

pdp1



digital

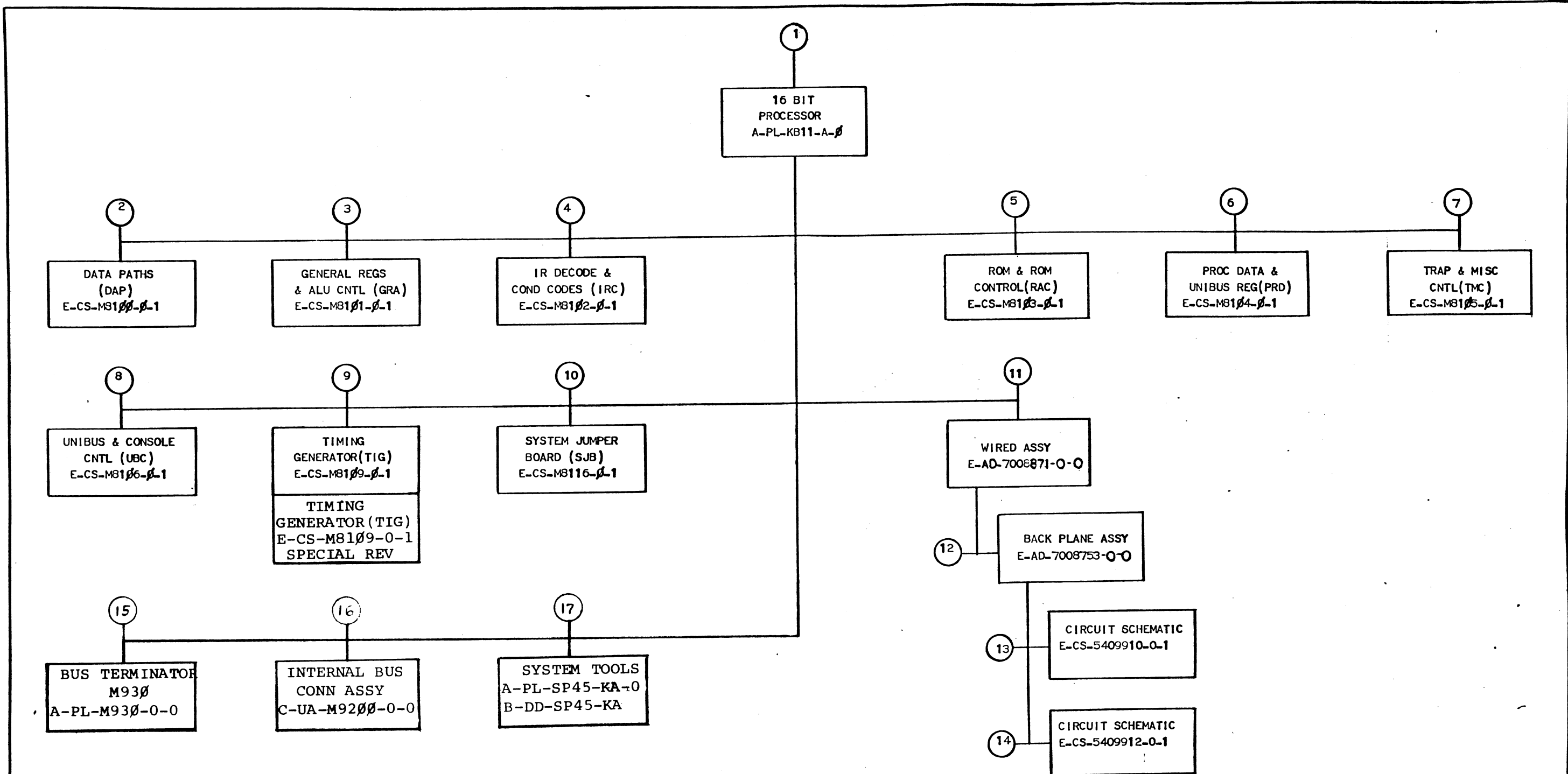
Walter Rison

**KB11-A
central processor unit
engineering drawings**

11

6

6



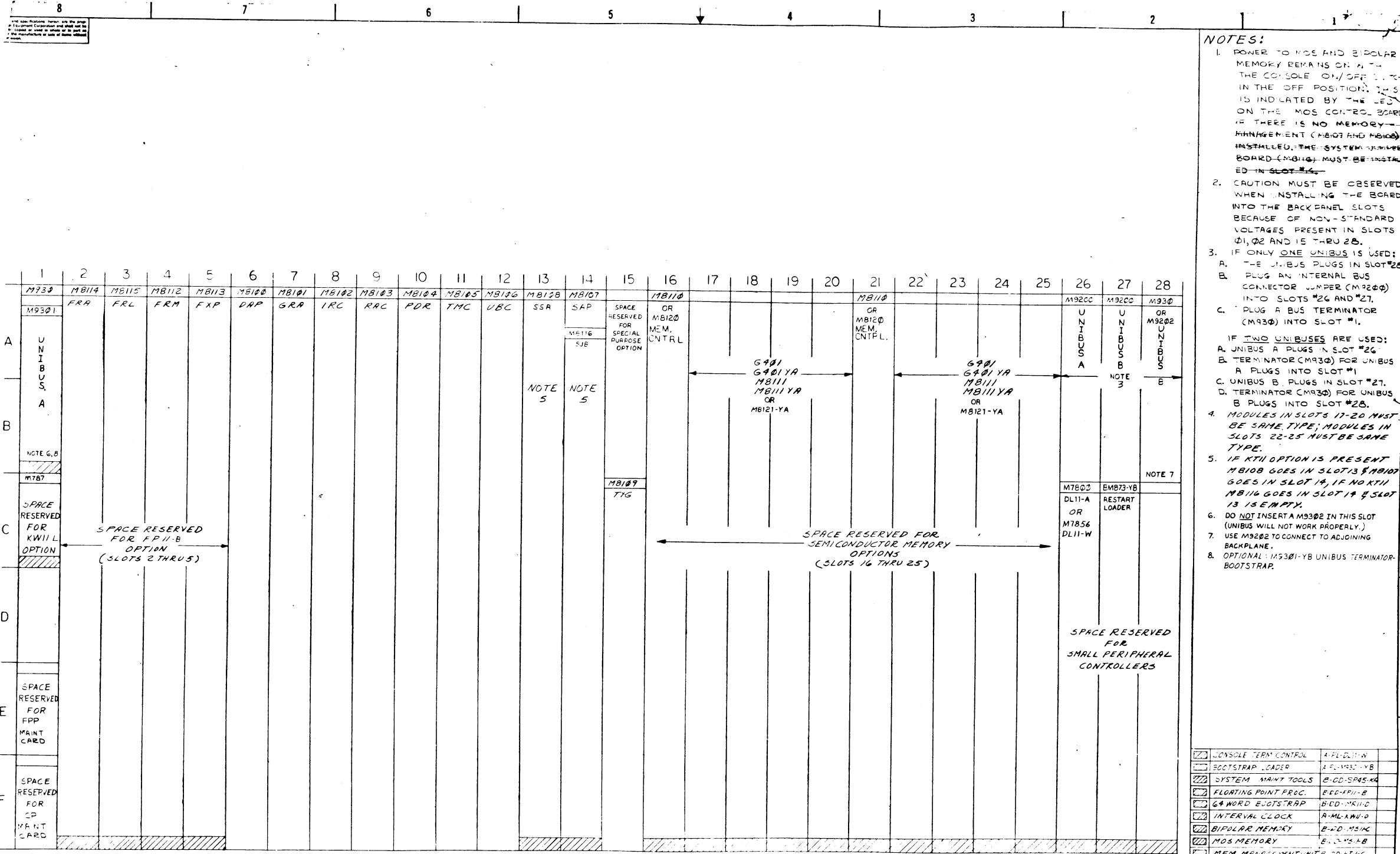
TITLE	SIZE CODE	NUMBER	REV
16 BIT PROCESSOR	B DD	KB11-A-0	AA
SHEET 2 OF 5			

CUSTOMER PRINT SET					ELECTRICAL					CUSTOMER PRINT SET					ELECTRICAL						
MFG. SET					FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO.	MFG. SET					FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO.
X					1	A-PL-KB11-A-0	A	1	16 BIT PROCESSOR		X				8	C-CS-M8106-0-1	#	9	UNIBUS & CONSOLE CNTL(URC)		
X						E-MU-KB11-A-1	A	1	MODULE UTILIZATION							K-CO-M8106-0-4		1	X-Y CO-ORDINATE HOLE LOC		
X						D-BD-KB11-A-02		2	BLOCK DIAGRAM							E-AH-M8106-0-5		1	ASSY/DRILLING HOLE LAYOUT		
X						D-FD-KB11-A-03	A	15	KB11-A FLOW DIAGRAMS							B-MH-M8106-0-6		1	MODULE ECO HISTORY		
X						D-IC-KB11-A-BG		1	BUS CABLES AND GRANT CHAIN												
X					2	E-CS-M8109-0-1	#	9	DATA PATHS (DAP)		X				9	E-CS-M8109-0-1	#	6	TIMING GENERATOR (TIG)		
						K-CO-M8109-0-4		1	X-Y CO-ORDINATE HOLE LOC							K-CO-M8109-0-4		1	X-Y CO-ORDINATE HOLE LOC		
						E-AH-M8109-0-5		1	ASSY/DRILLING HOLE LAYOUT							E-AH-M8109-0-5		1	ASSY/DRILLING HOLE LAYOUT		
						B-MH-M8109-0-6		1	MODULE ECO HISTORY		X					B-MH-M8109-0-6		1	MODULE ECO HISTORY		
																E-CS-M8109-0-1	M#	6	TIMING GENERATOR (TIG) "C" ETCH ONLY		
X					3	E-CS-M8101-0-1	#	10	GENERAL REGS E ALU CNTL (GRA)		X				10	E-CS-M8116-0-1	#	3	SYSTEM JUMPER BOARD (SJB)		
						K-CO-M8101-0-4		1	X-Y CO-ORDINATE HOLE LOC							K-CO-M8116-0-4		1	X-Y CO-ORDINATE HOLE LOC		
						E-AH-M8101-0-5		1	ASSY/DRILLING HOLE LAYOUT							E-AH-M8116-0-5		1	ASSY/DRILLING HOLE LAYOUT		
						B-MH-M8101-0-6		1	MODULE ECO HISTORY							B-MH-M8116-0-6		1	MODULE ECO HISTORY		
X					4	E-CS-M8102-0-1	#	8	IR DECODE & COND CODES (IRC)						11	E-AD-7008871-0-0	H	1	WIRED ASSY		
						K-CO-M8102-0-4		1	X-Y CO-ORDINATE HOLE LOC							K-WL-KB11-A-4	R	1	WIRE LIST		
						E-AH-M8102-0-5		1	ASSY/DRILLING HOLE LAYOUT							A-WT-7008871-0	P	1	AWT REVISION STATUS		
						B-MH-M8102-0-6		1	MODULE ECO HISTORY												
															12	E-AD-7008753-0-0		1	BACK PLANE ASSY		
X					5	E-CS-M8103-0-1	#	15	ROM & ROM CONTROL (RAC)		X				13	E-CS-5409910-0-1	#	1	CIRCUIT SCHEMATIC		
						K-CO-M8103-0-4		1	X-Y CO-ORDINATE HOLE LOC							K-CO-5409910-0-4		1	X-Y CO-ORDINATE HOLE LOC		
						E-AH-M8103-0-5		1	ASSY/DRILLING HOLE LAYOUT							B-MH-5409910-0-6		1	MODULE ECO HISTORY		
						B-MH-M8103-0-6		1	MODULE ECO HISTORY												
X					6	E-CS-M8104-0-1	#	8	PROC DATA & UNIBUS REG (PRD)		X				14	E-CS-5409912-0-1	#	1	CIRCUIT SCHEMATIC		
						K-CO-M8104-0-4		1	X-Y CO-ORDINATE HOLE LOC							K-CO-5409912-0-4		1	X-Y CO-ORDINATE HOLE LOC		
						E-AH-M8104-0-5		1	ASSY/DRILLING HOLE LAYOUT							B-MH-5409912-0-6		1	MODULE ECO HISTORY		
						B-MH-M8104-0-6		1	MODULE ECO HISTORY												
X					7	E-CS-M8105-0-1	#	7	TRAP & MISC CNTL (TMC)												
						K-CO-M8105-0-4		1	X-Y CO-ORDINATE HOLE LOC												
						E-AH-M8105-0-5		1	ASSY/DRILLING HOLE LAYOUT												
						B-MH-M8105-0-6		1	MODULE ECO HISTORY												

TITLE	SIZE	CODE	NUMBER	REV
16 BIT PROCESSOR	B	DD	KB11-A-0	AA
SHEET 3 OF 5				

CUSTOMER PRINT SET				MECHANICAL					CUSTOMER PRINT SET				MECHANICAL								
KB11-1				MFG. SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO.	KB11-1				MFG. SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO.
					8.	E-CS-M8106-0-1	#	9	UNIBUS & CONSOLE CNTL (UBC)							15	A-PL-M930-0-1		1	BUS TERMINATOR	
						K-CO-M8106-0-4		1	X-Y CO-ORDINATE HOLE LOC								K-CO-M930-0-4		1	X-Y CO-ORDINATE HOLE LOC	
						E-AH-M8106-0-5		1	ASSY/DRILLING HOLE LAYOUT								D-AH-M930-0-5		1	ASSY/DRILLING HOLE LAYOUT	
						B-MH-M8106-0-6		1	MODULE ECO HISTORY								B-MH-M930-0-6		1	MODULE ECO HISTORY	
						E-PS-1210711-0-0		2	HANDLE, MODULE												
					9.	E-CS-M8109-0-1	#	6	TIMING GENERATOR (TIG)							16	C-UA-M920-0-0		1	INTERNAL BUS CONN ASSY	
						K-CO-M8109-0-4		1	X-Y CO-ORDINATE HOLE LOC								K-CO-M920-0-4		1	X-Y CO-ORDINATE HOLE LOC	
						E-AH-M8109-0-5		1	ASSY/DRILLING HOLE LAYOUT								D-AH-M920-0-5		1	ASSY/DRILLING HOLE LAYOUT	
						B-MH-M8109-0-5		1	MODULE ECO HISTORY								B-MH-M920-0-6		1	MODULE ECO HISTORY	
						E-PS-1210711-0-0		2	HANDLE, MODULE								A-DC-7407806-0-0		1	DEC UNIBUS DECAL	
						E-CS-M8109-0-1	#	6	TIMING GENERATOR (TIG) "C"								D-IA-5003647-0-0		1	INTERNAL BUS CONN ETCH BOARD	
									ETCH ONLY								B-MD-7409670-0-0		1	HANDLE, BUS MODULE REWORK	
					10.	E-CS-M8116-0-1	#	3	SYSTEM JUMPER BOARD (SJB)												
						K-CO-M8116-0-4		1	X-Y CO-ORDINATE HOLE LOC												
						E-AH-M8116-0-5		1	ASSY/DRILLING HOLE LAYOUT												
						B-MH-M8116-0-6		1	MODULE ECO HISTORY												
						E-PS-1210711-0-0		2	HANDLE, MODULE												
					11.	E-AD-7008971-0-0	F	1	WIRED ASSY												
						D-IA-7409676-0-0		1	SUPPORT, CONN												
						C-PS-1210698-0-0		1	CENTER CARD GUIDE												
					12.	E-AS-7008753-0-0		1	BACK PLANE ASSY												
						D-MD-7409259-0-0		1	SUPPORT, LOGIC FRAME												
						D-MD-7409260-0-0		1	SUPPORT, LOGIC FRAME												
						E-PS-1210258-0-0		1	283 PIN BLOCK TYPE H363												
						C-MD-7409261-0-0		1	BAR, LOGIC SUPPORT												
						D-MD-5009936-0-0		1	SHEET, PROTECTION												
					13.	E-CS-5409910-0-1	#	1	CIRCUIT SCHEMATIC												
						K-CO-5409910-0-4		1	X-Y CO-ORDINATE HOLE LOC												
						B-MH-5409910-0-6		1	MODULE ECO HISTORY												
						E-IA-5009909-0-0		1	ETCH BOARD												
					14.	E-CS-5409912-0-1	#	1	CIRCUIT SCHEMATIC												
						K-CO-5409912-0-4		1	X-Y CO-ORDINATE HOLE LOC												
						B-MH-5409912-0-6		1	MODULE ECO HISTORY												
						E-IS-5009911-0-0		1	ETCH BOARD												

TITLE	16 BIT PROCESSOR	SHEET 5 OF 5	SIZE B	CODE DD	NUMBER KB11-A-0	REV A-A
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- NOTES:**
- POWER TO MOS AND BIPOLAR MEMORY REMAINS ON AT THE CONSOLE ON/OFF SWITCH IN THE OFF POSITION. THIS IS INDICATED BY THE LED ON THE MOS CONTROL BOARD. IF THERE IS NO MEMORY MANAGEMENT (M807 AND M808) INSTALLED, THE SYSTEM POWER BOARD (M810) MUST BE INSTALLED IN SLOT #14.
 - CAUTION MUST BE OBSERVED WHEN INSTALLING THE BOARDS INTO THE BACKPANEL SLOTS BECAUSE OF NON-STANDARD VOLTAGES PRESENT IN SLOTS #1, #2 AND IS THRU #28.
 - IF ONLY ONE UNIBUS IS USED:
 - THE UNIBUS PLUGS IN SLOT #26.
 - PLUG AN INTERNAL BUS CONNECTOR JUMPER (M9200) INTO SLOTS #26 AND #27.
 - PLUG A BUS TERMINATOR (M930) INTO SLOT #1.
 - IF TWO UNIBUSES ARE USED:
 - UNIBUS A PLUGS IN SLOT #26.
 - TERMINATOR (M930) FOR UNIBUS A PLUGS INTO SLOT #1.
 - UNIBUS B PLUGS IN SLOT #27.
 - TERMINATOR (M930) FOR UNIBUS B PLUGS INTO SLOT #28.
 - MODULES IN SLOTS 17-20 MUST BE SAME TYPE; MODULES IN SLOTS 22-25 MUST BE SAME TYPE.
 - IF KTI1 OPTION IS PRESENT M8108 GOES IN SLOT 13 & M8107 GOES IN SLOT 14, IF NO KTI1 M8116 GOES IN SLOT 14 & SLOT 13 IS EMPTY.
 - DO NOT INSERT A M9302 IN THIS SLOT (UNIBUS WILL NOT WORK PROPERLY.)
 - USE M9202 TO CONNECT TO ADJOINING BACKPLANE.
 - OPTIONAL: M9301-YB UNIBUS TERMINATOR-BOOTSTRAP.

<input type="checkbox"/>	CONSOLE TERM CONTROL	A-FL-D11-W
<input type="checkbox"/>	BOOTSTRAP LOADER	A-FL-M931-YB
<input type="checkbox"/>	SYSTEM MAINT TOOLS	B-GD-SP45-KG
<input type="checkbox"/>	FLOATING POINT PROC.	B-ED-FP11-B
<input type="checkbox"/>	64 WORD BOOTSTRAP	B-ED-M810-D
<input type="checkbox"/>	INTERNAL CLOCK	A-ML-K810-D
<input type="checkbox"/>	BIPOLAR MEMORY	B-AD-M816
<input type="checkbox"/>	MOS MEMORY	B-AD-M818
<input type="checkbox"/>	MEM. MGMT. UNIT	B-AD-M810-C
1	INT. BUS. CONN. ASSY	M9200
2	BUS TERMINATOR	M930
1	SYSTEM JUMPER BD	M9200
1	PLUG IN GENERATOR	M9309
1	LEVELS & CONSOLE CTRL	M8100
1	TRAP & MISC CONTROL	M8105
1	PROC. DATA & UNIBUS REG	M8104
1	ROM & ROM CONTROL	M8103
1	IR DECODE & CONTROL	M8102
1	DECODE & CONTROL	M8101
1	DATA PATHS	M8100

DESIGNATES OPTION

QTY. SHOWN FOR REFERENCE ONLY. SEE PARTS LIST.

REV	DATE	BY	DESCRIPTION
1	11/15/75		INITIAL DESIGN
2	12/10/75		REVISED TO ADD PARTS LIST
3	01/15/76		REVISED TO ADD PARTS LIST
4	02/10/76		REVISED TO ADD PARTS LIST
5	03/10/76		REVISED TO ADD PARTS LIST
6	04/10/76		REVISED TO ADD PARTS LIST
7	05/10/76		REVISED TO ADD PARTS LIST
8	06/10/76		REVISED TO ADD PARTS LIST
9	07/10/76		REVISED TO ADD PARTS LIST
10	08/10/76		REVISED TO ADD PARTS LIST
11	09/10/76		REVISED TO ADD PARTS LIST
12	10/10/76		REVISED TO ADD PARTS LIST
13	11/10/76		REVISED TO ADD PARTS LIST
14	12/10/76		REVISED TO ADD PARTS LIST
15	01/10/77		REVISED TO ADD PARTS LIST
16	02/10/77		REVISED TO ADD PARTS LIST
17	03/10/77		REVISED TO ADD PARTS LIST
18	04/10/77		REVISED TO ADD PARTS LIST
19	05/10/77		REVISED TO ADD PARTS LIST
20	06/10/77		REVISED TO ADD PARTS LIST
21	07/10/77		REVISED TO ADD PARTS LIST
22	08/10/77		REVISED TO ADD PARTS LIST
23	09/10/77		REVISED TO ADD PARTS LIST
24	10/10/77		REVISED TO ADD PARTS LIST
25	11/10/77		REVISED TO ADD PARTS LIST
26	12/10/77		REVISED TO ADD PARTS LIST
27	01/10/78		REVISED TO ADD PARTS LIST
28	02/10/78		REVISED TO ADD PARTS LIST

MODULE UTILIZATION

REV	DATE	BY	DESCRIPTION
1	11/15/75		INITIAL DESIGN
2	12/10/75		REVISED TO ADD PARTS LIST
3	01/15/76		REVISED TO ADD PARTS LIST
4	02/10/76		REVISED TO ADD PARTS LIST
5	03/10/76		REVISED TO ADD PARTS LIST
6	04/10/76		REVISED TO ADD PARTS LIST
7	05/10/76		REVISED TO ADD PARTS LIST
8	06/10/76		REVISED TO ADD PARTS LIST
9	07/10/76		REVISED TO ADD PARTS LIST
10	08/10/76		REVISED TO ADD PARTS LIST
11	09/10/76		REVISED TO ADD PARTS LIST
12	10/10/76		REVISED TO ADD PARTS LIST
13	11/10/76		REVISED TO ADD PARTS LIST
14	12/10/76		REVISED TO ADD PARTS LIST
15	01/10/77		REVISED TO ADD PARTS LIST
16	02/10/77		REVISED TO ADD PARTS LIST
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18	04/10/77		REVISED TO ADD PARTS LIST
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25	11/10/77		REVISED TO ADD PARTS LIST
26	12/10/77		REVISED TO ADD PARTS LIST
27	01/10/78		REVISED TO ADD PARTS LIST
28	02/10/78		REVISED TO ADD PARTS LIST

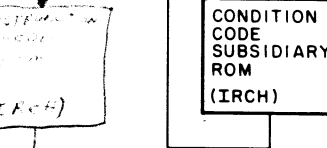
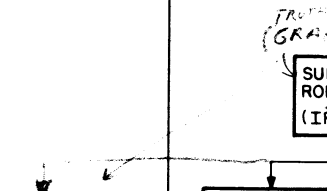
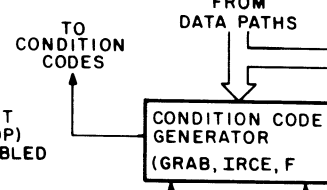
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- CCL (T2) [54-52]
- 0 NO CHANGE
 - 1 INSTRUCTION DEPENDENT
 - 2 SET/CLR FROM IR (CCOP)
 - 3 LOAD FROM FPP IF ENABLED
 - 4 CCLD4
 - 5 CCLD5
 - 6 CCLD6
 - 7 CCLD7

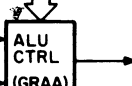
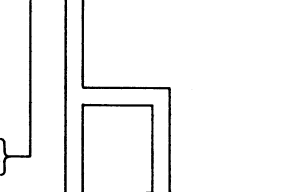
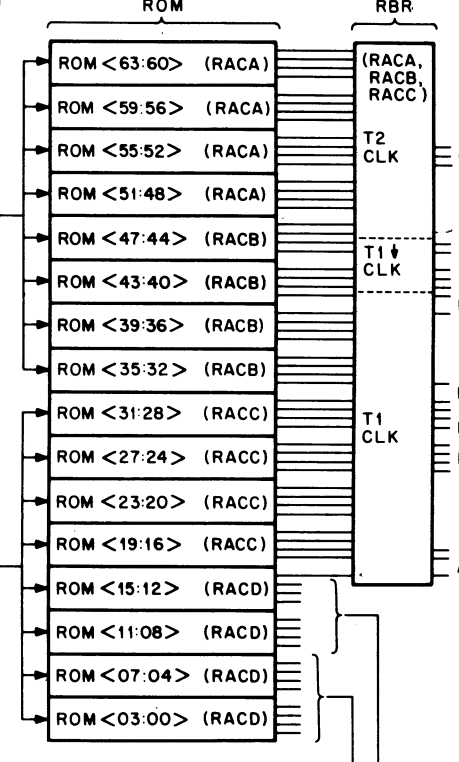
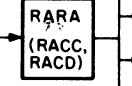
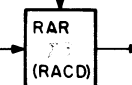
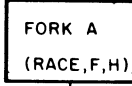
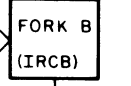
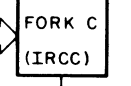
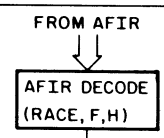
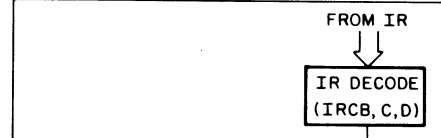
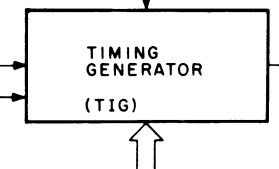
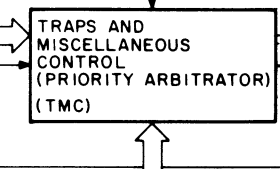
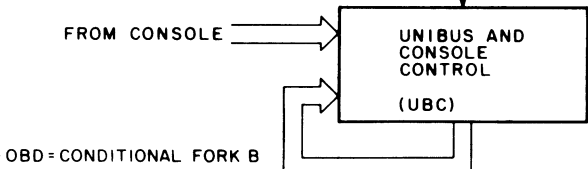
- FEN [14-12]
- FEN 14 ENABLE FORK C
 - FEN 13 ENABLE FORK B
 - FEN 12 ENABLE FORK A

- MSC (T1) [29-27]
- 0 NO AFFECT
 - 1 ENA FP ATTN
 - 2 NOT USED
 - 3 SET CONF IF KERNEL MODE
 - 4 SPL (SET PRIORITY LEVEL)
 - 5 CONDITIONAL BUST
 - 6 BRQ STROBE
 - 7 BUST (BUS START)

- BSC (T1) [26-24]
- 0 DATI
 - 1 SRC1 DATI
 - 2 KERNEL DATI
 - 3 SRC2 DATI
 - 4 FC (CONTROLLED BY FPP)
 - 5 DATO
 - 6 BSOP1
 - 7 BSOP2



BEF [11-8]	UADR5 [+40]	UADR4 [+20]
0		
1	DESTINATION MODE 3, 5, 7	SR#1
2	CONDITION CODE Z	-(PWRF+INTR)
3	SC#0	SC#0
4	-DIV SUB	CONDITION CODE N
5	-OBD (ODD BYTE DESTINATION)†	-DIV QUIT
6		PS RESTORE
7		-[BRQ*-(T+CONF)]
10	RIP+FP SYNC	-(FP REQ*FP SYNC)
11	SC#0	DRO(1)
12	CONF (CONSOLE FLAG)	-BRQ
13	PF(O)*(SF+TF)	PF(O)*(SF+TF)
14		
15	-FJ/CLASS	-O/CLASS
16	DRO(1)	SR15(1)
17	RIP+FP SYNC	FP SYNC*FP REG WR



FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE	MAYNARD MASSACHUSETTS	
.XXX - .005	± 0° 30'	DATE	TITLE BLOCK DIAGRAM	
.XX - .02		DATE		
X - .1		DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE		
MATERIAL	NEXT HIGHER ASSY.	DATE		
FINISH	SCALE	DATE	SIZE CODE	NUMBER
	SHEET 2 OF 2	DATE	D E D	K E 11 - A - 02
		DATE	DIST	REV
		DATE		A

REV
CHANGE NO
CHK

DEC FORM NO
DRD 102-B

REV A
NUMBER
D E D K E 11 - A - 02

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NOTE 1: RACH BUST H Assorted When.
 $(MSC:7) + (MSC:5) * (BIN * SM1, 7 +$
 $BIN * 100, 4, 9, * DM0, 4, 5, 7 +$
 $BIN * DM 0, 4, 5, 6, 7 +$
 $BRK INT * ER2$

- FET 00 (217)
- FET 01 (331)
- FET 02 (352)
- FET 03 (334)
- FET 04 (104)
- FET 05 (126)
- FET 06 (373)
- FET 07 (237)
- FET 08 (356)
- FET 09 (265)

START FETCH NEXT INSTR.
 CLEAR INSTR. REG
 t1: BA ← PCB; BC ← DATI
 t2: SHFR ← SR - SR
 t3: BUST; CLEAR FLAGS
 t4: IRL ← SHFR

BEN12 (240)
 BRQ

- FET 10 (260)
- FET 11 (321)
- FET 12 (322)
- FET 13 (324)

GET INSTR. STEP PC
 BEYOND
 t1: BA ← PCB; BC ← DATI
 t2: SHFR ← PCB + 2
 t3: BRQ STROBE
 t4: BUS LONG PAUSE
 t5: PCA ← PCB + 2
 t6: IRL ← BUS; BR ← BUS
 PCB ← PCA

IRL 00

IRL 00 (343)
 DECODE THIS INSTR. STEP
 PCA BEYOND & READ SRC &
 DST FIELD GEN REGS
 t1: BA ← PCB; BC ← DATI
 t2: SHFR ← PCB
 t3: CONDITIONAL BUST
 t4: PCA ← PCB + 2
 t5: SFT: SR ← GSCSFJ
 t6: SFT: DR ← GDCDFJ
 t7: DR ← SHFR
 t8: DR ← SHFR

FEN1 (377)

A-FORK

BIN * SM123
 S13 00 (021) SM1
 S13 01 (022) SM23

FETCH SRC & STEP
 REGISTER UP
 t1: BA ← SR; BC ← SRCI DATI
 t2: SHFR ← SR + SRCCON
 t3: BUST
 t4: PCA ← SR + SRCCON
 t5: GRCSFJ ← SHFR
 t6: SFT: PCB ← PCA

S13 10 (027)
 GET SRC & READ DST REG

t1: BA ← SR; BC ← SRCI DATI
 t2: SHFR ← PCB
 t3: BRQ STROBE
 t4: BUS LONG PAUSE
 t5: BR ← BUS
 t6: -DFT: DR ← GDCDFJ
 t7: DR ← SHFR

FEN4 (317)
 BEN14 (317)

BIN * SM45
 S45 00 (029)

STEP REGISTER DOWN
 t1: BA ← PCB
 t2: SHFR ← SR - SRCCON
 t3: BEND
 t4: PCA ← SR - SRCCON
 t5: GRCSFJ ← SHFR
 t6: SR ← SHFR
 t7: PCB ← PCA

S45 10 (023)
 FETEN SRC

t1: BA ← SR; BC ← SRCI DATI
 t2: SHFR ← PCB
 t3: BUST; GRCSFJ

MTP
 MTR 00 (095)

REG 6 IN SR (SFG IN OR
 CODE); POP TOP OF STACK
 t1: BA ← PCB
 t2: SHFR ← SR + 2
 t3: BEND
 t4: GRCSFJ ← SHFR

MTR 10 (151)
 CORRECT DR IN CASE DEST
 FIELD 6; GET TOP OF STACK

t1: BA ← SR; BC ← SRCI DATI
 t2: SHFR ← PCB
 t3: BUST
 t4: -DFT: DR ← GDCDFJ
 t5: DR ← SHFR

S13 40 (196)

BXX * BCOK
 BXX 00 (320) - BRQ (BNE, BGE, BGI, BPL, BHI, BVC, BCC)

BXX 01 (325) - BRQ (BMI, BLOS, BVS, BCS)
 BXX 02 (326) - BRQ (BR, BEQ, BLT, BLE)
 BXX 03 (330) - BRQ (BNE, BGE, BGT, BPL, BHI, BVC, BCC)
 BXX 04 (335) - BRQ (BMI, BLOS, BVS, BCS)
 BXX 05 (336) - BRQ (BEQ, BLT, BLE)

SUCCESSFUL BRANCH,
 FIX PC
 t1: BA ← PCB
 t2: SHFR ← PCB + BXX DISP
 t3: BEND; BRQ STROBE
 t4: PCA ← PCB + BXX DISP
 t5: PCB ← PCA

FET 00 (217)

BXX * BCOK * - BRQ

FET 11 (321) BPL, BHI, BVC, BCC
 FET 12 (322) BNE, BGE, BGT

BXX * BCOK * BRQ

FET 01 (331) BPL, BHI, BVC, BCC
 FET 02 (332) BNE, BGE, BGT

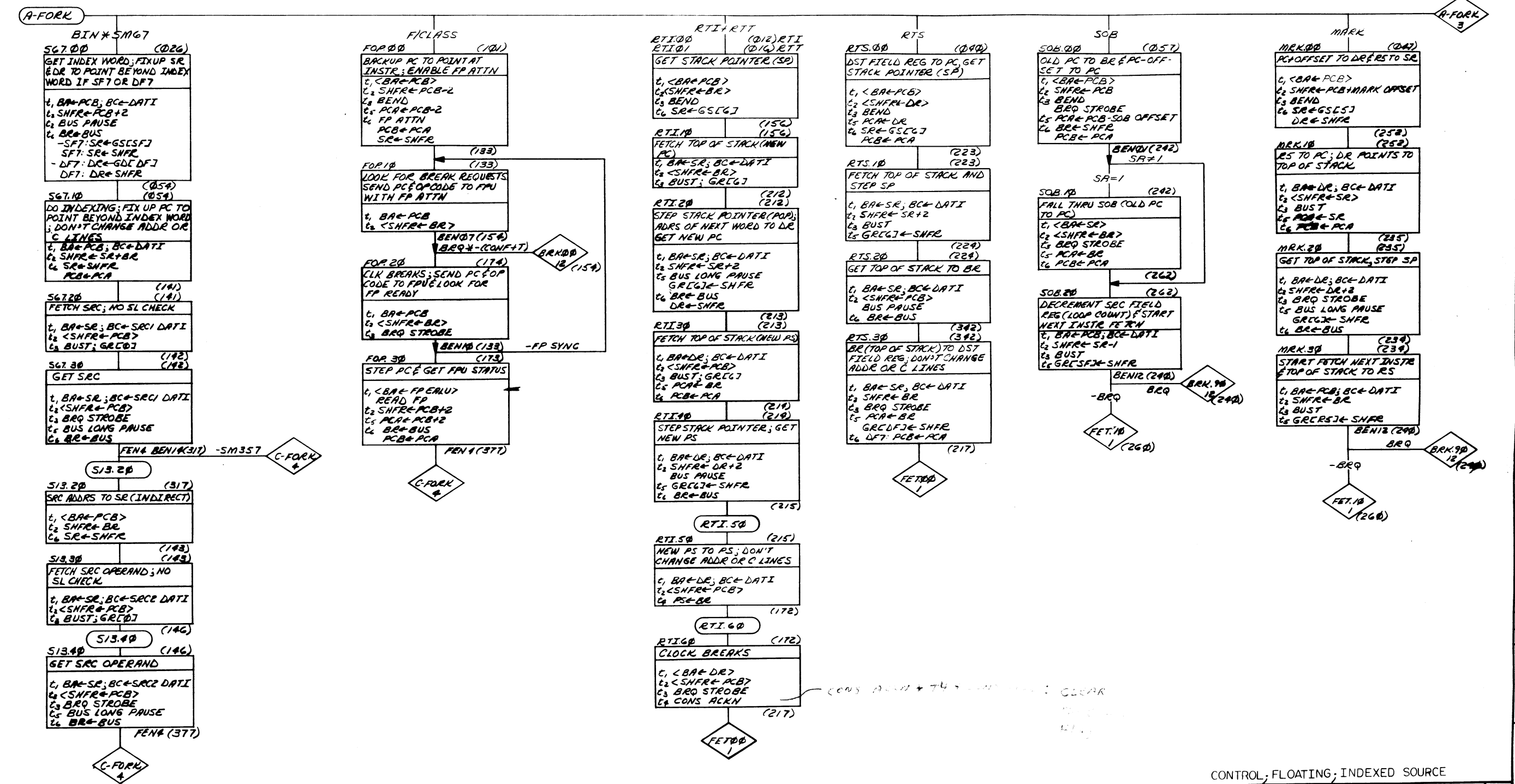
FET 03 (334) BEQ, BLT, BLE, BMI, BLOS, BVS, BCS
 FET 04 (339)

INSTRUCTION FETCH

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DRN	DATE	
XXX - .006	± 0° 30'	CHK'D	DATE	
XX - .02		ENG	DATE	
X - .1		PROJ. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
E-DD-KBII-0		SIZE CODE	NUMBER	REV.
SCALE		DFD	KBII-A-03	A
SHEET 2 OF 15		DIST.		

REV	CHANGE NO

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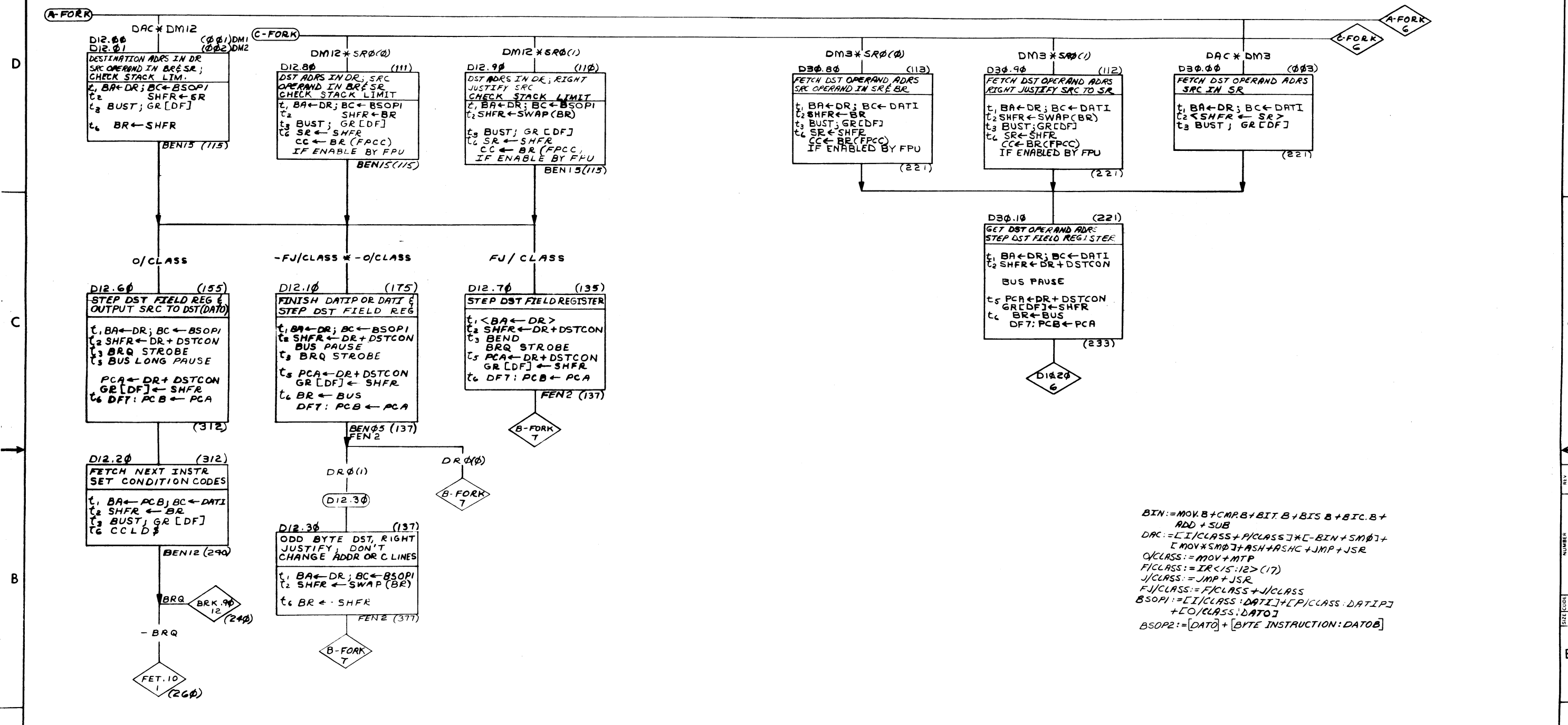


REV	CHANGE NO

CONTROL, FLOATING, INDEXED SOURCE

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
11/45		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN CHK'D ENG PROJ. ENG PROD.	DATE 3-13-72 DATE 4-3-72 DATE 4-3-72 DATE 4-15-72	digital EQUIPMENT CORPORATION WATYARD MASSACHUSETTS	
DECIMALS ANGLES			TITLE KBII-A FLOW DIAGRAMS (FLOWS 2)	
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV.
FINISH	B-DD-KBII-0	DFD	KBII-A-03	A
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	SHEET 3 OF 15	DIST.		

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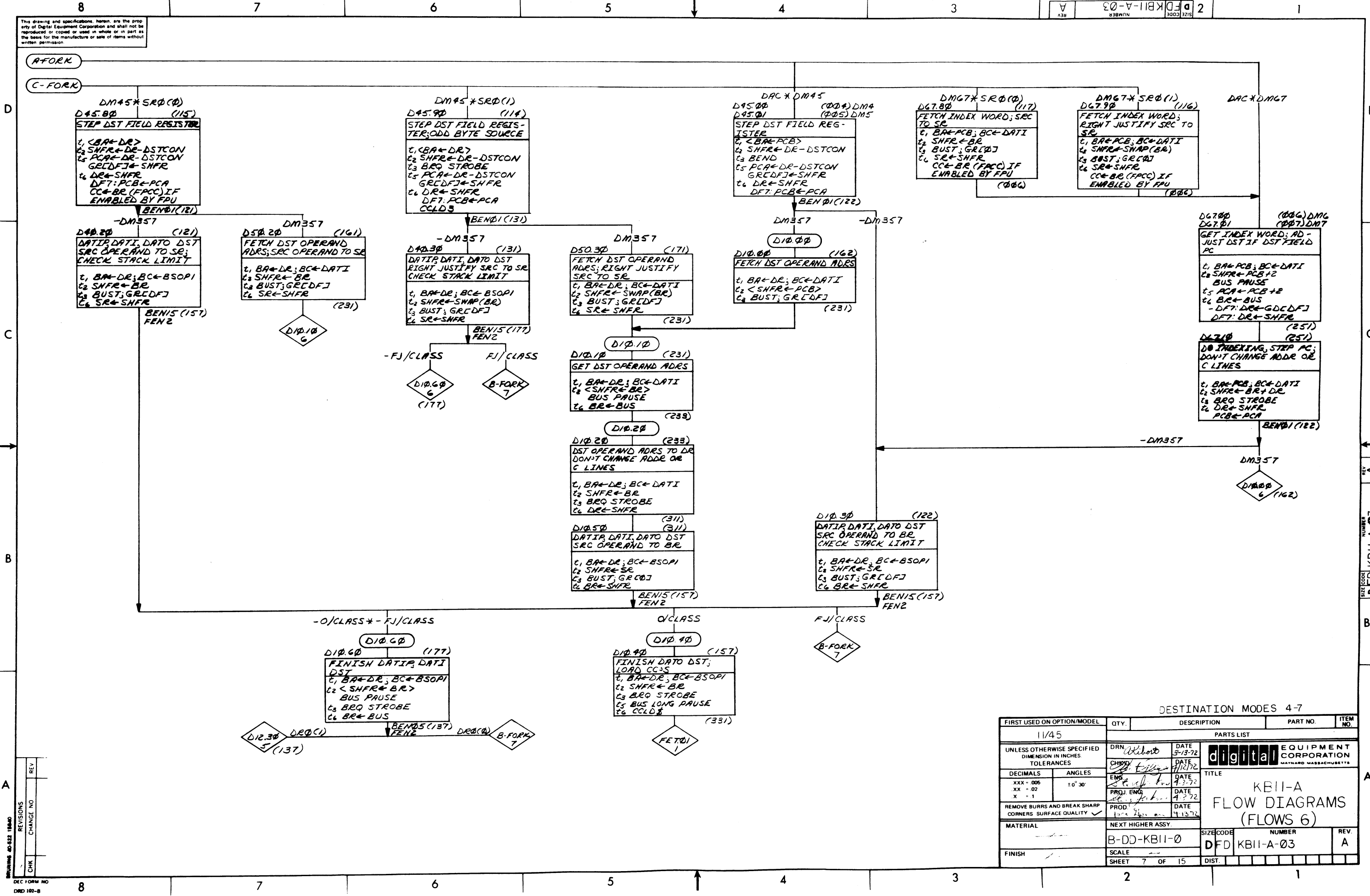
BIN := MOV.B + CMP.B + BIT.B + BIS.B + BIC.B +
 ADD + SUB
 DAC := L.I/CLASS + P/CLASS + [C-BIN + SM0] +
 [MOV * SM0] + ASH + ASHC + JMP + JSR
 O/CLASS := MOV + MTP
 F/CLASS := IR < 15:12 > (17)
 J/CLASS := JMP + JSR
 FJ/CLASS := F/CLASS + J/CLASS
 BSOP1 := [I/CLASS: DATI] + [P/CLASS: DATIP]
 + [O/CLASS: DATO]
 BSOP2 := [DATO] + [BYTE INSTRUCTION: DATOB]

DESTINATION MODES 1-3

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHK'D	DATE	TITLE	
DIMENSION IN INCHES		4/2/71	KBI1-A	
TOLERANCES		7/12/72	FLOW DIAGRAMS	
DECIMALS FRACTIONS ANGLES	ENG	DATE	(FLOWS 5)	
= 005 = 1/64 = 0°30'		4-3-72		
FINAL SURFACE QUALITY	PREL. ENG	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS		4-3-72		
MATERIAL	PROD.	DATE		
		4-13-72		
FINISH	NEXT HIGHER ASSY			
	B-DD-KBI1-0		SIZE CODE	NUMBER
			DFD KBI1-A-03	REV
	SCALE			A
	SHEET 6 OF 15			

REV	CHANGE NO.	REVISIONS

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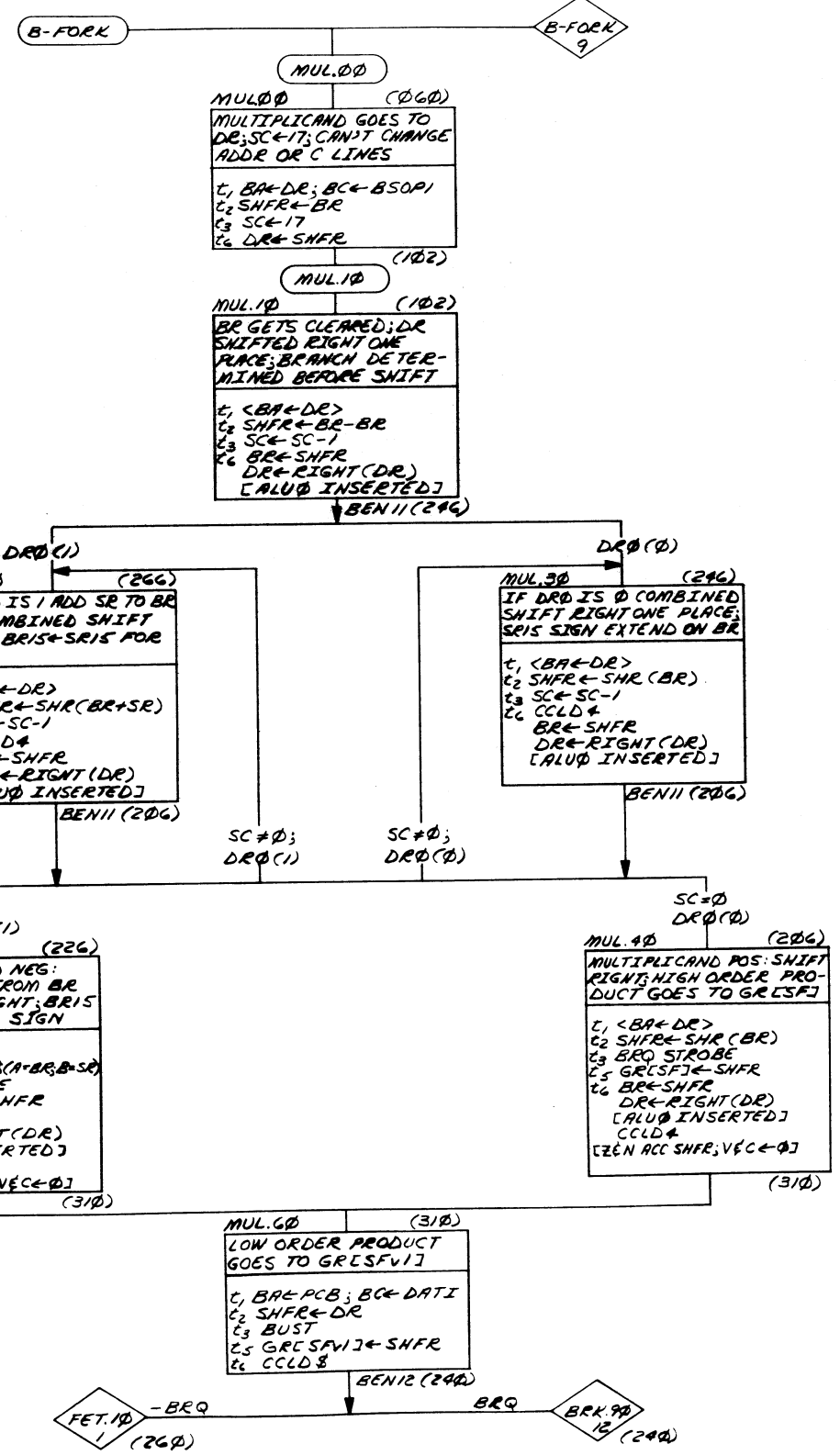
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
XXX - 005	±0° 30'	KBII-A FLOW DIAGRAMS (FLOWS 6)		
XX - 02		REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		
X - 1		MATERIAL		
NEXT HIGHER ASSY.		SCALE		
B-DD-KBII-0		SHEET 7 OF 15		
FINISH		SIZE CODE NUMBER REV.		
		DFD KBII-A-03 A		

