

digital		ORIGINATOR Tom Off 1-2 TEL EXT 2791 DATE 11/17/72 DISC PROJ NO E20-06734 COST CENTER NO 378		ECO NO. <u>M7254-0001</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>11-30-72</u> FIRST ISSUE <u>12-4-72</u> FINAL ISSUE <u>12-17-72</u>			
ENGINEERING CHANGE ORDER <u>9167</u>				UNIT TO BE CHANGED M7254 Etch REV C DISC CODE 03			
PROBLEM 1) RK11-D samples word count overflow at sector end time to determine if a transfer is complete. This gives premature termination of write and write check functions during short sectors. 2) Temporary availability problems with T.I.7427 #19-1087C				OPTIONS AFFECTED RK11-D,E			
CORRECTION 1) Use file done signal from M7256 instead of word count overflow for sample at sector end. 2) Add 8875 #19-10647 to parts list as an alternative to 7427.				PRODUCT LINES AFFECTED PDP-11			
BREAK-IN/EFFECTIVITY Rework all M7254 Rev C Loads.							
ITEM NO	DOCUMENT/PART NO	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE		
1.	D-CS-M7254-C-1	B	C	06	Sheets 1, 2, 4, & 6 -Sec final release drawing.		
2.	B-MH-M7254-0-6	A	A	06	See final release drawing.		
3.	XXXXXXXXXX	D	D	03	Make the following etch changes: 1) Delete: AP1-E0204, E02 13 2) Delete: E0602-A01 3) Add: AP1-E0602		
4.	D-AH-M7254-0-5	B	C	06	Make corrections listed above		
5.	8875) 19 10647			07	Add to Sheet 2 of D-CS-M7254-0-1		
<table border="0"> <tr> <td> DISPOSITION CODES 00 - RETURN TO STOCK 01 - IDENTIFIED 02 - ONE PRELIM STOCK UNTIL NEW STOCK AVAILABLE (PHASE III) 03 - REWORK IMMEDIATELY (REWORK) 04 - IDENTIFIED 05 - IDENTIFIED 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY </td> <td> APPROVAL SIGNATURES DESIGN ENGR Tom Off ENGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY) </td> </tr> </table>						DISPOSITION CODES 00 - RETURN TO STOCK 01 - IDENTIFIED 02 - ONE PRELIM STOCK UNTIL NEW STOCK AVAILABLE (PHASE III) 03 - REWORK IMMEDIATELY (REWORK) 04 - IDENTIFIED 05 - IDENTIFIED 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY	APPROVAL SIGNATURES DESIGN ENGR Tom Off ENGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)
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A 9-0-8522W B MW B
 NUMBER 3000 325

PRODUCT LINE PDP 11
 DATE RELEASED 9-25-72
 RELEASED BY T. ORR

MODULE ECO HISTORY
 PAGE 1 OF 1

RELEASED CS REV. B
 RELEASED ETCH BD REV. C

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-17-72	C	C	✓			✓			USE FILE DONE INSTEAD OF WORD COUNT OVER FLOW.	1	0

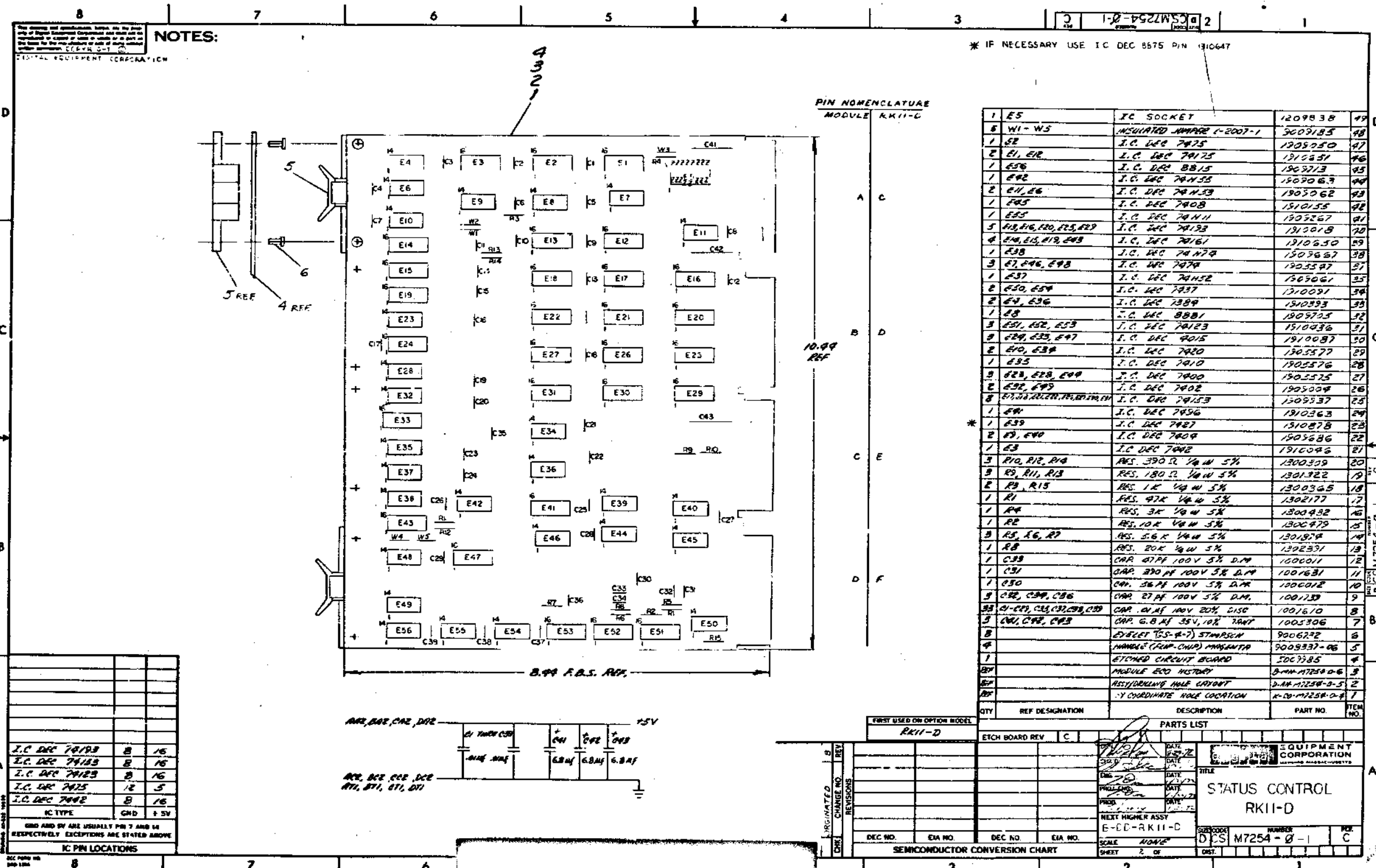
REVISIONS
 CHG NO. REV. DATE
 00001 A

DRN DATE 10-3-72
 CHG DATE 10-3-72
 ENG DATE 11-2-72
 PROD DATE 11-2-72

EQUIPMENT CORPORATION
 BAYBRIDGE, MASSACHUSETTS
 TITLE: MODULE ECO HISTORY
 SIZE: B CODE: MH NUMBER: M7254-0-6 REV: A

DRB 104

M7254-0-0000



NOTES:

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* IF NECESSARY USE IC DEC 8575 PIN 110647

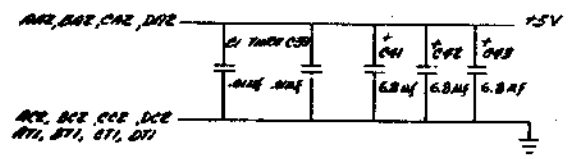
PIN NOMENCLATURE
MODULE RK11-D

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	E5	IC SOCKET	1209838	49
8	W1-W5	INSULATED WAFER 1-2007-1	5009185	48
1	E2	I.C. DEC 7475	1909950	47
2	E1, E8	I.C. DEC 74175	1910851	46
1	E56	I.C. DEC 8815	1909713	45
1	E92	I.C. DEC 74155	1909063	44
2	E1, E6	I.C. DEC 74153	1909062	43
1	E85	I.C. DEC 7408	1910155	42
1	E25	I.C. DEC 74111	1909267	41
5	E18, E16, E20, E25, E29	I.C. DEC 74133	1910018	40
4	E14, E15, E19, E43	I.C. DEC 74161	1910650	39
1	E38	I.C. DEC 74179	1909667	38
3	E7, E46, E48	I.C. DEC 7479	1909397	37
1	E37	I.C. DEC 74152	1909061	36
2	E50, E54	I.C. DEC 7437	1910091	35
2	E4, E36	I.C. DEC 7389	1909393	34
1	E8	I.C. DEC 8881	1909705	33
3	E51, E52, E53	I.C. DEC 74123	1910436	32
2	E29, E33, E47	I.C. DEC 9015	1910087	31
2	E40, E39	I.C. DEC 7420	1909577	30
1	E35	I.C. DEC 7410	1909576	29
3	E28, E22, E49	I.C. DEC 7400	1909575	28
2	E32, E45	I.C. DEC 7402	1909009	27
8	E11, E12, E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56	I.C. DEC 74153	1909537	25
1	E41	I.C. DEC 7456	1910363	24
1	E39	I.C. DEC 7487	1910878	23
2	E9, E40	I.C. DEC 7404	1909686	22
1	E3	I.C. DEC 7402	1910046	21
3	R10, R12, R14	RES. 390 Ω 1/4 W 5%	1909579	20
3	R9, R11, R13	RES. 180 Ω 1/4 W 5%	1909322	19
2	R3, R15	RES. 1K 1/4 W 5%	1909365	18
1	R1	RES. 47K 1/4 W 5%	1909177	17
1	R4	RES. 3K 1/4 W 5%	1909492	16
1	R2	RES. 10K 1/4 W 5%	1909479	15
3	R5, R6, R7	RES. 5.6K 1/4 W 5%	1909874	14
1	R8	RES. 20K 1/4 W 5%	1909391	13
1	C38	CAP. 47PF 100V 5% D.M.	1000011	12
1	C31	CAP. 390 PF 100V 5% D.M.	1001631	11
1	C30	CAP. 36PF 100V 5% D.M.	1000012	10
3	C22, C24, C26	CAP. 27 PF 100V 5% D.M.	1001239	9
33	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C23, C25, C27, C28, C29, C30, C32, C33, C34, C35, C36, C37, C39	CAP. 0.1 μF 100V 20% DISC	1001610	8
3	C41, C42, C43	CAP. 6.8 μF 35V, 10% TANT	1005306	7
8		SOLET (S-4-7) STAMPING	9006222	6
4		HANDLE (FLIP-CHIP) PRESENTA	9009332-06	5
1		ETCHED CIRCUIT BOARD	5009585	4
80		MODULE ECO HISTORY	8-M7258-0-6	3
80		RESIDUE/PLATE HOLE LOCATOR	8-M7258-0-5	2
80		-Y COORDINATE HOLE LOCATION	8-M7258-0-4	1

IC TYPE	QTY	REF
I.C. DEC 74133	8	16
I.C. DEC 74153	8	16
I.C. DEC 74155	2	16
I.C. DEC 74175	12	5
I.C. DEC 7402	8	16
IC TYPE	QTY	REF

GRID AND OR ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.

IC PIN LOCATIONS



FIRST USED ON OPTION MODEL RK11-D

ETCH BOARD REV C

DATE: 10/27/72

DESIGNED BY: [Signature]

DATE: 10/27/72

DRAWN BY: [Signature]

DATE: 10/27/72

CHECKED BY: [Signature]

DATE: 10/27/72

PROBING BY: [Signature]

DATE: 10/27/72

PREPARED BY: [Signature]

DATE: 10/27/72

NEXT HIGHER ASSY: E-CC-RK11-D

SCALE: NONE

SHEET: 2 OF 2

SEMICONDUCTOR CONVERSION CHART

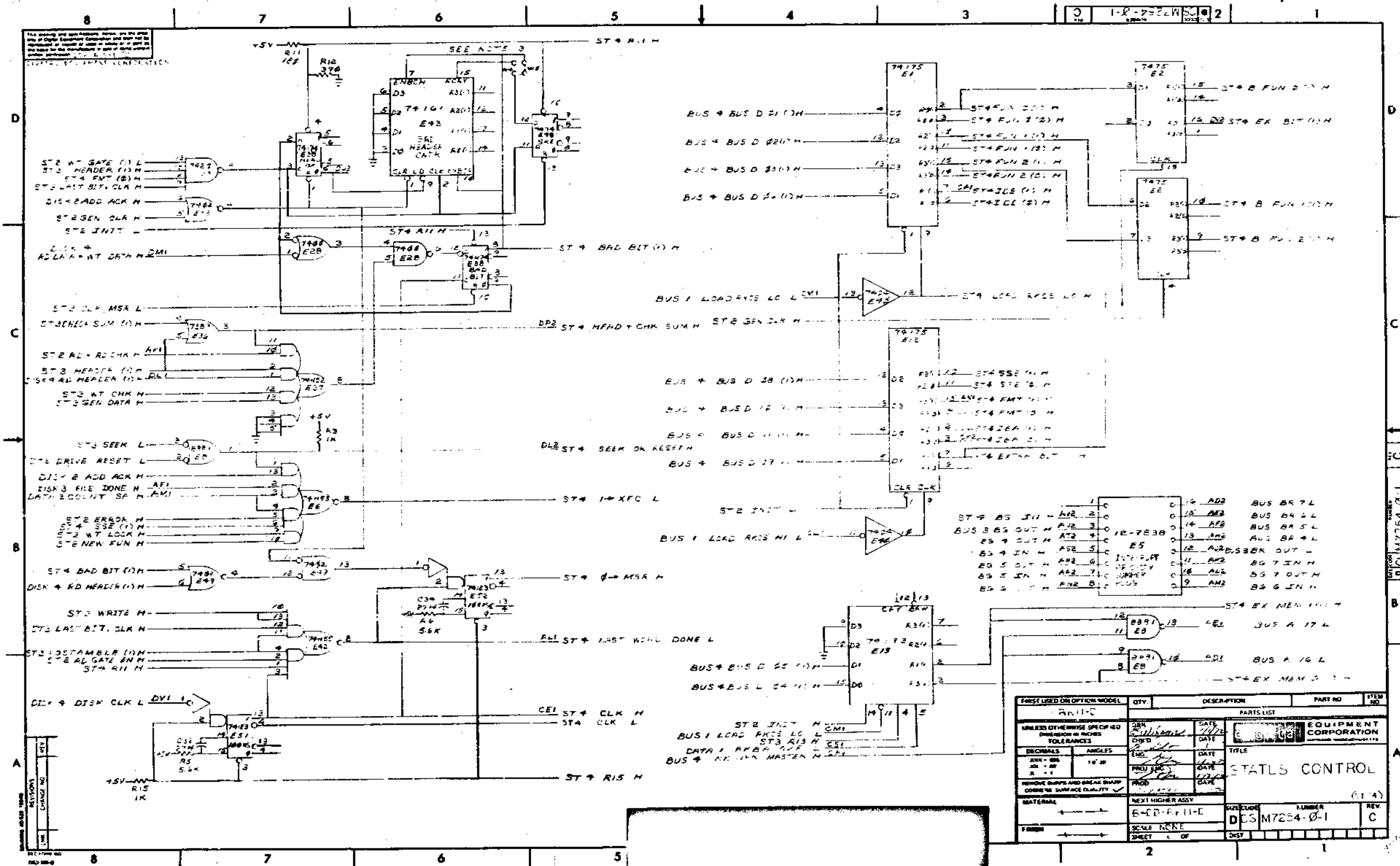
STATUS CONTROL RK11-D

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

DEC 8575 PIN 110647


8-M7258-0-1

SHEET 2 OF 2



PART USED (ON OPTION MODEL)	QTY.	DESCRIPTION	PART NO.	ITEM NO.
74100	1	SR LATCH	74100	
74101	1	SR LATCH	74101	
74102	1	NAND GATE	74102	
74103	1	NAND GATE	74103	
74104	1	NAND GATE	74104	
74105	1	NAND GATE	74105	
74106	1	NAND GATE	74106	
74107	1	NAND GATE	74107	
74108	1	NAND GATE	74108	
74109	1	NAND GATE	74109	
74110	1	NAND GATE	74110	
74111	1	NAND GATE	74111	
74112	1	NAND GATE	74112	
74113	1	NAND GATE	74113	
74114	1	NAND GATE	74114	
74115	1	NAND GATE	74115	
74116	1	NAND GATE	74116	
74117	1	NAND GATE	74117	
74118	1	NAND GATE	74118	
74119	1	NAND GATE	74119	
74120	1	NAND GATE	74120	
74121	1	NAND GATE	74121	
74122	1	NAND GATE	74122	
74123	1	NAND GATE	74123	
74124	1	NAND GATE	74124	
74125	1	NAND GATE	74125	
74126	1	NAND GATE	74126	
74127	1	NAND GATE	74127	
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74130	1	NAND GATE	74130	
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74196	1	NAND GATE	74196	
74197	1	NAND GATE	74197	
74198	1	NAND GATE	74198	
74199	1	NAND GATE	74199	
74200	1	NAND GATE	74200	

PARTS LIST		EQUIPMENT CORPORATION	
DATE	DATE	TITLE	REV.
12-7838	12-7838	STATUS CONTROL	(AT 4)
12-7838	12-7838	DES M7254-0-1	C
12-7838	12-7838	SCALE: NONE	
12-7838	12-7838	SHEET: C OF	

		ORIGINATOR Dick Lewis 1-2 TEL EXT 2814 DATE 1/30/73 DISC PROJ NO. 520-06734 COST CENTER NO. 378		ECO NO. <u>M7254-0002</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>2-2-73</u> FIRST ISSUE <u>2-5-73</u> FINAL ISSUE <u>3/14/73</u>																																															
ENGINEERING CHANGE ORDER <u>9307</u>				UNIT TO BE CHANGED M7254 Status Control DRP CODE 01																																															
PROBLEM 1. "New Fun" and "O-MSR" one-shots too short. 2. "Last word done" needs a pull-up resistor. 3. CLK pulses need to be standardized throughout control. 4. POOR +B network.				OPTIONS AFFECTED RK11-9 E																																															
CORRECTION 1. Lengthen one-shot times. 2. Add pull-up to "Last word done". 3. Bring in external CLK signal from pins CE1 and DUL. 4. Add jumper connection between branches of +B+run.				PRODUCT LINES AFFECTED PDP-11																																															
BREAK-IN/EFFECTIVITY Rework all M7254 boards (item 7 below).				DOCUMENTATION AFFECTED <input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PEG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC																																															
<table border="1"> <thead> <tr> <th>ITEM NO.</th> <th>DOCUMENT/PART NO</th> <th>OLD REV</th> <th>NEW REV</th> <th>DISP CODE</th> <th>DESCRIPTION OF CHANGE</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>D-CS-M7254-0-1 SH 1, 2, 4, 5, 6 FW 5</td> <td>C</td> <td>D</td> <td>06</td> <td>See final release drawing.</td> </tr> <tr> <td>2.</td> <td>B-MH-M7254-0-6</td> <td>A</td> <td>B</td> <td>06</td> <td>See final release drawing.</td> </tr> <tr> <td>3.</td> <td>D-AH-M7254-0-5</td> <td>C</td> <td>D</td> <td>06</td> <td>See final release drawing.</td> </tr> <tr> <td>4.</td> <td>1300365</td> <td>-</td> <td>-</td> <td>02</td> <td>Add 1K resistor (R16).</td> </tr> <tr> <td>5.</td> <td>1000016</td> <td>-</td> <td>-</td> <td>07</td> <td>Add 100 pf cap (C34, C36).</td> </tr> <tr> <td>6.</td> <td>1001739</td> <td>-</td> <td>-</td> <td>00</td> <td>Delete 27 pf cap (C34, C36).</td> </tr> <tr> <td>7.</td> <td>5009905 Rework notes</td> <td>-</td> <td>-</td> <td>09</td> <td>Rework boards as shown below: 1. Delete C34, C36 and replace with 100 pf caps. 2. Add 1K RES as shown on AH drawing. 3. Make 3 etch cuts and add 3 wires as shown on AH drawing.</td> </tr> </tbody> </table>		ITEM NO.	DOCUMENT/PART NO	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE	1.	D-CS-M7254-0-1 SH 1, 2, 4, 5, 6 FW 5	C	D	06	See final release drawing.	2.	B-MH-M7254-0-6	A	B	06	See final release drawing.	3.	D-AH-M7254-0-5	C	D	06	See final release drawing.	4.	1300365	-	-	02	Add 1K resistor (R16).	5.	1000016	-	-	07	Add 100 pf cap (C34, C36).	6.	1001739	-	-	00	Delete 27 pf cap (C34, C36).	7.	5009905 Rework notes	-	-	09	Rework boards as shown below: 1. Delete C34, C36 and replace with 100 pf caps. 2. Add 1K RES as shown on AH drawing. 3. Make 3 etch cuts and add 3 wires as shown on AH drawing.	FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Change <input type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE <input type="checkbox"/> ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
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DISPOSITION CODES 00 - RETURN TO STOCK 01 - DELETED 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (EXTD/IT) 04 - DELETED 05 - DELETED 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			APPROVAL SIGNATURES Designer: <u>Tom Off</u> Eng MGR (OPT): <u>[Signature]</u> Field Service (OPT): <u>[Signature]</u> Chief Engor (MODULES ONLY): <u>[Signature]</u>																																																

PAGE REVISION CONTROL SHEET

REVISIONS		REMARKS	
DATE	ENG. REV. NO.	ST 11 ST 12 ST 13 ST 14	
12-11-72	C 00001		
2-16-73	C 00002		
DATE	ENG. REV. NO.	FIRST USED OPTION/MODEL	
		RK11-D	

digital EQUIPMENT CORPORATION <small>DESIGNED MANUFACTURED</small>	TITLE STATUS CONTROL				
	DRN. DATE CHKD. DATE ENG. DATE PROJ. ENG. DATE PROJ. DATE	DATE DATE DATE DATE DATE	(RK11-D) SIZE CODE PCS	NUMBER M7254-4-1	REV. D
NEXT HIGHER ASSY. B-00-RK11-D			SHEET 6	OF 6	DIST.
<p style="font-size: small;">THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © DIGITAL EQUIPMENT CORPORATION</p>					

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7254-00002

NOT TO BE USED FOR PRODUCTION

8 9-0-6322W 4M B
REV. PART CODE NUMBER

PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>B</u>									
DATE RELEASED <u>9-25-72</u>		PAGE <u>1</u> OF <u>1</u>		RELEASED ETCH BD REV. <u>C</u>									
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
0001	T. ORR	11-17-72	C	C	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			USE FILE C-RE INSTEAD OF 1000 COUN- OVER FLCK.	1	0
0002	R. LEWIS	1-29-73	D	C	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			INCREASE LENGTH OF NEW FUN +0-MS 3 ONE SHOTS. ADD PULL-UP RES. TO LAST WORD DONE. STANDARDIZE CLK. PULSES.	3	2

REVISIONS	DATE	BY	DATE	BY	DATE	BY	DATE	BY

DATE	10-3-72	DATE	10-3-72	DATE	10-3-72	DATE	10-3-72
BY		BY		BY		BY	
DATE		DATE		DATE		DATE	
BY		BY		BY		BY	

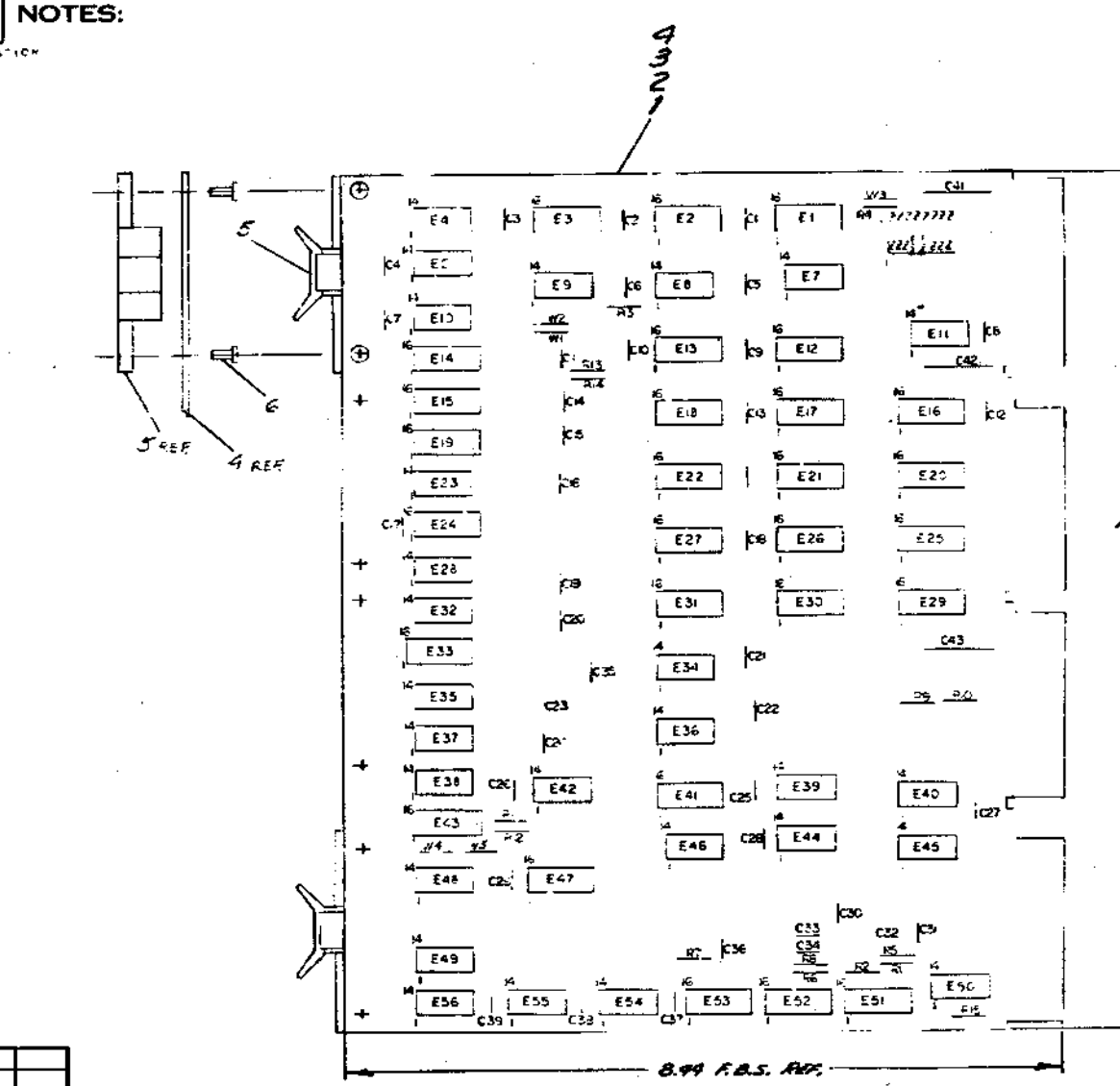
TITLE		MODULE ECO HISTORY	
SIZE	CODE	NUMBER	REV
B	4H	M7254-0-6	B

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7254-00002

NOT TO BE USED FOR PRODUCTION

NOTES:
 1. THIS DRAWING IS PART OF THE E.C.O. PACKAGE # M7254-00002.
 2. THE BOARD IS TO BE MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE E.C.O. PACKAGE # M7254-00002.
 3. THE BOARD IS TO BE MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE E.C.O. PACKAGE # M7254-00002.



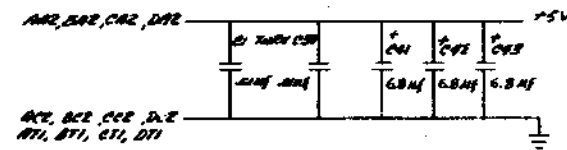
PIN NOMENCLATURE
 MODULE RKII-C

* IF NECESSARY USE I.C. DEC 8575 PIN 31C447

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
2	E34, C34	CRP 100PF 30V 5% DM	1000016	50
1	E5	IC SOCKET	1209539	44
8	W1-W5	INSULATED WAFER L-2007-1	3007135	48
1	E2	I.C. DEC 7425	1905050	47
2	E1, E2	I.C. DEC 74125	1910251	46
1	E56	I.C. DEC 8815	1907113	45
1	E42	I.C. DEC 74125	1907063	44
2	E4, E6	I.C. DEC 74125	1905062	43
1	E45	I.C. DEC 7408	1910155	42
1	E43	I.C. DEC 74111	1905267	41
5	E10, E16, E20, E25, E29	I.C. DEC 74125	1910018	40
4	E4, E15, E19, E43	I.C. DEC 74161	1910250	39
1	E28	I.C. DEC 74170	1903627	38
3	E1, E46, E48	I.C. DEC 7474	1902547	37
1	E37	I.C. DEC 74125	1903061	36
2	E50, E54	I.C. DEC 7487	1910071	34
2	E4, E36	I.C. DEC 7484	1905939	33
1	E8	I.C. DEC 8881	1907205	32
3	E31, E32, E33	I.C. DEC 74125	1910436	31
3	E24, E23, E47	I.C. DEC 4015	1913047	30
2	E10, E34	I.C. DEC 7420	1905577	29
1	E35	I.C. DEC 7410	1905576	28
3	E23, E28, E44	I.C. DEC 7400	1903375	27
2	E32, E49	I.C. DEC 7402	1905004	26
8	E11, E12, E13, E14, E15, E16, E17, E18	I.C. DEC 74125	1905537	25
1	E41	I.C. DEC 7456	1910363	24
1	E39	I.C. DEC 7427	1910878	23
2	E7, E40	I.C. DEC 7459	1903636	22
1	E3	I.C. DEC 7442	1910046	21
3	R10, R12, R18	RES. 390 Ω 1/4 W 5%	1300252	20
3	R3, R11, R13	RES. 180 Ω 1/4 W 5%	1301322	19
3	R2, R15, R16	RES. 1K Ω 1/4 W 5%	1300345	18
1	R1	RES. 47K Ω 1/4 W 5%	1302177	17
1	R4	RES. 3K Ω 1/4 W 5%	1300432	16
1	R2	RES. 10K Ω 1/4 W 5%	1300473	15
3	R5, R6, R7	RES. 5.6K Ω 1/4 W 5%	1301874	14
1	R8	RES. 20K Ω 1/4 W 5%	1302391	13
1	C33	CRP 47PF 100V 5% DM	1000011	12
1	C31	CRP 330PF 100V 5% DM	1001631	11
1	C30	CRP 26PF 100V 5% DM	1300012	10
1	C32	CRP 27PF 100V 5% DM	1001239	9
3	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60	CRP 0.1M Ω 100V 20% DISC	1001610	8
3	C41, C42, C43	CRP 2.2M Ω 35V 10% TANT	1005306	7
8		EYELET #55-4-7) STIMPSON	9006732	6
4		WAFER (RIP-CHIP) M94517A	9008337-06	5
1		ETCHED CIRCUIT BOARD	5007385	4
20		MODULE 800 HISTORY	8-44-M7254-0-6	3
20		RESISTOR/RES HOLE LAYOUT	D-M-M7254-0-5	2
20		X-Y COORDINATE HOLE LOCATION	M-0-M7254-0-4	1

IC TYPE	GRD	+5V
I.C. DEC 74125	B	16
I.C. DEC 74125	B	16
I.C. DEC 74125	B	16
I.C. DEC 7425	R	5
I.C. DEC 7442	B	16

IC PIN LOCATIONS

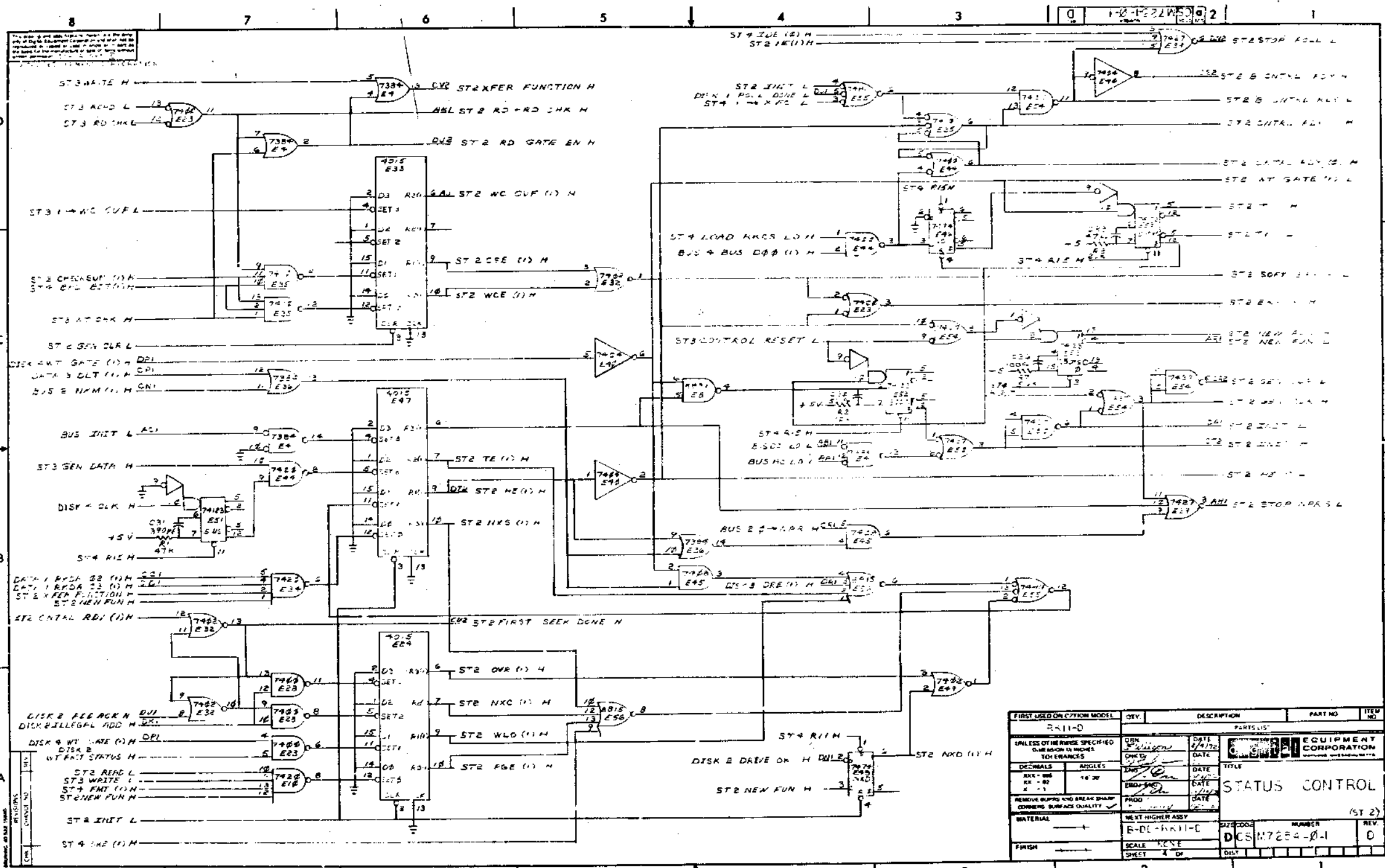


REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
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18		
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20		

DATE: 10/12/72
 TITLE: STATUS CONTROL
 RKII-D
 NUMBER: DCS M7254-2-1
 SHEET: 2 OF 2

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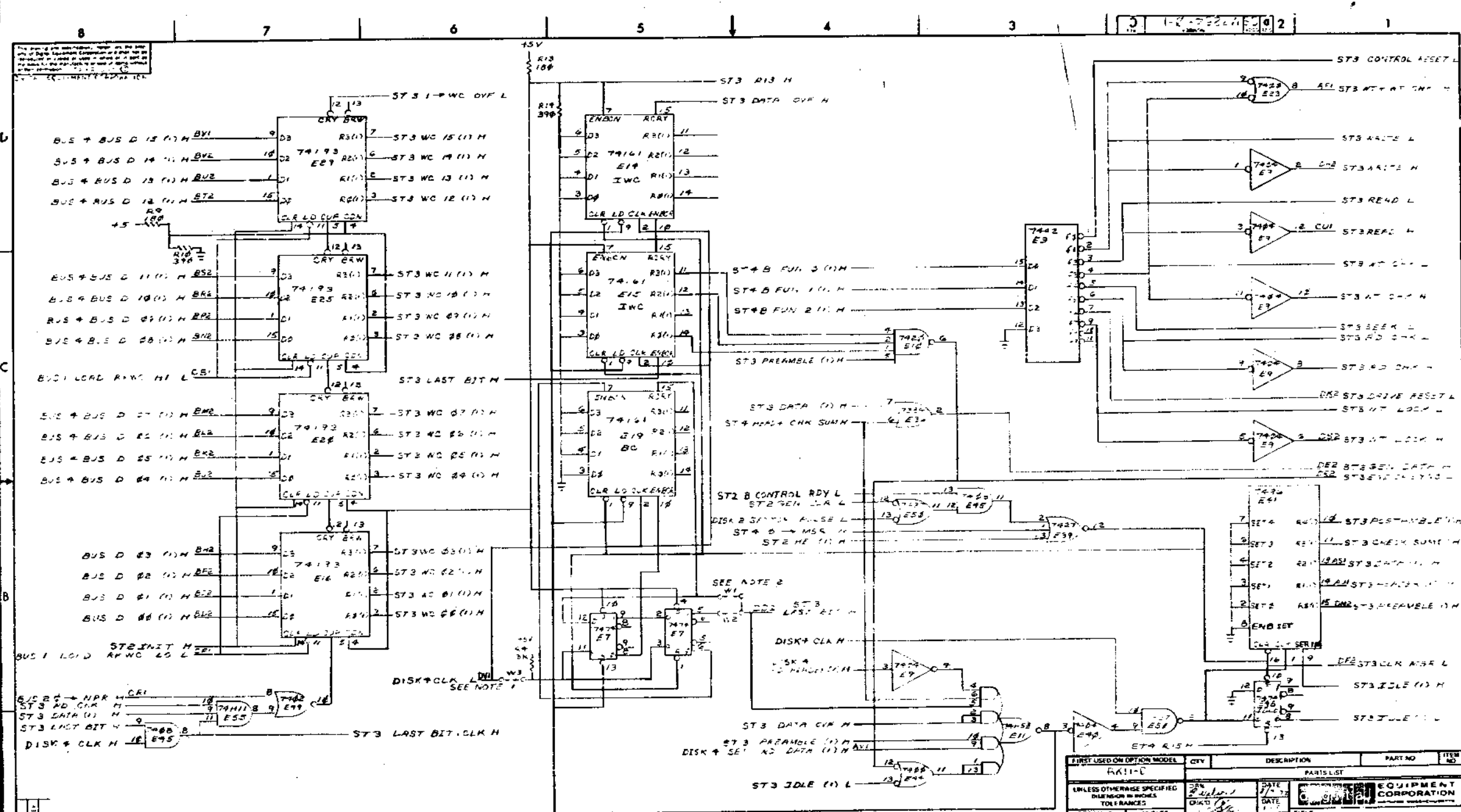


FIRST USED ON OPTION MODEL	DEV.	DESCRIPTION	PART NO.	ITEM NO.
RA11-0				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	PARTS LIST	
FRAX - 100	16:30	DATE	EQUIPMENT CORPORATION	
FR - 1		DATE	TITLE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	STATUS CONTROL	
		DATE	(ST 2)	
MATERIAL	NEXT HIGHER ASSY	DATE	SIZE/COOL	NUMBER
	B-DL-RA11-0		DCSM7254-01	REV. 0
FINISH	SCALE NONE		SHEET 4 OF	

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M7254-00002

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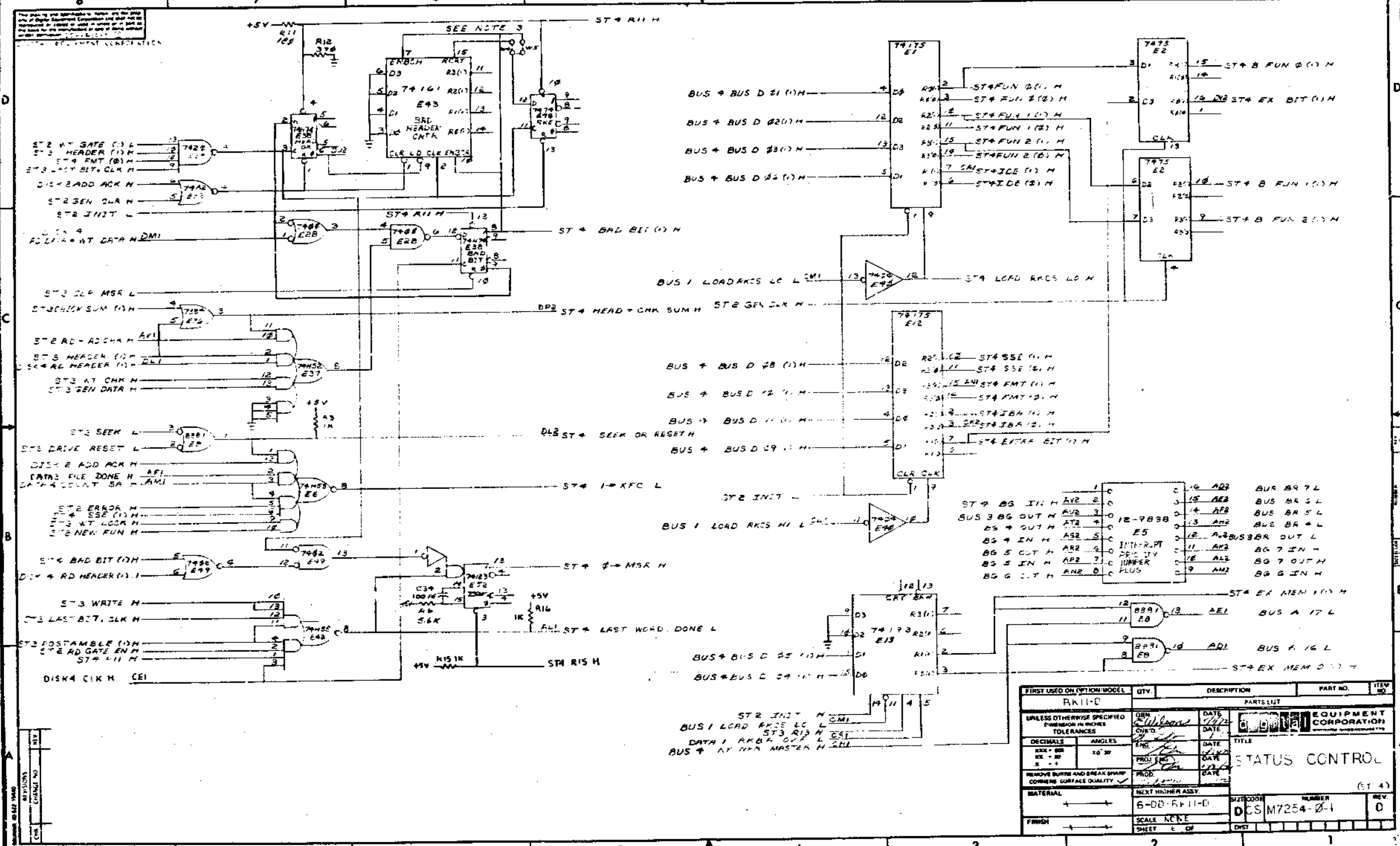


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FOR PRODUCTION**

FIRST USED ON OPTION MODEL		PARTS LIST	
QTY	DESCRIPTION	PART NO	ITEM NO
1	RA11-C		
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES			
DECIMALS	ANGLES	DATE	TITLE
RDR - 006	16 30	DATE	EQUIPMENT CORPORATION
R - 1		DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	STATUS CONTROL
MATERIAL	NEXT HIGHER ASSY	DATE	(ST 3)
FINISH	B-CC-RN11-D	DATE	REV C
	SCALE 1/8" = 1"	DATE	
	SHEET 3 OF 3	DATE	



FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
AK11-C		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES	QTY.	DATE	DATE	DATE
DECIMALS	ANGLES	ENG.	DATE	TITLE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD.	DATE		
MATERIAL	NEXT HIGHER ASSY.	SIZE CODE	NUMBER	REV.
FINISH	SCALE NONE	DWG. NO.	DCS M7254-0-1	0
	SHEET 1 OF 1	DIST.		

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M7254-00002

NOT TO BE USED FOR PRODUCTION

ECO M7254-00003
4 2 8 2

M7254/ECO #00003

Supplemental Information

As of 5/25 there are 384 etch boards in W.I.P., 208 boards in S.R. #50, and some 200 to 400 on order from Puerto Rico. Board fabrication (Don Snow) has been asked to finish all boards in W.I.P., but all lots on order must be of new etch revision. An adequate supply of old rev. circuit schematics should be stockpiled at Westfield, Ireland, and world support to cover the phase-out period of old rev. etch boards as new circuit schematics should reach production before new boards.

		ORIGINATOR Dick Lewis, 1-2 TELETYPE 3055 DATE 5/25/73 DISC PROJ NO E20-06734 COST CENTER NO 378		ECO NO M7254-00003 SHEET 1 OF 2 DATE RECEIVED 5-29-73 FIRST ISSUE 5-31-73 FINAL ISSUE 6/20/73		
PROBLEM M7254 module layout has no spare IC locations and has some long etch runs.				M7254 Status Control DISC PROJ #2 OPTIONS APPLIED		
CORRECTION Relayout board to high density standards to add spare IC locations and shorten the long etch runs.				RK11-D,E		
BREAK-IN EFFECTIVITY All old rev etch boards in W.I.P by 5/25 may be completed. Only new rev boards may be put into W.I.P after 5/29.				PROJECTS APPLIED EDP-11		
ITEM NO	DOCUMENT PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1.	D-CS-M7254-0-1	D	E	06	See final release drawing.	<input checked="" type="checkbox"/> MODEL
	Sheet 1	D	E	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> DIAGNOSTIC
	Sheet 2	B	C	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> TEST MANUAL
	Sheet 3	D	E	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> TEST PROG
	Sheet 4	C	D	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> TOOLING
	Sheet 5	D	E	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> ENG INST
	Sheet 6	D	E	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> ENG SPEC
2.	D-AH-M7254-0-5	D	E	06	Replace old rev with new rev print supplied.	<input type="checkbox"/> PURCH SPEC
3.	B-MH-M7254-0-6	B	C	06	See final release drawing.	FIELD SERVICE AFFECTED
4.	5009985	C	E	02	Phase in new etch board as shown above.	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
* REV D BOARD NEVER BUILT.						<input type="checkbox"/> Customer Change <input type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MODL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
DISPOSITION CODES 00 - RETURN TO STOCK 01 - DELETED 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REMOVE IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - (DELETED) 07 - DOCUMENT CORRECTION 08 - NEW ITEM (THIS COMPANY) 09 - NEW ITEM (OTHER COMPANY) 10 - RECAP IMMEDIATELY				APPROVAL SIGNATURES Design Engr: [Signature] Eng Mgr (M7254): [Signature] Field Service (M7254): [Signature] Chief Engr (Modules Only): [Signature]		

DEC 14 (175) 407, 4972 SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY

DNA - 111C

70-

2 of 2

PAGE REVISION CONTROL SHEET										REMARKS
REV. NO.	DATE	ENG.	ETCH REV. NO.	PAGE REVISIONS						FIRST USED ON OPTIC/MODEL
				DIN CHK'D	ENG.	PROJ. ENG.	PROD.	DATE	DATE	
5	8-5-73	/	E	00003						(S T 1) (S T 2) (S T 3) (S T 4) ETCH REV. "D" NOT TO BE USED.
4	2-16-73	/	C	00002						
3	12-11-72	S	C	00001						
2			C							
1			C							

digital EQUIPMENT CORPORATION
DIVISION OF ANALOG SYSTEMS

TITLE: STATUS CONTROL
(RK11-D)

DATE	DATE	DATE	DATE	DATE
NEXT HIGHER ASSY.				
B-DD-RK11-D				
SIZE	CODE	NUMBER	REV.	
B	CS	M7254-4-1	E	
SCALE			SHEET 1 OF 6	
DIST.				

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M7254-00003

**NOT TO BE USED
FOR PRODUCTION**

REV. B
M7254-0-6
NUMBER

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP 11</u>				PAGE <u>1</u> OF <u>1</u>				RELEASED CS REV. <u>B</u>					
DATE RELEASED <u>9-25-72</u>								RELEASED ETCH BD REV. <u>C</u>					
RELEASED BY <u>T. ORR</u>													
ECO. NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS NOW AVAILABLE OR RETURNED FOR REPAIR TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-17-72	C	C	✓			✓			USE FILE LONE INSTEAD OF BOARD COUNT OVER FLOW.	1	0
00002	R. LEWIS	1-29-73	D	C	✓			✓			INCREASE LENGTH OF NEW FUN +0-MSR ONE SHCTS. ADD PULL-UP RES. TO LAST WORD DONE. STANDARDIZE CLK. PULSES.	3	2
00003	R. LEWIS	5-22-73	E	E NOTE: D REV DOES NOT EXIST.	✓			✓			NEW ETCH LAYOUT.	0	0

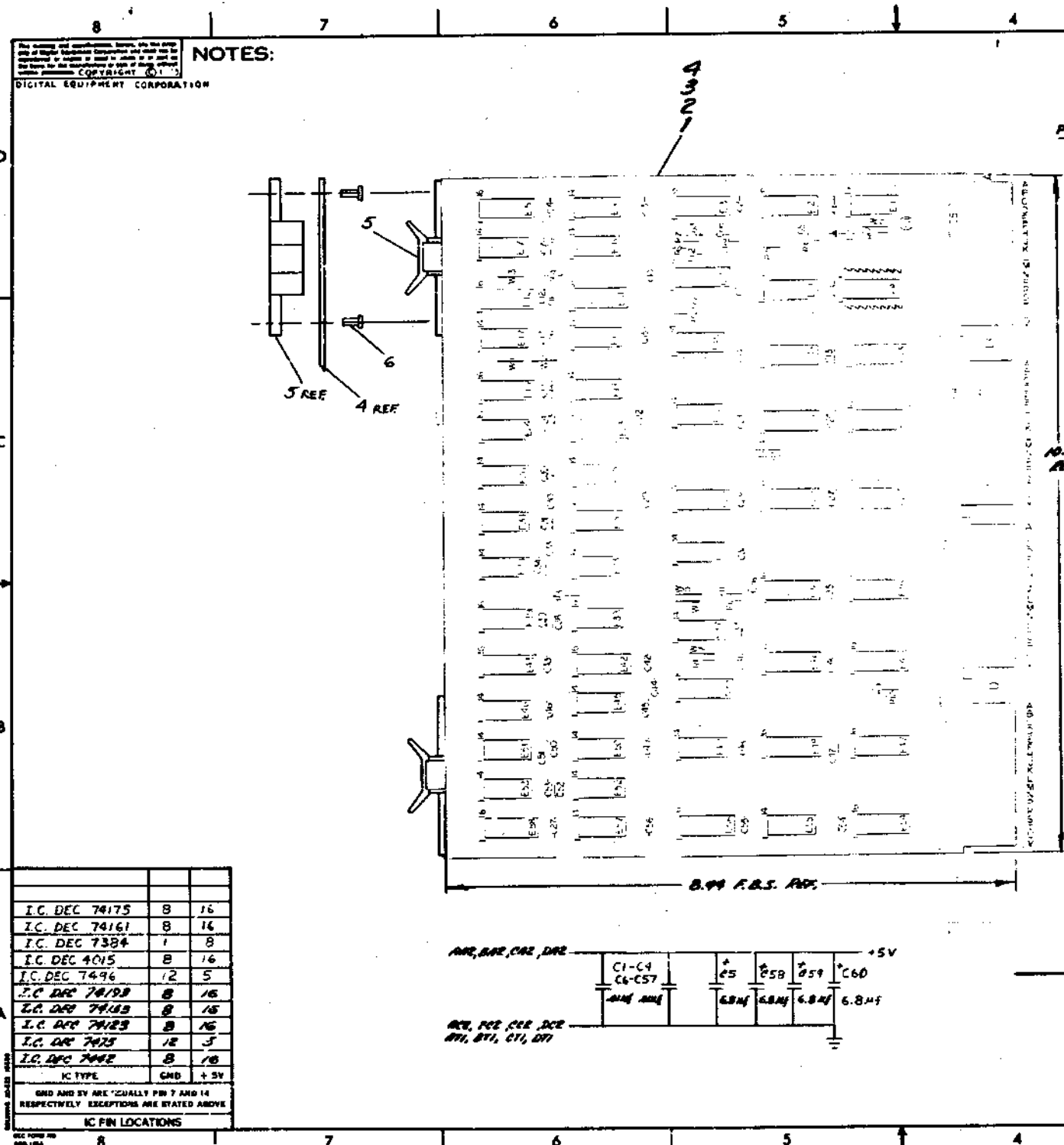
REVISIONS	DATE	BY
00001	11-17-72	T. ORR
00002	1-29-73	R. LEWIS
00003	5-22-73	R. LEWIS

DATE	12-3-72	TITLE	MODULE ECO HISTORY
DATE	12-3-72	SALE	B
DATE	12-3-72	CODE	MH
DATE	12-3-72	NUMBER	M7254-0-6
DATE	12-3-72	REV.	C

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M7254-00003

NOT TO BE USED FOR PRODUCTION



NOTES:

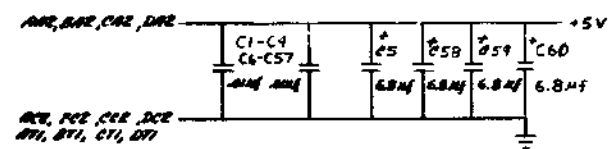
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* IF NECESSARY USE I.C. DEC 8875 PIN 1810647

**PIN NOMENCLATURE
MODULE RKII-D**

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	Q1	TRANSISTOR DEC 6534B	1523409-01	50
1	E8	I.C. SOCKET	1209838	49
7	W1-W7	INSULATED WAFER I-2007-1	5009185	48
1	E39	I.C. DEC 74175	1803050	47
2	E23, E41	I.C. DEC 74175	1310651	46
1	E85	I.C. DEC 8815	1909713	45
1	E9	I.C. DEC 74145	1809063	44
2	E77, E52	I.C. DEC 74145	1909062	43
1	E38	I.C. DEC 7408	1910155	42
1	E45	I.C. DEC 74111	1909267	41
5	E21, E27, E28, E29, E40	I.C. DEC 74183	1310018	40
4	E12, E19, E24, E56	I.C. DEC 74161	1310650	39
1	E57	I.C. DEC 74178	1909667	38
3	E67, E37	I.C. DEC 7479	1903591	37
1	E53	I.C. DEC 74152	1909061	35
2	E15, E22	I.C. DEC 7437	1910091	36
2	E1, E26	I.C. DEC 7384	1910533	35
1	E30	I.C. DEC 8881	1909705	32
3	E2, E3, E10	I.C. DEC 74133	1910436	31
3	E9, E42, E44	I.C. DEC 4015	1910087	30
2	E31, E32	I.C. DEC 7020	1905577	29
1	E16	I.C. DEC 7410	1905576	28
3	E18, E39, E49	I.C. DEC 7400	1905525	27
2	E46, E50	I.C. DEC 7402	1909069	26
2	E14, E25	I.C. DEC 74123	1909337	25
1	E11	I.C. DEC 7496	1910363	24
1	E25	I.C. DEC 7487	1910878	23
2	E51, E33	I.C. DEC 7409	1909686	22
1	E43	I.C. DEC 7492	1910096	21
3	R10, R12, R18	RES. 750 Ω 1/4 W 5%	1501401	20
3	R9, R11, R13	RES. 330 Ω 1/4 W 5%	1502335	19
3	R8, R15, R16	RES. 1K Ω 1/4 W 5%	1500365	18
1	R1	RES. 47K Ω 1/4 W 5%	1502177	17
1	R4	RES. 3K Ω 1/4 W 5%	1500932	16
4	R2, R6, R7, R3	RES. 10K Ω 1/4 W 5%	1500979	15
1	R17	RES. 470 Ω 1/4 W 5%	1500316	14
1	D1	DIODE. IN748A 3.9V	1100122	13
2	C62, C63	CAP. 40PF 100V 5% D.M.	1009011	12
1	C65	CAP. 370PF 100V 5% D.M.	1001631	11
1	C64	CAP. 56PF 100V 5% D.M.	1000018	10
1	C66	CAP. 120PF 100V 5% D.M.	1000018	9
26	C1-C4, C6-C57	CAP. 0.1μF 100V 20% AXIAL	1001610	8
4	C5, C58, C59, C60	CAP. 6.8μF 35V, 10% TANT	1005306	7
8		WAFER (I.C. DEC 74175) STAMPED	9006732	6
4		WAFER (I.C. DEC 74145) STAMPED	9003327-06	5
1		ETCHED CIRCUIT BOARD	5003985	4
1		MODULE ECO HISTORY	5-11-1973-06	3
1		ASSY/DELIVERY HOLE LIST	5-11-1973-06	2
1		X-Y COORDINATE HOLE LOCATION	5-11-1973-06	1

I.C. TYPE	QTY	REF
I.C. DEC 74175	8	16
I.C. DEC 74161	8	16
I.C. DEC 7384	1	8
I.C. DEC 4015	8	16
I.C. DEC 7496	12	5
I.C. DEC 74183	8	16
I.C. DEC 74161	8	16
I.C. DEC 74145	8	16
I.C. DEC 74152	12	3
I.C. DEC 7402	8	16
I.C. DEC 7409	2	16



SEMICONDUCTOR CONVERSION CHART

DEC 6534B NONE
IN748A IN748A
B-DD-RKII-D

**STATUS CONTROL
RKII-D**

DATE: 5-11-73
DRAWN BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

REVISIONS:
1. CHANGE NO. 1
2. CHANGE NO. 2

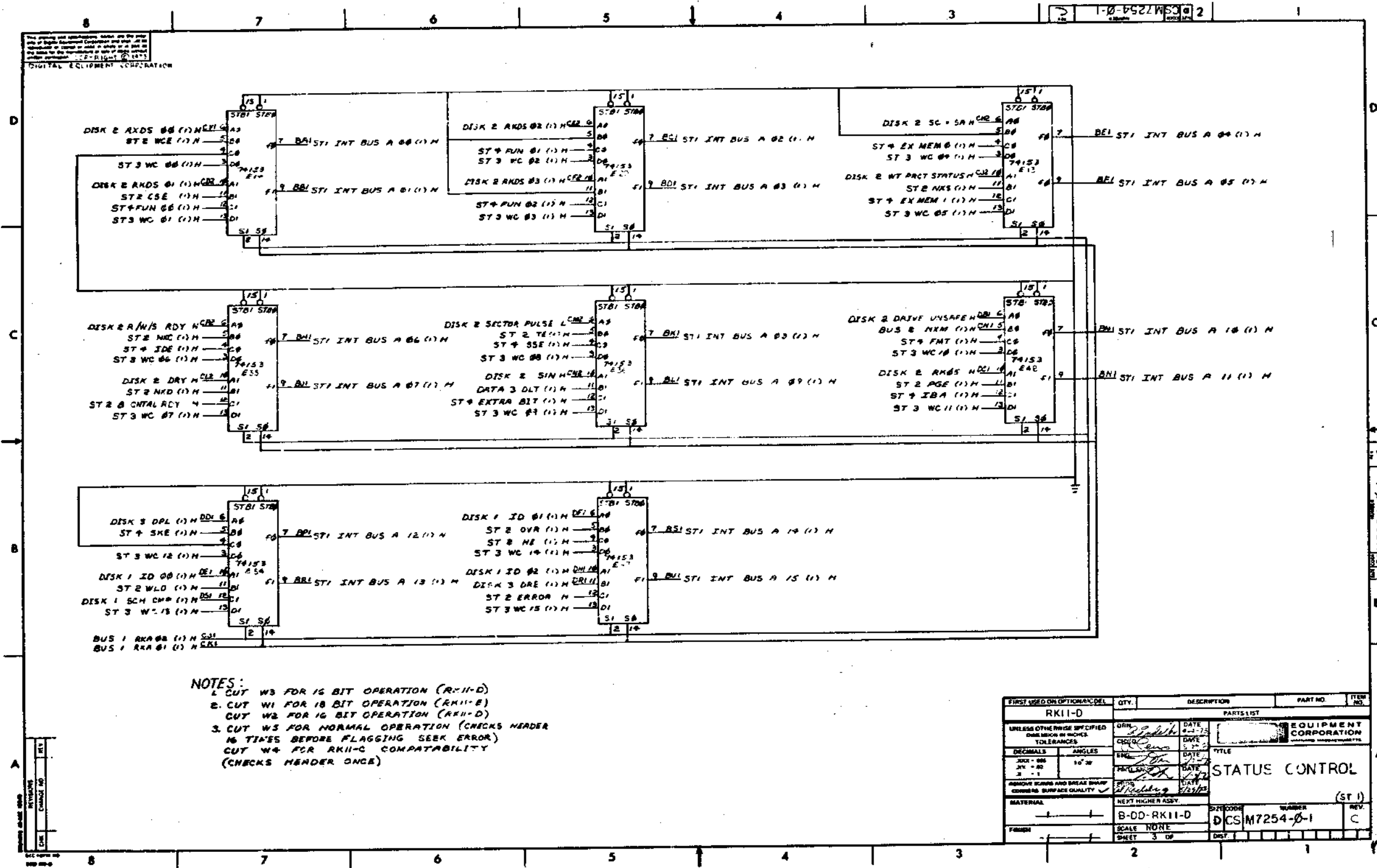
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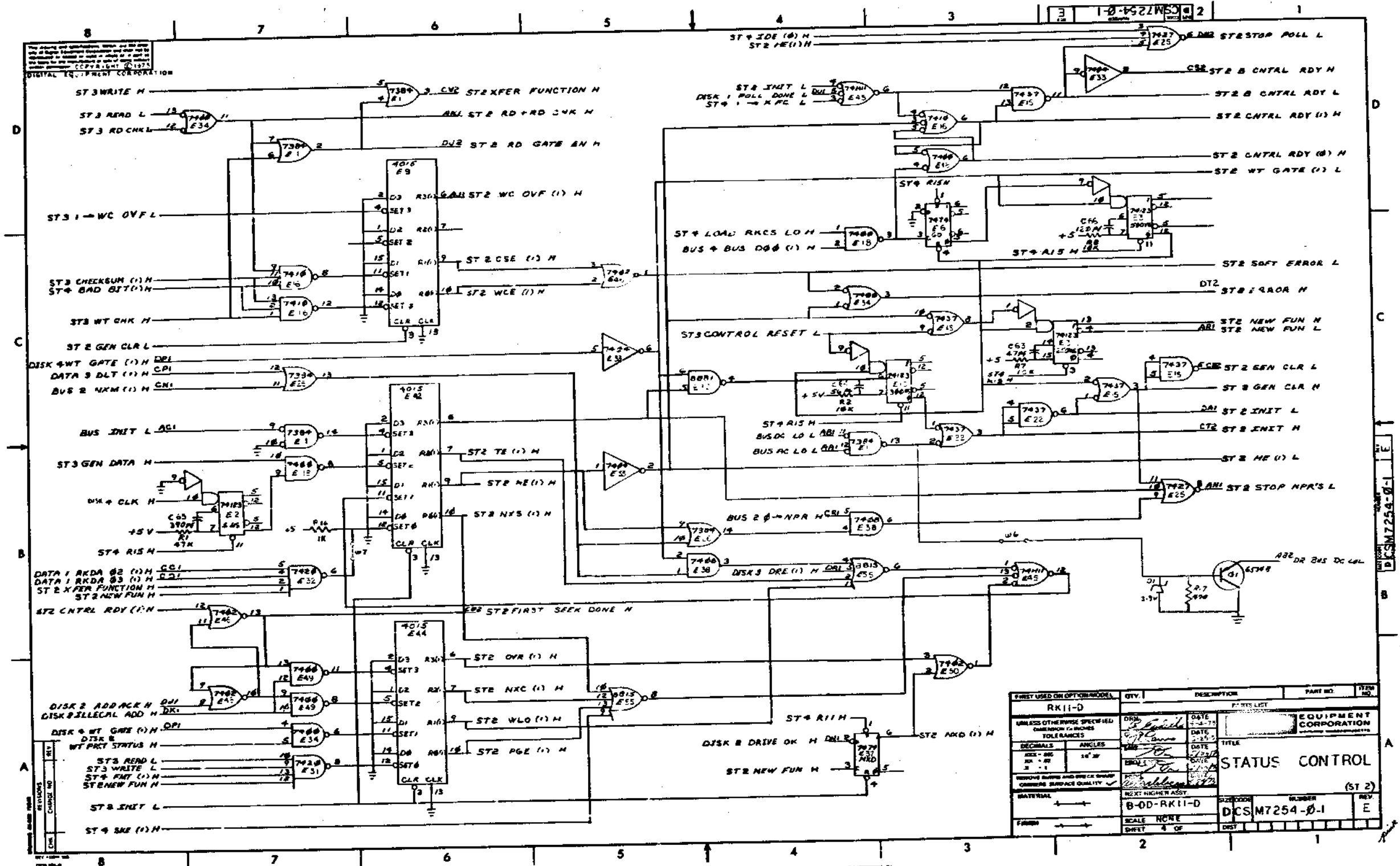
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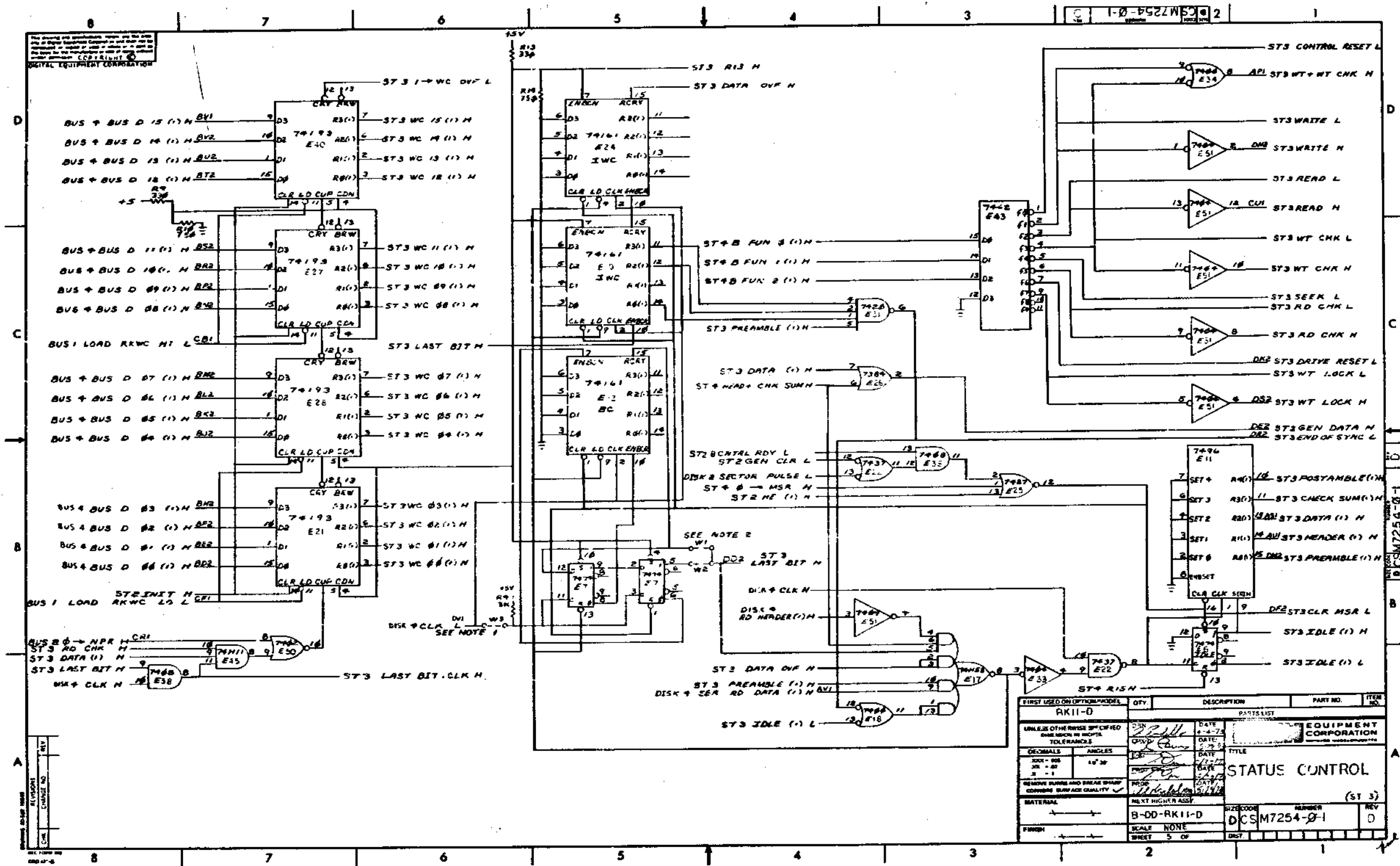
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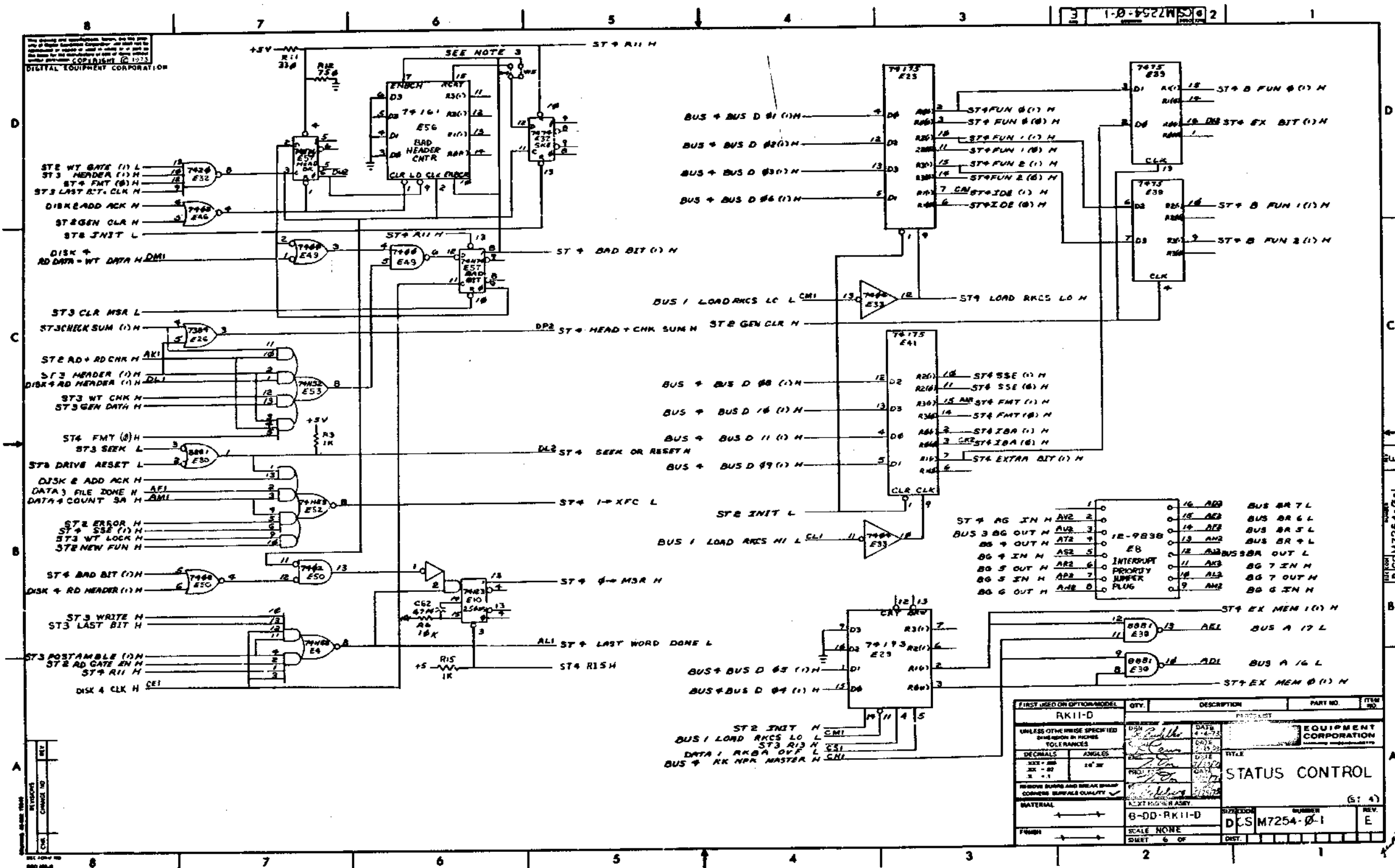
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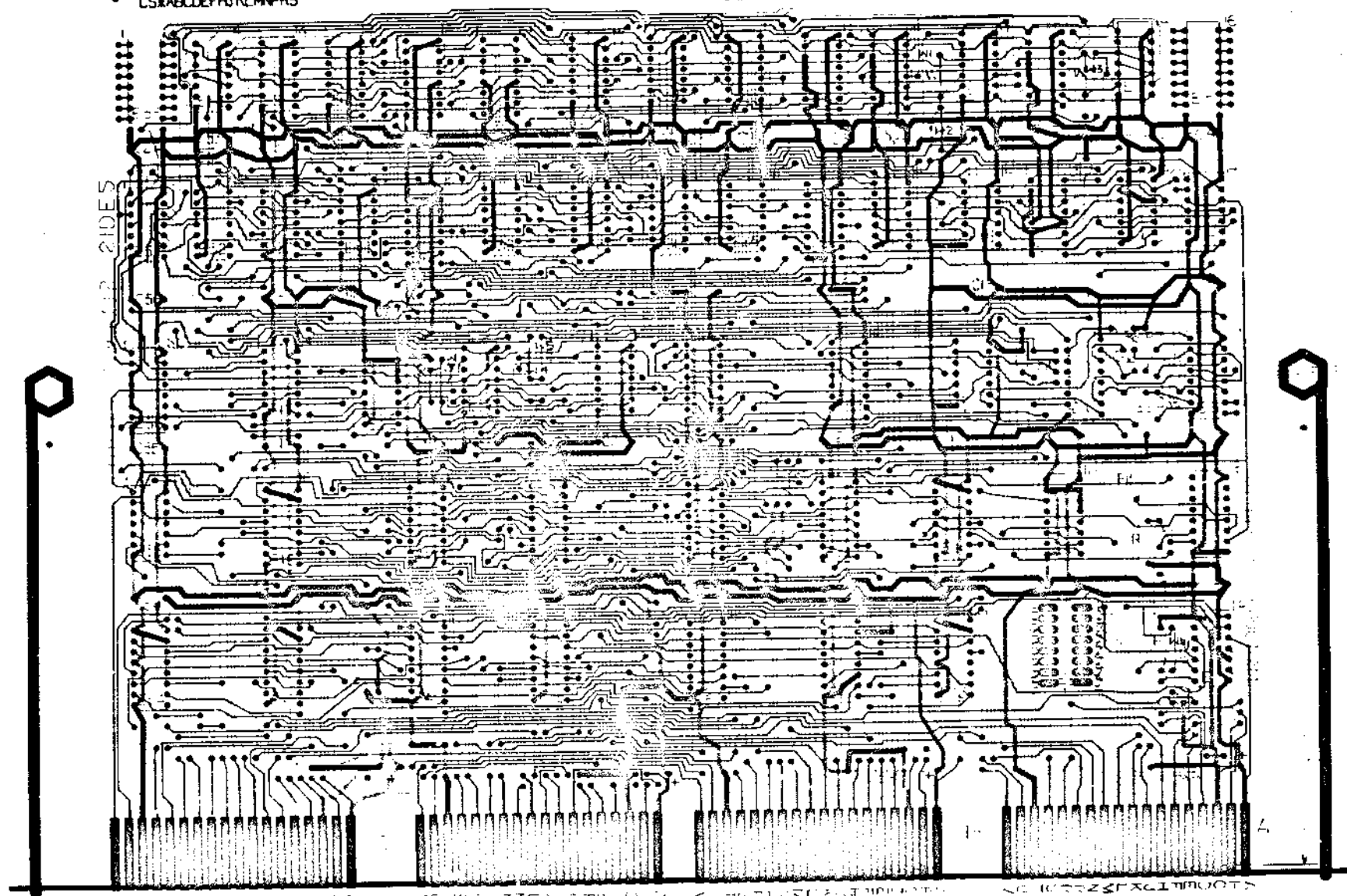
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MS 40043 11/234 EPC

CSIKABCDEFHJKLMNPRS

SIDE 1

FLIP CHIP



NOTES:

DRILLING DATA				CAN TAKE GRIPLETS YES NO	QTY OF HOLES
HOLE LETTER FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE PLATE	FOR NON-PTH BOARDS			
NONE	0.039 0.047				

BOARD FABRICATION INFORMATION

BOARD SIZE (mm) 100 x 100

BOARD MATERIAL FR-4

EYELET PLATED THRU

SIDED MULTI-LAYER

NOTCH BEFORE GOLD PLATING

NOTCH AFTER GOLD PLATING

DATE	DATE	EQUIPMENT CORPORATION
CHKD	DATE	
DATE	DATE	TITLE
DATE	DATE	STATUS CONTROL
DATE	DATE	SCALE
DATE	DATE	SIZE CODE
DATE	DATE	NUMBER
DATE	DATE	REV
DATE	DATE	MS-00-93

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digital		ORIGINATOR Dick Lewis 1-3 TEL EXT 4629 DATE 9/14/73 DESC PROJ NO. E28-06734 COST CENTER NO. 395		ECO NO. <u>M7254-004</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>9/21/73</u> FIRST ISSUE <u>9-28-73</u> FINAL ISSUE <u>11/2/73</u>	
ENGINEERING CHANGE ORDER <u>9776</u>		PROBLEM 1. ECO #M7255- 000 added BUS AC LO signal to the M7255 module. This results in an extra load on this Unibus line because BUS AC LO is also used on the M7254. 2. The parts list specifically calls out 7384's for E26 (Rev. E) and E36 (Rev. C). However, any speed 384 may be used in these locations.		UNIT TO BE CHANGED M7254 Status Control DISP CODE <u>06</u>	
CORRECTION 1. BUS AC LO is removed from the M7254 since its function there was only as a precautionary measure. Note that there is no physical change to the M7254, the change being made to the RK11-D backpanel. See ECO #RK11-D- 000 10 2. Add a note to the parts list allowing substitution of any type 384 for this 7384. Note: Do not affect any other 7384.		BREAK-IN/EFFECTIVITY Document update only		OPTIONS AFFECTED RK11-D, E	
ITEM NO.		DOCUMENT/PART NO.		DESCRIPTION OF CHANGE	
1	D-2S-M7254-0-1 Sheet 1 Sheet 4 Sheet 4 Sheet 2 Sheet 2	E D E D E	F D-1 F D-1 F	06 06 06 06 06	Update rev. Change input pin 12 of E4(7384) from BUS AC LO L to EXT GND LO Change input pin 12 of E1(7384) from BUS AC LO L to EXT GND LO Add a note to the parts list allowing the substitute of any type 384 for the 7384 in E36. Add a note to the parts list allowing the substitute of any type 384 for the 7384 in E26.
2	B-MB-M7254-0-6	C	D	06	See final release drawing
3	D-AE-M7254-0-5	E	F	06	Update rev.
4	L-AE-M7254-0-5	D	D-1	06	Update rev.
DEFINITION CODES		APPROVAL SIGNATURES			
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PREVIOUS STOCK UNTIL NEW STOCK AVAILABLE (PHASE 10) 03 - RE-ORDER IMMEDIATELY (KEYNOTE) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS COMPANY) 08 - NEW ITEM (OTHER COMPANY) 09 - SCRAP IMMEDIATELY		DESIGN ENGR TOM OYE ENGR MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)			
DEC 14-72254-1071-0971 SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY. DRA-11C		11 CENTRAL ECO COMMITTEE			

PAGE REVISION CONTROL SHEET										
SH. NO.	DATE	ECO	ETCH	REV.	NO.	DESCRIPTION	DATE	NO.	DESCRIPTION	REMARKS
1	12-11-72	C			00001	DRN	12-11-72	29		(ST1) (ST2) (ST3) (ST4) ETCH REV. "D" NOT TO BE USED.
2	2-16-73	C			00002	DRN	2-16-73	20		
3	6-5-73	E			00003	DRN	6-5-73	10		
4	10-10-73	C			00004	DRN	10-10-73	20		
5	10-10-73	E			00004	DRN	10-10-73	20		
6										
7										
8										
9										
10										
FIRST USED ON OPTION/MODEL RK11-D										

digital EQUIPMENT CORPORATION <small>WAYLAND MASSACHUSETTS</small>		TITLE STATUS CONTROL	
DRN	DATE	DATE	DATE
CHK'D	DATE	DATE	DATE
ENG.	DATE	DATE	DATE
PROJ. ENG.	DATE	DATE	DATE
PROD.	DATE	DATE	DATE
NEXT HIGHER ASSY. B-DD-RK11-D		SIZE CODE RCS	NUMBER M7254-4-1
SCALE	SHEET	OF	DIST.
	1	6	
REV. F		REV. F	

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M7254-00004

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FOR PRODUCTION**

PRODUCT LINE PDP 11 MODULE ECO HISTORY
 DATE RELEASED 9-25-72 PAGE 1 OF 1
 RELEASED BY T. ORR RELEASED CS REV. B
 RELEASED ETCH 9D REV. C

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-17-72	C	C	✓			✓			USE FILE DONE INSTEAD OF WORD COUNT OVER FLOW.	1	0
00002	R. LEWIS	1-29-73	D	C	✓			✓			INCREASE LENGTH OF NEW FUN +0-MSR ONE SHOTS. ADD PULL-UP RES. TO LAST WORD DONE. STANDARDIZE CLK. PULSES.	3	2
00003	R. LEWIS	5-22-73	E	E NOTE: D REV DOES NOT EXIST.	✓			✓			NEW ETCH LAYOUT.	0	0
00004	R. LEWIS	9-14-73	F	E	✓			✓			DOCUMENTATION UPDATE	0	0

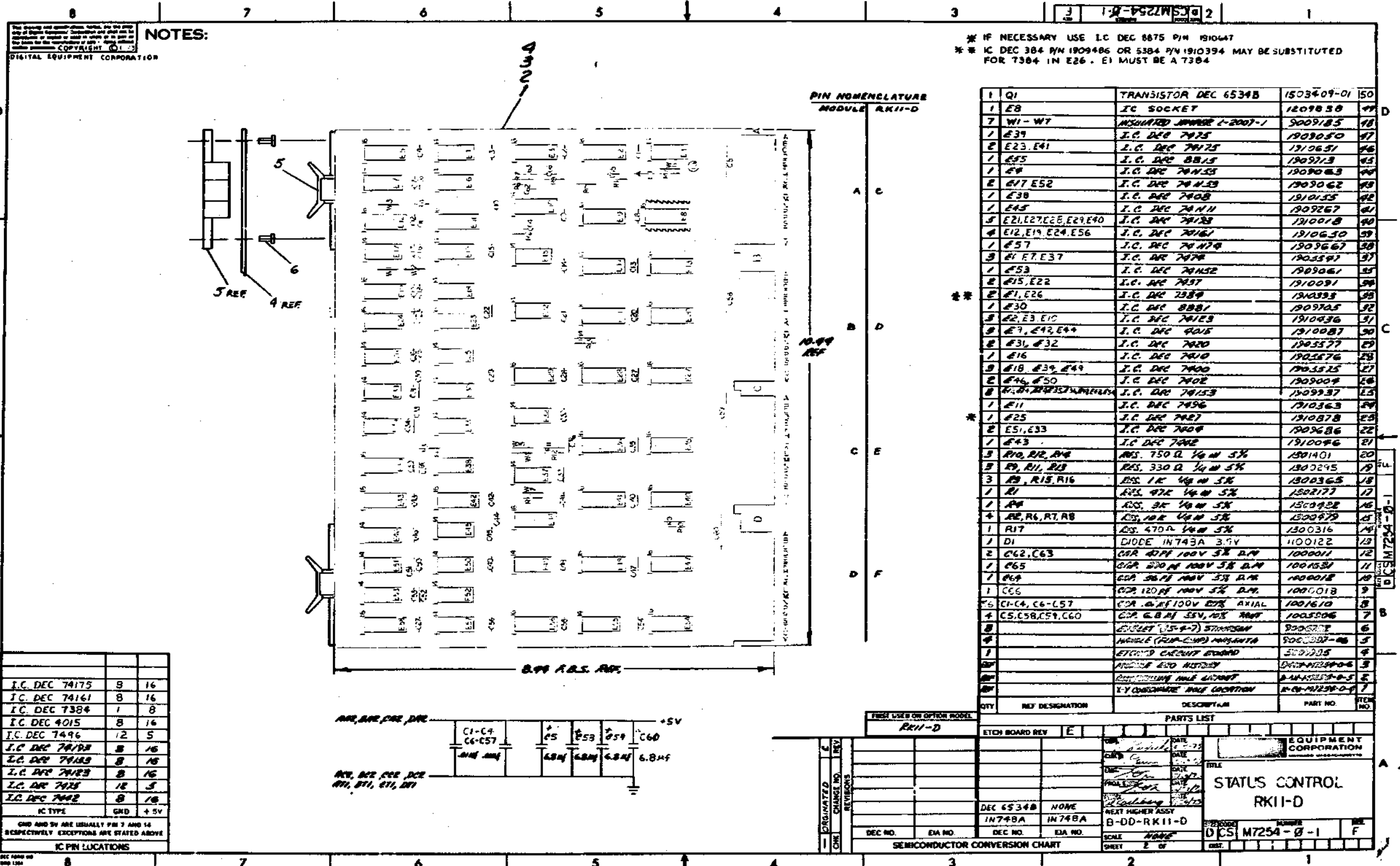
REV. NO.	REV. DATE
00001	A
00002	B
00003	C
00004	D

DATE 9-25-72
 DATE 10-7-72
 DATE 11-7-72
 DATE 12-7-72

EQUIPMENT CORPORATION

TITLE: MODULE ECO HISTORY
 SIZE: B CODE: MH NUMBER: M7254-0-6 REV: D

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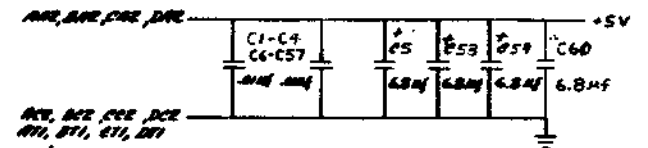


I.C. DEC	QTY	LOC
I.C. DEC 74175	9	16
I.C. DEC 74161	8	16
I.C. DEC 7384	1	8
I.C. DEC 4015	8	16
I.C. DEC 7496	12	5
I.C. DEC 74175	8	16
I.C. DEC 74183	8	16
I.C. DEC 74183	8	16
I.C. DEC 7425	12	5
I.C. DEC 7442	8	16

