digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

MASTER DRAWING LIST

CODE	DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
BS	D-1D-45-2	B	1	LCH & DCH-IDA & IDC CONTROL
BS	D-1D-45-3		1	MEM. EXTENSION CONT. TYPE 15A
BS	D-1D-45-4	A	1	MEM. RENAME
BS	D-1D-45-5	A	1	RESTRICT MODE & MEMORY PROTECTION LOGIC
BS	D-1D-45-6		1	SH/RO LOGIC, PROGRAM FLAG & RING MODE
BS	D-1D-45-7		1	SBS TYPE 20 CONTROL
BS	D-1D-45-8	B	2	ACCUMULATOR REG.
BS	D-1D-45-9		1	IN-OUT INPUT MIXER
BS	D-1D-45-10		1	IN-OUT MIXER OPTION
BS	D-1D-45-11		1	TRAP BUFFER
BS	D-1D-45-12		1	STANDARD IN-OUT TRANSFER CONTROL
BS	D-1D-45-13		1	OPTIONAL IOT CONTROL
BS	D-1D-45-15		1	SKIP,SWAP & MID LOGIC SH/RO PULSE GEN INST. BK LOGIC
BS	D-1D-45-16		1	GENERAL CONTROL & TIMING
BS	D-1D-45-18	A	1	ACCUMULATOR CONTROL
BS	D-1D-45-32	A	1	INSTRUCTION REGISTER & DECODING
BS	D-1D-45-33	A	1	MA,MB, IO & PC TRANSFER LOGIC
BS	D-1D-45-51		1	PROGRAM COUNTER
BS	D-1D-45-52		1	MEMORY ADDRESS REGISTER
BS	D-1D-45-53		1	MEMORY BUFFER REGISTER
BS	D-1D-45-54		1	IO REGISTER
BS	D-1D-45-55	A	1	SBS TYPE 20 PRIORITY CHAIN
BS	D-1D-45-56		1	CLOCK
BS	D-1D-45-57		1	AUTOMATIC MUL/DIV
BS	D-1D-45-61	A	1	READER CONTROL
BS	D-1D-45-62		1	PUNCH CONTROL
BS	D-1D-45-63		1	TYPEWRITER CONTROL
BS	D-1D-45-64		1	MEMORY BUS INTERFACE
BS	D-1D-45-79		1	OPERATOR CONTROL PANEL
BS	D-1D-45-82		2	SPECIAL MICRO PROGRAMMED IOT&IOT COMMAND
[illegible]	[illegible]		[illegible]	[illegible]
WD	D-1D-45-21	B	1	1A-MA FF, 1B-PC FF, 1C-AC CONTROL
WD	D-1D-45-25		1	1D-+1→PC,SH/RO-1E-PF,SH/LOGIC-1F-IR
WD	D-1D-45-22	A	1	1H-TIME PULSES-1J-SPG IOT-1K RUN CYCLE DF, BREAK
WD	D-1D-45-30	B	1	1L-LCH & DCH CONTROL
WD	D-1D-45-26	B	1	2Y-2Z MEM. EXT. TYPE 15A RENAMG.&PROT.LOGIC

REV.	ECO	ENG	DATE
A	321	F. P	12/17/64
B	360	F.P.&B.M.	4/23/65
C	365	W.M.	6/3/65
D	367	W.M.	7/19/65

MADE BY 8/31/64 P. Daigneault
CHECKER 11/22/64
ENG 11/22/64

TITLE PDP-1D-45

FOR

SHEET 1 OF 4 | CODE MDL | DWG. NO. A-1D-45 | REV. LET. D

DR-8

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

MASTER DRAWING LIST

CODE	DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
WD	D-1D-45-24	A	1	2A-AC SHIFT-2B-AC FF-2C-AC LOGIC
WD	D-1D-45-46	A	1	2D-MB FF-2E MBG.
WD	D-1D-45-47		1	2F-IO SHIFT-2H-IO FF-2J-IO LOGIC
WD	D-1D-45-48		1	2K-2L HIGH SPEED MUL & DIV TYPE 10
WD	D-1D-45-27	A	1	RACKS 3C AND 3D
WD	D-1D-45-31	A	1	3H, 3J, 3K IO CONTROL
WD	D-1D-45-28		1	3L IN-OUT MIXER OPTION
WD	D-1D-45-29		1	TAPER PIN PANELS & IN-OUT PLUG FOR OPTIONAL EQUIPMENT
WD	D-1D-45-49		1	R1A,R1B,R1C-BREAK SYSTEM PRIORITY CHAIN TYPE 20
WD	D-1D-45-50		1	R1D BREAK SYSTEM CONTROL TYPE 20
WD	D-1D-45-65	A	1	11A-11B-11C READER PUNCH & TELETYPE CONTROL
WD	D-1D-45-81	A	1	SCR DRIVER 823-RACK 11F
WD	C-21009	A	1	SWITCH PLATE
WD	D-1D-45-83		1	SPECIAL MICRO PROGRAMMED IOT&IOT COMMAND WIRING
FD	D-1D-45-17	A	1	CYCLE ZERO & DEFER CYCLE
FD	D-1D-45-19		1	CYCLE ONE FLOW DIAGRAM
FD	D-1D-45-23		1	SPECIAL CYCLES & LCH & DCH CYCLES
CD	D-1D-45-14		1	CABLE DIAGRAM
CD	C-1D-45-14		1	CABLE DIAGRAM
CL	A-1D-45-35		1	INTERFACE BETWEEN 630-3 & PDP-1D-45
CL	A-1D-45-36		12	IM 0-17 IN
CL	A-1D-45-37		1	DISPLAY 30A
CL	A-1D-45-38		2	CLOCK IOM
CL	A-1D-45-39		1	PDP-1D-45 TO 23 DRUM 3F PLUG 5
CL	A-1D-45-40		2	SBS BK
CL	A-1D-45-41		2	20 SBS 3H26 INTO SBS LOGIC
CL	A-1D-45-42		2	SBS 20
CL	A-1D-45-43		3	IO PROCESSOR
CL	A-1D-45-44		2	MUL/DIV
CL	A-1D-45-45		1	MA,EMA INDICATORS
CL	A-1D-45-58		1	TA LINES
CL	A-1D-45-59		1	PC INDICATORS
CL	A-1D-45-60		1	MSC INDICATORS

REV.	ECO	ENG	DATE

MADE BY 8/31/64 P. Daigneault	CHECKER	ENG
TITLE PDP-1D-45		
FOR		

SHEET 2 OF 4	CODE MDL	DWG. NO. A-1D-45	REV. LET. D

DR-6

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

MASTER DRAWING LIST

CODE	DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
CL	A-1D-45-66	A	4	DIODES FOR PDP-1D-45
CL	A-1D-45-67		6	PDP-1D TERMINATIONS
CL	A-1D-45-68		1	IR INDICATORS
CL	A-1D-45-69		1	PF INDICATORS SENSE SW. SINGLE INSTRUCTION
				SINGLE STEP
CL	A-1D-45-70		1	CONTROL SW'D
CL	A-1D-45-71		1	READER INTO READER LOGIC
CL	A-1D-45-72		1	MBD IOT
CL	A-1D-45-73		1	4113 INVERTERS
CL	A-1D-45-74		1	TYPEWRITER INTO TYPEWRITER LOGIC
CL	A-1D-45-75		1	PDP-1D TERMINATORS FROM NAC & MEMORY LITES
CL	A-1D-45-76		1	NAC & MEMORY LITES
CL	A-1D-45-77		1	SOCKET WIRING
CL	A-21410		2	TYPE 20 SEQUENCE BREAK INDICATORS
CL	A-21413		2	TYPE 20 SEQUENCE BREAK INDICATOR
CL	A-21416		4	3.3K SERIES RESISTORS TO INDICATOR FOR SBS
				TYPE 20 PDP-1
CL	A-21417		1	D-003 DIODE SBS TYPE 20 PDP-1
CL	A-21418		1	82 TERMINATOR SBS TYPE 20 PDP-1
CL	A-20059-3		1	IO BUFF FROM IOT ⟶ IO PANEL
CL	A-20059-12		1	TYPE BUFFERS
CL	A-20059-13		1	RDR BUFFERS
CL	A-20059-14		1	RDR & PUNCH PULSES IOT ⟶ IO
CL	A-20040		1	TW LINES
CL	A-20042		1	AC INDICATORS
CL	A-20043		2	IO INDICATORS
CL	A-20307		2	RDR INDICATORS
CL	A-20308		2	TO OUTPUTS
CL	A-20309		2	PUN & TYPE INDICATORS
CL	A-1D-45-84		3	SPECIAL MICRO PROGRAMMED IOT&IOT COMMAND
S	A-1D-45-78		3	EXPLANATORY NOTES FOR CYCLE DIAGRAMS
WL	A-20061		5	1A-1B-1C
WL	A-20062		6	1D-1E-1F
WL	A-20063		4	2A-2B-2C
WL	A-20064		3	2D-2E
WL	A-20065		1	2F-2H-2J
WL	A-20066		2	1H-1J-1K
WL	A-20059		1	AC 0 b ⟶ TO IOT

REV.	ECO	ENG	DATE

MADE BY	CHECKER	ENG
8/31/64 P. Daigneault		

TITLE PDP-1D-45

FOR

SHEET 3 OF 4	CODE MDL	DWG. NO. A-1D-45	REV. LET. D

DR-8

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

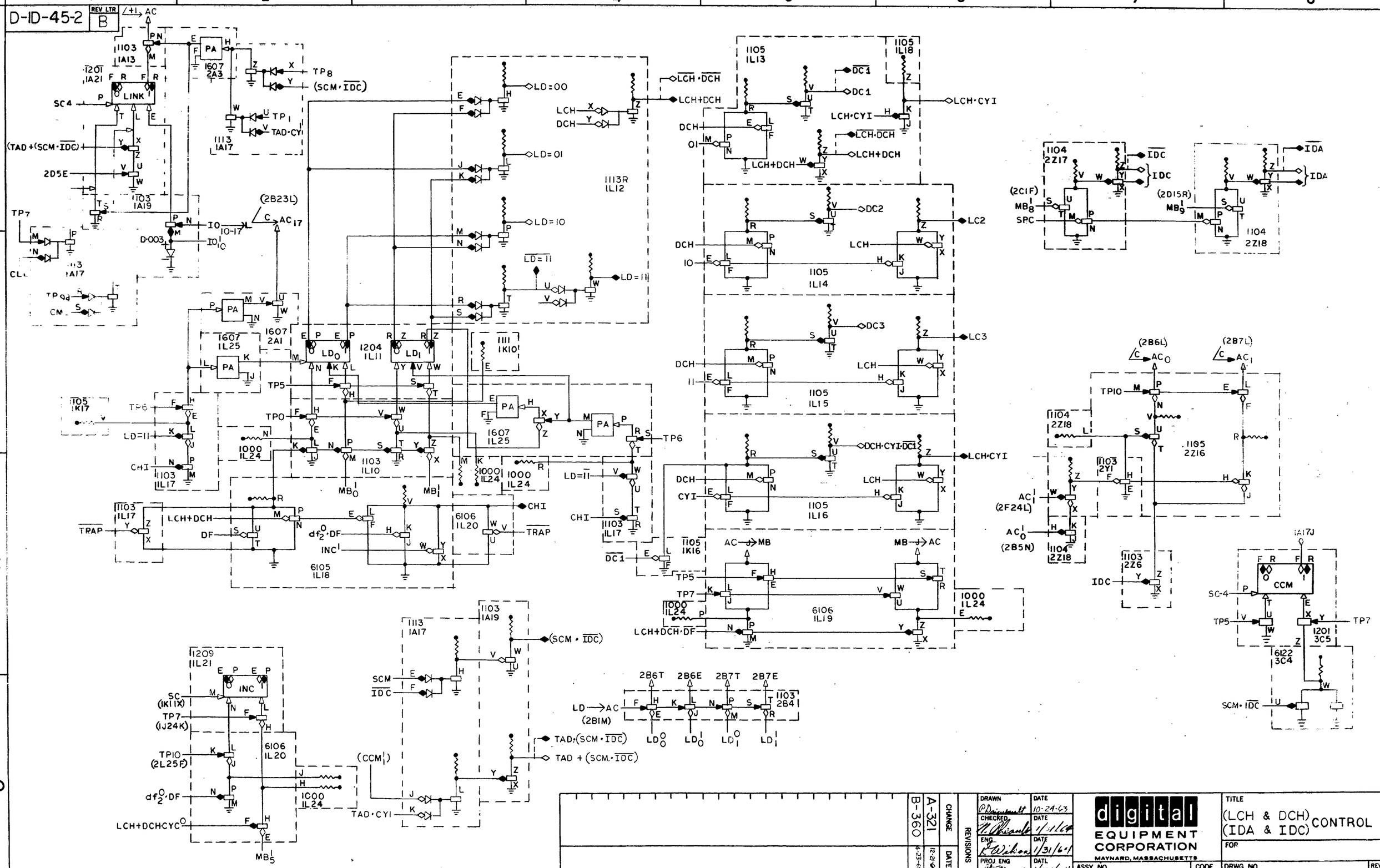
MASTER DRAWING LIST

CODE	DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
WL	A-20059-1		1	MB1 1685 DRIVERS TO IOT OUTPUTS
WL	A-20059-2		1	I/O OUTPUTS IOT-IO
WL	A-20059-4		1	IM(A) RDR. BUFF's
WL	A-20059-5		1	IM(B) TYP. BUFF
WL	A-20059-6		1	IM(C)
WL	A-20059-7		1	IM(D)
WL	A-20059-8		1	IOT-IM 5
WL	A-20059-9		1	IM(F)
WL	A-20059-10		1	IM(G)
WL	A-20059-11		1	IM(H)
MDL	A-121D-1		1	121D CORE MEMORY PROCESSOR
MDL	D-1D-45-80		1	BS & WD LIST
UML	A-1D-45-20-1	A	1	UTILIZATION MODULE LOCATION
UML	A-1D-45-20-2	A	1	
UML	A-1D-45-20-3	B	1	
UML	A-1D-45-20-4	A	1	
UML	A-1D-45-20-5	A	1	
UML	A-1D-45-20-6	A	1	
UML	A-1D-45-20-7	A	1	
UML	A-1D-45-20-8	A	1	
UML	A-1D-45-20-9	A	1	
UML	A-1D-45-20-10	A	1	
UML	A-1D-45-20-11	A	1	
UML	A-1D-45-20-12	A	1	
UML	A-1D-45-20-13	A	1	
UML	A-1D-45-20-14	A	1	
UML	A-1D-45-20-15	A	1	
UML	A-1D-45-20-16	A	1	UTILIZATION MODULE LOCATION

REV.	ECO	ENG	DATE

MADE BY 8/31/64 P. Daigneault	CHECKER	ENG
TITLE PDP-1D-45		
FOR		
SHEET 4 OF 4	CODE MDL	DWG. NO. A-1D-45 REV. LET. D

D-ID-45-2 REV LTR B



REVISIONS	CHANGE	DATE	ENG
	B-360	4-23-65	
	A-321	12-2-64	FP

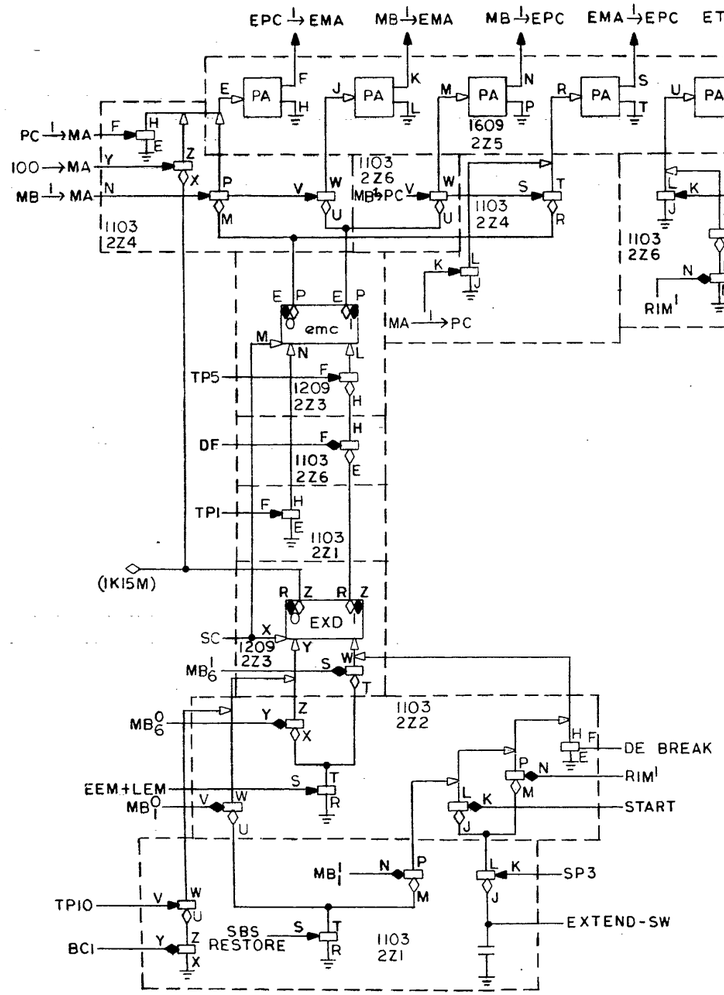
DRAWN	P Dainault	DATE	10-29-63
CHECKED	M Briante	DATE	1/1/64
ENG	E Wilson	DATE	1/31/64
PROJ ENG	S Moore	DATE	11/21/64
PROD		DATE	11/26/64

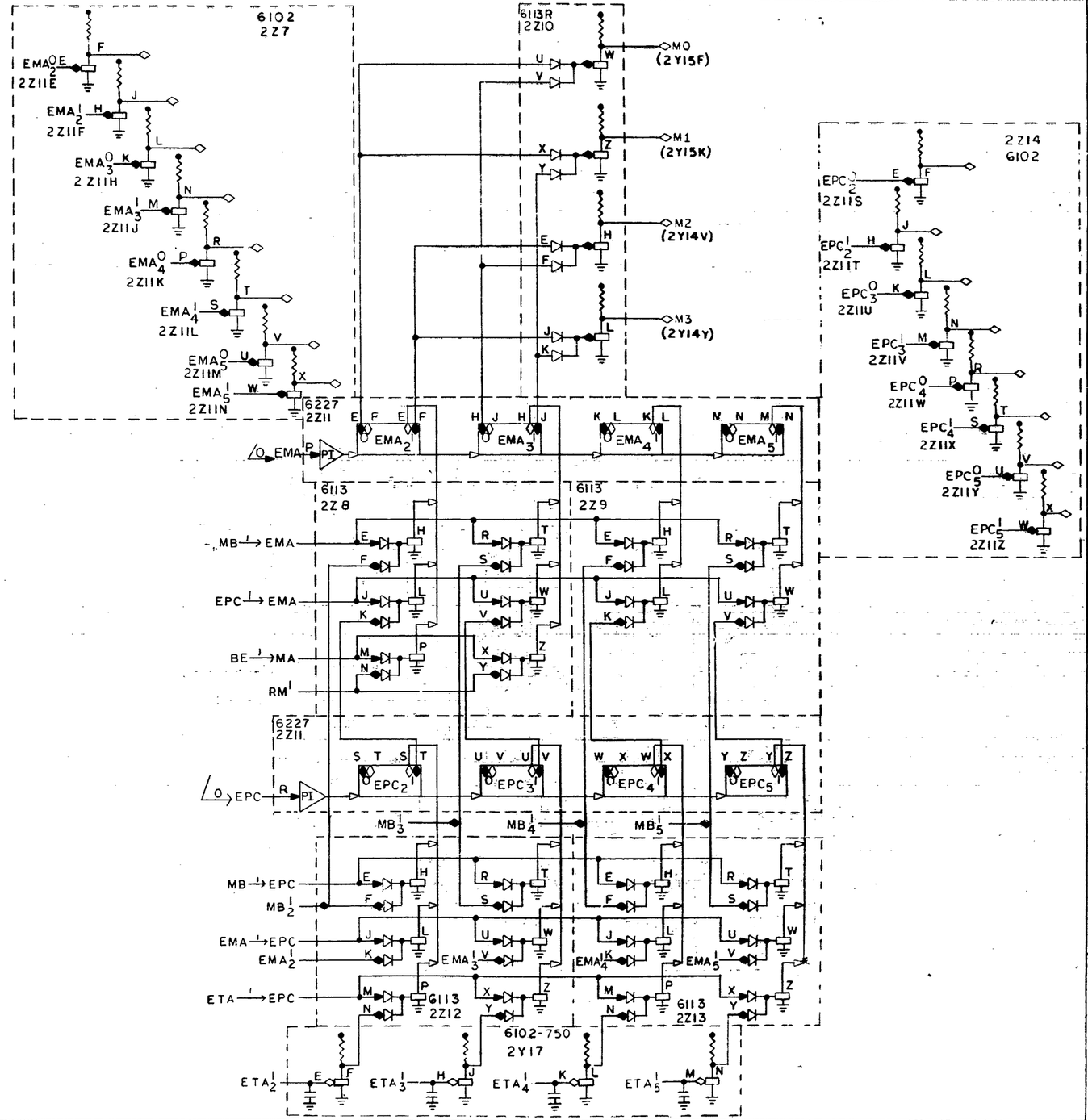
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: (LCH & DCH) (IDA & IDC) CONTROL
FOR:
ASSY NO: MA- -ID-45-1 CODE: BS
DRWG NO: D-ID-45-2 REV LTR: B
SHEET OF

BKE2

D-ID-45-3 REV LTR





NOTE:
UNLESS OTHERWISE INDICATED
CAPICITORS ARE .1 MFD

CHANGE	DATE	ENG

REVISIONS

DRAWN	DATE	10-1-63
CHECKED	DATE	1/31/64
ENG	DATE	1/31/64
PROJ ENG	DATE	11-31-64
PROD	DATE	11/2/64

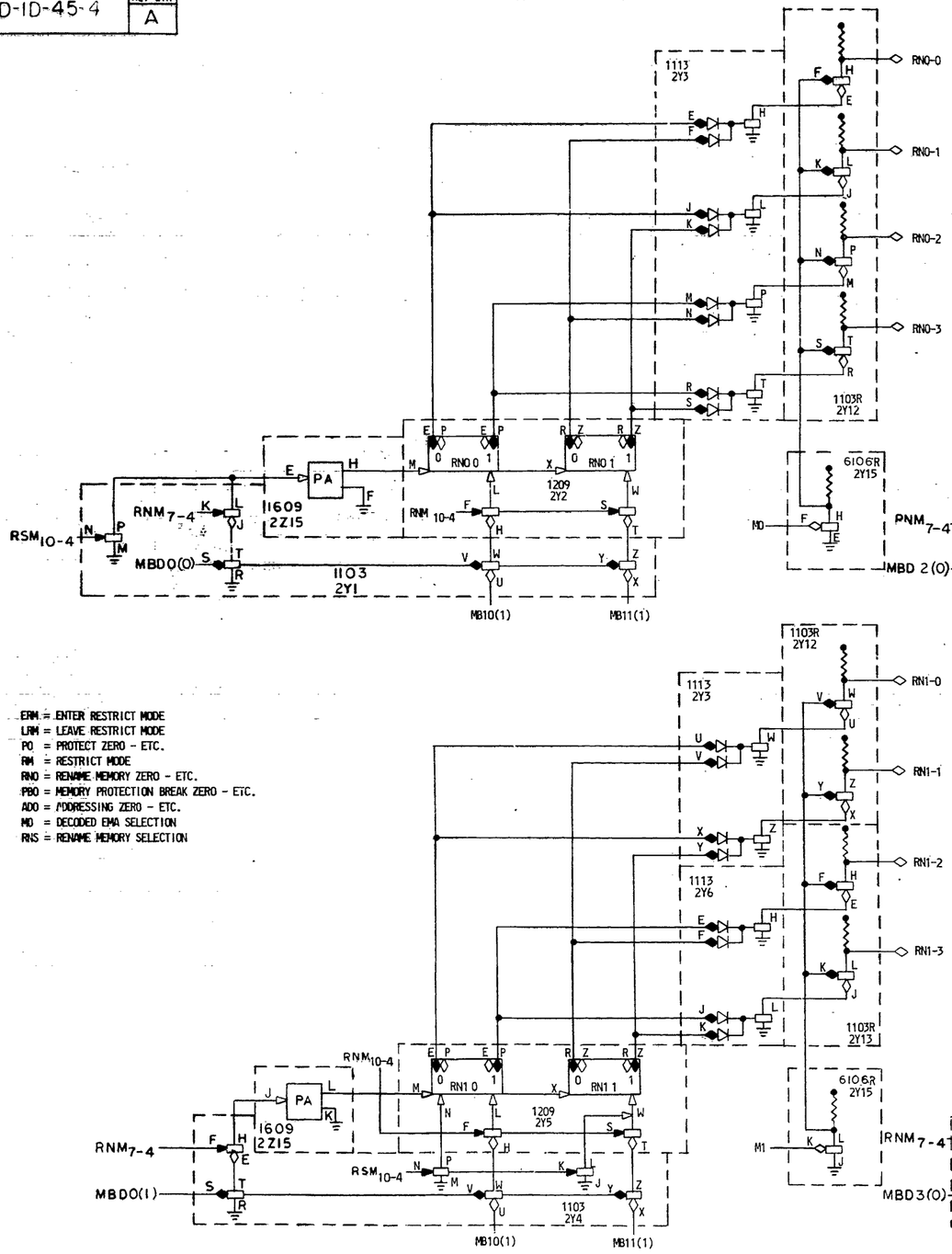
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

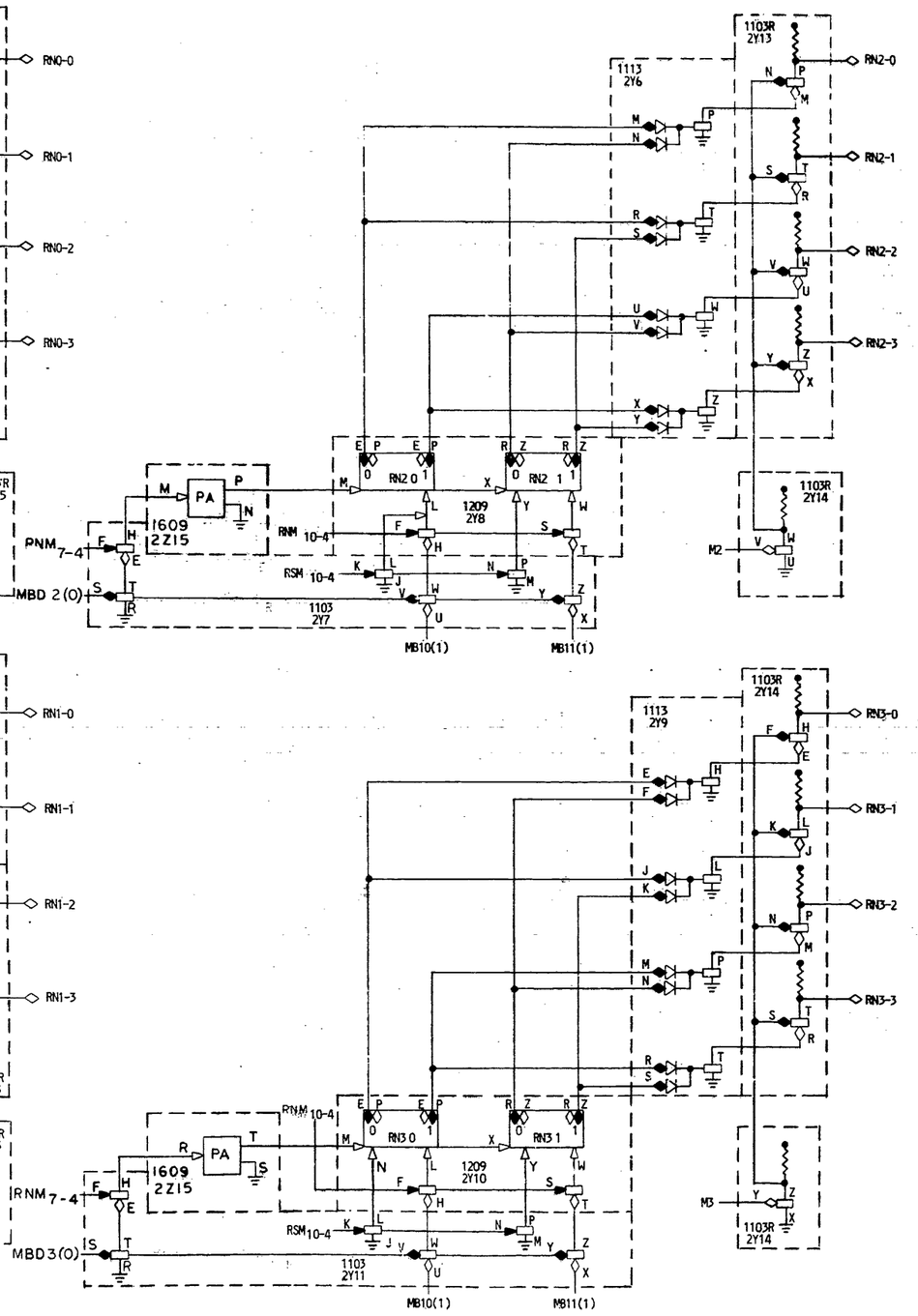
TITLE: MEMORY EXTENSION CONTROL TYPE 15A
FOR:
ASSY NO: MA- -ID-45-1
CODE: BS
DRWG NO: D-ID-45-3
REV LTR:
SHEET: OF

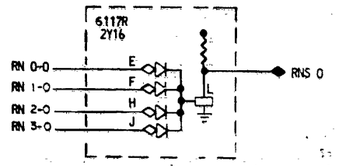
BKL-2

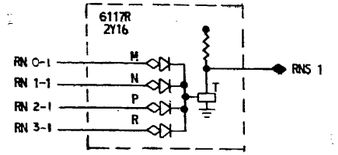
D-ID-45-4 REV LTR A

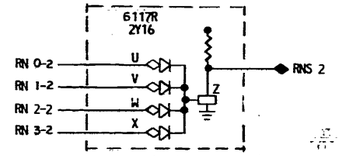
ERM = ENTER RESTRICT MODE
LRM = LEAVE RESTRICT MODE
PO = PROTECT ZERO - ETC.
RM = RESTRICT MODE
RNO = RENAME MEMORY ZERO - ETC.
PBO = MEMORY PROTECTION BREAK ZERO - ETC.
ADO = ADDRESSING ZERO - ETC.
MD = DECODED EMA SELECTION
RNS = RENAME MEMORY SELECTION

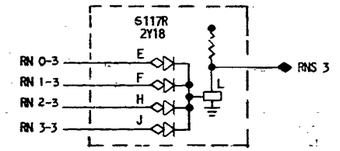












REVISIONS	CHANGE	DATE	ENG
	A-321	12-1964	GR

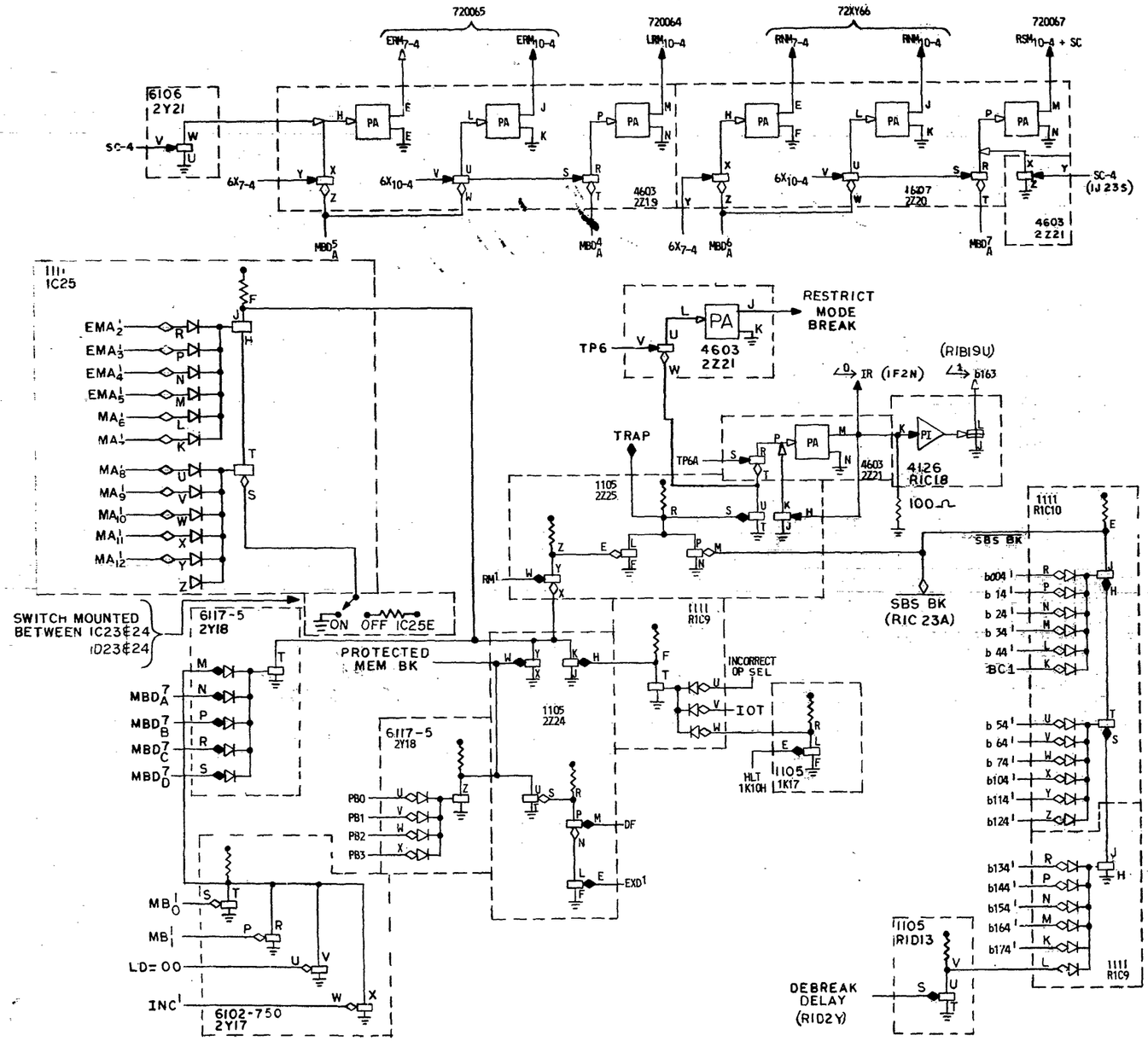
DRAWN	DATE	10-11-63
CHECKED	DATE	10/17/63
ENG	DATE	
PROJ ENG	DATE	
PROD	DATE	11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: MEMORY RENAME
FOR:
ASSY NO: MA- -ID-45-1 CODE: BS
DRWG NO: D-ID-45-4 REV LTR: A
SHEET: OF

BKE 2

D-ID-45-5 REV LTR A



REVISIONS					
A-360	4-26-65	CHANGE	DATE	ENG

DRAWN	DATE	10-22-63
CHECKED	DATE	1/30/64
ENG	DATE	1/31/64
PROJ ENG	DATE	1/31/64
PROG	DATE	11/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

ASSY NO MA- -ID-45-1 CODE BS

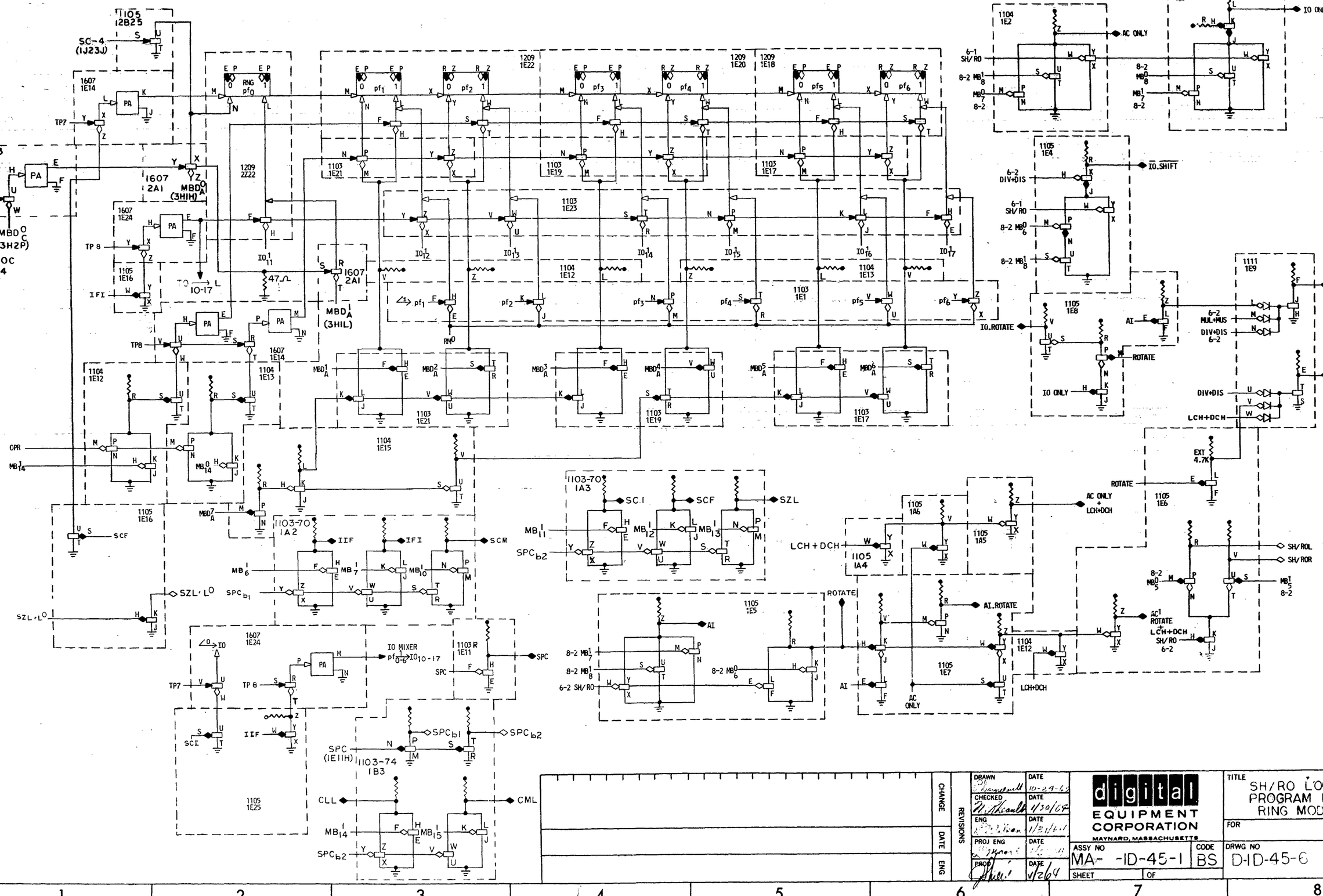
SHEET OF

TITLE RESTRICT MODE AND MEMORY PROTECTION LOGIC

FOR

DRWG NO D-ID-45-5 REV LTR A

D-ID-45-6 REV. LTR



CHANGE	DATE	ENG

REVISIONS

DRAWN DS Hansbrell	DATE 10-29-64	
CHECKED M Mikaelian	DATE 11/30/64	
ENG [illegible]	DATE 11/21/64	
PROJ ENG [illegible]	DATE [illegible]	
PROD [illegible]	DATE 1/26/64	

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: SH/RO LOGIC PROGRAM FLAG AND RING MODE

FOR

ASSY NO	CODE	DRWG NO	REV LTR
MA- -ID-45-1	BS	D-ID-45-6	

SHEET OF

BKE-2

D-ID-45-7 | REV

NOTE...
A1 — IO ACTIVE
A2 — USER ACTIVE
A3 — AWAIT
A4 — REFERENCE

BBN

PRIORITY ASSIGNMENTS	
CHAN	DEVICE
00	
01	DATA CHANNEL
02	PAPER TAPE READER
03	EXTERNAL BREAK
04	RETURN FROM IO DEVICES (FASTRAND & TAPE)
05	32 FIELD DRUM
06	630-3 D.C.S.
07	
10	1 MINUTE CLOCK
11	
12	PAPER TAPE PUNCH
13	
14	TYPE OUT & TYPE IN
15	
16	TRAP
17	32 MS CLOCK

CLASS 50

SBS INTS
DSC 50 SWITCH OFF CHANNEL
ASC 51 SWITCH ON CHANNEL
ISB 52 INITIATE CHANNEL
CAC 53 CLEAR ALL CHANNELS
LSM 54 → sbm
ESM 55 → sbm
CBS 56 CLEAR SBS

b1's = CHANNEL ON
b2's = SYNCHRONIZE
b3's = WAITING BREAK
b4's = BREAK STARTED

BREAK TO SEQUENCE #

THIS DWG TAKEN FROM D-2404 REV-D-2

FIGURE 116-7

CODE 85

digital EQUIPMENT CORPORATION D-ID-45-7

SEQUENCE BREAK SYSTEM TYPE 20
CONTROL PC-M

D-ID-45-C REV E

1104 2C25

LCH+DCH

1607 2B3

1684 2B5

(2C5E) CARRY

4113R 2F24

4113R 2F25

1201 2B6 AC 0

1201 2B7 AC 1

1201 2B8 AC 2

1201 2B9 AC 3

1201 2B10 AC 4

1201 2B11 AC 5

1201 2B12 AC 6

1201 2B13 AC 7

1201 2B14 AC 8

(2B3N) $\overset{0}{\rightarrow}$ AC 0-5

(2B3J) $\overset{C}{\rightarrow}$ AC

(2B1F) $\overset{Q}{\rightarrow}$ AC_{6-17}

(2B15M) AC^1_9 (2B15F)

(2A4V) AC SH/RO L 0-8

(2A4M) AC SH/RO R

1105 2A6

1105 2A7

1105 2A8

1105 2A9

1105 2A10

1105 2A11

1105 2A12

1105 2A13

1105 2A14

(2C4E) $MB^1_{0-5} \rightarrow$ AC

(2C4M) MB $\overset{0}{\rightarrow}$ AC

(2C5M) TW $\overset{1}{\rightarrow}$ AC

(2C5E) MB $\overset{PAD}{\rightarrow}$ AC

(2C5J) CARRY AC

2D6P

2D6Z

2D8P

2D8Z

2D10P

2D10Z

2D12P

2D12Z

2D14P

3.9mfd

1103 2C6

1103 2C7

1103 2C8

1103 2C9

1103 2C10

1103 2C11

1103 2C12

1103 2C13

1103 2C14

2D6R

2D8E

2D8R

2D10E

2D10R

2D12E

2D12R

2D14E

2D14R

(2A4E) PC, IF $\rightarrow$ AC

(2C4J) $MB_{6-17} \rightarrow$ AC

1105 2A6

1105 2A7

1105 2A8

1105 2A9

1105 2A10

1105 2A11

1105 2A12

1105 2A13

1105 2A14

1105 2B25

PC^1_6

PC^1_7

PC^1_8

1AIIJ

1AIIT

1AIIN

ov'

exd'

1105 2A25

MUS+MUL (1C4U,V)

AC ROTATE (1E6 Y,Z) + LCH+DCH

AI ROTATE (1E7 P,R)

DIV

1104 2A2

1103 2A5

(1E9E) ROTATE + DIS+DIV + LCH+DCH

1103 2A5

1105 2A25

EXD'

LAP

BCI

1105 2A24

(1C19M)

EPC^1_2

EPC^1_3

EPC^1_4

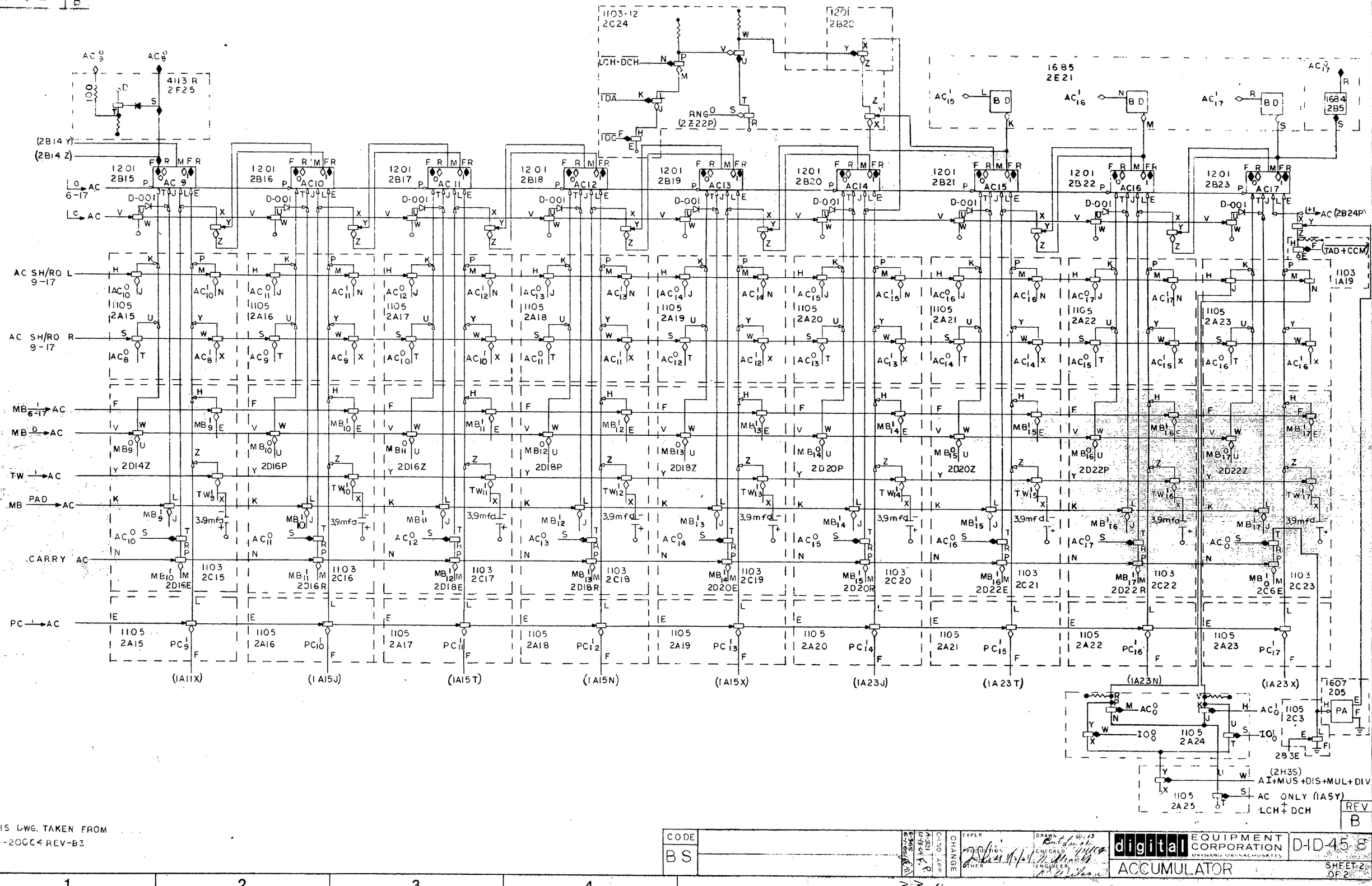
EPC^1_5

THIS DWG TAKEN FROM D-20004 REV-B-2

FIGURE D7-1A

CODE	CHANGE	DRAWN	CHECKED	ENGINEER	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	D-ID-45-C
BS					ACCUMULATOR PDP-ID-45	SHEET 1 OF 2

REV B



THIS DWG. TAKEN FROM
D-20064 REV-B3

CODE									
BS									

CHG NO	APP	CHANGE	EXPLR	DRAWN	CHECKED	ENGINEER	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	D-ID-45-E
			PRODUCTION OTHER				ACCUMULATOR	SHEET 2 OF 2

D-ID-45-B

(2H9F) IV0 (2H9K) IM1 (2H9N) IM2 (2H9S) IM3 (2H9V) IM4 (2H9Y) IM5 (2H5F) IM6 (2H5K) IM7 (2H5N) IM8

4603 2J4 · 4603 2J7 · 4603 2J12

4129 2J3 · 4129 2J5 · 4129 2J8 · 4129 2J11 · 4129 2J13

(2J1E) RB+10 · (3J8J) CKS · RCK (3K24J) · DRA

E READER · LP1 · RBS1 · tyo0 · TBS1 · puno · LOCK · SBM1 · DRM · TELE1

RB0 DRM0 · RB1 DRM1 · RB2 CK2 DRM2 · RB3 CK3 DRM3 · RB4 CK4 DRM4 · RB5 CK5 DRM5 · RB6 CK6 DRM6 · RB7 CK7 DRM7 · RB8 CK8 DRM8

(2J13S) (2J13U) (2J13W) (2J13Y)

4129 2J2 · 4129 2J6 · 4129 2J9 · 4129 2J10 · 4129 2J14

CTB35TP1C-4 3K2E

(2J14S) (2J14U) (2J14W) (2J14Y)

CTB0 (2H15S) IM9 · CTB1 (2H15V) IM10 · CTB2 (2H15Y) IM11 · CTB3 (2H21F) IM12 · CTB4 (2H21K) IM13 · CTB5 (2H21N) IM14 · CTB6 (2H21S) IM15 · CTB7 (2H21V) DRUM IM16 · BUSY · CTB8 (2H21Y) 630 FLAG IM17

4603 2J15 · 4603 2J20 · 4603 2J23

4129 2J13 · 4129 2J16 · 4129 2J19 · 4129 2J21 · 4129 2J24

(2J13E) (2J13H) (3J13K) (3J13M)

RB9 CK9 DRM9 · RB10 CK10 DRM10 · RB11 CK11 DRM11 · RB12 CK12 DRM12 · RB13 CK13 DRM13 · RB14 CK14 DRM14 · RB15 CK15 DRM15 · RB16 CK16 DRM16 · RB17 CK17 DRM17

4129 2J14 · 4129 2J17 · 4129 2J18 · 4129 2J22 · 4129 2J23

(2J14E) (2J14H) (2J14K) (2J14M)

CTB9 · CTB10 · CTB11 · CTB12 · CTB13 · CTB14 · CTB15 · CTB16 · CTB17

FIG. 09-2

THIS DWG TAKEN FROM D-2DD12 REV-B1

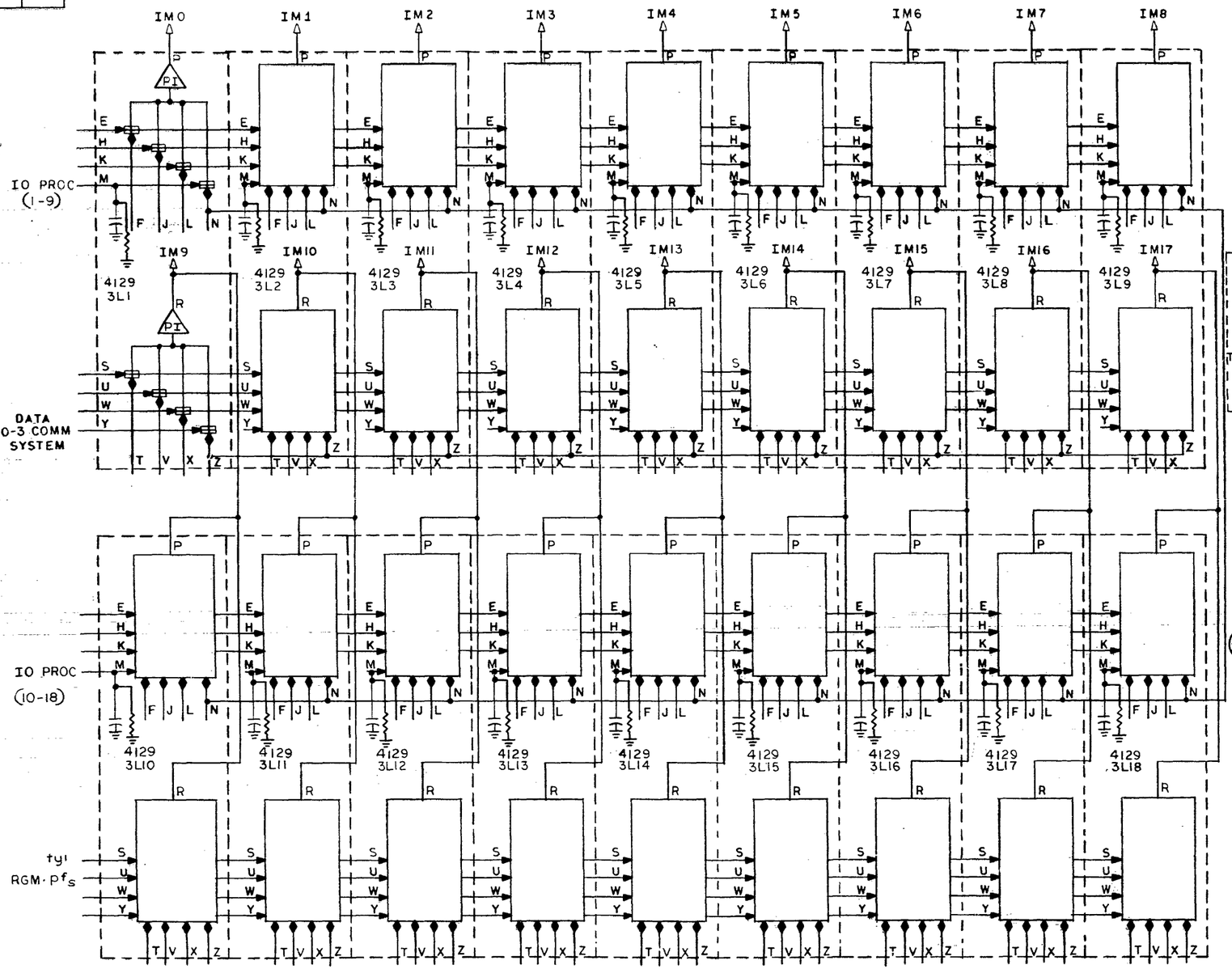
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

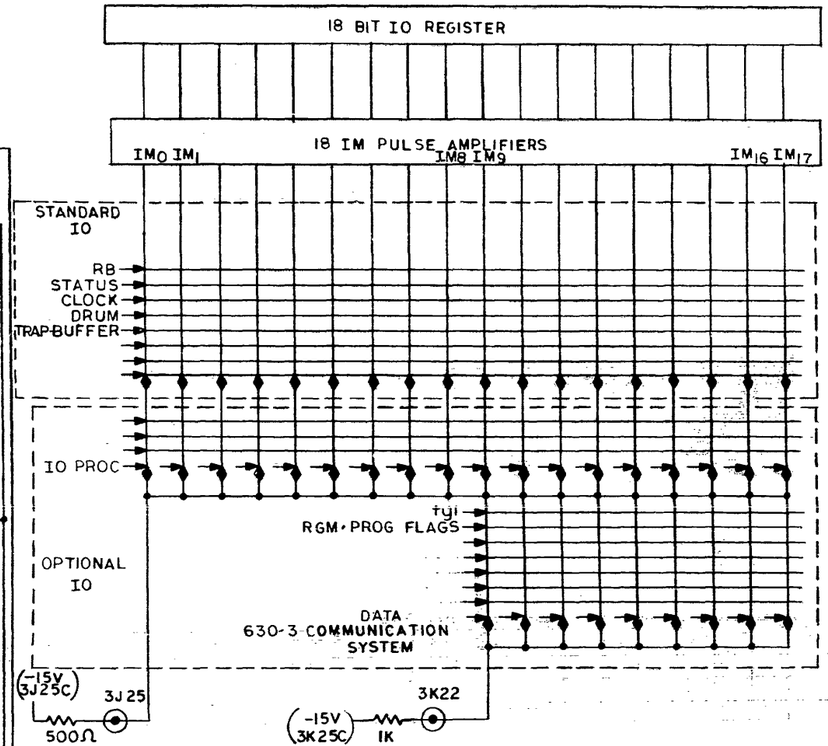
TITLE: IN-OUT INPUT MIXER

FOR

SIZE: MA- -ID-45-1 | CODE: BS | DRWG NO: D-ID-45-B | REV LTR:

D-ID-45-10 REV LTR





NOTE:
UNLESS OTHERWISE INDICATED
CAPACITORS ARE 680 MMFD
RESISTORS ARE 100Ω

REVISIONS	CHANGE	DATE	ENG

DRAWN	9-30-63	
CHECKED	11/1/64	
ENG	11/2/64	
PROJ ENG	11/2/64	
PROD	11/2/64	

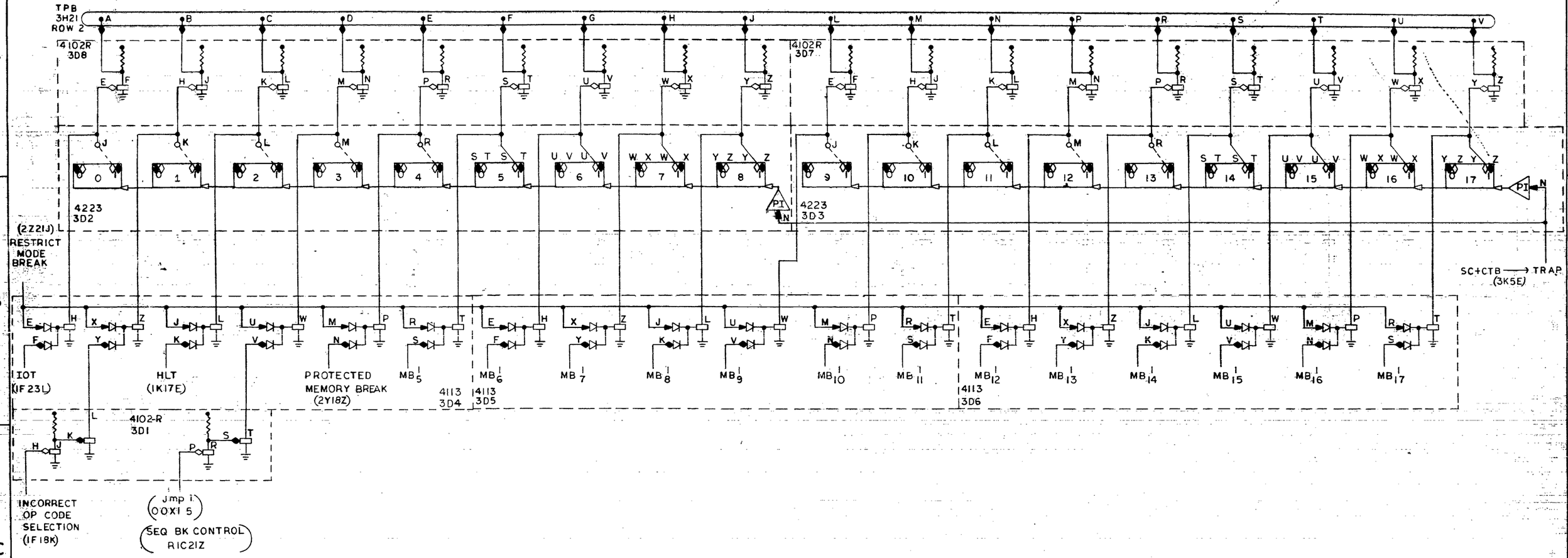
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: IN-OUT MIXER OPTION
FOR

ASSY NO: MA- -ID-45-1 | CODE: BS | DRWG NO: D-ID-45-10 | REV LTR
SHEET | OF

D-ID-45-II

REV LTR



NOTE:

