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FIELD MAINTENANCE PRINT SET

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D-CS-M9302-YA-1	M9302 UNIBUS TERMINATOR - CIRCUIT SCHEM.
MP01366	1 MB MEMORY ARRAY FIELD MAINT PRINT SET (COMPLETE)

UNIT VARIATIONS COVERED BY THIS PRINT SET
11730-ZA

11730-Z
**Field Maintenance
Print Set**

**Digital Equipment
Corporation**

PRINT SET ORDER
NO. MP01270

REV. A
NUMBER 11730-Z-1
SIZE B TC

REVISIONS	REV		USED ON OPTION/MODEL	DRN.	DATE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="6" style="text-align: right;">digital</td> <td colspan="2" style="text-align: left;">TITLE:</td> <td colspan="2" style="text-align: center;">FIELD MAINT. PRINT SET</td> </tr> <tr> <td colspan="6"></td> <td colspan="2" style="text-align: center;">11730-Z</td> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">SIZE</td> <td style="text-align: center;">CODE</td> <td colspan="3" style="text-align: center;">NUMBER</td> <td colspan="2" style="text-align: center;">REV.</td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">TC</td> <td colspan="3" style="text-align: center;">11730-Z-1</td> <td colspan="2" style="text-align: center;">A</td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="6"></td> <td style="text-align: center;">DIST.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>								digital						TITLE:		FIELD MAINT. PRINT SET								11730-Z				SIZE	CODE	NUMBER			REV.						B	TC	11730-Z-1			A												DIST.									
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SHEET 2 OF 2																																																																							

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DRAWING DIRECTORY

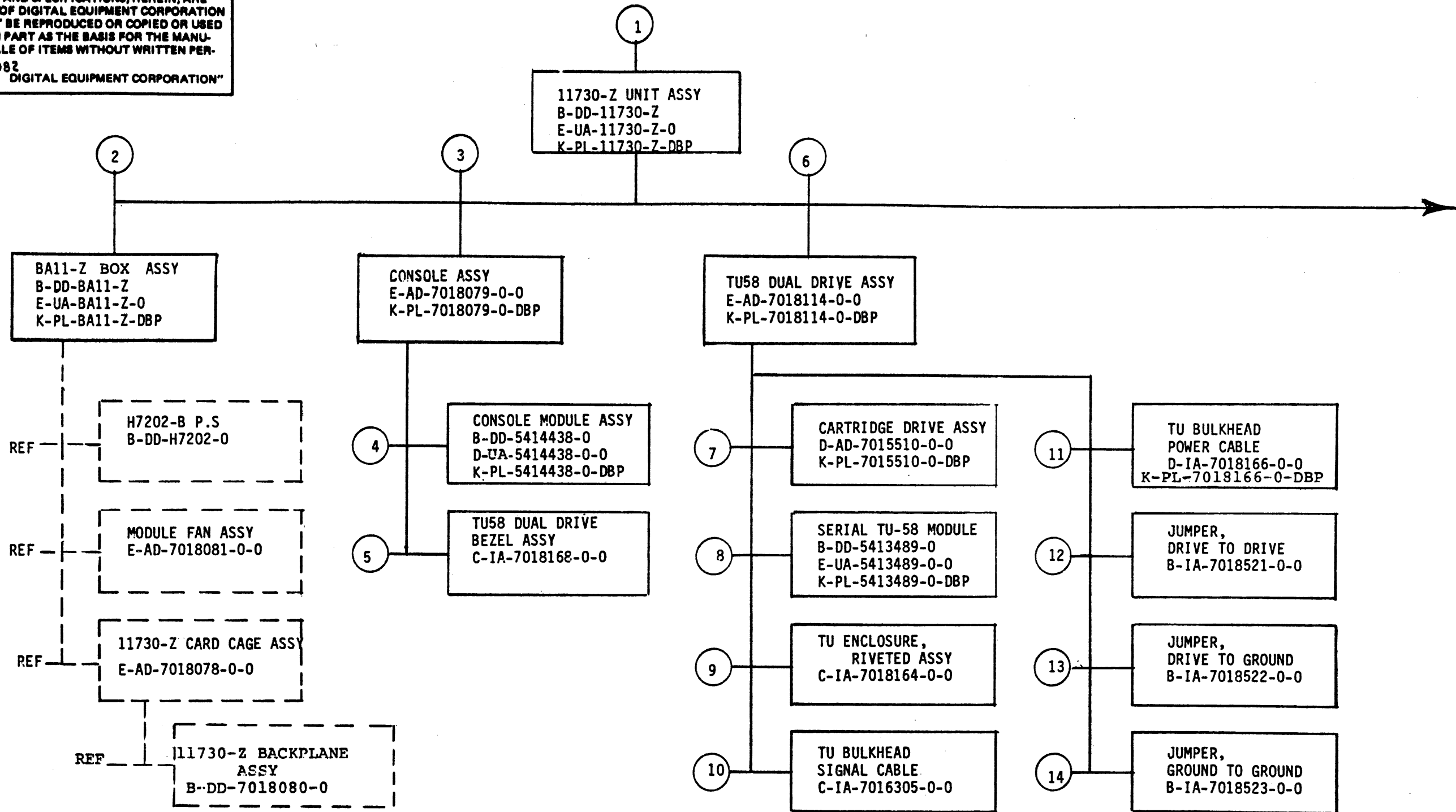
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UNIT VARIATIONS	
VAR	TITLE
11730-ZA	BA11-ZA, KA730-A, MS730-CA, 120V/240V

REVISIONS	REV.			DRN.	DATE	11730-Z UNIT ASSY					
	CHANGE NO.			CHK'D.	DATE						
	CHK			PROJ. ENG.	DATE						
			USED ON OPTION/MODEL	11730-Z	PROJ. ENG.	DATE	SIZE	CODE	NUMBER	REV	
					PROD.	DATE	B	DD	11730-Z	A	
			SHEET 1 OF 6		SA Costello	21 APR 82	DIST.				

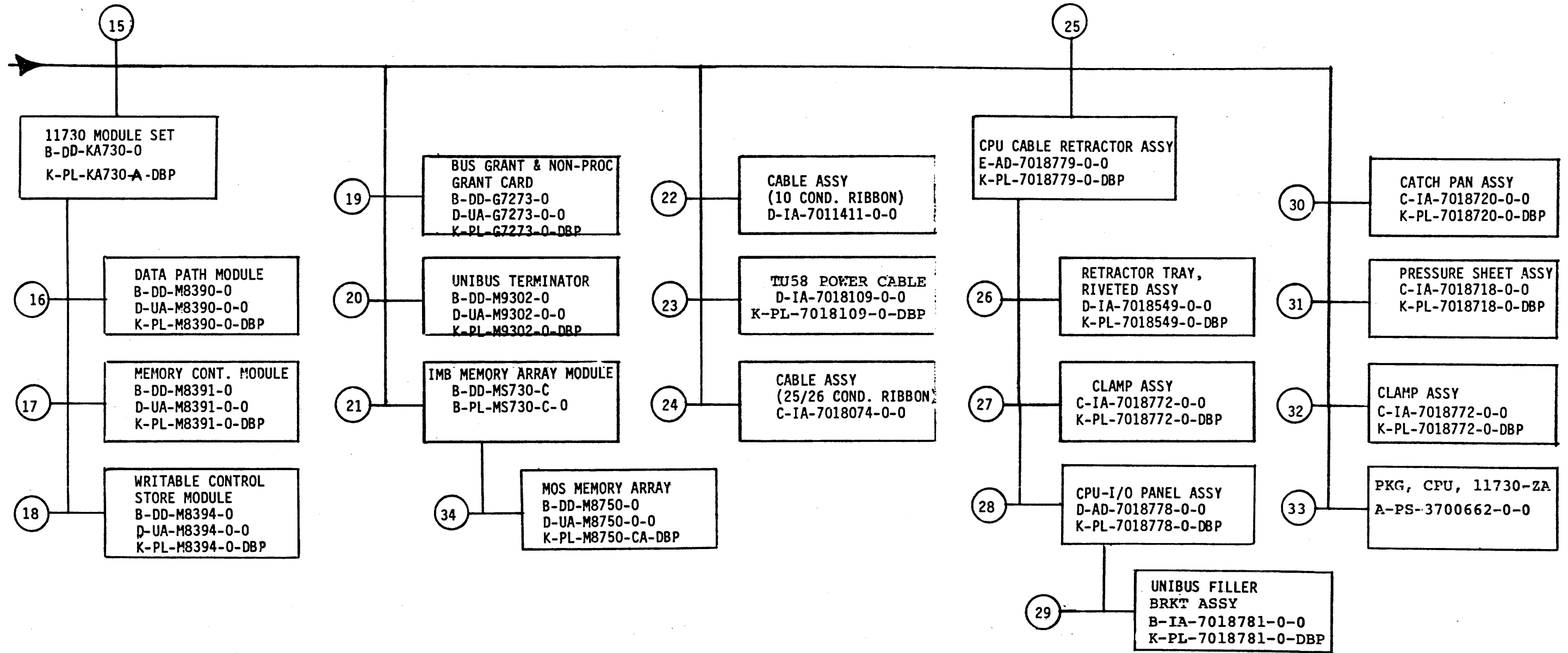
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 1982
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TITLE	11730-Z UNIT ASSY	SIZE CODE	DD	NUMBER	11730-Z	REV	A
				SHEET 2 OF 6			

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TITLE 11730-Z UNIT ASSY	SHEET 3 OF 6	SIZE CODE B DD	NUMBER 11730-Z	REV A
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FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1.	MP01270	FIELD MAINTENANCE PRINT SET (MP)	-	5.	C-IA-7018168-0-0	TU58 DUAL DRIVE BEZEL ASSY	M
	B-TC-11730-Z-1	FIELD MAINTENANCE PRINT SET (TC)	-		D-MD-7425270-0-0	BEZEL, FRONT, TU	M
	B-DD-11730-Z	11730-Z UNIT ASSY - DRAWING DIRECTORY	-		B-MD-7425341-0-0	TU, LED BUTTON	M
	E-UA-11730-Z-0	11730-Z UNIT ASSY	E/M				
	K-PL-11730-Z-DBP	11730-Z UNIT ASSY - PARTS LIST -Z28	-	6.	E-AD-7018114-0-0	TU58 DUAL DRIVE ASSY	E/M
	B-PL-11730-Z-2	11730-Z SHIPPING LIST	-		K-PL-7018114-0-DBP	TU58 DUAL DRIVE ASSY - PARTS LIST - Z1352	-
	B-PL-11730-Z-3	11730-Z HARDWARE KIT LIST	M		D-IA-7423933-0-0	PLATFORM, TU58	M
	D-BD-11730-Z-5	11730 SYSTEM BLOCK DIAGRAM	-		B-MD-7424846-0-0	TU CENTER BRACE	M
	E-PS-1209856-0-0	MODULE HOLDER	M		D-MD-7424848-0-0	TU, BOTTOM PLATE	M
	A-PS-1217665-0-0	FILTER FOAM	M		A-PS-1118799-0-0	LED CABLE ASSY	E/M
	A-PS-1218166-0-0	SLIDE (PAIR) W/HDW	M				
	A-PS-1219020-0-0	CARRIER, CABLE	M	7.	D-AD-7015510-0-0	CARTRIDGE DRIVE ASSY	E/M
	A-PS-1215700-0-0	CABLE, FERRULED	M		K-PL-7015510-0-DBP	CARTRIDGE DRIVE ASSY - PARTS LIST - Z1620	-
	A-PS-3615809-0-0	MEDIA CARTRIDGE, TU58-K	M				
	D-MD-7425374-0-0	BRACKET, SLIDE MOUNTING	M	8.	B-DD-5413489-0	SERIAL TU58 MODULE ASSY - DRAWING DIRECTORY	-
	B-IA-7426335-0-0	PLATE, STUD	M		E-UA-5413489-0-0	SERIAL TU58 MODULE ASSY	E/M
	C-MD-7413659-0-0	BRACKET, SHIPPING	M		K-PL-5413489-0-DBP	SERIAL TU58 MODULE ASSY - PARTS LIST - Z0582	-
	C-MD-7425927-0-0	GUIDE AND CLAMP	M		D-CS-5413489-0-1	SERIAL TU58 MODULE ASSY - CIRCUIT SCHEMATIC	E
	C-MD-7425928-0-0	BRACKET, CARRIER/BOX	M				
	C-MD-7425929-0-0	BRACKET, CAB/CARRIER	M	9.	C-IA-7018164-0-0	TU ENCLOSURE, RIVETED ASSY	M
	D-MD-7426623-0-0	CLAMP, R80 CABLE	M		E-IA-7424845-0-0	TU ENCLOSURE	M
	D-IA-7426625-0-0	CLAMP, DMF CABLE	M		C-MD-7424847-0-0	TU BACKPLATE	M
	B-IA-7426723-0-0	BAR CLAMP ASSY	M				
			-	10.	C-IA-7016305-0-0	TU BULKHEAD SIGNAL CABLE	E/M
2.	B-DD-Ball-Z	Ball-Z BOX ASSY -DRAWING DIRECTORY	-	11.	D-IA-7018166-0-0	TU BULKHEAD POWER CABLE	E/M
	E-UA-Ball-Z-0	Ball-Z BOX ASSY	E/M		K-PL-7018166-0-DBP	TU BULKHEAD POWER CABLE - PARTS LIST - Z1854	-
	K-PL-Ball-Z-DBP	Ball-Z BOX ASSY - PARTS LIST - Z1862	-				
				12.	B-IA-7018521-0-0	JUMPER, DRIVE TO DRIVE	M
3.	E-AD-7018079-0-0	CONSOLE ASSY	E/M				
	K-PL-7018079-0-DBP	CONSOLE ASSY - PARTS LIST - Z1827	-	13.	B-IA-7018522-0-0	JUMPER, DRIVE TO GROUND	M
	A-PS-1216178-0-0	LOCK, ASSY PLASTIC (6 POS)	M				
	A-PS-1217094-0-0	BEZEL, 10.5 IN.	M	14.	B-IA-7018523-0-0	JUMPER GROUND TO GROUND	M
	A-PS-1217665-0-0	FILTER, FOAM INSERT	M				
	E-IA-7424269-0-0	CONSOLE, INSERT	M	15.	B-DD-KA730-A	11730 MODULE SET - DRAWING DIRECTORY	-
	E-IA-7424832-0-0	MOUNTING PLATE, 10.5 IN.	M		K-PL-KA730-A-DBP	11730 MODULE SET - PARTS LIST	-
	D-MD-7426334-0-0	SHIELD	M				
4.	B-DD-5414438-0	CONSOLE MODULE ASSY - DRAWING DIRECTORY	-				
	D-UA-5414438-0-0	CONSOLE MODULE ASSY	E/M				
	K-PL-5414438-0-DBP	CONSOLE MODULE ASSY - PARTS LIST	-				
	D-CS-5414438-0-1	CONSOLE MODULE ASSY - CIRCUIT SCHEMATIC	E				

TYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL

digital

TITLE 11730-Z UNIT ASSY

SHEET 4 OF 6

SIZE CODE B DD

NUMBER 11730-Z

REV A

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
16	B-DD-M8390-0	M8390 DATA PATH MODULE - DRAWING DIRECTORY	-	25	E-AD-7018779-0-0	CPU CABLE RETRACTOR ASSY	M
	D-UA-M8390-0-0	M8390 DAP MODULE ASSY	E/M		K-PL-7018779-0-DBP	CPU CABLE RETRACTOR ASSY (PARTS LIST) -Z3612	-
	K-PL-M8390-0-DBP	M8390 DAP MODULE ASSY (PARTS LIST)	-		E-IA-7425733-0-0	TRAY, R.H. HALF	M
	D-CS-M8390-0-1	M8390 DAP MODULE - CIRCUIT SCHEMATIC	E		E-IA-7426619-0-0	BRACKET, I/O PANEL (RT AND LT)	M
					E-IA-7426618-0-0	PANEL, I/O PORT	M
					C-IA-7426620-0-0	BRACKET, MAGNET	M
17	B-DD-M8391-0	M8391 MEMORY CONTROLLER MODULE DWG DIRECTORY	-		C-MD-7426621-0-0	COVER PLATE, R80 HOLE	M
	D-UA-M8391-0-0	M8391 MCT MODULE ASSY	E/M		B-IA-7426652-0-0	PLATE, NUT	M
	K-PL-M8391-0-DBP	M8391 MCT MODULE ASSY (PARTS LIST)	-		D-MD-7426407-01-DBU	PANEL, DOUBLE BLANK	M
	D-CS-M8391-0-1	M8391 MCT MODULE- CIRCUIT SCHEMATIC	E		A-PS-1212908-0-0	DOOR CATCH, MAGNETIC	M
18	B-DD-M8394-0	M8394 WRITABLE CONTROL STORE MODULE -DWG DIR.	-	26	D-IA-7018549-0-0	RETRACTOR TRAY - RIVETED ASSY	M
	D-UA-M8394-0-0	M8394 WCS MODULE ASSY	E/M		K-PL-7018549-0-DBP	RETRACTOR TRAY - RIVETED ASSY (PARTS LIST) - Z2446	-
	K-PL-M8394-0-DBP	M8394 WCS MODULE ASSY (PARTS LIST)	-		D-MD-7425729-0-0	GUIDE, CABLE	M
	D-CS-M8394-0-1	M8394 WCS MODULE - CIRCUIT SCHEMATIC	E		E-IA-7425732-0-0	TRAY, L.H. HALF	M
19	B-DD-G7273-0	BUS GRANT AND NON-PROCESSOR GRANT CARD - DWG DIR.	-	27	C-IA-7018772-0-0	CLAMP ASSY	M
	D-UA-G7273-0-0	GRANT CARD ASSY	E/M		K-PL-7018772-0-DBP	CLAMP ASSY (PARTS LIST) -Z3325	-
	K-PL-G7273-0-DBP	GRANT CARD ASSY (PARTS LIST)	-		C-MD-7425711-0-0	CLAMP, CABLE	M
					B-MD-7426358-0-0	FOAM, ADH-BACKED	M
20	B-DD-M9302-0	UNIBUS TERMINATOR - DRAWING DIRECTORY	-	28	D-AD-7018778-0-0	CPU - I/O PANEL ASSY	M
	D-UA-M9302-0-0	UNIBUS TERMINATOR ASSY	E/M		K-PL-7018778-0-DBP	CPU - I/O PANEL ASSY (PARTS LIST) -Z3616	-
	K-PL-M9302-0-DBP	UNIBUS TERMINATOR ASSY (PARTS LIST)	-		D-IA-7426405-04-DBU	PLATE, SEXTAL, CPU - I/O	M
	D-CS-M9302-0-1	UNIBUS TERMINATOR ASSY - CIRCUIT SCHEMATIC	E		C-IA-7426654-0-0	BRACKET, CABLE GRD	M
					A-PS-1219534-0-0	SCREW, CAPTIVE	M
					A-PS-1217431-0-0	CONN, D SUB, 25 PIN FILTERED	E/M
					A-PS-1211591-0-0	CONN, ZIF, 40 CONDUCTOR	E/M
21	B-DD-MS730-C	MS730 MEMORY ARRAY MODULE - DRAWING DIRECTORY	-	29	B-IA-7018781-0-0	BRACKET ASSY, UNIBUS FILLER	M
	K-PL-MS730-C-DBP	MS730 MEMORY ARRAY MODULE ASSY - PARTS LIST	-		K-PL-7018781-0-DBP	BRACKET ASSY, UNIBUS FILLER (PARTS LIST) Z3618	-
					D-MD-7426624-0-0	PLATE, UNIBUS FILLER	M
					B-MD-7426653-0-0	FOAM PAD, CABLE CLAMP	M
22	D-IA-7011411-0-0	CABLE ASSY - 10 COND. RIBBON	E/M	30	C-IA-7018720-0-0	CATCH PAN ASSY	M
					K-PL-7018720-0-DBP	CATCH PAN ASSY (PARTS LIST) -Z2835	-
					E-IA-7425728-0-0	CATCH PAN	M
23	D-IA-7018109-0-0	CABLE, TU58 POWER	E/M				
	K-PL-7018109-0-DBP	CABLE, TU58 POWER (PARTS LIST) - Z1853	-				
24	C-IA-7018074-0-0	CABLE ASSY - 25/26 COND RIBBON	E/M				

TYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL

digital

TITLE
11730-Z UNIT ASSY

SHEET 5 OF 6

SIZE CODE
B DD

NUMBER
11730-Z

REV
A

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
31	C-IA-7018718-0-0	PRESSURE SHEET ASSY	M				
	K-PL-7018718-0-DBP	PRESSURE SHEET ASSY (PARTS LIST) - Z2618	-				
	C-MD-7425726-0-0	SHEET, PRESSURE	M				
	C-MD-7425730-0-0	CLAMP, SHEET	M				
32	C-IA-7018772-0-0	CLAMP ASSY	M				
	K-PL-7018772-0-DBP	CLAMP ASSY (PARTS LIST) -Z3325	-				
	C-MD-7425711-0-0	CLAMP, CABLE	M				
	B-MD-7426358-0-0	FOAM, ADH-BACKED	M				
33	A-PS-3700662-0-0	PKG, CPU, 11730-2A	M				
34	B-DD-M8750-0	1 MB MOS MEMORY ARRAY - DRAWING DIRECTORY	-				
	D-UA-M8750-0-0	1 MB MOS MEMORY ARRAY	E/M				
	K-PL-M8750-CA-DBP	1 MB MOS MEMORY ARRAY - PARTS LIST	-				
	D-CS-M8750-0-1	1 MB MOS MEMORY ARRAY - CIRCUIT SCHEM.	E				

TYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL



TITLE

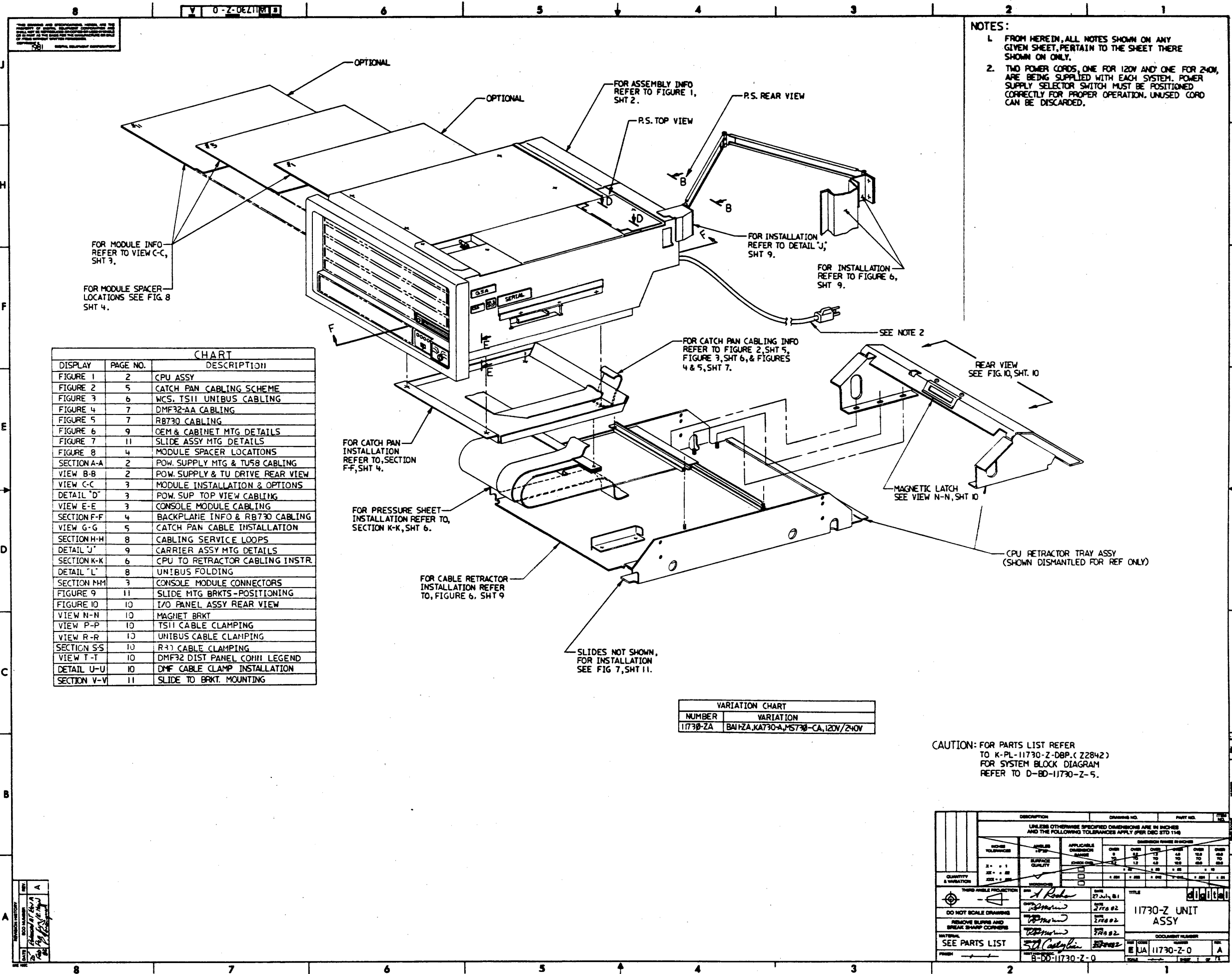
11730-Z UNIT ASSY

SHEET 6 OF 6

SIZE CODE
B DD

NUMBER
11730-Z

REV
A



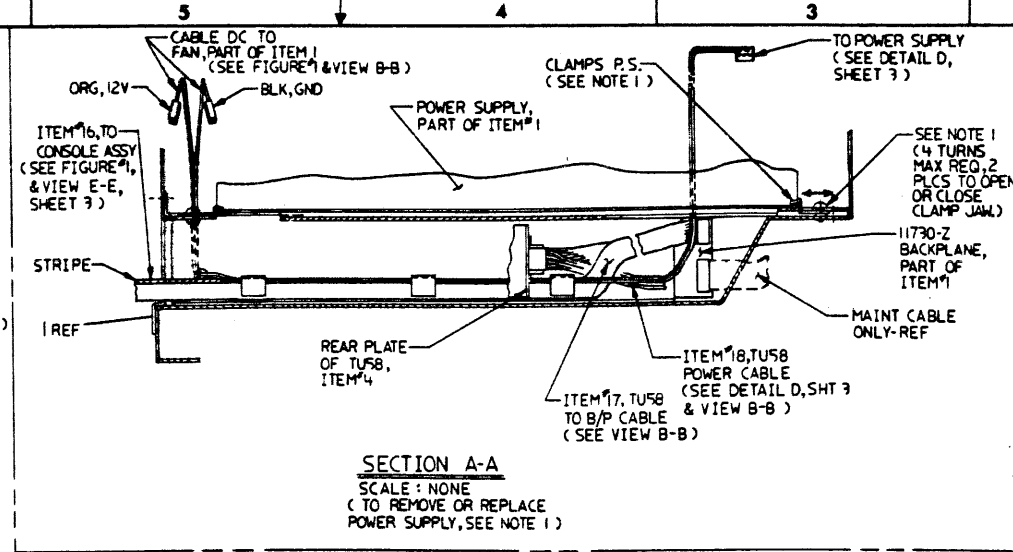
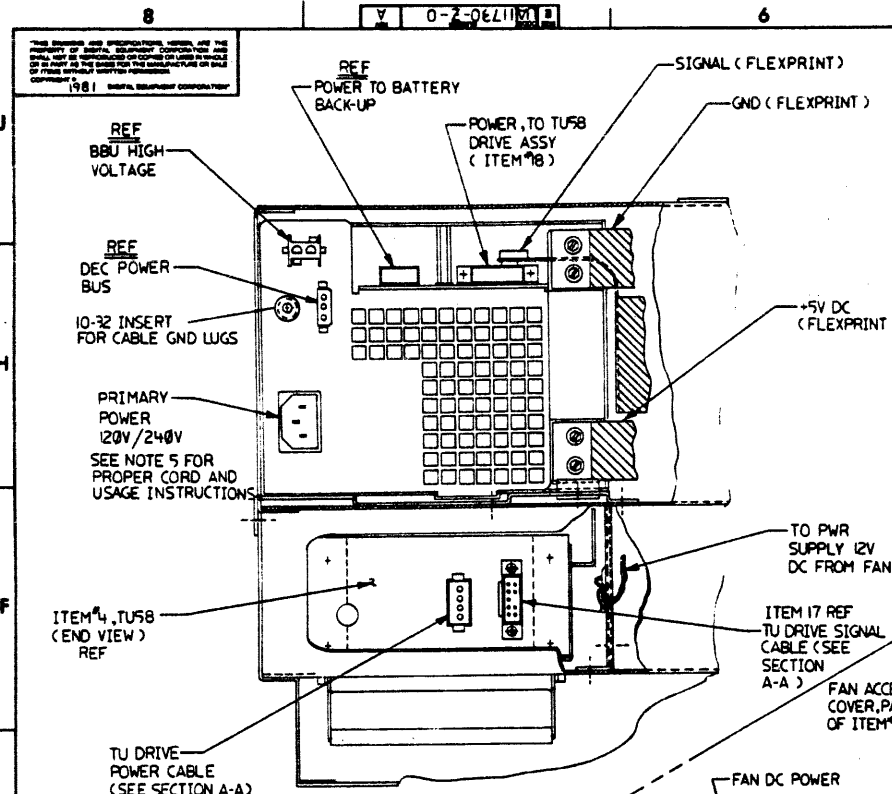
NOTES:
 1. FROM HEREIN, ALL NOTES SHOWN ON ANY GIVEN SHEET, PERTAIN TO THE SHEET THERE SHOWN ON ONLY.
 2. TWO POWER CORDS, ONE FOR 120V AND ONE FOR 240V, ARE BEING SUPPLIED WITH EACH SYSTEM. POWER SUPPLY SELECTOR SWITCH MUST BE POSITIONED CORRECTLY FOR PROPER OPERATION. UNUSED CORD CAN BE DISCARDED.

