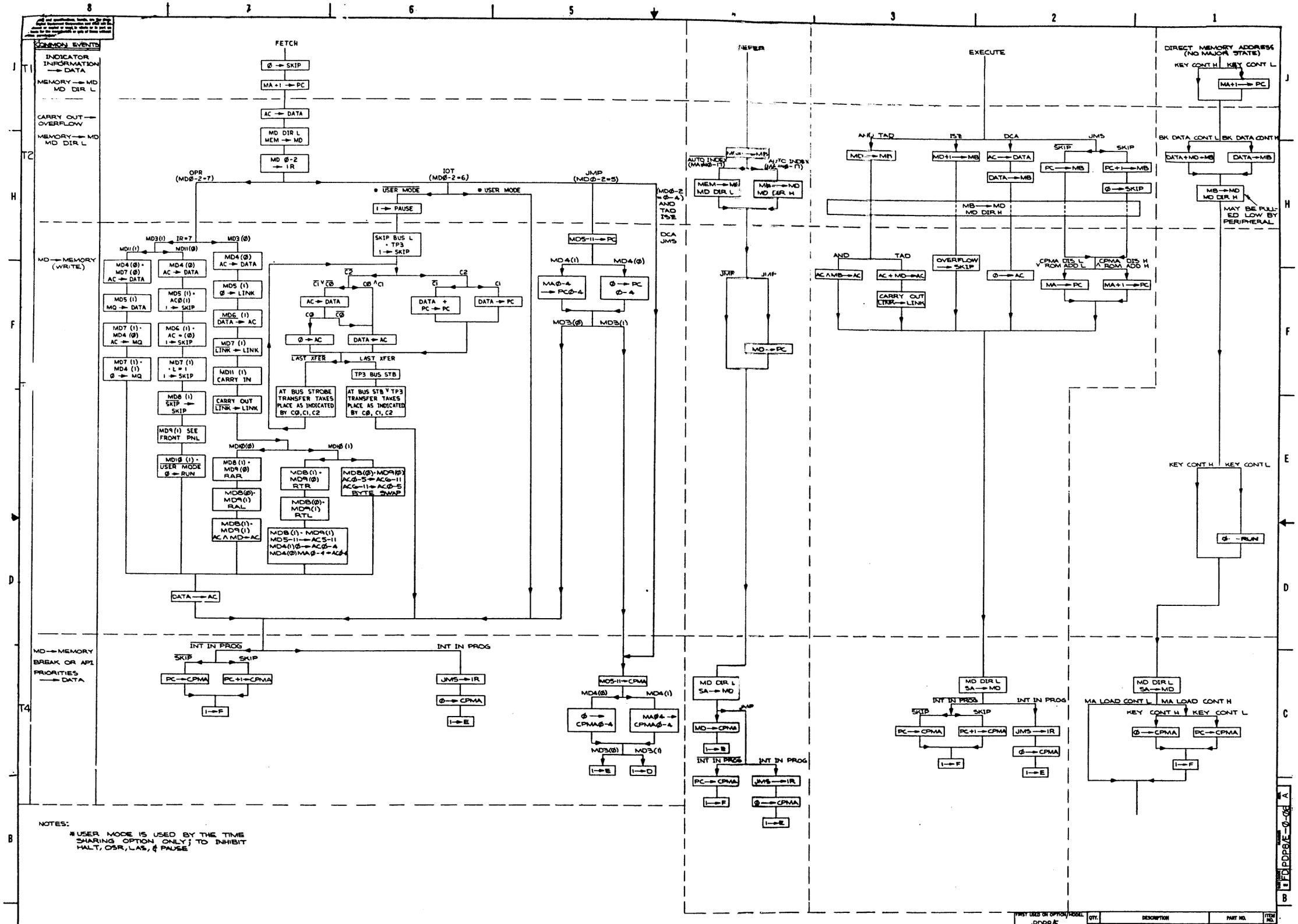


NOTES:

* USER MODE IS USED BY THE TIME SHARING OPTION ONLY; TO INHIBIT HALT, OSR, LAS, & PAUSE

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

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED TOLERANCES
MATERIAL —
FINISH —

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE PROCESSOR FLOW CHART

NEXT/HIGHER ASSY A-ML-PDP8/E-Ø

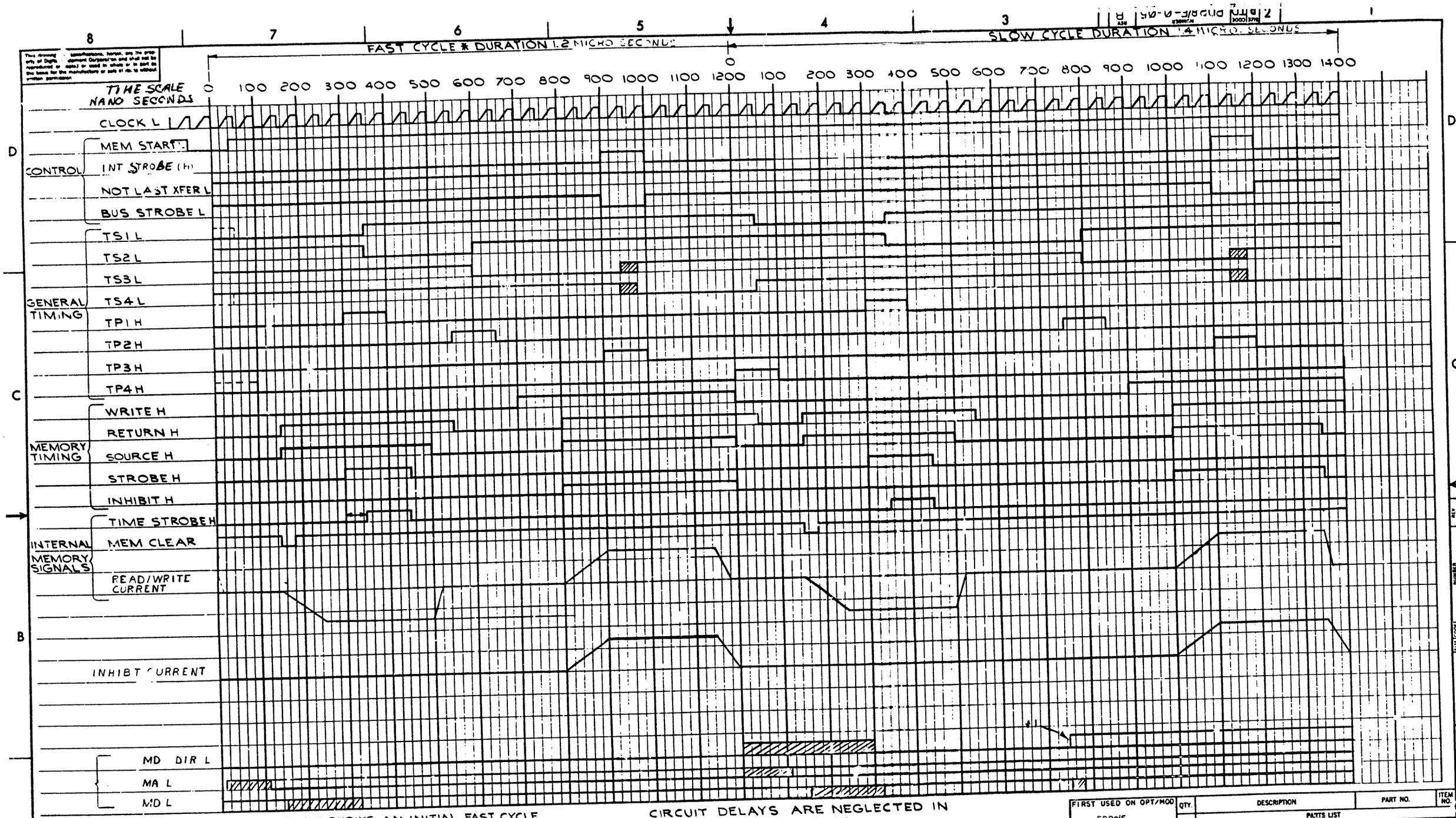
SCALE — SHEET 1 OF 1

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

DIST.

REV. A 11-11-71 L. KLOTZ

DEC-PDP8/E-COMM-A



*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-00012	A	
NARH			
	BE-00049	B	11-10-71
	L. KLOTZ		

FIRST USED ON OPT/MOD	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

NEXT HIGHER ASSY: A-ML-PDP8/E-0
SCALE: NONE
SHEET 1 OF 2

DATE 1-9-71

EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

TITLE: TIMING (PDP8/E)

SIZE D | CODE TD | NUMBER PDP8/E-0-05 | REV. B

DIST.

DEC FORM NO DRD 102A

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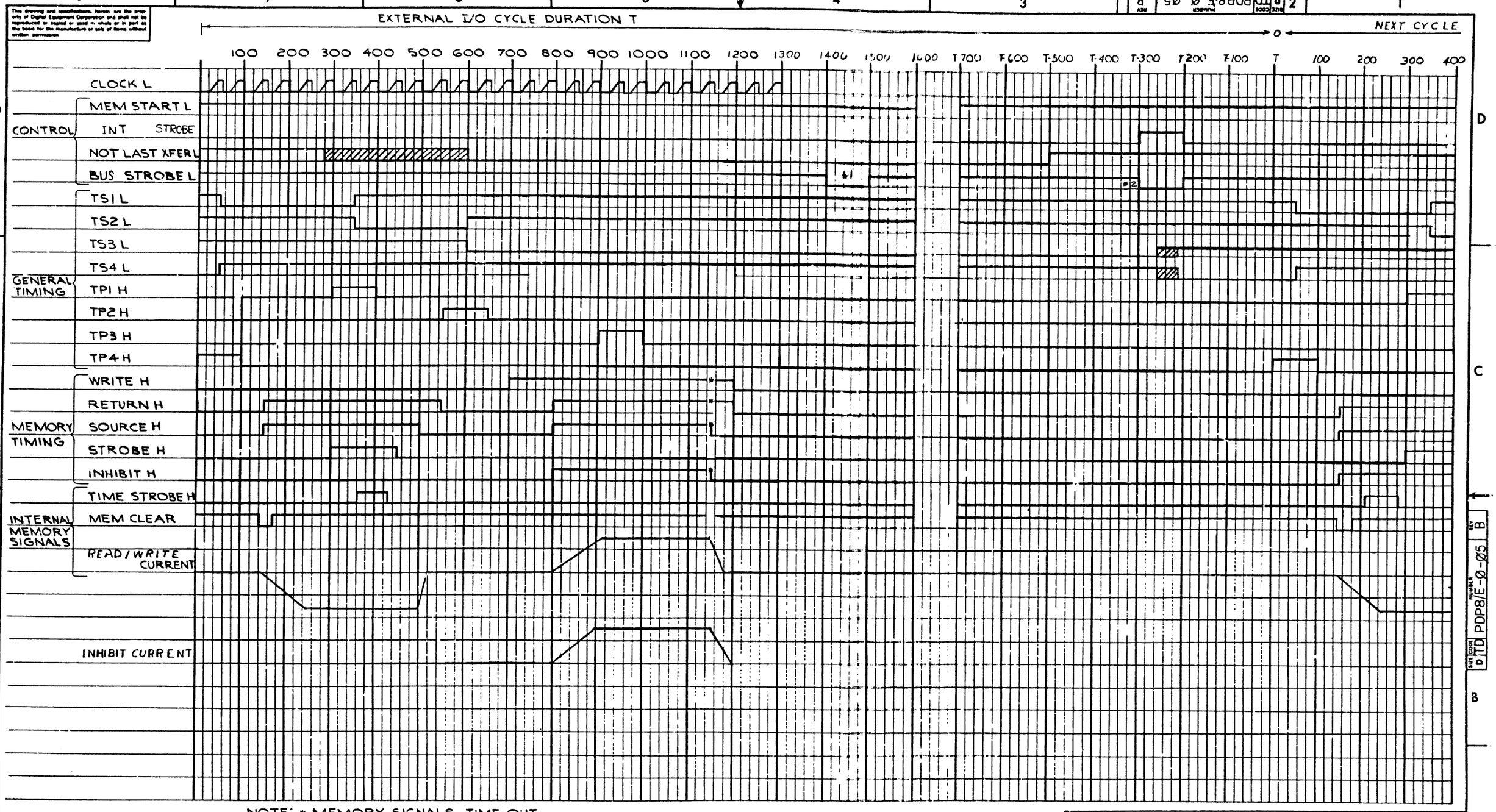