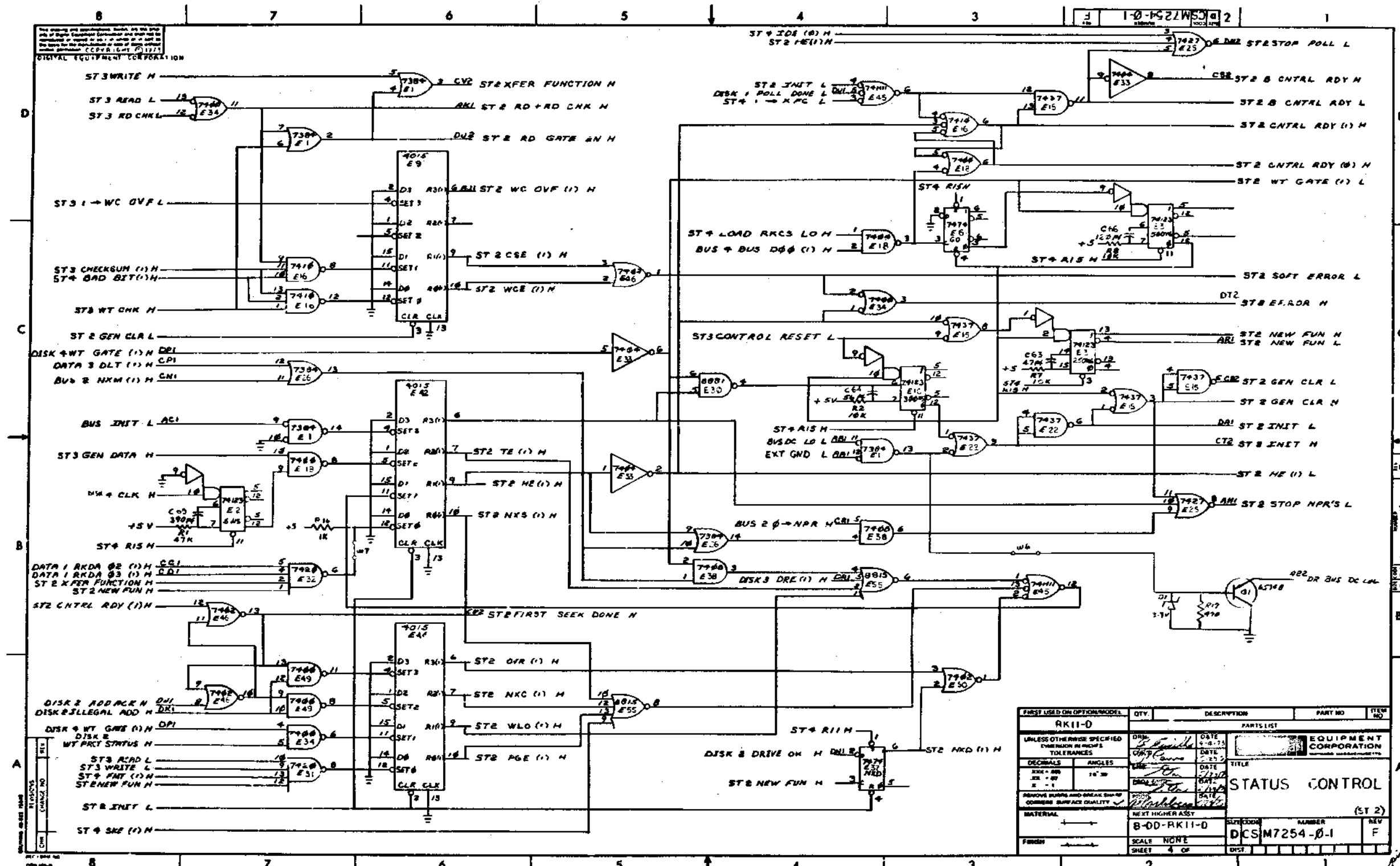
IC PIN LOCATIONS

IC TYPE	QTY	LOC
IC TYPE	QTY	LOC

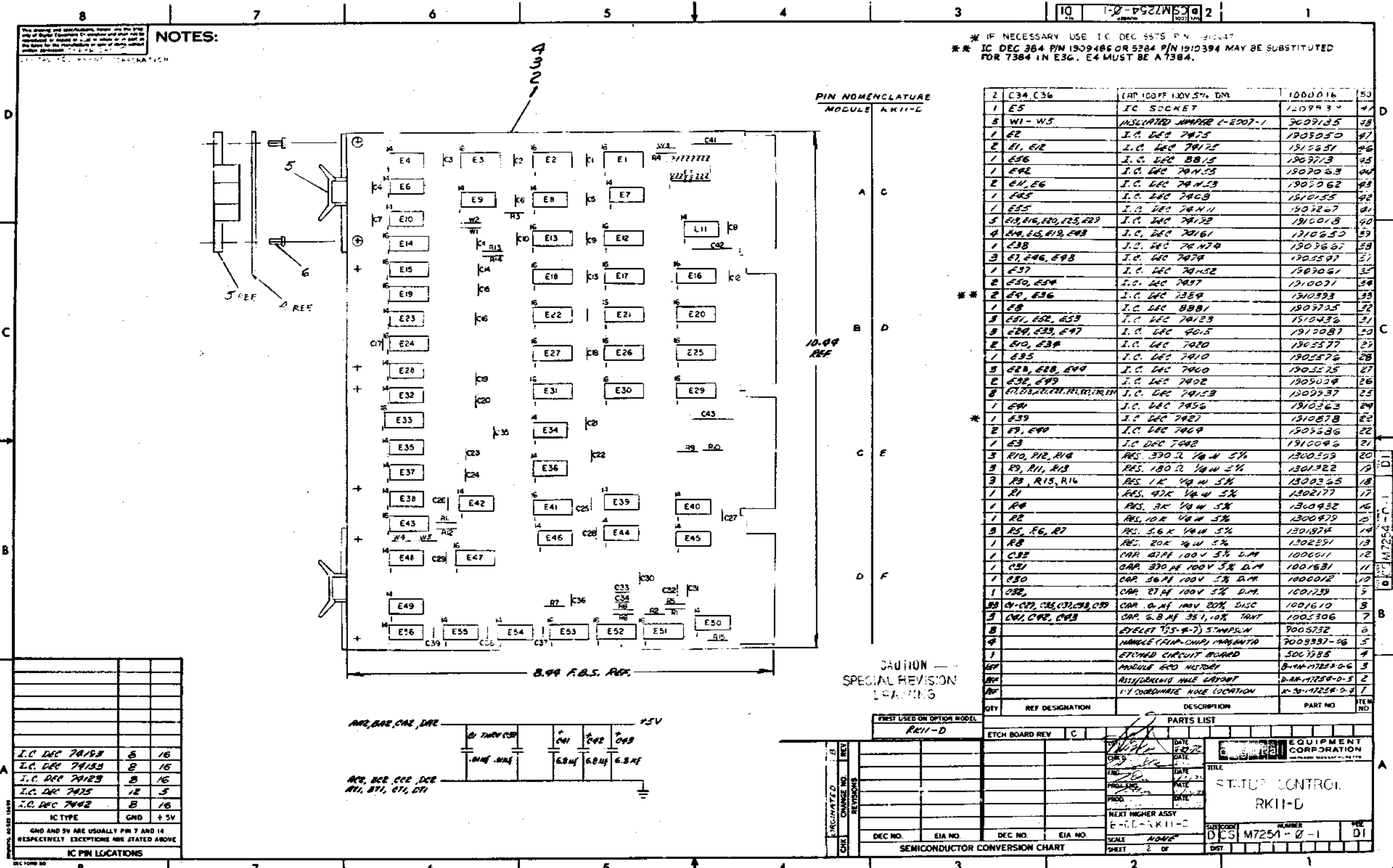
QND AND BY ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPT AS STATED ABOVE

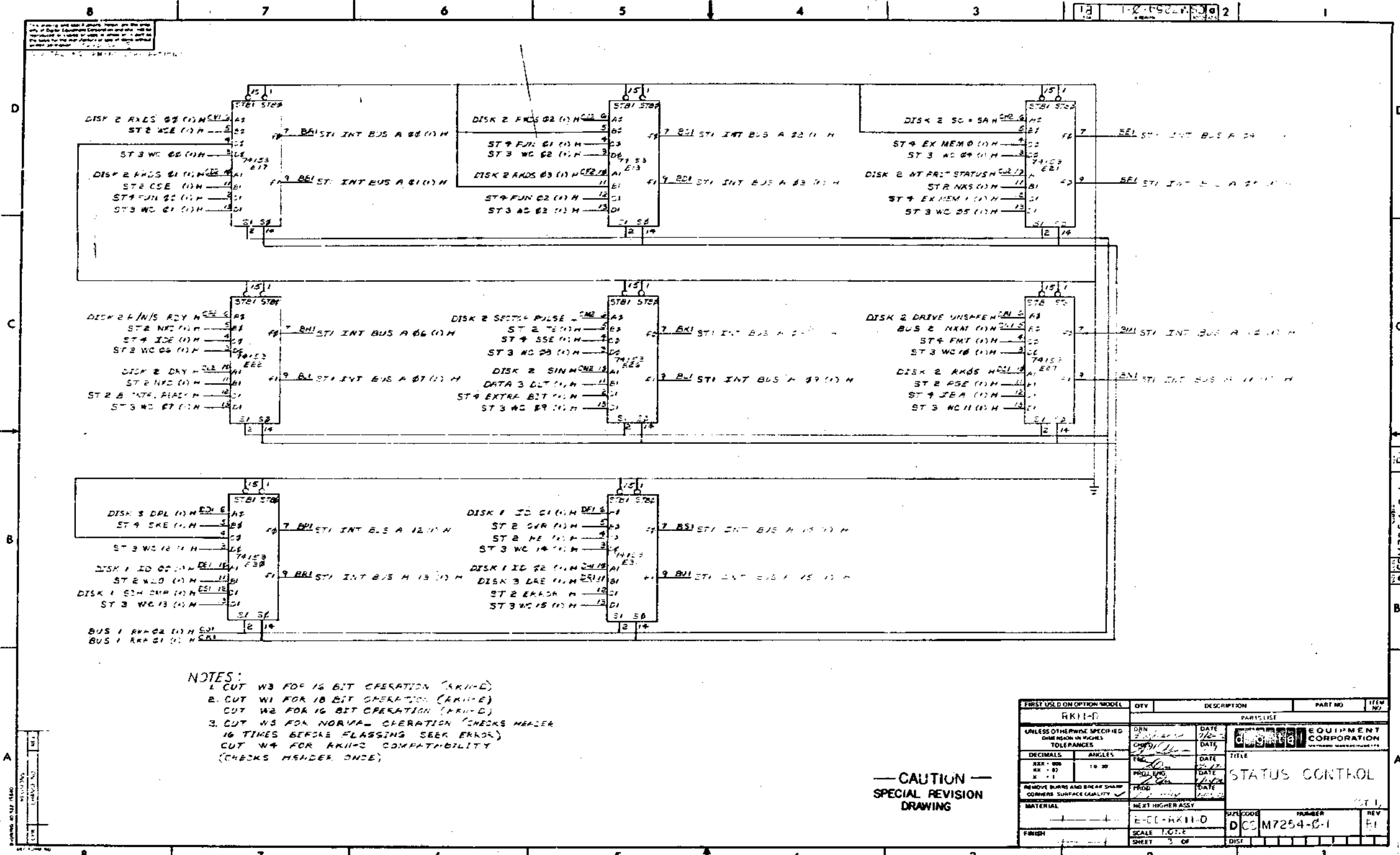


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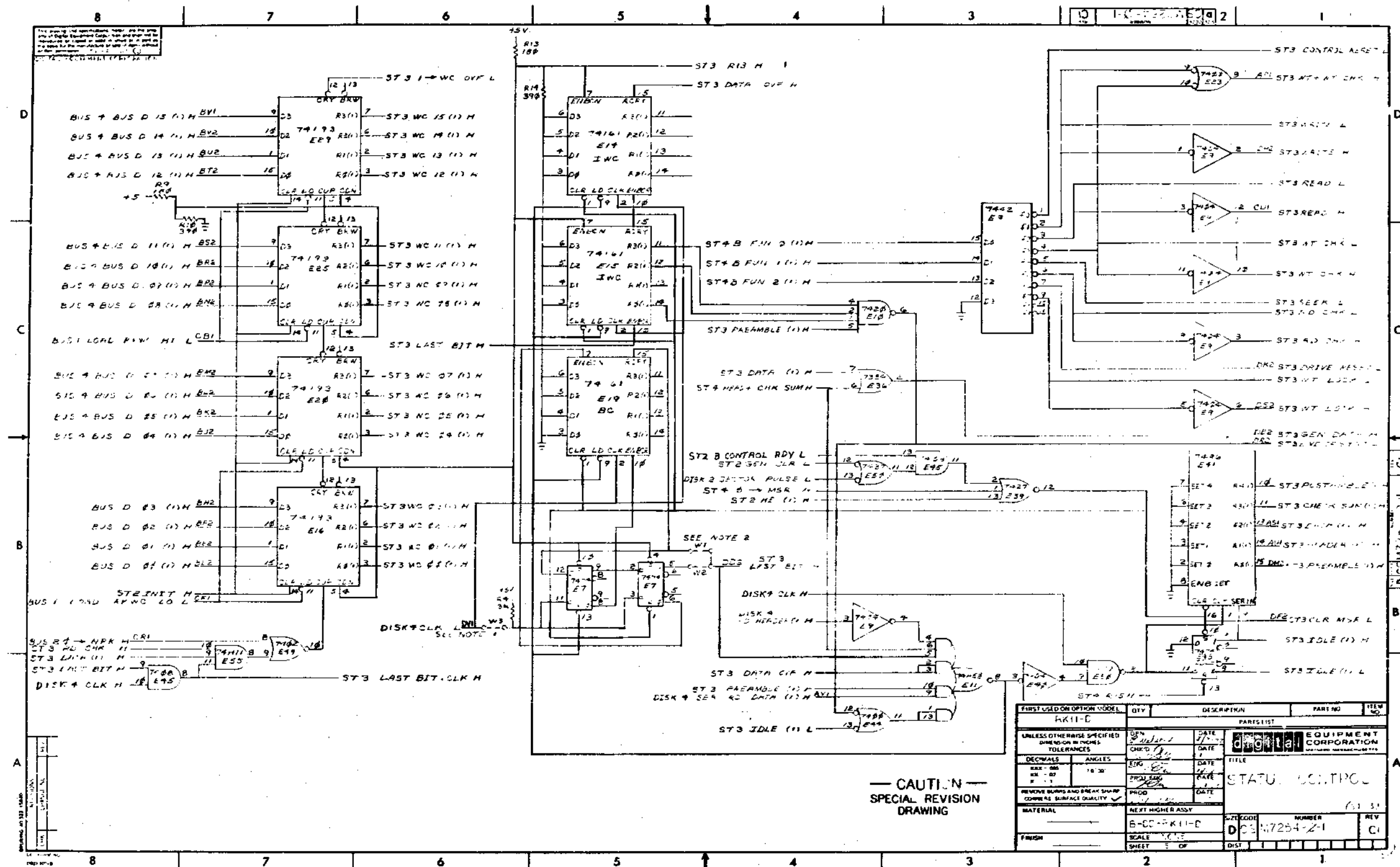


NOTES:
 1. CUT W3 FOR 16 BIT OPERATION (AKH-D)
 2. CUT W1 FOR 18 BIT OPERATION (AKH-E)
 CUT W2 FOR 16 BIT OPERATION (AKH-D)
 3. CUT W3 FOR NORMAL OPERATION (CHECKS HEADER
 16 TIMES BEFORE FLASSING SEEK ERRORS)
 CUT W4 FOR AKH-C COMPATIBILITY
 (CHECKS HEADER ONCE)

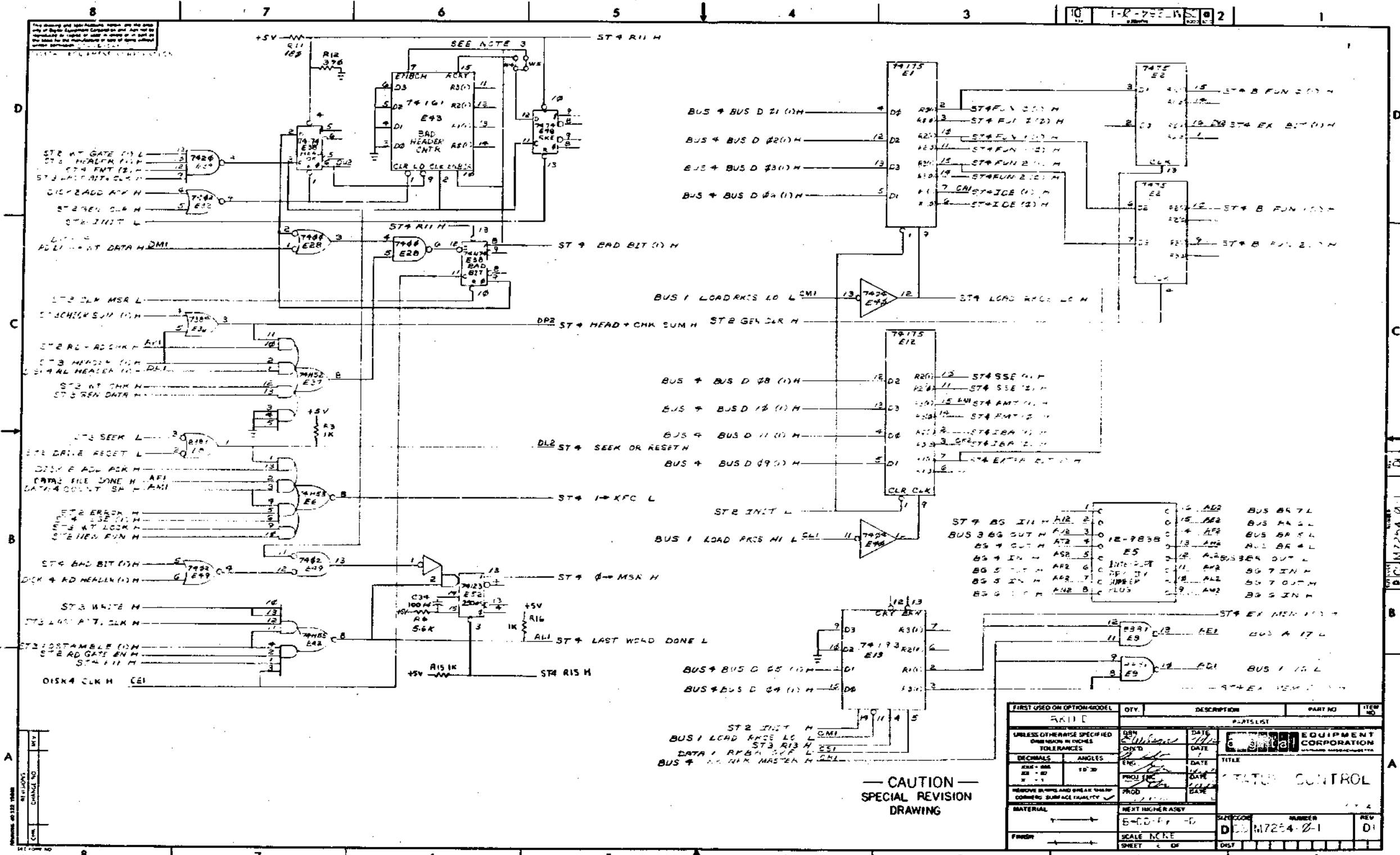
— CAUTION —
 SPECIAL REVISION
 DRAWING

FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
AKH-D				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN 3/2/68	DATE 1/2/68	EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE	TITLE	
10 00	10 30	DATE	STATUS CONTROL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROG 1/2/68	DATE		
MATERIAL	NEET HIGHER ASSY	DATE		
FINISH	E-CC-AKH-D	SCALE	1:1	REV
		SHEET	3 OF	

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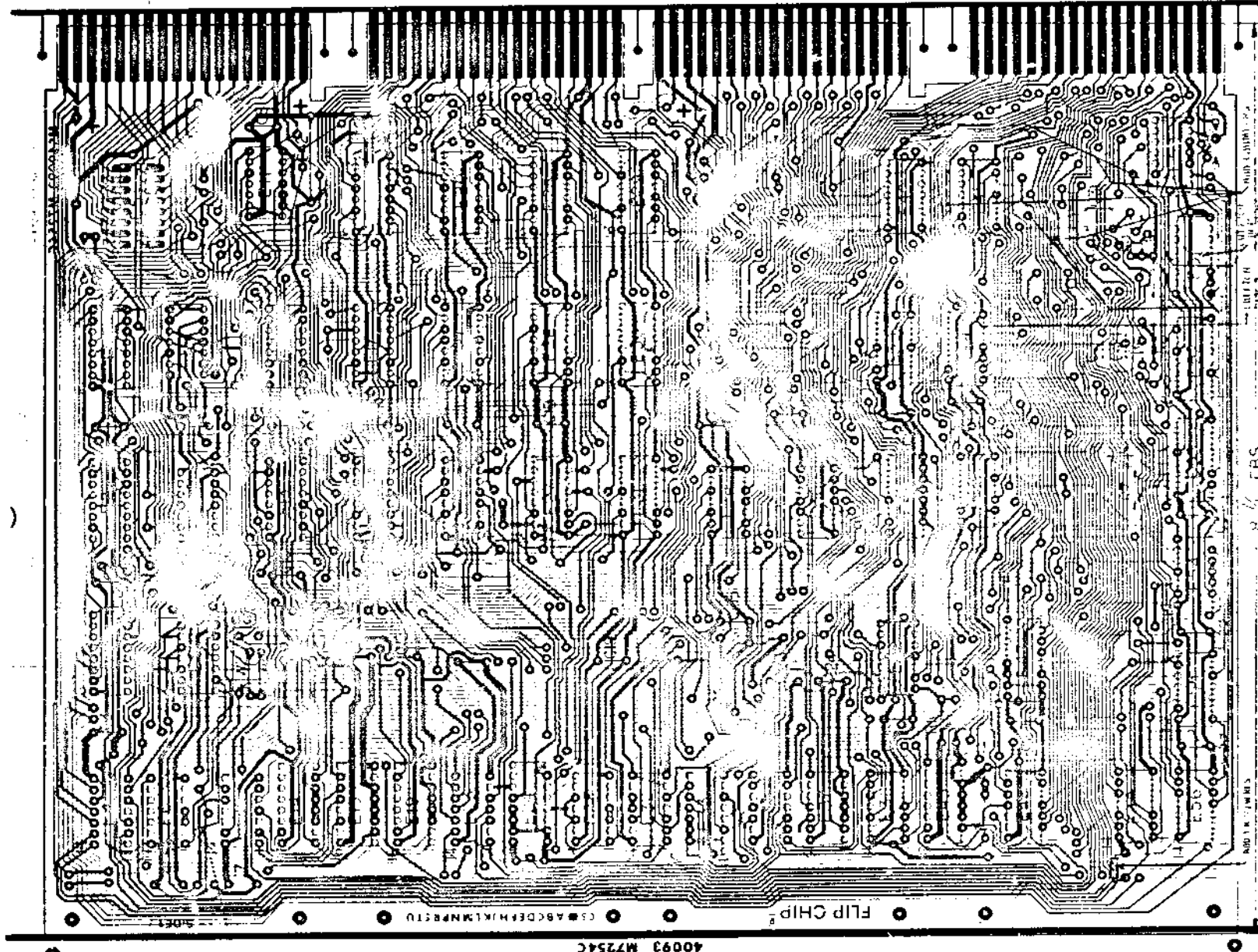


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M7254-0000-1
NOT TO BE USED FOR PRODUCTION

CAUTION
SPECIAL REVISION
DRAWING



BOARD FABRICATION INFORMATION

BOARD SIZE 3.500 X 11.750 PLATED THRU EYELET SIDED
 BOARD MATERIAL 2 SIDE NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE	NO DRILL (0.465 DIA)	X			
	#2 DRILL (0.33)	N			16

DATE	1/17/74	BY	JAM
DESIGNED BY	JAM	CHECKED BY	JAM
DRAWN BY	JAM	DATE	1/17/74
SCALE	1:1	DIST	DI
digital EQUIPMENT CORPORATION ASSY DRILLING HOLE LAYOUT			

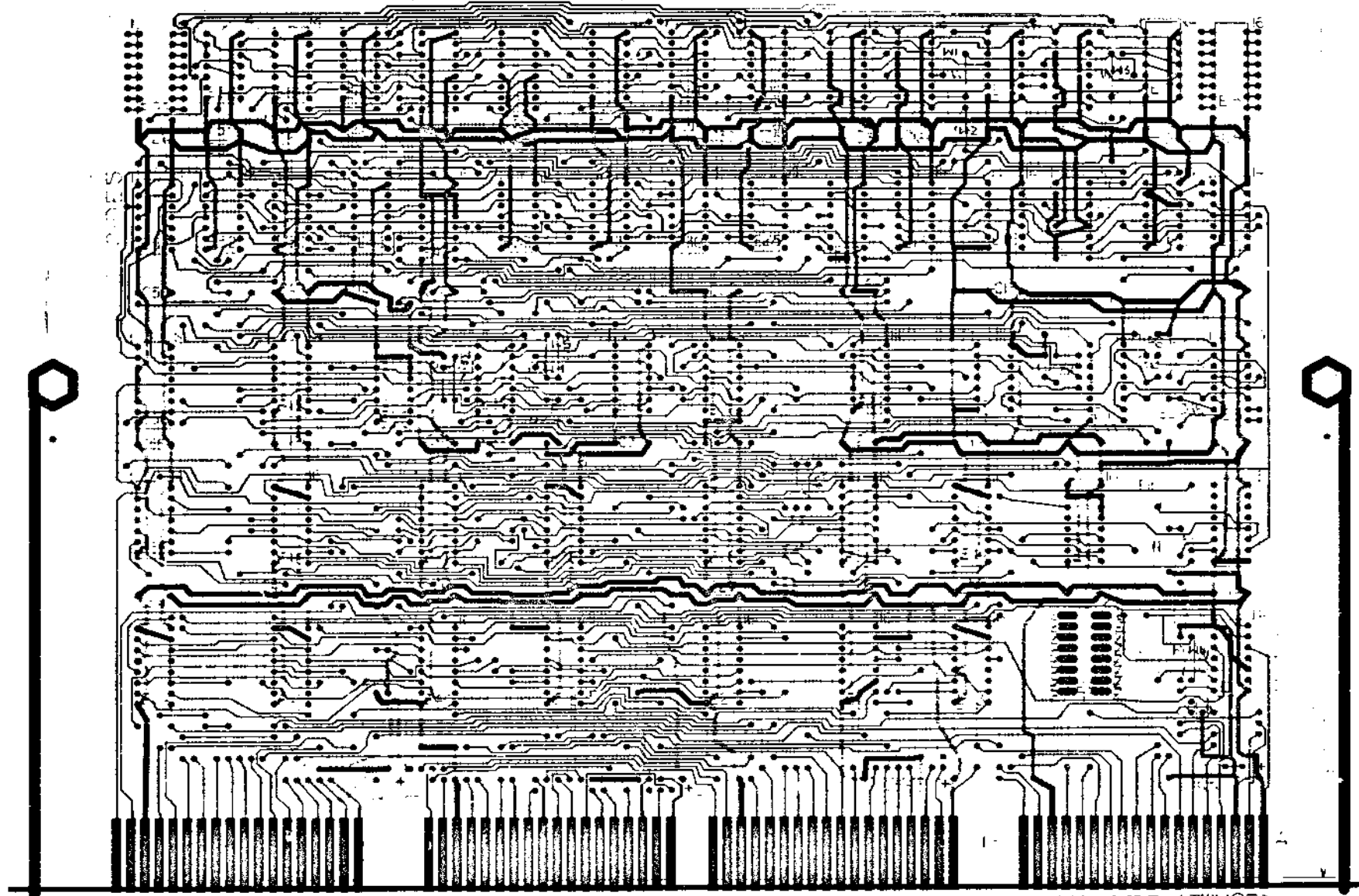
REVISIONS	A	B	C	D	E	F	H	J	K
DESIGNER	TRAD								
DRAFTSMAN	TRAD								
CHECKER	TRAD								

TITLE RKII-D STATUS CONTROL PROD. NO. M7254
 CHARGE NO. E11-66734 DATE 5-11-72 C.S. REV DI
 ETCH REV C
 ENGINEER JCM ORR EXTENSION 2791 MS NO. 40093

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7254-00004

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NOTES:

DRILLING DATA			
HOLE	DRILL SIZES	CAN TAKE	QTY
LETTER FOR PTH BOARDS	BEFORE/ AFTER PLATE/ PLATE	GRIPLETS FOR NON-PTH BOARDS	OF HOLES
		YES NO	
NONE			

BOARD FABRICATION INFORMATION

BOARD SIZE _____

BOARD MATERIAL _____

EYELET PLAT'D THRU

SIDED MULTI-LAYER

NOTCH BEFORE GOLD PLATING

NOTCH AFTER GOLD PLATING

DATE	2	DIGITAL EQUIPMENT CORPORATION
DATE		
DATE		
DATE		
TITLE	1/25 - NETWORK	
SCALE	DAH	F
REV	1	MS 4003

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M1254-00004

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		ECO NO. M7254-ans 5 SHEET OF 3 DATE RECEIVED 8/27/74 PRINT ISSUE 1/6/74 FINAL ISSUE 1/6/74 UNIT TO BE CHANGED MT254 Control	
ORIGINATOR DICK LEWIS (1-3) TEL EXT 1620 DATE 8/10/74 DMC PROJ NO. E-20-06734 COST CENTER NO. 395		PROBLEM When SD GATE first asserts it is possible for the first CLK pulse to be wide enough to clear IDLE but too narrow to set PREAMBLE, leaving the control in an underfired state until the next SECTOR PULSE clears SD GATE and sets IDLE, requiring a full disk revolution to try again. Since no errors result, only time dependent code will suffer the occasional loss of one revolution (H, M)	
CORRECTION Change the status control to clear the IDLE flip-flop with PREAMBLE (1) H.		BREAKING EFFECTIVITY Rework all units to be shipped from Puerto Rico, Ireland, Westcott, and Westchester after 7/1/74 Rework may field machines having difficulty punching time dependent code.	
DISPOSITION CODES 00 - RETURN TO STOCK 01 - USE EXISTING STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 02 - REWORK IMMEDIATELY (REPROFIT) 03 - REWORK (REWORK) 04 - DISCONTINUED 05 - DOCUMENT CO-RECTION 06 - NEW ITEM (THIS ASSEMBLY) 07 - NEW ITEM (THIS ASSEMBLY) 08 - SCRAP IMMEDIATELY		DESCRIPTION OF CHANGE 1 D-05-M7254-0-1 Sheet 1 D1 D2 06 Update revisions per this ECO. Sheet 2 F H 06 Update revisions per this ECO. Sheet 3 C1 C2 06 Change clk input of IDLE /f/c Sheet 5 D E 06 Change clk input of PREAMBLE(1)H (E0611) from E9008 to PREAMBLE(1)H (E0611) from E2208 to PREAMBLE(1)H 2 B-ME-M7254-0-6 D E 06 Update per this ECO. 3 D-AB-M7254-0-5 D1 D2 06 Update per rework instructions this ECO for etch rev. C boards. 4 D-AB-M7254-0-5 F H 06 Update per rework instructions this ECO for etch rev. X boards.	
DOCUMENT PART NO. 11 CENTRAL ENG. ECO COMMITTEE		APPROVAL SIGNATURES DESIGN ENGR Tom Ott 1-3 FIELD SERVICE (OPT) [Signature] CHIEF ENGR (MODULES ONLY) [Signature]	

DEC 14-1973 (107-487) SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY.

		ECO NO. M7254-ans 5 SHEET 3 OF 2	
CONTINUATION SHEET		DESCRIPTION OF CHANGE	
REMARK INSTRUCTIONS: Etch Rev E 1. Cut etch side one between E11 pin 1 and the feed through going to E06 pin 11 (the feed through is located beside E06 pin 11). 2. Add a wire from the feed through connected to E06 pin 11 to feed through connected to (and located beside) E11 pin 10.		REMARK INSTRUCTIONS: Etch Rev G 1. Cut etch side two between E46 pin 11 and the feed through going to E41 pin 1. 2. Add a wire from E46 pin 11 to E41 pin 15.	
NOTE: Etch revs C and E are the only revisions which exist.		ADD WIRE (To Gance)	

DIRA-1102

		ECO NO. M7254-ans 5 SHEET 3 OF 2	
FIELD INSTRUCTIONS: Rework all M7254's in RK11-D's and RK11-E's running time dependent code. On etch "C", CS D1 is reworked to D2; on etch "G" CS "H" is reworked to "H".		FIELD SERVICE IS AUTHORIZED TO PURCHASE UP TO 100 IN STOCK OF ITEMS LISTED ABOVE.	
ARE TO BE ORDERED UNDER A "FIELD SERVICE" ORDER.		STANDARD WARRANTY: THIS ECO IS TO BE INSTALLED AT NO CHARGE TO THE CUSTOMER. THE CUSTOMER IS RESPONSIBLE FOR THE PROTECTION OF THE EQUIPMENT FROM DAMAGE. THE CUSTOMER IS RESPONSIBLE FOR THE PROTECTION OF THE EQUIPMENT FROM DAMAGE.	
DOCUMENTATION \$ 5.00 PARTS \$ 1.00		FIELD SERVICE DISTRIBUTION TO ALL REG. FIELD OFFICES.	
FIELD SERVICE APPROVAL: Jim Baroley		PARTS RETURNED: None	
FIELD SERVICE APPROVAL: Jim Baroley		PARTS RETURNED: None	
FIELD SERVICE APPROVAL: Jim Baroley		PARTS RETURNED: None	

DEC 14-1973 (107-487)

PAGE REVISION CONTROL SHEET										
ST NO.	PAGE REVISIONS						REMARKS	FIRST USED ON OPTION/MODEL	REV.	H
	DATE	ENG.	ETCH	ECO	NO.	NO.				
1	12-11-72	C								
2	2-16-73	C								
3	6-5-73	E								
4	10-10-73	C								
5	10-10-73	E								
6	5-30-74	C								
7	5-30-74	E								
8										
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10										
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ETCH REV. "D" NOT TO BE USED.

ST1)
ST2)
ST3)
ST4)

FIRST USED ON OPTION/MODEL
RK11-D

digital EQUIPMENT CORPORATION
NATASHA, MASSACHUSETTS

DATE: [] [] [] [] [] []
DATE: [] [] [] [] [] []
DATE: [] [] [] [] [] []
DATE: [] [] [] [] [] []
DATE: [] [] [] [] [] []

ORIGINATOR: [] [] [] [] [] []
CHK'D: [] [] [] [] [] []
ENG. [] [] [] [] [] []
PROJ. ENG. [] [] [] [] [] []
PROD. [] [] [] [] [] []

TITLE: STATUS CONTROL
(RK11-D)

SIZE: B CS
CODE: M7254-0-1
NUMBER: H
REV. H

SCALE: [] [] [] [] [] []
SHEET 1 OF 6

NEXT HIGHER ASSY: B-00-RK11-D

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M 7254-00005

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PAGE REVISION CONTROL SHEET		REMARKS
1	01022	(ST 1) (ST 2) (ST 3) (ST 4) ETCH REV'D NOT TO BE USED
2	01011	
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200	01011	

FIRST USED ON OPTION/MODEL
RK11-D

digital EQUIPMENT CORPORATION
MALDEN, MASSACHUSETTS

TITLE
STATUS CONTROL
 (RK11-D)

SIZE: B CS
 NUMBER: M7254-0-1
 REV: D2

DRW. DATE: 10/11/73
 CHK'D. DATE: 10/11/73
 ENG. DATE: 10/11/73
 PROJ. ENG. DATE: 10/11/73
 TCM. CARR. DATE: 10/11/73
 PROD. CARR. DATE: 10/11/73
 TCM. CARR. DATE: 10/11/73
 NEXT HIGHER ASSY.

CAUTION
 SPECIAL REVISION
 DRAWING

B-DD-RK11-D
 SCALE: *CS*
 SHEET 1 OF 6

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M 7254-00005

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3 9-0-7522 W HW B
 174 1003 375

MODULE ECO HISTORY

PRODUCT LINE PDP 11 PAGE 1 OF 1 RELEASED CS REV. B
 DATE RELEASED 9-25-72 RELEASED ETCH BD REV. C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-17-72	C	C	✓			✓			USE FILE DONE INSTEAD OF WORD COUNT OVER FLOW.	1	0
00002	R. LEWIS	1-29-73	D	C	✓			✓			INCREASE LENGTH OF NEW FUN + 0 → MSR ONE SHOTS. ACC. PULL-UP RES. T. LAST WORD DONE. STANDARDIZE CLK. PULSES.	3	2
00003	R. LEWIS	5-22-73	E	E		✓		✓			NEW ETCH LAYOUT.	0	0
00004	R. LEWIS	9-14-73	F	E		✓		✓			DOCUMENTATION UPDATE	0	0
00005	R. LEWIS	5-10-74	H	E		✓		✓			CLR IDLE F/F WITH PREAMBLE	0	0

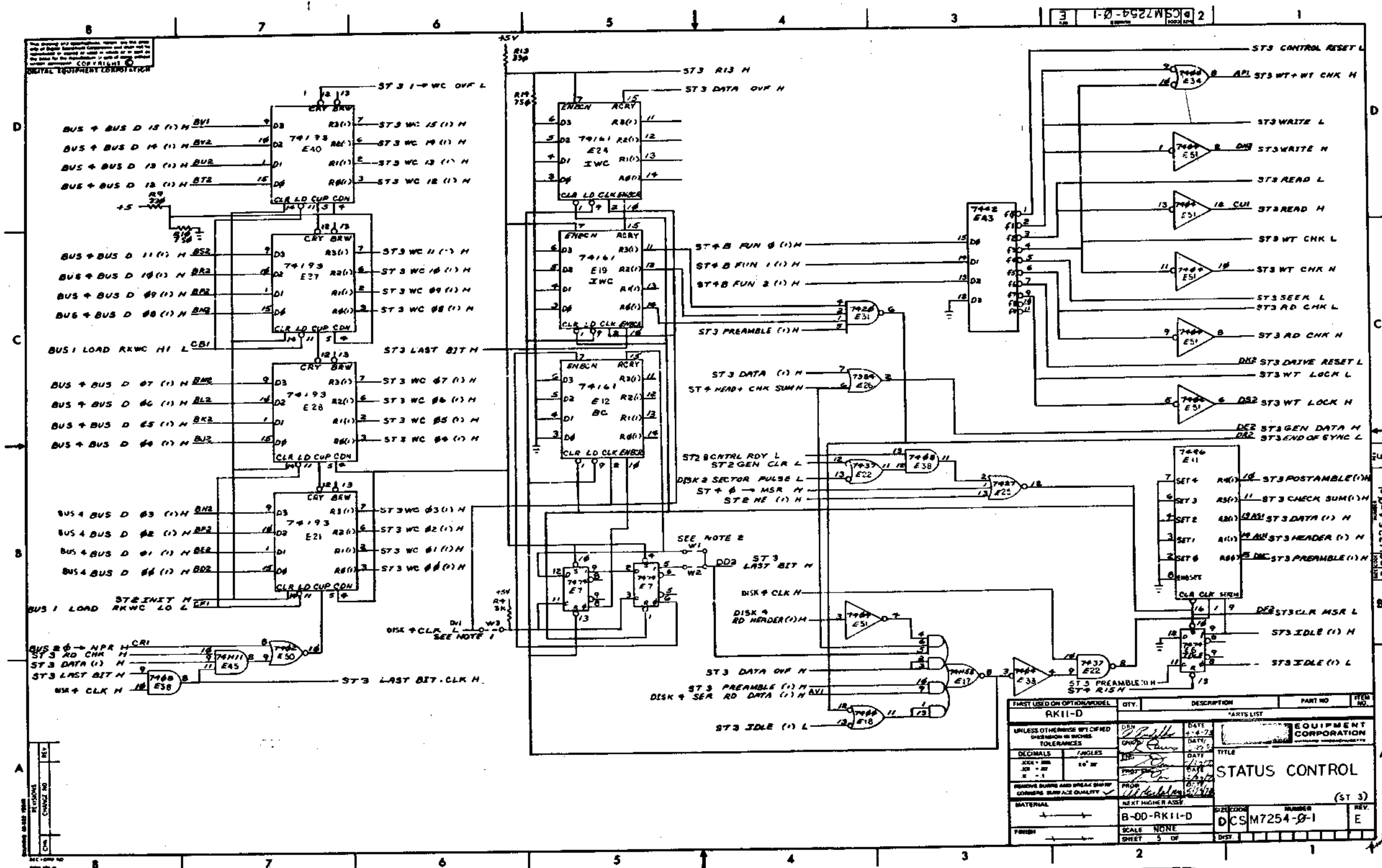
REV.	DATE	BY

DATE	10-3-72
DATE	10-3-72
DATE	11-1-72
DATE	11-1-72

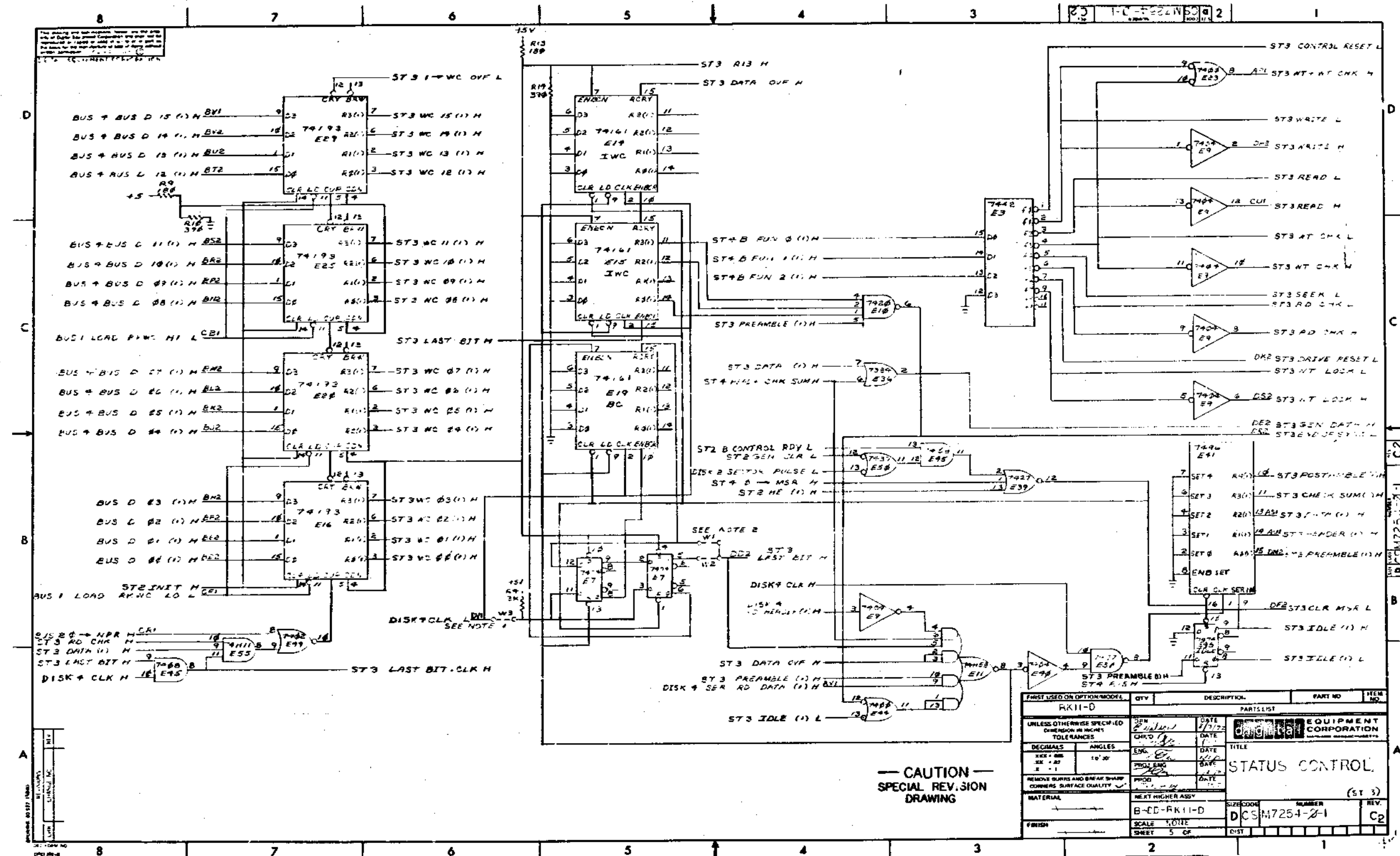
EQUIPMENT CORPORATION		NUMBER	REV
SIZE	CODE	M7254-0-6	E

DRB 104

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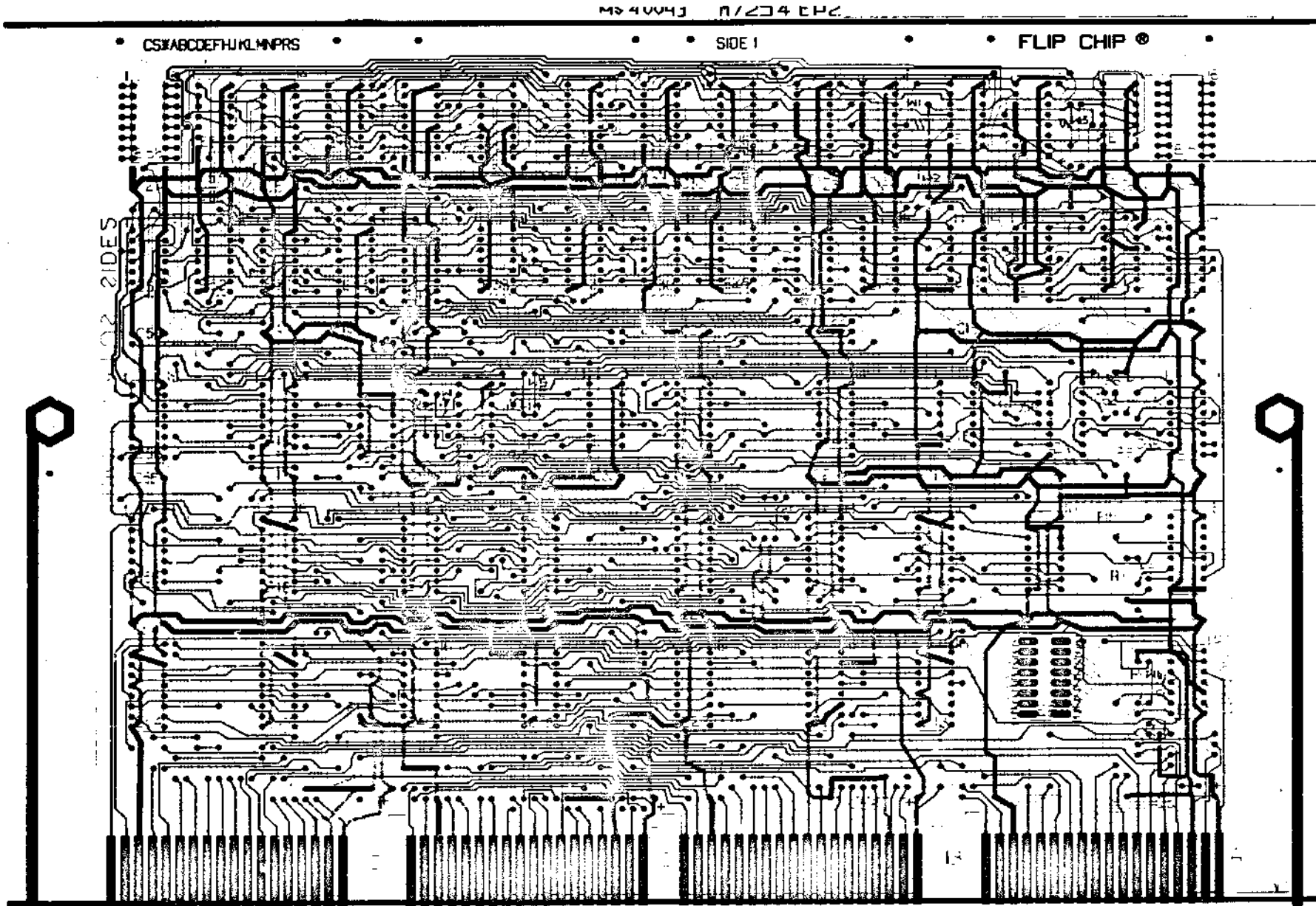


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FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	REV. NO.
RK11-D				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES	DATE 2/1/72	EQUIPMENT CORPORATION		
TOLERANCES	DATE	TITLE		
DECIMALS	1/16	STATUS CONTROL		
ANGLES	10' 30"	NEXT HIGHER ASSY		
XXX + .001		B-CD-RK11-D		
XXX - .001		SCALE 1:10		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		SHEET 5 OF		
MATERIAL		SIZE/COOR	NUMBER	REV.
		D CS M7254-2-1		C2

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NOTES:

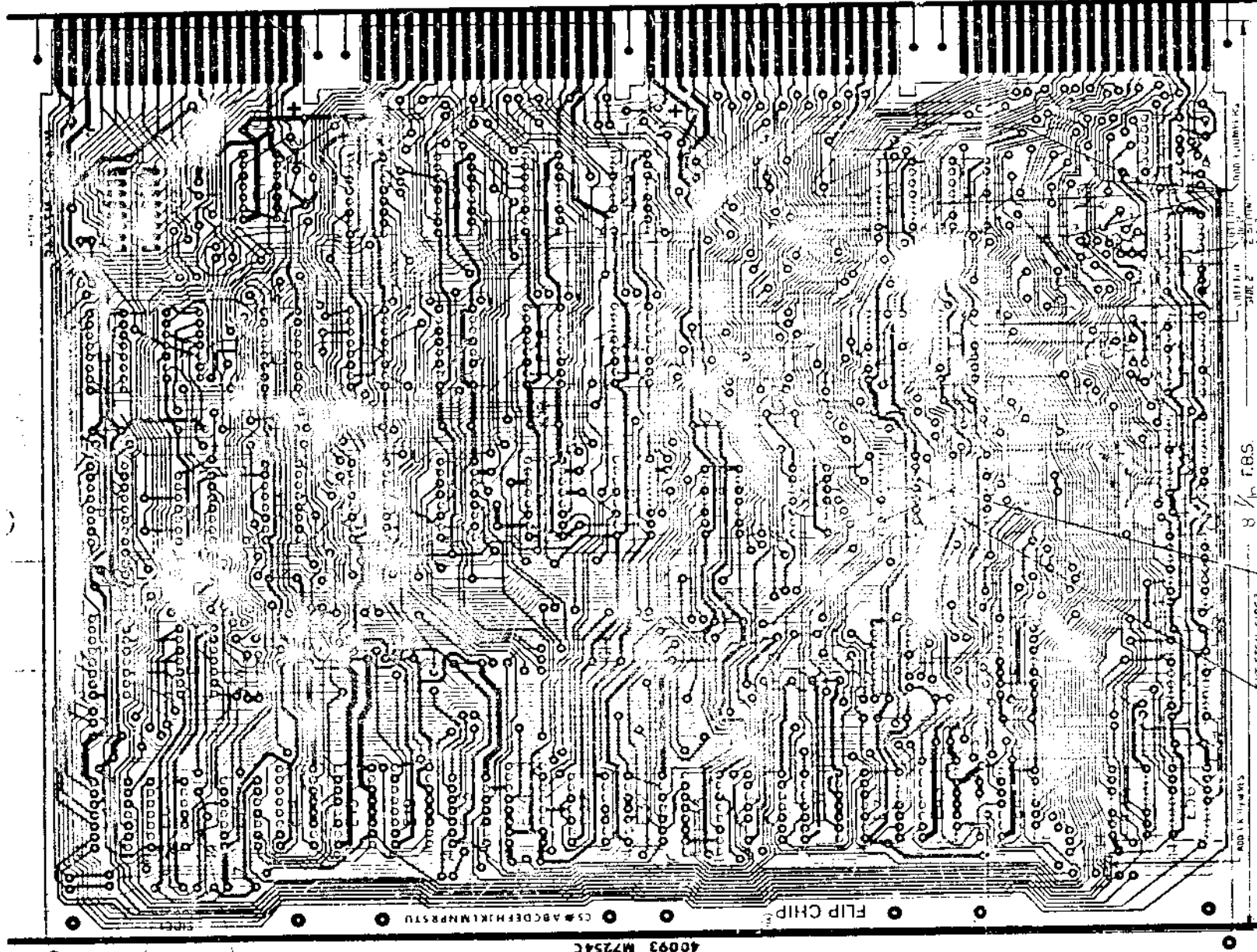
HOLE LETTER FOR PTH BOARDS	DRILLING DATA		CAN TAKE DRIFTS		QTY OF HOLES
	BEFORE PLATE	AFTER PLATE	YES	NO	
NONE	0.032	0.032			

BOARD FABRICATION INFORMATION

BOARD SIZE 5.000" X 11.750"
 BOARD MATERIAL 1/2" THICK
 2 SIDED PLATED THRU
 MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE			EQUIPMENT CORPORATION
CHKD BY			
DATE			
ENG			
DATE			
PRG. LINE		TITLE	
DATE		E-IAT CONTROL	
PROJ. NO.		DRW. CODE	D/AH
DATE		NUMBER	7254-00005
REVISED BY		PAGE	1
DATE		MS-93-83	

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BOARD FABRICATION INFORMATION
 BOARD SIZE 9.50 X 11.750 PLATED THRU EYELET SIDED
 BOARD MATERIAL 1/2 INK 10L CORNER NOTCH BEFORE GOLD PLATING
 2 SIDE NOTCH AFTER GOLD PLATING

DATE TRIAD	BY	CHKD	DATE	CHKD	DATE	CHKD	DATE
M7254				M7254-0-5			
SCALE 2/1				SHEET 1 OF 1			
DIGITAL EQUIPMENT CORPORATION				ASSY DRILLING HOLE LAYOUT			

HOLE LETTER	FOR PTH BOARDS		DRILL SIZES		FOR NON-PTH BOARDS		CAN TAKE GRIPLETS		QTY OF HOLES
	56 DRILL (.0465 DIA)	#2 DRILL (.0635)	BEFORE PLATE	AFTER PLATE	YES	NO	YES	NO	
NONE			X						16
Z			X						

REVISIONS	A	B	C	D	E	F	H	J	K	TITLE	RK11-D	STATUS	CONTROL	PROD. NO.	M7254
DESIGNER	TRIAID	WAT								CHARGE NO.	E11-06734	DATE	5-11-72	C.S. REV	D2
DRAFTSMAN	TRIAID	VALL								ENGINEER	TOM CRR	EXTENSION	2791	ETCH REV	C
CHECKER	TRIAID	VALL												MS NO.	40093

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		ORIGINATOR Dick Lewis (1-3) TEL EXT 4620 DATE 6/27/74 DSC PROJ NO. E-20-06734 COST CENTER NO. 395		ECO NO. <u>M7254-0004</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>7/11/74</u> FIRST ISSUE FINAL ISSUE <u>N/A</u>		
PROBLEM The M7254 is built with all jumpers installed. However, to be tested the module must be configured for the RK11-D which requires cutting out several of the jumpers.				UNIT TO BE CHANGED M7254 Status Control DESK CODE 02		
CORRECTION Correct documentation to allow boards to be built with only the necessary jumpers installed. (W1, W4, W6, W7)				OPTIONS AFFECTED RK11-D,E		
BREAKDOWN/EFFECTIVITY Phase-in to module build areas by 8/1/74. (Each rev E only affected)				PRODUCT LINES AFFECTED PDP 11 PDP 15		
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESK CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1	D-CS-M7254-0-1 Sheet 1 Sheet 2 Sheet 5 Sheet 6	I F	J H	06 06	Update revisions per this ECO correct parts list (Item #48) to call out 4 jumpers (W1, W4, W6, W7). On overlay show jumpers W2, W3, and W5 as broken lines.	<input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC
2	D-AH-M7254-0-5	H	J	06	Show jumpers W2, W3, W5, as broken lines.	<input type="checkbox"/> FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Temp <input type="checkbox"/> Product Line Change
3	B-MH-M7254-0-6	E	F	06	Update per this ECO	TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE <input type="checkbox"/> ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4	2009185	-	-	00	Delete three jumpers	
11 CENTRAL ENG. ECO COMMITTEE				JUL 28 1974		
DISPOSITION CODES 00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (GRADE IN) 03 - STOCK IMMEDIATELY SET ASIDE 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY				APPROVAL SIGNATURES DESIGN ENGR <u>Dick Lewis</u> ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)		

REV. F
NUMBER M7254-0-6
CODE MH

MODULE ECO HISTORY

PRODUCT LINE PDP 11 RELEASED CS REV B
 DATE RELEASED 9-25-72 PAGE 1 OF 1 RELEASED ETCH BD REV C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-17-72	C	C	✓			✓			USE FILE DONE INSTEAD OF WORD COUNT OVER FLOW.	1	0
00002	R. LEWIS	1-29-73	D	C	✓			✓			INCREASE LENGTH OF NEW FUN + 0 → MSR ONE SHOTS. ADD PULL-UP RES. TO LAST WORD DONE. STANDARDIZE CLK. PULSES.	3	2
00003	R. LEWIS	5-22-73	E	E		✓		✓			NEW ETCH LAYOUT.	0	0
00004	R. LEWIS	9-14-73	F	E		✓		✓			DOCUMENTATION UPDATE	0	0
00005	R. LEWIS	5-10-74	H	E		✓		✓			CLR IDLE P/F WITH PREAMBLE	0	0
00006	R. LEWIS	6-28-74	J	E		✓		✓			DELETE OPTIONAL JUMPERS	0	3

REV.	DATE

DRG. DATE 10-5-72
CHKD. DATE 10-9-72
APP. DATE
PROJ. DATE

EQUIPMENT CORPORATION	
SIZE B	CODE MH
NUMBER M7254-0-6	REV. F

DEC 14 1972 104-ND7
DRB 104

THIS DRAWING IS PART OF ECO. PACKAGE # M7254-00006 NOT TO BE USED FOR PRODUCTION

PAGE REVISION CONTROL SHEET						
PAGE REVISIONS	REMARKS				FIRST USED ON OPTION/MODEL RK11-D	
SH NO.						
1						
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(ST1)
(ST2)
(ST3)
(ST4)
ETCH REV. 'D' NOT
TO BE USED.

digital <small>EQUIPMENT CORPORATION WALDEN, MASSACHUSETTS</small>	TITLE STATUS CONTROL (RK11-D)	
DATE: _____ CHK'D: _____ ENG: _____ PROD. ENG: _____ PROD. DATE: _____ NEXT HIGHER ASSY. B-00-RK11-D	SIZE CODE B CS	NUMBER M7254-4-1
SHEET 1 OF 6 <small>THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © DIGITAL EQUIPMENT CORPORATION</small>	REV. J	

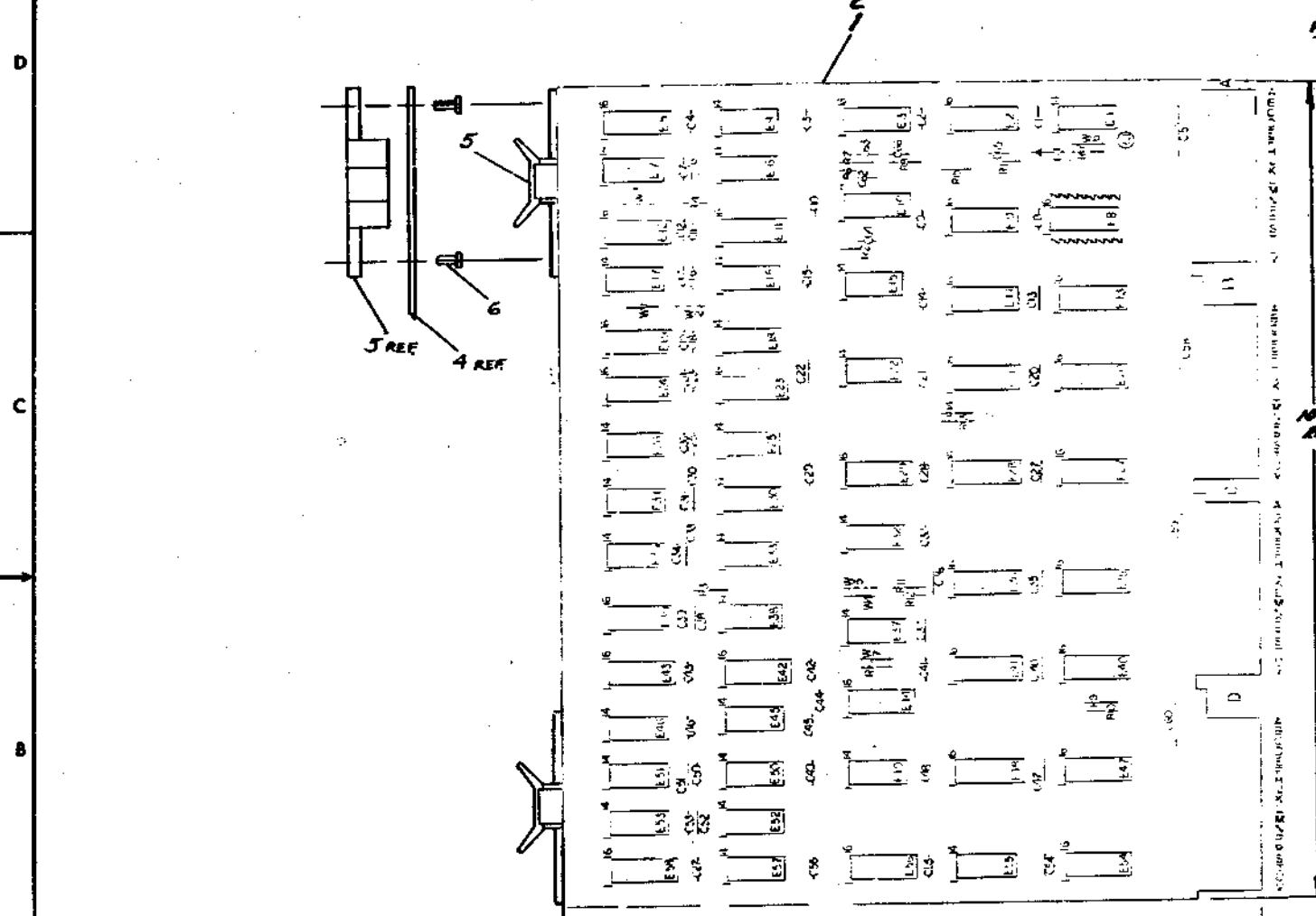
THIS DRAWING IS PART
OF E.O. PACKAGE #

M7254-00006

NOT TO BE USED
FOR PRODUCTION

NOTES:
 DIGITAL EQUIPMENT CORPORATION

* IF NECESSARY USE I.C. DEC 8875 P/N 810647
 ** I.C. DEC 384 P/N 1909486 OR 5384 P/N 1910394 MAY BE SUBSTITUTED FOR 7384 IN E26. E1 MUST BE A 7384



PIN NOMENCLATURE
 MODULE RKII-D

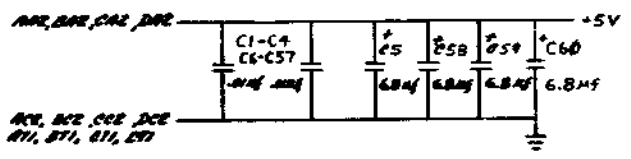
QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	E1	TRANSISTOR DEC 6534B	1503409-01	50
1	E8	I.C. SOCKET	1209838	49
4	W1, W4, W6, W7	INSULATED WAGER 1-2007-1	5009185	48
1	E39	I.C. DEC 7475	1909050	47
2	E23, E41	I.C. DEC 74175	1910651	46
1	E55	I.C. DEC 8815	1907113	45
1	E9	I.C. DEC 74N53	1909063	44
2	E17, E52	I.C. DEC 74N53	1909062	43
1	E38	I.C. DEC 7408	1910135	42
1	E45	I.C. DEC 74N11	1909267	41
5	E21, E27, E28, E29, E40	I.C. DEC 74133	1910018	40
4	E12, E19, E24, E56	I.C. DEC 74161	1910650	39
1	E57	I.C. DEC 74N70	1909667	38
3	E1, E7, E37	I.C. DEC 7474	1905597	37
1	E53	I.C. DEC 74N52	1909061	35
2	E15, E22	I.C. DEC 7437	1910091	34
2	E1, E26	I.C. DEC 7384	1910333	33
1	E30	I.C. DEC 8881	1909705	32
3	E2, E3, E10	I.C. DEC 74123	1910336	31
2	E7, E12, E44	I.C. DEC 4015	1910087	30
2	E31, E32	I.C. DEC 7420	1905577	29
1	E16	I.C. DEC 7410	1905576	28
3	E18, E34, E49	I.C. DEC 7400	1905525	27
2	E46, E50	I.C. DEC 7402	1909004	26
2	E13, E14, E15, E16, E17, E18, E19, E20, E21, E22, E23, E24, E25, E26, E27, E28, E29, E30, E31, E32, E33, E34, E35, E36, E37, E38, E39, E40, E41, E42, E43, E44, E45, E46, E47, E48, E49, E50, E51, E52, E53, E54, E55, E56, E57	I.C. DEC 74153	1909937	25
1	E11	I.C. DEC 7436	1910363	24
1	E25	I.C. DEC 7427	1910878	23
2	E51, E53	I.C. DEC 7409	1905686	22
1	E43	I.C. DEC 7402	1910096	21
3	R10, R2, R4	RES. 750 Ω 1/4 W 5%	1301401	20
2	R3, R11, R13	RES. 330 Ω 1/4 W 5%	1302245	19
3	R9, R15, R16	RES. 1 K 1/4 W 5%	1300365	18
1	R1	RES. 47K 1/4 W 5%	1302177	17
1	R4	RES. 3K 1/4 W 5%	1300932	16
4	R2, R6, R7, R8	RES. 10 K 1/4 W 5%	1300879	15
1	R17	RES. 470 Ω 1/4 W 5%	1300316	14
1	D1	DIODE IN748A 3.9V	1000122	13
2	C22, C63	CAP. 47PF 100V 5% D.M.	1000011	12
1	C65	CAP. 330 N 100V 5% D.M.	1001631	11
1	C64	CAP. 30PF 100V 5% D.M.	1000012	10
1	C66	CAP. 120N 100V 5% D.M.	1000019	9
2	C1-C4, C6-C57	CAP. 0.1UF 100V 50% AXIAL	1001610	8
4	C5, C58, C59, C60	CAP. 6.3UF 35V, 10% TANT	1005906	7
1		SOLET (S-4-7) STANDARD	9006232	6
1		HANDLE (FLAM-PRO) MAGENTA	9008327-06	5
1		ETCHED CIRCUIT BOARD	5009585	4
1		MANUAL 800 INSTRUCTIONS	8-00-11220-06	3
1		REWORKING MILE CIRCUIT	8-00-11220-05	2
1		XY COORDINATE PAIR LOCATION	8-00-11220-04	1

I.C. DEC	QTY	LOC
I.C. DEC 74175	8	16
I.C. DEC 74161	8	16
I.C. DEC 7384	1	8
I.C. DEC 4015	8	16
I.C. DEC 7496	12	5
I.C. DEC 74175	8	16
I.C. DEC 74185	8	16
I.C. DEC 74123	8	16
I.C. DEC 7415	12	5
I.C. DEC 7442	8	16

IC TYPE GND +5V

QTY AND BY ARE USUALLY P/N 3 AND 14 RESPECTIVELY EXCEPT AS STATED ABOVE

IC PIN LOCATIONS



FIRST USED OR OPTION MODEL: RKII-D

ETCH BOARD REV: E

DATE: 12-72

TITLE: STATUS CONTROL RKII-D

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

DATE: 12-72

SCALE: 1:1

SHEET: 2 OF 2

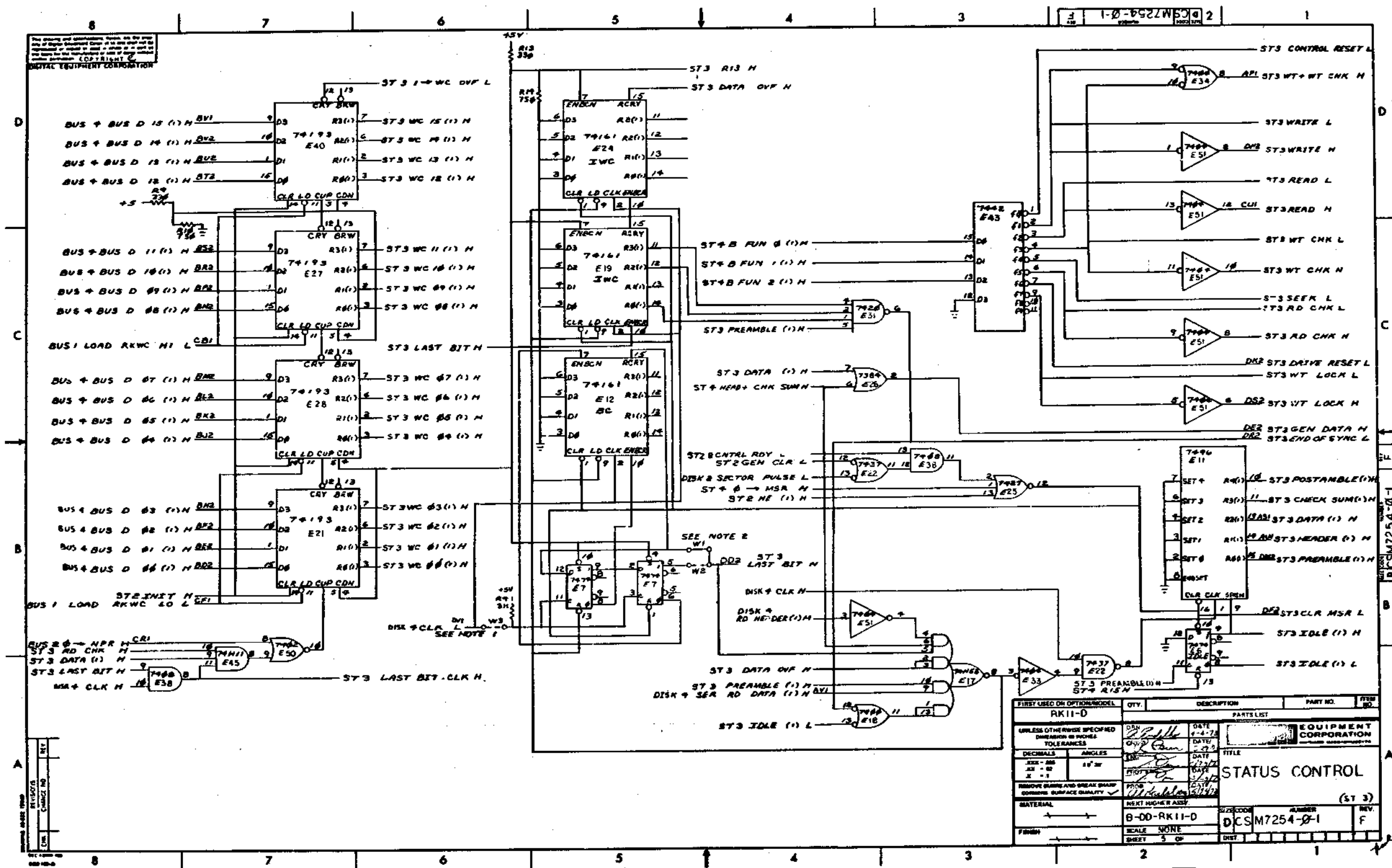
SEMICONDUCTOR CONVERSION CHART

DEC. NO.	EIA NO.	DEC. NO.	EIA NO.
DEC 6534B	NONE	IN748A	IN748A

EQUIPMENT CORPORATION

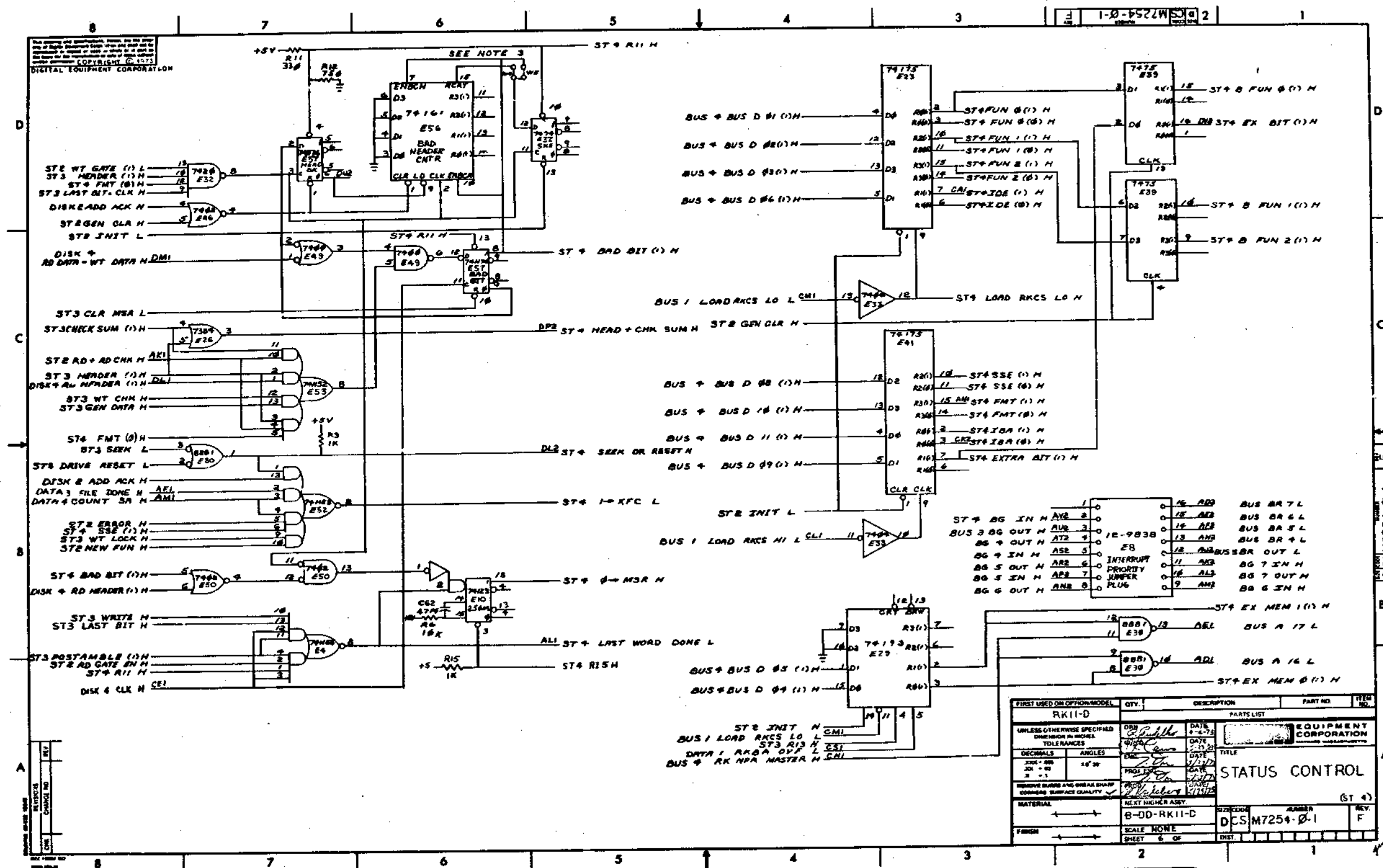
DCS M7254-0-1

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FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
AK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	EQUIPMENT CORPORATION	
±.0005	±.0005	4-4-72	TITLE	
±.001	±.001	DATE	STATUS CONTROL	
±.002	±.002	DATE	(ST 3)	
±.005	±.005	DATE	REV.	
REMOVE BURRS AND BREAK SHARP CORNER SURFACE QUALITY	PROG.	DATE	F	
MATERIAL	NEXT HIGHER ASSY	DATE	REV.	
FINISH	B-DD-RK11-D	DATE	REV.	
	SCALE NONE	DATE	REV.	
	SHEET 5 OF	DATE	REV.	

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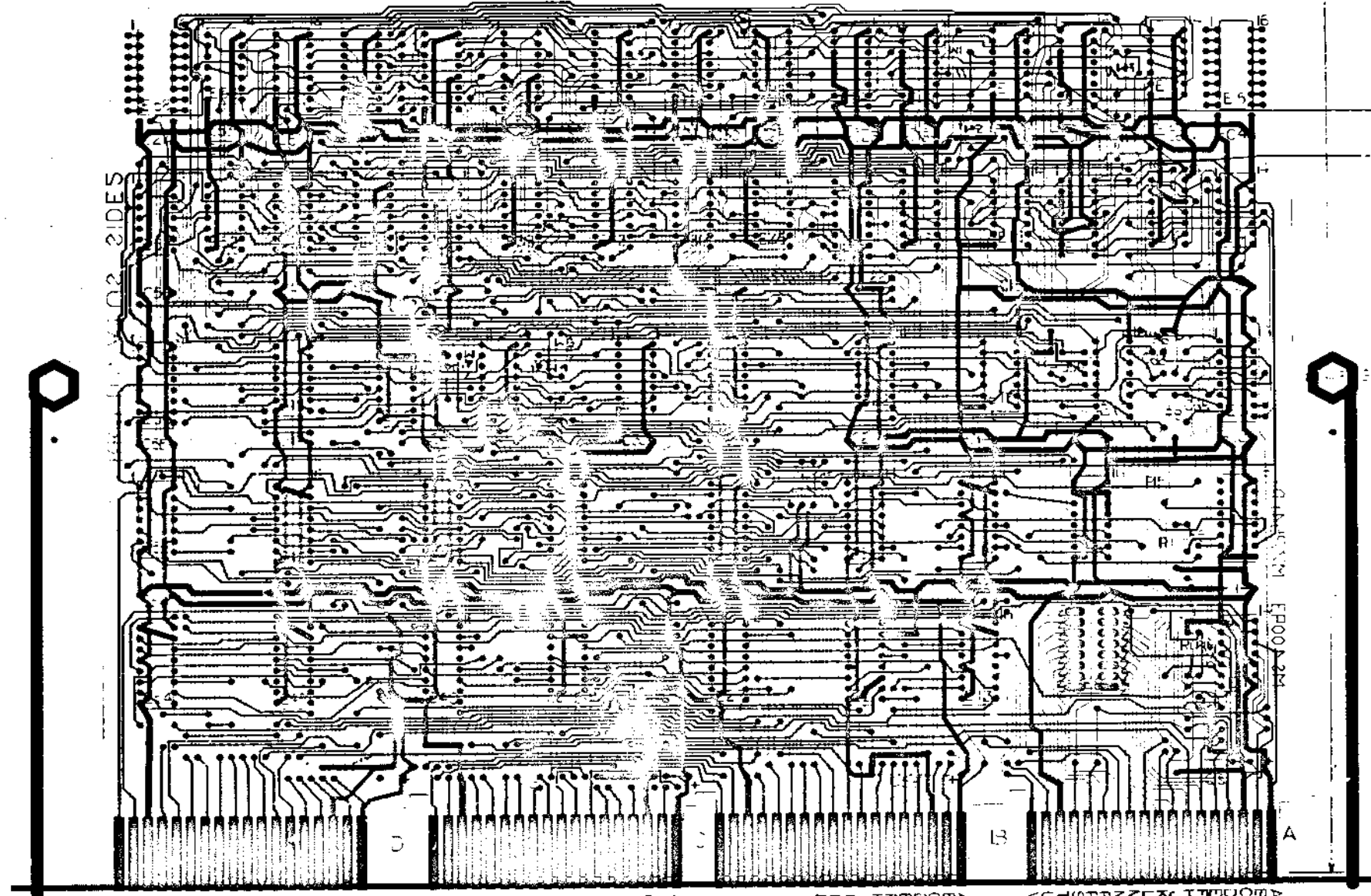
FIRST USED OR OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS		ANGLES		
±.005		16° 30'		
±.010				
±.015				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL		NEXT NUMBER ASSEMBLY		
		B-DD-RK11-D		
FINISH		SCALE NONE		
		SHEET 6 OF		
TITLE			SIZE CODE	NUMBER
STATUS CONTROL (ST 4)			D	M7254-0-1
EQUIPMENT CORPORATION			REV	F

MS 40093 1/234 EPC

CSXABCDEFGHIJKLMNPRS

SIDE 1

FLIP CHIP



NOTES:


HOLE LETTER	DRILLING DATA		CAN TAKE DRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE/AFTER PLATE	YES	NO	
NONE	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100	X Z		X	1

BOARD FABRICATION INFORMATION

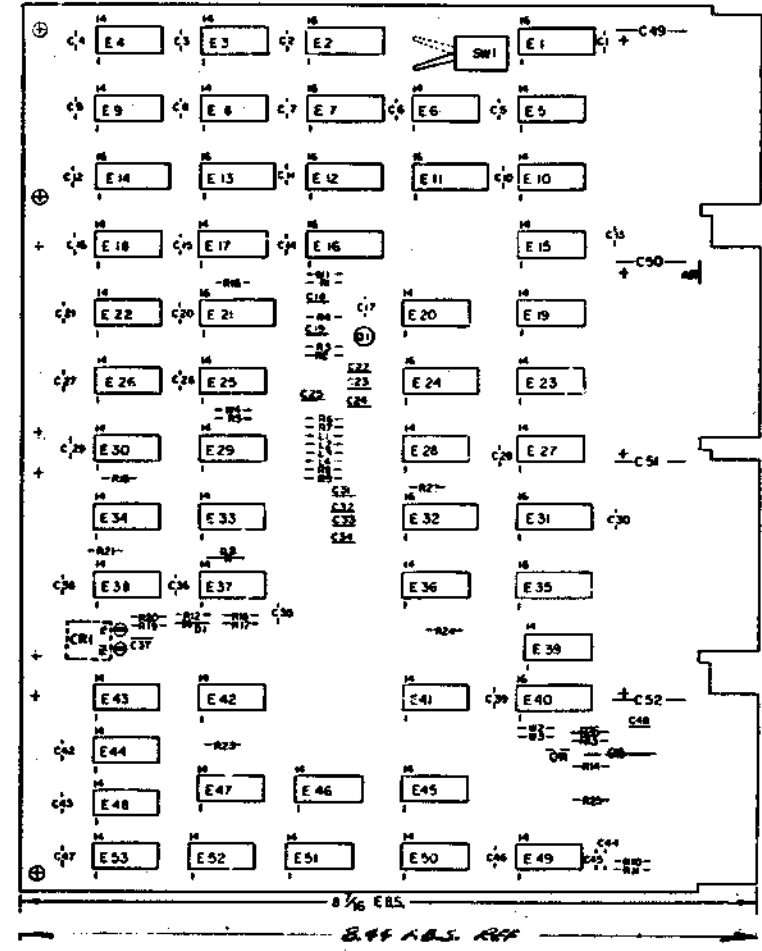
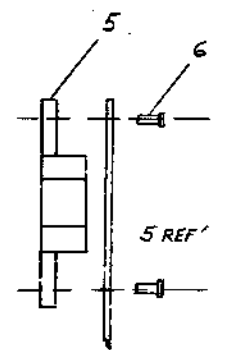
BOARD SIZE 8.252 x 11.750
 MID-50943
 BOARD MATERIAL 1/2 THK
 10Z. COPPER 2 SIDLS
 EYELET PLATED THRU
 2 SIDED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE	DATE	EQUIPMENT CORPORATION
DATE	DATE	
TITLE		STATUS CONTROL
DWH 17254-5		
SCALE		MS 40093
ETCHED BY		
E-P2		

THIS DRAWING IS PART OF E.G.O. PACKAGE # *M7254-00006* **NOT TO BE USED FOR PRODUCTION**

		ORIGINATOR Dick Lewis 1-2 TEL EXT 2814 DATE 10/9/72 INC PROJ NO. 5606807 COST CENTER NO. 387		ECO NO. <u>M7255-0001</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>10-13-72</u> FIRST ISSUE <u>10-13-72</u> FINAL ISSUE <u>11-21-72</u>	
PROBLEM 1. Errors in etch runs as shown below. 2. Producibility check requests use of .040 tape instead of .031 where possible and move R19 further from adjacent split-lug.				UNIT TO BE CHANGED M7255 etch rev C REV CODE #3 OPTIONS AFFECTED RKL-D	
CORRECTION Update M7255 artwork.				PRODUCT LINES AFFECTED PDP-11	
IMPACT ON EFFECTIVITY Immediately rework all M7255 rev C boards. Item 3 only.					
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1	D-CS-M7255-0-1	B	C #6	Update revision of SW 1 & 2 only	<input checked="" type="checkbox"/> MODEL
2	B-MEL-M7255-0-6	B	C #6	See final release drawing..	<input type="checkbox"/> DIAGNOSTIC
3	M7255 500 7986 (Rework instructions)	C	D #3	Make following changes to etch runs (1) delete DW2 → E4813 delete E511# → E341# delete E43#3 → E26#5 (2) add DW2 → E26#5 add E46#3 → E341# add E511# → E4813 add E17#1 → E1712	<input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PEG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Change <input type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4	D-AH-M7255-0-5	B	C #6	(1) Use .040 tape instead of .031 tape wherever possible (2) Move R19 further from split-lug. (3) Make corrections listed in item 3 above.	
DISPOSITION CODES 00 - RETURN TO STOCK 01 - OBSOLETE 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PAPER ONLY) 03 - REWORK INHOUSE / TELY (ASTROPHIS) 04 - OBSOLETE 05 - OBSOLETE 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS COMPANY) 08 - NEW ITEM (THIS COMPANY) 09 - REWAP IMMEDIATELY				APPROVAL SIGNATURES DESIGN ENGINEER Tom Oke ENG MGR (OPT) <i>[Signature]</i> FIELD SERVICE (OPT) <i>[Signature]</i> CHIEF ENGR (MODULES ONLY) <i>[Signature]</i>	

NOTES:
DIGITAL EQUIPMENT CORPORATION

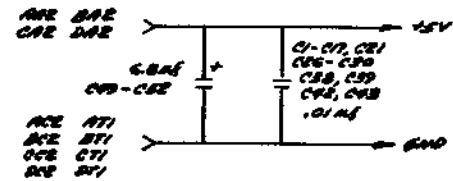


PIN NOMENCLATURE
MODULE RK11-D

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	E1B	I.C. DEC 8815	1909718	41
2	E2, E4	I.C. DEC 7492	1910096	40
1	E5D	I.C. DEC 7473	1905587	39
1	E3E	I.C. DEC 7419	1910652	38
1	E5B	I.C. DEC 7482	1905589	37
1	E4I	I.C. DEC 74NE1	1909058	36
1	E4B	I.C. DEC 74H30	1909060	35
1	E4E	I.C. DEC 74S0	1905580	34
1	E4F	I.C. DEC 9292	1909712	33
3	E1E, E2D, E2B	I.C. DEC 380	1909985	32
1	E17	I.C. DEC 7493	1909059	31
2	E1E, E1G	I.C. DEC 74157	1910655	30
1	E1A	I.C. DEC 74151	1909936	29
1	E7	I.C. DEC 74175	1910651	28
1	R2G	RES. 31.6K 1/8 W 1%	1309416	27
1	R1B	RES. 18.2K 1/8 W 1%	1309412	26
1	R1E	RES. 39K 1/8 W 10%	1300370	25
3	R1, E1L, E2F	RES. PAKK	131003-01	24
1	R1E	RES. 100R 1/8 W 5%	1300229	23
3	R2, E1D, R1I	RES. 390R 1/8 W 5%	1300309	22
8	R1F, R1G, R1J, R2E	RES. 1K 1/8 W 5%	1300365	21
2	R1J, R2D	RES. 470R 1/8 W 5%	1300376	20
1	R4	RES. 18K 1/8 W 5%	1300998	19
1	R5	RES. 3K 1/8 W 5%	1300932	18
4	R6-R9	RES. 910R 1/8 W 5%	1305374	17
4	R12, R18	RES. 10K 1/8 W 5%	1300979	16
1	R3	RES. 20K 1/8 W 5%	1302391	15
5	C1, C2, C3E, C3I, C3H	CAP. 39 PF 100V 5% DM	1000010	14
1	C1B	CAP. 15 PF 100V 5% DM	1000007	13
2	C2E, C2F	CAP. .097UF 50V 10% CAP	1009578	12
1	C3E	CAP. 330 PF 100V 5% DM	1000029	11
4	C2C, C2E, C2F, C2G	CAP. 270 PF 100V 5% DM	1000022	10
23	C1, C17, C2E, C2F, C2G, C2H, C2I, C2J, C2K, C2L, C2M, C2N, C2O, C2P, C2Q, C2R, C2S, C2T, C2U, C2V, C2W, C2X, C2Y, C2Z	CAP. .01UF 100V 20% DISC	1001610	9
4	C49-C52	CAP. 6.8UF 35V 10% TANT	1005306	8
1	C4I	CAP. 1000 PF 100V 5% DM	1000092	7
8		EXHLET (GS-#7)	9006732	6
4		HANDLE RUP-CHD A	900537-08	5
1		ETCHED CIRCUIT BOARD	5009986	4
1		PHOTODUPLICATION	8711-1238-6	3
1		ASSIGNING HOLE LOCATION	8711-1238-5	2
1		X-Y COORDINATE HOLE LOCATION	8711-1238-4	1

I.C. TYPE	GRID	LOC.
I.C. DEC 74151	B	16
I.C. DEC 74157	B	16
I.C. DEC 7493	D	5
I.C. DEC 380	F	8
I.C. DEC 7482	F	11
I.C. DEC 74179	B	15
I.C. DEC 7475	F	4
I.C. DEC 7492	B	16
I.C. DEC 74153	B	16

IC PIN LOCATIONS



REVISIONS

1	DATE	BY	REVISION
1	11/27/72

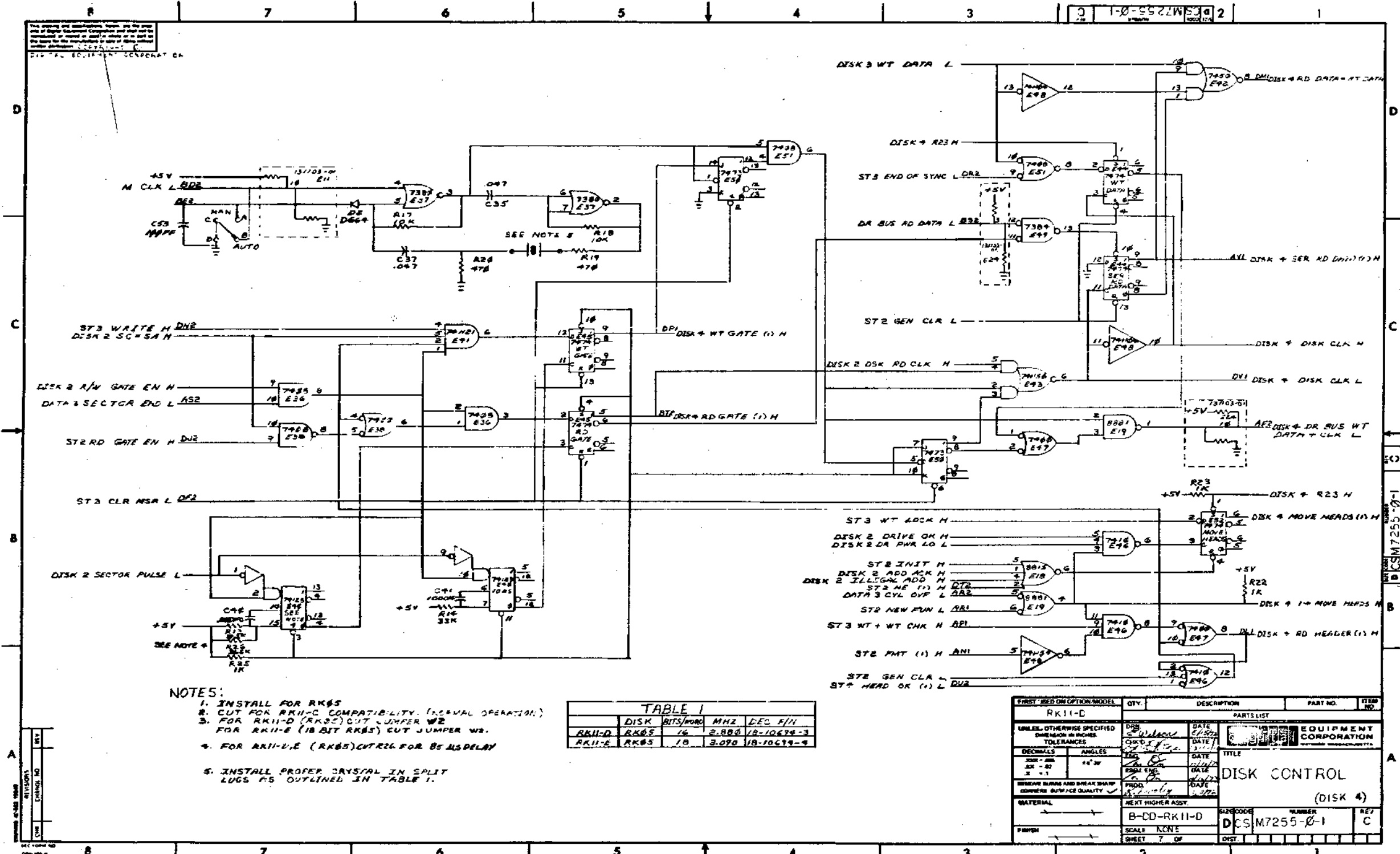
ETCH BOARD REV D

DISK CONTROL RK11-D

SEMICONDUCTOR CONVERSION CHART

EQUIPMENT CORPORATION

D ICS M7255-0-1



- NOTES:**
1. INSTALL FOR RK85
 2. CUT FOR RK11-C COMPATIBILITY. (NORMAL OPERATION)
 3. FOR RK11-D (RK85) CUT JUMPER W2 FOR RK11-E (18 BIT RK85) CUT JUMPER W3.
 4. FOR RK11-D/E (RK85) CUT W2 FOR 85 NS DELAY
 5. INSTALL PROPER CRYSTAL IN SPLIT LUGS F5 OUTLINED IN TABLE 1.