CHART		
DISPLAY	PAGE NO.	DESCRIPTION
FIGURE 1	2	CPU ASSY
FIGURE 2	5	CATCH PAN CABLING SCHEME
FIGURE 3	6	WCS, TS11 UNIBUS CABLING
FIGURE 4	7	DMF32-AA CABLING
FIGURE 5	7	RB730 CABLING
FIGURE 6	9	OEM & CABINET MTG DETAILS
FIGURE 7	11	SLIDE ASSY MTG DETAILS
FIGURE 8	4	MODULE SPACER LOCATIONS
SECTION A-A	2	POW. SUPPLY MTG & TUS8 CABLING
VIEW B-B	2	POW. SUPPLY & TU DRIVE REAR VIEW
VIEW C-C	3	MODULE INSTALLATION & OPTIONS
DETAIL D-D	3	POW. SUP. TOP VIEW CABLING
VIEW E-E	3	CONSOLE MODULE CABLING
SECTION F-F	4	BACKPLANE INFO & RB730 CABLING
VIEW G-G	5	CATCH PAN CABLE INSTALLATION
SECTION H-H	8	CABLING SERVICE LOOPS
DETAIL J-J	9	CARRIER ASSY MTG DETAILS
SECTION K-K	6	CPU TO RETRACTOR CABLING INSTR.
DETAIL L-L	8	UNIBUS FOLDING
SECTION M-M	3	CONSOLE MODULE CONNECTORS
FIGURE 9	11	SLIDE MTG BRKTS-POSITIONING
FIGURE 10	10	I/O PANEL ASSY REAR VIEW
VIEW N-N	10	MAGNET BRKT
VIEW P-P	10	TS11 CABLE CLAMPING
VIEW R-R	10	UNIBUS CABLE CLAMPING
SECTION S-S	10	R31 CABLE CLAMPING
VIEW T-T	10	DMF32 DIST PANEL CONN LEGEND
DETAIL U-U	10	DMF CABLE CLAMP INSTALLATION
SECTION V-V	11	SLIDE TO BRKT. MOUNTING

VARIATION CHART	
NUMBER	VARIATION
11730-ZA	BA1ZA, KA730-A, M5730-CA, 120V/240V

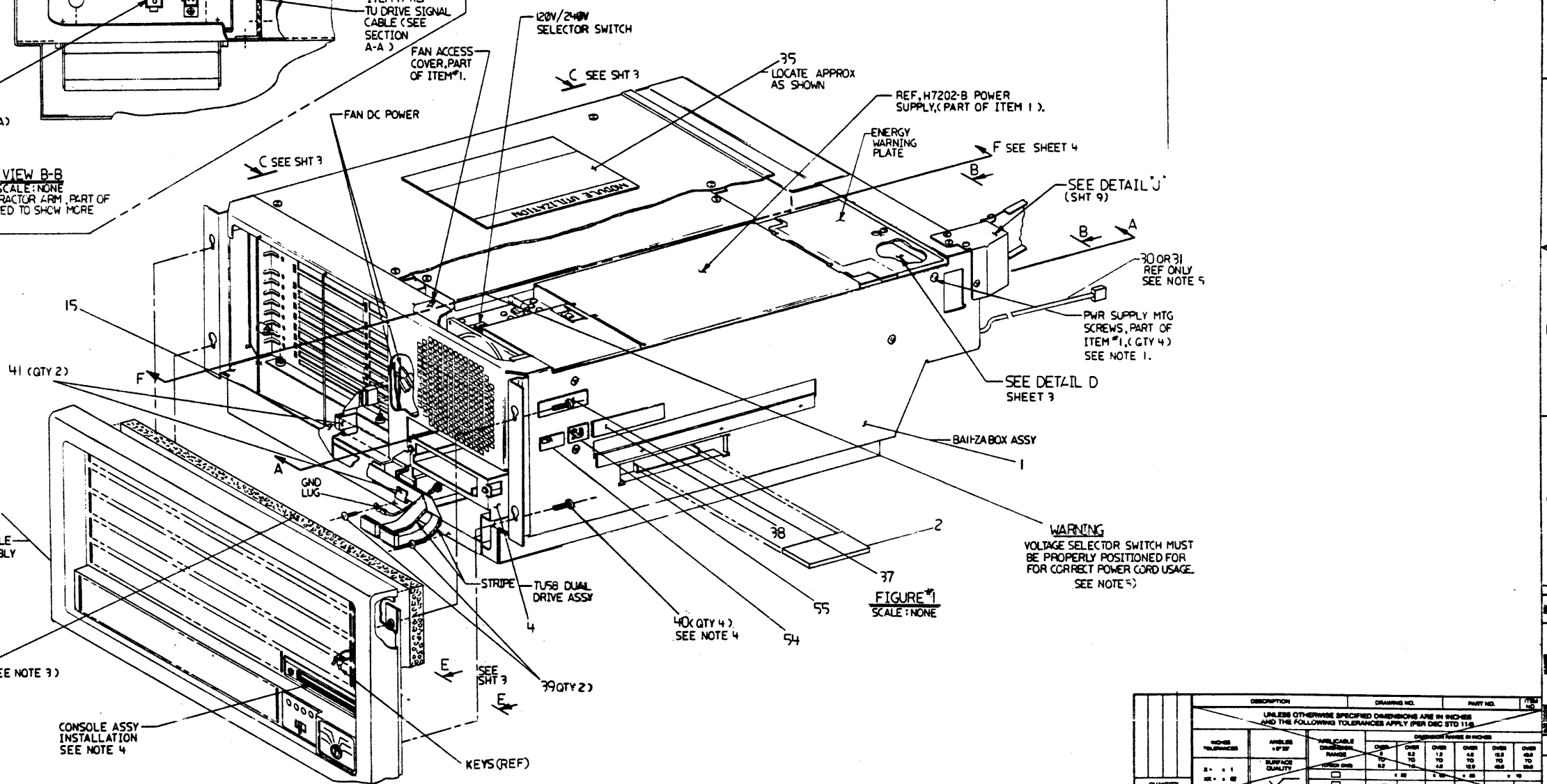
CAUTION: FOR PARTS LIST REFER TO K-PL-11730-Z-DBP.(Z2842) FOR SYSTEM BLOCK DIAGRAM REFER TO D-8D-11730-Z-5.

DESCRIPTION		DRAWING NO.		PART NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)					
DIMENSION RANGE		DIMENSION RANGE			
OVER 0	0 TO 1/8	0 TO 1/8	1/8 TO 1/4	1/4 TO 1/2	1/2 TO 1
±0.005	±0.002	±0.002	±0.003	±0.004	±0.005
APPLICABLE DIMENSION RANGE		DIMENSION RANGE			
OVER 0	0 TO 1/8	1/8 TO 1/4	1/4 TO 1/2	1/2 TO 1	1 TO 16
±0.005	±0.002	±0.003	±0.004	±0.005	±0.005
SURFACE QUALITY		SURFACE QUALITY			
FINISH		FINISH			
THIRD ANGLE PROJECTION		DATE		TITLE	
DO NOT SCALE DRAWINGS		27 July 81		11730-Z UNIT ASSY	
REMOVE BLURBS AND BREAK SHARP CORNERS		37802		DOCUMENT NUMBER	
SEE PARTS LIST		37802		EJA 11730-Z-0	
PARTS LIST		B-D-11730-Z-0		1 OF 1	

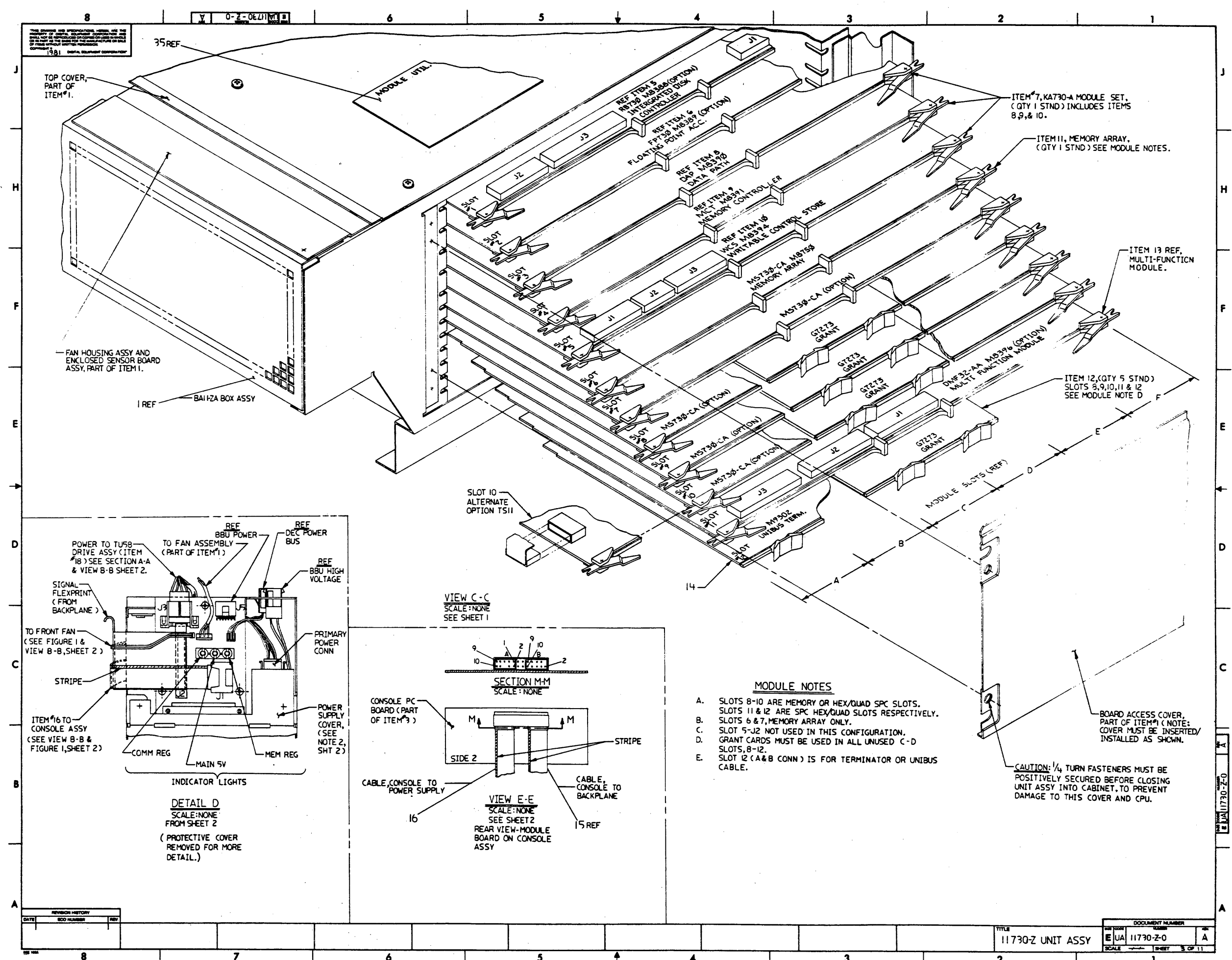


- NOTES:**
1. TO REMOVE POWER SUPPLY, DISCONNECT ALL ELECTRICAL CONNECTIONS AND FLEXPRINTS, REMOVE FAN ACCESS COVER, ENERGY WARNING PLATE, & FOUR (4) RIGHT SIDEWALL SCREWS, NOW LOOSEN TWO (2) POWER SUPPLY CLAMP HOLD-DOWN SCREWS (REFER TO SECTION A-A) AND SLIDE POWER SUPPLY TO THE REAR UNTIL ITS UNLATCHED FROM THE FRONT CLAMP THEN LIFT TO REPLACE THE UNIT, FOLLOW INSTRUCTIONS IN REVERSE ORDER.
 2. PRIMARY POWER CONN MUST BE DISCONNECTED TO REMOVE POWER SUPPLY COVER, SEE DETAIL D, SHEET 3.
 3. FOAM FILTER ITEM 25, IS EASILY REMOVABLE FOR CLEANING OR REPLACING, MUST BE IN PLACE DURING OPERATION TO PREVENT DUST ACCUMULATION.
 4. CONSOLE ASSY (ITEM 3) INSTALLATION REQUIRES THAT FRONT TU BEZEL MATES CORRECTLY TO MOUTH OF FRONT DRIVE UNIT WITHOUT UNNECESSARY PRESSURE OR INTERFERENCE. CONSOLE ASSY MUST BE GUIDED INTO POSITION AND THEN (4) SCREWS, ITEM 40, SECURED. FOAM FILTER IS THEN INSERTED INTO POSITION.
 5. BOTH POWER CORDS, 120V AND 240V ARE SUPPLIED WITH ALL CPU'S. PLEASE FOLLOW WARNING INSTRUCTIONS AND ALSO DISCARD UNUSED POWER CORD.

VIEW B-B
SCALE: NONE
(CAUTION: RETRACTOR ARM, PART OF ITEM 1, REMOVED TO SHOW MORE DETAIL.)



DESCRIPTION	DRAWING NO.	PART NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER ISO STD 118)		
FINISH	CAD FILE	CAD DRAWING
QUANTITY & VARIATION	APPROX 10% TYP	APPROX 5% TYP
THIRD ANGLE PROJECTION	DATE	TITLE
DO NOT SCALE DRAWING	DATE	
REMOVE BURRS AND BREAK SHARP CORNERS	DATE	
SEE PARTS LIST	DATE	
DECLASSIFICATION NUMBER		
11730-Z UNIT ASSY		
EUA 11730-Z-0 A		
BDD-11730-Z		

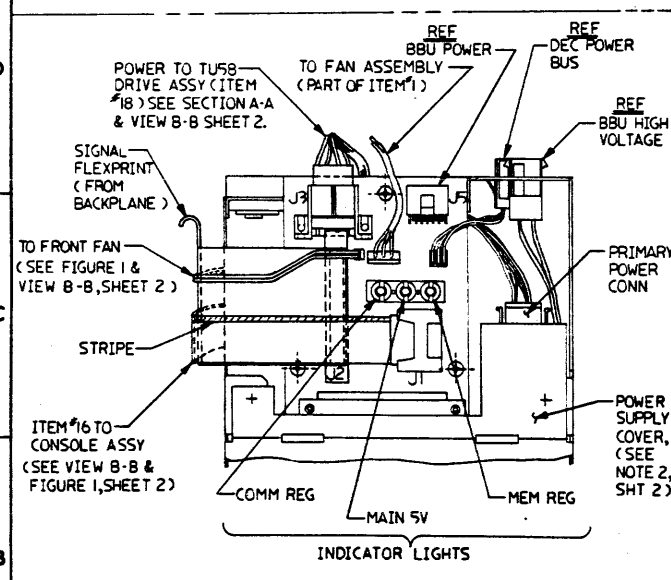


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TOP COVER, PART OF ITEM #1.

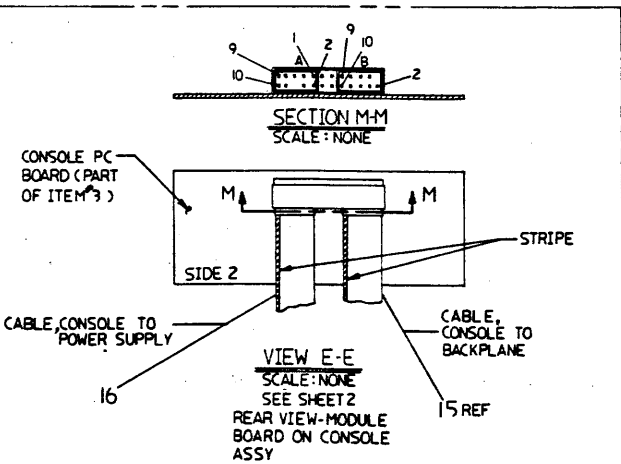
FAN HOUSING ASSY AND ENCLOSED SENSOR BOARD ASSY, PART OF ITEM 1.

1 REF BAI'ZA BOX ASSY



DETAIL D
 SCALE: NONE
 FROM SHEET 2
 (PROTECTIVE COVER REMOVED FOR MORE DETAIL.)

VIEW C-C
 SCALE: NONE
 SEE SHEET 1



VIEW E-E
 SCALE: NONE
 SEE SHEET 2
 REAR VIEW-MODULE BOARD ON CONSOLE ASSY

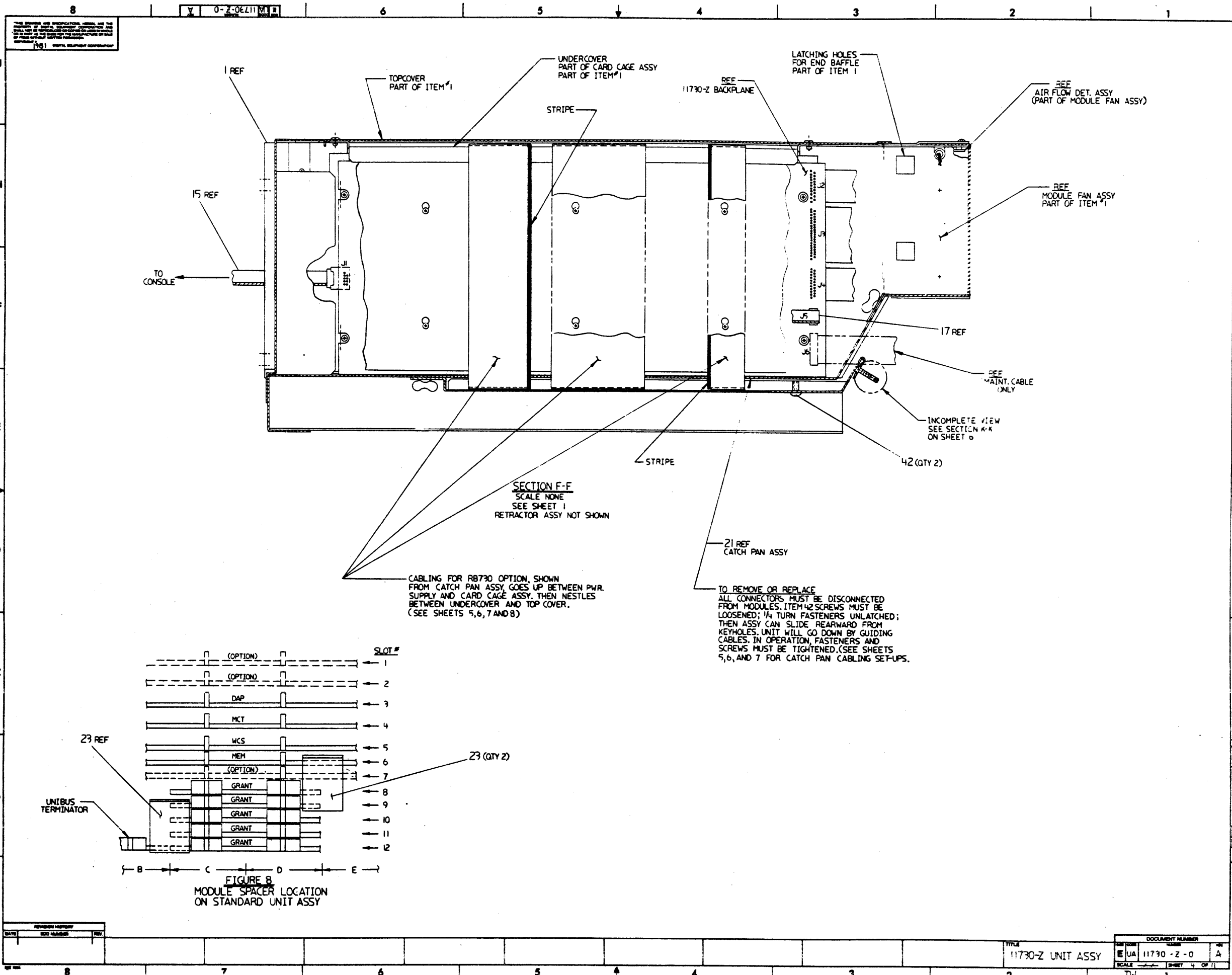
MODULE NOTES

- A. SLOTS 8-10 ARE MEMORY OR HEX/QUAD SPC SLOTS. SLOTS 11 & 12 ARE SPC HEX/QUAD SLOTS RESPECTIVELY.
- B. SLOTS 6 & 7, MEMORY ARRAY ONLY.
- C. SLOT 5-J2 NOT USED IN THIS CONFIGURATION.
- D. GRANT CARDS MUST BE USED IN ALL UNUSED C-D SLOTS, 8-12.
- E. SLOT 12 (A & B CONN) IS FOR TERMINATOR OR UNIBUS CABLE.

BOARD ACCESS COVER, PART OF ITEM #1 (NOTE: COVER MUST BE INSERTED/INSTALLED AS SHOWN.)

CAUTION: 1/4 TURN FASTENERS MUST BE POSITIVELY SECURED BEFORE CLOSING UNIT ASSY INTO CABINET, TO PREVENT DAMAGE TO THIS COVER AND CPU.