NOTE: * MEMORY SIGNALS TIME OUT, AS IN A FAST CYCLE

\# 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

FIRST USED ON OPT/MOD PDP8/E	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.		DATE 1-5-71
CKD.		DATE 1/11/71
		DATE 1/13/71
		DATE 1/12/71
		DATE 1/13/71

NEXT HIGHER ASSY: A-ML-PDP8/E-Ø

SCALE NONE

SHEET 2 OF 2

EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

TITLE: TIMING (PDP8/E)

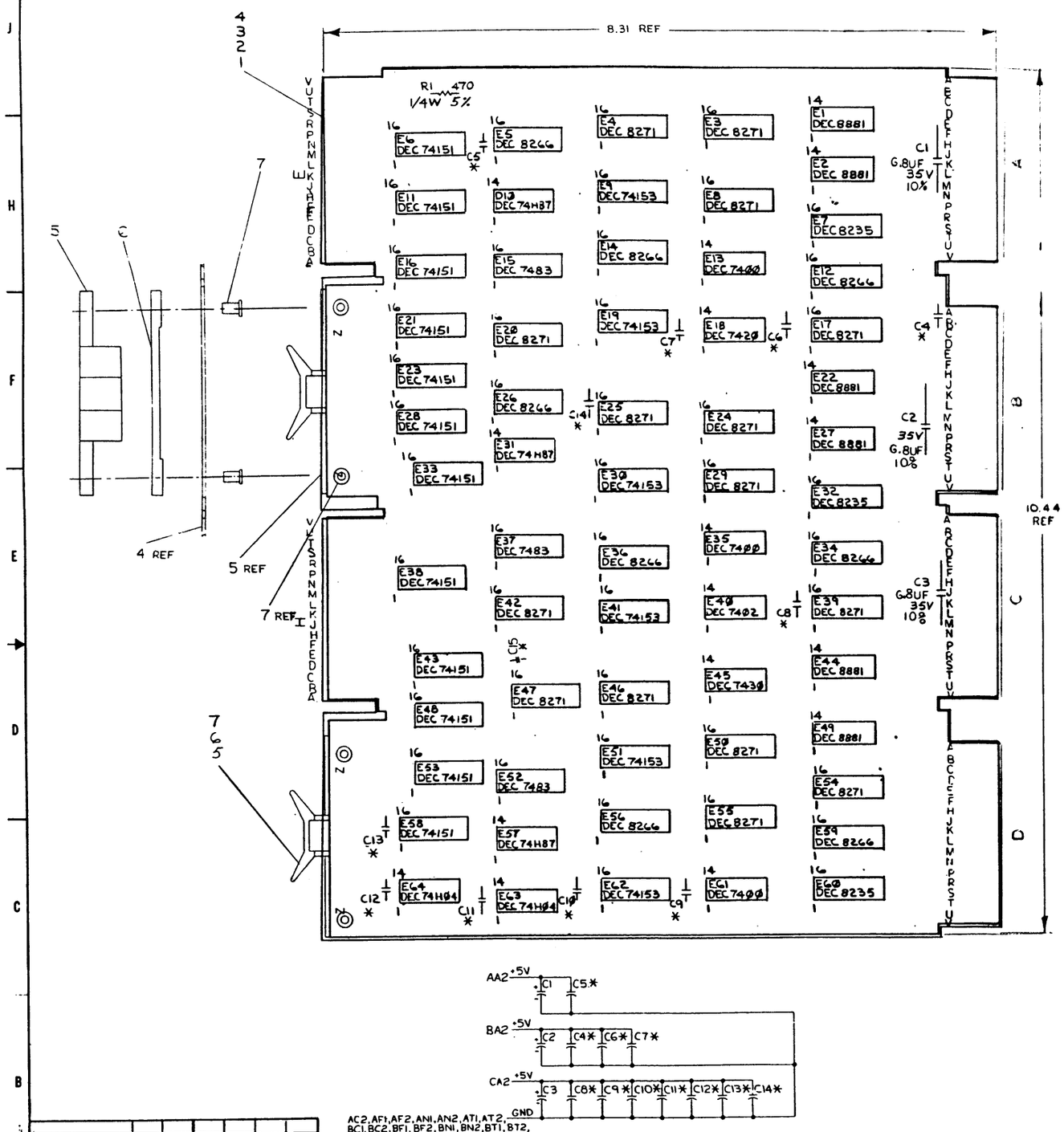
SIZE	CODE	NUMBER	REV.
D	TD	PDP8/E-Ø-Ø5	B

DICT.

DEC FORM NO. DRD 102A

NOTES:

* THESE COMPONENTS MUST BE ON M8300 IF KL8-A (M8319) IS USED ON SYSTEM.



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	C15	CAP 100PF D.M.	1000016	25
AR		~~WIRE #22 AWG SOLID~~	~~9073600-01~~	~~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,E37,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	1905576	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%	3000316	10
11	C4-C14	CAP .22UF 50V CER	1010274-00	9
3	C1,C2,C3	CAP 6.8UF 35V 20% STANT	1000067	8
4		EYELETS GS4-11 STIMPSON	9006750	7
2		SPACER (CABLE CLAMP)	1202704	6
2		HANDLE FLIP CHIP-MAGENTA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009250	4
REF		MODULE HISTORY LIST	~~B-M8300-00~~	3
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8300-00	2
REF		XY COORDINATE HOLE LOC	CO-M8300-00	1

PARTS LIST

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

REV	CHANGE NO	DATE
A	M8300-00001	
B	M8300-00002	

REVISIONS

REV COLUMN B

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH. REVISION

DEC NO. EIA NO.

SEMICONDUCTOR CONVERSION CHART

digital EQUIPMENT CORPORATION

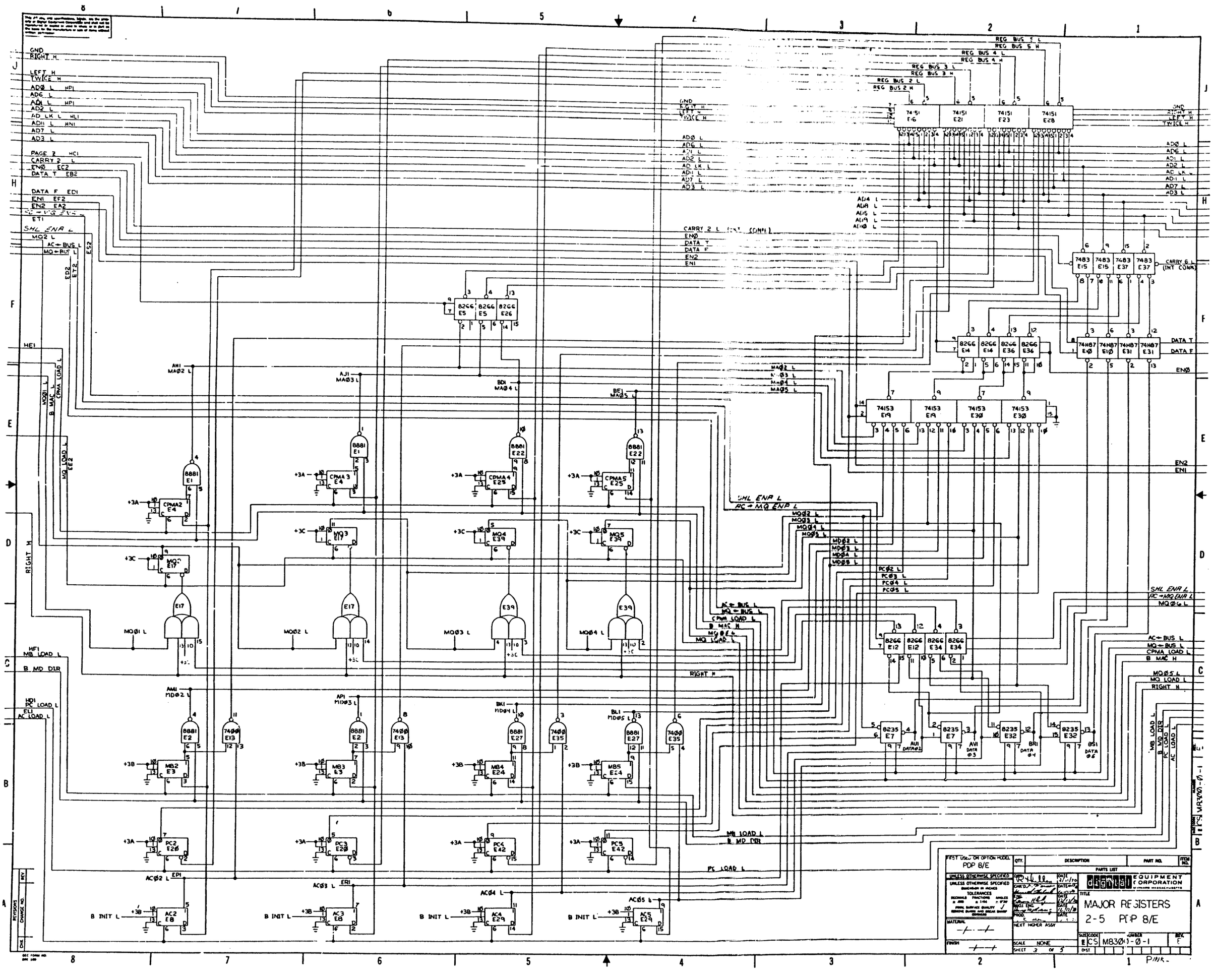
TITLE MAJOR REGISTERS (KK8/E)