TABLE 1

DISK	BITS/WORD	MHZ	DEC F/H
RK11-D	RK85	16	2.880 18-10679-3
RK11-E	RK85	18	3.070 18-10679-4

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES				
TOLERANCES				
DECIMALS	ANGLES	DATE		
FRAMES		DATE		
DRILLING		DATE		
FINISH		DATE		
REVISIONS AND BREAK SHOWN CORRECT SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
B-DD-RK11-D				
SCALE K/ONE				
SHEET 7 OF				
TITLE				
DISK CONTROL (DISK 4)				
EQUIPMENT CORPORATION				
PART NO. DCSM7255-0-1				
REV. C				

digital ENGINEERING CHANGE ORDER 9115		ORIGINATOR TOR OYX 1-2 TEL EXT 2791 DATE 11/3/72 DISC FROM NO 20-06734 48060 COST CENTER NO 387	ECO NO. M7255-1A SHEET 1 OF 1 DATE RECEIVED 11-3-72 FIRST ISSUE 11-3-72 FINAL ISSUE			
PROBLEM Tolerance too loose on capacitor and resistor for one shot at EV0 EV0 .			UNIT TO BE CHANGED M7255 M7255 DISC CENTER DISC CODE 03			
CORRECTION Replace .01 cap., 47K res. and 30K res. with .015 cap., 18.2K res. and 31.6K res.			OPTIONS AFFECTED KN/D/E M7255			
BREAK-IN/EFFECTIVITY			PRODUCT LINES AFFECTED PDP-11			
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED <input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Charge <input type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
1	B-MH-M7255-0-6	A	B	06	Update per this ECO.	
2	D-CS-M7255-0-1 (Sheet 3,7 only)	B	C	06	WANTS PER AS-16	
3	1309416	-	-	07	Res. 31.6K 1/8W 1% m.f.	
4	1309412	-	-	07	Res. 18.2K 1/8W 1% m.f.	
5	10010646	-	-	07	.015uf 2% polycarb.	
DISPOSITION CODES 00 - RETURN TO STOCK 01 - (DELETE) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - RETURN IMMEDIATELY (REWORK) 04 - (DELETE) 05 - (DELETE) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			APPROVAL SIGNATURES DESIGN ENGR TOR OYX <i>[Signature]</i> ENG MGR (OPT) <i>[Signature]</i> FIELD SERVICE (OPT) <i>[Signature]</i> CHIEF ENGR (MODULES ONLY) <i>[Signature]</i>			

digital ENGINEERING CHANGE ORDER 9306		ORDINATOR Dick Lewis 1-2 TEL EXT 2814 DATE 1/30/73 DWC PROJ NO. E20-06734 COST CENTER NO. 378		ECO NO. M7255-0002 SHEET 1 OF 1 DATE RECEIVED 2-2-73 FIRST ISSUE 2-5-73 FINAL ISSUE 3/2/73	
PROBLEM Clk pulses need to be standardized throughout control.				UNIT TO BE CHANGED M7255 Disk Control	
CORRECTION Replace ST4 Clk H with disk 4 clk 4.				ISSUE CODE 03 OPTIONS AFFECTED RK11-D, E	
BREAK-DOWN/EFFECTIVITY Rework all M7255 Boards (item 4 below).				PRODUCT LEVEL AFFECTED PDP-11	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1.	D-CS-M7255-0-1 SH 1, 7	C	D	06	See final release drawing.
2.	B-ME-M7255-0-6	B	C	06	See final release drawing.
3.	D-AB-M7255-0-5	C	D	06	See final release drawing.
4.	2009906 Rework NOTE.			03	Rework boards as shown on AE drawing. (Add ware from E4810 to E5112).
5.	D-CS-M7255-0-1 SH 6	B	C	06	SEE FINAL RELEASE DRAWING
RESPONSE CODES					APPROVAL SIGNATURES
00 - RETURN TO STOCK 01 - (DELETE) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REPLACE IMMEDIATELY (REWORK) 04 - (DELETE) 05 - (DELETE) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS COMPANY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY					DESIGN (FOR TOP OFF) _____ ENG MGR (OPT) _____ FIELD SERVICE (OPT) _____ CHIEF ENGR (MODULES ONLY) _____
DEC 16 (22) (27) (37) (47) (57) (67) (77) (87) (97) SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY.					DRA-14C

PAGE REVISION CONTROL SHEET										REMARKS	
DRN	DATE	ENG.	ETCH	NO.	DATE	ENG.	ETCH	NO.	DATE	DISK 1 DISK 2 DISK 3 DISK 4	
CHKD	DATE	PROJ. ENG.	PROD.	DATE	DATE	DATE	DATE	DATE	DATE		
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE		
1	B	U	U	U	U	U	U	U	U		
2	B	U	U	U	U	U	U	U	U		
3	B	U	U	U	U	U	U	U	U		
4	B	U	U	U	U	U	U	U	U		
5	B	U	U	U	U	U	U	U	U		
6	B	U	U	U	U	U	U	U	U		
7	B	U	U	U	U	U	U	U	U		
8	B	U	U	U	U	U	U	U	U		
9	B	U	U	U	U	U	U	U	U		
10	B	U	U	U	U	U	U	U	U		
11	B	U	U	U	U	U	U	U	U		
12	B	U	U	U	U	U	U	U	U		
13	B	U	U	U	U	U	U	U	U		
14	B	U	U	U	U	U	U	U	U		
15	B	U	U	U	U	U	U	U	U		
16	B	U	U	U	U	U	U	U	U		
17	B	U	U	U	U	U	U	U	U		
18	B	U	U	U	U	U	U	U	U		
19	B	U	U	U	U	U	U	U	U		
20	B	U	U	U	U	U	U	U	U		
21	B	U	U	U	U	U	U	U	U		
22	B	U	U	U	U	U	U	U	U		
23	B	U	U	U	U	U	U	U	U		
24	B	U	U	U	U	U	U	U	U		
25	B	U	U	U	U	U	U	U	U		
26	B	U	U	U	U	U	U	U	U		
27	B	U	U	U	U	U	U	U	U		
28	B	U	U	U	U	U	U	U	U		
29	B	U	U	U	U	U	U	U	U		
30	B	U	U	U	U	U	U	U	U		
31	B	U	U	U	U	U	U	U	U		
32	B	U	U	U	U	U	U	U	U		
33	B	U	U	U	U	U	U	U	U		
34	B	U	U	U	U	U	U	U	U		
35	B	U	U	U	U	U	U	U	U		
36	B	U	U	U	U	U	U	U	U		
37	B	U	U	U	U	U	U	U	U		
38	B	U	U	U	U	U	U	U	U		
39	B	U	U	U	U	U	U	U	U		
40	B	U	U	U	U	U	U	U	U		
41	B	U	U	U	U	U	U	U	U		
42	B	U	U	U	U	U	U	U	U		
43	B	U	U	U	U	U	U	U	U		
44	B	U	U	U	U	U	U	U	U		
45	B	U	U	U	U	U	U	U	U		
46	B	U	U	U	U	U	U	U	U		
47	B	U	U	U	U	U	U	U	U		
48	B	U	U	U	U	U	U	U	U		
49	B	U	U	U	U	U	U	U	U		
50	B	U	U	U	U	U	U	U	U		
51	B	U	U	U	U	U	U	U	U		
52	B	U	U	U	U	U	U	U	U		
53	B	U	U	U	U	U	U	U	U		
54	B	U	U	U	U	U	U	U	U		
55	B	U	U	U	U	U	U	U	U		
56	B	U	U	U	U	U	U	U	U		
57	B	U	U	U	U	U	U	U	U		
58	B	U	U	U	U	U	U	U	U		
59	B	U	U	U	U	U	U	U	U		
60	B	U	U	U	U	U	U	U	U		
61	B	U	U	U	U	U	U	U	U		
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70	B	U	U	U	U	U	U	U	U		
71	B	U	U	U	U	U	U	U	U		
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76	B	U	U	U	U	U	U	U	U		
77	B	U	U	U	U	U	U	U	U		
78	B	U	U	U	U	U	U	U	U		
79	B	U	U	U	U	U	U	U	U		
80	B	U	U	U	U	U	U	U	U		
81	B	U	U	U	U	U	U	U	U		
82	B	U	U	U	U	U	U	U	U		
83	B	U	U	U	U	U	U	U	U		
84	B	U	U	U	U	U	U	U	U		
85	B	U	U	U	U	U	U	U	U		
86	B	U	U	U	U	U	U	U	U		
87	B	U	U	U	U	U	U	U	U		
88	B	U	U	U	U	U	U	U	U		
89	B	U	U	U	U	U	U	U	U		
90	B	U	U	U	U	U	U	U	U		
91	B	U	U	U	U	U	U	U	U		
92	B	U	U	U	U	U	U	U	U		
93	B	U	U	U	U	U	U	U	U		
94	B	U	U	U	U	U	U	U	U		
95	B	U	U	U	U	U	U	U	U		
96	B	U	U	U	U	U	U	U	U		
97	B	U	U	U	U	U	U	U	U		
98	B	U	U	U	U	U	U	U	U		
99	B	U	U	U	U	U	U	U	U		
100	B	U	U	U	U	U	U	U	U		

**THIS DRAWING IS PART
OF E.C.O. PACKAGE #**

M7255-00002

**NOT TO BE USED
FOR PRODUCTION**

MODULE ECO HISTORY														
PRODUCT LINE <u>PDP11</u>				DATE RELEASED <u>9-25-72</u>				RELEASED CS REV. <u>B</u>						
DATE RELEASED <u>9-25-72</u>				RELEASED BY <u>T. ORR</u>				RELEASED ETCH BD REV. <u>C</u>						
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
00001	D.LEWIS	10-9-72	C	D	X				X			TO CORRECT ETCH ERRORS	—	—
0001A	ORR	11-3-72	C	D	X				X			TOLERANCE TOO CLOSE	3	3
00002	R.LEWIS	1-29-73	D	D	X				X			STANDARDIZE CLK. PULSES	—	—

REV. NO.	DATE	BY

DATE	10-7-72
DATE	7-1-72
DATE	11-1-72
DATE	

EQUIPMENT CORPORATION
 MATRARD, MASSACHUSETTS

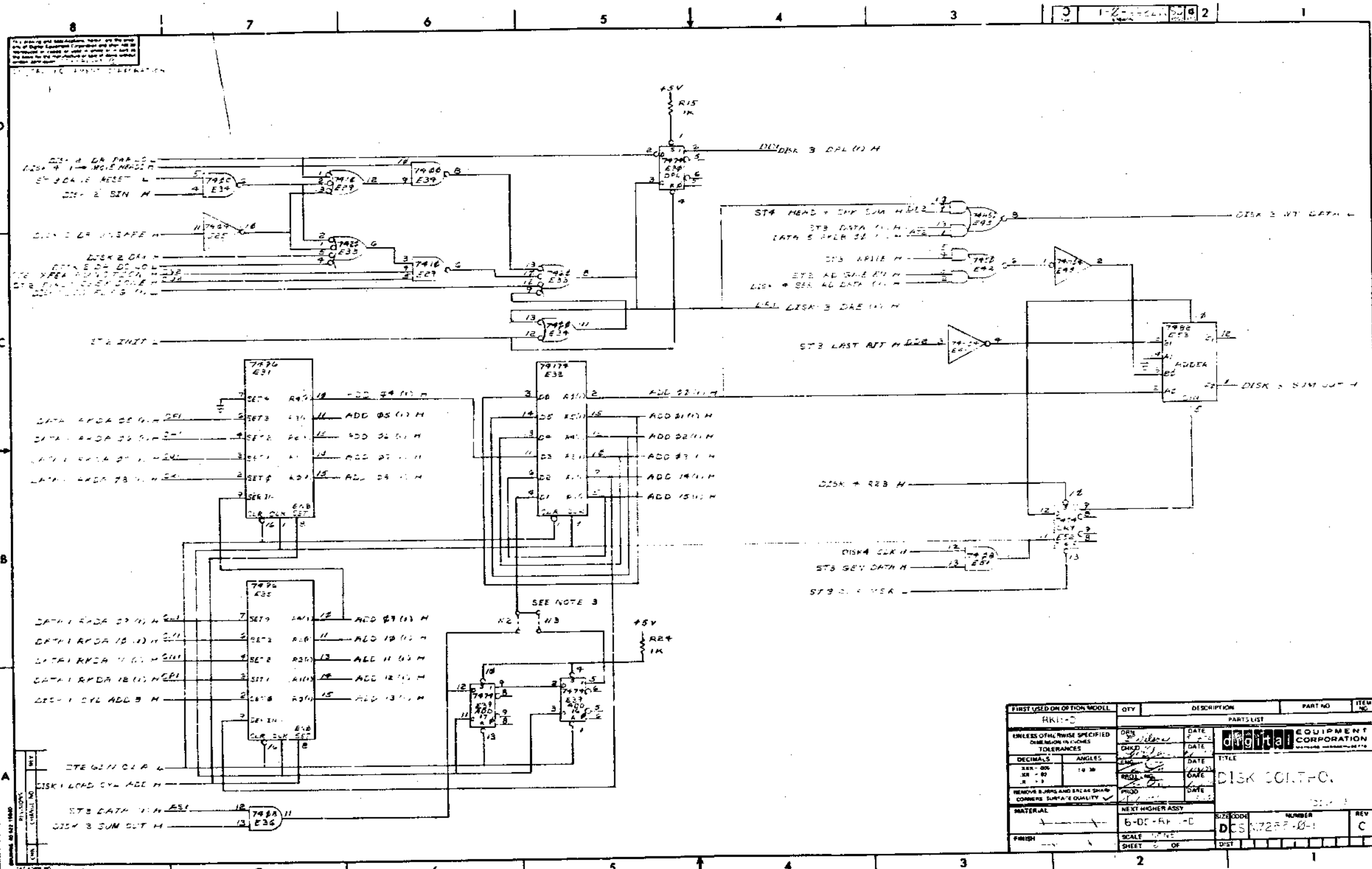
TITLE MODULE ECO HISTORY			
SIZE	CODE	NUMBER	REV.
B	MH	M 7255-0-6	C

DRB 104

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M7255-00002

NOT TO BE USED FOR PRODUCTION



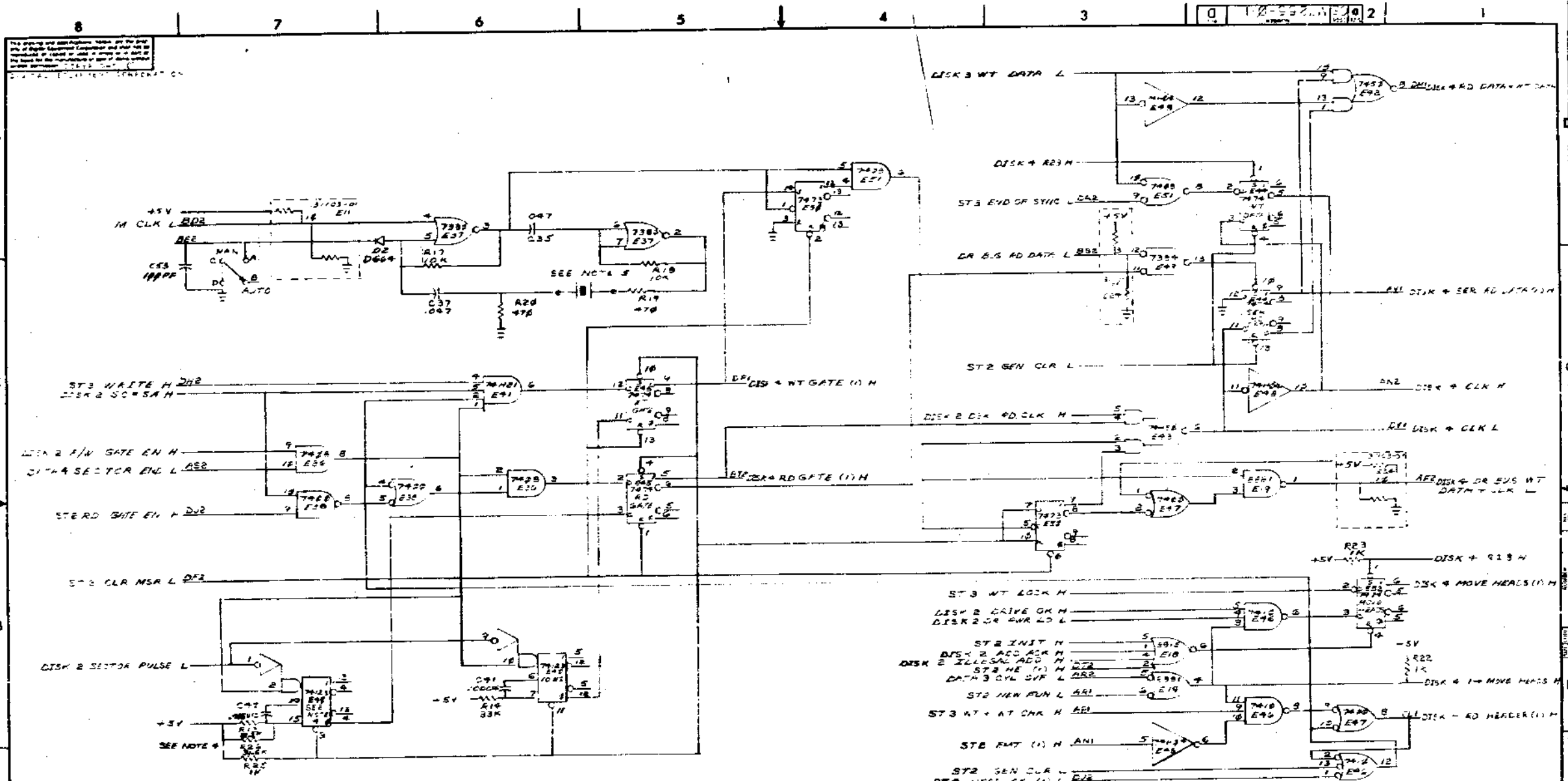
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M7255-00002

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FIRST USED ON OPTION MOODEL	QTY	DESCRIPTION	PART NO	ITEM NO
AKI-0		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES	DRN	DATE	Digital EQUIPMENT CORPORATION	
TOLERANCES	CHKD	DATE	TITLE	
DECIMALS ANGLES	ENG	DATE	DISK CONT-C	
XXX-000 10 30	REL	DATE	PART NO	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD	DATE	REV	
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV
FINISH	SCALE	SCALE	NUMBER	REV
	SHEET	OF	DIST	



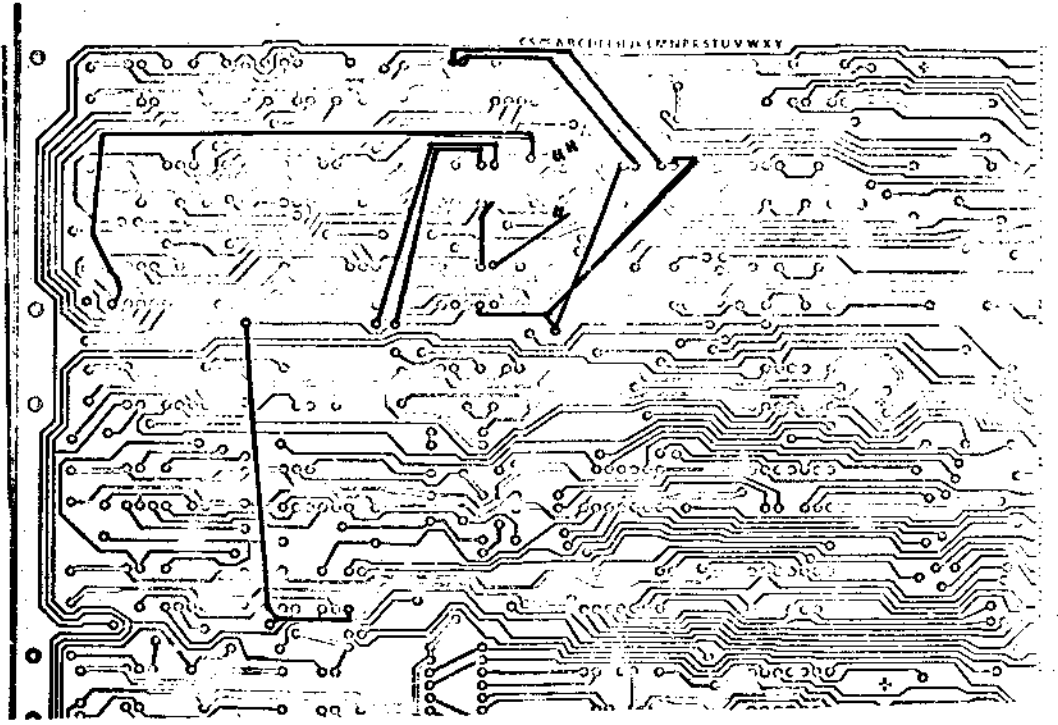
- NOTES:
1. INSTALL FOR RK05
 2. CUT FOR RK11-C COMPATIBILITY (INTERNAL REVISION)
 3. FOR RK11-E (RK05) CUT JUMPER W3 FOR RK11-E (18 BIT RK05) CUT JUMPER W2.
 4. FOR RK11-D (RK05) CUT JUMPER W3 FOR 85 NS DELAY
 5. INSTALL PROPER CRYSTAL IN SLOT LUGS AS OUTLINED IN TABLE 1.

TABLE 1

DISK	PART NO.	FREQ.	DEL. (NS)
RK11-D	RK05	1.8	85.00
RK11-E	RK05	1.8	85.00

FIRST USED ON OF I.C. MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	FIN.	DATE	TITLE
1/16 - .0005	1/16°	1/16		DISK CONTROL (DISK 4)
REMOVE BURRS AND GREAT SHARP CORNERS SURFACE QUALITY				
MATERIAL	NO. OF HIGHER ASSY	SIZE CODE	NUMBER	REV.
FRESH		R-ED-RK11-D	M7255-C-1	D
SCALE	OF	SHEET	OF	

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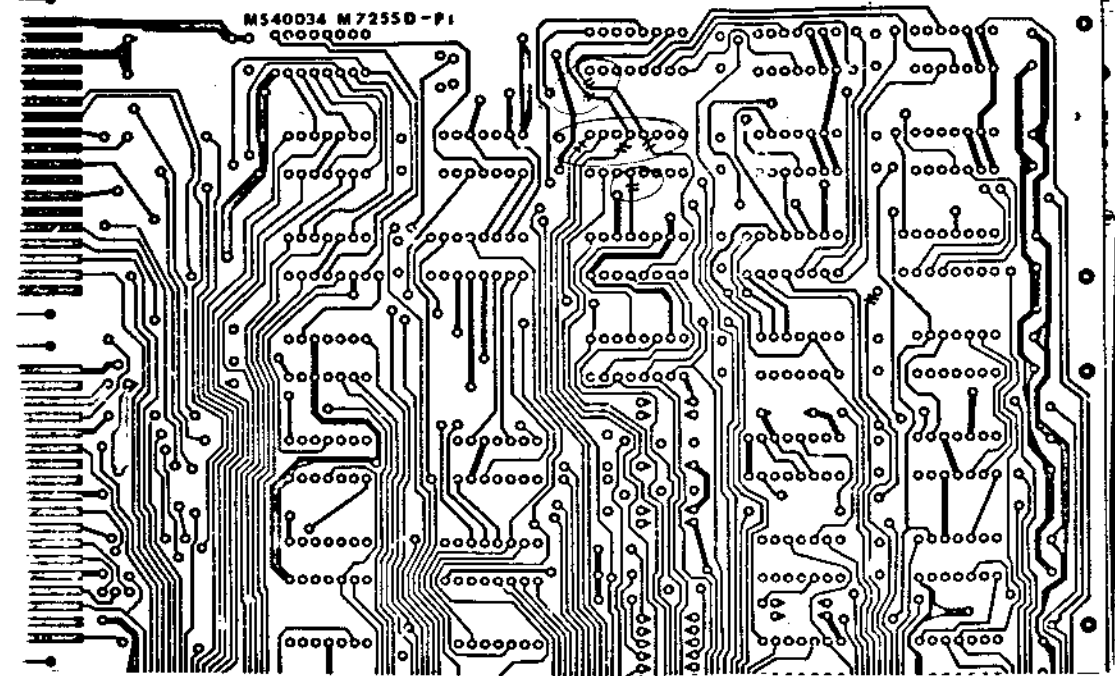


ADD TEN JUMPERS
AS SHOWN

THREE ETCH CUTS
SIDE ONE

SHEET 192

digital ENGINEERING CHANGE ORDER	ASSY/DRILLING HOLE LAYOUT	D-AN-M7255-05	E
	<i>Alper</i>		GRAPHIC DESCRIPTION



SEVEN ETCH CUTS
SIDE TWO

SHEET 2012

digital <small>TECHNOLOGY CORPORATION</small>	ASSY/DRILLING HOLE LAYOUT	D-MH-107255-0-5	E
	<i>Cathy</i> CATHY		GRAPHIC DESCRIPTION

Q 9-0-0031W HW B
 3275

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP11</u>			DATE RELEASED <u>9-25-72</u>			RELEASED CS REV. <u>B</u>			RELEASED ETCH BD REV. <u>C</u>				
DATE RELEASED <u>9-25-72</u>			RELEASED BY <u>T. ORR</u>			PAGE <u>1</u> OF <u>1</u>							
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	D. LEWIS	10-9-72	C	D	X			X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X			X			STANDARDIZE CLK. PULSE		
00003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAMINE		

REVISIONS	DATE	BY	DESCRIPTION
00001	10-9-72	D. LEWIS	INITIAL
0001A	11-3-72	ORR	TOLERANCE TOO CLOSE
00002	1-29-73	R. LEWIS	STANDARDIZE CLK. PULSE
00003	3-21-73	R. LEWIS	REWORK ALL MODULE LEVEL MACHINES...

DEC 16 1972 10:45 AM
 ORR 104

DATE	10-9-72	BY	D. LEWIS
DATE	11-3-72	BY	ORR
DATE	1-29-73	BY	R. LEWIS
DATE	3-21-73	BY	R. LEWIS

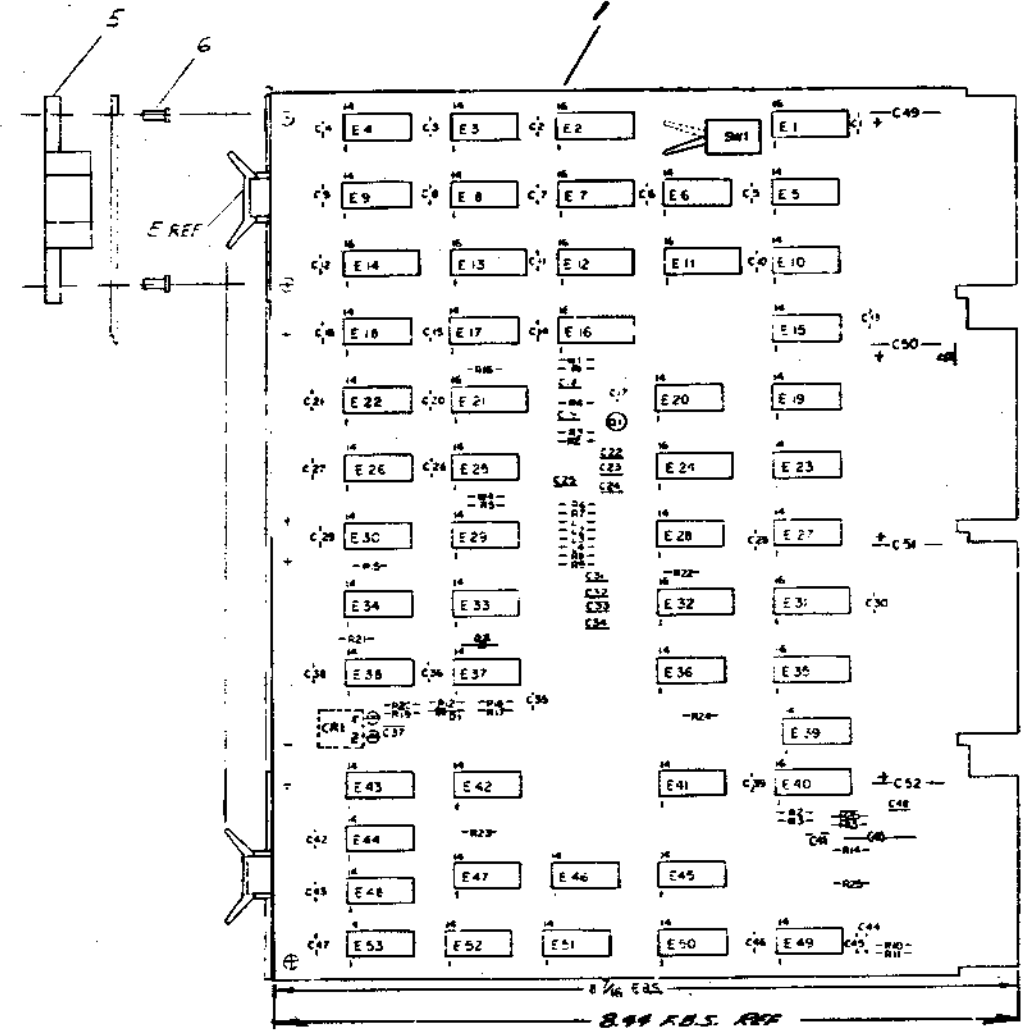
TITLE	MODULE ECO HISTORY
SIZE	B
CODE	H
NUMBER	M 7255-0-6
REV.	D

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00003

NOT TO BE USED FOR PRODUCTION

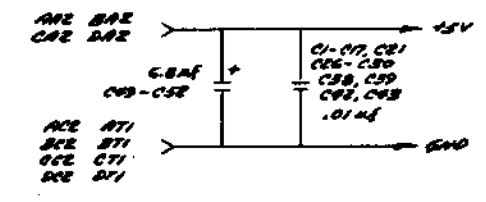
1-0-5521M 2

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PIN NOMENCLATURE
 MODULE RKII-D

I.C. DEC 74151	8	16
I.C. DEC 74157	8	16
I.C. DEC 7492	10	5
I.C. DEC 380	1	8
I.C. DEC 7482	11	8
I.C. DEC 74179	8	16
I.C. DEC 7473	11	8
I.C. DEC 7492	8	16
I.C. DEC 74123	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.	TER. NO.
1	E18	I.C. DEC 8815	190718	41
1	E1	I.C. DEC 7442	1910096	40
1	E50	I.C. DEC 7473	190587	39
1	E32	I.C. DEC 74179	1910652	38
1	E53	I.C. DEC 7482	190588	37
1	E41	I.C. DEC 74121	1905058	36
1	E43	I.C. DEC 74150	190660	35
1	E42	I.C. DEC 7450	190580	34
1	E27	I.C. DEC 8242	190572	33
3	E16, E20, E28	I.C. DEC 380	190585	32
1	E17	I.C. DEC 7492	190654	31
2	E12, E16	I.C. DEC 74157	1910655	30
1	E13	I.C. DEC 74151	190586	29
1	E7	I.C. DEC 74125	1910651	28
1	R26	RES. 31.6K 1/4W 1%	1903416	27
1	R13	RES. 18.2K 1/4W 1%	190412	26
1	R14	RES. 33K 1/4W 10%	190510	25
3	R1, R12, R24	RES. 100Ω	191003-01	24
1	R12	RES. 100Ω 1/4W 5%	190229	23
3	R2, R10, R11	RES. 390Ω 1/4W 5%	190503	22
8	R15, R16, R17, R25	RES. 1K 1/4W 5%	190562	21
2	R19, R20	RES. 870Ω 1/4W 5%	190516	20
1	R4	RES. 12K 1/4W 5%	190788	19
1	R5	RES. 3K 1/4W 5%	190432	18
4	R6-R9	RES. 910Ω 1/4W 5%	190574	17
2	R17, R18	RES. 10K 1/4W 5%	190979	16
1	R3	RES. 20K 1/4W 5%	190291	15
5	C22, C23, C24, C27	CAP. 55 PF 100V 5% DM	1000010	14
1	C18	CAP. 15 PF 100V 5% DM	1000007	13
2	C26, C27	CAP. .047UF 50V 10% CAP	1005676	12
1	C36	CAP. 330 PF 100V 5% DM	1000028	11
4	C13, C14, C32, C33	CAP. 270 PF 100V 5% DM	1000022	10
23	C1, C17, C18, C19, C20, C21, C25, C28, C29, C30, C31, C34, C35, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54	CAP. .01UF 100V 20% DISC	1001610	9
4	C49-C52	CAP. 6.8UF 35V 10% TANT	1005806	8
1	C41	CAP. 100 PF 100V 5% DM	1000042	7
8		EYELET (GS-A-7) STAMPING	9008732	6
8		HANDLE FLIP-CHIP MOUNTING	900887-06	5
1		ETCHED CIRCUIT BOARD	5005986	4
1		PROBING CORD HISTORY	5000725-0-4	3
1		ASSEMBLING WIRE CORDSET	5000725-0-1	2
1		1-1 COORDINATE WIRE CONNECTION	5000725-0-0	1

FIRST USED ON OPTION MODEL
 RKII-D

ETCH BOARD REV D

DATE 3/72
 DATE 3/72
 DATE 3/72
 DATE 3/72

REVISIONS
 CHANGE NO. 1
 REVISIONS

DEPT. 206
 3009 B
 2N 3606

SCALE NONE

SHEET 2 OF

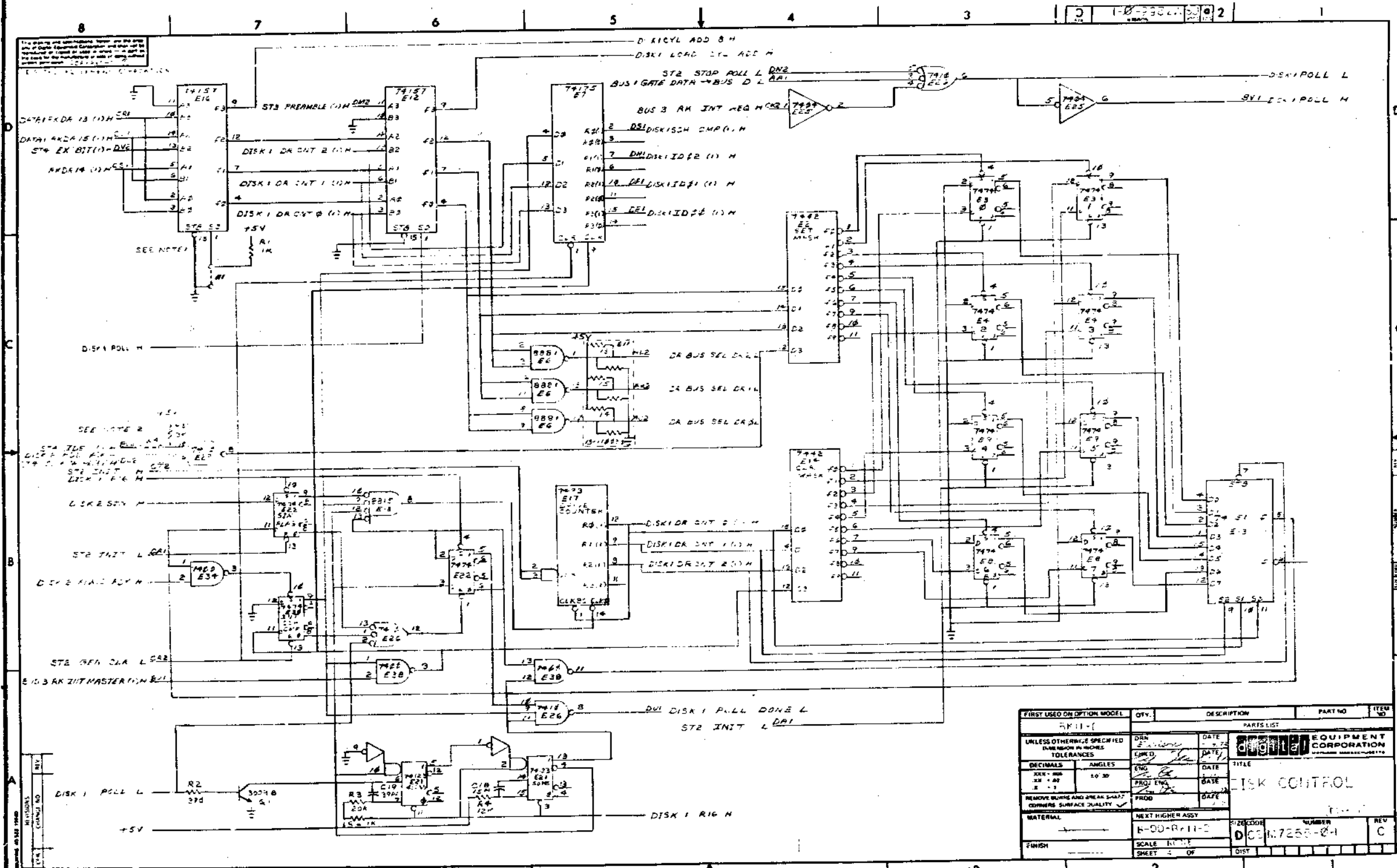
SEMICONDUCTOR CONVERSION CHART

EQUIPMENT CORPORATION
 DISK CONTROL
 RKII-D

NUMBER
 D CS 7255-0-1

REV C

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00003 NOT TO BE USED FOR PRODUCTION

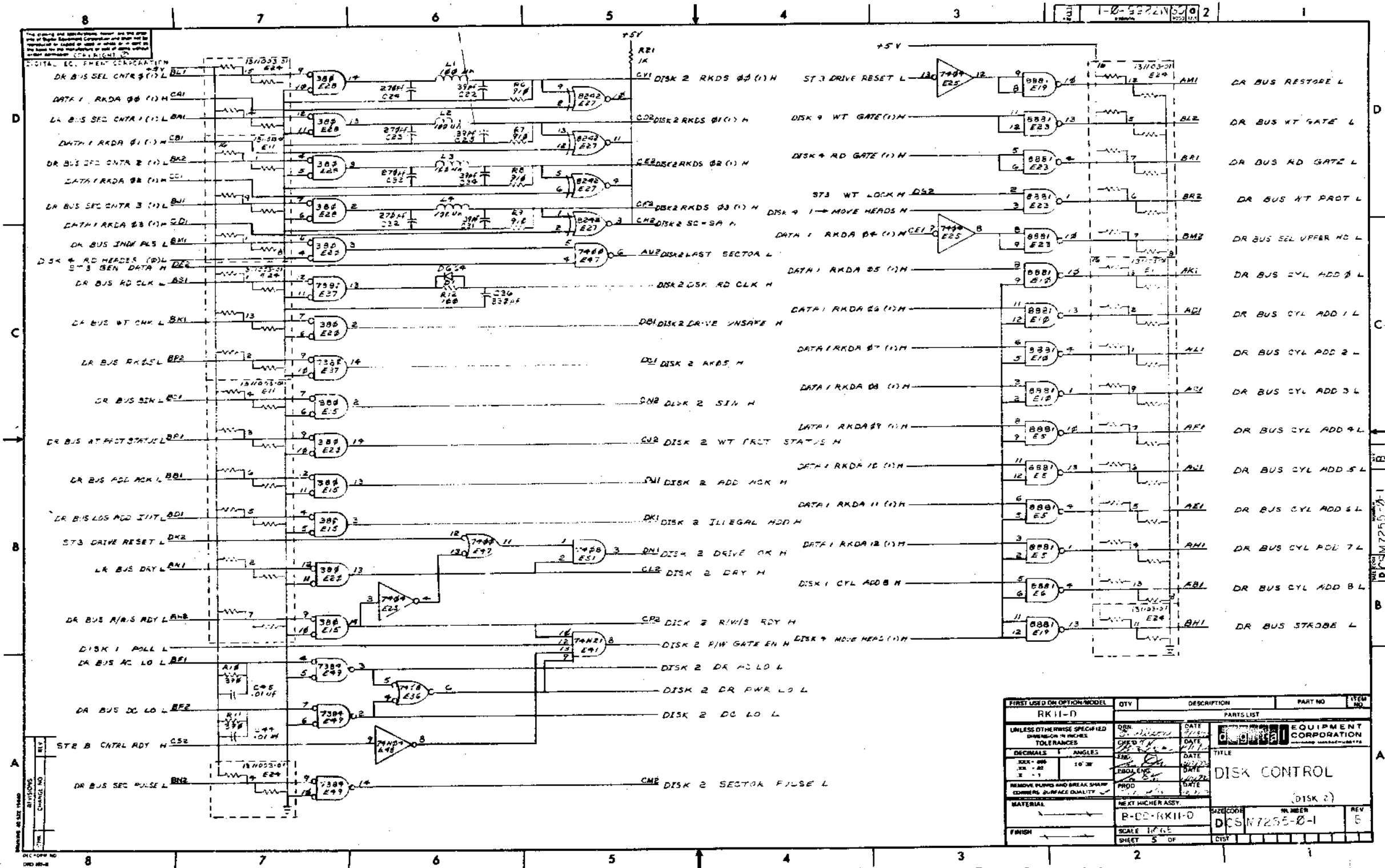


**THIS DRAWING IS PART
OF E.C.O. PACKAGE #**

M7255-00003

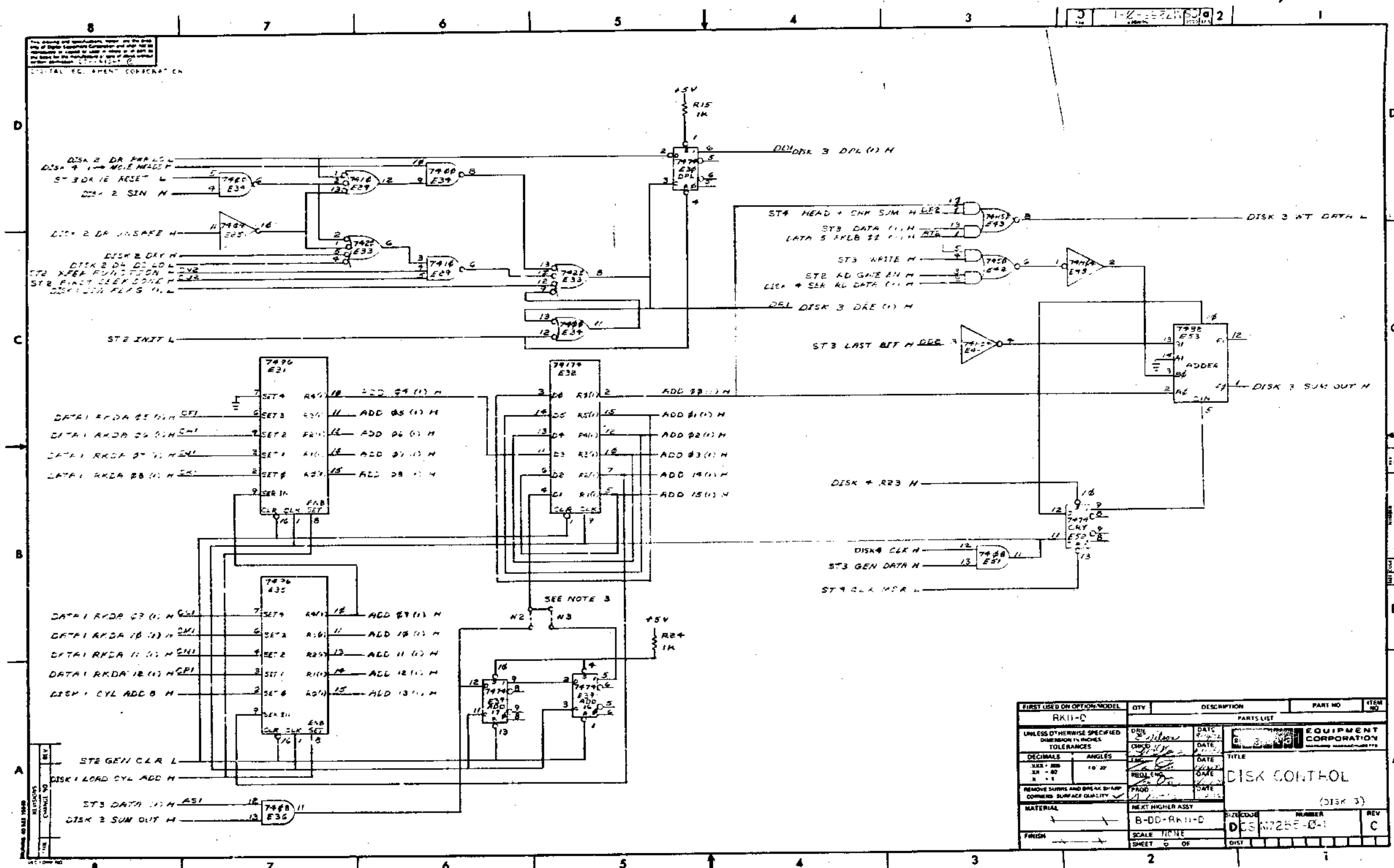
**NOT TO BE USED
FOR PRODUCTION**

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
74157	1	DECODER	74157	1
74155	1	DECODER	74155	2
74154	1	COUNTER	74154	3
74153	1	DECODER	74153	4
74152	1	DECODER	74152	5
74151	1	DECODER	74151	6
74150	1	DECODER	74150	7
74156	1	DECODER	74156	8
74157	1	DECODER	74157	9
74158	1	DECODER	74158	10
74159	1	DECODER	74159	11
74160	1	DECODER	74160	12
74161	1	DECODER	74161	13
74162	1	DECODER	74162	14
74163	1	DECODER	74163	15
74164	1	DECODER	74164	16
74165	1	DECODER	74165	17
74166	1	DECODER	74166	18
74167	1	DECODER	74167	19
74168	1	DECODER	74168	20
74169	1	DECODER	74169	21
74170	1	DECODER	74170	22
74171	1	DECODER	74171	23
74172	1	DECODER	74172	24
74173	1	DECODER	74173	25
74174	1	DECODER	74174	26
74175	1	DECODER	74175	27
74176	1	DECODER	74176	28
74177	1	DECODER	74177	29
74178	1	DECODER	74178	30
74179	1	DECODER	74179	31
74180	1	DECODER	74180	32
74181	1	DECODER	74181	33
74182	1	DECODER	74182	34
74183	1	DECODER	74183	35
74184	1	DECODER	74184	36
74185	1	DECODER	74185	37
74186	1	DECODER	74186	38
74187	1	DECODER	74187	39
74188	1	DECODER	74188	40
74189	1	DECODER	74189	41
74190	1	DECODER	74190	42
74191	1	DECODER	74191	43
74192	1	DECODER	74192	44
74193	1	DECODER	74193	45
74194	1	DECODER	74194	46
74195	1	DECODER	74195	47
74196	1	DECODER	74196	48
74197	1	DECODER	74197	49
74198	1	DECODER	74198	50
74199	1	DECODER	74199	51
74200	1	DECODER	74200	52



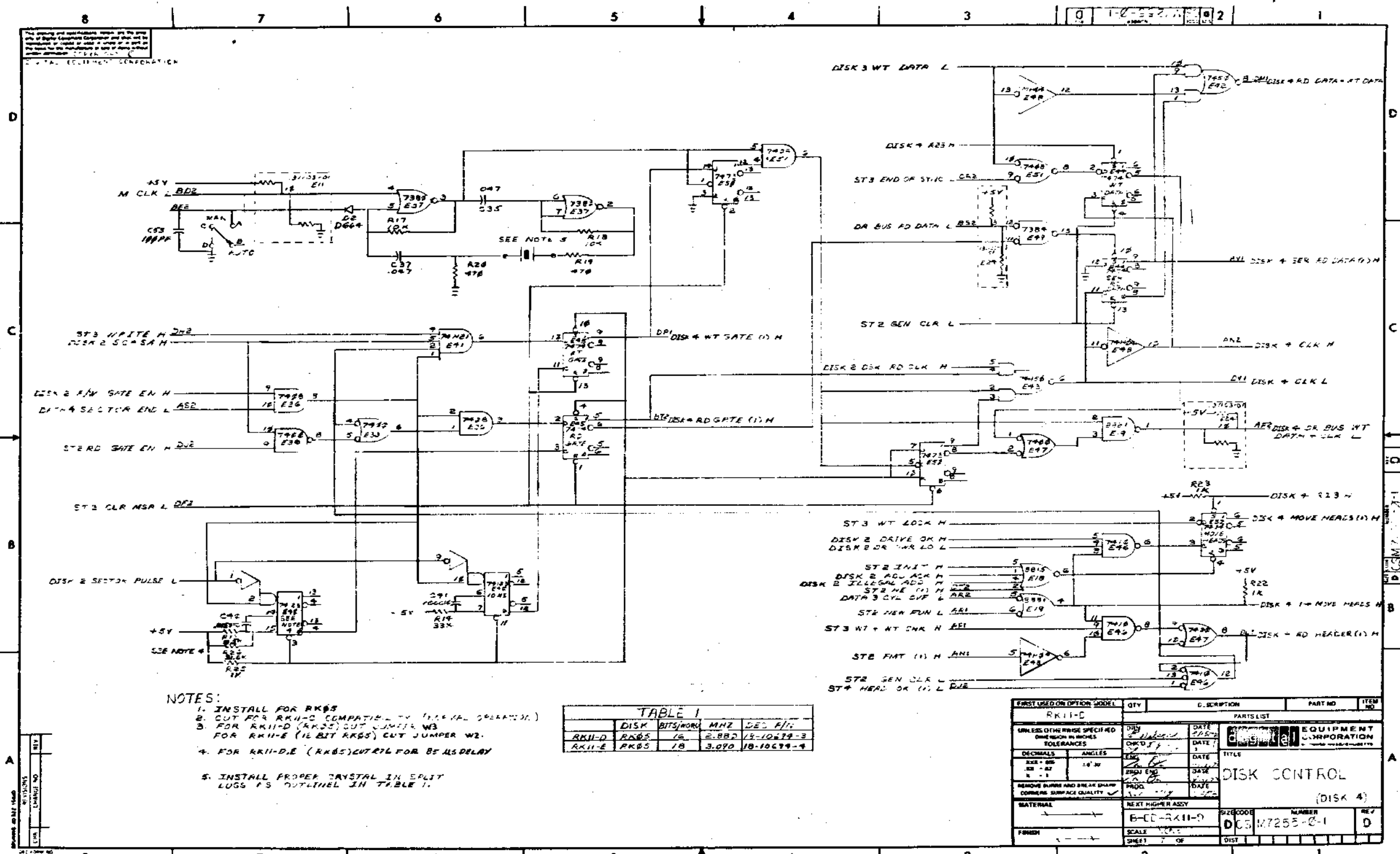
THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00003

NOT TO BE USED FOR PRODUCTION



FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
RK11-D		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRILL E-11/64	DATE 11/22/55	EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE 11/22/55	TITLE DISK CONTROL (DISK 3)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROOF	DATE 11/22/55	SIZE CODE B-DD-RK11-D	
MATERIAL	NEXT HIGHER ASSY	SCALE 1/8" = 1"	NUMBER DCS N7255-C-1	REV C
FINISH	SHEET 6 OF 6			

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- NOTES:
1. INSTALL FOR RK05
 2. CUT FOR RK11-C COMPATIBILITY (INTERNAL OPERATION)
 3. FOR RK11-D (RK05) CUT JUMPER W3 FOR RK11-E (16 BIT RK05) CUT JUMPER W2
 4. FOR RK11-D/E (RK05) CUT R16 FOR BE ILS DELAY
 5. INSTALL PROPER CRYSTAL IN SPLIT LOGS AS OUTLINED IN TABLE 1.

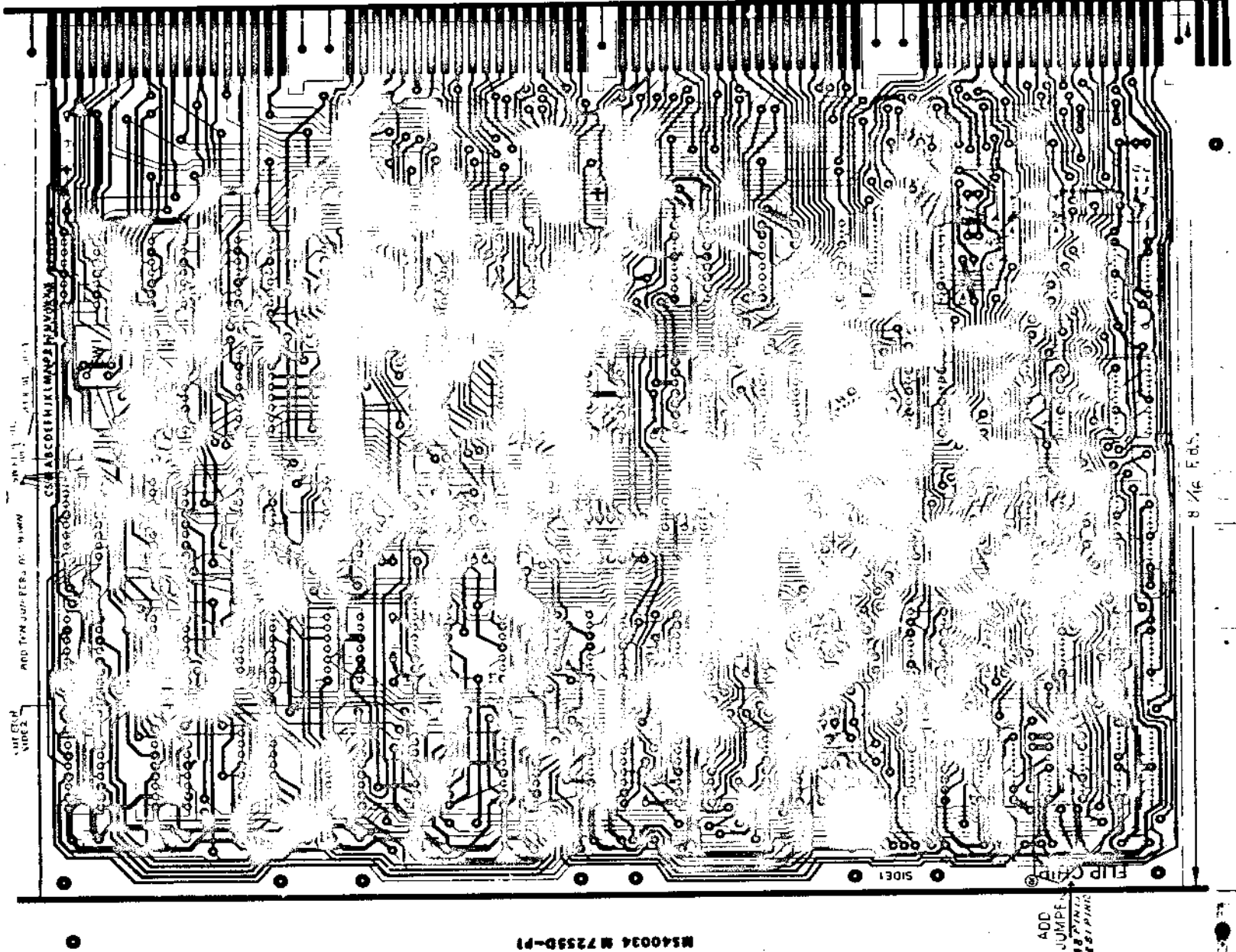
TABLE 1				
DISK	BITS/WORD	MHZ	DEC F/1	
RK11-D	RK05	16	2.880	18-10679-3
RK11-E	RK05	16	3.070	18-10679-4

FIRST USED ON OPTION MODEL	QTY	D. DESCRIPTION	PART NO.	ITEM NO.
RK11-C				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	FIN.	DATE	
ASX - 0.01		16-30	DATE	
ASX - 0.2		PROJ ENG	DATE	
ASX - 0.5		PROD	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY				
B-CC-RK11-D				
SCALE				
SHEET 7 OF				

DISK CONTROL (DISK 4)

DCS M7255-2-1

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BOARD FABRICATION INFORMATION

BOARD SIZE 8.50 x 11.750 PLATED THRU EYELET SIDED
 BOARD MATERIAL 0.52 THK 1.0Z COPPER NOTCH BEFORE GOLD PLATING
 2 SIDES NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE		X			
Z		X			2

NOTE: GRI IS OPTIONAL

DATE		TIME		TITLE	
DATE	TIME	DATE	TIME	DATE	TIME
FIRST USED ON				NUMBER	
M7255				M7255-0-5	
SCALE				SHEET	
				OF	
				SHEET	

REVISIONS	A	B	C	D	E	F	H	J	K
DESIGNER	TRAD	PALE							
DRAFTSMAN	TRAD	ACE							
CHECKER	TRAD								

TITLE EK11-D DISK CONTROL PROD. NO. M7255
 CHARGE NO. E56-66807 DATE 5-11-72 C.S. REV E
 ENGINEER TOM ORR EXTENSION 2791 MS NO. 40034 ETCH REV D

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M7255-00003

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PAGE REVISION CONTROL SHEET										REMARKS	
PAGE REVISIONS										DISK CONTROL RK11-D	
SN NO.	DATE	ENG. REV.	ETCH	ECO	NO.	DATE	ENG.	REV.	ETCH		
1											DISK1 DISK2 DISK3 DISK4
2											
3											
4											
5											
6											
7											
8											
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M7255-00004

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FOR PRODUCTION**

3 9-0-552LW HW B
M7255-0-6

MODULE ECO HISTORY														
PRODUCT LINE <u>PDP11</u>				PAGE <u>1</u> OF <u>1</u>				RELEASED CS REV. <u>B</u>						
DATE RELEASED <u>9-25-72</u>								RELEASED ETCH BD REV. <u>C</u>						
RELEASED BY <u>T. ORR</u>														
ECO. NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE, DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
00001	D. LEWIS	10-9-72	C	D	X				X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X				X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X				X			STANDARDIZE CLK. PULSES		
00003	R. LEWIS	3-21-73	E	D		X		REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAMINE		
00004	R. LEWIS	4-26-73	F	D		X		REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		DISABLE ONE SHOT(2D) WHEN NOT POLLING TO PREVENT FALSE SCH CMP'S		

REVISIONS	DATE	BY
00001	10-9-72	D. LEWIS
0001A	11-3-72	ORR
00002	1-29-73	R. LEWIS
00003	3-21-73	R. LEWIS
00004	4-26-73	R. LEWIS

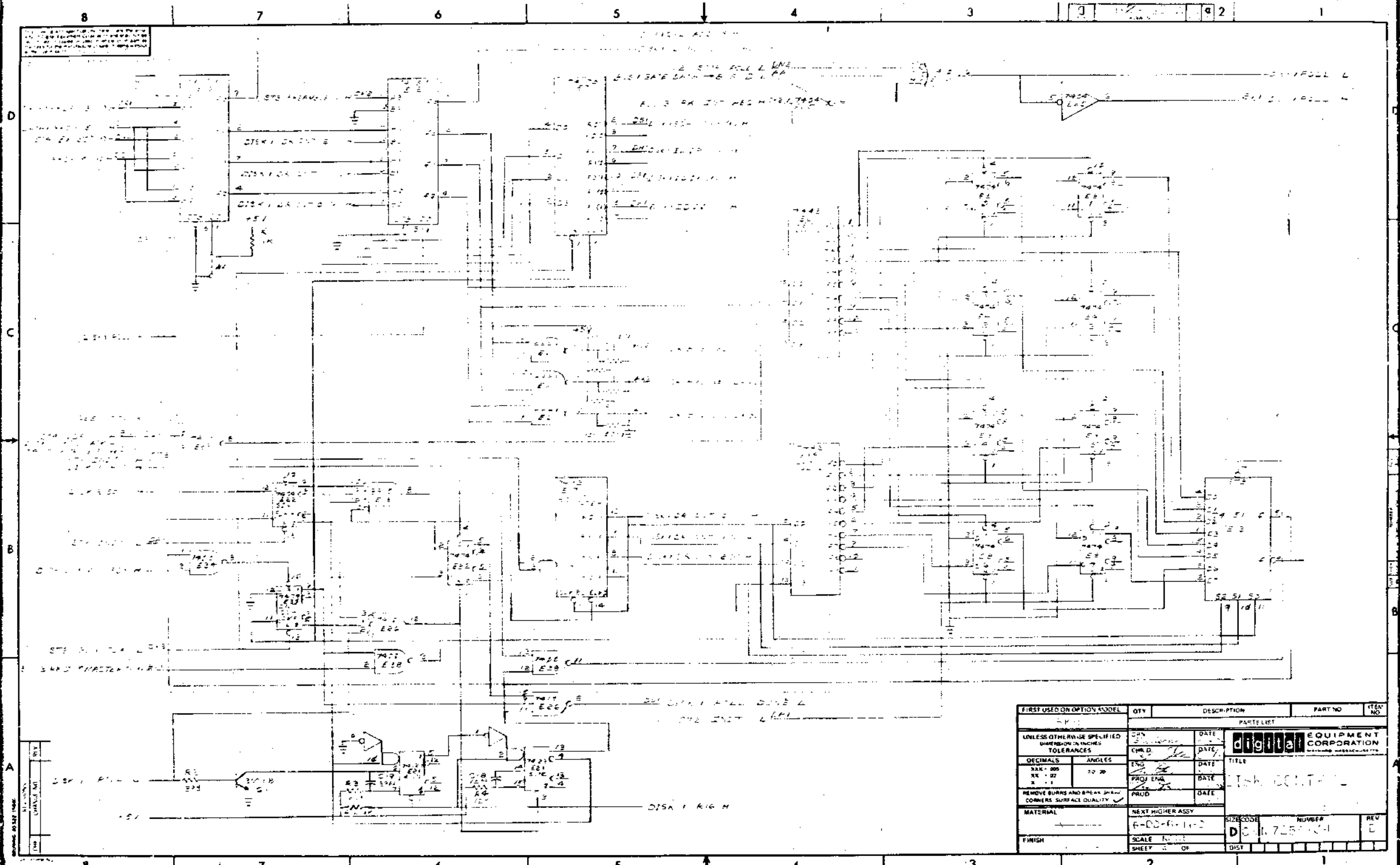
DATE	10-9-72	BY	D. LEWIS
DATE	11-3-72	BY	ORR
DATE	1-29-73	BY	R. LEWIS
DATE	3-21-73	BY	R. LEWIS
DATE	4-26-73	BY	R. LEWIS

EQUIPMENT CORPORATION			
SIZE	CODE	NUMBER	REV.
B	MH	M7255-0-6	E

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M7255-00004

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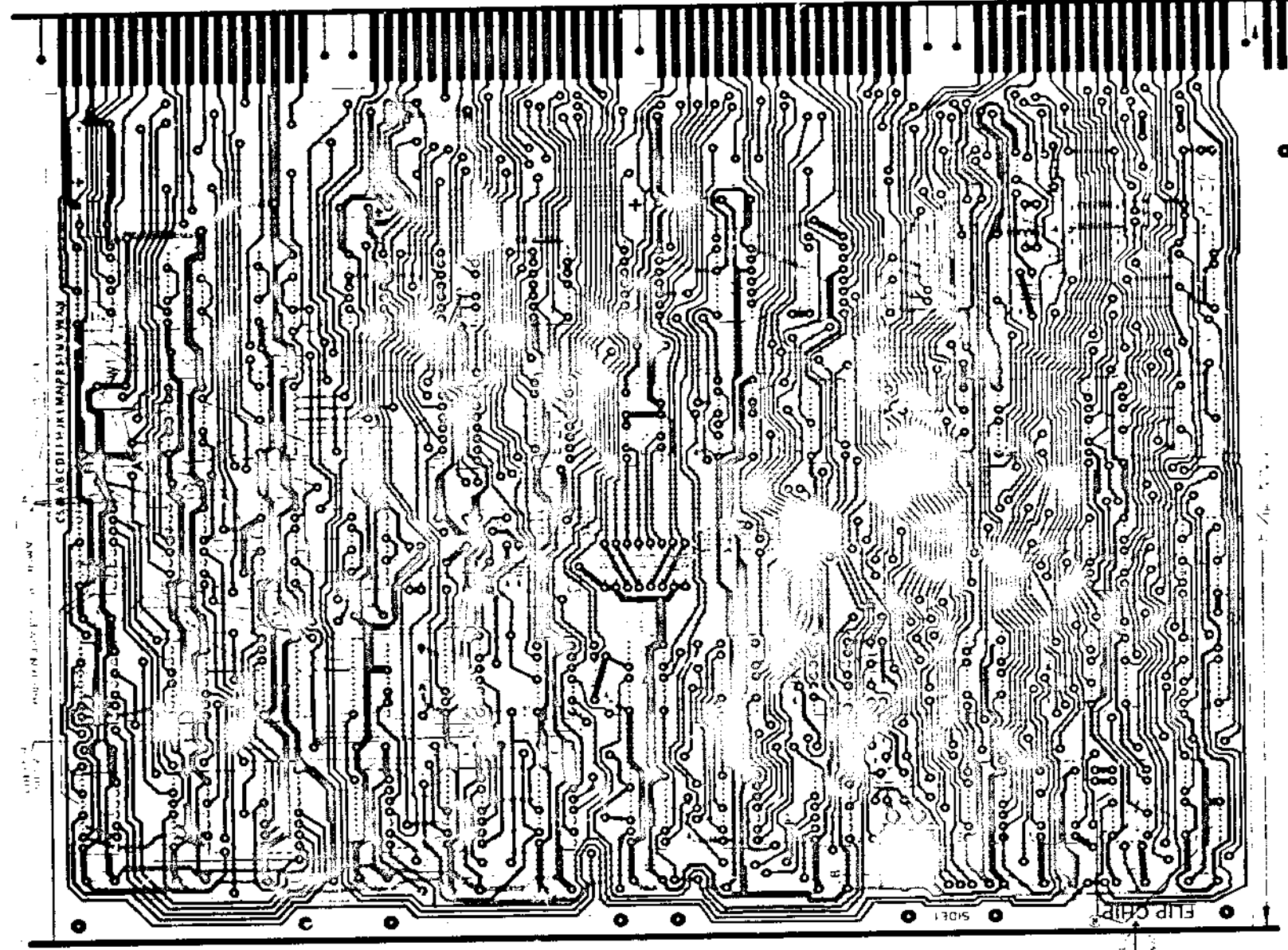


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M7255-00004

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FOR PRODUCTION**

FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES	QTY	DATE	PARTS LIST	
DECIMALS	ANGLES	DATE	digital EQUIPMENT CORPORATION	
3/16 - .005	TO 20	DATE	TITLE	
1/8 - .01		DATE	DISK CONTROL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROJ ENG	DATE		
MATERIAL	PROD	DATE		
NEXT HIGHER ASSY	R-00-R-1-02	SIZE CODE	NUMBER	REV
FINISH	SCALE	DIC	M.7255-00004	0
	SHEET	OF	DIST	



BOARD FABRICATION INFORMATION

BOARD SIZE 8.550 x 11.750 PLATED THRU EYELET SIDED
 BOARD MATERIAL 0.02 IN. 2.00 IN. NOTCH BEFORE GOLD PLATING
 2.50 IN. NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE		.4			2
1		.49 THRU 1.073 (1.0)			

NOTE: CIR. IS ORIGINAL

DATE		TIME		JOB NO.		REV.	
10/1/50		10:00 AM		M 7255-0-5		1	
DIGITAL EQUIPMENT CORPORATION				ASSY/DRILLING HOLE LAYOUT			

REVISIONS	A	B	C	D	E	F	H	J	K	PROD. NO. M7255
DESIGNER										C.S. REV. []
DRAFTSMAN										ETCH REV. []
CHECKER										MS NO. 40034

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M7255-00004

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digital ENGINEERING CHANGE ORDER #11		ORIGINATOR Dick Lewis 1-2 TELENT 3055 DATE 6/29/73 DISC PROJ NO E-20-06734 COST CENTER NO. 378		ECTD NO. <u>M7255-0005</u> SHEET <u>1</u> OF <u>2</u> DATE RECEIVED <u>July 2, 73</u> FIRST ISSUE <u>7-5-73</u> FINAL ISSUE <u>7/3/73</u>	
PROBLEM M7255 module has no spare IC locations, some long etch runs and poor capability of XOR testing of the hardware poll logic				UNIT TO BE CHANGED M7255 Disk Control DEP CODE 02*	
CORRECTION Relayout board to high density standards to add spare IC locations, shorten the long etch runs, and to incorporate new design for hardware poll timing.				OPTIONS AFFECTED RK11-D E	
BREAK-IN/EFFECTIVITY All rev D and earlier etch boards in W.I.P. by 7/2 may be completed. (Do not scrap any boards.) Only Rev E boards may be etched after 7/2				PRODUCT LINE AFFECTED PDP 11	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	ORIG CODE	DESCRIPTION OF CHANGE
1	D-CS-M7255-0-1	-	-	-	See Final release drawing
	Sheet 1	E	H	06	Replace old rev with new rev print supplied
	Sheet 2	C	D	06	Replace old rev with new rev print supplied
	Sheet 3	C	D	06	Replace old rev with new rev print supplied
	Sheet 4	D	E	06	Replace old rev with new rev print supplied
	Sheet 5	B	C	06	Replace old rev with new rev print supplied
	Sheet 6	C	D	06	Replace old rev with new rev print supplied
	Sheet 7	D	E	06	Replace old rev with new rev print supplied
2	D-AH-M7255-0-5	F	H	06	Replace old rev with new rev print supplied
3	B-ME-M7255-0-6	E	F	06	See Final release drawing
4	500 9986	D	E	02	Phase in new etch board as shown above
DISPOSITION CODES		APPROVAL SIGNATURES			
00 - RETURN TO STOCK 01 - DELETED 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (TRANSIT) 03 - REWORK & IMMEDIATELY RETROFIT 04 - DELETED 05 - DELETED 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COM. Assy) 09 - SCRAP IMMEDIATELY		Designated / Hand Signature DESIGN ENGR. <u>Tom O'K</u> ENG MGR (OPT) <u>[Signature]</u> FIELD SERVICE (OPT) <u>[Signature]</u> CHIEF ENGR. (MODULES ONLY) <u>[Signature]</u>			

DEC 16-13251-1071-10711 SEE REVERSE FOR INSTRUCTIONS OR ORDER TO FILL OUT FORM PROPERLY

ORA-11/C

ECO M7255-0005
Sheet 2 of 2

SUPPLEMENTAL INFORMATION

As of 6/27 there are 100 boards in W.I.P. in Maynard, 100 boards in W.I.P. in Puerto Rico and 350 etch boards in the board shop. Board Fabrication (Don Snow) has been asked to finish all boards in W.I.P., but all lots on order must be of new etch revision (rev E).

An adequate supply of old rev circuit schematics should be stock-piled at Westfield, Ireland and world support to cover the phase-out period of old rev etch boards as new circuit schematics should reach production before new boards.

ksl

PAGE REVISION CONTROL SHEET											
SH NO.	PAGE REVISIONS						REMARKS	FIRST USED ON OPTION/MODEL	DATE	ENG. REV. NO.	
	1	2	3	4	5	6					
1	B	C	D	E	F	H	DISK1 DISK2 DISK3 DISK4	RK11-D	RK11-D	E 00005	
2	B	C	D	E	F	H					D 00004
3	B	C	D	E	F	H					D 00003
4	B	C	D	E	F	H					D 00002
5	B	C	D	E	F	H					D 00001-1A
6	B	C	D	E	F	H					C
7	B	C	D	E	F	H					
8	B	C	D	E	F	H					
9	B	C	D	E	F	H					
10	B	C	D	E	F	H					
11	B	C	D	E	F	H					
12	B	C	D	E	F	H					
13	B	C	D	E	F	H					
14	B	C	D	E	F	H					
15	B	C	D	E	F	H					
16	B	C	D	E	F	H					
17	B	C	D	E	F	H					
18	B	C	D	E	F	H					
19	B	C	D	E	F	H					
20	B	C	D	E	F	H					
21	B	C	D	E	F	H					
22	B	C	D	E	F	H					
23	B	C	D	E	F	H					
24	B	C	D	E	F	H					
25	B	C	D	E	F	H					
26	B	C	D	E	F	H					
27	B	C	D	E	F	H					
28	B	C	D	E	F	H					
29	B	C	D	E	F	H					
30	B	C	D	E	F	H					
31	B	C	D	E	F	H					
32	B	C	D	E	F	H					
33	B	C	D	E	F	H					
34	B	C	D	E	F	H					
35	B	C	D	E	F	H					
36	B	C	D	E	F	H					
37	B	C	D	E	F	H					
38	B	C	D	E	F	H					
39	B	C	D	E	F	H					
40	B	C	D	E	F	H					
41	B	C	D	E	F	H					
42	B	C	D	E	F	H					
43	B	C	D	E	F	H					
44	B	C	D	E	F	H					
45	B	C	D	E	F	H					
46	B	C	D	E	F	H					
47	B	C	D	E	F	H					
48	B	C	D	E	F	H					
49	B	C	D	E	F	H					
50	B	C	D	E	F	H					

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		DATE 10/17/72	
DRN. 10/17/72	DATE 10/17/72	DATE 10/17/72	DATE 10/17/72
CHK'D. [Signature]	DATE 10/17/72	DATE 10/17/72	DATE 10/17/72
ENG. [Signature]	DATE 10/17/72	DATE 10/17/72	DATE 10/17/72
PROJ. ENG. [Signature]	DATE 10/17/72	DATE 10/17/72	DATE 10/17/72
PROOF. [Signature]	DATE 10/17/72	DATE 10/17/72	DATE 10/17/72
TITLE DISK CONTROL		REV. H	
RK11-D		NUMBER	
B U S M 7 2 5 5 - 0 - 1		SIZE CODE	
SCALE		DIST.	
SHEET OF		REV.	
NEXT HIGHER ASSY. E-00-RK11-0		H	
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M7255-00005

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FOR PRODUCTION**

J 7-0-5521W HW B
 1000 225

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP11</u>				PAGE <u>1</u> OF <u>1</u>				RELEASED CS REV. <u>B</u>					
DATE RELEASED <u>9-25-72</u>								RELEASED ETCH BO REV. <u>C</u>					
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	D. LEWIS	10-9-72	C	D	X			X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X			X			STANDARDIZE CLK. PULSES		
00003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAVINE		
00004	R. LEWIS	4-26-73	F	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		DISABLE ONE SHOT (E2D) WHEN NOT POLLING TO PREVENT FALSE SCH CMP'S		
00005	R. LEWIS	6-25-73	H	E		X		X			NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

REVISIONS	DATE	BY	DESCRIPTION
CS 00007	TA		
CS 00002	C		
CS 00003	D		
CS 00005	E		
DD 00005	H		

DATE	10-7-72	DATE	12-7-72	DATE	
BY		BY		BY	
DATE		DATE		DATE	
DATE		DATE		DATE	
EQUIPMENT CORPORATION			TITLE: MODULE ECO HISTORY		
SIZE	B	CODE	MH	NUMBER	M7255-0-6
REV.	F				

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M7255-00005

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- NOTES:
- 1) INSTALL W1 FOR RK05.
 - 2) CUT W4 FOR RKII-C COMPATIBILITY (NORMAL OPERATION).
 - 3) FOR RKII-D (RK05) CUT JUMPER W3 FOR RKII-E (18 BIT RK05) CUT JUMPER W2.
 - 4) FOR NORMAL OPERATION INSTALL W6 (CHANGES ID BITS ONLY FOR SEARCH COMPLETE INTERRUPT). INSTALL W5 TO CHANGE ID BITS FOR ANY INTERRUPT.
 - 5) INSTALL PROPER CRYSTAL IN SPLIT LUGS AS OUTLINED IN TABLE I.

	DISK	BIT/WORD	MHZ	DEC F/N
RKII-D	RK05	16	2.850	18-12694-3
RKII-E	RK05	18	3.092	18-12694-4

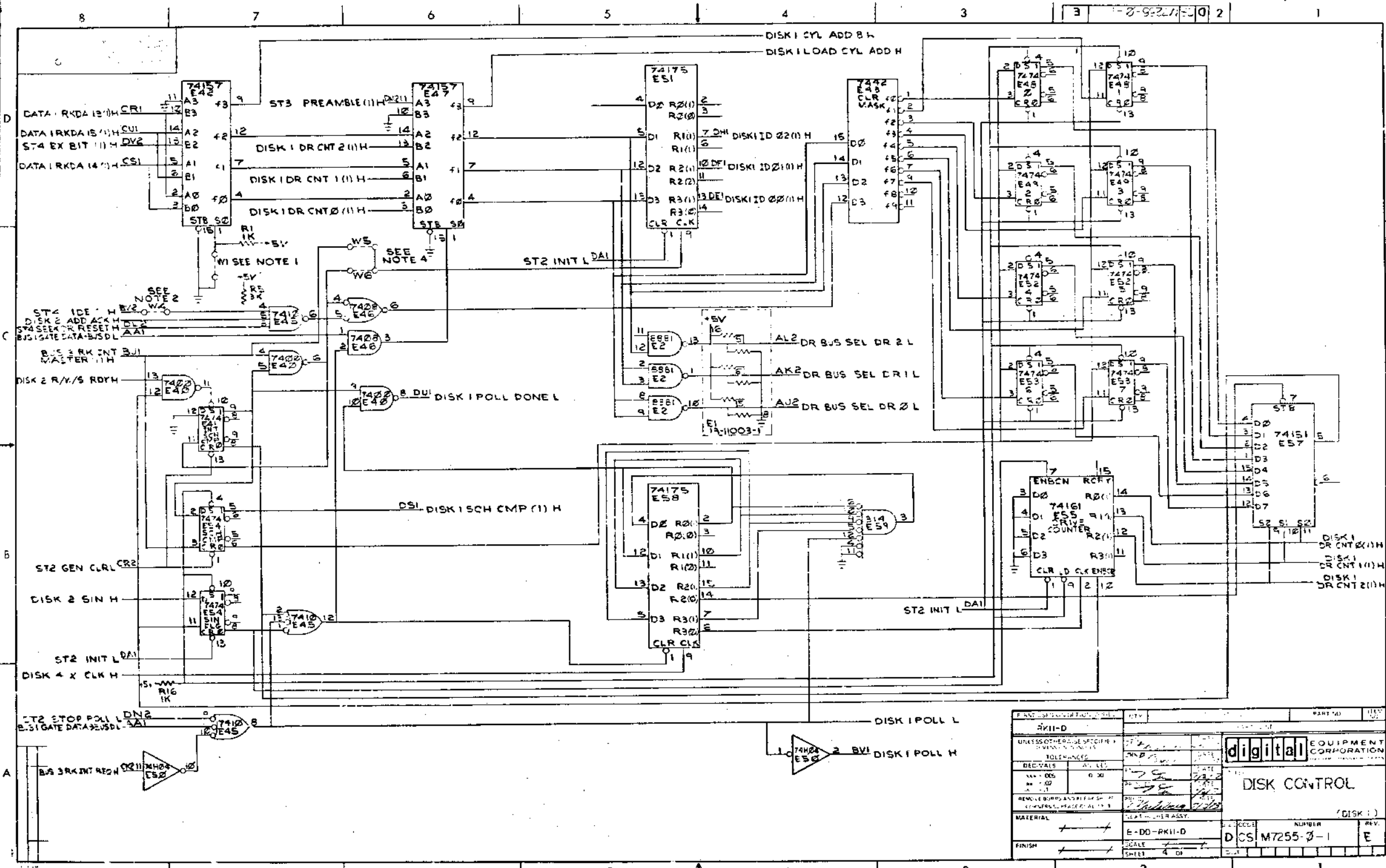
REVISIONS
 CHANGE NO. REV.

FIRST USED OR OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RKII-D				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES				
TOLERANCES	DECIMALS	ANGLES	DATE	
.001	.001	10' 30"	DATE	DATE
.002	.002		DATE	DATE
.005	.005		DATE	DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
PARTS LIST		TITLE		
digital EQUIPMENT CORPORATION		DISK CONTROL		
		RKII-D		
SIZE CODE	NUMBER	REV.		
B-DD-RKII-D	D CS M7255-1-1	D		
SCALE	NONE			
SHEET	3 OF			

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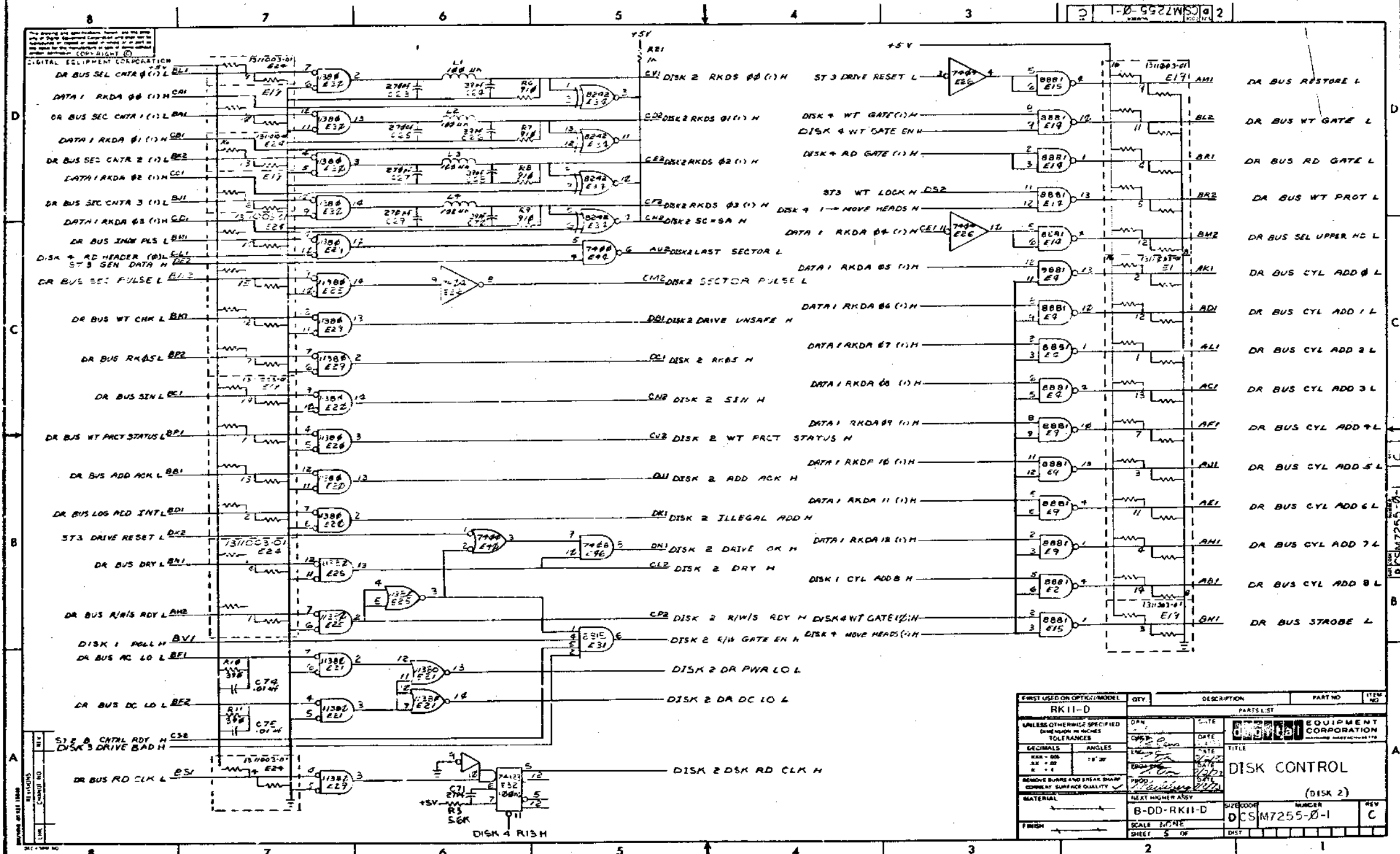
M7255-00005

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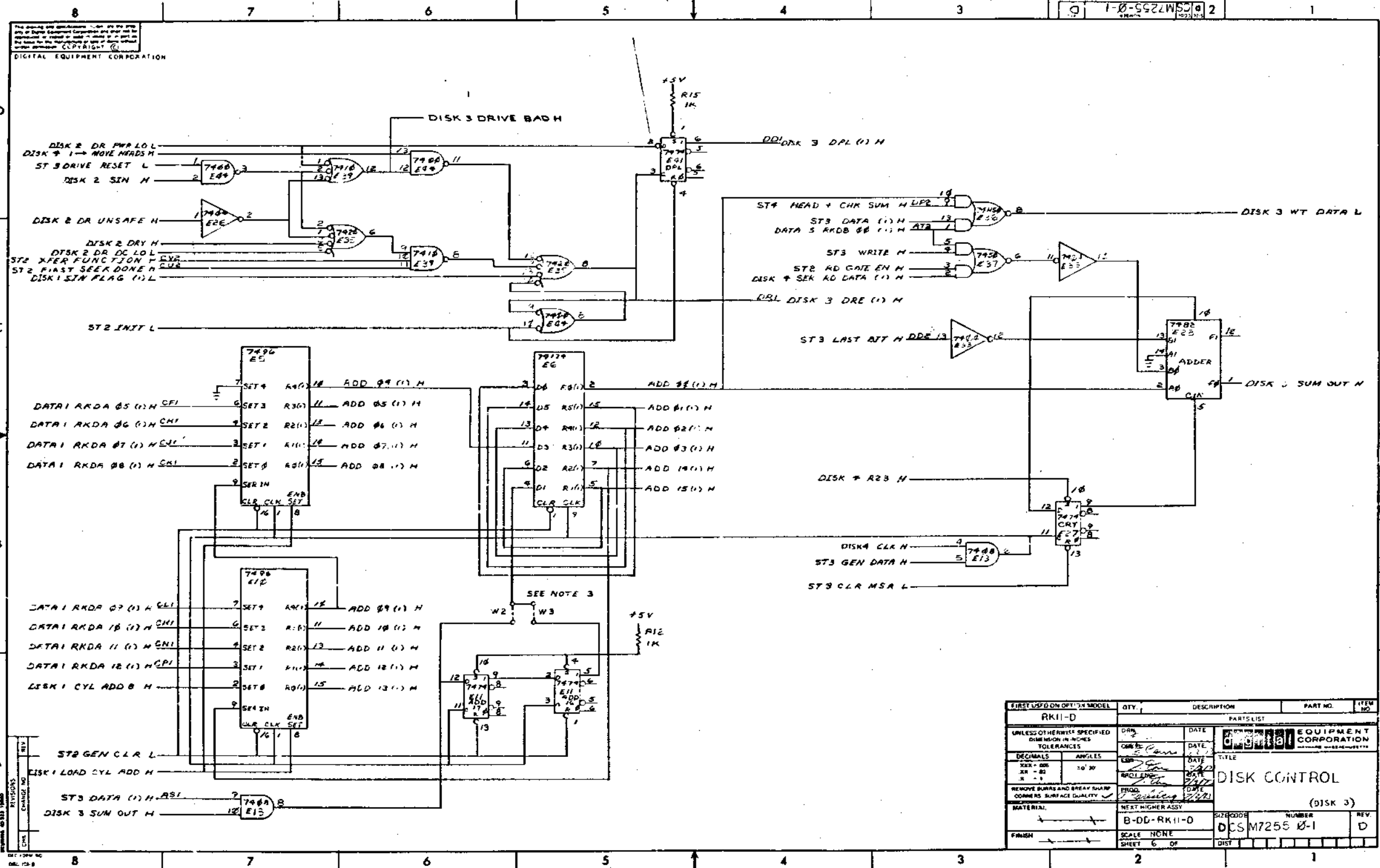
THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00005 NOT TO BE USED FOR PRODUCTION

PART NO. RK11-D		REV. 02	
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:			
DECIMALS	FRACTIONS	ANGLES	WELDS
±.005	±.000	±.030	±.000
REPLACE BOM AND PARTS LIST BY CONTROL MADE AT THE DATE OF THIS DRAWING			
MATERIAL	FINISH	SCALE	SHEET
+	+	E-D0-RK11-D	4 OF 4
DIGITAL EQUIPMENT CORPORATION		DISK CONTROL (DISK 1)	
D CS M7255-0-1		NUMBER	REV.
			E



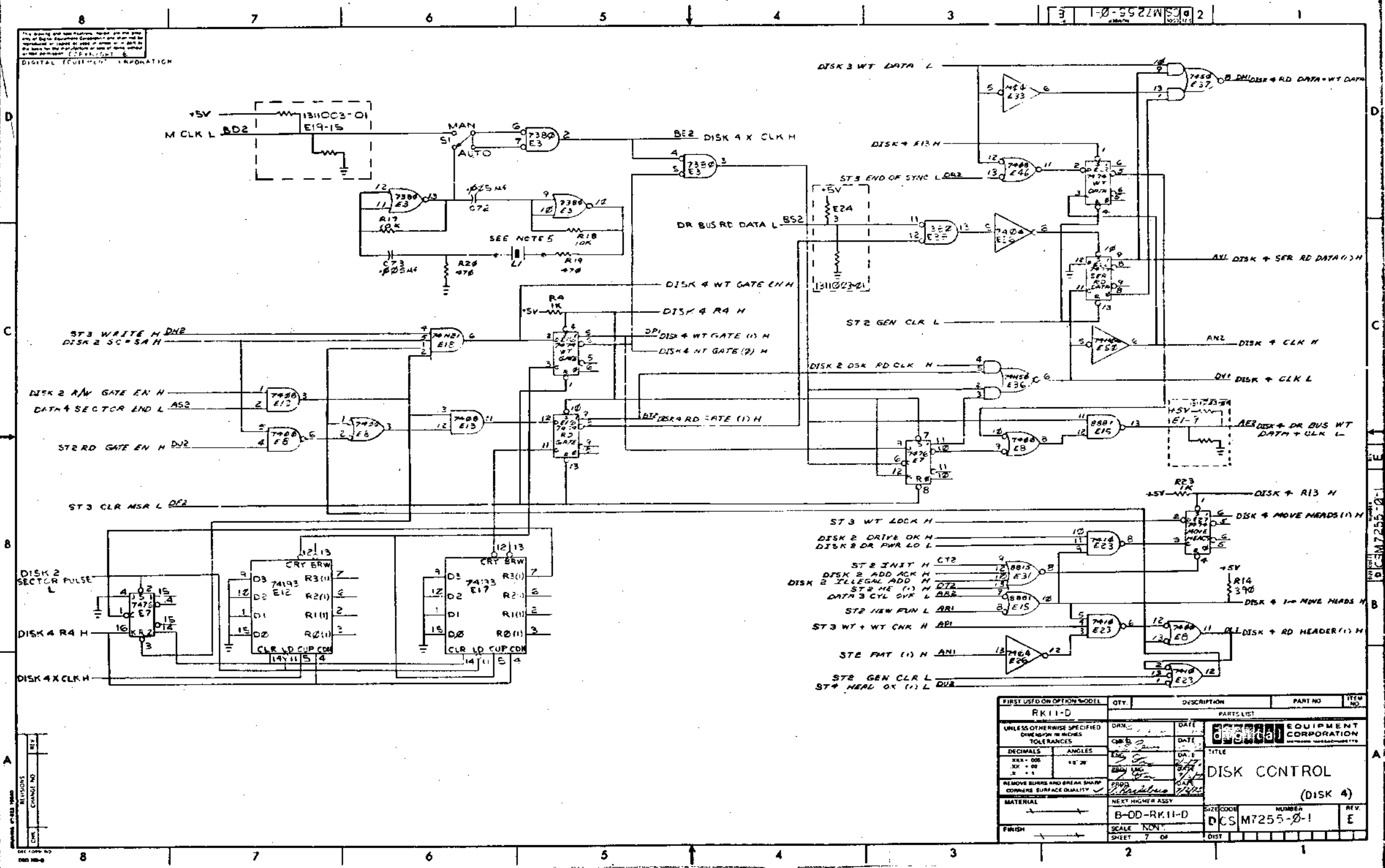
FIRST USED ON OPTIC MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	EQUIPMENT CORPORATION		
DISK CONTROL (DISK 2)				
MATERIAL		B-DD-RK11-D		
FINISH		SCALE NONE		
		SHEET 5 OF		

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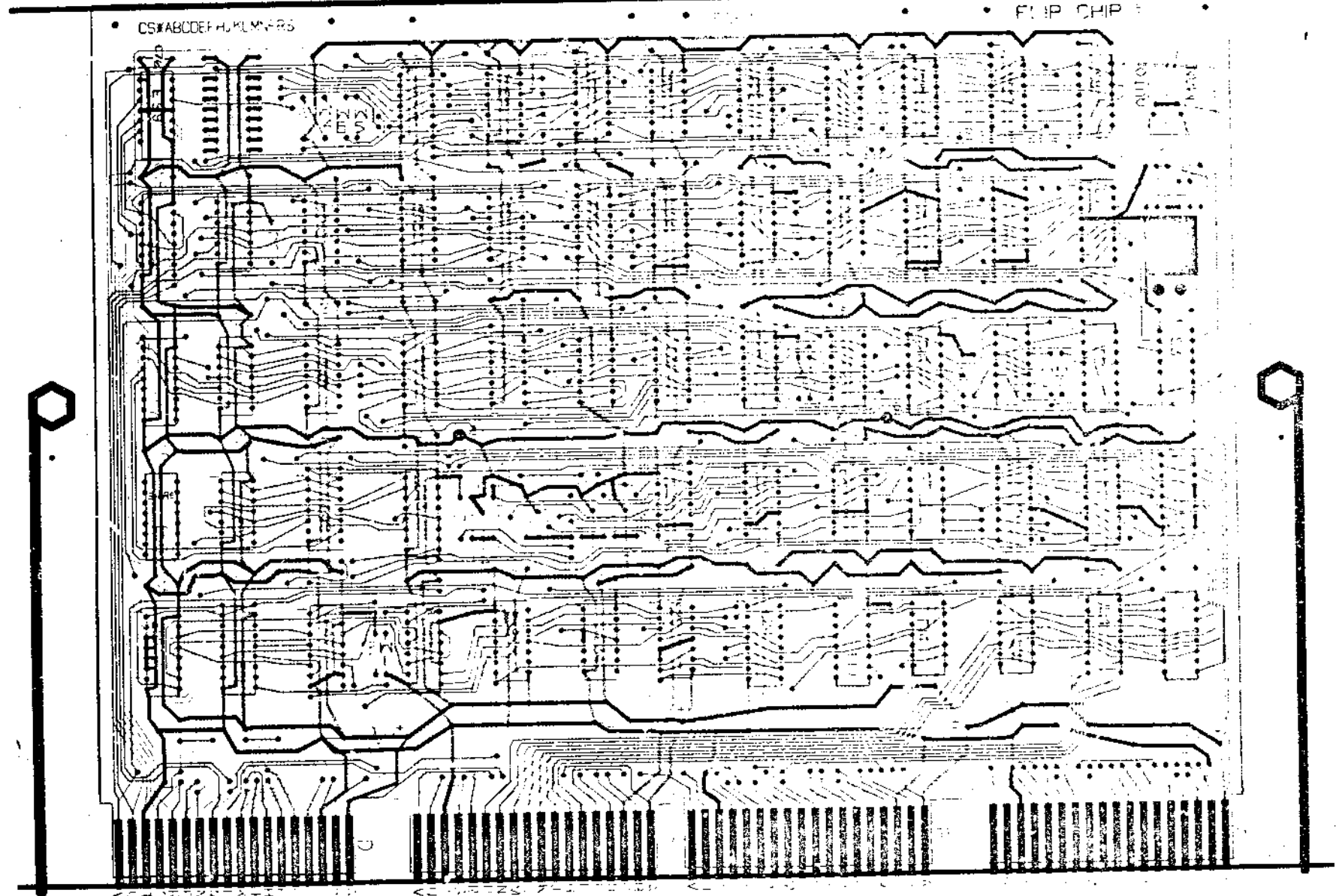
FIRST USED ON OTHER MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	EQUIPMENT CORPORATION	
XXX - 000	XX - 00	DATE	TITLE	
XX - 00	X - 00	DATE	DISK CONTROL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL: NEXT HIGHER ASSY				
FINISH: B-DD-RK11-D				
SCALE: NONE				
SHEET 6 OF				
SIZE CODE: B-DD-RK11-D			NUMBER: DCS M7255-0-1	REV: D
DIST: 1				

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M7255E-P2MS40 87



CS#ABCDEFGHIJKLMNRS

FLIP CHIP

NOTES:

HOLE LETTER	DRILL SIZES		FOR NON-PTH BOARDS	CAN TAKE GRIPLETS YES NO	QTY OF HOLES
	FOR PTH BOARDS	BEFORE PLATE			
NONE	61 (39)	X			
1	49 (30.1A)	X			2
2	41 (26.01A)	X			2

BOARD FABRICATION INFORMATION:

BOARD SIZE 20.0 x 20.0
 BOARD MATERIAL FR-4
 LAYER 2 SIDES
 E-LEET PLATED THRU
 S'DED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE	2/23/87	DESIGNER	MS
BY	MS	CHECKED	
APP'D		DATE	
ETCH REV	0.1A1	DATE	

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M7255-00005

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digital ENGINEERING CHANGE ORDER 773

ORIGINATOR Dick Lewis 1-3
 TEL EXT 4620 DATE 9-14-73
 DISC PROJ NO. E-20-06734
 COST CENTER NO. 395

ECO NO. M7255-0006 SHEET 2 OF 15
 SHEET 2 OF 15
 DATE RECEIVED 9-21-73
 FIRST ISSUE 9-28-73
 FINAL ISSUE 10/20/73

UNIT ORIGINATOR: M7255 Disk Control Disk Control Disk Control #3*

PROBLEM: During a power fail sequence it is possible for WT GATE to be on while an INLT (from M7254) caused by BUS DC LO is issued. This will damage the data being written on the disk.