1. CHECK TRAP BUFFER CTB 720035

CHANGE	DATE	ENG

REVISIONS

DRAWN	DATE	12-3-63
CHECKED	DATE	10/17/64
ENG	DATE	11/2/64
PROJ ENG	DATE	11/2/64
PROD	DATE	11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: TRAP BUFFER

FOR

ASSY NO	CODE	DRWG NO	REV LTR
MA- -ID-45-1	BS	D-ID-45-II	

SHEET OF

BKL2

D-ID-45-12

4113R 3H5 — MBD$_B^{C\,E}$ MBD$_B^{H\,I}$ MBD$_B^{J\,L}$

4113R 3H1 — MBD$_A^{0\,E}$ MBD$_A^{1\,J}$ MBD$_A^{2\,M}$ MBD$_A^{3\,P}$ MBD$_A^{4\,R}$ MBD$_A^{5\,U}$ MBD$_A^{W\,X}$ MBD$_A^{Z}$

4113R 3H2 — MBD$_A^{6\,E}$ MBD$_A^{7\,H}$ MBD$_C^{0\,J}$ MBD$_C^{1\,M}$ MBD$_C^{2\,P}$ MBD$_C^{3\,R}$ MBD$_C^{T\,U}$ MBD$_C^{W\,X}$ MBD$_C^{Z}$

4113R 3H3 — MBD$_C^{4\,E}$ MBD$_C^{5\,H}$ MBD$_C^{6\,J}$ MBD$_C^{7\,M}$ MBD$_D^{0\,P}$ MBD$_D^{1\,R}$ MBD$_D^{T\,U}$ MBD$_D^{W\,X}$ MBD$_D^{Z}$

4113R 3H4 — MBD$_D^{2\,E}$ MBD$_D^{3\,H}$ MBD$_D^{4\,J}$ MBD$_D^{5\,M}$ MBD$_D^{6\,P}$ MBD$_D^{7\,R}$ MBD$_D^{T\,U}$ MBD$_D^{W\,X}$ MBD$_D^{Z}$

4113R 3H6 — MBD$_B^{2\,E}$ MBD$_B^{3\,H}$ MBD$_B^{4\,J}$ MBD$_B^{5\,M}$ MBD$_B^{6\,P}$ MBD$_B^{7\,R}$ MBD$_B^{T\,U}$ MBD$_B^{W\,X}$ MBD$_B^{Z}$

Pf$_1$ (IE1F) Pf$_2$ (IE1K) Pf$_3$ (IE1N) Pf$_4$ (IE1S) Pf$_5$ (IE1V) Pf$_6$ (IE1Y)

4603 3J22 — PA$_1$ PA$_2$ PA$_3$

4603 3J23 — PA$_1$ PA$_2$ PA$_3$

4112 3J24 — (A)E TYPE SYNC, (B)F, (C)J, (D)K, (E)M, (F)N, (G)R, (H)S, (J)U, (K)V, (L)X, (N)Y

ALL INPUTS FROM 3H25 ROW1

1685 3J11 — 3H13P 3H13R 3H13S 3H13T — BD$_1$ BD$_2$ BD$_3$ BD$_4$ — Pf$_1$ Pf$_2$ Pf$_3$ Pf$_4$

1685 3J12 — 3H13U 3H13V 3H23V 3H23W — BD$_1$ BD$_2$ BD$_3$ BD$_4$ — Pf$_5$ Pf$_6$ NAC (3J19S) NAC (3J19T)

1103 3J18 — (K25M)ICT, (2D11R)MB$_5^{C}$, (2D13N)MB$_6^{I}$, (2D11T) MB$_5^{N}$, (2D13L) MB$_6^{O}$, NAC

1103R 3J19 — NAC

THIS DWG. TAKEN FROM D-CO054 REV-E-1

4603 3H7 — 0X·TP$_{7-4}$ 1X·TP$_{7-4}$ 2X·TP$_{7-4}$ 3X·TP$_{7-4}$ 4X·TP$_{7-4}$ 5X·TP$_{7-4}$ 6X·TP$_{7-4}$ 7X·TP$_{7-4}$ — MBD$_B^{0}$ MBD$_B^{1}$ MBD$_B^{2}$ MBD$_B^{3}$ MBD$_B^{4}$ MBD$_B^{5}$ MBD$_B^{6}$ MBD$_B^{7}$

IOT·IOC′ TP$_{7-4}$ — 1X·TP$_{10-4}$ 3X·TP$_{10-4}$ 5X·TP$_{10-4}$ 7X·TP$_{10-4}$

4603 3H8 — 0X·TP$_{10-4}$ 2X·TP$_{10-4}$ 4X·TP$_{10-4}$ 6X·TP$_{10-4}$ — MBD$_B^{0}$ MBD$_B^{1}$ MBD$_B^{2}$ MBD$_B^{3}$ MBD$_B^{4}$ MBD$_B^{5}$ MBD$_B^{6}$ MBD$_B^{7}$

IOT·IOC′ TP$_{10-4}$ — (2H4V) IO ON IOT

(3J5J) IO ON TYI — (3H9J) 3X·TP$_{7-4}$ — 4110 3J25 — ALL TAPER PIN INPUTS FROM 3H25 ROW2 — 3H25 ROW1

(IDIOW) EXT. PC — 4603 3J21

3A25 ROW3 — 4110 3J13

RPB (0+4)001 — RPA (0+4)002 — TYI (0+4)003 — (3J25R) ON TYI (0+4)003 — TYI (0+4)004 — PPA (0+4)005 — (3J25P) ON PPA (0+4)006 — PPB (0+4)006 — (3J25Q) ON PPB (0+4)006 — TPY XX007 — TPR XX007

4603 3J4 — 4603 3J5 — 4603 3J6 — 4603 3J7

MBD$_A^{0}$ MBD$_A^{1}$ MBD$_A^{2}$ MBD$_A^{3}$ (0+4)00X·TP$_{7-4}$ MBD$_A^{4}$ MBD$_A^{5}$ MBD$_A^{6}$ MBD$_A^{7}$ XX0X·TP$_{10-4}$

RPB rim′ — 1104 3J3 — (0+4)03X·TP$_{10-4}$ — (1J18F) IOT DONE

RRB (0+4)030 — CKS (0+4)033 — CBS (0+4)056 — 4603 3J8 — MBD$_A^{0}$ MBD$_A^{3}$ MBD$_A^{6}$ (0+4) 05X·TP$_{7-4}$

LSM sbm (0+4)054 — ESM sbm (0+4)055 — EEM+LEM (0+4)074 — 4603 3J9 — MBD$_A^{4}$ MBD$_A^{5}$ MBD$_A^{4}$ (0+4) 07X·TP$_{10-4}$

4129 3J20 — (3H22V3) READER RETURN, (3H25A3) PUNCH DONE, (3H25C3) TYO DONE, (3H25E3) DPY DONE — F J L N — rcp′ pcp′ tcp′ dcp′

4214 3J15 — FDJ FDJ rcp′ — LDN LDN pcp′ — TDV TDV tcp′ — XDZ XDZ dcp′

(3J4E) RPA — (3J4J) RPB — 4106 3J16

(3J6E) PPA — (3J6J) PPB — (3J4M) TYO — 4106 3J17

(3J7E) DPY — 1107 3J18

(0+4)00X·TP$_{10-4}$ (0+4)00X·TP$_{7-4}$ — 4503 3J14 — 0X·TP$_{10-4}$ 0X·TP$_{7-4}$ — 1104 3J3 — MBD$_D^{0}$ MBD$_D^{4}$ MBD$_C^{0}$ — 4603 3J22

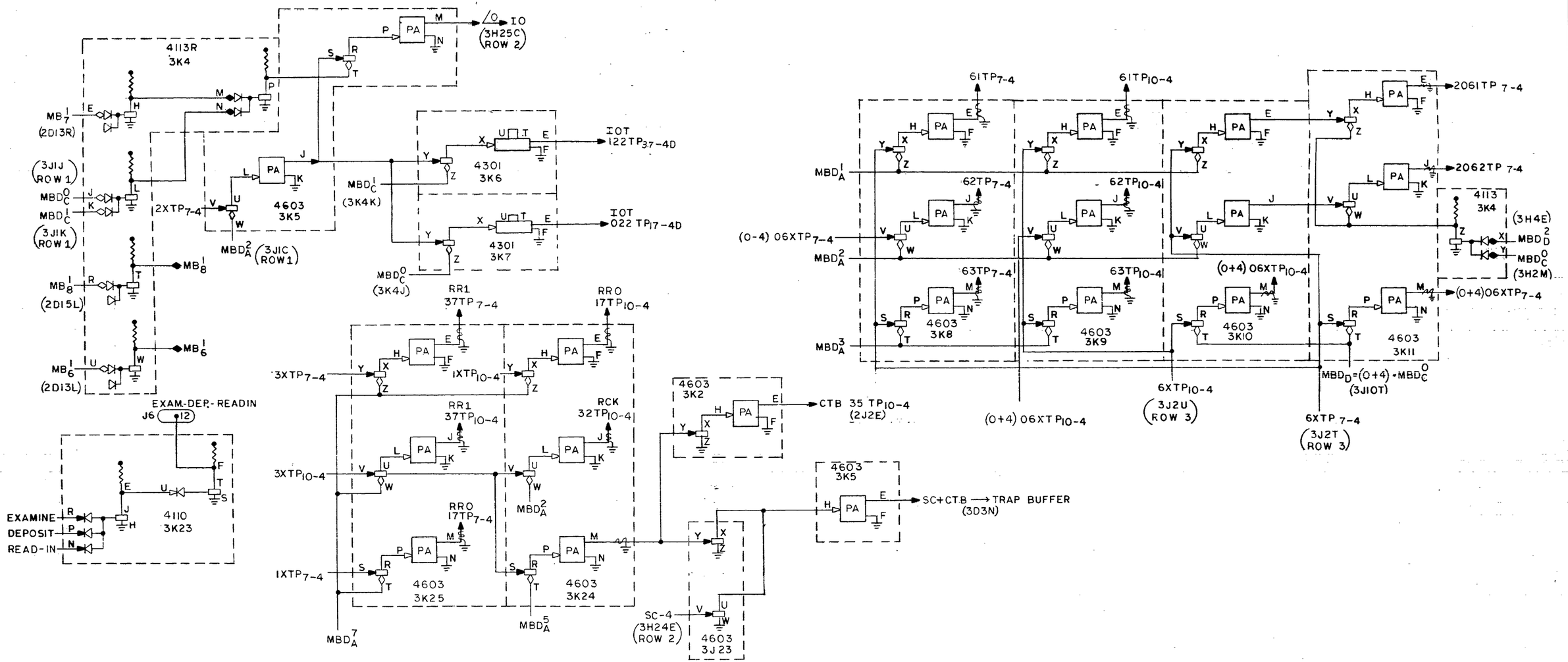
(0+4)03X·TP$_{10-4}$ (0+4)05X·TP$_{7-4}$ (0+4)07X·TP$_{10-4}$ — 4603 3J10 — 3X·TP$_{10-4}$ 5X·TP$_{7-4}$ 7X·TP$_{10-4}$

FIGURE D9-1

DRAWN	DATE 12-11-63	digital EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS	TITLE: STANDARD IN-OUT TRANSFER CONTROL
CHECKED	DATE 11-19		FOR
ENG	DATE 12-11-63	ASSY NO MA- -ID-0-1	CODE BS
MGR	DATE 11/26/63	SHEET OF	DRWG NO D-ID-45-12
ENG			REV LTR

SNOWDEN

D-ID-45-13 REV LTR



CHANGE	DATE	ENG

REVISIONS

DRAWN	P Dangelault	DATE 12-9-63
CHECKED	M Kliault	DATE 11/30/64
ENG	P Williams	DATE 11/31/64
PROJ ENG	[illegible]	DATE 11/26/64
PROD	[illegible]	DATE 11/26/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE OPTIONAL IN-OUT TRANSFER CONTROL

FOR

ASSY NO MA- -ID-45-1 | CODE BS | DRWG NO D-ID-45-13 | REV LTR

SHEET | OF

BKL-2

DID-45-14

FRONT VIEW

MA-OUT INDICATOR PANEL

PUNCH — A-20311

READER — A-20310

OPERATOR PANEL

TO READER A-20309

TO PUNCH A-20312

TO TYPEWRITER A-10-45-62

11F — BS-D-10-45-62 WD-D-10-45-61

11A READER LOGIC — BS-D-10-45-61 WD-D-10-45-65 — A-20307 TO INDICATORS

11E TELETYPE PUNCH LOGIC — BS-D-10-45-62 WD-D-10-45-65 — A-20308 TO IO OUTPUTS

11C TYPEWRITER CONTROL & LOGIC 2 — BS-D-10-45-63 WD-D-10-45-65 — A-20308 TO INDICATORS

1A MA — BS-D-10-45-52 WD-D-10-45-21 — A-10-45-45 TO I.D. CATCH

1B PC — BS-D-10-45-51 WD-D-10-45-21 — A-10-45-58 TO TW LINES (1822) — A-10-45-59 TO INDICATORS

1C AC CONTROL — BS-D-10-45-18 WD-D-10-45-21

A-10-45-42 — 1D +1 PC SP, PC — BS-D-10-45-15 WD-D-10-45-25 — A-10-45-72 TO READ SW

1E PF & SP LOGIC — BS-D-10-45-5 WD-D-10-45-25 — A-10-45-69 TO INDICATORS

1F IR — BS-D-10-45-32 WD-D-10-45-25 — A-10-45-68 IR INDICATORS

1H TIME PULSES — BS-D-10-45-16 WD-D-10-45-22 — A-10-45-44 TO MUL & DIV

1J PB + PBB-IOT — BS-D-10-45-16 WD-D-10-45-22 — A-10-45-70 TO CONTROL PANEL

1K RUN SCALE OR BRKPT — BS-D-10-47-16 WD-D-10-45-22 — A-10-45-60 TO CONTROL

1L ← 9 → BLANK — LCH-DCH WD-D-10-45-30 BS-D-10-45-5

2Y MEMORY EXTENSION TYPE 15A RELOCATION & PROTECTION & TRAP LOGIC — BS-D-10-45-5 WD-D-10-45-26

2Z MEMORY EXTENSION TYPE 15F RELOCATION AND PROTECTION & TRAP LOGIC — BS-D-10-45-5 WD-D-10-45-26

2A AC SHIFT — BS-D-10-45-6 WD-D-10-45-29

2B AC — BS-D-10-45-6 WD-D-10-45-24 — A-20042 TO INDICATORS

2C AC LOGIC — BS-D-10-45-6 WD-D-10-45-24 — A-20040 TO TW LINES

2D MB — BS-D-10-45-53 WD-D-10-45-46 — A-20043 TO INDICATORS

2E MQR — BS-D-10-45-53 WD-D-10-45-46

2F IO SHIFT — BS-D-10-45-54 WD-D-10-45-47

2P IO — BS-D-10-45-54 WD-D-10-45-47 — LEADS TO INDICATORS

2S LOGIC MIXER — BS-D-10-45-9 WD-D-10-45-47

2K MUL & DIV — BS-D-10-45-57 WD-D-10-45-46

2L MUL & DIV — BS-D-10-45-57 WD-D-10-45-46

3C TRAP — WD-D-10-45-27 BS-D-10-45-11

MA DRIVERS 24 25 — WD-D-10-45-27 BS-D-10-45-64 — MEMORY TRANSIEVIER BOARD

3D — BS-D-10-45-11 WD-D-10-45-27

26 PIN COAX J4 J5 J6

TYPE 32 DP/M — TPY DPY 6.30 — A-20059-14 11827 — A-10-45-73

3P IOT CONTROL — BS-D-10-45-13 WD-D-10-45-31 — A-20059-13 11826 — A-20059-12 11827 — A 20059-11 11827 — A-10-45-44 TO MUL & DIV

3S IOT CONTROL — BS-D-10-45-13 WD-D-10-45-31

3T IOT CONTROL — BS-D-10-45-13 WD-D-10-45-31

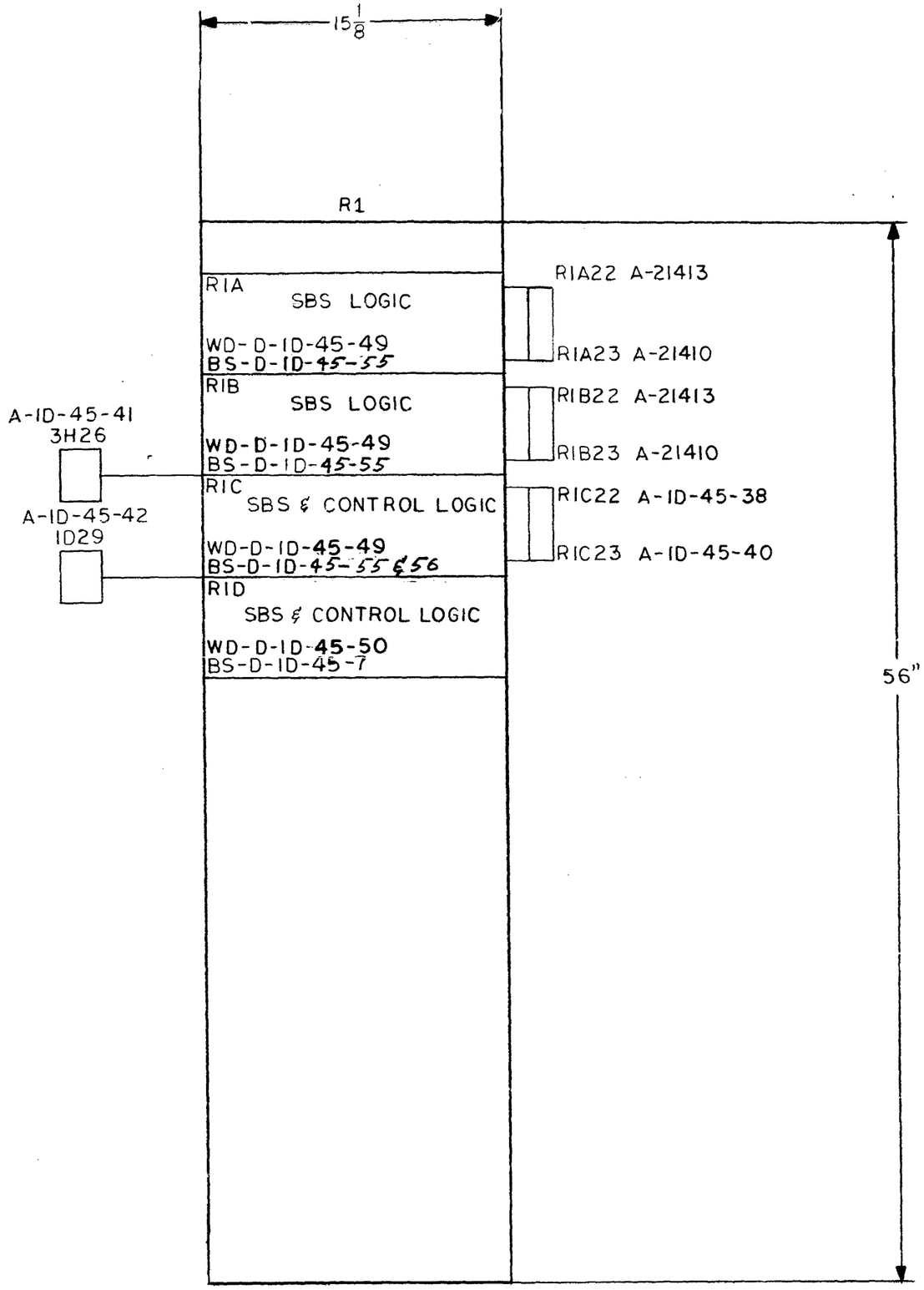
3L ADDITIONAL IO INPUT MIXER — BS-D-10-45-13 WD-D-10-45-28

NOTE:

- ENTERS TO SCAN CRYSTAL SOCKET LOCUS
- ENTERS TO BE MARKED PLUG
- ENTERS TO SCAN CRYSTAL FOR EXTERNAL DEVICE

CD			B	digital EQUIPMENT CORPORATION	DID 45-14
				CALLE DIAGRAM	

D-ID-45-14 REV



CHANGE	DATE	ENG

REVISIONS

DRAWN	R. Raymault	DATE 2-1-64
CHECKED		DATE
ENG		DATE 11/2/64
PROJ. ENG		DATE 11/2/64
PROD		DATE 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ASSY NO E-ID-45-1 | CODE CD
SCALE | SHEET 2 OF 2

TITLE: CABLE DIAGRAM

FOR PDP-ID-45

DRWG NO C-ID-45-14 | REV LTR

D-ID-45-15

1D

SH/RO PULSE

TIME PULSE	EVENT TIME	LAI	LIA	SWP
IO	1	∠ → MB		∠ → MB
C	2	IO → MB		IO → MB
1	3	MB → AC	∠ → IO, AC → MB	∠ → IO, AC ↔ MB
2	4		MB → IO	MB → IO

LIA = 760040 AC → IO
LAI = 760020 IO → AC
SWP = 760060 AC ↔ IO

THIS DWG TAKEN FROM D-ID-45 REV-D

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: SKP, SWAP, & MID. INST. BK LOGIC - SH. RO PULSE GEN.

FOR:

ASSY NO: MA- -ID-45-1 | CODE: 55 | DRWG NO: D-ID-45-15 | REV LTR:

SHEET: | OF:

DRAWN | CHECKED | ENG | ENG | ENG | DATE | 11/6/64

REVISIONS | CHANGE | DATE | ENG

D-ID-45 16 REV

ADDR ACK

RPBS

TP6A

STOP-4

RPB, rim'

SC-4

SC-4

READER RETURN DELAYED

READER RETURN (2J1Y) ROH3

READER RETURN DELAYED

CONTINUE SW

START

MD RESTART

EXAMINE SW

DEPOSIT SW

rim' (6-2)

STOP SW

E START

E CONTINUE

E EXAMINE

E DEPOSIT

READ-IN SW

E READ-IN

SBM START SW

SINGLE STEP SW

LOCKED CONSOLE

INST DONE

SINGLE INST SW

MANUAL RUN

IO HALT DONE

MD Lo → run

TRAP (2Z255)

MANUAL RUN

INCORR OP SEL (D6-2)

RUN ENABLE

JMP-rim' 6-2

CONTINUE SW

START

STOP

CONTINUE

START

EXAMINE

DEPOSIT

READ IN

HSC+SBS BREAK (1H1W OR 1I15E)

DEPOSIT

EXAMINE

rim' (6-2)

JMP-rim' (6-2)

SBS BRK REQUEST (2-1) (6-7)

MID INST BREAK PERMIT (6-6)

INST DONE

HSC+SBS BREAK PERMIT (REMOVE THIS MODULE (1H1) IF HIGH SPEED CHANNEL IS PRESENT)

SBS BREAK (1I11E) IF HIGH SPEED CHANNEL PRESENT

HSC+SBS BREAK (1H1W) IF NO HSC

BC1+BC2+BC3 (1K5M)

BC1+BC2+BC3

BC1+BC2+BC3

ESM (IOT55) (2-1)

LSM (IOT54) (2-1)

READ IN

SBM START SW

SBM START SW

JDA+CAL (6-2)

IO HALT DONE

IO HALT DONE

IO HALT DONE

IO HALT DONE

TP5

TP6a

TP10

TP1

TP2

TP3

TP4

TP7

TP8

TP9

TP10

TP11

TP12

TP13

TP14

TP15

TP16

TP17

TP18

TP19

TP20

TP21

TP22

TP23

TP24

TP25

TP26

TP27

TP28

TP29

TP30

TP31

TP32

TP33

TP34

TP35

TP36

TP37

TP38

TP39

TP40

TP41

TP42

TP43

TP44

TP45

TP46

D-ID-45-17

TIME PULSE NUMBER

EXAMPLE OF ALL CYCLES

DEFER CYCLE

EVENTS COMMON TO CYCLE ZERO

CYC IF PREV INST WAS ACT IO SWAP

CYC IF PREV INST WAS SHIFT

CYC (OR EXT OR HSC) IF PREV INST WAS IOT

MEM RQ

ADDR ACK

RD RS

MEM → MB SYNCHRONIZE SBS

WR RS

SET SBS SYNC

LCH+DCH

EXD' + MB5'

LCH+DCH INC°

JSP

JMP

SHIFT GROUP

LAI JMP JSP

GROUP

LAIAN

OPR

INCREMENT OP CODE SELECTION

IOT

SEE BOX 1

SEE BOX 2

SEE BOX 3

SEE BOX 4

SEE BOX 5

SCI

SCF

FFA

SCM

IDA

SZL

CLL

FFB

IFI

IIF

CML

IDC

IO HALT DONE

DO NOT COMMAND PULSES

NO BREAK

BREAK

TO CYCLE ZERO

TO CYCLE ONE

TO DEFER

TO DEFER CYCLE TO CYCLE ONE

TO BREAK CYCLE ONE

HALT

① MB_{0-2} = SHIFT RIGHT
MB_3 = SHIFT LEFT
MB_4 = SHIFT R/L
MB_5 = ROTATE R/L
MB_6,MB_7 = SH/RO R/L THE AC
MB_8,MB_9 = SH/RO R/L THE IO
MB_{10},MB_{11} = SH/RO R/L AC & IO COMBINED
MB_{12},MB_{13} = NO ACTION

② MB_{15-17} DECODED =
0 - SELECT NO PROG FLAG
1 - SKIP IF PROG FLAG #1 IS A ZERO
2 - SKIP IF PROG FLAG #2 IS A ZERO
3 - SKIP IF PROG FLAG #3 IS A ZERO
4 - SKIP IF PROG FLAG #4 IS A ZERO
5 - SKIP IF PROG FLAG #5 IS A ZERO
6 - SKIP IF PROG FLAG #6 IS A ZERO
7 - SKIP ONLY IF ALL PROG FLAGS = ZERO

MB_{12-14} DECODED =
0 = SELECT NO CONSOLE SWITCH
1 = SKIP IF CONSOLE SW #1 = ZERO
2 = SKIP IF CONSOLE SW #2 = ZERO
3 = SKIP IF CONSOLE SW #3 = ZERO
4 = SKIP IF CONSOLE SW #4 = ZERO
5 = SKIP IF CONSOLE SW #5 = ZERO
6 = SKIP IF CONSOLE SW #6 = ZERO
7 = SKIP ONLY IF ALL CONSOLE SW = ZERO

MB_4' = SKIP IF AC = +0 (IF ALL ZEROS)
MB_{10}' = SKIP IF AC POS
MB_9' = SKIP IF AC NEG
MB_8' = SKIP IF OVERFLOW FF = 0
MB_7' = SKIP IF IO = POS
MB_6' = SKIP IF IO ≠ ZERO

③ MB_{14}' = SET SELECTED PROG FLAG TO ONE
$MB_{14}°$ = CLEAR SELECTED PROG

MB_{15-17} DECODED =
0 = NO SELECTION
1 = PROG FLAG #1
2 = PROG FLAG #2
3 = PROG FLAG #3
4 = PROG FLAG #4
5 = PROG FLAG #5
6 = PROG FLAG #6
7 = ALL PROG FLAGS

MB_{12-13} DECODED
00 = NOP
01 = AC → IO
10 = IO → AC
11 = AC ⇄ IO

④ SEND OPERATION PULSE TO INPUT OUTPUT EQUIPMENT AS FOLLOWS:
MB_{6-11} DECODED
00 - NO ACTION
01 - TAPE READER ℒ MODE
02 - TAPE READER BINARY (SING MODE
03 - TYPEWRITER OUTPUT
04 - TYPEWRITER INPUT
05 - PUNCH ℒ
06 - PUNCH BINARY
07 - DISPLAY

OTHER IOT OPERATION PULSES GENERATED AS INSTRUCTION ADDED

32 — READ CLOCK
64 — LEAVE RESTRICT MODE (LRM)
65 — ENTER RESTRICT MODE (ERM)
66 — RENAME MEMORY (RNM)
67 — RESET MEMORY NAME (RSM)
35 — CHECK TRAP BUFFER CTB
37 — RRI
17 — RRO
60, 61, 62, 63 } TYPE 23 DRUM
22 — 630 DATA COMMUNICATION SYS
10 — LEAVE RING MODE (LRG)
11 — ENTER RING MODE (ERG)

⑤ MB_5' = REVERSE SKP SENSE
MB_6' = IOR TO IO FROM FLAGS
MB_7' = IOR TO FLAGS FROM IO
MB_8' = IDC
MB_9' = IDA
MB_{10}' = SPECIAL COMPLEMENT
MB_{11}' = SPECIAL CLR IO
MB_{12}' = SPECIAL CLR FLAGS
MB_{13}' = SKP ON ZERO LINK
MB_{14}' = CLR LINK
MB_{15}' = COMPLEMENT LINK

MB_{16}' = IO / IOR AC
$MB_{16}°_{17}'$ = IO / XOR AC
$MB_{16}'_{17}$ = ADD IO → AC

PDP-1 TIMING CHAIN

MEMORY CONTROL TIMING CHAIN

PDP-1 TIMING WITH MEMORY CONTROL

THIS LWC TAKEN FROM D20035 REV-2

CODE FD

REV A

digital EQUIPMENT CORPORATION

D-ID-45-17

DEFER CYCLES

REV A

TRANSFER LOGIC

ARITHMETIC LOGIC

OVERFLOW LOGIC

FOR MUL/DIV OPTION ONLY

ALL A BIT ORIGINATION

MUL SHIFT

DEPOSIT SWITCH

MUS+MUL (6-2) (2A2W)

MUS + MUL

MDP-13 (7-4) (LCH+DCH) (2K11S)

MB → AC

MB 0 → AC (2C6Y)

MB 1/6-17 → AC (2C12F)

MB 1/0-5 → AC (2C6F)

PC → AC (2A6E)

AC 0-5 (2B6P)

AC 6-17 (2B12P)

+1 → AC (2B23L)

+1 AC (LCH + DCH) (1L17H)

LD → AC (2B4F)

CARRY → AC (2C6N)

MB PAD AC (2C6K)

TP1 → AC (2C6Y)

TP1

LOCKED CONSOLE

AC SH/ROR (2A1S,M)

AC SH/ROR (2A6S,W)

TP2

CH1 (1L20W)

SCR

SCM

SKP

BC1

RESTORE

FF1 • FF2 IS

FF1 • FF2

1104 IC24 PRESENT ONLY FOR MUL/DIV OPTION

THIS DWG TAKEN FROM D-20014 REV B-6

CODE BS

digital EQUIPMENT CORPORATION

D-ID-40-16

ACCUMULATOR CONTROL BOARD

REV A

D-ID-43-19

CYCLE ONE

TIME NUMBER

EVENTS WITHIN CYCLE

0
MEM RQ
ADDR ACK
1
0 → LINK IF L ≠ 1 → MI
1 → SYNC
2
3
0 → MB
RD RS
4
MEM → MB SYNC SBS
WR RS
8
9
9a
10
0 → PC

AC = MB ± AC = MB = OV ENABLE
OV ENABLE
1 → OV
MB PAD → AC
MB → AC
CARRY → AC
AC = 0
AC ≠ 0
OV = 0
OV = 1
1 → FC
0 → MB
AC → MB
IO → MB
0 → IO
0 → AC
1 → AC
AC = -1
AC ≠ -1
AC → ME
ME → AC
AC → PC
PC → AC
PC → EPC
EPC → PC
MA → PC
EMA → EPC
MB → IO
IO → AC
MB → PC
MB → FC
MB → EFC
MB → EPC
MB → MA
MB → EMA
MB → PS
MB → SC
MB → SR
MB → EXR
MB → EMA
MB → MA
100 → MA
INHIBIT MB → MA
dis SHIFT AC & IO LEFT
IO17 IO'17
1 → AC
IO'17 IO'17
IO'17 → AC
IO'0 IO'17
IO'0 → AC
IO'0 IO'17
IO'0 → AC
IO'17 IO'17
IO'17 → AC
IO'0 IO'17
IO'0 → AC
IO'0 IO'17
IO'0 → AC
IO'0 IO'17
IO'0

D-ID-45-20-1 A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4301	4106	4303																						
READY	READY D-62-C4 READY D-62-C5 START PUNCH D-62-C5 READY D-62-C5	START PUNCH																						
D-62-C4		D-62-C5																						

DRWG. # WAS D-ID-45-20 SH. 1 OF 16 A-321

Engineering	5-7-64	
Manufacturing	11/2/64	
Quality Assurance	11/2/64	
Marketing	11/2/64	

digital EQUIPMENT CORPORATION

UML

TITLE: UTILIZATION MODULE LOCATION

D-ID-45-20-1 A

D-ID-45-20

1	2	3	4	5	6	7	8

1	C	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

430'	4106	4303
READ: D-62-C4	READY D-62-C5	START PUNCH
READ:	START PUNCH D-62-C5	
	READY D-62-C5	
D-62-C4		D-62-C5

A																								A
11F																								11F
B																								B
C																								C
D																								D

1	2	3	4	5	6	7	8

Prepared 3-17-64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: UTILIZATION MODULE LOCATION

SIZE: UML

DWG. NO. D-ID-45-20

SHT. 1 OF 16

D-ID-45202 REV LTR A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4410	4501	4301	4603	4105	4201	4401	1106	4209	4603	4214	4128	4214	4128	4214	4128	4214	4128	4214	4128	4106	4105	1669	1664	1664
STROBE PETR D-61	RC D-61-B1	RC D-61-A1	READER RETURN D-61-B2 READER 10 D-61-B2 SHIFT RB D-61-B2	STROBE PETR D-61-C4 READER 10 D-61-B2 READER RETURN D-61-B2 SHIFT RB D-61-B1 READER 10 D-61-B2	RC_2 D-61-B3	RC_1 D-61-B3	SET RCL^0 D-61-B4 COMP RC_1 D-61-B3 COMP RC2 D-61-B3 SET RCL D-61-B3 COMP RCL D-61-B3 SET RBY D-61-B3	RBY D-61-B3 RCL D-61-B4	STROBE PETR D-61-C4 CLEAR RC_2 D-61-C2 CLEAR RB D-61-B4	RB_0 D-61-A2 RB_1 D-61-A2 RB_2 D-61-A2 RB_3 D-61-A3	SHIFT RB D-61-A1 SHIFT RB D-61-A1	RB_4 D-61-A3 RB_5 D-61-A3 RB_6 D-61-A4 RB_7 D-61-A4	SHIFT RB D-61-A3 SHIFT RB D-61-A3	RB_8 D-61-A5 RB_9 D-61-A5 RB_{10} D-61-A5 RB_{11} D-61-A6	SHIFT RB D-61-A5 SHIFT RB D-61-A5	RB_{12} D-61-A6 RB_{13} D-61-A6 RB_{14} D-61-A7 RB_{15} D-61-A7	SHIFT RB D-61-A6 SHIFT RB D-61-A6	RB_{16} D-61-A8 RB17 D-61-A8 FEED HOLE D-61-C6	SET $RB_{10-17}^{1\ 1}$ D-61-A5 SET $RB_{10-17}^{1\ 1}$ D-61-A5	SET $RB_{10}^{1\ 1}$ D-61-B5 CLR RC_2 D-61-C2 SET RB_{11}^{1} D-61-B6 SET RB_{11}^{1} D-61-B6 CLR RC_2 D-61-C2	STROBE PETR D-61-C3 STROBE PETR D-61-C3 STROBE PETR D-61-C4 STROBE PETR D-61-C4	RB_0^1 D-61-B7 RB_1^1 D-61-B7 RB_2^1 D-61-B7 RB_3^1 D-61-B7 RB_4^1 D-61-B7 RB_5^1 D-61-B7 RB_6^1 D-61-B7 RB_7^1 D-61-B7 RB_8^1 D-61-B7	RB_9^1 D-61-C7 RB_{10}^1 D-61-C7 RB_{11}^1 D-61-C7 RB_{12}^1 D-61-C7 RB_{13}^1 D-61-C7 RB_{14}^1 D-61-C7 RB_{15}^1 D-61-C7 RB_{16}^1 D-61-B7 RB_{17}^1 D-61-B7	RC_2 D-61-B8 RC_1 D-61-B8 BINARY D-61-B8 CLUTCH D-61-B8 CLUTCH D-61-B8 BREAK D-61-B8
1703	1703	4105	4111	4603	4410	4105	4209	4301	4603	4410	4214	4214	4128	4128	4113R	4113R	4680	4680	4680	4680	4680	4680	4110	1659
TC6 D-63-C1 TC5 D-63-C1 TC4 D-63-C1 TC3 D-63-C1 TC2 D-63-C1 TC1 D-63-C1 TCC D-63-C1 TAB D-63-C1 TAB D-63-C1	B-SPACE D-63-C2 B-SPACE D-63-C2 CR CAM D-63-C2 CR CAM D-63-C2 SHIFT D-63-C2 SHIFT-UP D-63-C2 SHIFT-DOWN D-63-C2 SPACE D-63-C2 SPACE D-63-C2	TYO DONE D-63-B1 D_4 D-63-A2 TYO DONE D-63-B1 TYO DONE D-63-B1 TYO DONE D-63-B1	SHIFT D-63-C4 SHIFT D-63-C4	STROBE PETR D-61-C5 TYPE SYNC D-63-A3	SYNC D-62-B1	PUNCH DONE D-62-B2 0 PB D-62-B3 SET PUN_0 D-62-B2 FEED HOLD D-61-C5 PUNCH DONE D-62-B2	PUNCH D-62-B2	DELAY & PUNCH DONE D-62-A3 0 PB D-62-B4	PUNCH DONE D-62-A3 POWER CLEAR D-62-B3	CLEAR RC_2 D-61-C2	PB_{10} D-62-B4 PB_{11} D-62-B5 PB_{12} D-62-B5 PB_{13} D-62-B5	PB_{14} D-62-B6 PB_{15} D-62-B6 PB_{16} D-62-B7 PB_{17} D-62-B7	PB_{10-17} D-62-B7 PB_{10-17} D-62-B6	PB_{10-17} D-62-B7 PB_{10-17} D-62-B6	SD_6 D-62-B5 SD_4 D-62-B6 SD_3 D-62-B7 SD_2 D-62-B7 SD_1 D-62-B7	PUNCH ON D-62-A4 SD_8 D-62-B5 SD_7 D-62-B5 SD FEED HOLD D-62-B8 SD_{1-8} D-62-B4 SD_{1-8} D-62-B4	SD_8 D-62-A5 SD_7 D-62-A5 SD_6 D-62-A6	SD_8 D-62-A5 SD_7 D-62-A5 SD_6 D-62-A5	SD_5 D-62-A6 SD_4 D-62-A6 SD_3 D-62-A7	SD_5 D-62-A6 SD_4 D-62-A6 SD_3 D-62-A7	SD_2 D-62-A7 SD_1 D-62-A8 SD FEED HOLD D-62-A8	SD_2 D-62-A7 SD_1 D-62-A8 SD FEED HOLD D-62-A8	CR D-63-C3	PUN^1 D-62-B4 PB_{10}^1 D-62-B4 PB_{11}^1 D-62-B4 PB_{12}^1 D-62-B4 PB_{13}^1 D-62-B4 PB_{14}^1 D-62-B4 PB_{15}^1 D-62-B4 PB_{16}^1 D-62-B4 PB_{17}^1 D-62-B4
4301	4410	4410	4301	4301	4301	4105	4209	4105	4603	4105	4110	4110	4110	4110	4126	4128	4128	4214	4214	4113R	4681	4681	4681	1669
D_4 D-63-A3	SEL. TP. D-63-A4	STROBE TYPE D-63-A2	STROBE TYPE D-63-A2	SET TBB D-63-A4	D_2 D-63-B4	TMC D-63-A5 FEED HOLD D-61-C5 TMC D-63-A5 D_2 D-63-B4 TMC D-63-A5	TYO_0 D-63-A4	TYO DONE D-63-B2 SET TYO_0 D-63-A3 STROBE TYPE D-63-A1 TYO DONE D-63-B2 SET TYO_0 D-63-A4	TYO DONE D-63-B2 CLR TB_{12-17} D-63-B5 SET $TB_{12}^{1\ 1\ 17}$ D-63-B5	SET TBB D-63-B3 SET TBB_1 D-63-B3 SET TBB_0 D-63-B3 CLEAR TB_{12-17} D-63-B4 D_2 D-63-B3	STROBE TYPE D-63-A1 SET TBB_0 D-63-B3	SET TB_{12}^1 D-63-B5 SET TB_{13}^1 D-63-B6	SET TB_{14}^1 D-63-B6 SET TB_{15}^1 D-63-B7	SET TB_{16}^1 D-63-B7 SET TB_{17}^1 D-63-B8	SET TBS^0 D-63-A3 SET TBS^1 D-63-A3 SET TBB^0 D-63-A3 SET TBB^1 D-63-A3	SET $TB_{12-17}^{1\ 1}$ D-63-B6 SET $TB_{12-17}^{1\ 1}$ D-63-B6	SET $TB_{12-17}^{1\ 1}$ D-63-B6 SET $TB_{12-17}^{1\ 1}$ D-63-B6	TB_{14} D-63-B6 TB_{15} D-63-B7 TB_{16} D-63-B7 TB_{17} D-63-B8	TBS D-63-A3 TBB D-63-A3 TB_{12} D-63-B5 TB_{13} D-63-B6	TB_{12} D-63-A5 TB_{14} D-63-A6 TB_{15} D-63-A7 TB_{13} D-63-A6 TB_{16} D-63-A7 TB_{17} D-63-A8	SD TB_{12}^1 D-63-A5 SD TB_{14}^1 D-63-A6 SD TB_{13}^1 D-63-A6	SD TB_{15} D-63-A7 SD TB_{16} D-63-A7 SD TB_{17} D-63-A8	SD TBB^1 D-63-A3 TCM D-63-A5	TYO D-63-D7 STATUS D-63-D7 BLACK D-63-D7 12 D-63-D7 13 D-63-D7 14 D-63-D7 15 D-63-D7 16 D-63-D7 17 D-63-D7

DRWG # MAS D-ID-45202 SH 2 OF 16 A-321	CHANGE	DATE	ENG	REVISIONS	DRAWN M. Marquardt DATE 3-17-64 CHECKED M. Shiel DATE 4/1/64 ENG DATE PROJ ENG DATE PROD DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE UTILIZATION MODULE LOCATION FOR ASSY NO CODE UML DRWG NO D-ID-45202 REV LTR A SHEET 1 OF 1

D-ID-46-20 REVISION

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A	4210	4501	4501	4401	4105	4401	4401	4106	4209	4603	4214	4128	4214	4128	4214	4128	4214	4128	4214	4128	4136	4105	1669	1669	1669
	STROBE PETR D-61-C5	A+1 → RC D-61-B1	A+1 → RC D-61-A1	READER RETURN D-61-B2	STROBE PETR D-61-C4	RC2 D-61-B3	RC1 D-61-B3	SET RCL D-61-B4	RB1 D-61-B3	STROBE PETR D-61-C4	RB0 D-61-A2	SHIFT RB D-61-A1	RB4 D-61-A3	SHIFT RB D-61-A3	RB8 D-61-A5	SHIFT RB D-61-A5	RB12 D-61-A6	SHIFT RB D-61-A6	RB16 D-61-A8	SET RB17-17 D-61-A5	SET RB10 D-61-B5	STROBE PETR D-61-C3	RB1 D-61-B7	RB9 D-61-C7	RC2 D-61-B8
				READER → IC D-61-B2	READER RETURN D-61-B2			COMP RC1 D-61-B3			RB1 D-61-A2		RB5 D-61-A3		RB9 D-61-A5		RB13 D-61-A6		RB17 D-61-A8		SET RB10 D-61-B5		RB2 D-61-B7	RB10 D-61-C7	RC1 D-61-B6
				SHIFT RB D-61-B2	SHIFT RB D-61-B*			COMP RC2 D-61-B3			RB2 D-61-A2	SHIFT RB D-61-A1	RB6 D-61-A4	SHIFT RB D-61-A3	RB10 D-61-A5	SHIFT RB D-61-A5	RB14 D-61-A7	SHIFT RB D-61-A6	FEED HOLE D-61-C6	SET RB10-17 D-61-A5	CLR RC2 D-61-C2	STROBE PETR D-61-C3	RB3 D-61-B7	RB11 D-61-C7	BINARY D-61-B8
					READER → IC D-61-B2			SET RCL D-61-B3	RCL D-61-B4	CLEAR RC2 D-61-C2											SET RB11 D-61-B6	STROBE PETR D-61-C3	RB4 D-61-B7	RB12 D-61-C7	CLUTCH D-61-B8
					SHIFT RB D-61-B*			COMP RCL D-61-B3		CLEAR RB D-61-B4	RB3 D-61-A3	SHIFT RB D-61-A1	RB7 D-61-A4	SHIFT RB D-61-A3	RB11 D-61-A6	SHIFT RB D-61-A5	RB15 D-61-A7	SHIFT RB D-61-A6	FEED HOLE D-61-C6	SET RB10-17 D-61-A5	SET RB11 D-61-B6	STROBE PETR D-61-C4	RB5 D-61-B7	RB13 D-61-C7	
					READER → IC D-61-B2			SET RBY D-61-B3													CLR RC2 D-61-C2	STROBE PETR D-61-C4	RB6 D-61-B7	RB14 D-61-C7	CLUTCH D-61-B4
																							RB7 D-61-B7	RB15 D-61-C7	BREAK D-61-B4
																							RB8 D-61-B7	RB16 D-61-C7	
	1703	1703	4105	4111	4603	4410	4105	4209	4301	4603	4410	4214	4214	4128	4128	4113R	4113R	4680	4680	4680	4680	4680	4680	4110	1669
B	TC6 D-63-C1	B-SPACE D-63-C2	TYO DONE D-63-B1	SHIFT D-63-C4			PUNCH DONE D-62-B2	PUNCH D-62-B2	DELAY & PUNCH DONE D-62-A3	PUNCH DONE D-62-A3		PB10 D-62-B4	PB14 D-62-B6	PB10-17 D-62-B7	PB10-17 D-62-B7	SD6 D-62-B5	PUNCH ON D-62-A4	SD8 D-62-A5	SD8 D-62-A5	SD5 D-62-A6	SD5 D-62-A6	SD2 D-62-A7	SD2 D-62-A7	CR D-63-C3	PUN1 D-62-A4
	TC5 D-63-C1	B-SPACE D-63-C2														SD4 D-62-B6	SD8 D-62-B5								PB1 10 D-62-A4
	TC4 D-63-C1	CR CAM D-63-C2	D4 D-63-A2							POWER CLEAR D-62-B3	CLEAR RC2	PB11 D-62-B5	PB15 D-62-B6			SD3 D-62-B7	SD7 D-62-B5	SD7 D-62-A5	SD7 D-62-A5	SD4 D-62-A6	SD4 D-62-A6	SD1 D-62-A8	SD1 D-62-A8		PB1 11 D-62-A4
	TC3 D-63-C1	CR CAM D-63-C2										PB12 D-62-B5	PB16 D-62-B7			SD5 D-62-B6	SD FEED HOLD D-62-B6								PB1 12 D-62-A4
	TC2 D-63-C1	SHIFT D-63-C2	TYO DONE D-63-B1	SHIFT D-63-C4			SET PUN D-62-B2			∅ → PB D-62-B4				PB10-17 D-62-B6	PB10-17 D-62-B6	SD2 D-62-B7	SD1-8 D-62-B4	SD6 D-62-A6	SD6 D-62-A5	SD3 D-62-A7	SD3 D-62-A7	SD FEED HOLD D-62-A8	SD FEED HOLD D-62-A8		PB1 13 D-62-A4
	TC1 D-63-C1	SHIFT-UP D-63-C2										PB13 D-62-B5	PB17 D-62-B7												PB1 14 D-62-A4
	TC0 D-63-C1	SHIFT-DOWN D-63-C2	TYO DONE D-63-B1				FEED HOLD D-61-C5									SD1 D-62-B7	SD1-8 D-62-B4								PB1 15 D-62-A4
	TAB D-63-C1	SPACE D-63-C2																							PB1 16 D-62-A4
	TAB D-63-C1	SPACE D-63-C2	TYO DONE D-63-B1				PUNCH DONE D-62-B2																		PB1 17 D-62-A4
C	4301	4410	4410	4301	4301	4301	4105	4209	4105	4603	4105	4110	4110	4110	4110	4126	4128	4128	4214	4214	4113R	4681	4681	4681	1669
	D4 D-63-A3	SET, TPS D-63-A1	STROBE TYPE D-63-A2	STROBE TYPE D-63-A2	SET TBB D-63-A4	D2 D-63-B4	TMC D-63-A5		TYO DONE D-63-B2	TYO DONE D-63-B2	SET TBB D-63-B3	STROBE TYPE D-63-A1	SET TB1 12 D-63-B5	SET TB14 D-63-B6	SET TB16 D-63-B7	SET TBS0 D-63-A3	SET	SET TB12-17 D-63-B6	SET TB 12-17 D-63-B6	TB14 D-63-B6	TBS D-63-A3	TB12 D-63-A5	SD TB12 D-63-A5	SD TB15 D-63-A7	SD TBB1 D-63-A3	TYC D-63-D7
							FEED HOLD D-61-C5		SET TYO0 D-63-A3		SET TBB1 D-63-B3					TBA1 D-63-A3					TB14 D-63-A6				STATUS D-63-D7
							TMC D-63-A5		STROBE TYPE D-63-A1	CLR TB12-17 D-63-B5	SET TBB0 D-63-B3					SET TBS0 D-63-A3			TB15 D-63-B7	TB8 D-63-A3	TB15 D-63-A7	SD TB14 D-63-A6	SD TB16 D-63-A7	TDM D-63-A5	BLACK D-63-D7
							D2 D-63-B4	TYO0 D-63-A4	TYC DONE D-63-B1		CLEAR TB12-17 D-63-B1	SET TBB0 D-63-B3	SET TB13 D-63-B6	SET TB15 D-63-B7	SET TB17 D-63-B8		SET TB12-17 D-63-B6	SET TB 12-17 D-63-B6	TB16 D-63-B7	TB12 D-63-B5	TB13 D-63-A6	SD TB13 D-63-A6	SC TB17 D-63-A8		T2 D-63-D7
							TMC D-63-A5		SET TYO0 D-63-A4	SET TB12-17 D-63-B5	D1 D-63-B3								TB17 D-63-B8	TB3 D-63-B6	TB10 D-63-A7				T3 D-63-D7
																					TB17 D-63-A8				T4 D-63-D7
																									T5 D-63-D7
																									T6 D-63-D7
																									T7 D-63-D7

	1	2	3	4	5	6	7	8
A								
B								
C								
D								

IIA IIB IIC IIA IIB IIC

CHANGE	DATE	ENG

REVISIONS

DRAWN M. Ingersoll	DATE 8-APR-69	
CHECKED R. Whitcomb	DATE 4/15/69	
ENG	DATE	
PROJ ENG	DATE	
PROG	DATE	

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-ID-46-20 | REV LTR

SHEET 2 OF 16

D-ID-45-20-3 REV LTR B

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1105	1103-70	1103-70	1105	1105	1105	1111	1103	1607	1607	1104	1209	1103-74	1209	1105	1209	1113	1209	1103	1209	1201	1209	1104	1104	1104
100 → MA D-33-B2	IIF D-6-C2	SCI D-6-C4			PC 1→ MA D-33-A2	MB 1→ MA D-33-B3		MA 1→ PC D-33-D8	PC 1→ MA D-33-A3	SET MA 6-1 D-52-B7	MA 6 D-52-A7	C→ AC D-18-D4	MA 8 D-52-A8	SET MA 11-1 D-52-C4	MA 10 D-52-C4	(SCM IDC) D-2-C3	MA 12 D-52-C5	COMPLEMENT AC 17 D-8-2-B8	MA 14 D-52-C6	LINK D-2-A1	MA 16 D-52-C6	SET MA 14 1 D-52-C6	SET MA 12-1 D-52-D5	SET MA 14-1 D-52-D6
	IFI D-6-C3	SCF D-6-C4	AC SH/ROR 9-17 D-18-B6	AC SH/ROL 0-8 D-18-A6	BE 1→ MA D-33-A2		PC 1→ MA D-33-A3	100 1→ MA D-33-B3	MB 1→ MA D-33-A3	SET MA 8-1 D-52-B8		A→ AC D-2-A1		SET MA 10-1 D-52-C4		TAD (CCM 1) D-2-D3		SET 1 LINK D-2-A1				SET MA 16-1 D-52-C7		
MB 1→ MA D-33-B1	SCM D-6-C3	SZL D-6-C5												SET MA 12-1 D-52-C5		SET 0 LINK D-2-B1		SET 0 LINK D-2-A1				SET MA 15-1 D-52-C7	SET MA 13-1 D-52-D6	SET MA 15-1 D-52-D7
	IFI D-6-C3	SCF D-6-C4	AC ONLY + LCH + DCH D-6-C6	AC ONLY + LCH + DCH D-6-C6	MB 1→ MA D-33-B2			0→ MA D-33-B3	BE 1→ MA D-33-A3	SET MA 7-1 D-52-B7	MA 7 D-52-A7		MA 9 D-52-C3	SET MA 11-1 D-52-C4	MA 11 D-52-C4	COMPLEMENT LINK D-2-B1	MA 13 D-52-C5	(SCM IDC) D-2-C3	MA 15 D-52-C7		MA 17 D-52-C8	SET MA 18-1 D-52-C8		
	IIF D-6-C2	SCI D-6-C4			AC ONLY + LCH + DCH D-6-C6					SET MA 9-1 D-52-C3				SET MA 13-1 D-52-C5		A→ AC D-2-A2		TAD+(SCM+IDC) D-2-D3						
4401	4603	1103-74	1105	1607	1103	1103	1103	1103	1103	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1103	1103	1103
	SET RNG PFO D-6-A1	CLL D-6-A3			MB 1→ PC D-33-C6		SET PC 11-1 D-51-C3	SET PC 11-1 D-51-D3	SET PC 11-1 D-51-D3														SET PC 17-1 D-51-D8	SET PC 17-1 D-51-D8	SET PC 17-1 D-51-C8
		CML D-6-D3		TA 1→ PC D-33-C8			SET PC 10-1 D-51-C3	SET PC 10-1 D-51-D3	SET PC 10-1 D-51-D3													SET PC 16-1 D-51-D7	SET PC 16-1 D-51-D7	SET PC 16-1 D-51-C7
		SPC b1 D-6-D3			0→ PC D-33-C7	0→ PC D-33-C7	SET PC 9-1 D-51-C2	SET PC 9-1 D-51-D2	SET PC 9-1 D-51-D2	PC 6 D-51-A6	PC 7 D-51-A8	PC 8 D-51-A8	PC 9 D-51-C2	PC 10 D-51-C2	PC 11 D-51-C3	PC 12 D-51-C4	PC 13 D-51-C5	PC 14 D-51-C6	PC 15 D-51-C6	PC 16 D-51-C7	PC 17 D-51-C8	SET PC 15-1 D-51-D6	SET PC 15-1 D-51-D6	SET PC 15-1 D-51-C6
		SPC b2 A-6-D3	MB 1→ PC D-33-C5	MB 1→ PC D-33-C8			SET PC 8-1 D-51-A8	SET PC 8-1 D-51-B8	SET PC 8-1 D-51-B8													SET PC 14-1 D-51-D6	SET PC 14-1 D-51-D6	SET PC 14-1 D-51-C6
POWER CLEAR D-33-D5	POWER CLEAR D-33-D5	CML D-6-D3		0→ PC D-33-C8	MB 1→ PC D-33-C7	TA 1→ PC D.33-D7	SET PC 7-1 D-51-A7	SET PC 7-1 D-51-B7	SET PC 7-1 D-51-B7													SET PC 13-1 D-51-D5	SET PC 13-1 D-51-D5	SET PC 13-1 D-51-C5
		CLL D-6-D3					SET PC 6-1 D-51-A6	SET PC 6-1 D-51-B6	SET PC 6-1 D-51-B6													SET PC 12-1 D-51-C4	SET PC 12-1 D-51-D4	SET PC 12-1 D-51-C4
1105	1105	1104	1104	1103	1105	1105	1103	1105	1103	1104	1111	1105	1105	1110	1103	1105	1105	1105	1105	1111	1105	1103	1104	1111
	MB PAD→ AC D-18-B6			AC SH/ROL 0-8 D-18-A6			MB 1→ AC D-18-B6	TW 1→ AC D-18-B5	MB PAD→ AC D-18-B6	+1→ AC D-18-C4	MB PAD→ AC D-18-C5	CARRY→ AC D-18-C5	0→ AC 0-5 D-18-C1	+1→ AC D-18-D3	0→ AC 0-5 D-18-B3	0→ AC 0-5 D-18-C2	PC 1→ AC D-18-B1	0→ AC 0-5 D-18-C3	MB 1→ AC 0-5 D-18-A1	MB 1→ AC 6-17 D-18-B1	MB 1→ AC 6-17 D-18-A3	MB PAD→ AC D-18-B7	TRAP	
CY 1 SKIP D-15-C5	CY1 SKIP D-15-C5	AC SH/ROL 0-8 D-18-A5	AC SH/ROR 9-17 D-18-A5	AC SH/ROR 9-17 D-18-A6	C→ AC D-18-D2	C→ AC D-18-D1	Z→ AC D-18-D3	MB PAD→ AC D-18-B5	CARRY→ AC D-18-B6	MB PAD→ AC D-18-B5	CARRY→ AC D-18-C5	+1→ AC D-18-C3	0→ AC 0-5 D-18-C1	PC 1→ AC D-18-C2	PC 1→ AC D-18-B3	0→ AC 0-5 D-18-D2	0→ AC 0-5 D-18-C2	PC 1→ AC D-18-B2	0→ AC 0-5 D-18-D2	MB 1→ AC 0-5 D-18-A1	MB 1→ AC 0-5 D-18-A1	MB 0→ AC D-18-B2	MB 0→ AC D-18-A3	CARRY→ AC D-18-B7		
	SET OV2 D-18-A5		MUS + MUL D-18-B7														PC 1→ AC D-18-B1	0→ AC 0-5 D-18-C3	AC+1 D-18-D2		MB 1→ AC 6-17 D-18-A1	MB 1→ AC 0-5 D-18-B3	+1→ AC D-18-C3		
	LOCKED CONSOLE D-18-A4		TW 1→ AC D-18-B6	AC SH/ROL 0-8 D-18-A6																		MB 0→ AC D-18-B2	MB 0→ AC D-18-A3	CARRY→ AC D-18-B7		

