

# DRAWING DIRECTORY

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## CUSTOMER PRINT SET INDEX

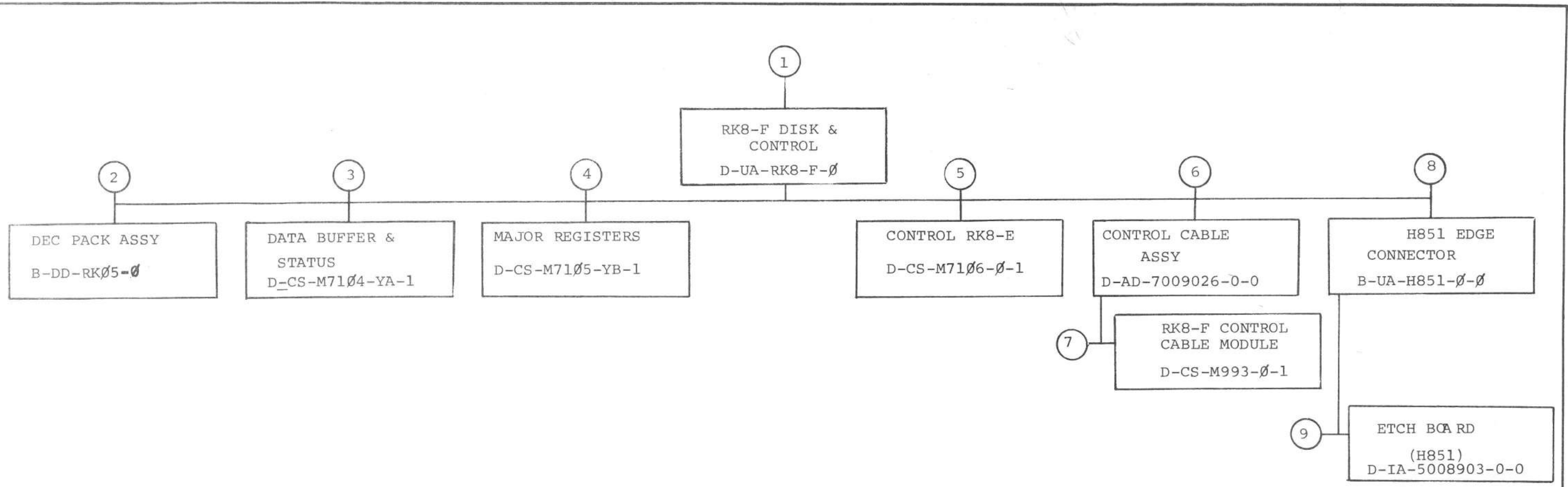
THIS IS PRINT SET

SEQUENCE		SEQUENCE
	RK8-F DISK & CONTROL	B-DD-RK8-F
	FIELD INSTALL & ACCEPT. PROC.	A-SP-RK8-F-6
	RK8-F DISK & CONTROL	D-UA-RK8-F-Ø
	ACCESSORY SHIPPING LIST	A-AL-RK8-F-3
	MAJOR STATES & TIMING FLOW	D-TD-RK8-F-2
	FLOW DIAGRAM RK8-F	D-FD-RK8-F-1
	DATA BUFFER & STATUS	D-CS-M71Ø4-YA-1
	MAJOR REGISTERS	D-CS-M71Ø5-YB-1
	CONTROL RK8-F	D-CS-M71Ø6-Ø-1
	CONTROL CABLE ASSY	D-AD-7009026-0-0
	RK8-F CONTROL CABLE MODULE	D-CS-M993-Ø-1
	H851 EDGE CONNECTOR	B-CS-H851-Ø-1
	DEC PACK ASSY	B-DD-RKØ5-Ø (SHEET 1 ONLY)

UNIT VARIATIONS		PRINT SET	
VAR	TITLE	1	
RK8-FA	RKØ5-AA & CONTROL 115V 60 HZ	X	
RK8-FB	RKØ5-BB & CONTROL 230V 60 HZ	X	
RK8-FC	RKØ5-BC & CONTROL 115V 50 HZ	X	
RK8-FD	RKØ5-BD & CONTROL 230V 50 HZ	X	
RK8-F	RK8-E CONTROL	X	

REV	CHG. NO.	DATE	USED ON OPTION/MODEL	DRN. D. SULLIVAN	DATE 4/13/3	TITLE RK8-F DISK & CONTROL	SIZE	CODE	NUMBER RK8-F	REV

DEC 16 1972



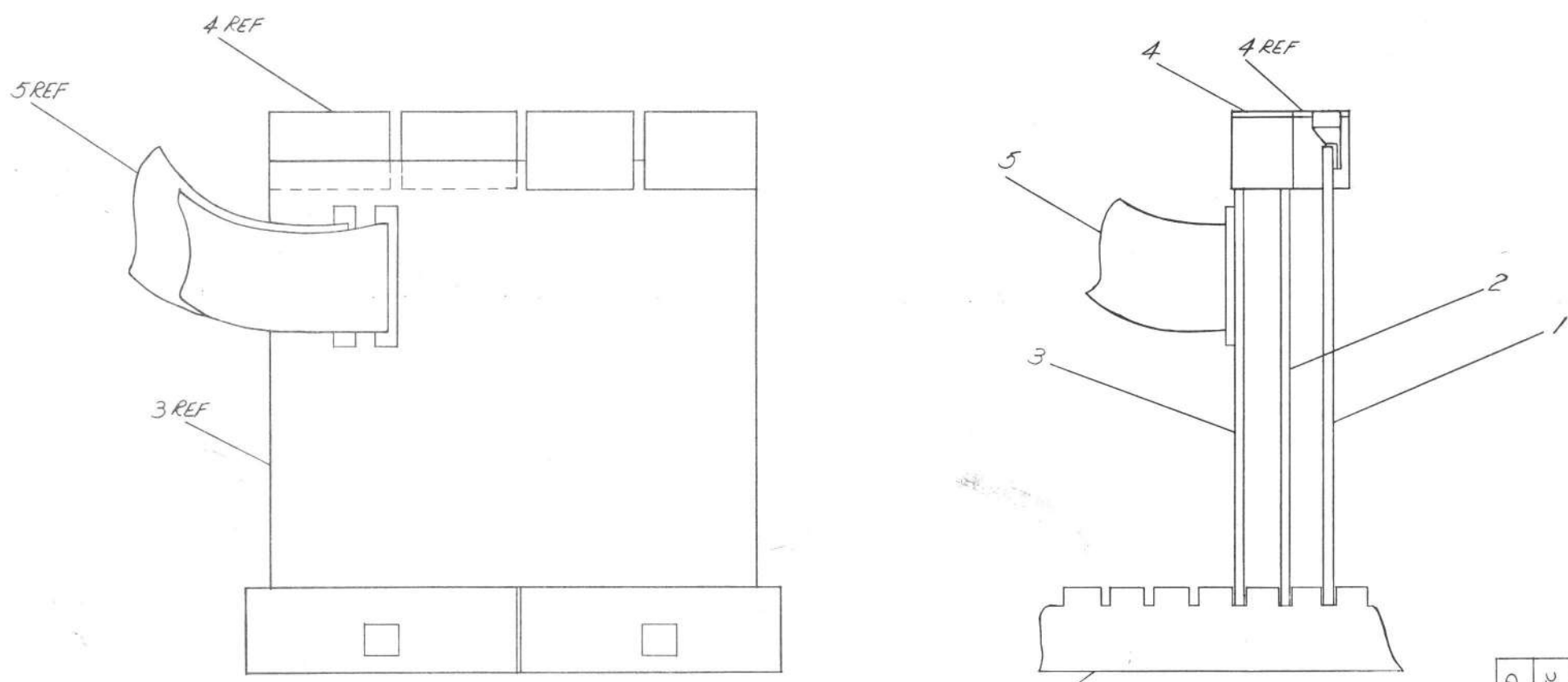
TITLE	SHEET	OF	SIZE	CODE	NUMBER	REV
RK8-F DISK & CONTROL	2	3	B	DD	RK8-F	

CUSTOMER PRINT SET		MECHANICAL / ELECTRICAL					CUSTOMER PRINT SET		MECHANICAL / ELECTRICAL								
		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	D-UA-RK8-F-0		1	RK8-F DISK & CONTROL		X			6	D-AD-7009026-0-0	#	2	CONTROL CABLE ASSY	
X				D-FD-RK8-F-1		4	FLOW DIAGRAM RK8-F										
X				D-TD-RK8-F-2		1	MAJOR STATES & TIMING FLOW										
X				A-AL-RK8-F-3		1	ACCESSORY SHIPPING LIST										
				A-SP-RK8-F-4		3	MODULE TEST & ACCEPTANCE FOR	RK8-F	X			7	D-CS-M993-0-1	#	2	RK8-E CONTROL CABLE MODULE	
				A-SP-RK8-F-5		39	RK8 DISK CONTROL						K-CO-M993-0-4		1	X-Y COORDINATE HOLE LOCATION	
X				A-SP-RK8-F-6		5	FIELD INSTALL& ACCEPT. PROC.						D-AH-M993-0-5		1	ASSY/DRILLING HOLE LAYOUT	
				A-SP-RK8-F-7		5	IN-HOUSE ACEPT. PROC.						B-MH-M993-0-6		1	MODULE ECO HISTORY	
X			2	B-DD-RK05-0	#	5	DEC PACK ASSY										
X			3	D-CS-M7104-YA-1	#	7	DATA BUFFER & STATUS										
				K-CO-M7104-YA-4		1	X-Y COORDINATE HOLE LOCATION					8	B-UA-H851-0-0		1	H851 EDGE CONNECTOR	
X				D-AH-M7104-YA-5	#	1	ASSY/DRILLING HOLE LAYOUT						A-PL-H851-0-0		1	H851 EDGE CONNECTOR	
				B-MH-M7104-YA-6		1	MODULE ECO HISTORY		X				B-CS-H851-0-1	#	1	EDGE CONNECTOR H851	
													C-AH-H851-0-5		1	ASSY/DRILLING HOLE LAYOUT	
													B-MH-H851-0-6		1	MODULE ECO HISTORY	
X			4	D-CS-M7105-YB-1	#	5	MAJOR REGISTERS										
				K-CO-M7105-YB-4		1	X-Y COORDINATE HOLE LOCATION										
X				D-AH-M7105-YB-5	#	1	ASSY DRILLING HOLE LAYOUT										
				B-MH-M7105-YB-6		1	MODULE ECO HISTORY										
												9	D-IA-5008903-0-0		1	ETCH BOARD (H851)	
													C-AH-5008903-0-5		1	ASSY/DRILLING HOLE LOCATION	
X			5	D-CS-M7106-0-1	#	6	CONTROL RK8-E										
				K-CO-M7106-0-4		1	X-Y COORDINATE HOLE LOCATION										
				D-AH-M7106-0-5		1	ASSY/DRILLING HOLE LAYOUT										
				B-MH-M7106-0-6		1	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	SIZE	CODE	NUMBER	REV
		RK8-F DISK & CONTROL	B	DD	RK8-F	
			SHEET 3 OF 3			

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0-F-8 RK8-F-0 2 1



(DW8E I/O BUS CONVERTER/EXPANDER)

RK8-FD	RK8-FC	RK8-FB	RK8-FA	RK8-F	DESCRIPTION	PART NO.	ITEM NO.
1	-	-	-	-	DEC PACK DISK DRIVE 230 VAC 50 HZ	DUA-RK05B00	9
-	-	1	-	-	DEC PACK DISK DRIVE 230 VAC 60 HZ	DUA-RK05BA0	8
-	1	-	-	-	DEC PACK DISK DRIVE 115 VAC 50 HZ	DUA-RK05AB0	7
-	-	-	1	-	DEC PACK DISK DRIVE 115 VAC 60 HZ	DUA-RK05AA0	6
1	1	1	1	1	M993 TO BERG	D-AD-700926-00	5
4	4	4	4	4	EDGE CONNECTOR	B-VA-H051-00	4
1	1	1	1	1	CONTROL, RK8-E	D-CS-M7106-01	3
1	1	1	1	1	MAJOR REGISTERS	D-CS-M7105-YB1	2
1	1	1	1	1	DATA BUFFER & STATUS	D-CS-M7104-YA1	1

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DRN: <i>D. Sullivan</i> DATE: 4-4-73	<b>digital</b> EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS TITLE: RK8-F DISK & CONTROL
DECIMALS: .005	CHK'D: <i>[Signature]</i> DATE: 5/24/73	
XX - .02	ENG: <i>[Signature]</i> DATE: 5/11/73	
X - .1	PROJ. ENG: <i>[Signature]</i> DATE: 8/11/73	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD: <i>[Signature]</i> DATE: 7/18/73	
MATERIAL: <i>++</i>	NEXT HIGHER ASSY: B-DD-RK8-F	SIZE CODE: DUA
FINISH: <i>++</i>	SCALE: NONE	NUMBER: RK8-F-0
	SHEET: 1 OF 1	DIST.:

BRINKING 46-107 13866  
 REVISIONS  
 CHANGE NO. REV.  
 DEC FORM NO. DRD 100-A

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**DIGITAL EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS**

DATE 4-10-73

TITLE RK8F FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG <i>SG</i>	APPD <i>SG</i>	SIZE A	CODE SP	NUMBER RK8-F-6	REV
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DEC FORM NO. DRA 107A

SHEET 1 OF 5

**ENGINEERING SPECIFICATION**



CONTINUATION SHEET

TITLE RK8F FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

- 1.0 SHIPPING HARDWARE
  - 1.1 RK8F Control
    - 1.1.1 M7104-YA
    - 1.1.2 M7105-YB
    - 1.1.3 M7106
  - 1.2 RK05 Disk Drive (Maximum of 4 drives per control)
    - 1.2.1 95 to 130VAC @ 60 ± 0.5 Hz - RK05-AA
    - 1.2.2 190 to 260VAC @ 60 ± 0.5 Hz - RK05-AB
    - 1.2.3 95 to 130 VAC @ 50 ± 0.5 Hz - RK05-BA
    - 1.2.4 190 to 260 VAC @ 50 ± 0.5 Hz - RK05-BB
  - 1.3 Interface Cables and Terminator
    - 1.3.1 Interface cable between RK8E control and RK05 - 7009026
    - 1.3.2 Interface cable from one RK05 to another. BC11A
    - 1.3.3 Terminator Module (last RK05)
  - 1.4 (1) Disk Cartridge, HD16 Sector, 30-10350-02.  
M930
- 2.0 SHIPPING SOFTWARE
  - 2.1 RK8E Diskless Control Test
    - Maindec-08-DHRKA-A-PB
    - Maindec-08-DHRKA-A-D
  - 2.2 RK8E Drive Control Test
    - Maindec-08-DHRKB-A-PB
    - Maindec-08-DHRKB-A-D
  - 2.3 RK8E Formatter Program
    - Maindec-08-DHRKD-A-PB
    - Maindec-08-DHRKD-A-D
  - 2.4 RK8E Data Reliability Program
    - Maindec-08-DHRKC-A-PB
    - Maindec-08-DHRKC-A-D

SIZE A	CODE SP	NUMBER RK8-F-6	REV
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DEC FORM NO 16-1022  
DRA 108

SHEET 2 OF 5

TITLE RK8F FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

## 3.0 UNPACKING AND INSTALLATION

- 3.1 Unpack and inspect RK05 using the procedure in the RK05 Disk Drive Maintenance Manual, Chapter 2.
- 3.2 Using the Shipping Hardware and Software lists, verify that all items are present.
- 3.3 Insure power on the PDP-8E, 8M, 8F is turned off.
- 3.4 Check the M7104-YA TO INSURE THAT THE DEVICE code jumpers are in the correct configuration (normally 674X), refer to Table 1.

NOTE: The diagnostic programs normally recongnize Program Device Code 674X. If it desired to operate with a different code, refer to the Diagnostic Document's Section headed "Change Program Device Codes".

TABLE 1

Octal Code	Jumpers Installed
674X	W2 W4 W6
675X	W2 W3 W4
676X	W1 W2 W6
677X	W1 W2 W3

- 3.5 Check M7105-YB MODULE TO INSURE THAT THE PRIORITY jumpers are in the correct configuration, refer to Table 2.

SIZE A	CODE SP	NUMBER RK8-F-6	REV
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SHEET 3 OF 5

TITLE RK8F FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

## 3.0 UNPACKING AND INSTALLATION (continued)

TABLE 2

Break Priority	Jumpers Installed
∅	W1 W4
1*	W2 W3 W5

\*Normally shipped with priority 1 jumpers installed.

- 3.6 Connect the 7009026 cable to the Berg connector on the M7106 module.
- 3.7 Insert the RK8F modules into the Omnibus (refer to UA-RK8-F-∅). Refer to Table 2-3 in Volume I of the PDP-8E Maintenance Manual for installation priorities.
- 3.8 Install H851 top connectors between the modules (refer to UA-RK8-F-∅).
- 3.9 Following the procedure in the RK05 Maintenance Manual, Chapter 2, install the RK05.
- 4.0 ACCEPTANCE
- 4.1 Requirements for Acceptance
- ASR33 teletype, or equivalent.
  - Programmers console.
  - At least 4K of Read/Write Memory.
- 4.2 Run, in order, the programs listed in the "Shipping Software", using the loading and operating procedures in each program's document. If any errors occur, refer to the errors section of the document to evaluate the printout, and Chapter 5 of the RK8E Maintenance Manual for aids in determining the problem.

SIZE A	CODE SP	NUMBER RK8-F-6	REV
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SHEET 4 OF 5

TITLE RK8F FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

## 4.0 ACCEPTANCE (continued)

4.3 Each program should be run the following amount of passes.

- A. Diskless Control Test - Two Passes
- B. Drive Control Test - Two Passes
- C. Formatter Program - One Pass
- D. Data Reliability Program - One Pass

## 4.4 Acceptable Errors

- A. One read error during the Acceptance Procedure

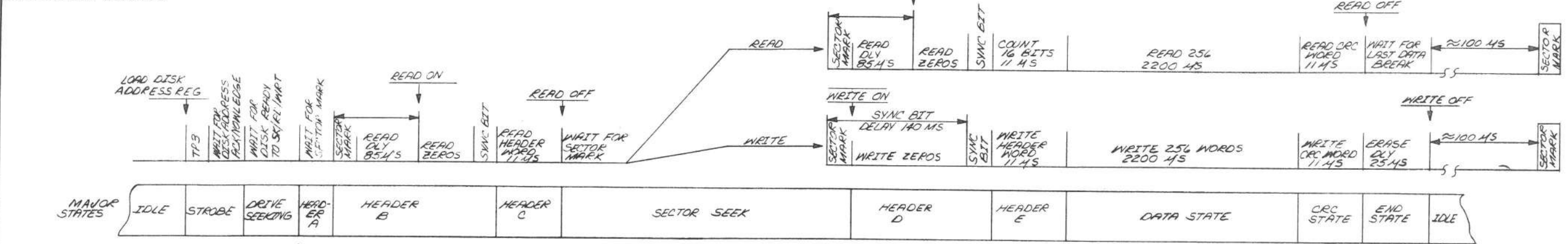
SIZE	CODE	NUMBER	REV
A	SP	RK8-F-6	





DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			LEGEND		QUANTITY / VARIATION																
ACCESSORY LIST			D	DOCUMENT	RK8-F	RK8-FA	RK8-FB	RK8-FC	RK8-FD			KIT CHECK	BY	DATE	INSTALLATION CHECK	BY	DATE				
MADE BY D. SULLIVAN DATE 4/16/73	CHECKED K. GLEZEN DATE 5/24/73	SECTION 1	DN	DOCUMENT CHANGE NOTICE														PA	PAPER TAPE ASCII	PB	PAPER TAPE BINARY
ENG DATE <i>S. J. 5/3/73</i>	PROD DATE <i>5/7/73</i>	ISSUED SECT. 1																			
ITEM NO.	DWG NO. / PART NO.	DESCRIPTION																			
1	B-DD-RK8-F	PRINT SET	1	1	1	1	1														
2	LIBKIT RK8-E	SOFTWARE KIT	1	1	1	1	1														
3	DEC-8E-HR38-D-RK8-E	MAINTENANCE MANUAL	1	1	1	1	1														
4	M930	TERMINATOR MODULE		1	1	1	1														
5	RK8-F	RK8F CONTROL (M7104-YA, M7105-YB & M7106)	1	1	1	1	1														
6	7009026	INTERFACE CABLE M993 TO BERG	1	1	1	1	1														
7	RK05	RK05 DISK DRIVE	REF																		
8	BC11A	INTERFACE CABLE M993 TO M993	REF																		
9	30-10350-02	DISK CARTRIDGE, HD16 SECTOR	REF																		
10	MAINDEC-08-DHRKA-A-PB	RK8E DISKLESS CONTROL TEST	1	1	1	1	1														
11	MAINDEC-08-DHRKA-A-D	RK8E DISKLESS CONTROL TEST	1	1	1	1	1														
		*UNTIL MAINTENANCE MANUAL BECOMES AVAILABLE																			
		SHIP ENGINEERING SPECS (A-SP-RK8-F-5)																			
		THESE DOCUMENTS APPLY TO THE RK8-F																			
12	MAINDEC-08-DHRKB-A-PB	RK8E DRIVE CONTROL TEST	1	1	1	1	1														
13	MAINDEC-08-DHRKB-A-D	RK8E DRIVE CONTROL TEST	1	1	1	1	1														
14	MAINDEC-08-DHRKC-A-PB	RK8E DATA RELIABILITY PROGRAM	1	1	1	1	1														
15	MAINDEC-08-DHRKC-A-D	RK8E DATA RELIABILITY PROGRAM	1	1	1	1	1														
16	MAINDEC-08-DHRKD-A-PB	RK8E FORMATTER PROGRAM	1	1	1	1	1														
17	MAINDEC-08-DHRKD-A-D	RK8E FORMATTER PROGRAM	1	1	1	1	1														
TITLE ACCESSORY SHIPPING LIST RK8-F			ASSY. NO.		SIZE CODE A AL		NUMBER RK8-F-3					REV.	ECO NO								
SHEET 1 OF 1					DIST.																