DATE	ECO NUMBER	REV



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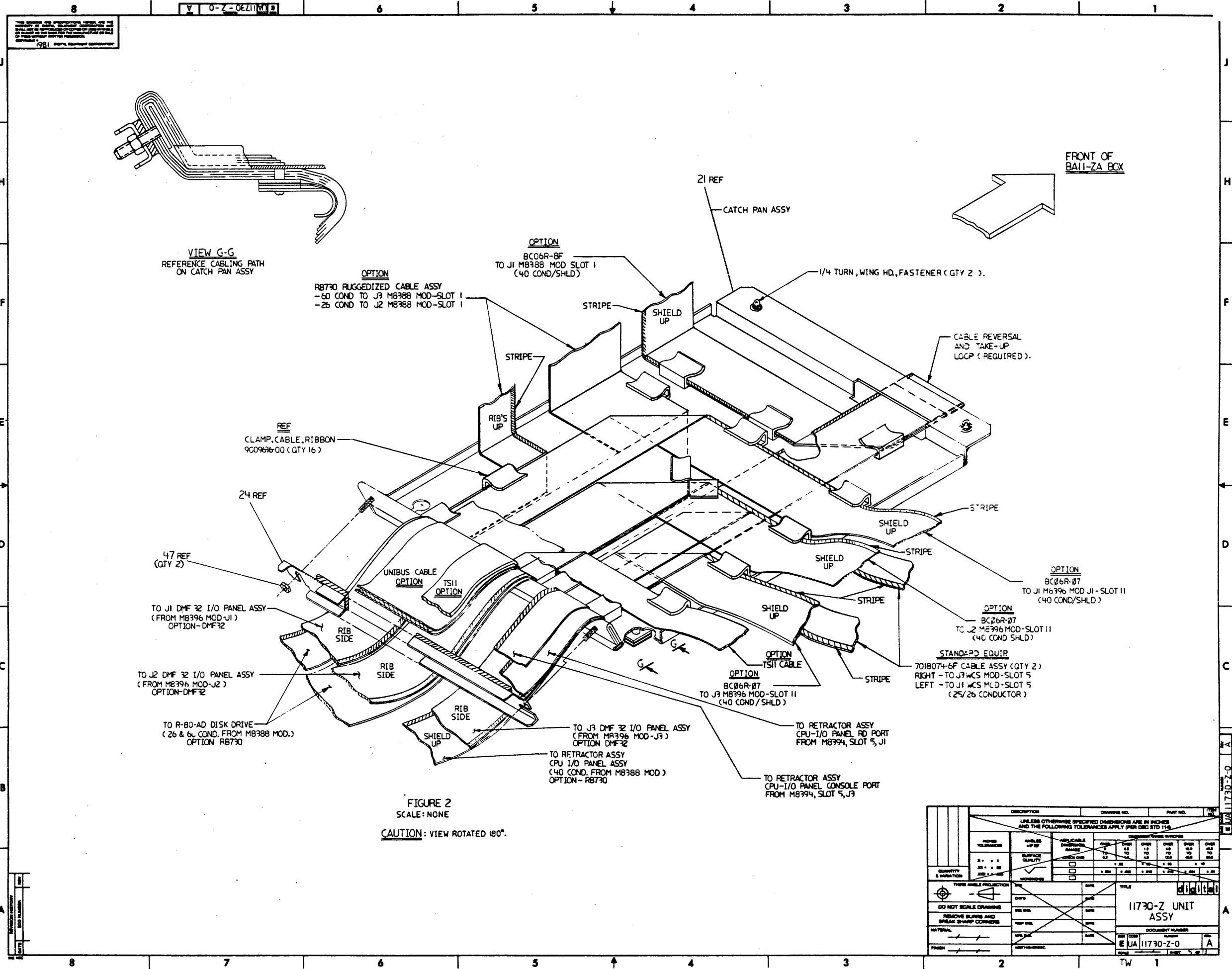
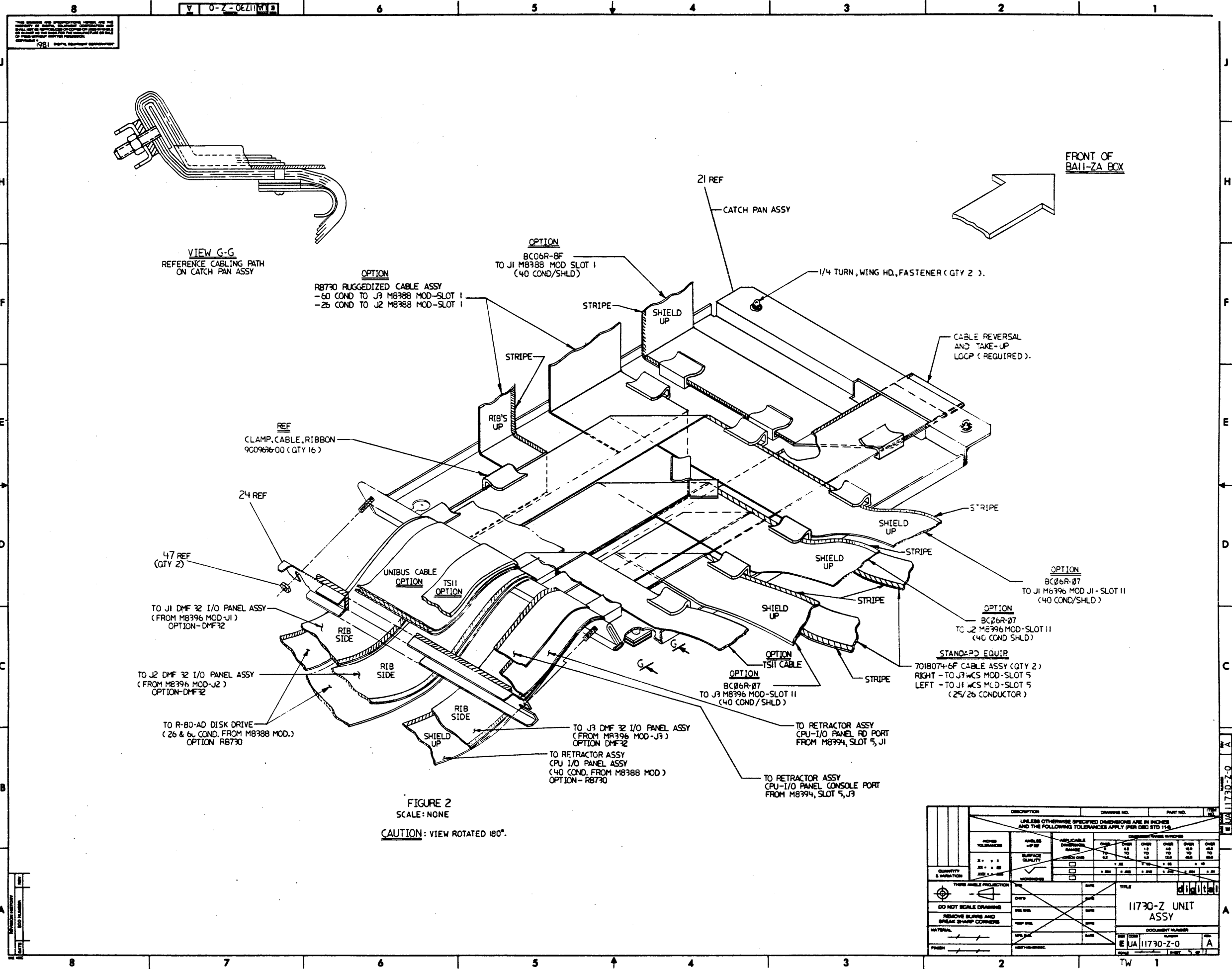
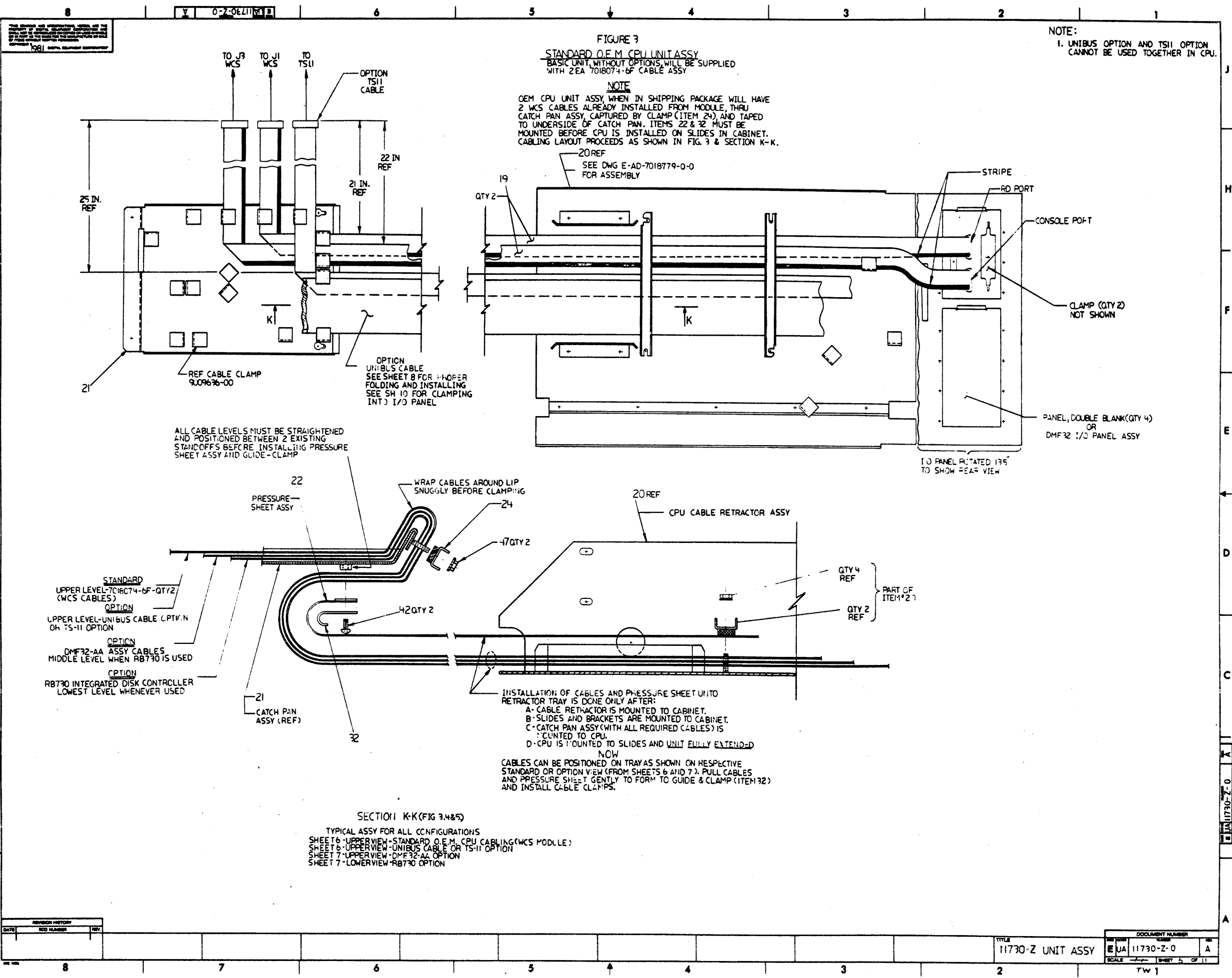


FIGURE 2
SCALE: NONE
CAUTION: VIEW ROTATED 180°.





DATE	REV	DESCRIPTION

TITLE	11730-Z UNIT ASSY
DOCUMENT NUMBER	EJA 11730-Z-0
SCALE	1:1
SHEET	5 OF 11

TW 1

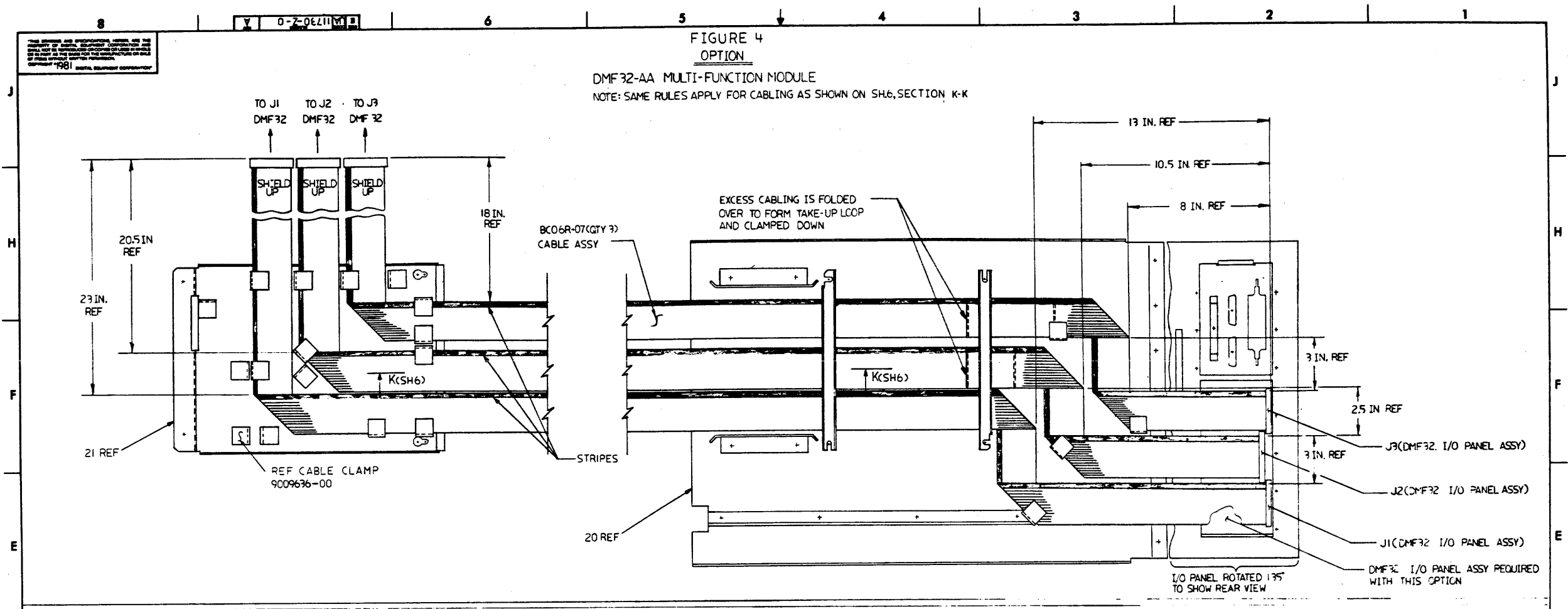


FIGURE 4
OPTION
DMF32-AA MULTI-FUNCTION MODULE
NOTE: SAME RULES APPLY FOR CABLING AS SHOWN ON SH.6, SECTION K-K

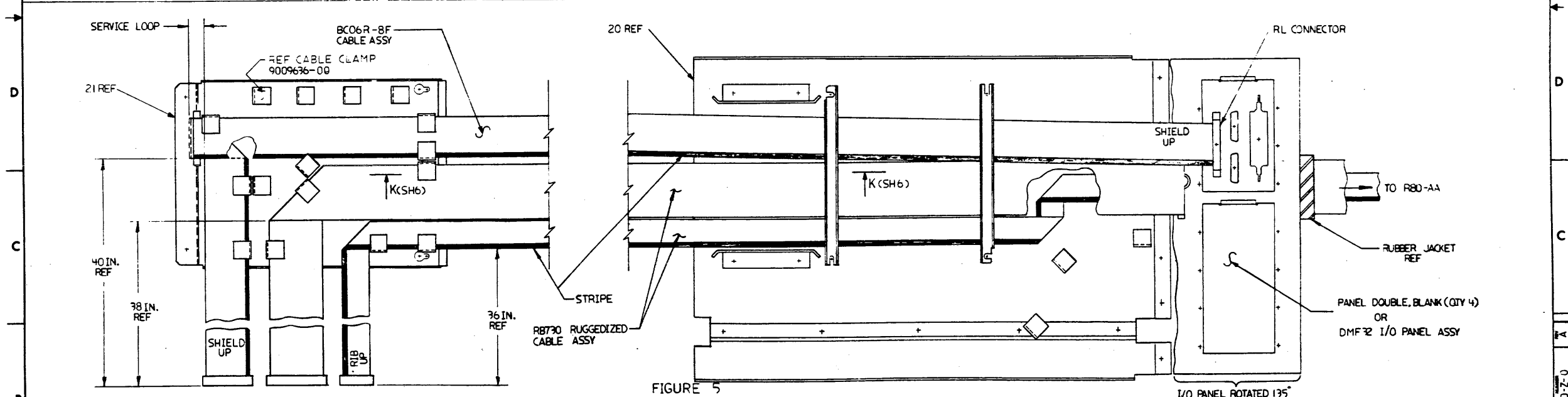
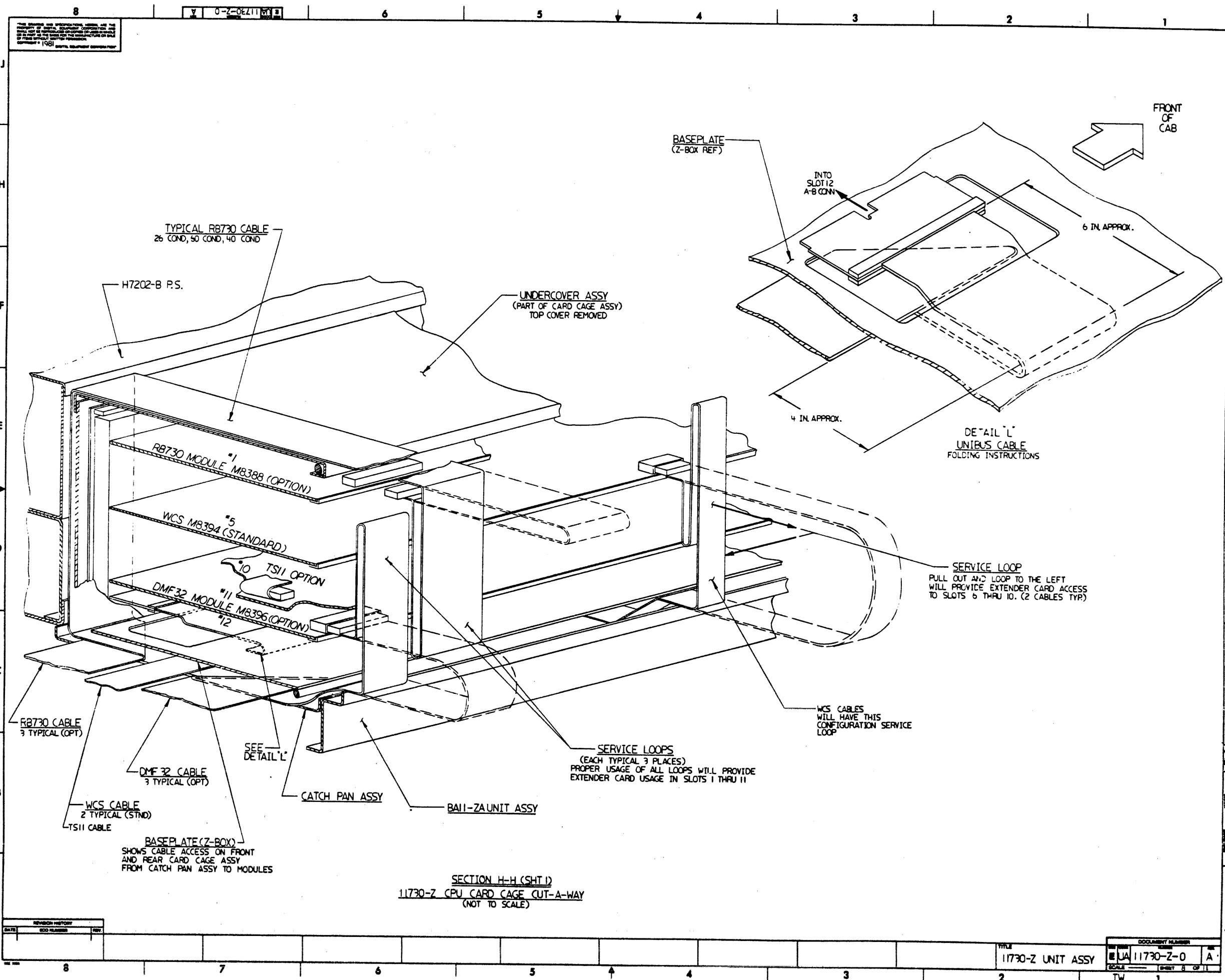


FIGURE 5
OPTION
RB730-INTEGRATED DISK CONTROLLER
NOTE: SAME RULES APPLY FOR CABLING AS SHOWN ON SH.6, SECTION K-K

REVISION HISTORY		
DATE	ECO NUMBER	REV

DOCUMENT NUMBER		REV
EJA 11730-Z-0		A
SCALE	SHEET	OF

11730-Z-0

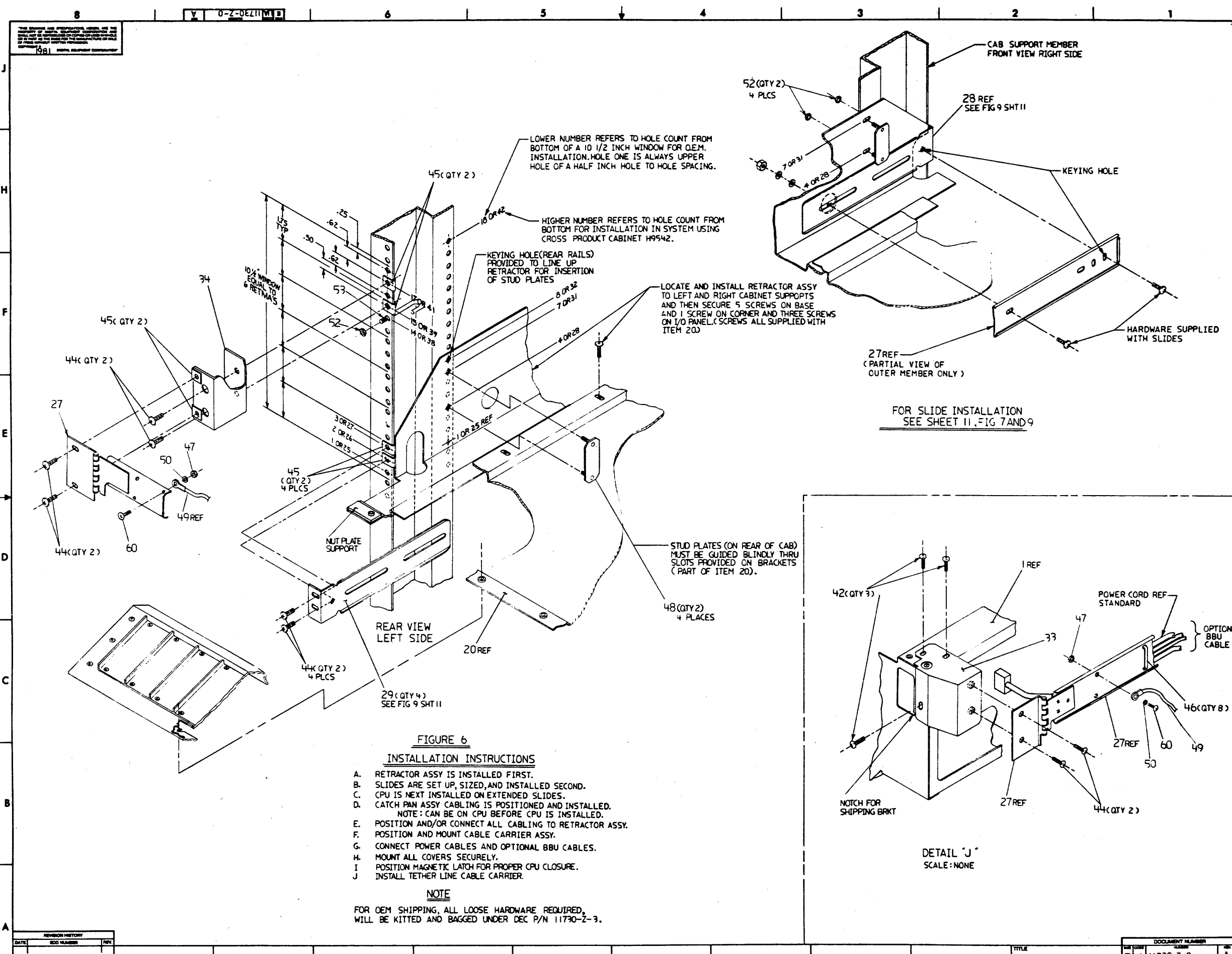


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DATE	REVISION HISTORY

SECTION H-H (SHT 1)
11730-Z CPU CARD CAGE CUT-A-WAY
(NOT TO SCALE)

