

CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

SEQUENCE		SEQUENCE	
	DRAWING DIRECTORY KB11-C (SHEET 1 ONLY)		B-DD-KB11-C
	16 BIT PROCESSOR		B-PL-KB11-C-Ø
	FLOW DIAGRAMS	5	D-FD-KB11-C-1
	BLOCK DIAGRAM	19	D-BD-KB11-B-2
	BLOCK DIAGRAM		D-BD-KB11-B-3
	UNIBUS CABLE & GRANT CHAIN		D-IC-KB11-B-7
	DATA PATHS	23	D-CS-M813Ø-Ø-1
	GEN REG & ALU. CONTROLS	31	D-CS-M8131-Ø-1
	IR DECODE	41	D-CS-M8132-Ø-1
	CONSOLE BOARD	51	D-CS-5411294-Ø-1
	PROC. DATA & UNIBUS CONTROL	55	D-CS-M8134-Ø-1
	ROM & ADDRESS CONTROL	65	D-CS-M8123-Ø-1
	TIMING GENERATOR	79	D-CS-M8139-Ø-1
	TRAPS & MISC. CONTROL	85	D-CS-M8135-Ø-1
	UNIBUS & CONSOLE CONTROL	93	D-CS-M8136-Ø-1
	TIMING DIAGRAM	100	D-TD-M8136-Ø-7
	FLOW DIAGRAM	101	D-FD-M8136-Ø-8
	ADDRESS MEMORY BOARD	103	D-CS-M8143-Ø-1
	CACHE CONTROL BOARD	115	D-CS-M8142-Ø-1
	CACHE DATA PATHS	127	D-CS-M8145-Ø-1
	BLOCK DIAGRAM		B-BD-M8145-Ø-7
	DATA MEMORY BOARD	139	D-CS-M8144-Ø-1
	MEM. MGMT BLOCK DIAGRAM	153	D-BD-KB11-B-8
	MEM. MGMT REGISTERS	154	D-BD-KB11-B-4
	CACHE ADDRESS TIMING	155	D-TD-KB11-B-1Ø
	INT. REG. CYCLE TIMING	156	D-TD-KB11-B-9
	MEM. MGMT TRAP TIMING	157	B-BD-KB11-B-5
	SYSTEM ADDRESS PATHS	159	D-CS-M8137-Ø-1
	SYSTEM DESCRIPTOR AND CONSOLE CABLES	171	D-CS-M814Ø-Ø-1
	SYSTEM STATUS REGISTERS	185	D-CS-M8138-YA-1
	UNIBUS MAP (M8141) B.D.	197	B-BD-KB11-B-6
	UNIBUS MAP		D-CS-M8141-Ø-1
	PROCESSOR BACK PLANE	206	E-AD-7010329-0-0
	AWT REV STATUS		A-WT-7010329-0

FOR KB11-CM PRINT SET REFER TO 11/74 ELECTRICAL PRINT SET B-TC-11/74 ORDER NUMBER MP00921

UNIT VARIATIONS		PRINT SET	
VAR	TITLE	1	
KB11-C	16 BIT PROCESSOR	X	
KB11-CM	16 BIT PROCESSOR WITH MP CAPABILITY		
PAGE	TITLE		
5	FLOW		
19	BLOCK		
23	DATA PATHS		
31	GEN. REG. + ALU.		
41	IR DECODE		

REV	CHG. NO.	DATE
A	1170 00007	7/11/75
B	KB11C-TWØØ2	7/27/75

USED ON OPTION/MODEL	DRN. TOM NOTHRUP	DATE	TITLE
	CHK'D.	9/11/75	DRAWING DIRECTORY 16 BIT PROCESSOR
	D. HEALY	9/18/75	
	PROJ ENG.	11/25/75	
	PROD.	11/26/75	
	FIELD SERV.		

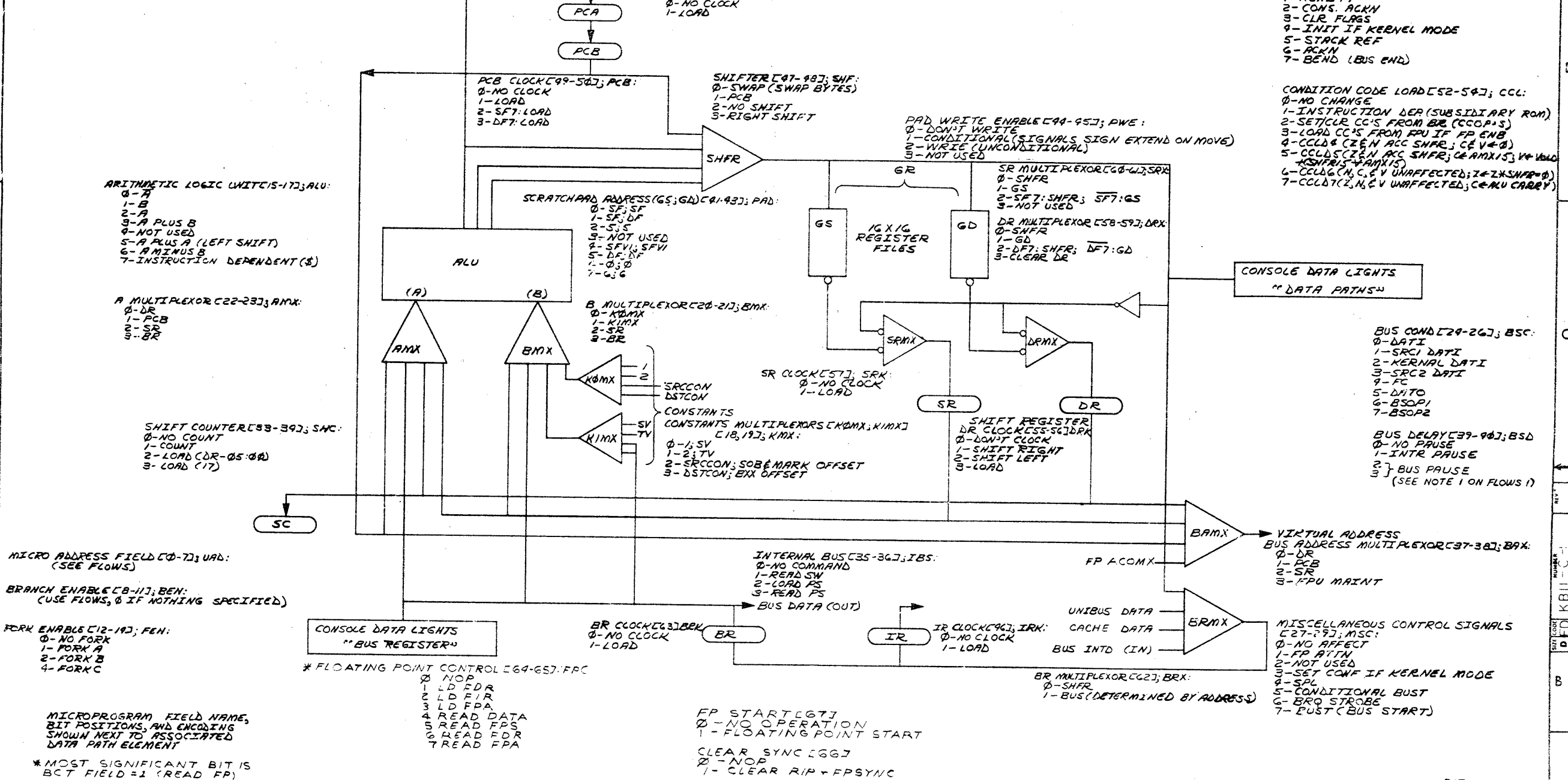
SIZE	CODE	NUMBER	REV
B	DD	KB11-C	B

SHEET	OF	DIST
1	7	

EN-01062-1A-16-R972-1325

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ARITHMETIC LOGIC UNIT (15-17); ALU:
 0-A
 1-B
 2-A
 3-A PLUS B
 4-NOT USED
 5-A PLUS A (LEFT SHIFT)
 6-A MINUS B
 7-INSTRUCTION DEPENDENT (S)

A MULTIPLEXOR (22-23); AMX:
 0-DR
 1-PCB
 2-SR
 3-BR

SHIFT COUNTER (33-34); SC:
 0-NO COUNT
 1-COUNT
 2-LOAD (DR-05-00)
 3-LOAD (17)

MICRO ADDRESS FIELD (0-7); UAD:
 (SEE FLOWS)

BRANCH ENABLE (8-11); BEN:
 (USE FLOWS, 0 IF NOTHING SPECIFIED)

FORK ENABLE (12-14); FEN:
 0-NO FORK
 1-FORK A
 2-FORK B
 4-FORK C

MICROPROGRAM FIELD NAME,
 BIT POSITIONS, AND ENCODING
 SHOWN NEXT TO ASSOCIATED
 DATA PATH ELEMENT
 *MOST SIGNIFICANT BIT IS
 BCT FIELD = 1 (READ FP)

* FLOATING POINT CONTROL (64-65); FPC:
 0-NOP
 1-LD FDR
 2-LD FIR
 3-LD FPA
 4-READ DATA
 5-READ FPS
 6-READ FDR
 7-READ FPA

FP START (67)
 0-NO OPERATION
 1-FLOATING POINT START
 CLEAR SYNC (66)
 0-NOP
 1-CLEAR RIP + FPSYNC

BUS CONTROL (30-32); BCT:
 0-NO AFFECT
 1-READ FP
 2-CONS. ACKN
 3-CLR FLAGS
 4-INIT IF KERNEL MODE
 5-STACK REF
 6-ACKN
 7-BEND (BUS END)

CONDITION CODE LOADS (52-54); CCL:
 0-NO CHANGE
 1-INSTRUCTION DEPENDENT (SUBSIDIARY ROM)
 2-SET CLR CC'S FROM BR (CCOP+S)
 3-LOAD CC'S FROM FPU IF FP ENB
 4-CCLD (ZEN ACC SHFR; CEN V+0)
 5-CCLD (ZEN ACC SHFR; CEN V+0)
 6-CCLD (ZEN ACC SHFR; CEN V+0)
 7-CCLD (ZEN ACC SHFR; CEN V+0)

CONSOLE DATA LIGHTS
 "DATA PATHS"

BUS CONTROL (29-26); BSC:
 0-DATI
 1-SRC1 DATI
 2-KERNAL DATI
 3-SRC2 DATI
 4-FC
 5-DATO
 6-BSQPI
 7-BSQPI

BUS DELAY (39-40); BSD:
 0-NO PAUSE
 1-INTR PAUSE
 2-BUS PAUSE
 3-BUS PAUSE
 (SEE NOTE 1 ON FLOWS 1)

VIRTUAL ADDRESS
 BUS ADDRESS MULTIPLEXOR (37-38); BAX:
 0-DR
 1-PCB
 2-SR
 3-FPU MAINT

MISCELLANEOUS CONTROL SIGNALS
 (27-29); MSC:
 0-NO AFFECT
 1-FP ATTN
 2-NOT USED
 3-SET CONF IF KERNEL MODE
 4-SPL
 5-CONDITIONAL BUST
 6-BRO STROBE
 7-BUST (BUS START)

DATA PATHS				
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	GRN	DATE	EQUIPMENT CORPORATION	
DECIMALS	CMR	DATE	TITLE	
ANGLES	ELC	DATE	KBII-C	
XXX + .006	EXC	DATE	FLOW DIAGRAMS	
.XX + .02	EXC	DATE		
X + .1	EXC	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	EXC	DATE		
MATERIAL	EXC	DATE		
FINISH	EXC	DATE		
NEXT HIGHER ASSY.		SCALE	SIZE CODE	NUMBER
B-00-KBII-B		SCALE	D	DFD KBII-C-1
SHEET 1 OF 15		DIST		

REV.	CHG.	NO.	DATE

DIGITAL EQUIP. CORP.

DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES: #1 FOR KB11-C MODULE LOCATIONS,
REFER TO D-UA-11/70-0-0 SHEET 3.

#2 FOR KB11-CM MODULE LOCATIONS
REFER TO D-UA-11/74-0-0 SHEET 12.

MADE BY DATE	TOM NORTHRUP 9-11-75	CHECKED DATE	D. HEALY 9-18-75
ENG DATE	11-25-75	PROD DATE	R. TAYLOR 12-2-75
		SECTION	1
		ISSUED SECTION	1

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	KB11-C	KB11-CM	REF DESIGNATION															
1	D-CS-M8130-0-1	M8130	DATA PATHS	1	1																
2	D-CS-M8131-0-1	M8131	GEN. REG. PLUS ALU. CONTROLS	1	1																
3	D-CS-M8132-0-1	M8132	I R DECODE & COND CODES	1	-																
4	D-CS-M8132-0-1	M8132-YA	I R DECODE & COND CODES	-	1																
5	D-CS-M8123-0-1	M8123	ROM & ADDRESS CONTROL	1	1																
6	D-CS-M8134-0-1	M8134	PROCESSOR DATA & UNIBUS REGS	1	1																
7	D-CS-M8135-0-1	M8135	TRAPS & MISC. CONTROL	1	1																
8	D-CS-M8136-0-1	M8136	UNIBUS & CONSOLE CONTROL	1	-																
9	D-CS-M8137-0-1	M8137	SYSTEM ADDRESS PATHS	1	-																
10	D-CS-M8138-0-1	M8138-YA	SYSTEM STATUS REGISTERS	1	1																
11	D-CS-M8139-0-1	M8139	TIMING GENERATOR	1	1																
12	D-CS-M8140-0-1	M8140	SYS. DESCRIPTOR & CNSL CABLES	1	1																
13	D-CS-M8141-0-1	M8141	UNIBUS MAP	1	-																
14	D-CS-M8142-0-1	M8142	CACHE CONTROL	1	-																
15	D-CS-M8143-0-1	M8143	ADDRESS MEMORY BOARD	1	-																
16	D-CS-M8144-0-1	M8144	LATA MEMORY	1	-																
17	D-CS-M8145-0-1	M8145	CACHE DATA PATHS	1	-																
18	E-AD-7010329-0-0	7010329-00	PROCESSOR BACK PLANE ASSEMBLY	1	-																
19	D-CS-5411294-0-1	5411294-00	11/70 CONSOLE BOARD	1	-																
20	D-CS-5411294-0-1	5411294-03	11/70 & 11/74 CONSOLE BOARD	-	1																
21	B-MD-7414067-0-0	7414067	BLANK, MODULE	1	1																
22	B-DD-M8181-0	M8181	MAP UNIBUS MAP	-	1																
23	B-DD-M8182-0	M8182	CACHE CONTROL BOARD	-	1																
24	B-DD-M8183-0	M8183	ADDRESS MEMORY	-	1																
25	B-DD-M8184-0	M8184	DATA MEMORY	-	1																
26	B-DD-M8185-0	M8185	CACHE DATA PATH	-	1																
27	B-DD-M8176-0	M8176	UNIBUS & CONSOLE CONTROL	-	1																
28	B-DD-M8177-0	M8177	SYSTEM ADDRESS PATH	-	1																
29	D-CS-M9302-0-0	M9302	UNIBUS TERMINATOR	-	1																
30	B-DD-DL11-W	DL11W	SERIAL LINE/LINE CLOCK	-	1																
31	EK-74MP-TM-001		KB11-C, CM MANUAL	-	REF																

E.C.O. NO. REVISED
 DRAWN
 KB11-C
 TW02 Z

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INSERTION PARTS LIST DATA BASE REV						

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NOTE:
 1 t₁ BUS PAUSE =
 2 FOR UNIBUS CYCLES
 3 FOR CACHE CYCLES

constant
 source ~~console~~

* ∅ = none
 1 = 2 or 4 with byte instruction
 2 = 2, 4, 3 or 5

FET.∅∅ (217)
 FET.∅1 (331)
 FET.∅2 (332)
 FET.∅3 (334)
 FET.∅4 (164)
 FET.∅5 (126)
 FET.∅6 (373)

load address

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

BENI2 (240)
 BRQ
 BRK.90
 12 (240)

FET.10 (260)
 FET.11 (321)
 FET.12 (322)
 FET.13 (329)

GET INSTR. STEP PC
 BEYOND
 t₁ BA ← PCB; BC ← DATI
 t₂ SHFR ← PCB + 2
 t₃ BRQ STROBE
 t₄ BUS PAUSE
 t₅ PCA ← PCB + 2
 t₆ IR ← BUS; BR ← BUS
 t₇ PCB ← PCA
 t₈ FPA ← BA (343)

IRD.∅∅ (393)

IRD.∅∅ (393)
 DECODE THIS INSTR. STEP
 PCA BEYOND; READ SRC
 DST FIELD; GEN REGS
 t₁ BA ← PCB; BC ← DATI
 t₂ SHFR ← PCB
 t₃ CONDITIONAL BUST
 t₄ FIRA ← BR
 t₅ PCA ← PCB + 2
 t₆ -SFT: SR ← GCSFJ
 t₇ SE ← SHFR
 t₈ -DFT: DR ← GDCDFJ
 t₉ DT ← DR ← SHFR

FENI (377)

A-FORK

BIN * SM123
 S13.∅∅ (021) SM1
 S13.∅1 (022) SM23
 FETCH SRC & STEP
 REGISTER UP
 t₁ BA ← SR; BC ← SRC1 DATI
 t₂ SHFR ← SR + SRC CON
 t₃ BUST
 t₄ PCA ← SR + SRC CON
 t₅ GRC SFJ ← SHFR
 t₆ SFT: PCB ← PCA (027)

S13.10 (027)
 GET SRC & REREAD DST REG
 t₁ BA ← SR; BC ← SRC1 DATI
 t₂ SHFR ← PCB
 t₃ BRQ STROBE
 t₄ BUS PAUSE
 t₅ BR ← BUS
 t₆ -DFT: DR ← GDCDFJ
 t₇ DT ← DR ← SHFR
 FEN4
 BENI (317)
 -SM357
 SM357

BIN * SM45
 S45.∅∅ (029)
 STEP REGISTER DOWN
 t₁ < BA + PCB
 t₂ SHFR ← SR - SRC CON
 t₃ BEND
 t₄ PCA ← SR - SRC CON
 t₅ GRC SFJ ← SHFR
 t₆ SR ← SHFR
 t₇ SFT: PCB ← PCA (023)

S45.10 (023)
 FETCH SEQ.
 t₁ BA ← SR; BC ← SRC1 DATI
 t₂ SHFR ← PCB
 t₃ BUST; GRC SFJ (027)

MTP
 MTR.∅∅ (045)
 REG 6 IN SR (SF6 IN CA
 CODE); POP TOP OF STACK
 t₁ < BA + PCB
 t₂ SHFR ← SR + 2
 t₃ BEND
 t₄ GRC SFJ ← SHFR (151)

MTR.10 (151)
 CORRECT DR IN CASE DEST
 FIELD 6; GET TOP OF STACK
 t₁ BA ← SR; BC ← SRC2 DATI
 t₂ SHFR ← PCB
 t₃ BUST
 t₄ -DFT: DR ← GDCDFJ
 t₅ DT ← DR ← SHFR (146)

BXX * BCOK
 BXX.∅∅ (320) - BRQ (BNE, BGE, BGT, * - BRQ)
 BXX.∅1 (325) - BRQ (BNI, BLS, BVS, BCS)
 BXX.∅2 (326) - BRQ (BLI, BLE, BLS, BLS)
 BXX.∅3 (330) - BRQ (BNE, BGE, BGT, BPL, BNI, BVC, BCC)
 BXX.∅4 (335) - BRQ (BNI, BLS, BVS, BCS)
 BXX.∅5 (336) - BRQ (BNE, BGE, BGT, BLI, 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 (217)

FET.∅C
 1

BXX * BCOK
 BXX.11 (321) BPL, BNI, BVC, BCC
 BXX.12 (322) BNE, BGE, BGT
 BXX.13 (324) BEQ, BLT, BLE, BMI, BLS, BVS, BCS

BXX * BCOK
 * BRQ
 FET.11
 FET.12
 FET.13

BXX * BCOK
 FET.∅1 (330) BPL, BNI, BVC, BCC
 FET.∅2 (332) BNE, BGE, BGT
 FET.∅3 (334) BEQ, BLT, BLE, BMI, BLS, BVS, BCS

BXX * BCOK
 * BRQ
 FET.∅1
 FET.∅2
 FET.∅3

INSTRUCTION FETCH

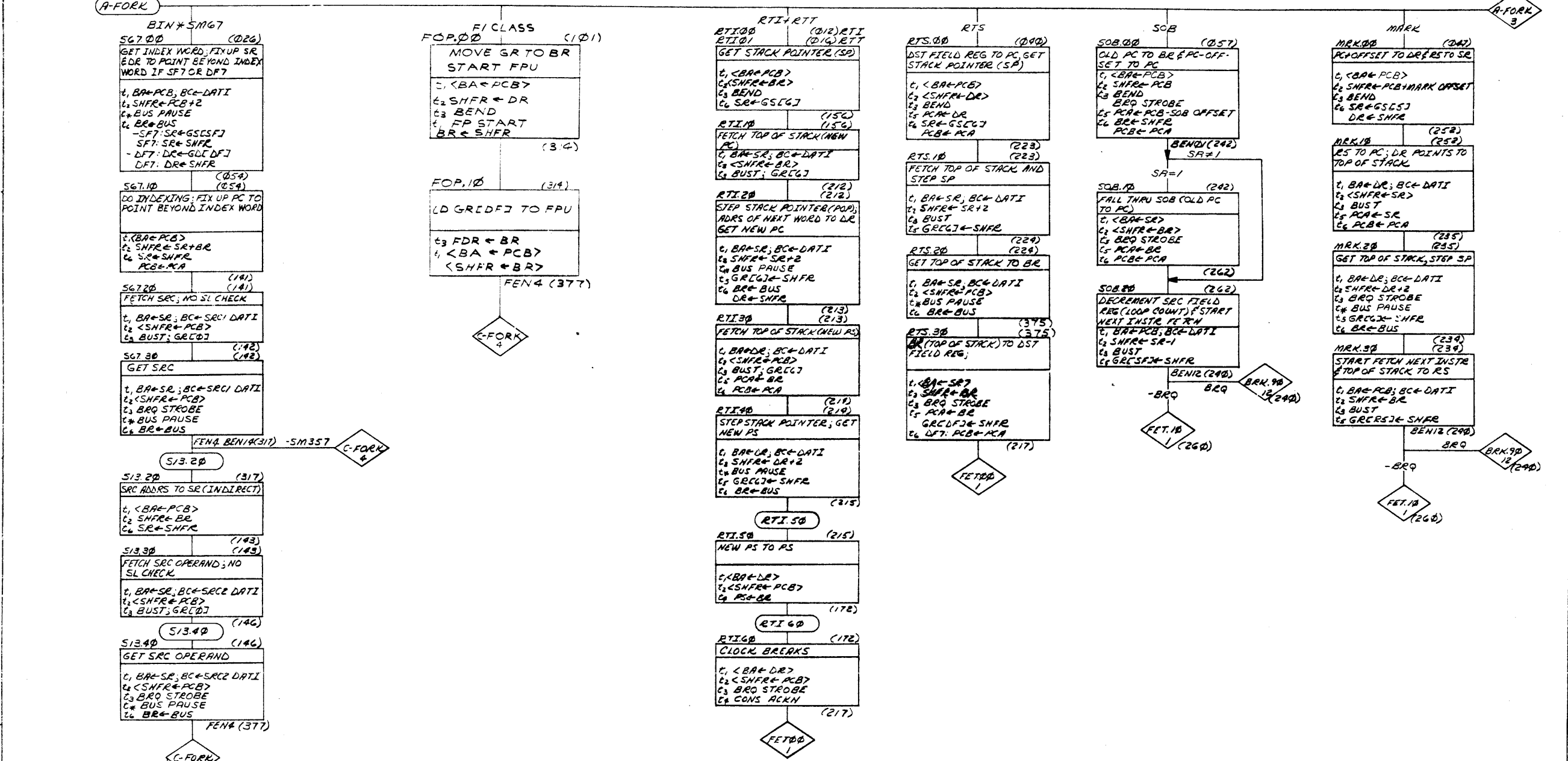
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
XXX - .005	10° 30'	DBM	DATE	EQUIPMENT CORPORATION
XX - .02		CHE	DATE	WATUARD MASSACHUSETTS
X - .1		ERD	DATE	TITLE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
NEXT HIGHER ASSY				
MATERIAL	FINISH	SCALE	NUMBER	REV.
++	++	B-DD-KBII-B	DFD	KBII-C-1
SHEET 2 OF 15		DIST.		

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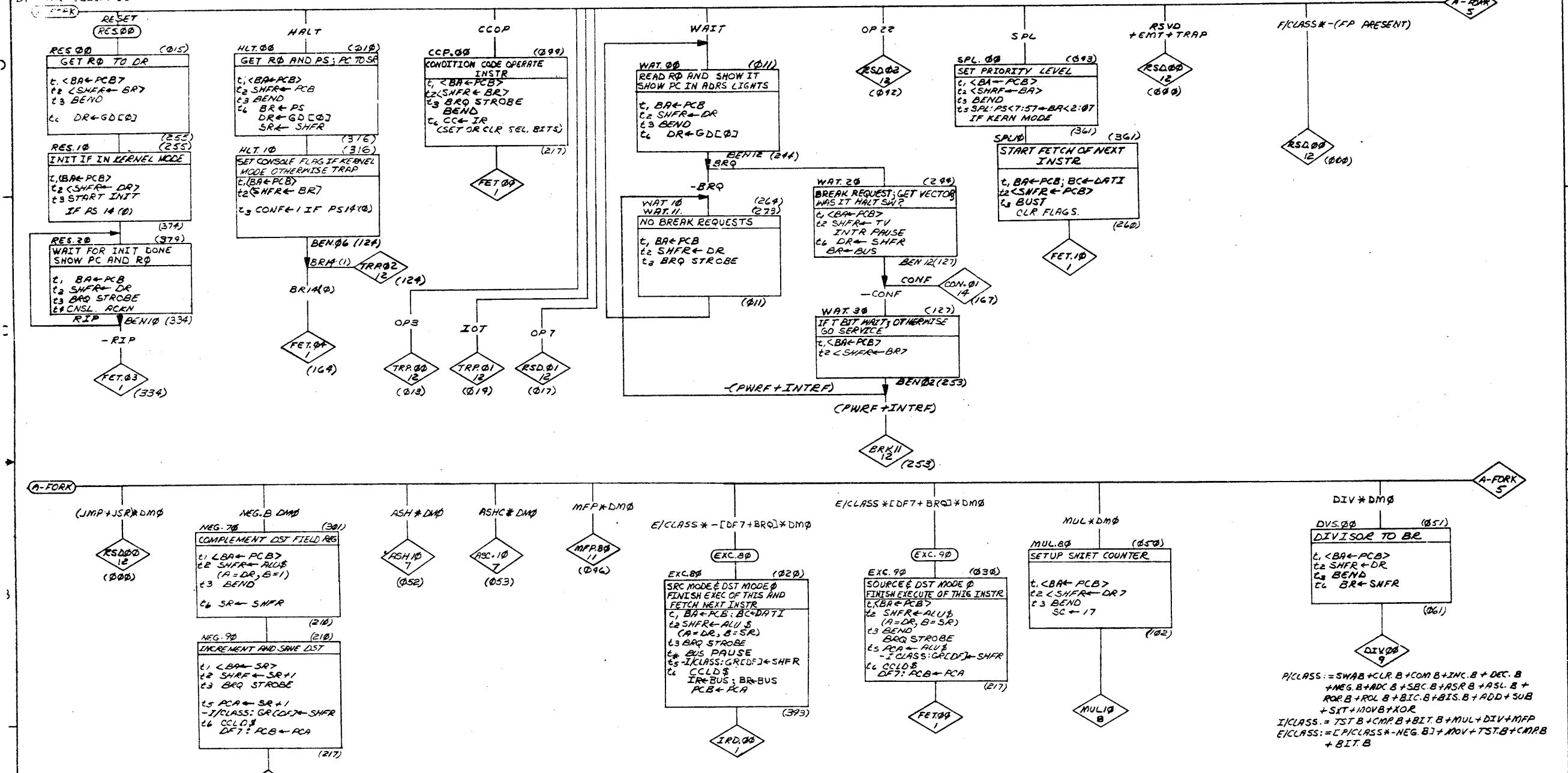
REV	CHANGED BY	DATE

CONTROL, FLOATING, INDEXED SOURCE				
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
XXX + 005	± 0' 30"	DATE	DATE	DATE
XX + 02		12-9-75	12-9-75	12-9-75
X + 1		12-9-75	12-9-75	12-9-75
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY				
FINISH				
SCALE		SIZE CODE		
SHEET 3 OF 15		DIST		

TITLE
KBII-C
FLOW DIAGRAMS
(FLOWS 2)

SIZE CODE
DFD
NUMBR
KBII-C-1
REV

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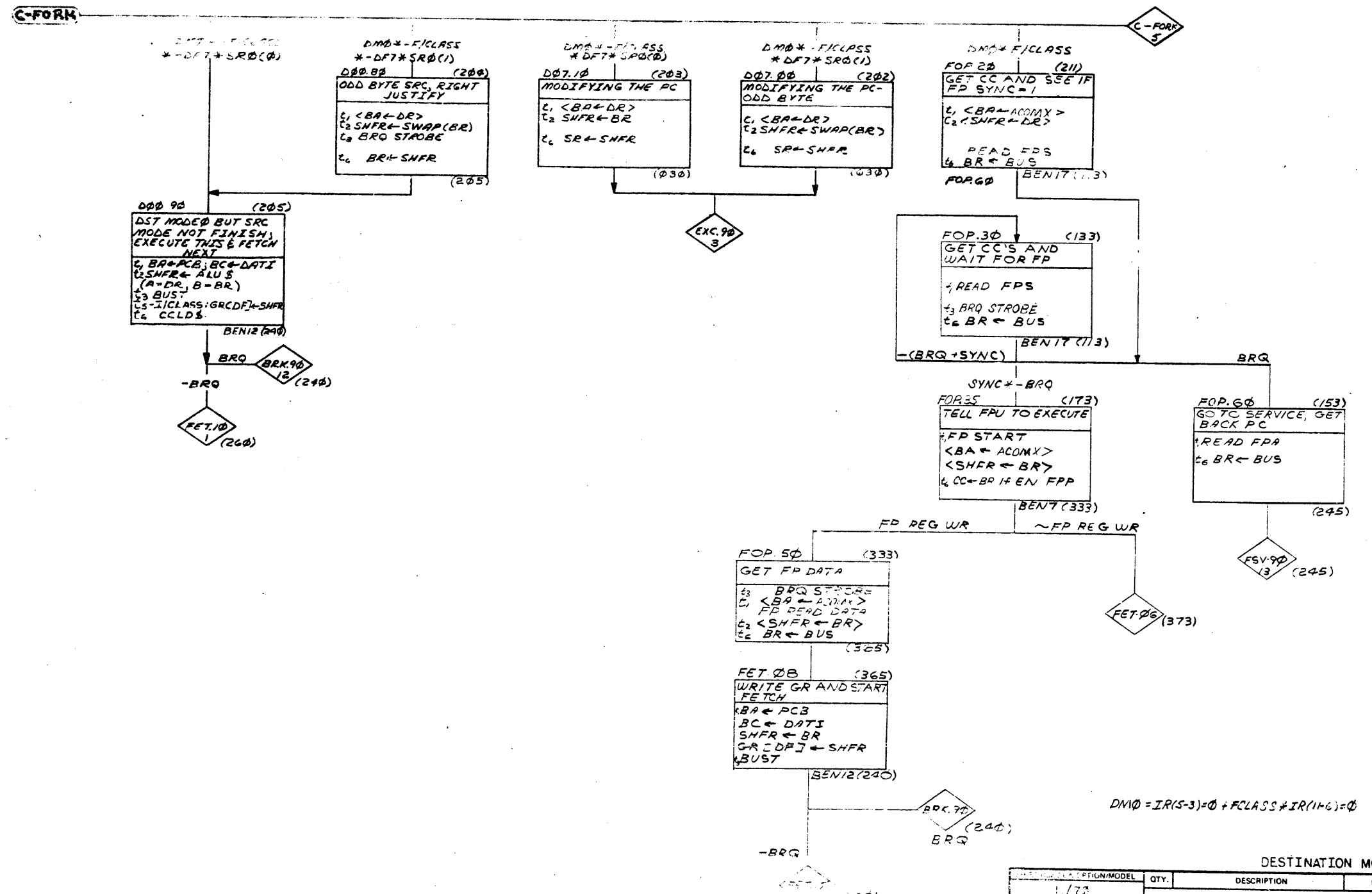
PI/CLASS := SWAB + CLR.B + COM.B + INC.B + DEC.B +
 NEG.B + ADC.B + SBC.B + ASR.B + ASL.B +
 ROR.B + ROL.B + BIC.B + BIS.B + ADD.SUB +
 SIT + MOV.B + XOR
 I/CLASS := TST.B + CMP.B + BIT.B + MUL + DIV + MFP
 E/CLASS := I/PI/CLASS * -NEG.B + MOV + TST.B + CMP.B
 + BIT.B

EXECUTE NO MEM REF

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	DIGITAL EQUIPMENT CORPORATION	
UNLESS OTHERWISE SPECIFIED	CHKD	DATE	WATSON, MASSACHUSETTS	
DIMENSIONS IN INCHES	ENG	DATE	TITLE	
TOLERANCES	PROJ	DATE	KBII-C	
DECIMALS FRACTIONS ANGLES	DATE	DATE	FLOW DIAGRAMS	
± .005 ± .010 ± .030	DATE	DATE	(FLOWS 3)	
FINAL SURFACE QUALITY	DATE	DATE	MATERIAL	
REMOVE BURRS AND BREAK SHARP CORNERS	DATE	DATE	NEXT HIGHER ASSY	
	DATE	DATE	R-DD-KBII-B	
	DATE	DATE	SCALE	
	DATE	DATE	SHEET 4 OF 15	
	DATE	DATE	DIST.	

DIVISION NUMBER
 PFD KBII-C-1
 SHEET 4 OF 15

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$DMD = IR(5-3) = 0 + FCLASS * IR(1+6) = 0$

DESTINATION MODE 0

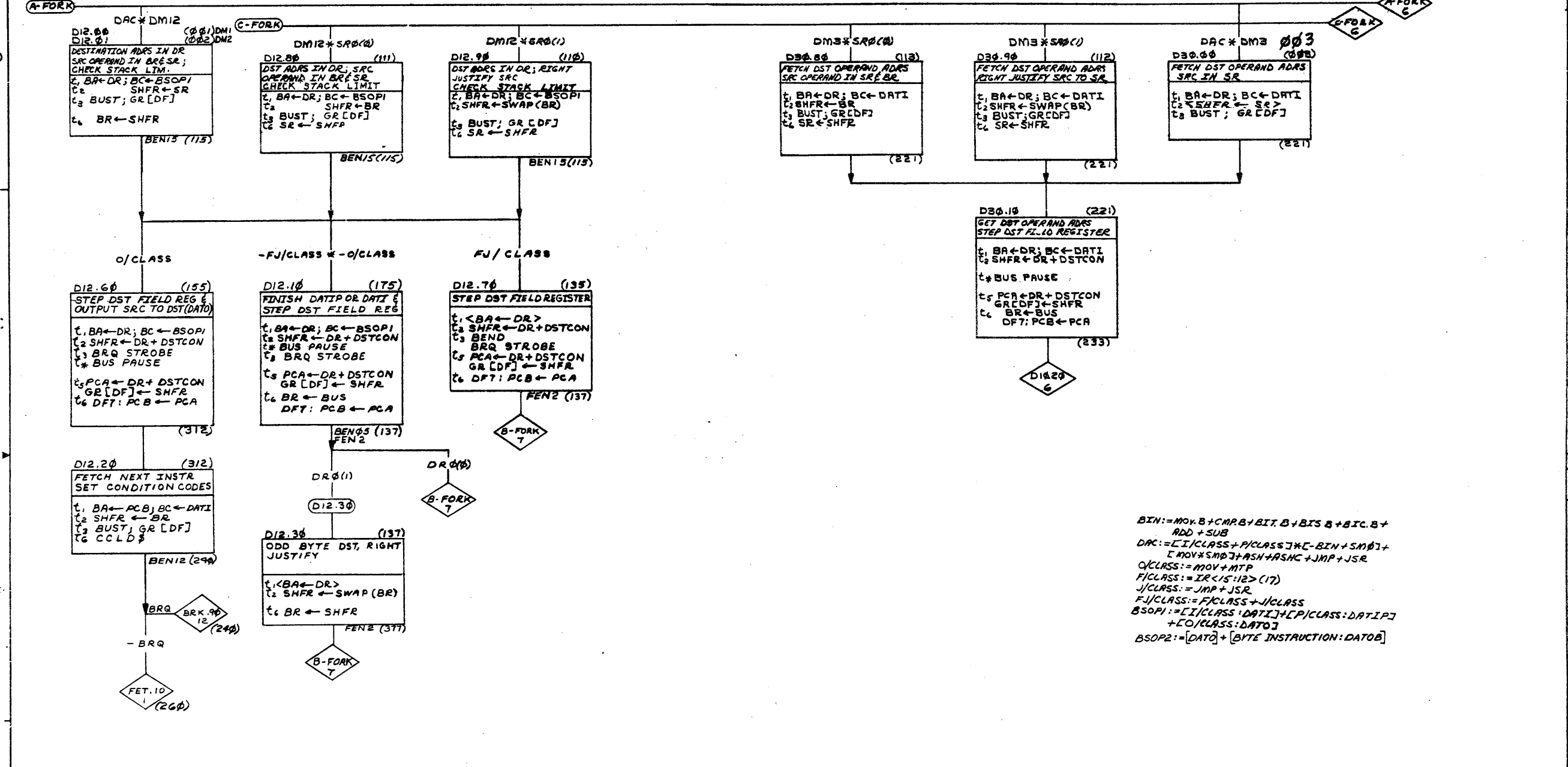
DESCRIPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
1/72				
PARTS LIST				
SCALE OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DATE 2-9-75	DIGITAL EQUIPMENT CORPORATION	
DECIMALS	ANGLES 20 30	DATE 7/2/75	TITLE KBII-C	
XX + 0		DATE 6-9-75	FLOW DIAGRAMS (FLOWS 4)	
Y + 1		DATE 7-9-75		
NEXT HIGHER ASSY.		DATE 12/9/75		
B-DD-KBII-B		SIZE CODE	NUMBER	REV.
SCALE	#	DFD	KBII-C-1	
SHEET	5 OF 15	DIST		

NUMBER DFD KBII-C-1

A

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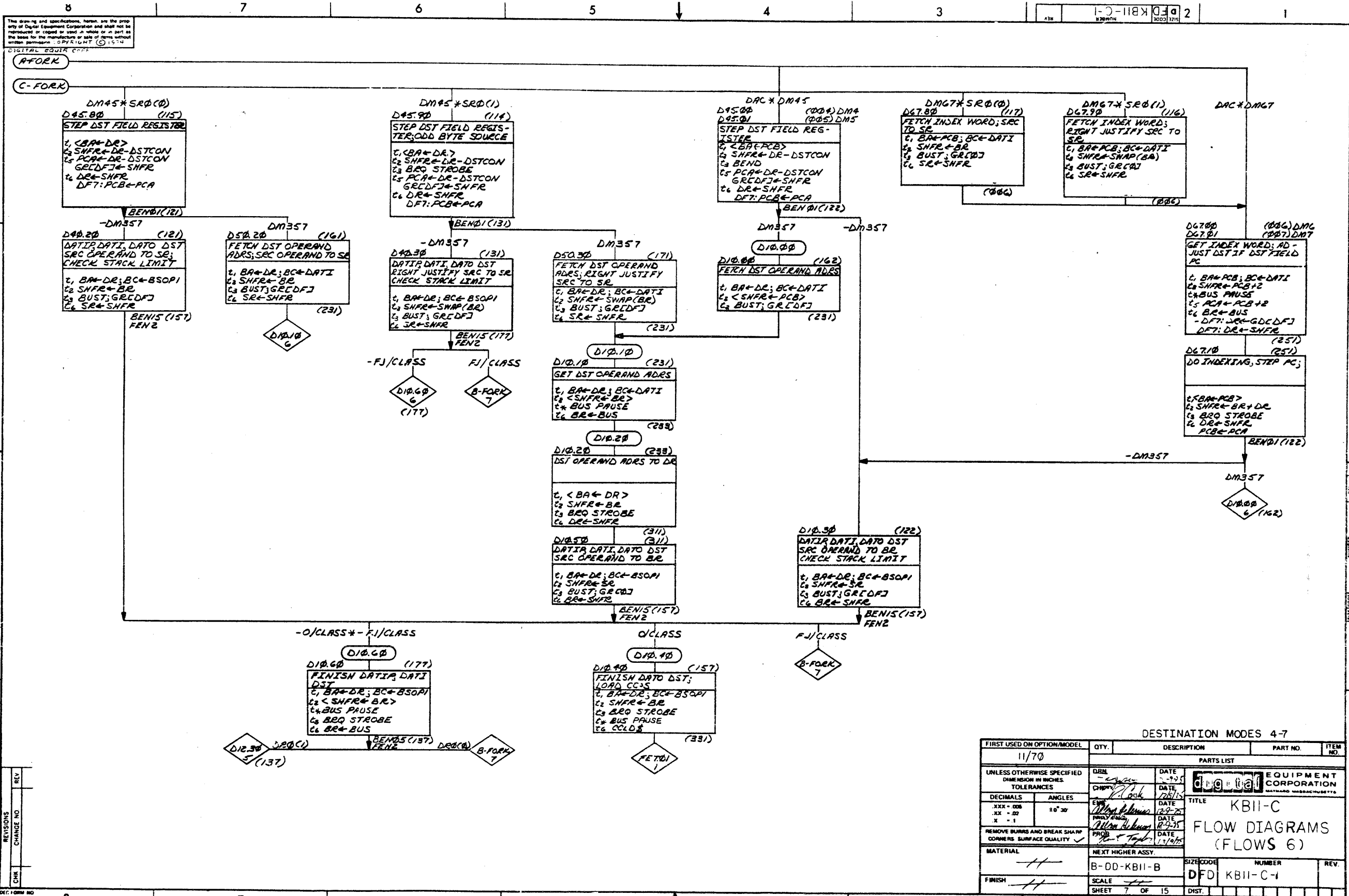
$BIN := MOV.B + CMP.B + BIT.B + BIS.B + BIC.B + ADD + SUB$
 $DAC := L.I/CLASS + P/CLASS + C - BIN + SM0 + I MOV + SM0 + ASH + ASHC + JMP + JSR$
 $O/CLASS := MOV + ATP$
 $F/CLASS := IR < 15:12 > (17)$
 $J/CLASS := JMP + JSR$
 $FJ/CLASS := F/CLASS + J/CLASS$
 $BSOP1 := L.I/CLASS + DATI + P/CLASS + DATIP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

DESTINATION MODES 1-3

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DRN	DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
UNLESS OTHERWISE SPECIFIED	CHKD	DATE	TITLE	
DIMENSION IN INCHES		12/15/75	KBII-C	
TOLERANCES			FLOW DIAGRAMS	
DECIMALS FRACTIONS ANGLES			(FLOWS 5)	
= .006 = 1/64 = 0°30'			MATERIAL	
FINAL SURFACE QUALITY / REMOVE BURRS AND BREAK SHARP CORNERS			NEXT HIGHER ASSY	
			B-DD-KBII-B	
			SCALE	
			SHEET 6 OF 15	
			SIZE CODE	
			NUMBER	
			REV	
			DIST.	

REVISIONS	REV
CHANGE NO.	
CHK	

101



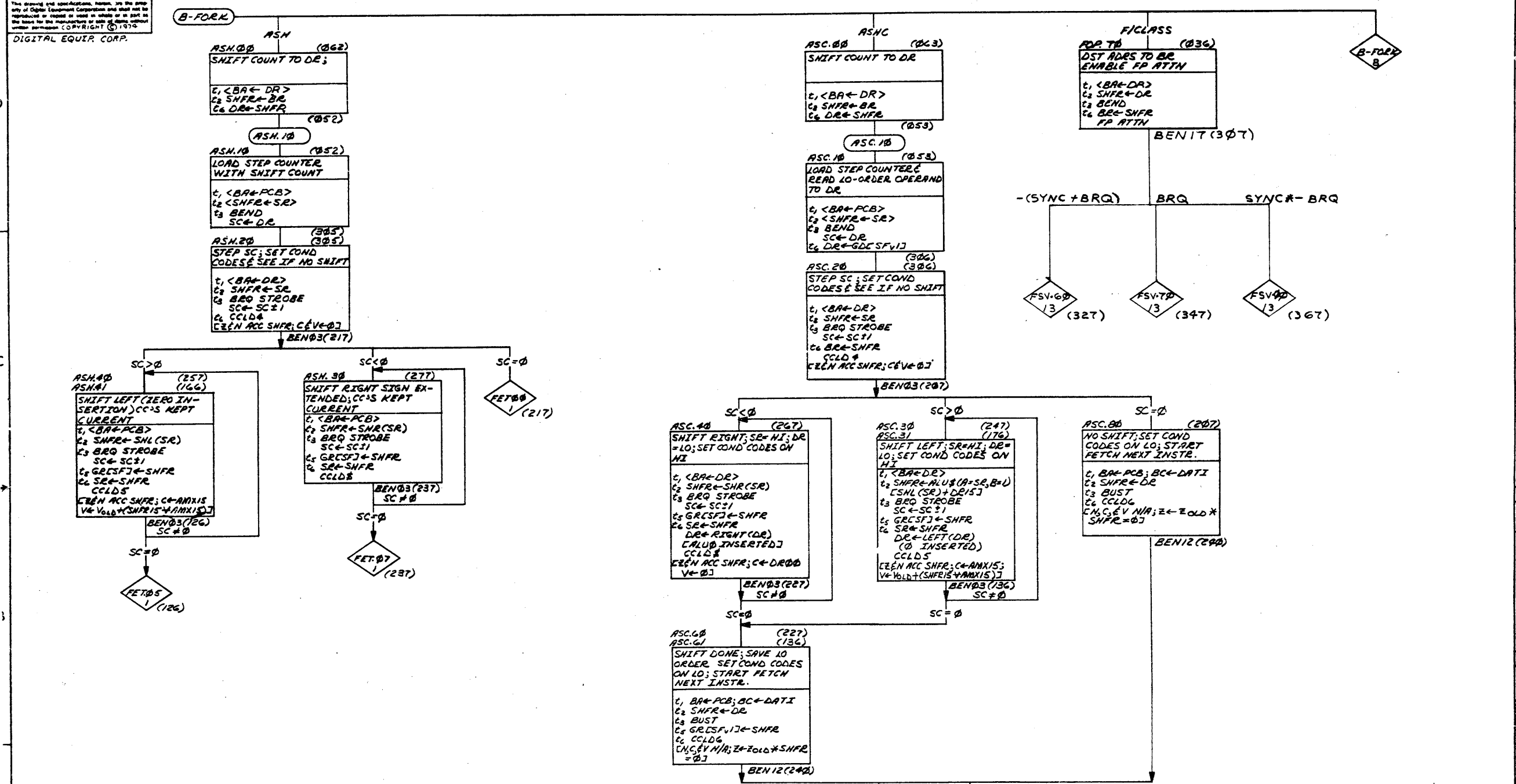
DESTINATION MODES 4-7

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DEN	DATE	 DIGITAL EQUIPMENT CORPORATION <small>MAYFIELD MASSACHUSETTS</small>	
DECIMALS	ANGLES	DATE		
.XXX - .008	± 0° 30'	DATE		
.XX - .02		DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	TITLE KBII-C FLOW DIAGRAMS (FLOWS 6)	
MATERIAL		DATE		
FINISH		DATE	SIZE CODE DFD	
		DATE		
			NUMBER KBII-C-1	
			REV. 	
			SCALE 	
			SHEET 7 OF 15 DIST.	

10

102

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REV	CHANGE NO	REVISIONS

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN	DATE	DIGITAL EQUIPMENT CORPORATION	
DECIMALS				
ANGLES				
XXX - .005				
XX - .02				
X - .1				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.			
FINISH				
	B-DD-KBII-B			
	SCALE			
	SHEET 8 OF 15			

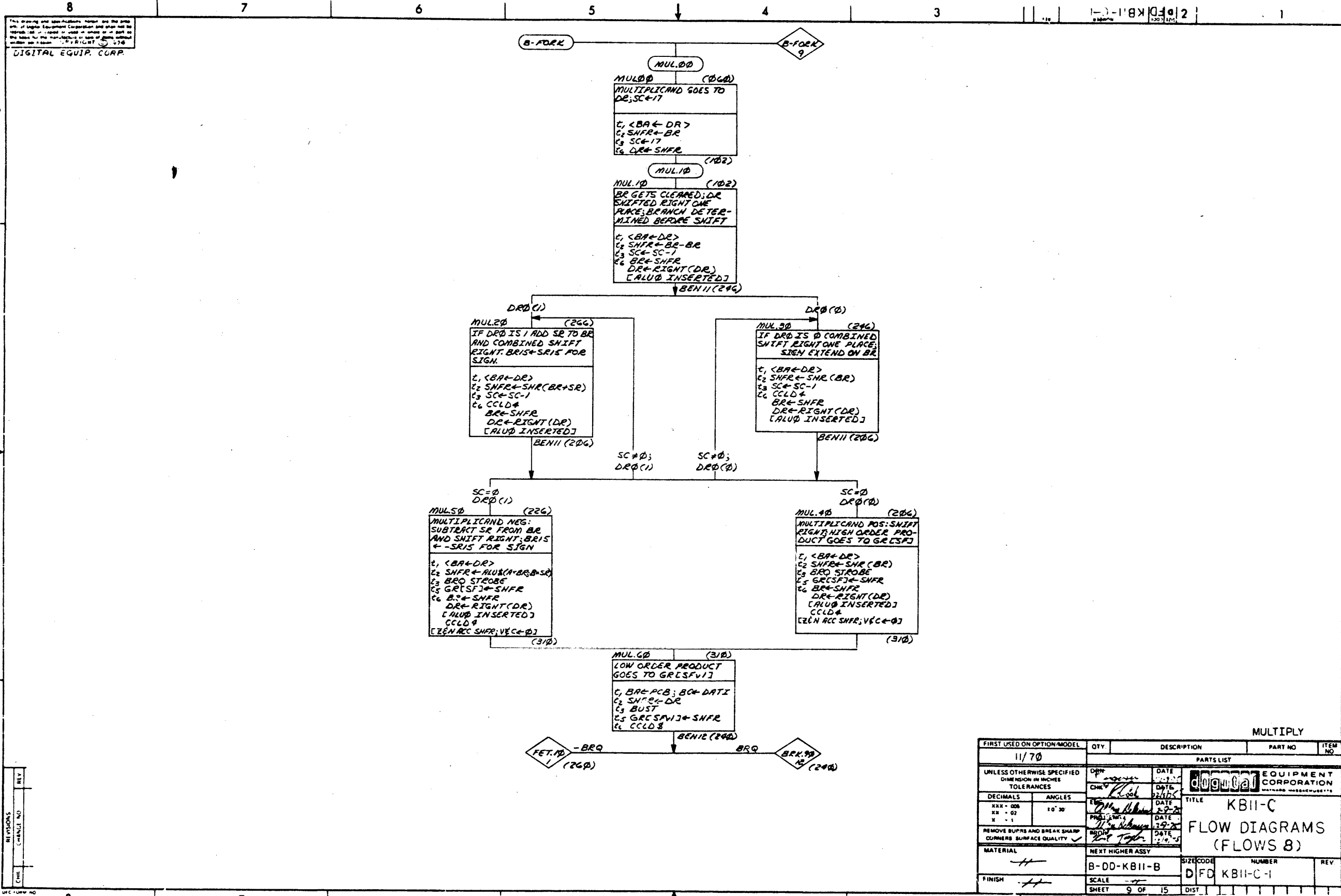
103

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DRAWING NO. 11/70-15840

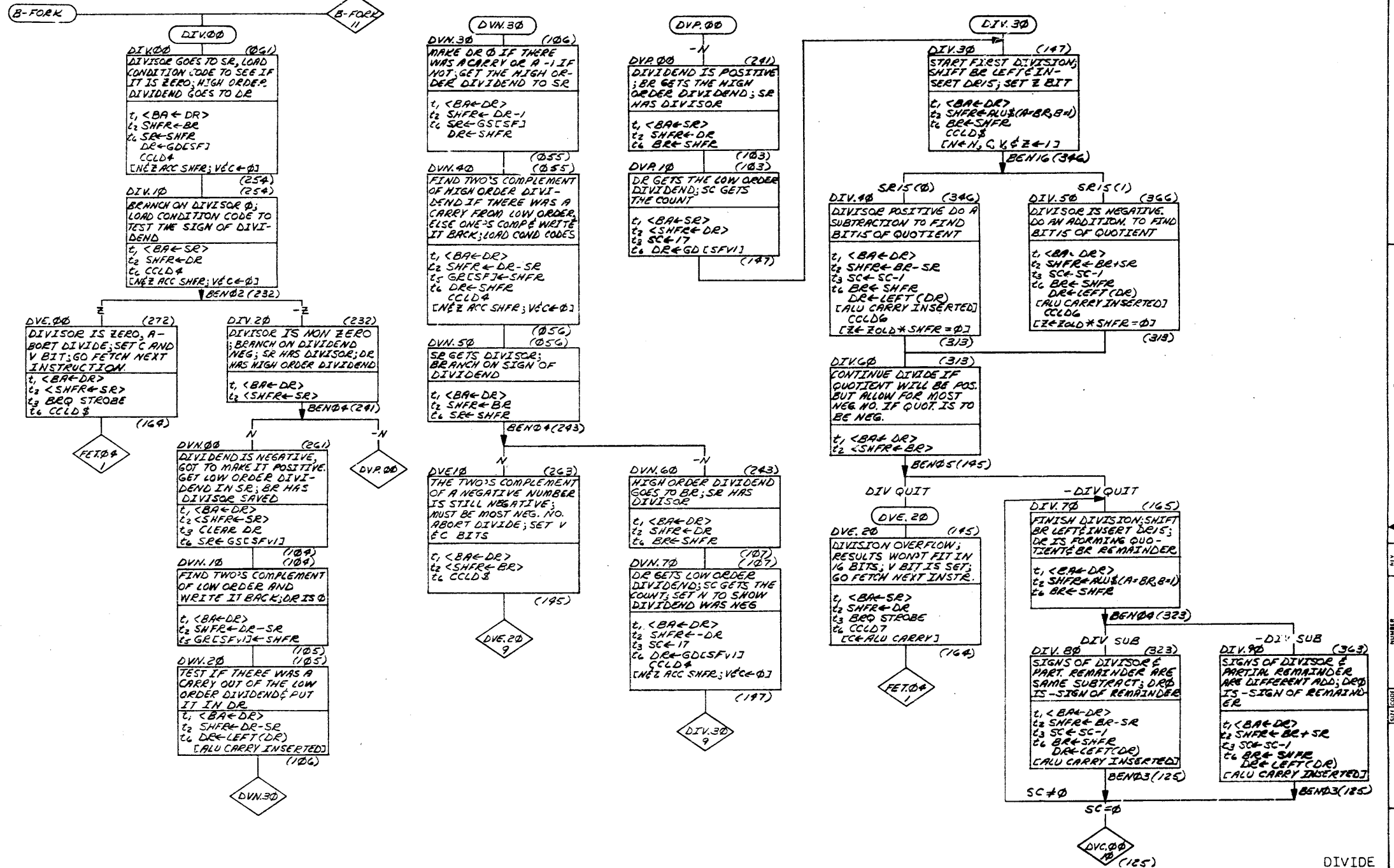
REVISIONS
NO. DATE
1 11/70

MFC CORP. NO.



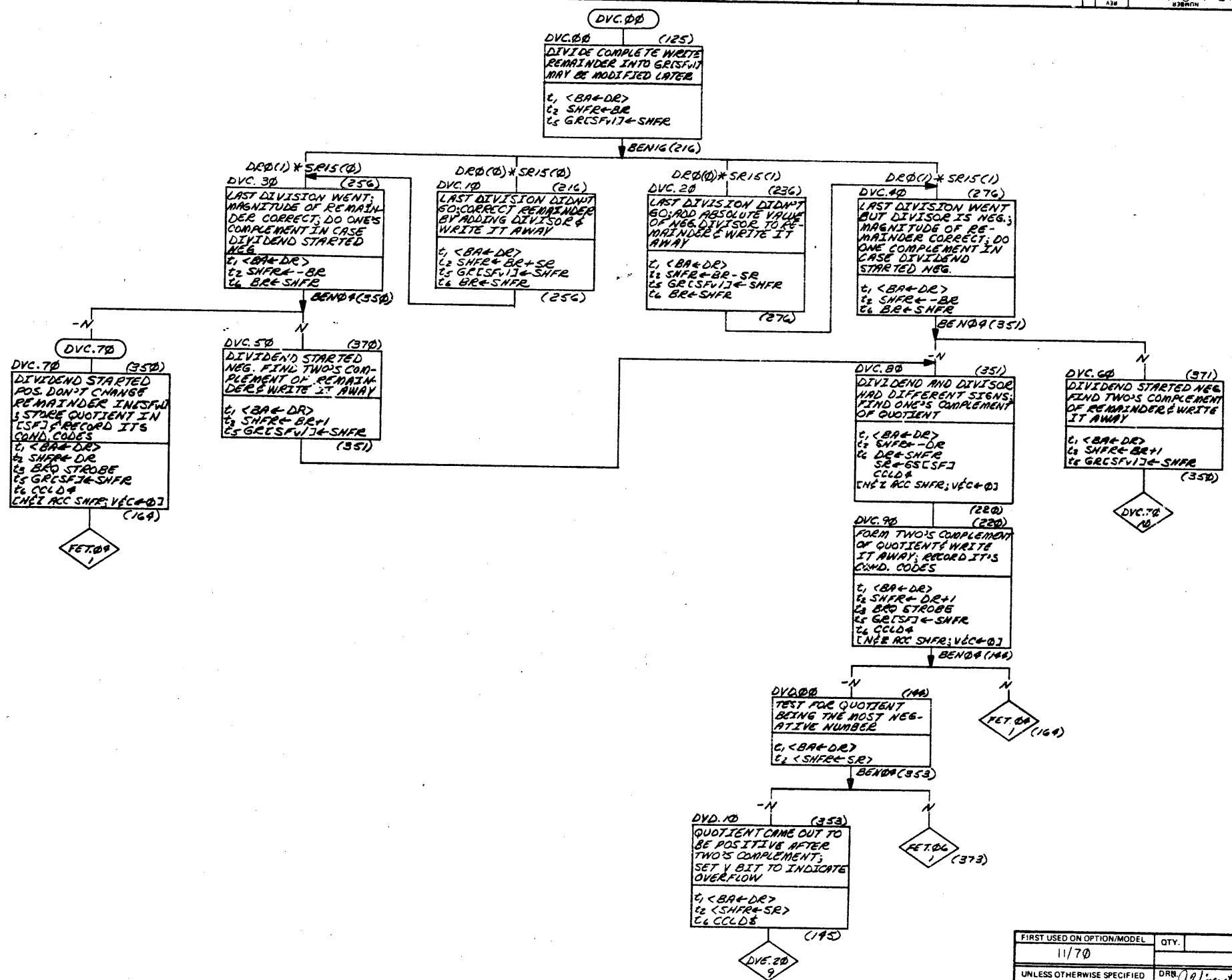
MULTIPLY				
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DATE	DIGITAL EQUIPMENT CORPORATION		
TOLERANCES	DATE	MILWAUKEE MACHINERY CO.		
DECIMALS ANGLES	DATE	TITLE		
XXX - 008 10' 30"	DATE	KBII-C		
X - 1	DATE	FLOW DIAGRAMS		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	(FLOWS 8)		
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV.
FINISH	B-DD-KBII-B	DFD	KBII-C-1	
	SCALE	SHEET	9 OF 15	DIST.

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REVISIONS
CHANGE NO. REV.
CHK

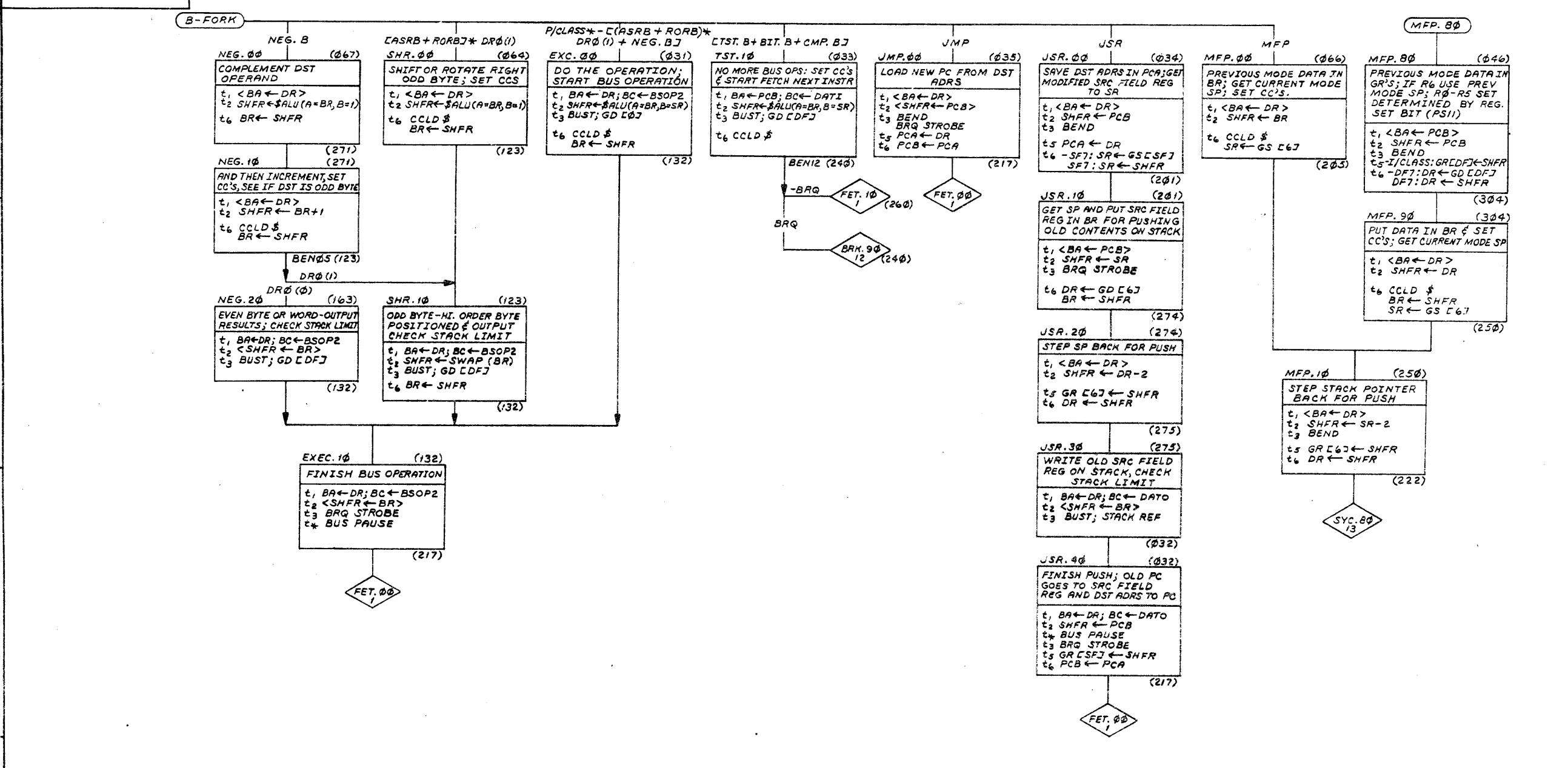
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN 2-9-75	DATE 2-9-75	DIGITAL EQUIPMENT CORPORATION BAYARD MASSACHUSETTS	
DECIMALS ANGLES	CHK'D 1/16	DATE 1/16/75	TITLE KBII-C FLOW DIAGRAMS (FLOWS 9)	
XXX - 008 XX - 02 X - 1	ENG William Nicholas	DATE 7-9-75	PROJECT William Nicholas	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD Ray Toib	DATE 11/9/75	REV. 1	
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
FINISH	B-DD-KBII-B	D F D	KBII-C-1	
	SCALE	SHEET	10 OF 15	DIST



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.		DRW. J.P. Lincoln	DATE 1/15/75	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
TOLERANCES		CHKD. K.L. Clark	DATE 1/15/75	TITLE KBII-C	
DECIMALS	ANGLES	ENG. Philip Williams	DATE 1/15/75	FLOW DIAGRAMS (FLOWS 10)	
.XXX = .006	1° 30'	PRD. R. Taylor	DATE 1/15/75	MATERIAL	
.XX = .02				NEXT HIGHER ASSY.	
X = .1				FINISH	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				SCALE	
				SHEET 11 OF 15	
				DIST	

REV.	CHANGE NO.

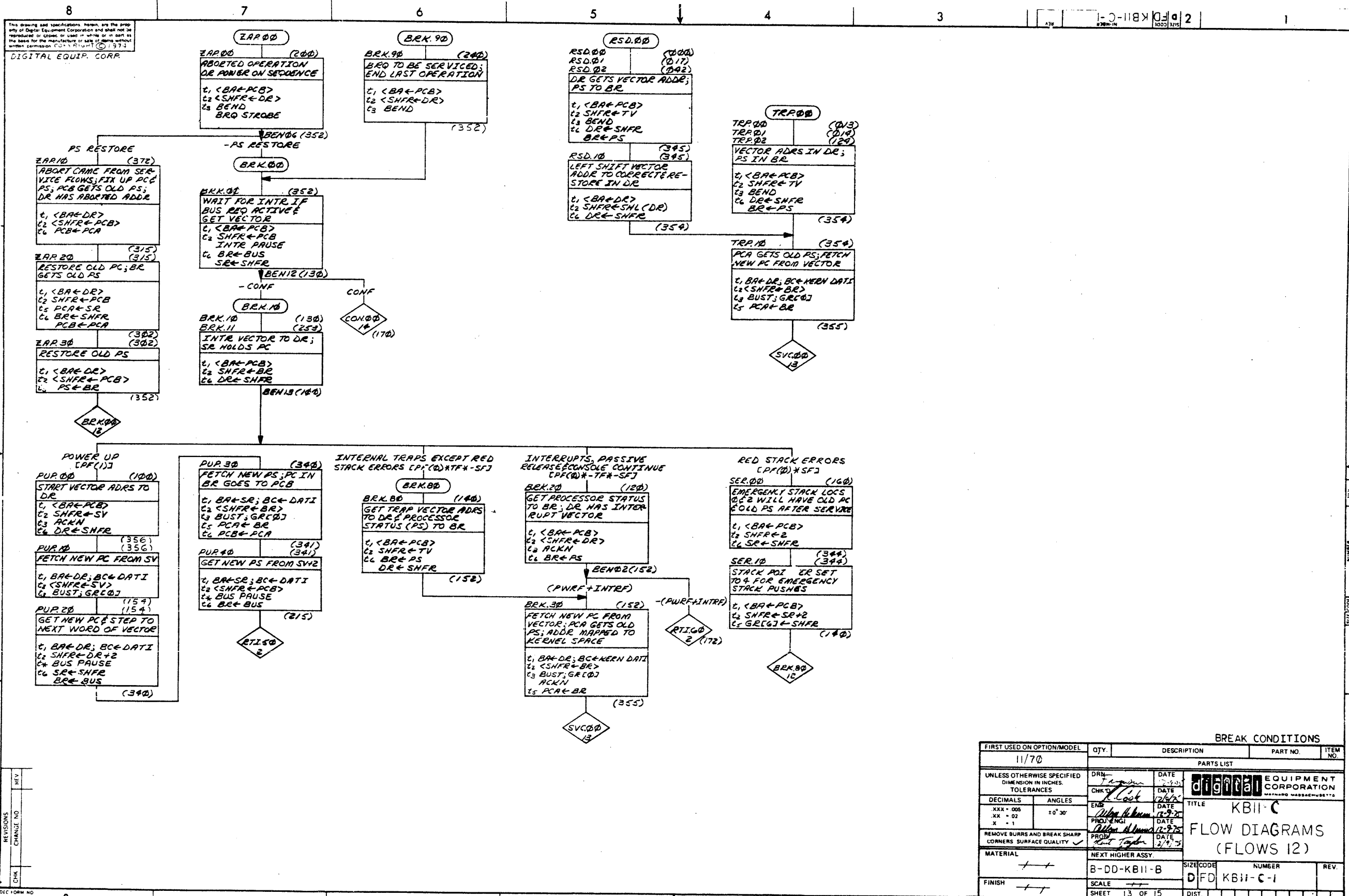
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EXECUTE - MEM REF

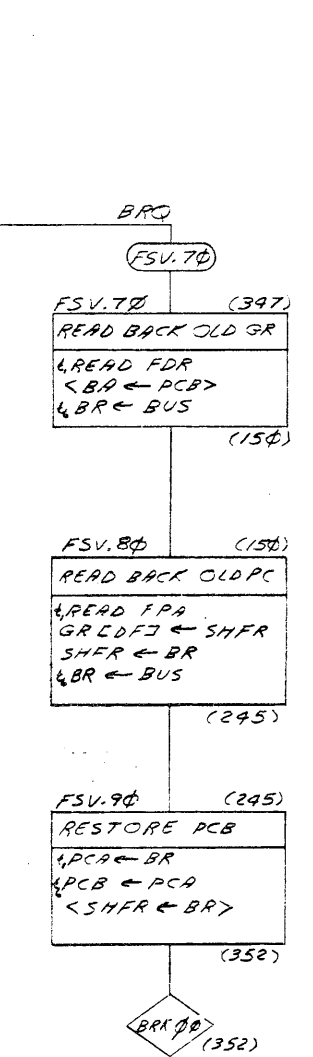
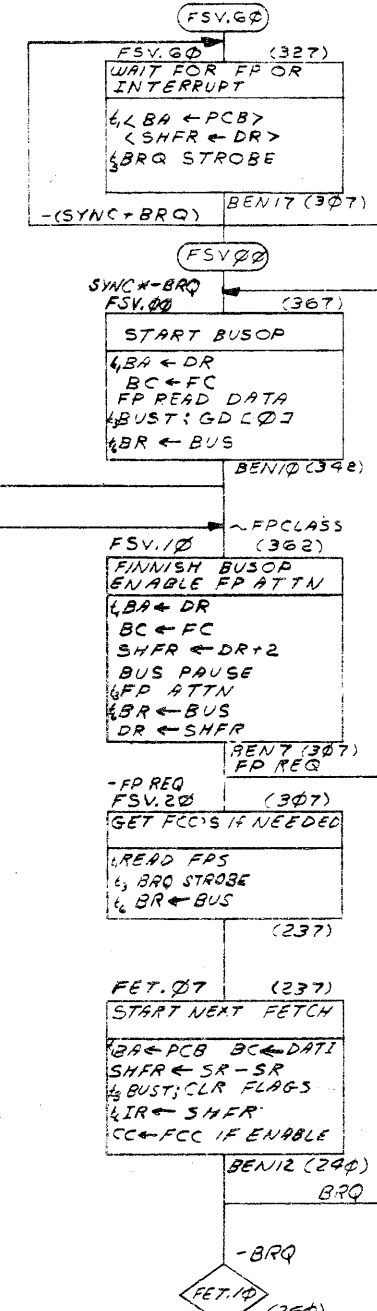
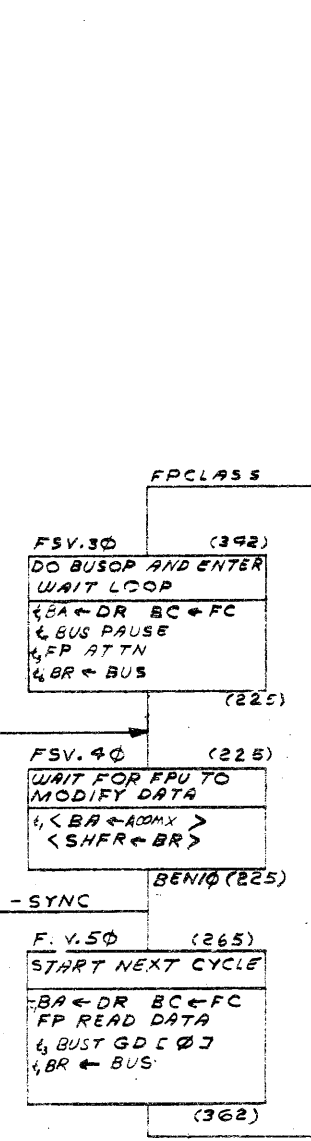
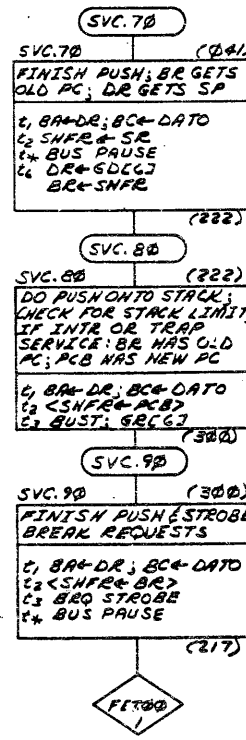
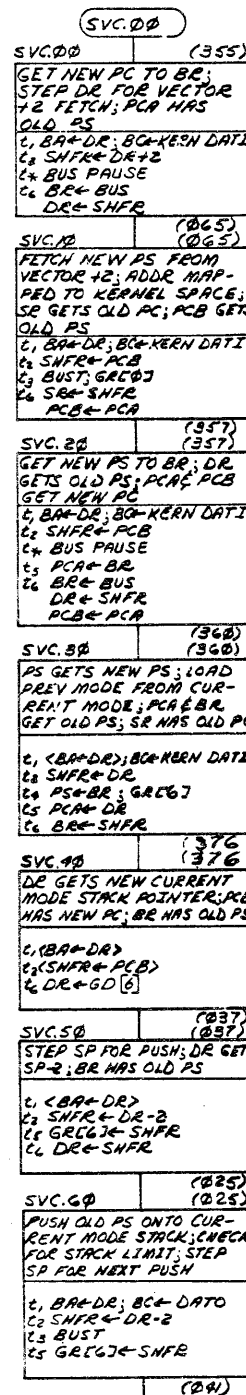
Table with columns: FIRST USED ON OPTION/MODEL, QTY., DESCRIPTION, PART NO., ITEM NO. Includes a parts list table and a title block with 'digital' logo and 'KBII-C FLOW DIAGRAMS (FLOWS II)'.

REVISIONS table with columns: REV. NO., CHANGE NO., CHK.



BREAK CONDITIONS			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO. ITEM NO.
11/70			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN	DATE	digital EQUIPMENT CORPORATION 1000 MASSACHUSETTS ST.
DECIMALS ANGLES	CHK	DATE	
.XXX - .005	ENG	DATE	
.XX - .02	PROJ ENGR	DATE	
X - 1	PROJ MGR	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROJ	DATE	TITLE KBII-C FLOW DIAGRAMS (FLOWS 12)
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE
FINISH	++	B-DD-KBII-B	NUMBER
		SCALE	REV.
		SHEET 13 OF 15	DIST

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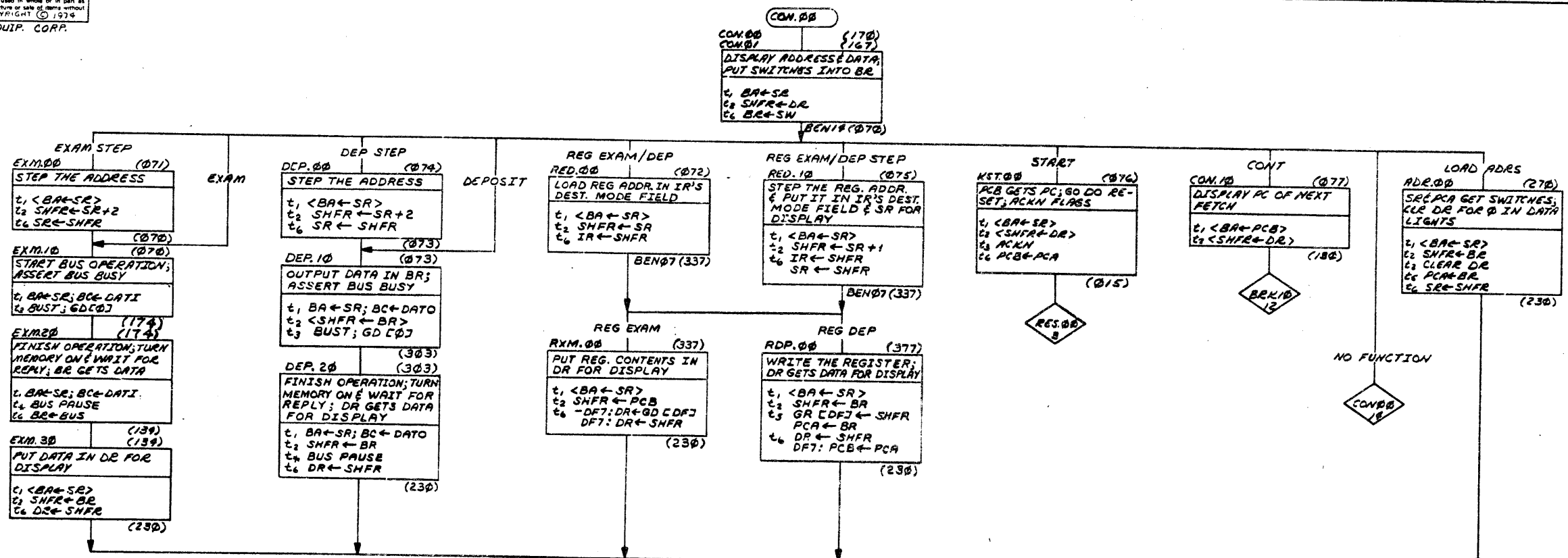


FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN	DATE	EQUIPMENT CORPORATION	
DECIMALS	CURT	DATE	MAYFORD MASSACHUSETTS	
ANGLES	ENG	DATE	TITLE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROF. ENG.	DATE	KBII-C	
MATERIAL	BRD	DATE	FLOW DIAGRAMS	
FINISH	REVISION	DATE	(FLOWS 13)	
	NEXT HIGHER ASSY	DATE	SIZE CODE	NUMBER
	B-DD-KBII-B	12/9/75	DFD	KBII-C-1
	SCALE	14 OF 15	DIST.	

REV	NO	DATE
109		

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11/70 2



CONSOLE				
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN	DATE	DIGITAL EQUIPMENT CORPORATION	
TOLERANCES	CHK	DATE	MILWAUKEE WISCONSIN 53190	
DECIMALS	ENG	DATE	TITLE KBII-C	
ANGLES	PROJ. ENG.	DATE	FLOW DIAGRAMS	
.XX = .02	PROP.	DATE	(FLOWS 14)	
X = 1	PROF.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
	B-00-KBII-B		DFD	KBII-C-1
FINISH	SCALE		DIST	
	15 OF 15			

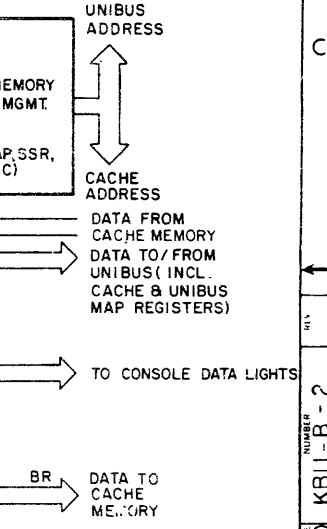
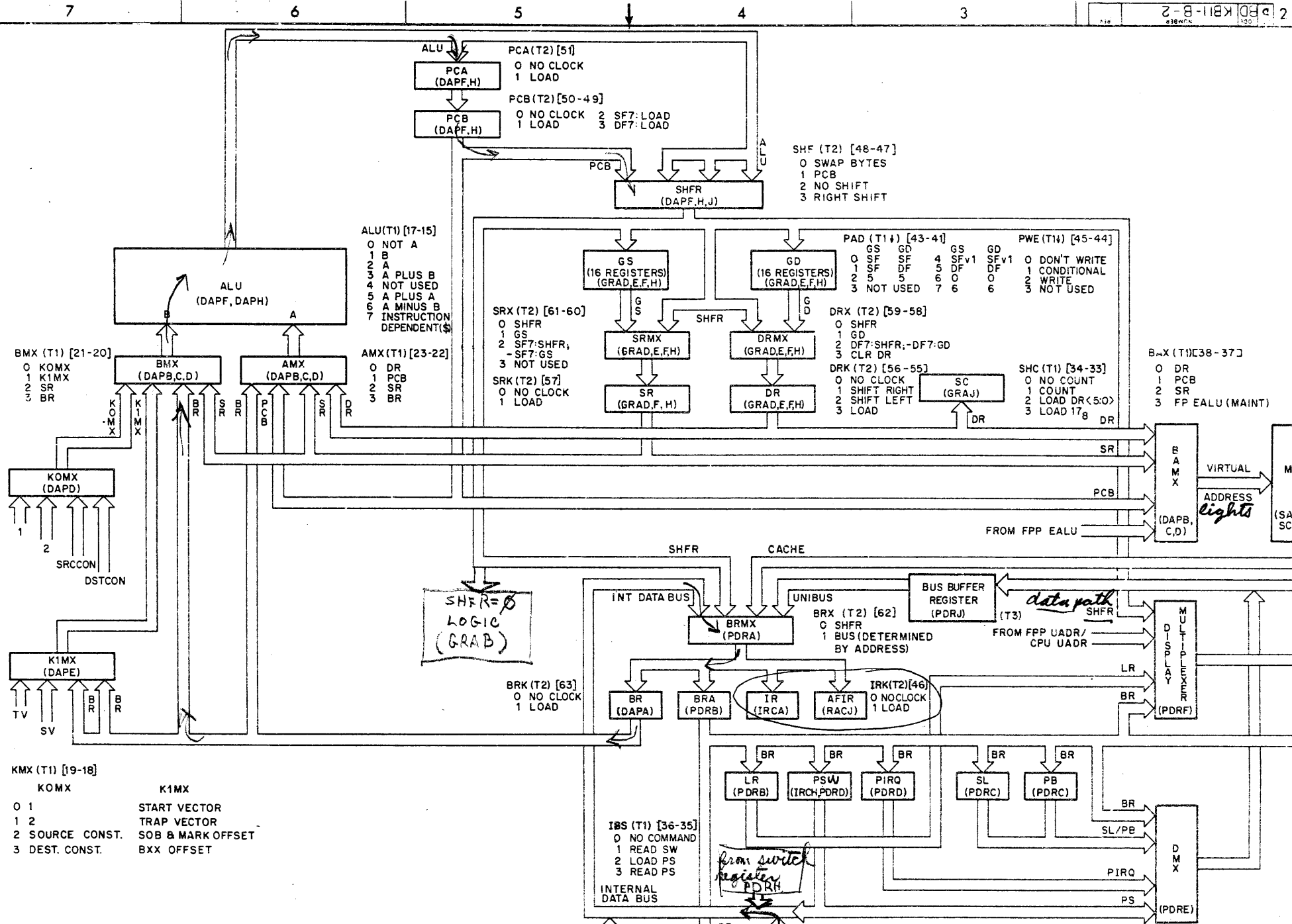
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D

C

B

A

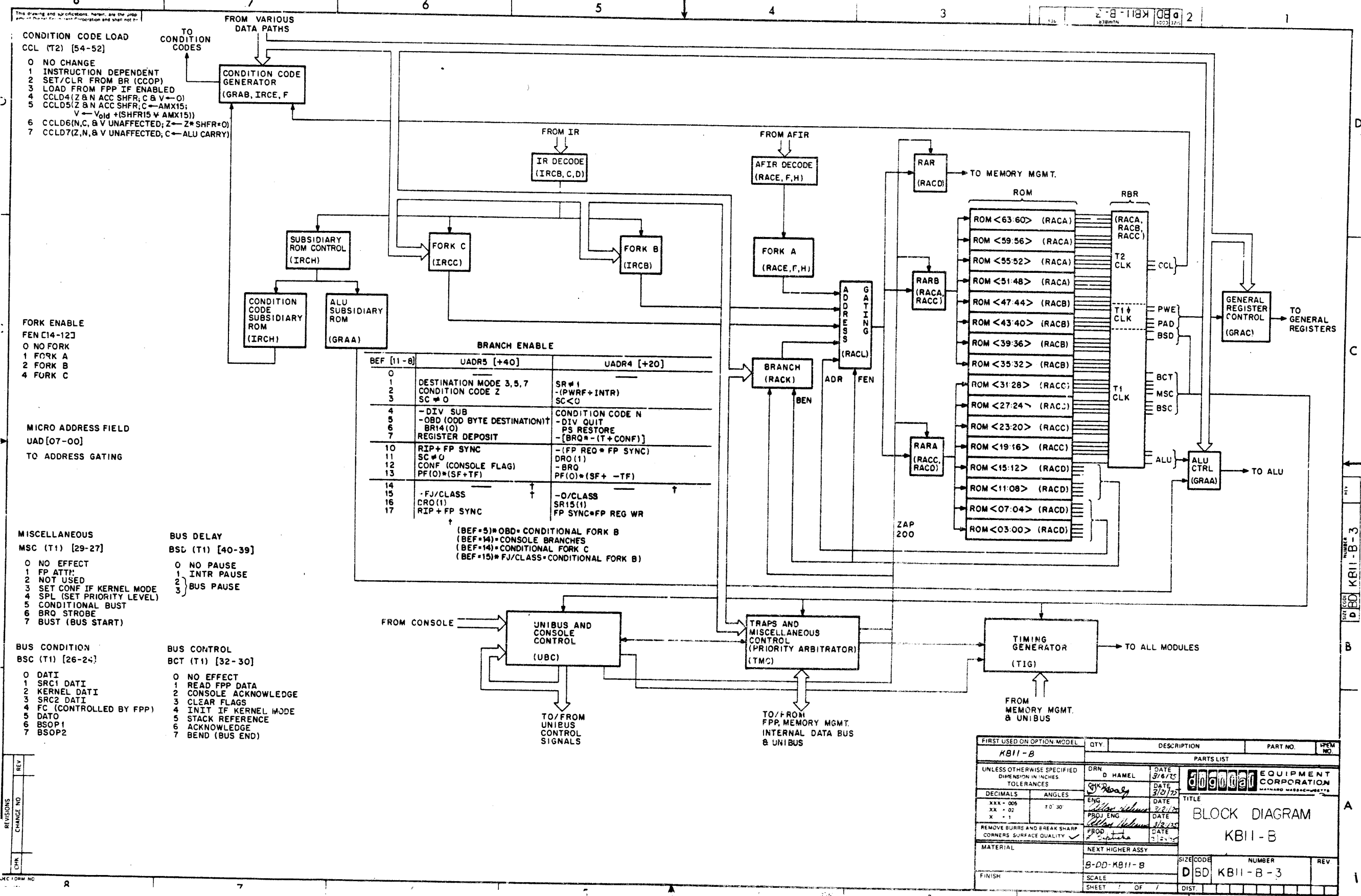


DATA FROM FPP
DATA TO MEMORY MGMT. REGISTER, AND FPP DATA
DATA FROM MEMORY MGMT., SWITCH, CPU ERROR, AND SYSTEM SIZE & ID REGISTERS.

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
KB11-B		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN <i>DJ Luce</i>	DATE <i>1/75</i>	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
DECIMALS	ANGLES	ENG <i>W. J. ...</i>	DATE <i>3/2/75</i>	
XXX - 005	XX - 02	PROJ ENG <i>W. J. ...</i>	DATE <i>3/21/75</i>	TITLE BLOCK DIAGRAM KB11-B
X - 1		PRQD <i>W. J. ...</i>	DATE <i>3/22/75</i>	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY		
MATERIAL	B-DD-KB11-B	SIZE CODE	NUMBER	REV
FINISH	SCALE	DBD	KB11-B-2	19
	SHEET 1 OF 1	DIST		

REV	CHG	NO

REV. NO. 40522 18640
CHK 10MM NO
ORD 102-B



CONDITION CODE LOAD
CCL (T2) [54-52]

- 0 NO CHANGE
- 1 INSTRUCTION DEPENDENT
- 2 SET/CLR FROM BR (CCOP)
- 3 LOAD FROM FPP IF ENABLED
- 4 CCLD4(Z & N ACC SHFR; C & V ← 0)
- 5 CCLD5(Z & N ACC SHFR; C ← AMX15; V ← Vold + (SHFR15 + AMX15))
- 6 CCLD6(N, C, & V UNAFFECTED; Z ← Z * SHFR + 0)
- 7 CCLD7(Z, N, & V UNAFFECTED; C ← ALU CARRY)

FORK ENABLE
FEN [14-12]

- 0 NO FORK
- 1 FORK A
- 2 FORK B
- 4 FORK C

MICRO ADDRESS FIELD
UAD [07-00]

TO ADDRESS GATING

MISCELLANEOUS
MSC (T1) [29-27]

- 0 NO EFFECT
- 1 FP ATTN
- 2 NOT USED
- 3 SET CONF IF KERNEL MODE
- 4 SPL (SET PRIORITY LEVEL)
- 5 CONDITIONAL BUST
- 6 BRO STROBE
- 7 BUST (BUS START)

BUS DELAY
BSC (T1) [40-39]

- 0 NO PAUSE
- 1 INTR PAUSE
- 2
- 3 BUS PAUSE

BUS CONDITION
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

BUS CONTROL
BCT (T1) [32-30]

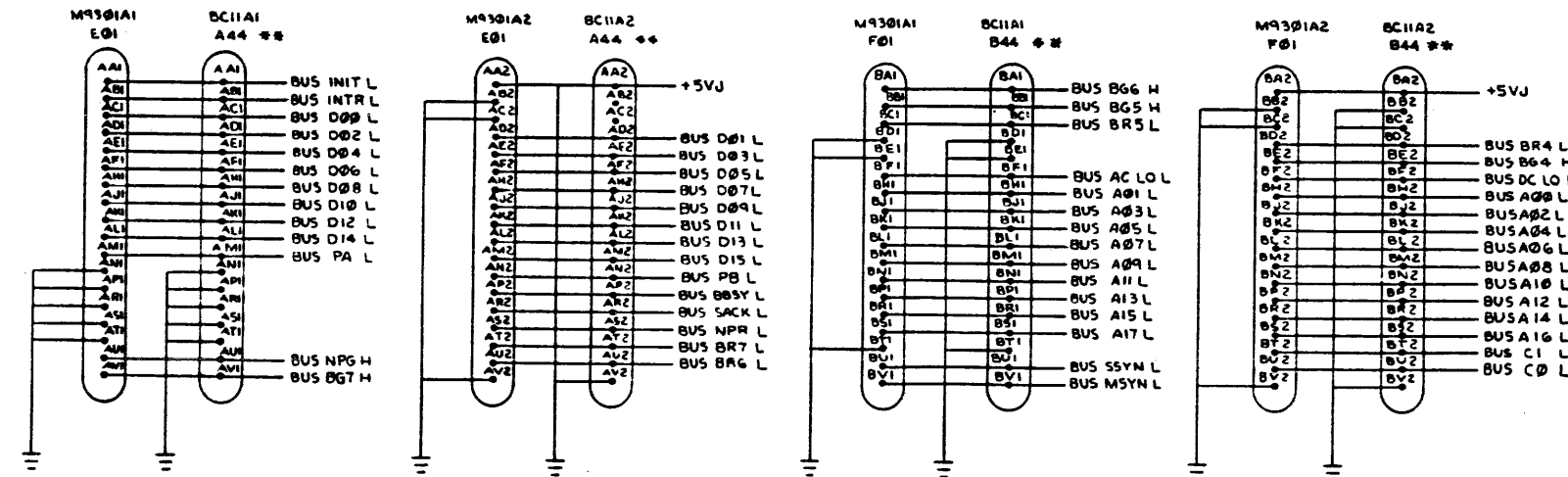
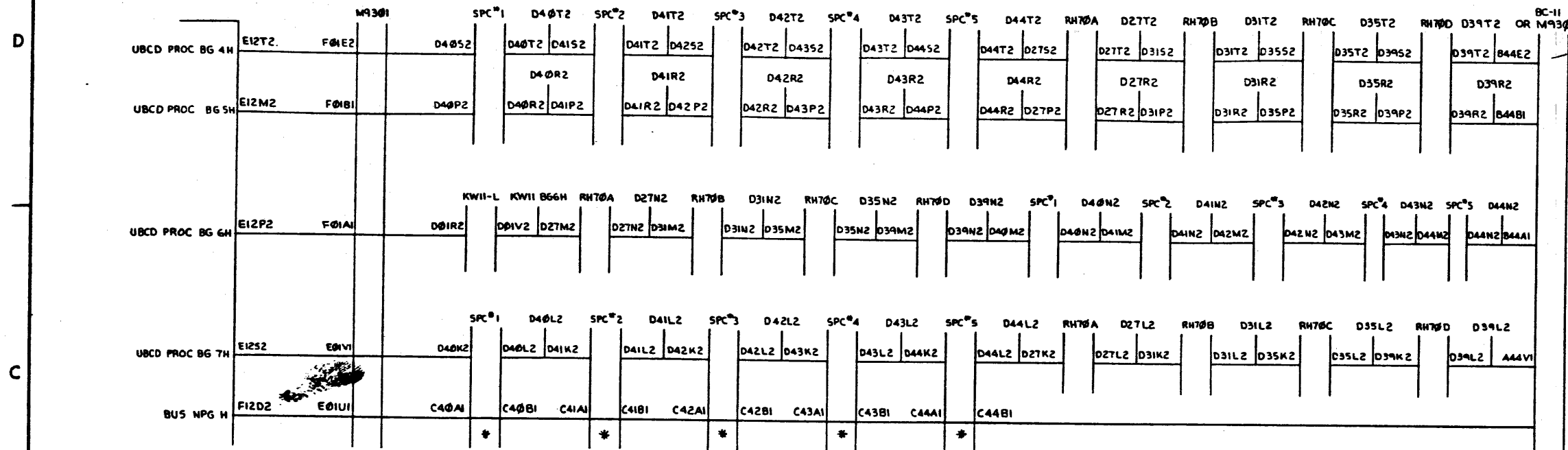
- 0 NO EFFECT
- 1 READ FPP DATA
- 2 CONSOLE ACKNOWLEDGE
- 3 CLEAR FLAGS
- 4 INIT IF KERNEL MODE
- 5 STACK REFERENCE
- 6 ACKNOWLEDGE
- 7 BEND (BUS END)

BEF [11-8]	UADR5 [+40]	UADR4 [+20]
0	DESTINATION MODE 3, 5, 7	SR # 1
1	CONDITION CODE Z	(PWRV + INTR)
2	SC # 0	SC < 0
3		
4	-DIV SUB	CONDITION CODE N
5	-OBD (ODD BYTE DESTINATION)	-DIV QUIT
6	BR14(0)	PS RESTORE
7	REGISTER DEPOSIT	-(BRQ * -(T + CONF))
10	RIP + FP SYNC	-(FP REQ * FP SYNC)
11	SC # 0	DRO (1)
12	CONF (CONSOLE FLAG)	-BRO
13	PF(0) * (SF + TF)	PF(0) * (SF + -TF)
14		
15	-FJ/CLASS	-O/CLASS
16	DRO (1)	SR15(1)
17	RIP + FP SYNC	FP SYNC * FP REG WR

(BEF=5) * OBD = CONDITIONAL FORK B
(BEF=14) * CONSOLE BRANCHES
(BEF=14) * CONDITIONAL FORK C
(BEF=15) * FJ/CLASS = CONDITIONAL FORK B

FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO.	SPEN NO.
KB11-B				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE		
XX - 006	± 0' 30"	DRN D HAMEL	DATE 3/6/75	
X - 1		CHK'D <i>[Signature]</i>	DATE 3/20/75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		ENG <i>[Signature]</i>	DATE 3/21/75	
		PROJ ENG <i>[Signature]</i>	DATE 3/21/75	
		PROD <i>[Signature]</i>	DATE 3/21/75	
		DATE 3/21/75		
MATERIAL		NEXT HIGHER ASSY		
FINISH		B-DD-KB11-B	SIZE CODE	NUMBER
		SCALE	DSD	KB11-B-3
		SHEET 1 OF 1	DIST.	

SLOT AA "SACK" TURNAROUND

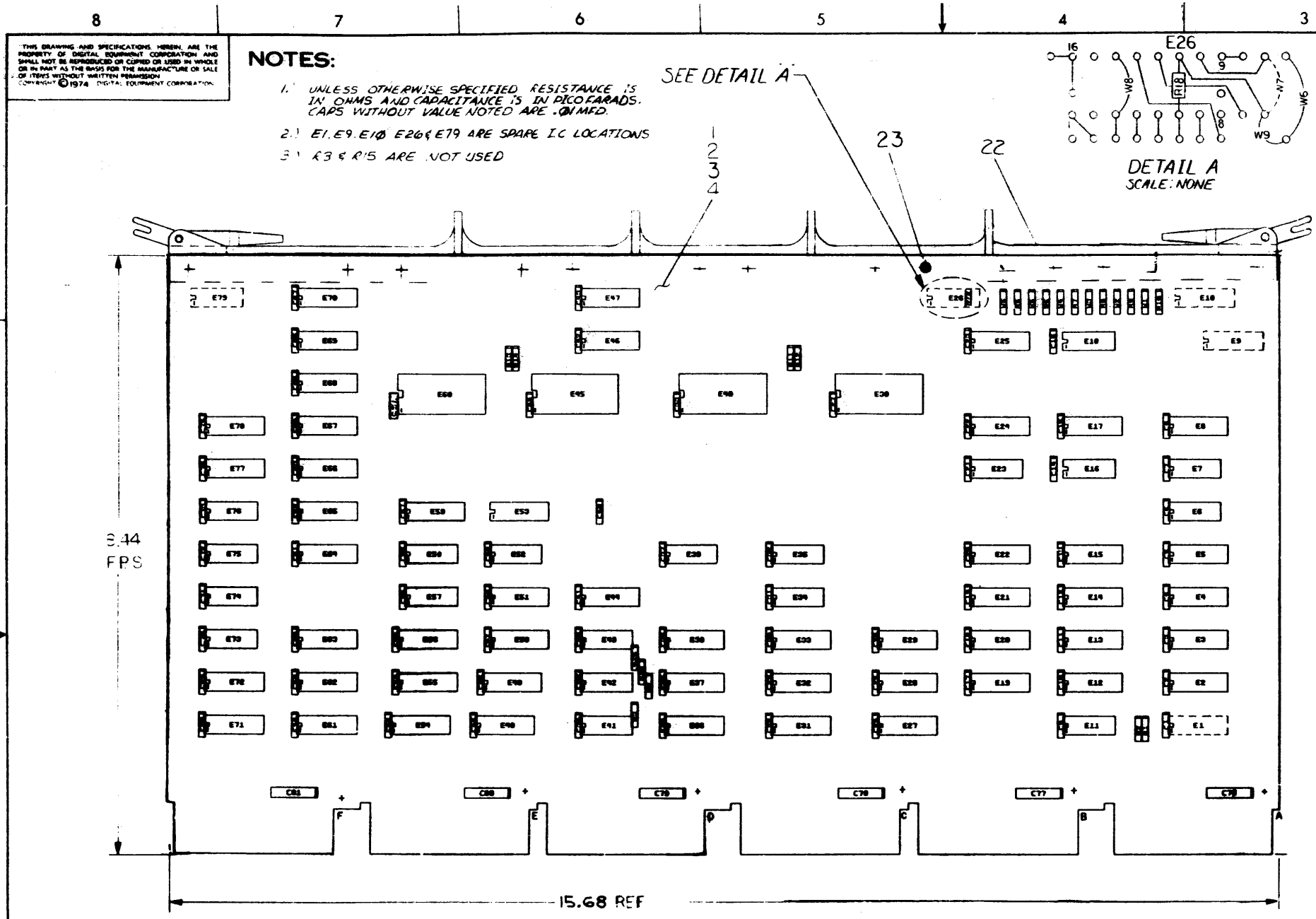


* A TO B JUMPER CONNECTION TO BE REMOVED IF AN NPG DEVICE IS INSERTED IN AN S.P.C. SLOT.
 ** IF NO UNIBUS DEVICES ARE PRESENT, REPLACE BC11 CABLE WITH M9302 UNIBUS TERM.

RL11, RX211

REV	CHANGE NO	DATE
A	1	10/15/75

FIRST USED ON OPTION/MODEL K811	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
DIMENSIONAL TOLERANCE		DRN	DATE	
DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED		CHK'D	DATE	
UNLESS OTHERWISE SPECIFIED		ENG.	DATE	
THIRD ANGLE PROJECTION		PROJ. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	
MATERIAL		TITLE		
FINISH		UNIBUS CABLE AND GRANT CHAIN		
NEXT HIGHER ASSY.		SIZE/CODE	NUMBER	REV.
SCALE NCNE		DIC	K811-B-7	A
SHEET		DIST		



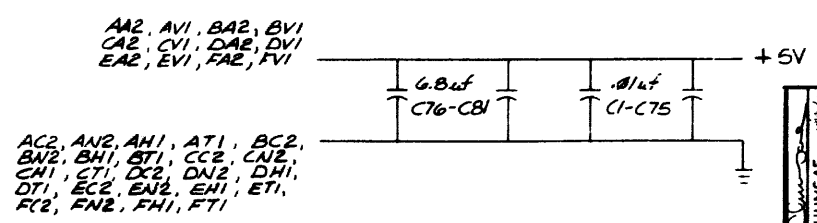
NOTES:

- UNLESS OTHERWISE SPECIFIED RESISTANCE IS IN OHMS AND CAPACITANCE IS IN PICO FARADS. CAPS WITHOUT VALUE NOTED ARE .01MFD.
- E1, E9, E10, E20, E79 ARE SPARE IC LOCATIONS
- R3 & R15 ARE NOT USED

REF	DESCRIPTION	PART NO.	ITEM NO.
	X-Y COOR HOLE LOCATION	K-CD-MB130-0-1	
	ASSY/DRILLING HOLE LAYOUT	EAN-MB130-0-5	2
	MODULE ECO HISTORY	B-MH-MB130-0-6	3
1	ETCHED CIRCUIT BOARD	5011347	4
75	C1 THRU C75	CAP, .01uf 100V, 20%	1001010-01 5
5	C76 THRU C81	CAP, 6.8uf, 35V, 20%	10000067 6
7	R5 THRU R10, R18	RES, 10K, 1/4W, 5%	1300479 7
3	R1, R11, R13	RES, 330R, 1/4W, 5%	1300295 8
2	R4, R16	RES, 150R, 1/4W, 5%	300250 9
3	R2, R12, R14	RES, 500R, 1/4W, 5%	1301890 10
1	E42	I.C. DEC 74S64	1910542 11
4	E30, E40, E45, E60	I.C. DEC 74S181	1910531 12
3	E23, E35, E74	I.C. DEC 74S00	1910532 13
2	E16, E34	I.C. DEC 74S10	1910530 14
4	E7, E43, E57, E75	I.C. DEC 74S11	1910537 15
1	E52	I.C. DEC 74S20	1910539 16
2	E48, E49	I.C. DEC 74S157	1910548 17
19	E3, E4, E5, E6, E13, E41, E15, E17, E20, E21, E22, E24, E25, E27, E28, E29, E31, E32, E33, E36, E37, E38, E50, E51, E53, E54, E55, E56, E59, E61, E62, E63, E64, E65, E66, E71, E72, E77, E78	I.C. DEC 74S153	1910547 18
1	E44	I.C. DEC 741B2-1	1910551 19
9	E2, E12, E19, E66, E67, E46, E47, E69, E70	I.C. DEC 74S174	1910550 20
8	E6, E11, E18, E39, E41, E58, E73, E76	I.C. DEC 74S04	1910534 21
1		HANDLE, MODULE	1210711-2 22
12		EYELET	9006732 23
1/R		WIRE, #30 BUS (RETROFIT)	9105740-55 24

IC TYPE	GND	+5V
DEC 74182-1	8	16
DEC 74S181	12	24
DEC 74S174	8	16
DEC 74S157	8	16
DEC 74S153	8	16

IC PIN LOCATIONS



REV	DESCRIPTION	DATE
1	INITIAL	11/78
2

FIRST USED ON OPTION MODEL 11/78

ETCH BOARD REV A

digital EQUIPMENT CORPORATION
MAYFIELD, MASSACHUSETTS

TITLE: DATA PATHS (DAP)

SIZE CODE: DCS M8130-0-1

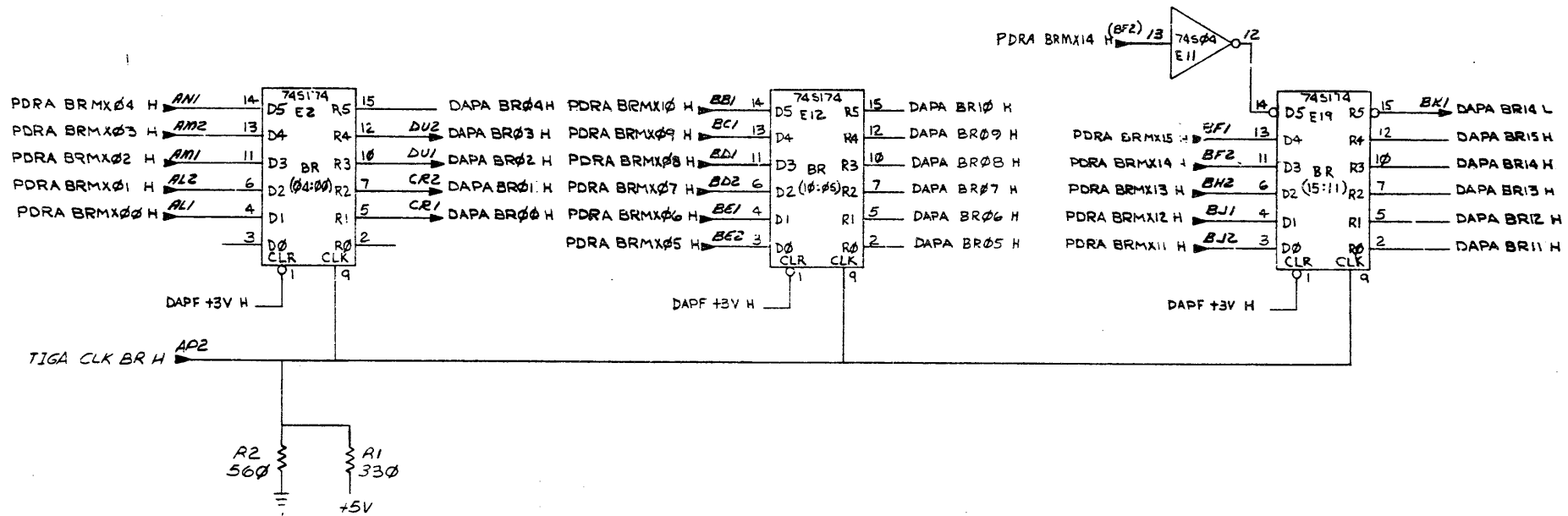
NUMBER: B-DD-KB11-B

SCALE: #

SHEET 1 OF 9

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1-0-0918W 2



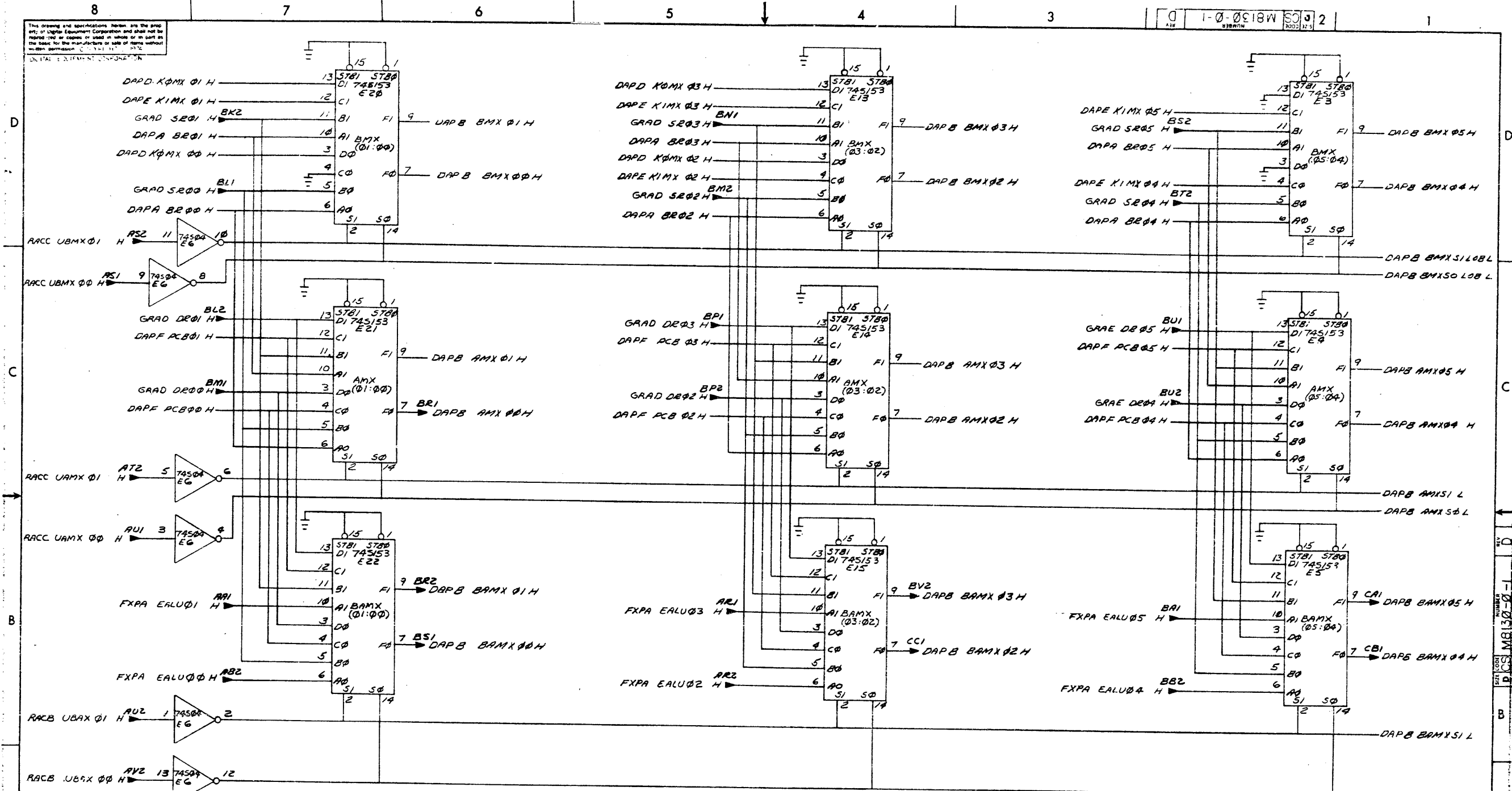
BUS REGISTER		SLOT6	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
11/70			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN <i>Andrus</i>	DATE 11/74	EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
DECIMALS	DATE <i>Ferguson</i>	DATE 11/70	
ANGLES	DATE <i>Winters</i>	DATE 11/74	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE <i>Winters</i>	DATE 11/74	
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH	B-DD-KB11-B	DCS	M8130-0-1
	SCALE	SHEET	REV.
	2 OF 9	DIST	D

REVISIONS	REV
CHANGE NO.	
CHK	

DEC 16 1980 102-B

REV D
NUMBER
DCS M8130-0-1

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UBAX 01	00	UAMX 01	00	UBMX 01	00
L	L DE	L	L DE	L	L K0MX
L	H PCB	L	H PCB	L	H K1MX
H	L SE	H	L SR	H	L SE
H	H FP MAINT	H	H BE	H	H BE

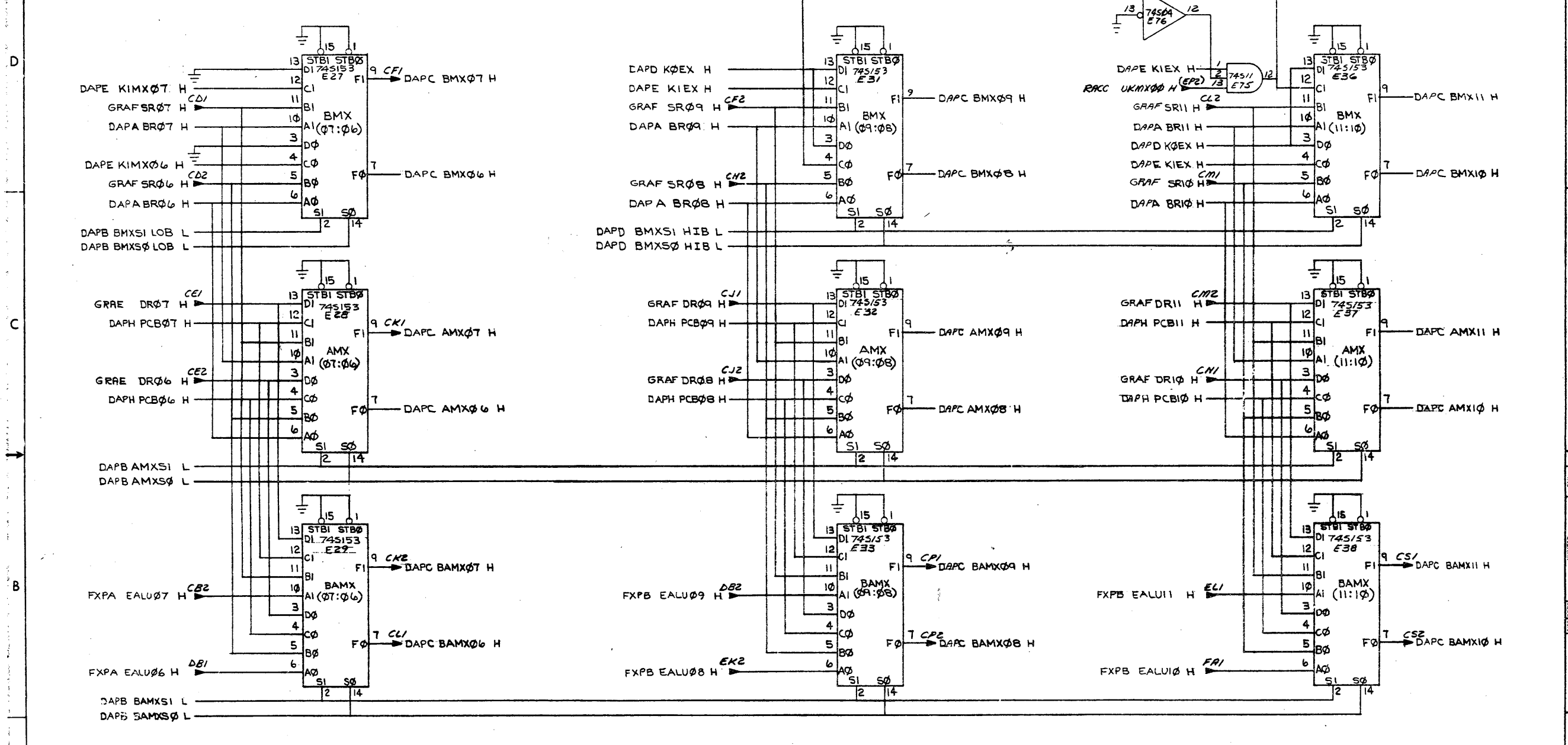
B.A. & BUS ADDR. MULTIPLEXERS (05:00) SLOT 6

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
1170				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES				
TOLERANCES				
DECIMALS	ANGLES	TITLE		
.XXX - .008	±0° 30'	DATA PATHS		
XX - .02		EQUIPMENT CORPORATION		
X - .1		MAYFIELD MASSACHUSETTS		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
SCALE				
SHEET 3 OF 9				
DISTRIBUTION				

REV	CHG	NO

24

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 DIGITAL EQUIPMENT CORPORATION



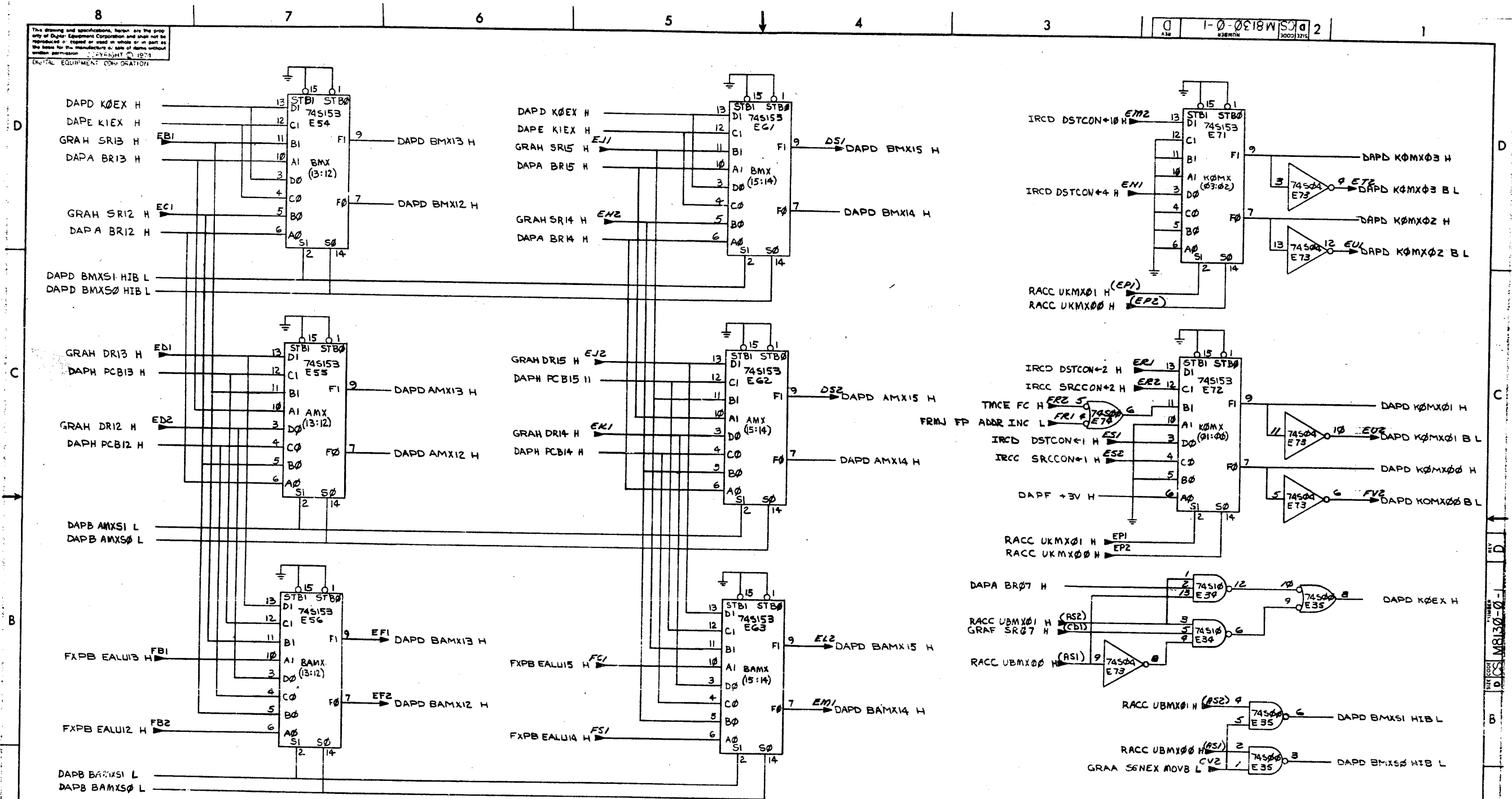
REVISIONS	NO.	REV.
CHK	CHANGE NO.	

B, A, & BUS ADDR. MULTIPLEXERS (11:07)		SLOTS 6	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
11/70			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN	DATE	EQUIPMENT CORPORATION
TOLERANCES	<i>J. Anderson</i>	11/70	MAYFIELD MASSACHUSETTS
DECIMALS	ANGLES	EMP	TITLE
.XXX - .005	±0° 30'	<i>J. Anderson</i>	DATA PATHS
.XX - .02		PROJ. ENG.	
X - .1		<i>J. Anderson</i>	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PRD	DATE	
	<i>R. B. Bostick</i>	11/3/74	
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
11	3-DD-K811-B	D	CS M8130-0-1
FINISH	SCALE	SHEET	REV.
11	4 OF 9	4	D

117

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1-0-0818W(S) 2

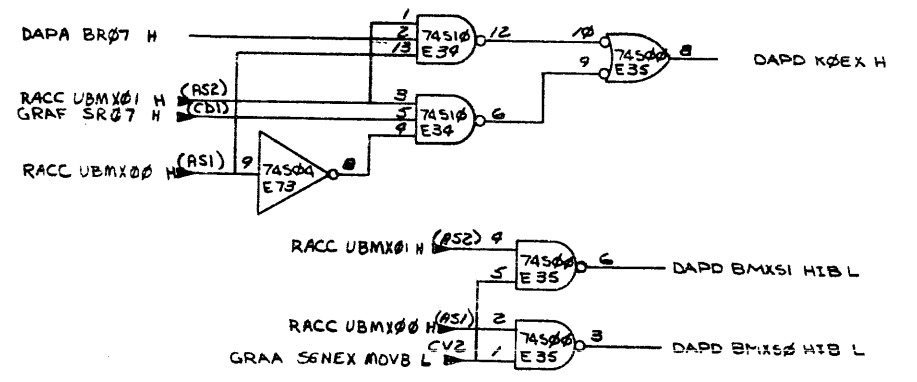


DAPD BAMX15 H
DAPD BAMX14 H
DAPD BAMX13 H

74511 E75 → DAPD EX MEM FLAG H

UKMX 01 00 KOMX

L	L	1
L	L	2
H	L	SRCCON
H	H	DSTCON



BA #BUS ADDR, MULTIPLEXERS (15:12); KOMX SLOT6

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				

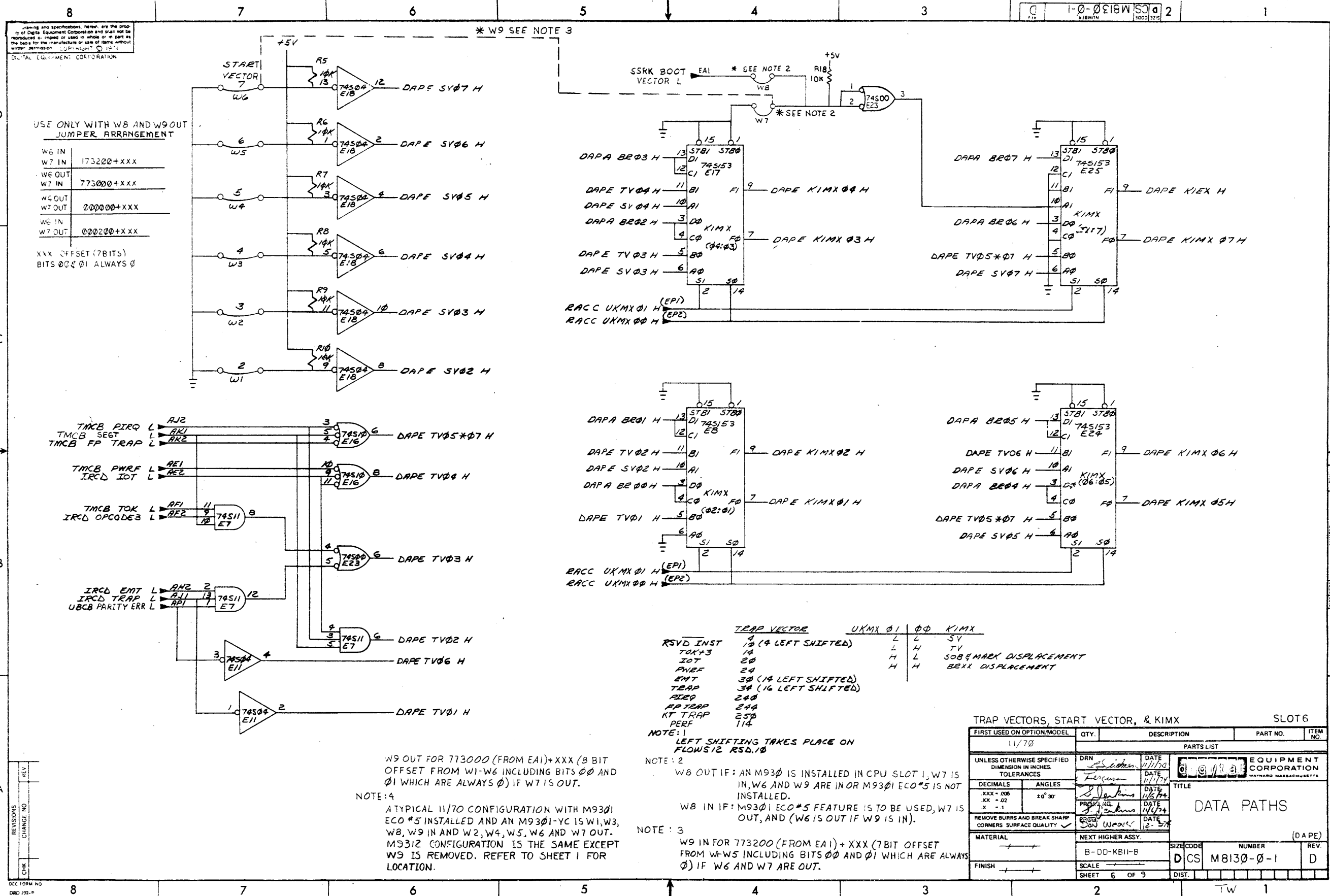
PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRN	DATE	EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
TOLERANCES	<i>Ferguson</i>	11/77	
DECIMALS	<i>Ferguson</i>	11/77	TITLE DATA PATHS
ANGLES	<i>Ferguson</i>	11/77	
XXX - .006	<i>Ferguson</i>	11/77	MATERIAL NEXT HIGHER ASSY. (DAPD)
.XX - .02	<i>Ferguson</i>	11/77	
.X - .1	<i>Ferguson</i>	11/77	FINISH SCALE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	<i>Ferguson</i>	11/77	

SIZE CODE: B-DD-KB11-B
NUMBER: 8-11-11-B
REV: D
SCALE: TW 1
SHEET 5 OF 9

REVISIONS

REV	CHANGE NO.



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USE ONLY WITH W8 AND W9 OUT JUMPER ARRANGEMENT

W6 IN	
W7 IN	173200+XXX
W6 OUT	
W7 OUT	773000+XXX
W8 OUT	
W7 OUT	000000+XXX
W6 IN	
W7 OUT	000200+XXX

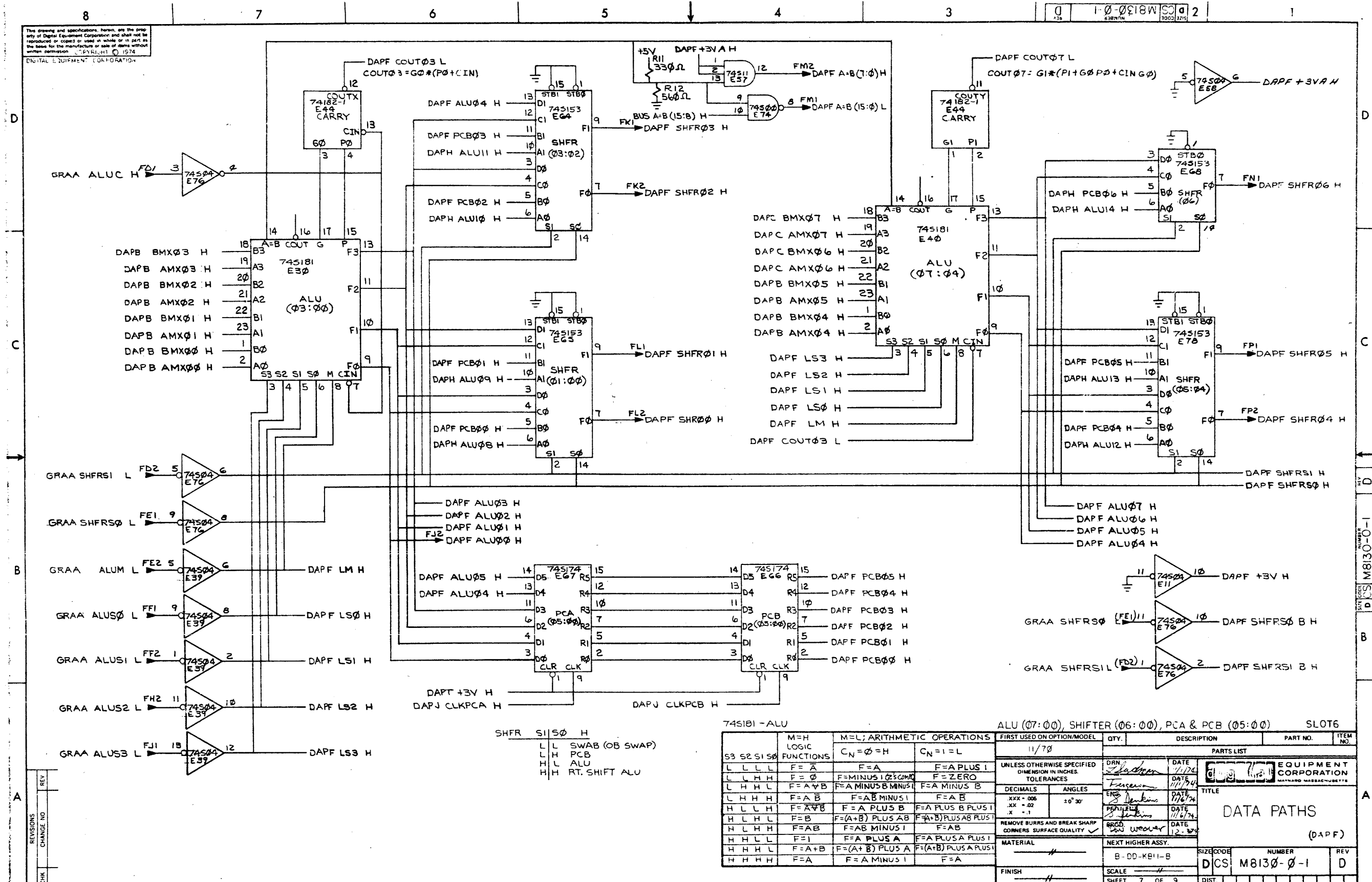
XXX OFFSET (7BITS)
BITS 00 & 01 ALWAYS 0

TRAP VECTOR	UKMX 01	00	KIMX
RSVD INST	4 (4 LEFT SHIFTED)	L	SV
TOK+3	14	L	TV
IOT	20	H	SOB& MARK DISPLACEMENT
PWRF	24	H	BEXX DISPLACEMENT
EMT	30 (16 LEFT SHIFTED)		
TRAP	34 (16 LEFT SHIFTED)		
AIOP	240		
FP TRAP	244		
KT TRAP	250		
PERF	114		

- NOTE: 1
LEFT SHIFTING TAKES PLACE ON FLOWS 12 RSD.10
- NOTE: 2
W8 OUT IF: AN M930 IS INSTALLED IN CPU SLOT 1, W7 IS IN, W6 AND W9 ARE IN OR M9301 ECO *5 IS NOT INSTALLED.
W8 IN IF: M9301 ECO *5 FEATURE IS TO BE USED, W7 IS OUT, AND (W6 IS OUT IF W9 IS IN).
- NOTE: 3
W9 IN FOR 773200 (FROM EAI) + XXX (7BIT OFFSET FROM W6 INCLUDING BITS 00 AND 01 WHICH ARE ALWAYS 0) IF W6 AND W7 ARE OUT.

NOTE: 4
W9 OUT FOR 773000 (FROM EAI) + XXX (8 BIT OFFSET FROM W1-W6 INCLUDING BITS 00 AND 01 WHICH ARE ALWAYS 0) IF W7 IS OUT.
ATYPICAL 11/70 CONFIGURATION WITH M9301 ECO *5 INSTALLED AND AN M9301-YC IS W1, W3, W8, W9 IN AND W2, W4, W5, W6 AND W7 OUT. M9312 CONFIGURATION IS THE SAME EXCEPT W9 IS REMOVED. REFER TO SHEET 1 FOR LOCATION.

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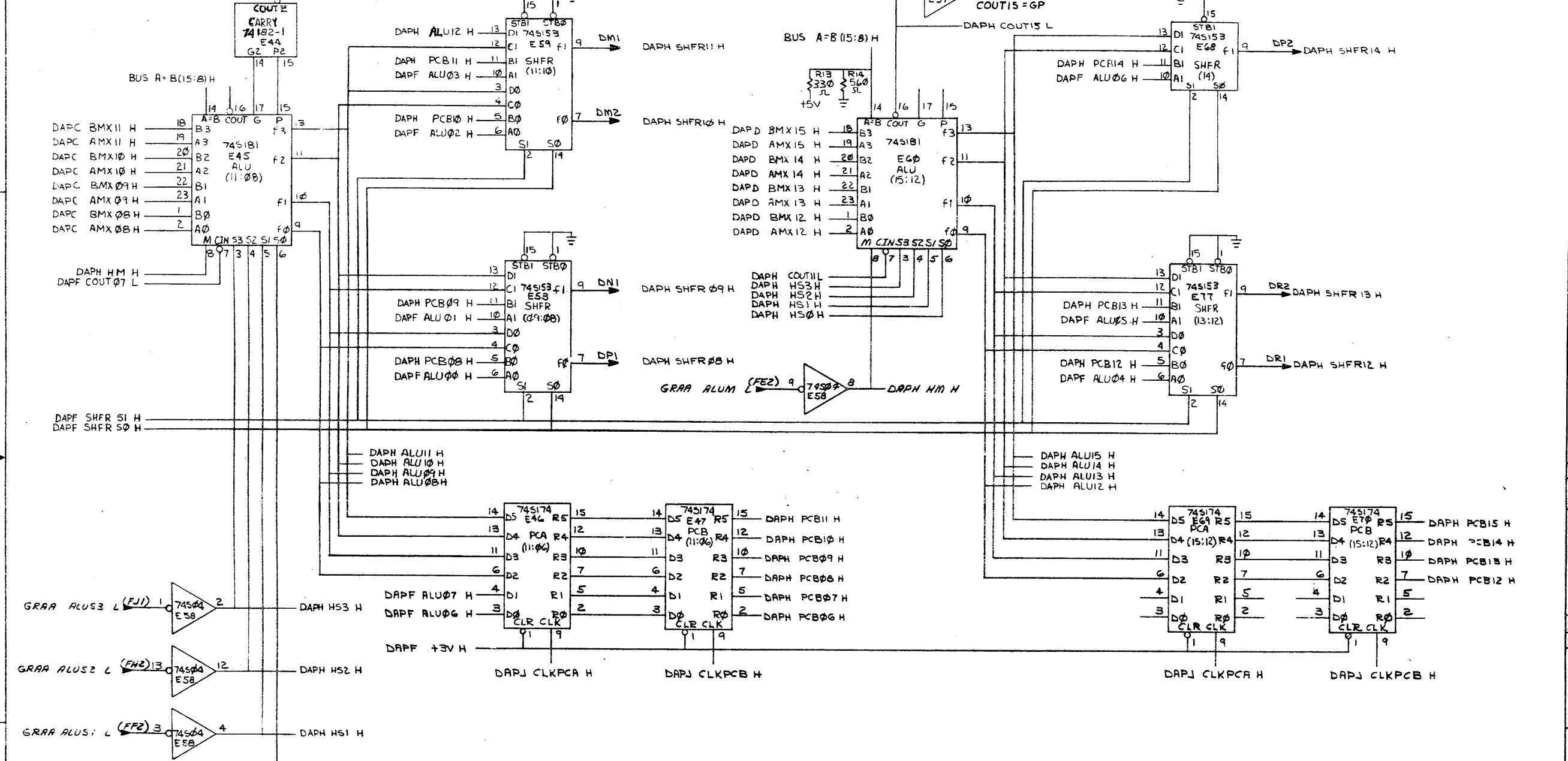


SHFR S1 S0 H
 L L SWAB (0B SWAP)
 L H PCB
 H L ALU
 H H RT. SHIFT ALU

745181 - ALU				ALU (07:00), SHIFTER (06:00), PCA & PCB (05:00) SLOT 6			
M=H LOGIC FUNCTIONS	M=L; ARITHMETIC OPERATIONS	FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
S3 S2 S1 S0	C _N =0=H	C _N =1=L	11/70				
L L L L	F=A	F=A	UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
L L L H	F=0	F=MINUS 1 (2'S COMP)	DECIMALS ANGLES				
L H H L	F=A+B	F=A MINUS B MINUS 1	XXX - .006 ±0° 30'				
L H H H	F=A B	F=A B MINUS 1	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
H L L H	F=A+B	F=A PLUS B	MATERIAL				
H L H L	F=B	F=(A+B) PLUS AB	NEXT HIGHER ASSY.				
H L H H	F=AB	F=AB MINUS 1	FINISH				
H H L L	F=1	F=A PLUS A	SCALE				
H H L H	F=A+B	F=(A+B) PLUS A	SHEET 7 OF 9				
H H H H	F=A	F=A MINUS 1	DIST.				

EQUIPMENT CORPORATION
 DATE 11/74
 DATE 11/74
 DATE 11/74
 DATE 12-74
DATA PATHS
 (DAPF)
 SIZE CODE B-DD-KB11-B
 NUMBER DCS M8130-0-1
 REV D

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REV	CHG	NO

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DBM	DATE	EQUIPMENT CORPORATION	
DECIMALS .XXX - .008				
ANGLES 20' 30'				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.			
FINISH				

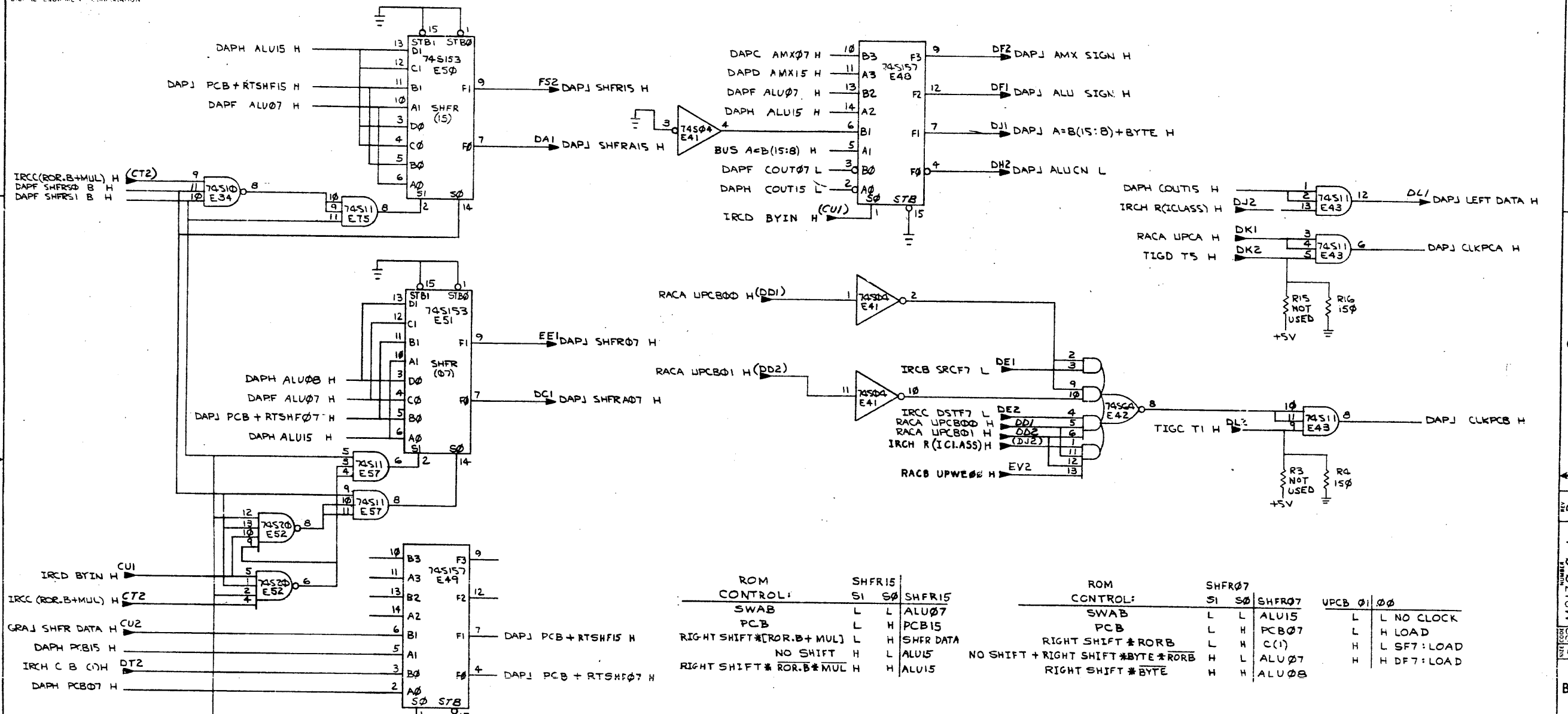
SCALE	SHEET	OF	TOTAL SHEETS	DIST.

SIZE CODE	NUMBER	REV.
D CS	M8130-0-1	D

121

29

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ROM CONTROL:	SHFR15 S1 S0	SHFR15	ROM CONTROL:	SHFR07 S1 S0	SHFR07	UPCB 01 00
SWAB	L L	ALU07	SWAB	L L	ALU15	L L NO CLOCK
PCB	L H	PCB15	PCB	L H	PCB07	L H LOAD
RIGHT SHIFT * [ROR.B + MUL]	L H	SHFR DATA	RIGHT SHIFT * RORB	L H	C(1)	H L SF7: LOAD
NO SHIFT	H L	ALU15	NO SHIFT + RIGHT SHIFT * BYTE * RORB	H L	ALU07	H H DF7: LOAD
RIGHT SHIFT * [ROR.B * MUL]	H H	ALU15	RIGHT SHIFT * BYTE	H H	ALU08	

74S157 S0
L A→F
H B→F

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED		DRN.	DATE	EQUIPMENT CORPORATION	
DIMENSION IN INCHES.		CHKD.	DATE	MILFORD MASSACHUSETTS	
TOLERANCES		ENG.	DATE	TITLE	
DECIMALS	ANGLES	PROJ. ENGR.	DATE	DATA PATHS	
.XX - .006	±0° 30'	DATE	DATE		
.XX - .02		DATE	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		BRD.	DATE		
		D. W. W.	12-3-74		
MATERIAL		NEXT HIGHER ASSY.		(DAPJ)	
FINISH		B-DD-KB11-B		SIZE CODE	NUMBER
				DCS	M8130-0-1
		SCALE		REV.	
		SHEET 9 OF 9		D	

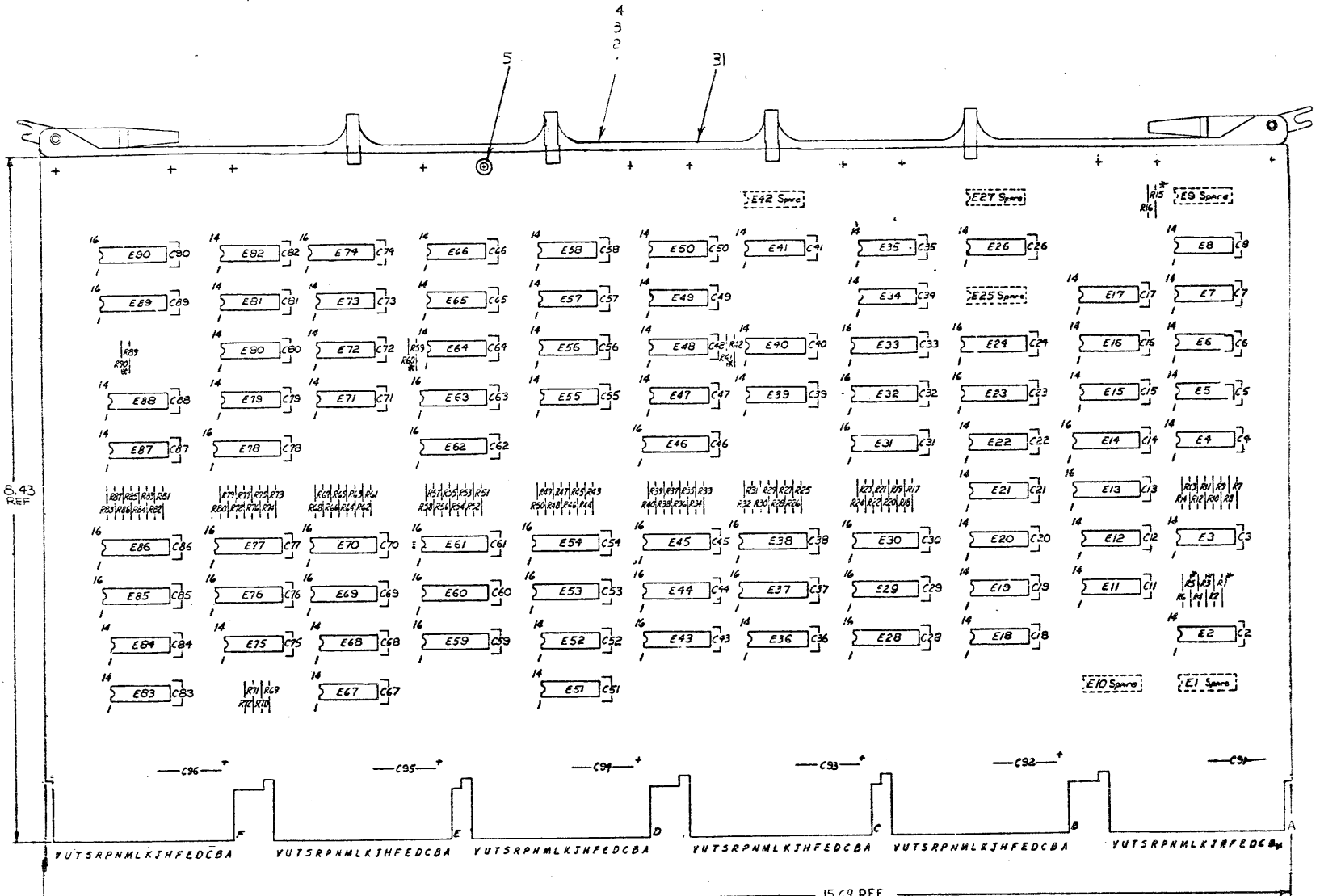
REV.	CHANGE NO.

DEC 1974 NO. 101-B

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NOTES:

1. RESISTORS MARKED WITH ASTERISK ARE NOT USED
2. LOCATIONS MARKED E1, E1, E10, E 25, E 27, & E 42 ARE SPARES.



DEC DM 8598-AD	8	16
DEC 3101A	8	16
DEC 745174	8	16
DEC 745158	8	16
DEC 745153	8	16
DEC 745194	8	16
DEC 745112	8	16
DEC 74191	8	16
IC TYPE	GND + 5V	
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE		
IC PIN LOCATIONS		

1 pin on chip

AA2, AV1, BA2, BV1
CA2, CV1, DA2, DV1
EA2, EV1, FA2, FV1, +5V

AC2, AN2, AH1, AT1
BC2, BN2, BH1, BT1
CC2, CN2, CH1, CT1
DC2, DN2, DH1, DT1
EC2, EN2, EH1, ET1
FC2, FN2, FH1, FT1

+6.8µF
-35V C91 THRU C96

.01µF
C2 THRU C8, C11 THRU C24
C26, C28 THRU C41
C43 THRU C90

REV	DATE	BY	CHK
1	11/70	JENKINS	JENKINS
2	1/13/74	JENKINS	JENKINS
3	1/13/74	JENKINS	JENKINS
4	1/13/74	JENKINS	JENKINS
5	1/13/74	JENKINS	JENKINS
6	1/13/74	JENKINS	JENKINS
7	1/13/74	JENKINS	JENKINS
8	1/13/74	JENKINS	JENKINS
9	1/13/74	JENKINS	JENKINS
10	1/13/74	JENKINS	JENKINS

FIRST USED ON OPTION MODEL	11/70		
ETCH BOARD REV	C		
DEC NO.	EIA NO.	DEC NO.	EIA NO.
SEMICONDUCTOR CONVERSION CHART			
SHEET 1	OF 10		

REF	X-Y COORDINATE HOLE LOCATION	K-CD-MB131-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	E-AH-MB131-0-5	2
REF	MODULE ECO HISTORY	B-MH-MB131-0-6	3
1	ETCHED CIRCUIT BOARD	5009807	4
12	EYELET	9006732	5
6	C91 THRU C96	CAP. 6.8µF 35V±20% S TANT	1000067
84	C2 THRU C8, C11 THRU C24, C26, C28 THRU C41, C43 THRU C90	CAP. 0.01µF 100V±20% DISC	1001810
38	R7, R9, R11, R13, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R44, R46, R48, R50, R52, R54, R56, R58, R62, R64, R66, R68, R69, R71, R74, R76, R78, R80, R82, R84, R86, R88	RES 330 OHM 1/4W±5%	1300295
7	R2, R4, R6, R16, R42, R59, R89	RES 150 OHM 1/4W±5%	1300250
4	R8, R10, R12, R14	RES 560 OHM 1/4W±5%	1301890
32	R17, R19, R21, R23, R25, R27, R29, R31, R33, R35, R37, R39, R43, R45, R47, R49, R51, R53, R55, R57, R61, R63, R65, R67, R73, R75, R77, R79, R81, R83, R85, R87	RES 680 OHM 1/4W±5%	1301424
2	RD0, RD7	RES 750 OHM 1/4W±5%	1301401
2	E55, E72	IC DEC 74H39	1909059
1	E47	IC DEC 74H50	1909060
2	E13, E14	IC DEC 74191	1910096
5	E3, E4, E17, E26, E89	IC DEC 74S00	1910532
10	E7, E36, E39, E40, E51, E57, E66, E87, E83, E87	IC DEC 74S04	1910534
5	E11, E12, E52, E68, E84	IC DEC 74S05	1910535
5	E2, E15, E20, E22, E56	IC DEC 74S10	1910536
7	E8, E21, E34, E41, E65, E71, E82	IC DEC 74S11	1910537
3	E84, E73, E81	IC DEC 74S24	1910539
11	E5, E6, E16, E18, E35, E48, E49, E59, E75, E80, E19	IC DEC 74S64	1910542
2	E50, E79	IC DEC 74S74	1910544
1	E83	IC DEC 74S112	1910545
4	E23, E24, E32, E33	IC DEC 74S153	1910547
10	E29, E30, E44, E45, E60, E61, E76, E77, E89, E90	IC DEC 74S159	1910549
3	E28, E43, E59	IC DEC 74S174	1910550
4	E31, E46, E62, E78	IC DEC 74S194	1910552
8	E37, E38, E53, E54, E69, E70, E85, E86	IC DEC 31B1A	1910653
1	E74	IC DEC DM8598-AD	23-CB3A1
1	HANDLE, MODULE	E-PS-1210711-2	31
	WIRE, INSULATED 30-AWG BUS	8108740-53	32

QTY	REF	DESIGNATION	DESCRIPTION	PART NO	ITEM NO
PARTS LIST					
ETCH BOARD REV C					
DRY					
CHKD					
ENR					
SIGNED					
NEXT HIGHER ASSY					
B-DD-KB11-B					
SCALE					
SHEET 1 OF 10					
SEMICONDUCTOR CONVERSION CHART					
TITLE					
GENERAL REGS & ALU, CNTL. (GRA)					
SIZE CODE					
DCS MB131-0-1					
REV					
C					

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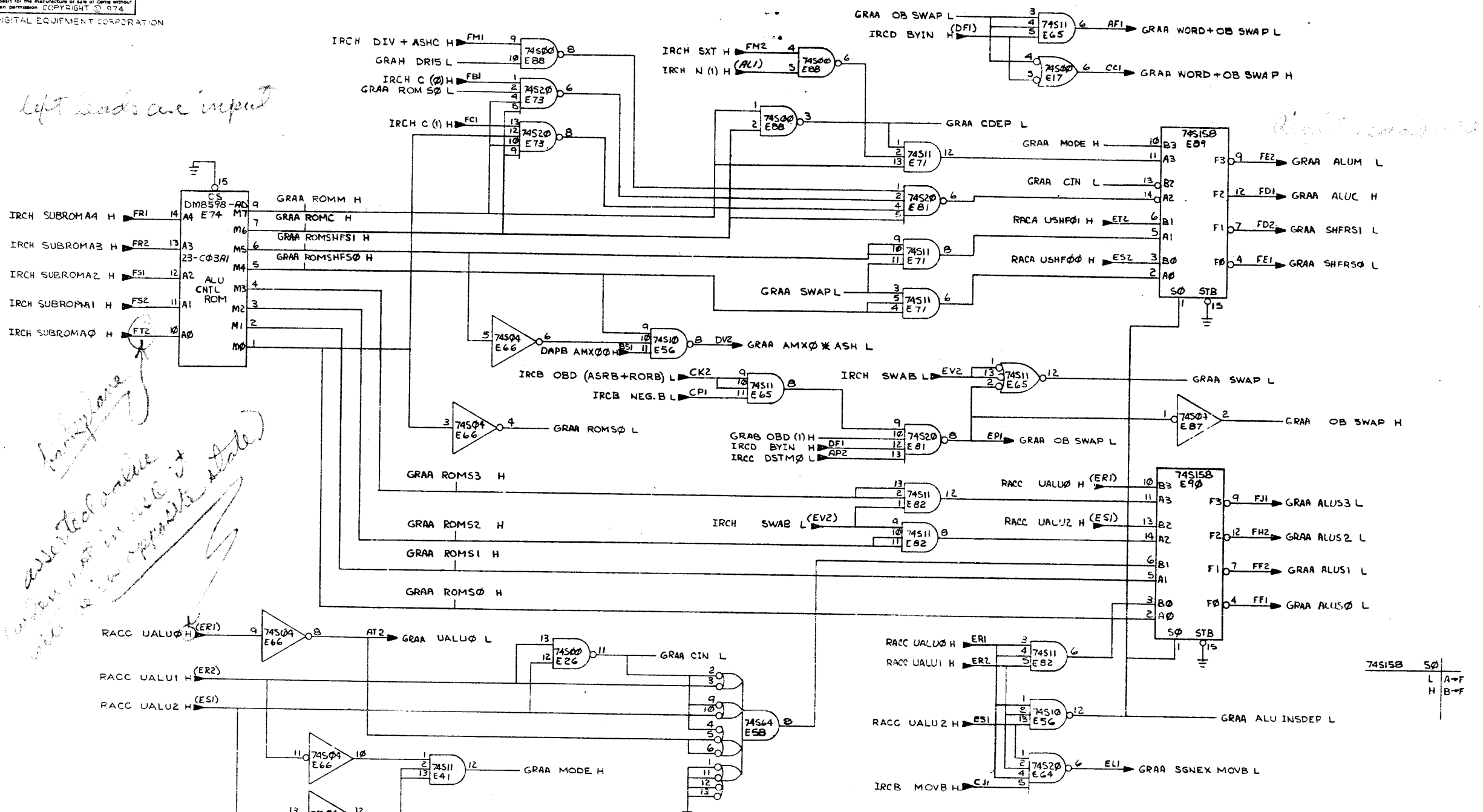
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1-0-1518 W 50 2

Left leads are input

Right leads are input

*anyone
asserted output
will be in opposite state*



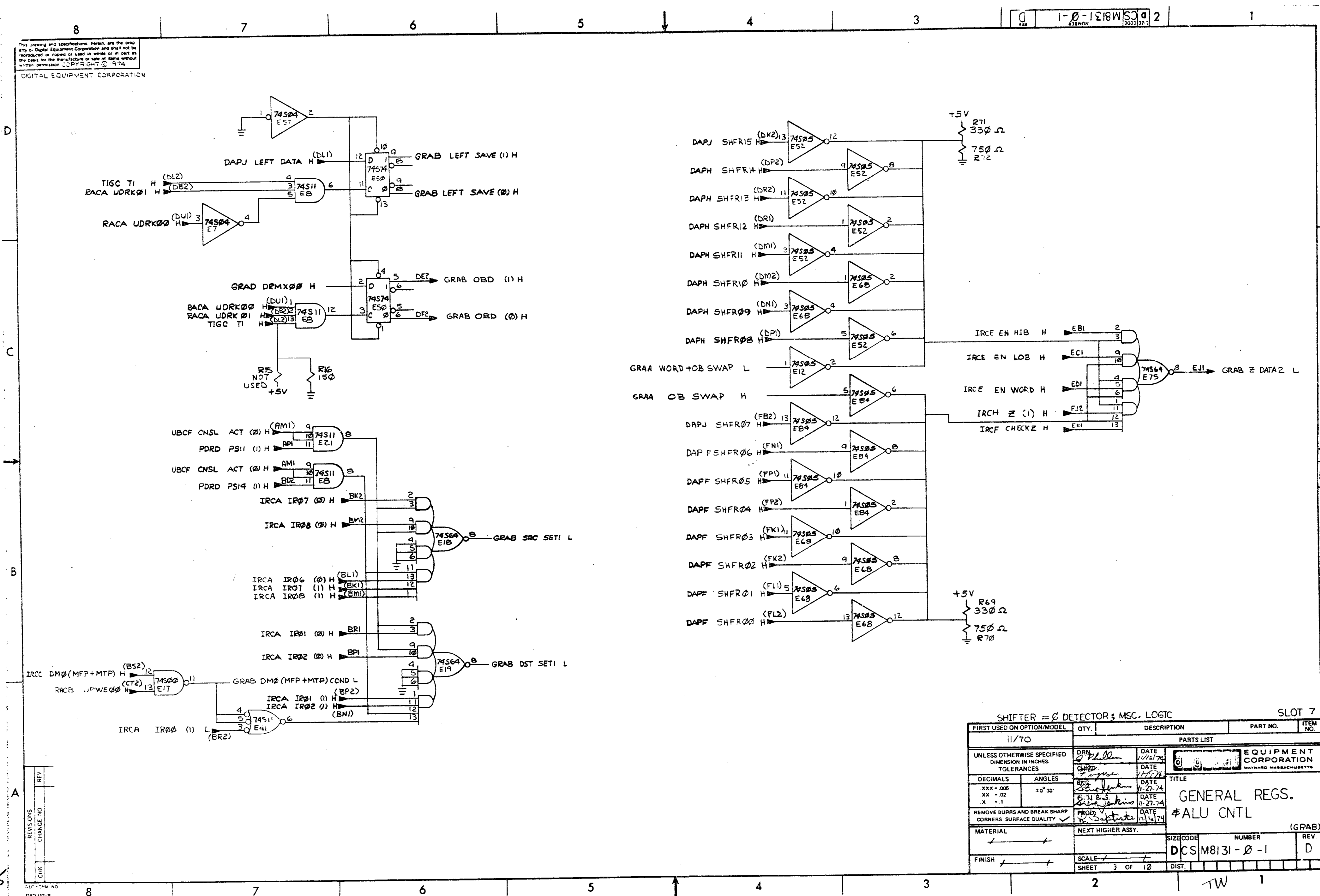
74S15B S0
L A-F
H B-F

ALU & SHIFTER CONTROL LOGIC SLOT 7

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN E. Challen	DATE 11/12/70	EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .XXX - .005 .XX - .02 .X - .1	ANGLES ±0° 30'	DATE 11/15/74	TITLE GENERAL REGS & ALU CNTL (GRAA)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		DATE 11/27/74	SIZE CODE NUMBER REV. DCS M8131-0-1 D	
MATERIAL	NEXT HIGHER ASSY.	SCALE	DIST.	
FINISH		SHEET 2 OF 10	TW 1	

DCS M8131-0-1

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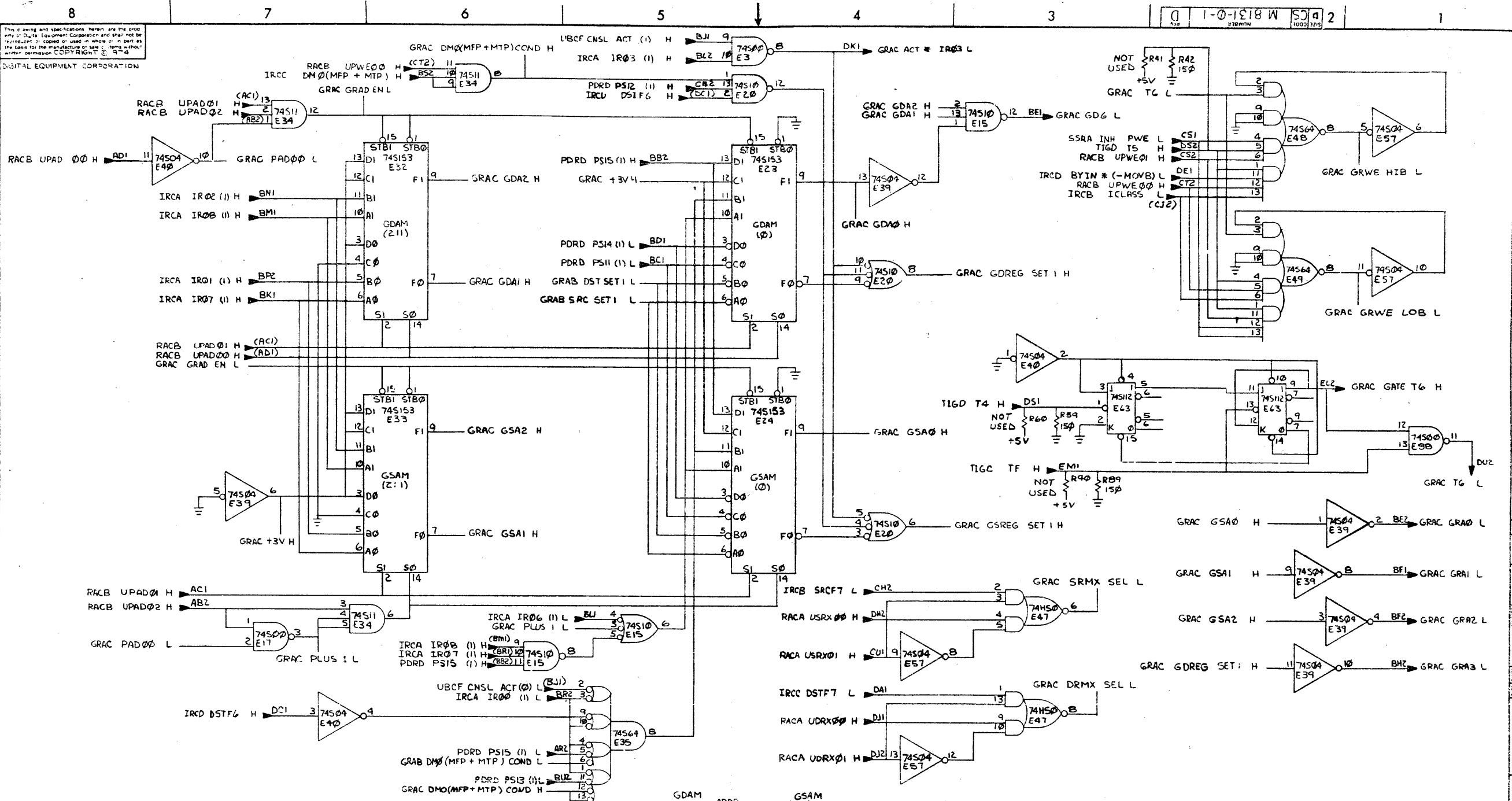
REV	DATE	BY	CHK
1			
2			
3			
4			
5			
6			
7			
8			

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DATE	DATE	EQUIPMENT CORPORATION	
DECIMALS	ANGLES	11/27/74	11/27/74	MAYFIELD MASSACHUSETTS	
.XXX - .006	± 0° 30'	DATE	DATE	TITLE	
.XX - .02		11-27-74	11-27-74	GENERAL REGS.	
.X - .1		DATE	DATE	# ALU CNTL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	DATE	(GRAB)	
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH		SCALE		DCS M8131-0-1	REV. D
SHEET 3 OF 10		DIST.		TW	

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8
7
6
5
4
3
2
1
D
C
B
A
REV
CHANGE NO
LINK
BRUNING 40-332 10840
11/27/74
1701 107-B



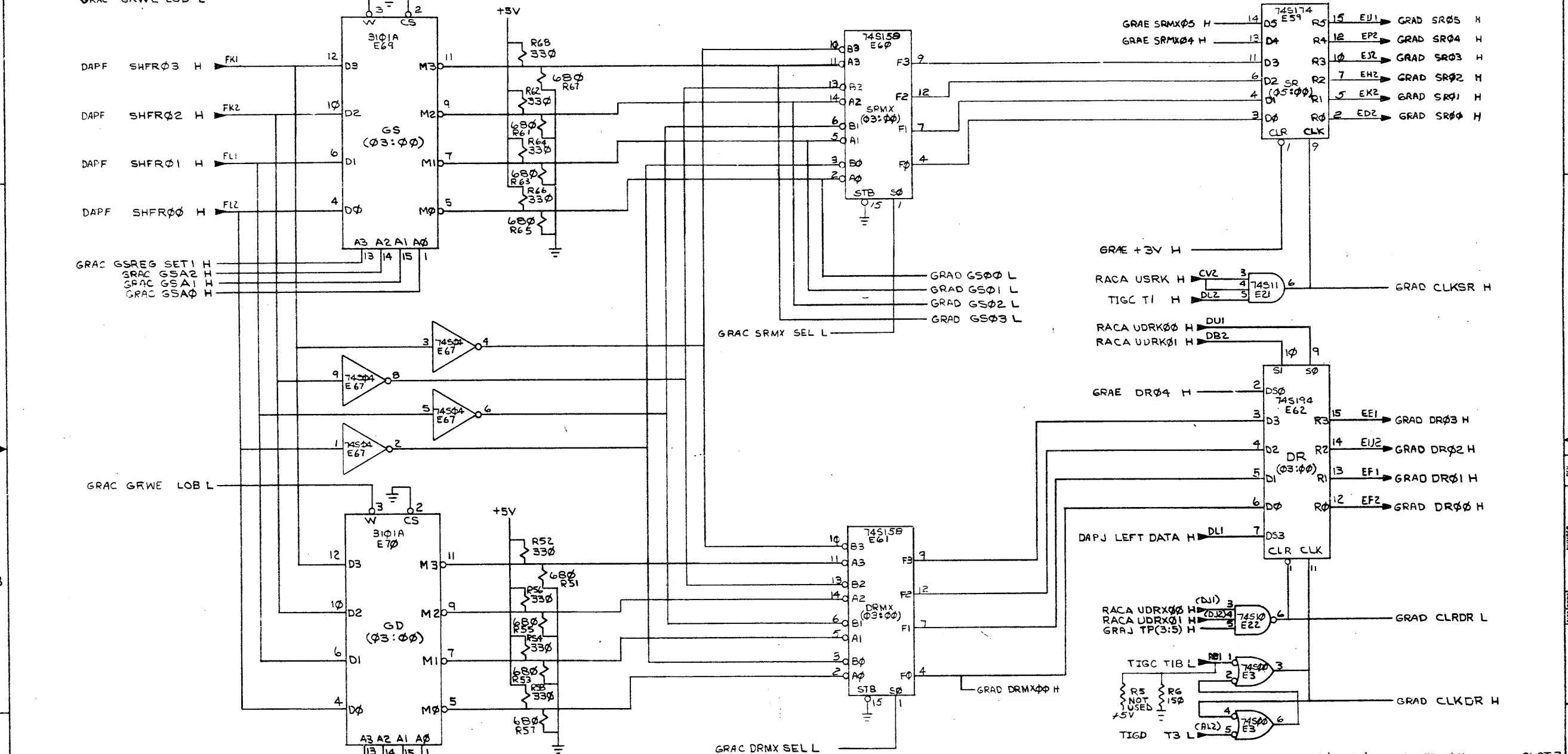
GDM				GSAM				UPWE 01 00				GRWE LOB				GRWE HIB			
UPAD	SI	SO	ADDR OUTPUT	UPAD	SI	SO	ADDR OUTPUT	01	00	01	00	01	00	01	00	01	00		
0	L	L	SF	01	L	L	SF	L	L	L	L	L	L	L	L	L	L		
4	L	L	SFVI	4	L	L	SFVI	L	H	L	H	L	H	L	H	L	H		
1+5	L	L	DF	5	L	L	DF	H	L	L	L	L	L	L	L	L	L		
2	L	H	S	2+3	H	L	S	H	L	L	L	L	L	L	L	L	L		
3+7	H	H	G	7	H	H	G	H	H	L	L	L	L	L	L	L	L		

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

GENERAL REGS ADDR & WRITE PULSE CNTL				SLOT 7	
FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.	
11/70					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES					
DECIMALS	ANGLES	PARTS LIST			
XXX . 000	± 0° 30'	DIGITAL EQUIPMENT CORPORATION			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL					
FINISH					
NEXT HIGHER ASSY.					
SCALE					
SHEET 4 OF 10					
TITLE			NUMBER		
GENERAL REGS & ALU CNTL			DCS M8131-0-1		
REV			REV		
D			D		

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

GRAC GOREG SET1 H
GRAC GDA2 H
GRAC GDA1 H
GRAC GDA0 H

74S194 SI S0
L L NO-OP
L H SHIFT RIGHT (DS0)
H L SHIFT LEFT (DS5)
H H LOAD

74S158 S0 OUTPUT
L A → f
H B → f

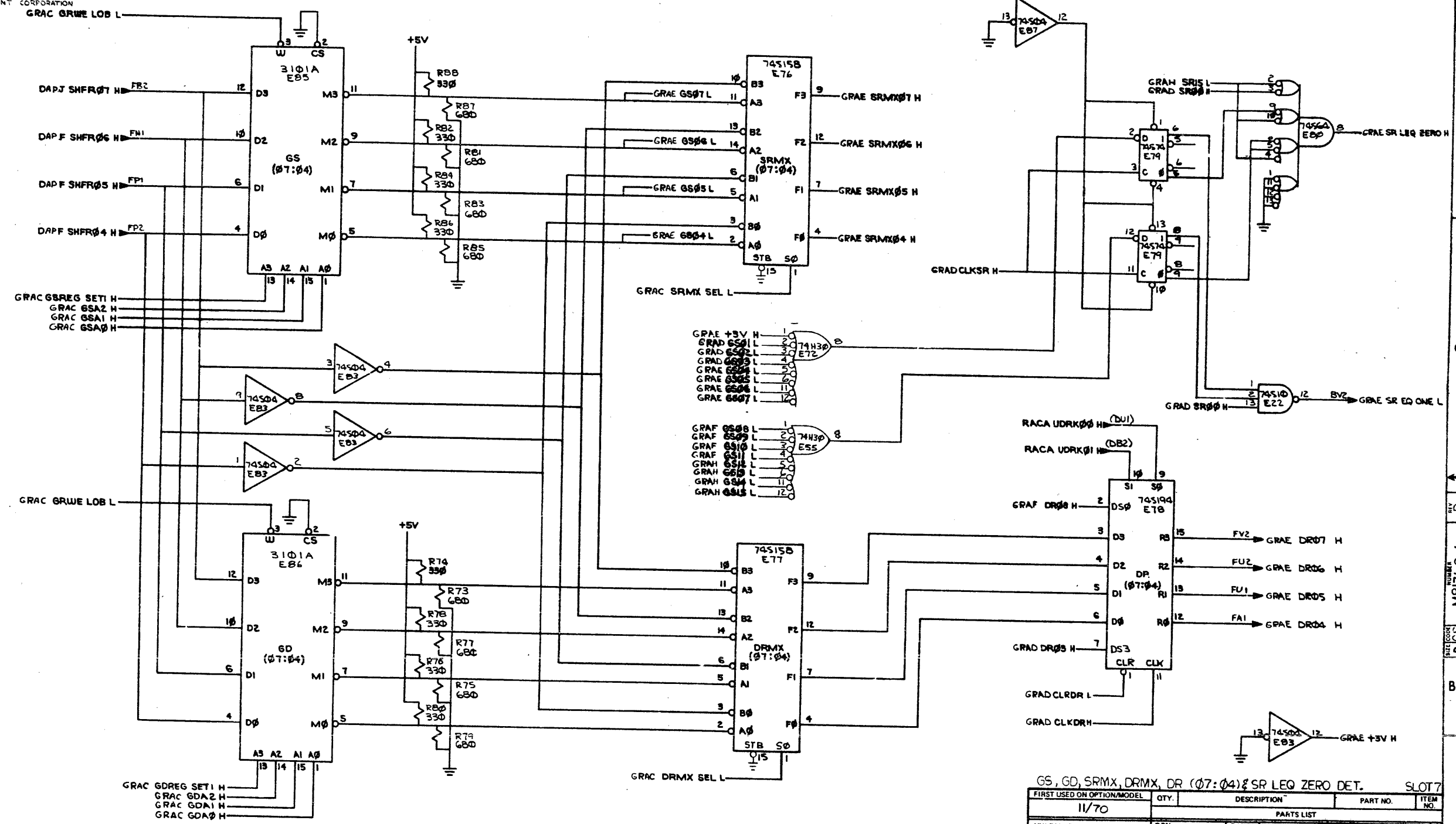
GS, GD, SRMX, DRMX, DR, (03:00) & SR (05:00) SLOT 7

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES				
TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
XXX - .005	±0° 30'	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
XX - .02		TITLE		
X - .1		GENERAL REGS. & ALU. CNTL (GRAD)		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
		DCS M8131-0-1		D
FINISH	SCALE	SHEET	5 OF 10	

DEC FORM NO DRD 102-B

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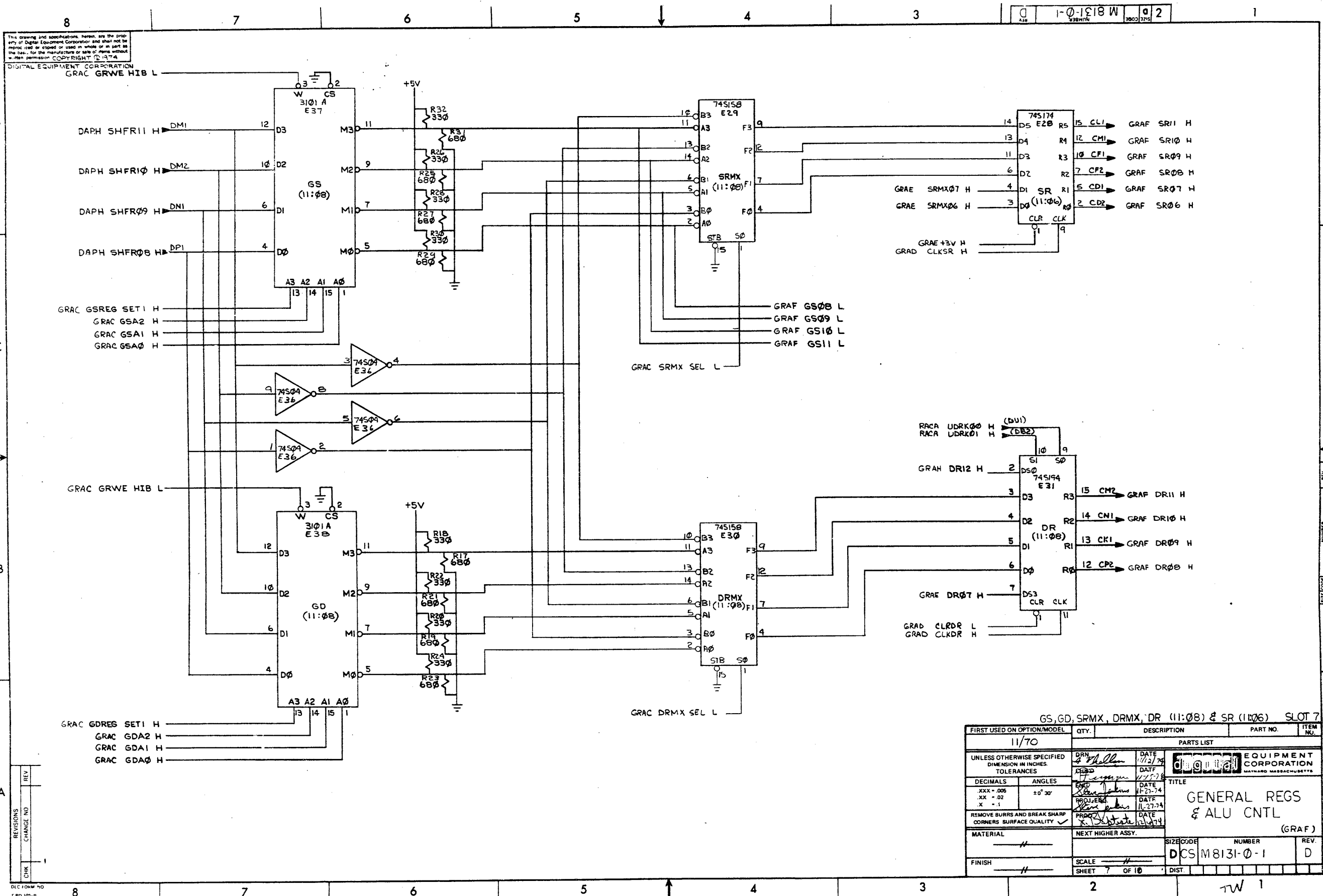
1-0-1518W 2



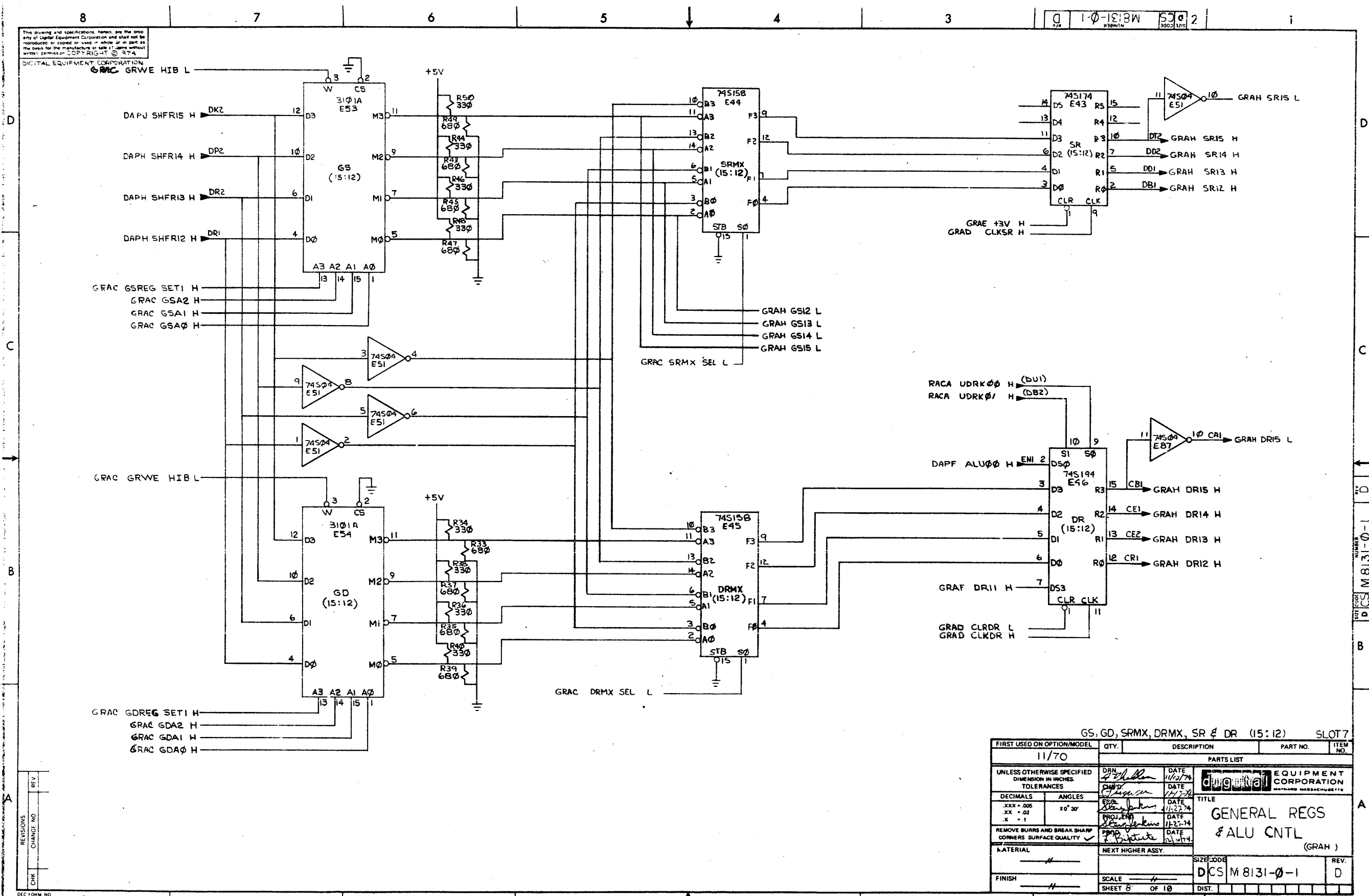
GS, GD, SRMX, DRMX, DR (07:04) & SR LEQ ZERO DET. SLOT 7

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XXX - .005	± 0° 30'	DRN	DATE	
.XX - .02		CHK	11/27/74	
.X - .1		ENG	11/27/74	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROJ	11/27/74	
MATERIAL	NEXT HIGHER ASSY.	DATE		
FINISH	SCALE	11/27/74		
	SHEET 6 OF 10			
		SIZE CODE	NUMBER	REV
		DCS	M8131-0-1	D
		DIST		

TITLE: GENERAL REGS & ALU CNTL (GRAE)
DATE: 11/27/74
DRAWN BY: [Signature]
CHECKED BY: [Signature]
ENGINEER: [Signature]
PROJECT: [Signature]

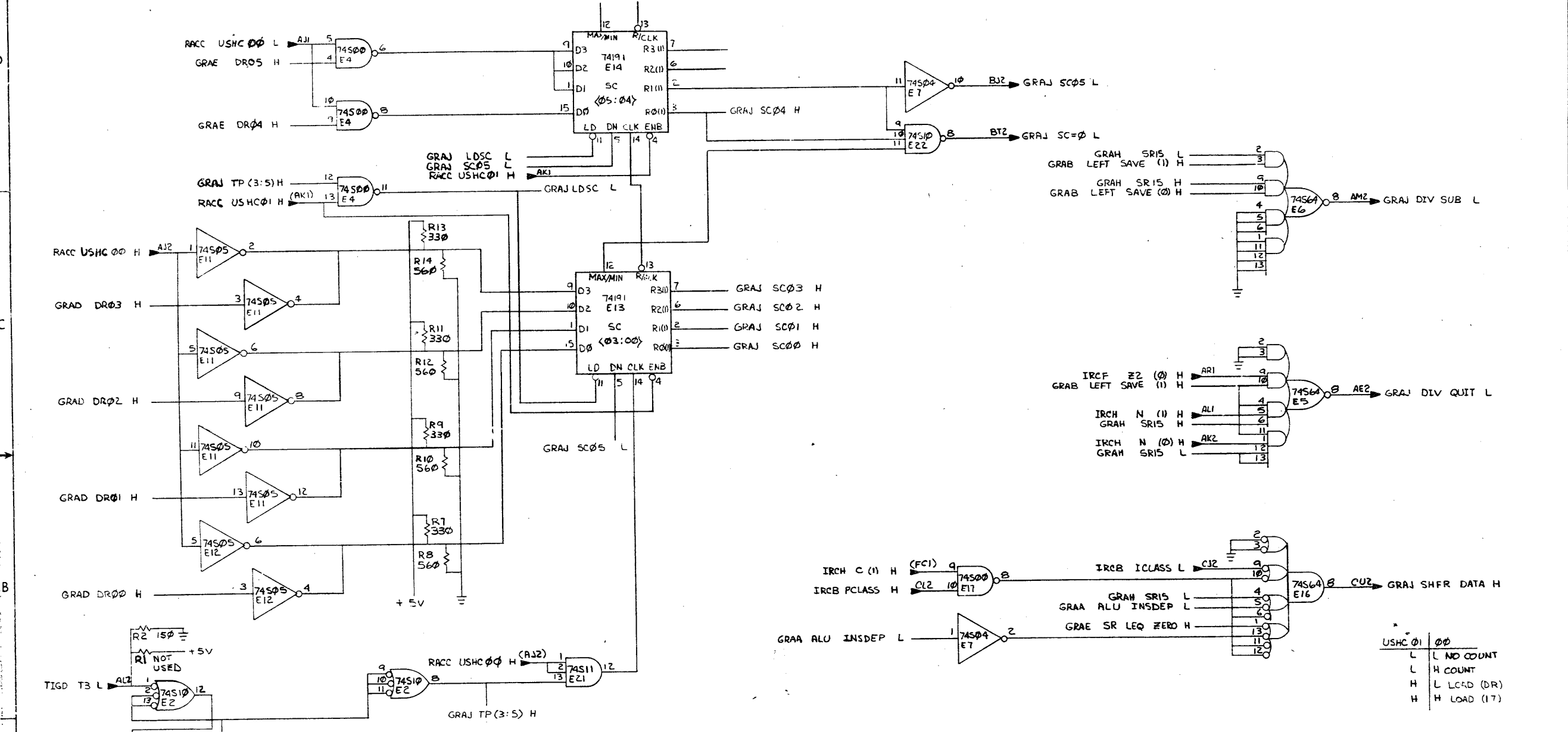


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FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DATE 11/21/74	DIGITAL EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE 11/21/74	MAYNARD MASSACHUSETTS	
.XXX - .005	± 0° 30'	DATE 11/27/74	TITLE	
.XX - .02		DATE 11/27/74	GENERAL REGS	
.X - 1		DATE 11/27/74	& ALU CNTL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 11/27/74	(GRAH)	
MATERIAL	NEXT HIGHER ASSY.	DATE 11/27/74	SIZE CODE	
			DCS M 8131-0-1	
FINISH	SCALE		REV.	
	SHEET 8 OF 10		D	
			DIST.	
			TW 1	

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REV	CHK	CHANGE NO

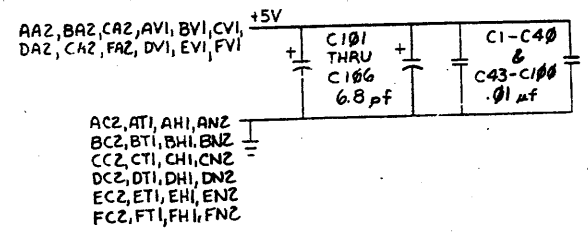
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
.XXX - .006	±0° 30'	GENERAL REGS & ALU CNTL (GRAJ)		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.		
MATERIAL		SIZE CODE	NUMBER	REV.
		DCS	M8131-0-1	D
FINISH		SCALE	SHEET 9 OF 10	DIST.