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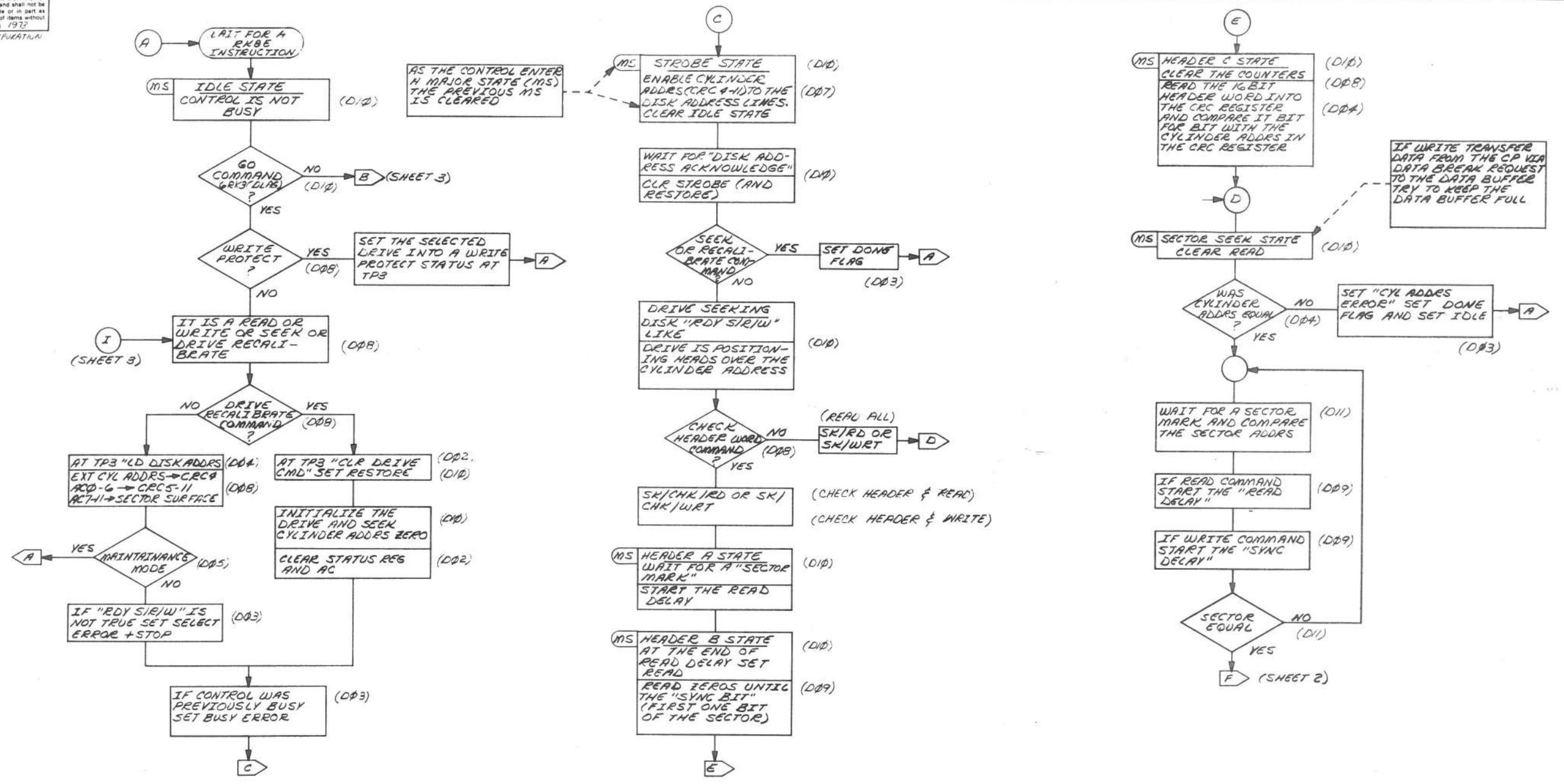
MAJOR STATE	FUNCTION	SEEK	SK/CHK/RD	SK/CHK/WRT	SK/RD	SK/WRT
IDLE	CONTROL IS NOT BUSY. WHEN THE GO COMMAND (FLAG) IS ISSUED THE C(AC) IS LOADED INTO THE CRC* AND SECTOR-SURFACE REGISTERS (DISK ADDRESS)	✓	✓	✓	✓	✓
STROBE	STROBE THE CYLINDER ADDRESS FROM THE C(AC) REGISTER TO THE DRIVE AND WAIT FOR THE DRIVE'S "ADDRESS ACKNOWLEDGE" SIGNAL.	✓	✓	✓	✓	✓
DRIVE SEEKING	WAIT FOR THE "DISK READY TO SEEK/READ/WRITE" LEVEL FROM THE DRIVE TO SIGNIFY THAT THE HEADS ARE POSITIONED OVER THE CYLINDER ADDRESS.	✓	✓	✓	✓	✓
HEADER A	WAIT FOR THE FIRST SECTOR MARK, THEN START THE READ DELAY.	✓	✓			
HEADER B	AT THE END OF THE READ DELAY TURN THE READ FLOP ON. ZEROS WILL BE READ UNTIL THE SYNC BIT WHICH SIGNIFYS THE BEGINNING OF A SECTOR'S DATA.	✓	✓			
HEADER C	READ THE 16 BIT HEADER WORD AND COMPARE IT WITH THE CYLINDER ADDRESS IN THE CRC REGISTER.	✓	✓			
SECTOR SEEK	IF THE HEADER WORD DOES NOT EQUAL THE CYLINDER ADDRESS SET THE "CYLINDER ADDRESS ERROR" AND GO TO THE IDLE STATE. AT EACH SECTOR MARK COMPARE THE SECTOR ADDRESS WITH THE DISK SECTOR ADDRESS LINES, IF EQUAL GO TO THE NEXT STATE.	✓	✓	✓	✓	✓
HEADER D	AT THE BEGINNING OF THE SECTOR START THE "READ DELAY". AT THE END OF THE "READ DELAY" SET "READ" ZEROS WILL BE READ UNTIL THE SYNC BIT. AT THE BEGINNING OF THE SECTOR START THE "SYNC BIT DELAY." ZEROS ARE WRITTEN FOR THE LENGTH OF THE DELAY. A ONE BIT (SYNC BIT) IS THEN WRITTEN.	✓	✓	✓	✓	✓

MAJOR STATE	FUNCTION	SEEK	SK/CHK/RD	SK/CHK/WRT	SK/RD	SK/WRT
HEADER E	COUNT AND IGNORE THE FIRST 16 BITS. WRITE THE HEADER WORD SPECIFIED BY THE CRC REGISTER.		✓	✓	✓	✓
DATA STATE	READ 256-12 BIT WORDS FROM THE DISK INTO THE DATA BUFFER AND COMPUTE THE CRC. TRANSFER 12 BIT WORD FROM DATA BUFFER TO THE PROCESSOR. THE CONTROL WILL TRY TO KEEP DATA BUFFER EMPTY VIA DATA BREAKS. WRITE ON THE DISK 256-12 BIT WORDS TRANSFERED FROM THE PROCESSOR TO THE DATA BUFFER. TRYING TO KEEP DATA BUFFER FULL VIA DATA BREAKS. COMPUTE CRC.		✓	✓		
CRC STATE	READ AND COMPARE THE CRC WORD WITH THE COMPUTED CRC. WRITE THE COMPUTED CRC ON THE DISK.		✓	✓	✓	✓
END STATE	IF THE CRC FROM THE DISK DOES NOT EQUAL THE COMPUTED CRC, SET THE "CRC ERROR." CLEAR READ. WHEN THE DATA BUFFERS ARE EMPTIED INTO THE PROCESSOR SET THE DONE FLAG AND GO TO THE IDLE STATE. START THE ERASE DELAY AND WRITE ZEROS. AT THE END OF THE ERASE DELAY CLEAR WRITE, SET THE DONE FLAG AND GO TO THE IDLE STATE.		✓	✓		✓

BRUNING 40-522 15640  
REV. 1  
CHG. CHANGE NO.  
DEC FORM NO. DRD 102-B

FIRST USED ON OPTION/MODEL RK8-F	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	TITLE		
xxx + .005	± 0° 30'	MAJOR STATES TIMING & FLOW		
xx + .02		REMOVED BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		
x + .1		MATERIAL		
FINISH		NEXT HIGHER ASSY.		
		B-DD-RK8-F		
		SCALE NONE		
		SHEET 1 OF 1		
		SIZE CODE NUMBER		
		D TD RK8-F-2		
		DIST.		
		REV. *		

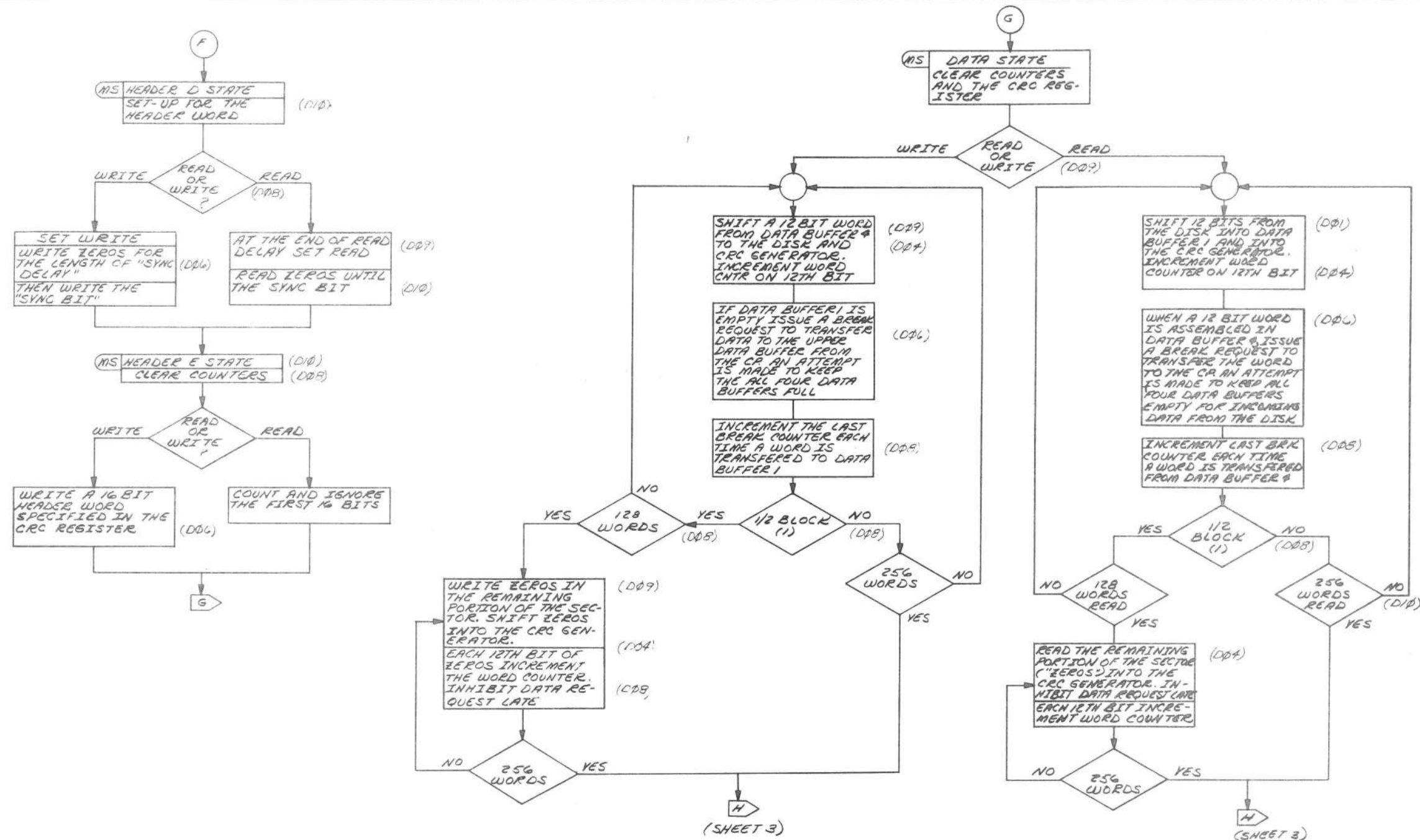
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REV	CHG	NO	NO
REVISIONS	CHANGE NO	DATE	BY
1			

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DATE	DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE	WATYARD MASSACHUSETTS	
.xxx ± .005	± 0° 30'	DATE	TITLE	
.xx ± .02		DATE	FLOW DIAGRAM	
.x ± .1		DATE	(RK8-F)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	DATE		
MATERIAL	NEXT HIGHER ASSY.	DATE		
FINISH	B-DD-RK8-F	DATE		
	SCALE	DATE		
	SHEET 1 OF 4	DATE		
	DIST	DATE		

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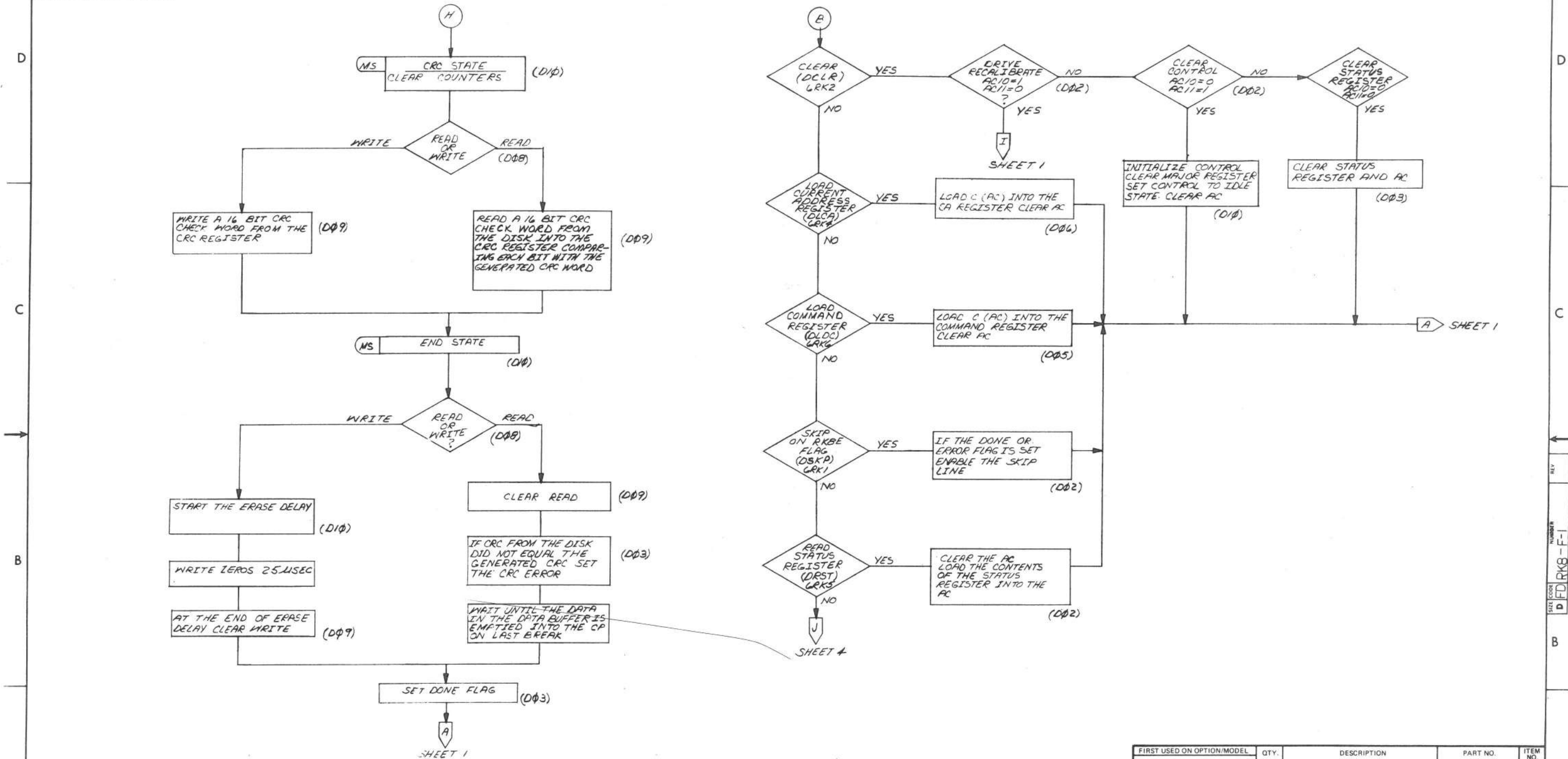


BRWING 40-532 15840  
 REVISIONS  
 CHANGE NO. REV.  
 CHK. \_\_\_\_\_

REV. NUMBER  
 DFD RK8-F-1

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DWN	DATE 4 9 72	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS .xxx = .005	CHKD	DATE 5/11/72	TITLE	
ANGLES .xx = 02	ENG	DATE 5/11/72	FLOW DIAGRAM (RK8-F)	
X = 1	PROV. ENG	DATE 5/11/72	MATERIAL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROP.	DATE 7/1/72	NEXT HIGHER ASSY.	
			B-ED-RK8-F	SIZE CODE
			SCALE	NUMBER
			SHEET 2 OF 4	DIST
				REV. *

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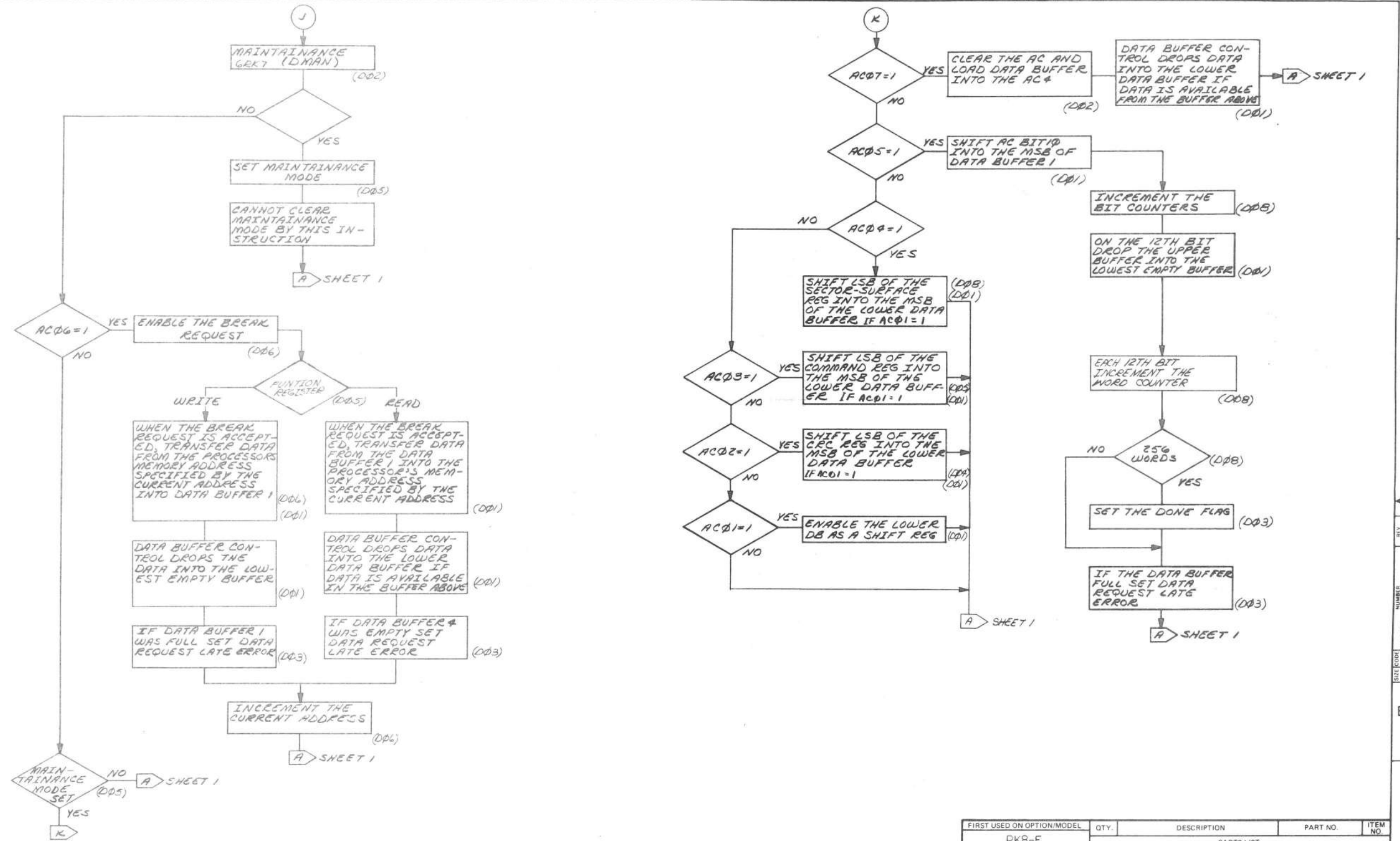


REV	
CHANGE NO	
CHK	

DEC FORM NO 080 102-B

FIRST USED ON OPTION/MODEL RK8-F	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES	DATE 4-4-73	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
DECIMALS .XXX - .005	DATE 5/11/73	TITLE FLOW DIAGRAM (RK8-F)		
ANGLES ± 0° 30'	DATE 3/16/73			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓	DATE 3/16/73	SIZE CODE NUMBER REV. B-DD-RK8-F DFD RK8-F-1 *		
MATERIAL	NEXT HIGHER ASSY.	SCALE 3 OF 4		
FINISH		SHEET 3 OF 4		

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DIGITAL EQUIPMENT CORPORATION



REVISIONS

REV	CHANGE NO

DEC 10PM NO  
180 102-B

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RKB-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN <i>D. Pulliam</i>	DATE 4-9-73	 <b>digital EQUIPMENT CORPORATION</b> <small>MAYNARD MASSACHUSETTS</small>	
DECIMALS	CHK'D <i>[Signature]</i>	DATE 5/24/73		
ANGLES	ENG <i>[Signature]</i>	DATE 5/31/73		
XXX = .005	PROG. ENG <i>[Signature]</i>	DATE 8/31/73		
XX = .02	PROD <i>[Signature]</i>	DATE 2/18/73		
X = .1	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	✓		
MATERIAL	++	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH	++	B-DD-RKB-F	DFD RKB-F-1	REV. *
		SCALE		
		SHEET 4 OF 4	DIST.	