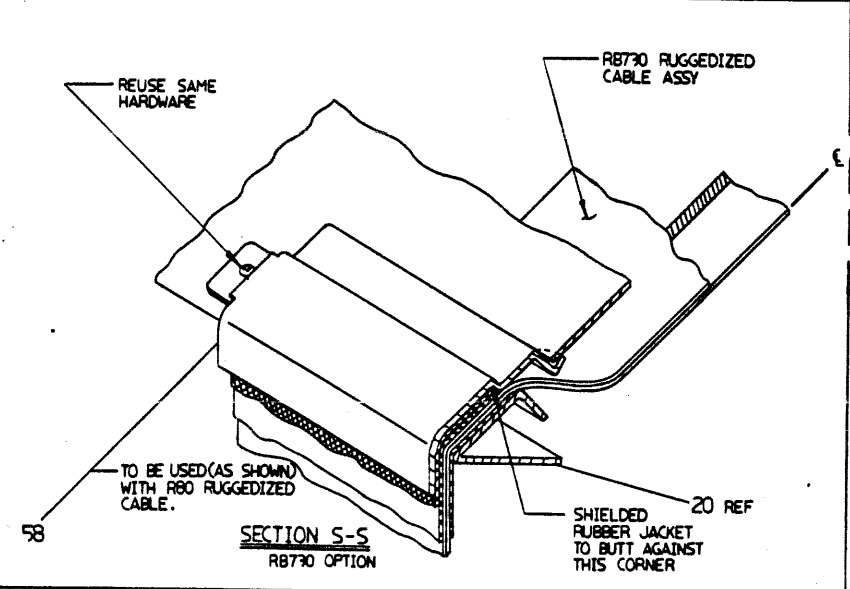
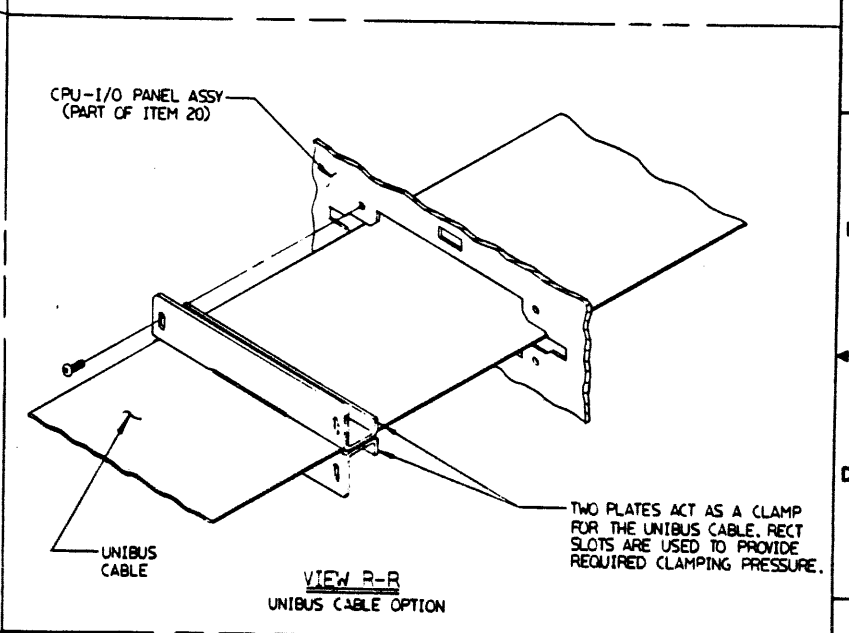
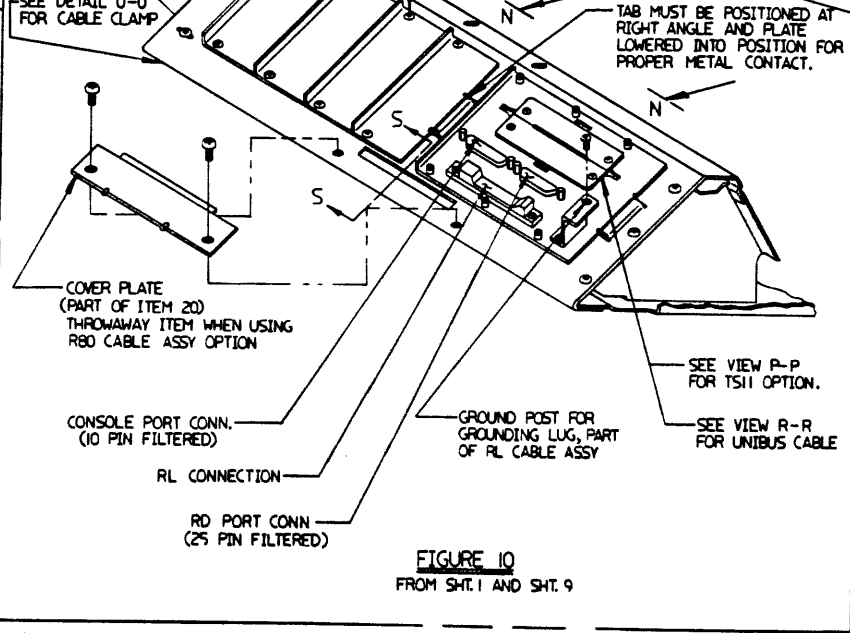
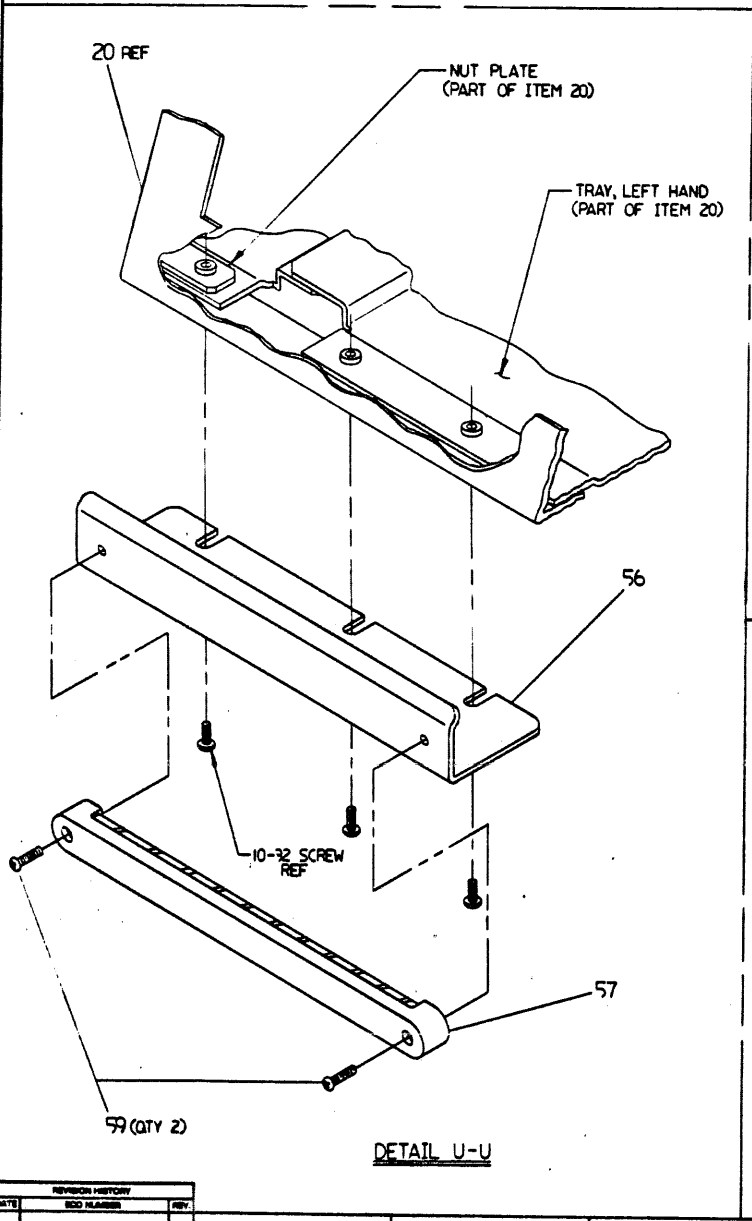
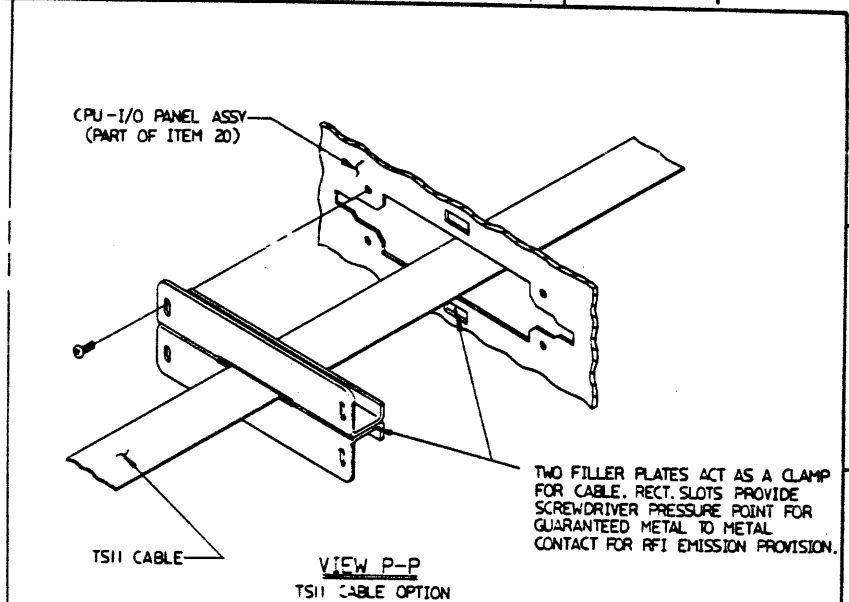
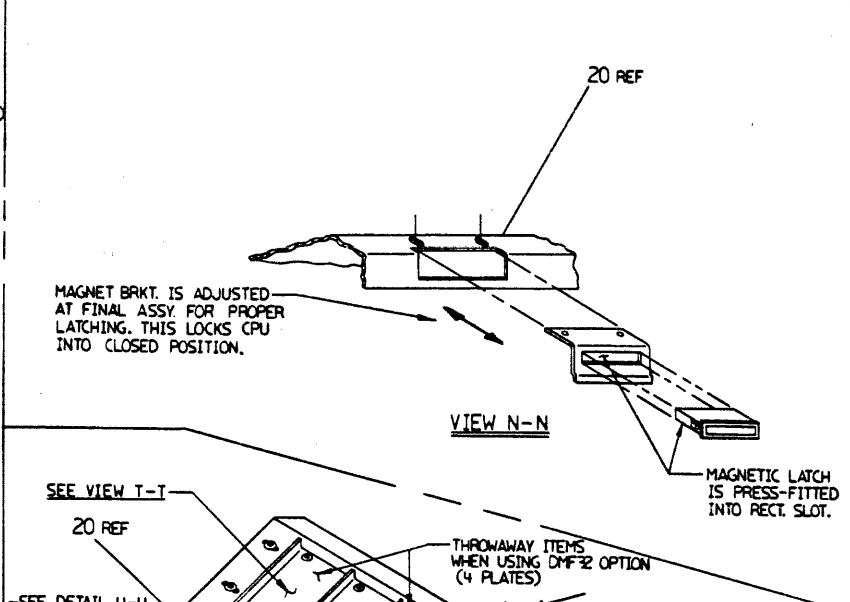
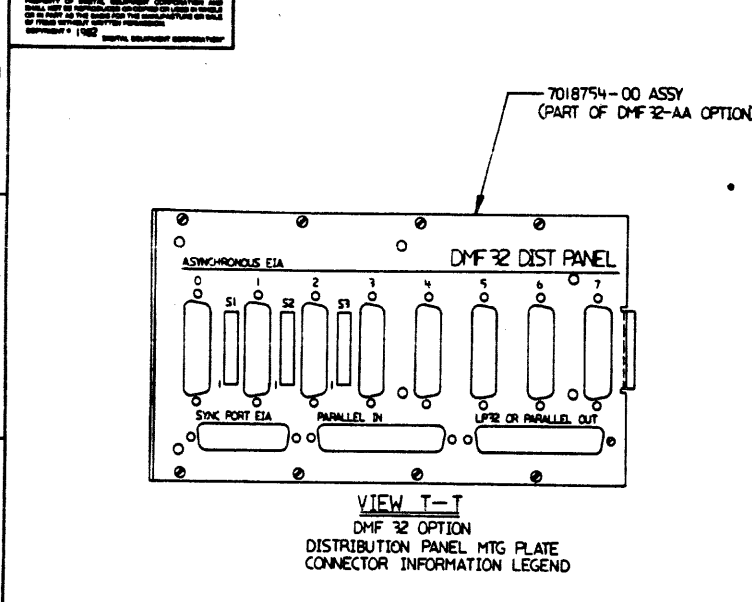
TITLE	11730-Z UNIT ASSY	DOCUMENT NUMBER	11730-Z-0	SHEET	8 OF 11
SCALE	TW				



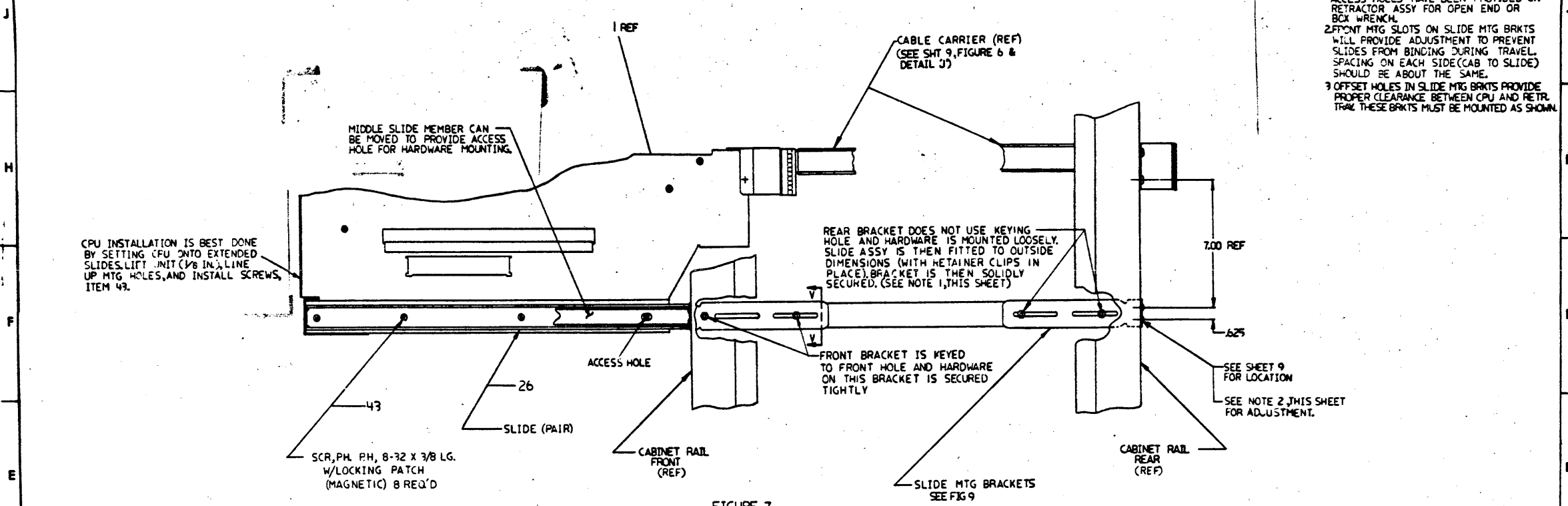
- FIGURE 6**
INSTALLATION INSTRUCTIONS
- RETRACTOR ASSY IS INSTALLED FIRST.
 - SLIDES ARE SET UP, SIZED, AND INSTALLED SECOND.
 - CPU IS NEXT INSTALLED ON EXTENDED SLIDES.
 - CATCH PAN ASSY CABLING IS POSITIONED AND INSTALLED.
 NOTE: CAN BE ON CPU BEFORE CPU IS INSTALLED.
 - POSITION AND/OR CONNECT ALL CABLING TO RETRACTOR ASSY.
 - POSITION AND MOUNT CABLE CARRIER ASSY.
 - CONNECT POWER CABLES AND OPTIONAL BBU CABLES.
 - MOUNT ALL COVERS SECURELY.
 - POSITION MAGNETIC LATCH FOR PROPER CPU CLOSURE.
 - INSTALL TETHER LINE CABLE CARRIER.

NOTE
 FOR OEM SHIPPING, ALL LOOSE HARDWARE REQUIRED, WILL BE KITTED AND BAGGED UNDER DEC P/N 11730-Z-3.

REVISION HISTORY		
DATE	ECO NUMBER	REV.



DATE	BY	REV.



NOTES:
 1. IF SLIDE MTG BRACKETS ARE MOUNTED BEFORE SIZING TO REQUIRED LENGTH, ACCESS HOLES HAVE BEEN PROVIDED ON RETRACTOR ASSY FOR OPEN END OR BOX WRENCH.
 2. FRONT MTG SLOTS ON SLIDE MTG BRKTS WILL PROVIDE ADJUSTMENT TO PREVENT SLIDES FROM BINDING DURING TRAVEL. SPACING ON EACH SIDE (CAB TO SLIDE) SHOULD BE ABOUT THE SAME.
 3. OFFSET HOLES IN SLIDE MTG BRKTS PROVIDE PROPER CLEARANCE BETWEEN CPU AND RETR. TRAK. THESE BRKTS MUST BE MOUNTED AS SHOWN.

FIGURE 7
SCALE: NONE

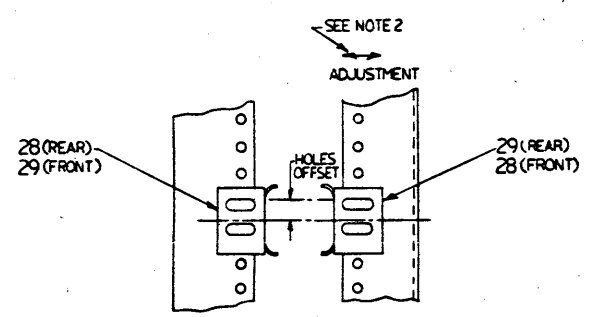
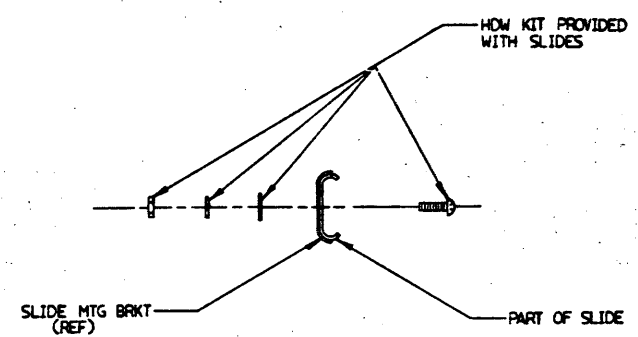


FIGURE 9
CAB FRONT VIEW
SCALE: NONE
SEE NOTE 3



LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION ZA
1	1	E-UA-BA11-Z-0	0BA11-ZA	10.5" BASIC BOX,H7202-B,120V & 2	1
2	2		3615839-00	TAPE,MAGNETIC CARTRIDGE .150W X	1
3	3	E-AD-7018079-0-0	7018079-00	CONSOLE ASSY TU58	1
4	4	E-AD-7018114-0-0	7018114-00	DUAL TU58 DRIVE ASSY.	1
5	5	B-DD-RB730-0	RB730-00	INTEGRATED DISK CONTROL FOR 1:R8	REF
6	6	B-DD-FP730-0	FP730-00	FLOATING POINT PROCESSOR (M8389)	REF
7	7	B-DD-KA730-A	KA730-A	CPU MOD SET	1
8	8	D-UA-M8390-0-0	M8390-00	DAP (DATA PATH)	REF
9	9	D-UA-M8391-0-0	M8391-00	MCT (MEMORY CONTROLLER) HEX	REF
10	10	D-UA-M8394-0-0	M8394-00	WRITEABLE CONTROL STORE,HEX,FOR	REF
11	11	B-DD-MS730-C	MS730-CA	1MB MOS MEM ECC MEMORY EXPANSION	1
12	12	B-DD-G7273-0	G7273-00	BUS GRANT. & NON-PROCESSOR GRANT.	5
13	13	B-DD-DMF32-0	DMF32-AA	8 EIA ASYNC SLU,SYNC SLU,PARALLE	REF
14	14	B-DD-M9302-0	M9302-00	UNIBUS TERMINATOR	1
15	15	D-IA-7011411-0-0	7011411-01	CABLE, CONSOLE BACKPLANE	1
16	16	D-IA-7011411-0-0	7011411-3D	CABLE, CONSOLE BACKPLANE	1
17	17	D-IA-7011411-0-0	7011411-YA	CABLE, CONSOLE BACKPLANE	1
18	18	D-IA-7018109-0-0	7018109-3B	TU58 POWER CABLE	1
19	19	C-IA-7018074-0-0	7018074-6F	BERG TO D SUB-MINATURE CABLE	2
20	20	E-AD-7018779-0-0	7018779-00	CPU CABLE RETRACTOR ASSY	1
21	21	C-IA-7018720-0-0	7018720-00	CATCH PAN ASSY.	1
22	22	C-IA-7018718-0-0	7018718-00	PRESSURE SHEET ASSY.	1
23	23	A-PS-1209856-0-0	1209856-02	CLIP, MODULE HOLDER W/O SEPARA	2
24	24	C-IA-7018772-0-0	7018772-00	CLAMP ASSY.	1
25	25	A-PS-1217665-0-0	1217665-03	FILTER,AIR FOAM 023PPI	1
26	26	A-PS-1218166-0-0	1218166-00	CHASSIS SLIDE 24.08 EXTENDED LG	1
27	27	A-PS-1219020-0-0	1219020-00	CABLE CARRIER	1
28	28	D-MD-7425374-0-0	7425374-01	SLIDE MOUNTING BRACKET,RIGHT	2
29	29	D-MD-7425374-0-0	7425374-00	SLIDE MTG BRACKET LEFT	2
30	30	A-PS-1700083-0-0	1700083-22	PWR CORD,TERM. 84IN,18-3 125V 15	REF

REVISION HISTORY			BASIC PART NO: 11730			DRN: P. TOUSIGNANT DATE: 24-FEB-82			D I I G I T I A L		
ENGI	ECO NUMBER	REV	SECTION A OF A	CHK'D:	R. MORIN	DATE:	24-FEB-82	TITLE	PARTS LIST.		
	INITIAL	A	SECTION. VARIATION INDEX	CHK'D:	R. MORIN	DATE:	24-FEB-82	11730-Z UNIT ASSY			
			[A] ZA	DES.ENG.:	R. MORIN	DATE:	24-FEB-82	DOCUMENT NUMBER			
			[B]	RESP.ENG.:	R. MORIN	DATE:	24-FEB-82	SIZE CODE NUMBER	REV		
			[C]	MFG.ENG.:	S. CASTIGLIONE	DATE:	24-FEB-82	K PL 11730-Z-D8P	A		
			[D]	ASSEMBLY NUMBER:	E-UA-11730-Z-0	TOP DOCUMENT NUMBER:	#B-DD-11730-Z	FILE NAME:	Z2842A.PLS	EDIT #	19
			[E]								
			[F]								

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DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MADE BY DATE	R.P. MORIN 15 FEB 82 <i>PM</i>	CHECKED DATE	SECTION
ENG DATE	R.P. MORIN 15 FEB 82 <i>PM</i>	PROD DATE	ISSUED SECTION

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION
1	E-UA-11730-Z-0	11730-ZA	11730-Z UNIT ASSY
2	E-AD-7018779-0-0	7018779-00	CPU CABLE RETRACTOR ASSY
3	C-IA-7018718-0-0	7018718-00	PRESSURE SHEET ASSY
4	D-MD-7425374-0-0	7425374-00	SLIDE MTC BRKT , LEFT
5	D-MD-7425374-0-0	7425374-01	SLIDE MTC BRKT , RIGHT
6	C-MD-7425927-0-0	7425927-00	GUIDE & CLAMP
7	C-IA-7425928-0-0	7425928-00	BRKT , CARRIER/BOX
8	C-MD-7425929-0-0	7425929-00	BRKT , CAB/CARRIER
9	B-IA-7426335-0-0	7426335-01	STUD PLATE
10	D-IA-7426623-0-0	7426623-01	CLAMP , R80 CABLE
11	D-IA-7426625-0-0	7426625-01	CLAMP , DMF CABLE
12	B-IA-7426723-0-0	7426723-01	BAR CLAMP ASSY
13	C-MD-7413659-0-0	7413659-00	BRKT , SHIPPING
14		1215700-04	CABLE , FERRULED
15		1218166-00	SLIDE (PAIR) W/HDW KITS (4)
16		1219020-00	CARRIER , CABLE
17		1700083-21	AC LINE CORD (240V)
18		1700083-22	AC LINE CORD (120V)
19		3615809-00	MEDIA CARTRIDGE , TU58-K
20		3700662-01	PACKAGING , CPU , 11730-ZA
21	B-PL-11730-Z-3	11730-Z-3	HARDWARE KIT BAG

11730-ZA

REF DESIGNATION

CPU BOX ONLY

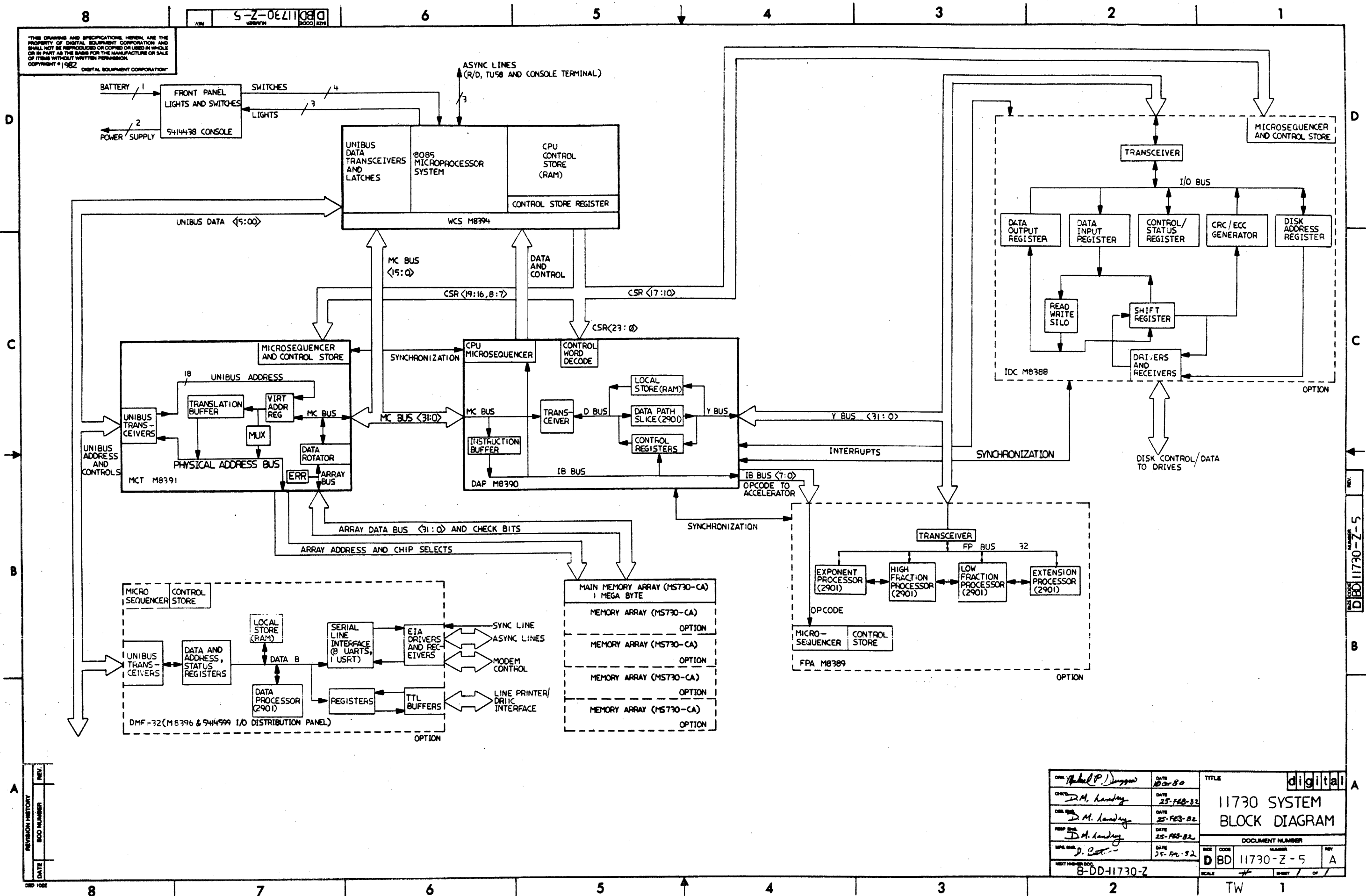
E.C.O. NO.

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		SHEET 1 OF 1	INSERTION PARTS LIST DATA BASE REV			

TW

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:		
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	11730-ZA												REF DESIGNATION
1.		9006037-03	SCR. TRUS, PHIL, 8-32x3/8L	5												(ITEM 42) TO MOUNT PRESSURE SHEET AND CARRIER/BOX BRKT
2.		9010309-00	SCR, PAN, PHIL, 8-32x3/8L W/PATCH	8												(ITEM 43) TO MOUNT SLIDES TO CPU
3.		9009700-00	SCR, TRUS, PHIL SEMS, 10-32x1/2L	14												(ITEM 44) TO MOUNT SLIDE MTG BRKTS CAB/CARRIER BRKT, CARRIER/BOX BRKT
4.		9007786-00	RETAINER, U-NUT, 10-32	12												(ITEM 45) TO MOUNT SLIDE MTG BRKTS AND CARRIER/CAB BRKTS
5.		9007031-00	TIE, CABLE	8												(ITEM 46) TO TIE CABLES TO CABLE CARRIER
6.		9006563-00	NUT, KEP, 8-32	2												(ITEM 47) FOR TETHER LINE
7.		9006660-00	WASHER, FLAT, #8	2												(ITEM 50) FOR TETHER LINE
8.		9006565-00	NUT, KEP, 10-32	1												(ITEM 52) FOR SHIPPING BRKT
9.		9006028-01	SCR, PAN, PHIL, 6-32x1.0L	2												(ITEM 59) BAR CLAMP TO DMF CABLE CLAMP
10.		9006037-01	SCR, PAN, PHIL, 3/8L	2												(ITEM 60) FOR TETHER LINE
11.		9906557-03	BAG, POLYETHYLENE, RECLOSABLE *	1												
			* BAG TO BE MARKED PER DEC STD 178.													
E.C.O. NO.																
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								SHEET / OF /			INSERTION PARTS LIST DATA BASE REV					

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REV	DATE	BY	CHKD

APP: <i>Michael P. Duggan</i>	DATE: 20-80	TITLE: digital
CHKD: <i>D.M. Landry</i>	DATE: 25-FEB-82	11730 SYSTEM BLOCK DIAGRAM
CHKD: <i>D.M. Landry</i>	DATE: 25-FEB-82	DOCUMENT NUMBER
CHKD: <i>D.M. Landry</i>	DATE: 25-FEB-82	D BD 11730-Z-5 A
CHKD: <i>D. C...</i>	DATE: 25-FEB-82	SCALE: 1/1
REV: 1	DATE: 25-FEB-82	SCALE: 1/1

REV. 1
DATE: 25-FEB-82
BY: D.M. LANDRY
CHKD: M.P. DUGGAN

B

A

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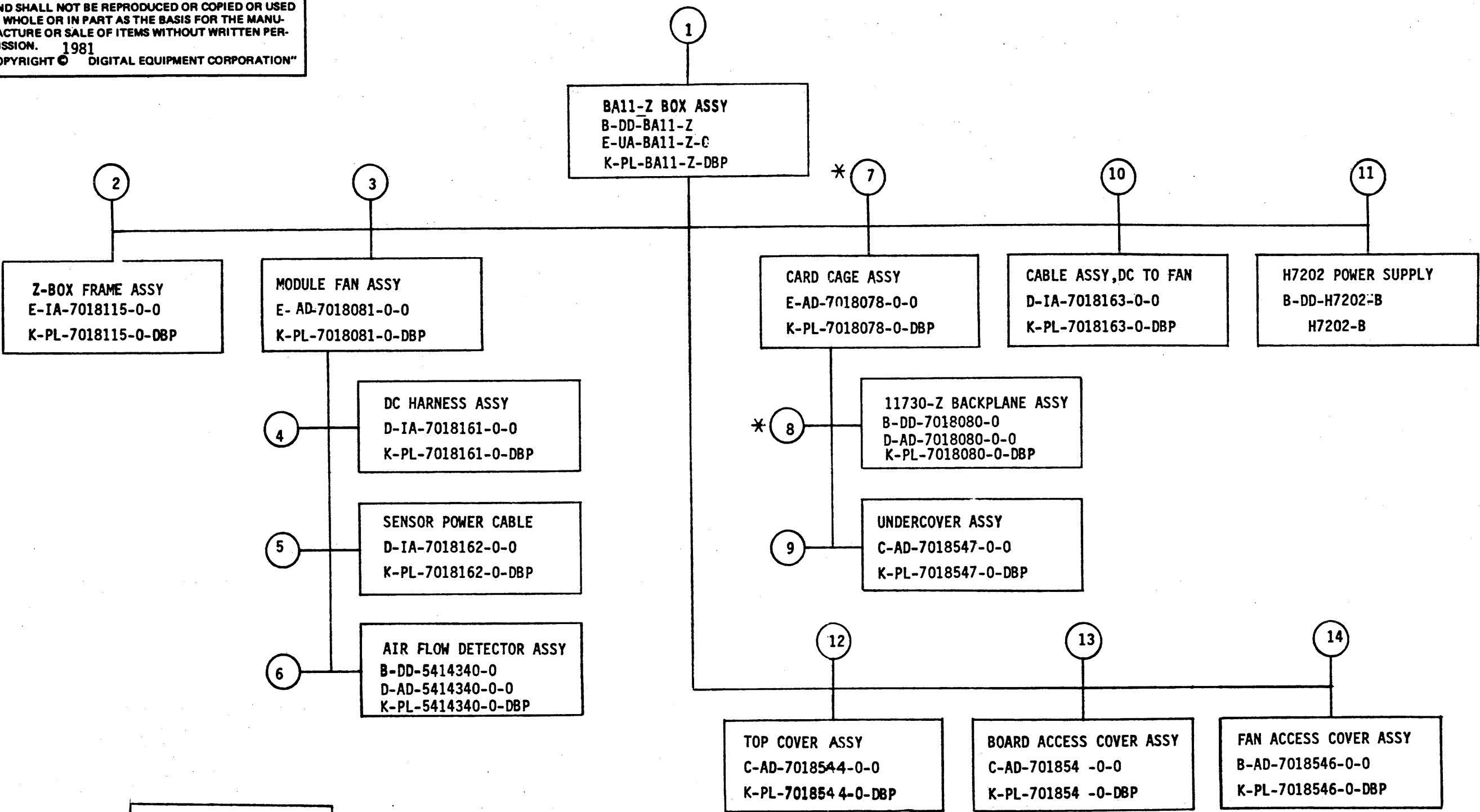
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UNIT VARIATIONS

VAR	TITLE
BA11-ZA	10 1/2" Z BOX, H7202-B P.S., 11730-Z BKPL, 120V & 240V

REVISIONS	REV.		USED ON OPTION/MODEL		DRN.	DATE	TITLE			
	CHANGE NO.		11730	A. ROCHA	3AUG81					
	CHK			CHK'D. B. MORIN <i>B. Morin</i>	DATE 3AUG81	BA11-Z BOX ASSY				
					PROJ. ENG. B. MORIN <i>B. Morin</i>	DATE 3AUG81	SIZE	CODE	NUMBER	REV
				PROD <i>S. Castyline</i>	DATE 25/0002	B	DD	BA11-Z	A	
			SHEET 1 OF 4			DIST.				