USHC 01 00
L L NO COUNT
L H COUNT
H L LOAD (DR)
H H LOAD (17)

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NOTES:

1. RESISTORS R1, R2 AND R14 ARE NOT USED.
2. INSTALL JUMPER W1 FOR USE WITH FPII-B
3. MUST BE M8132-YA FOR USE IN KBI-CM (1/74)

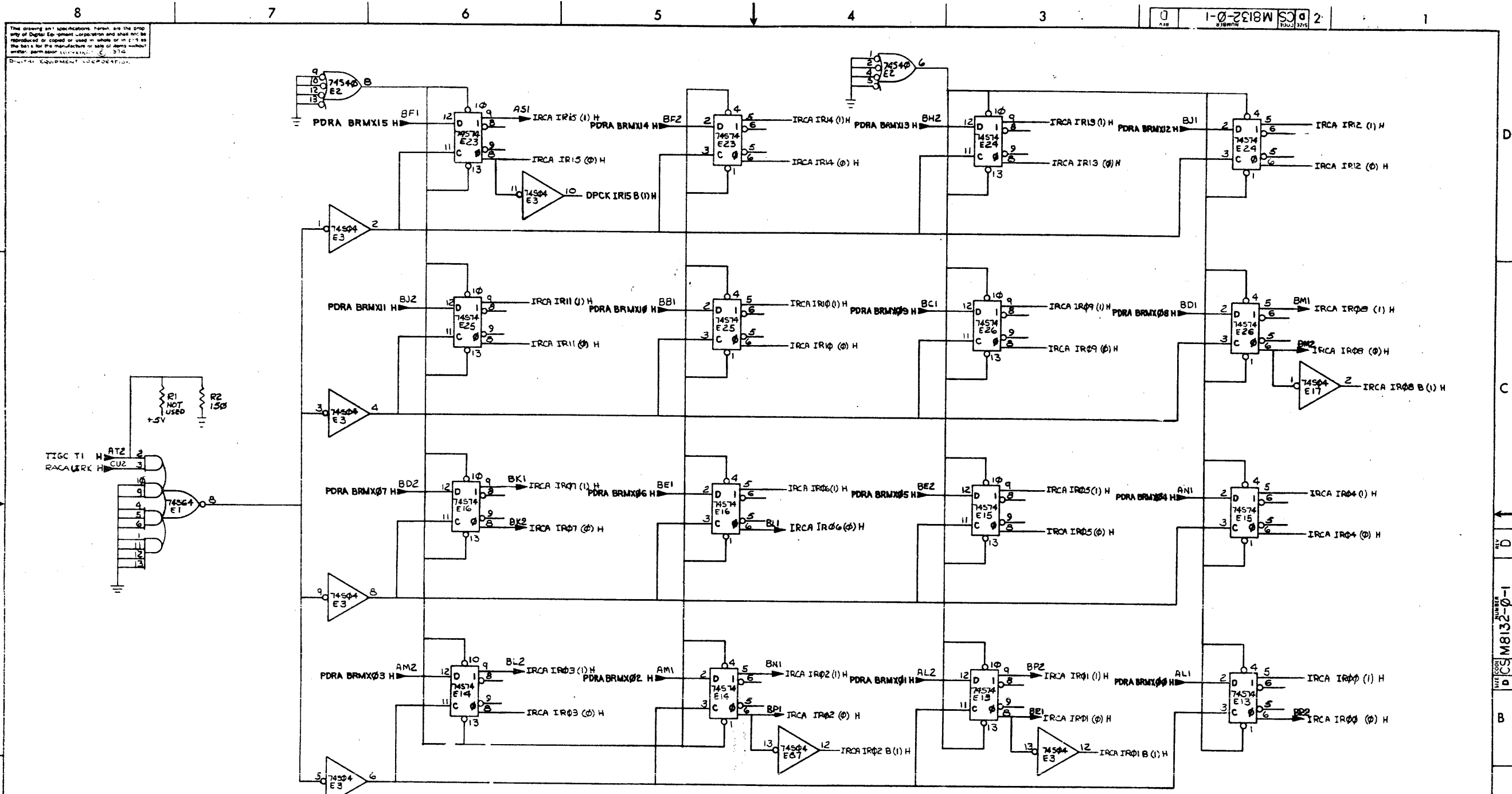


D 1-0-2018W CS D 2

133

REVISIONS	REV.	D
CHK	CHANGE NO.	M8132-TW004
	REVISED & REDRAWN	

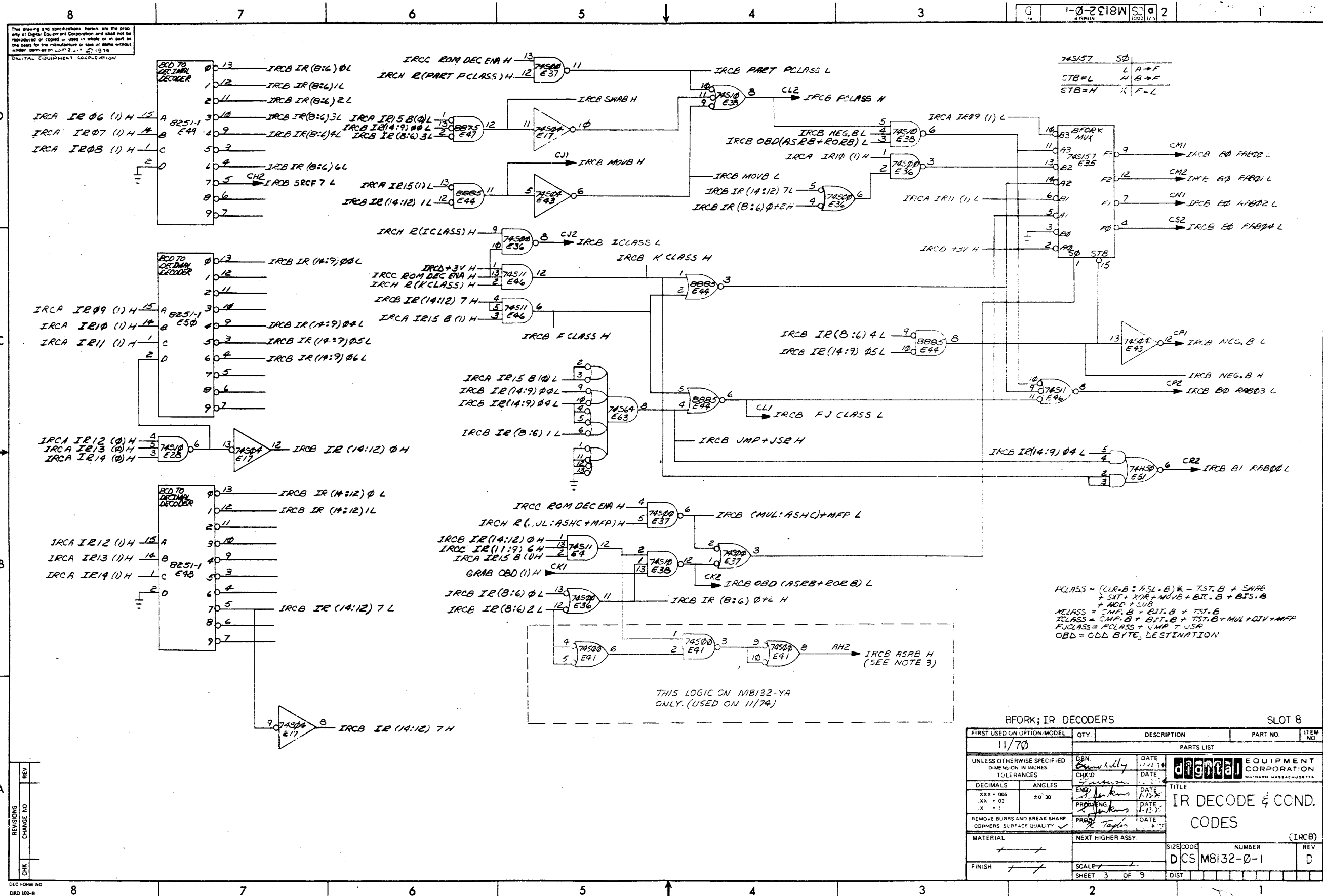
DRN: R. CONSTANTINEAU	FIRST USED ON	11/70	digital
CHK: DFERGUSON	2-2-74	TITLE	
ENG: S. JENKINS	1-13-75	IR DECODE & COND CODES (IRC)	
PROJ: ENG. JENKINS	1-13-75	REV.	
PROD: R. TAYLOR	1-14-75	D	
NEXT HIGHER ASSY.		SIZE	CODE
B-DD-KB11-B		D	CS
SCALE	+	NUMBER	M8132-0-1
SHEET	1	DIST.	



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REV	
CHG	
CHG	
CHG	

FIRST USED ON OPTION/MODEL		QTY.	INSTRUCTION REG. SLOT 8	
11/70			DESCRIPTION	PART NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN	DATE	
		<i>De Kelly</i>	11-12-70	
		CHKD	DATE	
		<i>Tom</i>	12-2-70	
DECIMALS	ANGLES	ENG	DATE	
.XXX = .006	± 0° 30'	<i>Jenkins</i>	1-13-75	
.XX = .02		PROJ. ENG.	DATE	
X = .1		<i>Jenkins</i>	1-20-75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROJ.	DATE	
		<i>Taylor</i>	1/19/75	
MATERIAL	NEXT HIGHER ASSY.	TITLE		
		IR DECODE & COND. CODES (IRCA)		
FINISH	SCALE	SIZE CODE	NUMBER	REV.
	SHEET 2 OF 9	DCS M8132-0-1	D	134

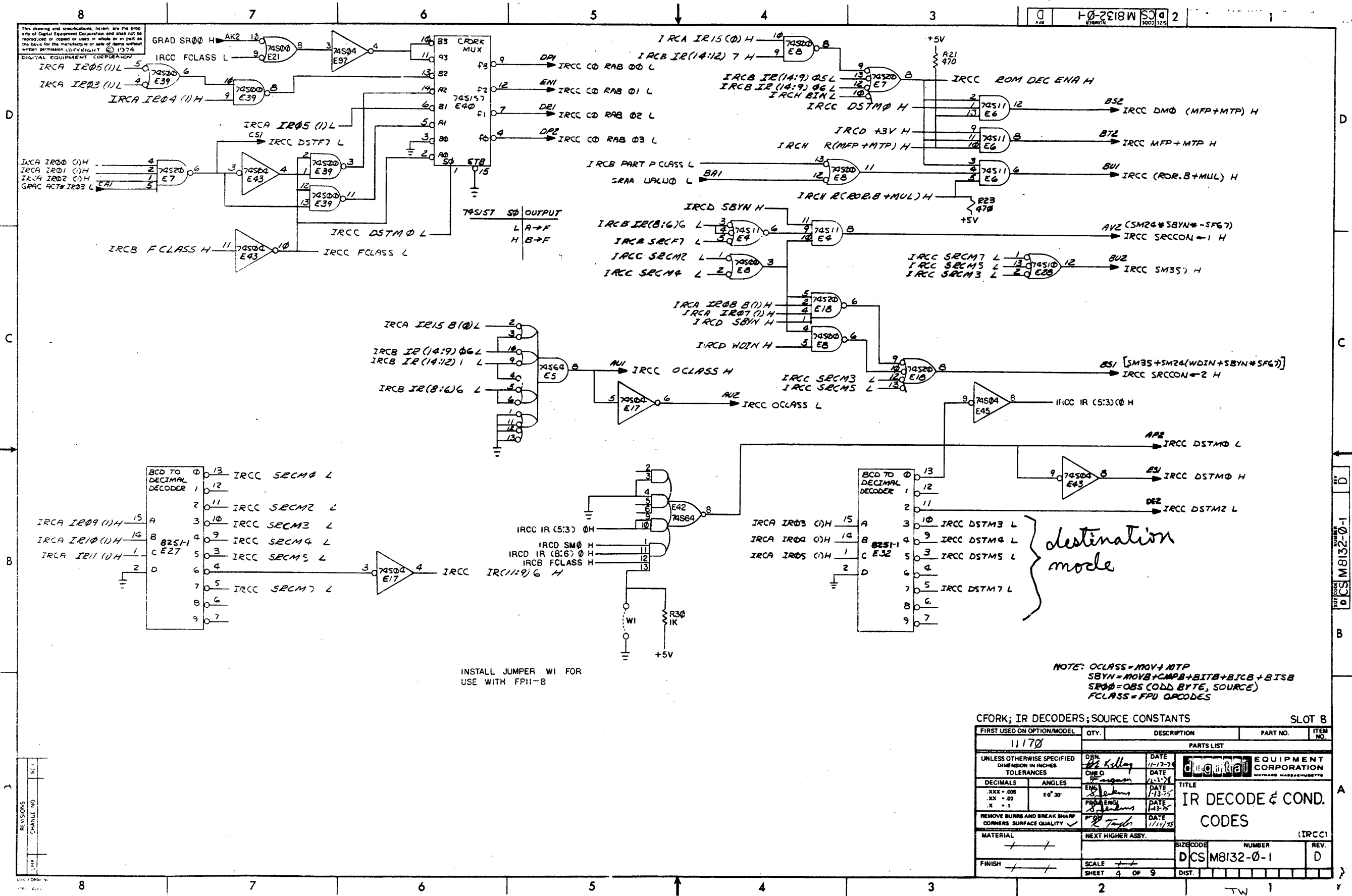


BFORK; IR DECODERS SLOT 8

FIRST USED OR OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES				
DECIMALS	ANGLES	ENG	DATE	
XXX - 005	± 0° 30'	PR	1-12-74	
XX - 02		PROJ ENG	DATE	
X - 1		PR	1-12-74	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
SCALE: 1				
SHEET 3 OF 9				
TITLE			SIZE	NUMBER
IR DECODE & COND. CODES			DCS	M8132-0-1
				REV. D

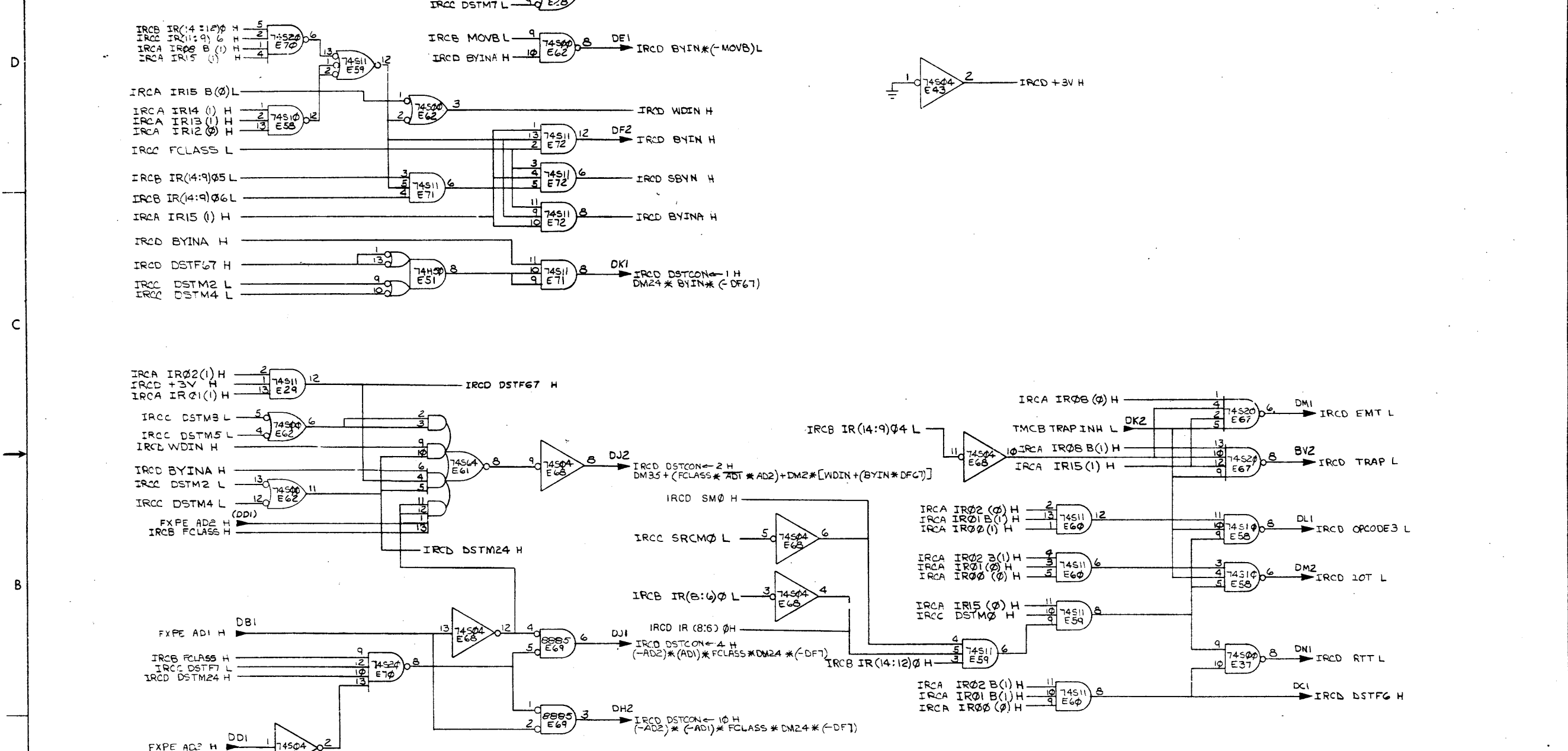
135

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FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11170					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN: Kelly	DATE: 11-12-74	DIGITAL EQUIPMENT CORPORATION	
DECIMALS		CHK'D: Ferguson	DATE: 11-11-74	TITLE	
.XXX = .008	ANGLES	ENG: J. Adams	DATE: 1-13-75	IR DECODE & COND. CODES	
.XX = .02		PRG ENGR: J. Adams	DATE: 1-13-75	(IRCC)	
.X = .1		PROV: R. Taylor	DATE: 11-17-75	MATERIAL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.		SIZE CODE NUMBER REV.	
FINISH		SCALE		DCS M8132-0-1 D	
		SHEET 4 OF 9		DIST.	

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REV.	NO.	DATE	BY	CHK
1	1	11-12-74	W. Kelley	
2	1	11-12-74	W. Kelley	
3	1	11-12-74	W. Kelley	
4	1	11-12-74	W. Kelley	
5	1	11-12-74	W. Kelley	
6	1	11-12-74	W. Kelley	
7	1	11-12-74	W. Kelley	
8	1	11-12-74	W. Kelley	

INSTRUCTION TRAPS & DESTINATION CONSTANTS				SLOT 8	
FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.		TOLERANCES		DIGITAL EQUIPMENT CORPORATION	
DECIMALS	ANGLES	FINISH	DATE	TITLE	
XXX - .005	± 0° 30'	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	11-12-74	IR DECODE & COND. CODES	
MATERIAL			SIZE CODE	NUMBER	REV.
NEXT HIGHER ASSY.			DCS	M8132-0-1	D
FINISH		SCALE	SHEET	OF	
		5	5	9	

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D

C

B

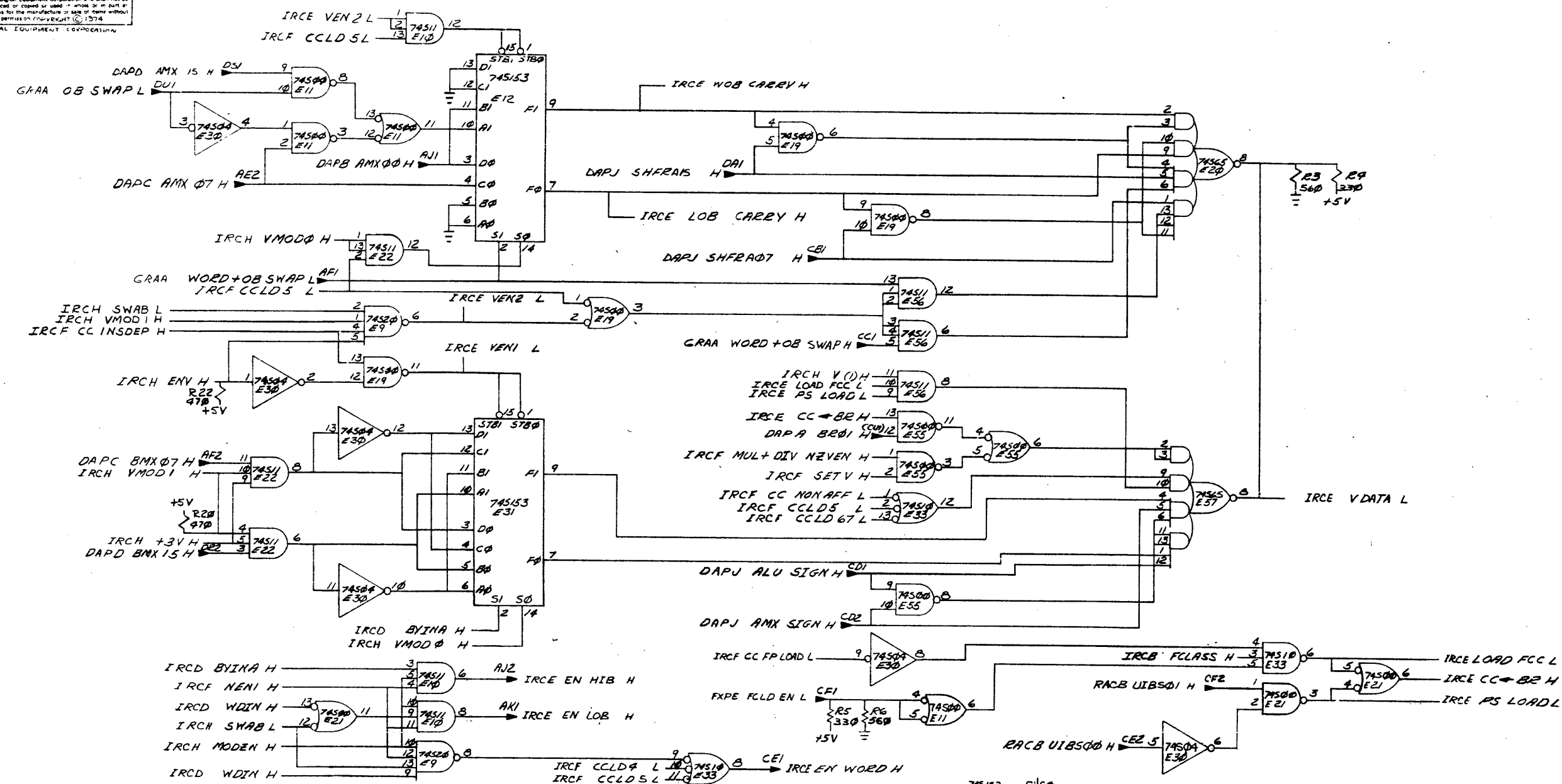
A

D

C

B

A



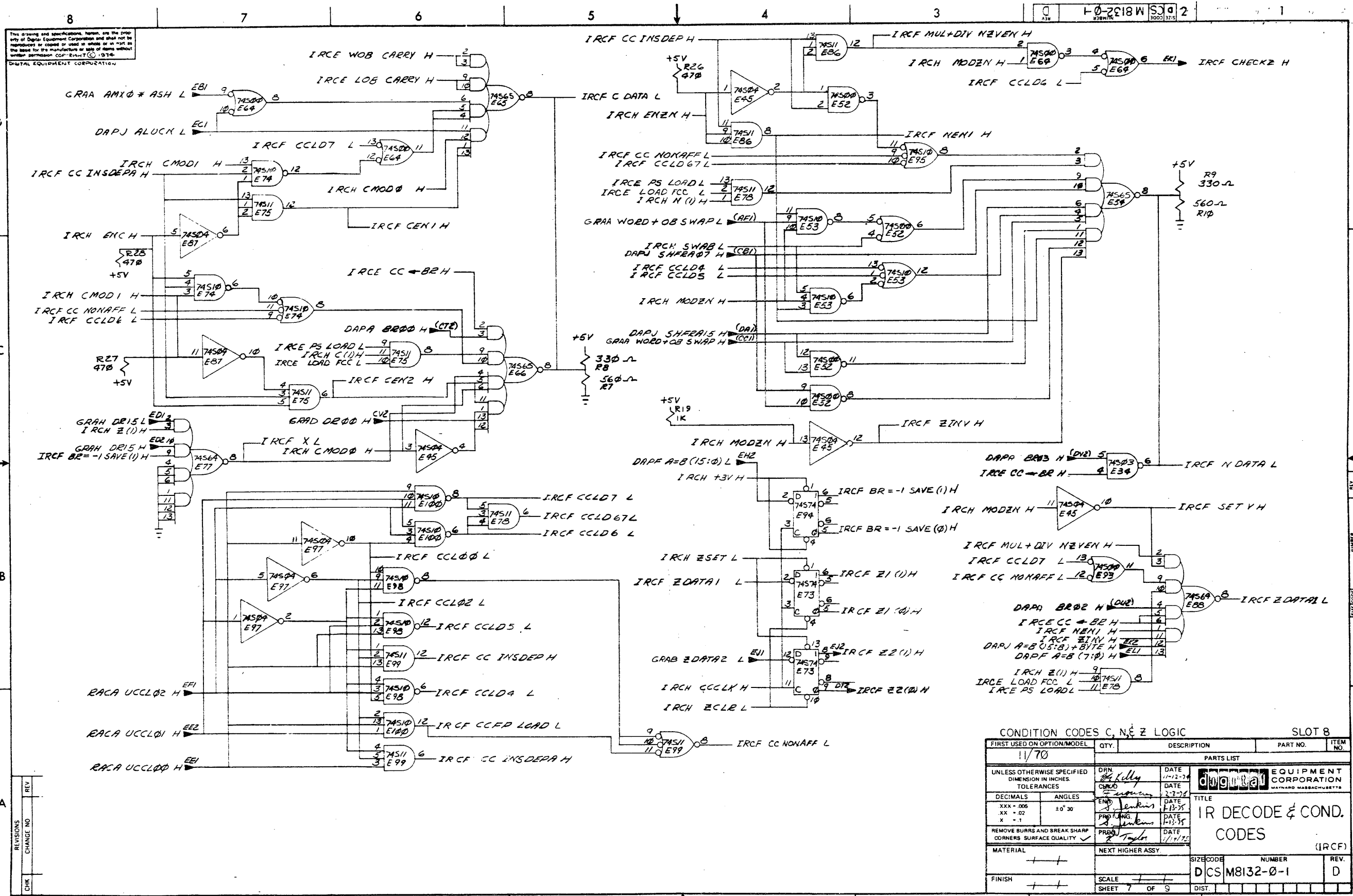
74513	S	S0
	L	A → F
STB L	L	H B → F
	H	L C → F
	H	H D → F
STB H	X	X F = L

CONDITION CODE V LOGIC SLOT 8

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED	DATE	DIGITAL EQUIPMENT CORPORATION		
DIMENSION IN INCHES	11-12-74	MAYNARD MASSACHUSETTS		
TOLERANCES	DATE	TITLE		
DECIMALS	12-2-76	IR DECODE & COND		
ANGLES	DATE	CODES		
.XXX - .005	1-23-77			
.XX - .02	DATE			
.X - .1	11-7-75			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE			
MATERIAL	DATE			
FINISH	DATE			
NEXT HIGHER ASSY.		SIZE CODE	NUMBER	REV.
		DCS M8132-0-1		D
SCALE		SHEET	OF	DIST.
		6	9	

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TW 1



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A
 B
 C
 D

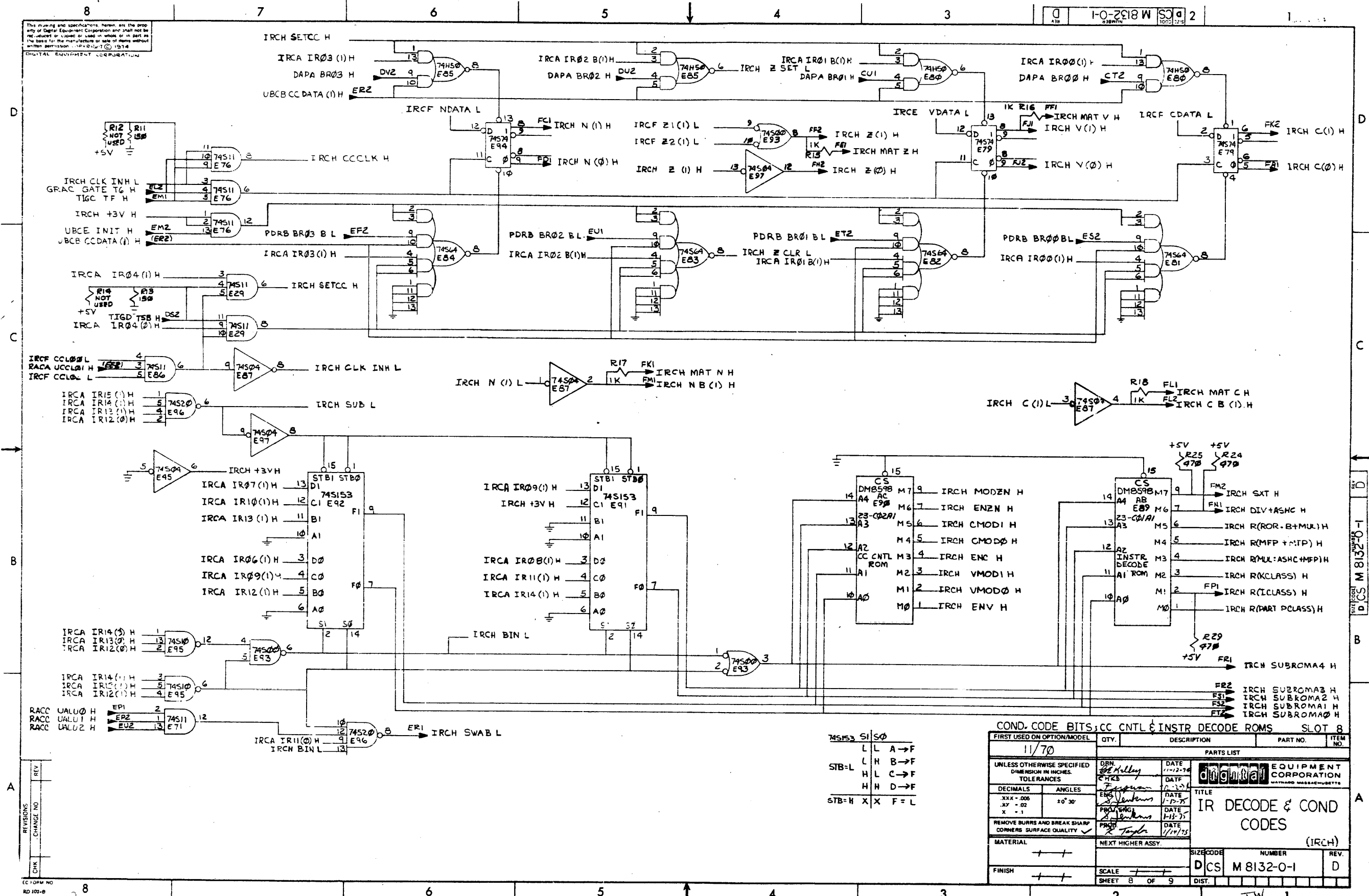
D
 C
 B
 A

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		DRN	DATE	DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
TOLERANCES		CHKD	DATE	TITLE	
DECIMALS	ANGLES	END	DATE	IR DECODE & COND. CODES (IRCF)	
XXX + .006	XX - .02	PROF. LANG.	DATE	MATERIAL	
X - .1	± 0' 30"	PREP.	DATE	NEXT HIGHER ASSY.	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				SIZE CODE	NUMBER
				D	CS M8132-0-1
				SCALE	REV.
				SHEET 7 OF 9	D
				DIST.	

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1-0-2018 W SC 2



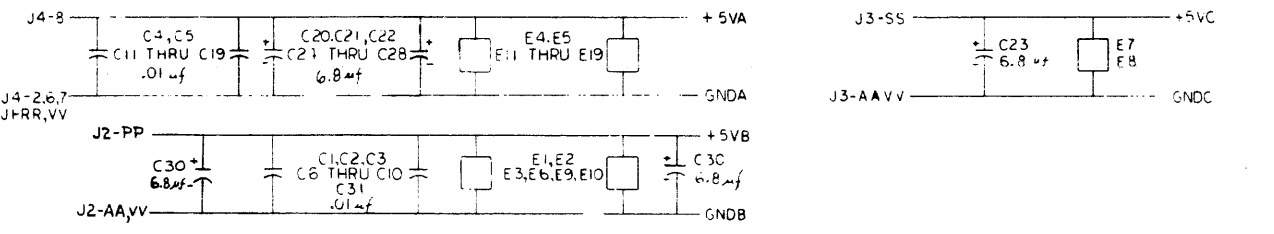
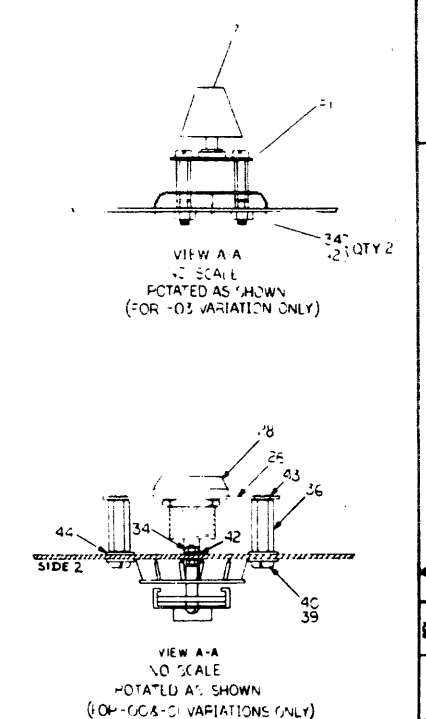
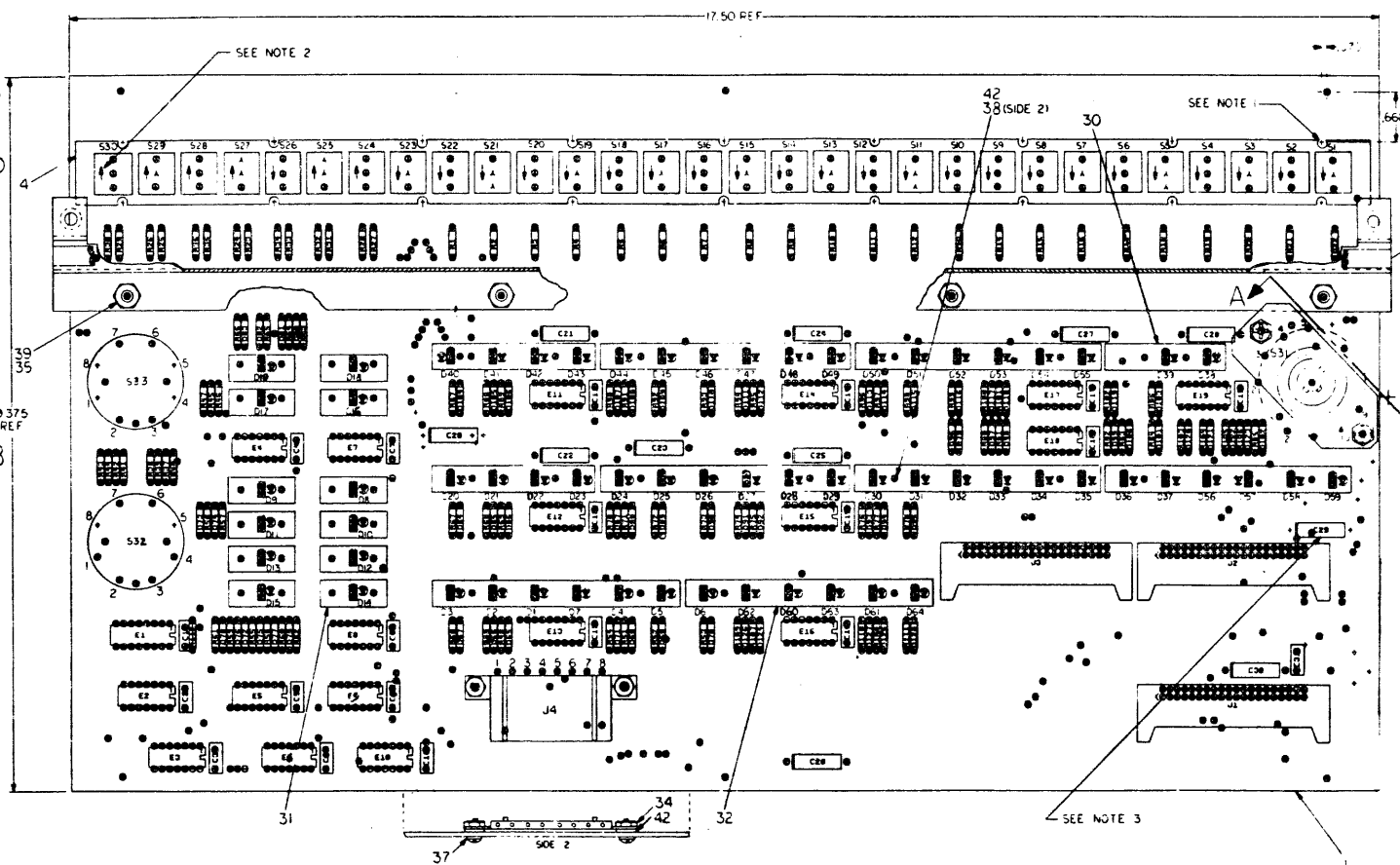
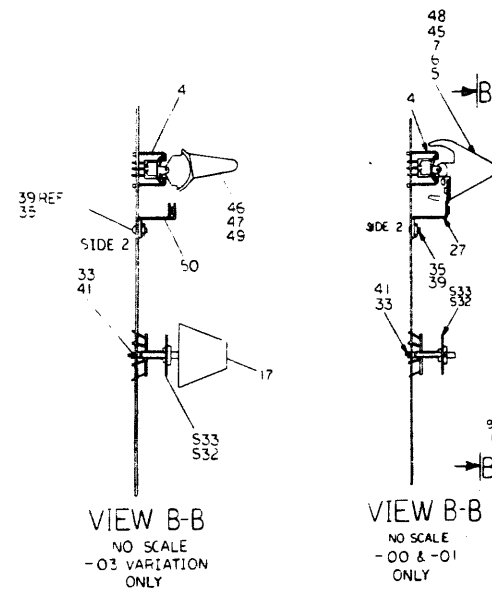
74S153	SI	SO
L	L	A → F
STB=L	L	H B → F
	H	L C → F
	H	H D → F
STB=H	X	X F = L

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE		
XXX - 000	±0° 30'	11-12-70		
XX - 00		DATE		
X - 1		1-12-75		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.	TITLE		
FINISH	SCALE	IR DECODE & COND CODES (IRCH)		
	SHEET 8 OF 9	SIZE CODE NUMBER REV.		
	DIST.	DCS M 8132-0-1 D		

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- 2. SEE NOTE 2
- 3. SEE NOTE 3



SEE K-PL-5411294-0-DBP

QTY	REF. DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1770	ETCH BOARD REV. C	PARTS LIST		
DRN. L. JUDMAN DATE CHK'D. FERGUSON DATE ENG. S. SMITH DATE PROJ. ENG. S. SMITH DATE PROD. K. TAYLOR DATE NEXT HIGHER ASSY				
TITLE 11/10/78 1/14 CONSOLE BOARD			SIZE CODE NUMBER DCS 5411294-0	
SEMICONDUCTOR CONVERSION CHART SCALE OF DIST.				

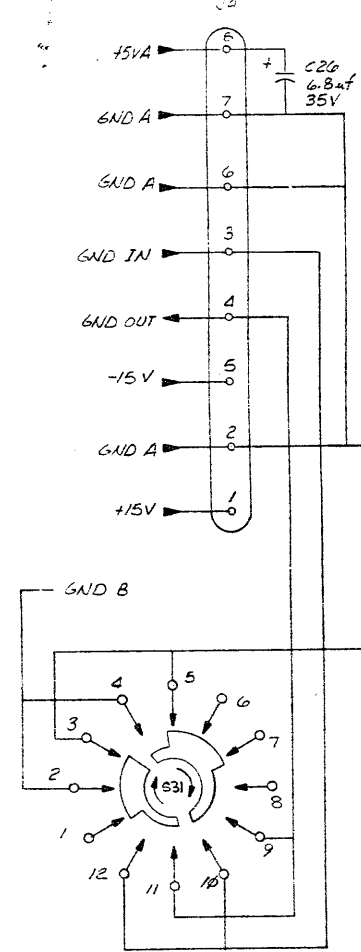
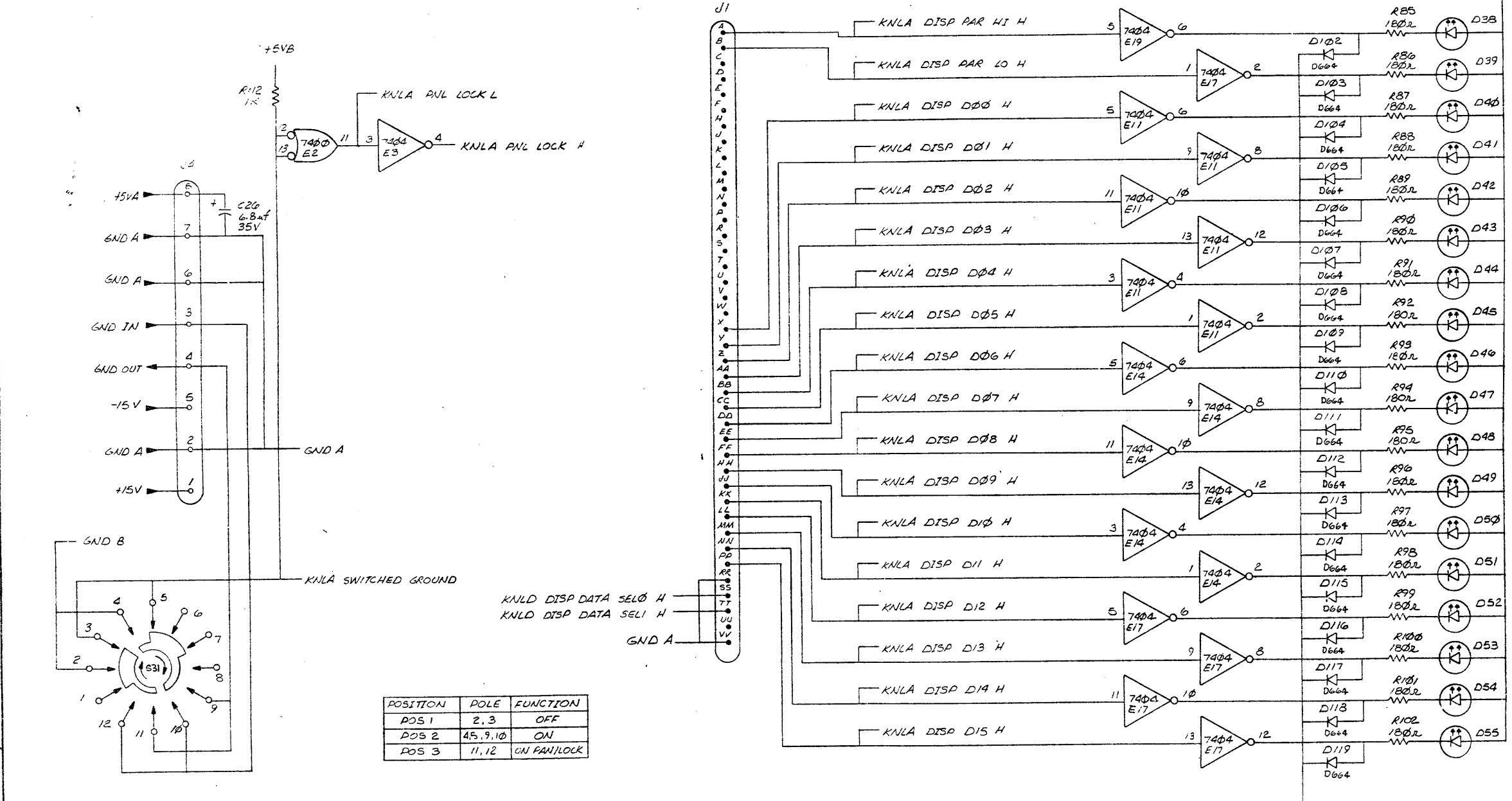
REV	CHANGE NO.	REV
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
23	1	1
24	1	1
25	1	1
26	1	1
27	1	1
28	1	1
29	1	1
30	1	1
31	1	1
32	1	1
33	1	1
34	1	1
35	1	1
36	1	1
37	1	1
38	1	1
39	1	1
40	1	1
41	1	1
42	1	1
43	1	1
44	1	1
45	1	1
46	1	1
47	1	1
48	1	1
49	1	1
50	1	1

IC TYPE	GND	+5V
EEL IC 9318	8	16
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPT WHERE STATED ABOVE		
IC PIN LOCATIONS		

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KNL/PDR INTERFACE

+5VA



POSITION	POLE	FUNCTION
POS 1	2, 3	OFF
POS 2	4, 5, 9, 10	ON
POS 3	11, 12	ON PAN/LOCK

- NOTES:
1. BCØ6R CABLES USED TO CONNECT CONSOLE TO PDR AND SCC BOARDS.
 2. CASE OF S31 = GND A

REVISIONS		
CHK	CHANGE NO.	REV.

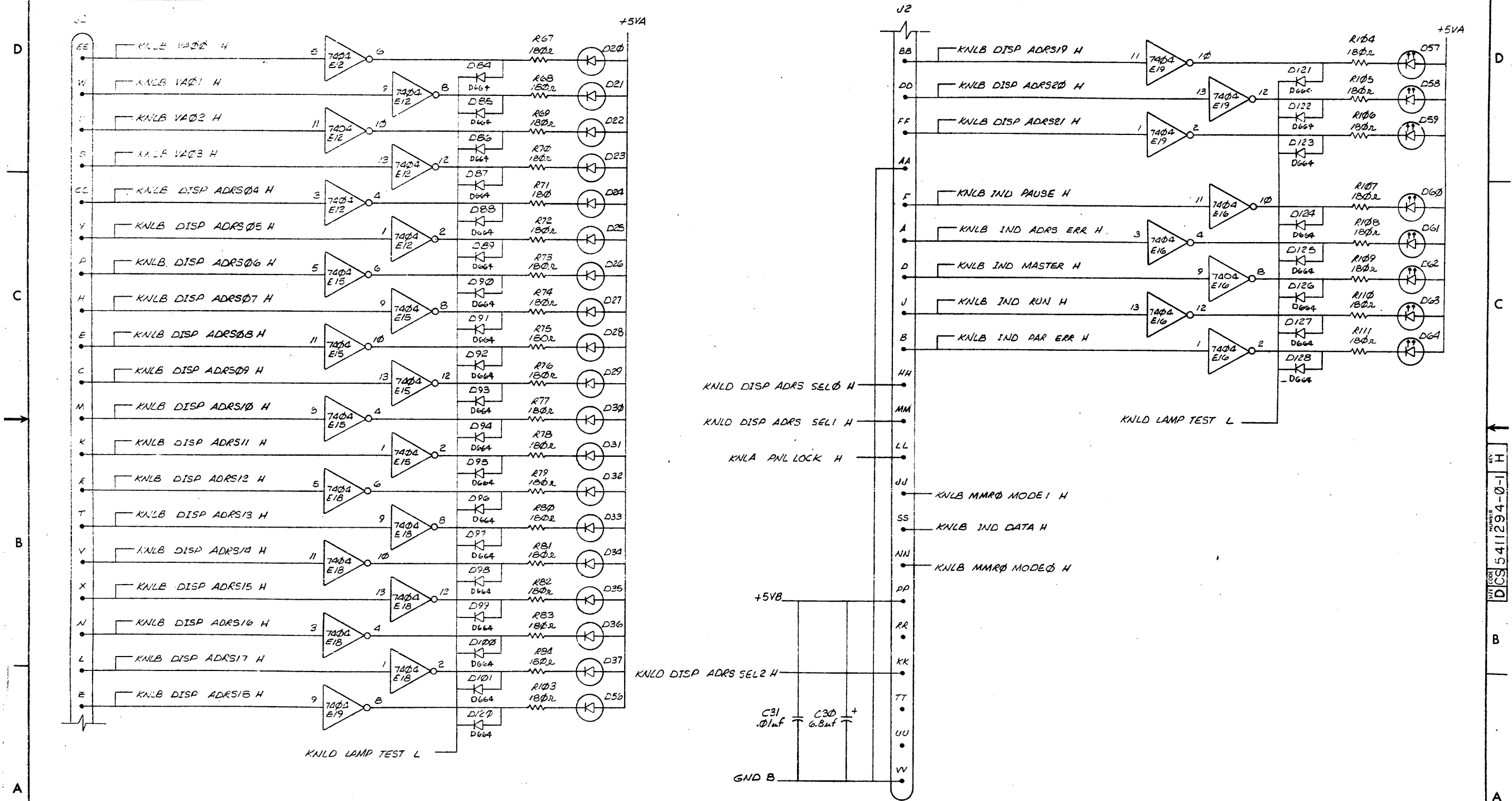
TITLE	SIZE CODE	NUMBER	REV.
CONSOLE BOARD (KNLA)	DCS	5411294-0-1	H
SCALE	SHEET	OF	DIST.
1/4"	2	5	TW 1

143

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KNL/SCC INTERFACE

DCS 5411294-0-1



REVISIONS		
CHK	CHANGE NO.	REV.

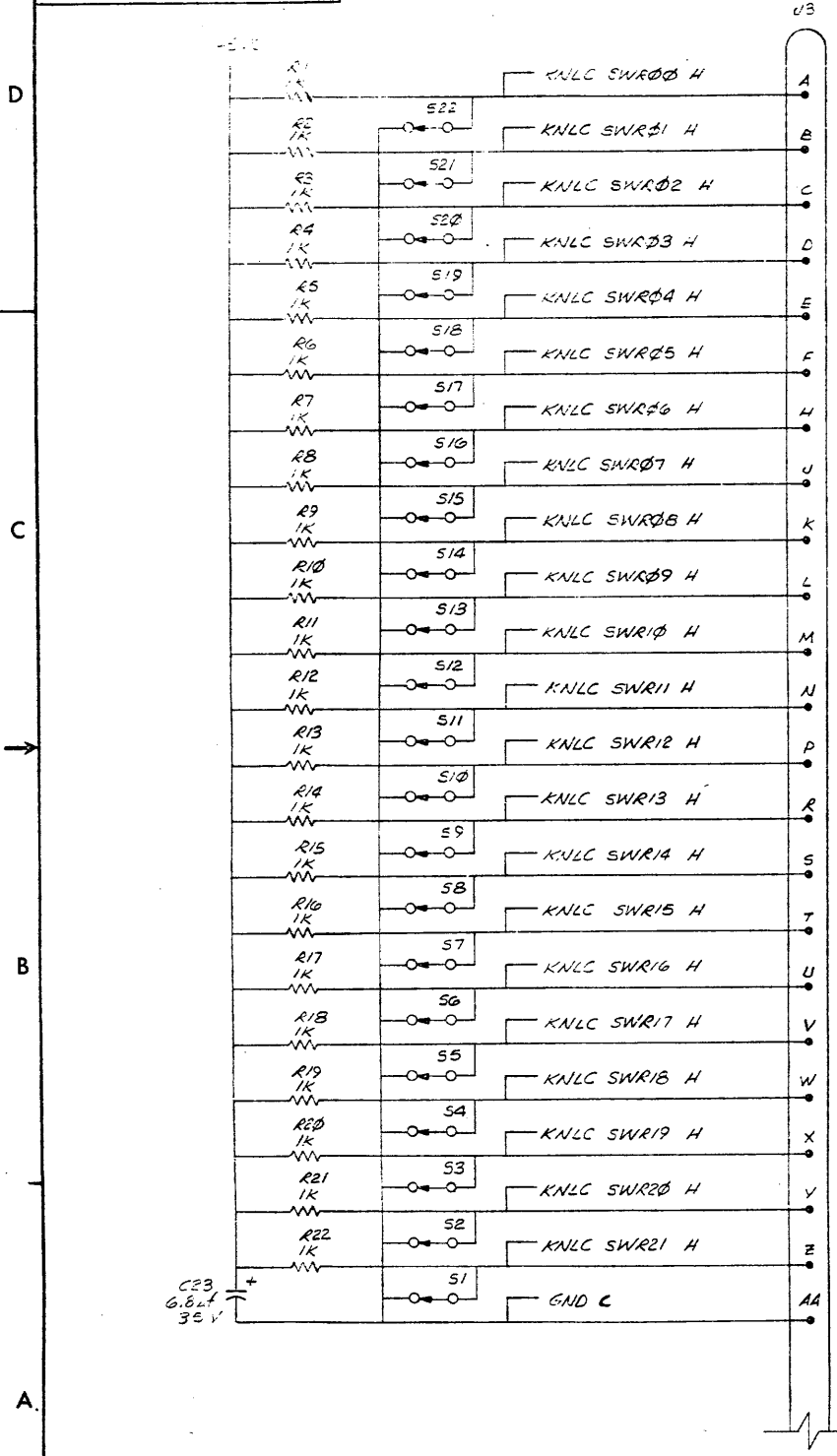
52

TITLE	CONSOLE BOARD (KNLB)	SIZE CODE	D CS	NUMBER	5411294-0-1	REV.	H
SCALE	H	SHEET	3 OF 5	DIST.			

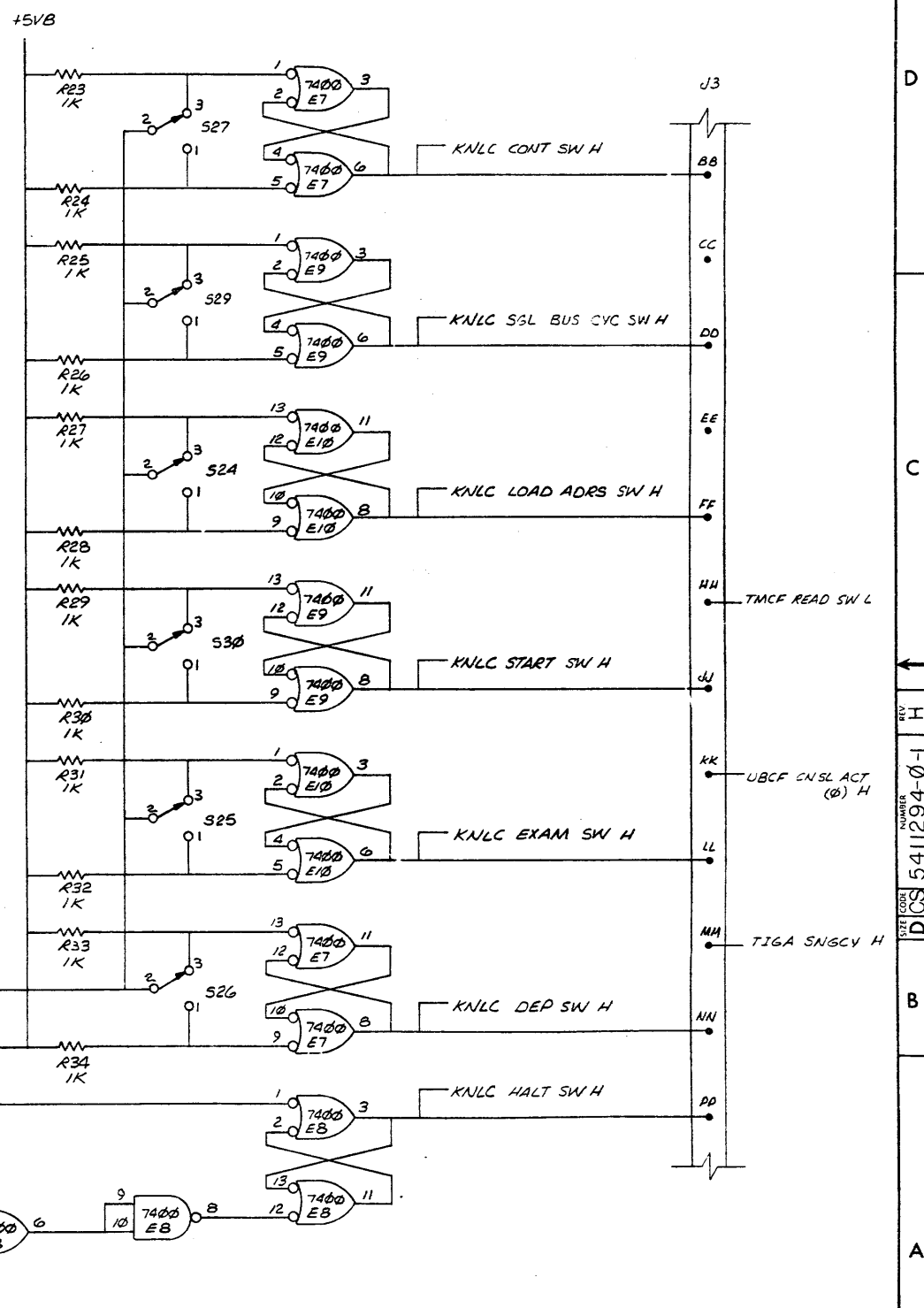
144

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KNLC / SCC INTERFACE



NOTE:
SWITCHES S1 THRU S22 ARE SHOWN IN THEIR NORMAL OR NON OPERATING POSITION.

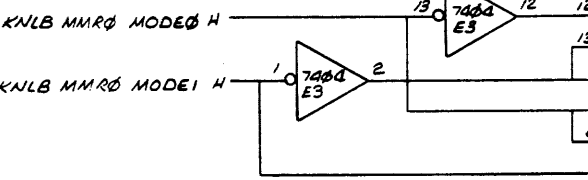
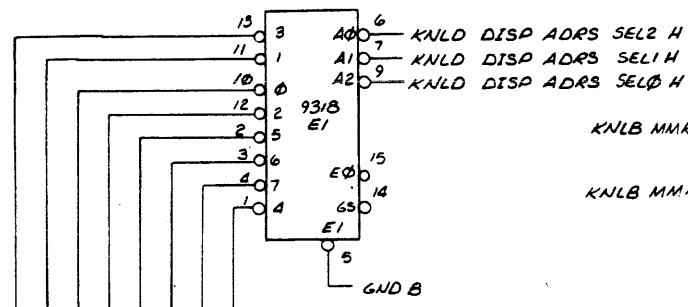


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
CONSOLE BOARD (KNLC)	D CS	541294-01	H
SCALE	SHEET	OF	DIST.
	4	5	

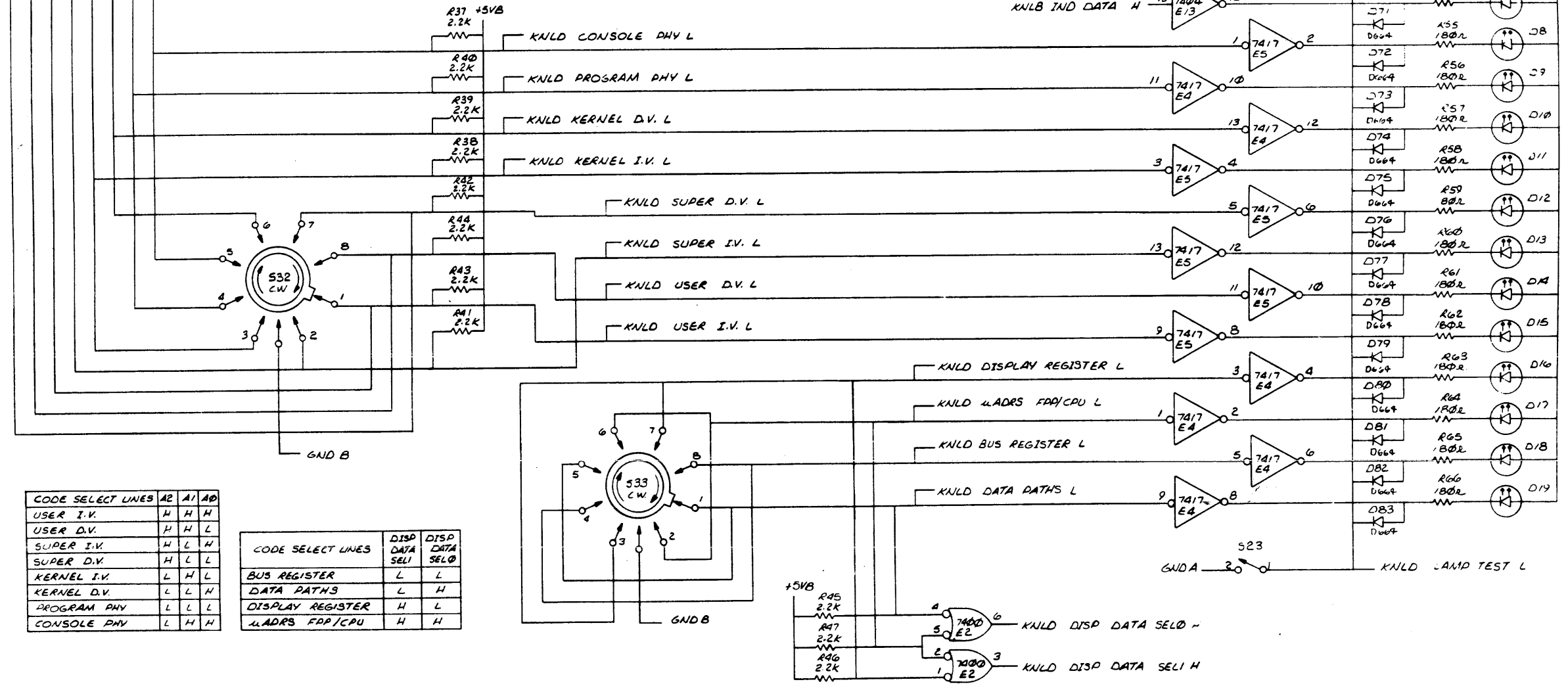
145

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CODE SELECT LINES	A2	A1	A0
USER I.V.	H	H	H
USER D.V.	H	H	L
SUPER I.V.	H	L	L
SUPER D.V.	H	L	L
KERNEL I.V.	L	H	L
KERNEL D.V.	L	L	H
PROGRAM PHY	L	L	L
CONSOLE PHY	L	H	H

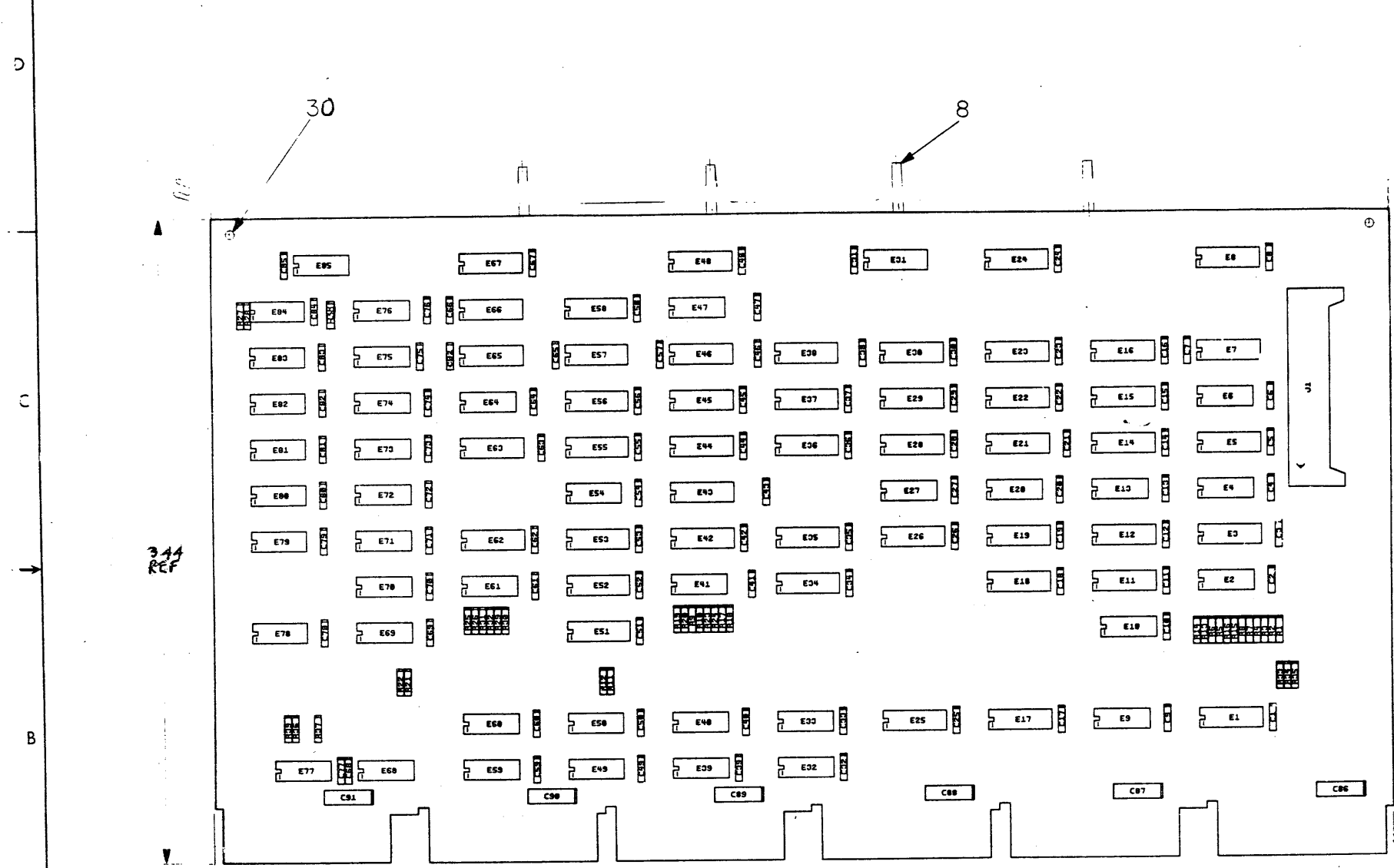
CODE SELECT LINES	DISP DATA SEL1	DISP DATA SEL0
BUS REGISTER	L	L
DATA PATHS	L	H
DISPLAY REGISTER	H	L
WADRS FPP/CPU	H	H



REVISIONS		
CHK	CHANGE NO.	REV.

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NOTES:
1. E31, E51 AND E84 ARE SPARE REFERENCE DESIGNATIONS



IC TYPE	QTY	REF
IC DEC 8640	1	8
IC DEC 74175	8	16
IC DEC 74S175	8	16
IC DEC 74S174	8	16
IC DEC 74S157	8	16
IC DEC 74S153	8	16
IC DEC 9318	8	16
IC DEC 7485	8	16
IC TYPE	GND	+5V

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

IC PIN LOCATIONS

REV	CHG	NO	DATE	BY
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

REF	DESCRIPTION	PART NO	ITEM NO	
REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8134-9-4	1	
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8134-9-5	2	
REF	MODULE ECO HISTORY	B-WH-M8134-9-8	3	
1	ETCHED CIRCUIT BOARD	5011357	4	
88	C1 THRU C85, C92	CAPACITOR, .01uf, 100V, 20% DISC	1001610-01	
6	C86 THRU C91	CAPACITOR, 6.8uf, 35V, 10%	1005306	
1	CONN., 40 PIN	1209941-02	7	
1	HANDLE ASSY	1210711-02	8	
3	R35, R36, R38	RESISTOR, 150 OHM, 1/4W, 5%	1300250	
16	R1, R3, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31	RESISTOR, 330 OHM, 1/4W, 5%	1300295	
18	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32	RESISTOR, 680 OHM, 1/4W, 5%	1301424	
2	R34, R33	RESISTOR, 560 OHM, 1/4W, 5%	1301890	
1	E73	I.C. DEC 74H50	1908060	
4	E32, E39, E49, E59	I.C. DEC 8081	1908705	
4	E13, E77, E80, E83	I.C. DEC 74H01	1909849-00	
4	E8, E24, E48, E67	I.C. DEC 7489	1910224	
1	E37	I.C. DEC 9318	1910454	
1	E71	I.C. DEC 74S00	1910532	
9	E2, E4, E10, E27, E41, E54, E81, E84, E74	I.C. DEC 74S04	1910534	
3	E89, E72, E85	I.C. DEC 74S10	1910536	
1	E78	I.C. DEC 74S11	1910537	
1	E70	I.C. DEC 74S20	1910539	
2	E78, E75	I.C. DEC 74S40	1910541	
8	E8, E9, E20, E47, E88, E79, E81, E92	I.C. DEC 74S74	1910544	
24	E3, E5, E7, E12, E14, E16, E19, E21, E23, E28, E28, E30, E35, E36, E38, E42, E44, E48, E53, E55, E57, E82, E83, E85	I.C. DEC 74S153	1910547	
1	E29	I.C. DEC 74S157	1910548	
12	E1, E11, E15, E17, E18, E22, E25, E34, E43, E52, E58, E88	I.C. DEC 74S174	1910550	
2	E45, E58	I.C. DEC 74175	1910651	
4	E33, E40, E50, E80	I.C. DEC 8840	1911469	
12	EYELET	9006732	30	
	CABLE RETAINER	1209941-03	31	
	CABLE RETAINER	1209941-04	32	
QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
	ETCH BOARD REV	C		

FIRST USED ON OPTION MODEL

PARTS LIST

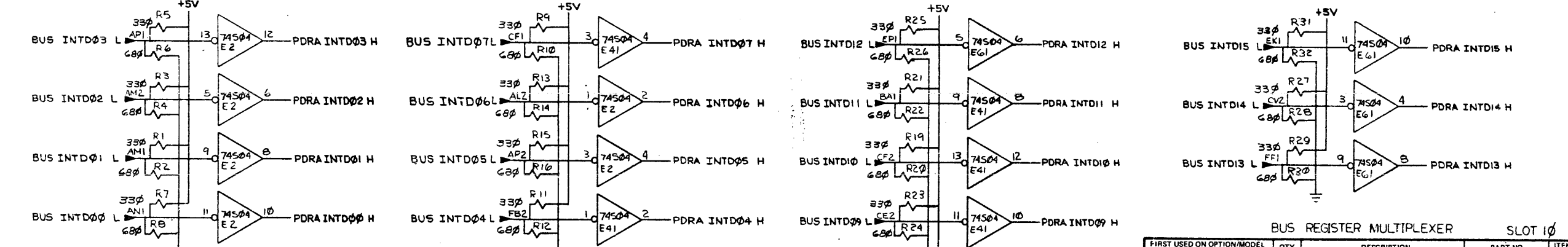
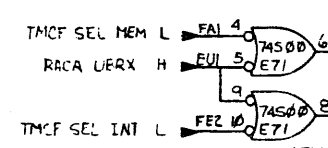
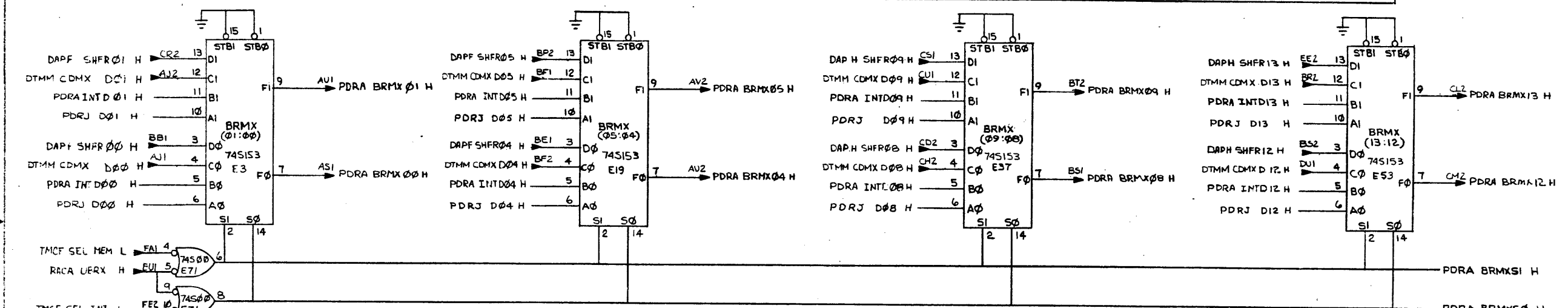
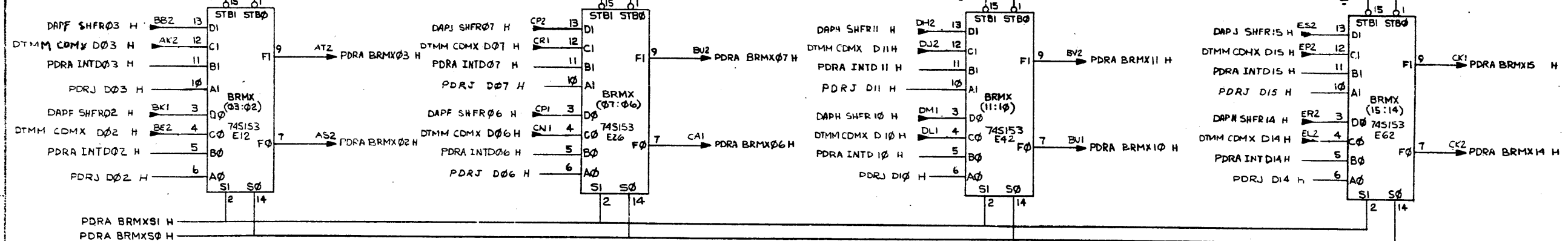
DRN: P. G. ... DATE: 11-27-74
 CHKD: F. ... DATE: 12-2-74
 ENG: M. ... DATE: 1-6-75
 PROD: K. ... DATE: 7/8/75

digital EQUIPMENT CORPORATION
 TITLE: PROCESSOR DATA & UNIBUS REGS
 SIZE CODE: DCS M8134-0-1
 NUMBER: 9
 REV: E

SEMICONDUCTOR CONVERSION CHART
 SCALE: OF 9 SHEET

147

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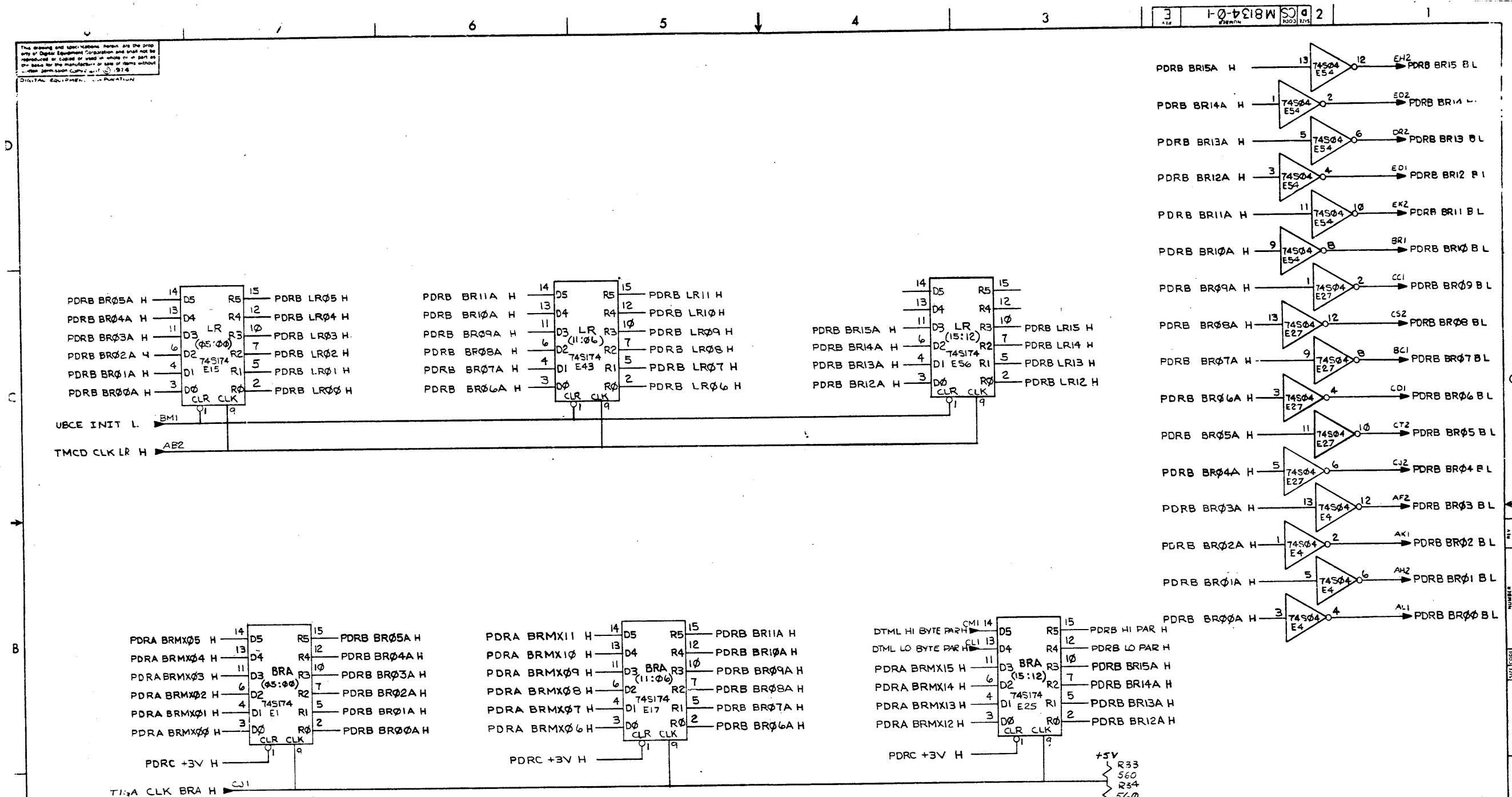


BRMX SI S0
 L L BUSA DATA
 L H INTD
 H L CACHED
 H H SHFR

BUS REGISTER MULTIPLEXER SLOT 10

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN: <i>John Kelley</i>	DATE: 11-12-74	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
DECIMALS	ANGLES	CHK'D: <i>Ferguson</i>	DATE: 1/2/75	
XXX - .005	° - 30'	ENG: <i>Walter Johnson</i>	DATE: 6-75	TITLE: PROCESSOR DATA & UNIBUS REGS (PDRA)
.X - .1		PROJ' ENC: <i>Walter Johnson</i>	DATE: 1-6-75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROOF: <i>R Taylor</i>	DATE: 1/8/75	
MATERIAL	NEXT HIGHER ASSY.	SIZE/CODE	NUMBER	REV
		DCS	M8134-0-1	E
FINISH	SCALE	SHEET	2 OF 9	DIST

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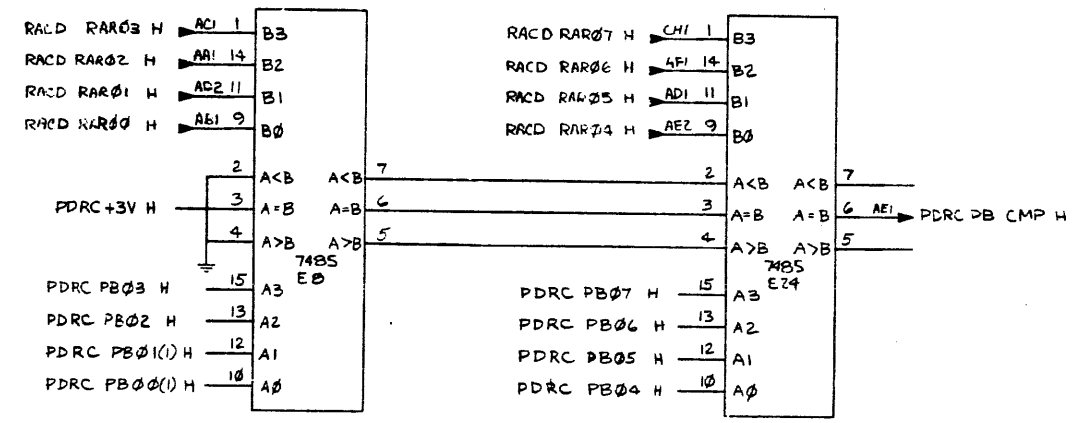
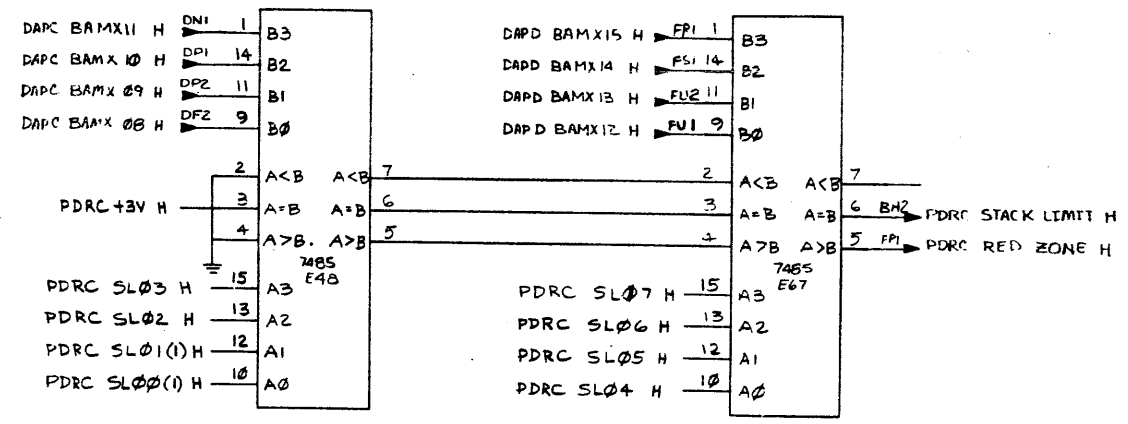
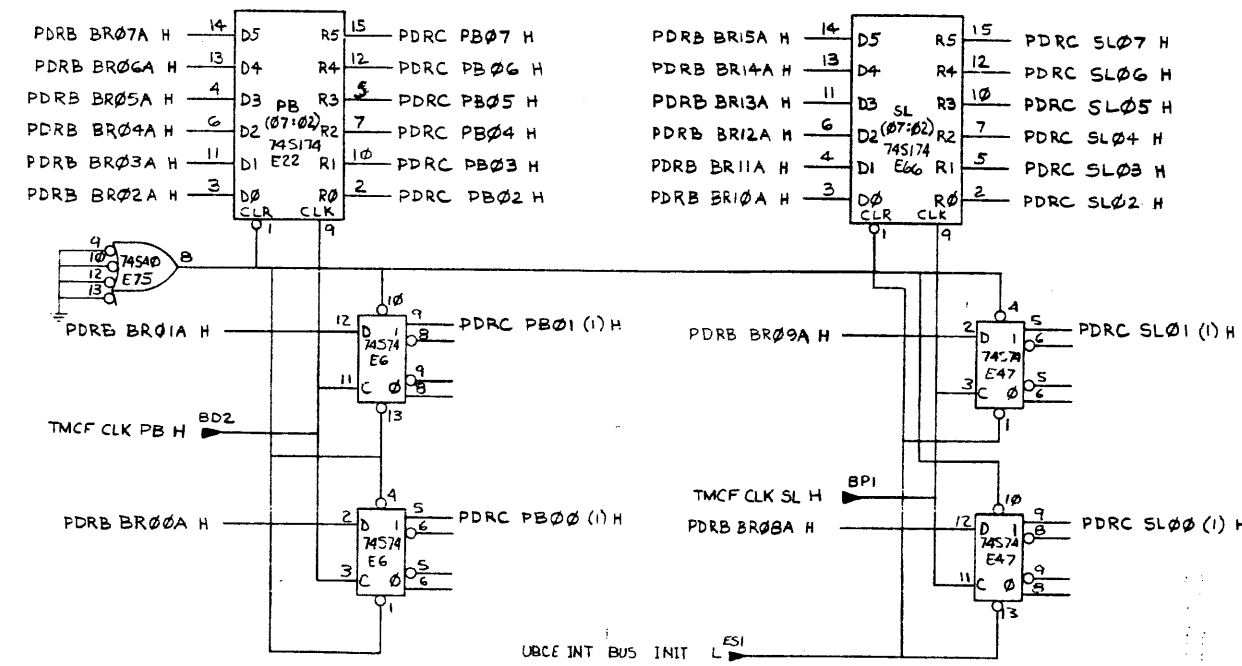
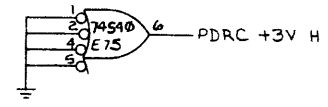


REVISIONS	REV
CHANGE NO	
CHK	

FIRST USED ON OPTION/MODEL		QTY	DESCRIPTION	PART NO.	ITEM NO.
11/70					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		PARTS LIST			
DECIMALS	ANGLES	TITLE			
.XXX - .005	±0° 30'	PROCESSOR DATA & UNIBUS REGS (PDRB)			
.XX - .02		MATERIAL			
.X - .1		NEXT HIGHER ASSY.			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		FINISH			
		SCALE			
		SHEET 3 OF 9			
		SIZE CODE NUMBER REV			
		DCS M8134-0-1 E			

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REV	CHG	NO

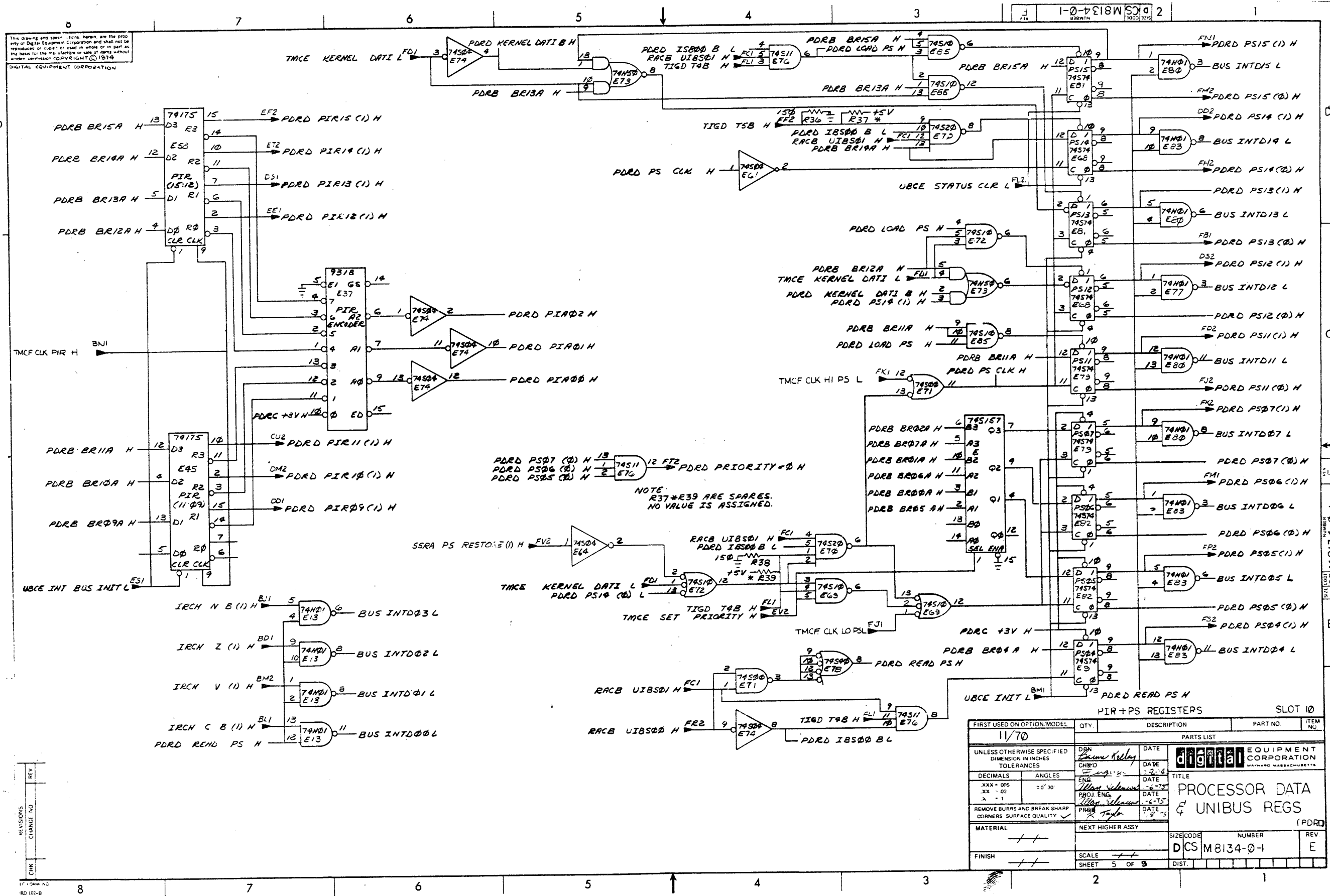
58

PROGRAM BREAK & STACK LIMIT REGISTERS SLOT 10

FIRST USED ON OPTION/MODEL 11/70	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN <i>Deann Kelly</i>	DATE 11-12-74	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .XXX - .005	ENG <i>Ferguson</i>	DATE 2-2-76	TITLE PROCESSOR DATA & UNIBUS REGS	
ANGLES 20° - 30°	FRY ENG <i>Walter V. Fry</i>	DATE 2-2-75	SIZE CODE DCS M8134-0-1	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PRD <i>Walter V. Fry</i>	DATE 2-2-75	NUMBER (PDRC)	
MATERIAL ++	NEXT HIGHER ASSY.	DATE 11/8/75	REV. E	
FINISH ++	SCALE SHEET 4 OF 9	DIST		

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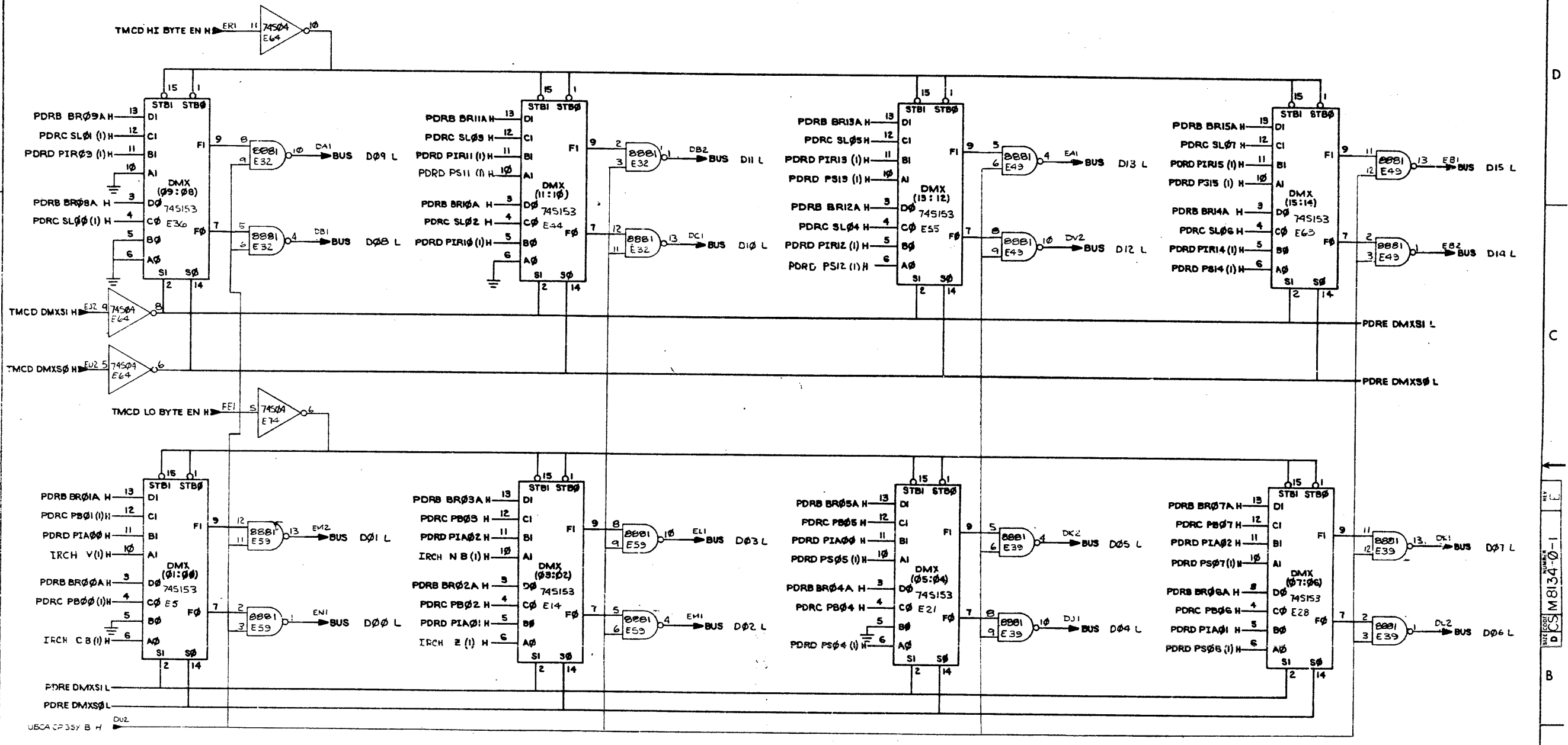
NOTE: R37 * R39 ARE SPARES. NO VALUE IS ASSIGNED.

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE		
XXX - .005	XX - .02	XX - .02	10° 30'	DATE
X - .1				DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY				
FINISH				
SCALE			SIZE CODE	NUMBER
SHEET 5 OF 9			DIST.	

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1-0-7218W 2

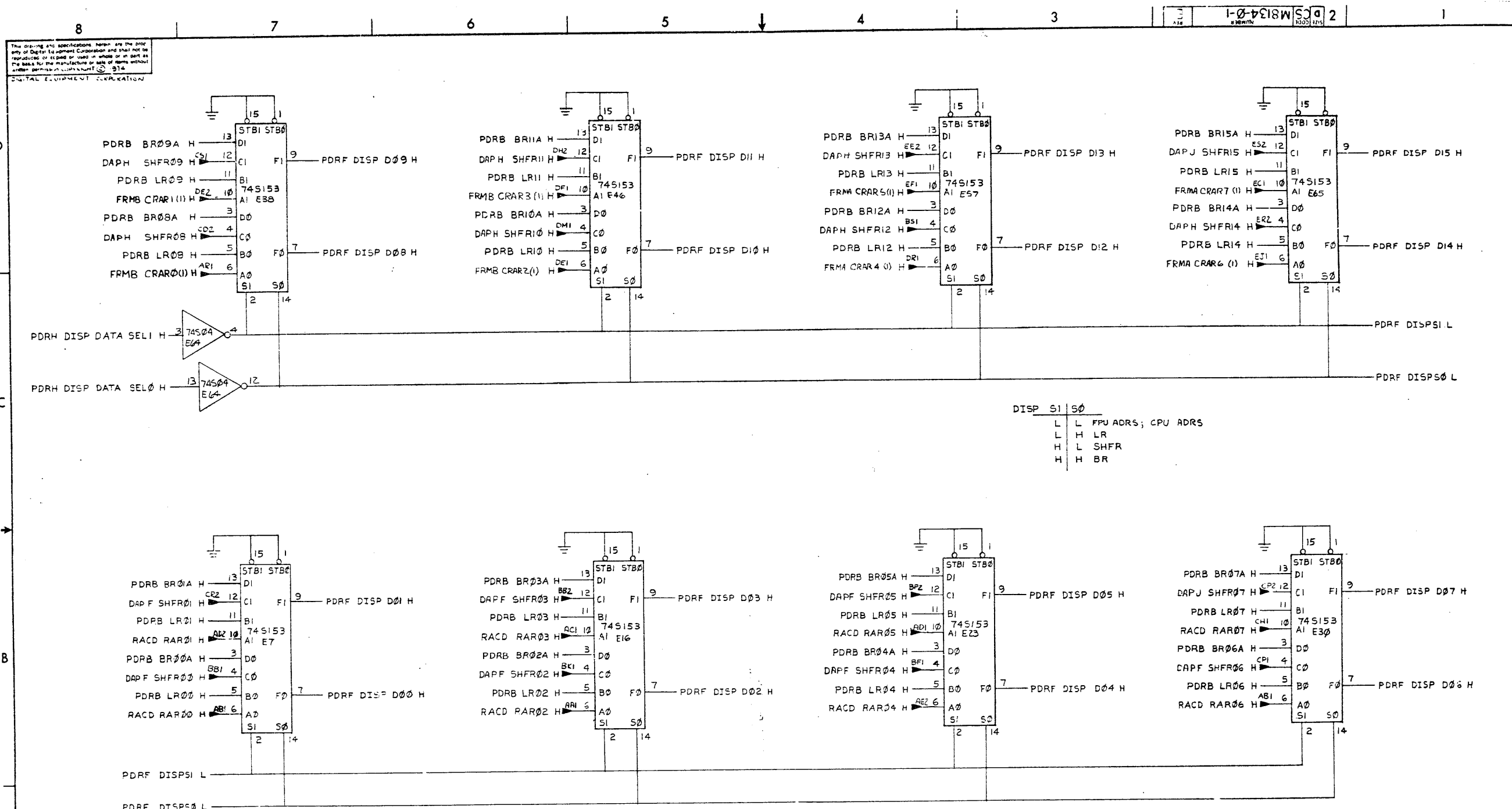


DMX	SI	S0	OUTPUT
L	L		STATUS
L	H		PIR; PIA
H	L		SL; PB
H	H		BR

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS ANGLES .XX - .02 10° 30' REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
PARTS LIST					
DYN		DATE	DIGITAL EQUIPMENT CORPORATION		
GHE		DATE	MAYNARD MASSACHUSETTS		
EWS		DATE	TITLE		
PROJ. ENG.		DATE	PROCESSOR DATA & UNIBUS REGS		
PRG		DATE	TITLE		
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH		SCALE		DCS M8134-0-1	REV. E
		SHEET 6 OF 9		DIST.	

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DIGITAL EQUIPMENT CORPORATION



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

DATA DISPLAY MULTIPLEXER SLOT 10

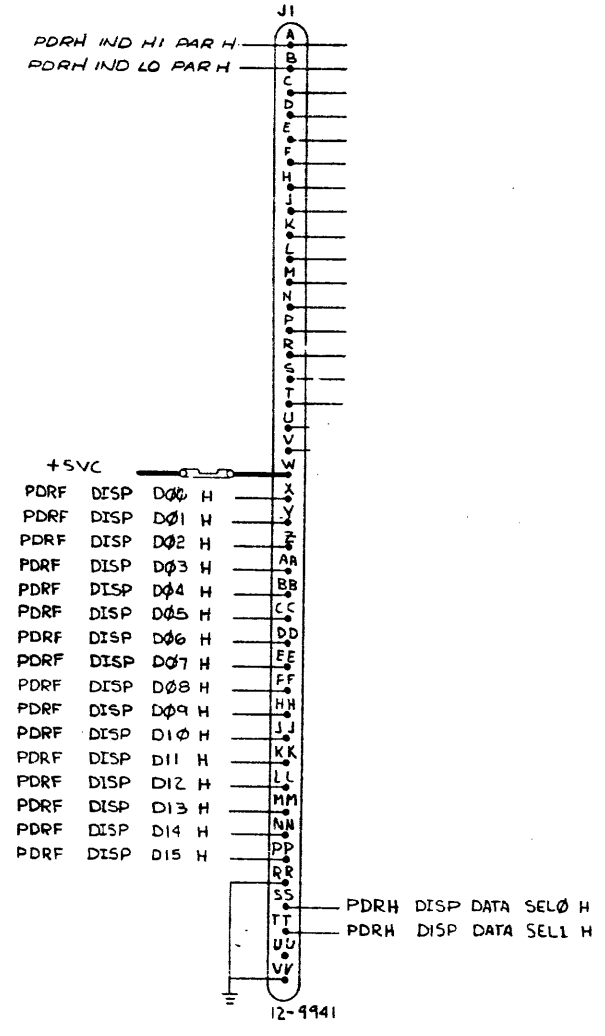
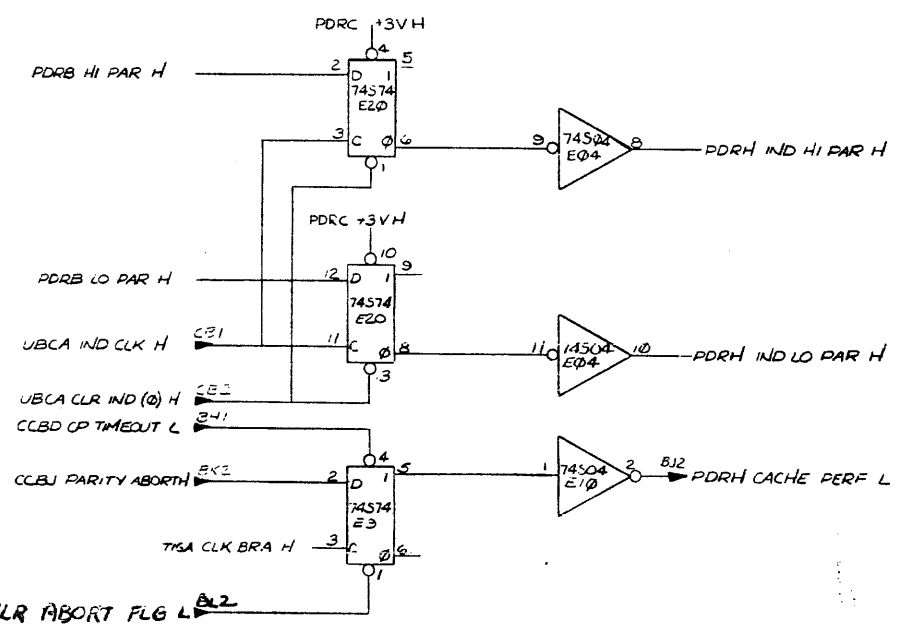
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. <i>Deane Kelley</i>	DATE 11-12-70	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS ANGLES	CHK. <i>Ferguson</i>	DATE 12-4		
XXX - .005 .XX - .02 .X - .1	20° 30'	ENG. <i>Walter Williams</i>	DATE 12-7-70	TITLE PROCESSOR DATA & UNIBUS REGS (PDRF)
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	✓	PRCT. ENG. <i>Walter Williams</i>	DATE 12-7-70	
MATERIAL	++	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH	++	SCALE	DCS M8134-0-1	REV. E
		SHEET 7 OF 9	DIST.	

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REVISIONS	CHK	CHANGE NO.

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CS M8134-0-1 2



PDR/KNL INTERFACE
 SIGNALS TO CONSOLE SIGNALS FROM CONSOLE

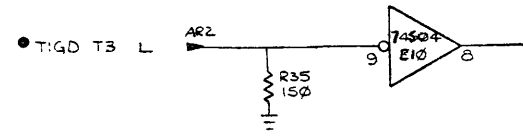
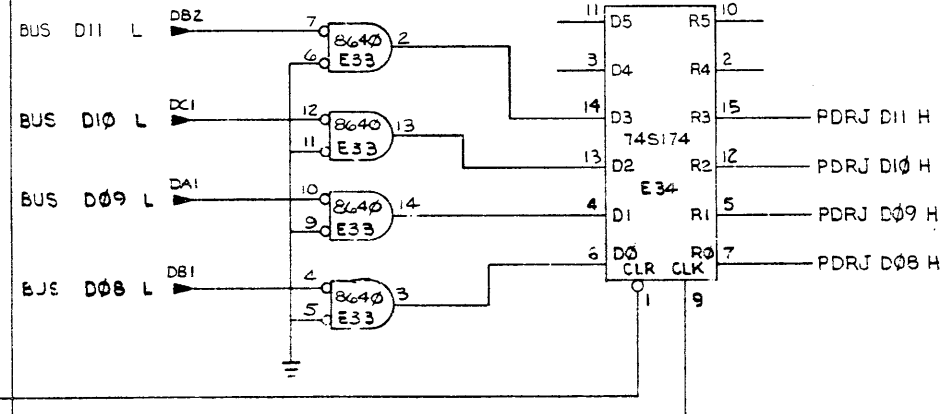
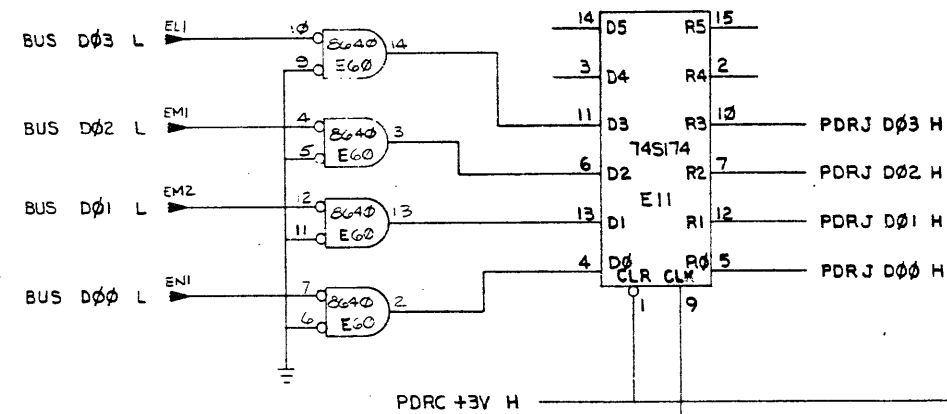
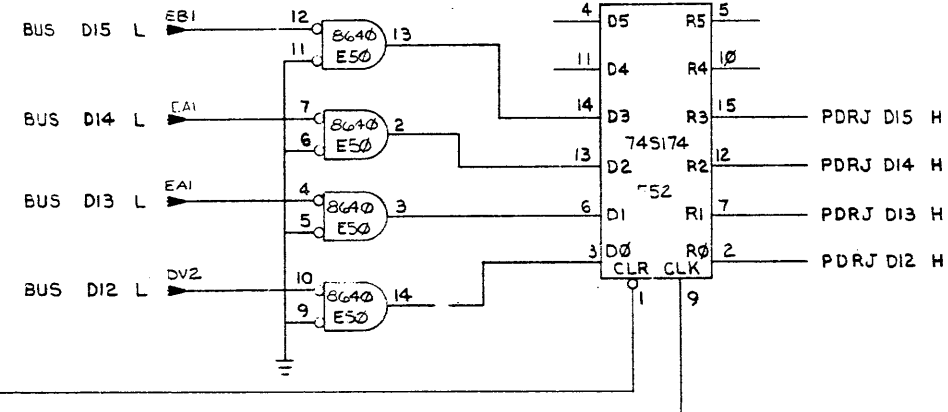
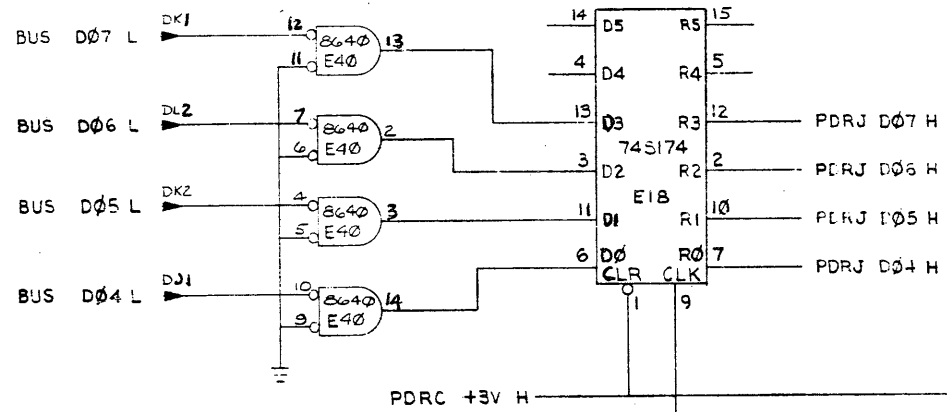
SWITCH REGISTER AND CONSOLE CABLE SLOT 0			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
11/70			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.		DATE 11-27-74	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
TOLERANCES		DATE	
DECIMALS .xxx - .005	ANGLES 20° 30'	DATE	TITLE PROCESSOR DATA & UNIBUS REGS
.xx - .02		DATE	
.x - .1		DATE	MATERIAL NEXT HIGHER ASSY. FINISH
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	
MATERIAL		DATE	SIZE CODE
NEXT HIGHER ASSY.		DATE	NUMBER
FINISH		DATE	REV.
SCALE		DATE	
SHEET 8 OF 9		DATE	
DIST.		DATE	

CS M8134-0-1

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DCS M8134-0-1 2



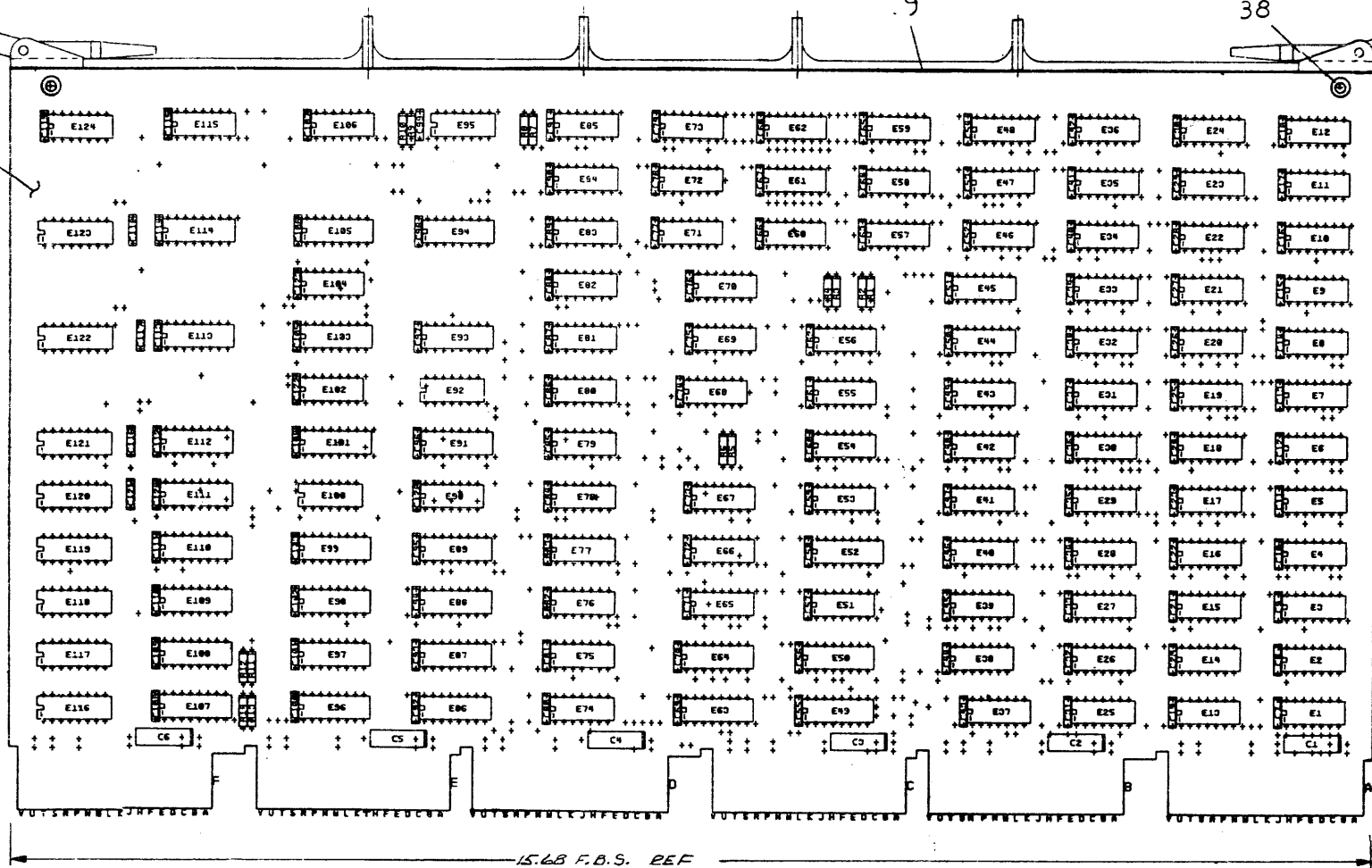
BUS BUFFER REG SLOT 10

FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		DRN	DATE	digital EQUIPMENT CORPORATION
TOLERANCES		CHK'D	DATE	
DECIMALS	ANGLES	ENC	DATE	PROCESSOR DATA & UNIBUS REGS (PDRJ)
.xxx - .005	.0 30	PRD'G	DATE	
.xx - .02		PB'D	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 7		NEXT HIGHER ASSY.		
MATERIAL		SIZE CODE		NUMBER
FINISH		SCALE		REV.
		SHEET 9 OF 9		DCS M8134-0-1 E

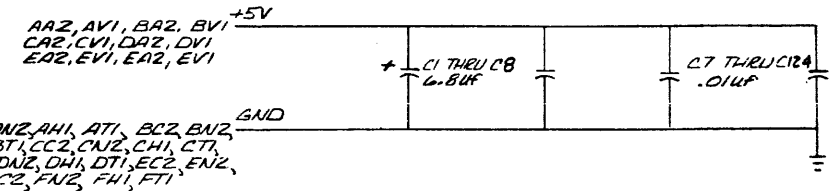
155

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NOTES:
 1. UNLESS OTHERWISE NOTED RESISTANCE IS IN OHMS AND CAPACITANCE IS IN PICOFARADS. CAPS WITH OUT VALUE NOTED ARE .01 MFD
 2. E61 & E62 ARE SPARE I.C. LOCATIONS.
 3. R5, R7, R9, R12 & R13 ARE NOT USED



REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8123-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8123-0-5	2
REF	MODULE ECO HISTORY	B-MH-M8123-0-6	3
1	ETCHED CIRCUIT BOARD	5011869	4
118	C7 THRU C124	CAPACITOR, .01uf, 50V	5
6	C1 THRU C6	CAPACITOR, 6.8uf, 35V, 10%	6
5	R6, R8, R10, R11, R14	RESISTOR, 150 OHM, 1/4W, 5%	7
5	E4, E31, E58, E99, E104	I.C. DEC 74S08	8
12	E6, E27, E34, E52, E56, E57, E72, E78, E79, E84, E95, E100	I.C. DEC 74S04	9
12	E3, E10, E28, E29, E40, E48, E53, E59, E60, E67, E92, E102	I.C. DEC 74S10	10
4	E55, E66, E88, E85	I.C. DEC 74S11	11
3	E16, E30, E41	I.C. DEC 74S20	12
1	E15	I.C. DEC 74S40	13
37	E5, E7, E9, E8, E11, E12, E17, E18, E19, E20, E21, E22, E23, E24, E33, E35, E42, E43, E44, E45, E46, E7, E51, E54, E65, E70, E71, E74, E75, E76, E77, E80, E81, E82, E83, E32, E106	I.C. DEC 74S64	14
4	E49, E50, E63, E64	I.C. DEC 74S153	15
12	E86, E88, E96, E97, E95, E107, E108, E109, E116, E117, E118, E87	I.C. DEC 74S174	16
14	E1, E2, E13, E14, E25, E26, E36, E37, E38, E73, E115, E124, E68, E90	I.C. DEC 74S74	17
2	R1, R3	RES. 680 Ω 1/4W 5%	18
2	R2, R4	RES. 330 Ω 1/4W 5%	19
1	E99	ROM 256x4	20
1	E94	ROM 256x4	21
1	E93	ROM 256x4	22
1	E89	ROM 256x4	23
1	E91	ROM 256x4	24
1	E120	ROM 256x4	25
1	E111	74S175	26
1	E123	ROM 256x4	27
1	E119	ROM 256x4	28
1	E121	ROM 256x4	29
1	E122	ROM 256x4	30
1	E114	ROM 256x4	31
1	E112	ROM 256x4	32
1	E110	ROM 256x4	33
1	E113	ROM 256x4	34
1	E105	ROM 256x4	35
1	E103	ROM 256x4	36
1	E101	ROM 256x4	37
12	EYELET	9006732	38
1	HANDLE MODULE	1210711-2	39



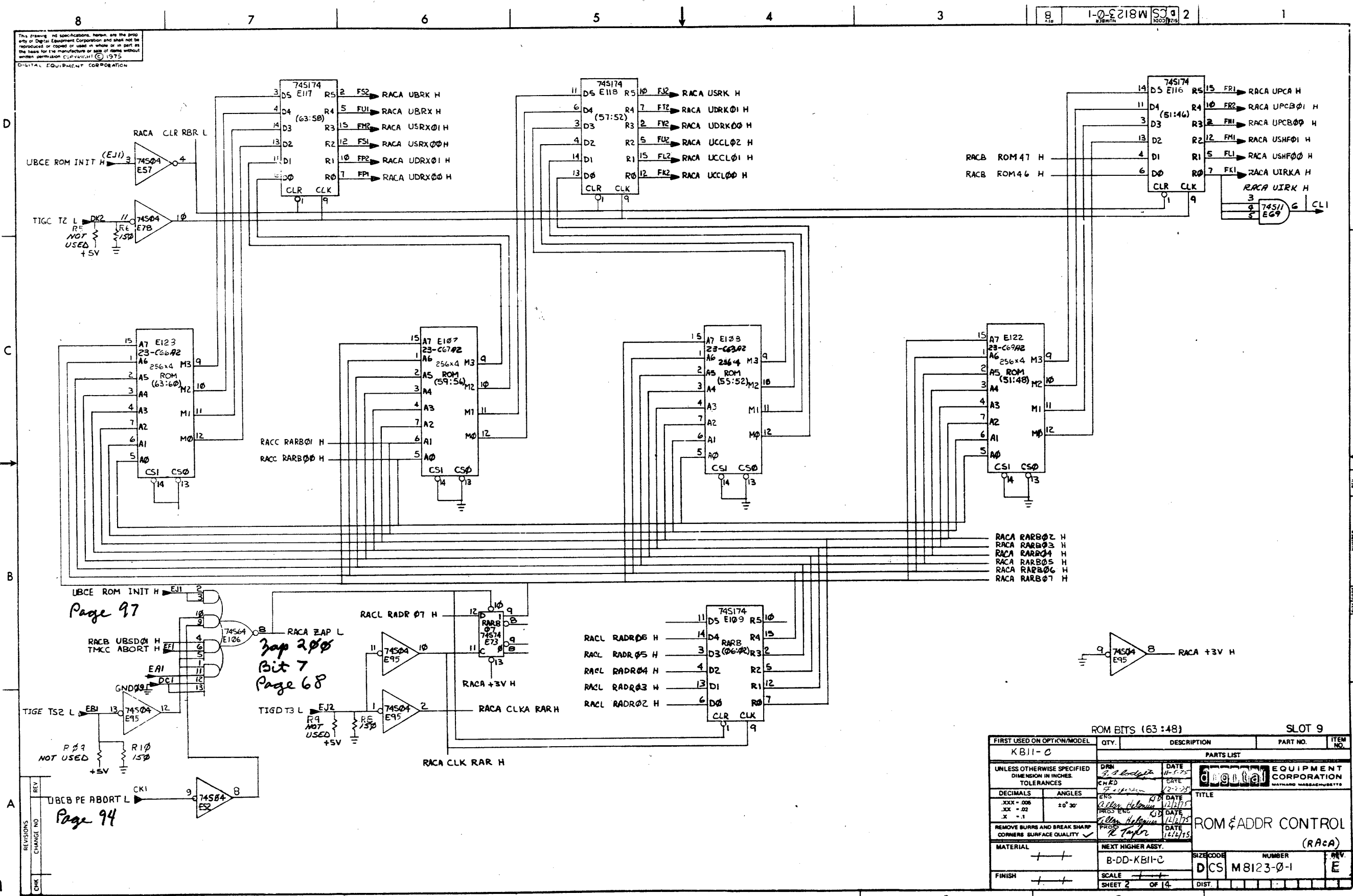
IC TYPE	QTY	REV
IC DEC 74S175	8	16
IC DEC 74S174	8	16
IC DEC 74S153	8	16
256x4 ROM	8	16
IC TYPE	GND	+5V

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

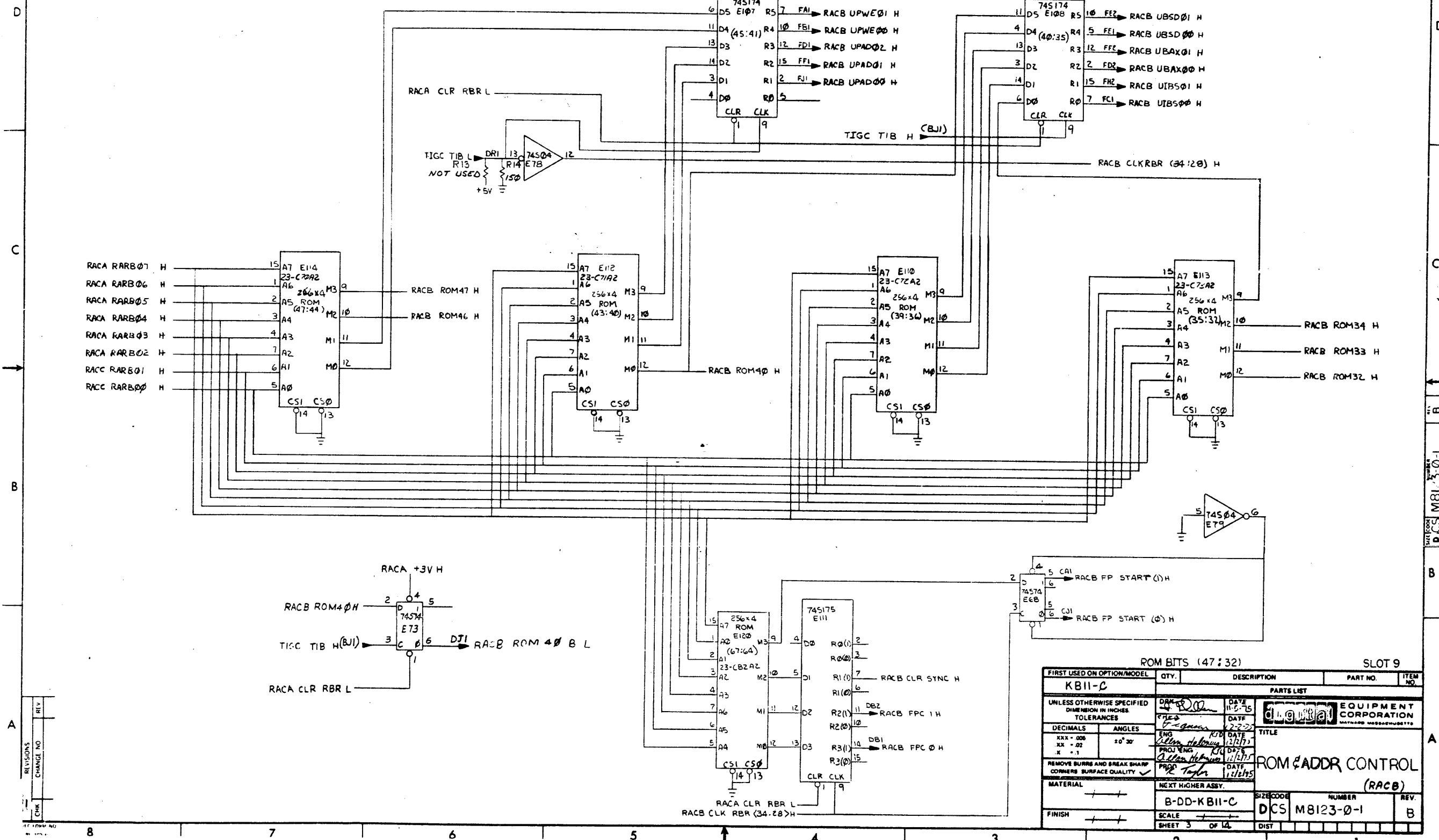
IC PIN LOCATIONS

QTY	REF. DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
FIRST USED ON OPTION MODEL				
KBI1-C				
ETCH BOARD REV. C				
PARTS LIST				
DRN. DATE 11/5/75				
CHKD. DATE 12/2/75				
ENG. DATE 12/2/75				
PROJ. ENG. DATE 12/2/75				
PROD. DATE 12/6/75				
NEXT HIGHER ASSY				
B-DD-KBI1-C				
SCALE				
SHEET 7 OF 14				
TITLE ROM & ADDR CONTROL (RAC)				
SIZE CODE DCS M8123-0-1				
REV. B				

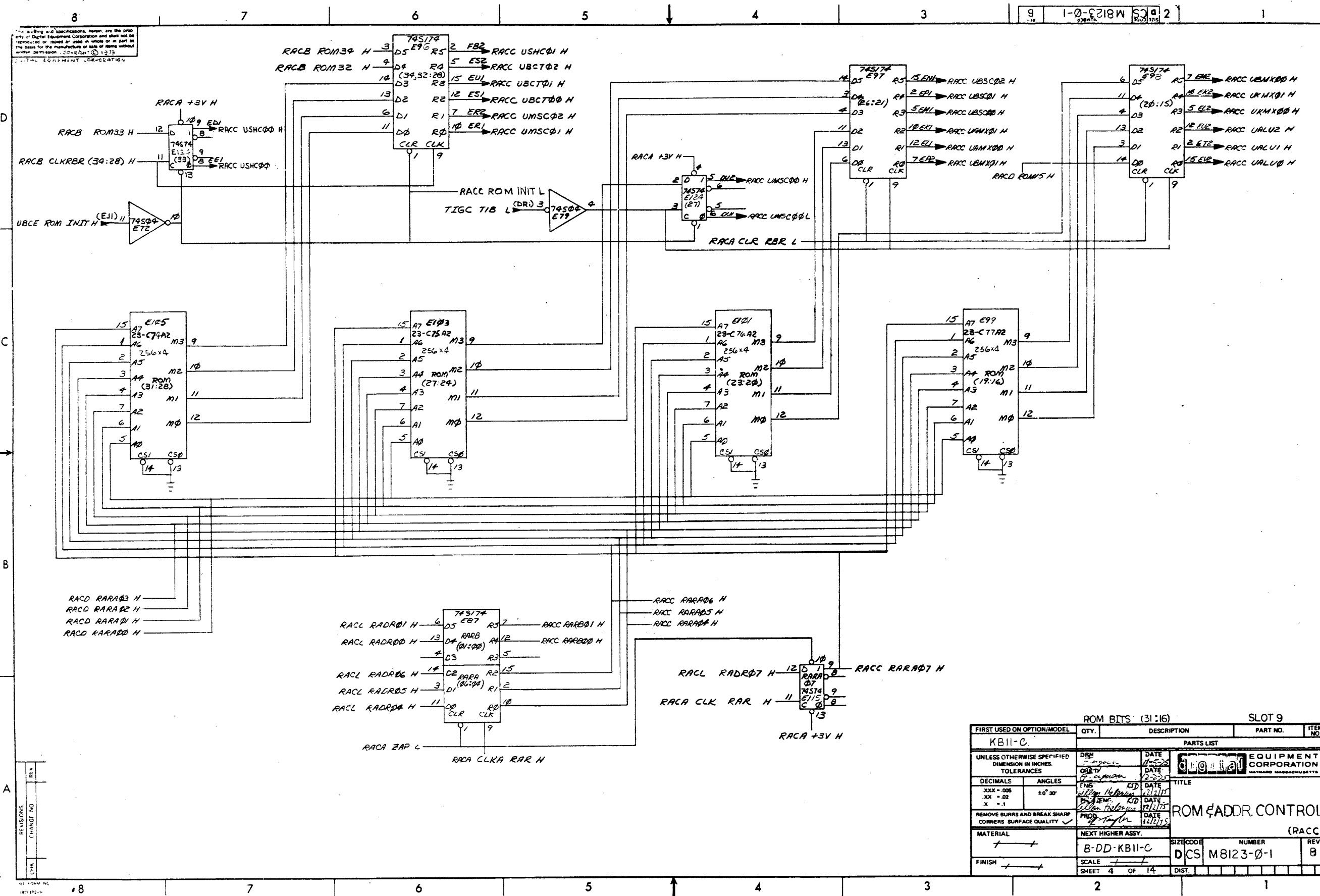
SEMICONDUCTOR CONVERSION CHART



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FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.											
KB11-C																
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES																
DECIMALS	ANGLES	PARTS LIST														
XXX - .006	XX - .02	<table border="1"> <tr> <td>DATE</td> <td>11-5-75</td> <td rowspan="2">DIGITAL EQUIPMENT CORPORATION</td> </tr> <tr> <td>DATE</td> <td>12-2-75</td> </tr> <tr> <td>DATE</td> <td>12-17-75</td> <td>TITLE</td> </tr> <tr> <td>DATE</td> <td>12-17-75</td> <td>ROM ADDR CONTROL (RACB)</td> </tr> </table>				DATE	11-5-75	DIGITAL EQUIPMENT CORPORATION	DATE	12-2-75	DATE	12-17-75	TITLE	DATE	12-17-75	ROM ADDR CONTROL (RACB)
DATE	11-5-75	DIGITAL EQUIPMENT CORPORATION														
DATE	12-2-75															
DATE	12-17-75	TITLE														
DATE	12-17-75	ROM ADDR CONTROL (RACB)														
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		MATERIAL														
FINISH		NEXT HIGHER ASSY.														
		B-DD-KB11-C		SIZE CODE	NUMBER											
		SCALE		DCS M8123-0-1	REV. B											
		SHEET 3 OF 14		DIST												



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2. EQUIPMENT IDENTIFICATION

1-0-2218M 2

REV	CHG	NO

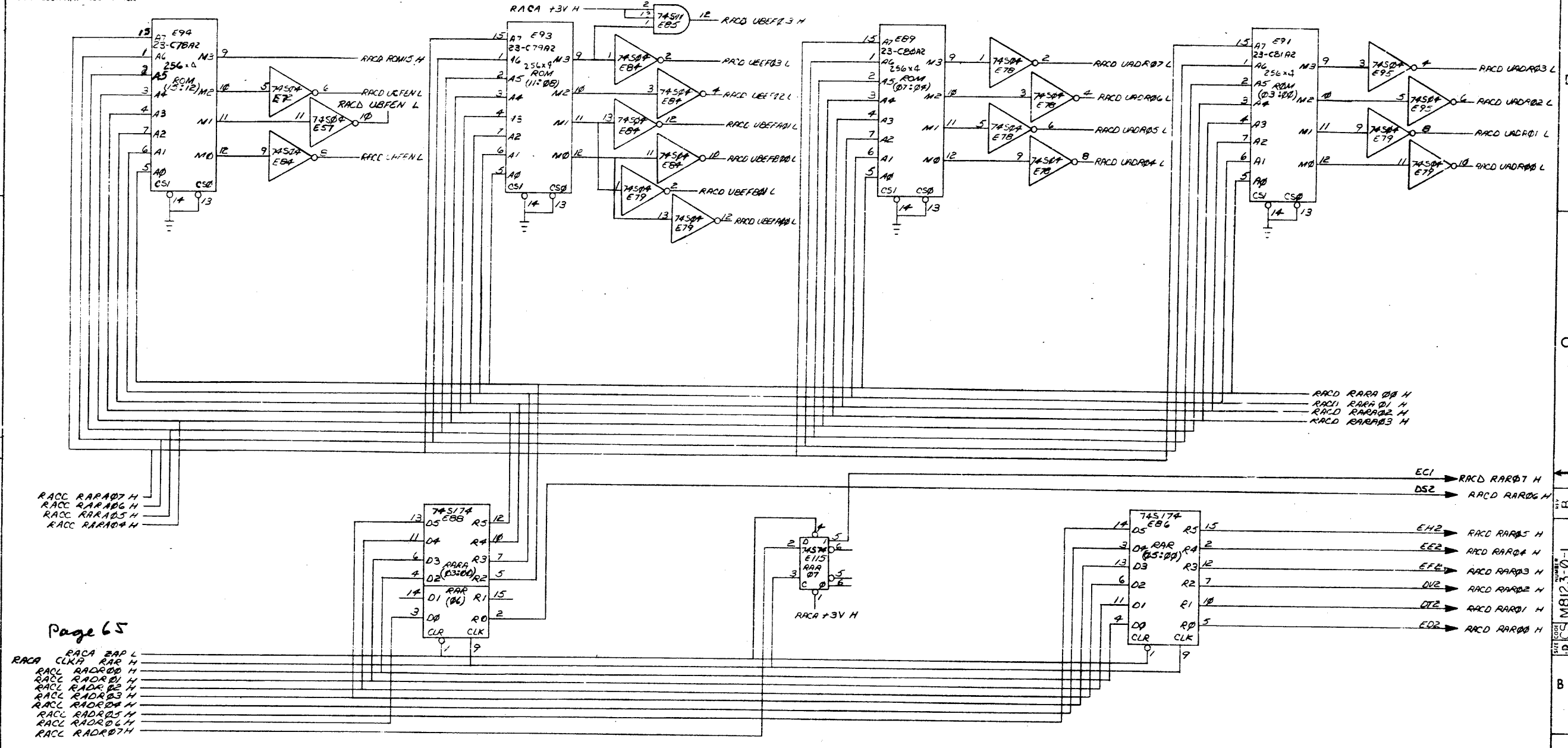
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-C					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES		DATE	EQUIPMENT CORPORATION		
TOLERANCES		DATE	MAYFIELD MASSACHUSETTS		
DECIMALS	ANGLES	ENG	CD	DATE	TITLE
.XXX = .008	±0° 30'	W. H. H. H.		12/1/75	ROM ADDR. CONTROL
.XX = .02		W. H. H. H.		12/1/75	
X = .1		W. H. H. H.		12/1/75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD	DATE		
MATERIAL		NEXT HIGHER ASSY.			
		B-DD-KB11-C			
FINISH		SCALE			
		SHEET 4 OF 14			

REV B

NUMBER M8123-0-1

LOCUS DCS

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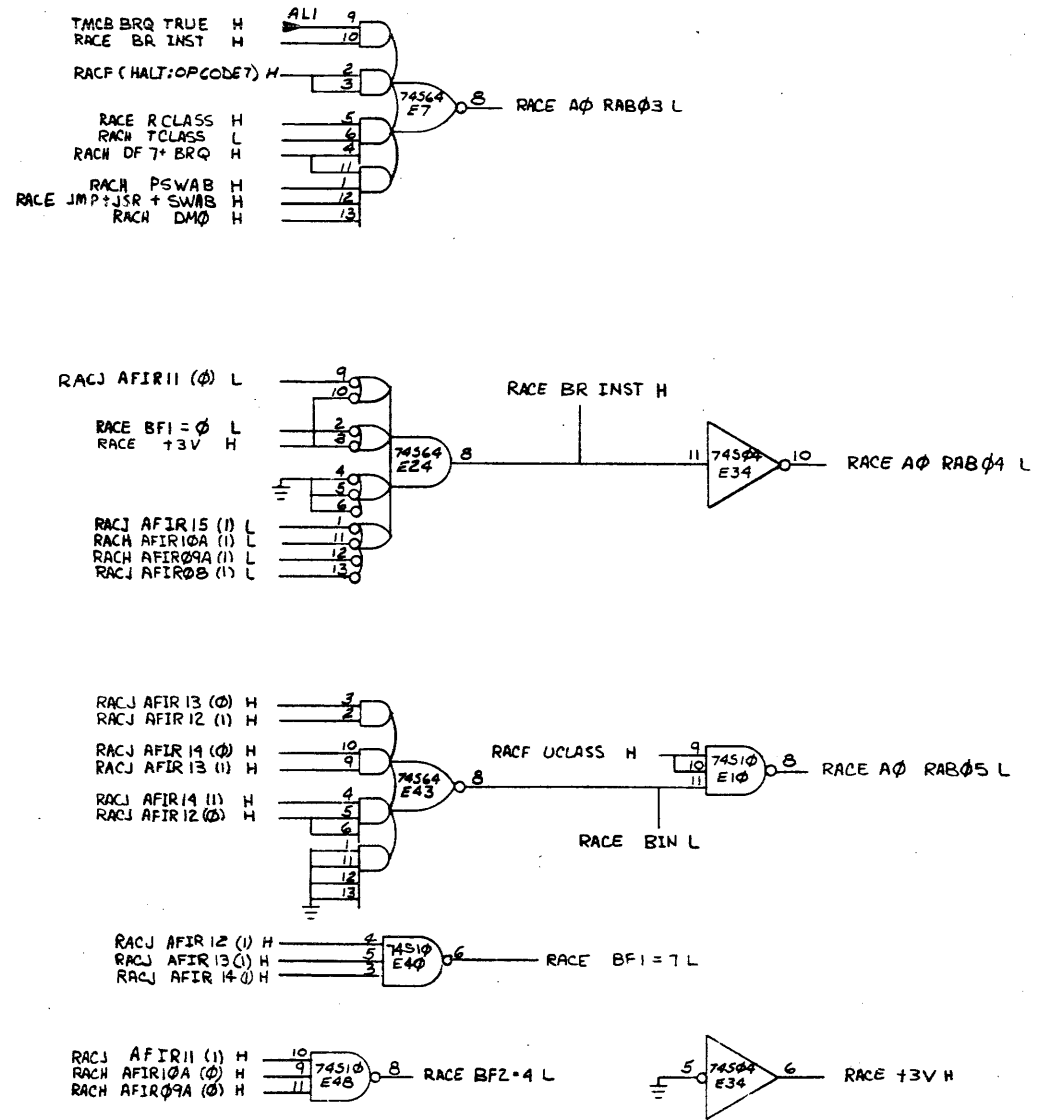
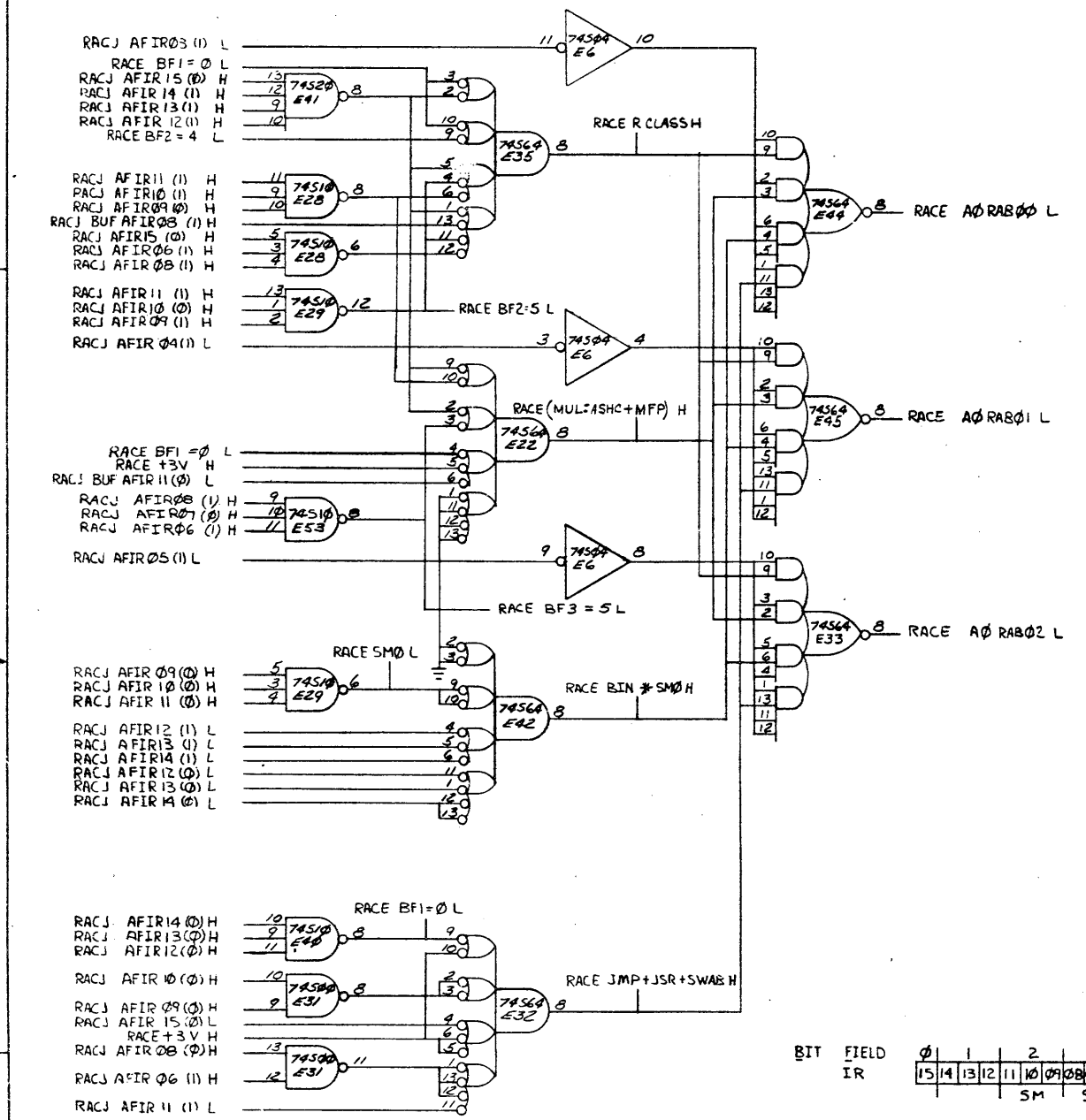
- RACA ZAP L
- RACA CLKA RAR H
- RACL RADR00 H
- RACL RADR01 H
- RACL RADR02 H
- RACL RADR03 H
- RACL RADR04 H
- RACL RADR05 H
- RACL RADR06 H
- RACL RADR07 H

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-C					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	 DIGITAL EQUIPMENT CORPORATION NATHAN MASSACHUSETTS	
DECIMALS	ANGLES	CHKD	DATE		
XX + .005	± 0° 30'	ENGR	DATE		
X - .1		PROJ ENR	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD	DATE	TITLE ROM ADDR. CONTROL (RACD)	
MATERIAL		NEXT HIGHER ASSY			
FINISH		SCALE			
		B-DD-KB11-C		SIZE CODE	NUMBER
		SHEET 5 OF 14		DCS	M8123-0-1
				DIST.	REV B

REV.	CHANGE NO.

22 15840

181 103-F



BIT FIELD IR

0	1	2	3	4	5
15	14	13	12	11	10
09	08	07	06	05	04
03	02	01	00		
SM	SF	DM	DF		

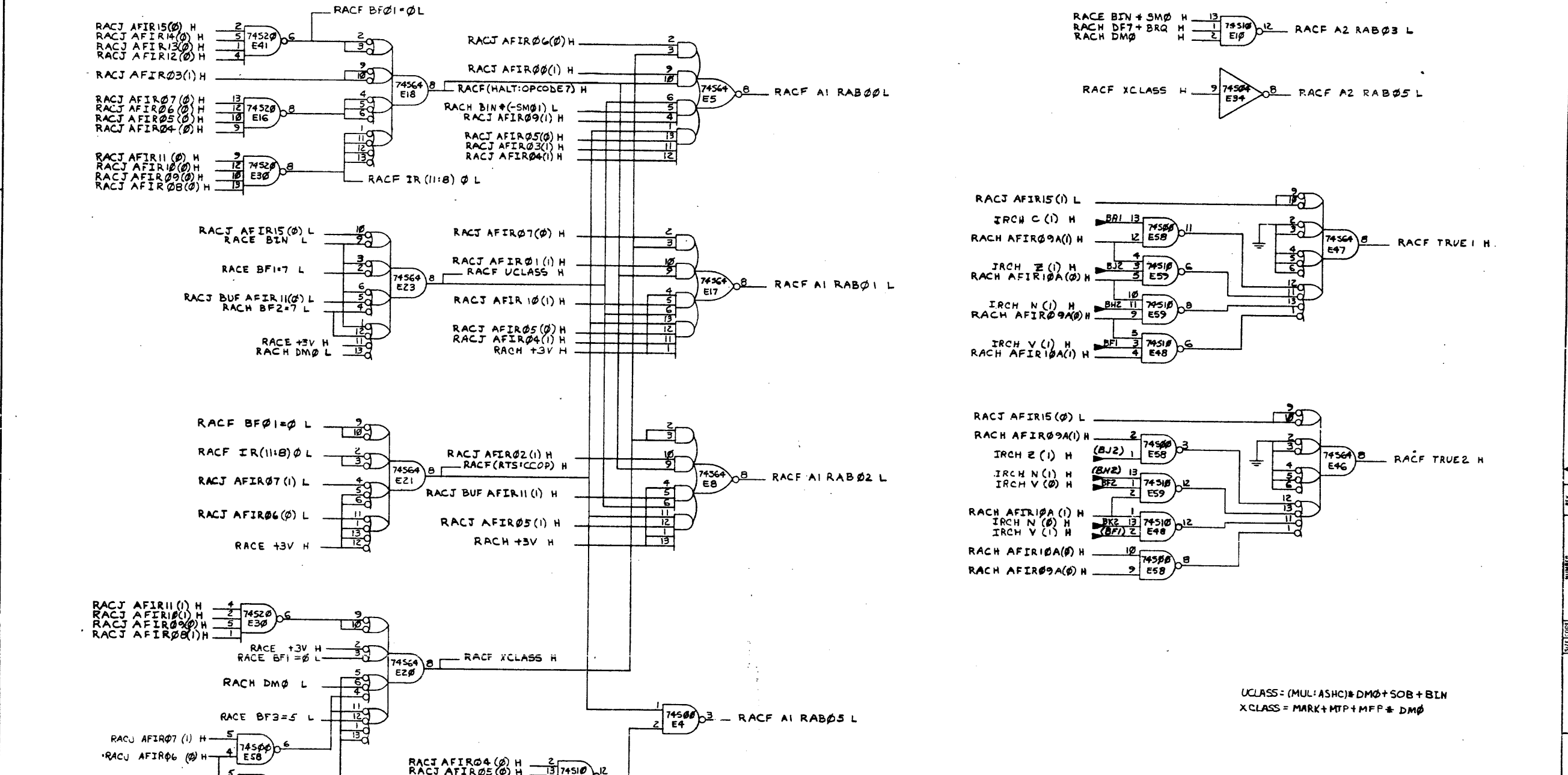
S = source
 M = mode
 F = field
 D = destination

NOTE: UCLASS = (MUL + ASHC) * DM0 + SOB + BIN
 RCLASS = (CLR + B + ASL + B) + MFP + SXT + XOR
 TCLASS EXCLUDES [MFP + NEG + B + (-DM0)] FROM RCLASS WHEN COMBINED

A-FORK LOGIC SLOT 9

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
.XXX = .005	±0° 30'	ROM & ADDR CONTROL (RACE)		
.XX = .02		MATERIAL		
.X = .1		FINISH		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.		
		SCALE		
		SHEET 6 OF 14		
		SIZE CODE	NUMBER	REV.
		DCS	M8123-0-1	B
		DIST.		