FLOW DIAGRAM.  
(RKB-F)

REV NUMBER DFD RKB-F-1



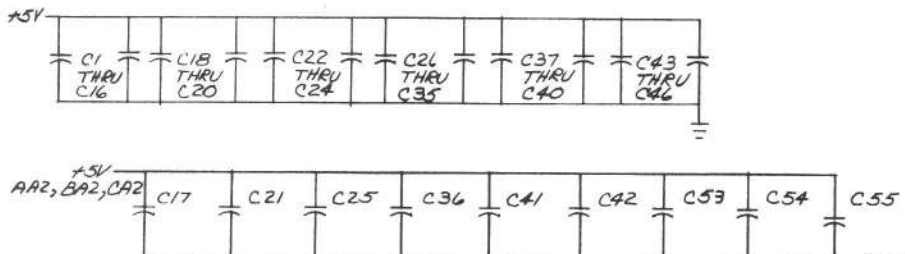
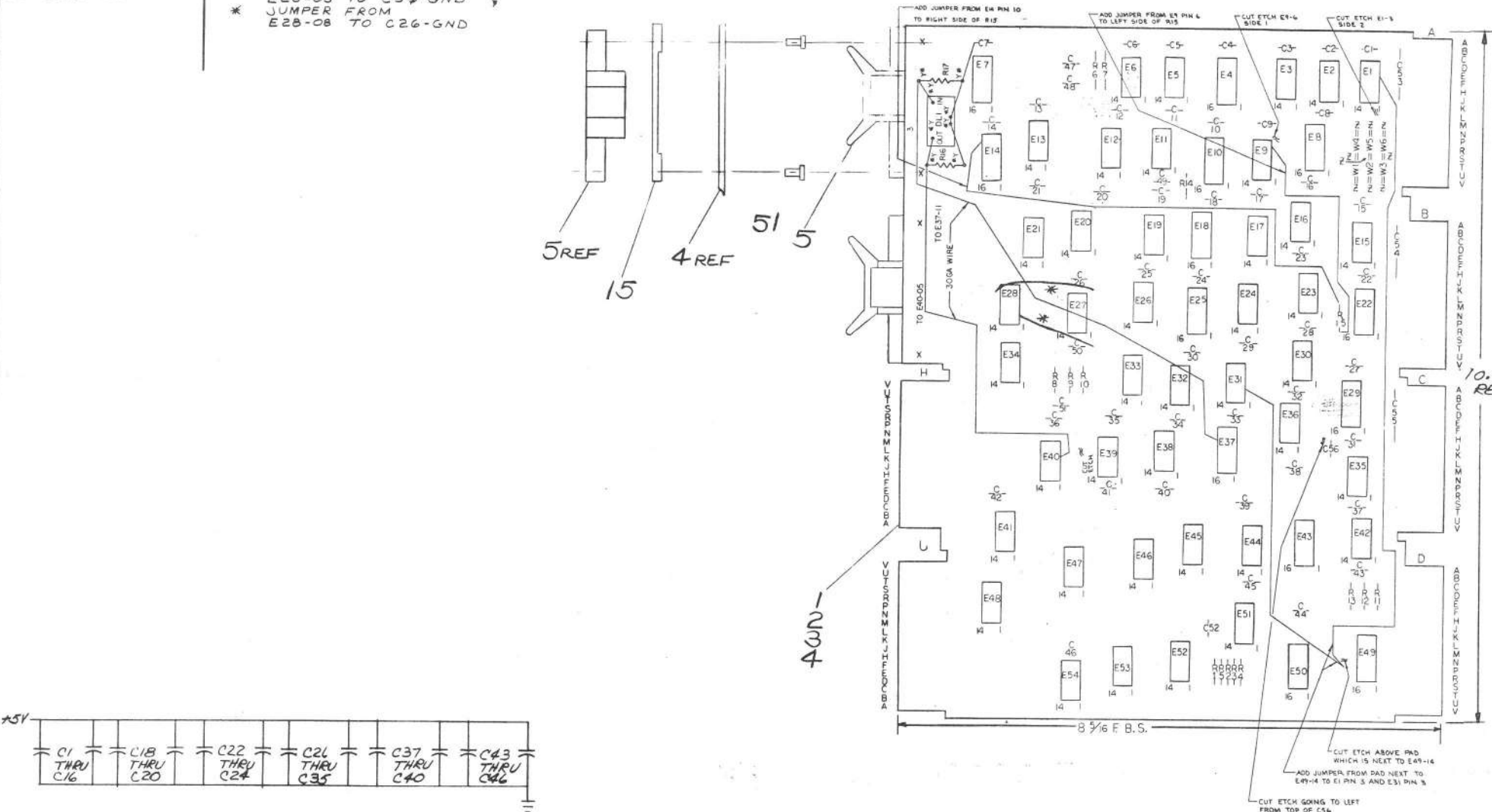




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### NOTES:

- FOR M7104B-YA BOARD ONLY.
- \* ADD JUMPER FROM E28-03 TO C54-GND & JUMPER FROM E28-08 TO C26-GND



AC2, AF1, AN1, AT1, AF2, AN2, AT2, BC1, BF1, BN1, BT1, BC2, BF2, BN2, BT2, CC1, CF1, CN1, CT1, CC2, CF2, CN2, CT2, DC1, DF1, DN1, DT1, DC2, DF2, DN2, DT2.

AR	DESCRIPTION	QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
8	BRASS WIRE, SOLID, GREEN	9105740-55	54			
8	GRIPLETS	7210244-0	53			
1	DL1	1609559	52			
4	EYELET	9006750	51			
9	SPLIT LUGS	9006735	50			
4	E9, E10, E18, E25	I.C. DEC 74174	49			
1	E7	I.C. DEC 74123	48			
1	E50	I.C. DEC 7496	47			
3	E11, E40, E48	I.C. DEC 7408	46			
1	E33	I.C. DEC 7437	45			
3	W2, W4, W6	22 GA BUSS WIRE	44			

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.	
1	E43	I.C. DEC 74193	74193	1910018	55
4	E8, E22, E29, E49	I.C. DEC 8235		1909255	52
1	E21	I.C. DEC 74H04		1909931	41
1	E36	I.C. DEC 8881		1909705	40
1	E1	I.C. DEC 314		1909704	39
4	E16, E23, E27, E31	I.C. DEC 7404		1909686	38
1	E38	I.C. DEC 74H74		1909667	37
1	E37	I.C. DEC 8251B		1909594	36
1	E30	I.C. DEC 384		1909486	35
4	E2, E15, E35, E42	I.C. DEC 380		1909485	34
2	E6, E26	I.C. DEC 74H53		1909062	33
1	E20	I.C. DEC 74H00		1909056	32
2	R16, R17	RES., 1K 1/4W, 5%		1300365	31
6	E3, E5, E9, E17, E24, E32	I.C. DEC 7495		1909055	30
6	E18, E19, E28, E34, E51, E53	I.C. DEC 7402		1909004	29
1	E12	I.C. DEC 7473		1905587	28
1	E14	I.C. DEC 7476		1905585	27
2	E4, E44	I.C. DEC 7440		1905579	26
1	E47	I.C. DEC 7410		1905576	25
3	E45, E46, E54	I.C. DEC 7400		1905575	24
2	E39, E52	I.C. DEC 7474		1905547	23
2	R6, R7	RES., 5.1K, 1/8W, 1%, MF		1304850	22
2	R2, R3	RES., 180, 1/4W, 5%, C.C.		1301322	21
2	R12, R13	RES., 9.7K, 1/4W, 5%, C.C.		1300947	20
1	R9	RES., 2.2K, 1/4W, 5%, C.C.		1300417	19
1	R11	RES., 1.8K, 1/4W, 5%, C.C.		1300390	18
2	R1, R4	RES., 390, 1/4W, 5%, C.C.		1300309	17
5	R5, R8, R10, R14, R15	RES., 100, 1/4W, 5%, C.C.		1300229	16
2		SPACER (CABLE CLAMP)		1202704	15
40	C1 THRU C16, C18 THRU C20, C22 THRU C24, C26 THRU C28, C30 THRU C32, C34 THRU C36, C38 THRU C40	CAP., 0.01UF, 100V, 20%, DISC	1001610	14	
3	C53 THRU C55	CAP., 0.01UF, 35V, 20%, TANT	1000067	13	
2	C49, C56	CAP., 470PF, 100V, 5% DM	1000024	12	
1	C51	CAP., 330PF, 100V, 5% DM	1000023	11	
1	C52	CAP., 100PF, 100V, 5% DM	1000020	10	
1	C50	CAP., 120PF, 100V, 5% DM	1000018	9	
1	C47	CAP., 39PF, 100V, 5% DM	1000010	8	
1	C48	CAP., 18PF, 100V, 5% DM	1000006	7	
6	C17, C21, C25, C36, C41, C42	CAP., 0.02UF, 100V, 20%, DISC	1000004	6	
2		HANDLE, FLIP-CHIP, MAGENTA	9003337-06	5	
1		ETCHED CIRCUIT BOARD	5010064	4	
REF		MODULE ECO HISTORY	B-M4-M7104-B-6	3	
REF		ASSY/DRILLING HOLE LAYOUT	D-R4-M7104-B-5	2	
REF		X-Y COORDINATE HOLE LOCATION	X-CO-M7104-B-4	1	

IC TYPE	GND	+5V
DEC 74123	8	16
DEC 74174	8	16
DEC 7496	5	12
DEC 74193	8	16
DEC 8235	8	16
DEC 314	1	8
DEC 8251B	8	16
DEC 384	1	8
DEC 380	1	8
DEC 7473	4	11
DEC 7476	5	13
IC TYPE	GND	+5V

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

IC PIN LOCATIONS

REVISIONS

CHK	ORIGINATED	CHANGE NO.	REV

DATE: 4-11-73  
DATE: 5/29/73  
DATE: 7/2/73  
DATE: 7/10/73  
DATE: 7/11/73

Digital Equipment Corporation  
MAYNARD, MASSACHUSETTS

## DATA BUFFER & STATUS

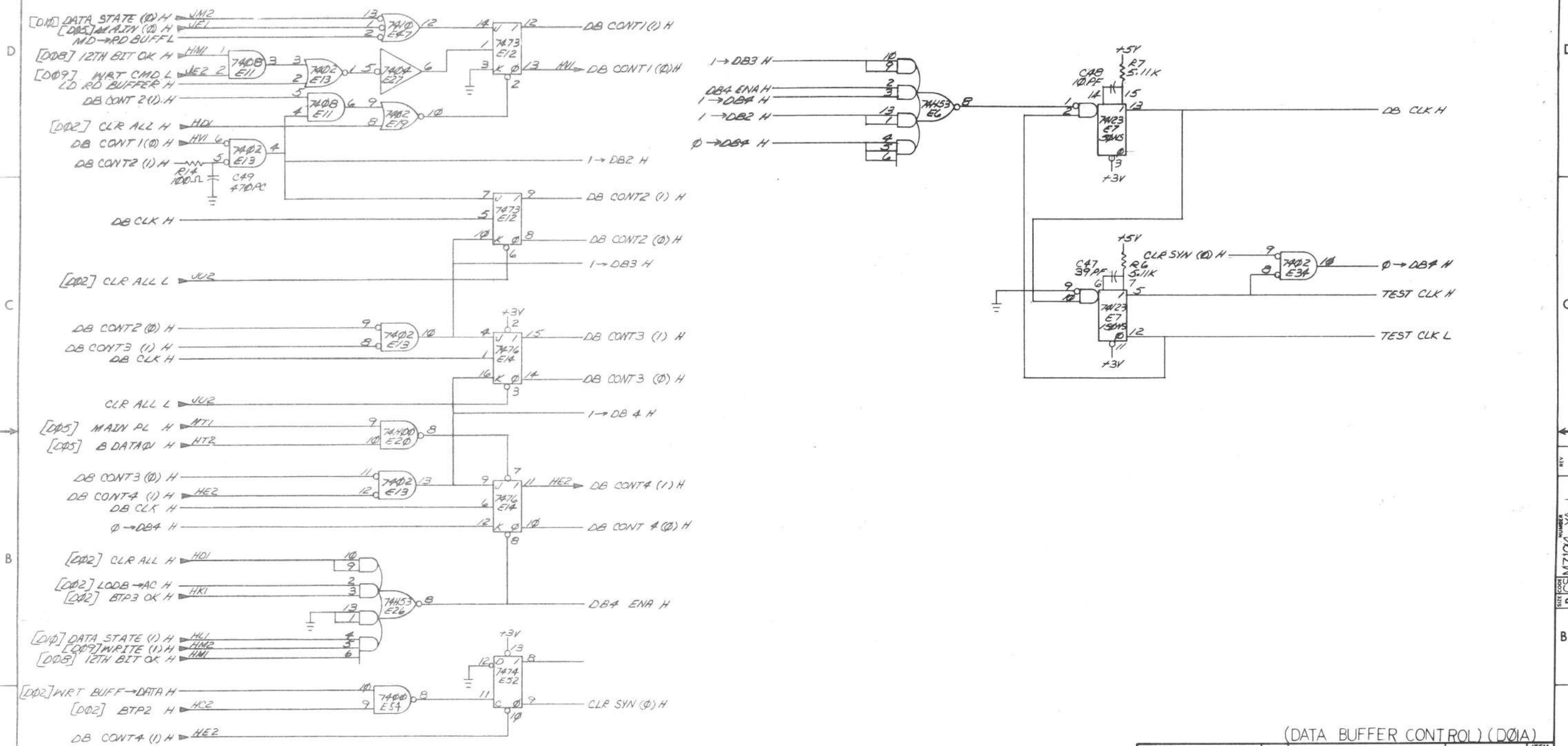
D-UA-RK8-F-0

SCALE: NONE  
SHEET: 2 OF 7

SIZE CODE: DCS M7104-YA-1  
NUMBER: 1  
REV: \*

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SIZE CODE NUMBER  
D CS M7104-YA-1 2

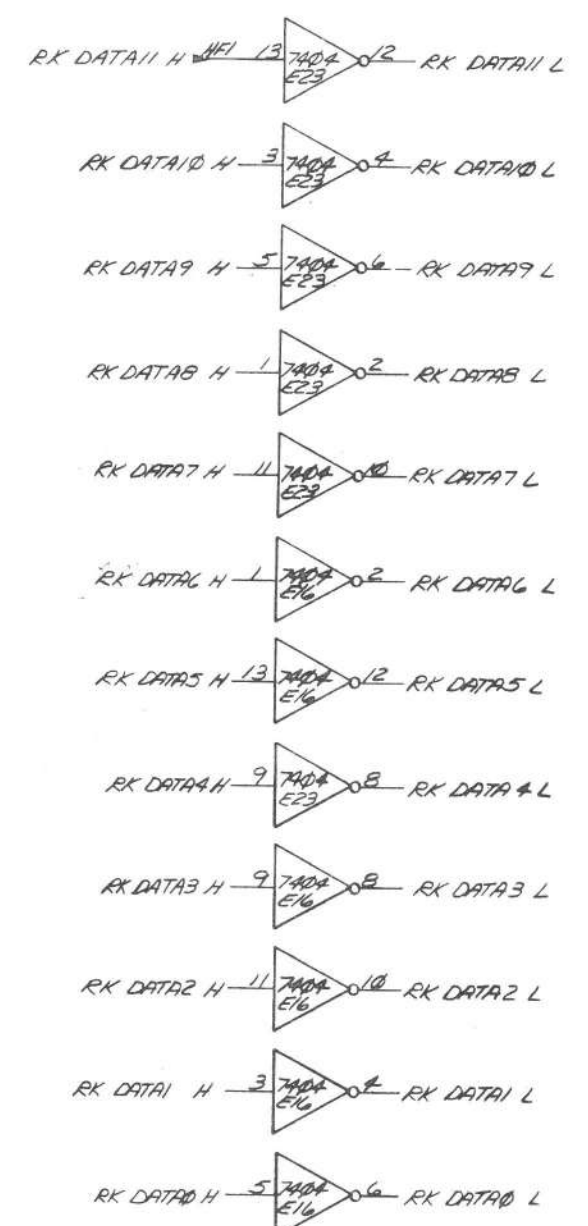
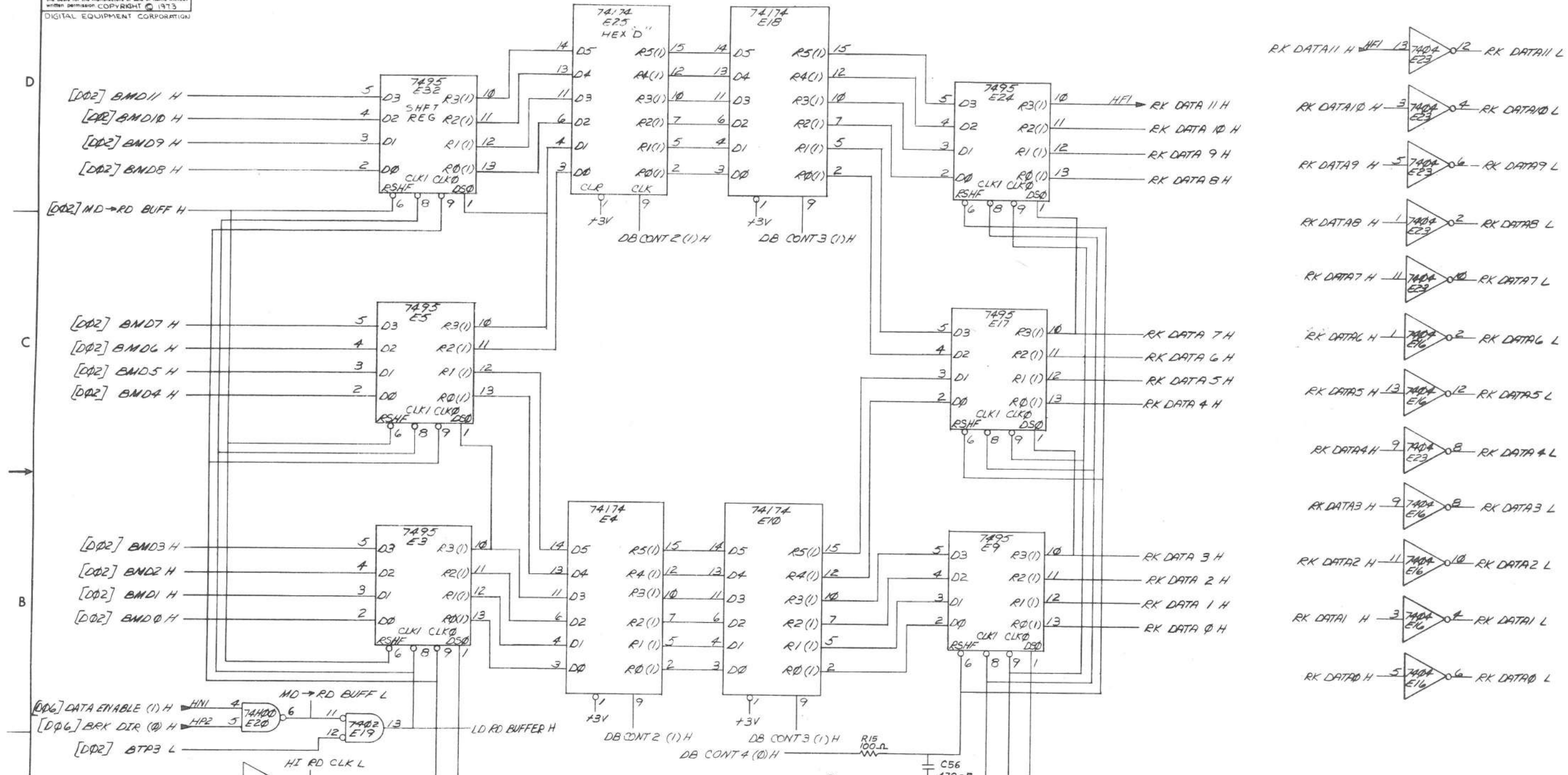