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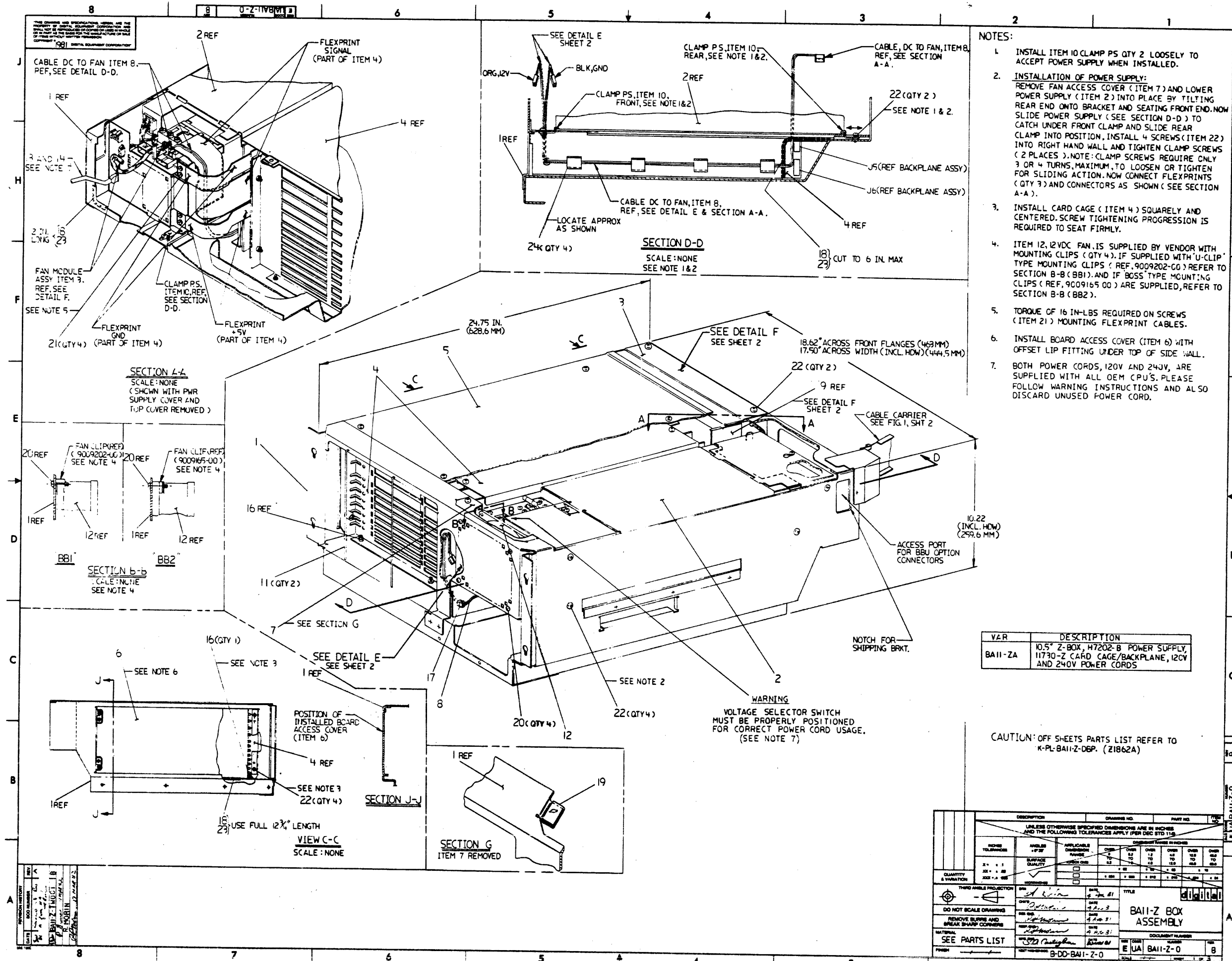


* = SPECIFIC TO
11730-Z NEBULA
SYSTEM.

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
10	D-IA-7018163-0-0 K-PL-7018163-0-DBP	CABLE,DC TO FAN CABLE,DC TO FAN-PARTS LIST Z1853	E/M -				
11	MP02157 B-TC-H7202-0-1 B-DD-H7202-B	H7202 POWER SUPPLY PRINT SET (MP) H7202 POWER SUPPLY - (TC) H7202 POWER SUPPLY	- - E/M				
12	C-AD-7018544-0-0 K-PL-7018544-0-DBP E-MD-7424827-0-0	TOP COVER ASSY TOP COVER ASSY-PARTS LIST Z2444 TOP COVER	M - M				
13	C-AD-7018545-0-0 K-PL-7018545-0-DBP D-MD-7424824-0-0	BOARD ACCESS COVER ASSY BOARD ACCESS COVER ASSY-PARTS LIST Z2577 BOARD ACCESS COVER	M - M				
14	B-AD-7018546-0-0 K-PL-7018546-0-DBP C-MD-7424825-0-0	FAN ACCESS COVER ASSY FAN ACCESS COVER ASSY-PARTS LIST Z2578 FAN ACCESS COVER ASSY	M - M				
TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL				TITLE BA11-Z BOX ASSY		SHEET 4 OF 4 SIZE B CODE DD NUMBER BA11-Z REV A	

DRB 108A

TW



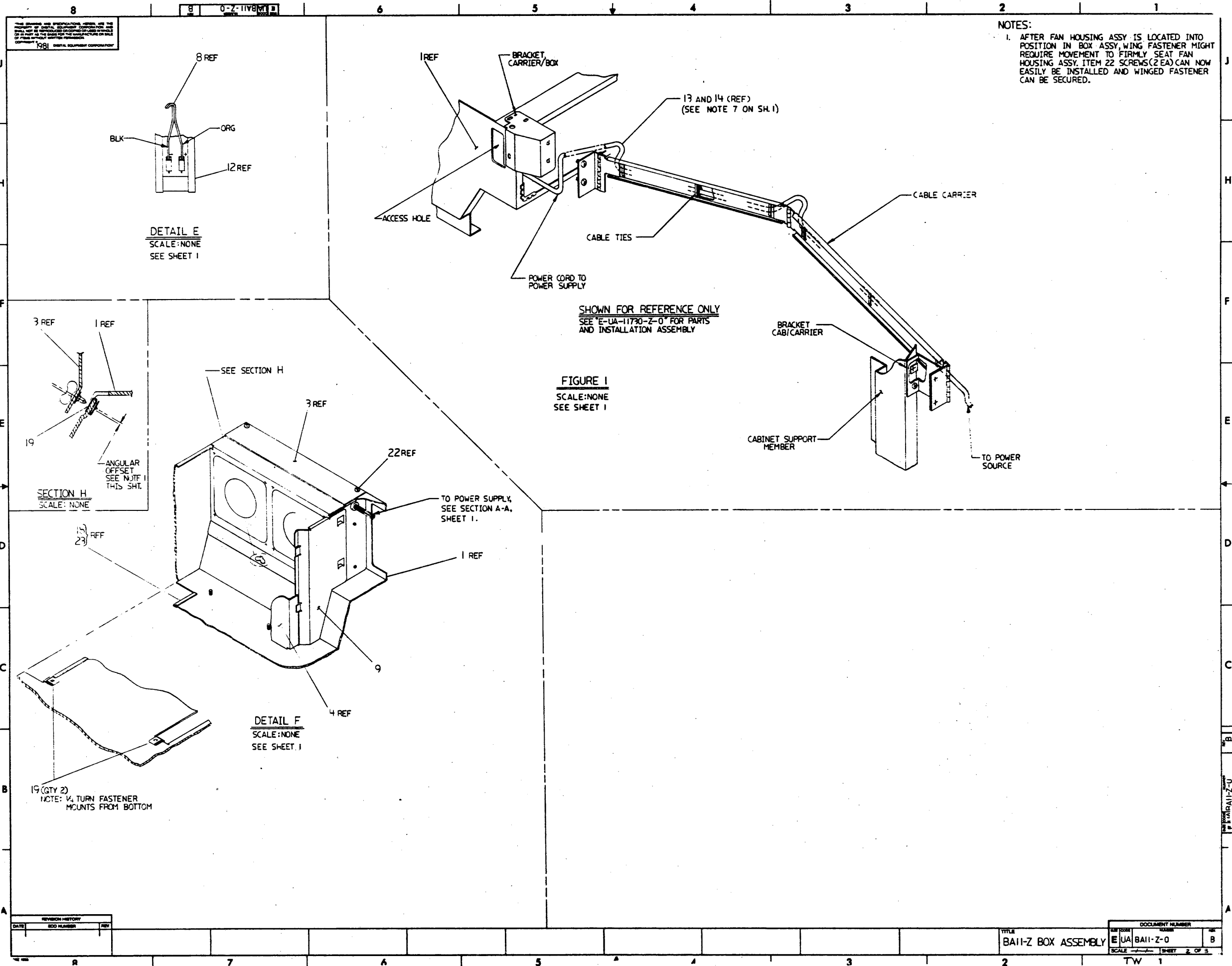
- NOTES:
1. INSTALL ITEM 10 CLAMP PS QTY 2 LOOSELY TO ACCEPT POWER SUPPLY WHEN INSTALLED.
 2. INSTALLATION OF POWER SUPPLY:
REMOVE FAN ACCESS COVER (ITEM 7) AND LOWER POWER SUPPLY (ITEM 2) INTO PLACE BY TILTING REAR END ONTO BRACKET AND SEATING FRONT END. NOW SLIDE POWER SUPPLY (SEE SECTION D-D) TO CATCH UNDER FRONT CLAMP AND SLIDE REAR CLAMP INTO POSITION, INSTALL 4 SCREWS (ITEM 22) INTO RIGHT HAND WALL AND TIGHTEN CLAMP SCREWS (2 PLACES). NOTE: CLAMP SCREWS REQUIRE ONLY 3 OR 4 TURNS, MAXIMUM, TO LOOSEN OR TIGHTEN FOR SLIDING ACTION. NOW CONNECT FLEXPRINTS (QTY 3) AND CONNECTORS AS SHOWN (SEE SECTION A-A).
 3. INSTALL CARD CAGE (ITEM 4) SQUARELY AND CENTERED. SCREW TIGHTENING PROGRESSION IS REQUIRED TO SEAT FIRMLY.
 4. ITEM 12, 12VDC FAN, IS SUPPLIED BY VENDOR WITH MOUNTING CLIPS (QTY 4). IF SUPPLIED WITH 'U-CLIP' TYPE MOUNTING CLIPS (REF. 9009202-00) REFER TO SECTION B-B (BB1) AND IF BOSS TYPE MOUNTING CLIPS (REF. 9009165-00) ARE SUPPLIED, REFER TO SECTION B-B (BB2).
 5. TORQUE OF 16 IN-LBS REQUIRED ON SCREWS (ITEM 21) MOUNTING FLEXPRINT CABLES.
 6. INSTALL BOARD ACCESS COVER (ITEM 6) WITH OFFSET LIP FITTING UNDER TOP OF SIDE WALL.
 7. BOTH POWER CORDS, 120V AND 240V, ARE SUPPLIED WITH ALL OEM CPU'S. PLEASE FOLLOW WARNING INSTRUCTIONS AND ALSO DISCARD UNUSED POWER CORD.

VAR	DESCRIPTION
BA11-ZA	10.5" Z-BOX, H7202-B POWER SUPPLY, I1730-Z CARD CAGE/BACKPLANE, 120V AND 240V POWER CORDS

CAUTION: OFF SHEETS PARTS LIST REFER TO K-PL-BA11-Z-DSP. (21862A)

THIRD ANGLE PROJECTION		DATE: 4/11/81		TITLE: BA11-Z BOX ASSEMBLY	
DO NOT SCALE DRAWING	REMOVE BURRS AND BREAK SHARP CORNERS	DATE: 4/11/81	DATE: 4/11/81	DATE: 4/11/81	DATE: 4/11/81
SEE PARTS LIST		DRAWING NUMBER: B-DD-BA11-Z-0		DOCUMENT NUMBER: BA11-Z-0	
MATERIAL:			DRAWN BY: [Signature]		
FINISH:			CHECKED BY: [Signature]		

TW 1



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NOTES:
 1. AFTER FAN HOUSING ASSY IS LOCATED INTO POSITION IN BOX ASSY, WING FASTENER MIGHT REQUIRE MOVEMENT TO FIRMLY SEAT FAN HOUSING ASSY. ITEM 22 SCREWS (2 EA) CAN NOW EASILY BE INSTALLED AND WINGED FASTENER CAN BE SECURED.

DETAIL E
 SCALE: NONE
 SEE SHEET 1

SECTION H
 SCALE: NONE
 ANGULAR OFFSET SEE NUT F THIS SHI.

FIGURE 1
 SCALE: NONE
 SEE SHEET 1

DETAIL F
 SCALE: NONE
 SEE SHEET 1

19 (QTY 2)
 NOTE: V-TURN FASTENER MOUNTS FROM BOTTOM

SHOWN FOR REFERENCE ONLY
 SEE E-UA-11730-Z-0 FOR PARTS AND INSTALLATION ASSEMBLY

REVISION HISTORY		
DATE	ECO NUMBER	REV

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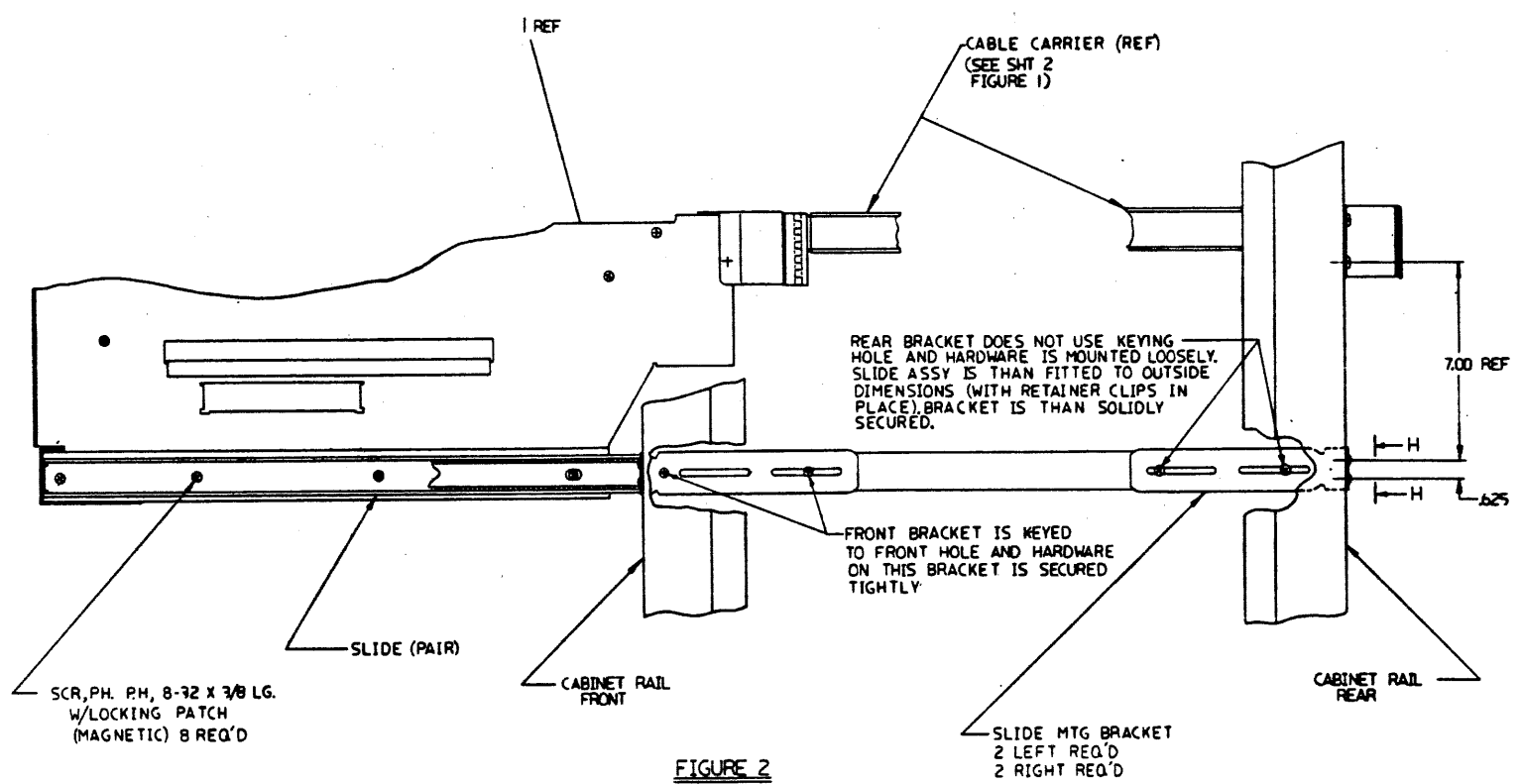
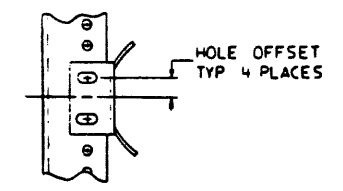


FIGURE 2
SCALE: NONE
SHOWN FOR REFERENCE ONLY
SEE "E-UA-11730-Z-0" FOR PARTS
AND INSTALLATION ASSEMBLY



VIEW H-H
REAR VIEW-LEFT RAIL
SCALE: NONE

DATE	REVISION HISTORY	ECO NUMBER	REV

TITLE	DOCUMENT NUMBER
BAI-Z BOX ASSEMBLY	EUA BAI-Z-0 B
SCALE	SHEET 3 OF 3
TW	1

EUA BAI-Z-0 B

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION	
					ZA	ZB
1		E-IA-7018115-0-0	7018115-00	Z-BOX FRAME ASSY.	1	1
2		-DD-H7202-0-0	H7202-8	NEBULA POW SUP: H7200,H7211,H721	1	1
3		-AD-7018081-0-0	7018081-00	FAN ASSY	1	1
4		-AD-7018078-0-0	7018078-00	CARD CAGE ASSY	1	1
5		-AD-7018544-0-0	7018544-00	TOP COVER ASSY.	1	1
6		-AD-7018545-0-0	7018545-00	BOARD ACCESS COVER ASSY.	1	1
7		-AD-7018546-0-0	7018546-00	FAN ACCESS COVER ASSY.	1	1
8		-IA-7018163-0-0	7018163-00	CABLE DC TO FAN	1	1
9		-MD-7424850-0-0	7424850-00	PLATE, BAFFLE END	1	1
10		-IA-7425373-0-0	7425373-00	CLAMP, PS	2	2
11		-MD-7425571-0-0	7425571-00	SUPPORT WIRE	2	2
12			1217556-00	FAN, 108CFM, 12VDC AXIAL, 4.5"DIA	1	1
13			1700083-22	PWR CORD, TERM. 84IN, 18-3 125V 15	1	1
14			1700083-21	PWR CORD, TERM. 84IN, 18-3 250V 6	1	1
15		BLANK		*** THIS ITEM IS NOT USED ***	0	0
16			9006565-00	NUT, KEP 10-32X 3/8 AF	4	4
17			9007015-00	GROMMET, RUBBER	4	4
18			9007035-00	GROMMET #122-37-1500	2	2
19			9008196-01	RECP. CLIP-ON F/1/4 TURN FASTNR	4	4
20			9009984-01	SCREW, SEMS, PHILLIPS PAN HD 6-	4	4
21			9009988-08	SCREW, SEMS, SLOTTED HEX HD 8-32	4	4
22			9010174-01	SCREW, PAN, PHIL SEMS 8-32X .31 L	12	12
23			9009157-00	ADH. LIQ. RM. TEMP CURING COLORLESS	A/R	A/R
24			9009636-00	CLAMP, CABLE, FOR FLAT CABLE	4	4

REVISION HISTORY		BASIC PART NO: OBA11		DRN: A. ROCHA	DATE: 16-NOV-81	D I G I T A L	
ENG:	ECO NUMBER	REV	SECTION A OF A	CHK'D: R. MORIN	DATE: 16-NOV-81	TITLE PARTS LIST	
---	INITIAL	XA	SECTION. VARIATION INDEX			BA11-Z BOX ASSY	
---	INITIAL	A	[A] ZA,ZB				
			[B]	DES.ENG.: R. MORIN	DATE: 16-NOV-81		
			[C]			DOCUMENT NUMBER	
			[D]	RESP.ENG.: R. MORIN	DATE: 16-NOV-81	SIZE: CODE:	NUMBER
			[E]				REV
			[F]	MFG.ENG.: S.CASTIGLIONE	DATE: 30-JUL-81	K PL	BA11-Z-DBP
				ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
				E-AD-BA11-Z-0	E-UA-11730-Z-0	Z1862A.PLS	14
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AUTOMATED BY FRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	D-MD-7424831-0-0	7424831-00	HOUSING FAN	1
2	C-MD-7424849-0-0	7424849-00	BAFFLE FAN	1
3		1217556-00	FAN 103CFM, 12VDC, AXIAL, 4.5"DIA	2
4	D-IA-7018162-0-0	7018162-00	SENSOR PWR CABLE	1
5		9009994-01	SCREW, SENS, PHILLIPS PAN HD 6-	8
6		9007031-00	TIE, CABLE BUNDL DIA 0- 3/4"=101	4
7		9009643-02	SCREW PAN SLOT, SENS 4-40X .250L	3
8	D-IA-7018161-0-0	7018161-00	DC HARNESS ASSY	1
9	D-AD-5414340-0-0	5414340-00	AIR FLOW SENSOR	1
10		9000026-05	FASTNR, 1/4 TURN, WING HD	1
11		9010308-00	RETAINER, PUSH-ON SS/PAS	1
12	SEE NOTE	9009533-00	CHANNEL "U" EXTRUDED RUBBER	1

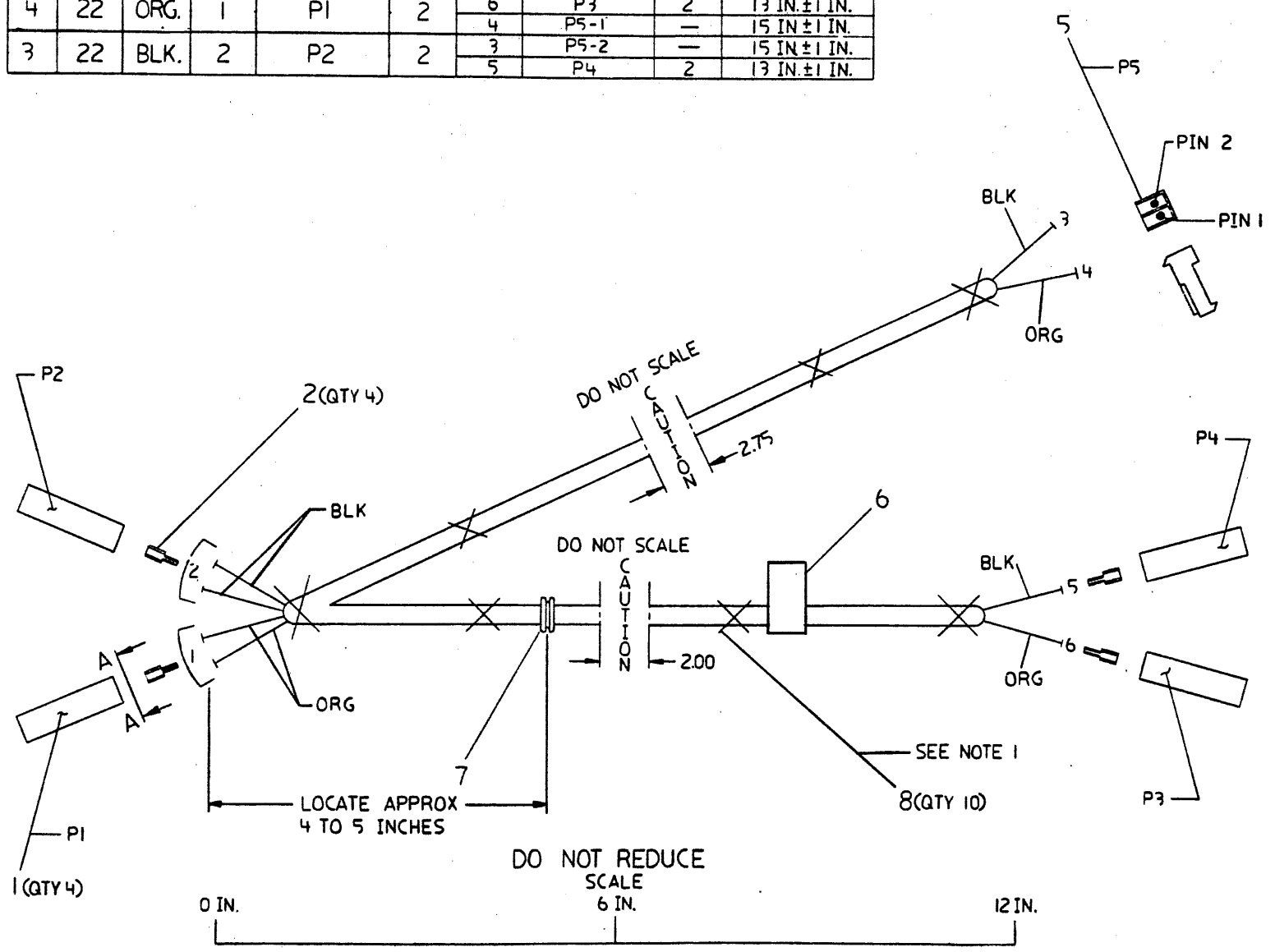
13 NOTE: CUT LENGTH OF ITEM 12 TO BE 1.25+/- .06 INCH

REVISION HISTORY		BASIC PART NO: 7018081		DRN: P. TOUSIGNANT	DATE: 28-JUL-81	DIGITAL	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: A. ROCHA	DATE: 29-JUL-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX			MODULE FAN ASSY	
			(A) 00	DES. ENG.: R. MORIN	DATE: 28-JUL-81	DOCUMENT NUMBER	
			(B)	RESP. ENG.: R. MORIN	DATE: 28-JUL-81	SIZE	CODE
			(C)	MFG. ENG.: E. PARIS	DATE: 28-JUL-81	K	PL
			(D)	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	7018081-0-DBP	
			(E)	E-AD-7018081-0-0	E-UA-8A11-Z-0	FILE NAME:	EDIT #
			(F)			21848A.PLS	14
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WIRE TABLE									
ITEM NO.	DESCRIPTION	FROM			TO			LENGTH	
		AWG	COLOR	POINT	CONNECTION	WITH	POINT		CONNECTION
4	22	ORG.	1	P1	2	6	P3	2	13 IN. ± 1 IN.
3	22	BLK.	2	P2	2	4	P5-1	—	15 IN. ± 1 IN.
						3	P5-2	—	15 IN. ± 1 IN.
						5	P4	2	13 IN. ± 1 IN.