REVISIONS
CHANGE NO. REV.
CHK

REV. A
NUMBER DFD KBII-A-03
SIZE CODE

DESTINATION MODES 4-7

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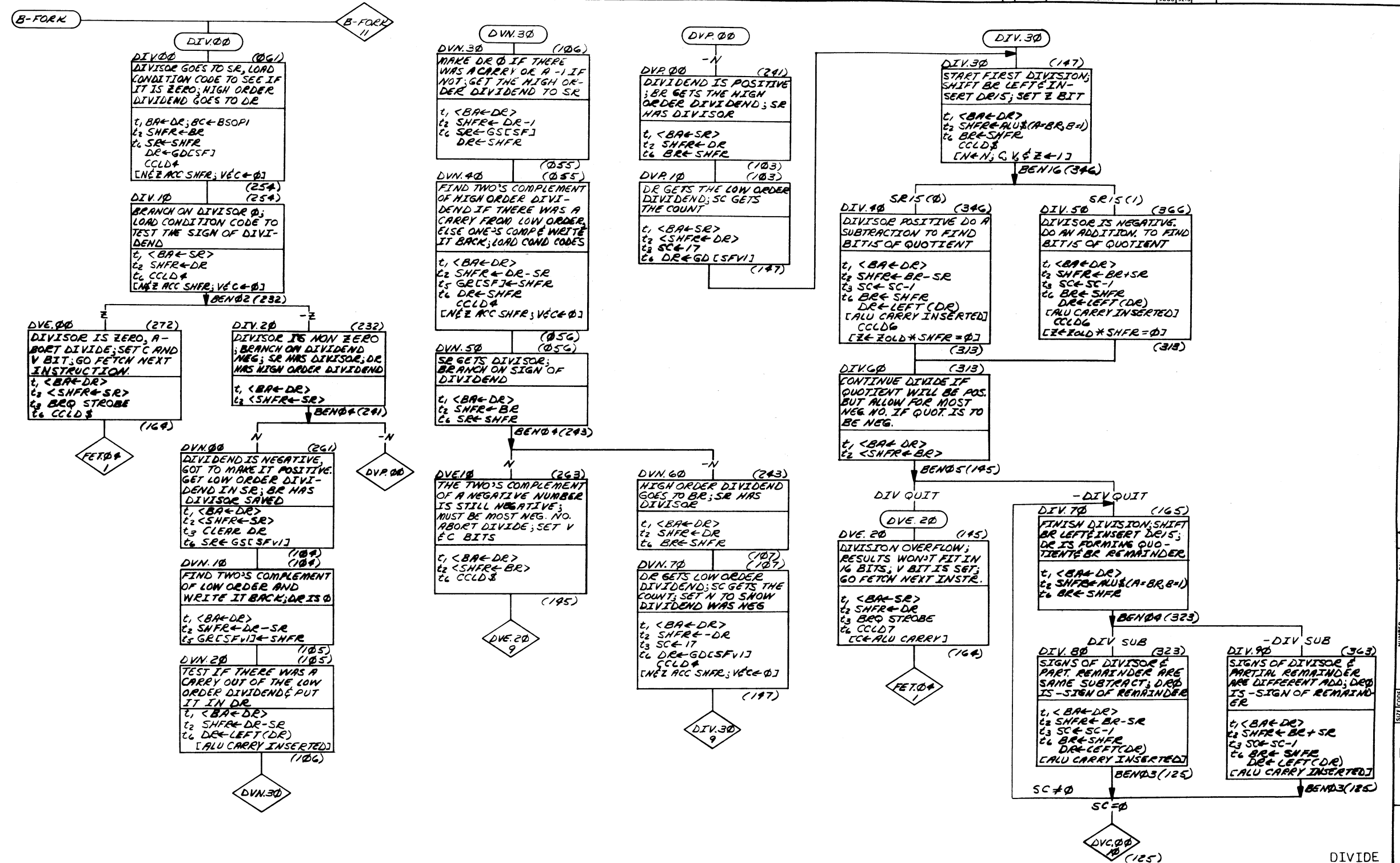


FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN <i>akibant</i>	DATE 3/14/72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS ANGLES	CHK'D <i>akibant</i>	DATE 7/17/72		
XXX = .005 XX = .02 X = .1	± 0° 30'	DATE 4-3-72	TITLE KBII-A FLOW DIAGRAM (FLOW 8)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROJ. ENG. <i>akibant</i>	DATE 4-3-72		
MATERIAL	PROD. DATE 1/24/72	DATE 4-13-72	SIZE CODE NUMBER DFD KBII-A-03	
FINISH	NEXT HIGHER ASSY	SCALE		
	B-DD-KBII-0	SHEET 9 OF 15	REV. A	

REVISIONS
 CHANGE NO. REV.
 DEC 1972
 DRD 102-B

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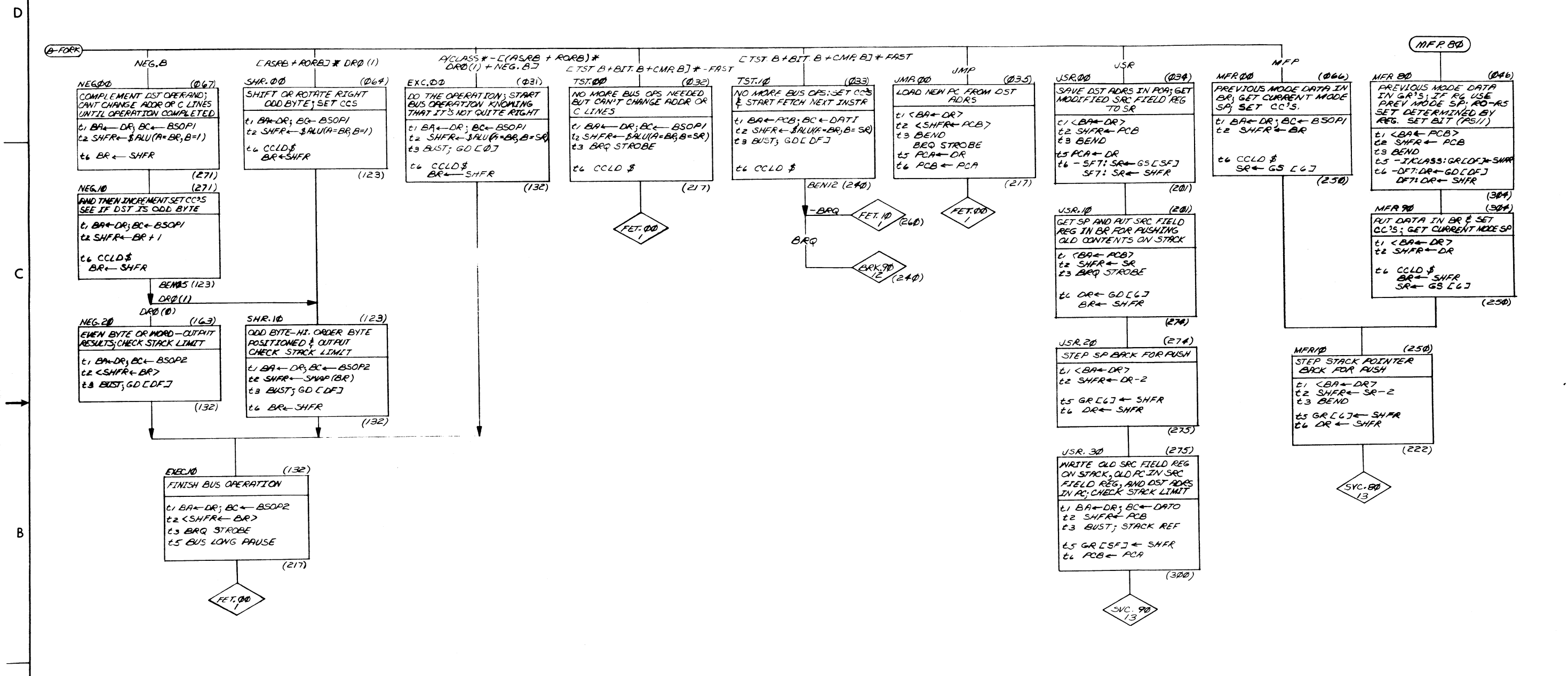
00-KB11-A-03
REV. A
SIZE CODE
D F D



REV.	CHANGE NO.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN <i>Chilton</i>	DATE 3/17/76		
DECIMALS .XXX - .005 .XX - .02 .X - .1	CHKD <i>Chilton</i>	DATE 11/2/76		
ANGLES ±0° 30'	ENG <i>Chilton</i>	DATE 4-3-72	TITLE KB11-A FLOW DIAGRAMS (FLOWS 9)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. <i>Chilton</i>	DATE 4-13-72		
MATERIAL #	NEXT HIGHER ASSY.	SCALE	SIZE CODE D F D	NUMBER KB11-A-03
FINISH		SHEET 10 OF 15	DIST.	REV. A

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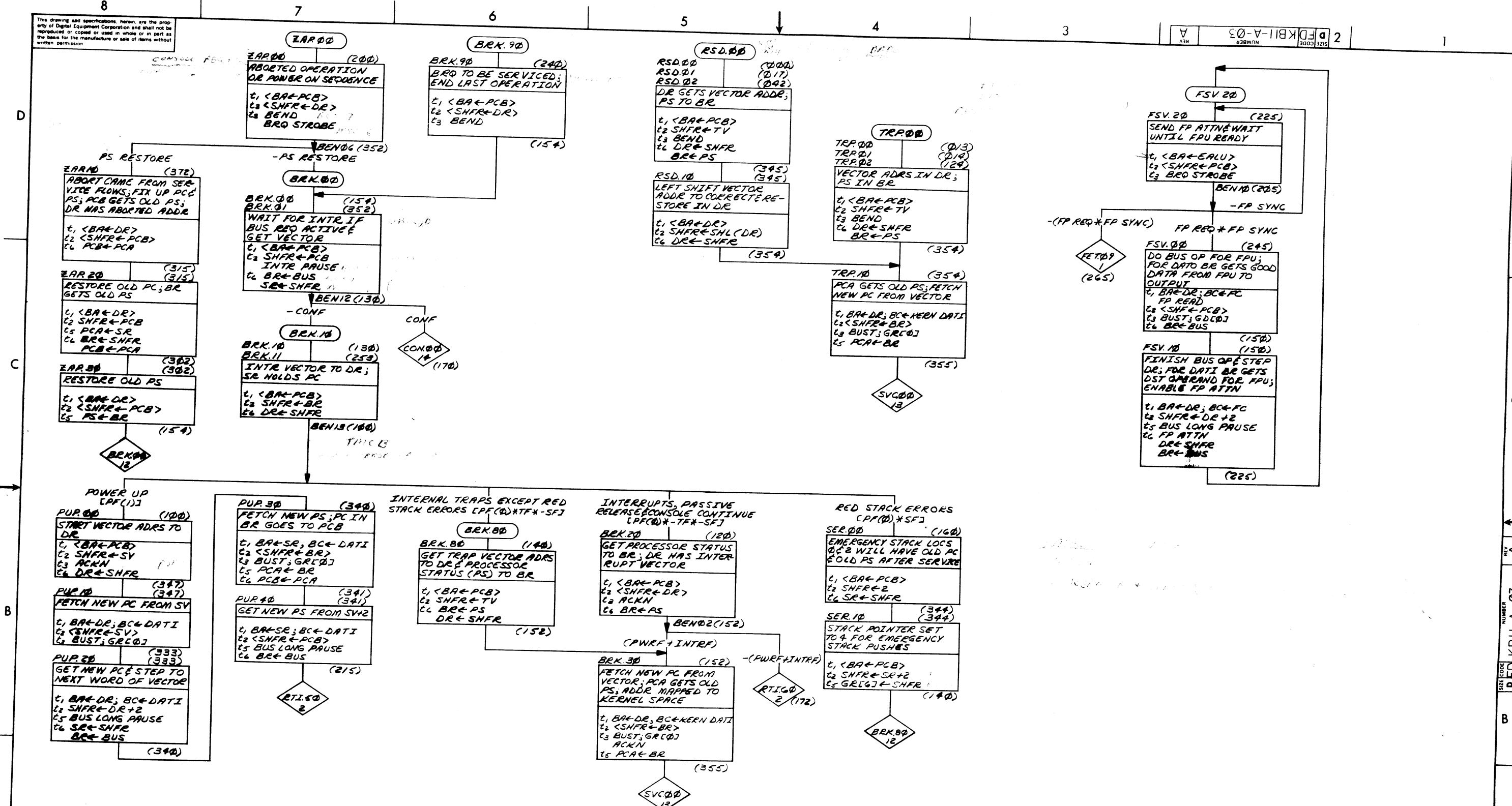
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. <i>M. Rouse</i>	DATE 3/23/72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS ANGLES	DATE 4/12/72	TITLE		
XXX - 005 ±0°30'	DATE 4-3-72	KBII-A		
XX - 02	DATE 4-3-72	FLOW DIAGRAMS (FLOWS II)		
X - 1	DATE 4-13-72	REV. A		
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
FINISH	B-DD-KBII-0	D F D	KBII-A-03	A
SCALE	SHEET 12 OF 15	DIST		

BRUNING #0522 15M40
DEC FORM NO ORD 102-B

EXECUTE - MEM REF

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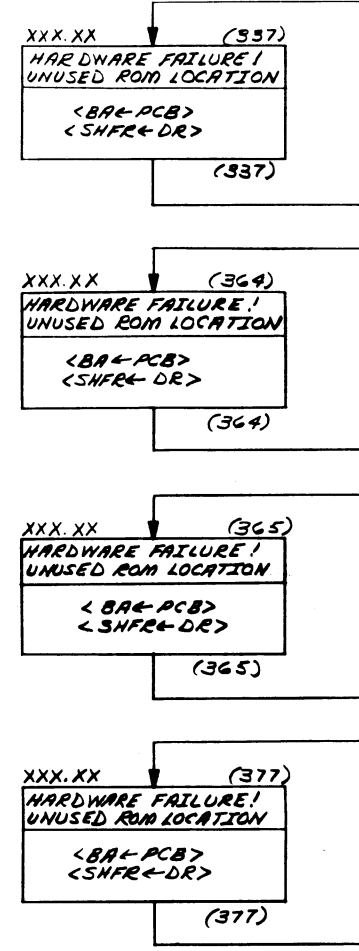
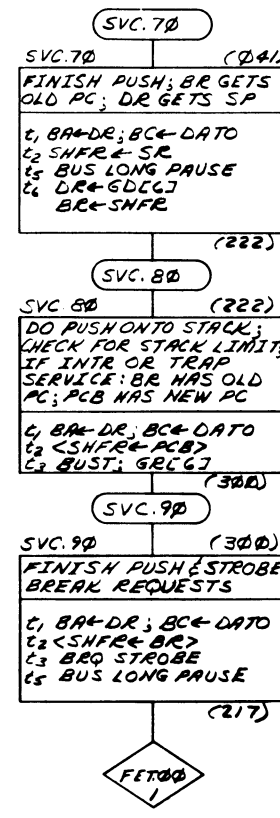
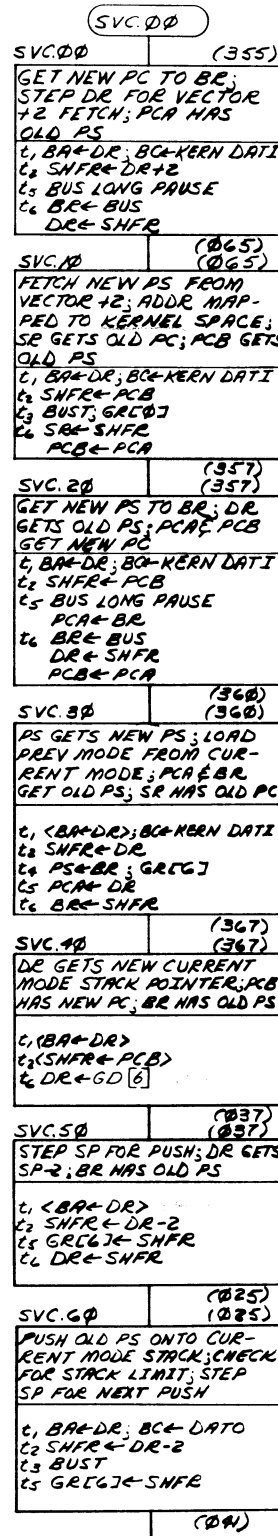
REV. A
 NUMBER
 DFD KB11-A-03
 SIZE CODE
 2



BREAK CONDITIONS				
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.xxx - .005	± 0° 30'	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
xx - .02		TITLE KB11-A FLOW DIAGRAMS (FLOWS 12)		
x - .1		REVISIONS		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 3/22/72 DATE 11/4/72 DATE 4-3-72 DATE 7-13-72		
MATERIAL		NEXT HIGHER ASSY.		
FINISH		B-DD-KB11-0		
SCALE		SIZE CODE D		
SHEET		NUMBER KB11-A-03		
		REV. A		
		DIST		

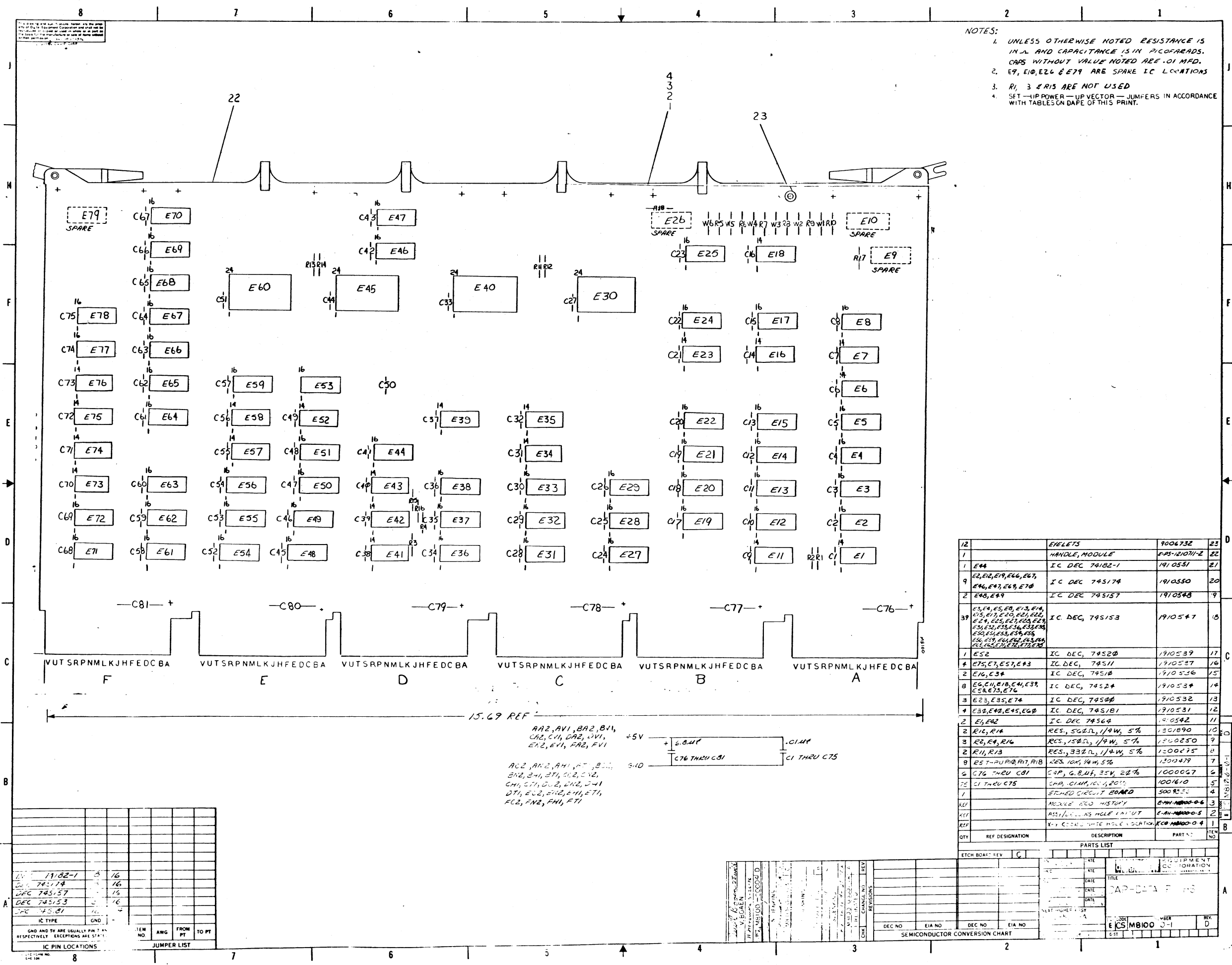
REV	CHANGE NO

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FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES					
DECIMALS	ANGLES	PARTS LIST			
XXX - 005	±0° 30'	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS			
XX - 02		TITLE KBII-A FLOW DIAGRAMS (FLOWS 13)			
X - 1		DATE 3/11/72 DATE 4/2/72 DATE 1/3/72 DATE 4/13/72			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH		P-00-KBII-0		DFD	KBII-A-03
SCALE		SHEET 14 OF 15		DIST	

REV.	CHANGE NO.



- NOTES:
- UNLESS OTHERWISE NOTED RESISTANCE IS IN Ω AND CAPACITANCE IS IN PICO FARADS. CAPS WITHOUT VALUE NOTED ARE .01 MFD.
 - E9, E10, E26 & E79 ARE SPARE IC LOCATIONS
 - R1, 3 & R15 ARE NOT USED
 - SFT - UP POWER - UP VECTOR - JUMPER IN ACCORDANCE WITH TABLES ON DAPE OF THIS PRINT.

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
12		EYELETS	9006732	23
1		HANDLE, MODULE	FPS-121011-2	22
1	E44	IC DEC 74182-1	1910551	21
9	E2, E12, E19, E66, E67, E46, E47, E68, E70	IC DEC 745174	1910550	20
2	E48, E49	IC DEC 745157	1910548	9
39	E3, E4, E5, E6, E13, E14, E15, E17, E20, E21, E22, E24, E25, E27, E28, E29, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78	IC DEC, 745153	1910547	18
1	E52	IC DEC, 74520	1910539	17
4	E75, E76, E77, E78	IC DEC, 74511	1910537	16
2	E16, E34	IC DEC, 74510	1910536	15
8	E6, E7, E8, E11, E12, E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78	IC DEC, 74524	1910534	14
3	E23, E35, E74	IC DEC, 74500	1910532	13
4	E38, E48, E45, E60	IC DEC, 745181	1910531	12
2	E1, E42	IC DEC 74564	1910542	11
2	R16, R14	RES., 50Ω, 1/4W, 5%	1301890	10
3	R2, R4, R16	RES., 150Ω, 1/4W, 5%	1200250	9
2	R11, R13	RES., 330Ω, 1/4W, 5%	1200475	8
8	R5, R7, R10, R11, R12, R13, R14, R15	RES., 10K, 1/4W, 5%	1200479	7
6	C76 THRU C81	CAP., 6.8µF, 35V, 20%	1000067	6
7	C1 THRU C75	CAP., 0.01µF, 50V, 20%	1001610	5
1		ETCHED CIRCUIT BOARD	5009552	4
REP		MODULE ECO HISTORY	5009552-06	3
REP		ASSY/LOCATIONS HOLE LAYOUT	5009552-05	2
REP		Y-1 COORDINATE HOLE LOCATION	5009552-04	1

AA2, AV1, BA2, BV1, CA2, CV1, DA2, DV1, EA2, EV1, FA2, FV1

AC2, AN2, AH1, AT, B2, BN2, BH1, BT, C2, CN2, CH1, CV1, D2, DN2, DH1, DV1, E2, EN2, EH1, ET, FC2, FN2, FH1, FT

+5V + 6.8µF .01µF
GND C76 THRU C81 C1 THRU C75

REV	DATE	BY	CHKD	DESCRIPTION
1	19182-1	SS	16	
2	DEC 745174		16	
3	DEC 745157		13	
4	DEC 745153		16	
5	DEC 745181		16	

IC TYPE	QTY	LOCATIONS
74182-1	1	E44
745174	9	E2, E12, E19, E66, E67, E46, E47, E68, E70
745157	2	E48, E49
745153	39	E3, E4, E5, E6, E13, E14, E15, E17, E20, E21, E22, E24, E25, E27, E28, E29, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78
74520	1	E52
74511	4	E75, E76, E77, E78
74510	2	E16, E34
74524	8	E6, E7, E8, E11, E12, E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78
74500	3	E23, E35, E74
745181	4	E38, E48, E45, E60
74564	2	E1, E42
1301890	2	R16, R14
1200250	3	R2, R4, R16
1200475	2	R11, R13
1200479	8	R5, R7, R10, R11, R12, R13, R14, R15
1000067	6	C76 THRU C81
1001610	7	C1 THRU C75

REV	DATE	BY	CHKD	DESCRIPTION
1				

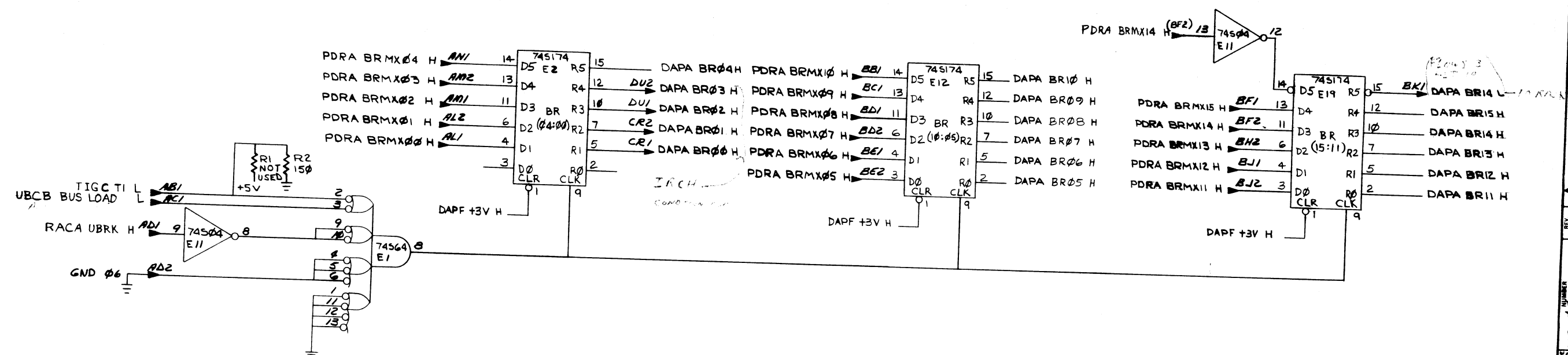
DEC NO	EIA NO	DEC NO	EIA NO

DATE	TITLE
	DATA DATA PINS

REV	DATE	BY	CHKD	DESCRIPTION

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1-0-0018W SCS 2

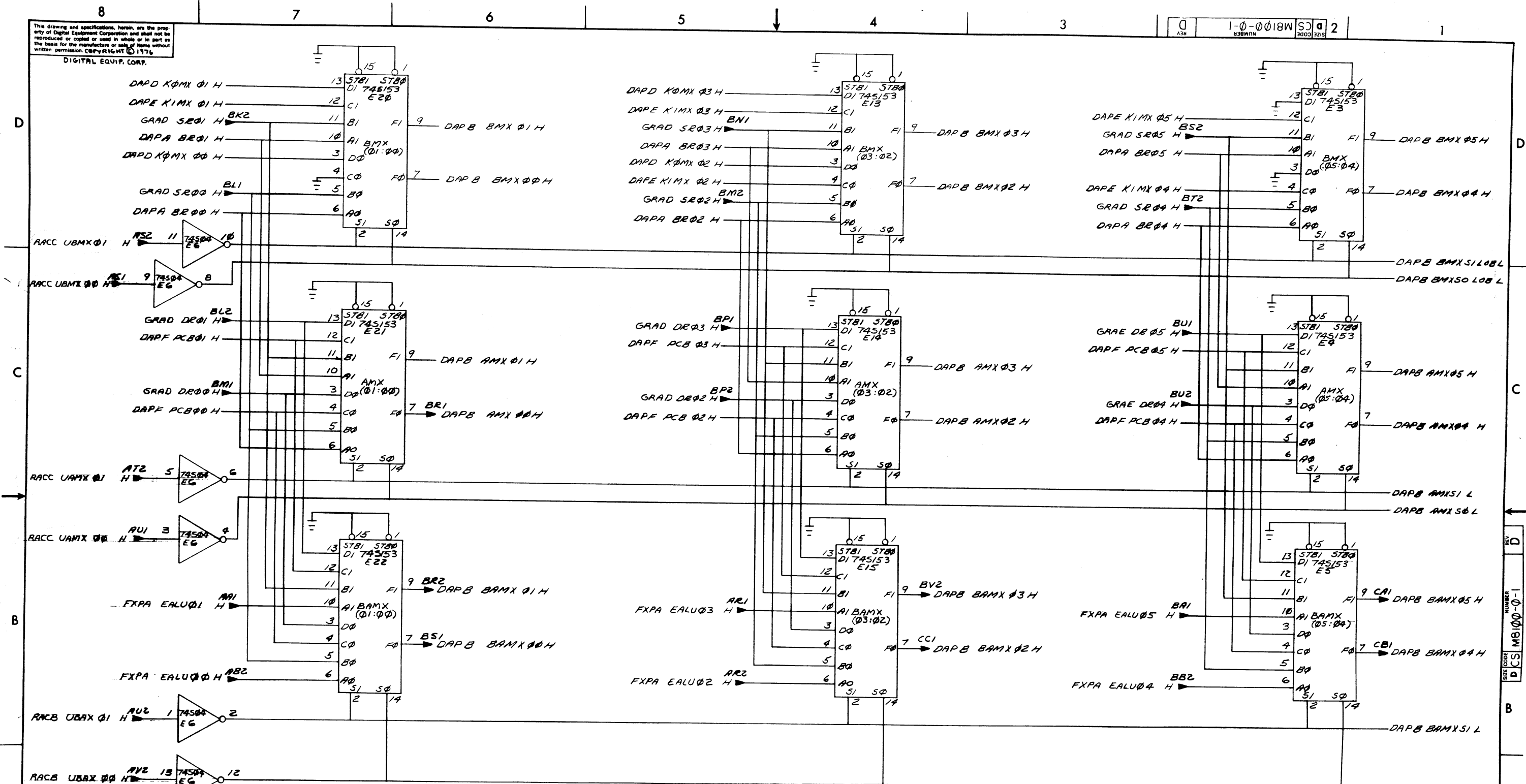


REVISIONS	REV
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.		
11/45							
PARTS LIST							
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS			
DECIMALS	ANGLES	CHK'D	DATE				
.XXX - .005	±0° 30'	ENG	DATE				
.XX - .02		PROJ. ENG.	DATE				
.X - .1		PROD.	DATE	TITLE DATA PATHS			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY							
MATERIAL		NEXT HIGHER ASSY.				(DAPA)	
FINISH		SCALE				REV.	
		SHEET 2 OF 9		D			

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1-0-0018W SC 2
 1338WVN 3003 3215



UBAX 01	00	UAMX 01	00	UBMX 01	00
L	L DR	L	L DR	L	L K0MX
L	H PCB	L	H PCB	L	L SR
H	L SR	H	L SR	H	H BR
H	H EP MAINT	H	H BR	H	H BR

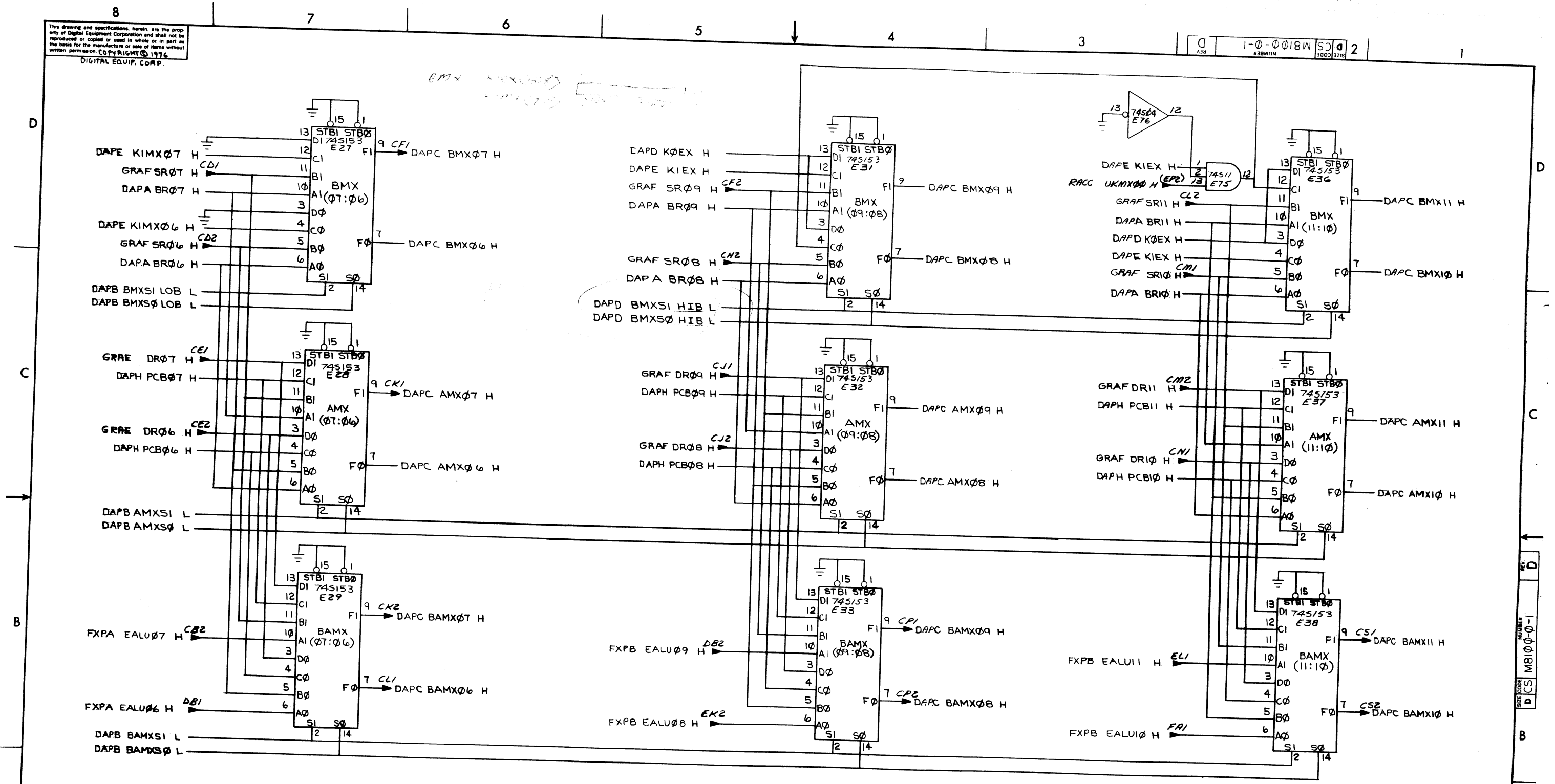
B,A & BUS ADDR. MULTIPLEXERS (05:00) SLOT 6

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XXX - .006	± 0° 30'	DRN	DATE	digital CORPORATION WATYARD MASSACHUSETTS
.XX - .02		CHK	DATE	
.X - .1		ENG	DATE	
		PROJ. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	TITLE
				DATA PATHS
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE NUMBER (DAPB) REV.		
FINISH		B-DD-KB11-A	DCS	MB100-0-1
SCALE	SHEET 3 OF 9	DIST.		

REV	CHANGE NO.

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1-0-0018W S2 2



REV	
CHANGE NO.	
CHK	

B, A, & BUS ADDR. MULTIPLEXERS (11:07)		SLOT 6	
FIRST USED ON OPTION/MODEL 11/45	QTY.	DESCRIPTION	PART NO. ITEM NO.
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN CHK'D ENG PROJ. ENG. PRD.	DATE 7-9-71 DATE 2/23/72 DATE 2/23/72 DATE 2/23/72 DATE 2/23/72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
DECIMALS .XXX = .005 .XX = .02 .X = .1	ANGLES ±0° 30'	TITLE DATA PATHS	(DAP C)
MATERIAL	NEXT HIGHER ASSY. B-DD-KB11-A	SIZE CODE D CS M8100-0-1	NUMBER D
FINISH	SCALE	SHEET 4 OF 9	DIST.

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1-0-0018W SCD 2
938W00N 2000 3215

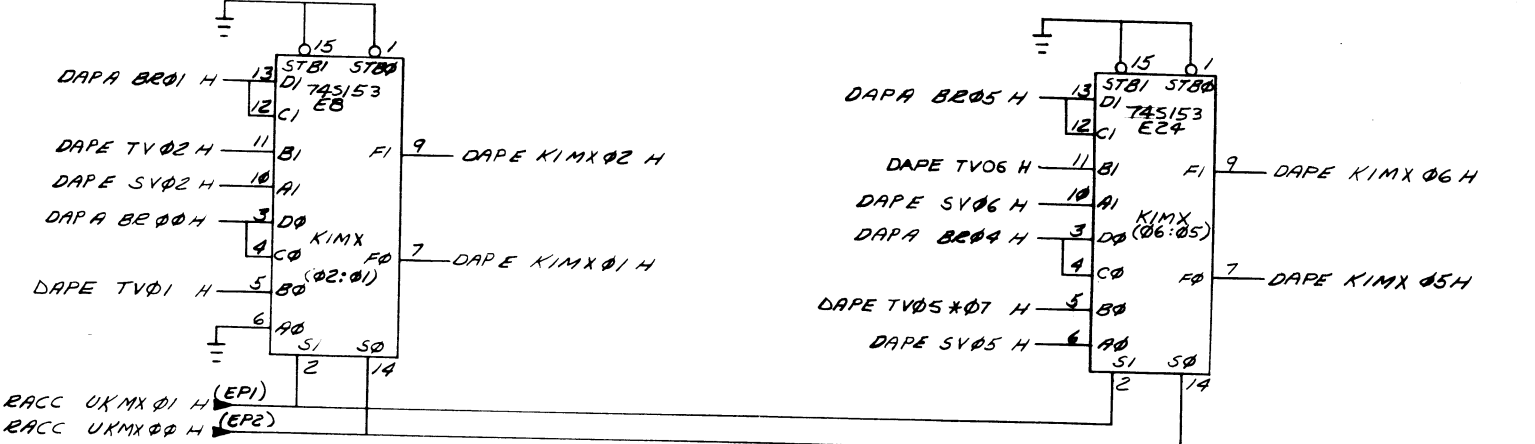
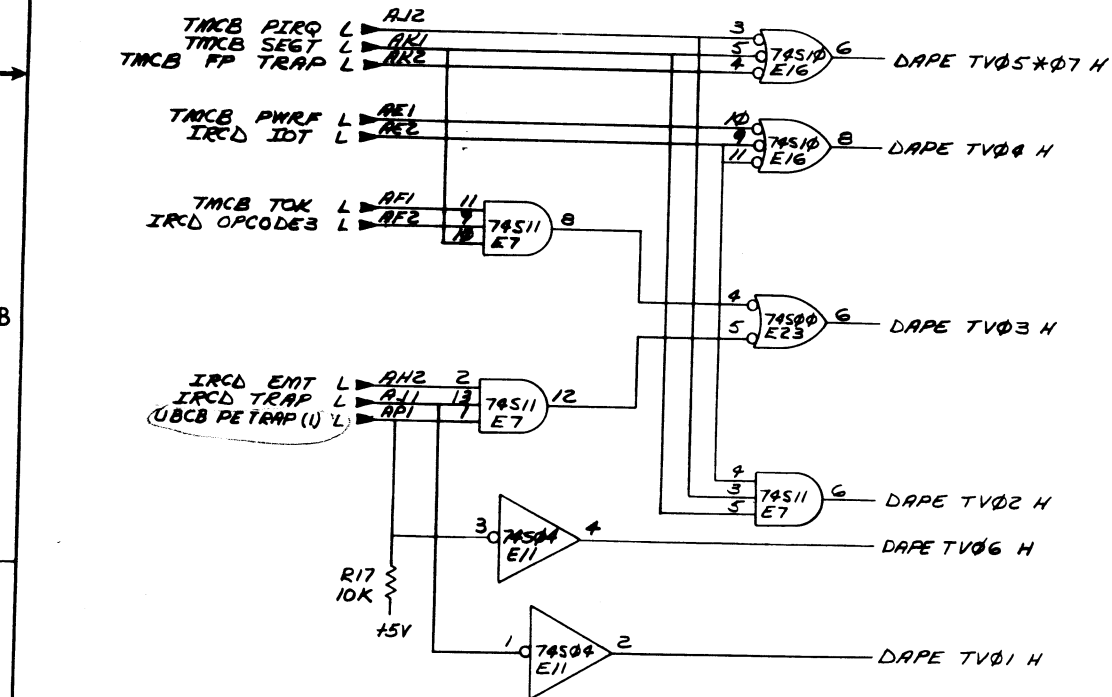
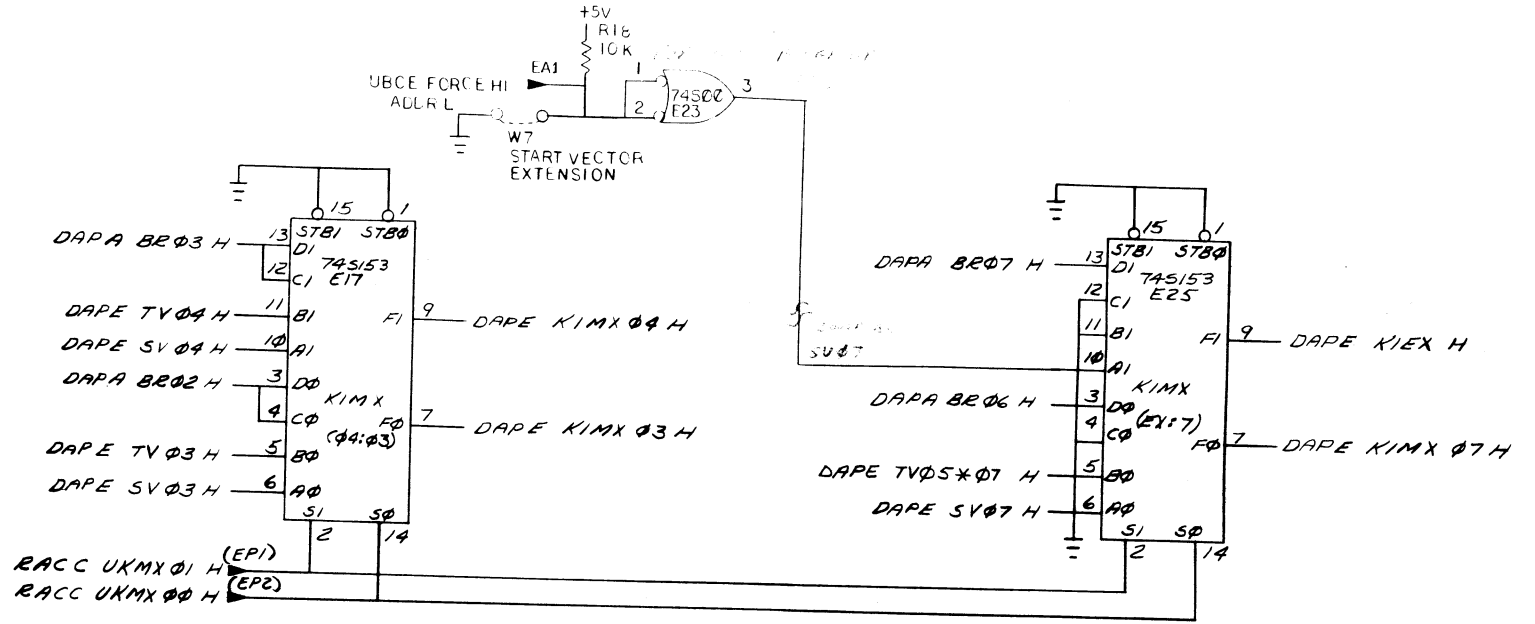
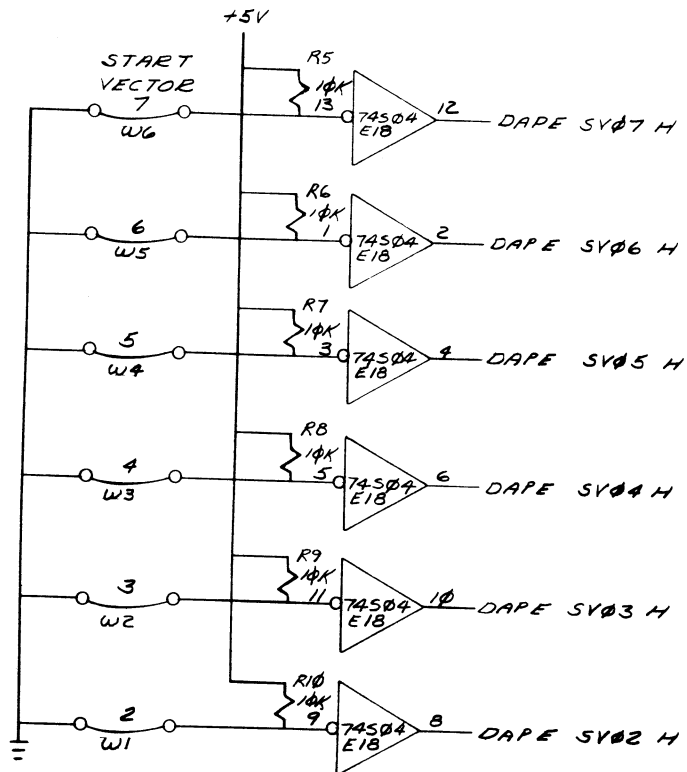
START VECTOR ADDRESS (POWER-UP) JUMPER ARRANGEMENT

W7 IN	173XXY
W7 OUT	000XXY

XX = OFFSET DETERMINED BY W2→W6
Y = (W1 OUT)
OR
4 (W1 IN)

FOR SPECIFIC VECTORS

SV	INSTALL JUMPERS:
000024	W3 & W1
173024	W7, W3 & W1
173224	W7, W6, W3 & W1



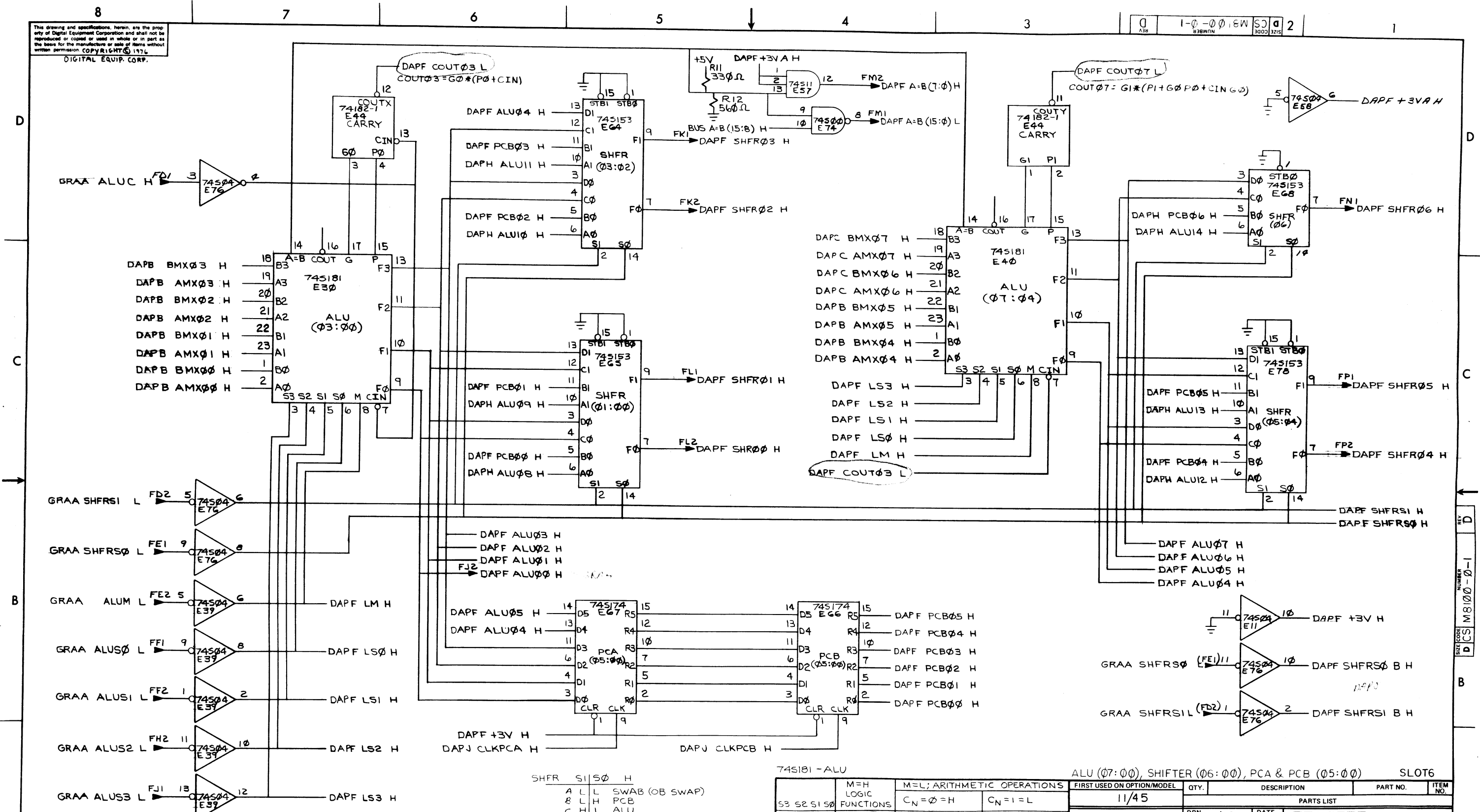
TRAP VECTOR	UKMX 01	ΦΦ	KIMX
RSVD INST	L	L	5V
TOK+3	L	L	TV
IOT	H	L	SOB & MARK DISPLACEMENT
PWER	H	H	BOXX DISPLACEMENT
ENT	L	L	
TRAP	L	L	
PIEQ	L	L	
FP TRAP	L	L	
SEGT	L	L	
PERF	L	L	

NOTE:
LEFT SHIFTING TAKES PLACE ON FLOWS12 RSD.10

REV	
CHANGE NO	
CHK	

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.	DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
TOLERANCES	CHK'D	DATE	TITLE		
DECIMALS			DATA PATHS		
ANGLES			MATERIAL		
XXX = .005			NEXT HIGHER ASSY.		
.XX = .02			B-DD-KB11-A		
.X = .1			FINISH		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY			SCALE		
			SHEET 6 OF 9		
			SIZE CODE		
			NUMBER		
			REV		
			D CS MB100-0-1		
			DIST.		

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DIGITAL EQUIP. CORP.