(DATA BUFFER CONTROL) (D01A)			
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.
RK8-F			
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRY	DATE	digital EQUIPMENT CORPORATION MAYARD MASSACHUSETTS
DECIMALS	CHK'D	DATE	
ANGLES	ENG	DATE	
XXX - .005	PROJ. ENG.	DATE	
.XX - .02	PROD.	DATE	
.X - .1		DATE	
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY			
MATERIAL	NEXT HIGHER ASSY.		
FINISH	F-11A-RK8-F 0	SIZE CODE	NUMBER
	SCALE	D CS M7104-YA-1	REV.
	SHEET 3 OF 7	DIST.	*

BRUNING 40-322 15640  
REV. CHANGE NO.  
CHK

REV. NUMBER  
D CS M7104-YA-1

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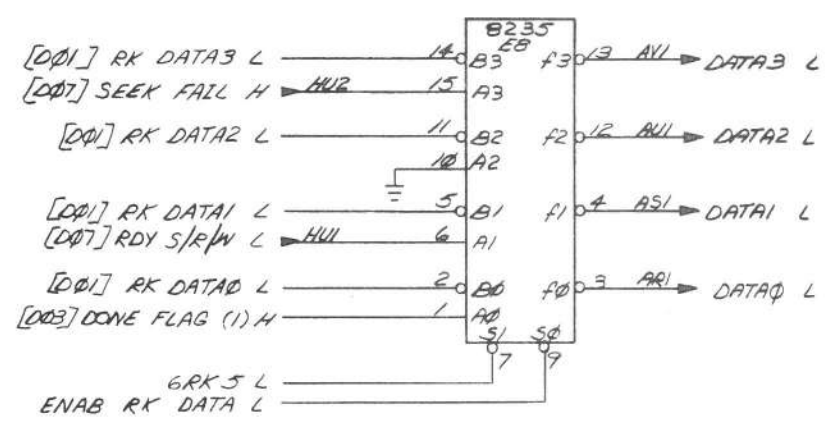
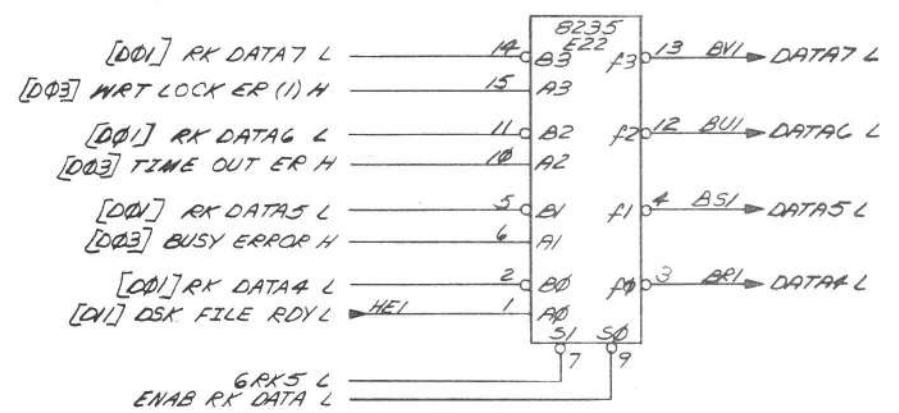
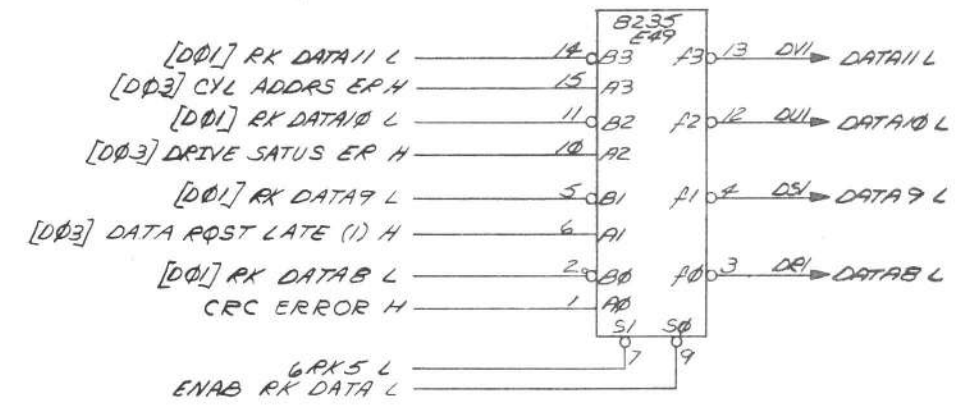
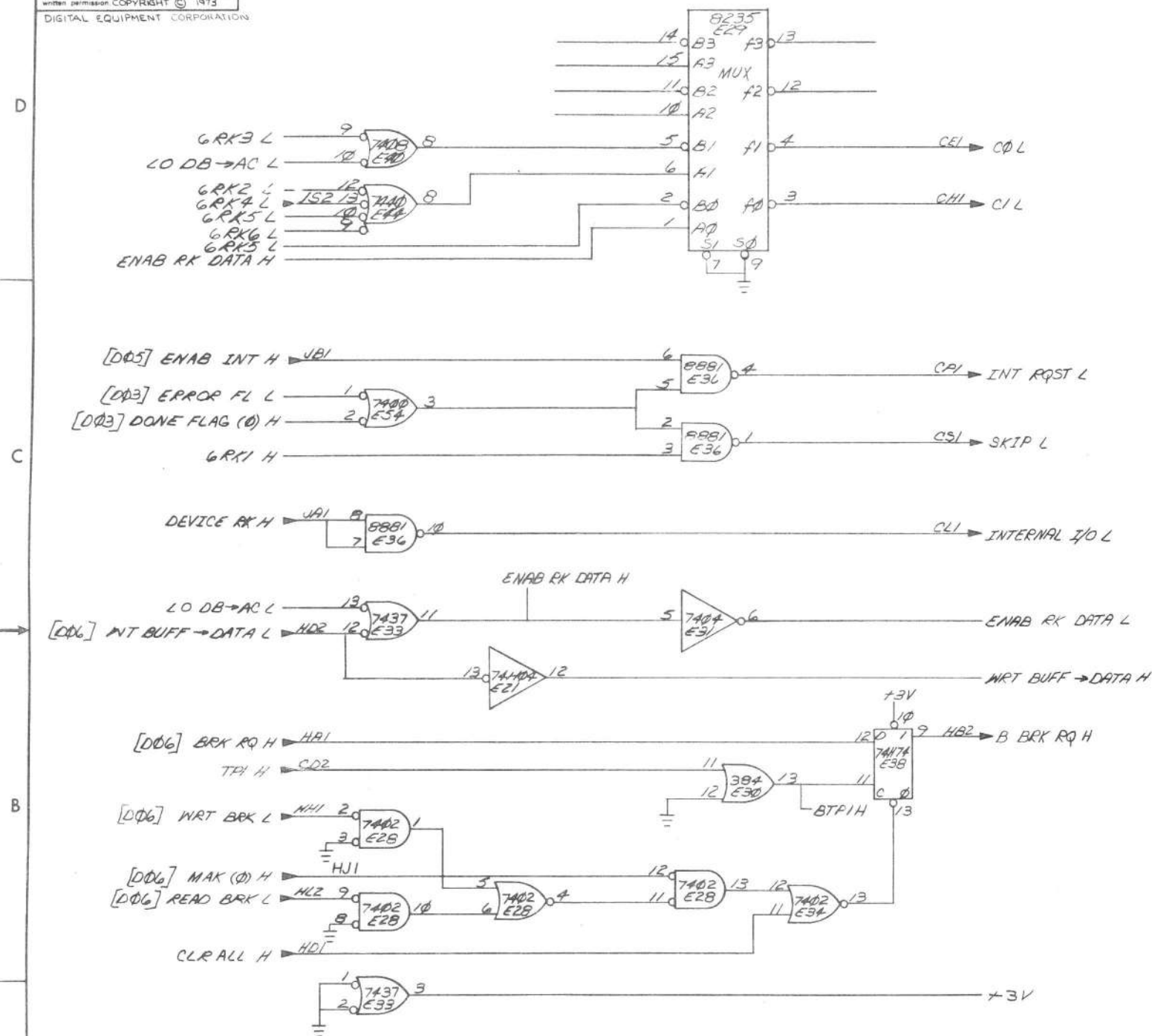
BRUNING 40-522 15840  
DEC FORM NO. DRD 102-B

REV	CHANGE NO.	REVISIONS

(DATA BUFFER) (D0IB)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RKB-F				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS .XXX = .005	ANGLES ±0° 30'	PARTS LIST		
XX = .02	X = .1	DRN DATE 4-11-73	digital EQUIPMENT CORPORATION WATFORD MASSACHUSETTS	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		ENG DATE 5/24/73	TITLE	
MATERIAL		PROJ. ENG. DATE 7/2/73	DATA BUF & STATUS	
NEXT HIGHER ASSY		MOD. DATE 7/16/73	SIZE CODE NUMBER REV	
FINISH		D-11A-RKB-F 1		CSM7104-YA-1
SCALE		SHEET 4 OF 7		DIST.

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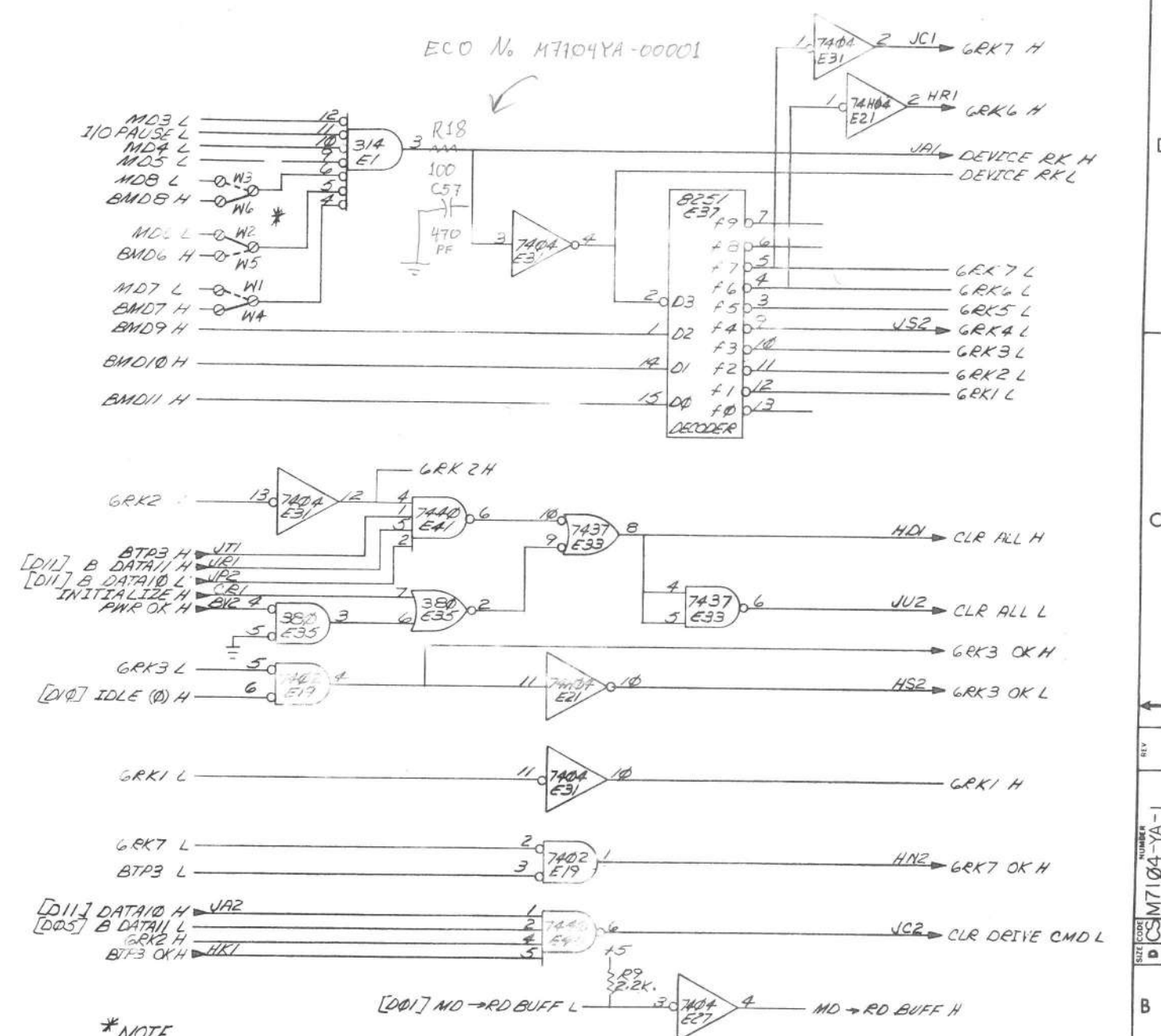
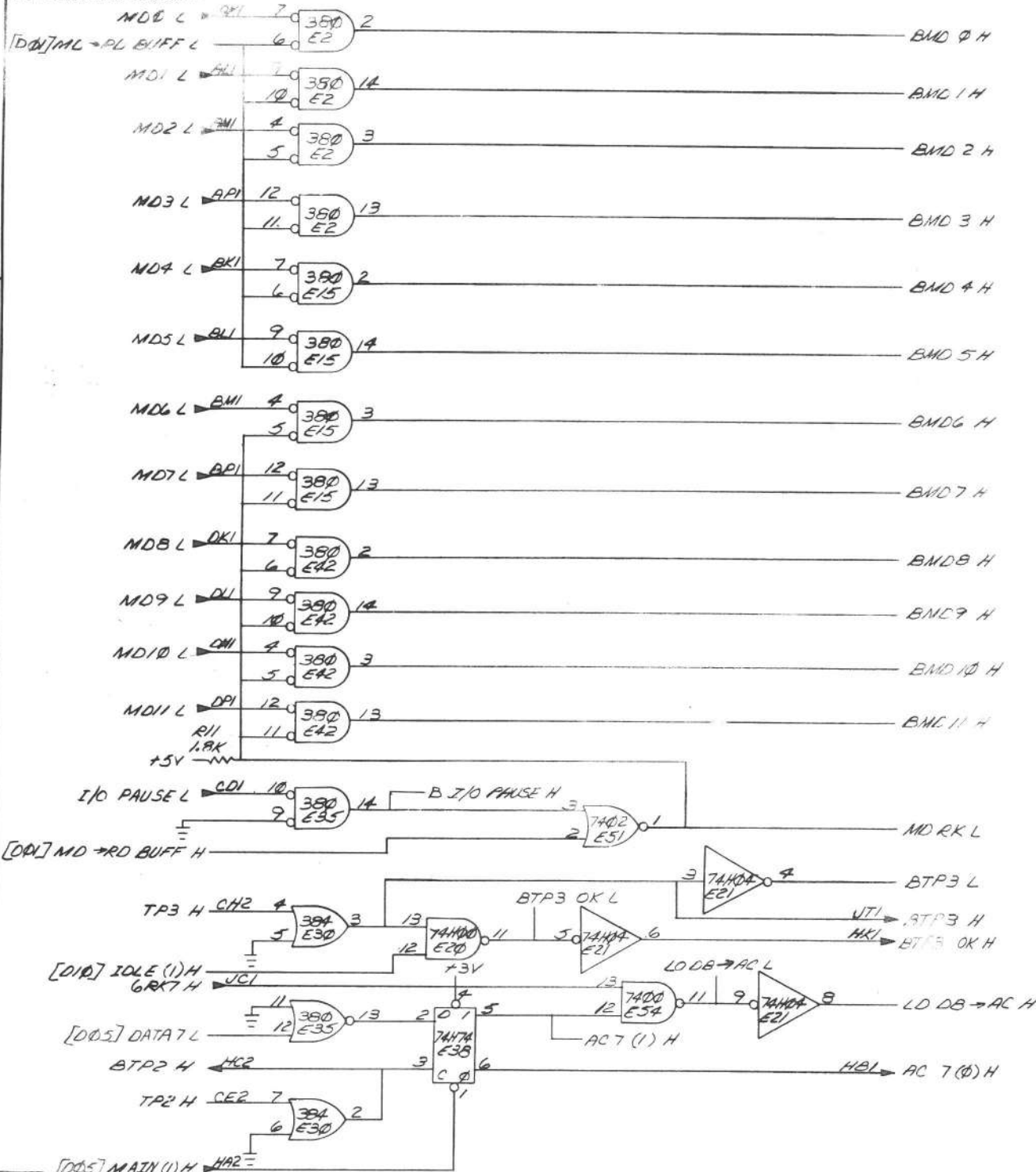


REV	
CHANGE NO	
CHK	

(OMNIBUS DRIVERS)(D02A)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RKB-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DRY	DATE	digital EQUIPMENT CORPORATION	
TOLERANCES	CHK	DATE	MAYHARD, MASSACHUSETTS	
DECIMALS	ENG	DATE	TITLE	
ANGLES	PROJ. ENG.	DATE	DATA BUF & STATUS	
xxx = .005	PROD.	DATE		
.xx = .02		DATE		
x = .1		DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.			
FINISH	D-11A-RKE-F-y	SIZE CODE	NUMBER	REV.
	SCALE	D CS M7104-YA-1		*
	SHEET	DIST		

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\*NOTE  
 IOT 674X AS SHOWN  
 VALID IOT'S ARE  
 674X  
 675X  
 676X  
 677X

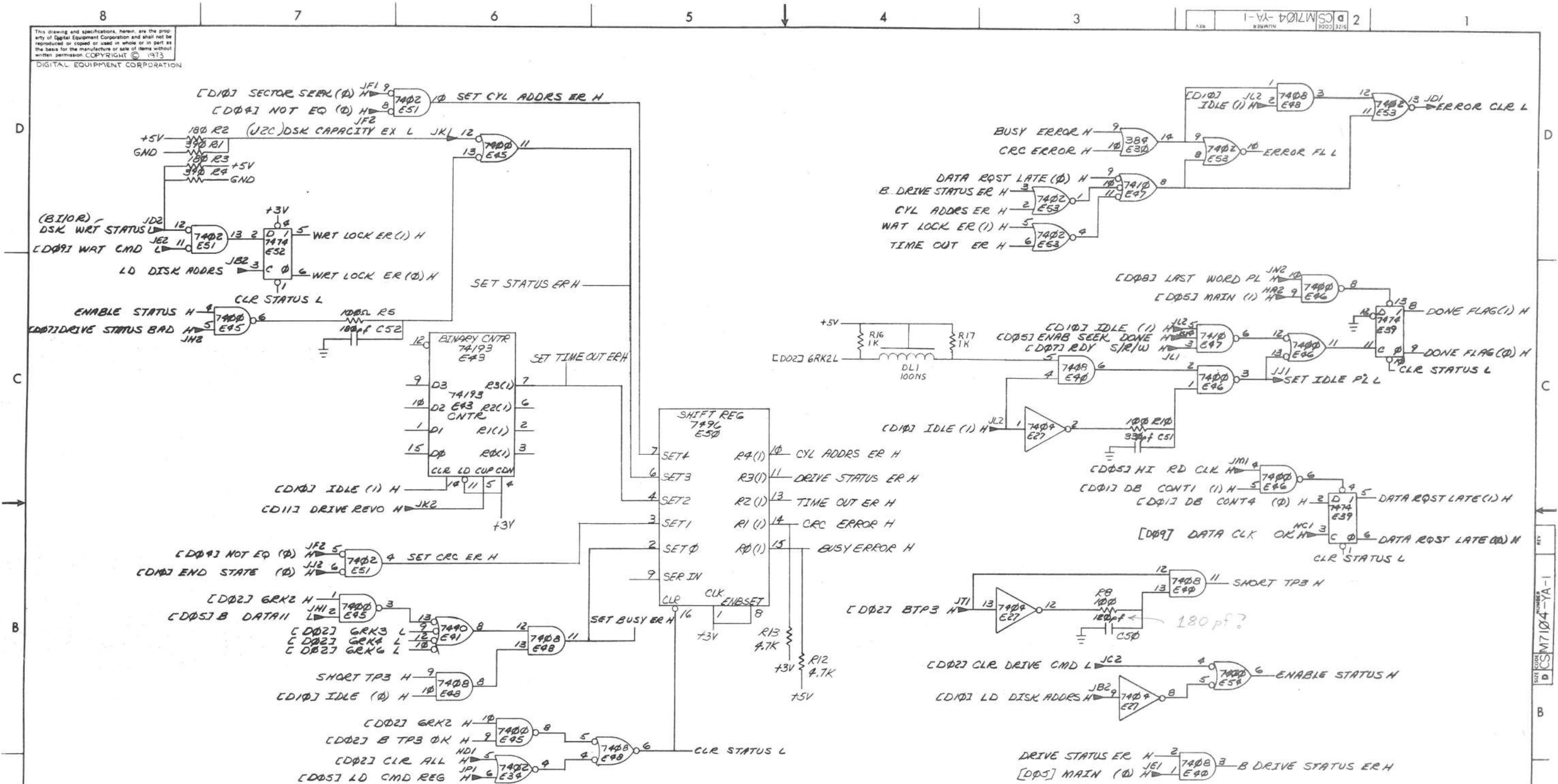
(OMNIBUS RECEIVERS) (D02B)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
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		DATA BUF & STATUS		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
SCALE		SIZE CODE	NUMBER	REV
SHEET 6 OF 7		DCS M7104-YA-1		*

BRUNING 40-522 15840  
 DEC FORM NO  
 DRD 102-B



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REV	CHG	NO

DEC FORM NO. 102-B

(STATUS REGISTER ERROR DETECT) (D03)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	
DECIMALS	ANGLES	CHKD	DATE	
.XXX - .006	±0°30'	ENG	DATE	
.XX - .02		PRG. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		TRNG	DATE	<b>DATA RUF &amp; STATUS</b>
MATERIAL		NEXT HIGHER ASSY.		
FINISH		D-UA-RK8-F-0	SIZE CODE	NUMBER
		SCALE	D CS M7104-YA-1	REV.
		SHEET	7 OF 7	
		DIST.		