CORRECTION: Replace DR BUS AC LO with BUS AC LO in the R/W GATE EN circuit and remove the terminator. If BUS AC LO is absent at error pulse time, then WT GATE is not turned on. DR BUS AC LO is not required for proper operation of the control.

WORK IN PROGRESS: Retrofit all units leaving Puerto Rico and Westfield after October 15. Retrofit all others as required. **NOTE: This ECO must be installed on all M7255's.**

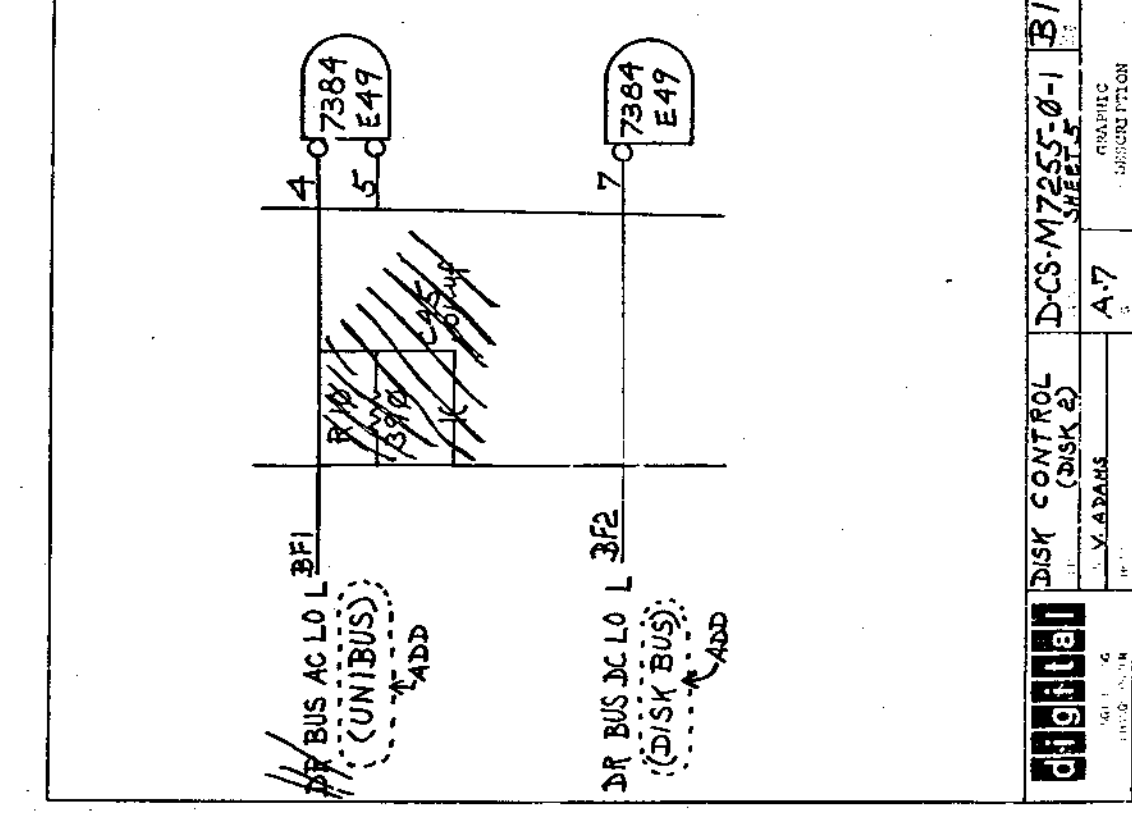
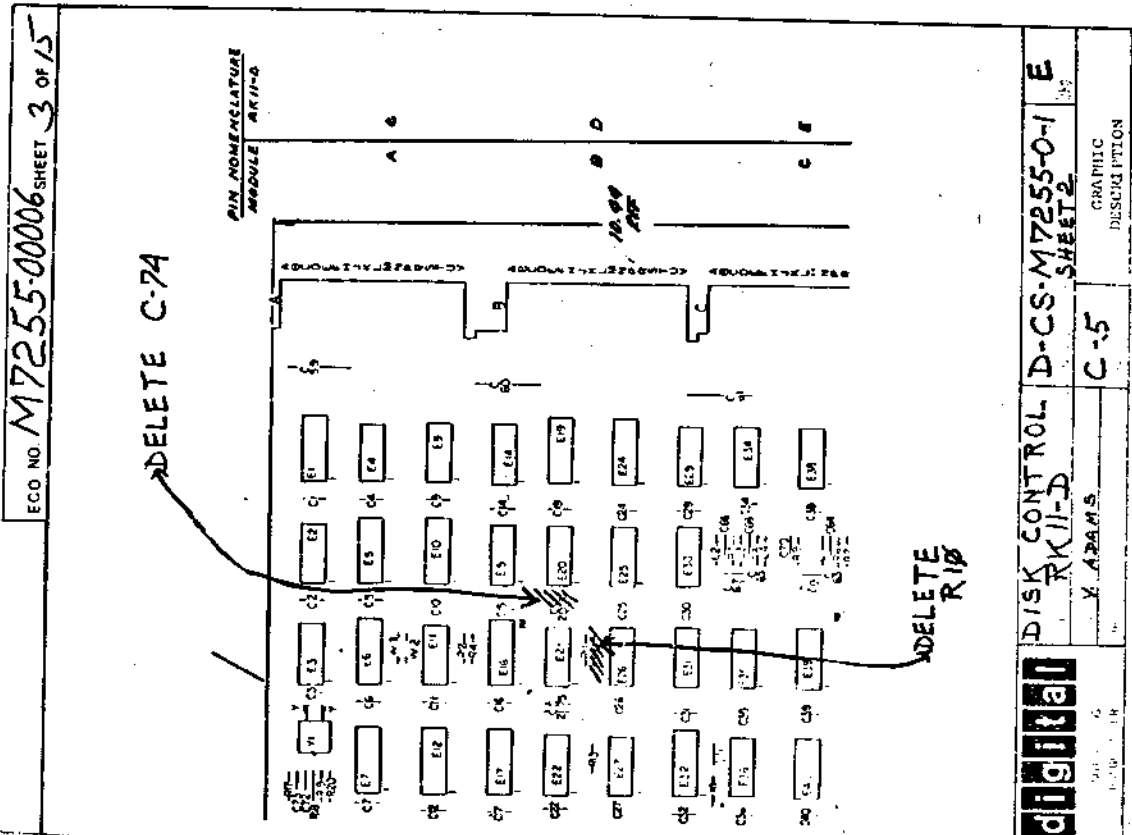
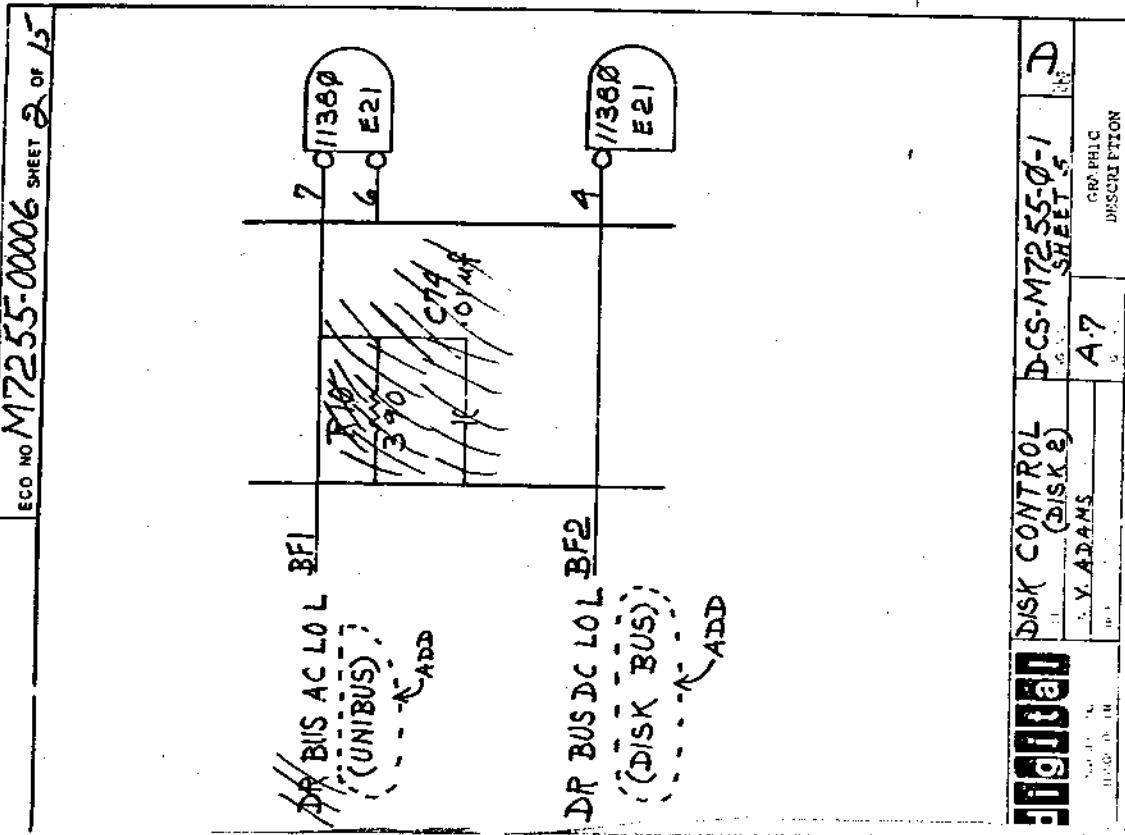
ITEM NO.	DOCUMENT/PART NO.	OLD PART NO.	DESCRIPTION OF CHANGE
1	B-CS-M7255-0-1		
	Sheet 1	H J #6	Update rev.
	Sheet 2	C Q4 #6	Delete R10 and C45 from parts list and overlay
	Sheet 2	D E #6	Delete R10 and C74 from parts list and overlay
	Sheet 5	B B-1 #6	Change signal name on E49 pin 4 from DR BUS AC LO L to BUS AC LO L and delete R10 and C45
	Sheet 5	C D #6	Change signal name on E21 pin 7 from DR BUS AC LO L to BUS AC LO L, delete R10 and C74 and add bubbles to input pins 1,2,4,5 of 8815 in E31
2	D-AE-M7255-0-5	F B-1 #6	Update rev and delete R10 and C45
3	D-AE-M7255-0-5	H J #6	Update rev and delete R10 and C74
4	B-MB-M7255-0-6	F H #6	See final release drawing
5	1000308		Delete one 390 resistor
6			Delete one 390 resistor

DISPOSITION CODES: NO YES

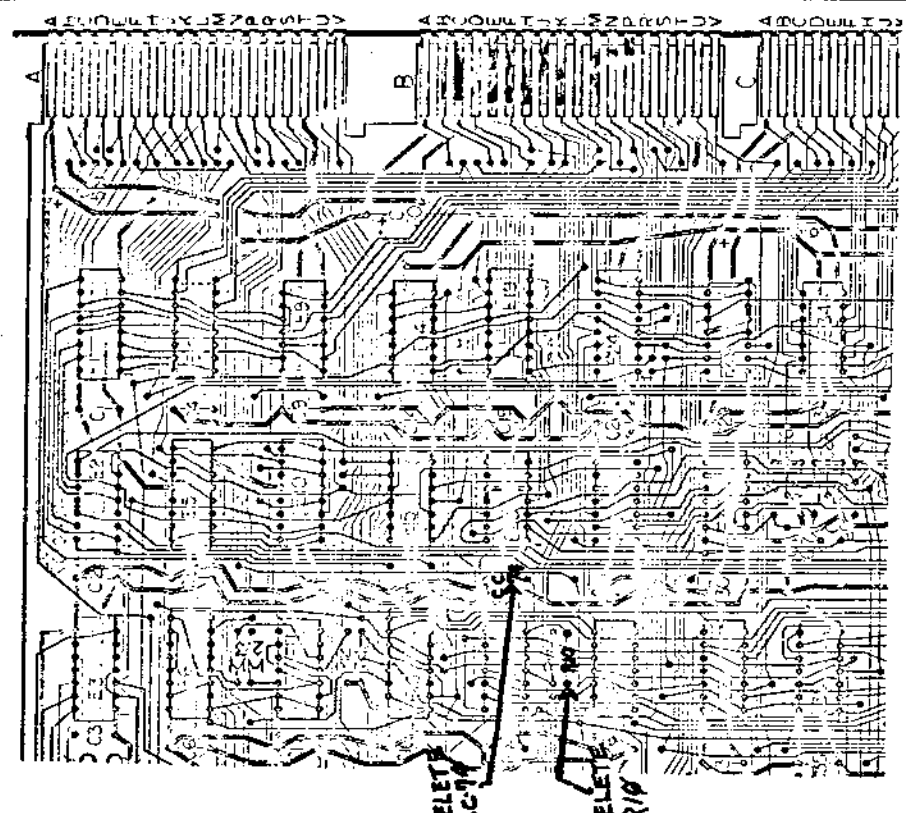
APPROVAL SIGNATURES: *[Signature]*

DESIGN ENGR: Tom Oxt
 FIELD SERVICE (OPT):
 CHIEF ENGR (MODULES ONLY):

SEE INSTRUCTIONS FOR REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT THIS FORM PROPERLY.



ECO NO. M7255-0006 SHEET 4 OF 15



digital **DAH-M7255-0-5**
 DISK CONTROL
 X. ADAMS
 GRAPHIC DESCRIPTION

digital **FIELD CHANGE ORDER**

REMARK: all M7255's when symptoms are present

FIELD REPORT IS INDICATED IN 100% OF UNITS OF THIS AREA

ARE TO 1. NUMBER UNDER A "C" CHANGE LOG

STANDARD AFTER AHEAD. THIS LOG IS TO BE INSTALLED AS A GUIDE FOR MAINTENANCE AND REPAIR. LATEST EDITIONS IN ALL UNITS WITH THE TECHNICAL EFFECTIVITY ABOVE, DATE ABOVE AT CUSTOMER'S PREFERENCE.

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

FIELD EFFECTIVE RED INSTRUCTIONS LINK

FIELD EFFECTIVE DATE: 10-16-66

FIELD EFFECTIVE TIME: 1.5 HOURS

FIELD EFFECTIVE LOCATION: 1.5 HOURS

FIELD EFFECTIVE SPECIAL TEST EQUIPMENT, TOOLS, OR SUPPLIES

FIELD EFFECTIVE PARTS: COA, G03

FIELD EFFECTIVE REVISIONS: RE1 D-00009

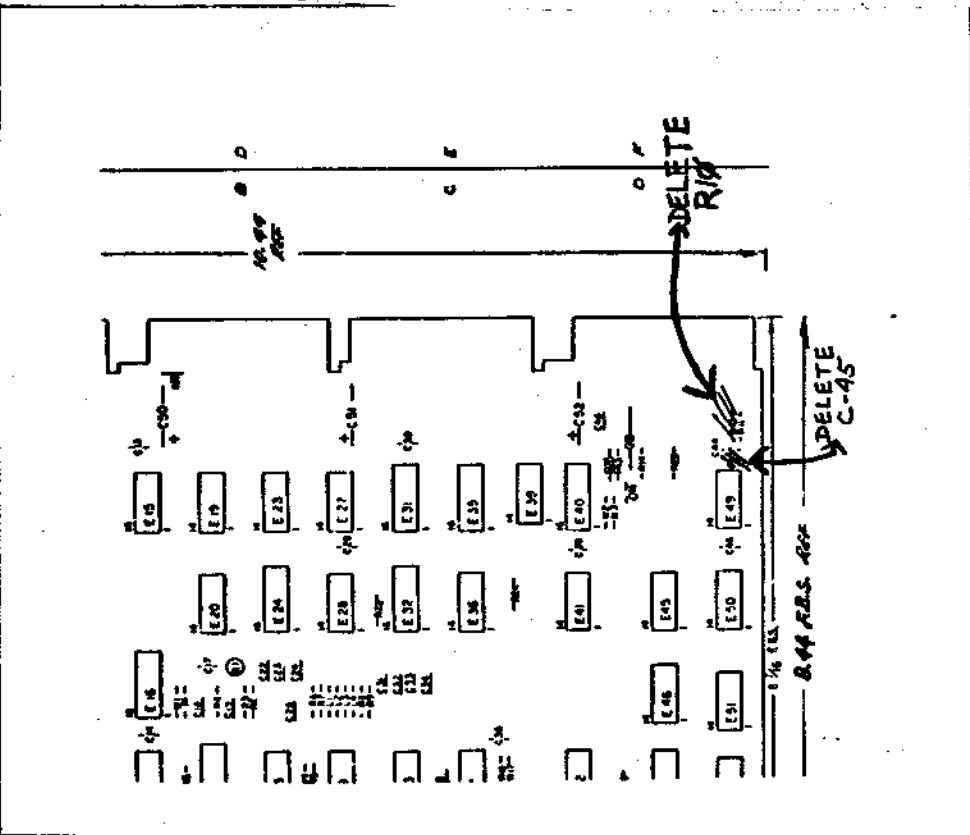
FIELD EFFECTIVE STATUS: PARTS REQUIRED MATERIALS REQUIRED SPECIAL TEST EQUIPMENT, TOOLS, OR SUPPLIES

FIELD EFFECTIVE MANUALS: PARTS REQUIRED

FIELD EFFECTIVE APPROVAL: Roy Evans

FIELD EFFECTIVE DATE: 10-16-66

FIELD EFFECTIVE TIME: 600



digital **D-CS-M7255-0-1**
 DISK CONTROL
 X. ADAMS
 GRAPHIC DESCRIPTION

digital **ASSY DRILLING HOLE LAYOUT**

DELETE R10 AND C45

FIELD EFFECTIVE APPROVAL: Roy Evans

FIELD EFFECTIVE DATE: 10-16-66

FIELD EFFECTIVE TIME: 600

PAGE REVISION CONTROL SHEET										REMARKS	
SH NO.	DATE	ECO NO.	ENG REV.	ETCH	DATE	DATE	DATE	DATE	DATE		
1	10-27-70										DISK 1 DISK 2 DISK 3 DISK 4
2	11-15-70										
3	11-15-70										
4	11-15-70										
5	11-15-70										
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99	11-15-70										
100	11-15-70										

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M7255-00006

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FOR PRODUCTION**

PAGE REVISION CONTROL SHEET										
SH NO.	PAGE REVISIONS							REMARKS		
	DATE	BY	CHKD.	APP'D.	DATE	DATE	DATE	DATE	DATE	
1										
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100										

DISK 1
DISK 2
DISK 3
DISK 4

FIRST USED ON OPTION/MODEL
RK11-C

DRN. DATE	DATE	DATE	DATE	DATE	TITLE
CHKD. DATE	DATE	DATE	DATE	DATE	DISK CONTROL
ENG. DATE	DATE	DATE	DATE	DATE	RK11-D
PROJ. ENG. DATE	DATE	DATE	DATE	DATE	
PROO. DATE	DATE	DATE	DATE	DATE	
NEXT HIGHER ASSY.					
B-DD-RK11-D					
SCALE	SHEET		OF	DIST.	REV.
					FI

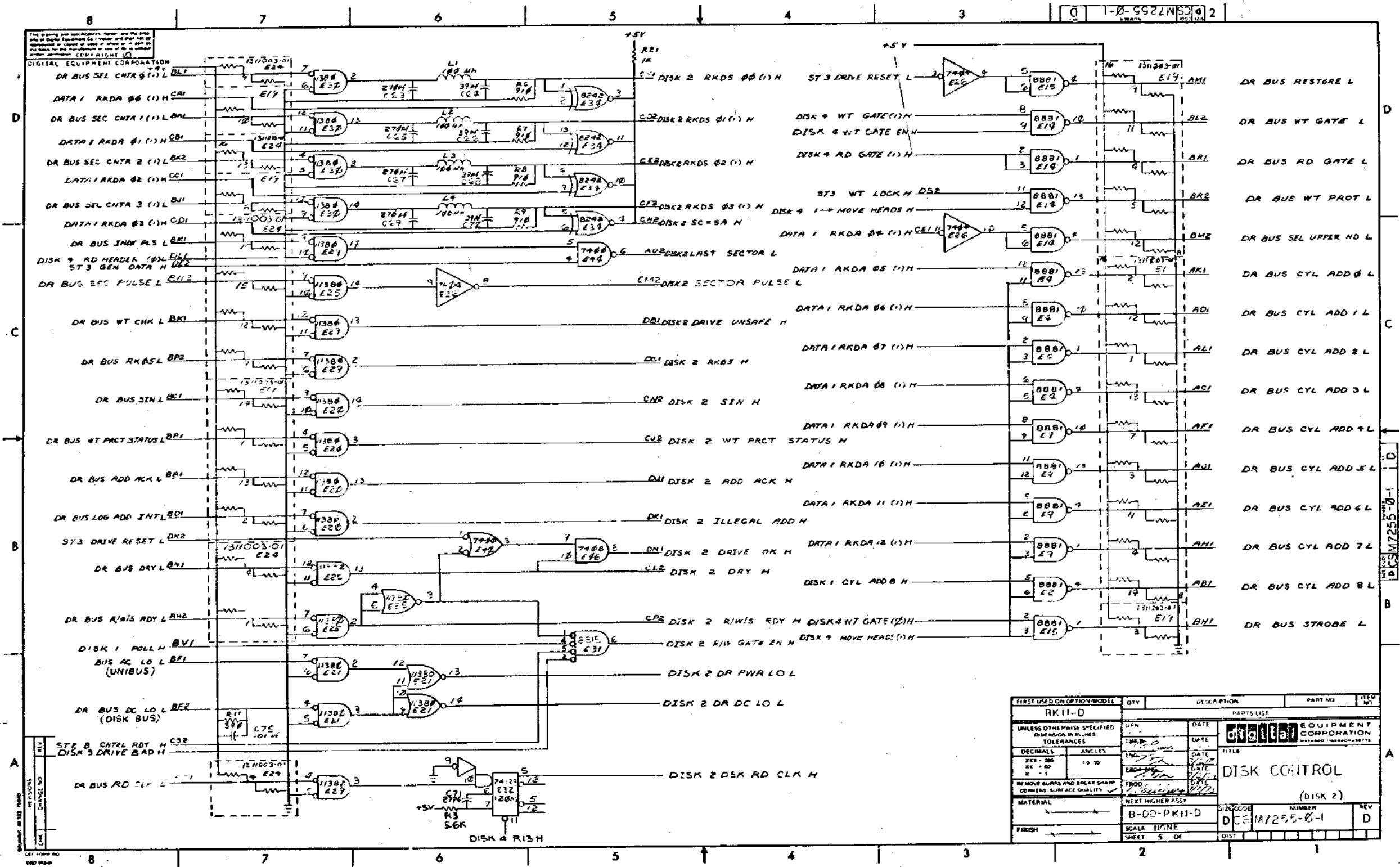
CAUTION — SEE DRAWING M7255-00006

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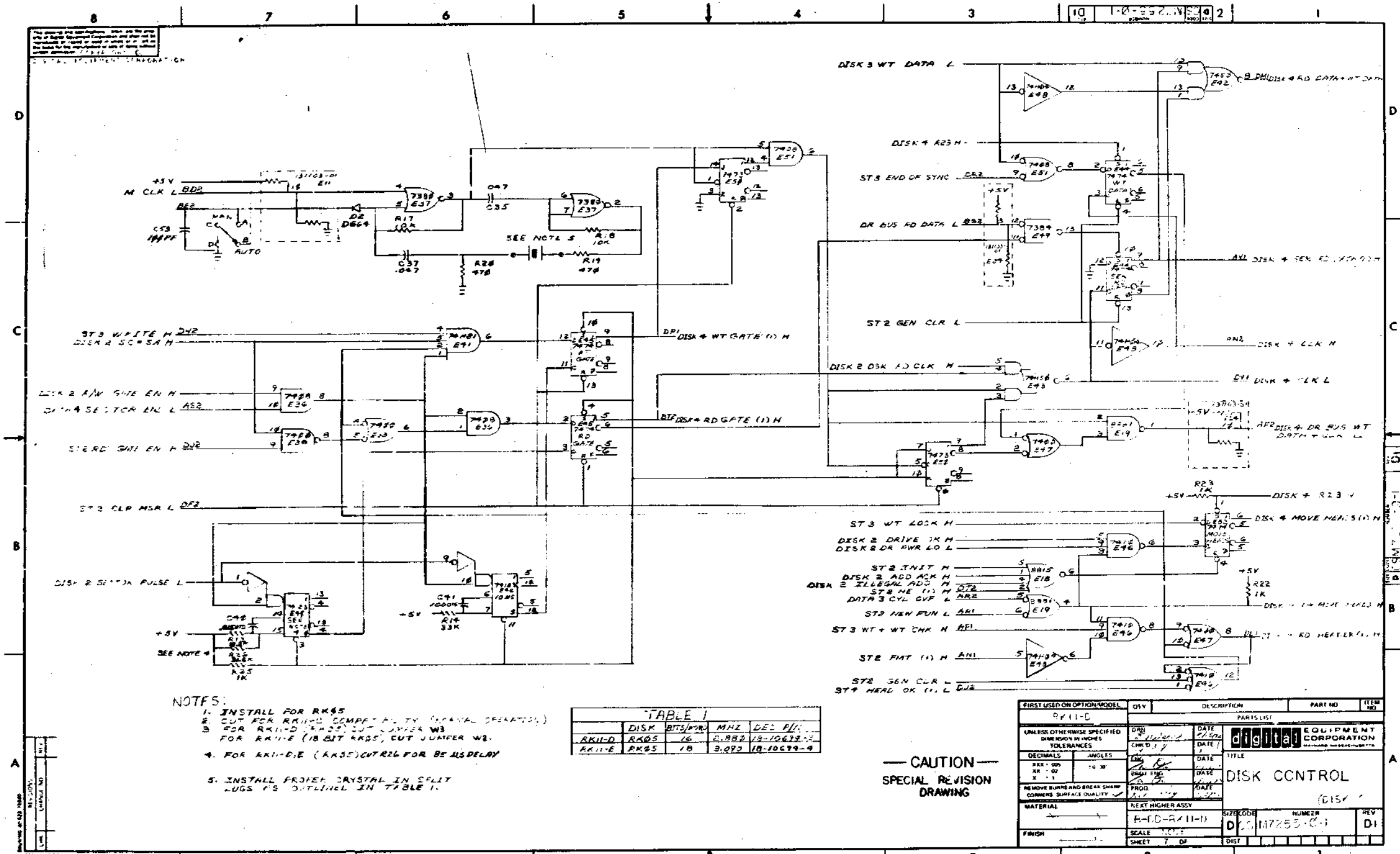
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FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	Digital EQUIPMENT CORPORATION <small>11000000-00000</small>	
FR - .0005 XX - .001 X - .002 X - .005	10 20	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
NEXT HIGHER ASSY				
MATERIAL		DISK CONTROL (DISK 2)		
FINISH		B-00-PK11-D SCALE 1/16"=1" SHEET 5 OF 11		
		DIST CODE NUMBER REV DC M7255-0-1 D		



- NOTES:
1. INSTALL FOR RK45
 2. CUT FOR RK11-D COMPATIBILITY (INTERNAL OPERATIONS)
 3. FOR RK11-D (RK45) CUT LAYER W3 FOR RK11-E (18 BIT RK45) CUT JUMPER W2.
 4. FOR RK11-E (RK45) CUT R24 FOR BE DELAY
 5. INSTALL PROPER CRYSTAL IN SPLIT LUGS AS OUTLINED IN TABLE 1.

DISK	BITS/REV	MHZ	DEC. FILE
RK11-D	RK45	16	2.882 18-10672-9
RK11-E	RK45	18	3.092 18-10679-9

CAUTION
SPECIAL REVISION
DRAWING

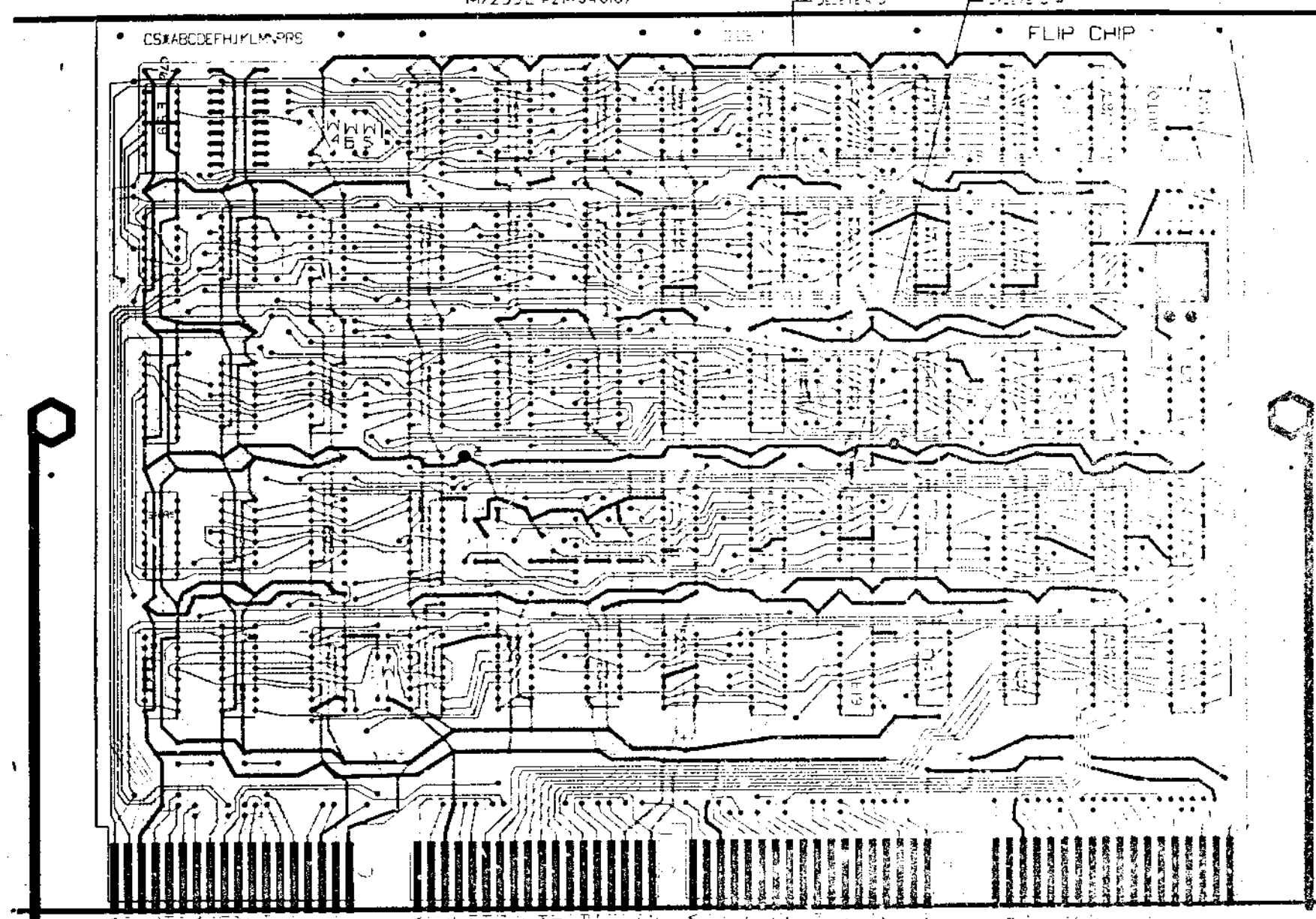
FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES				
TOLERANCES				
DECIMALS	ANGLES	DATE	PARTS LIST	
FR - 001	10 30	DATE	DIGITAL EQUIPMENT CORPORATION	
X - 1		DATE	TITLE	
		DATE	DISK CONTROL	
		DATE	(DISK)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
NEXT HIGHER ASSY				
A-10-R-11-11				
SCALE 1:1				
SHEET 7 OF				
SIZE/ODE		NUMBER		REV
D10		M7255-C-1		D1
DIST				

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FOR PRODUCTION

M7255E PZMS40187

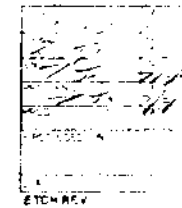


NOTES:

HOLE LETTER FOR PTH BOARDS	DRILLING DATA		CAN TAKE GR. PLETS YES NO	QTY OF HOLES
	DRILL SIZES BEFORE AFTER PLATE PLATE	FOR NON-PTH BOARDS		
NONE	61 39			
Y	45 37 (DIA.)			2
Z	41 36 (DIA.)			

BOARD FABRICATION INFORMATION


BOARD SIZE OF BOARD
 BOARD MATERIAL
 EYELET PLATED THRU
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING



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M7255-00006

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		ORIGINATOR Dick Lewis 1-3 TELEXT 4620 DATE 10/5/73 DISC PROJ NO E20-06734 COST CENTER NO. 395		ECO NO. <u>M7255-6A</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>10-9-73</u> FIRST ISSUE <u>10-12-73</u> FINAL ISSUE	
ENGINEERING CHANGE ORDER <u>9793</u>		PROBLEM The break in/effectivity of ECO #M7255-0006 stated that the ECO was to be installed on all M7255's in RK11's with ECO #RK11D-00010. This was in error. The FK11D ECO referenced should be RK11D-00009.		UNIT TO BE CHANGED M7255 Disk Control DISC CODE <u>06</u> OPTIONS AFFECTED RK11D, E PRODUCT LINES AFFECTED PDP11 PDP15	
CORRECTION Install ECO #M7255-0006 on all M7255's in RK11's with ECO #RK11D-00009. Supplement ECO		BREAK-IN/EFFECTIVITY		DOCUMENTATION AFFECTED <input type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PRG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Check for Charge <input checked="" type="checkbox"/> Product Line Charge TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1	B-M7255-6-6	H	J	06	RECALL THIS E.C.O.
SUPPLEMENT ECO					
DISPOSITION CODES 00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - BROWK IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			APPROVAL SIGNATURES Typewritten / Hand Signature DESIGN ENGR Tom OYE (1-3) ENGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)		

digital ENGINEERING CHANGE ORDER 99*		ORIGINATOR Dick Lewis, 1-3 TEL EXT 4620 DATE 10/12/73 DISC PROJ NO E-20-06734 COST CENTER NO 395	ECO NO. <u>M7255-6B</u> SHEET <u>1</u> OF <u>2</u> DATE RECEIVED <u>10/12/73</u> FIRST ISSUE <u>10/18/73</u> FINAL ISSUE		
PROBLEM The Break In/Effectivity of ECO #M7255-00006 is unreasonable SUPPLEMENT ECO		UNIT TO BE CHANGED M7255 disk control			
CORRECTION Change the first sentence of the break-in/effectivity to read "retrofit all units built in Westfield after October 15 and all units leaving Puerto Rico after October 15." Supplement ECO		DISC CODE <u>B3*</u> OPTIONS AFFECTED RK11-D,E			
BREAK-IN/EFFECTIVITY See Sheet 2 this ECO for corrected break-in/effectivity		PRODUCT LINES AFFECTED PDP11 PDP15			
ITEM NO	DOCUMENT/PART NO.	OLD REV	NEW DISC REV CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1	B-MH-M7255-B-6	J	K B6	Update per this ECO	<input type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> Pkg INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Customer Charge <input checked="" type="checkbox"/> Product Line Charge TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE <input type="checkbox"/> ORDER FR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
DISPOSITION CODES			APPROVAL SIGNATURES		
00 - RETURN TO STOCK 01 - (DELETE) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (RETRABIT) 04 - (DELETE) 05 - (DELETE) 06 - (DELETE) 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - REAPPOINT DATAB			DESIGN ENGR <u>Tom Oxy 1-3</u> ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY) <u>AK</u>		

DEC 14 (725) 10/11/73 SEE REVERSE FOR INSTRUCTIONS (IN ORDER TO FILL OUT FORM PROPERLY) DKA-111C

digital ENGINEERING CHANGE ORDER		CONTINUATION SHEET	ECO NO. <u>M7255-0006B</u> SHEET <u>2</u> OF <u>2</u>	
ITEM NO	DOCUMENT/PART NO.	OLD REV	NEW DISC REV CODE	DESCRIPTION OF CHANGE
				Break-In/Effectivity Retrofit all units built in Westfield after October 15 and all units leaving Puerto Rico after October 15. Retrofit all others as required or as convenient. NOTE: This ECO must be installed on all M7255's in RK11-D,E with ECO RK11-D-0009 (Rev C) Reference ECO #M7255-00006.

DRA-111C2

digital ENGINEERING CHANGE ORDER 2237		ORIGINATOR Tom Orr (1-) TEL EXT 2791 DATE 12/20/73 DISC PROJ NO. 29-76734 COST CENTER NO. 395		ECO NO. M7255-0007 SHEET 1 OF 1 DATE RECEIVED 12-21-73 FIRST ISSUE 1-4-74 FINAL ISSUE 2/1/74	
PROBLEM Power and ground distribution is very poor which results in high susceptibility to conducted and induced noise. This may show up as intermittent data, check sum or write check errors.				UNIT TO BE CHANGED M7255 1ch Rev. D RK11-D Disk Control DISP CODE C3R	
CORRECTION Add 4 ground and 4 power jumpers to side 1 of the board to improve the network of power and ground distribution. Rework only etch Rev. D and earlier.				OPTIONS AFFECTED RK11-D RK11-E	
BREAK-IN/EFFECTIVITY Rework all units to be shipped from Puerto Rico, Ireland, and Westminster after 1/15/74. Rework all units built in Westfield after 1/15/74. Rework any field machine suspected of having noise related problems.				PRODUCT LINES AFFECTED PDP-11 PDP-15	
ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE
1	B-CS-M7255-0-1 Sheet 1	F1	F2	D6	Update revision per this ECO.
2	D-AR-M7255-0-5	J	K	D6	Update revision per this ECO.
3	D-AR-M7255-0-5	F1	F2	D6	Add 8, 30 AWG wires to power and ground distribution. Update revision per this ECO.
4	D-AR-M7255-0-5	J	K	D6	Update revision per this ECO.
5	T-MH-M7255-0-6	K	L	D6	Update revision per this ECO.
Rework Instructions: Etch Rev. D only Ground Runs: Add wire from: 1. E50 Pin 3 to GND side of C46. 2. GND feed thru adjacent to E45 Pin 1 to GND feed thru adjacent to E41 Pin 7. 3. GND side of C31 to GND side of C38. 4. GND side of C22 to GND side of C17. +5 Runs: Add wire from: 1. E35 Pin 5 to +5v side of C30. 2. E23 Pin 14 to +5v side of C50. 3. +5v side of C13 to +5v side of C10. 4. +5v side of C17 to +5v side of R1.					
DISPOSITION CODES					APPROVAL SIGNATURES
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (RETRDIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY					DESIGN ENGR Tom Orr ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)

digital		FIELD CHANGE ORDER		ECO M7255 B 0007
FIELD CHANGES Rework M7255's in all RK11-D's at next PM or service call and verify in all new installations.				PARTS REQUIRED X
FIELD CHIEF (SEE INSTRUCTIONS FOR) F IMMEDIATE ACTION NOT REQUIRED BY FIELD OFFICES P IMMEDIATE ACTION REQUIRED BY FIELD OFFICES				DATE OF CHANGE 2.0
NOISE INSTRUCTIONS <input checked="" type="checkbox"/> YES AS DEFINED IN (SEE) MAY BE SPECIFIED AS YES, NO				DISPOSITION CODES DZRXB
INSTALLATION AND USE PRECAUTIONS				PARTS REQUIRED
NOTES				FIELD SERVICE VERIFIED Jim Barclay (X) 1-17 (375/223) 600

1 7-0-552LW HW 8
 23H M7255-0-6 1000 1275

MODULE ECO HISTORY

PRODUCT LINE PDP11 RELEASED CS REV. B
 DATE RELEASED 9-25-72 PAGE 1 OF 2 RELEASED ETCH BD REV. C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	D. LEWIS	10-9-72	C	D	X			X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X			X			STANDARDIZE CLK. PULSES		
00003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES, REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAMINE		
00004	R. LEWIS	4-26-73	F	D		X	REWORK ALL MODULE LEVEL MACHINES, REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		DISABLE ONE SHOT (E2D) WHEN NOT POLLING TO PREVENT FALSE SCH. CH'PS		
00005	R. LEWIS	6-25-73	H	E		X		X			NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

REV.	ENG.	DATE

DRW	DATE	10-1-72
CHK'D	DATE	10-1-72
ENG	DATE	10-1-72
PROD.	DATE	

EQUIPMENT CORPORATION			
SIZE	CODE	NUMBER	REV.
B	MH	M7255-0-6	L
NATHAN, MASSACHUSETTS			

DRB 104

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7 9-0-000000 MW 8
A10 230000 3300 3215

MODULE ECO HISTORY														
PRODUCT LINE <u>PDP11</u>				PAGE <u>2</u> OF <u>2</u>				RELEASED CS REV. <u>B</u>						
DATE RELEASED <u>9-25-72</u>								RELEASED ETCH BD REV. <u>C</u>						
RELEASED BY <u>T. ORR</u>														
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
00006	R. LEWIS	9-14-73	J F1	E	X				X			REPLACE DR BUS AC LO WITH BUS AC LO	—	2
00006A	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	—	CORRECT REF INFO	—	—
0006B	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	—	CHANGE BREAK-IN DATE	—	—
00007	T. ORR	12-20-73	F2 K	D		X	REWORK OLDER MODULES IF NOISE IS SUSPECTED		X			ADD +5 AND GND JUMPERS TO REDUCE POWER NOISE	—	—

REVISIONS
DATE
BY

DRN: D. SMITH	DATE: 10/4/72	TITLE: MODULE ECO HISTORY
CHK'D: D. SMITH	DATE: 10/4/72	
ENG: T. ORR	DATE: 12/27/72	EQUIPMENT CORPORATION
PROD: P. DOOLEY	DATE: 10/27/72	WATUARD, MASSACHUSETTS
SIZE: B	CODE: MH	NUMBER: M7255-0-6
REV: L		

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M7255-00007

NOT TO BE USED FOR PRODUCTION

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OF E.C.O. PACKAGE #

M7255-00007

**NOT TO BE USED
FOR PRODUCTION**

PAGE REVISION CONTROL SHEET									
SH NO.	PAGE REVISIONS							REMARKS	FIRST USED ON OPTION/MODEL
	DATE	ENG. REV. NO.	BY	CHKD.	DATE	DATE	DATE		
1	C	—	—	—	—	—	—	DISK1 DISK2 DISK3 DISK4	RK11-D
2	B	—	—	—	—	—	—		
3	A	—	—	—	—	—	—		
4	F	—	—	—	—	—	—		
5	E	—	—	—	—	—	—		
6	D	—	—	—	—	—	—		
7	C	—	—	—	—	—	—		
8	C	0001-1A	10-27-72	—	—	—	—		
9	D	00002	2-15-73	—	—	—	—		
10	D	00003	4/10/73	—	—	—	—		
11	D	00004	5/18/73	—	—	—	—		
12	CED	00006	4/17/73	—	—	—	—		
13	C&D	00007	4/27/73	—	—	—	—		

CAUTION		DATE	
DRN	DATE	CHKD.	DATE
ENG.	DATE	PROJ. ENG.	DATE
PROD.	DATE	PROJ.	DATE
NEXT HIGHER ASSY.		TITLE	
B-DD-RK11-D		DISK CONTROL	
SCALE		REV.	
SHEET 1 OF 7		NUMBER	
		B CS M7255-0-1	
		F2	

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PAGE REVISION CONTROL SHEET

SH NO.	PAGE REVISIONS										REMARKS	
	B	C	D	E	F	H	I	J	K	L		
1	B	C	D	E	F	H	I	J	K	L		DISK1 DISK2 DISK3 DISK4
2	B	C	D	E	F	H	I	J	K	L		
3	B	C	D	E	F	H	I	J	K	L		
4	B	C	D	E	F	H	I	J	K	L		
5	B	C	D	E	F	H	I	J	K	L		
6	B	C	D	E	F	H	I	J	K	L		
7	B	C	D	E	F	H	I	J	K	L		

FIRST USED ON OPTION/MODEL
RK11-D

DATE	ENG. REV. NO.	ETCH	ENG.	DATE	DRN	DATE	DATE	DATE	DATE	DATE	DATE	DATE
10-27-70	—	—	—	10-27-70	—	10-27-70	10-27-70	10-27-70	10-27-70	10-27-70	10-27-70	10-27-70
12-15-73	D	00002	D	12/15/73	—	12-15-73	12-15-73	12-15-73	12-15-73	12-15-73	12-15-73	12-15-73
1-11-74	D	00003	D	1/11/74	—	1-11-74	1-11-74	1-11-74	1-11-74	1-11-74	1-11-74	1-11-74
2-8-74	C	00004	C	2/8/74	—	2-8-74	2-8-74	2-8-74	2-8-74	2-8-74	2-8-74	2-8-74
7-17-78	E	00005	E	7/17/78	—	7-17-78	7-17-78	7-17-78	7-17-78	7-17-78	7-17-78	7-17-78
10/12/78	CAD	00006	CAD	10/12/78	—	10/12/78	10/12/78	10/12/78	10/12/78	10/12/78	10/12/78	10/12/78
11/27/78	E	00006	E	11/27/78	—	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78
11/27/78	E	00006	E	11/27/78	—	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78
11/27/78	C&I	00007	C&I	11/27/78	—	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78
11/27/78	E	00007	E	11/27/78	—	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78	11/27/78

digital EQUIPMENT CORPORATION
NORWOOD MASSACHUSETTS

TITLE: DISK CONTROL
RK11-D

SIZE CODE: B CS
NUMBER: M7255-0-1
REV. NUMBER: K

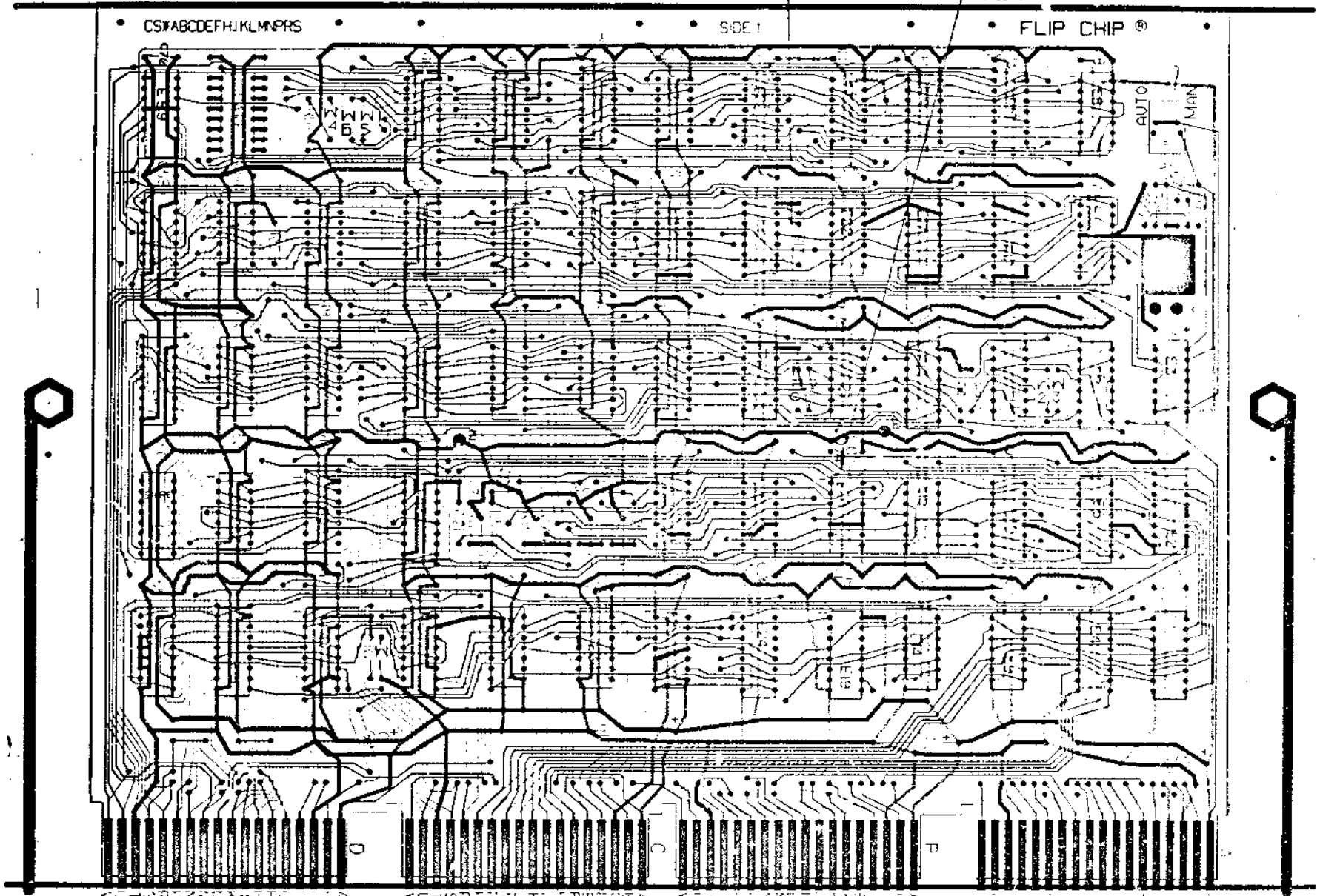
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M7255-00007

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M7255E-P2MS40187



NOTES:

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS	QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE PLATE		
NONE	61	(.39 - .4)	X	
Y	45	(.07301A)	X	
Z	41	(.0601A)	X	


BOARD FABRICATION INFORMATION

BOARD SIZE 5.000 X 1.000
 BOARD MATERIAL 2-2-1/2
 COPPER 2 SIDES
 EYELET PLATED THRU
 SIDED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE	BY	CHKD	BY	DATE	BY
12/19	12/19	12/19	12/19	12/19	12/19
PROJ ENG	12/19	12/19	12/19	12/19	12/19
PROD	12/19	12/19	12/19	12/19	12/19
FIRST USED ON					
DATE	BY	DATE	BY	DATE	BY
12/19	12/19	12/19	12/19	12/19	12/19
ETCH REV	F				

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SUPPLEMENT ECO

 ENGINEERING CHANGE ORDER /0000		ORIGINATOR Tom Orr (1-3) SHEET 1 OF 1 TELEXT 2791 DATE 1/23/74 DISC PROJ NO. E20-06734 COST CENTER NO. 395		ECO NO. M7255-0007A DATE RECEIVED 1/23/74 FIRST ISSUE 2-4-74 FINAL ISSUE 3-1-74		
PROBLEM M7255 ECO #00007 contains a typographical error in the rework instructions under "ground runs". Item #3 adds a wire from the GND side of C31 to the GND side of C38. C38 should be C28.				UNIT TO BE CHANGED M7255 Etch Rev. D. RK11-D Disk Control DISP CODE 03*		
CORRECTION Pictorial rework documentation (D-AH-M7255-0-5 Rev. F2) contains correct information. A wire is shown from C31 to C28. Change rework instructions to read "C28" instead of "C38". If actual rework is performed to "C38" no hard failure will occur; the system will merely be incrementally more susceptible to the kind of problem described on M7255 ECO #00007.				OPTIONS AFFECTED RK11-D RK11-E		
BREAK-IN/EFFECTIVITY *This is a supplement to M7255 ECO #00007.				PRODUCT LINES AFFECTED PDP-11 PDP-15		
SUPPLEMENT ECO						
11 CENTRAL ENG. ECO COMMITTEE						
SUPPLEMENT ECO						
ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE	
1	B-MH-M7255-0-6	L	M	06	Update revision and add a note explaining the change.	
DISPOSITION CODES		APPROVAL SIGNATURES				
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - RERWORK IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY		DESIGN ENGR TOM ORR ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)				

M 7255-0-6

MODULE ECO HISTORY

PRODUCT LINE PDP11 PAGE 1 OF 2 RELEASED CS REV. B
 DATE RELEASED 9-25-72 RELEASED ETCH BD REV. C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	D. LEWIS	10-9-72	C	D	X			X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X			X			STANDARDIZE CLK. PULSES		
00003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAMINE		
00004	R. LEWIS	4-26-73	F	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		DISABLE ONE SHOT (E2) WHEN NOT POLLING TO PREVENT FALSE SCH CMP'S		
00005	R. LEWIS	6-25-73	H	E		X		X			NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

REV.	ECO. NO.	DATE

DATE	10-11-72
DATE	12-1-72
DATE	1-1-73
DATE	
DATE	

EQUIPMENT CORPORATION	
SIZE	B
CODE	MH
NUMBER	M 7255-0-6
REV.	M

DHB 104

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W 9-25-72 HW B
 A3E 3000 3275

PRODUCT LINE <u>PDP11</u>		MODULE ECO HISTORY				PAGE <u>2</u> OF <u>2</u>		RELEASED CS REV. <u>B</u>						
DATE RELEASED <u>9-25-72</u>								RELEASED ETCH BD REV. <u>C</u>						
RELEASED BY <u>T. ORR</u>														
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
00006	R. LEWIS	9-14-73	J F1	E	X				X			REPLACE DR BUS AC LO WITH BUS AC LO	—	2
00006A	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	—	CORRECT REF INFO	—	—
0006B	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	—	CHANGE BREAK-IN DATE	—	—
00007	T. ORR	12-20-73	F2 K	D		X	REWORK OLDER MODULES IF NOISE IS SUSPECTED.	X				ADD +5 AND GND JUMPFERS TO REDUCE POWER NOISE	—	—
0007A	T. ORR	1-23-74	—	—	—	—	—	—	—	—	—	CORRECT RE-WORK INSTRUCTION.	—	—

REVISIONS
 DATE
 BY

DRW. D. SMITH 0472
 CHKD. D. SMITH 0472
 ENG. T. ORR 01272
 PRD. B. DOOLEY 01272

EQUIPMENT CORPORATION
 WATUARD, MASSACHUSETTS

TITLE: MODULE ECO HISTORY
 CODE: MH NUMBER: M7255-0-6
 REV: M

DLC 16 20-1024-0157
 DRB 104

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7255-0007A

NOT TO BE USED FOR PRODUCTION

digital ENGINEERING CHANGE ORDER 10072		ORIGINATOR Tom Orr (1-3) TEL EXT 2791 DATE 2/28/74 DSC PROJ NO. E20-06734 COST CENTER NO. 395	E.O. NO. M7255-0008 SHEET 1 OF 1 DATE RECEIVED 3-1-74 FIRST ISSUE 3-6-74 FINAL ISSUE 4/24/74																																																																								
<p>PROBLEM The 100 ns one shot at E32 is sensitive to adjacent circuit noise and occasionally retriggerers. Texas instrument chips seem most reliable with others failing. This circuit was designed as a precaution because an upcoming revision to the RK05 was expected to produce wide variation in the read clock pulse width. This never did and will not happen. This noise sensitive circuit is therefore not necessary.</p> <p>CORRECTION The other half of this one shot is not used. Remove the 74123 at E32, its associated timing components R3 and C71 and tie the FEED-THRU holes formally occupied by E32 Pin 10 (former Input) to Pin 5 (former Output). The problem may show as intermittent data, check sum, write check or read format errors.</p> <p>BREAK-IN/EFFECTIVITY Rework any field unit suspected of having a read problem. Rework all units leaving Puerto Rico and Westfield after 3/22/74. Rework all others as required or as is convenient. Rework XOR equipment at Puerto Rico, Ireland, and Westfield.</p>																																																																											
<p>UNIT TO BE CHANGED M 7255 Etch Rev E and later RK11-D/E Disk control DISP CODE D3*</p> <p>OPTIONS AFFECTED RK11-D RK11-E</p> <p>PRODUCT LINES AFFECTED PDP-11 PDP-15</p>																																																																											
<table border="1"> <thead> <tr> <th>ITEM NO.</th> <th>DOCUMENT/PART NO.</th> <th>OLD REV.</th> <th>NEW REV.</th> <th>DISP CODE</th> <th>DESCRIPTION OF CHANGE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>D-CS-M7255-0-1</td> <td></td> <td></td> <td>06</td> <td></td> </tr> <tr> <td></td> <td>Sheet 1</td> <td>K</td> <td>L</td> <td>06</td> <td>Update revision.</td> </tr> <tr> <td></td> <td>Sheet 2</td> <td>E</td> <td>F</td> <td>06</td> <td>Remove E32, R3 and C71 from Part List.</td> </tr> <tr> <td></td> <td>Sheet 5</td> <td>D</td> <td>E</td> <td>06</td> <td>Remove E32, R3 and C71 from Circuit Schematic.</td> </tr> <tr> <td>2</td> <td>D-AH-M7255-0-5</td> <td></td> <td></td> <td>06</td> <td></td> </tr> <tr> <td></td> <td></td> <td>K</td> <td>L</td> <td>06</td> <td>Add notes showing deletion of E32, C71 and R3 and addition of Jumper between Pins 5 and 10 of slot formally occupied by E32.</td> </tr> <tr> <td>3</td> <td>B-MR-M7255-0-6</td> <td></td> <td></td> <td>06</td> <td></td> </tr> <tr> <td></td> <td></td> <td>M</td> <td>N</td> <td>06</td> <td>Update revision and description of change.</td> </tr> <tr> <td>4.</td> <td>19-10436</td> <td></td> <td></td> <td>00</td> <td>Delete E32 74123 Qty. 1 Item #26.</td> </tr> <tr> <td>5.</td> <td>10-C1739</td> <td></td> <td></td> <td>00</td> <td>Delete C71 27 pf 5% Qty 1 Item #7</td> </tr> <tr> <td>6.</td> <td>13-01874</td> <td></td> <td></td> <td>00</td> <td>Delete R3 5.6K 5% Qty. 1 Item #15</td> </tr> </tbody> </table>		ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE	1	D-CS-M7255-0-1			06			Sheet 1	K	L	06	Update revision.		Sheet 2	E	F	06	Remove E32, R3 and C71 from Part List.		Sheet 5	D	E	06	Remove E32, R3 and C71 from Circuit Schematic.	2	D-AH-M7255-0-5			06				K	L	06	Add notes showing deletion of E32, C71 and R3 and addition of Jumper between Pins 5 and 10 of slot formally occupied by E32.	3	B-MR-M7255-0-6			06				M	N	06	Update revision and description of change.	4.	19-10436			00	Delete E32 74123 Qty. 1 Item #26.	5.	10-C1739			00	Delete C71 27 pf 5% Qty 1 Item #7	6.	13-01874			00	Delete R3 5.6K 5% Qty. 1 Item #15	<p>DOCUMENTATION AFFECTED <input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input checked="" type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC</p> <p>FIELD SERVICE AFFECTED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Customer Charge <input checked="" type="checkbox"/> Product Line Change</p> <p>TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
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<p>01 - RETURN TO STOCK 02 - (DELETED) 03 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 04 - REWORK IMMEDIATELY (RETROFIT) 05 - (DELETED) 06 - (DELETED) 07 - DOCUMENT CORRECTION 08 - NEW ITEM (THIS ASSEMBLY) 09 - NEW ITEM (THIS COMPANY) 10 - SCRAP IMMEDIATELY</p>		<p>DESIGN COMMITTEE 11 CENTRAL ENG.</p> <p>APPROVAL SIGNATURES DESIGN ENGR Tom Orr ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)</p>																																																																									

digital		FIELD CHANGE ORDER		E.O. M7255-0008 PAGE 1 OF 1
<p>FIELD EFFECTIVITY Rework M7255's in RK11-D and -E which exhibit random read problems.</p> <p>FIELD RETROFIT IS ANTICIPATED IN 100% OF UNITS DEFINED ABOVE</p> <p><input checked="" type="checkbox"/> ARE TO BE REWORKED UNDER A "A" CHANGE CODE <input type="checkbox"/> STANDARD APPLICABLE THIS FIELD IS TO BE INSTALLED BY DEC THE DEC LABOR CHARGE WILL BE PAID BY THE CUSTOMER IN ACCORDANCE WITH THE TECHNICAL EFFECTIVITY ABOVE. OTHERWISE AT CUSTOMER'S RISK.</p> <p>DOCUMENTATION: <input type="checkbox"/> PARTS <input type="checkbox"/> DEC HAS TELETYPE DEC MINIMUM BILLING APPLIES IF THIS FIELD IS INSTALLED BY DEC THE DEC LABOR CHARGE WILL BE PAID BY THE CUSTOMER IN ACCORDANCE WITH THE TECHNICAL EFFECTIVITY ABOVE. OTHERWISE AT CUSTOMER'S RISK.</p> <p>FIELD EFFECTIVITY DISTRIBUTION CODE <input checked="" type="checkbox"/> IMMEDIATE FIELD DISTRIBUTION - ALL DEC FIELD OFFICES <input type="checkbox"/> IMMEDIATE FIELD DISTRIBUTION TO REGIONAL PRODUCT SUPPORT</p> <p>FIELD RE DISTRIBUTION <input checked="" type="checkbox"/> YES AS DEFINED BELOW MAY BE ORDERED AS REQUIRED</p> <p>COMPONENTS AFFECTED (INDICATED BY X) FIELD NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 CONTENTS OF THIS FIELD CHANGE ORDER FIELD NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 FIELD NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20</p> <p>INSTALLATION AND TEST PROCEDURES</p> <p>NOTES</p> <p>FIELD SERVICE APPROVAL Jim Barclay</p> <p>DEC 11 (753)-100-7107</p>				
<p>LEVEL OF EMERGENCY CODE A - MANDATORY - HIGH PRIORITY B - MANDATORY C - HIGH PRIORITY (SPECIAL HARDWARE, SOFTWARE, OR SUPPORT) - SEE FIELD USE D - APPLICABLE (SPECIAL HARDWARE, SOFTWARE, OR SUPPORT) - SEE FIELD USE E - PRODUCT IMPROVEMENT - OPTIONAL - LOW PRIORITY</p>		<p>ON-KIT PROJECT NUMBER M7255-0008</p> <p>PARTS AVAILABILITY DELAY: 4 WEEKS FIELD SERVICE DELAY: 1.0 HOURS</p> <p>TESTED EQUIPMENT, TOOLS, OR SUPPLIES LAST TESTED: 10 FEB 74 RELATED MODELS: B07, C06, C04</p> <p><input type="checkbox"/> MAJOR CHANGE <input type="checkbox"/> MAINTENANCE MANUAL CHANGE <input type="checkbox"/> OPERATIONAL PROGRAMS AFFECTED</p> <p>SENT TO THE FIELD RK11 Disc Data Test</p> <p>PARTS REQUIRED</p>		
<p>DEC 11 (753)-100-7107</p>				

PAGE REVISION CONTROL SHEET													
SN NO.	REV.	DATE	ENG.	ETCH	ECO	PAGE REVISIONS						REMARKS	
						1	2	3	4	5	6		
1	C	10-27-78											
2	C	2-15-79											
3	D	4/17/79											
4	D	5/14/79											
5	D	5/17/79											
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100	D	5/17/79											

DISK 1
 DISK 2
 DISK 3
 DISK 4

FIRST USED ON OPTION/MODEL
 RK11-D

digital EQUIPMENT CORPORATION
 WATFORD MASSACHUSETTS

TITLE
 DISK CONTROL
 RK11-D

SIZE CODE
 B 65
 NUMBER
 M7255-0-1
 REV.
 L

SHEET 1 OF 1
 DIST.

NEXT HIGHER ASSY.
 6-00-1411-D
 SCALE
 SHEET 1 OF 1

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OF E.G.O. PACKAGE #**

M7255-00008

**NOT TO BE USED
FOR PRODUCTION**

M 7255-0-6 HW B
 3000 3715

MODULE ECO HISTORY															
PRODUCT LINE <u>PDP11</u>				PAGE <u>1</u> OF <u>2</u>				RELEASED CS REV. <u>B</u>							
DATE RELEASED <u>3-25-72</u>								RELEASED ETCH 80 REV. <u>C</u>							
RELEASED BY <u>T. ORR</u>															
ECO NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY CO. PATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED		
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)					
0001	D. LEWIS	10-9-72	C	D	X			X					TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X					TOLE RANCE TOO CLOSE	3	3
0002	R. LEWIS	1-29-73	D	D	X			X					STANDARDIZE CLK. PULSES		
0003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X				TO SELECT PROPER DRIVE FOR EXAMINE		
0004	R. LEWIS	4-26-73	F	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X				DISABLE ONE SHOT (Z1) WHEN NOT POLLING TO PREVENT FALSE SCH CMP'S		
0005	R. LEWIS	6-25-73	H	E		X		X					NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

FOR LOW TO CO
 REV. LEV. SYS. FILE. REC.
 REV. LEV. WO. ANI. AS

REV. NO.	0001	0001A	0002	0003	0004	0005
DATE	10-9-72	11-3-72	1-29-73	3-21-73	4-26-73	6-25-73
BY	D. LEWIS	ORR	R. LEWIS	R. LEWIS	R. LEWIS	R. LEWIS

DATE 10-9-72
 DATE 11-3-72
 DATE 1-29-73
 DATE 3-21-73
 DATE 4-26-73
 DATE 6-25-73

DRS. [Signature]
 CHKD. [Signature]
 ENG. [Signature]
 PROD. [Signature]

TITLE: MODULE ECO HISTORY
 EQUIPMENT CORPORATION
 SIZE: B
 CODE: MH
 NUMBER: M 7255-0-6
 REV: N

THIS DRAWING IS PART OF E.C.O. PACKAGE # M 7255-00008 **NOT TO BE USED FOR PRODUCTION**

REV. 1000000000
DATE 11/11/73

PRODUCT LINE <u>PDP11</u>		MODULE ECO HISTORY				RELEASED CS REV. <u>B</u>							
DATE RELEASED <u>9-25-73</u>		PAGE <u>2</u> OF <u>2</u>				RELEASED ETCH BD REV. <u>C</u>							
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00006	R. LEWIS	9-14-73	J F1	E	X			X			REPLACE DR BUS AC LO WITH BUS AC LO	—	2
00006A	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	CORRECT REF INFO	—	—
00006B	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	CHANGE BREAK-IN DATE	—	—
00007	T. ORR	12-20-73	F2 K	D		X	REWORK OLDER MODULES IF NOISE IS SUSPECTED	X			ADD +5 AND GND JUMPERS TO REDUCE POWER NOISE	—	—
00007A	T. ORR	1-23-74	—	—	—	—	—	—	—	—	CORRECT REWORK INSTRUCTION	—	—
00006B	T. ORR	2-27-74	L F2	—		X		X			REMOVE E32, C71, R3, ADD JUMPER	—	3

REVISIONS
DATE
BY

DRN
D. SMITH
DATE
0-4-72
CHK'D
D. SMITH
DATE
0-4-72
ENG.
T. ORR
DATE
01274
PROD.
R. DODLEY
DATE
01272

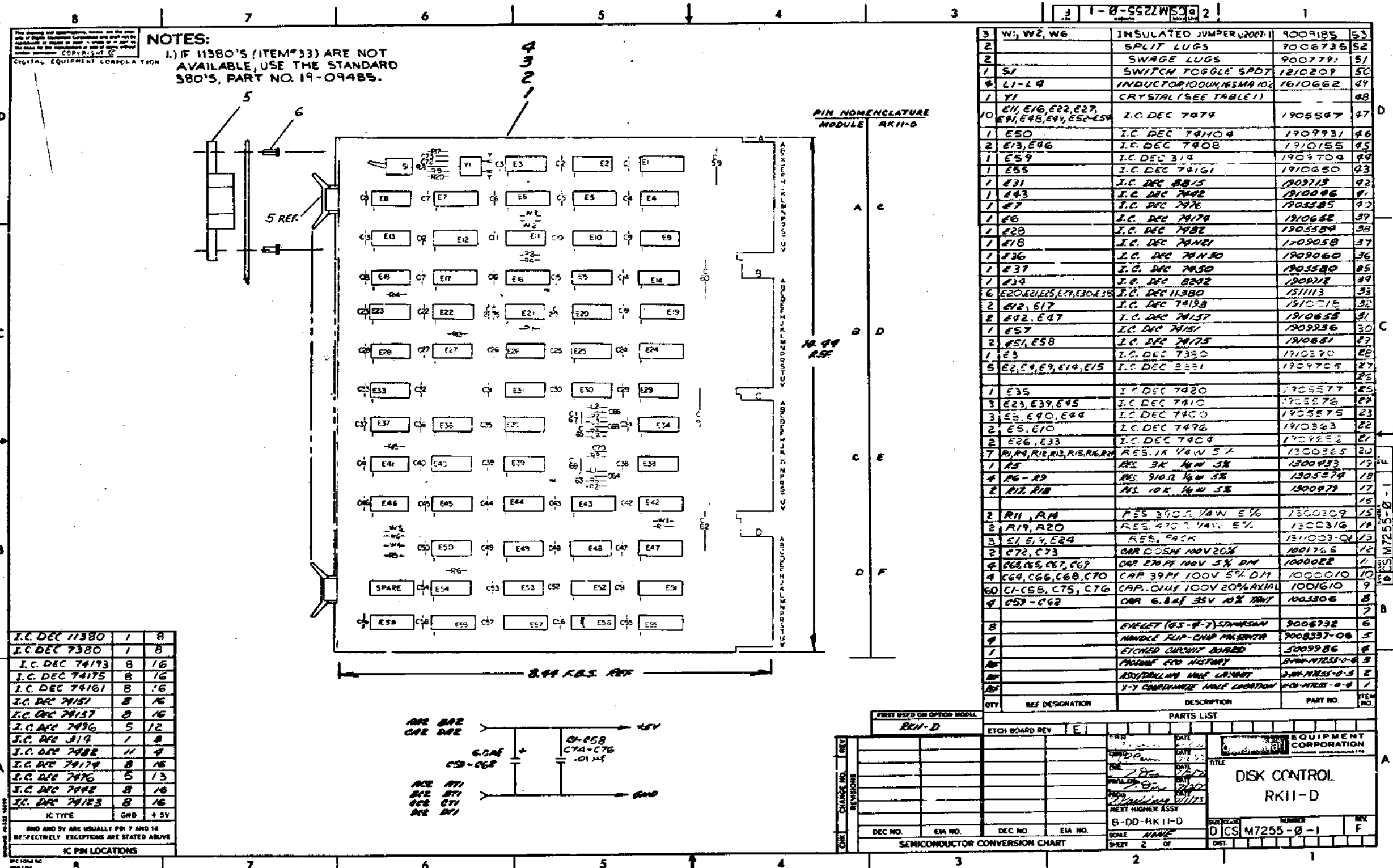
DATE
04/72
DATE
04/72
DATE
01274
DATE
01272

TITLE
MODULE ECO HISTORY
EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS
SIZE CODE NUMBER
8 MH M7255-0-6
REV.
N

THIS DRAWING IS PART OF E.C.O. PACKAGE #

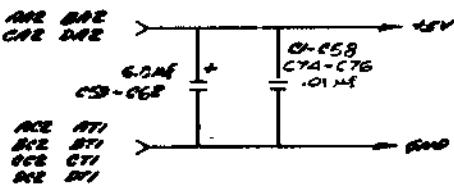
M7255-00008

NOT TO BE USED FOR PRODUCTION



NOTES:
 1.) IF 11380'S (ITEM#33) ARE NOT AVAILABLE, USE THE STANDARD 380'S, PART NO. 19-09485.