- NOTES:
- ATTACH CABLE TIES (ITEM 8) APPROX. EVERY 3 IN. AS SHOWN, AND AT EVERY BREAKOUT POINT.
 - ALL WIRE ENDS TO BE STRIPPED, EXCEPT FOR POINTS 3 AND 4.



SEE OFF SHEET PARTS LIST
K-PL-7018161-0-DBP

REV.	DESCRIPTION	DATE
A	REVISED BY REV. FROM REV. N/C	01/18/80

DESCRIPTION	DRAWING NO.	PART NO.	REV. NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC. STD 114)			
INCHES TOLERANCES	ANGLES ± 9°30'	APPLICABLE DIMENSION RANGE	DIMENSION RANGE IN INCHES
X = ± .1	SURFACE QUALITY	(CHECK ONE)	OVER 0.2 TO 0.5 ± .02
XX = ± .05			OVER 0.5 TO 1.2 ± .03
XXX = ± .03			OVER 1.2 TO 4.9 ± .04
			OVER 4.9 TO 12.0 ± .05
			OVER 12.0 TO 49.9 ± .06
			OVER 49.9 TO 89.9 ± .08
			OVER 89.9 TO 149.9 ± .10
QUANTITY & VARIATION			OVER 149.9 TO 249.9 ± .12
			OVER 249.9 TO 499.9 ± .15
			OVER 499.9 TO 999.9 ± .20
			OVER 999.9 TO 2499.9 ± .25
			OVER 2499.9 TO 4999.9 ± .30
			OVER 4999.9 TO 9999.9 ± .35
			OVER 9999.9 TO 24999.9 ± .40
			OVER 24999.9 TO 49999.9 ± .45
			OVER 49999.9 TO 99999.9 ± .50
THIRD ANGLE PROJECTION	DATE 1/8/80	TITLE digital	
DO NOT SCALE DRAWING	DATE 9 FEB 81	DC HARNESS ASSY	
REMOVE BURRS AND BREAK SHARP CORNERS	DATE 9 AUG 81	DOCUMENT NUMBER	
MATERIAL SEE PARTS LIST	DATE 13 OCT 81	DIA 7018161-0-0 A.	
FINISH	DATE	SCALE 1/1	
		E-AD-7018081-0-0	
		SHEET 1 OF 1	

REV. NO. A
PART NO. DIA 7018161-0-0

AUTOMATED BY PRTLST.SP(44)

PARTS LIST

SHEET A1 OF A1

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	1	1210820-01	SOCKET HOUSING	1
		1210820-03	CONN TERMINAL, LOOSE	1
	SEE NOTE 1	9107736-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	200
	SEE NOTE 2	9107796-33	WIRE, STRND, 22AWG, XLPVC UL1430 (	200
		1219296-03	CONN, 100 2SKT STRAIGHT	1
		9003255-01	LABEL, POWER SUPPLY, 2-7 8" LG X	1
		9007013-00	GROMMET, RUBBER	1
		9007031-00	TIE, CABLE BUNDL.DIA 0- 3/4"=101	10

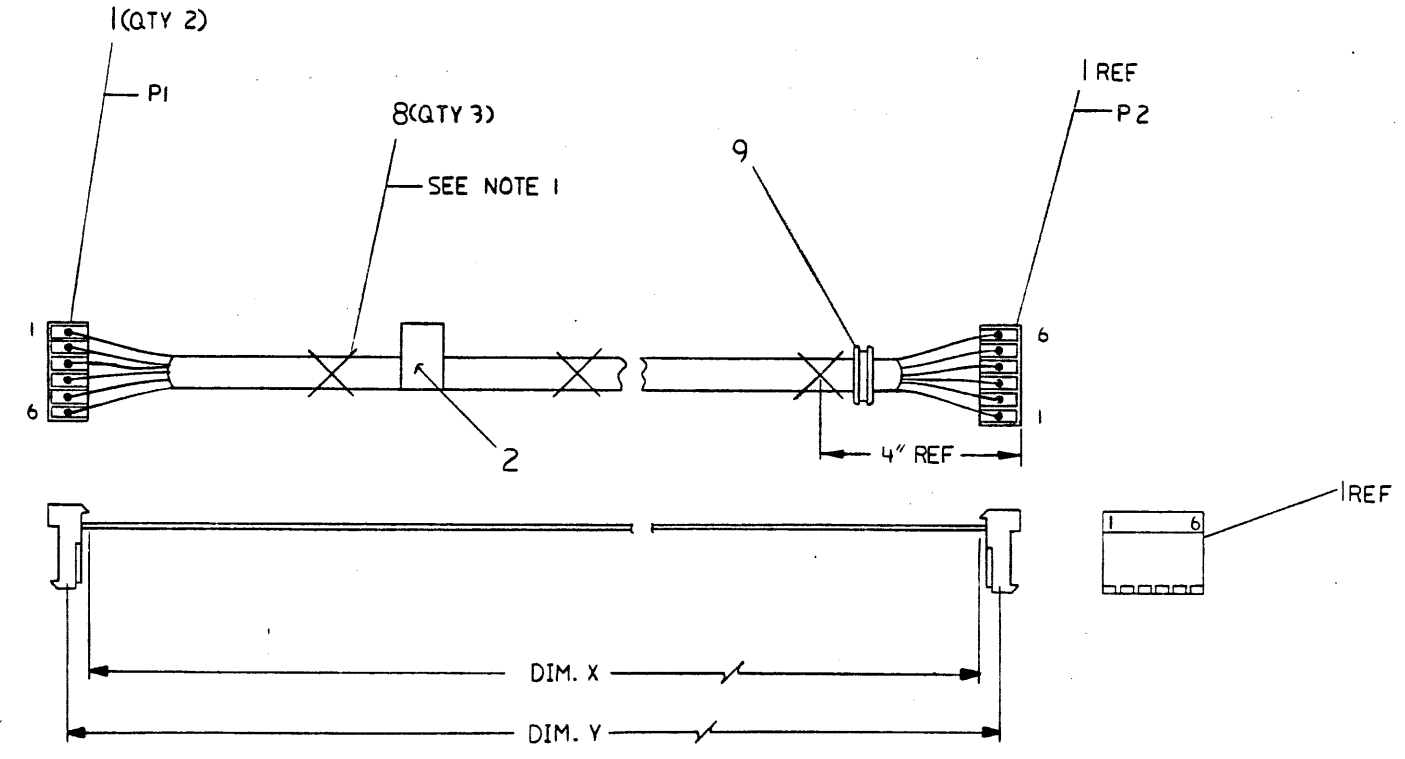
9 NOTE: 1. ITEM 3 REQUIRES A 13 INCH AND A 15 INCH LENGTH.
 10 NOTE: 2. ITEM 4 REQUIRES A 13 INCH AND A 15 INCH LENGTH.

REVISION HISTORY		BASIC PART NO: 7018161		DRN: P. TOUSIGNANT	DATE: 23-JUL-81	D I G I T A L	
ENG:	ECC NUMBER	REV	SECTION A OF A	CHK'D: A. ROCHA	DATE: 23-JUL-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX:	DES.ENG.: R. MORIN	DATE: 23-JUL-81	DC HARNESS ASSY	
			(A) 00	RESP.ENG.: R. MORIN	DATE: 23-JUL-81	DOCUMENT NUMBER	
			(B)	MFG.ENG.: S. CASTIGLIONE	DATE: 23-JUL-81	SIZE	CODE
			(C)	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	NUMBER	REV
			(D)	0-1A-7018161-0-0	E-AD-7018031-0-0	K	PL
			(E)			7018161-C-DBP	A
			(F)			FILE NAME:	EDIT #
						21851A.PLS	15
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WIRE TABLE						
ITEM NO.	DESCRIPTION	FROM	TO	WITH	WITH	REMARKS
3	22 BLACK	P1-1	P2-1			+12V RTN
5	22 ORANGE	P1-2	P2-2			+12V
6	22 YELLOW	P1-4	P2-4			FAULT
4	22 RED	P1-5	P2-5			+5V
7	22 VIOLET	P1-6	P2-6			FAULT RTN
10	22 GREEN	P1-3	P2-3			+5V RTN

LEGEND		
NUMBER	DIM. X VARIATION	DIM. Y (PRECUT) REF
7018162-0M	11. IN ±.5 IN	11.50 IN ±.5 IN.

NOTES:
 1. ATTACH CABLE TIES (ITEM 8) APPROX. EVERY 3 IN. AS SHOWN.
 2. WIRES NEED NOT HAVE ANY INSULATION REMOVED.



SEE OFF SHEET PARTS LIST
 K-PL- 7018162-0-DBP

DATE	ECO NUMBER	REV.	A

DESCRIPTION		DRAWING NO.		PART NO.		ITEM NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)							
INCHES TOLERANCES		ANGLES ±0°30'		APPLICABLE DIMENSIONAL RANGE			
X = ±.1		SURFACE QUALITY		DIMENSION RANGE IN INCHES			
XX = ±.02		✓		OVER 0 TO 0.2			
XXX = ±.005		✓		OVER 0.2 TO 1.5			
				OVER 1.5 TO 4.0			
				OVER 4.0 TO 12.0			
				OVER 12.0 TO 48.0			
				OVER 48.0 TO 80.0			
QUANTITY & VARIATION		MICROINCHES		OVER 80.0 TO 100.0			
		✓		±.004 ±.008 ±.012 ±.016 ±.024 ±.04			
THIRD ANGLE PROJECTION		DATE 1-15-81		TITLE			
DO NOT SCALE DRAWING		DATE 9 AUG 81		CABLE, SENSOR POWER			
REMOVE BURRS AND BREAK SHARP CORNERS		DATE 9 AUG 81		DOCUMENT NUMBER			
MATERIAL		DATE 13 OCT 81		DIA 7018162-0-0			
FINISH		NEXT HIGHER DOC E-AD-7018081-0-0		SCALE 1/1			

DATE LOCK DIA 7018162-0-0

AUTOMATED BY PRTLST.GP(44)

PARTS LIST

SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1			1218296-03	CONN .100 6SKT STRAIGHT	2
			9009255-01	LABEL, POWER SUPPL: 2-7/8" LG X	1
		NOTE	9107796-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	12
		NOTE	9107796-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	12
		NOTE	9107796-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	12
		NOTE	9107796-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	12
		NOTE	9107796-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	12
		NOTE	9107796-00	WIRE, STRND, 22AWG, XLPVC UL1430 (	12
		NOTE	9007031-00	TIE, CABLE BUNDL. DIA C- 3/4"=101	1
		NOTE	9007017-00	GROMMET RUBBER	1
10		SEE NOTE	9107796-55	WIRE, STRND, 22AWG, XLPVC UL1430 (	12

11 NOTE: ITEMS 3,4,5,6,7 AND 10 ARE IN INCHES LONG.

REVISION HISTORY		BASIC PART NO: 7018162		DRN:	P. TOUSIGNANT	DATE:	23-JUL-81	DIGITAL	
ENG:	ECD NUMBER	REV	SECTION A OF A	CHK'D:	A. ROCHA	DATE:	23-JUL-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX					SENSOR POWER CABLE	
			(A) OM					DOCUMENT NUMBER	
			(B)	DES.ENG.:	R. MORIN	DATE:	23-JUL-81		
			(C)	RESP.ENG.:	R. MORIN	DATE:	23-JUL-81	SIZE: CODE:	NUMBER
			(D)						REV
			(E)	MFG.ENG.:	S. CASTIGLIONE	DATE:	23-JUL-81	K	PL
			(F)	ASSEMBLY NUMBER:	D-IA-7018162-0-0	TOP DOCUMENT NUMBER:	E-AD-7018081-0-0	FILE NAME:	21852A.PLS
									EDIT #
									13

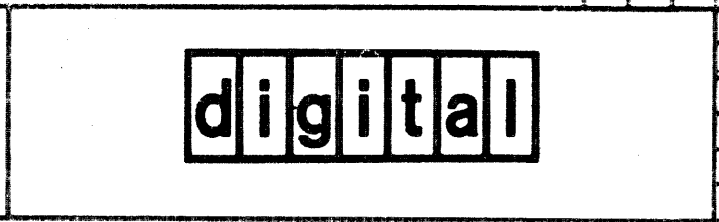
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DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS															
				1	2	3	4	5	6	7	8	9	10	11	12				
B-DD-5414340-0	1		AIR FLOW SENSOR	A															
D-UA-5414340-0-0	1		AIR FLOW SENSOR	A															
D-MD-504339-0-0	3		DRILL AND ETCH DRAWING	A															
D-EC-5014339-0-0	2		ETCH CUT DRAWING	A															
D CS 5414340-0-1	1		AIR FLOW SENSOR	A															
K-PL-5414340-0-DBP	1		AIR FLOW SENSOR	A															
		5014339	ETCHED BOARD	D															
K-PC-5414340-0-DBC			PC DESIGN DATA BASE	D															
A-SP-3700646-0-0	6	3700646-01	PKG MODULE (5413340) 54PACK	A															
A-SP-5414340-0-2	17		AIR FLOW SENSOR SPEC	A															

NOTES:

REVISIONS		DATE	CHG NO.	REV.

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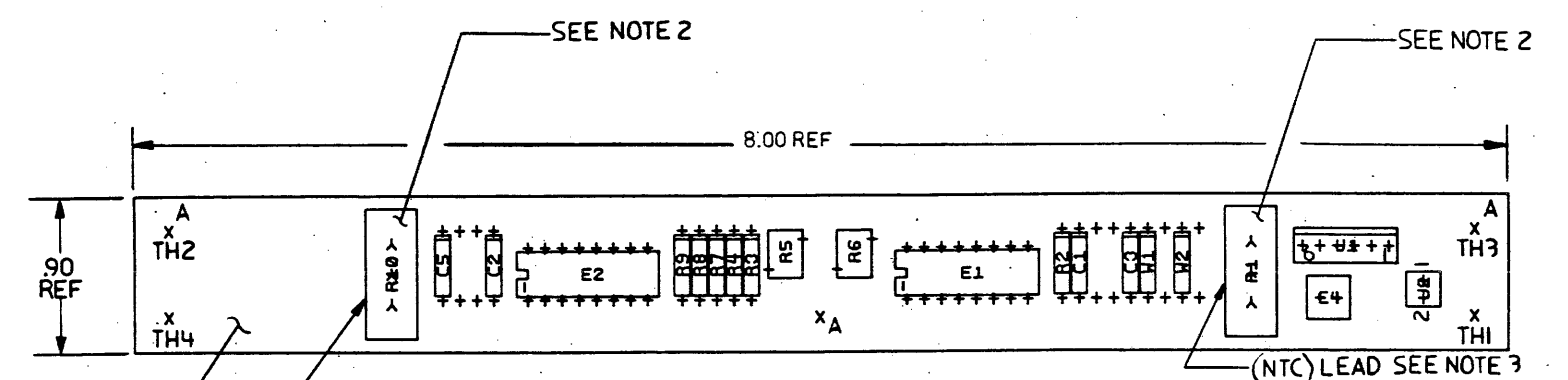
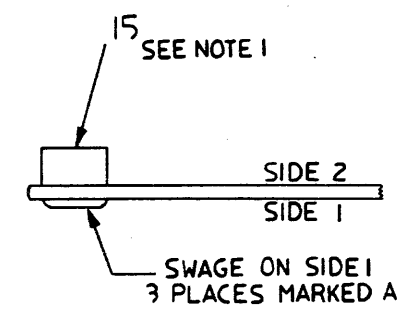
USED ON OPTION/MODEL	
BA11-Z	

DRN.	<i>Ferguson</i>	4-10-81
CHK'D	<i>Ferguson</i>	4-10-81
ENG.	<i>W. P. Lyndell</i>	9-17-81
PROD.	<i>W. P. Lyndell</i>	9/18/81

TITLE	AIR FLOW SENSOR		
SIZE	CODE	NUMBER	REV.
B	DD	5414340-0	A
SHEET	OF		

8 7 6 5 4 3 2 1

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NOTES: 1. INSTALL ITEM 15 FROM SIDE 2 AFTER WAIVE SOLDER & AFTER BOARD IS CUT TO FINISHED BOARD SIZE
2. R1 & R10 MUST BE RAISED .125" TO .150" OFF PC BOARD.
3. NOTE ORIENTATION OF R1 AND R10 (ITEM 10)

STEP	E	↑ Y AXIS	STEP	TIMES
REPEAT		→ X AXIS	STEP	TIMES

CHG	NO	REV

ETCH REV.	D
-----------	---

SIGNATURES	DATE
DRN. <i>[Signature]</i>	2-19-81
CHK'D. <i>[Signature]</i>	2-19-81
MECH. ENG. <i>[Signature]</i>	9-17-81
PROJ. ENG. <i>[Signature]</i>	9-17-81
PROD. <i>[Signature]</i>	9-18-81
SCALE	2/1
SHT.	OF
NEXT HIGHER ASSY. B-DD-5414340-0	

digital	
TITLE AIR FLOW SENSOR	
SIZE	CODE
0 UA	5414340-0-0
REV	A

DUA 5414340-0-0 A

8 7 6 5 4 3 2 1 WO#170273

AUTOMATED BY DATE: 02/09/91
 LONG ITEM DOCUMENT NUMBER

PART NUMBER: 5414340-00
 REV: 00

5414340-00

SECTION VARIATION INDEX
 00

ENGINEER: J. FERGUSON
 DATE: 30-JAN-91
 DESIGNED BY: F. GAROFALO
 DATE: 30-JAN-91
 DESIGNED BY: D. DRINKWATER
 DATE: 30-JAN-91
 RESP. ENG.: D. DRINKWATER
 DATE: 30-JAN-91
 MFG. ENG.: W. WYCKOFF
 DATE: 9-10-91

ASSEMBLY NUMBER:
 D-04-5414340-0-0

TOP DOCUMENT NUMBER:
 00-00-5414340-0-0

REVISION HISTORY			BASIC PART NO: 5414340		DATE: 30-JAN-91	
ENG	DOC NUMBER	REV	SECTION A OF A	CHK'D: F. GAROFALO	DATE: 30-JAN-91	TITLE: AIR FLW INDEX
	INITIAL	0	SECTION VARIATION INDEX 00	DES. ENG: D. DRINKWATER	DATE: 30-JAN-91	DOCUMENT NUMBER
				RESP. ENG.: D. DRINKWATER	DATE: 30-JAN-91	
				MFG. ENG.: W. WYCKOFF	DATE: 9-10-91	
			ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:		
			D-04-5414340-0-0	00-00-5414340-0-0		

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REV. B	NUMBER 7018080-0-0	CODE DD	SIZE B
-----------	-----------------------	------------	-----------

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14		
A-WT-7018080-0-2	1		AWT REVISION STATUS	A	A														
K-WL-7018080-0-DBW			DESIGN DATA BASE TAPE	A	A														
K-WL-7018080-0-1	1		WIRELIST (730Z)	A	A														
		5014598-00	ETCH BOARD	C	D														
K-PL-7018080-0-DBP	1		11730-Z BACKPLANE ASSY	A	A														
D-AD-7018080-0-0	1		11730 Z BACKPLANE ASSY	A	A														
B-DD-5414599-0-0	1		730Z BACKPLANE MODULE	A	B														

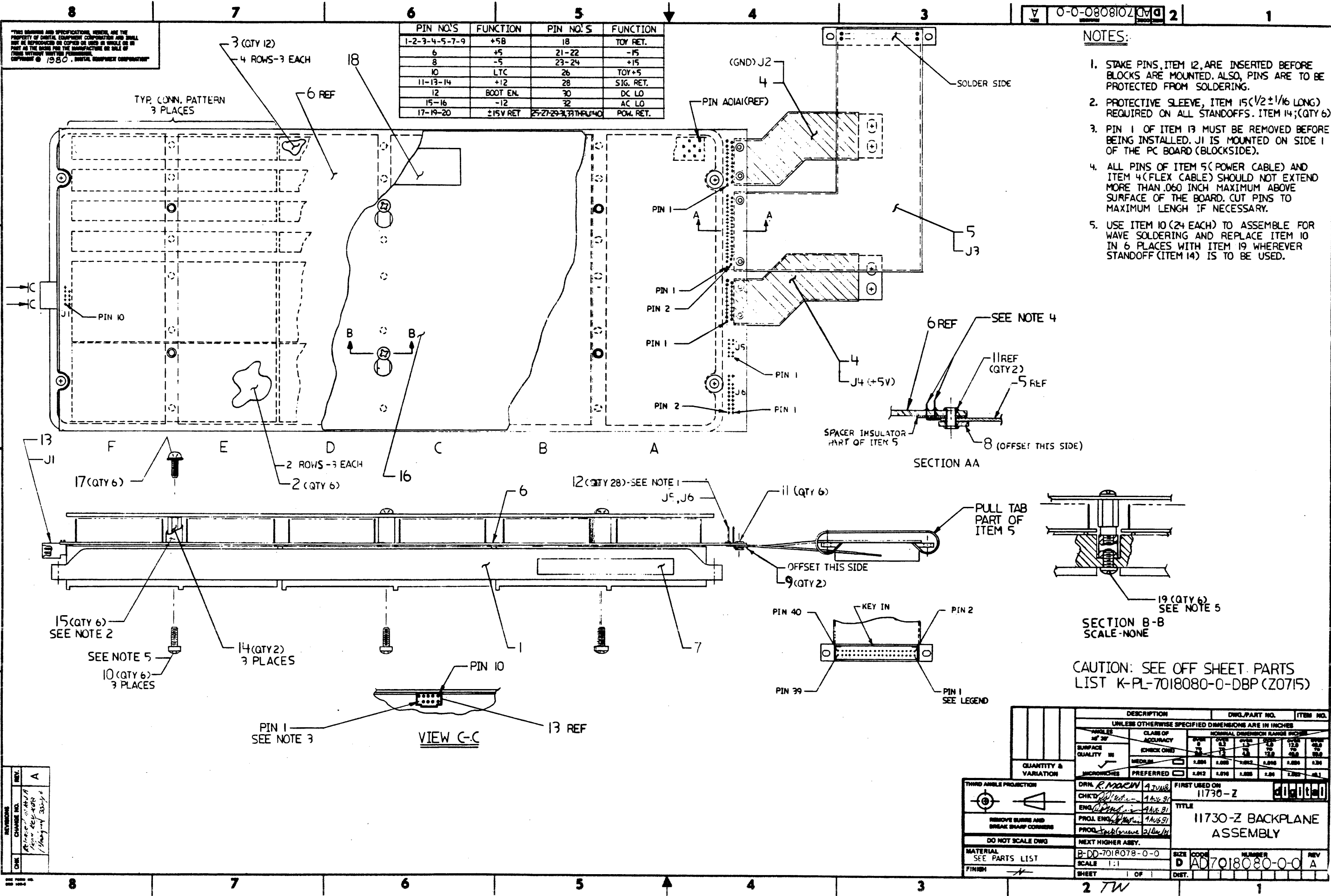
NOTES:

REV. NO.	DATE	CHG NO.	REV.	DESCRIPTION
	8-82	TW001	B	

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USED ON OPTION/MODEL	DRN. <i>P. Goussier</i> 27 July 81	TITLE	11730 BACKPLANE
	CHK'D <i>RB Morin</i> 2 DEC 81	SIZE	B
	ENG <i>RB Morin</i> 2 DEC 81	CODE	DD
	PROD. <i>Jack Goussier</i> 2 DEC 81	NUMBER	7018080-0-0
		REV.	B
		SHEET	1 OF 1



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PIN NO.'S	FUNCTION	PIN NO.'S	FUNCTION
1-2-3-4-5-7-9	+5B	18	TOY RET.
6	+5	21-22	-15
8	-5	23-24	+15
10	LTC	26	TOY +5
11-13-14	+12	28	SIG. RET.
12	BOOT ENL.	30	DC LO
15-16	-12	32	AC LO
17-19-20	±15V RET.	25-27-29-31, 33 THROUGH	POW. RET.

- NOTES:
1. STAKE PINS, ITEM 12, ARE INSERTED BEFORE BLOCKS ARE MOUNTED. ALSO, PINS ARE TO BE PROTECTED FROM SOLDERING.
 2. PROTECTIVE SLEEVE, ITEM 15 (1/2 ± 1/16 LONG) REQUIRED ON ALL STANDOFFS. ITEM 14; (QTY 6)
 3. PIN 1 OF ITEM 13 MUST BE REMOVED BEFORE BEING INSTALLED. J1 IS MOUNTED ON SIDE 1 OF THE PC BOARD (BLOCKSIDE).
 4. ALL PINS OF ITEM 5 (POWER CABLE) AND ITEM 4 (FLEX CABLE) SHOULD NOT EXTEND MORE THAN .060 INCH MAXIMUM ABOVE SURFACE OF THE BOARD. CUT PINS TO MAXIMUM LENGTH IF NECESSARY.
 5. USE ITEM 10 (24 EACH) TO ASSEMBLE FOR WAVE SOLDERING AND REPLACE ITEM 10 IN 6 PLACES WITH ITEM 19 WHEREVER STANDOFF (ITEM 14) IS TO BE USED.