D-ID-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1103	1103-70	1103 70	1105	1105	1103	1111	1103	1607	1607	1103	1209	1103-74	1209	1105	1209	1113	1209	1103	1209	1201	1209	1104	1104	1104
10 → MA D-33-B2	IIF D-6 C2	SCI D-6-C4			PC 1 → MA D-33-A2	MB 1 → MA D-33-B3		MA → PC D-33-D8	PC 1 → MA D-33-A3	SET MA 6-1 D-52-B7	MA 6 D-52-A7	0 → AC D-18-D4	MA 8 D-52-A8	SET MA 11-1 D-52-C4	MA 10 D-52-C4	(SCM IDC) D-2-C3	MA 12 D-52-C5	COMPLEMENT AC 17 D-8-2-B8	MA 14 D-52-C6	LINK D-2-A1	MA 16 D-52-C6	SET MA 14-1 D-52-C6	SET MA 12-1 D-52-D5	SET MA 14-1 D-52-D6
	IFI D-6-C3	SCF D-6-C4	AC SH/ROR 9-17 D-18-B6	AC SH/ROL 0-8 D-18-A6	BE 1 → MA D-33-A2		PC 1 → MA D-33-A3	100 1 → MA D-33-B3	MB 1 → MA D-33-A3	SET MA 8-1 D-52-B8		1 → AC D-2-A1		SET MA 10-1 D-52-C4		TAD (SCM IDC) D-2-D3		SET 1 LINK D-2-A1				SET MA 16-1 D-52-C7		
MB → MA	SCM D-6-C3	SZL D-6-C5			MB 1 → MA D-33-B2			0 → MA D-33-B3	BE 1 → MA D-33-A3	SET MA 7-1 D-52-B7	MA 7 D-52-A7		MA 9 D-52-C3	SET MA 12-1 D-52-C5	MA 11 D-52-C4	SET O LINK D-2-B1	MA 13 D-52-C5	SET 1 LINK D-2-A1	MA 15 D-52-C7		MA 17 D-52-C8	SET MA 15-1 D-52-C7	SET MA 13-1 D-52-D6	SET MA 15-1 D-52-D7
D-33-B1	IFI D-6-C3	SZL D-6-C5	AC ONLY + LCH + DCH D-6-C6	AC ONLY + LCH + DCH D-6-C6	AC ONLY + LCH + DCH D-6-C6					SET MA 9-1 D-52-C3				SET MA 11-1 D-52-C4		COMPLEMENT LINK D-2-B1		SET O LINK D-2-A1				SET MA 18-1 D-52-C8		
	IIF D-6 C2	SCI D-6-C4												SET MA 13-1 D-52-C5		1 → AC D-2-A2		(SCM IDC) D-2-C3						
																		TAD (SCM IDC) D-2-D3						
4401	4603	1103-74	1105	1607	1103	1103	1103	1103	1103	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1103	1103	1103
	SET RNG PEO D-6-A1	CLL D-6-A3		TA 1 → PC D-33-C8	MB 1 → PC D-33-C6		SET PC 11-1 D-51-C3	SET PC 11-1 D-51-D3	SET PC 11-1 D-51-D3													SET PC 17-1 D-51-D8	SET PC 17-1 D-51-D8	SET PC 17-1 D-51-C8
		CML D-6-D3					SET PC 10-1 D-51-C3	SET PC 10-1 D-51-D3	SET PC 10-1 D-51-D3													SET PC 16-1 D-51-D7	SET PC 16-1 D-51-D7	SET PC 16-1 D-51-C7
		SPC_{b1} D-6-D3			0 → PC D-33-C7	0 → PC D-33-C7	SET PC 9-1 D-51-C2	SET PC 9-1 D-51-D2	SET PC 9-1 D-51-D2													SET PC 15-1 D-51-D6	SET PC 15-1 D-51-D6	SET PC 15-1 D-51-C6
		SPC_{b2} A-6-D3	MB 1 → PC D-33-C5	MB 1 → PC D-33-C8			SET PC 8-1 D-51-A8	SET PC 8-1 D-51-B8	SET PC 8-1 D-51-B8	PC 6 D-51 A6	PC 7 D-51 A8	PC 8 D-51 A8	PC 9 D-51-C2	PC 10 D-51-C2	PC 11 D-51-C3	PC 12 D-51-C4	PC 13 D-51-C5	PC 14 D-51-C6	PC 15 D-51-C6	PC 16 D-51-C7	PC 17 D-51-C8	SET PC 14-1 D-51-D6	SET PC 14-1 D-51-D6	SET PC 14-1 D-51-C6
POWER CLEAR D-33-D5	POWER CLEAR D-33-D5	CML D-6-D3		0 → PC D-33-C8	MB 1 → PC D-33-C7	TA 1 → PC D.33-D7	SET PC 7-1 D-51-A7	SET PC 7-1 D-51 B7	SET PC 7-1 D-51-B7													SET PC 13-1 D-51-D5	SET PC 13-1 D-51-D5	SET PC 13-1 D-51-C5
		CL D-6-D3					SET PC 6-1 D-51-A6	SET PC 6-1 D-51 B6	SET PC 6-1 D-51 B6													SET PC 12-1 D-51-C4	SET PC 12-1 D-51-D4	SET PC 12-1 D-51-C4
1105	1105	1104	1104	1103	1105	1105	1103	1105	1103	1104	1111	1105	1105	1110	1103	1105	1105	1105	1105	1111	1105	1103	1104	
	PAD MB → AC D-18-B6		AC Sh/ROR 9-17 D-18-A5	AC SH/ROL 0-8 D-18-A5			TW 1 → AC D-18-B6	TW 1 → AC D-18-B5	MB PAD → AC D-18-B6	1 → AC D-18-C4	MB PAD → AC D-18-C5	CARRY → AC D-18-C5		1 → AC D-18-D3		0 → AC 0-5 D-18-C2	PC 1 → AC D-18-B1		0 → AC 0-5 D-18-C3		MB 1 → AC 6-17 D-18-B1	MB 1 → AC 6-17 D-18-A3	MB PAD → AC D-18-B7	
CY 1 SKIP D-15-C5	CY1 SKIP D-15-C5	AC SH/ROL 0-8 D-18-A5		AC SH/ROR 9-17 D-18-A6						MB PAD → AC D-18-B5			0 → AC 0-5 D-18-C1			PC 1 → AC D-18-B2	0 → AC 0-5 D-18-C2	PC 1 → AC D-18-C2	AC -1 D-18-D2	MB 1 → AC 0-5 D-18-A1	MB 0 → AC D-18-A1	MB 1 → AC 0-5 D-18-B3	1 → AC D-18-C3	
	SET C 2 D-18-A5		MUS + MUL D-18-B7							CARRY → AC D-18-B6														
		LOCKED CONSOLE D-18-A6	TW 1 → AC D-18-B6	AC SH/ROL 0-8 D-18-A6													PC 1 → AC D-18-B1							

1105	1105	1104	1104	1103	1105	1105	1103	1105	1103	1104	1111	1105	1105	1110	1103	1105	1105	1105	1105	1111	1105	1103	1104	
	PAD MB → AC D-18-B6		AC Sh/ROR 9-17 D-18-A5	AC SH/ROL 0-8 D-18-A5			TW 1 → AC D-18-B6	TW 1 → AC D-18-B5	MB PAD → AC D-18-B6	1 → AC D-18-C4	MB PAD → AC D-18-C5	CARRY → AC D-18-C5		1 → AC D-18-D3		0 → AC 0-5 D-18-C2	PC 1 → AC D-18-B1		0 → AC 0-5 D-18-C3		MB 1 → AC 6-17 D-18-B1	MB 1 → AC 6-17 D-18-A3	MB PAD → AC D-18-B7	
CY 1 SKIP D-15-C5	CY1 SKIP D-15-C5	AC SH/ROL 0-8 D-18-A5		AC SH/ROR 9-17 D-18-A6						MB PAD → AC D-18-B5			0 → AC 0-5 D-18-C1			PC 1 → AC D-18-B2	0 → AC 0-5 D-18-C2	PC 1 → AC D-18-C2	AC -1 D-18-D2	MB 1 → AC 0-5 D-18-A1	MB 0 → AC D-18-A1	MB 1 → AC 0-5 D-18-B3	1 → AC D-18-C3	
	SET C 2 D-18-A5		MUS + MUL D-18-B7							CARRY → AC D-18-B6														
		LOCKED CONSOLE D-18-A6	TW 1 → AC D-18-B6	AC SH/ROL 0-8 D-18-A6													PC 1 → AC D-18-B1							

REVISIONS	CHANGE	DATE	ENG

DRAWN M. MARIANO	DATE 7/8/74	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHECKED	DATE	
ENG	DATE	
PROJ ENG	DATE	
PROD	DATE	

TITLE: UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-ID-45-20 | REV LTR

SHEET | OF

D-ID-45-20-4 REV A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1607	1105	1103	1110	4106R	1104	1103	1103	1607	1105	1105	1105	1104	1105	1105	1105	1103	1105	1103	1110	1103	1150	1150	1150	1150
AC → MQ D-33-A4	AC → C D-15-B4			SS_1^0 D-15-D1				SH/RO PULSE D-15-A2	CY 1 SKIP D-15-C4		CY 1 SKIP D-15-C4			PC → AC D-15-C4	AC←0 D-15-D3		ENABLE D-15-C2				MBD_A^0 D-15-B2	MBD_B^0 D-15-B1	MBD_C^0 D-15-B2	MBD_D^0 D-15-B1
				SS_2^0 D-15-D1										AC Z, IO SKIP D-15-C3					AC Z, IO + SKIP D-15-C1		MBD_A^1 D-15-B2	MBD_B^1 D-15-B1	MBD_C^1 D-15-B2	MBD_D^1 D-15-B1
	HALT D-16-C4		SH/RO PULSE D-15-A7	SS_3^0 D-15-D1				PC → AC D-15-C4		PC → AC D-15-D4		AC + AC-OV SKIP D-15-C4	AC Z, IO + SKIP D-15-C3	PC → AC D-15-C4		CY 1 SKIP D-15-C3					MBD_A^2 D-15-B2	MBD_B^2 D-15-B1	MBD_C^2 D-15-B2	MBD_D^2 D-15-B1
EPC → AC D-33-C8		MD INST BRK+PERM D-15-B3		SS_4^0 D-15-D1	SH/RO PULSE D-15-E3	SH/RO PULSE D-15-A2	SH/RO PULSE D-15-A3										ENABLE D-15-C2				MBD_A^3 D-15-B2	MBD_B^3 D-15-B1	MBD_C^3 D-15-B2	MBD_D^3 D-15-B1
				SS_5^0 D-15-D1										AC + AC-OV SKIP D-15-C3	CY 1 SKIP D-15-D3			AC Z, IO SKIP D-15-D2		AC Z, IO + SKIP D-15-D2	MBD_A^4 D-15-B2	MBD_B^4 D-15-B1	MBD_C^4 D-15-B2	MBD_D^4 D-15-B1
PC → AC D-15-B4	PC → AC D-15-B4			SS_6^0 D-15-D1				SH/RO PULSE D-15-A2	PC → AC D-15-C4	PC → AC D-15-D4	PC → AC D-15-C4					AC Z, IO SKIP D-15-C3			ENABLE D-15-C1		MBD_A^5 D-15-B2	MBD_B^5 D-15-B1	MBD_C^5 D-15-B2	MBD_D^5 D-15-B1
																					MBD_A^6 D-15-B2	MBD_B^6 D-15-B1	MBD_C^6 D-15-B2	MBD_D^6 D-15-B1
																					MBD_A^7 D-15-B2	MBD_B^7 D-15-B1	MBD_C^7 D-15-B2	MBD_D^7 D-15-B1
1103	1104	1104	1104	1105	1105	1105	1105	1111	1110	1103	1104	1104	1607	1104	1105	1103	1209	1103	1209	1103	1209	1103	1607	1105
SET PF1-1 D-6-B3			AC → L D-15-C5	ROTATE D-6-D5	ROTATE + DIS + DIV + LCH + DCH D-6-C7		AI + MUS + DIS + MUL + DIV D-6-B8	AI + MUS + DIS + MUL + DIV D-6-B8		SPC D-6-D3			SET PF_{1-6}^1 D-6-B2	SET PF1-3 D-6-C2	SZL+L0 D-6-C2	SET PF_5 D-6-B5	PF_5 D-6-A5	SET PF_3 D-6-B4	PF_3 D-6-A4	SET PF_1 D-6-B3	PF_1 D-6-A3	SET PF6-1 D-6-B6	IO → IO 10-17 D-6-B2	L0 SZL D-15-B7
SET PF2-1 D-6-B4						AI ROTATE D-6-D6				CHI D-16-B6												SET PF5-1 D-6-B5		
SET PF3-1 D-6-B4	AC ONLY D-6-A7	IO ONLY D-6-A8	IO=SHIFT D-6-B7	AI D-6-D4	SH/ROL SH/ROR D-6-C7		IO ROTATE D-6-B7	ROTATE + DIS + DIV + LCH + DCH D-6-B8	SH/RO PULSE D-15-A5	HSC + SBS BREAK PERMIT D-16-B7	SET PF_{1-6}^1 D-6-C1	SET PF_{1-6}^0 D-6-C2	CLEAR PF0-6 D-6-A1	SET PF4-6 D-6-C3	CLEAR PF0-6 D-6-C1	SET PF_0 D-6-B6	PF_6 D-6-A6	SET PF_4 D-6-B4	PF_4 D-6-A4	SET PF_2 D-6-B3	PF_2 D-6-A3	SET PF4-1 D-6-B5		
SET PF4-1 D-6-B5						AC¹ ROTATE + LCH + DCH D-6-D6				IO≠0 D-57-B8			SET PF_{1-6}^0 D-6-A2										SET PF2-1 D-6-B4	IO MIXER PF → IO 0-6 10-17 D-6-D2	IO → IO D-6-D2
SET PF5-1 D-6-B6					AC¹ ROTATE + LCH + DCH D-6-D7										IO → L 10-17	SET PF6-1 D-6-A6		SET PF_4 D-6-B5		SET PF_0 D-6-B5		SET PF1-1 D-6-B3	IO MIXER PF → IO 0-6 10-17 D-6-D2	IO → IO 10-17 D-6-D2
SET PF6-1 D-6-B6																								
1105	1103	1607	1104	1104	1209	1103	1209	1209	1150	1103R	1103R	1103R	1103R	1103R	1103R	1111	1104	1105	1105	1105	1104	1105	1110	1607
G-IR D-32-D1	MB → IR D-32-D2	MB → IR D-32-C2	00 D-32-A1	11 D-32-A3	IR_0 D-32-C2	SET IR3-1 D-32-D4			900 D-32-C4	JMP D-32-C5	ACD D-32-C6	LAC D-32-C6	00 D-32-A7	SPC D-32-A5	DPR D-32-A5		INCORR OP SEL D-32-C5				SH/RO D-32-B2	DIS D-32-D5	IOT D-32-D8	POWER CLEAR D-16-A8
									001 D-32-C4															D-16-A8
							IR_2 D-32-C3	IR_4 D-32-C4	010 D-32-C4	JSP D-32-B5	SUB D-32-B6	LIO D-32-B6	AND D-32-B7	MUS + MUL D-32-A6	DIS + DIV D-32-A6			JMP + JSP D-32-C7						
	0 → IR D-32-C1								011 D-32-C4															
SET RIM-0 D-32-D3	MB → IR D-32-D2								100 D-32-C4	SKP D-32-B5	IDX D-32-B6	DAC D-32-B6	IOR D-32-B7	DZM D-32-A6	TAD+CYC D-32-A8									
						SET IR1-1 D-32-D3			101 D-32-C4	SH/RO D-32-B5	ISP D-32-B6	DAP D-32-B6	XOR D-32-B7	DCH D-32-A7										
	SET RIM-0 D-32-D2	0 → IR D-32-C2	01 D-32-A2	10 D-32-A2	IR_1 D-32-C3		IR_3 D-32-C4	RIM D-32-D2	110 D-32-C4	LAW D-32-B5	SAD D-32-B6	DIP D-32-B6	XCT D-32-B7	36 D-32-A6										
						DIV D-32-D4			111 D-32-C4	IOT D-32-A5	SAS D-32-A6	DIO D-32-A6	LCH D-32-C7	JDA + CAL D-32-A7										

1105	1103	1607	1104	1104	1209	1103	1209	1209	1150	1103R	1103R	1103R	1103R	1103R	1103R	1111	1104	1105	1105	1105	1104	1105	1110	1607
G-IR D-32-D1	MB → IR D-32-D2	MB → IR D-32-C2	00 D-32-A1	11 D-32-A3	IR_0 D-32-C2	SET IR3-1 D-32-D4			900 D-32-C4	JMP D-32-C5	ACD D-32-C6	LAC D-32-C6	00 D-32-A7	SPC D-32-A5	DPR D-32-A5		INCORR OP SEL D-32-C5				SH/RO D-32-B2	DIS D-32-D5	IOT D-32-D8	POWER CLEAR D-16-A8
									001 D-32-C4															D-16-A8
	0 → IR D-32-C1						IR_2 D-32-C3	IR_4 D-32-C4	010 D-32-C4	JSP D-32-B5	SUB D-32-B6	LIO D-32-B6	AND D-32-B7	MUS + MUL D-32-A6	DIS + DIV D-32-A6			JMP + JSP D-32-C7						
SET RIM-0 D-32-D3									011 D-32-C4															
	MB → IR D-32-D2								100 D-32-C4	SKP D-32-B5	IDX D-32-B6	DAC D-32-B6	IOR D-32-B7	DZM D-32-A6	TAD+CYC D-32-A8									
						SET IR1-1 D-32-D3			101 D-32-C4	SH/RO D-32-B5	ISP D-32-B6	DAP D-32-B6	XOR D-32-B7	DCH D-32-A7										
	SET RIM-0 D-32-D2	0 → IR D-32-C2	01 D-32-A2	10 D-32-A2	IR_1 D-32-C3		IR_3 D-32-C4	RIM D-32-D2	110 D-32-C4	LAW D-32-B5	SAD D-32-B6	DIP D-32-B6	XCT D-32-B7	36 D-32-A6										
						DIV D-32-D4			111 D-32-C4	IOT D-32-A5	SAS D-32-A6	DIO D-32-A6	LCH D-32-C7	JDA + CAL D-32-

D-ID-45-2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	1607	1105	1105	1110	4100R	1104	1103	1103	1607	1105	1105	1105	1104	1103	1105	1105	1103	1105	1103	1110	1103	1150	1150	1150	1150
A	EMA D-33-F4	PC D-15-B4		SH/RO PULSE D-15-A7	SS_1^0 D-15-D1				SH/RO PULSE D-15-A2	CY + 1 SKIP D-15-C4		CY + 1 SKIP D-15-C4			PC D-15-C4	AC+0 D-15-D3		ENABLE D-15-C2				MBD_A^1 D-15-B2	MBD_B^1 D-15-B1	MBD_C^1 D-15-B2	MBD_D^1 D-15-B1
					SS_2^0 D-15-D1										AC_{7-10} + SKIP D-15-C3					AC 7-10 + SKIP D-15-C1		MBD_A^2 D-15-B2	MBD_B^2 D-15-B1	MBD_C^2 D-15-B2	MBD_D^2 D-15-B1
		HALT D-16-C4			SS_3^0 D-15-D1												CY + 1 SKIP D-15-C3					MBD_A^3 D-15-B2	MBD_B^3 D-15-B1	MBD_C^3 D-15-B2	MBD_D^3 D-15-B1
1D	IO EPC D-33-C8		MID-INST BRK+FETCH D-15-B3		SS_4^0 D-15-D1	SH/RO PULSE D-15-B3	SH/RO PULSE D-15-A2	SH/RO PULSE D-15-A3	PC D-15-C4		PC D-15-D4		AC + AC-OV SKIP D-15-C4	AC 7-10 + SKIP D-15-C3	PC D-15-C4			ENABLE D-15-C2	AC 7-10 SKIP D-15-D2		AC 7-10 + SKIP D-15-D2	MBD_A^4 D-15-B2	MBD_B^4 D-15-B1	MBD_C^4 D-15-B2	MBD_D^4 D-15-B1
					SS_5^0 D-15-D1															ENABLE D-15-C1		MBD_A^5 D-15-B2	MBD_B^5 D-15-B1	MBD_C^5 D-15-B2	MBD_D^5 D-15-B1
	PC D-15-B4	PC D-15-B3			SS_6^0 D-15-D1				SH/RO PULSE D-15-A2	PC D-15-C4		PC D-15-C4			AC + AC-0V SKIP D-15-C3		AC 7-10 SKIP D-15-C3					MBD_A^6 D-15-B2	MBD_B^6 D-15-B1	MBD_C^6 D-15-B2	MBD_D^6 D-15-B1
																						MBD_A^7 D-15-B2	MBD_B^7 D-15-B1	MBD_C^7 D-15-B2	MBD_D^7 D-15-B1
	1103	1104	1104	1104	1105	1105	1105	1105	1111	1110	1103	1104	1104	1607	1104	1105	1103	1209	1103	1209	1103	1209	1103	1607	1105
B	SET PF1-1 D-6-B3			PC D-15-C5	ROTATE D-6-D5	ROTATE + DIS + DIV + LCH + DCH D-6-C7		AI + MUL + DIS + MUL + DIV D-6-B8	AI + MUS + DIS + MUL + DIV D-6-B8		SPC D-6-D3			SET PF 1 1-6 D-6-B2	SET PF1-3 D-6-C2		SET PF5 D-6-B5		SET PF3 D-6-B4		SET PF1 D-6-B3		SET PF1-1 D-6-B6		10-17 D-6-B2	
	SET PF2-1 D-6-B4										CHI D-16-B6					SZL=LO D-6-C2	SET PF5-0 D-6-A5	PF5 D-6-A5	SET PF3-0 D-6-A4	PF3 D-6-A4	SET PF1-0 D-6-A3	PF1 D-6-A3	SET PF5-1 D-6-B5		LO SZL D-15-B7
	SET PF3-1 D-6-B4	AC UNC+ D-6-A7	IO ONLY D-6-A8	IO=SHIFT D-6-B7	AI D-6-D4	SH/ROL SH/ROR D-6-C7	AI ROTATE D-6-D6	IO ROTATE D-6-B7		SH/RO PULSE D-15-A5	HSC + SBS BREAK PERMIT D-16-B7			CLEAR PF0-6 D-6-A1	SET PF4-6 D-6-C3	CLEAR PF0-6 D-6-C1	SET PF6 D-6-B6	PF6 D-6-A6	SET PF4 D-6-B4	PF4 D-6-A4	SET PF2 D-6-B3	PF2 D-6-A3	SET PF3-1 D-6-B4	IO MIXER PF→IO D-6 IO-17 D-6-D2	IO→IO D-6-D2
IE	SET PF4-1 D-6-B5								ROTATE + DIS + DIV + LCH + DCH D-6-B8														SET PF2-1 D-6-B4		IO MIXER PF→IO D-6 IO-17 D-6-D2
	SET PF5-1 D-6-B6					AC1 ROTATE + LCH + DCH D-6-D7	AC1 ROTATE + LCH + DCH D-6-D6				IO≠+0 D-57-B8	AC1 ROTATE + LCH + DCH D-6-D6		SET PF 0 1-6 D-6-A2			SET PF6-1 D-6-A6		SET PF4-0 D-6-B5		SET PF1-0 D-6-A3		SET PF1-1 D-6-B3		
	SET PF6-1 D-6-B6																								
	1105	1103	1607	1104	1104	1209	1103	1209	1209	1150	1103R	1103R	1103R	1103R	1103R	1103R	1111	1104	1105	1105	1105	1104	1105	1110	1607
C	G-IR D-32-C1	MB 1→IR D-32-D2	MB I→IR D-32-C2	00 D-32-A1	11 D-32-A3	IR_0 D-32-C2	SET IR3-1 D-32-D4	IR_2 D-32-C3	IR_4 D-32-C4	000 D-32-C4	JMP D-32-C5	ACD D-32-C6	LAC D-32-C6	00 D-32-A7	SPC D-32-A5	DPR D-32-A5		INCORR OP SEL D-32-C5		JMP + JSP D-32-C7		SH/RO D-32-B2	DIS D-32-D5	IOT D-32-D6	POWER CLEAR D-16-A8	D-16-A8
										001 D-32-C4	JSP D-32-B5	SUB D-32-B6	LIO D-32-B6	AND D-32-B7	MUS + MUL D-32-A6	DIS + DIV D-32-A6		AF_2^0 JSP D-32-B2		AF_2^0 (JMP+JSP) D-32-B1	SH/RO(2) D-32-B3	DIS(2) D-32-D5			D-16-A8
IF		0→IR D-32-C1								010 D-32-C4	SKP D-32-B5	IDX D-32-B6	DAC D-32-B6	IOR D-32-B7	DZM D-32-A6									AC1 + (CY 1 CAL + DBA) D-32-C6	
	SET RIM-0 D-32-B3	MB 1→IR D-32-D2					SET IR1-1 D-32-D3			011 D-32-C4	SH/RC D-32-B5	ISP D-32-B6	DAP D-32-B6	XOR D-32-B7	DCH D-32-A7	TAD+DYC D-32-A8		AF_2^1 JSP D-32-B2				OPR(0) D-32-D5		$TP_{0-7-3-2}$ D-16-A8	
		SET RIM-0 D-32-D2	0→IR D-32-C2	01 D-32-A2	10 D-32-A2	IR_1 D-32-C3	$\overline{0}$ D-32-D4	IR_3 D-32-C4	RIM D-32-D2	100 D-32-C4	IOT D-32-A5	SAS D-32-A6	DIP D-32-B6	XCT D-32-B7	36 D-32-A6	JDA + CAL D-32-A7		INCORR OP SEL D-32-C5	JMP+RIM D-32-C7	AF_2^0+JSP D-32-B1	JSP(2) D-32-B3				D-16-A8
										101 D-32-C4															
										110 D-32-C4															
										111 D-32-C4															
D																									

CHANGE	DRAWN M. MAFFANO	DATE 7/10/68	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	TITLE UTILIZATION MODULE LOCATION		
DATE	CHECKED	DATE		FOR		
ECO	ENG	DATE				
	PROJ ENG	DATE	ASSY NO	CODE UML	DRWG NO D-ID-45-2	REV
	PROJ	DATE	SHEET			

D-ID-45-20-5 A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1105	4105	1304		1104	1104	1105	1311	1607	1310	1310	1105	1607	1311	1310	1310	1607	1311	1310	1607	1311	1310	160	46	
MSC + SBS BREAK PERMIT D-16-B8	START D-16-C1	READER RETURN DELAYED D-16-A4		TP 0 D-16-A1	TP 0A D-16-A2	TP 0 D-16-A1		TP 0 D-16-A1	TP 2 D-16-A2	TP 3 D-16-A2	SET DF$_1^1$ D-16-C6	TP 5 D-16-A4	TP 9 D-16-A6	TP 6A D-16-A5	TP 7 D-16-A5	TP 7 D-16-A5	TP 0A D-16-A1	TP 6 D-16-A4	TP 8 D-16-A7	TP 9A D-16-A7	TP 10 D-16-A7	TP 10 D-16-A7	STOP-4 D-16-A6	
				DIO RIM^1 D-16-A2				TP 2 D-16-A2				TP 3 D-16-A3	TP 5 D-16-A4			TP 6 D-16-A4	TP 8 D-16-A6		TP 9 D-16-A6	TP 9A D-16-A7	TP 10 D-16-A7	TP 0A D-16-A3	SET OC^1 IHS^1 IOH^0 D-16-B3	SET IOC^1 IHS IOH^0 D-16-B3
								TP 1 D-16-A1			TP 1 D-16-A2	TP 4 D-16-A3	TP 5 D-16-A4			TP 6A D-16-A5			TP 9 D-16-A6					
4410	4410	4410	4410	4410	4410	1104	1110	1607	1304	1105	1310	1607	1311	4105	1105	1105	1204	1105	1103	1209	1103	4603	1103	4603
STOP D-16-B1	START D-16-B1	CONTINUE D-16-B1	EXAMINE D-16-B1	DEPOSIT D-16-B1	READ-IN D-16-C1	SP 2 D-16-A3	SP 1 D-16-B2	SP 1 D-16-B2	SP 1 D-16-B2	SP 1 D-16-B3	SP 4 D-16-B4	SP 2 D-16-B3	SP 3 D-16-B4	SET SBM^0 D-16-D8	IO HALT DONE D-16-C4	SET IOS^1 D-16-B5	IOS D-16-B5	SET IOH^0 D-16-B5	SET IOC D-16-B4	IOC D-16-B4	RPB RIM^1 D-16-A6	RPB RIM^1 D-16-A6	TP 7-4 D-16-A8	TP 7-4 D-16-A8
							SC D-16-B1	SC D-16-B1			SP 4 D-16-B4	SP 4 D-16-B4	SP 2 D-16-B3	SET SBM D-16-D8		SET IOS^1 D-16-B5		SET IOH^1 D-16-B5	SET IOC^1 D-16-B4		SC-4 D-16-A7	SC-4 D-16-A7	TP 4-4 D-16-A8	TP 4-4 D-16-A8
						SP 2 D-16-B3	SC D-16-B1	SP 1 D-16-B3				SP 3 D-16-B4		SET SBM^1 D-16-D8		SET IOH^1 D-16-C5	IOH D-16-B6	SET IOH^0 D-16-B5	SET IHS^0 D-16-B4	IHS D-16-B4	STOP-4 D-16-A6	SC-4 D-16-A7	TP 10-4 D-16-A7	TP 10-4 D-16-A7
1105	1105	1105	1110	1105	1684	1209	1110	1105	1111	1209	1105	1209	1105	1105	1105	1105	1105	1105	1105	1201	1201	1103R	1104	1105
SET CYC-0 D-16-D1	SET CYC-0 D-16-D1	SET CYC-1 D-16-D2	SET CYC-1 D-16-D2	CY 1 D-16-C2	CY 1 D-16-C3	CYC D-16-C2	RUN ENABLE^0 D-16-D3	SET DF$_2^0$ D-16-C4	SET RUN-0 D-16-D4	SBM D-16-D8	SET DF$_1^1$ D-16-D6	DF 2 D-16-C5	SET DF$_2^1$ D-16-D5	SET DF$_1^0$ D-16-D5	DCH+CY 1→DCI D-2-C4	TRAP D-5-C4	INST DONE D-16-C8	INST DONE D-16-C8	SET BC$_1^0$ D-16-C7	BC 1 D-16-C7	BC 2 D-16-C6	BC 3 D-16-B6		MANUAL RUN D-16-C3
	SET CYC-1 D-16-D1	SET CYC-0 D-16-D2						SET RUN-0 D-16-D3					SET DF$_2^0$ D-16-D5	SET DF$_2^1$ D-16-D5				RUN ENABLE^1 D-16-D4				BC 3 D-16-B7		IOC^1 IOT D-16-B6
	SET CYC-0 D-16-D1							SET RUN-1 D-16-D3					SET DF$_1^0$ D-16-D5	SET DF$_1^0$ D-16-D5				RUN ENABLE^0 D-16-D4				BC 1 D-16-B7		MANUAL RUN D-16-C3
				MANUAL RUN D-16-C2		RUN D-16-C3	SET RUN-1 D-16-D3	SET DF$_1^1$ D-16-D6	RQ D-16-D8		SET DF$_1^0$ D-16-D6	DF 1 D-16-C6	SET DF$_1^0$ D-16-D5		DF D-16-D7	RPB RIM^1 D-16-A5	INST DONE D-16-B8	RUN ENABLE^1 D-16-D4	COMPLEMENT BC 1 D-16-C7	BC 1 D-16-C7		BC 1 D-16-B7	SET RQ^0 D-16-D8	MANUAL RUN D-16-C3
																		INST DONE D-16-C8				BC 2 D-16-B7		

1105	1105	1105	1110	1105	1684	1209	1110	1105	1111	1209	1105	1209	1105	1105	1105	1105	1105	1105	1105	1201	1201	1103R	1104	1105
SET CYC-0 D-16-D1	SET CYC-0 D-16-D1	SET CYC-1 D-16-D2	SET CYC-1 D-16-D2	CY 1 D-16-C2	CY 1 D-16-C3	CYC D-16-C2	RUN ENABLE^0 D-16-D3	SET DF$_2^0$ D-16-C4	SET RUN-0 D-16-D4	SBM D-16-D8	SET DF$_1^1$ D-16-D6	DF 2 D-16-C5	SET DF$_2^1$ D-16-D5	SET DF$_1^0$ D-16-D5	DCH+CY 1→DCI D-2-C4	TRAP D-5-C4	INST DONE D-16-C8	INST DONE D-16-C8	SET BC$_1^0$ D-16-C7	BC 1 D-16-C7	BC 2 D-16-C6	BC 3 D-16-B6		MANUAL RUN D-16-C3
	SET CYC-1 D-16-D1	SET CYC-0 D-16-D2						SET RUN-0 D-16-D3					SET DF$_2^0$ D-16-D5	SET DF$_2^1$ D-16-D5				RUN ENABLE^1 D-16-D4				BC 3 D-16-B7		IOC^1 IOT D-16-B6
	SET CYC-0 D-16-D1							SET RUN-1 D-16-D3					SET DF$_1^0$ D-16-D5	SET DF$_1^0$ D-16-D5				RUN ENABLE^0 D-16-D4				BC 1 D-16-B7		MANUAL RUN D-16-C3
				MANUAL RUN D-16-C2		RUN D-16-C3	SET RUN-1 D-16-D3	SET DF$_1^1$ D-16-D6	RQ D-16-D8		SET DF$_1^0$ D-16-D6	DF 1 D-16-C6	SET DF$_1^0$ D-16-D5		DF D-16-D7	RPB RIM^1 D-16-A5	INST DONE D-16-B8	RUN ENABLE^1 D-16-D4	COMPLEMENT BC 1 D-16-C7	BC 1 D-16-C7		BC 1 D-16-B7	SET RQ^0 D-16-D8	MANUAL RUN D-16-C3
																		INST DONE D-16-C8				BC 2 D-16-B7		

DRWG # WAS D-ID-45-20 SH 5 CF 16 A-321

REVISIONS	DRAWN	DATE
CHANGE	M. MARIANO	7/13/64
DATE	CHECKED	DATE
ENG	ENG	DATE
	PROJ ENG	DATE
	PROD	DATE

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML

SHEET 1 OF 1

TITLE UTILIZATION MODULE LOCATION

FOR

DRWG NO D-ID-45-20-5 | REV LTR A

C-D-45-20

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4410	4410	4410	4410	4410	4410	1304	1310	1607	1304	1105	1310	1607	1311	4105	1105	1105	1204	1105	1105	1205	1105	4605	1105	4605
1105	1105	1105	1110	1105	1604	1209	1110	1105	1111	1209	1105	1209	1105	1105	1105	1105	1105	1105	1105	1205	1205	1105R	1104	1105

TP 0 D-16-A1
TP 1 D-16-A5
TP 2 D-16-A2
TP 3 D-16-A7
TP 4 D-16-A4
TP 5 D-16-A6
TP 6 D-16-A4
TP 7 D-16-A5
TP 8 D-16-A6
TP 9 D-16-A6
TP 10 D-16-A7
TP 11 D-16-A3
TP 12 D-16-A7
TP 13 D-16-A6
TP 14 D-16-A5
TP 15 D-16-A5
TP 16 D-16-A5
TP 17 D-16-A5
TP 18 D-16-A7
TP 19 D-16-A4
TP 20 D-16-A6
TP 21 D-16-A7
TP 22 D-16-A7
TP 23 D-16-A3
TP 24 D-16-A6
TP 25 D-16-A3
SET BREAK REQUEST D-16-B6
START D-16-C2
READER RETURN DEVICE D-16-A4
DEPOSIT D-16-B1
READ-IN D-16-C1
CONTINUE D-16-C3
EXAMINE D-16-B5
STOP D-16-C4
SET CYC-0 D-16-C2
SET CYC-1 D-16-C2
SET CYC-0 D-16-C2
SET CYC-0 D-16-C2
SET CYC-0 D-16-C2
CYC D-16-C2
RUN ENABLE D-16-D3
RUN D-16-D3
SET RUN-0 D-16-D4
SET RUN-1 D-16-D4
SET RUN-0 D-16-D4
SET DF D-16-D5
SET DF D-16-D5
SET DF D-16-D5

D-ID-45-20-6 | REV. LTR A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
								1209	1103	1204	1113R	1105	1105	1105	1105	1103	6105	6106	6106	1209	1105	1304	1000	1607
IL								RMB 2 D-5-D6	SET LD_0^0 D-2-B2	LD 0 D-2-B2	LD=00 D-2-A3	DC 1 D-2-A5	DC 2 D-2-B5	DC 3 D-2-B5	DCH+CYI+$\overline{DCT}$ D-2-C5	$b \rightarrow AC_{17}$ D-2-B1	CHI D-2-C3	AC → J → MB D-2-C5	SET INC[1] D-2-D2	INC D-2-D2				COMPLEMENT LD 0 D-2-B3
											LD=01 D-2-A3	LCH CYI D-2-A6	LC 2 D-2-B5	LC 3 D-2-B5	LCH+CYI D-2-C6				SET INC[0] D-2-D2		SH/RO PULSE D-15-B5	SH/RO PULSE D-15-B6		CLR LD D-2-B2
									SET LD_0^1 D-2-B2		LD=10 D-2-B3													
								RBM 1 D-5-D6	SET LD_1^0 D-2-B3	LD 1 D-2-B3	LD=11 D-2-B3	DC 1 D-2-A5	DC 2 D-2-B5	DC 3 D-2-B5	DCH+CYI+$\overline{DCL}$ D-2-C5	COMPLEMENT LD 1 D-2-C2	SET LD D-2-C2	MB → J → AC D-2-C6	CHI D-2-C3					COMPLEMENT LD 1 D-2-B4
									SET LD_1^1 D-2-B3		LD=11 D-2-B4								SH/RO PULSE D-15-B7					
											LCH + DCH D-2-A4	LCH + DCH D-2-A5	LC 2 D-2-B6	LC 3 D-2-B6	LCH+CYI D-2-C6	SET LD D-2-C1	CHI D-2-C3							

DRWG. # WAS D-ID-45-20 SH 6 OF 16 A-321	CHANGE	DATE	ENG

REVISIONS

DRAWN	M. MARIANO	DATE	7/13/64
CHECKED		DATE	
ENG		DATE	
PROJ ENG		DATE	
PROD		DATE	

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML

SHEET 1 OF 1

TITLE UTILIZATION MODULE LOCATION

FOR

DRWG NO D-ID-45-20-6 | REV. LTR A

D-ID-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
								1209	1103	1204	1113R	1105	1105	1105	1105	1103	6105	6106	6106	1209	1105	1304	1000	1607
								RMB 2 D-5-D6	SET LD_0^0 D-2-B2	LD 0 D-2-B2	LD=00 D-2-A3	DC 1 D-2-A5	DC 2 D-2-B5	DC 3 D-2-B5	DCH+CYI+$\overline{DCI}$ D-2-C5	$\not 0 \rightarrow AC_{17}$ D-2-B1	CHI D-2-C3	AC → MB D-2-C5	SET INC^1 D-2-D2	INC D-2-D2				COMPLEMENT LD 0 D-2-B3
											LD=01 D-2-A3	LCH CYI D-2-A6	LC 2 D-2-B5	LC 3 D-2-B5	LCH=CYI D-2-C6				SET INC^0 D-2-D2					CLR LD D-2-B2
											LD=10 D-2-B3										SH/RG PULSE D-15-B5	SH/RO PULSE D-15-B6		
								RBM 1 D-5-D6	SET LD_1^0 D-2-B3	LD 1 D-2-B3	LD=11 D-2-B3	DC 1 D-2-A5	DC 2 D-2-B5	DC 3 D-2-B5	DCH+CYI+$\overline{DCI}$ D-2-C5	COMPLEMENT LD 1 D-2-C2	SET LD D-2-C2	MB → AC D-2-C6	CHI D-2-C3					COMPLEMENT LD 1 D-2-B4
									SET LD_1^1 D-2-B3		LD=11 D-2-B4	LCH + DCH D-2-A5	LC 2 D-2-B6	LC 3 D-2-B6	LCH=CYI D-2-C6	SET LD D-2-C1	CHI D-2-C3		SH/RO PULSE D-15-B7					
											LCH + DCH D-2-A4													

CHANGE	DATE	ENG

REVISIONS

DRAWN	M. MARIANO	DATE 7/13/68
CHECKED		DATE
ENG		DATE
PROD ENG		DATE
MGR		DATE

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

ASSY NO | CODE 1UML

SHEET 5 OF 15

TITLE UTILIZATION MODULE LOCATION

FOR

DRWG NO D-ID-45-20

REV

D-UD-45-20-7 | REV LTR A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1103	1209	1113	1103	1209	1113	1103	1209	1113	1209	1103	1103R	1103R	1103R	6106R	6117R	6102-750	6117R	4214	4216	6106	6106-49	1103R	6106	6884
C → AC 0 D-2-C7		RNO-0 D-4-A3	CLR RN 10 CLR RN 11 D-4-D1		RN1-0 D-4-C3	CLR RN2-0 RN2-1 D-4-B4		RN3-0 D-4-C6		CLR RN3-0 RN3-1 D-4-D4	RNO-0 D-4-A3	RN1-2 D-4-C3	RN3-0 D-4-C6	RNO-0-1-2-3 D-4-B3		EPC_2^1 D-3-D6				PB1 D-5-B7	SEL_1^1 D-5-A7	$SEL_0^0 + SEL_1^1$ D-5-B6	SEL_1^0 D-5-B6	SEL_1^0 D-5-A
	RNO 0 D-4-B2	RNO-1 D-4-A3	SEL RN 11(1) D-4-D3	RN 1-0 D-4-D3	RN1-3 D-4-C3	SET RN2-1(1) D-4-B5	RN2-0 D-4-B5	RN3-1 D-4-C6	RN3-0 D-4-D5	SET RN3-0(1) D-4-D5	RNO-1 D-4-A3	RN1-3 D-4-C3	RN3-1 D-4-C6	RN1-0-1-2-3 D-4-D3	RNS 0 D-4-A7	EPC_3^1 D-3-D6	RNS 3 D-4-C7	P3 D-5-C8		PB0 D-5-B7	PB2 D-5-B7	$SEL_0^1 + SEL_1^0$ D-5-B7	SEL_1^0 D-5-B7	
CLR RNO 0 RNO 1 D-4-B1		RNO-2 D-4-A3	SET RN10(0) D-4-D2		RN2-0 D-4-A6	SET RN2-1(0) D-4-B5		RN3-2 D-4-C6		SET RN3-1(1) D-4-D5	RNO-2 D-4-A3	RN2-0 D-4-A6	RN3-2 D-4-C6	PB0 D-6-B7		EPC_4^1 D-3-D7		P2 D-5-C7	SET P3(1) D-5-C8			$SEL_0^0 + SEL_1^0$ D-5-B7		SEL 0 D-5-A
		RNO-3 D-4-A3	CLR RN2-0 RN2-1 D-4-B4		RN2-1 D-4-A6	CLR RN2-0 RN2-1 D-4-B4		RN3-3 D-4-C6		CLR RN3-0 RN3-1 D-4-D4	RNO-3 D-4-A3	RN2-1 D-4-A6	RN3-3 D-4-C6	PB1 D-5-B7	RNS 1 D-4-A7	EPC_5^1 D-3-D7	TRAP D-5-C1	P1 D-5-C7	SET P2(1) D-5-C6	PB1 D-5-B7	SEL_1^0 D-5-A8	$SEL_0^0 + SEL_1^0$ D-5-B8	SEL_1^1 D-5-B7	SEL_1^1 D-5-A8
SET RNO 0(1) D-4-B2	RNO 1 D-4-B3	RN1-0 D-4-D3	SET RN 10(1) D-4-D2	RN 1-1 D-4-D3	RN2-2 D-4-A6	SET RN2-0(1) D-4-B5	RN2-1 D-4-B5		RN3-1 D-4-D5	SET RN3-0(1) D-4-D5	RN1-0 D-4-C3	RN2-2 D-4-A6	RN2-0-1-2-3 D-4-B6	PB2 D-5-B7	RNS 2 D-4-B7		TRAP D-5-C2	P0 D-5-C6	SET P1(1) D-5-C7	ERM 7-4 D-5-A1	PB3 D-5-B8	SEL_0^1 D-5-A7	SEL_1^0 D-5-B8	SEL_1^0 D-5-A8
SET RNO 1(1) D-4-B3		RN1-1 D-4-D3	SET RN 11(1) D-4-D3		RN2-3 D-4-B6	SET RN2-1(1) D-4-B5				SET RN3-1(1) D-4-D5	RN1-1 D-4-C3	RN2-3 D-4-A6	RN3-0-1-2-3 D-4-D6	PB3 D-5-B8					SET PO(1) D-5-C6	SET RM0 D-5-C5		SEL_0^0 D-5-A7		
1103	1103	1209	1103	1609	1103	6102	6113	6113	6113R	6227	6113	6113	6102	1609	1105	1104	1104	4603	1607	4603	1209	1685	1105	1105
SET MC0 D-3-B2			EPC → EMA D-3-A1	EPC → EMA D-3-A2	SET EMC1 D-3-B2	EMA_2^0 D-3-A4		EMA_4^1 D-3-B7	M2 D-3-A6	EMA_2 D-3-B6		EPC_4^1 D-3-C7	EPC_2^0 D-3-A8	CLR RN0-0 RN0-1 D-4-B2	C → AC 1 D-2-B8		C AC 0 C AC 1 D-2-C7	ERM_{7-4} D-5-A2	RNM_{7-4} D-5-A3		RNG PFO D-6-A2		TRAP D-5-C3	0 → IR D-5-B4
SET EXD1 D-3-C2	SET EXD1 D-3-C2	EMC D-3-B2	EMA → EPC D-3-A2	MB → EMA D-3-A2		EMA_3^0 D-3-A5	EMA_2^1 D-3-B6		M3 D-3-A6	EMA_3 D-3-B6	EPC_2^1 D-3-C6		EPC_3^0 D-3-A8			IDC D-2-A7	IDA D-2-A8			RESTRICT MODE BREAK D-5-B4			TRAP D-5-B3	
			EPC → EMA D-3-A1	MB → EPC D-3-A2	ETA → EPC D-3-A3	EMA_3^1 D-3-A5				EMA_4 D-3-B7			EPC_3^1 D-3-B8	CLR RN1-0 RN1-1 D-4-D2										
SET EXD	SET EXD		EMA → ECP D-3-A3	EMA → EPC D-3-A3		EMA_4^0 D-3-A5				EMA_5 D-3-B7			EPC_4^0 D-3-B8					ERM_{10-4} D-5-A2	RNM_{10-4} D-5-A4		RNG PFO D-6-A2		TRAP D-5-C3	TRAP D-5-B3
D-3-C2	D-3-C2	EXD D-3-B2	MB → EMA D-3-A2	ETA → EPC D-3-A3	MB → EPC D-3-A2	EMA_4^1 D-3-A5				EPC_2 D-3-C6			EPC_4^1 D-3-B8											
SET EXD0 D-3-C1	SET EXD0 D-3-C2		EPC → EMA D-3-A1		/C → AC 0 /C → AC 1 D-2-C7	EMA_5^0 D-3-B5	EMA_3^1 D-3-B6	EMA_5^1 D-3-B7	MO D-3-A6	EPC_3 D-3-C6	EPC_3^1 D-3-C6	EPC_5^1 D-3-C7	EPC_5^0 D-3-B8	CLR RN3-0 RN3-1 D-4-D4	/C → AC 1 /C → AC 0 D-2-C6			LRM_{10-4} D-5-A3	RSM_{10-4} + SC D-5-A4	/0 → IR D-5-B4	RM D-5-B5	RM 0 D-5-A6		/0 → IR D-5-B3
						EMA_5^1 D-3-B5			M1 D-3-A6	EPC_4 D-3-C7			EPC_5^1 D-3-B6									RM 1 D-5-A5		TRAP D-5-B3
						EPC_5 D-3-C7																		

1	2	3	4	5	6	7	8

DRWG. # WAS D-1D-45-20 SH. 7 OF 16
A-321

CHANGE | DATE | ENG

REVISIONS

DRAWN	W. Swanagin	DATE 4/14/64
CHECKED	W. Rumble	DATE 4/15/64
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: UTILIZATION MODULE LOCATION
FOR

ASSY NO | CODE UML | DRWG NO D-1D-45-20-7 | REV LTR A
SHEET 1 OF 1

BRC 2

D-1D-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1103	1209	1113	1103	1209	1113	1103	1209	1113	1209	1103	1103R	1103R	1103R	6100R	6117R	6102-750	6117R	4214	4216	6106	6106-49	1103R	6113R	6664
/C → AC 0 D-2-C7		RN0-0 D-4-A3	CLR RN 10 CLR RN 11 D-4-D1		RN1-2 D-4-C3	CLR RN2-0 RN2-1 D-4-B4		RN3-0 D-4-C6		CLR RN3-0 RN3-1 D-4-D4	RN0-0 D-4-A3	RN1-2 D-4-C3	RN3-0 D-4-C6	RN0-0-1-2-3 D-4-B3		EPC_2^1 D-3-D6		P3 D-5-C8		PB1 D-5-B7	SEL_T^1 D-5-A7	$SEL_0^1 + SEL_1^1$ D-5-B6	SEL_1^1 D-5-B6	SEL_0^1 D-5-A7
	RN0 0 D-4-B2	RN0-1 D-4-A3	SET RN 11(1) D-4-D3	RN1-0 D-4-D2	RN1-3 D-4-C3	SET RN2-1(1) D-4-B5	RN2-0 D-4-B5	RN3-1 D-4-C6	RN3-0 D-4-D5	SET RN3-0(1) D-4-D5	RN0-1 D-4-A3	RN1-3 D-4-C3	RN3-1 D-4-C6	RN1-0-1-2-3 D-4-D3	RN S 0 D-4-A7	EPC_3^1 D-3-D6	RN S 3 D-4-C7	P2 D-5-C7	PB0 D-5-B7	PB2 D-5-B7	SEL_T^0 D-5-B7	$SEL_0^1 + SEL_1^0$ D-5-B7	SEL_1^0 D-5-B7	SEL_0^0 D-5-A7
CLR RN0 0 RN0 1 D-4-B1		RN0-2 D-4-A3	SET RN10(0) D-4-D2		RN2-0 D-4-A6	SET RN2-1(0) D-4-B5		RN3-2 D-4-C6		SET RN3-1(1) D-4-D5	RN0-2 D-4-A3	RN2-0 D-4-A6	RN3-2 D-4-C6	P30 D-5-B7	RN S 1 D-4-A7	EPC_5^1 D-3-D7	TRAP D-5-C1	P1 D-5-C7	SET P3(1) D-5-C8		PB3 D-5-B8	$SEL_0^0 + SEL_1^1$ D-5-B7		
	RN0 1 D-4-B3	RN0-3 D-4-A3	CLR RN2-0 RN2-1 D-4-B4	RN 1-1 D-4-D3	RN2-1 D-4-A6	CLR RN2-0 RN2-1 D-4-B4	RN2-1 D-4-B5	RN3-3 D-4-C6	RN3-1 D-4-D5	CLR RN3-0 RN3-1 D-4-D4	RN0-3 D-4-A3	RN2-1 D-4-A6	RN3-3 D-4-C6	P31 D-5-B7		TRAP D-5-C2			SET P2(1) D-5-C6	P31 D-5-B7	SEL_T^0 D-5-A6	$SEL_0^0 + SEL_1^0$ D-5-B8	SEL_1^1 D-5-B7	SEL_1^1 D-5-A8
SET RN0 0(1) D-4-B2		RN1-0 D-4-D3	SET RN 10(1) D-4-D2		RN2-2 D-4-A6	SET RN2-0(1) D-4-B5	RN2-1 D-4-B5		RN3-1 D-4-D5	SET RN3-0(1) D-4-D5	RN1-0 D-4-C3	RN2-2 D-4-A6	RN2-0-1-2-3 D-4-B6	PB2 D-5-B7	RN S 2 D-4-B7		TRAP D-5-C2	P0 D-5-C6	SET P1(1) D-5-C7	PB3 D-5-B8	SEL_0^1 D-5-A7	SEL_1^0 D-5-B8	SEL_T^0 D-5-A8
SET RN0 1(1) D-4-B3		RN1-1 D-4-D3	SET RN 11(1) D-4-D3		RN2-3 D-4-B6	SET RN2-1(1) D-4-B5				SET RN3-1(1) D-4-D5	RN1-1 D-4-C3	RN2-3 D-4-A6	RN3-0-1-2-3 D-4-D6	PB3 D-5-B8					SET P0(1) D-5-C6	SET RM0 D-5-C5		SEL_0^0 D-5-A7		
1103	1103	1209	1103	1609	1103	6102	6113	6113	6113R	6227	6113	6113	6102	1609	1105	1104	1104	4603	1607	4603	1209	1685	1105	1105
SET MC0 D-3-B2			EPC 1 → EMA D-3-A1	EPC 1 → EMA D-3-A2	SET EXC1 D-3-B2	EMA_2^0 D-3-A4			M2 D-3-A6	EMA_2 D-3-B6			EPC_2^0 D-3-A8	CLR RN0-0 RN0-1 D-4-B2	/C → AC 1 D-2-B8	C AC 0 C AC 1 D-2-C7		ERM_{7-4} D-5-A2	RNM_{7-4} D-5-A3		RING PF0 D-6-A2			TRAP D-5-B3
			EMA 1 → EPC D-3-A2	MA 1 → EMA D-3-A2		EMA_1^1 D-3-A5		EMA_4^1 D-3-B7		EMA_3 D-3-B6	EPC_2^1 D-3-C6	EPC_4^1 D-3-C7	EPC_2^1 D-3-A8											/0 → IR D-5-B4
SET EXD1 D-3-C2	SET EXD1 D-3-C2	EMC D-3-B2	EPC 1 → EMA D-3-A1	MB 1 → EPC D-3-A2	ETA 1 → EPC D-3-A3	EMA_3^0 D-3-A5	EMA_3^1 D-3-B6		M3 D-3-A6	EMA_4 D-3-B7			EPC_3^0 D-3-A8	CLR RN1-0 RN1-1 D-4-D2				ERM_{10-4} D-5-A2	RNM_{10-4} D-5-A4	RESTRICT MODE BREAK D-5-B4			TRAP D-5-C3	TRAP D-5-B3
			EMA 1 → ECP D-3-A3	EMA 1 → EPC D-3-A3		EMA_4^0 D-3-A5		EMA_4^1 D-3-B5		EMA_5 D-3-B7			EPC_4^0 D-3-B8		/C → AC 0 D-2-B7	IDC D-2-A7	IDA D-2-A8					RM 0 D-5-A6		/0 → IR D-5-B3
SET EXD0 D-3-C1	SET EXD0 D-3-C2	EXD D-3-B2	MB 1 → EMA D-3-A2	ETA 1 → EPC D-3-A3	MB 1 → EPC D-3-A2	EMA_5^0 D-3-B5	EMA_3^1 D-3-B6	EMA_5^1 D-3-B7	MO D-3-A6	EPC_2 D-3-C6	EPC_3^1 D-3-C6	EPC_3^1 D-3-C7	EPC_4^1 D-3-B8	CLR RN2-0 RN2-1 D-4-B4				LRM_{10-4} D-5-A3	RSM_{10-4} + SC D-5-A4	/0 → IR D-5-B4	RM D-5-B5	RM 1 D-5-A5		TRAP D-5-B3
			EPC 1 → EMA D-3-A1		/C → AC 0 /C → AC 1 D-2-C7	EMA_5^1 D-3-B5			M1 D-3-A6	EPC_4 D-3-C7			EPC_5^0 D-3-B8		/C → AC 1 /C → AC 0 D-2-C6									
										EPC_5 D-3-C7			EPC_5^1 D-3-B8	CLR RN3-0 RN3-1 D-4-D4										

REVISIONS	CHANGE	DATE	ENG

DRAWN		DATE
CHECKED		DATE
ENG		DATE
PROJ ENG		DATE
PROJ		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-1D-45-20 | REV LTR