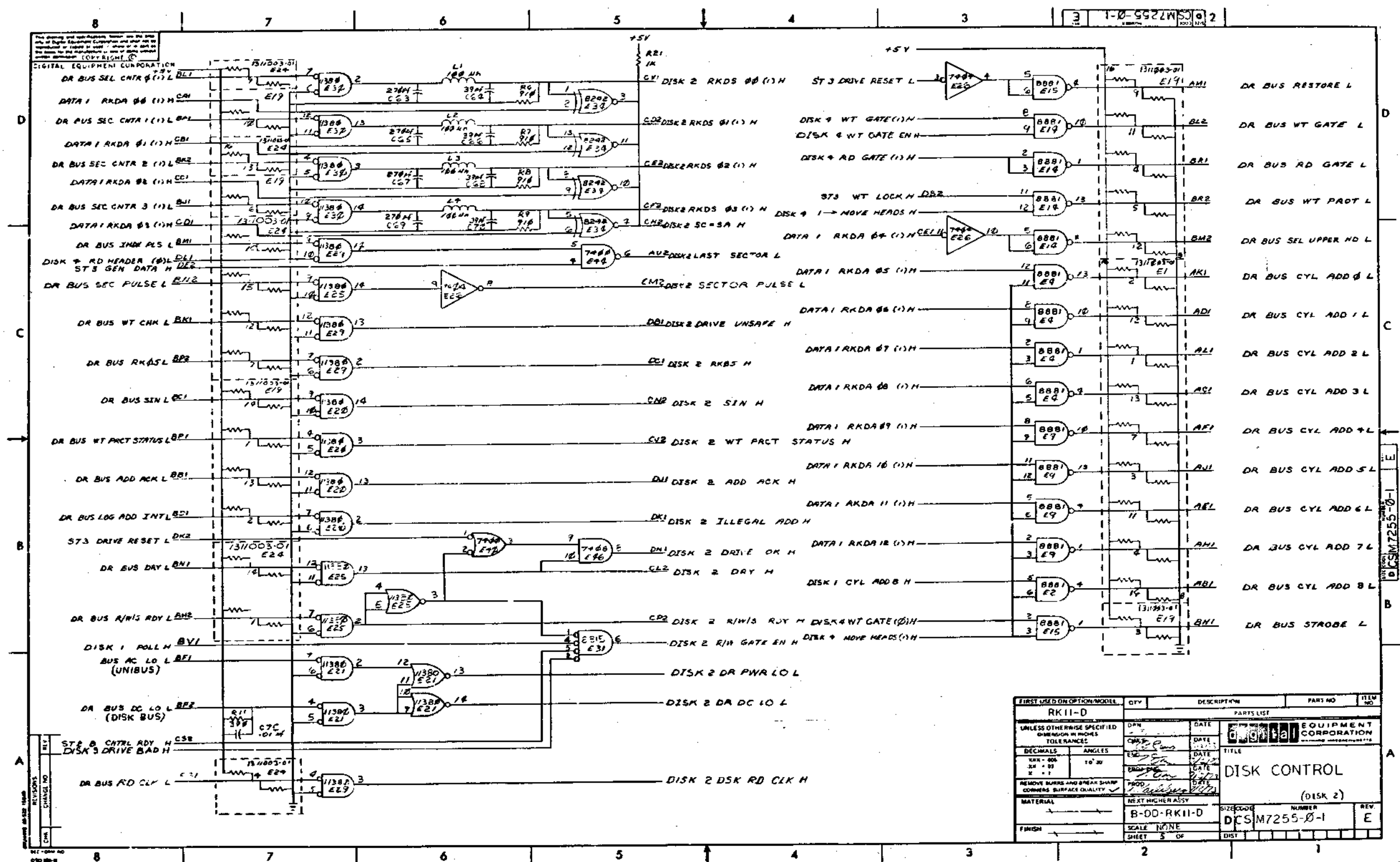
I.C. DEC 11380	1	8
I.C. DEC 7380	1	8
I.C. DEC 74173	8	16
I.C. DEC 74175	8	16
I.C. DEC 74161	8	16
I.C. DEC 74151	8	16
I.C. DEC 74157	8	16
I.C. DEC 74136	5	12
I.C. DEC 319	1	8
I.C. DEC 74182	11	4
I.C. DEC 74174	8	16
I.C. DEC 74176	5	13
I.C. DEC 74182	8	16
I.C. DEC 74183	8	16
IC TYPE	QND	+5V



QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
3	W1, W2, W6	INSULATED JUMPER (2007-1)	9009185	53
2		SPLIT LUGS	9006735	52
2		SWAGE LUGS	9007791	51
1	S1	SWITCH TOGGLE SPD7	1210209	50
4	L1-L4	INDUCTOR 100UH 15MA 10%	1610662	49
1	Y1	CRYSTAL (SEE TABLE 1)		48
10	E11, E16, E22, E27, E31, E48, E49, E50-E59	I.C. DEC 7474	1905547	47
1	E50	I.C. DEC 74104	1909931	46
2	E13, E46	I.C. DEC 7408	1901555	45
1	E59	I.C. DEC 319	1909709	44
1	E55	I.C. DEC 74161	1910650	43
1	E31	I.C. DEC 8815	1909713	42
1	E43	I.C. DEC 7442	1910006	41
1	E7	I.C. DEC 7476	1905585	40
1	E6	I.C. DEC 74174	1910652	39
1	E28	I.C. DEC 7482	1905384	38
1	E18	I.C. DEC 74181	1909058	37
1	E36	I.C. DEC 74150	1909060	36
1	E37	I.C. DEC 7450	1905580	35
1	E34	I.C. DEC 8802	190918	34
6	E20, E21, E25, E29, E30, E35	I.C. DEC 11380	151113	33
2	E12, E17	I.C. DEC 74183	1910015	32
2	E22, E47	I.C. DEC 74157	1910655	31
1	E57	I.C. DEC 74151	1909236	30
2	E51, E58	I.C. DEC 74175	1910651	29
1	E3	I.C. DEC 7380	1910290	28
5	E2, E4, E9, E14, E15	I.C. DEC 8811	1909705	27
1	E35	I.C. DEC 7420	1905577	26
3	E23, E33, E45	I.C. DEC 7410	1905576	25
3	E5, E40, E44	I.C. DEC 7400	1905575	24
2	E5, E10	I.C. DEC 7496	1910323	23
2	E26, E33	I.C. DEC 7404	1909232	22
7	R1, R4, R12, R13, R16, R17	RES. 1K 1/4W 5%	1300365	20
1	R5	RES. 3K 1/4W 5%	1300433	19
4	R6-R9	RES. 910 1/4W 5%	1305274	18
2	R12, R18	RES. 10K 1/4W 5%	1300479	17
2	R11, R14	RES. 390 1/4W 5%	1300309	15
2	R19, R20	RES. 470 1/4W 5%	1300316	14
3	E1, E14, E24	RES. 50K	131003-Q1	13
2	C72, C73	CAP. 0.05UF 100V 20%	1001765	12
4	C63, C65, C67, C69	CAP. 270PF 100V 5% DM	1000022	11
4	C64, C66, C68, C70	CAP. 39PF 100V 5% DM	1000010	10
60	C1-C58, C75, C76	CAP. 0.01UF 100V 20% AXIAL	1001610	9
4	C59-C62	CAP. 6.8UF 35V 10% TAN	1003306	8
8		EYELET (6S-8-7) STAMPED	9006732	7
4		HANDLE FLIP-CHIP MOUNT	9008337-06	5
1		ETCHED CIRCUIT BOARD	5009986	4
1		PROOF FOR HISTORY	5009986-0-3	3
1		ASSEMBLY INSTRUCTIONS	5009986-0-2	2
1		Y-Y COORDINATE MAP LOCATION	5009986-0-1	1

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1		ETCHED CIRCUIT BOARD	5009986	4
1		PROOF FOR HISTORY	5009986-0-3	3
1		ASSEMBLY INSTRUCTIONS	5009986-0-2	2
1		Y-Y COORDINATE MAP LOCATION	5009986-0-1	1

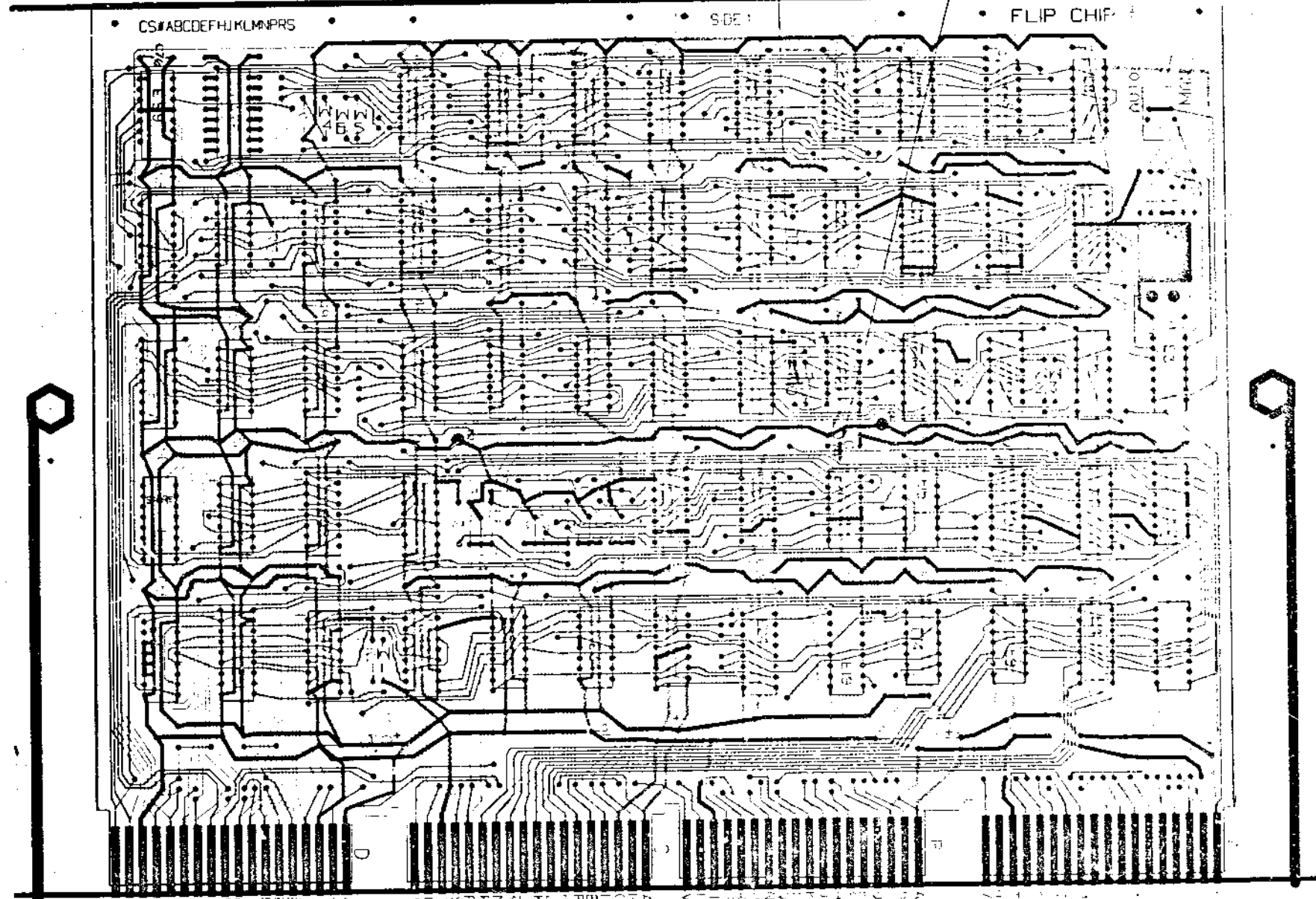
THIS DRAWING IS PART OF E.G.O. PACKAGE # M7255-00008 NOT TO BE USED FOR PRODUCTION



FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
RK11-D		PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES	DATE	DATE	EQUIPMENT CORPORATION	
DECIMALS ANGLES	DATE	DATE	TITLE	
1/16 - .001 10° 30'	DATE	DATE	DISK CONTROL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	DATE	DATE	(DISK 2)	
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV
FINISH	B-DD-RK11-D	DCS M7255-0-1		E
	SCALE NONE	SHEET 3 OF		

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DELETE C71 M7255E P2MS40187 DELETE C72 DELETE C73 DELETE C74



NOTES:

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS	QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE PLATE		
NONE	61 (1-39 DIA.)	X		
Y	48 (073 DIA.)	X		2
Z	41 (0-60 DIA.)	X		

BOARD FABRICATION INFORMATION

BOARD SIZE 5.62 X 1.75

BOARD MATERIAL 22-70

22-70EP, 2 SIDES

EYELET PLAT. D THRU

SIDED MULTI-LAYER

NOTCH BEFORE GOLD PLATING

NOTCH AFTER GOLD PLATING

DATE	BY	APPROVED
PREP. ENG.	CHKD.	DATE
PROG.	DATE	DATE
FIRST USED ON	DATE	DATE
SCALE	DATE	DATE
ETCHER	DATE	DATE

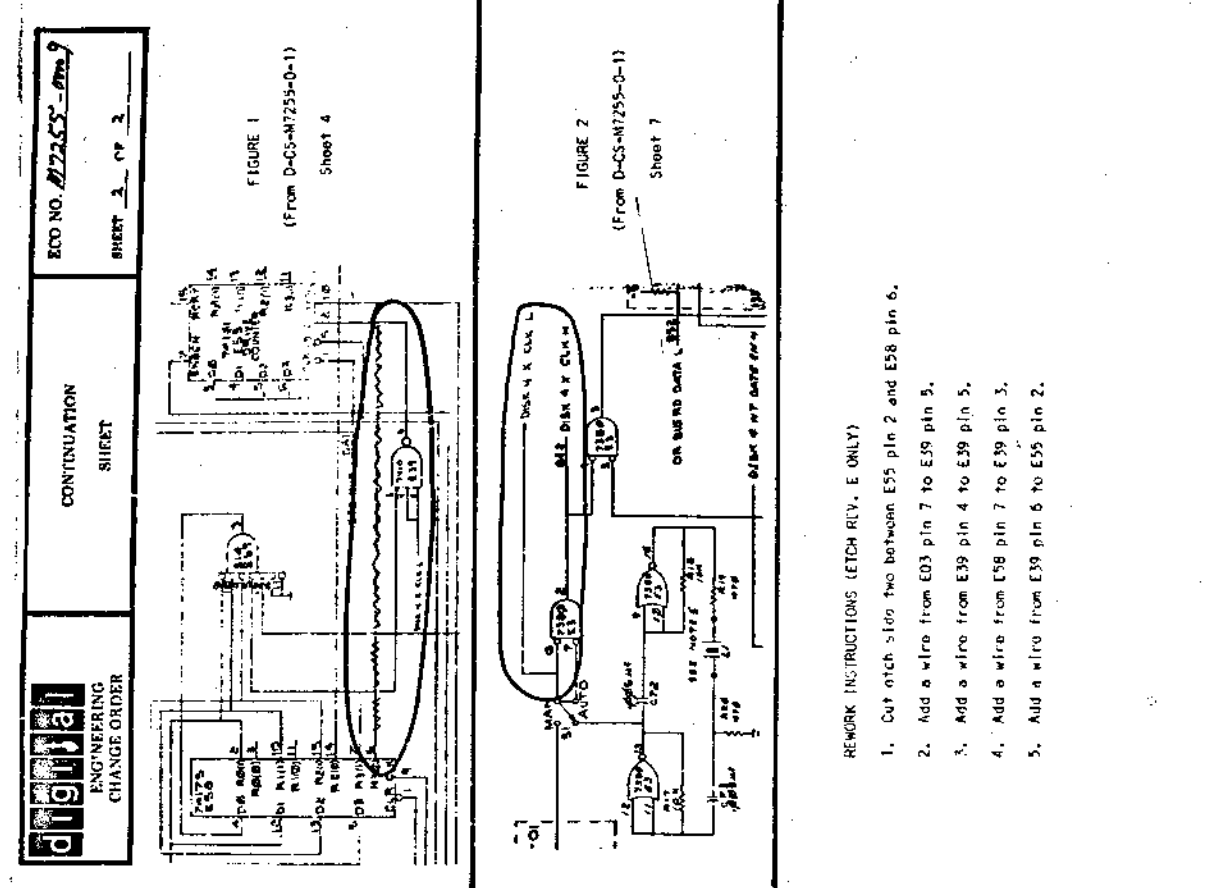
THIS DRAWING IS PART OF E.C.O. PACKAGE # *M7255-00008* **NOT TO BE USED FOR PRODUCTION**

digital ENGINEERING CHANGE ORDER		ECO NO. <u>M7255-009</u> SHEET 1 OF 2	
ORIGINATOR: Dick Lewis 1-2 TEL EXT 4620 DIR PROJ NO. E-20-07534 COST CENTER NO. 395		DATE: 9/20/74 DATE RECEIVED: 9-23-74 FIRST ISSUE: 8-28-74 FINAL ISSUE:	
PROBLEM: A race condition exists in the hardware poll circuitry if R/W/S ROY occurs near the extreme end of the sampling pulse. The internal search complete (INT SCH CMP) flip can set after the leading edge of the pulse that increments the drive counter. The result is that when INT SCH CMP sets, the counter still increments and points to the wrong drive, giving an erroneous interrupt.			
CONNECTION: Use a spare gate (7410, E39) to gate the former increment pulse with x CLK L. This allows the INT SCH CMP flip about 175 nsec. to disable the counter before the leading edge of the increment pulse. X CLK L is a formerly unnamed inversion of DISK 4 X CLK N. Note: Etch rev. E boards only are affected.		UNIT TO BE CHANGED M7255 Disk Control Etch Rev. E USER CODE: 03*	
REVISIONS:		OPTIONAL AFFECTED	
1 D-CS-N7255-0-1 Sheet 1 Sheet 4 Sheet 7		RK11-D RK11-E	
2 D-N-N7255-0-5		PRODUCT AFFECTED	
3 B-W-N7255-0-6		POP-11 POP-15	

ITEM NO.	DOCUMENT/PART NO.	OLD REV/DIRP/REV/FOOD	DESCRIPTION OF CHANGE	DOCUMENTATION	
				AFFECTED	DIAGNOSIS
1	D-CS-N7255-0-1 Sheet 1 Sheet 4 Sheet 7	L M 06 E F 06 E F 06	Update revisions per this ECO Update per Figure 1, this ECO Update per Figure 2, this ECO	<input checked="" type="checkbox"/> MODEL <input checked="" type="checkbox"/> DIAGNOSIS <input checked="" type="checkbox"/> TEST MANUAL <input type="checkbox"/> TESTER	SEE NOTE E OR DISK DATA
2	D-N-N7255-0-5	L M 06	Update per rework instructions, this ECO	<input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG BRFC <input type="checkbox"/> PURCH BRFC	SEE NOTE E OR DISK DATA
3	B-W-N7255-0-6	N P 06	Update per this ECO	FIELD SERVICE AFFECTED: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Customer Change <input type="checkbox"/> Product Use Change	SEE NOTE E OR DISK DATA
				TYPE OF CHANGE: <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input type="checkbox"/> MODULE <input type="checkbox"/> ORIGIN <input type="checkbox"/> PCB MODEL <input type="checkbox"/> YES <input type="checkbox"/> NO	

digital ENGINEERING CHANGE ORDER		DESIGN ENGR. Jon ENG MGR (OPT) <i>[Signature]</i> FIELD SERVICE (OPT) <i>[Signature]</i> CHIEF ENGR. (MODULES ONLY) <i>[Signature]</i>
APPROVAL SIGNATURES		System Hand <i>[Signature]</i>

DEC 14-1983 1071 N971 NEW INSTRUCTIONS FOR INSTRUCTIONS (IN ORDER TO FILL OUT FORM PROPERLY)



REWORK INSTRUCTIONS (ETCH REV. E ONLY)

1. Cut etch slot two between E55 pin 2 and E58 pin 6.
2. Add a wire from E03 pin 7 to E39 pin 5.
3. Add a wire from E39 pin 4 to E39 pin 5.
4. Add a wire from E58 pin 7 to E39 pin 3.
5. Add a wire from E39 pin 6 to E55 pin 2.

digital ENGINEERING CHANGE ORDER		ECO NO. <u>M7255-009</u> SHEET 3 OF 9
---	--	--

<ul style="list-style-type: none"> <input checked="" type="checkbox"/> RETURN TO STOCK <input type="checkbox"/> DELETED <input type="checkbox"/> BROCK WORK (NEW WORK AVAILABLE FRASING) <input type="checkbox"/> SEND IN IMMEDIATELY (REPROT) <input type="checkbox"/> DELFTED <input type="checkbox"/> UNLIT <input type="checkbox"/> NEW ITEM (THIS APPLY) <input type="checkbox"/> NEW ITEM (THIS COMPANY) <input type="checkbox"/> NEW ITEM (OTHER) 	<table border="1"> <tr> <td colspan="10">FIELD SERVICE</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td> </tr> <tr> <td>E 59</td><td>E 56</td><td>E 41</td><td>E 46</td><td>E 57</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td colspan="5"></td> <td colspan="2">E 58</td> <td colspan="2">E 57</td> <td>E 55</td> </tr> </table>	FIELD SERVICE										1	2	3	4	5	6	7	8	9	10	E 59	E 56	E 41	E 46	E 57											E 58		E 57		E 55
FIELD SERVICE																																									
1	2	3	4	5	6	7	8	9	10																																
E 59	E 56	E 41	E 46	E 57																																					
					E 58		E 57		E 55																																

...OUT ETCH
SIDE TWO

digital	FIELD CHANGE ORDER	ECO: <u>M7255-0099</u> REV: 1
	FIELD TITLE (REV) Rework etch revision "E" M7255a from CS revision "N" to "H"; only multi-drive systems using the polling feature are affected. FIELD NO. <u>100</u>	* LEVEL OF EMERGENCY <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> CRITICAL <input type="checkbox"/> EXTREME ** PRIORITY NUMBER <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
	MANDATORY APPROVALS <input type="checkbox"/> APPROVED BY: DATE:	PART NUMBER: 008, 807, 806 QUANTITY: 0.5 DATE:

NOTES

FIELD SERVICE APPROVAL
Jim Burley
ECR 12 (REV. 06/83)

RK11-D, RK11-E DISK CONTROL

PDP-11 Family, PDP-15

M7255

ECO HISTORY -		M7255																					
ETCH BOARD REVISION		C						D						E									
ECO NUMBER		001	002	C03	C04	C06	B07	001	002	C03	C04	C06	B07	005	C06	B07	C08	C09					
ECO DATE		8-72	10-72	1-73	3-73	4-73	6-73	12-73	10-72	4-73	3-73	4-73	6-73	12-73	4-73	9-73	12-73	2-74	9-74				
PRODUCTION CS		B	C	D	E	F	F1	F2	C	D	E	F	F1	F2	H	J	K	L	M				
DOCUMENTATION CS																							
FIELD REWORK CS					E	F	F1	F2				F	F1	F2		J	K	L	M				
NOTES:	<i>Alt Simms</i> 10-16-74																						

7-0-5521A

MODULE ECO HISTORY															
PRODUCT LINE <u>PDP11</u>				PAGE <u>1</u> OF <u>2</u>				RELEASED CS REV. <u>B</u>							
DATE RELEASED <u>9-25-72</u>								RELEASED ETCH BD REV. <u>C</u>							
RELEASED BY <u>T. ORR</u>															
ECO NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED		
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)					
00001	R. LEWIS	10-3-72	C	D	X				Y				TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	L	X				A				TOLERANCE TOO CLOSE	3	
00002	R. LEWIS	1-29-73	D	D	X				X				STANDARDIZE CLK PULSES		
00003	R. LEWIS	3-21-73	E	D		X		REWORK ALL MODULE LEVEL MACHINES, FIELD PA SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X			TO SELECT PAL FOR PAL FOR EXAMINE		
00004	R. LEWIS	4-26-73	F	D		X		REWORK ALL MODULE LEVEL MACHINES, RE-ADDP SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X			DISABLE THE SHOT (LED) WHEN NOT POLLING TO PREVENT FALSE SCH. CHG'S		
00005	R. LEWIS	6-25-73	H	E		X			X				NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

REV. NO.	DATE	BY	DESCRIPTION
1	10-3-72	R. LEWIS	INITIAL
2	11-3-72	ORR	TOLERANCE
3	1-29-73	R. LEWIS	STANDARDIZE
4	3-21-73	R. LEWIS	REWORK ALL
5	4-26-73	R. LEWIS	REWORK ALL
6	6-25-73	R. LEWIS	NEW LAYOUT

DATE	10-11-72	TITLE	MODULE ECO HISTORY
DATE	12-1-72	SIZE	B
DATE		CODE	MH
DATE		NUMBER	M 7255-0-6
DATE		REV	P

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M 7255-00009

NOT TO BE USED FOR PRODUCTION

418 1 1000 3215

MODULE ECO HISTORY

PRODUCT LINE PDF11 RELEASED CS REV. B
 DATE RELEASED 7-25-73 PAGE 2 OF 3 RELEASED ETCH BD REV. C
 RELEASED BY T. L. R.

ECO NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
00006	R. LEWIS	9-14-73	J F1	E	X				X			REPLACE DR BUS AC LG WITH BUS AC LG	—	2
00006	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	—	CORRECT REF PIFO	—	—
00006	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	—	CHANGE BREAK-IN DATE	—	—
00007	T. ORR	12-20-73	F2 K	D			X	REWORK OLDER MODULES IF NOISE IS SUSPECTED	X			ADD +5 AND GND CUMBERS TO REDUCE POWER NOISE	—	—
0007A	T. ORR	1-23-74	—	—	—	—	—	—	—	—	—	CORRECT REWORK INSTRUCTION	—	—
00008	T. ORR	2-27-74	L F2	—			X	—	X			REMOVE E32, C71 R3, ADD JUMPER	—	3
00009	R. LEWIS	9 18 74	M	—			X	REWORK ETCH REV. E ONLY	X			CORRECT FACE CONDITION IN HARDWARE POLL	—	—

D. SMITH 10-4-72
 D. SMITH 10-4-72
 T. ORR 10-12-72
 R. BOOLEY 10-12-72

TITLE: MODULE ECO HISTORY
 NUMBER: M7255-0-6
 SIZE: B
 CODE: MH
 NUMBER: 1 P

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M 7255-00009

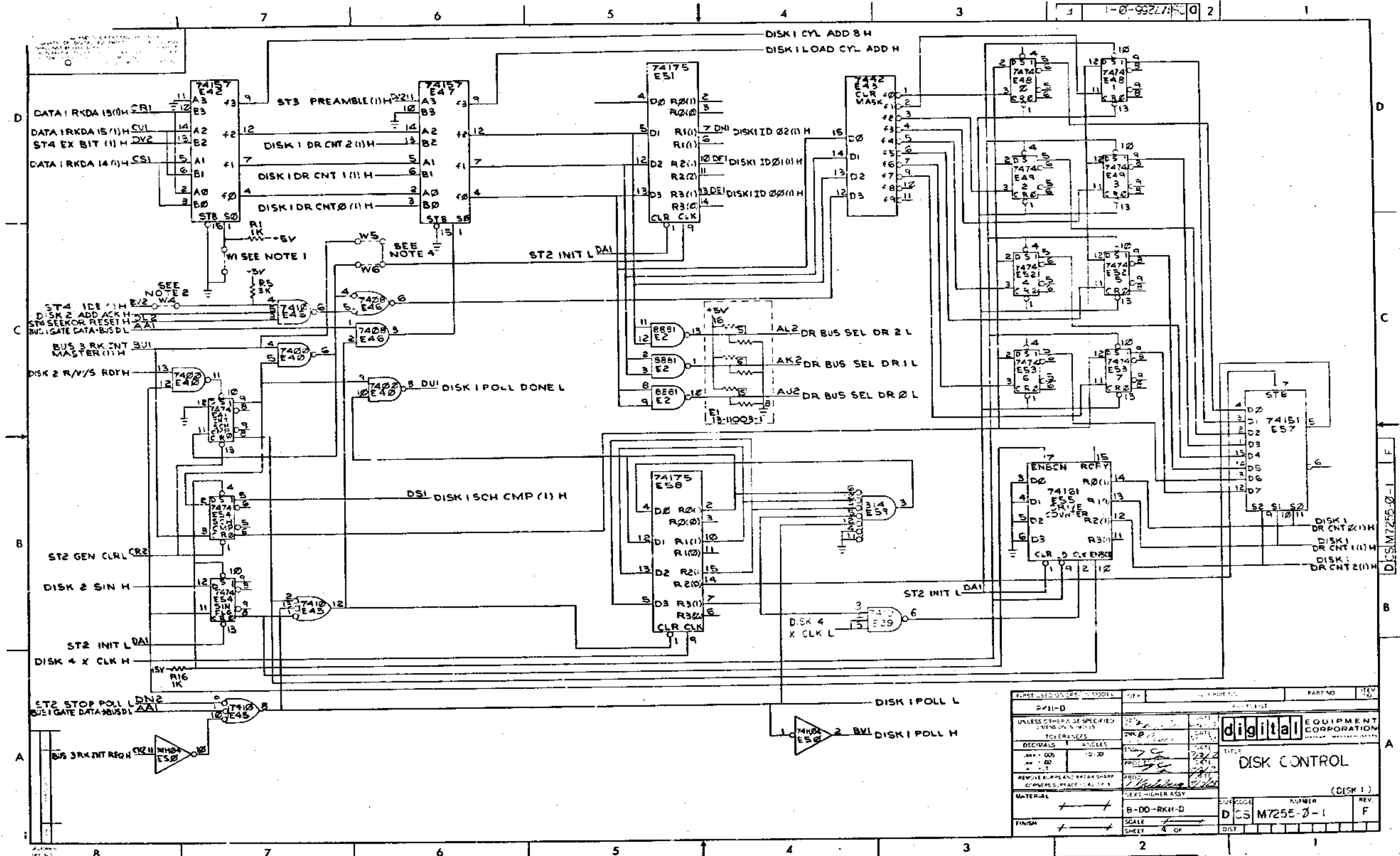
NOT TO BE USED FOR PRODUCTION

PAGE REVISION CONTROL SHEET												FIRST USED ON OPTION/MODEL				
PAGE REVISIONS											REMARKS			RK11-C		
SH NO.	REV.	DESCRIPTION	DATE	BY	CHK'D.	ENG.	PROJ. ENG.	PROD.	DATE	DATE	DATE	TITLE	SIZE CODE	NUMBER	REV.	
1	B	C	10-27-70													DISK CONTROL RK11-D
2	B	C	2-15-73													
3	B	C	4/17/77													
4	B	C	5/27/78													
5	B	C	7-17-77													
6	F	C	5/22/78													
7	F	C	5/22/78													
8	H	C	11/27/78													
9	H	C	11/27/78													
10	H	C	11/27/78													
11	H	C	11/27/78													
12	H	C	11/27/78													
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50	H	C	11/27/78													

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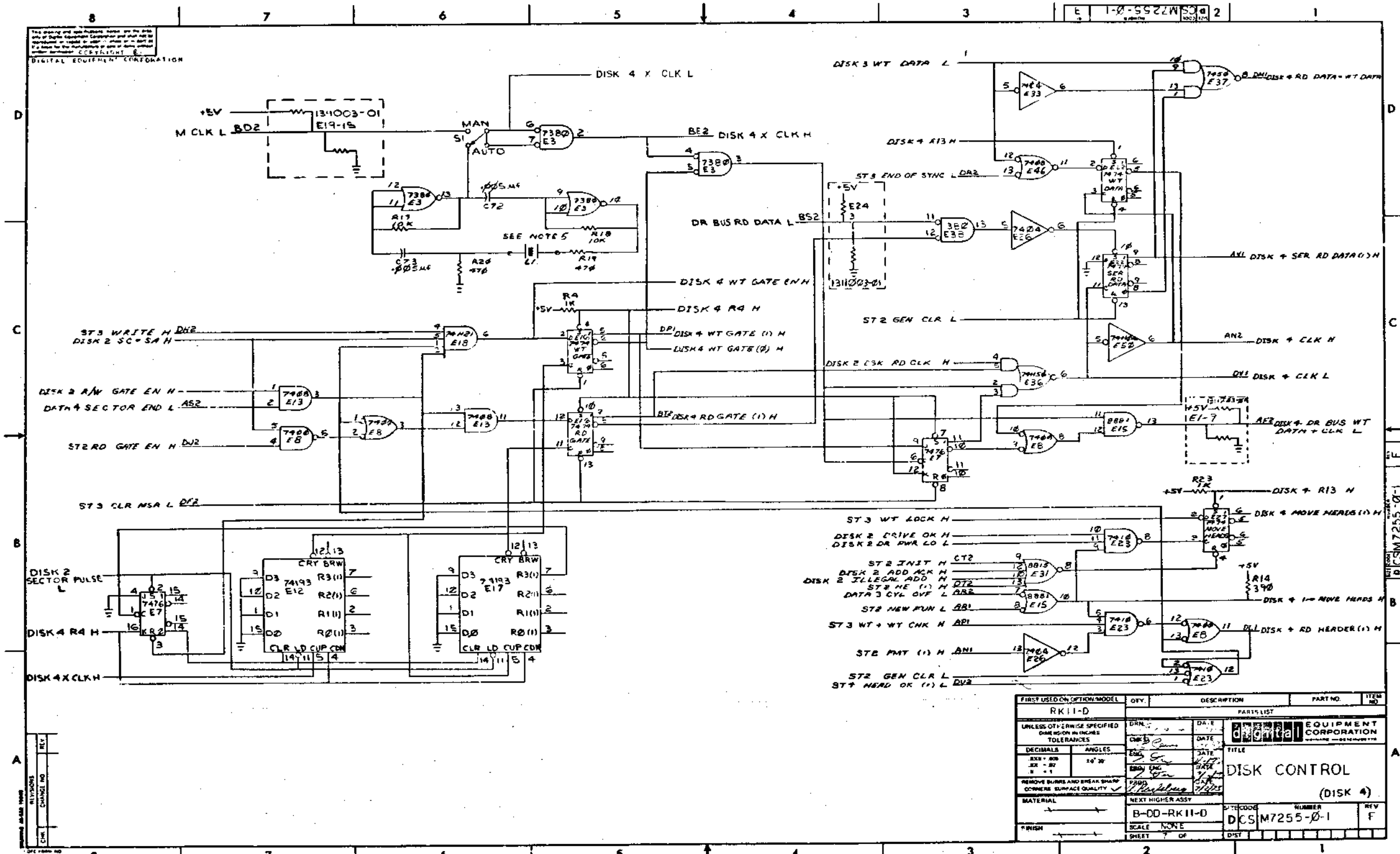
M 7255-00009

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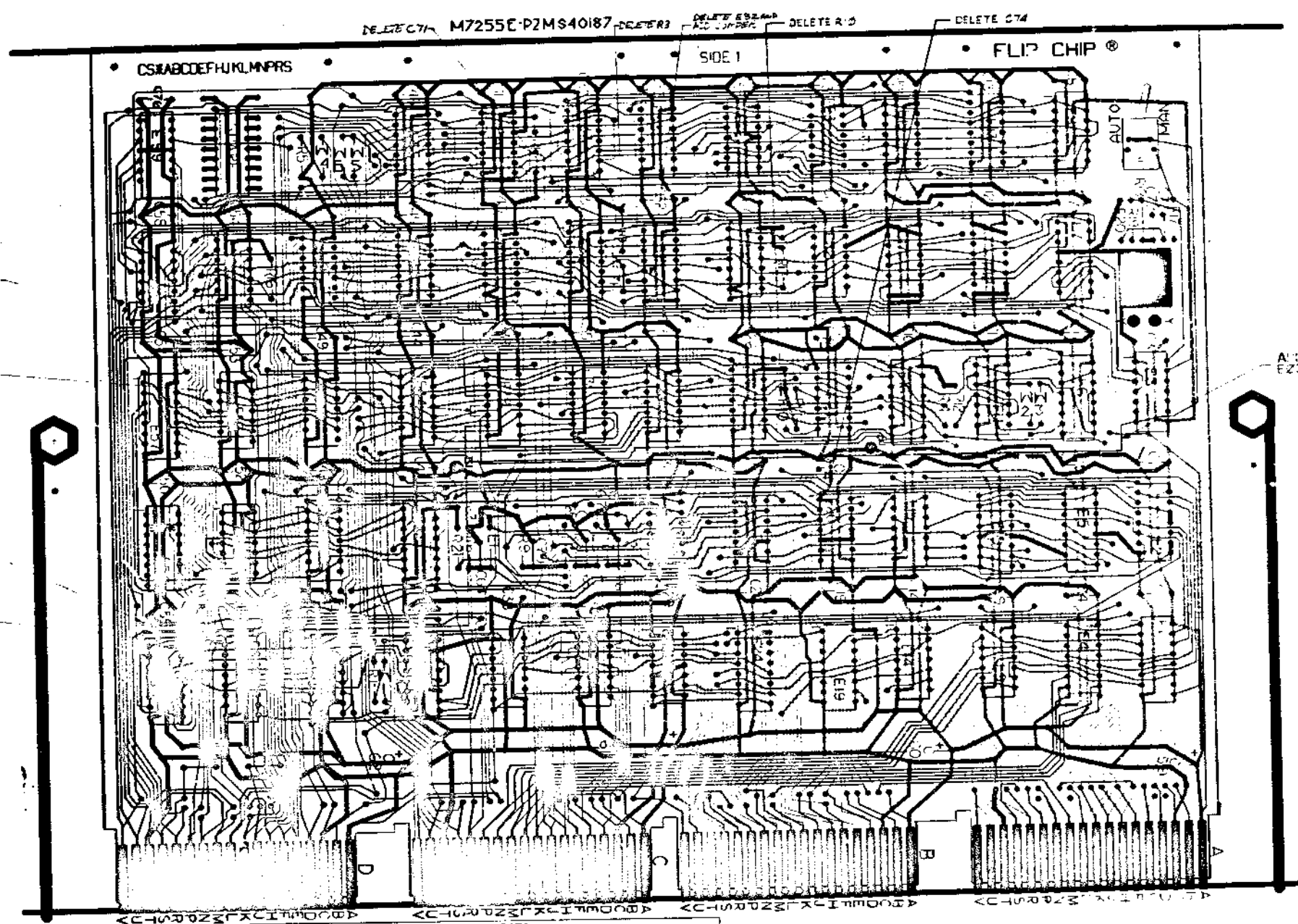


PART - DESIGN - MODEL		QTY	REV	PART NO	REV
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES		DATE	DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE	DATE	DISK CONTROL	
INCHES	ANGLES	DATE	DATE	(DISK 1)	
REMOVE BURRS AND BREAK SHARP CORNERS. FINISH TO 1/32"		DATE	DATE	MATERIAL	
FINISH		DATE	DATE	B-DD-RK11-D	
SCALE		DATE	DATE	NUMBER	
SHEET		DATE	DATE	DCS M7255-0-1	
		DATE	DATE	REV	
		DATE	DATE	F	

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ADD WIRE FROM E2307 TO E3925

ADD WIRE FROM E2307 TO E3925

ADD WIRE FROM E2307 TO E3925

ADD WIRE FROM E2307 TO E3925

NOTES:

HOLE LETTER	DRILLING DATA		CAN TAKE DRIPLETS		QTY OF HOLES
	BEFORE PLATE	AFTER PLATE	YES	NO	
NONE	61(0.39 DIA)	X			2
Y	49(0.73 DIA)	X			2
Z	41(0.96 DIA)	X			

BOARD FABRICATION INFORMATION

BOARD SIZE 8.562 X 11.750
 BOARD MATERIAL 0.027-HK 10Z
 COPPER 2 SIDES
 EYELET FLATED THRU
 SIDED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE	DATE	DATE	DATE	DATE
PROJ ENGR	PROJ ENGR	PROJ ENGR	PROJ ENGR	PROJ ENGR
SCALE	SCALE	SCALE	SCALE	SCALE
ETCH REV	ETCH REV	ETCH REV	ETCH REV	ETCH REV
D/AH		V7255-0-5		M
				MS 40187

THIS DRAWING IS PART OF E.C.O. PACKAGE # *M 7255-00009* **NOT TO BE USED FOR PRODUCTION**

digital ENGINEERING CHANGE ORDER 451		ORIGINATOR Dick Lewis 1-1 TELEXT 4620 DATE 9/27/74 DISC PROJ NO E-20-07534 COST CENTER NO 395	ECO NO. <u>M7255-0010</u> SHEET 1 OF 2 DATE RECEIVED <u>10-3-74</u> FIRST ISSUE <u>10-7-74</u> FINAL ISSUE <u>N/A</u>			
PROBLEM 1. Several wires and etch cuts must be added to the M7255 during module build resulting in additional production costs. 2. DEC IC 11380 bus receivers should be replaced by DEC IC 8640's.		UNIT TO BE CHANGED M7255 Disk Control	DISP CODE C2 OPTIONS AFFECTED			
CORRECTION 1. Relay etch board to eliminate wires and etch cuts. 2. Use DEC IC 8640 as a replacement for DEC IC 11380.		RK11-D RK11-E				
BREAK IN/EFFECTIVITY Phase in etch rev. F modules when new etch boards are available. Phase in 8640's as production quantities become available.		By FEB. 10, 1974.	PRODUCT LEVELS AFFECTED PDP-11 PDP-15			
ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1.	D-CS-M7255-0-1 Sheet 1	M	N	06	Update revisions per this ECO.	<input checked="" type="checkbox"/> MODEL
	Sheet 2	F	H	06	Delete quantity of six 11380's (1911113) from parts list. Add quantity of six 8640's (1911469). Update etch board revision.	<input type="checkbox"/> DIAGNOSTIC <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC
	Sheet 5	E	F	06	Change all 11380 logic gates to 8640.	<input type="checkbox"/> FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	Sheet 7	F	H	06	Change 11380 logic gate to 8640.	<input type="checkbox"/> Customer Change <input type="checkbox"/> Product Lab. Change
2.	D-AH-M7255-0-5	M	N	06	Update per new item 4, this ECO.	<input type="checkbox"/> TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE
3.	B-MH-M7255-0-6	P	R	06	Update per th's ECO.	<input type="checkbox"/> ORDER PR MOD-1 <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
4.	5009986	E	F	02	Correct artwork to eliminate wires and etch cuts. Make E32 (presently unused) a spare IC location.	
DISPOSITION CODES		APPROVAL SIGNATURES				
00 - RETURN TO STOCK 01 - (DELETE) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PENDING) 03 - NEW OR IMMEDIATELY (PENDING) 04 - (DELETE) 05 - (DELETE) 06 - (DELETE) 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP (IMMEDIATELY)		10-7-74 DM 11 CENTRAL ENG ECO COMMITTEE 320 DESIGN ENGR Tom Orr 1-3/20 ENGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)				

DEC 16-1973 1011 M7255 SEE REVERSE FOR INSTRUCTIONS (IN ORDER TO FILL OUT FORM PROPERLY)

digital ENGINEERING CHANGE ORDER		CONTINUATION SHEET		ECO NO. <u>M7255-0010</u> SHEET 2 OF 2	
ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE
5.	1911113	-	-	00	Delete six 11380's.
6.	1911469	-	-	07	Add six 8640's.

DRA-111C-2

PRODUCT LINE <u>PDP11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>B</u>	
DATE RELEASED <u>9-25-72</u>		PAGE <u>1</u> OF <u>2</u>		RELEASED ETCH BD REV. <u>C</u>	
RELEASED BY <u>T. ORR</u>					

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MOUNTED IN PREVIOUS MOUNTING)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED		
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)					
00001	D. LEWIS	10-9-72	C	D	X				X				TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X				X			3	3	TOLEANCE TOO CLOSE	
00002	R. LEWIS	1-29-73	D	D	X				X					STANDARDIZE CLK. PULSES	
00003	R. LEWIS	3-21-73	E	D		X		REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X				TO SELECT PROPER DRIVE FOR EXAMINE	
00004	R. LEWIS	4-26-73	F	D		X		REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X				DISABLE ONE SHOT (E2D) WHEN NOT POLLING TO PREVENT FALSE SCH CMP'S	
00005	R. LEWIS	6-25-73	H	E		X			X					NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING	

<small>REVISIONS</small>	<small>CHKD</small>	<small>DATE</small>	<small>DATE</small>	<small>DATE</small>	<small>DATE</small>
00001					
00002					
00003					
00004					
00005					

<small>ONLY</small>	<small>DATE</small>	<small>DATE</small>	<small>DATE</small>	<small>DATE</small>	<small>DATE</small>

<small>EQUIPMENT CORPORATION</small>	<small>SIZE</small>	<small>CODE</small>	<small>NUMBER</small>	<small>REV</small>
	B	MH	M7255-0-6	R

ORR 10/25/72
DRB 104

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00010 NOT TO BE USED FOR PRODUCTION

H 9-25-73 HW E
 1000 325

MODULE ECO HISTORY

PRODUCT LINE PDP11 PAGE 2 OF 2 RELEASED CS REV. B
 DATE RELEASED 9-25-73 RELEASED ETCH BD REV. C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00006	R. LEWIS	9-14-73	J F1	E	X			X			REPLACE DR BUS AC LO WITH BUS AC LO	—	2
00006A	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	CORRECT REF INFO	—	—
00006B	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	CHANGE BREAK IN DATE	—	—
00007	T. ORR	12-20-73	F2 K	D		X	REWORK OLDER MODULES IF NOISE IS SUSPECTED	X			ADD +5 AND GND JUMPER TO REDUCE POWER NOISE	—	—
0007A	T. ORR	1-23-74	—	—	—	—	—	—	—	—	CORRECT RE-WORK INSTRUCTION	—	—
00008	T. ORR	2-27-74	L F2	—		X	—	X			REMOVE E32, C71 R3, ADD JUMPER	—	3
00009	R. LEWIS	9-18-74	M	—		X	REWORK ETCH REV. E ONLY	X			CORRECT TRACE CONDITION IN HARDWARE POLL	—	—
00010	R. LEWIS	9-27-74	N	F		X	—	X			UPDATE ETCH TO INCORPORATE WIRES, REPLACE 11380'S WITH 8540'S	6	6

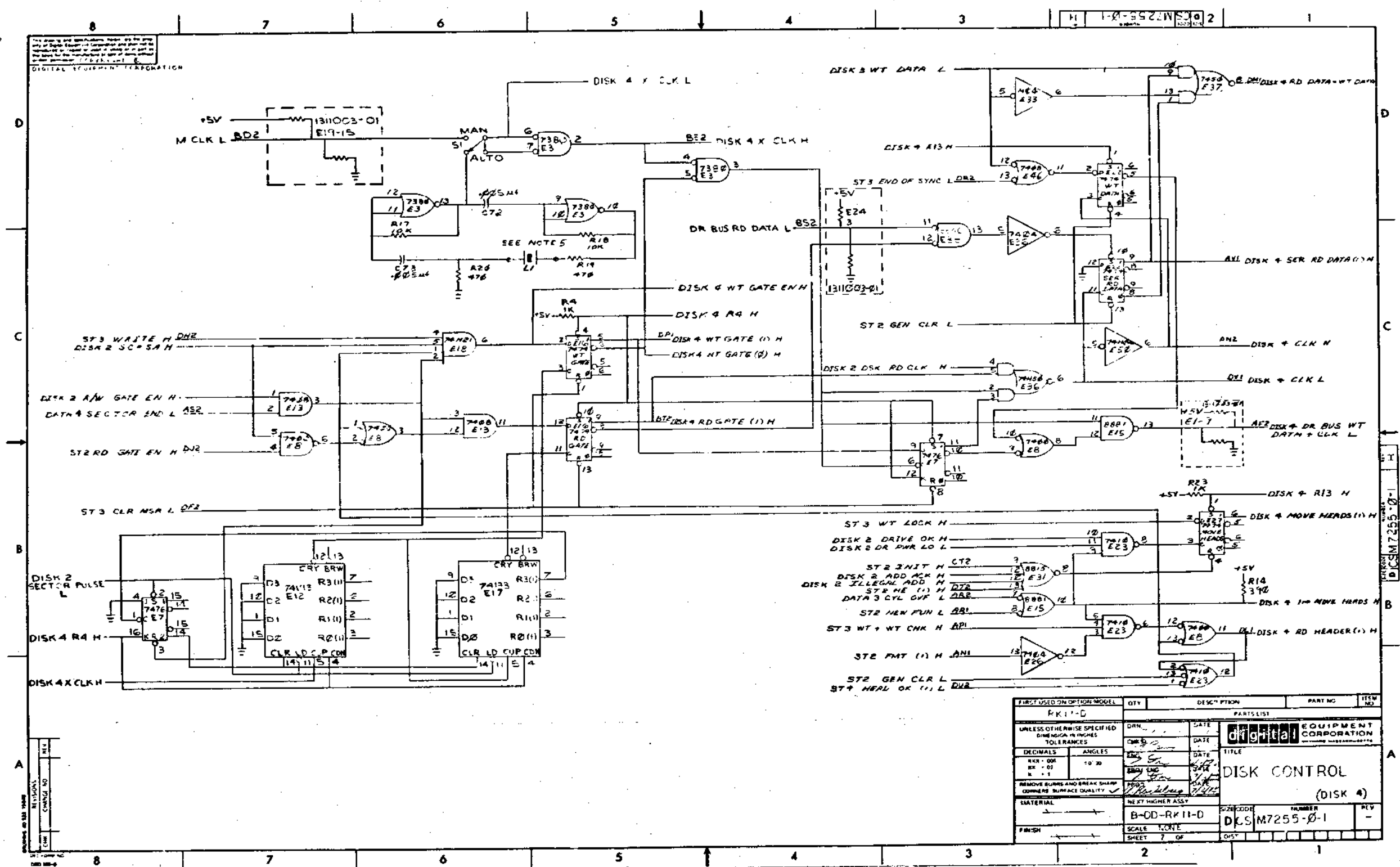
REVISIONS
 CONT. END AND NEXT

DRN D. SMITH DATE 10-4-72
 CHK'D D. SMITH DATE 10-4-72
 ENG T. ORR DATE 10-12-73
 PROD R. DOOLEY DATE 10-2-73

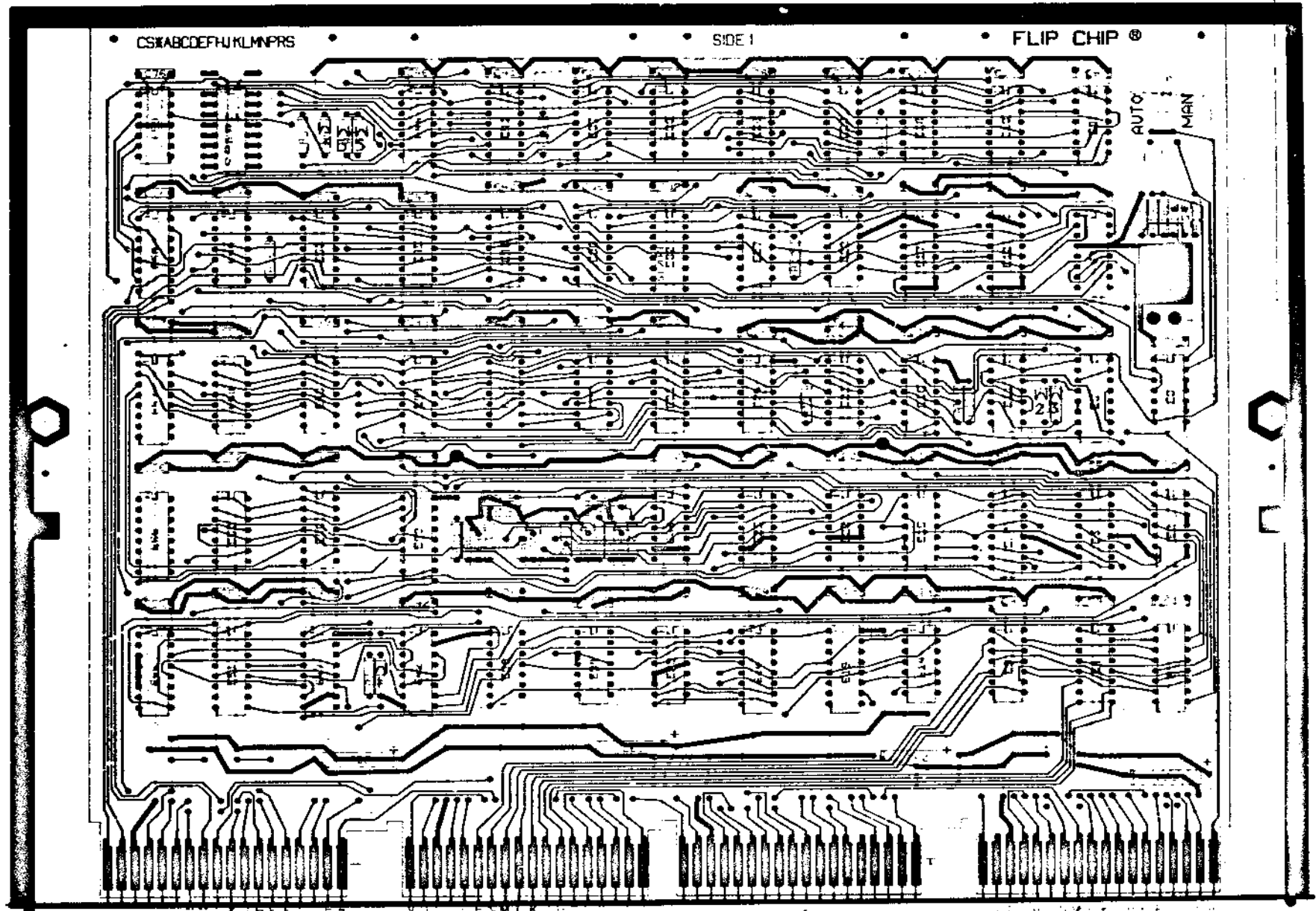
TITLE MODULE ECO HISTORY
 SIZE CODE NUMBER
 E MH 117255-0-6 P/R

DEC 74 117255-0-6
 DRB 104

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LETTER	FOR PTH BOARD	ETCH AFTER PLATE	FOR NON-PTH BOARD	ON TAKE UP HOLES	NO. OF HOLES
NONE	Ø1 (0.39 DIA)	X			
Y	45 (Ø.71 DIA)	X			
Z	41 (Ø.80 DIA)	X			2

LEVEL FABRICATION INFORMATION

BOARD SIZE 62 X 100

BOARD MATERIAL 100% COPPER

EYELET PLATED THRU X

SIDED MULTI-LAYER

NOTCH BEFORE GOLD PLATING

NOTCH AFTER GOLD PLATING X

DATE: 11/1/70		REV: 1	
BY: R. C. ...		DATE: 11-1-70	
CHECKED: R. C. ...		DATE: 11-1-70	
PART USED ON:		REV: N	
ETCH REV:		DWH 7255-05	
		MS-00187	

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00010 NOT TO BE USED FOR PRODUCTION

SUPPLEMENT ECO

digital
ENGINEERING
CHANGE ORDER

ORIGINATOR	Dick Lewis	ECO NO	M7255-00010A
TEL EXT	6620	DATE	2/27/75
LOCATION	ML/E63	DATE RECEIVED	3-5-75
COST CENTER NO	39C	ISSUE DATE	3-19-75
		FINAL RELEASE	

PROBLEM There is a documentation error in the M7255 parts list. The part number is incorrect for R5 (3K 1/4W res.)	UNIT TO BE CHANGED M7255 Disk Control
CORRECTION Correct parts list and bill of materials per this ECO.	PRODUCT AFFECTED PDP-11 PDP-15
BRFAK IN EFFECTIVITY Document correction only. Model is correct and boards are being built with correct part.	TYPE OF ECO <input checked="" type="checkbox"/> HARDWARE <input type="checkbox"/> SOFTWARE <input type="checkbox"/> PURCHASE SPEC
QUICK-CHECK FEB 28 1975	FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> D.P.R.D.STR <input type="checkbox"/> L.O.U CODE
TEST	WHERE USED RK11-D RK11-E

11 CENTRAL ENG.
ECO COMMITTEE

ITEM NO	DOCUMENT PART NO	REV	DESCRIPTION OF CHANGE DISPOSITION OF MATERIAL
1	D-CS-M7255-0-1	--	Change the part number for R5, 3K 1/4W res., from 1300433 to 1300432.
2	B-MH-M7255-0-6	R S	Update per this ECO.

SUPPLEMENT ECO

APPROVAL SIGNATURE (TYPE NAME AND SIGN) PROJECT ENGR Dick Lewis ENG ANGR Doug Rothenberg TEL EXT 6536 WISC PROJ NO E-20-07534 COST CENTER NO 39C DATE 2/27/75	REVIEW SIGNATURES (SEE INSTRUCTIONS FOR APPLIC) FIELD SERVICE DIAGNOSTIC ENGR Coord. E. P. 3-18-75
COORD NO MD1589 REF NO	

S 9-0-552LW B MH B

MODULE ECO HISTORY

PRODUCT LINE PDP11 PAGE 1 OF 3 RELEASED CS REV. B
 DATE RELEASED 9-25-72 RELEASED ETCH BD REV. C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	D. LEWIS	10-9-72	C	D	X			X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X			X			STANDARDIZE CLK. PULSES		
00003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAMINE		
00004	R. LEWIS	4-26-73	F	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		DISABLE PRE SHOT(2) WHEN NOT PULLING TO PREVENT FALSE SCH CIP'S		
00005	R. LEWIS	6-25-73	H	E		X		X			NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

REV.	DATE	BY	DESCRIPTION

TITLE: MODULE ECO HISTORY
 NUMBER: M 7255-0-6
 SIZE: B
 CODE: MH
 CORPORATION: EQUIPMENT CORPORATION

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7255-0010A

NOT TO BE USED FOR PRODUCTION

S 9-25-73 3000 3715

MODULE ECO HISTORY

PRODUCT LINE PDP11 RELEASED CS REV. B
 DATE RELEASED 9-25-73 PAGE 2 OF 3 RELEASED ETCH BD REV. C
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00006	R. LEWIS	9-14-73	J F1	E	X			X			REPLACE DR BUS AC LO WITH BUS AC LO	—	2
00006A	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	CORRECT REF INFO	—	—
00008	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	CHANGE BREAK-IN DATE	—	—
00007	T. ORR	12-20-73	F2 K	D		X	REWORK OLDER MODULES IF NOISE IS SUSPECTED	X			ADD #2 AND GND JUMPER TO REDUCE POWER NOISE	—	—
0007A	T. ORR	1-23-74	—	—	—	—	—	—	—	—	CORRECT REWORK INSTRUCTION	—	—
00008	T. ORR	2-27-74	L F2	—		X	—	X			REMOVE E32, C71R3, ADD JUMPER	—	3
00009	R. LEWIS	9-18-74	M	—		X	REWORK ETCH REV. E ONLY	X			CORRECT TRACE CONDITION IN HARDWARE FOLL	—	—
00010	R. LEWIS	9-27-74	N	F		X	—	X			UPDATE ETCH TO INCORPORATE WIRES. REPLACE H380'S WITH 8640'S	6	6

REVISIONS
 DATE
 BY

D. SMITH 10-27-73
 D. SMITH 10-27-73
 T. ORR 10-27-73
 R. POOLEY 10-27-73

EQUIPMENT CORPORATION
 NATHAN, MASSACHUSETTS

MODULE ECO HISTORY
 Dwg. Code: B
 Number: M7255-0-6

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7255-0010A

NOT TO BE USED FOR PRODUCTION

S 7-25-72 B
 2000 3215

PRODUCT LINE <u>DDP11</u>		MODULE ECO HISTORY					RELEASED CS REV. <u>B</u>										
DATE RELEASED <u>9-25-72</u>		PAGE <u>3</u> OF <u>3</u>					RELEASED ETCH BO REV. <u>C</u>										
RELEASED BY <u>T.S.P.P.</u>																	
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED				
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)							
0010A	RLEWS	2-27-75	N	F		X			X								

REVISIONS
 DATE ENG. NO. REV.

DWN.	DATE	TITLE MODULE ECO HISTORY SEE EDGE NUMBER 3	REV.
CHKD	DATE		
ENG.	DATE		
PROD.	DATE		

DEC 10 1972 10:56 AM
 DHB 104

THIS DRAWING IS PART OF E.C.O. PACKAGE # *M7255-0010A* **NOT TO BE USED FOR PRODUCTION**



To be entered by Maynard ECO Admin.

ECO No. A7255-00010 N

SHEET 1 of 1

VGR No. NONE

Discrete Project No. E20-07334

ECO IMPLEMENTATION/COST SUMMARY

Build Level	Area	Effect	No. of	Cost/	Total*	Persons	Comments
	Est	Date	Units	Unit	Cost	Contacted	
Field Service (Systems Units)	N/A				Z		
Diagnostic Programming	N/A				F		
Units in Custom or Hold Area	N/A				Z		
Other							
Systems/Units in or Complete thru Acceptance	N/A				F		
Other							
Systems/Units In Test Areas	N/A				S		
Other							
Units In System Assembly or FA&T Stock	N/A				S		
Other							
Options in Volume Manufacturing	N/A				S		
Other							
Units in Sub-Assembly Areas	N/A				S		
Other							
Modules in Module Manufacturing	N/A				F		
Other							
P.C. Board Production	N/A				S		
Vendor							
Metal Fabrication	N/A				S		
Vendor							
Availability of Test Equipment/Method	N/A				S		
Availability of Tooling	N/A				Z		

CONFIDENTIAL
COST INFO.
 To be issued with E.O.
 only on request

11 CENTRAL ENG.
 ECO COMMITTEE
 11/22/75
 FRED KOTZ

TOTAL COST = 05 CHARGE (S) TO DISCRETE PROJECT NO. 2

Does this ECO alter the Standard Cost of the product? Yes No
 If Yes, by how much? \$ _____ Increase (Decrease)

*Cost (in parentheses) the cost to be charged to the Discrete Project Number

Doug Rottenberg
 3/3/75

WHENEVER SUFFICIENT DETAIL CANNOT BE SHOWN ON THIS SUMMARY SHEET, THE PERSON PREPARING THE SUMMARY IS REQUIRED TO ATTACH A SEPARATE PAGE WHICH PRESENTS IMPLEMENTATION DETAIL.

digital

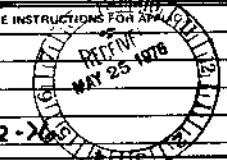
ENGINEERING
CHANGE ORDER **D**

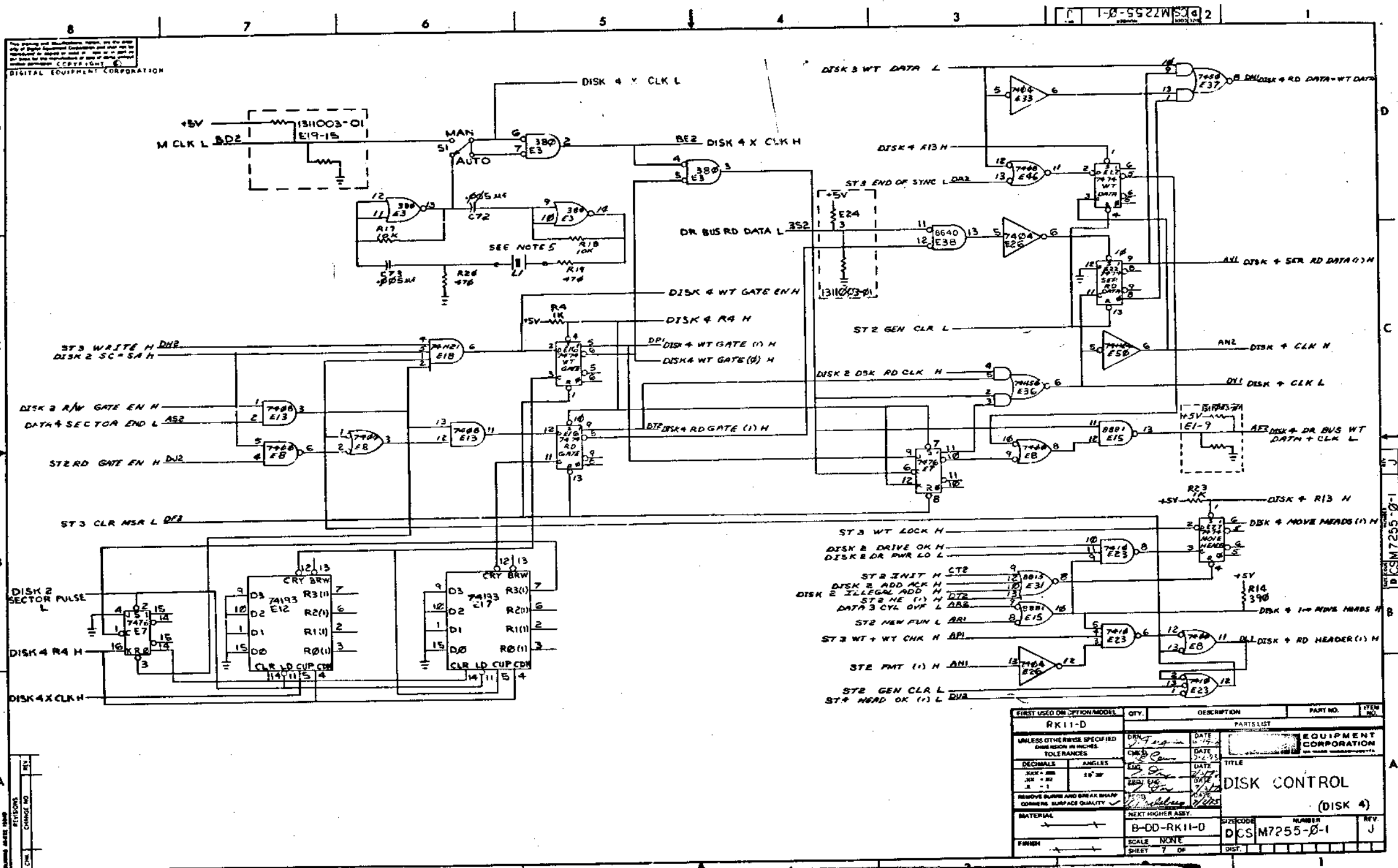
ORIGINATOR Bruce Cramm
TEL EXT 5070 DATE 19 May 76
LOCATION ML21-1/E81
COST CENTER NO. 367

ECO NO M7255-00011
SHEET 1 OF 1
DATE RECEIVED 5-24-76
ISSUE DATE 6-7-76
FINAL RELEASE

PROBLEM 1. IC number E3, 738 ϕ is not available.	UNIT TO BE CHANGED M7255
CORRECTION 1. Change IC number E3 to a 38 ϕ part number 1912549.	PRODUCT AFFECTED RK11-D, E
BREAK-IN/EFFECTIVITY Phase-in by 31 July 1976 or as soon as part is available.	TYPE OF ECO <input checked="" type="checkbox"/> HARDWARE <input type="checkbox"/> SOFTWARE <input type="checkbox"/> PURCHASE SPEC.
QUICK-CHECK Check E3; it should be a 380.	FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> D.P. R DISTR. <input type="checkbox"/> L.O.U. CODE
TEST N/A	WHERE USED PDP-11

ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
1.	B-CS-M7255- β -1	N	P	1. Update drawings number REV letters per this ECO. 2. Update CS rev letters per this ECO. 3. Change item number 28 from 738 ϕ to 38 ϕ part number 1912549.
2.	B-MH-M7255- β -6	S	T	Update per this ECO.
3.	D-AH-M7255-0-5	N	P	UPDATE PER THIS ECO

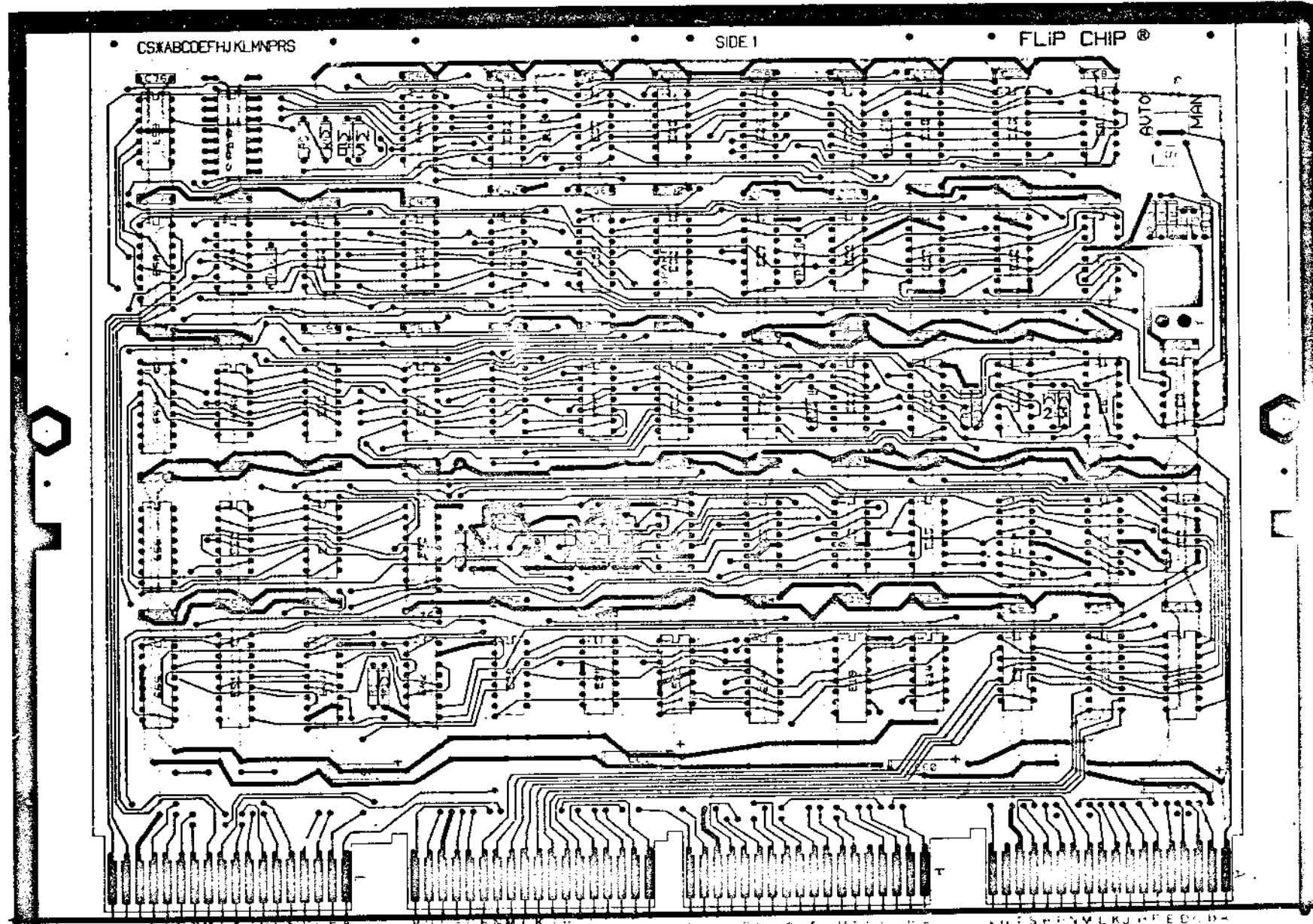
APPROVAL SIGNATURE (TYPE NAME AND SIGN) PROJECT ENGR. <u>R. Gruda</u> ENG. MGR. <u>R. Testa</u> TEL. EXT. <u>4431</u> COST CENTER NO. <u>367</u> DISC. PROJ. NO. <u>E20-08673</u> DATE <u>19 May 76</u> COORD. NO. <u>MDE615</u> REF. NO.	REVIEW SIGNATURES (SEE INSTRUCTIONS FOR APPROVAL) FIELD SERVICE _____ DIAGNOSTIC ENGR. <u>W. G. 2-76</u> 
---	--



FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES				
TOLERANCES				
DECIMALS	ANGLES			
FRAMES	10° 30'			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY.				
FINISH				
B-DD-RK11-D		DISK CONTROL (DISK 4)		
SCALE NONE		DGS M7255-0-1		
SHEET 7 OF		REV. J		

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00011

NOT TO BE USED FOR PRODUCTION



HOLE LETTER FOR PTH BOARDS	DRILLING DATA		CAN TAKE DRIPPLETS	QTY OF HOLES
	BEFORE PLATE	AFTER PLATE		
NONE	61 (0.039 DIA)	X		
Y	45 (0.730 DIA)	X		
Z	41 (0.60 DIA)	X		2

BOARD FABRICATION INFORMATION

BOARD SIZE 5.62 X 11.72
 BOARD MATERIAL 2207HS 02
 COEFF. 2 SIDES
 EYELET PLATED THRU
 SIDED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE		CORPORATION	
2/11/75	1-14-75	ELECTRONIC CONTROL	
PROJ. R. C. C.	5-20-75	SCALE	NUMBER
FIG. USED ON		D AH	M7255-0-5
ETCH REV	F		REV P
			MS 40187

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7255-00011

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To be entered by Maynard ECO Admin.
 ECO No. M7255-00011
 SHEET 1 of 1
 NDB No. _____
 Discrete Project No. E20-02673

ECO IMPLEMENTATION/COST SUMMARY

Build Level	Area	Effect	No. of	Cost	Total	Persons	Comments
	Is	Date	Units	/Unit	Cost	Contacted	
Field Service (Systems/Units)					0		
Diagnostic Programming					0		
Units in Customer/ Hold Area					0		
Other:							
Systems/Units in or Complete thru Acceptance					0		
Other:							
Systems/Units in Test Area(s)					0		
Other:							
Units in System Assembly or FAB Stock					0		
Other:							
Options in Volume Manufacturing					0		
Other:							
Units in Sub-Asy Area					0		
Other:							
Modules in Module Manufacturing					0		
Other:							
P.C. Board Pro- duction					0		
Vendor:							
Metal Fabrication					0		
Vendor:							
Availability of Test Equipment/ Method					0		
Availability of Tooling					0		

**CONFIDENTIAL
 COST INFO.**
 To be issued with ECO
 only on request

TOTAL COST = 0 CHARGE IS TO DISCRETE PROJECT NO. 0

Does this ECO alter the Standard Cost of the product? Yes No
 If Yes, by how much? \$ _____ Increase (Decrease)

*Detail (in parentheses) the cost to be charged to the Discrete Project Number.

WHENEVER SUFFICIENT DETAIL CANNOT BE SHOWN ON THIS SUMMARY SHEET, THE PERSON PREPARING THE SUMMARY IS REQUIRED TO ATTACH A SEPARATE PAGE WHICH PRESENTS IMPLEMENTATION DETAIL.
 DBC 3-4883-1831-N175

digital
ENGINEERING
CHANGE ORDER

ORIGINATOR Pete Morell
TEL EXT 2983 DATE 8 JUNE 76
LOCATION ML/4-5
COST CENTER NO. 496

ECO NO. M7255-00011A
SHEET 1 OF 1
DATE RECEIVED 6-8-76
ISSUE DATE 6-11-76
FINAL RELEASE

PROBLEM
Previous ECO did not update certain pages of CS document.

CORRECTION
Update CS properly and reflect these changes on module history.

BREAK-IN/EFFECTIVITY
Supplement ECO. Documentation change.
SUPPLEMENT ECO

QUICK-CHECK

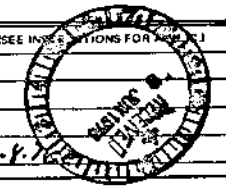
TEST

UNIT TO BE CHANGED
M7255
PRODUCT FAMILIES AFFECTED
RK11-D, E
TYPE OF ECO
 HARDWARE
 SOFTWARE
 PURCHASE SPEC.
FIELD SERVICE AFFECTED
 YES NO
 O.P. & DISTR.
 I.O.U. CODE
WHERE USED
PDP-11

ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
1.	B-CS-M7255-0-1	H	J	Update per this ECO to bring into phase with previous ECO. PAGES TWO AND SEVEN
2.	B-MB-M7255-0-6	T	U	Update to reflect these changes.

APPROVAL SIGNATURE (TYPE NAME and SIGN)
PROJECT ENGR.
ENG. MGR. Nancy Moore
TEL. EXT. 3172 COST CENTER NO. 496
DISC. PROJ. NO. E77-06686 DATE
COORD. NO. MD575E REF. NO.

REVIEW SIGNATURES (SEE INSTRUCTIONS FOR SIGNATURES)
FIELD SERVICE
DIAGNOSTIC ENGR.
Pillard 6-8-76



7-0-552LW HW B

MODULE ECO HISTORY																			
PRODUCT LINE <u>PDP11</u>				PAGE <u>1 OF 3</u>			RELEASED CS REV. <u>B</u>												
DATE RELEASED <u>9-25-72</u>							RELEASED ETCH BD REV. <u>C</u>												
RELEASED BY <u>T. ORR</u>																			
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED						
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)									
00001	D. LEWIS	10-9-72	C	D	X				X										
0001A	ORR	11-3-72	C	D	X				X										
00002	R. LEWIS	1-29-73	D	D	X				X										
00003	R. LEWIS	3-21-73	E	D		X		REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X									
00004	R. LEWIS	4-26-73	F	D		X		REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X									
00005	R. LEWIS	6-25-73	H	E		X			X										

THIS DRAWING IS PART OF E.C.O. PACKAGE *

M7255-0011A

NOT TO BE USED FOR PRODUCTION

PRODUCT LINE <u>DDP11</u>		MODULE ECO HISTORY				RELEASED CS REV. <u>B</u>							
DATE RELEASED <u>9-25-72</u>		PAGE <u>3</u> OF <u>3</u>				RELEASED ETCH BD REV. <u>C</u>							
RELEASED BY <u>T.SBR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
0010A	R LEWIS	2-27-75	N	F		X		X			CORRECT PRINT ERROR IN D1		
0011	S MORELL	5-APR-76	P	F		X		X		CHANGE 738C TO 3FC	1	1	
0011A	B MORELL	8-JUNE-76	J							SUPPLEMENT DOCUMENT CHANGE	0	0	

177255-0011A



MRB 00379 69035
 ECO NO. M7255-000/E
 SHEET 1 OF 3

ORIGINATOR BRUCE CRAMP
 TEL EXT 5970 DATE 9-16-77
 LOCATION INC-21-1/REL
 COST CENTER NO. 10A
 DATE RECEIVED 10 SEPT 77
 FINAL RELEASE 10 SEPT 77



ENGINEERING CHANGE ORDER

PROBLEM SOME M7255 S ARE EXPERIENCING CROSS TALK ON THE DISK 3 DRE(1)H LINE, ESPECIALLY THOSE WORKING WITH THE 11/34 AND 11/70 PROCESSORS.
 SYMPTOM: DIAGNOSTIC MD-11-DZKCK FAILS WITH HARD ERROR SET IN THE RACKS WITH NO ERRORS INDICATED IN THE RACK. HIGHER +5 VOLTAGE TO THE RK11-D BACKPLANE AGGRAVATED THIS PROBLEM.
 IE-FAILURES AT 5.25V AND NONE AT 4.75V.

CORRECTION
 REROUTE THE DISK 3 DRE(1) H SIGNAL.

BREAK-IN/EFFECTIVITY
 SG: REMARK ALL ETCH REV F BOARDS (CS REV P).
 DERRY: REMARK THE UNITS IN STOCK.
 WF: REMARK THOSE THAT SHOW THE PROBLEM, ESPECIALLY THOSE 11/34 BASED SYSTEMS.

QUICKCHECK
 VISUAL: LOOK FOR WIRE ON PTH THAT GOES TO PIN 711.

TEST
 RUN RK LOGIC TEST 2 AT 5.25V.

ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE/POSITION OF MATERIAL
1.	B-AH-M7255-0-6	U	V	UPDATE REV. AND RECORD THIS ECO.
2.	D-AH-M7255-0-5	P	R	UPDATE REV. 1. CUT ETCH SIDE 2 THAT CONNECTS PTH TO PIN DRI. 2. CUT ETCH SIDE 1 AT THE PTH BETWEEN C41 AND C-6. 3. ADD JUMPER SIDE 1 FROM PTH CONNECTED TO DRI TO PTH LOCATED BETWEEN C41 AND C46.
3.	B-CS-M7255-0-1 (SHEET 1)	P	R	RECORD DRAWING REVS.

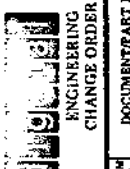
APPROVAL SIGNATURE (IT): NAME (PRINT)
 PROJECT ENGR. JOSE SOTO
 ENG. MOR. K. SRIVASTAVA
 TEL. EXT. 7600 COST CENTER NO. 370
 DPC. PHO. NO. 89806117 DATE 16-SEP-77
 COORD. NO. 26270Z (REF. NO. AID)

ITEM NO. DOCUMENT/PART NO. OLD REV NEW REV DESCRIPTION OF CHANGE/POSITION OF MATERIAL
 4. D-CS-M7255-0-1 (SHEET 2) J K UPDATE REV. AND PARTS LIST PER ITEM 5 THIS ECO.
 5. 9105740-55 -- -- ADD QTY. A/R (# 30 ANG. GREEN WIRE) TO THE PARTS LIST.

CONTINUATION SHEET
 ECO NO. M7255-000/E
 SHEET 2 OF 3

REWORK (See next sheet for pictorial)
 Add jumper from PTH connected to DRI to PTH located between C41 and C46.
 Cut etch, side 2, at PTH located between C41 and C46.
 Cut etch, side 2, at PTH connected to pin DRI.

ENCLOSURE



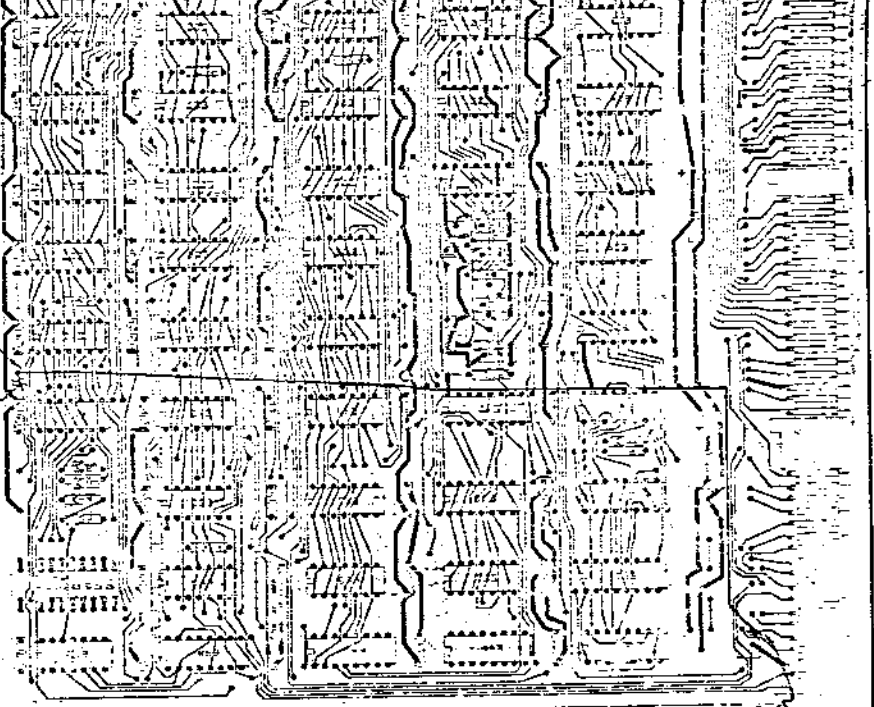
CONTINUATION SHEET
 ECO NO. M7255-000/E
 SHEET 3 OF 3



ENGINEERING CHANGE ORDER

ITEM NO. DOCUMENT/PART NO. OLD REV NEW REV DESCRIPTION OF CHANGE/POSITION OF MATERIAL

REMARK INSTRUCTIONS:
 Add jumper from PTH connected to DRI to PTH located between C41 and C46.
 Cut etch, side 2, at PTH connected to pin DRI.
 USVALLETTI/MURKINS



ENCLOSURE

9-0-552LW HW B
M7255-00012

PRODUCT LINE <u>PDP11</u>			MODULE ECO HISTORY			RELEASED CS REV. <u>B</u>							
DATE RELEASED <u>9-25-72</u>			PAGE <u>1</u> OF <u>3</u>			RELEASED ETCH BD REV. <u>C</u>							
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	D. LEWIS	10-9-72	C	D	X			X			TO CORRECT ETCH ERRORS		
0001A	ORR	11-3-72	C	D	X			X			TOLERANCE TOO CLOSE	3	3
00002	R. LEWIS	1-29-73	D	D	X			X			STANDARDIZE CLK. PULSES		
00003	R. LEWIS	3-21-73	E	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		TO SELECT PROPER DRIVE FOR EXAMINE		
00004	R. LEWIS	4-26-73	F	D		X	REWORK ALL MODULE LEVEL MACHINES. REWORK SYSTEM LEVEL AND FIELD MACHINES AS REQUIRED		X		DISABLE ONE SHOT (E21) WHEN NOT POLLING TO PREVENT FALSE SCH CMP'S		
00005	R. LEWIS	6-25-73	H	E		X		X			NEW LAYOUT WITH SHORTER ETCH RUNS SPARE IC LOCATIONS, BETTER XOR TESTING		

REVISIONS	DATE	BY	DESCRIPTION
A	10-11-72		
B	10-11-72		
C	10-11-72		
D	10-11-72		
E	10-11-72		
F	10-11-72		
G	10-11-72		
H	10-11-72		
I	10-11-72		
J	10-11-72		
K	10-11-72		
L	10-11-72		
M	10-11-72		
N	10-11-72		
O	10-11-72		
P	10-11-72		
Q	10-11-72		
R	10-11-72		
S	10-11-72		
T	10-11-72		
U	10-11-72		
V	10-11-72		

THIS DRAWING IS PART OF E.C.O. PACKAGE NO.

M7255-00012

FOR PRODUCTION

A 9-25-72 14W B 3000 3225

MODULE ECO HISTORY														
PRODUCT LINE <u>PDP11</u>			DATE RELEASED <u>9-25-72</u>			RELEASED BY <u>T. ORR</u>			PAGE <u>2</u> OF <u>3</u>			RELEASED CS REV <u>B</u>		
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW? CAN BE MIXED INDISCRIMINATELY?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
00006	R. LEWIS	9-14-73	J F1	E	X			X			REPLACE DR BUS AC LO WITH BUS AC LO	—	2	
00006A	R. LEWIS	10-9-73	—	—	—	—	—	—	—	—	CORRECT REF INFO	—	—	
00006B	R. LEWIS	10-16-73	—	—	—	—	—	—	—	—	CHANGE BREAK-IN DATE	—	—	
00007	T. ORR	12-20-73	F2 K	D		X	REWORK OLDER MODULES IF NOISE IS SUSPECTED	X			ADD +5 AND GND JUMPERS TO REDUCE POWER NOISE	—	—	
0007A	T. ORR	1-23-74	—	—	—	—	—	—	—	—	CORRECT REWORK INSTRUCTION	—	—	
00008	T. ORR	2-27-74	L F2	—		X	—	X			REMOVE E32, C71 R3. ADD JUMPER	—	3	
00009	R. LEWIS	9-18-74	M	—		X	REWORK ETCH REV. E ONLY	X			CORRECT TRACE CONDITION IN HARDWARE POLL	—	—	
00010	R. LEWIS	9-27-74	N	F		X	—	X			UPDATE ETCH TO INCORPORATE WIRES. REPLACE 11380'S WITH 8640'S	6	6	

THIS DRAWING IS PART OF E.C.O. PACKAGE NO.

M7255-00012

FOR PRODUCTION

9-0-5522W 1/4" B

PRODUCT LINE <u>DAP11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>B</u>										
DATE RELEASED <u>2-25-72</u>		PAGE <u>9</u> OF <u>9</u>		RELEASED ETCH BO REV. <u>C</u>										
RELEASED BY <u>T.CBB</u>														
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED	
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)				
0010A	R. LEWIS	2-27-75	N	F		X			X			CORRECT PRINT ERROR IN P/L		
0011	B. CRANM	5-APR-76	P	F		X			X			CHANGE 7380 TO 350	1	1
0011A	R. MORELL	8-JUNE-76	P	F								SUPPLEMENT DOCUMENT CHANGE	0	0
00012	B. CRANM	16-SEP-77	R	F		X			X			2 ETCH CUT 1 WIRE	1	0
0012A	B. CRANM	27-SEP-77	R	F								CHANGED REWORK INSTRUCTIONS	0	0
0012B	J. SOTO	29-SEP-77	R	F								CHANGE WF TO WM ON BREAK-IN EFFECTIVITY	0	0

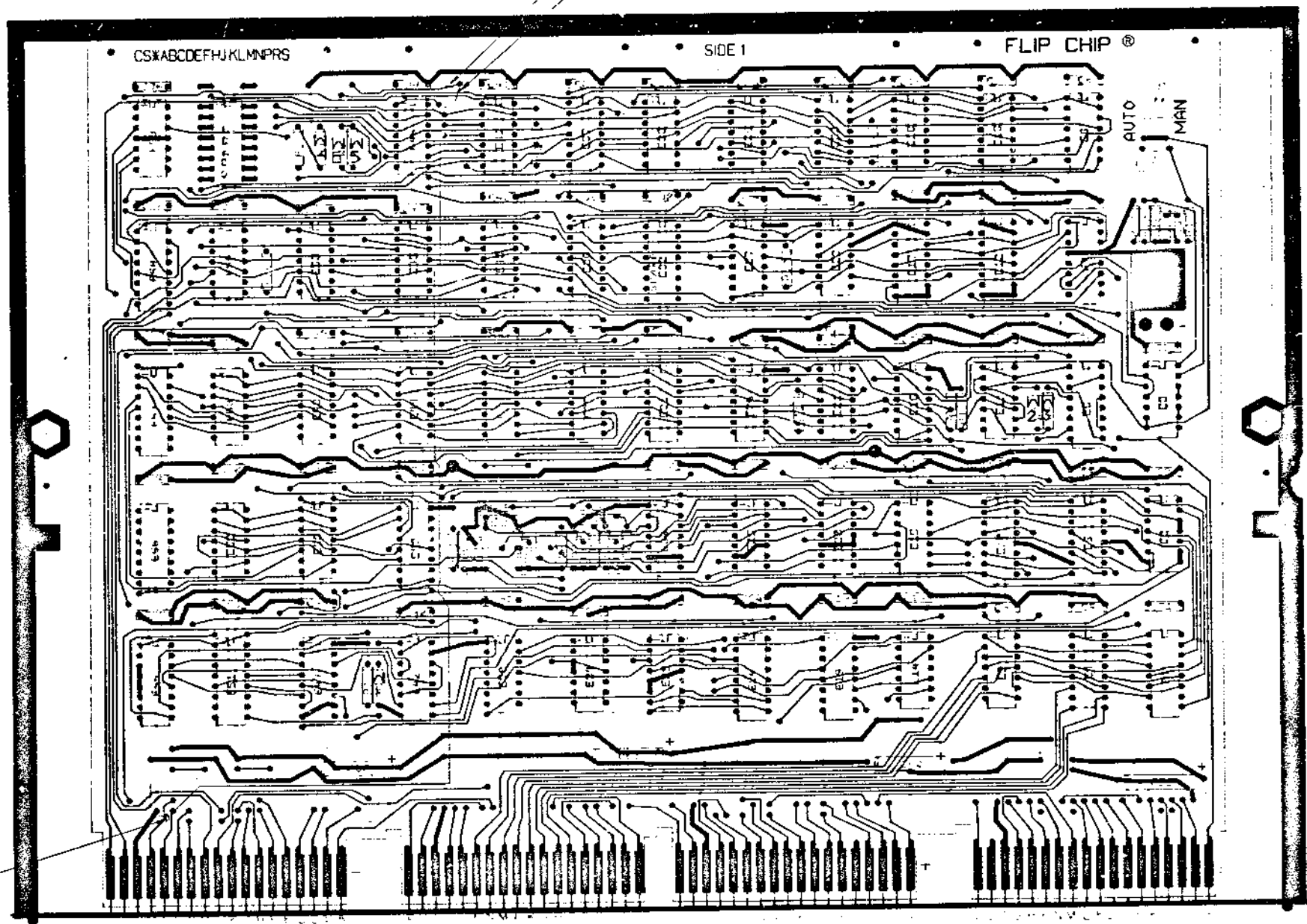
DRG. <u>D. SMITH</u>	DATE <u>12-9-72</u>	TITLE <u>MODULE ECO HISTORY</u>
CHKD. <u>D. SMITH</u>	DATE <u>12-9-72</u>	
ENG. <u>T. CBB</u>	DATE <u>12-9-72</u>	
EQUIPMENT CORPORATION		SIZE <u>0</u> CODE <u>M11</u> NUMBER <u>M7255-0-6</u> REV. <u>V</u>

THIS DRAWING IS PART OF E.C.O. PACKAGE NO.

M7255-00012

NOT TO BE USED FOR PRODUCTION

REWORK INSTRUCTIONS:
 ECC #1
 #1 ADD JUMPER FROM PTH CONNECTED TO DRI TO PTH LOCATED BETWEEN C41 AND C46.
 #2 CLIP ETCH, SIDE 1, AT PTH LOCATED BETWEEN C41 AND C46.
 #3 CUT ETCH, SIDE 2, AT PTH CONNECTED TO P41J DRI



LETTER	FOR PTH BOARDS	BEFORE PLATED	PLATE PLATE	FOR HOLE PTH	HOLES	YES	NO	HOLES
NONE	Ø1 (03+ DIA)							
Y	45 (073(1A))	X						
Z	41 (0-60(1A))	X						

BOARD FABRICATION INFORMATION
 BOARD SIZE 24 1/2 X 11 1/2
 BOARD MATERIAL 2 LAYERS
 2 SIDE
 EYELET PLATED THRU X
 SIDED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING X

THIS DRAWING IS PART
 OF E.C.O. PACKAGE NO. M7255-000/2

NOT TO BE USED
 FOR PRODUCTION

DATE	11/14/75	DESIGNER	R. C. ...
SCALE	3/20/75	CHECKER	R. C. ...
ETCH REV		NUMBER	5-25
		DATE	11/14/75

MS-1190



To be entered by Hayward ECO Admin.
 ECO No. H7255-00012
 SHEET 1 of 1
 MMS No. M9800379 69035
 Discrete Project No. E9800117

ECO IMPLEMENTATION/COST SUMMARY

Ball Level	Area	Effct. Date	No. of Units	Cost/Unit	Total Cost	Person Contacted	Comments
Field Service (Systems/Units)							
Diagnostic Programming							
Units in Customer/Field Area							
Other:							
Systems/Units in or Complete thru Acceptance							
Other:							
Systems/Units in Test Areas							
Other:							
Units in System Assembly or FAAT Stock							
Other:							
Options in Volume Manufacturing							
Other:							
Units in Sub-Assembly Area							
Other:							
Modules in Module Manufacturing	SG DERRY	9/77 9/77	2040 487	\$1.20 \$5.50	\$2468.40 \$2678.50	(TOM LARSEN) (BRENDA CARLEY)	(\$2468.40) (ENGINEERING WILL PAY ONLY \$1.75 BD. (852.25)
Other:	WF	9/77	100	\$1.75	\$175.	(JOSE SOTO)	(\$175)
Material Fabrication							
Vendor:							
Availability of Test Equipment/Method							
Availability of Tooling							

only to be issued with ECO request
 CONFIDENTIAL
 COST MFG.

TOTAL COST = \$5321.90 CHARGE IS TO DISCRETE PROJECT NO. 3495.65
 Does this ECO alter the Standard Cost of the product? Yes No
 If Yes, by how much? \$ _____ (Increase/Decrease)
 *Detail (in parentheses) the cost to be charged to the Discrete Project Number.

WHEN VER SUFFICIENT DETAIL CANNOT BE SHOWN ON THIS SUMMARY SHEET, THE PERSON PREPARING THE SUMMARY IS REQUIRED TO ATTACH A SEPARATE PAGE WHICH PRESENTS IMPLEMENTATION DETAIL.
 DEC 8-1988-1031-4175



ORIGINATOR RENCE CRANK ECO NO. M7255-0012A
 TEL EXT. 5970 DATE 9-27-77 SHEET 1 OF 1
 LOCATION ML 21-1/EB1 DATE RECEIVED 9-27-77
 COST CENTER NO. 39A ISSUE DATE 9-27-77
 FINAL RELEASE 19 OCT 77

PROBLEM
 1. On the continuation sheets 2of3 and 3of3 and the AH mark up under rework it says cut etch, side 2, at PTH located between C41 and C46, this is incorrect.

CORRECTION
 1. Change from cut etch, side 2, at PTH located between C41 and C46 to cut etch, side 1, at PTH located between C41 and C46.

BREAK-IN/EFFECTIVITY
 Same as E.C.O. M7255-00012.
SUPPLEMENT ECO

QUICK-CHECK Same as E.C.O. M7255-00012.

TEST Same as E.C.O. M7255-00012.

UNIT TO BE CHANGED
 M7255
 DISK CONTROL

PRODUCT FAMILIES AFFECTED
 PERIPHERAL

TYPE OF ECO
 HARDWARE
 SOFTWARE
 PURCHASE SPEC.

FIELD SERVICE AFFECTED
 YES NO
 D. P. R. DISTR.
 L.D.M. CODE

WHERE USED
 RK11-D, B
 RKV11-D

ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
1.	B-MH-M7255-0-6	-	-	Update per this E.C.O.

APPROVAL SIGNATURE (TYPE NAME and SIGN)
 PROJECT ENGR. JOSE SOTO *JS*
 ENGR. MGR. K. SRIVASTAVA *KS*
 TEL. EXT. 7600 COST CENTER NO. 379
 DISC. PROJ. NO. E9806117 DATE 9-27-77
 COORD. NO. 260852 REF. NO. MD

REVIEW SIGNATURES (SEE INSTR. 1045 FOR FORM 3)
 FIELD SERVICE
 DIAGNOSTIC ENGR. *On Mike Kopf*

EN-10710-36-R1075-1077 260787





ECO IMPLEMENTATION/COST SUMMARY

To be entered by Maynard ECO Admin.

ECO No. M7255-0002A

SHEET 1 of 1

MSR No. M980037969035

Discrete Project No. E9806117

Build Level	Area	Effect	No. of	Cost/	Total	Persons	Comments
	Id	Date	Units	Unit	Cost	Contacted	
Field Service (Systems/Units)							
Diagnostic Programming							
Units in Chamber/ Head Area							
Other:							
Systems/Units in or Correction New Assemblies							
Other:							
Systems/Units in Test Area(s)							
Other:							
Units in System Assembly or PART Deck							
Other:							
Options in Volume Manufacturing							
Other:							
Units in Sub-Assembly Area							
Other:							
Modules in Module Manufacturing	SG DERRY	9/77 9/77	2040 487	\$1.20 \$5.50	\$2468.40 \$2678.50	(TOM LARSEN) (BRENDA CARLEY)	(\$2468.40) (ENGINEERING WILL PAY ONLY \$1.75 BD. (\$52.2
Unit	<i>W/P</i>	9/77	100	\$1.75	\$175.	(JOSE SOTO)	(\$175)
Other:							
Vendor:							
Availability of Test Equipment/ Method							
Availability of Testing							

TOTAL COST = \$5321.90 CHARGE IS TO DISCRETE PROJECT NO. 5495.65


Does this ECO alter the Standard Cost of the product? Yes No
If Yes, by how much? \$ _____ Increase (Decrease)

*Detail for parentheses) the cost to be charged to the Discrete Project Number.

WHENEVER SUFFICIENT DETAIL CANNOT BE SHOWN ON THIS SUMMARY SHEET, THE PERSON PREPARING THE SUMMARY IS REQUIRED TO ATTACH A SEPARATE SHEET WHICH PRESENTS IMPLEMENTATION DETAIL.