REV.	CHG.	DATE	BY	APP.
A				

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
	FINISH		
	CLASS OF ACCURACY		
	SURFACE QUALITY		
	MEDIUM		
	PREFERRED		
	MICROMETRES		
	DRN. R. MAON 9/20/80	FIRST USED ON 11730-Z	
	CHKD. J. P. ... 1/16/81		
	ENGR. ... 1/16/81		
	PROL. ENGR. ... 1/16/81		
	PROG. ... 2/16/81		
	DO NOT SCALE DWG		
	NEXT HIGHER ASSEMBLY		
	MATERIAL SEE PARTS LIST	B-DD-7018078-0-0	SIZE CODE D
	FINISH	SCALE 1:1	NUMBER AD7018080-0-0
			REV A

TITLE: 11730-Z BACKPLANE ASSEMBLY

SHEET 2 OF 2

CAUTION: SEE OFF SHEET PARTS LIST K-PL-7018080-0-DBP (Z0715)

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1			1217096-02	FRAME, LOGIC, 12 SLOT	1
2			1210258-01	CONN, CARD 288PIN SLOTTED OPEN EN	1
3			1211425-00	CONN, CARD 72PIN SLOTTED DOUBLE	12
4			1700239-00	CIRCUIT, FLEXIBLE POWER CABLE	2
5			1700238-00	CIRCUIT, FLEXIBLE SIGNAL	1
6		E-MD-5014598-0-0	5014598-00	DRILL AND ETCH BD.	1
7		A-DC-7411881-0-0	7411881-01	DECAL	1
8		B-MD-7424779-0-0	7424779-00	STRAIN RELIEF	1
9		B-MD-7424779-0-0	7424779-01	STRAIN RELIEF	1
10			9006120-06	SCREW, POZIDRIVE FILLISTER HD SW	18
11			9000024-01	EYELET ROLL FLANGE .1210DX .192	6
12			9009149-00	PIN, STAKING, P.C. BOARD .025 X	28
13			1218414-01	HEADER.100 10PIN RT ANGLE	1
14		C-MD-7425372-0-0	7425372-00	SPACER	1
15		SEE NOTE	9107252-09	TUBING, SHRINK 3/8 DIA.EXP UL	3
16		D-MD-7425344-0-0	7425344-00	COVER, PROTECTIVE	1
17			9009545-01	SCREW, PAN PHIL, SEMS 8-32X .50 L	6
18			3618538-01	LABEL, CAUTION	1
19			9007641-06	SCREW, PHILLIPS FILLISTER HEAD 8	6
20			9105740-44	WIRE(WRAP)30AWG UL1423	A/R
21		K-WL-7018080-0-1		WIRELIST (730Z)	REF
22		A-WT-7018080-0-2		AWT REVISION STATUS	REF
23		K-WL-7018080-0-DBW		DATA BASE TAPE	REF
24			9905016-07	CARTON, DIE CUT W/FOAM, B	A/R

25 NOTE: ITEM 15 IS IN INCHES.

REVISION HISTORY		BASIC PART NO: 7018080		DRN: R.J. RILEY	DATE: 26-AUG-81	D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: R.J. RILEY	DATE: 26-AUG-81	TITLE PARTS LIST	
	INITIAL	A	SECTION. VARIATION INDEX			11730-Z BACKPLANE ASSEMBLY	
			[A] 00				
			[B]	DES.ENG.: R. MORIN	DATE: 26-AUG-81		
			[C]			DOCUMENT NUMBER	
			[D]	RESP.ENG.: R. MORIN	DATE: 26-AUG-81	SIZE	CODE
			[E]			NUMBER	REV
			[F]	MFG.ENG.: K. WALSH	DATE: 26-AUG-81	K	PL
				ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
				D-AD-7018080-0-0	E-AD-7018078-0-0	20715A.PLS	25
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4

3

REV. A

NUMBER 7018080-0-1

SIZE CODE K WL

2

1

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B

B

A

A

FIRST USED ON OPTION MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
11730				
PARTS LIST				
DRN.	<i>P. Poirier</i>	DATE	27 July 81	
CHK'D.	<i>D.M. Harding</i>	DATE	2 DEC 81	
ENG.	<i>D.M. Harding</i>	DATE	2 DEC 81	
PROJ. ENG.	<i>D.M. Harding</i>	DATE	2 DEC 81	
PROD.	<i>Antoine Giviere</i>	DATE	2 Dec 81	
NEXT HIGHER ASSEMBLY		7018078-0-0		
SCALE	NONE		SIZE CODE	K WL
SHEET	|	OF	|	
		NUMBER		7018080-0-1
		REV.		A
		DIST.		

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
11730 BACKPLANE
(730Z)

REV.	
CHANGE NO.	
CHK	

4

3

↑

2

TW

1

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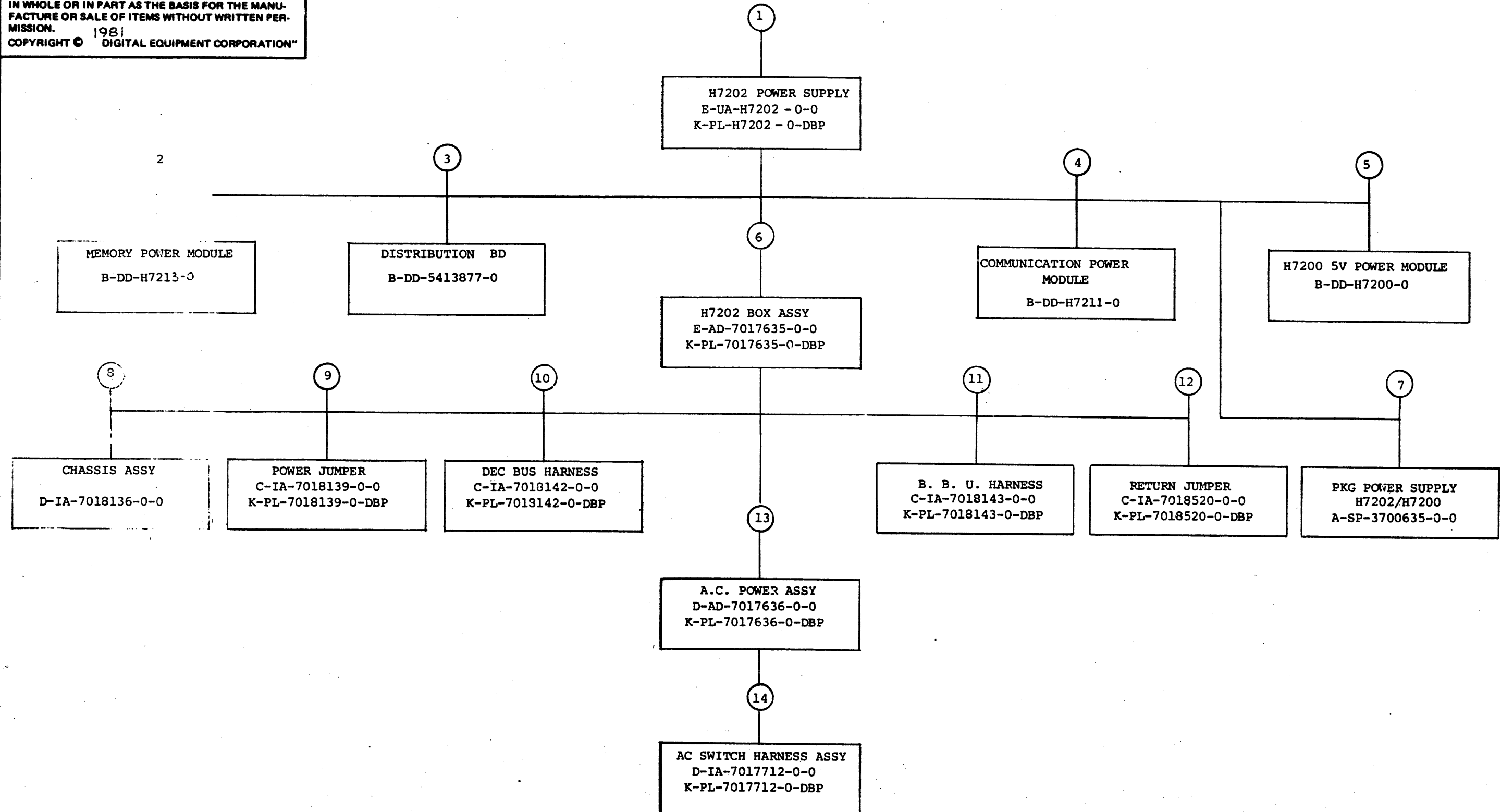
DRAWING NUMBER	INIT REL	AUTOMATIC WIRE TESTER (AWT) REVISION STATUS															
	TIO																
D-AD-7018080-0-0	A																
K-WL-7018080-0-1	A																
5014598-00	REF																
K-WL-7018080-0-DBW	A																

REV A
 NUMBER 7018080-0-2
 SIZE CODE AWT

REVISIONS	REV	
	CHANGE NO.	
CHK		

DRN <i>P. Rosenberg</i>	DATE 27 July 81	digital
CHK'D <i>D.M. Kinsley</i>	DATE 2 DEC 81	
ENG <i>D.H. Hardley</i>	DATE 2 DEC 81	TITLE
PROJ. ENG. <i>D.M. Kinsley</i>	DATE 2 DEC 81	11730 BACKPLANE
PROD <i>Steve Ormrod</i>	DATE 2 DEC 81	AWT REVISION STATUS
FIRST USED ON 7018078-0-0		SIZE CODE NUMBER REV AWT 7018080-0-2 A
SCALE NONE		
SHEET OF	DIST	

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TITLE	H7202 POWER SUPPLY	SHEET 2 OF 3	SIZE CODE B DD	NUMBER H7202 - 0	REV A
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TW

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
1	MP02157	FIELD MAINTENANCE PRINT SET (MP)	-	8	D-IA-7018136-0-0	CHASSIS ASSY	M
	B-TC-H7202-0-1	FIELD MAINTENANCE PRINTSET (TC)	-		E-MD-7424252-0-0	CHASSIS, LEM	M
	E-UA-H7202-0-0	H7202 POWER SUPPLY	E/M		D-MD-7424253-0-0	PLATE, END	M
	K-PL-H7202-0-DBP	H7202 POWER SUPPLY PARTS LIST	E/M				
	D-MD-7424254-0-0	COVER TOP	M				
	D-IA-7424260-0-0	PANEL, ACCESS	M				
	B-MD-7425394-0-0	COVER, SWITCH	M	9	C-IA-7018139-0-0	JUMPER, POWER	E/M
	A-DC-3618426-0-0	LABEL, P.S. H7202	M		K-PL-7018139-0-DBP	JUMPER, POWER PARTS LIST	E/M
	A-DC-3612063-0-0	LABEL ADHESIVE	M				
	A-DC-3613211-0-0	DECAL CSA	M				
	A-DC-3618427-0-0	LABEL, CAUTION	M				
	A-DC-3615087-02	LABEL, "DANGER-HIGH CURRENT"	M				
				10	C-IA-7018142-0-0	DEC BUS HARNESS	E/M
					K-PL-7018142-0DBP	DEC BUS HARNESS	E/M
2	B-DD-H7213-0	MEMORY POWER MODULE	E/M				
				11	C-IA-7018143-0-0	HARNESS, BBU	E/M
					K-PL-7018143-0-DBP	HARNESS, BBU PARTS LIST	E/M
3	B-DD-5413877-0	DISTRIBUTION BOARD	E/M				
				12	C-IA-7018520-0-0	JUMPER, RETURN	E/M
					K-PL-7018520-0-DBP	JUMPER, RETURN PARTS LIST	E/M
4	B-DD-H7211-0	COMMUNICATION POWER MODULE	E/M				
				13	D-AD-7017636-0-0	AC POWER ASSY	E/M
					K-PL-7017636-0-DBP	AC POWER ASSY PARTS LIST	E/M
					D-MD-7424258-0-0	BRACKET, C.B. MTG	M
5	B-DD-H7200-0	H7200 5V POWER MODULE	E/M				
6	E-AD-7017635-0-0	H7202 BOX ASSY	E/M				
	K-PL-7017635-0-DBP	H7202 BOX ASSY PARTS LIST	E/M				
	B-IA-7424257-0-0	BRACKET POWER CONN	M	14	D-IA-7017712-0-0	HARNESS ASSY, AC SWITCH	E/M
	D-MD-7425398-0-0	INSULATOR, POWER CONN	M		K-PL-7017712-0-DBP	HARNESS ASSY, AC SWITCH PARTS LIST	E/M
	D-MD-7424259-0-0	CONNECTOR MTG. BRACKET	M				
	C-MD-7425494-0-0	INSULATOR, P.C. BOARD	M				
	C-MD-7425401-0-0	INSULATOR, SHIELD	M				
7	A-SP-3700635-0-0	PKG POWER SUPPLY H7202/H7200	M				

TYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL



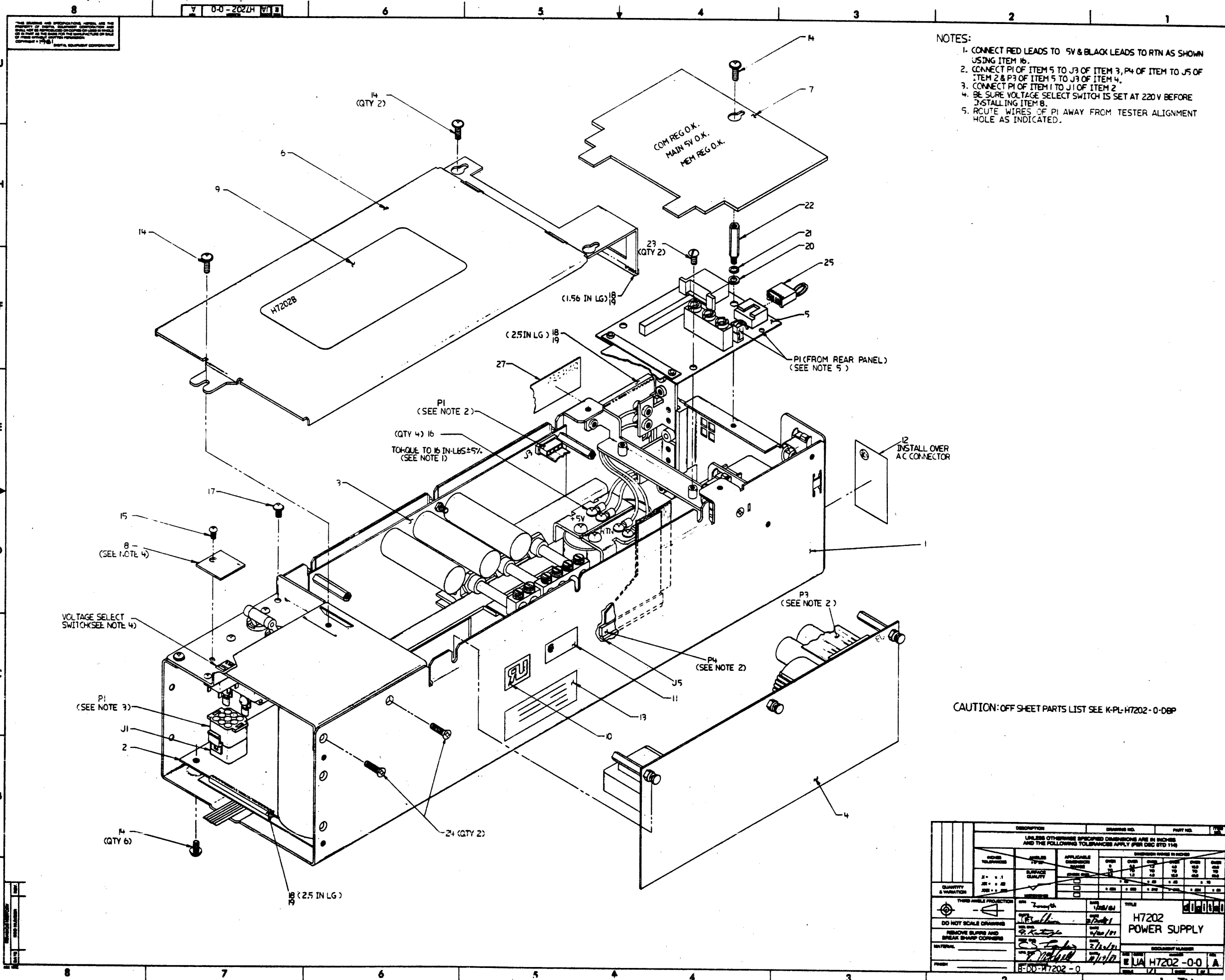
TITLE
H7202 POWER SUPPLY

SHEET 3 OF 3

SIZE CODE
B DD

NUMBER
H7202 - 0

REV
A



- NOTES:
1. CONNECT RED LEADS TO 5V & BLACK LEADS TO RTN AS SHOWN USING ITEM 16.
 2. CONNECT P1 OF ITEM 5 TO J3 OF ITEM 3, P4 OF ITEM TO J5 OF ITEM 2 & P3 OF ITEM 5 TO J3 OF ITEM 4.
 3. CONNECT P1 OF ITEM 1 TO J1 OF ITEM 2.
 4. BE SURE VOLTAGE SELECT SWITCH IS SET AT 220V BEFORE INSTALLING ITEM 8.
 5. ROUTE WIRES OF PI AWAY FROM TESTER ALIGNMENT HOLE AS INDICATED.

CAUTION: OFF SHEET PARTS LIST SEE K-PL-H7202-0-DBP

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY PER Q-D-115		DIMENSION NAME IN INCHES	
SIZE	TOLERANCE	SIZE	TOLERANCE
2" & OVER	± 0.1	1/2" & OVER	± 0.010
1" & OVER	± 0.050	1/16" & OVER	± 0.005
1/2" & OVER	± 0.020	1/32" & OVER	± 0.003
1/4" & OVER	± 0.010	1/64" & OVER	± 0.001
1/8" & OVER	± 0.005	1/128" & OVER	± 0.0005
1/16" & OVER	± 0.002		
1/32" & OVER	± 0.001		
1/64" & OVER	± 0.0005		
1/128" & OVER	± 0.0002		

QUANTITY & VARIATION	DESCRIPTION	DATE	TITLE
1	H7202 POWER SUPPLY	1/28/61	H7202 POWER SUPPLY
1	H7202-0-0	1/28/61	H7202-0-0

REVISIONS: 1/28/61

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	E-AD-7017635-0-0	7017635-00	H7202 BOX ASSY.	1
	D-UA-H7200-0-0	H7200-00	5V POWER MODULE: 5V 60A.300V 200	1
	B-UA-H7211-0-0	H7211-00	COMM OPT PS: +15V 2A, -15V 3A, +12	1
	3-UA-H7213-0-0	H7213-00	MEMORY PWR MODULE: +5V 15A, +12V	1
	D-UA-5413877-0-0	5413877-00	H7202 DIST BOARD	1
	D-MD-7424254-0-0	7424254-00	TOP COVER	1
	D-IA-7424260-0-0	7424260-00	ACCESS PANEL	1
	B-MD-7425394-0-0	7425394-00	COVER, SWITCH	1
		3618426-01	LABEL, P.S. H7202	1
		3612063-00	LABEL, ADHESIVE I.D. FOR UL C	1
		3613211-00	DECAL, CLEAR PREPRINTED CSA 1-1/4	1
		3618427-01	LABEL, CAUTION VOLTAGE SETTING	1
		9009255-00	LABEL, POWER SUPPLY, 2-15/16 " L	1
		9009984-00	SCREW, SEMS, PHILLIPS PAN HD, 6-	10
		9010129-00	SCREW, TAPPING, TYPE PAN, PHIL,	1
		9010174-01	SCREW, PAN, PHIL, SEMS, 8-32X, 3/16	4
		9010146-01	SCREW TRUSS PHIL, 6-32X, 5/16	1
		9007035-00	GROMMET #122-37-1500	7
		9009157-00	ADH. LIQ. RM. TEMP CURING COLORLESS	A/R
		9006656-00	WASHER, FLAT, .312 O.D. X .156 I	1
		5009882-00	WASHER, LOCK, INT TOOTH #6	1
		9000001-05	STANDOFF, HEX, M/F, 6-32X	1
		9008212-00	SCREW, NYLON, SLTD PAN HD, 6-32	1
		9009730-00	SCREW, PHILLIPS FLAT AD, 6-32 X	2
	C-IA-7018535-0-0	7018535-00	JUMPER TOY POWER	1
		3700635-02	PKG. POWER SUPPLY H7202/H7200	1
		3615087-02	LABEL, "DANGER-HIGH CURRENT"	1

REVISION HISTORY		BASIC PART NO: H7202		DRN: T.MCCULLOUGH		DATE: 19-FEB-81		D I G I T A L	
ENG:	ECO NUMBER	REV	SECTION A OF A	CHK'D:	J.SULLIVAN	DATE:	19-FEB-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX:					H7202 POWER SUPPLY	
			[A] B	DES.ENG.:	A.KANTARGIS	DATE:	19-FEB-81		
			[B]	RESP.ENG.:	C.LANDINO	DATE:	19-FEB-81	DOCUMENT NUMBER	
			[C]					SIZE: CODE	NUMBER
			[D]	MFG.ENG.:	V.MITCHELL	DATE:	19-FEB-81	K	PL
			[E]	ASSEMBLY NUMBER:	E-UA-H7202-0-0	TOP DOCUMENT NUMBER:	B-DD-H7202-0-0	FILE NAME:	22281A.PLS
			[F]					EDIT #	10

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LINE ITEM DOCUMENT NUMBER

PART NUMBER

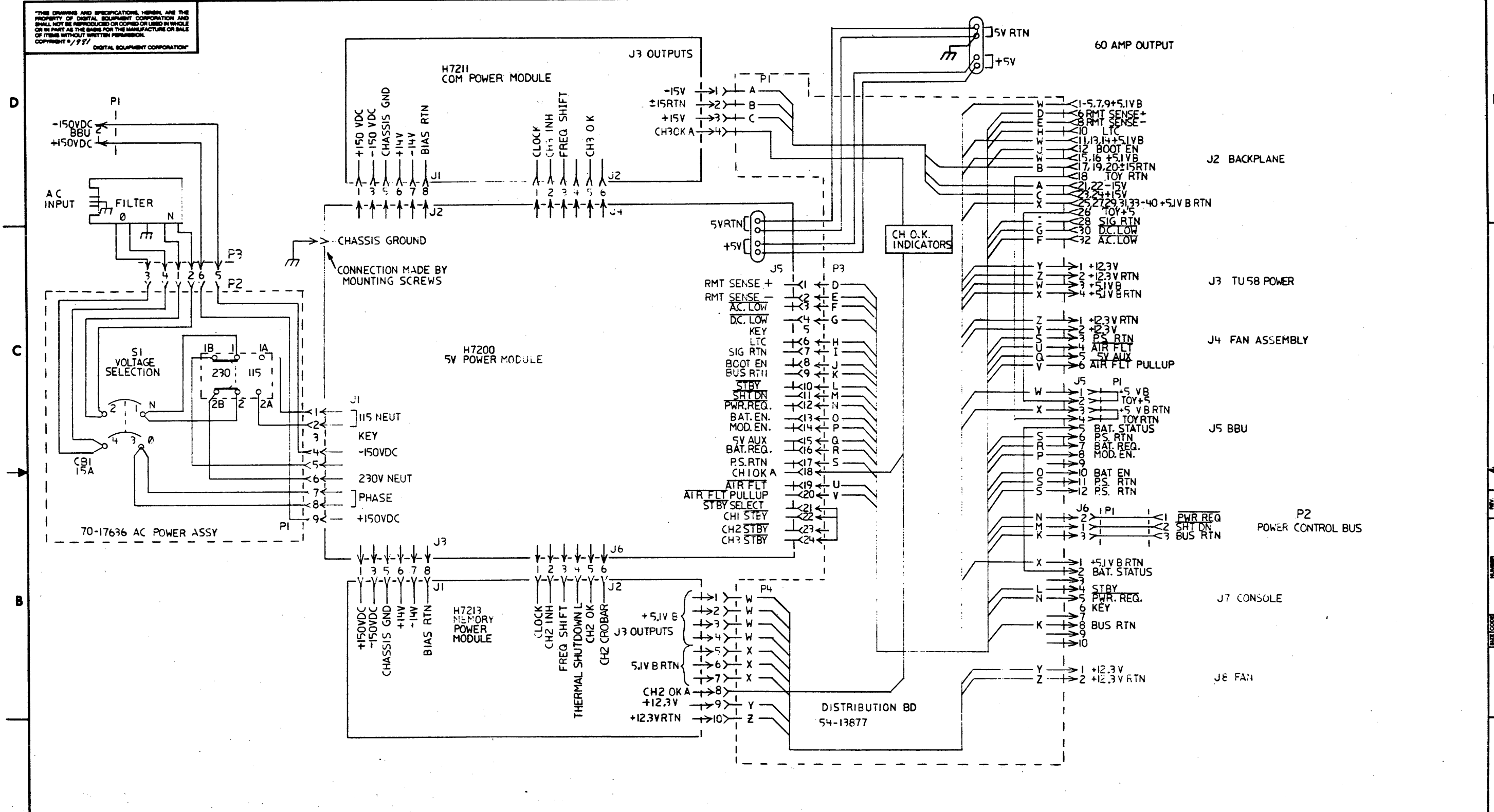
DESCRIPTION

QUANTITY PER VARIATION
B

28 NOTE: ITEM 18 IS IN INCHES.
29 NOTE: ITEM 26 IS BULK PKG FOR (48) UNIT. FOR INDIVIDUAL PKG USE 3700635-01 QTY 1.

D	I	G	I	T	A	L	TITLE	H7202 POWER SUPPLY	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	H7202-0-DBP	A