DATE CODE NUMBER D CS M7104-YA-1

PAGE REVISION CONTROL SHEET

REMARKS

PAGE REVISIONS

SH NO.

1 B  
2 B  
3 B  
4 B  
5 B  
6 B

FIRST USED ON OPTION/MODEL

RK8-F

DRN. *D. Sullivan* 4-11-73  
 CHK'D. *A. De... 5-24-73*  
 ENG. *J. ... 7/10/73*  
 PROJ ENG. *[Signature]* 7/16/73  
 PROB. *[Signature]*

**digital** EQUIPMENT CORPORATION  
 MAYNARD, MASSACHUSETTS

TITLE

MAJOR REGISTERS

NEXT HIGHER ASSY.

D-UA-RK8-F-Ø

SCALE 1 OF 6

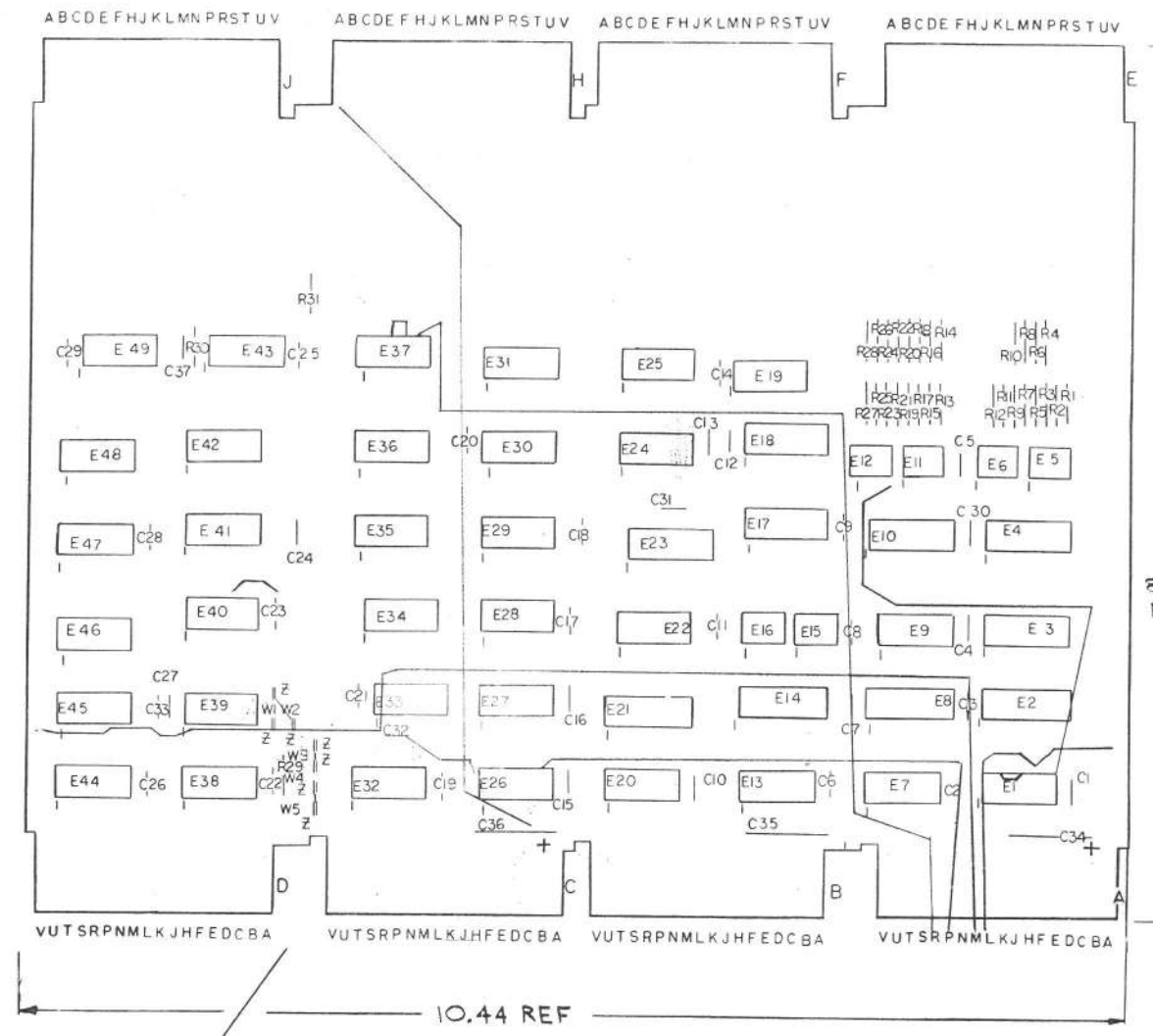
SIZE CODE B CS  
 NUMBER M7105-YB-1  
 REV. B

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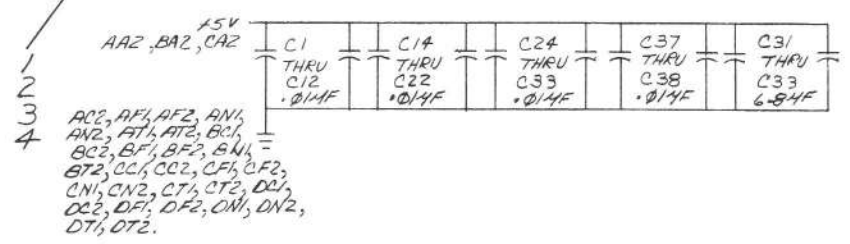


**NOTES:**

- MODIFICATION OF M7105 TO M7105-YB  
SUMMARY OF ETCH CUTS
- SIDE 1**
- E39-9 TO PTH
  - E44-11 TO E45-5
  - E1-6 & E1-8 TO ETCH RUN
  - E1-3 TO PTH
- SIDE 2**
- E37-11 TO PTH
  - E45-6 TO PTH
  - E45-5 TO PTH
  - E39-8 TO PTH
  - E38-B PTH TO PTH E26-9
  - E26-8 TO E26-9
  - E1-8 TO E1-11
  - E37-9 TO PTH
- DRILL 4 HOLES AT FINGERS AL1, AM1, AP1, AR1  
USE 1/32" DRILL - #58
- ADD WIRES:
- PTH NEAR E45-1 TO PTH NEAR E33+4
  - FINGER AM2
  - E37-11 TO E37-11
  - E40-9 PTH TO PTH NEXT TO IT
  - E26-9 PTH (ABOVE G.B.M.F. CAP) TO PTH FROM FINGER HB2
  - PTH NEAR E26+4 TO OICAP FROM E33-4
  - E26-8 TO FINGER AP2
  - E1-8 TO E10-1 PTH
  - E1-11 TO E1-12 PTH
  - ETCH RUN
  - FINGER AL2 TO LEFT PTH NEAR E1-14
  - E37-9 TO FINGER AR2



QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
3	W2, W3, W5	HAND INSTALLED JUMPERS	9107560-01	35
7		SPLIT LUG	9006735	34
1	E46	I.C. DEC 7440	1905579	33
1	E10	I.C. DEC 74155	1910656	32
1	E23	I.C. DEC 74174	1910652	31
3	E8, E18, E21	I.C. DEC 74161	1910650	30
4	E5, E6, E15, E16	I.C. DEC 75452	1910645	29
2	E11, E12	I.C. DEC 75451	1910406	28
2	E9, E14	I.C. DEC 7496	1910363	27
3	E25, E34, E41	I.C. DEC 7408	1910155	26
1	E24	I.C. DEC 7486	1910011	25
6	E1, E7, E20, E26, E38, E44	I.C. DEC 8881	1909705	24
2	E39, E45	I.C. DEC 74474	1909667	23
3	E2, E3, E17	I.C. DEC 8271	1909615	22
2	E42, E43	I.C. DEC 7404	1909686	21
1	E27	I.C. DEC 384	1909486	20
3	E13, E22, E32	I.C. DEC 380	1909485	19
1	E38	I.C. DEC 74411	1909267	18
1	E9	I.C. DEC 74452	1909061	17
1	E37	I.C. DEC 74410	1909057	16
2	E28, E47	I.C. DEC 7402	1909004	15
6	E19, E29, E31, E36, E40, E49	I.C. DEC 7400	1905575	14
3	E34, E35, E48	I.C. DEC 7474	1905547	13
14	R2, R5, R6, R9, R10, R12, R15, R16, R19, R20, R23, R24, R27, R28	RESISTOR, 100, 1/4W, 5%	1301322	12
1	R29	RESISTOR, 1K, 1/4W, 5%	1300365	11
14	R1, R3, R4, R7, R8, R11, R13, R14, E12, R18, R21, R22, R25, R26	RESISTOR, 390, 1/4W, 5%	1300309	10
2	R30	RESISTOR, 100, 1/4W, 5%	1300229	9
32	C1 THRU C33	CAP, .01UF, 100V, 20% DISC	1001610	8
3	C34 THRU C36	CAP, 6.8UF, 35V, 20% STANT	1000067	7
1	R31	RES. 10, 1/4W, 5%	1301317	6
1	C37	CAP, 470PF, 100V, 5%, D.M.	1000024	5
1		ETCHED CIRCUIT BOARD	5010065	4
REF		MODULE ECO HISTORY	B-MH-M7105-YB-6	3
REF		ASSY DRILLING HOLE LAYOUT	D-AH-M7105-YB-5	2
REF		X-Y COORDINATE HOLE LOCATION	KCO-M7105-YB-4	1



DATE	REV	DESCRIPTION
DEC 74155	8	16
DEC 74174	8	16
DEC 74174	8	16
DEC 74161	8	16
DEC 75452	4	8
DEC 75451	4	8
DEC 8271	8	16
DEC 384	1	8
DEC 380	1	8
IC TYPE	GND	+5V

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

IC PIN LOCATIONS

FIRST USED ON OPTION MODEL: RK8-F

ETCH BOARD REV: B

MAJOR REGISTERS

ORIGINATED	REV	DATE	DESCRIPTION
CHK	CHANGE NO.	REV	DESCRIPTION

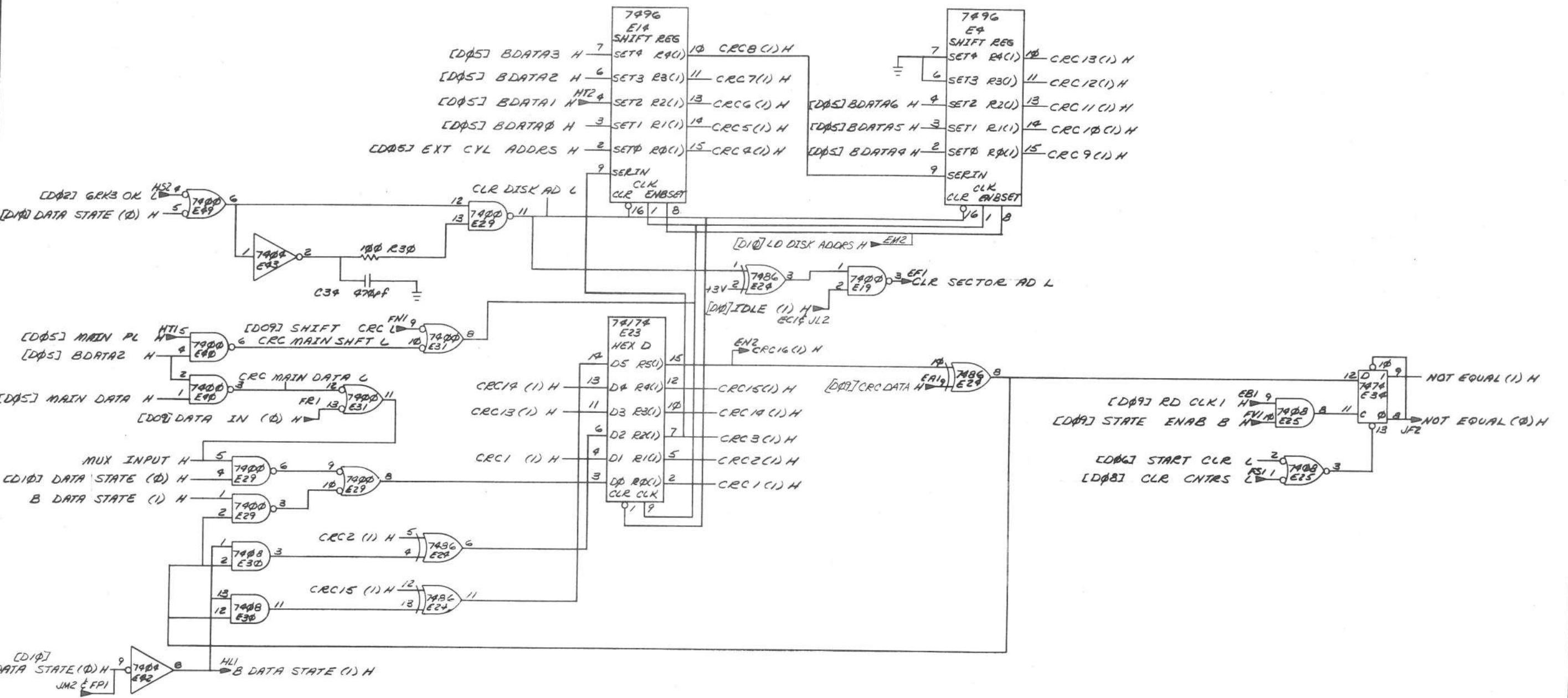
DEC NO. EIA NO. DEC NO. EIA NO.

SCALE: NONE

SHEET: 2 OF 6

DIST.

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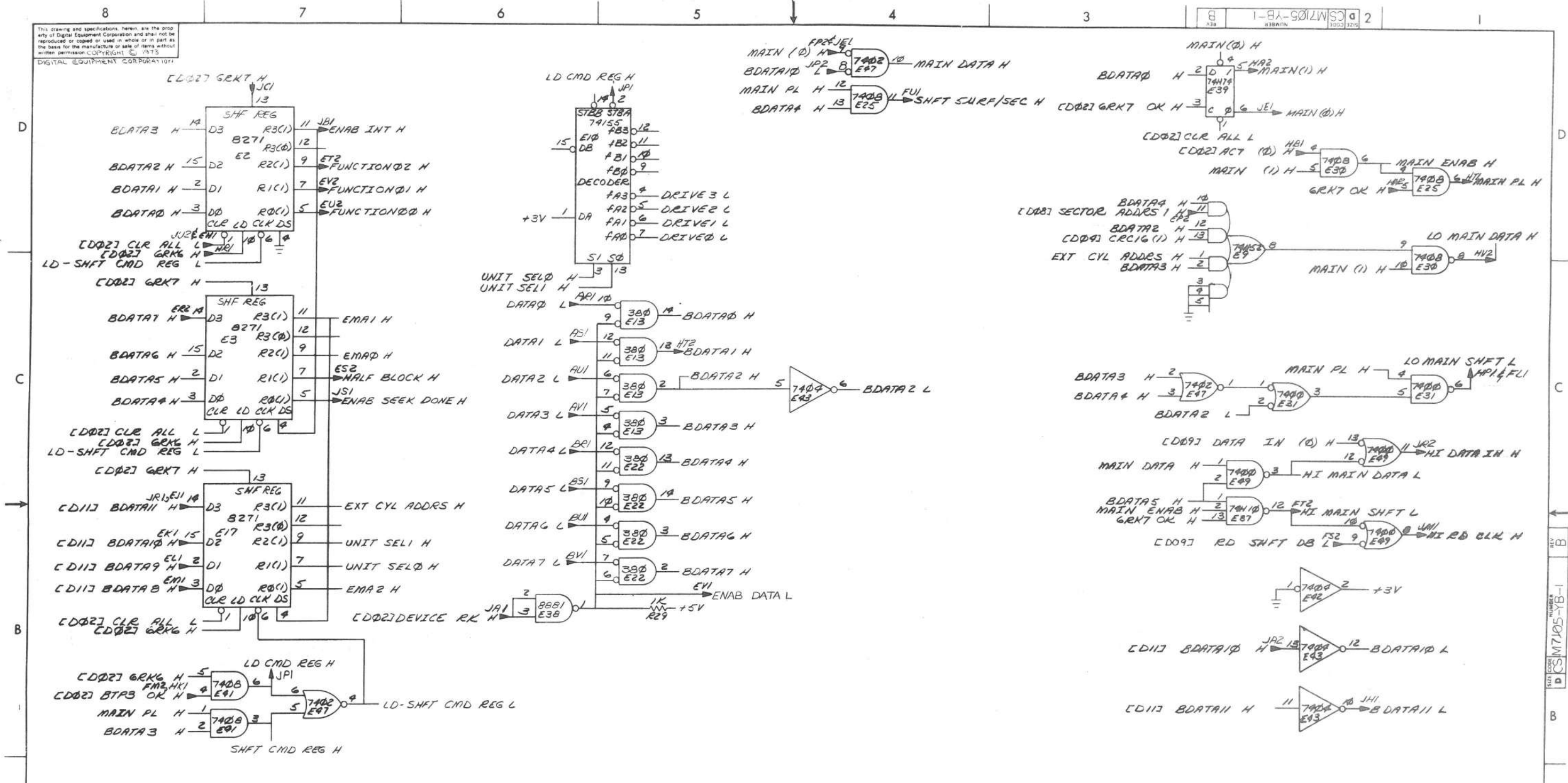
(CRC/DISK ADDRESS REG) (D04)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRW. <i>D. Sullivan</i> DATE 4-4-73	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .xxx = .005	ANGLES ±0° 30'	CHKD. <i>[Signature]</i> DATE 5-21-73		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		ENG. <i>[Signature]</i> DATE 7/16/73	TITLE MAJOR REGISTERS	
		PROJ. ENG. <i>[Signature]</i> DATE 7/17/73		
MATERIAL		PROD. <i>[Signature]</i> DATE 7/18/73	NEXT HIGHER ASSY.	
FINISH			D-UA-RK8-F-0	SIZE CODE
			SCALE	NUMBER
			SHEET 3 OF 6	DIST
				REV. B