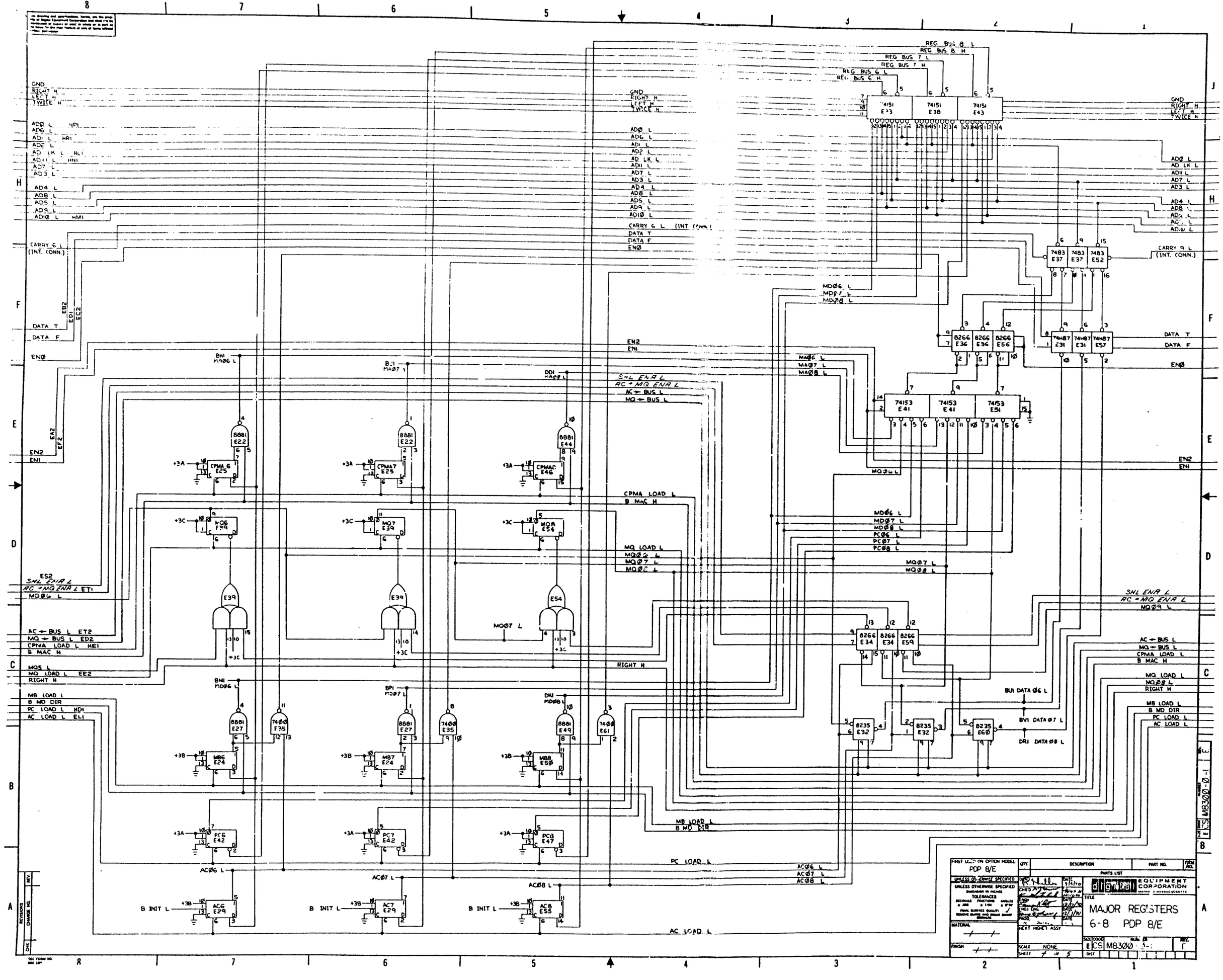
D-UA-KK8-E-0

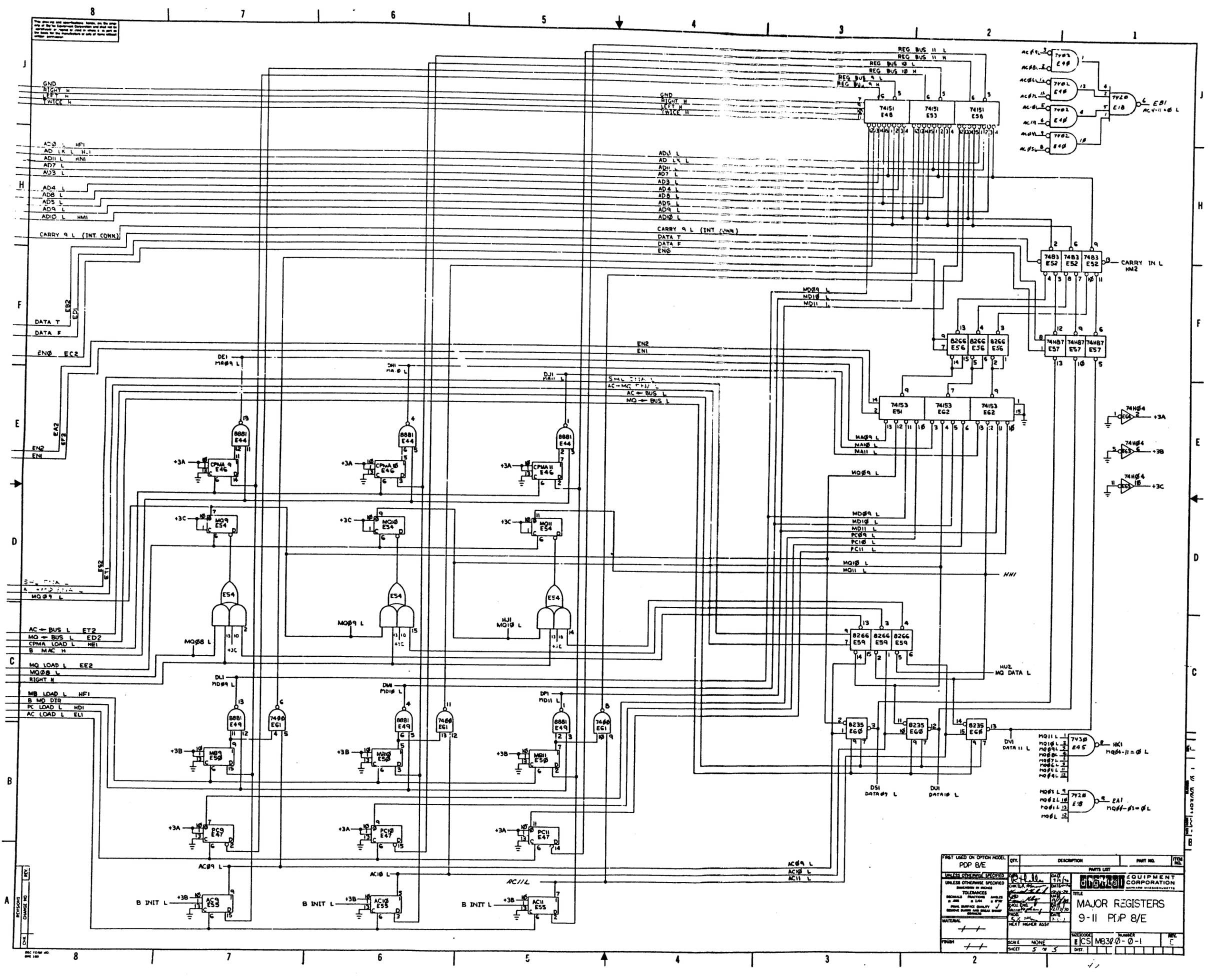
SCALE 2/1

SHEET 1 OF 5

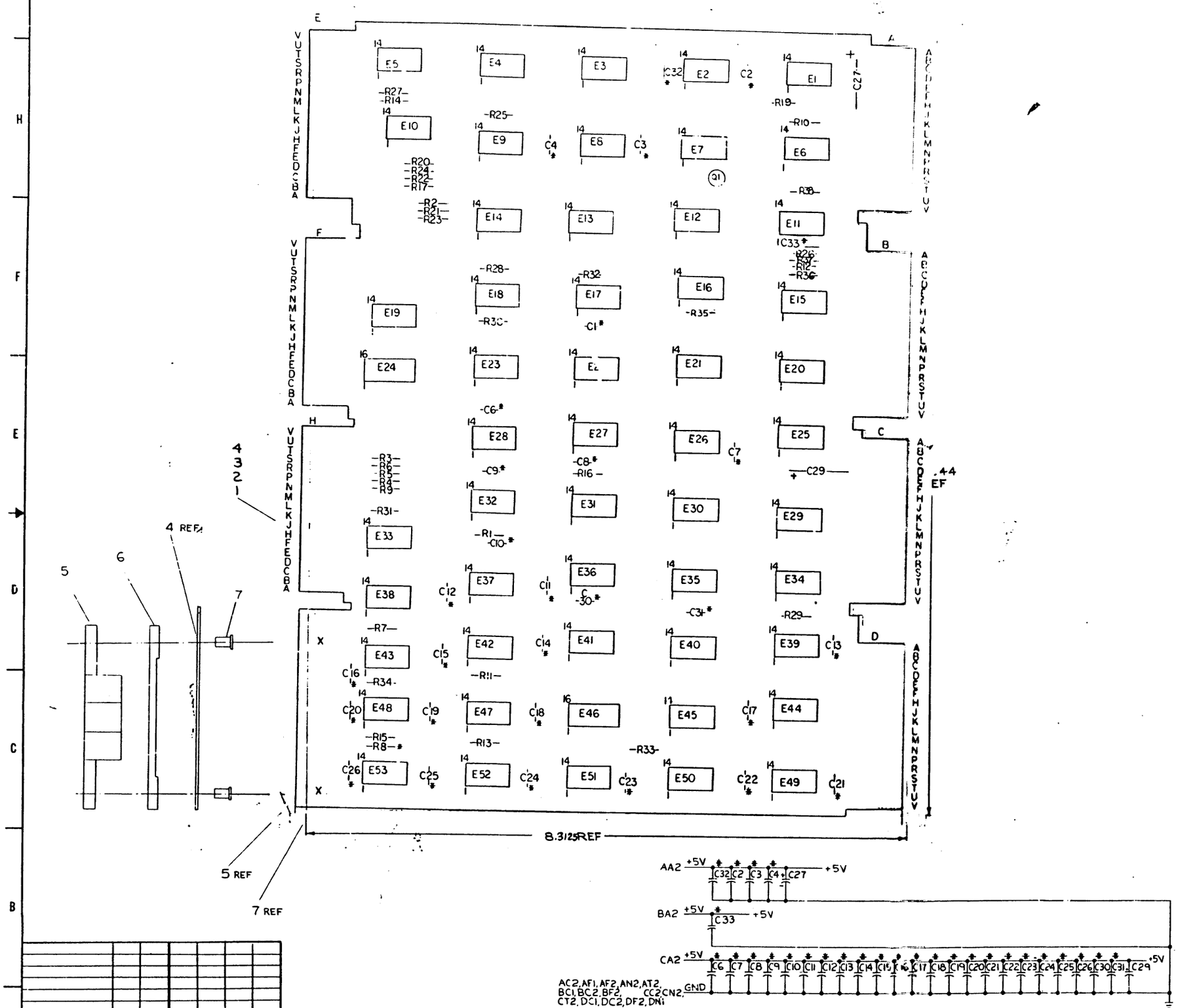
ECS M8300-0-1 REV. E


MAJOR REGISTERS
2-5 PDP 8/E
digital EQUIPMENT CORPORATION
MAXIDAC-0-1-1
PDP 8/E
PARTS LIST
QTY.
DESCRIPTION
PART NO.
ITEM NO.
UNLESS OTHERWISE SPECIFIED
TOLERANCES
MATERIAL
FINISH
NEXT HIGHER ASSY
SCALE NONE
SHEET 3 OF 5
SIZE CODE E
CS M8301-0-1
REV. F
REVISIONS
REV
CHANGE NO.
DWN
PINK


MAJOR REGISTERS
6-8 PDP 8/E
PDP 8/E
M8300-0-1
E
CS
F
EQUIPMENT CORPORATION
PARTS LIST
PART NO.
DESCRIPTION
QTY.
NEXT HIGHER ASSY
SCALE NONE
SHEET 7 OF 5
MATERIAL
FINISH
REVISIONS
CHANGE NO.
REV.
DWG
CHK
GND
RIGHT H
LEFT H
TWICE H
ADØ L
AD6 L
AD1 L
AD2 L
AD LK L
AD11 L
AD7 L
AD3 L
AD4 L
AD8 L
AD5 L
AD9 L
ADIØ L
CARRY 6 L (INT. CONN.)
DATA T
DATA F
ENØ
EN2
EN1
REG BUS 8 L
REG BUS 8 H
REG BUS 7 L
REG BUS 7 H
REG BUS 6 L
REG BUS 6 H
74151 E23
74151 E38
74151 E43
7483 E37
7483 E37
7483 E52
CARRY 9 L (INT. CONN.)
8266 E36
8266 E36
8266 E56
74H87 E31
74H87 E31
74H87 E57
74153 E41
74153 E41
74153 E51
MAØ6 L
MAØ7 L
MAØ8 L
MDØ6 L
MDØ7 L
MDØ8 L
SHL ENA L
AC→MQ ENA L
AC←BUS L
MQ←BUS L
CPMA LOAD L
B MAC H
MQ LOAD L
MQØ6 L
MQØ7 L
MQØ8 L
PCØ6 L
PCØ7 L
PCØ8 L
MQØ9 L
RIGHT H
MB LOAD L
B MD DIR
PC LOAD L
AC LOAD L
B INIT L
ACØ6 L
ACØ7 L
ACØ8 L
BU1 DATA Ø6 L
BV1 DATA Ø7 L
DR1 DATA Ø8 L
8881 E22
8881 E22
8881 E44
CPMA 6 E25
CPMA7 E25
CPMAC E46
MQ6 E39
MQ7 E39
MQ8 E54
E39
E39
E54
8266 E34
8266 E34
8266 E59
8235 E32
8235 E32
8235 E60
8881 E27
8881 E27
8881 E49
7400 E35
7400 E35
7400 E61
MB6 E24
MB7 E24
MB8 E50
PC6 E42
PC7 E42
PC8 E47
AC6 E29
AC7 E29
AC8 E55
+3A
+3B
+3C


MAJOR REGISTERS
9-11 PDP 8/E
FIRST USED ON OPTION MODEL
PDP 8/E
PARTS LIST
DIGITAL EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS
SIZE CODE NUMBER REV.
E CS M8310-0-1 E
SCALE NONE
SHEET 5 OF 5
74151 E48
74151 E53
74151 E58
7483 E52
74H87 E57
8266 E56
74153 E51