DEC 5-6861-1031-4175

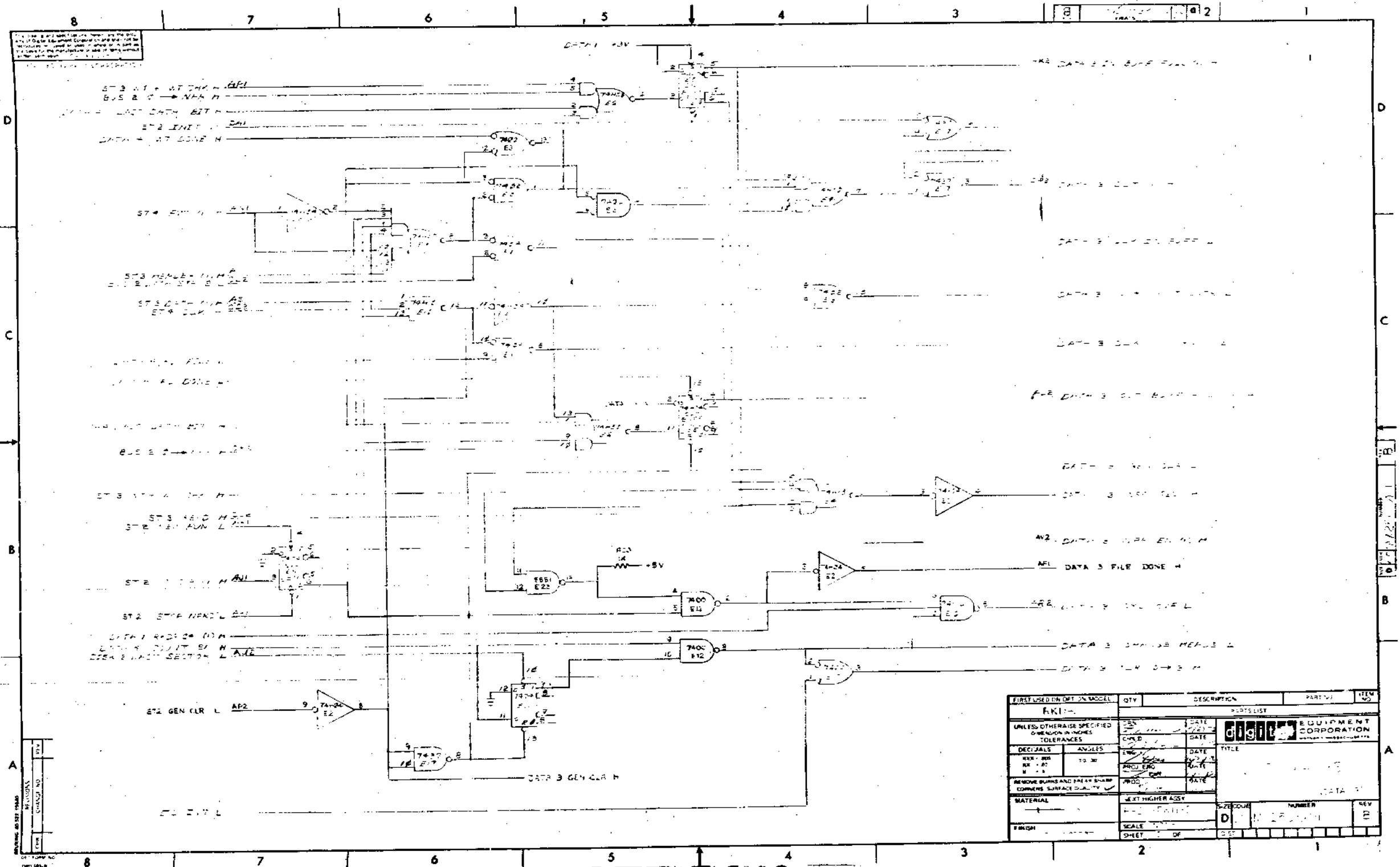
SUPPLEMENT ECO

	ORIGINATOR <u>JOSE M. SOTO</u> TEL EXT. <u>7600</u> DATE <u>9-29-77</u> LOCATION <u>ML 1-3/ESB</u> COST CENTER NO. <u>379</u>	ECO NO. <u>M7255-0012R#</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>10 OCT 77</u> ISSUE DATE <u>10 OCT 77</u> FINAL RELEASE <u>10 OCT 77</u>		
	ENGINEERING CHANGE ORDER			
PROBLEM <u>M980037969035</u> MISINFORMATION ON BREAK-IN EFFECTIVITY AND COST SHEET.	UNIT TO BE CHANGED <u>M7255</u> DISK CONTROL			
CORRECTION CHANGE WF TO WM ON BREAK-IN EFFECTIVITY AND COST SHEET. ECO NO. M7255-0012A WAS ERRONEOUSLY ASSIGNED TO THIS SUPPLEMENT. IT SHOULD HAVE BEEN M7255-0012B	PRODUCT FAMILIES AFFECTED PERIPHERAL			
BREAK-IN/EFFECTIVITY PER ABOVE CORRECTION. <div style="text-align: center; font-size: 1.2em;">SUPPLEMENT 20</div>	TYPE OF ECO <input checked="" type="checkbox"/> HARDWARE <input type="checkbox"/> SOFTWARE <input type="checkbox"/> PURCHASE SPEC.			
QUICK CHECK	FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> D. P. R. DISTR. <input type="checkbox"/> L.D.M. CODE			
TEST	WHERE USED RK11-D, E RKV11-D			
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
				(NO DRAWINGS)
APPROVAL SIGNATURE (TYPE NAME AND SIGNATURE) PROJECT ENGR. <u>JOSE M. SOTO</u> ENVS. MGR. <u>K. SRIVASTAVA</u>		REVIEW SIGNATURES SEE INSTRUCTIONS FOR APPLIC. FIELD SERVICE _____ DIAGNOSTIC ENGR. _____		
TEL. EXT. <u>7600</u> COST CENTER NO. <u>379</u> DISC. PROJ. NO. <u>E9806117</u> DATE <u>9-29-77</u>		COORD. NO. <u>260925</u> REF. NO. <u>MD</u>		

EN-10718-16-41075-1327

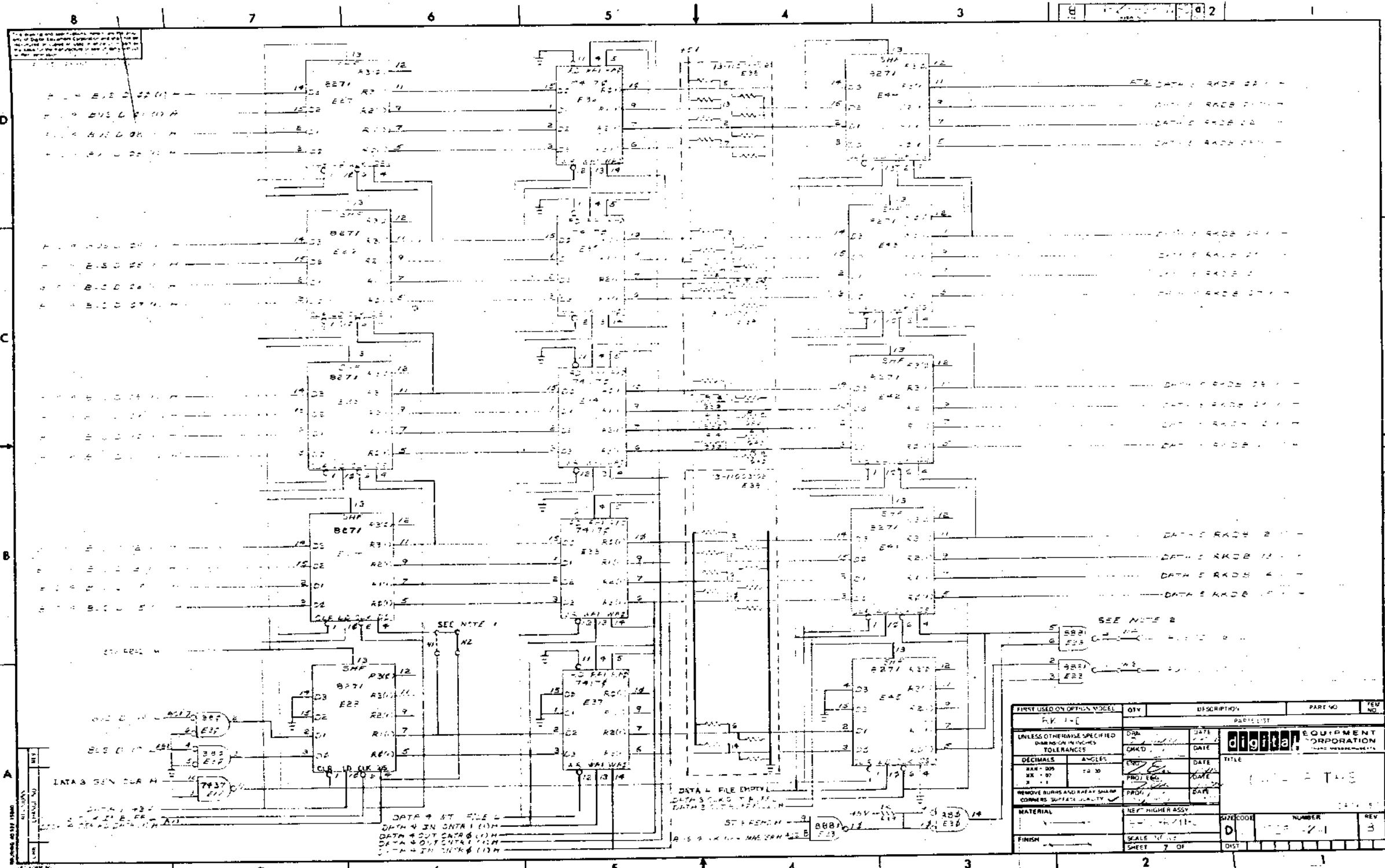
260787

digital ENGINEERING CHANGE ORDER 9/55		ORIGINATOR Dick Lewis 1-2 TEL EXT 2814 DATE 11/21/72 DISC PROJ NO. E-20-06734 COST CENTER NO. 378	ECO NO. <u>M7256-0001</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>11-21-72</u> FIRST ISSUE <u>11-21-72</u> FINAL ISSUE <u>12-15-72</u>			
PROBLEM RK11-D samples word count overflow at sector end time causing premature termination of write and write check functions when transferring short sectors.		UNIT TO BE CHANGED M7256 DATA PATH				
CORRECTION Create a "File Done" condition that can be sampled instead of WORD COUNT OVERFLOW.		NEW CODE 03 OPTIONS AFFECTED RK11-D,E				
BREAK-DOWN/EFFECTIVITY Immediately rework all M7256 rev B boards (Item 3 & 4 below)		PRODUCT LINES AFFECTED PDP-11				
ITEM NO.	DOCUMENT PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1.	D-CS-M7256-0-1 <i>SH 1,2,3,5,6,7</i>	A	B	06	Sheets 1,2,3,5,6,7 only See final release print	<input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC
2.	B-MI-M7256-0-6	*	A	06	See final release print	<input type="checkbox"/> FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Change <input type="checkbox"/> Product Use Change
3.	D-AH-M7256-0-5	A	B	06	Make etch correction per mark up schematics.	TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE
4.	5009987 (M7256)	B	C	03	Rework boards as shown on marked up D-AH-M7256-0-5	ORDER FOR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
5.	1304854	-	-	06	Delete 5.1K resistor (R6)	
6.	1301874	-	-	07	Add 5.6K resistor (R6)	
7.	1300365	-	-	07	Add 1k resistor (R20)	
DISPOSITION CODES			APPROVAL SIGNATURES			
00 - RETURN TO STOCK 01 - DELETED 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - Rework (IMMEDIATELY (ALTHOUGH)) 04 - DELETED 05 - DELETED 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS COMPANY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			277, <i>Typewriter</i> DESIGN ENGR. TOOL OFF. <i>[Signature]</i> ENGR MGR (OPT) <i>[Signature]</i> FIELD SERVICE (OPT) <i>[Signature]</i> CHIEF ENGR (MODULES ONLY) <i>[Signature]</i>			



M7256-00001

FIRST USED ON	QTY	DESCRIPTION	PART NO	ITEM NO
AKI				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES	GEN CHLD ENG PROJ PROJ PROJ	DATE DATE DATE DATE DATE	digit EQUIPMENT CORPORATION PARTS LIST TITLE DATA 3	
DECIMALS	ANGLES	TO 30		
REMOVE BURRS AND FILE SHARP CORNER SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY	SCALE	SIZE CODE	NUMBER
FINISH		SHEET	OF	REV



FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO.	REV. NO.
AV-1-C				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES	DIM	DATE	digital EQUIPMENT CORPORATION	
DECIMALS	ANGLES	DATE	TITLE	
REMOVE BURRS AND RADIUS SHARP CORNERS SURFACE QUALITY	PROJ	DATE	DATE	
MATERIAL	NEXT HIGHER ASSY	SIZE CODE	NUMBER	REV
FINISH	SCALE 1/16"	DIST		
	SHEET 7 OF			

M7256-00001

digital ENGINEERING CHANGE ORDER	ORIGINATOR Dick Lewis 1-2 TELEXT 2914 DATE 1/25/73 DISC PROJ NO E20-06734 COST CENTER NO. 378	ECO NO <u>M7256-002</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>2-3-73</u> FIRST ISSUE <u>3-5-73</u> FINAL ISSUE <u>4/1/73</u>				
	PROBLEM Print errors on M7256 schematics.					
CORRECTION Correct schematics per attached prints.		UNIT TO BE CHANGED M7256 Data Paths DISP CODE 06 OPTIONS AFFECTED RK11-D,E				
BREAK-IN/EFFECTIVITY Documentation correction only.		PRODUCT LINES AFFECTED PDP-11				
ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DISP CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED <input type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Change <input type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MOD. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
1.	D-CS-M7256-0-1 Sheets 1, 5	B	C	06	See final release drawing.	
2.	B-MH-M7256-0-6	A	B	06	See final release drawing.	
3.	D-AN-M7256-0-5	B	C	06	UPDATE REV	
DISPOSITION CODES 00 - RETURN TO SUPPLIER 01 - (DELETE) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - SCRAP IMMEDIATELY (REWORK) 04 - (DELETE) 05 - (DELETE) 06 - (DELETE) 07 - DOCUMENT CORRECTION 08 - NEW ITEM (THIS ASSEMBLY) 09 - NEW ITEM (THIS COMPANY) 99 - SCRAP IMMEDIATELY					APPROVAL SIGNATURES DESIGN ENGR <u>Tom Off</u> ENG MGR (OPT) <u>[Signature]</u> FIELD SERVICE (OPT) <u>[Signature]</u> CHIEF ENGR (MODULES ONLY) <u>[Signature]</u>	

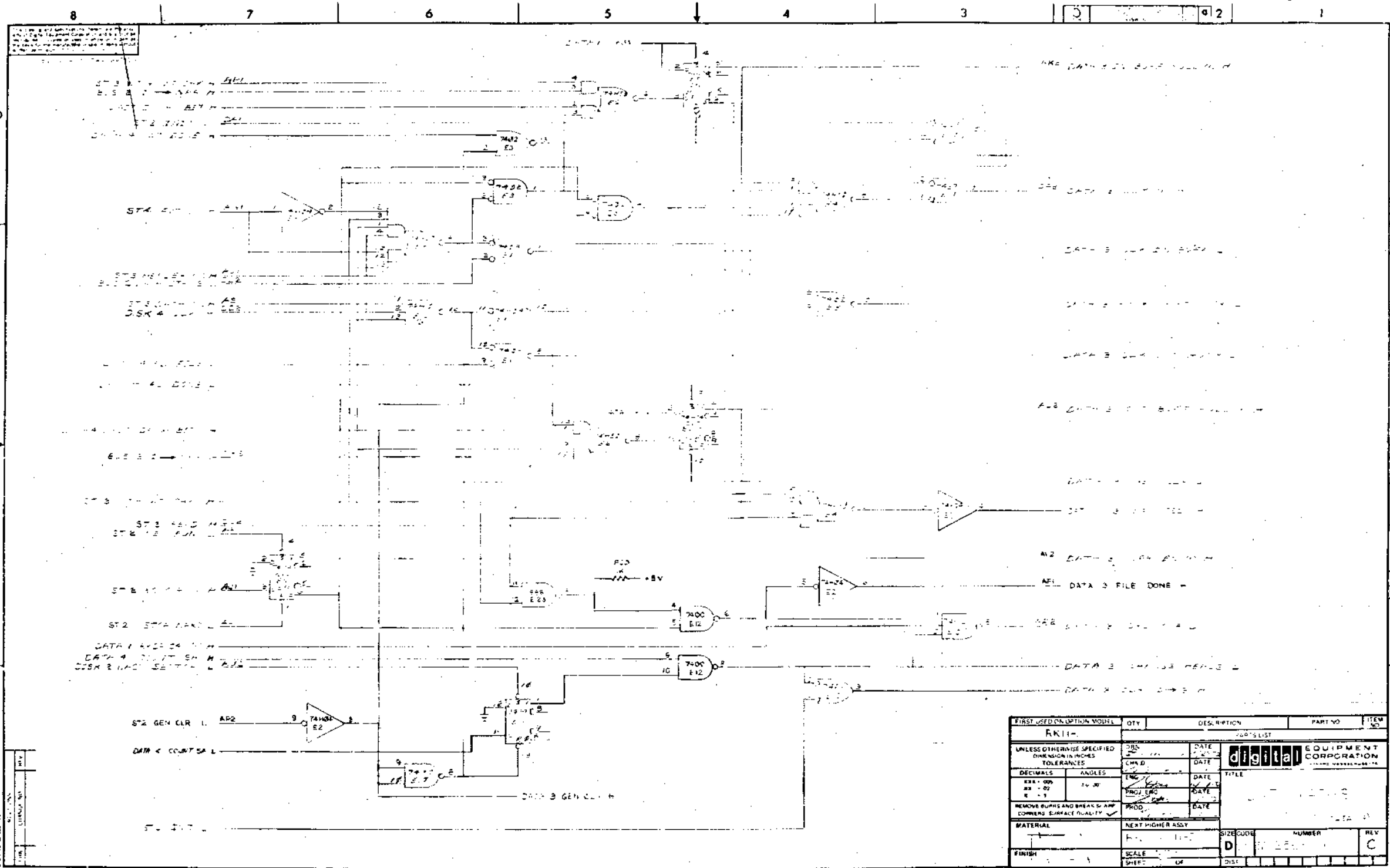
70°C 15 (1175-107) 1971 SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY. DRA-111C

PAGE REVISION CONTROL SHEET											
SHEET NO.	PAGE REVISIONS									REMARKS	
	DATE	ENG.	ETCH	E.C.O. NO.	REV.	NO.	BY	CHKD.	DATE		
1	A										(DATA 1) (DATA 2) (DATA 3) (DATA 4)
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3	A										
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THIS DRAWING IS PART OF E.C.O. PACKAGE #

M 7256-00002

NOT TO BE USED FOR PRODUCTION

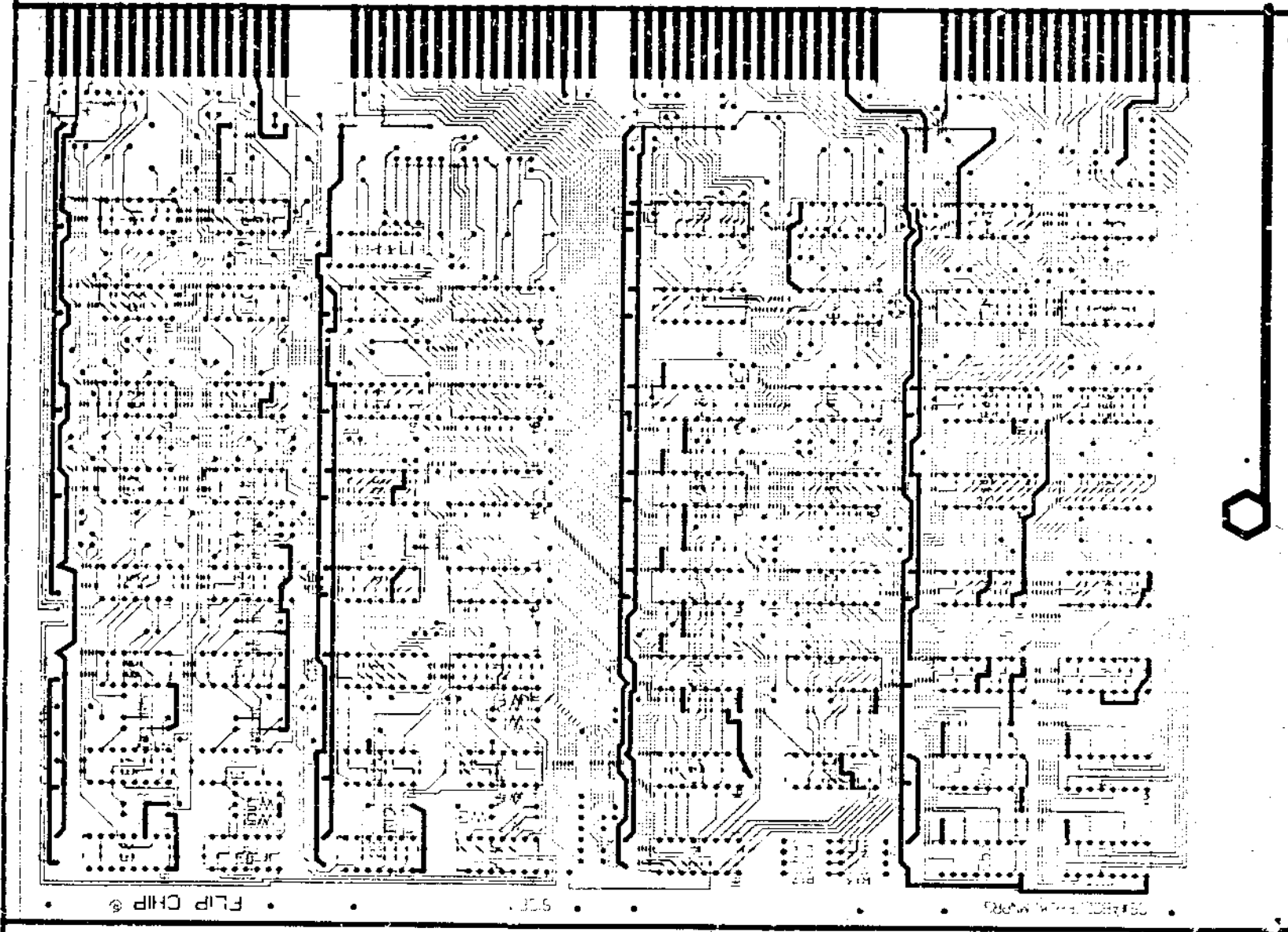


**THIS DRAWING IS PART
OF E.C.O. PACKAGE #**

M 7256-00002

**NOT TO BE USED
FOR PRODUCTION**

FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
RK11-				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES		DATE	EQUIPMENT CORPORATION	
DECIMALS	ANGLES	CHK'D	DATE	digital
XXX - 000	24 30'	ENG	DATE	
XX - 00	30 30'	PROJ. ENG	DATE	
X - 0	30 30'	PROD.	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL		NEXT HIGHER ASSY		
FINISH		SCALE	SIZE CODE	NUMBER
		SHEET	D	C



BOARD FABRICATION INFORMATION

BOARD SIZE 8.50 X 11.75 (0.350 X 0.469) PLATED THRU EYELET SIDED
 BOARD MATERIAL 0.52 THK 1.0Z COPPER 2 SIDES NOTCH BEFORE GOLD PLATING NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE	0.61 DIA (0.31 DIA)	X			

DATE	REV	BY	CHKD	APPD	FILE
MAY 27 1972	1	JAH			ASSY/DRILLING HOLE LAYOUT
PROJECT	DATE	NO.	REV	BY	CHKD
M 7256	5-12-72	M 7256-0-5			

REVISIONS	A	B	C	D	E	F	H	J	K
DESIGNER	TRIAD								
DRAFTSMAN	TRIAD								
CHECKER	TRIAD								

TITLE PK11-D DATA PATHS PROD. NO. M7256
 CHARGE NO. E20-06734 DATE 5-12-72 C.S. REV
 ENGINEER TOM ORR EXTENSION 2791 MS NO. 4008

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PAGE REVISION CONTROL SHEET									
SM NO.	PAGE REVISIONS							REMARKS	
	DATE	ENG.	ETCH	ECO	NO.	REV.	DATE	DRN.	DATE
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3	C								
4	D								
5	E								
6	F								
7	G								
8	H								
9	I								
10	J								
11	K								
12	L								
13	M								
14	N								
15	O								
16	P								
17	Q								
18	R								
19	S								
20	T								
21	U								
22	V								
23	W								
24	X								
25	Y								
26	Z								
27	AA								
28	AB								
29	AC								
30	AD								
31	AE								
32	AF								
33	AG								
34	AH								
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65	BM								
66	BN								
67	BO								
68	BP								
69	BQ								
70	BR								
71	BS								
72	BT								
73	BU								
74	BV								
75	BW								
76	BX								
77	BY								
78	BZ								
79	CA								
80	CB								
81	CC								
82	CD								
83	CE								
84	CF								
85	CG								
86	CH								
87	CI								
88	CJ								
89	CK								
90	CL								
91	CM								
92	CN								
93	CO								
94	CP								
95	CQ								
96	CR								
97	CS								
98	CT								
99	CU								
100	CV								
101	CW								
102	CX								
103	CY								
104	CZ								
105	DA								
106	DB								
107	DC								
108	DD								
109	DE								
110	DF								
111	DG								
112	DH								
113	DI								
114	DJ								
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122	DR								
123	DS								
124	DT								
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142	EL								
143	EM								
144	EN								
145	EO								
146	EP								
147	EQ								
148	ER								
149	ES								
150	ET								
151	EU								
152	EV								
153	EW								
154	EX								
155	EY								
156	EZ								
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158	FB								
159	FC								
160	FD								
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174	FR								
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177	FU								
178	FV								
179	FW								
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191	GI								
192	GJ								
193	GK								
194	GL								
195	GM								
196	GN								

9-0-952LW HWI B
1000 3215

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP-11</u>				PAGE <u>1</u> OF <u>1</u>				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-27-72</u>								RELEASED ETCH BD REV. <u>B</u>					
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	DICKLEWIS	11-20-72	B	C	✓			✓			CREATE A FILE DONE CONDITION THAT C- B SAMPLED INSTEAD OF WC OVF	1301874 (1) 1300365 (1)	1304854 (1)
00002	DICKLEWIS	1-24-73	C	C							CORRECTS PRINT ERRORS ONLY	0	0
00003	DICKLEWIS	6-8-73	D	C		✓	REWORK ONLY NECESSARY ON M7256 USED IN RKT-DE IN SYSTEMS WITH PARITY MEMORY			THIS ECO CANNOT BE IN TALLE ON M7256 IN RKT-DE SYSTEMS	PREVENT BURD IS FROM BEING CLOPED INTO IN BUFFER		

REVISIONS	DATE	BY
1	11/20/72	DICKLEWIS
2	1/24/73	DICKLEWIS
3	6/8/73	DICKLEWIS

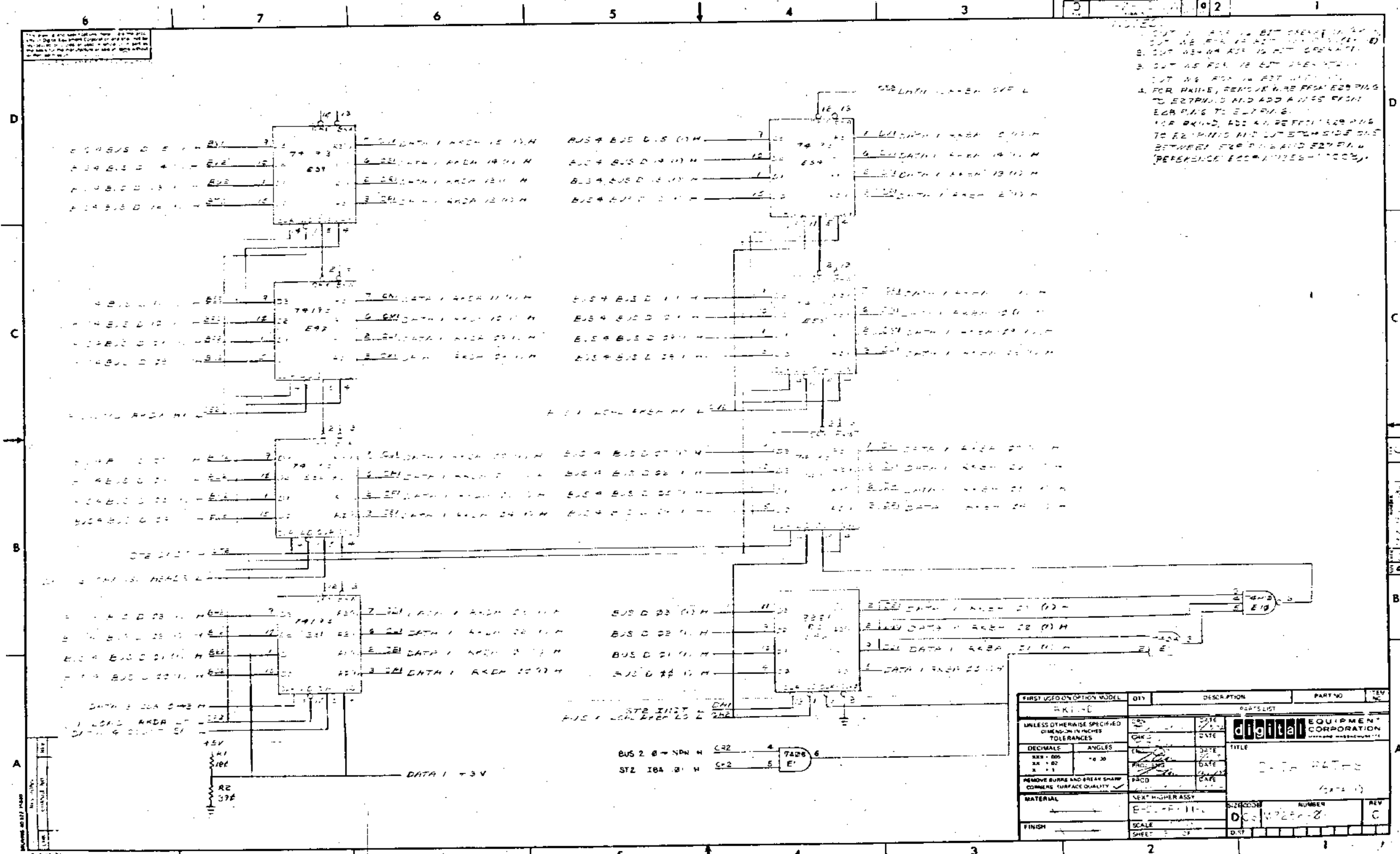
DATE	10/1/72	TITLE	MODULE ECO HISTORY
DATE	11/1/72	SIZE	B
DATE	1/24/73	CODE	M7256-0-6
DATE	6/8/73	NUMBER	
DATE		REV	C

ORR 104

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M7256-00003

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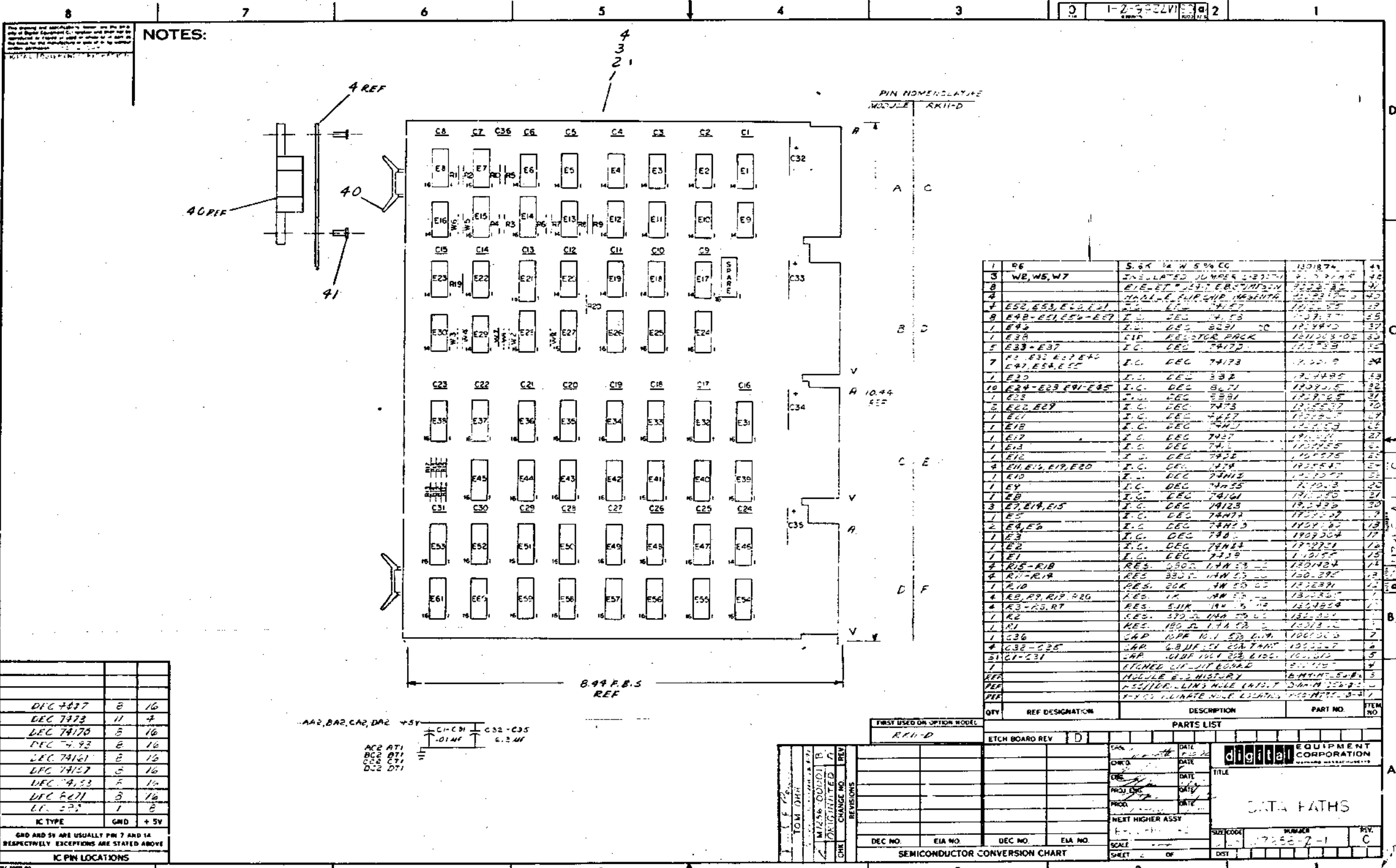
FIRST USED OPTION MODEL	QTY	DESCRIPTION	PART NO	REV
AKI-0				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES			
±.005	±.030			
±.010				
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY				
MATERIAL	SEXT HIGHER ASSY			
FINISH	SCALE			

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M7256-00003

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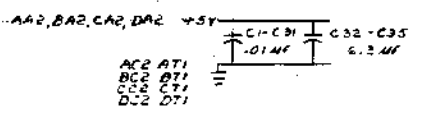
digital ENGINEERING CHANGE ORDER 766		ORIGINATOR Dick Lewis 1-2 TEL EXT 3055 DATE 7/13/73 DISC PROJ NO. E20-06734 COST CENTER NO. 395		ECO NO. M7256-0004 SHEET 1 OF 1 DATE RECEIVED July 30, 73 FIRST ISSUE 5-1-73 FINAL ISSUE 11/27/73	
PROBLEM ECO M7256-0003 was a retrofit ECO which added a wire and etch cut to the M7256 to prevent clocking BUS D16 into the file in buffer. The etch was not updated at that time. Also, boards are presently built with all jumpers installed which necessitates the cutting of some jumpers before testing.				UNIT TO BE CHANGED M7256 Data Paths	
CORRECTION Update M7256 etch rev to include jumpers to prevent clocking of BUS D16 for RK11-D or to allow clocking for RK11-E. Also, change parts list to install only those jumpers required for RK11-D operation.				DISP CODE 02 OPTIONS AFFECTED RK11-D, E	
BREAK-IN/EFFECTIVITY Use present stock until new rev (rev D) is available.				PRODUCT LINES AFFECTED PDP-11	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1.	D-CS-M7256-0-1 Sheet 1 Sheet 2 Sheet 3 Sheet 7	D B C C	E C D D	06 06 06 06	See final release drawing. See final release drawing. See final release drawing. See final release drawing.
2.	B-ME-M7256-0-6	C	D	06	See final release drawing.
3.	D-AH-M7256-0-5	D	E	06	Correct etch to include jumpers W3 and 7 as shown on D-CS-M7256-01, sheet 7.
4.	5009987	C	D	02	Correct etch to include jumpers W3 and 7 as shown on D-CS-M7256-0-1, sheet 7.
5.	9009185	-	-	-	INSULATED JUMPER. DELETE THREE FROM PARTS LIST
DOCUMENTATION AFFECTED <input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> YESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Charge <input type="checkbox"/> Product Line Charge TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE <input type="checkbox"/> ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
DISPOSITION CODES 00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PLEASE DO NOT REMOVE IMMEDIATELY (FTRAP)) 03 - (DELETED) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			APPROVAL SIGNATURES Type: <i>1-2</i> DESIGN ENGR TOM OFF ENG MOR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY) <i>R. P. [Signature]</i>		



NOTES:

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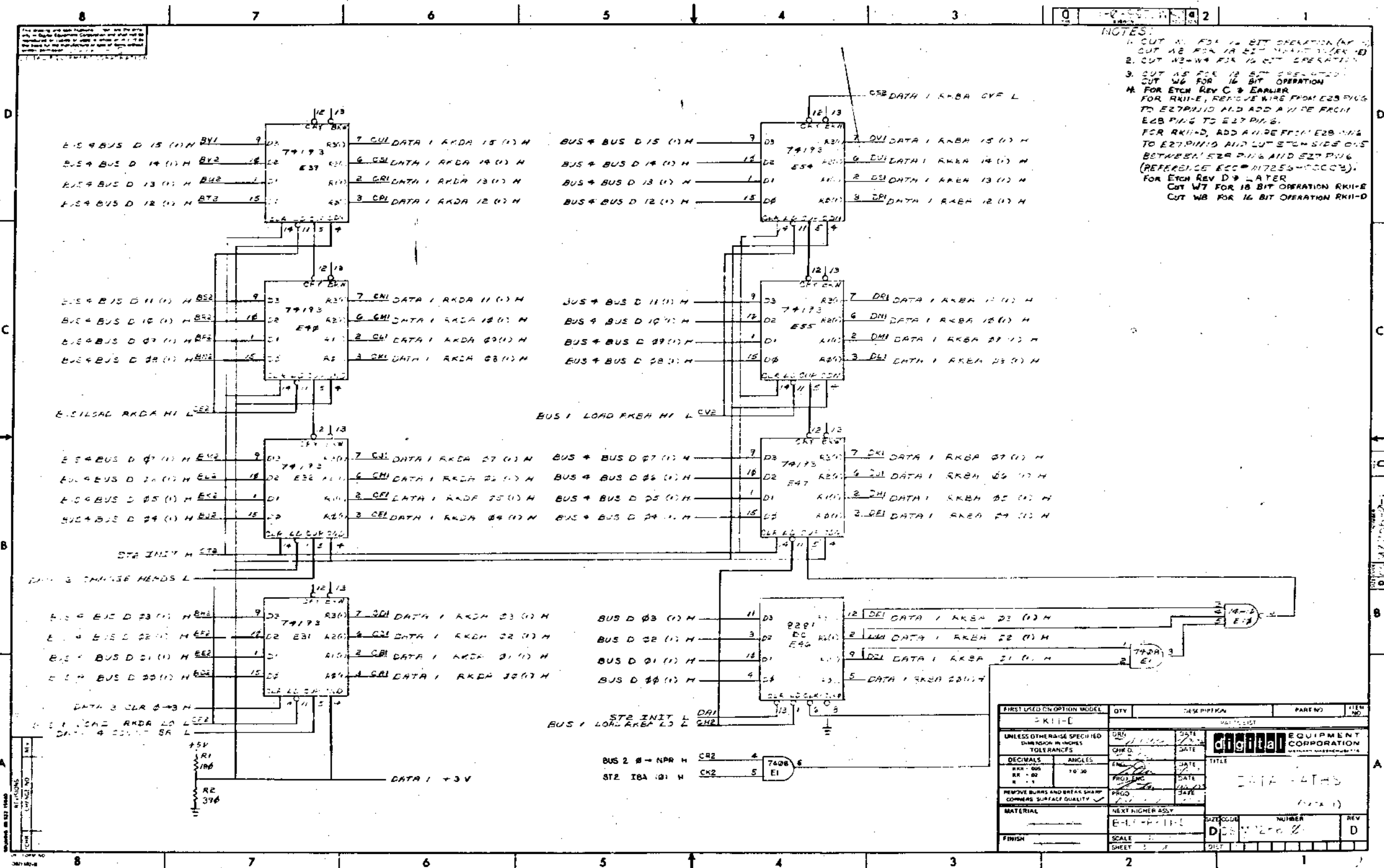
DEC 7417	8	16
DEC 7473	11	4
DEC 74170	5	16
DEC 7493	8	16
DEC 74121	8	16
DEC 74127	3	16
DEC 7453	5	16
DEC 8271	3	16
LL 522	1	8
IC TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE		
IC PIN LOCATIONS		



QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	R6	5.6K 1/4 W 5% CG	1301874	41
3	WE, WS, WT	3WELLATED JUMPER 1-227-1	1301874	42
8		ELE-ET 227-1 ERS JUMPER	1301874	43
4		HALLE-ET 227-1 ERS JUMPER	1301874	44
7	E52, E53, E54, E55	I.C. DEC 7417	1301874	45
8	E48-E51, E56-E57	I.C. DEC 7453	1301874	46
1	E42	I.C. DEC 8271	1301874	47
1	E38	I.C. RES-DIG PACK	1301874-02	48
5	E33-E37	I.C. DEC 7417	1301874	49
7	E1, E33, E37, E40, E47, E54, E55	I.C. DEC 7417	1301874	50
1	E20	I.C. DEC 332	1301874	51
10	E24-E27, E29-E32	I.C. DEC 8271	1301874	52
1	E28	I.C. DEC 8271	1301874	53
2	E22, E27	I.C. DEC 7473	1301874	54
1	E11	I.C. DEC 7417	1301874	55
1	E18	I.C. DEC 7417	1301874	56
1	E17	I.C. DEC 7417	1301874	57
1	E13	I.C. DEC 7417	1301874	58
1	E12	I.C. DEC 7417	1301874	59
4	E16, E19, E19, E20	I.C. DEC 7417	1301874	60
1	E10	I.C. DEC 7417	1301874	61
1	E9	I.C. DEC 7417	1301874	62
1	E8	I.C. DEC 7417	1301874	63
3	E7, E14, E15	I.C. DEC 7417	1301874	64
1	E5	I.C. DEC 7417	1301874	65
2	E4, E6	I.C. DEC 7417	1301874	66
1	E3	I.C. DEC 7417	1301874	67
1	E2	I.C. DEC 7417	1301874	68
1	E1	I.C. DEC 7417	1301874	69
4	R15-R18	RES. 500 OHM 1/4 W 5% CG	1301874	70
4	R17-R19	RES. 330 OHM 1/4 W 5% CG	1301874	71
1	R10	RES. 20K 1/4 W 5% CG	1301874	72
4	R2, R3, R19, R20	RES. 1K 1/4 W 5% CG	1301874	73
4	R3-R5, R7	RES. 510 OHM 1/4 W 5% CG	1301874	74
1	R1	RES. 150 OHM 1/4 W 5% CG	1301874	75
1	C36	CAP. 100 PF 10% 50V DNP	1301874	76
4	C32-C35	CAP. 100 PF 10% 50V DNP	1301874	77
31	CT-C31	CAP. 100 PF 10% 50V DNP	1301874	78
1		ETCHED CIR. BOARD	1301874	79
1		MODULE B-3 HISTORY	1301874	80
1		1557/DE-LIN'S MULE INTS.T	1301874	81
1		1-7-73 LIMATE MULE LOCATED	1301874	82

REV	DATE	BY	DESCRIPTION
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M7256-00004

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FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PARENT	ITEM NO.
PKII-E				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES			
XXX - 000	10 30			
XX - 00				
X - 0				
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY			
FINISH	E-10-PT-10			
	SCALE			
	SHEET			

digital EQUIPMENT CORPORATION

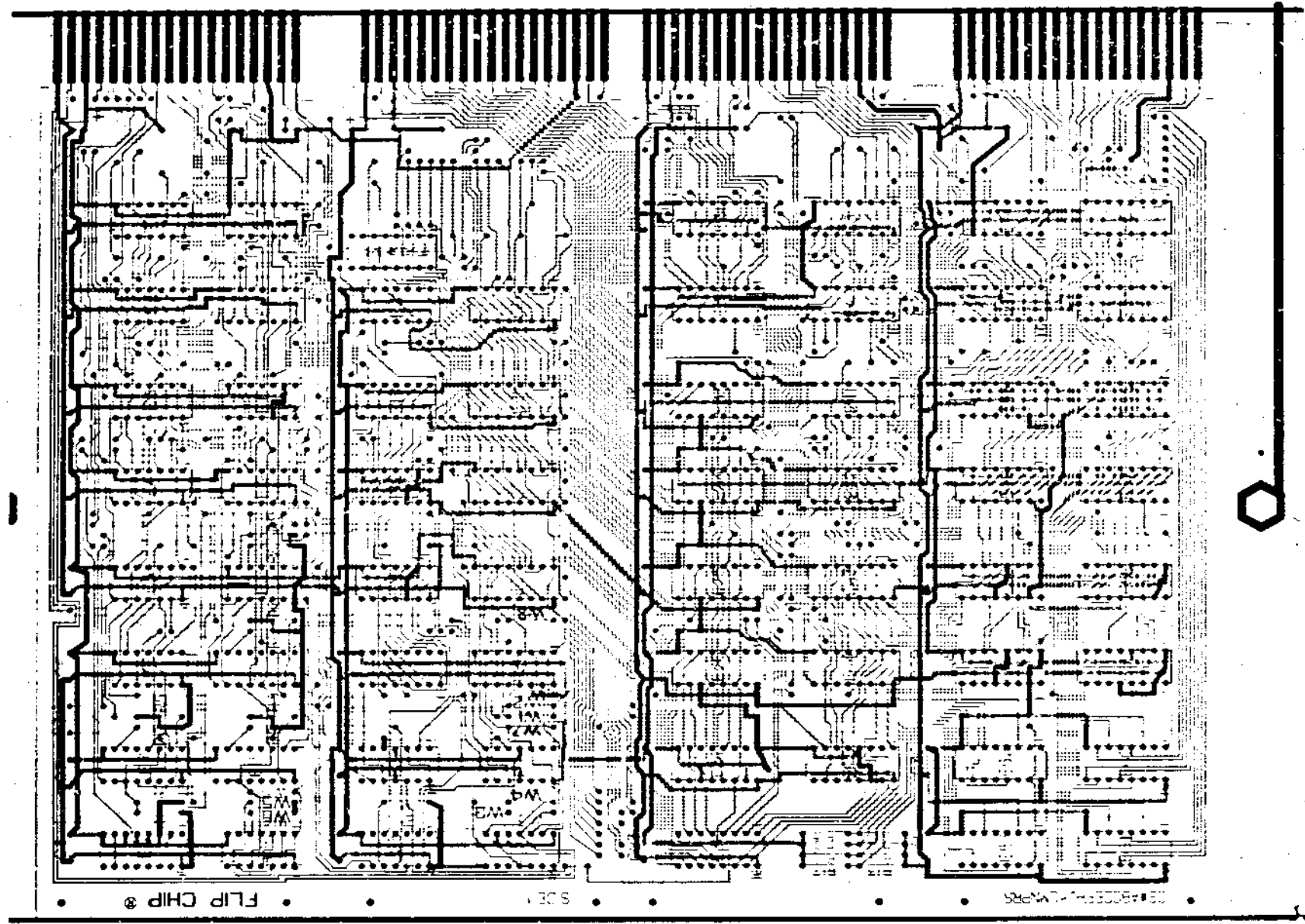
TITLE: DATA PATHS

DATE: 10/1/68

SCALE: 1:1

SHEET: 1 OF 1

REV: D



50099874-PS M540081 M7256

BOARD FABRICATION INFORMATION

BOARD SIZE 1.56x1.14 PLATED THRU EYELET SIDED
 BOARD MATERIAL 1.52 THK 10Z NOTCH BEFORE GOLD PLATING
 CLIPPER 2 SIDES NOTCH AFTER GOLD PLATING X

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE	Ø 61.14 (Ø 2.39 DIA.)	X			

ASSY/ DRILLING HOLE LAYOUT	
DATE: 12-12-72	BY: [Signature]
NO. USED ON: 1	REV: 1
PROJECT: AH M7256	NUMBER: ()

REVISIONS	A	B	C	D	E	F	H	J	K	TITLE	RKH - D DATA PATHS	PROD. NO.	M7256
DESIGNER	TRAD									CHARGE NO.	E20-05734	C.S. REV	E
DRAFTSMAN	TRAD									DATE	12-12-72	ETCH REV	E
CHECKER	TRAD									ENGINEER	TOM CRR	EXTENSION	2791
												MS NO.	40

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7256-00004

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digital ENGINEERING CHANGE ORDER		ORIGINATOR Dick Lewis 1-2 TELENT 3055 DATE 8/16/73 DIN. PROJ. NO. E-20-06734 ASST. CENTER NO. 355 976		ECO NO. M7256-0004A SHEET 1 OF 1 DATE RECEIVED 8-20-73 FIRST ISSUE 8-20-73 FINAL ISSUE 11/27/73	
PROBLEM ECO #M7256-00004 updated the parts list to specify which jumpers on the module should be installed and which are optional. Jumper W5 was called out to be installed, however it is shown as being optional on the circuit schematic (broken line).				UNIT ORS CHANGED M7256 Data Paths DISP CODE 06 OPTIONS AFFECTED	
CORRECTION Correct the circuit schematic to show W5 as being installed (solid line).				RK11-D,E	
BREAK-IN/EFFECTIVITY Document correction only.				PRODUCT LINES AFFECTED PDP-11	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1	D-CS-M7256-0-1 sheet 6	B	C	06	See final release print
2	2-M7256-0-6	2	E	06	UPDATE PER THIS ECO
SUPPLEMENT ECO					
11 CENTRAL ENG. ECO COMMITTEE					
DISPOSITION CODES			APPROVAL SIGNATURES		
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			Designer: _____ Checked: _____ DESIGN ENGR TOM O'K ENG MGR (OPT) _____ FIELD SERVICE (OPT) _____ CHIEF ENGR (MODULES ONLY) _____		

DEC 18 1973 1071-N-73 SEE REVERSE FOR INSTRUCTIONS (IN ORDER TO FILL OUT FORM PROPERLY)

DRH-111C

3 9-0-952LW HWI B
 112 100 325

PRODUCT LINE PDP 11 MODULE ECO HISTORY
 DATE RELEASED 9-27-72 PAGE 1 OF 1
 RELEASED BY T. ORB RELEASED CS REV. A
 RELEASED ETCH BD REV. B

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	DICKLEWS	11-20-72	B	C	✓			✓			CREATE A FILE DONE CONDITION THAT C-16 SAMPLED INSTEAD OF WC OVF	1301874 (1) 1300365 (1)	1304E54 (1)
00002	DICKLEWS	1-24-73	C	C							CORRECTS PRINT ERRORS ONLY	0	0
00003	DICKLEWS	6-8-73	D	C		✓	REWORK ONLY NECESSARY ON M7256 USED IN RK11-D'S IN SYSTEMS WITH PARITY MEMORY	✓		THIS ECO CANNOT BE INSTALLED ON M7256 IN RK11-E SYSTEMS	PREVENTS BUS C 16 FROM BEING Clocked INTO IN BUFFER	-	-
00004	DICKLEWS	7-12-73	E	D		✓		✓			ETCH REVISION TO IMPLEMENT ECO #00003	-	3
0004A	DICKLEWS	8-16-73	E	D		✓		✓			DOCUMENTATION CORRECTION	-	-

REVISIONS
 CHG. (CIR. NO.) REV. DATE
 0001 A
 0002 B
 0003 C
 0004 D
 0004A E

DATE 9/27/72
 DATE 10/1/72
 DATE 10/1/72
 DATE 10/1/72

ORBITAL EQUIPMENT CORPORATION
 NATHAN, MASSACHUSETTS

TITLE MODULE ECO HISTORY
 SIZE B CODE MH NUMBER M7256-0-6 REV E

DEC 14 1972
 ORB 104

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7256-00004

NOT TO BE USED FOR PRODUCTION

digital ENGINEERING CHANGE ORDER 9935		ORIGINATOR Tom Orr (1-3) TEL EXT 2791 DATE 12/20/73 DISC PROJ NO. E20-06734 COST CENTER NO. 395	ECO NO. <u>M7256-0005</u> SHEET 1 OF 1 DATE RECEIVED <u>1-21-74</u> FIRST ISSUE <u>1-2-74</u> FINAL ISSUE <u>8/14/74</u>		
PROBLEM: The pulse "Count SA" is currently 200 ns wide. New writing on the disk, the leading edge of "Count SA" stops write current and the trailing edge increments the RKDA register. If bit 5 of RKDA (surface select) changes from a "0" to a "1" a change in head selection may occur before write current has stopped, destroying the trailing edge of sector 13 on surface 1.		UNIT TO BE CHANGED M7256 RK11-D Data Path			
CORRECTION: Increase "Count SA" to 590 ns by replacing the 10 pf. cap. in C36 with 56 pf. cap. The M7256 module contained within test equipment (NOR) in Ireland, Puerto Rico, and Westfield should be reworked.		DISP CODE <u>05</u> OPTIONS AFFECTED RK11-D RK11-E			
BREAK-IN/EFFECTIVITY: Rework all boards to be shipped from Puerto Rico and Ireland module production after 1/15/74. Rework all field units exhibiting this symptom. Rework all units built in Westfield after 1/15/74. Rework all units leaving Westminster after 1/15/74.		PRODUCT LINES AFFECTED POP11 POP15			
FORM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1.	D-CS-M7256-0-1 Sheet 1 Sheet 2 Sheet 6	-	-	-	Update revision per this ECO. Change C36 from 10 pf to 56 pf Item 7, Qty 1. Increase Count SA to 500 ns.
2.	D-AB-M7256-0-5	-	-	-	Update revision per this ECO.
3.	D-WR-M7256-0-6	-	-	-	Update revision per this ECO.
4.	1000006	-	-	00	Delete cap 10 pf 100v 5X D.M. Item #7, Qty 1 from C36.
5.	1000012	-	-	07	Add cap 56 pf 100v 5X D.M. Item #7, Qty 1. (AK C36)
DISPOSITION CODES			APPROVAL SIGNATURES		
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPONENT) 09 - SCRAP IMMEDIATELY			DESIGN ENGR Tom Orr ENG MGR (OPT) <u>[Signature]</u> FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)		

digital	FIELD CHANGE ORDER	FCO <u>M7256-0005 & SA</u> PAGE 1 OF 1
FIELD EFFECTIVITY Rework M7256's in all RK11-D's at next PM or service call, and verify its implementation in all new installations.		DATA PROCESSING AND DEC LOGS WILL POST THIS FCO WITH THE LEVEL OF URGENCY CODE REPLACING THE LEADING ZERO. LEVEL OF URGENCY CODE A. MANDATORY HIGH PRIORITY B. MANDATORY C. HIGH PRIORITY IF SPECIFIC HARDWARE, SOFTWARE, OR SYMPTOMS ARE PRESENT D. APPLICABLE IF SPECIFIC HARDWARE, SOFTWARE, OR SYMPTOMS ARE PRESENT E. PRODUCT IMPROVEMENT OPTIONAL LOW PRIORITY
FIELD RETROFIT IS ANTICIPATED IN 100% OF UNITS DEFINED ABOVE. <input checked="" type="checkbox"/> ARE TO BE REPORTED UNDER A "W" CHARGE CODE <input type="checkbox"/> STANDARD APPLICABILITY - THIS FCO IS TO BE INSTALLED AT NO CHARGE FOR WARRANTY AND MAINTENANCE CONTRACT CUSTOMERS IN ACCORDANCE WITH THE TECHNICAL EFFECTIVITY ABOVE, OTHERWISE AT CUSTOMER EXPENSE.		SECURITY PROBLEM NUMBER AVAILABILITY DELAY PARTS <u>None</u> ESTIMATED DOWN TIME FOR INSTALLATION AND TESTING <u>1.5</u> HOURS SPECIAL TEST EQUIPMENT, TOOLS, OR SUPPLIES
DOCUMENTATION 1 _____ PARTS 1 _____ DEC ON SITE LABOR 1 _____ DEC'S MINIMUM BILLING APPLIES IF THIS FCO IS INSTALLED BY DEC. THE DEC LABOR CHARGE ASSUMES FCO INSTALLATION DURING REGULAR WORKING HOURS. IF INSTALLATION OURSIDE OF REGULAR WORKING HOURS IS ORDERED, DEC'S LATEST SCHEDULE OF HOURS WILL APPLY.		LAST PREVIOUS FCO'S <u>003</u> RELATED OR PREVIOUS FCO'S <input type="checkbox"/> MAINTENANCE CHANGE <input type="checkbox"/> MAINTENANCE MANUAL CHANGE <input type="checkbox"/> OPERATIONAL PROGRAMS AFFECTED
FIELD OFFICE FCO DISTRIBUTION CODE <input type="checkbox"/> F IMMEDIATE FCO DISTRIBUTION TO ALL DEC FIELD OFFICES <input checked="" type="checkbox"/> F IMMEDIATE FCO DISTRIBUTION TO REGIONAL PRODUCT SUPPORT		VERIFICATION MAINTENANCE DZRKE
FCO KIT DISTRIBUTION <input checked="" type="checkbox"/> KITS, AS DEFINED BELOW, MAY BE ORDERED AS REQUIRED.		PARTS REQUIRED Q1 10-00019 Capacitor, 150pf
CONTENTS OF AN FCO INITIATED BY FCO PARTS PARTS CONTENTS OF A FIELD ORDERED BY FCO PARTS PARTS		PARTS REQUIRED Q1 10-00019 Capacitor, 150pf
FIELD SERVICE APPROVAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		NOTES: The Problem and Correction text of both the ECO and the supplement must be read in order to fully understand this FCO.
FIELD SERVICE APPROVAL Jim Berclay		DEC 12-1752-1095-11071

PAGE REVISION CONTROL SHEET

SHEET NO.	PAGE REVISIONS					REMARKS
	DATE	BY	REASON	REV.	ECO	
1	A	B	C	D	E	(DATA 1) (DATA 2) (DATA 3) (DATA 4) (DATA 5)
2	A	B	C	D	E	
3	A	B	C	D	E	
4	A	B	C	D	E	
5	A	B	C	D	E	
6	A	B	C	D	E	
7	A	B	C	D	E	
8	A	B	C	D	E	
9	A	B	C	D	E	
10	A	B	C	D	E	
11	A	B	C	D	E	
12	A	B	C	D	E	
13	A	B	C	D	E	
14	A	B	C	D	E	
15	A	B	C	D	E	
16	A	B	C	D	E	
17	A	B	C	D	E	
18	A	B	C	D	E	
19	A	B	C	D	E	
20	A	B	C	D	E	
21	A	B	C	D	E	
22	A	B	C	D	E	
23	A	B	C	D	E	
24	A	B	C	D	E	
25	A	B	C	D	E	
26	A	B	C	D	E	
27	A	B	C	D	E	
28	A	B	C	D	E	
29	A	B	C	D	E	
30	A	B	C	D	E	
31	A	B	C	D	E	
32	A	B	C	D	E	
33	A	B	C	D	E	
34	A	B	C	D	E	
35	A	B	C	D	E	
36	A	B	C	D	E	
37	A	B	C	D	E	
38	A	B	C	D	E	
39	A	B	C	D	E	
40	A	B	C	D	E	
41	A	B	C	D	E	
42	A	B	C	D	E	
43	A	B	C	D	E	
44	A	B	C	D	E	
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46	A	B	C	D	E	
47	A	B	C	D	E	
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86	A	B	C	D	E	
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90	A	B	C	D	E	
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94	A	B	C	D	E	
95	A	B	C	D	E	
96	A	B	C	D	E	
97	A	B	C	D	E	
98	A	B	C	D	E	
99	A	B	C	D	E	
100	A	B	C	D	E	

FIRST USED ON OPTION/MODEL
RK11-D

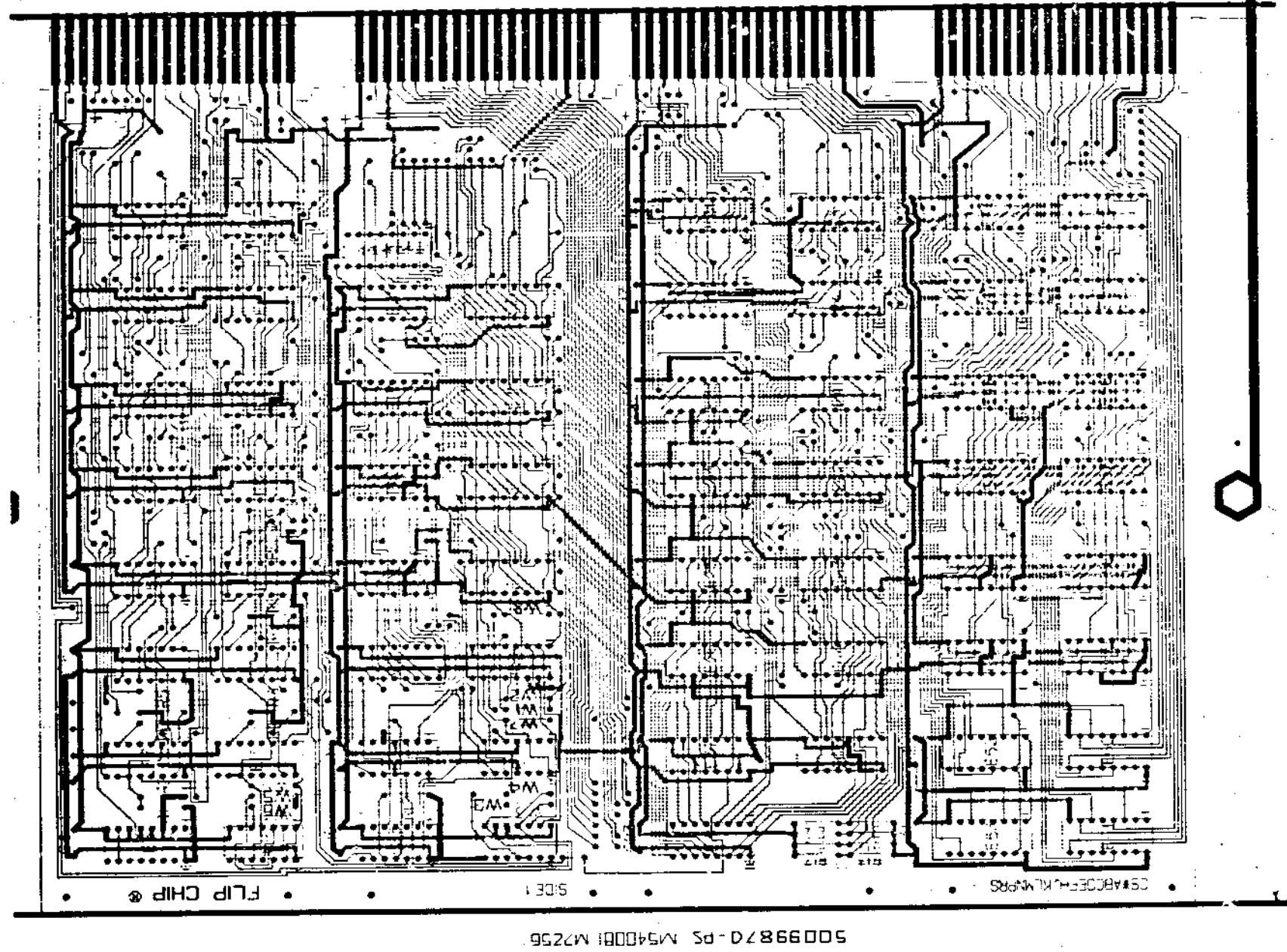
DRW. DATE	CHK'D. DATE	ENG. DATE	PROJ. ENG. DATE	PROD. DATE	DATE
NEXT HIGHER ASSY.					
D-UD-RK11-D					
SCALE					
SHEET 1 OF 7					
digital EQUIPMENT CORPORATION NATVARD MASSACHUSETTS					
TITLE DATA PATHS (RK11-D)					
SIZE CODE B C S					
NUMBER M7256-0-1					
REV. F					

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M7256-00005

NOT TO BE USED FOR PRODUCTION



5009870-PS M540081 M7256

BOARD FABRICATION INFORMATION

BOARD SIZE 8.55x11.63x.005 PLATED THRU EYELET SIDED
 BOARD MATERIAL 52 THK 1 OZ. COPPER 2 SIDES NOTCH BEFORE GOLD PLATING NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE	# 61 (EIA) (.039 DIA.)	X			


digital EQUIPMENT CORPORATION
 ASSY/DRILLING HOLE LAYOUT
 DATE: 5-12-72
 DRAWN BY: JAH
 CHECKED BY: JAH
 PART NO: M7256-C-5
 REV: F

REVISIONS	A	B	C	D	E	F	H	J	K
DESIGNER	TRIAD								
DRAFTSMAN	TRIAD								
CHECKER	TRIAD								

TITLE RK11-D DATA PATHS PROD. NO. M7256
 CHARGE NO. E20-06734 DATE 5-12-72 C.S. REV. F
 ENGINEER TCM CRR EXTENSION 2791 MS NO. 0031

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SUPPLEMENT ECO

		ORIGINATOR Tom Orr (1-3) TEL EXT 2791 DATE 1/3/74 DISC PROJ NO. E-20-06734 COST CENTER NO. 395		ECO NO. <u>M7256-0005A</u> SHEET 1 OF 1 DATE RECEIVED <u>1-8-74</u> FIRST ISSUE <u>1-8-74</u> FINAL ISSUE <u>2/4/74</u>	
PROBLEM M7256 ECO #00005 fixed a potential race condition in the RK11-D. Further investigation has shown that an extension of this same fix could resolve an inherent write recovery problem in the RK05 that would otherwise be expensive and time consuming.				UNIT TO BE CHANGED M7256 RK11-D DATA PATH DISP CODE *03	
CORRECTION M7256 ECO #00005 lengthened the "COUNT SA" pulse from 200ns to 500ns by replacing the capacitor in C36 from 10pf to 56pf. Do not rework boards to ECO #00005; instead use a 150pf cap to lengthen "COUNT SA" to lus. Symptoms of this problem are the same as ECO #M7256-00005.				OPTIONS AFFECTED RK11-D RK11-E	
*BREAK-IN/EFFECTIVITY rework all boards to be shipped from Puerto Rico and Ireland module production after 2/1/74. Rework all field units exhibiting this symptom. Rework all units built in Westfield after 2/1/74. Rework all units leaving Westminster after 2/1/74.				PRODUCT LINES AFFECTED PDP11 PDP15	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1	B-MH-M7256-0-6	F	H	06	Update revision per this ECO.
2	1000012			00	Delete cap 56pf 100v 5% D.M. Item #7, qty. 1 (at C36) from parts list.
3	1000019			07	Add cap 150 pf 100v 5% D.M. Item #7, qty. 1 (at C36) to parts list.
SUPPLEMENT ECO CENTRAL ENG. ECO COMMITTEE					
DISPOSITION CODES			APPROVAL SIGNATURES		
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - Rework IMMEDIATELY (REWORK) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			DESIGN ENGR Tom Orr ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)		

H 9-0-7322 W

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP 11</u>			DATE RELEASED <u>9-27-73</u>			RELEASED CS REV. <u>A</u>			RELEASED ETCH BD REV. <u>B</u>				
RELEASER BY <u>T. ORR</u>			PAGE <u>1</u> OF <u>2</u>										
ECO NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
0001	DICKLEWIS	11-20-72	B	C	✓			✓			CREATE A FILE DONE CONDITION THAT CAN BE SAMPLED INSTEAD OF IC OFF	1301977 (1) 1301955 (1)	1301954 (1)
0002	DICKLEWIS	1-24-73	C	C							CORRECTS PRINT ERRORS ONLY	0	0
0003	DICKLEWIS	3-8-73	D	C		✓	REWORK ONLY NECESSARY ON M7256 USED IN RKB-D'S IN SYSTEMS WITH INFINITY MEMORY		✓	THIS ECO CAN NOT BE INSTALLED ON M7256 IN RKB-E SYSTEMS			
0004	DICKLEWIS	7-12-73	E	D		✓			✓		ETCH REVISION TO IMPLEMENT ECO#0003		3
0004A	DICKLEWIS	8-16-73	E	D		✓			✓		DOCUMENTATION CORRECTION		
0005	TOM ORR	12-20-73	F	D		✓	REWORK ONLY IF FAILURE OCCURS			ANY SYSTEM KNOWN TO FAIL SHOULD BE REWORKED	CHANGE C35 FROM 10pf TO 56pf	1	1

REV. NO.	DATE	BY	DESCRIPTION

DRN 7/1	DATE 10/1/73	MODULE ECO HISTORY	
CHKD 7/1	DATE 10/1/73	EQUIPMENT CORPORATION	SIZE CODE NUMBER B M7256-0-1
ENG 7/1	DATE		
PROJ 7/1	DATE		

DHB 104

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H
1309 325

MODULE ECO HISTORY													
PRODUCT LINE <u>EDP11</u>				PAGE <u>2</u> OF <u>2</u>				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-27-72</u>								RELEASED ETCH BD REV. <u>B</u>					
RELEASED BY <u>LORR</u>													
ECO NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
0005A	LORR	1-3-74	F	D		<input checked="" type="checkbox"/>	REMOVE FIELD UNITS ONLY AS NECESSARY OR CONVENIENT			ANY SYSTEM PARTS TO FAIL SHOULD BE REWORKED	CHANGE CSC FROM 50PF TO 150PF	1	1

REVISIONS
DATE
BY

DRN
DATE
CHKD
DATE
ENG
DATE
PROJ
DATE

DATE
DATE
DATE
DATE

MODULE ECO HISTORY
SIZE CODE NUMBER REV.
B 13- 72 54-0-F H

DEC 16-1961-1825 P071
DHB JCS

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M7256-0005A

NOT TO BE USED FOR PRODUCTION

digital ENGINEERING CHANGE ORDER 992		ORIGINATOR Dick Lewis MS/E65 TEL EXT 4620 DATE 9/30/74 DISC PROJ NO. E-20-07534 COST CENTER NO. 395		ECO NO. M7256-00006 SHEET 1 OF 1 DATE RECEIVED 12-4-74 FIRST ISSUE FINAL ISSUE	
PROBLEM I.C. DEC 380 (19-09485) is obsolete and will no longer be available.				UNIT TO BE CHANGED M7256 Data Paths	
CORRECTION Phase-in I.C. DEC 8640 (19-11469), as a replacement for I.C. 380 into all module build areas. When I.C. failure occurs replace defective 380s with 8640s.				DESIGN CODE 02* OPTIONS AFFECTED RK11-D RK11-E	
BREAK IN EFFECTIVITY * Phase-in 8640s as inventory of 380s is depleted. Use only 8640s for repair after 1/1/75.				PRODUCT LINES AFFECTED PDP-11 PDP-15	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1	D-CS-M7256-0-1 Sheet 1 Sheet 2 Sheet 6 Sheet 7	F D D D	H E E E	06 06 06 06	Update revisions per this ECO. Delete one 380 from parts list. Add one 8640 to parts list. Change 380 logic gate to 8640 Change all 380 logic gates to 8640.
2	D-AH-M7256-0-5	F	H	06	Update revision.
3	B-MH-M7256-0-6	H	J	06	Update per this ECO.
4	1909485			02	Delete one 380
5	1911469			07	Add one 8640
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 11 CENTRAL ENG. ECO COMMITTEE OCT 4 1974 </div>					
DISPOSITION CODES				APPROVAL SIGNATURES	
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (REWORK) 04 - (DELETED) 05 - (DELETED) 06 - (DELETED) 08 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 09 - NEW ITEM (THIS COMPANY) 10 - SCRAP IMMEDIATELY				DESIGN ENGR Tom Orr ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)	
DEC 14 (1123) 1071-N971 SEE REVERSE FOR INSTRUCTIONS (IN ORDER TO FILL OUT FORM PROPERLY)					

9-0-922LW HVI B
 3003 3215

PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>A</u>									
DATE RELEASED <u>9-27-72</u>		PAGE <u>1</u> OF <u>2</u>		RELEASED ETCH BD REV. <u>B</u>									
RELEASED BY <u>T. ORR</u>													
ECO NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NEW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	DICKLEWIS	11-20-72	B	C	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		CREATE A FILE DONE CONDITION THAT C-1 B SAMPLED INSTEAD OF WC OVF	1301874 (1) 1300363 (1)	1304854 (1)
00002	DICKLEWIS	1-24-73	C	C	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		CORRECTS PRINT ERRORS ONLY	0	0
00003	DICKLEWIS	6-8-73	D	C	<input type="checkbox"/>	<input checked="" type="checkbox"/>	REWORK ONLY NECESSARY ON M7256 USED IN RK11-D'S IN SYSTEMS WITH PARITY MEMORY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	THIS ECO CAN NOT BE INSTALLED ON M7256 IN RK11-E SYSTEMS	PREVENT BUS D 16 FROM BEING CLOCKED INTO IN BUFFER	-	-
00004	DICKLEWIS	7-12-73	E	D	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		ETCH REVISION TO IMPLEMENT ECO #00003	-	3
0004A	DICKLEWIS	8-16-73	E	D	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>		DOCUMENTATION CORRECTION	-	-
00005	TOM ORR	12-20-73	F	D	<input checked="" type="checkbox"/>	<input type="checkbox"/>	REWORK ONLY IF FAILURE OCCURS	<input type="checkbox"/>	<input type="checkbox"/>	ANY SYSTEM KNOWN TO FAIL SHOULD BE REWORKED	CHANGE C36 FROM 10pf TO 56pf	1	1

REV.	DATE	BY	DESCRIPTION
00001			
00002			
00003			
00004			
00005			
00006			

DATE	10/1/72	TITLE	MODULE ECO HISTORY
DATE	11/1/72	SIZE	B
DATE	12/2/72	CODE	MH
DATE	12/2/72	NUMBER	M7256-0-6
DATE	12/2/72	REV.	J

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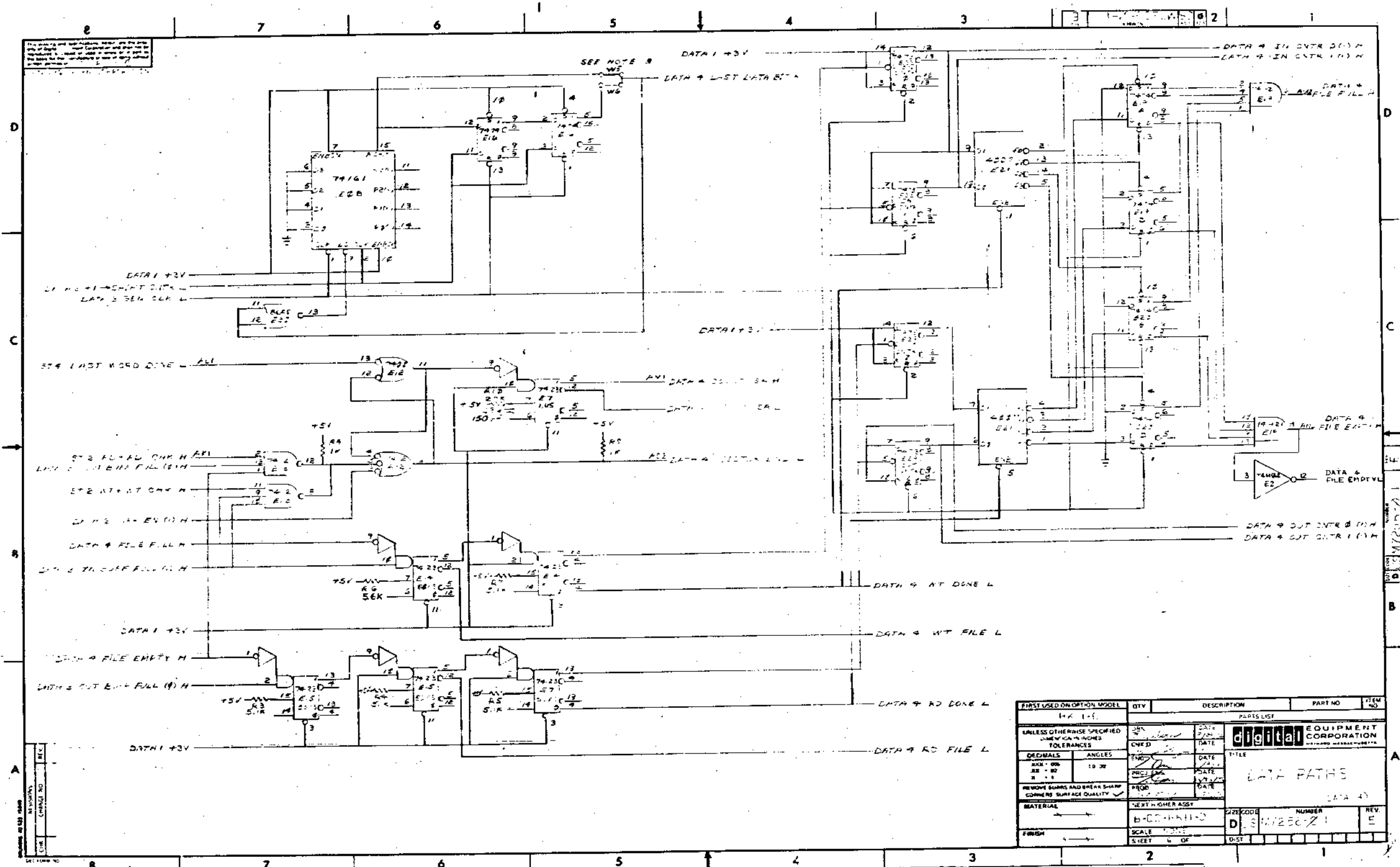
9-0-9622A -1 B
 NUMBER 1300 325

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP11</u>				PAGE <u>2</u> OF <u>2</u>				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-27-72</u>								RELEASED ETCH BD REV. <u>B</u>					
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REV'SION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW CAN BE MIXED INDISCRIMINATELY?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
0005A	T. ORR	1-3-74	F	D		✓	REWORK FIELD UNITS ONLY AS NECESSARY OR CONVENIENT			ANY SYSTEM KNOWN TO FAIL SHOULD BE REWORKED		1	1
0005B	R. LEWIS	10-4-74	H	D		✓		✓				1	1

DRG. D. SMITH DATE 1-5-72	EQUIPMENT CORPORATION MILFORD, MASSACHUSETTS	TITLE	REV.	
CHKD. D. SMITH DATE 1-5-72		MODULE ECO HISTORY	J	
ENG. T. ORR DATE 10-23-72		SIZE	CODE	NUMBER
PROF. P. DOOLEY DATE 10-31-72		B	MH	M7256-0-6

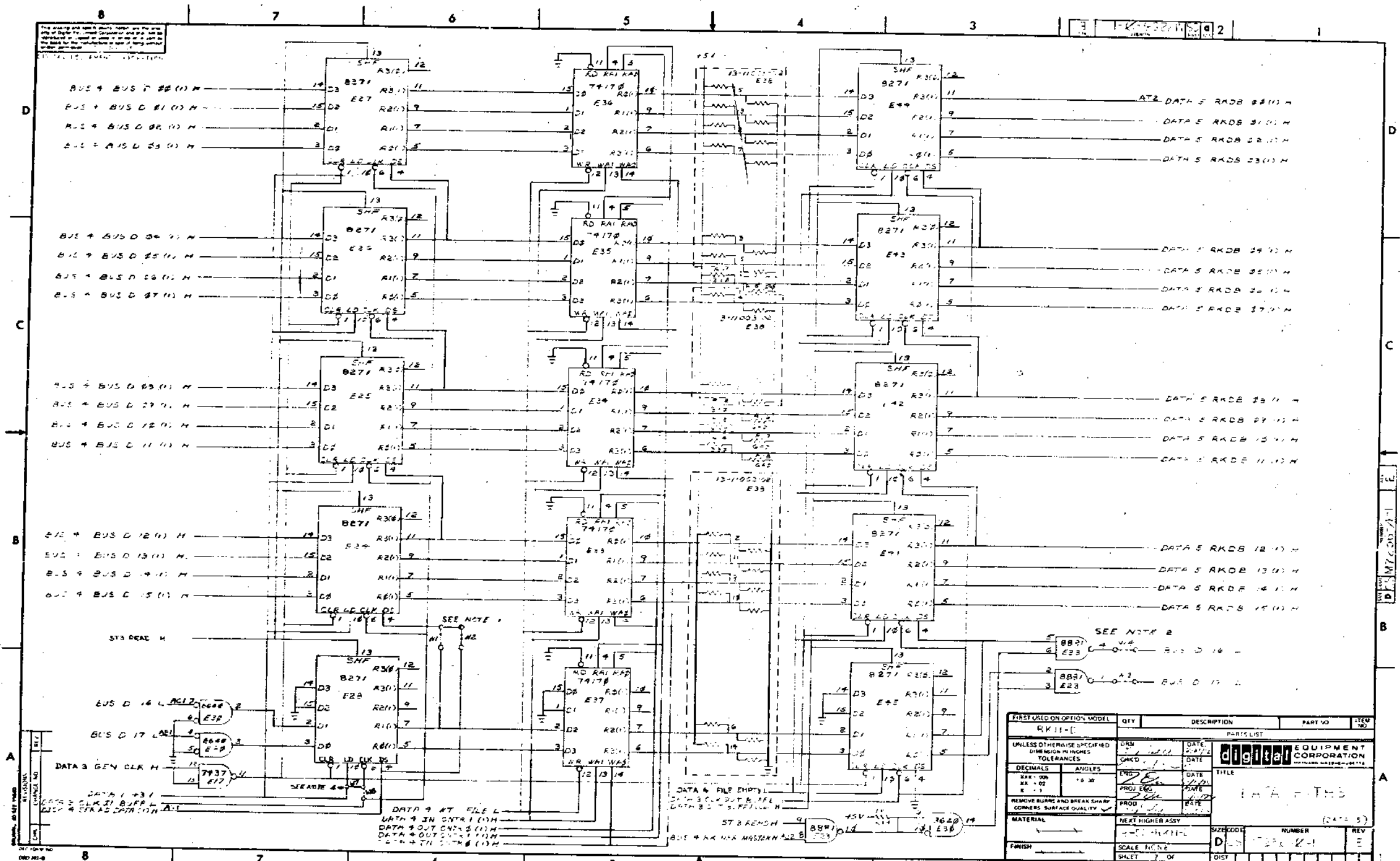
REC 14-1304-1026-0071
 DRB 104

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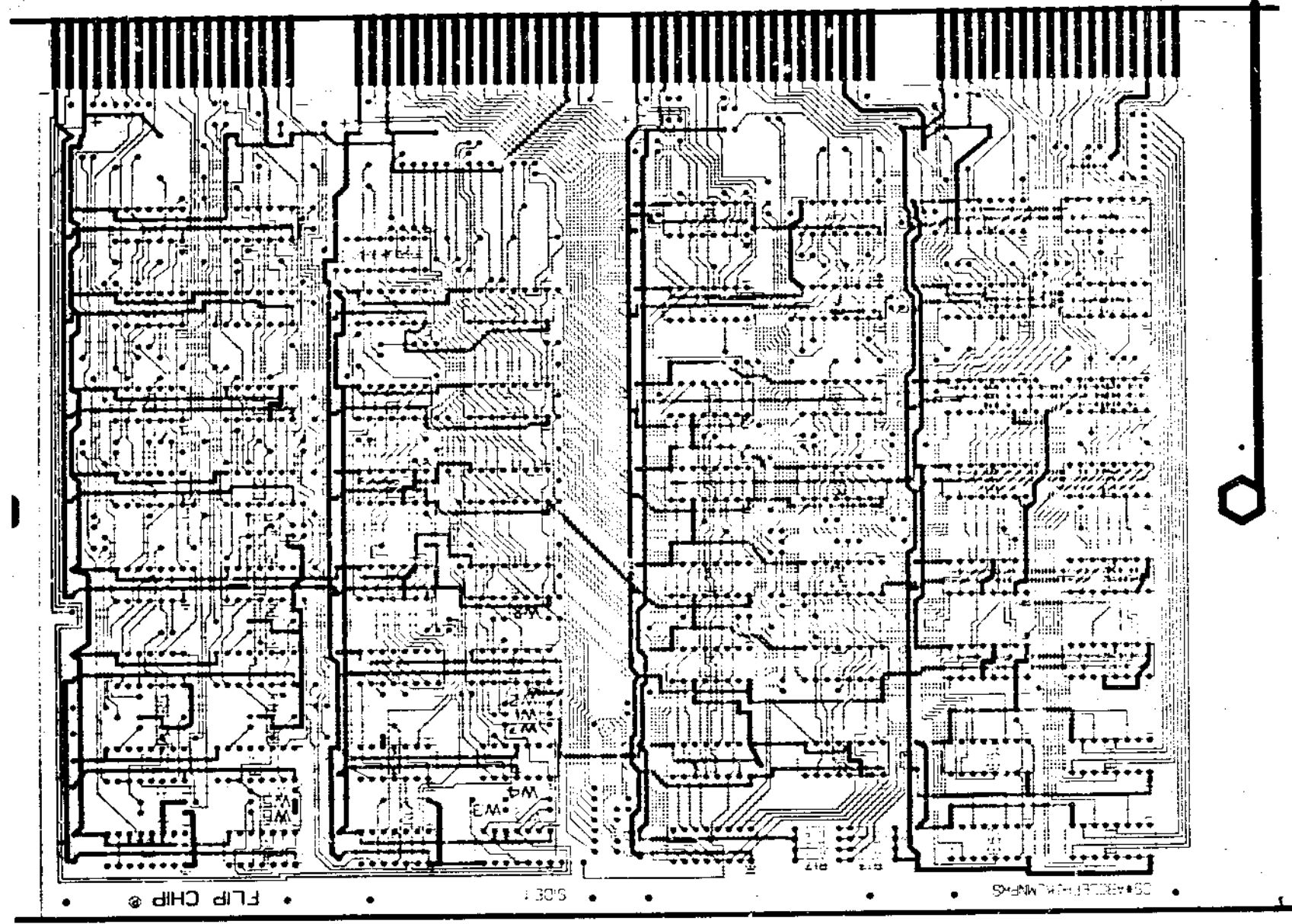
FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.	
4X 1-1					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES		DATE	digital EQUIPMENT CORPORATION <small>100 WASHINGTON STREET, BOSTON, MASSACHUSETTS 02108</small>		
TOLERANCES	ANGLES	CHK'D			DATE
DECIMALS	10 30	ENG			DATE
FRAC		PRG			DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD	DATE	TITLE DATA PATHS DATA 4	
MATERIAL		NEAT HIGHER ASSY	DATE		
FINISH		B-COMPLI-D	DATE		
		SCALE	DATE		
		SHEET 4 OF	DIST		

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PART USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	DIGITAL EQUIPMENT CORPORATION	
±.005	±.030	DATE	TITLE	
±.010		DATE	DATA BUS	
±.015		DATE	REV	
±.020		DATE	REV	
±.030		DATE	REV	
±.040		DATE	REV	
±.050		DATE	REV	
±.060		DATE	REV	
±.070		DATE	REV	
±.080		DATE	REV	
±.090		DATE	REV	
±.100		DATE	REV	
±.125		DATE	REV	
±.150		DATE	REV	
±.175		DATE	REV	
±.200		DATE	REV	
±.250		DATE	REV	
±.300		DATE	REV	
±.375		DATE	REV	
±.450		DATE	REV	
±.500		DATE	REV	
±.625		DATE	REV	
±.750		DATE	REV	
±.875		DATE	REV	
±1.000		DATE	REV	
±1.250		DATE	REV	
±1.500		DATE	REV	
±1.750		DATE	REV	
±2.000		DATE	REV	
±2.500		DATE	REV	
±3.000		DATE	REV	
±3.750		DATE	REV	
±4.500		DATE	REV	
±5.000		DATE	REV	
±5.625		DATE	REV	
±6.250		DATE	REV	
±6.875		DATE	REV	
±7.500		DATE	REV	
±8.125		DATE	REV	
±8.750		DATE	REV	
±9.375		DATE	REV	
±10.000		DATE	REV	
±10.625		DATE	REV	
±11.250		DATE	REV	
±11.875		DATE	REV	
±12.500		DATE	REV	
±13.125		DATE	REV	
±13.750		DATE	REV	
±14.375		DATE	REV	
±15.000		DATE	REV	
±15.625		DATE	REV	
±16.250		DATE	REV	
±16.875		DATE	REV	
±17.500		DATE	REV	
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±30.000		DATE	REV	
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±31.875		DATE	REV	
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±95.625		DATE	REV	
±96.250		DATE	REV	
±96.875		DATE	REV	
±97.500		DATE	REV	
±98.125		DATE	REV	
±98.750		DATE	REV	
±99.375		DATE	REV	
±100.000		DATE	REV	

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50099870-PS M540081 M7256

BOARD FABRICATION INFORMATION

BOARD SIZE 8.50x11.75 PLATED THRU EYELET SIDED
 BOARD MATERIAL 52.1HK.10Z NOTCH BEFORE GOLD PLATING
 NUMBER 2 SIDES NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	DRILL SIZES BEFORE AFTER PLATE	FOR NON-PTH BOARDS	YES NO	
NONE	# 61 FIA (.039 DIA.)	X			

digital EQUIPMENT CORPORATION
 ASSY/DRILLING HOLE LAYOUT
 DATE: 5-12-72
 DRAWN BY: JAM
 CHECKED BY: M7256-C-5
 REV: 11

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7256-00006

NOT TO BE USED FOR PRODUCTION

REVISIONS	A	B	C	D	E	F	H	J	K	PROO. NO. M7256
DESIGNER	TRAD									C.S. REV H
DRAFTSMAN	TRAD									ETCH REV 5
CHECKER	TRAD									MS NO. 40591

TITLE RK11-D DATA PATHS
 CHARGE NO. E20-06734 DATE 5-12-72
 ENGINEER TOM CRR EXTENSION 2791

digital ENGINEERING CHANGE ORDER 9168		ORIGINATOR DICK LEWIS 1-3 TEL EXT 2014 DATE 11/16/72 DISC PROJ NO E2006734 COST CENTER NO 370	ECO NO. 17257-0101 SHEET 1 OF 1 DATE RECEIVED 12-30-72 FIRST ISSUE 12-4-72 FINAL ISSUE 12-18-72		
PROBLEM NPR REQ CAN GLITCH IN SK11-D WHEN USING INTERNAL SIGNALS AT THE END OF NPR SEQUENCE.		UNIT TO BE CHANGED 17257 ETCH REV B DEP CODE 03*			
CORRECTION BRING E4001 OUT TO PIN CM2 TO USE EXTERNAL SIGNAL TO CORRECT PROBLEM.		OPTIONS AFFECTED SK11-D,E			
BREAK-IN/EFFECTIVITY * IMMEDIATELY REWORK ALL 17257 REV B BOARDS		PRODUCT LINES AFFECTED CDD-11			
ITEM NO	DOCUMENT PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1	D-CS-17257-0-1 12 13 5	A	B	06 SHEET 1 & 2 - UPDATE REVISION SHEET 3 - SEE FINAL RELEASE DRAWING.	<input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PRG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PL & H SPEC
2	B-MH-17257-0-6	-	A	06 SEE FINAL RELEASE DRAWING	<input type="checkbox"/> FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
3	REWORK INSTRUCTIONS	B	E	03 MAKE FOLLOWING CHANGES TO SPEC: 1) DELETE CM2--E2905, E2903 2) DELETE E4001--E4704 3) ADD CM2--E4001	<input type="checkbox"/> Customer Change <input type="checkbox"/> Product Line Change
4	D-AH-17257-0-5	A	B	06 MAKE CORRECTIONS LISTED ABOVE	TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
DISPOSITION CODES				APPROVAL SIGNATURES	
00 - RETURN TO STOCK 01 - DEFECTIVE 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE 1) 03 - REWORK IMMEDIATELY (RETROFIT) 04 - (OPL) (TD) 05 - (OPL) (TD) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY				DESIGN ENGR JOM BRR ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)	

SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY. DRA-11C

PAGE REVISION CONTROL SHEET

SM NO.