SHFR S1 S0 H
A L L SWAB (OB SWAP)
B L H PCB
C H L ALU
D H H RT. SHIFT ALU

745181 - ALU

S3 S2 S1 S0	M=H LOGIC FUNCTIONS		M=L; ARITHMETIC OPERATIONS	
	CN=0=H	CN=1=L	CN=0=H	CN=1=L
L L L L	F = A	F = A	F = A	F = A PLUS 1
L L H H	F = 0	F = MINUS 1 (2'S COMP)	F = A MINUS B	F = ZERO
L H H L	F = A + B	F = A MINUS B MINUS 1	F = A MINUS B	F = A MINUS B
L H H H	F = A B	F = A B MINUS 1	F = A B	F = A B
H L L H	F = A + B	F = A PLUS B	F = A PLUS B	F = A PLUS B PLUS 1
H L H L	F = B	F = (A+B) PLUS AB	F = (A+B) PLUS AB	F = (A+B) PLUS AB PLUS 1
H L H H	F = AB	F = AB MINUS 1	F = AB	F = AB
H H L L	F = 1	F = A PLUS A	F = A PLUS A	F = A PLUS A PLUS 1
H H H L	F = A + B	F = (A+B) PLUS A	F = (A+B) PLUS A	F = (A+B) PLUS A PLUS 1
H H H H	F = A	F = A MINUS 1	F = A	F = A

ALU (07:00), SHIFTER (06:00), PCA & PCB (05:00) SLOT6

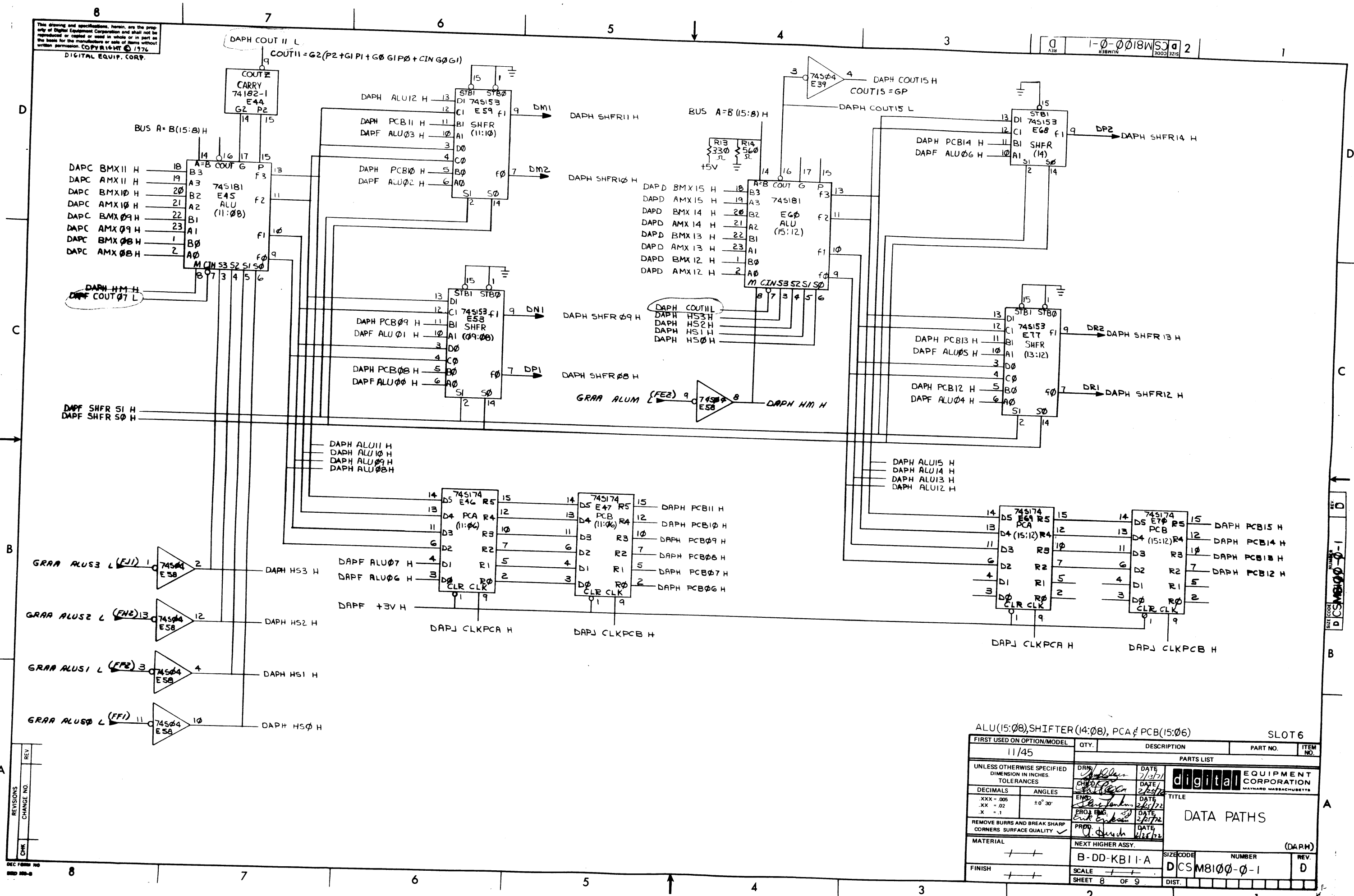
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES					
DECIMALS	ANGLES	PARTS LIST			
XXX - .005	± 0° 30'	DRN	DATE	digital EQUIPMENT CORPORATION	
.XX - .02		CHKD	7-12-71	MAYNARD MASSACHUSETTS	
.X - .1		EMD	2/25/72	TITLE	
		PROJ. ENGR	2/25/72	DATA PATHS	
		PROD. ENGR	2/25/72	(DAPF)	
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
#		B-DD-KB11-A		D CS	M8100-0-1
FINISH		SCALE		SHEET	REV
#		7 OF 9		7	D

REVISIONS

REV	CHANGE NO.

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1-0-0018WSS 2

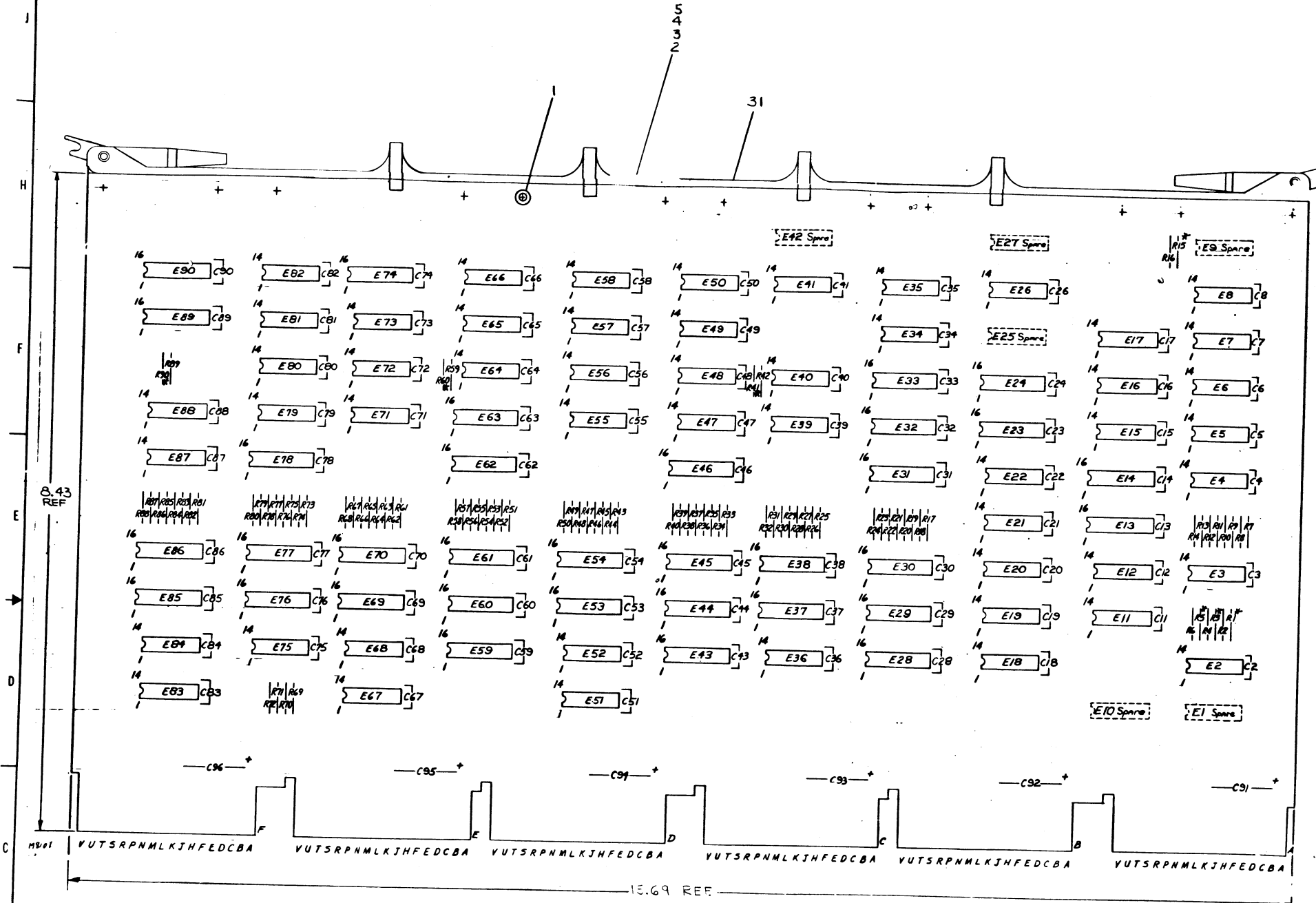


REV	CHANGE NO.

ALU(15:0), SHIFTER (14:0), PCA & PCB(15:06)		SLOT 6	
FIRST USED ON OPTION/MODEL 11/45	QTY.	DESCRIPTION	PART NO. ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES			
DECIMALS .XXX = .005 .XX = .02 .X = .1	ANGLES ±0° 30'	PARTS LIST	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		TITLE	
MATERIAL		NUMBER (DAPH)	
FINISH		REV.	
SCALE		D C S M 8100-0-1	
SHEET 8 OF 9		DIST.	

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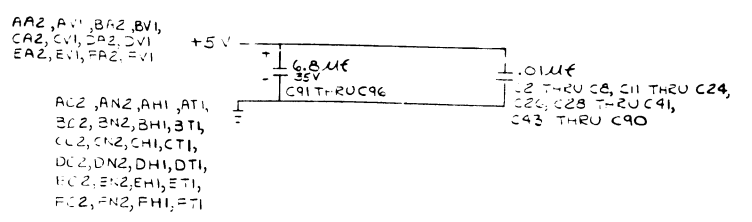
- NOTES:
- UNLESS OTHERWISE NOTED RESISTANCE IS IN OHMS & CAPACITANCE IS IN PICO FARADS. CAPACITORS WITHOUT VALUE NOTED ARE .01MFD.
 - RESISTORS MARKED WITH ASTERISK ARE NOT USED.
 - LOCATIONS MARKED E1, E9, E10, E25, E27, & E42 ARE SPARES.



QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
1	E79	HANDLE, MODULE	E-4-RAM-2	31
8	E17, E38, E53, E54, E63, E76, E85, E86	I.C. DEC. DMB578-AD	25-C83M	30
4	E31, E46, E62, E78	I.C. DEC. 740174	1910658	29
3	E28, E49, E59	I.C. DEC. 740174	1910552	28
10	E29, E30, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78, E79, E80, E81, E82, E83, E84, E85, E86, E87, E88, E89, E90	I.C. DEC. 740158	1910549	26
4	E23, E24, E32, E33	I.C. DEC. 740153	1910545	25
1	E68	I.C. DEC. 740152	1910545	24
2	E56, E79	I.C. DEC. 740174	1910544	23
11	E56, E64, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78, E79, E80	I.C. DEC. 740174	1910542	22
3	E64, E78, E81	I.C. DEC. 740174	1910539	21
7	E2, E3, E4, E5, E6, E7, E8, E9	I.C. DEC. 740174	1910537	20
5	E2, E3, E4, E5, E6, E7, E8, E9	I.C. DEC. 740174	1910536	19
5	E1, E2, E3, E4, E5, E6, E7, E8, E9	I.C. DEC. 740174	1910535	18
10	E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57, E58, E59, E60, E61, E62, E63, E64, E65, E66, E67, E68, E69, E70, E71, E72, E73, E74, E75, E76, E77, E78, E79, E80, E81, E82, E83, E84, E85, E86, E87, E88, E89, E90	I.C. DEC. 740174	1910534	17
5	E4, E5, E6, E7, E8, E9	I.C. DEC. 740174	1910532	16
2	E13, E14	I.C. DEC. 740174	1910096	15
1	E87	I.C. DEC. 740174	1909060	14
2	E55, E72	I.C. DEC. 740174	1909059	13
2	R12, R72	RES. 150Ω, 1/4W, 5%	1301401	12
32	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100	RES. 330Ω, 1/4W, 5%	1301824	11
4	R1, R2, R3, R4	RES. 500Ω, 1/4W, 5%	1301890	10
7	R5, R6, R7, R8, R9, R10, R11, R12	RES. 150Ω, 1/4W, 5%	1300250	9
36	R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100	RES. 330Ω, 1/4W, 5%	1300295	8
84	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90	CAP. 0.01μF, 100V, 20% DISC	1001610	7
2	C11, C96	CAP. 0.01μF, 35V, 20% S TANT	1000067	6
1		ETCHED CIRCUIT BOARD	5001807	5
REF		MULTIPLE ECO HISTORY	E-MN-MB1-2-4	4
REF		MULTIPLE ECO HISTORY	E-MN-MB1-2-5	3
REF		MULTIPLE ECO HISTORY	E-MN-MB1-2-6	2
12		ETCHED	9004732	1

IC TYPE	QTY	REF	DESCRIPTION	PART NO	ITEM NO
DEC. 740174-AD	8	16			
DEC. 740174-AD	8	16			
DEC. 740174	8	16			
DEC. 740158	8	16			
DEC. 740153	8	16			
DEC. 740154	8	16			
DEC. 740112	8	16			
DEC. 740174	8	16			
DEC. 740174	8	16			

IC PIN LOCATIONS	JUMPER LIST
GND AND BY ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.	ITEM NO. AWG. FROM PT. TO PT.



SEMICONDUCTOR CONVERSION CHART

ETCH BOARD REV B

DATE: 1971

PROJECT: GENERAL REGS. & ALU. CNTL.

SCALE: 1 OF 10

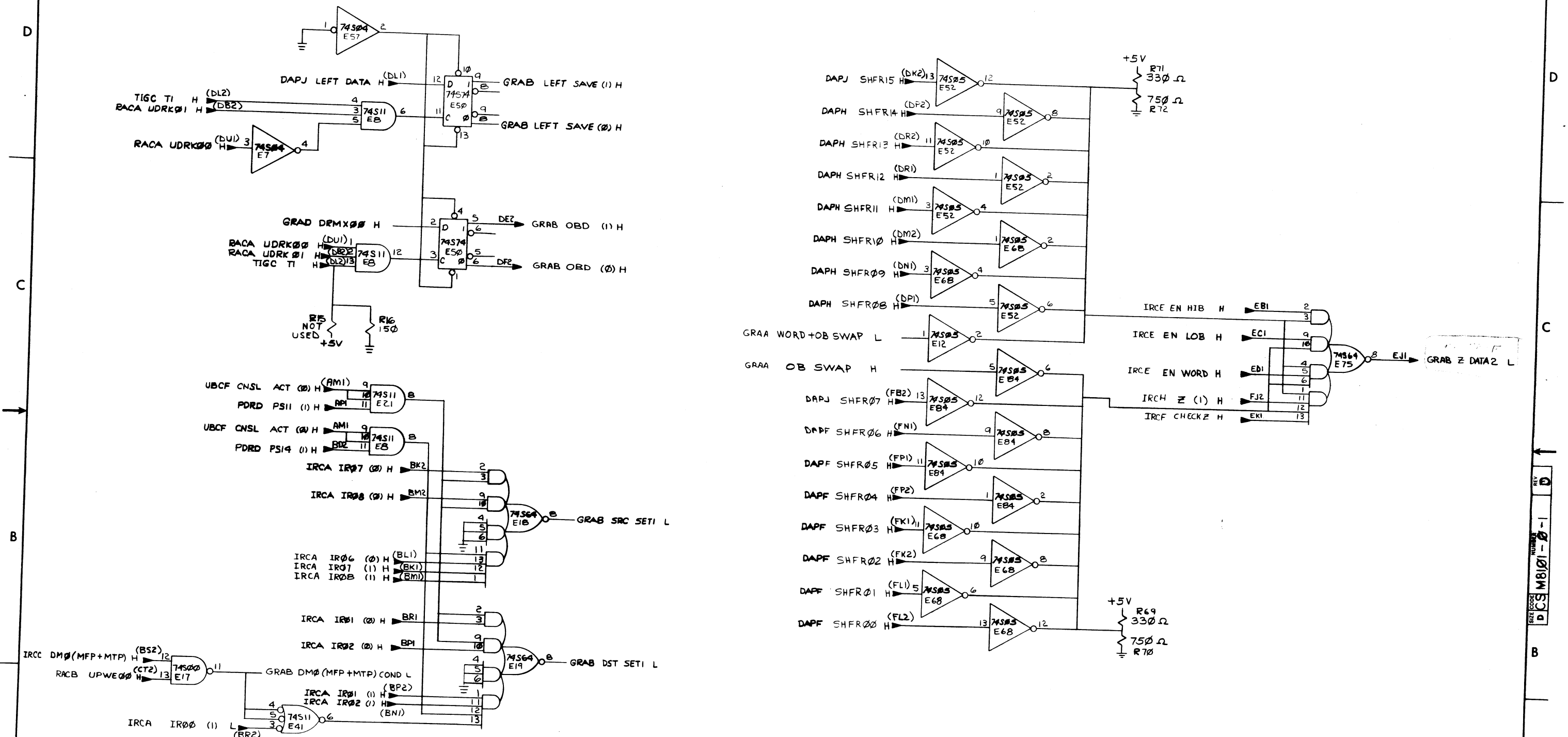
SHEET: 1 OF 10

GENERAL REGS. & ALU. CNTL.

MB101-2-1

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1-0-1018W SCS 2



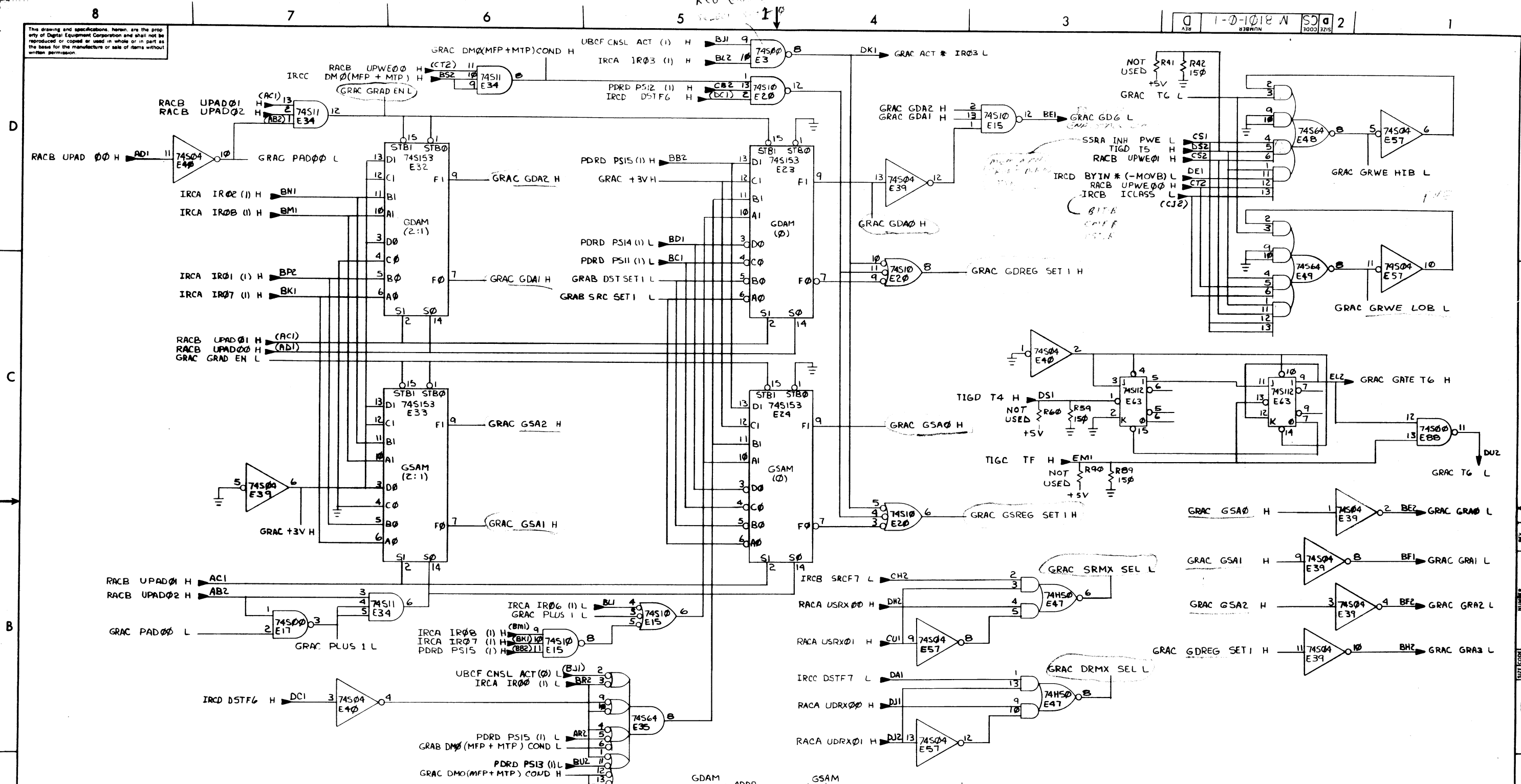
REV	CHANGE NO

DEC FORM NO DRD 102-B

SHIFTER = 0 DETECTOR; MSC. LOGIC		SLOT 7	
FIRST USED ON OPTION/MODEL 11/45	QTY.	DESCRIPTION	PART NO. ITEM NO.
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN 7-15-71	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
DECIMALS .005 ANGLES ±0° 30'	CHKD 2/27/72	DATE	
MATERIAL	PROJ. ENG. 2/27/72	DATE	TITLE GENERAL REGS. #ALU CNTL
FINISH	PROD. 2-15-71	DATE	SIZE CODE B-DD-KB11-J
NEXT HIGHER ASSY.		SCALE	NUMBER DCS M8101-0-1
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		SHEET 3 OF 10	REV. D

REV D
DCS M8101-0-1

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GDAM				GSAM				UPWE 01 00		GRWE LOB		GRWE HIB	
UPAD	SI	S0	ADDR OUTPUT	UPAD	SI	S0	ADDR OUTPUT	L	L	DONT WRITE	DONT WRITE	DONT WRITE	
0	L	L	SF	0+1	L	L	SF	L	L	WRITE COND:	WRITE COND:	WRITE COND:	
4	L	L	SFVI	4	L	L	SFVI	L	H	I CLASS	I CLASS + BYTE INST	I CLASS + BYTE INST	
1+5	L	H	DF	5	L	H	DF	H	L	DF	+MOV8 (SIGN EXTENDED)	+MOV8 (SIGN EXTENDED)	
2	H	L	5	2+3	H	L	5	H	L	WRITE	WRITE	WRITE	
3+7	H	H	6	7	H	H	6	H	H	NOT USED	NOT USED	NOT USED	

USRX 01 00 OUTPUT (SRMX)				UDRX 01 00 OUTPUT (DRMX)				
L	L	SFHR	L	L	SFHR	L	L	SFHR
L	H	GS	L	H	GD	L	H	GD
L	L	SF7:SHFR; SFT:GS	H	L	DFT:SHFR; DF7:GD	H	L	DFT:SHFR; DF7:GD
H	H	NOT USED	H	H	CLEAR DR	H	H	CLEAR DR

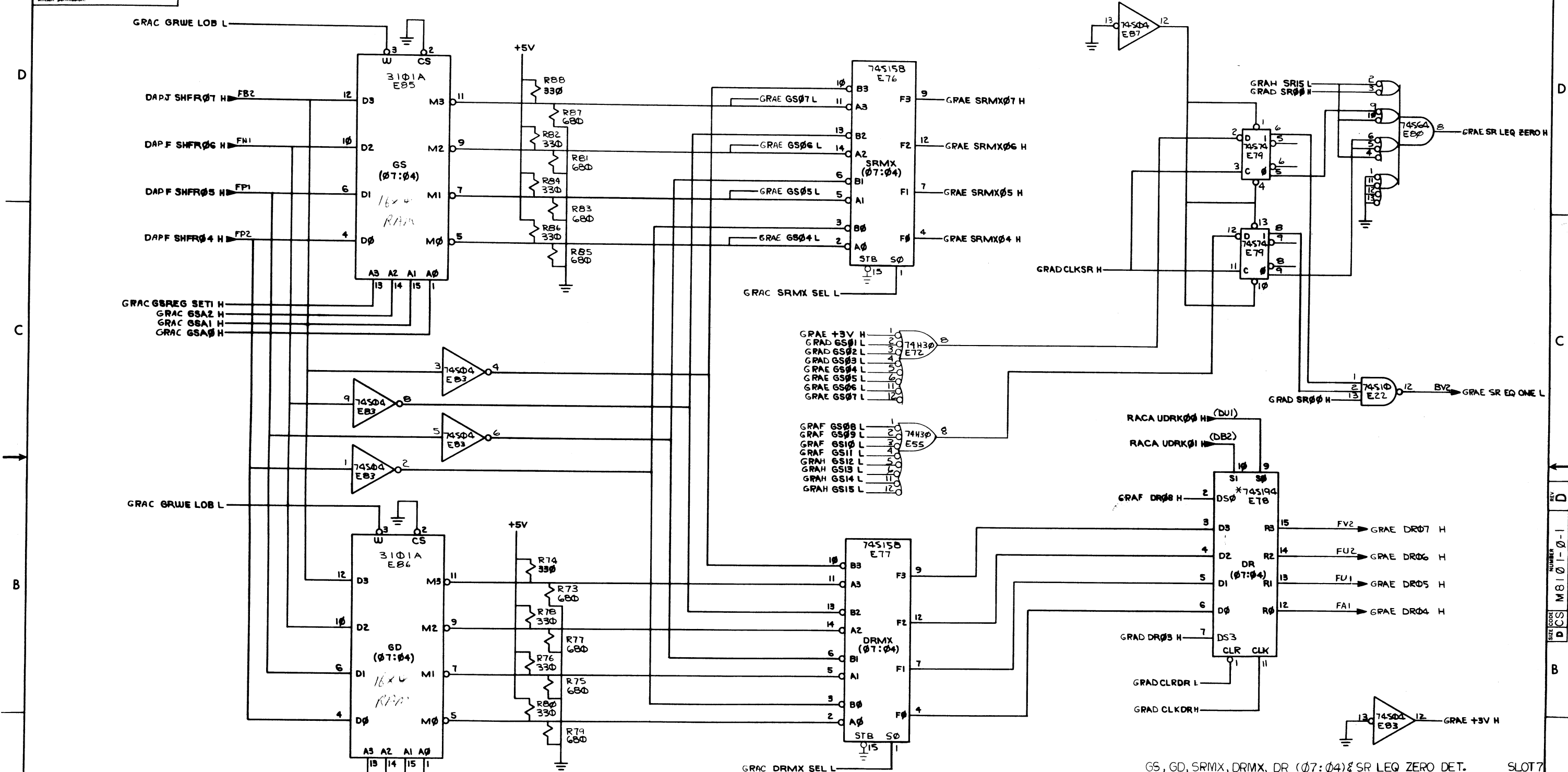
GENERAL REGS ADDR & WRITE PULSE CNTL SLOT 7

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
XXX - .005	±0° 30'	GENERAL REGS & ALU CNTL (GRAC)		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
SCALE		SIZE CODE		NUMBER
SHEET 4 OF 10		DCS M8101-0-1		REV. D

REV	CHANGE NO

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1-0-1018W SC 2



GRAC GRWE LOB L

DAPJ SHFR07 H FB2

DAP F SHFR06 H FN1

DAP F SHFR05 H FP1

DAP F SHFR04 H FP2

GRAC GSREG SETI H
GRAC GSA2 H
GRAC GSA1 H
GRAC GSA0 H

GRAC GRWE LOB L

GRAC GDREG SETI H
GRAC GDA2 H
GRAC GDA1 H
GRAC GDA0 H

GRAC DRMX SEL L

RACA UDRK00 H (DU1)

RACA UDRK01 H (DB2)

GRAF DR00 H

GRAE DR07 H

GRAE DR06 H

GRAE DR05 H

GRAE DR04 H

GRAD CLRDR L

GRAD CLKDR H

GRAE +3V H

NOTE:
* EARLY MACHINES HAVE 74194-1

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN S.W. Roberts	DATE 7/15/71	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	ANGLES	ENG Steve Johnson	DATE 2/23/72	TITLE GENERAL REGS. & ALU CNTL	
.XXX = .005	±0° 30'	PROJ. ENG. Bob Cinkala	DATE 2/23/72	(GRAE)	
.XX = .02		PROD.	DATE	MATERIAL	
.X = .1				NEXT HIGHER ASSY.	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				FINISH	
				SCALE	
				SHEET 6 OF 10	
				SIZE CODE DCS	NUMBER M8101-0-1
				DIST.	REV D

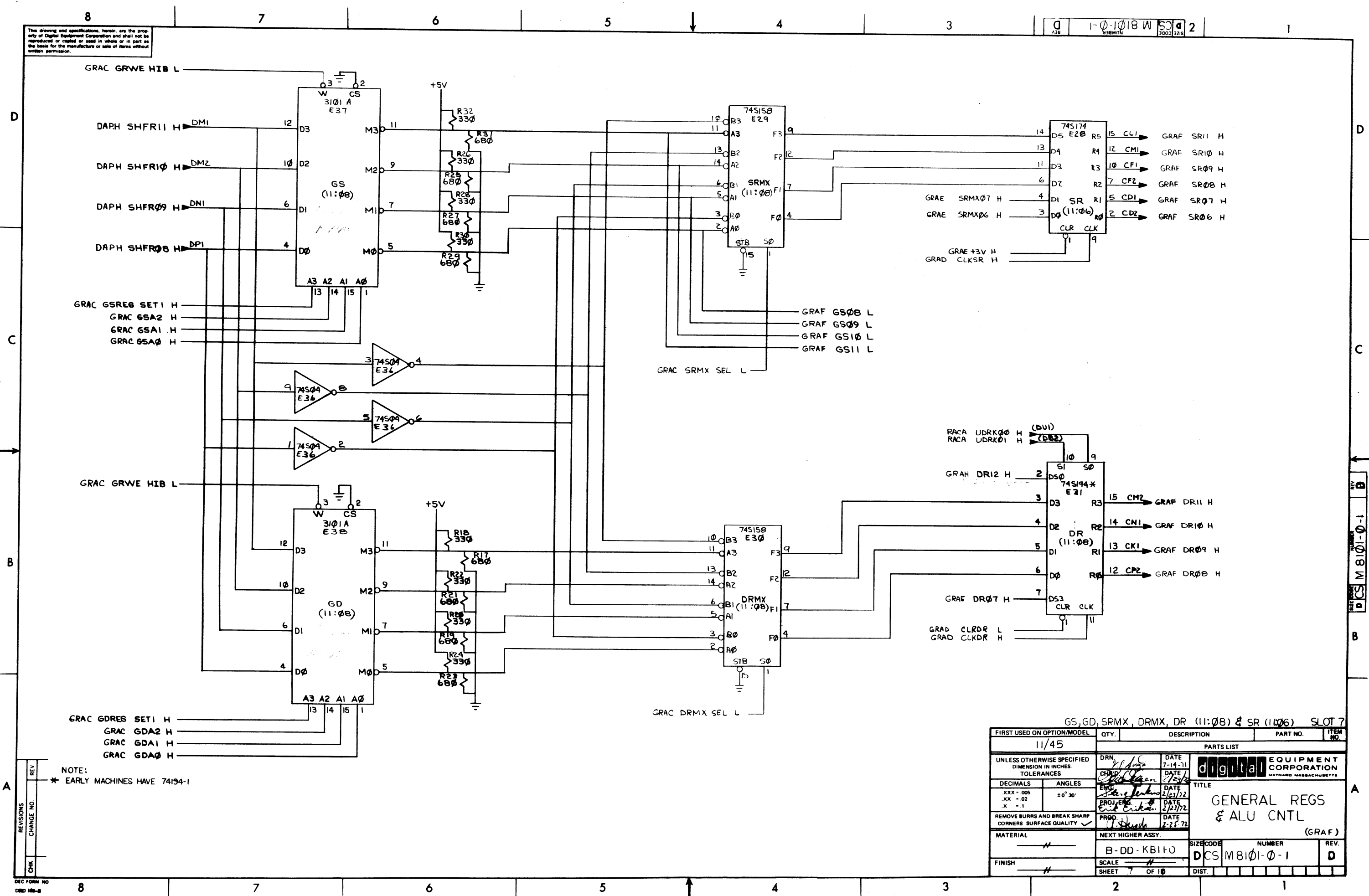
REVISIONS
CHANGE NO. REV.

REV. D
NUMBER M8101-0-1
SIZE CODE DCS

A

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1-0-1018 W 50 2



GRAC GSREG SET1 H
GRAC GSA2 H
GRAC GSA1 H
GRAC GSA0 H

GRAC GDRES SET1 H
GRAC GDA2 H
GRAC GDA1 H
GRAC GDA0 H

GRAE SRMX07 H
GRAE SRMX06 H
GRAE +3V H
GRAD CLKSR H

GRAF GS08 L
GRAF GS09 L
GRAF GS10 L
GRAF GS11 L

RACA UDRK00 H (DUI)
RACA UDRK01 H (DUI)
GRAH DR12 H
GRAE DR07 H
GRAD CLRDR L
GRAD CLKDR H

NOTE:
* EARLY MACHINES HAVE 74194-1

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.																																	
11/45																																					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES																																					
DECIMALS	ANGLES	PARTS LIST																																			
XXX = .005 XX = .02 X = .1	± 0° 30'	<table border="1"> <tr> <td>DRN.</td> <td>DATE</td> <td rowspan="4"> digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS </td> </tr> <tr> <td>CHK'D</td> <td>DATE</td> </tr> <tr> <td>ENG.</td> <td>DATE</td> </tr> <tr> <td>PROJ. ENG.</td> <td>DATE</td> </tr> <tr> <td colspan="2">REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY</td> <td>TITLE</td> </tr> <tr> <td colspan="2"></td> <td>GENERAL REGS & ALU CNTL (GRAF)</td> </tr> <tr> <td colspan="2">MATERIAL</td> <td>NEXT HIGHER ASSY.</td> </tr> <tr> <td colspan="2"></td> <td>B-DD-KB110</td> </tr> <tr> <td colspan="2">FINISH</td> <td>SCALE</td> </tr> <tr> <td colspan="2"></td> <td>7 OF 10</td> </tr> <tr> <td colspan="2"></td> <td>SHEET</td> </tr> <tr> <td colspan="2"></td> <td>DIST.</td> </tr> </table>			DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	CHK'D	DATE	ENG.	DATE	PROJ. ENG.	DATE	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		TITLE			GENERAL REGS & ALU CNTL (GRAF)	MATERIAL		NEXT HIGHER ASSY.			B-DD-KB110	FINISH		SCALE			7 OF 10			SHEET			DIST.
DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS																																			
CHK'D	DATE																																				
ENG.	DATE																																				
PROJ. ENG.	DATE																																				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		TITLE																																			
		GENERAL REGS & ALU CNTL (GRAF)																																			
MATERIAL		NEXT HIGHER ASSY.																																			
		B-DD-KB110																																			
FINISH		SCALE																																			
		7 OF 10																																			
		SHEET																																			
		DIST.																																			

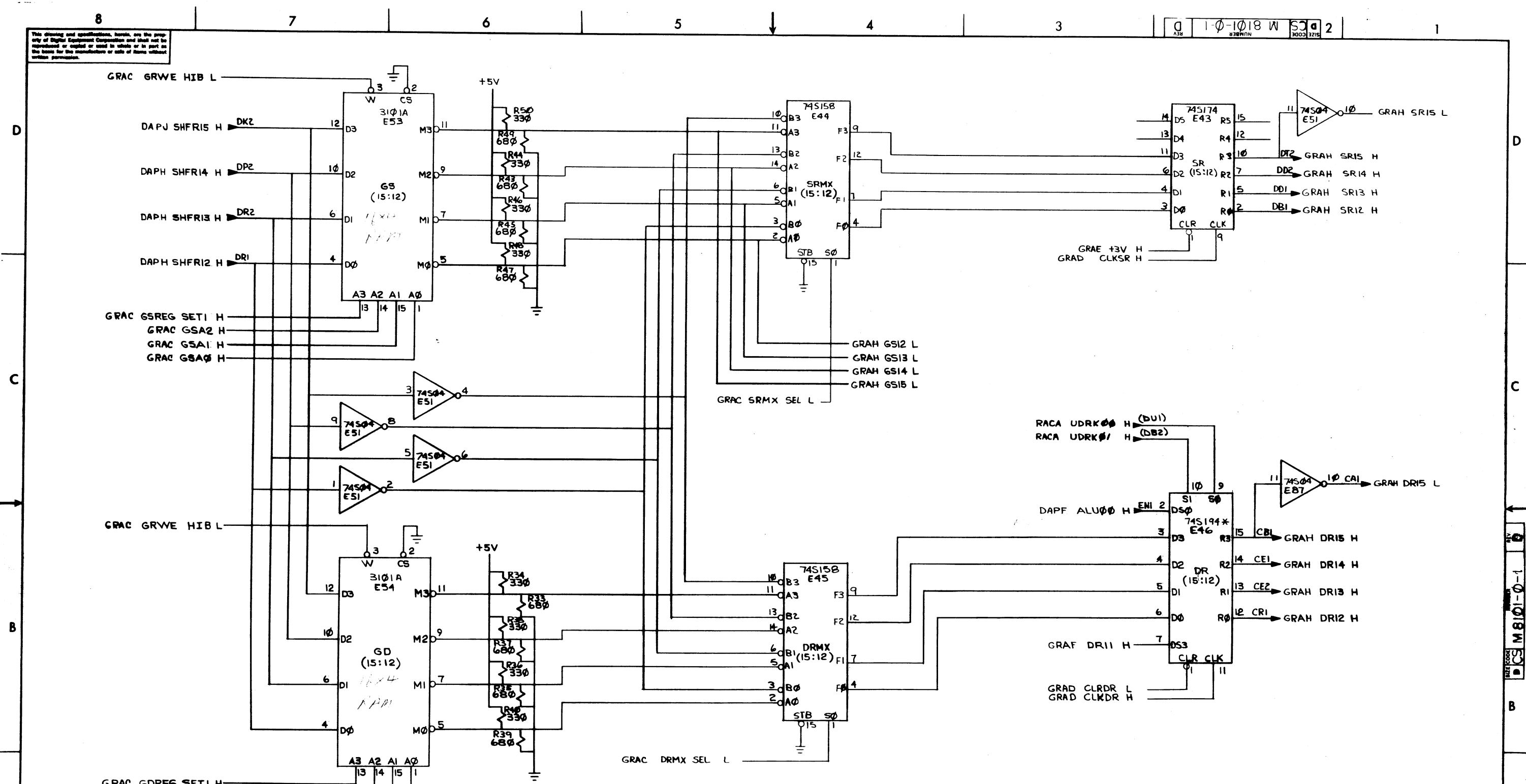
| | | SIZE CODE | NUMBER | REV. |
| | | DCS M8101-0-1 | | D |

REVISIONS
CHANGE NO.
CHK

DEC FORM NO
DSD 100-2

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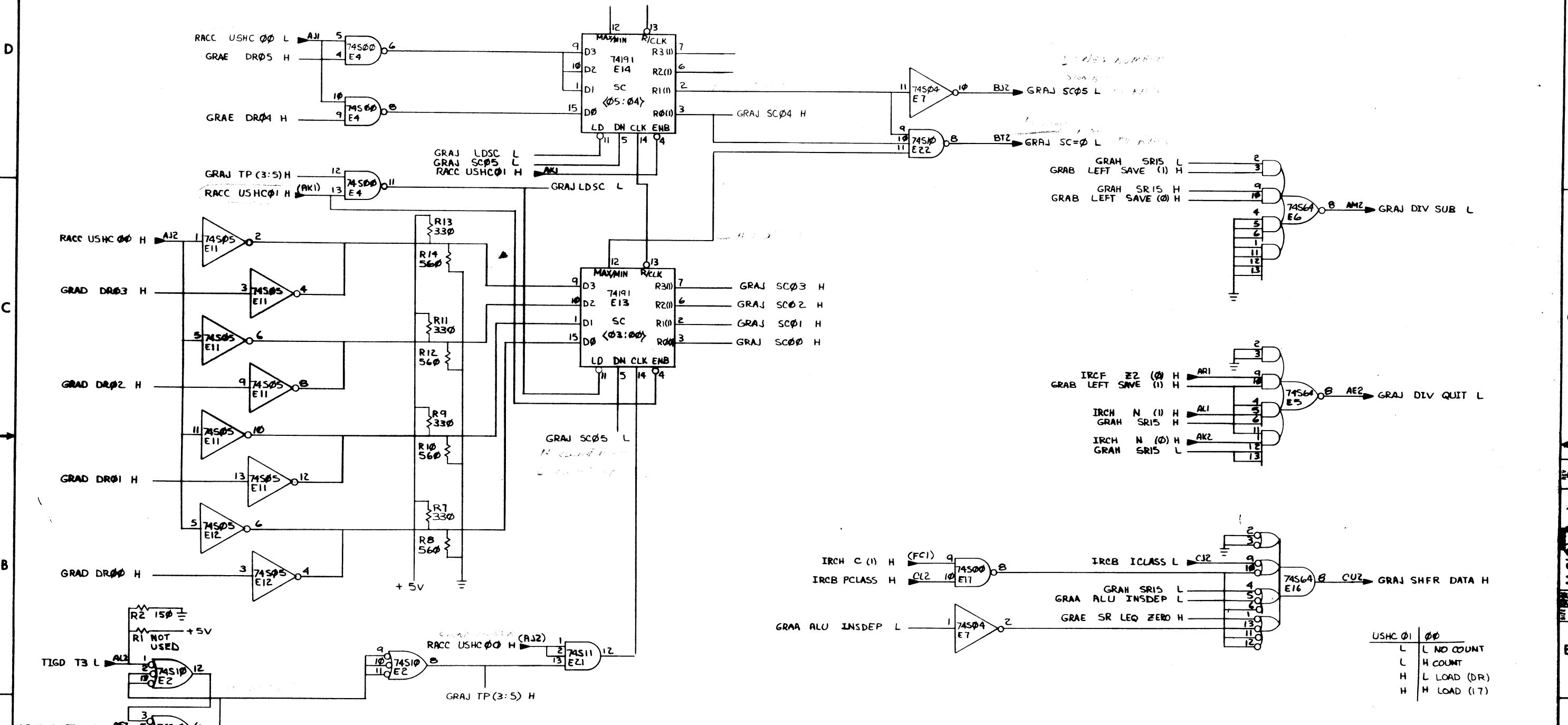
1-0-1018 W 3000 3215



NOTE: * EARLY MACHINES HAVE 74194-1.

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES			
.XXX - .005	± 0° 30'			
.XX - .02				
.X - .1				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
SCALE				
SHEET 8 OF 10				
PARTS LIST		TITLE		
DIGITAL EQUIPMENT CORPORATION		GENERAL REGS & ALU CNTL (GRAH)		
B-DD-KB11-0		DCS M 8101-0-1		
REV. 0				

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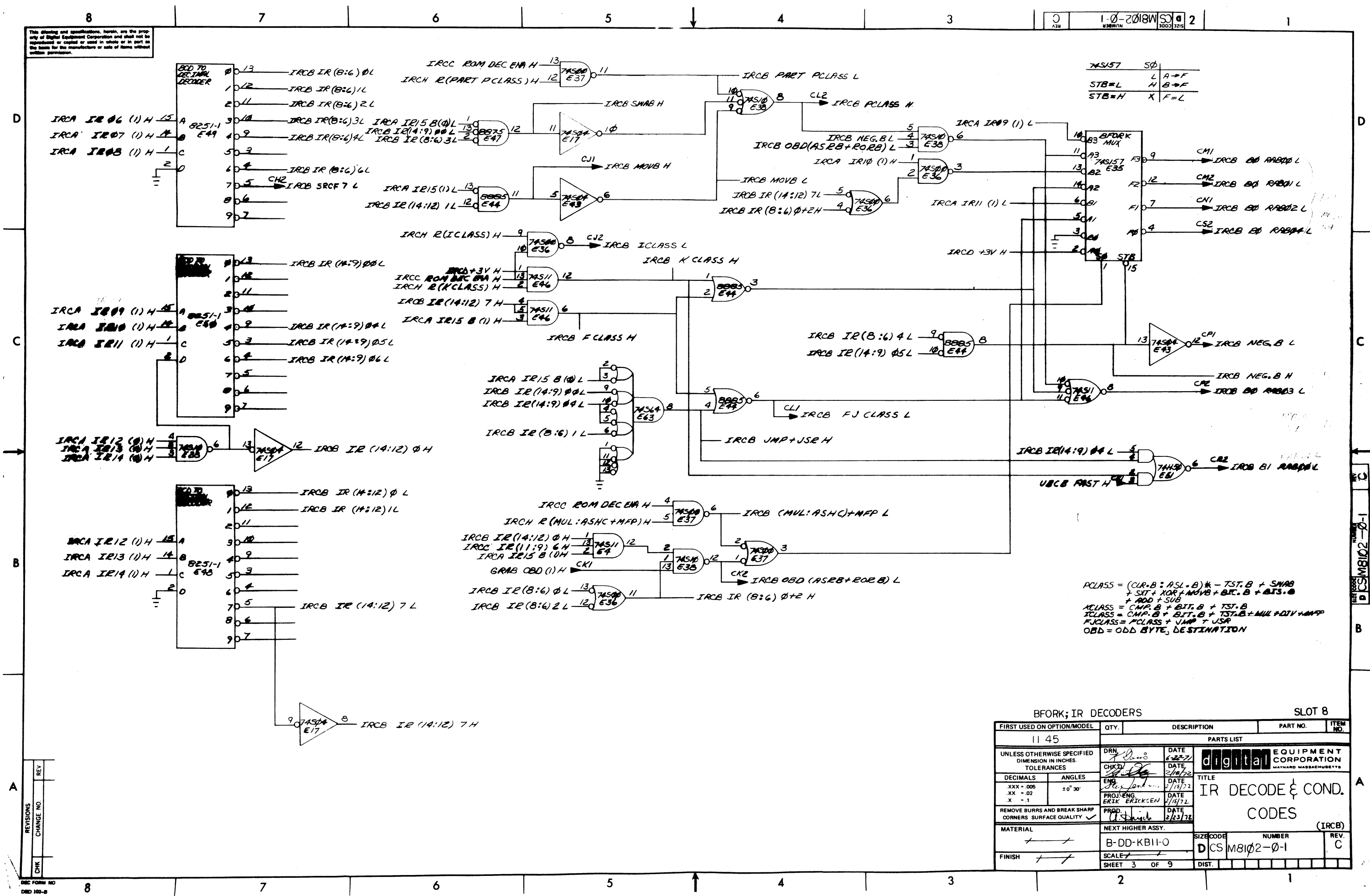
REV	CHG	NO	DATE

FIRST USED ON OPTION/MODEL 11/45		QTY.	DESCRIPTION	PART NO.	REV. NO.
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRW DATE 12/1/72	DATE DATE 2/23/72	EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS		
DECIMALS XXX - .006 .XX - .02 .X - .1	ANGLES ±0° 30'	TITLE GENERAL REGS & ALU CNTL (GRAJ)			
MATERIAL ++	NEXT HIGHER ASSY. B-DD-KB11-0	SIZE CODE DCS	NUMBER M8101-0-1	REV. 	
FINISH ++	SCALE SHEET 9 OF 10	DIST			

070855
 071855
 SE PROGRAM
 070285
 070855

1-0-1018 W SC 2
 1-0-1018 W SC 2
 1-0-1018 W SC 2

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74S17	S0	L	A=F
STB=L		H	B=F
STB=H		X	F=L

$PCLASS = (CLR.B + ASL.B) * -TST.B + SWAB + SXT + XOR + MOV.B + BIC.B + BJS.B + ADD + SUB$
 $AClass = CMP.B + BIT.B + TST.B$
 $IClass = CMP.B + BIT.B + TST.B + MUL + DIV + MFP$
 $FCLASS = FCLASS + JMP + JSR$
 $OBD = ODD BYTE, DESTINATION$

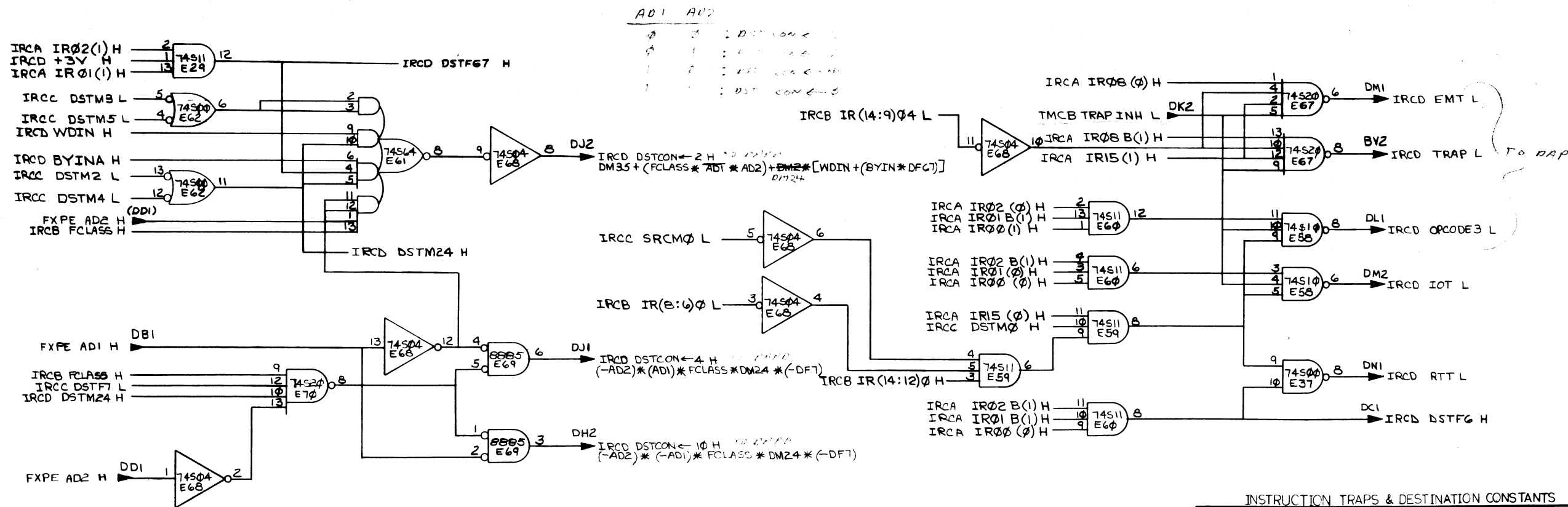
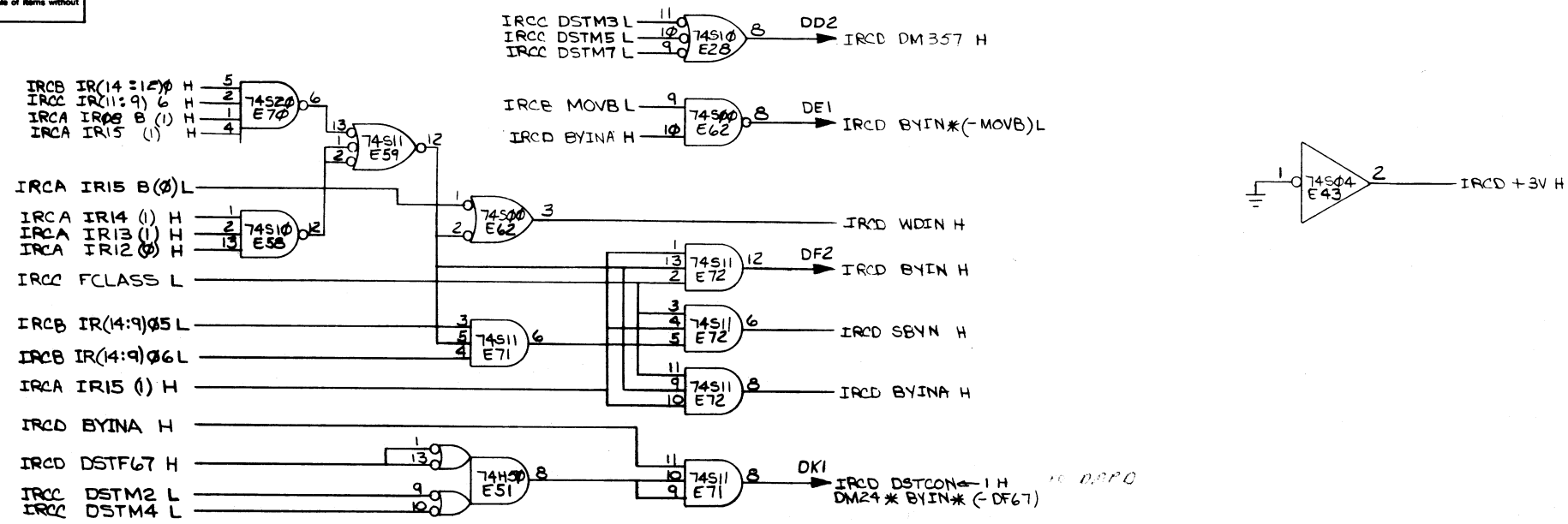
BFOBK; IR DECODERS

SLOT 8

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
1145				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .XXX = .005	CHKD	DATE	TITLE	
ANGLES ±0° 30'	ENG	DATE	IR DECODE & COND. CODES	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROJ. ENG.	DATE	ERIK ERICKSEN	
MATERIAL	PROD.	DATE	2/23/72	
FINISH	NEXT HIGHER ASSY.			
	B-DD-KB11-0	SCALE	SIZE CODE	NUMBER
	SHEET 3 OF 9		D CS	M8102-0-1
			DIST.	REV. C

REVISIONS	NO.	REV.
CHANGE NO.		
CHK		

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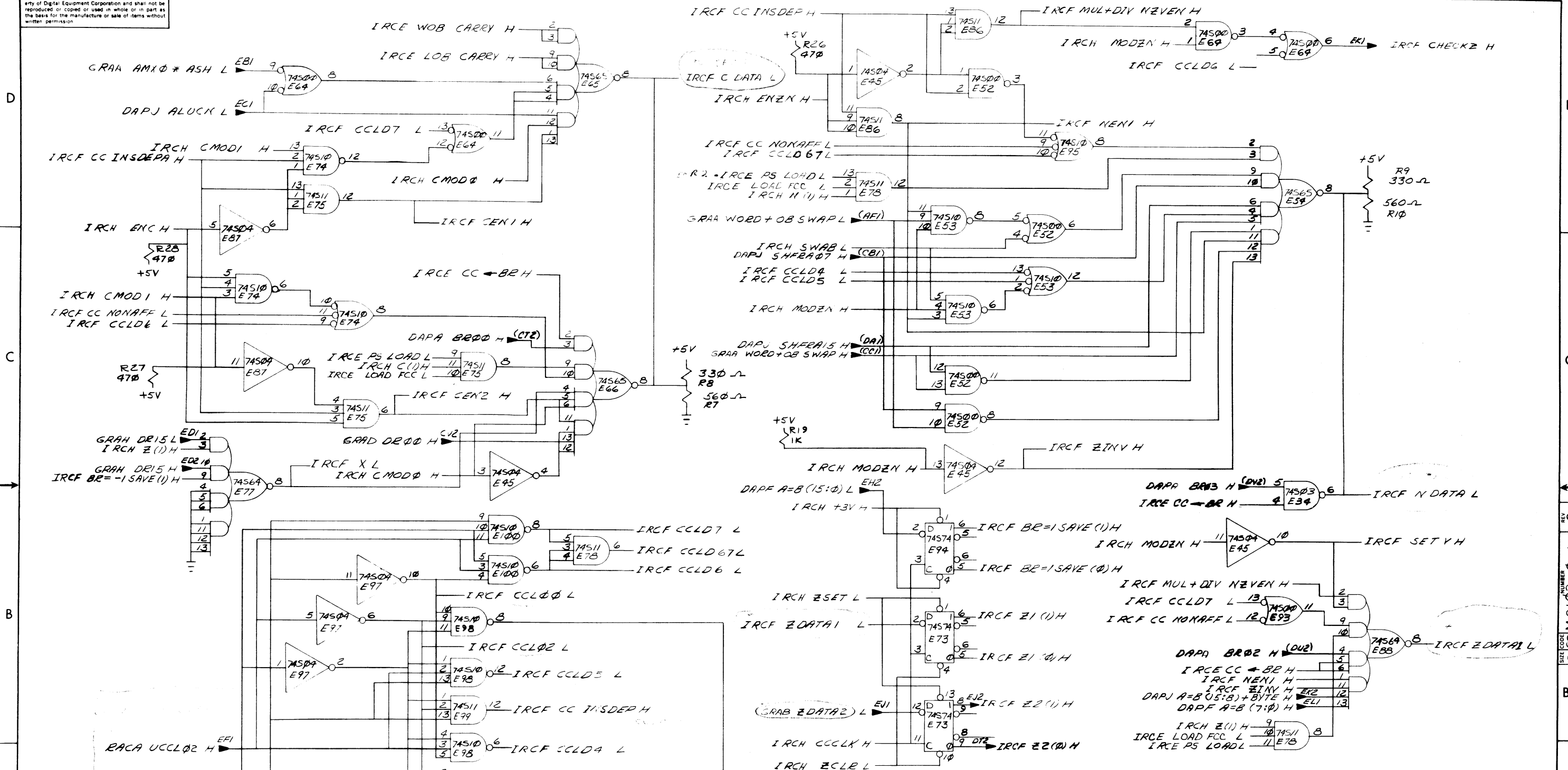


AD1 AD2
 0 3 : DST CON 2
 0 1 : FCLASS 2
 1 2 : FCLASS 2
 1 2 : DST CON 2

INSTRUCTION TRAPS & DESTINATION CONSTANTS				SLOT 8	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES					
DECIMALS	ANGLES	TITLE			
.XXX = .005	± 0° 30'	IR. DECODE & COND. CODES			
.XX = .02		DATE 2/16/72			
.X = .1		DATE 2/16/72			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL		NEXT HIGHER ASSY.		(IRCD)	
FINISH		B-DD-KB11-0		SCALE	
		D CS M8102-Q-1		REV. C	
		SHEET 5 OF 9		DIST.	