74153 E62
8266 E59
8235 E60
8235 E66
74H04 E63
7420 E18
7402 E49
7400 E61
8881 E44
CPMA 9 E46
CPMA 10 E46
CPMA 11 E46
MQ9 E54
MQ10 E54
MQ11 E54
E54
8881 E49
M89 E50
M810 E50
M811 E50
PC9 E47
PC10 E47
PC11 E47
AC9 E55
AC10 E55
AC11 E55
7430 E45
7420 E18
CARRY IN L
HM2
HM1
MQ DATA L
DATA 11 L
DATA 09 L
DATA 10 L
MQ04-11 = 0 L
MQ00-03 = 0 L
B INIT L
AC ← BUS L
MQ ← BUS L
CPMA LOAD L
B MAC H
MQ LOAD L
B MQ DIR
PC LOAD L
AC LOAD L
RIGHT H
LEFT H
TWICE H
CARRY 9 L (INT. CONN.)
DATA T
DATA F
EN0
EN2
EN1

NOTES:
* THESE COMPONENTS MUST BE ON THE M8310 IF THERE IS A KL8-A(M3319) ON THE SYSTEM.



QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
* 1	R8	RES. 150, 1/4W, 5%	1300250	31
1	R37	RES. 3K 1/4W, 5%	1300432	30
1	R38	RES. 100, 1/4W, 10%	1300231	29
1	Q1	TRANSISTOR DEC3009B	1503100	28
2	E40, E45	I.C. DEC 74H74	1909667	27
3	E18, E21, E35	I.C. DEC 74H00	1909056	26
2	E14, E36	I.C. DEC 74H04	1909931	25
1	R35	RES 100, 1/4W, 5%	1300229	24
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
7	E6, E16, E20, E26, E34, 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
3	E32, E39, E42	I.C. DEC 7400	1905575	12
3	E17, E33, E50	I.C. DEC 7474	1905547	11
33	R1-R7, R9-R17, R19-R24, R36	RES. 470, 1/4W, 5%	1300316	10
* 29	C1-C4, C6-C26, C30-33	CAP. .22 MFD 50V CER	1010274	9
2	C27, C29	CAP. 6.8UF, 35V, 20% S.TANT	1000067	8
2		EYELETS GB4-11 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-AH-M8310-0-5	2
REF		X-Y COORDINATE HOLE LOC.	K-CO-M8310-0-4	1

PARTS LIST

DEC 74151	8	16
DEC 8251	8	16
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

JUMPER LIST

DEC 3009B	2N3646
DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

REV COLUMN

PRINTED CIRCUIT BOARD REVISION

CIRCUIT SCH REVISION

DWN R.E.H. DATE 1/6/71
CHKD DATE
ENG DATE
MFG DATE
QA DATE
APPD DATE

D-UA-KK8-E-0

SCALE 2/1
SHEET 1 OF 4

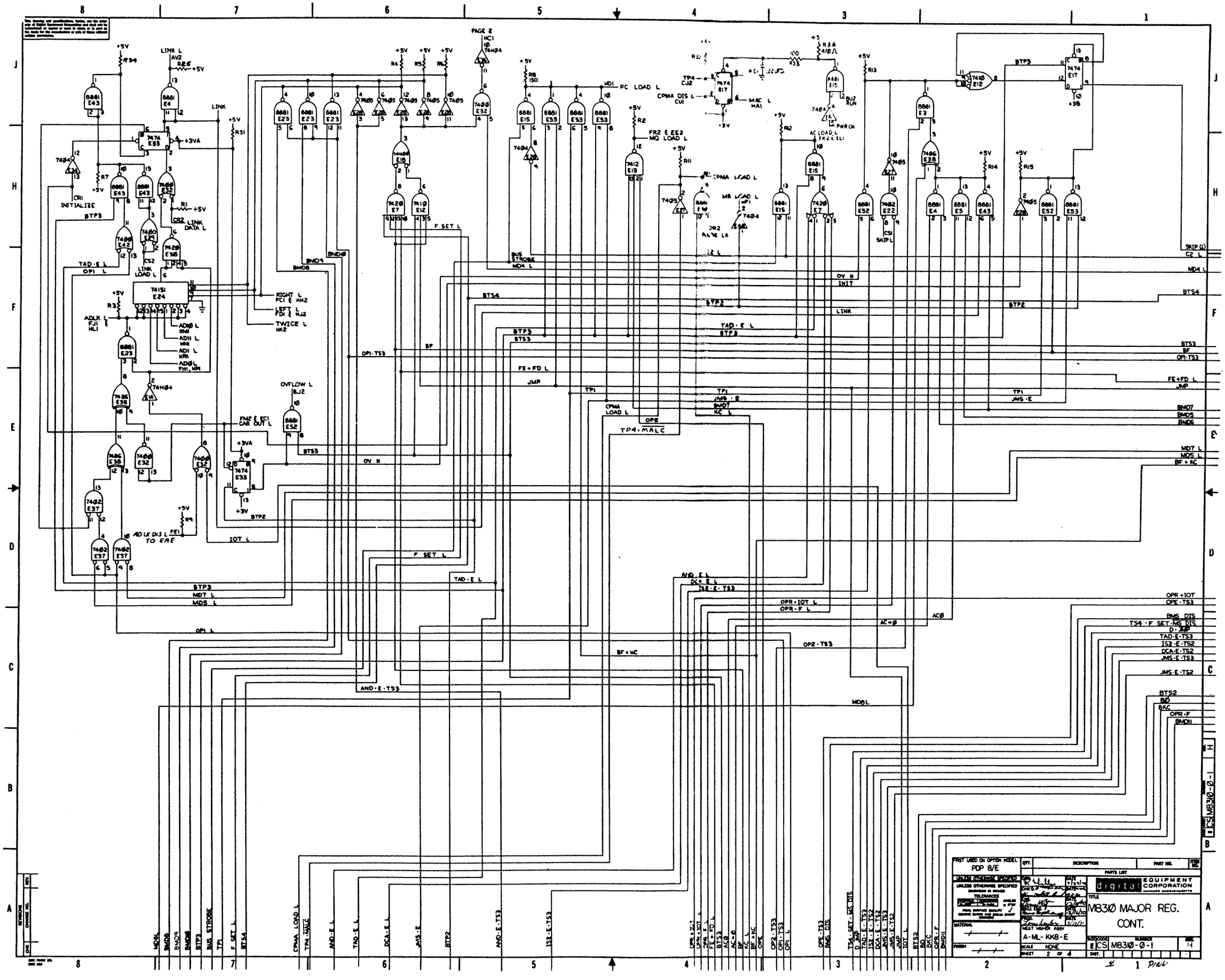
EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