PAGE REVISIONS

REMARKS

(BUS 1)
(BUS 2)
(BUS 3)
(BUS 4)

SM NO.	DATE	ENG.	ETCH REV.	ECO NO.
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FIRST USED ON OPTION/MODEL
RK11-D

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ORIN DATE
CHK'D. DATE
ENG. DATE
PROJ. ENG. DATE
PHOD. DATE
NEXT HIGHER ASSY.
B-UD-RK11-D

TITLE
RUS CONTROL
(RK11-D)
digital EQUIPMENT CORPORATION
SIZE CODE B CS
NUMBER M7257-0-1
REV. B
SHEET 1 OF 6
DIST.

M 7257-00001

9-0-152LW 494 E
M7257-0-6 3522 3215

PRODUCT LINE PDP 11 MODULE ECO HISTORY
 DATE RELEASED 9-20-72 PAGE 1 OF 1
 RELEASED BY T. ORR RELEASED CS REV. A
 RELEASED ETCH BD REV. B

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			E40 OI TO CM2	0	0

REVISIONS
 CHG. NO. REV.
 000001 A

DATE 9-20-72
 DATE 9-20-72
 DATE
 DATE

TITLE
 MODULE ECO HISTORY
 EQUIPMENT CORPORATION
 SIZE CODE NUMBER
 B M4 M7257-0-6
 BATHARD, MASSACHUSETTS

DRB 104

M 7257-00001

digital ENGINEERING CHANGE ORDER 935Y		ORIGINATOR Dick Lewis, 1-2 TEL EXT 3006 DATE 2/20/73 DISC PROJ NO E20-06734 COST CENTER NO 378		ECO NO. <u>M7257-000-2</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>2-21-73</u> FIRST ISSUE FINAL ISSUE <u>3/4/73</u>																							
PROBLEM The circuit used to filter bus MYSN causes glitches on the bus D lines during a DATO.				UNIT TO BE CHANGED M7257 Bus Control																							
CORRECTION This filter is considered precautionary and should be removed.				DISP CODE 03 OPTIONS AFFECTED RKL1-D,E																							
BREAK-IN/EFFECTIVITY Immediate rework all M7257 (item #8 below).				PRODUCT LINES AFFECTED PDP-11																							
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE																						
1.	D-CS-M7257-0-1 Sheet 1 & 2 & 3	A	B	06	See final released drawings.																						
2.	D-AH-M7257-0-5	B	C	06	See final released drawings.																						
3.	B-MH-M7257-0-6	A	B	06	See final released drawings.																						
4.	1100114	-	-	06	Delete D664 (D1).																						
5.	1300229	-	-	06	Delete 100n resistor (R1).																						
6.	1000042	-	-	06	Delete 1000 pF cap (C35).																						
7.	9009185	-	-	06	Add insulated jumper.																						
8.	Rework instructions	-	-	03	Delete D1, D1, C35 and replace R1 with an insulated jumper.																						
<table border="0"> <tr> <td>DOCUMENTATION AFFECTED</td> <td><input checked="" type="checkbox"/> MODEL</td> </tr> <tr> <td><input type="checkbox"/> DIAGNOSTICS</td> <td><input type="checkbox"/> TECH MANUAL</td> </tr> <tr> <td><input type="checkbox"/> TESTER</td> <td><input type="checkbox"/> TEST PROG</td> </tr> <tr> <td><input type="checkbox"/> TOOLING</td> <td><input type="checkbox"/> PRG INST</td> </tr> <tr> <td><input type="checkbox"/> ENG SPEC</td> <td><input type="checkbox"/> PUP'N SPEC</td> </tr> <tr> <td>FIELD SERVICE AFFECTED</td> <td><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</td> </tr> <tr> <td><input type="checkbox"/> Customer Charge</td> <td><input type="checkbox"/> Product Line Charge</td> </tr> <tr> <td>TYPE OF CHANGE</td> <td><input type="checkbox"/> ELECTRICAL</td> </tr> <tr> <td></td> <td><input type="checkbox"/> MECHANICAL</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/> MODULE</td> </tr> <tr> <td>ORDER PER MODEL</td> <td><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</td> </tr> </table>						DOCUMENTATION AFFECTED	<input checked="" type="checkbox"/> MODEL	<input type="checkbox"/> DIAGNOSTICS	<input type="checkbox"/> TECH MANUAL	<input type="checkbox"/> TESTER	<input type="checkbox"/> TEST PROG	<input type="checkbox"/> TOOLING	<input type="checkbox"/> PRG INST	<input type="checkbox"/> ENG SPEC	<input type="checkbox"/> PUP'N SPEC	FIELD SERVICE AFFECTED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> Customer Charge	<input type="checkbox"/> Product Line Charge	TYPE OF CHANGE	<input type="checkbox"/> ELECTRICAL		<input type="checkbox"/> MECHANICAL		<input checked="" type="checkbox"/> MODULE	ORDER PER MODEL	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
DOCUMENTATION AFFECTED	<input checked="" type="checkbox"/> MODEL																										
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FIELD SERVICE AFFECTED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																										
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ORDER PER MODEL	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																										
DISPOSITION CODES			APPROVAL SIGNATURES																								
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE FROM STOCK UNTIL NEW STOCK AVAILABLE (WASTE 00) 03 - RETURN IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			DESIGN ENGR <u>Tom Off</u> ENG MGR (OPT) _____ FIELD SERVICE (OPT) _____ CHIEF ENGR (MODULES ONLY) _____																								

PAGE REVISION CONTROL SHEET										
SH NO.	PAGE REVISIONS						REMARKS	FIRST USED ON OPTION/MODEL	DATE	REV.
	A	B	C	D	E	F				
1	A	B	C				(BUS 1) (BUS 2) (BUS 3) (BUS 4)	RK11-U		
2	A	P	C							
3	A	A	B							
4	A	A	A							
5	A	P	R							
6	A	A	A							

digital EQUIPMENT CORPORATION		BUS CONTROL	
DRIN.	DATE	SIZE	REV.
CHK'D.	DATE	R	CS
ENG.	DATE	CS	M7257-0-1
PROJ. ENG.	DATE		
PROD.	DATE		
NEXT HIGHER ASSY.			
B-UU RK11-U			
SCALE			
SHEET 1 OF 1			

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7257-00002

NOT TO BE USED FOR PRODUCTION

9-0-732LW

PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY				PAGE <u>1</u> OF <u>1</u>		RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-20-72</u>		RELEASED BY <u>T. ORR</u>		RELEASED ETCH BD REV. <u>B</u>									
ECO NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 OI TO CM2	0	0
00002	R LEWIS	2 16 73	C	B	✓			✓			REMOVE BUS MYSN FILTER CIRCUIT	1	3

REVISIONS	DATE	BY
00001		
00002		

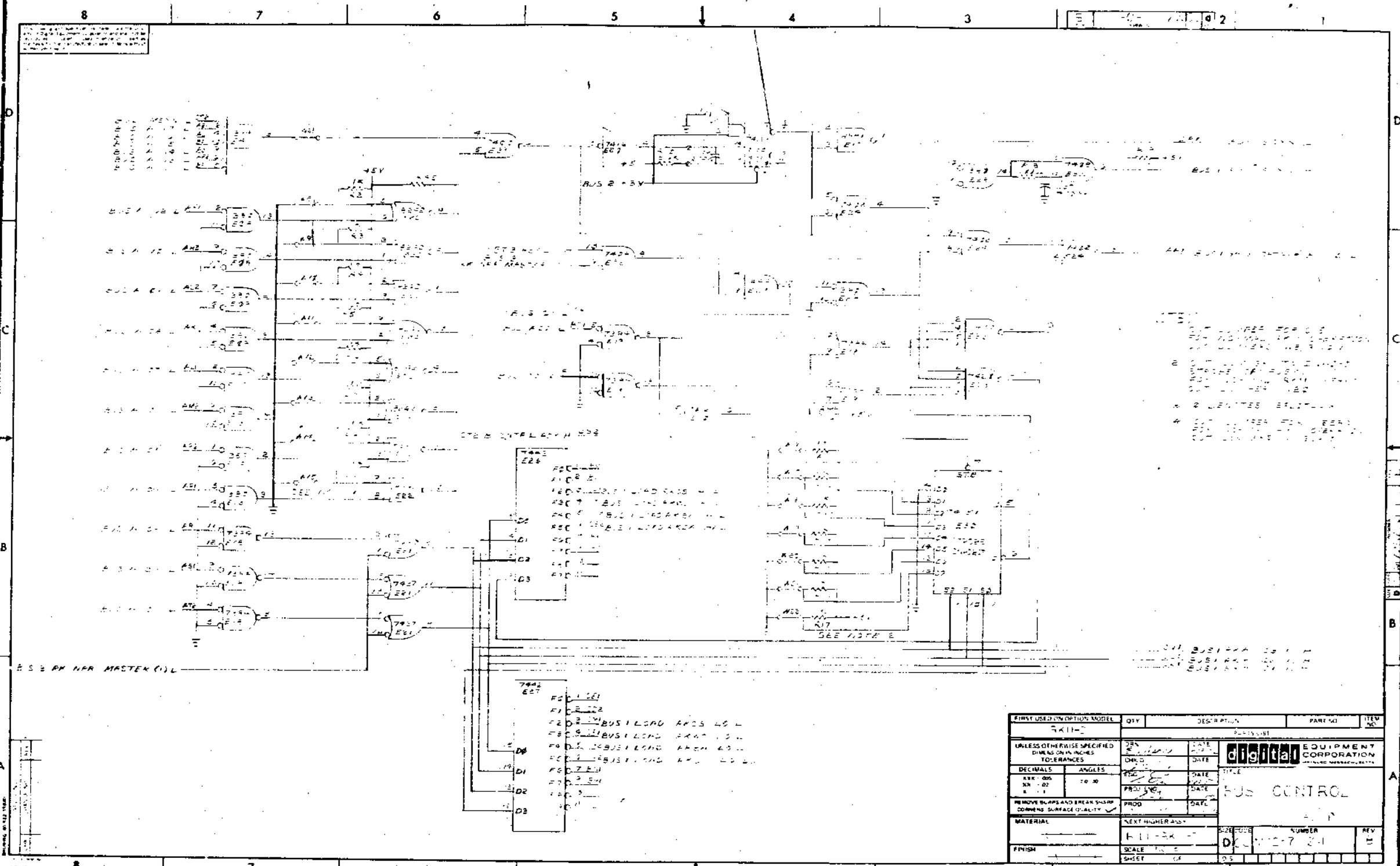
DESIGNED	DATE
CHECKED	DATE
ENG	DATE
PROD	DATE

EQUIPMENT CORPORATION		MATHARD, MASSACHUSETTS	
SIZE	CODE	NUMBER	REV
B	MH	M7257-0-6	B

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7257-00002

NOT TO BE USED FOR PRODUCTION



THIS DRAWING IS PART
OF E.C.O. PACKAGE #

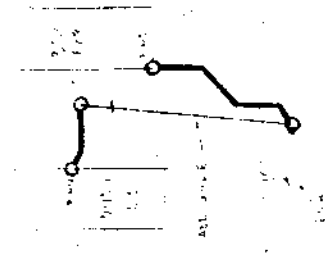
M7257-00002

**NOT TO BE USED
FOR PRODUCTION**

digital		ORDERATOR: Dick Lewis, 1-2 TEL EXT: 3065 DATE: 3/73 FROM: PHO NO: 820-06714 COST CENTER NO: 178		LOG NO: <u>87257-0-3</u> SHEET <u>3</u> OF <u>4</u> DATE RECEIVED: <u>4/17/73</u> FIRST ISSUE: <u>6/1/73</u> FINAL ISSUE: <u>6/1/73</u>	
PROJECT: ENHANCING CHANGE ORDER 350		PROJECT: ENHANCING CHANGE ORDER 350		ALL WORK ORDER NO: <u>87257</u> RUC: <u>87257</u> CONTROL: <u>87257</u> SYSTEMS: <u>87257</u> OPERATIONS: <u>87257</u> OPERATIONS: <u>87257</u>	
PROBLEM: 11/20 SPR IS CONNECTED TO RIB PIN 7 ON 87257, the cabinet will hang on 11/20 or 11/20 systems without RIB1 option.		CORRECTION: REMOVE BUS SPR FROM RIB PIN 7 and C to Pin 7 to CAV.		PROBLEMS ADDED: <u>RR11-D, E</u>	
BREAKS/ACTIVITY: REWORK ONLY 87257-R ON 11/20 and 11/20 systems without RIB1 option. Rework all such systems.		DESCRIPTION OF CHANGE:		PROBLEMS ADDED: <u>RR11-D, E</u>	
INVENTORY PART NO 1. D-CS-M-97-0-1 Sheet 1 2. D-CS-M-27-0-1 Sheet 5 3. D-M-M-257-0-5 4. B-M-M-257-0-6 5. Rework Instruction 11/20	QTY C D B C C D B C 5	UNIT 06 06 06 06 06	DESCRIPTION OF CHANGE See final release drawing. See final release drawing. See final release drawing. See final release drawing. See sheet 2 attached. NOTE: Do not rework model. Jumpers will be included on next tech rev.	TYPE OF CHANGE: <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input type="checkbox"/> SOFTWARE <input type="checkbox"/> OTHER	
APPROVAL SIGNATURES: DESIGN ENGINEER: <u>[Signature]</u> FIELD SERVICE ENGINEER: <u>[Signature]</u> CHIEF ENGINEER (FOR ONLY): <u>[Signature]</u>		APPROVAL SIGNATURES: DESIGN ENGINEER: <u>[Signature]</u> FIELD SERVICE ENGINEER: <u>[Signature]</u> CHIEF ENGINEER (FOR ONLY): <u>[Signature]</u>			

M: 11/20 11/20 11/20 11/20 11/20

ALL WORK ORDER NO: 87257
 RUC: 87257
 CONTROL: 87257
 SYSTEMS: 87257
 OPERATIONS: 87257



digital		ORDERATOR: Dick Lewis, 1-2 TEL EXT: 3065 DATE: 3/73 FROM: PHO NO: 820-06714 COST CENTER NO: 178		LOG NO: <u>87257-0-3</u> SHEET <u>3</u> OF <u>4</u> DATE RECEIVED: <u>4/17/73</u> FIRST ISSUE: <u>6/1/73</u> FINAL ISSUE: <u>6/1/73</u>	
PROJECT: ENHANCING CHANGE ORDER 350		PROJECT: ENHANCING CHANGE ORDER 350		ALL WORK ORDER NO: <u>87257</u> RUC: <u>87257</u> CONTROL: <u>87257</u> SYSTEMS: <u>87257</u> OPERATIONS: <u>87257</u>	
PROBLEM: 11/20 SPR IS CONNECTED TO RIB PIN 7 ON 87257, the cabinet will hang on 11/20 or 11/20 systems without RIB1 option.		CORRECTION: REMOVE BUS SPR FROM RIB PIN 7 and C to Pin 7 to CAV.		PROBLEMS ADDED: <u>RR11-D, E</u>	
BREAKS/ACTIVITY: REWORK ONLY 87257-R ON 11/20 and 11/20 systems without RIB1 option. Rework all such systems.		DESCRIPTION OF CHANGE:		PROBLEMS ADDED: <u>RR11-D, E</u>	
INVENTORY PART NO 1. D-CS-M-97-0-1 Sheet 1 2. D-CS-M-27-0-1 Sheet 5 3. D-M-M-257-0-5 4. B-M-M-257-0-6 5. Rework Instruction 11/20	QTY C D B C C D B C 5	UNIT 06 06 06 06 06	DESCRIPTION OF CHANGE See final release drawing. See final release drawing. See final release drawing. See final release drawing. See sheet 2 attached. NOTE: Do not rework model. Jumpers will be included on next tech rev.	TYPE OF CHANGE: <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input type="checkbox"/> SOFTWARE <input type="checkbox"/> OTHER	
APPROVAL SIGNATURES: DESIGN ENGINEER: <u>[Signature]</u> FIELD SERVICE ENGINEER: <u>[Signature]</u> CHIEF ENGINEER (FOR ONLY): <u>[Signature]</u>		APPROVAL SIGNATURES: DESIGN ENGINEER: <u>[Signature]</u> FIELD SERVICE ENGINEER: <u>[Signature]</u> CHIEF ENGINEER (FOR ONLY): <u>[Signature]</u>			

FIELD CHANGE ORDER

REWORK ONLY 87257-R ON 11/20 and 11/20 systems without RIB1 option.

ROY RYANS (87257-0-3) (4/17/73) (4/17/73)

PAGE REVISION CONTROL SHEET										
SH NO.	PAGE REVISIONS						REMARKS	FIRST USED ON OPTION/MODEL	RKI-L	DATE
	DATE	ENG. REV.	ETCH	NO.	BY	CHK'D.				
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**THIS DRAWING IS PART
OF E.C.O. PACKAGE #**

M7257-00003

**NOT TO BE USED
FOR PRODUCTION**

9-0-1521W
REV. B
1000 325

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP 11</u>				PAGE <u>1</u> OF <u>1</u>				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-20-72</u>								RELEASED ETCH BG REV. <u>B</u>					
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER (VERSIONS NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B							E40 01 TO CM2	0	0
00002	R LEWIS	2 16 73	C	B							REMOVE BUS MYSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B			REWORK ONLY NECESSARY IN 11/15 CP 11/20 SYSTEMS WITHOUT KH-II				REMOVE BUS NPR FROM E2607		

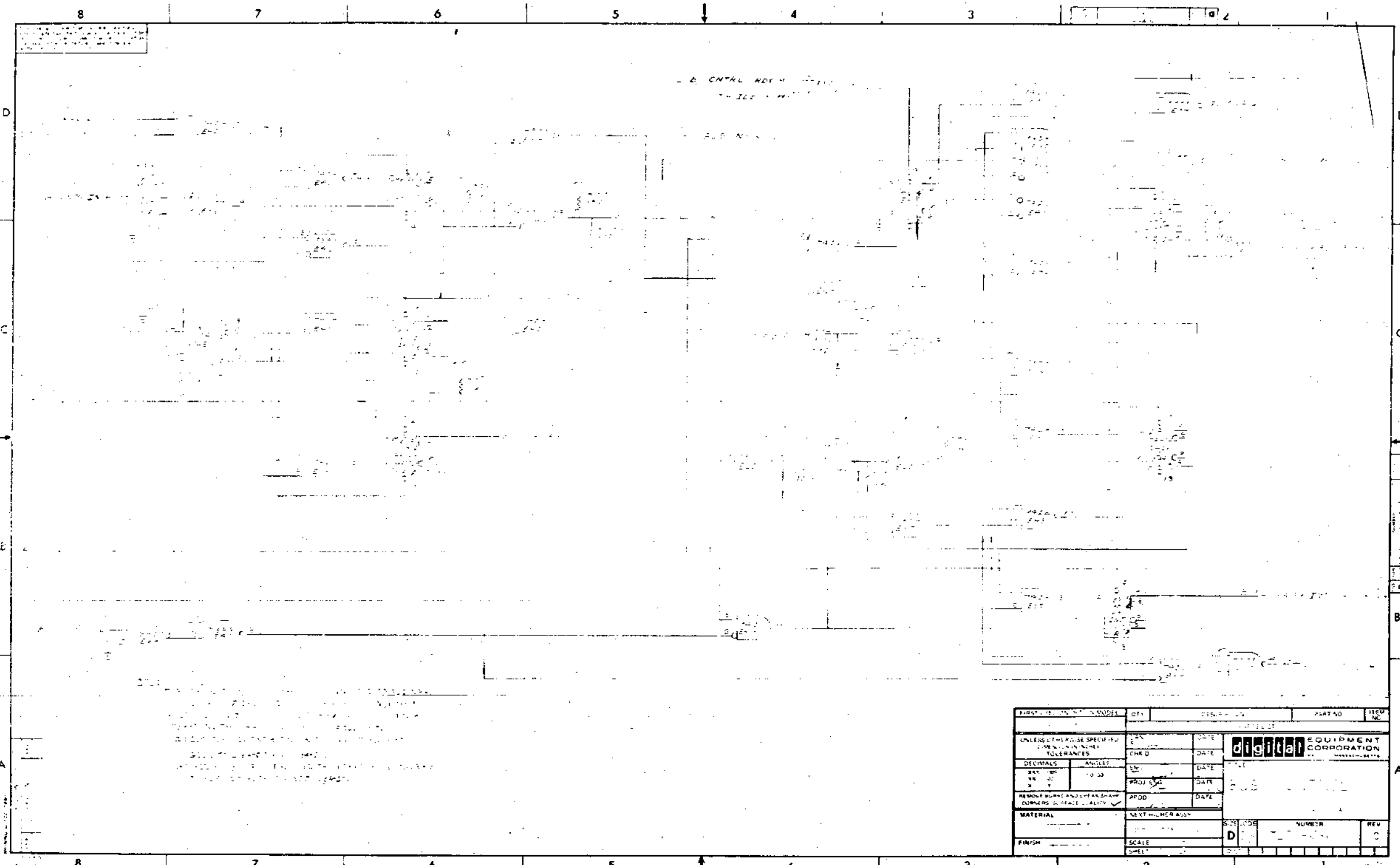
REVISIONS	DATE	BY
00001		
00002		
00003		

DRN	DATE	TITLE
CHK'D	DATE	MODULE ECO HISTORY
ENG	DATE	EQUIPMENT CORPORATION
PROD	DATE	HAVERHILL MASSACHUSETTS
SIZE	CODE	NUMBER
B	MH	M7257-0-6
		REV. C

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M7257-00003

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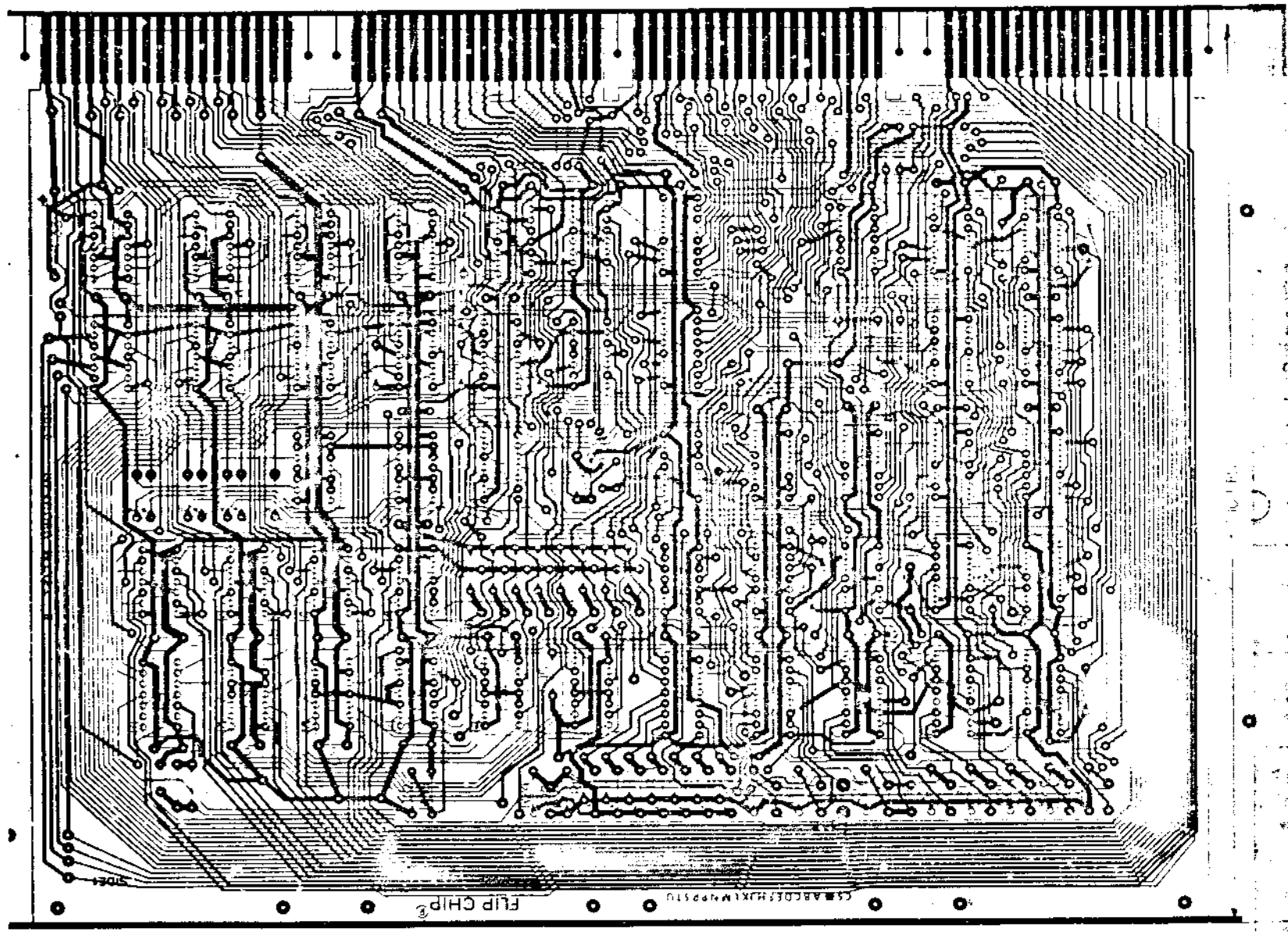


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OF E.C.O. PACKAGE #**

M7257-00003

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FOR PRODUCTION**

FIRST ISSUE NUMBER		DATE	DESIGNED BY	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DATE	DATE	EQUIPMENT CORPORATION	
TOLERANCES		CHK'D	DATE	CORPORATION	
DECIMALS	ANGLES	DATE	DATE	CORPORATION	
MAX. DIM.	MIN. DIM.	DATE	DATE	CORPORATION	
3	1/2	PROJ. ENG.	DATE	CORPORATION	
REMOVE BURRS AND DEBURR SHARP CORNERS & RE-EDGE QUALITY		PROD.	DATE	CORPORATION	
MATERIAL		NEXT NUMBER		REV.	NO.
FINISH		SCALE	DATE	D	C
		SMELT			



BOARD FABRICATION INFORMATION

BOARD SIZE 8.550 X 11.750 PLATED THRU EYELET SIDED
 BOARD MATERIAL .052 THK 1OZ COPPER NOTCH BEFORE GOLD PLATING
 2 SIDES NOTCH AFTER GOLD PLATING

HOLE LETTER	DRILL SIZES		FOR NON-PTH BOARDS		CAN TAKE GRIPLETS		QTY OF HOLES
	FOR PTH BOARDS	BEFORE PLATE	YES	NO	YES	NO	
NONE	#56 DRILL (.0465 DIA)	X	#54 DRILL (.045 DIA)	X			
Z	#49 DRILL (.073 DIA)	X	#50 DRILL (.067 DIA)		X		

DATE	TIME	DATE	TIME	DATE	TIME
DESIGNED	BY	DESIGNED	BY	DESIGNED	BY
CHECKED	BY	CHECKED	BY	CHECKED	BY
ASSY/DRILLING HOLE LAYOUT					
DRAWING NO. M7257 SHEET 21 OF 25 DATE 5-12-72 BY UAH M7257 0-5					

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M7257-00003

NOT TO BE USED FOR PRODUCTION

REVISIONS	A	B	C	D	E	F	H	J	K
DESIGNER	TRIAD								
CRAFTSMAN	TRIAD								
CHECKER	TRIAD								

TITLE **AK11-D BUS CONTROL** PROD. NO. **M7257**
 CHARGE NO. **E11-06734** DATE **5-12-72** C.S. REV **B**
 ENGINEER **TOM ORR** EXTENSION **2791** MS NO. **40089** ETCH REV **B**

0 9-0-72 LW B
M7257-0-6

PRODUCT LINE <u>PDP 11</u>			MODULE ECO HISTORY						RELEASED CS REV. <u>A</u>				
DATE RELEASED <u>9-20-72</u>			PAGE <u>1</u> OF <u>1</u>						RELEASED ETCH BO REV. <u>B</u>				
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 01 TO CM2	0	0
00002	R LEWIS	2 16 73	C	B	✓			✓			REMOVE BUS MYSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN 11/15 OR 11/20 SYSTEMS WITHOUT KH-11		✓		REMOVE BUS NPR FROM E2807	—	—
00004	R. LEWIS	10-12-73	E	B	✓			✓			REMOVE TERMINATOR RESISTORS FROM NPG & BG LINES	—	4

REVISIONS	DATE	BY
00001		
00002		
00003		
00004		

DATE	7-21-72	TITLE	MODULE ECO HISTORY
DATE	7-21-72	SIZE	B
DATE		CODE	MH
DATE		NUMBER	M7257-0-6
DATE		REV	D

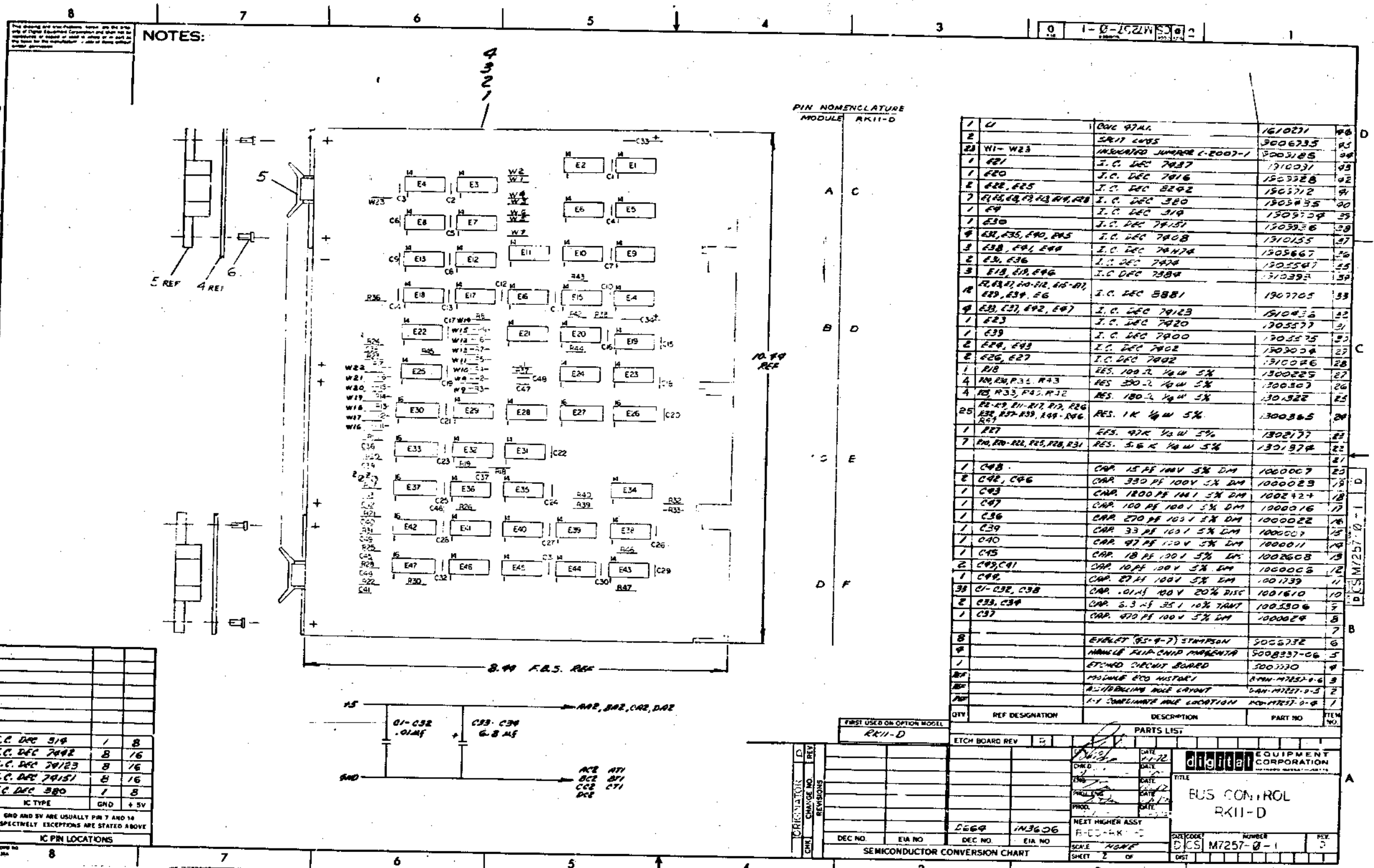
DRB 104

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M7257-00004

NOT TO BE USED FOR PRODUCTION

PAGE REVISION CONTROL SHEET		REMARKS	
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THIS DRAWING IS PART OF E.C.O. PACKAGE # M7257-00004 NOT TO BE USED FOR PRODUCTION

digital ENGINEERING CHANGE ORDER 9936		ORIGINATOR TOM ORR 1-3 TEL EXT 2791 DATE 12/6/73 DISC PROJ NO. E20-0673Y COST CENTER NO. 395		ECO NO. M7257-0005 SHEET 1 OF 1 DATE RECEIVED 12-21-73 FIRST ISSUE 1-2-74 FINAL ISSUE 1/23/74																																															
<p>PROBLEM (1) The Unibus control module can sink high current from the +5V supply if the bus address and data lines contain a lot of "ones". This can cause a momentary dip in the +5V supply. The .01 decoupling capacitors help reduce this effect but because of the critical nature of a unibus module this effect should be minimized. (2) C38 (.01) is unnecessary.</p> <p>CORRECTION (1) Replace all the .01uf capacitors with .22uf capacitors. This is a precautionary measure and no problem has ever been attributed to .01 capacitors. Do not rework any modules. Allow parts list to use .01 caps if .22 caps are not available. (2) Delete C38 (.01).</p> <p>BREAK-IN/EFFECTIVITY .22uf instead of .01uf caps by 2/1/74 or the next lot of M7257 modules built at Puerto Rico and Ireland.</p>				<p>UNIT TO BE CHANGED M7257 Unibus Control Module</p> <p>DISP CODE 02</p> <p>OPTIONS AFFECTED RK11-D RK11-E</p> <p>PRODUCT LINES AFFECTED PLP11 PDP15</p>																																															
<table border="1"> <thead> <tr> <th>ITEM NO.</th> <th>DOCUMENT/PART NO.</th> <th>OLD REV</th> <th>NEW REV</th> <th>SP CODE</th> <th>DESCRIPTION OF CHANGE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>B-CS-M7257-0-1 (941)</td> <td>E</td> <td>F</td> <td>06</td> <td>Update revision per this ECO.</td> </tr> <tr> <td>1A</td> <td>D-CS-M7257-0-1 (82)</td> <td>D</td> <td>E</td> <td>06</td> <td>Delete .01uf caps Item #10 Qty 33</td> </tr> <tr> <td>1B</td> <td>D-CS-M7257-0-1 (87)</td> <td>A</td> <td>B</td> <td>06</td> <td>Add .22uf caps Item #10 Qty 32 Retain .01 only as a substitute Delete C38 (.01uf cap)</td> </tr> <tr> <td>2</td> <td>1001610</td> <td>-</td> <td>-</td> <td>00</td> <td>Capacitor .01uf 100v 20% dist, Item #10 Qty 33 Deleted</td> </tr> <tr> <td>3</td> <td>1010274-01</td> <td>-</td> <td>-</td> <td>07</td> <td>Capacitor .22uf 50v ceramic, Item #10 Qty 32 Added</td> </tr> <tr> <td>4</td> <td>D-AH-M7257-0-5</td> <td>E</td> <td>F</td> <td>06</td> <td>Update revision per this ECO</td> </tr> <tr> <td>5</td> <td>B-MH-M7257-0-6</td> <td>D</td> <td>E</td> <td>06</td> <td>Update revision per this ECO</td> </tr> </tbody> </table>		ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	SP CODE	DESCRIPTION OF CHANGE	1	B-CS-M7257-0-1 (941)	E	F	06	Update revision per this ECO.	1A	D-CS-M7257-0-1 (82)	D	E	06	Delete .01uf caps Item #10 Qty 33	1B	D-CS-M7257-0-1 (87)	A	B	06	Add .22uf caps Item #10 Qty 32 Retain .01 only as a substitute Delete C38 (.01uf cap)	2	1001610	-	-	00	Capacitor .01uf 100v 20% dist, Item #10 Qty 33 Deleted	3	1010274-01	-	-	07	Capacitor .22uf 50v ceramic, Item #10 Qty 32 Added	4	D-AH-M7257-0-5	E	F	06	Update revision per this ECO	5	B-MH-M7257-0-6	D	E	06	Update revision per this ECO	<p>DOCUMENTATION AFFECTED</p> <p><input checked="" type="checkbox"/> MODEL</p> <p><input type="checkbox"/> DIAGNOSTICS</p> <p><input type="checkbox"/> TECH MANUAL</p> <p><input type="checkbox"/> TESTER</p> <p><input type="checkbox"/> TEST PROC</p> <p><input type="checkbox"/> TOOLING</p> <p><input type="checkbox"/> PKG INST</p> <p><input type="checkbox"/> ENG SPEC</p> <p><input type="checkbox"/> PURCH SPEC</p> <p>FIELD SERVICE AFFECTED</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p> <p><input type="checkbox"/> Customer Charge</p> <p><input type="checkbox"/> Product Line Charge</p> <p>TYPE OF CHANGE</p> <p><input type="checkbox"/> ELECTRICAL</p> <p><input type="checkbox"/> MECHANICAL</p> <p><input checked="" type="checkbox"/> MODULE</p> <p>ORDER FR MODEL</p> <p><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
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5	B-MH-M7257-0-6	D	E	06	Update revision per this ECO																																														
<p>DISPOSITION CODES</p> <p>00 - RETURN TO STOCK</p> <p>01 - (DELETED)</p> <p>02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PREPARE TO)</p> <p>03 - REMOVE IMMEDIATELY (RETROFIT)</p> <p>04 - (DELETED)</p> <p>05 - (DELETED)</p> <p>06 - (DELETED)</p> <p>07 - DOCUMENT CORRECTION</p> <p>08 - NEW ITEM (THIS ASSEMBLY)</p> <p>09 - NEW ITEM (THIS COMPANY)</p> <p>10 - SCRAP IMMEDIATELY</p>			<p>APPROVAL SIGNATURES</p> <p>DESIGN ENGR TOM ORR <i>[Signature]</i></p> <p>ENGR MOR (OPT)</p> <p>FIELD SERVICE (OPT)</p> <p>CHEF ENGR (MODULES ONLY)</p>																																																

11 CENTRAL ENG.
ECO COMMITTEE

3 9-0-72 MW B
 124 1257-0-6 3303 315

PRODUCT LINE PDP 11 MODULE ECO HISTORY
 DATE RELEASED 9-20-72 PAGE 1 OF 1
 RELEASED BY T. ORR RELEASED CS REV. A
 RELEASED ETCH BD REV. B

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 OI TO CM2	0	0
00002	R LEWIS	2 16 73	C	B	✓			✓			REMOVE BUS MYSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN 11/15 OR 11/20 SYSTEMS WITHOUT KH-11		✓		REMOVE BUS NPR FROM E2807	—	—
00004	R. LEWIS	10-12-73	E	B		✓		✓			REMOVE TERMINATOR RESISTORS FROM NPG + BG LINES	—	4
00005	T. ORR	12-6-73	F	B		✓		✓			REMOVE C38 CHANGE ALL .01 CAPS TO .22	32	33

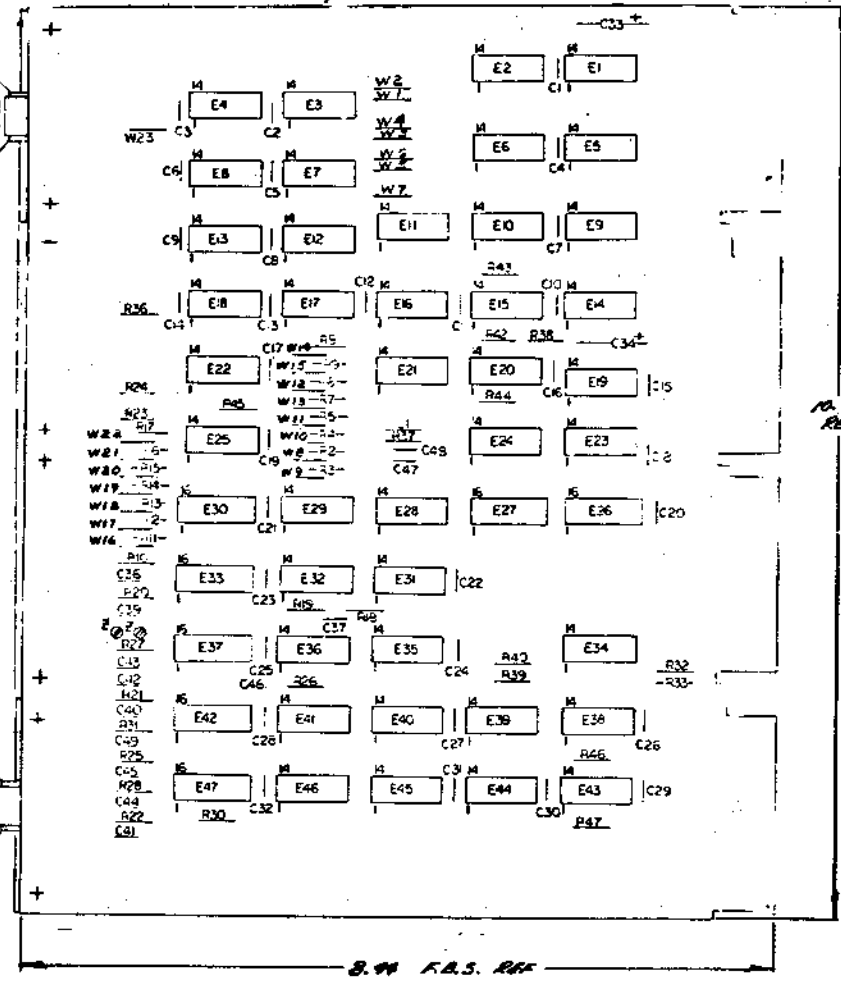
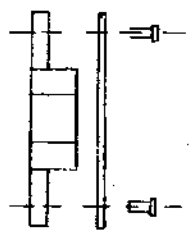
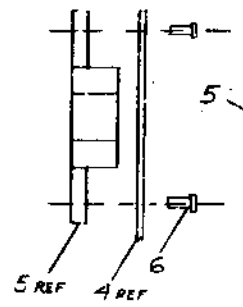
REVISIONS	DATE	DATE	TITLE
CHK CHG B3 REV	9-21-72	9-21-72	MODULE ECO HISTORY
00001 A			
00002 B			
00003 C			
00004 D			
00005 E			
00006 F			
00007 G			
00008 H			
00009 I			
00010 J			
00011 K			
00012 L			
00013 M			
00014 N			
00015 O			
00016 P			
00017 Q			
00018 R			
00019 S			
00020 T			
00021 U			
00022 V			
00023 W			
00024 X			
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DRB 104

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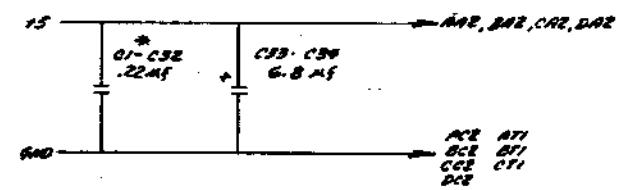
NOTES:



IC TYPE	QTY	REF
J.C. DEC 319	1	8
J.C. DEC 7992	8	16
J.C. DEC 79123	8	16
J.C. DEC 79151	8	16
J.C. DEC 580	1	8

IC PIN LOCATIONS

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



* IF ITEM NO IS NOT AVAILABLE
USE PART NO. 1010274-00 OR
USE PART NO. 1001610 (0.044, 100V, 2073)

**PIN NOMENCLATURE
MODULE RKII-D**

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1	C1	CAP. 974A	1610231	46
2	W1-W23	SKIT WWS	9006735	45
1	E1	INDICATED JUMPER C-2007-1	3003185	44
1	E20	J.C. DEC 7987	1910091	43
2	E22, E25	J.C. DEC 7916	1903328	42
7	E15, E18, E19, E21, E24, E28	J.C. DEC 8292	1905712	41
1	E19	J.C. DEC 580	1905455	40
1	E30	J.C. DEC 319	1909104	39
4	E31, E35, E40, E45	J.C. DEC 79151	1909836	38
3	E38, E41, E44	J.C. DEC 7908	1910155	37
2	E32, E36	J.C. DEC 79174	1905667	36
3	E16, E18, E46	J.C. DEC 7974	1905547	35
1	E29, E34, E42, E43, E47	J.C. DEC 7889	1910393	34
4	E23, E27, E48, E49, E50, E51, E52, E53, E54	J.C. DEC 5881	1907705	33
4	E21, E22, E26, E27	J.C. DEC 79123	1910436	32
1	E23	J.C. DEC 7920	1905577	31
1	E33	J.C. DEC 7900	1905575	30
2	E24, E25	J.C. DEC 7902	1909004	29
2	E26, E27	J.C. DEC 7992	1910046	28
1	R18	RES. 100 Ω 1/4 W 5%	1900229	27
4	R19, R20, R21, R23	RES. 200 Ω 1/4 W 5%	1900309	26
4	R22, R23, R24, R25	RES. 180 Ω 1/4 W 5%	1901822	25
25	R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100	RES. 1K 1/4 W 5%	1900565	24
1	R27	RES. 97K 1/4 W 5%	1900177	23
7	R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100	RES. 5.6 K 1/4 W 5%	1901874	22
1	C48	CAP. 15 PF 100V 5% DM	1000007	20
2	C49, C50	CAP. 330 PF 100V 5% DM	1000023	19
1	C43	CAP. 1800 PF 100V 5% DM	1002324	18
1	C47	CAP. 100 PF 100V 5% DM	1000016	17
1	C36	CAP. 270 PF 100V 5% DM	1000022	16
1	C39	CAP. 33 PF 100V 5% DM	1000007	15
1	C40	CAP. 47 PF 100V 5% DM	1000011	14
1	C45	CAP. 18 PF 100V 5% DM	1002608	13
2	C49, C41	CAP. 10 PF 100V 5% DM	1000006	12
1	C46	CAP. 27 PF 100V 5% DM	1001739	11
32	C1-C32	CAP. 22 nF 50V-30% TANT	1001274-01	10
2	C33, C34	CAP. 6.8 nF 35V 10% TANT	1001306	9
1	C37	CAP. 470 PF 100V 5% DM	1000024	8
8		EXILET (63-9-7) STAMPSON	9006732	7
4		HANDLE FLIP-CHIP MOUNTING	9008357-06	5
1		ETCHED CIRCUIT BOARD	3003370	4
1		MODULAR ECO HISTORY	80001783-0-6	3
1		ASSEMBLY AND LOCATIONS	80001783-0-5	2
1		X-Y COORDINATE AND LOCATION	80001783-0-4	1

ETCH BOARD REV B

DATE 11-72

DESIGNED BY [Signature]

CHECKED BY [Signature]

DATE 11-72

PROLIFERATED BY [Signature]

DATE 11-72

PROD. DATE 11-72

NEXT HIGHER ASSY B-ED-RKII-D

SCALE NONE

SEMICONDUCTOR CONVERSION CHART

SHEET 2 OF 2

ORIGINATOR [Signature]

CHANGE NO. [Blank]

REVISIONS [Blank]

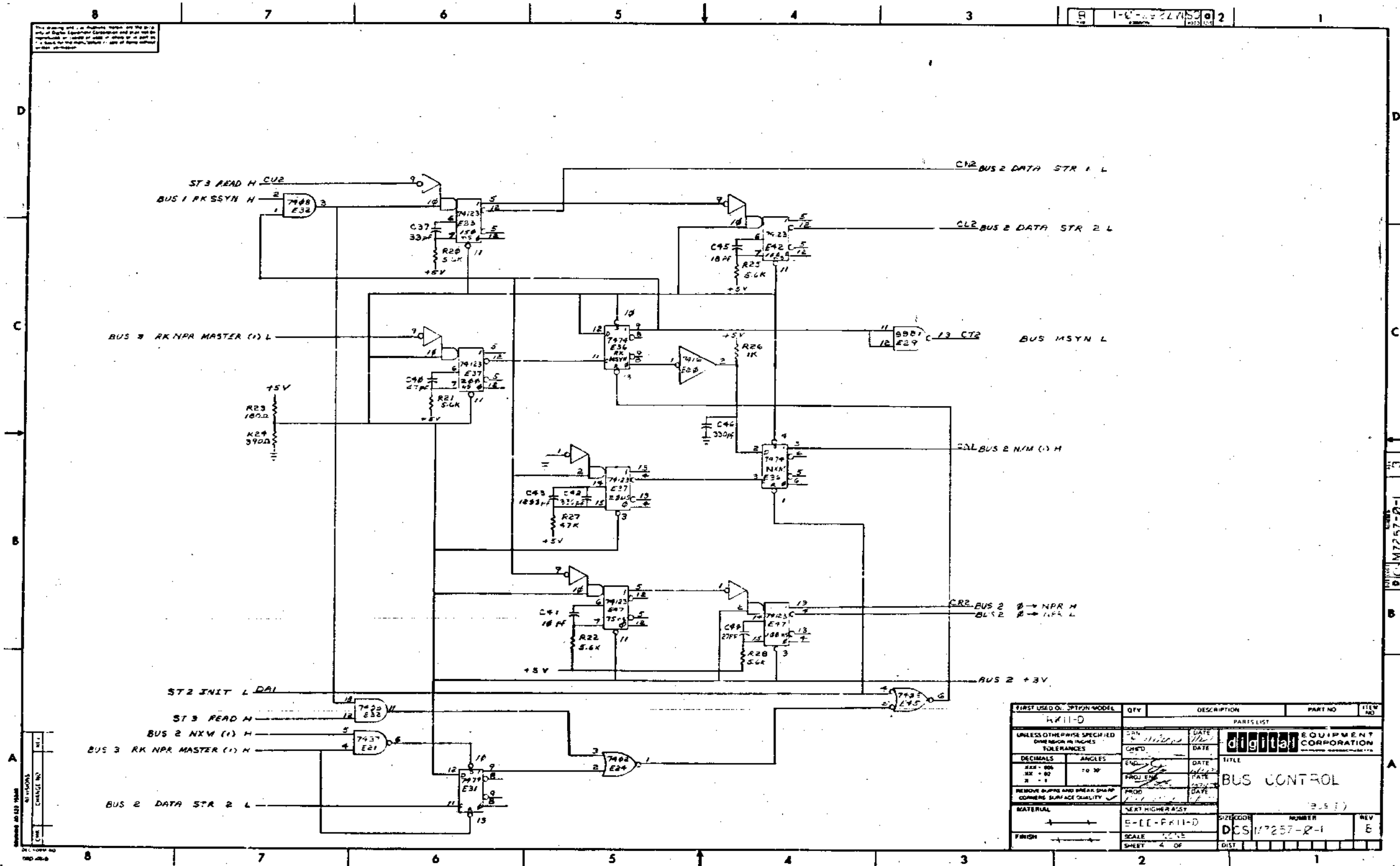
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SIZE CODE DCS

NUMBER M7257-0-1

PER E

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FIRST USED OR OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
R111-D				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	digital EQUIPMENT CORPORATION	
±.005	±.005	DATE	TITLE	
±.010	±.010	DATE	BUS CONTROL	
±.020	±.020	DATE	REV	
±.030	±.030	DATE	E	
±.040	±.040	DATE	D	
±.050	±.050	DATE	C	
±.060	±.060	DATE	B	
±.070	±.070	DATE	A	
±.080	±.080	DATE	Z	
±.090	±.090	DATE	Y	
±.100	±.100	DATE	X	
±.110	±.110	DATE	W	
±.120	±.120	DATE	V	
±.130	±.130	DATE	U	
±.140	±.140	DATE	T	
±.150	±.150	DATE	S	
±.160	±.160	DATE	R	
±.170	±.170	DATE	Q	
±.180	±.180	DATE	P	
±.190	±.190	DATE	O	
±.200	±.200	DATE	N	
±.210	±.210	DATE	M	
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±.250	±.250	DATE	I	
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±.980	±.980	DATE	N	
±.990	±.990	DATE	M	
±.1000	±.1000	DATE	L	

digital ENGINEERING CHANGE ORDER 9970		ORIGINATOR Dan Mutnansky 1-3 TEL EXT 5908 DATE 1/9/74 DISC PROJ NO. E-20-06734 COST CENTER NO. 395		ECO NO. <u>M7257-0006</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>1/5/74</u> FIRST ISSUE <u>1-23-74</u> FINAL ISSUE <u>1-23-74</u>	
PROBLEM Power and ground distribution is poor which results in high susceptibility to conducted and induced noise. This may show up as intermittent data, checksum or write check errors.				UNIT TO BE CHANGED M7257 etch Rev. B RK11-D disk control DISP CODE 03*	
CORRECTION ADD 1 ground and 3 power jumpers to side 1 of the board to improve the network of power and ground distribution.				OPTIONS AFFECTED RK11-D, RK11-E	
BREAK-IN/EFFECTIVITY Rework all units to be shipped from Puerto Rico, Ireland, and Westminster after 2/10/74. Rework all units built in Westfield after 4/1/74. Rework any field machine suspected of having noise related problems.				PRODUCT LINES AFFECTED PDP-11 PE-15	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DISP CODE	DESCRIPTION OF CHANGE
1	CS-M7257-0-1 Sheet 1	F	N	06	Update revisions per this ECO.
2	B-ME-M7257-0-6	G	F	06	Update revisions per this ECO.
3	D-AB-M7257-0-5	F	N	06	ADD 4, 30 AWG wires to power and ground distribution. Update revs per this ECO. REWORK INSTRUCTIONS: Etch Rev. B only. +5v runs: Add wire from: (1) +5v side of C1 to +5v side of C4. (2) +5v side of C7 to +5v side of C10. (3) +5v side of C38 to +5v feed thru connected to pin 14 of E25 side 1. NOTE: C38 was extracted by a previous ECO. The feed thru for the +5v side of C38 is located adjacent to the +5v side of R23. (4) Ground: Add wire from GND side of C24 to GND side of C41.
11 CENTRAL ENG. ECO COMMITTEE					
DISPOSITION CODES 00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (REWORK) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT LOR/FUNCTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			APPROVAL SIGNATURES DESIGN ENGR Tom Ott ENG MGR (OPT) <i>[Signature]</i> FIELD SERVICE (OPT) <i>[Signature]</i> CHIEF ENGR (MODULES ONLY) <i>[Signature]</i>		

DEC 16-13251-1071-0971 SEE REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY

digital	FIELD CHANGE ORDER	ECO <u>M7257-0006</u> PAGE <u>1</u> OF <u>1</u>
FIELD EFFECTIVITY Rework all M7257's in RK11-D and RK11-E when symptoms are present		LEVEL OF URGENCY CODE A - MAINTENANCE HIGH PRIORITY B - MAINTENANCE C - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT D - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT E - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT F - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT G - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT H - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT I - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT J - MAINTENANCE IF SPECIFIC HARDWARE, SOFTWARE, OR SYSTEMS ARE PRESENT
<input checked="" type="checkbox"/> ARE TO BE REPAIRED UNDER AN "AS IS" CHARGE CODE. <input type="checkbox"/> STANDARD WORK UNIT - THIS ECO IS TO BE REPAIRED AT NO CHARGE FOR WARRANTY AND MAINTENANCE CONTRACT CUSTOMERS IN ACCORDANCE WITH THE TECHNICAL EFFECTIVITY AGREEMENTS AT CUSTOMER EXPENSE. DOCUMENTATION: PARTS: REQUIRED LABOR:		ESTIMATED UNIT OF TIME INSTALLATION AND TESTING: 1.0 HOURS SPECIAL TEST EQUIPMENT, TOOLS, OR SUPPLIES:
<input checked="" type="checkbox"/> FIELD SERVICE APPROVAL TO ALL DEL FIELD OFFICES <input type="checkbox"/> IMMEDIATE ECO DISTRIBUTION TO REGIONAL PRODUCT SUPPORT		FIELD SERVICE APPROVAL Jin Barclay
<input checked="" type="checkbox"/> THIS AS DEFINED BELOW MAY BE ORDERED AS REQUIRED		PARTS REQUIRED
CONTENTS OF AN FACILITY DATE: ECO: <u>M7257-0006</u> PARTS: <u>0</u> TOOLS: <u>0</u> LABOR: <u>0</u>		VERIFICATION HANDLES
INSTALLATION AND TEST PROCEDURES		NOTES
FIELD SERVICE APPROVAL Jin Barclay		FIELD SERVICE APPROVAL <i>[Signature]</i> NF1173 (550) 2-12 (335/315) 650

DEC 12 1732 1095 1101

M7257-0-6

MODULE ECO HISTORY													
PRODUCT LINE <u>PDP 11</u>				PAGE <u>1</u> OF <u>1</u>				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-20-72</u>								RELEASED ETCH BD REV. <u>B</u>					
RELEASED BY <u>T. ORR</u>													
ECO NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			CHANGE OF TO CM2	0	0
00002	R LEWIS	2-16-73	C	B	✓			✓			REMOVE EUS MYSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN I1/15 OR I1/20 SYSTEMS WITHOUT KH-11		✓		REMOVE EUS NPR FROM E2607	—	—
00004	R LEWIS	10-12-73	E	B		✓		✓			REMOVE TERMINATOR RESISTORS FROM NPG+BG LINES	—	4
00005	T. ORR	12-6-73	F	B		✓		✓			REMOVE C03 CHANGE ALL .01 CAPS TO .22	32	33
00006	DANIEL MUTNANGSI	1-10-74	H	B		✓		✓			ADD WIRES TO IMPROVE +5V & GND DISTRIBUTION	0	0

REVISED BY	DATE	REASON


MODULE ECO HISTORY	
EQUIPMENT CORPORATION	M7257-0-6

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M7257-00006

NOT TO BE USED FOR PRODUCTION

SUPPLEMENT ECO

 ENGINEERING CHANGE ORDER #1000	ORIGINATOR Dan Mutnansky 12 TEL EXT 5908 DISC PROJ NO. E20-06734 COST CENTER NO. 395	ECO NO. <u>M7257-6A</u> SHEET <u>1</u> OF <u>1</u> DATE RECEIVED <u>1-29-74</u> FIRST ISSUE <u>1-1-74</u> FINAL ISSUE <u>2/24/74</u>				
	PROBLEM M7257 ECO #06 contains a typographical error in rework instruction #4. Item #4 adds a wire from the GND side of C24 to the GRD side of C41. C41 should be R41. There is no GND side of C41.					
CORRECTION Pictorial rework documentation (D-AH-M7257-0-5) contains correct information. A wire is shown from C24 to R41. Change rework instructions to read R41 instead of C41.		UNIT TO BE CHANGED M7257 Etch Rev. B RK11-D Disk Control DSP CODE 03* OPTIONS AFFECTED RK11-D RK11-E				
SUPPLEMENT ECO		PRODUCT LINES AFFECTED PDP-11 PDP-15				
REASON FOR INEFFECTIVITY *This is a supplement to M7257 ECO #06.						
ITEM NO.	DOCUMENT/ART NO.	OLD REV	NEW REV	DSP CODE	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED <input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PKG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Customer Change <input checked="" type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER FOR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
1	D-M7257-0-6	F	H	06	Update revision and add note explaining change.	11 CENTRAL ENG. ECO COMMITTEE
DISPOSITION CODES 00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRESENT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REWORK IMMEDIATELY (REWORKIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CONNECTION 07 - NEW ITEM (THIS ASSEMBLY) 08 - NEW ITEM (THIS COMPANY) 09 - SCRAP IMMEDIATELY			APPROVAL SIGNATURES DESIGN ENGR Tom O'Leary ENG MGR (OPT) FIELD SERVICE (OPT) CHIEF ENGR (MODULES ONLY)			

H 9-0-1521 W B
 114 1000 3275

PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>A</u>									
DATE RELEASED <u>9-20-72</u>		PAGE <u>1</u> OF <u>1</u>		RELEASED ETCH BD REV. <u>B</u>									
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 OI TO CM2	0	0
00002	R LEWIS	2 16 73	C	B	✓			✓			REMOVE BUS MYSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN 1/15 OR 1/20 SYSTEMS WITHOUT KH-11		✓		REMOVE BUS NPR FROM E2807	—	—
00004	R. LEWIS	10-12-73	E	B..	✓			✓			REMOVE TERMINATOR RESISTORS FROM NPG + BG LINES	—	4
00005	T. ORR	12-6-73	F	B	✓			✓			REMOVE C38 CHANGE ALL .01 CAPS TO .22	32	33
00006	DANIEL MUTNANSKY	1-10-74	H	B	✓			✓			ADD WIRES TO IMPROVE +5V & GND DISTRIBUTION	0	0
0006A	D. MUTNANSKY	1-24-74	—	—	—	—	—	—	—		CORRECT REWORK INSTRUCTION	—	—

REV. NO.	DATE	BY
00001		
00002		
00003		
00004		
00005		
00006		
0006A		

DATE	9-21-72	TITLE	MODULE ECO HISTORY
DATE	9-21-72	SIZE	B
DATE		CODE	MH
DATE		NUMBER	M7257-0-6
DATE		REV.	H

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M7257-0006A

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digital ENGINEERING CHANGE ORDER <i>10506</i>		ORIGINATOR Dick Lewis (1-3) TEL EXT 4620 DATE 6/27/74 DISC PROJ NO. E-20-06734 COST CENTER NO. 395		ECO NO. <i>M7257-0007</i> SHEET <i>1</i> OF <i>1</i> DATE RECEIVED <i>7/9/74</i> FIRST ISSUE <i>7-17-74</i> FINAL ISSUE <i>NA</i>		
PROBLEM The M7257 module is built with all jumpers installed. However, to be tested, the module must be configured for the RK11-D which requires cutting out several of the jumpers.				UNIT TO BE CHANGED M7257 Bus Control DES CODE 02		
CORRECTION Correct M7257 documentation to build Loads with only the necessary jumpers installed (W3, W6, W12 thru W19, W21 thru W23)				OPTIONS AFFECTED RK11-D, E		
BREAK-IN/EFFECTIVITY Phase in module build areas by 8-1-74.				PRODUCT LINES AFFECTED PDP 11 PDP 15.		
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	ISS/ODM	DESCRIPTION OF CHANGE	DOCUMENTATION AFFECTED
1	D-CS-M7257-0-1					<input checked="" type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTIC <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROG <input type="checkbox"/> TOOLING <input type="checkbox"/> PRG INST <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Customer Champ <input type="checkbox"/> Product Line Champ TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE <input type="checkbox"/> ORDER FR MODEL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	Sheet 1	H	J	06	Update revisions per this ECO	
	Sheet 2	E	F	06	Change parts list (Item #44) to call out 13 jumpers (W3, W6, W12 thru W19, W21 thru W23). Correct overlay to show W1, W2, W4, W5, W7 thru W11, W20 as broken lines.	
	Sheet 3	B	C	06	Show W8 thru W11 and W20 as broken lines.	
	Sheet 6	A	B	06	Show W1 thru W5 and W7 as broken lines.	
2	B-AH-M7257-0-5	H	J	06	Show W1, W2, W4, W5, W7 thru W11, W20 as broken lines	
3	B-MH-M7257-0-5			06	Update per this ECO	
4	9009185	-	-	00	Delete 10 jumpers.	
11 CONSULTING ENG. ECO COMMITTEE JUN 28 1974						
DISPOSITION CODES			APPROVAL SIGNATURES			
00 - RETURN TO STOCK 01 - (DELETED) 02 - USE PRE. EXT STOCK UNTIL NEW STOCK AVAILABLE (PHASE IN) 03 - REMOVE IMMEDIATELY (RETROFIT) 04 - (DELETED) 05 - (DELETED) 06 - DOCUMENT CORRECTION 07 - NEW ITEM THIS ASSEMBLY 08 - NEW ITEM THIS COMPANY 09 - SCRAP IMMEDIATELY			DESIGN ENGR Dick Lewis <i>[Signature]</i> ENG MGR (OPT) _____ FIELD SERVICE (OPT) _____ CHIEF ENGR (MODULES ONLY) _____			
JLC (4-125)-1071-0971 SEE REVERSE FOR INSTRUCTIONS (ON ORDER TO FILL OUT FORM PROPERLY)						

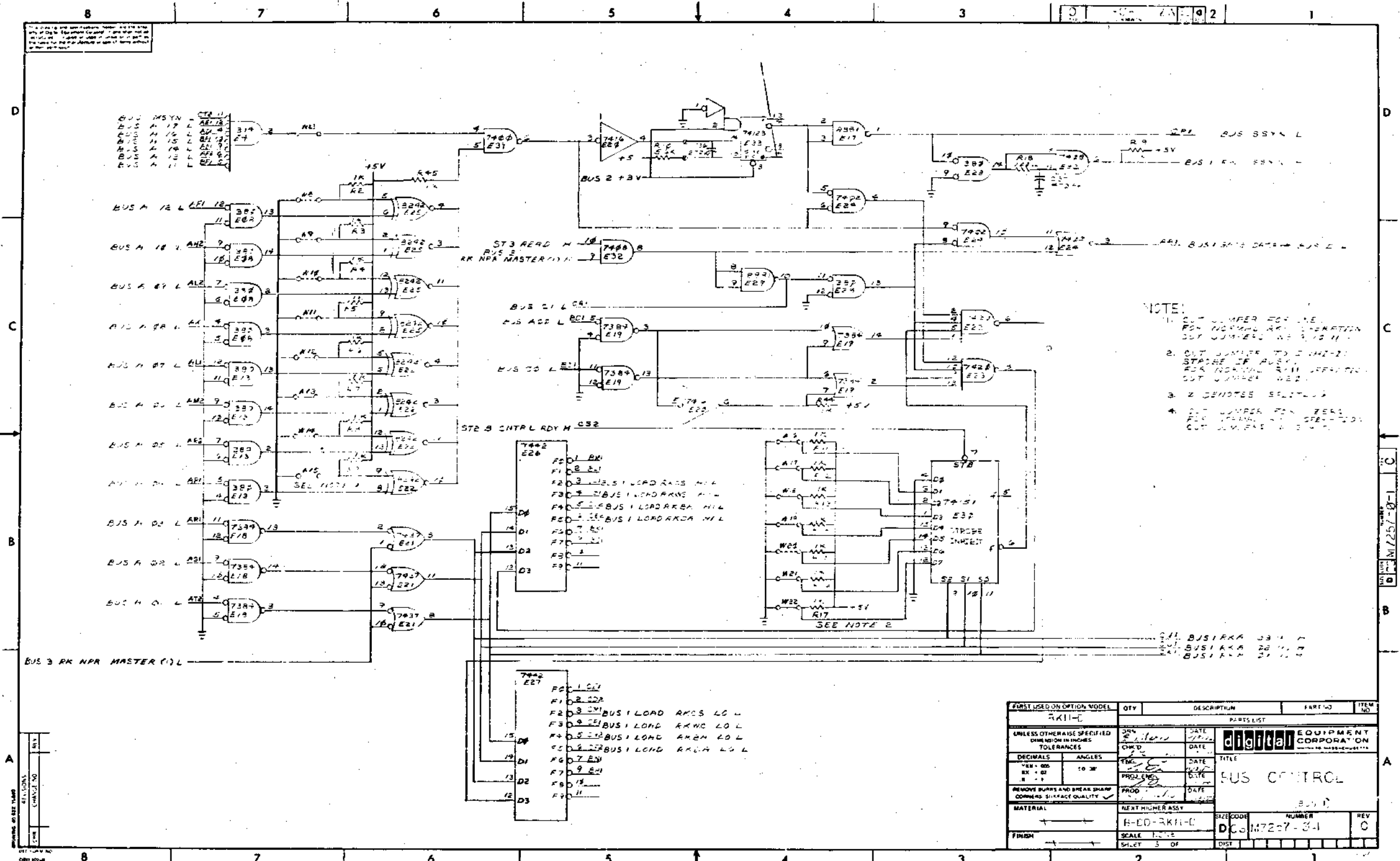
9-0-752LW 4W B
M7257-0-6

PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>A</u>									
DATE RELEASED <u>9-20-72</u>		PAGE <u>1</u> OF <u>1</u>		RELEASED ETCH BD REV. <u>B</u>									
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED IND. SCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 01 TO CM2	0	0
00002	R LEWIS	2 16 73	C	B	✓			✓			REMOVE BUS I'YSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN 11/15 OR 11/20 SYSTEMS WITHOUT KH-11		✓		REMOVE BUS NPR FROM E2807	—	—
00004	R. LEWIS	10-12-73	E	B		✓		✓			REMOVE TERMINATOR RESISTORS FROM NFG + BG LINES	—	4
00005	T. ORR	12-6-73	F	B		✓		✓			REMOVE C38 CHANGE ALL .01 CAPS TO .22	32	33
00006	DANIEL MUTNANSKI	1-10-74	H	B		✓		✓			ADD WIRES TO IMPROVE +5V & GND DISTRIBUTION	0	0
0006A	D. MUTNANSKI	1-24-74	—	—	—	—		—	—		CORRECT REWORK INSTRUCTION	—	—
00007	R. LEWIS	6-28-74	J	B		✓		✓			DELETE OPTIONAL JUMPERS	—	10

REV. NO.	DATE	BY
00001		
00002		
00003		
00004		
00005		
00006		
00007		

DRW	DATE	TITLE
CHK'D	DATE	MODULE ECO HISTORY
ENC	DATE	
PROD	DATE	
EQUIPMENT CORPORATION		SIZE CODE NUMBER
		B MH M7257-0-6
		REV J

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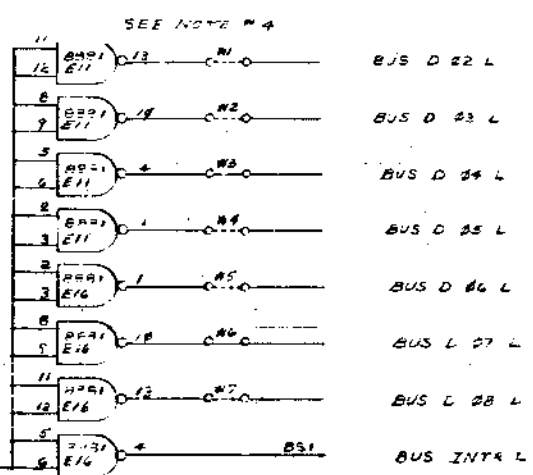
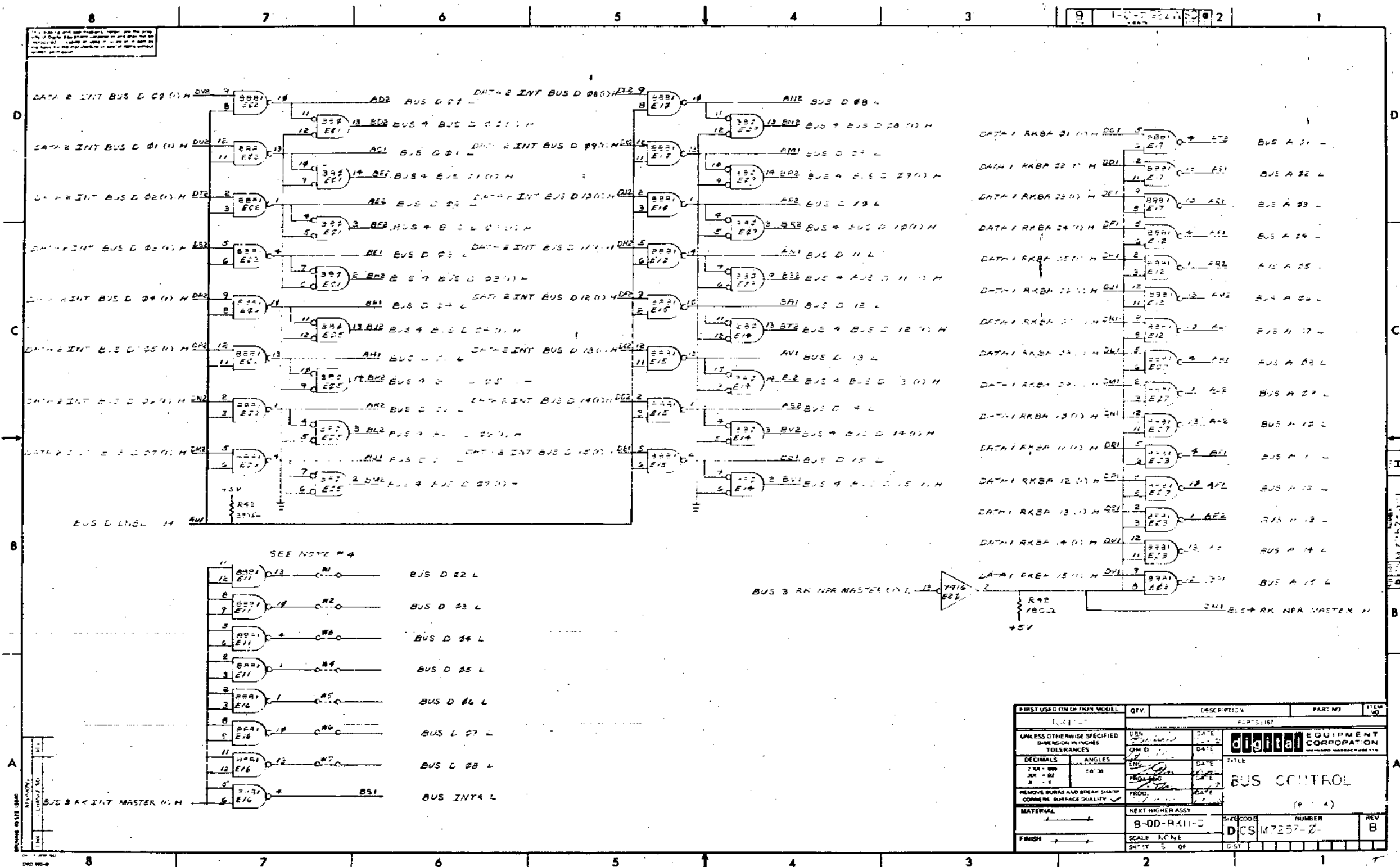
NOTE:
 1. CUT JUMPER FOR USE FOR NORMAL OPERATION. CUT JUMPER FOR USE FOR STAGE IF BUSY. FOR NORMAL OPERATION, CUT JUMPER FOR USE FOR STAGE IF BUSY. CUT JUMPER FOR USE FOR STAGE IF BUSY. CUT JUMPER FOR USE FOR STAGE IF BUSY.

7402 E27
 F01 BK
 F1 2 2-1
 F2 3 2-1 BUS I LOAD RACK N14
 F3 4 2-1 BUS I LOAD RACK N14
 F4 5 2-1 BUS I LOAD RACK N14
 F5 6 2-1 BUS I LOAD RACK N14
 F6 7 2-1
 F7 8 2-1
 F8 9 2-1
 F9 10 2-1
 F10 11 2-1

7401 E28
 F01 BK
 F1 2 2-1
 F2 3 2-1 BUS I LOAD RACK N14
 F3 4 2-1 BUS I LOAD RACK N14
 F4 5 2-1 BUS I LOAD RACK N14
 F5 6 2-1 BUS I LOAD RACK N14
 F6 7 2-1
 F7 8 2-1
 F8 9 2-1
 F9 10 2-1
 F10 11 2-1

FIRST USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
7411				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	digital EQUIPMENT CORPORATION	
1/16" 0.00	10 30'	DATE	TITLE	
1/32" 0.01		DATE	BUS CONTROL	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	FINISH	SCALE	NUMBER	REV
		1:1	D60 M7257-34	0
NEXT NUMBER ASSY		SHEET 5 OF		
H-ED-RKH-C		DIST		

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FIRST USED ON OF FROM MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES	DATE	DATE	PARTS LIST	
DECIMALS	ANGLES	DATE	TITLE	
1/16 - .001	10' 30"	DATE	BUS CONTROL	
1/32 - .002		DATE	(P. 4)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD.	DATE	MATERIAL	
			NEXT HIGHER ASSY	
			B-00-RK11-D	
			SCALE KONE	
			SHEET 5 OF 5	
			SIZE CODE	NUMBER
			DCS	M7257-2-
				REV B

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PAGE REVISION CONTROL SHEET									
SN NO.	PAGE REVISIONS						REMARKS		
	A	B	C	D	E	F			
1	A						(BUS 1) (BUS 2) (BUS 3) (BUS 4)		
2	A								
3	A								
4	A								
5	A								
6	A								
7	A								
8	A								
9	A								
10	A								
11	A								
12	A								
13	A								
14	A								
15	A								
16	A								
17	A								
18	A								
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91	A								
92	A								
93	A								
94	A								
95	A								
96	A								
97	A								
98	A								
99	A								
100	A								

FIRST USED ON OPTION/MODEL
 RK11-D



 EQUIPMENT CORPORATION
 WATFORD MASSACHUSETTS

TITLE
 BUS CONTROL
 (RK11-D)

DRN. DATE
 CHK'D. DATE
 ENG. DATE
 PROJ. ENG. DATE
 PROD. DATE

NEXT HIGHER ASSY.
 B-DD-RK11-D
 SCALE
 SHEET OF 6

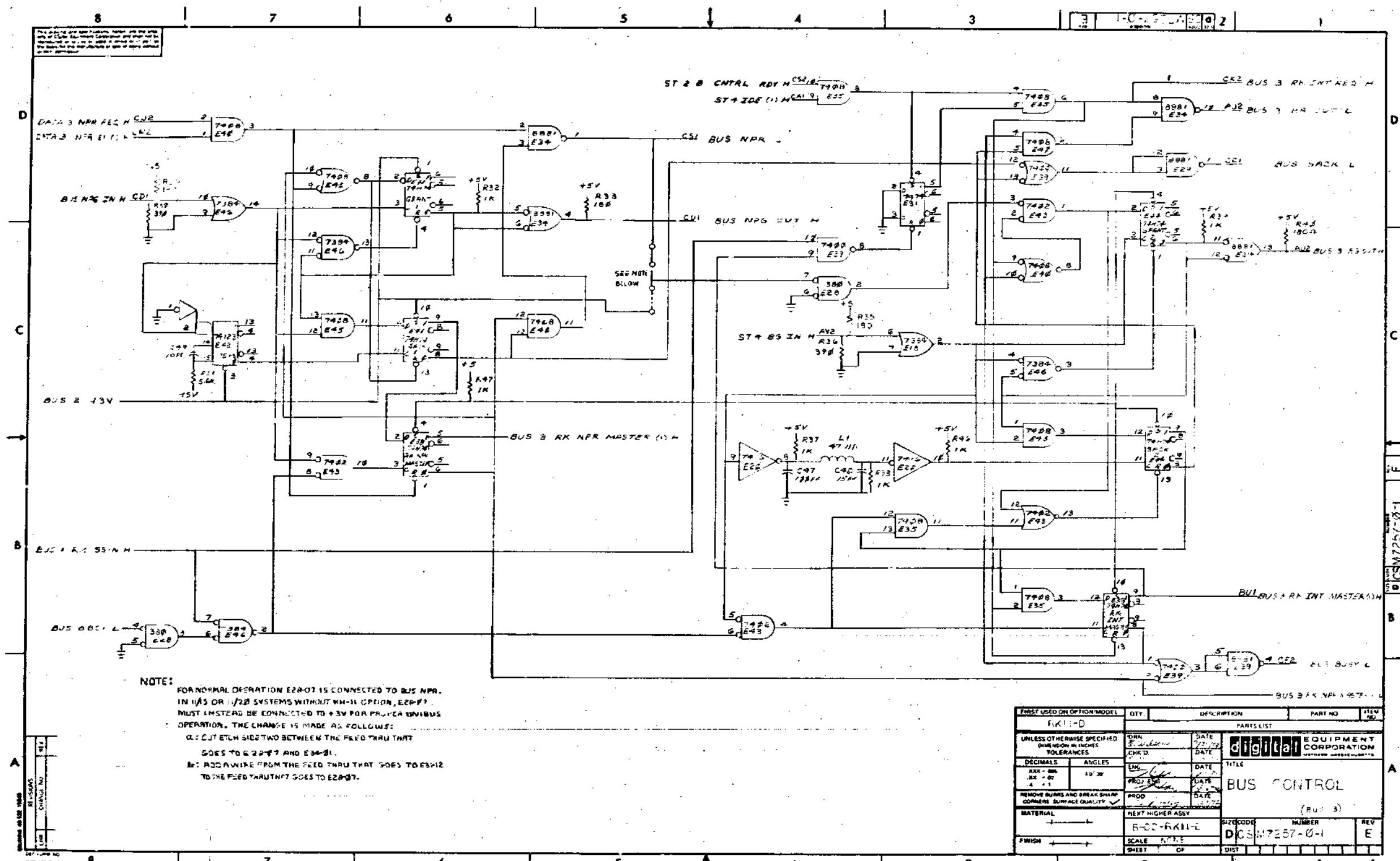
SIZE CODE
 B CS M7257-0-1
 REV. K

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M7257-00008

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NOTES:
 FOR NORMAL OPERATION E28-07 IS CONNECTED TO BUS NPR.
 IN 1/AS OR 1/2B SYSTEMS WITHOUT KM-11 OPTION, E28-07
 MUST INSTEAD BE CONNECTED TO +5V FOR PROPER UNIBUS
 OPERATION. THE CHANGE IS MADE AS FOLLOWS:
 1. CUT ETCH SIDETWO BETWEEN THE FEED THRU THAT
 GOES TO E 28-07 AND E34-01.
 2. ADD A WIRE FROM THE FEED THRU THAT GOES TO E34-01
 TO THE FEED THRU THAT GOES TO E28-07.

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES				
DECIMALS	ANGLES	FIN.	DATE	
XXX - .001	10° 30'	10	7/21/68	
XX - .01			DATE	
X - .1			DATE	
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY				
MATERIAL				
NEXT HIGHER ASSY				
FINISH				
SCALE				
SHEET OF				
digital EQUIPMENT CORPORATION			TITLE	
			BUS CONTROL	
			(BUS 3)	
B-02-RK11-E			SIZE CODE	NUMBER
D1CSM7257-0-1				REV
				E

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digital ENGINEERING CHANGE ORDER		ECO NO. M7257-0009 SHEET 1 OF 3	
ITEM NO.	DOCUMENT/PART NO.	OLD REV. NEW REV.	DESCRIPTION OF CHANGE
4	5009990	B C 02	Phase in new etch board as shown above. Note: Update bill of materials per new parts list (D-CS-M7257-0-1, Sheet 2). Changes to the parts list are shown below. Items 5 thru 17 are new items. Items 18 thru 22 are additional quantities to existing items. Items 23 thru 43 are deletions.
5	10-00005	07	Add qty five 6.8 pf cap.
6	13-00295	07	Add qty three 330A res.
7	13-05124	07	Add qty one 287 A res.
8	13-04854	07	Add qty two 5.1K res.
9	13-00005-01	07	Add qty two 1K resistor pack
10	15-03100	07	Add qty one trans. DEC 3009B
11	19-05635	07	Add qty one DEC IC 74H20
12	19-09056	07	Add qty three DEC IC 74H00
13	19-09931	07	Add qty one DEC IC 74H04
14	19-10409	07	Add qty three DEC IC 74H103
15	19-11469	07	Add qty one DEC IC 8640
16	19-11117-00	07	Add qty eight DEC IC 8838
17	90-07791	07	Add qty two solder terminal
18	10-10274-01	07	Add qty seventeen .22 mf cap.
19	10-05306	07	Add qty two 6.8 pf cap.
20	19-09712	07	Add qty one DEC IC 8242
21	19-09667	07	Add qty one DEC IC 74H74
22	90 09185	07	Add qty two insulated jumpers
23	10-00007	00	Delete qty one 15 pf cap.
24	10-00016	00	Delete qty one 100 pf cap.
25	10-00009	00	Delete qty one 33 pf cap.