SHEET 7 OF 15

D-ID-45-20-8 REV A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1607	1104	1607	1607	1103	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105	1105
		+1 → AC D-2-A2	PC → AC D-18-B4		SET AC_0^1 D-8-1-C2	SET AC_1^1 D-8-1-C2	SET AC_2^1 D-8-1-C3	SET AC_3^1 D-8-1-C4	SET AC_4^1 D-8-1-C5	SET AC_5^1 D-8-1-C6	SET AC_6^1 D-8-1-C6	SET AC_7^1 D-8-1-C7	SET AC_8^1 D-8-1-C8	SET AC_9^1 D-8-2-C2	SET AC_{10}^1 D-8-2-C3	SET AC_{11}^1 D-8-2-C3	SET AC_{12}^1 D-8-2-C4	SET AC_{13}^1 D-8-B2-C5	SET AC_{14}^1 D-8-2-C5	SET AC_{15}^1 D-8-2-C6	SET AC_{16}^1 D-8-2-C7	SET AC_{17}^1 D-8-2-C8	SET AC D-8-1-D4		
					SET AC_0^0 B-8-1-B1	SET AC_1^0 D-8-1-B2	SET AC_2^0 D-8-1-B3	SET AC_3^0 D-8-1-B4	SET AC_4^0 D-8-1 B5	SET AC_5^0 D-8-1-B5	SET AC_6^0 D-8-1-B6	SET AC_7^0 D-8-1-B7	SET AC_8^0 D-8-1-B8	SET AC_9^0 D-8-2-B1	SET AC_{10}^0 D-8-2-B2	SET AC_{11}^0 D-8-2-B3	SET AC_{12}^0 D-8-2-B4	SET AC_{13}^0 D-8-2-B5	SET AC_{14}^0 D-8-2-B5	SET AC_{15}^0 D-8-2-B6	SET AC_{16}^0 D-8-2-B7	SET AC_{17}^0 D-8-2-B8	SET AC_{17}^1 D-8-2-D7	SET AC D-8-1-D4	
	SET ACO D-8-1-D1	AC SH/ROL 0-8 D-18-A7	AC SH/ROL 9-17	SET ACO D-8-1-D2	SET AC_0^1 D-8-1-B1	SET AC_1^1 D-8-1-B3	SET AC_2^1 D-8-1-B3	SET AC_3^1 D-8-1-B4	SET AC_4^1 D-8-1-B5	SET AC_5^1 D-8-1-B6	SET AC_6^1 D-8-1-B6	SET AC_7^1 D-8-1-B7	SET AC_8^1 D-8-1-B8	SET AC_9^1 D-8-2-B2	SET AC_{10}^1 D-8-2-B3	SET AC_{11}^1 D-8-2-B3	SET AC_{12}^1 D-8-2-B4	SET AC_{13}^1 D-8-2-B5	SET AC_{14}^1 D-8-2-B6	SET AC_{15}^1 D-8-2-B6	SET AC_{16}^1 D-8-2-B7	SET AC_{17}^1 D-8-2-B8	SET AC_{17}^0 D-8-2-D7		2A
+C → AC_{17} D-2-B2					SET AC_0^0 D-8-1-B1	SET AC_1^0 D-8-1-B2	SET AC_2^0 D-8-1-B3	SET AC_3^0 D-8-1-B4	SET AC_4^0 D-8-1-B5	SET AC_5^0 D-8-1-B5	SET AC_6^0 D-8-1-B6	SET AC_7^0 D-8-1-B7	SET AC_8^0 D-8-1-B8	SET AC_9^0 D-8-2-B1	SET AC_{10}^0 D-8-2-B2	SET AC_{11}^0 D-8-2-B3	SET AC_{12}^0 D-8-2-B4	SET AC_{13}^0 D-8-2-B5	SET AC_{14}^0 D-8-2-B5	SET AC_{15}^0 D-8-2-B6	SET AC_{16}^0 D-8-2-B7	SET AC_{17}^0 D-8-2-B8	SET AC_{17}^1 D-8-2-D8	SET AC 17 D-8-2-D7	
		AC SH/ROR 9-17 D-18-A7	AC SH/ROR 0-8		SET AC_0^0 D-8-1-B2	SET AC_1^0 D-8-1-B3	SET AC_2^0 D-8-1-B3	SET AC_3^0 D-8-1-B4	SET AC_4^0 D-8-1-B5	SET AC_5^0 D-8-1-B6	SET AC_6^0 D-8-1-B7	SET AC_7^0 D-8-1-B7	SET AC_8^0 D-8-1-B8	SET AC_9^0 D-8-2-B2	SET AC_{10}^0 D-8.2-B3	SET AC_{11}^0 D-8-2-B3	SET AC_{12}^0 D-8-2-B4	SET AC_{13}^0 D-8-2-B5	SET AC_{14}^0 D-8-2-B6	SET AC_{15}^0 D-8-2-B6	SET AC_{16}^0 D-8-2-B7	SET AC_{17}^0 D-8-2-B8	SET AC_{17}^1 D-8-2-D8		
+1 → AC D-18-D5					SET AC_0^1 D-8-1-B2	SET AC_1^1 D-8-1-B3	SET AC_2^1 D-8-1-B3	SET AC_3^1 D-8-1-B4	SET AC_4^1 D-8-1-B5	SET AC_5^1 D-8-1-B6	SET AC_6^1 D-8-1-B7	SET AC_7^1 D-8-1-B7	SET AC_8^1 D-8-1-B8	SET AC_9^1 D-8-2-B2	SET AC_{10}^1 D-8.2-B3	SET AC_{11}^1 D-8-2-B3	SET AC_{12}^1 D-8-2-B4	SET AC_{13}^1 D-8-2-B5	SET AC_{14}^1 D-8-2-B6	SET AC_{15}^1 D-8-2-B6	SET AC_{16}^1 D-8-2-B7	SET AC_{17}^1 D-8-2-B8			
1607	1105	1607	1103	1684	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1201	1103	1105
	SET OV_1^0 D-18-D7	CARRY D-8-1-A1	SET AC_0^0 D-2-D4	AC_0^0 D-8-1-A2																				SET AC_3^1 D-8-1-D5
+B → AC 6-17 D-18-C4	SET OV_1^1 D-18-D6		SET AC_1^0 D-2-D4	AC_0^1 D-8-1-A2																				SET AC_2^1 D-8-1-D4
	SET OV_1^1 D-18-D7	+C → AC D-18-D4	SET AC_1^0 D-2-D5																					SET AC_4^1 D-8-1-D5
	SET OV_1^0 D-18-D6	+B → AC 0-5 D-18-C4	LD → AC D-18-C6		ACO D-8-1-A2	AC1 D-8-1-A2	AC2 D-8-1-A3	AC3 D-8-1-A4	AC4 D-8-1-A5	AC5 D-8-1-A5	AC6 D-8-1-A6	AC7 D-8-1-A7	AC8 D-8-1-A8	AC9 D-8-2-A2	AC10 D-8-2-A2	AC11 D-8-2-A3	AC12 D-8-2-A4	AC13 D-8-2-A5	AC14 D-8-2-A5	AC15 D-8-2-A6	AC16 D-8-2-A7	AC17 D-8-2-A8	+1 AC D-18-D4	SET RNG PC^0 D-6-A2
LD → AC D-18-C6	SET OV_1^0 D-18-D7			AC_{17}^0 D-8-2-A8																				SET AC_5^1 D-8-1-D6
1105	1209	1105	1607	1607	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103	1103-12	1104
		COMPLEMENT AC17 D-8-2-D8	MB 1 0-5 → AC D-18-B4	MB PAD → AC D-18-B8	SET AC_0^1 D-8-1-B2	SET AC_1^1 D-8-1-B3	SET AC_2^1 D-8-1-B3	SET AC_3^1 D-8-1-B4	SET AC_4^1 D-8-1-B5	SET AC_5^1 D-8-1-B6	SET AC_6^1 D-8-1-B6	SET AC_7^1 D-8-1-B7	SET AC_8^1 D-8-1-B8	SET AC_9^1 D-8-2-B2	SET AC_{10}^1 D-8-2-B3	SET AC_{11}^1 D-8-2-B3	SET AC_{12}^1 D-8-2-B4	SET AC_{13}^1 D-8-2-B5	SET AC_{14}^1 D-8-2-B6	SET AC_{15}^1 D-8-2-B7	SET AC_{16}^1 D-8-2-B7	SET AC_{17}^1 D-8-2-B8			
SET OV_1^0 D-18-D6	OV_1 D-18-D6				COMPLEMENT ACO D-8-1-C2	COMPLEMENT AC1 D-8-1-C2	COMPLEMENT AC2 D-8-1-C3	COMPLEMENT AC3 D-8-1-C4	COMPLEMENT AC4 D-8-1-C5	COMPLEMENT AC5 D-8-1-C6	COMPLEMENT AC6 D-8-1-C6	COMPLEMENT AC7 D-8-1-C7	COMPLEMENT AC8 D-8-1-C8	COMPLEMENT AC9 D-8-2-C2	COMPLEMENT AC10 D-8-2-C2	COMPLEMENT AC11 D-8-2-C3	COMPLEMENT AC12 D-8-2-C4	COMPLEMENT AC13 D-8-2-C5	COMPLEMENT AC14 D-8-2-C5	COMPLEMENT AC15 D-8-2-C6	COMPLEMENT AC16 D-8-2-C7	COMPLEMENT AC17 D-8-2-C8			2C
		SET OV_2^1 D-18-D6	MB 1 6-17 → AC D-18-A4	CARRY → AC D-18-B8	COMPLEMENT ACO D-8-1-C2	COMPLEMENT AC1 D-8-1-C2	COMPLEMENT AC2 D-8-1-C3	COMPLEMENT AC3 D-8-1-C4	COMPLEMENT AC4 D-8-1-C5	COMPLEMENT AC5 D-8-1-C6	COMPLEMENT AC6 D-8-1-C6	COMPLEMENT AC7 D-8-1-C7	COMPLEMENT AC8 D-8-1-C8	COMPLEMENT AC9 D-8-2-C2	COMPLEMENT AC10 D-8-2-C2	COMPLEMENT AC11 D-8-2-C3	COMPLEMENT AC12 D-8-2-C4	COMPLEMENT AC13 D-8-2-C5	COMPLEMENT AC14 D-8-2-C6	COMPLEMENT AC15 D-8-2-C6	COMPLEMENT AC16 D-8-2-C7	COMPLEMENT AC17 D-8-2-C8	COMPLEMENT AC14 D-8-2-4	COMPLEMENT AC1 D-8-1-A2	
SET OV_2^0 D-18-D6	OV_2 D-18-D6	SET OV_2^1 D-18-D6	MB 0 → AC D-18-A4	TW 1 → AC D-18-A8	SET AC_0^0 D-8-1-C1	SET AC_1^0 D-8-1-C2	SET AC_2^0 D-8-1-C3	SET AC_3^0 D-8-1-C4	SET AC_4^0 D-8-1-C5	SET AC_5^0 D-8-1-C5	SET AC_6^0 D-8-1-C6	SET AC_7^0 D-8-1-C7	SET AC_8^0 D-8-1-C8	SET AC_9^0 D-8-2-C1	SET AC_{10}^0 D-8-2-C2	SET AC_{11}^0 D-8-2-C3	SET AC_{12}^0 D-8-2-C4	SET AC_{13}^0 D-8-2-C5	SET AC_{14}^0 D-8-2-C5	SET AC_{15}^0 D-8-2-C6	SET AC_{16}^0 D-8-2-C7	SET AC_{17}^0 D-8-2-C8			
		SET OV_2^0 D-18-D6			SET AC_0^1 D-8-1-C2	SET AC_1^1 D-8-1-C3	SET AC_2^1 D-8-1-C3	SET AC_3^1 D-8-1-C4	SET AC_4^1 D-8-1-C5	SET AC_5^1 D-8-1-C6	SET AC_6^1 D-8-1-C6	SET AC_7^1 D-8-1-C7	SET AC_8^1 D-8-1-C8	SET AC_9^1 D-8-2-C2	SET AC_{10}^1 D-8-2-C3	SET AC_{11}^1 D-8-2-C3	SET AC_{12}^1 D-8-2-C4	SET AC_{13}^1 D-8-2-C5	SET AC_{14}^1 D-8-2-C6	SET AC_{15}^1 D-8-2-C8	SET AC_{16}^1 D-8-2-C7	SET AC_{17}^1 D-8-2-C7			

DRWG #	CHANGE	DATE	ENG
D-ID-45-20 A-321	WAS SH 8 OF 16	12-21-64	PR

REVISIONS

DRAWN	R. Mariano	DATE 11/9/64
CHECKED		DATE 12/1/64
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML

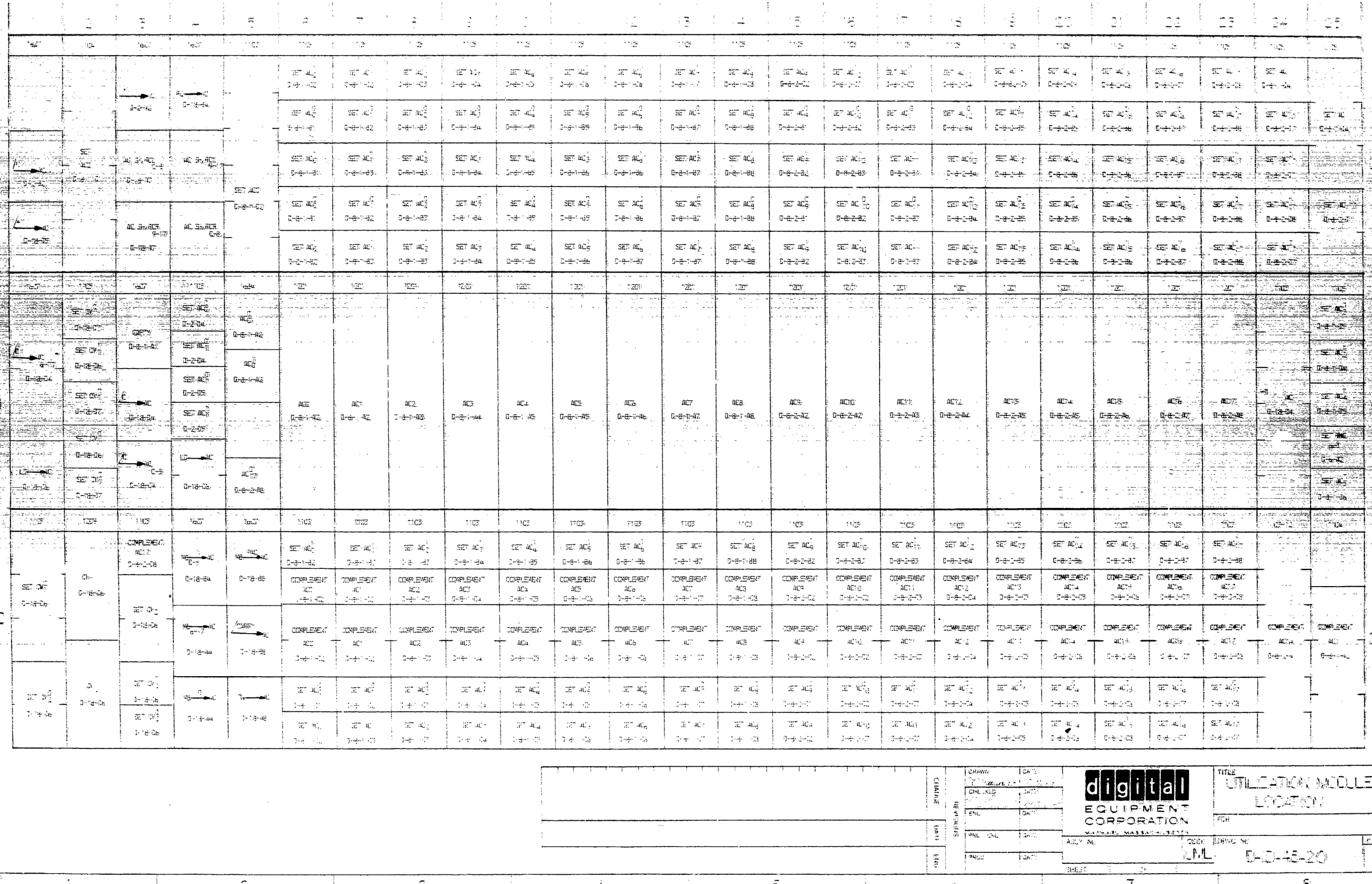
SHEET 1 OF 1

TITLE: UTILIZATION MODULE LOCATION

FOR

DRWG NO D-ID-45-20-8 REV LTR A

D-C-15-20



DRAWN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHECKED	DATE	
ENG	DATE	
PROJ. ENG.	DATE	
PROG	DATE	

TITLE: UTILIZATION MODULE LOCATION

FOR

ASSY NO. | CODE: IDENT NO. | SIZE: C | D-C-15-20

SHEET

CHANGE

DATE

D-ID-45-20-9 REV LTR A

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2D	0 → MB D-33-A5 AC J → MB 0-5 D-33-A6 AC J → MB 6-11 D-33-B6	AC J → MB 0-5 D-33-A5 AC J → MB 6-11 D-33-B5	0 → MB D-33-A5 AC J → MB 6-11 D-33-B6 AC J → MB 0-5 D-33-A6	0 → MB D-33-A6	COMPLEMENT AC17 D-8-2-A8 AC J → MB 12-17 D-33-A8 0 → MB D-33-A8	MB0 D-53-A2 MB1 D-53-A2	MB_0^0 D-53-A2 MB_0^1 D-53-A2 MB_1^0 D-53-A2 MB_1^1 D-53-A3	MB2 D-53-A3 MB3 D-53-A4	MB_2^0 D-53-A3 MB_2^1 D-53-A3 MB_3^0 D-53-A4 MB_3^1 D-53-A4	MB4 D-53-A5 MB5 D-53-A5	MB_4^0 D-53-A5 MB_4^1 D-53-A5 MB_5^0 D-53-A5 MB_5^1 D-53-A5	MB6 D-53-A6 MB7 D-53-A7	MB_6^0 D-53-A6 MB_6^1 D-53-A6 MB_7^0 D-53-A7 MB_7^1 D-53-A7	MB8 D-53-A8 MB9 D-53-C2	MB_8^0 D-53-A7 MB_8^1 D-53-A8 MB_9^0 D-53-C2 MB_9^1 D-53-C2	MB10 D-53-C2 MB11 D-53-C3	MB_{10}^0 D-53-C2 MB_{10}^1 D-53-C2 MB_{11}^0 D-53-C3 MB_{11}^1 D-53-C3	MB12 D-53-C4 MB13 D-53-C5	MB_{12}^0 D-53-C4 MB_{12}^1 D-53-C4 MB_{13}^0 D-53-C4 MB_{13}^1 D-53-C5	MB14 D-53-C5 MB15 D-53-C6	MB_{14}^0 D-53-C5 MB_{14}^1 D-53-C5 MB_{15}^0 D-53-C6 MB_{15}^1 D-53-C6	MB16 D-53-C7 MB17 D-53-C8	MB_{16}^0 D-53-C7 MB_{16}^1 D-53-C7 MB_{17}^0 D-53-C7 MB_{17}^1 D-53-C8	$FF_1^1 \cdot FF_2^0$ D-18-B3 MB_{6-17}^1 AC D-18-A4 MB_{0-5}^1 AC D-18-B4 $FF_1^1 \cdot FF_2^1$ D-18-B7 CARRY AC D-18-B7 PAD MB AC D-18-B8	AC=10R-0 D-18-D8
2E	1104 0 → MB D-33-A7 1 10 → MB D-33-B7 0 → MB D-33-A7	1607 t 10 12-17 D-33-D4 t 10 0-5 D-33-D4 t 10 6-11 D-33-D4	1607 t → MB 12-17 D-33-A8 t → MB 0-5 D-33-A8 t → MB 6-11 D-33-A8	1103 AC J → MB 0-5 D-33-B8 AC J → MB 6-11 D-33-B8 10 J → MB D-33-B8	1607 AC J → MB 0-5 D-33-B8 AC J → MB 6-11 D-33-B8 10 J → MB D-33-A8	1103 SET MB_0^0 D-53-B1 SET MB_0^1 D-53-B2 SET MB_1^0 D-53-B2 SET MB_1^1 D-53-B3	1685 MB_0^1 D-53-A2 MB_2^1 D-53-A3 MB_1^1 D-53-A3 MB_3^1 D-53-A4	1103 SET MB_2^0 D-53-B3 SET MB_2^1 D-53-B3 SET MB_3^0 D-53-B4 SET MB_3^1 D-53-B4	1111 AC J → MB 12-17 D-33-B5	1103 SET MB_4^0 D-53-B4 SET MB_4^1 D-53-B5 SET MB_5^0 D-53-B5 SET MB_5^1 D-53-B6	1685 MB_4^1 D-53-A5 MB_6^1 D-53-A6 MB_5^1 D-53-A5 MB_7^1 D-53-A7	1103 SET MB_6^0 D-53-B6 SET MB_6^1 D-53-B6 SET MB_7^0 D-53-B6 SET MB_7^1 D-53-B7	1103 AC J → MB 12-17 D-33-B6 AC J → MB 12-17 D-33-B7 AC J → MB 12-17 D-33-B7	1103 SET MB_8^0 D-53-B7 SET MB_8^1 D-53-B8 SET MB_9^0 D-53-C1 SET MB_9^1 D-53-C2	1685 MB_8^1 D-53-A8 MB_{10}^1 D-53-B2 MB_9^1 D-53-B2 MB_{11}^1 D-53-B3	1103 SET MB_{10}^0 D-53-C2 SET MB_{10}^1 D-53-C2 SET MB_{11}^0 D-53-C3 SET MB_{11}^1 D-53-C3	1607 SET RMB_2^1 D-5-D5 SET RMB_3^1 D-5-D6	1103 SET MB_{12}^0 D-53-C4 SET MB_{12}^1 D-53-C4 SET MB_{13}^0 D-53-C4 SET MB_{13}^1 D-53-C5	1685 MB_{12}^1 D-53-B4 MB_{14}^1 D-53-B5 MB_{13}^1 D-53-B5 MB_{15}^1 D-53-B6	1103 SET MB_{14}^0 D-53-C5 SET MB_{14}^1 D-53-C6 SET MB_{15}^0 D-53-C6 SET MB_{15}^1 D-53-C6	1685 AC_{15}^1 D-8-2-A6 AC_{16}^1 D-8-2-A7 AC_{17}^1 D-8-2-A8	1103 SET MB_{16}^0 D-53-C7 SET MB_{16}^1 D-53-C7 SET MB_{17}^0 D-53-C7 SET MB_{17}^1 D-53-C8	1685 MB_{16}^1 D-53-B7 MB_{17}^1 D-53-B7	1111 AC=+0 D-18-C8	1111 AC=+0 D-18-C8
2F	1105 0 → 10 D-33-C1 10 SH/ROR 9-17 D-33-D1	1103 10 SH/ROR 9-17 D-33-D2 10 SH/ROR 0-8 D-33-C2	1607 10 SH/ROR 9-8 D-33-C4 10 SH/ROL 0-8 D-33-C4 10 SH/ROR 9-17 D-33-C4	1103 SET 10_0^0 D-54-A1 SET 10_0^1 D-54-A2 SET 10_0^0 D-54-B2 SET 10_0^0 D-54-B1	1104 SET 10_0^0 D-54-A1 SET 10_0^1 D-54-A2 SET 10_0^0 D-54-A1 SET 10_0^1 D-54-A2	1104 SET 10_1^0 D-54-A2 SET 10_1^1 D-54-A3 SET 10_1^0 D-54-A2 SET 10_1^1 D-54-A3	1104 SET 10_2^0 D-54-A3 SET 10_2^1 D-54-A3 SET 10_2^0 D-54-A3 SET 10_2^1 D-54-A3	1104 SET 10_3^0 D-54-A4 SET 10_3^1 D:54-A4 SET 10_3^0 D-54-A4 SET 10_3^1 D-54-A4	1104 SET 10_4^0 D-54-A4 SET 10_4^1 D-54-A5 SET 10_4^0 D-54-A4 SET 10_4^1 D-54-A5	1104 SET 10_5^0 D-54-A5 SET 10_5^1 D-54-A5 SET 10_5^0 D-54-A5 SET 10_5^1 D-54-A5	1104 SET 10_6^0 D-54-A6 SET 10_6^1 D-54-A6 SET 10_6^0 D-54-A6 SET 10_6^1 D-54-A6	1104 SET 10_7^0 D-54-A6 SET 10_7^1 D-54-A7 SET 10_7^0 D-54-A7 SET 10_7^1 D-54-A7	1104 SET 10_8^0 D-54-A7 SET 10_8^1 D-54-A8 SET 10_8^0 D-54-A7 SET 10_8^1 D-54-A8	1104 SET 10_9^0 D-54-C1 SET 10_9^1 D-54-C2 SET 10_9^0 D-54-C1 SET 10_9^1 D-54-C2	1104 SET 10_{10}^0 D-54-C2 SET 10_{10}^1 D-54-C3 SET 10_{10}^0 D-54-C2 SET 10_{10}^1 D-54-C3	1104 SET 10_{11}^0 D-54-C3 SET 10_{11}^1 D-54-C3 SET 10_{11}^0 D-54-C3 SET 10_{11}^1 D-54-C3	1104 SET 10_{12}^0 D-54-C4 SET 10_{12}^1 D-54-C4 SET 10_{12}^0 D-54-C4 SET 10_{12}^1 D-54-C4	1104 SET 10_{13}^0 D-54-C4 SET 10_{13}^1 D-54-C5 SET 10_{13}^0 D-54-C4 SET 10_{13}^1 D-54-C5	1104 SET 10_{14}^0 D-54-C5 SET 10_{14}^1 D-54-C5 SET 10_{14}^0 D-54-C5 SET 10_{14}^1 D-54-C5	1104 SET 10_{15}^0 D-54-C6 SET 10_{15}^1 D-54-C6 SET 10_{15}^0 D-54-C6 SET 10_{15}^1 D-54-C6	1104 SET 10_{16}^0 D-54-C6 SET 10_{16}^1 D-54-C7 SET 10_{16}^0 D-54-C6 SET 10_{16}^1 D-54-C7	1104 SET 10_{17}^0 D-54-C7 SET 10_{17}^1 D-54-C8 SET 10_{17}^0 D-54-C7 SET 10_{17}^1 D-54-C8	1103 SET 10_{17}^1 D-54-C8 SET 10_{17}^0 D-54-C7 SET 10_{17}^1 D-54-C8 SET 10_{17}^1 D-54-C7 SET 10_{17}^0 D-54-C SET 10_{17}^1 D-54-C	4113R AC_0^0 D-8-1-A2 AC_1^0 D-8-1-A5 AC_2^0 D-8-1-A3 AC_3^0 D-8-1-A4 AC_4^0 D-8-1-A5 AC_5^0 D-8-1-A6	4113R AC_6^0 D-8-1-A6 AC_7^0 D-8-1-A7 AC_8^0 D-8-1-A7 AC_9^0 D-8-1-A1

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A-321 Dig-Mus 12:18:64 D-ID-45-20 SHEET 9

REVISIONS	CHANGE	DATE	ENG

DRAWN	M. Mariano	DATE 7/21/64
CHECKED		DATE
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE UTILIZATION MODULE LOCATION

FOR

ASSY NO CODE UML

DRWG NO D-ID-45-20-9 REV LTR A

SHEET 1 OF 1

D-ID-45-20 REV LTR

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/0 → MB D-33-A5				COMPLEMENT AC17 D-8-2-A8		MB_0^0 D-53-A2		MB_2^0 D-53-A3		MB_4^0 D-53-A5		MB_6^0 D-53-A6		MB_8^0 D-53-A7		MB_{10}^0 D-53-C2		MB_{12}^0 D-53-C4		MB_{14}^0 D-53-C5		MB_{16}^0 D-53-C7		
AC-J → MB 0-5 D-33-A5	AC-J → MB 0-5 D-33-A5	/0 → MB D-33-A5			MB0 D-53-A2	MB_0^1 D-53-A2	MB2 D-53-A3	MB_2^1 D-53-A3	MB4 D-53-A5	MB_4^1 D-53-A5	MB6 D-53-A6	MB_6^1 D-53-A6	MB8 D-53-A8	MB_8^1 D-53-A8	MB10 D-53-C2	MB_{10}^1 D-53-C2	MB12 D-53-C4	MB_{12}^1 D-53-C4	MB14 D-53-C5	MB_{14}^1 D-53-C5	MB16 D-53-C7	MB_{16}^1 D-53-C7		
D-33-A6			/0 → MB D-33-A6	AC-J → MB 12-17 D-33-A8																				AC=10R-0 D-18-D8
AC-J → MB 6-11 D-33-B6	AC-J → MB 6-11 D-33-B5	AC-J → MB 6-11 D-33-B6		/0 → MB D-33-A8	MB1 D-53-A2	MB_1^0 D-53-A2	MB3 D-53-A4	MB_3^0 D-53-A4	MB5 D-53-A5	MB_5^0 D-53-A5	MB7 D-53-A7	MB_7^0 D-53-A7	MB9 D-53-C2	MB_9^0 D-53-C2	MB11 D-53-C3	MB_{11}^0 D-53-C3	MB13 D-53-C5	MB_{13}^0 D-53-C4	MB15 D-53-C6	MB_{15}^0 D-53-C6	MB17 D-53-C8	MB_{17}^0 D-53-C7		
		AC-J → MB 0-5 D-33-A6				MB_1^1 D-53-A3		MB_3^1 D-53-A4		MB_5^1 D-53-A5		MB_7^1 D-53-A7		MB_9^1 D-53-C2		MB_{11}^1 D-53-C3		MB_{13}^1 D-53-C5		MB_{15}^1 D-53-C6		MB_{17}^1 D-53-C8		
1104	1607	1607	1103	1607	1103	1685	1103	1111	1103	1685	1103	1103	1103	1685	1103	1607	1103	1685	1103	1685	1103	1685	1111	1111
/0 → MB D-33-A7	/C → IO 12-17 D-33-D4	/C → MB 12-17 D-33-A8	AC-J → MB 0-5 D-33-B8	AC-J → MB 0-5 D-33-B8	SET MB_0^0 D-53-B1	MB_0^1 D-53-A2	SET MB_2^0 D-53-B3		SET MB_4^0 D-53-B4	MB_4^1 D-53-A5	SET MB_6^0 D-53-B6		SET MB_8^0 D-53-B7	MB_8^1 D-53-A8	SET MB_{10}^0 D-53-C2	SET RMB_2^1 D-5-D5	SET MB_{12}^0 D-53-C4	MB_{12}^1 D-53-B4	SET MB_{14}^0 D-53-C5	AC_{15}^1 D-8-2-A6	SET MB_{16}^0 D-53-C7	MB_{16}^1 D-53-B7		
/0 → IO D-33-B7			AC-J → MB 6-11 D-33-B8	AC-J → MB 6-11 D-33-B8	SET MB_1^0 D-53-B2	MB_1^1 D-53-A3	SET MB_3^0 D-53-B4	AC-J → MB 12-17 D-33-B5	SET MB_5^0 D-53-B5	MB_5^1 D-53-A5	SET MB_7^0 D-53-B6	AC-J → MB 12-17 D-33-B6	SET MB_9^0 D-53-C1	MB_9^1 D-53-B2	SET MB_{11}^0 D-53-C3	SET RMB_3^1 D-5-D6	SET MB_{13}^0 D-53-C4	MB_{13}^1 D-53-B5	SET MB_{15}^0 D-53-C6	AC_{17}^1 D-8-2-A8	SET MB_{17}^0 D-53-C7	MB_{17}^1 D-53-B7	AC=+0 D-18-C6	AC=+0 D-18-C8	
/0 → MB D-33-A7	/C → IO 6-11 D-33-D4	/C → MB 6-11 D-33-A8	IO-J → MB D-33-B8	IO-J → MB D-33-A8	SET MB_3^1 D-53-B3	MB_3^1 D-53-A4	SET MB_3^1 D-53-B4		SET MB_5^1 D-53-B6	MB_7^1 D-53-A7	SET MB_7^1 D-53-B7	AC-J → MB 12-17 D-33-B7	SET MB_9^1 D-53-C2	MB_{11}^1 D-53-B3	SET MB_{11}^1 D-53-C3		SET MB_{13}^1 D-53-C5	MB_{15}^1 D-53-B6	SET MB_{15}^1 D-53-C6	AC_{17}^1 D-8-2-A8	SET MB_{17}^1 D-53-C8				
1105	1103	1607	1103	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1104	1103	4113R	4113R
/0 → IO D-33-C1	IC SH/ROR 9-17 D-33-D2	IC SH/ROR 9-8 D-33-C4	SET IO_0^0 D-54-A1	SET IO_0^0 D-54-A1	SET IO_1^0 D-54-A2	SET IO_2^0 D-54-A3	SET IO_3^0 D-54-A4	SET IO_4^0 D-54-A4	SET IO_5^0 D-54-A5	SET IO_6^0 D-54-A6	SET IO_7^0 D-54-A6	SET IO_8^0 D-54-A7	SET IO_9^0 D-54-C1	SET IO_{10}^0 D-54-C2	SET IO_{11}^0 D-54-C3	SET IO_{12}^0 D-54-C4	SET IO_{13}^0 D-54-C4	SET IO_{14}^0 D-54-C5	SET IO_{15}^0 D-54-C6	SET IO_{16}^0 D-54-C6	SET IO_{17}^0 D-54-C7	SET IO_{17}^1 D-54-C8	AC_0^0 D-8-1-A2	AC_6^0 D-8-1-A6
			SET IO_0^1 D-54-A2	SET IO_0^1 D-54-A2	SET IO_1^1 D-54-A3	SET IO_2^1 D-54-A3	SET IO_3^1 D-54-A4	SET IO_4^1 D-54-A5	SET IO_5^1 D-54-A5	SET IO_6^1 D-54-A6	SET IO_7^1 D-54-A7	SET IO_8^1 D-54-A8	SET IO_9^1 D-54-C2	SET IO_{10}^1 D-54-C3	SET IO_{11}^1 D-54-C3	SET IO_{12}^1 D-54-C4	SET IO_{13}^1 D-54-C5	SET IO_{14}^1 D-54-C5	SET IO_{15}^1 D-54-C6	SET IO_{16}^1 D-54-C7	SET IO_{17}^1 D-54-C8	SET IO_{17}^1 D-54-C7	AC_1^0 D-8-1-A3	AC_7^0 D-8-1-A7
IC SH/ROR 9-17 D-33-D1	IC SH/ROR 0-8 D-33-C2	IC SH/ROL 0-8 D-33-C4	SET IO_0^0 D-54-B2	SET IO_0^0 D-54-A1	SET IO_1^0 D-54-A2	SET IO_2^0 D-54-A3	SET IO_3^0 D-54-A4	SET IO_4^0 D-54-A4	SET IO_5^0 D-54-A5	SET IO_6^0 D-54-A6	SET IO_7^0 D-54-A6	SET IO_8^0 D-54-A7	SET IO_9^0 D-54-C1	SET IO_{10}^0 D-54-C2	SET IO_{11}^0 D-54-C3	SET IO_{12}^0 D-54-C4	SET IO_{13}^0 D-54-C4	SET IO_{14}^0 D-54-C5	SET IO_{15}^0 D-54-C6	SET IO_{16}^0 D-54-C6	SET IO_{17}^0 D-54-C7	SET IO_{17}^1 D-54-C8	AC_2^0 D-8-1-A3	AC_8^0 D-8-1-A7
	IC SH/ROR 9-17 D-33-D2		SET IO_0^1 D-54-B1	SET IO_0^1 D-54-A2	SET IO_1^1 D-54-A3	SET IO_2^1 D-54-A3	SET IO_3^1 D-54-A4	SET IO_4^1 D-54-A5	SET IO_5^1 D-54-A5	SET IO_6^1 D-54-A6	SET IO_7^1 D-54-A7	SET IO_8^1 D-54-A8	SET IO_9^1 D-54-C2	SET IO_{10}^1 D-54-C3	SET IO_{11}^1 D-54-C3	SET IO_{12}^1 D-54-C4	SET IO_{13}^1 D-54-C5	SET IO_{14}^1 D-54-C5	SET IO_{15}^1 D-54-C6	SET IO_{16}^1 D-54-C7	SET IO_{17}^1 D-54-C8	SET IO_{17}^0 D-54-C7	AC_3^0 D-8-1-A4	AC_9^0 D-8-1-A1
	IC SH/ROL 0-8 D-33-C2	IC SH/ROR 9-17 D-33-C4																				SET IO_{17}^0 D-54-C	AC_4^0 D-8-1-A5	
																							AC_5^0 D-8-1-A6	

CHANGE	DATE	ENG

REVISIONS

DRAWN	M. Mariano	DATE 11/21/64
CHECKED		DATE
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML | SHEET | OF

TITLE UTILIZATION MODULE LOCATION

FOR

DRWG NO D-ID-45-20 REV LTR

D-ID-45-20-10 REV LTR A

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	4115	1105	1105	1103	1607	1204	1685	1204	1103	1204	1685	1204	1685	1204	1103	1204	1685	1204	1685	1204	1103	1204	1104	1111	1111
2H	PBS[1] D-61-D5	0 → 10 D-33-B1	R9 → 10 D-61-D5	/0 → 10 D-33-B2	MB[1] → 10 D-33-C3	10_0 D-54-A2	10^0_0 D-54-A2	10_2 D-54-A3	SET 10^1_0 D-54-B2	10_4 D-54-A5	10^0_2 D-54-A3	10_6 D-54-A6	10^0_6 D-54-A6	10_8 D-54-A8	SET 10^1_6 D-54-36	10_{10} D-54-C2	10^0_{10} D-54-B2	10_{12} D-54-C4	10^0_{14} D-54-B5	10_{14} D-54-C5	SET 10^1_{12} D-54-04	10_{16} D-54-C7		10=0 D-57-B8	
		/0 → 10 D-33-B3	RB → 10 D-61-D5	MB[1] → 10 D-33-C2	10 SH/ROL 9-17 D-33-C4		10^0_1 D-54-A2		SET 10^1_1 D-54-B2		10^0_3 D-54-A4		10^0_7 D-54-A7		SET 10^1_7 D-54-B7		10^0_{11} D-54-B3		10^0_{15} D-54-B6		SET 10^1_{13} D-54-05		SET 10^0_{17} D-54-D8		
									SET 10^1_2 D-54-B3						SET 10^1_8 D-54-B8						SET 10^1_{14} D-54-D5				
		10 SH/ROL 0-8 D-33-C1	SET 10_0 D-54-B1	/0 → 10 D-33-B2	/0 → 10 D-33-B3	10_1 D-54-A2	10^1_0 D-54-A2	10_3 D-54-A4	SET 10^1_3 D-54-B4	10_5 D-54-A5	10^0_4 D-54-A4	10_7 D-54-A7	10^0_8 D-54-A7	10_9 D-54-C2	SET 10^1_9 D-54-D2	10_{11} D-54-C3	10^0_{12} D-54-B4	10_{13} D-54-C4	10^0_{16} D-54-B7	10_{15} D-54-C6	SET 10^1_{15} D-54-D6	10_{17} D-54-C8			
									SET 10^1_4 D-54-B5						SET 10^1_{10} D-54-D2		10^0_{13} D-54-B4		10^0_{17} D-54-B8		SET 10^1_{16} D-54-D7				
									SET 10^1_5 D-54-B6				10^0_9 D-54-B2		SET 10^1_{11} D-54-D3						SET 10^1_{17} D-54-D7				
	4603	4129	4129	4603	4129	4129	4603	4129	4129	4129	4129	4603	4129	4129	4603	4129	4129	4129	4129	4603	4129	4129	4603	4129	4129
	→ 10 D-61-D5	IM_0 D-9-B1	IM_0 D-9-A1	IM_0 D-9-A1	IM_2 D-9-A3	IM_2 D-9-B3	IM_3 D-9-A3	IM_5 D-9-A5	IM_5 D-9-B5	IM_6 D-9-B6	IM_6 D-9-A7	IM_6 D-9-A6	IM_8 D-9-A7	IM_8 D-9-A7	IM_9 D-9-C1	IM_{11} D-9-C3	IM_{11} D-9-D3	IM_{12} D-9-D3	IM_{12} D-9-C3	IM_{12} D-9-C3	IM_{14} D-9-C5	IM_{14} D-9-D5	IM_{15} D-9-C6	IM_{17} D-9-C8	IM_{17} D-9-D8
2J		IM_1 D-9-B2	IM_1 D-9-A2	IM_1 D-9-A2	IM_3 D-9-A3	IM_3 D-9-B3	IM_4 D-9-A4	IM_4 D-9-A4	IM_4 D-9-B4	IM_7 D-9-B6	IM_7 D-9-A7	IM_7 D-9-A6	IM_9 D-9-C1	IM_9 D-9-D1	IM_{10} D-9-C2	IM_{10} D-9-C2	IM_{10} D-9-D2	IM_{13} D-9-D4	IM_{13} D-9-C4	IM_{13} D-9-C4	IM_{15} D-9-C6	IM_{15} D-9-D6	IM_{16} D-9-C7	IM_{16} D-9-C7	IM_{16} D-9-D7
				IM_1 D-9-A2			IM_5 D-9-A5					IM_8 D-9-A7			IM_{11} D-9-C3					IM_{14} D-9-C5		IM_{17} D-9-C7			
	1311	1105	1105	1607	1105	4113	1105	1607	1105	1105	1607	1111	1111	1105	1209	1105	4113	1607	1201	1201	1201	1201	1201	1201	
2K	MD/C → MB D-57-E1	MD RESTART /1 → RUN, TPO D-57-B6		GOOD DIVIDE D-57-B2	MD/C → AC D-57-D1			MD CARRY D-57-D2	AC=-0 D-57-B4	AC IO=+0 D-57-D3	MD;AC → MB /0 → 10 D-57-A3	SCR=22 D-57-A8	SCR=21 D-57-A7	SPQ D-57-A5	SMB D-57-A5	MD 0 RUN D-57-A6		MUL=CY 1=TP10 D-57-A2	SCR 4 D-57-A5	SCR 3 D-57-A4	SCR 2 D-57-A3	SCR 1 D-57-A3	SCR 0 D-57-A2		
		MD/C → MB D-57-B1		MD/C → AC D-57-B2		MD/C → 10 D-57-D1	MD/C → 10 D-57-D2	MD/C → 10 D-57-C2	MD CARRY D-57-D1		MD;MB[1] → 10 D-57-A3			SET SMB[1] D-57-A5			MDP-11 D-57-C8	DIV=CY 1=TP10 D-57-A1							
		MDP-10 C → 8 D-57-C8			MD/C → AC D-57-D1	MD/C → AC D-57-C1		MD/C → AC D-57-D2	MD CARRY D-57-D1	MUL + DIV D-57-A5			SCR=Ø D-57 A7	SET SRM[1] D-57-A6	SRM D-57-A6	SET SAM[1] D-57-A6	DIV=CY 1=TP10 D-57-A1	CLR SCR D-57-A1							
																MD;MB[1] → TO. D-57-B3	MUL=CY 1=TP10 D-57-A1								

DRWG #'s	SH.	OF	REVISIONS	CHANGE	DATE	ENG
D-ID-45-20-A-32	10	16				

	DRAWN	DATE
	M. Maynard	7/11/84
	CHECKED	DATE
	[illegible]	7/11/84
	ENG	DATE
	PROJ. ENG	DATE
	PROD	DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML | SHEET | OF

TITLE: UTILIZATION MODULE LOCATION

FOR

DRWG NO D-ID-45-20-10 REV A

D-ID-45-20 REV LTR

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	4113	1105	1105	1103	1607	1204	1685	1204	1103	1204	1685	1204	1685	1204	1103	1204	1685	1204	1685	1204	1103	1204	1104	1111	1111
2H	RBS[1] D-61-D5	0 → IO D-33-B1	R3 → IO D-61-D5; /0 → IC B-33-B3	0 → IC D-33-B2	Mc → IO D-33-C3	IO_0 D-54-A2	IO_0^0 D-54-A2; IO_1^0 D-54-A2	IO_2 D-54-A3	SET IO_0^1 D-54-B2; SET IO_1^1 D-54-B2; SET IO_2^1 D-54-B3	IO_4 D-54-A5	IO_2^0 D-54-A3; IO_3^0 D-54-A4	IO_6 D-54-A6	IO_6^0 D-54-A6; IO_7^0 D-54-A7	IO_8 D-54-A8	SET IO_6^1 D-54-B6; SET IO_7^1 D-54-B7; SET IO_8^1 D-54-B8	IO_{10} D-54-C2	IO_{10}^0 D-54-B2; IO_{11}^0 D-54-B3	IO_{12} D-54-C4	IO_{14}^0 D-54-B5; IO_{15}^0 D-54-B6	IO_{14} D-54-C5	SET IO_{12}^1 D-54-D4; SET IO_{13}^1 D-54-D5; SET IO_{14}^1 D-54-D5	IO_{16} D-54-C7	SET IO_{17}^0 D-54-D8	IO=+0 D-57-B7	IO=+0 D-57-B8
		IO SH/RCL 0-8 D-33-C1	SET IO_0 D-54-B1	/0 → IO D-33-B2	IO SH/RCL 9-17 D-33-C4; /0 → IO D-33-B3	IO_1 D-54-A2	IO_0^1 D-54-A2	IO_3 D-54-A4	SET IO_3^1 D-54-B4; SET IO_4^1 D-54-B5; SET IO_5^1 D-54-B6	IO_5 D-54-A5	IO_4^0 D-54-A4; IO_5^0 D-54-A5	IO_7 D-54-A7	IO_8^0 D-54-A7; IO_9^0 D-54-B2	IO_9 D-54-C2	SET IO_9^1 D-54-D2; SET IO_{10}^1 D-54-D2; SET IO_{11}^1 D-54-D3	IO_{11} D-54-C3	IO_{12}^0 D-54-B4; IO_{13}^0 D-54-B4	IO_{13} D-54-C4	IO_{16}^0 D-54-B7; IO_{17}^0 D-54-B8	IO_{15} D-54-C6	SET IO_{15}^1 D-54-D6; SET IO_{16}^1 D-54-D7; SET IO_{17}^1 D-54-D7	IO_{17} D-54-C8			
	4603	4129	4129	4603	4129	4129	4603	4129	4129	4129	4129	4603	4129	4129	4603	4129	4129	4129	4129	4603	4129	4129	4603	4129	4129
2J	R9 → IO D-61-D5	IM_0 D-9-B1	IM_0 D-9-A1	IM_0 D-9-A1; IM_1 D-9-A2	IM_2 D-9-A3	IM_2 D-9-B3	IM_3 D-9-A3; IM_4 D-9-A4; IM_5 D-9-A5	IM_5 D-9-A5	IM_5 D-9-B5	IM_6 D-9-B6	IM_6 D-9-A7; IM_7 D-9-A7	IM_6 D-9-A6; IM_7 D-9-A6; IM_8 D-9-A7	IM_8 D-9-A7; IM_9 D-9-C1	IM_8 D-9-A7; IM_9 D-9-D1	IM_9 D 9 C1; IM_{10} D-9-C2; IM_{11} D-9-C3	IM_{11} D-9-C3	IM_{11} D-9-D3; IM_{10} D-9-D2	IM_{12} D-9-D3; IM_{13} D-9-D4	IM_{12} D-9-C3; IM_{13} D-9-C4	IM_{12} D-9-C3; IM_{14} D-9-C5	IM_{14} D-9-C5	IM_{14} D-9-D5; IM_{15} D-9-C6	IM_{15} D-9-D6	IM_{15} D-9-C6; IM_{16} D-9-C7; IM_{17} D-9-C7	IM_{17} D-9-C8; IM_{16} D-9-C7	IM_{17} D-9-D8; IM_{16} D-9-D7	
		IM_1 D-9-B2	IM_1 D-9-A2	IM_2 D-9-A3	IM_3 D-9-A3	IM_3 D-9-B3		IM_4 D-9-A4	IM_4 D-9-B4	IM_7 D-9-B6	IM_7 D-9-A7	IM_8 D-9-A7	IM_9 D-9-C1	IM_9 D-9-D1	IM_{11} D-9-C3	IM_{10} D-9-C2	IM_{10} D-9-D2	IM_{13} D-9-D4	IM_{13} D-9-C4	IM_{14} D-9-C5	IM_{15} D-9-C6	IM_{15} D-9-D6	IM_{17} D-9-C7	IM_{16} D-9-C7	IM_{16} D-9-D7	
	1311	1105	1607	1105	4113	1105	1607	1105	1105	1607	1111	1111	1105	1209	1105	4113	1607	1201	1201	1201	1201	1201			
2K	MD /C → MB D-57-E1	MD RESTART /1 → RUN, TPO D-57-B6	GOOD DIVIDE D-57-B2	MD /C → AC D-57-D1	MD /C → IO D-57-D1	MD /C → IO D-57-D2	MD CARRY D-57-D2	AC=-0 D-57-B4	AC IO=+0 D-57-D3	MD:AC → MB /0 → IO D-57-A3; MD:MB 1 → IO D-57-A3	SCR=22 D-57-A8	SCR=21 D-57-A7; SCR=0 D 57 A7	SPO D-57-A5; SET SMB[1] D-57-A5; SET SRM[1] D-57-A6	SMB D-57-A5; SRM D-57-A6	MD 0 RUN D-57-A6; SET SRM[1] D 57 A6; MD:MB → IO D-57 B3	MDP-11 D-57-C8; DIV-CY 1-TP10 D-57-A1; MUL-CY 1-TP10 D-57-A1	MUL-CY 1-TP10 D-57-A2; DIV-CY 1-TP10 D-57-A1; CLR SCR D-57-A1	SCR 4 D-57-A5	SCR 3 D-57-A4	SCR 2 D-57-A3	SCR 1 D-57-A3	SCR 0 D-57-A2			
		MDP-10 /0 → MB D-57-C8	MD /C → AC D-57-B2	MD /C → AC D-57-D1	MD /C → AC D-57-D1		MD /C → IO D-57-C2; MD /C → AC D-57-D2	MD CARRY D-57-D1	MUL + D1/ D-57-A5																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	4113	1105	1105	1103	1607	1204	1685	1204	1103	1204	1685	1204	1685	1204	1103	1204	1685	1204	1685	1204	1103	1204	1104	1111	1111

CHANGE	DATE	ENG

REVISIONS

DRAWN	M. Trivisano	DATE 7-July
CHECKED		DATE
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: UTILIZATION MODULE LOCATION

FOR

ASSY NO	CODE	DRWG NO	REV LTR
	UML	D-ID-45-20	

SHEET 15 OF 15

D-1D-45-20-11 REV LTR A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	1105	1607	1311	1310	1607	1311	1310	1105	1607	1311	1105	1311	1607	1310	1607	1311	1607	1311	1607		1104	1103	1209	1103
2L	(SCR=22) + (SCR=0) AC^0 D-57-C6	MDP-1 D-57-C1	MDP-2 D-57-C2	MDP-3 D-57-C3	MDP-3 D-57-C3	MDP-4 D-57-C3	MDP-5 D-57-C4	(SCR=22) + (SCR=0) AC^0 D-57-C5	7-3 D-57-C6	MD RESTART /1 → RUN, TPO D-57-B5	MD RESTART /1 → RUN, TPO D-57-B5	MDP-8 D-57-C6	MDP-9 D-57-C7	MDP-11 D-57-B8	IO → MB MDP-12 D-57-C7	IO → MB MDP-12 D-57-C7	MDP-6 DELAYED D-57-B6	MB → AC MDP-13 D-57-D8	MDP-6 DELAYED D-57-B6		MD → IO D-57-C3	SET LAI^0 D-15-D8	LAI D-15-C8	/0 → MB MDP-10 D-15-D5
	MDP-1 D-57-C6				MDP-4 D-57-C3				MUL SHIFT D-57-C5	MD RESTART /1 → RUN, TPO D-57-C5	SCR=22 D-57-A8		/0 → MB MDP- D-57-C8	/0 → MB MDP-11 D-57-C8			(MB → AC) MDP-13 D-57-C8		MDP-6 DELAYED D-57-B7			SET LAI^0 D-15-D8		IO → MB MDP-12 D-57-C6
	MDP-2 D-57-C2	MDP-2 D-57-C2									MD RESTART /1 → RUN, TPO D-57-B5	/0 → MB MDP-10 D-57-C7			/0 → MB MDP-9 D-57-C7							(MB → AC) MDP-13 D-57-C8		MB → AC MDP-13 D-57-D6
					MDP-5 D-57-C4			MDP-5 D-57-C4	MD RESTART /1 → RUN, TPO D-57-C5		MUL D-57-A4 / DIV D-57-A4		MDP-8 D-57-C7		MD RESTART /1 → RUN, TPO D-57-B6	MDP-14 D-57-D7	MDP-14 D-57-C7	MDP-6 DELAYED D-57-B6				SET LAI^1 D-15-D8	LIA D-15-C8	MD: AC → MB /0 → IO D-57-B3
	MDP-1 D-57-C6																					SET LAI^1 D-15-D8		MD: AC → MB; /0 → IO D-15-D6
																						MDP-14 D-57-D7		MD: MB^1 → IO D-15-D7

CHANGE DRWG. #. WAS: D-1D-45-20 SH. 1 OF 16 A-32 12-2F-64 R.

REVISIONS | DATE | ENG

DRAWN M. Navaro DATE 9/3/64
CHECKED R. Blewett DATE 11/3/64
ENG DATE
PROJ. ENG DATE
PROD DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE UTILATION MODULE LOCATION
FOR
ASSY. NO CODE UML
DRWG NO D-1D-45-20-11 REV LTR A
SHEET 1 OF 1

D-ID-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	1105	1607	1311	1310	1607	1311	1310	1105	1607	1311	1105	1311	1607	1310	1607	1311	1607	1311	1607		1104	1103	1209	1103
A	(SCR=22) ~ (SCR=0) AC^0 D-57-C6	MDP-1 D-57-C6	MDP-2 D-57-C2	MDP-2 D-57-C2	MDP-3 D-57-C3	MDP-4 D-57-C3	MDP-5 D-57-C4	(SCR=22) ~ (SCR=0) AC^0 D-57-C5	7-3 D-57-C6	MUL SHIFT D-57-C5	MD RESTART → RUN, TPC D-57-B5	SCR=22 D-57-A8	MD RESTART → RUN, TPC D-57-B5	MUL D-57-A4	DIV D-57-A4	MDP-8 D-57-C6	MDP-9 D-57-C7	MDP-11 D-57-B8	10 → MB MDP-12 D-57-C7	10 → MB MDP-12 D-57-C7	MB → AC MDP-13 D-57-D8	MDP-6 DELAYED D-57-B6	MDP-6 DELAYED D-57-B7	MDP-6 DELAYED D-57-B6	MDP-14 D-57-D7	SET LAI^0 D-15-D8	LAI D-15-C8	$\not0$ → MB MDP-10 D-15-D5
	MDP-1 D-57-C6	MDP-2 D-57-C2	MDP-3 D-57-C3	MDP-4 D-57-C3	MDP-5 D-57-C4			MDP-5 D-57-C4	MD RESTART → RUN, TPC D-57-C5	MD RESTART → RUN, TPC D-57-C5	MUL D-57-A4	MDP-10 D-57-C7	MDP- D-57-C8	MDP-9 D-57-C7	MDP-10 D-57-C8	MDP-14 D-57-D7	MDP-14 D-57-C7	MDP-6 DELAYED D-57-B6		MDP-6 DELAYED D-57-B7	MDP $\not C$ → IO D-57-C3	SET LAI^0 D-15-D8		10 → MB MDP-12 D-15-D6
2L	MDP-2 D-57-C2										DIV D-57-A4		MDP-8 D-57-C7		MD RESTART → RUN, TPC D-57-B6							(MB → J → AC) MDP-13 D-57-C8		MB → J → AC MDP-13 D-15-D6
	MDP-1 D-57-C6																					SET LAI^1 D-15-D8		MD: AC → J → MB; $\not0$ → IO D-57-B3
																						SET LAI^1 D-15-D8	LIA D-15-C8	MD: AC → J → MB; $\not0$ → IO D-15-D6
																						MDP-14 D-57-D7		MD: MB → I → IO D-15-D7
B																								
C																								
D																								

CHANGE	DATE	ENG

REVISIONS

DRAWN		DATE
CHECKED		DATE
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ASSY NO | CODE UNL
SHEET | OF

TITLE UTILATION MODULE LOCATION
FOR
DRWG NO D-ID-45-20 | REV LTR

D-1D-45-20-12 REV LTR A

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
10§	11Ø	12Ø4	6122	1201										6684	6684	6684	6684	6684	6684				1665	
⟶MB 0-33-A6	TP5 D-32-C2		SF$_1$ D-32-C3	CCM D-2-C8										RQ^1 D-64-A3	E MA$^0_2$ D-64-A4	E MA$^1_4$ D-64-B1	MA$^1_8$ D-64-B3	MA$^1_{12}$ D-64-B5	MA$^1_{16}$ D-64-B7	22 PIN AMPHENOL			TP8 + MB$^1_1$ D-64-C1	
FF$^1_1$ • FF$^1_2$ D-33-A6	SF$_1$ D-32-C2		SF$_2$ D-32-C3												EMA$^1_2$ D-64-A4	EMA$^1_5$ D-64-B2	MA$^1_9$ D-64-B3	MA$^1_{13}$ D-64-B5	MA$^1_{17}$ D-64-B7				TP8 + MB$^1_3$ D-64-C2	
I§ ⟶MB D-33-A8	TP5 D-32-C2		FF$^1_1$•FF$^0_2$ D-32-C5																				TP8 + MB$^1_5$ D-64-C3	
FF$^1_1$ • FF$^1_2$ D-33-A8	SF$_2$ D-32-C2	FF$_1$ & FF$_2$ —A— —B— D-32-C2	FF$^1_1$•FF$^1_2$ D-32-C6												EMA$^0_3$ D-64-A5	MA$^1_6$ D-64-B2	MA$^1_{10}$ D-64-B4	MA$^1_{14}$ D-64-B6	RD RQ D-64-B7				TP8 + MB$^1_7$ D-64-C4	
FF$^1_2$ D-18-A8	FF$^1_1$ D-32-B2		SCM • $\overline{IDC}$ D-2-C8																					
SC-4 D-32-C1	FF$^1_1$ • FF$^1_2$ D-32-B2														EMA$^1_3$ D-64-A5	MA$^1_7$ D-64-B3	MA$^1_{11}$ D-64-B4	MA$^1_{15}$ D-64-B6	WR RQ D-64-B8				TP8 + MB$^1_9$ D-64-C5	
																							TP8 + MB$^1_{11}$ D-64-C6	
																							TP8 + MB$^1_{13}$ D-64-C7	
																							TP8 + MB$^1_{15}$ D-64-C8	
																							TP8 + MB$^1_{17}$ D-64-C8	
4102R	4223	4223	4113	4113	4113	4102R	4102R																1665	
	0 D-11-A1	9 D-11-A5	0 D-11-B1	6 D-11-B3	12 D-11-B6	9b D-11-A5	0b D-11-A1																TP8 + MB$^1_0$ D-64-C1	
1 D-11-C1	1 D-11-A1	10 D-11-A5				10b D-11-A5	1b D-11-A1																TP8 + MB$^1_2$ D-64-C2	
	2 D-11-A2	11 D-11-A6	2 D-11-B1	8 D-11-B4	14 D-11-B7	11b D-11-A6	2b D-11-A2																TP8 + MB$^1_4$ D-64-C3	
	3 D-11-A2	12 D-11-A6	4 D-11-B2	10 D-11-B5	16 D-11-B7	12b D-11-A6	3b D-11-A2																TP8 + MB$^1_6$ D-64-C4	
	4 D-11-A3	13 D-11-A6				13b D-11-A7	4b D-11-A3																TP9 + MB$^1_8$ D-64-C4	
3 D-11-C2	5 D-11-A3	14 D-11-A7	5 D-11-B3	11 D-11-B5	17 D-11-B8	14b D-11-A7	5b D-11-A3																TP8 + MB$^1_{10}$ D-64-C5	
	6 D-11-A4	15 D-11-A7				15b D-11-A7	6b D-11-A4																TP8 + MB$^1_{12}$ D-64-C6	
	7 D-11-A4	16 D-11-A8	3 D-11-B2	9 D-11-B4	15 D-11-B7	16b D-11-A8	7b D-11-A4																TP8 + MB$^1_{14}$ D-64-C7	
	8 D-11-A4	17 D-11-A8				17b D-11-A8	8b D-11-A4																TP8 + MB$^1_{16}$ D-64-C8	
			1 D-11-B1	7 D-11-B4	13 D-11-B6																			

A-321 Dwg Tree D-1D-45-20-12 Sheet 12

REVISIONS	CHANGE	DATE	ENG

DRAWN	M. Mariano	DATE 8/6/64
CHECKED		DATE
ENG.		DATE
PROJ. ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-1D-45-20-12 | REV LTR A

SHEET 1 OF 1

D-1D-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
														6684	6684	6684	6684	6684	6684				1665	
3C														RQ^1 D-64-A3	EMA^0_2 D-64-A4	EMA^1_4 D-64-B1	MA^1_8 D-64-B3	MA^1_{12} D-64-B5	MA^1_{16} D-64-B7	22 PIN AMPHENOL			TP8 + MB^1_1 D-64-C1 TP8 + MB^1_3 D-64-C2 TP8 + MB^1_5 D-64-C3 TP8 + MB^1_7 D-64-C4	3C
															EMA^1_2 D-64-A4	EMA^1_5 D-64-B2	MA^1_9 D-64-B3	MA^1_{13} D-64-B5	MA^1_{17} D-64-B7				TP8 + MB^1_{11} D-64-C6 TP8 + MB^1_{13} D-64-C7 TP8 + MB^1_{15} D-64-C8 TP8 + MB^1_{17} D-64-C8	
															EMA^0_3 D-64-A5	MA^1_6 D-64-B2	MA^1_{10} D-64-B4	MA^1_{14} D-64-B6	RD RQ D-64-B7					
															EMA^1_3 D-64-A5	MA^1_7 D-64-B3	MA^1_{11} D-64-B4	MA^1_{15} D-64-B6	WR RQ D-64-B8					
4102R	4223	4223	4113	4113	4113	4102R	4102R																1665	
B 3D	0 D-11-A1	9 D-11-A5	0 D-11-B1	6 D-11-B3	12 D-11-B6	9b D-11-A5	0b D-11-A1																TP8 + MB^0_0 D-64-C1	B 3D
1 D-11-C1	1 D-11-A1	10 D-11-A5				10b D-11-A5	1b D-11-A1																TP8 + MB^1_2 D-64-C2	
	2 D-11-A2	11 D-11-A6	2 D-11-B1	8 D-11-B4	14 D-11-B7	11b D-11-A6	2b D-11-A2																TP8 + MB^1_4 D-64-C3	
	3 D-11-A2	12 D-11-A6	4 D-11-B2	10 D-11-B5	16 D-11-B7	12b D-11-A6	3b D-11-A2																TP8 + MB^1_6 D-64-C4	
	4 D-11-A3	13 D-11-A6				13b D-11-A7	4b D-11-A3																TP9 + MB^1_8 D-64-C4	
3 D-11-C2	5 D-11-A3	14 D-11-A7	5 D-11-B3	11 D-11-B5	17 D-11-B8	14b D-11-A7	5b D-11-A3																TP8 + MB^1_{10} D-64-C5	
	6 D-11-A4	15 D-11-A7				15b D-11-A7	6b D-11-A4																TP8 + MB^1_{12} D-64-C6	
	7 D-11-A4	16 D-11-A8	3 D-11-B2	9 D-11-B4	15 D-11-B7	16b D-11-A8	7b D-11-A4																TP8 + MB^1_{14} D-64-C7	
	8 D-11-A4	17 D-11-A8				17b D-11-A8	8b D-11-A4																TP8 + MB^1_{16} D-64-C8	
			1 D-11-B1	7 D-11-B4	13 D-11-B6																			

REVISIONS	CHANGE	DATE	ENG

DRAWN	M Marrazzo	DATE	8/6/64
CHECKED		DATE	11/5/19
ENG		DATE	
PROJ ENG		DATE	
PROD		DATE	

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE UTILIZATION MODULE LOCATION
FOR