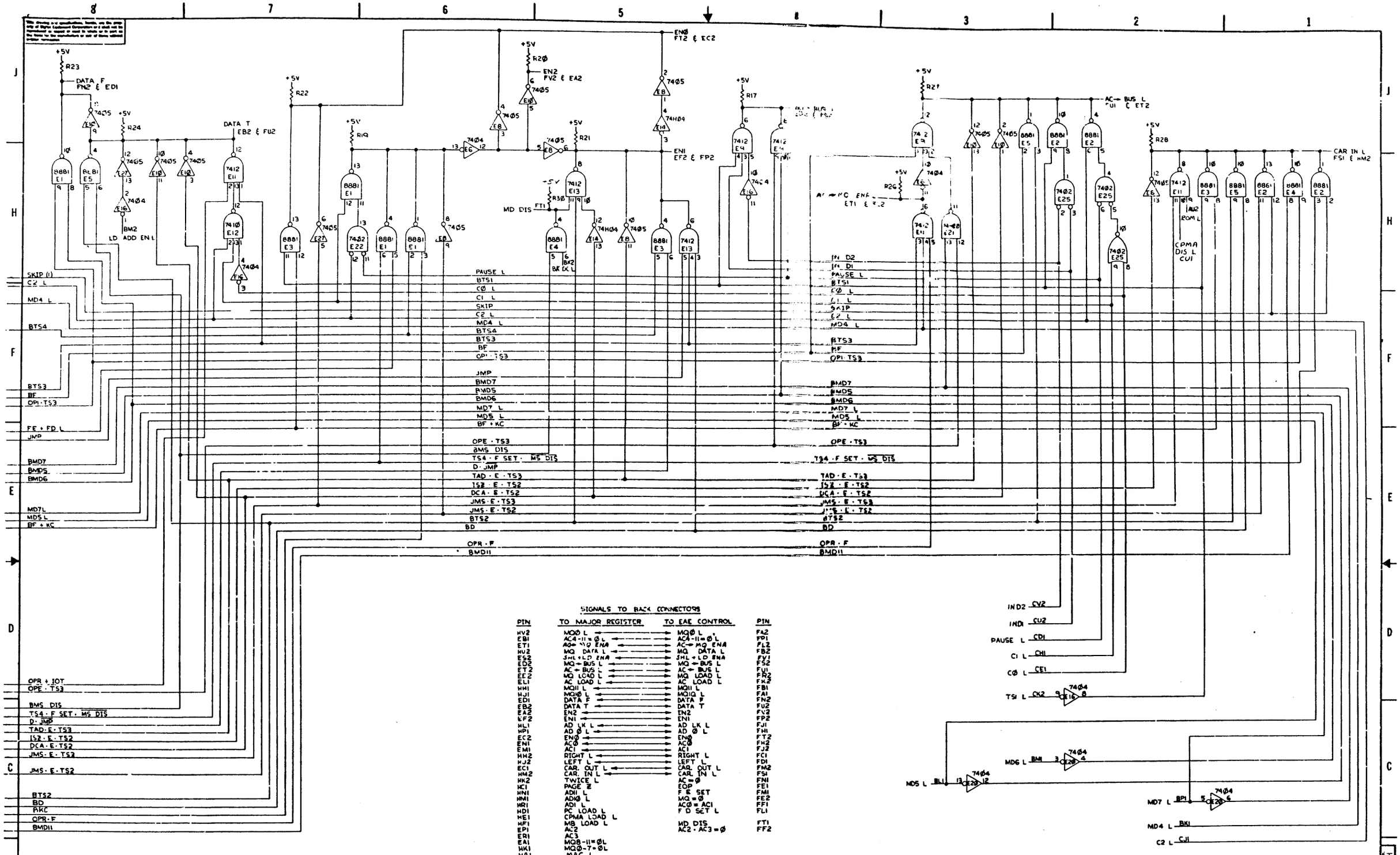
TITLE
MAJOR REG.
CONT. (M8310)

REVISION E CS NUMBER M8310-0-1 REV H
DATE 1/6/71

REVISIONS

REV	CHANGE NO	DATE	
A	M8310-00001		LOUIS KLOTZ
B	M8310-00002		LOUIS KLOTZ
C	M8310-00004	7-27-71	LOUIS KLOTZ
D	M8310-00005	7-27-71	LOUIS KLOTZ
E	M8310-00006		LOUIS KLOTZ
F	M8310-00007		LOUIS KLOTZ
G	M8310-00008		LOUIS KLOTZ
H	M8310-00009	1-18-72	LOUIS KLOTZ


PAGE 2
LINK L
LINK
CRI INITIALIZE
BTP3
TAD·E L
OP1 L
LINK LOAD L
CS2
LINK DATA L
CR2
RIGHT L
LEFT L
TWICE L
ADLK L
ADØ L
AD11 L
AD1 L
ADØ L
OVFLOW L
CAR OUT L
BTS3
OV H
IOT L
AD LK DIS L TO EAE
F SET L
BTP3
MD7 L
MD5 L
OP1 L
BMD6
BMD9
BTP2
BUS STROBE
MD4 L
BTS4
BF
OP1·TS3
FE+FD L
JMP
TP1
CPMA LOAD L
OPE
TP4·MALC
PC LOAD L
CPMA DIS L
MAC L
FR2 & EE2
MQ LOAD L
MR LOAD L
AC LOAD L
PWR OK
SKIP L
CS1
INIT
LINK
TP1
JMS·E
BMD7
BMD5
BMD6
MD7 L
MD5 L
BF+KC
AND·E L
DCA·E L
TS2·E·TS3
OPR·IOT L
OPR·F L
AC=Ø
ACØ
OP2·TS3
BF+KC
MDØL
AND·E·TS3
OPR+IOT
OPE·TS3
BMS DIS
TS4·F SET·MS DIS
D·JMP
TAD·E·TS3
TS2·E·TS2
DCA·E·TS2
JMS·E·TS3
JMS·E·TS2
BTS2
BJD
BKC
OPR·F
BMDII
MDØL
BMD6
BMD9
BMD6
BTP3
BUS STROBE
TP1
F SET L
BTS4
CPMA LOAD L
TP4·MALC
AND·E L
TAD·E L
DCA·E L
JMS·E
BTP2
AND·E·TS3
TS2·E·TS3
OPR+IOT
OPR·F L
FE+FD L
BTS3
ACØ
AC=Ø
BF
KC L
BF+KC
OPE
OP2·TS3
OP1·TS3
OP1 L
OPE·TS3
BMS DIS
TS4·F SET·MS DIS
D·JMP
TAD·E·TS3
TS2·E·TS2
DCA·E·TS2
JMS·E·TS3
JMP
IOT L
BTS2
BJD
BKC
OPR·F
BMDII
FIRST USED ON OPTION MODEL
PDP 8/E
QTY.
DESCRIPTION
PART NO.
ITEM NO.
PARTS LIST
UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES
TOLERANCES
FINAL SURFACE QUALITY
SERVING SHARP AND BREAK SHARP
MATERIAL
FINISH
NEXT HIGHER ASSY
A-ML-KK8-E
SCALE NONE
SHEET 2 OF 4
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
TITLE
M8310 MAJOR REG. CONT.
SIZE CODE NUMBER REV.
E CS M8310-0-1 1-4
DIST.
CS M8310-0-1
REVISIONS
CHANGE NO.
DATE



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	FL2
HU2	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
ELI	AC LOAD L	AC LOAD L	FX2
HH1	MQ11 L	MQ11 L	FB1
HJ1	MQØ L	MQ1Q L	FA1
ED1	DATA F	DATA F	FN2
EB2	DATA T	DATA T	FU2
EA2	EN2	EN2	FV2
EF2	EN1	EN1	FP2
HL1	AD LK L	AD LK L	FJ1
HP1	AD Ø L	AD Ø L	FH1
EC2	ENØ	ENØ	FT2
EN1	ACØ	ACØ	FH2
EM1	AC1	AC1	FJ2
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
HC1	PAGE Z	EOP	FE1
HN1	ADI L	F E SET	FM1
HM1	ADIØ L	MQ = Ø	FE2
HR1	ADI L	ACØ = AC1	FF1
HD1	PC LOAD L	F D SET L	FL1
HE1	CPMA LOAD L		
HF1	MB LOAD L	MD DIS	FT1
EP1	AC2	AC2 · 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	USE
L	L	L	L	MA ← Ø-4 MQ ← 5-11	PAGE ADDRESSING
L	L	H	X	MBX ∧ ACX	AND
L	H	L	X	ADDER (X-2)	RTR
L	H	H	X	ADDER (X-1)	RAR
H	L	L	X	ADDER (X+2)	RTL
H	L	H	X	ADDER (X+1)	RAL
H	H	L	X	ADDER (X+6)	BYTE SWAP
H	H	H	X	ADDER X	NO SHIFT
L	L	L	H	Ø ← MAØ-4 MQ ← MA5-11	PC Ø ADDRESSING

ENØ	EN1	EN2	INPUT TO ADDER
L	L	L	PC
L	L	H	MD
L	H	L	MQ
L	H	H	MA
H	X	X	M(ARITHMETIC ZERO)

+

DATA T	DATA F	INPUT TO ADDER
L	L	DATA BUS NOT L
L	H	DATA BUS
H	L	M(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	AC←MQ ENA L	DATA ← MQ
L	L	MQX +1 Ø-10 MQ DATA ← MQ11
L	H	MQX +1 Ø-10 MQ DATA ← MQ11
H	L	AC (IN COMPLEMENT TO REDEFINE)
H	H	1 (Ø ← MQ)