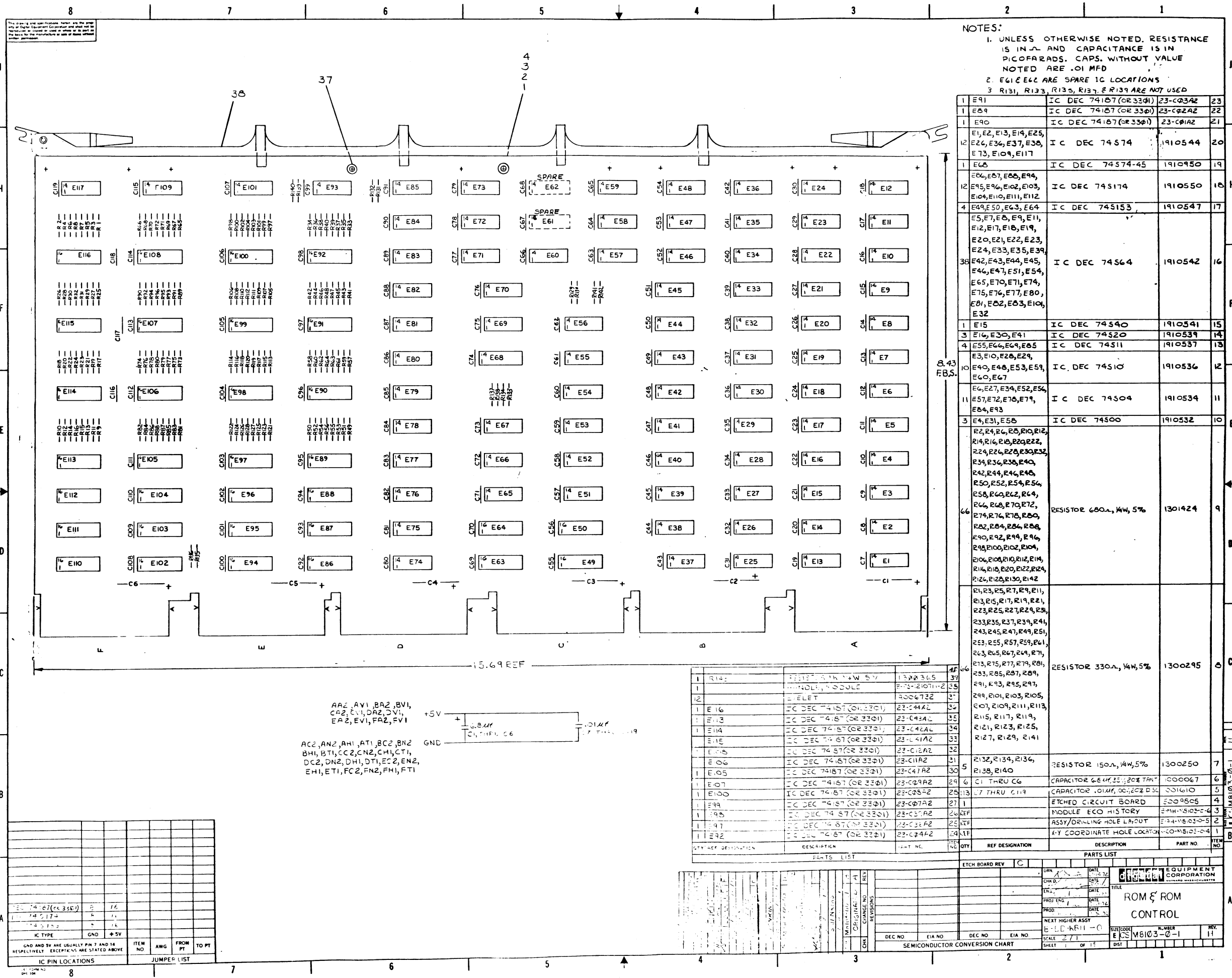
REV	CHANGE NO.

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CONDITION CODES C, N, Z LOGIC		SLOT 8	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO. ITEM NO.
11/45			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES			
DECIMALS	ANGLES	TITLE	
XXX + .005	± 0° 30'	IR DECODE & COND. CODES	
XX + .02		TITLE	
X + .1		IRCF	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		MATERIAL	
		NEXT HIGHER ASSY.	
		B-DD-KB11-0	SIZE CODE NUMBER REV. DCS M 8102-0-1 C
FINISH		SCALE	SHEET 7 OF 9

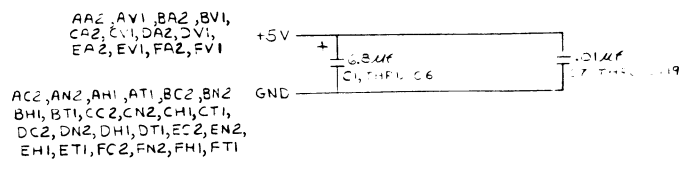
REV.	CHANGE NO.



NOTES:
 1. UNLESS OTHERWISE NOTED, RESISTANCE IS IN Ω AND CAPACITANCE IS IN PICO FARADS. CAPS. WITHOUT VALUE NOTED ARE .01 MFD
 2. E61, E62 ARE SPARE IC LOCATIONS
 3. R131, R133, R135, R137, R139 ARE NOT USED

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	E91	IC DEC 74107 (OR 3301)	23-CQ342	23
1	E89	IC DEC 74107 (OR 3301)	23-CQ2A2	22
1	E90	IC DEC 74107 (OR 3301)	23-CQ1A2	21
12	E1, E2, E13, E14, E25, E26, E36, E37, E38, E73, E109, E117	IC DEC 74574	1910544	20
1	E68	IC DEC 74574-45	1910950	19
12	E86, E87, E88, E94, E95, E96, E102, E103, E104, E110, E111, E112	IC DEC 745174	1910550	18
4	E49, E50, E43, E64	IC DEC 745153	1910547	17
38	E5, E7, E8, E9, E11, E12, E17, E18, E19, E20, E21, E22, E23, E24, E33, E35, E39, E42, E43, E44, E45, E46, E47, E51, E54, E65, E70, E71, E74, E75, E76, E77, E80, E81, E82, E83, E106, E32	IC DEC 74564	1910542	16
1	E15	IC DEC 74540	1910541	15
3	E16, E30, E41	IC DEC 74520	1910539	14
4	E55, E64, E69, E85	IC DEC 74511	1910537	13
10	E3, E10, E28, E29, E40, E48, E53, E59, E60, E67	IC DEC 74510	1910536	12
11	E6, E27, E34, E52, E56, E57, E72, E78, E79, E84, E93	IC DEC 74504	1910534	11
3	E4, E31, E58	IC DEC 74500	1910532	10
66	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64, R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, E92, R94, R96, R98, R100, R102, R104, R106, R108, R110, R112, R114, R116, R118, R120, R122, R124, R126, R128, R130, R142	RESISTOR 600Ω, 1/4W, 5%	1301424	9
66	R1, R3, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31, R33, R35, R37, R39, R41, R43, R45, R47, R49, R51, R53, R55, R57, R59, R61, R63, R65, R67, R69, R71, R73, R75, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103, R105, R107, R109, R111, R113, R115, R117, R119, R121, R123, R125, R127, R129, R141	RESISTOR 330Ω, 1/4W, 5%	1300295	8
5	R132, R134, R136, R138, R140	RESISTOR 150Ω, 1/4W, 5%	1300250	7
6	C1 THRU C6	CAPACITOR 6.0µF, 50V, 20% TANT	1000067	6
5	C7 THRU C19	CAPACITOR .01µF, 50V, 20% DSC	201610	5
4		ETCHED CIRCUIT BOARD	3009505	4
3		MODULE ECO HISTORY	344-18102-2-4	3
2		ASSY/DRILLING HOLE LAYOUT	344-18103-2-4	2
1		KY COORDINATE HOLE LOCATION	344-18103-2-4	1

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
47	R142	RESISTOR 1K 1/4W 5%	1300365	37
1		HANDLE, MODULE	344-21011-2	35
1		WIRELET	3006732	37
1	E16	IC DEC 74107 (OR 3301)	23-C44A2	34
1	E13	IC DEC 74107 (OR 3301)	23-C42A2	33
1	E14	IC DEC 74107 (OR 3301)	23-C44A2	34
1	E15	IC DEC 74107 (OR 3301)	23-C41A2	33
1	E18	IC DEC 74107 (OR 3301)	23-C12A2	32
1	E16	IC DEC 74107 (OR 3301)	23-C11A2	31
1	E15	IC DEC 74107 (OR 3301)	23-C17A2	30
1	E17	IC DEC 74107 (OR 3301)	23-CQ9A2	29
1	E100	IC DEC 74107 (OR 3301)	23-CQ5A2	28
1	E99	IC DEC 74107 (OR 3301)	23-CQ7A2	27
1	E95	IC DEC 74107 (OR 3301)	23-C37A2	26
1	E97	IC DEC 74107 (OR 3301)	23-C35A2	25
1	E92	IC DEC 74107 (OR 3301)	23-CQ4A2	24



IC TYPE	GND	+5V	FROM PT	TO PT
74107 (OR 3301)	2	16		
74107 (OR 3301)	4	11		
74107 (OR 3301)	16	16		

ETCH BOARD REV C

DATE: 10-27-74

CHANGED BY: [Signature]

DATE: 10-27-74

PROJ ENG: [Signature]

DATE: 10-27-74

PROD: [Signature]

DATE: 10-27-74

NEXT HIGHER ASSY: B-L-K-111-0

SCALE: 2/1

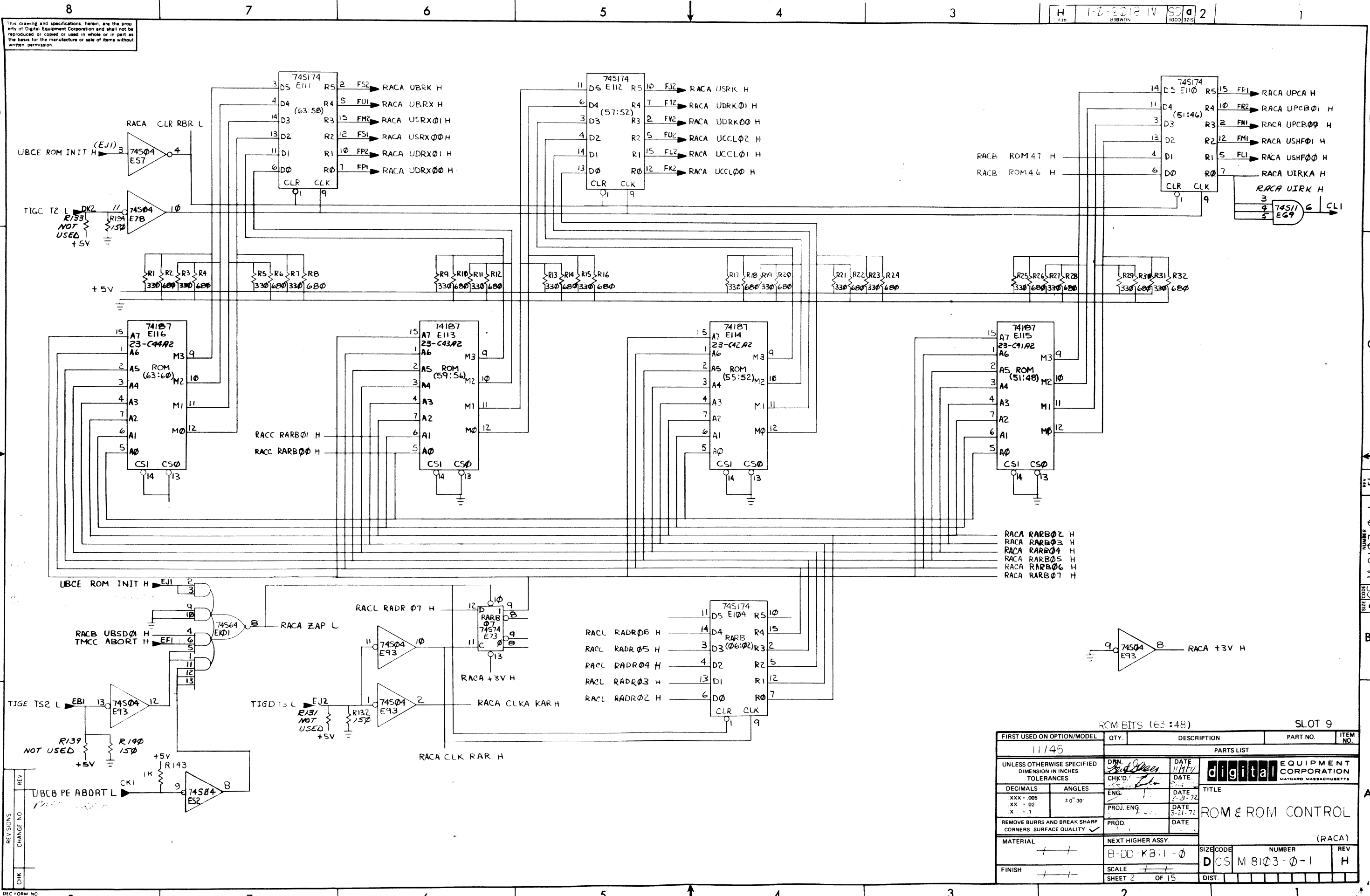
SHEET 1 OF 1

SEMICONDUCTOR CONVERSION CHART

DATE: 10-27-74

BY: [Signature]

REV: 11



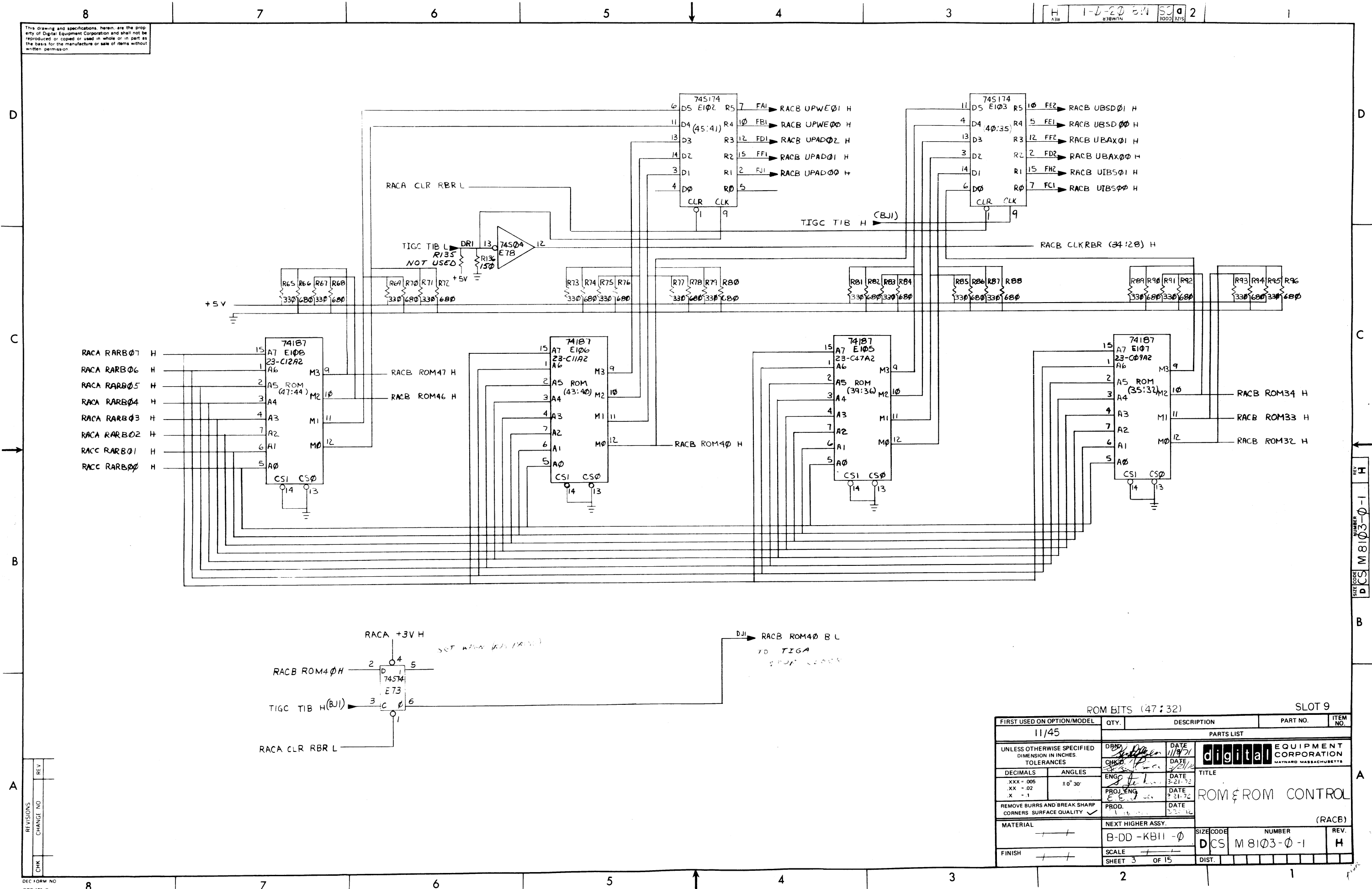
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REV	CHANGE NO.	DESCRIPTION

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES					
DECIMALS	ANGLES	DRN.	DATE	PARTS LIST	
.XX = .02	± 0° 30'	CHK'D.	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
.X = .1		ENG.	DATE	TITLE	
		PROJ. ENG.	DATE	ROM & ROM CONTROL	
		PROD.	DATE	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	
MATERIAL	NEXT HIGHER ASSY.	(RACA)			
	B-DD-KB:1-0	SIZE CODE	NUMBER	REV	
FINISH	SCALE	DCS	M 8103-0-1	H	
	SHEET 2 OF 15	DIST.			

REV H
NUMBER M 8103-0-1
SIZE CODE DCS

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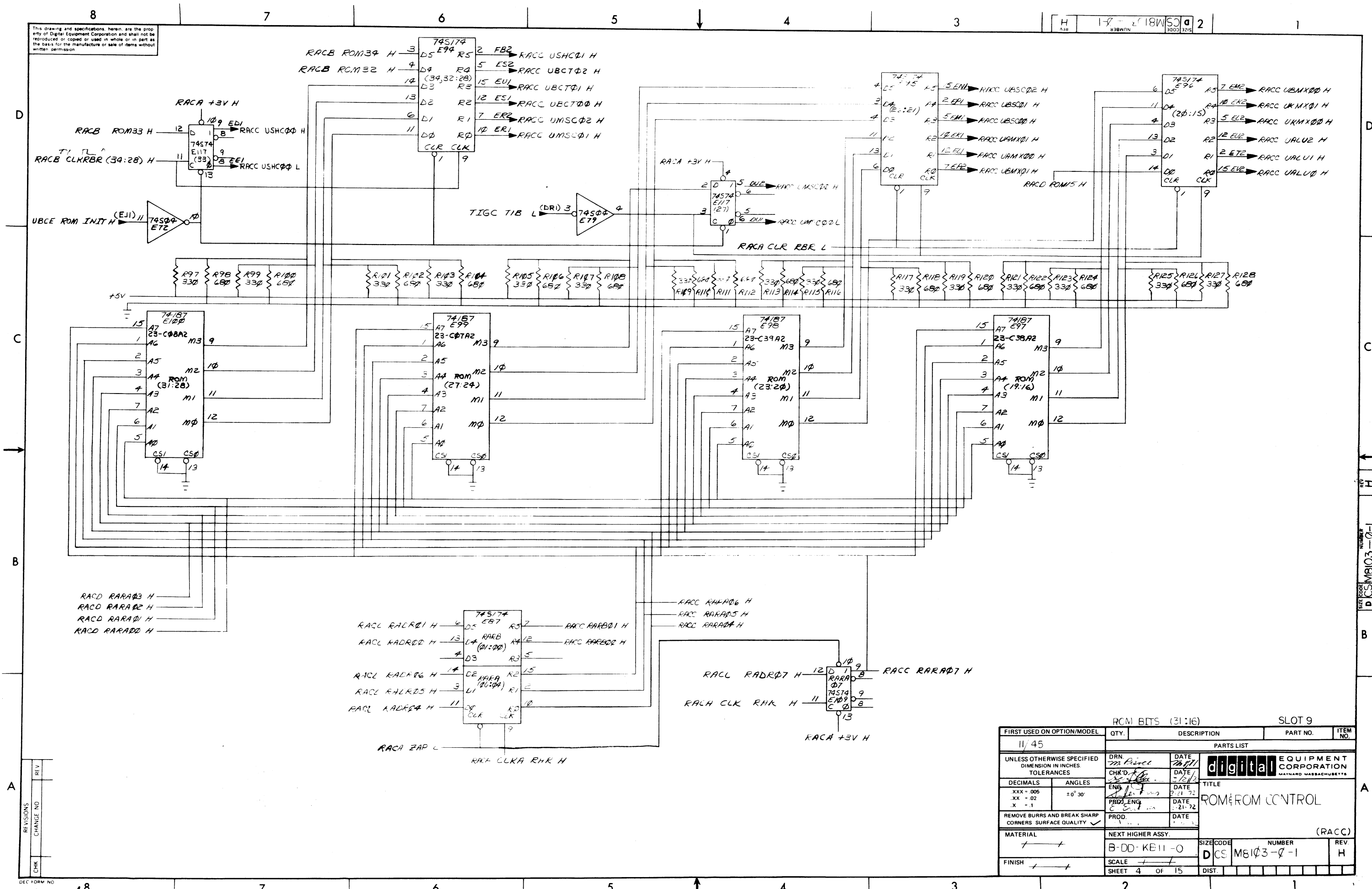
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE 11/19/71	 digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
		CHKD	DATE 2/11/72		
DECIMALS .XXX = .005	ANGLES ±0° 30'	ENG	DATE 3-21-72	TITLE ROM & ROM CONTROL (RACB)	
XX = .02		PROJ. ENG	DATE 2-21-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE 2-20-72		
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
		B-DD-KB11-φ		DCS	M 8103-φ-1
FINISH		SCALE		DIST.	REV.
		3 OF 15			H

REVISIONS	CHK	CHANGE NO.	REV.

REV. H
 NUMBER DCS M 8103-φ-1

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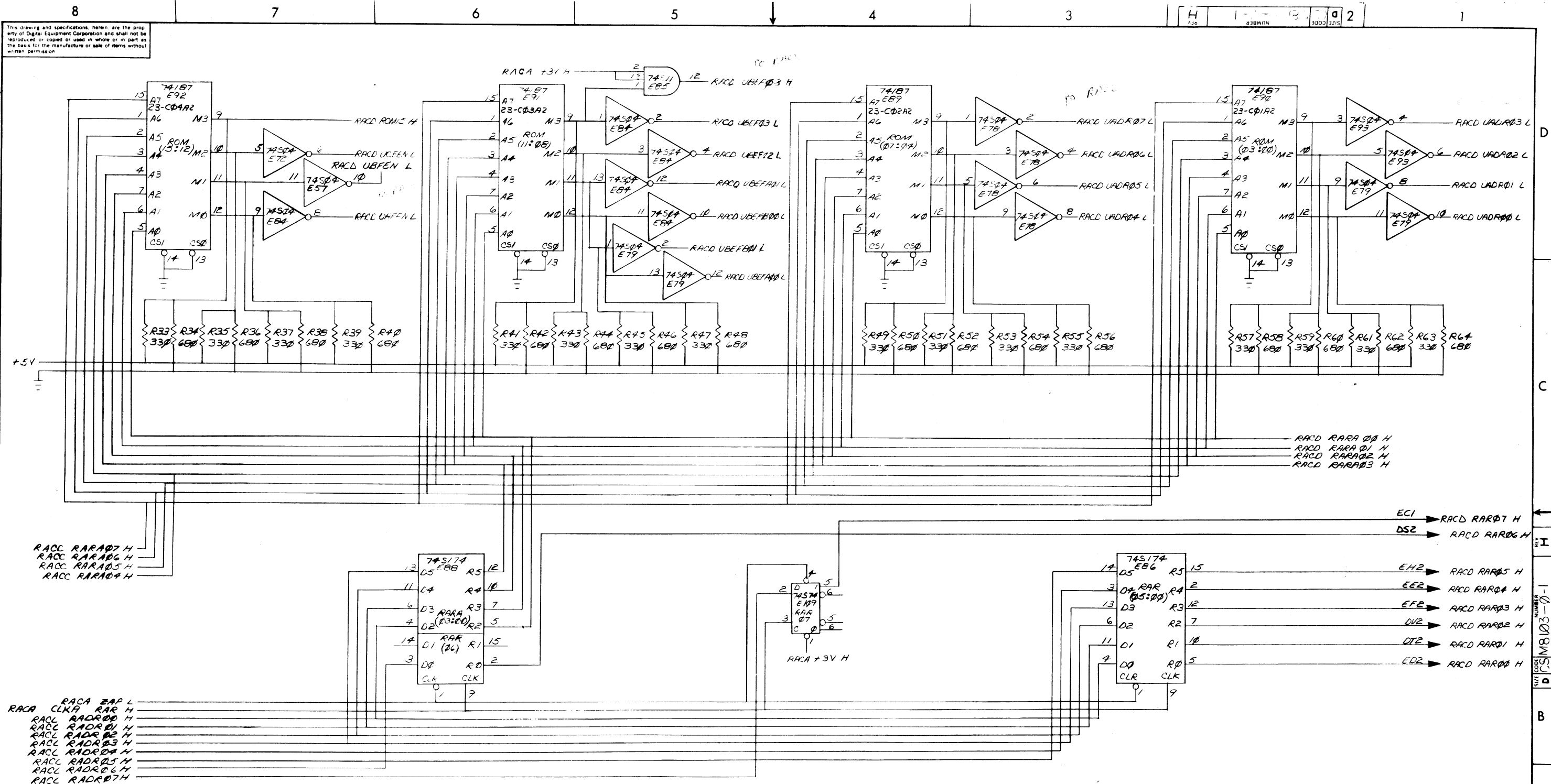
H 17-218W SCD 2



REV	
CHG	
NO	

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION	
DECIMALS ANGLES		CHK'D	DATE	MAYNARD MASSACHUSETTS	
XXX = .005	±0° 30'	ENG	DATE	TITLE	
XX = .02		PRD. ENG	DATE	ROM ROM CONTROL	
X = .1		PROD.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL		NEXT HIGHER ASSY.		(RACC)	
FINISH		B-DD-KE11-0	SIZE CODE	NUMBER	REV.
		SCALE	DCS	M8103-0-1	H
SHEET 4 OF 15		DIST.			

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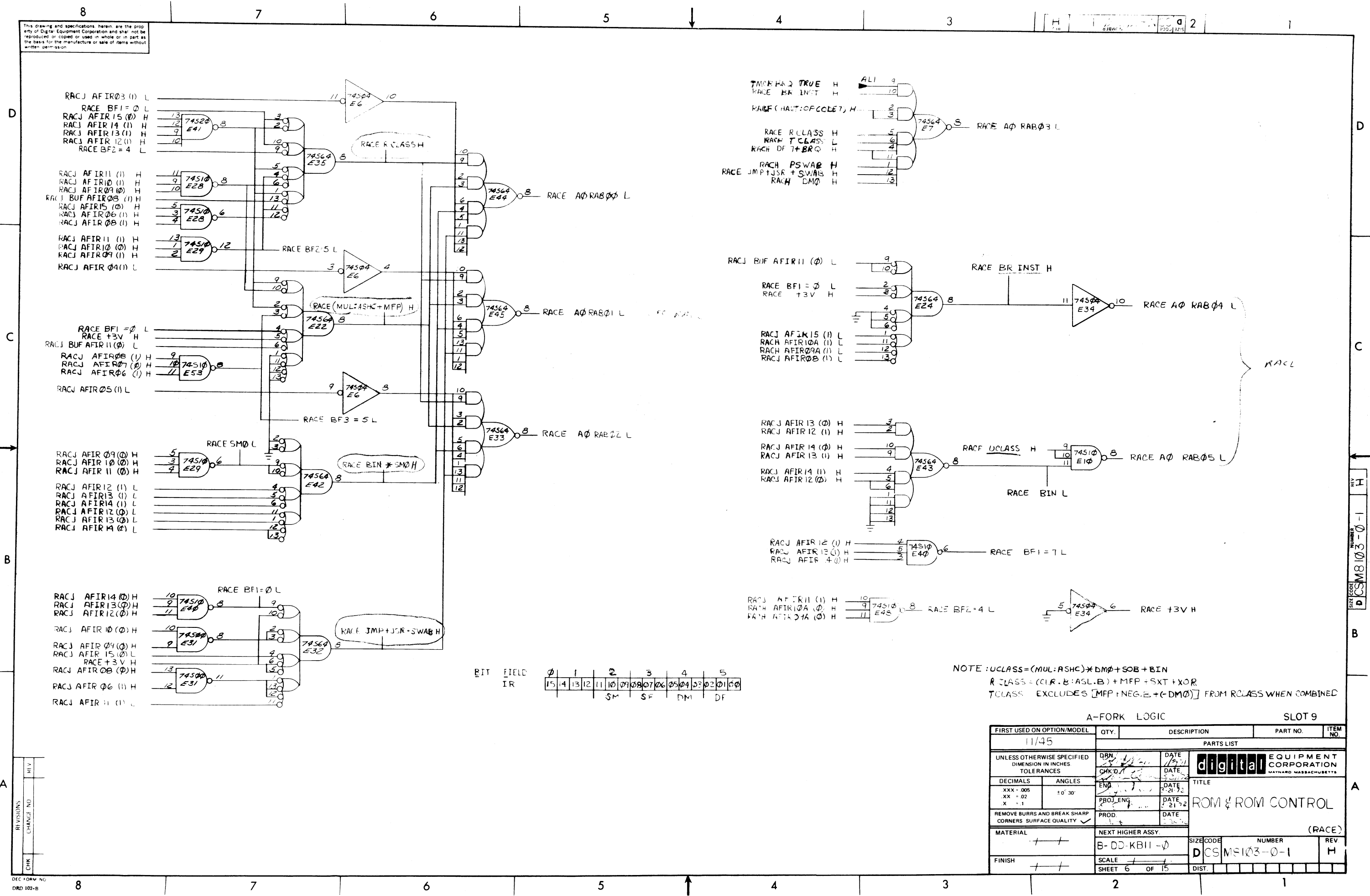
REV
CHG
NO
DATE

FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO	ITEM NO
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES					
DECIMALS	ANGLES	DRN		DATE	digital EQUIPMENT CORPORATION TITLE ROM & CONTROL SHEET 1 OF 1
XXX = .005	XX = .02	CHK	DATE		
X = .1	± 0.30	ENG	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROJ ENG	DATE		
MATERIAL		NEXT HIGHER ASSY		SIZE CODE	REF
FINISH		B-DD-RSH		D	1
		SCALE		DIS	
		SHEET			

REV
NO
DATE

REV

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FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION <small>WATYARD MASSACHUSETTS</small>	
DECIMALS		CHK'D	DATE		
ANGLES		ENG	DATE		
XXX = .005 XX = .02 X = .1		PROJ. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	TITLE ROM & ROM CONTROL (RACE)	
MATERIAL		NEXT HIGHER ASSY.			
FINISH		SCALE		SIZE CODE	NUMBER
		SHEET 6 OF 15		D	CSMS103-0-1
				DIST.	REV. H

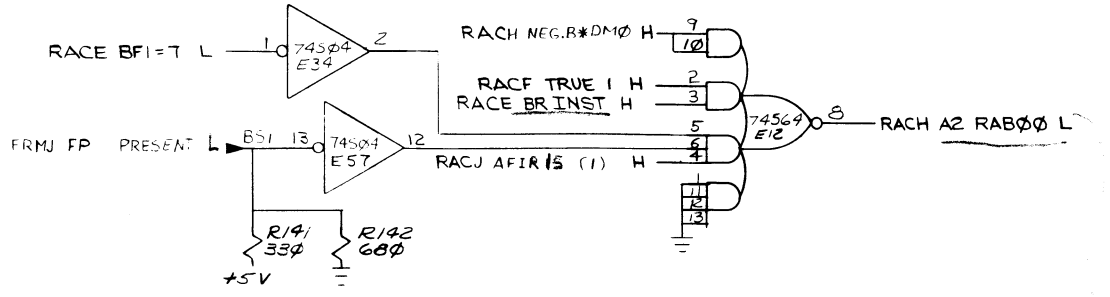
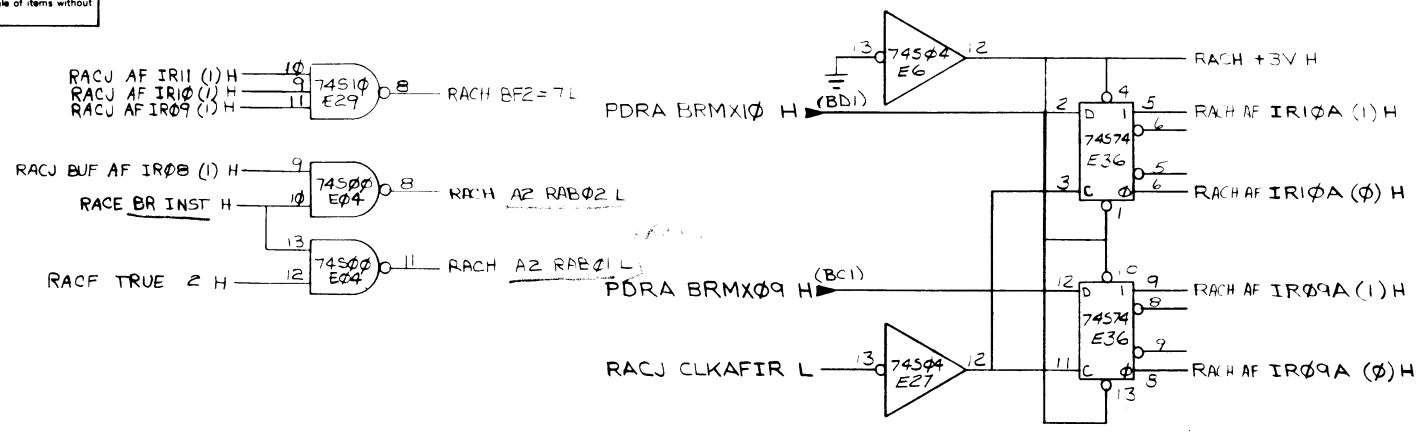
REV	
CHG	
CHK	

SIZE CODE NUMBER
 DCSMS103-0-1

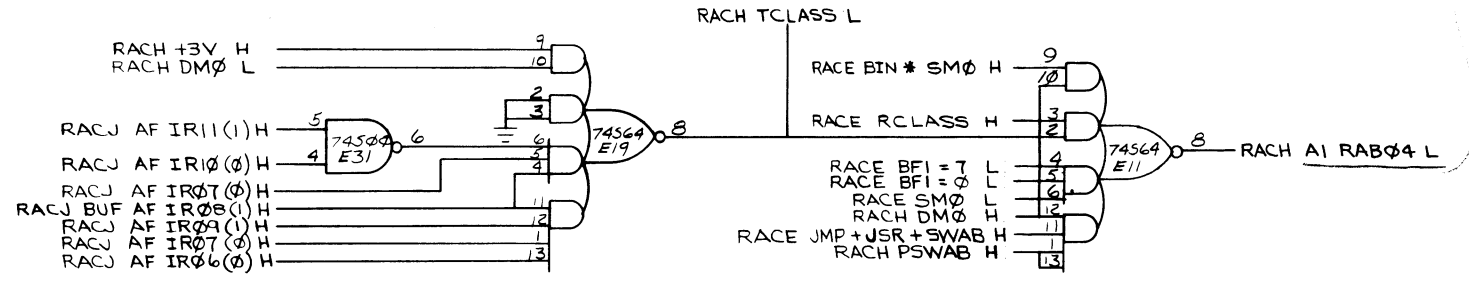
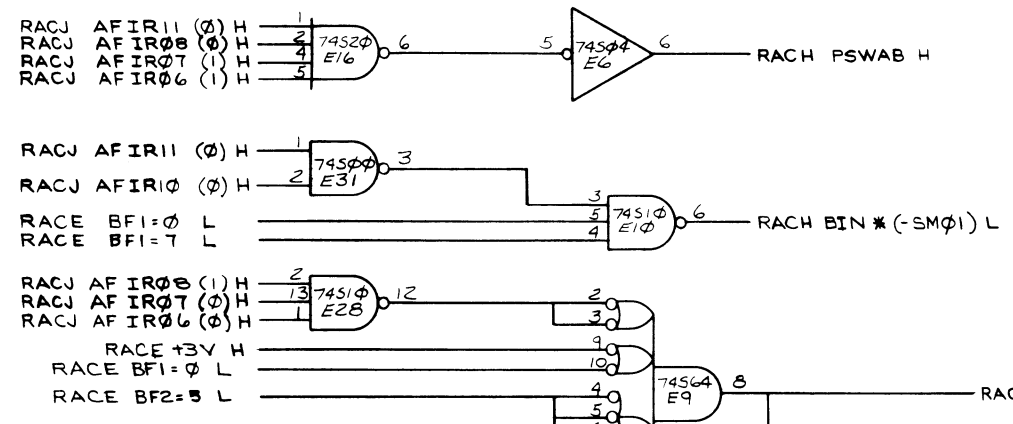
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1-7-2010
 H 1-7-2010
 1-7-2010
 1-7-2010

D

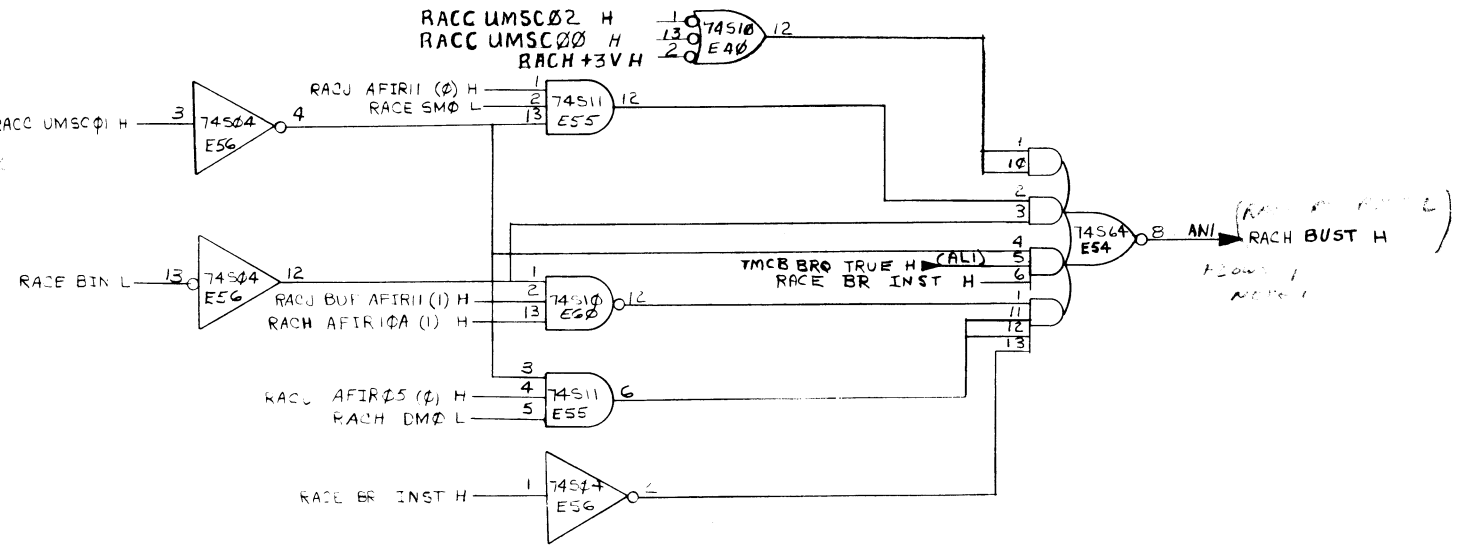
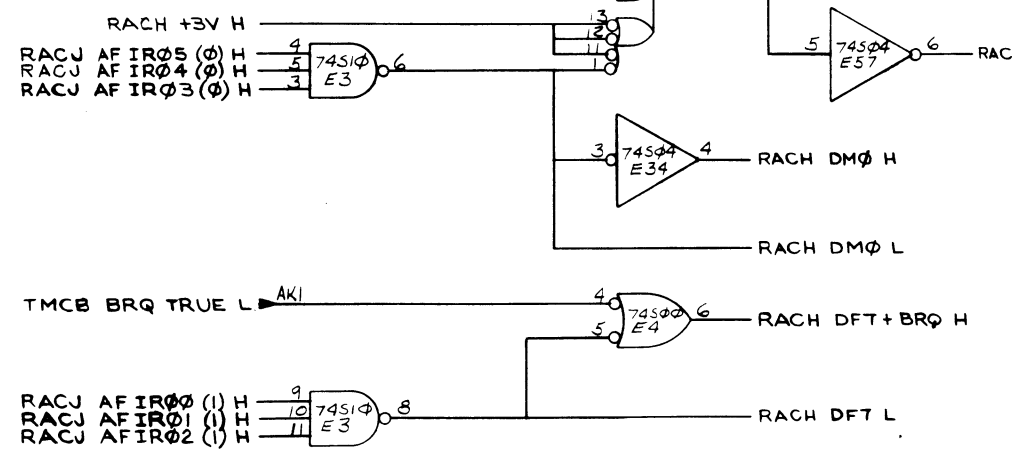


C



$RCLASS = (CLR.B:ASL.B) + MFP + SXT + XOR$
 $TCLASS \text{ EXCLUDES } C:MFP + NEG.B + (-DM0) \text{ FROM } RCLASS$

B

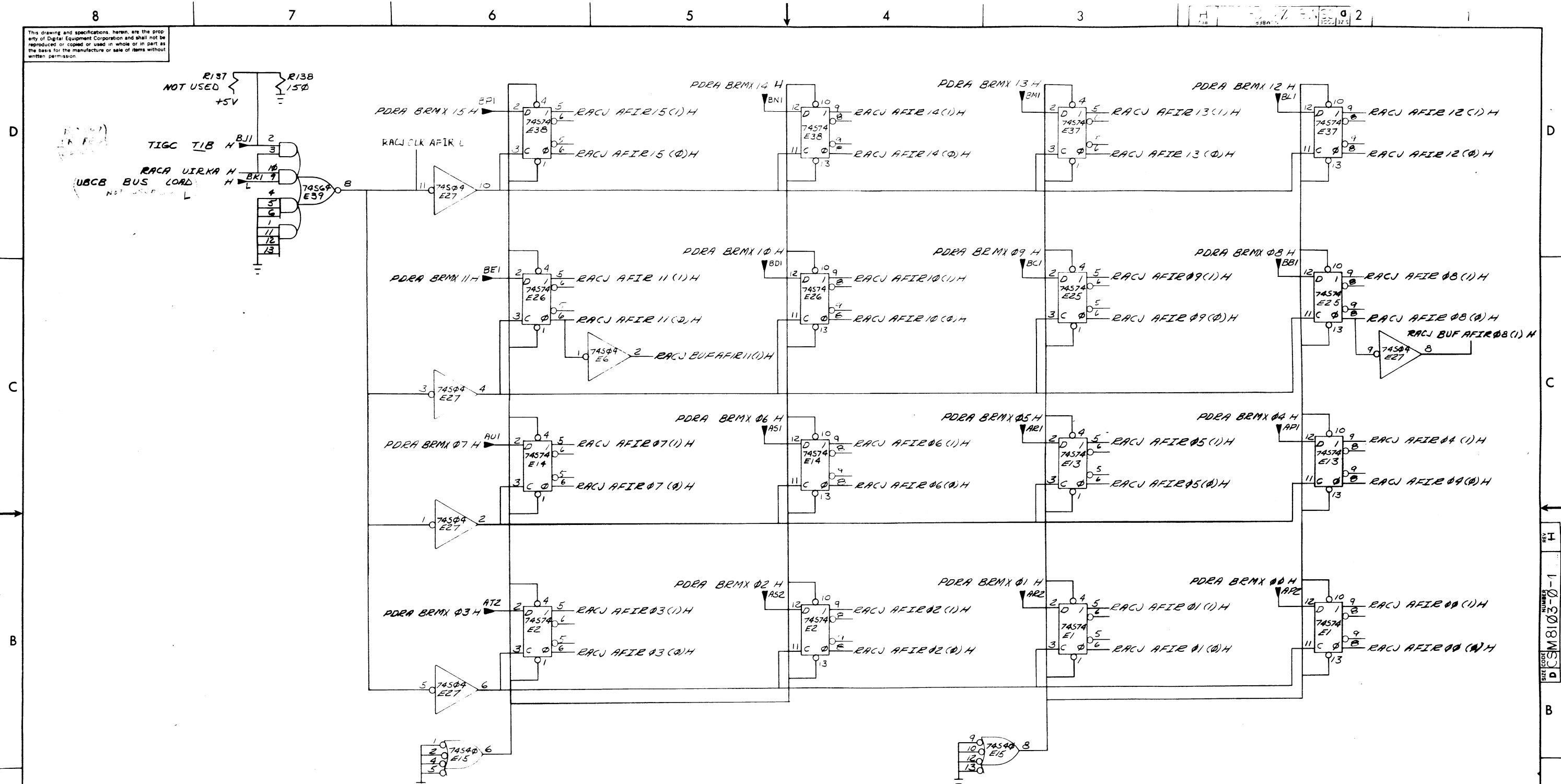


A

REV	CHG	NO	DATE

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.	DRN	DATE	digital EQUIPMENT CORPORATION		
TOLERANCES	CHKD	DATE	MAYNARD MASSACHUSETTS		
DECIMALS	ENG	DATE	TITLE		
ANGLES	PROJ. ENG.	DATE	ROM & ROM CONTROL		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD.	DATE	(RACH)		
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE	NUMBER	REV.
			B-DD-KB11 0	DCS MB103-0-1	H
FINISH	SCALE		SHEET	OF	
			8	15	

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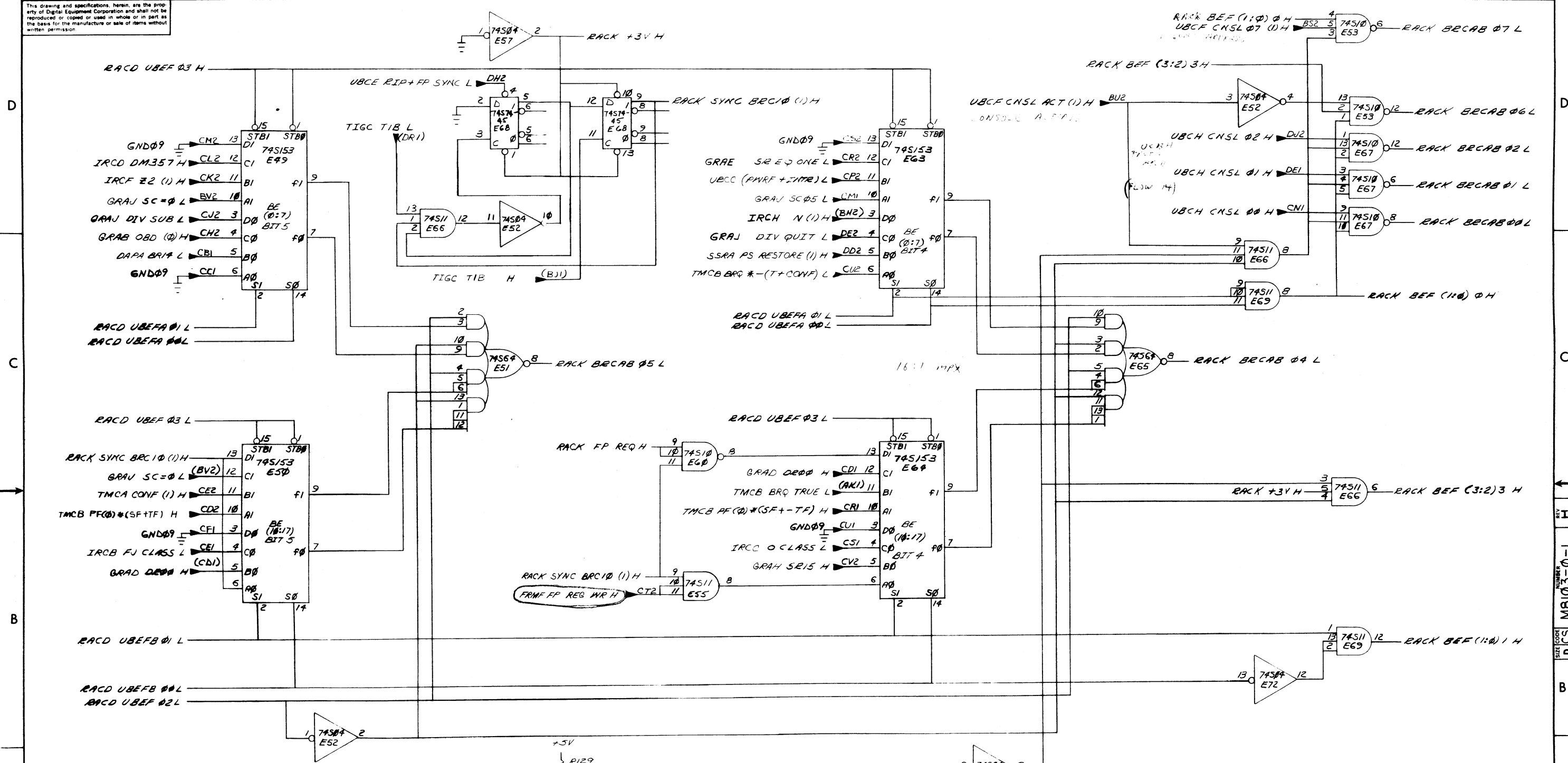


AFIR
INSTRUCTION REG. (A-FORK COPY) SLOT 9

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
1/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.	DRN. <i>[Signature]</i>	DATE 7-7-71	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
TOLERANCES	CHK'D <i>[Signature]</i>	DATE 7-11-71		
DECIMALS	ENG. <i>[Signature]</i>	DATE 2-21-72	TITLE ROM & ROM CONTROL (RAC J)	
ANGLES	PROJ. ENG. <i>[Signature]</i>	DATE 2-21-72		
XXX = .005 .XX = .02 .X = .1	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. <i>[Signature]</i>	DATE 2-25-72	
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE NUMBER REV.		
FINISH	B-DD-KB11 -0	DCSM8103-0-1		H
	SCALE	SHEET 9 OF 15		
		DIST.		