ASSY NO | CODE UML | DRWG NO D-1D-45-20 | REV LTR

SHEET 12 OF 16

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4113R	4113R	4113R	4113R	4113R	4113R	4603	4603	4603	4603	4603	4603									TPB				
MBD_A^0 D-12-A1	MBD_A^6 D-12-A1	MBD_C^4 D-12-B1	MBD_D^2 D-12-B1	MBD_B^0 D-12-A3	MBD_B^2 D-12-B1	0X+TP_{7-4} + 1X+TP_{7-4} D-12-A4	0X+TP_{10-4} + 1X+TP_{10-4} D-12-A4	2X+TP_{7-4} D-12-A4	2X+TP_{10-4} D-12-A4	5X+TP_{7-4} D-12-A5	5X+TP_{10-4} D-12-A5													
MBD_A^1 D-12-A1	MBD_A^7 D-12-A1	MBD_C^5 D-12-B1	MBD_D^3 D-12-B1	MBD_B^1 D-12-A3	MBD_B^3 D-12-B1																			
MBD_A^2 D-12-A2	MBD_C^0 D-12-A2	MBD_C^6 D-12-B2	MBD_D^4 D-12-B2		MBD_B^4 D-12-B2	0X+TP_{7-4} D-12-A4	0X+TP_{10-4} D-12-A4	3X+TP_{7-4} D-12-A4	3X+TP_{10-4} D-12-A4	6X+TP_{7-4} D-12-A5	6X+TP_{10-4} D-12-A5													
MBD_A^3 D-12-A2	MBD_C^1 D-12-A2	MBD_C^7 D-12-B2	MBD_D^5 D-12-B2		MBD_B^5 D-12-B2																			
MBD_A^4 D-12-A3	MBD_C^2 D-12-A3	MBD_D^0 D-12-B3	MBD_D^6 D-12-B3		MBD_B^6 D-12-B3	1X+TP_{7-4} D-12-A4	1X+TP_{10-4} D-12-A4	4X+TP_{7-4} D-12-A5	4X+TP_{10-4} D-12-A5	7X+TP_{7-4} D-12-A5	7X+TP_{10-4} D-12-A5													
MBD_A^5 D-12-A3	MBD_C^3 D-12-A3	MBD_D^1 D-12-B3	MBD_D^7 D-12-B3		MBD_B^7 D-12-B3																			
		1104	4603	4603	4603	4603	4603	4603	4603	1685	1685	4110	4603	4214	4106	4106	1103	1103R	4129	4603	4603	4603	4112	4110
		RBB D-12-A6	RPA D-12-A6	0→TB D-12-A6	PPA D-12-A7	DPY D-12-A8	RRB D-12-B7	LSM 0→SBM D-12-B7	(0+4)03X TP_{10-4} D-12-C7	PF_1^1 D-12-C1	PF_5^1 D-12-C2	EXT +1→PC D-12-B5		RCP D-12-C3	SET RCP[1] D-12-C3	SET PCP[1] D-12-D5	SET DCP[1] D-12-D5			0→IO ON IOT D-12-B4	1→PF_1 D-12-C1	1→PF_4 D-12-C2	1→PF_1 D-12-C1	
			RPB D-12-A6	0→IO D-12-A7	0→PB D-12-A7	0→DB D-12-A8	CKS D-12-B7	ESM 1→SBM D-12-B7	(0+4)05X TP_{7-4} D-12-C8	PF_2^1 D-12-C1	PF_6^1 D-12-C2		(0+4)00X TP_{10-4} D-12-C6	PCP D-12-C4		SET TCP[1] D-12-D5	NAC D-12-D1		IOT DONE D-12-B6	IOT DONE D-12-B6	1→PF_2 D-12-C1	1→PF_5 D-12-C2	1→PF_2 D-12-C1	0→IO ON IOT D-12-C4
			TY0 D-12-A6	TY1 D-12-A7	PPB D-12-A8	0→PB ON PPB D-12-A8	CBS D-12-B7	EEM + LEM D-12-B8	(0+4)07X TP_{10-4} D-12-C8	PF_3^1 D-12-C1	NAC D-12-C3	IOT DONE D-12-B5	(0+4) 00X TP_{7-4} D-12-C6	TCP D-12-C5	SET RCP[0] D-12-D3	SET PCP D-12-D4	NAC D-12-D2			EXT 1→PC D-12-B5	1→PF_3 D-12-C1	1→PF_6 D-12-C3	1→PF_3 D-12-C2	1→PF_1 D-12-C1
										PF_4^1 D-12-C1	NAC D-12-C3			DCP D-12-C6		SET TCP[0] D-12-D5	SET DCP[0] D-12-D5	NAC D-12-D1					1→PF_5 D-12-C2	
																							1→PF_6 D-12-C3	
	4603		4113R	4603	4301	4301	4603	4603	4603	4603													4110	4603	4603
	CTB 35 TP_{10-4} D-13-D5		0→IO D-13-A1	SC + CTB TRAP BUFFER D-13-C5	122 TP_{37-40} D-13-A3	022 TP_{17-40} D-13-B3	61 TP_{7-4} D-13-A5	61 TP_{10-4} D-13-A6	2061 TP_{7-4} D-13-A7	2061 TP_{7-4} D-13-A8														RR0 17 TP_{10-4} D-13-B4	RR1 37 TP_{7-4} D-13-B3
			MB_8^1 D-13-B1	0→IO D-13-A2			62 TP_{7-4} D-13-B5	62 TP_{10-4} D-13-B6	2062 TP_{7-4} D-13-B7	2062 TP_{7-4} D-13-A8												EXAMINE DEPOSIT READ-IN D-13-C1	RCK 32 TP_{10-4} D-13-B4	RR 37 TP_{10-4} D-13-B3
			MB_6^1 D-13-B1				63 TP D-13-B5	63 TP D-13-B6	(0+4)06X TP_{10-4} D-13-B7	(0+4)06X TP_{7-4} D-13-B8													CTB 35 TP_{10-4} D-13-C4	RR0 17 TP_{7-4} D-13-C3
			2062 TP_{7-4} D-13-B8																					

CHANGE	DATE	ENG
DRWG. #WAS D-ID-45-20 SH. 13 OF 16 A-321	12-21-84	KR

REVISIONS

DRAWN	DATE	
CHECKED	DATE	
ENG	DATE	
PROJ ENG	DATE	
PROD	DATE	

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-ID-45-20-13 | REV LTR A

SHEET 1 OF 1

REV. YR

D-UP-45-20

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4113R	4113R	4113R	4113R	4113R	4113R	4603	4603	4603	4603	4603	4603									TPS				
MEC_E^2 D-12-A7	MEC_D^2 D-12-A1	MEC_C^2 D-12-B1	MEC_B^2 D-12-B1	MEC_E^2 D-12-A3	MEC_B^2 D-12-B1	2X+TP_{7-4} 1X+TP_{7-4} D-12-A4	2X+TP_{10-4} 1X+TP_{10-4} D-12-A4	2X+TP_{7-4} D-12-A4	2X+TP_{10-4} D-12-A4	5X+TP_{7-4} D-12-A5	5X+TP_{10-4} D-12-A5													
MEC_A^2 D-12-A1	MEC_D^2 D-12-A1	MEC_C^2 D-12-B1	MEC_D^2 D-12-B1	MEC_B D-12-A5	MEC_B^2 D-12-B1																			
MEC_E^2 D-12-A2	MEC_C^2 D-12-A2	MEC_C^2 D-12-B2	MEC_D^2 D-12-B2		MEC_B^2 D-12-B2	4X+TP_{7-4} D-12-A4	4X+TP_{10-4} D-12-A4	3X+TP_{7-4} D-12-A4	3X+TP_{10-4} D-12-A4	6X+TP_{7-4} D-12-A5	6X+TP_{10-4} D-12-A5													
MEC_D^2 D-12-A2	MEC_C D-12-A2	MEC_C^2 D-12-B2	MEC_C^2 D-12-B2		MEC_B^2 D-12-B2																			
MEC_A^2 D-12-A3	MEC_E^2 D-12-A3	MEC_E^2 D-12-B3	MEC_D^2 D-12-B3		MEC_B^2 D-12-B3	1X+TP_{7-4} D-12-A4	1X+TP_{10-4} D-12-A4	4X+TP_{7-4} D-12-A5	4X+TP_{10-4} D-12-A5	7X+TP_{7-4} D-12-A5	7X+TP_{10-4} D-12-A5													
MEC_D^2 D-12-A3	MEC_C^2 D-12-A3	MEC_C^2 D-12-B3	MEC_C^2 D-12-B3		MEC_B^2 D-12-B3																			
		1104	4603	4603	4603	4603	4603	4603	4603	1685	1685	4110	4603	4214	4106	4106	1103	1103R	4129	4603	4603	4603	4112	4110
		R6B D-12-A6	RPA D-12-A6	T3 D-12-A6	PPA D-12-A7	DPY D-12-A8	RBS D-12-B7	LSM SBM D-12-B7	(Q = 4105X TP_{10-4} D-12-C7	PF_1^1 D-12-C1	PF_5^1 D-12-C2	EXT PC D-12-B5		RCP D-12-C5	SET RCP D-12-C3	SET PCP D-12-B5	SET DCP D-12-B5				ON IOT D-12-B4	PF_1 D-12-C1	PF_4 D-12-C2	PF_1 D-12-C1	
			RPB D-12-A6	T2 D-12-B7	PPB D-12-A7	CPY D-12-A8	CKS D-12-B7	ESM SBM D-12-B7	(Q = 4105X TP_{10-4} D-12-C8	PF_2^1 D-12-C1	PF_6^1 D-12-C2		(Q = 4100X TP_{10-4} D-12-C6	PCP D-12-C4		SET PCP D-12-D4	NAC D-12-D1	NAC D-12-D2	IOT DONE D-12-B6	IOT DONE D-12-B6	PF_2 D-12-C1	PF_5 D-12-C2	PF_1 D-12-C1	IOT ON IOT D-12-C4	
			TY0 D-12-A6	TY1 D-12-A7	PPB D-12-A8	PB ON PPB D-12-A8	CBS D-12-B7	EBN + LBN D-12-B8	(Q = 4107X TP_{10-4} D-12-C8	PF_3^1 D-12-C1	NAC D-12-C3	EXT PC D-12-B5	(Q = 4100X TP_{7-4} D-12-C6	FCP D-12-C5	SET RCP D-12-D3	SET PCP D-12-D4		NAC D-12-D1		EXT PC D-12-B5	PF_3 D-12-C1	PF_6 D-12-C3	PF_4 D-12-C2	PF_5 D-12-C2	
										PF_4^1 D-12-C1	NAC D-12-C3			DCP D-12-C6		SET DCP D-12-D5	SET DCP D-12-D5					PF_3 D-12-C1		
	4603		4113R	4603	4501	4501	4603	4603	4603	4603												4113C	4603	4603
	CTB 35 TP_{10-4} D-13-B5			SC + CTB TRAP BUFFER D-13-B5			o1 TP_{7-4} D-13-A5	o1 TP_{10-4} D-13-A6	2061 TP_{7-4} D-13-A7	2061 TP_{7-4} D-13-A8													RRO 17 TP_{10-4} D-13-B4	RR1 37 TP_{7-4} D-13-B3	
					T22 TP_{37-43} D-13-A3	O22 TP_{17-40} D-13-B3	o2 TP_{7-4} D-13-B5	o2 TP_{10-4} D-13-B6	2062 TP_{7-4} D-13-B7	2062 TP_{7-4} D-13-A8										EXAMINE DEPOSIT READ-IN D-13-C1			RC1 32 TP_{10-4} D-13-B4	RR1 37 TP_{10-4} D-13-B3	
			ME_B^1 D-13-B1 ME_D^1 D-13-B1 2062 TP_{7-4} D-13-B8				o3 TP D-13-B5	o3 TP D-13-B6	(Q = 4106X TP_{10-4} D-13-B7	(Q = 4106X TP_{7-4} D-13-B8													CTe 35 TP_{10-4} D-13-A4	RR0 37 TP_{7-4} D-13-B3	

| REVISIONS | | | | | | | | | | | | | | | | | | |

D-ID-45-20-14 | REV LTR A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4219	4219	4129							
IM0 D-10-A2	IM1 D-10-A2	IM2 D-10-A3	IM3 D-10-A3	IM4 D-10-A4	IM5 D-10-A4	IM6 D-10-A5	IM7 D-10-A5	IM8 D-10-A6																
IM9 D-10-B2	IM10 D-10-B2	IM11 D-10-B3	IM12 D-10-B3	IM13 D-10-B4	IM14 D-10-B4	IM15 D-10-B5	IM16 D-10-B5	IM17 D-10-B6	IM9 D-10-C2	IM10 D-10-C2	IM11 D-10-C3	IM12 D-10-C3	IM13 D-10-C4	IM14 D-10-C4	IM15 D-10-C5	IM16 D-10-C5	IM17 D-10-C6							

3L

3L

DRWG. # WAS D-ID-45-20 SH. 14 DF. 16
A-321

CHANGE | DATE | ENG

REVISIONS

DRAWN	M Marrone	DATE	8/11/64
CHECKED	M Remsh	DATE	11/6/68
ENG		DATE	
PROJ ENG		DATE	
PROD		DATE	

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-ID-45-20-14 | REV LTR A

SHEET | OF

D-1D-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4129	4219	4219	4129							
IM0 D-10-A2	IM1 D-10-A2	IM2 D-10-A3	IM3 D-10-A3	IM4 D-10-A4	IM5 D-10-A4	IM6 D-10-A5	IM7 D-10-A5	IM8 D-10-A6	IM9 D-10-C2	IM10 D-10-C2	IM11 D-10-C3	IM12 D-10-C3	IM13 D-10-C4	IM14 D-10-C4	IM15 D-10-C5	IM16 D-10-C5	IM17 D-10-C6							
IM9 D-10-B2	IM10 D-10-B2	IM11 D-10-B3	IM12 D-10-B3	IM13 D-10-B4	IM14 D-10-B4	IM15 D-10-B5	IM16 D-10-B5	IM17 D-10-B6																

CHANGE	DATE	ENG.

REVISIONS

DRAWN	Wilson	DATE 11/2/79
CHECKED	[illegible]	DATE 11/2/79
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML

SHEET 14 OF 16

TITLE UTILIZATION MODULE LOCATION

FOR

DRWG NO D-1D-45-20 | REV LTR

D-ID-45-20-15 A

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A	4128	4214	4126	4214	4128	4128	4214	1103R	1103R	4113	4214	4128	1111	4128	4214	4113	1103R	1103R	4214	4128	4102				
	$\overline{0}$ → $b1^{s}$ 0-7 D-55-B1	b000 D-55-B2	SET b002 D-55-B2	b002 D-55-B2	RESET SYNC D-55-B2	HOLD BREAK D-55-A2	b003 D-55-A2	SET b004 D-55-A2	SET b004 D-55-A3	SET b004 D-55-A1	b004 D-55-A2	$\overline{0}$ → EVEN $b4^{s}$ D-55-A2	NO BREAK 0-3 D-55-A5	SET b004-b034 D-55-A1	b044 D-55-A5	SET b044 D-55-A5	SET b074 D-55-A7	SET b054 D-55-A6	b043 D-55-A6	HOLD BREAK D-55-A5	A3 D-7-A3				
		b011 D-55-B2	SET b012 D-55-B2	b012 D-55-B2			b013 D-55-A2	SEQ 0 D-55-A2 SET b014 D-55-A2	SEQ 2 D-55-A3 SET b034 D-55-A3	SET b024 D-55-A3 SET b014 D-55-A2	b014 D-55-A2				b054 D-55-A6	SET b064 D-55-A7 SET b054 D-55-A6	SEQ 6 D-55-A7 SET b074 D-55-A7	SEQ 4 D-55-A6 SET b054 D-55-A6	b053 D-55-A6		A2 D-7-A2 A1 D-7-A1 A2 D-7-A2				
RIA		b021 D-55-B3	SET b022 D-55-B3	b022 D-55-B3	$\overline{1}$ → $b2^{s}$ 0-7 D-55-B2	SYNC D-55-A2	b023 D-55-A3	SET b024 D-55-A2 SEQ 1 D-55-A2	SET b034 D-55-A4 SEQ 3 D-55-A4	SET b034 D-55-A4	b024 D-55-A3	$\overline{0}$ → ODD $b4^{s}$ D-55-A2	NO BREAK 4-7 D-55-B5	HOLD BREAK D-55-A5	b064 D-55-A7	SET b074 D-55-A8 SEQ 7 D-55-A8	SET b064 D-55-A6 SEQ 5 D-55-A6	b063 D-55-A7	SYNC D-55-A5	A3 D-7-A3 A4 D-7-A3						
		b031 D-55-B4	SET b032 D-55-B4	b032 D-55-B4			b033 D-55-A4	SET b024 D-55-A3	0 b033 D-55-A4	SET b044 D-55-A5	b034 D-55-A4				b074 D-55-A8	NO BREAK 0-7 D-55-B5	0 b073 D-55-A8	SET b064 D-55-A7	b073 D-55-A8						
	4128	4214	4126	4214	4128	4128	4214	1103R	1103R	4113	4214	4128	1111	4128	4214	4113	1103R	1103R	4214	4128					
B	$\overline{0}$ → $b1^{s}$ 10-17 D-55-D1	b101 D-55-D2	SET b102 D-55-D2	b102 D-55-D2	RESET SYNC D-55-D1	HOLD BREAK D-55-C1	b103 D-55-C2	SET b114 D-55-C2 SEQ 10 D-55-C2	SET b134 D-55-C3 SEQ 12 D-55-C3	SET b104 D-55-C1 SET b124 D-55-C3	b104 D-55-C2	$\overline{0}$ → EVEN $b4^{s}$ D-55-C1	NO BREAK 0-13 D-55-C5	HOLD BREAK D-55-C1	b144 D-55-C6	SET b141 D-55-C5 SET b164 D-55-C7	SET b174 D-55-C7 SEQ 16 D-55-C7	SET b154 D-55-C6 SEQ 14 D-55-C6	b143 D-55-C6	HOLD BREAK D-55-C5						
		b111 D-55-D2	SET b112 D-55-D3	b112 D-55-D2			b113 D-55-C2	SET b114 D-55-C2	SET b134 D-55-C3	SET b114 D-55-C2	b114 D-55-C2				b154 D-55-C6	SET b154 D-55-C6	SET b174 D-55-C7	SET b154 D-55-C6	b153 D-55-C6						
RIB		b121 D-55-D3	SET b122 D-55-D3	b122 D-55-D3	$\overline{1}$ → $b2^{s}$ 10-17 D-55-D1	SYNC D-55-C1	b123 D-55-C3	SET b124 D-55-C2 SEQ 11 D-55-C2	0 SET b133 D-55-C4 SEQ 13 D-55-C4	SET b134 D-55-C4	b124 D-55-C3	$\overline{0}$ → ODD $b4^{s}$ D-55-C1	TRAP BUFFER D-7-C4	HOLD BREAK D-55-C5	b164 D-55-C7	SET b174 D-55-C8 SEQ 17 D-55-C8	0 SET b173 D-55-C8 SEQ 15 D-55-C6	b163 D-55-C7	SYNC D-55-C5							
		b131 D-55-D4	SET b132 D-55-D4	b132 D-55-D4			b133 D-55-C4	SET b124 D-55-C3	0 SET b143 D-55-C5	NO BREAK 0-3 D-55-C5	b134 D-55-C4				b174 D-55-C8	0 b173 D-55-C8	0 SET b173 D-55-C8	1 SET b164 D-55-C6	b173 D-55-C8						
	4410	4604	4202	4410	4225	4225	4111	4603	1111	1111	4128	4214	4126	4214	4128	4128	4214	4126	4214	4128	1105				
C	SET 1 FFA D-56-C6	CK_{2-9} D-56-B1 SEQ BK D-56-B3 COMP CK_{17} D-56-B7	FFA D-56-B5 FFB D-56-B5	CLEAR CK_{2-9} D-56-C1	CK_2 D-56-A1 CK_3 D-56-A1 CK_4 D-56-A2 CK_5 D-56-A2 CK_6 D-56-A3 CK_7 D-56-A3 CK_8 D-56-A4 CK_9 D-56-A4	CK_{10} D-56-A5 CK_{11} D-56-A5 CK_{12} D-56-A6 CK_{13} D-56-A6 CK_{14} D-56-A7 CK_{15} D-56-A7 CK_{16} D-56-A8 CK_{17} D-56-A8	SEQ BK D-56-C3 SEQ BK D-56-C3	1 MINUTE SEQ BK D-56-C3 CK_{2-9} D-56-B1	$\overline{SBS\ BK}$ D-5-C5 TRAP D-5-C3	$\overline{SBS\ BK}$ D-5-C5	RESET SYNC D-55-B5 $\overline{1}$ → $b2^{s}$ 0-7 D-55-B5	b042 D-55-B6 b052 D-55-B6 b062 D-55-B7 b072 D-55-B8	SET b042 D-55-B6 SET b052 D-55-B6 SET b062 D-55-B7 SET b072 D-55-B8	b041 D-55-B6 b051 D-55-B6 b061 D-55-B7 b071 D-55-B8	$\overline{0}$ → $b1^{s}$ 0-7 D-55-B5 $\overline{1}$ → $b1^{s}$ 0-7 D-55-B5	RESET SYNC D-55-D5 $\overline{1}$ → $b2^{s}$ 10-17 D-55-D5	b142 D-55-D6 b152 D-55-D6 b162 D-55-D7 b172 D-55-D8	SET b142 D-55-D6 $\overline{1}$ → $b163^{s}$ D-5-B4 SET b152 D-55-D6 SET b142 D-55-D6 SET b162 D-55-D7 SET b172 D-55-D8	b141 D-55-D6 b151 D-55-D6 b161 D-55-D7 b171 D-55-D8	$\overline{0}$ → $b1^{s}$ 10-17 D-55-D5 $\overline{1}$ → $b1^{s}$ 10-17 D-55-D5	$\overline{0}$ → $b4^{s}$ D-7-B5 TRAP BUFFER D-7-B5				
RIC																									
D																									

	1	2	3	4	5	6	7	8

DRWG. #. WAS D-ID-45-20 SH. 15 OF 16 A-321 12-2-64 JR

NAME DATE REVISIONS END

DRAWN J. Haggerault DATE 9-15-64
ENG. M. Chard DATE 11/2/64
CHK'D ENG. DATE
APPD DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE UTILIZATION MODULE LOCATION
FOR
ASSY NO CODE UML DRWG NO D-ID-45-20-15 REV LTR A
SIZE SHEET OF

D-ID-45-20

	1	2	3	4	5	6	7	8

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A	4128	4214	4126	4214	4128	4128	4214	1103R	1103R	4113	4214	4128	1111	4128	4214	4113	1103R	1103R	4214	4128	4102				
	0 → b1's 0-7 D-55-B1	b001 D-55-B2	SET b002 1 D-55-B2	b002 D-55-B2	RESET SYNC D-55-B2	HOLD BREAK D-55-A2	b003 D-55-A2	SET b004 1 D-55-A2 SEQ 0 D-55-A2	SET b034 1 D-55-A3 SEQ 2 D-55-A3	SET b004 1 D-55-A1 SET b024 1 D-55-A3	b004 D-55-A2	0 → EVEN B4's D-55-A2	NO BREAK 0-3 D-55-A5	SET 1 b004-b034 D-55-A1	b044 D-55-A5	SET b044 1 D-55-A5 SET b064 1 D-55-A7	SET b074 1 D-55-A7 SEQ 6 D-55-A7	SET b054 1 D-55-A6 SEQ 4 D-55-A6	b043 D-55-A6	HOLD BREAK D-55-A5	A3 D-7-A3 A2 D-7-A2 A1 D-7-A1 A2 D-7-A2 A3 D-7-A3				
		b011 D-55-B2	SET b012 1 D-55-B2	b012 D-55-B2			b013 D-55-A2	SET b014 1 D-55-A2	SET b034 1 D-55-A3	SET b014 1 D-55-A2	b014 D-55-A2				b054 D-55-A6	SET b054 D-55-A6	SET b074 D-55-A7	SET b054 D-55-A6	b053 D-55-A6						
RIA		b021 D-55-B3		b022 D-55-B3	1 → b2's 0-7 D-55-B2	SYNC D-55-A2	b023 D-55-A3	SET b024 1 D-55-A2 SEQ 1 D-55-A2	SET b034 1 D-55-A4 SEQ 3 D-55-A4	SET b034 1 D-55-A4	b024 D-55-A3	0 → ODD B4's D-55-A2	NO BREAK 4-7 D-55-B5	HOLD BREAK D-55-A5	b064 D-55-A7	SET b074 1 D-55-A8	SET b073 0 D-55-A8 SEQ 7 D-55-A8	SET b064 1 D-55-A6 SEQ 5 D-55-A6	b063 D-55-A7	SYNC D-55-A5	A4 D-7-A3				
			SET b022 1 D-55-B3																						
		b031 D-55-B4	SET b032 1 D-55-B4	b032 D-55-B4			b033 D-55-A4	SET b024 1 D-55-A3	b033 0 D-55-A4	SET b044 1 D-55-A5	b034 D-55-A4				b074 D-55-A8	NO BREAK 0-7 D-55-B5	b073 D-55-A8	SET b064 1 D-55-A7	b073 D-55-A8						
B	4128	4214	4126	4214	4128	4128	4214	1103R	1103R	4113	4214	4128	1111	4128	4214	4113	1103R	1103R	4214	4128					
	0 → b1's 10-17 D-55-D1	b101 D-55-D2	SET b102 1 D-55-D2	b102 D-55-D2	RESET SYNC D-55-D1	HOLD BREAK D-55-C1	b103 D-55-C2	SET b114 1 D-55-C2 SEQ 10 D-55-C2	SET b134 1 D-55-C3 SEQ 12 D-55-C3	SET b104 1 D-55-C1 SET b124 1 D-55-C3	b104 D-55-C2	0 → EVEN b4's D-55-C1	NO BREAK 0-13 D-55-C5	HOLD BREAK D-55-C1	b144 D-55-C6	SET b141 1 D-55-C5	SET b174 1 D-55-C7 SEQ 16 D-55-C7	SET b154 1 D-55-C6 SEQ 14 D-55-C6	b143 D-55-C6	HOLD BREAK D-55-C5					
		b111 D-55-D2	SET b112 1 D-55-D3	b112 D-55-D2			b113 D-55-C2	SET b114 1 D-55-C2	SET b134 1 D-55-C3	SET b114 1 D-55-C2	b114 D-55-C2				b154 D-55-C6	SET b164 1 D-55-C7 SET b154 1 D-55-C6	SET b174 1 D-55-C7	SET b154 1 D-55-C6	b153 D-55-C6						
RIB		b121 D-55-D3		b122 D-55-D3	1 → b2's 10-17 D-55-D1	SYNC D-55-C1	b123 D-55-C3	SET b124 1 D-55-C2 SEQ 11 D-55-C2	0 SET b133 D-55-C4 SEQ 13 D-55-C4	SET b134 1 D-55-C4 NO BREAK 0-3 D-55-C5	b124 D-55-C3	0 → ODD b4's D-55-C1	TRAP BUFFER D-7-C4	HOLD BREAK D-55-C5	b164 D-55-C7	SET b174 1 D-55-C8 0 b173 D-55-C8	0 SET b173 D-55-C8 SEQ 17 D-55-C8	1 SET b164 D-55-C6 SEQ 15 D-55-C6	b163 D-55-C7	SYNC D-55-C5					
		b131 D-55-D4	SET b132 1 D-55-D4	b132 D-55-D4			b133 D-55-C4	SET b124 1 D-55-C3	0 SET b143 D-55-C5	NO BREAK 0-3 D-55-C5	b134 D-55-C4				b174 D-55-C8				b173 D-55-C8						
C	4410	4604	4202	4410	4225	4225	4111	4603	1111	1111	4128	4214	4126	4214	4128	4128	4214	4126	4214	4128	1105				
	SET 1 FFA D-56-C6	CK2-9 D-56-B1	FFA D-56-B5	CLEAR CK2-9 D-56-C1	CK2 D-56-A1 CK3 D-56-A1 CK4 D-56-A2 CK5 D-56-A2 CK6 D-56-A3 CK7 D-56-A3 CK8 D-56-A4 CK9 D-56-A4	CK10 D-56-A5 CK11 D-56-A5 CK12 D-56-A6 CK13 D-56-A6 CK14 D-56-A7 CK15 D-56-A7 CK16 D-56-A8 CK17 D-56-A8	SEQ BK D-56-C3	1 MINUTE SEQ BK D-56-C3 CK2-9 D-56-B1	SBS BK D-5-C5 TRAP D-5-C3	SBS BK D-5-C5	RESET SYNC D-55-B5	b042 D-55-B6 b052 D-55-B6	SET b042 1 D-55-B6 SET b052 1 D-55-B6	b041 D-55-B6 b051 D-55-B6	0 → b1's 0-7 D-55-B5	RESET SYNC D-55-D5	b142 D-55-D6 b152 D-55-D6	SET b142 1 D-55-D6 1 → b163 D-5-B4 SET b152 1 D-55-D6	b141 D-55-D6 b151 D-55-D6	0 → b1's 10-17 D-55-D5	0 → b4's D-7-B5 TRAP BUFFER D-7-B5				
RIC		COMP CK17 D-56-B7	FFB D-56-B5				SEQ BK D-56-C3				1 → b2's 0-7 D-55-B5	b062 D-55-B7 b072 D-55-B8	SET b062 1 D-55-B7 SET b072 1 D-55-B8	b061 D-55-B7 b071 D-55-B8	1 → b1's 0-7 D-55-B5	1 → b2's 10-17 D-55-D5	b162 D-55-D7 b172 D-55-D8	SET b142 1 D-55-D6 SET b162 1 D-55-D7 SET b172 1 D-55-D8	b161 D-55-D7 b171 D-55-D8	1 → b1's 10-17 D-55-D5					
D	1	2	3	4	5	6	7	8																	

	1	2	3	4	5	6	7	8

DRAWN P. Dugault DATE 11 MAY 68
ENG DATE
MFG DATE
ASSY No.
SHEET 15 OF 16

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

CODE UML

TITLE UTILIZATION MODULE LOCATION

DOC

SERIAL NO D-ID-45-20

REV

D-ID-45-20 REV LTR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4301	4301	4603	4603	4603	4106	4106	4603	4603	4603	4603	1105	1105	1105	1111	1111	1111	1111	1111	1111	1105				
COMP CK$_{17}$ D-55-B6	SBS RESTORE D-7-D7	/1 → B1^{1}S$_{0-7}$ D-7-C6	/1 → B2^{1}S$_{0-7}$ D-7-B6	HOLDBREAK D-7-C8		CLR B4^{1}S$_{0-7}$ D-7-A7	CLR B2^{1}S$_{10-17}$ D-7-B8	CLR B3^{1}S$_{0-7}$ D-7-A8	DEBREAK D-7-D7	/0 → EVEN B4^{1}S D-7-D6	/0 → ODD B4^{1}S D-7-B5	TRAP BUFFER -D-7-B4	TRAP BUFFER D-7-B5	SBS BREAK REQUEST D-7-D4						TRAP BUFFER D-7-C4				
					CLR B1^{1}S$_{10-17}$ D-7-C7	CLR B4^{1}S$_{10-17}$ D-7-A7														TRAP BUFFER D-7-D5				
RID		/1 → B1^{1}S$_{10-17}$ D-7-C6	/1 → B2^{1}S$_{10-17}$ D-7-B6	RESET SYNC D-7-D8	TP4-4 D-56-C4	CLR B2^{1}S$_{0-7}$ D-7-B7	CLR B1^{1}S$_{0-7}$ D-7-C8	CLR B3^{1}S$_{10-17}$ D-7-B8	CLR B4^{1}S$_{0-7}$ D-7-A8	/0 → ODD B4^{1}S D-7-D6	TRAP BUFFER D-7-D4	NO BREAK 0-3 D-55-B5 NO BREAK 0-7 D-55-B5	NO BREAK 0-13 D-55-C5		SBS BREAK REQUEST D-7-D4	BE 12 D-7-C3	BE 13 D-7-C3	BE 14 D-7-C3	BE 15 D-7-B3	TRAP BUFFER D-7-C4				RID
						CLR B3^{1}S$_{10-17}$ D-7-B7														TRAP BUFFER D-7-D5				
		/0 → B1^{1}S$_{10-17}$ D-7-B6	/0 → B1^{1}S$_{0-7}$ D-7-B6	SYNC D-7-C8	CLR B1^{1}S$_{0-7}$ D-7-C7	CLR B3^{1}S$_{0-7}$ D-7-A7	CLR B1^{1}S$_{10-17}$ D-7-C8	CLR B2^{1}S$_{0-7}$ D-7-B8	CLR B4^{1}S$_{10-17}$ D-7-A8	/0 → ODD B4^{1}S /0 → EVEN B4^{1}S D-7-D5	/0 → ODD B4^{1}S D-7-D4	DEBREAK DELAY D-5-D4		TRAP BUFFER D-7-D5						TRAP BUFFER D-7-D5				
					HOLD BREAK D-7-C7	CLR B2^{1}S$_{10-17}$ D-7-B7					SBS BK REQUEST D-7-D4	NO BREAK$_{0-7}$ D-55-D5	SBS RESTORE D-7-D6											

CHANGE	DATE	ENG	REVISIONS

DRAWN		DATE
CHECKED		DATE
ENG		DATE
PROJ ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

ASSY NO | CODE UML | DRWG NO D-ID-45-20 | REV LTR

SHEET 13 OF 16

TITLE UTILIZATION MODULE LOCATION

FOR

D-ID-45-20-16 RLY LTR A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
4301	4301	4603	4603	4603	4106	4106	4603	4603	4603	4603	1105	1105	1105	1111	1111	1111	1111	1111	1111	1105				
COMP CK 17 D-55-B6	SBS RESTORE D-7-D7	/1 → B1¹S0-7 D-7-C6	/1 → B2¹S0-7 D-7-B6	HOLDBREAK D-7-C8		CLR B4¹S0-7 D-7-A7	CLR B2¹S10-17 D-7-B8	CLR B3¹S0-7 D-7-A8	DEBREAK D-7-D7	/0 → EVEN B4¹S D-7-D6	/0 → ODD B4¹S D-7-B5	TRAP BUFFER -D-7-B4	TRAP BUFFER D-7-B5	SBS BREAK REQUEST D-7-D4	SBS BRFAK REQUEST D-7-D4	BE 12 D-7-C3	BE 13 D-7-C3	BE 14 D-7-C3	BE 15 D-7-B3	TRAP BUFFER D-7-C4				
					CLR B1¹S10-17 D-7-C7	CLR B4¹S10-17 D-7-A7														TRAP BUFFER D-7-D5				
RID		/1 → B1¹S10-17 D-7-C6	/1 → B2¹S10-17 D-7-B6	RESET SYNC D-7-D8	TP4-4 D-56-C4	CLR B2¹S0-7 D-7-B7	CLR B1¹S0-7 D-7-C8	CLR B3¹S10-17 D-7-B8	CLR B4¹S0-7 D-7-A8	/0 → ODD B4¹S D-7-D6	TRAP BUFFER D-7-D4	NO BREAK 0-3 D-55-B5	NO BREAK 0-13 D-55-C5							TRAP BUFFER D-7-C4				RID
						CLR B3¹S10-17 D-7-B7						NO BREAK 0-7 D-55-B5								TRAP BUFFER D-7-D5				
		/0 → B1¹S10-17 D-7-B6	/0 → B1¹S0-7 D-7-B6	SYNC D-7-C8	CLR B1¹S0-7 D-7-C7	CLR B3¹S0-7 D-7-A7	CLR B1¹S10-17 D-7-C3	CLR B2¹S0-7 D-7-B8	CLR B4¹S10-17 D-7-A8	/0 → ODD B4¹S /0 → EVEN B4¹S D-7-D5	/0 → ODD B4¹S D-7-D4	DEBREAK DELAY D-5-D4		TRAP BUFFER D-7-D5						TRAP BUFFER D-7-D5				
					HOLD BREAK D-7-C7	CLR B2¹S10-17 D-7-B7					SBS BK REQUEST D-7-D4	NO BREAK 0-7 D-55-D5	SBS RESTORE D-7-D6											

DRWG. # WAS D-ID-45-20 SH. 16 OF 16 A-321

CHANGE	DATE	ENG
12-21-67		

REVISIONS

DRAWN	Rod Haywood	DATE	1-1-67
CHECKED	N. Schmidt	DATE	1/1/67
ENG		DATE	
PROJ ENG		DATE	
PROD		DATE	

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: UTILIZATION MODULE LOCATION

FOR

ASSY NO | CODE UML | DRWG NO D-ID-45-20-16 | REV LTR A

SHEET 1 OF 1

D-ID-45-21 REV B

MA
1A

RC
1B

AC
CONTROL
1C

1A

1B

1C

SWITCH MOUNTED BETWEEN IC23 & 24 ID23 & 24

NOTES:
UNLESS OTHERWISE INDICATED:
ALL WIRES ARE WHITE #22
Y-YELLOW, B-BLUE, G-GRAY, O-ORANGE
* INDICATES FINAL ASSEMBLY WIRING
(& B) BREAK SYSTEM WIRING
CAPACITORS ARE 3,9 MFD + TO GND.

THIS DWG. TAKEN FROM
D-20016 REV-F

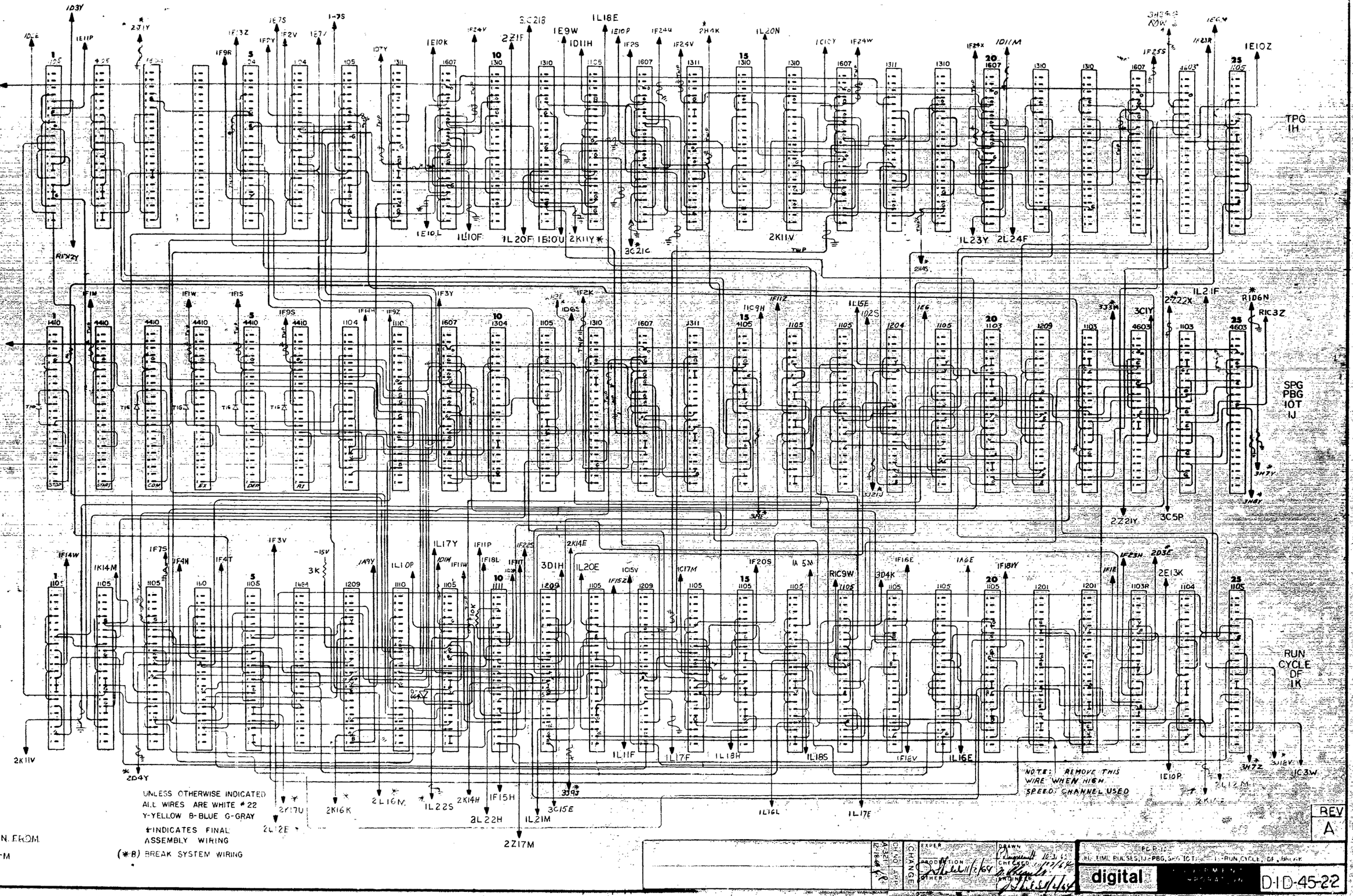
WIRING LAYOUT
TYPES 1901 AND 1903

CODE	CHG NO.	APP	CHANGE	DRAWN	PDP-ID-45
WD	4-321 4-2665	FP FP		EXPER	1A-MA FF, 1B P.C. FF, 1C-AC CONTROL

digital EQUIPMENT CORPORATION D-ID-45-21

REV B

D-ID-45-22 | REV A



THIS DWG. TAKEN FROM D-20020. REV-M

REV A

CHG NO	CHANGE	DRAWN / CHECKED / ENGINEER	PDP-10 HI TIME PULSES, 1J-PBG, SPG 10T - 1K RUN CYCLE OF 1H & 1K
2-2184			digital — D-ID-45-22

D-ID-45-23 REV

CYCLE ONE DCH

CYCLE ONE DCH

TIME PULSE NUMBER

EXEC MEM. REF. CYCLE

BREAK CYCLE ON

BREAK CYCLE TWO

BREAK CYCLE THREE

SPECIAL CYCLE

DCH CYCLE

COMMON EXIT TO HSC

SH/RQ

HSC CYCLE

LCH

DC1

DC2

DC3

A

B

C

D

0a MEM RQ

ADDR ACK

1 LO → EMC

2

3 LO → ME

RD RS

4 MEM → MB

5

6

6a

7 AC → MB

LO → AC

8 WR RS

9 IF SINGLE CYCLE OUT INCREMENT & INST DONE

9a

10 LO → LE, LE → LMA, LO → CY

AC → MB

PC → AC, 0 → EXT. EPC → AC, LO → PC

MA → PC

L+1 → PC

L+1 → PC

L+1 → PC

L → LC

L+1 → LC, LO → CYC

TO BREAK CYCLE TWO

TO BREAK CYCLE THREE

LO → IR

LO → ME

LO → IR

HSC REQ IN

LO → MB

OUT

HSC WORD TRANSFER FULL

INPUT

OUTPUT

HSC INFO → MB, MEM → MB, MBM → MB

MB → OUT

LO → HSC

LO → PC

RESET SBS IF b3 = 1, LO → L3

NO SBS REQUEST

1 → SBn

RESULT

1 → CYC

1 → HSC

L+1 → PC

IF NO REQUEST

IF REQ. OF CHANNEL

1 → CYC

1 → HSC

L+1 → PC

50 51 52 53 54 55

0 → b1

1 → b1

1 → SBn

0 → SBn

1 → L1

0 → b1

1 → L2

0 → b2

(J = val b1's & 11)

J = CHANNEL 1, 2, 3 WHICH IS INTERRUPT

LC1 LC2 LC3

RO / L'

RO / R'

AC0-5 → MB

AC6-11 → MB

AC12-17 → MB

MB → AC

LO → AC, = 7

TO NORMAL CYCLE ZERO

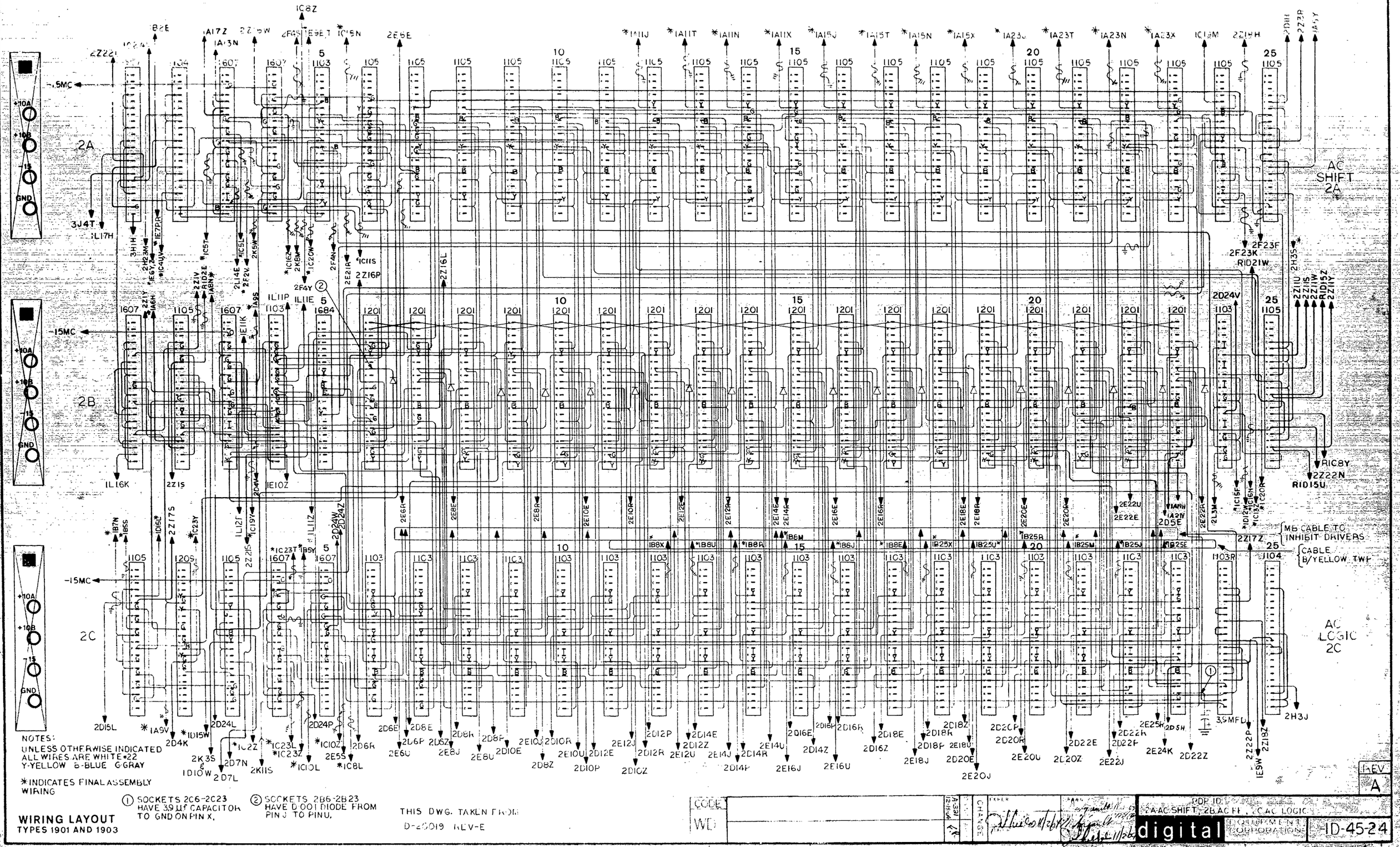
THIS DWG. TAKEN FROM D-20024 REV A-1

CODE FD

digital EQUIPMENT CORPORATION

D-ID-45-23

SPECIAL CYCLES & EXTENDED CYCLES PDP-ID-45


+10A
+10B
-15
GND
2A
2B
2C
-15MC
AC SHIFT 2A
AC LOGIC 2C
MB CABLE TO INHIBIT DRIVERS
CABLE B/YELLOW TWP
3.9MFD
2H3J
2D24V
2F23K
RID21W
RIC8Y
2Z22N
RID15U
3J4T
1L17H
1L16K
2Z15S
1E10Z
2D15L
2D4K
2K3S
1D10W
2D7L
2D7N
2K11S
2D6E
2D8E
2D6P
2D6Z
2D8R
2D8P
2D10E
2D8Z
2D10P
2D10Z
2D14P
2D14Z
2D16P
2D16R
2D16Z
2D18E
2D18P
2D18Z
2D20P
2D20R
2D22E
2D22F
2D22Z
2D24L
2D24P
2D24W
2D24Z
2E6R
2E8E
2E8R
2E10E
2E10R
2E12E
2E12R
2E14E
2E14R
2E16E
2E16R
2E18E
2E18R
2E20E
2E20R
2E22U
2E22E
2E22F
2E24K
2E25K
2Z17Z
2Z22P
2Z22R
2Z19Z
2Z16L
2Z16P
2F4N
2F4Y
2K8M
2K5W
2K9S
1A9V
1A8N
1A6H
1A9S
1B7N
1B5S
1B9Y
1B6M
1B8X
1B8U
1B8R
1B8J
1B8E
1B25X
1B25U
1B25M
1B25J
1B25E
1A17Z
1A13N
1A11J
1A11T
1A11N
1A11X
1A15J
1A15T
1A15N
1A15X
1A23J
1A23T
1A23N
1A23X
1C15M
2Z19H
2D5E
2D5H
2L3M
2E22A
1103R
2Z17Z
2H35
2Z11U
2Z21S
2Z11W
2Z11Y
RID15Z
2Z11Y
1C15F
1C16N
1C20R
1D12W
1A9H
1A2N
1C8Z
1C15N
1C23T
1C23L
1C23Z
1C10Z
1C8L
1C10L
1C2Z
1C16X
1C20W
1C15S
1C5T
1C5L
1C14E
1C19Y
1C12T
1C23Y
1E7P
1E6Y
1E4Y
1E2M
1E9Z
1E11K
1E11Z
1E11P
1E11E
1E9E
1E2Z
1E2N
1E2E
1E2Z1A
2Z16P
2Z16L
2Z11V
2Z11S
1A6N
1A8S
1D10Z
1D15K
1D15W
1D24W
2D24Z
2Z21V
RID2E
RID15E
RID15Y
2Z11Z
2Z11P
2Z11E
2Z11K
2Z11Z
2Z11P
2Z11E
2Z11K
2Z11Z
2Z11P
2Z11E
2Z11K

D-ID-45-25

REV

ID

IE

REAR VIEW 6AT4

2LI2S ID6H

MUL OC OC

MUS NO NO

SW=NC MUS NC NC

IE15Z IF15L

MOUNTS BETWEEN IE15,16 & IF15,16

IF

REAR VIEW 6AT4

2LI2W IF22H

OC OC

DIV NO NO

DIS

SW=NC= MUS NC NC

IF17E IF16L

MOUNTS BETWEEN IF15,16 & IH15,16

NOTE:
ALL DIODES ARE 664

NOTES:
UNLESS OTHERWISE INDICATED
ALL WIRES ARE WHITE #22
Y-YELLOW B-BLUE G-GRAY
*INDICATES FINAL ASSEMBLY WIRING

(*B)BREAK SYSTEM WIRING

L+1 PC SH/RO ID

Pf SH/LOGIC IE

IR IF

NOTE:
WITH MORE THAN ONE MEM. GND F AND REMOVE GND FROM E.

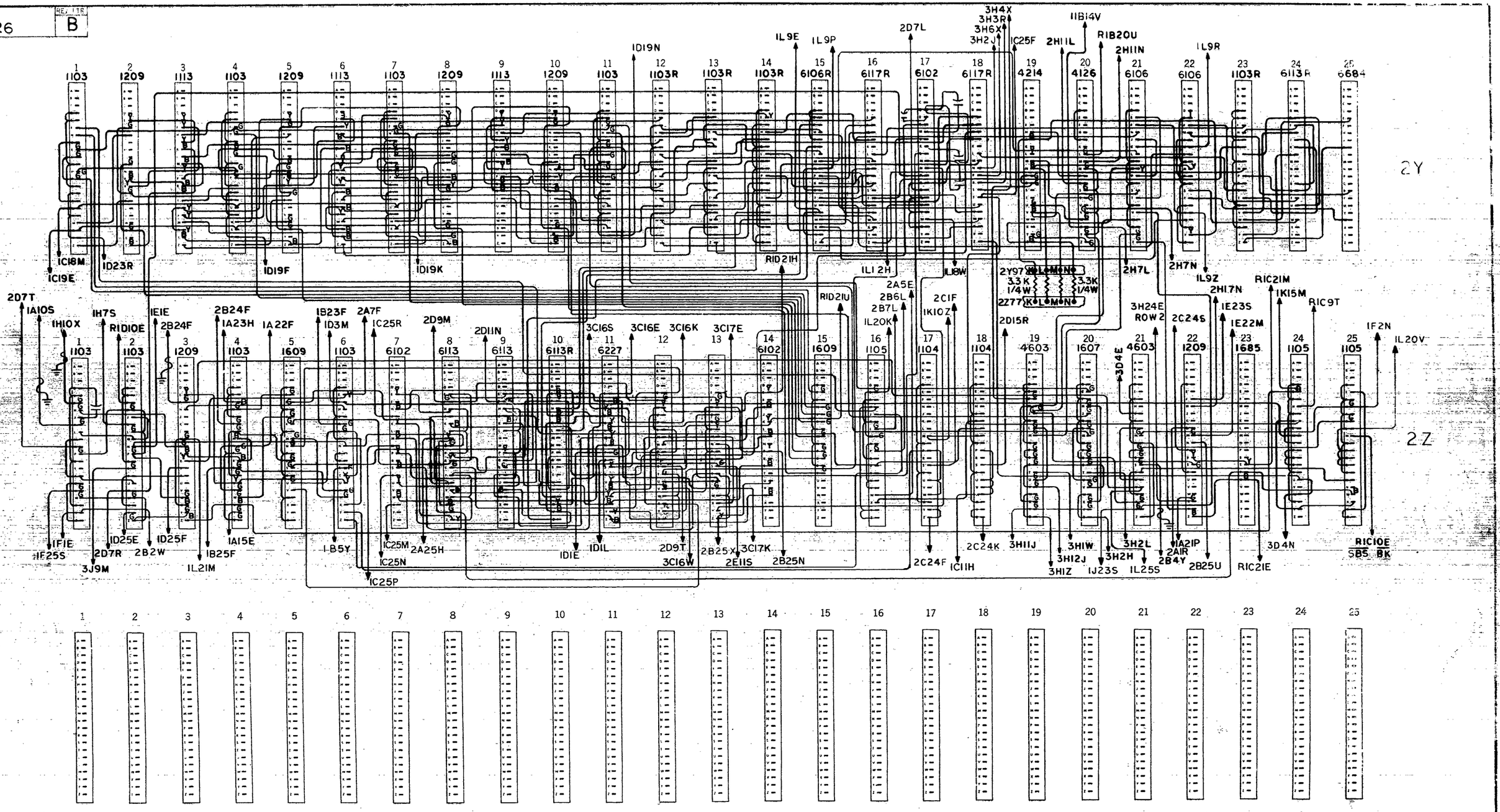
CODE						
WD						

PDP-10-45
ID-L+1 PC SH/RO IE-Pf SH/LOGIC IF-IR

digital

DID-45-25

D-ID-45-26 REV. LTR B



NOTE:
UNLESS OTHERWISE INDICATED
CAPACITORS ARE .01MFD

WIRING LAYOUT
TYPE5

REVISIONS	CHANGE	DATE	ENG.
B-360	A-321	12-15-64	

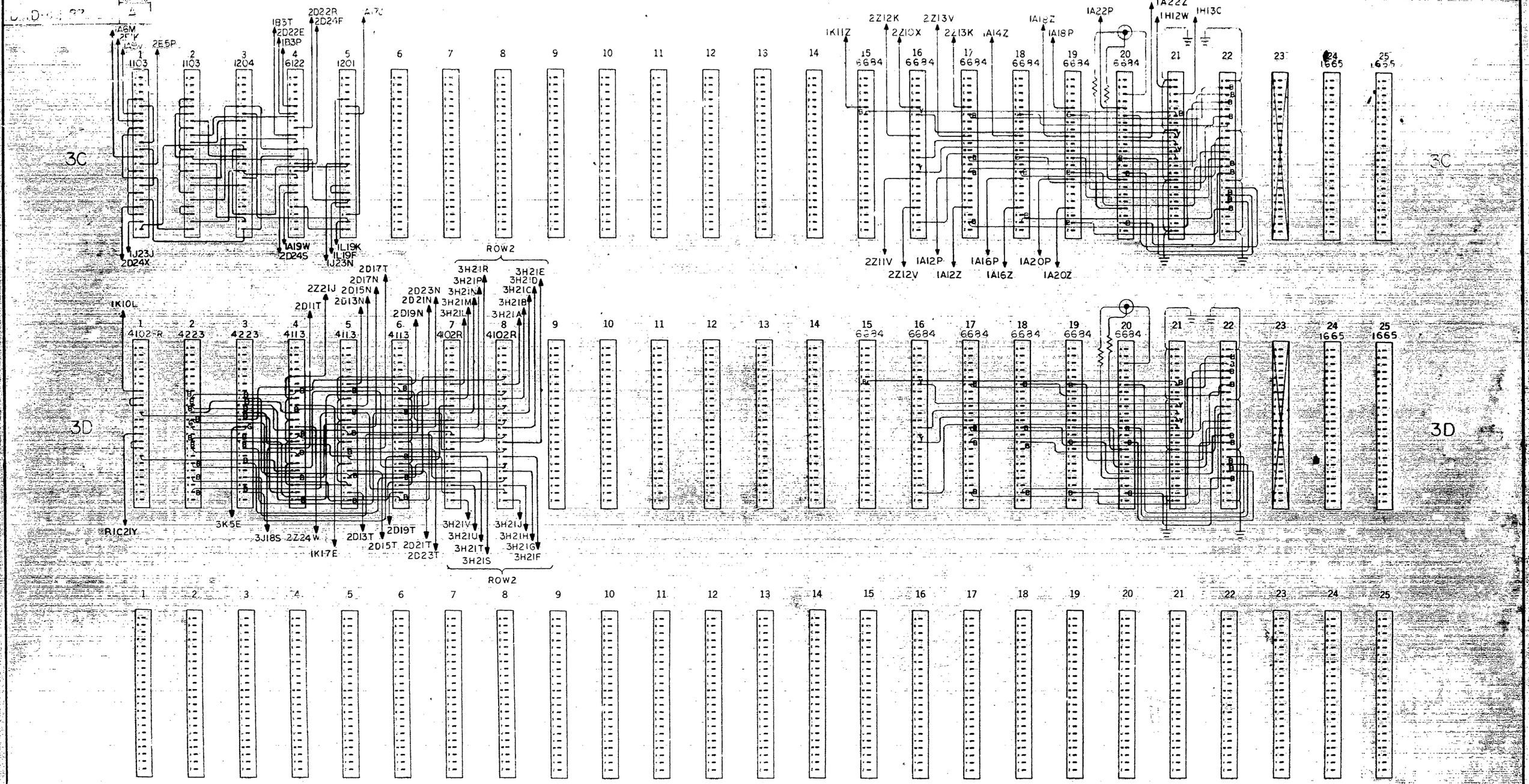
DRAWN	B.D. Leonard	DATE 11-13-63
CHECKED	W.R. Brandt	DATE 10/22/64
ENG	S. Hyde	DATE 11/2/64
PROJ ENG	Q. Wilde	DATE 11/2/64
PROD	S. Wilson	DATE 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: MEMORY EXTENSION TYPE 15A
RENAMING & PROTECTION

FOR PDP-ID-45

ASSY NO	CODE	DRWG NO	REV LTR
MA- -ID-45-1	WD	D-ID-45-26	B
SCALE	SHEET OF		



NOTE:
1. MODULES 21 & 22 IN RACKS 3C & 3D ARE USED AS METHODE PLUGS.

