM NO. BRE 1459

REF CODE M8310-0-1 SHEET 3 B



FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
POP 8/E		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH

DWN		DATE 7/23/70
CHK		DATE
ENG		DATE
ENG		DATE
PROD		DATE
NEXT HIGHER ASSY	A-ML-KK8-E	

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

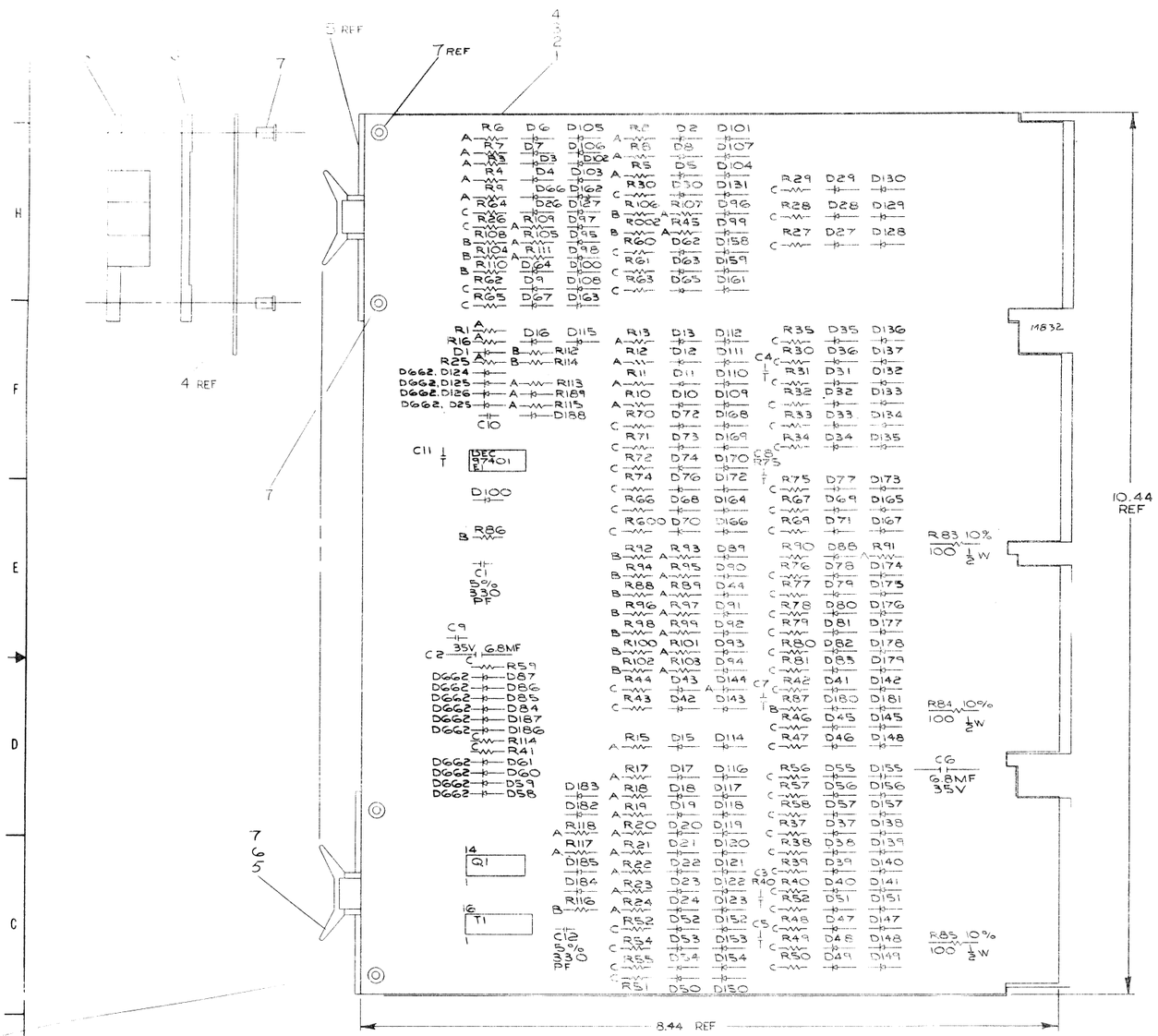
TITLE M8310 MAJOR REG CONT.

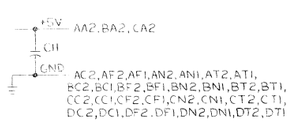
SIZE	CODE	NUMBER	REV.
E	CS	M8310-0-1	B

SCALE NONE
SHEET 4 OF 4
DIST.

CS M8310-0-1 B

NOTES:
1. CONNECT ALL PINS C, F, N, T, (EXCEPT AC1) TOGETHER TO GROUND





QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	E1	I.C. DEC 97401	1909973	19
1	T1	PULSE TRANSFORMER	1609651	18
1	Q1	TRANSISTOR DEC 4008	1510015-0	17
55	R26-R44, R46-R72, R74-R81, R119	RES. 1500, 1/4W, 5%	1300391	16
41	R1-R13, R15-R25, R45, R89, R91, R93, R95, R97, R99, R101, R103, R105, R107, R109, R111, R113, R115, R117, R118	RES. 470, 1/4W, 10%	1300317	15
18	R82, R86-R88, R90, R92, R94, R96, R98, R100, R102, R104, R106, R108, R110, R112, R114, R116	RES. 150, 1/4W, 5%	1300250	14
3	R83-R85	RES. 100, 1/2W, 10%	1300230	13
173	D1-D13, D15-D24, D26-D57, D62-D74, D76-D83, D88-D112, D114-D123, D127-D170, D172-D180, D182-D189	DIODE D664	1100114	12
12	D25, D58-D61, D84-D87, D124-D126	DIODE D662	1100113	11
8	C3-C5, C7-C11	CAP. .01UF, 100V, 20% DISC	1001610	10
2	C2, C6	CAP. 6.8UF, 35V, 20% DISC	1000067	9
2	C1, C12	CAP. 330PF, 100V, 5% DM	1000023	8
8		EYELET *GS4-11 STIMPSON	9006750	7
4		SPACER (CABLE CLAMP)	1202704	6
4		HANDLE FLIP CHIP - MAGENTA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009104	4
REF		MODULE HISTORY LIST	B-MH-M832-Ø-6	3
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M832-Ø-5	2
REF		X-Y COORDINATE HOLE LOC.	K-CO-M832-Ø-4	1

PARTS LIST

DEC 4008	+++	
D664	IN3606	
D662	IN645	
DEC NO	EIA NO.	

SEMICONDUCTOR CONVERSION CHART

REV COLUMN

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

DRN. C.S. 4-8-70 DATE 4/8/70
CHKD. DATE 5/1/71
ENG. DATE 5/1/71
ENG. CHG. DATE 5/1/71
PROD. DATE

FIRST USED ON D-UA-KK8-E-Ø

SCALE 3/1

SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE BUS LOADS (M832)

SIZE CODE E | CS | NUMBER M832-Ø-1 | REV. D

DIST.

REV.	CHANGE NO.	REVISIONS	CHK.
D	ORIGINATED		
C	M832-00003		

GREG LESSER 2-27-71

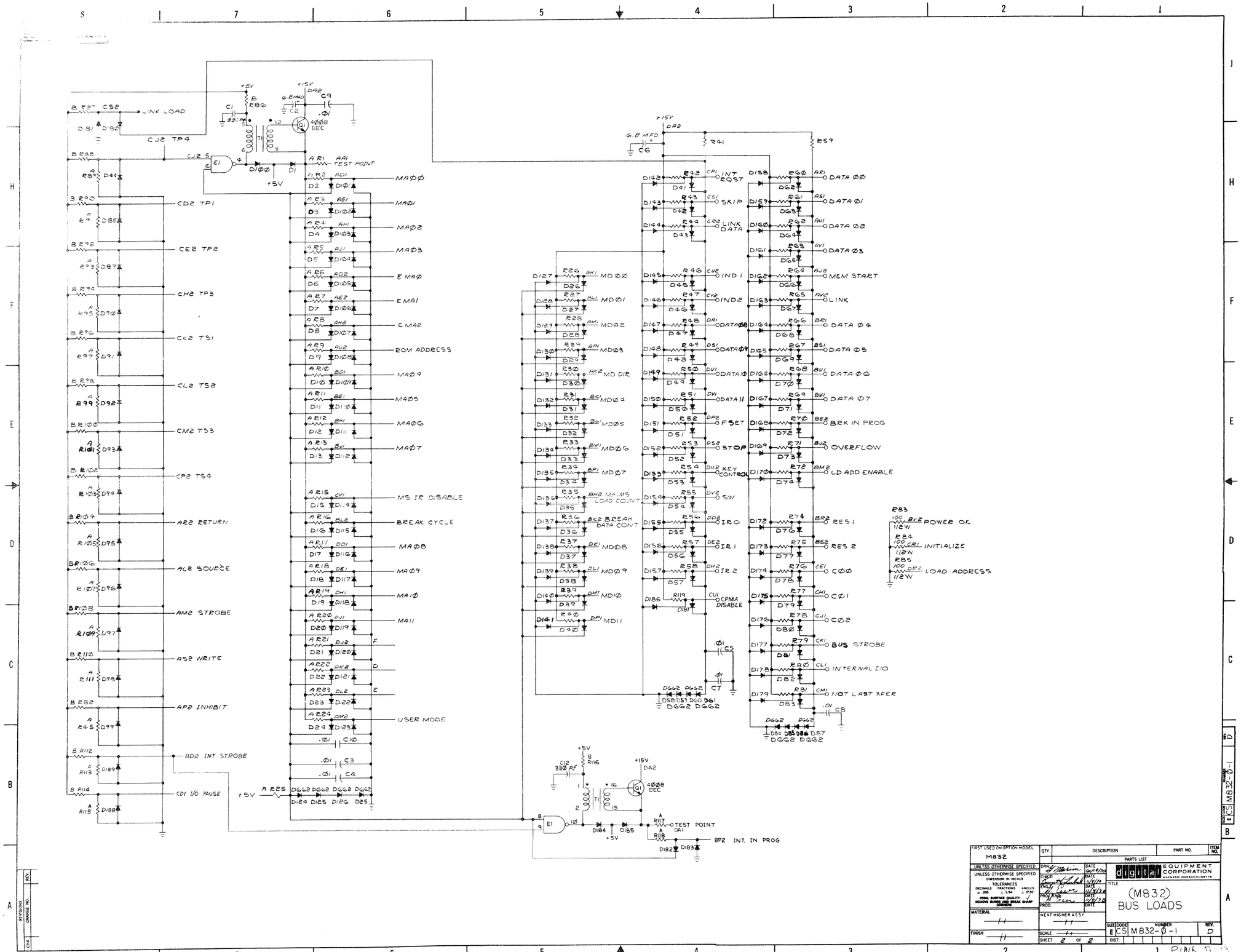
TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY. EXCEPTIONS ARE STATED ABOVE		

IC PIN LOCATIONS

ITEM NO.	AWG	FROM PT	TO PT

JUMPER LIST

DEC FORM NO. CMR 1101



FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
M832		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —//—

FINISH —//—

DRN. J. Marino DATE 4/11/70
CHKD. DATE
ENGR. DATE
PROJ. ENGR. DATE
PROD. DATE
NEXT HIGHER ASSY —//—
SCALE —//—
SHEET 2 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE (M832) BUS LOADS

SIZE E CODE CS NUMBER M832-Ø-1 REV. D

DIST.

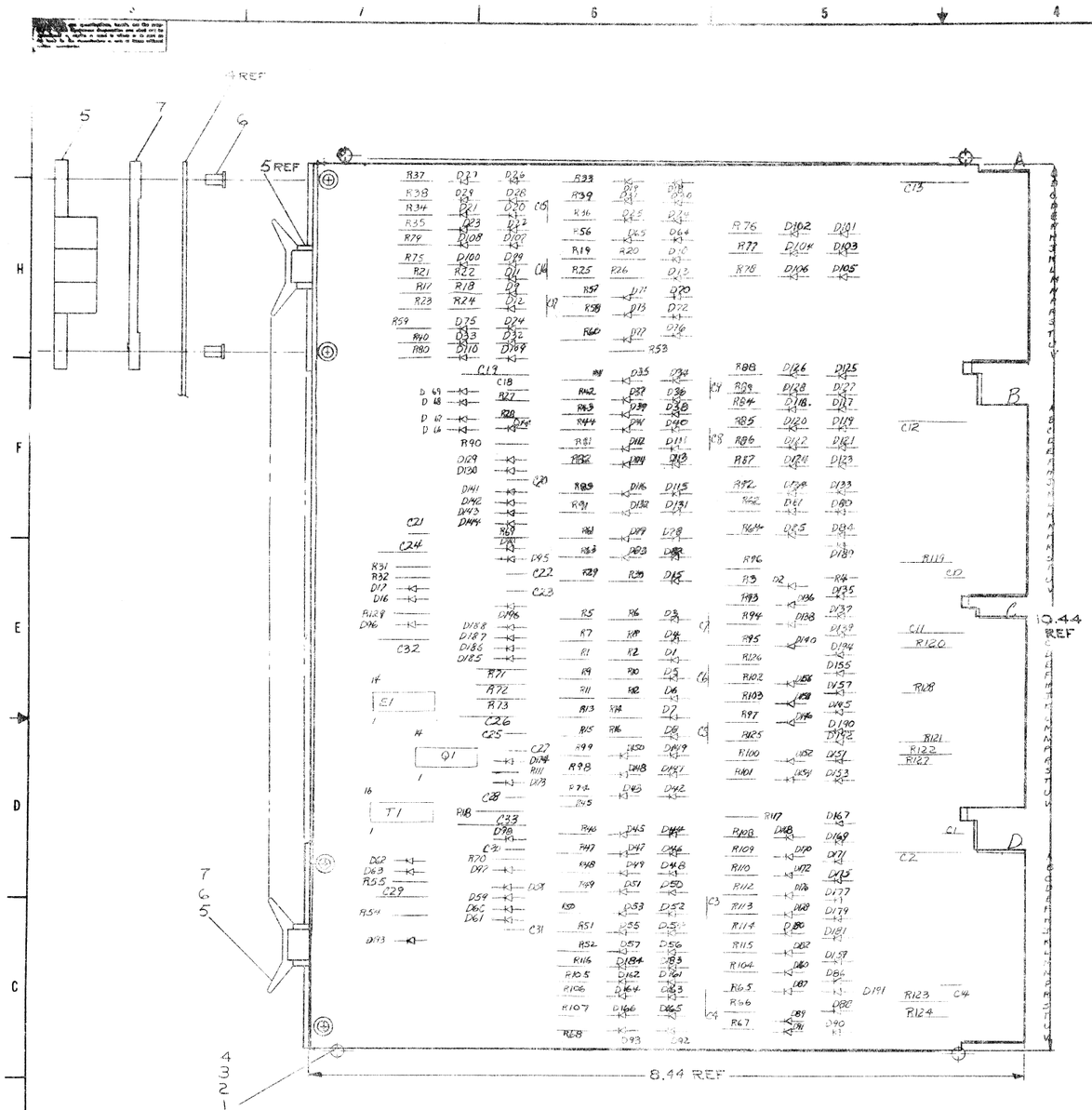
REVISIONS REV. CHANGE NO. CHK.