PDP 8/E

UNLESS OTHERWISE SPECIFIED

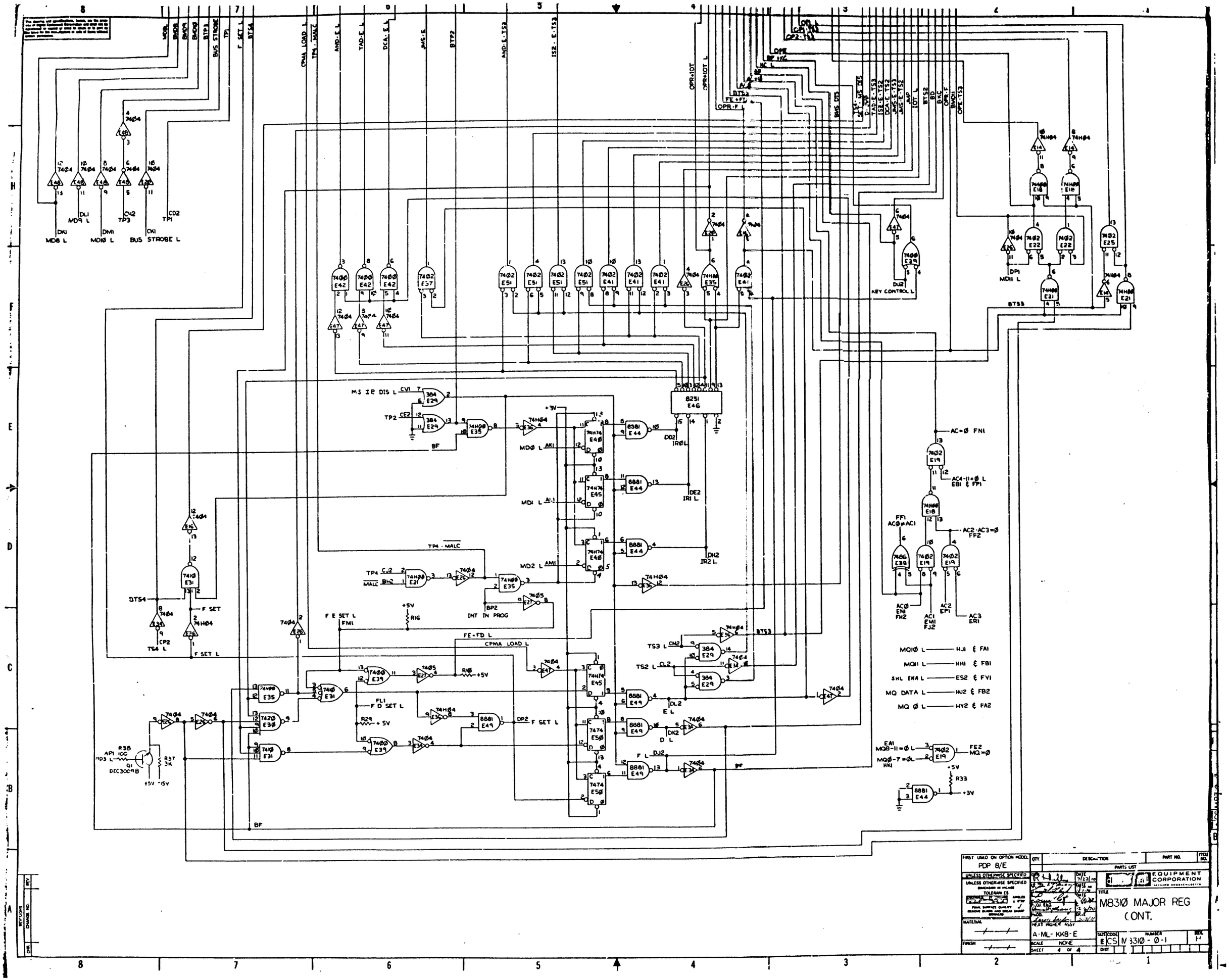
DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

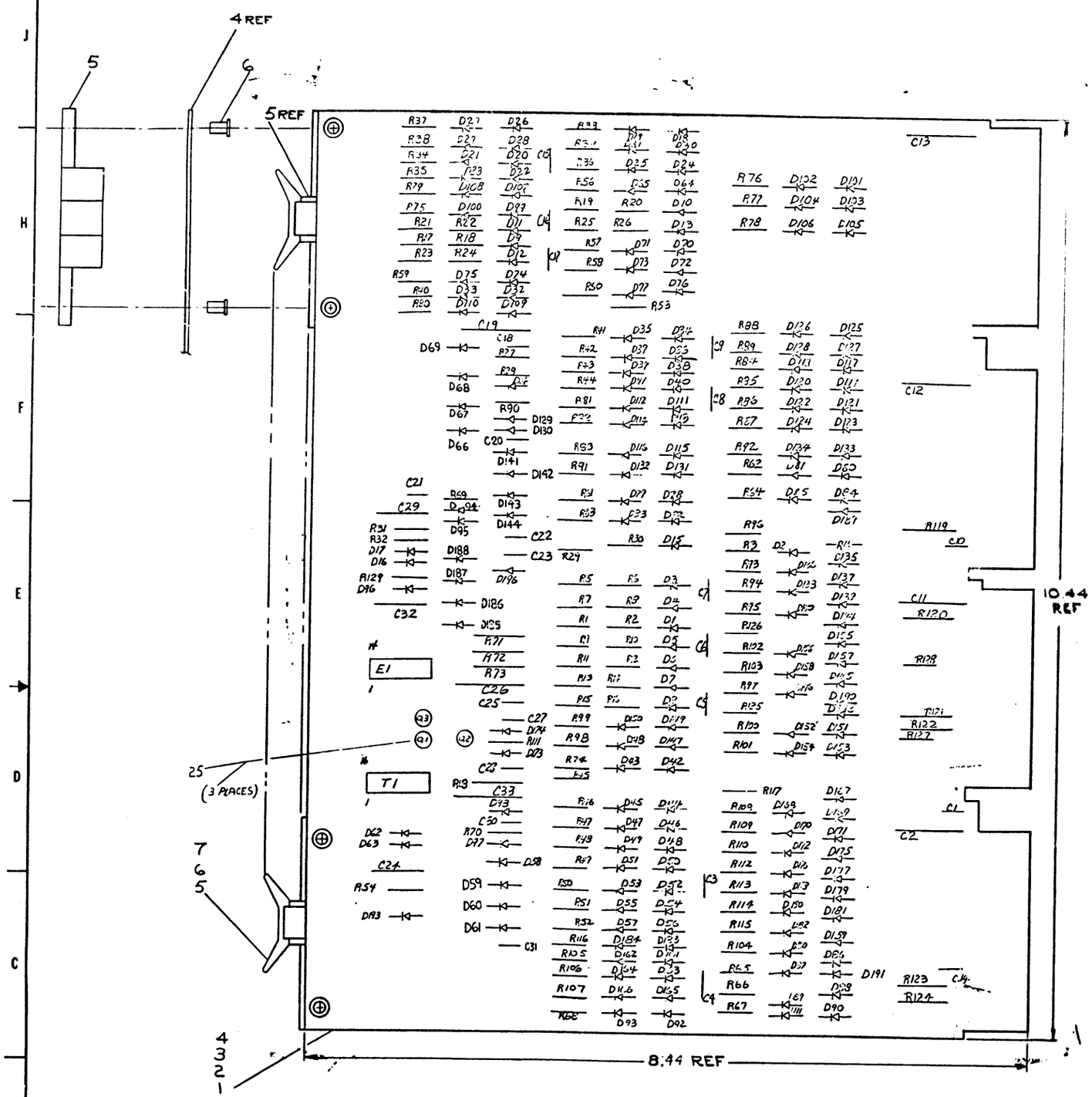
TITLE M83Ø MAJOR REG. CONT.

A-ML-KK8-E

SIZE E CODE CS NUMBER M83Ø-Ø-1 REV. H

SHEET 3 OF 4


MD8 L
MD9 L
MD10 L
BUS STROBE L
MS IR DIS L
TP2
BF
MD0 L
MD1 L
MD2 L
TP4 · MALC
F SET
F SET L
TS4 L
F E SET L
FMI
INT IN PROG
FE+FD L
CPMA LOAD L
TS3 L
TS2 L
E L
D L
F L
DP2 F SET L
MQ10 L HJI & FAI
MQ11 L HHI & FBI
SHL ENA L ES2 & FVI
MQ DATA L HU2 & FB2
MQ Ø L HV2 & FA2
AC=Ø FN1
AC4-11=Ø L EB1 & FP1
AC2·AC3=Ø FF2
FF1 ACØ≠AC1
ACØ EN1 FH2
AC1 EM1 FJ2
AC2 EP1
AC3 ER1
KEY CONTROL L
MD11 L
BTS3
FE2 MQ=Ø
+5V
R33
+3V
R38 API 10C
R37 3K
Q1 DEC3004B
+5V -15V
R29 +5V
R16 +5V
R18 +5V
R16
BP2
DTS4
CP2
CM2
CL2
DL2
DK2
DJ2
DU2
DN2
DO2
DE2
IRØ L
IR1 L
IR2 L
AK1
AJ1
AM1
CVI
CE2
CU2
BH2
CD2
CK1
CM1
CL1
DK1
DM1
DL1
CH2
TP3
TP1
FL1
F D SET L
AC4-11=Ø L
MQØ-7=Ø L
HKI
EA1
MQ8-11=Ø L
8251 E46
8881 E44
8881 E49
74H74 E45
74H74 E40
7474 E50
384 E29
74H00 E35
74H00 E21
74H00 E18
74Ø2 E19
74Ø2 E22
74Ø2 E25
74Ø2 E51
74Ø2 E41
74Ø2 E57
74Ø0 E42
74Ø0 E39
74Ø4 E26
74H04 E36
74Ø5 E27
74Ø1 E16
74Ø1 E31
74Ø4 E20
74Ø4 E47
7486 E30
FIRST USED ON OPTION MODEL
PDP 8/E
UNLESS OTHERWISE SPECIFIED
PARTS LIST
QTY.
DESCRIPTION
PART NO.
ITEM NO.
EQUIPMENT CORPORATION
TITLE
M8310 MAJOR REG (CONT.
MATERIAL
FINISH
NEXT HIGHER ASSY
A-ML-KK8-E
SCALE NONE
SHEET 4 OF 4
SIZE CODE
E CS
NUMBER
M8310-0-1
REV.
REVISIONS
CHANGE NO.
REV.
DR.



NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   CAPACITORS = .047UF 16V 15-20%
   RESISTORS = 1500 1/4W 5%
   DIODES = D664
2. CONNECT ALL PINS C,F,K,T (EXCEPT AC1) TOGETHER TO GROUND.
3. ITEM NO. 8 (D664) MAY BE REPLACED WITH D600 P.N. 1105366 (REV C ONLY).
4. INSTALL ITEM 25 (TUBING) ON BASE LEAD OF EACH 2N3725.
5. ANY COLOR TUBING MAY BE USED FOR ITEM 25.

QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
A/R		TUBING, 22 AWG	9107256-11	25
3		TRANS 2N3725	1510959	24
12	R57-R68	RES 1K 1/4 W 5%	1300365	23
A/R		GRIPLET	1210249-0	22
3	C24, C29, C32	CAP 330PF 100V 5%	1000023	21
7	C2, 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	E1	IC DEC 7400	1955775	18
1	T1	PULSE XMFR 8010 DUAL IN LINE	1609651	17
~~1~~	~~Q1~~	~~TRANS DEC 4008~~	~~1510015~~	~~16~~
6	E119-E124	RES 1K 1/2W 10%	1302187	15
4	E71-E73, E118	RES 1.2K 1/2W 10%	1300387	14
46	R53, R69, R74-R117,	RES 1500 1/4W 5%	1300391	13
40	E2, E4, E6, E8, E10, E12, E14, E16, E18, E20, E22, E24, E26, E28, E30, E32-E52, E56, E70, E127, E128	RES 470 1/4W 10%	1300316	12
20	E1, E3, E5, E7, E9, E11, E13, E15, E17, E19, E21, E23, E25, E27, E29, E31, E54, E125, E129, E126	RES 150 1/4W 5%	1300250	11
2	D17, D97	DIODE D672	1105275	10
16	D58-D61, D66-D69, 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
~~[illegible]~~		~~SPACER (CABLE CLAMP)~~	~~1202704~~	~~7~~
8		EYELET	9006732	6
4		HANDLE FLIP CHIP-MASSITA	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009486	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

SEE NOTE 3

PARTS LIST

ETCH BOARD REV D

DEC NO.	EIA NO.	DEC NO.	EIA NO.
DEC 4008	T-7		
D664	1N3606		
D672	1N3653		
D662	1N645		

SEMICONDUCTOR CONVERSION CHART

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

EQUIPMENT CORPORATION

TITLE: BUS LOADS

PART UNLD OR: D-UA-KK8-E-Ø

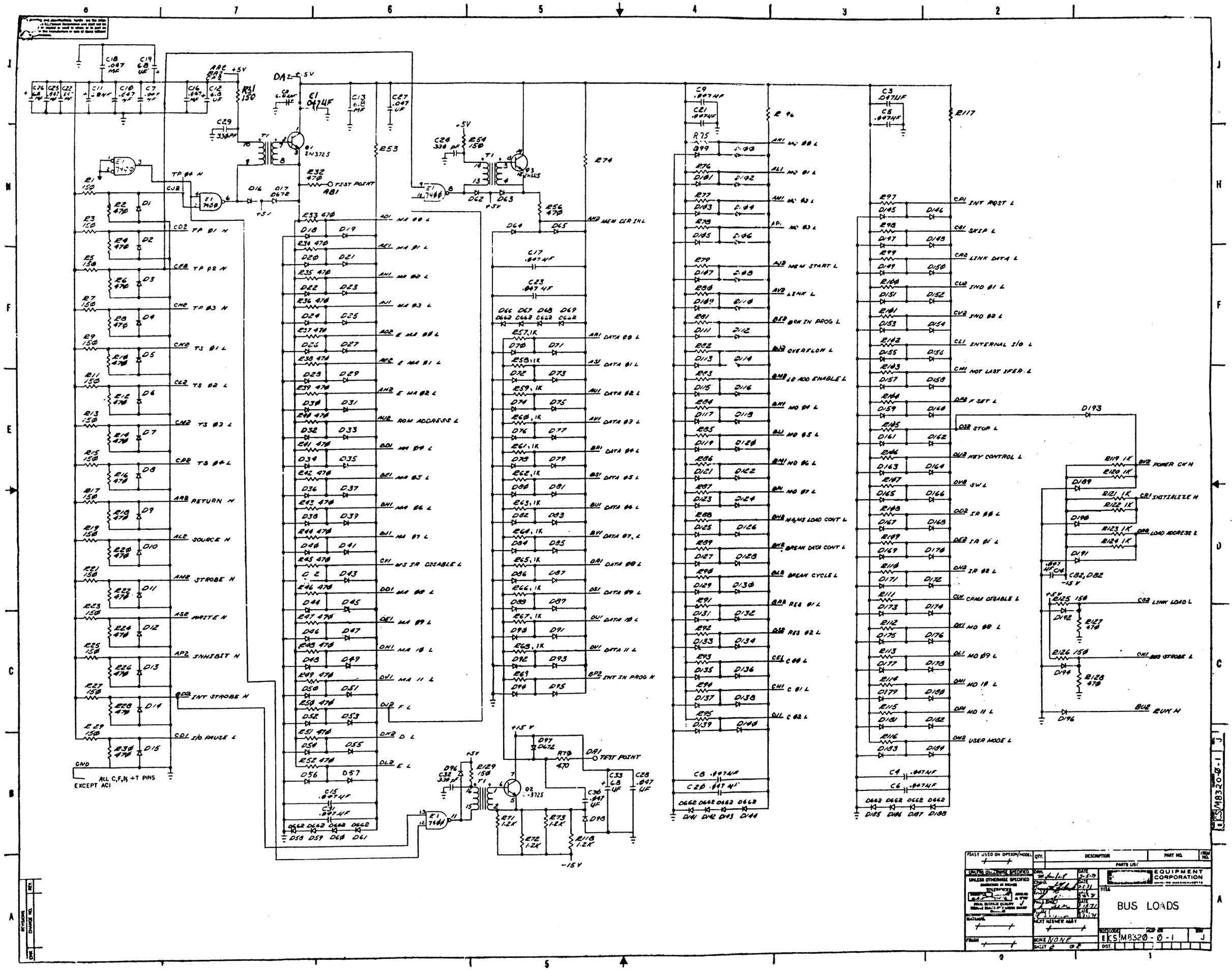
SCALE 2/1

SIZE CODE: E

NUMBER: CS M8320-Ø-1

REV.

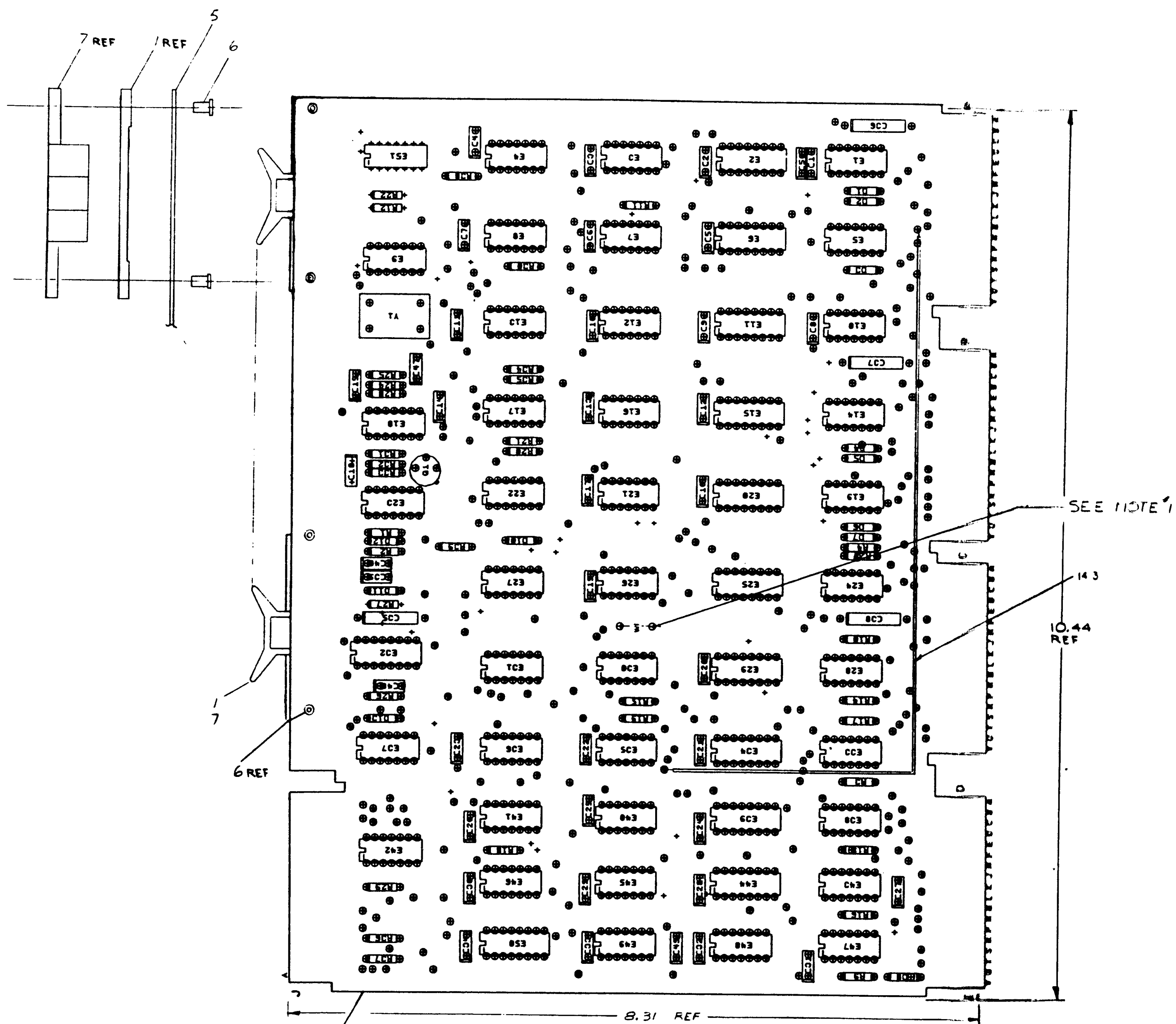
DIST.

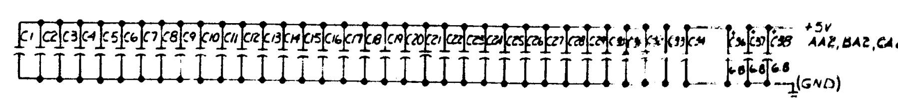

TP 04 N
TP 01 N
TP 02 N
TP 03 N
TS 01 L
TS 02 L
TS 03 L
TS 04 L
RETURN N
SOURCE N
STROBE N
WRITE N
INHIBIT N
INT STROBE N
I/O PAUSE L
ALL C,F,N, +T PINS EXCEPT AC1
TEST POINT
MEM CLR INL
DATA 00 L
DATA 01 L
DATA 02 L
DATA 03 L
DATA 04 L
DATA 05 L
DATA 06 L
DATA 07 L
DATA 08 L
DATA 09 L
DATA 10 L
DATA 11 L
INT IN PROG N
ROM ADDRESS L
MS IR DISABLE L
INT POST L
SKIP L
LINK DATA L
IND 01 L
IND 02 L
INTERNAL I/O L
NOT LAST XFER L
F SET L
STOP L
KEY CONTROL L
SW L
IR 00 L
IR 01 L
IR 02 L
CPMA DISABLE L
MD 08 L
MD 09 L
MD 10 L
MD 11 L
USER MODE L
POWER CK H
INITIALIZE H
LOAD ADDRESS L
LINK LOAD L
RUN H
NEW START L
LINK L
OVERFLOW L
MD 00 L
MD 01 L
MD 02 L
MD 03 L
MD 04 L
MD 05 L
MD 06 L
MD 07 L
N&MS LOAD CONT L
BREAK DATA CONT L
BREAK CYCLE L
REG 01 L
REG 02 L
C 00 L
C 01 L
C 02 L
+15 V
-15 V
+5V
GND
EQUIPMENT CORPORATION
BUS LOADS
ECS M8320-0-1
J
SCALE NONE
SHEET 2 OF 2

COPYRIGHT © 1973 DIGITAL EQUIPMENT CORPORATION

NOTES:

1. W1 (JUMPER) TO BE INSERTED BY CUSTOMER ONLY.





GND = AC2, AF1, AN1, AN2, AT1, BC1, BC2, BF1, BN2, BT1, BT2, CC1, CC2, CF1, CF2, CN1, CT1, DC1, DF1, DN1, DT1, DT2.