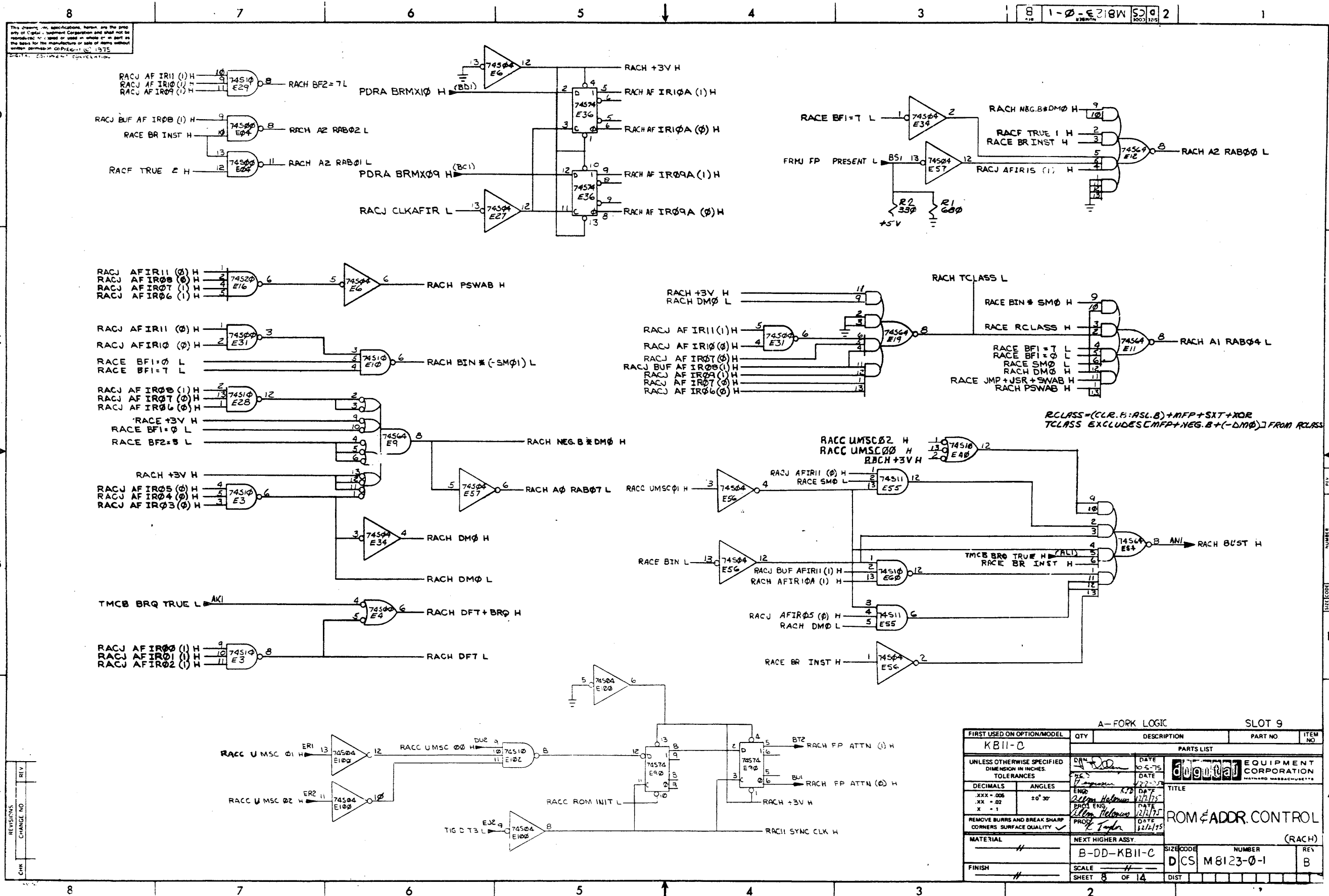
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UCLASS = (MUL + ASHC) * DM0 + SOB + BIN
 XCLASS = MARK + MTP + MFP * DM0

A-FORK LOGIC SLOT 9

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-C				
UNLESS OTHERWISE SPECIFIED				
DIMENSION IN INCHES	DECIMALS	ANGLES	DATE	
TOLERANCES			12-2-75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
FINISH				
NEXT HIGHER ASSY.				
SCALE				
DWT				
TITLE			REV.	
ROM & ADDR CONTROL (RACF)			B	
SIZE CODE			REV.	
DGS M8123-0-1			B	



1-0-E218W S09 2

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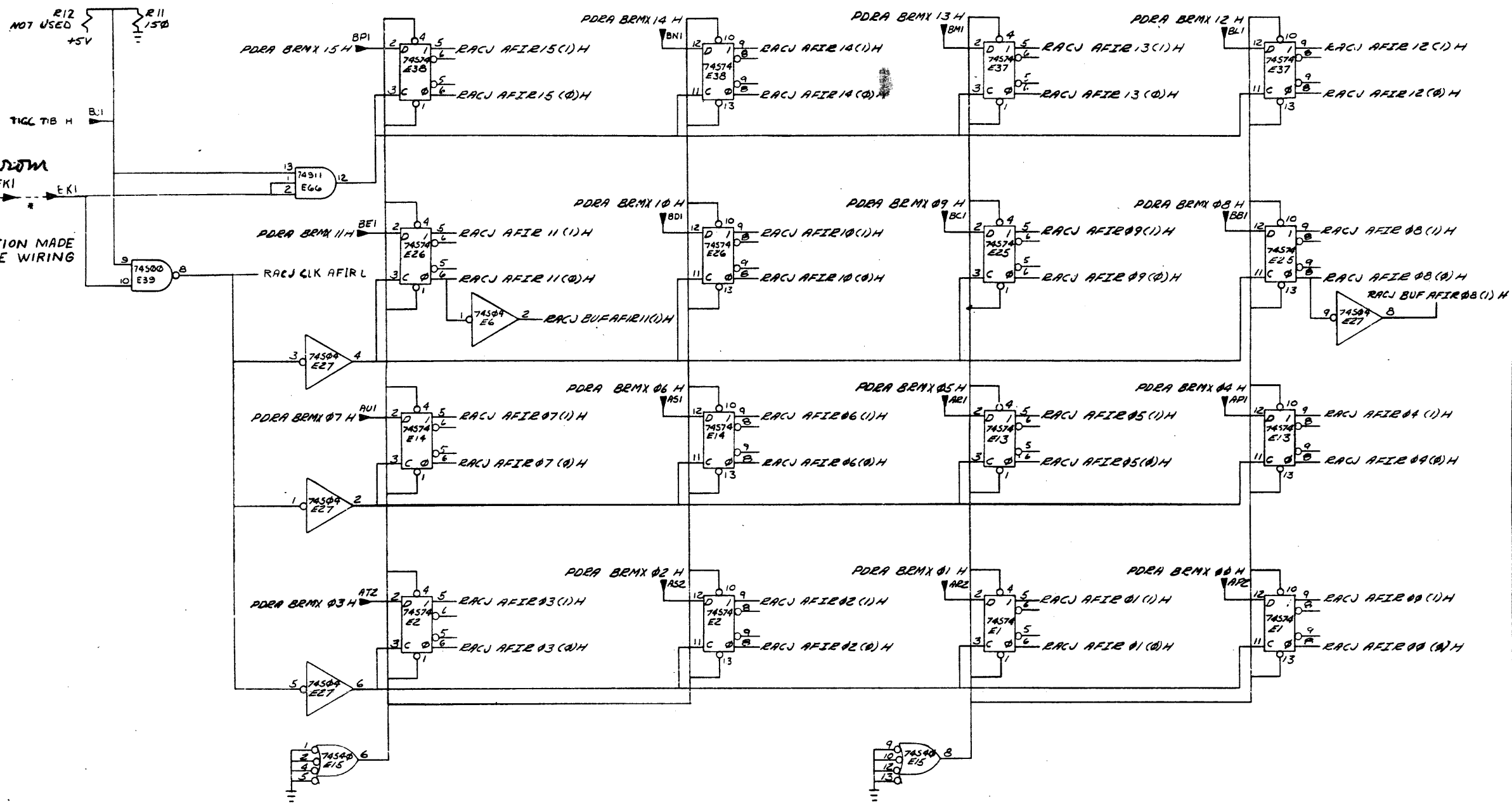
D
 C
 B
 A
 REV
 CHANGE NO
 CHK

D
 C
 B
 A
 REV B
 DCS M8123-0-1
 SHEET NO. 8 OF 14

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
KB11-C				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DATE 10-5-75	 EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	ANGLES	DATE 12-2-75		
XXX - .006	XX - .02	XX - .01	TITLE ROM & ADDR. CONTROL (RACH)	
X - .1	ENG. DATE 12/17/75 PROJ. ENG. DATE 12/17/75 PROJ. DATE 12/17/75			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
//	B-DD-KB11-C		DCS	M8123-0-1
FINISH	SCALE	SHEET	DIST	REV
//	//	8 OF 14		B

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BIT 46 off Micro rom
 RACA UIRKA H → FKI → EKI
 * THIS CONNECTION MADE ON BACKPLANE WIRING



INSTRUCTION REG. (A-FORK COPY) SLOT 9

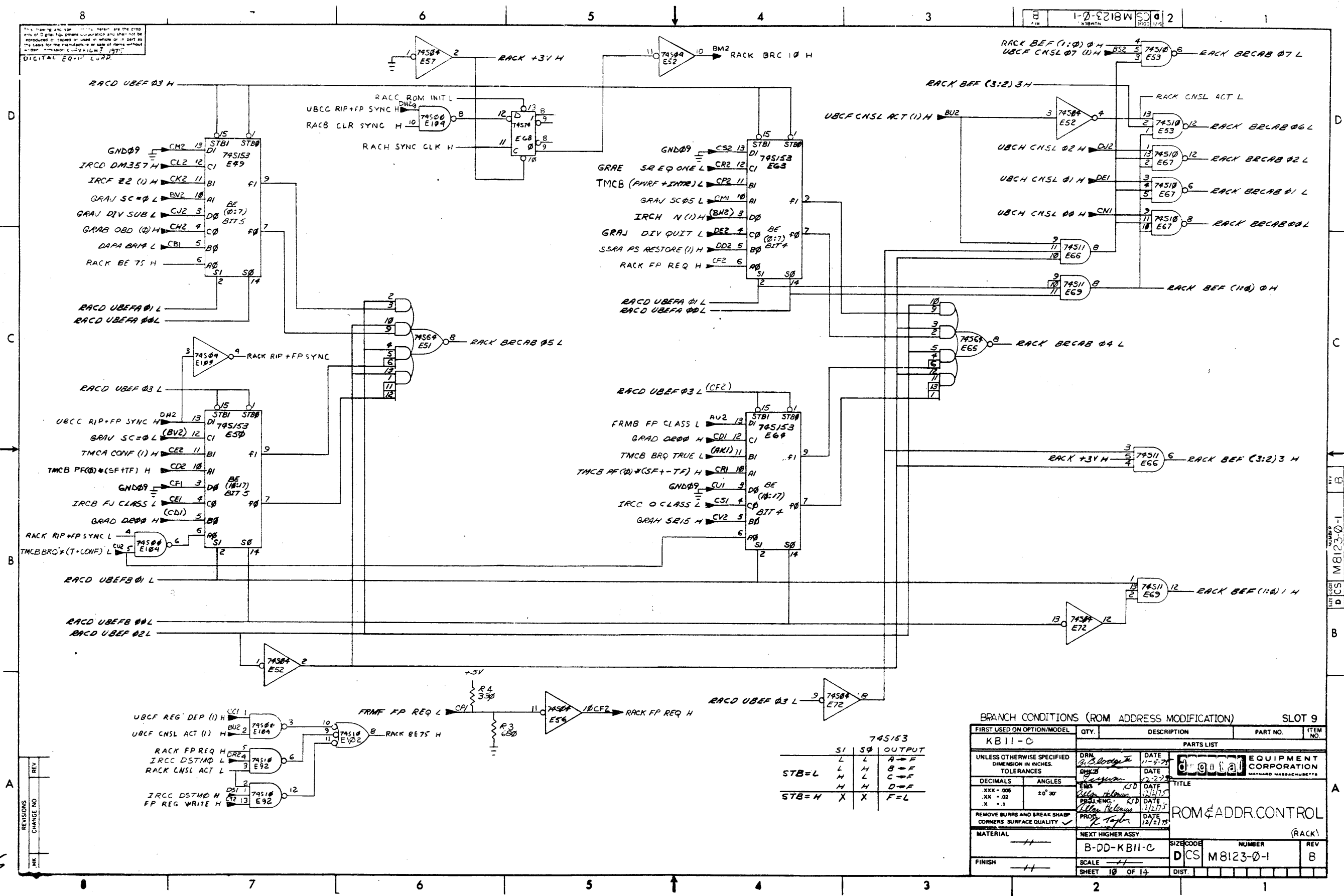
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-C				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	DRN	DATE	EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
XXX - .008	20° 30'	DATE	DATE	
XX - .02		DATE	DATE	
X - .1		DATE	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
B-DD-KB11-C			SIZE CODE	NUMBER
SCALE			DCS	M8123-0-1
SHEET 9 OF 14			DIST.	REV. B

TITLE: ROM ADDR CONTROL (RACJ)

REV. NO.	CHG. NO.

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DIGITAL EQUIPMENT CORPORATION

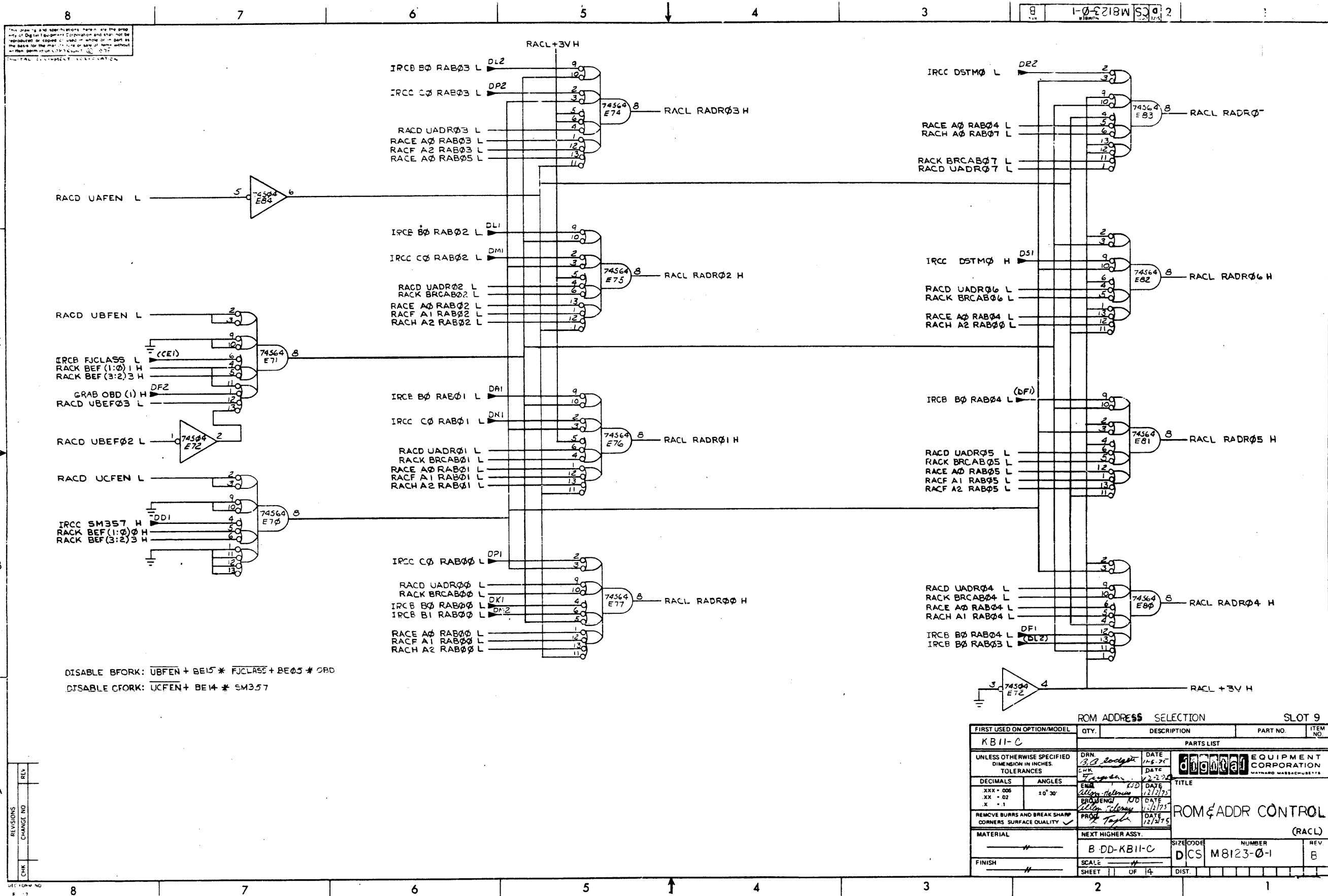


74S153		
SI	SΦ	OUTPUT
L	L	A=F
L	H	B=F
H	L	C=F
H	H	D=F
X	X	F=L

BRANCH CONDITIONS (ROM ADDRESS MODIFICATION) SLOT 9

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-C				
UNLESS OTHERWISE SPECIFIED, DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	TITLE		
.XXX - .006	±0° 30'	ROM ADDR. CONTROL (RACK)		
.XX - .02		MATERIAL		
.X - .1		NEXT HIGHER ASSY.		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		FINISH		
		SCALE		
		SHEET 10 OF 14		

REV. B
NUMBER 0
M8123-0-1
D CS M8123-0-1



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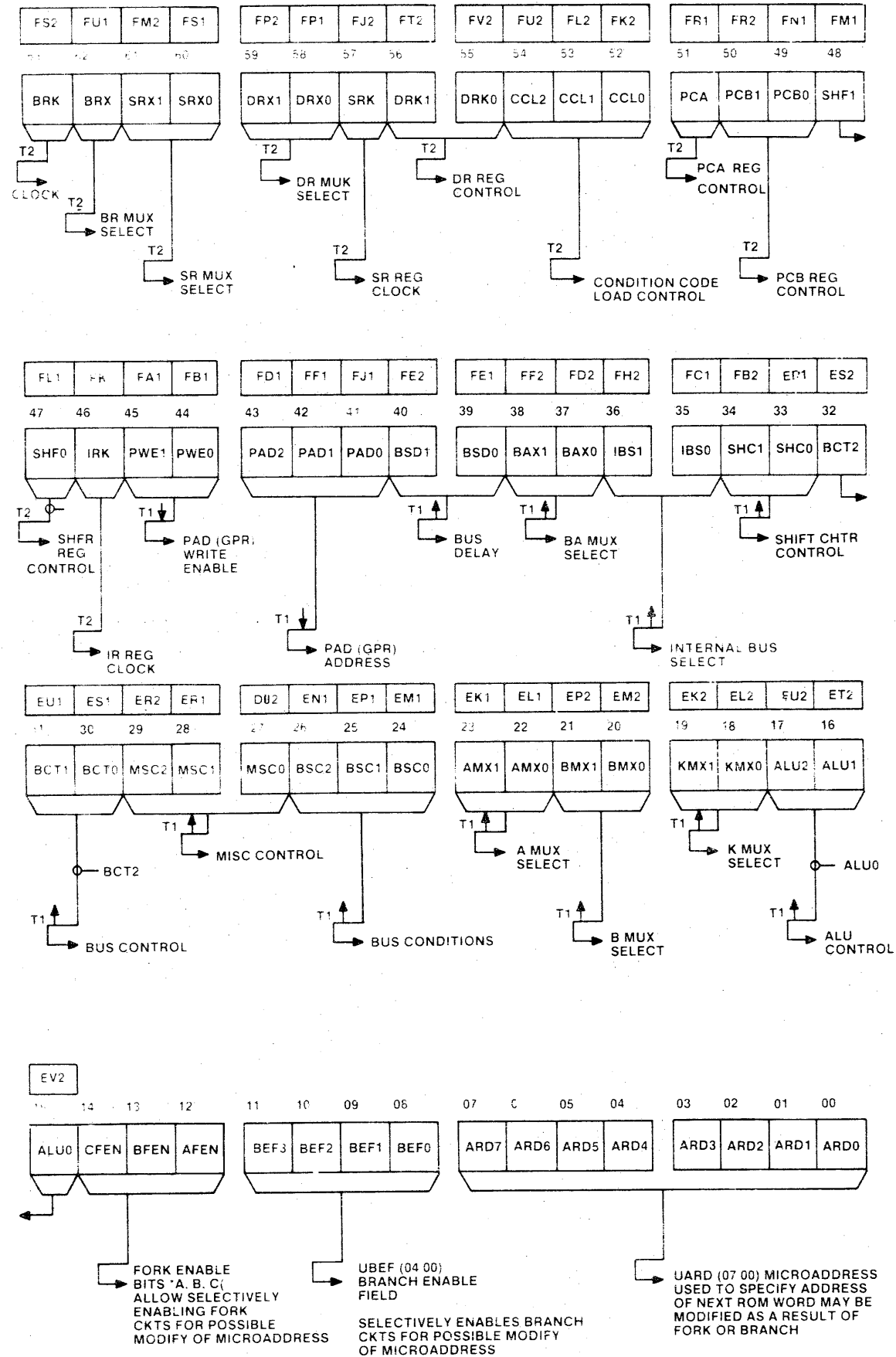
REV.	
CHANGE NO.	
CHK	

74

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-C					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES IN INCHES:		DRN. <i>B. J. Soderstrom</i>	DATE 11-5-75	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS	ANGLES	CHK. <i>W. Taylor</i>	DATE 12-2-75	TITLE	
XXX - 006	±0° 30'	ENG. <i>William Helms</i>	DATE 12/2/75	ROM ADDR CONTROL	
XX - 02		PROB ENG. <i>William Helms</i>	DATE 12/2/75	(RACL)	
X - 1		PROG. <i>W. Taylor</i>	DATE 12/2/75	MATERIAL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
		B-DD-KB11-C		DICS	M8123-0-1
FINISH		SCALE	SHEET	DIST.	REV
		#	OF 14		B

REV. B
REV. D
REV. C
REV. A

166



MICROPROGRAM BIT USAGE

Bit Positions	Contents	Clocked At
RACA		
63	bus register clock (UBRK)	T2
62	bus register multiplexer (UBRX)	T2
61-60	source register MUX (USRX)	T2
59-58	destination register MUX (UDRX)	T2
57	source register clock (USRK)	T2
56-55	destination register clock (UDRK)	T2
54-52	condition-code load (UCCL)	T2
51	program counter A CLK (UPCA)	T2
50-49	program counter B CLK (UPCB)	T2
48-47	shifter control (USHF)	T2
46	instruction register CLK (UIRK)	T2
RACB		
45-44	pad write-enable (UPWE)	T1 + 15 ns
43-41	scratchpad address (UPAD)	T1 + 15 ns
40-39	bus delay (UBSD)	T1
38-37	bus address multiplexer (UBAX)	T1
36-35	internal bus (UIBS)	T1
RACC		
34-33	shift counter (USHC)	T1
32-30	bus control (UBCT)	T1
29-27	miscellaneous control (UMSC)	T1
26-24	bus conditions (UBSC)	T1
23-22	A multiplexer (UAMX)	T1
21-20	B multiplexer (UBMX)	T1
19-18	constant multiplexers (UKMX)	T1
17-15	arithmetic logic unit cont (UALU)	T1
RACD		
14	fork C enable (UCFEN)	AVAILABLE IMMEDIATELY
13	fork B enable (UBFEN)	
12	fork A enable (UAFEN)	
11-08	branch-enable (UBEF)	
07-00	microprogram address (UADR)	

ROM WORD FIELD AND CONTROL OF DATA FLOW

Microword bits are sent to modules in the CPU to act as control signals.

- Bits may also be used in combinational logic that generates control signals for all CPU operations.

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DIGITAL EQUIPMENT CORPORATION
 MODEL 8123-0-1
 8
 B
 2

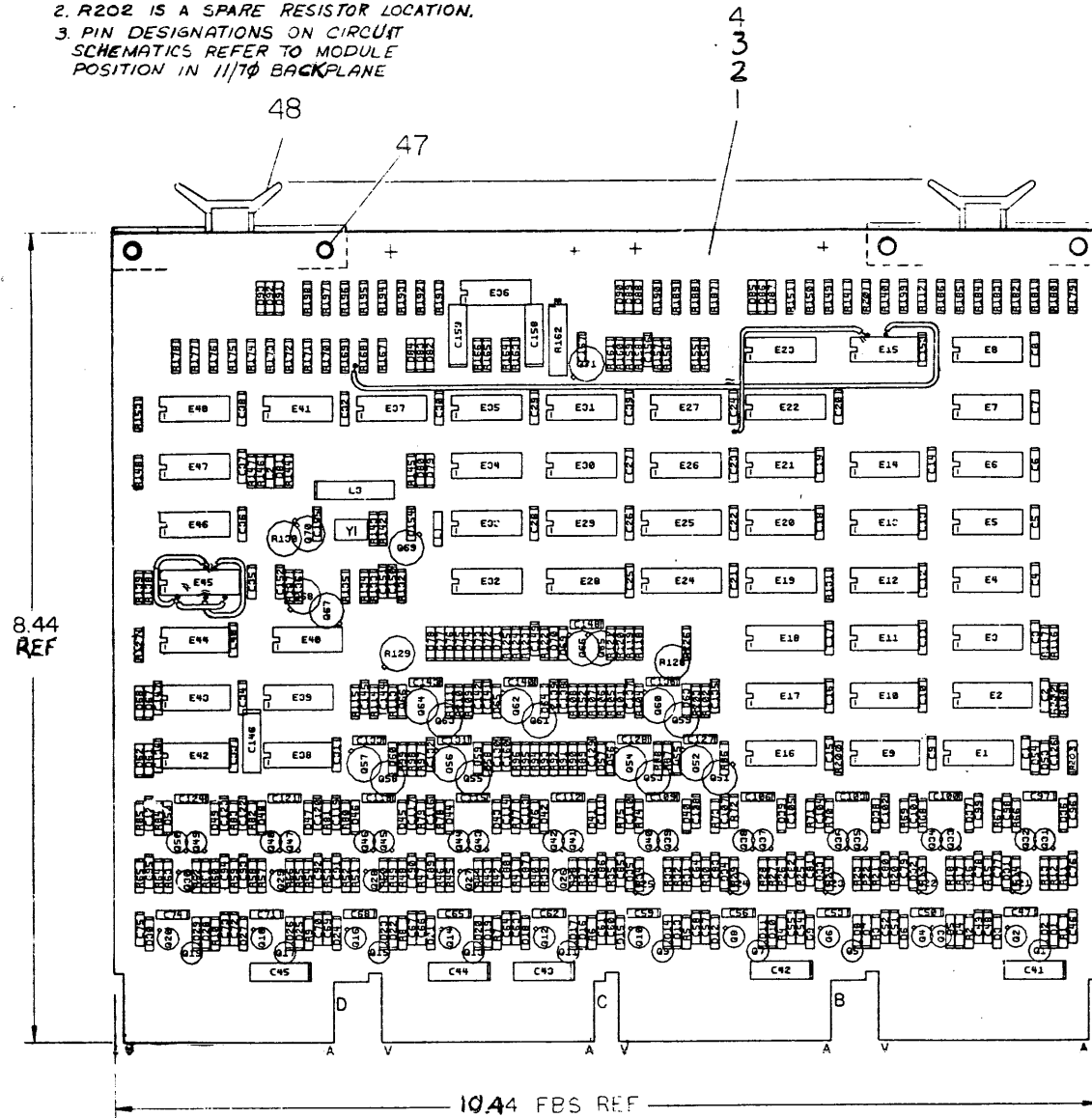
DCS M8123-0-1																																					
BRK	BRX	SRX	DRX	SRK	DRK	CCL	PCA	PCP	SHF	IRK	PWE	PAD	BSD	BAX	BSX	SHC	BCT	MSC	BSC	ANX	BMX	KMX	ALU	FEN	BEN	UAD	FPS	CLS	FPC	PGE							
000	1	1	0	0	0	0	3	0	0	0	2	0	0	0	0	1	3	0	7	0	0	0	1	1	1	0	00	345	0	0	0	12					
054	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	2	3	0	3	0	00	141	0	0	0	02					

REVISIONS									TITLE		SIZE CODE		NUMBER		REV.
CHK	CHANGE NO.	REV.							ROM & ADDR. CONTROL		DCS		M8123-0-1		B
									SCALE		SHEET		12 OF 14		DIST.
167			8	7	6	5	4	3	2						

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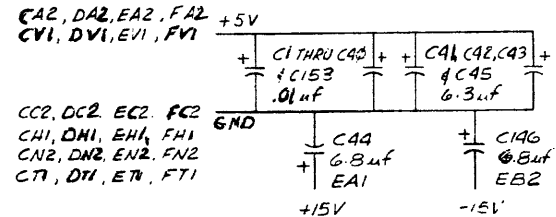
NOTES:

- E3, E27, E36, E40, E44, AND E49 ARE SPARE IC LOCATIONS.
- R202 IS A SPARE RESISTOR LOCATION.
- PIN DESIGNATIONS ON CIRCUIT SCHEMATICS REFER TO MODULE POSITION IN 11/70 BACKPLANE



PIN NOMENCLATURE
MODULE BACKPLANE
PIN PIN
A C
B D
C E
D F

IC TYPE	GND	+5V
IC DEC 74S112	B	10
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.		
IC PIN LOCATIONS		



THOMPSON
JAN 74
BOUCHER
HELENIUS
XOWLES
CHIK

REF	DESIGNATION	DESCRIPTION	PART NO	ITEM NO
		X-Y COORDINATE HOLE LOCATION	K-CO-M8139-0-4	1
		ASSY/DRILLING HOLE LAYOUT	D-AH-M8139-0-5	2
		MODULE ECO HISTORY	B-WH-M8139-0-6	3
1		ETCHED CIRCUIT BOARD	5011344	4
44	C1 THRU C40, C150, C153, C155, C156	CAP. 0.1uf, 100V	1001610-01	5
8	C41, C42, C43, C44, C45, C146, C158, C159	CAP 6.8uf, 35V, 10%	1005306	6
96	C46 THRU C97, C99, C100, C102, C103, C105, C106, C108, C109, C111, C114, C115, C117, C118, C120, C121, C123, C124, C126 THRU C145, C147, C148, C149, C151, C152, C160, C112	CAP .22uf, 50V 80-20%	1010274-01	7
10	C98, C101, C104, C107, C110, C113, C116, C119, C122, C125	CAP 33pf, 100V 5%	1500009	8
1	C157	CAP, 47pf, 100V, 5%	1000011	9
1	C154	CAP, 100pf, 100V 5%	1000016	10
52	D1, D3, D4, D6, D7, D9, D10, D12, D13, D15, D16, D18, D19, D21, D22, D24, D25, D27, D28, D30 THRU D50, D57, D58, D61, D62, D64, D65, D67, D68, D69, D70, D53, D54	DIODE DEC 777	1103041	11
39	D2, D5, D8, D11, D14, D17, D20, D23, D28, D29, D55, D56, D59, D60, D63, D66, D71 THRU D93	DIODE D662	1100113	12
17	R6 THRU R10, R40, R46, R52, R58, R64, R67, R71, R73, R75, R99, R113, R69	RESISTOR, 4.7K, 1/4W, 5%	1300447	13
8	R11, R18, R21, R26, R31, R143	RESISTOR, 1.5K, 1/4W, 5%	1300391	14
5	R12, R17, R22, R27, R32	RESISTOR 15K, 1/4W, 5%	1300496	15
28	R13, R15, R18, R20, R23, R25, R28, R30, R33, R35, R38, R41, R47, R50, R53, R56, R59, R62, R65, R102, R104, R114, R115, R132, R158, R44	RESISTOR 10 OHM, 1/4W, 5%	1301317	16
11	R14, R19, R24, R29, R34, R39, R45, R51, R57, R63, R121	RESISTOR, 100 OHM, 1/4W, 5%	1300229	17
76	R36, R37, R42, R43, R48, R49, R54, R55, R60, R61, R69 THRU R96, R101, R105 THRU R112, R123, R124, R128, R138, R139, R140, R141, R148 THRU R153, R187 THRU R200, R122, R208	RESISTOR, 1K, 1/4W, 5%	1300365	19
13	R68, R69, R70, R72, R76, R74, R78, R80, R82, R84, R118, R119, R120	RESISTOR 1.2K, 1/4W, 5%	1301320	19
12	R77, R79, R81, R83, R85, R86, R103, R1 THRU R5	RES. TOR 3K, 1/4W, 5%	1300432	20
7	R87, R88, R97, R98, R134, R135, R144	RESISTOR, 47 OHM, 1/4W, 5%	1300202	21
6	R100, R125, R127, R131, R154, R155	RESISTOR 150 OHM, 1/4W, 5%	1300250	22
8	R116, R148, R156, R159, R160, R161, R164, R165	RESISTOR 330 OHM, 1/4W, 5%	1300295	23
5	R117, R147, R157, R163, R168	RESISTOR, 680 OHM, 1/4W, 5%	1301424	24
2	R128, R129	RESISTOR, 2K, 1/2W, 10%, POT	1309150-07	25
1	R130	RESISTOR, 100 OHM, 1/2W, 10%, POT	1309150-05	26
2	R133, R137	RESISTOR, 68 OHM, 1/4W, 5%	1300219	27
1	R142	RESISTOR 750 OHM, 1/4W, 5%	1301401	28
1	R145	RESISTOR 220 OHM, 1/4W, 5%	1300271	29
1	R182	RESISTOR 1K 3/4W POT	1309143-07	30
35	Q1, Q3, Q5, Q7, Q9, Q11, Q13, Q17, Q19, Q21 THRU Q25, Q31 THRU Q40, Q51, Q54, Q56, Q58, Q59, Q63, Q65, Q66, Q69, Q70, Q15	TRANSISTOR DEC 4258	1505321	31

FIRST USED ON OPTION MODEL 11/70

ETCH BOARD REV B

DRN. SELDMAN DATE 12-9-74
CHKD. B. KOPPENAL DATE 1-8-74
ENG. ALLAN HELENIUS DATE 1-15-75
PROJ. ENG. ALLAN HELENIUS DATE 1-15-75
DATE K. TAYLOR 1-15-75
NEXT HIGHER ASSY B-DD-KB11-0

digital EQUIPMENT CORPORATION
TIMING GENERATOR

SIZE CODE NUMBER REV
D/C S M8139-0-1 D

SCALE -H
SHEET 1 OF 7

SEMICONDUCTOR CONVERSION CHART

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NOTES:

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
36	Q2, Q4, Q6, Q8, Q10, Q12, Q14, Q16, Q18, Q20, Q26 THRU Q30, Q41 THRU Q50, Q52, Q53, Q55, Q57, Q60, Q61, Q62, Q64, Q67, Q68, Q71	TRANSISTOR DEC 3009B	1503100	32
1	L1	INDUCTOR .22 UH	1811000	33
1	L2	INDUCTOR .47 UH	1810999	34
1	L3	INDUCTOR 33 MH	1801759	35
6	E1, E9, E14, E16, E38, E42	IC 74S40	1910541	36
8	E2, E17, E18, E22, E24, E25, E28, E45	IC DEC 74S112	1910545	37
5	E4, E7, E21, E46, E30	IC 74S04	1910534	38
7	E5, E8, E19, E26, E29, E33, E6,	IC 74S74	1910544	39
5	E10, E15, E31, E37, E43	IC 74S00	1910532	40
2	E11, E12	IC 74S65	1910543	41
4	E20, E23, E32, E13	IC 74S64	1910542	42
2	E34, E48	IC 74S11	1910537	43
2	E35, E39	IC 74S140	1910546	44
2	E41, E47	IC 74S20	1910539	45
1	Y1	CRYSTAL 33.333 UHZ	1810694-01	46
8		EYELET	9006732	47
4		HANDLE FLIP CHIP MAGENTA	9008337-06	48
4/R		TAPE, 2 SIDED	9007834	49
12		WIRE, 30 AWG BUSS (RETROFIT)	9105740-55	50
4/R		PERMA-BOND	9009157	51
1	R136	RESISTOR 120 OHM 1/4W 5%	1300247	52
1	R203	RESISTOR 33 OHM 1/4W 5%	1300197	53

QTY REF DESIGNATION DESCRIPTION PART NO. ITEM NO.

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

PARTS LIST

11/70

ETCH BOARD REV B

NEXT HIGHER ASSY
B-DD-KB11-0

SCALE H

SHEET 2 OF 7

11/70

ETCH BOARD REV B

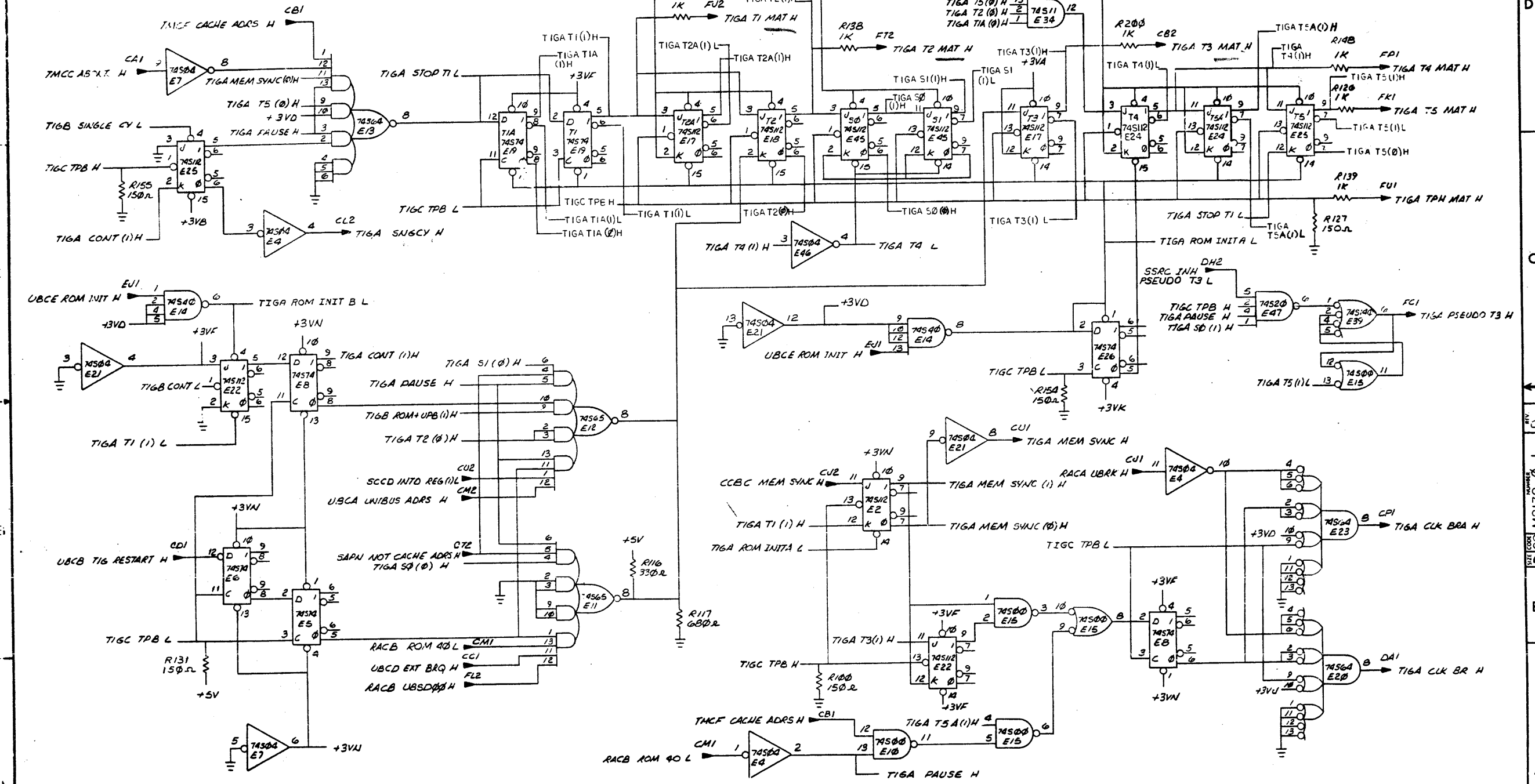
DRN	DATE	digital EQUIPMENT CORPORATION <small>MILWAUKEE, WISCONSIN 53192</small>	
CHK'G	DATE		
ENG	DATE		TITLE
PROJ. ENG.	DATE		TIMING GENERATOR
PROD.	DATE		

SIZE/ CODE NUMBER REV
DICS M8139-0-1 2

SEMICONDUCTOR CONVERSION CHART

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*What leads when
to Maint mod opps*



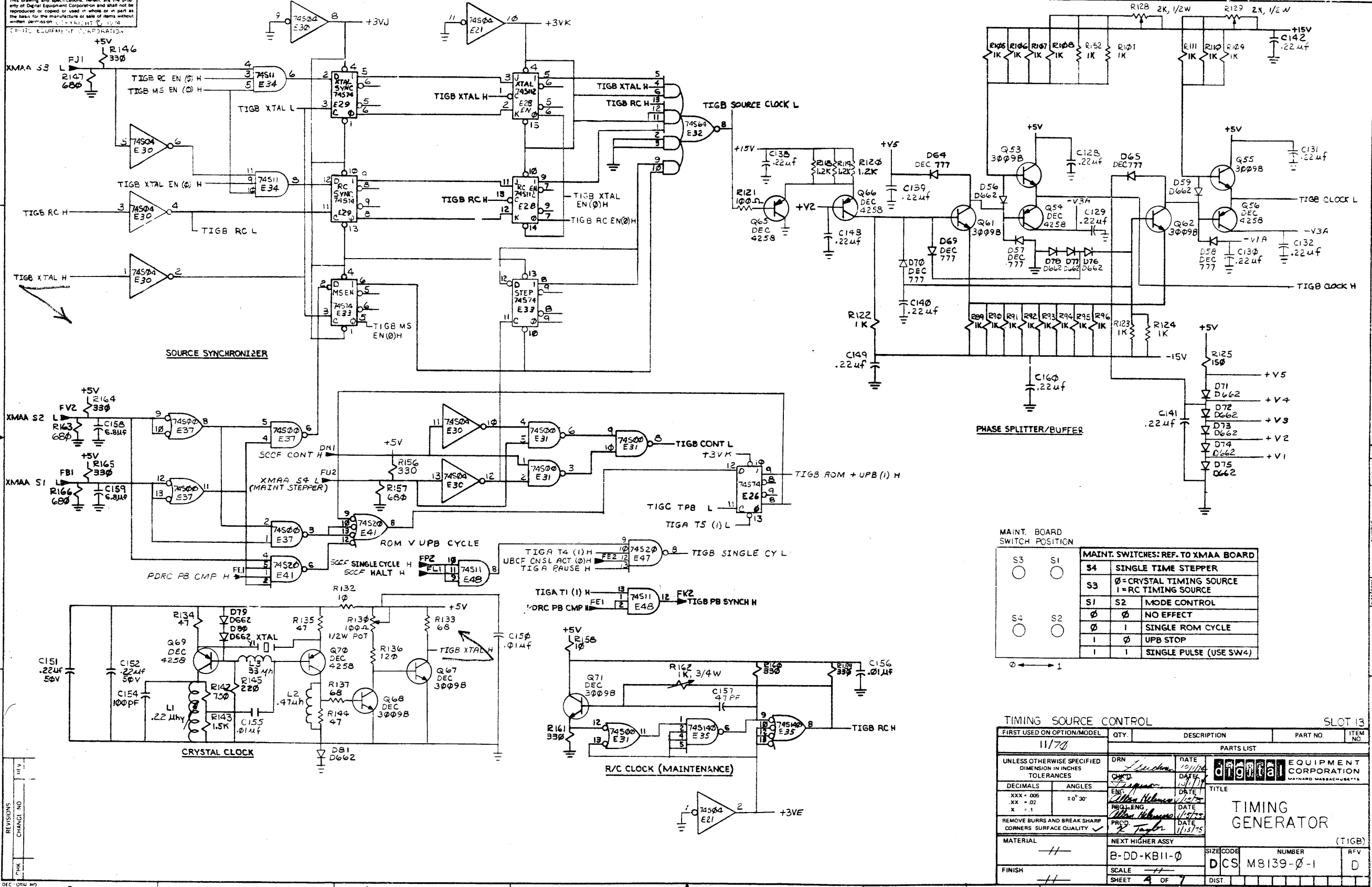
TIMING CONTROL SLOT 13

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	TIMING GENERATOR (TIGA)	SIZE CODE	D CS	NUMBER	M 8139-0-1	REV.	D
SCALE	1/1	SHEET	3 OF 7	DIST.			

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1-0-6218 W S J 2



MAINT. BOARD SWITCH POSITION

S1		S2		S3		S4	
○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○

MAINT. SWITCHES: REF. TO XMAA BOARD

SWITCH	POSITION	MODE CONTROL
S4	1	SINGLE TIME STEPPER
S3	0	CRystal TIMING SOURCE
S3	1	RC TIMING SOURCE
S1	0	NO EFFECT
S1	1	SINGLE ROM CYCLE
I	0	UPB STOP
I	1	SINGLE PULSE (USE SW4)

TIMING SOURCE CONTROL SLOT 13

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				

REVISIONS

NO.	DATE	DESCRIPTION
1	10/11/70	DRN
2	11/11/70	CHG
3	11/11/70	ENG
4	11/11/70	PROJ-ENG
5	11/11/70	PRD

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

TITLE: TIMING GENERATOR (TIGB)

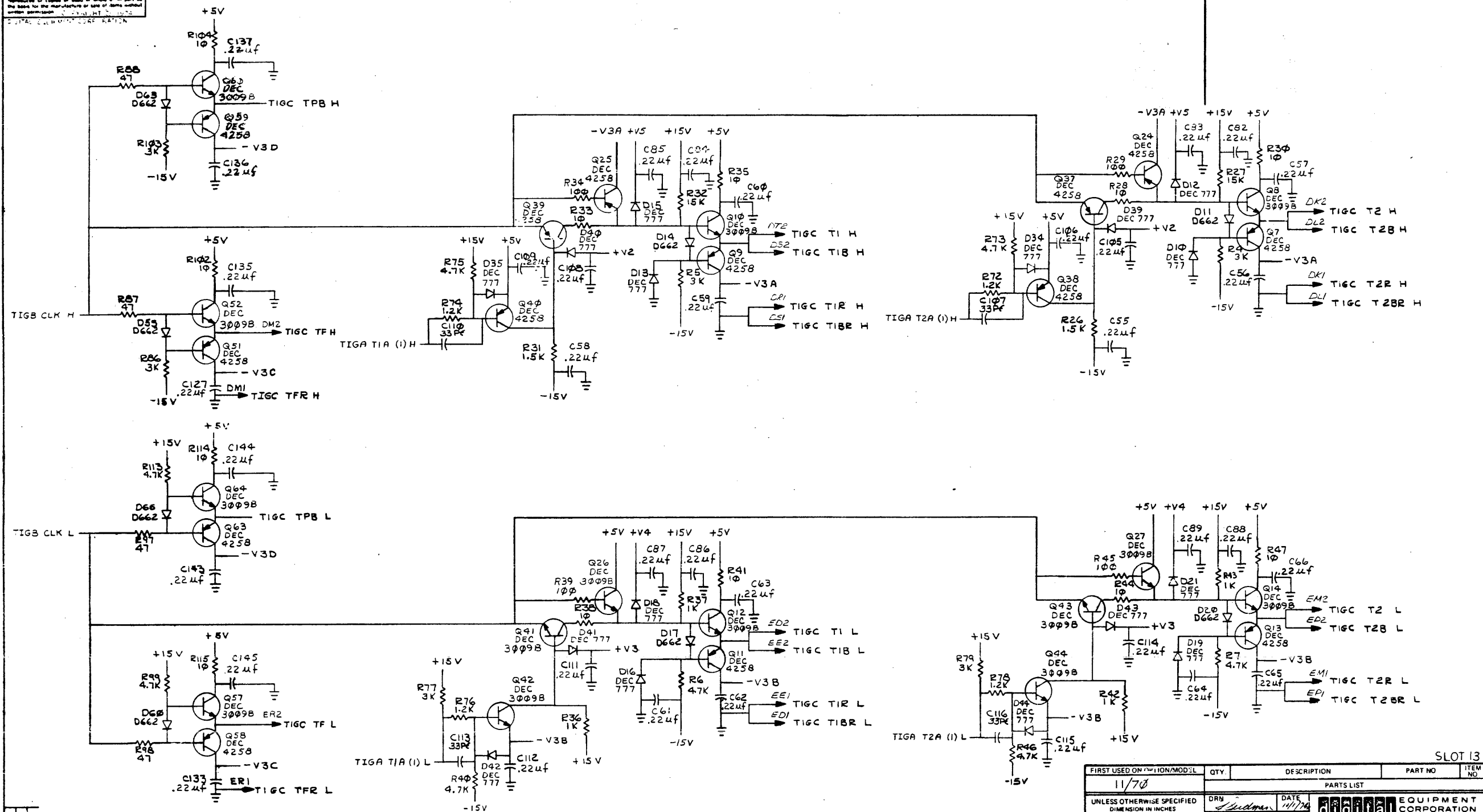
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV
—	B-DD-KB11-0	DCS	M8139-0-1	D

SCALE: 4 OF 7 SHEET

173

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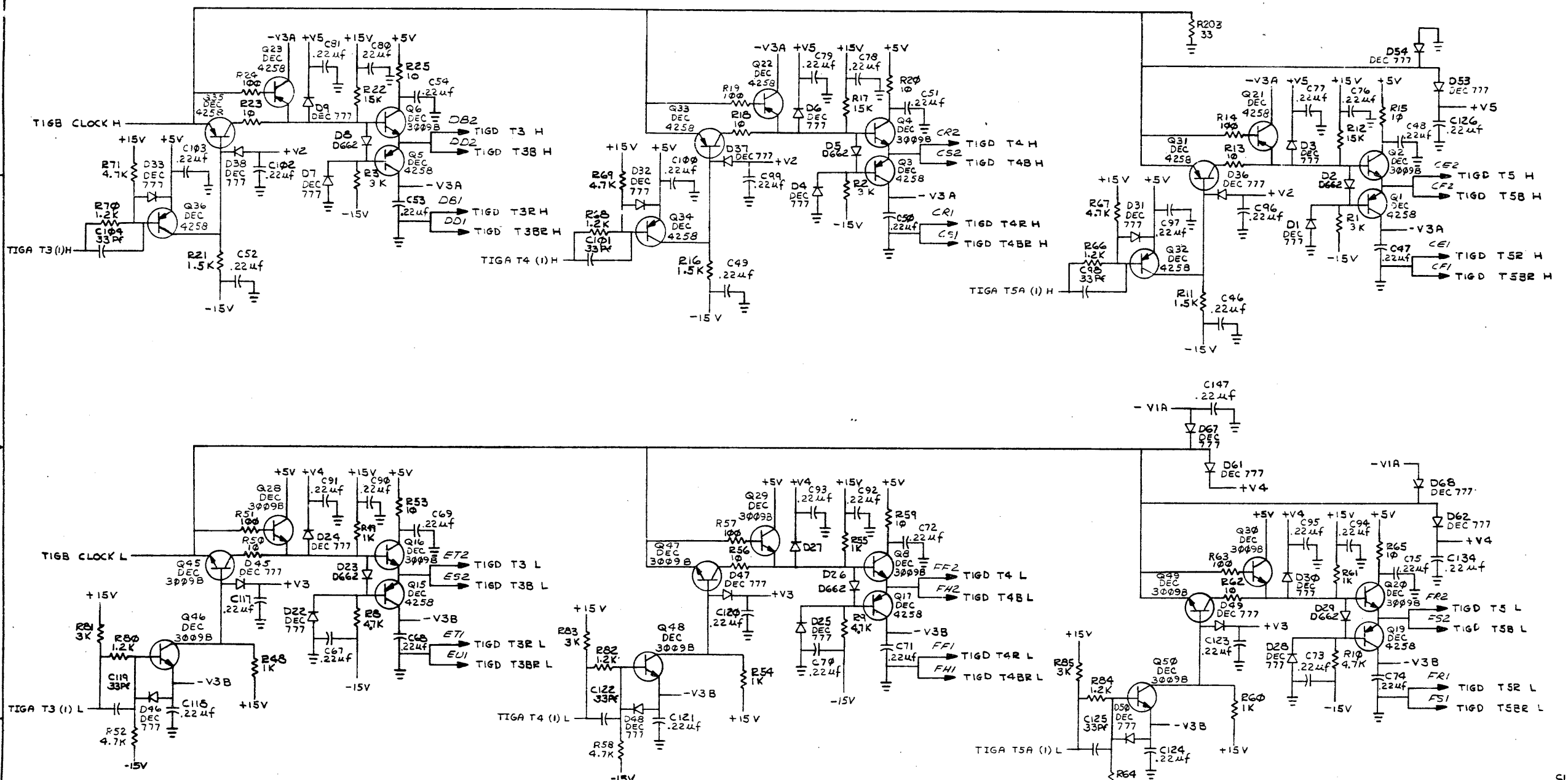
NOTES:



FIRST USED ON ION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70			PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	CHKD	DATE	MAYFORD, MASSACHUSETTS	
.xxx - .006	±0° 30'	ENG	DATE	TITLE	
.xx - .02		DRY/FIN	DATE	TIMING GENERATOR (TIGC)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PRD	DATE	NUMBER	
MATERIAL		NEXT HIGHER ASSY		SIZE CODE	REV.
FINISH		B-DD-KB11-0		DCS M8139-0-1	D
		SCALE		DIST	
		SHEET 5 OF 7			

REV.	CHANGE NO.	REVISIONS

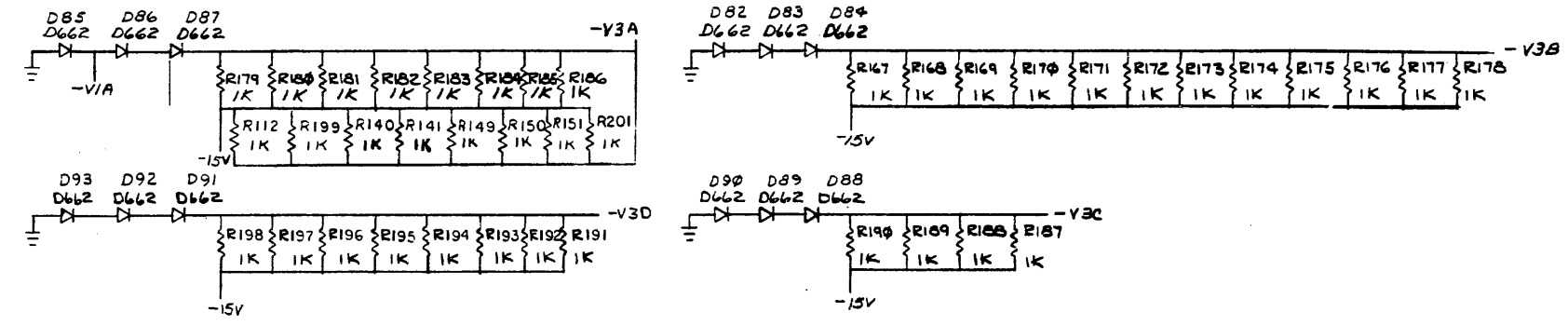
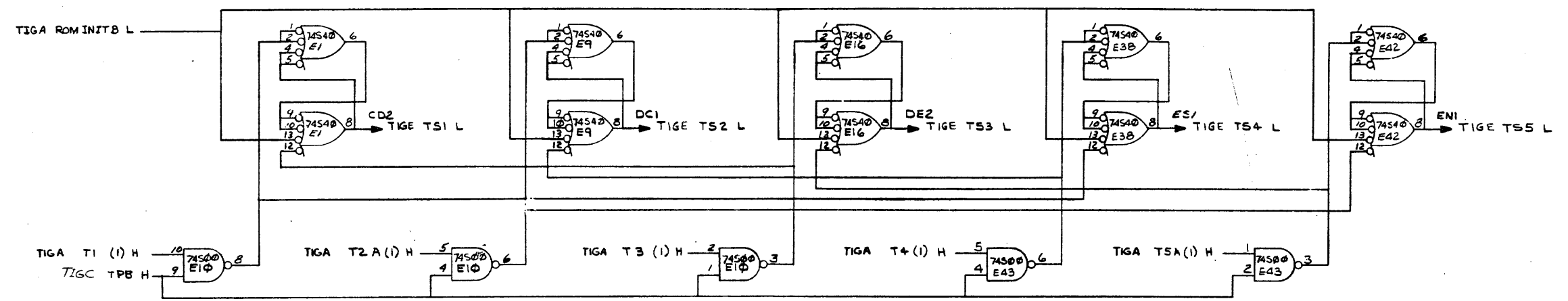
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REV	CHANGE NO

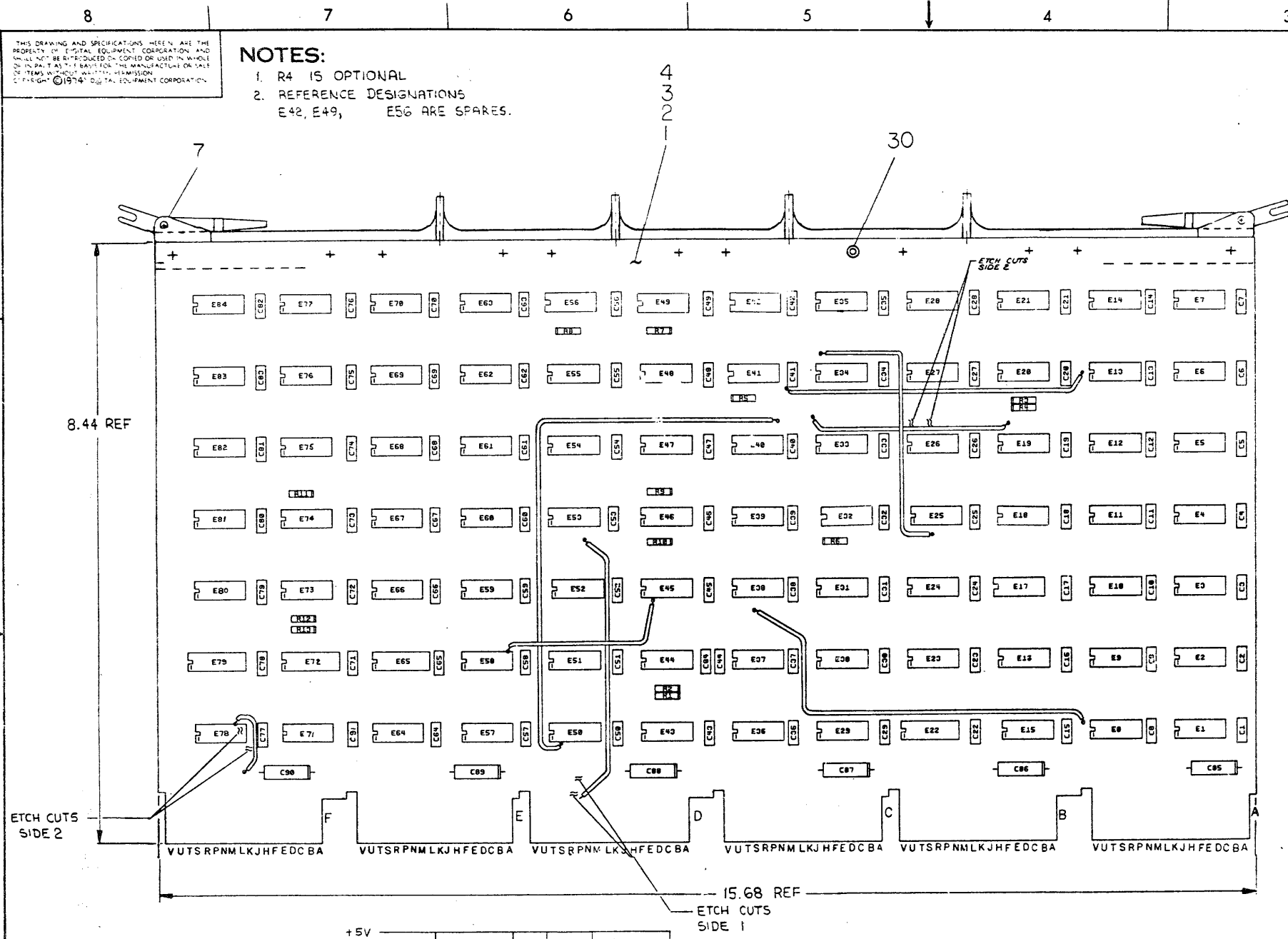
FIRST USED ON OPTION/MODEL 11/70		QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES					
DECIMALS	ANGLES	PARTS LIST			
XXX - 006	±0° 30'	DRN	DATE	DIGITAL EQUIPMENT CORPORATION	
XX - 02		CHKT	DATE	NATICK, MASSACHUSETTS	
X - 1		ENG	DATE	TITLE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROJ	DATE	TIMING GENERATOR	
MATERIAL	NEXT HIGHER ASSY	(TIGD)			
FINISH	B-DD-KB11-0	SIZE CODE	NUMBER	REV	
	SCALE	DCS	M8139-0-1	D	
	SHEET 6 OF 7	DIST			

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TIMING STATE DRIVERS		SLOT 13	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
11/70			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES.	DATE 10/1/70	DIGITAL EQUIPMENT CORPORATION	
TOLERANCES	DATE 1/1/71	MAYNARD MASSACHUSETTS	
DECIMALS	DATE 1/1/71	TITLE	
ANGLES	DATE 1/1/71	TIMING GENERATOR	
.XXX - .006	DATE 1/1/71	(TIGE)	
.XX - .02	DATE 1/1/71	MATERIAL	
.X - .1	DATE 1/1/71	NEXT HIGHER ASSY.	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE 1/1/71	B-DD-KB11-0	
MATERIAL		SIZE CODE	NUMBER
FINISH		Dcs	M 8139-0-1
		SCALE	REV.
		SHEET 7 OF 7	D
		DIST.	

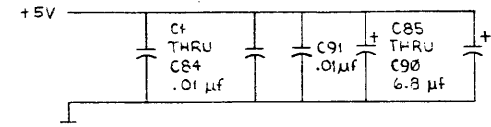
REV. D
NUMBER
Dcs M8139-0-1



IC TYPE	QTY	LOC
I.C. DEC 8640	1	8
I.C. DEC 74S174	8	16
I.C. DEC 74S153	8	16
I.C. DEC 74S112	8	16
I.C. TYPE	GND	+5V

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

IC PIN LOCATIONS



REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8135 0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8135-0-5	2
REF	MODULE ECO HISTORY	B-MH-M8135-0-6	3
1	ETCHED CIRCUIT BOARD	5011321	4
85	C1 THRU C84 C91	CAPACITOR, 01uf, 100V DISC	5
6	C85 THRU C90	CAPACITOR, 8 8uf, 35V, 10%	6
1	HANDLE HEX MODULE	1210711-2	7
2	R5, R6	RESISTOR, 120 OHM, 1/4W, 5%	8
1	R3	RESISTOR, 150 OHM, 1/4W, 5%	9
1	R7	RESISTOR, 180 OHM, 1/4W, 5%	10
2	R1, R13	RESISTOR, 330 OHM, 1/4W, 5%	11
1	R8	RESISTOR, 390 OHM, 1/4W, 5%	12
2	R2, R12	RESISTOR, 680, 1/4W, 5%	13
3	R9, R10, R11	RESISTOR, 1K, 1/4W, 5%	14
6	E21, E30, E45, E57, E64, E5	I.C. DEC 74S88	15
12	E1, E3, E12, E19, E27, E28, E29, E47, E55, E66, E73, E83	I.C. DEC 74S84	16
7	E11, E14, E23, E24, E37, E54, E6	I.C. DEC 74S18	17
19	E2, E6, E10, E13, E15, E20, E25, E26, E33, E35, E43, E51, E67, E68, E74, E75, E81, E82, E71	I.C. DEC 74S11	18
8	E8, E16, E60, E69, E76, E77, E83, E84	I.C. DEC 74S20	19
4	E53, E62, E63, E70	I.C. DEC 74H30	20
2	E9, E34	I.C. DEC 74S70	21
4	E44, E46, E50, E59	I.C. DEC 74H90	22
4	E7, E31, E36, E38	I.C. DEC 74S84	23
4	E4, E39, E40, E58	I.C. DEC 74S74	24
4	E17, E18, E32, E41	I.C. DEC 74S112	25
1	E22	I.C. DEC 74S153	26
3	E85, E72, E79	I.C. DEC 74S174	27
1	E78	I.C. DEC 8640	28
2	E48, E52	I.C. DEC 8885	29
12	EYELET	9006732	30
35	WIRE #30 AWG BUSS (RETROFIT)	9105740-55	31

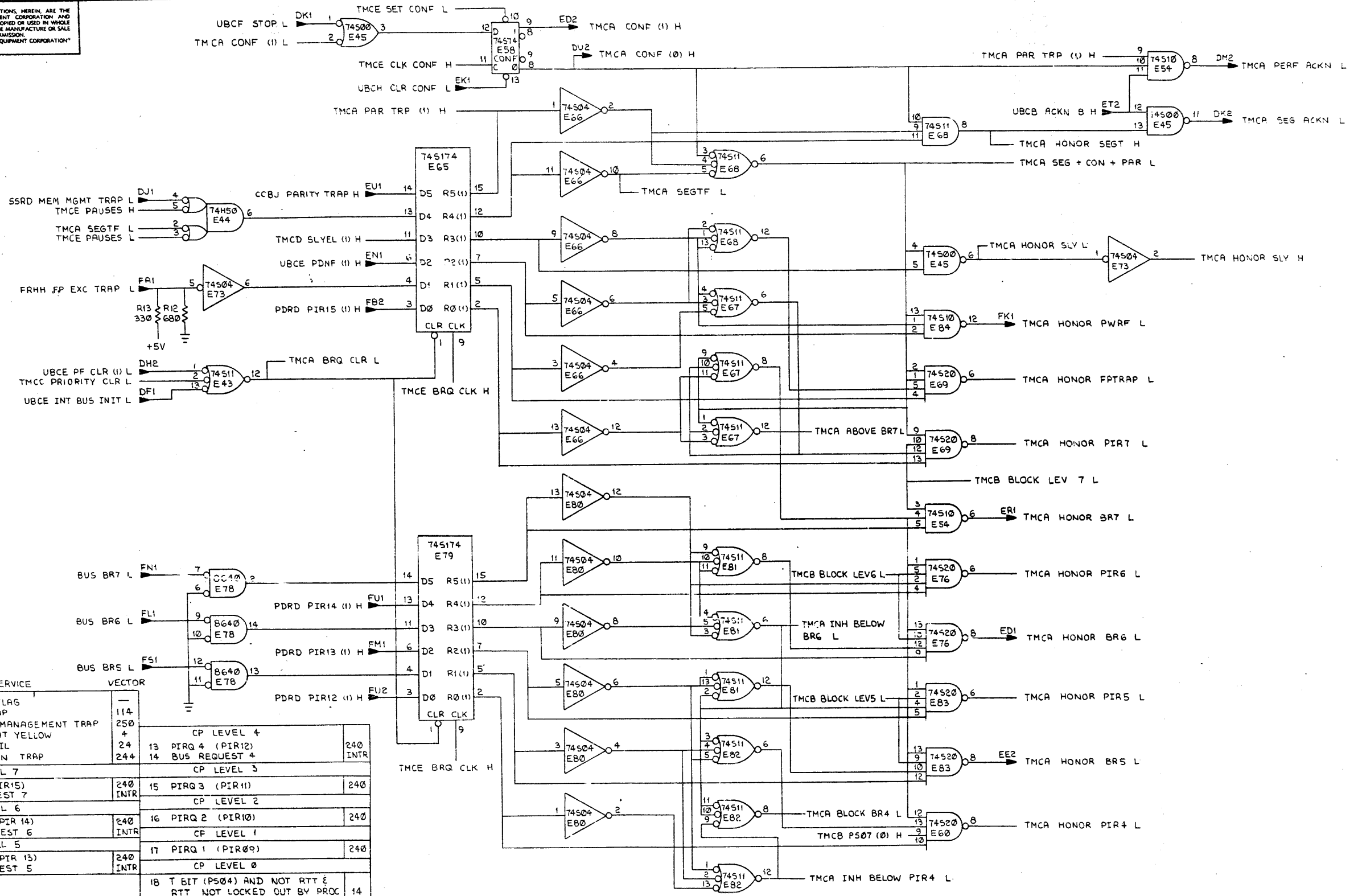
QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
PARTS LIST				
FIRST USED ON OPTION MODEL 11/70				
ETCH BOARD REV A				
DRN	P. Beasley	DATE 12-5-74		
CHKD	F. FERGUSON	DATE 12-9-74		
ENG	Allen Selman	DATE 1-6-75		
PROJ ENG	ALLAN HELENUS	DATE 1-6-75		
PROP	Taylor	DATE 1/8/75		
NEXT HIGHER ASSY				
DEC NO.		EIA NO.	DEC NO.	EIA NO.
SEMICONDUCTOR CONVERSION CHART				
SCALE		NUMBER		
SHEET 1 OF 7		D/C S M8135-0-1 *		

digital EQUIPMENT CORPORATION

TITLE: TRAP & MSC CONTROL

SIZE CODE: D/C S M8135-0-1 *

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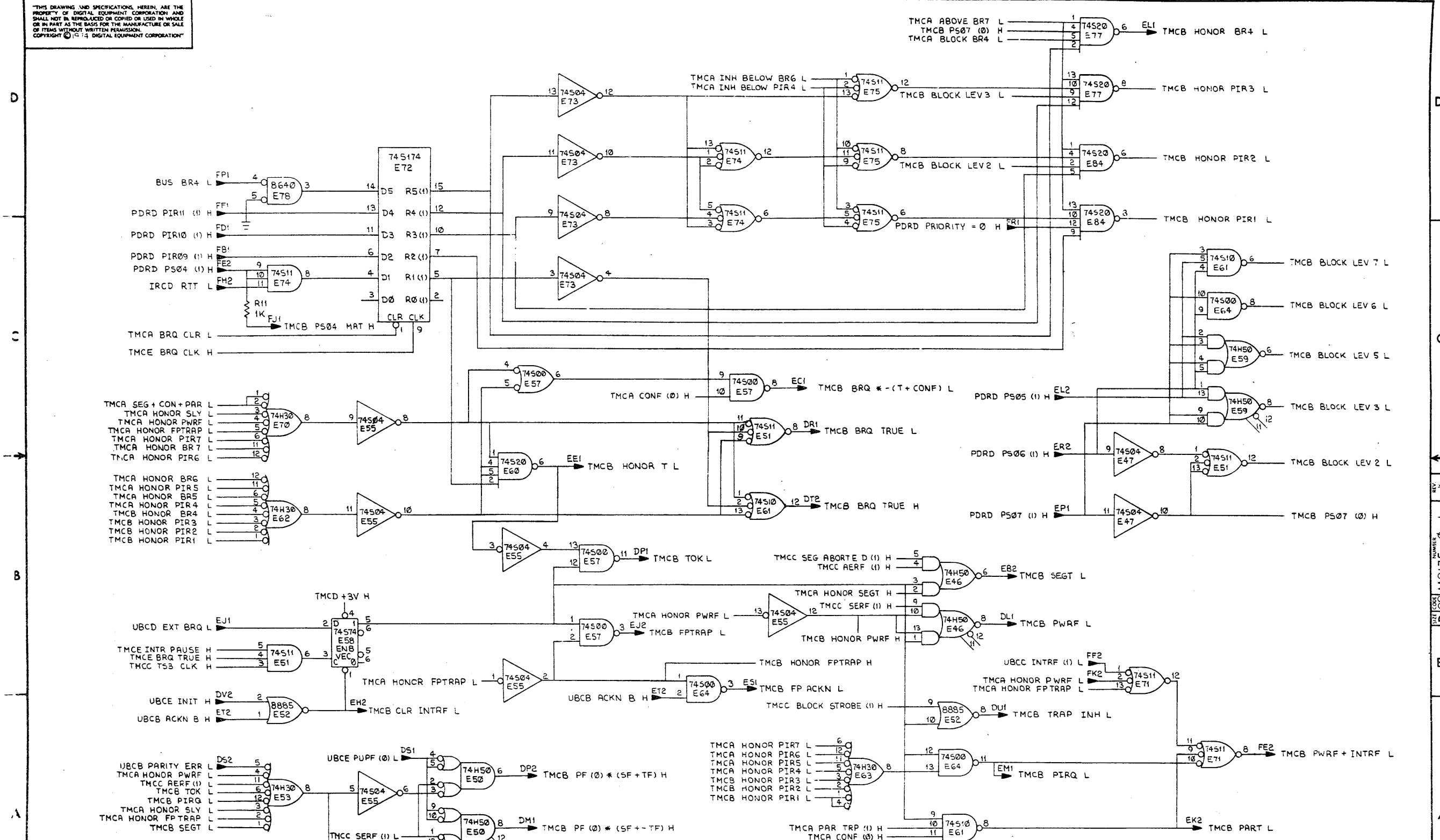
ORDER OF SERVICE	VECTOR		
1 CONSOLE FLAG	114		
2 PARITY TRAP	250		
3 SEG MEM MANAGEMENT TRAP	4		
4 STACK LIMIT YELLOW	24		
5 POWER FAIL	244		
6 FP EXCEPTION TRAP	244		
CP LEVEL 7		13 PIRQ 4 (PIR12)	240 INTR
CP LEVEL 7		14 BUS REQUEST 4	
CP LEVEL 6		15 PIRQ 3 (PIR11)	240
CP LEVEL 6		16 PIRQ 2 (PIR10)	240
CP LEVEL 5		17 PIRQ 1 (PIR09)	240
CP LEVEL 5		18 T BIT (P504) AND NOT RTT E RTT NOT LOCKED OUT BY PROC STATUS LEVELS BUT SERVICED LAST	14

REVISIONS		
CHK	CHANGE NO.	REV.

(PRIORITY ARBITRATION) SLOT II
 TITLE TRAP & MSC CONTROL (TMCA) SIZE CODE D CS M8135-0-1 NUMBER REV. *
 SCALE SHEET 2 OF 7 DIST.

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1-0-218W30U 2



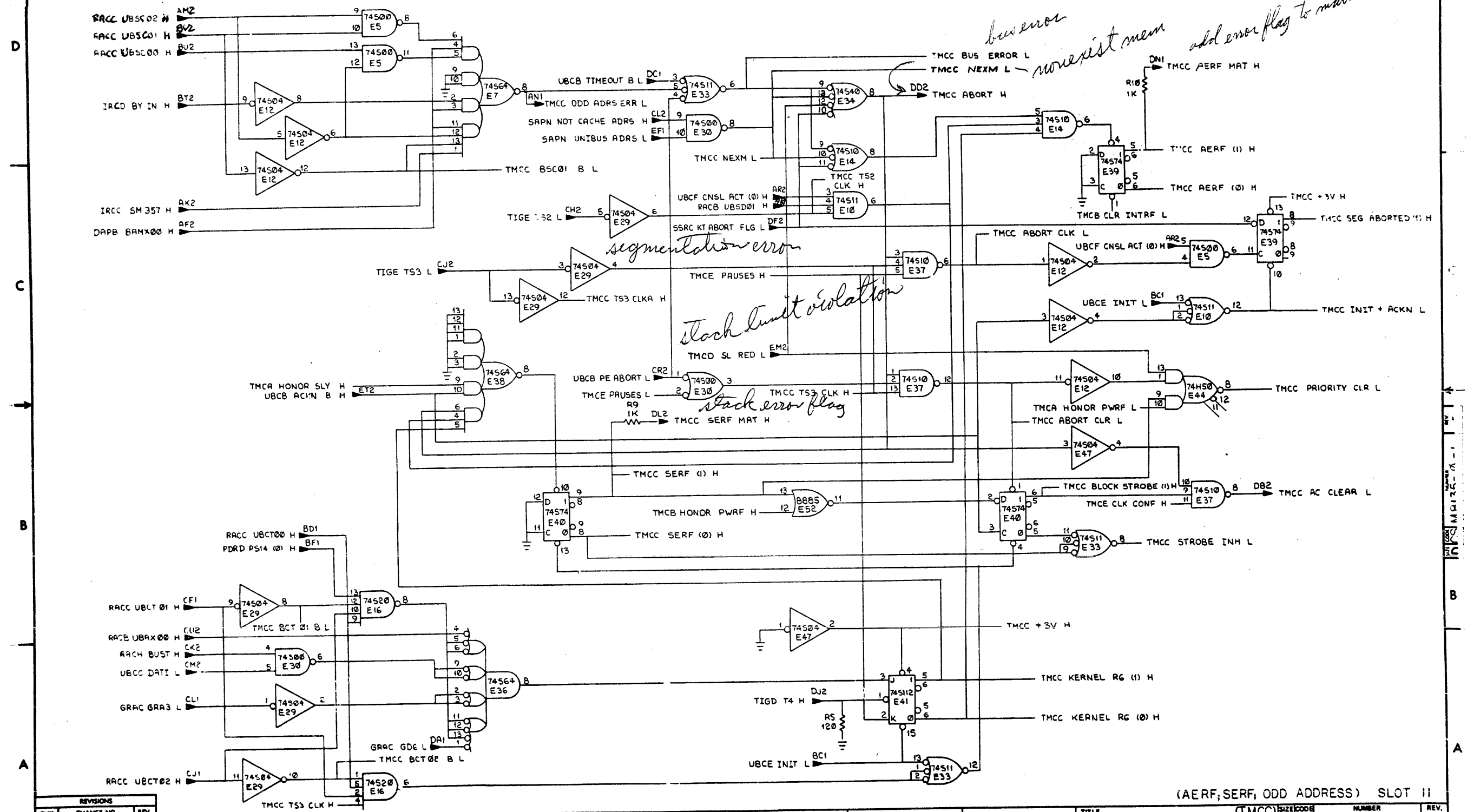
REVISIONS		
CHK	CHANGE NO.	REV.

(PRIORITY ARBITRATION TRAP VECTORS) SLOT II

TITLE	TRAP & MSC CONTROL (TMCB)	SIZE	CODE	NUMBER	REV.
SCALE	— 4 —	SHEET	3 OF 7	D CS M8135-0-1	*

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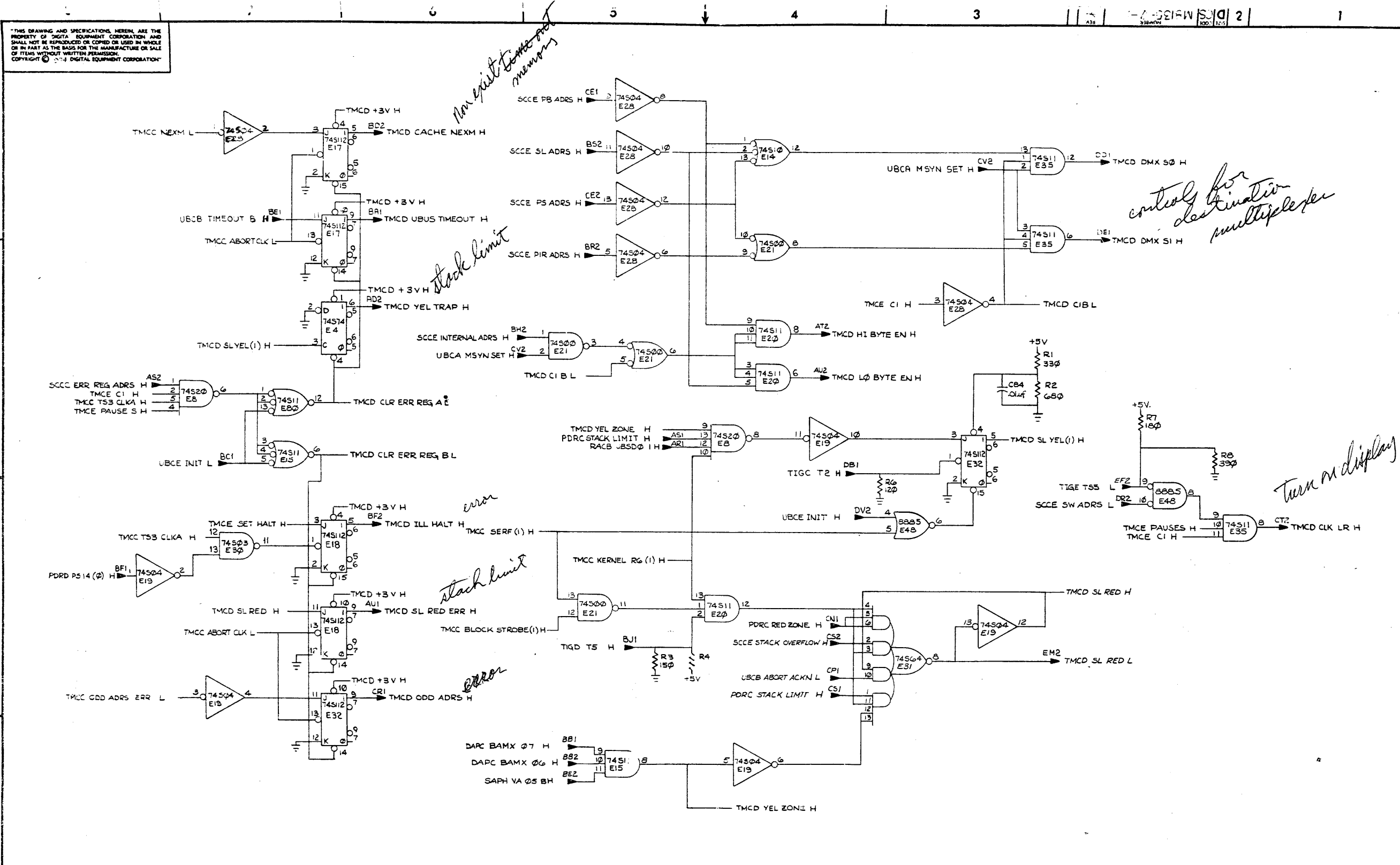
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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	TRAP MSC CONTROL (TMCC)	SIZE CODE	D CS	NUMBER	M8135-0-1	REV.	*
SCALE		SHEET	4 OF 7	DIST.			

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non exit to mem

stack limit

error

error

control for destination multiplexer

turn on display lights

REVISIONS		
CHK	CHANGE NO.	REV.

(INTERNAL STACK LIMIT) SLOT 11

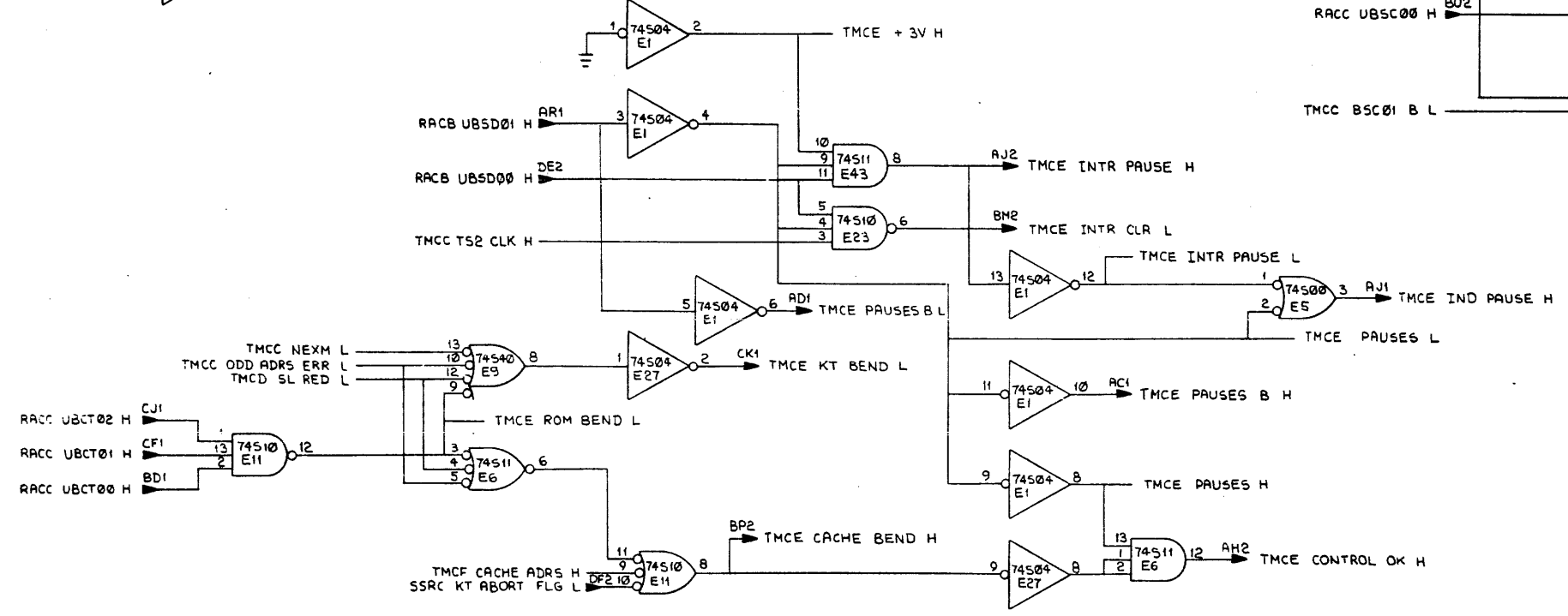
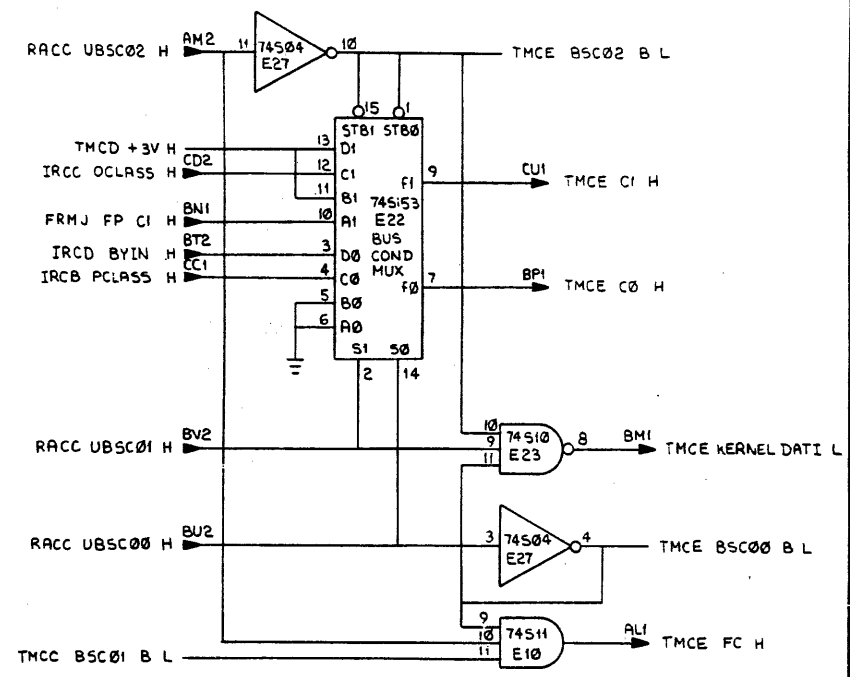
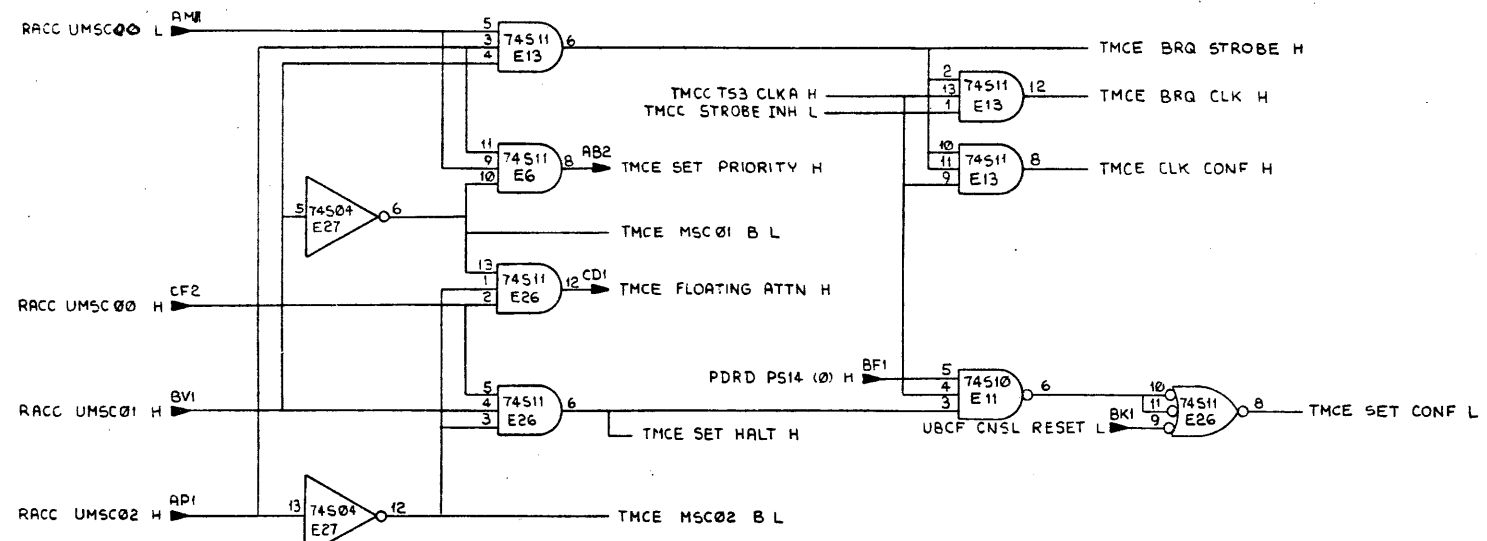
TITLE	(TMCD) TRAP & MSC CONTROL	SIZE CODE	D CS	NUMBER	M8135-0-1	REV.	
SCALE		SHEET	5	OF	7	DIST.	

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1-0-5219W SC D 2

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



REVISIONS		
CHK	CHANGE NO.	REV.

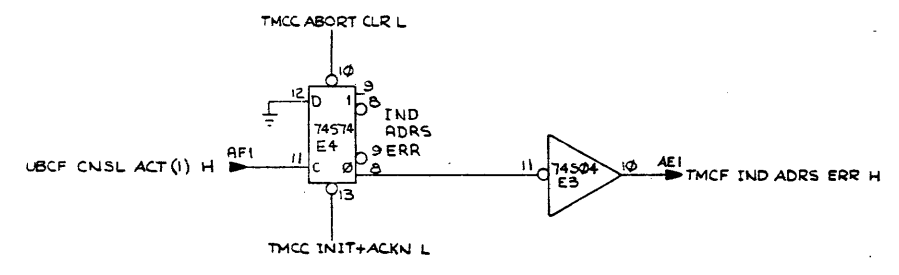
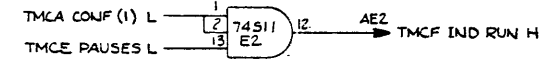
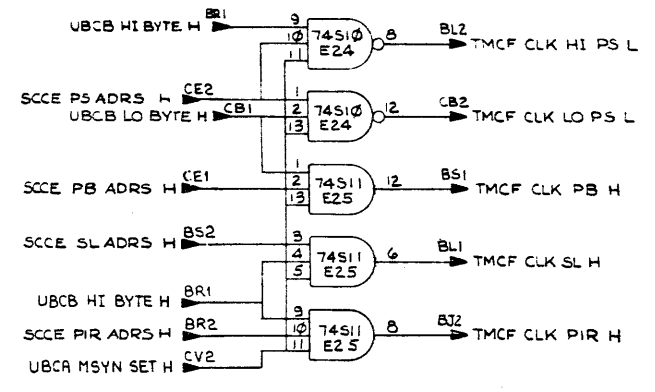
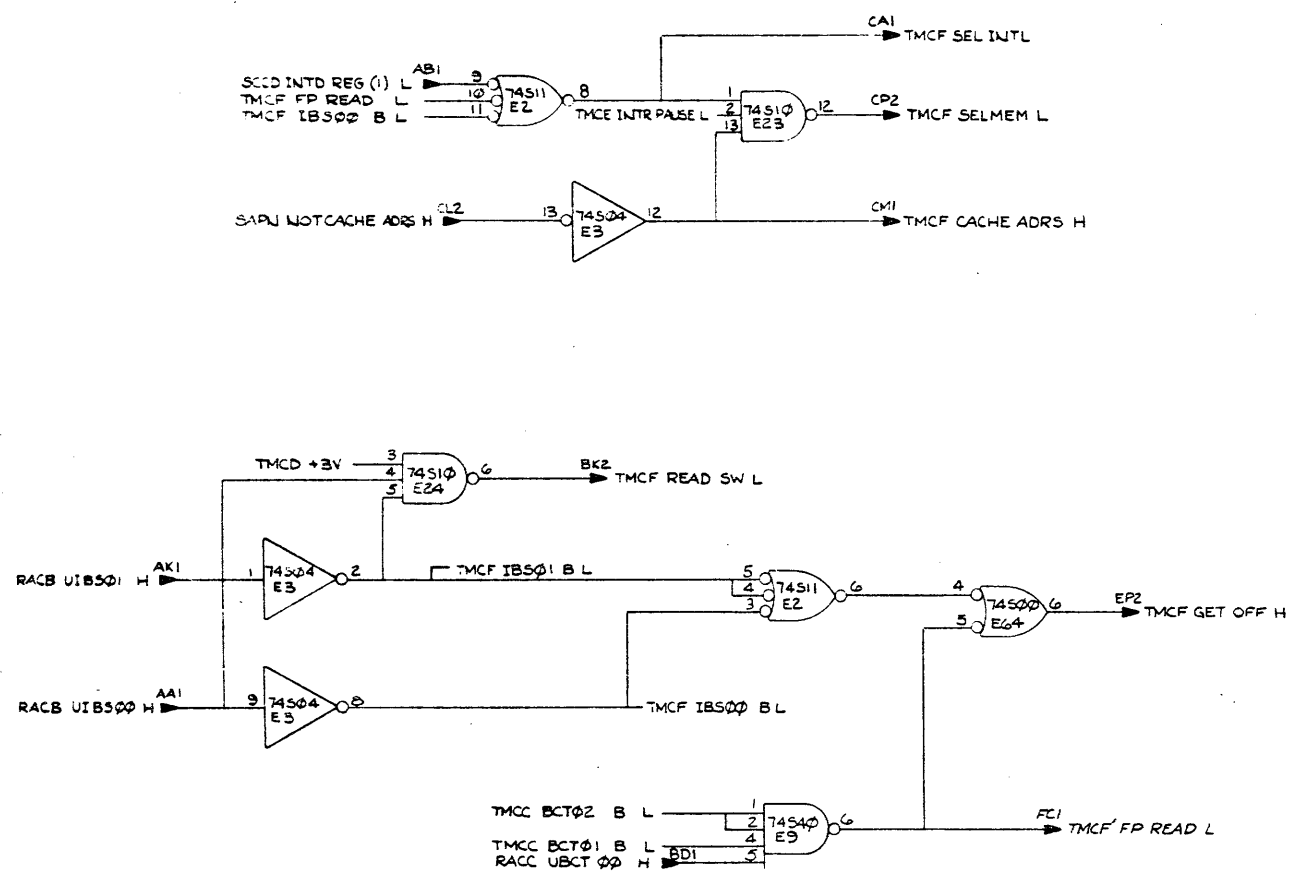
(MSC, BCT, BSC DECODE) SLOT 11

TITLE	TRAP & MSC CONTROL	SIZE CODE	D CS	NUMBER	M8135-0-1	REV.	
SCALE		SHEET	6	OF	7	DIST.	

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REV. SIGNS		
CHK	CHANGE NO.	REV.

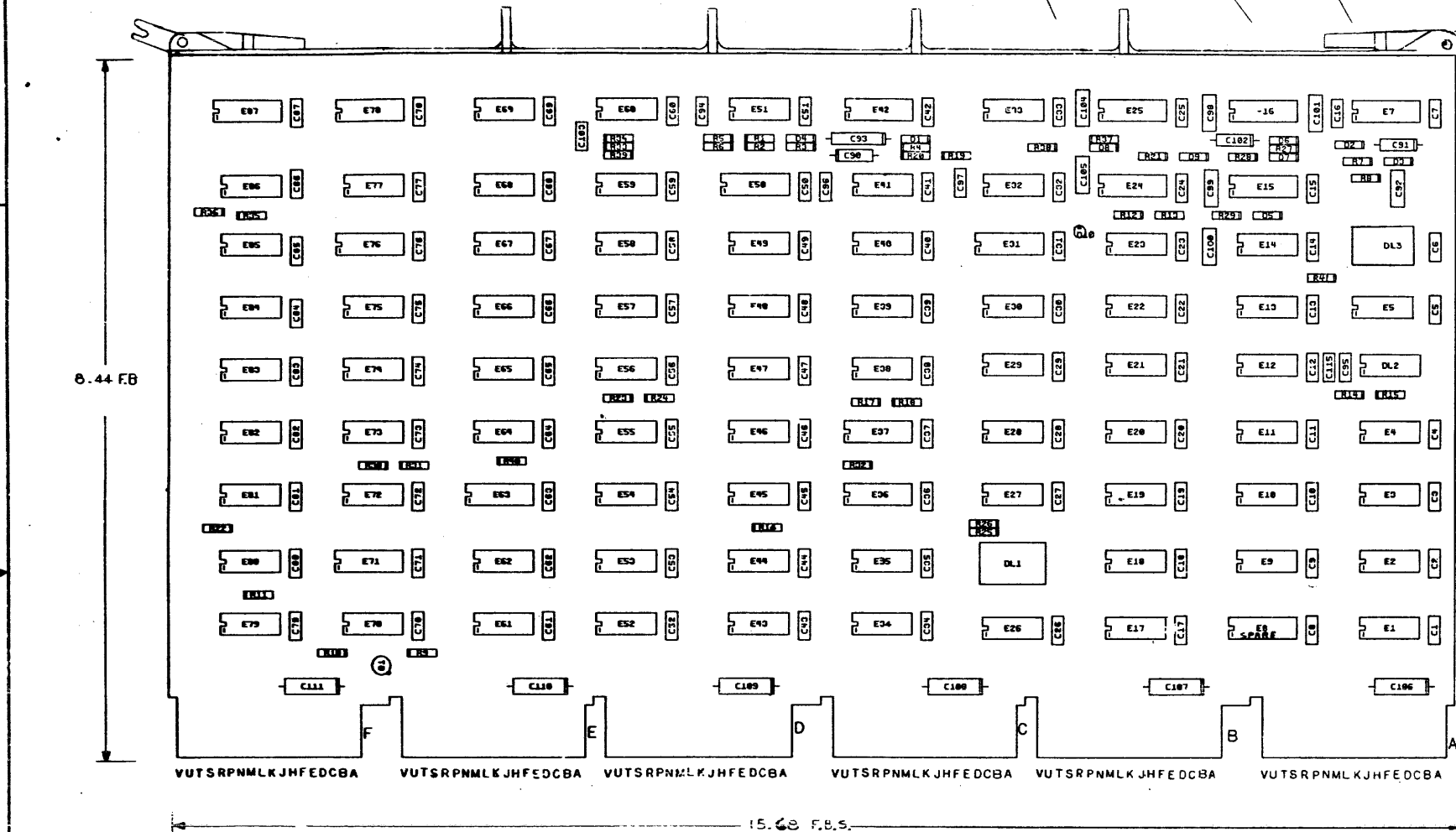
(BRMX SELECTION FP READ) SLOT 11

TITLE	(TMCF)	SIZE CODE	NUMBER	REV.
TRAP & MSC CONTROL	DCS	M8135-0-1	*	
SCALE	SHEET 7 OF 7	DIST.		

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NOTES:

* MODULE LOCATION IS SLOT 12



+5V

C1-C87 .01µF C100-C111 6.8µF

IC TYPE	GND	+5V
IC DEC 745175	B	16
IC DEC 745157	B	16
IC DEC 745112	B	16
IC DEC 74123	B	16
IC DEC 3648	1	8
IC DEC 7442	B	16

IC PIN LOCATIONS

GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPT WHERE STATED ABOVE

1	R25	RESISTOR, 620Ω, 1/4W, 5%	1303178	56
1	R26	RESISTOR, 120Ω, 1/4W, 5%	1300247	55
A/R		WIRE, BUSS 30AWG	9105740-55	54
REF		FLOW DIAGRAM	D-FD-M8136-0-8	53
1	DL3	DELAY LINE 100NS	1609559	52
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	DL1	DELAY LINE (50ns)	1609428	46
1	DL2	DELAY LINE (tapped)	1611243	47
1		HANDLE ASSY	1210711-02	48
12		EYELETS	9006732	49

REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8136-0-4	1	
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8136-0-5	2	
REF	MODULE ECO HISTORY	B-WH-M8136-0-6	3	
1	ETCHED CIRCUIT BOARD	5011340	4	
2	C92, C101	CAPACITOR 330pf 100V 5%	1000023	5
7	C93, C106 THRU C111	CAPACITOR 6.8uf 35V 10%	1005306	6
93	C1 THRU C87, C94, C96, C97, C100, C103, C105	CAPACITOR .01uf 100V 20%	1001610-01	7
4	C99, C99, C104, C105	CAPACITOR 1200pf 100V 5%	1002424	8
1	C102	CAPACITOR 2.2uf 20V 10%	1002627	9
1	C95	CAPACITOR 82pf 100V 5%	1000015	10
2	C90, C91	CAPACITOR .47uf 35V 10%	1005965	11
9	D1 THRU D9	DIODE D664	1100114	12
1	D10	DIODE, LIGHT EMITTING MV5054-2	1110864	13
2	R32, R16	RESISTOR 100 OHM 1/4W 5%	1300229	14
2	R15, R40	RESISTOR 150 OHM 1/4W 5%	1300250	15
3	R13, R24, R31	RESISTOR 390 OHM 1/4W 5%	1300309	16
5	R11, R10, R22, R39, R41	RESISTOR 1K 1/4W 5%	1300365	17
6	R1, R5, R17, R19, R33, R35	RESISTOR 330 OHM 1/4W 5%	1300295	18
5	R8, R21, R27, R29, R37	RESISTOR 15K 1/4W 5%	1300456	19
1	R9	RESISTOR 3.9K 1/4W 5%	1300444	20
3	R12, R30, R23	RESISTOR 180 OHM 1/4W 5%	1301322	21
6	R2, R6, R18, R20, R34, R36	RESISTOR 680 OHM 1/4W 5%	1301424	22
1	R14	RESISTOR 300 OHM 1/4W 5%	1301425	23
2	R3, R7	RESISTOR 20K 1/4W 5%	1302391	24
2	R4, R29	RESISTOR 30K 1/4W 5%	1302394	25
1	R38	RESISTOR 470 OHM 1/4W 5%	1300316	26
1	Q1	TRANSISTOR DEC 3009B	1503100	27
2	E14, E73	IC DEC 74H30	1909059	28
2	E1, E86	IC DEC 74H50	1909060	29
4	E61, E82, E70, E79	IC DEC 8881	1909705	30
13	E3, E22, E26, E34, E39, E27, E43, E58, E68, E69, E75, E77, E84	IC DEC 74500	1910532	31
9	E2, E4, E9, E38, E52, E56, E57, E72, E85	IC DEC 74504	1910534	32
3	E20, E44, E46	IC DEC 74510	1910536	33
9	E18, E19, E23, E30, E32, E48, E54, E66, E87	IC DEC 74511	1910537	34
3	E10, E65, E74	IC DEC 74520	1910539	35
16	E13, E11, E17, E21, E29, E28, E33, E41, E45, E51, E59, E81, E82, E93, E60, E64	IC DEC 74574	1910544	36
4	E24, E31, E36, E50	IC DEC 745112	1910545	37
4	E12, E35, E49, E55	IC DEC 745140	1910546	38
1	E63	IC DEC 745157	1910548	39
5	E7, E15, E16, E25, E42	IC DEC 74123	1910436	40
1	E37	IC DEC 74193	1910018	41
1	E40	IC DEC 8885	1910649	42
2	E78, E87	IC DEC 7442	1910046	43
2	E71, E76	IC DEC 745175	1910957	44
4	E80, E53, E47, E5	IC DEC 8640	1911469	45
1	DL1	DELAY LINE (50ns)	1609428	46
1	DL2	DELAY LINE (tapped)	1611243	47
1		HANDLE ASSY	1210711-02	48
12		EYELETS	9006732	49
REF		TIMING DIAGRAM	D-TD-M8136-0-7	51

FIRST USED ON OPTION MODEL 11/70

ETCH BOARD REV C

DRN. W. AMOULLI	DATE 10-29-74
CHK'D. TERRY VINCENTI	DATE 11-9-74
ENG. [Signature]	DATE 1-6/75
PROL. ENG. [Signature]	DATE 1-6/75
PROD. [Signature]	DATE 11/9/75

TITLE UNIBUS & CONSOLE CONTROL (UBC)

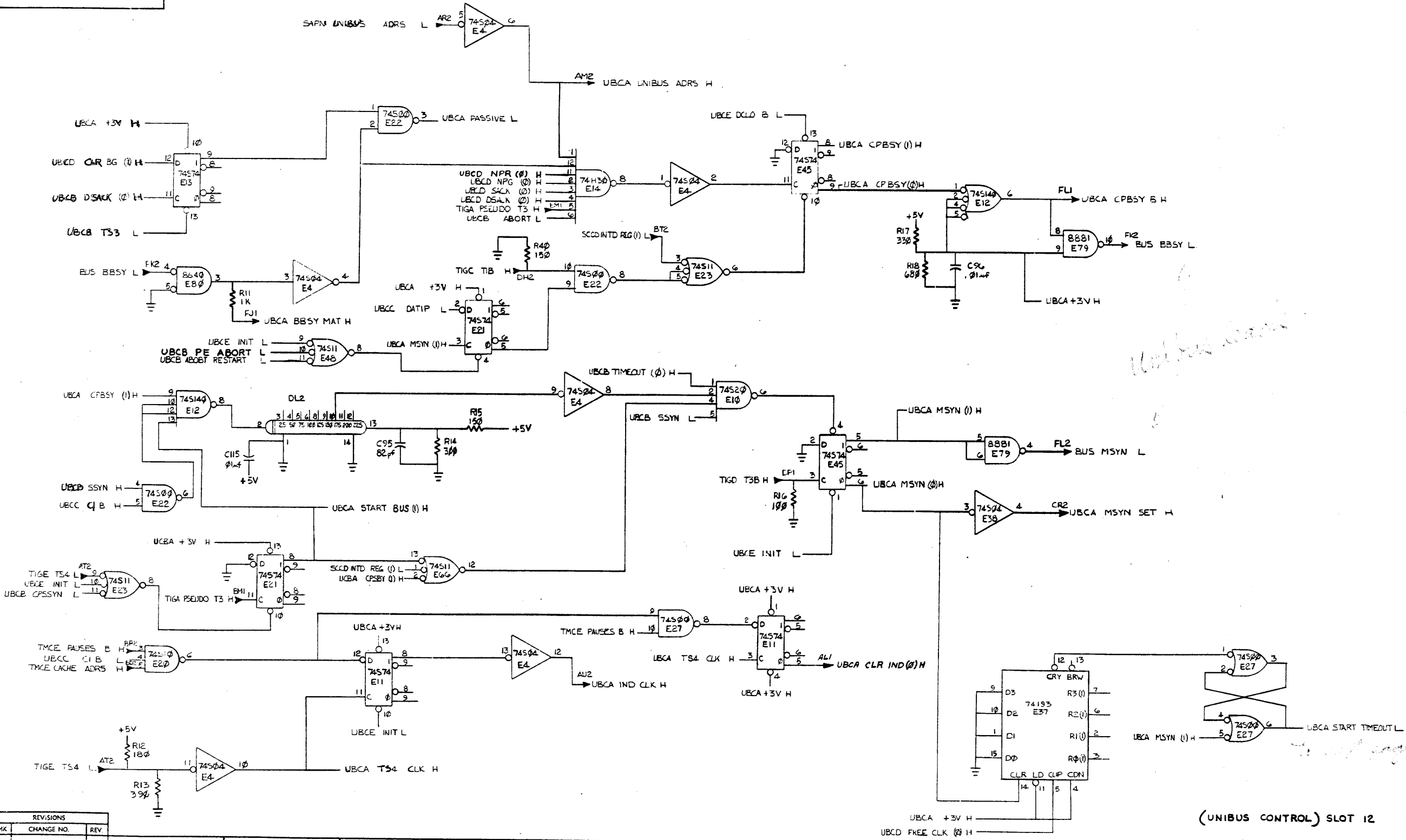
SIZE CODE DCS NUMBER M8136-0-1 REV F

SCALE SHEET 1 OF 8

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

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Unibus control

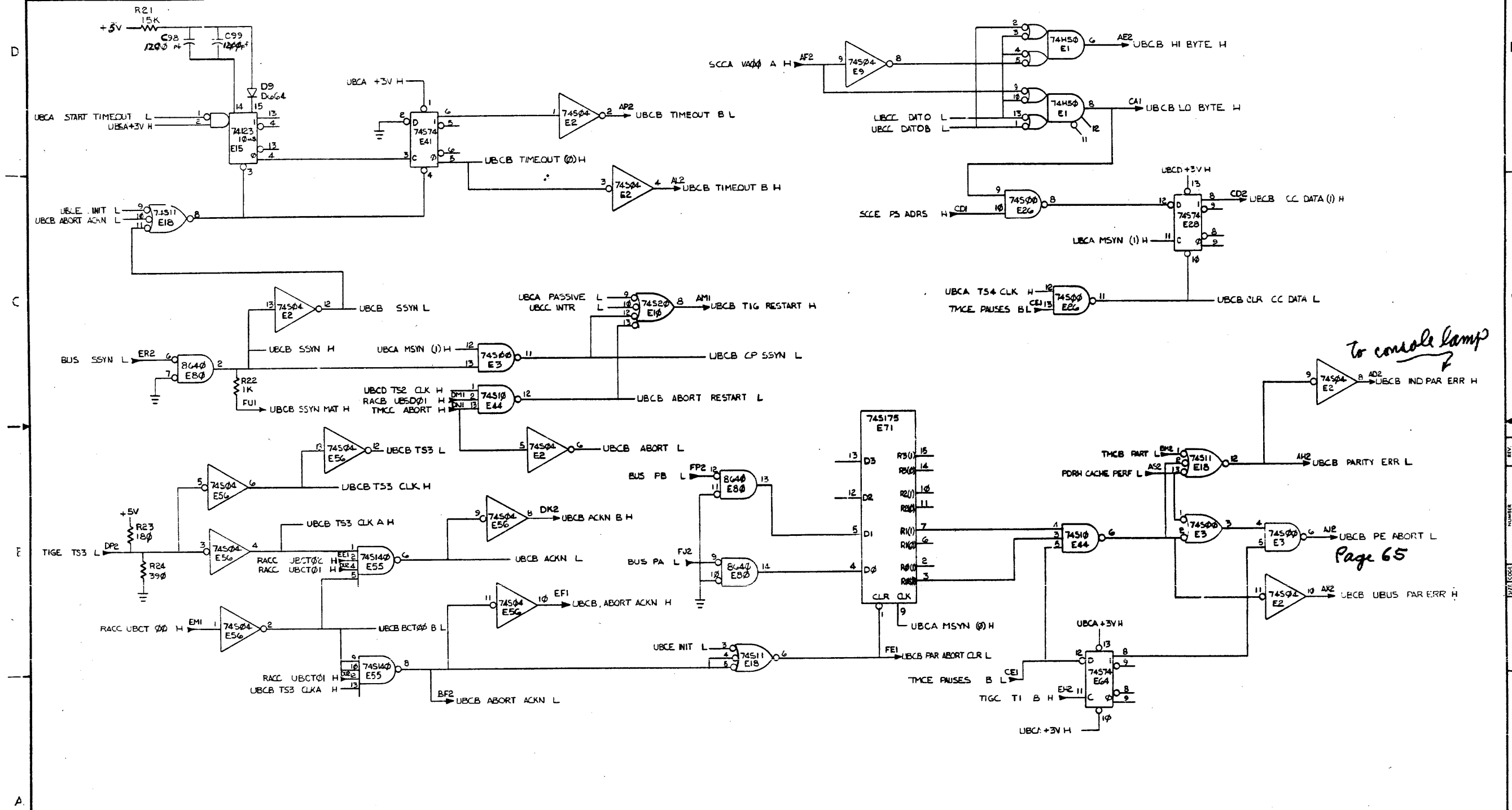
D
C
B
A

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(UBCA) UNIBUS CONSOLE CONT.	SIZE CODE	D CS	NUMBER	REV.
SCALE					F
SHEET 2 OF 8		DIST.			

185

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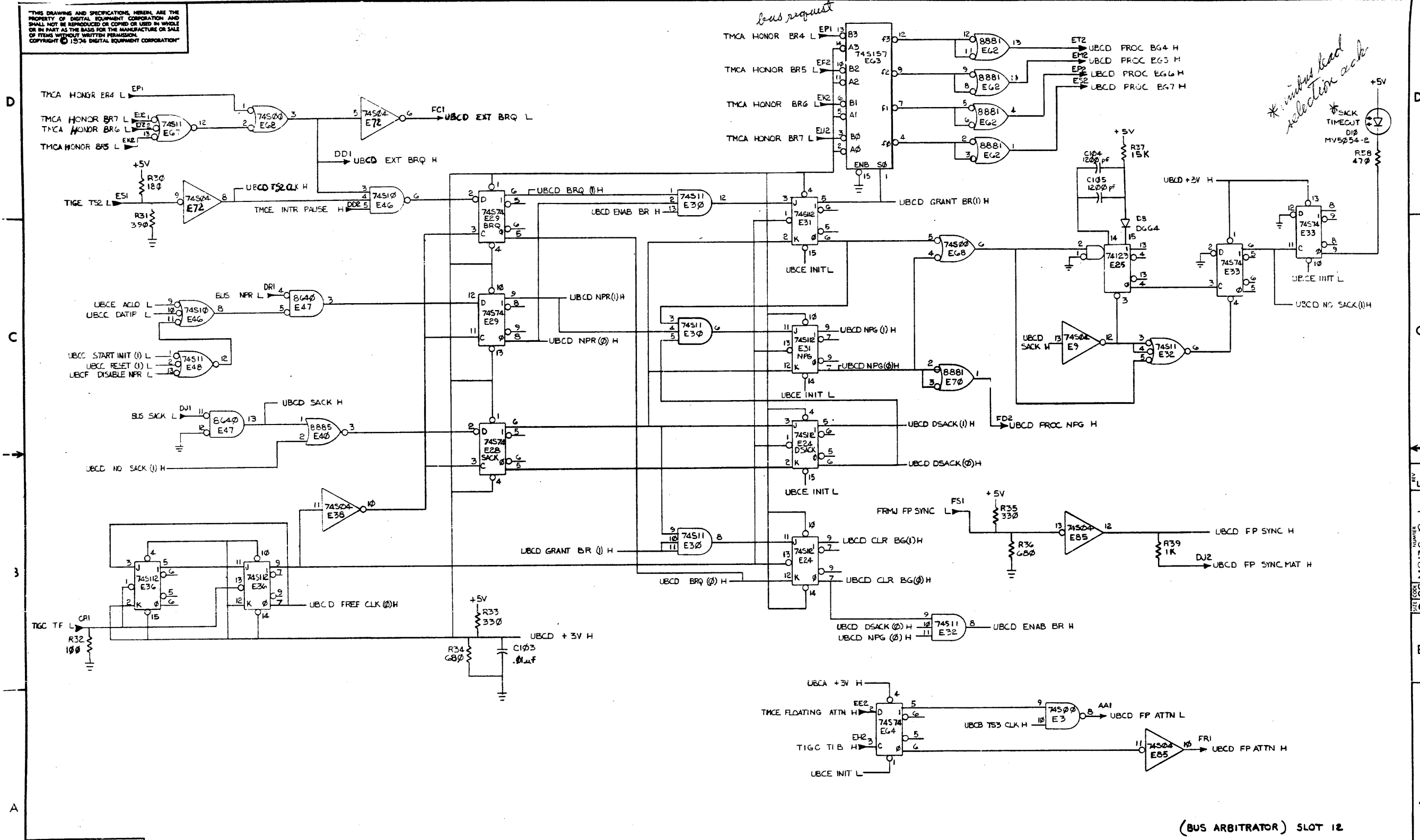


(PARITY AND TIMING CONTROL) SLOT 12

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(UBCB)	SIZE CODE	NUMBER	REV.
UNIBUS/CONSOLE CONT	D CS	M8136-0-1		F
SCALE	SHEET 3 OF 8	DIST.		

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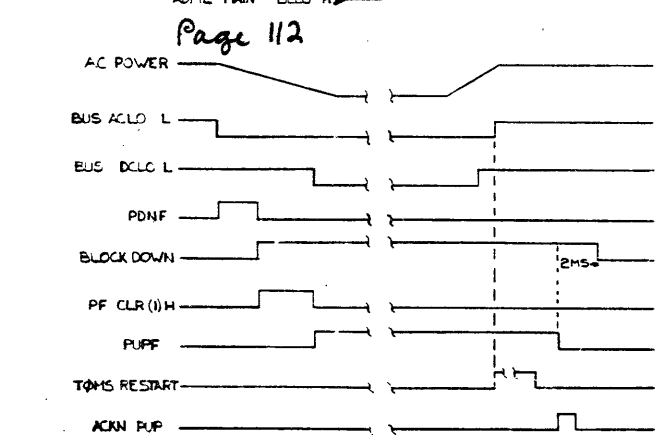
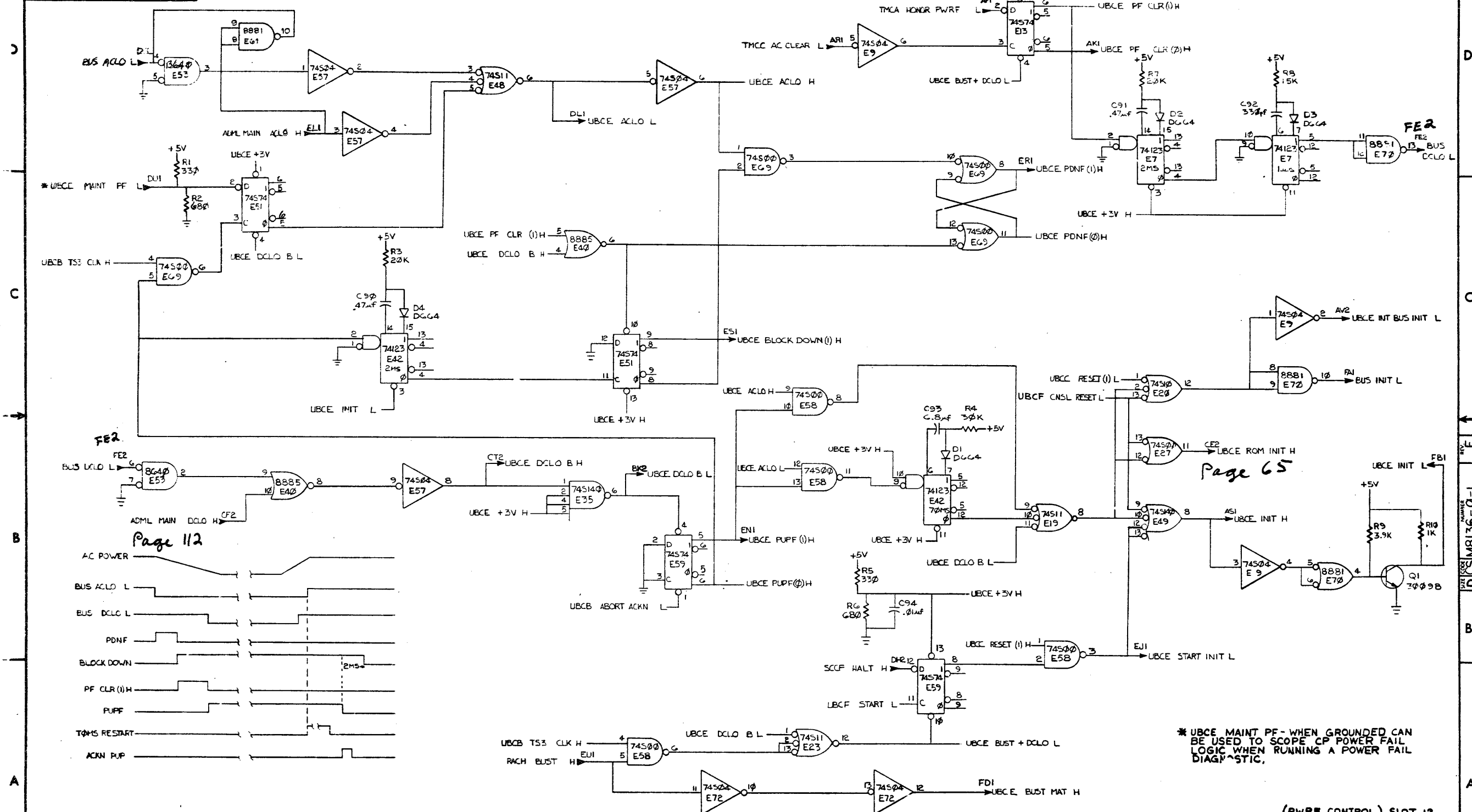
(BUS ARBITRATOR) SLOT 12

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(UBCD)	SIZE/CODE	NUMBER	REV.
UNIBUS CONSOLE CONT.	DCS M8136-0-1		F	
SCALE	SHEET 5 OF 8	DIST.		

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1-0-9218W SC D 2



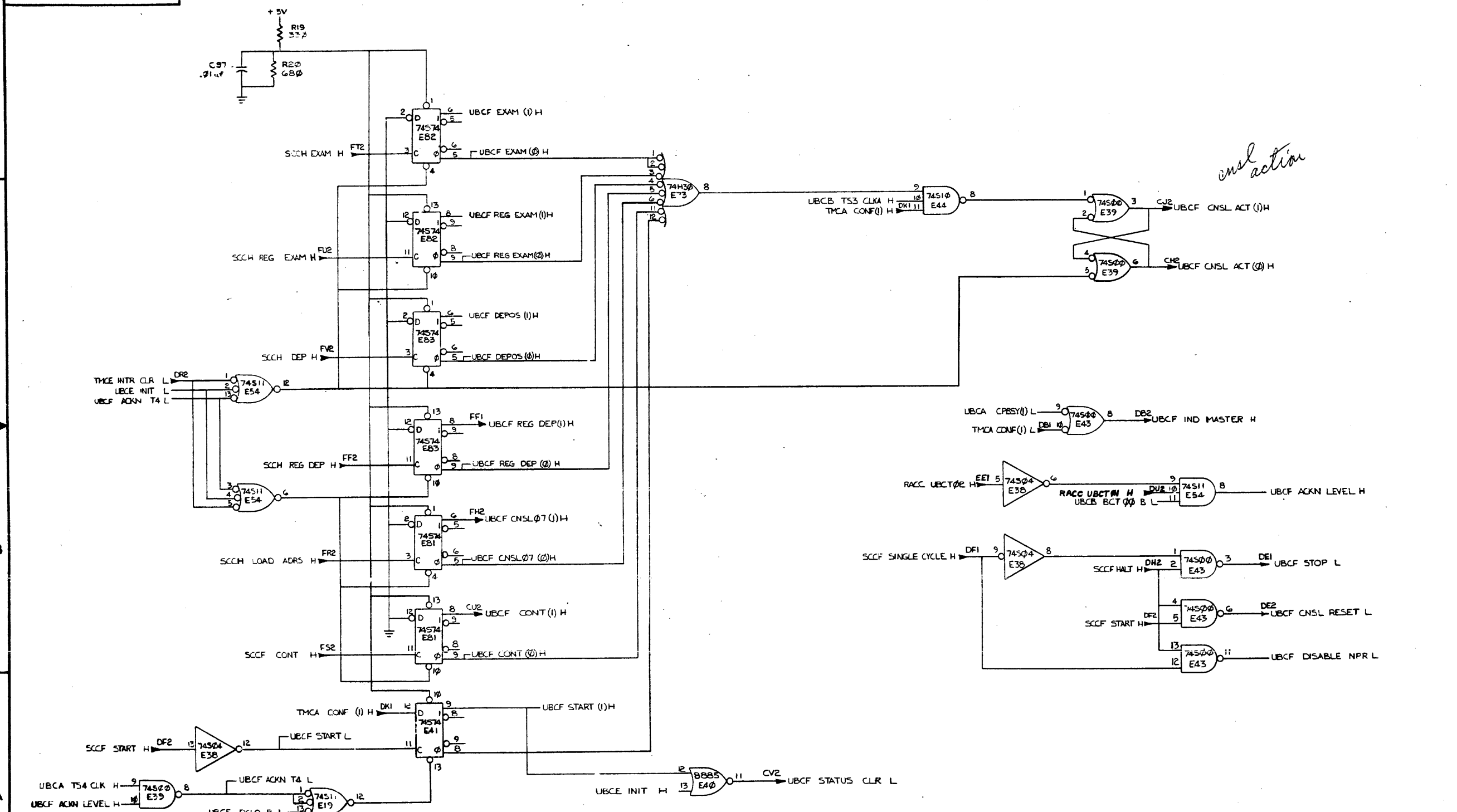
* UBCE MAINT PF - WHEN GROUNDING CAN BE USED TO SCOPE CP POWER FAIL LOGIC WHEN RUNNING A POWER FAIL DIAGNOSTIC.

(PWRP CONTROL) SLOT 12

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(UBCE) UNIBUS/CONSOLE CONT.	SIZE/REV.	D CS	NUMBER	M8136-0-1	REV.	F
SCALE		SHEET	G	OF	8	DIST.	

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(CONSOLE CONTROL) SLOT 12

REVISIONS		
CHK	CHANGE NO.	REV.

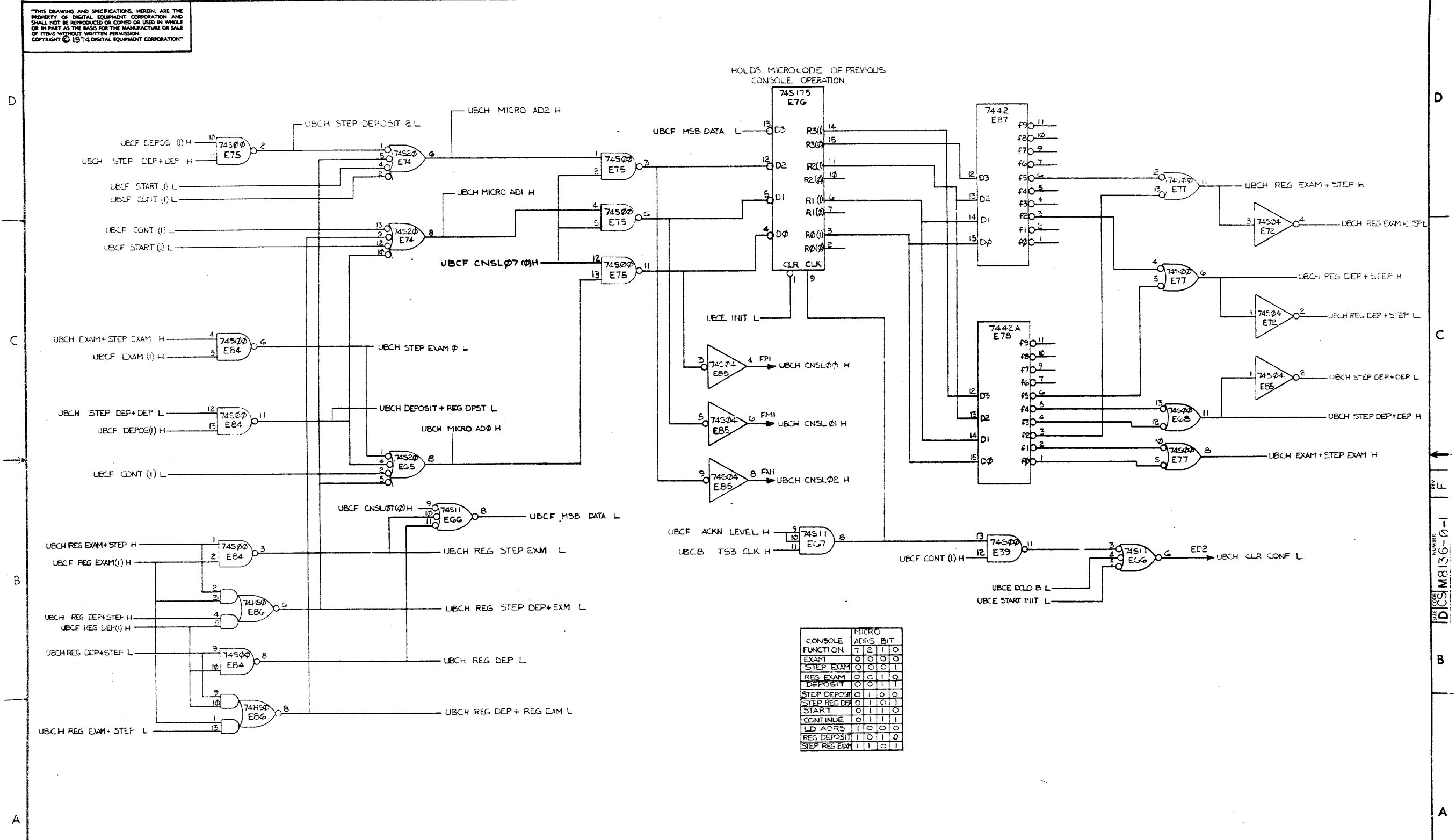
98

TITLE	SIZE	CODE	NUMBER	REV.
UNIBUS/CONSOLE CONT	D	CS	M8136-0-1	F
SCALE	SHEET 7	OF 8	DIST.	

190

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DCS M8136-0-1 2



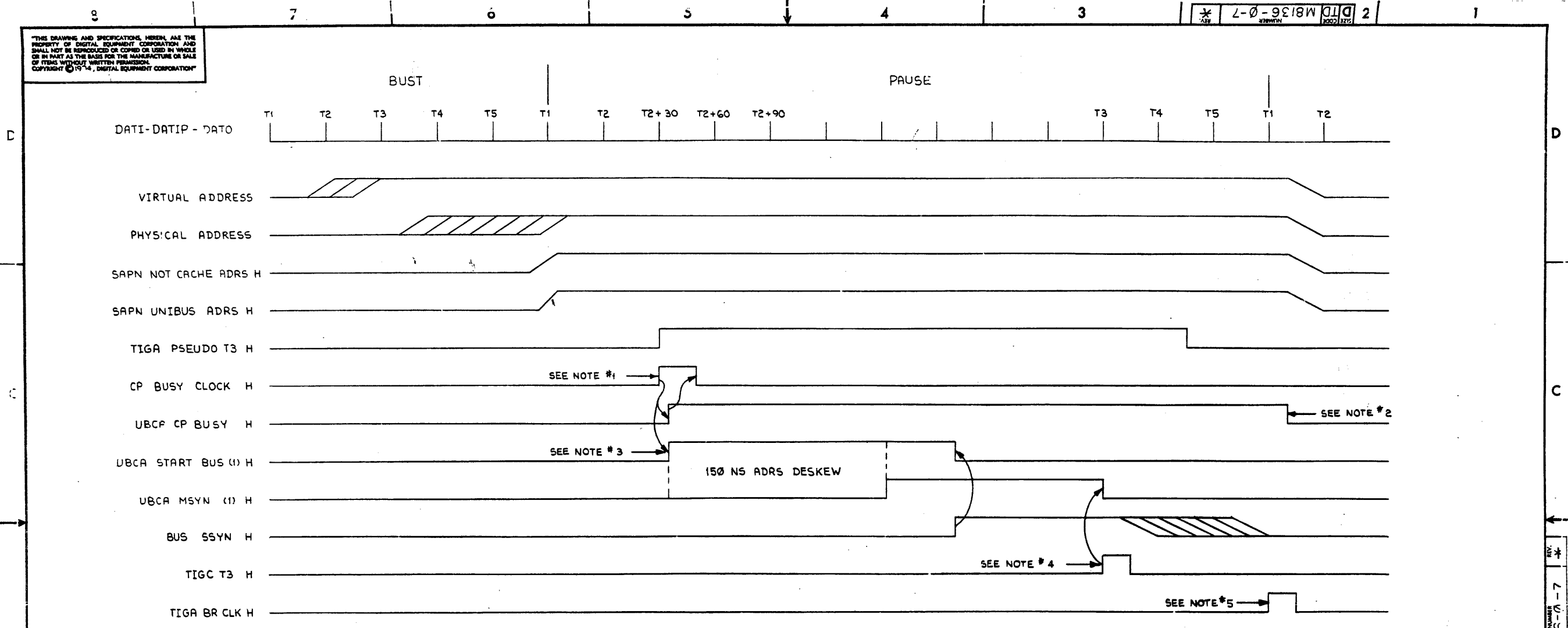
CONSOLE FUNCTION	MICRO ADDR	BIT
EXAM	7	1
STEP EXAM	0	0
REG EXAM	0	1
DEPOSIT	0	1
STEP DEPOSIT	0	1
STEP REG DEP	0	1
START	0	1
CONTINUE	0	1
LD ADRS	1	0
REG DEPOSIT	1	0
STEP REG EXAM	1	1

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(UBCH) SIZE CODE		NUMBER		REV.	
UNIBUS CONSOLE CONT.		DCS		M8136-0-1		F	
SCALE		SHEET 8 OF 8		DIST.			

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DITD M8136-0-7 2



NOTES :

- 1. SET CP BUSY IF -(NPR + NPG + SACK + DSACK + ABORT + BBUSY)
- 2. CP BUSY IS NOT CLEARED IF DATIP CYCLE. IT IS CLEARED ON DATO PORTION OF DATIP/DATO
- 3. USED TO START DATO ADDRESS DESKEW ON DATIP/DATO OPERATION
- 4. 75 NS DATA DESKEW IS OBTAINED BY 2 STAGE SYNCHRONIZER ON TIGA. UNIBUS DATA IS LOADED INTO PDRH BUFFER REGISTER AT T3
- 5. ADDRESS & CONTROL ARE DESKEWED FROM T3 TO T1. PDRH BUFFER REGISTER LOADED TO BR AT T1.

REV.	
CHANGE NO.	

100

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
DIMENSIONAL TOLERANCE		DRN	DATE	digital	
DIMENSIONS ARE MILLIMETERS INCHES UNLESS OTHERWISE SPECIFIED		CHKD.	DATE		
		ENG.	DATE		
MILLIMETERS	INCHES	ANGLES	DATE	TITLE	
X,XX = ±0.10	J,XX = ±.005	10° 30'	12/13/74	TIMING DIAGRAM	
X,X = ±0.5	J,X = ±.02		12/19/74		
X = ±2	X = ±.1		1/21/75		
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	NEXT HIGHER ASSY.			
MATERIAL		SCALE	SIZE CODE	NUMBER	REV.
FINISH		SHEET OF	DITD	M8136-0-7	*

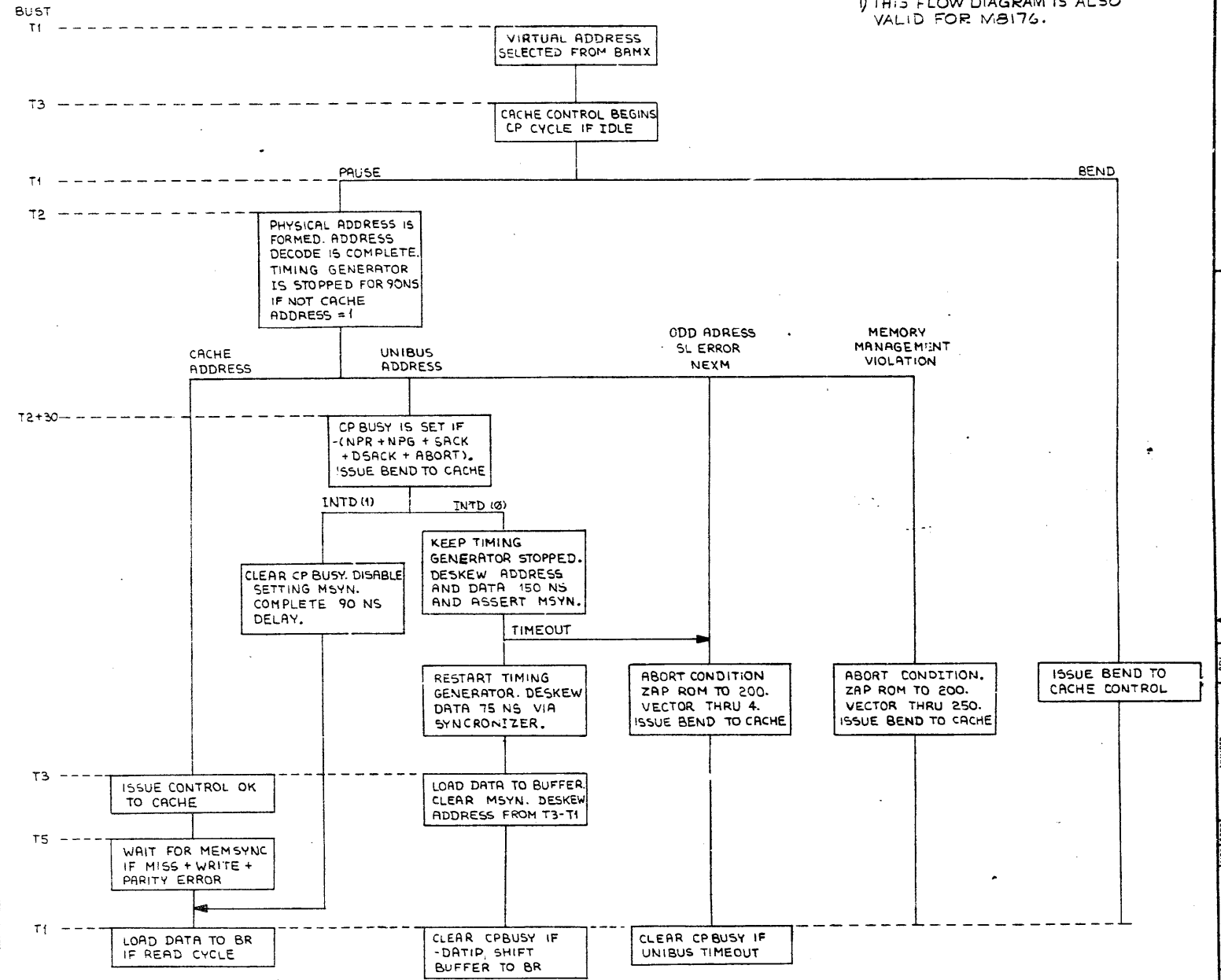
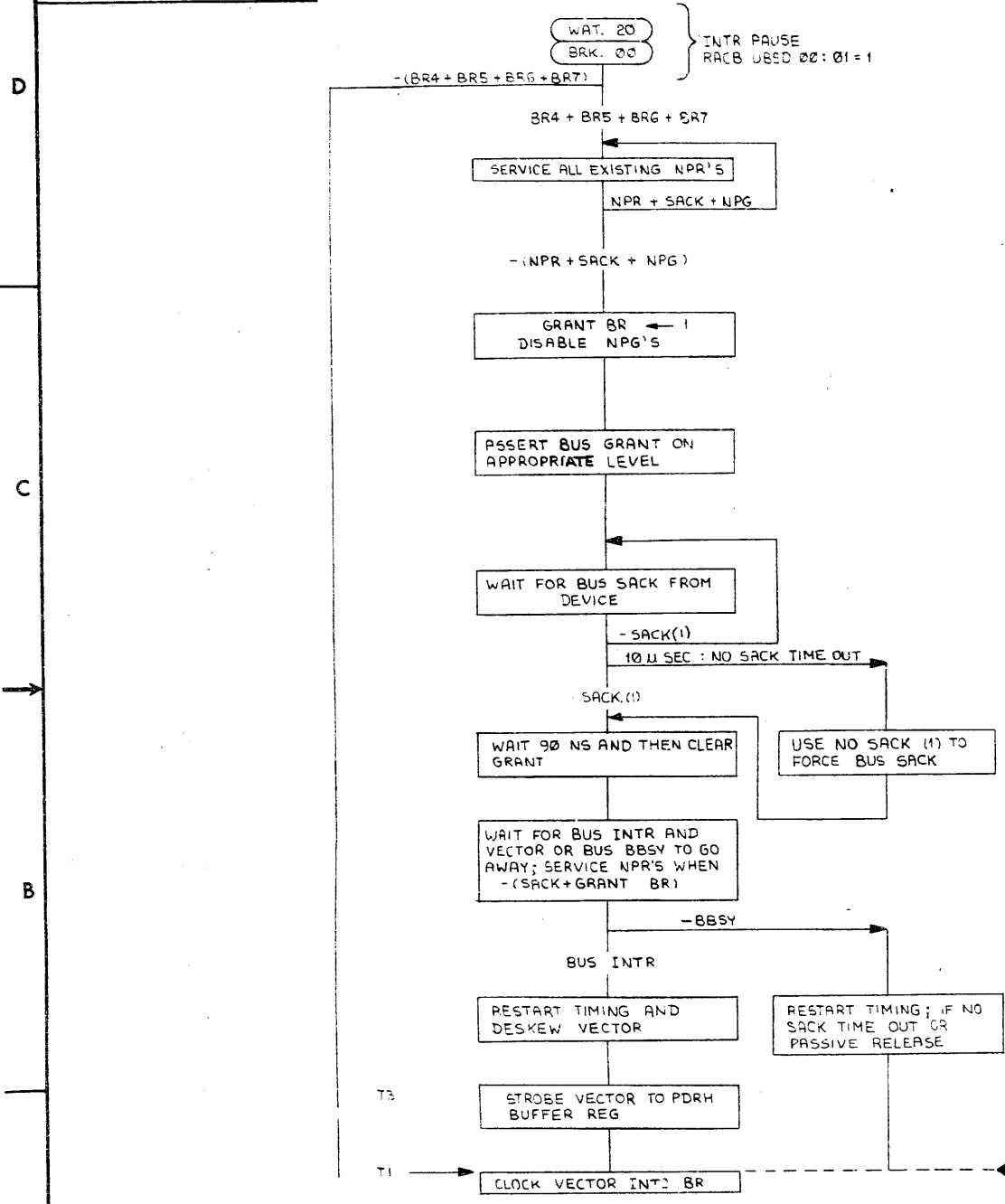
REV. * NUMBER M8136-0-7

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11/70 8-0-9318W 2

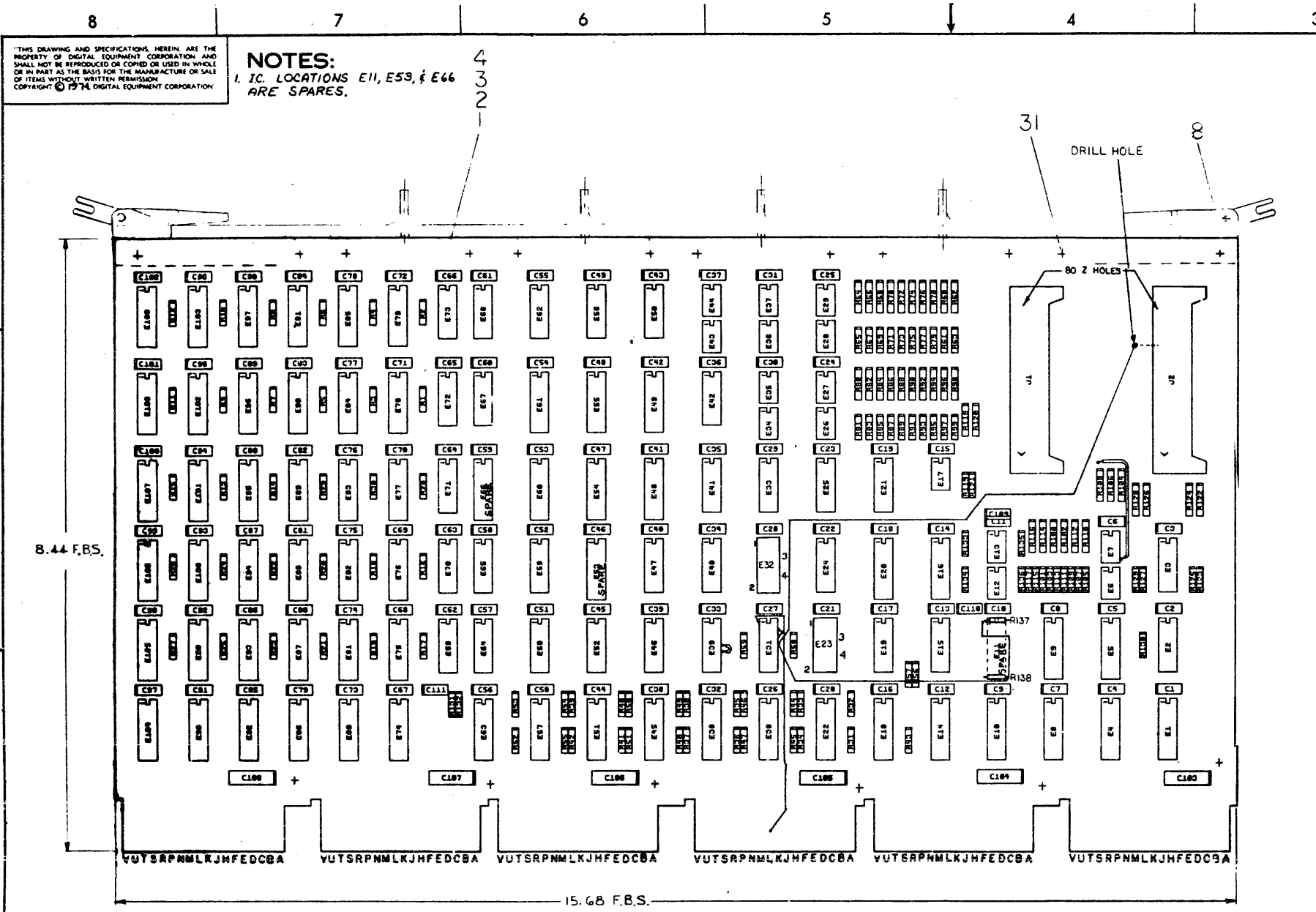
NOTE:
THIS FLOW DIAGRAM IS ALSO VALID FOR M8176.



REV.	CHANGE NO.	DATE
A	1	11/17/70
B	2	12/1/70
C	3	12/1/70
D	4	12/1/70

FIRST USED ON OPTION/MODEL 11/70	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
DIMENSIONAL TOLERANCE		DRN E. Brasley	DATE 12-12-74	digital
DIMENSIONS ARE MILLIMETERS INCHES UNLESS OTHERWISE SPECIFIED		CHK'D. J. Taylor	DATE 1-19-76	
MILLIMETERS	INCHES	ANGLES	DATE	
X,XX = ±0.10 X.X = ±0.5 X = ±2	XXX = ±0.05 XX = ±0.2 X = ±1	40° 30'	DATE	
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROJ. ENG. D. Taylor	DATE 1-6-75	TITLE FLOW DIAGRAM
MATERIAL	FINISH	PROD. K. Taylor	DATE 1/8/75	SIZE CODE D FD
SCALE		NUMBER M8136-0-8		REV. A
SHEET 1 OF 1		DIST.		

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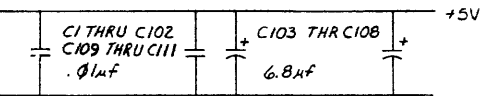
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NOTES:
1. IC LOCATIONS E11, E53, & E66 ARE SPARES.

IC TYPE	QTY	LOCATIONS
IC DEC 74585	8	16
IC DEC 1912069	8	16
IC DEC 8440	1	8
IC DEC 745175	8	16
IC DEC 75452	4	8
IC DEC 745153	8	16
IC DEC 745193	8	16
IC TYPE	GND	+5V

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

- AA2 CA2 EA2
AV1 CV1 EV1
BA2 DA2 FA2
BV1 DV1 FV1
- AC2 AH1 AN2 AT1
BC2 BH1 BN2 BT1
CC2 CH1 CN2 CT1
DC2 DH1 DN2 DT1
EC2 EH1 EN2 ET1
FC2 FH1 FN2 FT1



REF	DESCRIPTION	PART NO.	QTY
REF	X-Y COORDINATE HOLE LOCATIONS	K-CO-M8143-B-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8134-B-5	2
REF	MODULE ECO HISTORY	B-MH-M8134-B-6	3
1	ETCHED CIRCUIT BOARD	5011385	4
6	C103 THRU C108	CAPACITOR, 6.8uF, 35V, 20%	1005306
105	C1 THRU C102, C109 THRU C111	CAPACITOR, .01uF, 100V, 20%	1001610-01
2		CONNECTOR, 40 PIN	1209941
1		HANDLE, HEX MODULE	1210711-2
3	R131, R133, R135	RESISTOR, 330 OHM, 1/4W, 5%	1300295
28	R31 THRU R55, R130, R58, R59	RESISTOR, 1K, 1/4W, 5%	1300365
3	R132, R134, R136	RESISTOR, 680 OHM, 1/4W, 5%	1301424
36	R60, R62, R64, R66, R69, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100, R102, R104, R106, R108, R110, R112, R114, R116, R118, R120, R122, R124, R126, R128, R137	RESISTOR, 121 OHM, 1/4W, 1%	1301782
36	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, R138	RESISTOR, 196 OHM, 1/4W, 1%	1302956
30	R1 THRU R30	RESISTOR, 620 OHM, 1/4W, 5%	1303178
2	E23, E32	D10100 DELAY LINE	1609559
1	E2	I.C. DEC 74H74	1909667
2	E5, E9	I.C. DEC 74193	1910018
1	E40	I.C. DEC 74S00	1910532
4	E19, E50, E56, E62	I.C. DEC 74S04	1910534
1	E39	I.C. DEC 74S10	1910536
2	E24, E52	I.C. DEC 74S11	1910537
1	E46	I.C. DEC 74S64	1910542
9	E84, E85, E87 THRU R73	I.C. DEC 74S140	1910548
14	E1, E4, E8, E10, E14, E20, E83, E74, E80, E86, E92, E96, E104, E18	I.C. DEC 74S153	1910547
15	E12, E13, E17, E26 THRU E29, E34 THRU E37, E43, E44, E7, E6	I.C. DEC 75452	1910645
7	E18, E22, E30, E38, E45, E51, E57	I.C. DEC 74S175	1910957
9	E15, E21, E25, E33, E41, E42, E47, E58, E59	I.C. DEC 82582	1911291
2	E3, E31	I.C. DEC 8640	1911469
6	E48, E49, E54, E55, E80, E81	I.C. DEC 74S85	1912089-00
30	E75 THRU E79, E81 THRU E85, E87 THRU E91, E93 THRU E97, E99 THRU E103, E105 THRU E109	I.C. DEC 1912069	1912069
12		EYELET	8008132
4		WIRE #30 AWG BUSS (RETROFIT)	91-05740-55
1	R56	RESISTOR 270 Ω 1/4 W 5%	1301972
1	R57	RESISTOR 390 Ω 1/4 W 5%	1300309

102

FIRST USED ON OPTION MODEL: 11/70

ETCH BOARD REV: B

SEMICONDUCTOR CONVERSION CHART

REVISIONS: A. HELENIUS, M8143-00001, 3-82-78

DRN: M.J. AMOUILI, DATE: 12/2/78
 CHRD: FERGUSON, DATE: 12-1-78
 ENG: [Signature], DATE: 11/17/78
 PROJ. ENG: [Signature], DATE: 11/17/78
 PROD: [Signature], DATE: 11/17/78

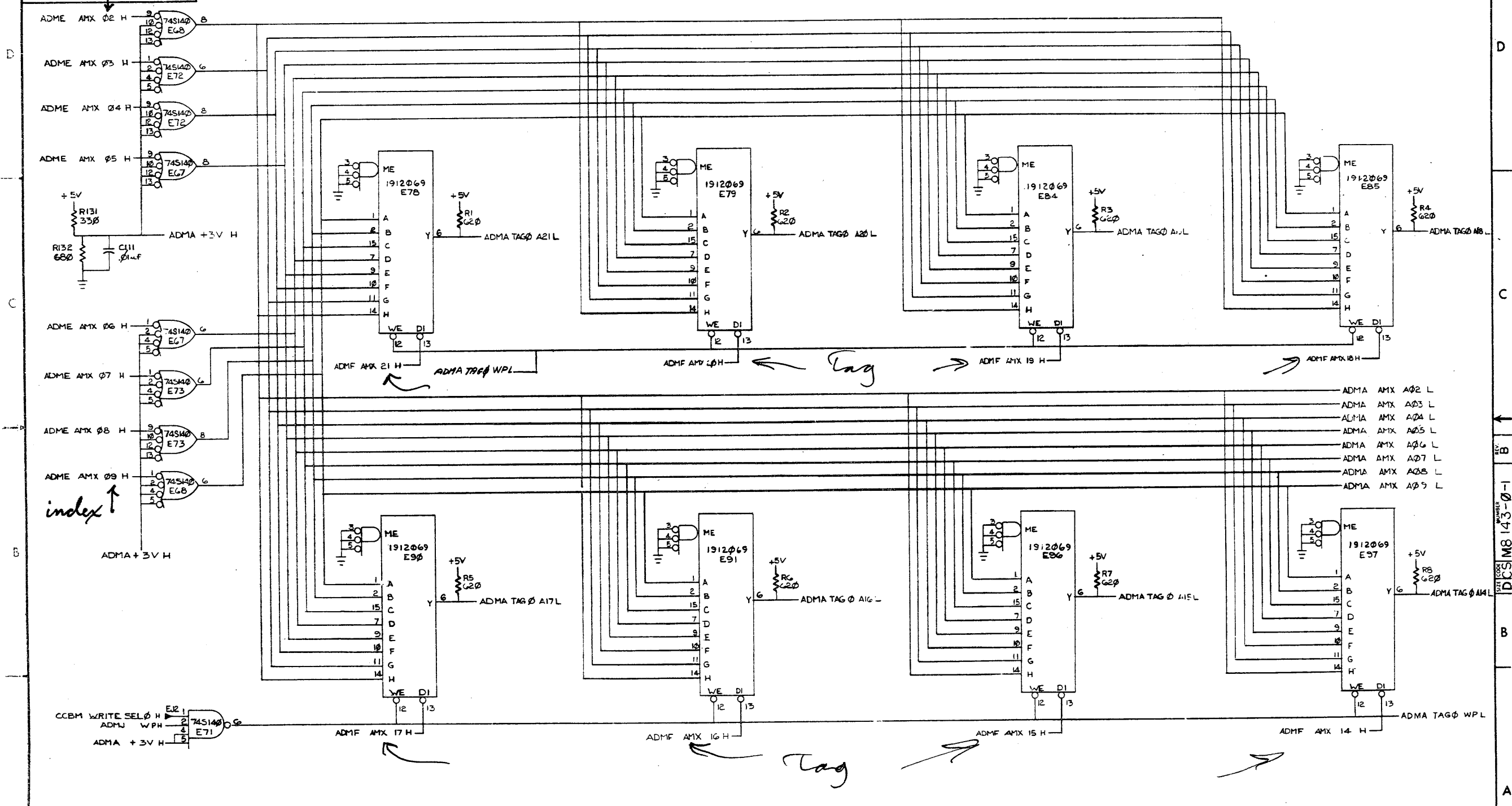
digital EQUIPMENT CORPORATION
 ADDRESS MEMORY BD

SIZE CODE: DCS, NUMBER: M8143-0-1, REV: B

SHEET 1 OF 12

194

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REVISIONS		
X	CHANGE NO.	REV.

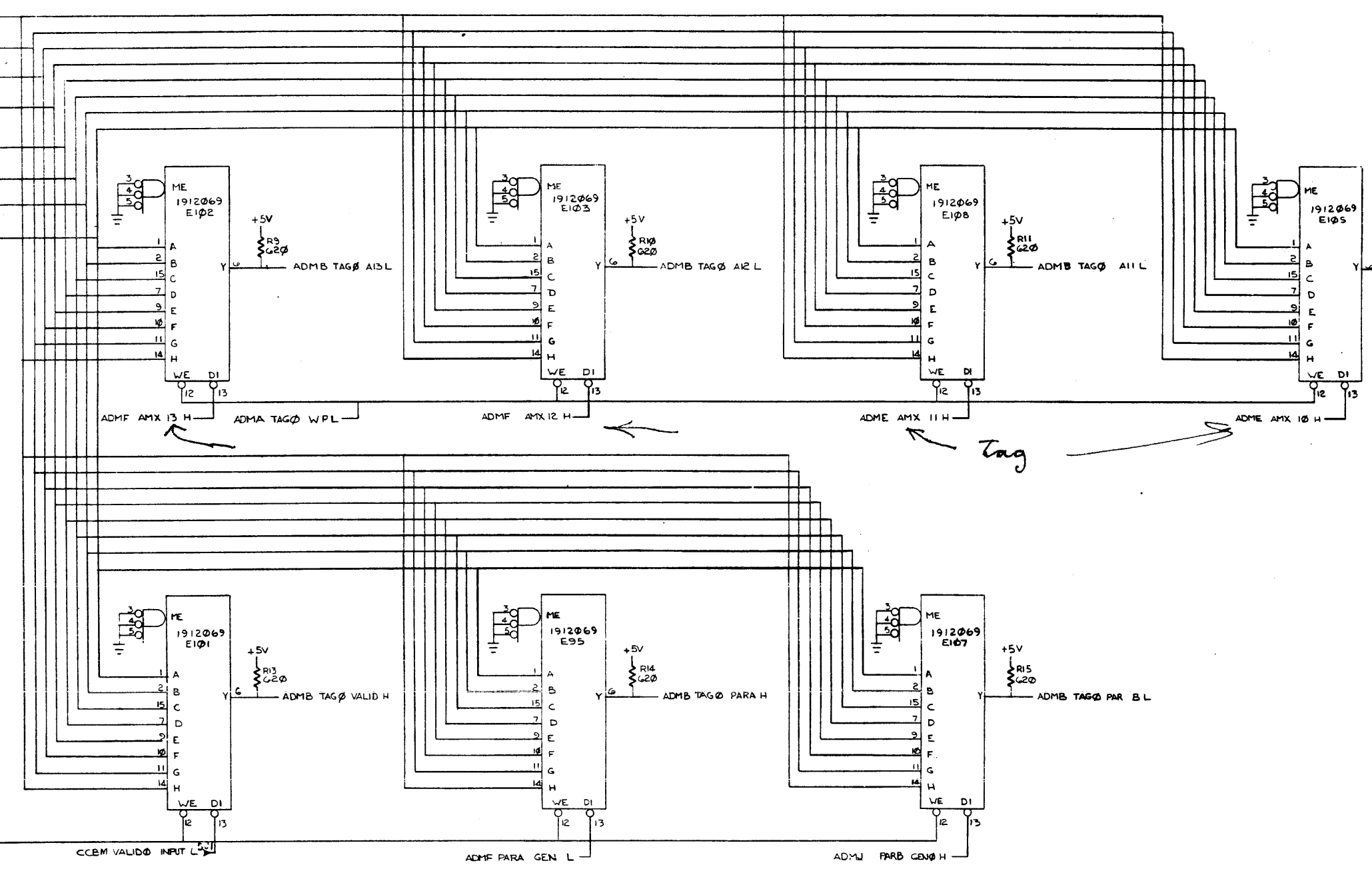
TITLE		(ADMA)	SIZE CODE	NUMBER	REV.
ADDRESS MEMORY BOARD		D	CS	M8143-0-1	B
SCALE	SHEET 2	OF 12	DIST.		

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- ADMA AMX A02 L
- ADMA AMX A03 L
- ADMA AMX A04 L
- ADMA AMX A05 L
- ADMA AMX A06 L
- ADMA AMX A07 L
- ADMA AMX A08 L
- ADMA AMX A09 L

index ↑



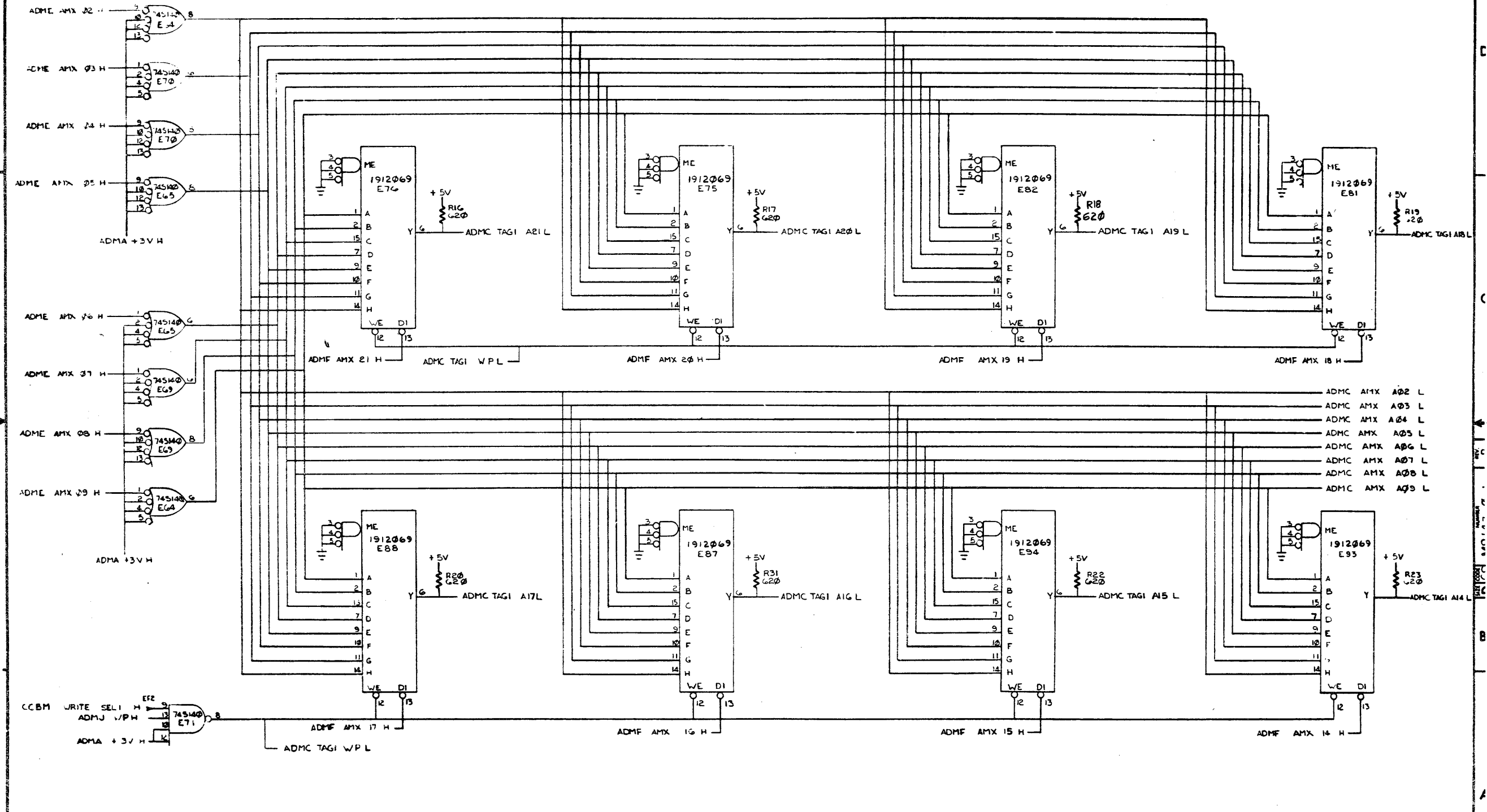
Tag

REVISIONS		
CHK	CHANGE NO.	REV.

104

(TAG0) SLOT 18		TITLE	(ADMB) SIZE CODE	NUMBER	REV.
ADDRESS MEMORY BOARD		DCS	M8143-0-1	B1	196
SCALE	SHEET 3 OF 12	DIST.			

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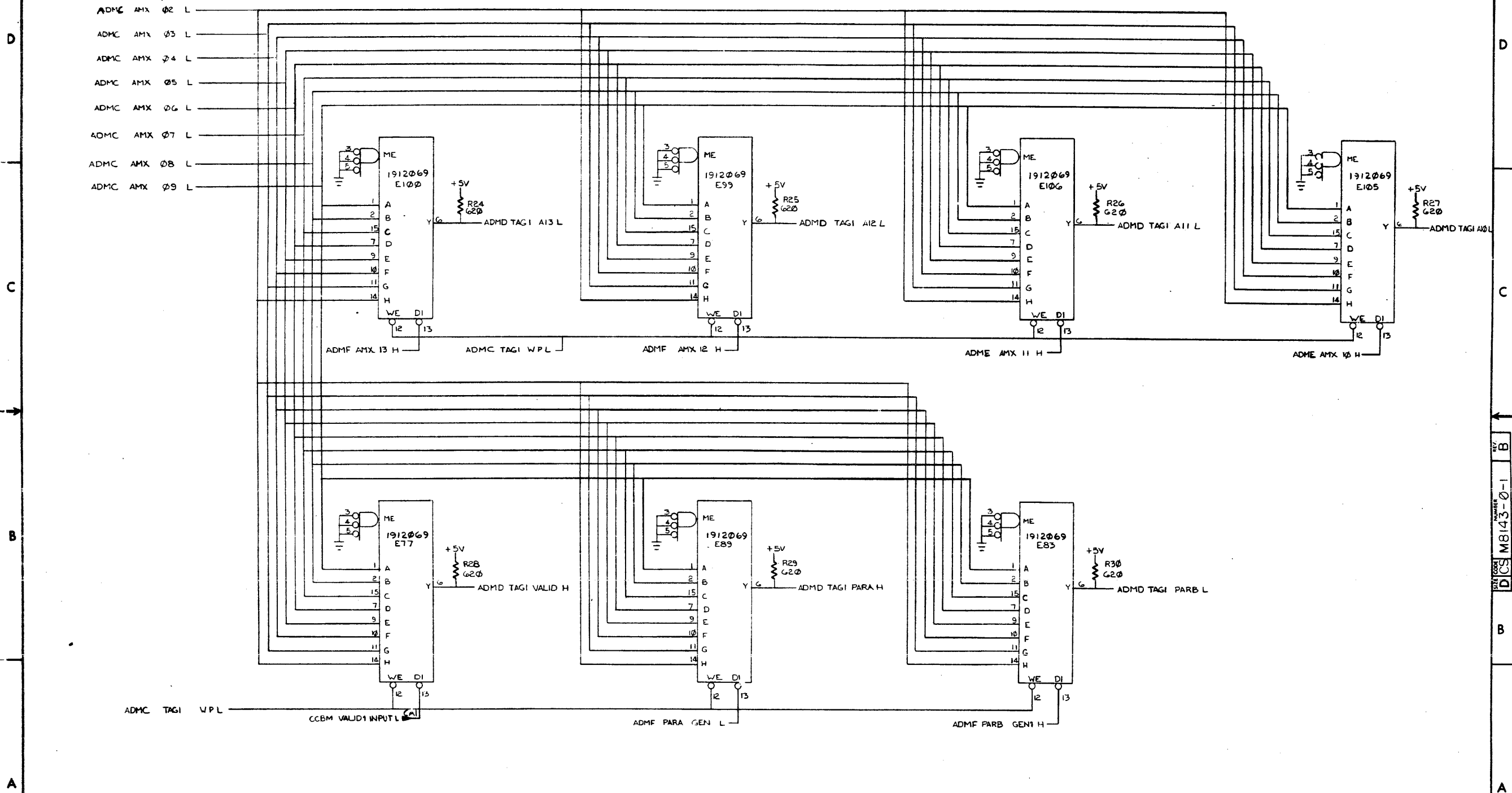


REVISIONS		
CHK	CHANGE NO.	REV.

(TAG1) SLOT 18		TITLE	SIZE	CODE	NUMBER	REV.
		ADDRESS MEMORY BOARD	D	CS	M8143-0-1	B
SCALE	SHEET 4 OF 12	DIST.				