DEC FORM NO. GRE-100

PINK Sh.

NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   CAPACITORS = .047UF 16V 15-20%
   RESISTORS = 150Ω 1/4W 5%
   DIODES = D664
2. CONNECT ALL PINS C,F,N,T (EXCEPT AC1) TOGETHER TO GROUND.



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
3	C24, C29, C32	CAP 330PF 100V 5%	1000023	21
7	C5, C11, C12, C13, C19, C26, C33	CAP 6.8UF 35V 20%	1000067	20
23	C1, C3-C10, C14-C18, C20-C23, C25, C27, C28, C30, C31	CAP .047UF 16V 15-20%	1009678	19
1	IC1	IC DEC 9404	1909686	18
1	T1	PULSE XFMR BOIODIALLINE	1609651	17
1	Q1	TRANS DEC 4008	1510015	16
6	R119-R124	RES 1K 1/4W 10%	1302187	15
4	R71-R73, R118	RES 1.2K 1/4W 10%	1300387	14
58	R57-R69, R74-R77, R53	RES 500 1/4W 5%	1300391	13
41	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32-R52, R55, R56, R70, R72, R128	RES 470 1/4W 10%	1300317	12
20	R1, R3, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31, R54, R125, R129, R126	RES 150 1/4W 5%	1300250	11
2	D17, D97	DIODE D672	1105275	10
16	D58-D61, D66-D68, D141-D144, D185-D188	DIODE D662	1100113	9
177	D1-D16, D18-D57, D62-D65, D70-D96, D98-D140, D145-D184, D189-D194, D196	DIODE D664	1100114	8
4		SPACER (CABLE CLAMP)	1202704	7
8		EYELET GS4-11 STIMPSON	9006750	6
4		HANDLE FLIP CHIP-MAGENTA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009886	4
REF		MODULE HISTORY LIST	B-MH-M8320-0-6	3
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8320-0-5	2
REF		X Y COORDINATE HOLE LOC.	K-CO-M8320-0-4	1

PARTS LIST

ETCH BOARD REV

IC TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY EXCEPTIONS ARE STATED ABOVE		

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT

JUMPER LIST

REV	CHANGE NO.	REFERENCE	DEC NO.	EIA NO.	DEC NO.	EIA NO.
A			DEC 4008			
			D664	1N3606		
			D672	1N3653		
			D662	1N645		

SEMICONDUCTOR CONVERSION CHART

		DATE
DRN.		3-7-71
CHK'D		
ENG.		
PROJ. ENG.		
PROD.		3/31/71

FIRST USED ON: D-UA-KKB-E-0

SCALE 2:1

SHEET 1 OF 2

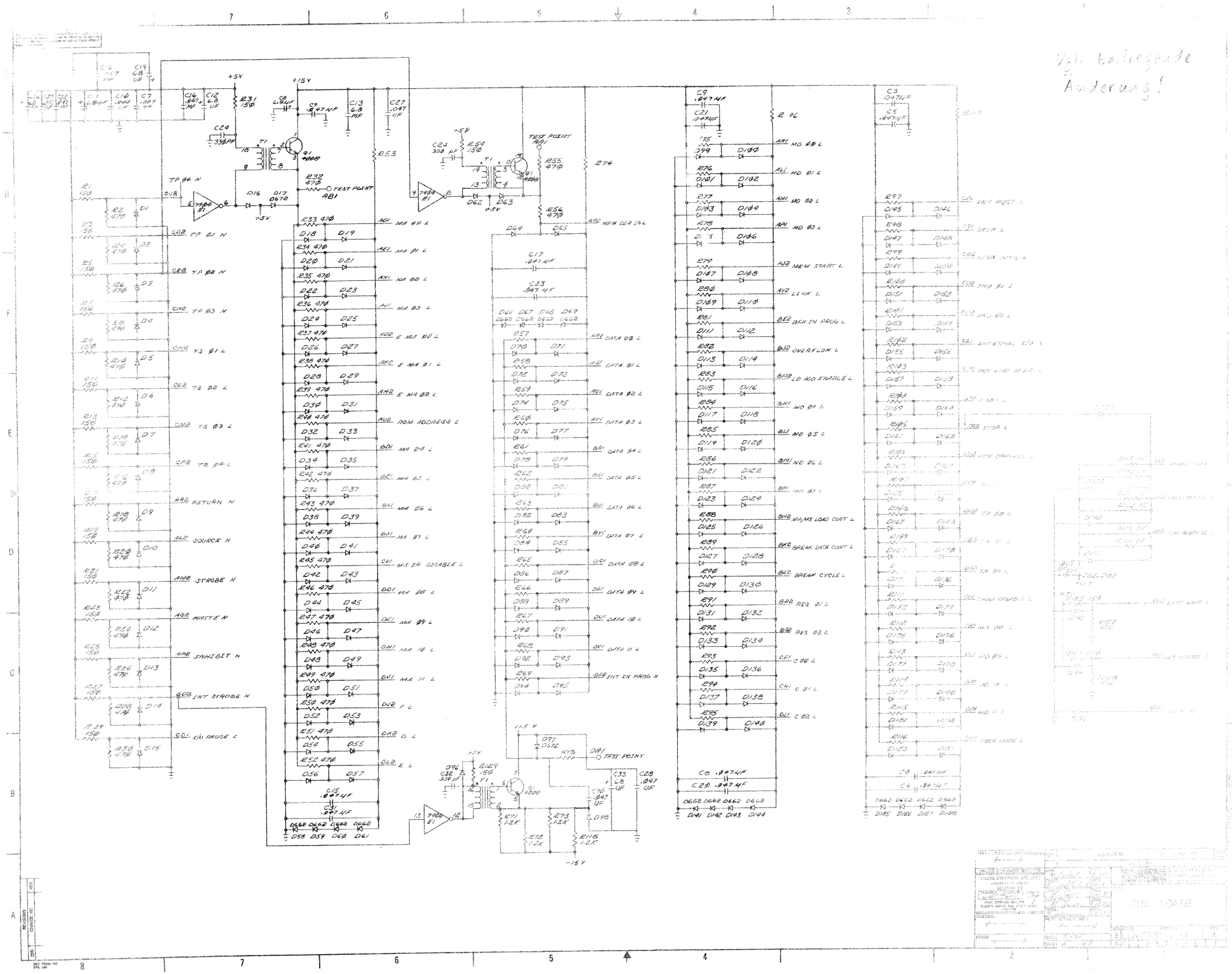
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: BUS LOADS

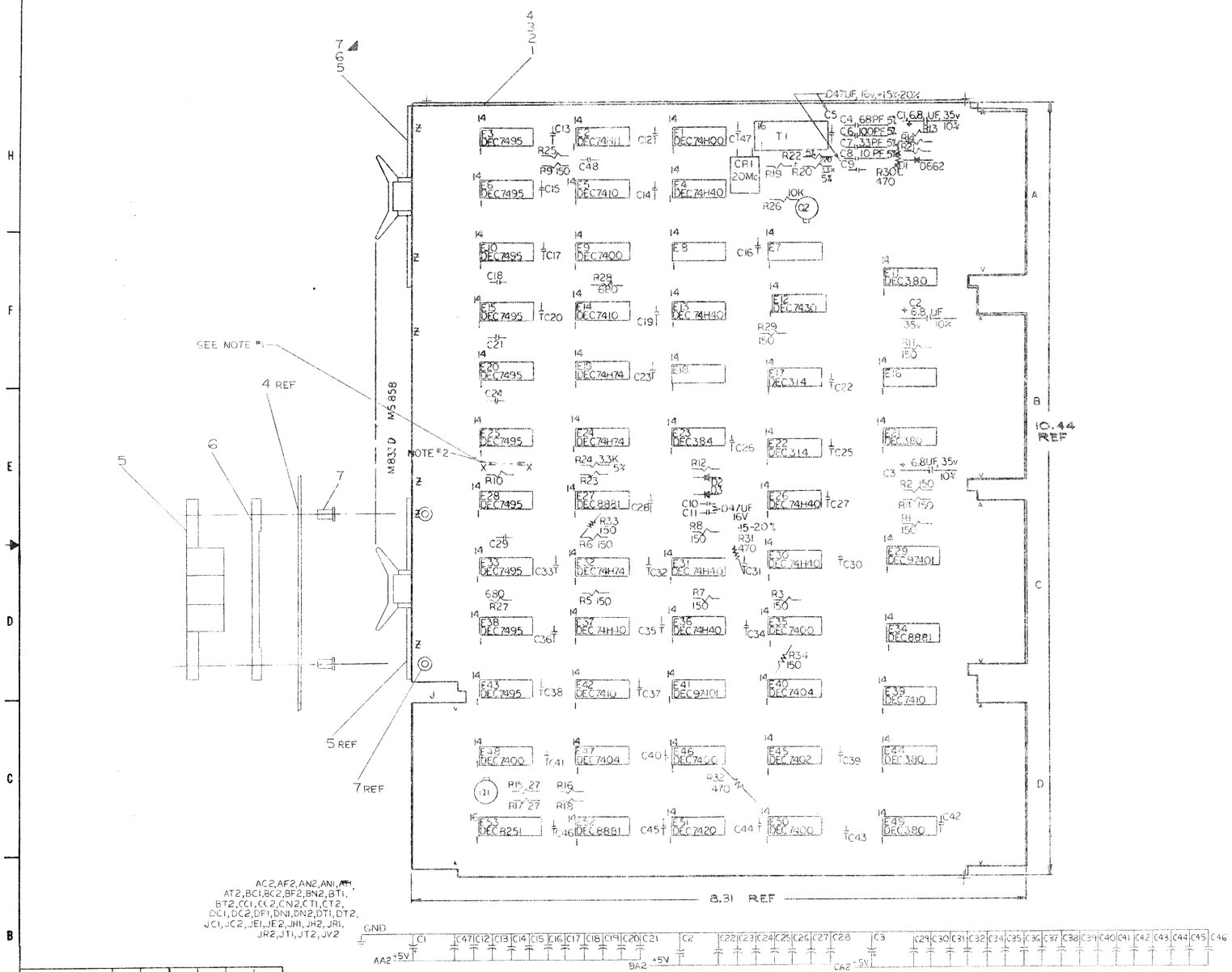
SIZE/CODE E | CODE CS | NUMBER M8320-0-1 | REV. A

DIST.

Vgl. beliegende Änderung!



NOTES:
1. INSERT JUMPER J1 (ITEM 44) IN ALL REV C AND EARLIER BOARDS.



AC2,AF2,AN2,AN1,AH1,
AT2,BC1,BC2,BF2,BN2,BT1,
BT2,CC1,CC2,CN2,CT1,CT2,
DC1,DC2,DF1,DN1,DN2,DT1,DT2,
JC1,JC2,JE1,JE2,JH1,JH2,JR1,
JR2,JT1,JT2,JV2

QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
2	E29, E41	I.C. DEC 7440	1909973	46
1	E2	I.C. DEC 74H11	1909267	45
A/R		WIRE #22 AWG BUS	9007560-01	44
2	R27, R28	RES. 680, 1/4 W, 10%	1300350	43
1	CR1	CRYSTAL 20MC	1809880	42
3	E27, E34, E53	I.C. DEC 8881	1909705	41
2	E17, E22	I.C. DEC 314	1909704	40
2	E40, E47	I.C. DEC 7404	1909686	39
3	E19, E24, E32	I.C. DEC 74H74	1909667	38
1	E53	I.C. DEC 8251	1909594	37
1	E23	I.C. DEC 384	1909486	36
4	E11, E21, E44, E49	I.C. DEC 380	1909485	35
1	E1	I.C. DEC 74H00	1909056	34
10	E3, E6, E10, E15, E20, E25, E28, E33, E38, E43	I.C. DEC 7495	1909055	33
1	E45	I.C. DEC 7402	1909004	32
7	E4, E13, E26, E30, E31, E36, E37	I.C. DEC 74H40	1905586	31
4	E7, E8, E16, E18	I.C. DEC 7440	1905579	30
1	E12	I.C. DEC 7430	1905578	29
1	E51	I.C. DEC 7420	1905577	28
4	E5, E14, E39, E42	I.C. DEC 7410	1905576	27
5	E9, E35, E46, E48, E50	I.C. DEC 7400	1905575	26
1	T1	TRANSFORMER PULSE	1609651	25
2	Q1, Q2	TRANSISTOR DEC 30098	1503100	24
2	R15, R17	RES. 27, 1/4W, 10%	1301420	23
1	R26	RES. 10K, 1/4 W, 10%	1300481	22
2	R20, R24	RES. 3.3K, 1/4W, 5%	1300434	21
13	R6, R7, R13, R14, R16, R18, R19, R21, R2, R3, R28, R30, R32	RES. 470, 1/4W, 10%	1300317	20
1	R22	RES. 220, 1/4W, 5%	1300271	19
13	R1-R4, R11, R23, R33, R34	RES. 150, 1/4W, 10%	1300252	18
2	D2, D3	DIODE D664	1120114	17
1	D1	DIODE D662	1120113	16
4	C5, C9-C11	CAP. .047UF, 16V, +15-20% DISC	1003678	15
3	C1-C3	CAP. 6.8UF, 35V, 10% S. TANT	1005306	14
37	C12-C48	CAP. .01UF, 100V, 20% D.M.	1001610	13
1	C8	CAP. 100PF, 100V, 5% D.M.	1000016	12
1	C4	CAP. 68PF, 100V, 5% D.M.	1000014	11
1	C7	CAP. 33PF, 100V, 5% D.M.	1000009	10
1	C6	CAP. 10PF, 100V, 5% D.M.	1000006	9
12		SPLIT LUGS	9009735	8
6		EYELET G541 STIMPSON	9009750	7
3		SPACER (CABLE CLAMP)	2003704	6
3		HANDLE FLIP CHIP-MAGENTA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009105	4
REF		MODULE HISTORY LIST	8-MH-M833-0-6	3
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M833-0-5	2
REF		X-Y COORDINATE HOLE LOC.	A-CO-M833-0-4	1

PARTS LIST

DEC NO	EIA NO
DEC 30098	2N3646
D664	1N3606
D662	1N645

SEMICONDUCTOR CONVERSION CHART

IC TYPE	GND	+5V
DEC 380	1	8
DEC 314	1	8
DEC 384	1	8
DEC 8251	8	16

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT
44	22	J1-A	J1-B

JUMPER LIST

CHANGE NO	ORIGINATED	REV
M833-00002		C
M833-00003		D
M833-00004		E

REVISIONS

REV COLUMN

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

DRN. L. NARH DATE 3/21/71
CHK'D. DATE
ENGR. DATE
MOD. ENG. DATE
PROD. DATE
FIRST USED ON D UA-KKR E-0
SCALE 2/1
SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE TIMING GENERATOR (M833)