WIRING LAYOUT
TYPES

CHANGE	DATE	ENG
A-321	12-2-68	

REVISIONS

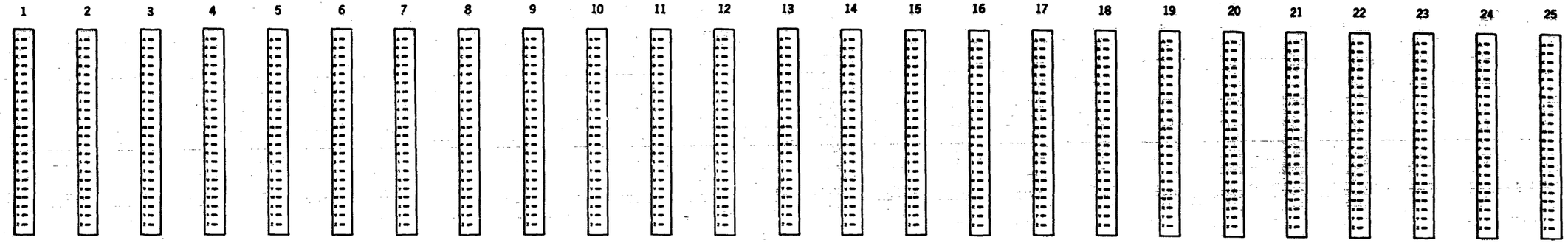
DRAWN	B. Knapp	DATE 11/12/68
CHECKED	W. Hamm	DATE 12/16/68
ENG	J. Lyle	DATE 11/26/68
PROJ ENG		DATE 11/26/68
PROJ		DATE 11/26/68

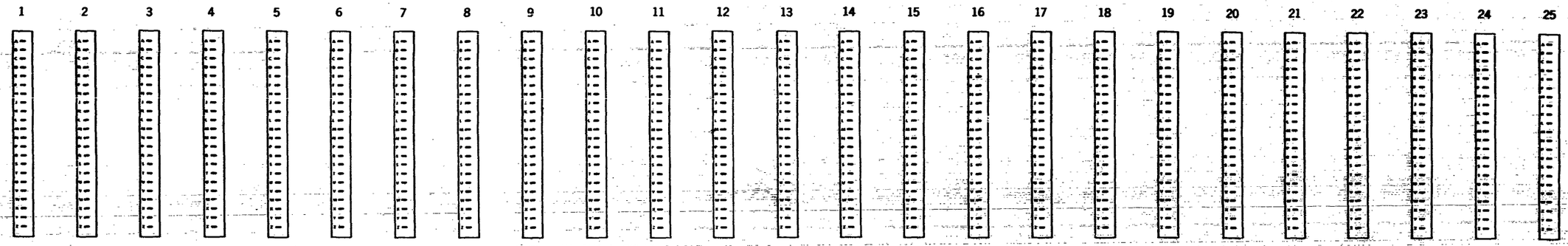
digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

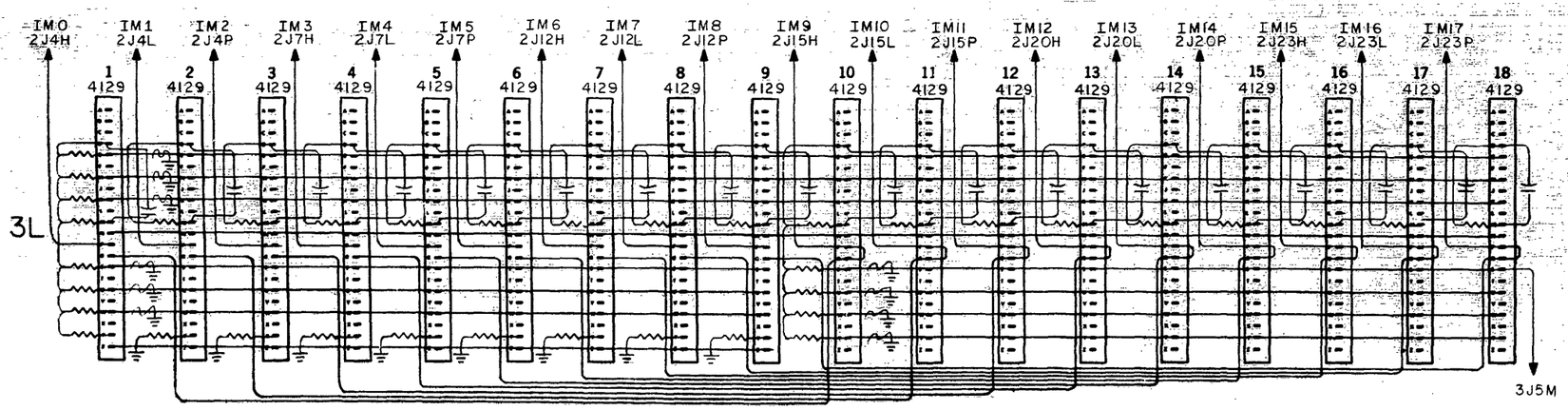
TITLE: RACKS 3C & 3D
FOR: PDP-ID-45
ASSY NO: MA- -ID-45-1
CODE:
DWG NO: D-ID-45 27
REV LTR: A
SCALE:
SHEET: OF

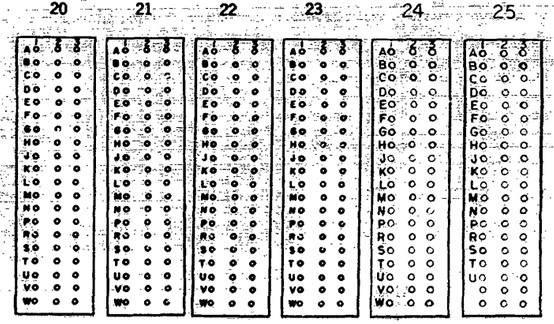
D-ID-45-2E

REV. LTR.









WIRING LAYOUT
TYPES

NOTE:
UNLESS OTHERWISE INDICATED
RESISTORS ARE 100 OHM
CAPACITORS ARE 680 MMFD

REVISIONS	CHANGE	DATE	ENG

DRAWN		DATE 11-8-63
CHECKED		DATE 10/17/64
ENG		DATE 11/2/64
PROJ ENG		DATE 11/2/64
PROD		DATE 11/2/64

digital
EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: IN-OUT MIXER OPTION

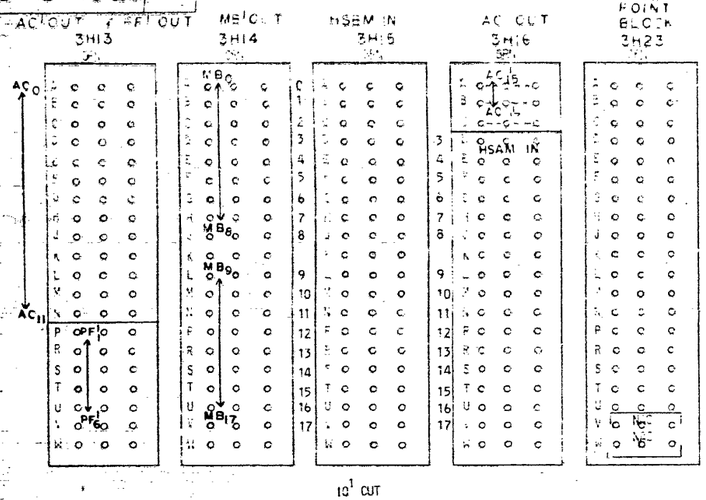
FOR:

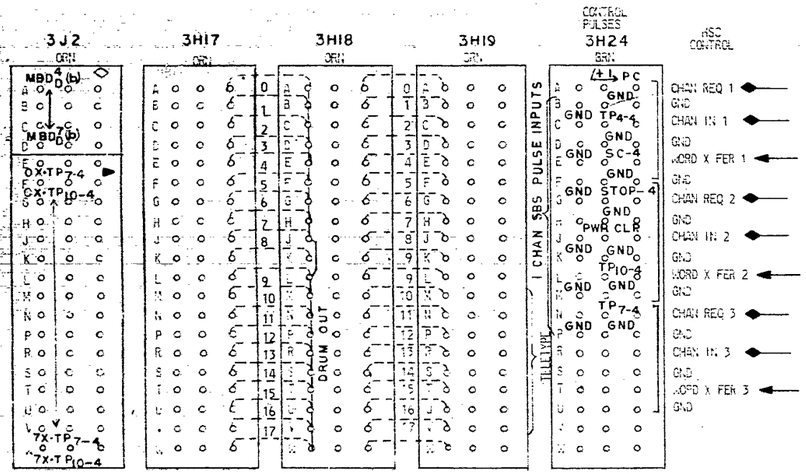
ASSY NO: MA- -ID-45-1 | CODE: WD

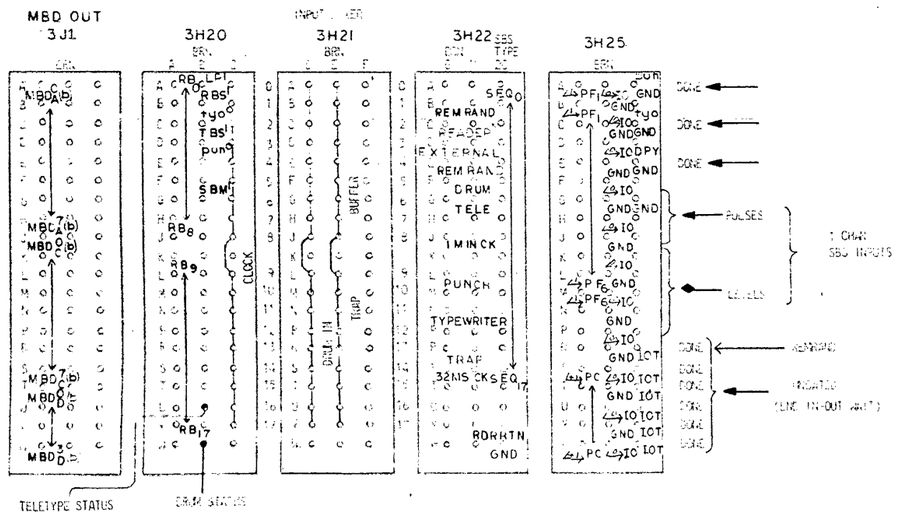
DRWG NO: D-ID-45-2- | REV. LTR:

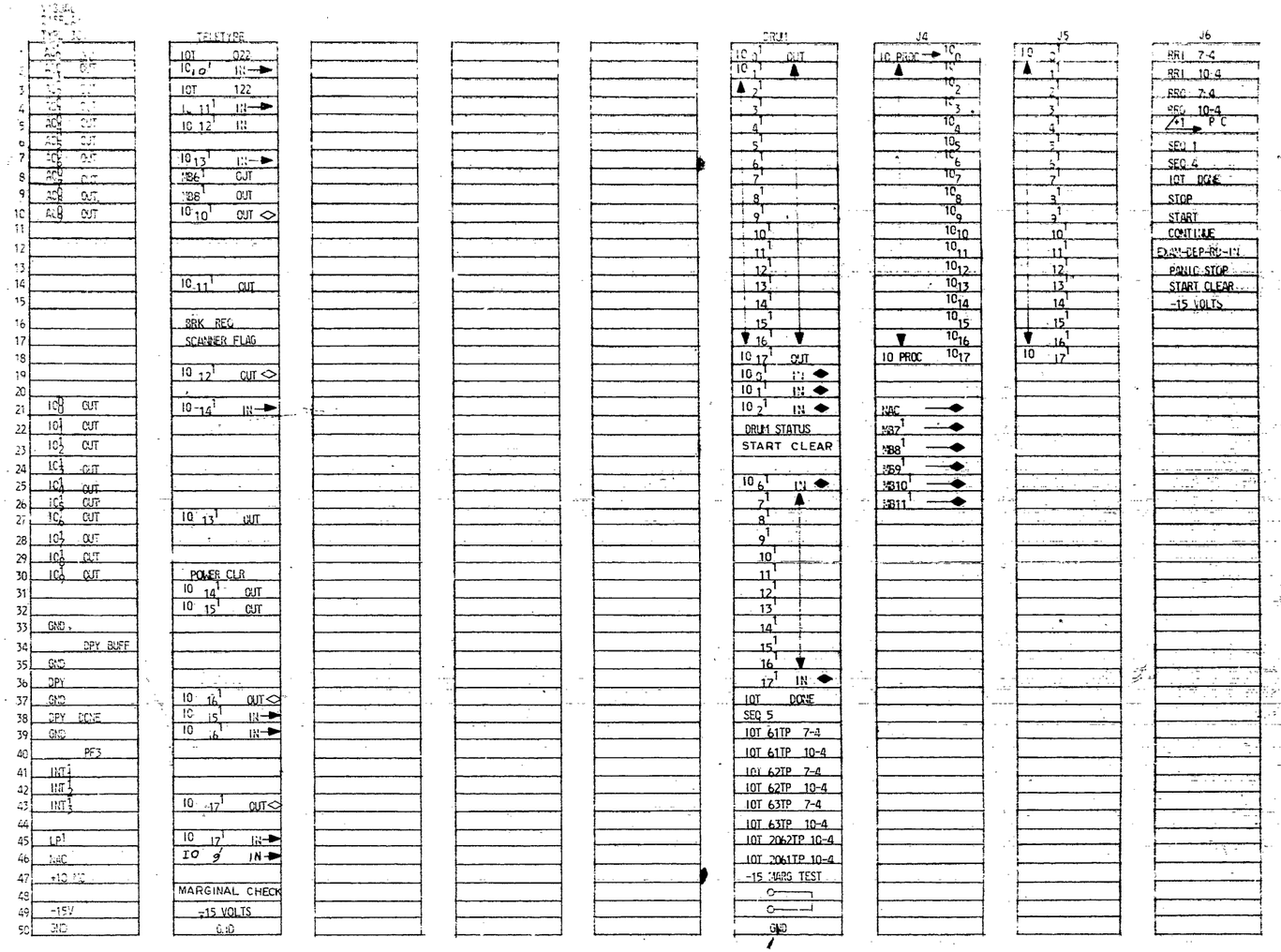
SCALE: | SHEET: OF:

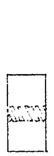
D-ID-45-29



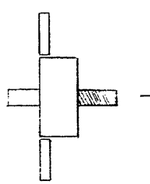








IO PROCESSOR CABLE	
ITEM	AMP CATALOG NO.
FEMALE BLOCK	201158-1
BUSHINGS	329051
SOCKETS	
FERRULES	328664
RET. SPRINGS	2-43332-1
PINS	329014



PDP-1 COAX. CONNECTION	
ITEM	AMP CATALOG NO.
MALE BLOCK	201159-1
BUSHINGS	329051
SOCKETS	329932
FERRULES	329029
RET. SPRINGS	2-43332-1
PINS	329013
TOOL	45639

REVISIONS	CHANGE	DATE	ENG

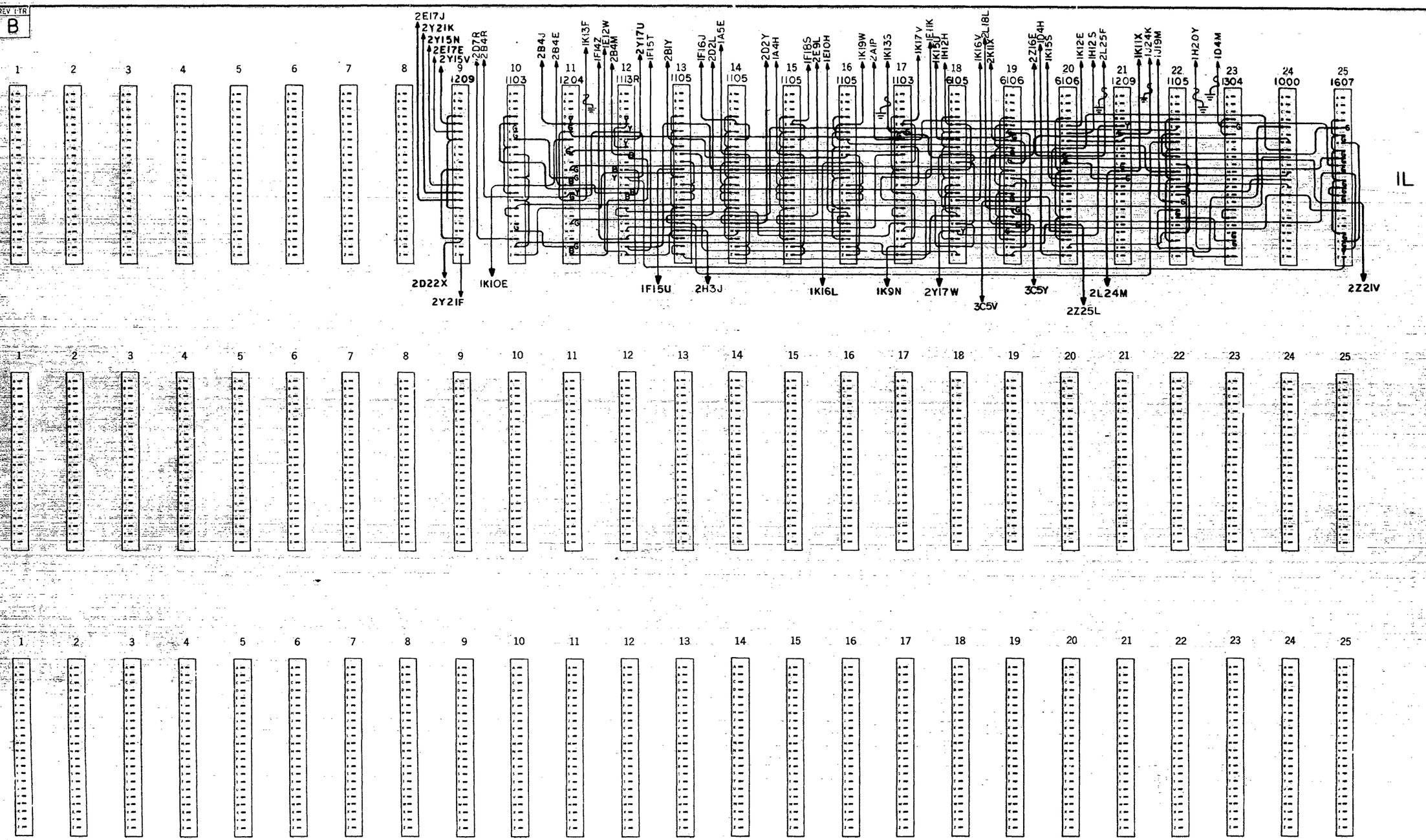
DRAWN		DATE 3-17-63
CHECKED		DATE
ENG		DATE
PROJ. ENG		DATE
PROD		DATE

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: TAPER PIN PANELS & IN-OUT PLUG FOR OPTIONAL EQUIPMENT
FOR

ASSY NO	CODE	DRWG NO	REV LTR
MA- -ID-45-1	WD	D-ID-45-29	
SHEET	OF		

D-ID-45-30 | REV LTR B



WIRING LAYOUT
TYPES

CHANGE	DATE	ENG
A-321	12-19-64	
B-360	4-26-65	

REVISIONS

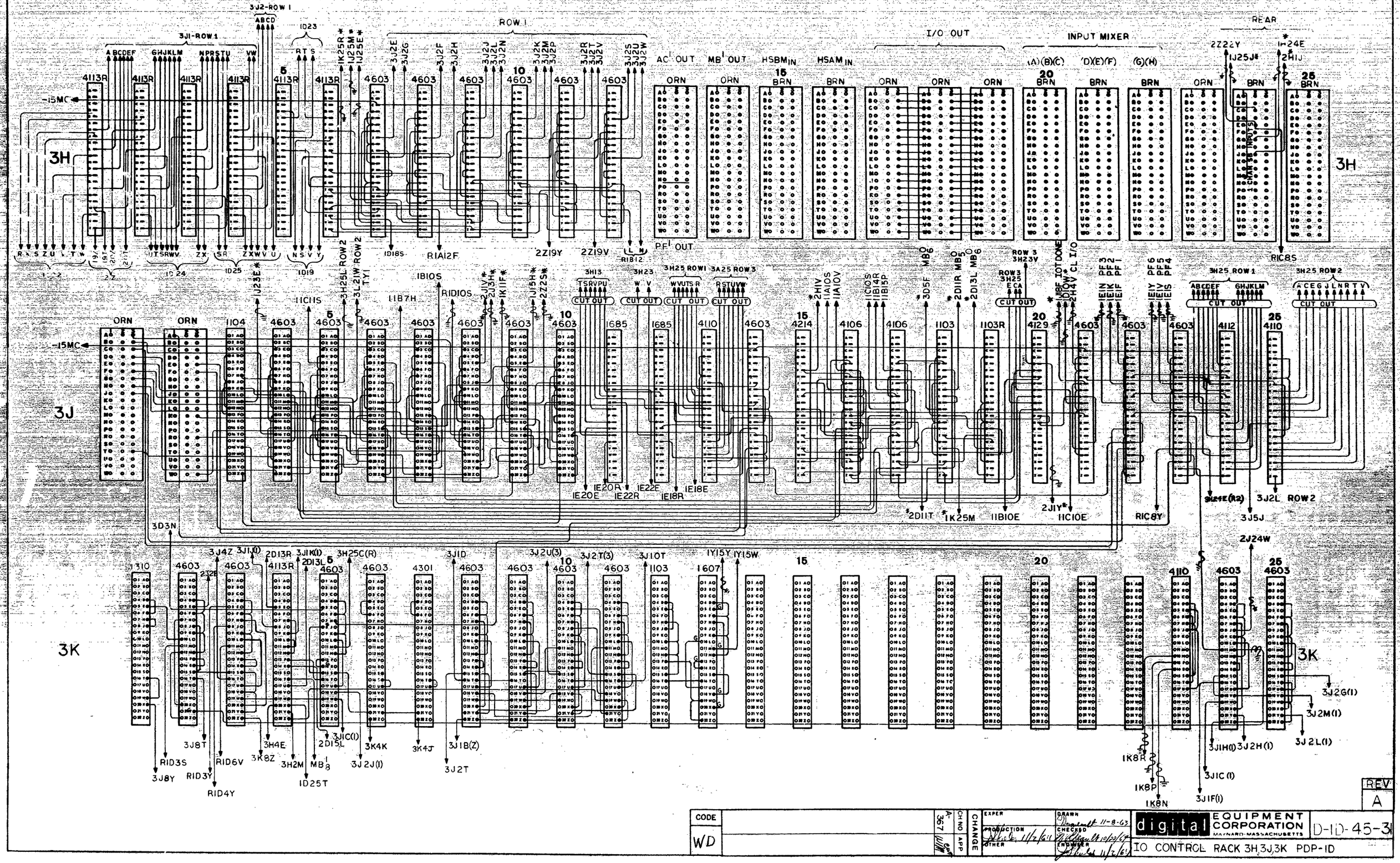
DRAWN		DATE 10-18-63
CHECKED		DATE 10/27/64
ENG		DATE 11/2/64
PROJ ENG		DATE 11/2/64
MGR		DATE 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

TITLE RACK IL
LCH & DCH CONTROL
FOR

ASSY NO MA- -ID-45-1 | CODE WD | DRWG NO D-ID-45-30 | REV LTR B
SCALE | SHEET | OF

D-ID 45-3I | REV A



CODE		CH NO	APP
WD		A-367	

CHANGE

EXPER
PRODUCTION
OTHER

DRAWN
CHECKED
ENGINEER

digital EQUIPMENT CORPORATION
MAYNARD·MASSACHUSETTS

D-ID-45-3I

IO CONTROL RACK 3H,3J,3K PDP-ID

REV A

D-D4-32-A

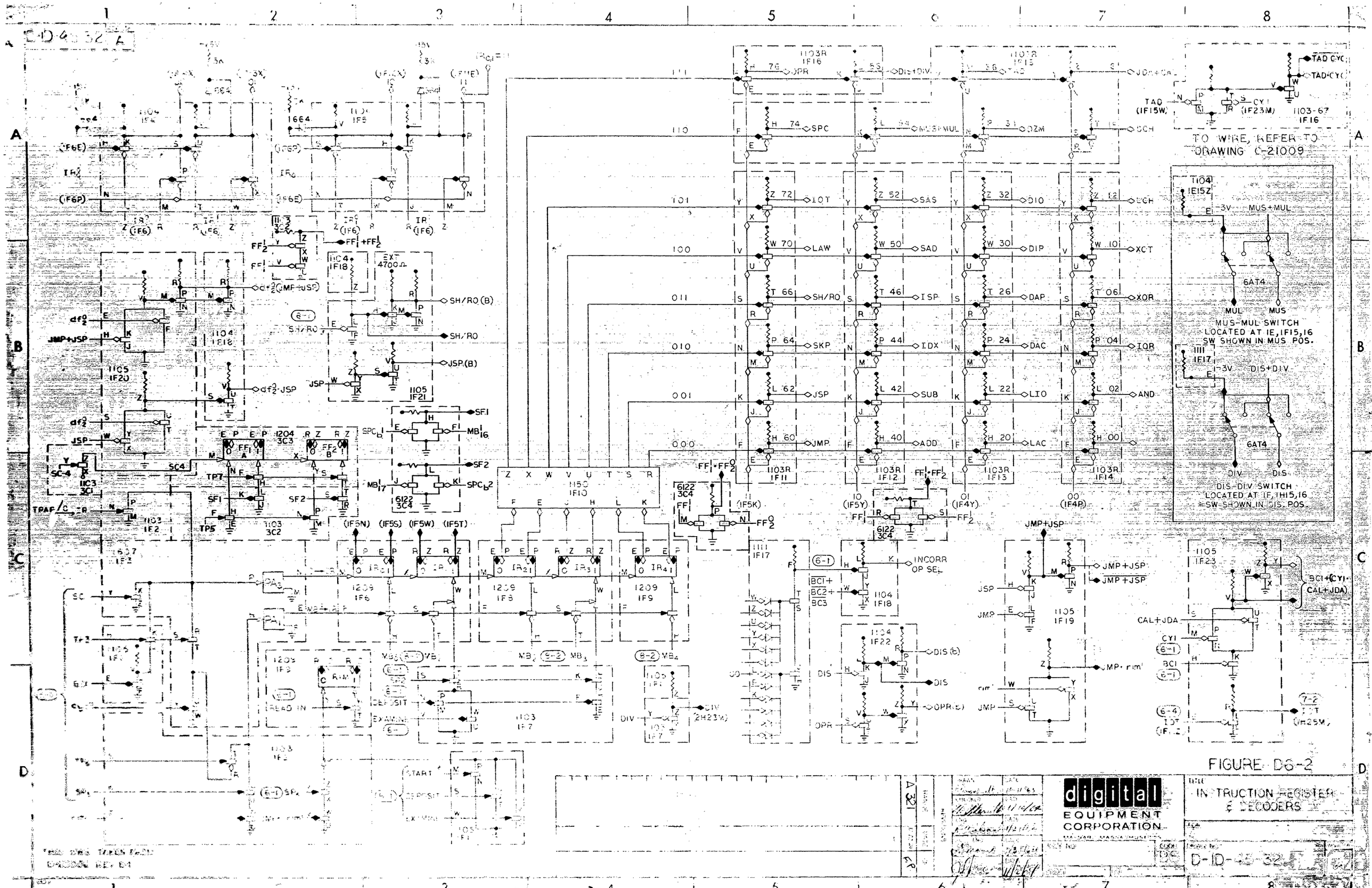
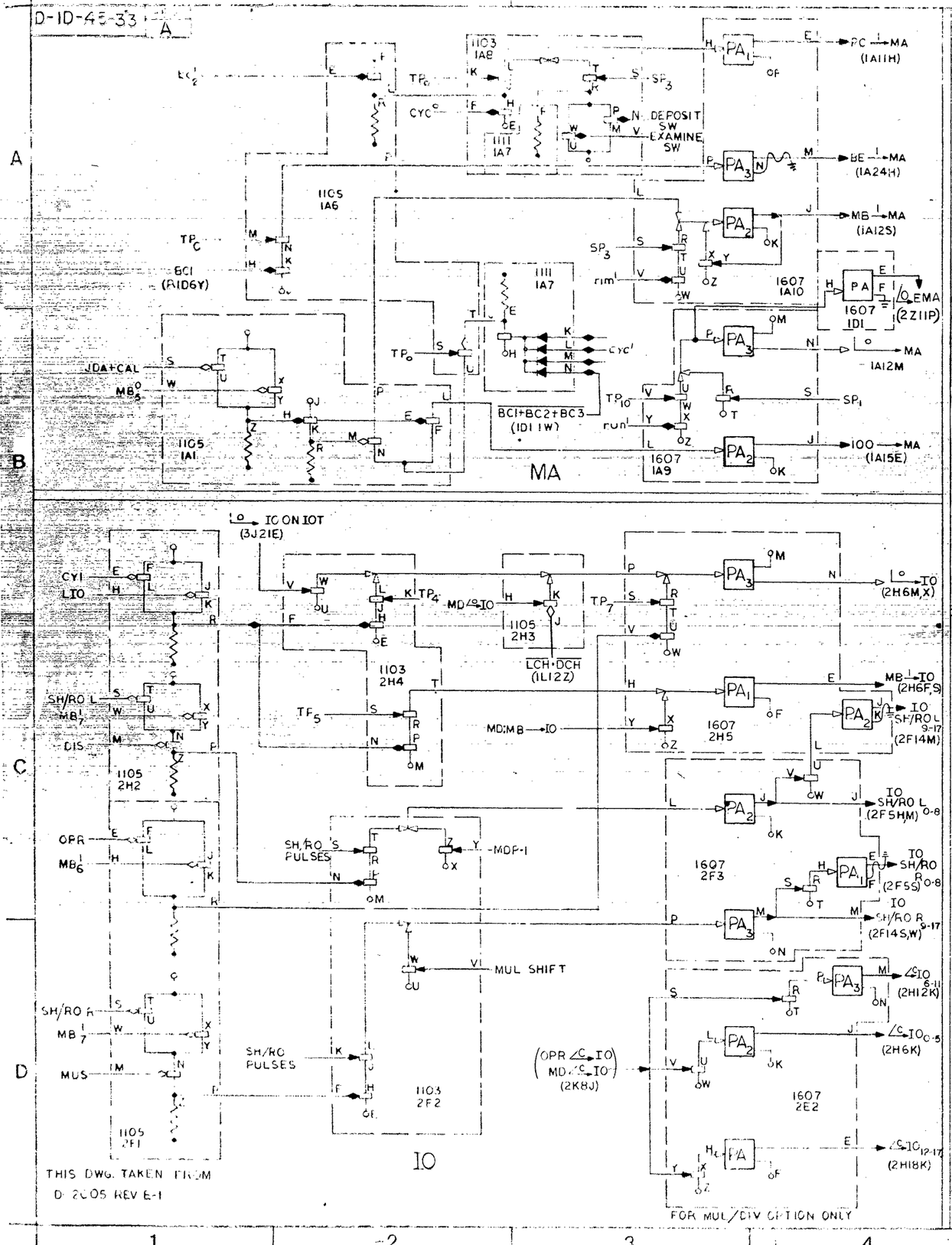


FIGURE D6-2



NOTE:
2E2 & 2E3 PRESENT ONLY FOR MUL/DIV OPTION

FIGURE D65

CODE										REV.
BS								digital EQUIPMENT CORPORATION	D-ID-45-33	A
								MA,MB,IO,PC TRANSFER LOGIC	1 OF 1D-45	

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

J2

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
GRY TW	3K7E	1	IOT 022 →			26	
GRY TW	3L23M (3)	2	TO IO MIXER 10 [1]	WHT	3H19R (3)	27	FROM IO 13 [1]
GRY TW	3K6E	3	IOT 122 →			28	
GRY TW	3L23N (3)	4	TO IO MIXER 11 [1]			29	
GRY TW	3L23P (3)	5	TO IO MIXER 12 [1]	GRY TW	3H24T ROW 2	30	FROM POWER CLEAR
		6		WHT	3H19S (3)	31	FROM IO 14 [1]
GRY TW	3L23R (3)	7	TO IO MIXER 13 [1]	WHT	3H19T (3)	32	FROM IO 15 [1]
WHT	3K4W	8	FROM MB6 [1]			33	
WHT	3K4T	9	FROM MB8 [1]			34	
WHT	3H19M (3)	10	FROM IO 10 [1]			35	
		11				36	
		12		WHT	3H19U (3)	37	FROM IO 16 [1]
		13		GRY TW	3L23T (3)	38	TO IO MIXER 15 [1]
WHT	3H19N (3)	14	FROM IO 11 [1]	GRY TW	3L23U (3)	39	TO IO MIXER 16 [1]
		15				40	
GRY TW	3H22G ROW 3	16	BREAK REQUEST			41	
WHT	3H20U ROW 2	17	SCANNER FLAG			42	
		18		WHT	3H19V (3)	43	FROM IO 17 [1]
WHT	3H19P (3)	19	FROM IO 12 [1]			44	
		20		GRY TW	3L23V (3)	45	TO IO MIXER 17 [1]
GRY TW	3L23S (3)	21	TO IO MIXER 14 [1]	GRY TW	3L23L (3)	46	TO IO MIXER 9 [1]
		22				47	+ 10 MC
		23				48	
		24		RED		49	FROM -15
		25		BLACK		50	GROUND

DRAWN P.J.Priest 1-22-64

CHECKED [signature] 10/7/64

ENG [signature] 11/2/64

digital EQUIPMENT CORPORATION

MAYNARD MASSACHUSETTS

50 PIN AMPHENOL

TITLE

INTERFACE BETWEEN

630-3 AND PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-35

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L20 ROW 1

COLOR	PIN	PIN	NAME	REMARKS
WHT	3L1F	A	IM 0 LEVEL IN	
↑	3L2F	B	IM 1 LEVEL IN	
	3L3F	C	IM 2 LEVEL IN	
	3L4F	D	IM 3 LEVEL IN	
	3L5F	E	IM 4 LEVEL IN	
	3L6F	F	IM 5 LEVEL IN	
	3L7F	G	IM 6 LEVEL IN	
	3L8F	H	IM 7 LEVEL IN	
	3L9F	J	IM 8 LEVEL IN	
		K		
	3L10F	L	IM 9 LEVEL IN	
	3L11F	M	IM 10 LEVEL IN	
	3L12F	N	IM 11 LEVEL IN	
	3L13F	P	IM 12 LEVEL IN	
	3L14F	R	IM 13 LEVEL IN	
	3L15F	S	IM 14 LEVEL IN	
	3L16F	T	IM 15 LEVEL IN	
↓	3L17F	U	IM 16 LEVEL IN	
WHT	3L18F	V	IM 17 LEVEL IN	
GRY/BLK	3L18E	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/8/63

CHECKED M. Kupsell 11/7/64

ENG D. Sutton 11/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 1 OF 14

CODE C L

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

2L20 ROW 2

COLOR	PIN	PIN	NAME	REMARKS
WHT	3L1J	A	IM 0 LEVEL IN	
	3L2J	B	IM 1 LEVEL IN	
	3L3J	C	IM 2 LEVEL IN	
	3L4J	D	IM 3 LEVEL IN	
	3L5J	E	IM 4 LEVEL IN	
	3L6J	F	IM 5 LEVEL IN	
	3L7J	G	IM 6 LEVEL IN	
	3L8J	H	IM 7 LEVEL IN	
	3L9J	J	IM 8 LEVEL IN	
		K		
	3L10J	L	IM 9 LEVEL IN	
	3L11J	M	IM 10 LEVEL IN	
	3L12J	N	IM 11 LEVEL IN	
	3L13J	P	IM 12 LEVEL IN	
	3L14J	R	IM 13 LEVEL IN	
	3L15J	S	IM 14 LEVEL IN	
	3L16J	T	IM 15 LEVEL IN	
	3L17J	U	IM 16 LEVEL IN	
WHT	3L18J	V	IM 17 LEVEL IN	
GRY/BLK	3L18H	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/8/63

CHECKED R. Blanchett 10/7/64

ENG

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-15-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-36

REV. LTR.

SHEET 3 OF 12

CODE C-L

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L20 ROW 3

COLOR	PIN	PIN	NAME	REMARKS
WHT	3L1L	A	IM 0 LEVEL IN	
	3L2L	B	IM 1 LEVEL IN	
	3L3L	C	IM 2 LEVEL IN	
	3L4L	D	IM 3 LEVEL IN	
	3L5L	E	IM 4 LEVEL IN	
	3L6L	F	IM 5 LEVEL IN	
	3L7L	G	IM 6 LEVEL IN	
	3L8L	H	IM 7 LEVEL IN	
	3L9L	J	IM 8 LEVEL IN	
		K		
	3L10L	L	IM 9 LEVEL IN	
	3L11L	M	IM 10 LEVEL IN	
	3L12L	N	IM 11 LEVEL IN	
	3L13L	P	IM 12 LEVEL IN	
	3L14L	R	IM 13 LEVEL IN	
	3L15L	S	IM 14 LEVEL IN	
	3L16L	T	IM 15 LEVEL IN	
	3L17L	U	IM 16 LEVEL IN	
WHT	3L18L	V	IM 17 LEVEL IN	
GRY/BLK	3L19K	W	READ IN PULSES	TWP

DRAWN E. MCHUGH 11/8/63

CHECKED R. Olsen 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 3 OF 12

CODE C L

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L21 ROW 1

COLOR	PIN	PIN	NAME	REMARKS
GRY/BLK	3L1M	A	IM 0 PULSE IN	REM-RAND PROCESSOR TWP
	3L2M	B	IM 1 PULSE IN	
	3L3M	C	IM 2 PULSE IN	
	3L4M	D	IM 3 PULSE IN	
	3L5M	E	IM 4 PULSE IN	
	3L6M	F	IM 5 PULSE IN	
	3L7M	G	IM 6 PULSE IN	
	3L8M	H	IM 7 PULSE IN	
	3L9M	J	IM 8 PULSE IN	
		K		
	3L10M	L	IM 9 PULSE IN	
	3L11M	M	IM 10 PULSE IN	
	3L12M	N	IM 11 PULSE IN	
	3L13M	P	IM 12 PULSE IN	
	3L14M	R	IM 13 PULSE IN	
	3L15M	S	IM 14 PULSE IN	
	3L16M	T	IM 15 PULSE IN	
	3L17M	U	IM 16 PULSE IN	
GRY/BLK	3L18M	V	IM 17 PULSE IN	
WHT	3L18N	W	READ IN LEVEL	REM-RAND PROCESSOR TWP

DRAWN E. MCHUGH 11/8/63

CHECKED R. Kenneth 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 4 OF 12

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L21 ROW 2

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L10T	L	IM 9 LEVEL IN	
	3L11T	M	IM 10 LEVEL IN	
	3L12T	N	IM 11 LEVEL IN	
	3L13T	P	IM 12 LEVEL IN	
	3L14T	R	IM 13 LEVEL IN	
	3L15T	S	IM 14 LEVEL IN	
	3L16T	T	IM 15 LEVEL IN	
	3L17T	U	IM 16 LEVEL IN	
WHT	3L18T	V	IM 17 LEVEL IN	
GRY/BLK	3L18S	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/12/63

CHECKED D. Hault 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 5 OF 12

CODE C L

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L21 ROW 3

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L10V	L	IM 9 LEVEL IN	
	3L11V	M	IM 10 LEVEL IN	
	3L12V	N	IM 11 LEVEL IN	
	3L13V	P	IM 12 LEVEL IN	
	3L14V	R	IM 13 LEVEL IN	
	3L15V	S	IM 14 LEVEL IN	
	3L16V	T	IM 15 LEVEL IN	
	3L17V	U	IM 16 LEVEL IN	
WHT	3L18V	V	IM 17 LEVEL IN	
GRY/BLK	3L18U	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/12/63

CHECKED R. Rheault 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET OF 12

CODE C.L.

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L22 ROW 1

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L10X	L	IM 9 LEVEL IN	
	3L11X	M	IM 10 LEVEL IN	
	3L12X	N	IM 11 LEVEL IN	
	3L13X	P	IM 12 LEVEL IN	
	3L14X	R	IM 13 LEVEL IN	
	3L15X	S	IM 14 LEVEL IN	
	3L16X	T	IM 15 LEVEL IN	
	3L17X	U	IM 16 LEVEL IN	
WHT	3L18X	V	IM 17 LEVEL IN	
GRY/BLK	3L18W	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/12/63

CHECKED R. Blesu 11/14/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 7 OF 12

CODE C L

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3I 22 ROW 2

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L10Z	L	IM 9 LEVEL IN	
↑	3L11Z	M	IM 10 LEVEL IN	
	3L12Z	N	IM 11 LEVEL IN	
	3L13Z	P	IM 12 LEVEL IN	
	3L14Z	R	IM 13 LEVEL IN	
	3L15Z	S	IM 14 LEVEL IN	
	3L16Z	T	IM 15 LEVEL IN	
↓	3L17Z	U	IM 16 LEVEL IN	
WHT	3L18Z	V	IM 17 LEVEL IN	
GRY/BLK	3L18Y	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/12/63

CHECKED [signature] 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 8 OF 12

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L22 ROW 3

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L1T	L	IM 9 LEVEL IN	
	3L2T	M	IM 10 LEVEL IN	
	3L3T	N	IM 11 LEVEL IN	
	3L4T	P	IM 12 LEVEL IN	
	3L5T	R	IM 13 LEVEL IN	
	3L6T	S	IM 14 LEVEL IN	
	3L7T	T	IM 15 LEVEL IN	
	3L8T	U	IM 16 LEVEL IN	
WHT	3L9T	V	IM 17 LEVEL IN	
GRY/BLK	3L9S	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/12/63

CHECKED N. Glauber 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 9 OF 12

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L23 ROW 1

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L1V	L	IM 9 LEVEL IN	
↑	3L2V	M	IM 10 LEVEL IN	
	3L3V	N	IM 11 LEVEL IN	
	3L4V	P	IM 12 LEVEL IN	
	3L5V	R	IM 13 LEVEL IN	
	3L6V	S	IM 14 LEVEL IN	
	3L7V	T	IM 15 LEVEL IN	
↓	3L8V	U	IM 16 LEVEL IN	
WHT	3L9V	V	IM 17 LEVEL IN	
GRY/BLK	3L9U	W	READ IN PULSE	

DRAWN E. MCHUGH 11/12/63

CHECKED H. Glauch 11/17/63

ENG

digital EQUIPMENT CORPORATION

MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 10 OF 12

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3_23 ROW 2

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
WHT	3L1X	L	IM 9 LEVEL IN	
	3L2X	M	IM 10 LEVEL IN	
	3L3X	N	IM 11 LEVEL IN	
	3L4X	P	IM 12 LEVEL IN	
	3L5X	R	IM 13 LEVEL IN	
	3L6X	S	IM 14 LEVEL IN	
	3L7X	T	IM 15 LEVEL IN	
	3L8X	U	IM 16 LEVEL IN	
WHT	3L9X	V	IM 17 LEVEL IN	
GRY/BLK	3L9W	W	READ IN PULSE	TWP

DRAWN E. MCHUGH 11/12/63

CHECKED R. Brault 11/12/63

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN

PDP-1D-45

APP'V

ECO. NO.

REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 11 OF 12

CODE C L

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3L23 ROW 3

COLOR	PIN	PIN	NAME	REMARKS
		A		
		B		
		C		
		D		
		E		
		F		
		G		
		H		
		J		
		K		
GRY/BLK	3L1Y	L	IM 9 PULSE IN	TELETYPE TWP
	3L2Y	M	IM 10 PULSE IN	
	3L3Y	N	IM 11 PULSE IN	
	3L4Y	P	IM 12 PULSE IN	
	3L5Y	R	IM 13 PULSE IN	
	3L6Y	S	IM 14 PULSE IN	
	3L7Y	T	IM 15 PULSE IN	
	3L8Y	U	IM 16 PULSE IN	
GRY/BLK	3L9Y	V	IM 17 PULSE IN	TELETYPE TWP
WHT	3L9Z	W	READ IN LEVEL	

DRAWN E. Massarelli 10/7/64

CHECKED R. Rault 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

18 #100-A-3582411-9

TITLE

IM 0-17 IN
PDP-1D-45

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-36

REV. LTR.

SHEET 12 OF 12

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION LENGTH ROUTE

3F-5L

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
WHITE	3EL3A1	1	AC0	WHITE	3EL7F2	26	IO5
	B1	2	AC1		G2	27	IO6
	C1	3	AC2		H2	28	IO7
	D1	4	AC3		J2	29	IO8
	E1	5	AC4	WHITE	3EL7L2	30	IO9
	F1	6	AC5			31	
	G1	7	AC6	RED		32	
	H1	8	AC7	BLACK	3J7K	33	GND
	J1	9	AC8	GRAY	3J7J	34	Dev Buff
	3EL3L1	10	AC9	BLACK	3J7F	35	GND
		11		GRAY	3J7E	36	Dev XX07
		12		BLACK	3E25F3	37	GND
		13		GRAY	3E25E3	38	Dev Done
		14		BLACK	GND	39	GND
		15		GRAY	3E25E1	40	LP - PF3
		16				41	Int 1
		17				42	Int 2
		18				43	Int 3
		19				44	
		20		WHITE	3E20A2	45	LP Status
	3EL7W2	21	IO0	YEL	3J15Z	46	DCP (1)
	B2	22	IO1	RED	+10 MC	47	+10 MC
	C2	23	IO2			48	
	D2	24	IO3	RED	+15	49	+15
WHITE	3EL7E2	25	IO4	BLACK	GND	50	GND

DRAWN
F.C.Pelosi 1-23-64

CHECKED
[signature] 2/2/64

ENG
[signature]

digital EQUIPMENT CORPORATION

50 PIN AMPHENOL

TITLE

DISPLAY 30A

PDP-1D

SIZE A

DWG NO A-1D-45-37

REV LTR

SCALE

SHEET OF

CODE

JACK ☐ PLUG ☒

FEMALE ☒ MALE ☐

LOCATION, LENGTH, ROUTE

R1C22

COLOR	PIN	PIN	NAME	REMARKS
WHT/BLK	3H20D (R3)	A	CK 2	
WHT/BRN	E	B	3	
WHT/RED	F	C	4	
WHT/ORN	G	D	5	
WHT/YEL	H	E	6	
WHT/GRN	J	F	7	
WHT/BLU	L	H	8	
WHT/VIO	M	J	9	
WHT/GRY	N	K	10	
WHT	P	L	11	
WHT/BLK	R	M	12	
WHT/BRN	S	N	13	
WHT/RED	T	P	14	
WHT/ORN	U	R	15	
WHT/YEL	V	S	16	
WHT/GRN	3H20W (R3)	T	CK 17	

DRAWN P.J.Priest 1-22-64

CHECKED R. Russell 11/7/64

ENG D. Shier 11/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

22 PIN AMP

TITLE

CLOCK → IOM

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-38

REV. LTR.

SHEET 1 OF 2

CODE CL

JACK ☐ PLUG ☒ FEMALE ☐ MALE ☒

LOCATION, LENGTH, ROUTE

R1C22

COLOR	PIN	PIN	NAME	REMARKS
WHT/BLK	R1C5E	A	CK 2	
WHT/BRN	H	B	3	
WHT/RED	K	C	4	
WHT/ORN	M	D	5	
WHT/YEL	P	E	6	
WHT/GRN	S	F	7	
WHT/BLU	U	H	8	
WHT/VIO	R1C5W	J	9	
WHT/GRY	R1C6E	K	10	
WHT	H	L	11	
WHT/BLK	K	M	12	
WHT/BRN	M	N	13	
WHT/RED	P	P	14	
WHT/ORN	S	R	15	
WHT/YEL	U	S	16	
WHT/GRN	R1C6W	T	CK 17	

DRAWN P.J.Priest 1-22-64

CHECKED M Adams 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

APP'V

ECO. NO. REV. LTR.

22 PIN AMP

TITLE

CLOCK → IOM

DWG NO A-ID-45-38

REV. LTR.

SHEET 2 OF 2

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

COLOR	PIN		PIN	NAME	COLOR	PIN		PIN	NAME
YEL	3H18A	ROW 1	1	IO_0 OUT ◆	BLU	3H21H	ROW 1	26	IO_7 INPUT MIX ◆
	3H18B		2	IO_1		3H21J		27	IO_8
	3H18C		3	IO_2		3H21L		28	IO_9
	3H18D		4	IO_3		3H21M		29	IO_{10}
	3H18E		5	IO_4		3H21N		30	IO_{11}
	3H18F		6	IO_5		3H21P		31	IO_{12}
	3H18G		7	IO_6		3H21R		32	IO_{13}
	3H18H		8	IO_7		3H21S		33	IO_{14}
	3H18J		9	IO_8		3H21T		34	IO_{15}
	3H18L		10	IO_9		3H21U		35	IO_{16}
	3H18M		11	IO_{10}	BLU	3H21V	ROW 1	36	IO_{17} INPUT MIX ◆
	3H18N		12	IO_{11}	BLK/GRY	3H25R	ROW 3	37	IOT DONE
	3H18P		13	IO_{12}		3H22F	ROW 3	38	SEQ. BRK.
	3H18R		14	IO_{13}		3K8E		39	0061TP7-4
	3H18S		15	IO_{14}		3K9E		40	0061TP10-4
	3H18T		16	IO_{15}		3K8J		41	0062TP7-4
	3H18U		17	IO_{16}		3K9J		42	0062TP10-4
YEL	3H18V		18	IO_{17} OUT ◆		3K8M		43	0063TP7-4
BLU	3H21A		19	IO_0 INPUT MIX ◆		3K9M		44	0063TP10-4
	3H21B		20	IO_1 INPUT MIX ◆		3K11J		45	2062TP 7-4
	3H21C	ROW 1	21	IO_2 INPUT MIX ◆	BLK/GRY	3K11E		46	2061TP 7-4
BLU	3H20V	ROW 2	22	DRM STATUS	RED	R2B5		47	MAR. TEST
			23		BLK/WHT	CONTACT CLOSURE		48	o—┐
			24		BLK/WHT	813 P.S.		49	o—┘
BLU	3H21G	ROW 1	25	IO_6 INPUT MIX ◆	BLK	GND		50	GND

DRAWN P.J.Priest 1-22-64

CHECKED R. Regault 11/2/64

ENG [signature] 11/2/64

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

50 PIN AMPHENOL

TITLE

PDP-1 TO 23 DRUM

3F PLUG 5

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-39

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK ☐ PLUG ☒ FEMALE ☒ MALE ☐

LOCATION, LENGTH, ROUTE

R1C23

COLOR	PIN	PIN	NAME	REMARKS
WHT/BLK	2Z25M	A	$\overline{\text{SBS-BK}}$	
WHT/BRN	2Y20L	B		
WHT/RED	2Z14J	C	EPC_2	
WHT/ORN	2Z14F	D	EPC_2	
WHT/YEL	2Z14L	E	EPC_3	
WHT/GRN	3D1P	F	$0XX15\ JMP1^1$	
WHT/BLU	2Z22Z	H	RM (1)	
WHT/VIO	1K17L	J		
WHT/GRY	1F18K	K	INCORR. OP. SEL.	
WHT	1F11Z	L	IOT 72	
WHT/BLK	2Z24H	M		
WHT/BRN	2Z22R	N	RM (1)	

DRAWN P.J.Priest 1-22-64

CHECKED R. Rogault 10/7/64

ENG J. Shields 11/2/64

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

22 PIN AMP

TITLE

$\overline{\text{SBS}}$ $\overline{\text{BK}}$

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-40

REV. LTR.

SHEET 1 OF 2

CODE C.L

JACK ☐ PLUG ☒

FEMALE ☐ MALE ☒

LOCATION, LENGTH, ROUTE

R1C23

COLOR	PIN	PIN	NAME	REMARKS
WHT/BLK	R1C10E	A	$\overline{\text{SBS}}$	
WHT/BRN	R1B19U	B	L → 0 163	
WHT/RED	R1D21H	C	EPC2 (1)	
WHT/ORN	R1D21M	D	EPC2 (0)	
WHT/YEL	R1D21E	E	EPC3 (0)	
WHT/GRN	R1C21Z	F	TRAP BUFFER	
WHT/BLU	R1C21W	H	RM 1	
WHT/VIO	R1C9W	J	HLT	
WHT/GRY	R1C9U	K	INCORRECT OP CODE	
WHT	R1C9V	L	IOT	
		M		
WHT/BRN	R1C21M	N	RMO	

DRAWN P.J.Priest 1-22-64

CHECKED R Beaudette 10/7/64

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

22 PIN AMP

TITLE

$\overline{\text{SBS}}$ $\overline{\text{BK}}$

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-40

REV. LTR.

SHEET 2 OF 2

CODE CL

JACK ☐ PLUG ☒

FEMALE ☐ MALE ☒

LOCATION, LENGTH, ROUTE

11 FT WITH PLUG

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
W/BLK (X)	R1A12F	1	MBD^{0}B	W/GRY (G)	GND	26	GND
W/BRN (Z)	R1A12J	2	MBD^{1}B	WHT (W)	R1A3Y	27	Seq 3
W/RED (R)	R1A12L	3	MBD^{2}B	W/BLK (X)	GND	28	GND
W/ORN (O)	R1A12N	4	MBD^{3}B	W/BRN (Z)	R1C13F	29	Seq 4
W/YEL (Y)	R1B12F	5	MBD^{4}B	W/RED (R)	GND	30	GND
W/GRN (N)	R1B12J	6	MBD^{5}B	W/ORN (O)	R1C13N	31	Seq 5
W/BLU (B)	R1B12L	7	MBD^{6}B	W/YEL (Y)	GND	32	GND
W/VIO (V)	R1B12N	8	MBD^{7}B	W/GRN (N)	R1C13V	33	Seq 6
W/GRY (G)	R1A1F	9	MBD^{0}C				
WHT (W)	R1A1L	10	MBD^{1}C	W/BLK (X)	GND	34	GND
W/BLK (X)	R1A1J	11	MBD^{2}C	W/BRN (Z)	R1C13Y	35	Seq 7
W/BRN (Z)	R1A1N	12	MBD^{3}C	W/RED (R)	GND	36	GND
W/RED (R)	R1C15F	13	MBD^{4}C	W/ORN (O)	R1B3F	37	Seq 10
W/ORN (O)	R1C15L	14	MBD^{5}C	W/YEL (Y)	GND	38	GND
W/YEL (Y)	R1C15J	15	MBD^{6}C	W/GRN (N)	R1B3N	39	Seq 11
W/GRN (N)	R1C15N	16	MBD^{7}C	W/BLU (B)	GND	40	GND
W/BLU (B)	R1D11W	17	MBD^{1}A	W/VIO (V)	R1B3V	41	Seq 12
				W/GRY (G)	GND	42	GND
W/BLK (X)	R1D11Z	18	MBD^{5}A	WHT (W)	R1B3Y	43	Seq 13
W/BRN (Z)	R1D3Z	19	MBD^{0}D	W/BLK (X)	GND	44	GND
W/RED (R)	R1D3W	20	MBD^{1}D	W/BRN (Z)	R1C18F	45	Seq 14
W/ORN (O)	R1A3F	21	Seq 0	W/RED (R)	GND	46	GND
W/YEL (Y)	GND	22	GND	W/ORN (O)	R1C18N	47	Seq 15
W/GRN (N)	R1A3N	23	Seq 1	W/YEL (Y)	GND	48	GND
W/BLU (B)	GND	24	GND	W/GRN (N)	R1C18V	49	Seq 16
W/VIO (V)	R1A3V	25	Seq 2	W/BLU (B)	GND	50	GND

DRAWN P.J.Priest 1-28-64

CHECKED R. Kapsalis 10/7/64

ENG J. Mucci 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

50 PIN CANNON

TITLE

TYPE 20 SBS

3H26 INTO SBS LOGIC

PDP-1D

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-41

REV. LTR.

SHEET 1 OF 2

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3H26

COLOR	PIN	PIN	NAME
W/BLK (X)	3H5H	1	MBD B 0
W/BRN (Z)	3H5L	2	MBD B 1
W/RED (R)	3H6H	3	MBD B 2
W/ORN (O)	3H6L	4	MBD B 3
W/YEL (Y)	3H6P	5	MBD B 4
W/GRN (N)	3H6T	6	MBD B 5
W/BLU (B)	3H6W	7	MBD B 6
W/VIO (V)	3H6Z	8	MBD B 7
W/GRY (G)	3H2P	9	MBD C 0
WHT (W)	3H2T	10	MBD C 1
W/BLK (X)	3H2W	11	MBD C 2
W/BRN (Z)	3H2Z	12	MBD C 3
W/RED (R)	3H3H	13	MBD C 4
W/ORN (O)	3H3L	14	MBD C 5
W/YEL (Y)	3H3P	15	MBD C 6
W/GRN (N)	3H3T	16	MBD C 7
W/BLU (B)	3H1L	17	MBD A 1
W/BLK (X)	3H1Z	18	MBD A 5
W/BRN (Z)	3H3W	19	MBD D 0
W/RED (R)	3H3Z	20	MBD D 1
W/ORN (O)	3H23A2-R	21	SEQ. 0
W/YEL (Y)	GND	22	GND
W/GRN (N)	3H23B2-R	23	SEQ. 1
W/BLU (B)	GND	24	GND
W/VIO (V)	3H23C2-R	25	SEQ. 2

COLOR	PIN	PIN	NAME
W/GRY (G)	GND	26	GND
WHT (W)	3H23D2-R	27	SEQ. 3
W/BLK (X)	GND	28	GND
W/BRN (Z)	3H23E2-R	29	SEQ. 4
W/RED (R)	GND	30	GND
W/ORN (O)	3H23F2-R	31	SEQ. 5
W/YEL (Y)	GND	32	GND
W/GRN (N)	3H23G2-R	33	SEQ. 6
W/BLK (X)	GND	34	GND
W/BRN (Z)	3H23H2-R	35	SEQ. 7
W/RED (R)	GND	36	GND
W/ORN (O)	3H23J2-R	37	SEQ. 10
W/YEL (Y)	GND	38	GND
W/GRN (N)	3H23K2-R	39	SEQ. 11
W/BLU (B)	GND	40	GND
W/VIO (V)	3H23L2-R	41	SEQ. 12
W/GRY (G)	GND	42	GND
WHT (W)	3H23M2-R	43	SEQ. 13
W/BLK (X)	GND	44	GND
W/BRN (Z)	3H23N2-R	45	SEQ. 14
W/RED (R)	GND	46	GND
W/ORN (O)	3H23P2-R	47	SEQ. 15
W/YEL (Y)	GND	48	GND
W/GRN (N)	3H23R2-R	49	SEQ. 16
W/BLU (B)	GND	50	GND

DRAWN 10/7/64
Elaine Massarelli

CHECKED M. Picault 10/7/64

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD MASSACHUSETTS

50 PIN CANNON

TITLE

20 SBS

PDP-1D

APP'V

ECO. NO.
REV. LTR.

DWG NO
A-1D-45-41

REV. LTR.