REVISIONS	REV.
CHANGE NO.	
CHK.	

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REV	CHANGE NO

DEC FORM NO DDD 102-B

74S153		
SI	SΦ	OUTPUT
L	L	A → F
L	H	B → F
H	L	C → F
H	H	D → F
STB=L		
STB=H	X	X

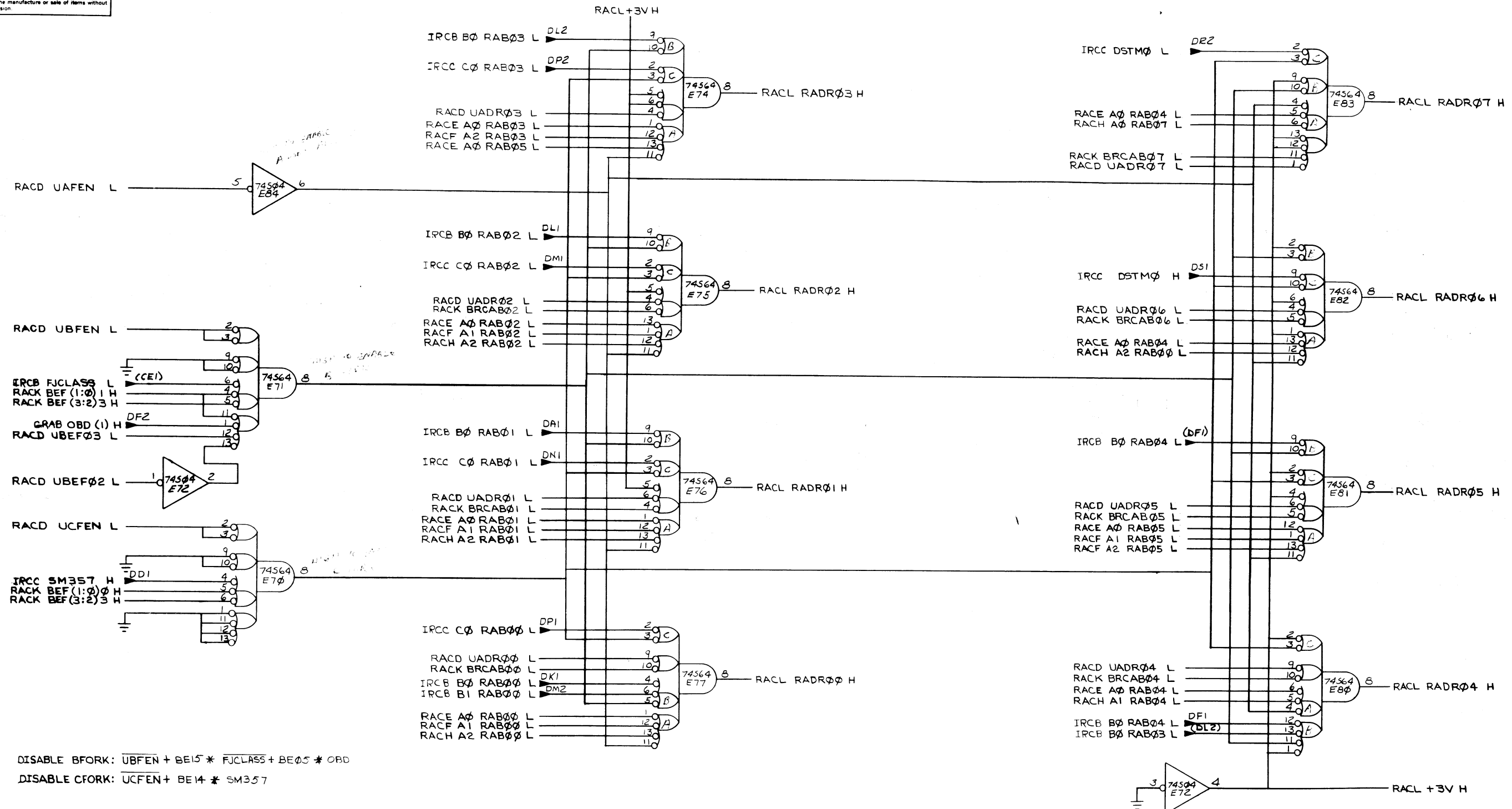
BRANCH CONDITIONS (ROM ADDRESS MODIFICATION)		SLOT 9	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO. ITEM NO.
11/45			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN. <i>A. J. ...</i>	DATE 7-8-71
DECIMALS	ANGLES	CHK'D <i>...</i>	DATE 3-21-72
.xxx + .005	±0° 30'	ENG. <i>...</i>	DATE 8-21-72
.x + .1		PROJ. ENG. <i>...</i>	DATE 3-21-72
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD. <i>...</i>	DATE 3-20-72
MATERIAL	NEXT HIGHER ASSY.	TITLE ROM & ROM CONTROL	
FINISH	B-DD-KB11-0	SIZE CODE DCS	NUMBER M8103-0-1
	SCALE	DIST.	REV. H
	SHEET 10 OF 15		

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H 1-0-8218WCS 2

D
C
B
A

D
C
B
A



DISABLE BFORK: $\overline{UBFEN} + BE15 * \overline{FJCLASS} + BE05 * \overline{OBD}$
 DISABLE CFORK: $\overline{UCFEN} + BE14 * \overline{SM357}$

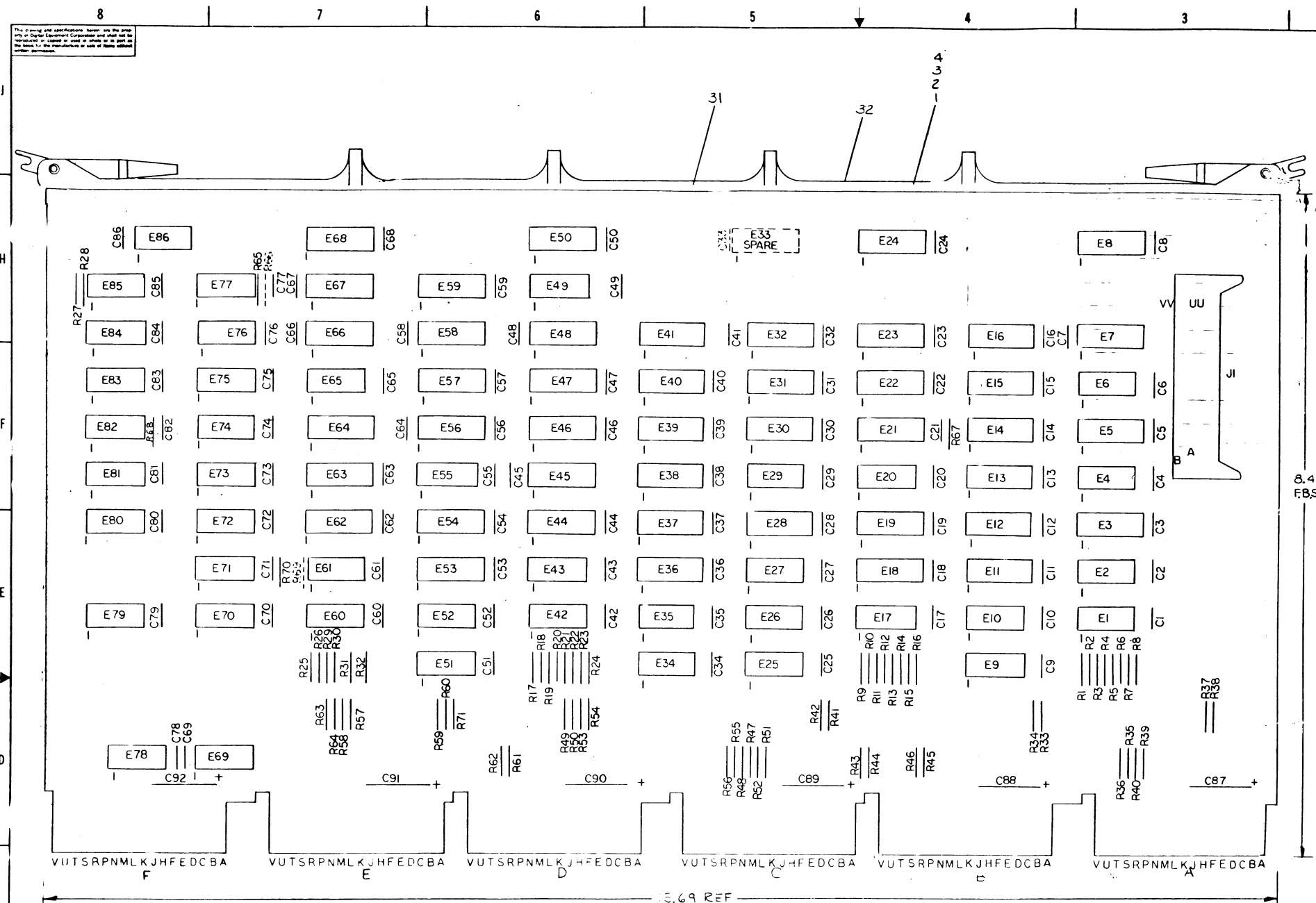
ROM ADDRESS SELECTION				SLOT 9	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE		
DECIMALS	ANGLES	CHKD	DATE		
.xxx = .005	10° 30'	ENG	DATE	TITLE ROM & ROM CONTROL	
.xx = .02		PROL ENG	DATE		
.x = .1		ENG	DATE	MATERIAL NEXT HIGHER ASSY.	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
FINISH		PROD.	DATE	SHEET 11 OF 15 DIST.	

REV.	CHANGE NO.	NO.

AD	BR	BR	SR	DR	SR	DR	SR	DR	SR	PC	PC	SH	IR	PK	PW	PA	BS	BS	AM	BM	KM	AL	FE	BE	UN
13	SVC	90	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3	5	3	0	0	0	0	00 217	
3	NEG	70	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 210	
12	ZAP	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 154	
14	DEP	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 230	
11	MFP	90	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
7	ASH	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
7	ASC	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 217	
14	RDP	10	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 207	
8	MUL	60	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
6	D10	50	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
5	D12	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
9	DIV	60	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
14	RAD	10	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 230	
12	ZAP	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 302	
4	FOP	70	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 302	
2	S13	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 316	
1	BXX	00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 143	
1	FET	11	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 217	
1	FET	12	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 343	
9	DIV	80	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 343	
1	FET	13	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 125	
1	BXX	01	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 343	
1	BXX	02	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 217	
3	HLT	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 217	
1	BXX	03	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 124	
1	FET	01	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 217	
1	FET	02	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 240	
12	PUP	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 240	
1	FET	03	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 340	
1	BXX	04	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 217	
1	BXX	05	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 217	
13	XXX	XX	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 337	

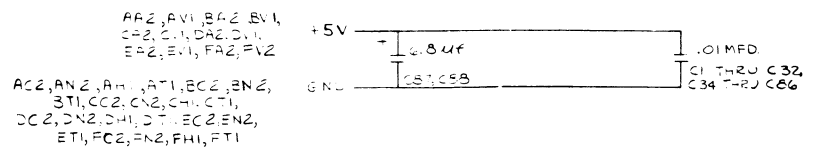
AD	BR	BR	SR	DR	SR	DR	SR	DR	SR	PC	PC	SH	IR	PK	PW	PA	BS	BS	AM	BM	KM	AL	FE	BE	UN
12	PUP	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 341	
12	PUP	40	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 215	
2	RTS	30	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	00 217	
1	IRD	00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 377	
12	SER	10	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 140	
12	RSD	10	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 354	
9	DIV	40	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 313	
12	PUP	10	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 333	
10	DVC	70	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	00 164	
10	DVC	80	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 220	
12	BRK	01	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 130	
10	DVD	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 145	
12	TRP	10	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	00 355	
13	SVC	00	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	00 065	
1	FET	08	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 240	
13	SVC	20	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 360	
13	SVC	30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 367	
3	SPL	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 240	
4	FOP	60	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 316	
9	DIV	90	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 125	
13	XXX	XX	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 364	
13	XXX	XX	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 365	
9	DIV	50	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 313	
13	SVC	40	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 037	
10	DVC	50	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 351	
10	DVC	60	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 350	
12	ZAP	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	00 315	
1	FET	06	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 240	
3	RES	20	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 334	
4	FOP	90	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 316	
4	FOP	80	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 375	
13	XXX	XX	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	00 377	

DATE	3/23/72	TITLE	ROM & ROM CONTROL
DATE	3/23/72	NUMBER	M 8103-0-1
DATE	3-28-72	SIZE	300-377
DATE	3-28-72	CODE	KCS
DATE	3-30-72	REV.	H
SHEET 15 OF 15			



NOTES:
 1. UNLESS OTHERWISE NOTED RESISTANCE IS IN Ω AND CAPACITANCE IS IN PICO FARADS. CAPS. WITHOUT VALUE NOTED .01 MFD

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1		HANDLE, MODULE	E-PS-1210711-2	32
12		EYELET	9006732	31
1	J1	CONN 40PIN BERG	1209941	30
2	E47, E59	IC DEC 74175	1910651	29
4	E6, E24, E50, E68	IC DEC 7485	1910224	28
12	E11, E13, E15, E18, E22, E34, E38, E45, E53, E57, E63, E67	IC DEC 74S174	1910550	27
1	E31	IC DEC 74S157	1910546	26
24	E3, E5, E7, E12, E14, E16, E19, E21, E23, E28, E30, E32, E37, E39, E41, E44, E46, E48, E54, E56, E58, E62, E64, E66	IC DEC 74S153	1910547	25
7	E6, E49, E69, E80, E82, E83, E85	IC DEC 74S74	1910544	24
1	E79	IC DEC 74S40	1910541	23
1	E71	IC DEC 74S20	1910539	22
8	E4, E10, E29, E35, E52, E55, E45, E75	IC DEC 74S04	1910534	21
2	E20, E17	IC DEC 74S11	1910537	20
3	E70, E73, E86	IC DEC 74S10	1910536	19
1	E72	IC DEC 74S00	1910532	18
1	E40	IC DEC 9318	1910454	17
8	E9, E17, E25, E34, E51, E78, E81, E84	IC DEC 74H01	1909844	16
4	E1, E26, E42, E60	IC DEC 8881	1909705	15
4	E2, E27, E43, E61	IC DEC 380	1909485	14
1	E74	IC DEC 74H50	1909060	13
1	E76	IC DEC 74H40	1905586	12
1	R68	RESISTOR 390 Ω , 1/4W, 5%	1300309	11
1	R67	RESISTOR 100 Ω , 1/4W, 5%	1301322	10
3	R65, E70, R71	RESISTOR 150 Ω , 1/4W, 5%	1300250	9
32	R1, R3, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31, R33, R35, R37, R39, R41, R43, R45, R47, R49, R51, R53, R55, R57, R59, R61, R63	RESISTOR 330 Ω , 1/4W, 5%	1300245	8
32	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R52, R54, R56, R58, R60, R62, R64	RESISTOR 680 Ω , 1/4W, 5%	1301424	7
65	C1 THRU C32, C34 THRU C86	CAPACITOR .01MFD 50V 20% AXIAL	1001610	6
6	C87 THRU C92	CAPACITOR 6.8MFD 35V 10%	1005306	5
1		ETCHED CIRCUIT BOARD	5009804	4
1		MODULE ECO HISTORY	2-MH-YS104-06	3
1		ASSY/DRILLING -OLE LAYOUT	DRH-MS104-0-5	2
1		X-Y COORDINATE HOLE LOCATION	K-CO-MS104-0-4	1



IC TYPE	GND	+5V
DEC 74S153	8	16
DEC 74175	8	16
DEC 7485	8	16
DEC 74S174	8	16
DEC 74S157	8	16
DEC 9318	8	16
IC 380	1	8

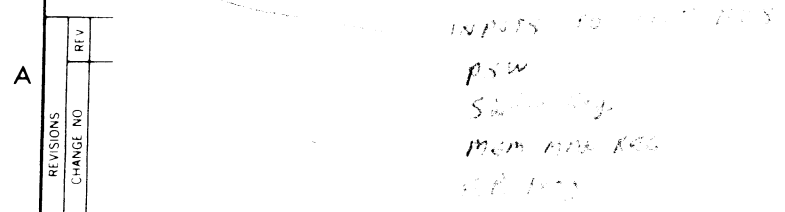
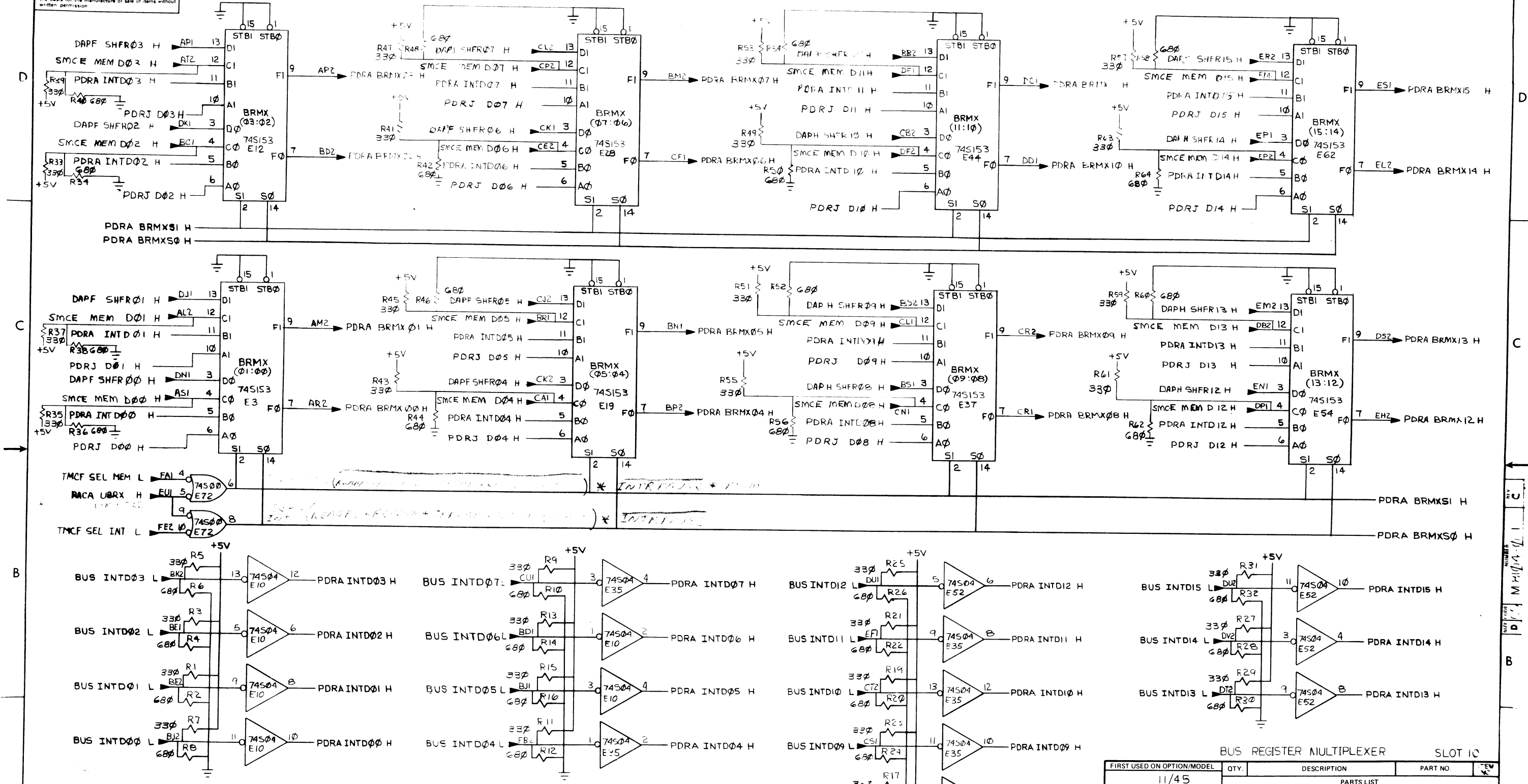
IC PIN LOCATIONS	JUMPER LIST

DATE	BY	REV

DEC NO	EIA NO	DEC NO	EIA NO

EQUIPMENT CORPORATION
 TITLE: PROCESSOR DATA
 UNIBUS REGS.
 NUMBER: E-PS-1210711-2
 REV: C

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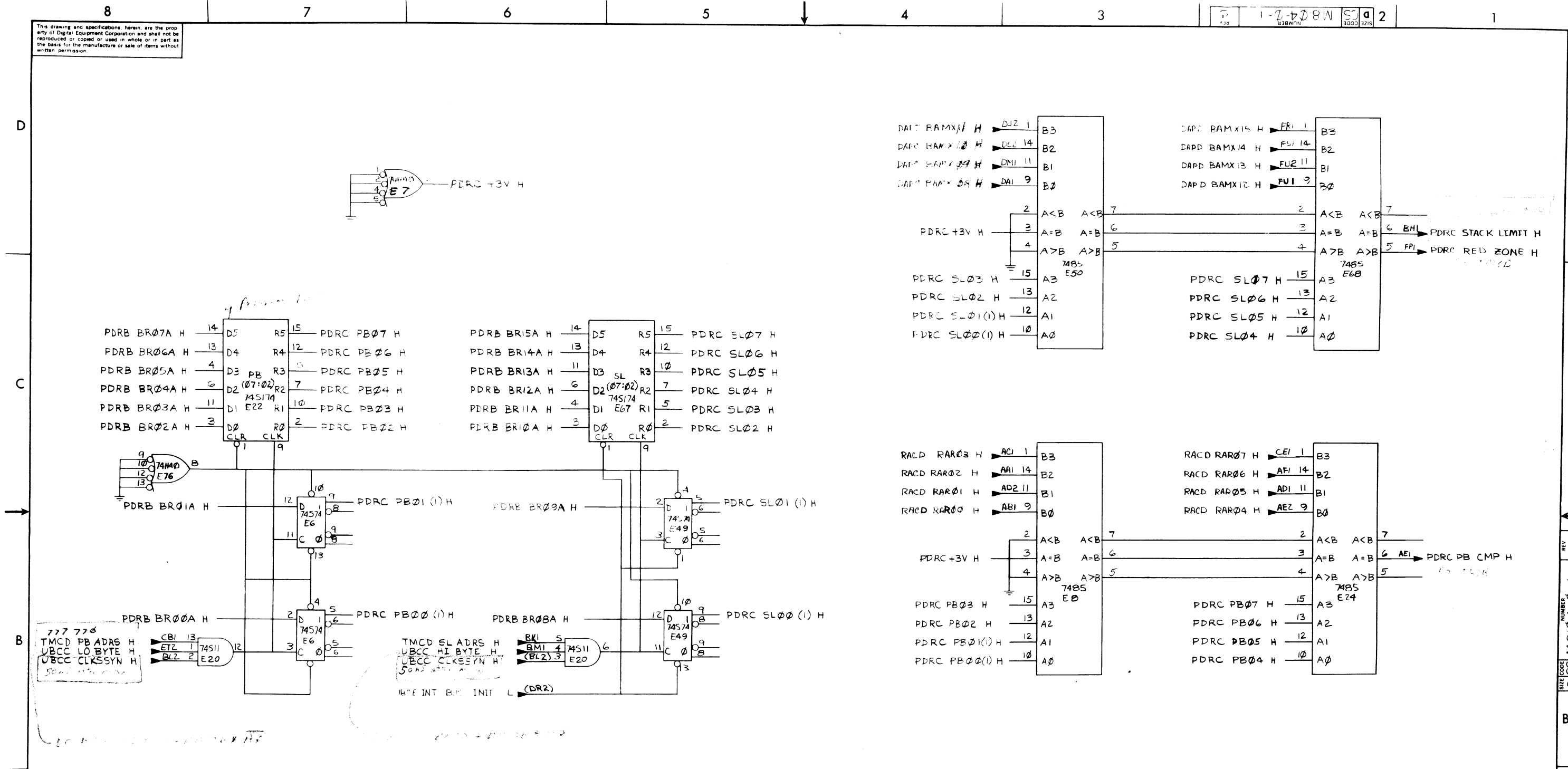


INPUTS TO REGISTER
 PSW
 SMCE MEM
 MEM ADDR REG
 CPU REG

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	REV.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	ANGLES	CHK'D	DATE	TITLE	
XXX - .005	±0° 30'	ENG	7-16-71	PROCESSOR DATA	
		PROJ. ENG.	3/3/72	UNIBUS REGS	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	MATERIAL	
			2-3-72	NEXT HIGHER ASSY	
			3-3-72	SIZE CODE	
				NUMBER	
				FINISH	
				SCALE	
				SHEET	

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1-7-74 8M 2



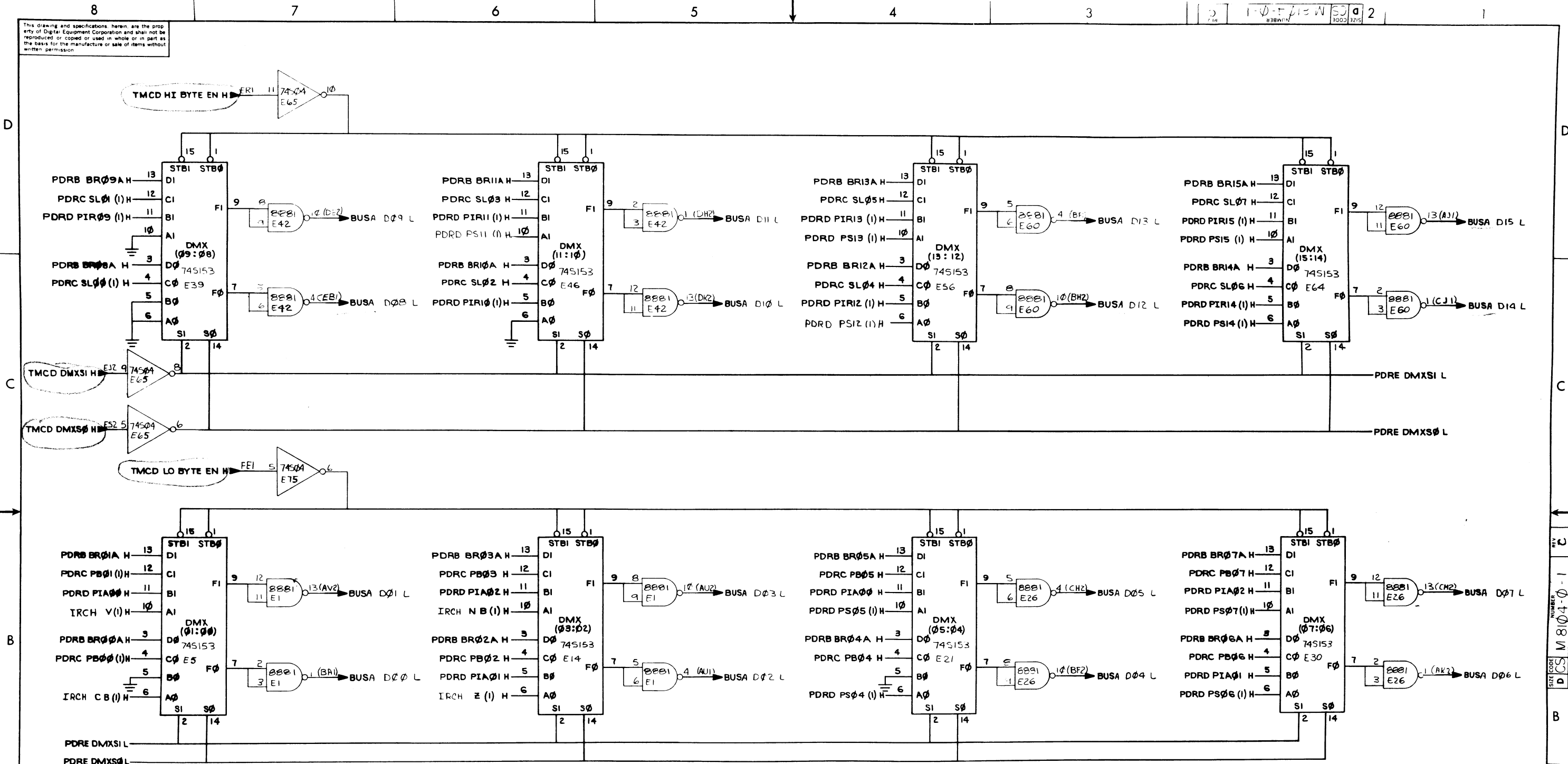
PROGRAM BREAK & STACK LIMIT REGISTERS SLOT 10

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN <i>[Signature]</i>	DATE 7/21/71	<p>digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS</p> <p>TITLE PROCESSOR DATA & UNIBUS REGS</p>
DECIMALS .xxx = .005 .xx = .02 .x = .1	ANGLES 10° 30'	CHK'D <i>[Signature]</i>	DATE 3/3/72	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		ENG <i>[Signature]</i>	DATE 3-3-72	
		PROJ. ENG. <i>[Signature]</i>	DATE 3-3-72	
		PROD. <i>[Signature]</i>	DATE 3-15-72	
MATERIAL	NEXT HIGHER ASSY.	(PDR)		
FINISH	B-DD-11/45-0	SIZE CODE	NUMBER	REV.
	SCALE	DCS	M 8104-1-1	C
	SHEET 4 OF 9	DIST.		

REV	CHANGE NO	REVISIONS

REV C
NUMBER M8104-1-1
SIZE CODE DCS

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DMXSI = (PS + PIRANS) * DA - 20X * DMXSISET
 DMXSI = (PDRB + PIRANS) * DA - 20X * DMXSISET

DMX	SI	S0	OUTPUT
A	L	L	STATUS
B	L	H	PIR; PIR
C	H	L	SL; PG
D	H	H	BR4

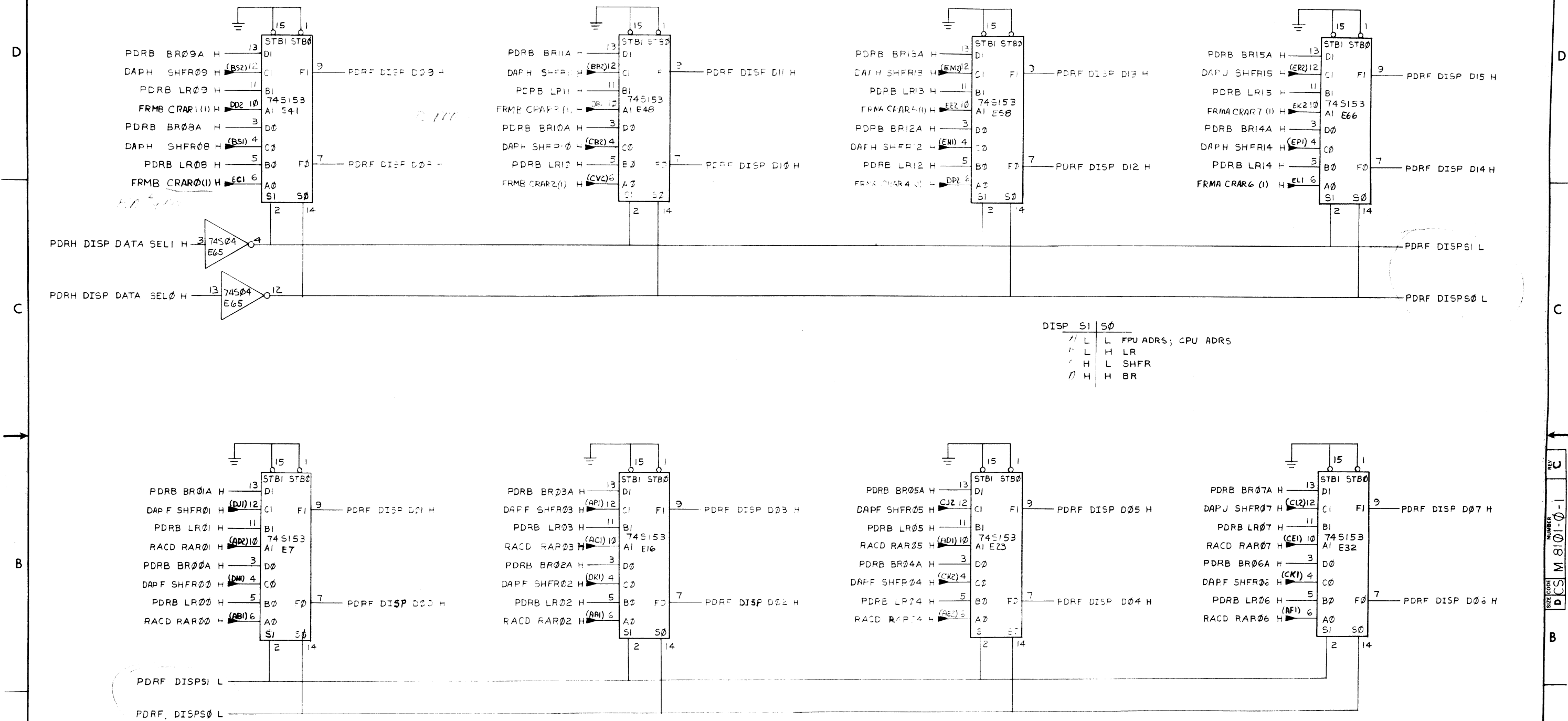
UNIBUS DATA MULTIPLEXER SLOT 10

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.									
11/45													
PARTS LIST													
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES													
DECIMALS	ANGLES	TITLE											
XXX = .005	± 0° 30'	PROCESSOR DATA & UNIBUS REGS. (PDRE)											
XX = .02		PARTS LIST											
X = .1		<table border="1"> <tr> <td>DRN. S.W. Review</td> <td>DATE 7/13/71</td> <td rowspan="4"> </td> </tr> <tr> <td>CHK'D. [Signature]</td> <td>DATE 4/17/72</td> </tr> <tr> <td>ENG. [Signature]</td> <td>DATE 3-3-72</td> </tr> <tr> <td>PROJ. ENG. [Signature]</td> <td>DATE 3-15-72</td> </tr> </table>			DRN. S.W. Review	DATE 7/13/71		CHK'D. [Signature]	DATE 4/17/72	ENG. [Signature]	DATE 3-3-72	PROJ. ENG. [Signature]	DATE 3-15-72
DRN. S.W. Review	DATE 7/13/71												
CHK'D. [Signature]	DATE 4/17/72												
ENG. [Signature]	DATE 3-3-72												
PROJ. ENG. [Signature]	DATE 3-15-72												
MATERIAL		NEXT HIGHER ASSY.	SIZE CODE	NUMBER									
FINISH		SCALE	DCS	MS04-0-1									
		SHEET	OF	REV									
		9		C									

REVISIONS
 CHANGE NO.
 11/45
 10/11/71
 10/11/71

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1-4-77 118 SC 2



DISP S1 S0
 // L L FPU ADRS; CPU ADRS
 L H LR
 H L SHFR
 H H BR

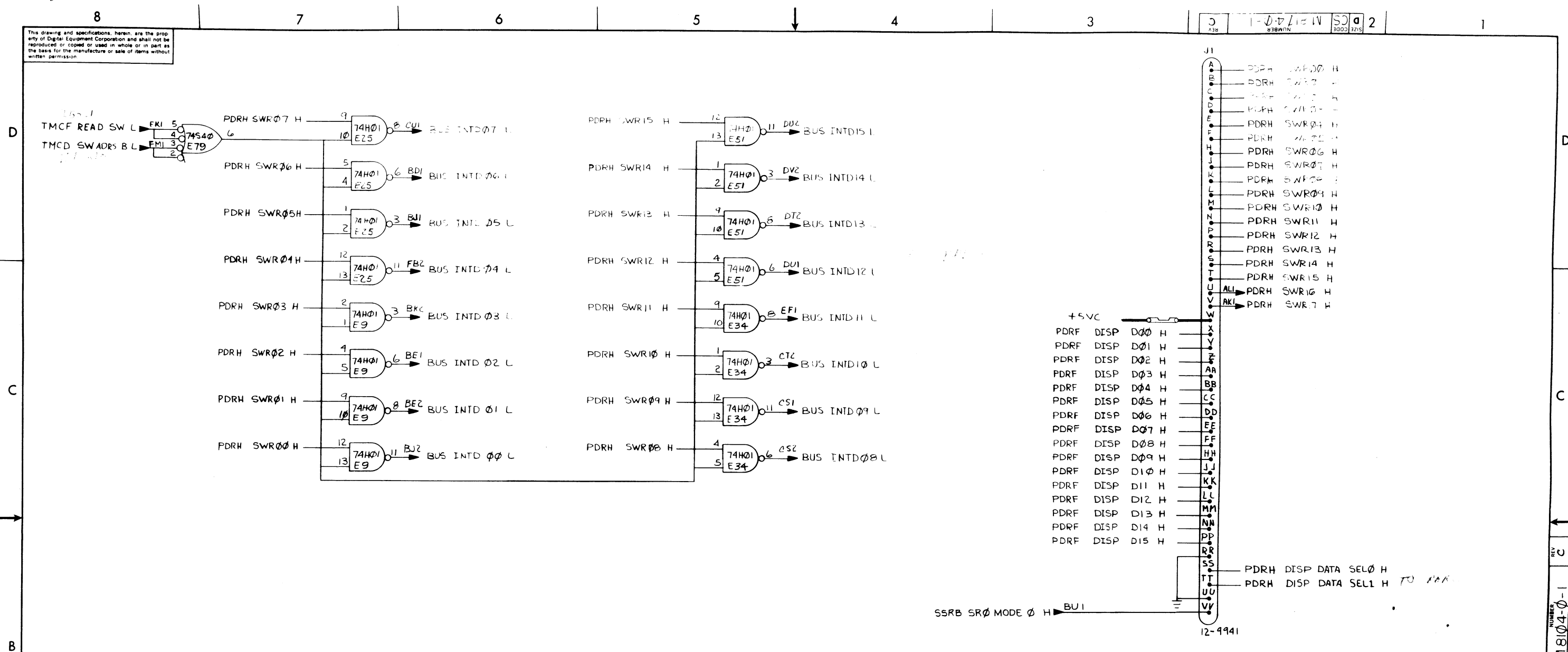
DATA DISPLAY MULTIPLEXER SLOT 10

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN. <i>[Signature]</i>	DATE 7-2-71	 digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	CHK'D <i>[Signature]</i>	DATE 3-2-72		
ANGLES ±0° 30'	ENG. <i>[Signature]</i>	DATE 3-3-72		
.XX = .02 .X = .1	PROJ. ENG. <i>[Signature]</i>	DATE 3-3-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	PROD. <i>[Signature]</i>	DATE 3-15-72	TITLE PROCESSOR DATA & UNIBUS REGS (PDRF)	
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV
FINISH	B-DD-11/45-0	DCS	M8104-0-1	C
	SCALE	SHEET	DIST.	
		7 OF 9		

REV	CHANGE NO	REVISIONS

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1-0-7-11-11 W SD 2



SSRB SR0 MODE 0 H BU1

PDR/KNL INTERFACE
SIGNALS TO CONSOLE SIGNALS FROM CONSOLE

12-9941

SWITCH REGISTER AND CONSOLE CABLE SLOT 0

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN	DATE	 digital EQUIPMENT CORPORATION <small>MAYNARD MASSACHUSETTS</small>	
DECIMALS	CHK B	DATE		
ANGLES	ENG	DATE		
xxx = .005 xx = .02 x = .1	PROJ. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD	DATE	PROCESSOR DATA UNIBUS REGS (PDRH)	
MATERIAL	NEXT HIGHER ASSY.			
FINISH				
	B-DD-11/45-0	SIZE CODE	NUMBER	REV.
		DCS	M8104-0-1	C
		SCALE		
		SHEET	OF 9	DIST

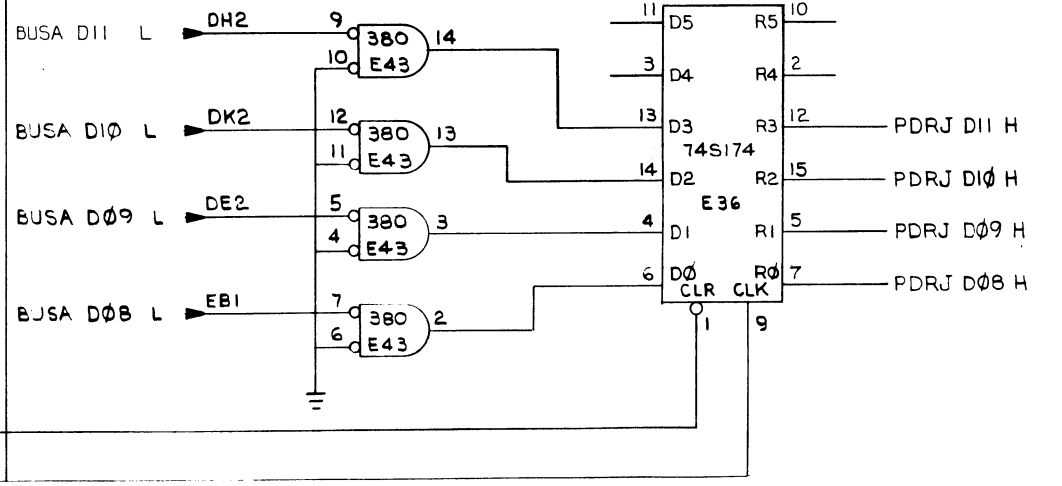
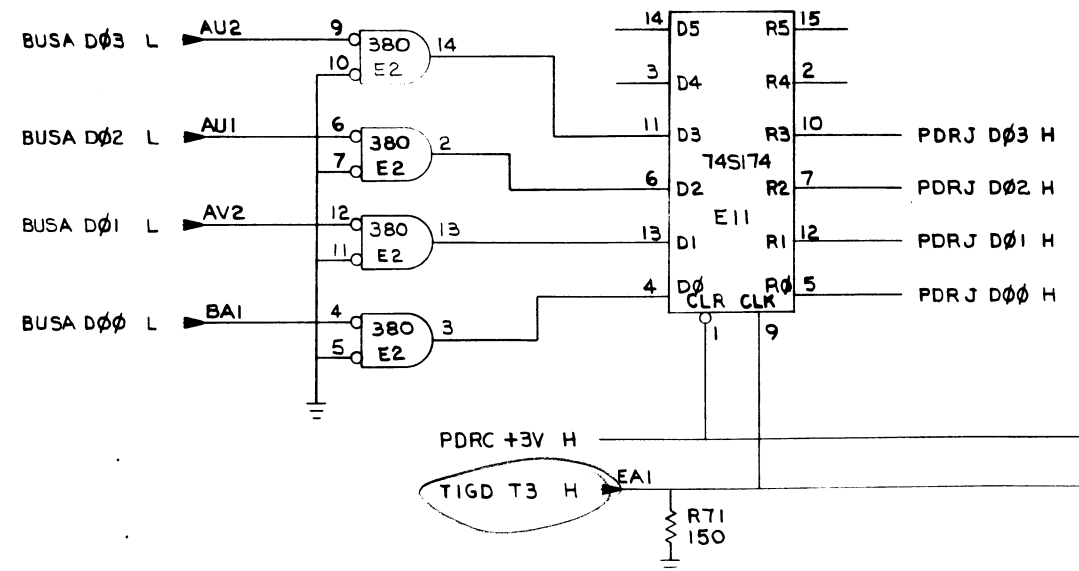
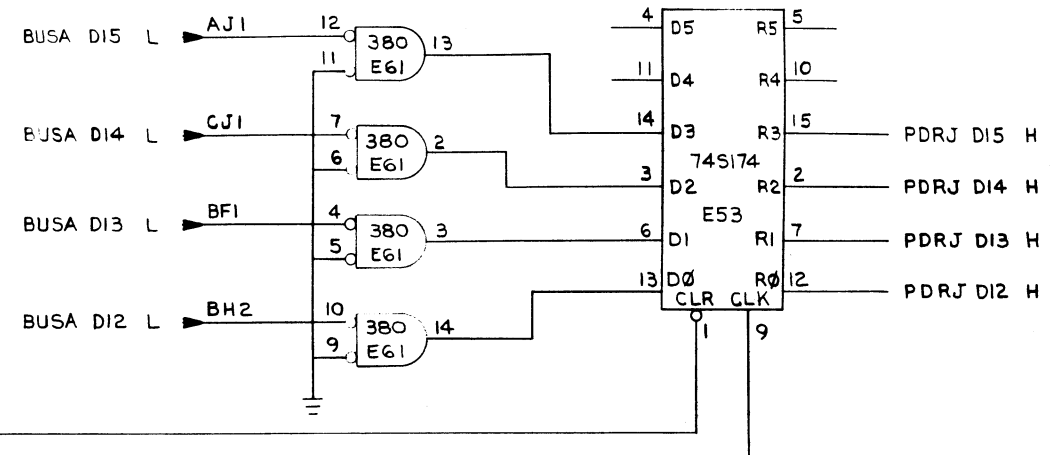
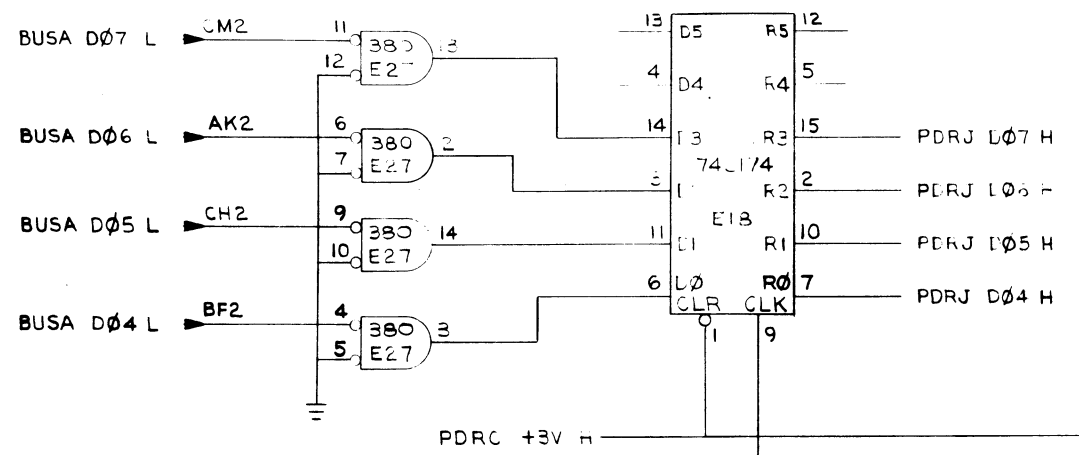
REVISIONS	NO	REV
CHK	CHANGE NO	