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8 1-0-018W S3 2



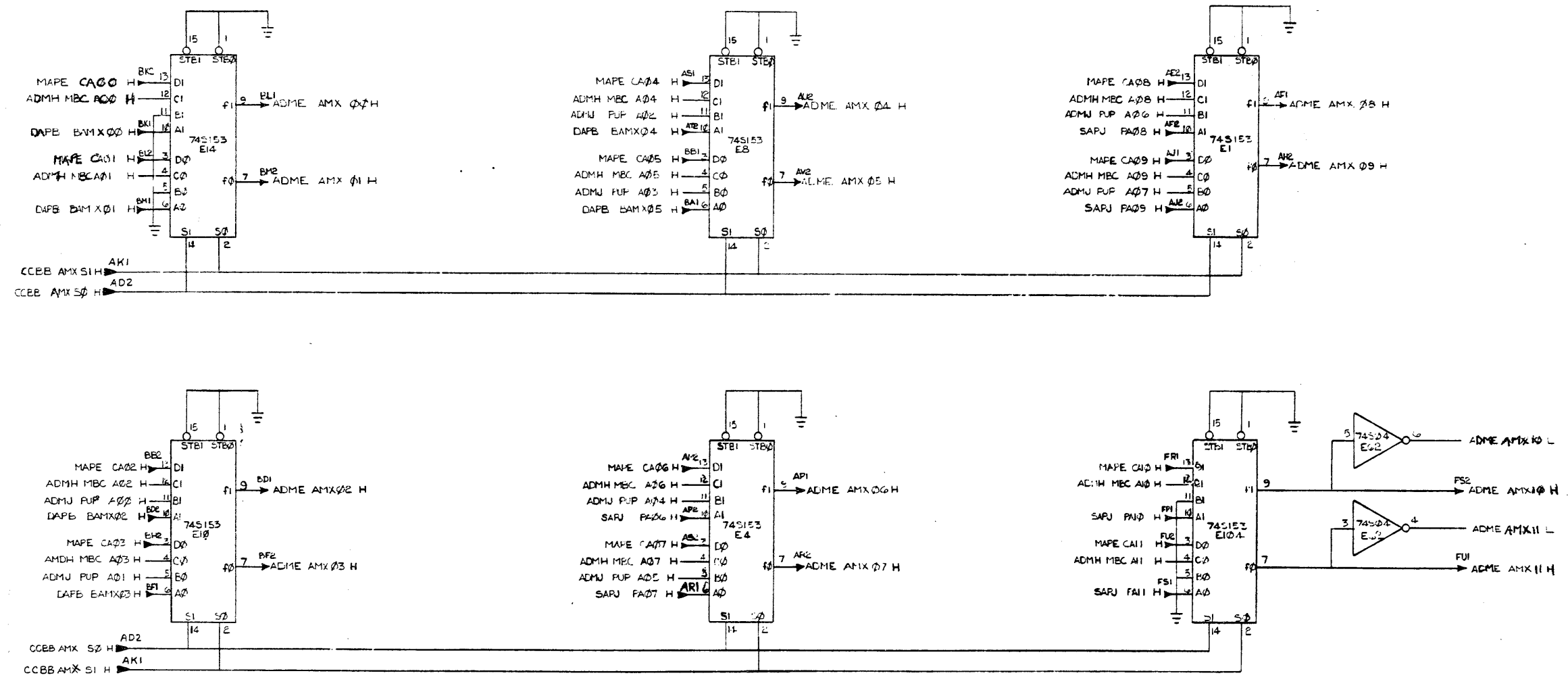
REVISIONS		
CHK	CHANGE NO.	REV.

(TAGI) SLOT 18

TITLE	(ADMD)	SIZE	CODE	NUMBER	REV.
ADDRESS MEMORY BOARD	D CS	M8143-0-1	B		
SCALE	SHEET	OF	DIST.		
	5	12			

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S1	S0	OUTPUT
0	0	CPU
0	1	POWER UP
1	0	MISC
1	1	UNIBUS

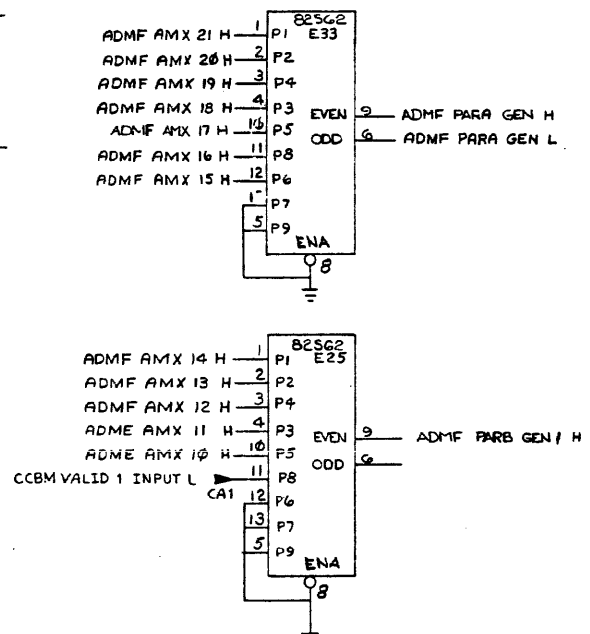
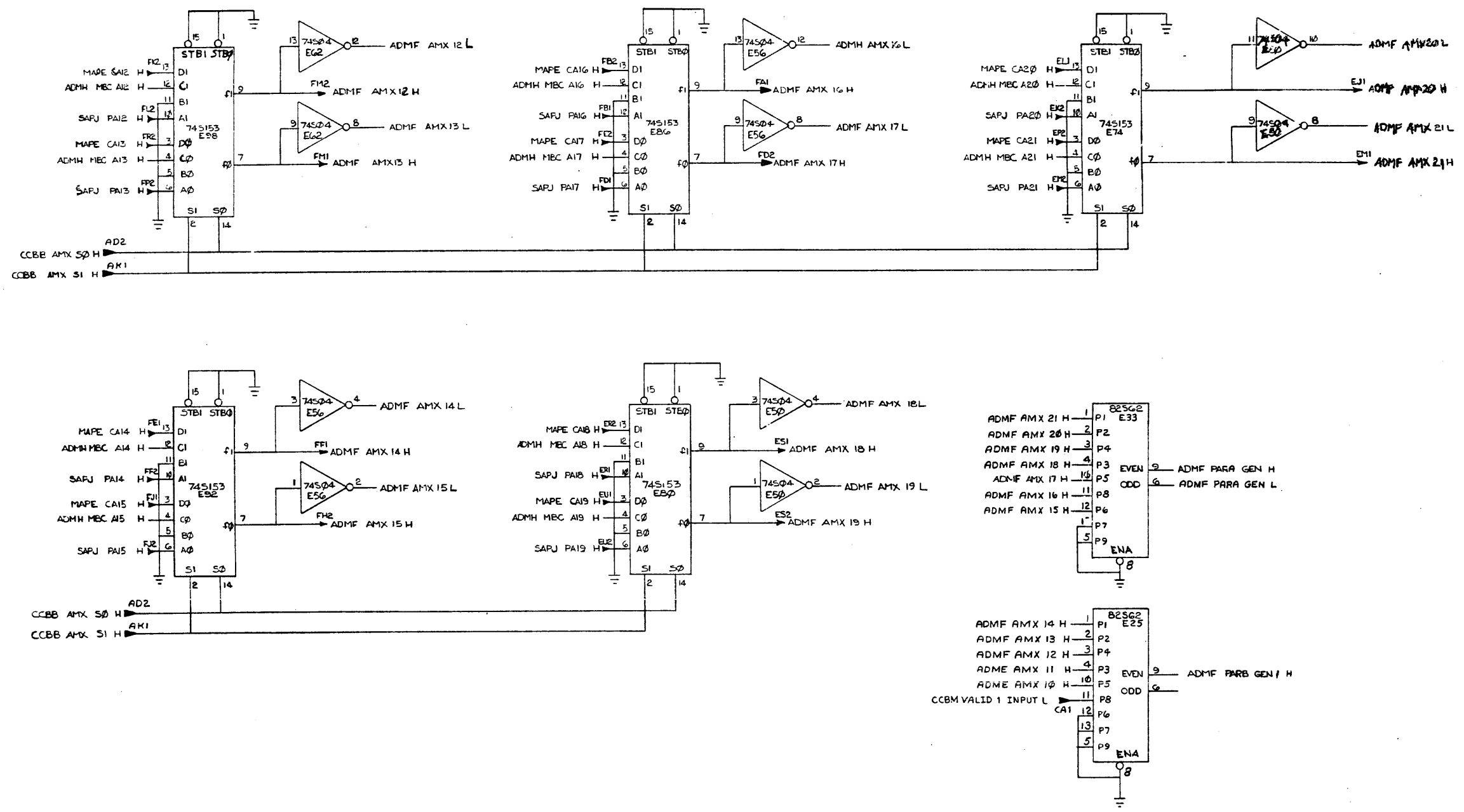
REVISIONS		
CHK	CHANGE NO.	REV.

(ADDRESS MULTIPLEXOR) SLOT 18

TITLE	(ADME) SIZE CODE	NUMBER	REV.
ADDRESS MEMORY BOARD	D CS M8143-0-1		B
SCALE	SHEET	OF	DIST.
	6	12	

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1-3-2719W SC 2



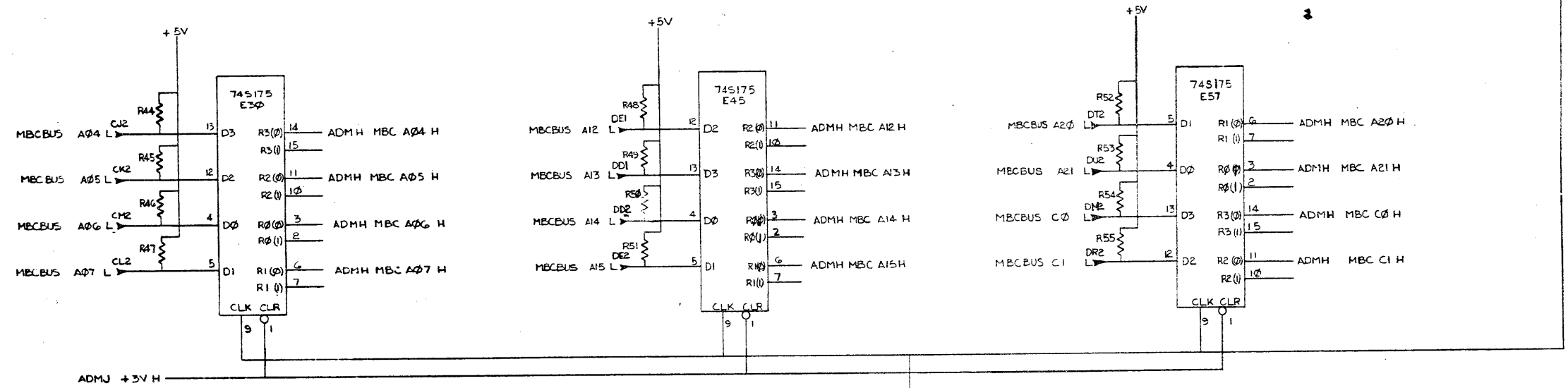
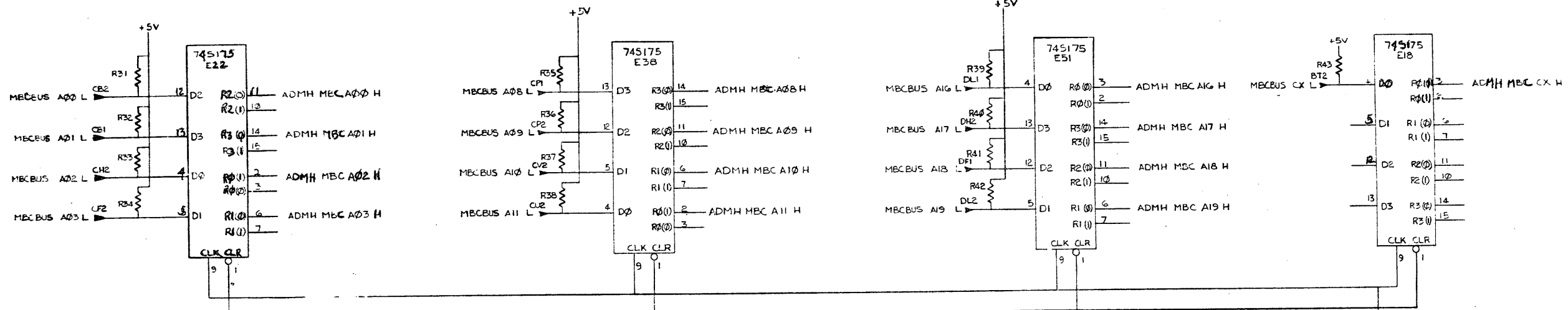
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REVISIONS		
CHK	CHANGE NO.	REV.

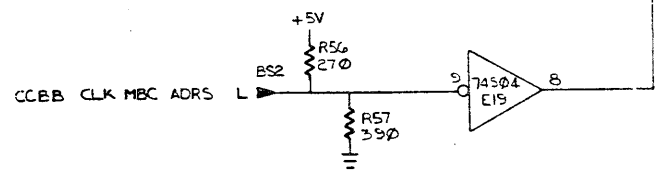
TITLE	(ADMF) SIZE CODE	NUMBER	REV.
ADDRESS MEMORY BOARD	D CS	M8143-0-1	B
SCALE	SHEET 7 OF 12	DIST.	

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* NOTE
ALL PULLUP RESISTORS ARE 1K 1/4W 5%



(MBC ADDRESS BUFFER) SLOT 18

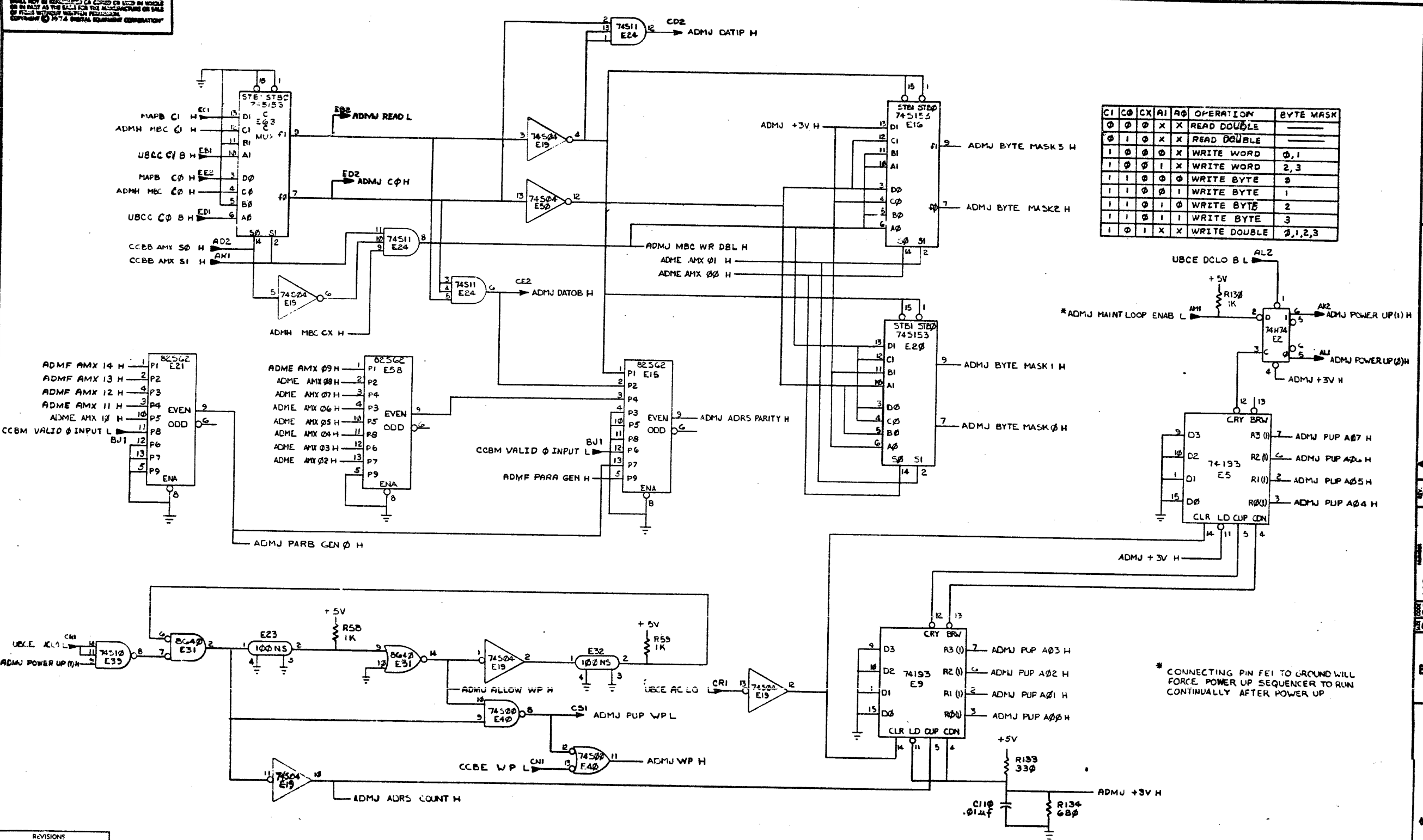
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(ADMH) ADDRESS MEMORY BOARD	SIZE CODE	NUMBER	REV.
SCALE	DCS	SHEET 8 OF 12	M8143-0-1	B

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REV. 10/11/73

D
C
B
A



CI	CO	CX	RI	AO	OPERATION	BYTE MASK
0	0	0	X	X	READ DOUBLE	---
0	1	0	X	X	READ DOUBLE	---
1	0	0	0	X	WRITE WORD	0,1
1	0	0	1	X	WRITE WORD	2,3
1	1	0	0	0	WRITE BYTE	3
1	1	0	0	1	WRITE BYTE	1
1	1	0	1	0	WRITE BYTE	2
1	1	0	1	1	WRITE BYTE	3
1	0	1	X	X	WRITE DOUBLE	0,1,2,3

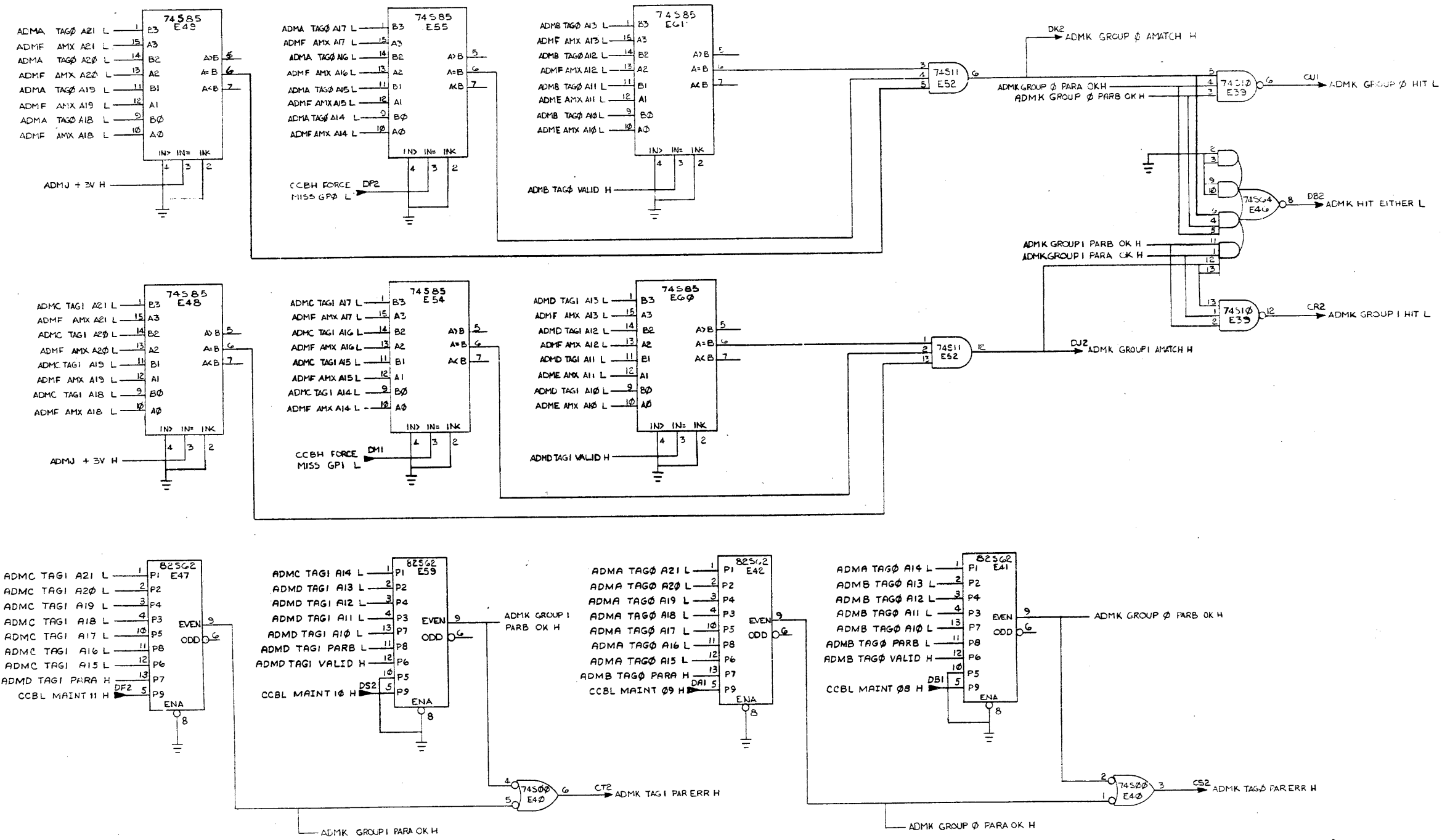
* CONNECTING PIN FE1 TO GROUND WILL FORCE POWER UP SEQUENCER TO RUN CONTINUALLY AFTER POWER UP

REVISIONS		
CHK	CHANGE NO.	REV.

(BYTE MASK, PUP SEQUENCER) SLOT 18

TITLE	(ADMJ)	SIZE CODE	NUMBER	REV.
ADDRESS MEMORY BOARD	D CS	M8143-0-1	0	0
SCALE	SHEET 9	OF 12	DIST.	

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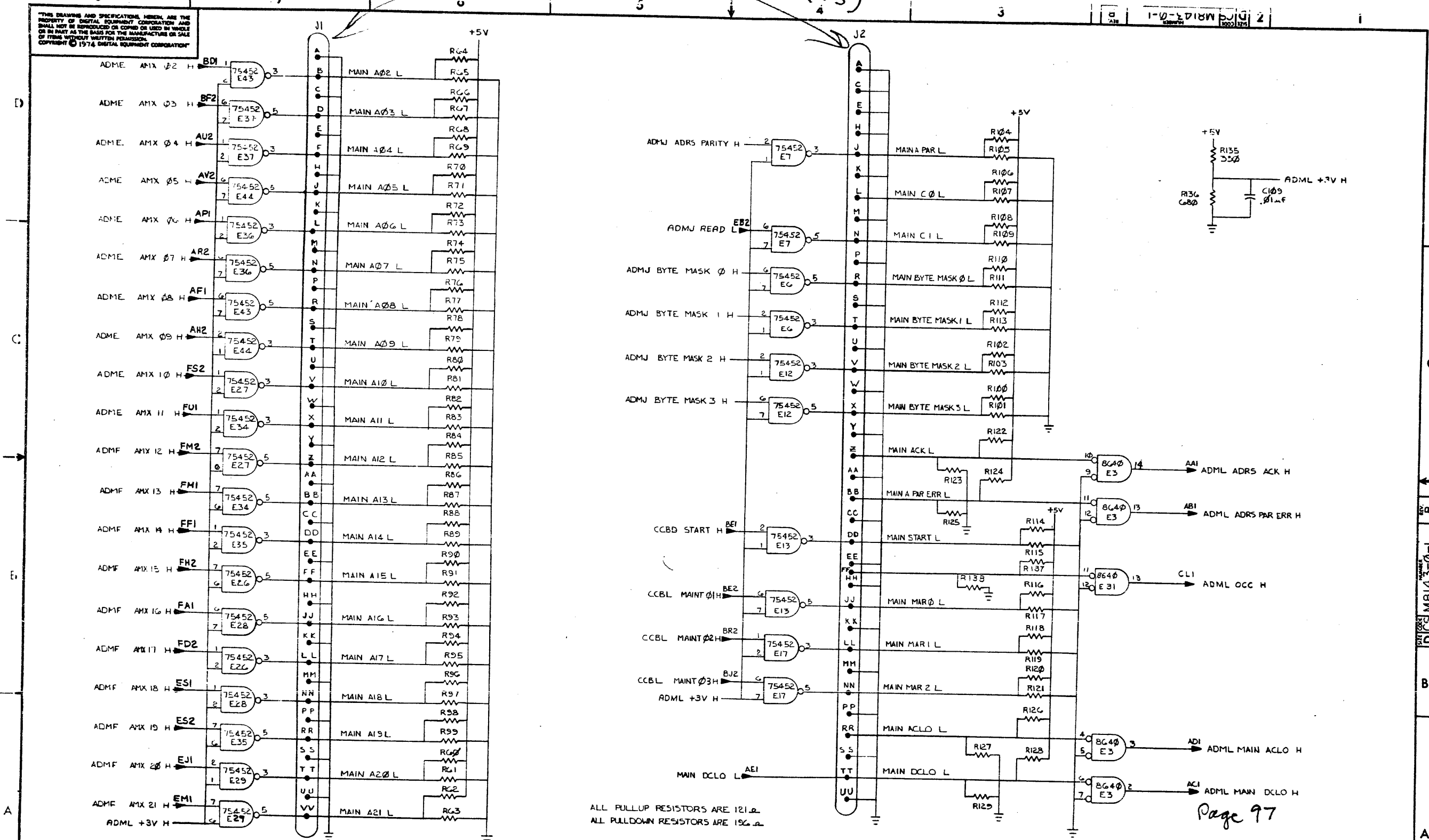
(EQUALS CHECK, PARITY CHECK) SLOT 18

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(ADMK) ADDRESS MEMORY BOARD	SIZE CODE	DCS	NUMBER	M8143-0-1	REV.	B
SCALE	1:1	SHEET	10	OF	12	DIST.	

M8158(JL) to Memory M8158(J3)

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(MAIN MEMORY ADRS DRIVERS) SLOT 18

REVISIONS		
CHK	CHANGE NO.	REV.

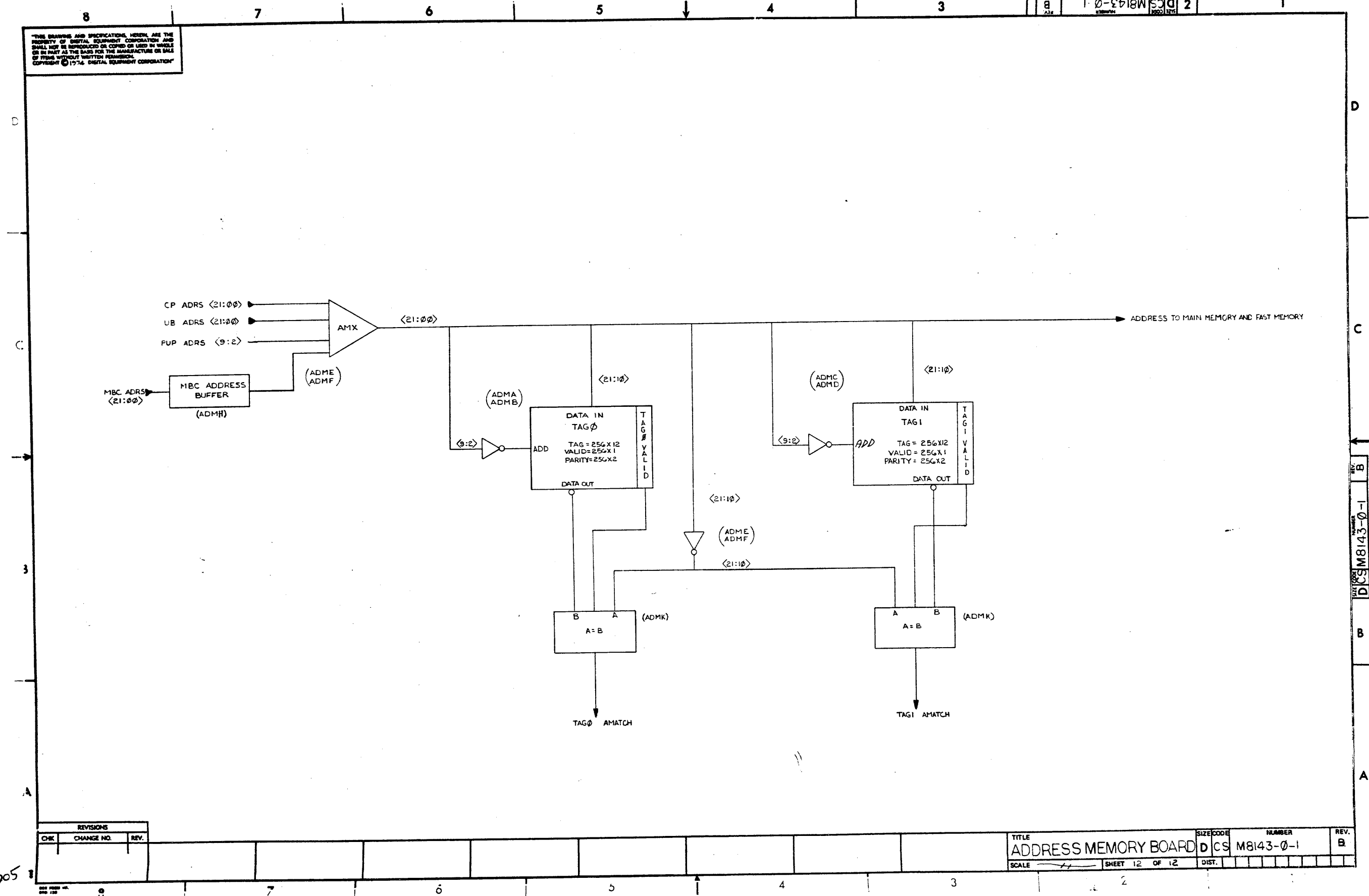
TITLE	(ADML) ADDRESS MEMORY BOARD	SIZE CODE	D CS	NUMBER	M 8143-0-1	REV.	B.
SCALE		SHEET	11	OF 12	DIST.		

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DIGITAL EQUIPMENT CORPORATION
 DCS M8143-0-1
 2



REVISIONS		
CHK	CHANGE NO.	REV.

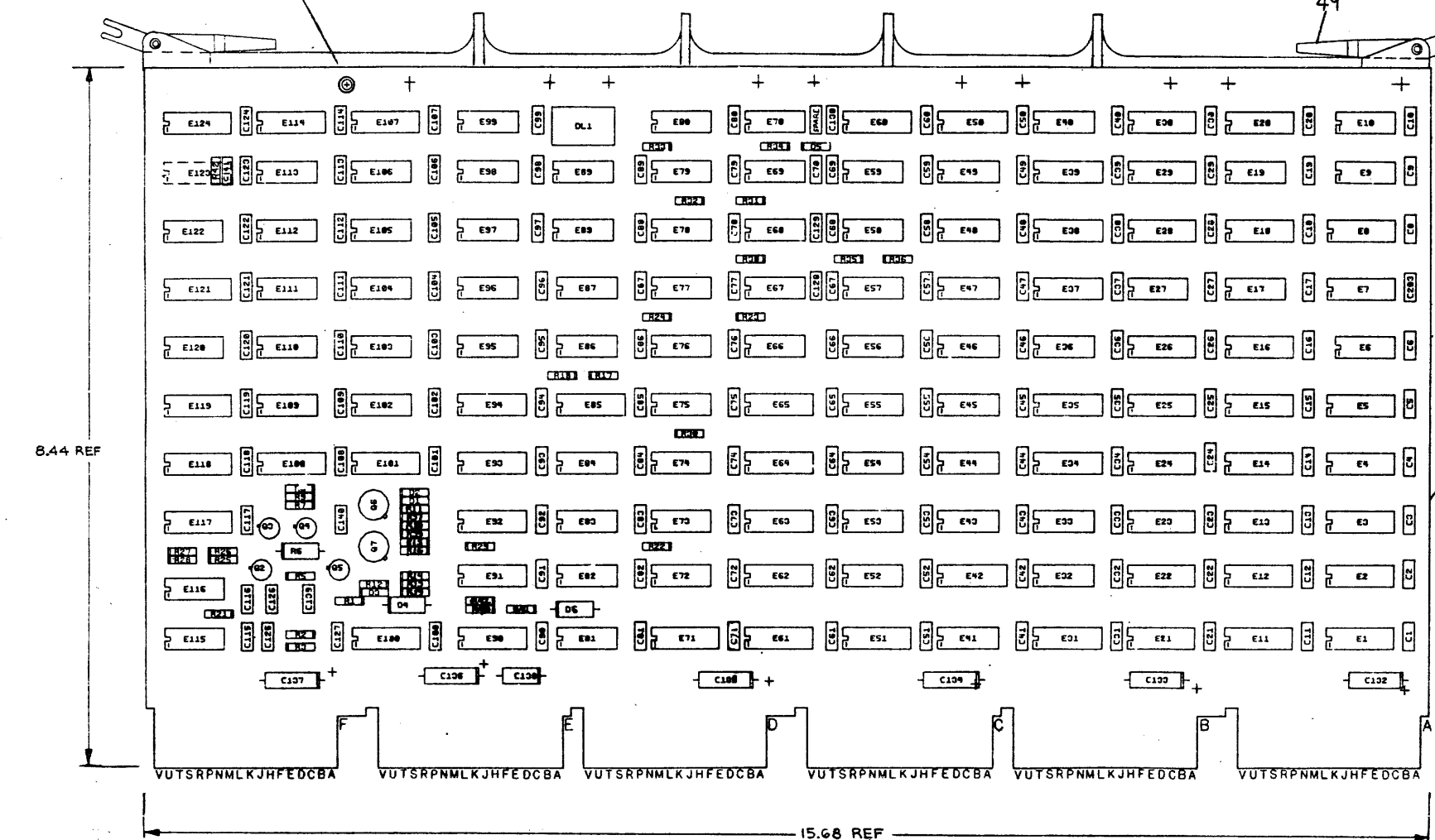
TITLE	ADDRESS MEMORY BOARD	SIZE CODE	D CS	NUMBER	M8143-0-1	REV.	B
SCALE		SHEET	12	OF	12	DIST.	

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NOTES: 1. E1,E5,E107,E114,E121,E123,E124 ARE SPARES

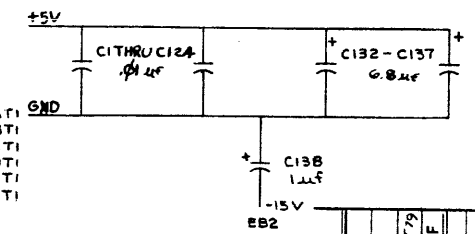
5	E1,E2,E4,E51,E42	I.C. DEC 74175	191051	48	REF
1		HANDLE ASSY	1210711-2	49	REF
12		EYELET	9008732	50	REF
3	R7,R8,R9	RESISTOR, 511, 1/4W, 1%	1302411	51	REF

FOR PARTS LIST SEE K-PL-M8142



QTY	REF	DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	X-Y	COORDINATE HOLE LOCATION		K-CD-M8142-B-4	1
1	O-AH	DRILLING HOLE LAYOUT		O-AH-M8142-B-5	2
1	B-MW	MODULE ECO HISTORY		B-MW-M8142-B-6	3
50		ETCHED CIRCUIT BOARD		50/1393	4
6	C137 THRU C137	CAPACITOR, 6.8uf, 35V, 20%		1005308	5
126	C1 THRU C124, C128 THRU C129	CAPACITOR, .01uf, 100V, 20%		1001610-01	6
1	C125	CAPACITOR, 56pf, 100V		1000012	7
1	C138	CAPACITOR, 1uf, 35V, 10%		1001776	8
4	D1,D2,D3,D4	DIODE D664		1100114	9
2	D4,D6	DIODE 1N4733A		1109943	10
2	R10,R37	RESISTOR, 133 1/8W, 5%		1303038	11
4	R31,R17,R26,R27	RESISTOR, 150, 1/4W, 5%		1300250	12
4	R23, R35,R39,R32	RESISTOR, 330, 1/4W, 5%		1300295	13
5	R38, R19,R22,R21,R33	RESISTOR, 1K, 1/4W, 5%		1300365	14
1	R34	RESISTOR, 15K, 1/4W, 5%		1300496	15
2	R24, R36	RESISTOR, 680, 1/4W, 5%		1301424	16
3	R18,R25,R28	RESISTOR, 220, 1/4W, 5%		1300271	17
1	R3	RESISTOR, 5.6K, 1/4W, 5%		1301874	18
1	R2	RESISTOR, 820 OHM, 1/4W, 5%		1301775	19
1	R6	RESISTOR, 3.32K, 1/4W, 1%		1302311	20
1	R12	RESISTOR, 2K, 1/4W, 5%		1302388	21
1	R5	RESISTOR, 1.47K, 1/8W, 1%		1305108	22
5	R11,R13,R14,R15,R16	RESISTOR, 5.1 OHM, 1/4W, 5%		1309422	23
4	Q2,Q3,Q4,Q5	TRANSISTOR, DEC309A		1501939	24
1	Q7	TRANSISTOR, DEC3762		1509649	25
1	Q6	TRANSISTOR, DEC3734		1510052	26
1	DL1	DELAYLINE ICANS		1608559	27
2	E76,E86	I.C. DEC 74150		1909060	28
4	E3,E7,E24,E25	I.C. DEC 8268		1909934	29
8	E28,E64,E31,E62,E63,E34,E29,E8	I.C. DEC 74151		1909936	30
4	E13,E16,E15,E18	I.C. DEC 74153		1909937	31
1	E37	I.C. DEC 7442		1910046	32
1	E74	I.C. DEC 7437		1910081	33
1	E60	I.C. DEC 74123		1910438	34
13	E95,E109,E106,E111,E68,E56,E48,E49,E32,E41,E44,E66,E71	I.C. DEC 74508		1910532	35
7	E97,E36,E75,E46,E17,E53,E10	I.C. DEC 74504		1910534	36
6	E87,E102,E98,E99,E47,E54	I.C. DEC 74518		1910536	37
10	E88,E96,E69,E120,E67,E4,E40,E52,E43,E103	I.C. DEC 74511		1910537	38
2	E104,E78	I.C. DEC 74528		1910539	39
11	E113,E105,E79,E110,E112,E122,E88,E58,E27,E35,E45	I.C. DEC 74564		1910542	40
13	E72,E82,E115,E116,E84,E59,E70,E81,E9,E19,E33,E57,E77	I.C. DEC 74574		1910544	41
18	E23,E20,E22,E21,E118,E92,E50,E30,E90,E91,E85,E94,E101,E100,E108,E93,E117,E119	I.C. DEC 745112		1910545	42
2	E83,E73	I.C. DEC 745140		1910546	43
2	E95,E39	I.C. DEC 745175		1910957	44
1	E12	I.C. DEC 745133		1911983	45
5	E21,E38,E11,E81,E65	I.C. DEC 74174		1910652	46
1	E80	I.C. DEC 8640		1911469	47

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



AC2,AH1,AN2,AT1
BC2,BH1,BN2,BT1
CC2,CH1,CN2,CT1
DC2,DH1,DN2,DT1
EC2,EH1,EN2,ET1
FC2,FH1,FN2,FT1

3	R40,R41,R42	RESISTOR, 56, 1/4W, 5%	1302602	58
1	C141	CAP 680uf, 100V, 5%	1000026	59
A/R		30 WIRE (RETROFIT)	9105740-55	53
2	Q6,Q7	TRANSPADS	9007201	54
4	R1,R29,R30,R42	RESISTOR 1002 1/4W 5%	1300229	55
4	C126,C127,R39,C140	CAPACITOR .22uf 50V	1018274-01	56
1	C130	CAPACITOR 1200pf, 100V 5%	1002424-00	57

IC TYPE	GND	+5V
8640	1	8
8266	8	16
74123	8	16
745133	8	16
74174	8	16
74151	8	16
7442	8	16
74153	8	16
74175	8	16
745175	8	16
745112	8	16

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

REV	DATE	BY	CHKD
1	12/12/74	Shellen	
2	1/27/75	Koppes	
3	2/25/75	W. Williams	
4	2/27/75	W. Williams	
5	1/12/75	Taylor	

FIRST USED ON OPTION MODEL: 1170

ETCH BOARD REV: B

PARTS LIST

digital EQUIPMENT CORPORATION

TITLE: CACHE CONTROL

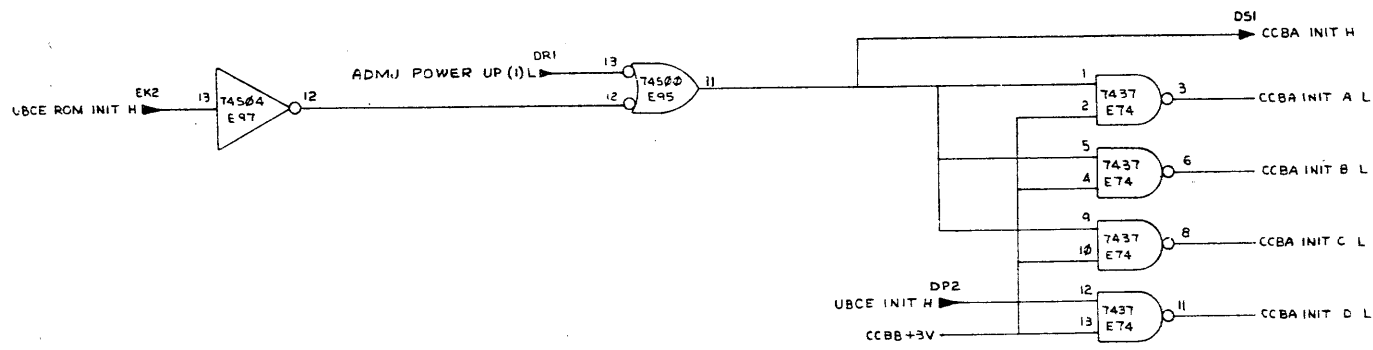
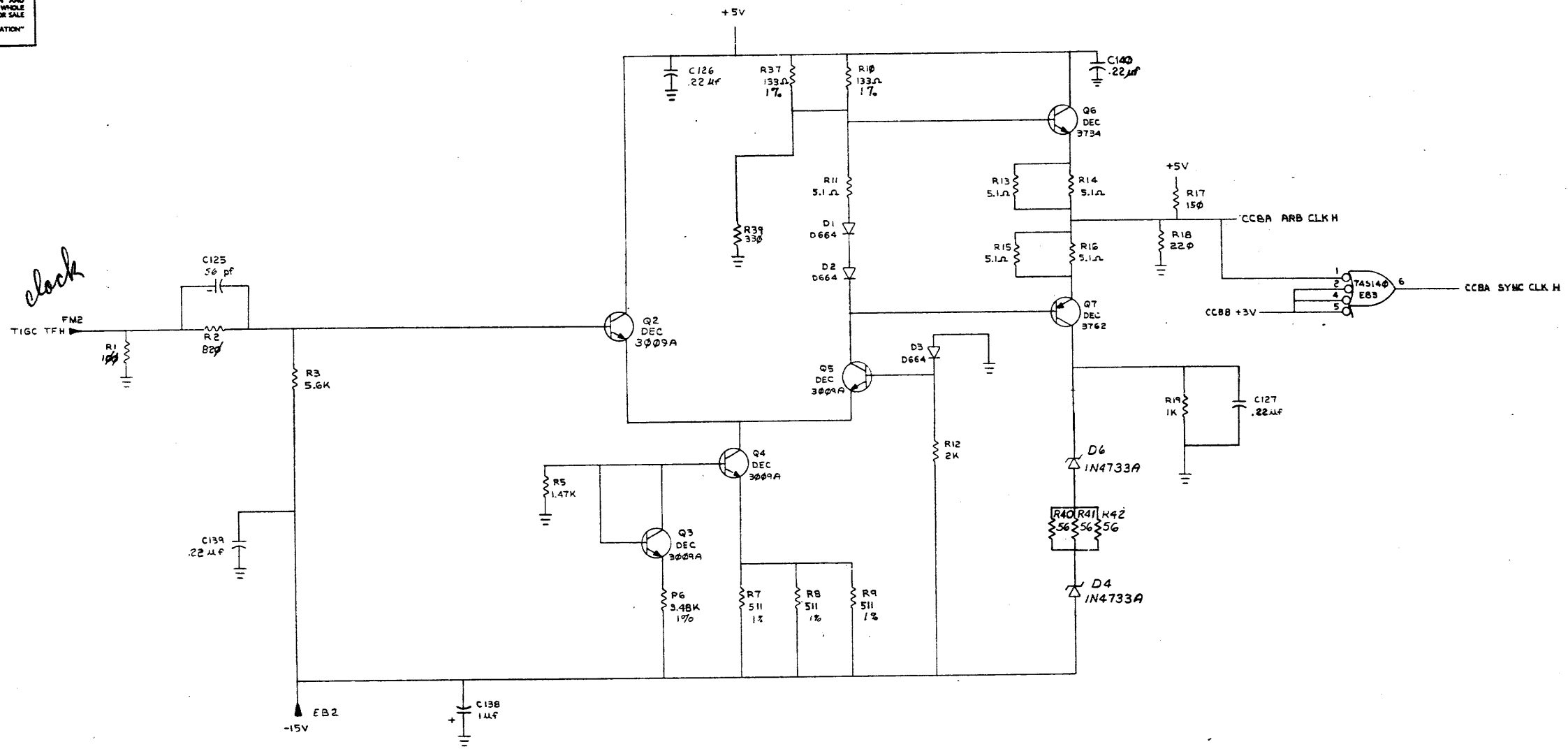
SIZE CODE: DCS M8142-0-1

NUMBER: TW

SHEET 1 OF 13

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DCS M8142-0-1 2



REVISIONS		
CHK	CHANGE NO.	REV.

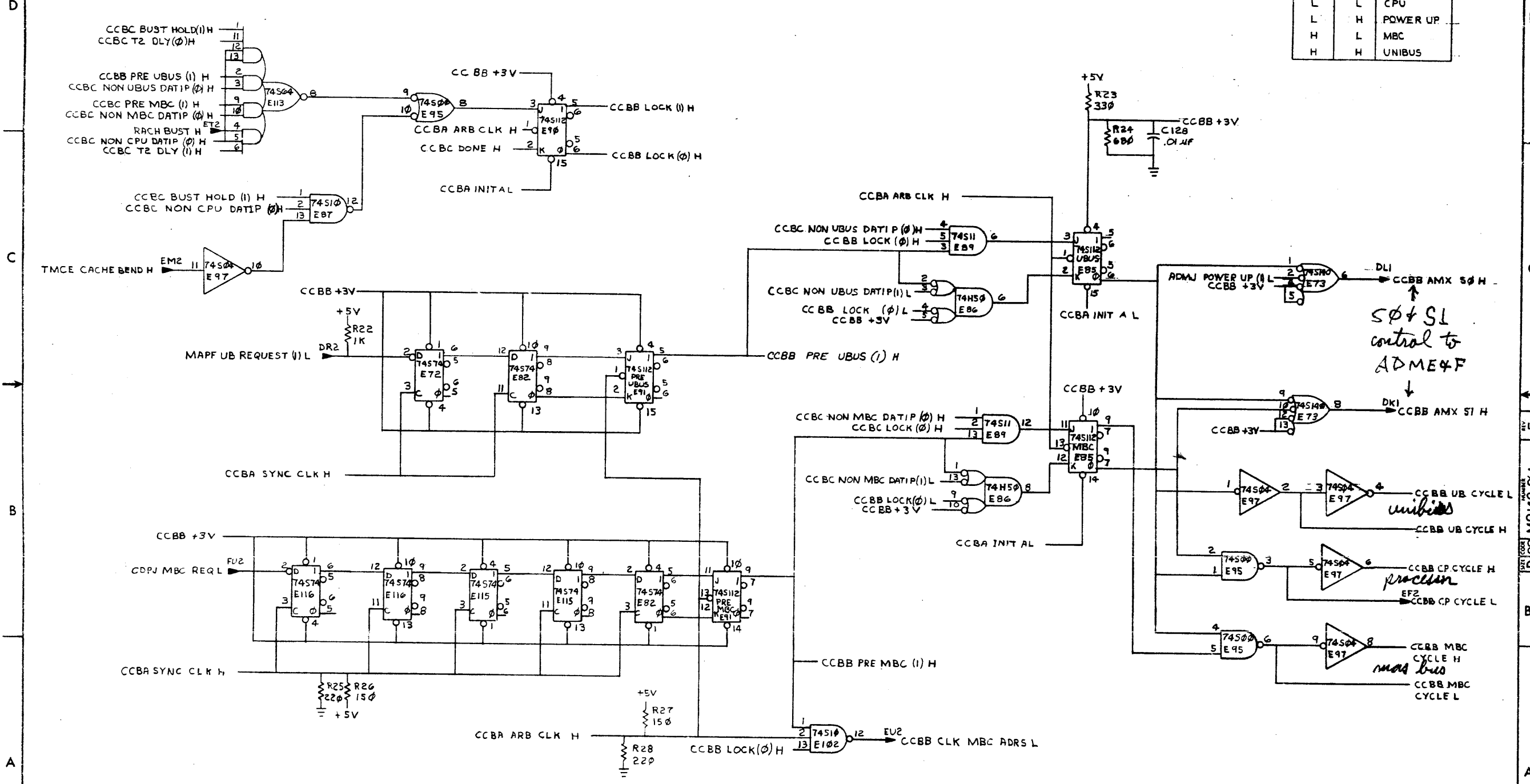
INIT + CLK LOGIC (SLOT 17)

TITLE	SIZE CODE	NUMBER	REV.
CACHE CONTROL BOARD (CCBA)	D CS	M8142-0-1	F
SCALE	SHEET	DIST.	
---	2 OF 13		

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S1	S0	CYCLE
L	L	CPU
L	H	POWER UP
H	L	MBC
H	H	UNIBUS



S0 + S1 control to ADME4F

unibus

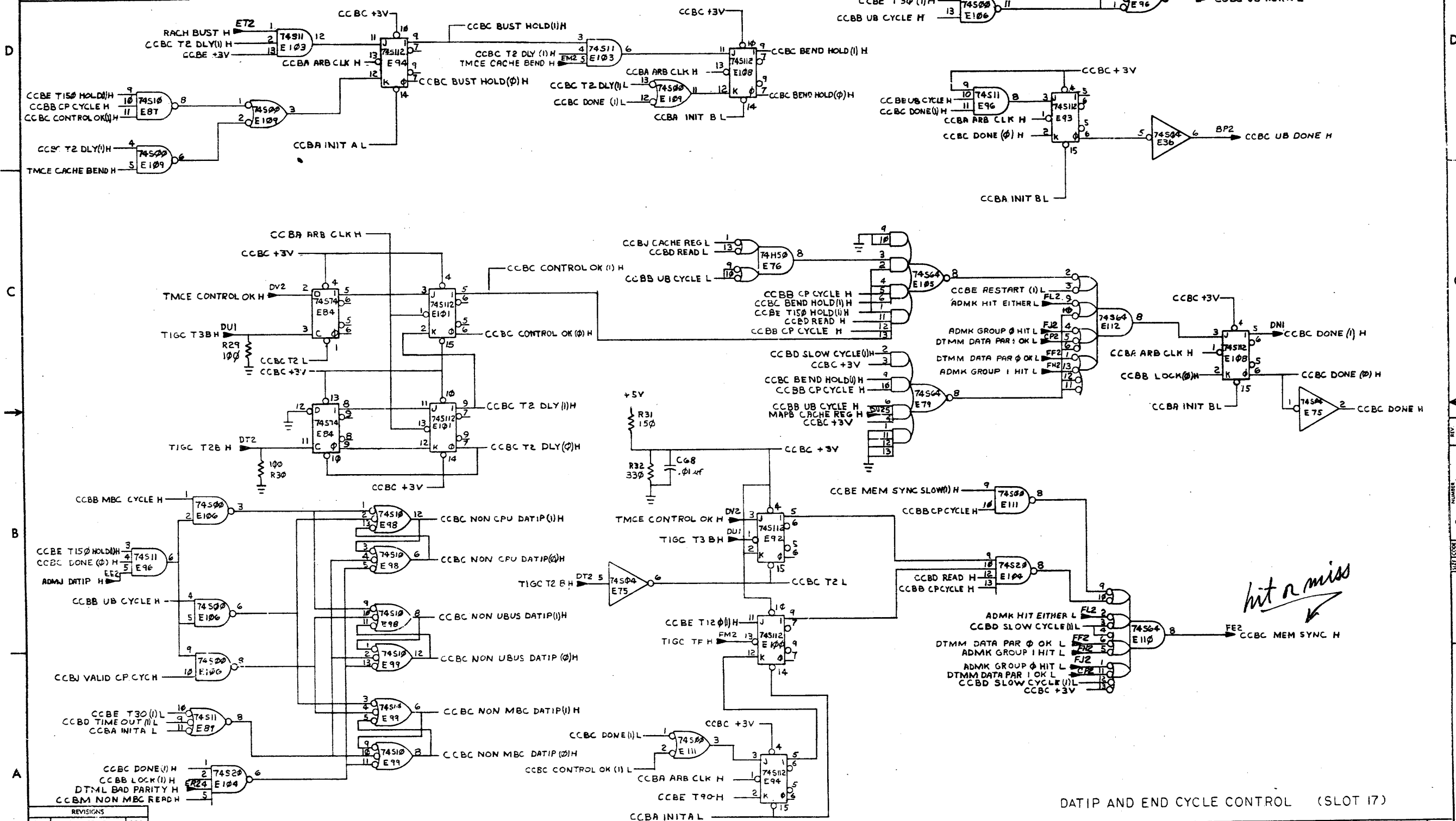
processor

main bus

REVISIONS		
CHK	CHANGE NO.	REV.

REQUEST ARBITRATOR (SLOT 17)
 TITLE: CACHE CONTROL BOARD (CCBB)
 SIZE CODE: DCS
 NUMBER: M8142-01
 REV.: F
 SCALE: $\frac{1}{1}$
 SHEET: 3 OF 13
 DIST.:

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hit a miss

DATIP AND END CYCLE CONTROL (SLOT 17)

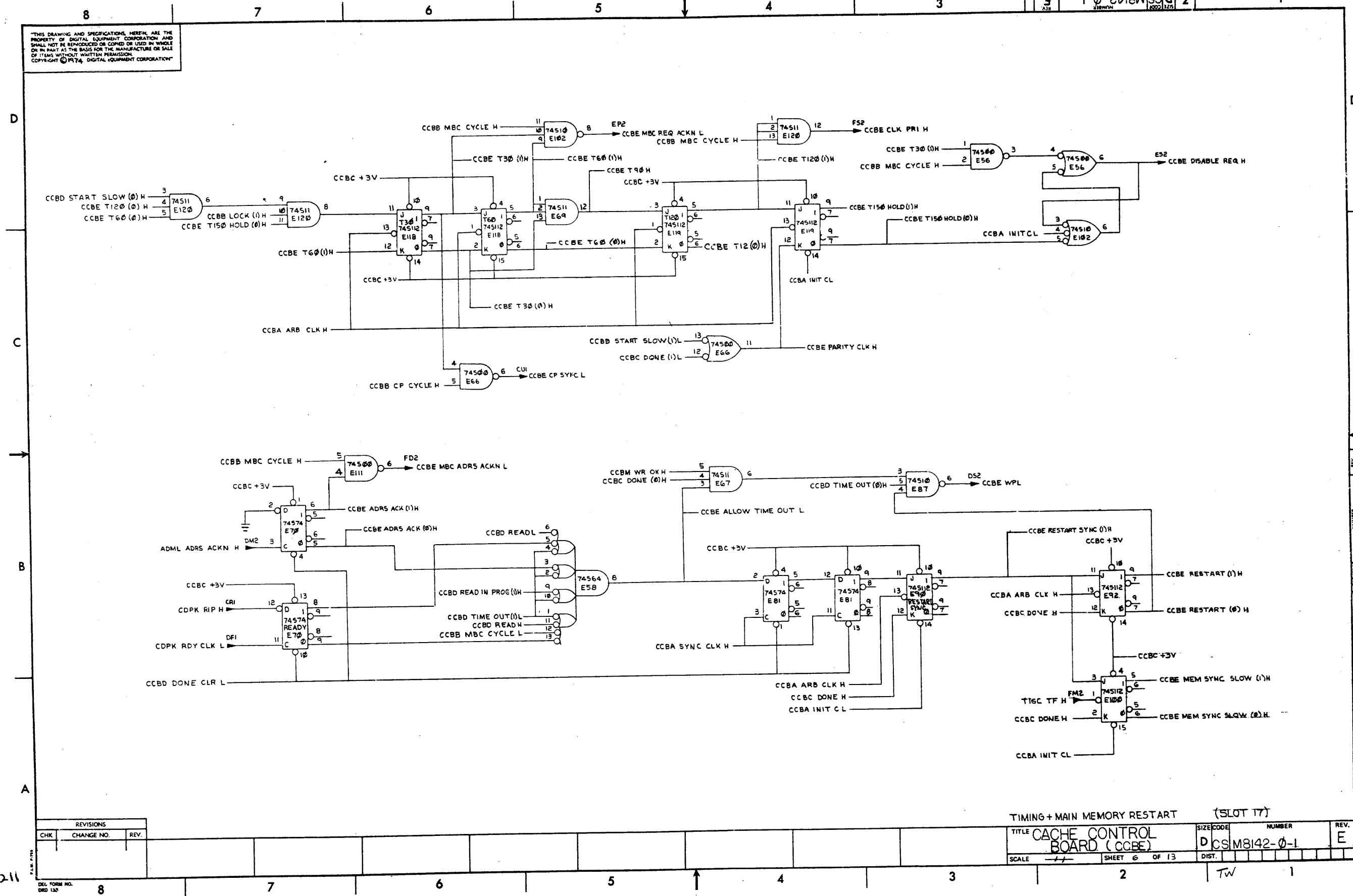
CHK	CHANGE NO.	REV.

TITLE	CACHE CONTROL BOARD (CCBC)	SIZE CODE	D/CS	NUMBER	M8142-0-1	REV.	F
SCALE		SHEET	4	OF 13		DIST.	

209

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1-0-21818 WSD 2

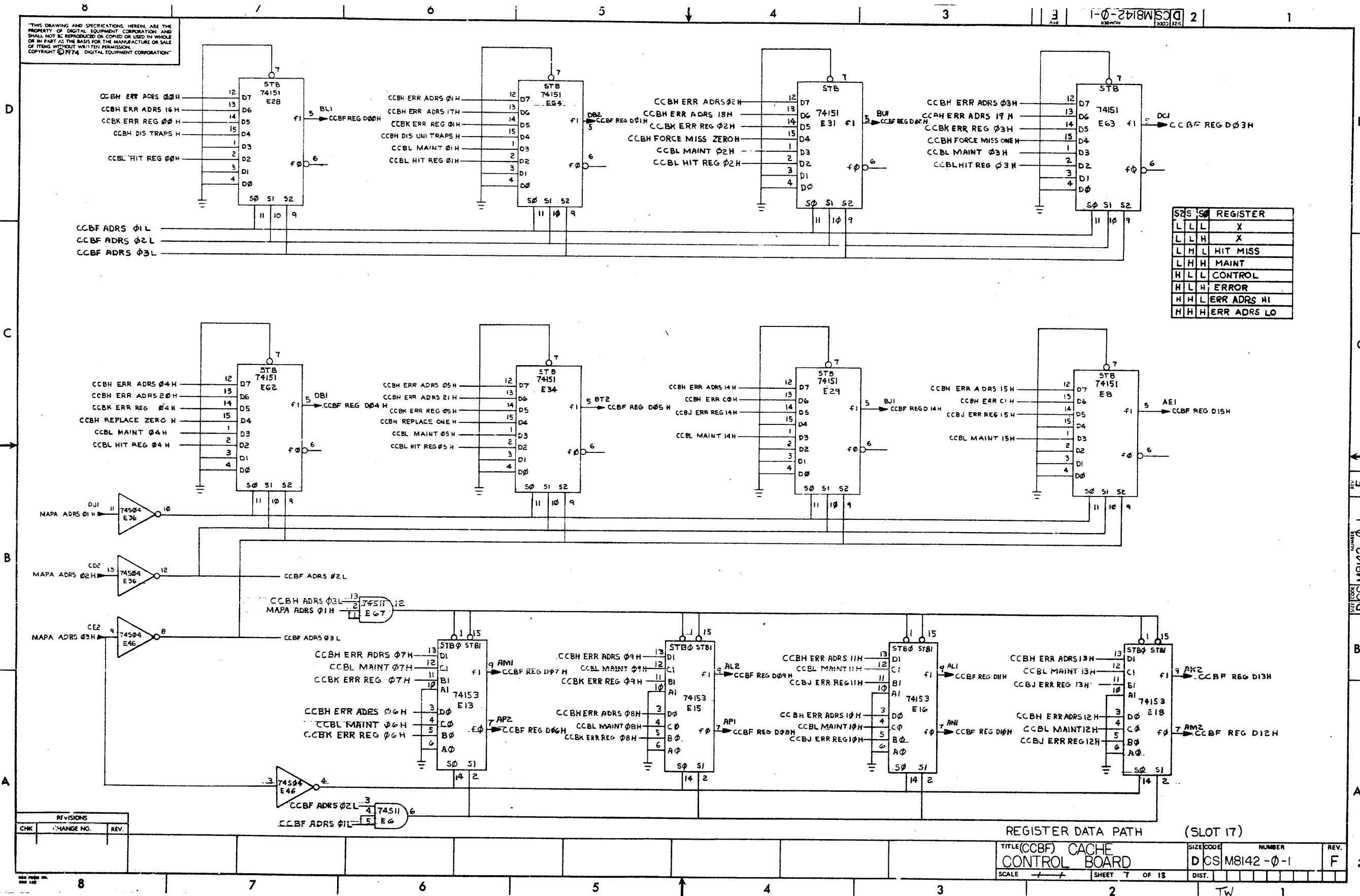


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		TIMING + MAIN MEMORY RESTART (SLOT 17)		SIZE CODE		NUMBER		REV.	
CACHE CONTROL BOARD (CCBE)		DCS M8142-0-1		D		1		E	
SCALE		SHEET 6 OF 13		DIST.		TW			

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DCS M8142-0-1

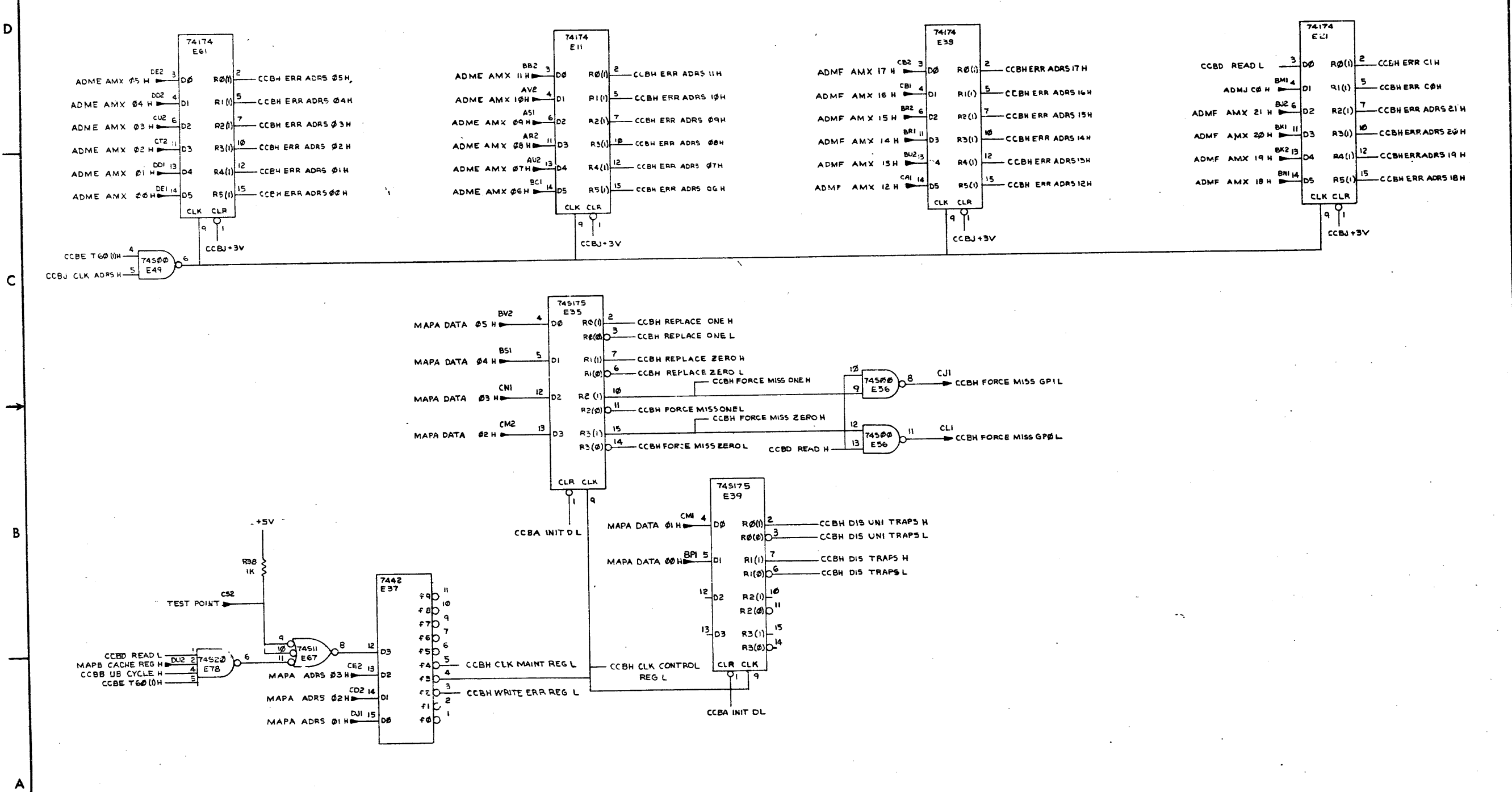


REVISIONS		
CHK	CHANGE NO.	REV.

REGISTER DATA PATH (SLOT 17)

TITLE (CCBF) CACHE CONTROL BOARD
 SIZE CODE DCS M8142-0-1
 NUMBER TW
 REV. F
 SHEET 7 OF 13

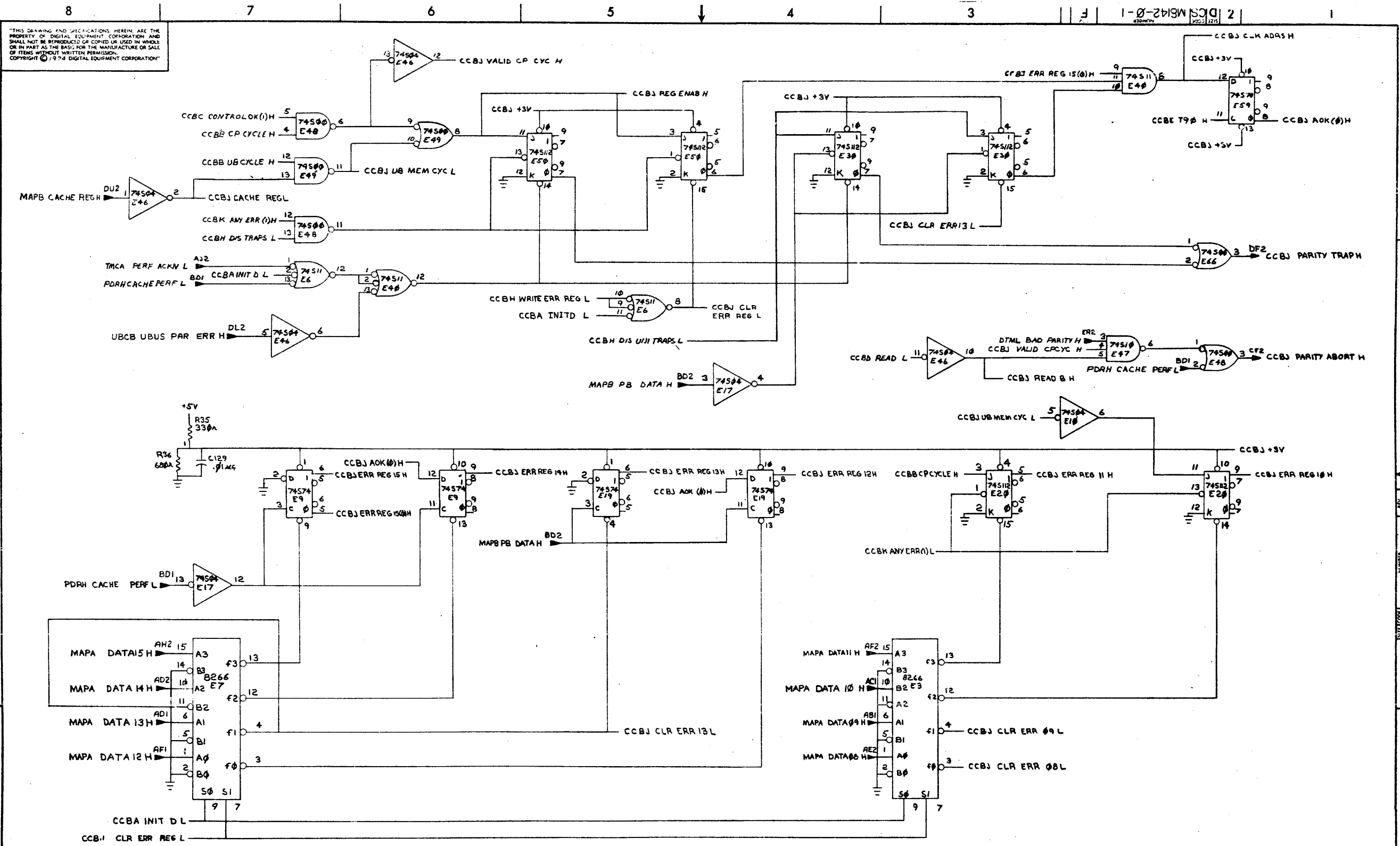
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REVISIONS		
CHK	CHANGE NO.	REV.

ERROR ADRS REG & DECODE (SLOT 17)		SIZE CODE	NUMBER	REV.
TITLE CACHE CONTROL BOARD (CCBH)		DCS	M8142-0-1	F
SCALE	SHEET	OF	DIST.	
++	8	13		

REV. F
NUMBER DCS M8142-0-1

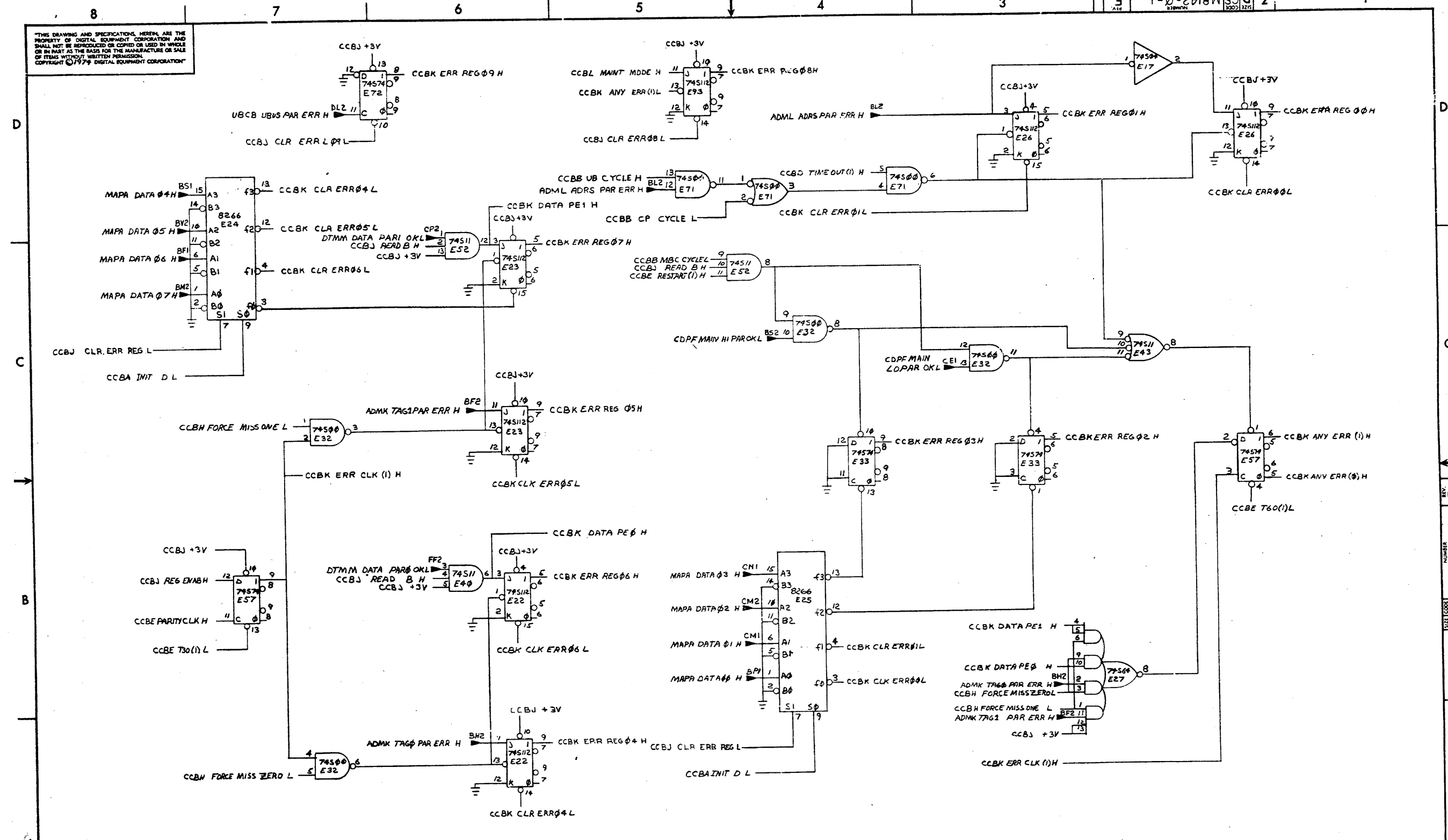


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		CACHE CONTROL BOARD (CCBJ)		SIZE CODE	NUMBER	REV.
SCALE		SHEET 9 OF 13		DIST.	D CS MB142-0-1	F

REV. F
NUMBER D CS MB142-0-1

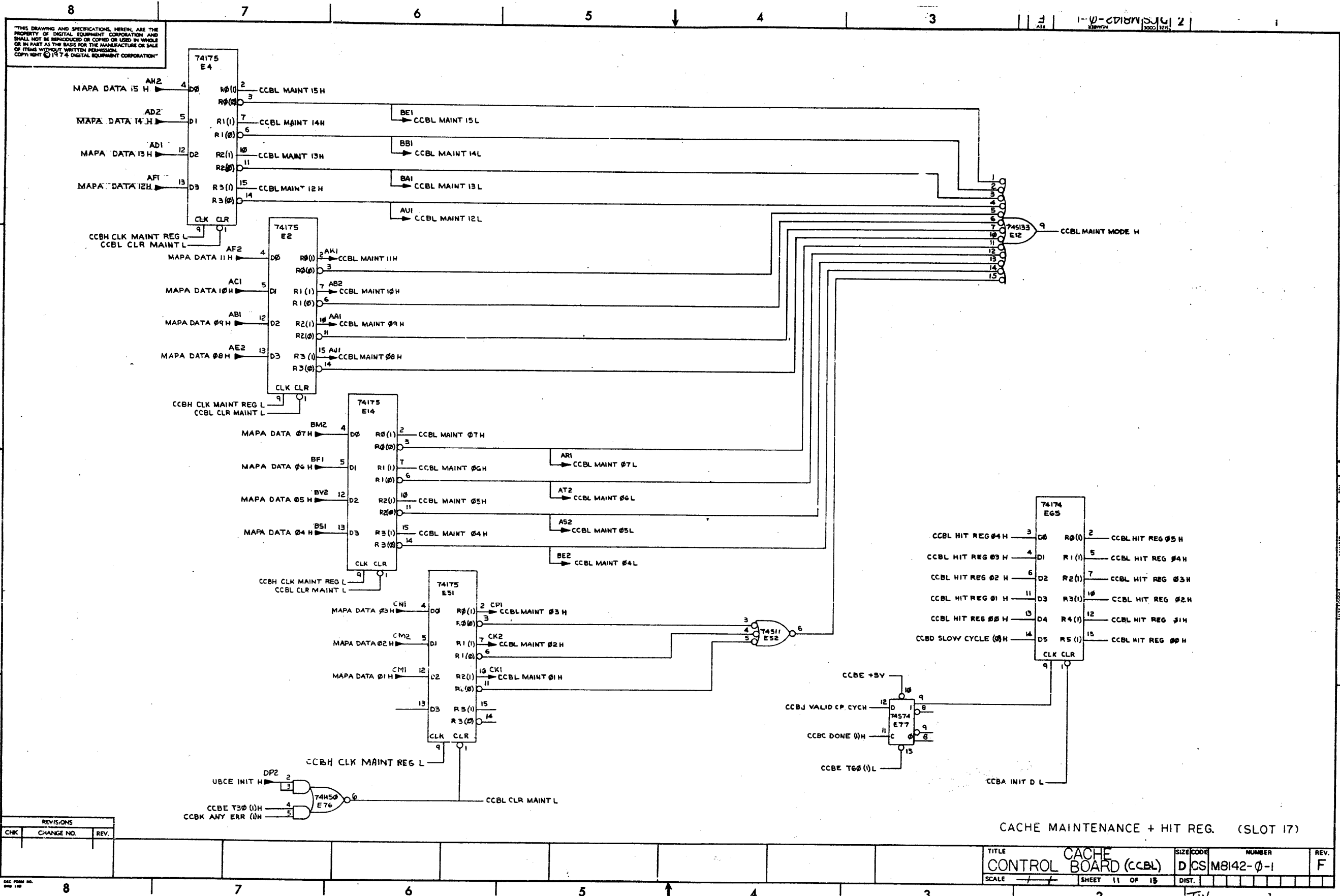
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CACHE ERROR REGISTER (SLOT 17)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CACHE (CCBK) CONTROL BOARD	SIZE	CODE	NUMBER	REV.
SCALE	SHEET 10 OF 13	DIST.		D CS M8142-0-1	F

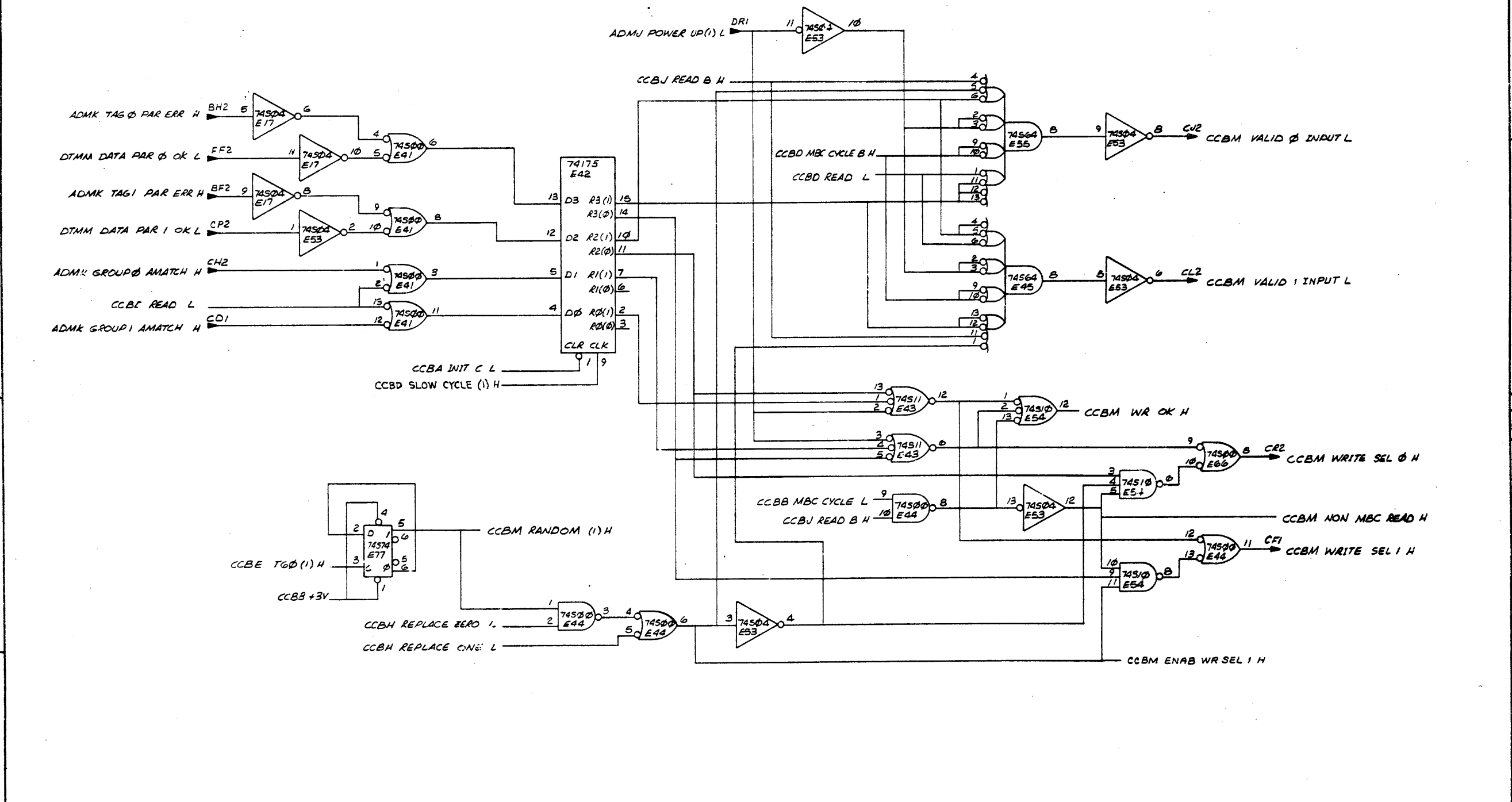


CACHE MAINTENANCE + HIT REG. (SLOT 17)

TITLE	CACHE CONTROL BOARD (CCBL)	SIZE CODE	NUMBER	REV.
SCALE	11	SHEET 11 OF 13	D CS M8142-0-1	F

CHK	CHANGE NO.	REV.

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REVISIONS		
CHK	CHANGE NO.	REV.

VALID AND WRITE SELECT LOGIC (SLOT 17)

TITLE	SIZE CODE	NUMBER	REV.
CACHE CONTROL BOARD (CCBM)	D CS	M8142-0-1	F
SCALE	SHEET	OF	DIST.
---	12	13	

D CS M8142-0-1

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1777740 ERROR ADDRESS LOW
 1777742 ERROR ADDRESS HI
 1777744 ERROR REGISTER
 1777746 CONTROL REGISTER
 1777750 MAINTENANCE REGISTER
 1777752 HIT MISS

CACHE ERROR REGISTER

BIT	DESCRIPTION
ERR REG 15	CPU ABORT
ERR REG 14	CPU ABORT AFTER ADRS LOCK
ERR REG 13	PARITY ERROR ON DATA TO UNIBUS
ERR REG 12	PARITY ERROR ON DATA TO UNIBUS AFTER ADRS LOCK
ERR REG 11	ERROR DURING CP CYCLE
ERR REG 10	ERROR DURING UNIBUS CYCLE
ERR REG 09	CPU RECEIVED PARITY ERROR FROM UNIBUS CYCLE
ERR REG 08	ERROR IN MAINTENANCE MODE
ERR REG 07	FAST DATA MEMORY PARITY ERROR GROUP 1
ERR REG 06	FAST DATA MEMORY PARITY ERROR GROUP 0
ERR REG 05	ADDRESS MEMORY PARITY ERROR GROUP 1
ERR REG 04	ADDRESS MEMORY PARITY ERROR GROUP 0
ERR REG 03	MAIN MEMORY PARITY ERROR ODD WORD
ERR REG 02	MAIN MEMORY PARITY ERROR EVEN WORD
ERR REG 01	MAIN MEMORY ADDRESS PARITY ERROR
ERR REG 00	MAIN MEMORY TIMEOUT

CONTROL REGISTER

BIT	DESCRIPTION
05	FORCE REPLACEMENT TO GROUP 1
04	FORCE REPLACEMENT TO GROUP 0
03	FORCE MISS GROUP 1 (READ CYCLES)
02	FORCE MISS GROUP 0 (READ CYCLES)
01	DISABLE UNIBUS PB TRAPS
00	DISABLE CPU AND FAST MEMORY TRAPS

CACHE MAINTENANCE REGISTER

BIT	DESCRIPTION
MAINT 15	FORCE MAIN MEMORY ODD WORD, HI BYTE PARITY BIT TO 1
MAINT 14	FORCE MAIN MEMORY ODD WORD, LO BYTE PARITY BIT TO 1
MAINT 13	FORCE MAIN MEMORY EVEN WORD, HI BYTE PARITY BIT TO 1
MAINT 12	FORCE MAIN MEMORY EVEN WORD, LO BYTE PARITY BIT TO 1
MAINT 11	FORCE WRONG ADDRESS MEMORY PARITY GROUP 1
MAINT 10	FORCE WRONG ADDRESS MEMORY PARITY GROUP 0
MAINT 09	FORCE WRONG ADDRESS MEMORY PARITY GROUP 0
MAINT 08	FORCE WRONG ADDRESS MEMORY PARITY GROUP 0
MAINT 07	FORCE FAST DATA MEMORY, GROUP 1 HI BYTE PARITY BIT TO 1
MAINT 06	FORCE FAST DATA MEMORY, GROUP 1 LO BYTE PARITY BIT TO 1
MAINT 05	FORCE FAST DATA MEMORY, GROUP 0 HI BYTE PARITY BIT TO 1
MAINT 04	FORCE FAST DATA MEMORY, GROUP 0 LO BYTE PARITY BIT TO 1
MAINT 03	MAIN MEMORY MARGIN CODE
MAINT 02	
MAINT 01	
MAINT 00	NOT USED

MAINT 3	MAINT 2	MAINT 1	DESCRIPTION
0	0	0	NORMAL OPERATION
0	0	1	CHECK WRONG ADDRESS PARITY
0	1	0	EARLY STROBE MARGIN
0	1	1	LATE STROBE MARGIN
1	0	0	LOW CURRENT MARGIN
1	0	1	HIGH CURRENT MARGIN
1	1	0	NOT USED
1	1	1	NOT USED

11/70 PARITY ERROR RESPONSE

SOURCE OF CYCLE	CYCLE TYPE	TYPE OF ERROR	ACTION*				BITS SET IN ERROR REGISTER
			ALL TRAPS ENABLED	DISABLE WARNING TRAPS (CR# 1)	DISABLE ALL TRAPS (CR #1, #0 3)		
CPU to CACHE	DATI/P	MAIN BUS TIMEOUT	ABORT	ABORT	ABORT	15, 11, 0	
		MAIN BUS PARITY	ABORT	ABORT	ABORT	15, 11, 1	
	DATO/B	MAIN MEM WANTED WORD	ABORT	ABORT	ABORT	15, 11, 2 or 3	
		MAIN MEM OTHER WORD	TRAP	NO ACTION	NO ACTION	11, 2 or 3	
		FAST MEM ADDRESS	TRAP	NO ACTION	NO ACTION	11, 4 or 5	
		FAST MEM DATA	TRAP	NO ACTION	NO ACTION	11, 6 or 7	
UNIBUS (thru MAP) to CACHE	DATI/P	MAIN BUS TIMEOUT	UNIBUS TIMEOUT	UNIBUS TIMEOUT	UNIBUS TIMEOUT	NONE	
		MAIN BUS PARITY	UNIBUS TIMEOUT, TRAP	UNIBUS TIMEOUT	UNIBUS TIMEOUT	10, 1	
	DATO/B	MAIN MEM WANTED WORD	UNIBUS PB, TRAP	UNIBUS PB, TRAP	UNIBUS PB	13, 10, 2 or 3	
		MAIN MEM OTHER WORD	TRAP	NO ACTION	NO ACTION	10, 2 or 3	
		FAST MEM ADDRESS	TRAP	NO ACTION	NO ACTION	10, 4 or 5	
		FAST MEM DATA	TRAP	NO ACTION	NO ACTION	10, 6 or 7	
CPU to UNIBUS thru MAP to CACHE	DATI/P	MAIN BUS TIMEOUT	UNIBUS TIMEOUT, TRAP	UNIBUS TIMEOUT	UNIBUS TIMEOUT	10, 0	
		MAIN BUS PARITY	UNIBUS TIMEOUT, TRAP	UNIBUS TIMEOUT	UNIBUS TIMEOUT	10, 1	
	DATO/B	FAST MEM ADDRESS	TRAP	NO ACTION	NO ACTION	10, 4 or 5	
		MAIN BUS TIMEOUT	UNIBUS TIMEOUT	UNIBUS TIMEOUT	UNIBUS TIMEOUT	10, 4 or 5	
		MAIN BUS PARITY	UNIBUS TIMEOUT, TRAP	UNIBUS TIMEOUT	UNIBUS TIMEOUT	10, 1	
		FAST MEM ADDRESS	TRAP	NO ACTION	NO ACTION	10, 4 or 5	

* ALL TRAPS VECTOR TO 114

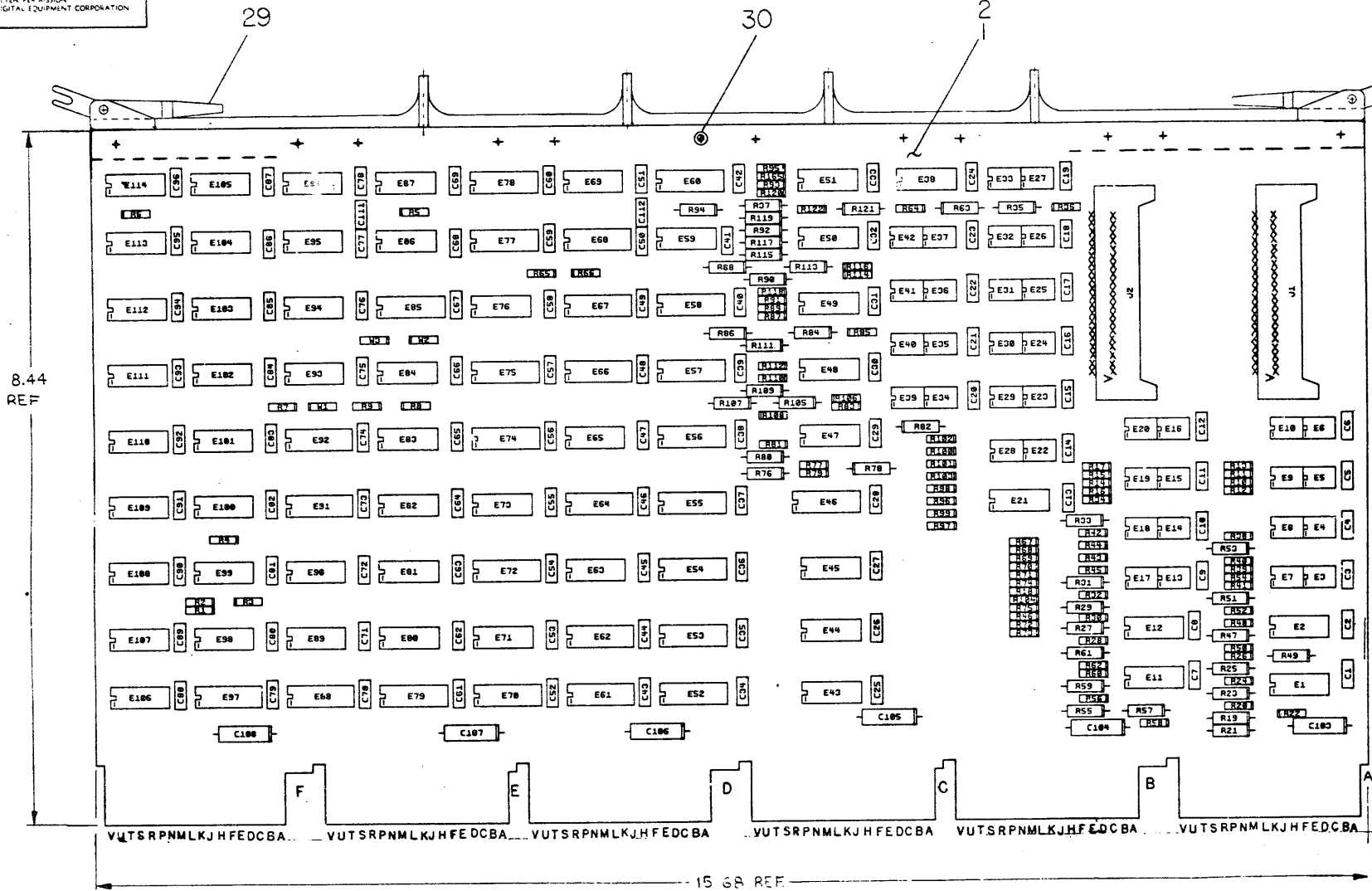
NOTES

- THESE TABLES ONLY COVER SINGLE ERRORS.
- THE PROCESSOR ALSO WILL ABORT TO 114 WHEN DOING DATI/P CYCLES ON THE UNIBUS AND THE DEVICE ASSERTS PB. IN THESE CASES, BIT 9 SETS IN THE ERROR REGISTER.
- ERRORS ON MASSBUS CYCLES ARE HANDLED BY THE MASSBUS CONTROLS, AND HAVE AN EFFECT ON THE ERROR REGISTER.

REVISIONS		
CHK	CHANGE NO	REV

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NOTES: E77 AND E78 ARE SPARES.

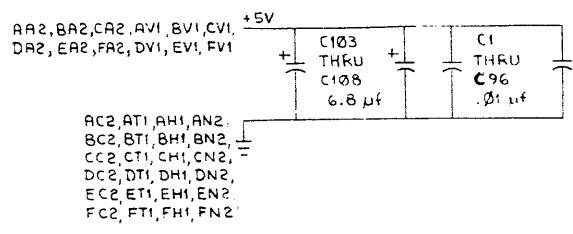


REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8145-G-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8145-B-5	2
REF	MODULE ECO HISTORY	B-MH-M8145-B-6	3
1	ETCHED CIRCUIT BOARD	5011386	4
9A	C1 THRU C96, C111, C112	CAPACITOR, .01uf, 100V, 20%	5
6	C103 THRU C108	CAPACITOR, 6.8uf, 35V, 20%	6
2	R5, R65	RESISTOR, 330 OHM, 1/4W, 5%	7
43	R1 THRU R4, R7 THRU R9, R10 THRU R18, R38 THRU R46, R67 THRU R75, R96 THRU R104	RESISTOR, 1K, 1/4W, 5%	8
2	R6, R66	RESISTOR, 680 OHM, 1/4W, 5%	9
38	R19, R21, R23, R25, R27, R29, R31, R33, R35, R37, R47, R49, R51, R53, R55, R57, R59, R61, R63, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R105, R107, R109, R111, R113, R115, R117, R119, R121	RESISTOR, 121 OHM, 1/2W, 1%	10
38	R20, R22, R24, R26, R28, R30, R32, R34, R36, R48, R50, R52, R54, R56, R58, R60, R62, R64, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R106, R108, R110, R112, R114, R116, R118, R120, R122, R165	RESISTOR, 196 OHM, 1/4W, 1%	11
4	E52, E79, E88, E97	I C. DEC 826F	12
5	E81, E82, E89, E100, E103	I C. DEC 74S00	13
4	E69, E80, E99, E108	I C. DEC 74S04	14
5	E43, E84, E90, E98, E107	I C. DEC 74S10	15
6	E73, E76, E83, E106, E109, E110	I C. DEC 74S11	16
2	E93, E113	I C. DEC 74S20	17
4	E86, E87, E94, E95	I C. DEC 74S64	18
6	E96, E101, E102, E104, E111, E112	I C. DEC 74S74	19
2	E44, E114	I C. DEC 74S140	20
9	E55, E58, E64, E66, E67, E70, E72, E74, E75	I C. DEC 74S158	21
18	E4, E6, E8, E10, E14, E16, E18, E20, E22, E23, E24, E25, E27, E34, E35, E36, E37, E26	I C. DEC 75452	22
12	E46, E53, E54, E56, E57, E60, E61, E62, E68, E85, E91, E92	I C. DEC 74S175	23
18	E3, E5, E7, E9, E13, E15, E17, E19, E28, E29, E30, E31, E32, E33, E39, E40, E41, E42	I C. DEC 75453	24
6	E21, E45, E59, E63, E65, E71	I C. DEC 82S62	25
11	E1, E2, E11, E12, E38, E47, E48, E49, E50, E51, E105	I C. DEC 8640	26
3	W1, W2, W3	JUMPER	27
2	J1, J2	CONNECTOR BERG 40 PIN	28
1		HANDLE ASSY	29
12		EYELET	30
1		BLOCK DIAGRAM	31

IC TYPE	GND	+5V
IC DEC 8640	1	8
IC DEC 74S175	8	16
IC DEC 75453	4	8
IC DEC 75452	4	8
IC DEC 74S158	8	16
IC DEC 8266	8	16
IC TYPE	GND	+5V

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

IC PIN LOCATIONS



11/70

ETCH BOARD REV B

DATE 12/18/74

CHK'D R. BOUCHER

ENG. FERGUSON

DATE 12/18/75

PROJ. ENG. ALLAN HELENIUS

DATE 1/13/75

PROD. ALLAN HELENIUS

DATE 1/13/75

K. TAYLOR

DATE 1/13/75

NEXT HIGHER ASSY

SCALE

SHEET 1 OF 10

SEMICONDUCTOR CONVERSION CHART

digital EQUIPMENT CORPORATION

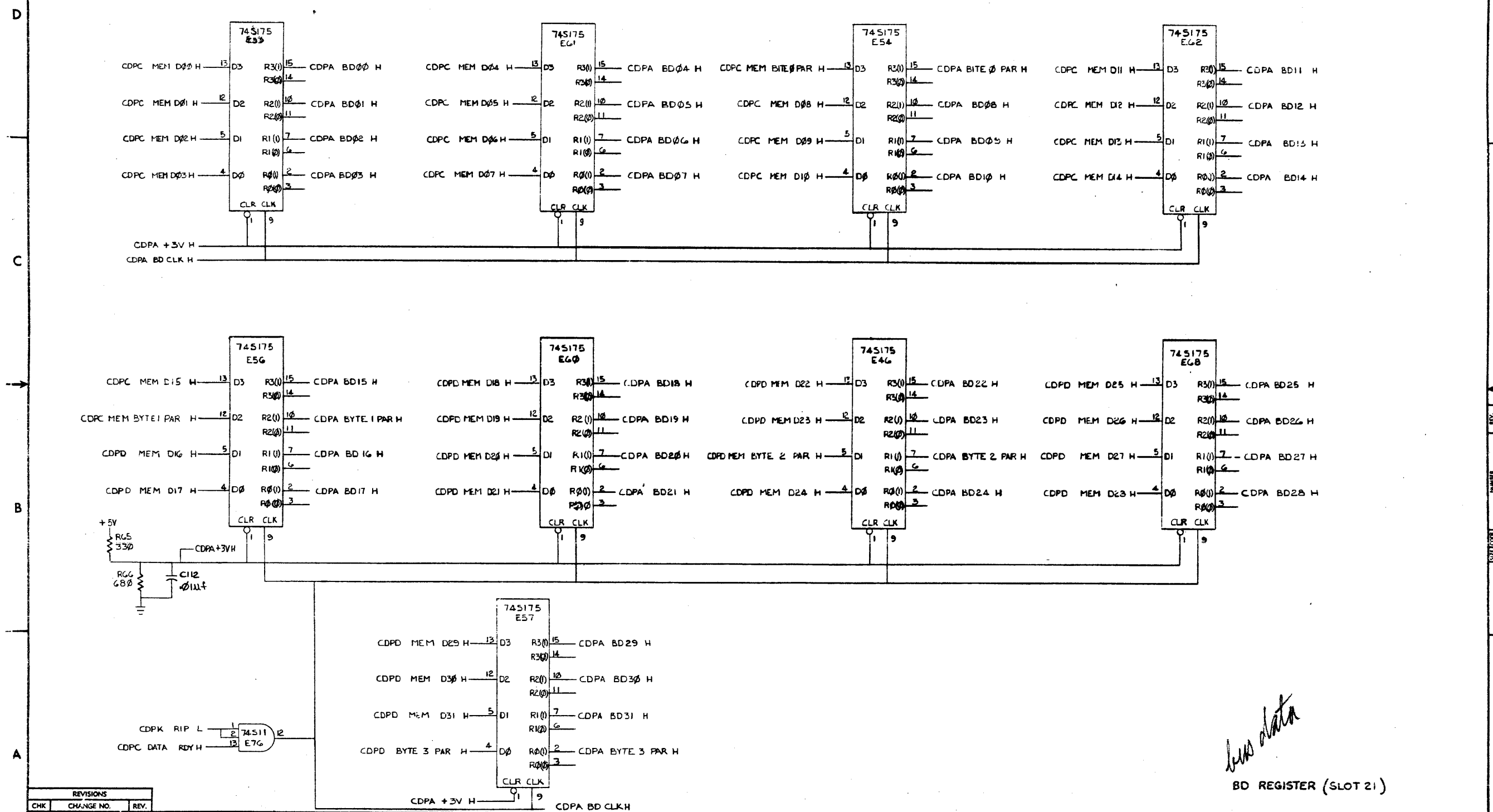
TITLE: CACHE DATA PATH

SIZE CODE: DCS M8145-0-1

REV. C

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1-0-0-18W DCS M8145-0-1 2



bus data
BD REGISTER (SLOT 21)

REVISIONS		
CHK	CHANGE NO.	REV.

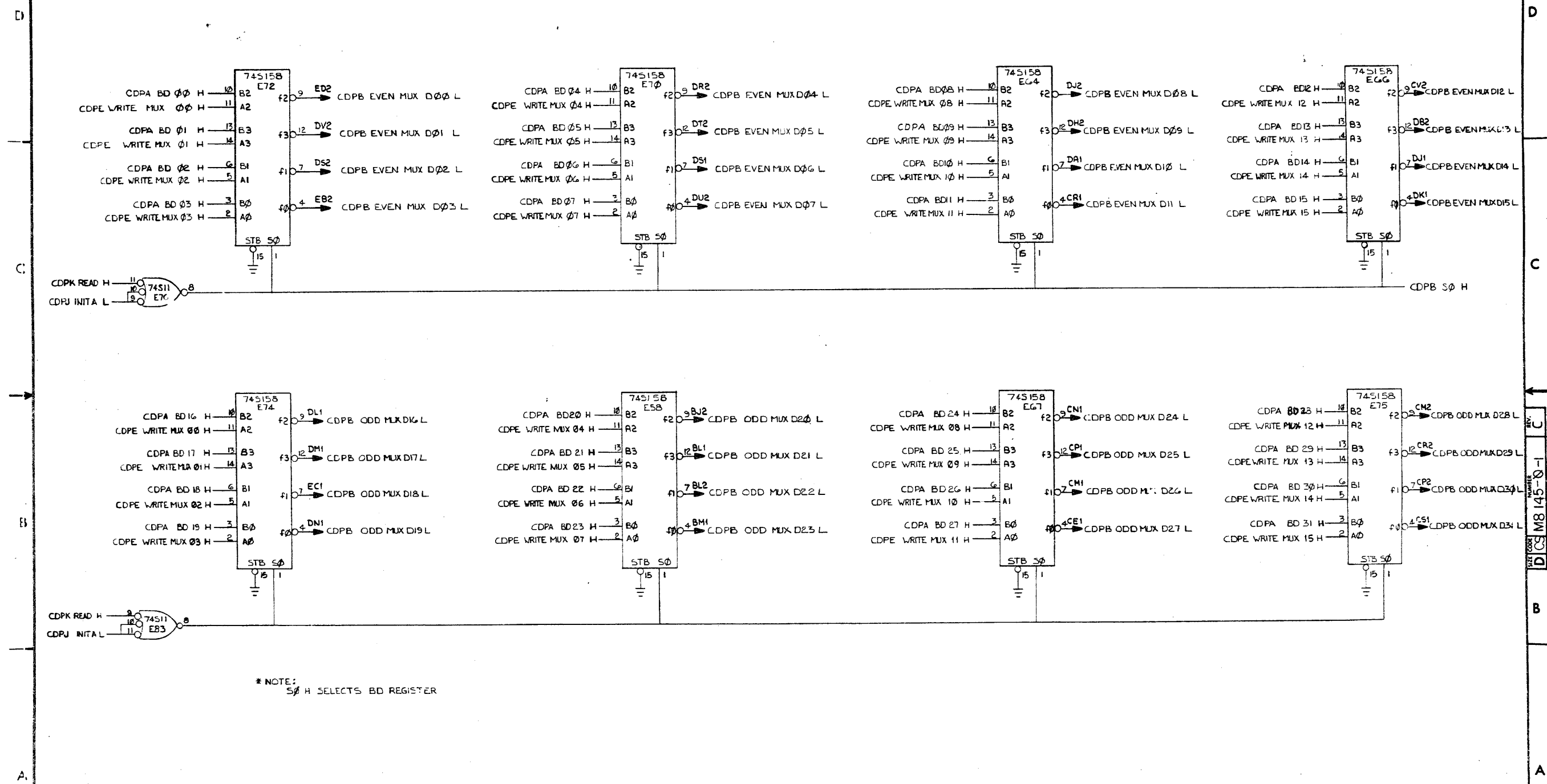
128

TITLE	(CDPA)	SIZE CODE	NUMBER	REV.
CACHE DATA PATH	DCS	M8145-0-1	G.	
SCALE	SHEET 2 OF 10	DIST.		

220

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1-0-5418181 2



* NOTE:
S0 H SELECTS BD REGISTER

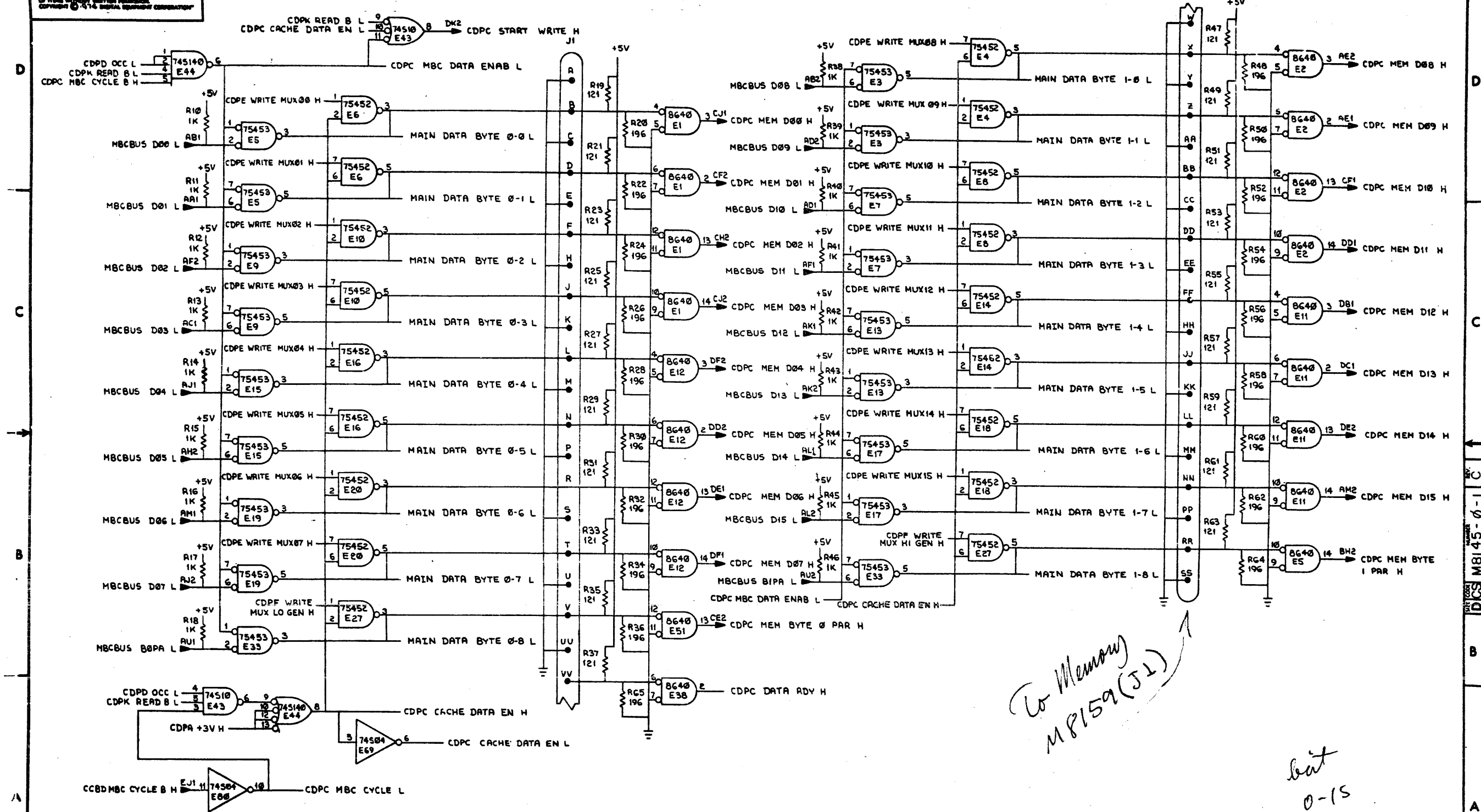
DATA MULTIPLEXER (SLOT 21)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
CACHE DATA PATH	D	CS	M8145-0-1	C
SCALE	SHEET	OF	TOTAL	DIST.
	3	10		

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1-0-5418 SC 2



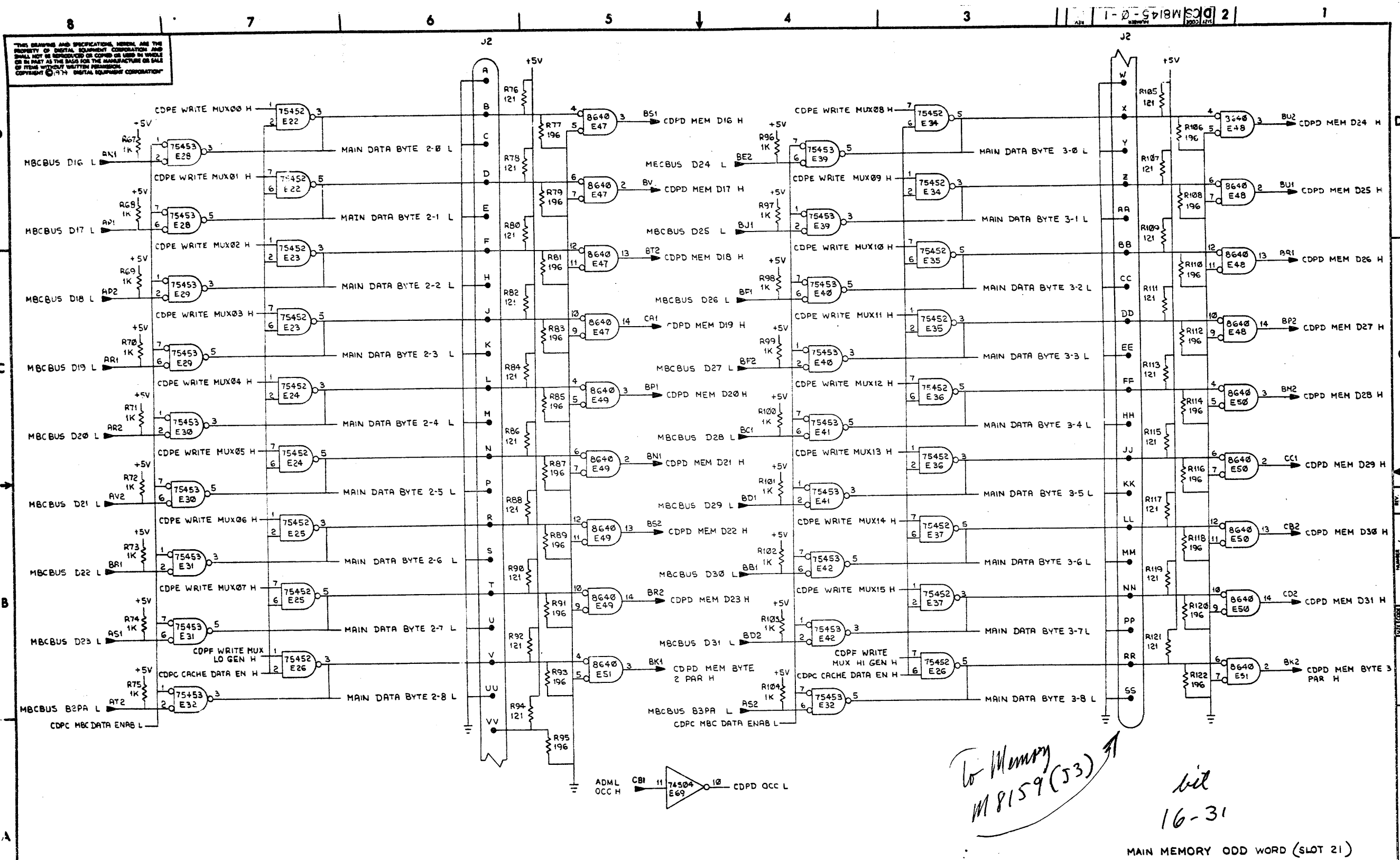
*To Memory
M8159(JL)*

*bit
0-15*

MAIN MEMORY EVEN WORD (SLOT 21)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CACHE DATA PATH (CDPC)	SIZECODE	DCS	NUMBER	M8145-0-1	REV.	C
SCALE		SHEET	4	OF	10	DIST.	

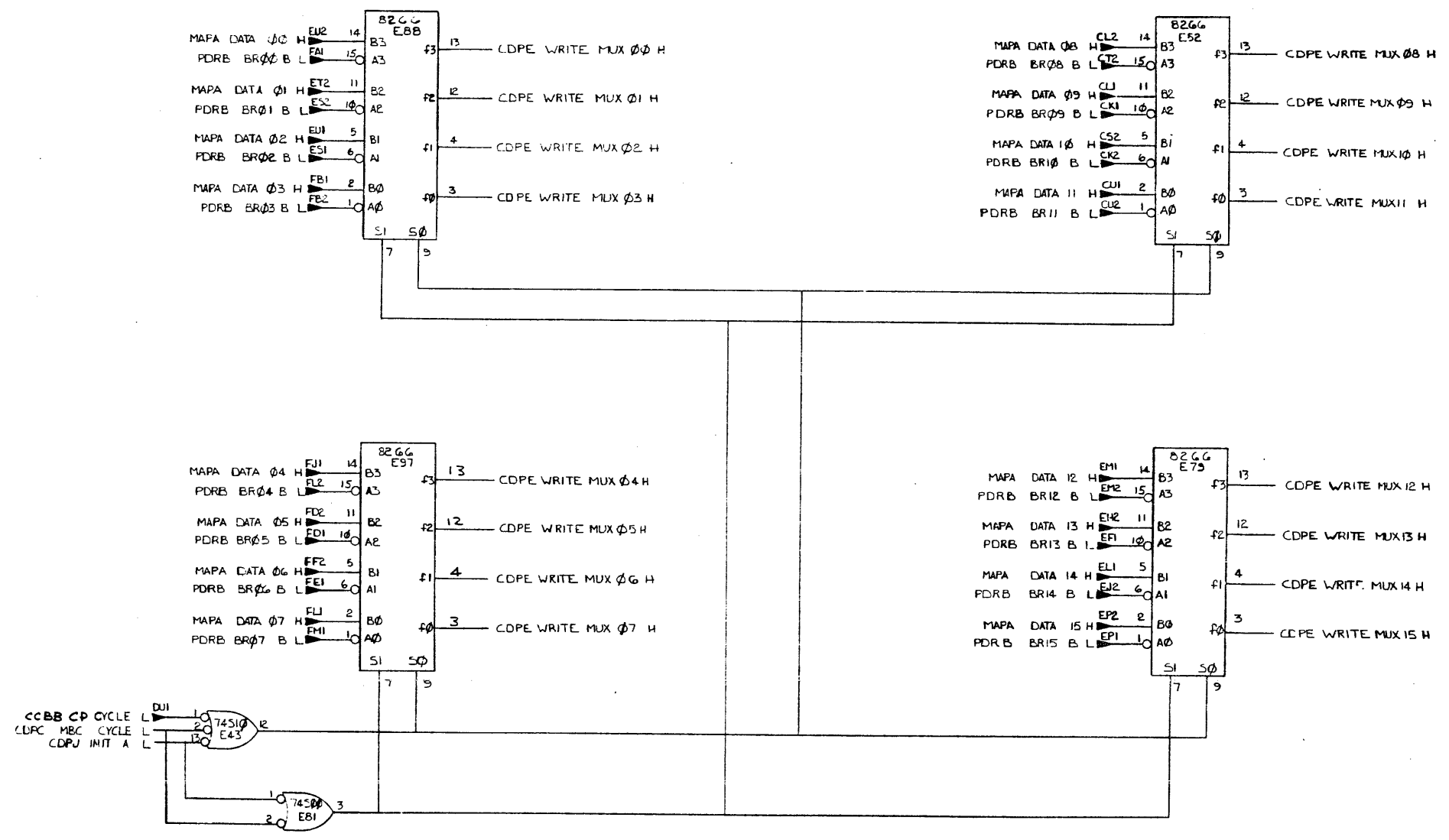


REVISIONS			TITLE		SIZE	CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.	CACHE DATA PATH (CDPD)		D	CS	M8145-0-1	C
			SCALE	SHEET 5 OF 10	DIST.			

223

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REV. 1-75
 M8145-0-1
 SHEET 6 OF 10



SI	SQ	OUTPUT	OPERATION
L	L	MAP DATA	UNIBUS CYCLE
L	H	BR DATA	CP CYCLE
H	L	MAP DATA	CAN'T HAPPEN
H	H	ALL 'S	MBC CYCLE, PUP

WRITE MULTIPLEXER (SLOT 21)

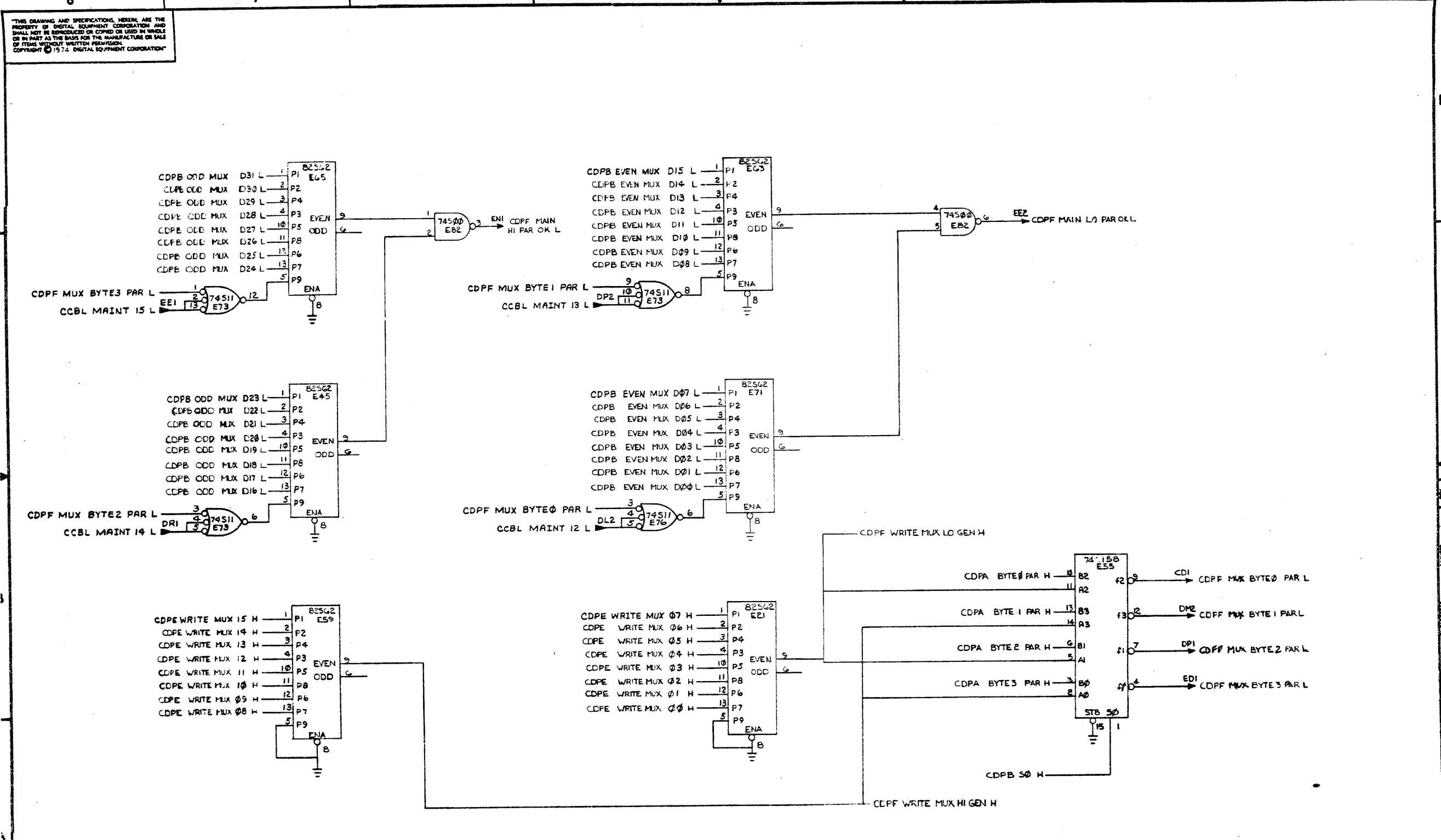
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	(CDPE)	SIZE CODE	NUMBER	REV.
CACHE DATA PATH	D CS	M8145-0-1	C	
SCALE	SHEET 6 OF 10	DIST.		

132

224

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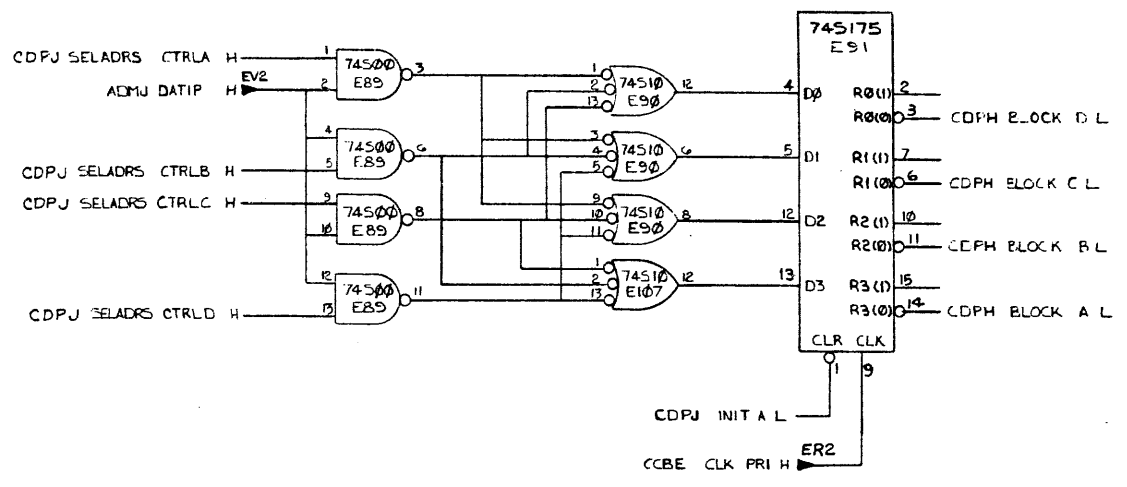
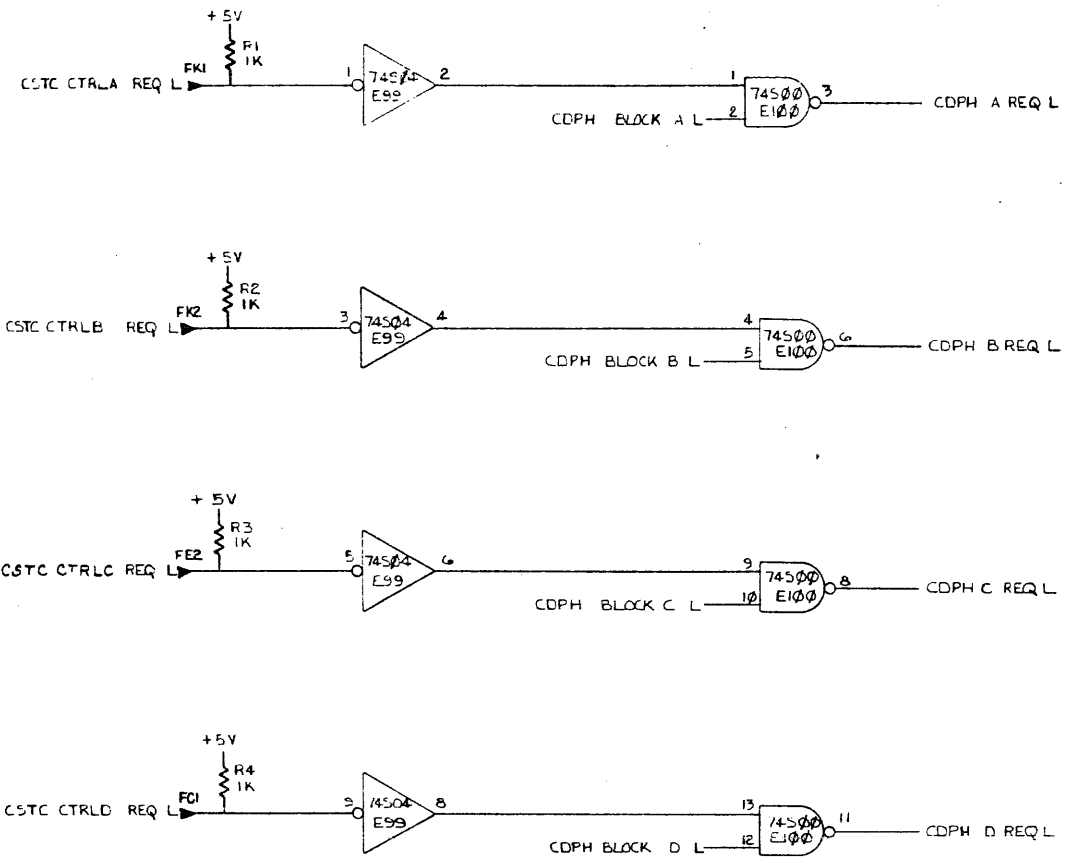
MEMORY PARITY CONTROL (SLOT 21)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE/SCALE	NUMBER	REV.
CACHE DATA PATH (CDPF)	D CS	M8145-0-1	C
SCALE	SHEET 7 OF 10	DIST.	

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1-0-8618W 510 2



Mass Low (RH70)
MBC REQUEST (SLOT 21)

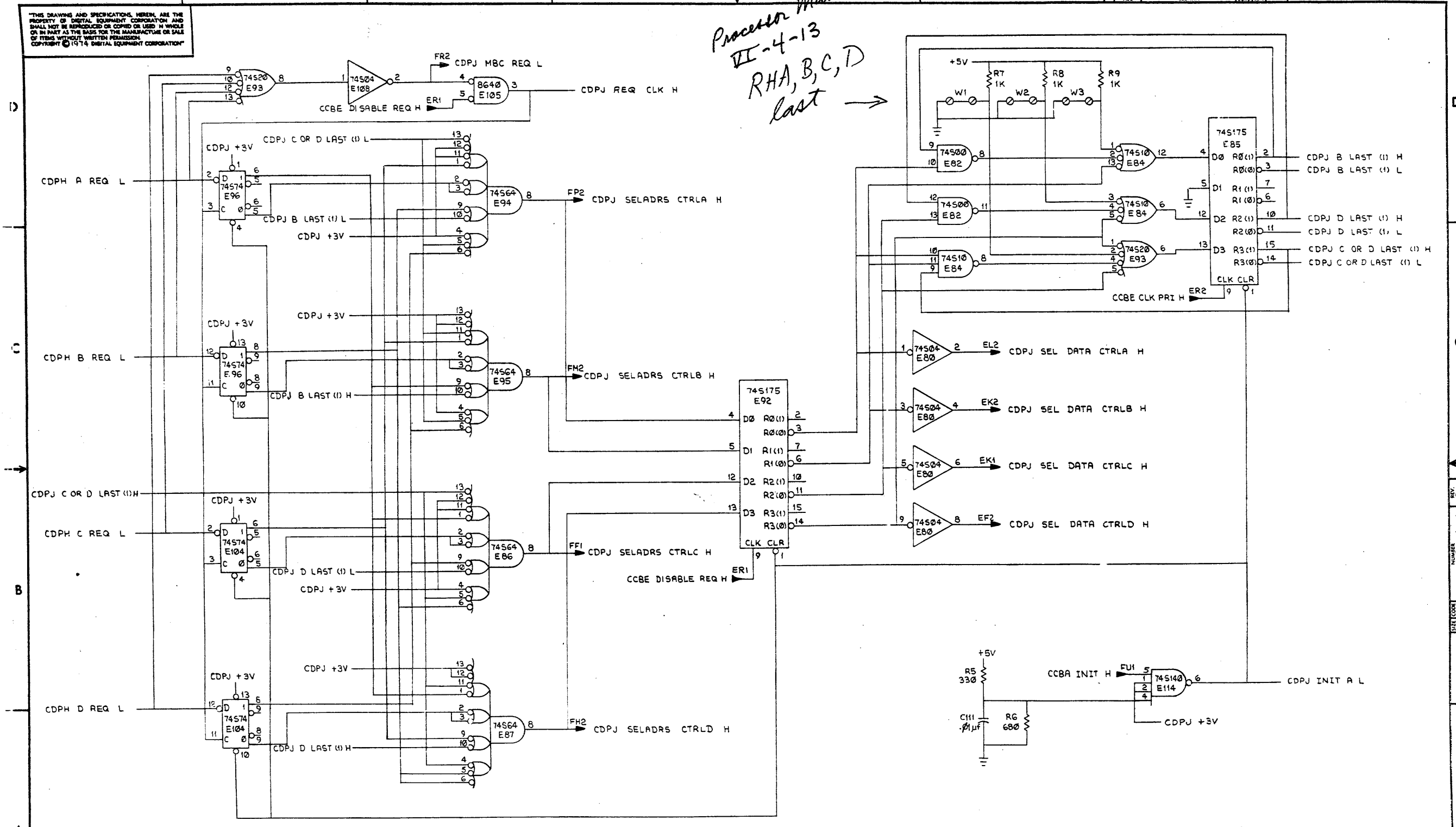
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: CACHE DATA PATH (CDPH) SIZE CODE: D CS NUMBER: M8145-0-1 REV: C
SCALE: SHEET 8 OF 10 DIST:

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*Process Manual
VI-4-13
RHA, B, C, D
last*

DCS M8145-0-1 2

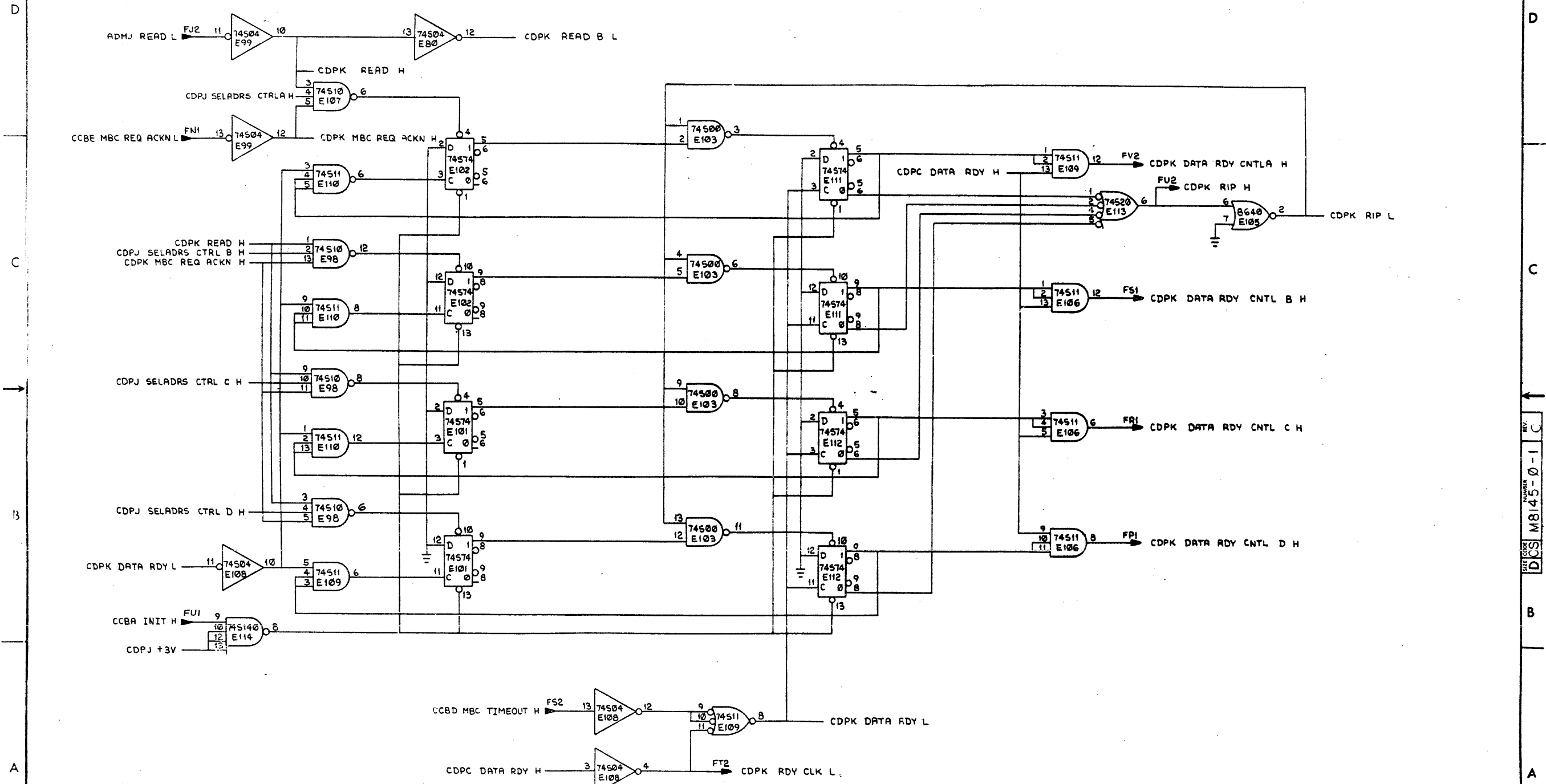


MBC ARBITRAITOR (SLOT 21)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CACHE DATA PATH (CDPJ)	SIZE CODE	DCS	NUMBER	M8145-0-1	REV.	C
SCALE		SHEET	9	OF	10	DIST.	

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MBC DATA CONTROL (SLOT 21)

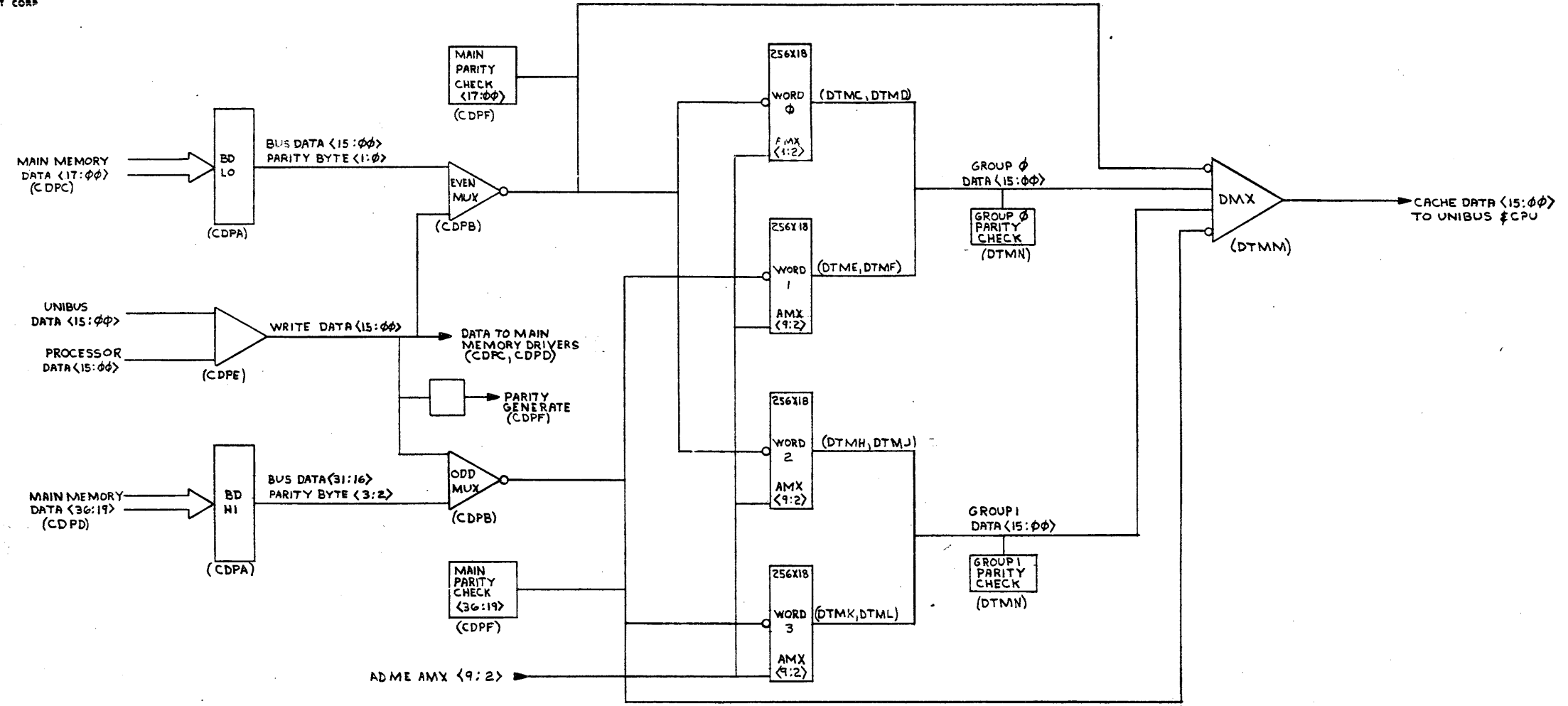
136

REV'SIONS		
CHK	CHANGE NO.	REV.

TITLE	CACHE DATA PATH (CDPK)	SIZE	CODE	NUMBER	REV.
		DCS		M8145-0-1	C
SCALE		SHEET	10	OF 10	DIST.

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WORD SELECT

READ	Aφ1	MISS	RANDOM	WORD SELECT	FUNCTION
0	0	0	X	0, 2	WRITE HIT
0	1	0	X	1, 3	WRITE HIT
1	0	0	X	0, 2	READ HIT
1	1	0	X	1, 3	READ HIT
1	X	1	0	0, 1	READ MISS
1	X	1	1	2, 3	READ MISS

REV.	
CHK	
CHANGE NO.	

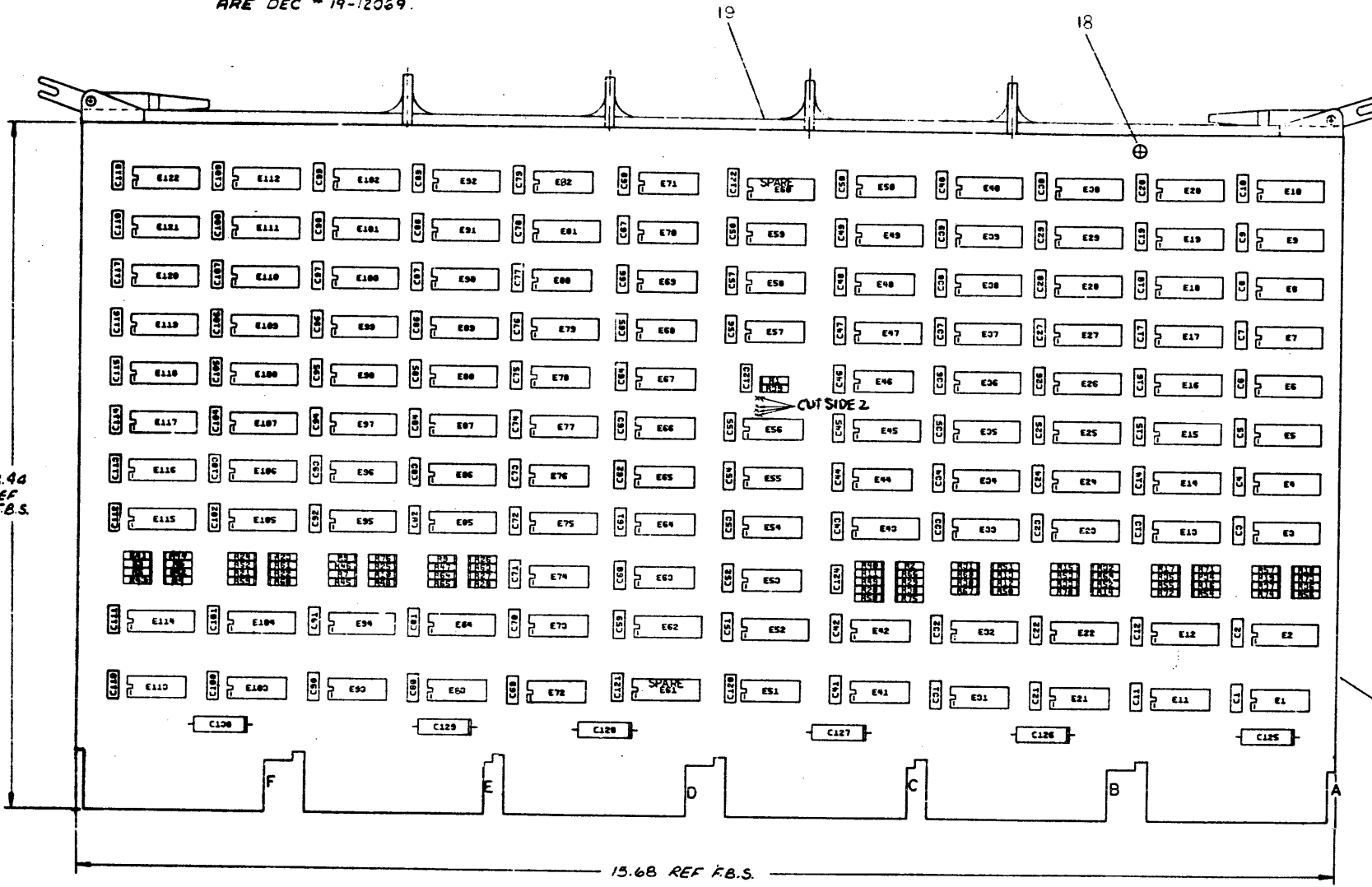
FIRST USED ON OPTION / MODEL
11/70

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

DRN. <i>J. J. Doyle</i>	DATE 12/21/74	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D. <i>J. J. Doyle</i>	DATE 11/07/75	
ENG. <i>William Williams</i>	DATE 1-15-75	
PROD. ENGR. <i>Monty Williams</i>	DATE 1-18-75	
TITLE CACHE DATA PATH		
NEXT HIGHER ASSY D-CS-M8145-0-1		
SCALE //		SIZE CODE D BD
SHEET 1 OF 1		NUMBER M8145-0-7
		REV. *

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NOTES:
 1 E3 - E10, E13 - E20, E23 - E30, E33 - E40, E43, E45, E47, E49, E75, E77, E79, E85 - E90, E95 - E102, E81, E105 - E112, E91, E115 - E122, & E92 ARE DEC # 19-12069.

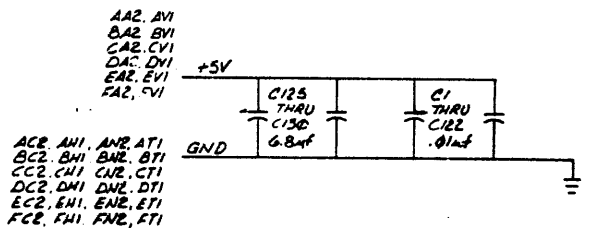


REF	DESCRIPTION	QTY	ITEM NO
REF	X-Y COORDINATE HOLE LOC	K-CD-6504-0-1	1
REF	ASSY DRILLING HOLE LAYOUT	D-AH-6504-0-5	2
REF	MODULE ECO HISTORY	B-MH-6504-0-6	3
1	ETCHED CIRCUIT BOARD	5011200	4
120	C1 THRU C120	CAP. .01uF, 100V. DISC	1001610-01
6	C125 THRU C130	CAP. 0.8uF, 35V. 10% TANT	1005300
2	R1, R2	RES. 270Ω, 1/4W, 5%	1301972
30	R3 THRU R38	RES. 330Ω, 1/4W, 5%	1300295
2	R39, R40	RES. 500Ω, 1/4W, 5%	1301890
36	R41 THRU R76	RES. 0.80Ω, 1/4W, 5%	1301924
8	E1, E2, E41, E53, E63, E72, E73, E73	IC DEC 74504	1910534
10	E2, E12, E22, E32, E52, E62, E84, E94, E104, E114	IC DEC 745153	1910547
72	E3 THRU E10, E13 THRU E20, E23 THRU E30, E33 THRU E40, E43, E45, E47, E49, E75, E77, E79, E85 THRU E90, E95 THRU E102, E81, E105 THRU E112, E91, E115 THRU E122, E92	SEE NOTE 1	19-12069
4	E11, E31, E83, E103	IC DEC 02562	1911291
3	E42, E78, E78	IC DEC 74500	1910532
18	E44, E46, E48, E50, E54 THRU E57, E64, E66, E68, E70, E76, E78, E80, E82	IC DEC 74540	1910541
5	E51, E65, E67, E69, E71	IC DEC 74564	1910542
12	EYELET HANDLE	9000732	18
1	HEX HANDLE ASSY	1210711-2	19

IC TYPE	GND	+5V
IC DEC 745153	B	10
IC 7466 745301	B	10

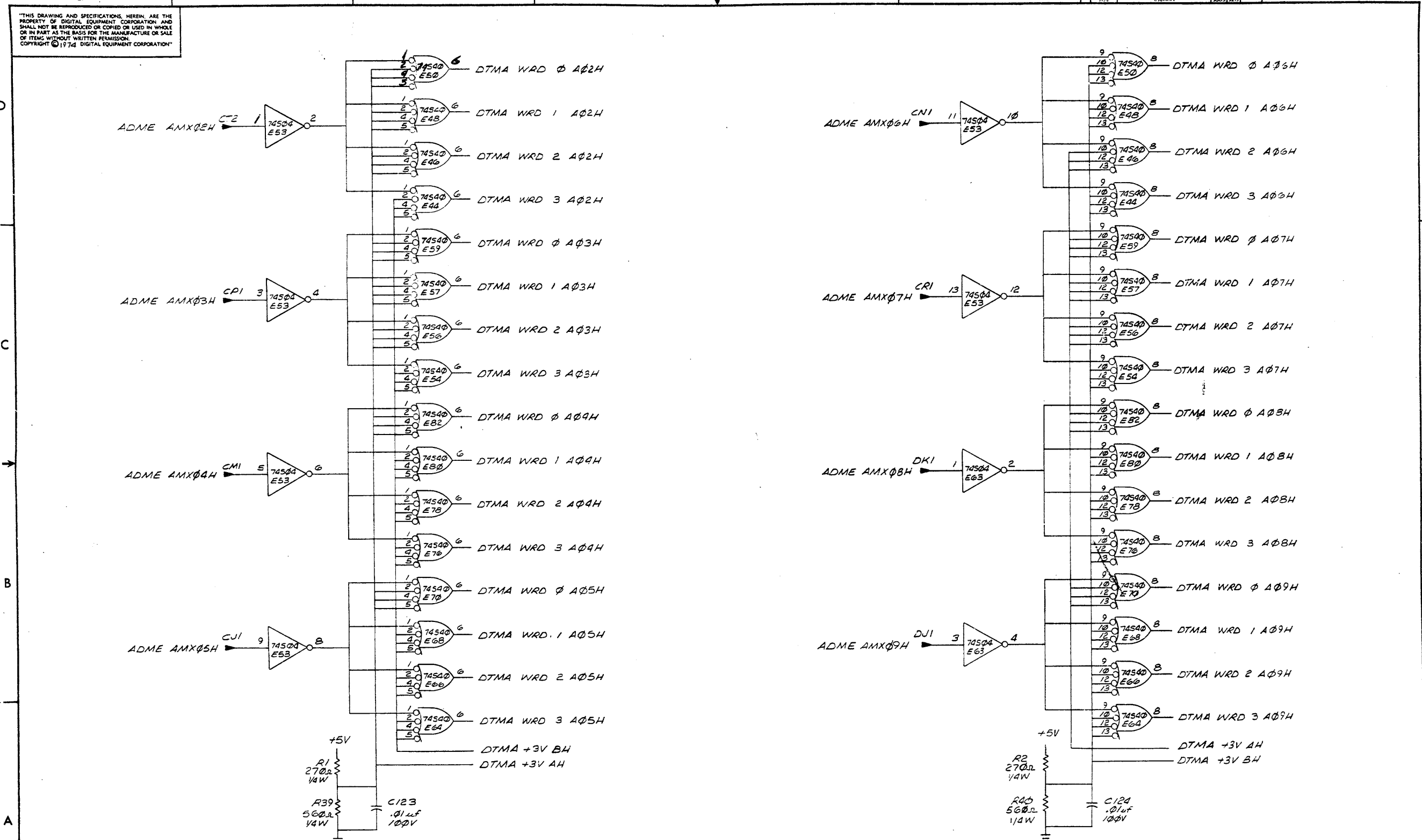
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.

IC PIN LOCATIONS



QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO															
FIRST USED ON OPTION MODEL																			
PARTS LIST																			
ETCH BOARD REV A																			
<table border="1"> <tr> <td>DRN</td> <td>DATE</td> <td>10/1/76</td> </tr> <tr> <td>CHK'D</td> <td>DATE</td> <td>10-20-76</td> </tr> <tr> <td>ENG</td> <td>DATE</td> <td>1-12-75</td> </tr> <tr> <td>PROJ. ENG.</td> <td>DATE</td> <td>1-12-75</td> </tr> <tr> <td>PROD.</td> <td>DATE</td> <td>7/13/75</td> </tr> </table>					DRN	DATE	10/1/76	CHK'D	DATE	10-20-76	ENG	DATE	1-12-75	PROJ. ENG.	DATE	1-12-75	PROD.	DATE	7/13/75
DRN	DATE	10/1/76																	
CHK'D	DATE	10-20-76																	
ENG	DATE	1-12-75																	
PROJ. ENG.	DATE	1-12-75																	
PROD.	DATE	7/13/75																	
TITLE: DATA MEMORY																			
SIZE CODE: DCS M8144-0-1																			
SEMICONDUCTOR CONVERSION CHART																			
SCALE: 1/16"																			
SHEET 1 OF 14																			

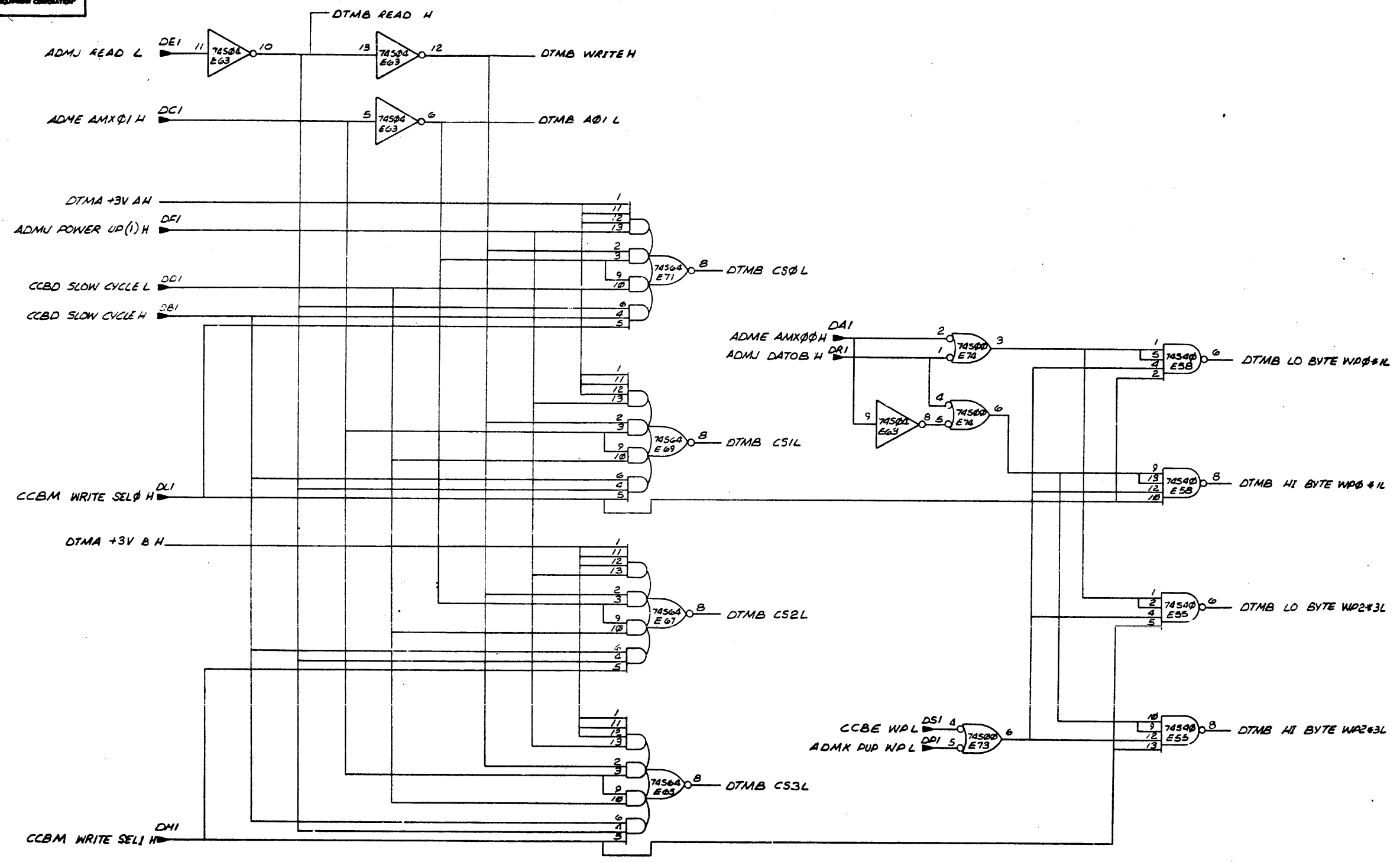
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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		DATA MEMORY (DTMA)		SIZE CODE	D CS	NUMBER	M8144-0-1	REV.	*
SCALE		1/1		SHEET 2 OF 14		DIST.			

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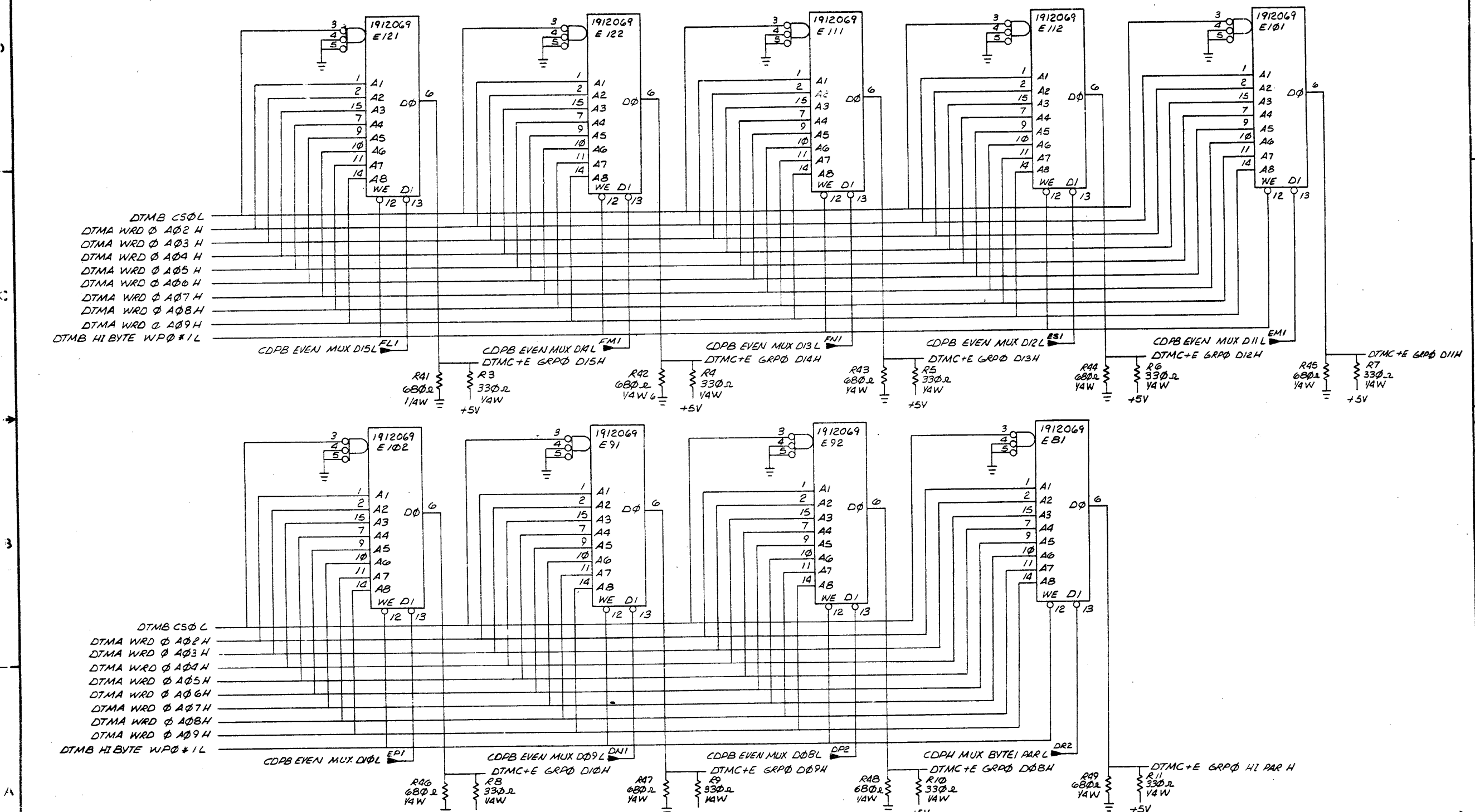


(WRITE PULSE DRIVERS
SLOT 20 CHIP SELECT DRIVERS)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA MEMORY (DTMB)	SIZE CODE	D CS	NUMBER	M8144-0-1	REV	*
SCALE	1/1	SHEET	3	OF	14	DIST.	

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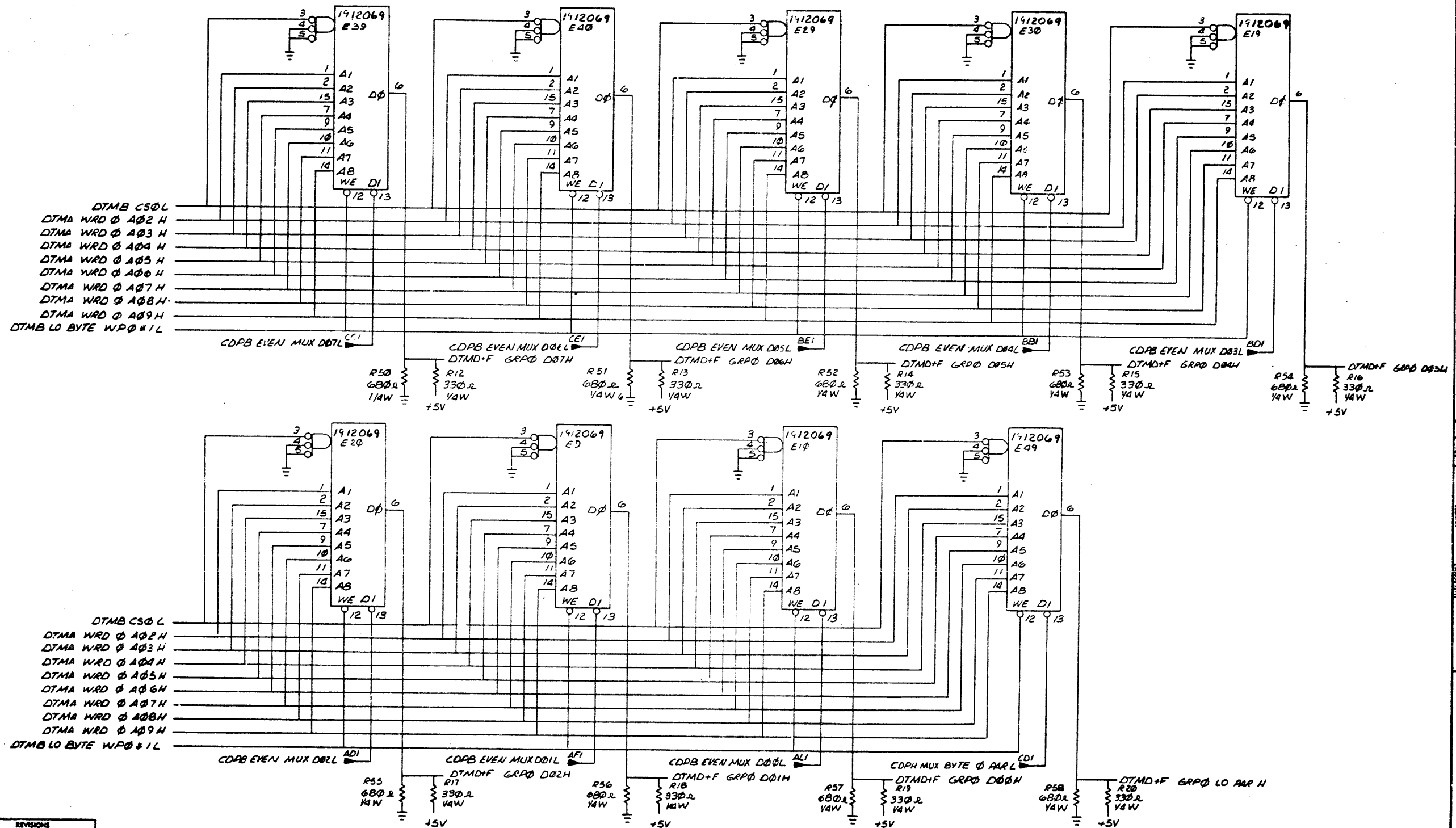
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		DATA MEMORY (DTMC)	SIZE CODE	D CS	NUMBER	M8144-0-1	REV.	*
SCALE		---	SHEET	4	OF	14	DIST.	

SLOT 20 (WORD 0 HI BYTE)

233

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REVISIONS		
CHK	CHANGE NO.	REV.

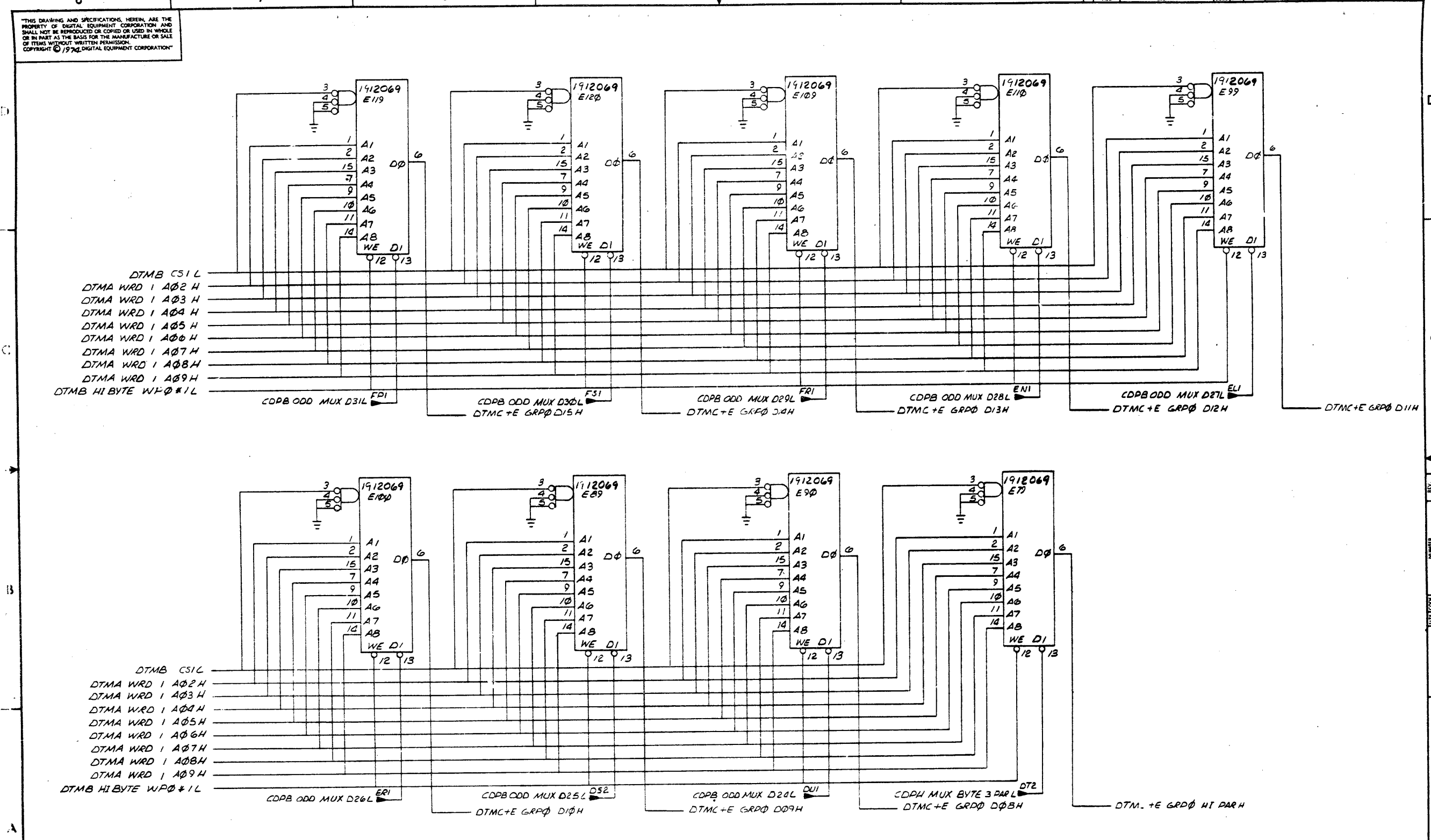
SLOT 20 (WORD 0 LO BYTE)

TITLE	DATA MEMORY (DTMD)	SIZE CODE	D CS	NUMBER	M8144-0-1	REV.	*
SCALE	-/-	SHEET	5 OF 14	DIST.			