BRUNING 40-522 15840  
REVISIONS  
CHANGE NO. REV.  
CHK. FPI

REV. B  
D ESM7105-YB-1

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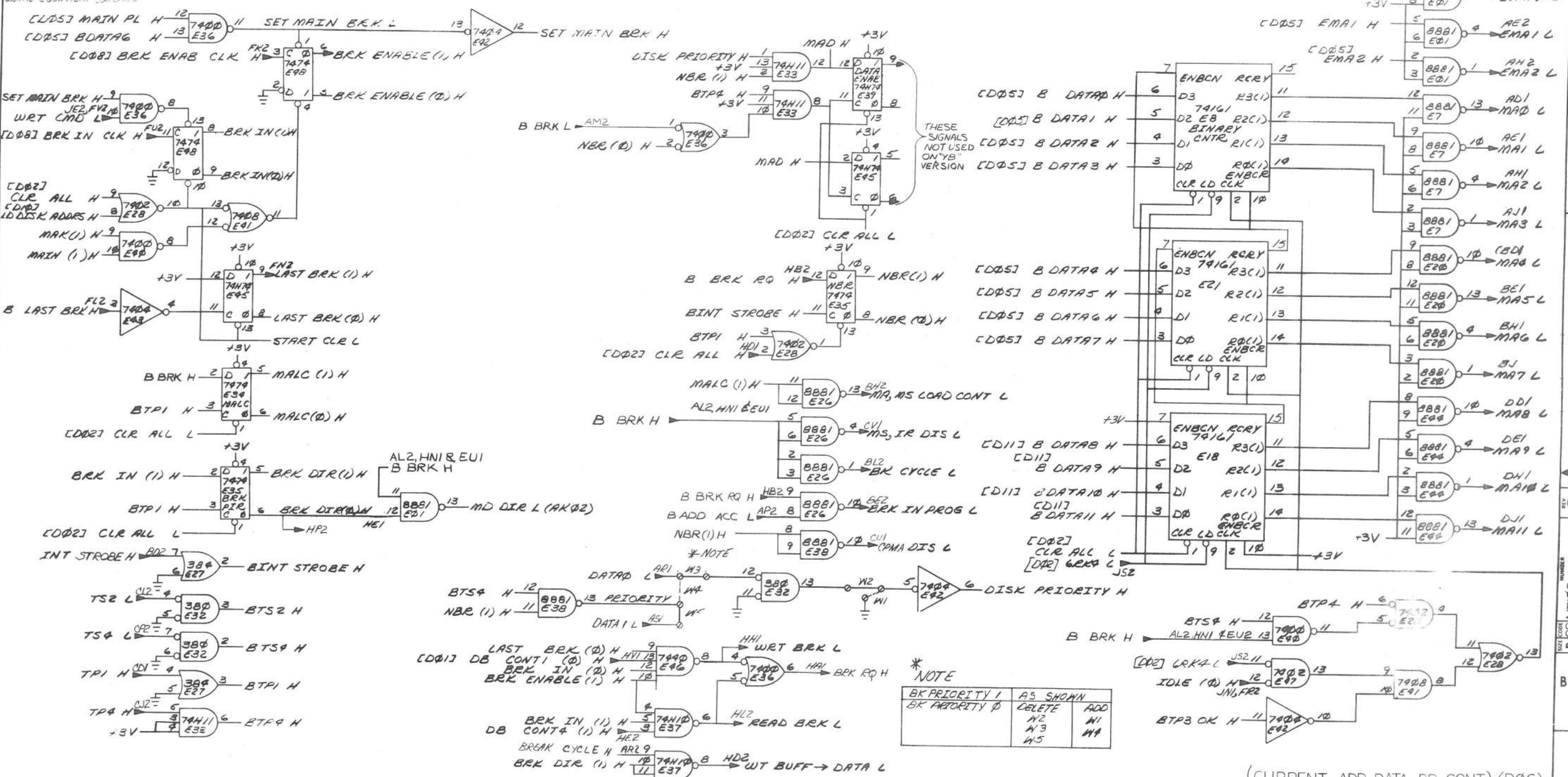
(COMMAND REG. MAINT. LOGIC) (D05)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN DATE 5/1/73	DATE 5/1/73	DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .XXX - .005 ANGLES ±0°30'	ENG DATE 7/16/74	DATE 7/16/74	TITLE MAJOR REGISTER	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROJ. ENG. DATE 7/16/74	DATE 7/16/74		
MATERIAL	PROD. DATE 7/16/74	DATE 7/16/74		
FINISH	NEXT HIGHER ASSY		SIZE CODE D-UA-RK8-F 0	NUMBER D/CS M7105-YB-1
	SCALE		DIST.	REV. B
	SHEET 4 OF 6			

BRUNING 40-532 15840  
DEC FORM NO  
ORD 102-B

REV. B  
NUMBER  
D/CS M7105-YB-1

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\* NOTE

BK PRIORITY 1	AS SHOWN	ADD
BK PRIORITY 0	OBLIETE	N1
		N2
		N3
		N4

(CURRENT ADD DATA BR CONT.) (D06)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	TITLE		
XXX - .005	±0° 30'	MAJOR REGISTERS		
XX - .02		REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		
X - .1		MATERIAL		
		NEXT HIGHER ASSY		
		FINISH		

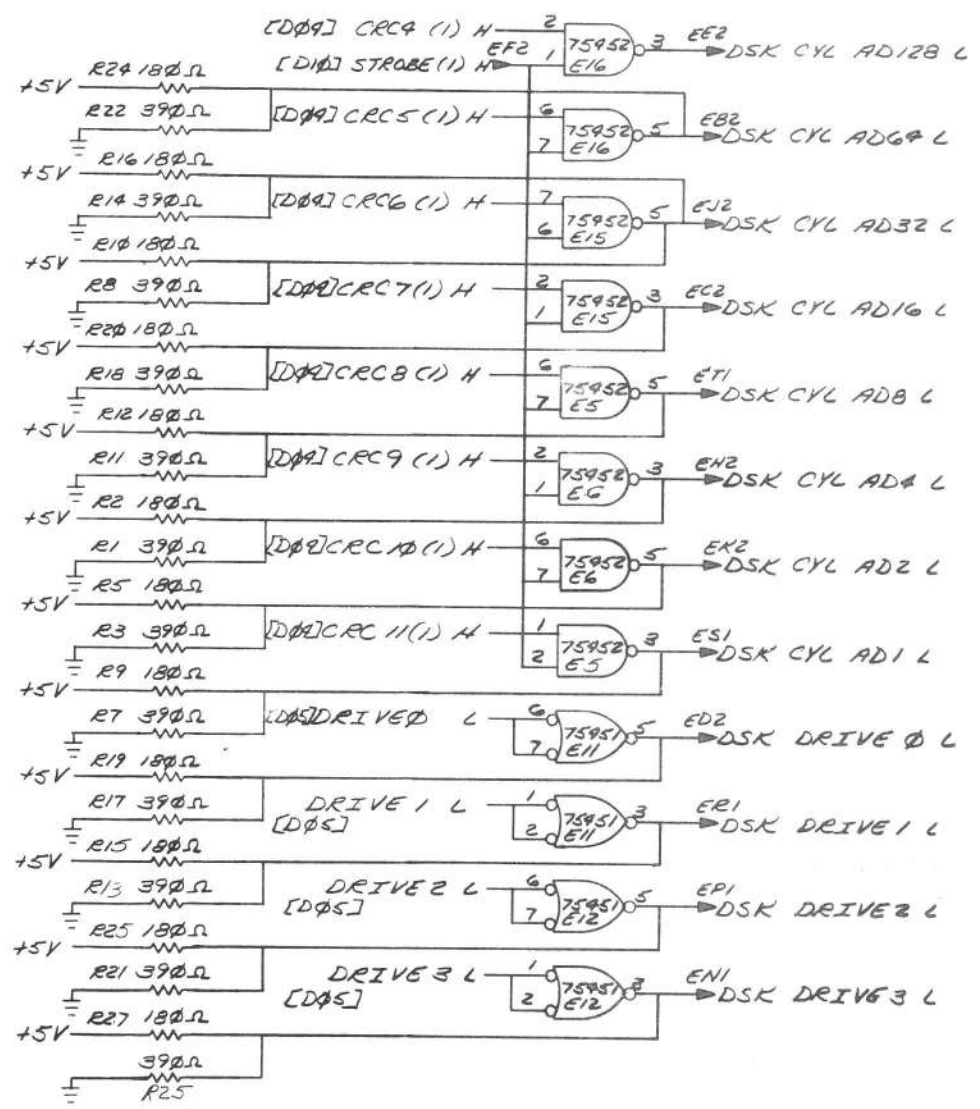
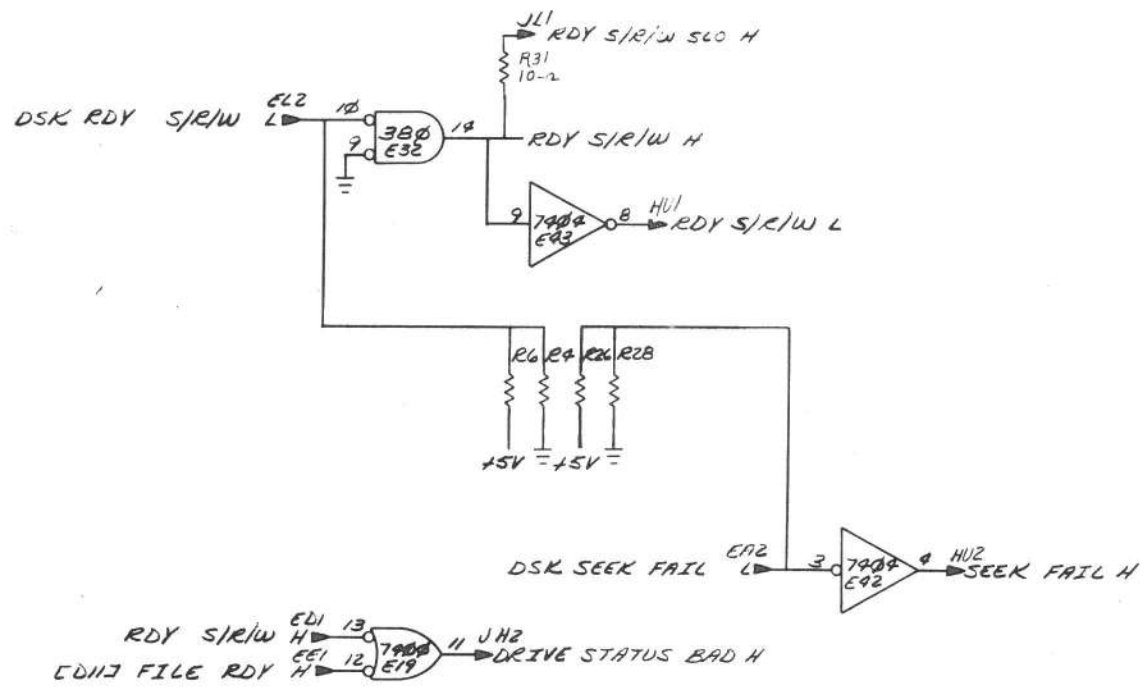
REV. B  
REV. A

REV. B  
REV. A

DEC 1977  
DRD 102-B

SIZE CODE DCSM7105-YB-1  
SHEET 5 OF 6  
SCALE  
DUA-RK8-F-0  
D CS M7105-YB-1  
REV. B

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(DRIVE SIGNALS CABLE J1) (D07)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-F				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRM	DATE	 digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
DECIMALS	ANGLES	CHKD	DATE	
.XXX - .005	± 0° 30'	ENG	DATE	
.XX - .02		PROD. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD.	DATE	TITLE
MATERIAL		NEXT HIGHER ASSY.		MAJOR REGISTERS
FINISH		D-VA-RK8-F-0	SIZE CODE	NUMBER
		SCALE	D CS	M7105-YB-1
		SHEET	6 OF 6	REV. B

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

PAGE REVISION CONTROL SHEET

SH NO.	PAGE REVISIONS															REMARKS	
	A	B	C	D	E	F											
1	A	B	C	D	E	F											
2	A	B	C	D	E	F											
3	A	A	A	A	A	A											
4	A	A	A	B	B	C											
5	A	A	B	B	B	B											
6	A	A	B	B	C	C											
ECO NO.																	
ETCH REV.	B	B	C	C	C	C											
ENG.																	
DATE		10-72	12-72	6-73	7-73	8-73											

FIRST USED ON OPTION/MODEL  
RK8E

DRN *W. J. Conlon* DATE *10/9/72*  
 CHK'D *T. Conlon* DATE *10.9.72*  
 ENG. *W. J. Conlon* DATE *10/9/72*  
 PROJ. ENG. *W. J. Conlon* DATE *10/7/72*  
 PROJ. *W. J. Conlon* DATE *10/7/72*

**digital** EQUIPMENT CORPORATION  
MAYNARD, MASSACHUSETTS

TITLE  
CONTROL, RK8-E

SIZE CODE NUMBER REV.  
B CS M7106-0-1 F

DIST. \_\_\_\_\_

SCALE *1* OF *6*  
SHEET *1* OF *6*

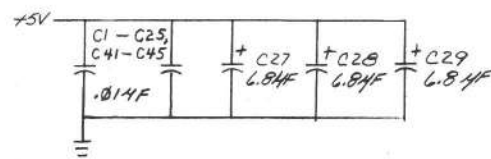
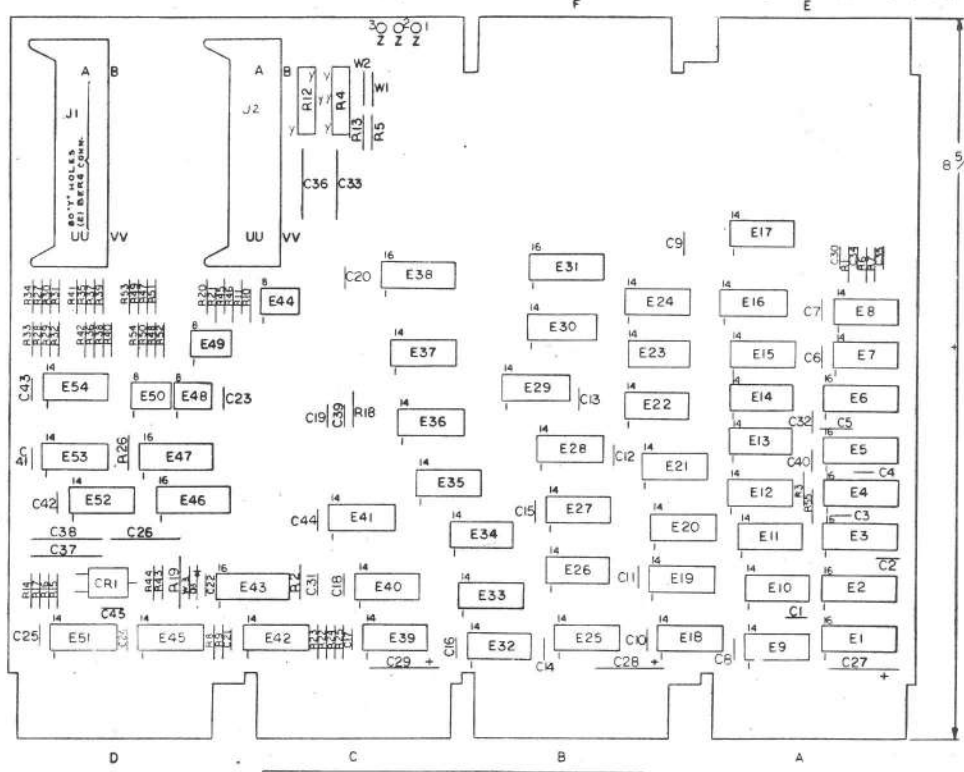
B-DD - RK8-0  
NEXT HIGHER ASSY.

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NOTES: OUT FTOH JI TICE 2 F-TW: EN:  
 JIM - JIN  
 JIHH - JIJJ } FOR ETCH REV. A & B  
 JIMM - JINN } ONLY  
 JISS - JITT }

1	E46	I.C. TYPE 74174	1910368	41
1	E47	I.C. TYPE 7485	1910224	40
9	E15, E18 THRU E22, E24, E27, E41	I.C. TYPE 7414	1905547	39
1	E28	I.C. TYPE 74152	1909061	38
1	E10	I.C. TYPE 7411P	1909057	37
2	E34, E37	I.C. TYPE 7410	1905576	36
2	E16, E32	I.C. TYPE 7408	1910155	35
5	E42, E51 THRU E57	I.C. TYPE 380	1909485	34
2	E11, E7	I.C. TYPE 74104	1909931	33
3	E2, E35, E36	I.C. TYPE 7404	1909686	32
6	E13, E23, E26, E28, E30, E40	I.C. TYPE 7422	1909004	31
8	E8, E12, E14, E17, E25, E27, E33, E45	I.C. TYPE 7400	1905575	30
6	E1 THRU E6	I.C. TYPE 74161	1910650	29
4	E44, E48 THRU E50	I.C. TYPE 75452	1910645	28
1	CR1	CRYSTAL, 2.88 MHZ	1810694-3	27
2	R9, R12	POTENTIOMETER, 10K, 1/4W, 74AR	1309143-10	26
1	R19	RESISTOR, 20.3K, 1%, 1/8W, MF	1309418	25
6	R1, R3, R6, R7, R18, R55	RESISTOR, 100Ω, 5%, 1/4W, CC	1300229	24
1	R13	RESISTOR, 15K, 5%, 1/4W, CC	1300496	23
2	R15, R17	RESISTOR, 10K, 5%, 1/4W, CC	1300479	22
1	R2	RESISTOR, 5.6K, 5%, 1/4W, CC	1301874	21
1	R44	RESISTOR, 3K, 5%, 1/4W, CC	1300432	20
4	R8, R9, R26, R43	RESISTOR, 1K, 5%, 1/4W, CC	1300365	19
2	R14, R16	RESISTOR, 470Ω, 5%, 1/4W, CC	1300316	18
17	R11, R20, R23, R25, R27, R30, R31, R34, R35, E37, R38, R41, R45, R47, R49, R51, E53	RESISTOR, 370Ω, 5%, 1/4W, CC	1300309	17
17	R10, R21, R22, R24, R28, R29, R32, R33, R36, R38, R40, R42, E46, R48, R50, R52, R54	RESISTOR, 180Ω, 5%, 1/4W, CC	1301322	16
1	D3	DIODE DG64	1100114	15
2	C33, C36	CAPACITOR, 0.22μF, 100V, 10%, NYLAR	1002323	14
3	C37, C38, C26	CAPACITOR, 470pF, 100V, 1%, NYLAR	1009312	13
1	C31	CAPACITOR, 100pF, 100V, 5%, DM	1000006	12
2	C32, C34	CAPACITOR, 820pF, 100V, 5%, DM	1000027	11
1	C39	CAPACITOR, 560pF, 100V, 5%, DM	1000025	10
2	C35, C40	CAPACITOR, 470pF, 100V, 5%, DM	1000024	9
1	C30	CAPACITOR, 100pF, 100V, 5%, LM	1000020	8
3	C27 THRU C29	CAPACITOR, 6.8μF, 35V, 20%, TANT	1000067	7
30	C1 THRU C25, C41 THRU C45	CAPACITOR, 0.1μF, 100V, 20%, DISC	1001610	6
3	TP1 THRU TP3	SPLIT LUG	9006735	5
1		ETCHED CIRCUIT BOARD	5010066	4
1		MODULE ECC HEAT SINK	B-MH-N7106-B-6	3
1		PCB DRILLING HOLE PATTERN	D-MH-N7106-B-5	2
1		X-Y COORDINATE HOLE LOCATION	R-C-N7106-C-4	1



1	R5	RES. 6.8K 1/4W 5%	1301423	49
				48
				47
				46
	AIR W1, W2, W3	INSULATED JUMPER	9009185	45
2	J1, J2	CONN. 40 RT. ANGLE	1209941	44 REF
1	E31	I.C. TYPE 74155	1910656	43 REF
2	E38, E43	I.C. TYPE 74123	1910436	42 REF