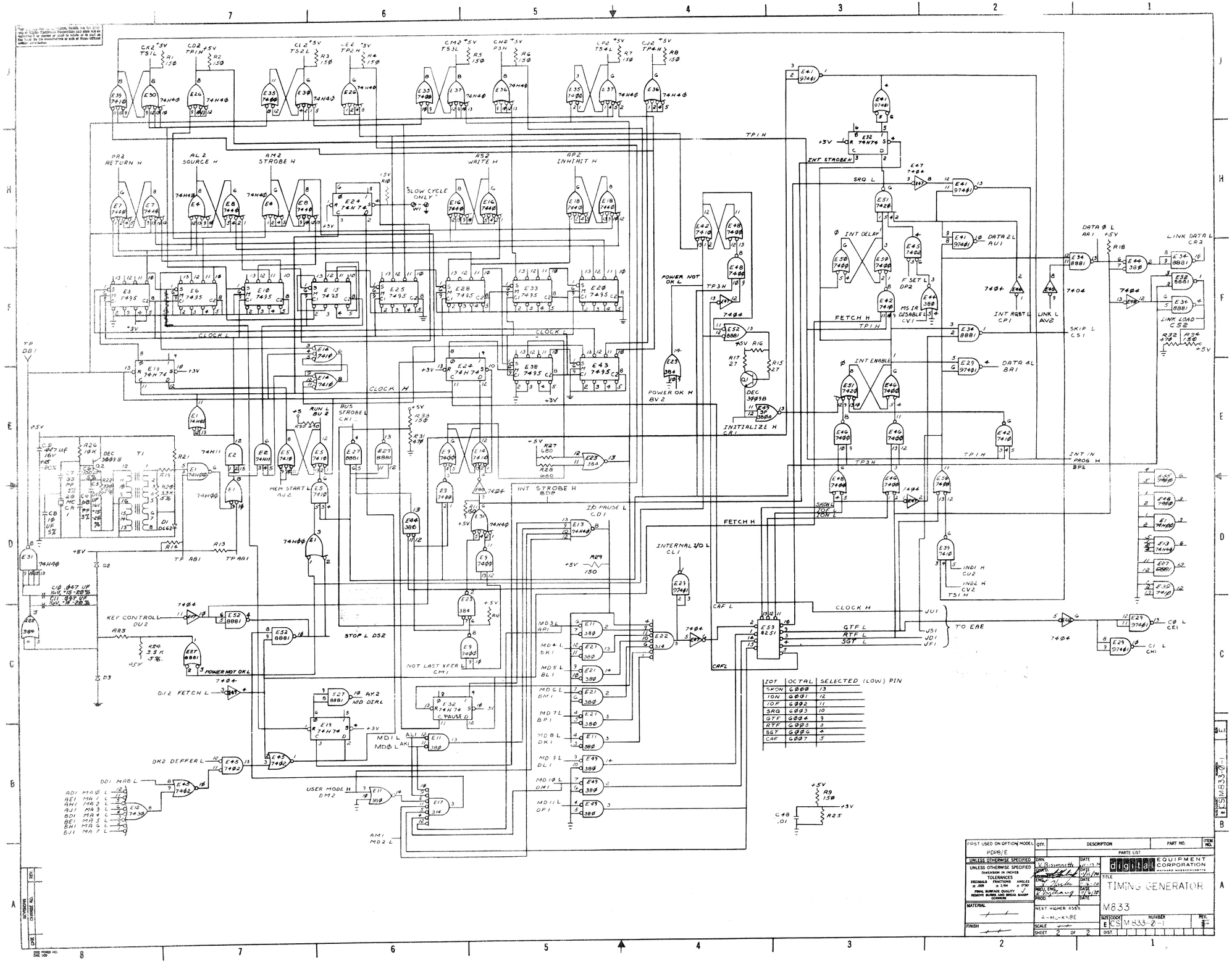
SIZE CODE ECS NUMBER M833-0-1 REV. F

DIST.

M833-2

B

A



IOT	OCTAL	SELECTED (LOW) PIN
SKON	6000	13
ION	6001	12
IOF	6002	11
SRQ	6003	10
GTF	6004	9
RTF	6005	8
SGT	6006	4
CAF	6007	5

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP8/E		PARTS LIST		

UNLESS OTHERWISE SPECIFIED — DIMENSION IN INCHES — TOLERANCES: DECIMALS ±.005, FRACTIONS ±1/64, ANGLES ±0°30' — FINAL SURFACE QUALITY ✓ — REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

		DATE
DRN.	V. Bissonnette	11-13-70
CHK'D.		11/15/70
ENG.		11-5-70
PROJ. ENG.		11/5/70
PROD.		

NEXT HIGHER ASSY. A-ML-KN8E

SCALE —

SHEET 2 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

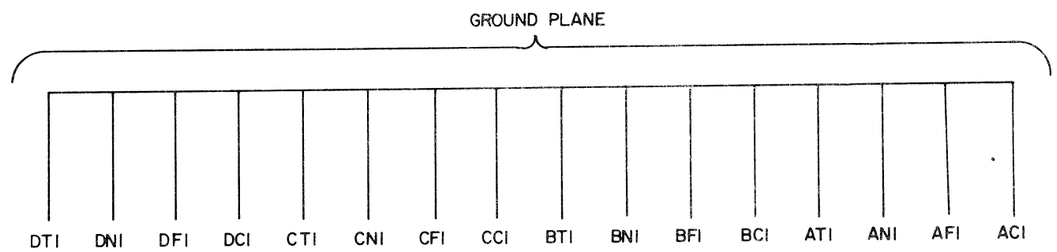
TITLE TIMING GENERATOR

M833

SIZE	CODE	NUMBER	REV.
E	CS	M833-0-1	

DIST.

SIZE	CODE	NUMBER	REV.
B	CS	M849-0-1	B



REVISIONS		
REV		
CHG NO		
CHK		

DRN.	NANCY MOORE	DATE 8/18/70
CHK'D	R. Waldin	DATE 8/24/70
ENG.	Al Dufresne	DATE 10/1/70
PROD.		DATE

TRANSISTOR & DIODE CONVERSION CHART

DEC	EIA	DEC	EIA

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

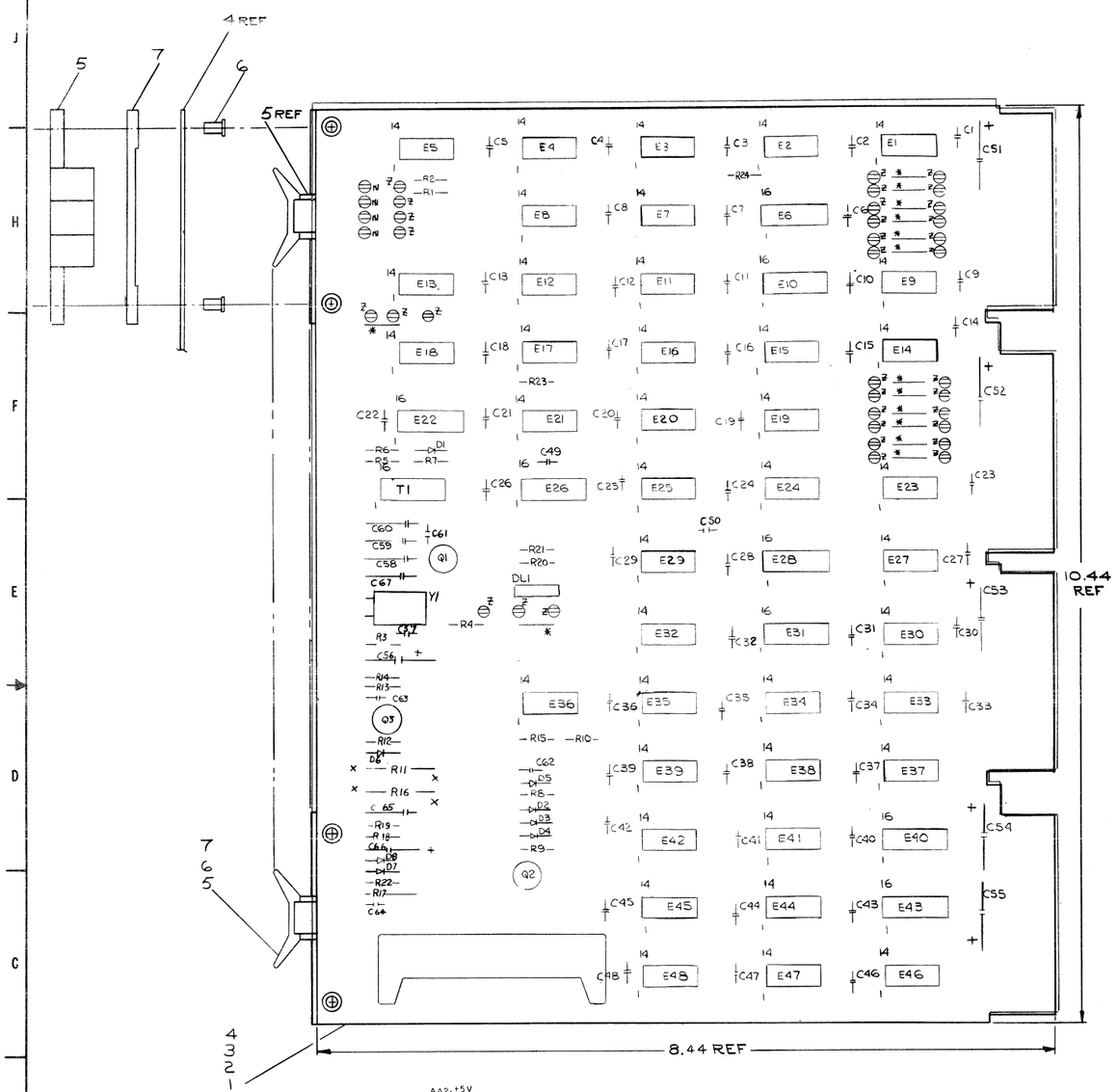
TITLE
RFI SHIELD M849

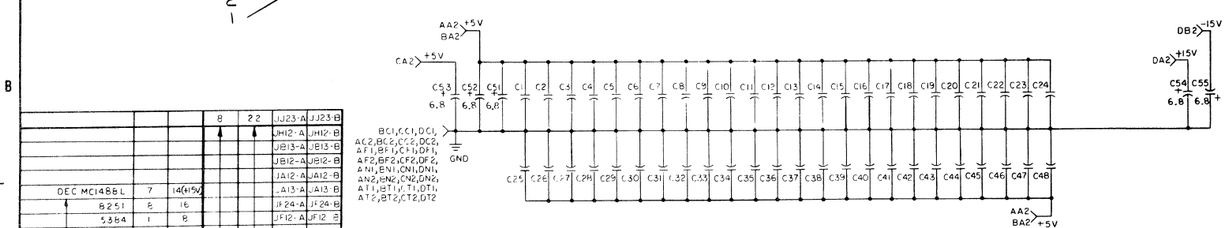
SIZE	CODE	NUMBER	REV.
B	CS	M849-0-1	C

PRINTED CIRCUIT REV. D

DIST. 324,434,435 5 PINK

DEC FORM NO.
DRB 102





IC TYPE	GND	+5V
DEC MC1488L	7	14(+15V)
8251	8	16
5384	1	8
74193	8	16
5314	1	8
8271	8	16
7493	10	5
DEC 5380	1	8

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTFULLY EXCEPTIONS ARE STATED ABOVE

IC PIN LOCATIONS

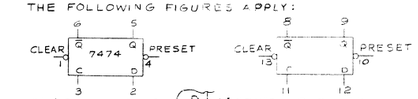
ITEM NO	AWG	FROM PT	TO PT
8	22	JJ23-A	JJ23-B
		JH12-A	JH12-B
		JB13-A	JB13-B
		JB12-A	JB12-B
		JA12-A	JA12-B
		JA13-A	JA13-B
		JF24-A	JF24-B
		JF12-A	JF12-B
		JE13-A	JE13-B
		JE24-A	JE24-B
		JD24-A	JD24-B
		JD13-A	JD13-B
		JC24-A	JC24-B
8	22	JC13-A	JC13-B

JUMPER LIST

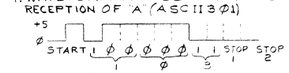
NOTES:

1. $\overset{4}{\circ}\!-\!\overset{A}{\circ}\!-\!\overset{Z}{\circ}$ = SPLIT LUGS
   $\overset{A}{\circ}\!-\!\overset{JD24}{\circ}\!-\!\overset{B}{\circ}$ = MACHINE INSERTED JUMPER
   B ⊢ = 40 PIN HEADER CONNECTION

   DATA II $\overset{DV1}{}$ = OMNIBUS CONNECTION
2. PIN F IS EIA TRANSMITTED DATA:
   +6V OR MORE = SPACE = Ø
   -6V OR LESS = MARK = 1
   PIN V IS EIA REQUEST TO SEND, +6V OR MORE = ON (PERMANENTLY).
   PIN DD IS EIA DATA TERMINAL READY, +6V OR MORE = ON (PERMANENTLY).
3. THIS DRAWING FOLLOWS DEC STANDARD 056 LOGIC SYMBOLOGY.
   FLIP-FLOPS ARE NAMED FOR THE CONDITION THEY REPRESENT IN THE '1' STATE
   THE FOLLOWING FIGURES APPLY:



   IF 'D' SHOWN THUS, '1' STATE = Q STATE
   IF 'D' SHOWN THUS, '1' STATE = $\overline{Q}$ STATE
   IF '1' SHOWN THUS THIS LEAD IS HIGH WHEN FLIP-FLOP IS IN '1' STATE.
   IF 1 SHOWN THUS THIS LEAD IS LOW WHEN FLIP-FLOP IS IN '1' STATE.
4. WAVEFORM AT TEST POINT #6 FOR RECEPTION OF 'A' (ASCII 3Ø1)