SHEET 2 OF 2

CODE
CL

JACK ☒ PLUG ☐

FEMALE ☒ MALE ☐

LOCATION, LENGTH, ROUTE

1D29

COLOR	PIN	PIN	NAME
W/BLK (X)	GND	1	GND
W/BRN (Z)	1D8Y	2	TP_2
W/RED (R)	GND	3	GND
W/ORN (O)	1J23J	4	SC-4
W/YEL (Y)	GND	5	GND
W/GRN (N)	1J24V	6	TP 10-4
W/BLU (B)	GND	7	GND
W/VIO (V)	1J25J	8	TP 4-4
W/GRY (G)	GND	9	GND
WHT (W)	3K2M	10	iot 50
W/BLK (X)	3K2N	11	GND
W/BRN (Z)	3K3E	12	iot 51
W/RED (R)	3K3F	13	GND
W/ORN (O)	3K3J	14	iot 52
W/YEL (Y)	3K3K	15	GND
W/GRN (N)	3K3M	16	iot 53
W/BLU (B)	3K3N	17	GND
W/BLK (X)	1A6H	18	BC 1
W/BRN (Z)	1A24M	19	BE 12
W/RED (R)	1A24W	20	BE 13
W/ORN (O)	1A25M	21	BE 14
W/YEL (Y)	1A25W	22	BE 15
W/GRN (N)	1C17M	23	DF
W/BLU (B)	1F11H	24	JMP
W/VIO (V)	1K11E	25	SBM^1 ◇

COLOR	PIN	PIN	NAME
W/GRY (G)	1H1E	26	BREAK REQ.
WHT (W)	2A9F	27	EPC 3
W/BLK (X)	2A10F	28	EPC 4
W/BRN (Z)	2A11F	29	EPC 5
W/RED (R)	1D25R	30	MBD a
W/ORN (O)	1D24R	31	MBD b
W/YEL (Y)	1K11P	32	SBM^1 c
W/GRN (N)		33	
W/BLK (X)	GND	34	GND
W/BRN (Z)	2B2H	35	SBS Rest.
W/RED (R)	GND	36	GND
W/ORN (O)	3J8M	37	CBS
W/YEL (Y)	3J8N	38	GND
W/GRN (N)		39	
W/BLU (B)		40	
W/VIO (V)		41	
W/GRY (G)		42	
WHT (W)		43	
W/BLK (X)		44	
W/BRN (Z)		45	
W/RED (R)		46	
W/ORN (O)		47	
W/YEL (Y)		48	
W/GRN (N)		49	
W/BLU (B)		50	

DRAWN P.J.Priest 1-28-64

CHECKED W.A.Kapenhuth 10/7/64

ENG D.Shelton 11/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

APP'V

ECO. NO. REV. LTR.

50 PIN CANNON

TITLE

SBS 20

PDP-1D

DWG NO A-1D-45-42

REV. LTR.

SHEET 1 OF 2

CODE CL

JACK ☐ PLUG [X]

FEMALE ☐ MALE [X]

LOCATION, LENGTH, ROUTE

TO REACH 1D LEFT

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
W/BLK (X)	GND	1	GND	W/GRY (G)	R1D12Y	26	BREAK REQ.
W/BRN (Z)	R1D12E	2	TP2	WHT (W)	R1D15Y	27	MBD C 0
W/RED (R)	GND	3	GND	W/BLK (X)	R1D15Z	28	EPC 4
W/ORN (O)	R1D7F	4	SC-4	W/BRN (Z)	[illegible]	29	
W/YEL (Y)	GND	5	GND	W/RED (R)	R1D15V	30	MBD 1
W/GRN (N)	R1D5V	6	TP 10-4	W/ORN (O)	[illegible]	31	[illegible]
W/BLU (B)	GND	7	GND	W/YEL (Y)	R1D15X	32	SBM 1
W/VIO (V)	R1D5S	8	TP 4-4	W/GRN (N)		33	
W/GRY (G)	GND	9	GND				
WHT (W)	R1D3S	10	DSC	W/BLK (X)	GND	34	GND
W/BLK (X)	GND	11	GND	W/BRN (Z)	R1D2E	35	SBS REST
W/BRN (Z)	R1D3Y	12	ASC	W/RED (R)	R1D2F	36	GND
W/RED (R)	GND	13	GND	W/ORN (O)	R1D8Y	37	CBS
W/ORN (O)	R1D4Y	14	ISB	W/YEL (Y)	GND	38	GND
W/YEL (Y)	GND	15	GND	W/GRN (N)	R1D10E	39	DBRK
W/GRN (N)	R1D6V	16	CAC	W/BLU (B)		40	
W/BLU (B)	GND	17	GND	W/VIO (V)		41	
				W/GRY (G)		42	
W/BLK (X)	R1D6Y	18	BC1	WHT (W)		43	
W/BRN (Z)	R1D17T	19	BE 12	W/BLK (X)		44	
W/RED (R)	R1D18T	20	BE 13	W/BRN (Z)		45	
W/ORN (O)	R1D19T	21	BE 14	W/RED (R)		46	
W/YEL (Y)	R1D20T	22	BE 15	W/ORN (O)		47	
W/GRN (N)	R1D12M	23	DF	W/YEL (Y)		48	
W/BLU (B)	R1D12H	24	JMP	W/GRN (N)		49	
W/VIO (V)	R1D12W	25	SBM 1	W/BLU (B)		50	

DRAWN Elaine Massarelli 1/28/64

CHECKED [signature] 10/7/69

ENG

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

50 PIN CANNON

TITLE

SBS20

1D29 INTO SBS LOGIC
PDP-1D

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-42

REV. LTR.

SHEET 2 OF 2

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

COLOR	PIN	PIN	NAME	REMARKS
BLK+GRY	3L21A	01	IO PROCESSOR IO_0	TWP ROW 1
	B	02	IO_1	
	C	03	IO_2	
	D	04	IO_3	
	E	05	IO_4	
	F	06	IO_5	
	G	07	IO_6	
	H	08	IO_7	
	J	09	IO_8	
	L	10	IO_9	
	M	11	IO_{10}	
	N	12	IO_{11}	
	P	13	IO_{12}	
	R	14	IO_{13}	
	S	15	IO_{14}	
	T	16	IO_{15}	
	U	17	IO_{16}	
	V	18	IO_{17}	
		19		
		20		
BLU	2D13T	22	MB_7^1	
	2D15N	23	MB_8^1	
	2D15T	24	MB_9^1	
	2D17N	25	MB_{10}^1	
	2D17T	26	MB_{11}^1	

DRAWN P.J.Priest 1-22-64

CHECKED R. Boucher 10/7/64

ENG J. Priest 11/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

26 PIN AMP COAX

TITLE

3E PLUG J4

IO/PROCESSOR

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-43

CODE CL

SHEET 1 OF 3

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

COLOR	PIN	PIN	NAME	REMARKS
YEL	3H17A	01	IO 0	ROW 3
	B	02	IO 1	
	C	03	IO 2	
	D	04	IO 3	
	E	05	IO 4	
	F	06	IO 5	
	G	07	IO 6	
	H	08	IO 7	
	J	09	IO 8	
	L	10	IO 9	
	M	11	IO 10	
	N	12	IO 11	
	P	13	IO 12	
	R	14	IO 13	
	S	15	IO 14	
	T	16	IO 15	
	U	17	IO 16	
	V	18	IO 17	
		19		
		20		
		21		
		22		
		23		
		24		
		25		
		26		

DRAWN
P.J.Priest 1-22-64

CHECKED
R.A.Brault 1/24/64

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

26 PIN AMP COAX

TITLE

3E PLUG J5

IO/PROCESSOR

APP'V

ECO. NO.
REV. LTR.

DWG NO
A-ID-45-43

CODE
CL

SHEET 2 OF 3

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

COLOR	PIN	PIN	NAME	REMARKS
GRY	3K25E	01	720037 TP7 RRI	TWP
	3K25J	02	720037 TP10 RRI	TWP
	3K25M	03	720017 TP7 RRO	TWP
	3K24E	04	720017 TP10 RRO	TWP
	3H25R	05	+1 → PC	ROW 1 TWP
	3H22B (3)	06	SEQ. NO. 1 BK	TWP
	3H22E (3)	07	SEQ. NO. 1 BK	TWP
	3H25R	08	IOT DONE	ROW 1 TWP
	3H24G (2)	09	STOP	-3V PULSE TWP
	1K8L	10	START	-3V PULSE TWP
	1K8M	11	CONTINUE	-3V PULSE TWP
	3K23F	12	EXAM.-DEP.-READ IN	TWP
		13	PANIC STOP	TWP (TO BUTTON ON CONSOLE)
GRY	3H24E (2)	14	START CLEAR	-3V PULSE TWP
RED	3J25C	15	-15V	100Ω 5% 2W TO -15V
		16		(ST. OFF)
		17		
		18		
		19		
		20		
		21		
		22		
		23		
		24		
		25		
		26		

DRAWN
P.J.Priest 1-22-64

CHECKED
M. Powell 10/7/64

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

26 PIN AMP COAX

TITLE

3E PLUG J6

IO/PROCESSOR

APP'V

ECO. NO. REV. LTR.

DWG NO
A-ID-45-43

CODE
CL

SHEET 13 OF 32

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

2J26

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
BLK	GND	1		WHT	2F4V	26	AC 0 17
WHT	2A3V	2	MDP-9	BLK	GND	27	GND
BLK	GND	3		WHT	2H3H	28	(AC MB 0 → 10)
WHT	2A3Y	4	SCR 1 0	BLK	GND	29	GND
BLK	GND	5		WHT	2H8V	30	(MD MB 1 10
WHT	2A4Y	6	MD C AC	BLK	2H6Z	31	IO 1
BLK	GND	7	GND	WHT	2H22Z	32	1 10 17
WHT	1D10M	8	GOOD DIV	BLK	2E24F	33	AC=+0 or-0
BLK	GND	9	GND	WHT	2E25T	34	AC=-1 or-0
WHT	2C4Y	10	(MDP-13)	BLK	GND	35	GND
BLK	2D7L	11	MB 0 0	WHT	2H22R	36	10 0 17
WHT	2D7N	12	MB 1 0	BLK	GND	37	GND
BLK	GND	13	GND	WHT	2H25F	38	10/+0
WHT	2B24Y	14	MDP-2	BLK	GND	39	GND
BLK	GND	15	GND	WHT	2E1M	40	MDP-12
WHT	2E1H	16	(MDP-10)	BLK	2B5L	41	(AC 0)
BLK	GND	17	GND	WHT	2B5N	42	AC 1 0
WHT	2E2V	18	MD C 10			43	
BLK	GND	19	GND			44	
WHT	2E3V	20	MD C MB			45	
BLK	GND	21	GND			46	
WHT	2F2Y	22	(MDP-1)			47	
BLK	GND	23	GND			48	
WHT	2F2V	24	(MUL SH)			49	
		25				50	

DRAWN P.J.Priest 1-15-64

CHECKED [signature] 10/7/64

ENG [signature] 11/2/64

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

50 PIN AMPHENOL

TITLE

MUL & DIV

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-44

REV. LTR.

SHEET 1 OF 2

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

1H26

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
BLK	GND	1		WHT	1K5W	26	SINGLE STEP SW
WHT	1C20E	2	MUL CY1 TP 10			27	
BLK	GND	3				28	
WHT	1C24H	4	MDP-7			29	
BLK	GND	5				30	
WHT	1C24M	6	MDP-3			31	
BLK	GND	7				32	
WHT	1C24W	8	MD CARRY			33	
BLK	GND	9				34	
WHT	1H11X	10	TP_2			35	
		11				36	
		12				37	
BLK	GND	13				38	
WHT	1K5V	14	CY1			39	
BLK	GND	15				40	
WHT	1K7Y	16	MD 0 RUN			41	
BLK	GND	17				42	
WHT	1K7S	18	MD RESTART			43	
BLK	GND	19				44	
WHT	1K9H	20	TP_9			45	
		21				46	
		22				47	
		23				48	
		24				49	
BLK	1K25S	25	SINGLE INST. SW			50	

DRAWN
Elaine Massarelli 1/15/64

CHECKED
M. Kleindl 1/7/64

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

50 PIN AMPHENOL

TITLE

MULTIPLY & DIVIDE

APP'V

ECO. NO.
REV. LTR.

DWG NO
A-ID-45-44

REV. LTR.

SHEET 2 OF 2

CODE
CL

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1A26

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)		A		
W/BRN (Z)		B		
W/RED (R)		C		
W/ORN (O)		D		
W/YEL (Y)		E		
W/GRN (N)		F		
W/BLU (B)	1A12J	H	MA 6	
W/VIO (V)	1A12U	J	MA 7	
W/GRY (G)	1A14J	K	MA 8	
WHT (W)		L		
W/BLK (X)	1A14U	M	MA 9	
W/BRN (Z)	1A16J	N	MA 10	
W/RED (R)	1A16U	P	MA 11	
W/ORN (O)	1A18J	R	MA 12	
W/YEL (Y)	1A18U	S	MA 13	
W/GRN (N)	1A20J	T	MA 14	
W/BLU (B)	1A20U	U	MA 15	
W/VIO (V)	1A22J	V	MA 16	
W/GRY (G)	1A22U	W	MA 17	
WHT (W)		X		
		Y		
		Z		

DRAWN P.J.Priest 1-30-64

CHECKED R. Chisp 11/2/69

ENG J. Sheehan 11/2/69

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

APP'V

ECO. NO.
REV. LTR.

22 PIN AMPHENOL

TITLE

MA, EMA INDICATOR

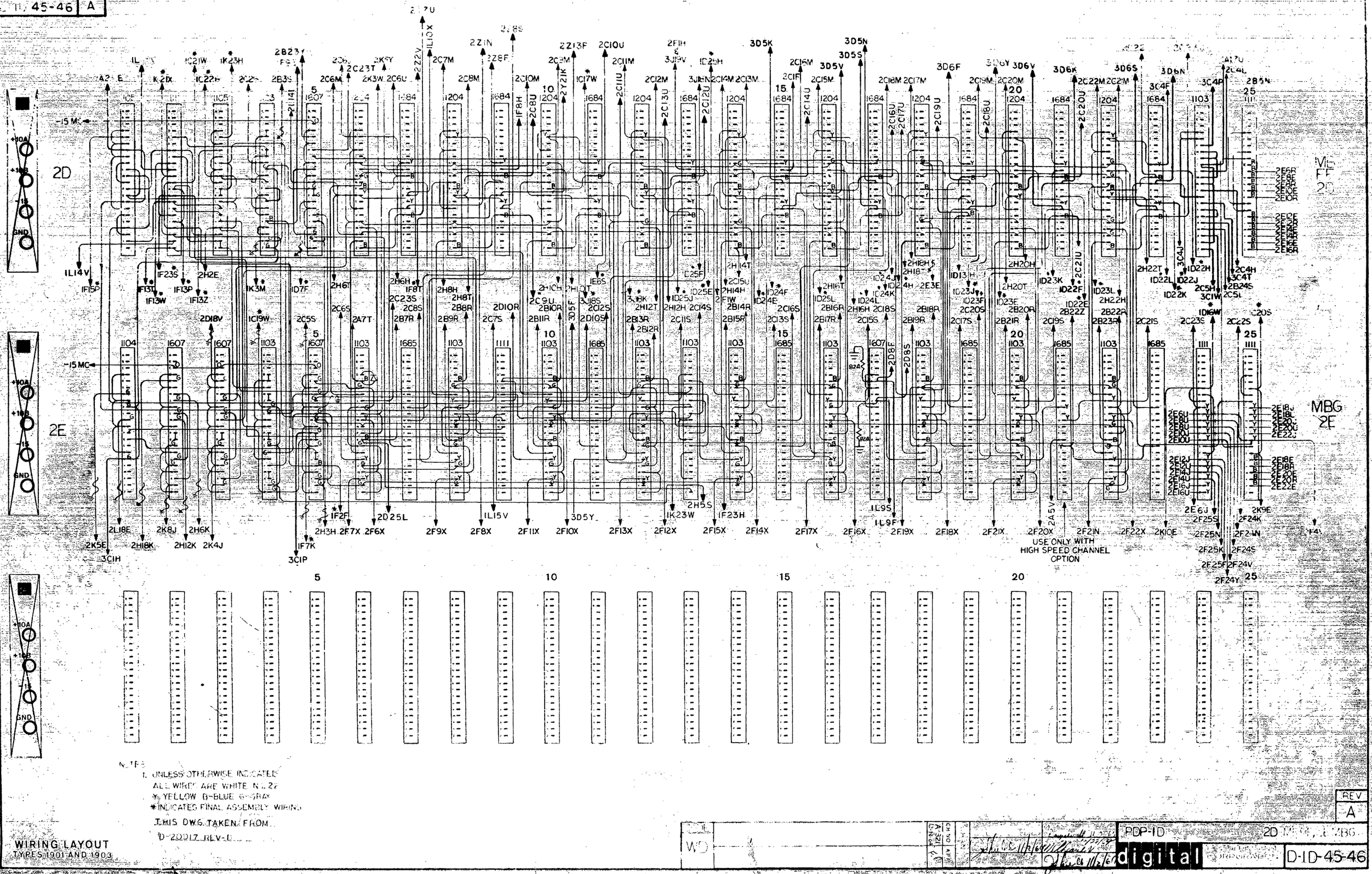
PDP-1D

DWG NO A-1D-45-45

REV. LTR.

SHEET OF

CODE CL



NOTES:
1. UNLESS OTHERWISE INDICATED ALL WIRES ARE WHITE N.C. 22
Y-YELLOW B-BLUE G-GRAY
*INDICATES FINAL ASSEMBLY WIRING

THIS DWG. TAKEN FROM
D-2001Z REV-C

WIRING LAYOUT
TYPES 1901 AND 1903

REV
A

W.O.						
					PDP-1D	2D MBG, 2E MBG
					digital	D-1D-45-46

D-ID-45-47

REV

2J
IC
MIXER

WIRING LAYOUT
TYPES 1901 AND 1903

THIS DWG TAKEN FROM
D-IDOLO REV-H

SIZE
WD

SHEET OF ID-

digital

D-ID-45-47

REV

DID-45-48 REV

2K

2K MUL/DIV

2L

2L

1 5 10 15 20 25

1 5 10 15 20 25

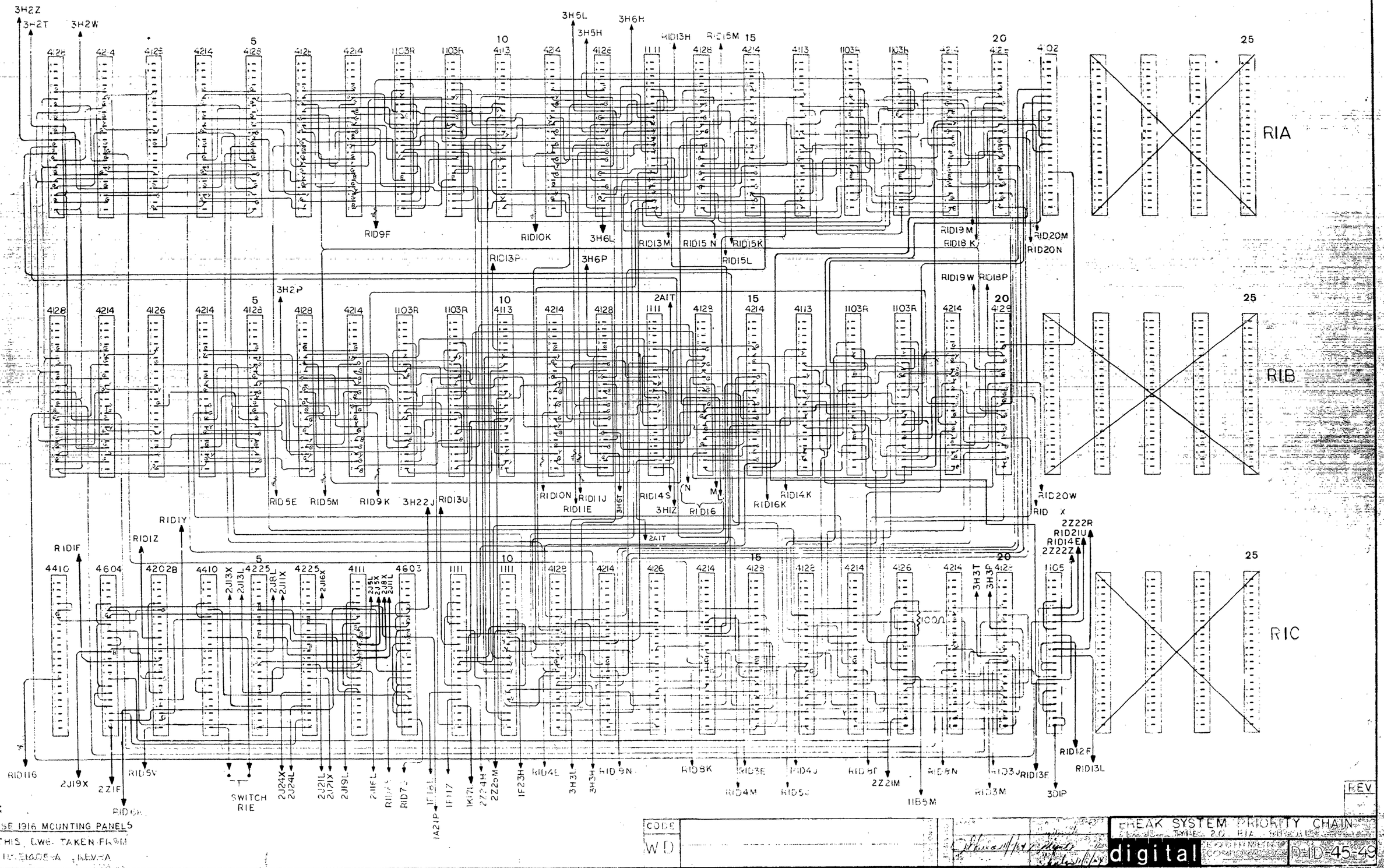
1 5 10 15 20 25

NOTE:
USE 1914 MOUNTING PANELS

THIS DWG. TAKEN FROM
D-CS-1004 REV-F-1

CODE		CHANGE				digital EQUIPMENT CORPORATION	DID-45-48
WD						HIGH SPEED MUL-DIV. TYPE 10" RACK 2K, 2L	PDP-10

REV



NOTE:
USE 1916 MOUNTING PANELS
THIS LWE TAKEN FROM
[illegible] REV A

CODE				
WD				

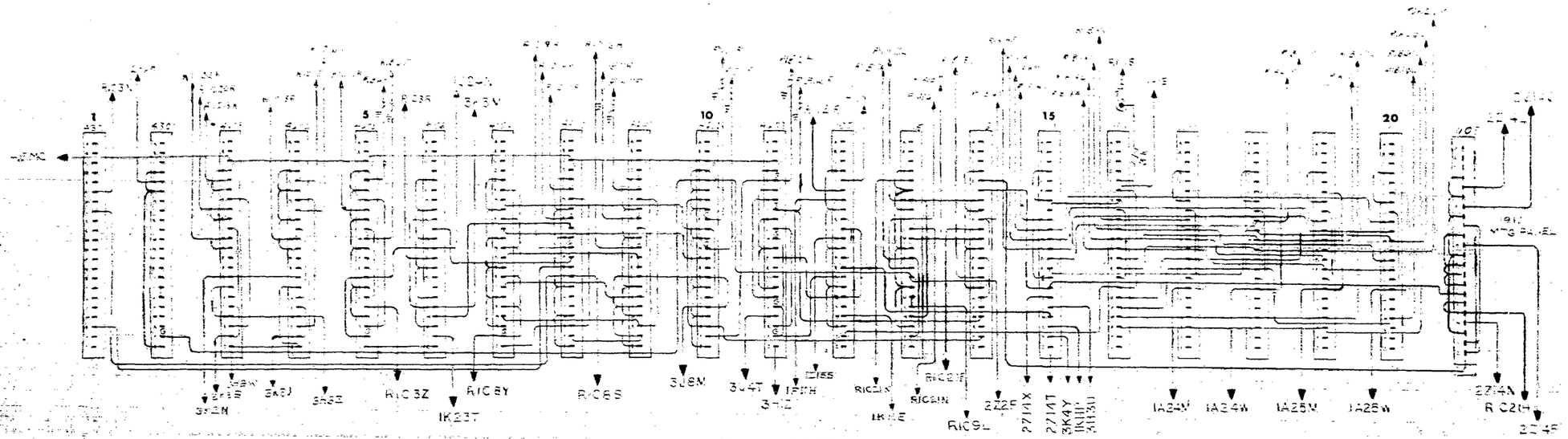
REV

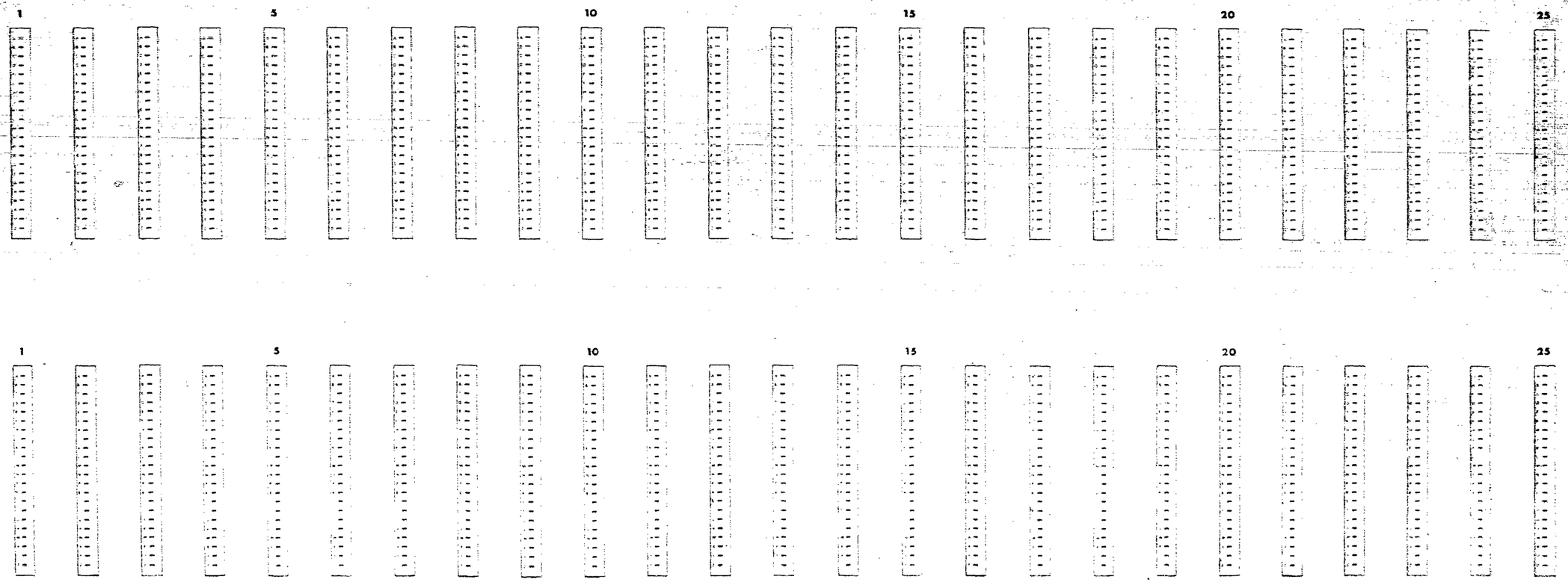
FREAK SYSTEM PRIORITY CHAIN
TYPE 20 RIA

digital

D-ID-45-49

D-ID-45-50



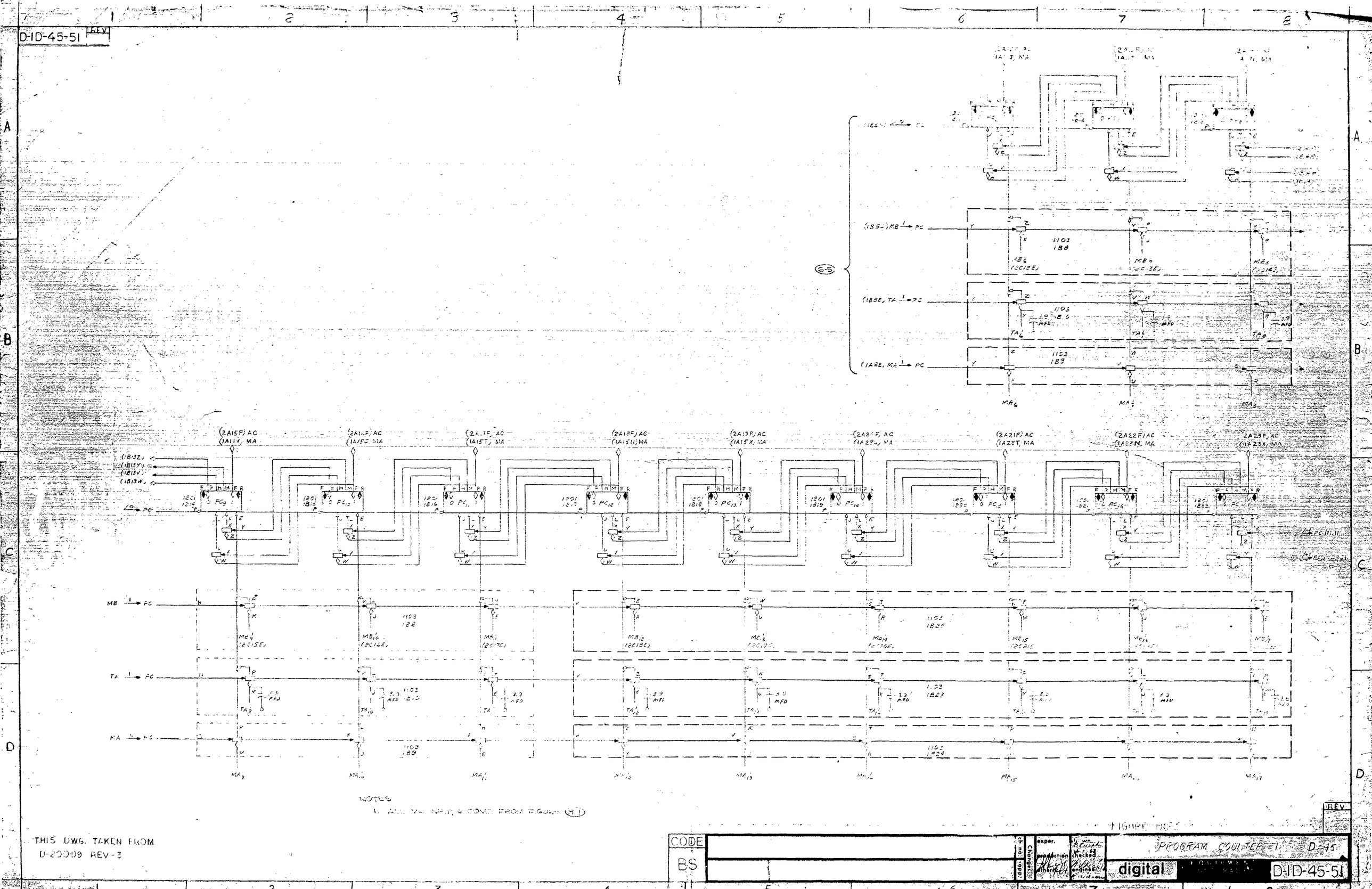


NOTE
USE 12"6 MOUNTING PANEL

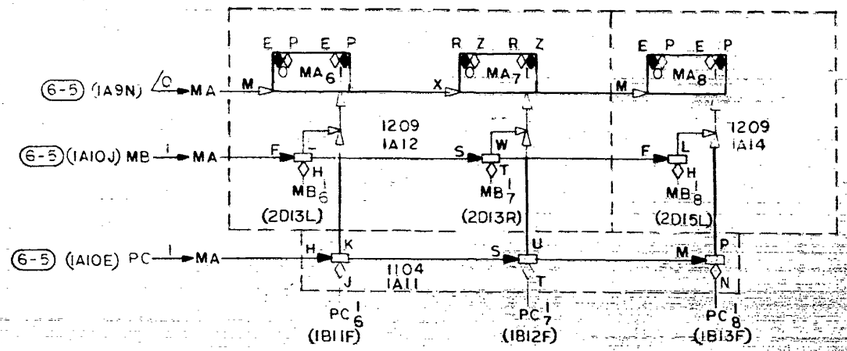
THIS DWG TAKEN FROM
D-2140E-0 REV 10

			digital EQUIPMENT CORPORATION	D-ID-45-50
			PDP-11/45 SYSTEM CONTROL TYPE 20	

D-ID-45-51 REV


(2A15F) AC
(1A11, MA
(2A14F) AC
(1A15C MA
(2A17F) AC
(1A15T, MA
(2A18F) AC
(1A15U) MA
(2A19F) AC
(1A15X, MA
(2A20F) AC
(1A23U, MA
(2A21F) AC
(1A22T, MA
(2A22F) AC
(1A22N, MA
2A23F, AC
(1A23X, MA
(1B13Z,
(1B13Y)
(1B13V)
(1B13W,
I/O → PC
MB → PC
TA → PC
MA → PC
1103
1B8
1103
1B7
1103
1B6
1102
1B2F
1103
1B3
1102
1B4
MB0 (2C15E)
MB1/6 (2C16E)
MB1 (2C17C)
MB1/2 (2C18E)
MB1/3 (2C19C)
MB1/4 (2C20E)
MB1/5 (2C21E)
MB1/6 (2C22C)
MB1/7 (2C23C)
TA0
TA1/6
TA1
TA1/2
TA1/3
TA1/4
TA1/5
TA1/6
TA1/7
MA0
MA1/6
MA1
MA1/2
MA1/3
MA1/4
MA1/5
MA1/6
MA1/7
2.9 MFD
3.3 MFD
NOTES
1. ALL W- INPUTS COME FROM FIGURE (B1)
THIS DWG. TAKEN FROM
D-20009 REV-3
FIGURE D5
REV
CODE
BS
PROGRAM COUNTER #1
D-45
digital
D-ID-45-51

D-ID-45-52



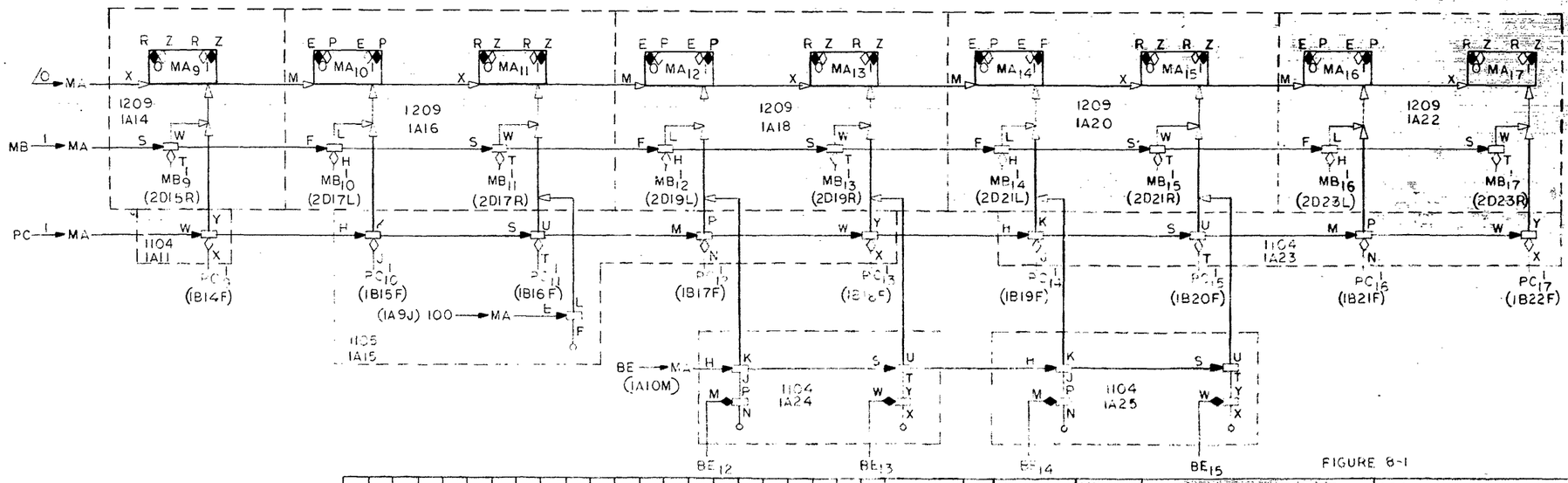
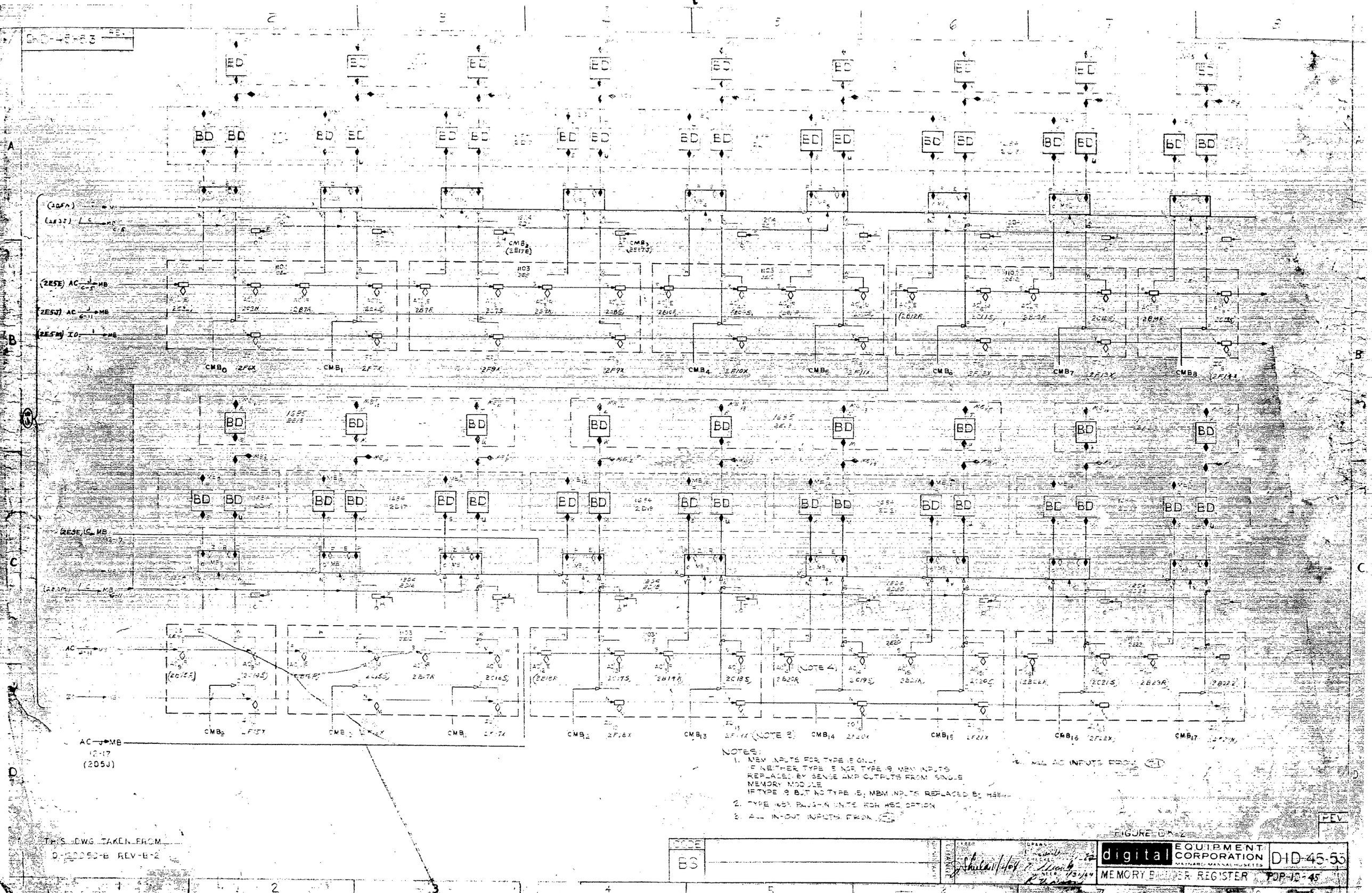


FIGURE 8-1

NOTE
1A24/1A25 PRESENT ONLY IF SBS TYPE 20 CONNECTED

THIS DWG. TAKEN FROM
D-2D003 REV-

DRAWN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE	MEMORY ADDRESS REGISTER			
ENGR	DATE		FOR				
MFG	DATE		ASSY NO.	CODE BS	DRWG NO D-ID-45-52	REV/ECTR	
QA	DATE		SHEET	OF			
APPD	DATE 11/2/64						



NOTES:
1. MBM INPUTS FOR TYPE 8 ONLY.
   IF NEITHER TYPE 5 NOR TYPE 9 MBM INPUTS REPLACED BY SENSE AMP OUTPUTS FROM SINGLE MEMORY MODULE.
   IF TYPE 9 BUT NO TYPE 5, MBM INPUTS REPLACED BY MSE.
2. TYPE 1655 PAUSE-N UNITS FOR MSC OPTION
3. ALL IN-OUT INPUTS FROM (5)
4. ALL AC INPUTS FROM (5)

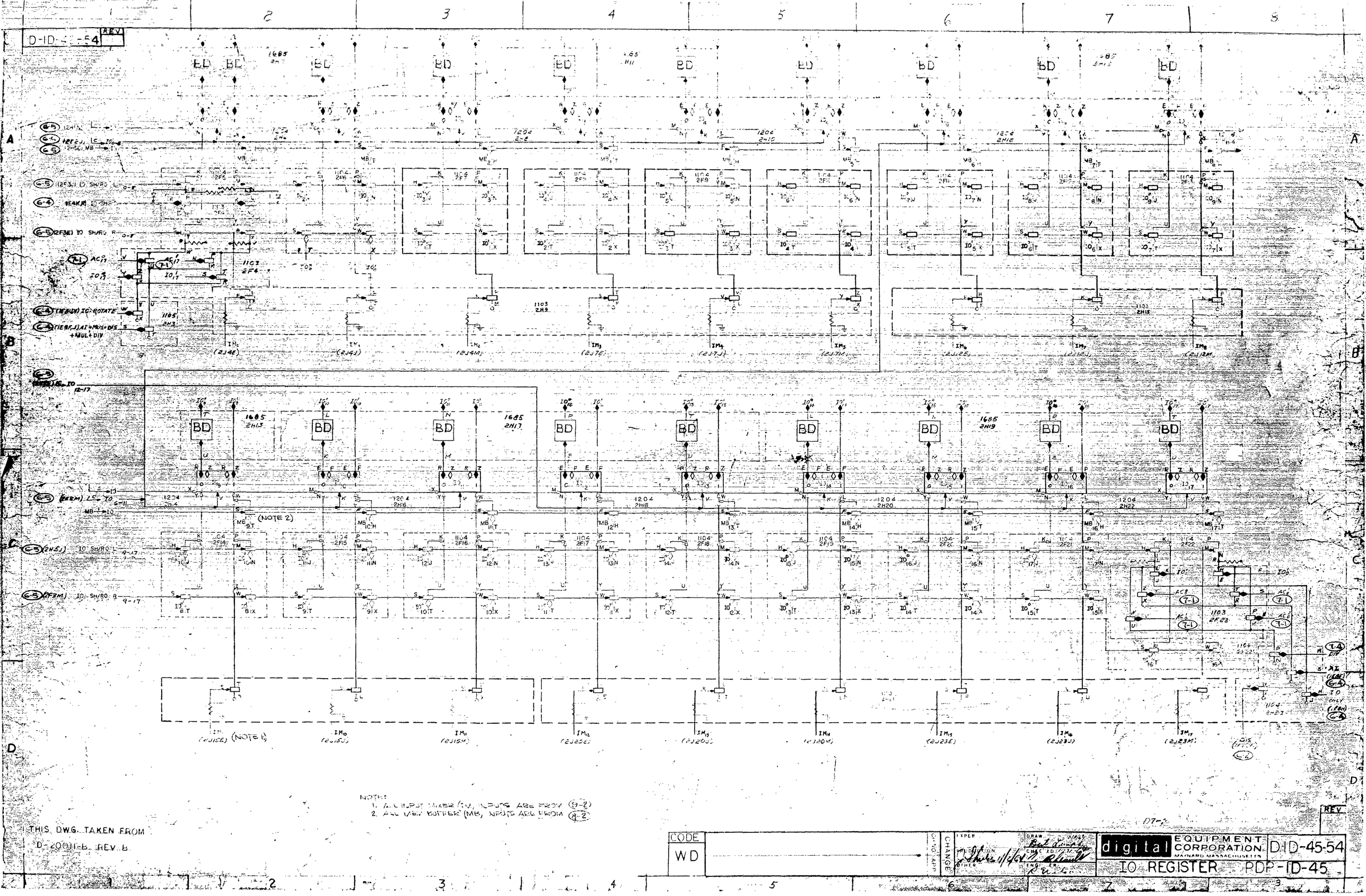
THIS DWG TAKEN FROM
D-CO050-B REV-B-2

FIGURE D-R-2

REV

CODE				
BS		digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	D-ID-45-53	
		MEMORY BUFFER REGISTER	PDP-10-45	

D-ID-45-54 REV



NOTE:
1. ALL INPUT MIXER (IM) INPUTS ARE FROM (9-2)
2. ALL MEM BUFFER (MB) INPUTS ARE FROM (8-2)

THIS DWG. TAKEN FROM
D-2001-B REV B

CODE		CHANGE	DRAWN	DATE
WD			Bob Kupka	11/64
			CHK'D	
			ENG'R	

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

D-ID-45-54

IO REGISTER PDP-ID-45

REV

D-ID-45-55 REV A

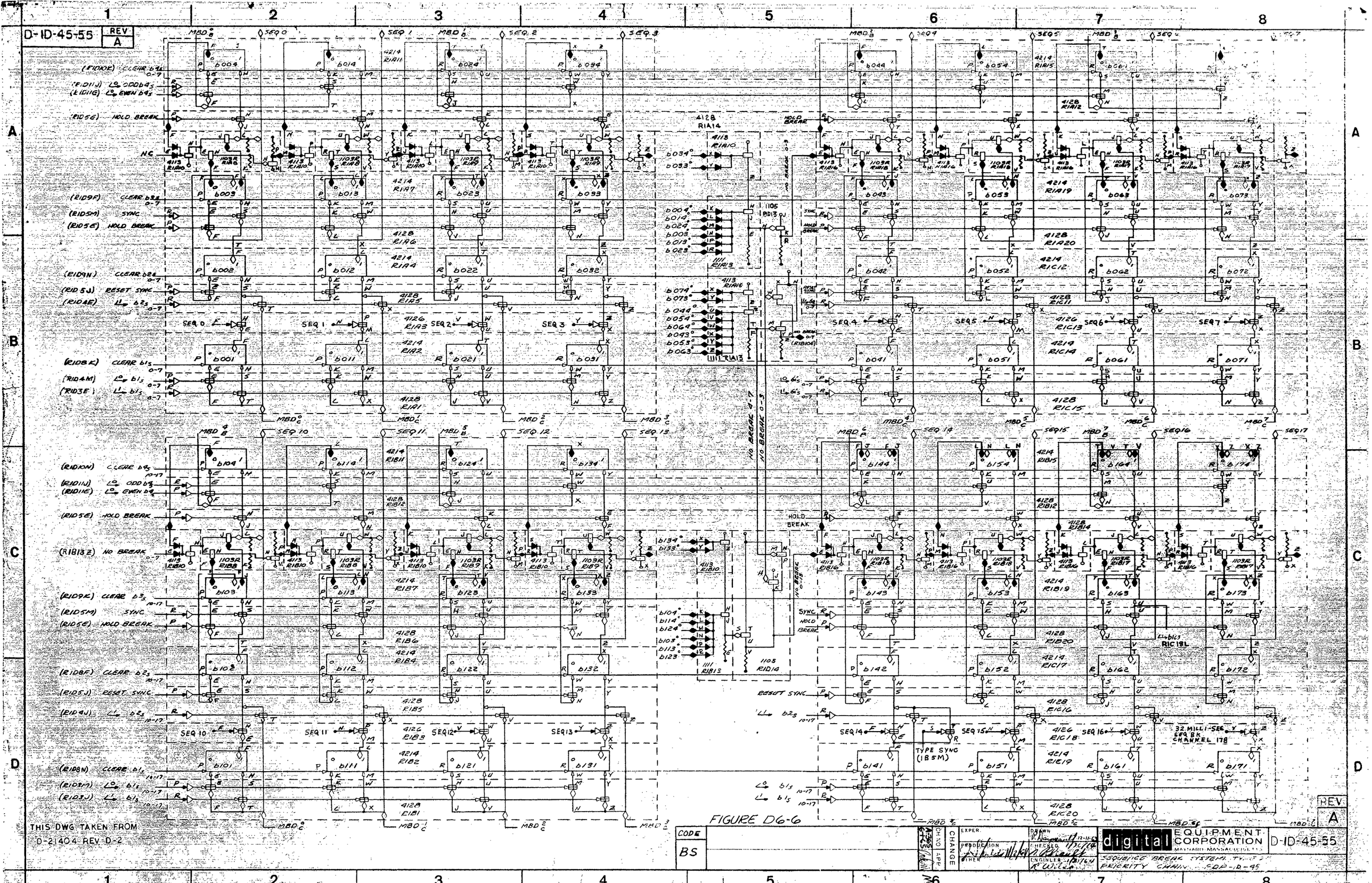


FIGURE D6-6

THIS DWG TAKEN FROM D-2140-4 REV D-2

CODE	CHG NO.	APP.	CHANGE
BS			

EXPER
PRODUCTION
OTHER

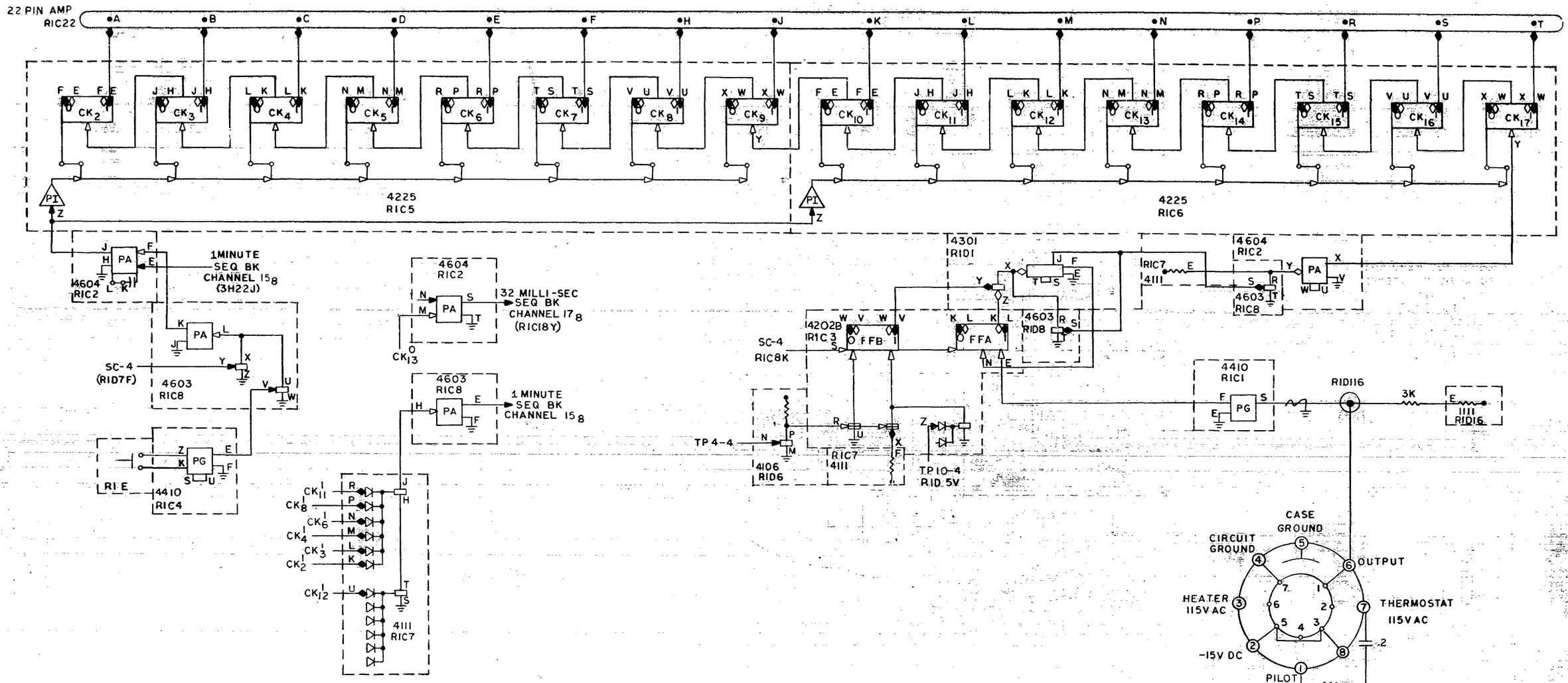
DRAWN
CHECKED
ENGINEER

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

D-ID-45-55

SQUIBICE BREAK SYSTEM, TYPE 2
PRIORITY CHAIN

REV A



1KC CRYSTAL CONTROLLED OSCILLATOR
MODEL-VO-547A

NOTE:
THERMOSTAT REPLACED BY
S.C.R. CIRCUIT.

NOTE:
1. IOT rck READ CLOCK 720032
2. BITS ARE NUMBERED BY THEIR RELATION TO THE IO REGISTER INPUT.

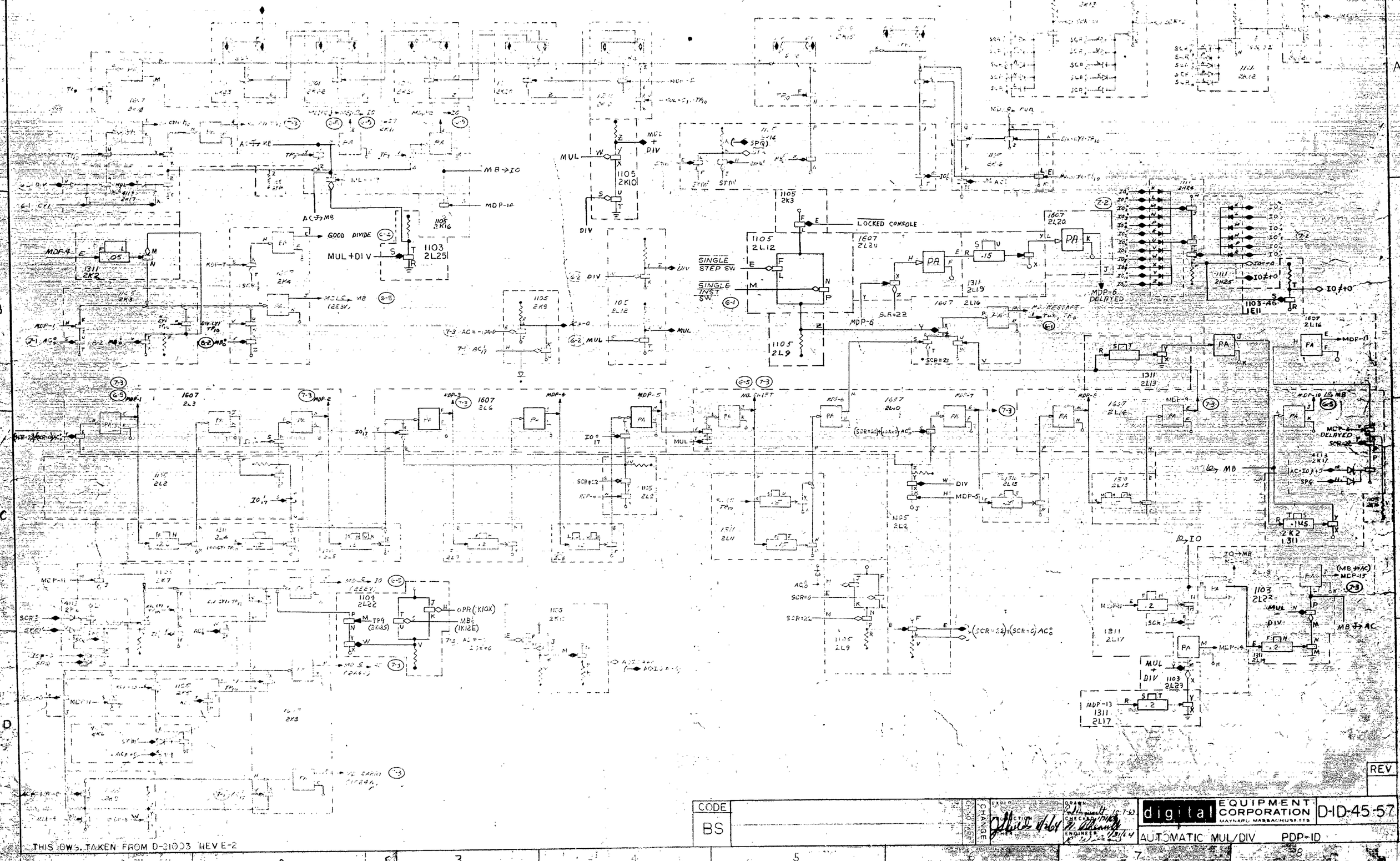
CHANGE	DATE	ENG
REVISIONS		

DRAWN	P Dagenais	DATE	12-2-63
CHECKED	M Edwards	DATE	1/30/64
ENG	P Wilson	DATE	1/31/64
PROJ ENG	D Snow	DATE	1/31/64
PROG	[illegible]	DATE	1/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: CLOCK
FOR:
ASSY NO: MA- [illegible] CODE: BS
DRWG NO: D-ID-45-56
REV LTR:
SHEET: OF

BKE-2



THIS DWG. TAKEN FROM D-21003 REV E-2

CODE	CHANGE	DRAWN	CHECKED	ENGINEER
BS				

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

D-ID-45-57

AUTOMATIC MUL/DIV PDP-ID

REV

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1B27

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	2Z1J	A	EXTEND _ SW	
W/BRN (Z)		B		
W/RED (R)	2Y17E	C	ETA_2	
W/ORN (O)	2Y17H	D	ETA_3	
W/YEL (Y)	2Y17K	E	ETA_4	
W/GRN (N)	2Y17M	F	ETA_5	
W/BLU (B)	1B10X	H	TA6	
W/VIO (V)	1B10U	J	TA7	
W/GRY (G)	1B10R	K	TA8	
WHT (W)		L		
W/BLK (X)	1B10M	M	TA9	
W/BRN (Z)	1B10J	N	TA10	
W/RED (R)	1B10E	P	TA11	
W/ORN (O)	1B23X	R	TA12	
W/YEL (Y)	1B23U	S	TA13	
W/GRN (N)	1B23R	T	TA14	
W/BLU (B)	1B23M	U	TA15	
W/VIO (V)	1B23J	V	TA16	
W/GRY (G)	1B23E	W	TA17	
WHT (W)		X		
		Y		
		Z		

DRAWN E. MCHUGH 11/12/63

CHECKED R. Khanth 10/7/64

ENG J. Shine 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

22 PIN AMPHENOL

TITLE

TA LINES

PDP-1D-45

APP'V

ECO. NO.
REV. LTR.

DWG NO A-1D-45-58

REV. LTR.