DEC FORM NO DRD 102-B

REV C
 NUMBER M8104-0-1
 SIZE CODE DCS

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1-0-7018W SCD 2



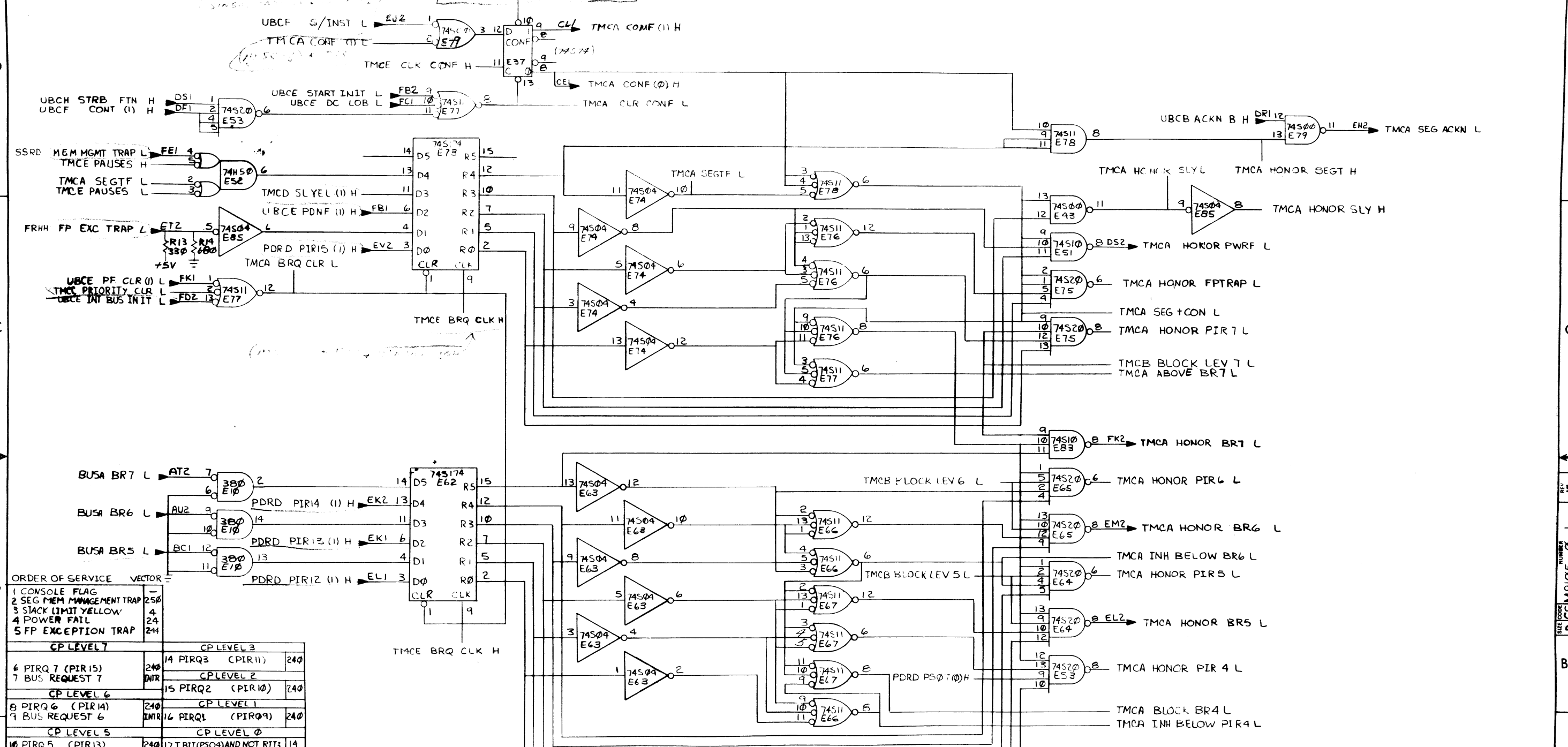
UNIBUS

BUS BUFFER REG SLOT 10

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		DRN	DATE	
TOLERANCES		CHK D.	DATE	
DECIMALS	ANGLES	ENG.	DATE	TITLE PROCESSOR DATA UNIBUS REGS (PDRJ)
.xxx = .005	.0 30'	PRD. ENG.	DATE	
.xx = .02		PRD.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1				
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH	SCALE		DCS	M8104-0-1
	SHEET 9 OF 9		DIST.	REV. C

REV. C
NUMBER
DCS M8104-0-1

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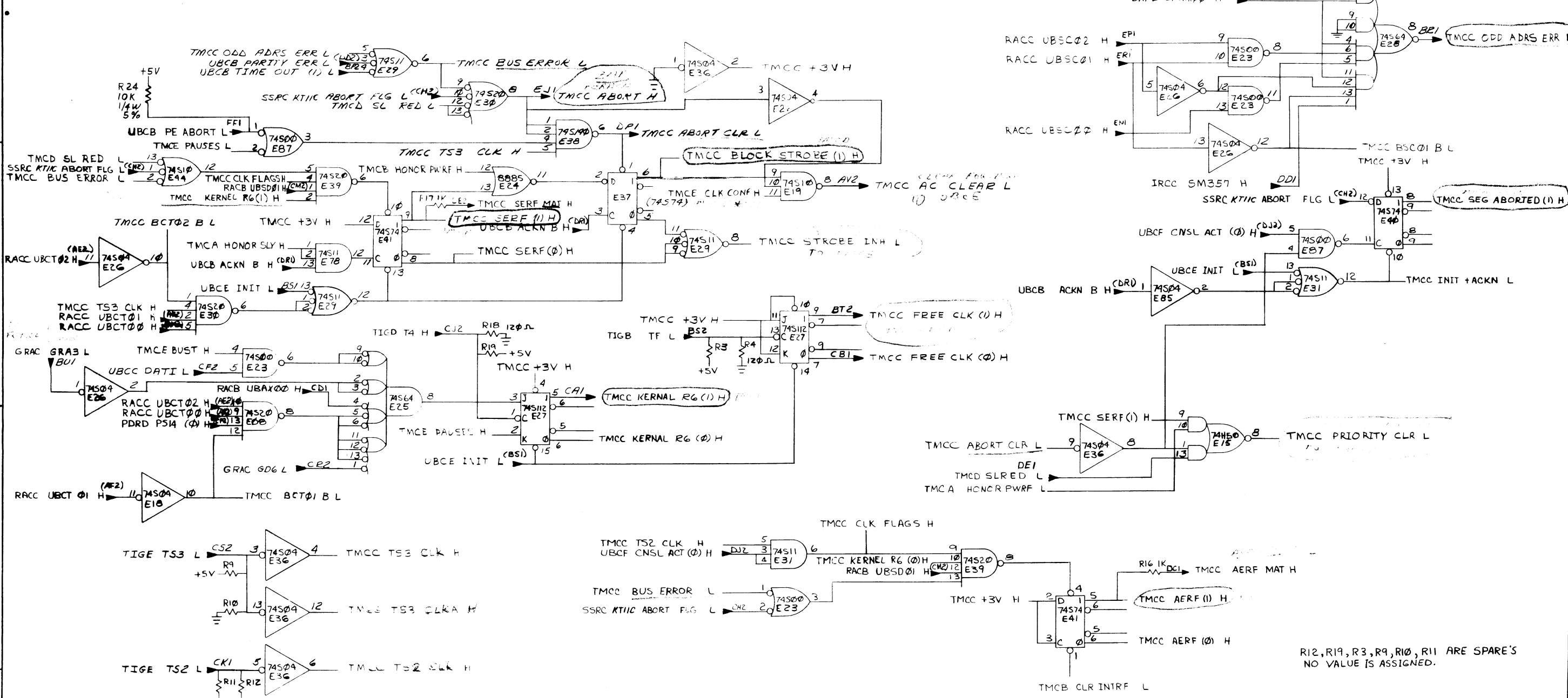
ORDER OF SERVICE	VECTOR	CP LEVEL 7	CP LEVEL 3
1 CONSOLE FLAG	250	6 PIRQ 7 (PIR15)	14 PIRQ3 (PIR11)
2 SEG MEM MGMT TRAP	4	7 BUS REQUEST 7	15 PIRQ2 (PIR10)
3 STACK LIMIT YELLOW	24	8 PIRQ 6 (PIR14)	16 PIRQ1 (PIR09)
4 POWER FAIL	244	9 BUS REQUEST 6	
5 FP EXCEPTION TRAP	244	10 PIRQ 5 (PIR13)	17 T BIT (PS04) AND NOT RTTS
		11 BUS REQUEST 5	NOT LOCKED OUT BY PROC STATUS LEVELS BUT SERVICED LAST
		12 PIRQ 4 (PIR12)	
		13 BUS REQUEST 4	

REV	CHANGE NO	DATE

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
XXX - .005	± 0° 30'	TRAP & MISC CONTROL		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL		NEXT HIGHER ASSY		
FINISH		SCALE		
		SHEET 2 OF 7		
		DIST		

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SCR - *R1005-0-1



R12, R19, R3, R9, R10, R11 ARE SPARE'S
NO VALUE IS ASSIGNED.

AERF; SERF; ODD ADDRESS SLOT II

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN 3/23/71	DATE 6/29/71	 digital EQUIPMENT CORPORATION <small>MAYNARD MASSACHUSETTS</small>	
DECIMALS	CH'D.	DATE 3/6/72		
ANGLES	ENG.	DATE 3/6/72		
.XXX = .005 .XX = .02 .X = .1	PROB. ENG. 3/15/72	DATE 3/15/72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROB. 3/15/72	DATE 3/15/72	TITLE TRM & MSC CONTROL (TMCC)	
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV
FINISH	B 20-145-2	DCS M8105-0-1	K	
SCALE	SHEET 4 OF 7	DIST		

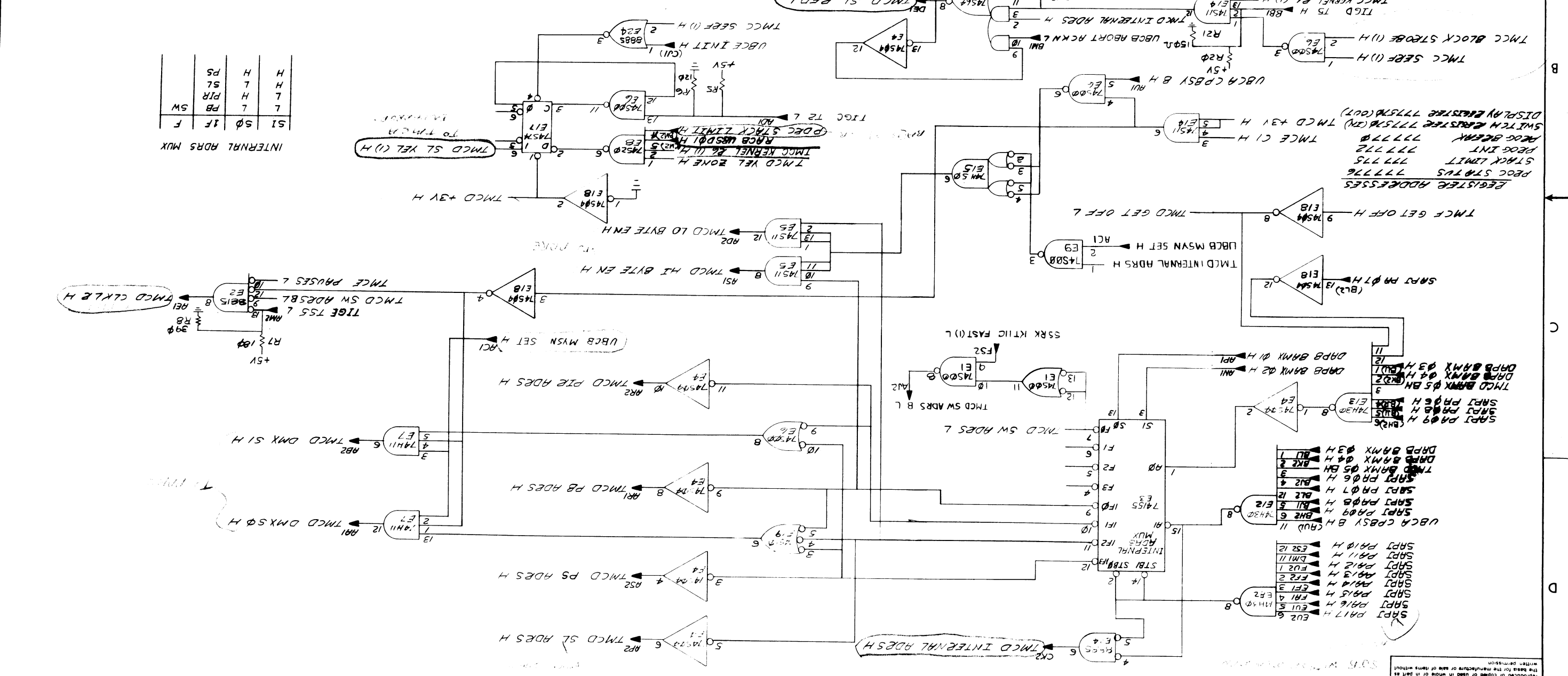
REVISIONS	NO.	REV.
CHK	CHANGE NO.	

FINISH	SCALE	SHEET	5 OF 7
MATERIAL	B-D-11/45-0	SIZE CODE	DCS M8105-0-1
REMOVED BURNS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	DATE	DATE
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DATE	DATE	DATE
DECIMALS	DATE	DATE	DATE
TOLERANCES	DATE	DATE	DATE
PARTS LIST	DATE	DATE	DATE
11/45	DATE	DATE	DATE
FIRST USED ON OPTION/MODEL	DATE	DATE	DATE
DESCRIPTION	DATE	DATE	DATE
INTERNAL REG DECODES; STACK LIMIT SLOTT	DATE	DATE	DATE

INTERNAL REG DECODES; STACK LIMIT SLOTT

NOTE: R5 AND R20 ARE SPARE NO VALUE IS ASSIGNED

INTERNAL ADDRS MUX	SI	S0	1F	F
	H	L	H	PS
	H	L	H	SL
	H	L	H	PIR
	L	L	L	PB
	L	L	L	SW



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REV. 11/45
 DCS M8105-0-1
 K

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D

C

B

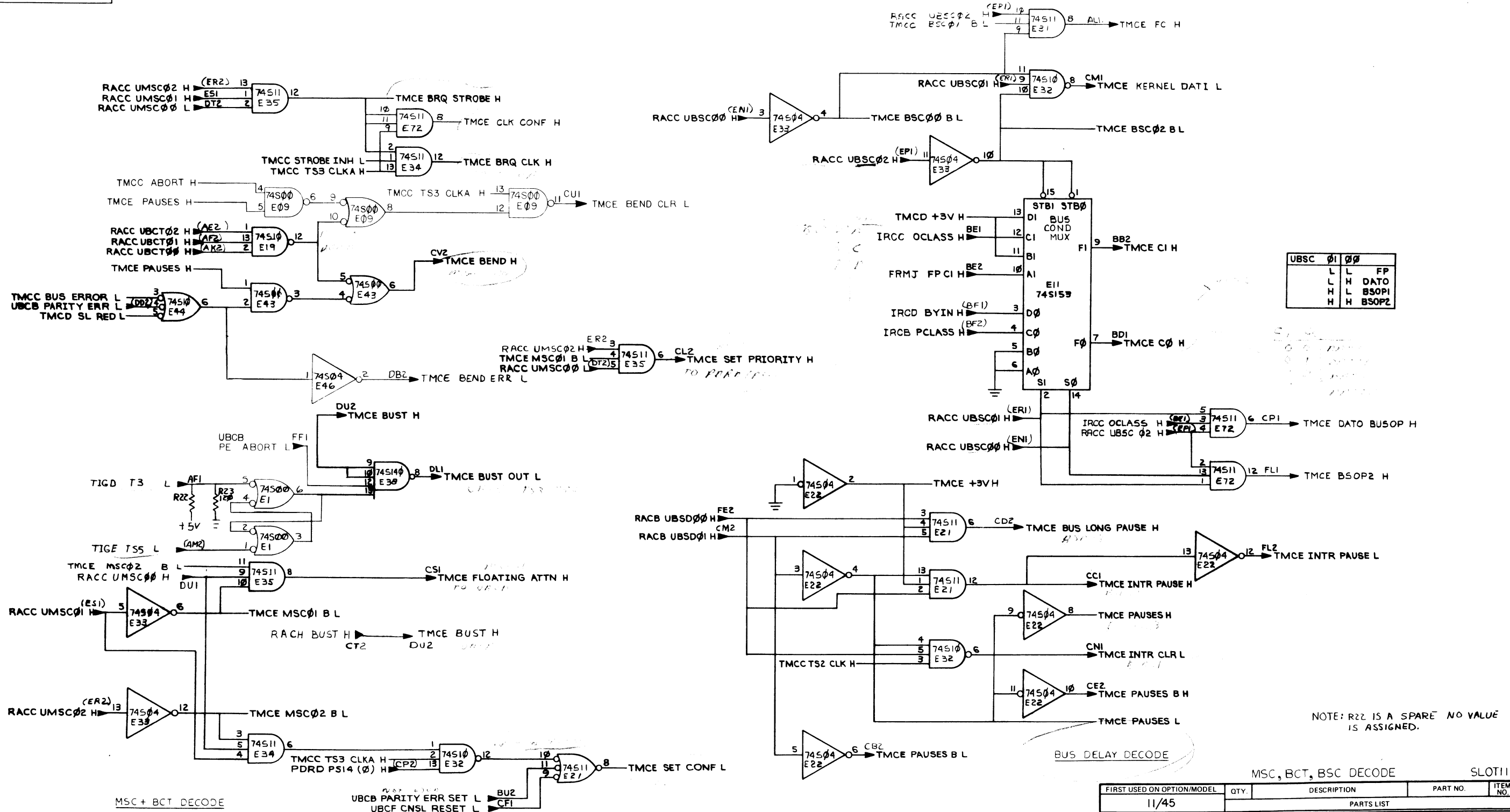
A

D

C

B

A



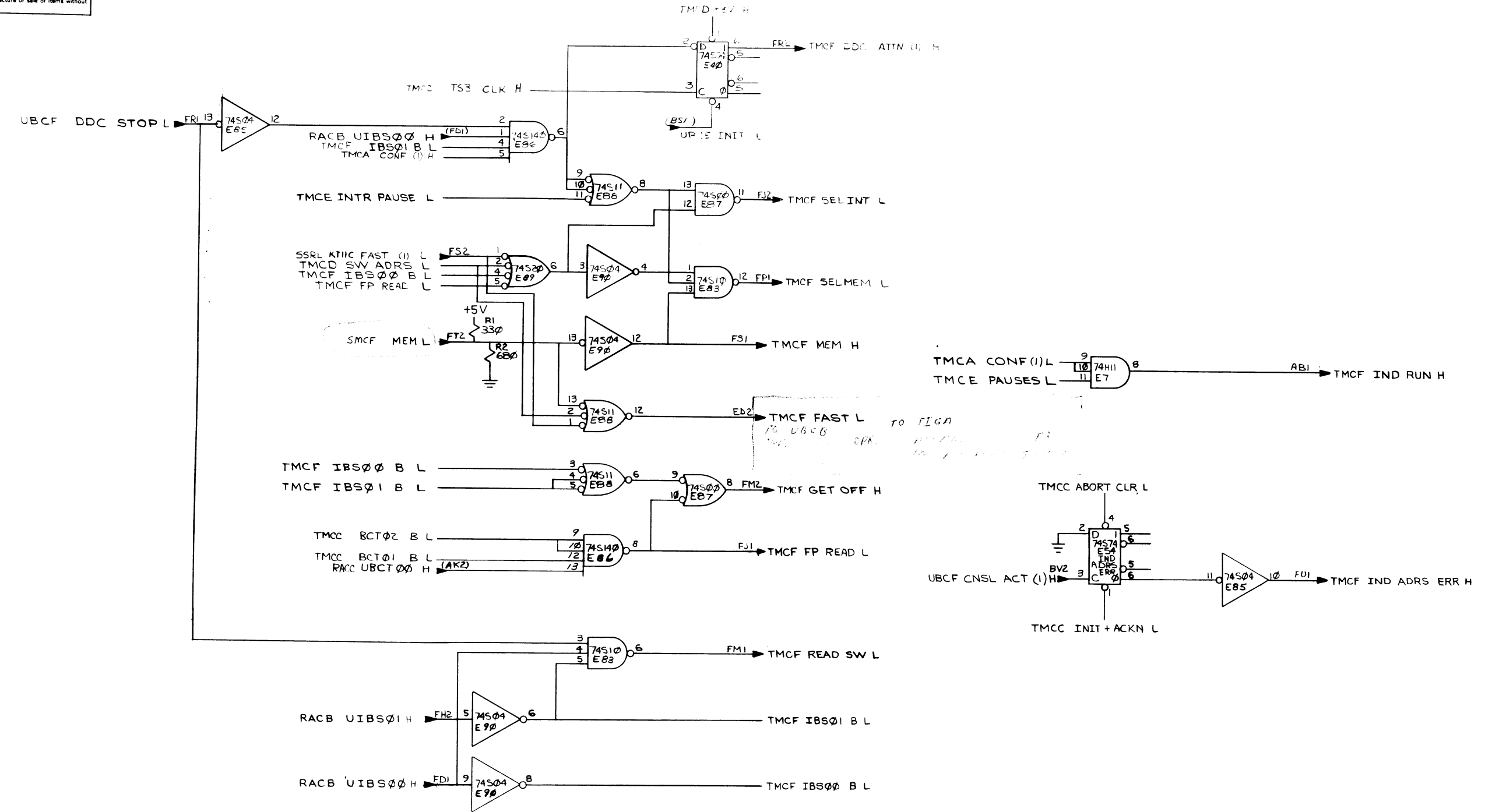
UBSC	01	00
L	L	FP
L	H	DATO
H	L	BSOP1
H	H	BSOP2

NOTE: R22 IS A SPARE NO VALUE IS ASSIGNED.

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN. S.W. Roberts	DATE 6/28/71	PARTS LIST	
DECIMALS		CHK'D	DATE 3/2/72	digital EQUIPMENT CORPORATION WATYARD MASSACHUSETTS	
ANGLES		ENG. [Signature]	DATE 3/2/72	TITLE	
XXX = .005		PROJ. ENG. [Signature]	DATE 3/2/72	TRAP & MSC CONTROL (TMCE)	
XX = .02		PROOF [Signature]	DATE 3/15/72	MATERIAL	
X = .1		PROOF [Signature]	DATE 3/15/72	NEXT HIGHER ASSY.	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROOF [Signature]	DATE 3/15/72	SCALE	
FINISH				SIZE CODE	
				NUMBER	
				REV	
				MATERIAL	
				SHEET	
				OF 7	
				DCS	
				M8105-0-1	
				K	

REV K
NUMBER M8105-0-1
SIZE CODE DCS

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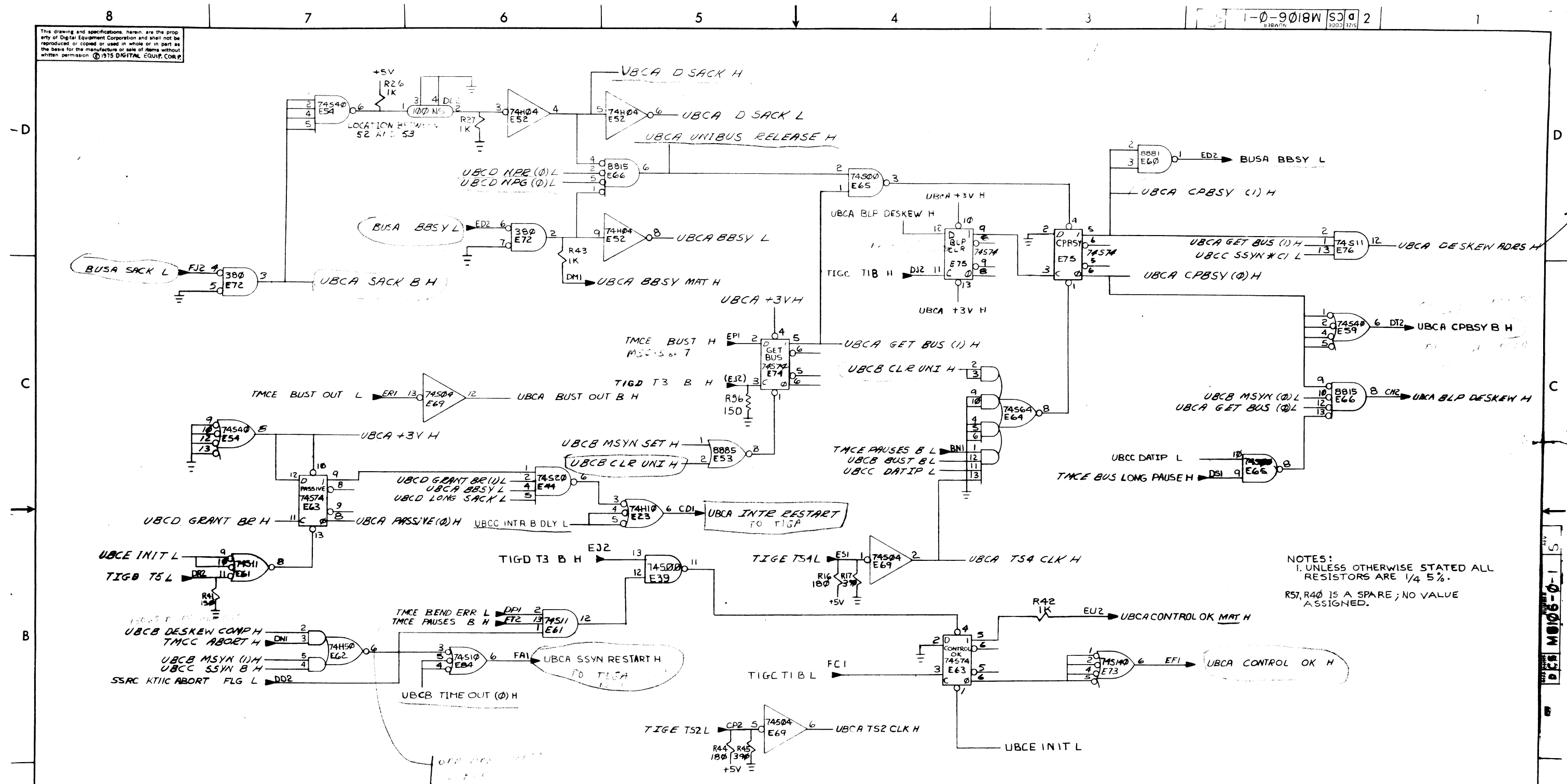
REVISIONS	RI V
CHANGE NO	
CHK	

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	ANGLES	CHK'D	DATE	TITLE	
.xxx = .005	.xx = .02	ENG	DATE	TRAP & MSC CONTROL (TMCF)	
.x = .1	+0° 30'	PRG	DATE	SIZE CODE NUMBER REV	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	✓	PROD	DATE	B-DD-11/45-0	DCS M8105-0-1 K
MATERIAL	NEXT HIGHER ASSY.	SCALE 7 OF 7			
FINISH		SHEET 7 OF 7			

REV. K
NUMBER
DCS M8105-0-1

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1-0-9018W SCD 2

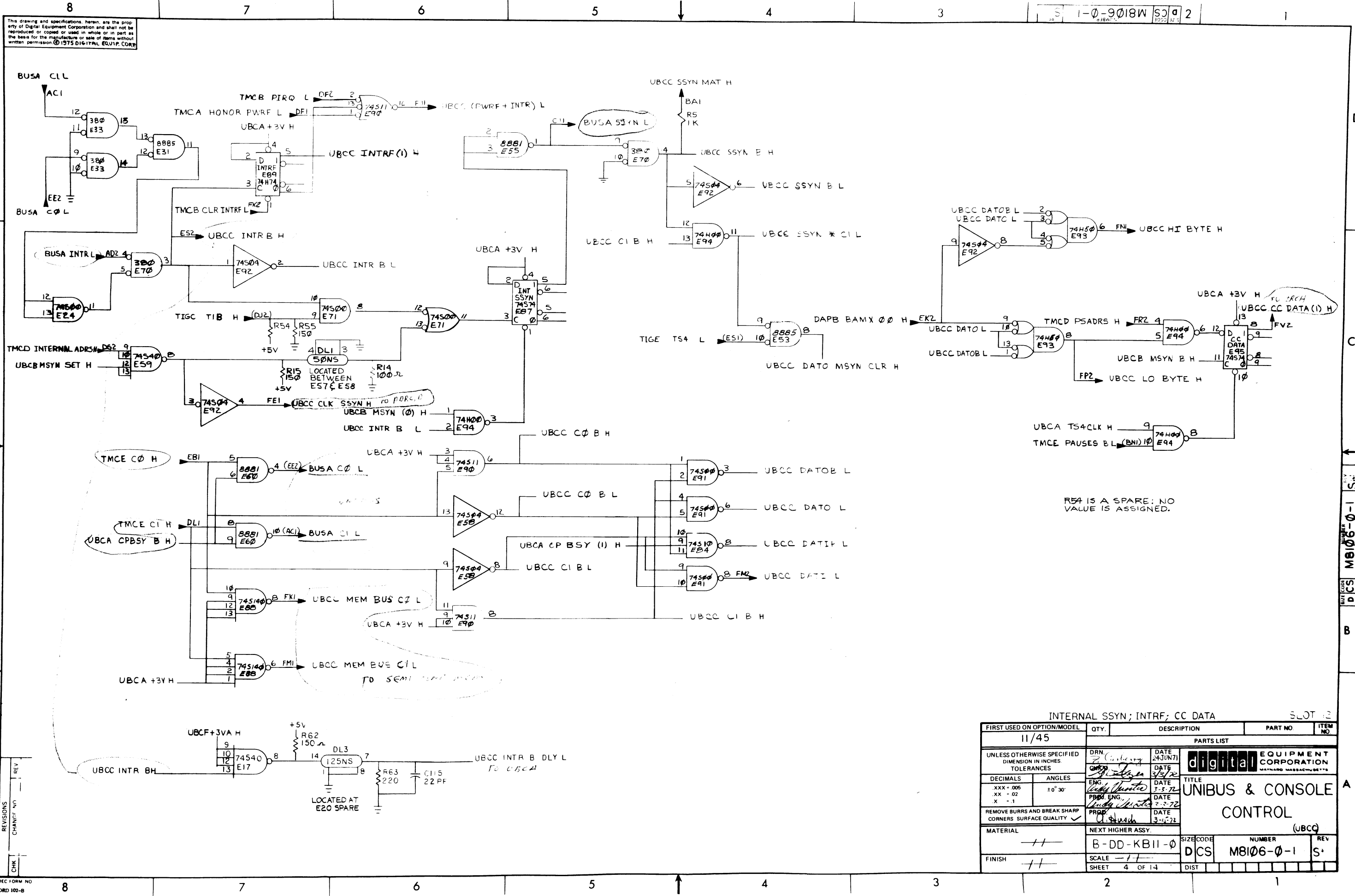


NOTES:
 1. UNLESS OTHERWISE STATED ALL RESISTORS ARE 1/4 5%.
 R57, R40 IS A SPARE; NO VALUE ASSIGNED.

CP BUSY; CONTROL OK; TIG RESTARTS SLOT 12

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN. <i>A. Davis</i>	DATE <i>8-24-77</i>		
DECIMALS	CHK. <i>A. Davis</i>	DATE <i>3-2-78</i>		
ANGLES	ENG. <i>Andy Brinker</i>	DATE <i>3-3-78</i>		
.XXX = .005 .XX = .02 .X = .1	PROJ. ENG. <i>Andy Brinker</i>	DATE <i>7-3-78</i>		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROB. <i>A. Davis</i>	DATE <i>3-6-78</i>	TITLE UNIBUS & CONSOLE CONTROL (UBCA)	
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
FINISH	B-DD-KB11-0	DCS	M8106-0-1	S
SHEET	2 OF 4	DIST		

REV'S/CHG'S	REV
CHK	CHANLE NO



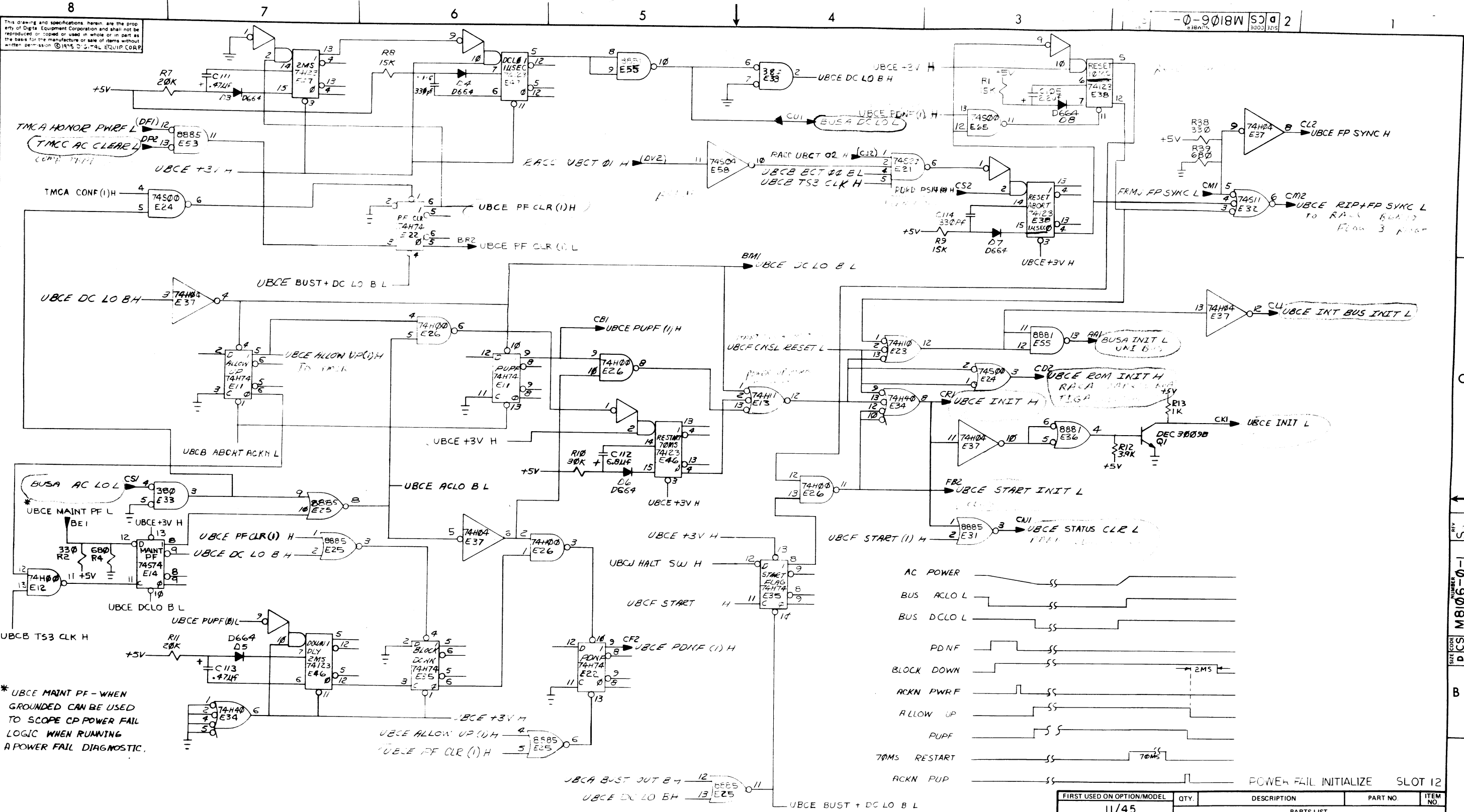
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1-0-9018W SC 2

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN <i>[Signature]</i>	DATE 24 JUN 71	digital EQUIPMENT CORPORATION <small>MAYFLOD, MASSACHUSETTS</small> TITLE UNIBUS & CONSOLE CONTROL (UBCC)	
DECIMALS	ANGLES	ENG. <i>[Signature]</i>	DATE 3/3/72		
.XXX = .005 .XX = .02 .X = .1	±0° 30'	PRD. ENG. <i>[Signature]</i>	DATE 3/3/72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROP. <i>[Signature]</i>	DATE 3-1-72		
MATERIAL	---	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH	---	B-DD-KB11-0		DCS	M8106-0-1
SCALE -1-		SHEET 4 OF 14		DIST	

REVISIONS
CHANGF. NO.
CHK

REV. S
M8106-0-1
DCS
B
A



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0-9018W SJD 2

TMCA HONOR PWRF L
TMCA AC CLEAR L
TMCA CONF (1) H

UBCE +3V H
UBCE DC LO B H
UBCE BUST + DC LO B L

UBCE DC LO B H
UBCE PUFF (1) H
UBCE PUFF (0) L

UBCE AC LO L
UBCE MAINT PF L
UBCE DC LO B L

UBCE PUFF (1) H
UBCE DC LO B H
UBCE DC LO B L

UBCE PUFF (0) L
UBCE PUFF (1) L
UBCE PUFF (2) L

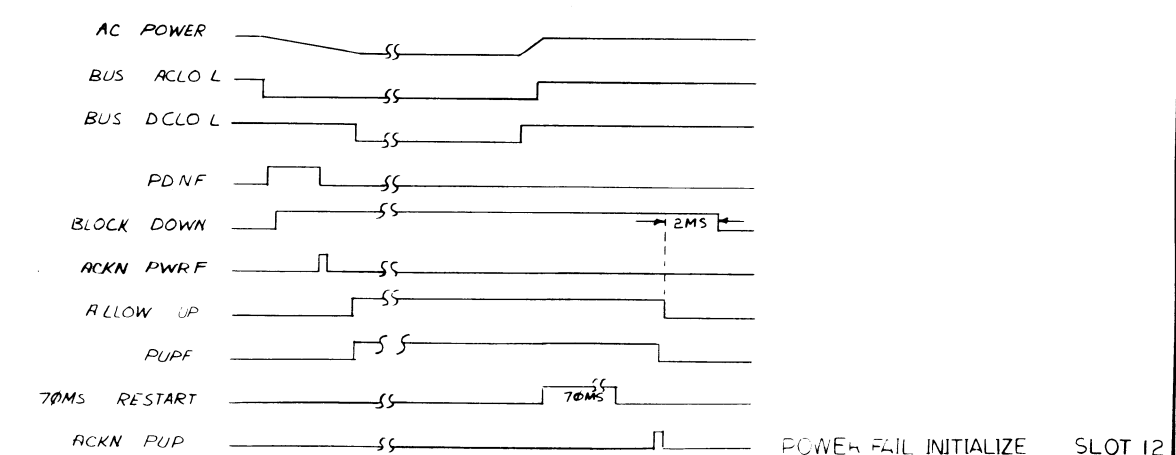
UBCE PUFF (3) L
UBCE PUFF (4) L
UBCE PUFF (5) L

UBCE PUFF (6) L
UBCE PUFF (7) L
UBCE PUFF (8) L

UBCE PUFF (9) L
UBCE PUFF (10) L
UBCE PUFF (11) L

UBCE PUFF (12) L
UBCE PUFF (13) L
UBCE PUFF (14) L

UBCE PUFF (15) L
UBCE PUFF (16) L
UBCE PUFF (17) L



REV	DATE	BY	CHK

DEC FORM NO DRD 102-B

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DRN	DATE	
XXX + 005	± 0° 30'	CHK'D	3-3-72	
XX = 02		ENG	3-3-72	
X = 1		PROJ. ENG.	3-3-72	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	3-3-72	
MATERIAL	NEXT HIGHER ASSY.	PARTS LIST		
	B-DD-KB11-0	TITLE		
FINISH	SCALE	UNIBUS & CONSOLE CONTROL		
	SHEET 6 OF 14	EQUIPMENT CORPORATION		
		MAYNARD MASSACHUSETTS		
		DIST		
		NUMBER		
		M8106-0-1		
		REV		
		S		

SIZE CODE NUMBER DCS M8106-0-1 REV S

A

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1-0-9018W SC 2

CONSOLE FUNCTION	MICRO ADRS BIT	7	2	1	0
EXAM		0	0	0	0
STEP EXAM		0	0	0	1
REG EXAM		0	0	1	0
DEPOSIT		0	0	1	1
STEP DEPOSIT		0	1	0	0
REG DEPOSIT		0	1	0	1
START		0	1	1	0
CONTINUE		0	1	1	1
LD ADRS		1	0	0	0

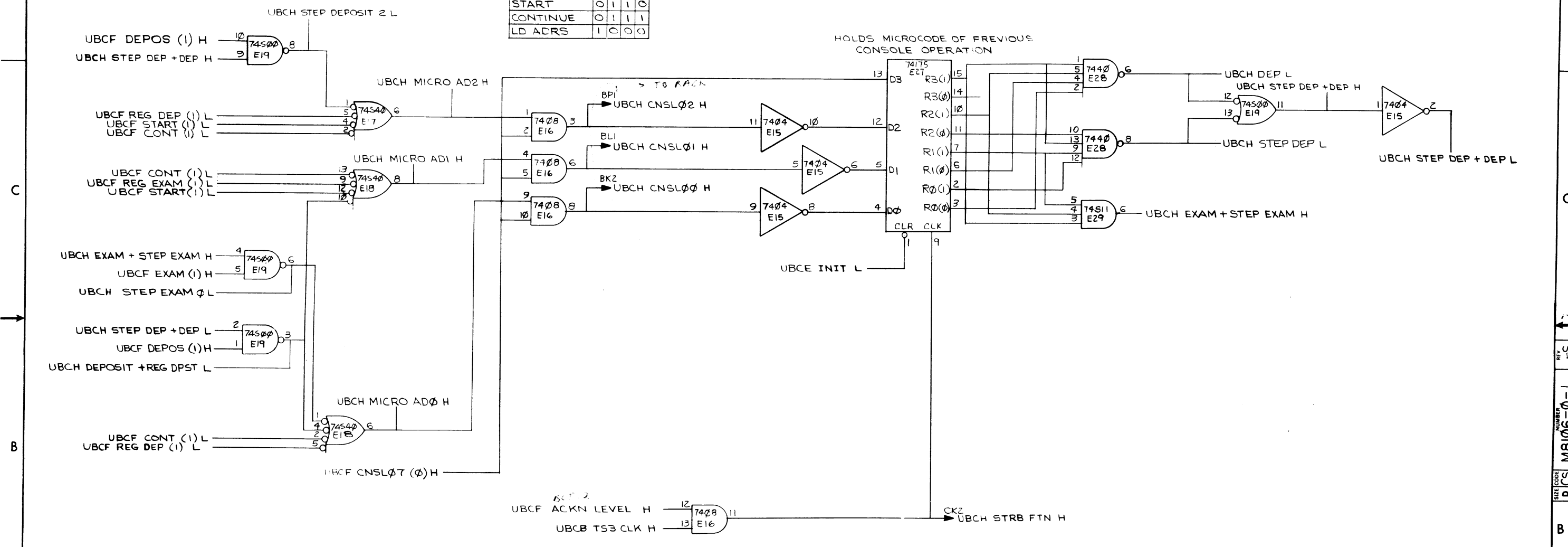


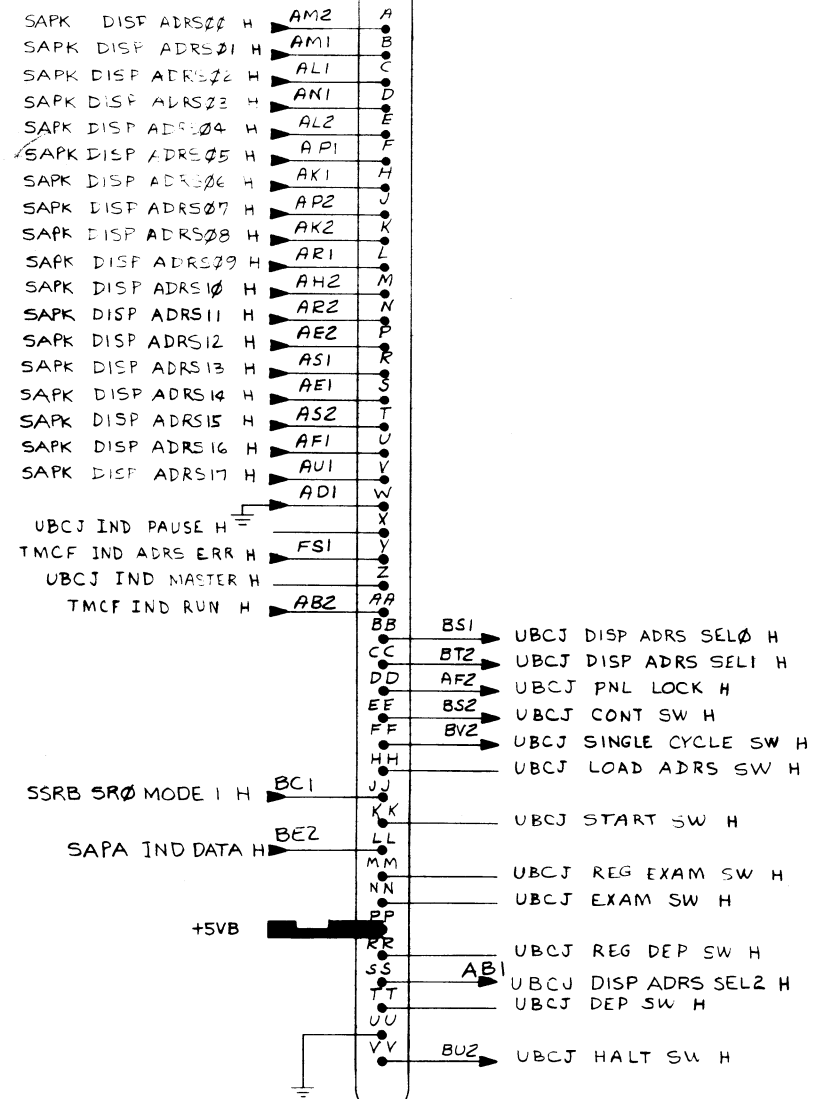
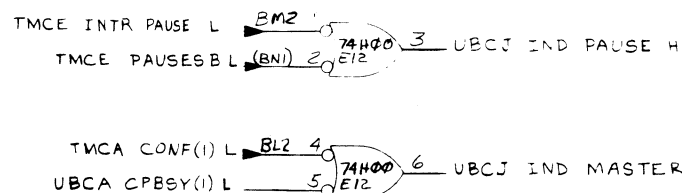
FIGURE 14

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN.	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	ANGLES	ENG.	DATE	TITLE	
XXX = .005	±0° 30'	PROV. ENG.	DATE	UNIBUS & CONSOLE CONTROL	
X = .1		PROV. ENG.	DATE	(UBCH)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	✓	PROV. ENG.	DATE		
MATERIAL	NEXT HIGHER ASSY.				
FINISH	SCALE	SIZE CODE	NUMBER	REV	
	1:1	DCS	M8106-0-1	S	
SHEET 8 OF 14					

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UBC/KNL INTERFACE

SIGNALS TO CONSOLE SIGNALS FROM CONSOLE



7008864

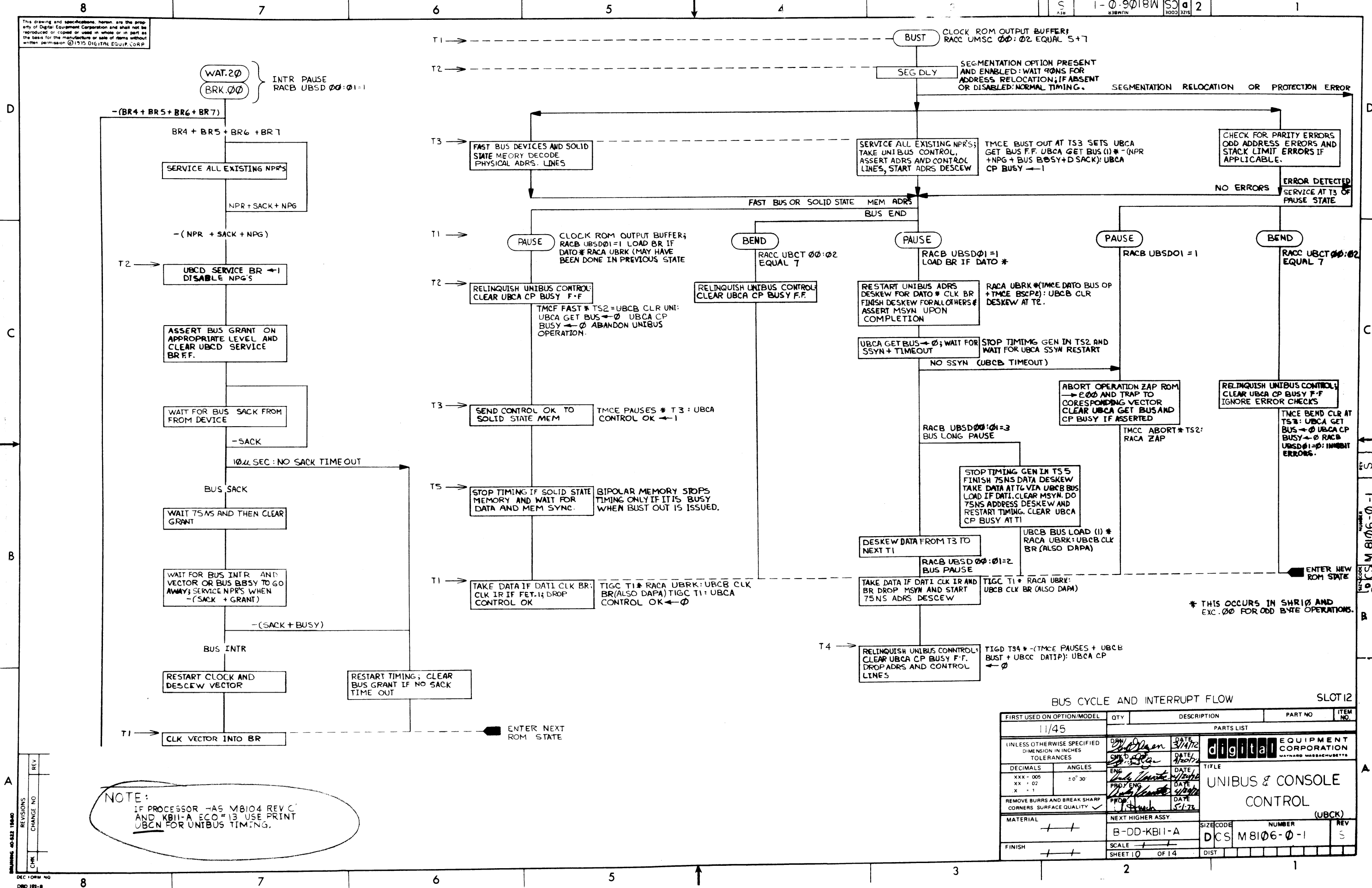
CONSOLE CABLE, INDICATORS SLOT 12

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN DATE 6-25-79	 digital EQUIPMENT CORPORATION <small>MAYNARD MASSACHUSETTS</small>	
DECIMALS	ANGLES	ENG DATE 3/3/72		
XXX - .005 XX - .02 X - .1	±0° 30'	PROJ ENG DATE 3-3-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROB DATE 3-15-72		
MATERIAL	NEXT HIGHER ASSY.	TITLE UNIBUS & CONSOLE CONTROL (UBCJ)		
FINISH	E-LD-KB11-0	SIZE CODE D C J	NUMBER N 8106-0-1	REV. S
SCALE		SHEET 9 OF 14		
DIST.				