142

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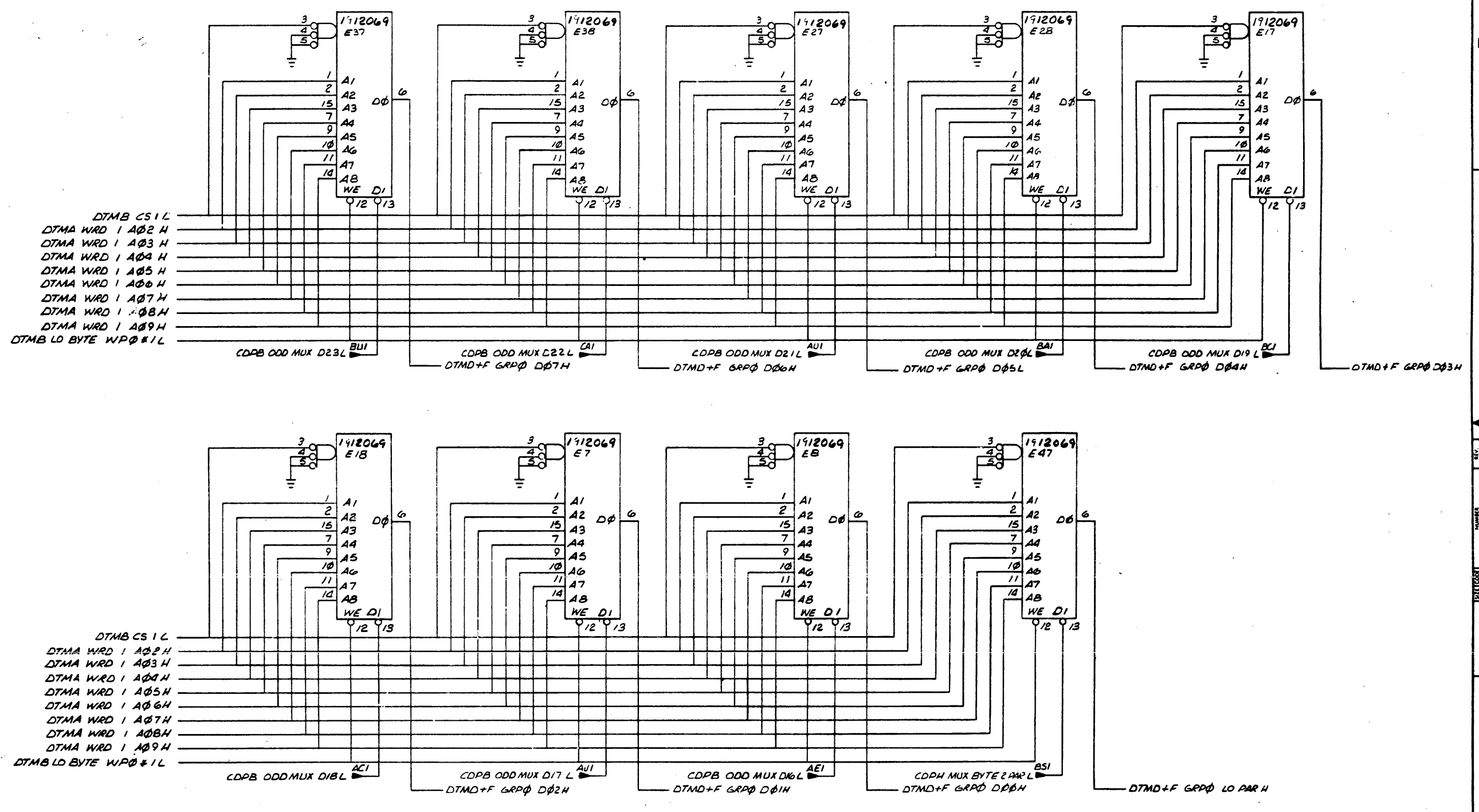
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REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SLOT 20 (WORD 1 HI BYTE)	
DATA MEMORY (DTME)		SIZE CODE	NUMBER
		DCS	M8144-0-1
SCALE	SHEET	DIST.	REV.
	6 OF 14		

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REVISIONS		
CHK	CHANGE NO.	REV.

144

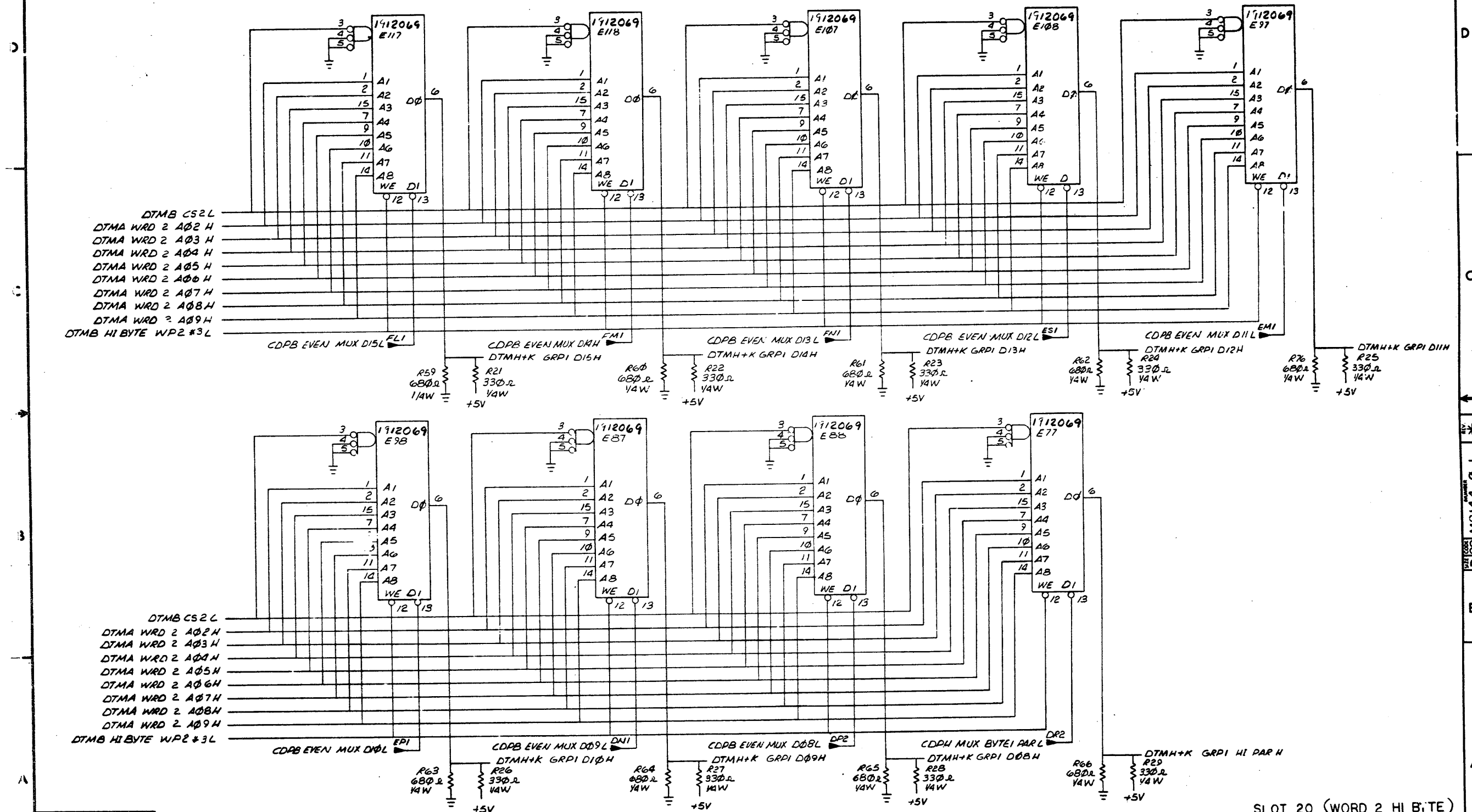
SLOT 20 (WORD 1 LO BYTE)

TITLE	DATA MEMORY (DTMF)	SIZE CODE	D CS	NUMBER	M8144-0-1	REV.	*
SCALE	1/1	SHEET	7 OF 14	DIST.			

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* 1-0-44-0-1 SCOD 2

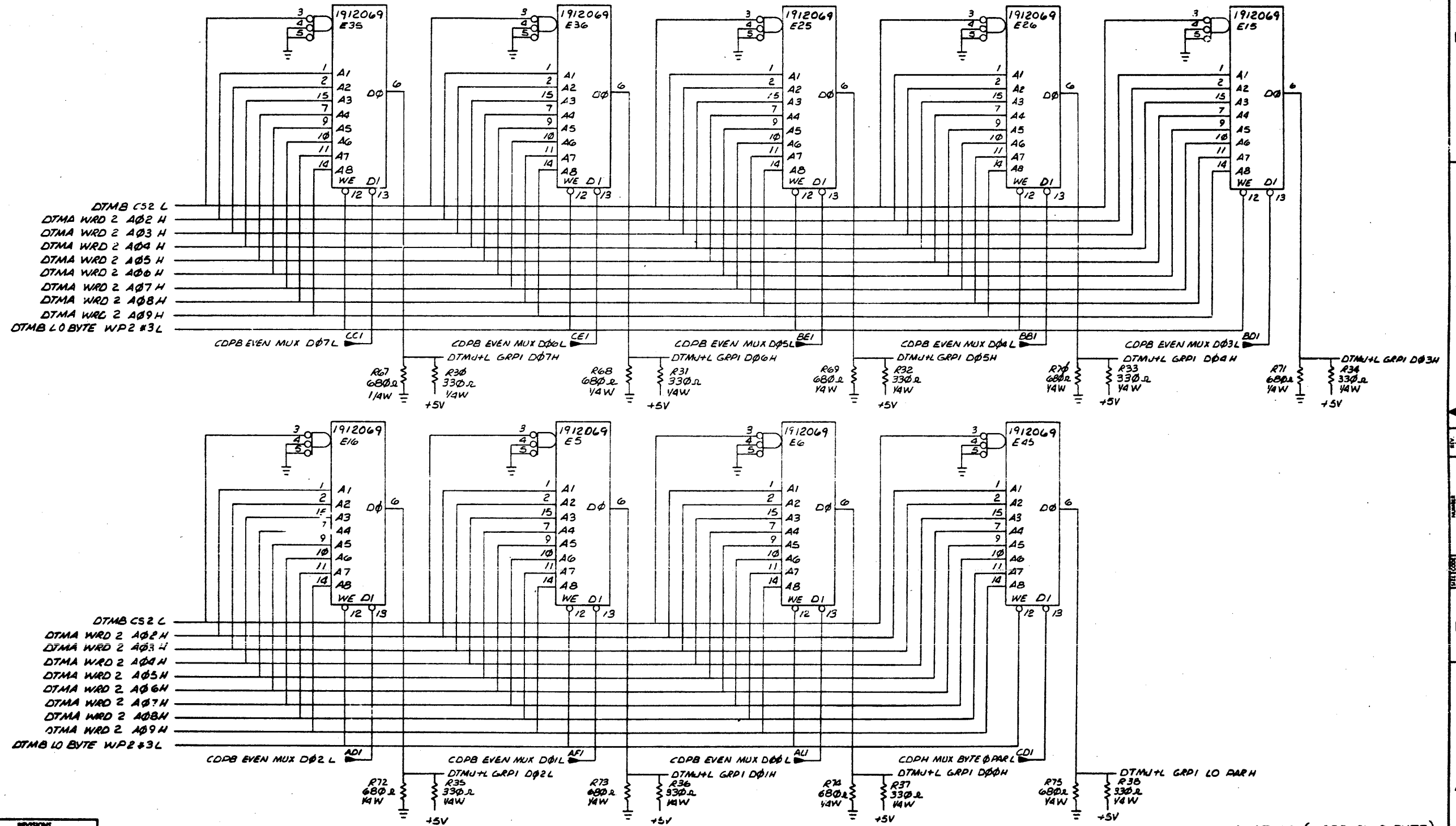


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		DATA MEMORY (DTMH)		SIZE CODE	NUMBER	REV.
SCALE		SHEET 8 OF 14		DIST.		*

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* 1-0-0-010W SCS 2



DTMB CS2 L
 DTMA WRD 2 A02 H
 DTMA WRD 2 A03 H
 DTMA WRD 2 A04 H
 DTMA WRD 2 A05 H
 DTMA WRD 2 A06 H
 DTMA WRD 2 A07 H
 DTMA WRD 2 A08 H
 DTMA WRD 2 A09 H
 DTMB LO BYTE WP2 #3L

DTMB CS2 L
 DTMA WRD 2 A02 H
 DTMA WRD 2 A03 H
 DTMA WRD 2 A04 H
 DTMA WRD 2 A05 H
 DTMA WRD 2 A06 H
 DTMA WRD 2 A07 H
 DTMA WRD 2 A08 H
 DTMA WRD 2 A09 H
 DTMB LO BYTE WP2 #3L

SLOT 20 (WORD 2 LO BYTE)

146

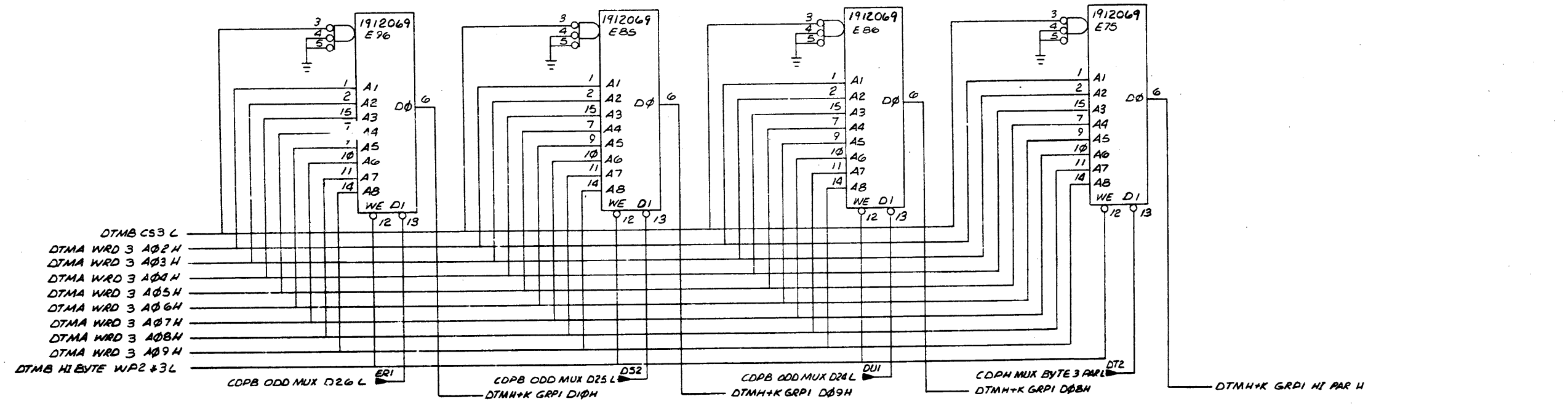
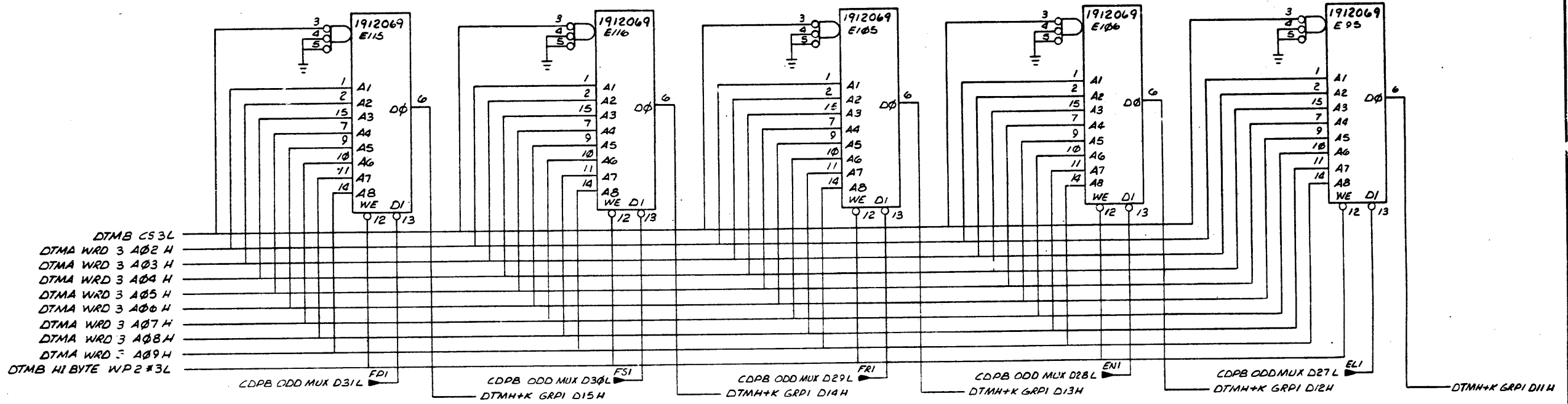
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA MEMORY (DTMJ) DCS	NUMBER	M8144-0-1	REV.	*
SCALE	--	SHEET	9 OF 14	DIST.	

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DCS M8144-0-1



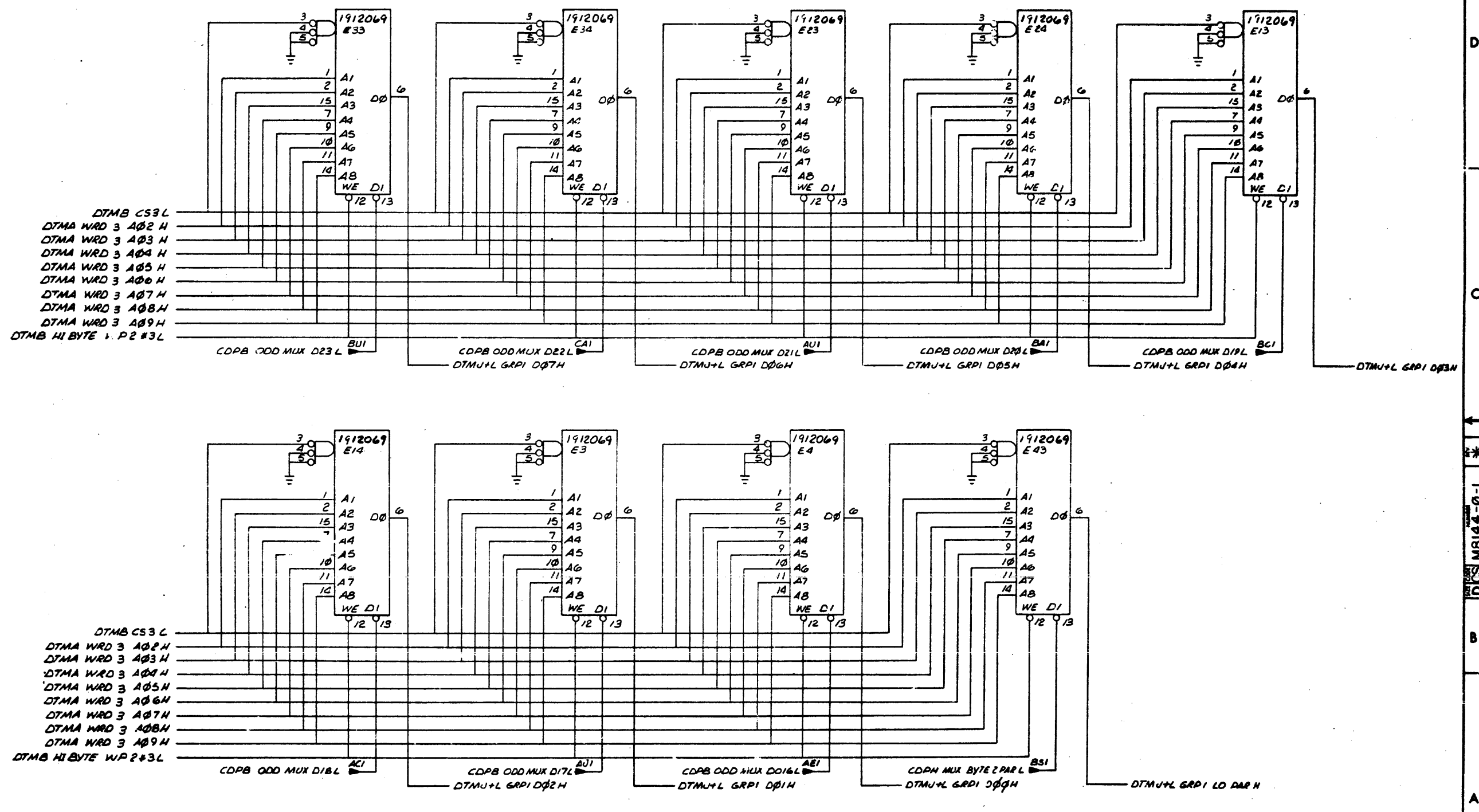
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE		NUMBER		REV.
DATA MEMORY (DTMK)		D	CS	M8144-0-1		*
SCALE	SHEET	OF	DIST.			
	10	14				

SLOT 20 (WORD 3 HI BYTE)

239

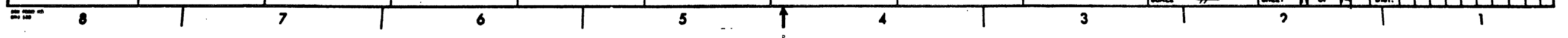
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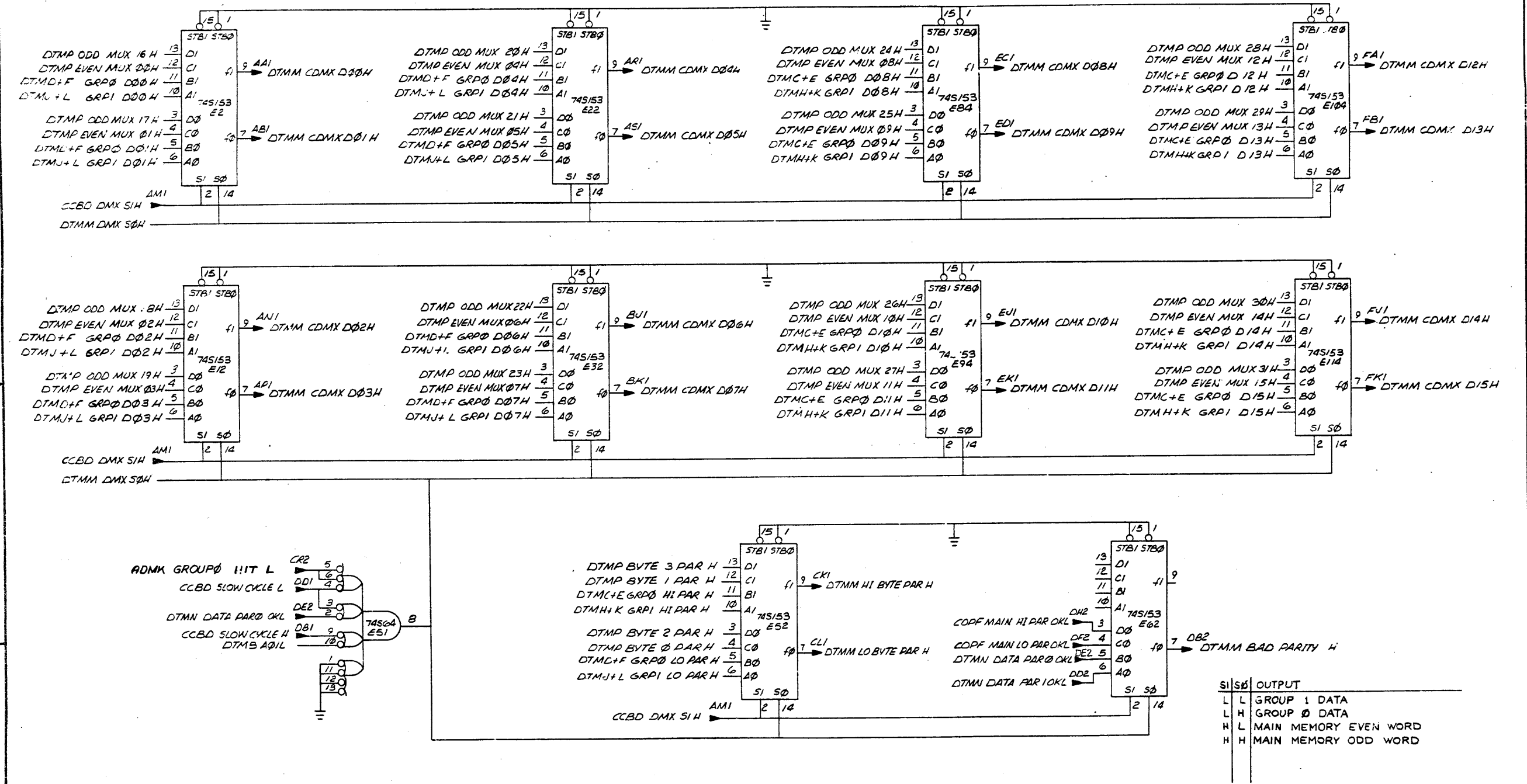
- DTMA WRD 3 A02 H
- DTMA WRD 3 A03 H
- DTMA WRD 3 A04 H
- DTMA WRD 3 A05 H
- DTMA WRD 3 A06 H
- DTMA WRD 3 A07 H
- DTMA WRD 3 A08 H
- DTMA WRD 3 A09 H
- DTMB HI BYTE 1 P2 #3 L

REVISIONS		
CHK	CHANGE NO.	REV.

SLOT 20 (WORD 3 LO BYTE)



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SI	SØ	OUTPUT
L	L	GROUP 1 DATA
L	H	GROUP 0 DATA
H	L	MAIN MEMORY EVEN WORD
H	H	MAIN MEMORY ODD WORD

SLOT 20 (DATA OUTPUT MULTIPLEXER)

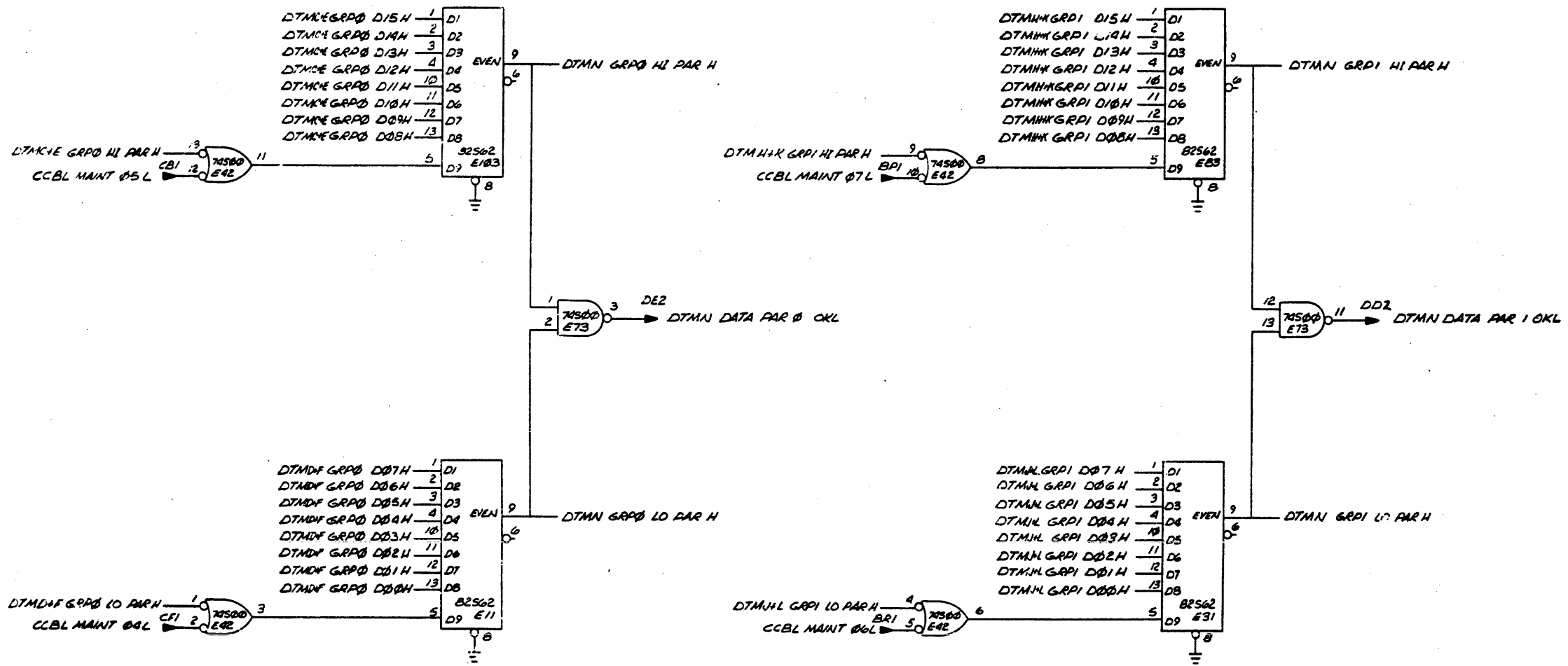
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA MEMORY (DTMM)	SIZE CODE	D CS	NUMBER	M 8144-0-1	REV.	*
SCALE	---	SHEET	12 OF 14	DIST.			

D
C
B
A

REV. *
M 8144-0-1

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D
C
B
A

DCS M8144-0-1

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SLOT 20 (FAST MEMORY PARITY CHECKERS)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	DATA MEMORY (DTMN)	SUBCODE	DCS	NUMBER	M8144-0-1	REV.	*
SC:LI		SHEET	13	OF	14	DIST.	

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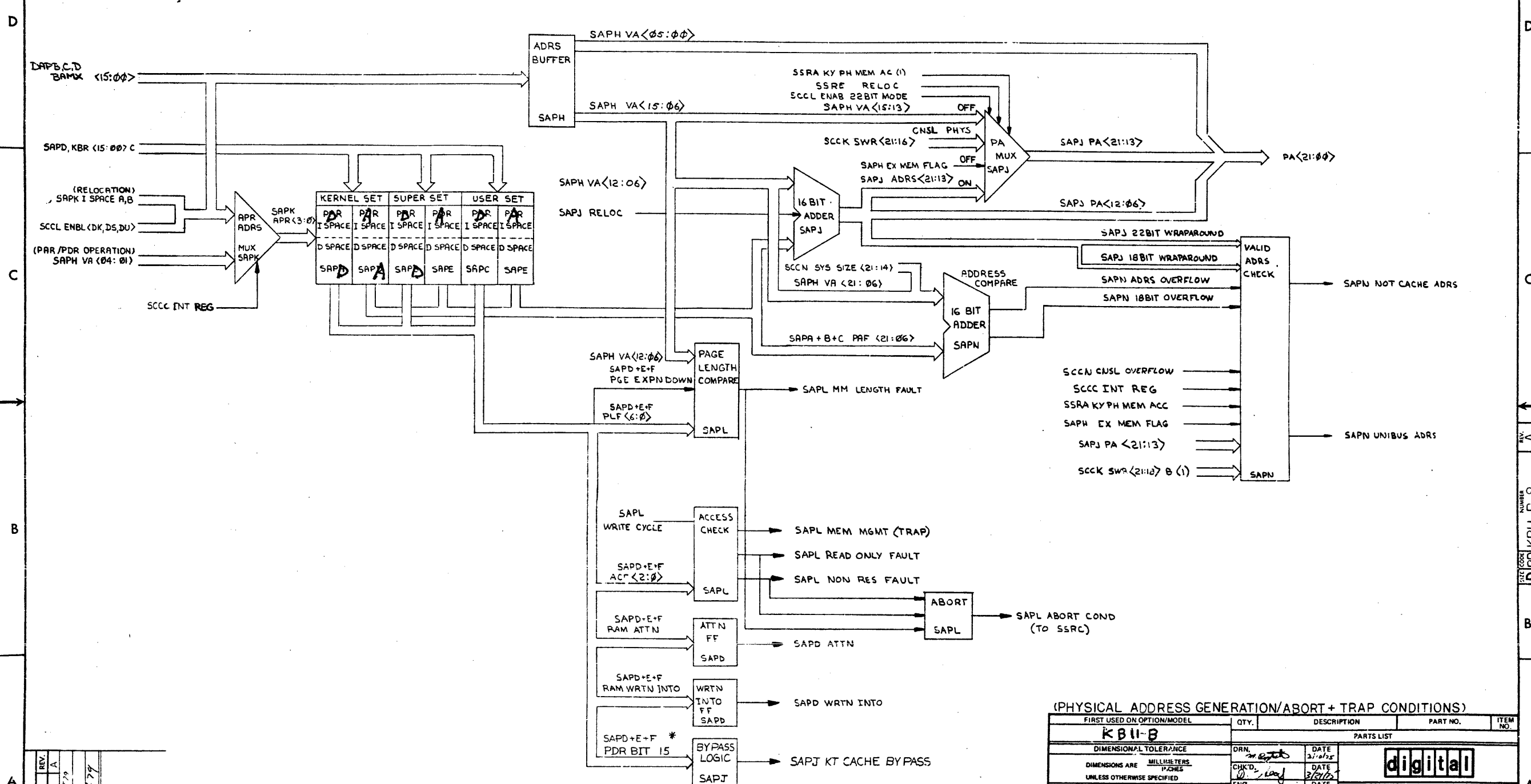
SLOT 20 (MAIN MEMORY DATA INVERTERS)

REVISIONS			TITLE	SIZE CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.				
			DATA MEMORY (DTMP)	D CS	M8144-0-1	*
			SCALE	SHEET	OF	DIST.
				14	14	

243

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A 8-B-KBI-B-8 2



* THIS LOGIC IS ONLY ON KBI-CM (11/74)

(PHYSICAL ADDRESS GENERATION/ABORT + TRAP CONDITIONS)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
KBI-B				
DIMENSIONAL TOLERANCE				
DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE SPECIFIED				
MILLIMETERS	INCHES	ANGLES	PARTS LIST	
XXX = ±0.10	XXX = ±0.005	10° 30'		
XX = ±0.5	XX = ±0.02			
X = ±2%	X = ±0.1			
THIRD ANGLE PROJECTION				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY			TITLE	
FINISH			MEMORY MANAGEMENT BLOCK DIAGRAM	
MATERIAL			SIZE CODE	NUMBER
FINISH			B-DD-KBI-B	D 80 KBI-B-8
SCALE			SHEET	REV.
SCALE			1 OF 2	A

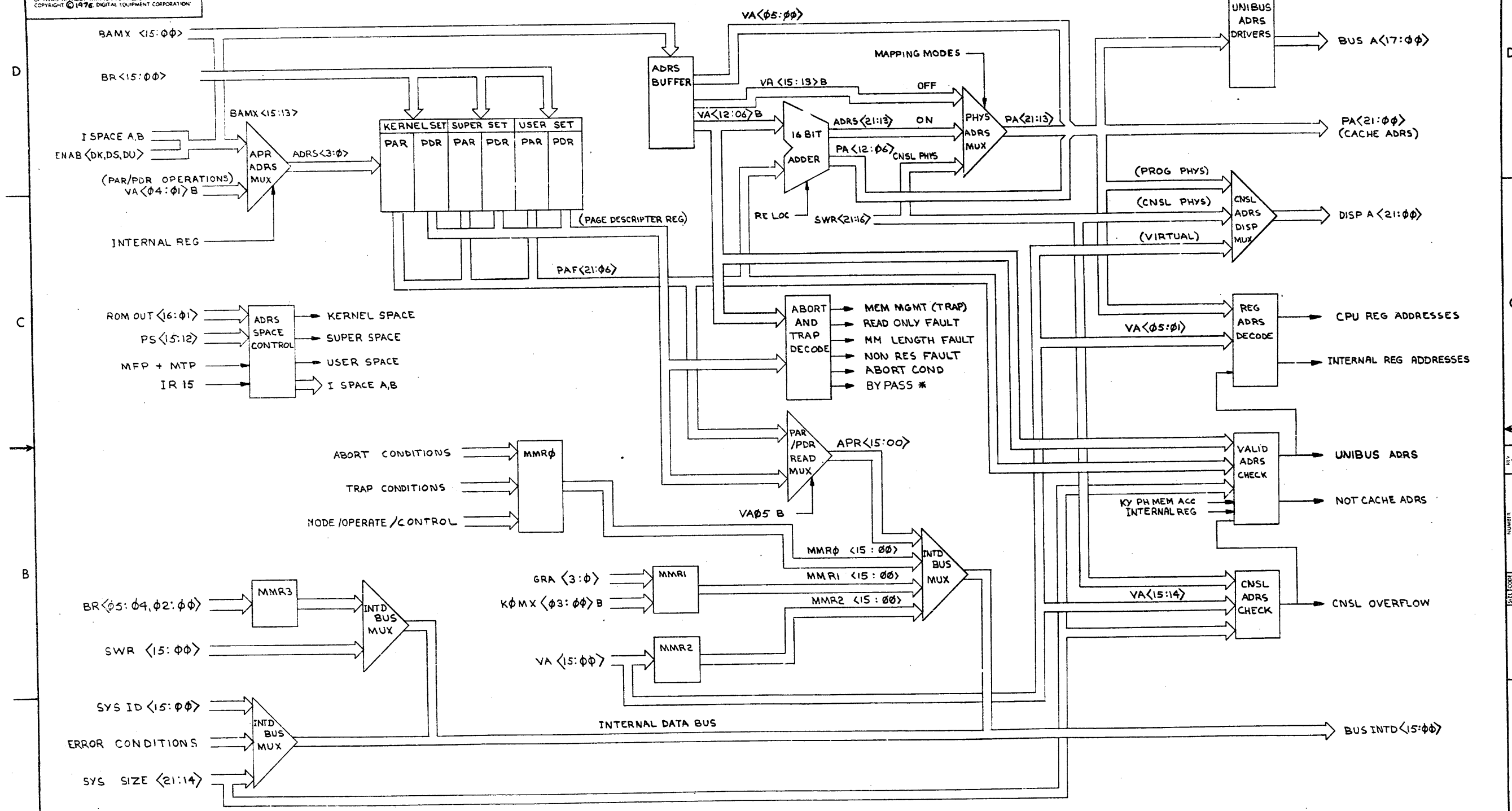
REV. A
NUMBER D 80 KBI-B-8
DATE CODE

244

REVISIONS

REV.	CHANGE NO.	BY	DATE
A	12002	V. BOAEN	12/01/79

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* THIS SIGNAL ONLY EXISTS ON KB11-CM (11/74)

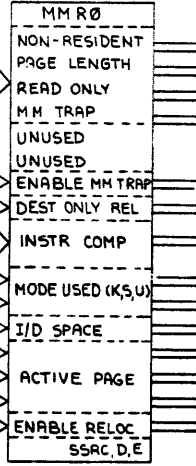
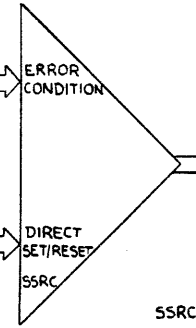
REVISIONS			TITLE		SIZE	CODE	NUMBER		REV.
CHK	CHANGE NO	REV	MEMORY MANAGEMENT BLOCK DIAGRAM		D	BD	KB11-B-8	A	
245			SCALE	SHEET	2	OF	2	DIST.	
8	7	6	5	4	3	2	1	TW	1

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7-8-119 000 2

SAPL NON RES FAULT
SAPL MM LENGTH FAULT
SAPL READ ONLY FAULT
SSRD MEM MGMT B (TRAP)

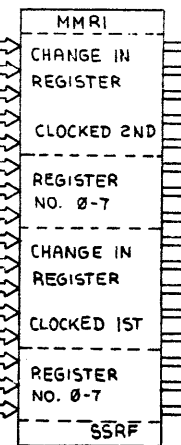
PDRB BR15 B
PDRB BR14 B
PDRB BR13 B
PDRB BR12 B



PDRB BR09 B
PDRB BR08 B
SSRC NO ERROR (I)
SSRH LOAD TR
SSRB MMR0 MODE 1
SSRB MMR0 MODE 0
SAPK IND DATA
SSRH VA15 C
SSRH VA14 C
SSRH VA13 C
PDRB BR00 B

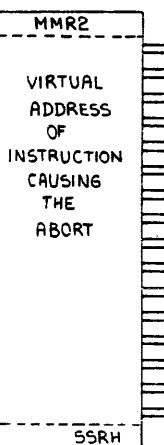
SSRC MMR0 BIT15
SSRC MMR0 BIT14
SSRC MMR0 BIT13
SSRD MEM MGMT DET (I)
SSRD ENABLE MG MT (I)
SSRE DST MODE (I)
SSRE INST COMP (I)
SSRE MMR0 BIT06
SSRE MMR0 BIT05
SSRE MMR0 BIT04
SSRE MMR0 BIT03
SSRE MMR0 BIT02
SSRE MMR0 BIT01
SSRE RELOCATING (I)

SSRA AUTO DEC
DAPD K0MX 03
DAPD K0MX 02
DAPD K0MX 01
DAPD K0MX 00
GRAC GRA02
GRAC GRA01
GRAC GRA00
SSRA AUTO DEC
DAPD K0MX 03
DAPD K0MX 02
DAPD K0MX 01
DAPD K0MX 00
GRAC GRA02
GRAC GRA01
GRAC GRA00



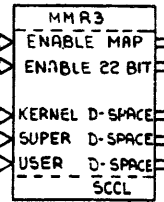
SSRF MMRI BIT15
SSRF MMRI BIT14
SSRF MMRI BIT13
SSRF MMRI BIT12
SSRF MMRI BIT11
SSRF MMRI BIT10
SSRF MMRI BIT09
SSRF MMRI BIT08
SSRF MMRI BIT07
SSRF MMRI BIT06
SSRF MMRI BIT05
SSRF MMRI BIT04
SSRF MMRI BIT03
SSRF MMRI BIT02
SSRF MMRI BIT01
SSRF MMRI BIT00

SSRH VA15 C
SSRH VA14 C
SSRH VA13 C
DAPD BAMX 12
DAPC BAMX 11
DAPC BAMX 10
DAPC BAMX 09
DAPC BAMX 08
DAPC BAMX 07
DAPC BAMX 06
DAPB BAMX 05
DAPB BAMX 04
SAPH VA03 B
SSRH VA02 C
SSRH VA01 C
DAPB BAMX 00



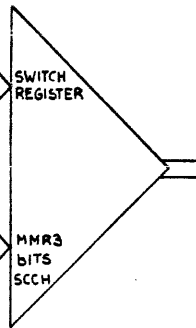
SSRH MMR2 BIT15
SSRH MMR2 BIT14
SSRH MMR2 BIT13
SSRH MMR2 BIT12
SSRH MMR2 BIT11
SSRH MMR2 BIT10
SSRH MMR2 BIT09
SSRH MMR2 BIT08
SSRH MMR2 BIT07
SSRH MMR2 BIT06
SSRH MMR2 BIT05
SSRH MMR2 BIT04
SSRH MMR2 BIT03
SSRH MMR2 BIT02
SSRH MMR2 BIT01
SSRH MMR2 BIT00

PDRB BR05 B
PDRB BR04 B
PDRB BR02 B
PDRB BR01 B
PDRB BR00 B



SCCL ENAB UB MAP
SCCL ENAB 22BIT MAPPING
SCCL ENAB DK (I)
SCCL ENAB DS (I)
SCCL ENAB DU (I)

SAPJ SWR 05,04,02:00



SCCL ENAB UB MAP
SCCL ENAB 22BIT MAPPING
SCCL ENAB DK (I)
SCCL ENAB DS (I)
SCCL ENAB DU (I)

BUS INTD 05,04,02:00

SAPM APR BIT (15:00) (PAR OR PDR)

SSRH MMR2 BIT (15:00)

SSRF MMRI BIT (15:00)

SSRC MMR0 BIT (15:13)

SSRD MEM MGMT DET (I)

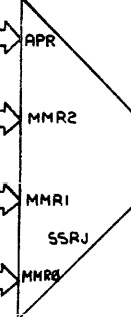
SSRE ENABLE MGMT (I)

SSRE DST MODE (I)

SSRE INST COMP (I)

SSRE MMR0 BIT (06:0)

SSRE RELOCATING (I)



BUS INTD (15:00)

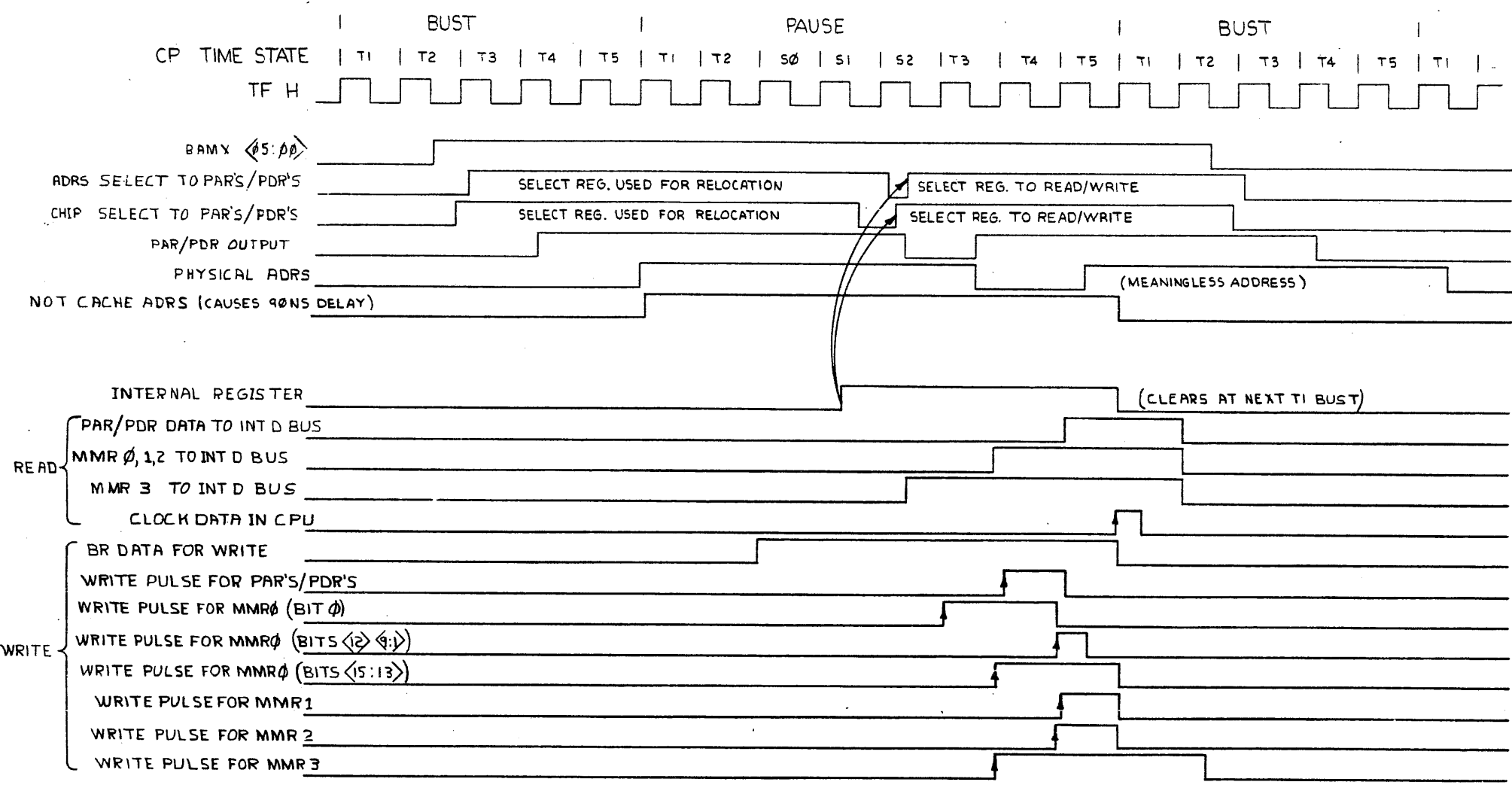
REV.	
CHANGE NO.	
CHK	

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-B				
PARTS LIST				
DIMENSIONAL TOLERANCE		DRM	DATE	
DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE SPECIFIED		2 Beasley	5-13-75	
MILLIMETERS		CHK'D	DATE	
INCHES		W. H. H.	3/21/75	
ANGLES		ENG.	DATE	
X.XX ±0.10		W. H. H.	3/21/75	
XX ±0.5		PROJ. ENG.	DATE	
X ±2		W. H. H.	3/21/75	
THIRD ANGLE PROJECTION		PROD.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		W. H. H.	3/21/75	
MATERIAL		NEXT HIGHER ASSY.		
FINISH		B-DD-KB11-B	SIZE CODE	NUMBER
		SCALE	D BD	KB11-B-4
		SHEET	1	OF 1
		DIST.		

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REV. NUMBER 6-B-118X DTD 2

- NOTES:
- 1 THE PURPOSE OF THIS DIAGRAM IS TO ILLUSTRATE THE FLOW OF DATA. THE TIME DELAYS INDICATED ARE WORST CASE PROPAGATION DELAYS OF GATES AND MAY VARY
 - 2 CLOCKED SIGNALS ARE INDICATED BY AN #
 - 3 THE TIMING DIAGRAM REPRESENTS THE TIME PERIOD IN WHICH THE CHANGE TAKES PLACE BUT NOT NECESSARILY THE ACTUAL CHANGE IN POLARITY OF THE SIGNAL. A HIGH LEVEL OR PULSE ON THE DIAGRAM REPRESENTS AN ASSERTED SIGNAL.



REV.	CHG.	NO.

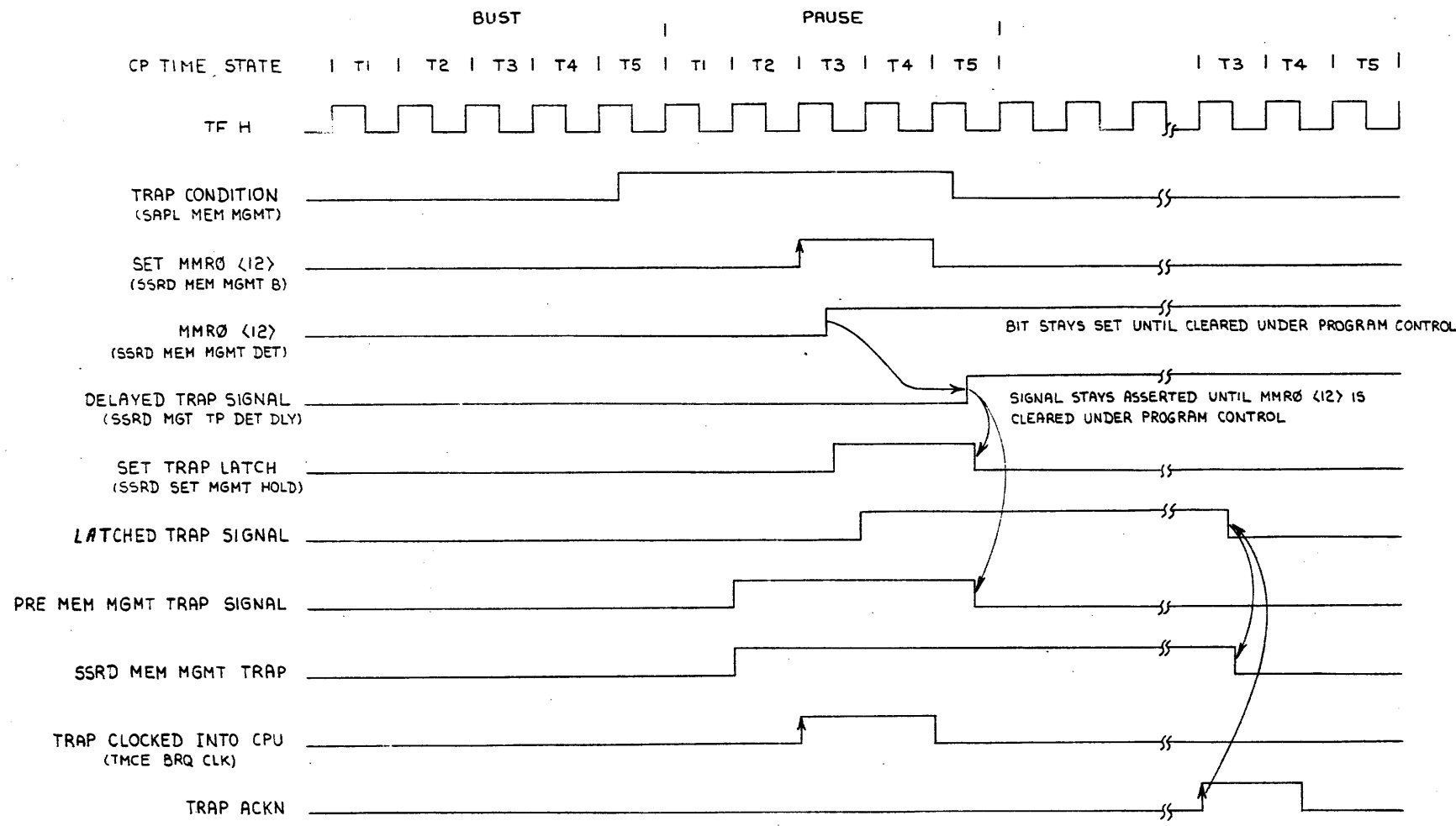
FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-B					
DIMENSIONAL TOLERANCE					
DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED		MILLIMETERS	INCHES	ANGLES	
X,XX	±0.10	XXX	±0.008	90° 30'	
XX	±0.05	XX	±0.02		
X	±0.2	X	±0.1		
THIRD ANGLE PROJECTION		REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.	
MATERIAL		FINISH		SCALE	
B-DD-KB11-B					
SIZE CODE		NUMBER		REV.	
D TD		KB11-B-9			
SHEET		OF		DIST.	
1		1			

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5-8-118X 010 2

NOTES:

1. THE PURPOSE OF THIS DIAGRAM IS TO ILLUSTRATE THE FLOW OF DATA. THE TIME DELAYS INDICATED ARE WORST CASE PROPAGATION DELAYS OF GATES AND MAY VARY.
2. CLOCKED SIGNALS ARE INDICATED BY AN ↑
3. THE TIMING DIAGRAM REPRESENTS THE TIME PERIOD IN WHICH THE CHANGE TAKES PLACE BUT NOT NECESSARILY THE ACTUAL CHANGE IN POLARITY OF THE SIGNAL. A HIGH LEVEL OR PULSE ON THE DIAGRAM REPRESENTS AN ASSERTED SIGNAL.

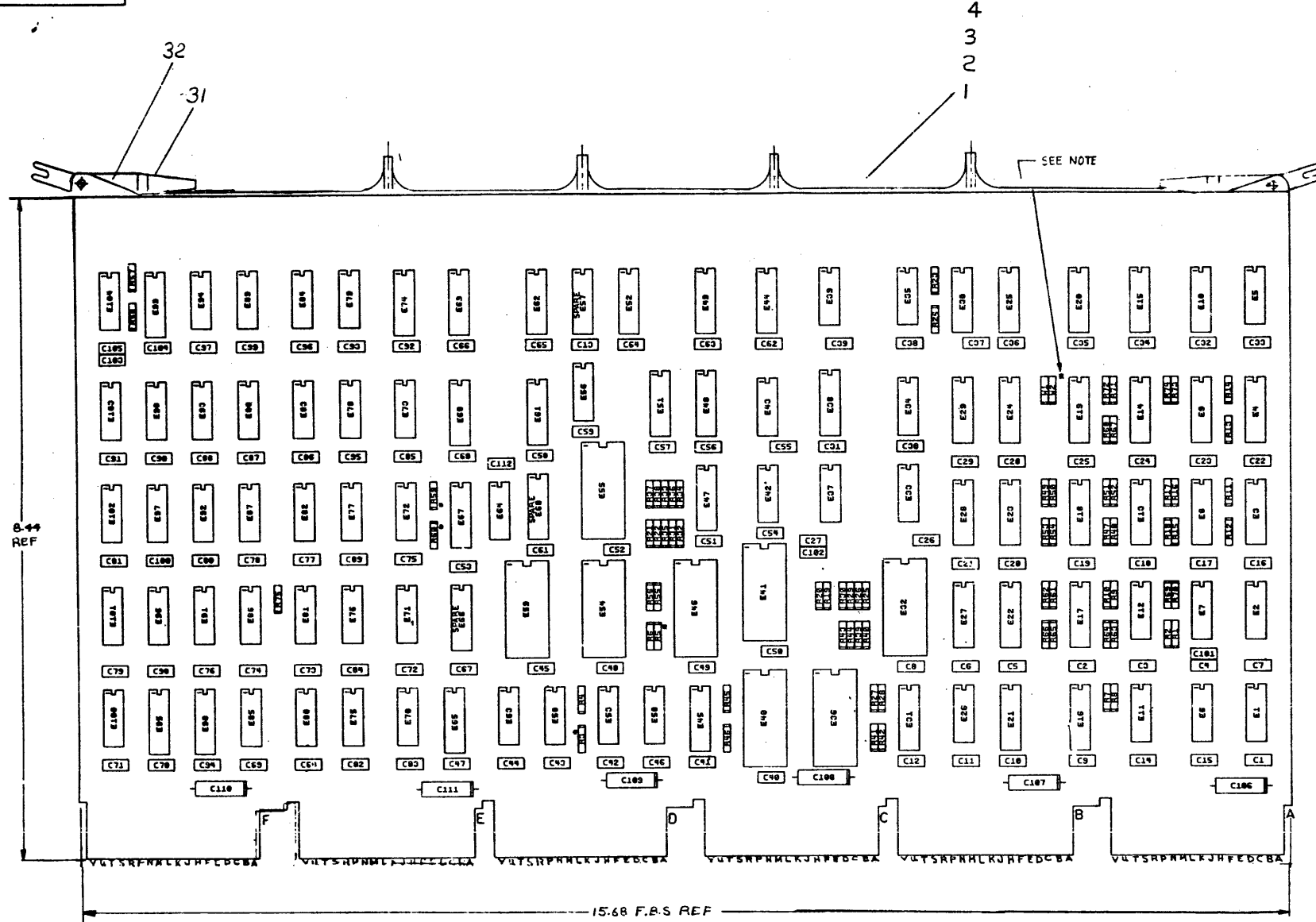


REV.	CHG	NO.

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-B					
PARTS LIST					
DIMENSIONAL TOLERANCE		DRN.	DATE		
DIMENSIONS ARE MILLIMETERS		R. Beasley	3-13-75		
UNLESS OTHERWISE SPECIFIED		CHKD.	3-21-75		
		ENG.	3-21-75		
MILLIMETERS	INCHES	ANGLES	DATE	TITLE	
XJX = ±0.13	JXX = ±0.06	10° 30'	3-21-75	MEM MGMT TRAP TIMING	
XX = ±0.5	JX = ±0.02		3-21-75		
X = ±2	X = ±0.1		3-21-75		
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	NEXT HIGHER ASSY.			
MATERIAL		SIZE CODE	NUMBER	REV.	
FINISH		B-DD-KB11-B	D TD	KB11-B-5	
		SCALE			
		SHEET 1 OF 1	DIST		

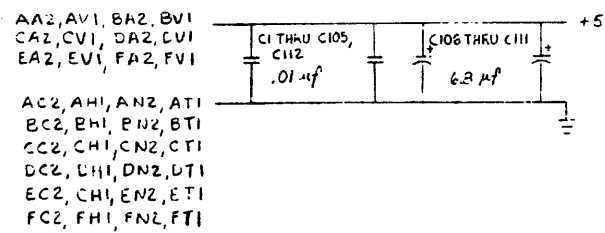
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NOTES: * OPTIONAL COMPONENTS



REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8137-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8137-0-5	2
REF	MODULE ECO HISTORY	B-MH-M8137-0-8	3
1	ETCHED CIRCUIT BOARD	5011313	4
106	C1 THRU C105 C112	CAP .01r 100V 20%	5
6	C106 THRU C111	CAP 6.8u 35V 10%	6
2	R4, R6	RESISTOR 150 OHM 1/4W 5%	7
34	R1, 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, R61, R63, R65, R67, R69, R71, R73	RESISTOR 330 OHM 1/4W 5%	8
1	R75	RESISTOR 1K 1/4W 5%	9
34	R2, 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, R62, R64, R66, R68, R70, R72, R74	RESISTOR 680 OHM 1/4W 5%	10
1	E100	IC DEC 74H21	11
1	E101	IC DEC 7437	12
4	E50, E56, E70, E79	IC DEC 7408	13
2	E17, E13	IC DEC 7485	14
8	E36, E40, E55, E54, E32, E41, E59, E46	IC DEC 74S181	15
5	E103, E76, E93, E73, E85	IC DEC 74S88	16
9	E97, E78, E5, E43, E39, E71, E37, E91, E35	IC DEC 74S84	17
1	E96	IC DEC 74S85	18
2	E75, E83	IC DEC 74S18	19
11	E82, E87, E26, E98, E2, E7, E80, E11, E6, E1, E92	IC DEC 74S11	20
3	E34, E33, E42	IC DEC 74S28	21
6	E64, E77, E72, E84, E89, E94	IC DEC 74S48	22
6	E53, E88, E12, E81, E86, E104	IC DEC 74S64	23
3	E58, E102, E63	IC DEC 74S74	24
3	E85, E90, E95	IC DEC 74S153	25
7	E27, E21, E18, E16, E8, E22, E31	IC DEC 74S157	26
3	E3, E99, E4	IC DEC 74S158	27
2	E45, E47	IC DEC 74182-1	28
24	E69, E74, E44, E38, E88, E82, E52, E49, E67, E61, E51, E48, E14, E30, E29, E28, E9, E20, E19, E23, E10, E15, E25, E24	IC DEC 3101A	29
1	W1	INSULATED JUMPER	30
1		HANDLE ASSEMBLY	31
12		EYELET HANDLE	32

IC TYPE	GND	+5V
IC DEC 3101A	8	16
IC DEC 79182-1	8	16
IC DEC 79S158	8	16
IC DEC 79S157	8	16
IC DEC 79S153	8	16
IC DEC 79S181	12	24
IC DEC 7485	8	16



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

AC2, AH1, AN2, AT1
BC2, BH1, PN2, BT1
CC2, CH1, CN2, CT1
DC2, DH1, DN2, DT1
EC2, EH1, EN2, ET1
FC2, FH1, FN2, FT1

FIRST USED ON OPTION MODEL: 11/70

ETCH BOARD REV: B

DRN: DE KELLOG DATE: 10-22-74
CHK'D: FERGUSON DATE: 11-22-74
ENG: SHARON A. SMITH DATE: 1-20-75
PRD: ENG: SHARON A. SMITH DATE: 1-20-75
PROD: DATE: 2-22-75

digital EQUIPMENT CORPORATION
TITLE: SYS ADRS PATH

SIZE CODE: DCS M8137-0-1
NUMBER: A
REV: A

SCALE: 1 OF 13
SHEET: 1 OF 13

DCS M8137-0-1

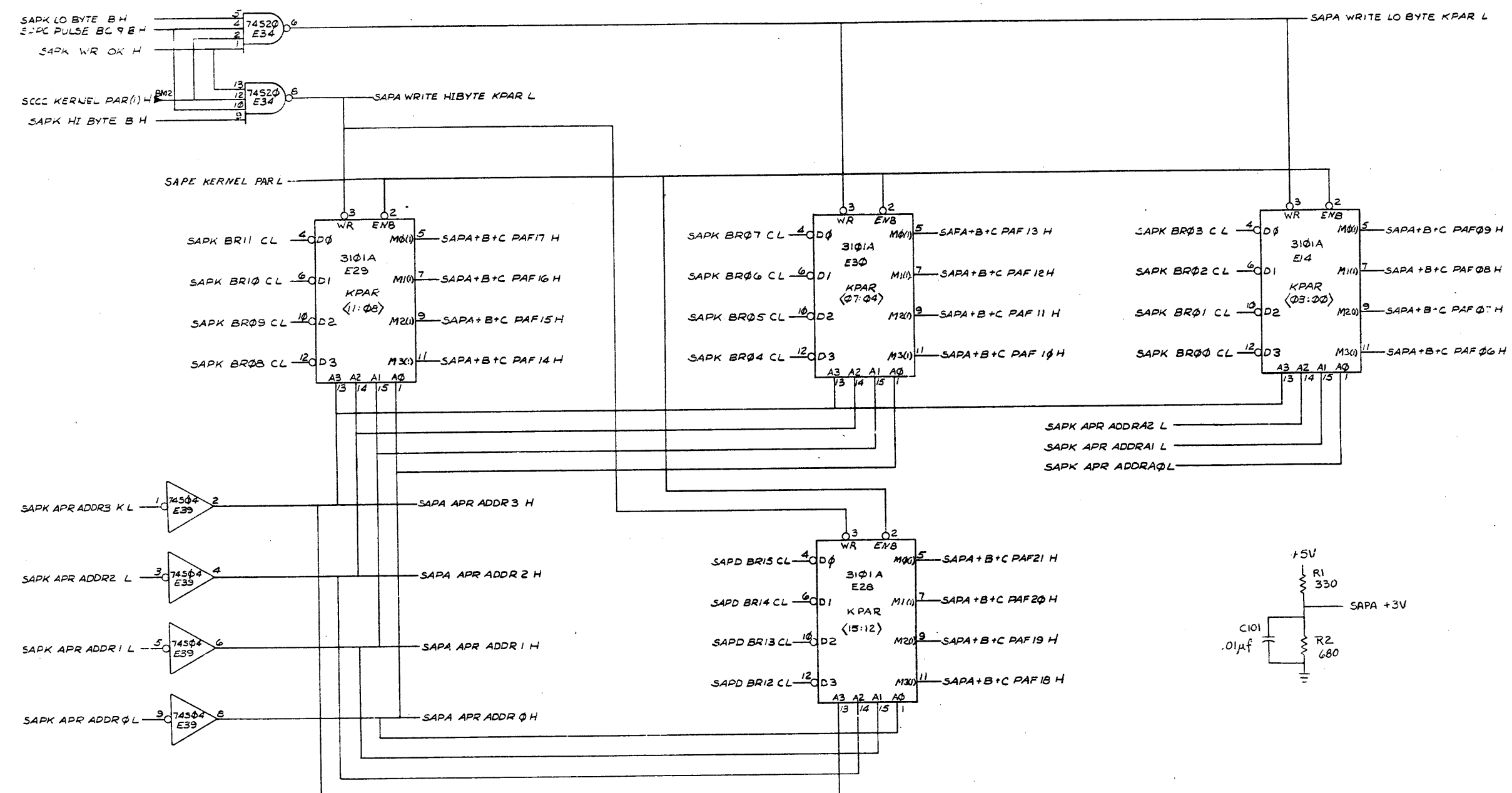
8 7 6 5 4 3 2 1

250

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8 7 6 5 4 3 2 1

REV. A
 NUMBER M8137-0-1
 SIZE CODE DCS
 1-02218W



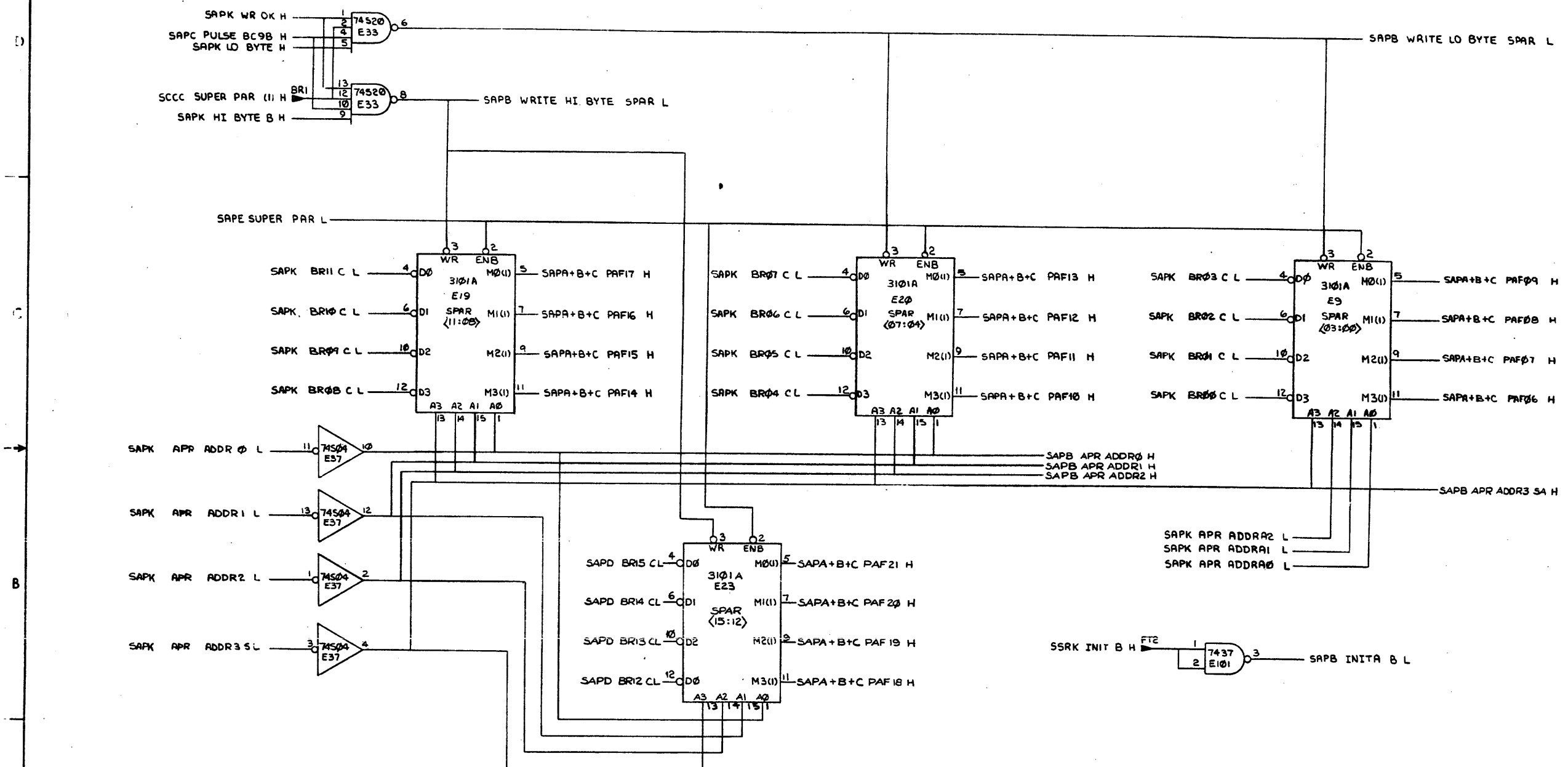
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		KERNAL PAGE ADDRESS REGISTERS (PAR) SLOT 14	
SYS. ADRS PATH (SAPA)		SIZE CODE	NUMBER
		DCS	M8137-0-1
SCALE	SHEET	DIST.	REV.
	2 OF 13		A

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DIGITAL EQUIPMENT CORPORATION

DCS M8137-0-1



SUPERVISOR PAGE ADDRESS REGISTERS (PAR) SLOT 14			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
11/70			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DATE: 11-22-75	DIGITAL EQUIPMENT CORPORATION
DECIMALS	ANGLES	DATE: 11-22-75	
.XXX - .008	± 0° 30'	DATE: 11-22-75	TITLE
.XX - .00		DATE: 11-22-75	
.X - .1		DATE: 11-22-75	SYS. ADRS. PATH
		DATE: 11-22-75	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE: 11-22-75	NUMBER (SAPB)
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH	SCALE	DCS M8137-0-1	REV. A
	SHEET 3 OF 13	DIST.	

160

REVISIONS	REV
CHANGE NO	
CHK	

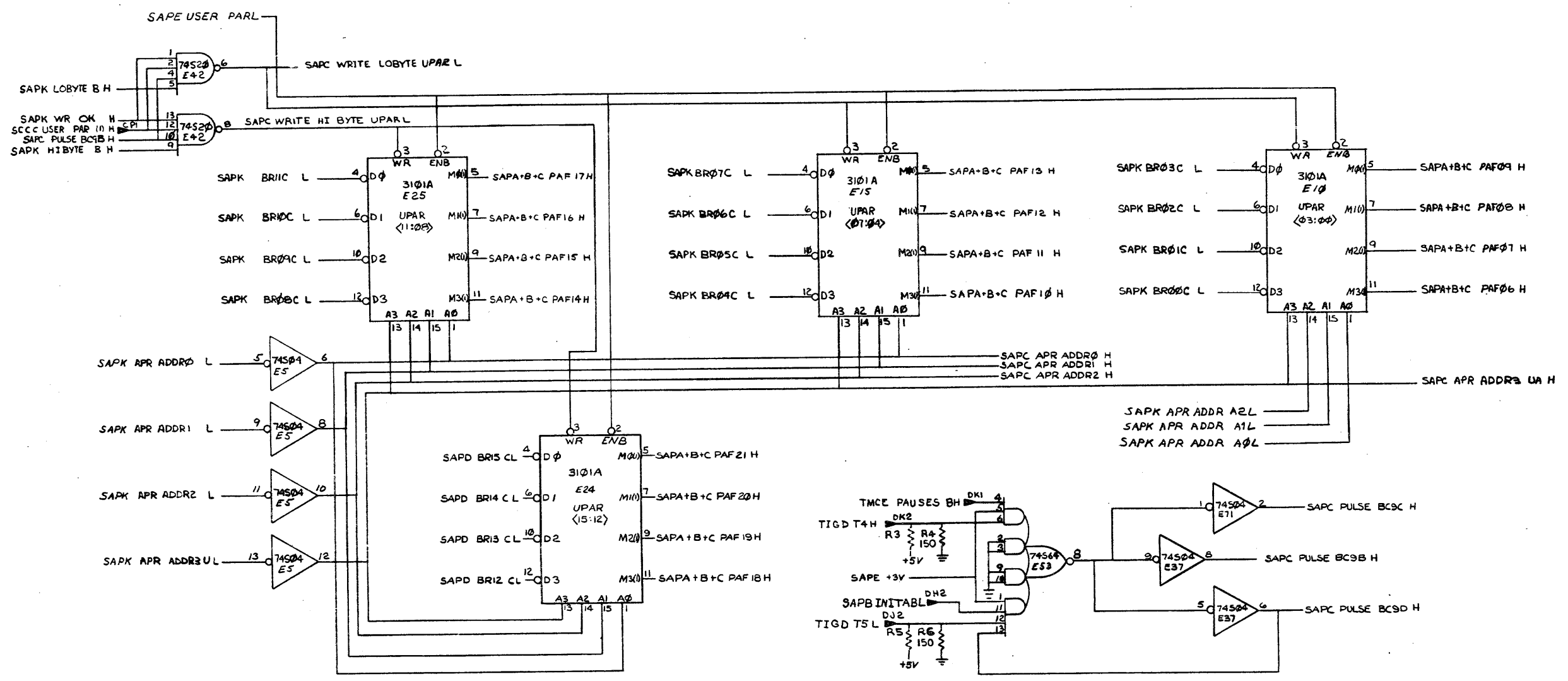
DEC FORM NO DRD 100-8

DCS M8137-0-1

252

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1-0-7-18137-0-1

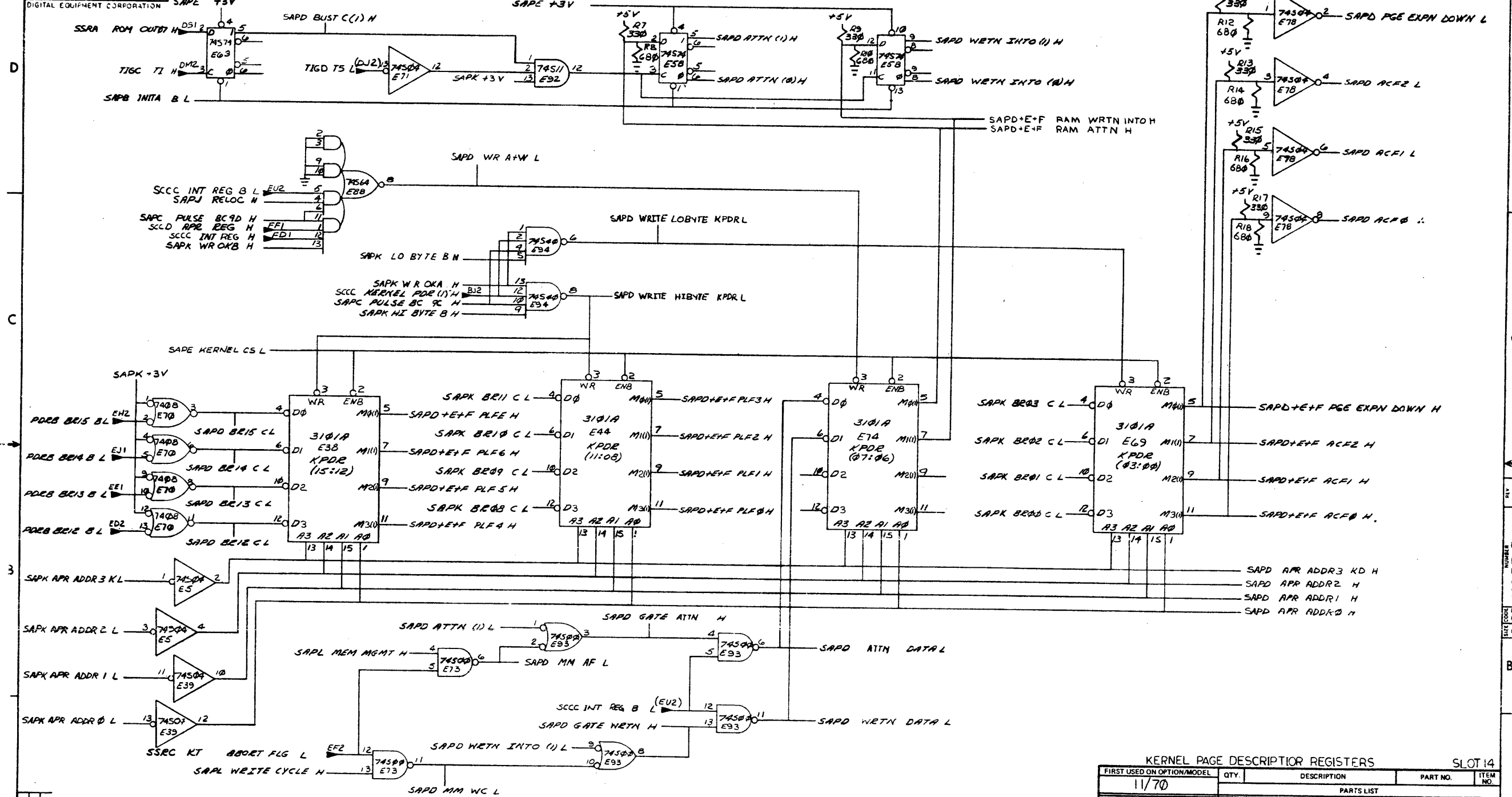


USER PAGE ADDRESS REGISTERS (PAR) SLOT 14

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DBM KELLEY	DATE 10-10-74	 DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	CHKD. Ferguson	DATE 2/22/76		
ANGLES	ENG. S. J. Kelly	DATE 1/29/75	TITLE SYS. ADRS. PATH	
.XX = .005 .XX = .02 .X = .1	DATE 1/29/75	DATE 1/29/75		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. R Taylor	DATE 1/21/75	(SAPC) SIZE CODE NUMBER DCS M8137-0-1 REV. A	
MATERIAL	NEXT HIGHER ASSY.	DATE		
FINISH	SCALE	SHEET	161	

253
 REVISIONS
 CHANGE NO. REV.
 CHK. DATE

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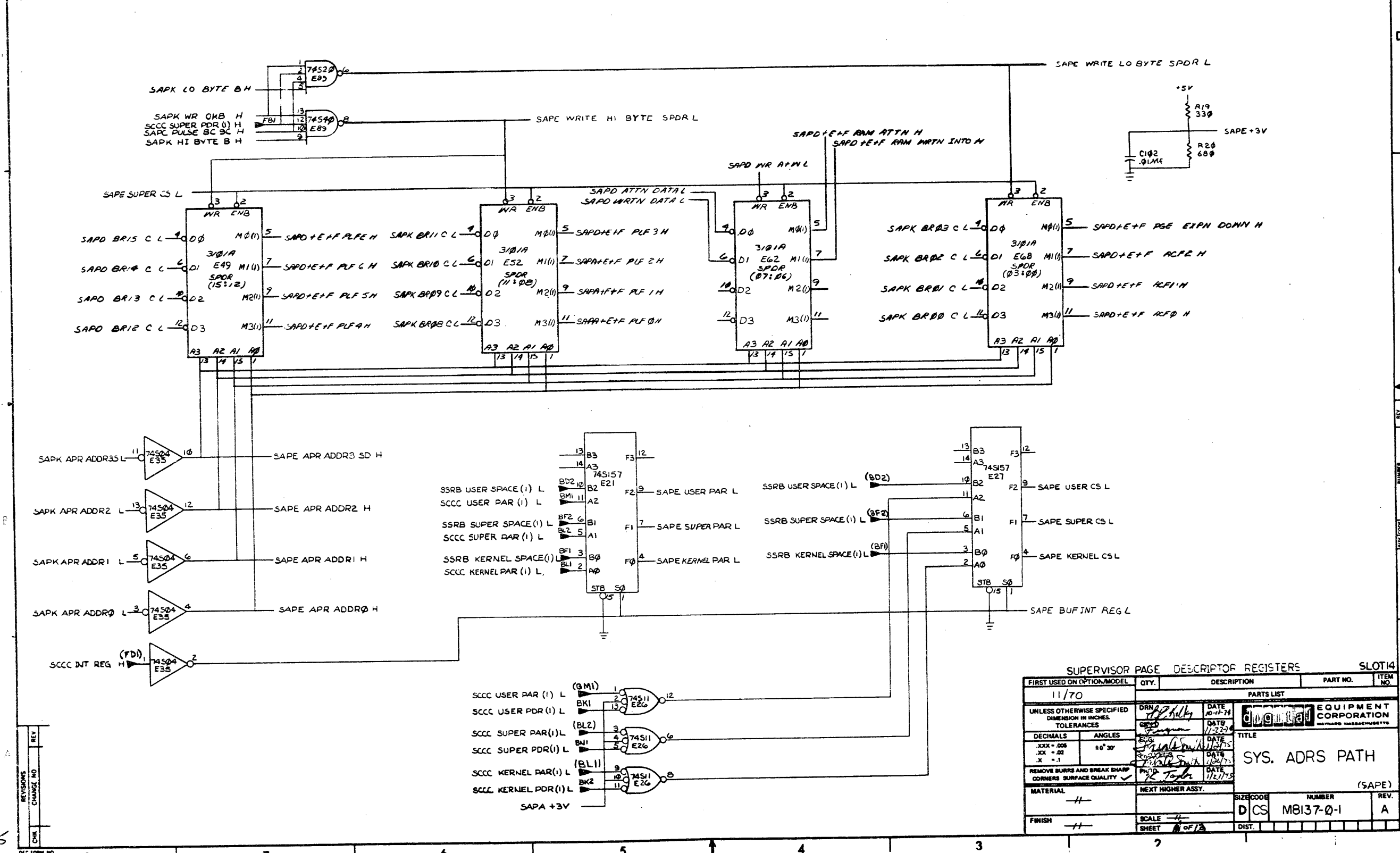


KERNEL PAGE DESCRIPTOR REGISTERS SLOT 14

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DRW	DATE	 EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
XXX - .005	± 0° 30'	CHK'D	DATE	
XX - .02		ENG'D	DATE	
X - .1		PRG'D	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
SCALE				
SHEET				
TITLE			(SAPD) NUMBER DCS M8137-0-1 REV A	

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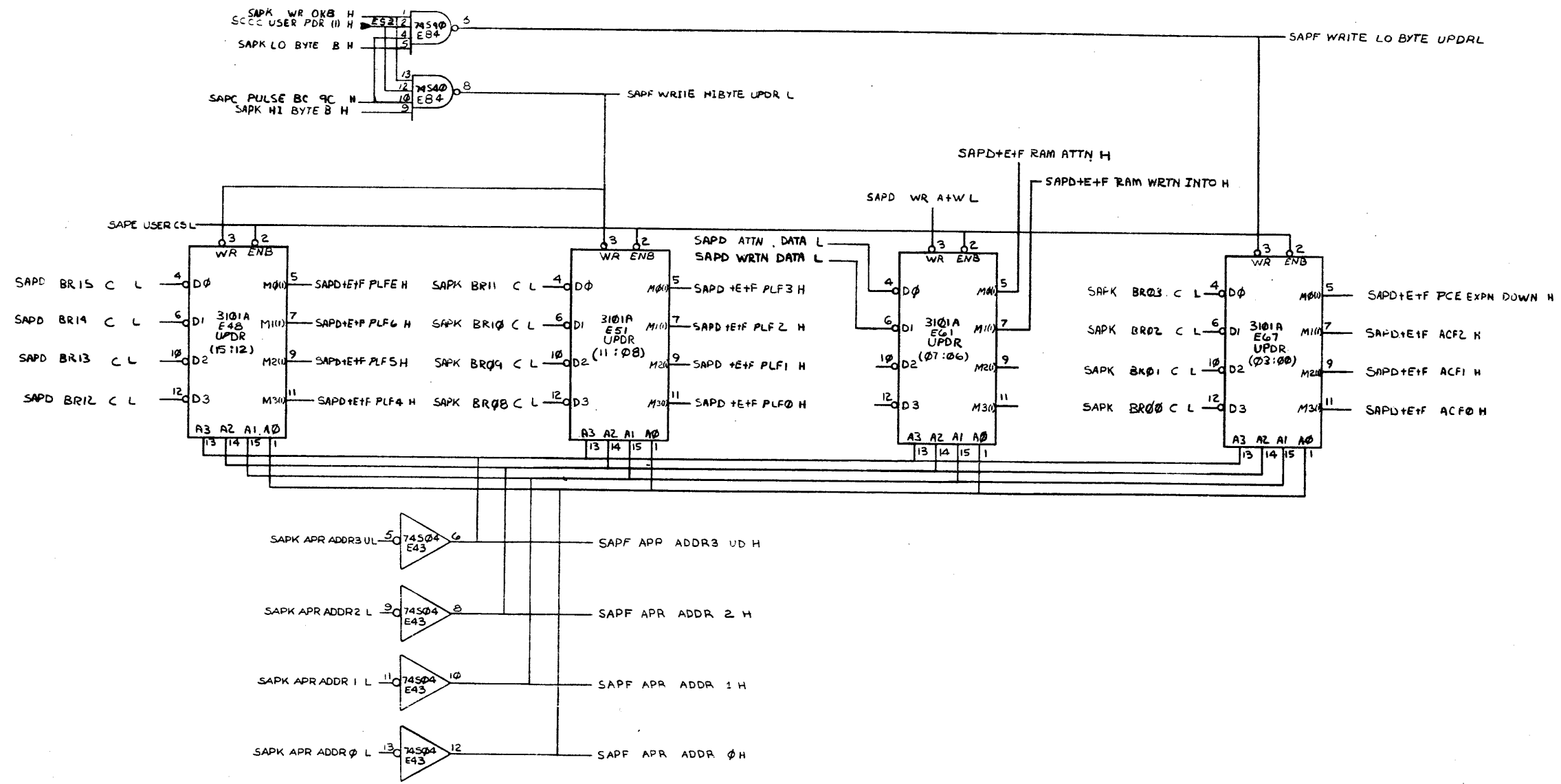


FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES					
DRN	DATE				
DATE	DATE				
DATE	DATE				
DATE	DATE				
DECIMALS	ANGLES	TITLE			
.XXX = .008	±0° 30'	SYS. ADRS PATH			
.XX = .02		(SAPE)			
.X = .1		NUMBER			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		NEXT HIGHER ASSY.		SIZE CODE	REV.
MATERIAL		FINISH		D CS	A
SCALE		SHEET		NUMBER	REV.
1/8"		1 OF 13		MB137-0-1	A

REV. A
MB137-0-1

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V 1-0-1 M8137-01 2



USER PAGE DESCRIPTOR REGISTERS SLOT 14

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DATE 10/1/74	 DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS	ANGLES	DATE 11/2/74		
.XXX - .006	±0° 30'	DATE 11/2/75	TITLE SYS. ADRS. PATH (SAPF)	
.XX - .02		DATE 11/2/75		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 11/2/75	SIZE CODE NUMBER REV DCS M8137-01 A	
MATERIAL	NEXT HIGHER ASSY.	SCALE SHEET 7 of 13 DIST.		
FINISH		256		

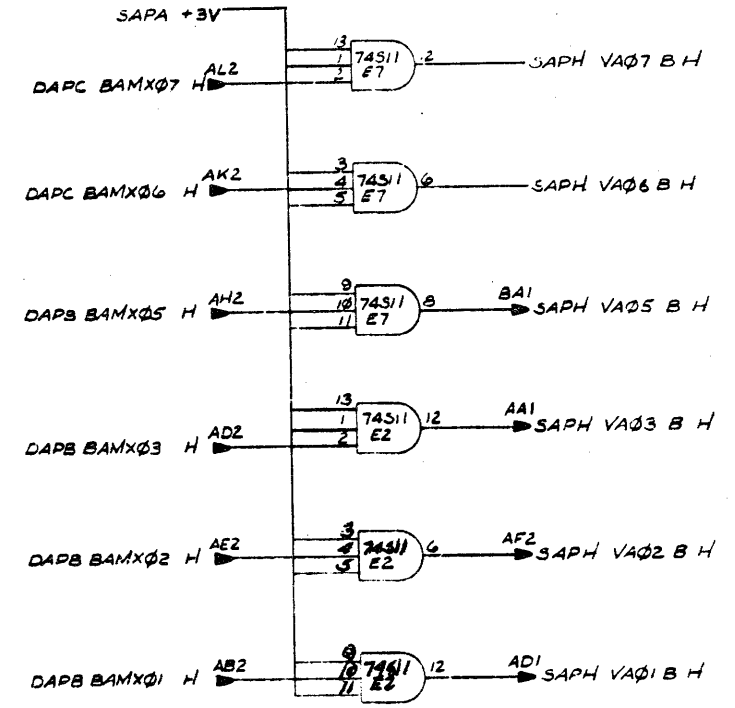
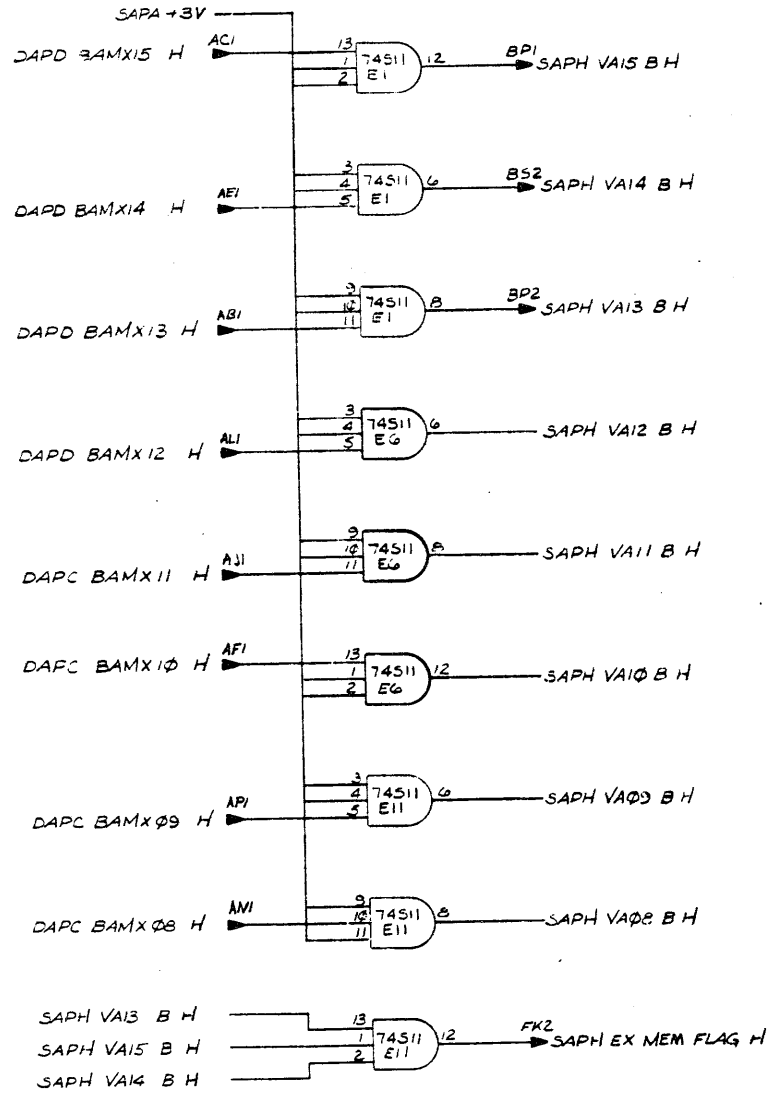
REV A
M8137-01

REVISIONS	REV
CHANGE NO.	
CHK	

DEC FORM NO 010 MB-B

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1-0-2815W DCS M8137-0-1 2



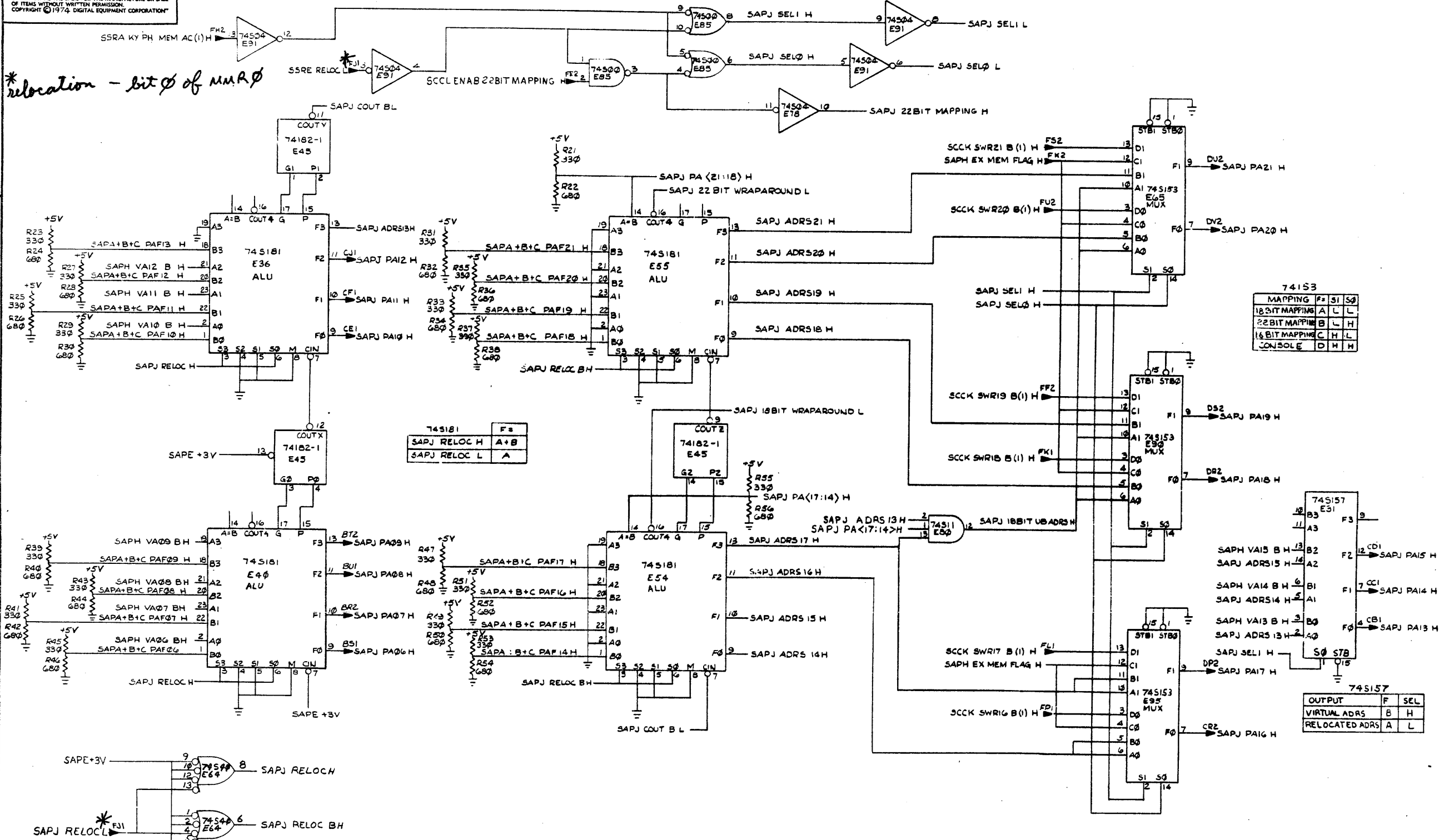
Virtual address

REVISIONS		
CHK	CHANGE NO.	REV.

ADDRESS BUFFERS		SLOT 14	
TITLE	SIZE CODE	NUMBER	REV.
SYS ADRS PATH(SAPH)	DCS	M8137-0-1	A
SCALE	SHEET	DIST.	
#	8 OF 13		

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*relocation - bit of MMR



74S181	Fs
SAPJ RELOC H	A+B
SAPJ RELOC L	A

74S153	MAPPING	Fs	SI	SO
18 BIT MAPPING	A	L	L	
22 BIT MAPPING	B	L	H	
16 BIT MAPPING	C	H	L	
CONSOLE	D	H	H	

74S157	OUTPUT	F	SEL
	VIRTUAL ADRS	B	H
	RELOCATED ADRS	A	L

REVISIONS		
CHK	CHANGE NO.	REV.

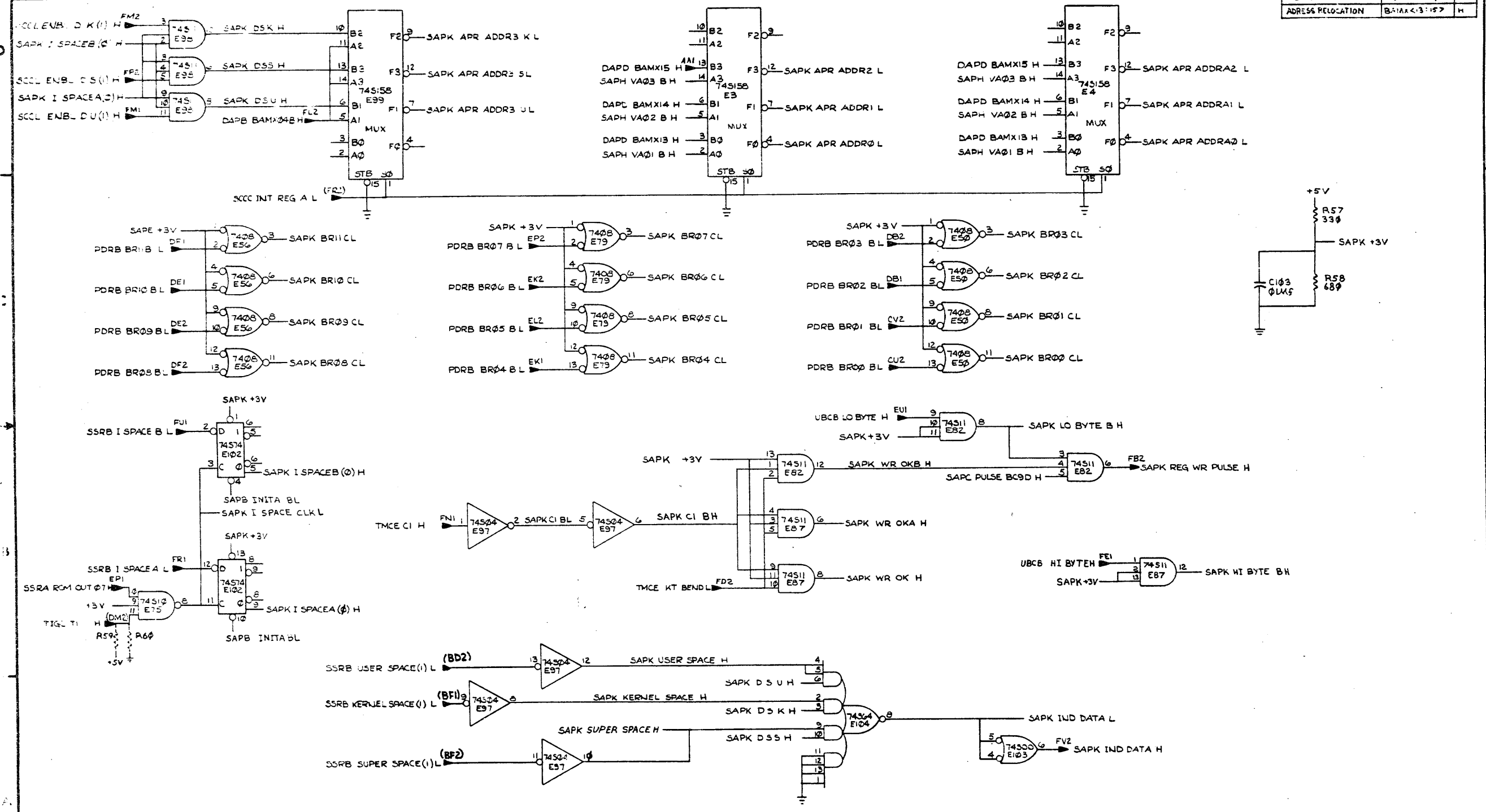
RELOCATION LOGIC SLOT 14

TITLE: SYS ADRS PATH(SAPJ) SIZE CODE: DCS NUMBER: M8137-0-1 REV. A

SCALE: 1/1 SHEET: 9 OF 13 DIST.:

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745158		
FUNCTION	APR ADDR SELECT	SEL
MEM MGMT REGISTER OPERATION	VA < 04:01 >	L
ADDRESS RELOCATION	BA1A < 3:15 >	H



REVISIONS		
CHK	CHANGE NO.	REV.

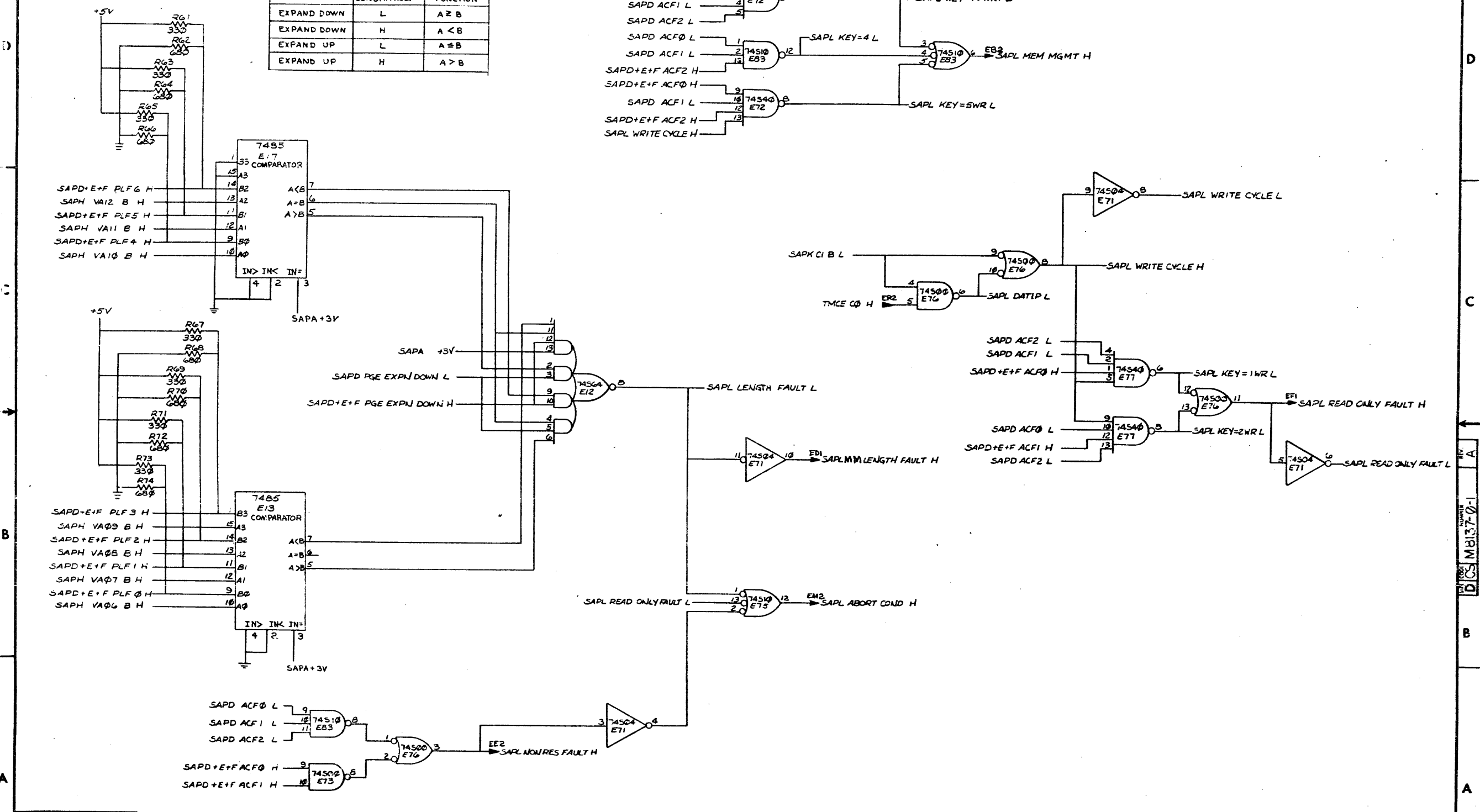
REGISTER SELECT AND CONTROL		SLOT 14	
TITLE	SIZE/CODE	NUMBER	REV.
SYS. ADRS PATH(SAPK)	D CS	M8137-0-1	A
SCALE	SHEET 10 OF 13	DIST.	

259

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7485 LENGTH FAULT

	MEM MGMT LENGTH FAULT	FUNCTION
EXPAND DOWN	L	A ≥ B
EXPAND DOWN	H	A < B
EXPAND UP	L	A ≤ B
EXPAND UP	H	A > B



REVISIONS

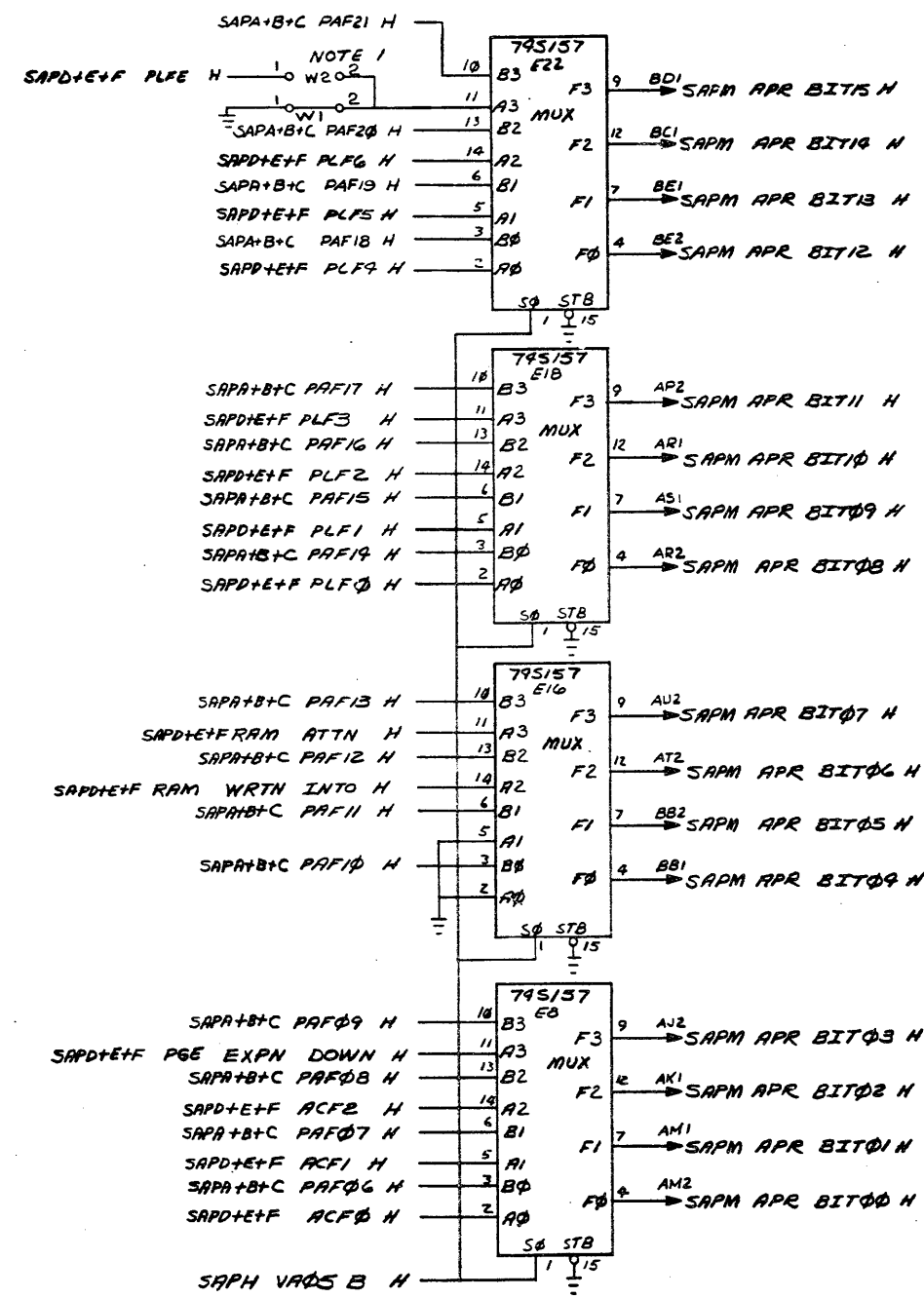
CHK	CHANGE NO.	REV.

ABORT AND TRAP DECODE SLOT 14

TITLE	SIZE CODE	NUMBER	REV.
SYS. ADPS PATH(SAPL)	D CS	M8137-0-1	A
SCALE	SHEET # of 13	DIST.	

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DIGITAL EQUIPMENT CORPORATION



79S157

OUTPUT	INPUT LINES SELECTED				SEL
PDR'S	A3	A2	A1	A0	0
PAR'S	B3	B2	B1	B0	1

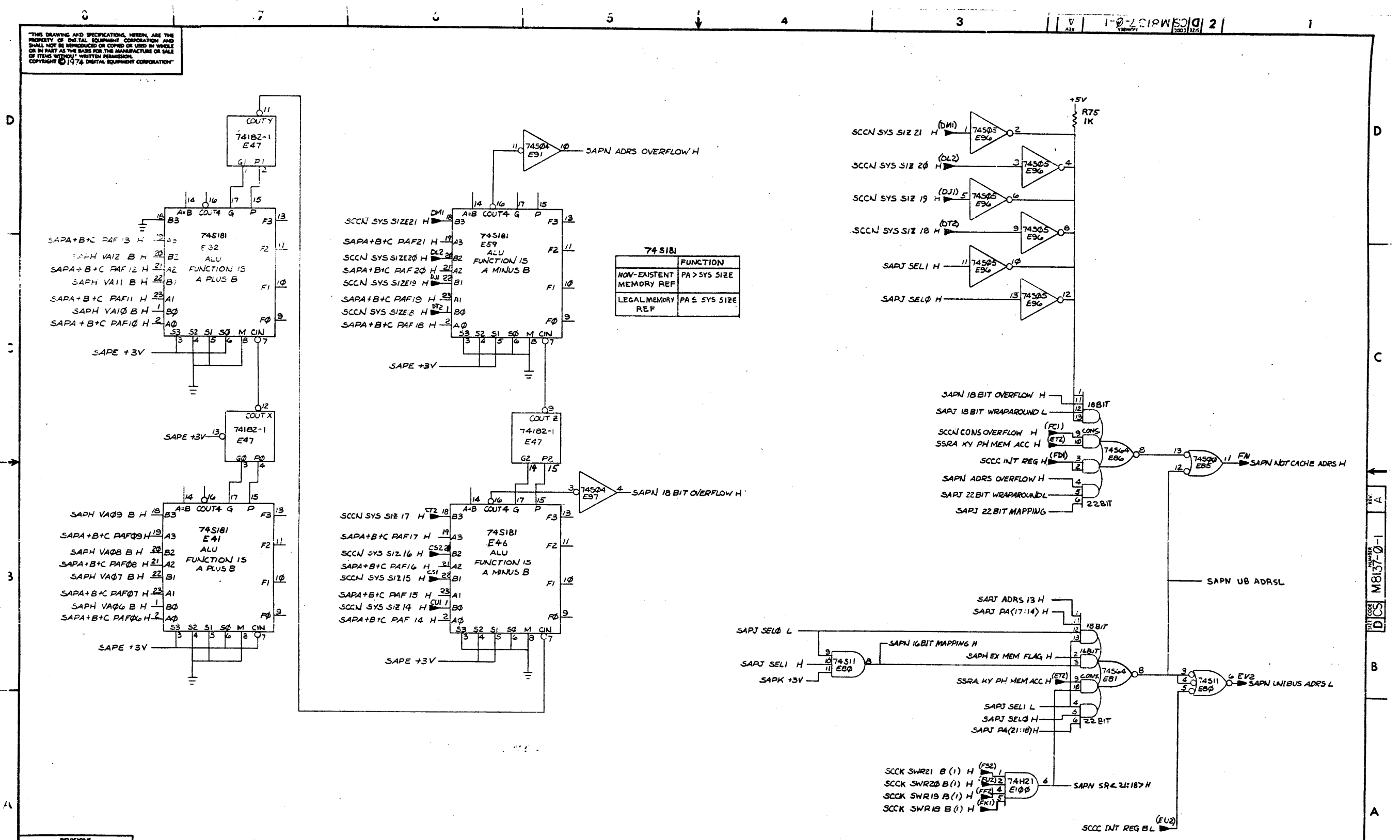
NOTES:
1. PROVISIONS FOR WIRE JUMPER. JUMPER IS NORMALLY INSERTED TO CONNECT "A3" TO GROUND.

PAR/PDR READ MULTIPLEXERS SLOT 14

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES		EQUIPMENT CORPORATION		
DECIMALS	ANGLES	TITLE		
.XXX ± .005	± 0° 30'	SYS. ADRS. PATH		
.XX ± .02		MATERIAL		
.X ± .1		NEXT HIGHER ASSY.		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		FINISH		
		SCALE		
		SHEET 12 of 13		
		SIZE CODE NUMBER REV.		
		DCS M8137-0-1 A		
		DIST.		

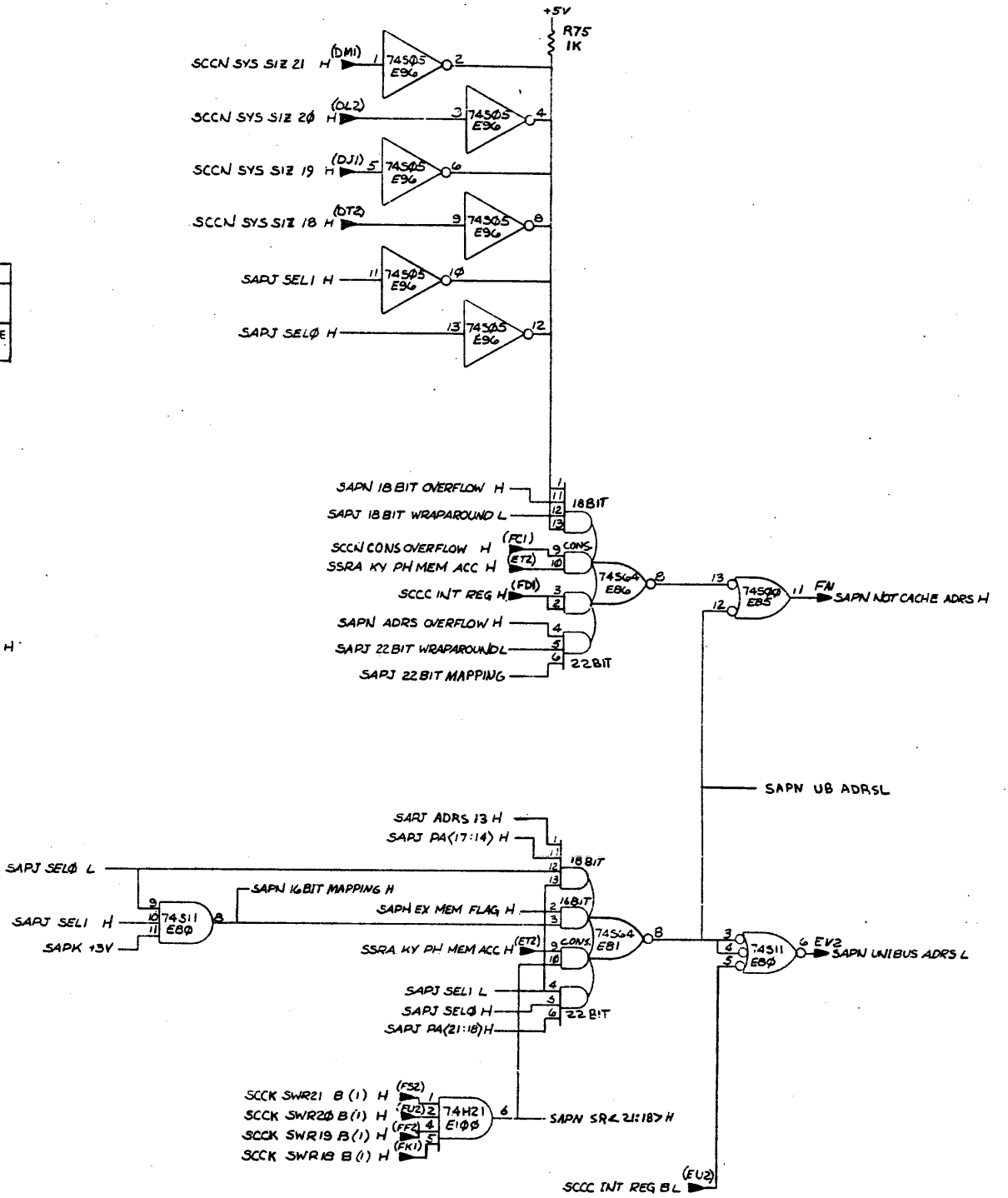
261

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74S181

FUNCTION	FUNCTION
NON-EXISTENT MEMORY REF	PA > SYS SIZE
LEGAL MEMORY REF	PA ≤ SYS SIZE



REVISIONS

CHK	CHANGE NO.	REV.

VALID ADDRESS CHECK

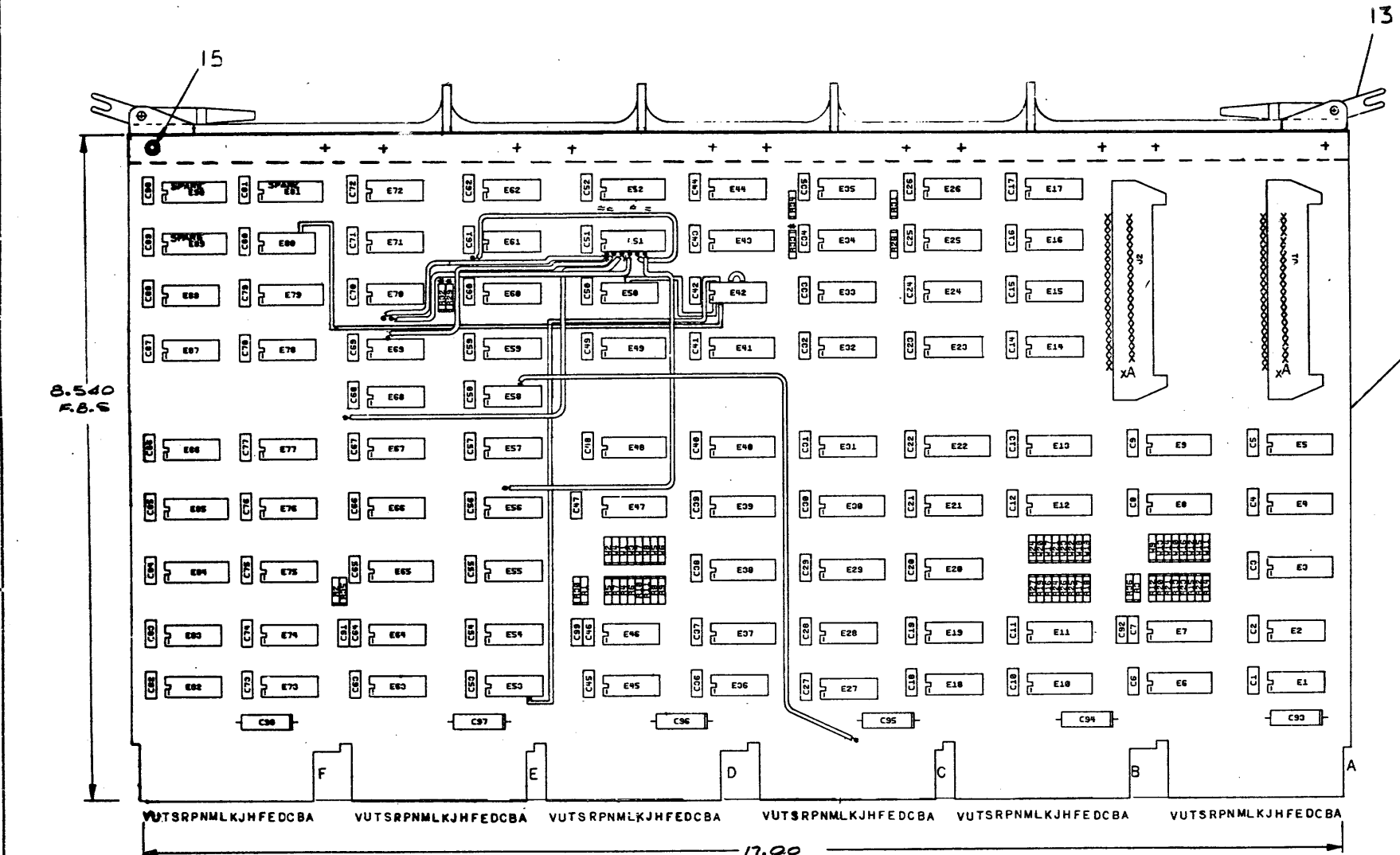
TITLE	SIZE/ CODE	NUMBER	REV.
SYS ADRS PATH (SAPN)	DCS	M8137-0-1	A

SLOT 14

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NOTES:

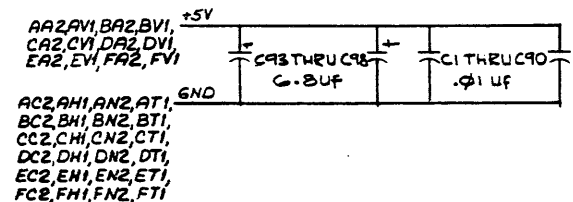
- * OPTIONAL COMPONENTS.
- E81, E89, E90 ARE SPARE IC LOCATIONS.



IC	TYPE	QTY	REV
IC DEC 74157		8	16
IC DEC 74S133		8	16
IC DEC 8234		8	16
IC DEC 74155		8	16
IC DEC 74S174		8	16
IC DEC 74S158		8	16
IC DEC 74153		8	16
IC DEC 7483		12	5
IC TYPE	GND	+5V	

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

IC PIN LOCATIONS



REF	X-Y COORDINATE HOLE LOCATION	R-CO-M8140-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8140-0-5	2
REF	MODULE ECO HISTORY	B-MH-M8140-0-6	3
1	ETCHED CIRCUIT BOARD	5011355	4
6	C93 THRU C96	CAPACITOR 6 8uf 35V 20% TANT	5
93	C1 THRU C92, C99	CAPACITOR .01uf 100V DISC 20%	6
2	J1, J2	CONN. RIGHT ANGLE HEADER, BERG	7
1	R34	RESISTOR 150, 1/4W, 5%	8
3	R1, R2, R3	RESISTOR 330, 1/4W, 5%	9
1	R28	RESISTOR 390, 1/4W, 5%	10
25	R4 THRU R27, R31	RESISTOR 1K, 1/4W, 5%	11
3	R30, R35, R36	RESISTOR 680 1.4W 5%	12
1	HANDLE ASSY HEX	1210711-02	13
3	WI THRO W24	SW, PKR DIP PKG W/B SW	14
12	EYELET HANDLE	9006732	15
1	E24	IC DEC 7474	16
3	E1, E2, E14	IC 7404	17
5	E63, E73, E74, E82, E83	IC DEC 8881	18
1	E23	IC DEC 8815	19
7	E18, E19, E27, E28, E36, E45, E46	IC DEC 74H01	20
2	E6, E7	IC 7483	21
7	E3, E4, E5, E39, E40, E47, E48	IC 74153	22
3	E15, E16, E17	IC 7408	23
2	E60, E77	IC 74S00	24
12	E20, E50, E58, E61, E66, E67, E75, E76, E78, E80, E86, E87	IC 74S04	25
1	E62	IC 74S10	26
9	E64, E25, E26, E31, E33, E42, E44, E54, E59	IC 74S11	27
5	E21, E70, E71, E72, E88	IC 74S20	28
1	E57	IC 74S40	29
3	E32, E34, E35	IC 74S64	30
3	E8, E9, E12	IC 74S158	31
2	E13, E29	IC 74S174	32
1	E79	IC 74155	33
2	E37, E38	IC 8234	34
10	E22, E30, E41, E43, E51, E52, E65, E84, E85, E49	IC 74S133	35
2	E10, E11	IC 74157	36
5	E53, E55, E56, E68, E69	IC 74S74	37
40	WIPE #30 AWG BUSS (RETROFIT)	9105740-55	38
3	SWITCH COVER	1211284-4	39

FIRST USED ON OPTION MODEL 11/70

ETCH BOARD REV A

DATE 10/21/77

CHK'D P. Schnorr

DATE 12/7/77

ENG. CHARON A. SMITH

DATE 1/29/75

PRG. CHARON A. SMITH

DATE 11/24/75

NEXT HIGHER ASSY

digital EQUIPMENT CORPORATION

TITLE: SYS DESC / CNL CABLES

SIZE CODE: DCS

NUMBER: M8140-0-1

REV: B

SCALE: 1 OF 13

SHEET: 1 OF 13

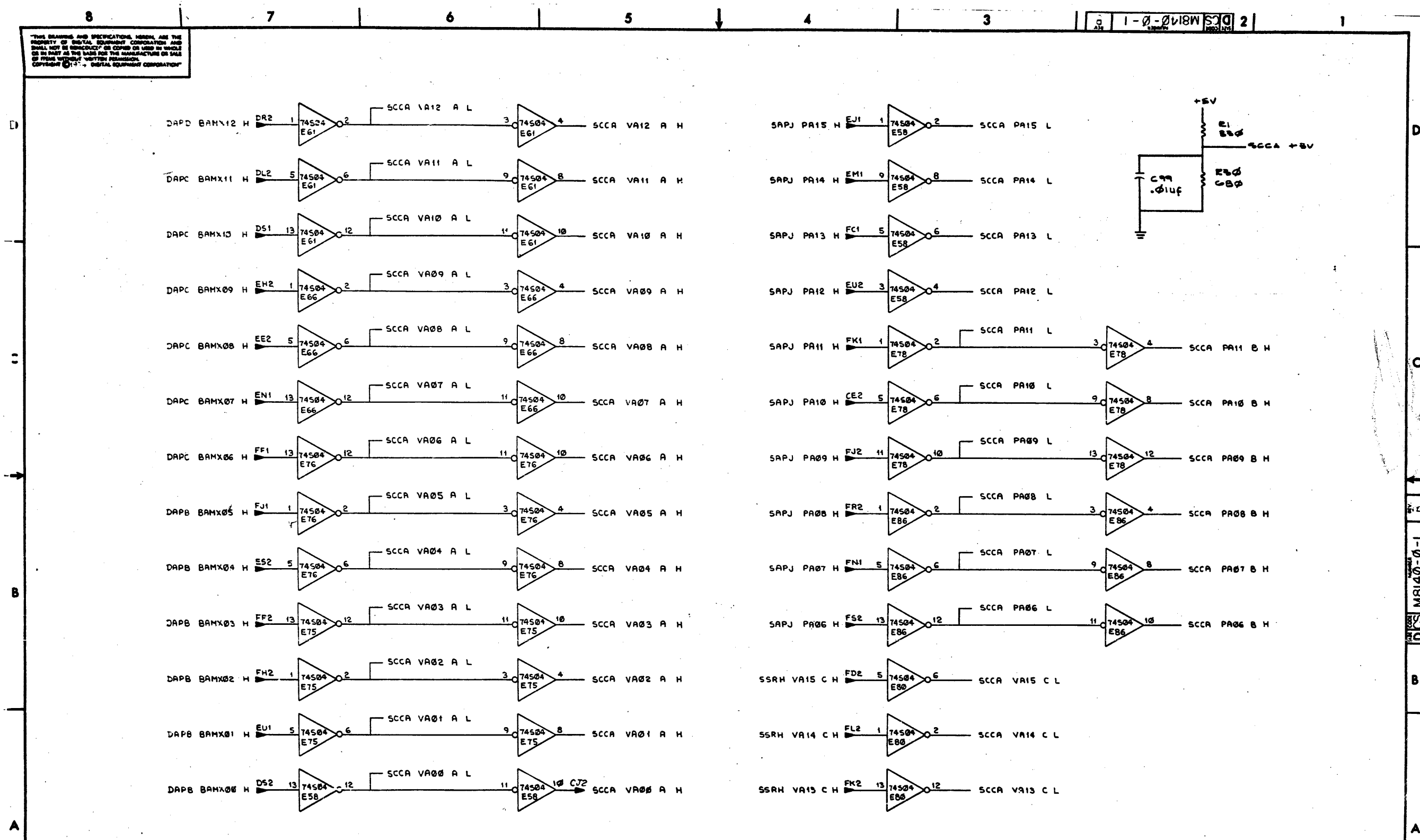
SEMICONDUCTOR CONVERSION CHART

DEC NO. EIA NO. DEC NO. EIA NO.

263

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1-0-018W SCD 2



REVISIONS		
CHK	CHANGE NO.	REV.

ADDRESS BUFFERS SLOT 16

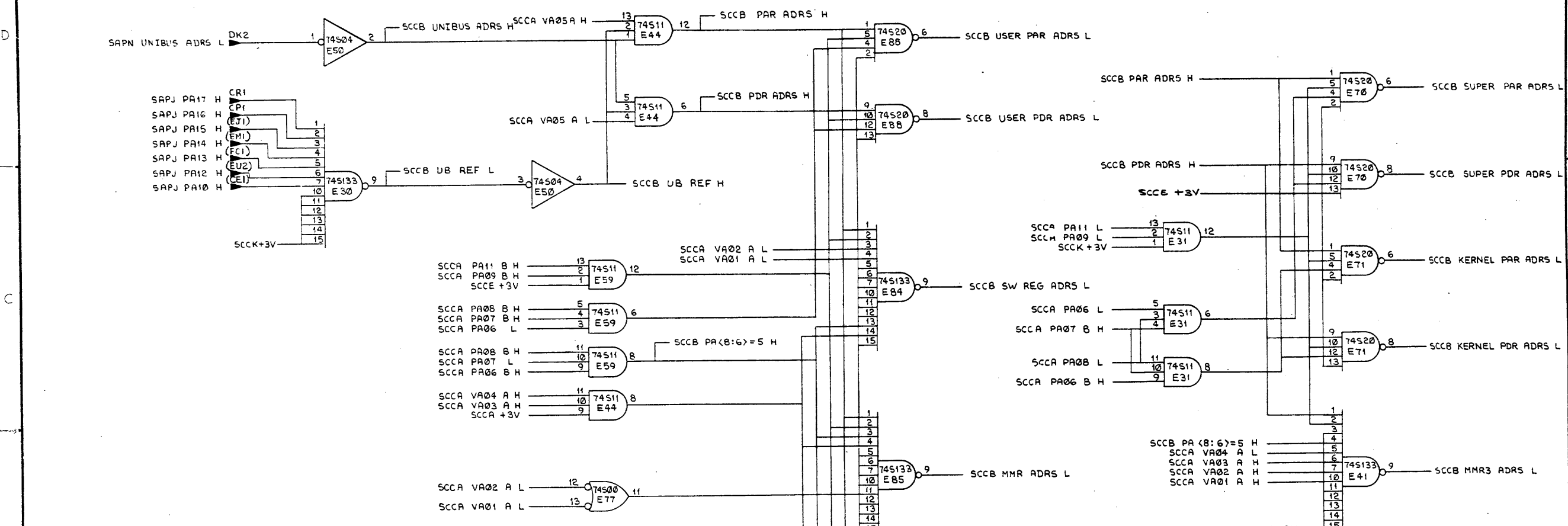
TITLE	SIZE/DOOR	NUMBER	REV.
SYS DESC/CNSL CABLES (SCCA)	D CS	M8140-0-1	B
SCALE	SHEET 2 OF 13	DIST.	

172

264

8 7 6 5 4 3 2 1

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INTD REGISTER ADDRESSES

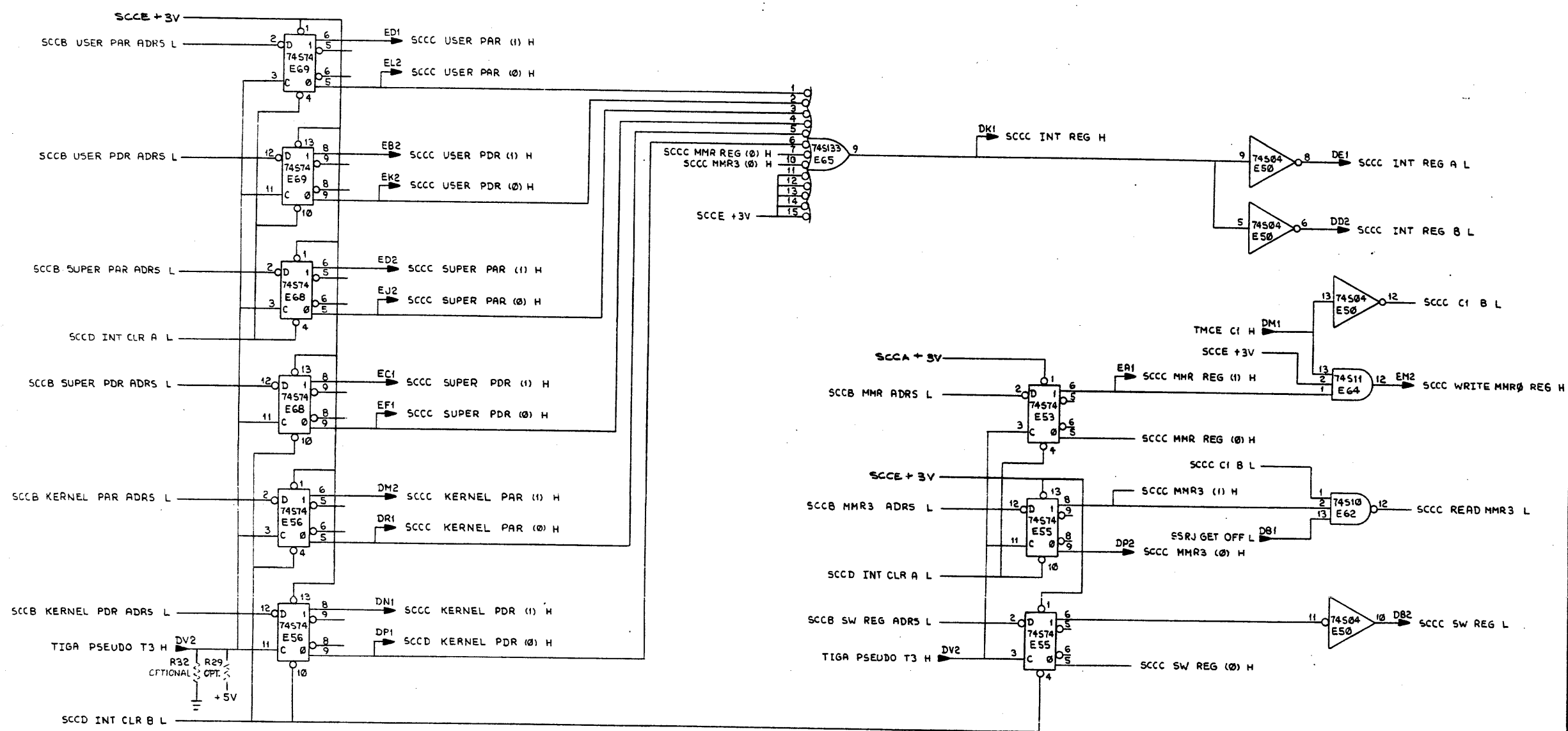
NAME	ADDRESS
SWITCH REGISTER	17777570
MEM MGMT REGISTER 0 (MMR0)	17777572
MEM MGMT REGISTER 1 (MMR1)	17777574
MEM MGMT REGISTER 2 (MMR2)	17777576
MEM MGMT REGISTER 3 (MMR3)	17772516
SUPERVISOR PDR	17772200-1777236
SUPERVISOR PAR	17772240-17772276
KERNEL PDR	17772300-17772336
KERNEL PAR	17772340-17772376
USER PDR	17777600-17777636
USER PAR	17777640-17777676

REVISIONS		
CHK	CHANGE NO.	REV.

REG ADDRESS DECODER SLOT 16			
TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES (SCCB)	DCS	M8140-0-1	B
SCALE	SHEET 3 OF 13	DIST.	

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1-0-0718W 2



REVISIONS		
CHK	CHANGE NO.	REV.

REG ADDRESS DECODE SLOT 16

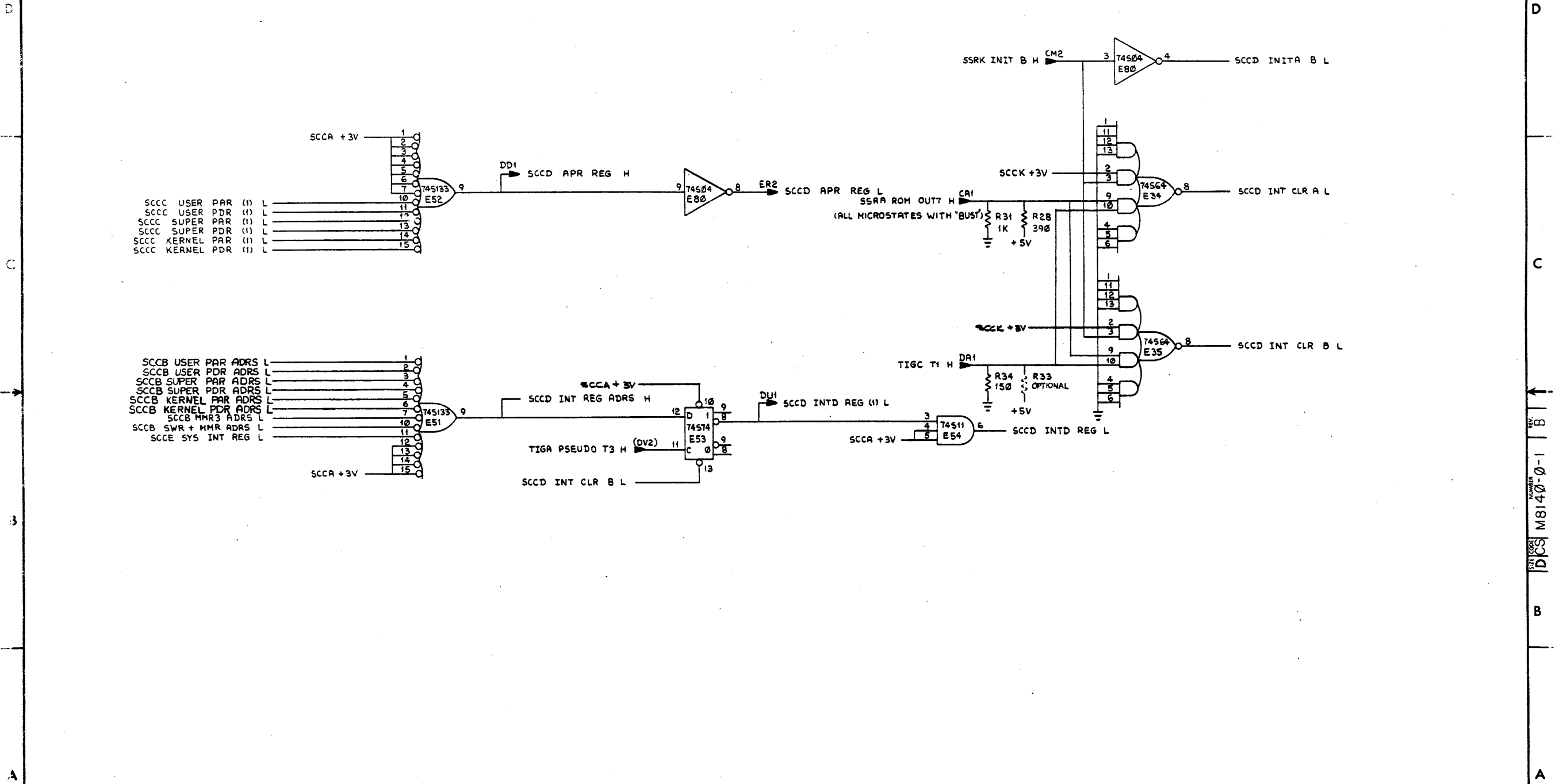
TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES (SCCC)	D CS	M8140-0-1	B
SCALE	SHEET 4 OF 13	DIST.	

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1 2 3 4 5 6 7 8



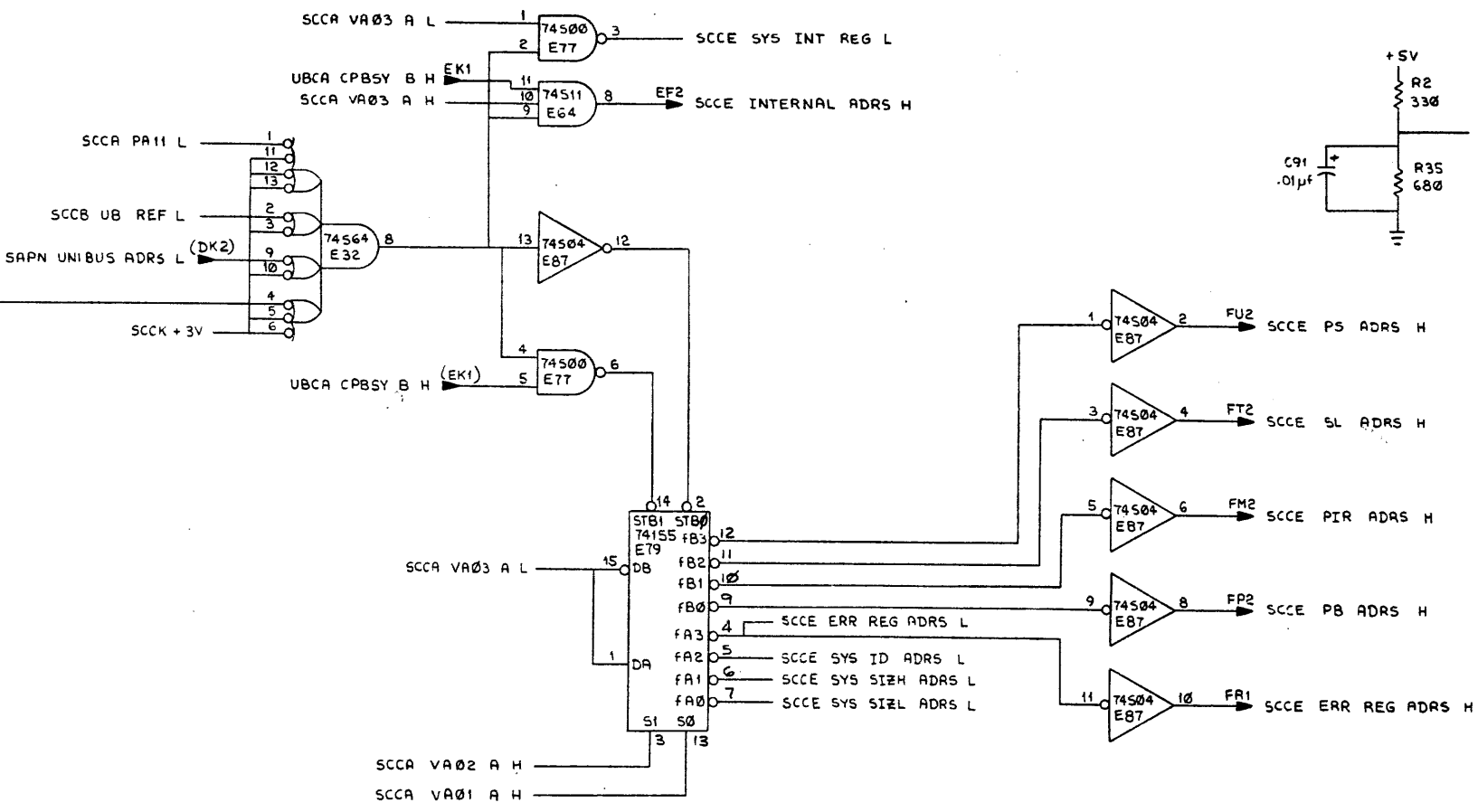
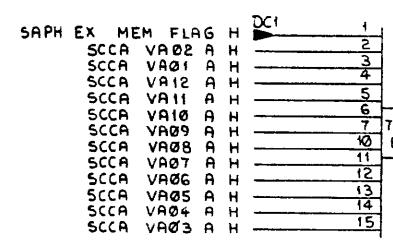
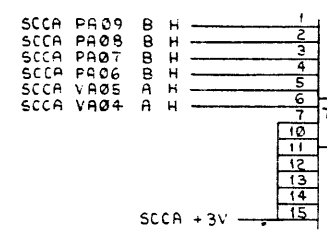
REVISIONS		
CHK	CHANGE NO.	REV.

REG ADDRESS DECODE SLOT 16

TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES (SCCD)	D CS	M8140-0-1	B
SCALE	SHEET 5 OF 13	DIST.	

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1-0-0718W 2



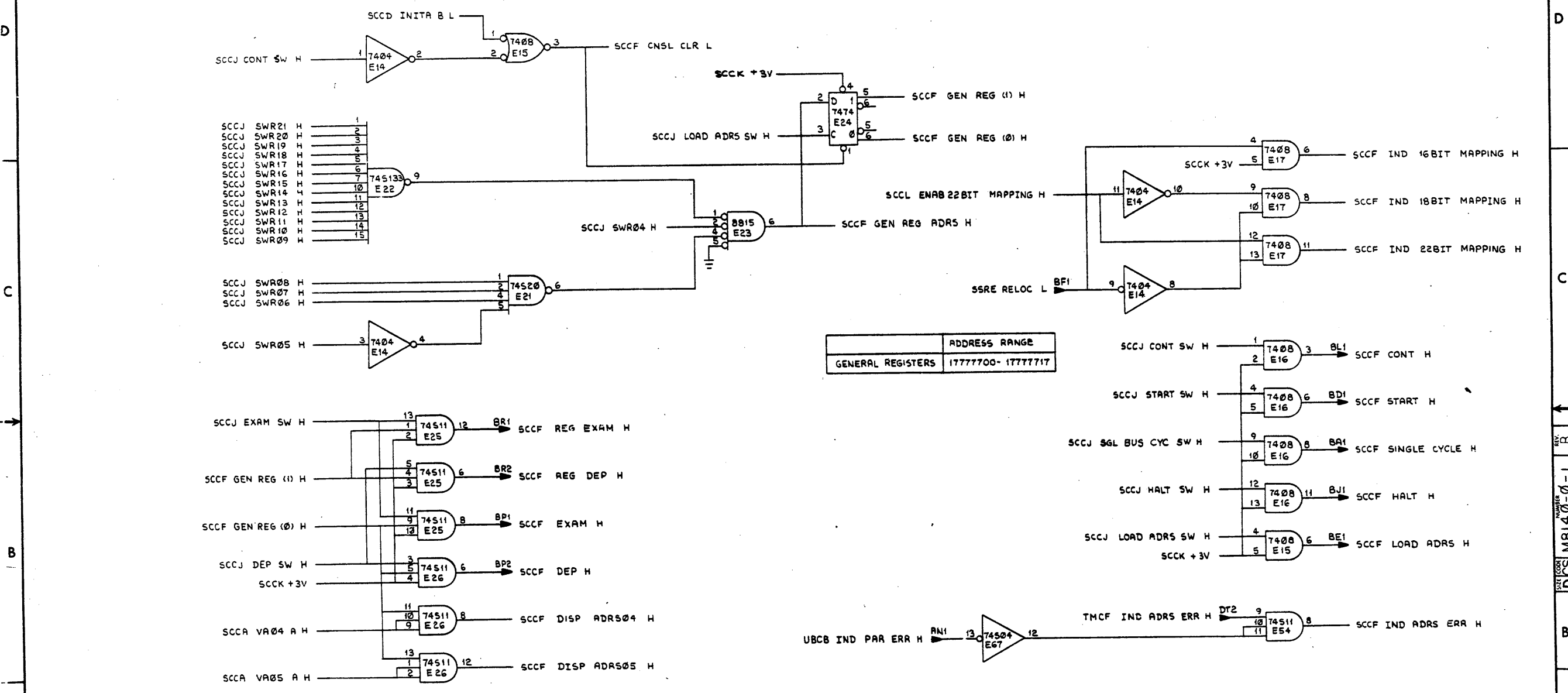
SYSTEM REG (STB0)	UNIBUS REG (STB1)	SCCA VA03 A	SCCA VA02 A (S1)	SCCA VA01 A (S0)	TRUE OUTPUT SIGNAL (F OUTPUTS)	REGISTER ADDRESS
H	H	X	X	X	NONE	NONE
L	L	H	L	L	SCCE PB ADRS	17777770
L	L	H	L	H	SCCE PIR ADRS	17777772
L	L	H	H	L	SCCE SL ADRS	17777774
L	L	H	H	H	SCCE PS ADRS	17777776
L	H	L	L	L	SCCE SYS SIZL ADRS	17777760
L	H	L	L	H	SCCE SYS SIZH ADRS	17777762
L	H	L	H	L	SCCE SYS ID ADRS	17777764
L	H	L	H	H	SCCE ERR REG ADRS	17777766

REVISIONS		
CHK	CHANGE NO.	REV.

SYSTEM REG ADDRESS DECODE SLOT 16

TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES(SCCE)	D CS	M8140-0-1	B
SCALE	SHEET 6 OF 13	DIST.	

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GENERAL REGISTERS	ADDRESS RANGE
	17777700-17777717

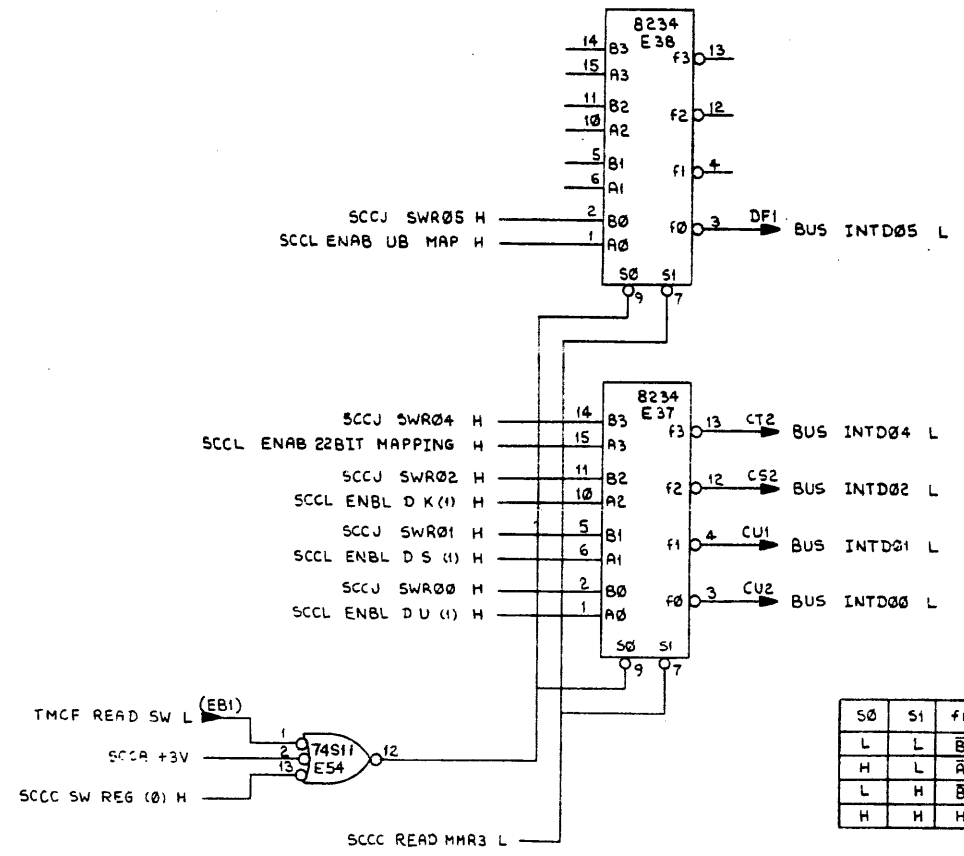
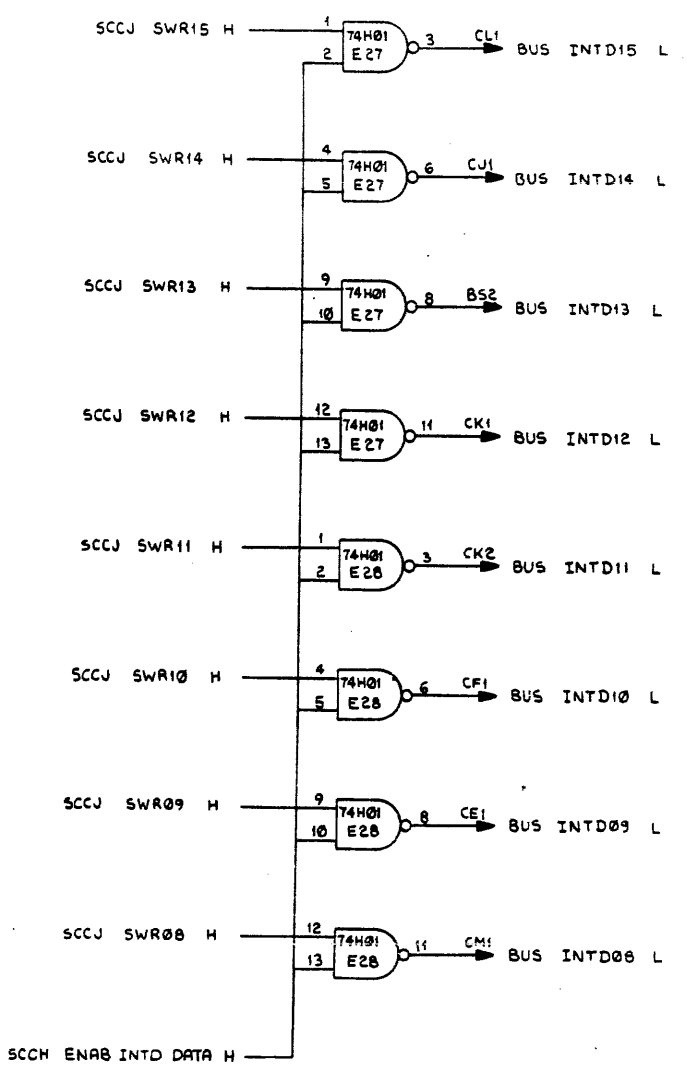
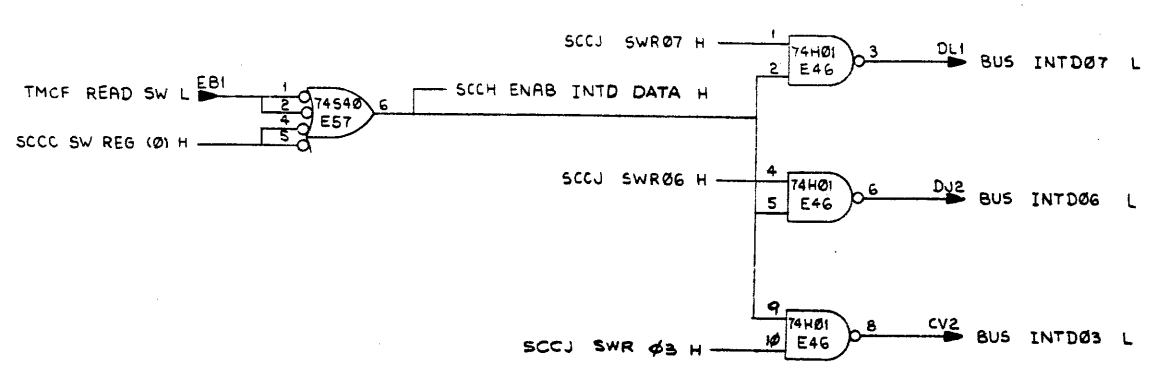
REVISIONS		
CHK	CHANGE NO.	REV.

GENERAL REGISTER DECODE SLOT 16			
TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES(SCCF)	D CS	M8140-0-1	B
SCALE	SHEET 7 OF 13	DIST.	

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1-0-018W SCD 2



8234

S0	S1	f/n	OUTPUT
L	L	\bar{B}	SWITCH REGISTER
H	L	\bar{A}	MEM MGMT REG3
L	H	\bar{B}	SWITCH REGISTER
H	H	H	NONE

REVISIONS		
CHK	CHANGE NO.	REV.

178

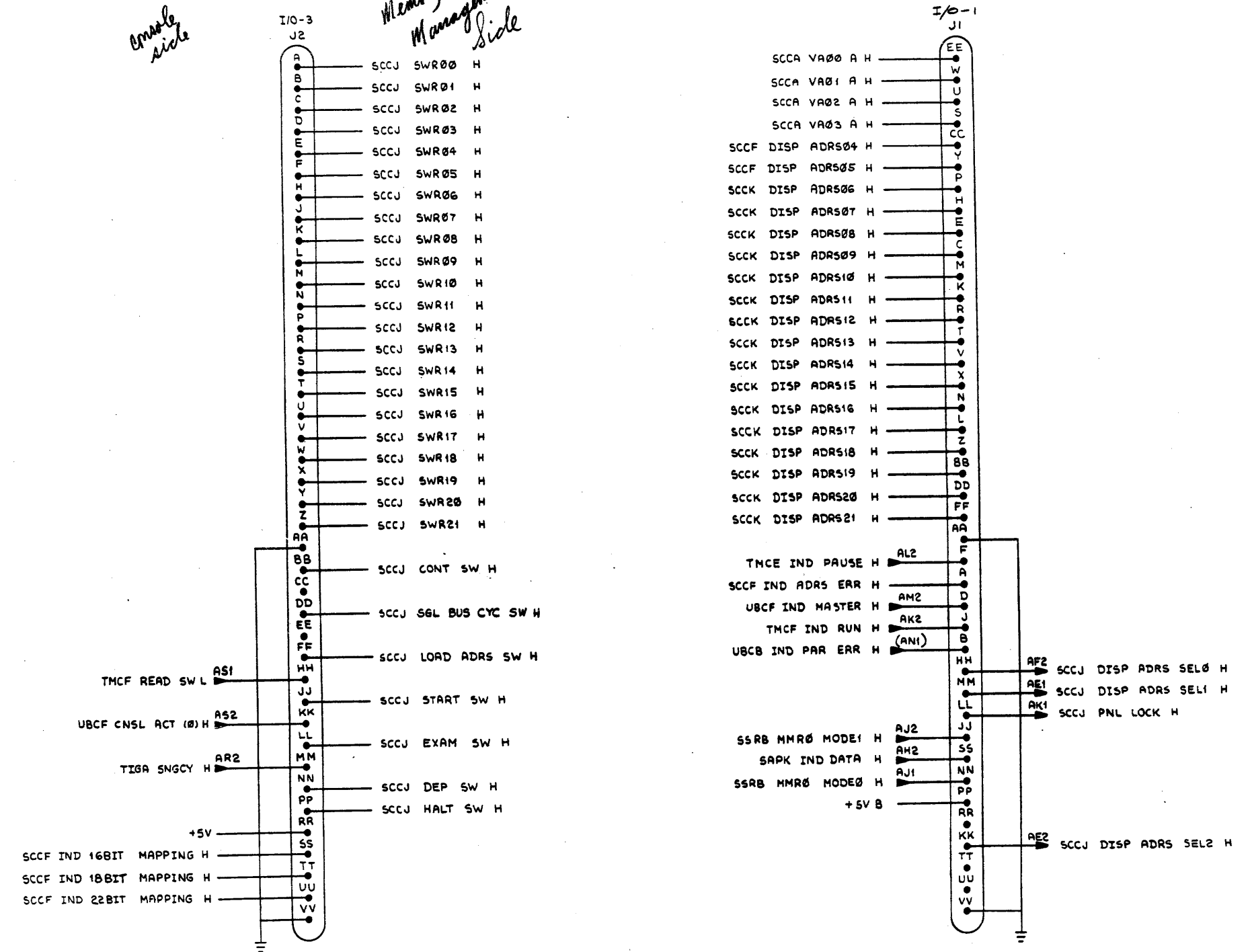
INTERNAL BUS DRIVERS SLOT 16

TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES(SCCH)	D CS	M8140-0-1	B
SCALE	SHEET 8 OF 13	DIST.	

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enable side
Memory Management side

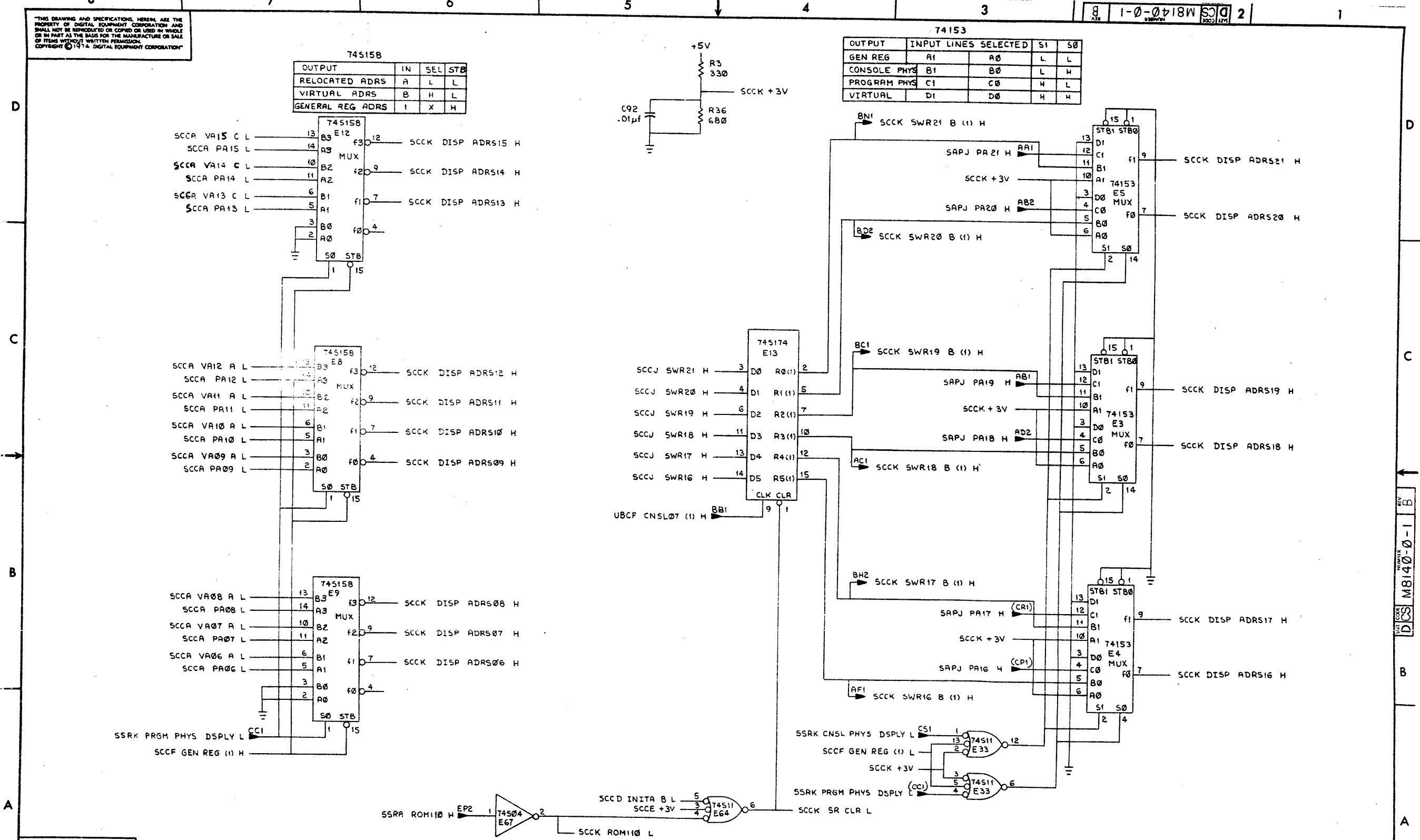


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE				SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES (SCCJ)				D CS	M8140-0-1	B
SCALE		SHEET 9 OF 13		DIST.		