DRA-111C-2

digital ENGINEERING CHANGE ORDER, 619		ECO NO. M7257-0009 SHEET 1 OF 3 DATE RECEIVED 12/18/74 FIRST ISSUE FINAL ISSUE	
ORIGINATOR Black Lewis ms/m46 TEL EXT 4620 DATE 9/30/74 DOC PROJ NO. E-20-07534 COST CENTER NO. 395		LIMITS TO BE CHANGED M7257 Bus Control	
PROBLEM The M7257 module has no spare IC locations, has long etch runs, and a poor power and ground network.		DESIGN CODE D2* OPTIONS AFFECTED RK11-D RK11-E	
CORRECTION Relayout the M7257 module to high density standards to add some spare IC locations, shorten the etch runs, and improve the PWR/GND network. Several logic changes are incorporated in the C etch revision to facilitate the new layout; therefore, CS rev K prints must be used with, and only with, C etch boards. These changes are transparent external to the module.		INDUSTRIAL AFFECTED PIP-11 FDP-15	
BREAKING ACTIVITY *All rev B etch boards in W.I.P. and stock may be completed, (do not scrap any boards) Phase in etch rev. C boards by 2/1/75.		DOCUMENTATION AFFECTED <input type="checkbox"/> MODEL <input type="checkbox"/> DIAGNOSTICS <input type="checkbox"/> TECH MANUAL <input type="checkbox"/> TESTER <input type="checkbox"/> TEST PROC <input type="checkbox"/> TOOLING <input type="checkbox"/> Pkg INT <input type="checkbox"/> ENG SPEC <input type="checkbox"/> PURCH SPEC <input type="checkbox"/> FIELD SERVICE <input type="checkbox"/> APPROPRIATE <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Customer Change <input type="checkbox"/> Product Line Change TYPE OF CHANGE <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> MODULE ORDER PA MODEL <input type="checkbox"/> YES <input type="checkbox"/> NO	
ITEM NO.	DOCUMENT/PART NO.	OLD REV. NEW REV.	DESCRIPTION OF CHANGE
1	D-CS-M7257-0-1		
	Sheet 1	K L 06	Update revs per this ECO
	Sheet 2	H J 06	Replace old rev with new rev print supplied
	Sheet 3	C D 06	Replace old rev with new rev print supplied
	Sheet 4	B C 06	Replace old rev with new rev print supplied
	Sheet 5	E F 06	Replace old rev with new rev print supplied
	Sheet 6	B C 06	Replace old rev with new rev print supplied
2	D-MH-M7257-0-5	K L 06	Replace old rev with new rev print supplied
3	B-MH-M7257-0-6	K L 06	Update per this ECO
APPROVAL SIGNATURES DESIGN ENGINEER FOR OFF: 12/18/74 FIELD SERVICE (OPT) CHECK ENGINEER (MODULES ONLY)			

SEE INSTRUCTIONS ON REVERSE FOR INSTRUCTIONS ON ORDER TO FILL OUT FORM PROPERLY

digital ENGINEERING CHANGE ORDER		ECO NO. M7257-0009 SHEET 3 OF 3	
ITEM NO.	DOCUMENT/PART NO.	OLD REV. NEW REV.	DESCRIPTION OF CHANGE
26	10-00021	00	Delete qty one 47 pf cap.
27	10-02608	00	Delete qty one 18 pf cap.
28	10-00024	00	Delete qty one 470 pf cap.
29	13-00229	00	Delete qty one 100 n. res.
30	13-00309	00	Delete qty two 390 A res.
31	13-00365	00	Delete qty twenty-five 1K res.
32	13-01874	00	Delete qty six 5.6kres.
33	16-10271	00	Delete qty one 47 uh coll
34	19-09928	00	Delete qty one DEC IC 7416
35	19-09485	00	Delete qty seven DEC IC 380
36	19-10155	00	Delete qty one DEC IC 7408
37	19-05547	00	Delete qty two DEC IC 7474
38	19-10393	00	Delete qty three DEC IC 7384
39	19-09705	00	Delete qty eight DEC IC 8081
40	1-10436	00	Delete qty two DEC IC 74123
41	19-05577	00	Delete qty one DEC IC 7420
42	19-05575	00	Delete qty one DEC IC 7400
43	90-06735	00	Delete qty two split lugs

DRA-111C-3

T 9-0-752LW MH B
A19 NUMBER 1222 1215

MODULE ECO HISTORY
PAGE 1 OF 2

PRODUCT LINE PDP 11 RELEASED CS REV A
 DATE RELEASED 9-20-72 RELEASED ETCH BD REV B
 RELEASED BY T. ORR

ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 01 TO CM2	0	0
00002	R LEWIS	2 16 73	C	B	✓			✓			REMOVE BUS MYSN FILTER CIRCUIT	1	3
00003	R LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN I/MS OR I/20 SYSTEMS WITHOUT KH-II		✓		REMOVE BUS NPR FROM E2807	—	—
00004	R. LEWIS	10-12-73	E	B		✓		✓			REMOVE TERMINATOR RESISTORS FROM NPG + BG LINES	—	4
00005	T. ORR	12-6-73	F	B		✓		✓			REMOVE C38 CHANGE ALL .01 CAPS TO .22	32	33
00006	DANIEL MUTNANSKY	1-10-74	H	B		✓		✓			ADD WIRES TO IMPROVE +5V & GND DISTRIBUTION	0	0
00006A	D. MUTNANSKY	1-24-74	—	—	—	—		—	—		CORRECT REWORK INSTRUCTION	—	—
00007	R. LEWIS	6-28-74	J	B		✓		✓			DELETE OPTIONAL JUMPERS	—	10
00008	R. LEWIS	10-4-74	K	S		✓		✓			ADD TERMINATOR RESISTORS TO NPG + B6 LINES	2	—

REV. NO.	DATE	BY
00001	11-16-72	T. ORR
00002	2-16-73	R. LEWIS
00003	5-3-73	R. LEWIS
00004	10-12-73	R. LEWIS
00005	12-6-73	T. ORR
00006	1-10-74	D. MUTNANSKY
00006A	1-24-74	D. MUTNANSKY
00007	6-28-74	R. LEWIS
00008	10-4-74	R. LEWIS

DATE 9-20-72
DATE 9-20-72
DATE 9-20-72

DATE 9-20-72
DATE 9-20-72
DATE 9-20-72

DATE 9-20-72
DATE 9-20-72
DATE 9-20-72

TITLE: MODULE ECO HISTORY

SIZE: B CODE: MH NUMBER: M7257-0-6 REV: L

EQUIPMENT CORPORATION
MAYFIELD, MASSACHUSETTS

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7257-00009 **NOT TO BE USED FOR PRODUCTION**

7 147
 9-2-72
 17257-0-5
 4 5

PRODUCT LINE <u>PDP11</u>			MODULE ECO HISTORY						RELEASED CS' REV. <u>A</u>				
DATE RELEASED <u>9-20-72</u>			PAGE <u>2</u> OF <u>2</u>						RELEASED ETCH BD REV. <u>B</u>				
RELEASED BY <u>T. ORR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARL ER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00009	R. LEWIS	10-4-74	L	C		✓		✓			NEW ETCH TO SHORTEN RUNS, IMPROVE PWR + GND	17	20

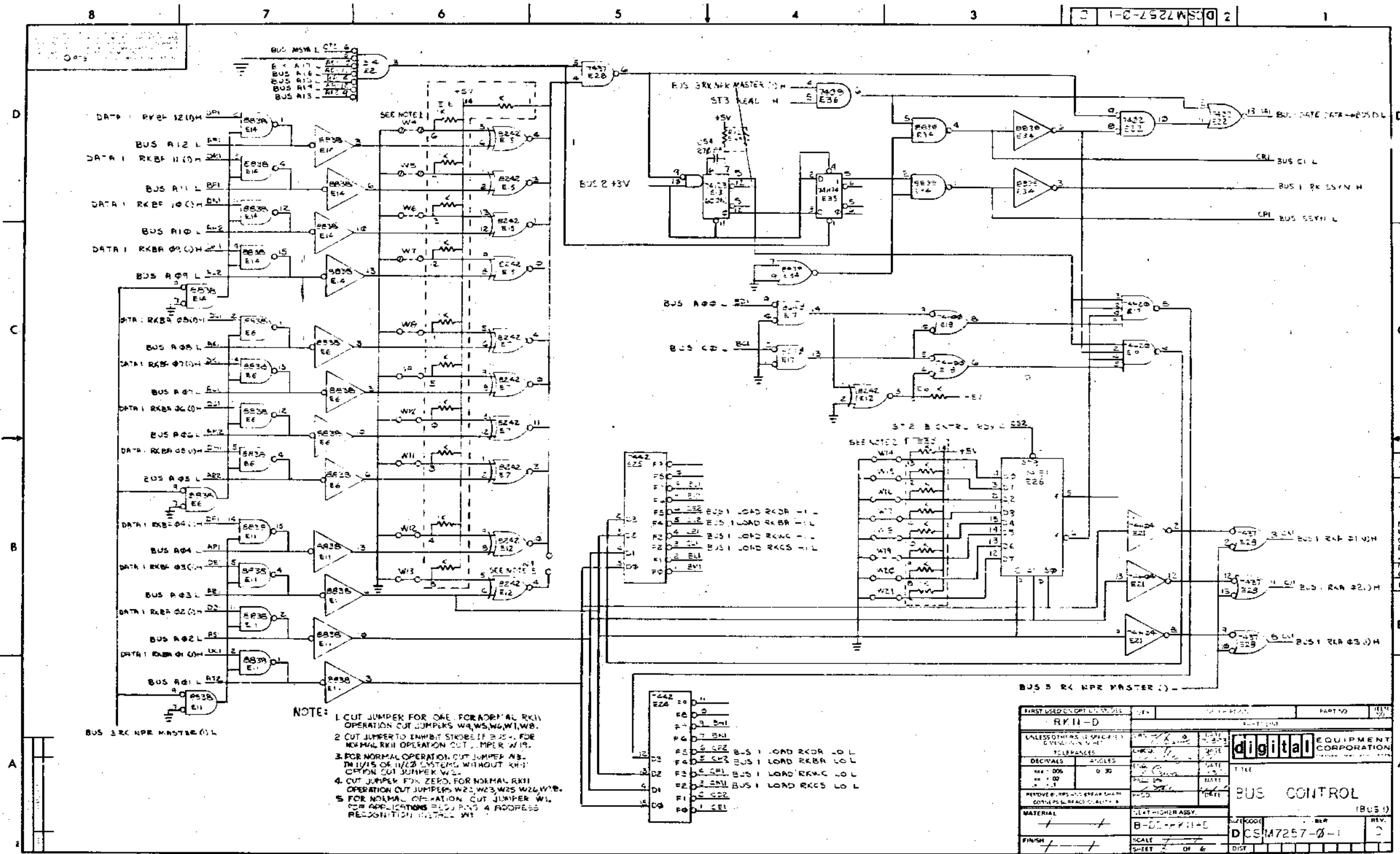
REVISIONS
 CHG NO. REV.
 DR3 104

DESIGNED BY
 D. SMITH
 DATE
 9-21-72
 CHECKED BY
 D. SMITH
 DATE
 9-21-72
 ENG.
 T. ORR
 DATE
 9-21-72
 PROP.
 R. LOCLEY
 DATE
 9-22-72

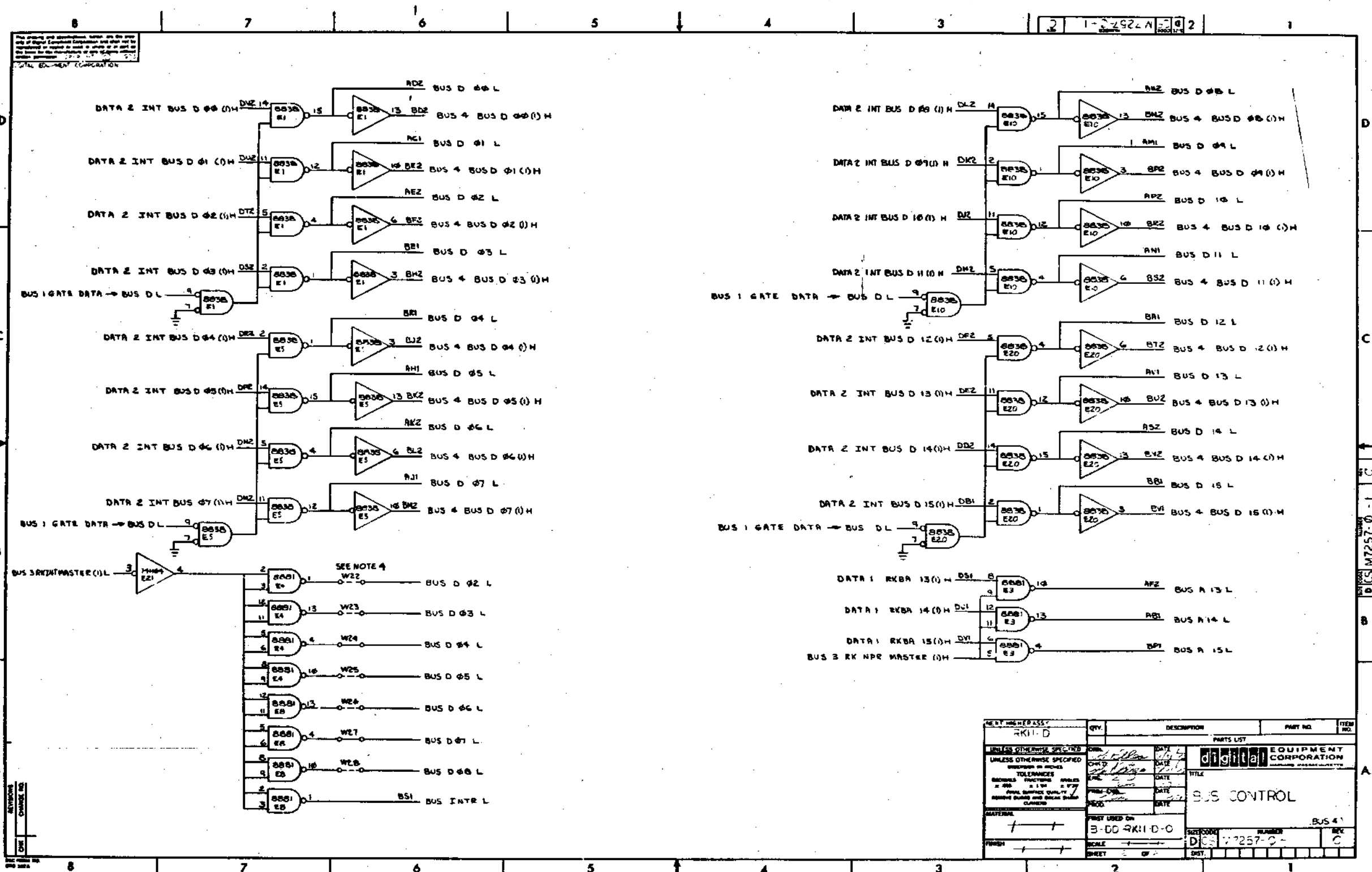
DATE
 9-21-72
 DATE
 9-21-72
 DATE
 9-21-72
 DATE
 9-22-72

TITLE
 MODULE ECO HISTORY
 SIZE CODE NUMBER REV.
 B M 17257-0-5 L

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digital
ENGINEERING
CHANGE ORDER

ORIGINATOR Dick Lewis ECO NO. M7257-00910
 TEL EXT. 4534 DATE 8/21/75 SHEET 2 OF 2
 LOCATION MD-2007 DATE RECEIVED 8-29-75
 COST CENTER NO. 35C ISSUE DATE 8-25-75
 FINAL RELEASE

PROBLEM i.e. 8838 is no longer a preferred Unibus Receiver/Driver.	UNIT TO BE CHANGED N7257 Bus Control
CORRECTION Substitute I.C. 8641 for the 8838 in new module builds. Note: This ECO affects N7257 B7C Rev C only.	PRODUCT AFFECTED PDP-11 PDP-15
BREAK-IN/EFFECTIVITY Phase into new builds in module build areas by 11/1/75. Do <u>not</u> rework any built boards. When I.C. failure occurs replace defective 8838's with 8641's after 11/1/75.	TYPE OF ECO <input checked="" type="checkbox"/> HARDWARE <input type="checkbox"/> SOFTWARE <input type="checkbox"/> PURCHASE <input type="checkbox"/> SPEC
QUICK-CHECK Check for 8641's in locations E1, 5, 6, 10, 11, 14, 20, 34	FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> D.P.R. DISTR. <input type="checkbox"/> L.O.U. CODE
TEST Normal module test.	WHERE USED AK11-L PK11-L

ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
1.	70-CS-N7257-0-1 Sheet 1 Sheet 2 Sheet 3 Sheet 5 Sheet 6	L J D F C	M K E H D	Update revisions per this ECO Update parts list per items 2 and 3 this ECO Change all 8838 logic gates to 8641 Change all 8838 logic gates to 8641 Change all 8838 logic gates to 8641
2.	191117-00	-	-	Delete eight 8838's (Items 3)
3.	1911579	-	-	Add eight 8641's (Items 3)

APPROVAL SIGNATURE (TYPE NAME AND SIGNATURE) PROJECT ENGR <u>Dick Lewis</u> ENG. MGR. <u>Doug Rothenberg</u> TEL. EXT. <u>6578</u> COST CENTER NO. <u>35C</u> DISC. PROJ. NO. <u>8-20-7534</u> DATE <u>8/21/75</u>	REVIEW SIGNATURES (SEE INSTRUCTIONS FOR APPLICATION) FIELD SERVICE DIAGNOSTIC ENGR COORD. <u>R. Wood</u> 8-29
COORD. NO. <u>MD 3095</u> REF. NO.	

DEC 16 1974 1071A 8175

digital
ENGINEERING
CHANGE ORDER

CONTINUATION
SHEET

ECO NO. M7257-00910
SHEET 2 OF 2

ITEM NO.	DOCUMENT/PART NO.	OLD REV.	NEW REV.	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
4.	Draw-N7257-0-5	L	N	Update revision
5.	B-101-M7257-0-6	L	N	Update per this ECO

**11 CENTRAL ENG.
ECO COMMITTEE**

AUG 29 1975

DEC 16 1974 1071A 8175

9-0-72/11

PRODUCT LINE <u>PDP 11</u>				MODULE ECO HISTORY				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-20-72</u>				PAGE <u>1</u> OF <u>2</u>				RELEASED ETCH BD REV. <u>B</u>					
RELEASED BY <u>T. ORR</u>													
ECO. NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR PERFORMED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE (NO. CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	B	✓			✓			E40 C1 TO CM2	0	0
00002	R. LEWIS	2-16-73	C	B	✓			✓			REMOVE BUS MYSN FILTER CIRCUIT	1	3
00003	R. LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN 1V15 OR 1V20 SYSTEMS WITHOUT KH-1		✓		REMOVE BUS NPR FROM E2B07	—	—
00004	R. LEWIS	10-12-73	E	B		✓		✓			REMOVE TERMINATOR RESISTORS FROM NPG +5G LINES	—	4
00005	T. ORR	12-6-73	F	B		✓		✓			REMOVE C38 CHANGE ALL .01 CAPS TO .22	32	33
00006	DANIEL MUTNANSKY	1-10-74	H	B		✓		✓			ADD WIRES TO IMPROVE +5V GND DISTRIBUTION	0	0
00006A	D. MUTNANSKY	1-24-74	—	—	—	—		—	—		CORRECT REWORK INSTRUCTION	—	—
00007	R. LEWIS	6-28-74	J	B		✓		✓			DELETE OPTIONAL JUMPERS	—	10
00008	R. LEWIS	10-4-74	K	B		✓		✓			ADD TERMINATOR RESISTORS TO NPG +5G LINES	2	—

THIS DRAWING IS PART OF E.C.O. PACKAGE #

M7257-00010

NOT TO BE USED FOR PRODUCTION

PRODUCT LINE <u>PDP11</u> DATE RELEASED <u>9-20-72</u> RELEASED BY <u>T. ORR</u>		MODULE ECO HISTORY PAGE <u>2</u> OF <u>2</u>				RELEASED CS REV. <u>A</u> RELEASED ETCH BD REV. <u>B</u>							
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REV. SN LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE (NO. CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00009	R. LEWIS	10-4-74	L	C		✓		✓			NEW ETCH TO SHORTEN RUNS, INFLUENCE PWR + GND	17	20
00010	R. LEWIS	8-21-75	M	C		✓		✓			REPLACE 8938'S WITH 8841'S	8	8

REVISIONS
 CHG. NO. DATE

DRG. D. SMITH	DATE
CHKD. D. SMITH	DATE
ENGR. T. ORR	DATE
PROD. R. DORLEY	DATE

EQUIPMENT CORPORATION
 NAYLOR, MASSACHUSETTS

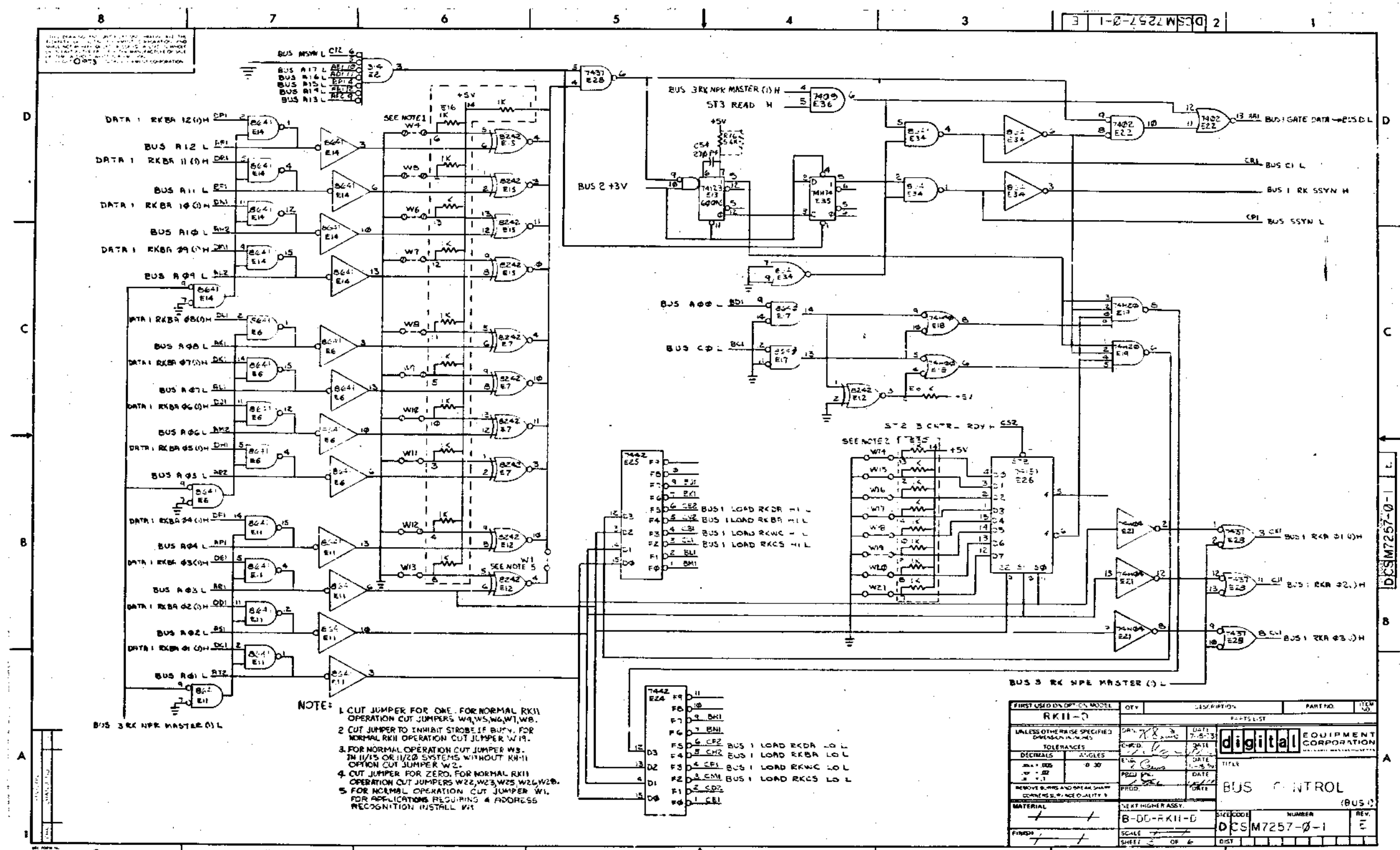
TITLE			
MODULE ECO HISTORY			
SIZE	CODE	NUMBER	REV.
3		M7257-0-2	M

DEC 14 1974
DHB 104

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M7257-00010

NOT TO BE USED FOR PRODUCTION

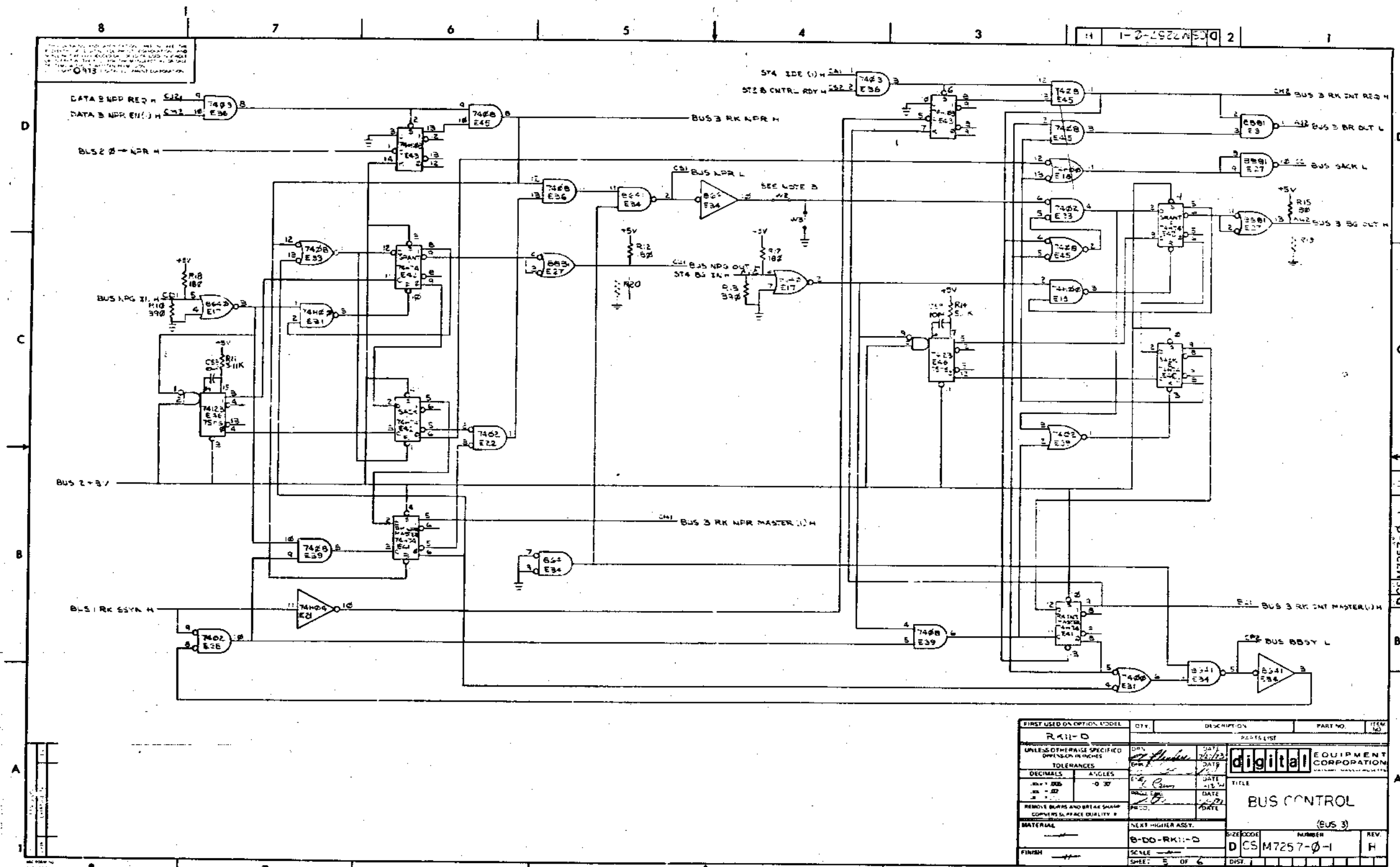


NOTE:
 1. CUT JUMPER FOR ONE. FOR NORMAL RKII OPERATION CUT JUMPERS W9, W5, W6, W7, W8.
 2. CUT JUMPER TO INHIBIT STROBE IF BUSY. FOR NORMAL RKII OPERATION CUT JUMPER W19.
 3. FOR NORMAL OPERATION CUT JUMPER W5. IN 11/15 OR 11/20 SYSTEMS WITHOUT KH-11 OPTION CUT JUMPER W2.
 4. CUT JUMPER FOR ZERO. FOR NORMAL RKII OPERATION CUT JUMPERS W22, W23, W25, W26, W28.
 5. FOR NORMAL OPERATION CUT JUMPER W1. FOR APPLICATIONS REQUIRING 4 ADDRESS RECOGNITION INSTALL W1.

7442	F9	11
E24	F0	10
	F1	9
	F2	8
	F3	7
	F4	6
	F5	5
	F6	4
	F7	3
	F8	2
	F9	1
	F0	0

FIRST USED ON OPT. MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
RKII-0				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS				
DECIMALS	ANGLES	digital EQUIPMENT CORPORATION		
BUS CONTROL (BUS 0)				
B-DC-RKII-0				
DCSM7257-0-1				

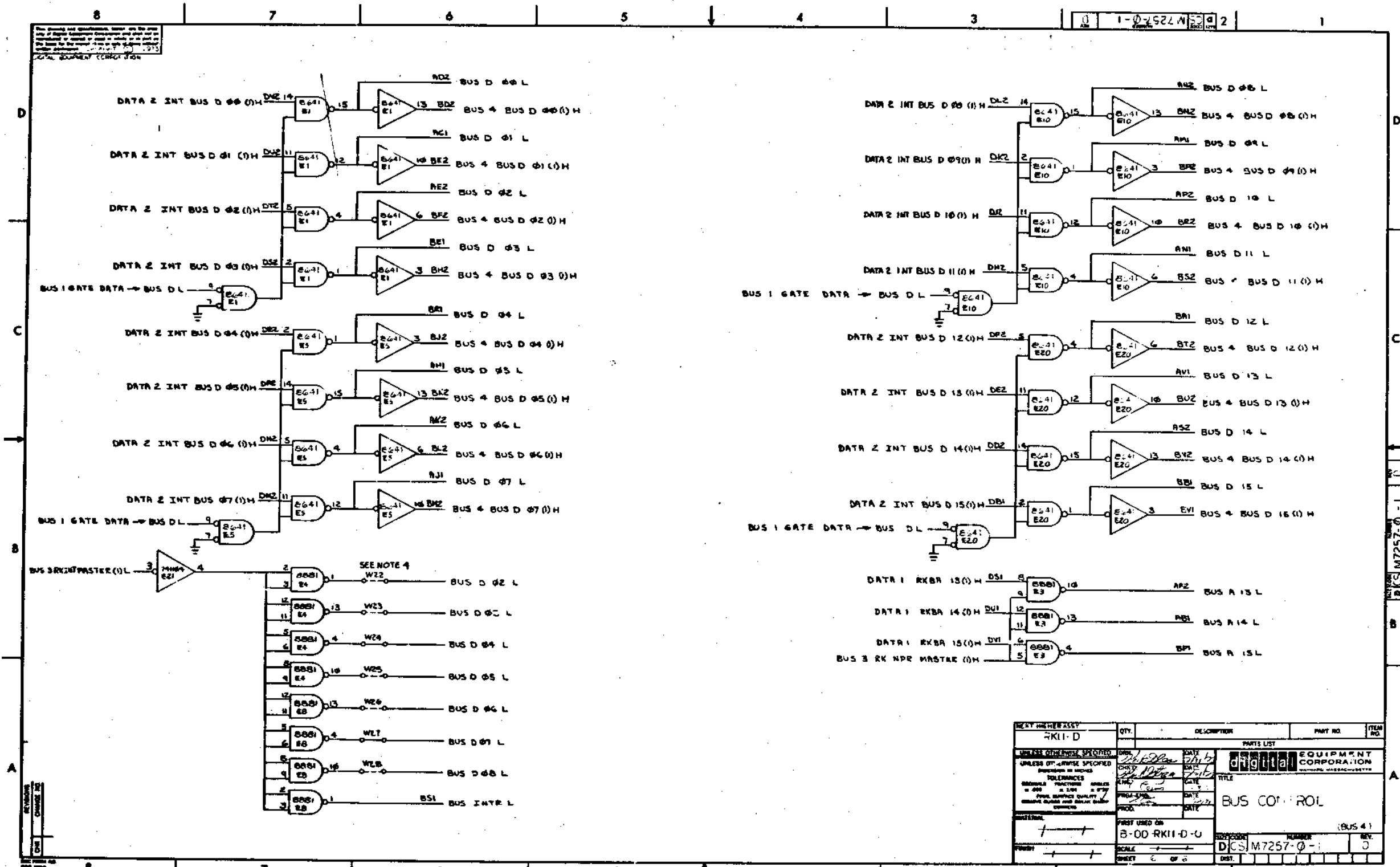
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NOT TO BE USED FOR PRODUCTION

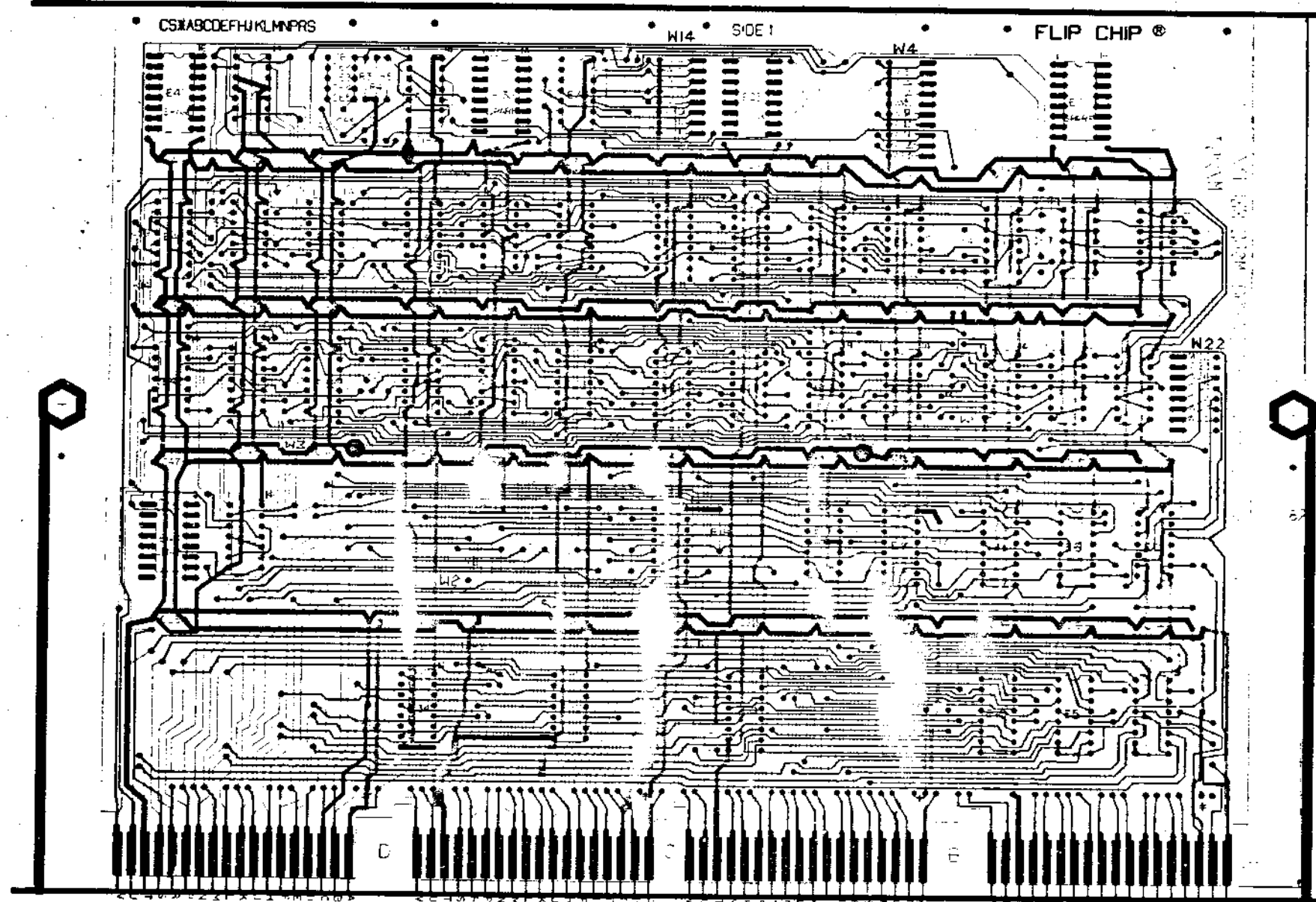
FIRST USED OR OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
R411-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES				
TOLERANCES				
DECIMALS	ANGLES			
.001 - .009	±0.005			
.010 - .049	±0.010			
.050 - .999	±0.020			
REMOVE BURRS AND BREAK SHARP CORNERS TO FINISH QUALITY				
MATERIAL				
FINISH				
NEXT HIGHER ASSY.				
B-D0-RK11-D				
SCALE				
SHEET 5 OF 6				
PARTS LIST			digital EQUIPMENT CORPORATION	
DATE			DATE	
BY			DATE	
CHECKED			DATE	
APPROVED			DATE	
TITLE			BUS CONTROL	
NUMBER			(BUS 3)	
SIZE CODE			D CS M7257-0-1	
REV.			H	



THIS DRAWING IS PART OF E.C.O. PACKAGE # M7257-00010

NOT TO BE USED FOR PRODUCTION

S009990CP7MS60288M7257



NOTES:

- 1. JUMPERS W1, 3, 8, 22, 23, 25, 26, AND 28 ARE CUSTOMER OPTIONS, DO NOT INSERT.
- 2. R9 AND R20 ARE OPTIONAL COMPONENTS, DO NOT INSERT.

HOLE LETTER	DRILLING DATA		CAN TAKE GRIPLETS	QTY OF HOLES
	FOR PTH BOARDS BEFORE PLATE	FOR PTH BOARDS AFTER PLATE		
NONE	*.61 (.030)IA	X		
Z	*.41 (.096)IA	X	X	2

BOARD FABRICATION INFORMATION

- BOARD SIZE 5.562 X 11.750
- BOARD MATERIAL 1/28 T-1K
- 1/2 COPPER 2 SIDES
- EYELET PLATED THRU
- 2 SIDED MULTI-LAYER
- NOTCH BEFORE GOLD PLATING
- NOTCH AFTER GOLD PLATING

DATE	DATE	DATE	DATE
ANTAL	ANTAL	ANTAL	ANTAL
digital EQUIPMENT CORPORATION			
TITLE: RKIP BUS CONTROL			
REVISED BY	DATE	REVISED BY	DATE
FILE	NUMBER	REV	
D AH	M7257-C-5		
MS 60288			

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7257-00010 NOT TO BE USED FOR PRODUCTION

digital

ECO IMPLEMENTATION/COST SUMMARY

To be entered by Myriad ECO Admin.
ECO No. 117257-00010
SHEET _____ of _____
MSE No. _____
Discrete Project No. 630-07534

Build Lead	Area (s)	Effect Date	No. of Units	Cost/Unit	Total Cost*	Person Contacted	Comments
Field Service (Systems/Units)					0		
Diagnostic Programming					0		
Units in Customer/ Hold Area					0		
Other:							
Systems/Units in or Complete thru Acceptance					0		
Other:							
Systems/Units in Test Areas					0		
Other:							
Units in System Assembly or FABT Shop					0		
Other:							
Options or Volume Man. Scheduling					0		
Other:							
Units in Sub-Asy Area					0		
Other:							
Modules in Module Manufacturing					0		
Other:							
P.C. Board Production					0		
Vendor:							
Metal Fabrication					0		
Vendor:							
Availability of Test Equipment/ Method					0		
Availability of Tooling					0		

11 CENTRAL ENG.
ECO COMMITTEE
03/1
APR 15 1975

TOTAL COST = 0 CHARGE (s) TO DISCRETE PROJECT NO. 0

Does this ECO alter the Standard Cost of the product? Yes No
If Yes, by how much? \$ _____ Increase (Decrease)

*Detail (in parentheses) the cost to be charged to the Discrete Project Number.

Doug Ballenberg
8/2/72

WHENEVER SUFFICIENT DETAIL CANNOT BE SHOWN ON THIS SUMMARY SHEET, THE PERSON PREPARING THE SUMMARY IS REQUIRED TO ATTACH A SEPARATE PAGE WHICH PRESENTS IMPLEMENTATION DETAIL.
DEC 3 4882 1821 N175



ORIGINATOR: <u>Rich Lewis</u>	ECO NO: <u>M7257-0011</u>
TEL EXT: <u>4820</u> DATE: <u>11/7/75</u>	SHEET: <u>1</u> OF <u>1</u>
LOCATION: <u>101-7524</u>	DATE RECEIVED: <u>11-9-75</u>
COST CENTER NO: <u>300</u>	ISSUE DATE: <u>11-10-75</u>
	FINAL RELEASE: _____

PROBLEM
 CLOSE SPACING OF CAPACITORS ON BOARD OFS MACHS BOARD ASSEMBLY DIFFICULT.
 NOTE: THIS ECO APPLIES TO EACH REV. C BOARD ONLY.

CORRECTION
 REMOVE CAPACITOR C23 TO PROVIDE MORE SPACE FOR C21, C22, C24, C25.

**11 CENTRAL ENG.
 ECO COMMITTEE**

BREAK-IN/EFFECTIVITY
 PLACE IN TO MODULE BUILD A PART BY 11/1/75. NO CARDS ARE TO BE REWORKED OR SCRAPPED. **NOV 7 1975**

QUICK CHECK
 CHECK FOR REMOVAL OF C23.

TEST
 NORMAL MODULE TEST.

UNIT TO BE CHANGED <u>M7257</u>
PRODUCT AFFECTED <u>P-2-11</u> <u>P-2-10</u>
TYPE OF ECO <input checked="" type="checkbox"/> HARDWARE <input type="checkbox"/> SOFTWARE <input type="checkbox"/> PURCHASE SPEC
FIELD SERVICE AFFECTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> D.P.R. DISTR <input type="checkbox"/> L.O.U. CODE
WHERE USED <u>111-2</u> <u>801-2</u>

ITEM NO	DOCUMENT PART NO	OLD REV	NEW REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
1.	101-7524-01 Sheet 1 Sheet 4 Sheet 2	"	"	Update revisions per this ECO. Delete capacitor C23 from drawing. Delete C23 from overlay and change parts list as follows:
2.	1010005	"	"	Delete quantity of one, cap. C23 (C23)
3.	101-7257-0-5	"	"	Update per this ECO.
4.	101-7257-0-F	"	"	Update per this ECO.

APPROVAL SIGNATURE (TYPE NAME AND SIGN)
 PROJECT ENGR: Rich Lewis
 ENG. MGR. _____
 TEL. EXT. 4820 COST CENTER NO. 300
 DISC. PROJ. NO. 101-7524 DATE 11/7/75

REVIEW SIGNATURES (SEE INSTRUCTIONS FOR APPLIC.)
 FIELD SERVICE _____
 DIAGNOSTIC ENGR. _____
Cond. Doug M... 11-11-75

N. 9-0-72 217:11:11

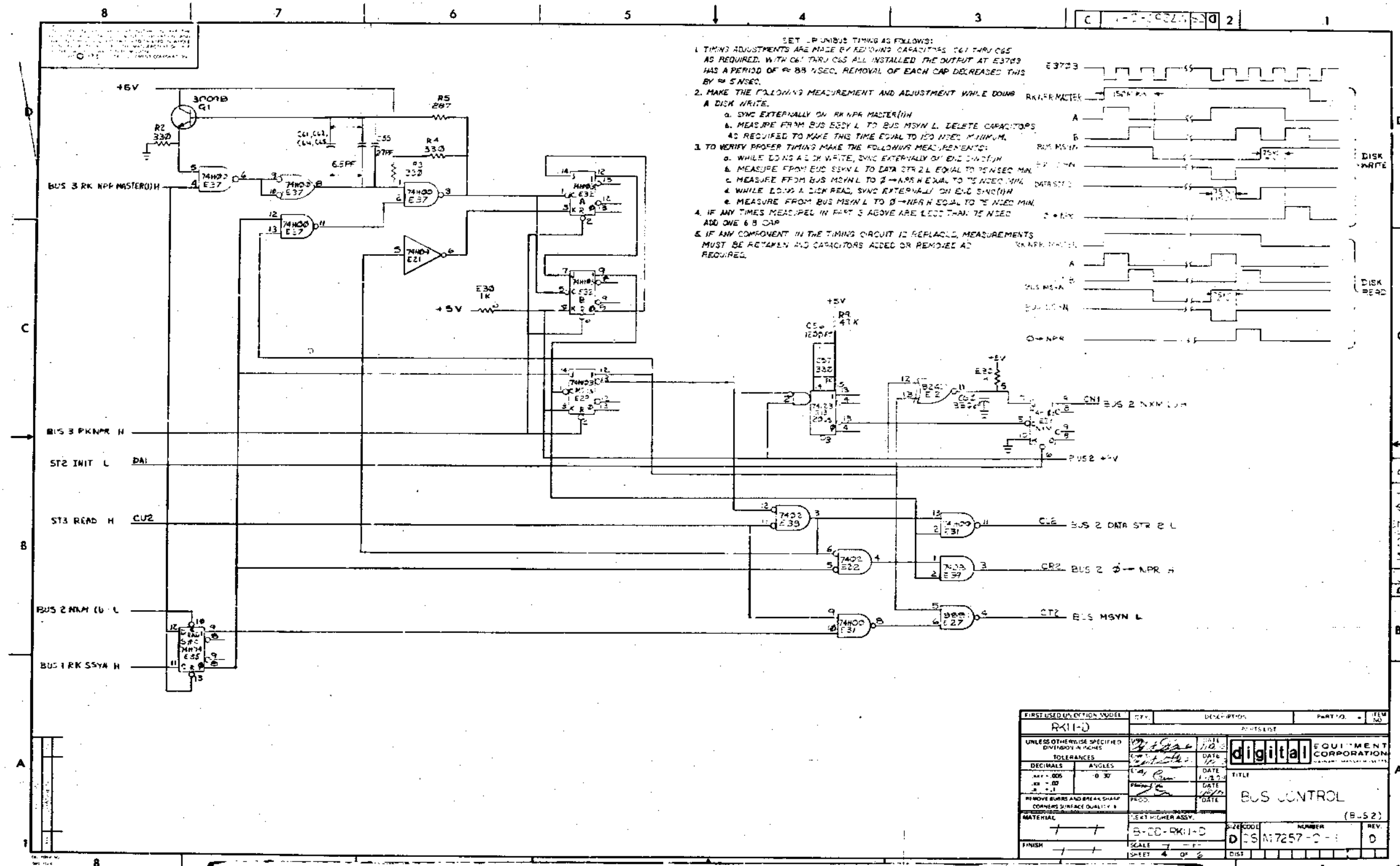
PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>A</u>											
DATE RELEASED <u>9-20-72</u>		PAGE <u>1</u> OF <u>2</u>		RELEASED ETCH '90 REV. <u>B</u>											
RELEASED BY <u>T. OPR</u>															
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS NOW AVAILABLE OR DEFERRED (FOR REPAIR) TO THIS REV. S. D. LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE WITH CAN BE MIXED INDISCRIMINATELY?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED		
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)					
00001	T. OPR	11-16-72	B	B											
00002	R. LEWIS	2-16-73	C	B	✓			✓					REMOVE BUS MYSH FILTER CIRCUIT	1	3
00003	R. LEWIS	5-5-73	D	B		✓	REWORK GIB. NECESSARY IN 1/5 OF IV20 SYSTEMS WITHOUT KM-		✓				REMOVE BUS NPR FROM E2607		
00004	R. LEWIS	10-12-73	E	B		✓		✓					REMOVE TERMINATOR RESISTORS FROM NPS-BG LINES		4
00005	LOANA	12-6-73	F	B		✓		✓					REMOVE C38 CHANGE ALL .01 CAPS TO .22	32	33
00006	JANIEL MONTAGNA	1-10-74	H	B		✓		✓					ADJUSTES TO IMPROVE 45V GND DISTRIBUTION	0	0
00006A	D. MATHIAS	1-24-74											CORRECT REWORK INSTRUCTION		
00007	R. LEWIS	6-28-74	J	B		✓		✓					DELETE OPTIONAL JUMPFERS		10
00008	R. LEWIS	10-4-74	K	B		✓		✓					ADD TERMINATOR RESISTORS TO NPS-BG LINES	2	

THIS DRAWING IS PART OF E.C.O. PACKAGE # M7257-00011

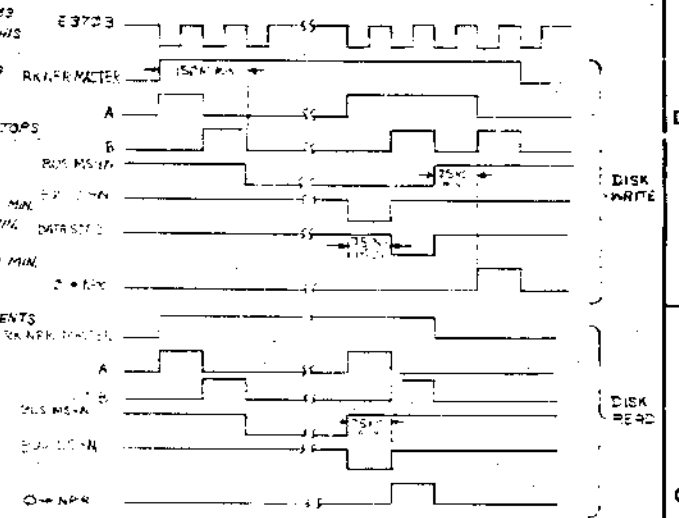
NOT TO BE USED FOR PRODUCTION

PAGE REVISION CONTROL SHEET															
SH NO.	PAGE REVISIONS											REMARKS			
	A	B	C	D	E	F	G	H	I	J	K		L	M	N
1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	(BUS 1) (BUS 2) (BUS 3) (BUS 4)
2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
3	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
4	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
5	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
7	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
8	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
9	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
10	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
11	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
12	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
13	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
14	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
15	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
16	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
17	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
18	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
19	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
20	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
21	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
22	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
23	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
24	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
25	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
26	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
27	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
28	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
29	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
30	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
31	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
32	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
33	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
34	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
35	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
36	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
37	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
38	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
39	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
40	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
41	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
42	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
43	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
44	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
45	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
46	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
47	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
48	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
49	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
50	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
51	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
52	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
53	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
54	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
55	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
56	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
57	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
58	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
59	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
60	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
61	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
62	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
63	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
64	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
65	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
66	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
67	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
68	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
69	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
70	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
71	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
72	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
73	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
74	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
75	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
76	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
77	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
78	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
79	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
80	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
81	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
82	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
83	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
84	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
85	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
86	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
87	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
88	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
89	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
90	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
91	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
92	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
93	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
94	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
95	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
96	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
97	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
98	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
99	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
100	A	B	C	D	E	F	G	H	I	J	K	L	M	N	

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SET UP BUS TIMING AS FOLLOWS:
 1. TIMING ADJUSTMENTS ARE MADE BY REMOVING CAPACITORS C1 THRU C6 AS REQUIRED. WITH C1 THRU C6 ALL INSTALLED THE OUTPUT AT E3703 HAS A PERIOD OF 98 NS. REMOVAL OF EACH CAP DECREASES THIS BY 5 NS.
 2. MAKE THE FOLLOWING MEASUREMENT AND ADJUSTMENT WHILE DOING A DISK WRITE.
 A. DISK WRITE.
 a. SYNC EXTERNALLY ON RK NPR MASTER(H)
 b. MEASURE FROM BUS E37 L TO BUS MSYN L. DELETE CAPACITORS AS REQUIRED TO MAKE THIS TIME EQUAL TO 150 NSEC MIN.
 3. TO VERIFY PROPER TIMING MAKE THE FOLLOWING MEASUREMENTS:
 a. WHILE DOING A DISK WRITE, SYNC EXTERNALLY ON E3703(H)
 b. MEASURE FROM BUS MSYN L TO DATA STR 2 L. EQUAL TO 75 NSEC MIN.
 c. MEASURE FROM BUS MSYN L TO O-NPR H. EQUAL TO 75 NSEC MIN.
 d. WHILE DOING A DISK READ, SYNC EXTERNALLY ON E3703(H)
 e. MEASURE FROM BUS MSYN L TO O-NPR H. EQUAL TO 75 NSEC MIN.
 4. IF ANY TIMES MEASURED IN PART 3 ABOVE ARE LESS THAN 75 NSEC ADD ONE 6.8 CAP.
 5. IF ANY COMPONENT IN THE TIMING CIRCUIT IS REPLACED, MEASUREMENTS MUST BE RETAKEN AND CAPACITORS ADDED OR REMOVED AS REQUIRED.



FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
RK11-D				
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES	DATE	DATE	digital EQUIPMENT CORPORATION	
TOLERANCES	1/16	1/32	TITLE	
DECIMALS	0.00	0.00	BUS CONTROL	
ANGLES	0 30	0 30	(B-52)	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY B	DATE	DATE	REV.	
MATERIAL	TEXT NUMBER ASSY.	SCALE	NUMBER	REV.
FINISH	B-20-RK11-D	7	D 25 M7257-0-1	D
	SHEET	4	OF	6

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ECO No. M7257#11 Sheet 2 of 2

digital

To be entered by Maynard ECO Admin.

ECO No. M7257-00011

SHEET 1 of 1

MBS No. _____

Discrete Project No. E20-07534

ECO IMPLEMENTATION/COST SUMMARY

Build Level	Area (s)	Effect Date	No. of Units	Cost/Unit	Total Cost	Persons Contacted	Comments
Field Service (Systems/Units)					0		
Diagnostic Programming					0		
Units in Customer/Field Areas					0		
Other:							
Systems/Units in or Complete thru Acceptance					0		
Other:							
Systems/Units in Test Areas					0		
Other:							
Units in System Assembly or FAST Stock					0		
Other:							
Options in Volume Manufacturing					0		
Other:							
Units in Sub-Assembly Areas					0		
Other:							
Modules in Module Manufacturing					0		
Other:							
P.C. Board Production					0		
Vendor:							
Module Fabrication					0		
Vendor:							
Availability of Test Equipment/Methods					0		
Availability of Tooling					0		

II CENTRAL ENG.
ECO COMMITTEE
708
NOV 1975

**CONFIDENTIAL
COST DATA**

To be issued with ECO 7
CONFIDENTIAL

TOTAL COST = 0 CHARGE (S) TO DISCRETE PROJECT NO. 0

Does this ECO alter the Standard Cost of the product? Yes No
If Yes, by how much? \$ _____ (Increase) (Decrease)

*Detail (in parentheses) the cost to be charged to the Discrete Project Number.

WHENEVER SUFFICIENT DETAIL CANNOT BE SHOWN ON THIS SUMMARY SHEET, THE PERSON PREPARING THE SUMMARY IS REQUIRED TO ATTACH A SEPARATE PAGE WHICH PRESENTS IMPLEMENTATION DETAIL.
DEC 3 1980 0837-4175

digital ENGINEERING CHANGE ORDER		ORIGINATOR <u>Ray Guida</u> TEL EXT <u>4431</u> DATE <u>20 APR 76</u> LOCATION <u>M2213/181</u> COST CENTER NO. <u>367</u>	ECO NO. <u>M7257-00012</u> SHEET <u>1</u> OF <u>3</u> DATE RECEIVED <u>3-26-76</u> ISSUE DATE <u>6-11-76</u> FINAL P. LEASE
UNIT TO BE CHANGED M7257 (etch Rev C)		PROBLEM M7257 susceptible to noise on BUS SSYN. During time interval when RK11-D is bus master but has not asserted MSYN. Symptom: Random RK11 failures in some large systems, inability to get a good bus margin on RK11-D in some large system.	
CORRECTION Change M7257 so SSYN is not sampled until the RK11 asserts MSYN.		PRODUCT AFFECTED PDP11	
BREAK/INEFFECTIVITY Phase in See attached sheet #3		TYPE OF ECO <input checked="" type="checkbox"/> HARDWARE <input type="checkbox"/> SUPPLIERS <input type="checkbox"/> PURCHASE <input type="checkbox"/> SW/C	
QUICK-CHECK Wire on E35-12 and E35-13		FIELD SERVICE AFFECTED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> D.P. DISTA <input type="checkbox"/> I.O.U. CODE WHERE: D RK11-D	
TEST N/A		11 CENTRAL ENG. ECO COMMITTEE MAY 14 1976	
ITEM NO.	DOCUMENT/PART NO.	OLD NEW REV REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
1	B-CS M7257-0-1 Sheet 1	N P	Change sheet No. 1 to Rev P " 2 to Rev M " 4 to Rev E to show location
2	D-CS-M7257-0-1 sheet 2	L M	Update as per this ECO of two wires.
3	D-CS-M7257-0-1 sheet 4	D E	Update as per sheet 2 i.e. changing D input to END SYNC from BUS J RK N/R MASTER (J) H to MSYN (J) H
4	D-All-M7257-0-5	N P	Add rowork instructions as shown in marked up drawing.
APPROVAL SIGNATURE (TYPE NAME) PROJECT ENGR REV (CUBB) ENGR WGN R. TELBY		REVIEW SIGNATURES (SEE INSTRUCTIONS) FIELD SERVICE DIAGNOSTIC ENGR	
TEL EXT <u>4431</u> COST CENTER NO. <u>367</u>		MAY 28 1976	
DISC PROJ NO <u>E20-01514</u> DATE		Mary Bullock 6-3-76	
COORD. NO <u>MD-5612</u> REF. NO.		DEC 16 1981 1011A R15	

digital ENGINEERING CHANGE ORDER		CONTINUATION SHEET	ECO NO. <u>M7257-00012</u> SHEET <u>2</u> OF <u>3</u>
ITEM NO.	DOCUMENT/PART NO.	OLD NEW REV REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
5.	B-MH-M7257-0-6 M7257 (etch Rev C)	N P	Update per this ECO Do the following rework: a) cut etch on side 2 that goes from E35-13 to E35-12. b) cut etch on side 1 as shown below.
6.		N P	c) add wire from E35-13 to plated through hole indicated above. d) add wire from E35-12 to PTH shown above.

digital ENGINEERING CHANGE ORDER		CONTINUATION SHEET	ECO NO. <u>M7257-00012</u> SHEET <u>3</u> OF <u>3</u>
ITEM NO.	DOCUMENT/PART NO.	OLD NEW REV REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL
			<u>Puerto Rico & Maynard</u> M7257 etch Rev C CS Rev P is the only shippable revision out of module manufacturing (Puerto Rico) after July 1, 1976. FAST M7257 etch Rev C CS Rev P is the only shippable revision that will be allowed after November 1, 1976. M98 numbers will be issued on a per system basis by Engineering for systems that exhibit this problem. Field This ECO should be installed on systems that exhibit this problem.
11 CENTRAL ENG. ECO COMMITTEE MAY 14 1976			

9-0-1221W 5 2215

PRODUCT LINE <u>PDP 11</u>		MODULE ECO HISTORY		RELEASED CS REV. <u>A</u>	
DATE RELEASED <u>9-20-72</u>		PAGE <u>1</u> OF <u>2</u>		RELEASED ETCH BD REV. <u>B</u>	
RELEASED BY <u>T. ORR</u>					

ECO. NO	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NOW (CAN BE USED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00001	T. ORR	11-16-72	B	b	✓			✓			E40 CI TO CM2	0	0
00002	R. LEWIS	2-16-73	C	B	✓			✓			REMOVE BUS MYSM FILTER CIRCUIT	1	3
00003	R. LEWIS	5-3-73	D	B		✓	REWORK ONLY NECESSARY IN 11/15 OR 11/20 SYSTEMS WITHOUT RH-11		✓		REMOVE B.S NFR FROM E2807	—	—
00004	R. LEWIS	10-12-73	E	B		✓		✓			REMOVE TERMINATOR RESISTORS FROM NPG + BG LINES	—	4
00005	T. ORR	12-6-73	F	B		✓		✓			REMOVE CS8 CHANGE ALL .01 CAPS TO .22	32	33
00006	DANIEL MUTNANSKI	1-10-74	H	B		✓		✓			ADD WIRES TO IMPROVE +5V GND DISTRIBUTION	0	0
0006A	D. MUTNANSKI	1-24-74	—	—	—	—	—	—	—		CORRECT REWORK INSTRUCTION	—	—
00007	R. LEWIS	6-28-74	J	B		✓		✓			DELETE OPTIONAL JUMPER	—	10
00008	R. LEWIS	10-4-74	K	B		✓		✓			ADD TERMINATOR RESISTORS TO NPG + BG LINES	2	—

DESIGNER	DATE	DRN	DATE	TITLE
CHKD	DATE	CHKD	DATE	MODULE ECO HISTORY
ENG	DATE	ENG	DATE	EQUIPMENT CORPORATION
PROD	DATE	PROD	DATE	WATFORD, MASSACHUSETTS

REV. NO	REV. DATE	REV. BY	REV. DESCRIPTION
00001			
00002			
00003			
00004			
00005			
00006			
00007			
00008			
00009			
00010			
00011			
00012			

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NOT TO BE USED FOR PRODUCTION

MODULE ECO HISTORY													
PRODUCT LINE <u>PEP II</u>				PAGE <u>2</u> OF <u>2</u>				RELEASED CS REV. <u>A</u>					
DATE RELEASED <u>9-20-77</u>								RELEASED ETCH BD REV. <u>B</u>					
RELEASED BY <u>T.CRR</u>													
ECO. NO.	ORIGINATOR	DATE WRITTEN	NEW CS REV.	NEW ETCH BOARD REV.	IS IT MANDATORY TO REWORK ALL EARLIER VERSIONS (NOW AVAILABLE OR RETURNED FOR REPAIR) TO THIS REVISION LEVEL?			ARE ALL REVISIONS OF THIS MODULE COMPLETELY COMPATIBLE NEW (CAN BE MIXED INDISCRIMINATELY)?			SIMPLIFIED CHANGE DESCRIPTION	NO. PARTS ADDED	NO. PARTS DELETED
					YES	NO	CONDITIONAL (EXPLAIN)	YES	NO	CONDITIONAL (EXPLAIN)			
00009	R. LEWIS	10-4-74	L	C		✓		✓			NEW ETCH TO SHORTEN RUNS, IMPROVE PWR & GND	17	20
00010	R. LEWIS	8-21-75	M	C		✓		✓			REPLACE 8938'S WITH 7241'S	8	8
00011	R. LEWIS	08-NOV-75	N	C		✓		✓			DELETE C63	0	1
00012	R. LEWIS	20-7-77	P	C		✓		✓			ETCH COTS & WIRES ALLEG TO IMPROVE PUS (REF. CD)	0	0

REVISIONS
DATE
BY

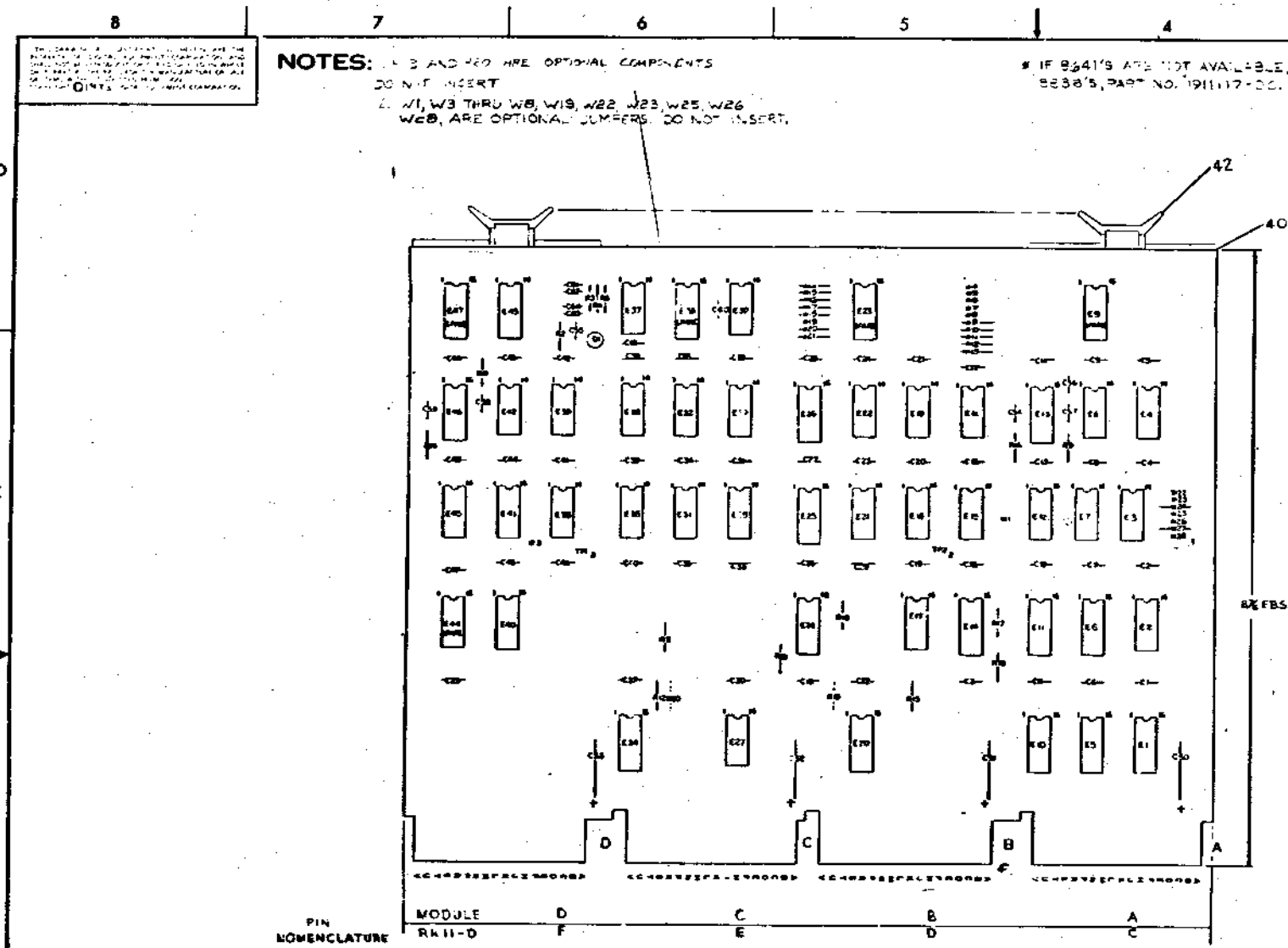
DESIGNED
DATE
BY
T. CRR
DATE
A. LOGLEY

EQUIPMENT CORPORATION
MILWAUKEE, WISCONSIN

TITLE
MODULE ECO HISTORY
SIZE
B
NUMBER
M7257-0-
REV.
D

DWG. NO. 104
DHB 104

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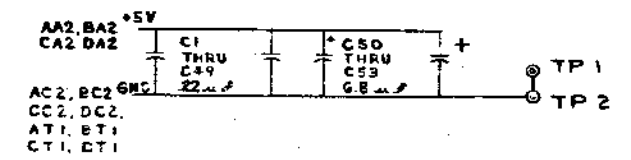
NOTES:
 1. 2 AND 40 ARE OPTIONAL COMPONENTS
 DO NOT INSERT
 2. W1, W3 THRU W8, W19, W22, W23, W25, W26
 W28, ARE OPTIONAL JUMPER. DO NOT INSERT.

* IF 8241'S ARE NOT AVAILABLE, USE
 8238'S, PART NO. 191117-00.

IC	DEC	QTY	LOC
IC DEC 8240		1	B
IC DEC 74103		11	4
IC DEC 814		1	B
IC DEC 7442		8	16
IC DEC 74123		8	16
IC DEC 74151		8	16
IC TYPE		GND	+5V

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

IC PIN LOCATIONS



REF	QTY	REF DESIGNATION	DESCRIP. - KON	PART NO.	ICM NO.
			X-Y COORDINATE HOLE LOC.	A-00-V7257-0-1	1
			ASSY/DRILLING HOLE LAYOUT	D-MH-M7257-05	2
			MODULE ECO HISTORY	B-MH-M7257-06	3
			ETCHED CIRCUIT BOARD	5009990	4
2		C55, C59	CAP 10 MMF 100V 5%	1000006	5
1		C54	CAP 270 MMF 100V 5%	1000032	6
2		C57, C60	CAP 330 MMF 100V 5%	1000023	7
1		C56	CAP 1200 MMF 100V 5%	1002424	8
49		C1 THRU C49	CAP 22 MF 50V 20%	1010274-01	9
4		C50 THRU C53	CAP 6.8 MFD 35V 10% TANT	1005306	10
4		C61, C62, C64, C65	CAP 6.8 MMF 100V 5%	1000035	11
1		C55	CAP 27 MMF 100V 5%	1001739	12
1		Q1	TRANS DEC 3009B	1503100	13
9		R2, R3, R4	RES 330 1/4 W 5%	1300295	14
2		R10, R13	RES 390 1/4 W 5%	1300309	15
1		R5	RES 287 1/8 W 1%	1305129	16
4		R12, R15, R17, R3	RES 180 1/4 W 5%	1301322	17
1		R16	RES 56K 1/4 W 5%	1301874	18
1		R9	RES 4.7K 1/4 W 5%	1302177	19
2		R11, R14	RES 51K 1/8 W 1%	1304854	20
					21
2		E10, E30	RES. 1K RES. STCR PACK	1300005-01	22
1		E19	IC 74H20	1905635	23
2		E22, E38	IC 7402	1909004	24
3		E18, E31, E37	IC 74H00	1909056	25
4		E40, E41, E42, E35	IC 74H74	1909627	26
1		E2	IC 314	1909704	27
4		E3, E4, E8, E27	IC 8881	1909705	28
3		E7, E12, E15	IC 8242	1910712	29
1		E21	IC 74H04	1909931	30
1		E26	IC 74151	1909936	31
2		E24, E25	IC 7442	1910046	32
1		E28	IC 7437	1910091	33
3		E36, E39, E45	IC 7408	1910155	34
3		E29, E32, E43	IC 74H103	1910409	35
2		E13, E46	IC 74123	1910436	36
1		E17	IC 3543	1911439	37
8		W1, W2, W3, W4, W5, W6, W7, W8, W9, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W20, W21, W22, W23, W24, W25, W26, W27, W28, W29, W30, W31, W32, W33, W34, W35, W36, W37, W38, W39, W40, W41, W42, W43, W44, W45, W46, W47, W48, W49, W50, W51, W52, W53, W54, W55, W56, W57, W58, W59, W60, W61, W62, W63, W64, W65, W66, W67, W68, W69, W70, W71, W72, W73, W74, W75, W76, W77, W78, W79, W80, W81, W82, W83, W84, W85, W86, W87, W88, W89, W90, W91, W92, W93, W94, W95, W96, W97, W98, W99, W100	INSULATED JUMPER	9009185	39
8			EYELET	9006732	40
2		TP1, TP2	SOLDER TERMINAL	9007791	41
4			HANDLE (FLIPCHIP) MAGENTA	9008337-06	42

REV	DATE	BY	CHKD
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ETCH BOARD REV C

PARTS LIST

digital EQUIPMENT CORPORATION

BUS CONTROL RKII-D

SCALE NONE

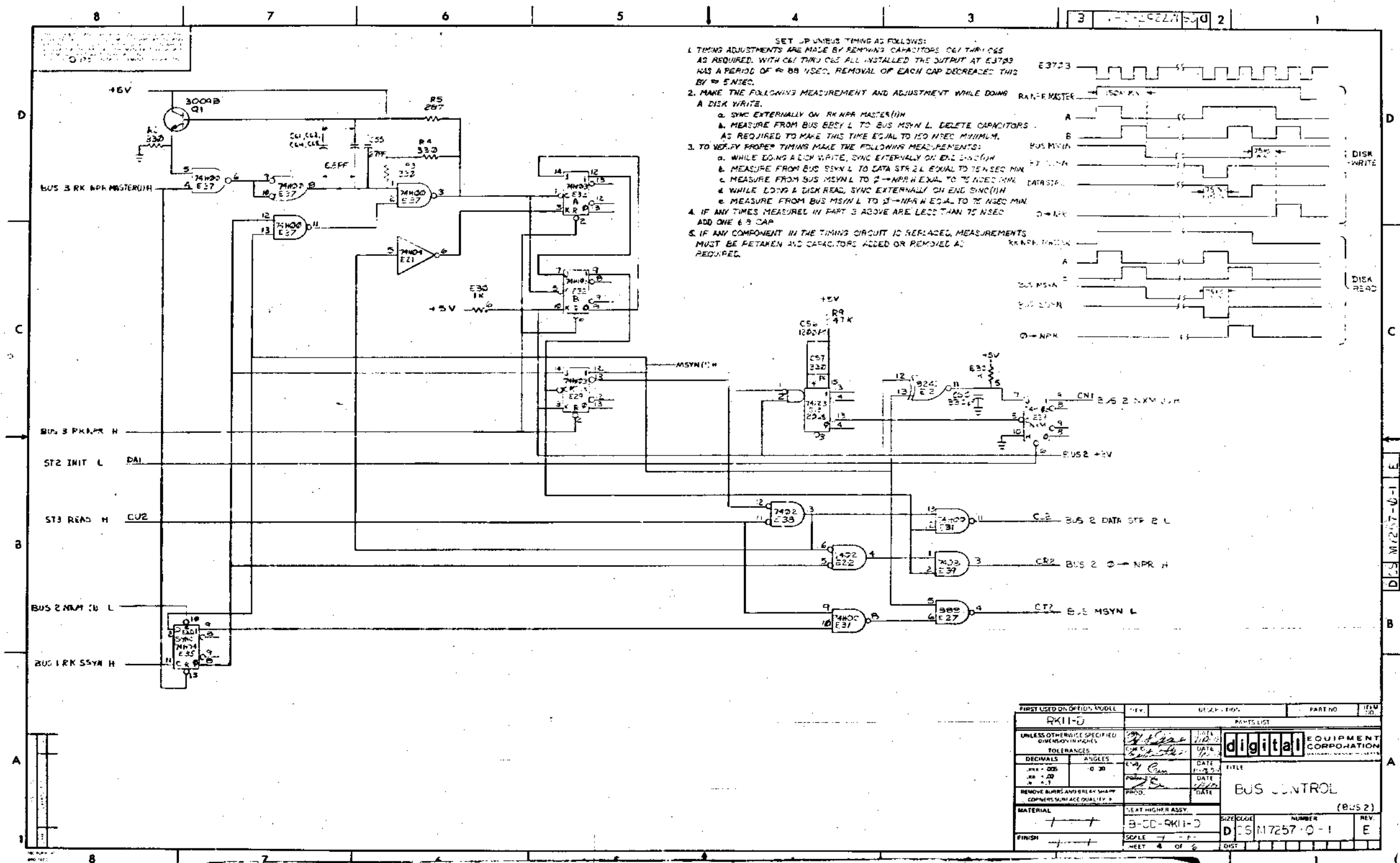
SIZE CODE DCS

NUMBER M7257-0-1

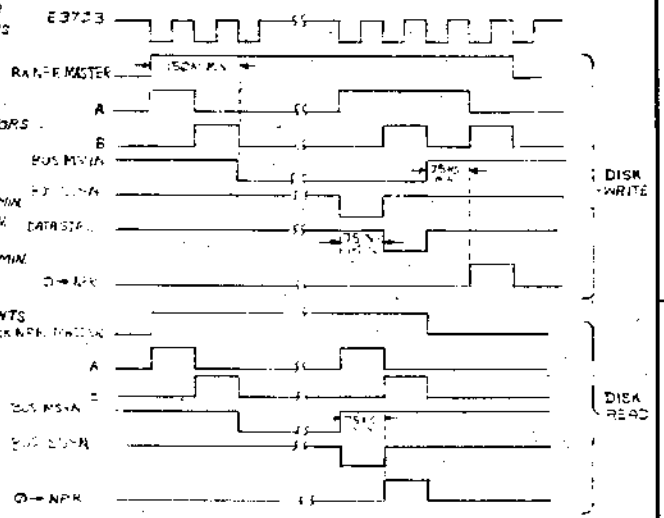
REV. M

SEMICONDUCTOR CONVERSION CHART

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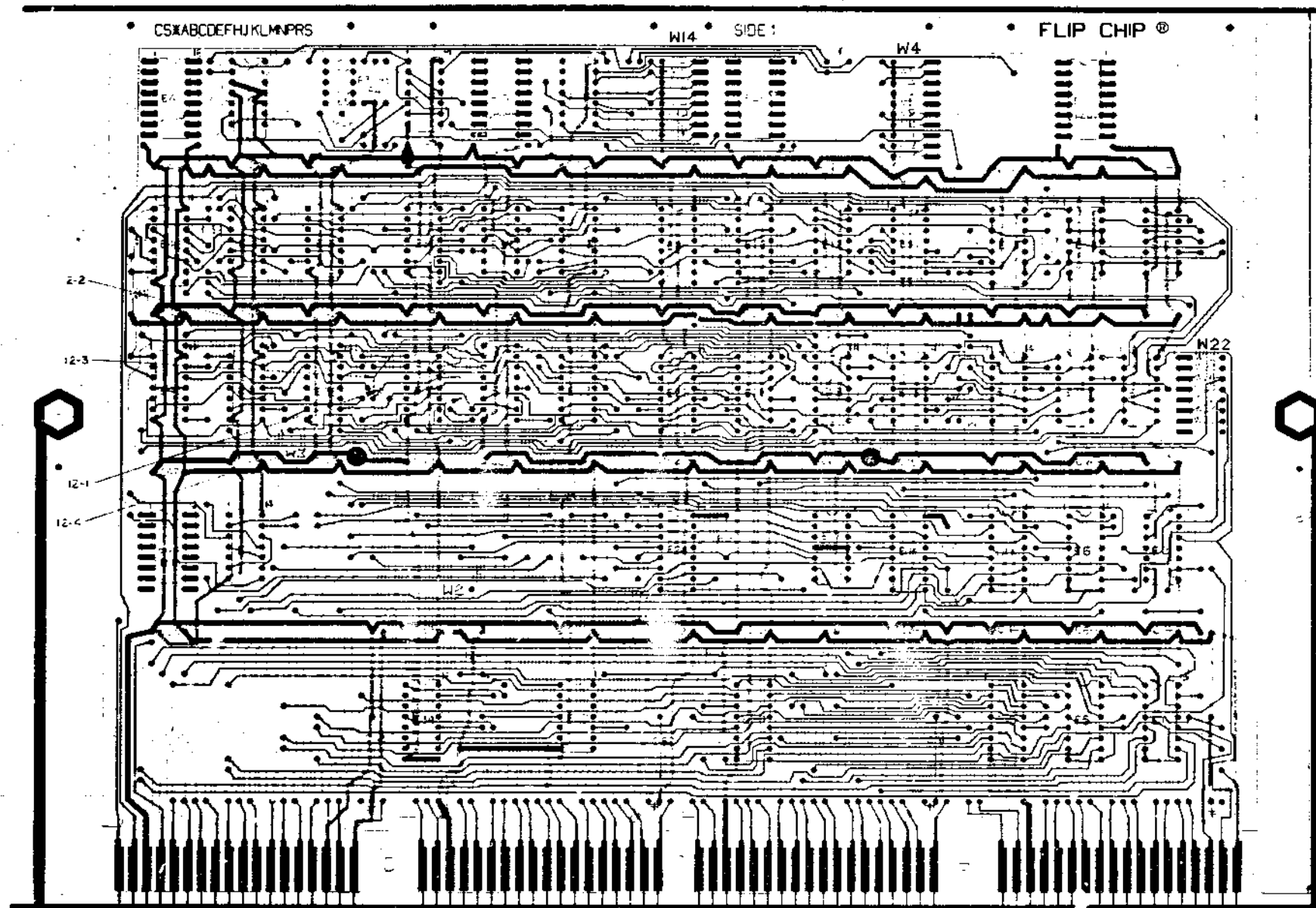
SET UP UNIBUS TIMING AS FOLLOWS:
 1. TIMING ADJUSTMENTS ARE MADE BY REMOVING CAPACITORS C61 THRU C65 AS REQUIRED. WITH C61 THRU C65 ALL INSTALLED THE OUTPUT AT E3723 HAS A PERIOD OF 88 NSEC. REMOVAL OF EACH CAP DECREASES THIS BY 5 NSEC.
 2. MAKE THE FOLLOWING MEASUREMENT AND ADJUSTMENT WHILE DOING A DISK WRITE:
 A. DISK WRITE:
 a. SYNC EXTERNALLY ON RK/NPR MASTER (H)
 b. MEASURE FROM BUS E3723 L TO BUS MSYN L. DELETE CAPACITORS AS REQUIRED TO MAKE THIS TIME EQUAL TO 150 NSEC MINIMUM.
 3. TO VERIFY PROPER TIMING MAKE THE FOLLOWING MEASUREMENTS:
 a. WHILE DOING A DISK WRITE, SYNC EXTERNALLY ON END SYNC (H)
 b. MEASURE FROM BUS SSYN L TO DATA ST2 L EQUAL TO 75 NSEC MIN
 c. MEASURE FROM BUS MSYN L TO ST-NPR H EQUAL TO 75 NSEC MIN
 d. WHILE DOING A DISK READ, SYNC EXTERNALLY ON END SYNC (H)
 e. MEASURE FROM BUS MSYN L TO ST-NPR H EQUAL TO 75 NSEC MIN
 4. IF ANY TIMES MEASURED IN PART 3 ABOVE ARE LESS THAN 75 NSEC ADD ONE 6.8 CAP
 5. IF ANY COMPONENT IN THE TIMING CIRCUIT IS REPLACED, MEASUREMENTS MUST BE RETAKEN AND CAPACITORS ADDED OR REMOVED AS REQUIRED.



FIRST USED ON OPTION MODEL	REV.	DATE	BY	CHKD.	DATE	BY	CHKD.
RK11-D							
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES							
TOLERANCES							
DECIMALS	ANGLES	DATE					
.015 - .005	0 30	DATE					
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY 1							
MATERIAL							
NEXT HIGHER ASSY							
B-00-RK11-D							
FINISH							
SIZE CODE							
NUMBER							
REV.							
MEET 4 OF 2							
DIGT							

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S009990CP7MS60288M7257



NOTES:

- 1 JUMPERS W/ 3, 8, 22, 23, 25, 26, AND 28 ARE CUSTOMER OPTIONS, DO NOT INSERT.
 - 2, 9, AND R2 ARE OPTIONAL COMPONENTS, DO NOT INSERT.
- E.C.O. #12
 ETCH CUT SIDE 1 (E.C.O.) ETCH ON SIDE 1 THAT GOES TO 28 PTH LEFT OF E35-6
 ETCH CUT SIDE 2 (E.C.O.) ETCH ON SIDE 2 THAT GOES FROM E35-12 TO E35-13
 WIRE AT SIDE 1: 12-3 ADD WIRE FROM E35-15 TO 28 PTH LEFT OF E35-6
 12-4 ADD WIRE FROM E35-2 TO PTH BELOW E28-7

HOLE LETTER	DRILL SIZES		CAN TAKE GRIPLETS	QTY OF HOLES
	FOR PTH BOARDS	FOR NON-PTH BOARDS		
*51	.3300(A)	X		
*11	.0950(A)	X		

BOARD FABRICATION INFORMATION

- BOARD SIZE: 11.750 x 11.750
 BOARD MATERIAL: GERMIC
 1.750mm (1/16") SIDES
- EYELET PLATED THRU
 2 SIDED MULTI-LAYER
 NOTCH BEFORE GOLD PLATING
 NOTCH AFTER GOLD PLATING

DATE	DATE	digital EQUIPMENT CORPORATION
DATE	DATE	
TITLE	R/C BUS CONTROL	
SCALE	SIZE/0004	NUMBER
SCALE	D/AH	M7257-C-5
STCH REV	MS 60288	

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NOT TO BE USED FOR PRODUCTION

MDS 17

digital

ECO IMPLEMENTATION/COST SUMMARY

To be entered by Maynard ECO Admin

ECO No M7257-00012

SHEET 1 of 1

*M98 No _____

Discrete Project No: E20-07534

Build Level	Area(s)	Effect. Date	No. of Units	Cost/Unit	Total Cost	Persons Contacted	Comments
Field Service (Systems/Units)		NA	NA	0	0		
Diagnostic Programming		NA	↑	↑	↑		
Units in Customer Hold Area		N/D V 1 1976	↑	↑	↑		ECO to be phased in as stated in break-in effectivity. M98
Other							Numbers will be issued on a per system basis before 11-1-76, where problem is exhibited.
Systems/Units in or Complete New Acceptance		↑	↑	↑	↑		
Systems/Units in Test Areas							
Other							
Units in System Assembly or FA&T Stock							CONFIDENTIAL COST INFO. To be issued with ECO only on request
Other							
Options in Volume Manufacturing		↓					
Other							
Units in Sub-assy Area		N/D V 1 1976					
Other							
Modules in Module Manufacturing		JULY 1 1976					
Other							
P.C. Board Production		NA					
Vendor							
Other Publications							
Vendor							
Availability of Test Equipment/Method							
Availability of Testing		NA	NA	0	0		

11 CENTRAL ENG.
ECO COMMITTEE
MAY 14 1976

TOTAL COST - 0 CHARGE IS TO DISCRETE PROJECT NO. 0

Does the ECO give the Standard Cost of the product? Yes No

If Yes, by how much? \$ _____ (Increase/Decrease)

*Detail in parentheses the cost to be charged to the Discrete Project Number.

R. Testa (7/24)

WHenever sufficient detail cannot be shown on this summary sheet, the person preparing the summary is required to attach a separate page which presents implementation detail.

digital		FCO M7257-0012 PAGE 3		MAY 14 1976	
FIELD CHANGE ORDER		ESTIMATED TIME TO INSTALL AND TEST (hours)		0.5	
APPLICABILITY		DIGITAL		INITIAL HOURS	
REWORK ETCH REVISION "C" M7257-15 FROM CS REVISION "H" TO "H" IN ANY SYSTEM WITH A DC LOAD APPROACHING MAXIMUM (15 TO 20 LOADS) OR WHEN PROBLEM SYMPTOMS ARE EVIDENT.		PERMANENT RESPONSIBILITY		INSTALLATION CHARGE	
IT IS RECOMMENDED THAT M7257 SPARES STOCK BE UPDATED WHENEVER THIS FCO HAS BEEN IMPLEMENTED ON ANY SYSTEM.		DIGITAL		N/A	
FIELD SERVICE LOGISTICS SPARES STOCK MUST BE AT CS REVISION "H" OR LATER.		PERMANENT RESPONSIBILITY		N/A	
SPECIAL TEST EQUIPMENT, TOOLS, or SUPPLIES (not included in the Field Receipt list)		DIGITAL		N/A	
FIELD INSTALLATION AND TEST PROCEDURE		DIGITAL		N/A	
APPROVED - Field Service Project Manager MICHAEL L. J. [Signature]		APPROVED - Technical Documentation [Signature]		DATE 20 APR 76	
DATE 11 MAY 76		DATE 11 MAY 76		DATE 11 MAY 76	

digital	CONTINUATION SHEET	FCO M7257-0012 PAGE 2
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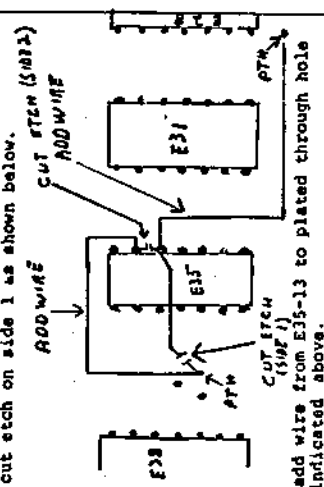
NOTE: THE "PROBLEM" AND "PROBLEM SYMPTOM" AS PRESENTED IN THE FCO ARE INADEQUATE FOR FIELD SERVICE PURPOSES. THE FOLLOWING IS AN AMPLIFICATION OF THOSE STATEMENTS:

PROBLEM: WHEN BUS BBSY IS ASSERTED (BUS MASTER), ADDRESS, DATA, AND CONTROL INFORMATION ARE SENT SIMULTANEOUSLY FROM THE SAME RK11-D. YET THIS CONTROLLER WILL ALLOW APPROXIMATELY 250 NSEC. DESKew PRIOR TO INFORMING THE SLAVE DEVICE (ASSERTION OF BBSY) THAT THE ABOVE MENTIONED DATA ARE READY AND VALID. THE RK11-D AWAITs BUS SSYN FROM SLAVE DEVICE FOR RECEIPT ACKNOWLEDGE. DURING THE DESKew PERIOD, A REFLECTED SSYN WILL ERRONEOUSLY SIGNAL THE RK11-D RECEIPT ACKNOWLEDGE. THIS CAUSING WORD COUNT AND BUS ADDRESS TO BE UPDATED. IN OTHER WORDS, BLOCKS OF DATA CAN BE TRANSFERRED WITH WORDS MISSING. THE RK11-D DOES NOT DETECT AND/OR REPORT ANY ERRORS.


- OPERATIONAL FAILURE SYMPTOMS:
1. OPERATING SYSTEM WILL INTERMITTENTLY CRASH DUE TO MISSING INSTRUCTION IN A PROGRAM.
 2. CALCULATED RESULT WILL OCCASIONALLY PROVE TO BE INCORRECT DUE TO MISSING DATA IN THE BLOCK.

digital		FCO M7257-0012 PAGE 3		MAY 14 1976	
ENGINEERING CHANGE ORDER		ESTIMATED TIME TO INSTALL AND TEST (hours)		0.5	
APPLICABILITY		DIGITAL		INITIAL HOURS	
REWORK ETCH REVISION "C" M7257-15 FROM CS REVISION "H" TO "H" IN ANY SYSTEM WITH A DC LOAD APPROACHING MAXIMUM (15 TO 20 LOADS) OR WHEN PROBLEM SYMPTOMS ARE EVIDENT.		PERMANENT RESPONSIBILITY		INSTALLATION CHARGE	
IT IS RECOMMENDED THAT M7257 SPARES STOCK BE UPDATED WHENEVER THIS FCO HAS BEEN IMPLEMENTED ON ANY SYSTEM.		DIGITAL		N/A	
FIELD SERVICE LOGISTICS SPARES STOCK MUST BE AT CS REVISION "H" OR LATER.		PERMANENT RESPONSIBILITY		N/A	
SPECIAL TEST EQUIPMENT, TOOLS, or SUPPLIES (not included in the Field Receipt list)		DIGITAL		N/A	
FIELD INSTALLATION AND TEST PROCEDURE		DIGITAL		N/A	
APPROVED - Field Service Project Manager MICHAEL L. J. [Signature]		APPROVED - Technical Documentation [Signature]		DATE 20 APR 76	
DATE 11 MAY 76		DATE 11 MAY 76		DATE 11 MAY 76	


digital		CONTINUATION SHEET		FCO M7257-0012 PAGE 4	
DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL		DOCUMENT/PART NO.		OLD REV	
Update per this ECO		B-MH-M7257-0-6		N	
Do the following rework:		M7257 (etch Rev C)		N	
a) cut etch on side 2 that goes from E35-13 to E35-12.					
b) cut etch on side 1 as shown below.					
c) add wire from E35-13 to plated through hole indicated above.					
d) add wire from E35-12 to PTH shown above.					



11 CENTRAL ENG.
ECO COMMITTEE
MAY 14 1976

 ENGINEERING CHANGE ORDER		CONTINUATION SHEET		FCO M7257-50012 PAGE 5	
ITEM NO.	DOCUMENT/PART NO.	OLD REV	NEW REV	DESCRIPTION OF CHANGE/DISPOSITION OF MATERIAL	
				<p><u>Puerto Rico & Maynard</u></p> <p>M7257 etch Rev C CS Rev P is the only shippable revision out of module manufacturing (Puerto Rico) after July 1, 1976.</p> <p>FACT</p> <p>M7257 etch Rev C CS Rev P is the only shippable revision that will be allowed after November 1, 1976.</p> <p>M96 numbers will be issued on a per system basis by Engineering for systems that exhibit this problem.</p> <p>Field</p> <p>This ECO should be installed on systems that exhibit this problem.</p>	
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>11 CENTRAL ENG. ECO COMMITTEE <small>205</small></p> <p>MAY 14 1976</p> </div>					

DEC 16-1990-1071-1A-R175

		MODULE ECO HISTORY		FCO M7257-50012 Page 6						
ECO HISTORY - M7257 ETCH BOARD REVISION B										
ECO NUMBER	001	002	003	004	005	006	007	008		
ECO DATE	9-72	12-72	2-73	10-73	1-74	1-74	7-74	10-74		
PRODUCTION CS	A	B	C	D	E	F	H	J	K	
DOCUMENTATION CS										
FIELD REWORK CS				D	E		H	K		
NOTES:										
ECO HISTORY - M7257 ETCH BOARD REVISION C										
ECO NUMBER	009	010	011	012						
ECO DATE	10-74	9-75	11-75	11-76						
PRODUCTION CS	L	M	N	P						
DOCUMENTATION CS										
FIELD REWORK CS				P						
NOTES:										
ECO HISTORY - ETCH BOARD REVISION										
ECO NUMBER										
ECO DATE										
PRODUCTION CS										
DOCUMENTATION CS										
FIELD REWORK CS										
NOTES:										
ECO HISTORY - ETCH BOARD REVISION										
ECO NUMBER										
ECO DATE										
PRODUCTION CS										
DOCUMENTATION CS										
FIELD REWORK CS										
NOTES:										

DEC 12(533)-1231-3475