REVISIONS
CHANGE NO.
CHK

REF CODE
 NUMBER
 DCSM8106-0-1
 S

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BUS CYCLE AND INTERRUPT FLOW SLOT 12

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	ITEM NO.
11/45		PARTS LIST		
(UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES)	DATE 3/17/72	digital EQUIPMENT CORPORATION WATSON MASSACHUSETTS		
DECIMALS ANGLES ±0°30'	DATE 4/20/72	TITLE UNIBUS & CONSOLE CONTROL (UBCK)		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	DATE 4/20/72	MATERIAL NEXT HIGHER ASSY		
FINISH	DATE 5/1/72	B-DD-KB11-A		
	SCALE 1/1	SIZE CODE DCS M8106-0-1		
	SHEET 10 OF 14	NUMBER 1		
		REV S		

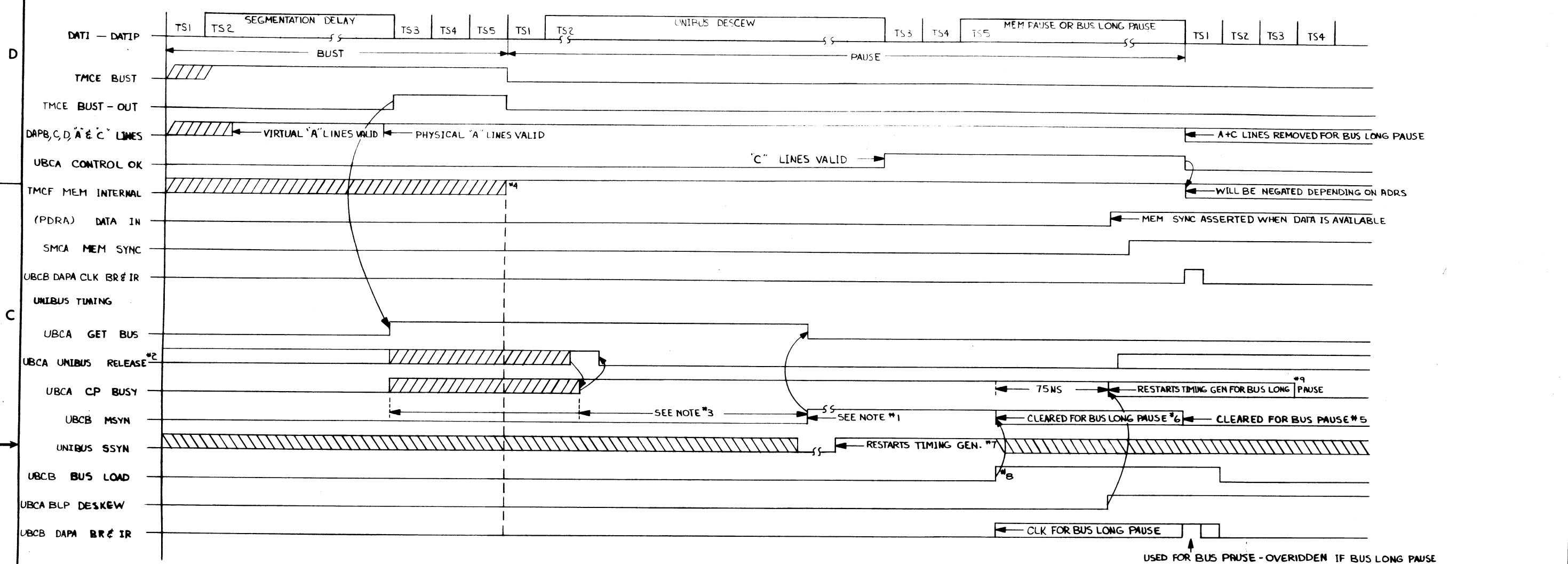
REVISIONS
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REV S
 M8106-0-1

* THIS OCCURS IN SHRI0 AND EXC.00 FOR ODD BYTE OPERATIONS.

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1-0-9018 N 2



1. MSYN IS NOT SET IF ODD ADRS, SEGMENTATION, PARITY OR STACK LIMIT ERROR HAS OCCURED. ERROR CONDITION RESTARTS TIMING GENERATOR AND ROM IS FORCED TO ZAP.
2. UNIBUS RELEASE = -(NPG + NPR + DSACK + BBSY)
3. MSYN IS SET 150 NS AFTER CP BUSY IS SET OR WHENEVER SSYN IS NOT PRESENT AFTER THE 150NS DESCEW
4. IF ADRS IS INTERNAL OR SOLID STATE MEMORY UNIBUS CNTL LOGIC IS CLEARED, DESCEW STOPPED, MSYN NOT ASSERTED.
5. BUS PAUSE - ADRS WILL NOT BE CHANGED IMMEDIATELY UPON EXITING PAUSE STATE
6. BUS LONG PAUSE - 75NS ADRS DESCEW AFTER NEGATION OF MSYN MUST BE DONE BEFORE TIMING GEN. RESTARTS AT T5 OF PAUSE CYCLE BECAUSE "A" & "C" LINES WILL CHANGE UPON EXITING PAUSE STATE
7. IF NON-EXISTANT MEMORY, TIMEOUT RESTARTS CLOCK.
8. BUS LOAD IS SET ONE CLOCK AFTER T5 TO ALLOW COMPLETION OF WRITE TO SCRATCHPAD FOR PREVIOUS CYCLE BEFORE NEW IR & BR ARE LOADED
9. CLEARED 75NS AFTER MSYN → ∅: T4 FOR BUS PAUSE

NOTE:
IF PROCESSOR HAS M8104 REV C AND KB11-A ECO *13 USE PRINT UBCP FOR UNIBUS TIMING.

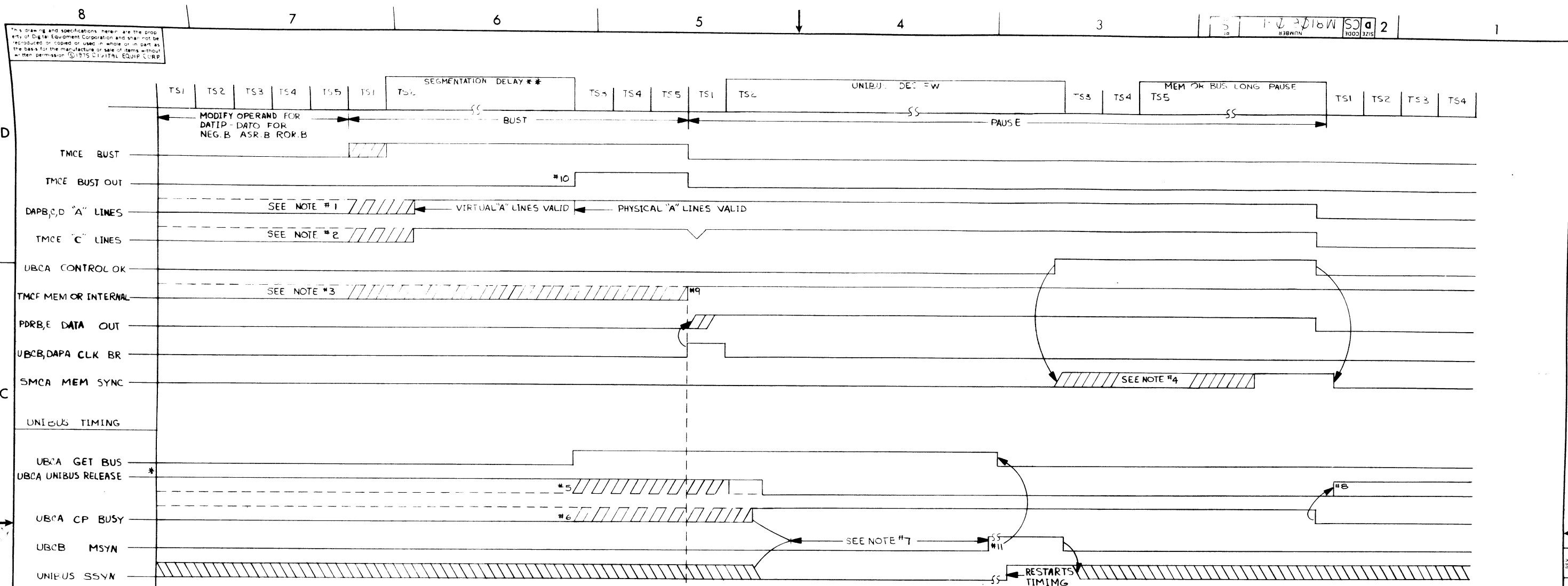
DATI - DATIP TIMING DIAGRAM

SLOT 12

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN	DATE	digital EQUIPMENT CORPORATION <small>WATYARD MASSACHUSETTS</small>	
DECIMALS	ANGLES	DATE		
XXX - 005	± 0° 30'	DATE		
XX - 02		DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROF.	DATE	UNIBUS & CONSOLE CONTROL (UBCL)	
MATERIAL	NEXT HIGHER ASSY.	DATE		
FINISH	B-DD-KB11-A	SCALE	SIZE CODE	NUMBER
		SHEET 11 OF 14	DCS	M8106-0-1

REV. CHANGE NO. CHK

REV. S
NUMBER M8106-0-1
SIZE CODE DCS



- NOTES:
- * UNIBUS RELEASE = $\overline{NPR} + \overline{NPG} + \overline{BBSY} + \overline{SACK}$
 - ** TIMING GEN: PROVIDES DELAY EQUIVALENT TO 3 TIME STATES FOR RELOCATION OF ADDRESSES IF SEGMENTATION IS PRESENT AND ENABLED
 - 1. ADDRESS WILL NOT BE CHANGING IF DATO IS PRECEDED BY DATIP (DOTTED LINE SHOWS DATIP)
 - 2. CONTROL LINES WILL SHOW DATIP OR ELSE ARE INVALID UNTIL CONTROL OK
 - 3. MEM OR INTERNAL WILL BE TRUE UPON ENTERING DATO IF ADDRESS WAS SEMI CONDUCTOR MEMORY OR INTERNAL FROM PREVIOUS DATIP
 - 4. MEM SYNC IS ASSERTED BY SEMI CONDUCTOR MEMORY AS SOON AS DATA IS TAKEN-IF DATA IS TAKEN AND MEM SYNC ASSERTED PRIOR TO T5 OF THE PAUSE CYCLE TIMING GENERATOR IS NOT STOPPED IN T5
 - 5. UNIBUS RELEASE WILL NOT BE TRUE IF PREVIOUS OPERATION WAS A DATIP TO A UNIBUS ADDRESS.
 - 6. CP BUSY WILL BE ASSERTED UPON ENTRY INTO DATO IF PREVIOUS OPERATION WAS A DATIP TO A UNIBUS ADDRESS

- 7. DESKEW FOR 'A' 'C' 'D' LINES IS 150NS STARTING WHEN CP BUSY IS SET AND SSYN FROM THE PREVIOUS BUS OPERATION IS NEGATED.
- 8. UNIBUS RELEASE BECOMES TRUE IF NO NPR DEVICE HAS BEEN GIVEN CONTROL OR IS REQUESTING PRIOR TO CP BSY GETTING CLEARED
- 9. IF ADDRESS IS SEMI CONDUCTOR MEMORY OR INTERNAL UNIBUS LOGIC IS CLEARED DESKEW IS STOPPED AND MSYN IS NOT ASSERTED.
- 10. BUST OUT IS INHIBITED IN IRD00 FOR CONDITIONAL BUST(MSC=5) IF $BIN * SM123 + BR INST * BRQ TRUE + DM123 * \overline{BIN} * SM61 + BR INSTR$
- 11. MSYN IS NOT SET IF AN OPD ADRS, STACK LIMIT RED SEGMENTATION OR PARITY ERROR HAS OCCURED

NOTE: 1. ALL SIGNALS ARE SHOWN TRUE WHEN HIGH

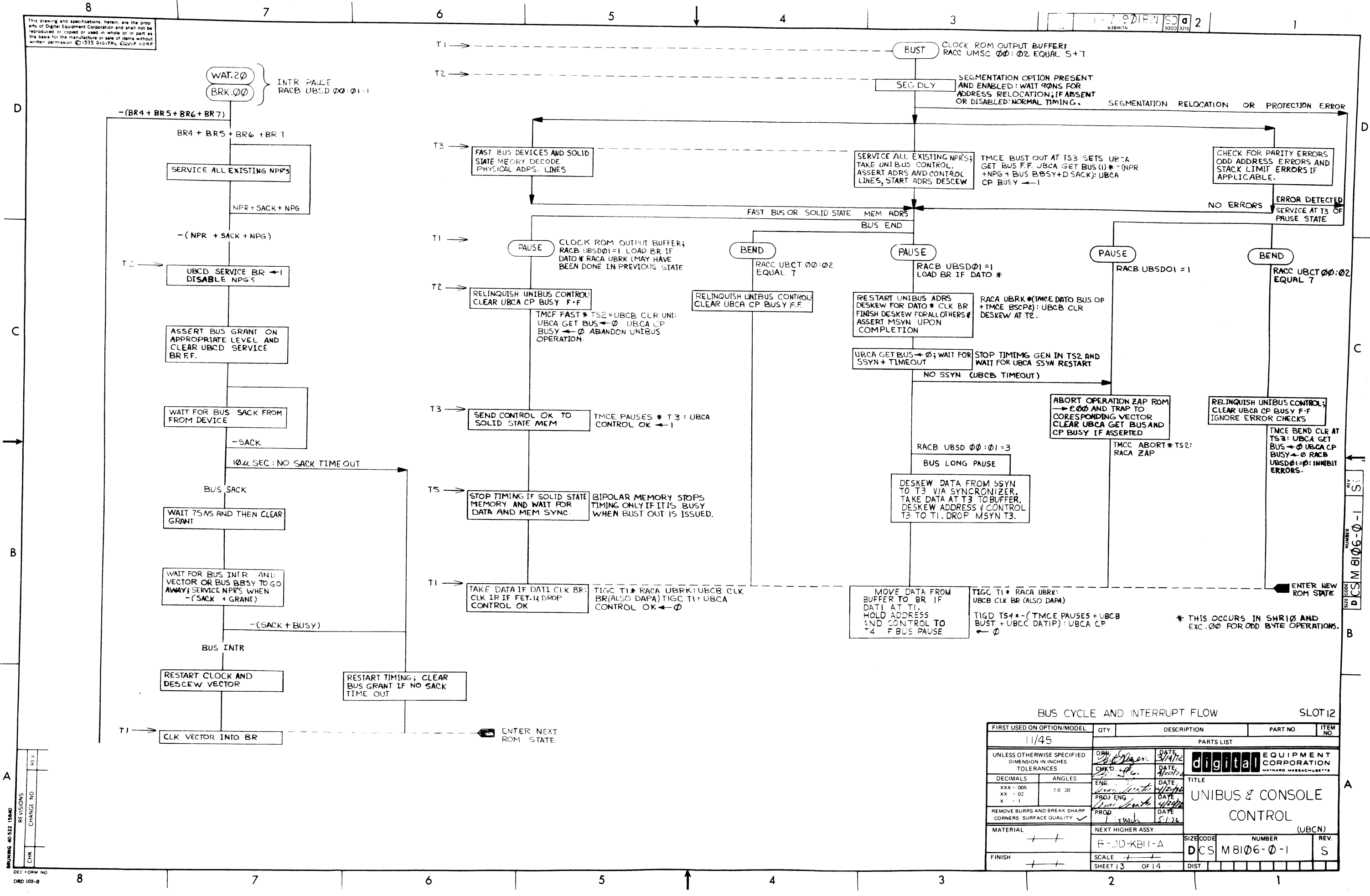
NOTE: IF PROCESSOR HAS M8104 REV C AND KB11-A ECO #13, USE PRINT UBCP FOR UNIBUS TIMING.

DATO TIMING DIAGRAM SLOT 12

BRUNING 40-522 15840

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DWG. DATE 5/27/72	CHK'D. DATE 9/8/72	digital EQUIPMENT CORPORATION <small>MAYNARD MASSACHUSETTS</small>	
DECIMALS .005	ENG. DATE 4/29/72	PROJ. ENG. DATE 4/29/72		
ANGLES ±0°30'	DATE 4/29/72	DATE 5-1-72		
XX = .02	DATE 4/29/72	DATE 5-1-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. DATE 5-1-72			
MATERIAL	NEXT HIGHER ASSY.	TITLE		
FINISH	B-10-KB11-A	SIZE CODE	NUMBER	REV
	SCALE	DCS M 8106-0-1		S
	SHEET 1 OF 11	DIST		

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BUS CYCLE AND INTERRUPT FLOW SLOT 12

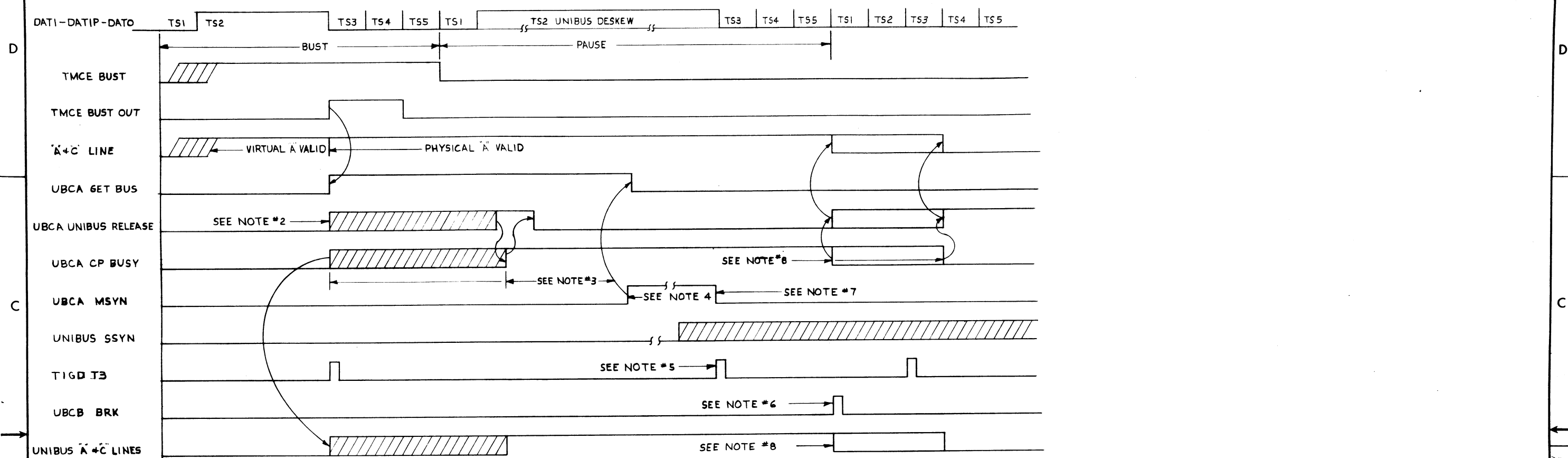
FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
11/45		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DATE: 3/1/76	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	ANGLES	DATE: 1/10/76		
xxx - .005	+0 .30	DATE: 4/24/76	TITLE UNIBUS & CONSOLE CONTROL (UBCN)	
xx - .02		DATE: 4/29/76		
x - .1		DATE: 5/1/76		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE: 5/1/76	SIZE CODE B-3D-KB11-A	
MATERIAL		DATE: 5/1/76		
FINISH		DATE: 5/1/76		
NEXT HIGHER ASSY.		SCALE: 1/1	NUMBER DCS M8106-0-1	
MATERIAL		SHEET 13 OF 14		
FINISH		DIST.	REV. S	
FINISH		DIST.		

BRUNING 40-522 15840
 REVISIONS
 CHANGE NO.
 CHK
 DEC FORM NO. DRD 102-B

REV. S
 NUMBER
 DCS M8106-0-1

* THIS OCCURS IN SHR10 AND EXC. 00 FOR ODD BYTE OPERATIONS.

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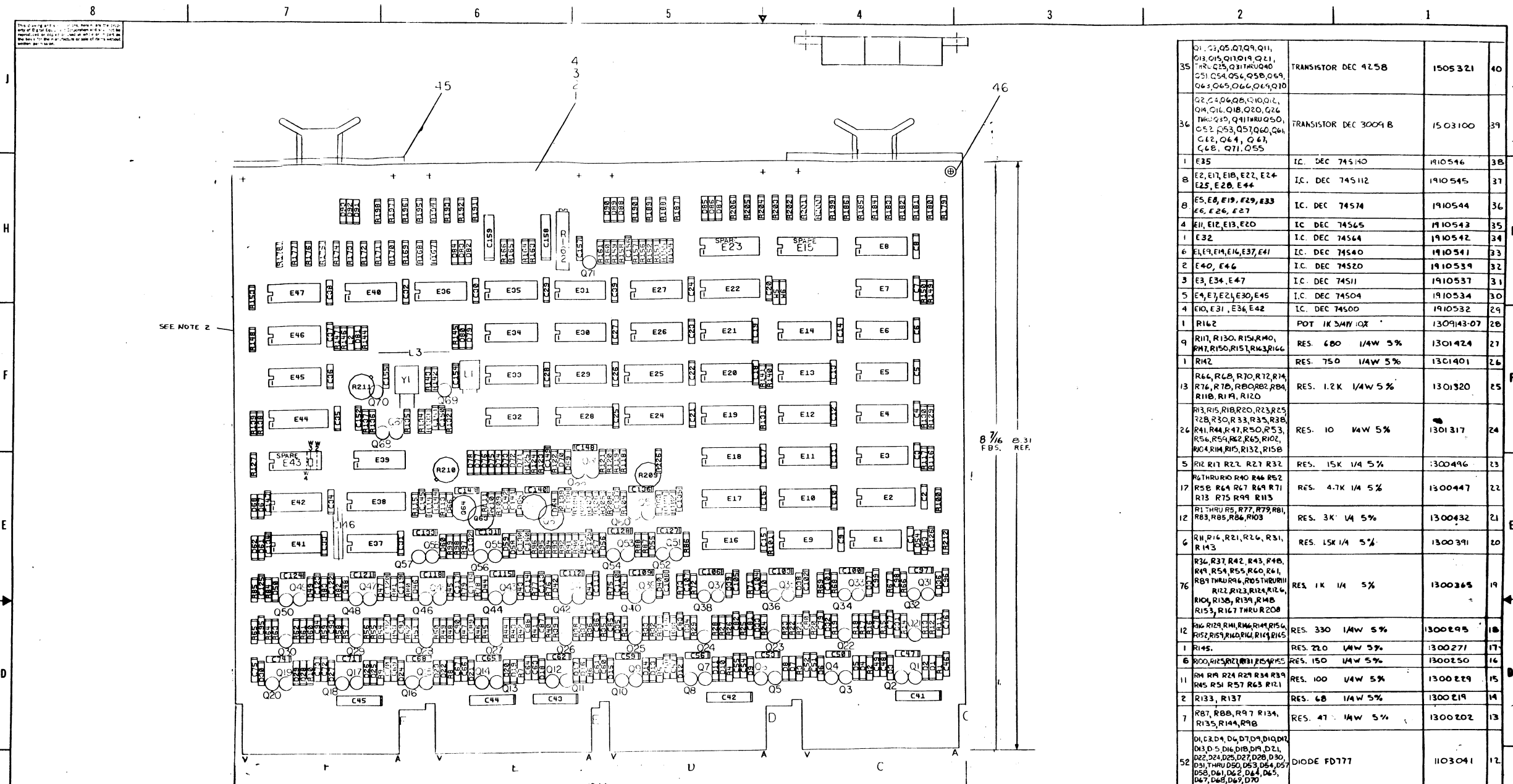
- NOTES:
- *1 MSYN IS NOT SET IF ODD ADDRESS, KTIIC, PARITY OR STACK LIMIT HAS OCCURED. ERROR CONDITION RESTARTS TIMING GEN. AND ROM IS FORCED TO ZAP.00
 - *2 UNIBUS RELEASE = -(NPG + NPR + SACK + B BUSY)
 - *3 MSYN IS SET 150 NS AFTER CP BUSY OR WHENEVER SSYN IS NOT PRESENT AFTER 150 NS DESKEW.
 - *4 IF ADRS IS INTERNAL OR SOLID STATE MEMORY UNIBUS CONTROL LOGIC IS CLEARED, DESKEW STOPPED, MSYN NOT ASSERTED.
 - *5 T3 STROBES UNIBUS DATA TO BUS BUFFER REGISTER EVERY T3. FOR DAT1- DATIP THE BR CLOCK IS NEXT T1
 - *6 BRK IS DEPENDENT ON ROM TO LOAD BUS TO BR.
 - *7 T5 NS DESKEW FOR MSYN IS OBTAINED BY THE FACT THAT SSYN MUST GO THROUGH 2 RANKS OF SYNCHRONIZATION
 - *8 FOR BUS LONG PAUSE ADDRESS + CONTROL IS DESKEWED FROM T3 TO T1. FOR BUS PAUSE THEY ARE HELD TO TS4 OF THE NEXT ROM CYCLE.

REV	NO
CHK	NO

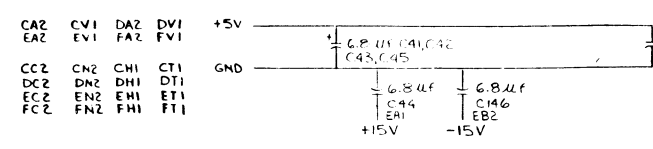
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		PARTS LIST			
TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	CHKD	DATE	MAYNARD MASSACHUSETTS	
.xxx = .005	.0 30	ENG	DATE	TITLE	
.xx = .02		PRD. ENG	DATE	UNIBUS & CONSOLE CONTROL	
.x = .1		PRD.	DATE	(UBCP)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
		B-DD-KB11-A		D CS	M8106-0-1
MATERIAL		SCALE		DIST	
FINISH		SHEET 14 OF 14			

REV. 11/73
DCS M8106-0-1

SLOT 12



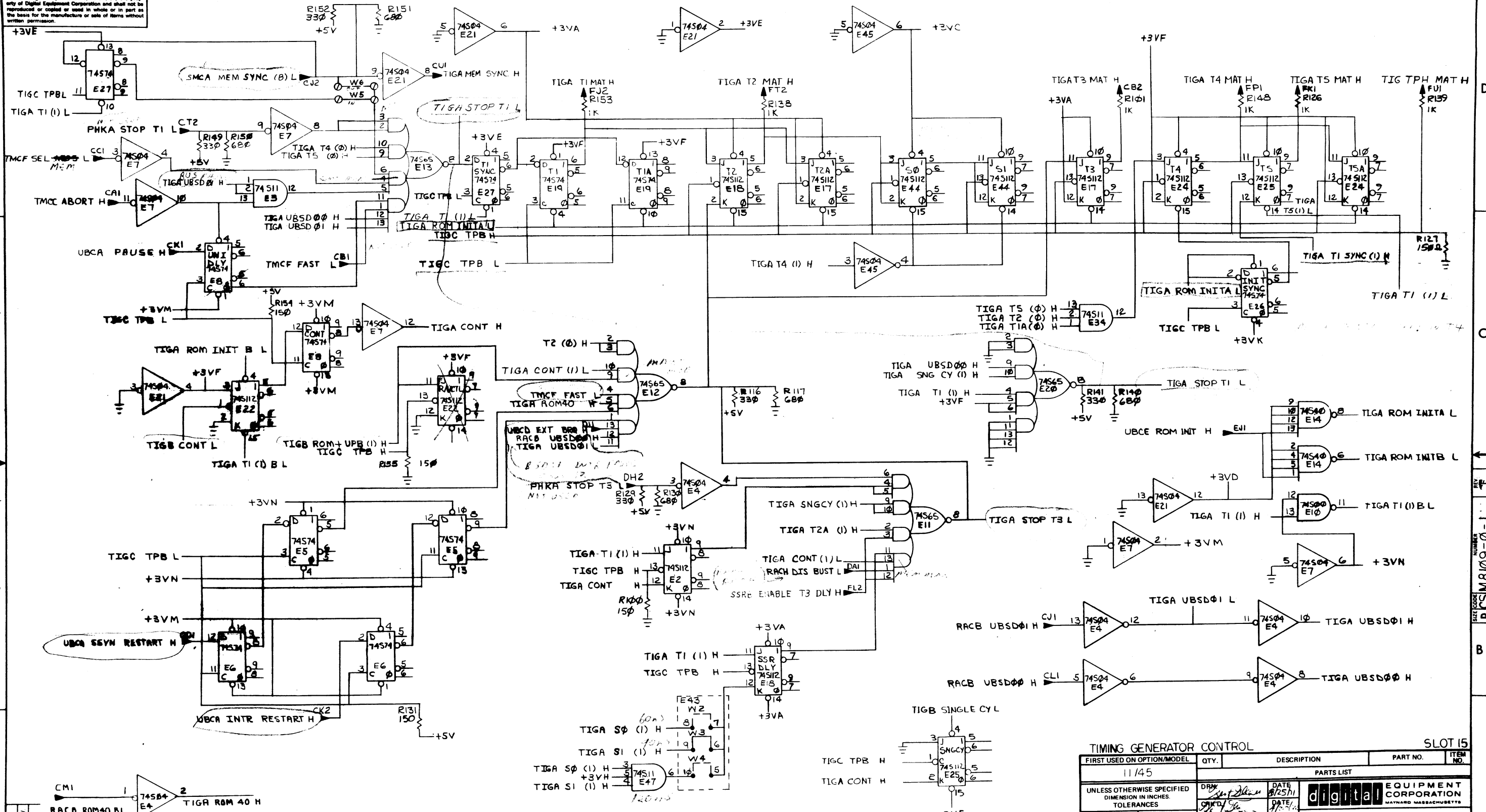
NOTES:
 UNLESS OTHERWISE NOTED: RESISTANCE IS IN OHMS, CAPACITANCE IS IN PICO FARADS, CAPS WITHOUT VALUE NOTED ARE .22 MFD 50V. DIODES ARE TYPE FD777 & ALL NPN TRANSISTORS ARE DEC 3009B & PNP TRANSISTORS ARE DEC 425B.
 2. BOND LI TO ETCHED BOARD



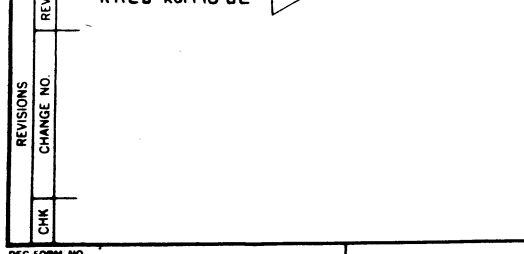
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	REV	QTY	REF DESIGNATION	DESCRIPTION	PART NO.	REV
2	R209, R210	POT. 2K 1/2 W	13-09150-07	51	8	C47, C48, C49, C50, C51, C52	CAP. 6.8uF 35V 10% STANT	1005306	9
1	R211	POT. 100 1/2 W	13-09150-05	50	42	C103, C105, C106, C108, C109, C110, C112, C114, C115, C116, C118, C119, C120, C121, C122, C123, C124, C125, C126, C127, C128, C129, C130, C131, C132, C133, C134, C135, C136, C137, C138, C139, C140, C141, C142, C143, C144, C145, C146, C147, C148, C149, C150, C151, C152	CAP. .01uF 100V 20% DISC	1001610	8
1	R136	RES. 120 1/4 W 5%	13-00247	49	46	C154	CAP. 100 PF 100V 5% DM.	1000016	7
2	W3, W5	JUMPER INSULATED	9009185	47	46	C157	CAP. 47 PF 100V 5% DM.	1000011	4
1	R122	RES. 33 1/4 W 5%	1300197-00	48	44	C158	CAP. 33 PF 100V 5% DM.	1000009	5
1	Y1	CRYSTAL 33.333MHZ	1810694-1	44	43		ETCHED CIRCUIT BOARD	5009799	4
1	L2	INDUCTOR 47uH NYTRONICS WEE-WEE -047	1610999	43	42		MODULE ECO HISTORY	5MH M8109-0-6	3
1	L1	INDUCTOR .22uH VARIABLE NYTRONICS WEE VL .22	1611000	42	41		ASSY/DRILL HOLE LAYOUT	D-AM M8109-0-5	2
1	L3	INDUCTOR RFCS 33uH	1601759	41	41		X-Y COORDINATE HOLE LOCATION	K-CD M8109-0-1	1

35	Q1, Q2, Q5, Q7, Q9, Q11, Q13, Q15, Q17, Q19, Q21, Q23, Q25, Q27, Q29, Q31, Q33, Q35, Q37, Q39, Q41, Q43, Q45, Q47, Q49, Q51	TRANSISTOR DEC 425B	1505321	40
34	Q2, Q4, Q6, Q8, Q10, Q12, Q14, Q16, Q18, Q20, Q22, Q24, Q26, Q28, Q30, Q32, Q34, Q36, Q38, Q40, Q42, Q44, Q46, Q48, Q50	TRANSISTOR DEC 3009 B	1503100	39
1	E35	IC. DEC 745140	1910546	38
8	E2, E17, E18, E22, E24, E25, E26, E44	IC. DEC 745112	1910545	37
8	E5, E8, E19, E29, E33, E6, E26, E27	IC. DEC 745174	1910544	36
4	E11, E12, E13, E20	IC. DEC 745465	1910543	35
1	E32	IC. DEC 745464	1910542	34
6	E19, E14, E16, E37, E41	IC. DEC 74540	1910541	33
2	E40, E46	IC. DEC 74520	1910539	32
3	E3, E34, E47	IC. DEC 74511	1910537	31
5	E4, E7, E21, E30, E45	IC. DEC 74504	1910534	30
4	E10, E31, E36, E42	IC. DEC 74500	1910532	29
1	R162	POT. 1K 3/4W 10%	1309143-07	28
9	R117, R130, R150, R151, R152, R166	RES. 680 1/4W 5%	1301424	27
1	R142	RES. 750 1/4W 5%	1301401	26
13	R66, R68, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92	RES. 1.2K 1/4W 5%	1301320	25
24	R13, R15, R18, R20, R23, R25, R28, R30, R33, R35, R38, R41, R44, R47, R50, R53, R56, R59, R62, R65, R68, R71, R74, R77, R81, R84, R87, R91, R94, R97, R101, R104, R107, R111, R114, R117, R121, R124, R127, R131, R134, R137, R141, R144, R147, R151, R154, R157, R161, R164, R167, R171, R174, R177, R181, R184, R187, R191, R194, R197, R201, R204, R207, R211, R214, R217, R221, R224, R227, R231, R234, R237, R241, R244, R247, R251, R254, R257, R261, R264, R267, R271, R274, R277, R281, R284, R287, R291, R294, R297, R301, R304, R307, R311, R314, R317, R321, R324, R327, R331, R334, R337, R341, R344, R347, R351, R354, R357, R361, R364, R367, R371, R374, R377, R381, R384, R387, R391, R394, R397, R401, R404, R407, R411, R414, R417, R421, R424, R427, R431, R434, R437, R441, R444, R447, R451, R454, R457, R461, R464, R467, R471, R474, R477, R481, R484, R487, R491, R494, R497, R501, R504, R507, R511, R514, R517, R521, R524, R527, R531, R534, R537, R541, R544, R547, R551, R554, R557, R561, R564, R567, 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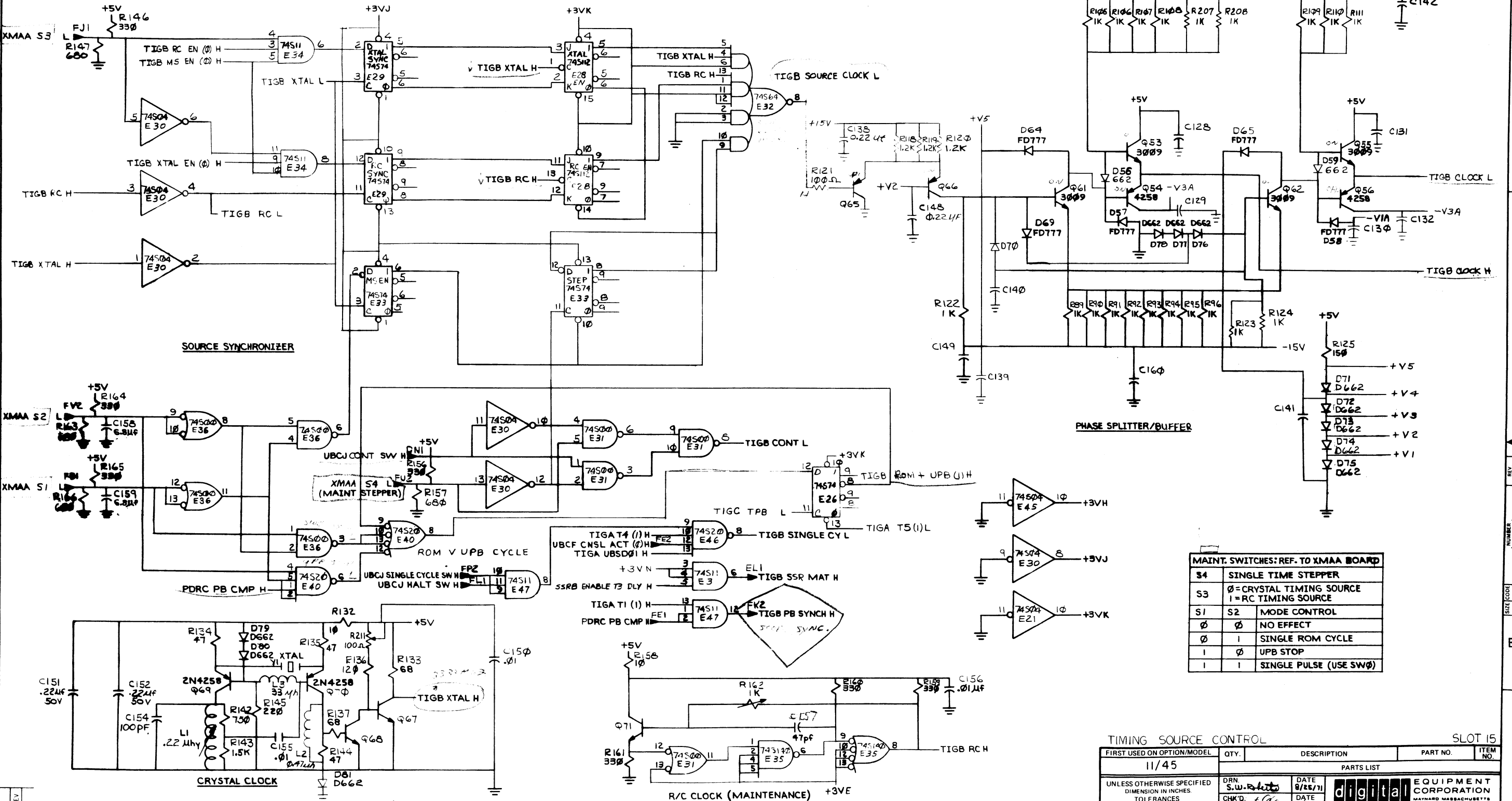
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TIMING GENERATOR CONTROL				SLOT 15	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED		DATE	digital EQUIPMENT CORPORATION		
DIMENSION IN INCHES		8/25/71	MAYNARD MASSACHUSETTS		
TOLERANCES		DATE	TITLE		
DECIMALS	ANGLES	7/20/72	TIMING GENERATOR		
.XXX - .005	±0° 30'	DATE			
.XX - .02		7-20-72			
.X - .1		DATE			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE			
MATERIAL		DATE			
NEXT HIGHER ASSY.		DATE			
FINISH		DATE			
SCALE		DATE			
SHEET 2 OF 6		DATE			
DIST.		DATE			
SIZE CODE		DATE			
NUMBER		DATE			
REV.		DATE			
DCS M8109-0-1		DATE			
T.		DATE			



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MAINT. SWITCHES: REF. TO XMAA BOARD

S4	SINGLE TIME STEPPER
S3	Ø = CRYSTAL TIMING SOURCE 1 = RC TIMING SOURCE
S1	S2 MODE CONTROL
Ø	Ø NO EFFECT
Ø	1 SINGLE ROM CYCLE
1	Ø UPB STOP
1	1 SINGLE PULSE (USE SWØ)

TIMING SOURCE CONTROL SLOT 15

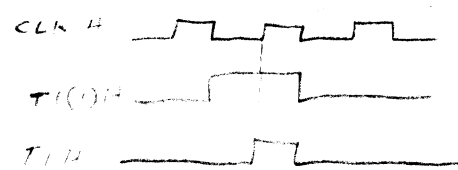
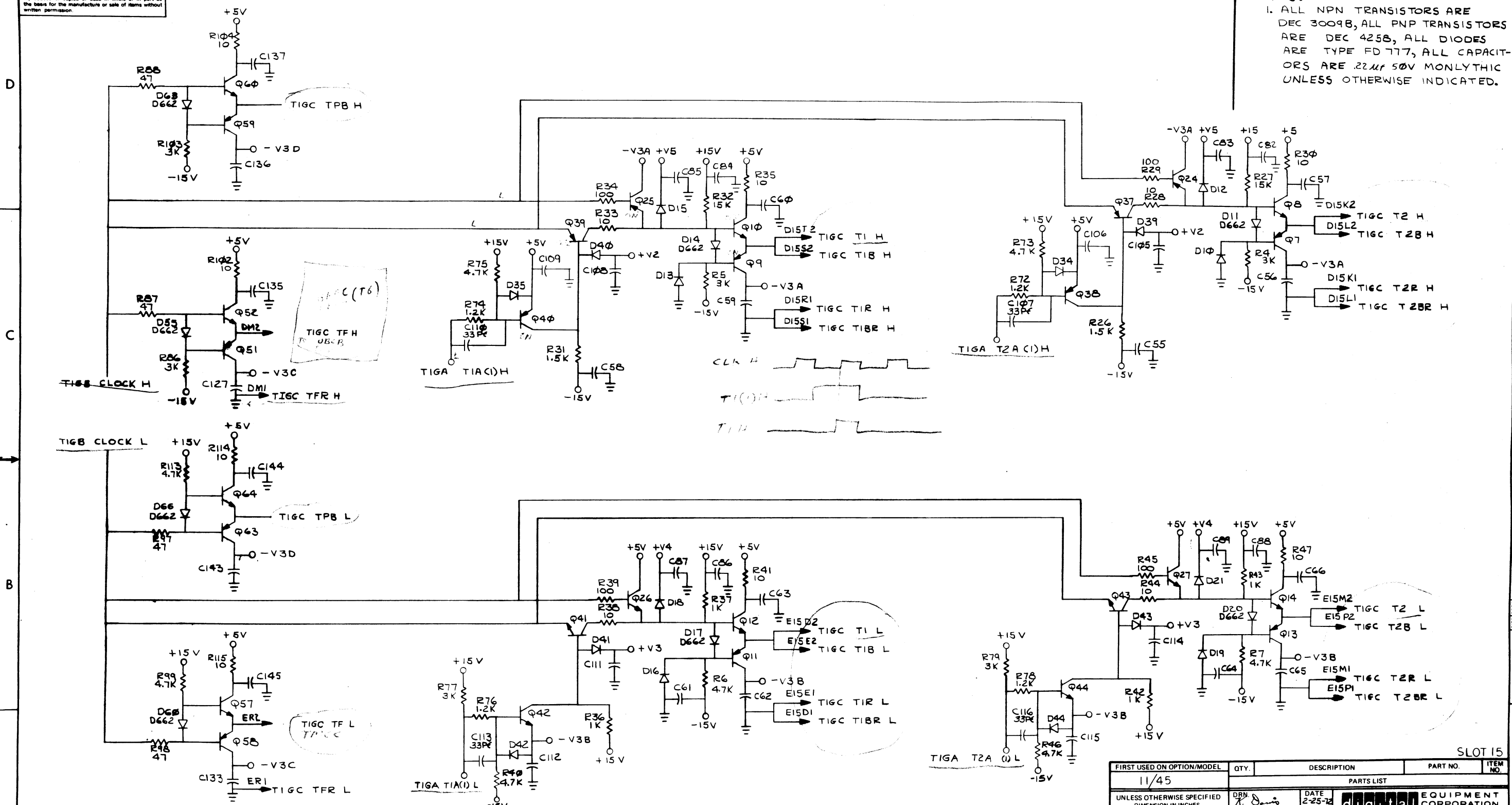
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN. S.W. <i>W. L. W.</i>	DATE 8/25/71	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
DECIMALS	ANGLES	CHK'D. <i>W. L. W.</i>	DATE 7/2/72	
.xxx - .005	±0° 30'	ENG. <i>W. L. W.</i>	DATE 8/2/72	
.xx - .02		PROJ. ENG. <i>W. L. W.</i>	DATE 8/2/72	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD. <i>W. L. W.</i>	DATE 4.1.72	
MATERIAL	NEXT HIGHER ASSY.	TIMING GENERATOR (TIGB)		
FINISH	B-DD-KB11-Ø			
SCALE	3 OF 6			
SHEET		SIZE CODE	NUMBER	R/V
		D C S	M81Ø9-Ø-1	T
		DIST.		

REVISIONS

NO.	CHANGE NO.	REV.

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NOTES:
 1. ALL NPN TRANSISTORS ARE DEC 3009B, ALL PNP TRANSISTORS ARE DEC 425B, ALL DIODES ARE TYPE FD 717, ALL CAPACITORS ARE .22UF 50V MONLYTHIC UNLESS OTHERWISE INDICATED.



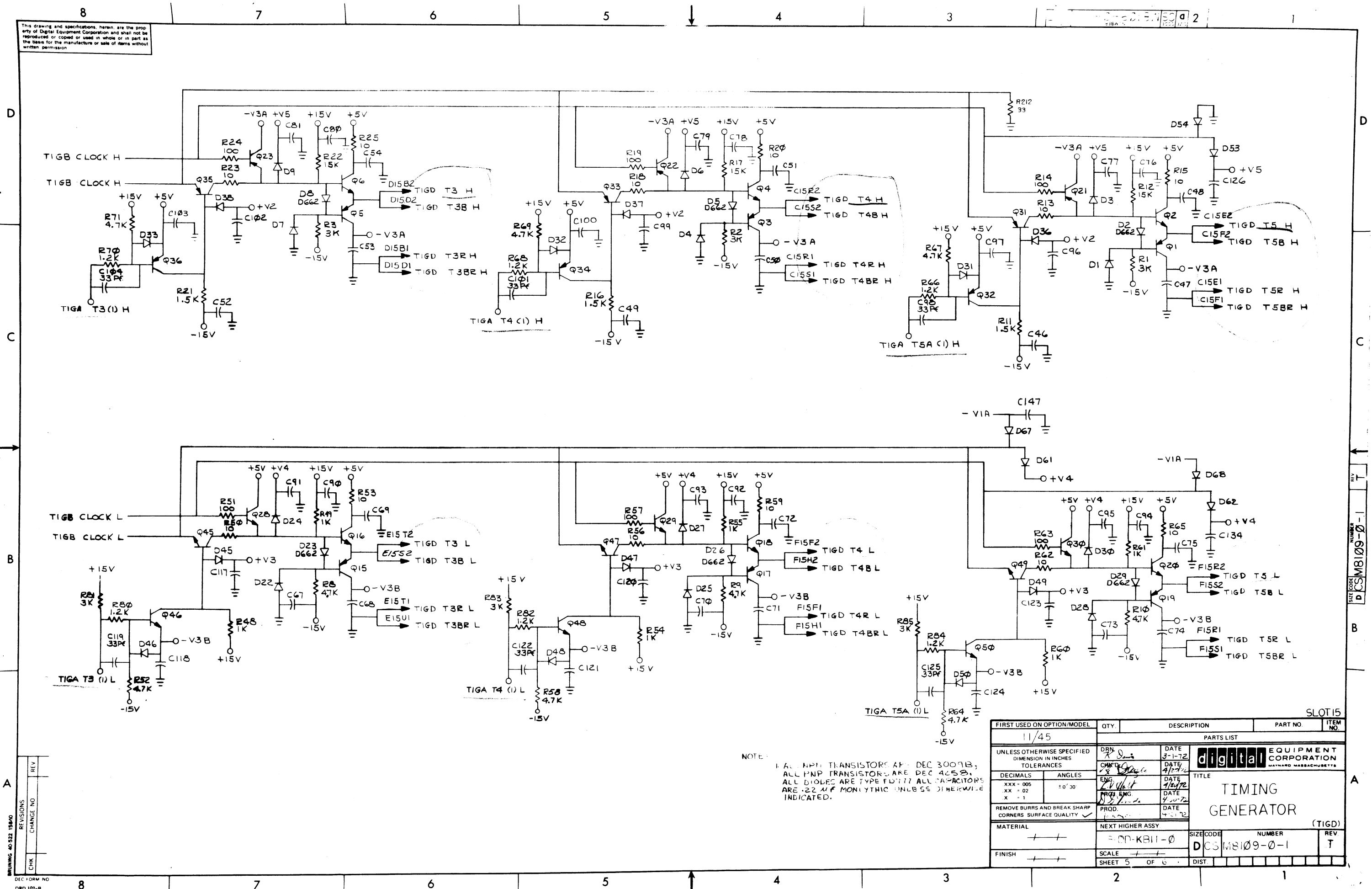
REV	CHANGE NO	REVISIONS

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN K. Dennis	DATE 2-25-72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS ANGLES	CHK D. G. Gage	DATE 4-27-72		
XXX = .005 XX = .02 X = .1	ENG K. G. Gage	DATE 4-12-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	BRN ENG K. G. Gage	DATE 4-20-72		
MATERIAL	PROD.	DATE 4-1-72	TITLE TIMING GENERATOR (TIGC)	
FINISH			NEXT HIGHER ASSY. R-DD-KB11-0	
			SIZE CODE DCS M8109-0-1	NUMBER T
			SCALE	DIST
			SHEET 4 OF 6	

REV 1
 NUMBER DCS M8109-0-1
 SIZE CODE

SLOT 15

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NOTE: ALL PNP TRANSISTORS ARE DEC 3009B, ALL PNP TRANSISTORS ARE DEC 425B, ALL DIODES ARE TYPE FD177, ALL CAPACITORS ARE .22 MF MONOLITHIC UNLESS OTHERWISE INDICATED.