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1-0-0718W SCD 2



OUTPUT	IN	SEL	STB
RELOCATED ADRS	A	L	L
VIRTUAL ADRS	B	H	L
GENERAL REG ADRS	I	X	H

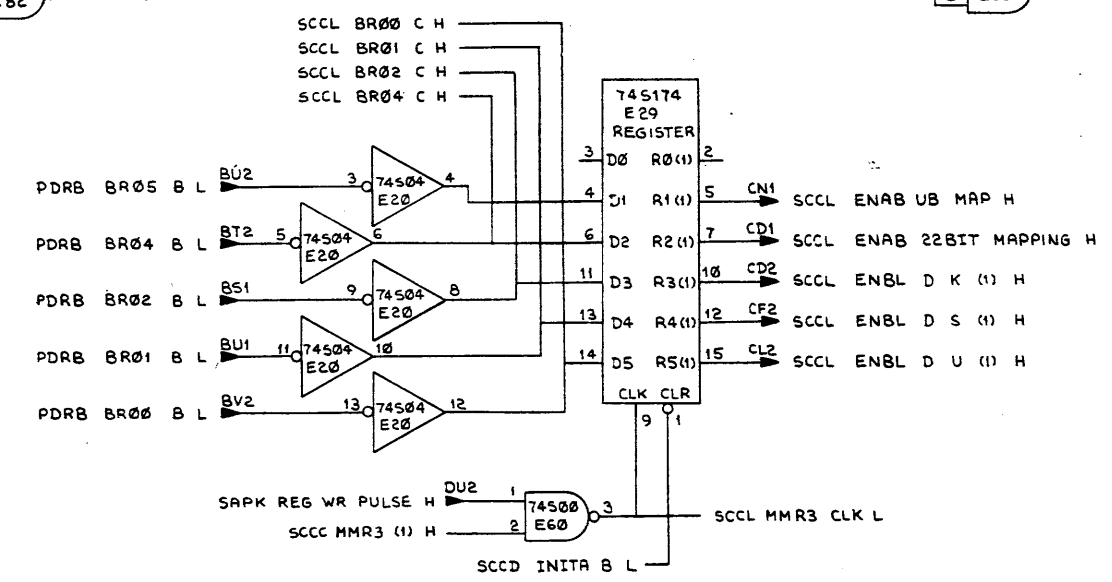
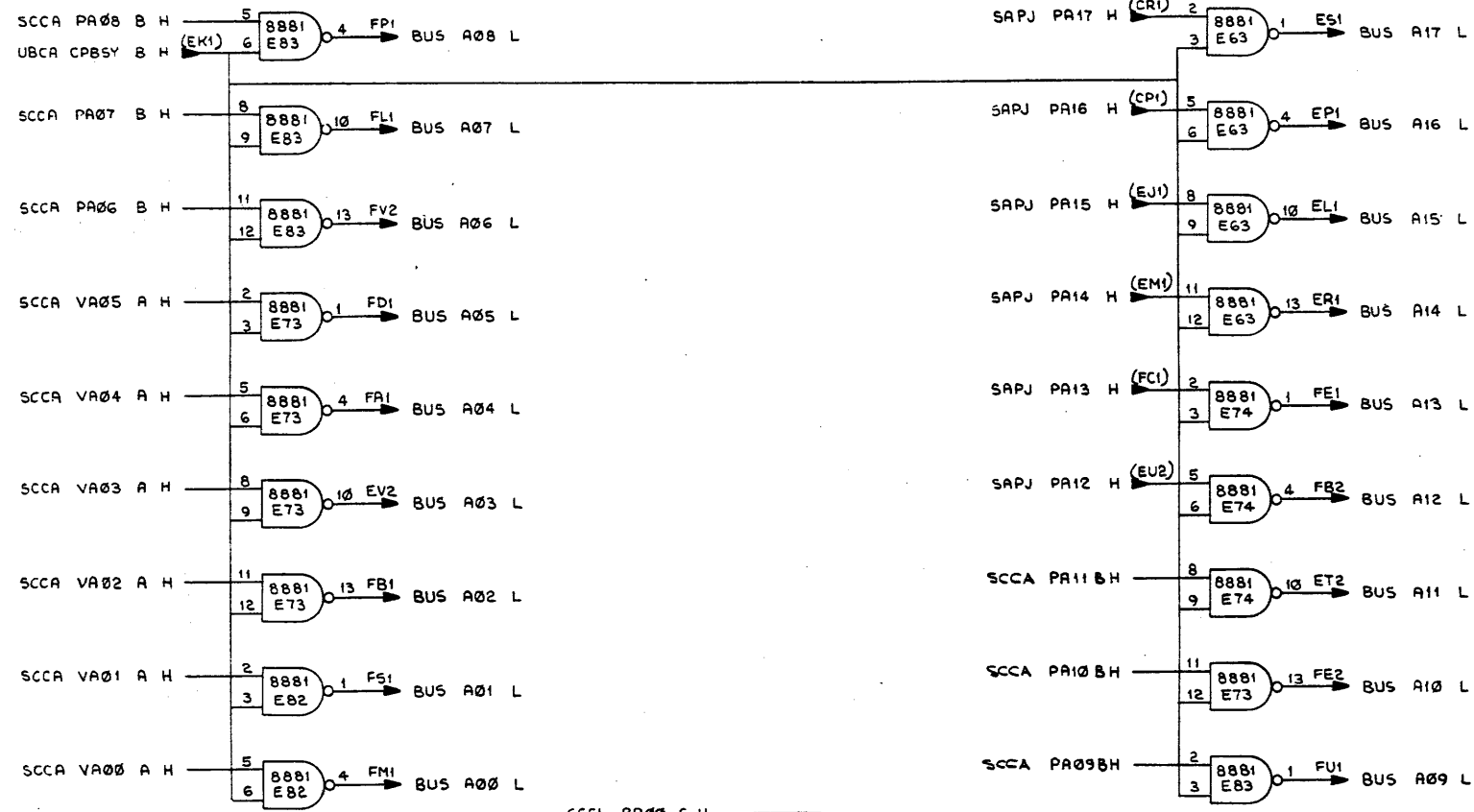
OUTPUT	INPUT LINES SELECTED	S1	S0
GEN REG	A1 A0	L	L
CONSOLE PHYS	B1 B0	L	H
PROGRAM PHYS	C1 C0	H	L
VIRTUAL	D1 D0	H	H

REVISIONS		
CHK	CHANGE NO.	REV.

CONSOLE ADDRESS DISPLAY SLOT 16
 TITLE: SYS DESC/CONSL CABLES(SCCK)
 SIZE/SCALE: DCS
 NUMBER: M8140-0-1
 REV: B

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8 1-0-0718W SCCL 2



UNIBUS ADDRESS DRIVERS +MMR3 SLOT 16.

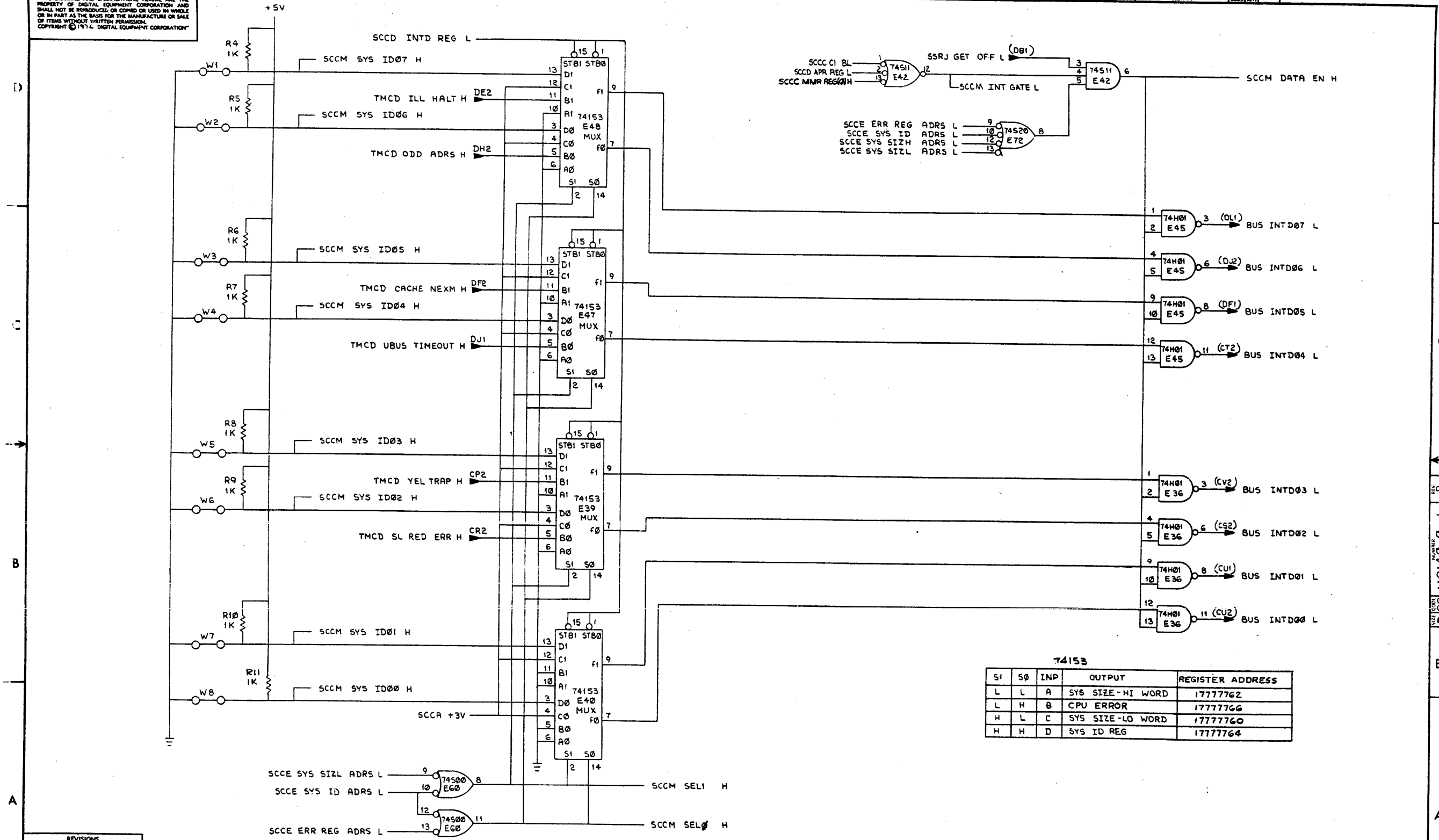
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES(SCCL)	D CS	M8140-0-1	B
SCALE	SHEET 11 OF 13	DIST.	

REV. B NUMBER M8140-0-1 DIST. DCS

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1-0-018 M8140-0-1 2



74153

SI	S0	INP	OUTPUT	REGISTER ADDRESS
L	L	A	SYS SIZE-HI WORD	17777762
L	H	B	CPU ERROR	17777766
H	L	C	SYS SIZE-LO WORD	17777760
H	H	D	SYS ID REG	17777764

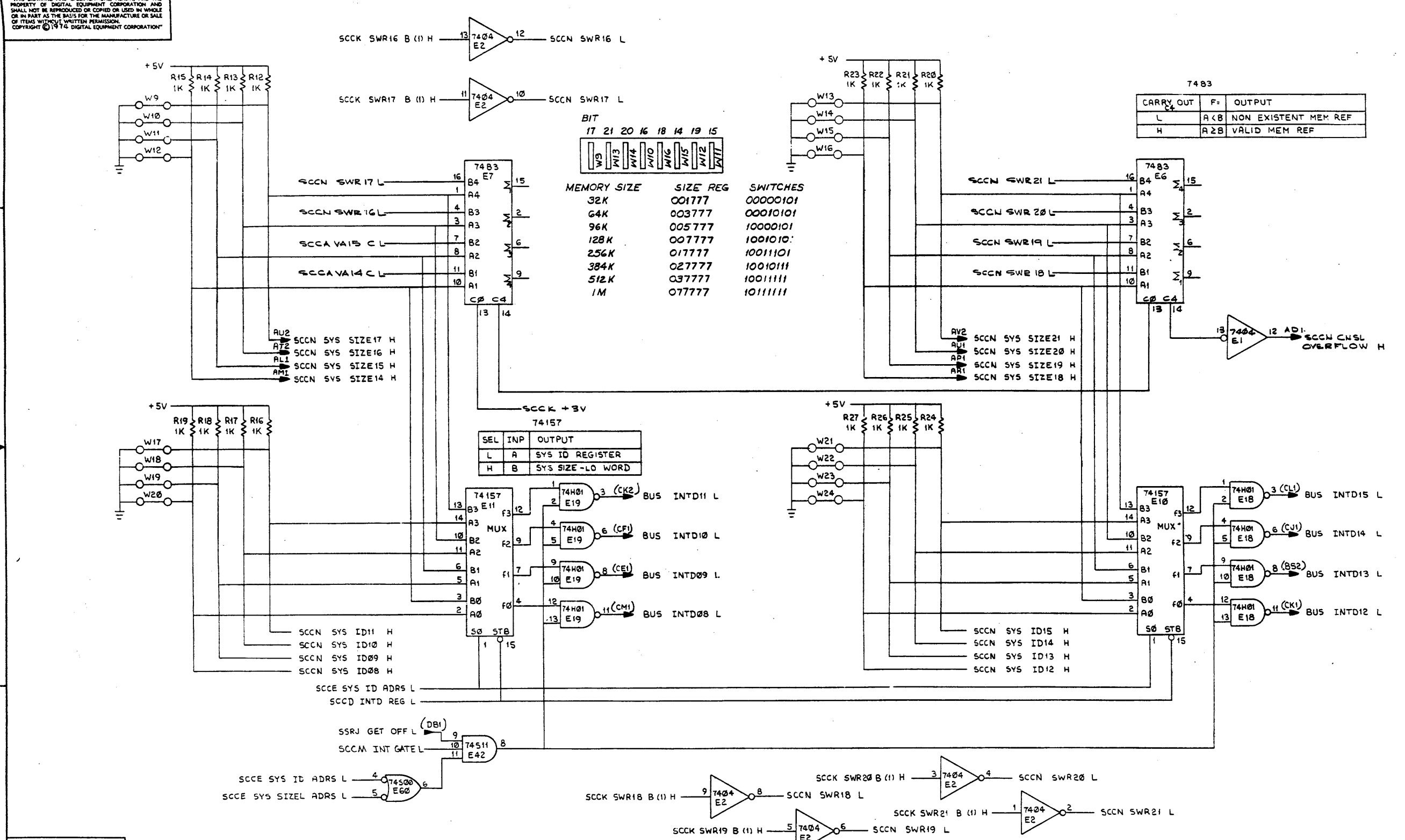
REVISIONS		
CHK	CHANGE NO.	REV.

SYSTEM REGISTER BITS <07:00> SLOT 16

TITLE	SIZE CODE	NUMBER	REV.
SYS DESC/CNSL CABLES(SCCM)	D CS	M8140-0-1	B
SCALE	SHEET 12 OF 13	DIST.	

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1-0-018 M8140 2



BIT

17	21	20	16	18	14	19	15
W9	W13	W14	W15	W16	W10	W11	W12

MEMORY SIZE	SIZE REG	SWITCHES
32K	001777	00000101
64K	003777	00010101
96K	005777	10000101
128K	007777	10010101
256K	017777	10011101
384K	027777	10010111
512K	037777	10011111
1M	077777	10111111

7483

CARRY OUT	F	OUTPUT
L	A < B	NON EXISTENT MEM REF
H	A ≥ B	VALID MEM REF

74157

SEL	INP	OUTPUT
L	A	SYS ID REGISTER
H	B	SYS SIZE -LO WORD

REVISIONS

CHK	CHANGE NO.	REV.

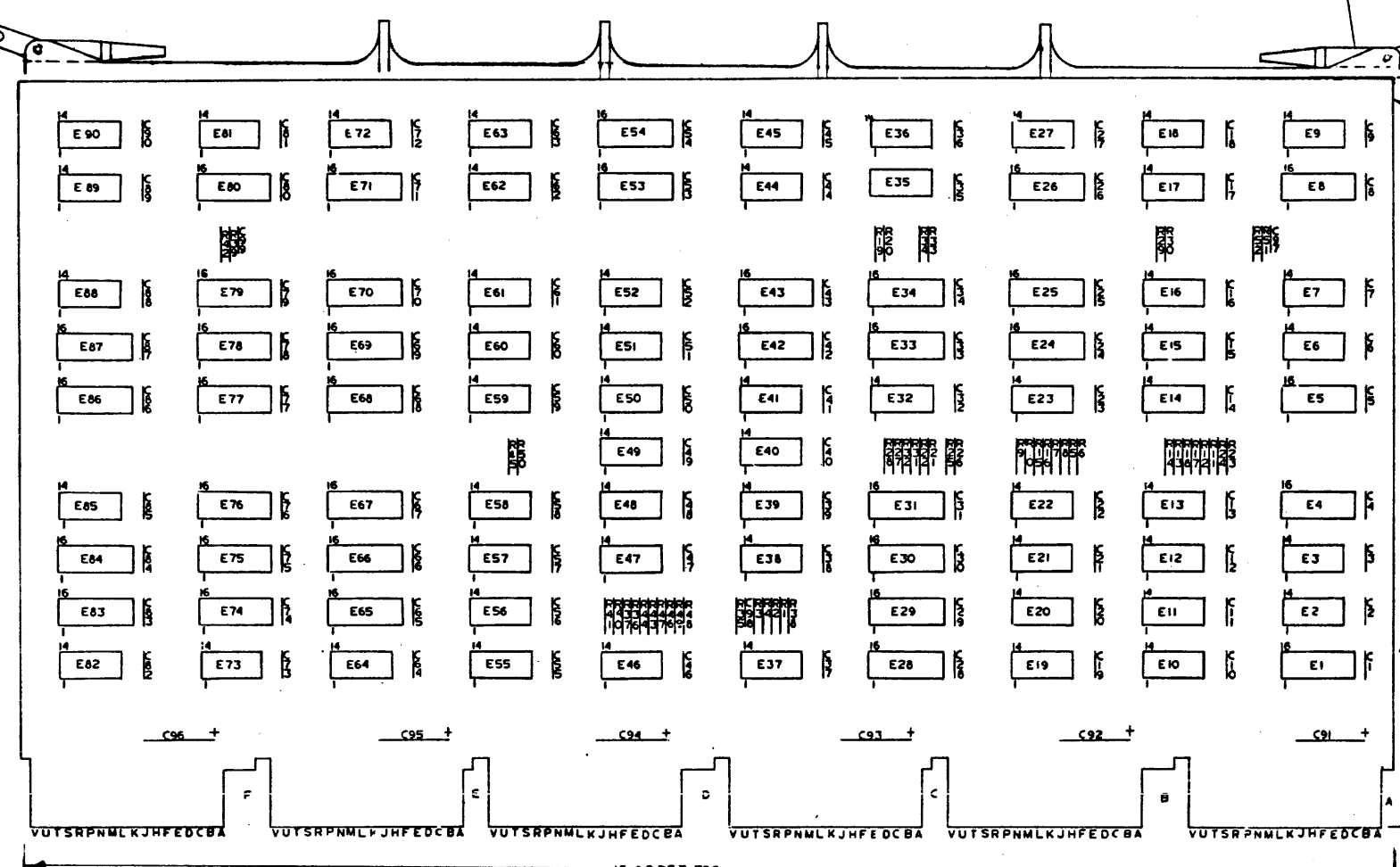
SYSTEM REGISTER BITS (15:08) SLOT 16

TITLE	SIZE CODE	NUMBER	REV.
SYS DES/CONSL CABLES (SCCN)	D CS	M8140-0-1	B

SCALE: # SHEET 13 OF 13 DIST.

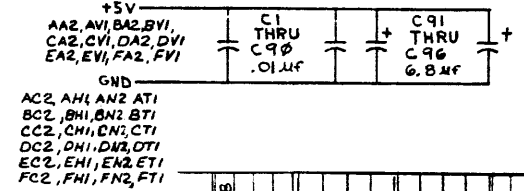
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NOTES:
 1. * OPTIONAL COMPONENTS.
 2. E4, E5, E8, E24, E53, & E80 ARE SPARE I.C. LOCATIONS.



REF	REF	X-Y COORDINATE HOLE LOCATION	K-CO-M8138-Y-4	1
REF	REF	ASY/DRILLING HOLE LAYOUT	D-AM-M8138-Y-5	2
REF	REF	MODULE ECO HISTORY	B-MM-M8138-Y-6	3
1	1	ETCHED CIRCUIT BOARD	5011341	4
93	93	C1 THRU C90, C97, C98, C99	CAP .01uf 100V 20%	1001610-01
6	6	C91 THRU C96	CAP 6.8uf 35V 70% TANT	1005306
4	4	R1, R33, R44, R50	RESISTOR 150 1/4W 5%	1300250
3	3	R35, R38, R51	RESISTOR 330 1/4W 5%	1300295
12	12	R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R26, R32	RESISTOR 1K 1/4W 5%	1300385
3	3	R24, R28, R30	RESISTOR 1.5K 1/4W 5%	1300391
3	3	R23, R27, R29	RESISTOR 750 1/4W 5%	1301401
3	3	R38, R42, R52	RESISTOR 680 1/4W 5%	1301424
1	1	R34	RESISTOR 300 1/4W 5%	1301425
12	12	R3, R5, R7, R11, R13, R15, R9, R17, R19, R21, R25, R31	RESISTOR 560 1/4W 5%	1301890
1	1	E35	DELAY LINE	1609428
8	8	E65, E66, E67, E74, E75, E76, E83, E84	IC 74153	1909937
1	1	E1	IC 7442	1910048
2	2	E81, E85	IC DEC 7437	1910091
1	1	E7	IC 7403	1910155
6	6	E2, E15, E18, E45, E47, E58	IC 74S00	1910532
9	9	E12, E14, E17, E23, E32, E46, E59, E81, E89	IC 74S04	1910534
4	4	E10, E27, E48, E88	IC 74S10	1910536
8	8	E3, E6, E11, E16, E36, E50, E57, E72	IC 74S11	1910537
3	3	E84, E73, E82	IC 74S05	1910535
5	5	E41, E44, E51, E80, E90	IC 74S40	1910541
8	8	E13, E19, E20, E21, E22, E55, E56, E83	IC 74S64	1910542
3	3	E33, E34, E79	IC 74S157	1910548
6	6	E42, E43, E69, E70, E78, E87	IC 74S174	1910550
4	4	E25, E54, E71, E86	IC DEC 74175	1910651
2	2	E88, E77	IC 74174	1910652
1	1	E24	IC 74157	1910655
8	8	E8, E37, E38, E39, E40, E49, E52, E82	IC 74S74	1910544
1	1	E28	IC DEC 74187	23C49A2
1	1	E29	IC 74187	23C50A2
1	1	E30	IC 74187	23C35A2
1	1	E31	IC 74187	23C34A2
1	1		HANDLE, HEX MODULE	1210711-02
12	12		EYELET HANDLE	3006732
1	1	E28	I.C. 74187	23C88A2
1	1	E29	I.C. 74187	23C90A2
1	1	E30	I.C. 74187	23C84A2
1	1	E31	I.C. 74187	23C89A2
W/R	W/R		WIRE, #30 AWG	9105740-55

IC TYPE	GND	+5V
IC DEC 7442	B	16
IC DEC 74153	8	16
IC DEC 74157	8	16
IC DEC 74S157	8	16
IC DEC 74174	8	16
IC DEC 74S174	8	16
IC DEC 74175	8	16
IC DEC 74187	8	16
IC TYPE	GND	+5V



REV	DATE	BY	CHKD
1	6 APR 76	D. THOMPSON	
2	11 APR 76	P. J. SAMPSON	
3	11 APR 76	R. BOUCHER	
4	11 APR 76	T. UPTON	
5	11 APR 76	J. RICHARD	
6	11 APR 76	SHARON A. SMITH	
7	11 APR 76	K. TAYLOR	

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
11/70		ETCH BOARD REV B		

DRN	DATE	CHKD	DATE	ENG	DATE	PROJ ENG	DATE	PROD	DATE	NEXT HIGHER ASSY
J. THELLEN	10/15/74	KOPPENAL	1-14-75	SHARON A. SMITH	1-29-75	SHARON A. SMITH	1-29-75	K. TAYLOR	1/29/75	

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SIZE CODE	NUMBER	REV.
DCS	M8138-0-1	F

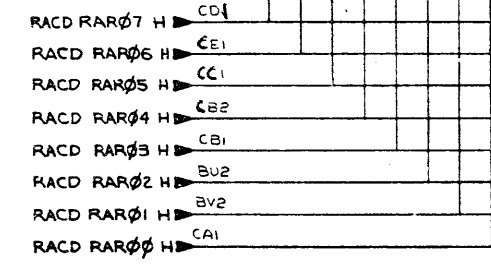
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ROM ENCODING (1-4)				
FUNCTION	M3	M2	M1	M0
NO OPERATION	X	0	0	0
RESTORE PROCESSOR STATUS	X	0	0	1
AUTO INCREMENT	X	0	1	0
AUTO DECREMENT	X	0	1	1
BRK:30	X	1	0	0
INHIBIT PADWRITE ENABLE	X	1	0	1
CLR ADRS 16,17	X	1	1	0
CLR PS RESTORE	X	1	1	1
DESTINATION MODE	1	X	X	X
NOT DESTINATION MODE	0	X	X	X

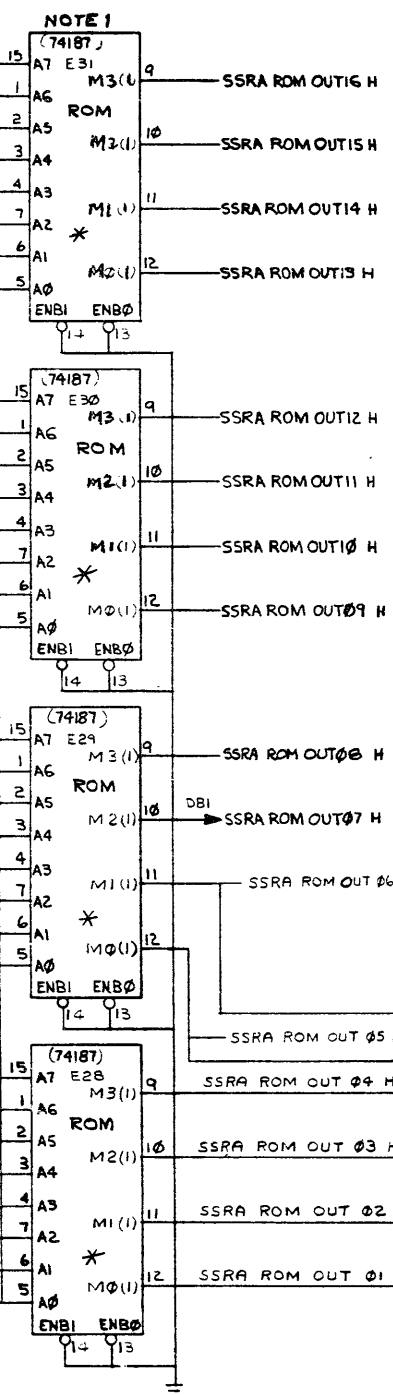
ROM ENCODING (5-8)				
FUNCTION	M3	M2	M1	M0
CLOCK PREV MODE (MT/FP)	X	X	X	1
KERN DATA (TRAP OR ABORT)	X	X	1	X
BUST	X	1	X	X
I SPACE IF MT/FP	1	X	X	X

ROM ENCODING (9-12)				
FUNCTION	M3	M2	M1	M0
I SPACE ON IND WORD FET	X	X	X	1
I IF INST START IN I	X	X	1	X
DEPOSIT + EXAMINE	1	X	X	X

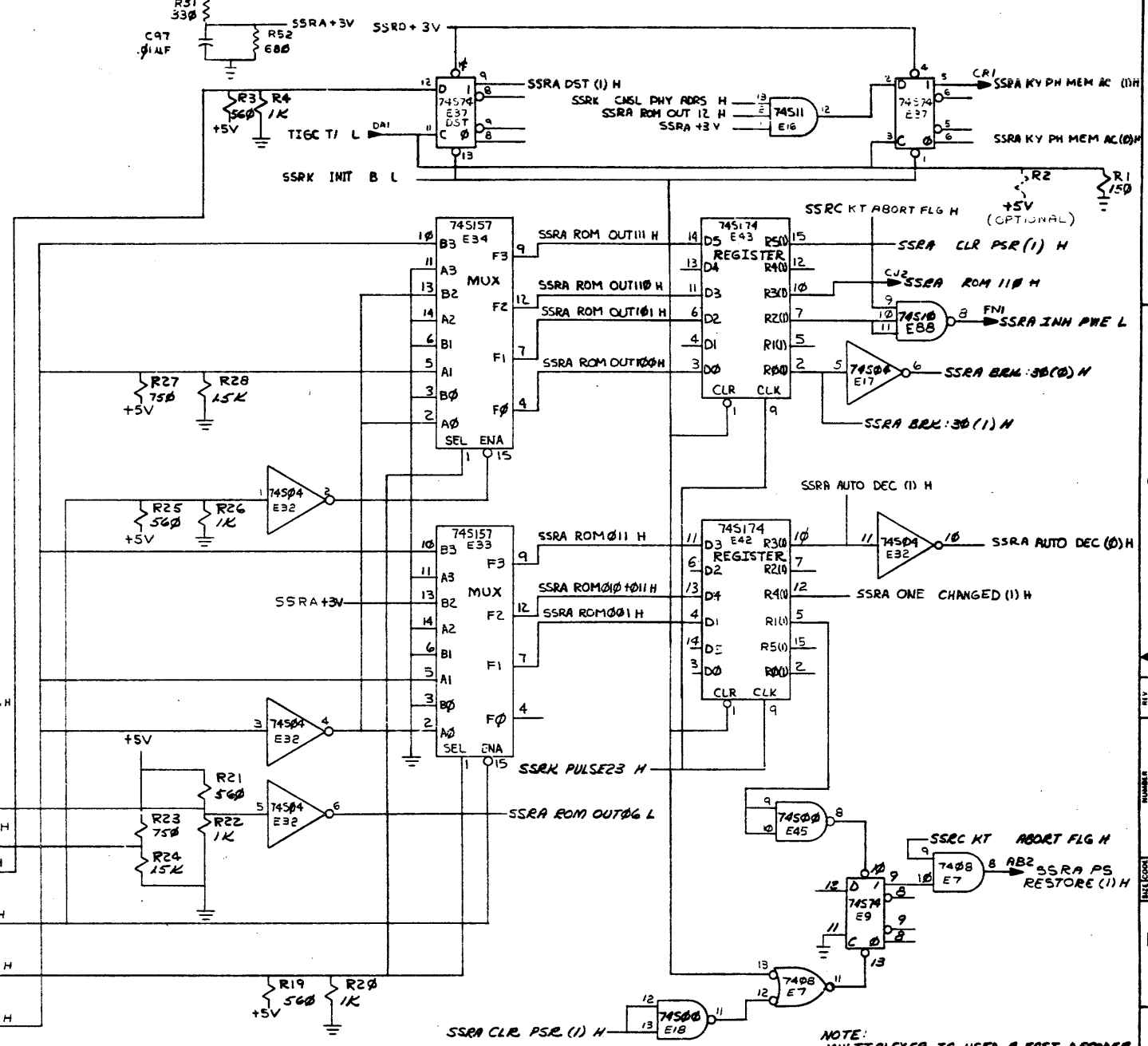
ROM ENCODING (13-16)				
FUNCTION	M3	M2	M1	M0
SACM: 1-2-3-4+5	X	X	X	1
DSTM: 1-2	X	1	X	X
DSTM: 3	X	1	X	X
FLOATING POINT INST	1	X	X	X



NOTE 1:
SEE SHEET SSRL FOR A "TRUTH TABLE" OF THE 74187 READ ONLY MEMORY (ROM).
* SEE PARTS LIST



745157						
INPUT LINES SELECTED					SEL	ENA
A3	A2	A1	A0	L	L	
B3	B2	B1	B0	H	L	



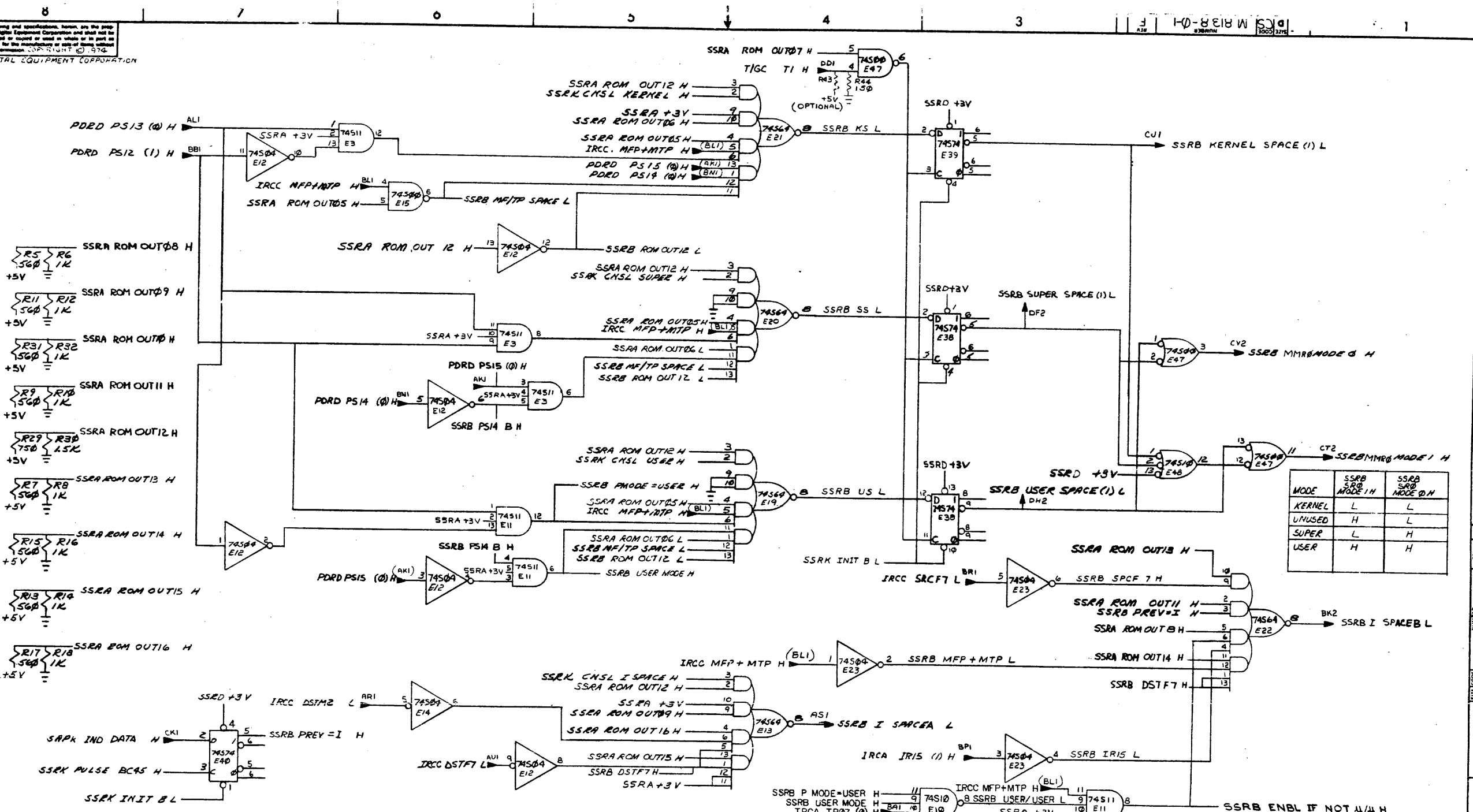
NOTE:
MULTIPLEXER IC. USED A FAST DECODER

ROM & DECODE OUT 1-4				SLOT 15	
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.	
11/70					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES					
DECIMALS	ANGLES	PARTS LIST			
.XXX - .005	±0° 30'	TITLE			
.XX - .02		SYS. STATUS REG.			
.X - .1		(SSRA)			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
FINISH		SCALE		DCS	M8138-0-1
		SHEET 2 OF 12		DIST.	

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10-8 E18 W



MODE	SSRB SR0 MODE I/H	SSRB SR0 MODE O/H
KERNEL	L	L
UNUSED	H	L
SUPER	L	H
USER	H	H

ADDRESS SPACE CONTROL LOGIC SLOT 15

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DATE	DRN	DATE	DRN
DECIMALS	17/75	Shellen	17/75	
ANGLES	1/25/75	ACAP/COE	1/25/75	
.XXX = .000	1/25/75	ENG	1/25/75	
.XX = .02	1/25/75	PROD ENG	1/25/75	
.X = .1	1/25/75	PROD	1/25/75	

TITLE: SYS. STATUS REG. (SSRB)

MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
+		DCS M8138-0-1		F

REVISIONS: 11/70

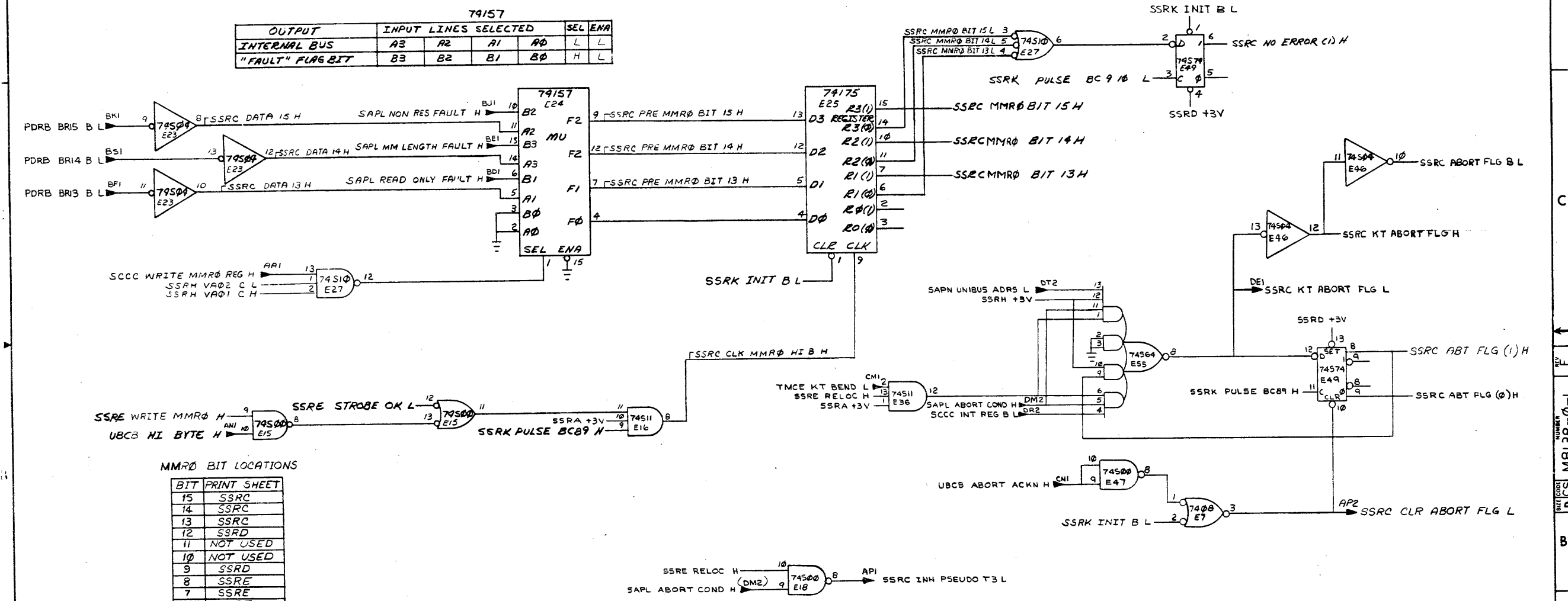
SCALE: 3 OF 12 SHEET

DIST.:

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79157						
OUTPUT	INPUT LINES SELECTED				SEL	ENA
INTERNAL BUS	A3	A2	A1	A0	L	L
"FAULT" FLAG BIT	B3	B2	B1	B0	H	L



MMR0 BIT LOCATIONS

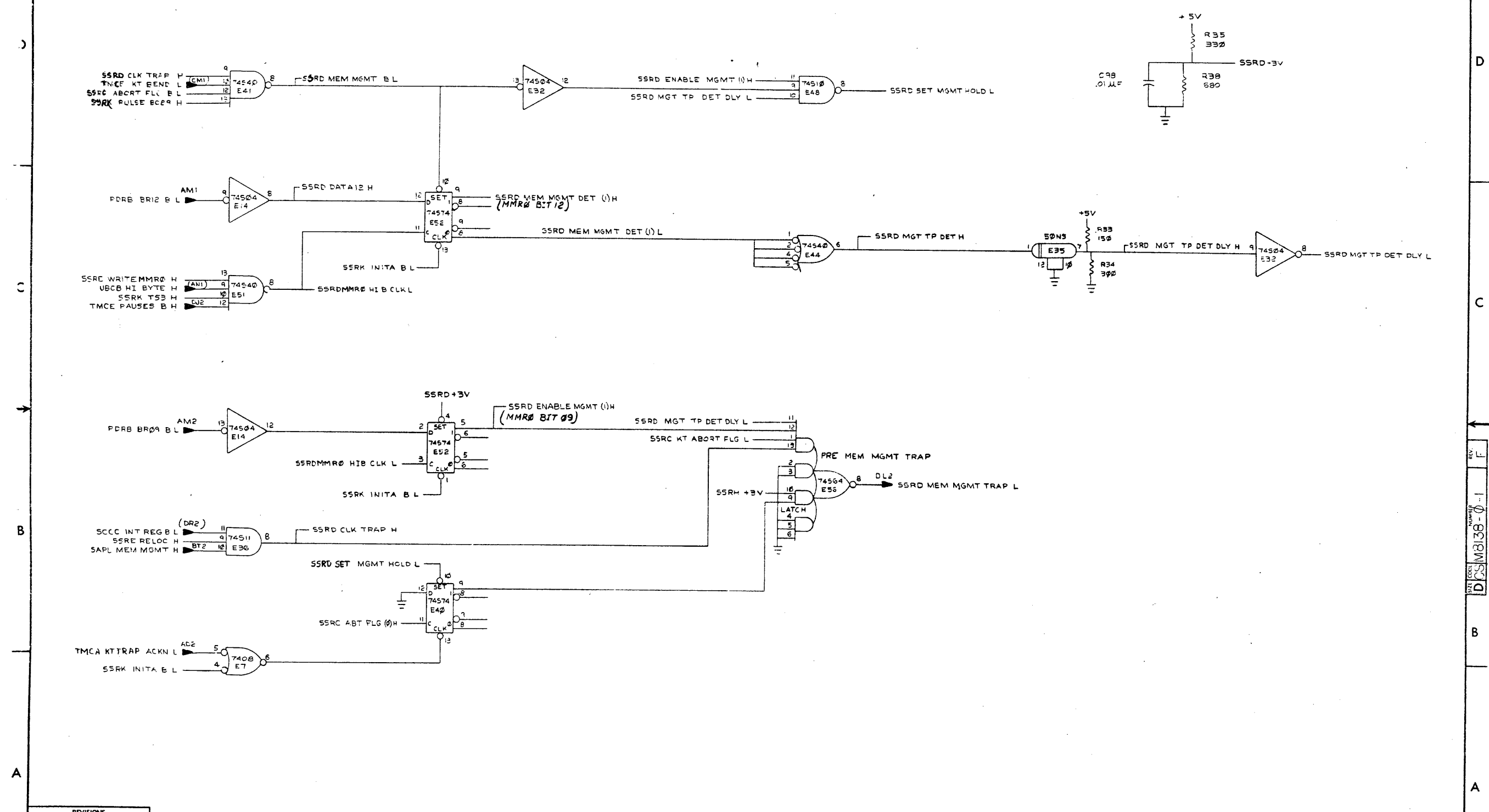
BIT	PRINT SHEET
15	SSRC
14	SSRC
13	SSRC
12	SSRD
11	NOT USED
10	NOT USED
9	SSRD
8	SSRE
7	SSRE
6	SSRE
5	SSRE
4	SSRE
3	SSRE
2	SSRE
1	SSRE
0	SSRE

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN A. Thelen	DATE 10/15/74	 ORIGINAL EQUIPMENT CORPORATION NATHAN MASSACHUSETTS	
DECIMALS		CHKD K. O'Donnell	DATE 7-19-75		
ANGLES		ENG S. J. Smith	DATE 1/29/75		
.XXX - .006 .XX - .02 .X - .1		PROJ ENG T. J. Smith	DATE 1/29/75		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROP R. Taylor	DATE 1/30/75	TITLE SYS. STATUS REG. (SSRC)	
MATERIAL		NEXT HIGHER ASSY.			
FINISH		SCALE		SIZE CODE DCS	NUMBER M8138-0-1
		SHEET 4 OF 12		DIST.	REV. F

REVISIONS
CHANGE NO.
CHK

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DCS M3138-0-1 2

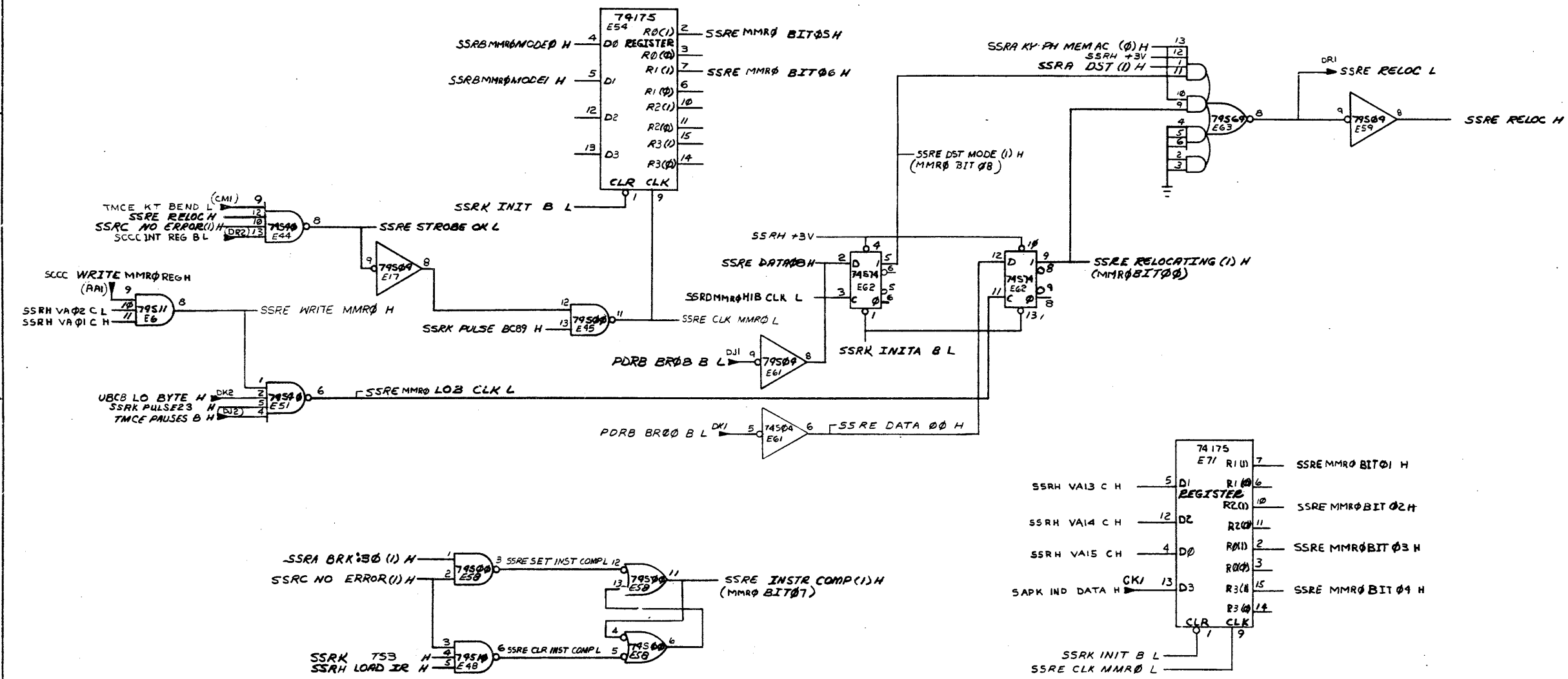


REVISIONS		
CHK	CHANGE NO.	REV.

MEM MGMT REGISTER #0-MEMORY MANAGEMENT TRAP SLOT 15

TITLE		SIZE CODE	NUMBER	REV.
SYS STATUS REG		DCS	M3138-0-1	F
SCALE	SHEET	DIST.		
	5 OF 12			

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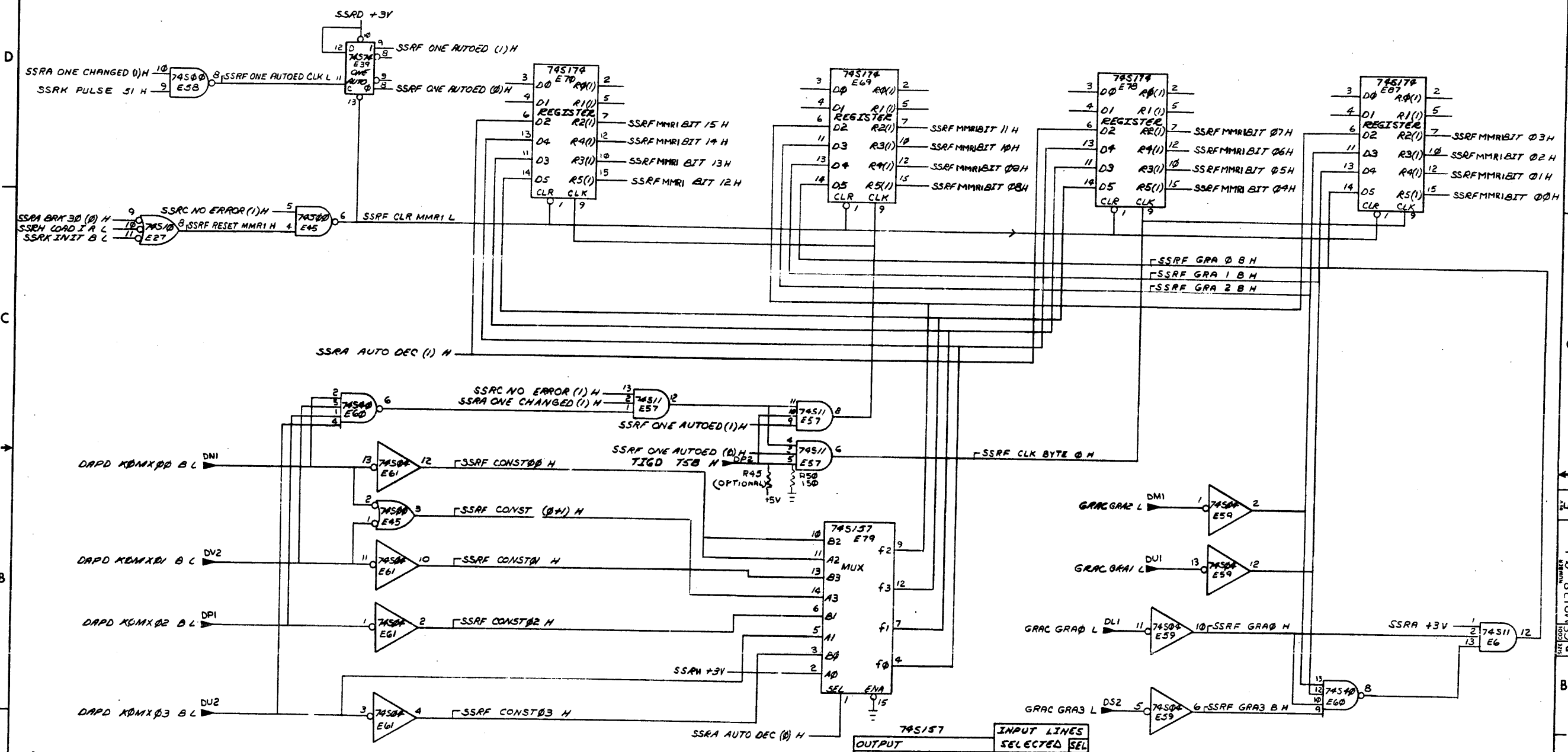
MEM MGMT REGISTER *0-MODE, OPERATE CONTROL SLOT 15

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
.XXX - .005	±0° 30'	SYS. STATUS REG.		
.XX - .02		REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		
.X - .1		MATERIAL		
		FINISH		
NEXT HIGHER ASSY.		SCALE	SIZE CODE	NUMBER
		6 OF 12	DCS	M8138-0-1
			DIST.	REV. F

REV	CHANGE NO.	DESCRIPTION

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1-0-818W150 2



74S157	
OUTPUT	INPUT LINES
NEGATIVE CONSTANT	A3 A2 A1 A0 L
POSITIVE CONSTANT	B3 B2 B1 B0 H

MEM MGMT REGISTER #1-AUTO INC/DEC INFO. SLOT 15

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				

PARTS LIST

DRN	DATE	
CHK B	DATE	
CODE AVAL	DATE	
DATE	DATE	

TITLE: SYS. STATUS REG. (SSRF)

SIZE CODE: DCS M8138-0-1

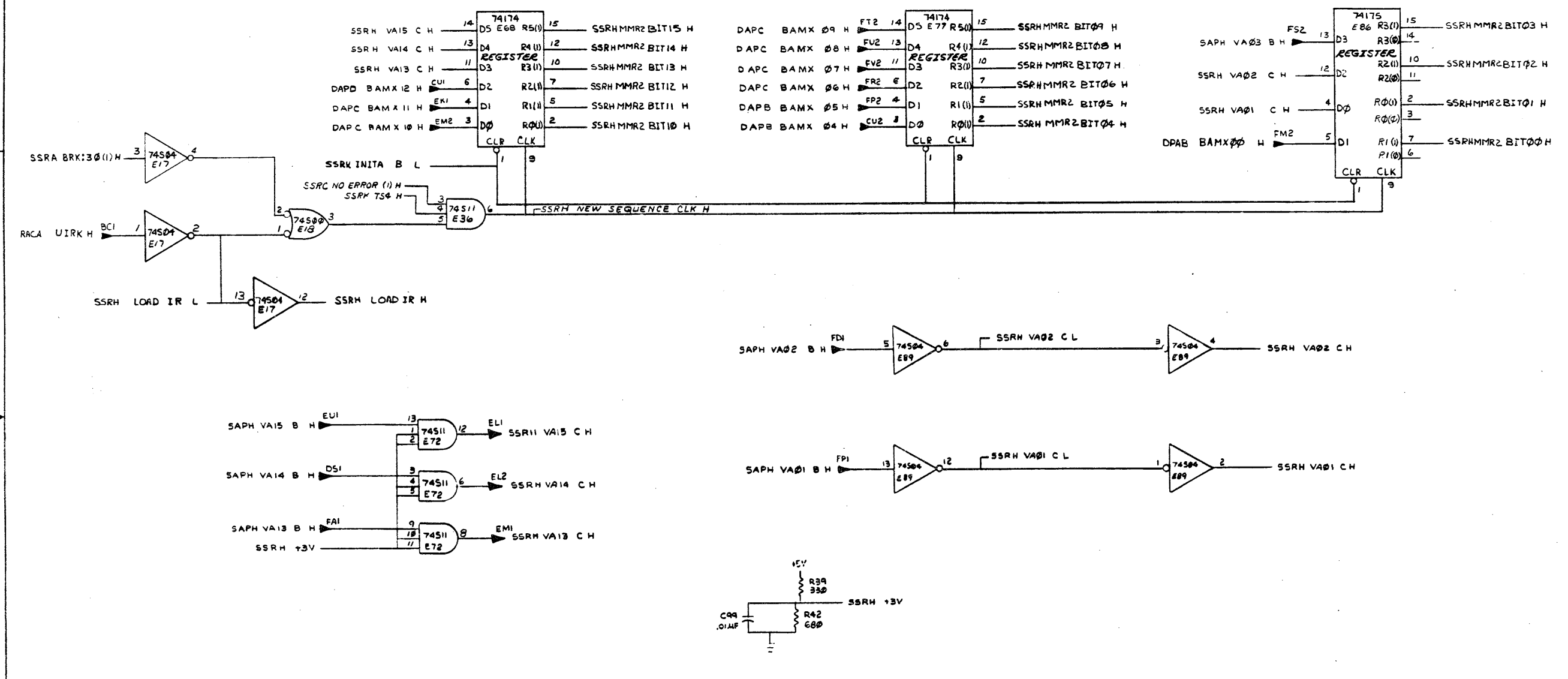
NUMBER: F

SCALE: +

SHEET 7 OF 12

REV	CHANGE NO

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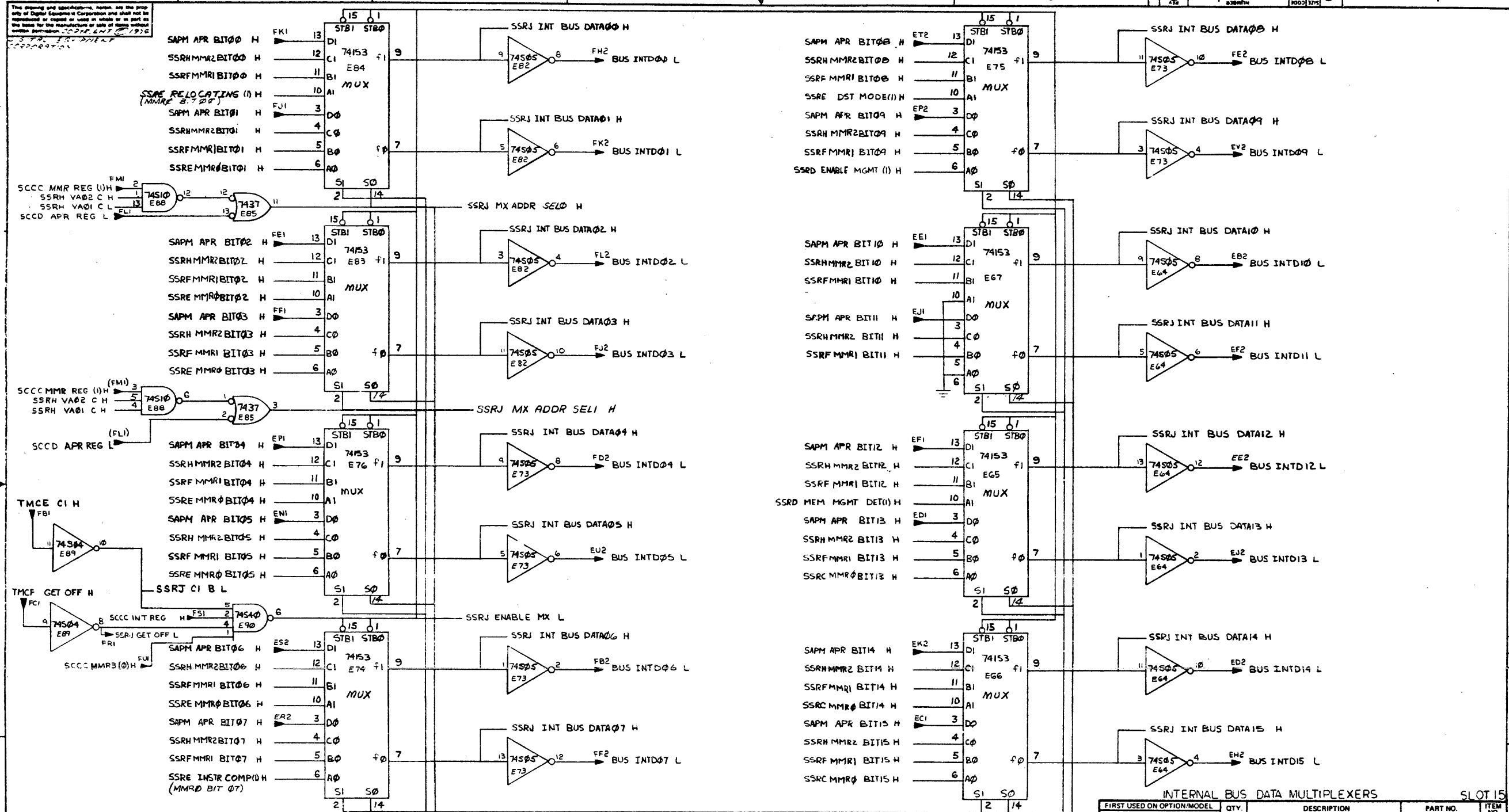


MEM MGMT REGISTER #2 INST OR TRAP VECTOR ADDRESS SLOT 15

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11170				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN <i>P. Phelan</i> DATE 10/17/76	EQUIPMENT CORPORATION	
DECIMALS ANGLES		CHK'D <i>KODDEVAL</i> DATE 1/16/77		
.XXX + .006 XX + .02 X + .1		20° 30'	TITLE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 1/20/77	SYS. STATUS REG.	
MATERIAL		PROD <i>K. Taylor</i> DATE 1/20/77	(SSRH)	
FINISH		NEXT HIGHER ASSY.	SIZE CODE	NUMBER
			DCS	M8138-0-1
		SCALE		REV.
		SHEET 8 OF 12		F

REV. NO. 1
 PART CODE DCS M8138-0-1
 NUMBER 1

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REV	DESCRIPTION

OUTPUT	INPUT LINES SELECTED	S1	S0	SP	SB
MEM MGMT REG 0	A1 A0	L	L	L	L
MEM MGMT REG 1	B1 B0	L	H	L	L
MEM MGMT REG 2	C1 C0	H	L	L	L
APR	D1 D0	H	H	L	L

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
11170					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES					
DECIMALS	ANGLES	DATE			
.XXX - .005	± 0° 30'	12/14/74			
.XX - .02		DATE			
X - .1		1/24/75			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY					
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	
FINISH		SCALE		NUMBER	
		SHEET 9 OF 12		DCS M 8138-0-1	
		DIST		REV. F	

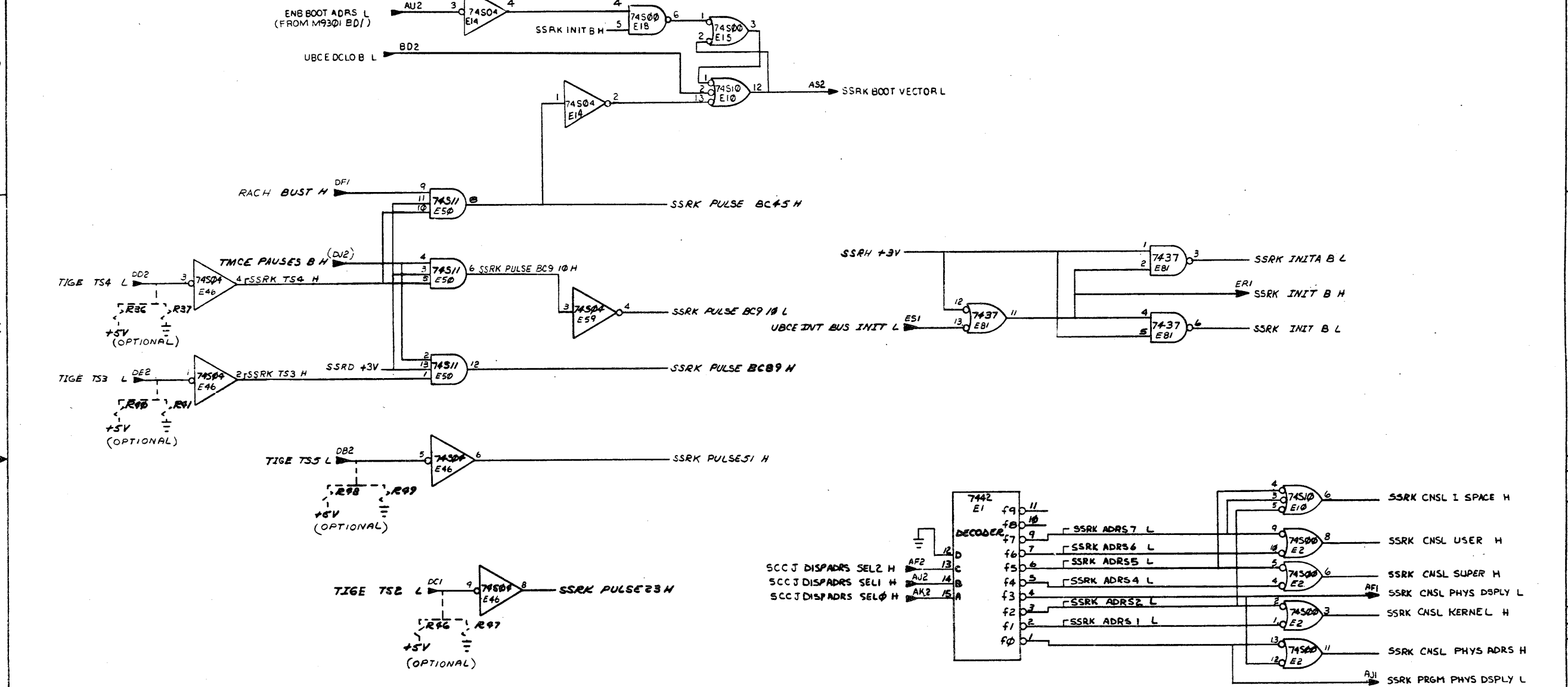
SYS. STATUS REG.

DCS M 8138-0-1

204

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ADDRESS SELECT SWITCH POSITION	UBCJ DIS ADRS SEL 2	UBCJ DIS ADRS SEL 1	UBCJ DIS ADRS SEL 0
PROGRAM PHYSICAL	L	L	L
KERNEL D VIRTUAL	L	L	H
KERNEL I VIRTUAL	L	H	L
CONSOLE PHYSICAL	L	H	H
SUPERVISOR D VIRTUAL	H	L	L
SUPERVISOR I VIRTUAL	H	L	H
USER D VIRTUAL	H	H	L
USER I VIRTUAL	H	H	H

CNSL. ADRS. SEL. SWITCH, TIMING LOGIC, INIT SLOT 15

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	EQUIPMENT CORPORATION	
.XXX = .006	± 0° 30'	11/24/70	MFG. AND MESSG. UNIT	
.XX = .02		1/29/75		
.X = .1		1/29/75		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY		SIZE CODE	NUMBER
FINISH	SCALE		DCS M8138-0-1	REV. F
	SHEET 10 OF 12		DIST.	

REV.	NO.
CHG.	NO.

205

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Table with columns: OCTAL LOCATION, MICROSTATE NAME, FLOWS SHEET, TRUTH VALUE ROMOUT (1-16). Rows 0-107.

Table with columns: OCTAL LOCATION, MICROSTATE NAME, FLOWS SHEET, TRUTH VALUE ROMOUT (1-16). Rows 108-217.

Table with columns: OCTAL LOCATION, MICROSTATE NAME, FLOWS SHEET, TRUTH VALUE ROMOUT (1-16). Rows 218-327.

Table with columns: OCTAL LOCATION, MICROSTATE NAME, FLOWS SHEET, TRUTH VALUE ROMOUT (1-16). Rows 328-377.

ROM ENCODING (1-4), ROM ENCODING (5-8), ROM ENCODING (9-12), ROM ENCODING (13-16). Includes instructions like NO OPERATION, RESTORE PROCESSOR STATUS, etc.

NOTE:
1. FLOW SHEET - REFERS TO K811- (POP11) PROCESSOR MICRO STATE FLOWS SHEET NUMBER.
2. ROMS ARE SHOWN ON CIRCUIT SCHEMATIC SSRA.

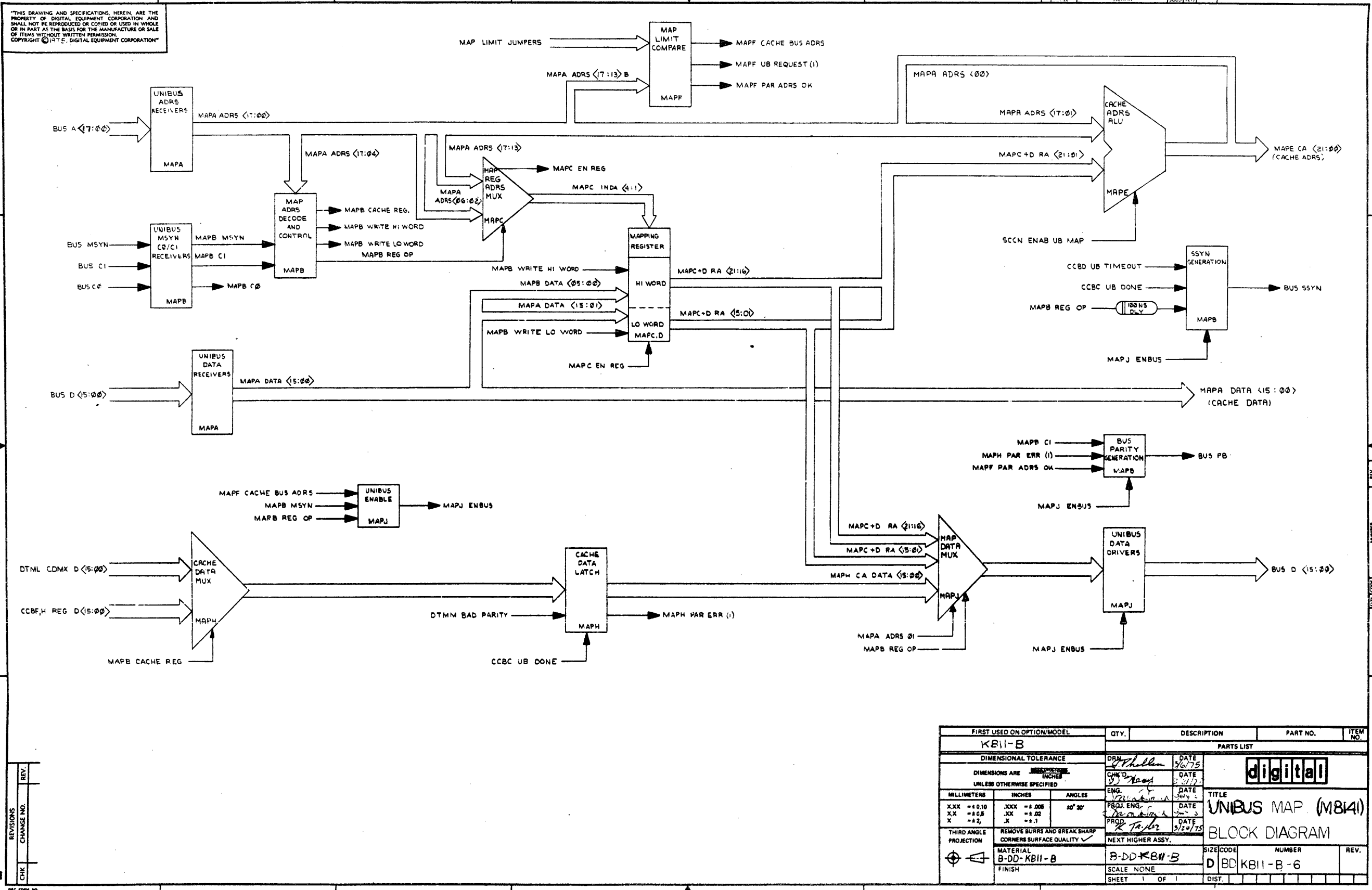
REV
CHG
NO.

ROM TRUTH TABLE SLOT 15

Part list and title block containing: PARTS LIST, TITLE (SYS. STATUS REG), SSRL, and drawing information (DRW, DATE, etc.).

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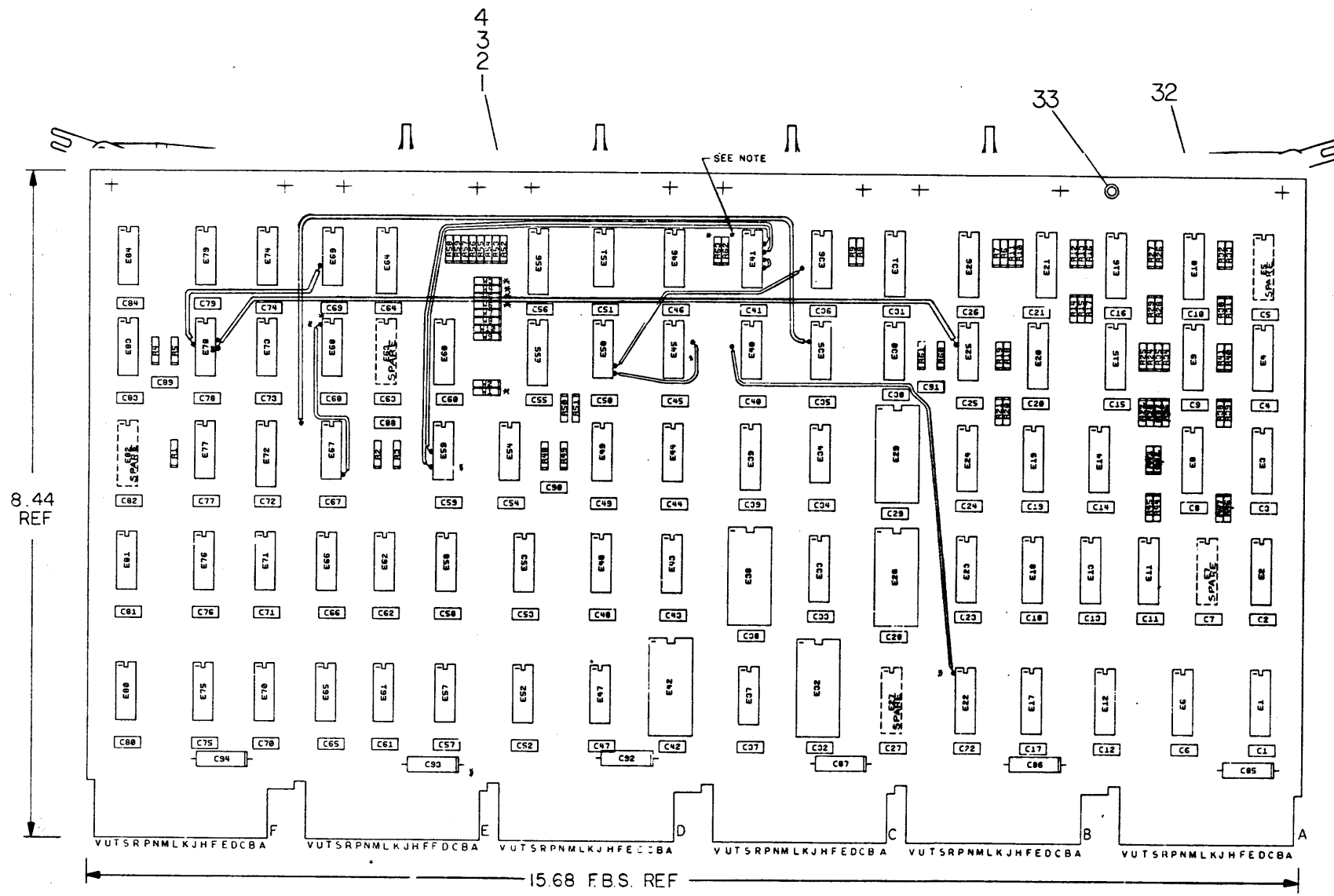
REV. 2
 SIZE CODE
 NUMBER
 B-6
 KB11-B-6



FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KB11-B					
PARTS LIST					
DIMENSIONAL TOLERANCE		DRN	DATE	digital	
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		CHK'D	DATE		
MILLIMETERS	INCHES	ENG.	DATE	TITLE	
.XX = ±0.10	.XX = ±.006	XXX = ±.006	30° 30'	UNIBUS MAP (M814)	
.XX = ±0.8	.XX = ±.02	X = ±.1		BLOCK DIAGRAM	
X = ±.5				NEXT HIGHER ASSY.	
THIRD ANGLE PROJECTION		REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		MATERIAL	FINISH
				B-DD-KB11-B	
				SCALE NONE	SHEET 1 OF 1
				SIZE CODE	NUMBER
				D BD KB11-B-6	REV.
				DIST.	

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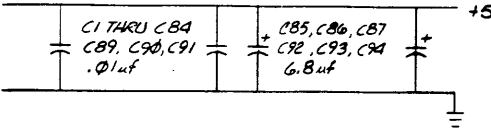
NOTES:
* OPTIONAL COMPONENT



IC TYPE	GND	+5V
DEC 74585	8	16
DEC 74182-1	8	16
DEC 74S181	12	24
DEC 74S174	8	16
DEC 74S158	8	16
DEC 748157	8	16
DEC 8840	1	8
DEC 7485	8	16
DEC 74153	8	16
DEC 3101A	8	16

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

AC2 AH1 AN2 AT1
BC2 BH1 BN2 BT1
CC2 CH1 CN2 CT1
DC2 DH1 DN2 DT1
EC2 EH1 EN2 ET1
FC2 FH1 FN2 FT1



REF	X-Y HOLE COORDINATE LOCATION	K-CO-M8141-0-4	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AH-M8141-0-5	2
REF	MODULE ECO HISTORY	B-MH-M8141-0-6	3
1	ETCHED CIRCUIT BOARD	5011346	4
87	C1 THRU C84, C89, C90, C91	CAP -01uf 100V 20%	5
6	C85, C86, C87, C92, C93, C94	CAP 6.8uf 35V 20%	6
1	C88	CAP 220pf 100V 5%	7
12	R1, R2, R50 THRU R59	RES 1K 1/4W 5%	8
1	R3	RES 47 OHM 1/4W 5%	9
24	R4, R49, R60, R7 THRU R47 (odd #'s only)	RES 330 OHM 1/4W 5%	10
24	R5, R49, R61, R6 THRU R46 (even #'s only)	RES 680 OHM 1/4W 5%	11
7	E1, E8, E12, E17, E13, E18, E23	IC DEC 74S157	12
3	E2, E11, E22	IC DEC 74S174	13
12	E3, E4, E8, E9, E10, E14, E16, E20, E26, E15, E21, E31	IC DEC 3101A	14
3	E19, E24, E39	IC DEC 74153	15
2	E25, E78	IC DEC 74S74	16
5	E29, E42, E32, E38, E28	IC DEC 74S181	17
9	E47, E50, E54, E34, E37, E59, E30, E44, E36	IC DEC 74S04	18
1	E33	IC DEC 74182-1	19
1	E35	IC DEC 74H50	20
4	E74, E49, E48, E40	IC DEC 74S11	21
3	E83, E51, E41	IC DEC 74S00	22
2	E43, E48	IC DEC 74H30	23
2	E87, E45	IC DEC 74S20	24
5	E80, E52, E57, E81, E85	IC DEC 8881	25
10	E53, E58, E62, E88, E70, E76, E75, E77, E81, E71	IC DEC 8840	26
2	E80, E55	IC DEC 7485	27
1	E88	IC DEC 7405	28
3	E79, E84, E88	IC DEC 74S40	29
1	E72	IC DEC 74S158	30
1	E73	IC DEC 74S10	31
1	HANDLE ASSEMBLY	1210711-2	32
12	EYELET HANDLE	9006732	33
5	W2, W7-W10	INSULATED JUMPER5	34
2	E56, E44	IC DEC 74S85	35

IC PIN LOCATIONS

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

FIRST USED ON OPTION MODEL 11/70

ETCH BOARD REV A

REV	DATE	BY
1	11/14/70	R. BOUCHER

REVISIONS

DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

SCALE 1 OF 9

digital EQUIPMENT CORPORATION
UNIBUS MAP

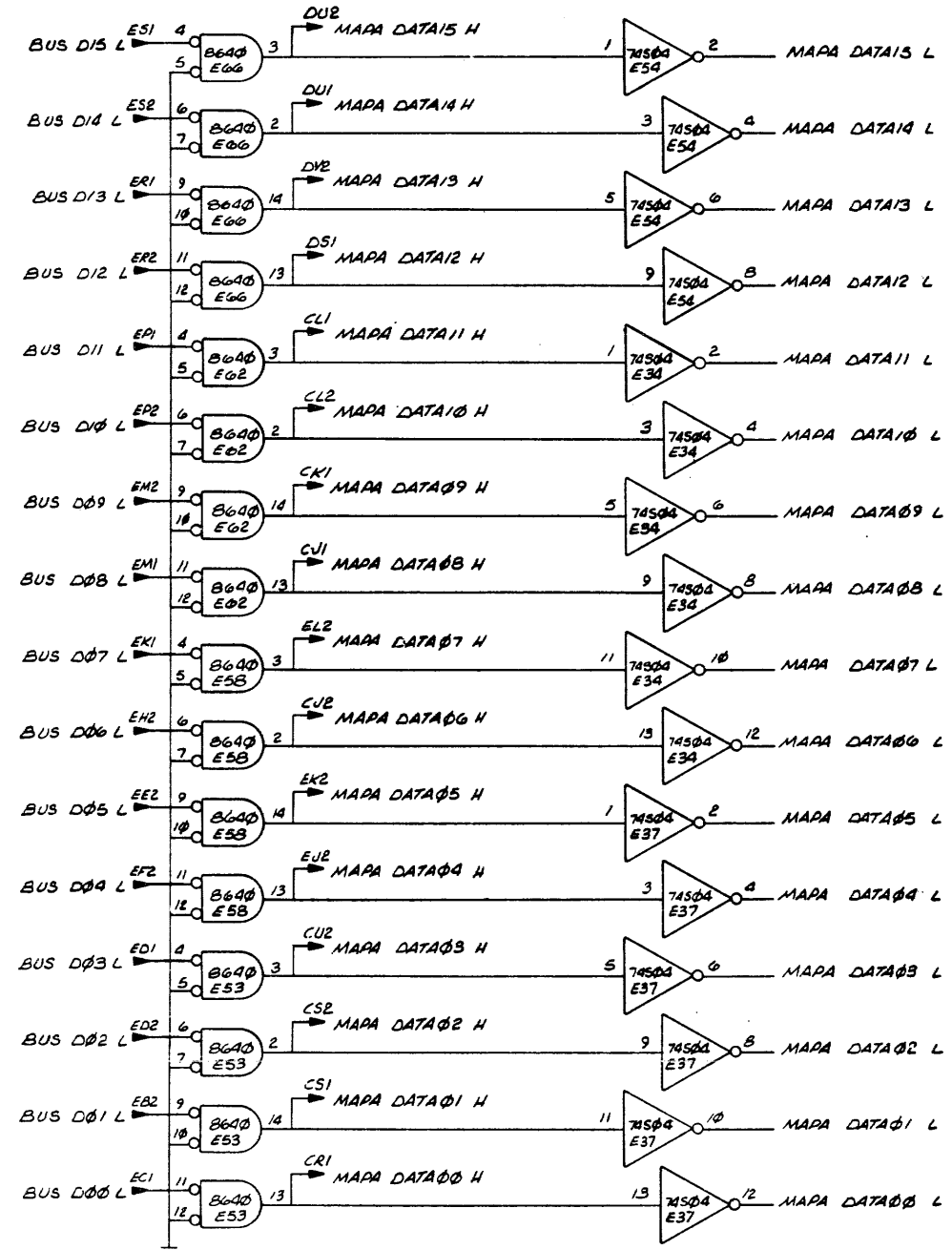
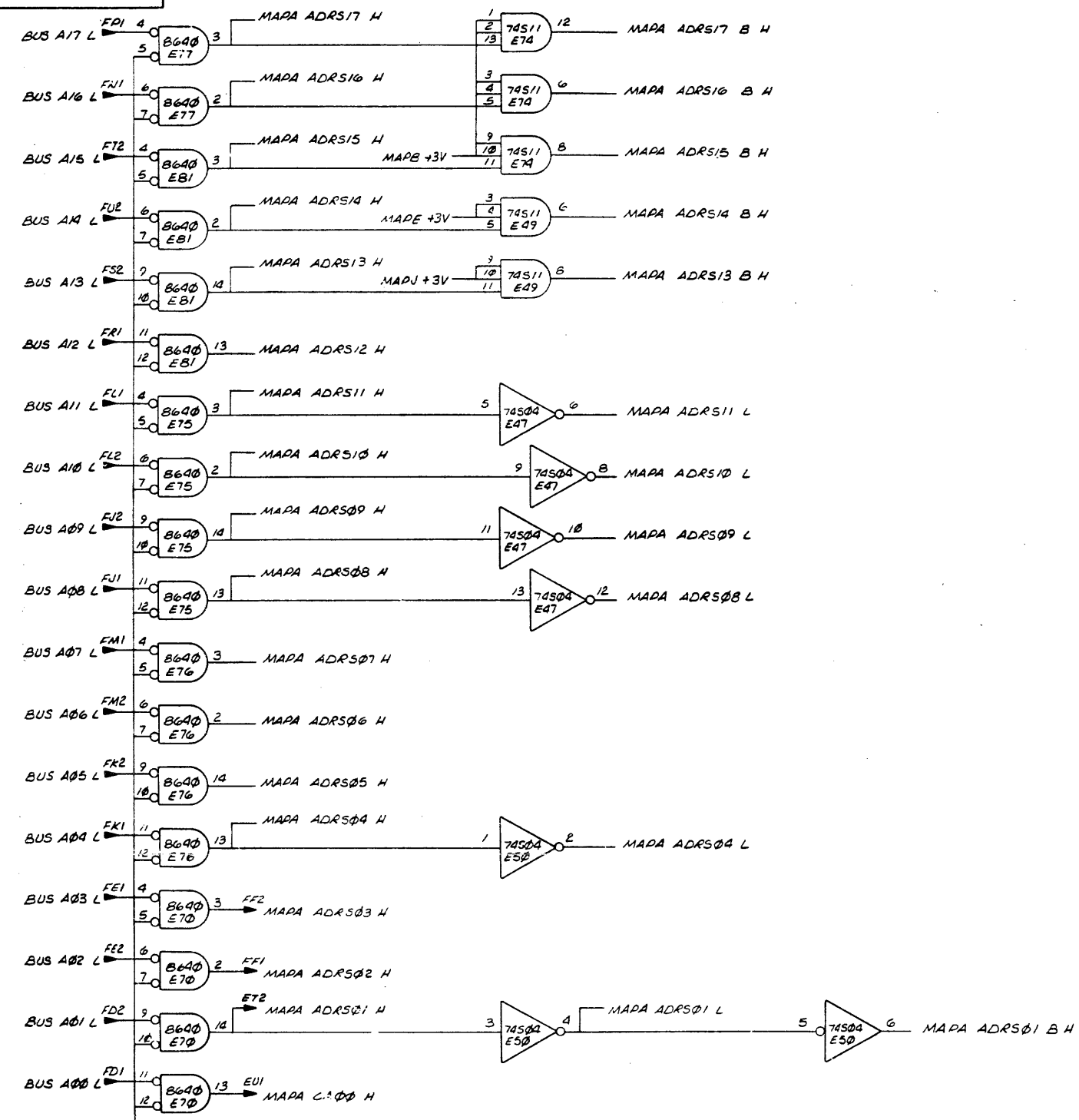
SIZE CODE DCS M8141-0-1
NUMBER A

DATE 11/14/70
DATE 11/14/70
DATE 11/14/70
DATE 11/14/70
DATE 11/14/70

PROJ. ENG. [Signature]
PROD. [Signature]

NEXT HIGHER ASSY

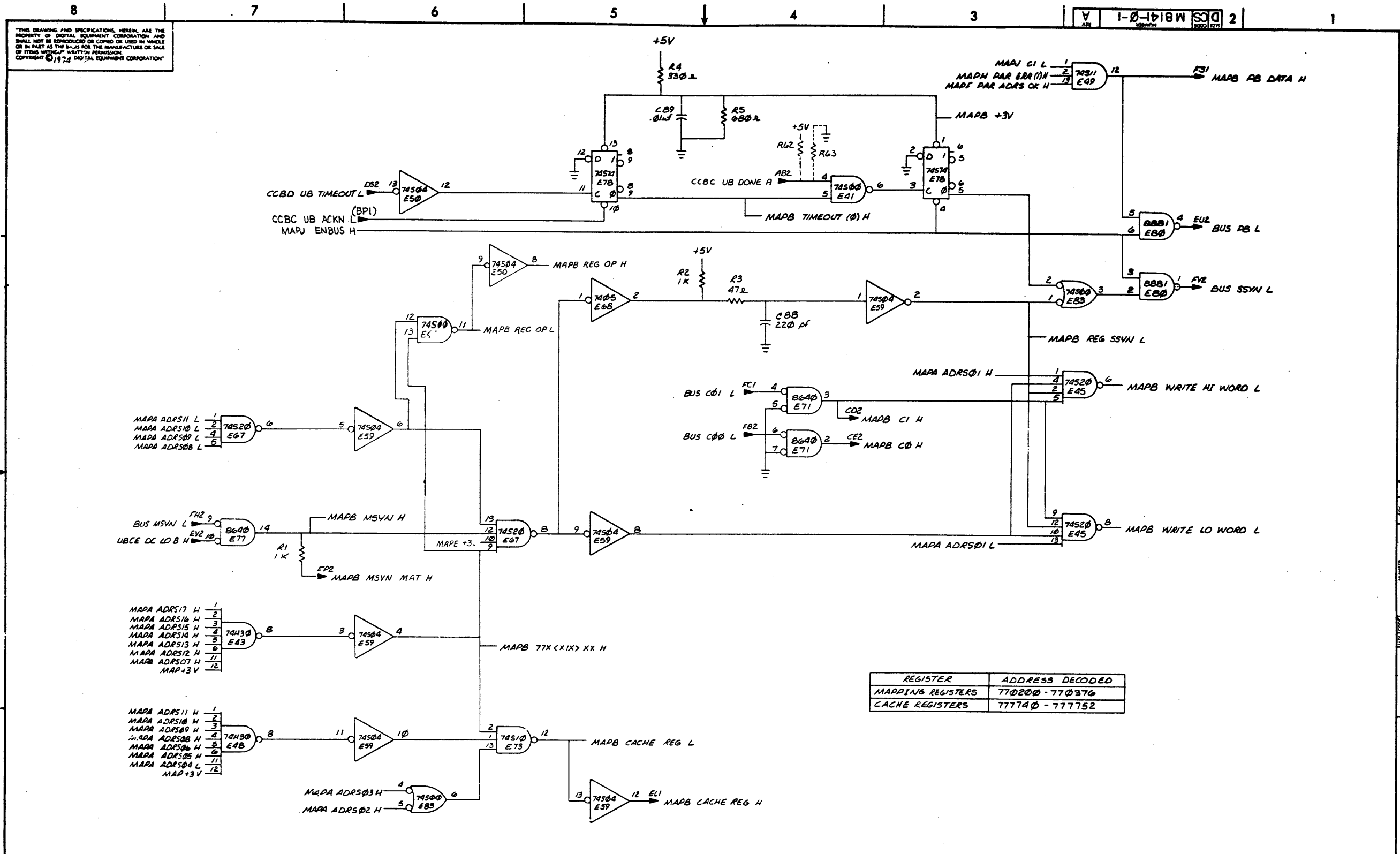
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REVISIONS		
CHK	CHANGE NO.	REV.

BUS ADDRESS AND DATA RECEIVERS SLOT 22

TITLE	UNIBUS MAP (MAPA)	SIZE CODE	D CS	NUMBER	M8141-0-1	REV.	A
SCALE	1/1	SHEET	2 OF 9	DIST.			



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REGISTER	ADDRESS DECODED
MAPPING REGISTERS	770200 - 770376
CACHE REGISTERS	777740 - 777752

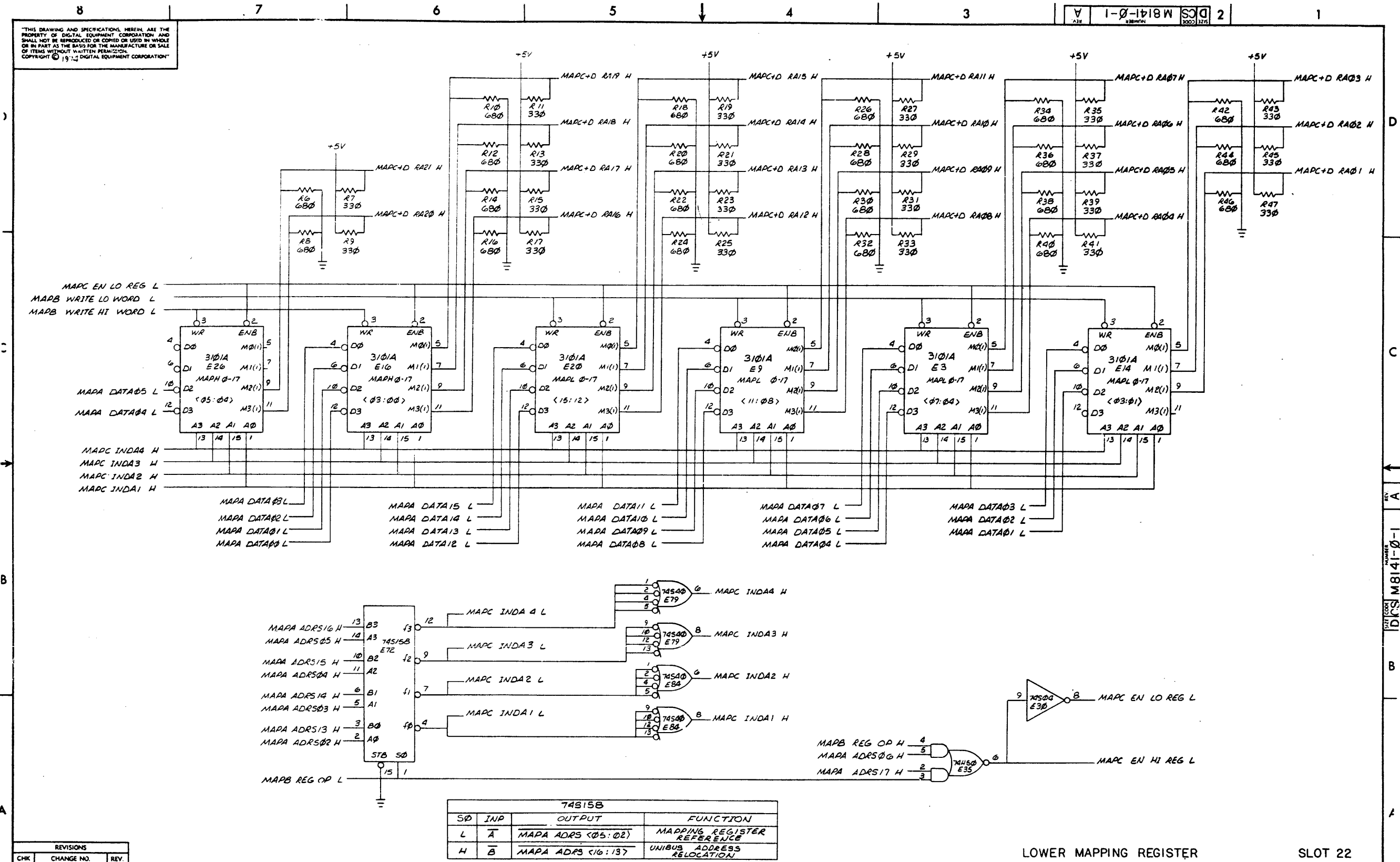
REVISIONS		
CHK	CHANGE NO.	REV.

MAP ENABLE-BUS CONTROL LINES-ADDRESS DECODE SLOT 22

TITLE	SIZE CODE	NUMBER	REV.
UNIBUS MAP (MAPB)	D CS	M8141-0-1	A
SCALE	SHEET	OF	DIST.
	3	9	

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DCS M8141-0-1 2



74S15B			
S0	INP	OUTPUT	FUNCTION
L	\bar{A}	MAPA ADRS <05:02>	MAPPING REGISTER REFERENCE
H	\bar{B}	MAPA ADRS <16:13>	UNIBUS ADDRESS RELOCATION

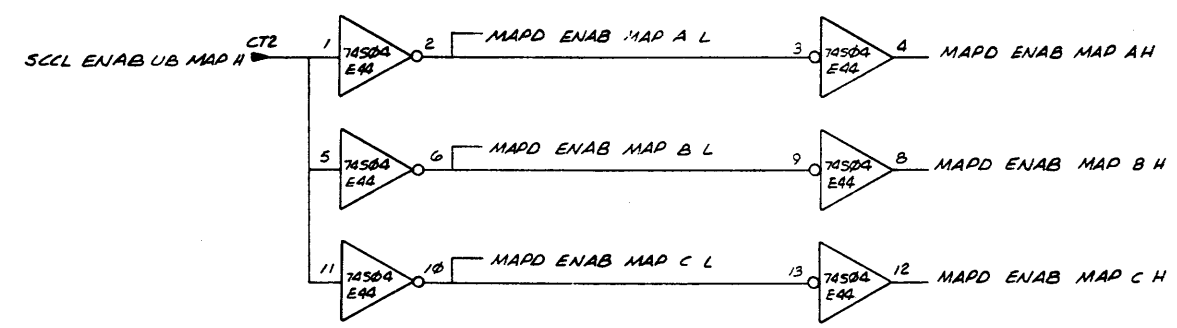
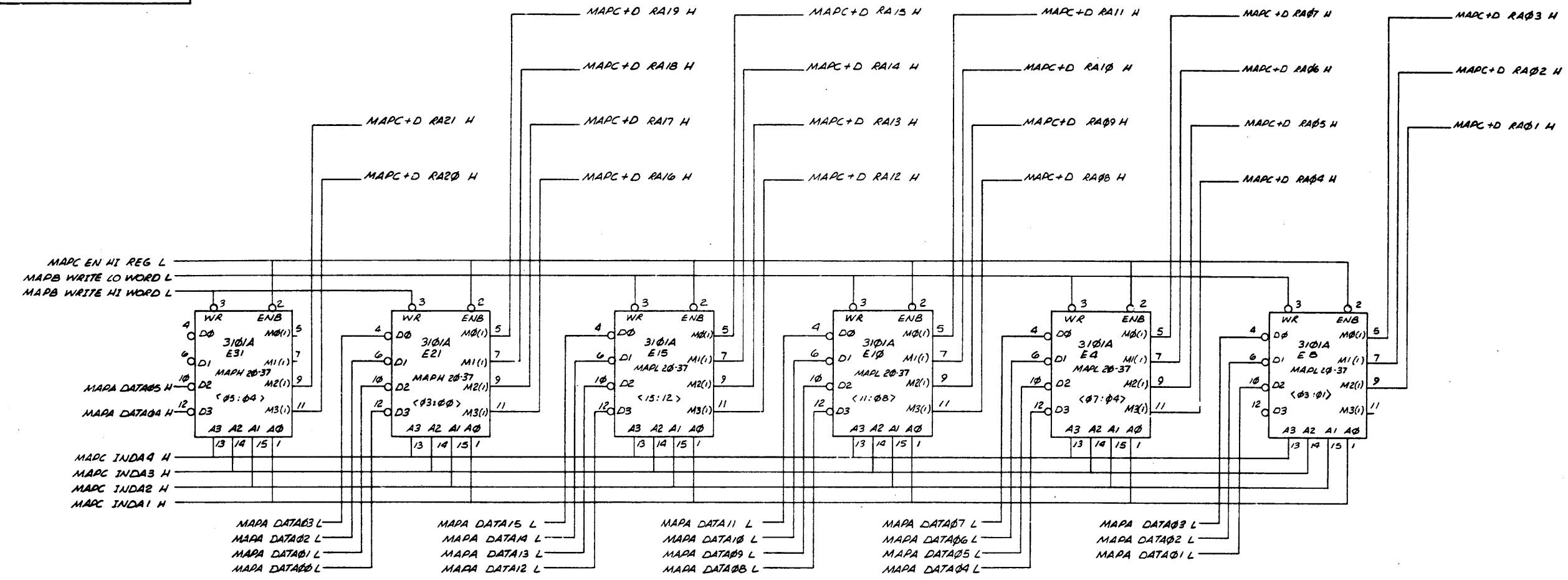
LOWER MAPPING REGISTER SLOT 22

TITLE	UNIBUS MAP (MAPC)	SIZE/CODE	DCS	NUMBER	M8141-0-1	REV.	A
SCALE	#	SHEET	4	OF	9	DIST.	

200

292

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REVISIONS		
CHK	CHANGE NO.	REV.

UPPER MAPPING REGISTER SLOT 22

TITLE	UNIBUS MAP (MAPD)	SIZE/CODE	D CS	NUMBER	M 8141-0-1	REV.	A
SCALE	#	SHEET	5	OF	9	DIST.	

293

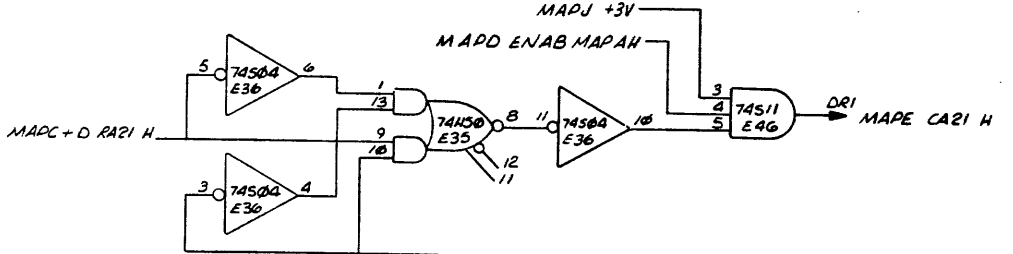
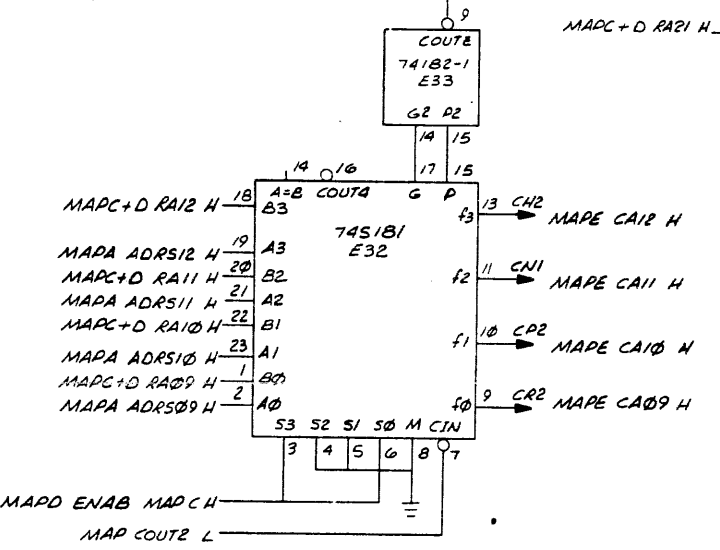
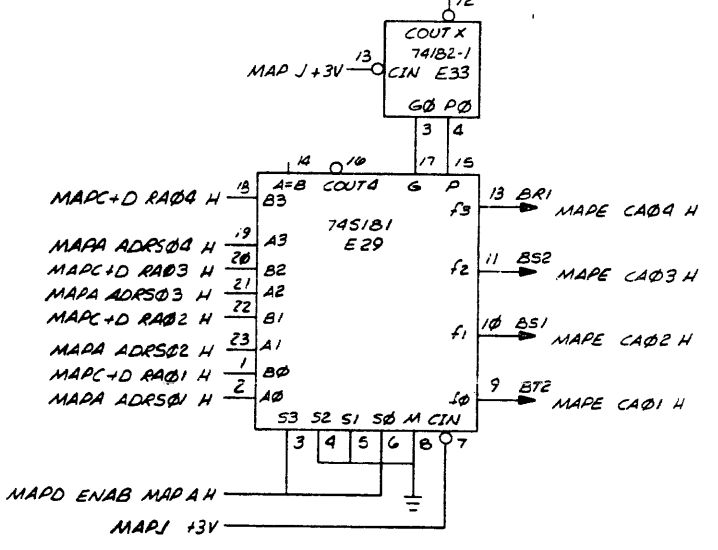
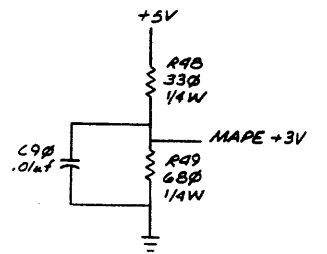
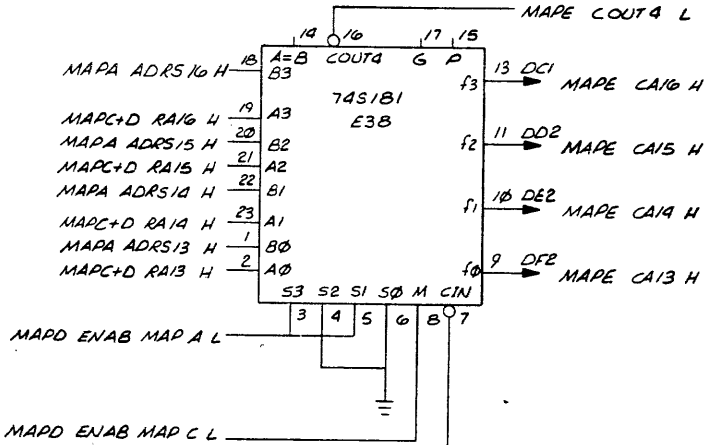
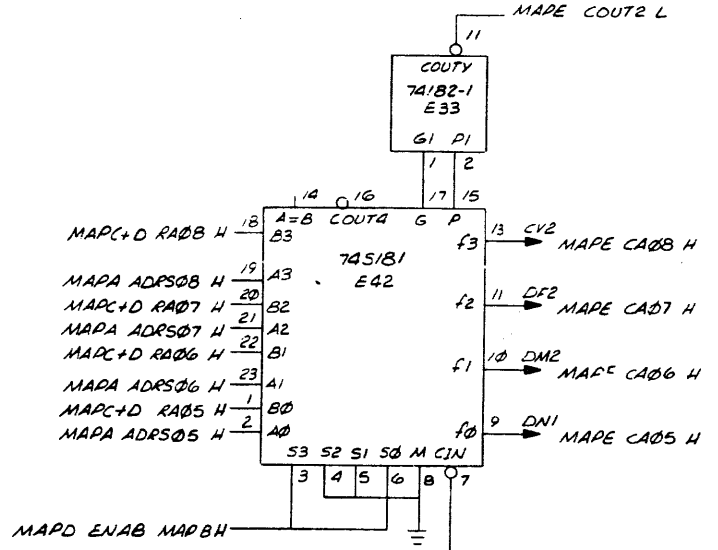
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ALU (E42)

S0/S3	FUNCT
0	A
1	A PLUS B

ALU (E38)

M	S1/S3	FUNCT
1	1	B
0	0	A + CARRY



ALU (E29)

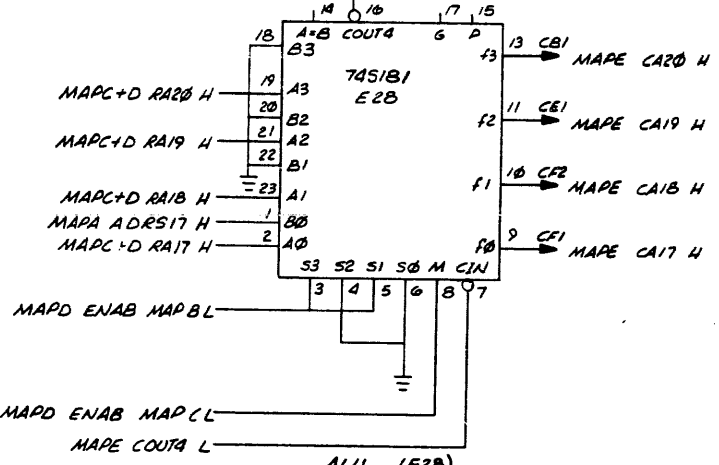
S0/S3	FUNCT
0	A
1	A PLUS B

ALU (E32)

S0/S3	FUNCT
0	A
1	A PLUS B

ALU (E28)

M	S1/S3	FUNCT
1	1	B
0	0	A + CARRY



REVISIONS

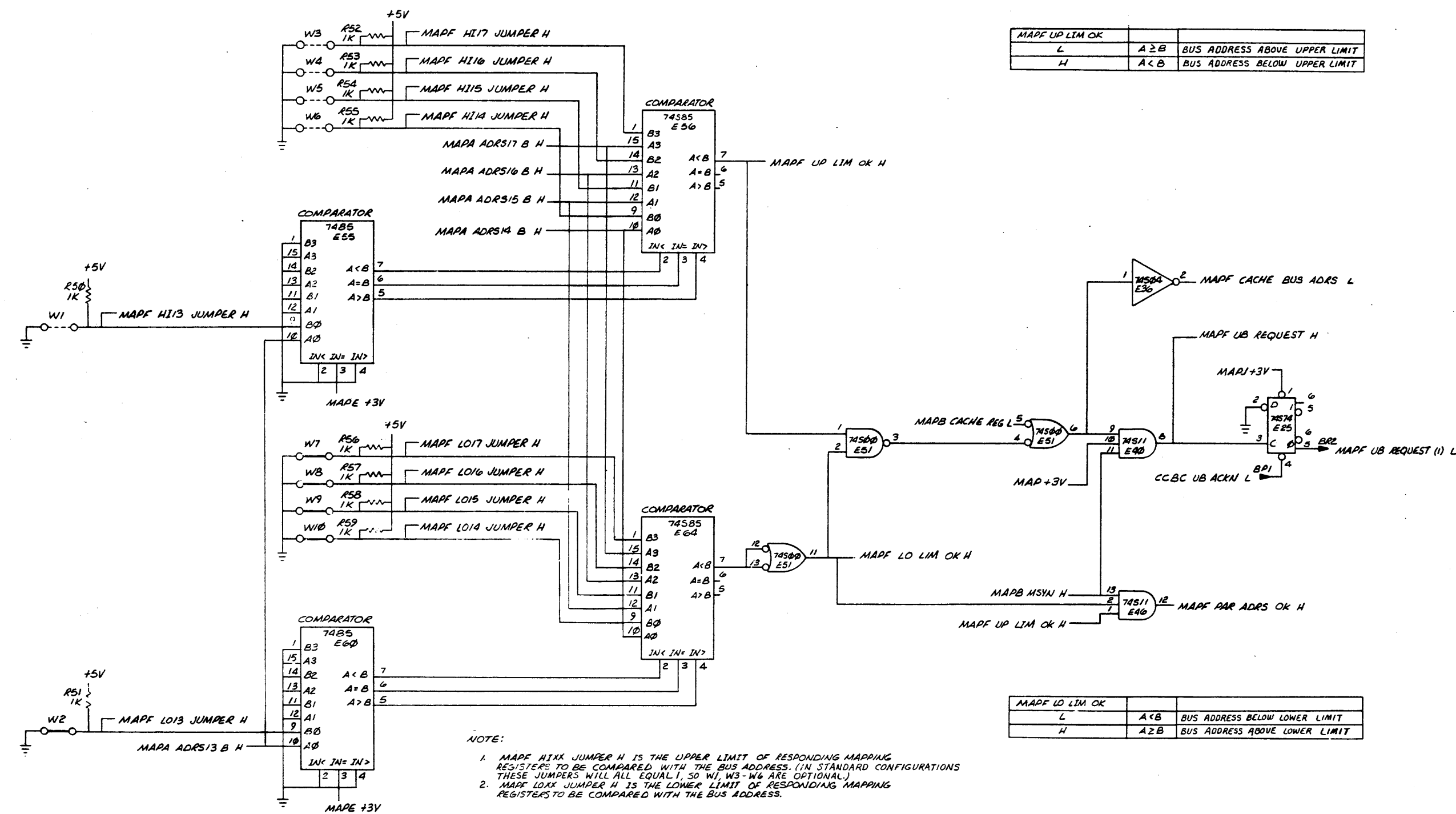
CHK	CHANGE NO.	REV.

CACHE ADRS SLOT 22

TITLE	SIZE CODE	NUMBER	REV.
UNIBUS MAP (MAPE)	D CS	M8141-0-1	A

SHEET 6 OF 9

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MAPF UP LIM OK		
L	A ≥ B	BUS ADDRESS ABOVE UPPER LIMIT
H	A < B	BUS ADDRESS BELOW UPPER LIMIT

MAPF LO LIM OK		
L	A < B	BUS ADDRESS BELOW LOWER LIMIT
H	A ≥ B	BUS ADDRESS ABOVE LOWER LIMIT

NOTE:
 1. MAPF HI x JUMPER H IS THE UPPER LIMIT OF RESPONDING MAPPING REGISTERS TO BE COMPARED WITH THE BUS ADDRESS. (IN STANDARD CONFIGURATIONS THESE JUMPERS WILL ALL EQUAL 1, SO W1, W3-W6 ARE OPTIONAL.)
 2. MAPF LO x JUMPER H IS THE LOWER LIMIT OF RESPONDING MAPPING REGISTERS TO BE COMPARED WITH THE BUS ADDRESS.

REVISIONS		
CHK	CHANGE NO.	REV.

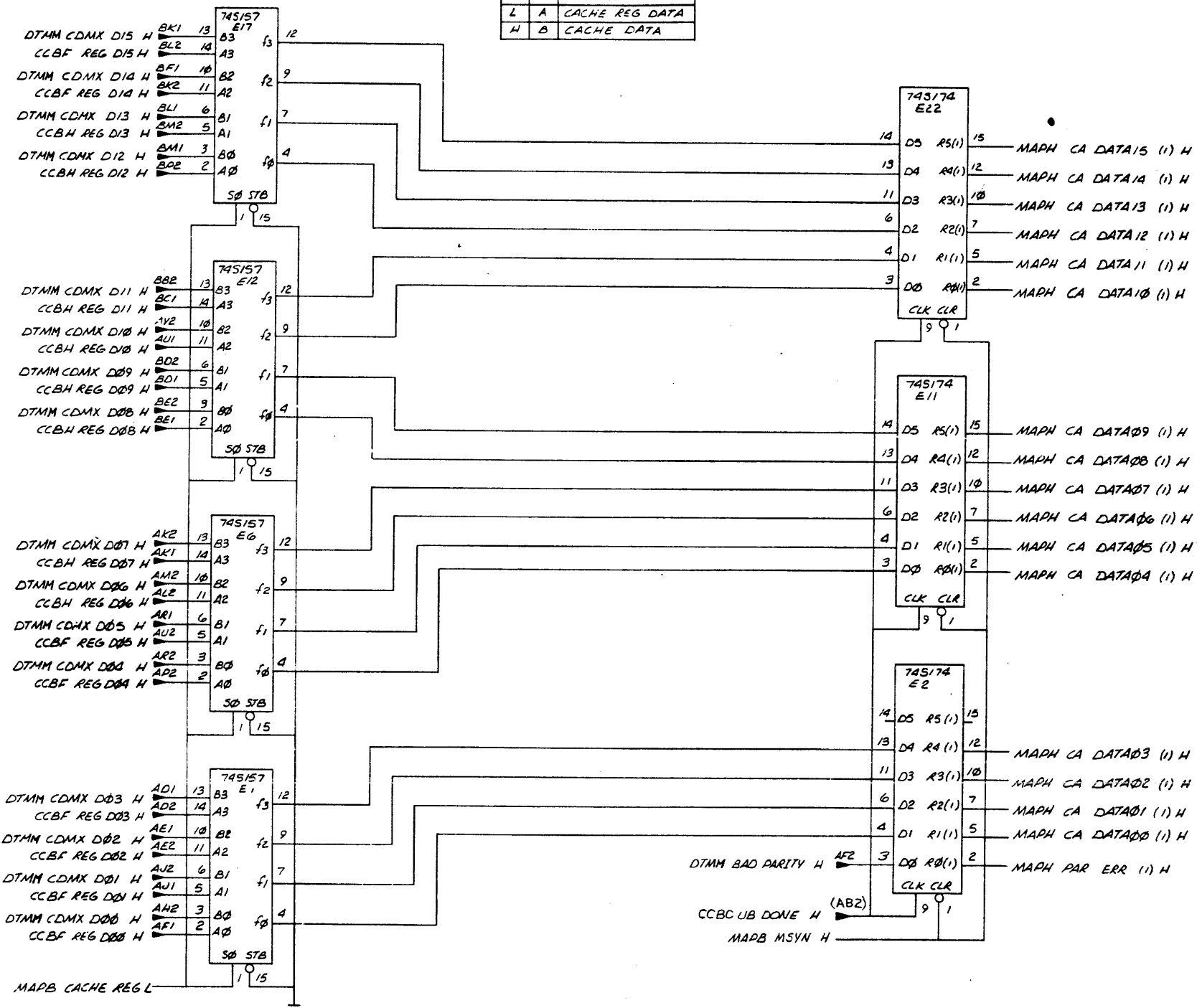
MAP LIMIT COMPARATOR		SLOT 22	
TITLE	UNIBUS MAP (MAPF)	SIZE CODE	D CS
NUMBER	M 8141-0-1	REV.	A
SCALE	#	SHEET	7 OF 9

295

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DCS M8141-0-1

74S157		
S0	INP	OUTPUT
L	A	CACHE REG DATA
H	B	CACHE DATA



D
C
A
B
A

REV. A
DCS M8141-0-1

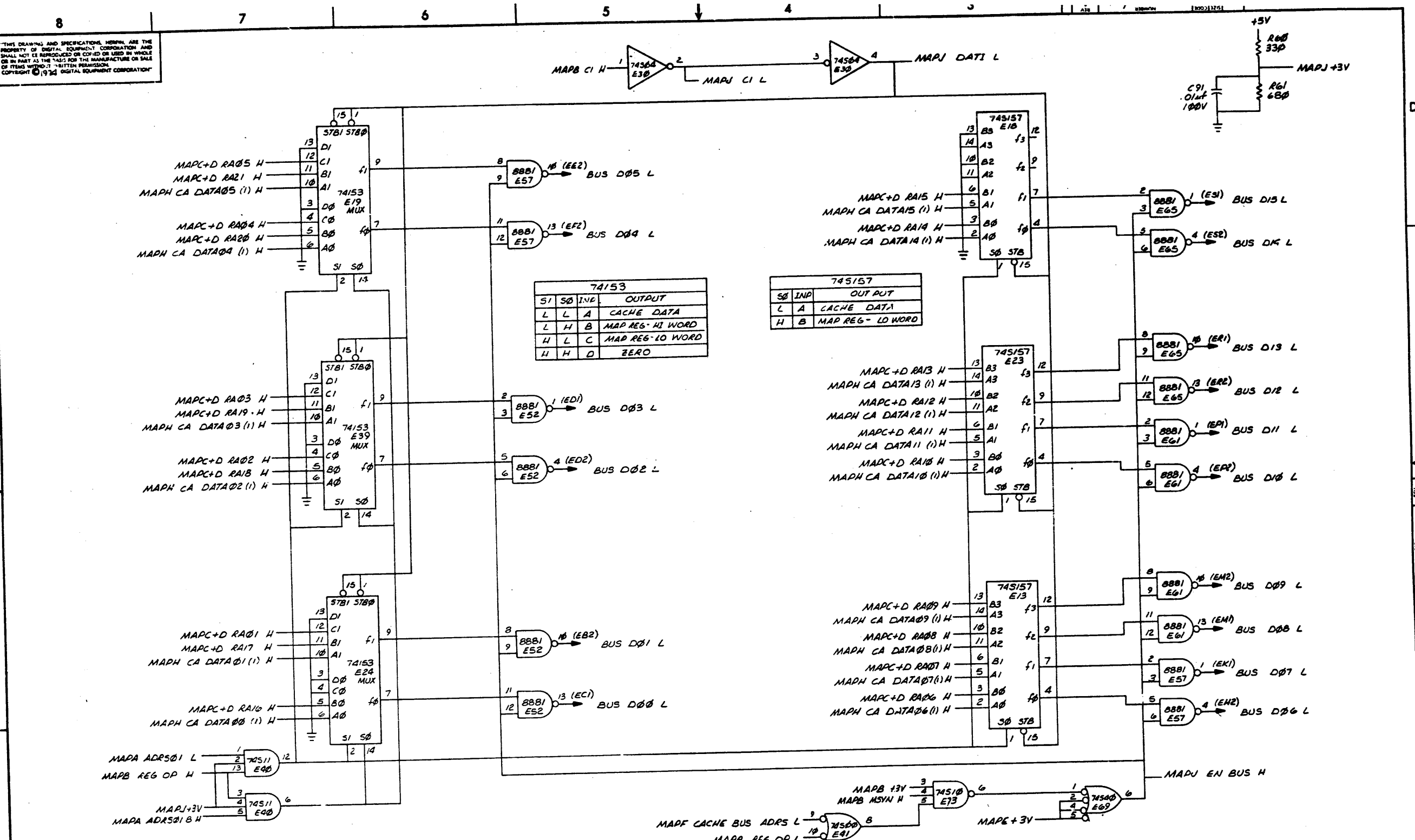
204

REVISIONS		
CHK	CHANGE NO.	REV.

CACHE DATA MUX
SLOT 22
TITLE UNIBUS MAP (MAPH)
SCALE #
SHEET 8 OF 9
SIZE CODE DCS
NUMBER M8141-0-1
REV. A

296

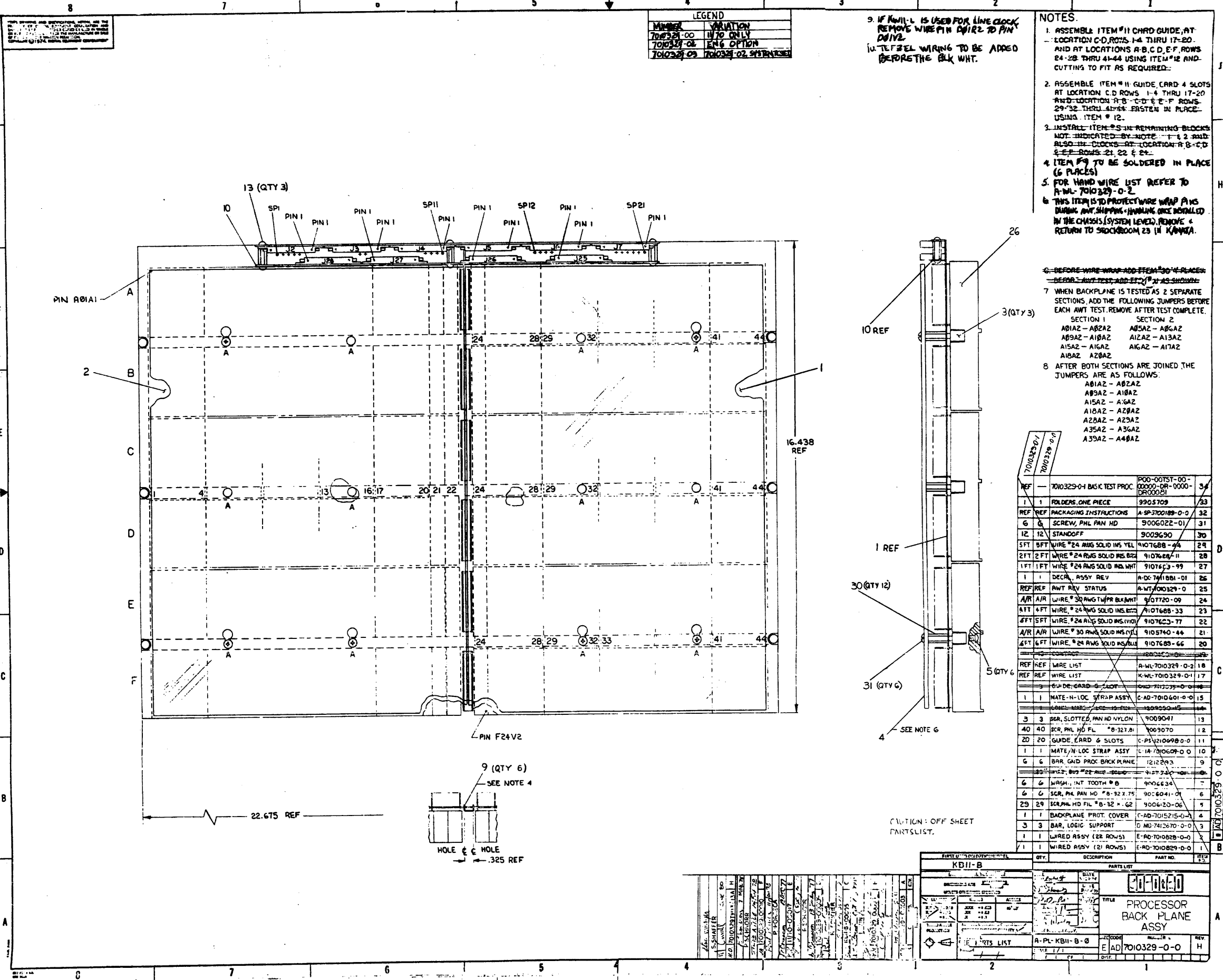
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S1	S0	INH	OUTPUT
L	L	A	CACHE DATA
L	H	B	MAP REG- HI WORD
H	L	C	MAP REG- LO WORD
H	H	D	ZERO

S0	INP	OUT PUT
L	A	CACHE DATA
H	B	MAP REG- LO WORD

DATA MUX AND DRIVERS SLOT 22
 TITLE UNIBUS MAP (MAPJ) SIZE CODE DCS NUMBER M8141-0-1 REV. A
 SCALE 1/8 SHEET 9 OF 9 DIST. 1



LEGEND	
NUMBER	VARIATION
7010329-00	11 TO ONLY
7010329-02	ENG OPTION
7010329-03	7010329-02 SYSTEMS

9. IF KWILL IS USED FOR LINE CLOCK REMOVE WIRE FROM DRIVE TO PIN DRIVE.
 10. TELEFEL WIRING TO BE ADDED BEFORE THE BLK WHT.

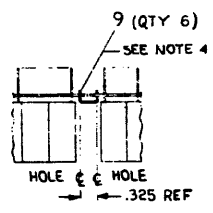
- NOTES:**
- ASSEMBLE ITEM #11 CHRD GUIDE, AT LOCATION C-D ROWS 1-4 THRU 17-20 AND AT LOCATIONS A-B, C-D, E-F ROWS 24-28 THRU 41-44 USING ITEM #12 AND CUTTINGS TO FIT AS REQUIRED.
 - ASSEMBLE ITEM #11 GUIDE CARD 4 SLOTS AT LOCATION C-D ROWS 1-4 THRU 17-20 AND LOCATION A-B, C-D, E-F ROWS 24-28 THRU 41-44. FASTEN IN PLACE USING ITEM #12.
 - INSTALL ITEM #5 IN REMAINING BLOCKS NOT INDICATED BY NOTE #1 & 2. ALSO INSTALL CLOCKS AT LOCATION A-B, C-D & E-F ROWS 21, 22 & 23.
 - ITEM #9 TO BE SOLDERED IN PLACE (6 PLACES)
 - FOR WIRE LIST REFER TO A-WL-7010329-0-2
 - THIS ITEM IS TO PROTECT WIRE WRAP PINS DURING ANY SHIPPING/HANDLING. ONCE INSTALLED IN THE CHASSIS (SYSTEM LEVEL), REMOVE & RETURN TO STOCKROOM 23 IN KANAWA.

- ~~6. BEFORE WIRE WRAP ADD ITEM #30 IN PLACE. BEFORE WHT TEST, ADD ITEM #30 AS SHOWN.~~
7. WHEN BACKPLANE IS TESTED AS 2 SEPARATE SECTIONS, ADD THE FOLLOWING JUMPERS BEFORE EACH AWT TEST. REMOVE AFTER TEST COMPLETE.
- | SECTION 1 | | SECTION 2 | |
|---------------|---------------|-----------|--|
| A01A2 - A02A2 | A05A2 - A06A2 | | |
| A09A2 - A10A2 | A13A2 - A14A2 | | |
| A15A2 - A16A2 | A19A2 - A17A2 | | |
| A18A2 - A20A2 | | | |
8. AFTER BOTH SECTIONS ARE JOINED THE JUMPERS ARE AS FOLLOWS:
- A01A2 - A02A2
 - A09A2 - A10A2
 - A15A2 - A16A2
 - A18A2 - A20A2
 - A28A2 - A29A2
 - A35A2 - A36A2
 - A39A2 - A40A2

7010329-01
7010329-02

REF	QTY	DESCRIPTION	PART NO.	REV
REF		7010329-01 BASK TEST PROC.	P00-00TST-00-00000-DR-0000-DR00001	34
1	1	FOLDERS, ONE PIECE	9905709	33
REF	REF	PACKAGING INSTRUCTIONS	A-SP700189-0-0	32
6	6	SCREW, PHL PAN HD	9006022-01	31
12	12	STANDOFF	9009690	30
SFT	SFT	WIRE #24 AWG SOLID INS YEL	9107688-44	29
2FT	2 FT	WIRE #24 AWG SOLID INS BRN	9107688-11	28
1FT	1 FT	WIRE #24 AWG SOLID INS WHT	9107688-33	27
1	1	DECR. ASSY REV	A-DC-741881-01	26
REF	REF	AWT REV STATUS	A-WT-700329-0	25
A/R	A/R	WIRE #30 AWG TW PR BLK WHT	9107720-09	24
A/T	4 FT	WIRE #24 AWG SOLID INS BRN	9107688-33	23
A/T	5 FT	WIRE #24 AWG SOLID INS WHT	9107688-33	22
A/R	A/R	WIRE #30 AWG SOLID INS WHT	9105740-44	21
4 FT	6 FT	WIRE #24 AWG SOLID INS WHT	9107688-66	20
REF	REF	WIRE LIST	A-WL-7010329-0-2	18
REF	REF	WIRE LIST	K-WL-7010329-0-1	17
1	1	MATE-N-LOC STRAP ASSY	C-AD-7010601-0-0	15
3	3	SCR, SLOTTED PAN HD NYLON	9009041	13
40	40	SCR, PHL HD FL	9009070	12
20	20	GUIDE, CARD & SLOTS	C-PS4210698-0-0	11
1	1	MATE-N-LOC STRAP ASSY	C-1A-7010601-0-0	10
6	6	BAR, GUID PROC BACK PLANE	1212893	9
29	29	SCR, PHL HD FL #8-32 X .62	9006120-06	5
1	1	BACKPLANE PROT. COVER	C-AD-7015215-0-0	4
3	3	BAR, LOGIC SUPPORT	D-MD-7412670-0-0	3
1	1	WIRED ASSY (22 ROWS)	E-AD-7010828-0-0	1
1	1	WIRED ASSY (21 ROWS)	E-AD-7010829-0-0	1

CAUTION: OFF SHEET PARTS LIST.



PARTS LIST		PARTS LIST	
QTY	DESCRIPTION	PART NO.	REV
1	PROCESSOR BACK PLANE ASSY	A-PL-KB11-B-0	H
1	PROCESSOR BACK PLANE ASSY	E-AD-7010329-0-0	H

B REV.	NUMBER 5413018-0	DD CODE	B SIZE
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DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS		
				A	B	C
D-UA-5413018-0-0	3		MK11 BOX CONTROLLER	A	B	C
B-PL-5413018-0-0	1		MK11 BOX CONTROLLER	A	B	C
D-CS-5413018-0-1	1		MK11 BOX CONTROLLER	A	B	C
D-MD-5413018-0-0	4		DRILL & ETCH DRAWING	A	A	B
		5013017	ETCHED BOARD	B	B	C
5-13018-0-1			P.C. DESIGN DATA BASE	REF-		
B-DD-5413018-0	1		MK11 BOX CONTROLLER	A	B	

NOTES:

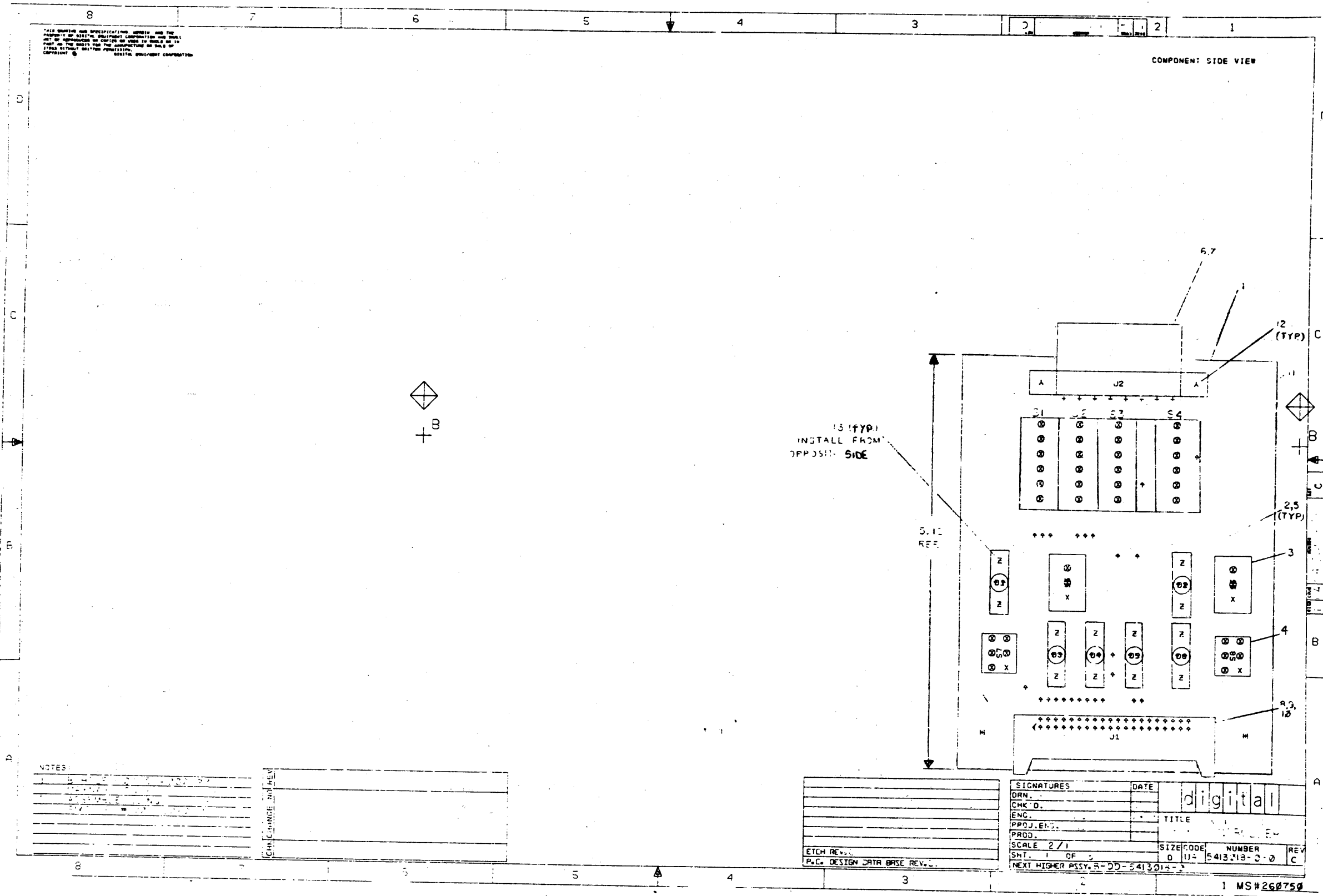
REVISIONS		REV.
DATE	CHG NO.	
9-77	00001	* A
11-77	00002	B

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USED ON OPTION/MODEL	DRN. L. METZGER	AUG 16	TITLE
MK11	CHK'D J. Bossman	17 AUG 77	MK11 BOX CONTROLLER
	ENG. W. F. ...	23 AUG 77	SIZE CODE NUMBER
	PROD. ...	23 AUG 77	B DD 5413018-0
			REVISION B
			SHEET 1 OF 1



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COMPONENT SIDE VIEW

13 (TYP)
INSTALL FROM
OPPOSITE SIDE

5.11
REF.

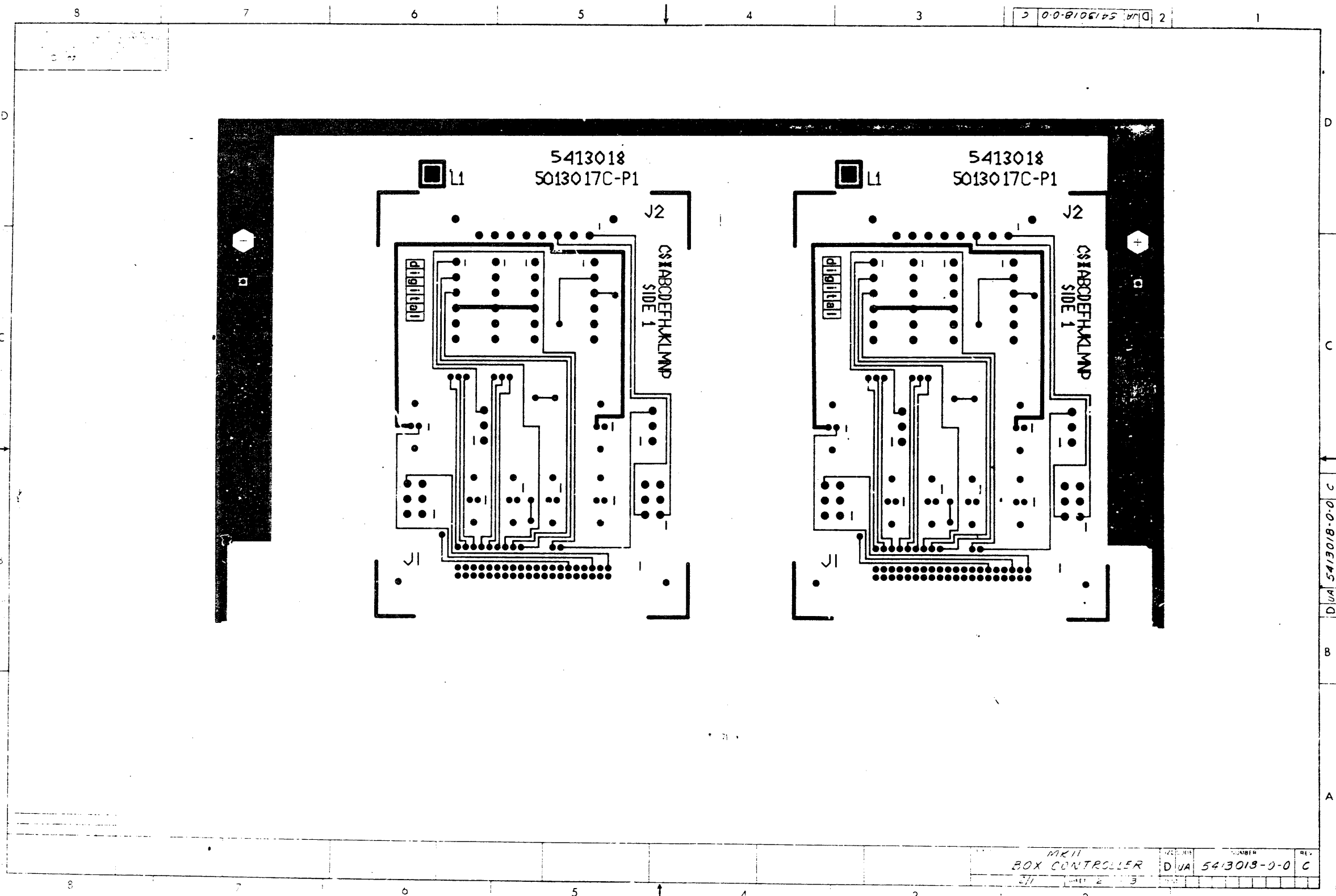
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(TYP)

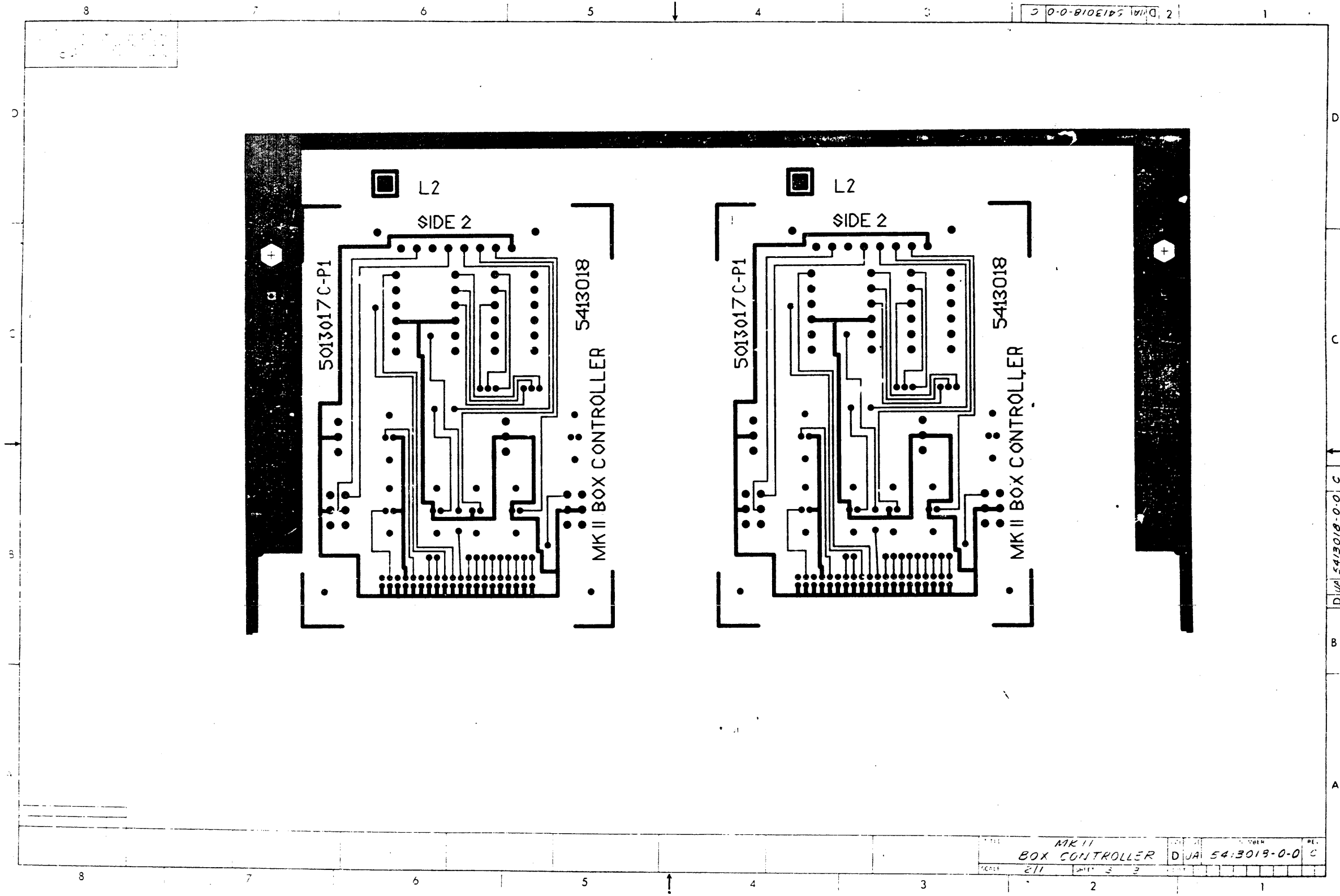
NOTES:

CHANGE ORDER NO.

SIGNATURES		DATE	digital	
DRN.				
CHK'D.				
ENG.				
PPD.J. ENG.			TITLE	
PROD.				
SCALE 2/1			SIZE	FOOTE
SHT. 1 OF 3			NUMBER	REV
NEXT HIGHER ASSY. R-55-541301			D 11-5413-18-3-0	C

1 MS#268750





DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY C. BEVERLIE DATE 5/5/77		CHECKED W. ANGELL DATE 5/17/77												USED ON: OPTION/MODEL MKII			
ENG W. Angell DATE 23 AUG 77		PROD P.C. Stephens DATE 23 AUG 77															
		SECTION 1															
		ISSUED SECTION 1															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	REF	QTY	VAR	QTY	VAR	QTY	VAR	QTY	VAR	QTY	VAR	QTY	VAR	REF DESIGNATION
	D-CS-5413018-0-1		CIRCUIT SCHEMATIC	REF													
	D-UA-5413018-0-0		UNIT ASSEMBLY	REF													
	B-DD-5413018-0		DWG. DIRECTORY	REF													
	D-MD-5013017-0-0		DRILL & ETCH DWG.	REF													
1		5013017	ETCHED BD.	1													
2		11-10324-00	LED MV5054-1	6													D1 thru D6
3		12-09590-00	SW. TOGGLE 1P	2													S5,S6
4		12-09592-00	SW. TOGGLE 2P	2													S7,S8
5		12-10848-C2	HOLDER, SINGLE, LED	6													
6		12-09416-01	SOCKET TERMINAL	8													
7		12-09540-00	SOCKET HOUSING 8 PIN	1													J2
8		12-09941-02	CONN 40 PIN RT ANG. HDR.	1													J1
9		12-09941-03	LATCH, LEFT (FOR RT ANG. HDR)	1													
10		12-09941-04	LATCH, RIGHT (FOR RT ANG. HDR.)	1													
11		12-14467-00	SWITCH, THUMBWHEEL ASSY	1													S1,S2,S3,S4
12		90-06732-00	EYELET	2													
13		90-08327-01	PAN HD. SELF TAPPING SCREW	12													
14		91-05740-55	wire, #20 awg, green	1/2													

E.C.O. NO. 0001 0002

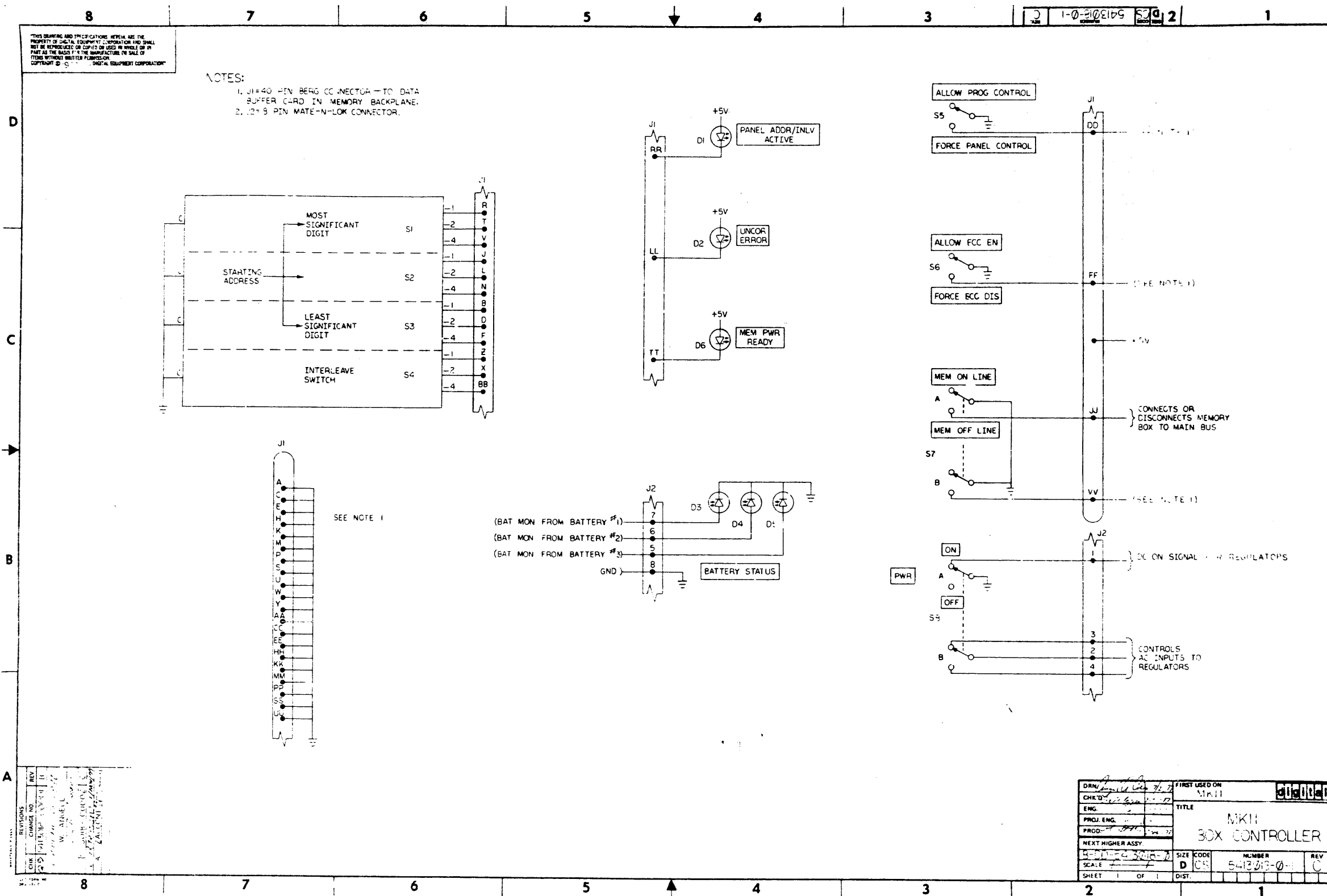
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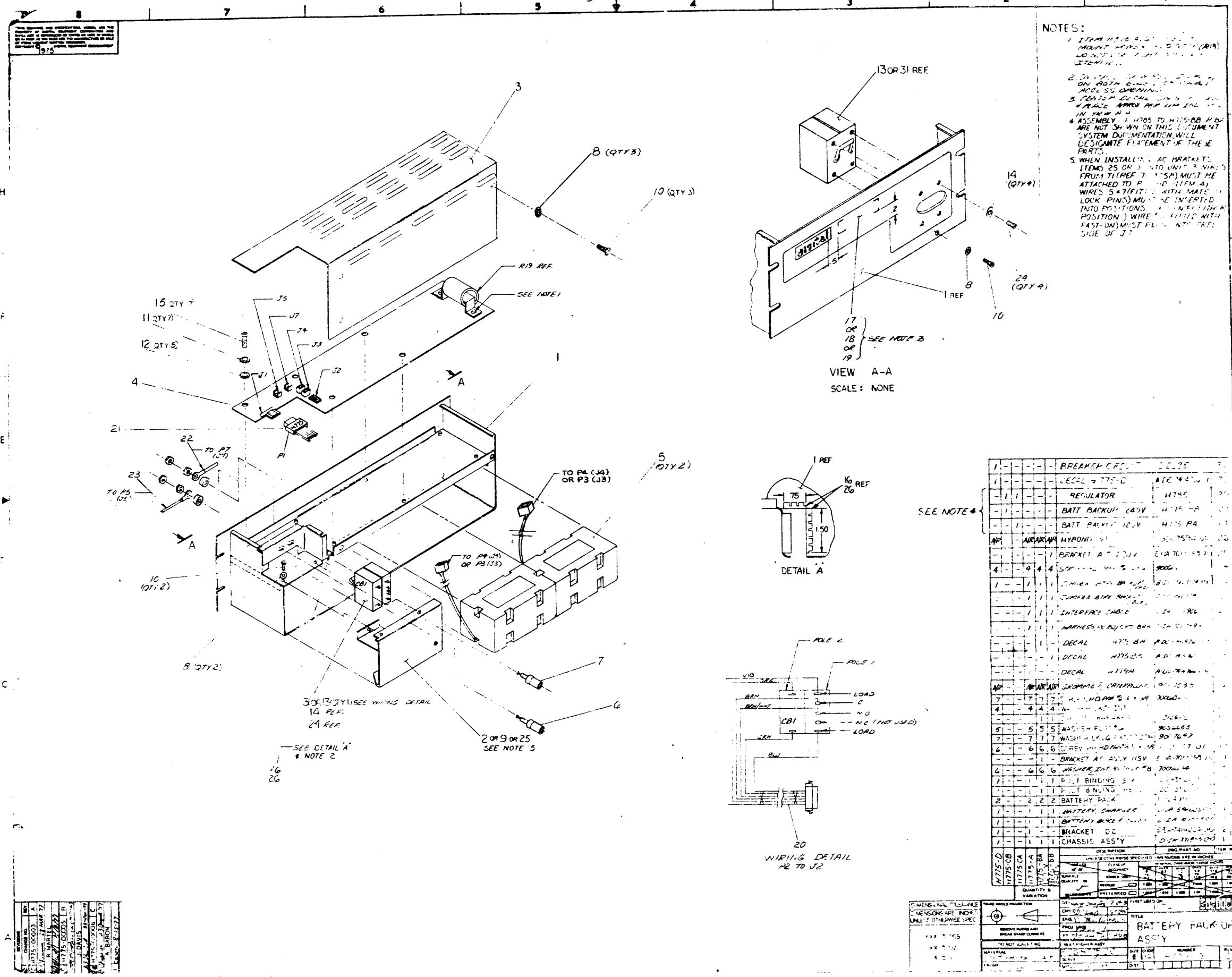
TITLE
MKII BOX CONTROLLER

ASSY NO.
D-UA-5413018-0-0
SHEET 1 OF 1

SIZE CODE
B PL
NUMBER
5413018-0-0

REV.
C

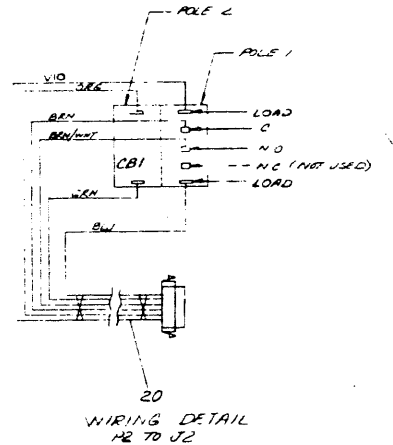
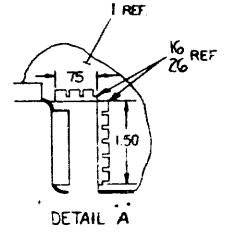




NOTES:

1. ITEM 11 IS A... (A19) DO NOT USE...
2. ON THE... (A19) DO NOT USE...
3. CHECK...
4. ASSEMBLY... (A19) DO NOT USE...
5. WHEN INSTALLING... (A19) DO NOT USE...

VIEW A-A
SCALE: NONE



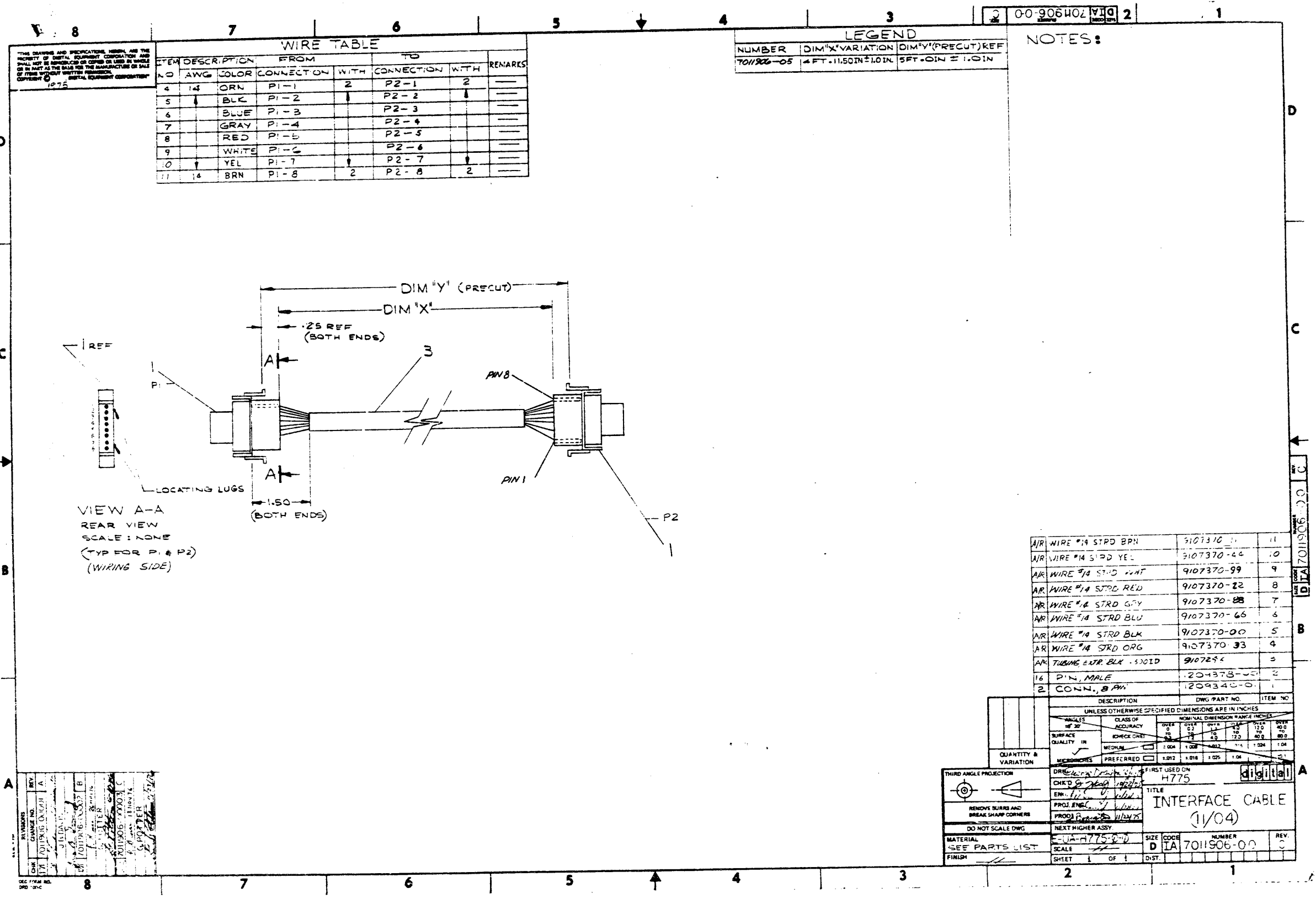
QTY	DESCRIPTION	REF	UNIT
1	BREAKER CIRCUIT	13 OR 31	REF
1	REGULATOR	14	REF
1	BATT BACKUP (8V)	15	QTY 7
1	BATT BACKUP (12V)	16	QTY 2
1	BRACKET A	17 OR 18 OR 19	REF
1	BRACKET B	20	REF
1	BRACKET C	21	REF
1	BRACKET D	22	REF
1	BRACKET E	23	REF
1	BRACKET F	24	REF
1	BRACKET G	25	REF
1	BRACKET H	26	REF

REV	DATE	BY	CHKD	DESCRIPTION
1	11/15/68	A. MARIN		INITIAL DESIGN
2	12/15/68	A. MARIN		REVISED FOR MANUFACTURE
3	01/15/69	A. MARIN		REVISED FOR MANUFACTURE
4	02/15/69	A. MARIN		REVISED FOR MANUFACTURE
5	03/15/69	A. MARIN		REVISED FOR MANUFACTURE
6	04/15/69	A. MARIN		REVISED FOR MANUFACTURE
7	05/15/69	A. MARIN		REVISED FOR MANUFACTURE
8	06/15/69	A. MARIN		REVISED FOR MANUFACTURE
9	07/15/69	A. MARIN		REVISED FOR MANUFACTURE
10	08/15/69	A. MARIN		REVISED FOR MANUFACTURE

WIRING DETAIL R2 TO J2

WIRING DETAIL R2 TO J2

WIRING DETAIL R2 TO J2



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WIRE TABLE							
ITEM DESCRIPTION		FROM		TO		REMARKS	
NO	AWG	COLOR	CONNECTION	WITH	CONNECTION	WITH	
4	14	ORN	P1-1	2	P2-1	2	
5		BLK	P1-2		P2-2		
6		BLUE	P1-3		P2-3		
7		GRAY	P1-4		P2-4		
8		RED	P1-5		P2-5		
9		WHITE	P1-6		P2-6		
10		YEL	P1-7		P2-7		
11	14	BRN	P1-8	2	P2-8	2	

LEGEND		
NUMBER	DIM 'X' VARIATION	DIM 'Y' (PRECUT) REF
7011906-05	± FT. ± 11.50 IN ± 1.0 IN	5 FT. ± 0.1 IN ± 1.0 IN

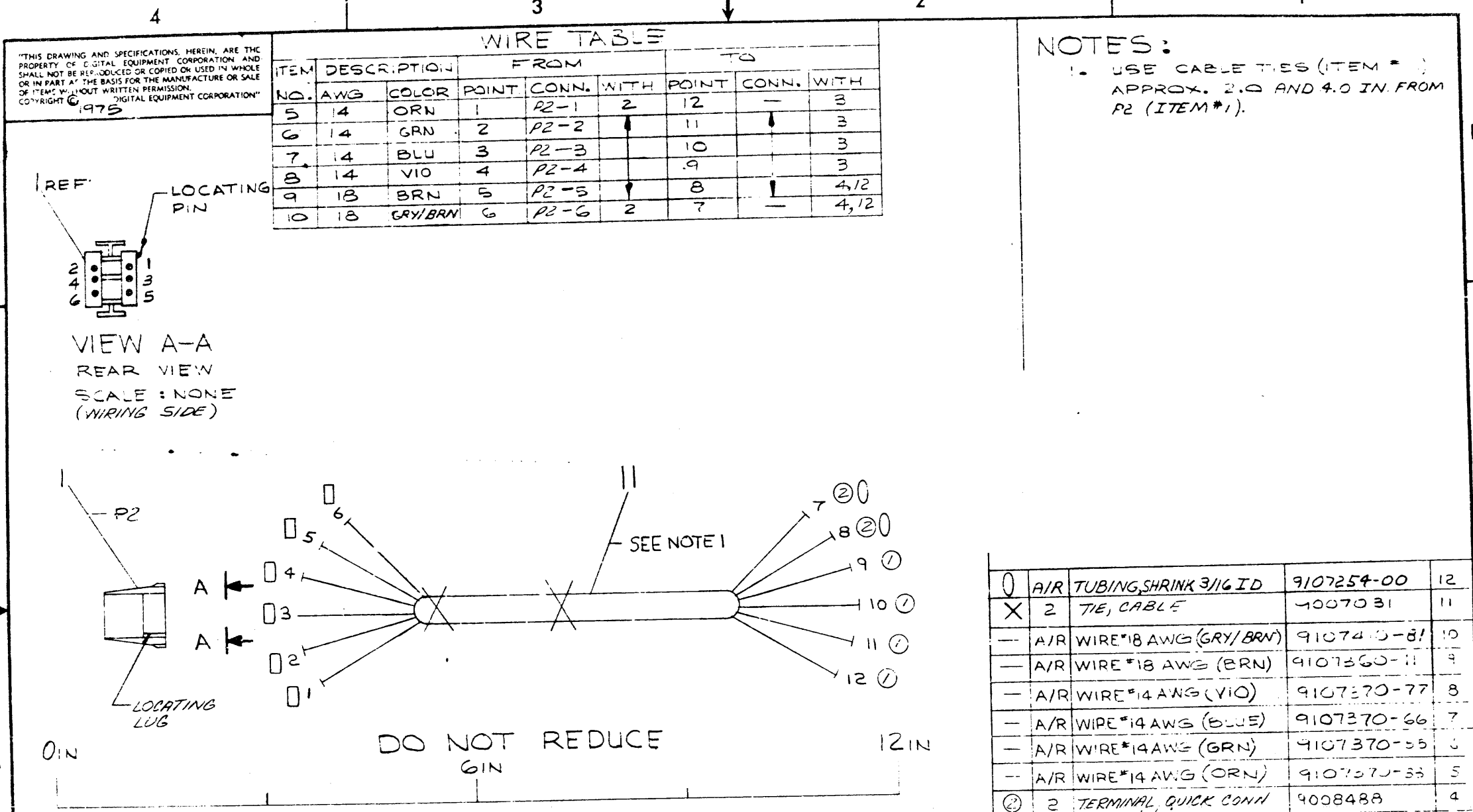
NOTES:

VIEW A-A
REAR VIEW
SCALE: NONE
(TYP FOR P1 & P2)
(WIRING SIDE)

11	WIRE #14 STRD BRN	9107370-11	11
10	WIRE #14 STRD YEL	9107370-10	10
9	WIRE #14 STRD WHT	9107370-99	9
8	WIRE #14 STRD RED	9107370-22	8
7	WIRE #14 STRD GRN	9107370-08	7
6	WIRE #14 STRD BLU	9107370-66	6
5	WIRE #14 STRD BLK	9107370-00	5
4	WIRE #14 STRD ORG	9107370-33	4
3	TUBING EXTR. BLK .530 ID	9107254	3
2	PIN, MALE	204378-00	2
1	CONN., 8 PIN	209340-00	1

QUANTITY & VARIATION		DESCRIPTION		DWG PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES			
SURFACE QUALITY	FINISH	OVER 0 TO .075	0.075 TO .125	0.125 TO .1875	0.1875 TO .250
MICROFINISH		± .004	± .003	± .002	± .001
PREFERRED		± .002	± .001	± .0005	± .0002
THIRD ANGLE PROJECTION		FIRST USED ON		digital	
REMOVES BURRS AND BREAK SHARP CORNERS		CHK'D BY		H775	
DO NOT SCALE DWG		PROJ. ENGR.		TITLE	
MATERIAL SEE PARTS LIST		SCALE		INTERFACE CABLE	
FINISH		NEXT HIGHER ASSY		(1/04)	
SIZE CODE		NUMBER		REV	
D		7011906-00		C	
SHEET 1 OF 1		DIST.		1	

REV	DATE	BY	CHK	DESCRIPTION
1				
2				
3				
4				
5				
6				
7				
8				



WIRE TABLE								
ITEM NO.	AWG	COLOR	FROM			TO		
			POINT	CONN.	WITH	POINT	CONN.	WITH
5	14	ORN	1	P2-1	2	12	-	3
6	14	GRN	2	P2-2	↑	11	↑	3
7	14	BLU	3	P2-3	↑	10	↑	3
8	14	VIO	4	P2-4	↑	9	↑	3
9	18	BRN	5	P2-5	↓	8	↓	4,12
10	18	GRY/BRN	6	P2-6	2	7	-	4,12

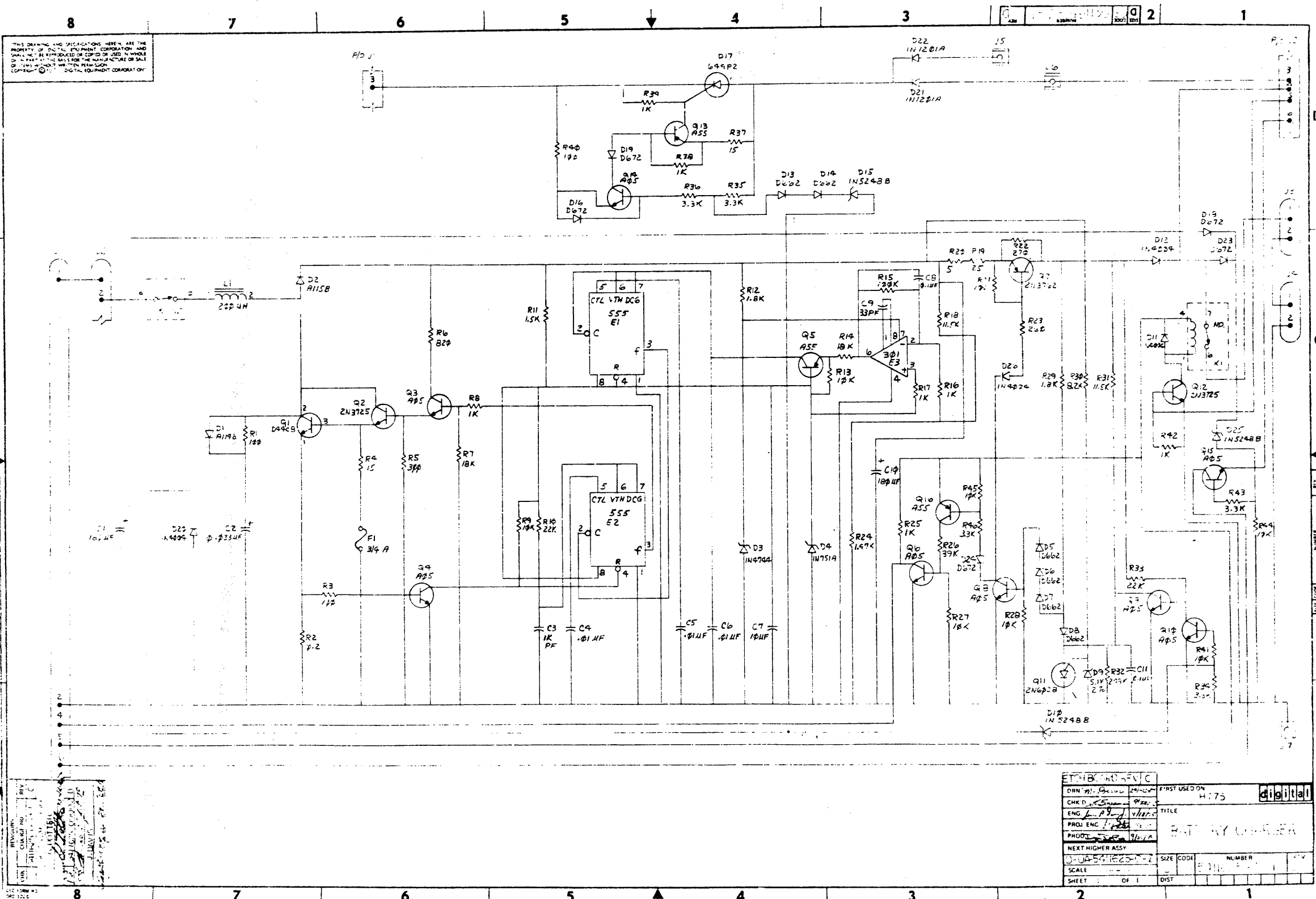
NOTES:
 1. USE CABLE TIES (ITEM #) APPROX. 2.0 AND 4.0 IN. FROM P2 (ITEM #1).