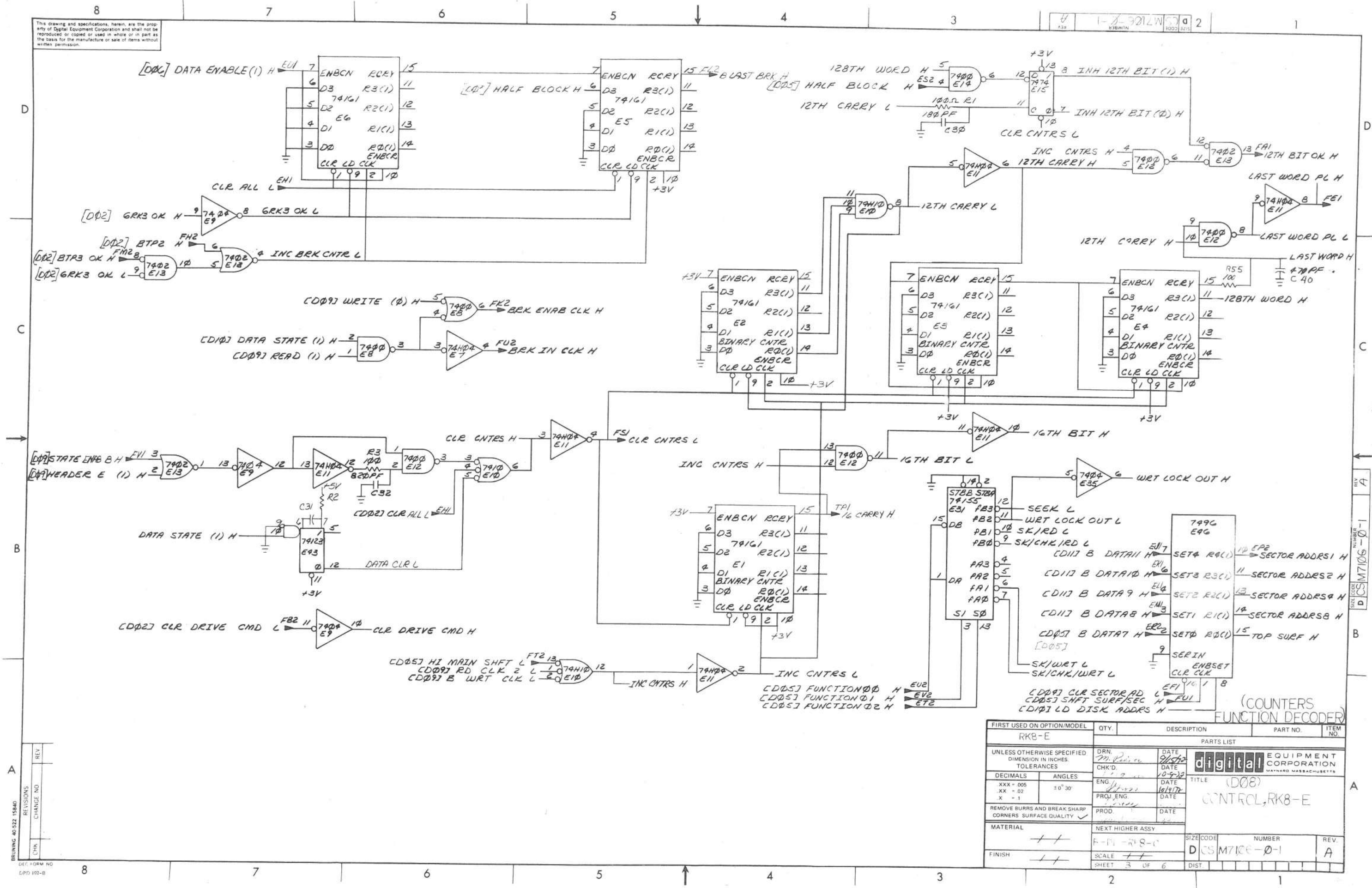
DELETED PARTS		
D1, D2, D4		

DATE	REV	DESCRIPTION
DEC 380	1	B
DEC 7485	3	16
DEC 7496	5	12
DEC 74155	8	16
DEC 74161	8	16
.IC TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTONS ARE STATED ABOVE		
IC PIN LOCATIONS		

REV		FIRST USED ON OPTION MODEL		PARTS LIST	
CHK	CHANGE NO.	RK8-E	ETCH BOARD REV	C	
REV	NO.				
DRN	DATE				
CHK'D	DATE				
ENG	DATE				
PROJ. ENG.	DATE				
PROD.	DATE				
NEXT HIGHER ASSY		D-UA-RK8-E-0		TITLE	
				CONTROL, RK8-E	
SCALE		SHEET 2 OF 6		SIZE CODE	
				D CS M7106-E-1	
				NUMBER	
				REV. F	

BRUNING 40-222 18699  
 DEC FORM NO. DRD-1354

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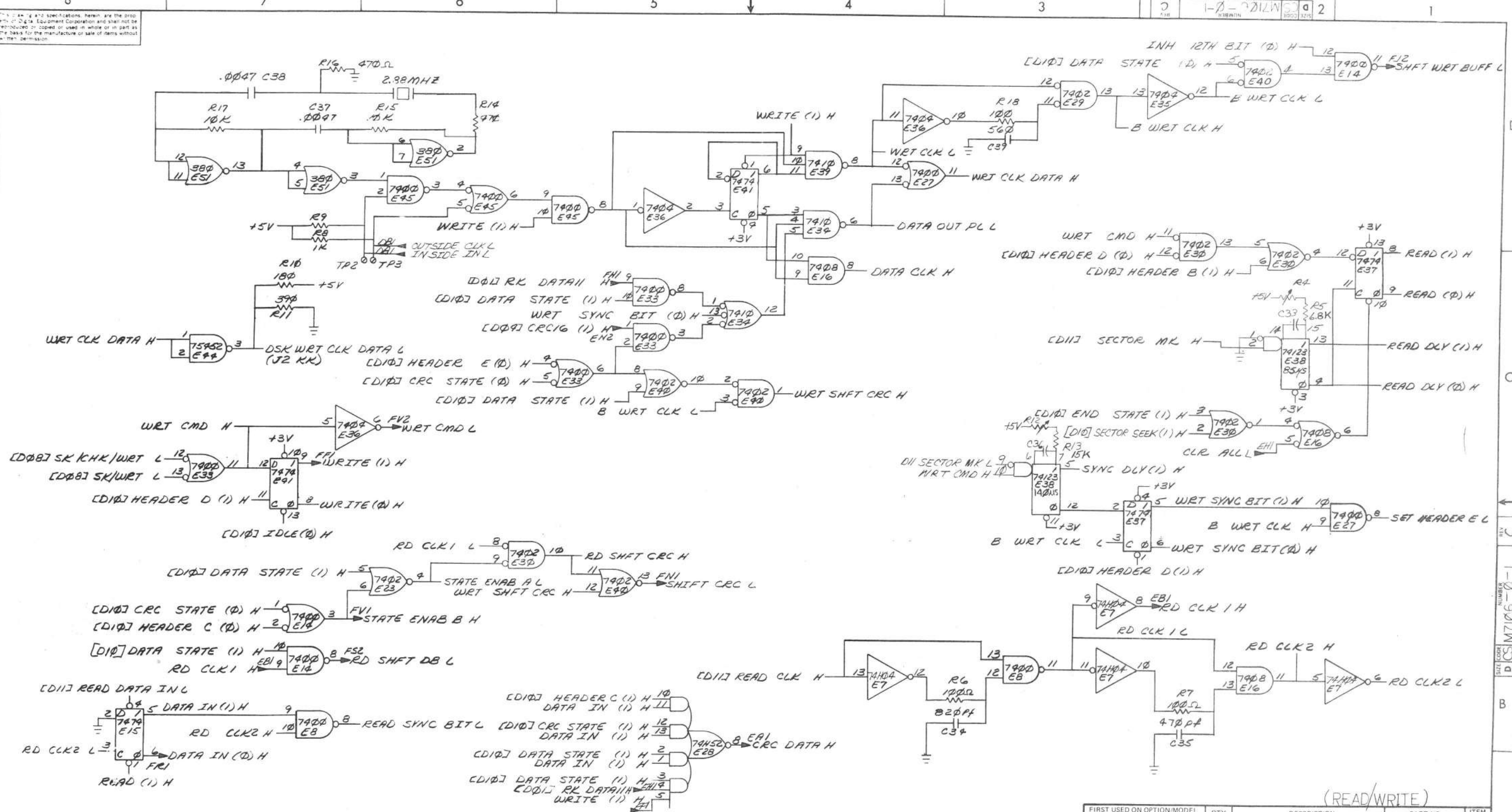


REV	
CHG	
REV	
CHG	

DEF. FORM NO. LPTD 102-B

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-E				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XX - .005	±0° 30'	DRN.	DATE	
X - 1		CHK'D.	DATE	
		ENG.	DATE	
		PROJ. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD.	DATE	TITLE (D08) CONTROL, RK8-E
MATERIAL	NEXT HIGHER ASSY			SIZE CODE NUMBER REV.
FINISH				D CS M7106-0-1 A
				SCALE 1:1 SHEET 3 OF 6 DIST 1





BRUNING 40-522 15840

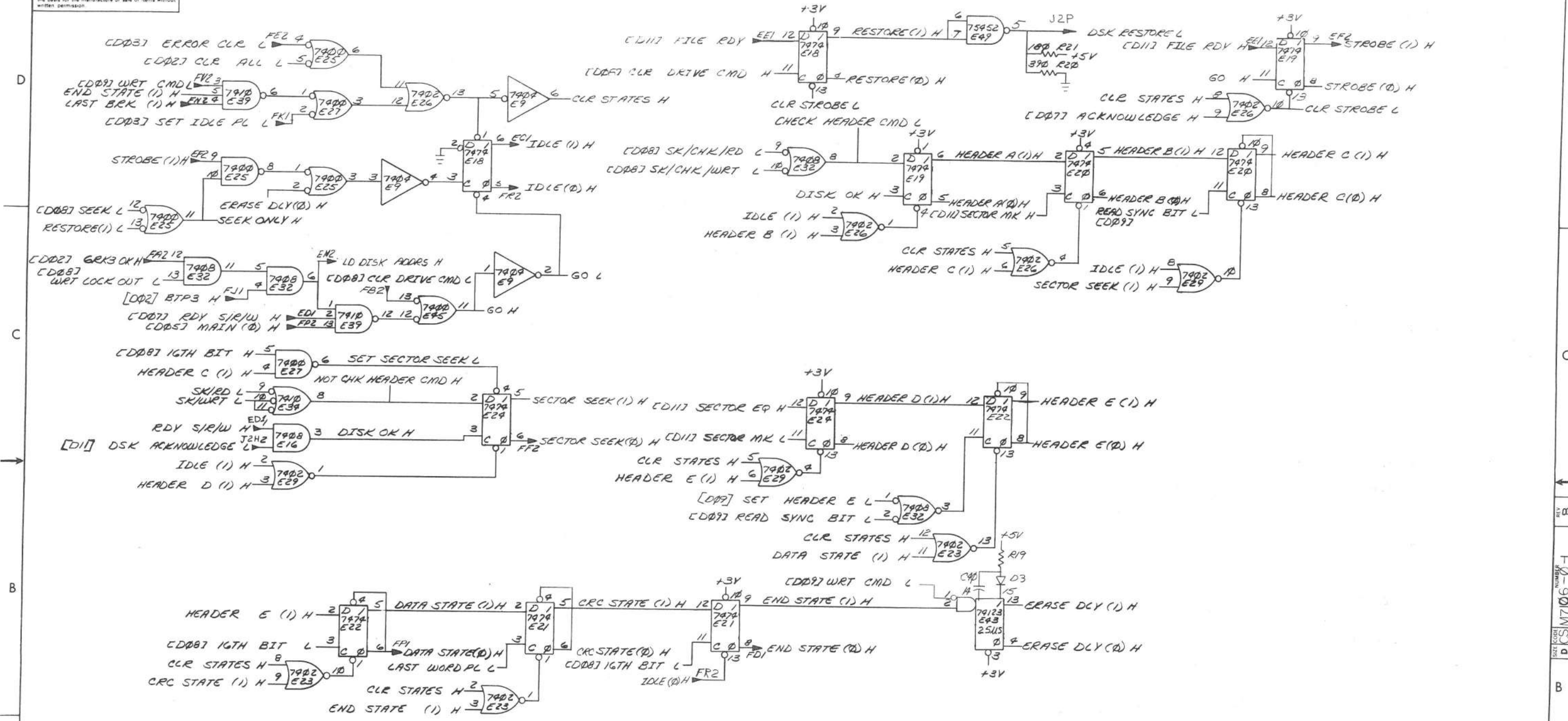
REV	CHANGE NO

(READ/WRITE)

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
RK8-E				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	PARTS LIST	
.XXX - .005	± 0° 30'	7-16-68	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
X - .1		DATE	TITLE (D09) CONTROL, RK8-E	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		DATE		
MATERIAL	NEXT HIGHER ASSY	DATE		
	E-DI-RK8-E		SIZE CODE	NUMBER
FINISH	SCALE		D CS M7106-0-1	REV
			DIST.	C
	SHEET 4 OF 6			

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1-3-72 12W 2



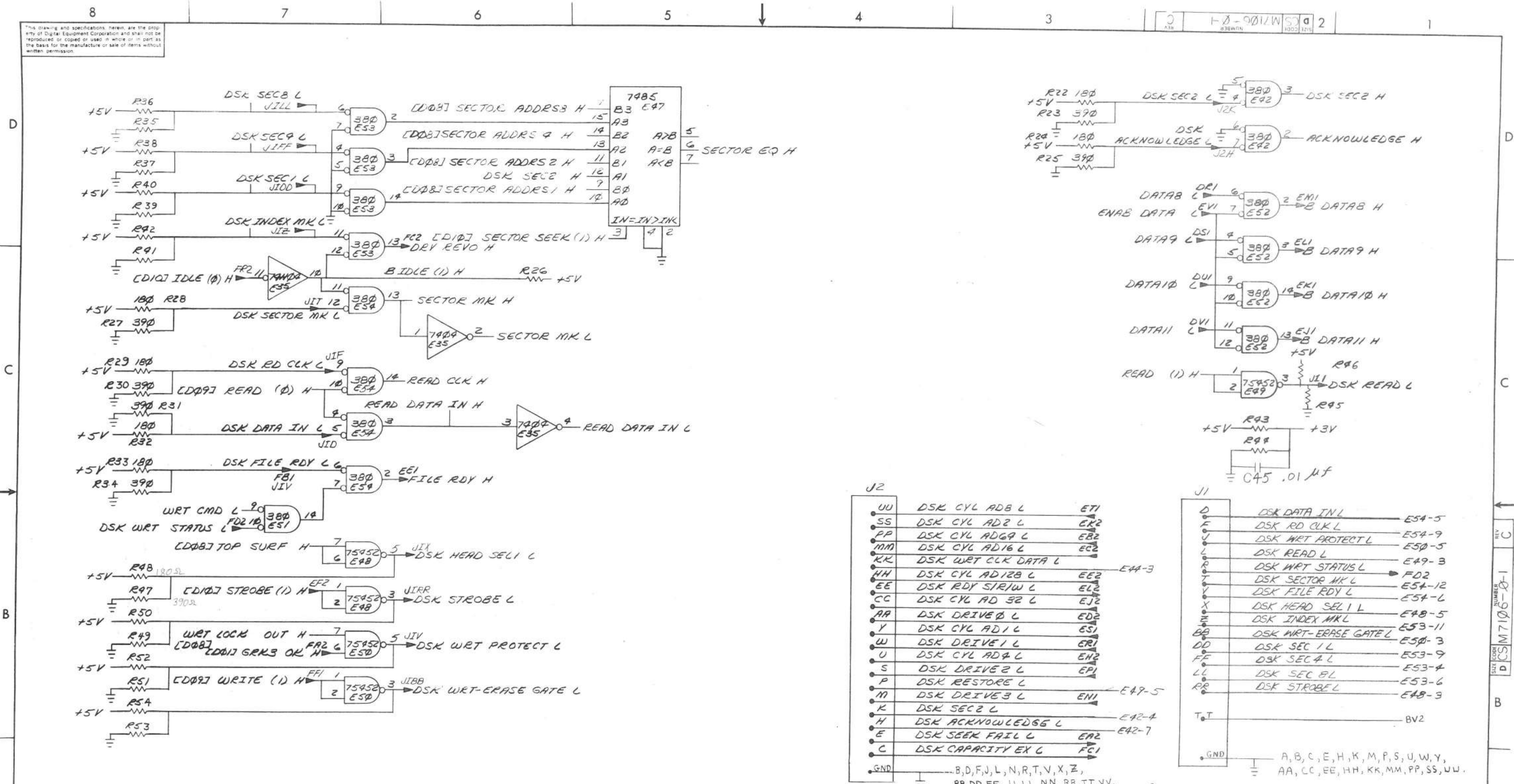
REV.	NO.

BRUNING 40-522 15840

### (MAJOR STATES)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-E				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED		DRN <i>Exhibit</i>	DATE 7-14-72	<b>digital</b> CORPORATION <small>MAYFORD MASSACHUSETTS</small> TITLE (D10) <b>CONTROL, RK8-E</b>
DIMENSION IN INCHES		CHK'D	DATE	
TOLERANCES		ENG	DATE	
DECIMALS .005	ANGLES ± 0° 30'	PROJ. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	
MATERIAL		NEXT HIGHER ASSY.		
FINISH		B-DI-RK-E	SIZE CODE	NUMBER
		SCALE	D CS M7106-0-1	REV. B
		SHEET	DIST.	

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J2

UU	DSK CYL ADB L	ET1
SS	DSK CYL AD2 L	EK2
PP	DSK CYL AD9 L	EB2
MM	DSK CYL AD16 L	EG2
KK	DSK WRT CLK DATA L	E44-3
HH	DSK CYL AD12B L	EE2
EE	DSK RDY SIR/W L	EL2
CC	DSK CYL AD 32 L	EJ2
AA	DSK DRIVE 0 L	ED2
Y	DSK CYL AD1 L	ES1
W	DSK DRIVE 1 L	ER1
U	DSK CYL AD4 L	EM2
S	DSK DRIVE 2 L	EP1
P	DSK RESTORE L	E47-5
M	DSK DRIVE 3 L	EN1
K	DSK SEC 2 L	E47-4
H	DSK ACKNOWLEDGE L	E42-4
E	DSK SEEK FAIL L	E42-7
C	DSK CAPACITY EX L	FC1
GND	B, D, F, J, L, N, R, T, V, X, Z, BB, DD, FF, JJ, LL, NN, RR, TT, VV.	

J1

D	DSK DATA IN L	E54-5
F	DSK RD CLK L	E54-9
V	DSK WRT PROTECT L	E50-5
L	DSK READ L	E50-5
R	DSK WRT STATUS L	E49-3
T	DSK SECTOR MK L	FD2
Y	DSK FILE RDY L	E54-12
X	DSK HEAD SEL 1 L	E54-6
BB	DSK WRT-ERASE GATE L	E53-11
DD	DSK SEC 1 L	E50-3
FF	DSK SEC 4 L	E53-9
LL	DSK SEC 8 L	E53-4
RR	DSK STROBE L	E48-3
T, I		BV2
GND	A, B, C, E, H, K, M, P, S, U, W, Y, AA, CC, EE, HH, KK, MM, PP, SS, UU.	

(DRIVE SIGNALS CABLE J2 DRIVERS)

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-E				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	PARTS LIST		
.XXX - .005	± 0° 30'	DRN	DATE	<b>digital</b> EQUIPMENT CORPORATION NATURAL MASSACHUSETTS
.XX - .02		CHK'D	DATE	
.X - .1		ENG.	DATE	TITLE (DIP) CONTROL, RK8-E
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY.	PROD.	DATE	
FINISH	B-DL-RK8-E	SCALE		SIZE CODE NUMBER REV DCS M7106-0-1 C
	SHEET 6 OF 6	DIST		

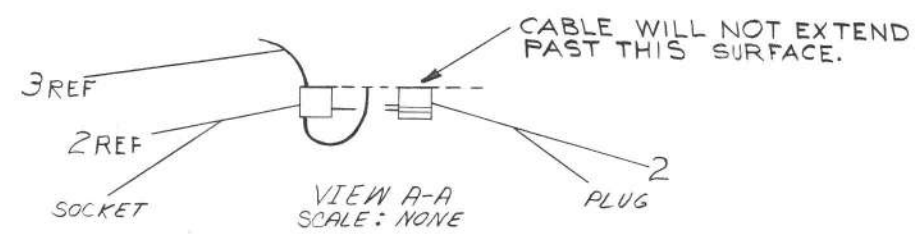
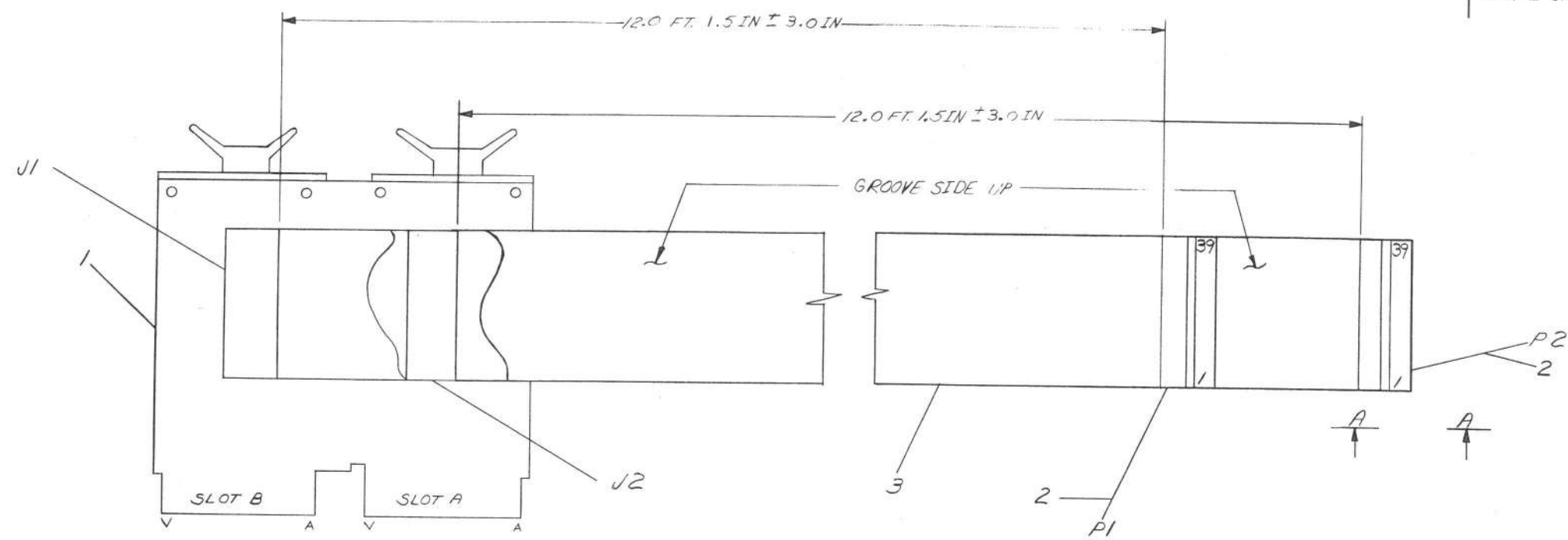
BRUNING 60522 15840  
DEC FORM NO. DRD 102-B

REV	1/8
CHG	
CHK	
REV	1/8
CHG	
CHK	

REV C  
NUMBER 8-1  
DCS M7106-0-1

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NOTE:  
 1. CABLE TO BE WIRED WITH GROOVE SIDE UP.  
 2. WHEN ATTACHING CONN (ITEM #2) TO CABLE (ITEM #3), USE SCOTCHFLEX CONTACT PLATE #3443-24 AND SCOTCHFLEX ASSY. PRESS #3445 FROM 3M COMPANY.  
 3. TAPE CABLE EVERY 1.5 FEET.