5. UNLESS OTHERWISE NOTED:
   RESISTORS = 1K 1/4W 5%
   CAPACITORS = .01μf 100V 20%
   DIODES = D664

QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	R22	RES. 82 1/4W 5%	1301477	58
5	E1,E23,E27,E30,E46	I.C. DEC 5380	1912392	57
4	E2,E15,E33,E37	I.C. DEC 97401	1909973	56
9	E3,E4,E7,E8,E16, E20,E29,E38,E48	I.C. DEC 7474	1905547	55
3	E5,E13,E18	I.C. DEC 7493	1909054	54
5	E6,E10,E26,E28,E31	I.C. DEC 8271	1909615	53
2	E9,E14	I.C. DEC 5314	1910391	52
3	E11,E45,E47	I.C. DEC 7402	1909704	51
3	E12,E41,E44	I.C. DEC 7400	1903370	50
1	E17	I.C. MC1489L EIA RECEIVER	1910322	49
1	E19	I.C. DEC 7410	1903576	48
2	E21,E42	I.C. DEC 7404	1905585	47
1	E22	I.C. DEC 74193	1910018	46
1	E24	I.C. DEC 8815	1909713	45
2	E25,E39	I.C. DEC 7450	1905580	44
1	E32	I.C. MC1488L EIA DRIVER	1910322	43
2	E34,E36	I.C. DEC 5384	1910394	42
2	E40,E43	I.C. DEC 8251	1909554	41
1	E35	I.C. DEC 74H00	1909056	40
52	C1-C50,C62,C64	CAP. .01μf 100V 20% DISC	1001610	39
6	C51-C56	CAP. 6.8μf 35V 20% TANT	1000067	38
2	C57,C61	CAP. .047μf DISC	1009673	37
1	C58	CAP. 33PF MICA	1000009	36
1	C59	CAP. 100PF MICA	1000016	35
1	C60	CAP. 68PF MICA	1000014	34
1	C63	CAP. .005μf 100V DISC	1001705	33
2	C65,C67	CAP. 10PF 100V 5% MICA	1000006	32
1	C66	CAP. .47μf 35V TANT	1005965	31
1	D1	DIODE D662	1100113	30
7	D2-D8	DIODE D664	1100114	29
3	R1,R4,R20	RES. 220 1/4W 5%	1300271	28
1	R2	RES. 750 1/4W 5%	1301401	27
2	R3,R19	RES. 10K 1/4W 5%	1300479	26
2	R5,R18	RES. 3.3K 1/4W 5%	1300430	25
4	R6,R7,R13,R24	RES. 470 1/4W 5%	1300316	24
1	R8	RES. 150 1/4W 5%	1300250	23
3	R10,R12,R15	RES. 1K 1/4W 5%	1300365	22
2	R11,R16	RES. 750 1W 5%	1302383	21
1	R14	RES. 15K 1/4W 5%	1300391	20
1	R21	RES. 330 1/4W 5%	1300293	19
1	R23	RES. 30K 1/4W 5%	1302394	18
1	R9	RES. 180 1/4W 5%	1301322	17
1	R17	RES. 560 1/2W 5%	1300338	16
	Q1	TRANSISTOR DEC 3009B	1509100	15
2	Q2,Q3	TRANSISTOR DEC 6534D	1503409	14
1	T1	XFMR 8010	1609651	13
1	DL1	DELAY LINE 30 NANO SEC	1605528	12
1	Y1	CRYSTAL 14.418 MHZ	1809880-01	11
38		LUGS, SPLIT	9006735	10
1		CONNECTOR 40 PIN	1209941	9
A/R		WIRE #22 AWG SOLID BUS	9107560-01	8
4		SPACER (CABLE CLAMP)	1202704	7
8		EYELET GS4-11 STIMPSON	9006750	6
4		HANDLE FLIP CHIP-MAGENTA	9008332-06	5
1		ETCHED CIRCUIT BOARD	5009546	4
REF		MODULE HISTORY LIST	B-MH-M8650-0-0	3
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8650-0-5	2
REF		X-Y COORDINATE HOLE LOC.	K-CO-M8650-0-4	1

PARTS LIST

ETCH BOARD REV B

REV.	ORIGINATED	CHK.				
A						
			DEC6534D	MPS6534		
			DEC3009B	2N3646		
			D664	1N3606		
			D662	1N645		
			DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

DRN. DATE
CHK'D DATE
ENGR DATE
PROD. DATE
FIRST USED ON A-ML-KL8-E
SCALE 2/1
SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

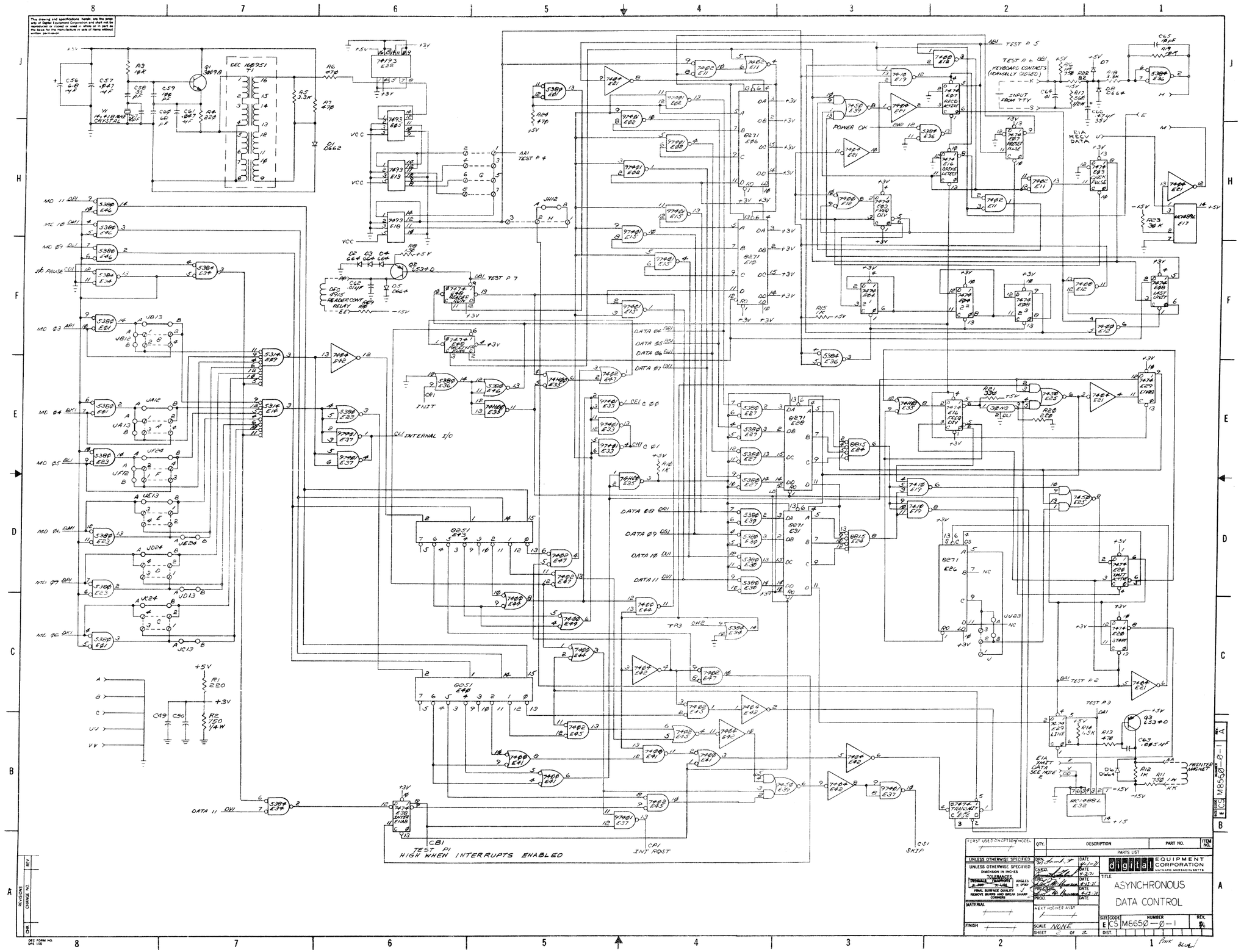
TITLE ASYNCHRONOUS DATA CONTROL

SIZE A CODE ECS NUMBER M8650-0-1 REV. A

DIST.

PINK BLUE

Konsolmerkmal
vgl. Lochstreifen
Änderung

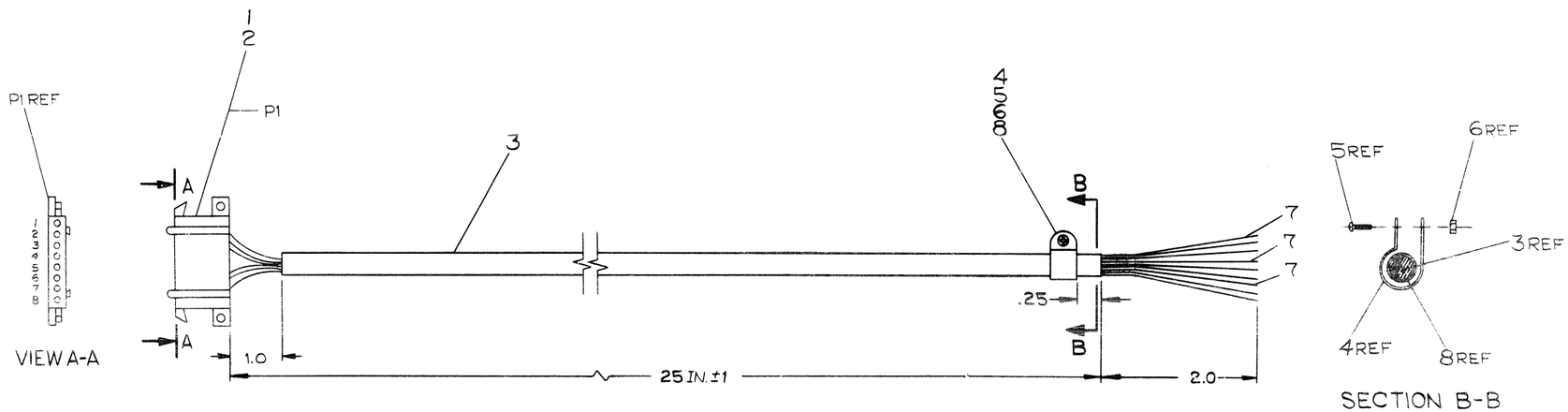


WIRE TABLE

ITEM NO.	DESIGNATION AWG	COLOR	PAIR #	CONNECTION
3	22	BLK	1	P1 - 2
		RED		P1 - 3
		SHIELD		SEE NOTE 1
		BLK	2	P1 - 4
		WHT		P1 - 5
		SHIELD		SEE NOTE 1
		BLK	3	P1 - 6
		GRN		P1 - 7
3	22	SHIELD		SEE NOTE 1

NOTES:

1. DRAIN WIRES TO BE CUT BACK TO OUTER INSULATION ON P1 END OF CABLE ONLY. SHIELDS TO BE CUT BACK TO OUTER INSULATION ON BOTH ENDS OF CABLE.



QTY.	DESCRIPTION	PART NO.	ITEM NO.
A/R	DOUBLE SIDE TAPE #4032 1/2"	9107934	8
A/R	#18 TEFLON THIN WALL TUB NAT.	9107278-	7
1	NUT, KEPS #6-32 SST	9006560	6
1	SCR PHL HD PAN #6-32 × .38 SST	9006022-	5
1	CLAMP, CABLE .31 NYLON	9007082	4
A/R	BELDEN 8777 3PR SHLD CABLE	9107723-0	3
6	CONTACTS FEMALE MATE-N-LOCK	1209379	2
1	CONN FEMALE MATE-N-LOCK	1209340-00	1

PARTS LIST

FIRST USED ON OPTION/MODEL: PDP 8-E

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY 125
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL: SEE PARTS LIST

FINISH: —/—/—

DRN. GULICK DATE 9-8-70
CHKD. HEALY DATE 9-9-70
ENG. MC NAMARA DATE 9-9-70
PROJ. ENG. MC NAMARA DATE 9-9-70
PROJ. MILLER DATE 9-9-70

NEXT HIGHER ASSY: M865

SCALE: —/—/—
SHEET 1 OF 1

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: CABLE ASSEMBLY KL8E

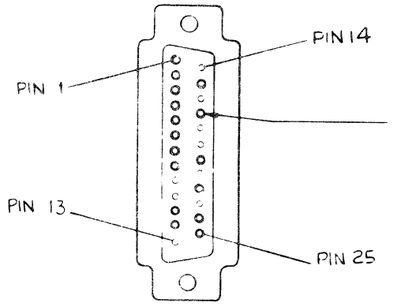
SIZE D | CODE IA | NUMBER 7007055-0-0 | REV. A

REVISIONS

CHK	CHANGE NO.	REV.
	KL8E-00001	A
	REDRAWN & REVISED T. Quinlan 10-8-70	
	MC NAMARA	

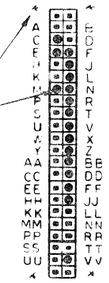
SEE FORM 119 DOD 129

SIZE D | CODE IA | NUMBER 7007055-0-0 | REV. A



P2

SECTION A-A



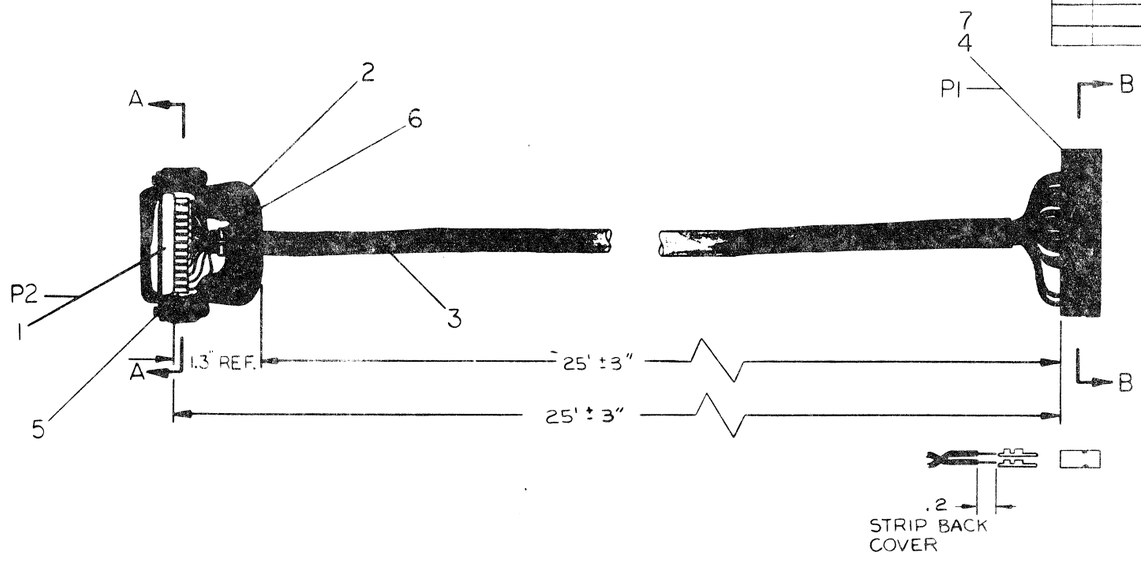
P1

SECTION B-B

WIRE TABLE						
ITEM DESCRIPTION			FROM		TO	
		COLOR	CONNECTION	WITH	CONNECTION	WITH
3	22	BLK	P1-VV	CRIMP	P2-7	SOLD.
		GRN/WHT	P1-C		P2-25	
		GRN/BLK	P1-JJ		P2-12	
		ORN/BLK	P1-FF		P2-11	
		RED	P1-DD		P2-20	
		GRN	P1-BB		P2-8	
		BLU/WHT	P1-Z		P2-6	
		ORN	P1-X		P2-22	
		BLU	P1-V		P2-4	
		WHT	P1-T		P2-5	
		BLU/BLK	P1-R		P2-17	
		BLK/WHT	P1-N		P2-15	
		RED/WHT	P1-L		P2-24	
		WHT/BLK	P1-J		P2-3	
3		RED/BLK	P1-F		P2-2	SOLD.
8		BLK	P1-E	CRIMP	P1-M	CRIMP
8	22	BLK	P2-1	SOLD.	P2-7	SOLD.