QTY.	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
A/R		WIRE, 30 AWG	9105740-55	47
2	E47, E51	I.C. DEC 74S00	1910532-00	46
1	E27	I.C. DEC 7384	1910393	45
~~A/R~~		~~WIRE #30 AWG~~	~~9108740-00~~	~~53~~
1	Y1	OSC 20 MHZ.	1811660-00	52
8	E9, E21, E26, E30, E31, E40, E45, E49	I.C. DEC 74S74	1910544	51
1	E18	I.C. DEC 74S04	1910534	50
				49
2	R38, R39	RES 1K, 1/4W, 5%	1300365	48
2		SPLIT LUG	9006735	47
				46
~~2~~	~~E27~~	~~I.C. DEC 7384~~	~~1910394~~	~~45~~
1	E13	I.C DEC 8646	1911469	44
1	E4	I.C. DEC 5314	1910391	43
1	E50	I.C. DEC 8251B	1909594	42
1	E17	I.C. DEC 8881	1909705	41
1	E8	I.C DEC 74S11	1910537	40
2	E36, 41	I.C DEC 97401	1909973	39
10	E2, 6, 11, 15, 20, 25, 29, 34, 39, 44	I.C DEC 74194	1910623	38
1	E32	I.C DEC 74123	1910436	37
~~4~~	~~E26, 31, 45, 49~~	~~I.C DEC 74S74~~	~~[illegible]~~	36
12	E1, 3, 5, 7, 10, 14, 19, 24, 28, 33, 38, 43	I.C DEC 74S40	1910541	35
2	E12 E16	I.C. DEC 7430	1905578	34
1	E46	I.C. DEC 7420	1905577	33
2	E37 E35	I.C. DEC 7417	1909929	32
1	E48	I.C. DEC 74S10	1910536	31
1	E42	I.C DEC 7404	1909686	30
1	E22	I.C. DEC 7402	1909004	29
1	E23	I.C. DEC 7400	1905576	28
				27
				26
1	Q1	TRANSISTOR DEC 30098	1503100	25
1	R27	RES 47K 1/4W 5%	1302177	24
1	R26	RES 10K 1/4W 5%	1300479	23
1	R1	RES 3.3K 1/4W 5%	1300439	22
15	R2, 12, 11, 15, 18, R21, 22, 25, 29, 30, R32, R34, R36, R37	RES 470 1/4W, 5%	1300316	21
13	R3, 4, 9, 10, 13, 14, 16, 17, 20, 23, 24, 28, 35	RES 150 1/4W, 5%	1300250	20
2	R31, R33	RES 27 1/4W, 5%	1301522	19
12	D1-D8, D10-D13	DIODE D664	1100114	18
				17
1	C35	CAP 39 uf, 10V, 10% S.TANT	1000076	16
3	C36-C38	CAP 6.8 uf, 35V, 10% S.TANT	1006306	15
				14
2	C39-C40	CAP .047 uf, 16V, -20% +50%	1009678	13
				12
37	C1-C34, C47, C49, C50	CAP .01 uf, 100V, 20% DISC	1001610	11
1	C48	CAP. 1000 PF, 100V, 5% MICA	1000042	10
				9
				8
3		HANDLE FLIP-CHIP MAGENTA	9008337-06	7
6		EYELET GS4-11 STIMPSON	9006750	6
1		ETCHED CIRCUIT BOARD	5009707	5
REF		MODULE E.C.O HISTORY	B-MH-M8330-0-6	4
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8330-0-5	3
REF		X-Y COORDINATE HOLE LOCATION	K-CO-M8330-0-4	2
3		SPACER CABLE CLAMP	1202704	1

PARTS LIST

IC TYPE	GND	+5V
DEC 74194	8	16
DEC 8251	8	16
DEC 5314	1	8
DEC 5380	1	8
DEC 5384	1	8

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

IC PIN LOCATIONS

ITEM NO	AWG	FROM PT	TO PT
—	—	W1	—

JUMPER LIST

SEE NOTE 1

CHANGE NO.	REV.
M8330-00014 (L NARHI)	R
M8330-00013 (W. DASH)	P
M8330-00012 (W DASH)	N
M8330-00011 (L NARHI)	M
[illegible]	L
M8330-00008	K
M8330-00007 (D ADAMS)	J
M8330-00006 (J ADAMS)	H
M8330-00005 (D.L ADAMS)	F
M8330-00004 (ORIGINATED)	E

DEC NO.	EIA NO.
DEC 30098	2N3646
D664	1N3606

SEMICONDUCTOR CONVERSION CHART

FIRST USED ON OPTION/MODEL: MR8-F

ETCH BOARD REV: F

DATE: 5-22-73; 9-13-73; 9/14/73; 9/14/73; 9/14/73

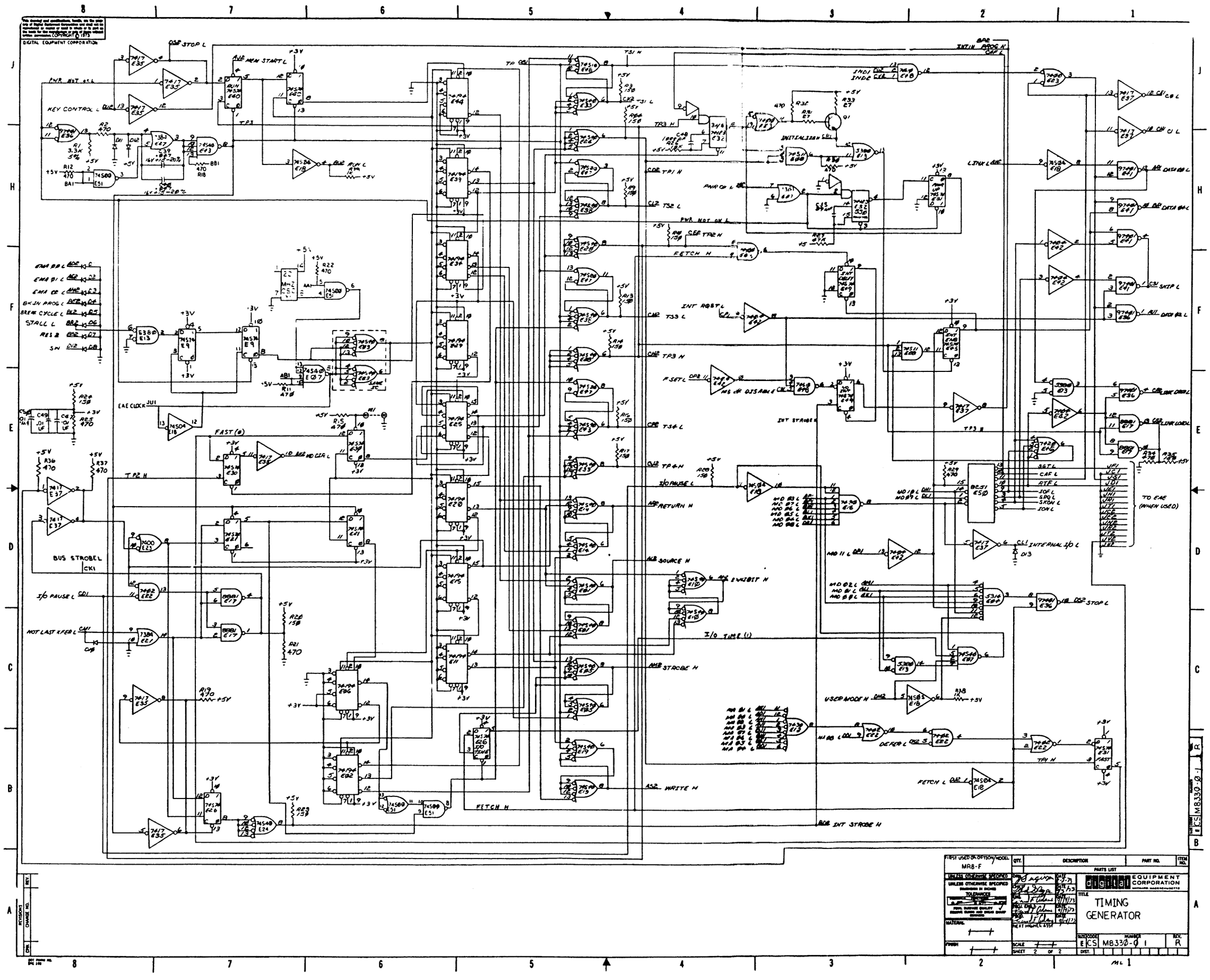
DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE: TIMING GENERATOR

SIZE CODE: E CS | NUMBER: M8330-0-1 | REV: R

SCALE: — | SHEET 1 OF 2

E CS M8330-0-1 R


DIGITAL EQUIPMENT CORPORATION
TIMING GENERATOR
MR8-F
digital EQUIPMENT CORPORATION
CS M8330-0 1
R
TO EAE (WHEN USED)
BUS STROBE L
FETCH H
WRITE H
STOP L
INTERNAL I/O L
SKIP L
DATA BR L
DATA BK L
LINK LOAD L
I/O PAUSE L
NOT LAST XFER L
USER MODE H
DEFER L
INT STROBE H
I/O TIME (1)
STROBE H
SOURCE H
INHIBIT H
RETURN H
PWR NOT OK L
KEY CONTROL L
MEM START L
RUN L
STALL L
EAE CLOCK
FAST (0)
SGT L
CAF L
RTF L
SQF L
SQN L
SKN L
ION L
INITIALIZATION
INT RQST L
INT GRANT H
TP1 H
TP2 H
TP3 H
TP4 H
TS1 H
TS2 L
TS3 L
TS4 L
TR3 H
TR2 H
CK1
CK2
CLI
CLL
DS2