QTY.	DESCRIPTION	PART NO.	ITEM NO.
4	A/R TAPE, ELECTRICAL WHI.	9008880	4
2	CABLE 40 CONDUIT 70X 30 ANG	9107747-01	3
2	SCOTCHFLEX CONN #3447-33M	12/1206	2
1	RK8-E CONTROL CABLE MOD-05-M993-0-1		1

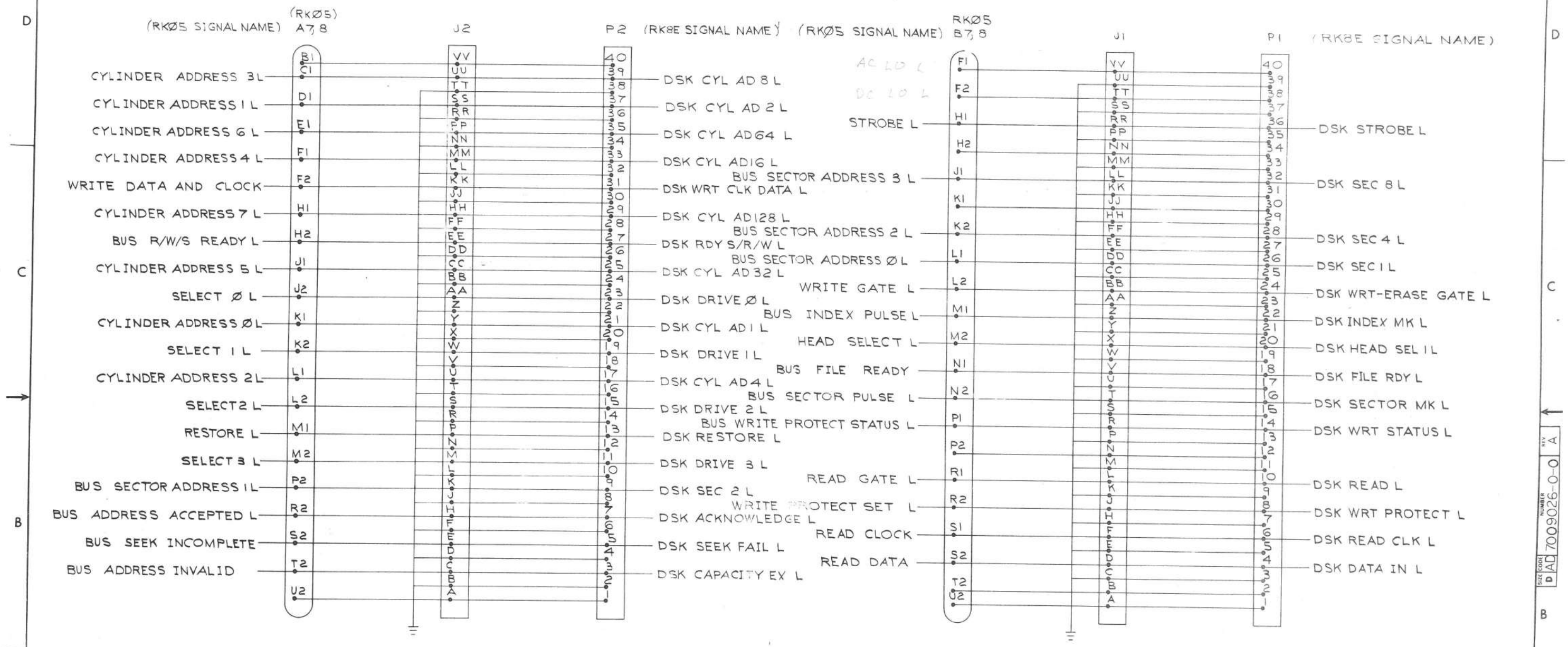
FIRST USED ON OPTION/MODEL		PARTS LIST	
RK8-E			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. DATE 8/14/72	CHK'D. DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
DECIMALS .005	ENGR. DATE	PROJ. ENG. DATE	TITLE CONTROL CABLE ASSY
ANGLES ±0° 30'	PROD. DATE 12-13-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY			
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH	D-14-RK8-E-0	DIAL	7009026-C-0
	SCALE	DIST.	REV. A
	SHEET 1 OF 2		

REV	CHANGE NO.	DATE
A	00002	

BRUNING 40-107 10968  
 OFC FORM NO (REV) 100-A  
 J. LEARSON  
 3-15-73

REV A  
 NUMBER 7009026-0-0  
 SIZE CODE D

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 1973



REV	
CHG	
REV	
CHG	
REV	
CHG	

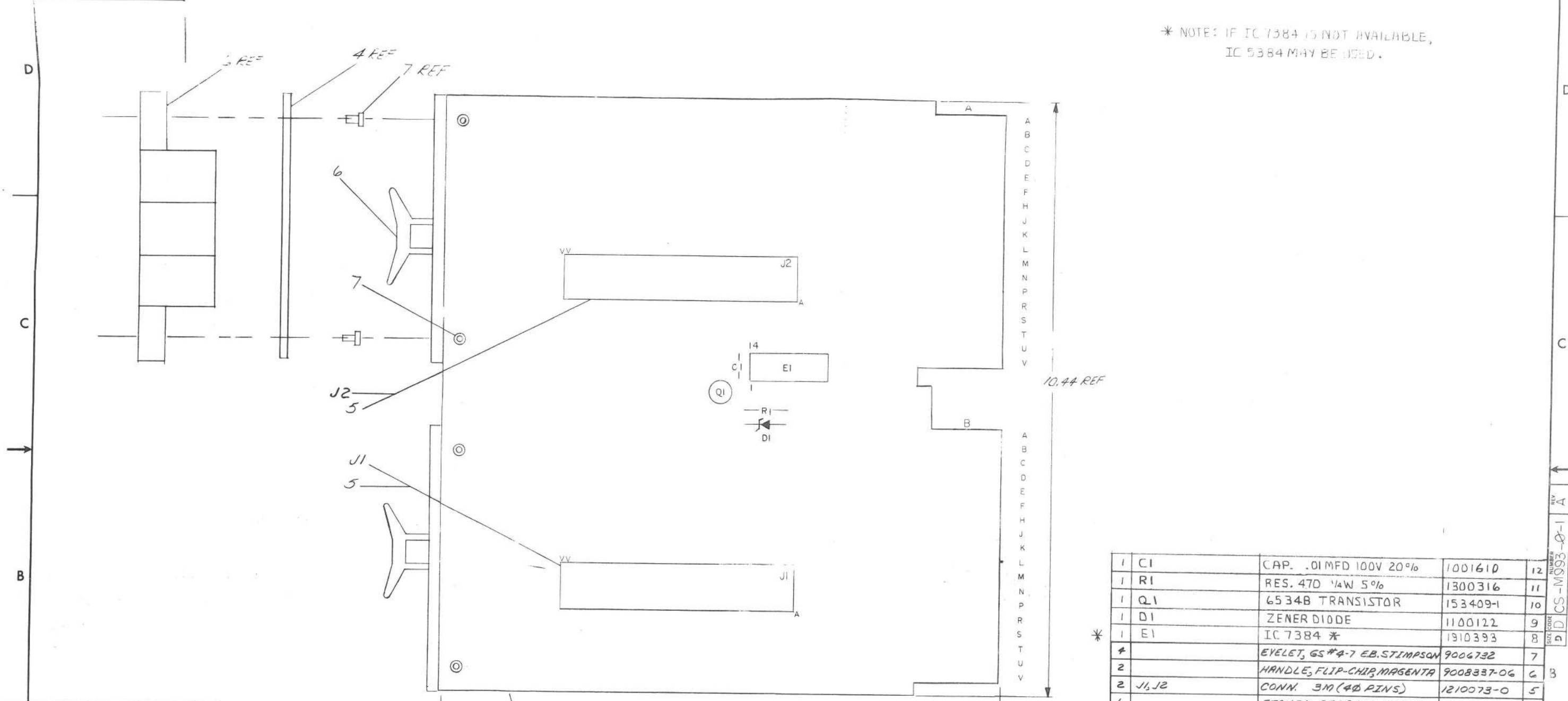
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK8-E				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN	DATE	
DECIMALS	ANGLES	CHK'D	DATE	
XXX - .005	±0°30'	ENG	DATE	
XX - .02		PROJ. ENG.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD	DATE	
MATERIAL		NEXT HIGHER ASSY		
FINISH		SCALE	SHEET 2 OF 2	
		TITLE		
		CONTROL CABLE ASSY		
		SIZE CODE	NUMBER	REV
		D	7009026-0-0	A



THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER  
 AND TO OBTAIN NECESSARY CONSENTS FROM THE  
 AUTHORITY TO THE MANUFACTURE OF THIS BOARD WITHIN  
 THE SPECIFIED TIME FRAME.

**NOTES:**

\* NOTE: IF IC 7384 IS NOT AVAILABLE,  
 IC 5384 MAY BE USED.




QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	CI	CAP. .01MFD 100V 20%	1001610	12
1	RI	RES. 470 1/4W 5%	1300316	11
1	Q1	6534B TRANSISTOR	153409-1	10
1	DI	ZENER DIODE	1100122	9
1	E1	IC 7384 *	1910393	8
4		EYELET, GS #4-7 EB. STIMPSON	9006732	7
2		HANDLE, FLIP-CHIP, MAGENTA	9008337-06	6
2	J1, J2	CONN. 3M (40 PINS)	1210073-0	5
1		ETCHED CIRCUIT BOARD	5010178	4
REF		MODULE ECO HISTORY	B-MH-M993-0-6	3
REF		ASSY/DRILLING HOLE LAYOUT	D-9H-M993-0-5	2
REF		X-Y COORDINATE HOLE LOCATION	K-10-M993-0-4	1

FIRST USED ON OPTION MODEL  
 RK8-E

CHK	CHANGE NO.	REV	DRN	DATE	TITLE
			axibnt	8/4/72	<b>digital</b> EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS RK8-E CONTROL CABLE MODULE NUMBER: DCS-M993-0-1 REV: A

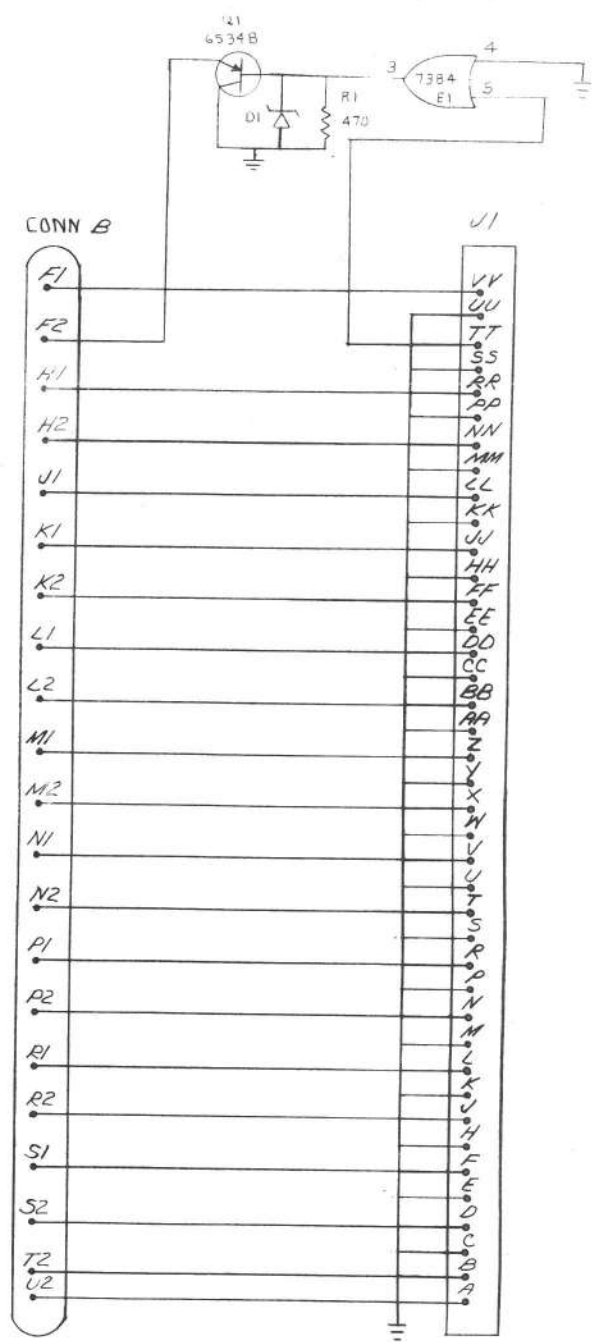
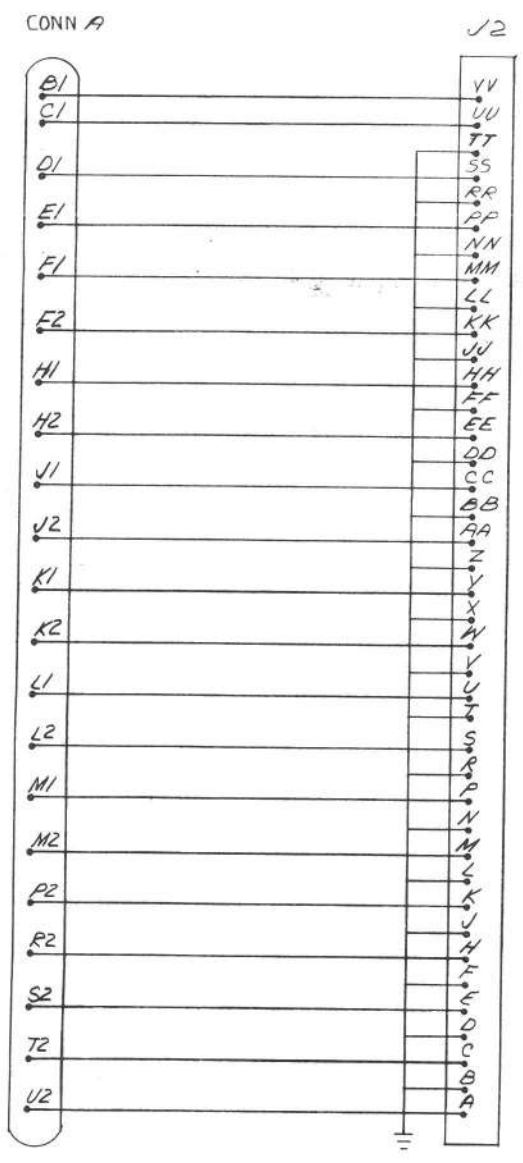
CHK	CHANGE NO.	REV	DEC NO.	EIA NO.	DEC NO.	EIA NO.

SEMICONDUCTOR CONVERSION CHART

REV A  
 NUMBER 1  
 DCS-M993-0-1

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CSM993-0-1 2



ALL UNUSED PINS ARE GROUNDED EXCEPT FOR PINS AA2, AB2, AV1 AND BB2. AA2 IS +5V.

BRUNING 40-322 15840	REVISIONS	REV
CHK	CHANGE NO	

DEC FORM NO 100-11

FIRST USED ON OPTION/MODEL RK8-E	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. CHK'D.	DATE DATE	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS XXX = .005 XX = .02 X = .1	ENGR. PROJ. ENG.	DATE DATE	TITLE RK8-E CONTROL CABLE MODULE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. DATE	DATE	REV B	
MATERIAL	NEXT HIGHER ASSY	SCALE	SIZE CODE D	NUMBER CSM993-0-1
FINISH	DATE	DATE	REV B	

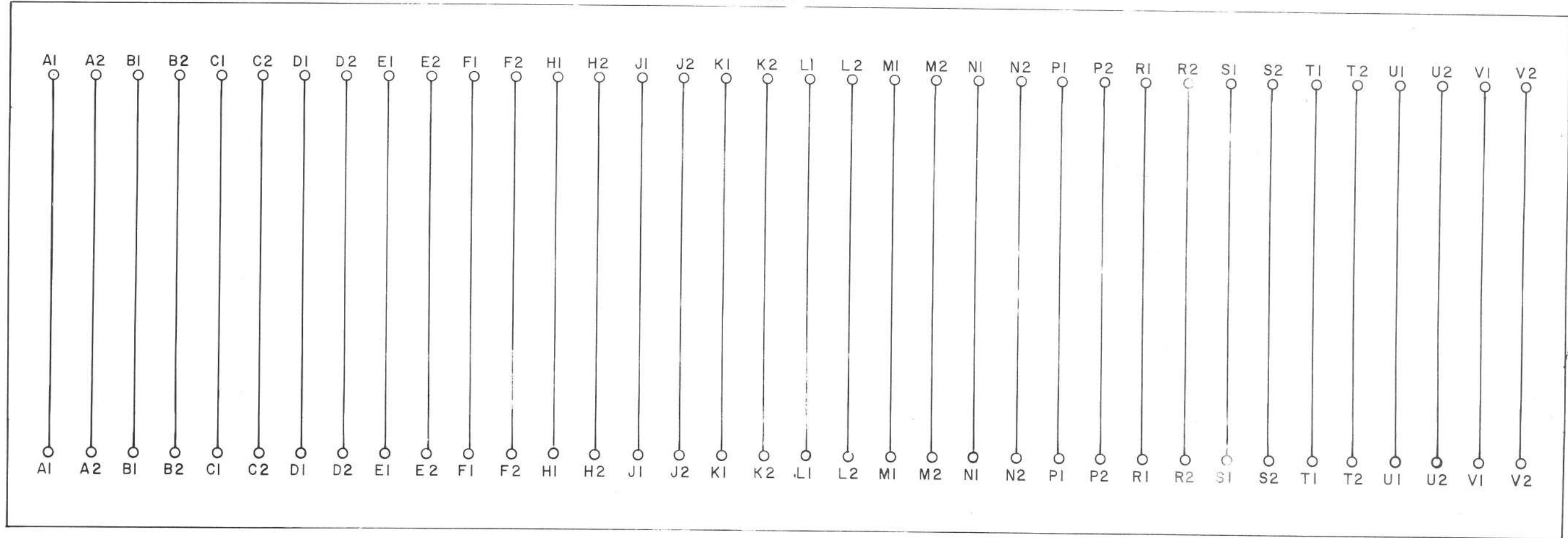




REV. C	NUMBER H851-0-1	CS	B
		CODE	SIZE

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SLOT 1



SLOT 2

UNLESS OTHERWISE INDICATED:  
CONNECTOR IS A 1210152

REVISIONS CHK CHG NO. REV 100002 B P. GARDNER 8-3-72 J. GARDNER 1-29-71 R. D. Hale P. GARDNER 5-3-73	DRN. jeanne french	DATE 7/29/70	TRANSISTOR & DIODE CONVERSION CHART				<b>digital</b> EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE EDGE CONNECTOR H851			
	CHK'D:	DATE 1-29-71	DEC	EIA	DEC	EIA		SIZE B	CODE CS	NUMBER H851-0-1	REV. C
	ENG:	DATE 1-29-71						PRINTED CIRCUIT REV. C			
	PROD.	DATE									

DEC FORM NO. DRB 100



D157-324,434,435-3 P. 22