NOTES:

1. EACH SOLDERED CONN. ON P2 SHALL BE INSULATED WITH A 1/4" PIECE OF HY-SHRINK TUBING (ITEM #5).
2. • INDICATES PINS USED ON P1 (BERG CONN)
   ⊘ INDICATES PINS USED ON P2 (CINCH PLUG)
   * DENOTES CAVATIES NOT USED OR DESIGNATED BY LETTER ON P1 (BERG CONN)



QTY.	DESCRIPTION	PART NO.	ITEM NO.
A/R	WIRE #22 AWG STRD TEF BLK	9107350-0-0	8
17	PIN, CONN. #47706 BERG	1210089-6	7
1	TIE WRAP, PANDUIT #SST-1B	9007031	6
16	TUBING, HEAT SHRINK 1/8	9107255	5
1	HOUSING #20383 BERG	1210090-0	4
A/R	CABLE, BELDON 15 CONN.	9107672	3
1	HOOD, PLUG CINCH #DB51226-1	1205885	2
1	PLUG, CINCH #DB-25P	1205886	1

PARTS LIST

REVISIONS		
CHK	CHANGE NO	REV
	BC01V-00001	A

MCHAMARA

DEC FORM NO 100

THIS USED ON OPTION/MODEL: PDP8/E

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN BRACKETS
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
SURFACE CHARS AND BREAK EDGES CORNERS

MATERIAL: SEE PARTS LIST

FINISH: —

NEXT HIGHER ASSY: A-PL-DP8-EA-Ø

SCALE: NONE

SHEET 1 OF 1

DRN. DATE 3-5-71
CHKD. DATE 3-16-71
ENG. DATE 3-16-71
MGR. ENG. DATE 3-15-71
PROD. DATE 3/18/71

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: CABLE ASS'Y (BCØ1V)

SIZE D | CODE UA | NUMBER BCØ1V-25-Ø | REV. A

SHEET

BCØ1V-25-Ø | REV A

DIGITAL EQUIPMENT CORPORATION

MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 3/15/71

TITLE KL8/E Asynchronous Data Control (M8650)

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

Abstract

The KL8/E is a single line asynchronous data control for the PDP8-E. A variety of speeds are offered and split lugs are provided such that any desired device codes may be wired in. Factory wiring provides the standard console teleprinter device codes 03 and 04. Both 20 milliampere and EIA/CCITT levels are offered at 110 baud. In the higher speed ranges, only EIA/CCITT interface is offered. The EIA/CCITT interface applies to data leads only; no modem control is provided. This specification includes a complete discussion of the current driver capabilities, the selection of device codes, the selection of speeds, and the configurations available under each option designation.

ENG	APPD	SIZE	CODE	NUMBER	REV
John E. McNamara	John E. McNamara	A	SP	KL8-E-1	

DEC FORM NO. DRA 107

ENGINEERING SPECIFICATION [redacted] CONTINUATION SHEET

TITLE KL8/E Asynchronous Data Control

I. General Description

The KL8/E provides complete facilities for interfacing an asynchronous device such as a teleprinter or display to the PDP8/E. Split lugs are provided such that a KL8/E may be assigned any two device codes desired. In this manner a quantity of KL8/E units may be used on a single PDP8/E to provide a multiple teleprinter capability. The instruction set is similar to that used on previous Family-of-8 console teleprinter controls and asynchronous data controls. Several different clock speed and interface options are offered.

II. Physical

The KL8/E is a single quad board which plugs directly into the Omnibus. The same etched board (M8650) is used for all KL8/E options listed below, with a crystal change or cable change determining the option designation applicable.

III. Options

The KL8/E is available in the following options:

Designation	Receive Speed	Transmit Speed	Interface Type	(Board Type)
KL8/E	110 Baud	110 Baud	20 milliampere	M8650
KL8/EA	110 Baud	110 Baud	EIA Data Leads	M8650
KL8/EB	150 Baud	150 Baud	EIA Data Leads	M8650 YA
KL8/EC	300 Baud	300 Baud	EIA Data Leads	M8650 YA
KL8/ED	600 Baud	600 Baud	EIA Data Leads	M8650 YA
KL8/EE	1200 Baud	1200 Baud	EIA Data Leads	M8650 YA
KL8/EF	150 Baud	1200 Baud	EIA Data Leads	M8650 YA
KL8/EG	150 Baud	2400 Baud	EIA Data Leads	M8650 YA

The M8650 and M8650 YA boards use an identical etched board, but differ in their parts lists. The M8650 uses a DEC Part # 18-09880-01 14.418 MHz crystal, while the M8650 YA uses a DEC Part # 18-09880-02 19.661 MHz crystal. The 14.418 MHz crystal is used to obtain the 110 baud frequency, while the 19.661 MHz crystal is used to obtain the 150, 300, 600, 1200, and 2400 baud frequencies. This means that if one desires to change speeds in the field, a crystal change is involved to change to or from the 110 baud speed, plus re-labelling the board handle. To change amongst the speeds that are multiples of 150 baud, only jumper changes are involved.

SIZE	CODE	NUMBER	REV
A	SP	KL8-E-1	

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Both the M8650 and M8650 YA boards contain the appropriate circuitry for both 20 milliampere and EIA operation. A noise suppression network in the 20 milliampere circuitry protects against high frequency noise, but in so doing limits the operating speed of the 20 milliampere interface to 110 baud. The 20 milliampere circuitry is automatically connected when the 7008360 interface cable assembly supplied with the KL8/E option is connected to the board. This cable terminates in a Mate-N-Lock connector compatible with PDPS/E teleprinters, PDP-11 teleprinters, and Mate-N-Lock equipped PDP-15 teleprinters. In like manner, the EIA interface circuitry is automatically connected when the BC01V cable assembly (or BC05C) supplied with the KL8/EA, EB,EC,ED,EE,EF, and EG options is connected. (See Section X)

The EIA interface circuitry meets all present requirements of EIA Specification RS232-C and CCITT Recommendation V24, but interfaces the DATA LEADS ONLY. No modem control is supplied - Data Terminal Ready and Request To Send are held asserted. Use of these options on modems arranged for automatic origination or automatic answering of dial telephone calls is not recommended. The EIA interfaces provided are intended for use with private(non-switched) wire modems operated on a full duplex basis or with a Null Modem (M308 or H312) and a terminal with an EIA interface.

IV. Specifications - Environment

Temperature: Ø degrees to 55 degrees C (Operating)
Humidity: 10% to 90% non-condensing (Operating)

During storage, temperature extremes of -15 degrees C and +65 degrees C can be tolerated.

V. Specifications - Communications Variables

A. Type of Transmission: Asynchronous
Type of Reception: Asynchronous

B. Number of Start Elements Per Character: One

C. Number of Data Elements Per Character: Eight

D. Number of Stop Elements Per Character: One or Two (Jumper selectable on board. Unless otherwise specified, the KL8/E and KL8/EA options will be supplied jumpered for two stop elements and all other options will be supplied jumpered for one stop element.)

E. Receiver Sample Rate: 16 times the baud rate

F. Capabilities of the 20 milliampere driver:

For current calculation purposes, the driver circuit may be envisioned as one lead returned through 750 ohms to -15 volts and the other lead as going to a point connected to -15 through 1 K and to +5 through a 6534D PNP transistor, the state of which is controlled by the KL8/E transmitter circuitry. If one assumes a maximum voltage drop across the transistor when saturated as 1 volt and a minimum potential difference between -15 and +5 of 19.75 volts, the output circuit may be envisioned as an 18.75 volt source in series with a 750 ohm resistor, or at worst a 788 ohm resistor. This arrangement would deliver 24 milliamperes in the short circuit case and would tolerate 150 additional ohms for resistance of the teleprinter magnet circuit and the wiring to the teleprinter magnet. The following wire resistances may be of assistance: (Annealed copper wire, 20 degrees C)

26 AWG : 40.81 ohms/1000 feet
24 AWG : 25.67 ohms/1000 feet
22 AWG : 16.14 ohms/1000 feet
19 AWG : 8.05 ohms/1000 feet

In calculating permissable loop length, remember that the above figures are for one conductor only. You must measure the distance from the KL8/E to the teleprinter AND BACK to obtain a footage distance for use in the above calculation. In addition, certain environmental influences such as radio interference, transformers, possibility of physical damage, etc. may cause the maximum operating distance to be less than that indicated by simple resistive calculations. Extreme caution should be used in any installation over 1500 feet.

G. Capabilities of the 20 milliampere receiver:

For current calculation purposes, the receiver circuit may be envisioned as one lead returned through 560 ohms to -15 volts and the other lead returned to both + 5 through 750 ohms and to a -.7 volt diode drop through 82 ohms. The resultant current will be 21 milliamperes for a zero ohm resistance loop to the keyboard contacts and 18 milliamperes in the case of a 150 ohm loop such as that mentioned in Section V-F above. Intermediate values can be determined from straight line interpolation between these points. It is not recommended that contact currents less than 18 milliamperes be used.

The 20 milliampere current receiving circuitry contains

an integrator circuit that may be modelled as a capacitor in series with 402 ohms. The standard value for this capacitor is .47 mfd. This arrangement assists in providing noise reduction by integrating high frequency noise such that its amplitude is insufficient to operate the Schmidt Trigger circuit that follows the integrator. Unfortunately, the integration reduces the rate-of-rise of signals, introducing an additional 2% distortion to the received signal at 110 baud. The high sampling rate of the receiver (16 times the baud rate) makes this additional distortion inconsequential except in the case of very extreme distortion already being present in the received signals. At speeds greater than 110 baud, EIA interface circuitry is used, bypassing both the 20 milliampere integrator circuit and the 20 milliampere Schmidt Trigger circuit.

Should it be desired to operate in current loop mode at speeds greater than 110 baud, the .47 mfd capacitor should be reduced in size by the same proportion as the speed is increased; i.e. if you double the speed, halve the value of the capacitor. This product is not specified to operate in current loop mode at speeds greater than 110 baud and the suggestions given above should not be construed as a commitment on the part of Digital Equipment Corporation to make this product operate in current loop mode at any speed other than 110 baud.

H. Capabilities of the Reader Run Control:

For current calculation purposes, this circuitry may be modelled as one lead being connected to -15 through 180 ohms and the other lead connected to +5 through a 6534D PNP transistor and a 150 ohm resistor. Due to the presence of diode clamps, transistor voltage drop, etc., this second lead may be envisioned as being connected to a + 7/10ths volt source or floating, depending upon the state of the 6534D transistor. The circuit formed by the above elements may be considered as a 14 volt source in series with 180 ohms.

The reader run leads operate a Wheelock #30002 reed relay mounted on a DEC 4915 teleprinter reader control card mounted within the call control area of the Teletype.* This relay has a coil resistance of 920 ohms and is specified to operate by the time the voltage across its coil reaches 9.6 volts. There is a ± 10% tolerance on coil resistance, so a worst case current of 12 milliamperes is required to achieve 9.6 volts across 828 ohms. The 12 milliamperes would cause a 2.3 volt drop across the 180 ohm resistor if that resistor were at the 189 ohm extreme of its ± 5% specification. This means that no more than 14.0 - 11.9 = 2.1 volts can

* "Teletype" is a registered trademark of Teletype Corporation, Skokie, Ill. USA

be dropped by the passage of 12 milliamperes through the wiring to the reader run. That sets a resistance limit of 175 ohms for the reader run control wiring from the KL8/E to the Teletype (and back). (See Section X)

I. EIA Signals Provided

Circuitry on the M8650 and M8650 YA modules conditions the transmitted data and received data to the specifications of Electronic Industries Association (EIA) Specification RS 232 C and Committe Consultatif International Telephonique et Telegraphique (CCITT) Recommendation V24.

The signals and their assigned pins on the 40 pin header found on the M8650 are as follows:

Protective Ground	UU	
Send Data	F	
Receive Data	J	
Request To Send	V	(Held Asserted)
Signal Ground	VV	
Data Terminal Ready	DD	(Held Asserted)

Assertion of the Request To Send lead is required with such modems as the Bell System 103F to maintain them in Full Duplex transmission mode on a private (non-switched) line.

Assertion of the Data Terminal Ready lead is required with such modems as the Bell System 103A to maintain an established dial-up connection.

Note that, since the Request To Send lead is held true, the M8650 and M8650 YA are suitable ONLY FOR FULL DUPLEX OPERATION (An additional reason is that there is no interlocking logic in the M8650 and M8650 YA to make the transmitter and receiver dependent upon each other in the fashion that Half Duplex would require).

Note further that, since Data Terminal Ready is held true, the M8650 and M8650 YA are suitable for dial telephone connection use (such as with the Bell System 103A) ONLY UNDER MANUAL CONTROL. In other words, these modules should not be used in dial telephone connections arranged for the automatic origination of calls or arranged for the automatic answering of calls. The reason for this is that Data Terminal Ready must be negated for a dial-up connection to be dropped when the call is over and the M8650 and M8650 YA are incapable of doing this. In addition, they do not monitor the leads necessary to tell them when to take such action.

In summary, the KL8/E, EA, EB, EC, ED, EE, EF, and EG do not have modem control. Thus, their use with modems is limited to full duplex private line and manual use on the dial-up telephone network.

J. Capabilities of the EIA interface

Total cable length from the KL8/EA(EB, EC,etc) to the associated modem or terminal must not exceed 50 feet under any circumstances.

K. Use With EIA Interface Terminals

The BC01V and BC05C cable assemblies end in male 25 pin connectors in accordance with the EIA specification requirements for data terminal equipment. Likewise, most terminals that have EIA interfaces also employ male 25 pin connectors, as they too are data terminal equipment in the language of the EIA specification.

The EIA specification, in specifying male connectors for data terminal equipment, envisions that each piece of data terminal equipment will be connected to a piece of data communications equipment. The typical connection which the specification envisions is data terminal equipment - modem-communications facility - modem - data terminal equipment. Thus, to stay within the specification when connecting a piece of data terminal equipment to another piece of data terminal equipment, one must introduce the modem-communications facility-modem link. In cases where the two terminals are more than 50 feet apart this would be done with real modems and a real communications facility. Where distances less than fifty feet are involved, Digital Equipment Corporation has devices called Null Modems which contain a female 25 pin connector,a length of cable that transposes the transmitted an received data leads such as a communications facility would,and a second female connector at the opposite end. Use of the Null Modem (H312 or H308) permits the same cables and other hardware to be used for both local and remote terminal applications.