REV.	CHANGE NO.	DATE	BY
A	00001	1-2-75	J.R. DAVIS JR.

QTY.	SYMBOL	DESCRIPTION	PART NO.	ITEM NO.
12	○	AIR TUBING, SHRINK 3/16 ID	9107254-00	12
11	X	TIE, CABLE	4007031	11
10	-	A/R WIRE #18 AWG (GRY/BRN)	9107400-81	10
4	-	A/R WIRE #18 AWG (BRN)	9107360-11	4
8	-	A/R WIRE #14 AWG (VIO)	9107370-77	8
7	-	A/R WIRE #14 AWG (BLUE)	9107370-66	7
6	-	A/R WIRE #14 AWG (GRN)	9107370-55	6
5	-	A/R WIRE #14 AWG (ORN)	9107370-33	5
4	⊙	TERMINAL, QUICK CONN	9008488	4
3	⊙	TERMINAL, QUICK CONNECT	9007969	3
2	□	PIN (FEMALE)	1209379-00	2
1	□	CONN, 6 PIN (FEMALE)	1210321-06	1

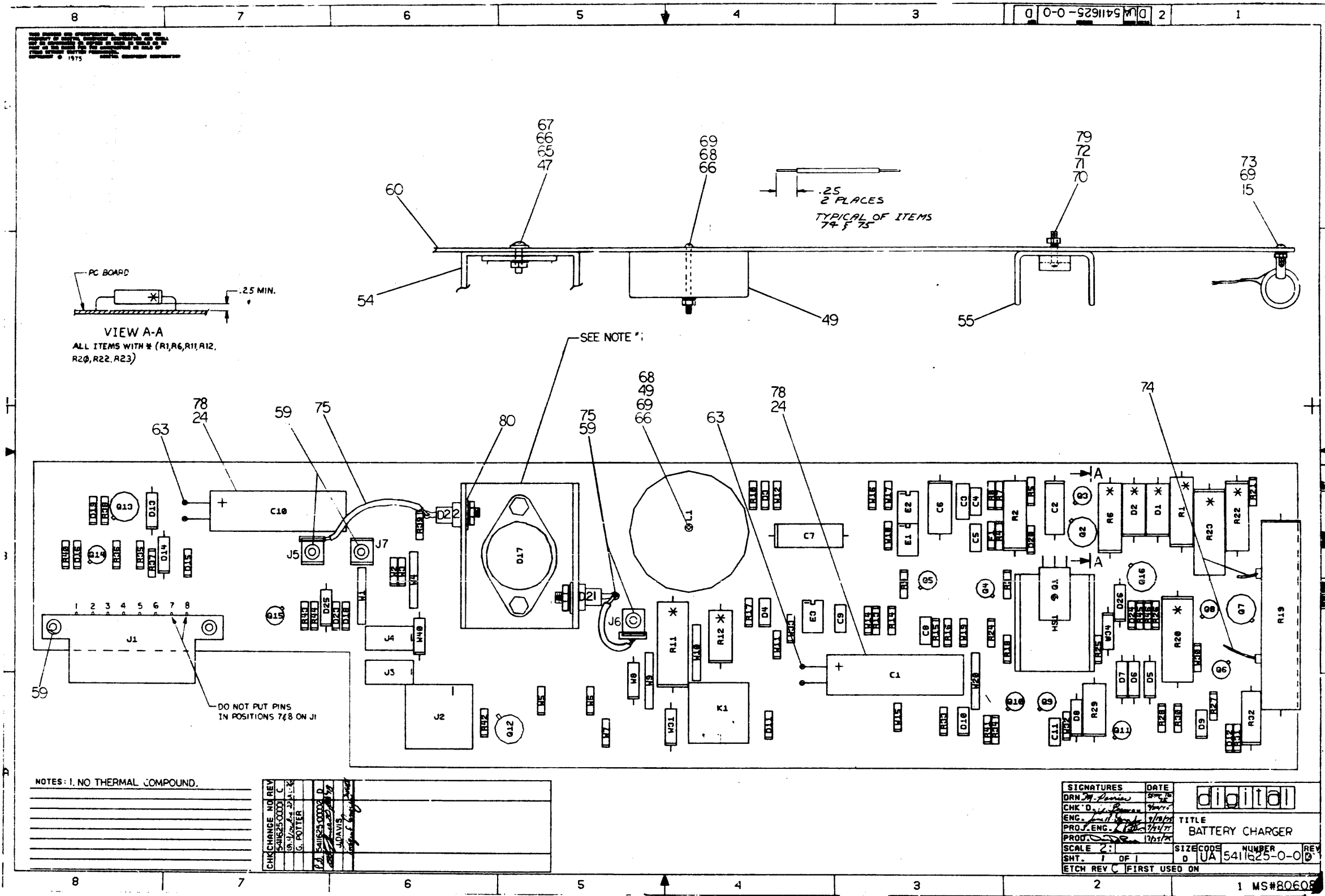
FIRST USED ON OPTION/MODEL		SYM	QTY.	DESCRIPTION	PART NO.	ITEM NO.
H775						
DIMENSIONAL TOLERANCE				DRN	DATE	
DIMENSIONS ARE INCHES UNLESS OTHERWISE SPECIFIED				CHK'D	DATE	
MILLIMETERS	INCHES	ANGLES		ENG.	DATE	
X.XX ±0.10	.XXX ±.005	±0° 30'		PROJ. ENG.	DATE	
X.X ±.05	.XX ±.02			PROD.	DATE	
X ±.2	.X ±.1					
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓			NEXT HIGHER ASSY.		
MATERIAL SEE PARTS LIST	FINISH			SCALE	1/1	
TITLE HARNESS, PC BOARD/ CKT. BREAKER				SIZE	CODE	NUMBER
E-UA-H775-00				CIA	7011759-0-0	REV. A
SHEET OF				DIST.		

REV. A
 PART NO. 7011759-0-0
 SIZE 1/1



REVISIONS:
 CHANGING
 DATE: 10/15/75
 BY: J. DAVIS
 10/15/75

ET: HBC: MD: GVC	FIRST USED ON	digital
DRN: M. J. [unclear]	H. 75	
CHKD: [unclear]	TITLE	
ENG: L. P. [unclear]	BATTERY CHARGER	
PROJ. ENG: [unclear]		
PHOTO: [unclear]		
NEXT HIGHER ASSY	SIZE	CODE
0-1054122-2		
SCALE	NUMBER	
SHEET 1 OF 1	DIST	



DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				PARTS LIST				ETCH REV C				QUANTITY VARIATION				
MADE BY	JIM DAVIS	CHECKED	P. BOSSMAN	SECTION	1	DATE	4-18-75	DATE	11-4-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ENG	JIM DAVIS	PROD	D. DEROME	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ITEM NO	DWG NO. / PART NO.	DESCRIPTION			QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE
1	1302380	RESISTOR 100 OHM, 2W 5%			1	R1										
2	1311644	RESISTOR 0.2 OHM, 2W 3%			1	R2										
3	1302229	RESISTOR 100 OHM, 1/4W 5%			3	R3	R21R40									
4	1301421	RESISTOR 15 OHM, 1/4 10%			2	R4	R37									
5	1301425	RESISTOR 300 OHM, 1/4W 5%			1	R5										
6	1301966	RESISTOR 820 OHM, 2W 10%			1	R6										
7	1302465	RESISTOR 18K, 1/4W 5%			2	R7	R14									
8	1300365	RESISTOR 1K, 1/4W 5%			7	R8	R16R17R25R38R39R42									
9	1300479	RESISTOR 10K, 1/4W 5%			7	R9	R13R27R28R41R44R45									
10	1301808	RESISTOR 22K, 1/4W 5%			2	R10	R33									
11	1301897	RESISTOR 1.5K, 5W 5%			1	R11										
12	1303122	RESISTOR 1.8K, 1W 5%			2	R12	R29									
13	1302466	RESISTOR 100K, 1/4W 5%			1	R15										
14	1305108	RESISTOR 1.47K, 1%, 1/4W			1	R24										
15	1300192	RESISTOR 25 OHM 25W WITH BRACKETS 1%			1	R19										
16	1305815	RESISTOR 5 OHM, 5W 5%			1	R20										
17	1305380	RESISTOR 270 OHM, 2W 5%			1	R22										
18	1309963	RESISTOR 260 OHM, 5W 1%			1	R23										
19	1303179	RESISTOR 9.2K, 1/4W 5%			2	R26	R30									
20	1309415	RESISTOR 11.5K, 1/4W 1%			2	R16	R31									
21	1300424	RESISTOR 2.49K 3/4W 1%			1	R32										
22	1300439	RESISTOR 3.3K, 1/4W 5%			5	R34	R35R36R43R46									

TITLE: BATTERY CHARGER
ASSY NO: D-UA-5411625-0-0
SIZE CODE: A PL
NUMBER: 5411625-0-0
REV: D
ECO NO: 5411625-0002
SHEET 1 OF 4

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				PARTS LIST				ETCH REV C				QUANTITY VARIATION				
MADE BY	JIM DAVIS	CHECKED	P. BOSSMAN	SECTION	1	DATE	4-18-75	DATE	11-4-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ENG	JIM DAVIS	PROD	D. DEROME	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ITEM NO	DWG NO. / PART NO.	DESCRIPTION			QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE
45	1105275	DIODE DG72			5	F1	F19									
46	1110006	DIODE 1201A RECT			2	F2	F21									
47	1109465	SUP MCR64917			1	F10										
48	1210929-03	3/4 AMP. PIORUSE			1	F11										
49	1612500	INDUCTOR 200 OH			1	F1										
50	1211138-C1	RELAY 6PDT 6VDC			1	F1										
51	1211139	RELAY SOCKET HOUSING			1	F23										
52	1211342-06	CONN. MATE-N-LOCK 6 PIN			1	F2										
53	1211342-02	HEADER MATE-N-LOCK 2 PIN			2	F3	F4									
54	1212645	HEAT SINK			1	HS2										
55	1212487	HEAT SINK			1	HS1										
56	1911944	IC LM555 TIMER			2	E1	F2									
57	1910282	IC LM301A OP AMP			1	E3										
58	9008219	QUICK CONNECT 1/4 IN. SINGLE MALE 90°			1	J6										
59	9009000	EYELETS			5											
60	5011624	ETCHED CIRCUIT BOARD			1											
61	1209340	8 PIN MATE-N-LOCK			1	J1										
62	1209456-01	SOCKETS FOR 1209340			6	J1-1, J1-2, J1-3, J1-4, J1-5, J1-6										
63	9009118-03	TERMINAL, SOLDER			4											
64	9007113	DOUBLE MALE QUICK CONNECT 90°			2	J5	J7									

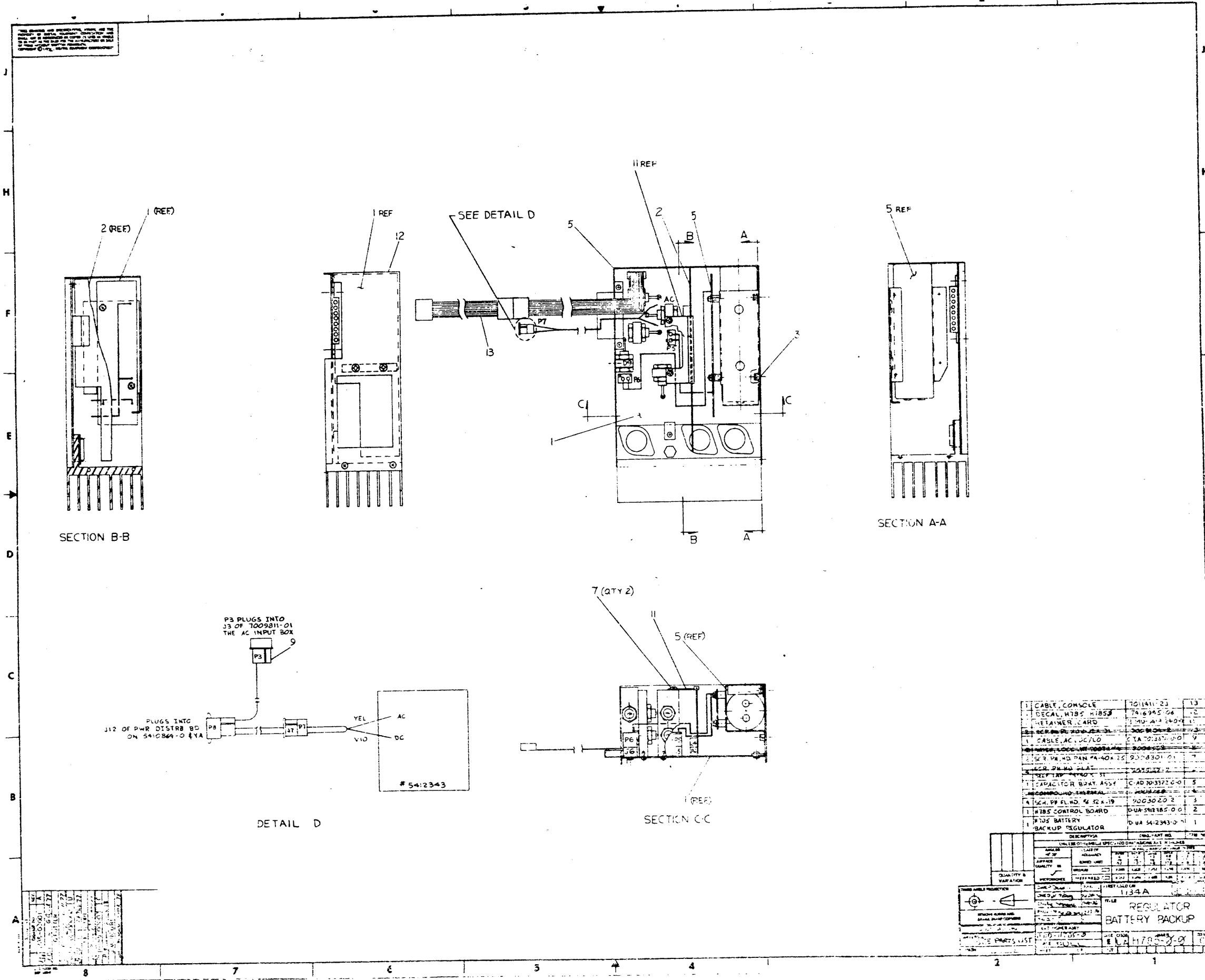
TITLE: BATTERY CHARGER
ASSY NO: D-UA-5411625-0-0
SIZE CODE: A PL
NUMBER: 5411625-0-0
REV: D
ECO NO: 5411625-0002
SHEET 3 OF 4

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				PARTS LIST				ETCH REV C				QUANTITY VARIATION				
MADE BY	JIM DAVIS	CHECKED	P. BOSSMAN	SECTION	1	DATE	4-18-75	DATE	11-4-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ENG	JIM DAVIS	PROD	D. DEROME	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ITEM NO	DWG NO. / PART NO.	DESCRIPTION			QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE
23	1005284	CAPACITOR 0.01 MFD, 100V, MYLAR			1	C6										
24	1112607-02	CAPACITOR 180 MFD, 50V, 672D SPRAGUE			2	C1	C10									
25	1000039	CAPACITOR 0.33 MFD, 100V			1	C2										
26	1000042	CAPACITOR .01 MFD, 100V			1	C3										
27	1016171-01	CAPACITOR .01 MFD, 100V			2	C4	C5									
28	1004813	CAPACITOR 10 MFD, 20V			1	C7										
29	1000039	CAPACITOR 0.1 MFD 100V			2	C8	C11									
30	1000039	CAPACITOR 33PF, 100V			1	C9										
31	1510401	TRANSISTOR 2N40CB			1	Q1										
32	1510325	TRANSISTOR 2N3725			2	Q2	Q12									
33	1510325	TRANSISTOR A75			8	Q3	Q4 Q6 Q8 Q9 Q10 Q14 Q15									
34	1510325	TRANSISTOR A55			3	Q5	Q13 Q16									
35	1009649	TRANSISTOR 2N3762			1	Q7										
36	1510879	TRANSISTOR 2N6028			1	Q11										
37	1112594-01	DIODE GE A114B FAST REC RECT.			1	D1										
38	1112594-01	DIODE GE A115B FAST REC RECT.			1	D2										
39	1105648	DIODE IN4744 15V ZENER			1	D3										
40	1110934	DIODE IN751A 5.1V ZENER			1	D4										
41	1110713	DIODE D062			6	D5	D6 D7 D8 D13 D14									
42	1110713	DIODE 5.1V 2% ZENER			1	D9										
43	1110729	DIODE IN4004 RECT.			4	D11	D12 D20 D26									
44	1111766	DIODE IN5248B 18V ZENER			3	D15	D25 D16									

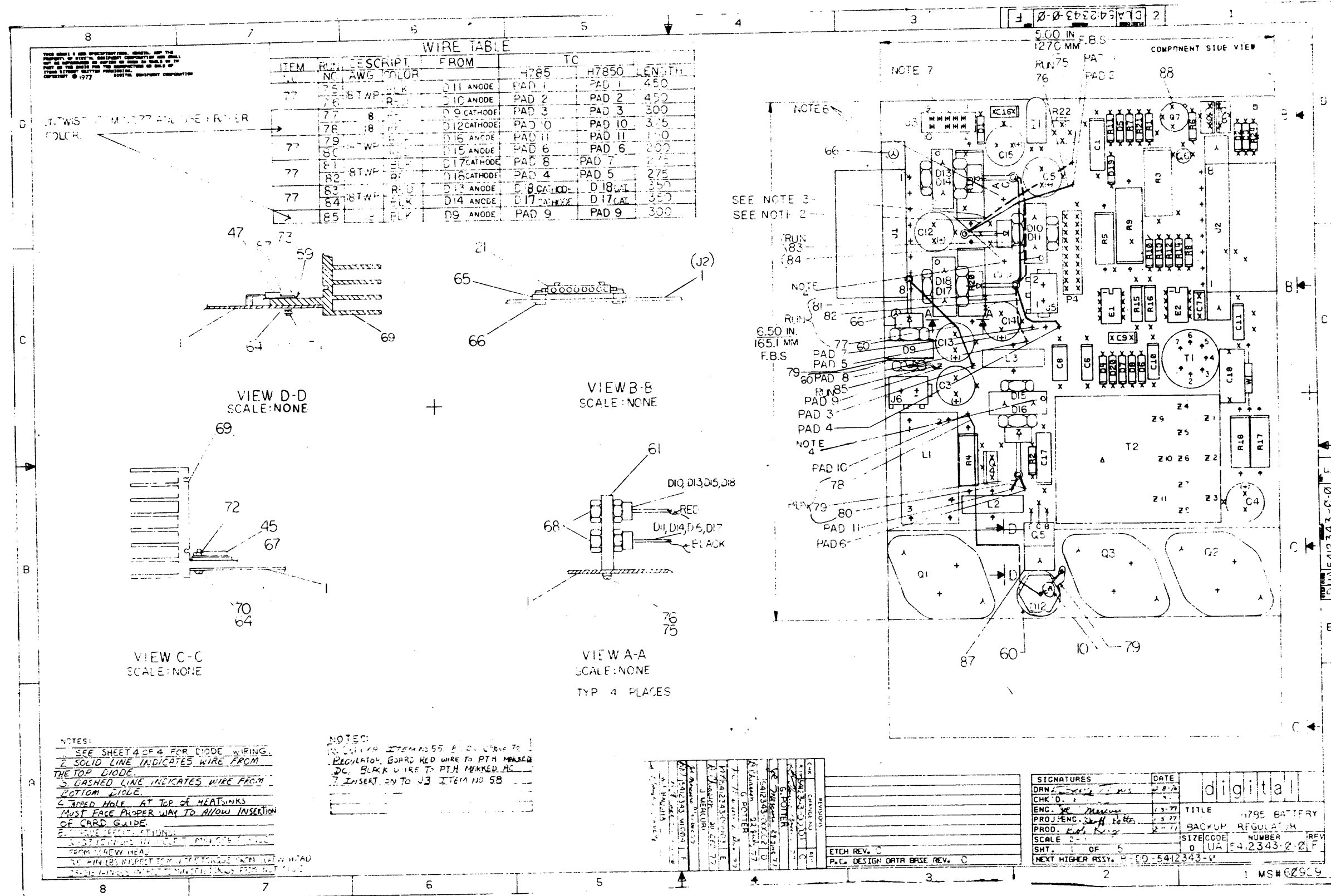
TITLE: BATTERY CHARGER
ASSY NO: D-UA-5411625-0-0
SIZE CODE: A PL
NUMBER: 5411625-0-0
REV: D
ECO NO: 5411625-0002
SHEET 2 OF 4

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				PARTS LIST				ETCH REV C				QUANTITY VARIATION				
MADE BY	JIM DAVIS	CHECKED	P. BOSSMAN	SECTION	1	DATE	4-18-75	DATE	11-4-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ENG	JIM DAVIS	PROD	D. DEROME	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	ISSUED SECT	1	DATE	4-18-75	DATE	9-25-75	
ITEM NO	DWG NO. / PART NO.	DESCRIPTION			QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE	QTY	CODE
65	9006024-1	6-32 x 1/8 PPH SCREW			2											
66	9006653	FLAT WASHER			3											
67	9008185	6-32 x 1/8 PPH SCREW			2											
68	9007853-1	6-32 x 1/8 PPH SCREW			1											
69	9006560	6-32 PPH NUT (5/16 AF)			3											
70	9006010-1	4-40 x 5/16 PPH SCREW			1											
71	9006655	FLAT WASHER			1											
72	9006557	4-40 PPH NUT			1											
73	9006020-1	6-32 x 1/8 PPH SCREW			2											
74	9107350-99	WIRE #22 AWG STRANDED PVC X LN L			2											
75	9107360-22	WIRE #18 AWG STRANDED PVC X LN L			4											
76	9007970	FEMALE ENGINE INSULATED			2											
78	9007834	DOUBLE BACK SLICKY TAPE			1											
79	9008206	THERMAL COMPOUND			1											
80	9006664	FLAT WASHER			2											
81	D-CS-5411625-0-1	CIRCUIT SCHEMATIC			1											
82	D-AH-5411625-0-5	ASSY DRILLING HOLE DATA			1											
83	E-MI-5411625-0-5	NEW PARTS LIST			1											
84	9009118-03	TERMINAL, WIRE, WHITE INS. 1/4 LONG			16	J1-1, J1-2, J1-3, J1-4, J1-5, J1-6										
85	9009118-03	TERMINAL, WIRE, WHITE INS. 1/4 LONG			9	J5, J7, J8, J9, J10, J11, J12, J13, J14										

TITLE: BATTERY CHARGER
ASSY NO: D-UA-5411625-0-0
SIZE CODE: A PL
NUMBER: 5411625-0-0
REV: D
ECO NO: 5411625-0002
SHEET 4 OF 4



DESCRIPTION		1134A	
QUANTITY	1	REVISION	1
DATE	11/20/68	BY	...
APPROVED
REGULATOR BATTERY BACKUP			
PARTS LIST			
1	REGULATOR BATTERY BACKUP	1134A	1



WIRE TABLE

ITEM NO.	DESCRIP.	FROM	TO	LENGTH
77	STWP. BK	D11 ANODE	PAD 1	450
77	STWP. BK	D10 ANODE	PAD 2	450
77	STWP. BK	D9 CATHODE	PAD 3	300
77	STWP. BK	D12 CATHODE	PAD 10	300
77	STWP. BK	D15 ANODE	PAD 11	300
77	STWP. BK	D15 ANODE	PAD 6	200
77	STWP. BK	D17 CATHODE	PAD 8	275
77	STWP. BK	D16 CATHODE	PAD 4	275
77	STWP. BK	D14 ANODE	D18 CATHODE	350
77	STWP. BK	D14 ANODE	D17 CATHODE	350
85	ELK	D9 ANODE	PAD 9	300

THIS SHEET IS AN ELECTRICAL DRAWING OF THE BOARD. IT IS NOT TO BE USED AS A GUIDE FOR THE CONSTRUCTION OF THE BOARD. THE BOARD IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DRAWING AND THE BOARD IS TO BE TESTED IN ACCORDANCE WITH THE TEST PLAN.

1. TWIST 18 AWG WIRE TO 18 AWG WIRE FROM BOARD.

2. SOLID LINE INDICATES WIRE FROM THE TOP DIODE.

3. DASHED LINE INDICATES WIRE FROM BOTTOM DIODE.

4. TAPPED HOLE AT TOP OF HEATSINKS MUST FACE PROPER WAY TO ALLOW INSERTION OF CARD GUIDE.

5. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

6. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

7. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

8. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

9. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

10. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

11. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

12. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

13. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

14. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

15. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

16. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

17. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

18. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

19. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

20. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

21. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

22. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

23. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

24. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

25. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

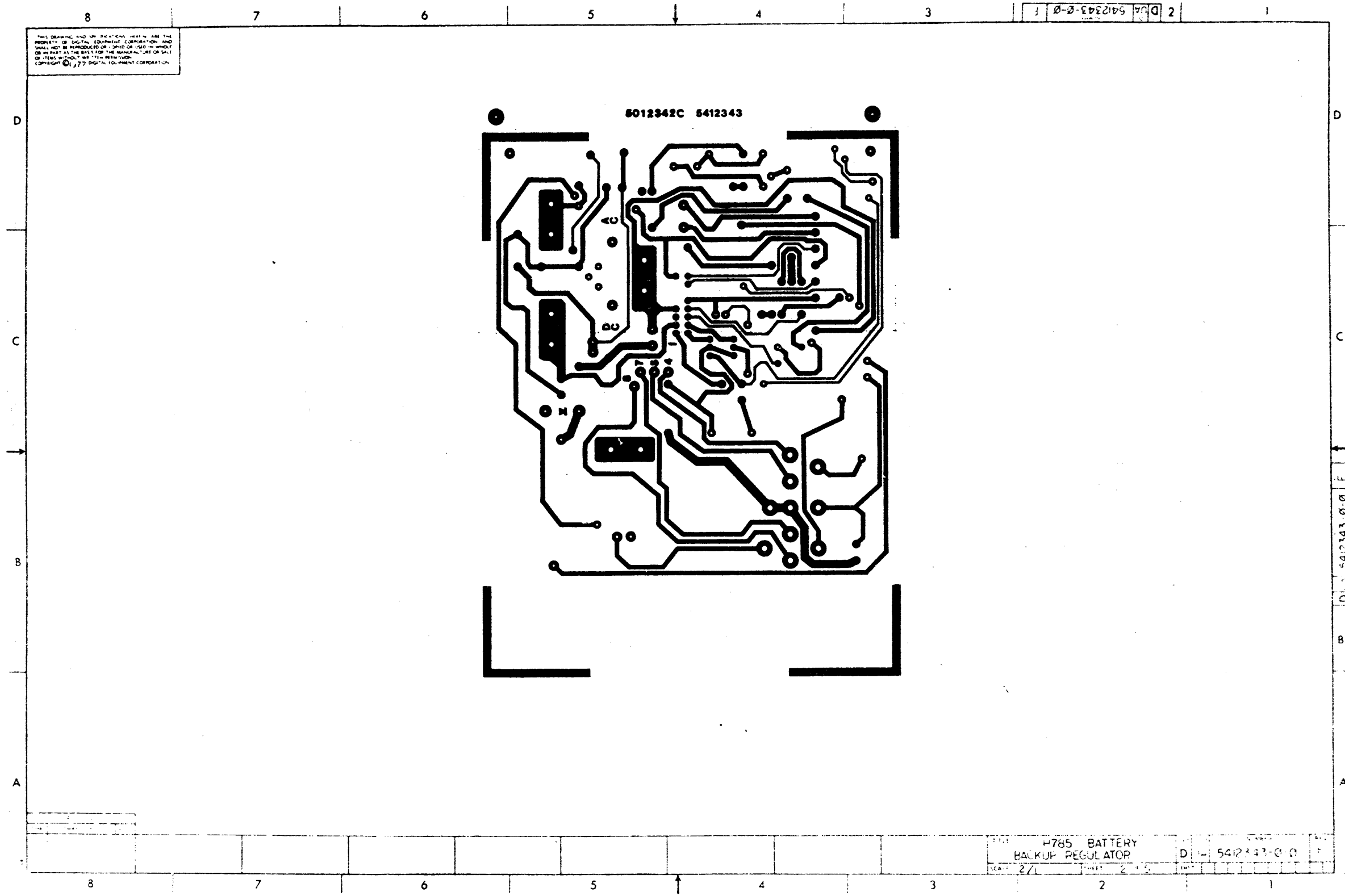
26. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

NOTES:
 1. SEE SHEET 4 OF 4 FOR DIODE WIRING.
 2. SOLID LINE INDICATES WIRE FROM THE TOP DIODE.
 3. DASHED LINE INDICATES WIRE FROM BOTTOM DIODE.
 4. TAPPED HOLE AT TOP OF HEATSINKS MUST FACE PROPER WAY TO ALLOW INSERTION OF CARD GUIDE.
 5. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.
 6. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.
 7. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.
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 23. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.
 24. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.
 25. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.
 26. BOARD REGULATION MUST BE WITHIN TOLERANCES SPECIFIED IN THE TEST PLAN.

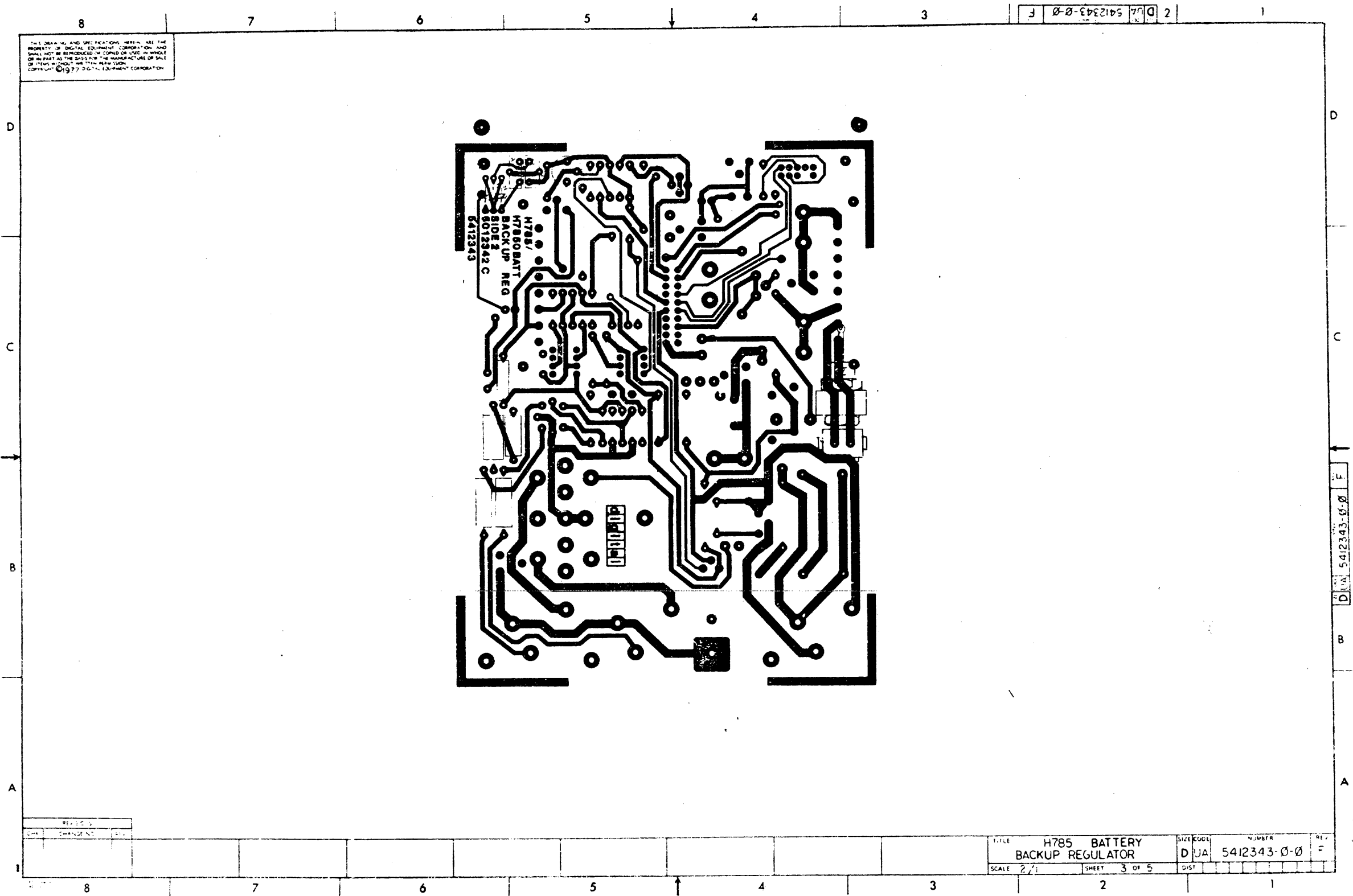
REV.	DATE	BY	CHKD.
1	1/1/77	J. MENON	
2	1/1/77	J. MENON	
3	1/1/77	J. MENON	
4	1/1/77	J. MENON	
5	1/1/77	J. MENON	
6	1/1/77	J. MENON	
7	1/1/77	J. MENON	
8	1/1/77	J. MENON	
9	1/1/77	J. MENON	
10	1/1/77	J. MENON	
11	1/1/77	J. MENON	
12	1/1/77	J. MENON	
13	1/1/77	J. MENON	
14	1/1/77	J. MENON	
15	1/1/77	J. MENON	
16	1/1/77	J. MENON	
17	1/1/77	J. MENON	
18	1/1/77	J. MENON	
19	1/1/77	J. MENON	
20	1/1/77	J. MENON	
21	1/1/77	J. MENON	
22	1/1/77	J. MENON	
23	1/1/77	J. MENON	
24	1/1/77	J. MENON	
25	1/1/77	J. MENON	
26	1/1/77	J. MENON	
27	1/1/77	J. MENON	
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30	1/1/77	J. MENON	

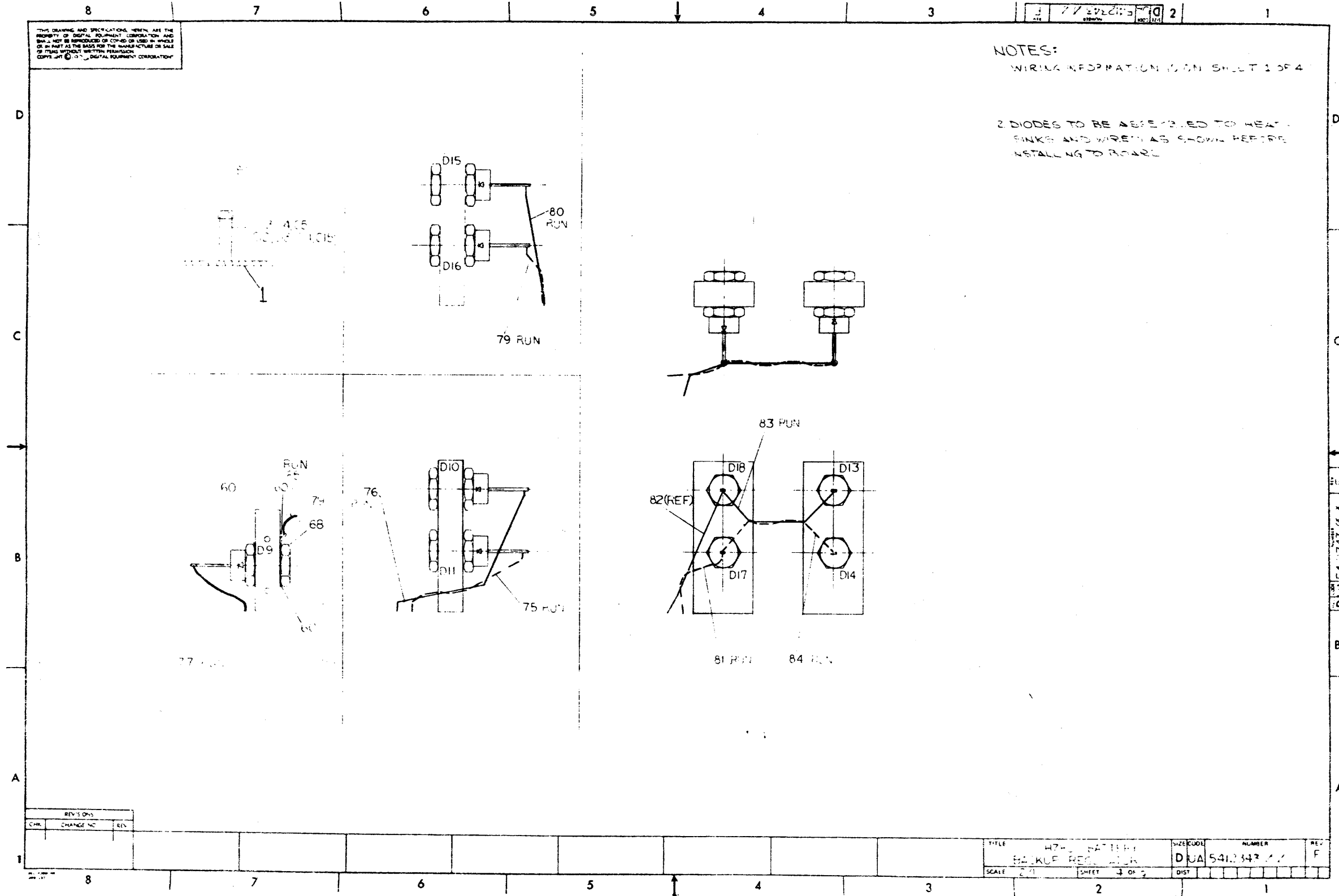
SIGNATURES	DATE	TITLE
DRN	1/1/77	digital
CHKD.	1/1/77	
ENG.	1/1/77	
PROJ. ENG.	1/1/77	
PROD. ENG.	1/1/77	
SCALE	1/1/77	
SHT. OF	1/1/77	
NEXT HIGHERassy.	1/1/77	

PROJECT NO.	4795 BATTERY
BACKUP REGULATOR	
SIZE CODE	0 UA 542343-2-2 F
NUMBER	
REV	
MS#	62909



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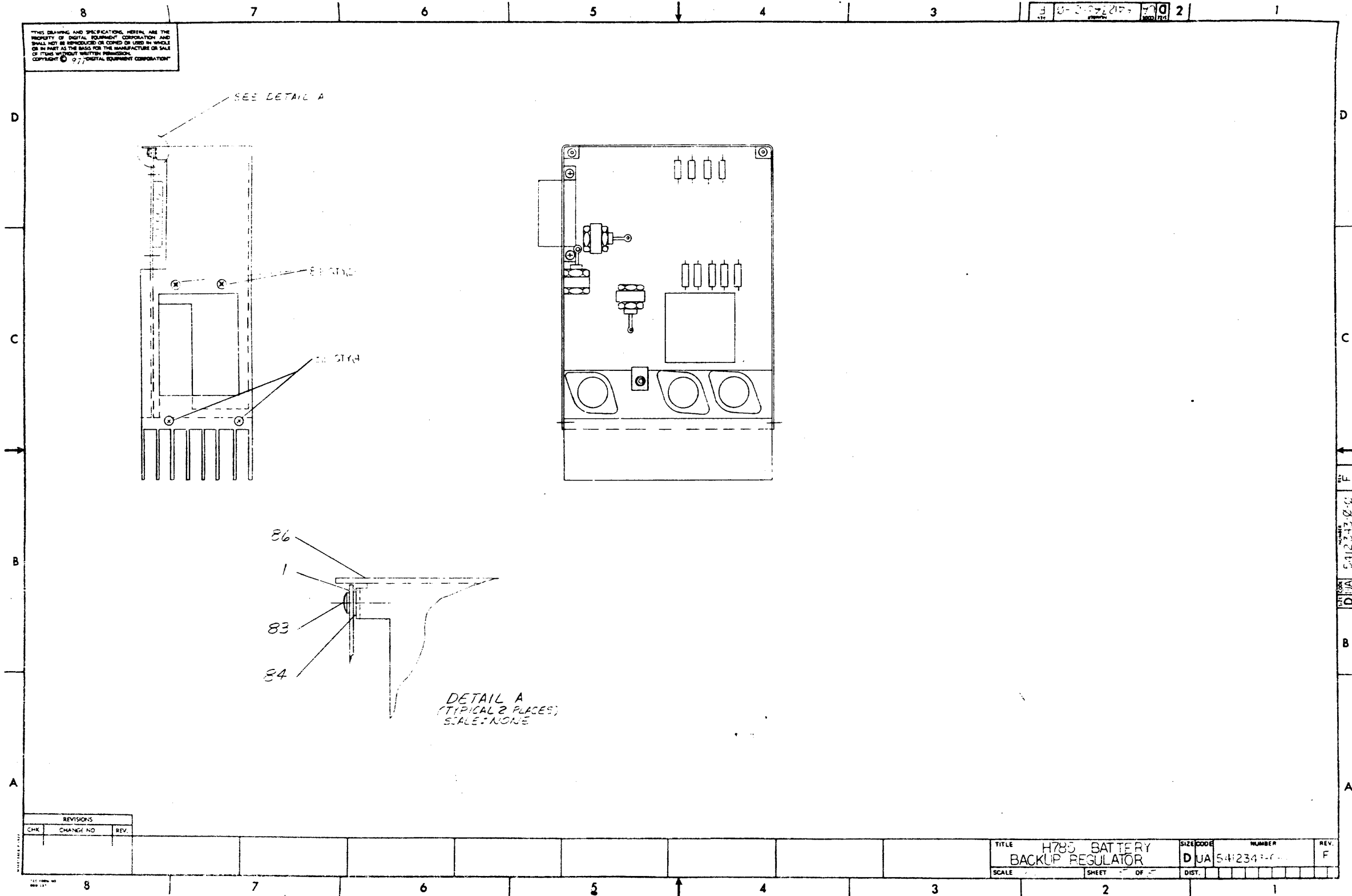


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NOTES:
 WIRING INFORMATION IS ON SHEET 1 OF 4
 2 DIODES TO BE ASSEMBLED TO HEAT SINKS AND WIRED AS SHOWN BEFORE INSTALLING TO BOARD.

REV'S ON		
CHG	CHANGE NO	REV

TITLE	H7-1 BATTERY	SIZE/COD	NUMBER	REV
	PACK REPAIR	DUA	541.343.1.1	F
SCALE	2:1	SHEET	3 OF 3	DIST



LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	0-00-5012342-0-0	5012342-00	ETCH BRD 54-12343	1	
2	2		1002431-00	2.2MFD 35V 10% 150S S.TA (10-00)	1	C10
3	3		1012607-02	180 MFD 50V H% 6720 AL EL	3	C3-C5
4	4		1000042-00	1000.0 MFD 100V 5%200PPM DM15S (10-00)	1	C7
5	5		1010646-00	.015 MFD 50V 2% M.POLYCARB	1	C8
6	6		1000024-00	470.0 MFD 100V 5%200PPM DM15S (10-00)	1	C9
7	7		1001776-00	1 MFD 35V 10% 150D S.TA (10-00)	2	C6,C11
8	8		1012607-00	560 MFD 20V H% 6720 AL EL	3	C12-C14
9	9		1012607-01	1200 MFD 6.3V H% 6720 AL EL	1	C15
10	10		1010621-00	.1 MFD 50V 20% Z5U DISC	2	C16,C19
11	11		1004813-00	10 MFD 20V 10% 150D S.TA (10-00)	2	C1,C17
12	12		1000030-00	.1 MFD 100V 20% Z5U DISC	1	C18
13	13	BLANK				
14	14		1100125-00	1N 758A VZ= 10.0 5% .40W PPER S.A.V.R.C	2	D2,D3
15	15		1105275-00	D 672 TR= 15NS PIV= 50V SF	7	D1,D4-D8,D12
16	16		1109440-00	1N 3880 PIV=100 I= 6A D04 SM	6	D10,D11,D13-D16
17	17		1113366-00	1N 3880R PIV=100 I=6A S	4	D17,D18,D19,C12
18	18		1105648-00	1N 4744 VZ= 15.0 10% 1W Y	1	D19
19	19	BLANK				
20	20		1211004-02	SOCKET,100 20POS EDGE MOUNT	1	P4
21	21		1209340-00	MATE-N-LOK 8PIN,HOUSING,SKT	2	J1,J2
22	22		1209456-01	MATE-N-LOK SKT PCB TAB LOOSE	16	
23	23		1211342-02	MATE-N-LOK 2PIN PC TYPE	2	J5,J6
24	24		1209219-01	LAMP 6V0200MA,T1-3/4PINS#2319	1	L1
25	25	BLANK				
26	26		1300702-00	47 1/4W 5% CC (13-00)	1	R2
27	27		1309639-00	200 5W 5% WW (13-00)	1	R3
28	28		1312682-00	3 3W 5% (13-00)	1	R4
29	29		1307950-00	1.2 K 1W 10% CC (13-00)	1	R5
30	30		1300426-00	2.7 K 1/4W 5% CC (13-00)	2	R6,R7

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
CHK	PCU NO	REV			MADE BY:	DATE:	TITLE		
B.N	02004	F			D. FILODEAU	31-JUL-78	PARTS LIST		
					R. PUZZO	31-JUL-78	7285 BATTERY BACKUP REGULATOR		
					J. MERCURI	31-JUL-78			
					R. KING	31-JUL-78		SIZE: CODE: DOCUMENT NUMBER	REV
					J. MERCURI	31-JUL-78		K PL 5412343-0-GRP	F
					J. MERCURI	31-JUL-78		ASSY. C.: 0-00-5412343-0-0	EDIT#
									3

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ACTUATED BY PPIIST 2E(2)

PARTS LIST

SHEET 2 OF 3

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
31	31	1309680-00	2.7 M 1/4W 5% CC (13-00)	1	R8
32	32	1313712-00	.01 5W 3% WW (13-00)	1	R9
33	33	1300365-00	1 K 1/4W 5% CC (13-00)	2	R1, R11
34	34	1300229-00	100 1/4W 5% CC (13-00)	1	R12
35	35	1302466-00	100 K 1/4W 5% CC (13-00)	2	R13, R14
36	36	1312404-00	2.71 K 1/2W 1% PN60D-F 100PPM (13-00)	2	R15, R16
37	37	1313579-00	1.5 3W 5% WW (13-00)	2	R17, R18
38	38	1309855-00	30W 2W 5% CC (13-00)	2	R19, R20
39	39	1300479-00	10 K 1/4W 5% CC (13-00)	1	R21
40	40	1310852-00	200 20% POT S	1	R22
41	41	1300391-00	1.5 K 1/4W 5% CC (13-00)	1	R10
42	42	1300316-00	470 1/4W 5% CC (13-00)	1	R24
43	43	BLANK		0	
44	44	BLANK		0	
45	45	1510969-00	2N 5038 NPN 140WC SI 90 50 Y	3	Q1-Q3
46	46	1510708-00	D 45HP PNP 50WT SI 60 60 Y	2	Q4, Q8
47	47	1512790-00	D 44C11 NPN 30W SI 80 40	2	Q5, Q9
48	48	1511686-00	DEC5433 FET N 350MW 10 25 1A 20U	1	Q6
49	49	1510959-00	2N 3725 NPN 3.5WC SI 50 60 P	1	Q7
50	50	BLANK		0	
51	51	1612593-00	500 UH 6A S	1	L1
52	52	1613874-00	CHOKER, 15UH 4A	2	L2, L3
53	53	1613876-00	XFMR, POWER, RATIO 1:2 7PIN S	1	T1
54	54	1613875-00	XFMR, POWER, RATIO 1:2:3 100UH	1	T2
55	55	7013690-00	CABLE 2 PIN AC DC LOW	1	
56	56	1911944-00	555CN TIMER, FUNCT. BLOCK	1	E1
57	57	1910282-00	301AN OP AMP	1	E2
58	58	7013384-1D	10 CONDUCTOR EXTENDER CABLE	1	
59	59	1213071-06	INSULATOR, RUBBER SILICONE	1	
60	60	1213071-05	INSULATOR, RUBBER THERMAL	3	
61	61	7417414-00	HEAT SINK (DUAL)	4	
62	62	7417413-00	HEAT SINK (SINGLE)	1	
63	63	9006655-00	WASHER, FLAT, .312 O.D. X .125 I.D. X .025 T	1	
64	64	9006656-00	WASHER, FLAT, .312 O.D. X .156 I.D. X .027	6	
65	65	9006706-00	WASHER, NYLON, FLAT #4 .375 OD X .031 THK	2	
66	66	9006745-00	EYELET, POLLED FLANGE, .120 OD X .260 LG	4	
67	67	1213071-02	INSULATOR, RUBBER SILICONE SM	3	
68	68	9006565-00	NUT, KEP, 10-32X 3/8 AF CS/	10	
69	69	1210737-04	HEAT SINK, REGULATOR	1	
70	70	9007793-00	SCREW, BIND, SLOT, 6-32X 9/16 SS/PAS	6	
71	71	9007649-00	***** THIS ITEM IS NOT USED *****	-	
72	72	9008185-00	NUT, KEP, 6-32X 1/4 AF CS/	6	
73	73	9008033-01	SCREW, PAN, PHIL., 4-40X 9/16 SS/PAS	1	
74	74	9006557-00	NUT, KEP, 4-40X 1/4 AF CS	1	
75	75	9006632-00	WASHER, LOCK, INT., .260 OD X .120 ID X .015 THK	8	
76	76	9006010-00	SCREW, BIND, SLOT, 4-40X 5/16 SS/PAS	8	
77	77	9107430-02	WIRE, STRND, 18AWG, IPVC (UL1429) (91-00 A/R		
78	78	9009185-00	JUMPER, WIRE, INSULATED, BLACK BAND	1	W1

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE PARTS LIST M785 BATTERY BACKUP REGULATOR	SIZE: CODE: K PL	DOCUMENT NUMBER 5412343-0-0BP	REV F
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AMOUNTED BY: PRLST 2F(2)

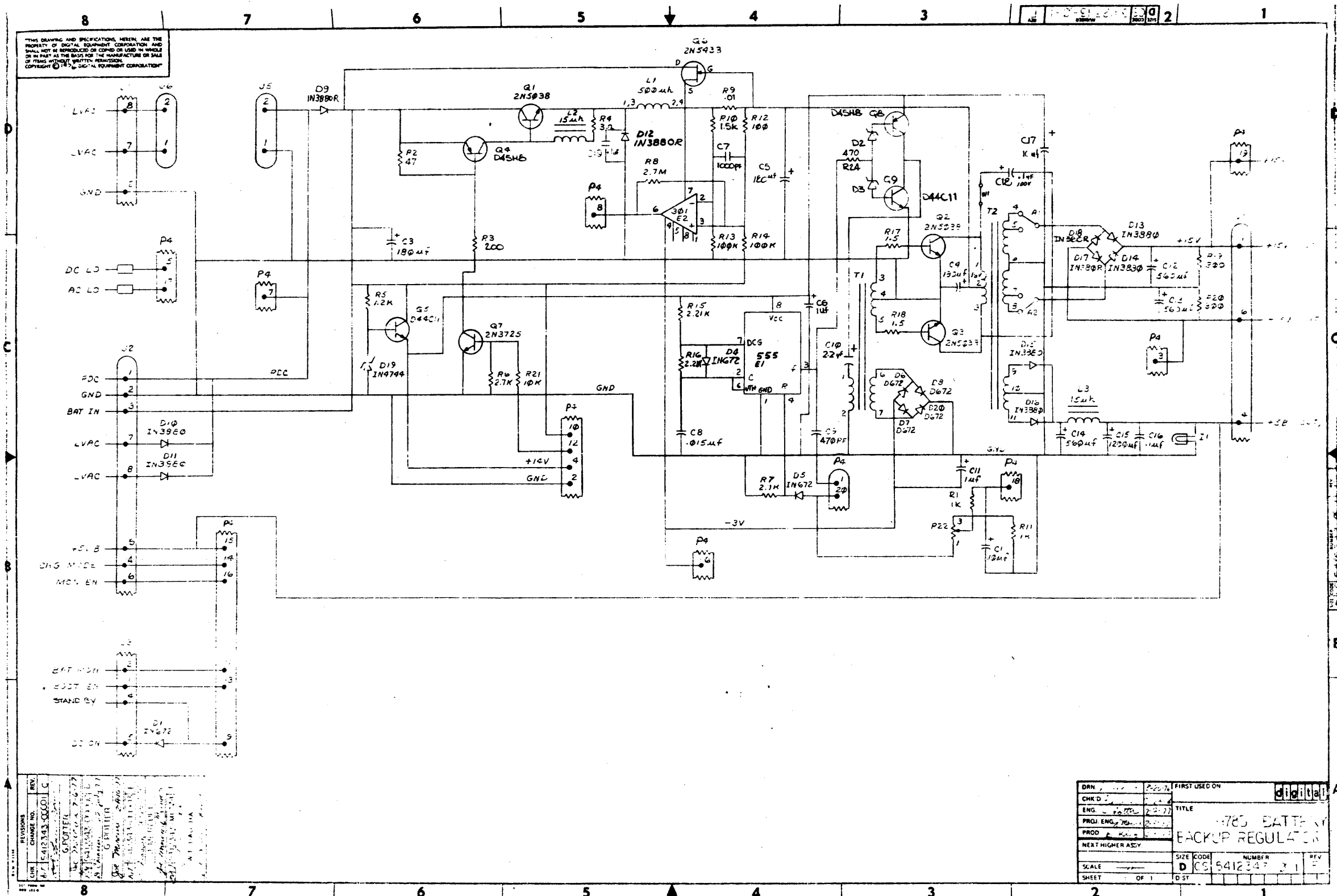
PARTS LIST

SHEET 3 OF 3

229

LINE ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
79	79	9008506-00	TERM LUG 1POS SOLDER,FLAT	2	
80	80	9009149-00	PIN, STAKING, P.C. BOARD, .025 X .025	9	J3
81	81	9008404-02	SCREW,FLAT,PHIL, 6-32X 5/16 SS/PAS 1000	2	
82	82	9009142-02	SCREW, PHILLIPS FLAT HEAD, SELF TAP, 4-40	4	
83	83	9026010-01	SCREW,PAN ,PHIL, 4-40X 5/16 SS/PAS	2	
84	84	9008079-00	WASHER, FLAT FIBER OD. 1/4	2	
85	85	9905212-00	CARTON, DIE CUT 2412 100	1	
86	86	7417410-00	REGULATOR BRACKET	1	
87	87	9009769-00	WASHER, RECTANGULAR .405X.225X.060	1	
88	88	9007201-00	TRANSIPADS #10253	1	
89	89	9009731-03	CAP,PLASTIC	7	

DIGITAL EQUIPMENT CORPORATION MAYLAND, MASSACHUSETTS	TITLE PARTS LIST M785 BATTERY BACKUP REGULATOR	DATE PL	DOCUMENT NUMBER 5412343-0-00P	REV F
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DRN	2-27-75	FIRST USED ON	Digital
CHK D	2-27-75	TITLE	785 BATTERY BACKUP REGULATOR
ENG	W. J. GIBLIN	PROD	
PROJ. ENG.	W. J. GIBLIN	NEXT HIGHER ASSY	
SCALE	D	SIZE CODE	NUMBER
SHEET	OF 1	D ST	REV

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REWORK INSTRUCTIONS

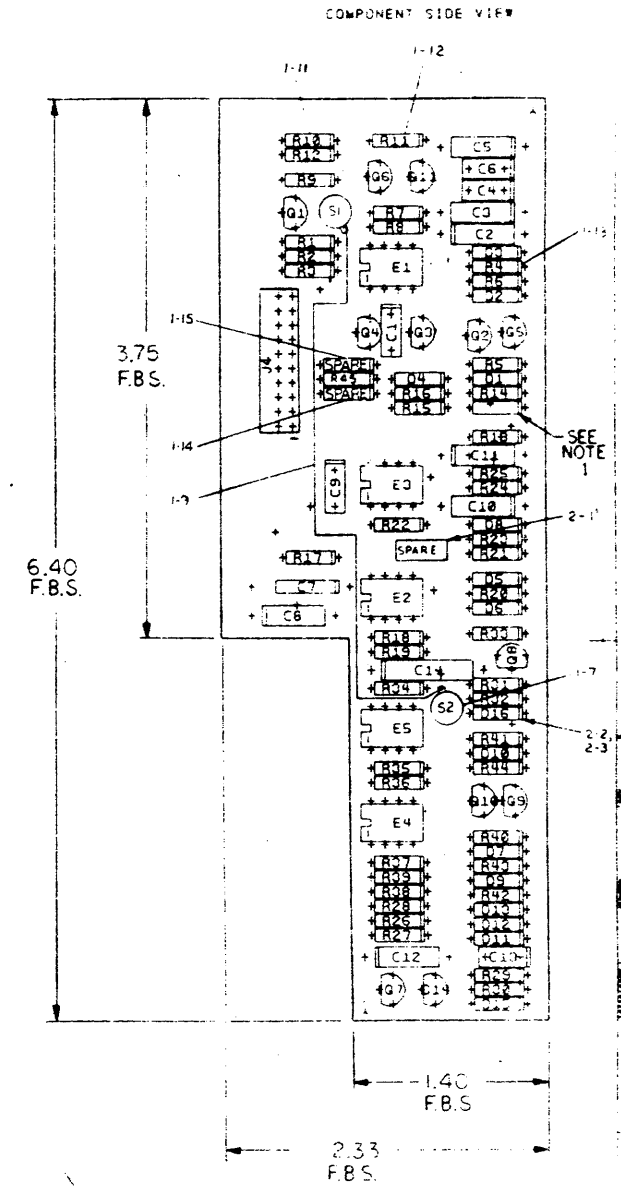
ECO #1

- 1 CUT ETCH BETWEEN R41 AND D16. THIS ETCH LINE RUNS OVER TO THE DRAIN OF Q12 INSIDE.
- 2 CUT ETCH ON RIGHT SIDE OF C14. ON THE ETCH LINE THAT HAS PREVIOUSLY BEEN CUT, SIDE 1.
- 3 INSERT ECO WIRE FROM THE DRAIN OF Q10 TO THE LEFT SIDE OF C14. TACK SOLDER TO ETCH LINE ON THE LEFT SIDE OF C14, SIDE 1. (THIS IS THE SAME ETCH LINE THAT WAS CUT ON THE RIGHT SIDE OF C14). ECO WIRE IS TO BE ROUTED TO THE TOP OF THE BOARD FROM THE DRAIN OF Q10 THEN RUN ALONG THE BOARD AND COME DOWN TO THE LAND OF ETCH THAT IT HAS TO BE SOLDERED TO THE LEFT SIDE OF C14.
- 4 DRILL A .0635 DIA. HOLE (DRILL #52) BENEATH R32 (SIDE 1) MAKING SURE THE ONLY ETCH DRILLED IS THE ONE WITH BOTH ITS ENDS CUT (SEE STEPS 1 AND 2 OF REWORK INSTRUCTIONS). THIS HOLE HAS TO HOLD DEC. 12-12416-02. BE SURE OF SPACING BEFORE DRILLING.
- 5 DRILL A .0635 DIA. HOLE (DRILL #52) ABOVE Q1 TO THE LEFT SIDE OF R1, SIDE 1. BE SURE OF SPACING. THIS HOLE MUST HOLD DEC. 12-12416-02. DO NOT PIERCE ETCH ON SIDE 2.
- 6 ON SIDE 2, CUT ETCH LEADING AWAY FROM PIN 9 OF J4.
- 7 INSERT DEC. 12-12416-02 IN BOTH HOLES PREVIOUSLY DRILLED. DO NOT INSERT FULLY. INSERT SO THAT ENOUGH OF THE LEAD IS THROUGH THE BOARD THAT WILL PERMIT A COUPLE WRAPS OF AN ECO WIRE. THEN GLUE IN PLACE WITH DEC. 90-09157. MAKE SURE THAT TABS ON DEC. 12-12416-02 ARE FACING EACH OTHER ON SIDE 1. (S1 AND S2)
- 8 ON DEC. PART 12-12416-02 THE ONE THAT IS LOCATED CLOSEST TO J4 ON SIDE 1, CONNECT THE LEAD THAT GOES THROUGH THE BOARD, TO PIN J4-9 ON SIDE 2. THIS IS DONE WITH AN ECO WIRE INSTALLED ON SIDE 2.
- 9 WITH AN ECO WIRE, CONNECT BOTH CASE TABS OF DEC. 12-12416-02 ON SIDE 1 TOGETHER.
- 10 DEC. PART 12-12416-02 THAT WAS BEEN INSTALLED BENEATH R32 ON SIDE 1. CONNECT AN ECO WIRE FROM THIS PART'S PIN ON SIDE 1 WITH THE OTHER END OF THE ECO WIRE GOING TO THE ETCH

- BETWEEN R41 AND D16. (THIS P.T.H. HAS AN ETCH RUN CONNECTING THE ANODE OF D16 TO IT ON SIDE 2.)
- 1-11 CHANGE R10 FROM 13-13151 3.6K OHM TO 13-00391 1.5K OHM
- 1-2 CHANGE R11 FROM 13-00316 470 OHM TO 13-00439 3.3K OHM.
- 1-3 CHANGE R4 FROM 13-00309 390 OHM TO 13-01322 180 OHM.
- 1-4 REMOVE W2 INSULATED JUMPER 90-09185
- 1-5 REMOVE D17, IN 758A 11-00125
- 1-6 GLUE ALL ECO WIRES DOWN WITH DEC. 90-09157.

ECO #2

- COMPONENT DELETES SIDE 1:
- 2-1. C15 (P/N 1000021)
- 2-2. D16 (P/N 1110068)
- COMPONENT ADDS SIDE 1:
- 2-3. D16 (ZENER BI-DIRECTIONAL P/N 114913-00)



NOTES

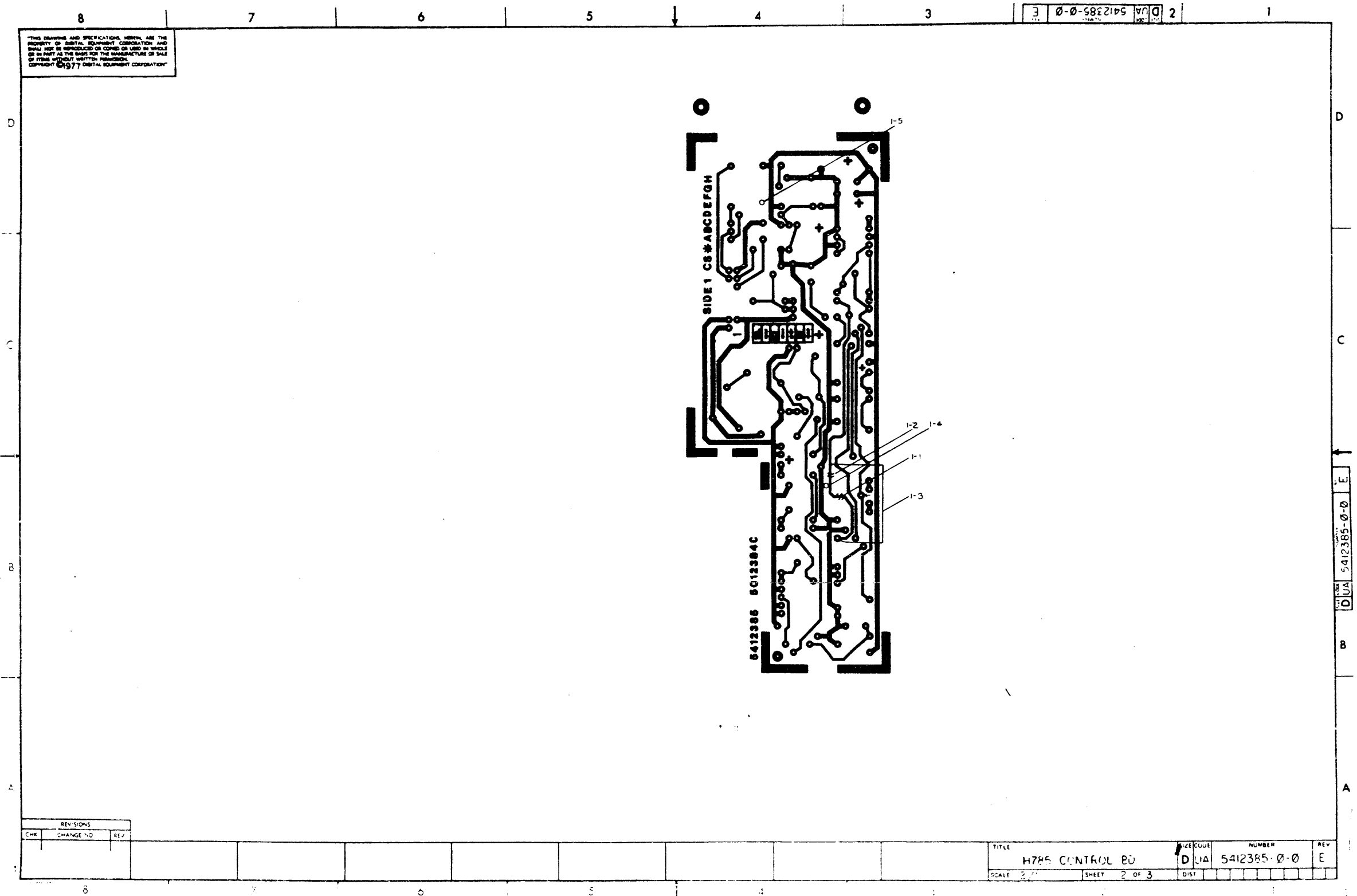
DATE	BY	DESCRIPTION
12-12-68	F. CAESALO	ECO #1
12-12-68	F. SEIDMAN	ECO #2

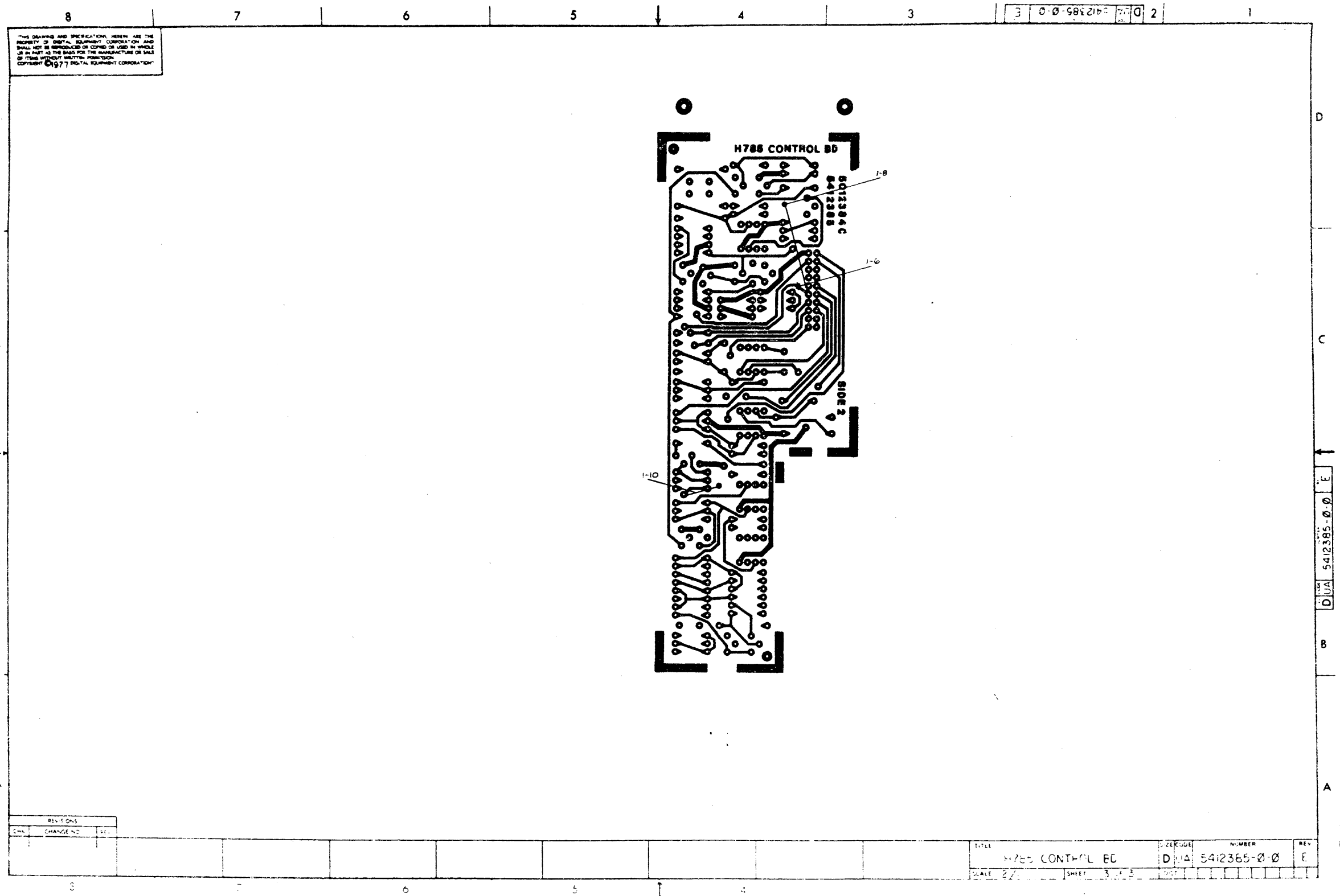
CHG	NO	REV	DATE	BY	DESCRIPTION
1	1	1	12-12-68	F. CAESALO	ECO #1
2	1	1	12-12-68	F. SEIDMAN	ECO #2

ETCH REV. C	P.C. DESIGN DATA BASE REV. C
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SIGNATURES	DATE
DRN. F. CAESALO	12-12-68
CHK. D. F. SEIDMAN	12-12-68
ENG. J. J. J. J.	
PROJ. ENG. R. J. J.	
SCALE 2/1	SIZE 100E
SHT. 1 OF 3	NUMBER
NEXT HIGHER ASSY. B.C. 5412365-2	

H785 CONTROL BD





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REVISIONS		
CHG.	CHANGE NO.	REV.

TITLE	H785 CONTROL EC	ORDER CODE	DUA	NUMBER	5412365-0-0	REV	E
SCALE	2/1	SHEET	3/13				

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012384-0-0	5012384-00	5412385	1	
2	2		1001610-01	.01 MFD 100V OR 50V Z5U DISC/800PF MIN	4	C1,C4,C6,C13
3	3		1004813-00	10 MFD 20V 10% 150D S.TA (10-00	1	C2
4	4		1001776-00	1 MFD 35V 10% 150D S.TA (10-00	3	C3,C5,C11
5	5		1000061-00	8200.0 MMF 100V 10% 663UW MYLR (10-00	1	C7
6	6		1005965-00	.47 MFD 35V 10% 150D S.TA (10-00	2	C8,C12
7	7		1000009-00	33.0 MMF 100V 5%200PPM DM15S (10-00	1	C9
8	8		1005306-00	6.8MFD 35V 10% 150D S.TA (10-00	1	C14
9	9		1105275-00	D 672 TR= 15NS FIV= 60V SP	9	D1,D2,D3,D5,D6,D9,D10,D12,D13
10	10		1109988-00	1N 964B VZ= 13.0 5% .40W Y	1	D4
11	11		1102808-00	1N 752A VZ= 5.6 5% .40W P	2	D11,D15
12	12		1110968-00	2N 5062 SCR@100V I=.8A T092	1	D14
13	13		1110713-00	SZ710910 VZ= 5.1 2% M	1	D7
14	14		1114913-00	VZ= 18.0 10% 1W	1	D16
15	15		1300398-00	1.8 K 1/4W 5% CC (13-00	2	R32,R38
16	16		1300479-00	10 K 1/4W 5% CC (13-00	11	R1,R13,R18,R19,R20,R21,R28, CONT R31,R42-R44
17	17		1300229-00	100 1/4W 5% CC (13-00	5	R3,R5,R25,R29,R45
18	18		1301322-00	180 1/4W 5% CC (13-00	1	R4
19	19		1302177-00	47 K 1/4W 5% CC (13-00	1	R6
20	20		1302394-00	30 K 1/4W 5% CC (13-00	1	R7
21	21		1302091-00	330 K 1/4W 5% CC (13-00	1	R8
22	22		1300365-00	1 K 1/4W 5% CC (13-00	6	R2,R9,R12,R14,R37,R40
23	23		1300426-00	2.7 K 1/4W 5% CC (13-00	1	R16
24	24		1302092-00	220 K 1/4W 5% CC (13-00	1	R15
25	25		1301423-00	6.8 K 1/4W 5% CC (13-00	1	R17
26	26		1302871-00	1.21 K 1/4W 1% RN55D-F 100PPM (13-00	1	R35
27	27		1302955-00	750 1/4W 1% RN55D-F 100PPM (13-00	1	R34
28	28		1303312-00	10.0 K 1/4W 1% RN55D-F 100PPM (13-00	1	R36
29	29		1302466-00	100 K 1/4W 5% CC (13-00	3	R22,R39,R41

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		
CHK	ECD NO	REV	FIRST USED ON:		
W.H	00003	E	MADE BY: F.MALANSON DATE: 21-FEB-78		
			CHECKED: F.SEIDMAN DATE: 21-FEB-78		
			DSN.ENG.: J.MERCURI DATE: 21-FEB-78		
			PROD.: R.B.KING DATE: 21-FEB-78		
			RESP.ENG.: J.MERCURI DATE: 21-FEB-78		
			SIZE	CODE	DOCUMENT NUMBER
			K	FL	5412385-0-0
			ASSY.NO.: D-U4-5412385-0-0		
					REV
					E
					EDIT#
					4

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744

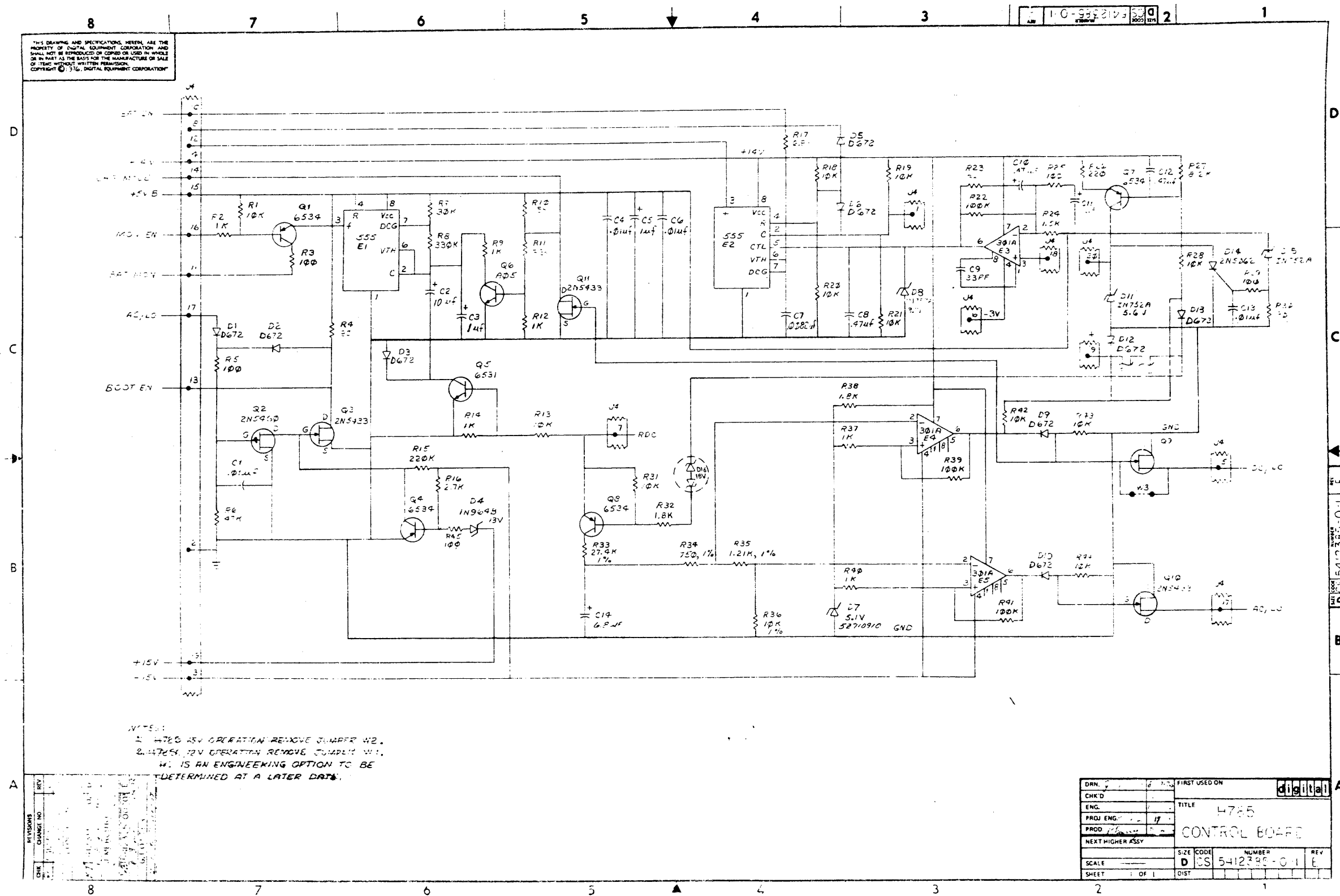
AUTOMATED BY PRTLST 1D/10)

PARTS LIST

SHEET 2 OF 2

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
30	30		1300271-00	220 1/4W 5% CC (13-00	1	R26
31	31		1303179-00	8.2 K 1/4W 5% CC (13-00	1	R27
32	32		1302751-00	30 1/4W 5% CC (13-00	1	R30
33	33		1309417-00	27.4 K 1/4W 1% RN55D-F 100PPM (13-00	1	R33
34	34		1503409-00	DEC6534D PNP 310MW SI 40 90 P	4	Q1,Q4,Q7,Q8
35	35		1510233-00	2N 5460 FET 310MW SIP CHNML	1	Q2
36	36		1511686-00	DEC5433 FET N 350MW 10 25 1A 20U	4	Q3,Q9,Q10,Q11
37	37		1509338-00	DEC6531B NPN 310MW SI 40 90 P	1	Q5
38	38		1510705-00	XA 05 NPN 500MW SI 60 50 P	1	Q6
39	39		1911944-00	555CN TIMER,FUNCT.BLOCK	2	E1,E2
40	40		1910282-00	301AN OP AMP	3	E3,E4,E5
41	41		1300391-00	1.5 K 1/4W 5% CC (13-00	2	R10,R24
42	42		1213335-00	HEADER 20POS RT ANGLE FJR 12-13334	1	J4
43	43		1300439-00	3.3 K 1/4W 5% CC (13-00	1	R11
44	44		1212416-02	THERMOSTAT,00160,N/C,SPST,AUTO RESET	2	S1,S2
45	45		1300432-00	3 K 1/4W 5% CC (13-00	1	R23
46	46		1109990-00	1N 757A VZ= 9.1 5% .40W P	1	D8
47	47		1005965-00	.47 MFD 35V 10% 150D S.TA (10-00	1	C10
48	48		9009157-00	ADHESIVE, PERMABOND #101	A/R	
49	49		9105740-55	WIRE(WRAP)30AWG UL1423 (91-00	A/R	

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE PARTS LIST H785 CONTROL BOARD	SIZE (CODE) PL	DOCUMENT NUMBER 5412385-0-0	REV
---	---	-------------------	--------------------------------	-----

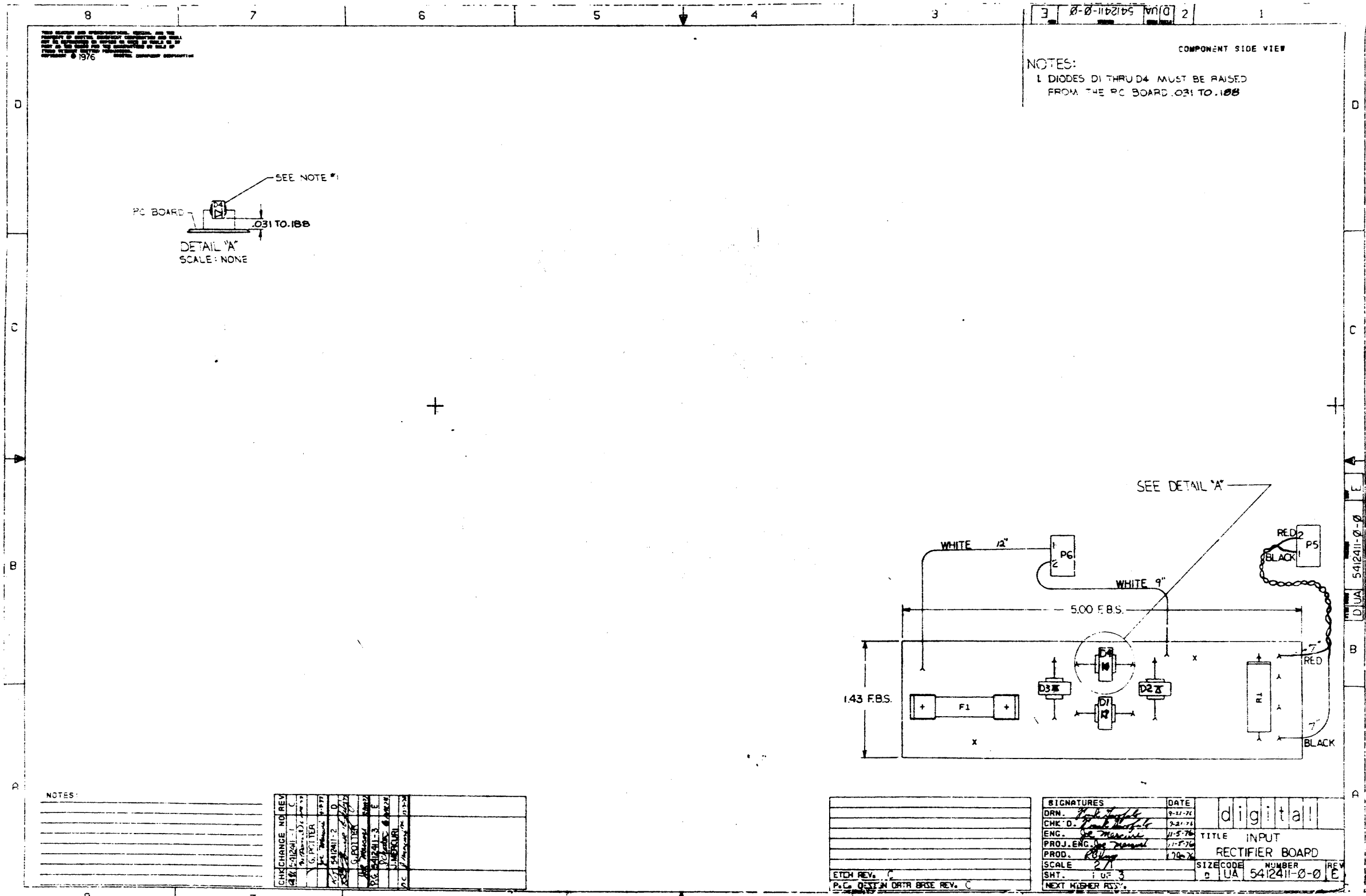


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NOTES:
 1. FOR 15V OPERATION REMOVE JUMPER W2.
 2. FOR 12V OPERATION REMOVE JUMPER W1.
 W1 IS AN ENGINEERING OPTION TO BE DETERMINED AT A LATER DATE.

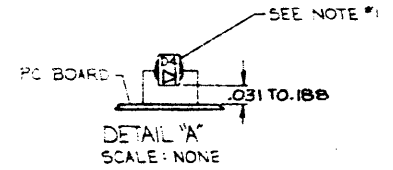
REV	DESCRIPTION	DATE
1	INITIAL DESIGN	11/10/76
2	REVISIONS	
3	CHANGE NO.	
4	DATE	
5	BY	
6	CHK'D	
7	ENG.	
8	PROJ. ENG.	
9	PROD.	
10	NEXT HIGHER ASSY.	

DRN.	17	FIRST USED ON	digital
CHK'D		TITLE	4785
ENG.			
PROJ. ENG.	17		
PROD.			
NEXT HIGHER ASSY.			
SCALE		SIZE CODE	NUMBER
SHEET	1 OF 1	D CS	5412385-0-1 E



COMPONENT SIDE VIEW

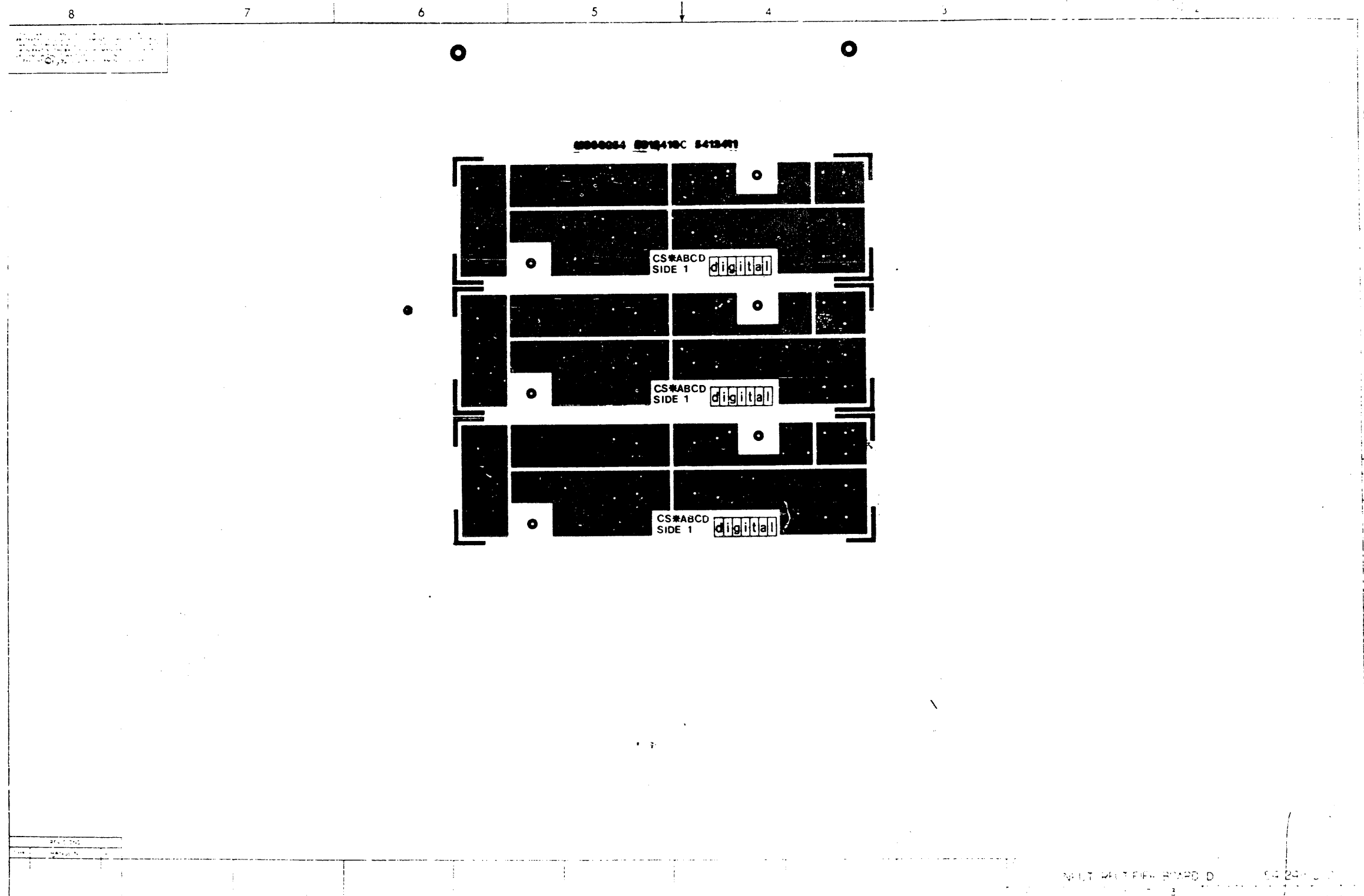
NOTES:
 1 DIODES D1 THRU D4 MUST BE RAISED FROM THE PC BOARD .031 TO .100



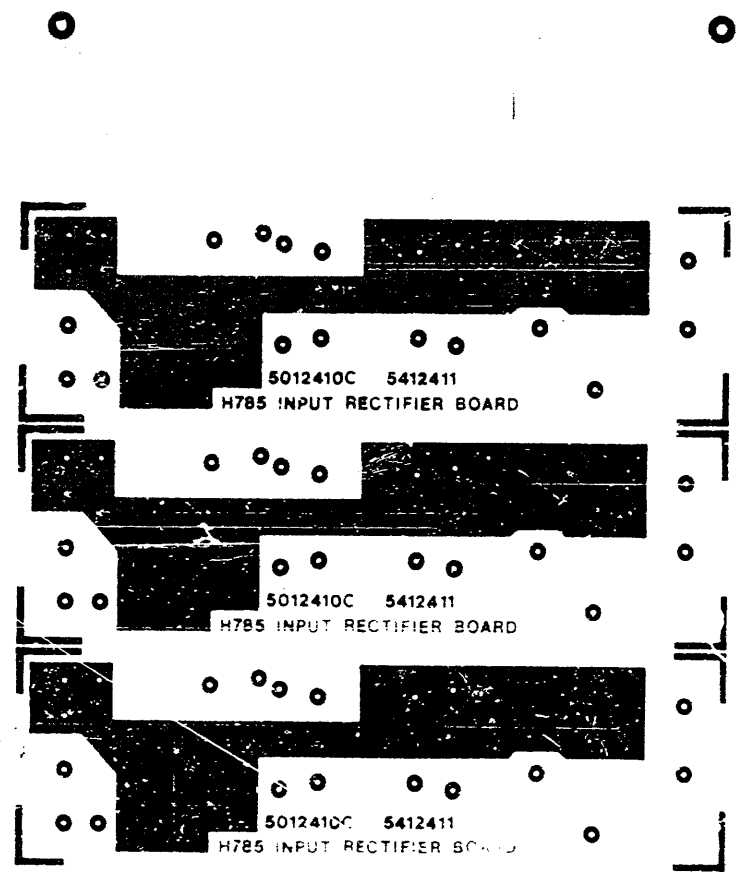
NOTES:

CHANGE NO	REV	DATE	BY	CHK'D
1	C			
2	D			
3	E			

SIGNATURES		DATE	digital	
DRN.	<i>[Signature]</i>	9-21-76		
CHK'D.	<i>[Signature]</i>	9-21-76		
ENG.	<i>[Signature]</i>	11-5-76	TITLE INPUT	
PROJ. ENG.	<i>[Signature]</i>	11-5-76	RECTIFIER BOARD	
PROD.	<i>[Signature]</i>	12-2-76		
SCALE	2:1		SIZE	CODE NUMBER
SHT.	1 OF 3		D	UA 5412411-0-0
ETCH REV. C				REV E
P.C. DESIGN DATA BASE REV. C				
NEXT NUMBER REV.				



3 7 6 5 4



AUTOMATED BY PRTLST 1D(11)

PARTS LIST

SHEET 1 OF 1

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012410-0-0	5012410-00	5412411	1	
2	2		1110615-00	MR 752 PIV=200 I=22A A264 SM	4	D1-D4
3	3		1210821-02	MATE-N-LOK 2PIN,HOUSING,SKT	2	P5,P6
4	4		1209379-01	MATE-N-LOK PIN 20-14AWG LOOSE	4	
5	5		1302609-00	4.7 K 2W 10% CC (13-00	1	R1
6	6		9009000-00	EYELET, ROLLED FLANGE, .121 OD X .156 LG	2	
7	7		9008390-00	FUSE, REG BLOW, 10.000A, 250V, CERAMIC	1	
8	8		9007203-00	CLIP, FUSE, WITH STOP, SCREW MOUNTED	2	
9	9		9107360-99	WIRE,STRND,18AWG,IPVC UL1429 (91-00 A/R		
10	10		9107430-02	WIRE,STRND,18AWG,IPVC (UL1429) (91-00 A/R		

11 NOTE: MS60954 ETCH REV C CS REV B

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK	ECO NO	REV			MADE BY:	DATE:	TITLE			
	00003	E	00		D.BILODEAU	08-MAR-78	PARTS LIST			
					F.GAROFALO	08-MAR-78	INPUT RECTIFIED BOARD			
					J.MERCURI	08-MAR-78	SIZE	CODE	DOCUMENT NUMBER	REV
					R.B.KING	08-MAR-78	K	PL	5412411-0-0	E
					J.MERCURI	08-MAR-78	ASSY.NO.: D-UA-5412411-0-0			EDIT#
										3

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8 7 6 5 4 3 2 1

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NOTES:
1. C1 WILL BE CONNECTED TO BOARD AT NEXT HIGHER ASSEMBLY.

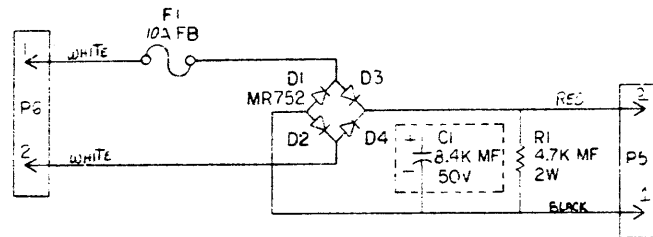


Table with 2 columns: IC TYPE, GND. Row 1: IC TYPE, GND - 5V. Text below: GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE. IC PIN LOCATIONS

DIGITAL EQUIPMENT CORPORATION
010 1194 010
010 1194 010

8

7

6

5

4

3

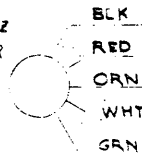
2

1

SEMICONDUCTOR CONVERSION CHART and PARTS LIST. Includes columns for QTY, REF. DESIGNATION, DESCRIPTION, PART NO, ITEM NO, and various revision/production dates.

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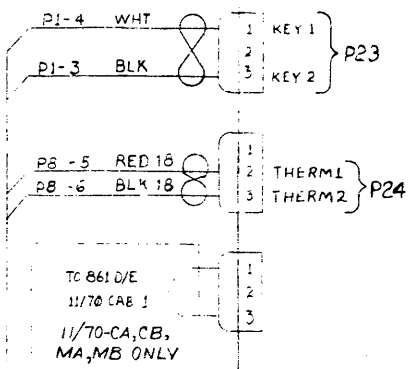
861 D — 126-230 V/47-63 HZ
(3 PHASE WYE) OR
861 E — 312 460 V/47-63 HZ
(3 PHASE WYE)



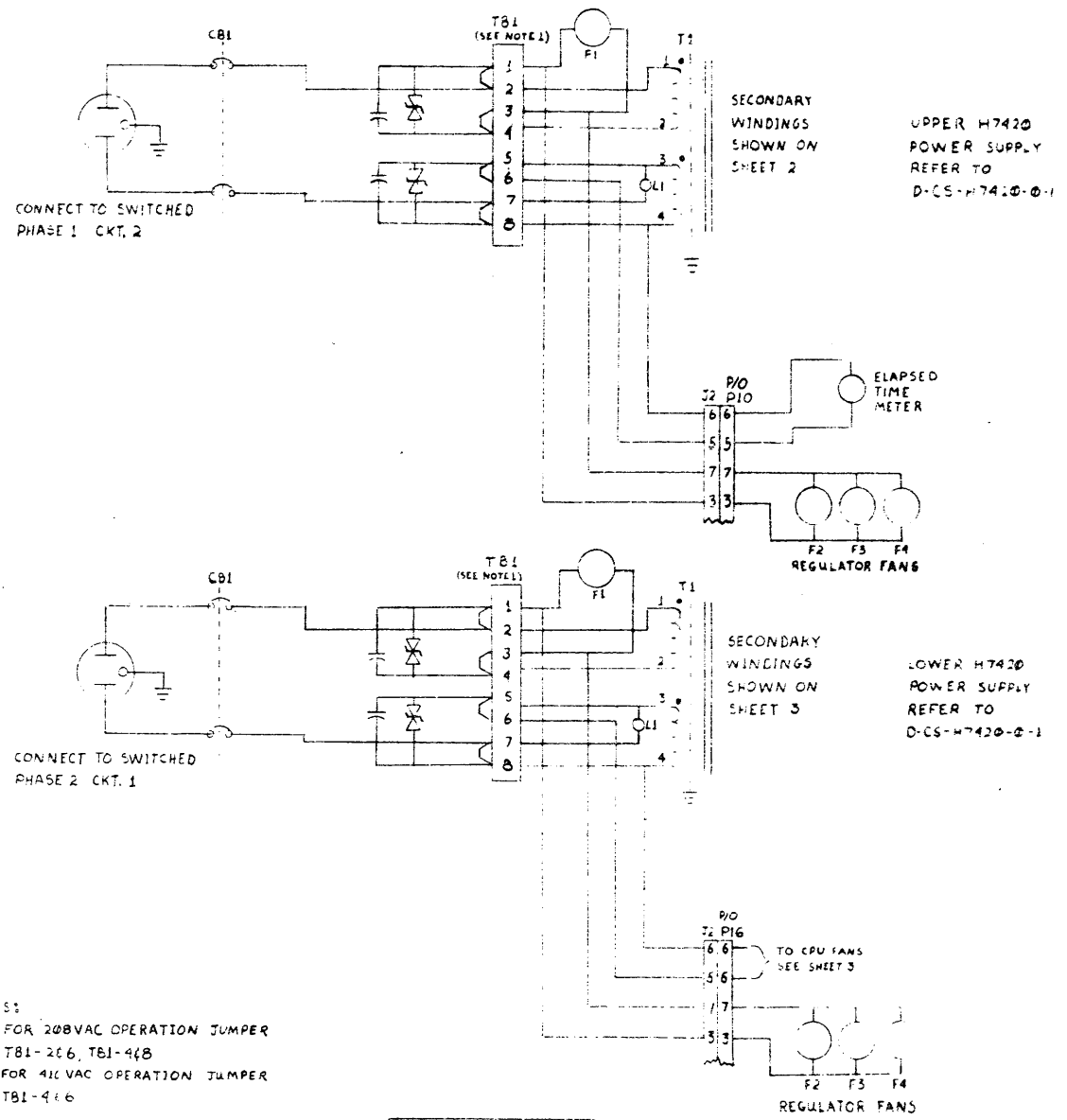
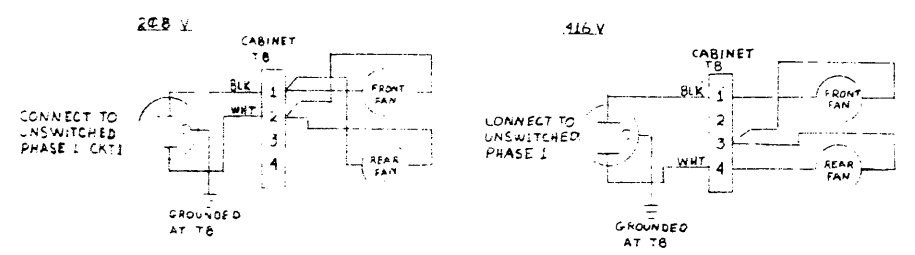
**861 D/E
POWER CONTROL**

REFER TO CIRCUIT SCHEMATIC

D-CC-861-D-1 OK
D-CC-861-E-1



CABINET FAN HOOK UP FOR:
11/70-CA, CB, MA, MB ONLY

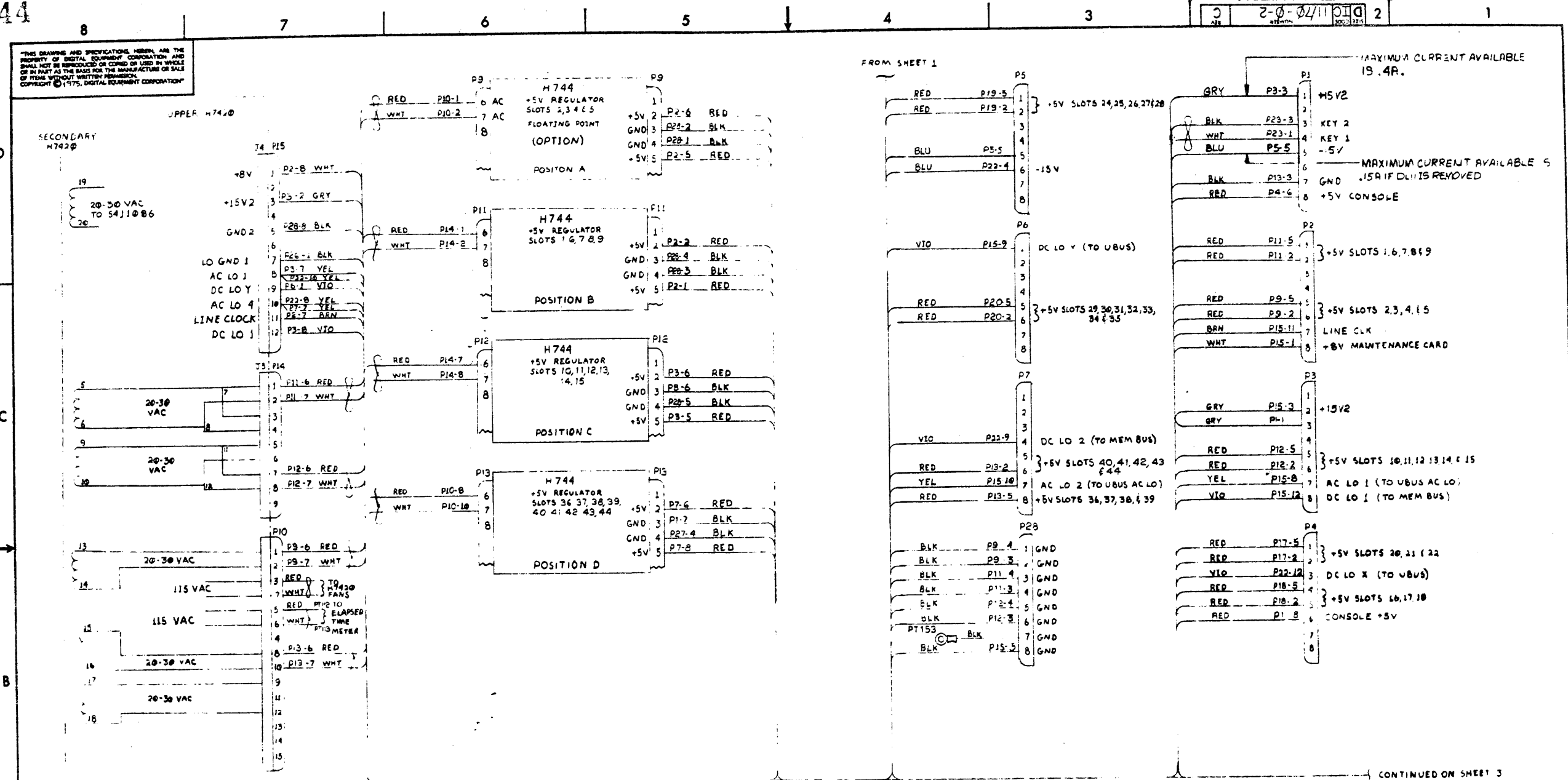


NOTES:
1. FOR 208VAC OPERATION JUMPER T81-206, T81-44B
FOR 416VAC OPERATION JUMPER T81-446

THIS SHEET IS FOR ALL 11/70 VARIATIONS

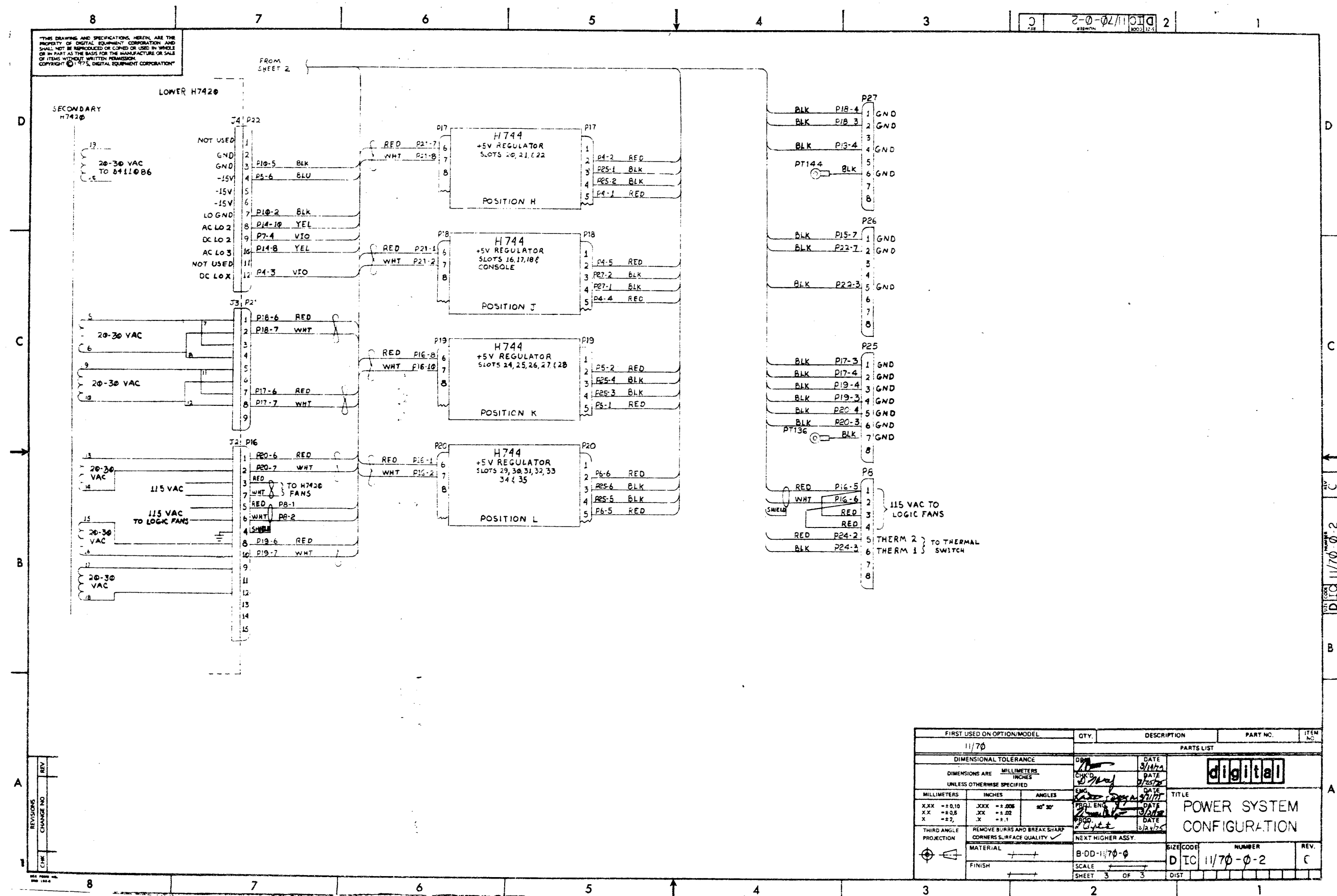
REV	CHANGE NO	DATE	BY
A	1	11/70	...
B	2	11/70	...
C	3	11/70	...
D	4	11/70	...

FIRST USED ON OPTION/MODEL 11/70	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
DIMENSIONAL TOLERANCE		DATE	digital	
DIMENSIONS ARE MILLIMETERS		DATE	POWER SYSTEM CONFIGURATION	
UNLESS OTHERWISE SPECIFIED		DATE	C	
MILLIMETERS	INCHES	ANGLES	TITLE	
XXX ±0.10	XXX ±.008	30° 30'	B-DD-11/70-0	
XX ±0.5	.XX ±.02		SCALE	
X ±2	.X ±.1		SHEET 1 OF 3	
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	NEXT HIGHER ASSY.	D I C 11/70-0-2	
MATERIAL	F.N.S.H.		REV. C	

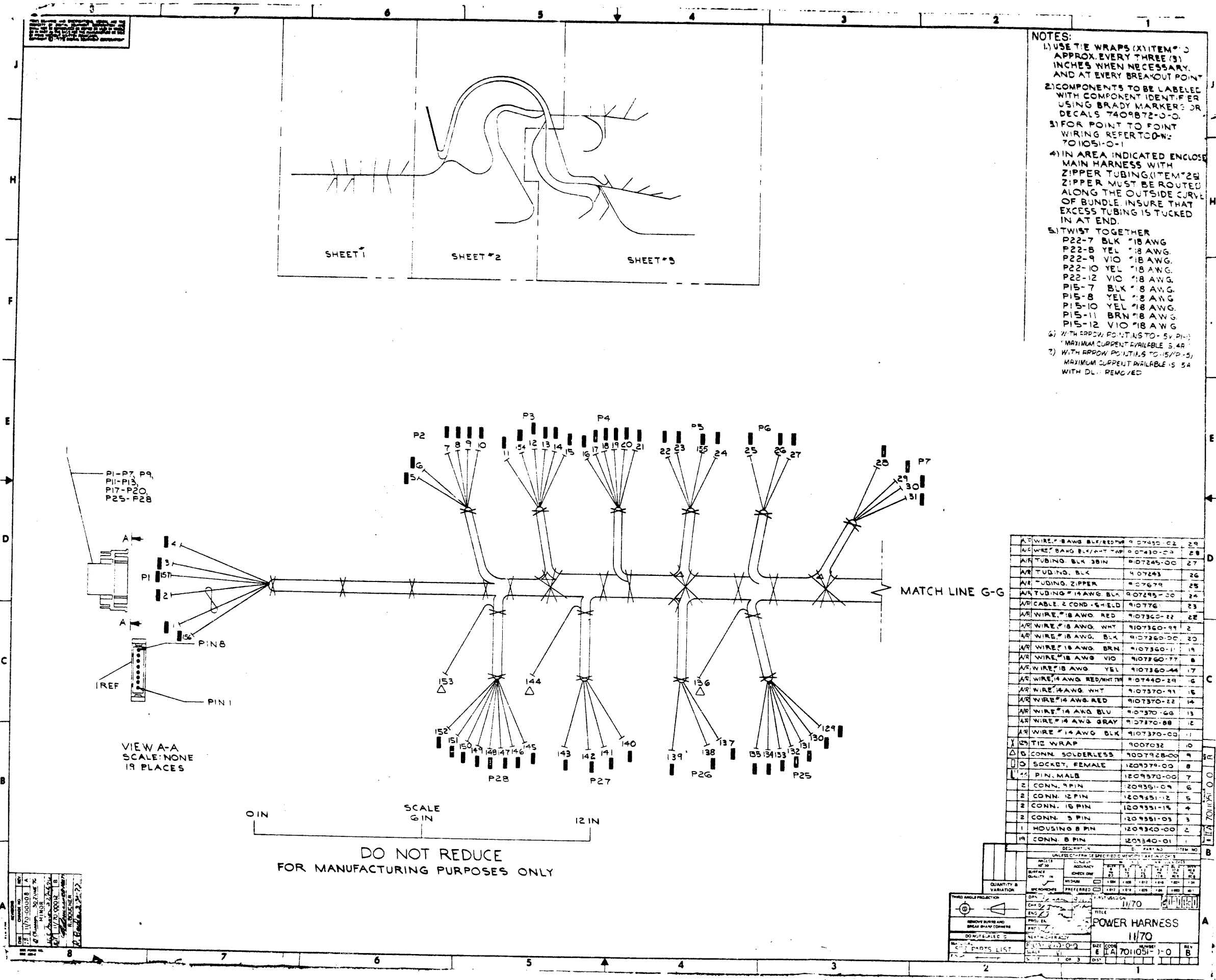


REV	DESCRIPTION
1	CRK
2	CHG
3	REV

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
1170		PARTS LIST		
DIMENSIONAL TOLERANCE		DATE	digital	
DIMENSIONS ARE MILLIMETERS UNLESS OTHERWISE SPECIFIED		DATE		
MILLIMETERS	INCHES	ANGLES	TITLE	
XXX ±0.10	XXX ±0.008	90° 30'	POWER SYSTEM CONFIGURATION	
XX ±0.08	XX ±0.02		SIZE CODE	
X ±0.2	X ±0.1		NUMBER	
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	NEXT HIGHER ASSY	DISC 1170-0-2	REV
	MATERIAL			
	SCALE			
	SHEET	2 OF 3		



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11/70				
PARTS LIST				
DIMENSIONAL TOLERANCE		DATE	digital	
DIMENSIONS ARE MILLIMETERS INCHES		DATE		
MILLIMETERS	INCHES	ANGLES	TITLE POWER SYSTEM CONFIGURATION	
XXX ±0.10	XXX ±.006	90° 30'		
XX ±0.5	XX ±.02			
X ±2	X ±.1			
THIRD ANGLE PROJECTION	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	NUMBER D I C 11/70-0-2	
	CORNERS SURFACE QUALITY	DATE		
MATERIAL	FINISH	SCALE	SIZE CODE	REV.
		SHEET 3 OF 3	B-DD-11/70-0	C



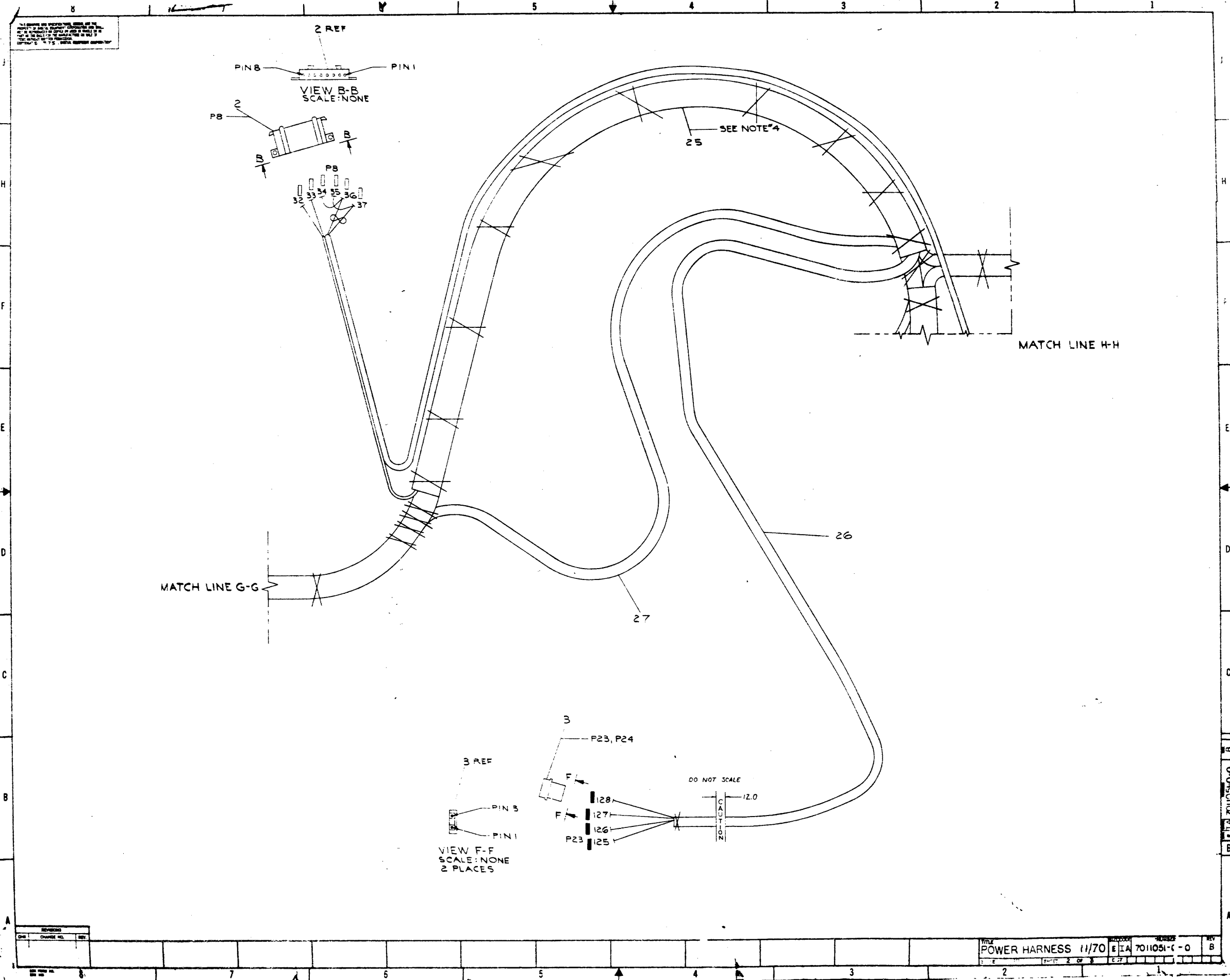
- NOTES:**
- 1) USE TIE WRAPS (X) ITEM # 3 APPROX. EVERY THREE (3) INCHES WHEN NECESSARY, AND AT EVERY BREAKOUT POINT
 - 2) COMPONENTS TO BE LABELED WITH COMPONENT IDENTIFIER USING BRADY MARKER OR DECALS 7409872-0-0.
 - 3) FOR POINT TO POINT WIRING REFERENCE: 701051-0-1
 - 4) IN AREA INDICATED ENCLOSE MAIN HARNESS WITH ZIPPER TUBING (ITEM # 25) ZIPPER MUST BE ROUTED ALONG THE OUTSIDE CURVE OF BUNDLE INSURE THAT EXCESS TUBING IS TUCKED IN AT END.
 - 5) TWIST TOGETHER
 P22-7 BLK #18 AWG
 P22-8 YEL #18 AWG
 P22-9 VIO #18 AWG
 P22-10 YEL #18 AWG
 P22-12 VIO #18 AWG
 P15-7 BLK #18 AWG
 P15-8 YEL #18 AWG
 P15-10 YEL #18 AWG
 P15-11 BRN #18 AWG
 P15-12 VIO #18 AWG
 - 6) WITH ARROW POINTING TO - 5V PIN
 * MAXIMUM CURRENT AVAILABLE IS 4A
 - 7) WITH ARROW POINTING TO - 5V/P-5
 * MAXIMUM CURRENT AVAILABLE IS 5A WITH D.L. REMOVED

AW WIRE #18 AWG BLK/RED/WH	907450-02	29
AW WIRE #18 AWG BLK/WH/WH	907430-03	28
AW TUBING, BLK 30IN	907245-00	27
AW TUBING, BLK	407243	26
AW TUBING, ZIPPER	907679	25
AW TUBING #18 AWG BLK	907295-00	24
AW CABLE 2 COND. 6-IELD	907776	23
AW WIRE #18 AWG RED	907360-22	22
AW WIRE #18 AWG WHT	907360-99	2
AW WIRE #18 AWG, BLK	907360-00	20
AW WIRE #18 AWG, BRN	907360-11	19
AW WIRE #18 AWG VIO	907360-77	8
AW WIRE #18 AWG YEL	907360-44	17
AW WIRE #14 AWG RED/WH/WH	907440-29	16
AW WIRE #14 AWG WHT	907370-91	15
AW WIRE #14 AWG RED	907370-22	14
AW WIRE #14 AWG BLU	907370-68	13
AW WIRE #14 AWG GRAY	907370-88	12
AW WIRE #14 AWG BLK	907370-00	11
X TIE WRAP	9007032	10
Δ CONN. SOLDERLESS	9007928-00	9
○ SOCKET, FEMALE	1209379-00	8
□ PIN, MALE	1209370-00	7
2 CONN. 3 PIN	209351-09	6
2 CONN. 12 PIN	1209351-12	5
2 CONN. 16 PIN	1209351-15	4
2 CONN. 3 PIN	1209351-03	3
1 HOUSING 8 PIN	1209340-00	2
19 CONN. 8 PIN	1209340-01	1

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES

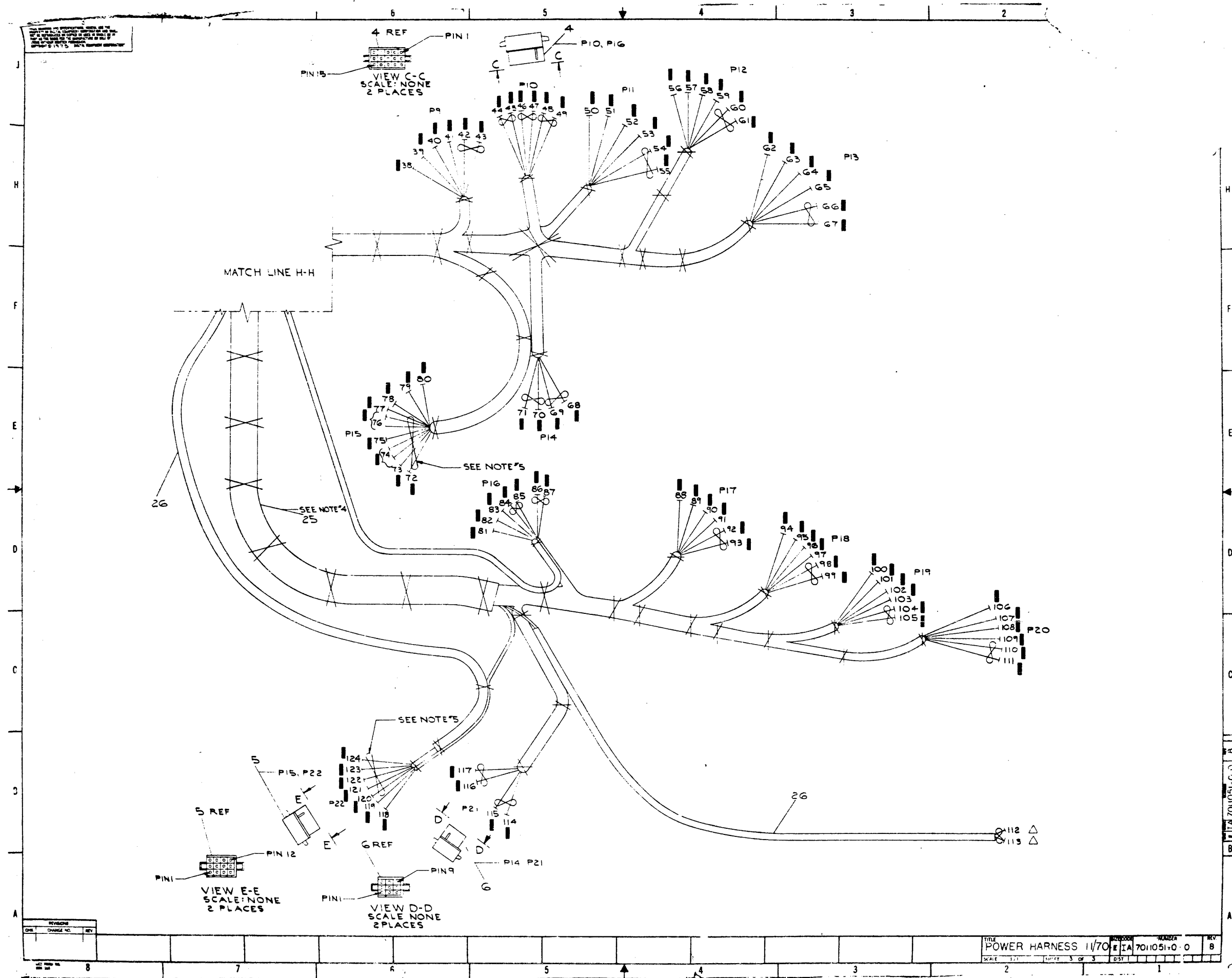
QUANTITY & VARIATION	DATE	11/70
THIRD ANGLE PROJECTION	REV	1
REMOVE BURRS AND BREAK SHARP CORNERS	PROJ. ENGR.	
DO NOT SCALE	DATE	11/70
SEE PARTS LIST	SIZE CODE	6 (A) 701051-0-0
	REV	B

POWER HARNESS
11/70



REV	DATE	BY	CHKD

POWER HARNESS 11/70	EIA 7011051-C-0	B
PAGE 2 OF 3		



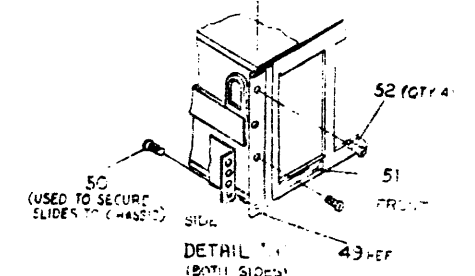
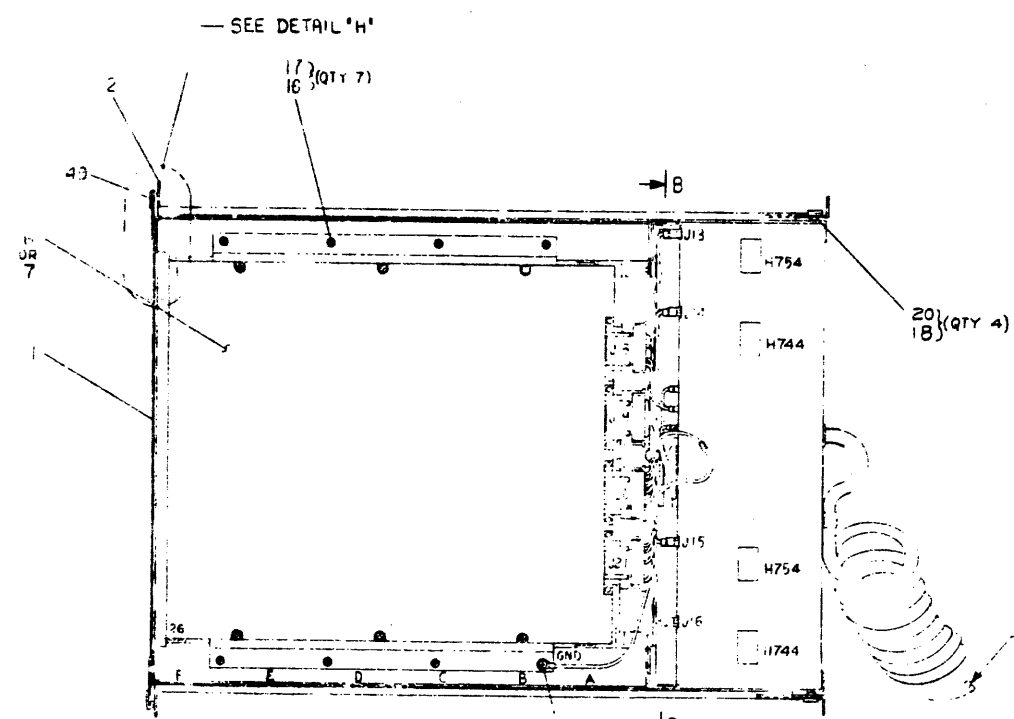
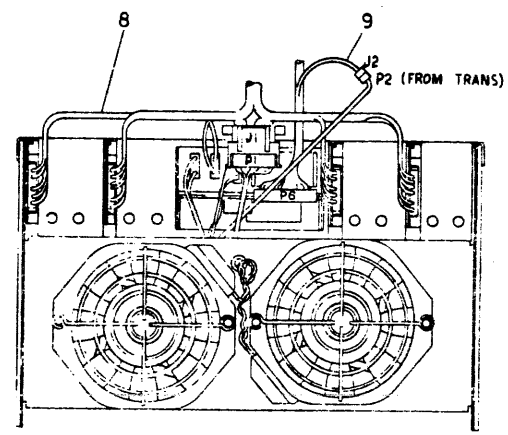
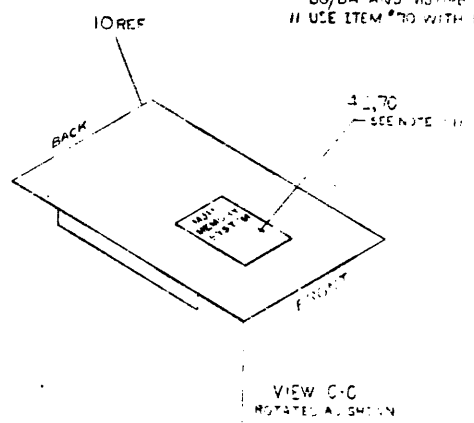
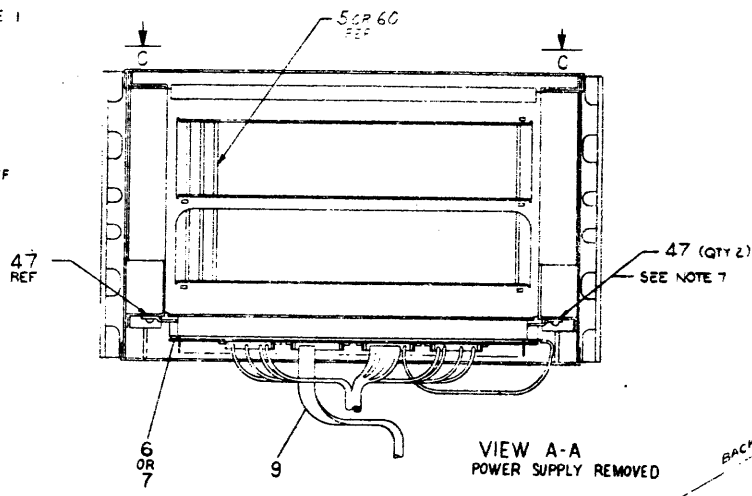
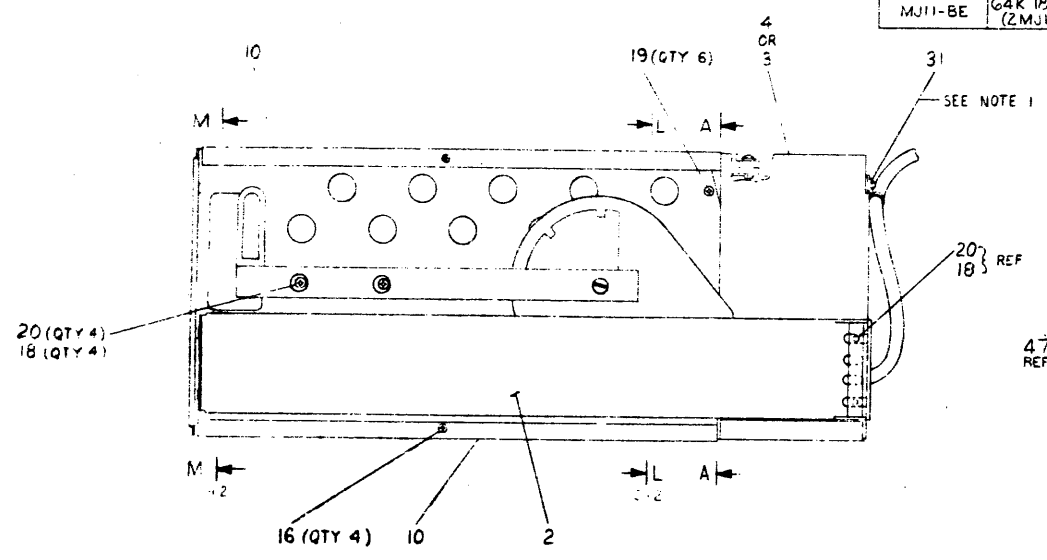
CUSTOMER PRINT SET		MECHANICAL					CUSTOMER PRINT SET						
MFG SET	FIND NO.	DRAWING NO.	REV	NO OF	DESCRIPTION	OPTION NO / FILE DATE	MFG SET	FIND NO.	DRAWING NO.	REV	NO OF	DESCRIPTION	OPTION NO / FILE DATE
	34	B-DD-H224-Ø	#	3	32 Kx18 BIT STACK (H224-C) 32 Kx19 BIT STACK (H224-E)								
	35	D-UA-H224-Ø-Ø E-IA-7012189-Ø-Ø	#	1 2	32 Kx18 BIT MEMORY STACK ASSY CORE PLANE WIRING ASSY								
	36	D-UA-G236-Ø-Ø D-CS-G236-Ø-1 K-CO-G236-Ø-4 D-AH-G236-Ø-5 B-MH-G236-Ø-6 A-PL-G236-Ø-Ø		1 4 - 4 1 5	UNIT ASSY G236 32K MEM DRIVE X-Y COORD HOLE LOCATION ASSY DRILL HOLE LAYOUT MODULE ECO HISTORY PARTS LIST								
	37	D-UA-G116-Ø-Ø A-PL-G116-Ø-Ø D-CS-G116-Ø-1 K-CO-G116-Ø-4 D-AH-G116-Ø-5 B-MH-G116-Ø-6		1 5 11 - 4 1	UNIT ASSY G116 PARTS LIST 32K SENSE INHIBIT X-Y COORD. HOLE LOCATION ASSY DRILL HOLE LAYOUT MODULE ECO HISTORY								

CUSTOMER PRINT SET CODES
 C = INCLUDED ALL PRINT MEDIA FOR ENCLAVE
 S = CONFIDENTIAL AUTHORIZED PERSONNEL ONLY

REV 10 10 8 10 MJ11-Ø
 REV K

LEGEND							
NUMBER	VARIATION	NUMBER	VARIATION	NUMBER	VARIATION	NUMBER	VARIATION
MJII-BA	64K 18 BIT MEM 115V	MJII-BG	MJII-BA(5)MJII-BE 115V	MJII-AA	32K 18 BIT MEM. 115V	MJII-AG	MJII-AA (3)MJII-AE 115V
MJII-BB	64K 18 BIT MEM 230V	MJII-BH	MJII-BB(5)MJII-BE 230V	MJII-AB	32K 18 BIT MEM. 230V	MJII-AH	MJII-AB (3)MJII-AE 230V
MJII-BC	MJII-BA WITH CAB 115V	MJII-BM	32K 18 BIT MEM. MODULE SET	MJII-AC	MJII-AA WITH CAB 115V	MJII-AM	16K 18 BIT MEMORY MODULE SET
MJII-BD	MJII-BB WITH CAB 230V	MJII-BY	MJII-BA-NO CABLES	MJII-AD	MJII-AB WITH CAB 230V	MJII-AY	MJII-AA-NO CABLES 115V
MJII-BE	64K 18 BIT EXPAN (2MJII-BM)	MJII-BZ	MJII-BB-NO CABLES 230V	MJII-AE	32K 18 BIT EXPANSION (2-MJII-AM)	MJII-AZ	MJII-AB-NO CABLES 230V

- NOTES:
1. USE EXISTING HARDWARE TO MOUNT ITEM # 31
 2. FOR MJII-AA/AB/AG/AH EXPANSION UNIT INSTALLATION WITHIN 11/70 CABINET 1. USE DATA EXPANSION CABLE ASSY (7010B24 01) AND ADDRESS EXPANSION CABLE ASSY (7010B24 01) AS RECEIVED. FOR EXPANSION UNIT INSTALLATION WITHIN MJII-AC/AD REFER TO 7010B24 01 FOR MODIFICATION TO BE MADE TO CABLES BEFORE INSTALLATION.
 3. PIN FOR DOOR MTG TO BE REMOVED REAR OF CAB (BOTTOM).
 4. FOR 11/70 SYSTEM EXPANSION SEE E-AR-11/70-0-1
 5. ADDITIONAL ITEM #40 WITH (4) 5 PIECES OF HARDWARE ITEM # 8 TO BE SUPPLIED WITH EACH MJII-AA/AB/AD. IT IS TO BE FITTED IN PLAST. BAG.
 6. ITEM #44 (861-D TO 861-D W/ARN) TO BE SUPPLIED WITH EACH MJII-AC/AM IN PLASTIC BAG
 7. INSTALL ITEM #47 BETWEEN ITEM #1 AND ITEM #2. DO NOT USE ITEM #47 (EL-FAB3) BACKPLATE S USED
 8. INSTALL ITEM #47 WITH ITEM #47 USING TOOL NO 2412 0122
 9. LOCATE ITEM #47 TO BE INSTALLED AS SHOWN
 10. NOTE #2 ALSO APPLYS TO VARIATIONS BG/BH AND AD/AY/BAZ/BZ
 11. USE ITEM #70 WITH MJII-B



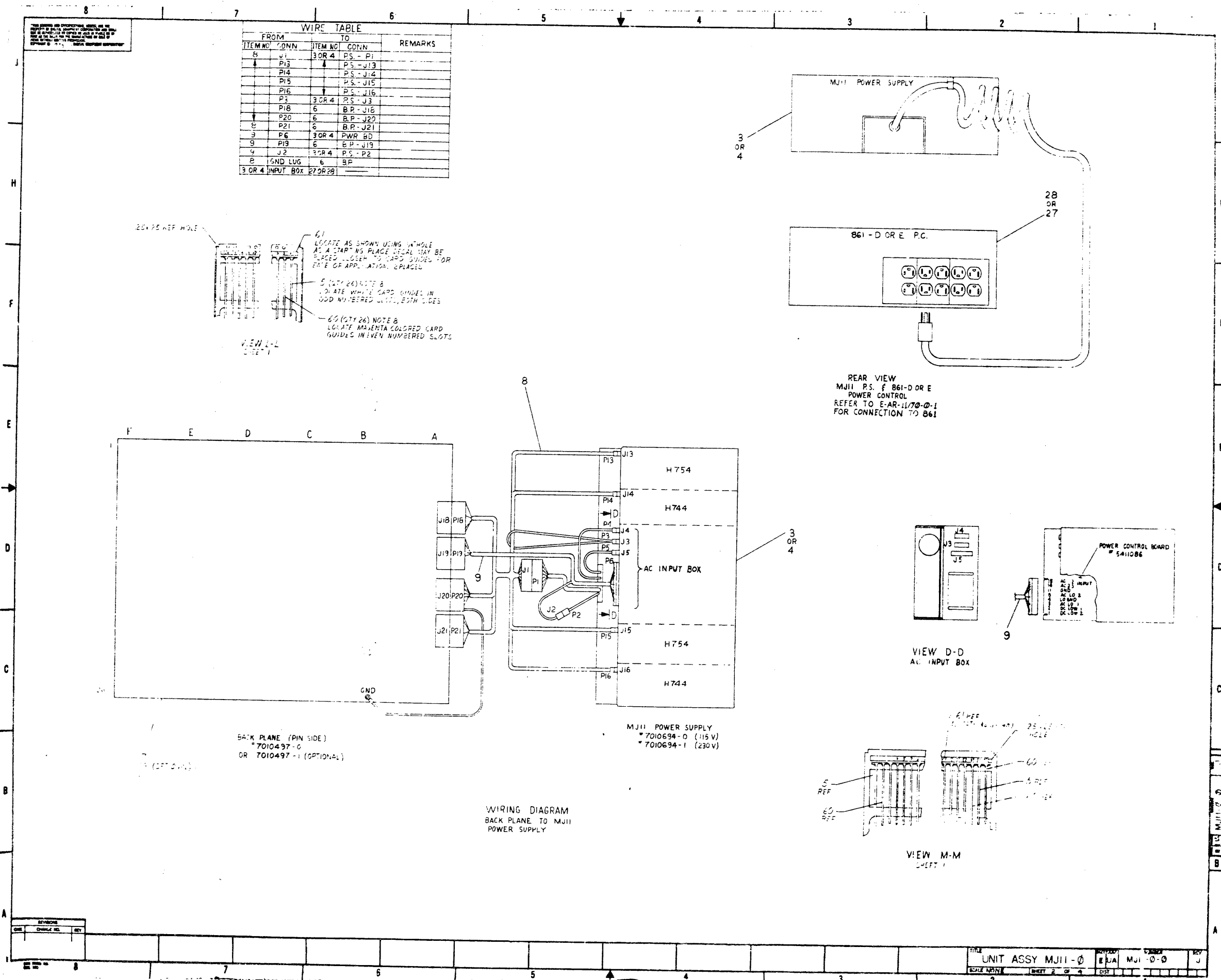
VIEW B-B
REVOLVED 90° CCW
WIRING SIDE OF POWER SUPPLY
ITEM # 3 OR 4

BOTTOM VIEW
ITEM #10 COVER REMOVED
FOR CLARITY

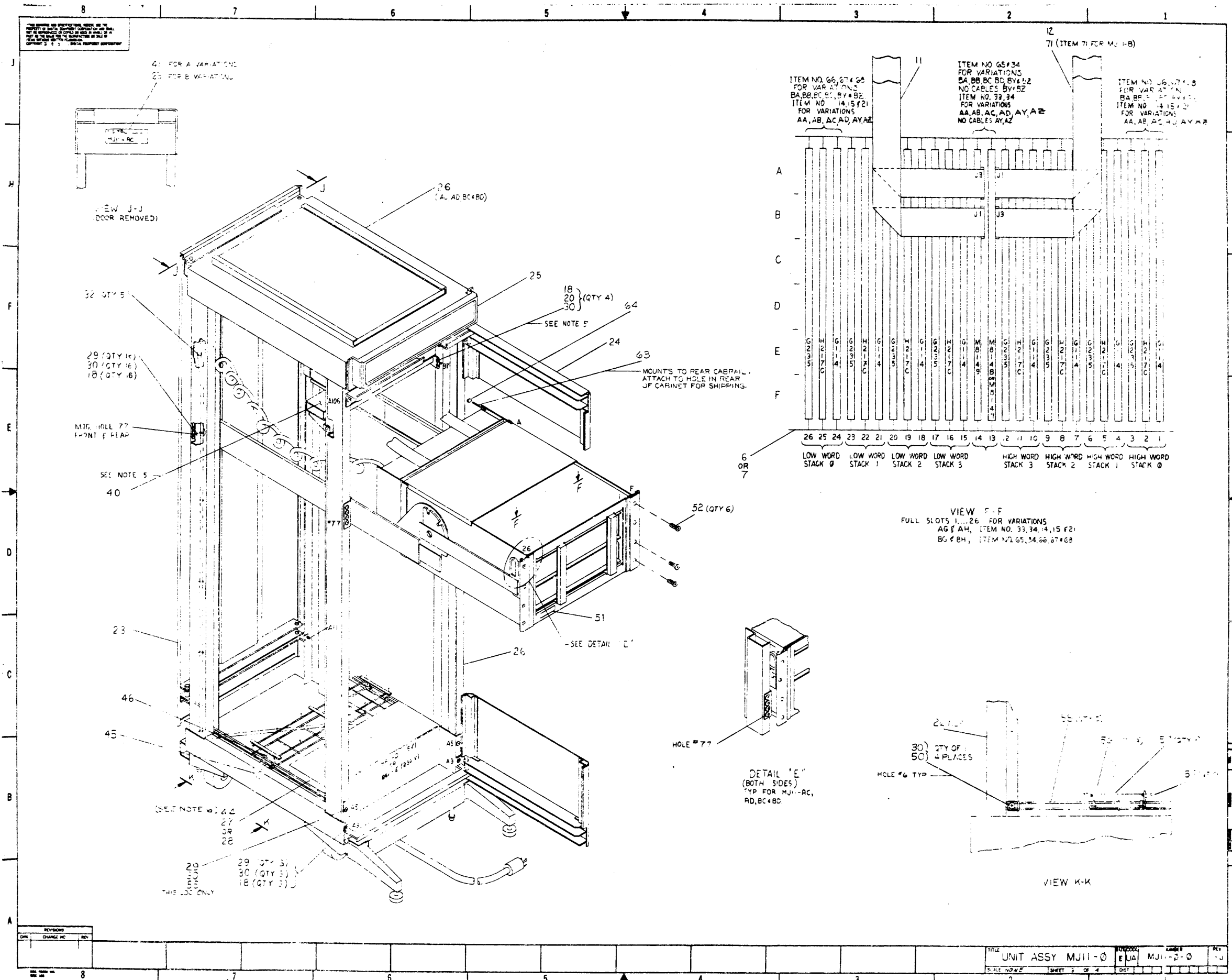
DETAIL #1
FRONT SIDE
TYP FOR MJII-AA,
AB, AG, AH, AY, AAZ,
BB, BC, BH, BY, BZ

OFF SHEET PARTS LIST EXISTS SEE
A PL 11/70-0-1

ITEM NO	DESCRIPTION	QTY	PART NO
1	UNIT ASSY MJII-A	1	11/70-0-0
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100

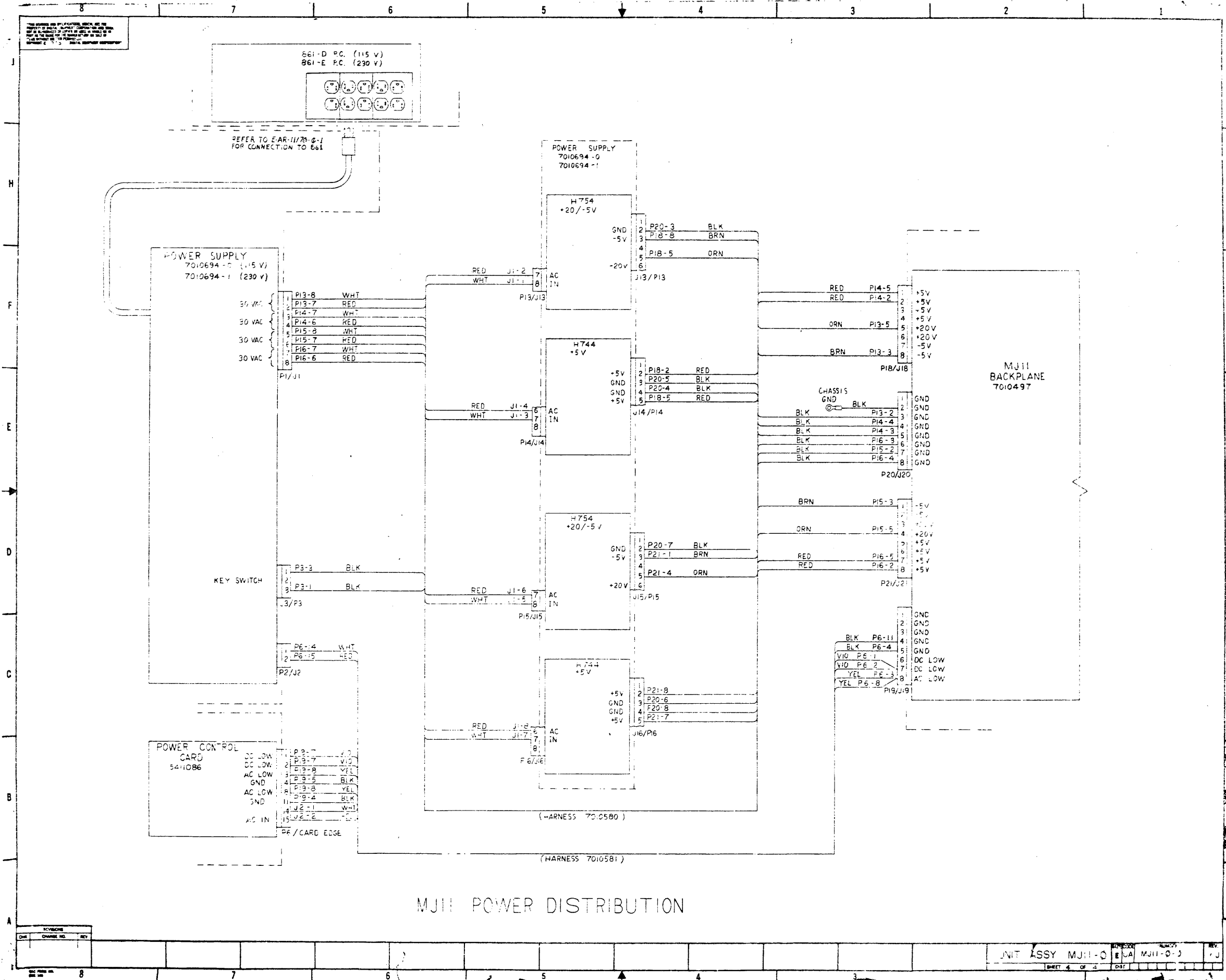


REV	DESCRIPTION	DATE



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	UNIT ASSY MJ11-0	SCALE	1:1	SHEET	3 OF 4
DATE					



MJ11 POWER DISTRIBUTION

REV	DESCRIPTION	DATE	BY	CHKD
1	INIT ASSY MJ11-0			

UNIT ASSY MJ11-0
SHEET 4 OF 4

CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

SEQUENCE

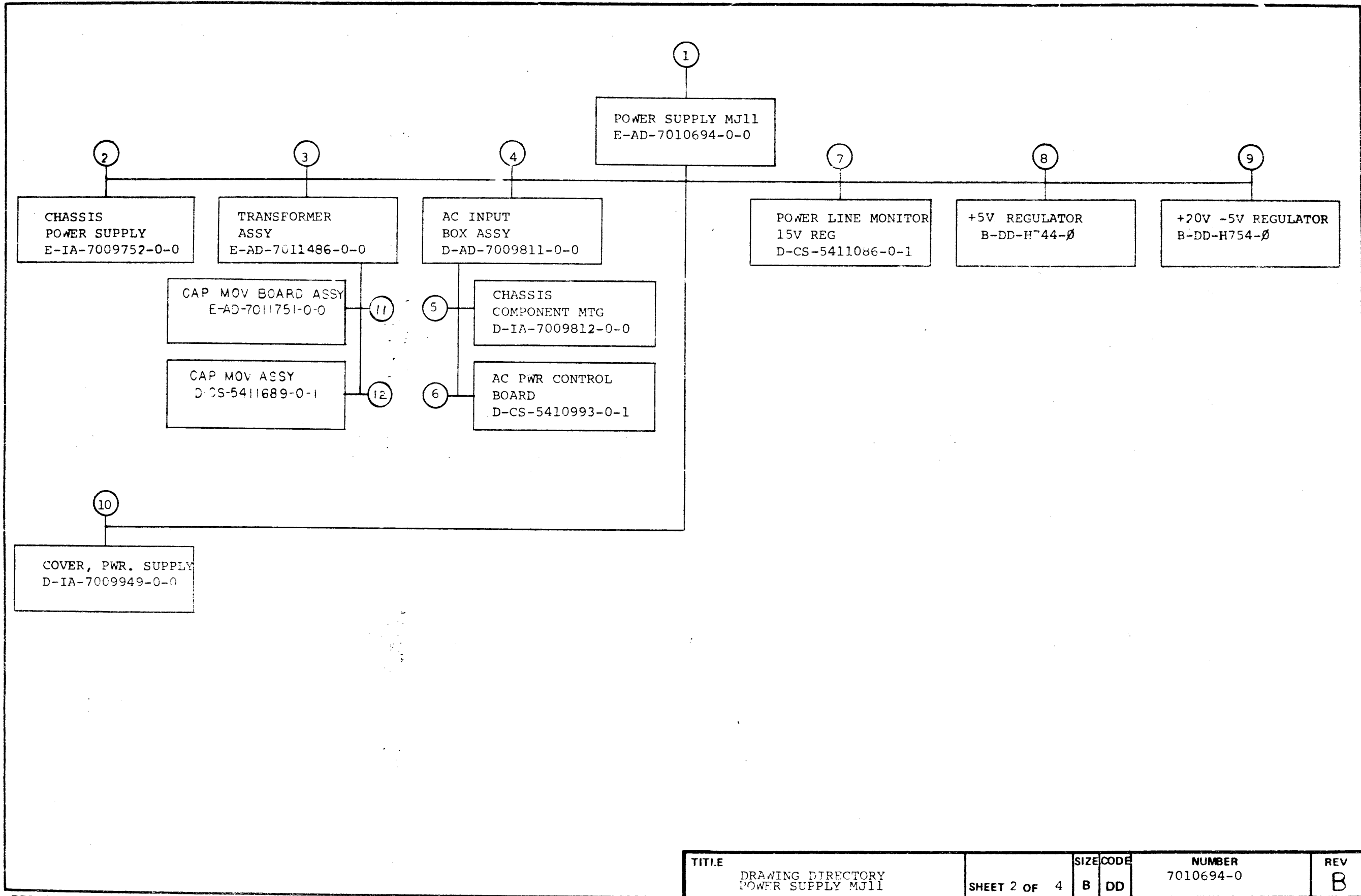
SEQUENCE

DRAWING DIRECTORY (P.S. MJ11)	B-DD-7010694-0
POWER SUPPLY MJ11	E-AD-7010694-0-0
AC INPUT BOX ASSY	D-AD-7009811-0-0
AC PWR CONTROL BOARD	D-CS-5410993-0-1
TRANSFORMER ASSY	E-AD-7011486-0-0
DRAWING DIRECTORY H744	B-DD-H744-0
DRAWING DIRECTORY H754	B-DD-H754-0
PWR LINE MONITOR/ 15V REG	D-CS-5411086-0-1

UNIT VARIATIONS		PRINT SET	
VAR	TITLE		
7010694-0	120V 50/60 HZ	X	1
7010694-1	240V 50/60 HZ	X	1

REVISIONS	
DATE	CHG. NO.
7-14-76	7010694-3
6-76	7010694-4
	A
	B

USED ON OPTION/MODEL	DRN. G. MARIMI	DATE 1/28/75	TITLE DRAWING DIRECTORY POWER SUPPLY (MJ11)				
MJ11-A	CHK'D. D. HEALY	DATE 2/6/75					
	PROJ ENG. <i>[Signature]</i>	DATE 3/23/75					
	PROD. <i>[Signature]</i>	DATE 3/24/75	SIZE	CODE	NUMBER		REV
	FIELD SERV. <i>[Signature]</i>	DATE 3/24/75	B	DD	7010694-0		B
SHEET 1 OF 4			DIST				



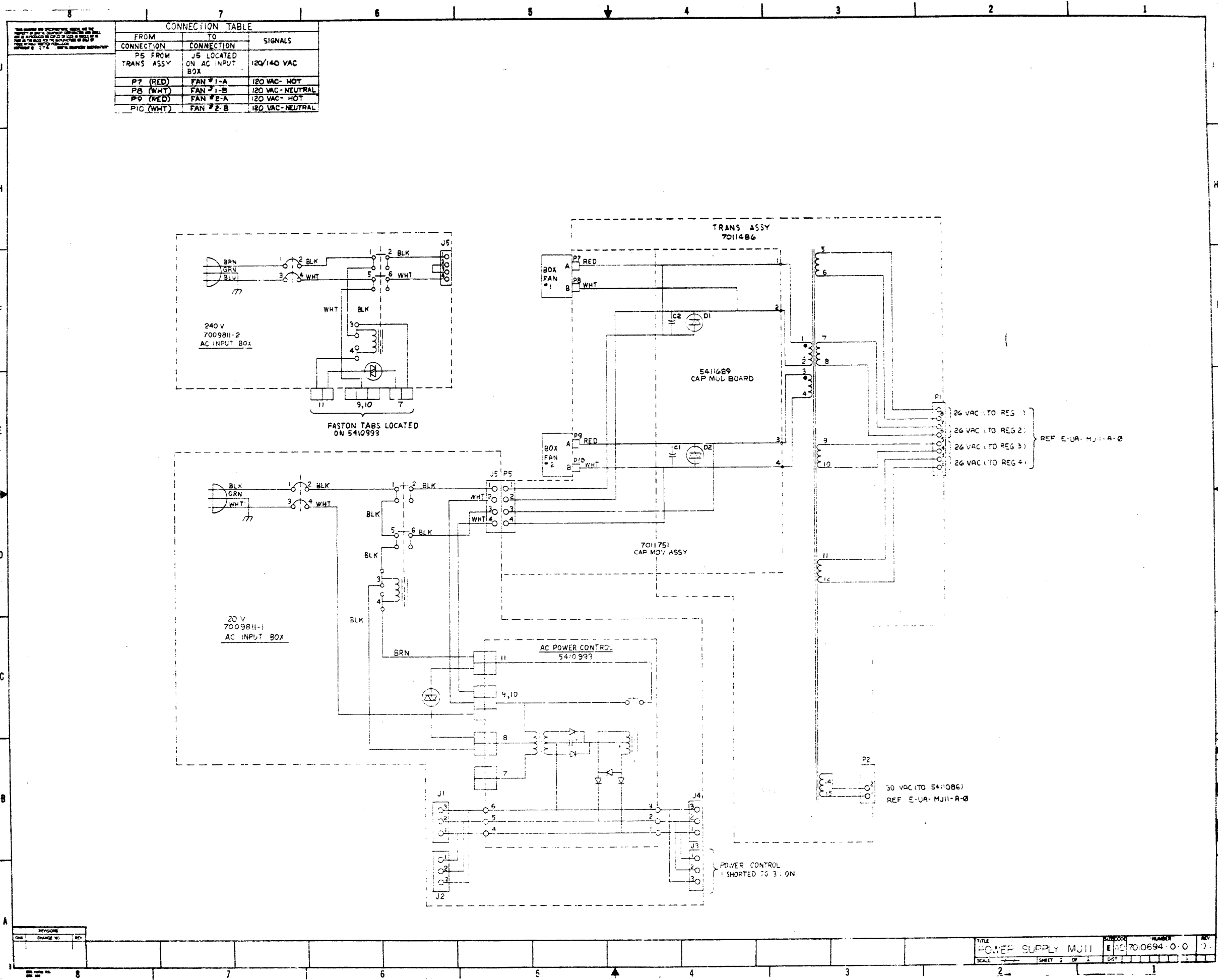
TITLE	SIZE CODE	NUMBER	REV
DRAWING DIRECTORY POWER SUPPLY MJ11	B DD	7010694-0	B
SHEET 2 OF 4			

DRB 107
DEC 16-(325)-1062-3-N871

CUSTOMER PRINT SET					ELECTRICAL					CUSTOMER PRINT SET					ELECTRICAL								
1	MFG. SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE	MFG. SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE									
															X		1	E-AD-7010694-0-0	#	2	POWER SUPPLY MJ11		
X		3	E-AD-7011486-0-0 A-SP-7011486-0-9 A-CS-7010014-TA-1 A-SP-7010014-0-8	#	2	TRANSFORMER ASSY ASSEMBLY PROCEDURE TESTER CS TEST PROCEDURE																	
X		4	D-AD-7009811-0-0	#	2	AC INPUT ECX ASSY																	
X		6	D-CS-5410993-0-1	#	1	AC POWER CONTROL BD.																	
X		7	D-CS-5411086-0-1	#	4	PWR. LINE MONITOR/ 15V REG																	
C		8	B-DD-H744-0	#	2	DRAWING DIRECTORY H744																	
C		9	B-DD-H754-0	#	3	DRAWING DIRECTORY H754																	
		11	D-IA-7011751-0-0		1	CAP MOV BOARD ASSEMBLY																	
		12	D-CS-5411689-0-1		1	CAP MOV ASSEMBLY																	
CUSTOMER PRINT SET CODES							X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED							TITLE		DRAWING DIRECTORY POWER SUPPLY MJ11		SIZE CODE		NUMBER		REV	
														SHEET 3 OF 4		B DD		7010694-0		B			

CUSTOMER PRINT SET		MECHANICAL					CUSTOMER PRINT SET		MECHANICAL				
1	MFG. SET	FIND NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE	1	MFG. SET	FIND NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE
		1		2	POWER SUPPLY MJ11				6		1	AC PWR CONTROL BD.	
				1	COVER, POWER SUPPLY						1	X-Y COORDINATE HOLE LOC.	
				1	THROUGH WIRE						1	ASSY/DRILLING HOLE LAYOUT	
											1	MODULE ECO HISTORY	
											REF	ETCH CIRCUIT BOARD	
		2		1	CHASSIS, POWER SUPPLY				7		4	PWR. LINE MONITOR/ 15V REG	
				1	CHASSIS, POWER SUPPLY						-	X-Y COORDINATE HOLE LOC.	
				1	SIDE, POWER SUPPLY						1	ASSY/DRILLING HOLE LAYOUT	
				1	HOUSING COMP. CHASSIS						1	MODULE ECO HISTORY	
											REF	ETCH CIRCUIT BOARD	
		3		2	TRANSFORMER ASSY				8		2	DRAWING DIRECTORY H744	
				1	DECAL								
		4		2	AC IMPUT BOX ASSY				9		3	DRAWING DIRECTORY H754	
				1	DECAL 115V								
				1	POWER CORD				10		1	COVER, POWER SUPPLY	
				1	DECAL 230V						1	STRIP, CLAMP	
				1	POWER CONTROL HARNESS								
				1	POWER JUMPER								
				1	VARISTOR ASSY				11			CAP MOV BOARD ASSEMBLY	
				1	DECAL (PLUG NUMBERS)								
		5		1	CHASSIS COMPONENT MTG.				12		5	CAP MOV ASSEMBLY	
				1	PLATE SWITCH						1		
				1	PLATE COMPONENT MTG.						6	MODULE ECO HISTORY	

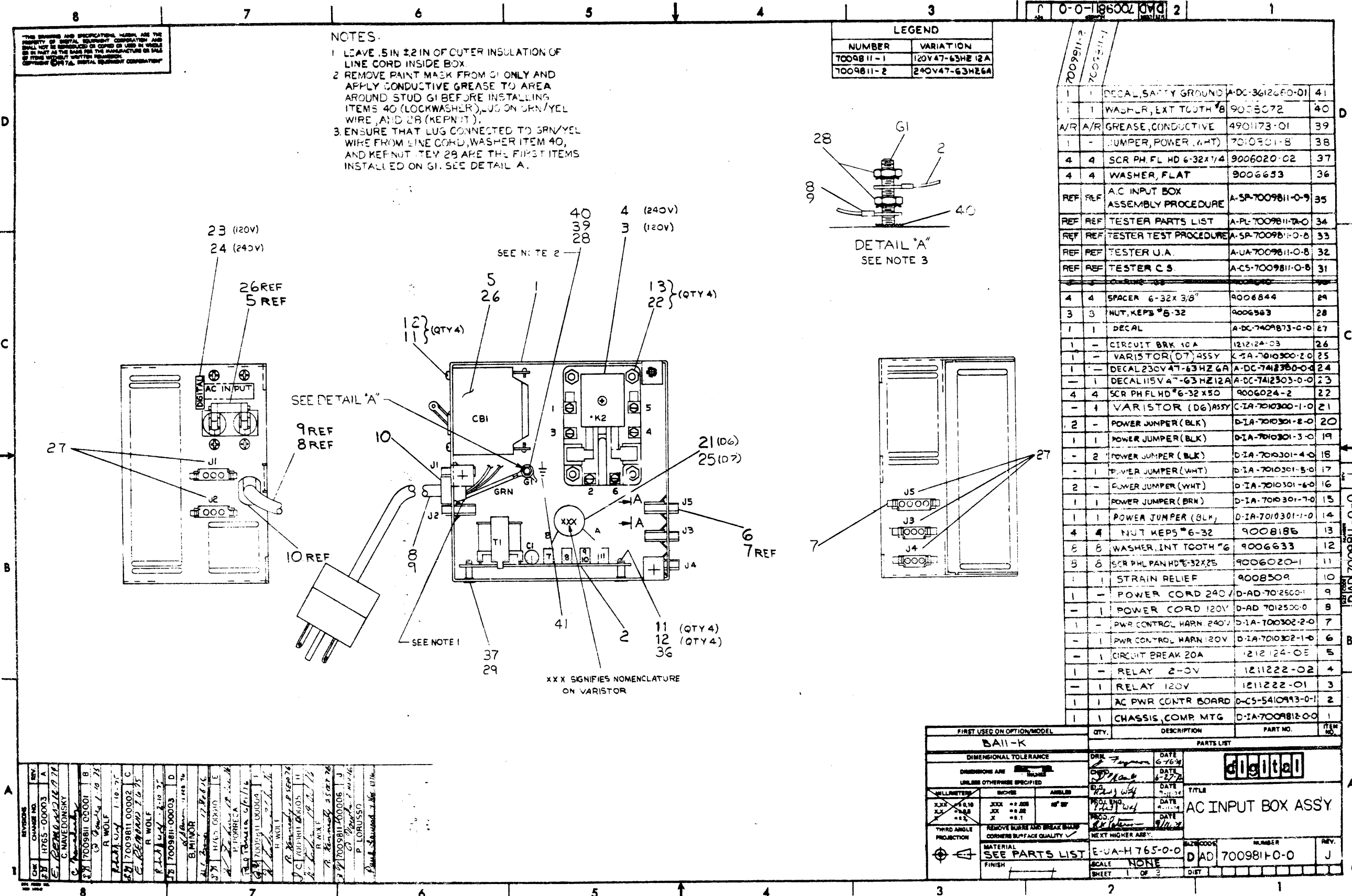
CUSTOMER PRINT SET CODES	X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED	TITLE DRAWING DIRECTORY POWER SUPPLY MJ11	SIZE CODE B DD	NUMBER 7010694-0	REV B
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CONNECTION TABLE		
FROM CONNECTION	TO CONNECTION	SIGNALS
P5 FROM TRANS ASSY	J5 LOCATED ON AC INPUT BOX	120/140 VAC
P7 (RED)	FAN #1-A	120 VAC- HOT
P8 (WHT)	FAN #1-B	120 VAC- NEUTRAL
P9 (RED)	FAN #2-A	120 VAC- HOT
P10 (WHT)	FAN #2-B	120 VAC- NEUTRAL

REV	CHG	BY	DATE

TITLE	POWER SUPPLY MJ11	REV	700694-0-0
SCALE	SHEET 2 OF 2	DATE	



NOTES:
 1 LEAVE .5 IN ±2 IN OF OUTER INSULATION OF LINE CORD INSIDE BOX
 2 REMOVE PAINT MASK FROM G1 ONLY AND APPLY CONDUCTIVE GREASE TO AREA AROUND STUD G1 BEFORE INSTALLING ITEMS 40 (LOCKWASHER), 39 ON BRN/YEL WIRE, AND 28 (KEPNUT).
 3 ENSURE THAT LUG CONNECTED TO GRN/YEL WIRE FROM LINE CORD, WASHER ITEM 40, AND KEF NUT ITEM 28 ARE THE FIRST ITEMS INSTALLED ON G1. SEE DETAIL A.