SHEET 1 OF 1

CODE

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1B26

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)		A		
W/BRN (Z)		B		
W/RED (R)	2Z11T	C	EPC_2	
W/ORN (O)	2Z11V	D	EPC_3	
W/YEL (Y)	2Z11X	E	EPC_4	
W/GRN (N)	2Z11Z	F	EPC_5	
W/BLU (B)	1B11S	H	PC6	
W/VIO (V)	1B12S	J	PC7	
W/GRY (G)	1B13S	K	PC8	
WHT (W)		L		
W/BLK (X)	1B14S	M	PC9	
W/BRN (Z)	1B15S	N	PC10	
W/RED (R)	1B16S	P	PC11	
W/ORN (O)	1B17S	R	PC12	
W/YEL (Y)	1B18S	S	PC13	
W/GRN (N)	1B19S	T	PC14	
W/BLU (B)		U	PC15	
W/VIO (V)	1B21S	V	PC16	
W/GRY (G)	1B22S	W	PC17	
WHT (W)		X		
		Y		
		Z		

DRAWN E. Massarelli 10/7/64

CHECKED [signature] 10/7/64

ENG [signature] 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

APP'V

ECO. NO. REV. LTR.

22 PIN AMPHENOL

TITLE

PC INDICATORS
PDP-1D-45

DWG NO A-1D-45-59

REV. LTR.

SHEET 1 OF 1

CODE CL

D-ID-45-63 REV

TYP CONNECTOR
CANNON DD-50S

TYPE SYNC (RICIES)

4603 11B5

4681 11C24

4681 11C22

4681 11C23

4113R 11C21

4214 11C20

4214 11C19

4128 11C18

4128 11C17

4110 11C13

4110 11C14

4110 11C15

4209 11C8

4105 11C7

4105 11C9

4301 11C1

4301 11C4

4301 11C5

4301 11C6

4410 11C3

4410 11C2

4110 11C12

4603 11C10

4105 11B3

4105 11C11

4126 11C16

4214 11C20

4105 11C11

4603 11C10

4111 11B4

4110 11B24

1703 11B1

1703 11B2

4110 11C12

TAB
CR CAM
SHIFT CAM
SPACE
B-SPACE
TCC

SHIFT

CR CAM
TAB
B-SPACE
SHIFT CAM
SHIFT UP
SHIFT DOWN

TC6 TC5 TC4 TC3 TC2 TC1

SHIFT CAM
CR CAM
SHIFT-UP
SHIFT-DOWN
B-SPACE
SPACE
TAB
TCC
TC1 TC2 TC3 TC4 TC5 TC6

SWITCH FILTER
F J L N R T V X Z
E H K M P S U W Y

SHIFT UP

SHIFT DOWN

CANNON DD-50P

SPACE CAM
COLOR SHIFT LEVER
DE-ENERGIZE
ENERGIZE
COLOR SHIFT SOL
SHIFT LEVER
SHIFT CAM
B-SPACE
CR CAM
TAB MICRO SWITCH
TAB CAM
TCC TC7 TC6 TC5 TC4 TC3 TC2 TC1
CANNON DC-37P
CANNON DE-9P
MARGIN SAFETY SWITCH
CANNON DE-9S
TCM
TBS
TM1 TM2 TM3 TM4 TM5 TM6
CANNON DB-25S
CANNON DB-25P

CR&TAB COMPLETION CONTACTS

NOTE
TBB FLIP FLOP NORMAL 0 & 1
TERMINALS ARE REVERSED.

TYPEWRITER

1663 11C25
TYP IND. DRIVERS

THIS DWG. TAKEN FROM
D-CO-E REV

CODE BS

digital EQUIPMENT CORPORATION D-ID-45-63

TYPEWRITER CONTROL PDP-ID-45

REV.

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1K26

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	1K7U	A	RUN	
W/BRN (Z)	1K7J	B	CYCLE	
W/RED (R)	1K13U	C	DF 1	
W/ORN (O)		D		
W/YEL (Y)	1K21S	E	BC-1	
W/GRN (N)	1K22S	F	BC-2	
W/BLU (B)	2C2J	H	OV 1	
W/VIO (V)	1F9U	J	RIM	
W/GRY (G)	1K11J	K	SBM	
WHT (W)		L		
W/BLK (X)		M	EXT	
W/BRN (Z)	1J18U	N	IOH	
W/RED (R)	1J21J	P	IOC	
W/ORN (O)	1J18J	R	IOS	
W/YEL (Y)		S		
W/GRN (N)		T		
W/BLU (B)		U		
W/VIO (V)		V		
W/GRY (G)		W		
WHT (W)		X		
		Y		
		Z		

REV. LTR.	ECO. NO.	DATE	ENG.

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

22 PIN AMPHENOL

TITLE

MISC. INDICATORS

PDP-1-45

DRAWN 10/7/64
E. Massarelli

CHECKED M. Hyatt 10/7/64

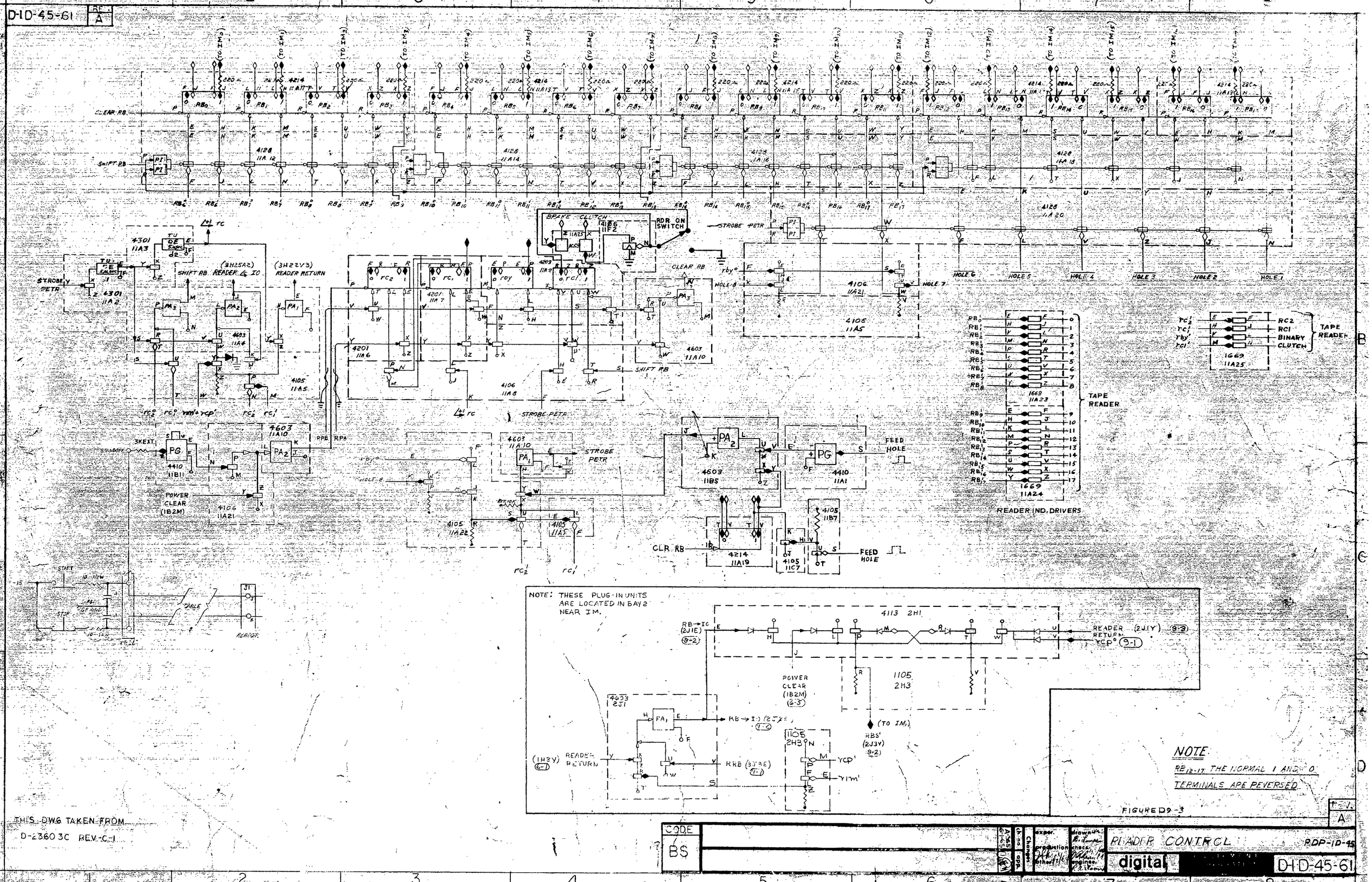
ENG. [signature] 11/2/64

PROD. [signature] 11/2/64

CODE	DRWG. NO.	REV.
CL	A-1D-45-60	

SHEET 1 OF 1

DIST.

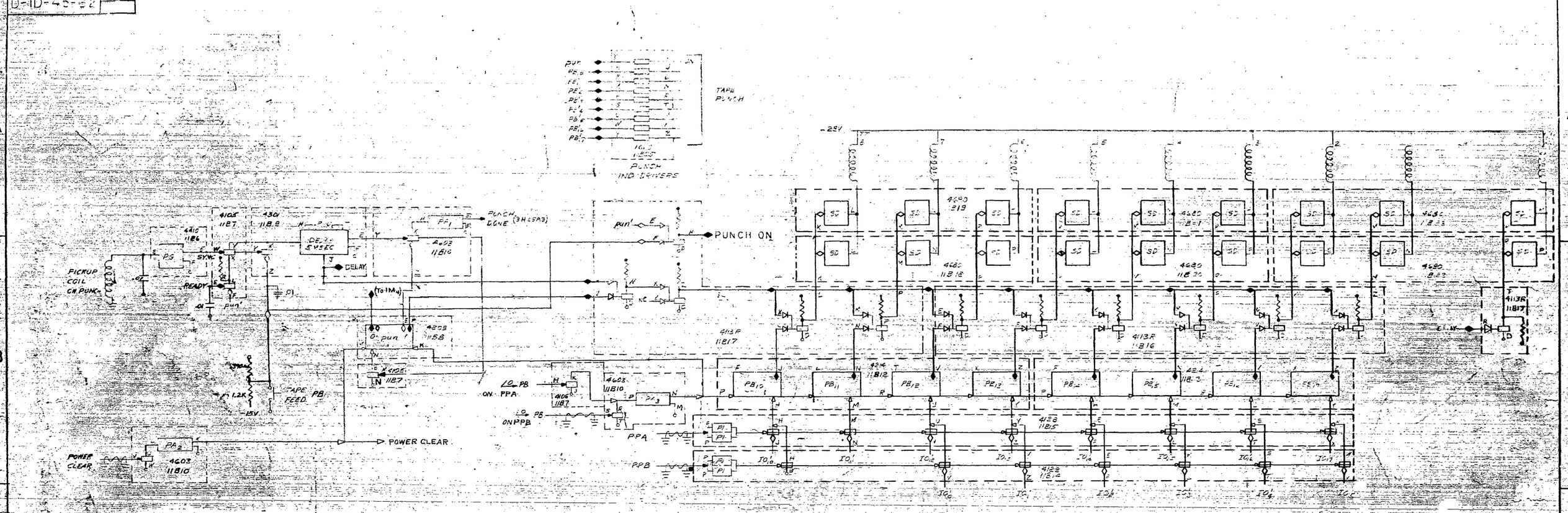


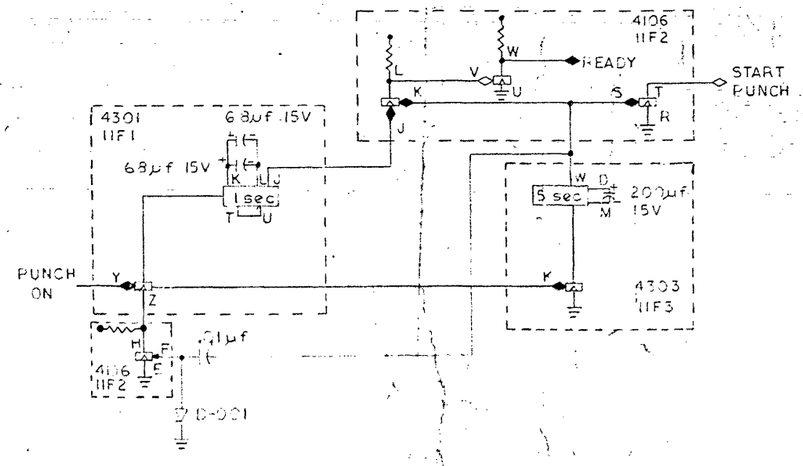
NOTE
RB12-17 THE NORMAL 1 AND 0 TERMINALS ARE REVERSED

FIGURE D9-3

THIS DWG TAKEN FROM
D-2360 3C REV C-1

CODE		REV.
BS	READER CONTROL	A
	digital	D-ID-45-61





THIS DWG. TAKEN FROM
D-2030I REV-C

CODE	CHANGE	DRAWN	CHECKED	ENGINEER
BS				

REV

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

D-ID-45-62

PUNCH CONTROL

PDP-ID-45

D-ID-45-64 REV LTR

COAXIAL CONNECTOR 1031

22 PIN METHODE 3C21

ADRS ACK

RDRS

WRRS

6684 3C15

RQ1

6684 3C16

EMA_2^0

EMA_2^1

EMA_3^0

EMA_3^1

22PIN METHODE 3C22

6684 3C17

EMA_4^1

EMA_5^1

MA_6^1

MA_7^1

6684 3C18

MA_8^1

MA_9^1

MA_{10}^1

MA_{11}^1

6684 3C19

MA_{12}^1

MA_{13}^1

MA_{14}^1

MA_{15}^1

6684 3C20

MA_{16}^1

MA_{17}^1

RD RQ

WR RQ

1030

1031

3C24

3D24

1665 3D/C24

PA

3C 24

3D 24

TP8

MB_0^1 MB_1^1 MB_2^1 MB_3^1 MB_4^1 MB_5^1 MB_6^1 MB_7^1 MB_8^1 MB_9^1 MB_{10}^1 MB_{11}^1 MB_{12}^1 MB_{13}^1 MB_{14}^1 MB_{15}^1 MB_{16}^1 MB_{17}^1

CHANGE	DATE	ENG
REVISIONS		

DRAWN B.LUMPKIN	DATE 1-15-64	
CHECKED	DATE 1/31/64	
ENG	DATE 1/31/64	
PROJ. ENG	DATE 1/31/64	
PROD	DATE 11/2/64	

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE MEMORY BUS INTERFACE

FOR

ASSY. NO MA- -ID-0-1 CODE BS

DRWG NO D-ID-45-64 REV LTR

SHEET OF

BKE-2

D-45 65 REV A

3H25A ROW 2
3J16V
2J20E
READER ON SWITCH 4106
3J16F 2J5F 2J3T 2J3F 2J5T 2J8F 2J8T 2J11F 2J11T 2J13F 2J13T 2J16T 2J16F 2J19F 2J21F 2J19T 2J2H 2J24T 2J24F
HOLE #8
1B2M
GRN GRN GRN
-15MC
+90A +10B TS GND
11A
4410 4301 4301 4603 4105 4201 4201 4106 4209 4603 4214 4128 4214 4128 4214 4128 4214 4128 4106 4105 1669 1669 1669
10K
11J 11N 11V 11Z 13J 13N 13V 13Z 15J
15N 15V 15Z 17F 17L 17T 17X 19F 19L
6R 7R 22E
READER 11A
CLUTCH
BRAKE
D-003
START STOP
HOLE #7
2J5J
*R1C18S
3J6M
3J7M
*3J20H
3J17K 2H24M 2H17L 2H17N 2J8V
2H24N
3J17F
11F1Y
GRN
1703 1703 4105 4111 4603 4410 4105 4209 4301 4603 4410 4214 4214 4128 4128 4113R 4113R 4680 4680 4680 4680 4680 4680 4110 1669
13Z 13K 14K 14Z 15K 15Z 12L 12P
12N 12R 12M 14Y 15L 12K
11B
11C
.01 MFD
3K EXT
17V 17J 17N 16V 16Z 16J 16N 16V 16Z
PUNCH 11B
TAB TIE PT
SHIFT TIE PT
-15V
3J17N 3J5E
2H24L 2H11T 2Y20X 2H11R
2H19L
-30V
50-50 TNT
GRN
4301 4410 4410 4301 4301 4301 4105 4209 4105 4603 4105 4110 4110 4110 4110 4126 4128 4128 4214 4214 4113R 4681 4681 4681 1669
16J 20J 20L 20V 21S 21J 21N 21V 21Y
TYP 11C
390Ω 1100Ω
.01 MFD
6 MFD
3J20K 1J23S
3J5M
2H19T 2H17T 2H19R 2H17R 2H19N

NOTE:
1. USE 914 MTG PANELS.
2. SEE PUNCH MOD

PMS DWG TAPE NO. FROM
D-2000 -FLW

CODE						READER PUNCH TELETYPE TYP CONTROL
WD		CHNG APP	EXPLR.	DRAWN		
		CHANGE	CHECKED	CHECKED		digital

CONNECTION MEDIA	POL	PIN	PIN	NAME
D-003	+	1A1W	GND	MB_5^0 (b)
D-003	+	1A7L		CYC^1
D-003	+	1A8F		CYC^0
D-003	+	1A12H		MB_6
D-003	+	1A12T		MB_7
D-003	+	1A14H		MB_8
D-003	+	1A14T		MB_9
D-003	+	1A16H		MB_{10}
D-003	+	1A16T		MB_{11}
D-003	+	1A18H		MB_{12}
D-003	+	1A18T		MB_{13}
D-003	+	1A20H		MB_{14}
D-003	+	1A20T		MB_{15}
D-003	+	1A22H		MB_{16}
D-003	+	1A22T		MB_{17}
D-003	+	1A7M		IO_{17}^1
D-003	+	1C9E		MB_7^1 (b)
D-003	+	1C20W		AC_{17}
D-003	+	1C22H		CY1 →
D-003	+	1D7E		MB 1 SH.RO.
D-003	+	1D7J		MB 1 SH.RO.
D-003	+	1D7M		MB 1 SH.RO.
D-003	+	1D7R		MB 1 SH.RO.
D-003	+	1D7U		MB 1 SH.RO.
D-003	+	1D7X		MB 1 SH.RO.

DRAWN P.J.Priest 1-8-64

CHECKED R. Bryant 10/7/64

ENG J. Shultz 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

APP'V R.F.

ECO. NO. 360
REV. LTR. 9-26-65

EXTERNAL COMPONENTS LIST

TITLE

DIODES FOR PDP-1D

DWG NO A-1D-45-66

REV. LTR. A

SHEET 1 OF 4

CODE CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
D-003	+	1D8M	GND	MB 1 SH.RO.
D-003	+	1D8U		MB 1 SH.RO.
D-003	+	1D8X		MB 1 SH.RO.
D-003	+	1F6H		MB_0^1
D-003	+	1F6T		MB_1^1
D-003	+	1F8H		MB_2^1
D-003	+	1F8T		MB_3^1
D-003	+	1F9H		MB_4^1
D-003	+	1H8X		$r0n^1$
D-003	+	1K7E		CYC^1
D-003	+	1K14E		MB_5^1
D-003	+	2A6F		OV_1^1
D-003	+	2A7F		EXD^1
D-003	+	2A8F		EPC_2^1
D-003	+	2A9F		EPC_3^1
D-003	+	2A10F		EPC_4^1
D-003	+	2A11F		EPC_5^1
D-003	+	2C6U		MBO^0
D-003	+	2C7U		$MB1^0$
D-003	+	2C8U		$MB2^0$
D-003	+	2C9U		$MB3^0$
D-003	+	2C10U		$MB4^0$
D-003	+	2C11U		$MB5^0$
D-003	+	2C12U		$MB6^0$
D-003	+	2C13U		$MB7^0$

DRAWN P.J.Priest 1-8-64

CHECKED [signature] 1/7/64

ENG

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

DIODES FOR PDP-[illegible]

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-66

REV. LTR. A

SHEET 2 OF 4

CODE CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
D-003	+	2C14U	GND	MB_8^0
D-003	+	2C15U		MB_9^0
D-003	+	2C16U		MB_{10}^0
D-003	+	2C17U		MB_{11}^0
D-003	+	2C18U		MB_{12}^0
D-003	+	2C19U		MB_{13}^0
D-003	+	2C20U		MB_{14}^0
D-003	+	2C21U		MB_{15}^0
D-003	+	2C22U		MB_{16}^0
D-003	+	2C23U		MB_{17}^0
D-003	+	2E6E		AC_0^0
D-003	+	2F4N		AC_{17}
D-003	+	2F5N		IO
D-003	+	2F5J		IO
D-003	+	2F21J		IO_{17}^0
D-003	+	2H2E		0 → IO
D-003	+	2K3S		AC_0^0
D-003	+	2K3W		MB_0^1
D-003	+	2K4Y		MB_0^0
D-003	+	2K6S		IO_{17}^1
D-003	+	2K7E		IO_0^0
D-003	+	2K17R		AC_0^0
D-003	+	2L2S		IO_{17}^1
D-003	+	3C5E		MB^0
D-003	+	3C5J		MB^1

DRAWN
P.J.Priest 1-8-64

CHECKED
R. Rhault 10/17/64

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

APP'V

ECO. NO.
REV. LTR.

EXTERNAL COMPONENTS LIST

TITLE

DIODES FOR PDP-1D

DWG NO
A-1D-45-66

REV LTR.
A

SHEET 3 OF 4

CODE
CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
D-003	+		GND	MB 2
D-003	+			MB 3
D-003	+			MB 4
D-003	+			MB 5
D-003	+			MB 6
D-003	+			MB 7
D-003	+			MB 8
D-003	+			MB 9
D-003	+			MB 10
D-003	+			MB 11
D-003	+			MB 12
D-003	+			MB 13
D-003	+			MB 14
D-003	+			MB 15
D-003	+			MB 16
				MB 17
D-003	+	3H8Z		iot.ioc 1
D-003	+	3J18K		MB 1 5
D-003	+	3J18N		MB 0 6
D-003	+	3J18S		MB 0 5
D-003	+	3J19V		MB 0 6
D-003	+	1A19M		IO1 0 1

DRAWN P.J.Priest 1-8-64

CHECKED W. Rokoff 10/7/64

ENG

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

DIODES FOR PDP-1D

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-66

REV. LTR. A

SHEET 4 OF 4

CODE CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
100 [illegible]		1A8T	CYL	MP9
82		1A9S		SP1
82		1A10T		SP3
82		1A15T		100 V
82		1A22S		MR → MA
150		1A22Y		0 → MA
82		1A23W		PC 1 → MA
82		1A25S		RD MA
82		1B5Y		SP2
82		1B6Y		SP4
100		1B7Y		MP8
82		1B22W		+1 → PC
82		1B22Y		-1 → PC
330		1B22P		10 → PC
82		1B23P		MA → PC
82		1B24P		MA → PC
82		1B25P		MR 1 → PC
82		1C5Y		SH/RO
100		1C8Y		MP4
120		1C16Y		MP9A
82		1C20E		MEM. CYL. MP10
82		1C24W		MDP-7
82		1C24M		MDP-3
82		1C24W		MD CARRY
100		1D9S		MP1

DRAWN W. Massarelli 12/20/63

CHECKED M. Rhoads 12/17/64

ENG S. Levine 12/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE PDP-12 TERMINATIONS

APP'V	ECO. NO. REV. LTR.

DWG NO A-1D-45-67

REV. LTR.

SHEET 1 OF 6

CODE CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
82		1D2Y	GND	MM/20
82		1D10M		MD → D0
82		1E21Y		IO → PIAC
82		1E22S		1 → PIAC
120		1E1M		START
120		1E1S		DEPOSIT
82		1E9E		MB → TB
82		1E9M		IO → TB
120		1E9S		READ IN
82		1H13Y		STROBE
150		1F15M		SC-4
100		1J22S		SC
120		1J24S		MP 9A
82		1K7S		MD RESTART
150		1K8Y		STOP
120		1K8M		CONTINUE
120		1K8N		EXAMINE
150		1K11X		SCO→4
82		2A3Y		MDP-9
82		2A4Y		MD IO AC

DRAWN Elaine Vassarelli 12/20/67

CHECKED R. Blanchard 10/7/69

ENG

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

PDP-1D TERMINATIONS

APP'V

ECO. NO.
REV. LTR.

DWG NO A-1D-45-67

REV. LTR.

SHEET 2 OF 6

CODE CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
150		2A14W		AC SW/BO A
150		2A14W		AC SW/BO B
82		2A23E		BO → AC
150		2A23V		AC SW/BO A
150		2A23W		AC SW/BO B
220		2B23P		LO → AC
100		2B23V		LO → AC
100		2B24P		TP6
120		2B24S		TP2
82		2B24V		MDP-2
100		2C1S		SC
150		2C2P		TP10
120		2C3W		TP9
82		2C4V		MDP-13
100		2C23P		MB → AC (6-17)
82		2C23V		PAD
82		2C23W		CARRY
220		2C23V		MB → AC
150		2C23Y		TW → AC
120		2D4V		TP5
100		2D5S		TP3
82		2D5V		MD (AC → MB
150		2D5Y		TP4
82			GND	
82				

DRAWN
E. Masserelli 12/20/63

CHECKED
R. Rhoads 12/27/63

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

PDP-1T- TERMINATIONS

APP'V

ECO. NO.
REV. LTR.

DWG NO
A-1D-45-67

REV. LTR.

SHEET 3 OF 6

CODE
C L

CONNECTION MEDIA	POL	PIN	PIN	NAME
150 OHMS		2D22X	GND	→MB
82		2E1V		MDP-10
82		2E2V		MD →TO
82		2E3V		MD →MB
120		2E10V		AC0-5 MB0-5
220		2E22E		AC6-17 MB6-17
82		2E22V		TO →MB
82		2E2S		SU/RO
82		2E2V		MUL SR

DRAWN F. Massarelli 12/23/63

CHECKED R. Rheault 1/7/64

ENG

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

PDP-1D- TERMINATIONS

APP'V.

ECO. NO.
REV. LTR.

DWG NO A-1D-45-67

REV. LTR.

SHEET 4 OF 6

CODE C L

CONNECTION MEDIA	POL	PIN	PIN	NAME
82		2E2Y	GND	MDP-1
150		2E13W		TO SW/BO 1
150		2E13Y		TO SW/BO 2
150		2E22W		TO SW/BO 1
150		2E22Y		TO SW/BO 2
82		2H3W		MD → TO
150		2H4S		TP_5
100		2H5S		TP_7
82		2H5Y		MD/MB → TO
82		2H22E		MB→TO
82		2K3H		MDP-1
82		2K5E		MDP-10
220		2K8Y		AC^0_{17} A
82		2E9M		MDP-4
82		2K9W		MDP-9
82		2K11V		TP_3
120		2K11Y		TP_2
82		2K15E		TP_{10}
82		2K15Y		10 → SCR
120		2K18S		TP_9
150		2K18Y		TP_{10}
82		2K20Y		MDP-5
82		2L4E		DTV. CYL. TP_{10}
82		2L16S		MDP-6
82		30JW		1 → 1

DRAWN: M. Mascarelli 12/23/63

CHECKED: H. Stanley 10/7/64

ENG:

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

PDP-11 TERMINATIONS

APP'V

ECO. NO.
REV. LTR.

DWG NO A-ID-45-67

REV. LTR.

SHEET OF

CODE C L

CONNECTION MEDIA	POL	PIN	PIN	NAME
100		11A6V	GND	RPB
100		11A6V		RPA
100		11B7-H		PB PPB
100		11B10S		PB PPB
100		11C10S		TYO
100		11C11S		TB
100		11C16F		TY-i

DRAWN
P.J.Priest 1-8-64

CHECKED
M. Blount 1/7/64

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

EXTERNAL COMPONENTS LIST

TITLE

PDP-1I[illegible] TERMINATIONS

APP'V

ECO. NO.
REV. LTR.

DWG NO
A-1D-45-67

REV. LTR.

SHEET 6 OF 6

CODE
CL

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1F26

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	1F6J	A	IR0	
W/BRN (Z)	1F6U	B	IR1	
W/RED (R)	1F8J	C	IR2	
W/ORN (O)	1F8U	D	IR3	
W/YEL (Y)	1F9J	E	IR4	
W/GRN (N)		F		
W/BLU (B)		H		
W/VIO (V)		J		
W/GRY (G)		K		
WHT (W)		L		
W/BLK (X)		M		
W/BRN (Z)		N		
W/RED (R)		P		
W/ORN (O)		R		
W/YEL (Y)		S		
W/GRN (N)		T		
W/BLU (B)		U		
W/VIO (V)		V		
W/GRY (G)		W		
WHT (W)		X		
		Y		
		Z		

DRAWN P.J.Priest 1-8-64

CHECKED [signature] 10/2/64

ENG [signature] 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

22 PIN AMPHENOL

TITLE

IR INDICATORS

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-68

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1E26

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	1E22J	A	PF 1	
W/BRN (Z)	1E22U	B	PF 2	
W/RED (R)	1E20J	C	PF 3	
W/ORN (O)	1E20U	D	PF 4	
W/YEL (Y)	1E18J	E	PF 5	
W/GRN (N)	1E18U	F	PF 6	
W/BLU (B)		H		
W/VIO (V)		J		
W/GRY (G)		K		
WHT (W)		L		
W/BLK (X)	1D5F	M	SS1	
W/BRN (Z)	1D5K	N	SS2	
W/RED (R)	1D5N	P	SS3	
W/ORN (O)	1D5S	R	SS4	
W/YEL (Y)	1D5V	S	SS5	
W/GRN (N)	1D5Y	T	SS6	
W/BLU (B)	1K25S	U	SING INST.	
W/VIO (V)	1K5W	V	SS6 SINGLE STEP	
W/GRY (G)		W		
WHT (W)		X		
		Y		
		Z		

DRAWN P.J.Priest 1-8-64

CHECKED M. Ridgeway 10/7/69

ENG J. Hulas 11/2/69

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

22 PIN AMPHENOL

TITLE

PF INDICATORS
SENSE SW's
SINGLE INST.
SINGLE STEP

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-69

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [X] PLUG [ ]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

1J26

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	1H2M	A	START $\overline{\text{SBM}}$ SW	
W/BRN (Z)	1H2S	B	START SBM SW	
W/RED (R)	1J1R	C	STOP	
W/ORN (O)	1J3R	D	CONTINUE	
W/YEL (Y)	1J4R	E	EXAMINE	
W/GRN (N)	1J5R	F	DEPOSIT	
W/BLU (B)	1J6R	H	READ IN	
W/VIO (V)		J		
W/GRY (G)		K		
WHT (W)		L		
W/BLK (X)		M		
W/BRN (Z)		N		
W/RED (R)		P		
W/ORN (O)		R		
W/YEL (Y)		S		
W/GRN (N)		T		
W/BLU (B)		U		
W/VIO (V)		V		
W/GRY (G)		W		
WHT (W)		X		
		Y		
		Z		

DRAWN P.J.Priest 1-8-64

CHECKED R. Bryant 10/7/64

ENG J. Hulse 11/2/64

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

22 PIN AMPHENOL

TITLE

CONTROL SW's

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-45-70

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

3' LONG, 11A29

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
W/BLK (X)	11A20N	1	HOLE 1	W/GRY (G)		26	
W/BRN (Z)	11A20J	2	HOLE 2	WHT (W)		27	
W/RED (R)	11A20Z	3	HOLE 3	W/BLK (X)		28	
W/ORN (O)	11A20V	4	HOLE 4	W/BRN (Z)		29	
W/YEL (Y)	11A20L	5	HOLE 5	W/RED (R)		30	
W/GRN (N)	11A20F	6	HOLE 6	W/ORN (O)		31	
W/BLU (B)	11A21V	7	HOLE 7	W/YEL (Y)		32	
W/VIO (V)	11A21K	8	HOLE 8	W/GRN (N)		33	
W/GRY (G)	11A1S	9	FEED HOLE				
WHT (W)	11A25	10	CLUTCH	W/BLK (X)		34	
W/BLK (X)	11A25Z	11	BRAKE	W/BRN (Z)		35	
W/BRN (Z)	GND	12	GND	W/RED (R)		36	
W/RED (R)	11B25A	13	+10A	W/ORN (O)		37	
W/ORN (O)	11B25B	14	+10B	W/YEL (Y)		38	
W/YEL (Y)	ST. STDOFF	15	START (MTR)	W/GRN (N)		39	
W/GRN (N)	STP. STDOFF	16	STOP (MTR)	W/BLU (B)		40	
W/BLU (B)	SP.	17	SP.	W/VIO (V)		41	
				W/GRY (G)		42	
W/BLK (X)		18		WHT (W)		43	
W/BRN (Z)		19		W/BLK (X)		44	
W/RED (R)		20		W/BRN (Z)		45	
W/ORN (O)		21		W/RED (R)		46	
W/YEL (Y)		22		W/ORN (O)		47	
W/GRN (N)		23		W/YEL (Y)		48	
W/BLU (B)		24		W/GRN (N)		49	
W/VIO (V)		25		W/BLU (B)		50	

DRAWN P.J.Priest 1-31-64

CHECKED M. Arcault 10/7/69

ENG J. Shea 11/3/69

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

50 PIN CANNON

TITLE

READER INTO READER LOGIC

SOCKET WIRING

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-71

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [ ] PLUG [X]

FEMALE [ ] MALE [X]

LOCATION, LENGTH, ROUTE

APPROX. 5 FT.

COLOR	PIN	PIN	NAME
W/BLK (X)	1D22R	1	MBDA 0
W/BRN (Z)	1D22S	2	MBDA 1
W/RED (R)	1D22T	3	MBDA 2
W/ORN (O)	1D22U	4	MBDA 3
W/YEL (Y)	1D22V	5	MBDA 4
W/GRN (N)	1D22W	6	MBDA 5
W/BLU (B)	1D22X	7	MBDA 6
W/VIO (V)	1D22Z	8	MBDA 7
W/GRY (G)		9	
WHT (W)	1D23R	10	MBDB 0
W/BLK (X)	1D23S	11	MBDB 1
W/BRN (Z)	1D23T	12	MBDB 2
W/RED (R)	1D23U	13	MBDB 3
W/ORN (O)	1D23V	14	MBDB 4
W/YEL (Y)	1D23W	15	MBDB 5
W/GRN (N)	1D23X	16	MBDB 6
W/BLU (B)	1D23Z	17	MBDB 7
W/BLK (X)	1D24R	18	MBDC 0
W/BRN (Z)	1D24S	19	MBDC 1
W/RED (R)	1D24T	20	MBDC 2
W/ORN (O)	1D24U	21	MBDC 3
W/YEL (Y)	1D24V	22	MBDC 4
W/GRN (N)	1D24W	23	MBDC 5
W/BLU (B)	1D24X	24	MBDC 6
W/VIO (V)	1D24Z	25	MBDC 7

COLOR	PIN	PIN	NAME
W/GRY (G)	1D25R	26	MBDD 0
WHT (W)	1D25S	27	MBDD 1
W/BLK (X)	1D25T	28	MBDD 2
W/BRN (Z)	1D25U	29	MBDD 3
W/RED (R)	1D25V	30	MBDD 4
W/ORN (O)	1D25W	31	MBDD 5
W/YEL (Y)	1D25X	32	MBDD 6
W/GRN (N)	1D25Z	33	MBDD 7
W/BLK (X)		34	
W/BRN (Z)		35	
W/RED (R)		36	
W/ORN (O)		37	
W/YEL (Y)		38	
W/GRN (N)		39	
W/BLU (B)		40	
W/VIO (V)		41	
W/GRY (G)		42	
WHT (W)		43	
W/BLK (X)		44	
W/BRN (Z)		45	
W/RED (R)		46	
W/ORN (O)		47	
W/YEL (Y)		48	
W/GRN (N)		49	
W/BLU (B)		50	

DRAWN P.J.Priest 1-31-64

CHECKED [signature] 10/7/64

ENG [signature] 11/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

APP'V

ECO. NO. REV. LTR.

50 PIN CANNON

TITLE

MBD IOT

(4113 INVERTERS)
PLUG INTO 3H29
PDP-1D

DWG NO A-1D-45-72

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [X] PLUG [ ]

FEMALE [X] MALE [ ]

LOCATION, LENGTH, ROUTE

IOT → MBD

3H29

COLOR	PIN	PIN	NAME
W/ BLK (X)	3H1E	1	MBD A 0
W/ BRN (Z)	3H1J	2	MBD A 1
W/ RED (R)	3H1M	3	MBD A 2
W/ ORN (O)	3H1R	4	MBD A 3
W/ YEL (Y)	3H1U	5	MBD A 4
W/ GRN (N)	3H1X	6	MBD A 5
W/ BLU (B)	3H2E	7	MBD A 6
W/ VIO (V)	3H2J	8	MBD A 7
W/ GRY (G)		9	
WHT (W)	3H5E	10	MBD B 0
W/ BLK (X)	3H5J	11	MBD B 1
W/ BRN (Z)	3H6E	12	MBD B 2
W/ RED (R)	3H6J	13	MBD B 3
W/ ORN (O)	3H6M	14	MBD B 4
W/ YEL (Y)	3H6R	15	MBD B 5
W/ GRN (N)	3H6U	16	MBD B 6
W/ BLU (B)	3H6X	17	MBD B 7
W/ BLK (X)	3H2M	18	MBD C 0
W/ BRN (Z)	3H2R	19	MBD C 1
W/ RED (R)	3H2U	20	MBD C 2
W/ ORN (O)	3H2X	21	MBD C 3
W/ YEL (Y)	3H3E	22	MBD C 4
W/ GRN (N)	3H3J	23	MBD C 5
W/ BLU (B)	3H3M	24	MBD C 6
W/ VIO (V)	3H3R	25	MBD C 7

COLOR	PIN	PIN	NAME
W/ GRY (G)	3H3U	26	MBD D 6
WHT (W)	3H3X	27	MBD D 7
W/ BLK (X)	3H4E	28	MBD D 2
W/ BRN (Z)	3H4J	29	MBD D 3
W/ RED (R)	3H4M	30	MBD D 4
W/ ORN (O)	3H4R	31	MBD D 5
W/ YEL (Y)	3H4U	32	MBD D 6
W/ GRN (N)	3H4X	33	MBD D 7
W/ BLK (X)		34	
W/ BRN (Z)		35	
W/ RED (R)		36	
W/ ORN (O)		37	
W/ YEL (Y)		38	
W/ GRN (N)		39	
W/ BLU (B)		40	
W/ VIO (V)		41	
W/ GRY (G)		42	
WHT (W)		43	
W/ BLK (X)		44	
W/ BRN (Z)		45	
W/ RED (R)		46	
W/ ORN (O)		47	
W/ YEL (Y)		48	
W/ GRN (N)		49	
W/ BLU (B)		50	

DRAWN Elaine Massarelli 1/28/64

CHECKED [illegible] 10/7/64

ENG [illegible] 11/2/64

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

50 PIN CANNON

TITLE

4113 INVERTERS

PDP-1D

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-4573

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK ☐ PLUG ☒

FEMALE ☒ MALE ☐

LOCATION, LENGTH, ROUTE

11C29 3' Lg.

COLOR	PIN	PIN	NAME	COLOR	PIN	PIN	NAME
W/BLK (X)	11C23P	1	TB 1	W/GRY (G)	-15 Stdof	26	Tab SW
W/BRN (Z)	11C23N	2	TB 2	WHT (W)	11B1W	27	Tab SW
W/RED (R)	11C23L	3	TB 3	W/BLK (X)		28	
W/ORN (O)	11C22N	4	TB 4	W/BRN (Z)	Tab Tie Pt.	29	Tab SW
W/YEL (Y)	11C22P	5	TB 5	W/RED (R)	NC	30	CR Cam
W/GRN (N)	11C22L	6	TB 6	W/ORN (O)	-15 Stdof	31	CR Cam
W/BLU (B)	NC	7		W/YEL (Y)	11B2M	32	CR Cam
W/VIO (V)	NC	8		W/GRN (N)	-15 Stdof	33	BK SP
W/GRY (G)	11C24N	9	TC M				
WHT (W)	-30 Stof	10	-30	W/BLK (X)	11B2H	34	BK SP
W/BLK (X)		11		W/BRN (Z)	-15 Stdof	35	SH Cam
W/BRN (Z)	-15 Stdof	12	TB S	W/RED (R)	11B2P	36	SH Cam
W/RED (R)		13		W/ORN (O)	-15 Stdof	37	SH Cam
W/ORN (O)	-15 Stdof	14	TC Com	W/YEL (Y)	Shift Tie Pt.	38	SH Cam
W/YEL (Y)	11B1S	15	TC 1	W/GRN (N)	Shift Tie Pt.	39	SH Level
W/GRN (N)	11B1P	16	TC 2	W/BLU (B)	11B2S	40	SH UP Level
W/BLU (B)	11B1M	17	TC 3	W/VIO (V)	11B2U	41	SH DN Level
				W/GRY (G)	Shift Tie Pt.	42	SH Level
W/BLK (X)	11B1K	18	TC 4	WHT (W)	11C24L	43	Color TBE
W/BRN (Z)	11B1H	19	TC 5	W/BLK (X)	-30 Stof	44	-30
W/RED (R)	11B1E	20	TC 6	W/BRN (Z)	NC	45	Color
W/ORN (O)	-15 Stdof	21	TC 7	W/RED (R)	-15 Stdof	46	3P-Can
W/YEL (Y)	11B1U	22	TC C	W/ORN (O)	11B2W	47	Space
W/GRN (N)	-15 Stdof	23	Tab Cam	W/YEL (Y)		48	
W/BLU (B)	11B1Y	24	Tab Cam	W/GRN (N)		49	
W/VIO (V)	Tab Tie Pt.	25	CR Cam	W/BLU (B)	GND	50	GND

DRAWN P.J.Priest 1-28-64

CHECKED M. Kinquett 10/7/64

ENG J. Sh.-C 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

50 PIN CANNON

TITLE

TYPEWRITER INTO TYPEWRITER LOGIC

SOCKET WIRING DD-50-S

PDP-1D

APP'V			
ECO. NO. REV. LTR.			

DWG NO A-1D-45-74

REV. LTR.

SHEET 1 OF 1

CODE CL

CONNECTION MEDIA	POL	PIN	PIN	NAME
			TERMINAL STRIP	
3.3K 1/4 W.		3J15J	3J45	READER NAC
"		3J15N	"	PUNCH NAC
"		3J15V	3J45	TYPEWRITER NAC
"			TERMINAL STRIP	

DRAWN Elaine Massarelli 1/28/64

CHECKED M. Blewett 2/7/64

ENG [illegible] 2/2/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

APP'V

ECO. NO. REV. LTR.

EXTERNAL COMPONENTS LIST

TITLE

PDP-1D TERMINATORS FOR

NAC & MEMORY LITES

PDP-1D

DWG NO A-1D-45-75

REV. LTR.

SHEET 1 OF 1

CODE CL

COLOR	NAME	PIN	PIN	REMARKS
WHT/BLK	READER NAC	TAPE RDR. C	3J45J	THRU 3.3K ¼ W.
WHT/BRN	PUNCH NAC	PUNCH R	3J45N	"
WHT/RED	TYPEWRITER NAC	TYPEWRITER N	3J45V	"
WHT/VIO	DEFER 2	PUNCH U	1K13J	
WHT/GRY	OVERFLOW 2	PUNCH W	2C2U	
WHT				

DRAWN P.J.Priest 1-28-64

CHECKED R. Bleguld 10/7/64

ENG Shula 11/2/64

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

GENERAL WIRING SHEET

TITLE

NAC AND MEMORY LITES

PDP-1D

APP'V

ECO. NO. REV. LTR.

DWG NO A-1D-4576

REV. LTR.

SHEET 1 OF 1

CODE CL

JACK [x] PLUG [ ]

FEMALE [ ] MALE [x]

LOCATION, LENGTH, ROUTE

11B29

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	-30V STDOFF	A	-30V	
W/BRN (Z)	11B6S	B	PICKUP PULSE	
W/RED (R)	SP	C	SP	
W/ORN (O)	GND	D	GND	
W/YEL (Y)	11B19L	E	HOLE 8'	
W/GRN (N)	11B22P	F	FEED/HOLE	
W/BLU (B)	11B22N	H	HOLE 1	
W/VIO (V)	11B22L	J	HOLE 2	
W/GRY (G)	11B20P	K	HOLE 3	
WHT (W)	11B20N	L	HOLE 4	
W/BLK (X)	11B20L	M	HOLE 5	
W/BRN (Z)	11B19N	N	HOLE 7	
W/RED (R)	11B19P	P	HOLE 6	
W/ORN (O)	GND	R	GND	
W/YEL (Y)		S		
W/GRN (N)	11F2Z	T	START PUNCH	
W/BLU (B)	-15V	U	-15V	
W/VIO (V)		V		
W/GRY (G)		W		
WHT (W)		X		
		Y		
		Z		

DRAWN P.J.Priest 1-31-64

CHECKED H. Bryant 11/7/64

ENG J. Shiel 11/2/64

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

22 PIN AMPHENOL

TITLE

SOCKET WIRING

(PUNCH INTO PUNCH LOGIC)

APP'V

ECO. NO. REV. LTR.

DWG NO A-ID-45-77

REV. LTR.

SHEET 1 OF 1

CODE CL

EXPLANATORY NOTES FOR CYCLE FLOW DIAGRAMS

(D-1D-0-2, D-1D-0-3)

These drawings show a chronological flow of PDP-1 from state to state. Time runs from top to bottom of the drawings with a non-linear scale. The true time scale is indicated at the right edge of the cycle zero drawing. All events (changes in the state of the machine) which may be initiated by a particular time pulse, are enclosed by horizontal lines which include that time pulse number at the left of the drawings. Because of the built-in delay of the flip-flops, the state does not change until 0.1 μsec after the start of the initiating pulse. If more than one event is conditioned for a given time pulse, these events occur simultaneously, even though one event may be drawn above another.

Each instruction the machine performs starts with a cycle-zero. This is the memory cycle which brings the instruction from that memory address contained in the Program Counter. Certain instructions (jmp,jsp,opr,shift, skip,law,iot & spc) are completed in this memory cycle. Shift may overlap the next cycle-zero (or break cycle one) but this is of no interest to the programmer unless he is operating the machine "single step".

All two cycle instructions proceed from cycle-zero to cycle-one unless a deferred (indirect) address is called for. In the later case, one or more defer cycles occur between cycle-zero & cycle-one. The one cycle instructions, jmp & jsp may also include defer cycles.

The instruction Execute (xct) is changed in the early part of its cycle-one to cycle-zero of the instruction to be executed. Thus Execute may take two or three cycles depending upon the instruction executed. Both the Execute instruction and the instruction executed may include defer cycles.

At the completion of each instruction, a sequence break may occur. This break consists of break cycle one, two & three.

ABBREVIATIONS:

AC	Accumulator
BC	Break cycle counter
BREAK CODER	A network whose output is four times the number of the sequence which has priority.
carry	The second step of a two step add
cyc	cycle ff
df 1	a ff which indicates a defer cycle is or <u>is to be</u> performed
df 2	a ff which indicates a second defer cycle is to be performed
dis shift	a special shift left at Ac & IO $AC_0 \rightarrow AC$ $AC \xrightarrow{C} IO_{17}$ (see notation)
ff	flip-flop
IO	In Out Register
ioh	a ff indicating an in out halt is in progress
IR	Instruction Register (5 bits)
MA	Memory Address Register
MB	Memory Buffer Register
Mi	Memory inhibit ff
Mr	Memory read ff
Mus Shift	Shift right of AC & IO. $AC_0 \rightarrow AC$ $\xrightarrow{0} AC$ IO_{17} dropped
mw	Memory write ff
pad	The first step of a two step add (xor of MB & AC)
PC	Program Counter
run	a ff which connects time pulse 10 to TP zero
SBS	Sequence Break System
Sh/Ro	Perform a shift or rotate step

NOTATION:

0 → AC	clear AC
C → AC	complement the AC
+1 → AC	Add one (count) to the AC
PC —1→ MA	put the one of PC in MA
MB —0→ AC	put the zeros of MB in AC'
AC —J→ MB	AC jam to MB ie put ones & zeros
MB —1 (6-17)→ AC	put the ones of MB bits 6 thru 17 to AC bits 6 - 17
AC1	bit number 1 of the AC

D-ID-45-79

INDICATORS BRACKET (LONG)

NOTE: 1. INDICATOR LIGHT BRACKET (LONG) REFER TO CS-B-01455-2
2. PC/C BRACKET REFER TO CS-B-20072
3. INDICATOR LIGHT BRACKET (SHORT) REFER TO CS-B-01457-3

NOT USED

-15V

KEYS BRACKET

START SBM START STOP CONT EXAM DEP RD IN

10 10 3.3K +10V 514 .1 MFD

-15V RD ON RD OFF TAPE FEED

.1 MFD

CKS BIT 5

+10V -3V GND

TAPE PIN BLOCK (TPB)
-15 VOLT SUPPLY TO CONSOLE INDICATORS AND SWITCHES ALSO -3 VOLT POWER SUPPLY

KEYS
TEST WORD SW
TEST ADDRESS SW
TOP PANEL IND
SSW IND
PF IND
IR IND
MISC IND
P.C. IND
MA IND
MB IND
AC IND
IO IND

BLK GND BAY
BLU -15V 1 P.S.

NOTE:
COMPONENTS ON TPB
5-DIODES-D-662
1-RESISTOR-330 OHMS, 1-WATT
AMP 480065-6
BLACK RED TWISTED #22 WIRE

TA GR TA SWITCH BRACKET (LONG)

17 0 100 100

NOT USED

-3V

INDICATOR BRACKET (SHORT)

BLK BLU NOT USED

-15V

3.9μFD 10K

S1 S2 S3

POWER
SINGLE STEP
SINGLE INST.

SENSE SWITCHES
BLK
BLU
STANDOFF-1-9
SWITCHES-1-6
(SENSE)

3.9 μfd 10K S1 S2 S3 S4 S5 S6

110V 60~ FROM 813 PWR CONTROL

PC INDICATORS
MA INDICATORS
MB INDICATORS
AC INDICATORS
IO INDICATORS
TA SWITCHES
TB SWITCHES

MISC INDICATORS

PWR SWITCH
SINGLE STEP
SINGLE INST.

SENSE SWITCH INDICATORS
SENSE SWITCHES
PF INDICATORS
IR INDICATORS

SBM START START STOP CONT EXAM DEPOSIT RD IN

RD ON RD OFF TAPE FEED

KEY LOCK SWITCH

NOTE:
1. STARS INDICATE LONG BARS.
2 TAKEN FROM DWG D-8410

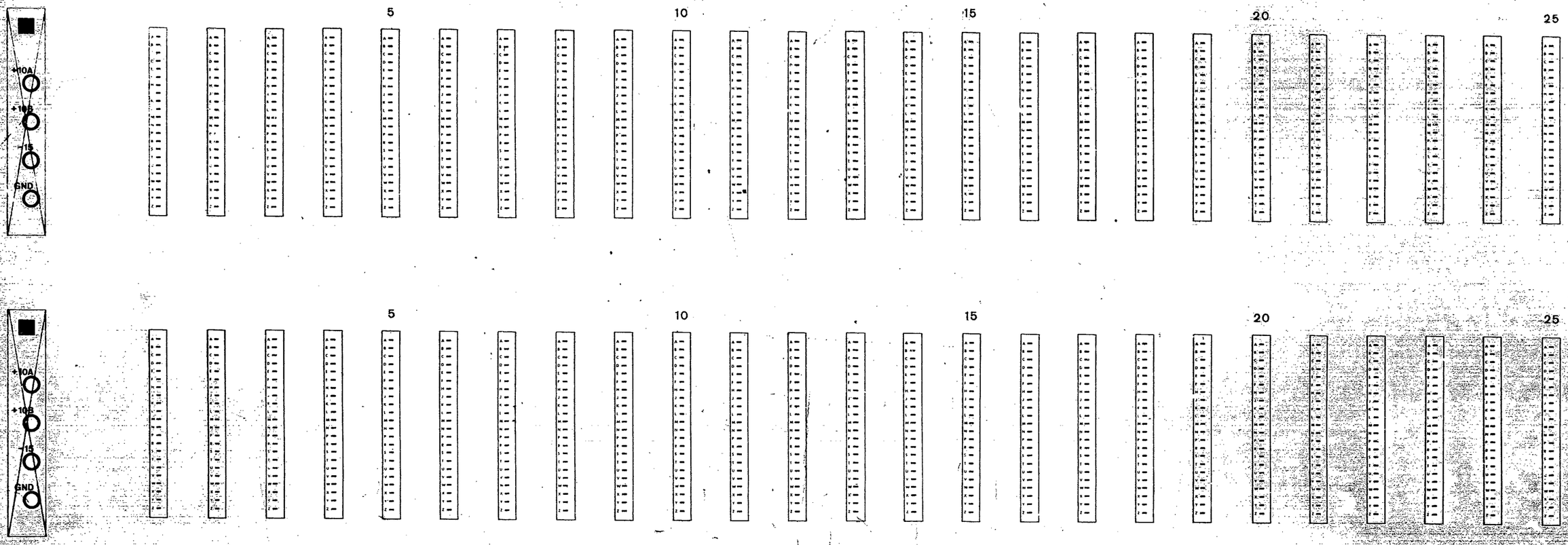
REVISIONS	CHANGE	DATE	ENG

DRAWN	DATE	9-29-64
CHECKED	DATE	10/17/64
ENG	DATE	11/64
PROJ ENG	DATE	11/64
PROJ	DATE	11/16/64

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: OPERATOR CONTROL PANEL
FOR: PDP-ID-45
ASSY NO
CODE: BS
DRWG NO: D-ID-45-79
REV LTR
SHEET OF

D-ID-45-21 | REV A



USE 1914 MTG PANEL

WIRING LAYOUT
TYPES 1901 AND 1903

DWG TAKEN FROM DWG, NO. D-20314

CODE	DWG NO	REV	CHANGE	DRAWN	CHECKED	ENG
WD	A-365 6-2453	A				

RACK IIF SCR DRIVER 823

digital EQUIPMENT CORPORATION

D-ID-45-81 | REV A

JACK ☐ PLUG ☐ FEMALE ☐ MALE ☐	LOCATION, LENGTH, ROUTE

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	1Y13E	3H19A	IO_0^1	
W/BRN (Z)	1Y13F	3H19B	IO_1^1	
W/RED (R)	1Y13K	3H19C	IO_2^1	
W/ORN (O)	1Y13N	3H19D	IO_3^1	
W/YEL (Y)	1Y13S	3H19E	IO_4^1	
W/GRN (N)	1Y13V	3H19F	IO_5^1	
W/BLU (B)	1Y13Y	3H19G	IO_6^1	
W/VIO (V)	1Y14F	3H19H	IO_7^1	
W/GRY (G)	1Y14K	3H19J	IO_8^1	
WHT (W)	1Y14N	3H19L	IO_9^1	
W/BLK (X)	1Y14S	3H19M	IO_{10}^1	
W/BRN (Z)	1Y14V	3H19N	IO_{11}^1	
W/RED (R)	1Y14Y	3H19P	IO_{12}^1	
W/ORN (O)	1Y19F	3H19R	IO_{13}^1	
W/YEL (Y)	1Y19K	3H19S	IO_{14}^1	
W/GRN (N)	1Y19N	3H19T	IO_{15}^1	
W/BLU (B)	1Y19S	3H19U	IO_{16}^1	
W/VIO (V)	1Y18V	3H19V	IO_{17}^1	
W/GRY (G)	1Y8Z	3J1A	MBD_A^0	
WHT (W)	GROUND	GROUND		

DRAWN
Maureen Mariano 7/21/65

CHECKED
Jim McHugh 7-23-65

ENG
W Maldonado C.W.N.

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

GENERAL RIBBON CABLE LIST

TITLE
SPECIAL MICRO PROGRAMMED IOT
& IOT COMMAND

APP'V

ECO. NO. OR IG-367
REV. LTR.

DWG NO
A-1D-45-84

REV. LTR.

SHEET 1 OF 3

CODE
CL

JACK ☐ PLUG ☐ FEMALE ☐ MALE ☐	LOCATION, LENGTH, ROUTE

COLOR	PIN	PIN	NAME	REMARKS
W/BLK (X)	1Y10F	3H21A3	IM_0^1	
W/BRN (Z)	1Y10J	3H21B3	IM_1^1	
W/RED (R)	1Y10L	3H21C3	IM_2^1	
W/ORN (O)	1Y10N	3H21D3	IM_3^1	
W/YEL (Y)	1Y10R	3H21E3	IM_4^1	
W/GRN (N)	1Y10T	3H21F3	IM_5^1	
W/BLU (B)	1Y10V	3H21G3	IM_6^1	
W/VIO (V)	1Y10X	3H21H3	IM_7^1	
W/GRY (G)	1Y10Z	3H21J3	IM_8^1	
WHT (W)	1Y17F	3H21L3	IM_9^1	
W/BLK (X)	1Y17J	3H21M3	IM_{10}^1	
W/BRN (Z)	1Y17L	3H21N3	IM_{11}^1	
W/RED (R)	1Y17N	3H21P3	IM_{12}^1	
W/ORN (O)	1Y17R	3H21R3	IM_{13}^1	
W/YEL (Y)	1Y17T	3H21S3	IM_{14}^1	
W/GRN (N)	1Y17V	3H21T3	IM_{15}^1	
W/BLU (B)	1Y17X	3H21U3	IM_{16}^1	
W/VIO (V)	1Y17Z	3H21V3	IM_{17}^1	
W/GRY (G)	GROUND	GROUND		
WHT (W)	1Y8Y	3J2W	7XTP(10-4)	

DRAWN
Maureen Mariano 7/21/65

CHECKED
Jim McHugh 7-23-65

ENG

digital
EQUIPMENT
CORPORATION
MAYNARD, MASSACHUSETTS

GENERAL RIBBON CABLE LIST

TITLE
SPECIAL MICRO PROGRAMMED
IOT & IOT COMMAND

APP'V

ECO. NO. ORI6-367
REV. LTR.

DWG NO
A-1D-45-84

REV. LTR.

SHEET 2 OF 3

CODE
CL

COLOR	NAME	PIN	PIN	REMARKS
WHT	MB^{0}_{7}	2D13R	1Y7W	
WHT	MB^{0}_{8}	2D15L	1Y7T	
WHT	MB^{0}_{9}	2D15R	1Y9E	
WHT	MB^{1}_{9}	2D15T	1Y9F	
WHT	MB^{0}_{10}	2Y1U	1Y9H	
WHT	MB^{1}_{10}	1D24J	1Y9J	
WHT	MB^{0}_{11}	1A3F	1Y9K	
WHT	MB^{1}_{11}	1D24L	1Y9L	
GRY/TWP	STROBE 10	2J2H	1Y8J	IOT 2015
GRY/TWP	SET AC 17	2B23E	1Y20H	
GRY/TWP	SET AC 16	2B22E	1Y20P	
GRY/TWP	SET AC 15	2B21E	1Y20W	
GRY/TWP	SET AC 14	2B20E	1Y21H	
GRY/TWP	SET AC 13	2B19E	1Y21P	
GRY/TWP	0 -AC →	2B3P	1Y15Z	IOT X015(7-4)
GRY/TWP	STROBE AC	3K13J	1Y20F	IOT X015(10-4)
WHT	MBD^{0}_{C}	3K12F	3J1J	
WHT	MBD^{5}_{A}	3K12K	3J1F	
WHT	MBD^{2}_{D}	3K12R	3J1V	
GRY/TWP	1XTP(7-4)	3K13Y	3J2G	
GRY/TWP	1XTP(10-4)	3K13V	3J2H	

REV. LTR.	ECO. NO.	DATE	ENG.
ORIG.	367	7-22-65	

digital
EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

GENERAL WIRING SHEET

TITLE
SPECIAL MICRO PROGRAMED
IOT & IOT COMMAND

DRAWN
M. Mariano 7/21/65

CHECKED
Jm McHugh 7-23-65

ENG.

PROD.

CODE	DRWG. NO.	REV.
CL	A-1D-45-84	

SHEET 3 OF 3

DIST.