Should a null modem not be available in a VT06 installation, the male/male cord supplied with the VT06 could be removed and the BC01V plugged directly into the female receptacle on the VT06 provided that the following lead swaps are made in the BC01V by swapping pins in the forty pin connector: Swap F & J: Move V to BB.

The above pin changes are not recommended as a general thing, as they result in non-standard cables.

VI. Programming

The KL8/E uses an augmented version of the instruction set used on Family-of-8 console teleprinters and teleprinter controls such as the PT08.

The instruction set is as follows:

6XX0 Clear Keyboard Flag (KCF)

Clears the keyboard flag without setting the reader run flip-flop. The AC is not cleared by this instruction.

6XX1 Skip on Keyboard Flag (KSF)

Increments the contents of the Program Counter if the keyboard flag is set,so that the next sequential instruction is skipped.

6XX2 Clear Keyboard Flag (KCC)

Clears the keyboard flag and AC and sets the reader run flip-flop. This action allows the hardware to begin assembling the next input character in the TTI register. If the reader is activated and there is tape in the reader, a serial character is read from the tape and is assembled in the TTI register. The keyboard can also load characters into the TTI register provided that the reader is deactivated. In either case, the keyboard flag is set when the character is assembled in the TTI register.

6XX4 Read Keyboard Buffer Static (KRS)

ORs the contents of the TTI register with AC4 through 11, and leaves the result in AC4-11. This is termed a static command because neither the AC nor the keyboard flag is cleared.

6XX5 Set/Clear Interrupt Enable (KIE)

Sets or clears the interrupt enable flip-flop as determined by AC11. If AC11 is asserted, an interrupt request will be generated when the KL8/E keyboard or teleprinter flag is set. If AC11 is negated interrupt requests cannot be generated.

6XX6 Read Keyboard Buffer Dynamic (KRB)

Performs the combined operations of the KCC and KRS instructions. Clears the AC and keyboard flag and transfers the contents of the TTI register to AC4 through AC11. This instruction also sets the reader run flip-flop to begin assembly of another character in the TTI register. When this operation is complete, the keyboard flag is set to indicate that another character is available.

The computer clears all flags which are on the clear flags bus (including both the keyboard flag and the reader run enable) when the console CLEAR pushbutton is depressed or when a Clear All Flags instruction is given. This means that the user program must set the reader enable by means of a KCC or KRB instruction before the first input data can be received from the reader. After the first character is assembled, the KRB instructions used to read that character and the succeeding characters will operate the reader appropriately.

6YY0 Set Teleprinter Flag (TFL)

Sets the teleprinter flag to ready the logic for another character.

6YY1 Skip on Teleprinter Flag (TSF)

If the teleprinter flag is set, increments the contents of the program counter by one so that the next sequential instruction will be skipped.

6YY2 Clear Teleprinter Flag (TCF)

Clears the teleprinter flag. This instruction can be microprogrammed with TPC.

6YY4 Load Teleprinter and Print (TPC)

Transfers AC bits 4-11 to the TTO register and starts shifting the character out to the printer/punch units. This instruction does not clear the teleprinter flag. This instruction can be microprogrammed with TCF to produce TLS.

6YY5 Skip on Printer or Keyboard Flag (TSK)

Skips the next instruction if the keyboard flag or printer flag is set and the interrupt enable flip-

flop is set.

6YY6 Load Teleprinter Sequence (TLS)

This instruction combines TCF and TPC. The teleprinter flag is cleared and the contents of AC bits 4-11 are transferred to the TTO register where the hardware shifts the character out to the printer/punch unit. Then the shifting operation has finished outputting the character and is ready for another character, the teleprinter flag is set. The whole operation, from the time at which the TLS has cleared the flag and the TTO starts character transfer, until the time the hardware finishes with the character and again sets the flag, requires 100 milliseconds at 110 baud.

Since a Clear All Flags instruction or operation of the CLEAR button on the console will cause the teleprinter output flag to be cleared, it is necessary that each program set the flag by means of a TFL instruction before commencing a teleprinter output sequence for the first time.

In all of the above instructions the device code has been represented as XX for keyboard instructions and YY for teleprinter instructions. In the case of the console teleprinter, these would be device codes 03 and 04 respectively. For further information on device codes, consult Secion VII of this specification.

VII. Device Code Selection

All input/output devices on a PDP8/E (or other Family-of-8 machine) have device codes. These device codes determine which unique input/output device responds to a given instruction. In a typical I/O instruction, such as 6031, the "6" indicates that this is an I/O instruction; the"03"indicates that the device having device code 03 is the device that is to respond to the instruction; and the "1" determines exactly what type of input/output operation is to take place at device 03.

It is vitally necessary that no two input/output devices on the same PDP8/E system have the same device code. If, for example, two devices use code 03, the instruction 6031 would cause a skip on teleprinter receiver flag if either flag was set. Instruction 6036 would probably OR together the contents of both receiver input registers, even if one contained only a partially assembled character - so long as one of them had the receiver flag set. In summary, a multiple teleprinter system (or any multi-input/output device system) must have unique device codes for each device so that the program can address each device individually.

Since there are a limited number of possible device codes in a PDP8/E, no assignment of device codes for large multi-teleprinter systems can be made. It is suggested, however, that the following device codes be used first:

03/04 Console teleprinter receive/transmit
30/31 Second KL8/E teleprinter receive/transmit
32/33
34/35
36/37

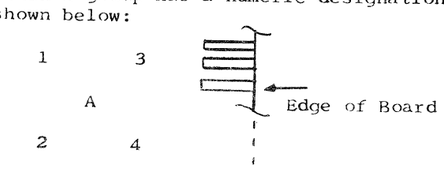
For PT08 compatibility 40/41,42/43,44/45,46/47 may be used, as long as no DP8-E Synchronous Modem Control is used.

To obtain additional device codes, determine which device codes you do not have yet on your system. Then write down the desired device code as two binary numbers, labelling the most significant bit "MD3", the next "MD4", the next"MD5", the next "MD6", the next "MD7", and the last "MD8". For example, for device code 03:

Octal:		0			3	
Binary:	0	0	0	0	1	1
Label:	MD3	MD4	MD5	MD6	MD7	MD8
Split Lug Group:	B	A	F	E	D	C

The "Split Lug Groups" are explained on the next page.

In the lower right hand corner of the M8650/M8650YA board are split lugs which determine the device code to which the receiver will respond and the device code to which the transmitter will respond. The split lugs are arranged in groups of four. Each group has an alphabetic designation (A-F), and each split lug within a group has a numeric designation (1-4). A typical layout is shown below:



The correct strapping for each possible RECEIVER device code is given below:

	Group A	Group B	Group C	Group D	Group E	Group F
00	1-3	1-2	1-2	1-2	2-4	2-1
01	1-3	1-2	4-2	1-2	2-4	2-1
02	1-3	1-2	1-2	4-2	2-4	2-1
03	1-3	1-2	4-2	4-2	2-4	2-1
04	1-3	1-2	1-2	1-2	3-4	2-1
05	1-3	1-2	4-2	1-2	3-4	2-1
06	1-3	1-2	1-2	4-2	3-4	2-1
07	1-3	1-2	4-2	4-2	3-4	2-1
10	1-3	1-2	1-2	1-2	2-4	3-1
11	1-3	1-2	4-2	1-2	2-4	3-1
12	1-3	1-2	1-2	4-2	2-4	3-1
13	1-3	1-2	4-2	4-2	2-4	3-1
14	1-3	1-2	1-2	1-2	3-4	3-1
15	1-3	1-2	4-2	1-2	3-4	3-1
16	1-3	1-2	1-2	4-2	3-4	3-1
17	1-3	1-2	4-2	4-2	3-4	3-1
20	4-3	1-2	1-2	1-2	2-4	2-1
21	4-3	1-2	4-2	1-2	2-4	2-1
22	4-3	1-2	1-2	4-2	2-4	2-1
23	4-3	1-2	4-2	4-2	2-4	2-1
24	4-3	1-2	1-2	1-2	3-4	2-1
25	4-3	1-2	4-2	1-2	3-4	2-1
26	4-3	1-2	1-2	4-2	3-4	2-1
27	4-3	1-2	4-2	4-2	3-4	2-1

IMPORTANT NOTICE: Device codes 03 for receiver and 04 for transmitter are factory wired by means of machine inserted jumpers located in the split lug groups A,B,C,D,E,&F.
CUT THESE JUMPERS BEFORE ADDING THE JUMPERS LISTED ABOVE.

Continuation of receiver device code strapping table:

	Group A	Group B	Group C	Group D	Group E	Group F
30	4-3	1-2	1-2	1-2	2-4	3-1
31	4-3	1-2	4-2	1-2	2-4	3-1
32	4-3	1-2	1-2	4-2	2-4	3-1
33	4-3	1-2	4-2	4-2	2-4	3-1
34	4-3	1-2	1-2	1-2	3-4	3-1
35	4-3	1-2	4-2	1-2	3-4	3-1
36	4-3	1-2	1-2	4-2	3-4	3-1
37	4-3	1-2	4-2	4-2	3-4	3-1
40	1-3	4-2	1-2	1-2	2-4	2-1
41	1-3	4-2	4-2	1-2	2-4	2-1
42	1-3	4-2	1-2	4-2	2-4	2-1
43	1-3	4-2	4-2	4-2	2-4	2-1
44	1-3	4-2	1-2	1-2	3-4	2-1
45	1-3	4-2	4-2	1-2	3-4	2-1
46	1-3	4-2	1-2	4-2	3-4	2-1
47	1-3	4-2	4-2	4-2	3-4	2-1
50	1-3	4-2	1-2	1-2	2-4	3-1
51	1-3	4-2	4-2	1-2	2-4	3-1
52	1-3	4-2	1-2	4-2	2-4	3-1
53	1-3	4-2	4-2	4-2	2-4	3-1
54	1-3	4-2	1-2	1-2	3-4	3-1
55	1-3	4-2	4-2	1-2	3-4	3-1
56	1-3	4-2	1-2	4-2	3-4	3-1
57	1-3	4-2	4-2	4-2	3-4	3-1
60	4-3	4-2	1-2	1-2	2-4	2-1
61	4-3	4-2	4-2	1-2	2-4	2-1
62	4-3	4-2	1-2	4-2	2-4	2-1
63	4-3	4-2	4-2	4-2	2-4	2-1
64	4-3	4-2	1-2	1-2	3-4	2-1
65	4-3	4-2	4-2	1-2	3-4	2-1
66	4-3	4-2	1-2	4-2	3-4	2-1
67	4-3	4-2	4-2	4-2	3-4	2-1
70	4-3	4-2	1-2	1-2	2-4	3-1
71	4-3	4-2	4-2	1-2	2-4	3-1
72	4-3	4-2	1-2	4-2	2-4	3-1
73	4-3	4-2	4-2	4-2	2-4	3-1
74	4-3	4-2	1-2	1-2	3-4	3-1
75	4-3	4-2	4-2	1-2	3-4	3-1
76	4-3	4-2	1-2	4-2	3-4	3-1
77	4-3	4-2	4-2	4-2	3-4	3-1

IMPORTANT NOTICE: Device codes 03 and 04 for receiver and transmitter respectively are factory wired by means of machine inserted jumpers located in the split lug groups A,B,C,D,E,&F. CUT THESE JUMPERS BEFORE ADDING THE JUMPERS LISTED ABOVE.

The correct strapping for each possible TRANSMITTER device code is given below:

	Group A	Group B	Group C	Group D	Group E	Group F
00	1-2	1-3	1-3	1-3	2-1	2-4
01	1-2	1-3	4-3	1-3	2-1	2-4
02	1-2	1-3	1-3	4-3	2-1	2-4
03	1-2	1-3	4-3	4-3	2-1	2-4
04	1-2	1-3	1-3	1-3	3-1	2-4
05	1-2	1-3	4-3	1-3	3-1	2-4
06	1-2	1-3	1-3	4-3	3-1	2-4
07	1-2	1-3	4-3	4-3	3-1	2-4
10	1-2	1-3	1-3	1-3	2-1	3-4
11	1-2	1-3	4-3	1-3	2-1	3-4
12	1-2	1-3	1-3	4-3	2-1	3-4
13	1-2	1-3	4-3	4-3	2-1	3-4
14	1-2	1-3	1-3	1-3	3-1	3-4
15	1-2	1-3	4-3	1-3	3-1	3-4
16	1-2	1-3	1-3	4-3	3-1	3-4
17	1-2	1-3	4-3	4-3	3-1	3-4
	1					
20	4-2	1-3	1-3	1-3	2-1	2-4
21	4-2	1-3	4-3	1-3	2-1	2-4
22	4-2	1-3	1-3	4-3	2-1	2-4
23	4-2	1-3	4-3	4-3	2-1	2-4
24	4-2	1-3	1-3	1-3	3-1	2-4
25	4-2	1-3	4-3	1-3	3-1	2-4
26	4-2	1-3	1-3	4-3	3-1	2-4
27	4-2	1-3	4-3	4-3	3-1	2-4
30	4-2	1-3	1-3	1-3	2-1	3-4
31	4-2	1-3	4-3	1-3	2-1	3-4
32	4-2	1-3	1-3	4-3	2-1	3-4
33	4-2	1-3	4-3	4-3	2-1	3-4
34	4-2	1-3	1-3	1-3	3-1	3-4
35	4-2	1-3	4-3	1-3	3-1	3-4
36	4-2	1-3	1-3	4-3	3-1	3-4
37	4-2	1-3	4-3	4-3	3-1	3-4
40	1-2	4-3	1-3	1-3	2-1	2-4
41	1-2	4-3	4-3	1-3	2-1	2-4
42	1-2	4-3	1-3	4-3	2-1	2-4
43	1-2	4-3	4-3	4-3	2-1	2-4
44	1-2	4-3	1-3	1-3	3-1	2-4
45	1-2	4-3	4-3	1-3	3-1	2-4
46	1-2	4-3	1-3	4-3	3-1	2-4
47	1-2	4-3	4-3	4-3	3-1	2-4

Continuation of transmitter device code strapping table:

	Group A	Group B	Group C	Group D	Group E	Group F
50	1-2	4-3	1-3	1-3	2-1	3-4
51	1-2	4-3	4-3	1-3	2-1	3-4
52	1-2	4-3	1-3	4-3	2-1	3-4
53	1-2	4-3	4-3	4-3	2-1	3-4
54	1-2	4-3	1-3	1-3	3-1	3-4
55	1-2	4-3	4-3	1-3	3-1	3-4
56	1-2	4-3	1-3	4-3	3-1	3-4
57	1-2	4-3	4-3	4-3	3-1	3-4
60	4-2	4-3	1-3	1-3	2-1	2-4
61	4-2	4-3	4-3	1-3	2-1	2-4
62	4-2	4-3	1-3	4-3	2-1	2-4
63	4-2	4-3	4-3	4-3	2-1	2-4
64	4-2	4-3	1-3	1-3	3-1	2-4
65	4-2	4-3	4-3	1-3	3-1	2-4
66	4-2	4-3	1-3	4-3	3-1	2-4
67	4-2	4-3	4-3	4-3	3-1	2-4
70	4-2	4-3	1-3	1-3	2-1	3-4
71	4-2	4-3	4-3	1-3	2-1	3-4
72	4-2	4-3	1-3	4-3	2-1	3-4
73	4-2	4-3	4-3	4-3	2-1	3-4
74	4-2	4-3	1-3	1-3	3-1	3-4
75	4-2	4-3	4-3	1-3	3-1	3-4
76	4-2	4-3	1-3	4-3	3-1	3-4
77	4-2	4-3	4-3	4-3	3-1	3-4

It will be noted that in many cases two straps are inserted in the same split lug. This is acceptable, but three in the same lug would not be, nor would a diagonal run such as from lug 1 to 4 or from lug 2 to 3. If such runs exist, the strapping has been done incorrectly.