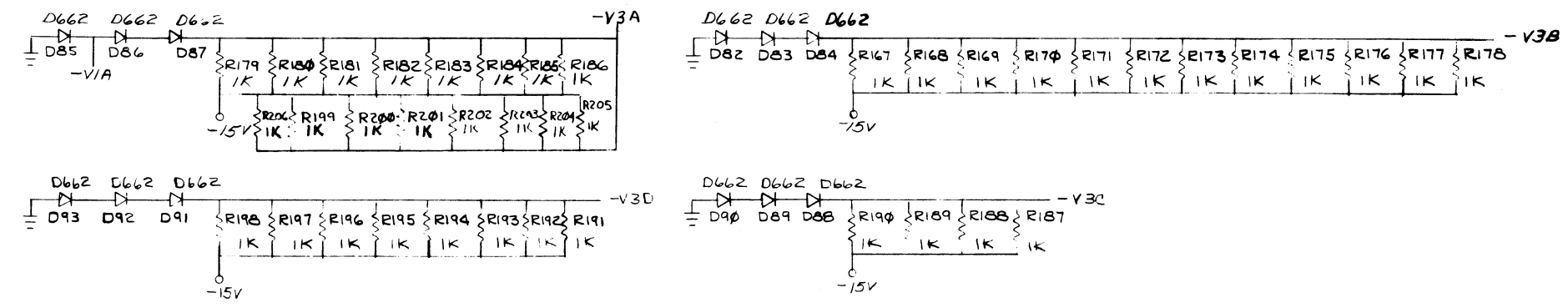
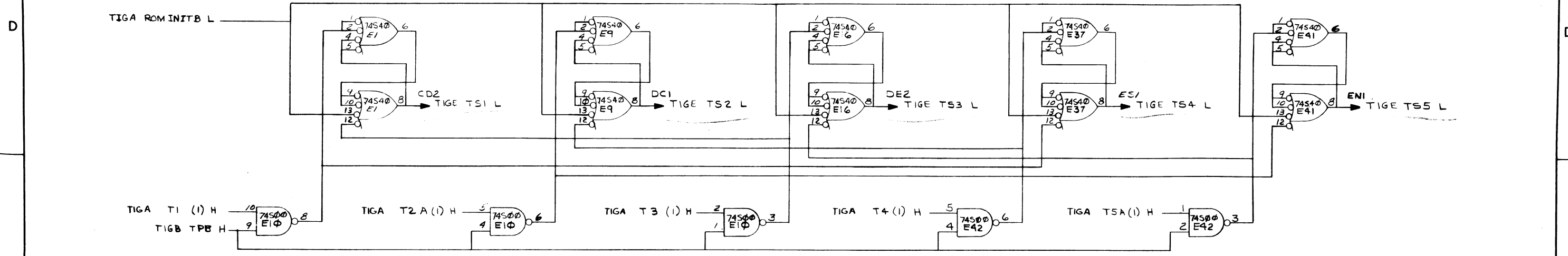
REV	NO
CHK	NO
CHANGE NO	
REVISONS	
DEC FORM NO	DRD 102-B

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.									
11/45													
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES													
DECIMALS	ANGLES	PARTS LIST											
xxx - 005	± 0° 30'	<table border="1"> <tr> <td>DRN</td> <td>DATE</td> <td rowspan="4"> </td> </tr> <tr> <td>CHK</td> <td>DATE</td> </tr> <tr> <td>ENG</td> <td>DATE</td> </tr> <tr> <td>PROD. ENG</td> <td>DATE</td> </tr> </table>			DRN	DATE		CHK	DATE	ENG	DATE	PROD. ENG	DATE
DRN	DATE												
CHK	DATE												
ENG	DATE												
PROD. ENG	DATE												
xxx - 005	± 0° 30'	TITLE											
xx - 02	± 0° 30'	TIMING GENERATOR (TIGD)											
x - 01	± 0° 30'	CORNERS SURFACE QUALITY											
MATERIAL		NEXT HIGHER ASSY											
FINISH		SCALE											
		SHEET 5 OF 6											
		SIZE CODE NUMBER REV											
		DCS M8109-0-1 T											

REV T
NUMBER DCS M8109-0-1
SIZE CODE D

SLOT 15

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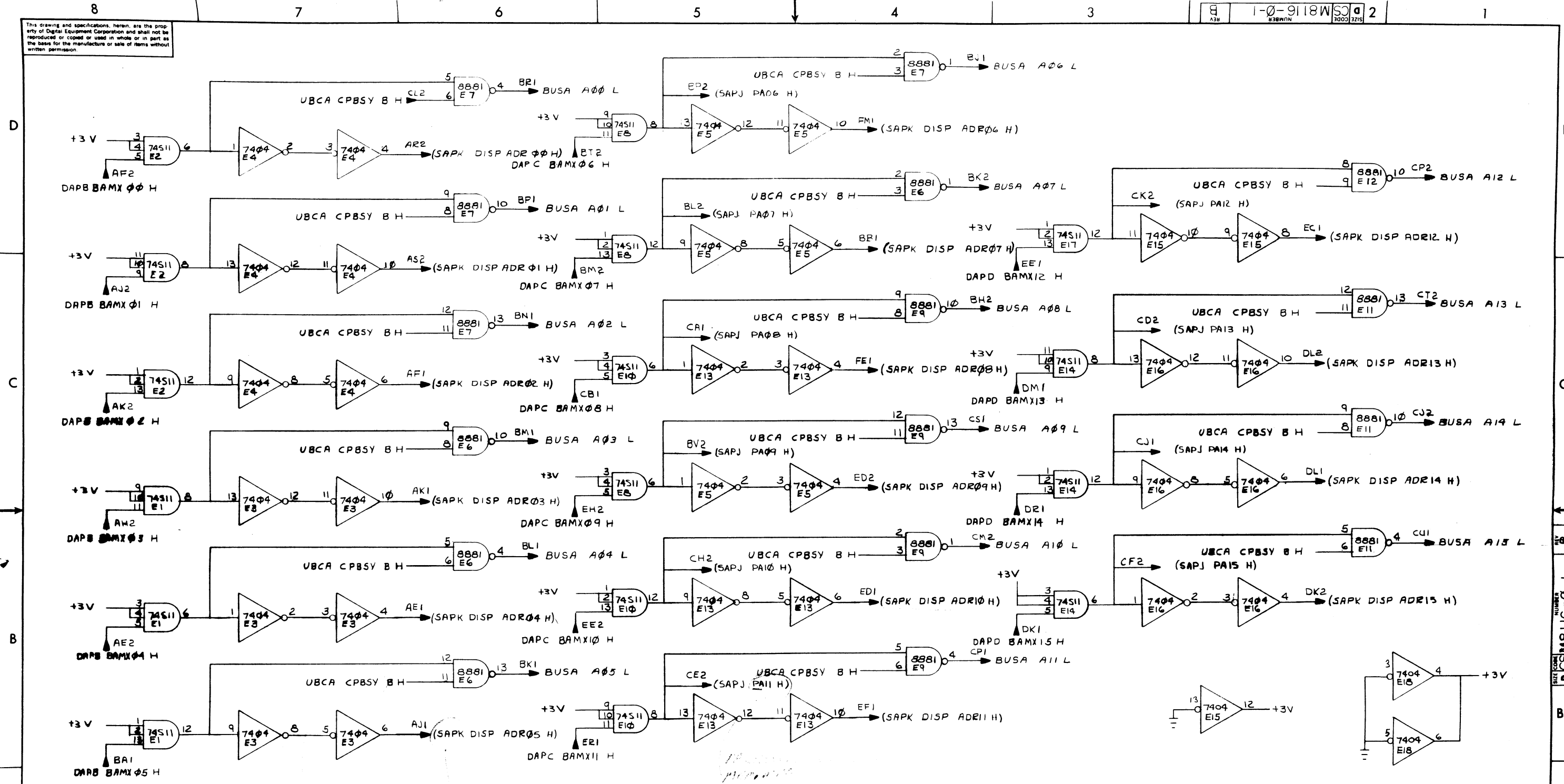
REVISIONS	REV
CHANGE NO	
CHK	

TIMING STATE DRIVERS				SLOT 15	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN <i>Z. Canberry</i>	DATE 8-25-71	<p>TITLE TIMING GENERATOR</p>		
DECIMALS	ENG <i>W. S. Sear</i>	DATE 1/20/72			
ANGLES .XX = .005 .X = .1	PROJ ENG <i>W. S. Sear</i>	DATE 4-20-72			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD <i>W. S. Sear</i>	DATE 4-21-72			
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER		
FINISH	SCALE	DCS M8109-0-			
	SHEET 6 OF 6	DIST.			

PART CODE NUMBER
 DCS M8109-0-1

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1-0-9118W SCS 2



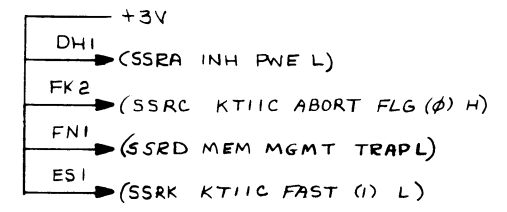
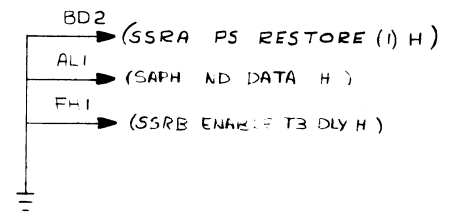
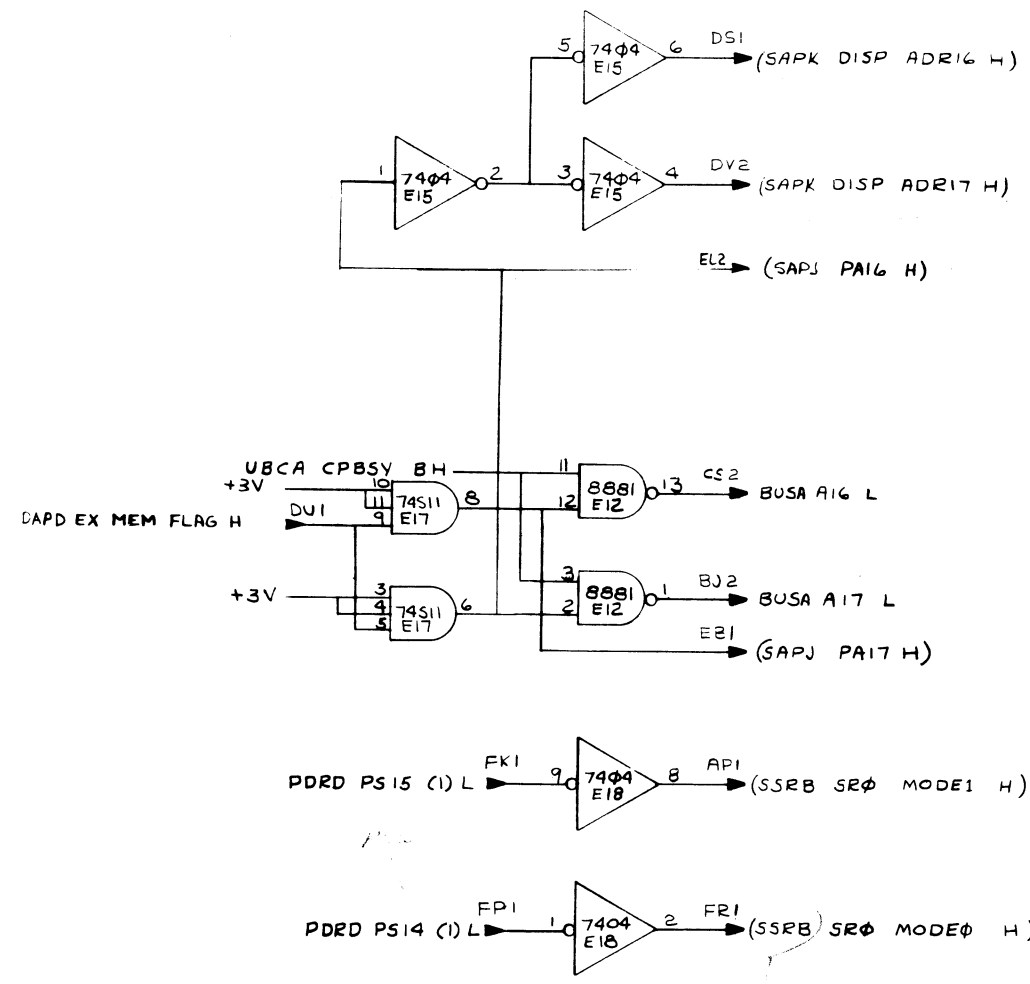
ADDRESS LINES 0-15

SLOT 14

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN <i>X Davis</i> CHKD <i>J. F. ...</i>	DATE 11-18-71 3/2/72	 digital EQUIPMENT CORPORATION <small>MAYNARD MASSACHUSETTS</small>	
DECIMALS	ANGLES	DATE		
XXX + 005 XX + 02 X + 1	± 0° 30'	3/2/72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. ENG. <i>...</i> PROD. <i>...</i>	DATE 3/2/72		
MATERIAL	NEXT HIGHER ASSY.	TITLE		
FINISH	B-DD-11/45-0	SYSTEM ADDRESS BUFFERS (SJBA)		
	SCALE	SIZE CODE	NUMBER	REV
	SHEET 2 OF 3	DCS	M8116-0-1	B

REVISIONS
CHANGE NO.
CHK

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UBCA
 SUPER
 LTR

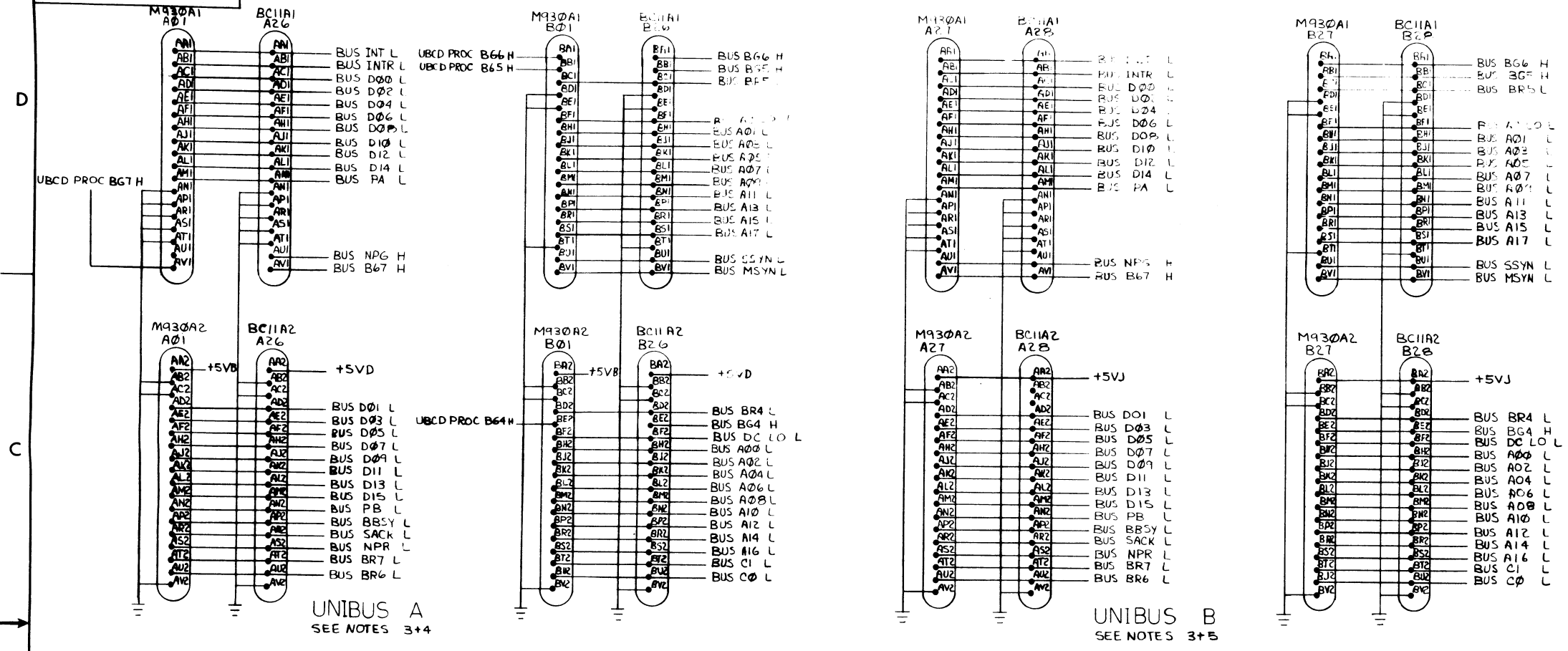
11/18/71
 3/2/72
 3/2/72
 3/2/72

MISC. SIGNALS AND ADRS. LINES 16 & 17 SLOT 14

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS TITLE SYSTEM ADDRESS BUFFERS	
DECIMALS	CHKD	DATE		
ANGLES	ENG	DATE		
XXX = .005 XX = .02 X = .1	PROJ. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD	DATE	MATERIAL NEXT HIGHER ASSY SCALE S-11	

REV	CHANGE NO	REVISIONS

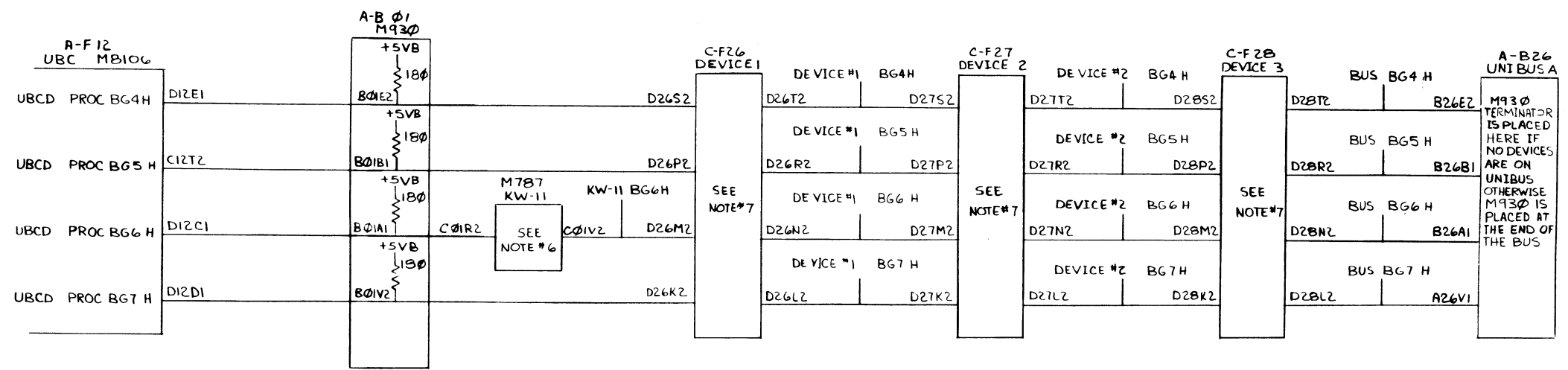
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- NOTES:
- UNIBUS A IS A CONVENTIONAL UNIBUS WITH PRIORITY ARBITRATION CONTAINED WITHIN THE KB11-A
 - UNIBUS B IS TRANSPARENT TO THE KB11-A IN THAT NO PRIORITY ARBITRATION IS PRESENT; SEMICONDUCTOR MEMORY (UNIBUS PORT) IS TIED TO BUS B.
 - TO CONNECT SEMICONDUCTOR MEMORY TO UNIBUS A IN SINGLE BUS CONFIGURATION BUS A (A26) IS CONNECTED TO BUS B (A27) VIA M930 AND BUS B OUT (A28) BECOMES UNIBUS OUT.
 - BUS A SIGNAL PREFIXES IN KB11-A REFER TO UNIBUS A IN MULTIBUS CONFIGURATIONS.
 - BUS B SIGNAL PREFIXES IN MS11 REFER TO UNIBUS B IN MULTIBUS CONFIGURATIONS.
 - C01R2 - C01V2 MUST BE DELETED ON BACKPANEL WHEN KW11 IS INSTALLED.
 - WHEN NO DEVICE IS INSERTED G727 MUST BE PLACED IN THE 'D' SLOT TO JUMPER GRANT LINES TO UNIBUS OUT.

UNIBUS A
SEE NOTES 3+4

UNIBUS B
SEE NOTES 3+5



M930 TERMINATOR IS PLACED HERE IF NO DEVICES ARE ON UNIBUS OTHERWISE M930 IS PLACED AT THE END OF THE BUS

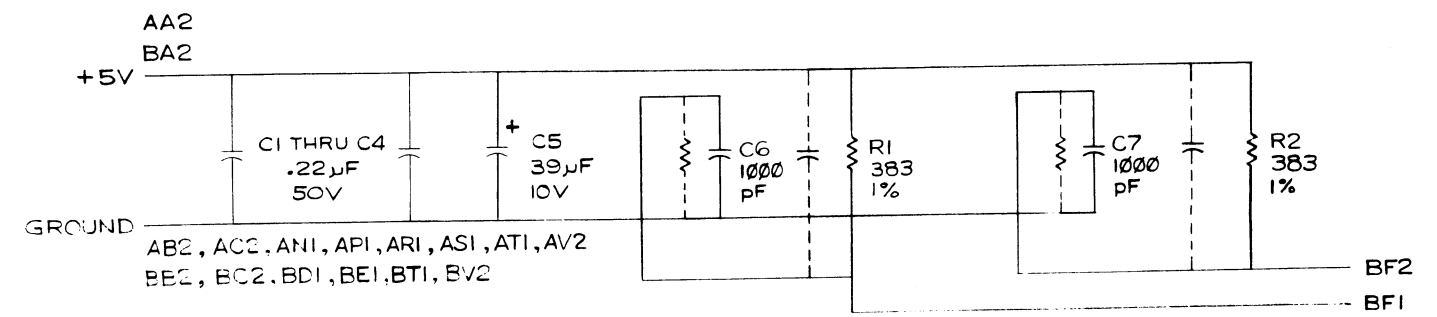
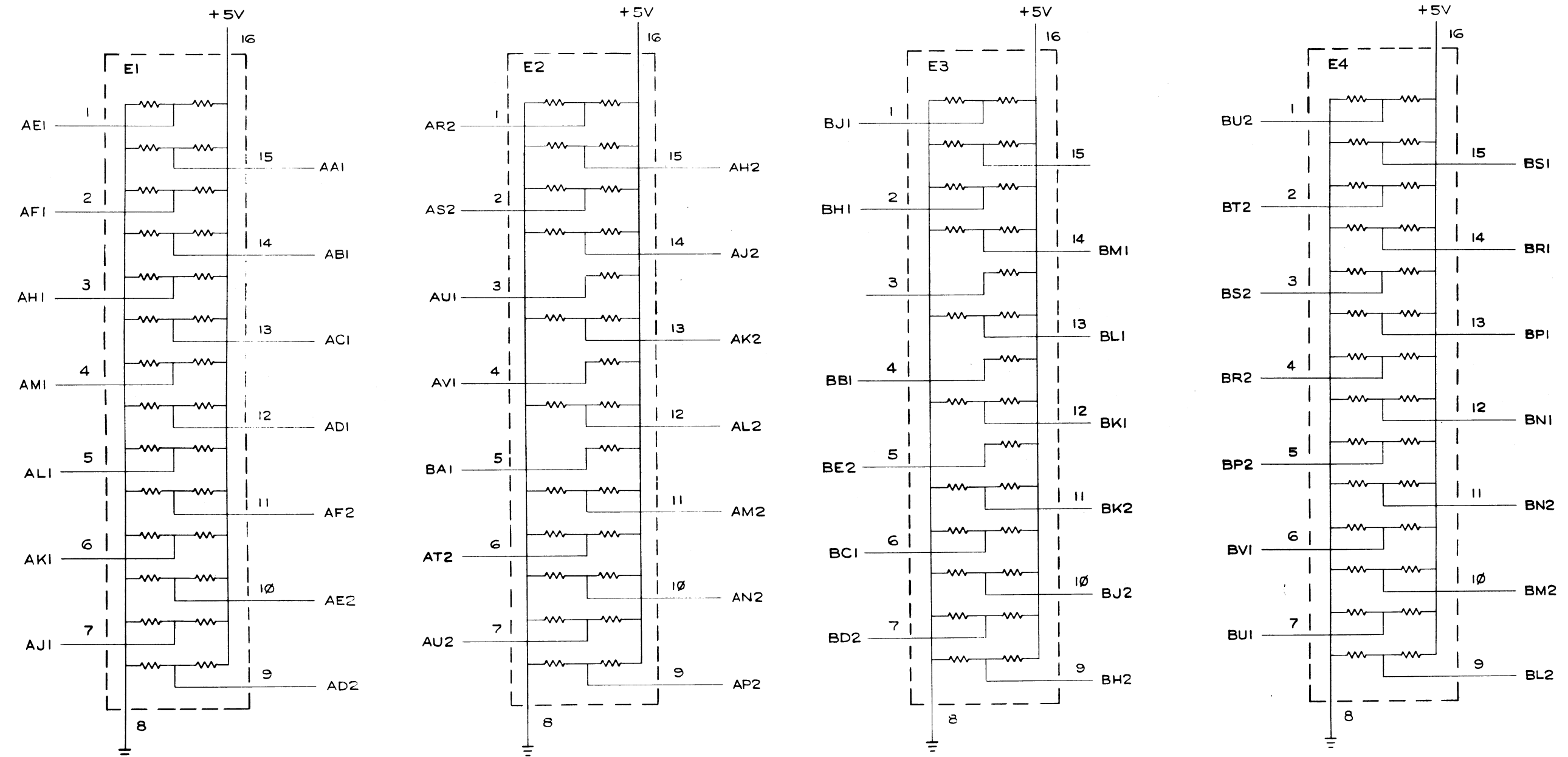
REV	CHANGE NO

DEC FORM NO DRD 102-B

FIRST USED ON OPTION/MODEL 11/45	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN: [Signature]	DATE: 3/27/72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .xxx = .005 XX = .02 X = .1	CHK'D: [Signature]	DATE: 4/27/72	TITLE BUS CABLES AND GRANT CHAIN (BUS)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	ENG: [Signature]	DATE: 4/27/72	MATERIAL: [Blank]	
	PROV. ENG: [Signature]	DATE: 4/27/72	NEXT HIGHER ASSY: B-DD-KB11-A	
	PROD. [Signature]	DATE: 4/27/72	SCALE: [Blank]	
			SHEET 1 OF 1	
			DIST. [Blank]	

REV
NUMBER
SIZE CODE
D I C KB11-A-BG

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REVISIONS		
CHK	CHANGE NO.	REV.

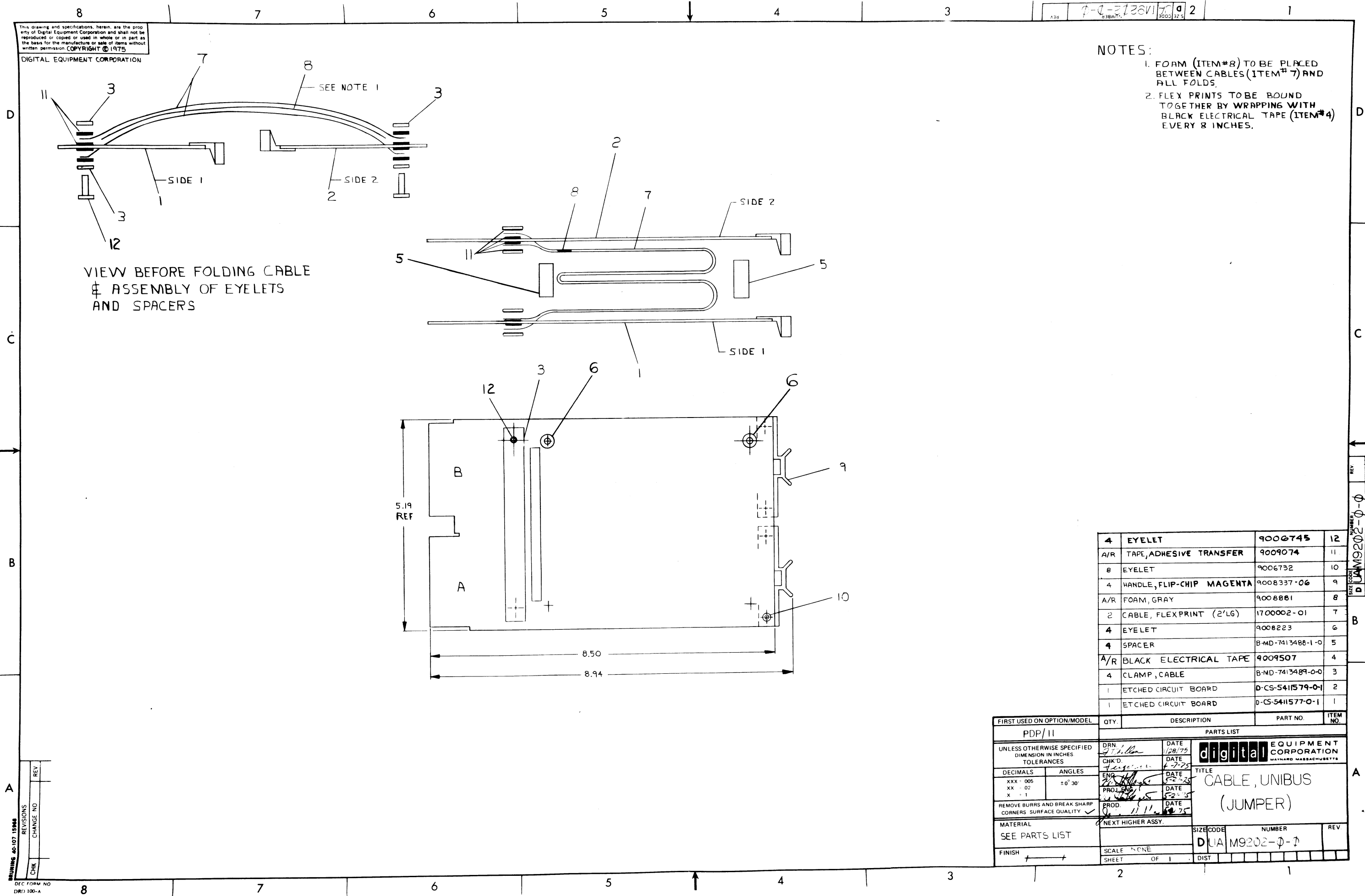
TITLE	SIZE CODE	NUMBER	REV.
BUS TERMINATOR	D CS	M930-0-1	E
SCALE	SHEET	OF	DIST.
	2	2	

REV. E
NUMBER M930-0-1
D CS

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NOTES:

1. FOAM (ITEM#8) TO BE PLACED BETWEEN CABLES (ITEM#7) AND ALL FOLDS.
2. FLEX PRINTS TO BE BOUND TOGETHER BY WRAPPING WITH BLACK ELECTRICAL TAPE (ITEM#4) EVERY 8 INCHES.



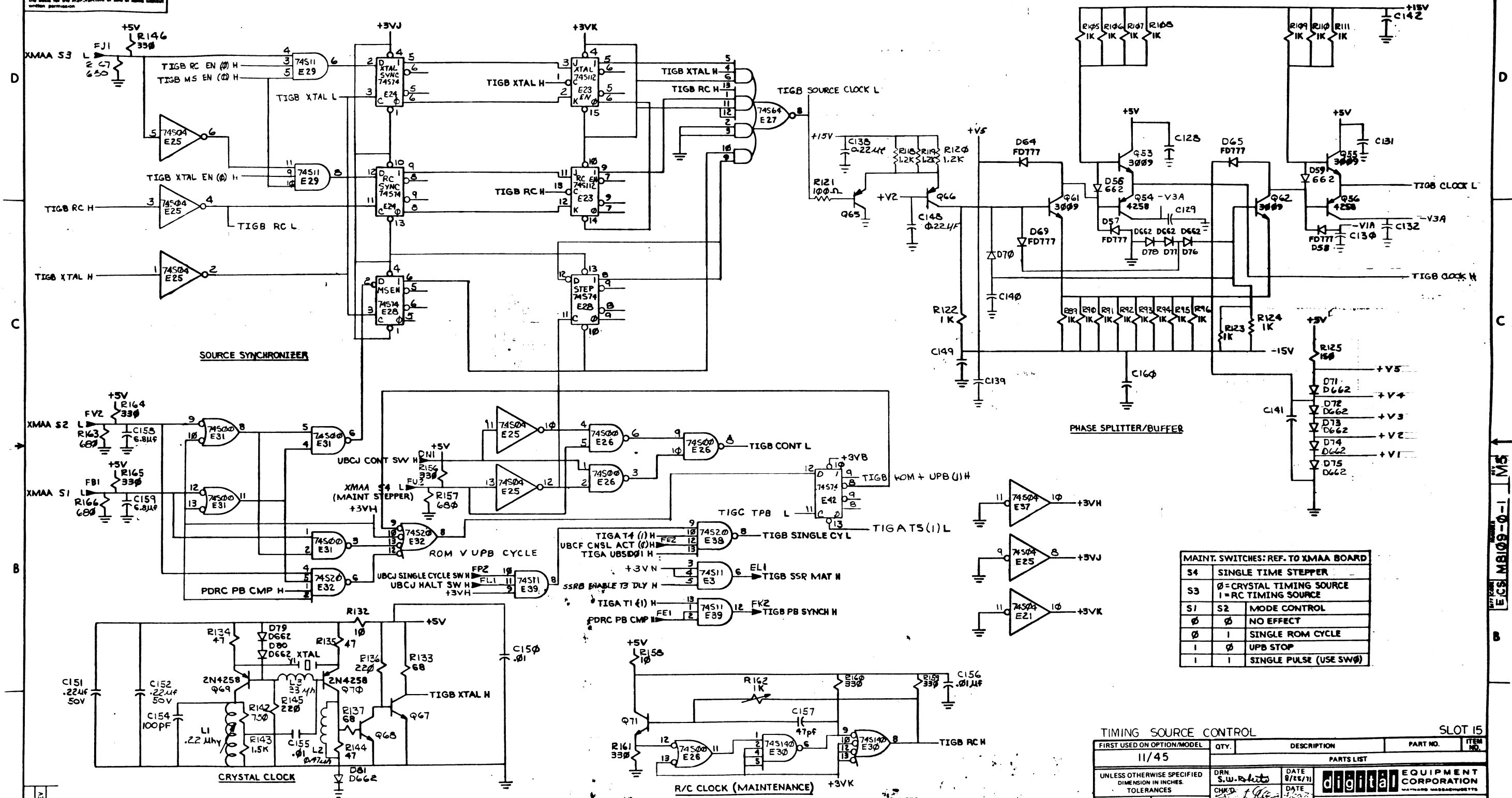
QTY.	DESCRIPTION	PART NO.	ITEM NO.
4	EYELET	9006745	12
A/R	TAPE, ADHESIVE TRANSFER	9009074	11
8	EYELET	9006732	10
4	HANDLE, FLIP-CHIP MAGENTA	9008337-06	9
A/R	FOAM, GRAY	9008881	8
2	CABLE, FLEXPRINT (2'LG)	1700002-01	7
4	EYELET	9008223	6
4	SPACER	B-MD-7413488-1-0	5
A/R	BLACK ELECTRICAL TAPE	9009507	4
4	CLAMP, CABLE	B-MD-7413489-0-0	3
1	ETCHED CIRCUIT BOARD	D-CS-5411579-0-1	2
1	ETCHED CIRCUIT BOARD	D-CS-5411577-0-1	1

FIRST USED ON OPTION/MODEL PDP/11	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. 1/28/75	DATE 1/28/75	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	CHK'D. 1/27/75	DATE 1/27/75	TITLE CABLE, UNIBUS (JUMPER)	
ANGLES	ENG. 1/28/75	DATE 1/28/75	SIZE CODE D	
XXX - .005	PROL. 1/28/75	DATE 1/28/75	NUMBER M9202-0-0	
XX - .02	PROD. 1/28/75	DATE 1/28/75	REV. 1	
X - .1	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		SCALE NONE	
MATERIAL	NEXT HIGHER ASSY.		SHEET OF 1	
SEE PARTS LIST			DIST	
FINISH				

BRUNING 40-107 15946
DEC FORM NO
DRI 100-A

NUMBER
DUA M9202-0-0

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MAINT. SWITCHES: REF. TO XMAA BOARD

S4	SINGLE TIME STEPPER
S3	0 = CRYSTAL TIMING SOURCE 1 = RC TIMING SOURCE
S1	MODE CONTROL
0	NO EFFECT
0	SINGLE ROM CYCLE
1	UPB STOP
1	SINGLE PULSE (USE SW0)

TIMING SOURCE CONTROL SLOT 15

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DRN. S.W. R. <i>[Signature]</i>	DATE 8/25/71	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
.XXX - .005	± 0° 30'	CHK'D. <i>[Signature]</i>	DATE 1/20/72	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
TITLE TIMING GENERATOR (TIGB)				
MATERIAL		NEXT HIGHER ASSY.		NUMBER
FINISH		B-DD-KB11-0		REV M5
SCALE		C CS M8109-01		
SHEET 3 OF 6		DIST.		

NOTE:
1. ALL NPN TRANSISTORS ARE DEC 3009B AND ALL PNP TRANSISTORS ARE DEC 425B UNLESS OTHERWISE NOTED. ALL DIODES ARE TYPE FD777 UNLESS OTHERWISE INDICATED.

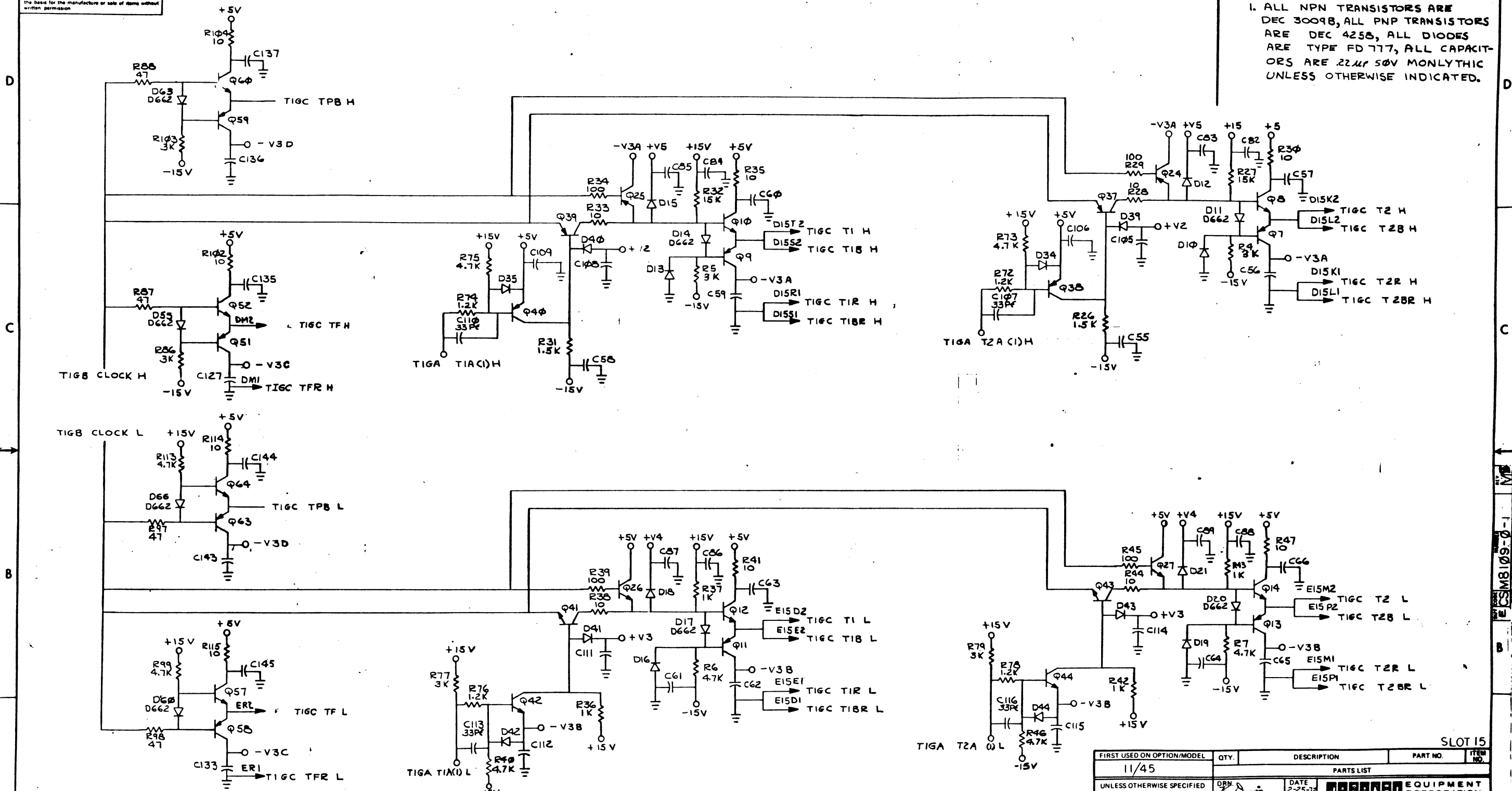
FOR USE IN APPLICATION

REVISIONS

REV	CHANGE NO.

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NOTES:
1. ALL NPN TRANSISTORS ARE DEC 3009B, ALL PNP TRANSISTORS ARE DEC 425B, ALL DIODES ARE TYPE FD 777, ALL CAPACITORS ARE .22UF 50V MONLYTHIC UNLESS OTHERWISE INDICATED.



CAUTION
NON-STANDARD DRAWING
FOR SPECIAL APPLICATION

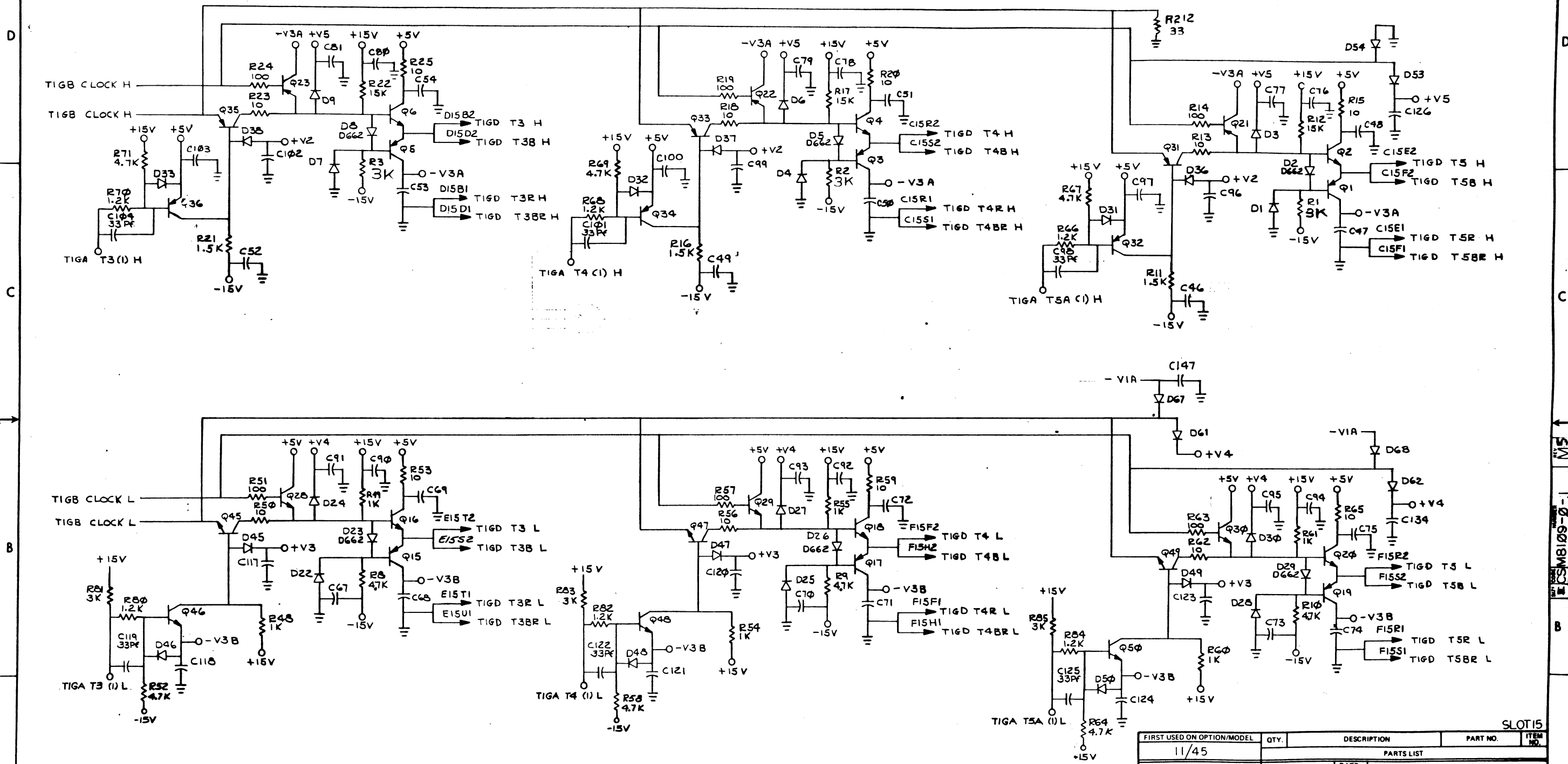
BRUNING 40322 15640
DEC FORM NO DND 102-B

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN <i>A. Davis</i>	DATE 2-25-72	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
DECIMALS ANGLES		CHK'D <i>[Signature]</i>	DATE 4/25/72	
XXX = .006 XX = .02 X = .1		ENG <i>R. J. G. [Signature]</i>	DATE 7/15/72	TITLE TIMING GENERATOR (TIGC)
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROJ. ENG. <i>[Signature]</i>	DATE 4/20/72	
MATERIAL	NEXT HIGHER ASSY.	PROD. <i>[Signature]</i>	DATE 4-21-72	
FINISH	SCALE	SHEET 4 OF 6		REV. M5
		DIST.		

CSM8109-0-1

SLOT 15

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REV	CHANGE	NO

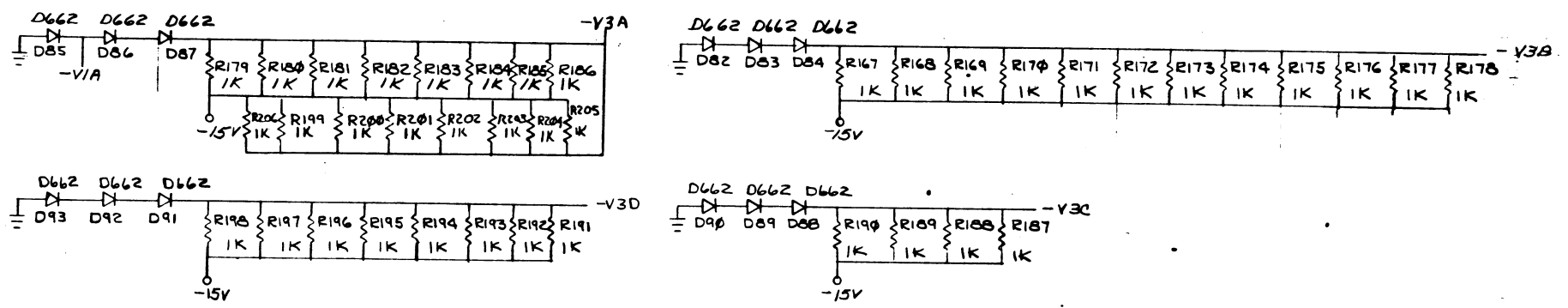
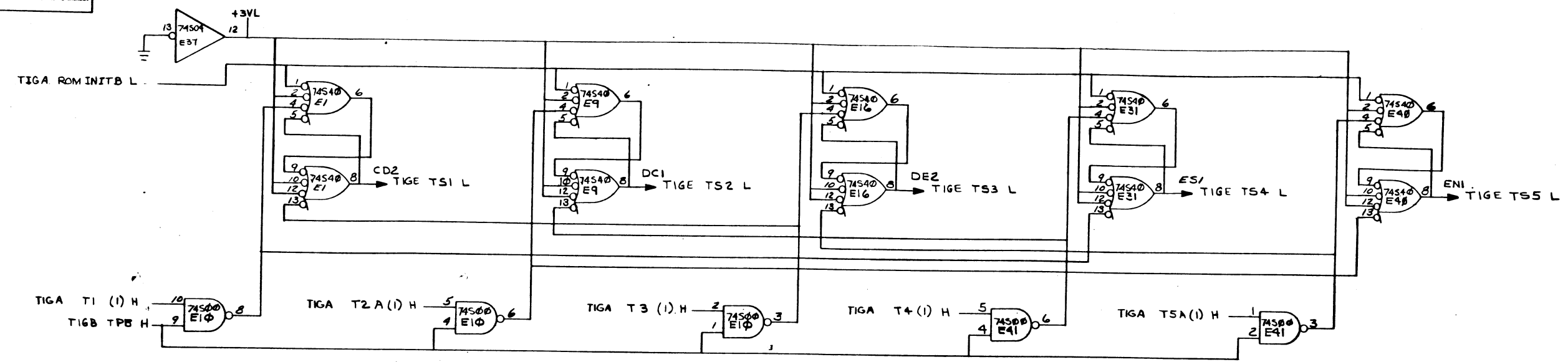
CAUTION
NON-STANDARD DRAWING
FOR SPECIAL APPLICATION

NOTE: ALL NPN TRANSISTORS ARE DEC 3009B, ALL PNP TRANSISTORS ARE DEC 425B, ALL DIODES ARE TYPE FD717 ALL CAPACITORS ARE .22 uF MONOBYTHIC UNLESS OTHERWISE INDICATED.

FIRST USED ON OPTION/MODEL 11/45	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN K. Dorn	DATE 3-1-72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	CHK'D V. O'Neil	DATE 4-27-72	TITLE TIMING GENERATOR (TIGD)	
ANGLES	ENG D. J. Tompkins	DATE 4-20-72	REV. M5	
XXX - 005	PRD V. O'Neil	DATE 4-21-72	NEXT HIGHER ASSY. B-DD-KB11-0	
XX - 02	PROQ	DATE	SIZE CODE C CS M8109-0-1	NUMBER
X - 1	PROQ	DATE	SCALE SHEET 5 OF 6	DIST
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
FINISH				

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SW 1-0-6018W S3 2



CAUTION
NON-STANDARD DRAWING
FOR SPECIAL APPLICATION

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/45					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN <i>J. Carberry</i>	DATE 8-25-71	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS		CHKD <i>J. F. Star</i>	DATE 1/20/72		
ANGLES		ENG. <i>J. F. Star</i>	DATE 4-20-72	TITLE TIMING GENERATOR (TIGE)	
XXX = .005 XX = .02 X = .1		PRQY. ENG. <i>J. F. Star</i>	DATE 4-21-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD. <i>J. F. Star</i>	DATE 4-21-72		
MATERIAL	FINISH	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
—	—	B-DD-KB11-0		C	M8109-0-1
SCALE		SHEET 6 OF 6		DIST.	REV.
—					M5

REVISIONS	CHK	CHANGE NO.	REV.

ECS M8109-0-1 M5



digital

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS 01754