LEGEND	
NUMBER	VARIATION
7009811-1	120V47-63HZ 12A
7009811-2	240V47-63HZ 6A

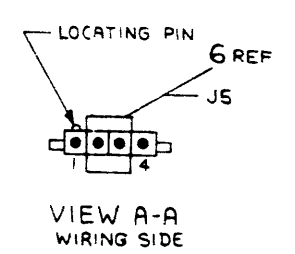
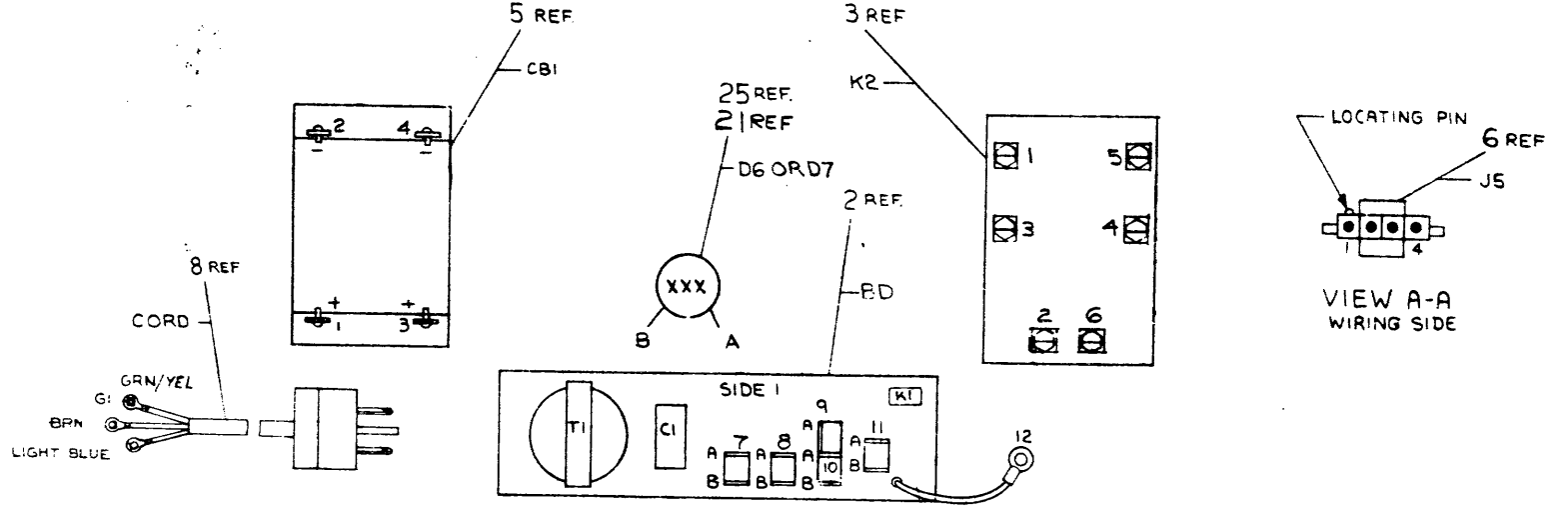
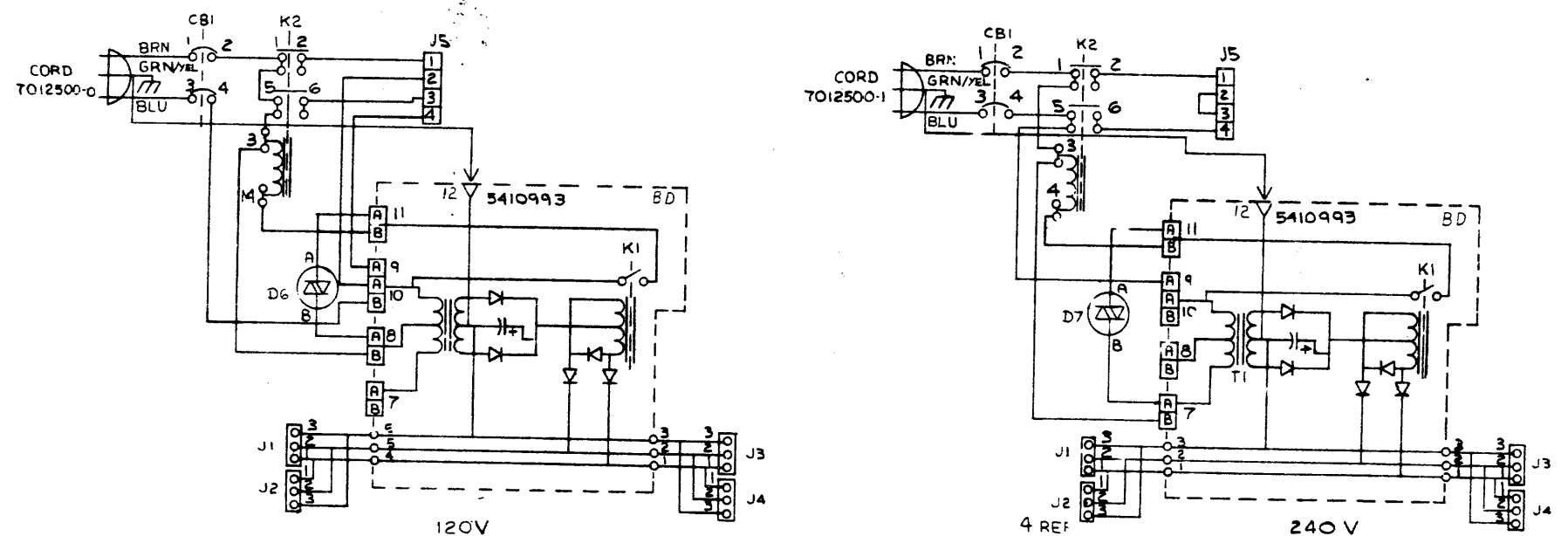
QTY.	DESCRIPTION	PART NO.	ITER NO.
1	DECAL, SAFETY GROUND	A-DC-3612460-01	41
1	WASHER, EXT TOOTH #6	9006672	40
A/R	A/R GREASE, CONDUCTIVE	4901173-01	39
1	JUMPER, POWER (WHT)	7010301-8	38
4	SCR PH. FL HD 6-32x1/4	9006020-02	37
4	WASHER, FLAT	9006633	36
REF	REF AC INPUT BOX ASSEMBLY PROCEDURE	A-SA-7009811-0-9	35
REF	REF TESTER PARTS LIST	A-PL-7009811-A-0	34
REF	REF TESTER TEST PROCEDURE	A-SA-7009811-0-8	33
REF	REF TESTER U.A.	A-UA-7009811-0-8	32
REF	REF TESTER C.S.	A-CS-7009811-0-8	31
4	SPACER 6-32x3/8"	9006844	29
3	NUT, KEPS #6-32	9006963	28
1	DECAL	A-DC-7409873-0-0	27
1	CIRCUIT BRK 10A	121224-03	26
1	VARISTOR (DT) ASSY	C-IA-7010300-2-0	25
1	DECAL 230V 47-63HZ 6A	A-DC-7412303-0-0	24
1	DECAL 115V 47-63HZ 12A	A-DC-7412303-0-0	23
4	SCR PH FL HD #6-32x5/8	9006024-2	22
1	VARISTOR (DG) ASSY	C-IA-7010300-1-0	21
2	POWER JUMPER (BLK)	D-IA-7010301-2-0	20
1	POWER JUMPER (BLK)	D-IA-7010301-3-0	19
2	POWER JUMPER (BLK)	D-IA-7010301-4-0	18
1	POWER JUMPER (WHT)	D-IA-7010301-5-0	17
2	POWER JUMPER (WHT)	D-IA-7010301-6-0	16
1	POWER JUMPER (BRN)	D-IA-7010301-7-0	15
1	POWER JUMPER (BLK)	D-IA-7010301-1-0	14
4	NUT KEPS #6-32	9008186	13
8	WASHER, INT TOOTH #6	9006633	12
8	SCR PH FL HD #6-32x5/8	9006020-1	11
1	STRAIN RELIEF	9008509	10
1	POWER CORD 240V	D-AD-7012500-1	9
1	POWER CORD 120V	D-AD-7012500-0	8
1	PWR CONTROL HARN 240V	D-IA-700302-2-0	7
1	PWR CONTROL HARN 120V	D-IA-700302-1-0	6
1	CIRCUIT BREAK 20A	121224-05	5
1	RELAY 2-3V	1211222-02	4
1	RELAY 120V	1211222-01	3
1	AC PWR CONTR BOARD	D-CS-5410993-0-1	2
1	CHASSIS, COMP MTG	D-IA-7009812-0-0	1

REV.	CHG	BY	DATE	DESCRIPTION
1				
2				
3				
4				
5				
6				
7				
8				

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITER NO.
BAll-K					
DIMENSIONAL TOLERANCE		DATE		PARTS LIST	
DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		DATE	DATE	TITLE	
MILLIMETERS		DATE	DATE	TITLE	
THIRD ANGLE PROJECTION		NEXT HIGHER ASSY.		TITLE	
MATERIAL SEE PARTS LIST		SCALE NONE		REV. J	
FINISH		SHEET 1 OF 3		DAD 7009811-0-0	

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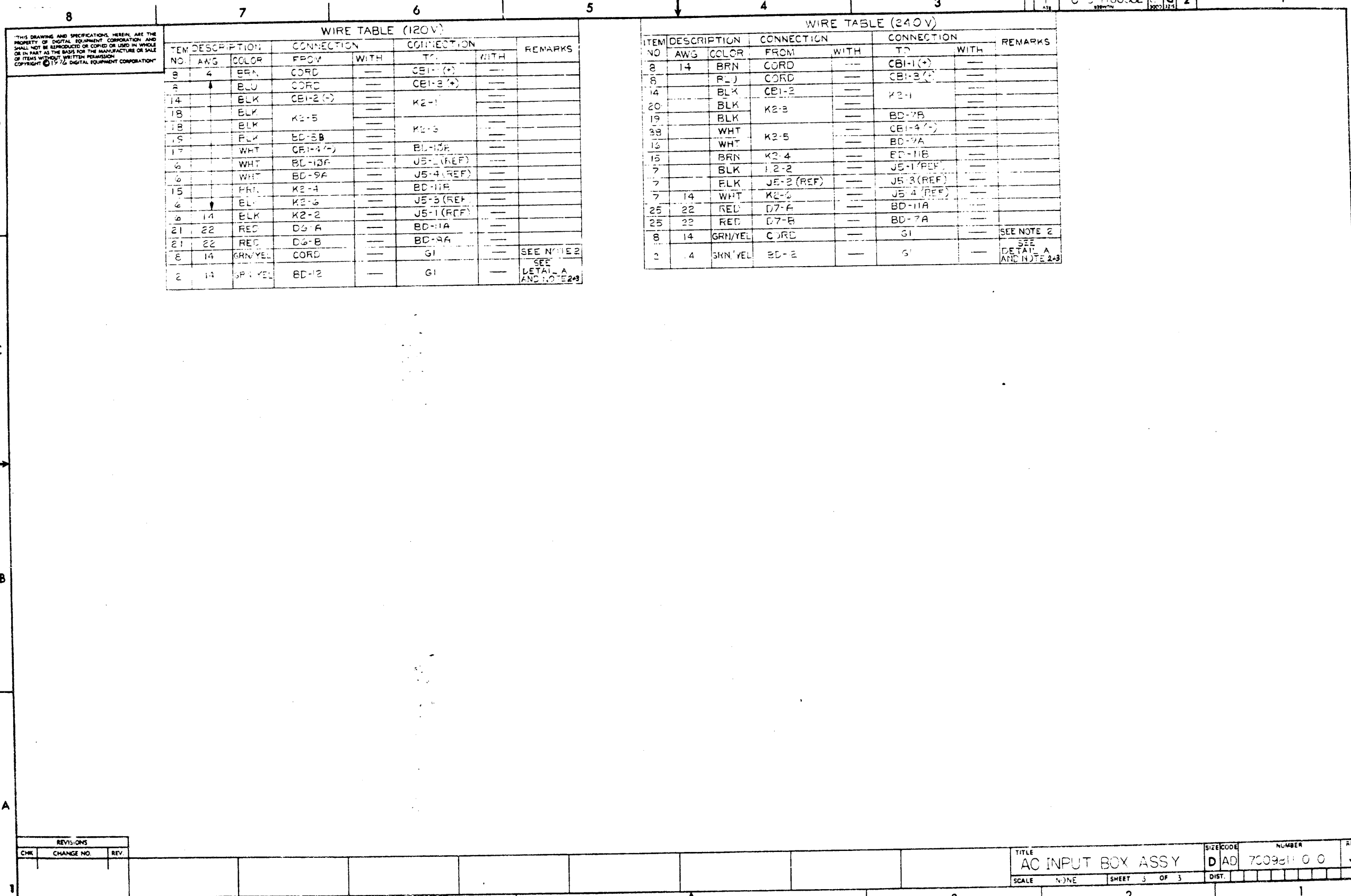
DAD 7009811-0-C 2



REVIS-ING	CHK	CHANGE NO	REV

TITLE	SIZE/CODE	NUMBER	REV.
AC INPUT BOX ASS'Y.	D AD	7009811-0-C	
SCALE NONE	SHEET 2 OF 3	DIST	

UNITED STATES GOVERNMENT
 OFFICE OF THE SECRETARY OF DEFENSE
 WASHINGTON, D.C. 20301



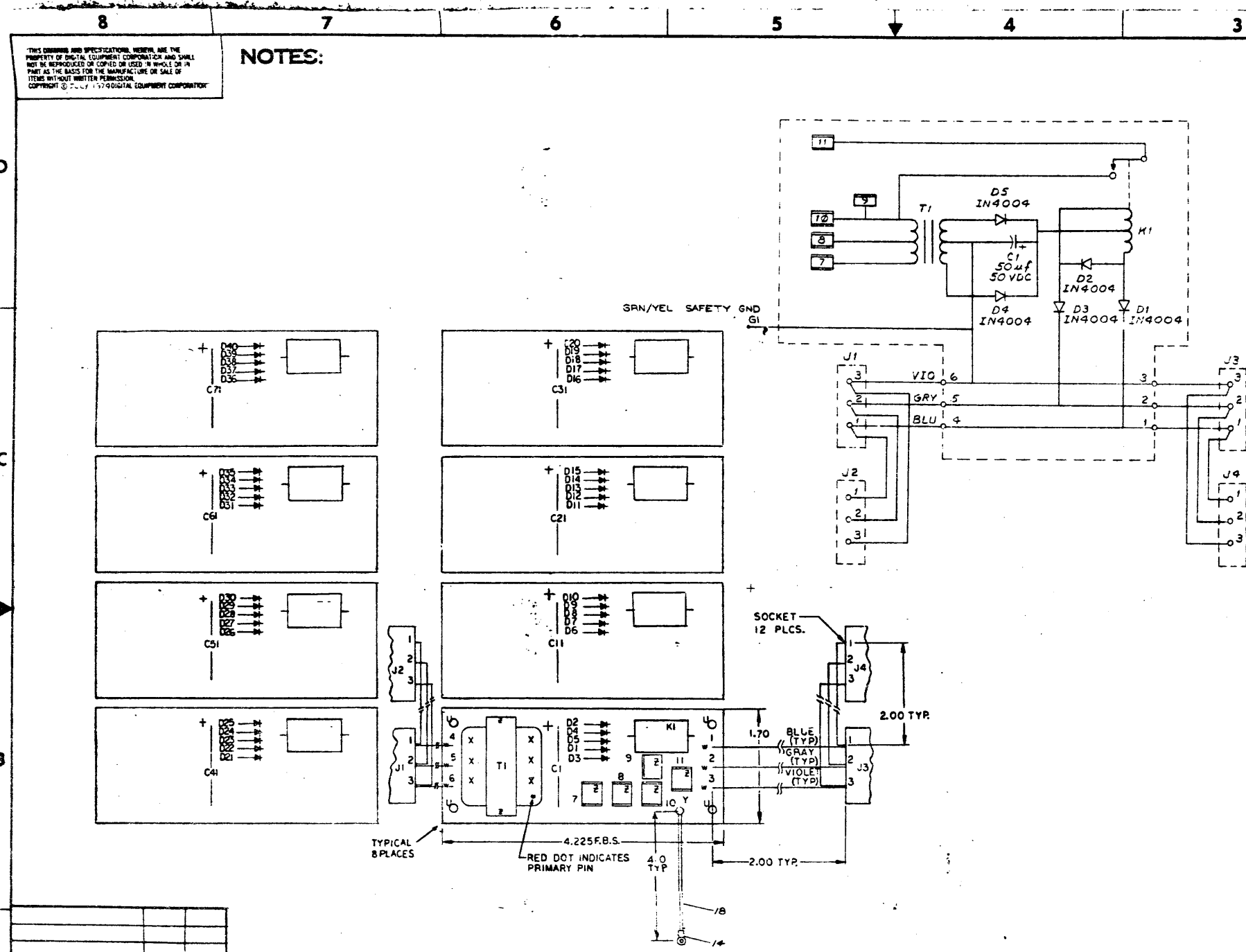
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WIRE TABLE (120V)							
ITEM NO	DESCRIPTION		CONNECTION		CONNECTION		REMARKS
	AWG	COLOR	FROM	WITH	TO	WITH	
8	4	BRN	CORD	---	CB1-1(+)	---	
8	4	BLU	CORD	---	CB1-3(+)	---	
14		BLK	CB1-2(-)	---	K2-1	---	
18		BLK	K2-5	---		---	
18		BLK		---	K2-3	---	
19		FLK	BD-5B	---		---	
17		WHT	CB1-4(-)	---	BD-10F	---	
6		WHT	BD-10F	---	J5-1(REF)	---	
6		WHT	BD-9A	---	J5-4(REF)	---	
15		FRN	K2-4	---	BD-11B	---	
6		BLK	K2-3	---	J5-3(REF)	---	
6	14	BLK	K2-2	---	J5-1(REF)	---	
21	22	RED	D7-A	---	BD-11A	---	
21	22	RED	D7-B	---	BD-9A	---	
8	14	GRN/YEL	CORD	---	G1	---	SEE NOTE 2
2	14	GRN/YEL	BD-12	---	G1	---	SEE NOTE 2 SEE DETAIL A AND NOTE 2+3

WIRE TABLE (240V)							
ITEM NO	DESCRIPTION		CONNECTION		CONNECTION		REMARKS
	AWG	COLOR	FROM	WITH	TO	WITH	
8	14	BRN	CORD	---	CB1-1(+)	---	
8		BLU	CORD	---	CB1-3(+)	---	
14		BLK	CB1-2	---	K2-1	---	
20		BLK	K2-3	---		---	
19		BLK		---	BD-7B	---	
38		WHT	K2-5	---	CB1-4(-)	---	
13		WHT		---	BD-7A	---	
15		BRN	K2-4	---	BD-11B	---	
7		BLK	J2-2	---	J5-1(REF)	---	
7		FLK	J5-2(REF)	---	J5-3(REF)	---	
7	14	WHT	K2-3	---	J5-4(REF)	---	
25	22	RED	D7-A	---	BD-11A	---	
25	22	RED	D7-B	---	BD-7A	---	
8	14	GRN/YEL	CORD	---	G1	---	SEE NOTE 2
2	4	GRN/YEL	BD-2	---	G1	---	SEE DETAIL A AND NOTE 2+3

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: AC INPUT BOX ASSY
 SIZE CODE: D AD
 NUMBER: 7009511 0 0
 SCALE: NONE
 SHEET: 3 OF 3
 DIST:



REF	X-Y COORDINATE HOLE LOCATION	HW-005410993-0-1	1
REF	ASSY/DRILLING HOLE LAYOUT	D-AM-5410993-0-1	2
REF	MODULE ECO HISTORY	BM-5410993-0-1	3
1	ETCHED CIRCUIT BOARD	5010993-0-1	4
1	CAP. 50UF 50VDC	1000030	5
5	D1 THRU D5	DIODE IN4004	1125733
1	K1	REED RELAY	1211177
4	J1 THRU J4	CONNECTOR, MATE-N-LOCK, 3 SKT	1209350-03
12		PIN, MATE-N-LOCK SKT, FEMALE	1209379-20
1	T1	TRANSFORMER	1611178
4	7, 8, 10, 11	FASTON TAB, DUEL	9207113
1	9	FASTON TAB, SINGLE	9208219
5		EYELET	1009110
1		RING TERMINAL BLUE	9007928
1		WIRE, #18 AWG, BLUE	9107360-26
1		WIRE, #18 AWG, VIOLET	9107360-77
1		WIRE, #18 AWG, GRAY	9107360-38
1		WIRE #14AWG GRN/YEL	910777-54

IC TYPE	QND	+5V
QND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE		
IC PIN LOCATIONS		

REV	REV	REV	REV
1	2	3	4
CHG	CHG	CHG	CHG
CHG	CHG	CHG	CHG

FIRST USED ON OPTION MODEL		H765	
ETCH BOARD REV. D			
DRN. DATE	DATE	DATE	DATE
7-30-74	8/1/74	8/1/74	8/1/74
CHKD. DATE	DATE	DATE	DATE
8/1/74	8/1/74	8/1/74	8/1/74
PROJ. ENGR. DATE	DATE	DATE	DATE
8/1/74	8/1/74	8/1/74	8/1/74
PROC. DATE	DATE	DATE	DATE
8/1/74	8/1/74	8/1/74	8/1/74
NEXT HIGHER ASSY			
D-AD-7009811-0-0	SCALE NONE	SHEET 1 OF 1	DIST.

digital

TITLE: AC POWER CONTROL BOARD

SCALE: NONE

DIST. CODE: D CS 5410993-0-1 C

NUMBER: 1

D CS 5410993-0-1 C

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DRAWING DIRECTORY

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CUSTOMER PRINT SET

DRAWING DIRECTORY B-DD-H744-0
 CIRCUIT SCHEMATIC D-CS-H744-0-1
 UNIT ASSY E-UA-H744-0-0

MFG SET


TEST PROCEDURE A-SP-H744-0-3
 MFG SPEC A-SP-H744-0-8
 PACKAGING INST A-PI-3700074-0-0

UNIT VARIATIONS

VAR	TITLE
H744	+5V REGULATOR

REVISIONS	CHG NO.	REV
CHK	00019	R

DRB 106A

USED ON OPTION/MODEL	DRN.	DATE	TITLE	
H/45	D. FONTAINE	2-4-72	+5V REGULATOR	
	CHK'D. D. FONTAINE	2-4-72		
	PROJ. ENG. G. POTTER	2-24-72	SIZE CODE	NUMBER
	PROD. A. HIRSCH	2-24-72	B DD	H744-0
SHEET 1 OF 4	DIST.			REV R

REV R
 NUMBER H744-0
 SIZE CODE BDD

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS														
D-AH-H744-0-5			ASSY DRILLING/HOLE LAYOUT	Y	Y													
E-DA-H744-0-0	1		UNIT ASSY	Y	Y													
D-CS-H744-0-1	1		CIRCUIT SCHEMATIC	Y	Y													
B-MH-H744-0-6	4		MODULE ECO HISTORY	AD	AD													
		5009725	ETCHED BOARD	H	H													
A-SP-H744-0-3			TEST PROCEDURE	REF														
A-SP-H744-0-8			MFG SPEC	REF														
D-PS-1210037-0-0	1		HEAT SINK	REF														
D-IA-5309756-0-0	1		REGULATOR BRKT	REF														
C-IA-5309760-0-0	1		COMPONENT COVER	REF														
C-MD-5309759-0-0	1		CAPACITOR STRAP	REF														
A-PI-3700074-0-0	2		PACKAGING INSTRUCTION	REF														
A-PS-9905211-0-0	2		OUTER CARTON	REF														
A-PS-9905212-0-0	2		INNER PACKAGING	REF														
C-IA-7412388-0-0			2.5 CAP HOLDER	REF														

NOTES:

REVISIONS	DATE	CHG NO	REV
	10/18		B
	2-7-	0019	B

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USED ON OPTION/MODEL	DRN.	DATE	TITLE	SIZE CODE	NUMBER	REV.
11745	D. FONTAINE	2-4-72	+5V REGULATOR	BDD	H744-0	R
	D. FONTAINE	2-4-72				
	ENG. S. LOTTER	2-24-72				
	PROD. A. HIRSCH	2-24-72				

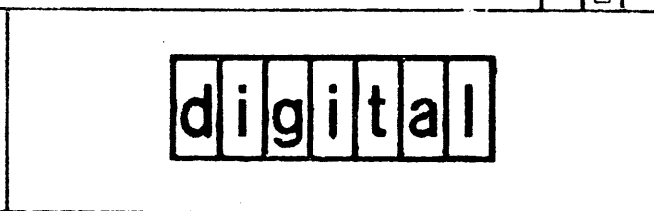
REV R
 NUMBER H744-Ø
 SIZE CODE B DD

DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS																				
D-AH-H744-Ø-5			ASSY DRILLING HOLE LAYOUT	Y	Y																			
E-UA-H744-Ø-Ø	1		UNIT ASSY	W	WI																			
D-CS-H744-Ø-1	1		CIRCUIT SCHEMATIC	W	WI																			
B-MH-H744-Ø-6	4		MODULE ECO HISTORY	DC	AD																			
		5009725	ETCHED BOARD	H	H																			
A-SP-H744-Ø-3			TEST PROCEDURE	P	P																			
A-SP-H744-Ø-8			MEG SPEC	REF																				
D-PS-1210737-Ø-Ø	1		HEAT SINK	REF																				
D-IA-5309756-Ø-Ø	1		REGULATOR BRKT	REF																				
C-IA-5309760-Ø-Ø	1		COMPONENT COVER	REF																				
C-MD-5309759-Ø-Ø	1		CAPACITOR STRAP	REF																				
A-PI-3700074-Ø-Ø	2		PACKAGING INSTRUCTION	REF																				
A-PS-9905211-Ø-Ø	2		OUTER CARTON	REF																				
A-PS-9905212-Ø-Ø	2		INNER PACKAGING	REF																				
C-IA-7412388-Ø-Ø			2.5 CAP. HOLDER	REF																				

NOTES:

REVISIONS		DATE	CHG NO	REV
		00017		R
		2-17-70	0019	

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USED ON OPTION/MODEL		DRN.	TITLE	
11/45		D. FONTAINE	2-4-72	+5V REGULATOR
		CHK'D D. FONTAINE	2-4-72	
		ENG. G. POTTER	2-24-72	
		PROD. A. HIRSCH	2-24-73	

SIZE CODE	NUMBER	REV.
B DD	H744-Ø	R
SHEET 3 OF 4		

REV R
NUMBER H744-0
SIZE CODE BDD

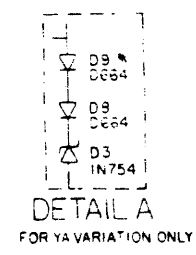
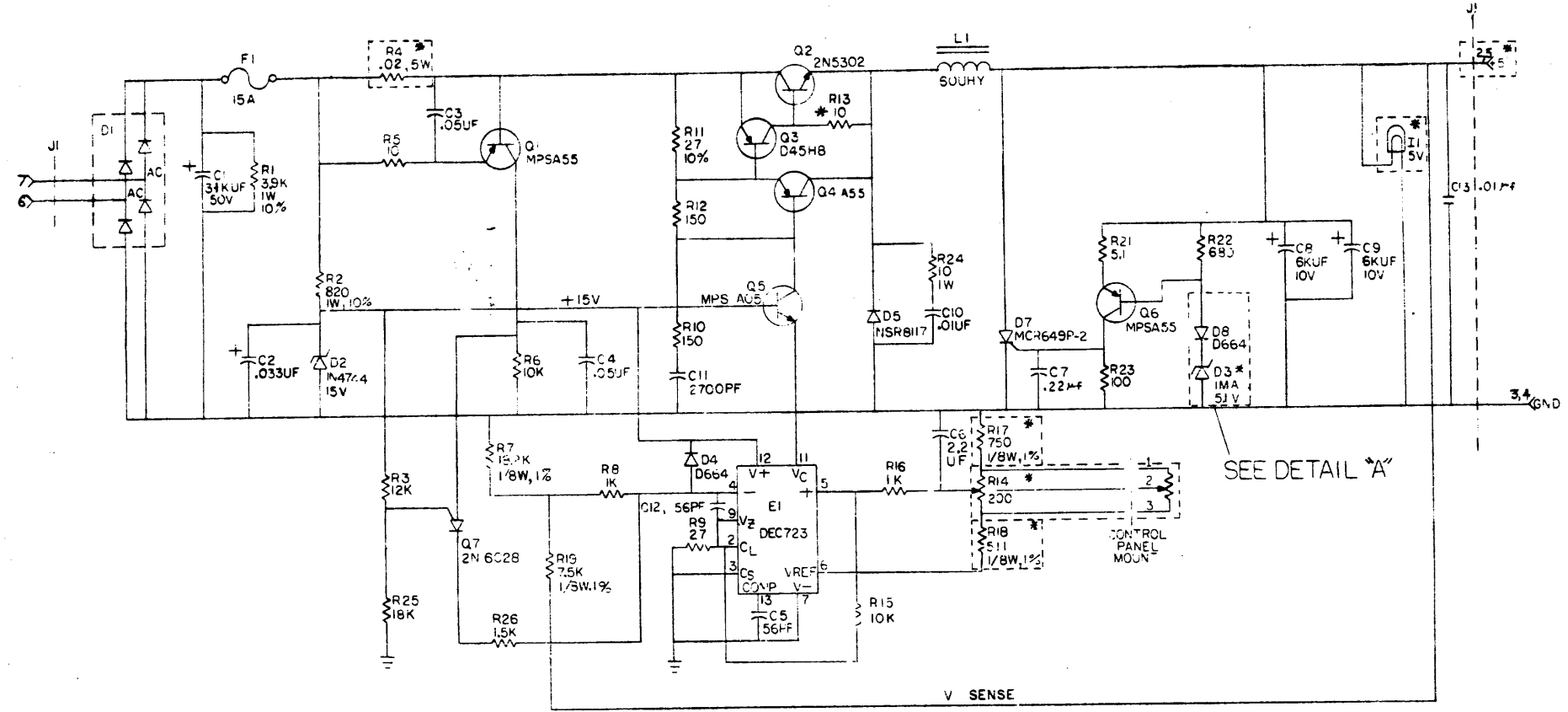
DRAWING NO.	NO. OF SHTS	PART NO.	DESCRIPTION	REVISIONS																						
				Y	V	W	A	B	C	D	E	F	G	H	I											
D-AH-H744-0-5			ASSY DRILLING/HOLE LAYOUT	Y	Y																					
E-UA-H744-0-0	1		UNIT ASSY	V	V																					
D-CS-H744-0-1	1		CIRCUIT SCHEMATIC	W	W																					
B-MH-H744-0-6	4		MODULE ECO HISTORY	A	A																					
		5009725	ETCHED BOARD	H	H																					
A-SP-H744-0-3			TEST PROCEDURE	P	P																					
A-SP-H744-0-8			MFG SPEC	R	R																					
D-PS-1210737-0-0	1		HEAT SINK	R	R																					
D-IA-5309756-0-0	1		REGULATOR BRKT	R	R																					
C-IA-5309760-0-0	1		COMPONENT COVER	P	P																					
C-MD-5309759-0-0	1		CAPACITOR STRAP	R	R																					
A-PI-3700074-0-0	2		PACKAGING INSTRUCTION	R	R																					
A-PS-9905211-0-0	2		OUTER CARTON	R	R																					
A-PS-9905212-0-0	2		INNER PACKAGING	R	R																					
C-IA-7412388-0-0			2.5 CAP HOLDER	R	R																					
NOTES:				REV	CHG	NO	REV																			
				0601																						
				2-27-00019																						

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USED ON OPTION/MODEL 11/45	DRN. D. FONTAINE	2-4-72	TITLE +5V REGULATOR		
	CHK'D D. FONTAINE	2-4-72	SIZE CODE BDD	NUMBER H744-0	REV. R
	ENG. G. POTTER	2-24-72	SHEET 4 OF 4		
	PROD. A. HIRSCH	2-24-72			

The operating and maintenance instructions for this piece of equipment are contained in the manual which is to be furnished to the user of this equipment. It is the responsibility of the user to read and understand the instructions before operating this equipment.



SEE DETAIL "A"

* FUSIBLE RESISTOR

FOR YA VARIATION COMPONENT VALUES ARE AS FOLLOWS:
 R4 - .06 5W
 R7 - 1K 10 TURN
 R7 - 300 1/8W 5%
 R18 - 50 1/8W 5%
 C3 - 1N754
 C5 - 15V
 J1-23 - 20-80V
 * D8 - D664 ADDED FOR YA VARIATION ONLY

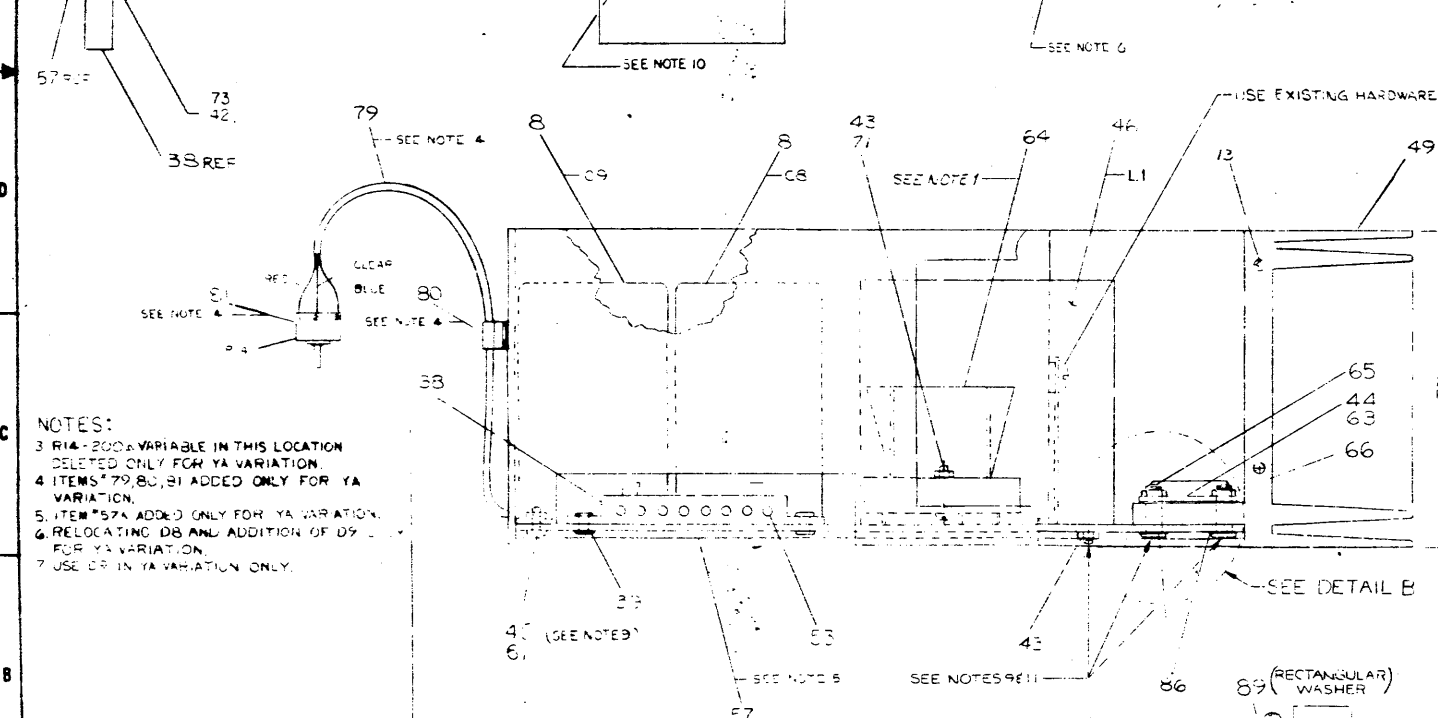
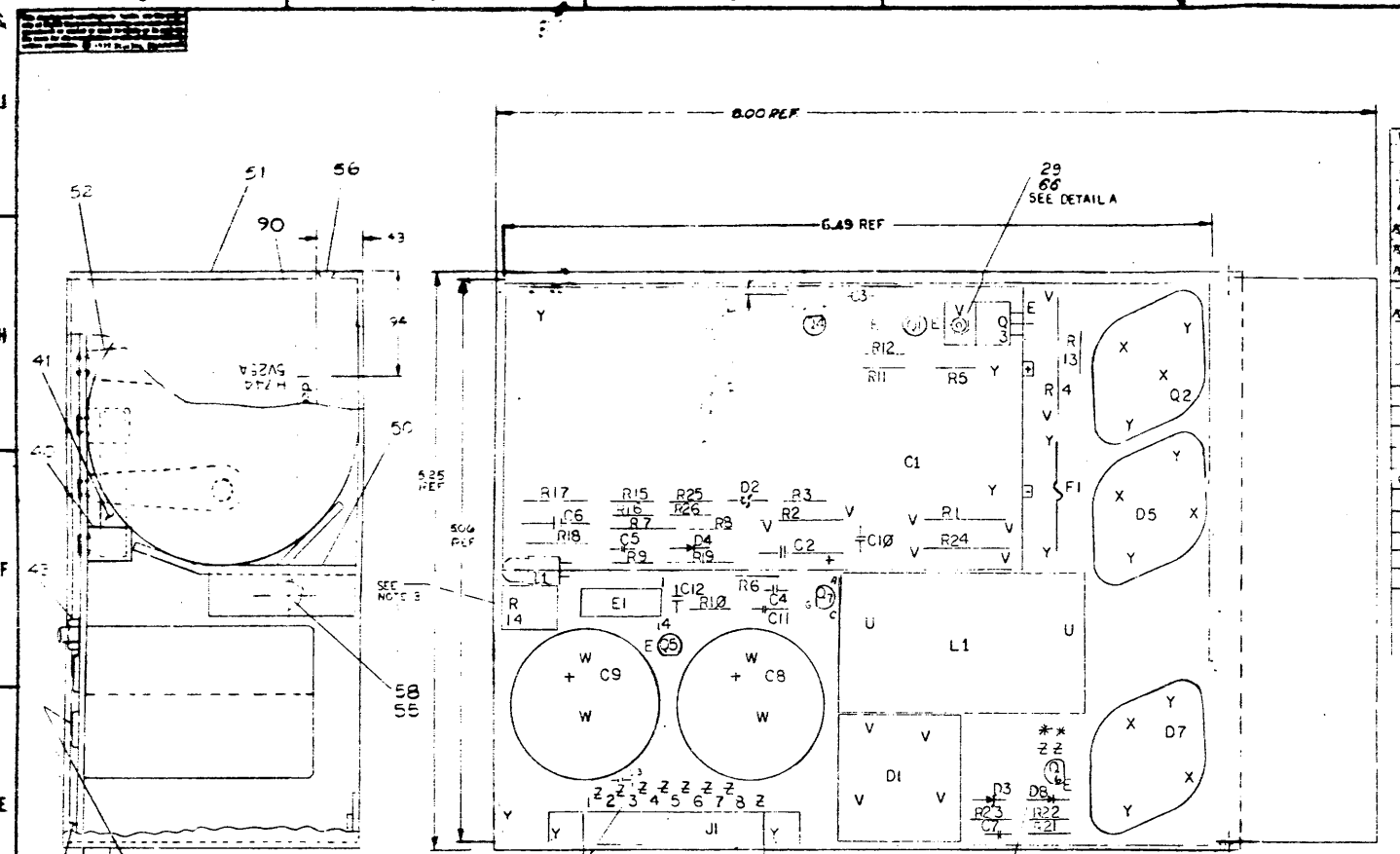
UNLESS OTHERWISE INDICATED:
 RESISTORS ARE 1/4W, 5%

REV	DATE	BY	CHKD	DESCRIPTION
1	11-2-71	D. MARTEL		INITIAL DESIGN
2	1-3-71	H744-0001C		REVISED
3	1/17/72	A. BARON		REVISED
4	1/17/72	A. BARON		REVISED
5	1/17/72	A. BARON		REVISED
6	1/17/72	A. BARON		REVISED
7	1/17/72	A. BARON		REVISED
8	1/17/72	A. BARON		REVISED

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO.
		PARTS LIST		
		ETCH BOARD REV F H		
		digital EQUIPMENT CORPORATION		
		TITLE: 5V REGULATOR		
		SIZE CODE: D ICS NUMBER: H744-0-1		
		SCALE: SHEET 1 OF 1		

REV	DATE	BY	CHKD	DESCRIPTION
1	11-2-71	D. MARTEL		INITIAL DESIGN
2	1-3-71	H744-0001C		REVISED
3	1/17/72	A. BARON		REVISED
4	1/17/72	A. BARON		REVISED
5	1/17/72	A. BARON		REVISED
6	1/17/72	A. BARON		REVISED
7	1/17/72	A. BARON		REVISED
8	1/17/72	A. BARON		REVISED

SEMICONDUCTOR CONVERSION CHART



QTY	REF	DESCRIPTION	UNIT
1	7
1	12

- NOTES:
- 3 R14 - 200Ω VARIABLE IN THIS LOCATION DELETED ONLY FOR YA VARIATION.
 - 4 ITEMS 79, 80, 81 ADDED ONLY FOR YA VARIATION.
 - 5 ITEM 57A ADDED ONLY FOR YA VARIATION.
 - 6 RELOCATING D8 AND ADDITION OF D9 FOR YA VARIATION.
 - 7 USE D9 IN YA VARIATION ONLY.

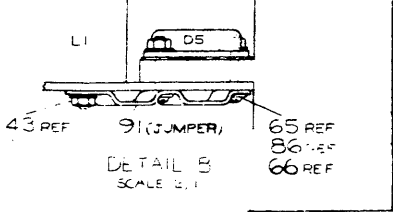
QTY	REF	DESCRIPTION	UNIT
1	1	PACKING INSTRUCTIONS	AP 3700074 0070
1	1	SCR, PHL PAN HD # 32 x 5/8 LG	9006088-1
1	1	16 VOLT LAMP	1209169
1	1	LOCKWASHER #10 INT	9006088

NOTES:

1. APPLY ITEM #63 (COMPOUND) BETWEEN TRANSISTOR AND BOOKS (D6, D7) AND ITEM #64 (WASHER) ALSO BETWEEN ITEM #4 (WASHER) AND HEAT SINK BRIDGE. ALSO APPLY ITEM #63 (COMPOUND) BETWEEN ITEM #9 (DIODE BRIDGE) AND ITEM #64 (HEAT SINK BRIDGE).

QTY	REF	DESCRIPTION	UNIT
1	1	WASHER #4	9006032
1	1	SCR, PHL PAN HD # 32 x 5/8 LG	9006088-1
1	1	HEAT SINK BRIDGE	1210907
1	1	COMPOUND THERMAL JOINT	9006088
1	1	RESISTOR 10K 1/4W 5%	1300250
1	1	RESISTOR 10K 1/4W 5%	1300250
1	1	RESISTOR 10K 1/4W 5%	1300250
1	1	TRANSISTOR, UNIDIRECTIONAL	1310874
1	1	SCR, PHL PAN HD # 32 x 5/8 LG	9006088-1
1	1	WIRE, MICRODOT	1700014
1	1	CLAMP, CABLE	9007079
1	1	POT, 0 TURN, 1KΩ	1307532-04
1	1	RES, 300Ω 1/4W 5%	1301425
1	1	RES, 180Ω 1/4W 5%	1300250
1	1	RES, 86Ω 5W 3%	1310874-02
1	1	DIODE ZENER 1N754	1109991
1	1	WASHER, INT TOOTH #4	9006032
1	1	CAP, 22μF 50V	1010274
1	1	RES, 10 1/4W 5% FUSIBLE	1312476
1	1	WASHER, RECTANGULAR	9009769
1	1	DECAL (#744)	ADCT46945-1092
1	1	JUMPER	1214074

- NOTES CONT:
- NOTE 8:
 (1) Q3 SCREW HEAD SHOULD BE ON TOP OF FLAT RECTANGULAR WASHER AS SHOWN. APPLY 6 INCH LBS. OF TORQUE WHEN SECURING Q3 TO O.K.T. BOARD BEFORE SOLDERING.
- NOTE 9: TORQUE APPLICATION
 (1) APPLY 12 INCH LBS. OF TORQUE TO THE SCREWHEAD OF #4 HARDWARE EXCEPT Q3.
 (2) APPLY 12 INCH LBS. OF TORQUE TO #6 HARDWARE ON L1.
 (3) APPLY 16 INCH LBS. OF TORQUE TO ALL #6 AND #10 HARDWARE EXCEPT ON L1.
 (4) ALL HARDWARE TO BE TORQUED BEFORE SOLDERING.
- NOTE 10:
 INSERT C13 INTO ETCH PAD HOLES CONNECTED TO D1 TERMINALS, 2-3.
- NOTE 11:
 MIN TORQUE REQUIRED FOR SC INSPECTION
 8 INCH LBS. FOR #4 HARDWARE
 12 INCH LBS. FOR #6 AND #10 HARDWARE
- *SEE NOTE 7



QTY	REF	DESCRIPTION	UNIT
1	1	ETCHED CIRCUIT BOARD	5009775
1	1	ASSY, DRILLING HALF AYLT	DAH HX 8-5
1	1	X-Y COORDINATE HOLE LOCATOR	9004744-04
1	1	MODULE ECO HISTORY	9004744-04
1	1	CREAT SCHEMATIC	9004744-04

5V REGULATOR

270

digital EQUIPMENT CORPORATION

DRAWING DIRECTORY

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CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

SEQUENCE

DRAWING DIRECTORY
+20 VOLT REGULATOR

SEQUENCE

B-DD-H754-Ø
E-CS-H754-0-1

UNIT VARIATIONS		PRINT SET	
VAR	TITLE		
H754-0	+20 VOLT REGULATOR	X	

REVISIONS DATE CHG. NO. REV 11-3 H754-10 B 11-4 H754-11 A	USED ON OPTION/MODEL	DRN. Following 2/21/74	DATE 2/21/74	TITLE +20 VOLT REGULATOR	
		CHK'D. Following 2/21/74	DATE 2/21/74		
		PROJ. ENG. Following 2/21/74	DATE 2/21/74		
		PROD. Following 2/21/74	DATE 2/21/74		
		FIELD SERV. Following 2/21/74	DATE 2/21/74		
	SHEET 1 OF 3	SIZE B	CODE DD	NUMBER H754-Ø	REV B
		DIST			

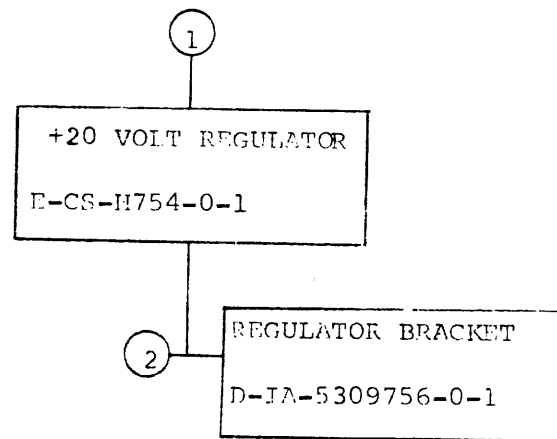
DEC 16 03:51:06Z JAN 1972

DRB 106

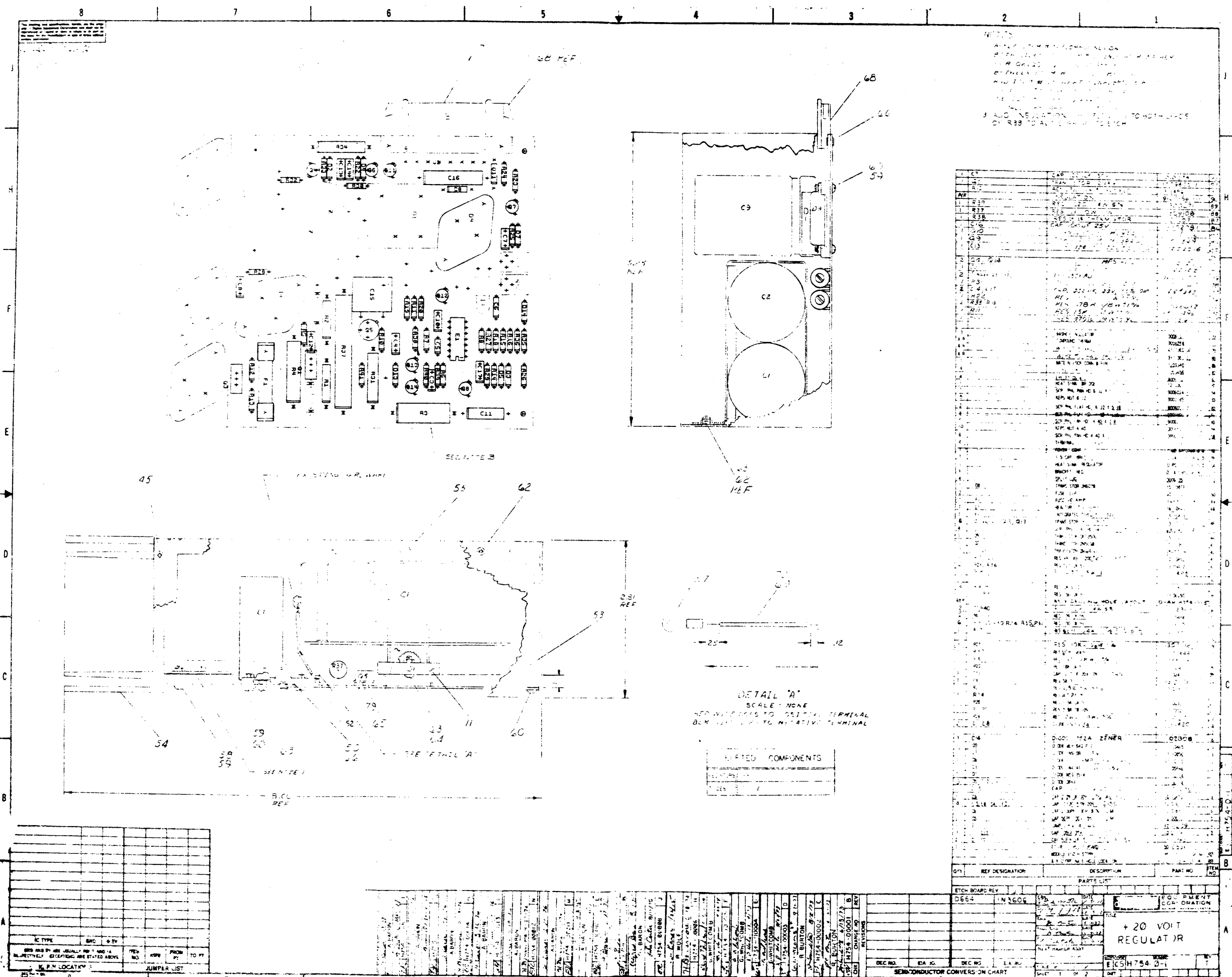
CUSTOMER PRINT SET		ELECTRICAL					CUSTOMER PRINT SET		MECHANICAL						
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X		1	R-DD-H754-0	=	3	DRAWING DIRECTORY		X		1	E-CS-H754-0-1	=	2	-20 VOLT REGULATOR	
X			E-CS-H754-0-1	=	2	+20 VOLT REGULATOR					D-PS-1210737-0-0		1	HEAT SINK REGULATOR	
			K-CO-H754-0-4	-		X-Y COORDINATE HOLE LOCATION					C-TA-5309758-0-0		1	CAPACITOR BRACKET	
			D-AP-H754-0-5		1	ASSY/DRILLING HOLE LAYOUT									
			B-MU-H754-0-6		1	MODULE ECO HISTORY									
			5010531	-		ETCHED CIRCUIT BOARD									
			A-SP-H754-0-8		3	MANUFACTURING SPEC									
										2	D-TA-5409756-0-0		1	BRACKET REGULATOR	
											A-SS-5309756-0-1		1	SILK SCREEN	
											A-SS-5309756-0-2		1	SILK SCREEN	
											A-SS-5309756-0-3		1	SILK SCREEN	

CUSTOMER PRINT SET CODES
 X = PRINT OF DOCUMENT INCLUDED IN PRINT SET
 C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT
 S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED

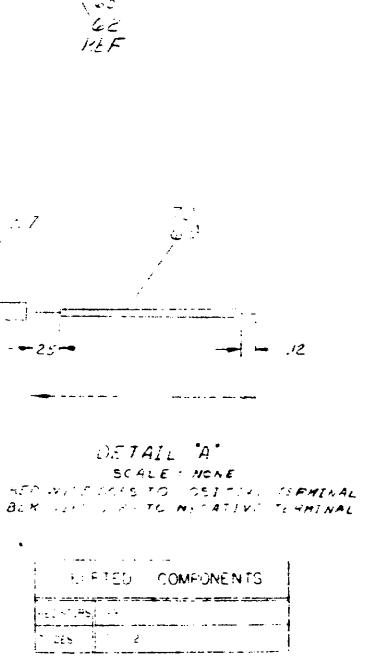
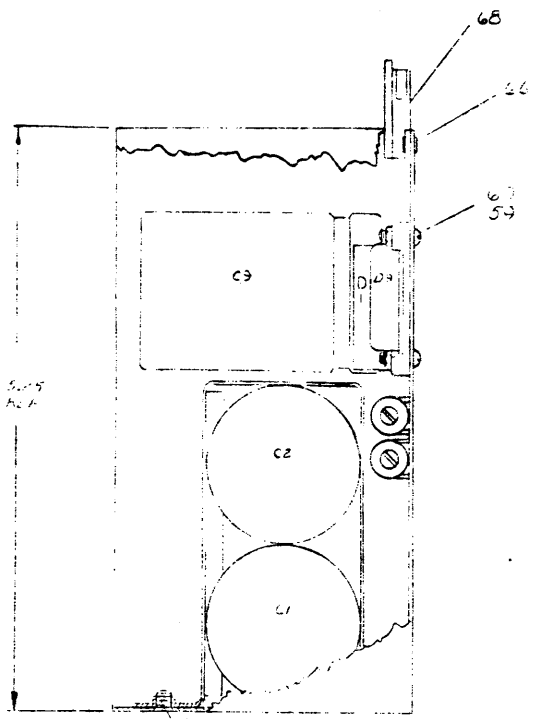
TITLE: -20 VOLT REGULATOR
 SHEET OF: B DD NUMBER: H754-0 REV: E



TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
+20 VOLT REGULATOR	3	3	B	DD	H754-0	B



NOTES:
 1. ALL DIMENSIONS ARE IN INCHES
 2. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED
 3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED
 4. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED



QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
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1	R2	RES 1/4W 1K	RES	2
1	R3	RES 1/4W 1K	RES	3
1	R4	RES 1/4W 1K	RES	4
1	R5	RES 1/4W 1K	RES	5
1	R6	RES 1/4W 1K	RES	6
1	R7	RES 1/4W 1K	RES	7
1	R8	RES 1/4W 1K	RES	8
1	R9	RES 1/4W 1K	RES	9
1	R10	RES 1/4W 1K	RES	10
1	R11	RES 1/4W 1K	RES	11
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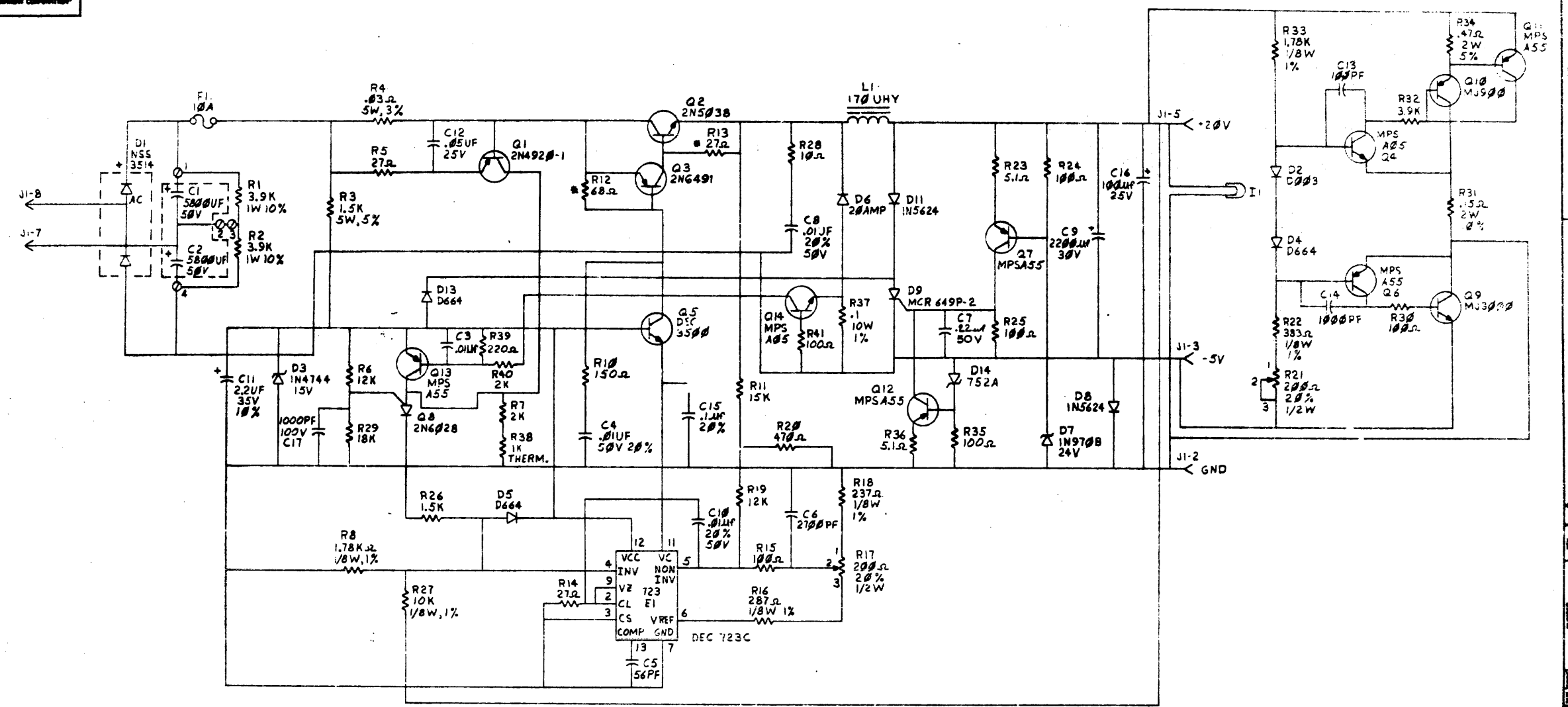
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7805	1	C72	1
7805	1	C73	1
7805	1	C74	1
7805	1	C75	1
7805	1	C76	1
7805	1	C77	1
7805	1	C78	1
7805	1	C79	1
7805	1	C80	1
7805	1	C81	1
7805	1	C82	1
7805	1	C83	1
7805	1	C84	1
7805	1	C85	1
7805	1	C86	1
7805	1	C87	1
7805	1	C88	1
7805	1	C89	1
7805	1	C90	1
7805	1	C91	1
7805	1	C92	1
7805	1	C93	1
7805	1	C94	1
7805	1	C95	1
7805	1	C96	1
7805	1	C97	1
7805	1	C98	1
7805	1	C99	1
7805	1	C100	1

REF	DESCRIPTION	PART NO	QTY	REVISION
C1	7805	7805	1	1
C2	7805	7805	1	1
C3	7805	7805	1	1
C4	7805	7805	1	1
C5	7805	7805	1	1
C6	7805	7805	1	1
C7	7805	7805	1	1
C8	7805	7805	1	1
C9	7805	7805	1	1
C10	7805	7805	1	1
C11	7805	7805	1	1
C12	7805	7805	1	1
C13	7805	7805	1	1
C14	7805	7805	1	1
C15	7805	7805	1	1
C16	7805	7805	1	1
C17	7805	7805	1	1
C18	7805	7805	1	1
C19	7805	7805	1	1
C20	7805	7805	1	1
C21	7805	7805	1	1
C22	7805	7805	1	1
C23	7805	7805	1	1
C24	7805	7805	1	1
C25	7805	7805	1	1
C26	7805	7805	1	1
C27	7805	7805	1	1
C28	7805	7805	1	1
C29	7805	7805	1	1
C30	7805	7805	1	1
C31	7805	7805	1	1
C32	7805	7805	1	1
C33	7805	7805	1	1
C34	7805	7805	1	1
C35	7805	7805	1	1
C36	7805	7805	1	1
C37	7805	7805	1	1
C38	7805	7805	1	1
C39	7805	7805	1	1
C40	7805	7805	1	1
C41	7805	7805	1	1
C42	7805	7805	1	1
C43	7805	7805	1	1
C44	7805	7805	1	1
C45	7805	7805	1	1
C46	7805	7805	1	1

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1-0-4-0-1



* FUSIBLE RESISTOR

DRN: BROSSETTE 2-72	PRINT: LINDOR	digital
CHKD: R. VOWLES 2-17-72	H754	
ENGR: R. BURTON 2-7-73	TITLE	
PROJ. ENG. R. BURTON 5-7-73	+20 VOLT REGULATOR	
PROD. L. BAPTISTE 3-9-73		
NEXT HIGHER ASSY.		
SCALE	SIZE CODE	NUMBER
SHEET 2 OF 2	D CS	H754-0-1
	DIST.	REV. T

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NOTES:

DCS 5411086-0-1

QUANTITY	IC PART NO.	DESCRIPTION	PART NO.	ITEM NO.
1	R29	RESISTOR 3.0K 1/4W 1%	1305174	89
1	R28	RESISTOR 5.0K 1/4W 1%	1305126	90
1	R27	RESISTOR 4.0K 1/4W 1%	1305324	91
0	R35	RESISTOR 24.0K 1/4W 1%	1305406	98
0	R24	RESISTOR 200.0Ω 50PR	1305150-18	99
1	R32	RESISTOR 10.0K 1/4W 1%	1305412	94
0	R5.00	RESISTOR 2.50 5% 50W	1305884	01
0	Q7	TRANSISTOR MJE2005	1510555	92
4	Q2, Q3, Q5, Q6, Q10, Q19	TRANSISTOR MPSA05	1510705	03
0	Q4, Q8	TRANSISTOR MPS A55	1510700	84
0	Q1, Q8	TRANSISTOR 2N 4441	1505887	85
4	Q1, Q11, Q12, Q13, Q18	TRANSISTOR 2N 4250	1505442	86
4	Q14, Q15, Q17, Q18	TRANSISTOR 2N 8433	1511886	87
0	L1	INDUCTOR 500μh	1811884	88
1	T1	TRANSFORMER	1812026	89
0	E1	I.C. DEC 723	1918415	76
0	1	SCREW, PHM #4-40 X 7/8 LG.	900851-2-1	71
0	1	SCREW, PHM #8-32 X 1/4 LG.	900820-1	72
0	1	SCREW, PHM #8-32 X 7/8 LG.	900802	73
0	1	KEP NUT #4-40	900855	74
0	2	KEP NUT #10-32	900858	75
2	2	WASHER, ITTLKWR #10	900835	78
0	2	WASHER, FLAT	900888	77
0	2 (W)	SPLIT LUG	900651	79
0	1	SPACER, 1/4AF X 1/2	900844	79
4	4	CABLE TIE	9007880	60
2	2	TERMINAL	9007320	81
2	2	SCREW, PHM #10-32 X 1/4 LG.	900807-1	82
0	2	TERMINAL	9008150	83
0	1	KEP NUT #8-32	9008185	84
0	AVR	COMPOUND THERMAL JOINT	9008268	85
0	5	WASHER, MICA	9008424	88
0	2	WASHER, RING	9008440	87
0	1	FUSE HOLDER	9009141	88
1	R22	RESISTOR, 390, 2W 10%	1301880	89
0	1 W1	JUMPER	9009185	90
2	1/2	WIRE #18 STRANDED BLK	9107380-0-0	91
REF	REF	MODULE TEST PROCEDURE	A-SP-1145-1A-2	92
1	1	WASHER, RING	9006773	93
1	1	.010 INCH SHIM	7413721-0-0	34
REF	REF	ENG. SPEC AND TEST PROC.	A-SP-5411086-0-3	35

IC PIN LOCATIONS		
IC TYPE	GND	+5V

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

FIRST USED OR OPTION MODEL

ETCH BOARD REV D

DRN DATE 10-9-74
 CHK D DATE 10/9/74
 ENG DATE 10/9/74
 PROJ LN DATE 10/9/74
 PROD DATE 10/9/74
 NEXT HIGHER ASSY

digital EQUIPMENT CORPORATION

TITLE PWR. LINE MONITOR/15V REG.

SCALE DIST 2 OF 4

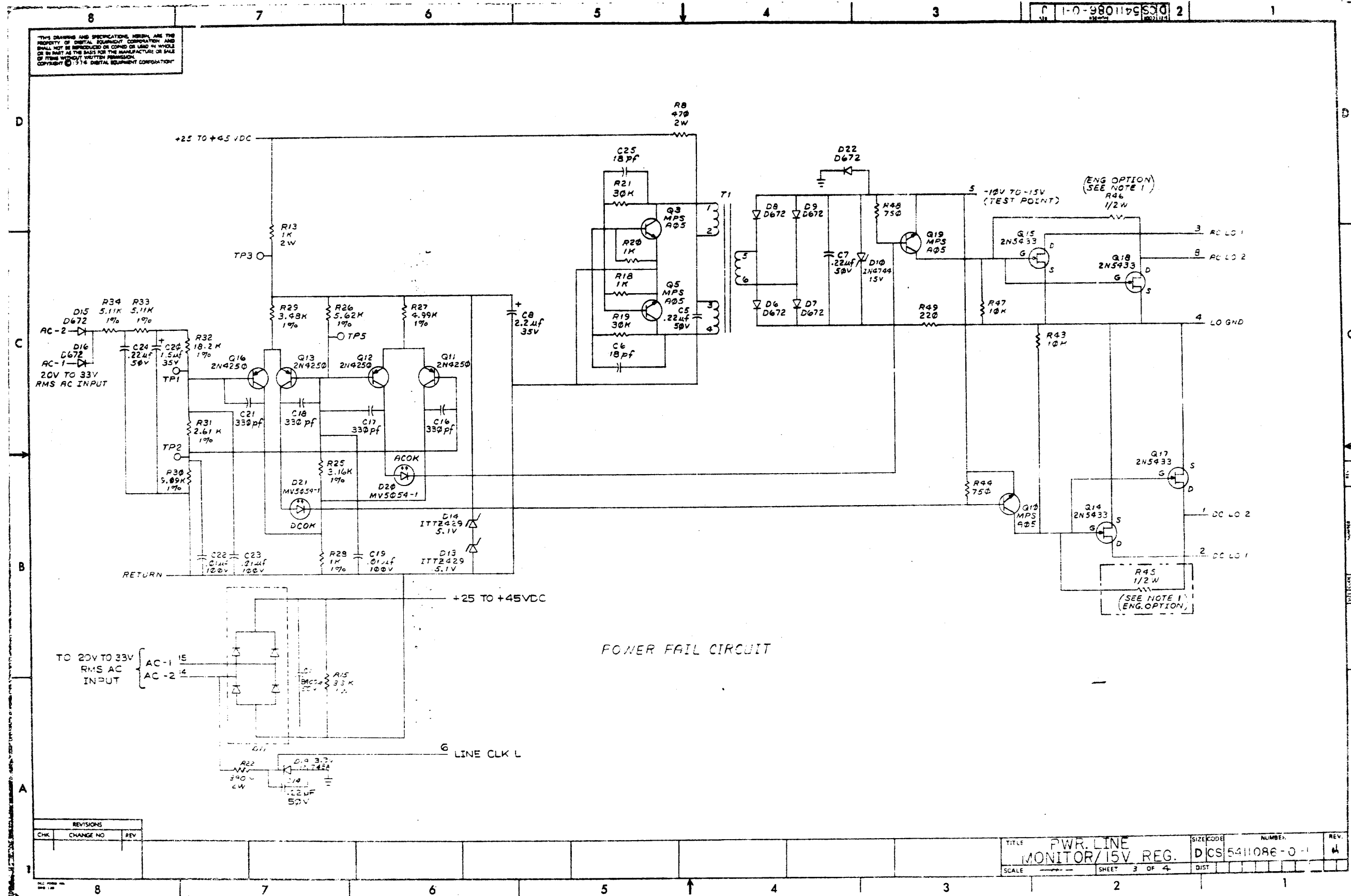
SEMICONDUCTOR CONVERSION CHART

SIZE CODE NUMBER REV
 DCS 5411086-0-1 J

DCS 5411086-0-1

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1-0-98011795300 2



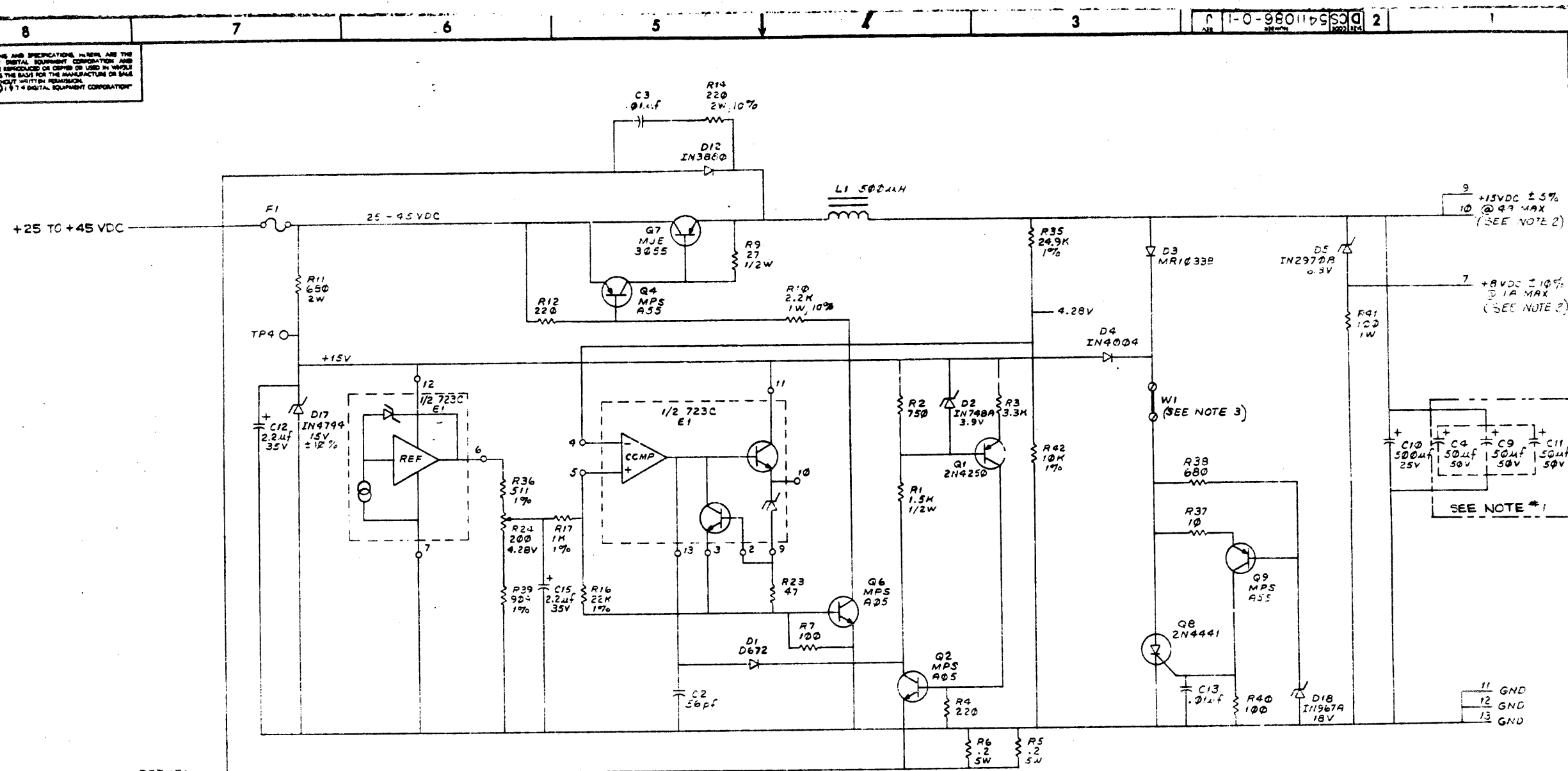
REVISIONS		
CHK	CHANGE NO	REV

TITLE	PWR. LINE MONITOR/15V REG.	SIZE CODE	NUMBER	REV.
SCALE	---	SHEET	3 OF 4	
DCS 5411086-0-1				

DCS 5411086-0-1 U

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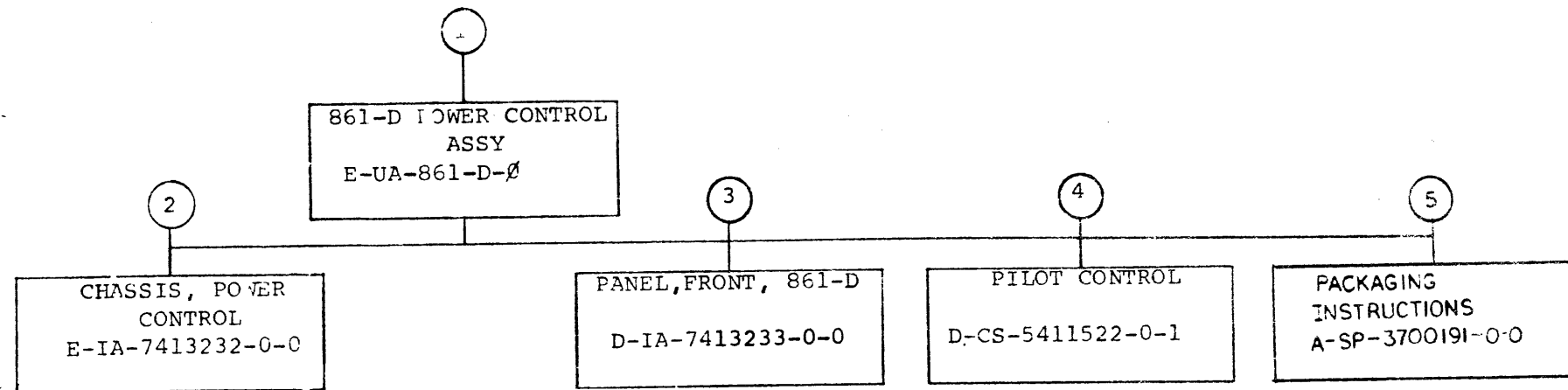


15V REGULATOR
(SEE NOTE #4)

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	PWR. LINE MONITOR/15V REG.	SIZE CODE	DICS5411086-0-1	NUMBER	1	REV.	↓
SCALE	1:1	SHEET	4 OF 4	DIST.			

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TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
861-D POWER CONTROL	2	3	B	DD	861-D	B

CUSTOMER PRINT SET		MECHANICAL					CUSTOMER PRINT SET		ELECTRICAL							
		MFG. SET	FIND NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE			MFG. SET	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE
X			1	*	2	861-D POWER CONTROL ASSY		X			1	B-DD-861-D	*	2	861-D POWER CONTROL ASSY	
X				*	3	861-D POWER CONTROL ASSY P.L.		X				D-CS-861-D-1	*	1	861-D POWER CONTROL SCHEMATIC	
					1	COVER, POWER CONTROL						A-SP-861-D-2		4	861-D TEST PROCEDURE	
					1	BRACKET, STRAIN RELIEF										
					1	MOV ASSY										
					1	PILOT LAMP ASSY										
					1	HARNESS #1, POWER CONTROL										
					1	HARNESS #3, POWER CONTROL										
					1	HARNESS #5, POWER CONTROL										
					1	HARNESS #6, POWER CONTROL										
					1	HARNESS #8, POWER CONTROL		X			4	D-CS-5411522-0-1	*	1	PILOT CONTROL	
					1	JUMPER, WIRE						K-CO-5411522-0-4			DRILL TAPE	
					1	DECAL (NOT FOR EXTERNAL LOADS)						B-MI-5411522-0-6			MODULE ECO HISTORY	
					1							A-SP-5411522-0-7			PILOT CONTROL TEST PROCEDURE	
					1							D-1-5411522-0-5			ASSY DRILL HOLE LAYOUT	
			2		2	CHASSIS, POWER CONTROL										
					1	SILK SCREEN, CHASSIS										
			3		2	PANEL, FRONT, 861-D										
					1	SILK SCREEN, FRONT PANEL, 861-D										
X			5		2	PACKAGING INSTRUCTIONS, 861-D										
					2	FULL OVERLAP CARTON										
					2	LAMINATED BUILDUP										
					1	TAPE - GLASFLEX										

CUSTOMER PRINT SET CODES

X = PRINT OF DOCUMENT INCLUDED IN PRINT SET
 C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT
 S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED

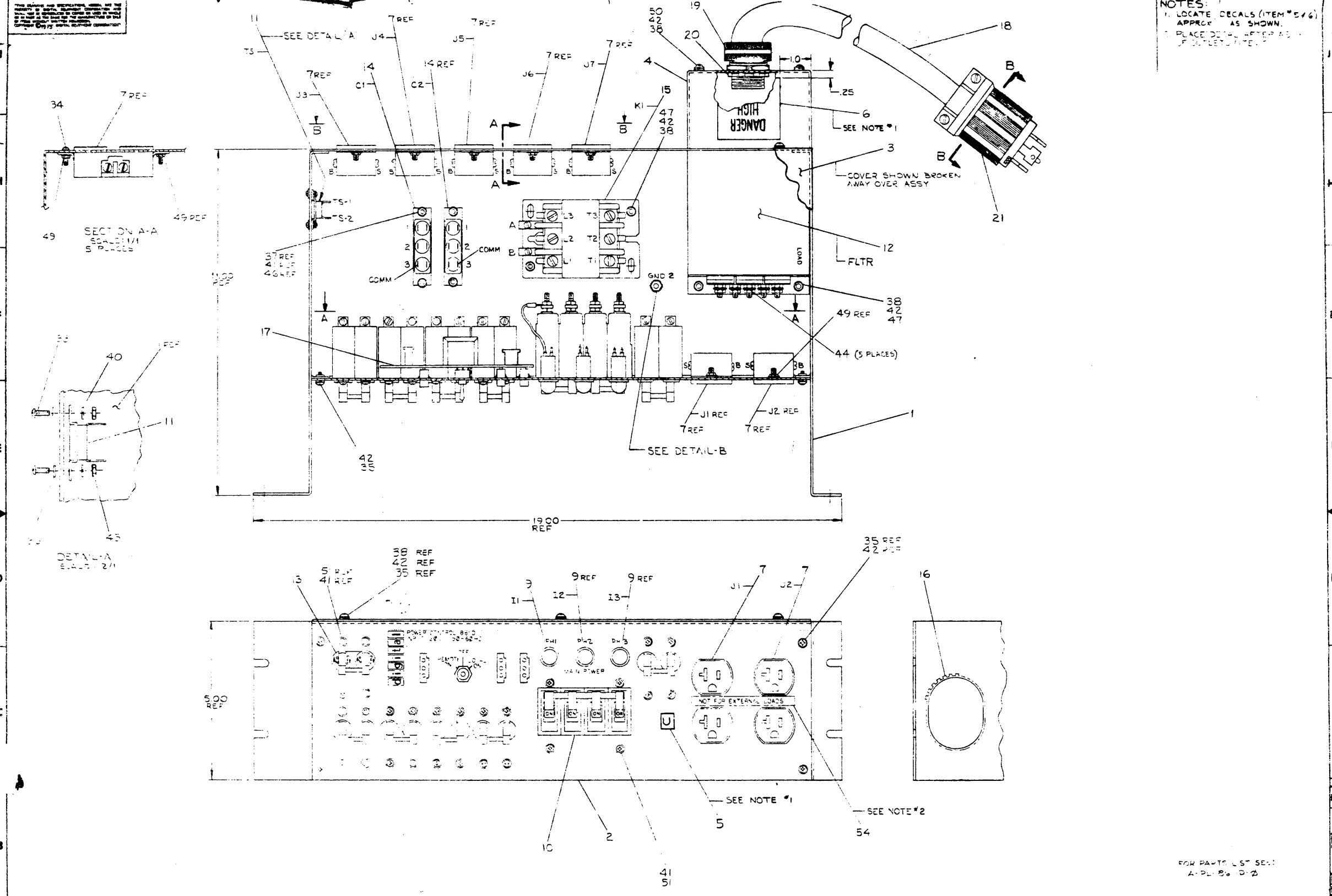
TITLE
 861-D POWER CONTROL

SHEET 3 OF 3
 SIZE CODE B DD
 NUMBER 861-D
 REV B

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NOTES:
 1. LOCATE DECALS (ITEM #46)
 APPROX AS SHOWN.
 2. PLACE DECAL AFTER ASSEMBLY IS COMPLETE.



SECTION A-A
 5 PLACES

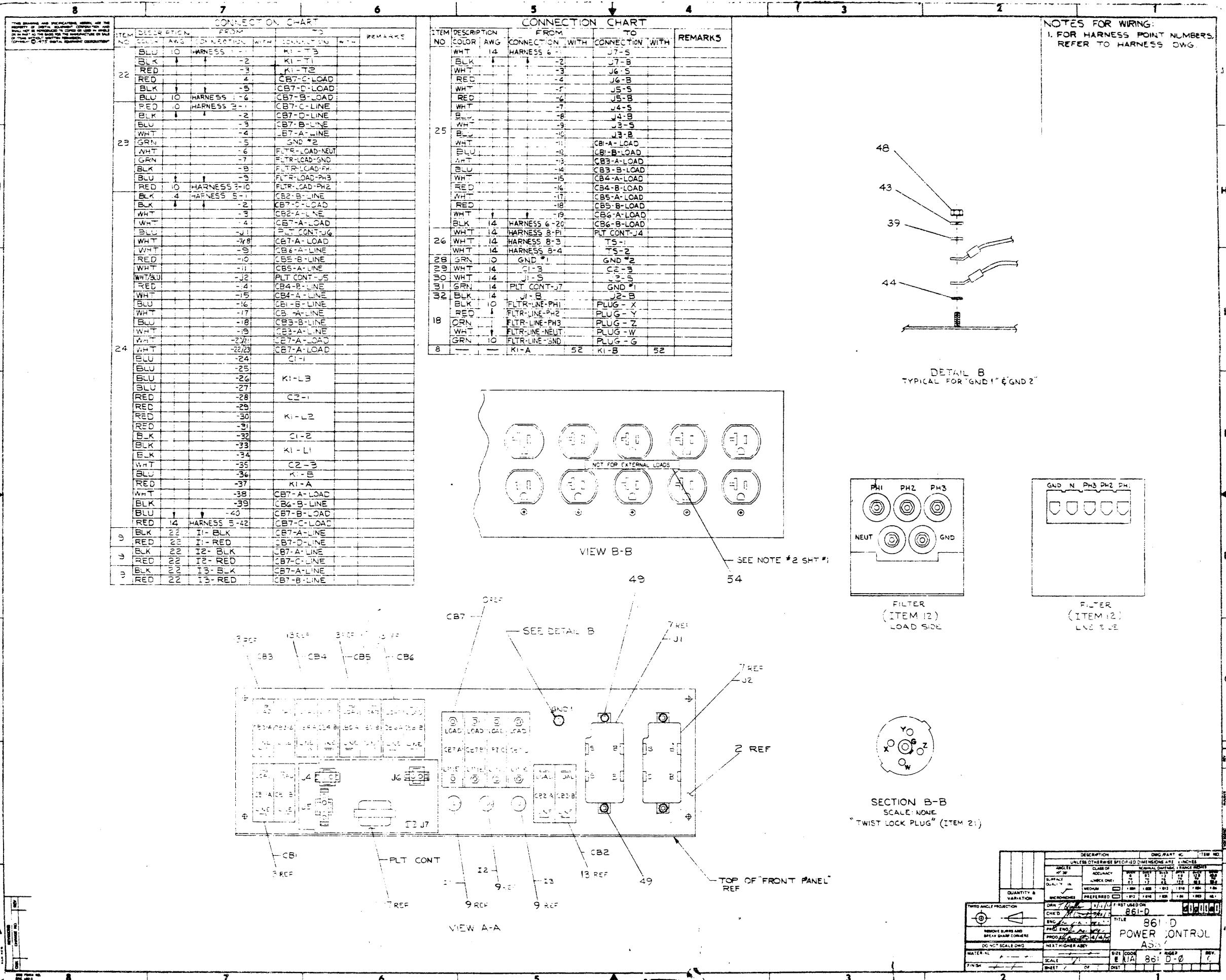
DETAIL A
 SCALE 2/1

FOR PARTS LIST SEE
 A-PL-86-D-2

REV	DATE	BY	CHK'D
1	10-15-68	W. J. WOOD	
2	11-18-68	R. J. WOOD	
3	12-10-68	R. J. WOOD	

REV	DATE	BY	CHK'D
1	10-15-68	W. J. WOOD	
2	11-18-68	R. J. WOOD	
3	12-10-68	R. J. WOOD	

QUANTITY	3
VARIATION	0
DESCRIPTION	861-D POWER CONTROL ASSY
DATE	11-18-68
BY	R. J. WOOD



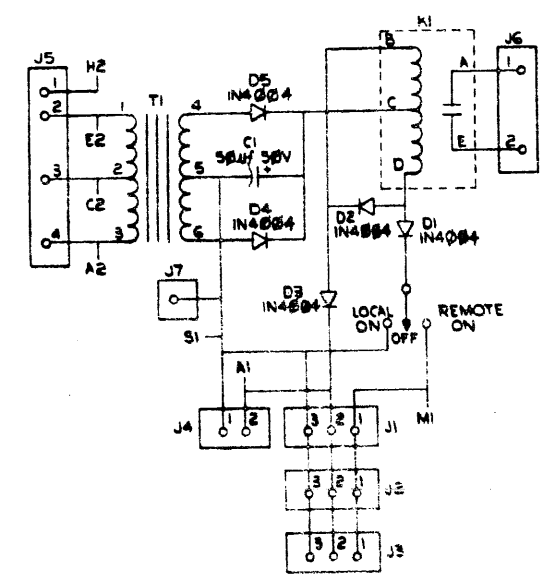
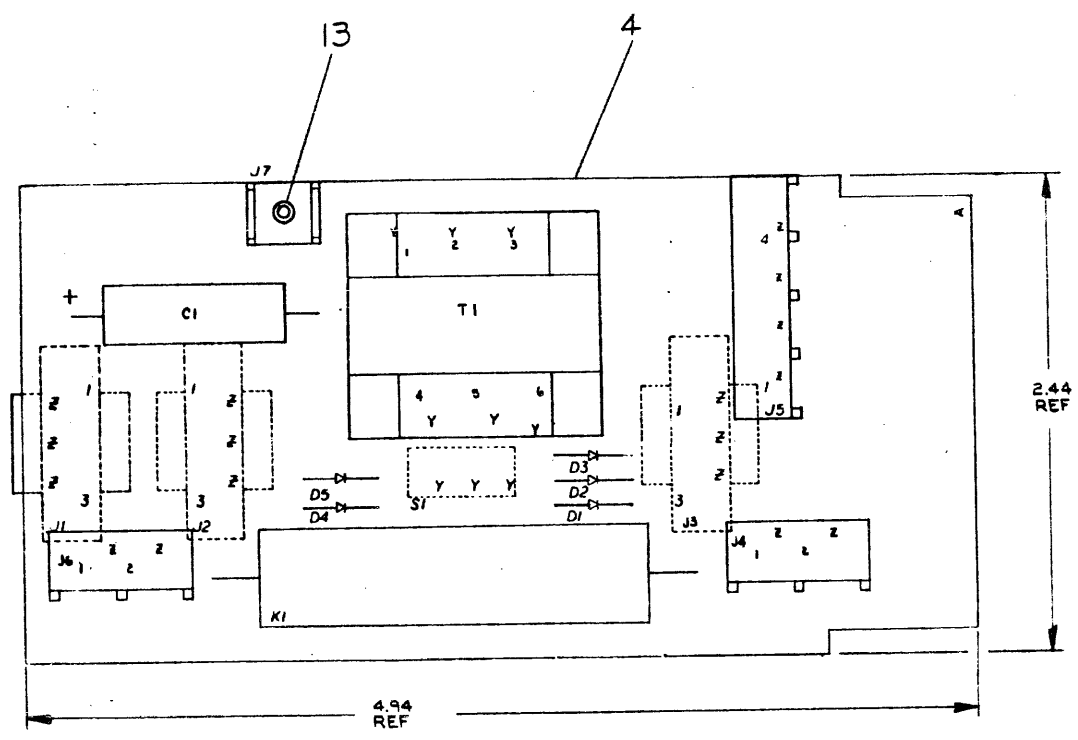
NOTES FOR WIRING:
1. FOR HARNESS POINT NUMBERS, REFER TO HARNESS DWG.

DESCRIPTION		QTY	UNIT	ITEM NO.
861-D POWER CONTROL ASSEMBLY		1	ASSEMBLY	1
861-D POWER CONTROL ASSEMBLY		1	ASSEMBLY	2

NO.	DESCRIPTION	QTY	UNIT	ITEM NO.
1	861-D POWER CONTROL ASSEMBLY	1	ASSEMBLY	1
2	861-D POWER CONTROL ASSEMBLY	1	ASSEMBLY	2

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NOTES:



REF	DESCRIPTION	PART NO
	X-Y COORDINATE HOLE LOCATION	K-CO-5411522-0-4
	ASSY/DRILLING HOLE LAYOUT	D-AH-5411522-0-5
	MODULE ECO HISTORY	B-MH-5411522-0-6
	ETCHED CIRCUIT BOARD	5011521
1	KI	RELAY, REED, 48V COL. 2.5 A CONV.
1	T1	TRANSFORMER MMC 5415
1	C1	CAP 50MFD 50V TANT
5	D1-D5	DIODE IN4004
1	S1	SWITCH
3	J1-J3	HOUSING, SOCKET
1	J5	CONN, UNIVERSAL, 4 PIN HEADER
2	J4, J6	CONN, UNIVERSAL, 2 PIN HEADER
1		EYELET
9		TERMINAL, SOCKET CONTACT
1	J7	TERMINAL, SOLDERLESS

QTY	REF DESIGNATION	DESCRIPTION	PART NO	ITEM NO
PARTS LIST				
FIRST USED ON OPTION MODEL 861-D / 861-E				
ETCH BOARD REV B				

DRN: [Signature] DATE: 2/4/75
 CHG: W.F. MCG... DATE: 2/4/75
 ENG: [Signature] DATE: 2/4/75
 PROJ. ENG: [Signature] DATE: 2/4/75
 PROD: [Signature] DATE: 2/4/75

digital EQUIPMENT CORPORATION
 TITLE: PILOT CONTROL
 SIZE CODE: DCS5411522-0-1 NUMBER: A

CHK	CHANGE NO	REV

DEC NO	EIA NO	DEC NO	EIA NO

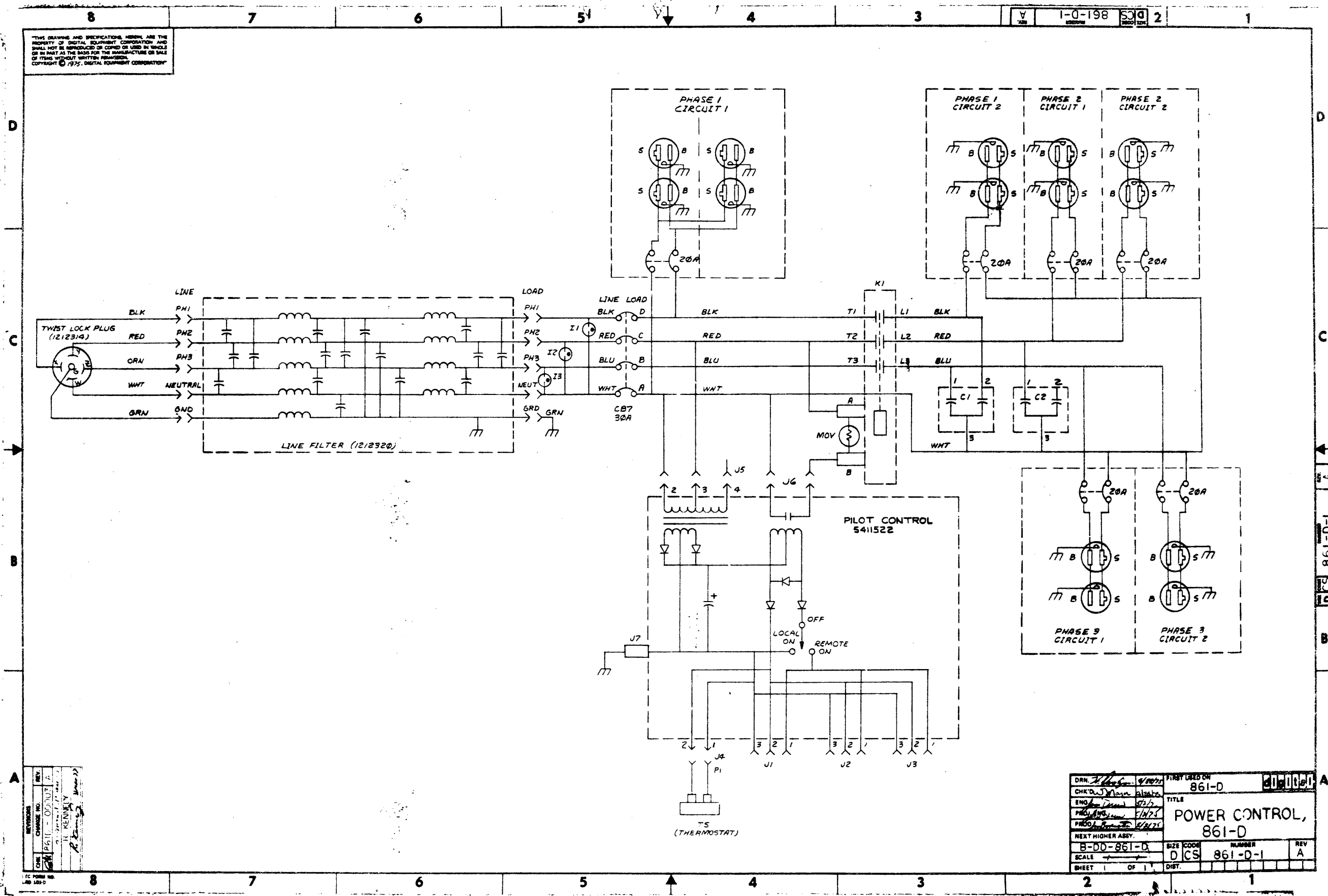
SCALE: NONE
 SHEET: 1 OF 1

IC TYPE	GND	+5V

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

DCS5411522-0-1

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REV	DATE	BY	CHK
1	11/17/75	W. KENNY	
2	12/1/75		
3	12/1/75		
4	12/1/75		
5	12/1/75		
6	12/1/75		
7	12/1/75		
8	12/1/75		

DRN	DATE	FIRST USED ON	REV
W. KENNY	11/17/75	861-D	1
CHK'D BY	DATE	TITLE	
W. KENNY	11/17/75	POWER CONTROL,	
ENG'D BY	DATE	861-D	
W. KENNY	11/17/75		
PROOF BY	DATE	NUMBER	REV
W. KENNY	11/17/75	861-D-1	A
NEXT HIGHER ASSY.	SIZE	CODE	
B-DD-861-D	D	CS	
SCALE	OF	DIST.	
1	1		

D CS 861-D-1

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY / VARIATION			
PARTS LIST							
MADE BY Tyrone Quillin		CHECKED <i>M.C. The</i>		SECTION 1			
DATE 3/11/75		DATE 4/9/75		ISSUED SECT.			
ENG <i>John J. ...</i>		PROD <i>John J. ...</i>					
DATE 4/1/75		DATE 4/1/75					
ITEM NO	DWG NO. / PART NO.	DESCRIPTION	REL-D				
1	E-1A-7412232-0-0	CHASSIS, POWER CONTROL	1				
2	D-1A-7412233-0-0	PANEL, FRONT, 861-D	1				
3	C-1D-7412274-0-0	CONV, POWER CONTROL	1				
4	D-1D-7412419-0-0	BRACKET, STRAIN RELIEF	1				
5	3612063-00	DECAL, W	1				
6	3612061-0-0	DECAL, "DANGER HIGH VOLTAGE"	1				
7	1212265-00	POWER CONN RECEPTACLE, 28A, 125VAC	7				
8	C-2A-7011052-0-0	MOV ASSY	1				
9	D-2A-7011053-0-0	PILOT LAMP ASSY	3				
10	1211037-00	CIRCUIT BREAKER, 4 POL, 30A, 242 VAC	1				
11	1211158-00	THERMOSTAT, SPST, FIXED TEMP	1				
12	1212320-00	FILTER	1				
13	1212124-01	CIRCUIT BREAKER, 2 POLE, 20 AMP	6				
14	1000034-00	DC PAPER CAPACITOR, 1000 VDC	2				
15	1212266-00	CONTACTOR, 3 POLE, 40A, 600 VAC	1				
16	9007030-00	GROMMET, CATERPILLAR	A/R				
17	D-CS-5411522-0-1	PILOT CONTROL	1				
18	1700028-00	POWER CORD, 5 WIRE, 18 AWG, (15FT)	A/R				
19	1212410-00	STRAIN RELIEF	1				
20	9009309-01	LOCKWTF, 3/4" PIPE THREAD	1				
21	1212314-00	PLUG, TWIST LOCK, 4 POLE/5 WIRE	1				
22	D-1A-7010966-0-0	HARNES #1, POWER CONTROL	1				

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO
861-D POWER CONTROL ASSY	E-1A-861-D-0	A	PL	861-D-0	C	861-D-00002
	SHEET 1 OF 3					

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY / VARIATION			
PARTS LIST							
MADE BY Tyrone Quillin		CHECKED <i>M.C. The</i>		SECTION 1			
DATE 3/11/75		DATE 4/9/75		ISSUED SECT.			
ENG <i>John J. ...</i>		PROD <i>John J. ...</i>					
DATE 4/1/75		DATE 4/1/75					
ITEM NO	DWG NO. / PART NO.	DESCRIPTION	REL-D				
45	9006556-00	NUT, HEX, #4-40	2				
46	9006558-00	NUT, HEX, #6-32	4				
47	9006561-00	NUT, HEX, #8-32	4				
48	9006564-00	NUT, HEX, #10-32	2				
49	9008185-00	NUT, KEPS, #6-32	14				
50	9006051-1	SCR, PHL PAN HD, #8-32 x 3.00 LG	2				
51	9006020-1	SCR, PHL PAN HD, #6-32 x .25 LG	28				
52	9006633-00	WASHER, INT TOOTH, #6	2				
53	A-SP-3700191-0-0	PACKAGING INSTRUCTIONS 861-D	1				
54	A-DC-7416582-0-1	DECAL (NOT FOR EXTERNAL LOADS)	2				
REF D-CS-861-D-1		861-D POWER CONTROL CIRCUIT SCHEMATIC					

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO
861-D POWER CONTROL ASSY	E-1A-861-D-0	A	PL	861-D-0	C	861-D-00002
	SHEET 3 OF 3					

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY / VARIATION			
PARTS LIST							
MADE BY Tyrone Quillin		CHECKED <i>M.C. The</i>		SECTION 1			
DATE 3/11/75		DATE 4/9/75		ISSUED SECT.			
ENG <i>John J. ...</i>		PROD <i>John J. ...</i>					
DATE 4/1/75		DATE 4/1/75					
ITEM NO	DWG NO. / PART NO.	DESCRIPTION	REL-D				
23	D-1A-7010967-0-0	HARNES #2, POWER CONTROL	1				
24	D-1A-7010969-0-0	HARNES #3, POWER CONTROL	1				
25	D-1A-7010970-0-0	HARNES #5, POWER CONTROL	1				
26	D-1A-7010968-0-0	HARNES #6, POWER CONTROL	1				
27	D-1A-7010971-0-0	JUMPER, WIRE (GRN, #14AWG)	1				
28	D-1A-7010972-0-0	JUMPER, WIRE (WHT, #14AWG)	1				
29	D-1A-7010973-0-0	JUMPER, WIRE (WHT, #14AWG)	2				
30	D-1A-7010974-0-0	JUMPER, WIRE (GRN, #14AWG)	1				
31	D-1A-7010975-0-0	JUMPER, WIRE (BLK, #14AWG)	2				
32	D-1A-7010976-0-0	JUMPER, WIRE (BLK, #14AWG)	2				
33	9006051-1	SCR, PHL PAN HD, #8-32 x .31 LG	2				
34	9006020-1	SCR, PHL PAN HD, #6-32 x .31 LG	3				
35	9006037-01	SCR, PHL PAN HD, #8-32 x .38 LG	1				
36	9006633-00	WASHER, INT, #6	2				
37	9006553-00	WASHER, INT, #6	4				
38	9006558-00	WASHER, INT, #6	10				
39	9006561-00	WASHER, INT, #8	2				
40	9006564-00	WASHER, INT, #10	2				
41	9007030-00	WASHER, INT, LOCK, #6	2				
42	9007031-00	WASHER, INT, LOCK, #8	3				
43	9007032-00	WASHER, INT, LOCK, #10	10				
44	9007651-00	WASHER, INT, LOCK, #6	7				

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV	ECO NO
861-D POWER CONTROL ASSY	E-1A-861-D-0	A	PL	861-D-0	C	861-D-00002
	SHEET 2 OF 3					

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**DIGITAL EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS**

PACKAGING INSTRUCTION	REV: _____	DATE: _____
TITLE 861-D-E POWER CONTROL	_____	_____

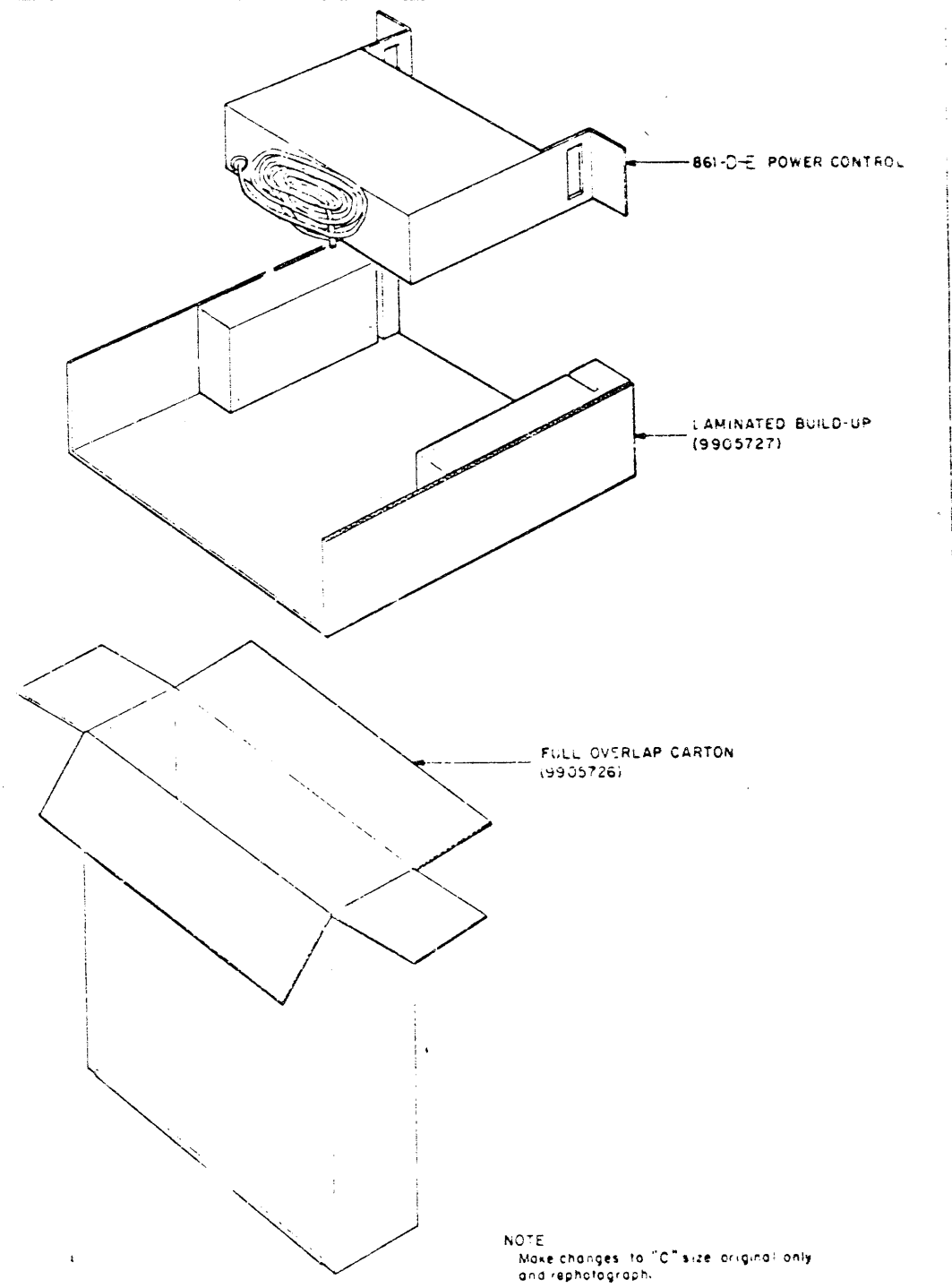
MATERIAL REQUIREMENTS		
Quantity	Purchase Specification No.	Description
1	9905726	Full-Overlap Carton
1	9905727	Laminated Buildup
5 ft.	9905729	Glasflex Tape

PACKAGING INSTRUCTIONS	
Step	Procedure
1	Set up and tape Full-Overlap Carton (9905726) using one strip of Glasflex tape.
2	Place 861 Power Control into Laminated Buildup (9905727) as shown in Figure 1. Make sure that the slots in the Laminated Buildup align with the power control chassis.
3	Pick up Laminated Buildup from both sides and slide it into the Full-Overlap Carton (front end first).
4	Coil the cable on the rear of the power control so that it will fit into the carton.
5	Close and seal carton with Glasflex tape.

ENG. <i>Rob Sweet</i>	APPD. <i>5/14/75</i>	SIZE A	CODE SP	NUMBER 3700.91-0-0	REV
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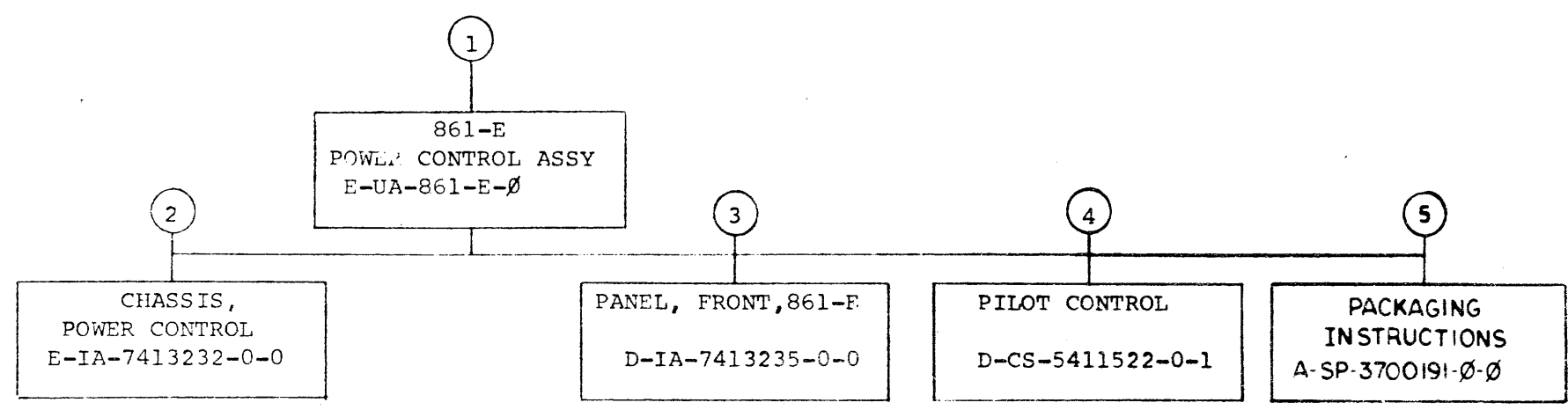
PACKAGING INSTRUCTION	REV: _____	DATE: _____
TITLE 861-D-E POWER CONTROL PACKAGING INSTRUCTION	_____	_____

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NOTE
Make changes to "C" size original only
and rephotograph.

ENG. <i>Rob Sweet</i>	APPD. <i>5/14/75</i>	SIZE A	CODE SP	NUMBER 3700.91-0-0	REV
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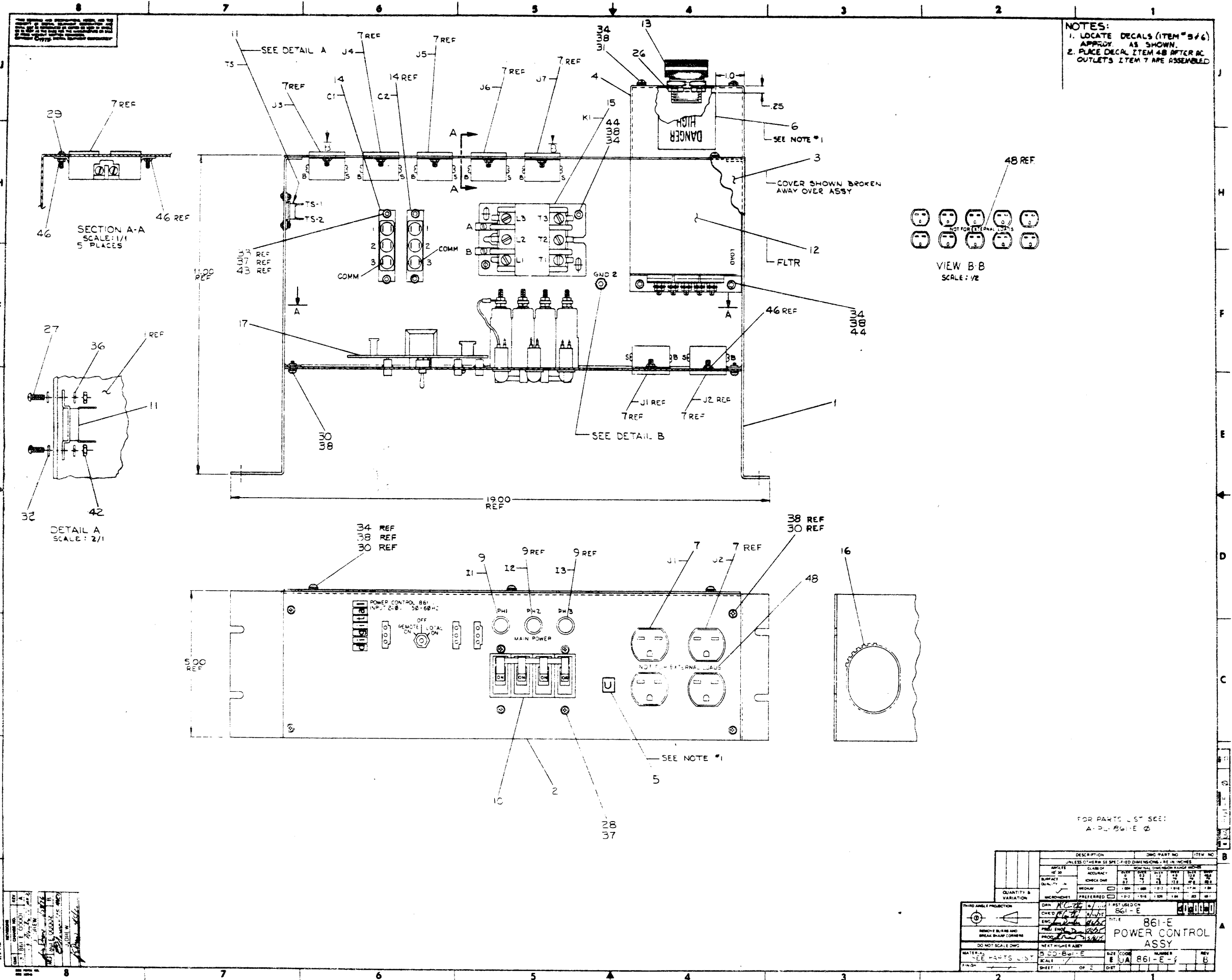


TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
861-E POWER CONTROL	2	3	B	DD	861-E	B

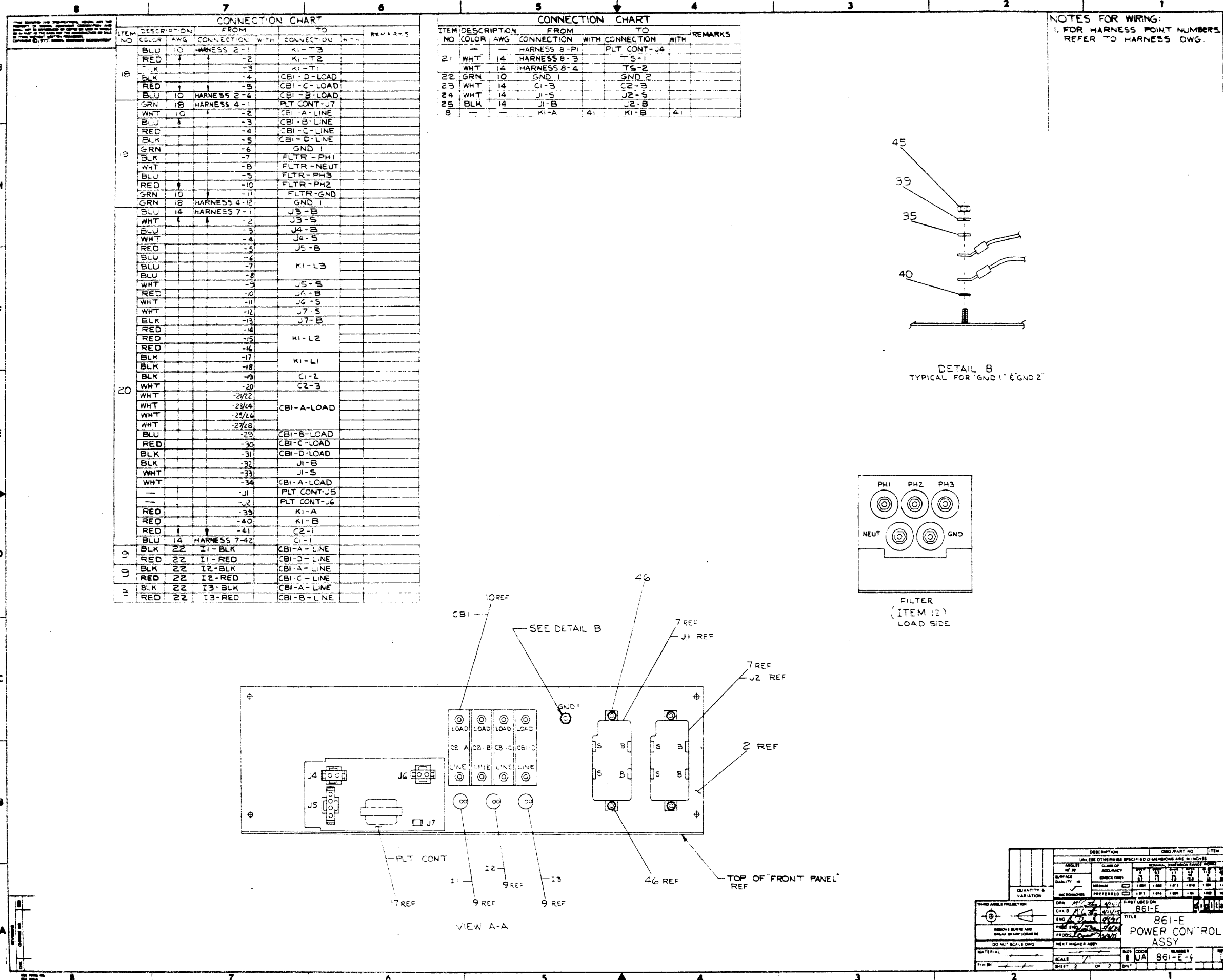
CUSTOMER PRINT SET		MECHANICAL					CUSTOMER PRINT SET		ELECTRICAL					
1	MFG SET	FIND NO	DRAWING NO	REV	NO OF SHT	OPTION NO / FILE DATE	1	MFG SET	FIND NO	DRAWING NO	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE
X		1	E-UA-861-E-0	*	2	861-E POWER CONTROL ASSY	X		1	B-DD-861-E	*	3	861-E POWER CONTROL	
X			A-PI-861-E-0	*	3	861-E POWER CONTROL ASSY P.L.	X			D-CS-861-E-1	*	1	861-E POWER CONTROL SCHEMATIC	
			C-MD-7413234-0-0		1	COVER, POWER CONTROL				A-SP-861-E-2		4	TEST PROCEDURE 861-E	
			D-MD-7413419-0-0		1	BRACKET, STRAIN RELIEF								
			C-IA-701052-0-0		1	MOV ASSY								
			C-IA-7011053-0-0		1	PILOT LAMP ASSY								
			D-IA-7010938-0-0		1	HARNES #2, POWER CONTROL								
			D-IA-7010936-0-0		1	HARNES #4, POWER CONTROL								
			D-IA-7010971-0-0		1	HARNES #7, POWER CONTROL								
			C-IA-7010968-0-0		1	HARNES #8, POWER CONTROL								
			D-IA-7010972-0-0		1	JUMPER, WIRE	X		4	D-CS-5411522-0-1	*	1	PILOT CONTROL	
			A-DC-7416582-0-1		1	DECAL (NOT FOR EXTERNANAL LOADS)				A-SP-5411522-0-7			TEST PROCEDURE	
		2	E-IA-7413232-0-0		2	CHASSIS, POWER CONTROL								
			B-SS-7413232-0-1		1	SILK SCREEN, CHASSIS								
		3	B-SS-7413235-0-1		1	SILK SCREEN, FRONT PANEL, 861-E								
			D-IA-7413235-0-0		2	PANEL, FRONT, 861-E								
		4	D-CS-5411522-0-1			PILOT CONTROL								
			K-CO-5411522-0-4			DRILL TAPE								
			D-AH-5411522-0-5			ASSY DRILLING HOLE LAYOUT								
			B-MI-5411522-0-6		1	MODULE ECO HISTORY								
		5	A-SP-3700191-0-0	-	2	PACKAGING INSTRUCTIONS, 861-E								
			A-PS-9905726-0-0	-	2	FULL OVERLAP CARTON								
			A-PS-9905727-0-0	-	2	LAMINATED BUILDUP								
			A-PS-9905729-0-0	-	1	GLASFLEX TAPE								

CUSTOMER PRINT SET CODES
 X = PRINT OF DOCUMENT INCLUDED IN PRINT SET
 C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT
 S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED

TITLE
 861-E POWER CONTROL
 SHEET 3 OF 3
 SIZE CODE B DD
 NUMBER 861-E
 REV B




DESCRIPTION		DWG PART NO		ITEM NO	
APPLICABLE	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				
ANGLE	± 30				
FLATNESS	± 0.005				
PERPENDICULARITY	± 0.005				
ROUNDNESS	± 0.005				
SYMMETRY	± 0.005				
TANGENTIALITY	± 0.005				
TOLERANCE	± 0.005				
FINISH	AS SHOWN				
SCALE	AS SHOWN				
SHEET	OF 2				
DRAWN: [Signature]		CHECKED: [Signature]		DATE: [Date]	
DESIGN: [Signature]		APPROVED: [Signature]		DATE: [Date]	
MATERIAL: [Material]		FINISH: [Finish]		SCALE: [Scale]	
PARTS LIST: [Reference]		DRAWING NO: 861-E		ITEM NO: [Blank]	
TITLE: POWER CONTROL ASSY		DRAWN BY: [Blank]		CHECKED BY: [Blank]	
MATERIAL: 3030-B01-E		FINISH: [Blank]		SCALE: [Blank]	
PARTS LIST: [Reference]		DRAWING NO: 861-E-1		ITEM NO: [Blank]	
FINISH: [Blank]		SCALE: [Blank]		SHEET: [Blank]	



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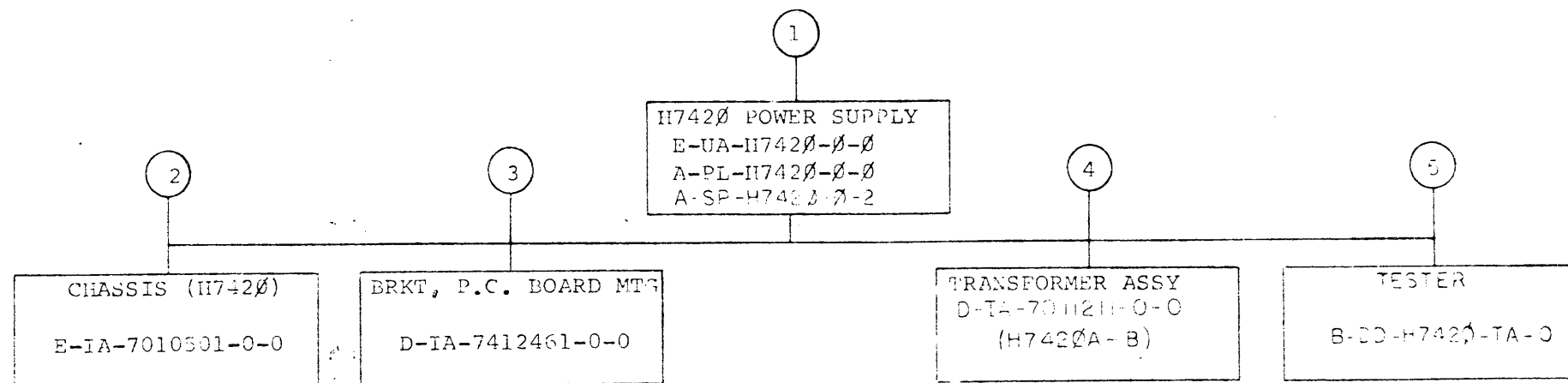
DRAWING NUMBER	INIT REL	AUTOMATIC WIRE TESTER (AWT) REVISION STATUS												REV					
	T7	A	B	C	D	E	F	H	J	K	L	M							
E-AD-7010829-0-0	*	*	*	*	*	*	*	*	*	*	*	*	*						
E-AD-7010828-0-0	*	*	*	*	*	*	*	*	*	*	*	*	*						
K-WL-7010329-0-1	*	A	B	B	C	C	C	D	E	F	H	J							
A-WL-7010329-0-2	*	*	*	A	A	B	F	B	B	B	C	C							
E-AD-7010329-0-0	*	*	*	*	*	A	B	B	B	B	C	C							
D-CS-5411337-0-1	C	C	C	C	C	C	C	C	C	C	C	C							
F-CS-5411339-0-1	B	B	B	B	H	B	B	B	B	B	B	B							

REVISIONS		REV
CHK	CHANGE NO	A
	KB11E-00001	B
	KB11B-00002	C
	7010329-0002A	D
	KB11B-00003	E
	7010329-00003	F
	7010329-00004	H
	7010329-00005	J
	R.B. 7010329-00006	K
	7010329-00007	L
	Rf.B. KB11B-00005	M
	Rf.B. 7010329-00008	

DRN D. HEALY	DATE 1/29/71		EQUIPMENT CORPORATION	
CHK'D I. HEALY	DATE 1/29/71		MULTI-AXIS MANUFACTURING SYSTEMS	
ENG J. G. H.	DATE	TITLE: PROC BACK PLANE 7010329		
PRG ENG	DATE	AWT REVISION STATUS		
PRGD	DATE	SIZE CODE A WT	NUMBER 7010329-0	REV 1
FIRST USED ON KB11-D				
SCALE 1/1	SHEET 1 OF 1	DIST		

DRA 123

DEC 16 1325-1097 N-11



TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
H7420 POWER SUPPLY	2	2	B	DD	H7420-0	E

296

CUSTOMER PRINT SET		ELECTRICAL				CUSTOMER PRINT SET		MECHANICAL					
MFG.	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE	MFG.	FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO / FILE DATE
X	1	B-DD-H7420-0	E	3	DRAWING DIRECTORY		X	1	E-UA-H7420-0-0	E	4	H7420 POWER SUPPLY	
X		D-CS-H7420-0-1	A	2	WIRING DIAGRAM		X		A-PL-H7420-0-0	E	2	H7420 POWER SUPPLY	
X		D-CS-5411086-0-1	=	4	POWER LINE MONITOR				D-MD-7412459-0-0	A	1	COVER, CONTROL BOX	
		A-SP-H7420-0-2	=	16	ENGINEERING SPEC.				C-IA-7010730-0-0		1	POWER INDICATOR ASSY	
									D-IA-7010729-0-0	A	1	CABLE, REGULATOR BOARD	
									D-IA-7010728-0-0		1	CABLE, FAN POWER	
									C-IA-7010727-0-0	C	1	POWER CORD, ASSEMBLY	
									A-DC-7413184-0-0		1	POWER SUPPLY DECAL (H7420)	
	5	B-DD-H7420-TF		1	TESTER DRAWING DIRECTORY				A-DC-7413966-0-0		1	POWER SUPPLY DECAL (H7420A)	
		B-CS-H7420-TA-1	A	1	TESTER WIRING DIAGRAM				A-DC-7413967-0-0		1	POWER SUPPLY DECAL (H7420B)	
		A-UA-H7420-TA-0		1	H7420 TESTER								
		A-PL-H7420-TA-0		2	TESTER PARTS LIST								
		A-SP-H7420-0-3		2	TEST PROCEDURE								
									2	E-IA-7010501-0-0		1	CHASSIS (H7420)
									E-IA-7412948-0-0		2	PLATE, BASE	
									E-IA-7412949-0-0		2	HOUSING, REGULATOR	
									3	D-IA-7412461-0-0		1	BRKT, P.C. BOARD MTG.
									D-SS-7412461-0-1		1	BRKT, P.C. BOARD MTG. (SS)	
									4	D-IA-7011211-0-0	A	2	TRANSFORMER ASSY (H7420A&B)
									C-IA-7010813-0-0		1	CAP/VAR ASSEMBLY	
CUSTOMER PRINT SET CODES	X = PRINT OF DOCUMENT INCLUDED IN PRINT SET C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED					TITLE	SIZE CODE	NUMBER	REV				
						H7420 POWER SUPPLY	B DD	H7420-0	E				

DPB 108

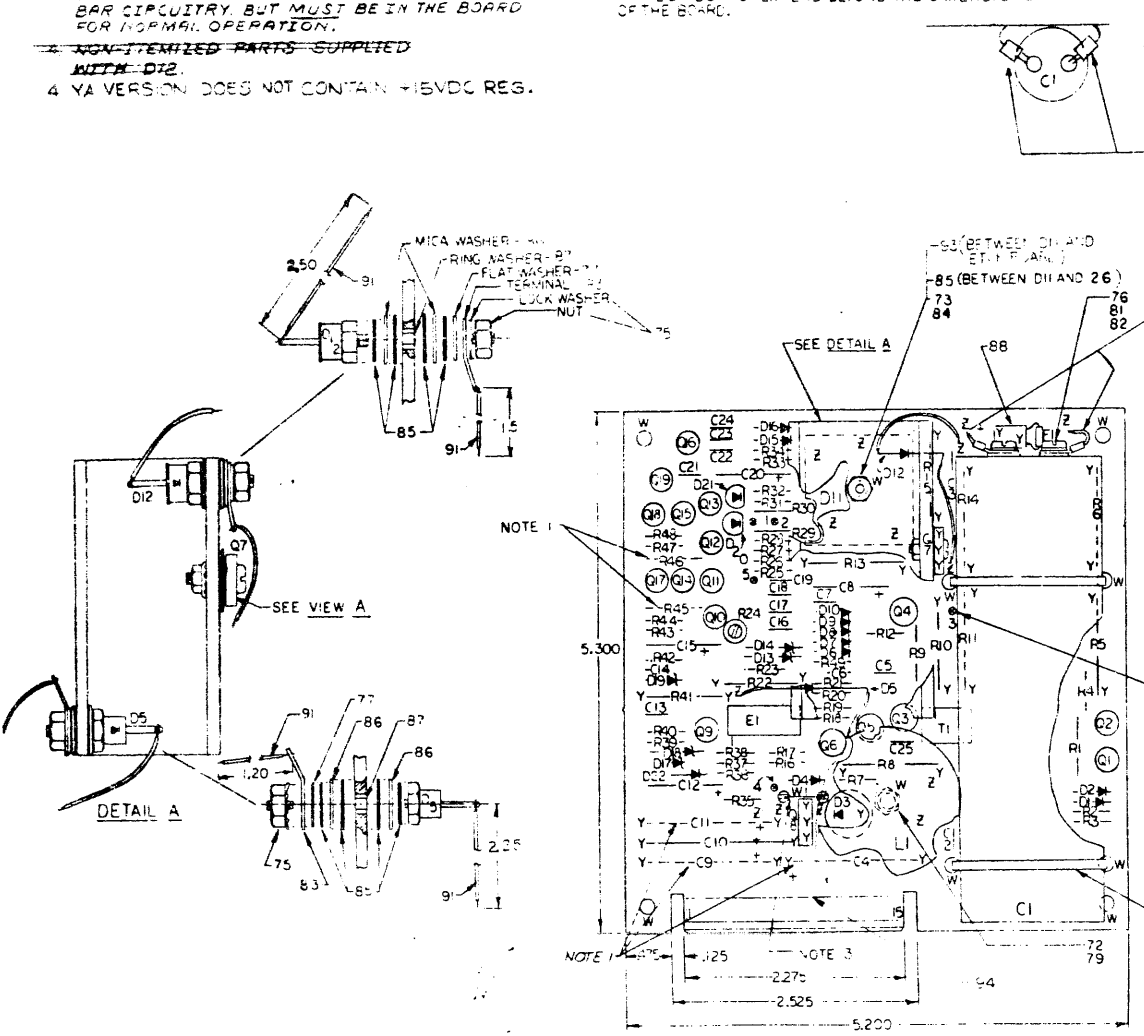
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298

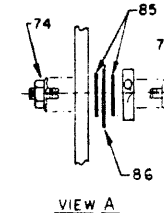
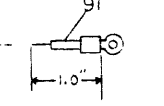
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- NOTES:**
1. R45, R46, C4, C9, C11 ARE NOT USED ON BASIC SKINB6 BUT ARE RESERVED FOR PLANNED FUTURE MODULE VARIATIONS.
 2. ** TOTAL +15V AND +5V CURRENT NOT TO EXCEED 40 AMPERES.
 3. W/ TEST JUMPER MAYBE TEMPORARILY REMOVED WHILE TROUBLE-SHOOTING TO DETERMINE IF LOSS OF 15V IS DUE TO CROWBAR CIRCUITRY. BUT MUST BE IN THE BOARD FOR NORMAL OPERATION.
 4. YA VERSION DOES NOT CONTAIN +15VDC REG.

- A) FOR STANDARD VERSION USE SHEETS 2, 3 & 4 OF THIS DWG.
 - B) FOR YA VERSION USE SHEETS 1, 2, & 3 OF THIS DWG.
6. WIRES MUST NOT EXTEND BEYOND THE DIMENSIONS OF THE BOARD.



SEE COMPONENT CHART FOR YA VERSION REF DESIGNATIONS



COMPONENT CHART - YA VERSION

QTY	REF. DESIGNATION	ITEM
3	C19, C22, C23	7
1	C8	8
1	D19	14
7	D6, D7, D8, D9, D15, D16, D22	17
1	D10	18
1	R49	30
2	R44, R48	40
1	R28	50
4	Q3, Q5, Q10, Q19	63
4	Q11, Q12, Q13, Q16	66

IC TYPE GND -5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.
IC PIN LOCATIONS

REF. REF.	DESCRIPTION	PART NO.	ITEM NO.
REF. REF.	Y 1 0000 HATE HOLE LAYOUT	K-00 5411086 B-4	1
REF. REF.	ASSY DRILLING HOLE LAYOUT	C-01 5411086 B-5	2
REF. REF.	MODULE ECO HISTORY	B-MH 5411086 B-6	3
1 1	CLOTHED CIRCUIT BOARD	8011095	4
0 1 C2	CAPACITOR 56PF 100V 5%	1000012	5
4 4 C16 C17 C18 C21	CAPACITOR 330PF 100V 5%	1000023	6
3 5 C3 C13 C19 C22 C23	CAPACITOR 0.1UF 100V 20%	1001613 01	7
1 3 C8 C12 C15	CAPACITOR 2.2UF 35V 10%	1002431	8
2 2 C6 C25	CAPACITOR 18PF 100V 5%	1002609	9
1 1 C20	CAPACITOR 1.5UF 35V 10%	1009125	10
4 4 C5 C7 C14 C24	CAPACITOR .22UF 50V -20% +80%	1010214 01	11
0 1 C10	CAPACITOR 500UF 25V -10% +15%	1010509 01	12
1 1 C1	CAPACITOR 8400UF 50V -10% +15%	1010851	13
1 2 D2 D19	DIODE 1N748A	1100172	14
0 1 D5	DIODE 1N2570B	1100134	15
0 1 D3	DIODE 1N1623B	1103341	16
7 8 D1 D6 D7 D8 D9 D15 D16 D22	DIODE D672	1105275	17
1 2 D10 D17	DIODE 1N4744	1105648	19
0 1 D4	DIODE 1M480A	1105198	19
0 1 D12	DIODE 1N3888	1109440	20
0 1 D18	DIODE 1N987A	1110086	21
2 2 D20 D21	DIODE M5954-1 (LIGHT EMITTING)	1110324	22
1 1 D11	DIODE BRIDGE 200V 20A	1110714	23
2 2 D13 D14	DIODE 1Z7429	1110925	24
0 1 F1	FUSE PICO 5A	1205747	24
0 1	HEAT SINK	1211986	26
0 1 R23	RESISTOR 47 1/4W 5%	1300202	27
0 2 R7 R46	RESISTOR 100 1/4W 5%	1300229	28
0 1 R41	RESISTOR 100 1/4W 5%	1300232	29
1 3 R4 R12 R49	RESISTOR 220 1/4W 5%	1300271	30
0 1 R14	RESISTOR 220 2W 10%	1300278	31
0 1 R11	RESISTOR 880 2W 5%	1300349	32
2 2 R16 R20	RESISTOR 1K 1/4W 5%	1300385	33
0 1 R1	RESISTOR 1/2W 5%	1300394	34
0 1 R18	RESISTOR 2.2K 1W 10%	1300420	35
1 1 R15	RESISTOR 3.3K 1/4W 10%	1300437	36
0 1 R3	RESISTOR 3.3K 1/4W 5%	1300439	37
2 2 R43 R47	RESISTOR 10K 1/4W 5%	1300479	39
0 1 R37	RESISTOR 10 1/4W 5%	1301317	39
2 3 R2 R44 R48	RESISTOR 150 1/4W 5%	1301401	40
0 1 R39	RESISTOR 680 1/4W 5%	1301424	41
0 1 R16	RESISTOR 22K 1/4W 5%	1301808	42
1 1 R13	RESISTOR 1K 2W 5%	1301952	43
0 1 P9	RESISTOR 27 1/2W 5%	1302253	44
2 2 R19 R21	RESISTOR 30K 1/4W 5%	1302394	45
0 1 R36	RESISTOR 511 1/4W 1%	1302411	46
0 1 R31	RESISTOR 909 1/4W 1%	1302685	47
1 1 R25	RESISTOR 3.15K 1/4W 1%	1303045	48
1 1 R8	RESISTOR 470 2W 5%	1303082	49
2 1 R17 R28	RESISTOR 1K 1/4W 1%	1303114	50
1 R31	RESISTOR 2.01K 1/4W 1%	1303303	51
0 1 R42	RESISTOR 10K 1/4W 1%	1303312	52
2 2 R33 R34	RESISTOR 5 1/4W 1%	1304854	53
1 1 R30	RESISTOR 9.09K 1/4W 1%	1304855	54

FIRST USED ON OPTION MODEL

ETCH BOARD REV

digital

TITLE: PWR. LINE MONITOR/15V REG.

SIZE CODE: DCS 5411086-0-1

REVISIONS

DEC NO. EIA NO. DEC NO. EIA NO.

SEMICONDUCTOR CONVERSION CHART

SCALE SHEET OF 4

REVISIONS

1. 1-4-74

2. 1-10-74

3. 1-10-74

4. 1-10-74

5. 1-10-74

6. 1-10-74

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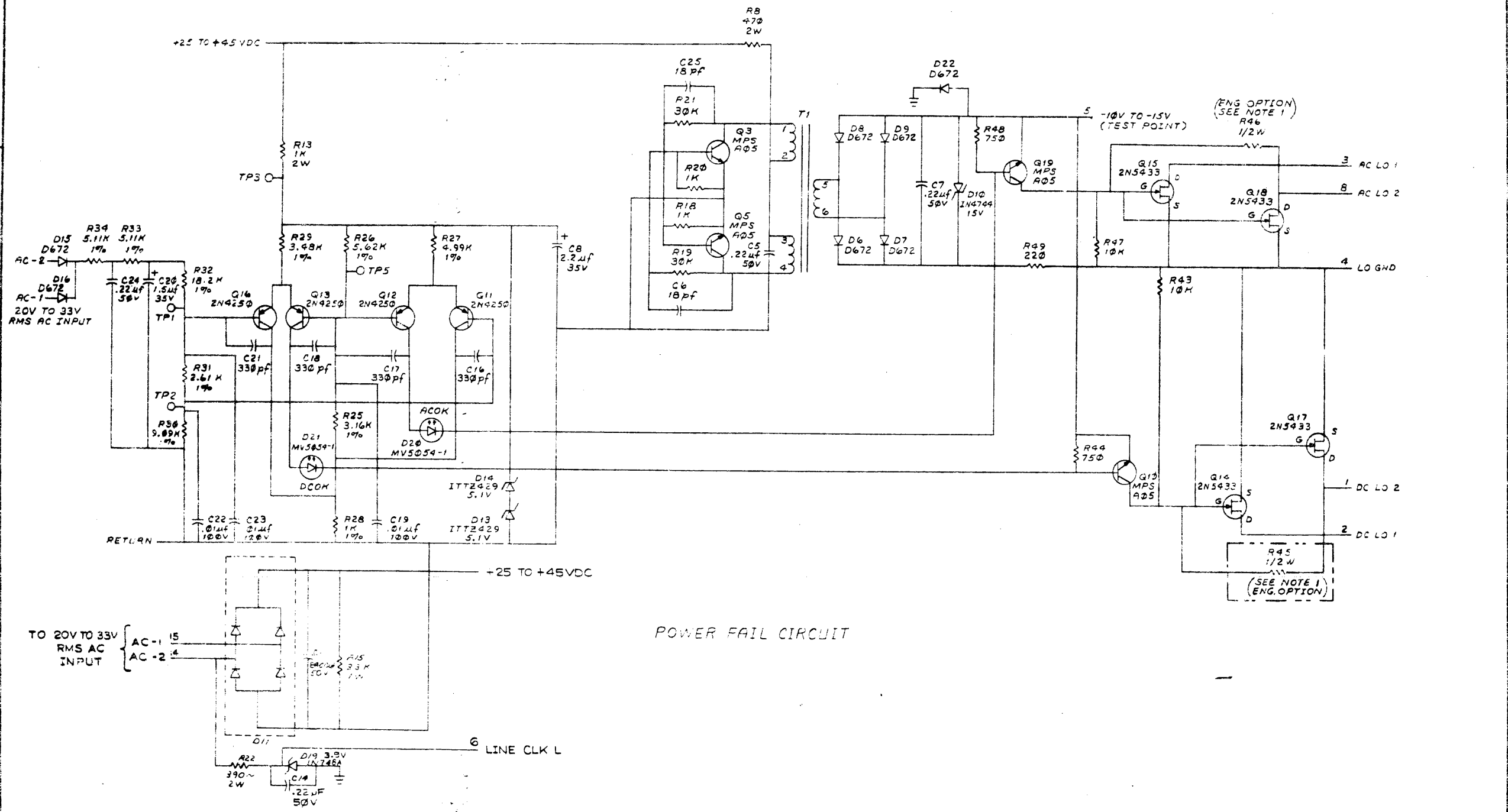
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54. 1-10-74

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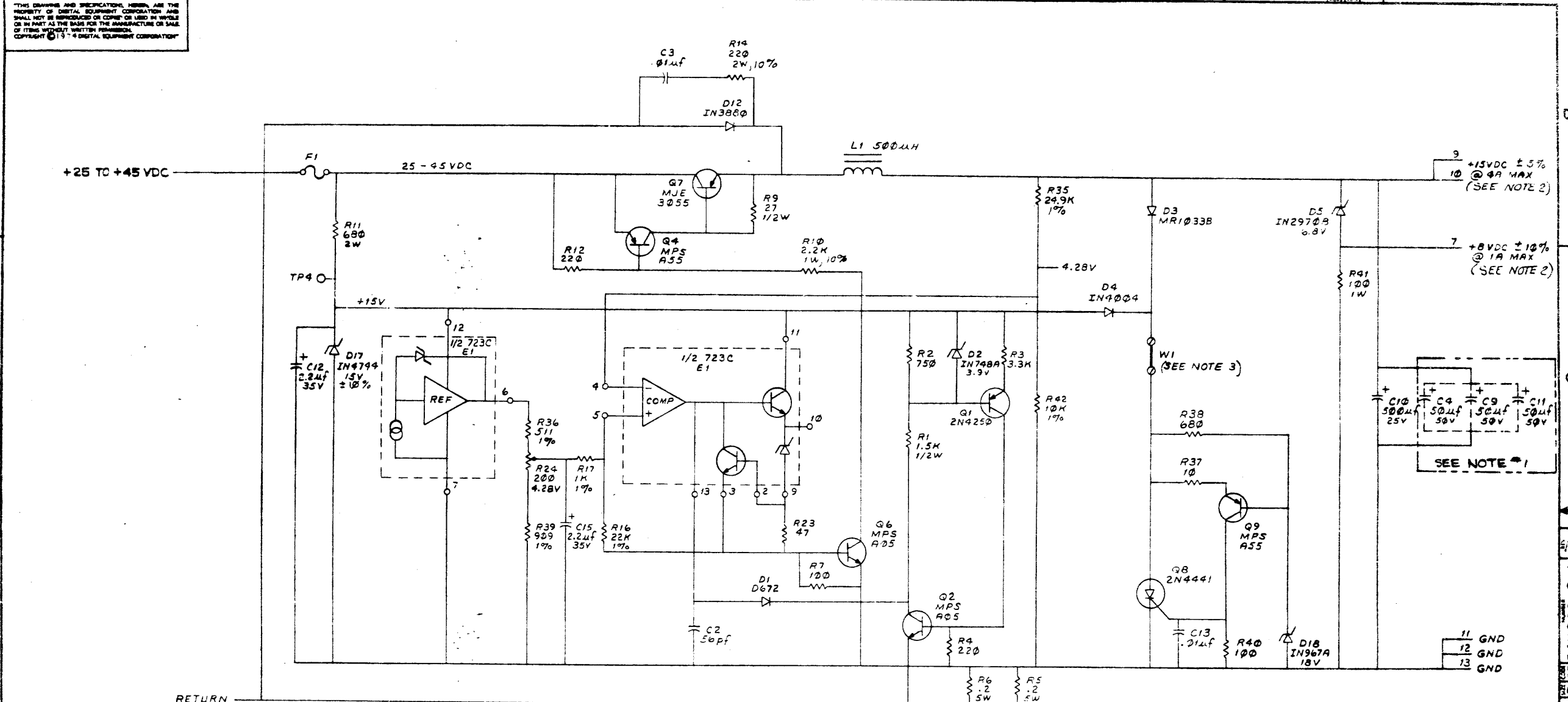
REV.	DATE	BY	CHK	CHANGE NO.
1				

TITLE	PWR. LINE MONITOR/15V REG.	SIZE/COD.	NUMBER	REV.
SCALE	SHEET 3 OF 4	DIST.	DCS 5411086-C-1	4

DCS 5411086-C-1

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8 7 6 5 4 3 2 1



15V REGULATOR
(SEE NOTE #4)

REVISIONS		
CHK	CHANGE NO.	REV.

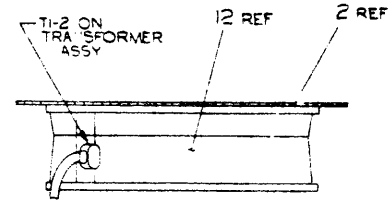
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SCALE		SHEET	1	OF	4	DIRT.	

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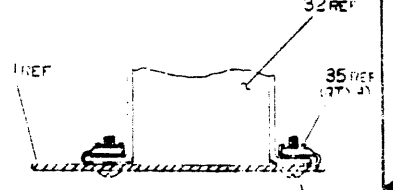
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DO NOT SCALE DRAWING

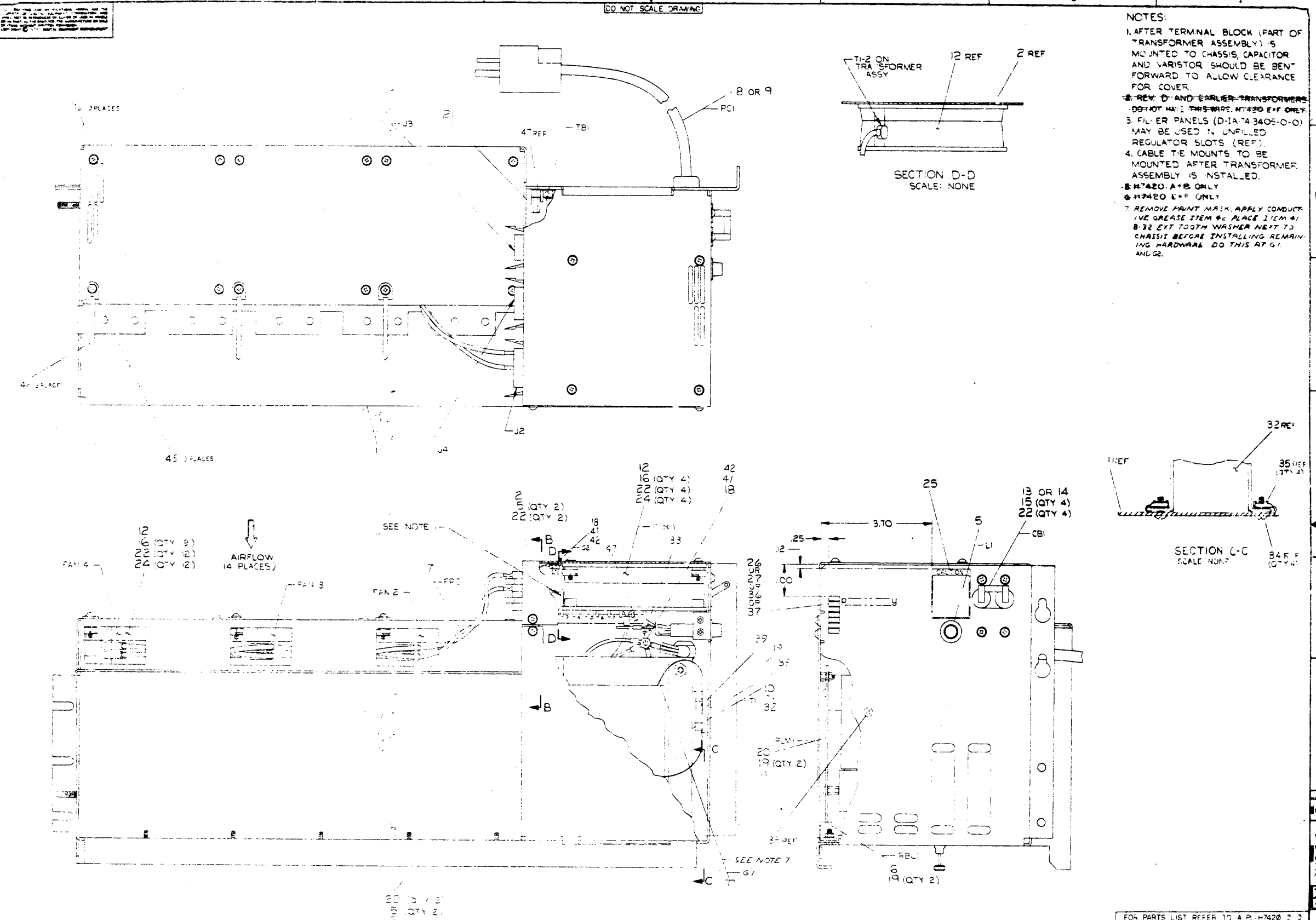
- NOTES:
- AFTER TERMINAL BLOCK (PART OF TRANSFORMER ASSEMBLY) IS MOUNTED TO CHASSIS, CAPACITOR AND VARISTOR SHOULD BE BENT FORWARD TO ALLOW CLEARANCE FOR COVER.
 - REV. D AND EARLIER TRANSFORMERS DO NOT HAVE THIS WIRE. H7420 E+F ONLY.
 - FILTER PANELS (D-1A-743405-0-0) MAY BE USED IN UNFILLED REGULATOR SLOTS (REF).
 - CABLE TIE MOUNTS TO BE MOUNTED AFTER TRANSFORMER ASSEMBLY IS INSTALLED.
 - H7420 A+B ONLY
 - H7420 E+F ONLY
 - REMOVE PAINT MASK, APPLY CONDUCTIVE GREASE ITEM #C PLACE ITEM #1 B-32 EXT TOOTH WASHER NEXT TO CHASSIS BEFORE INSTALLING REMAINING HARDWARE DO THIS AT G1 AND G2.



SECTION D-D
SCALE: NONE



SECTION C-C
SCALE: NONE



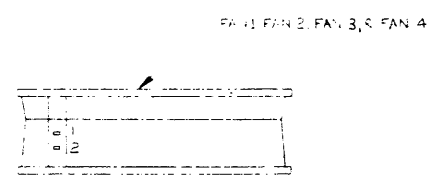
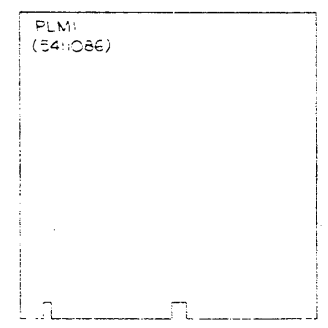
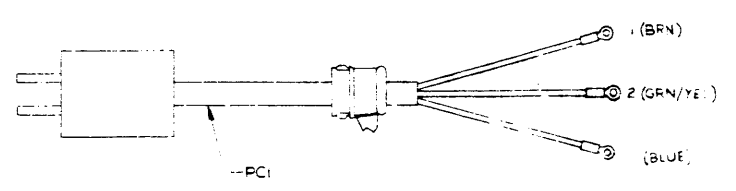
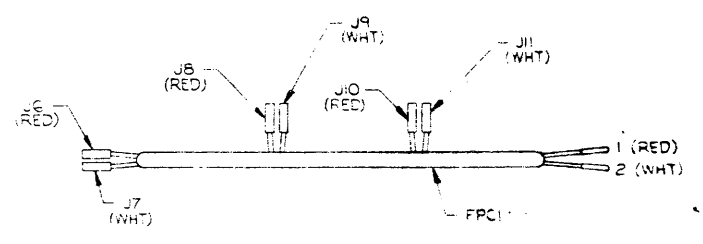
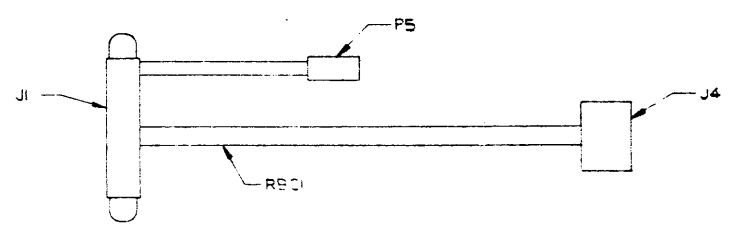
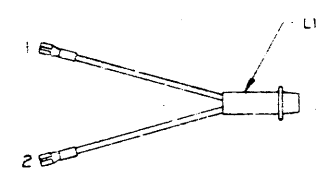
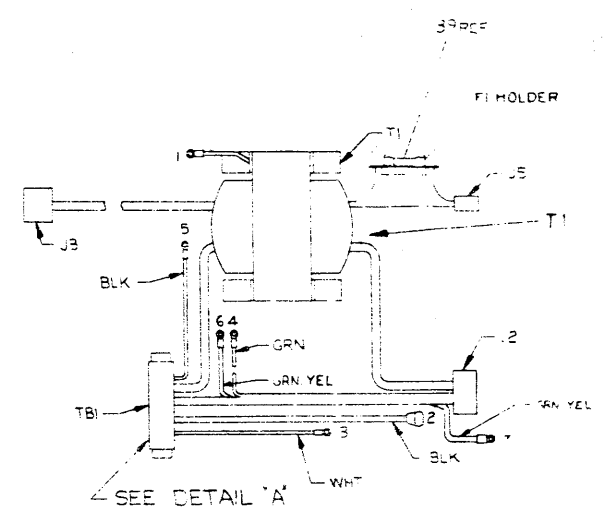
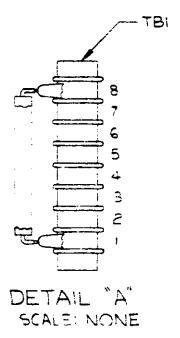
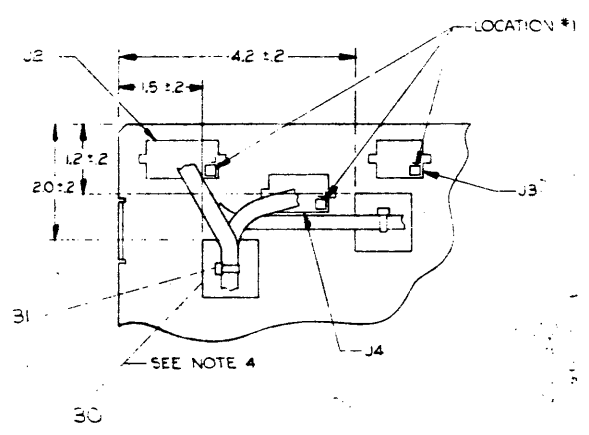
REV	DATE	DESCRIPTION
1	11/15/55	INITIAL DESIGN
2	1/10/56	REVISED TO ADD FANS
3	3/15/56	REVISED TO ADD CABLE TIE MOUNTS
4	5/10/56	REVISED TO ADD AIRFLOW
5	7/15/56	REVISED TO ADD TERMINAL BLOCK
6	9/10/56	REVISED TO ADD CAPACITOR AND VARISTOR
7	11/15/56	REVISED TO ADD FILTER PANELS
8	1/10/57	REVISED TO ADD CABLE TIE MOUNTS
9	3/15/57	REVISED TO ADD AIRFLOW
10	5/10/57	REVISED TO ADD TERMINAL BLOCK
11	7/15/57	REVISED TO ADD CAPACITOR AND VARISTOR
12	9/10/57	REVISED TO ADD FILTER PANELS
13	11/15/57	REVISED TO ADD CABLE TIE MOUNTS
14	1/10/58	REVISED TO ADD AIRFLOW
15	3/15/58	REVISED TO ADD TERMINAL BLOCK
16	5/10/58	REVISED TO ADD CAPACITOR AND VARISTOR
17	7/15/58	REVISED TO ADD FILTER PANELS
18	9/10/58	REVISED TO ADD CABLE TIE MOUNTS
19	11/15/58	REVISED TO ADD AIRFLOW
20	1/10/59	REVISED TO ADD TERMINAL BLOCK
21	3/15/59	REVISED TO ADD CAPACITOR AND VARISTOR
22	5/10/59	REVISED TO ADD FILTER PANELS
23	7/15/59	REVISED TO ADD CABLE TIE MOUNTS
24	9/10/59	REVISED TO ADD AIRFLOW
25	11/15/59	REVISED TO ADD TERMINAL BLOCK
26	1/10/60	REVISED TO ADD CAPACITOR AND VARISTOR
27	3/15/60	REVISED TO ADD FILTER PANELS
28	5/10/60	REVISED TO ADD CABLE TIE MOUNTS
29	7/15/60	REVISED TO ADD AIRFLOW
30	9/10/60	REVISED TO ADD TERMINAL BLOCK
31	11/15/60	REVISED TO ADD CAPACITOR AND VARISTOR
32	1/10/61	REVISED TO ADD FILTER PANELS
33	3/15/61	REVISED TO ADD CABLE TIE MOUNTS
34	5/10/61	REVISED TO ADD AIRFLOW
35	7/15/61	REVISED TO ADD TERMINAL BLOCK
36	9/10/61	REVISED TO ADD CAPACITOR AND VARISTOR
37	11/15/61	REVISED TO ADD FILTER PANELS
38	1/10/62	REVISED TO ADD CABLE TIE MOUNTS
39	3/15/62	REVISED TO ADD AIRFLOW
40	5/10/62	REVISED TO ADD TERMINAL BLOCK
41	7/15/62	REVISED TO ADD CAPACITOR AND VARISTOR
42	9/10/62	REVISED TO ADD FILTER PANELS
43	11/15/62	REVISED TO ADD CABLE TIE MOUNTS
44	1/10/63	REVISED TO ADD AIRFLOW
45	3/15/63	REVISED TO ADD TERMINAL BLOCK
46	5/10/63	REVISED TO ADD CAPACITOR AND VARISTOR
47	7/15/63	REVISED TO ADD FILTER PANELS
48	9/10/63	REVISED TO ADD CABLE TIE MOUNTS
49	11/15/63	REVISED TO ADD AIRFLOW
50	1/10/64	REVISED TO ADD TERMINAL BLOCK
51	3/15/64	REVISED TO ADD CAPACITOR AND VARISTOR
52	5/10/64	REVISED TO ADD FILTER PANELS
53	7/15/64	REVISED TO ADD CABLE TIE MOUNTS
54	9/10/64	REVISED TO ADD AIRFLOW
55	11/15/64	REVISED TO ADD TERMINAL BLOCK
56	1/10/65	REVISED TO ADD CAPACITOR AND VARISTOR
57	3/15/65	REVISED TO ADD FILTER PANELS
58	5/10/65	REVISED TO ADD CABLE TIE MOUNTS
59	7/15/65	REVISED TO ADD AIRFLOW
60	9/10/65	REVISED TO ADD TERMINAL BLOCK
61	11/15/65	REVISED TO ADD CAPACITOR AND VARISTOR
62	1/10/66	REVISED TO ADD FILTER PANELS
63	3/15/66	REVISED TO ADD CABLE TIE MOUNTS
64	5/10/66	REVISED TO ADD AIRFLOW
65	7/15/66	REVISED TO ADD TERMINAL BLOCK
66	9/10/66	REVISED TO ADD CAPACITOR AND VARISTOR
67	11/15/66	REVISED TO ADD FILTER PANELS
68	1/10/67	REVISED TO ADD CABLE TIE MOUNTS
69	3/15/67	REVISED TO ADD AIRFLOW
70	5/10/67	REVISED TO ADD TERMINAL BLOCK
71	7/15/67	REVISED TO ADD CAPACITOR AND VARISTOR
72	9/10/67	REVISED TO ADD FILTER PANELS
73	11/15/67	REVISED TO ADD CABLE TIE MOUNTS
74	1/10/68	REVISED TO ADD AIRFLOW
75	3/15/68	REVISED TO ADD TERMINAL BLOCK
76	5/10/68	REVISED TO ADD CAPACITOR AND VARISTOR
77	7/15/68	REVISED TO ADD FILTER PANELS
78	9/10/68	REVISED TO ADD CABLE TIE MOUNTS
79	11/15/68	REVISED TO ADD AIRFLOW
80	1/10/69	REVISED TO ADD TERMINAL BLOCK
81	3/15/69	REVISED TO ADD CAPACITOR AND VARISTOR
82	5/10/69	REVISED TO ADD FILTER PANELS
83	7/15/69	REVISED TO ADD CABLE TIE MOUNTS
84	9/10/69	REVISED TO ADD AIRFLOW
85	11/15/69	REVISED TO ADD TERMINAL BLOCK
86	1/10/70	REVISED TO ADD CAPACITOR AND VARISTOR
87	3/15/70	REVISED TO ADD FILTER PANELS
88	5/10/70	REVISED TO ADD CABLE TIE MOUNTS
89	7/15/70	REVISED TO ADD AIRFLOW
90	9/10/70	REVISED TO ADD TERMINAL BLOCK
91	11/15/70	REVISED TO ADD CAPACITOR AND VARISTOR
92	1/10/71	REVISED TO ADD FILTER PANELS
93	3/15/71	REVISED TO ADD CABLE TIE MOUNTS
94	5/10/71	REVISED TO ADD AIRFLOW
95	7/15/71	REVISED TO ADD TERMINAL BLOCK
96	9/10/71	REVISED TO ADD CAPACITOR AND VARISTOR
97	11/15/71	REVISED TO ADD FILTER PANELS
98	1/10/72	REVISED TO ADD CABLE TIE MOUNTS
99	3/15/72	REVISED TO ADD AIRFLOW
100	5/10/72	REVISED TO ADD TERMINAL BLOCK

FIRST USED OR OPTIMUM MODEL		FOR PARTS LIST REFER TO A.P. H7420 2 3	
QTY.	DESCRIPTION	PART NO.	REV.
H7420			
PARTS LIST			
DIMENSIONAL TOLERANCES			
DIMENSIONS ARE IN INCHES			
UNLESS OTHERWISE SPECIFIED			
FINISH	FINISH	FINISH	FINISH
ASSEMBLY	ASSEMBLY	ASSEMBLY	ASSEMBLY
THIRD PARTY PRODUCTION	THIRD PARTY PRODUCTION	THIRD PARTY PRODUCTION	THIRD PARTY PRODUCTION
MATERIALS LIST			
SEE PARTS LIST			
TITLE			
H7420 POWER SUPPLY			
DRAWING NO.			
B 00-11428 0			
SCALE			
1/1			
SHEET			
1 OF 1			
REV. NO.			
E			

DO NOT SCALE DRAWING

WIRE TABLE				
ITEM NO	DESCRIPTION	FROM	TO	REMARKS
		AWG COLOR CONNECTION	CONNECTION	
0			T1-J5	RBC1-P5
1	4	GRN T1-1	G1	SEE NOTE 2,7
		BLK T1-2	FAN1-E2	
		WHT T1-3	CB1-P	
		GRN T1-4	G1	SEE NOTE 7
		BLK T1-5	CB1-E	
		BLK L1-1	TBI-5	
		BLK L1-2	TBI-7	
		RED FPC1-J6	FAN4-1	
		WHT FPC1-J7	FAN4-2	
		RED FPC1-8	FAN3-1	
		WHT FPC1-9	FAN3-2	
		RED FPC1-10	FA1-2-1	
		A-T FPC1-11	FA1-2-2	
		RED FPC1-12	J2-3	
		WHT FPC1-13	J2-7	
B/A	4	BRN PC1-1	CB1-4	
B/A	4	WHT PC1-2	G1	SEE NOTE 7
B/A	4	BLK PC1-3	CB1-3	
		PLM1	REC1-J1	
		GRN YEL T1-4	G1	SEE NOTE 7
		GRN YEL T1-7	G2	SEE NOTE 7

JUMPER TABLE						
ITEM NO	DESCRIPTION	FROM	TO	PRECUT LENGTH	VARIATION	
		AWG COLOR CONNECTION WITH	CONNECTION WITH			
27	4	BLK TBI-2	TBI-6	3.0	H7420E1A	
28	4	BLK TBI-4	TBI-8	3.0	H7420E1A	
29	4	BLK TBI-4	TBI-6	3.0	H7420E1B	



REV	DATE	BY	CHK

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY / VARIATION	
PARTS LIST				H7420A	H7420B
MADE BY	CHECKED	SECTION	DATE		
R. THELLEN	P. CAPPABIANCA	1	2/3/75		
DATE 1/17/75	DATE 2/3/75	ISSUED SECT.	1		
ENG R. WOLF	PROD J. BORENSTEIN				
DATE 2/3/75	DATE 2/3/75				
ITEM NO	DWG NO	PART NO	DESCRIPTION		
1	E-IA-7010501-0-0		CHASSIS H7420A	1	1
2	D-MD-7412438-1-0		COVER, CONTROL BOX	1	1
3	D-IA-7412461-0-0		BRKT, P.C. BOARD MFG.	1	1
4	C-IA-7413173-0-0		PSADS ADAPTER H7420		
5	C-IA-7010700-0-0		POWER INDICATOR ASSEMBLY	1	1
6	D-IA-7010724-1-0		CABLE, REGULATOR BOARD	1	1
7	D-IA-7010728-0-0		CABLE, FAN POWER	1	1
8	C-IA-7010727-1-0		POWER CORD ASSY (120V)	1	1
9	C-IA-7010727-2-0		POWER CORD ASSY (240V)	1	1
10	H-IA-7010814-0-0		TRANSFORMER ASSY		
11	D-CS-5411086-0-1		POWER LINE MONITOR	1	1
12	1209400-01		FAN	4	4
13	1210191-01		CIRCUIT BREAKER (20A)	1	1
14	1210191-02		CIRCUIT BREAKER (15A)	1	1
15	900620-01		SCR, PH. PAN HD #6-32 x .25	8	8
16	900625-01		SCR, PH. PAN HD #6-32 x .62	13	13
17	900655-00		NUT, KEP #10-32		
18	900656-00		NUT, KEP #8-32	2	2
19	9006195-00		NUT, KEP #6-32	5	5
20	9006840-00		SPACER, #6-32 x .19	2	2
21	9006851-00		SPACER, #6-32 x .50	2	2
22	9006633-00		WASHER, INT. TOOTH LOCK #6	24	24
TITLE POWER SUPPLY H7420			ASSY NO E-CA-H7420-B-0	SIZE CODE A PL	NUMBER H7420-B-0
SHEET 1 OF 3			REV E	ECO NO H7420-00005	

DEC FORM DEC 16 (125) 1031 NKT
DRA 110

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY / VARIATION	
PARTS LIST				H7420A	H7420B
MADE BY	CHECKED	SECTION	DATE		
R. THELLEN	P. CAPPABIANCA	1	3-FEB-75		
DATE 17-JAN-75	DATE 3-FEB-75	ISSUED SECT.	1		
ENG R. WOLF	PROD J. BORENSTEIN				
DATE 3-FEB-75	DATE 3-FEB-75				
ITEM NO	DWG NO / PART NO	DESCRIPTION			
45	9006026-1	SCR PH PAN HD #6-32 x 3/4	3	3	
46	9007033	TIE CABLE	3	3	
47	9006933	BLOCK, TERM MARKER STRIP	1	1	
TITLE POWER SUPPLY H7420			ASSY NO E-CA-H7420-B-0	SIZE CODE A PL	NUMBER H7420-B-0
SHEET 3 OF 3			REV E	ECO NO	

DEC FORM DEC 16 (125) 1031 NKT
DRA 110

DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				QUANTITY / VARIATION	
PARTS LIST				H7420A	H7420B
MADE BY	CHECKED	SECTION	DATE		
R. THELLEN	P. CAPPABIANCA	1	2/3/75		
DATE 1/17/75	DATE 2/3/75	ISSUED SECT.	1		
ENG R. WOLF	PROD J. BORENSTEIN				
DATE 2/3/75	DATE 2/3/75				
ITEM NO	DWG NO	PART NO	DESCRIPTION		
23	9006509-00		RELIEF, STRAIN	1	1
24	9009163-00		CLIP, FAN MOUNTING	16	16
25	A-DC-7413184-0-0		POWER SUPPLY DECAL H7420	1	1
26	A-DC-7413186-0-0		POWER SUPPLY DECAL H7420B		
27	A-DC-7413189-0-0		POWER SUPPLY DECAL H7420B		
28	9007969-00		TERMINAL, QUICK CONNECT	4	2
29	9107370-00		WIRE, #14 AWG	2	2
30	900826-00		GLANT, CABLE TIE ADHESIVE	2	2
31	9007650-00		TIE, CABLE	2	2
32	D-IA-7011211-0-0		TRANSFORMER ASSY	1	1
33	3612680-01		SAFETY GROUND DECAL	1	1
34	9006074-0		SCR, PH. HD, TRUSS 10x30x5	4	4
35	9006586		WINNEMAN SPEED NUT 10-32	4	4
36	A-DC-7413966-0-0		POWER SUPPLY DECAL H7420A	1	1
37	A-DC-7413967-0-0		POWER SUPPLY DECAL H7420B	1	1
38	9006027-1		SCR, PAN HD, 6-30x5 16	1	1
39	9007224		FUSE 7 AMP SLOW BLOW	1	1
40	9008700-01		RELIEF, STRAIN	1	1
41	9008072		8-32 WASHER EXT. TOOTH	1	1
42	4901173-01		CONDUCTIVE GREASE	1	1
43	1212124-01		CIRCUIT BREAKER 20A SCREW TERM	1	1
44	1212124-02		CIRCUIT BREAKER 15A SCREW TERM	1	1
TITLE POWER SUPPLY H7420			ASSY NO E-CA-H7420-B-0	SIZE CODE A PL	NUMBER H7420-B-0
SHEET 2 OF 3			REV E	ECO NO	

DEC FORM DEC 16 (125) 1031 NKT
DRA 110