VIII. Speed Selection

A group of split lugs labelled "G" determine the operating speed of each KL8/E, EA, EB etc. option. Another split lug group labelled "H" determines whether the transmitter and receiver sections operate at the same speed. The correct strappings of groups G & H are listed below for each option:

Option	Group G	Group H	Notes
KL8/E	7-8	1-2	M8650 board
KL8/EA	7-8	1-2	M8650 board
KL8/EB	7-8	1-2	M8650 YA board
KL8/EC	5-6	1-2	M8650 YA board
KL8/ED	3-4	1-2	M8650 YA board
KL8/EE	1-2	1-2	M8650 YA board
KL8/EF	7-8	2-3	M8650 YA board
KL8/EG	7-8	H2 to G5	M8650 YA board

IMPORTANT NOTICE: There are no factory machine inserted jumpers in Group G. There must be one and only one of the straps shown in the above table in place in section G for the board to work; said jumper was hand soldered between the split lugs at the time the board left Digital's production facility. Remove that jumper before adding any other Group G jumpers. Group H has a factory machine inserted jumper between H1 and H2. Cut this jumper before adding any other Group H jumper.

IX. Stop Code Selection

Mechanical teleprinters, such as those that operate at 110 baud, require stop bits after each character transmitted so that their mechanisms can coast to a predetermined starting position before handling the next character. The same restriction applies to their receivers. To prevent the KL8/E from sending characters during this stopping interval, a stop bit counter is inserted in the KL8/E transmitter circuitry. This counter permits the KL8/E to request another character from the program as soon as it has send the last information bit of the preceding character but prohibits it from sending that new character until an appropriate stop bit interval has been counted out following the transmission of the final information bit of the preceding character. This counter is controlled by a split lug group labelled "J".

Group J	Stop Code	Devices Using This Stop Code
1-2	1 bit	Electronic receiver devices operating at 150 baud and above.
2-3	2 bits	Mechanical receiver devices operating at 110 baud.

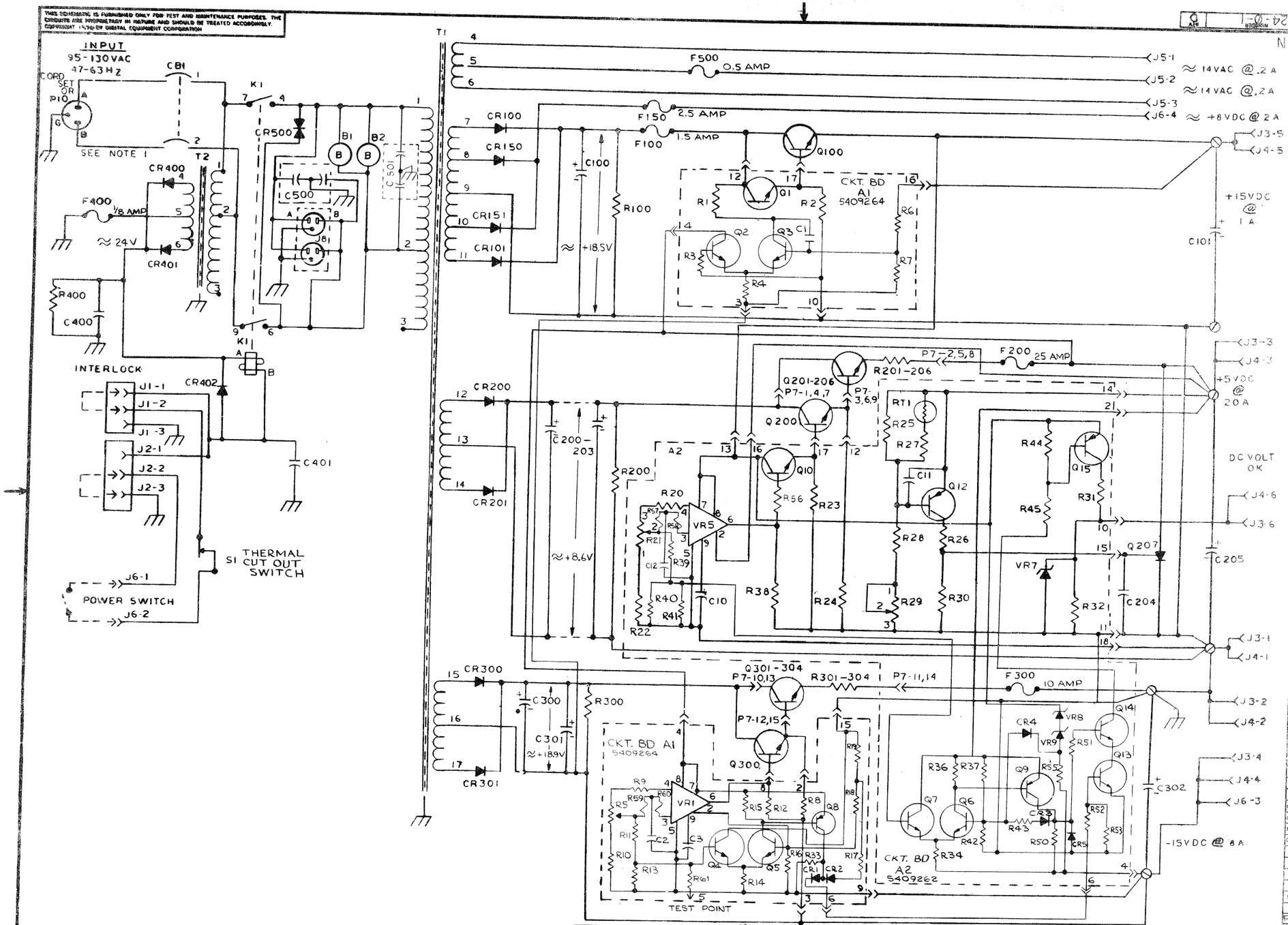
The KL8/E and KL8/EA contain a machine inserted jumper

that provides 2 stop bits (J2-J3), as 110 baud devices use 2 stop bits. To the best of the author's knowledge, all devices operating at speeds above 110 baud use electronic receiver systems (even though all other parts of the device may be mechanical), so the KL8/EB, EC, etc are provided with hand inserted jumpers from J1 to J2, thus providing only 1 stop bit.

X. Special Notes

In the upper right corner of schematic E-CS-M8650-0-1, one will find points labelled E, H, and M. These, as indicated in the notes on the cover sheet,are designations of pins on the forty pin header at which point cables connect to the M8650 printed circuit board. Pin E is the input to the M8650 TTL logic circuitry in the receiver section. Pin H is the output of a filter and Schmidt Trigger circuit which convert 20 milliampere signals from the teleprinter keyboard to TTL logic signals. Pin M is the output of an inverter and EIA/CCITT level converter that convert EIA/CCITT received signals to TTL logic signals. The cable that is used for serving 20 milliampere devices (7008360) consists of a Mate-N-Lock connector at one end and a 40 pin housing at the other. The 40 pin housing contains a jumper from pin E to pin H, so that when that cable is plugged into the 40 pin header, a connection will be established from the 20 milliampere receiving circuitry to the receiving circuitry of the M8650. The cables that can be used with EIA/CCITT interface devices (BC01V and BC05C) consist of a 25-pin male connector at one end and a 40 pin housing at the other. In this housing there is a jumper from pin E to pin M, so that when this cable is plugged into the forty pin header, a connection will be established from the EIA/CCITT receiving circuitry to the receiving circuitry of the M8650 board.

It should be noted that the 175 ohm limitation cited for Reader Run control is actually unimportant, as the keyboard and printer requirements of 150 ohm limitation on line resistance are the ruling limitations.



NOTES:

1. FOR POWER SUPPLIES MADE BY NORTH ELECTRIC CO. AC INPUT WILL BE THRU P10 INLET FOR POWER SUPPLIES MADE BY DEC, AC INPUT WILL BE THRUGH CORD SET DEC PART #1700006-15

REF DES	DESCRIRTION	PART NO.
Q100	2N3055 TO 41 CASE	1510008
Q300-304	2N3055 TO-41 CASE	1510008
Q200-206	2N3055 TO-41 CASE	1510008
R100,R300	RES 300Ω 10W 5%	1310188-0
R200	RES 100Ω 25W 5%	1302988
R201-206	RES .14Ω 5W 1%	1310189
R301-304	RES .25Ω 3W 1%	1310219
R400	RES 3.9K 1/2W 5%	1300443
S1	SWITCH THERMOSTAT	1210199-0
T1	TRANSFORMER	1160178-0
T2	TRANSFORMER	1610177-0
J8	OUTLET AH#10103 OR EQUIV	1205351
P10	MALE INLET AH#5278 OR EQUIV	1209983
CR400,402	DIODE IN645	1105314
F400	FUSE 1/8 AGC	9008389
C401	CAP .01 MFD @ 200V DC	1001610
C400	CAP 270 MFD @ 50V DC	1010192-0
CR500	TNYRECTOR GRS 205P 585	1110181
B1, 2	BLOWER	1209403-1
Q207	SCR PRV 100 ISC 55A	1110183-0
C100	CAP 6000 MFD @ 40V DC	1010186
C101,302	CAP 10,800 MFD @ 20V DC	1010185-0
C200-203	CAP 30,000 MFD @ 25 VDC	1010184-0
C204	CAP 1.0 MFD @ 35V DC	1001776
C205	CAP 18,000 MFD @ 10V DC	1010197-0
C300,301	CAP 14,000 MFD @ 40 V DC	1010187-0
C500,501	CAP .1-.1 MFD @ 1000 V DC	1002153
CB1	CKT. BRK. 10 AMP	1210191-0
CR100,101	DIODE IN4721	1110182-0
CR150,151	DIODE IN4721	1110182-0
CR200,201	DIODE IN1185A	1109979
CR300,301	DIODE IN1201A	1110006
F500	FUSE .5A AGC	9007208
F100	FUSE 1.5 AGC	9008388
F150	FUSE 2.5A ABC	9008387
F200	FUSE 25A ABC	9008386
F300	FUSE 10A ABC	9008390
K1	REALY	1210198-0

PARTS LIST

TRANSISTOR & DIODE CONVERSION CHART

DEC	EIA	DEC	EIA

REVISIONS			
CHG	CHG NO.	REV	
5-7-74	100052	A	
		B	
		C	
		D	

DRN 9/27/70
CHK 10/29/70
ENG 10/29/70
PROD 10/29/70

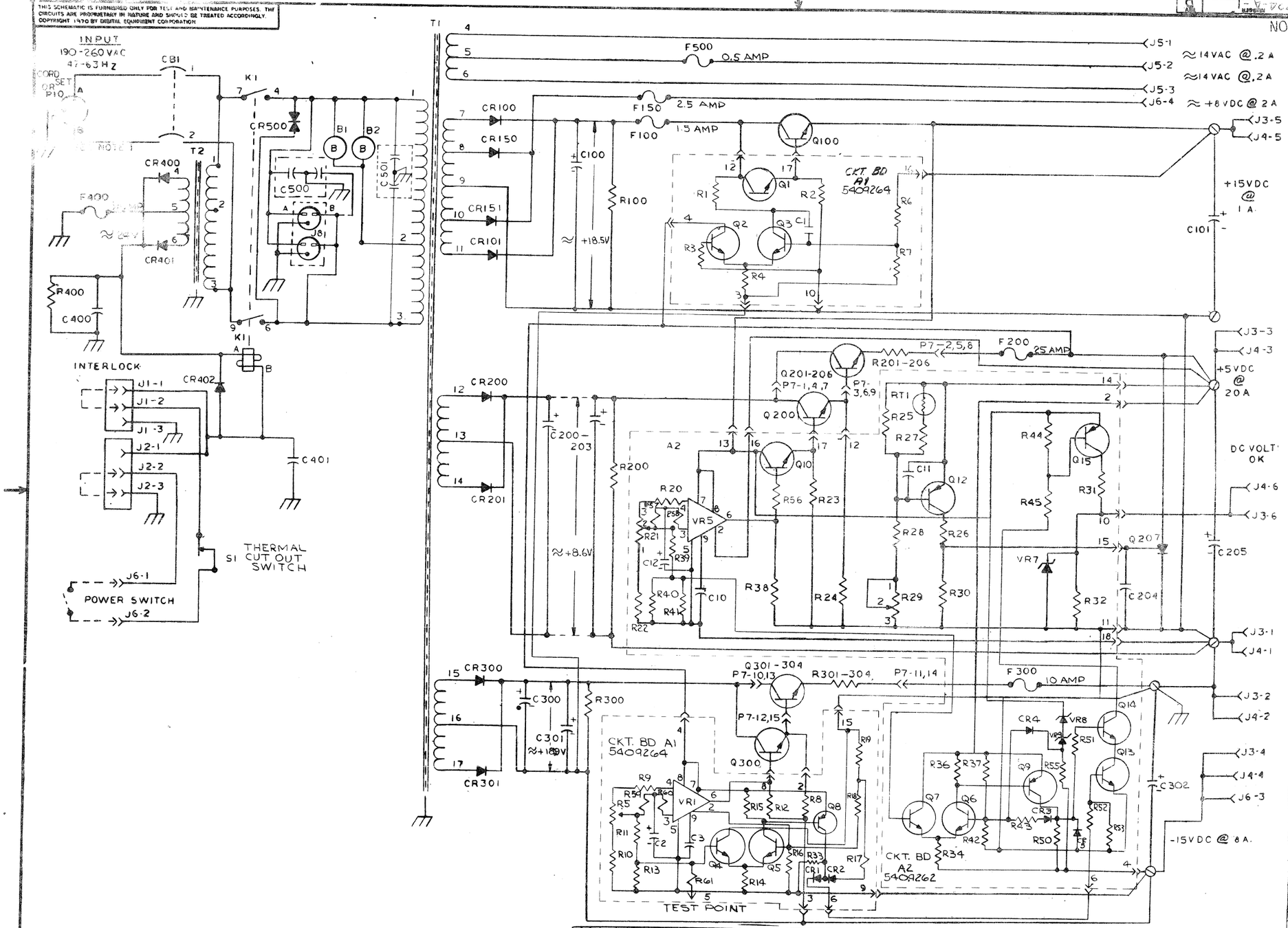
TITLE H724 SCHEMATIC

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

SIZE D CODE CS NUMBER H724-0-1 REV B

PRINTED CIRCUIT REV

H724-0-1



NOTES:

1. FOR POWER SUPPLIES MADE BY NORTH ELECTRIC C.O. AC INPUT WILL BE THROUGH P10 INLET. FOR POWER SUPPLIES MADE BY DEC AC INPUT WILL BE THROUGH CORD SET DEC PART # 1700005-15

Q300-304 Q200-206 Q100	2N3055 TO-41 CASE	5510008
R100, R300	RES 300 Ω 10 W 5%	1310188
R200	RES 100 Ω 2.5 W 5%	1302088
R201-206	RES .14 Ω 5 W 1%	1310197
R301-304	RES .25 Ω 3 W 1%	1310214
R400	RES 3.9 K 1/2 W 5%	1300044
S1	SWITCH THERMOSTAT	1210149
T1	TRANSFORMER	1601184
T2	TRANSFORMER	1601177
J8	OUTLET AH #5662-DOR EQUIV	9008856
P10	MALE INLET AH # 5678 CR EQUIV	9008864
CR400-402	DIODE IN645	1105514
F400	FUSE 1/8 AGC	9008880
C401	CAP .01 MFD @ 200 VDC	1001610
C400	CAP 270 MFD @ 50 VDC	1010192
CR500	THYRECTOR GRS 20SP9B9	1102915
B1, 2	BLOWER	2094031
Q207	SCR PRV 100 Iac 55A	1101850
C100	CAP 6000 MFD @ 40 VDC	1010860
C101, 302	CAP 10,800 MFD @ 20 VDC	1010855
C200-203	CAP 30,000 MFD @ 25 VDC	1010840
C204	CAP 1.0 MFD @ 35 VDC	1001776
C205	CAP 18000 MFD @ 10 VDC	1010970
C300, 301	CAP 14,000 MFD @ 40 VDC	1010870
C500, 501	CAP .1-.1 MFD @ 1000 VDC	1002153
CB1	CKT. BRK. 5 AMP	1210364
CR100, 101 CR150, 151	DIODE IN4721	1110182
CR200, 201	DIODE IN1185A	1109974
CR300, 301	DIODE IN1201A	1110003
F500	FUSE .5A AGC	9007208
F100	FUSE 1.5 AGC	9008388
F150	FUSE 2.5A ABC	9008387
F200	FUSE 25A ABC	9008386
F300	FUSE 10A ABC	9008390
K1	RELAY	1210148-0
REF DES	DESCRIPTION	PART NO

PARTS LIST

TRANSISTOR & DIODE CONVERSION CHART

DEC	EIA	DEC	EIA

REVISIONS

REV	DWG NO	DATE
A	5409262	7/29/70
B	5409262	12-10-70
C	5409262	12-10-70
D	5409262	12/16/70

DRN 7/29/70 · CHK 12-10-70 · ENG 12-10-70 · PROD 12/16/70

TITLE H724A SCHEMATIC

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

SIZE D · CODE CS · NUMBER H724-A-1 · REV D

PRINTED CIRCUIT REV

DEC PRINTER NO ORD 101

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

SOFTWARE LIST

MADE BY FERGUSON DATE 11-30-70	CHECKED GULICK DATE 1-2-70	SECTION
ENG CHERTKOW DATE 12-7-70	PROD SAYLOR DATE 12-8-70	ISSUED SECT.

LEGEND
- D DOCUMENT
- DN DOCUMENT CHANGE NOTICE
- PA PAPER TAPE ASCII
- PB PAPER TAPE BINARY
- PM PAPER TAPE READ-IN-MODE

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION: PDP8/E-GA to MB	PDP8/E-DA to FB	PDP8/E-AA to CB					KIT CHECK BY ____ DATE ____	INSTALLATION CHECK BY ____ DATE ____
1	A-ML-PDP8/E-Ø	PDP8/E PRINT SET	X	X	X						
2	DEC-8E-HR1A-D	PDP8/E PRELIMINARY MAINT MANUAL	X	X	X						
3	12-1Ø31	LOG BOOK	X	X	X						
4		DECUS INSTALLATION MEMBERSHIP FORM	X	X	X						
5		DECUS INDIVIDUAL MEMBERSHIP FORM	X	X	X						
6		CUSTOMER SERVICE LETTER	X	X	X						
7	DEC-7-1Ø34	FORM	X	X	X						
8		CUSTOMER FOLLOW-UP LETTER	X	X	X						
9		SOFTWARE PERFORMANCE REPORT	X	X	X						
10		CUSTOMER ENVELOPE	X	X	X						
11		ECO STATUS SHEET	X	X	X						
12		SUPPLEMENTARY ACCESSORY LIST	X	X	X						
13		INSTALLATION REPORT SHEET	X	X	X						
14		CUSTOMER ACCEPTANCE SHEET	X	X	X						
15		KEY SHEET	X	X	X						
16	LIBKIT-8E-BASE	BASIC SOFTWARE KIT		X	X						
17	LIBKIT-8E-XBAS	EXTENDED SOFTWARE KIT			X						

TITLE SOFTWARE LIST (PDP8/E)	ASSY. NO. A-ML-PDP8/E-Ø SHEET OF	SIZE A / CODE SL / NUMBER PDP8/E-Ø-3 DIST.	REV. A	ECO NO 8E-00010

DEC FORM NO.
DRA 120

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON DATE 11-30-70	CHECKED K. GULICK DATE 11-30-70	SECTION 1
ENG D. Cheethour DATE 12-1-70	PROD Leroy Taylor DATE 12/7/70	ISSUED SECT. 1

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION SP8-EA
1	M8300	MAJOR REGISTERS MODULE	1
2	M8310	REGISTERS CONTROL MODULE	1
3	M833	TIMING MODULE	1
4	G104	SENSE/INHIBIT MODULE	1
5	G227	X/Y DRIVE MODULE	1
6	1205941	SLIDE SWITCH	2
7	1205375	SLIDE SWITCH	2
8	125849-13	HANDLE, TERRA COTTA	2
9	125849-12	HANDLE, AMBER	2
10	1209219	INDICATOR BULB	6
11	7006994	KEY SWITCH ASSEMBLY	1
12	5409264	POWER SUPPLY CONTROL MODULE A1	1
13	5409262	POWER SUPPLY CONTROL MODULE A2	1

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
PDP8/E RECOMMENDED 1ST LEVEL SPARES	SHEET 1 OF 1	A	PL	SP8-EA-Ø	A	SP8EA-00001

DIST.

DEC FORM NO. 16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON	CHECKED K. GULICK	SECTION 1
DATE 11-30-70	DATE 11-30-70	
ENG D. Cheatham	PROD Leroy Baylor	ISSUED SECT. 1
DATE 12-1-70	DATE 12/2/70	

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION SP8-EB
1	1000004	CAPACITOR .02 MFD	2
2	1000016	CAPACITOR .100 MFD	2
3	1003053	CAPACITOR .47 MFD	2
4	1005306	CAPACITOR 6.8 MFD	2
5	1009678	CAPACITOR .47 MFD	2
6	1100114	IN914 OR IN644	1
7	1105214	IN645	1
8	1109977	IN749A	1
9	1109979	IN1185A	1
10	1110006	IN1201A	1
11	1110181-0	THYRECTOR 6RS05P5B5	1
12	1110182-0	IN4721	2
13	1110183-0	SCR C45A	1
14	1205317	SWITCH	2
15	1209403	FAN	1
16	1210043	SWITCH	1
17	1210072	TERMINAL	2
18	1210073	CONNECTOR SOCKET	2
19	1210198-0	RELAY	1
20	1210199-0	THERMAL RELAY	1
21	1300229	RESISTOR 100, ¼W	2
22	1300317	RESISTOR 470, ¼W	2

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
PDP8/E RECOMMENDED 2ND LEVEL SPARES		A	PL	SP8-EB-Ø		
	SHEET 1 OF 5	DIST.				

DEC FORM NO. 16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON	CHECKED K. GULICK	SECTION
DATE 11-30-70	DATE 11-30-70	1
ENG D. Christian	PROD Leroy Bayer	ISSUED SECT.
DATE 12-1-70	DATE 12/7/70	1

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION SP8-EB
23	1300439	RESISTOR 3.3K, ¼W	2
24	1301420	RESISTOR 27, ¼W	2
25	1302871	RESISTOR 1.21K, 1/8W	2
26	1302941	RESISTOR 14.7K, 1/8W	2
27	1302955	RESISTOR 750, 1/8W	2
28	1302956	RESISTOR 196, 1/8W	2
29	1303156	RESISTOR 34.8K, 1/8W	2
30	1304833	RESISTOR 1.96K, 1/8W	2
31	1304855	RESISTOR 9.09K, 1/8W	2
32	1304868	RESISTOR 2.74K, 1/8W	2
33	1305128	RESISTOR 5.62K, 1/8W	2
34	1305252	RESISTOR 68.1K, 1/8W	2
35	1309143-6	POTENTIOMETER 2K 3/4W	1
36	1309143-8	POTENTIOMETER 500 3/4W	1
37	1310032	RESISTOR 16.9K 6W	2
38	1310071	RESISTOR	2
39	1310170	THERMISTER	1
40	1503409	MPS6534 OR 2N3133	2
41	1505321	2N4258	3
42	1505819	2N3055 T041 CASE	2
43	1509338	MPS6531 OR 2N1613	1
44	1509632	DEC 2007	4

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
PDP8/E RECOMMENDED 2ND LEVEL SPARES	SHEET 2 OF 5	A	PL	SP8-EB-Ø		
		DIST.				

DEC FORM NO.16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON	CHECKED K. GULICK	SECTION 1
DATE 11-30-70	DATE 11-30-70	
ENG D. Clitheroe	PROD Leroy Saylor	ISSUED SECT. 1
DATE 12-1-70	DATE 12/7/70	

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION SP8-EB
45	1509649	2N3762	3
46	1509854	DEC 8251	2
47	1510150	DEC 4008	4
48	1510151	RCA 40372	2
49	1609478	TRANSFORMER 17Z5	2
50	1609651	TRANSFORMER 8010	2
51	1609996	TRANSFORMER 6501	1
52	1809880	CRYSTAL 20 MHZ	1
53	1809880-01	CRYSTAL 14.418 MHZ	1
54	1905521	DEC 1540	2
55	1905547	DEC 7474	3
56	1905586	DEC 74H40	2
57	1909004	DEC 7402	2
58	1909055	DEC 7495	2
59	1909056	DEC 74H00	1
60	1909057	DEC 74H10	1
61	1909267	DEC 74H11	1
62	1909373	DEC ML-9601	1
63	1909594	DEC 82S13-930	2
64	1909667	DEC 74H74	1
65	1909686	DEC 7404	2
66	1909867	DEC 4007	1

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
PDP8/E RECOMMENDED 2ND LEVEL SPARES	SHEET 3 OF 5	A	PL	SP8-EB-Ø		
		DIST.				

DEC FORM NO.16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON	CHECKED K. GULICK	SECTION
DATE 11-30-70	DATE 11-30-70	1
ENG [illegible]	PROD [illegible]	ISSUED SECT.
DATE 12-1-70	DATE 12/2/70	1

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION SP8-EB
67	1909927	DEC 74H87	1
68	1909928	DEC 7416	2
69	1909929	DEC 7417	1
70	1909930	DEC 7405	1
71	1909931	DEC 74H04	1
72	1909932	DEC 7483	1
73	1909934	DEC 8266	2
74	1909935	DEC 8235	1
75	1909936	DEC 74151	2
76	1909937	DEC 74153	1
77	1909955	DEC 7412	1
78	1909971	DEC 6380A	3
79	1909972	DEC 6314A	1
80	1909973	DEC 97401	5
81	1909981	DEC UA723C	1
82	1910010	DEC FSA2501	4
83	1910011	DEC 7486	1
84	9007208	FUSE .5A 250V AGC ½	5
85	9009349	SOCKET	2
86	9009350-0	HOUSING	2
87	9008386-0	FUSE 25A 125V ABC 25	5
88	9008387-0	FUSE 2.5A 250V AGC 2½	5

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
PDP8/E RECOMMENDED 2ND LEVEL SPARES	SHEET 4 OF 5	A	PL	SP8-EB-Ø		
		DIST.				

DEC FORM NO.16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY J. FERGUSON	CHECKED K. GULICK	SECTION
DATE 11-30-70	DATE 11-30-70	1
ENG J. Chisholm	PROD Leroy Boyer	ISSUED SECT.
DATE 12-1-70	DATE 12/7/70	1

	ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION SP8-EB
F402	89	9008388-0	FUSE 1.5A 250V AGC 1½	5
F400	90	9008389-0	FUSE .125A 250V AGC 1/8	5
	91	9008390-0	FUSE 10A 250V ABC 10	5
	92	9107722	SCR HEX SET ¼-20 X ¼LG NYLON	2

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
PDP8/E RECOMMENDED 2ND LEVEL SPARES		A	PL	SP8-EB-Ø		
	SHEET 6 OF 5	DIST.				

DEC FORM NO.16-1031
DRA 110

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ACCESSORY LIST

MADE BY J. CUDMORE	CHECKED PFYFFER	SECTION
DATE 7/21/69	DATE 7/25/69	1
ENG Marshment	PROD Marshment	ISSUED SECT.
DATE 7/28/69	DATE 7/28/69	1

LEGEND

- D DOCUMENT
- DN DOCUMENT CHANGE NOTICE
- PA PAPER TAPE ASCII
- PB PAPER TAPE BINARY
- PM PAPER TAPE READ-IN-MODE

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION	KIT CHECK BY ____ DATE ____	INSTALLATION CHECK BY ____ DATE ____
1	36-5360	ROLLS, ROLLED OILED PAPER TAPE	3		
2	36-5365	ROLL, TWX PAPER	1		
3	BULLETIN 273B	TTY MANUAL VOL #1 (VENDOR)	1		
4	BULLETIN 310B	TTY MANUAL VOL #2 (VENDOR)	1		
5	BULLETIN 1184B	TTY MANUAL PARTS (VENDOR)	1		
6	18-9137	ROLL TTY RIBBON	1		

TITLE	ASSY. NO.	SIZE	CODE	NUMBER	REV.	ECO NO
TELETYPE ASR-33 ACCESSORY LIST	SHEET 1 OF 1	A	AL	LT33-0-12		

DIST.

DEC FORM NO. DRA 121

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