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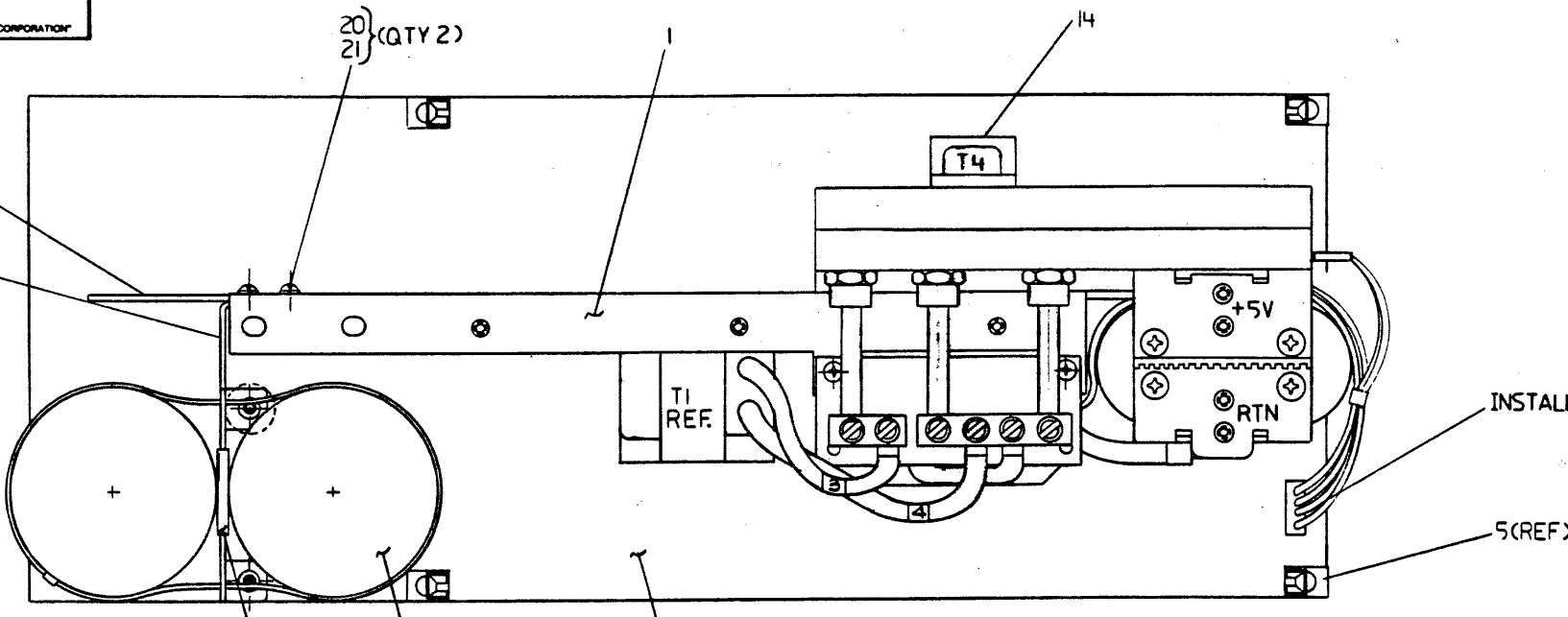
REV.	DATE	ECO NUMBER	REVISION HISTORY

DESIGNED BY <i>Sharon F. Walker</i>	DATE 2-11-71	TITLE digital
CHECKED BY <i>F. J. ...</i>	DATE 6-1-71	H7202B INTERCONNECT
DESIGNED BY <i>C. S. ...</i>	DATE 10/9/81	DOCUMENT NUMBER
DESIGNED BY <i>C. S. ...</i>	DATE 10/9/81	SCALE
DESIGNED BY <i>...</i>	DATE 10/19/81	SCALE
B-DD-H7202-0		SCALE

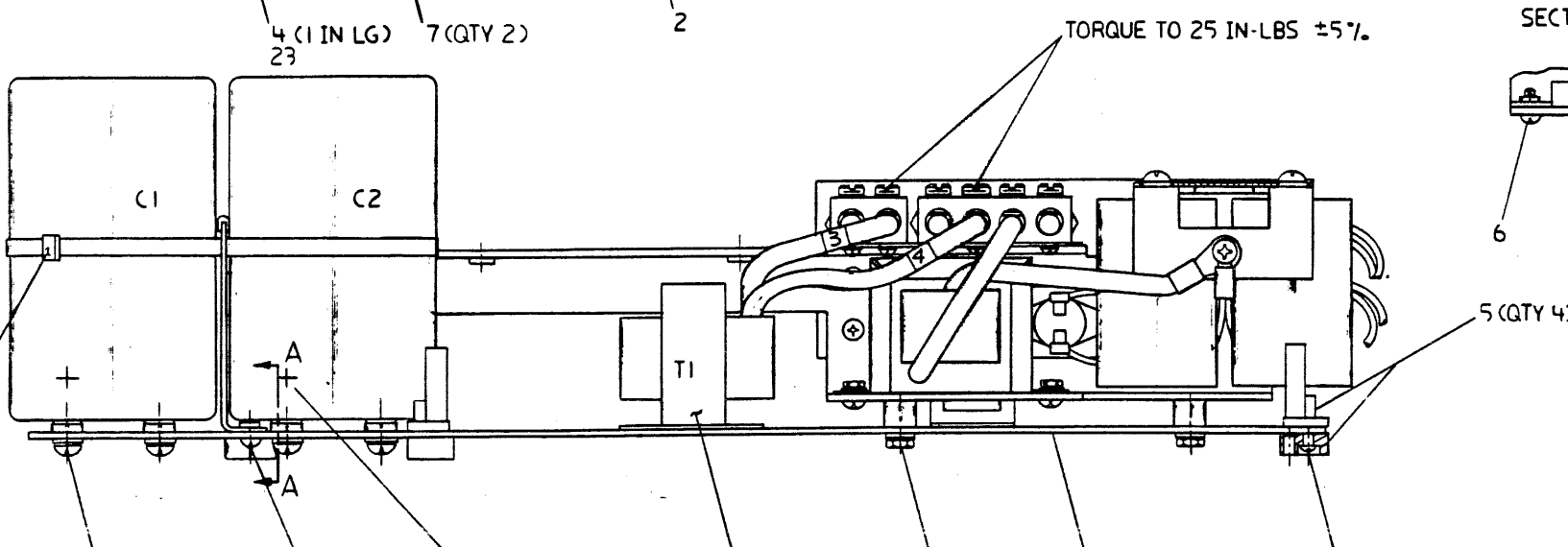
H7202-0-2
 DIGITAL

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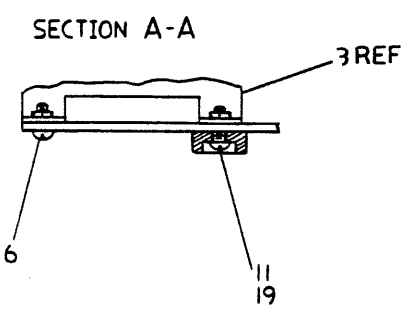
D
C
B
A



INSTALL CONNECTOR FROM ITEM 1



TORQUE TO 25 IN-LBS ±5%



CAUTION: OFF SHEET PARTS LIST
SEE K-PL-H7200-0-DBP (Z2297B.PLS)

10 } (QTY 4)
15 }
16 } TORQUE TO 16 IN-LBS. ± 5%

NOTE POLARITY OF ITEMS 7 (C1 & C2)

12 } (QTY 3)
13 } TORQUE TO 8 IN-LBS ±10%

17 (QTY 4)

DATE	ECO NUMBER	REV.
7/22/71	H7200-TW/3/81	B
11/25/71	6-144-81	
C. LANDINO		

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)					
INCHES TOLERANCES	ANGLES ±0°30'	DIMENSION RANGE IN INCHES			
		OVER TO	OVER TO	OVER TO	OVER TO
X = ±.1	SURFACE QUALITY	0 TO 0.2	0.2 TO 1.2	1.2 TO 4.0	4.0 TO 12.0
XX = ±.02		0.2 TO 0.2	1.2 TO 1.2	4.0 TO 4.0	12.0 TO 40.0
XXX = ±.005		0.2 TO 0.2	1.2 TO 1.2	4.0 TO 4.0	12.0 TO 40.0
QUANTITY & VARIATION	APPLICABLE DIMENSION RANGE	(CHECK ONE)	±.02	±.03	±.05
			±.004	±.008	±.012
			±.016	±.024	±.04
THIRD ANGLE PROJECTION	DATE	TITLE			
DO NOT SCALE DRAWING	12/10/80	digital			
REMOVE BURRS AND BREAK SHARP CORNERS	2/17/81	H7200			
	2/19/81	5V POWER MODULE			
MATERIAL	DATE	DOCUMENT NUMBER			
	2/19/81	DUA H7200-0-0			
FINISH	DATE	SIZE CODE	NUMBER	REV.	
		DUA	H7200-0-0	B	
		SCALE	SHEET	OF	
		FULL	1	1	

DUA H7200-0-0

A

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1		D-UA-7017638-0-0	7017638-00	OUTPUT ASSY.	1
2		D-UA-5413857-0-0	5413857-00	H7200 MAJOR BD	1
3		C-MD-7424279-0-0	7424279-00	BRACKET, TAF SUPPORT	1
4			9008209-00	GROMMET, STRIP X 650	1
5		D-MD-7425495-0-0	7425495-00	CARD GUIDE	4
6			9010148-01	SCREW TRUSS PHIL 6-32X 5/16	1
7			1018989-00	3300 MFD 200V +50-10% AL EL	2
8			9010006-00	TIE CABLE BUNDL DIA .4" TYPE=101	1
9			1617441-00	XFMR P=370V S=28,60,85V	1
10			9000038-07	SCREW PAN, PHIL 10-32X 3/8 BR/T	4
11			1216435-00	BUMPER	1
12			9006656-00	WASHER, FLAT, .312 O.D. X .156 I	3
13			9008185-00	NUT, KEP 6-32X 1/4 AF	3
14			1617638-00	XFMR FLYBACK BIAS, HIGH FREQUENCY	1
15			9008978-00	WASHER, LOCK, INT. .3750D X .200ID	4
16			9009950-01	WASHER, FLAT BR/TIN .203ID X .4380	4
17			9009800-05	SCREW PAN, PHILLIPS, 4X.38	4
18		A-SP-3700635-0-0	3700635-03	PKG. POWER SUPPLY H7202/H7200	A/R
19			9009989-00	SCREW PAN, PHIL 6-32X 3/8	1
20			9006659-00	WASHER, FLAT, .375 O.D. X .156 I	2
21			9008212-00	SCREW, NYLON, SLTD PAN HD, 6-32	2
22			7426130-00	BARRIER, B.S.	1
23			9009157-00	ADH, LIQ. RM. TEMP CURING COLORLESS	A/R

24 NOTE: ITEM 18 IS A CUSTOMER/FIELD SERVICE PKG AND THE QTY IS DETERMIND BY MFG-
 25 NOTE: FOR BULK PKG (88) UNITS USE 3700635-04, QTY 1.

REVISION HISTORY		BASIC PART NO: H7200		DRN: T.MCCULLOUGH		DATE: 06-JAN-81		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: J.SULLIVAN		DATE: 06-JAN-81		TITLE PARTS LIST	
	INITIAL	A	SECTION. VARIATION INDEX	DES.ENG.: A.KANTARGIS		DATE: 06-JAN-81		H7200 5V POWER MODULE	
	TW001	A	[A] 00	RESP.ENG.: D.MARTEL		DATE: 19-FEB-81		DOCUMENT NUMBER	
CL	H7200-TW001	B	[B]	MFG.ENG.: V.MITCHELL		DATE: 19-FEB-81		K	PL H7200-0-DBP
			[C]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #
			[D]	D-UA-H7200-0-0		B-DD-H7202-0-0		Z2297B.PLS	10
			[E]	"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 (C) 1982. DIGITAL EQUIPMENT CORPORATION"					
			[F]						

AUTOMATED BY PRTLST.3P(44)

P A R T S L I S T

SHEET A2 OF A2

LINE ITEM DOCUMENT NUMBER

PART NUMBER

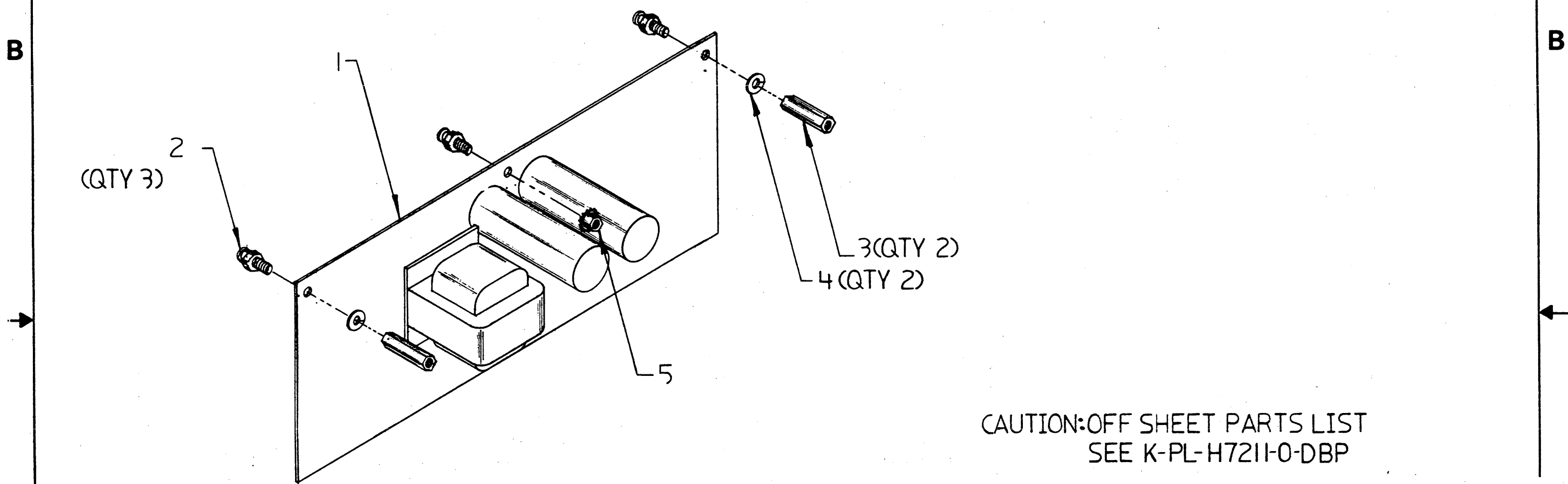
DESCRIPTION

QUANTITY PER VARIATION
00

26 NOTE: ITEM 4 IS IN INCHES.

D	I	G	I	T	A	L	TITLE	H7200 5V POWER MODULE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	H7200-0-DBP	B

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CAUTION: OFF SHEET PARTS LIST
 SEE K-PL-H7211-0-DBP

REVISIONS	REV.
CHANGE NO.	
CHK	

DESCRIPTION	DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
ANGLES ± 0° 30'	GLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES
SURFACE QUALITY IN	MEDIUM <input type="checkbox"/>	OVER 0 TO 0.25 ±.004 ±.008 ±.012 ±.016 ±.024 ±.04
MICROINCHES	PREFERRED <input type="checkbox"/>	OVER 0.25 TO 4.0 ±.012 ±.016 ±.025 ±.04 ±.063 ±.01

THIRD ANGLE PROJECTION	DRN. <i>Forrest</i> 2/11/81	FIRST USED ON
	CHK'D. <i>J. Fallon</i> 2/19/81	H7202B
REMOVE BURRS AND BREAK SHARP CORNERS	ENG. <i>P. Keston</i> 2/17/81	TITLE
DO NOT SCALE DWG	PROJ. ENG. <i>P. Keston</i> 2/19/81	COMMUNICATION POWER MODULE
MATERIAL	PROD. <i>1/1/81</i> 2-19-81	NEXT HIGHER ASSY.
FINISH	F-UA-H7202-0-0	
SCALE 1:2	SIZE CODE B UA	NUMBER H7211-0-0
SHEET OF 1	DIST.	REV. A

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1		D-UA-5413867-0-0	5413867-00	H7211 COMMUNICATION REG	1
1		B-MD-7425185-0-0	7425185-00	SPACER, PCB	1
1			9006809-00	SPACER, HEX, ALUM, .138 ID X 1.0	1
1			9007801-00	WASHER, LOCK, S.S. #6	1
1			9009243-00	NUT, KEP 6-32 X5/16AF	1
6		A-SP-3700635-0-0	3700635-05	PKG. POWER SUPPLY H7202/H7200	A/R

7 NOTE: ITEM 6 IS A CUSTOMER/FIELD SERVICE PKG AND THE QTY IS DETERMINED BY MFG.

(2)

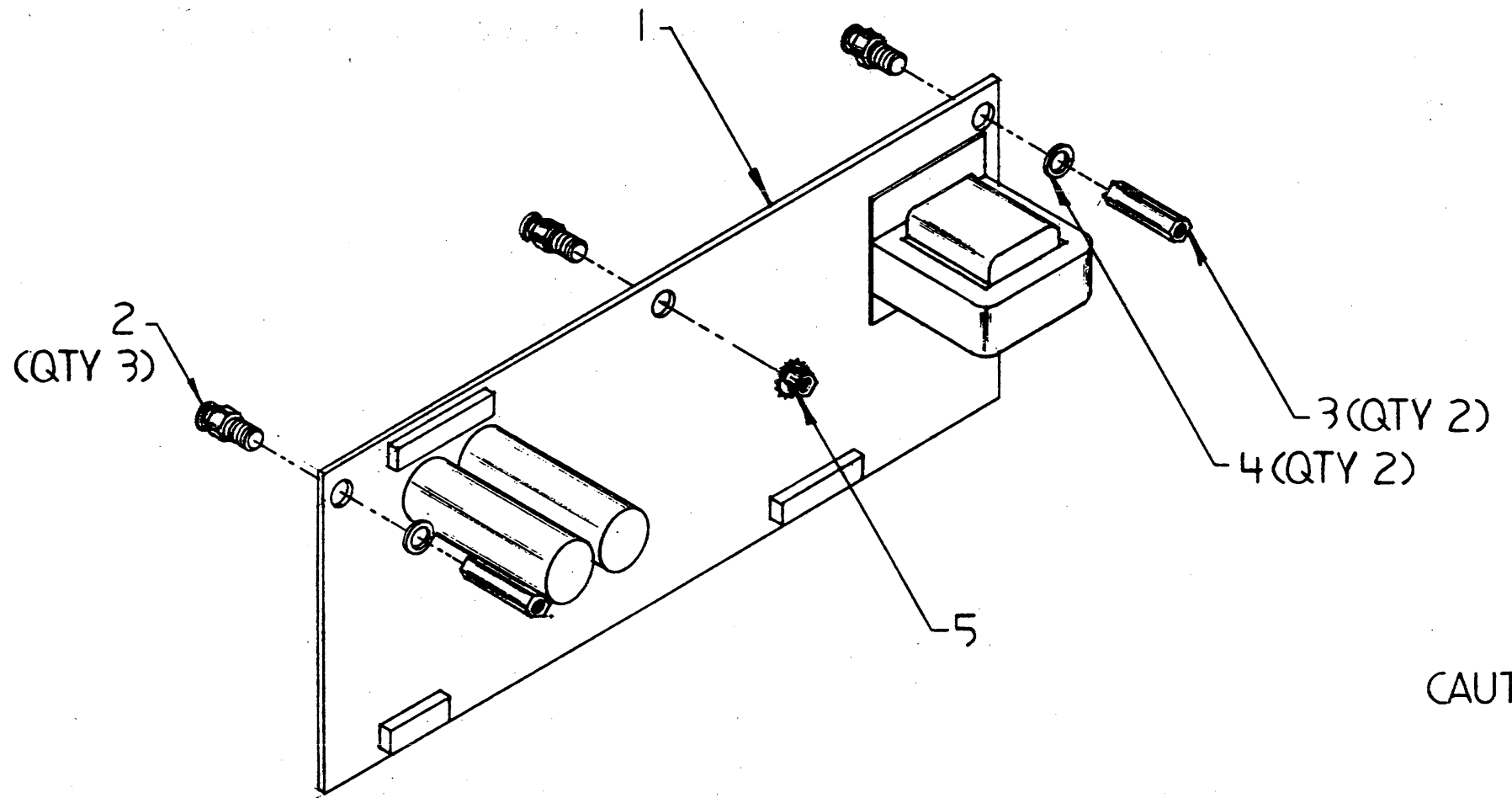
(210)

REVISION HISTORY		BASIC PART NO: H7211		DRN: T.MCCULLOUGH	DATE: 19-FEB-81	D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: J.SULLIVAN	DATE: 19-FEB-81	TITLE PARTS LIST	
	INITIAL	A	SECTION A VARIATION INDEX			COMM. POWER MODULE	
			[A] 00				
			[B]	DES.ENG.: A.KANTARGIS	DATE: 19-FEB-81		
			[C]	RESP.ENG.: R.MARTEL	DATE: 19-FEB-81	DOCUMENT NUMBER	
			[D]			SIZE	CODE
			[E]	MFG.ENG.: V.MITCHELL	DATE: 19-FEB-81	K	PL
			[F]	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	
				B-UA-H7211-0-0	B-DD-H7202-0-0	2283.PLS	
						NUMBER	REV
						H7211-0-DBP	A
							EDIT #
							3

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REV. A | NUMBER H-7213-0-0 | SIZE CODE B UA | 2 | 1



CAUTION: OFF SHEETS PARTS LIST SEE K-PL-H7213-0-DBP

REVISIONS	REV.
CHANGE NO.	
CHK	

DESCRIPTION	DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
ANGLES ± 0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES
SURFACE QUALITY IN MICROINCHES	MEDIUM <input type="checkbox"/> PREFERRED <input type="checkbox"/>	OVER 0 TO 1.2
		OVER 1.2 TO 4.0
		OVER 4.0 TO 12.0
		OVER 12.0 TO 40.0
		OVER 40.0 TO 80.0
		OVER 80.0 TO 100.0

THIRD ANGLE PROJECTION	DRN. <i>Foran</i> 2/11/81	FIRST USED ON
	CHK'D <i>J. Sullivan</i> 2/15/81	H7202B
REMOVE BURRS AND BREAK SHARP CORNERS	ENG. <i>P. Kato</i> 2/19/81	TITLE
DO NOT SCALE DWG	PROJ. ENG. <i>W. Hunt</i> 2/19/81	MEMORY POWER MODULE
MATERIAL	PROD. <i>Victor</i> 2-19-81	
FINISH	NEXT HIGHER ASSY.	
	-UA-H7202-0-0	
	SCALE 1:2	SIZE CODE B UA
	SHEET 1 OF 1	NUMBER H7213-0-0
		REV. A

DRB 100A

TW 1

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

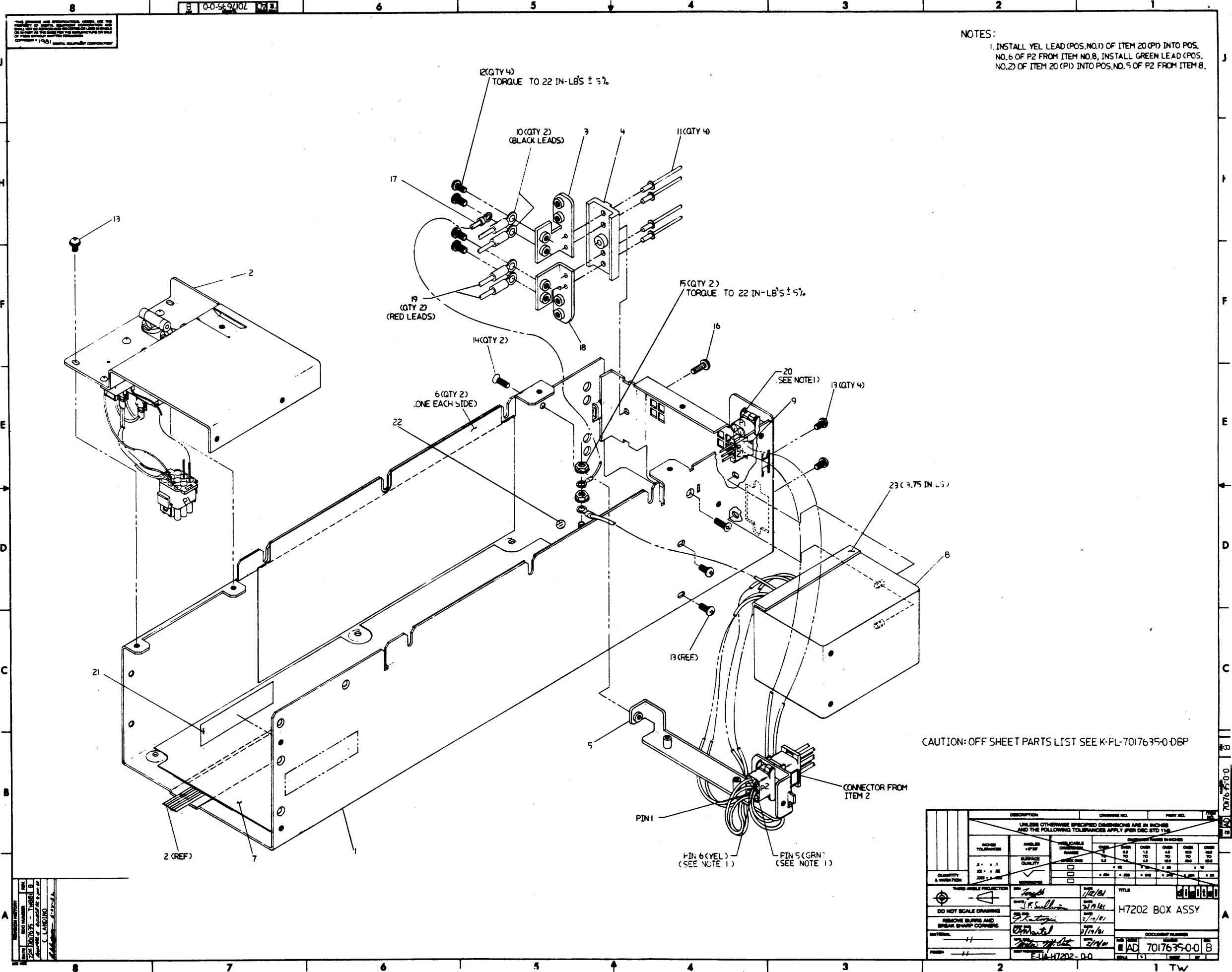
SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	1	D-UA-5413869-0-0	5413869-00	H7213 MEMORY REG	1
2	2	B-MD-7425185-0-0	7425185-00	SPACER, PCB	00
3	3		9006809-00	SPACER, HEX, ALUM, .138 ID X 1.0	
4	4		9007801-00	WASHER, LOCK, S.S. #6	
5	5		9009243-00	NUT, KEP 6-32 X5/16AF	
6	6	A-SP-3700635-0-0	3700635-05	PKG. POWER SUPPLY H7202/H7200	A/R

7 NOTE: ITEM 6 IS A CUTOMER/FIELD SERVICE PKG AND THE QTY IS DETERMINED BY MFG.

REVISION HISTORY		BASIC PART NO: H7213		DRN:	T.MCCULLOUGH	DATE:	19-FEB-81	DIGITAL	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	J.SULLIVAN	DATE:	19-FEB-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX					MEMORY POWER MODULE	
			[A] 00						
			[B]	DES.ENG.:	A.KANTARGIS	DATE:	19-FEB-81		
			[C]						DOCUMENT NUMBER
			[D]	RESP.ENG.:	R.MARTEL	DATE:	19-FEB-81	SIZE	CODE
			[E]					NUMBER	REV
			[F]	MFG.ENG.:	V.MITCHELL	DATE:	19-FEB-81	K	PL
				ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		H7213-0-DBP	A
				B-UA-H7213-0-0		B-UA-H7213-0-0		FILE NAME:	EDIT #
								Z2282.PLS	3

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NOTES:
 1. INSTALL YEL LEAD (POS. NO. 1) OF ITEM 20 (PI) INTO POS. NO. 6 OF P2 FROM ITEM NO. 8, INSTALL GREEN LEAD (POS. NO. 2) OF ITEM 20 (PI) INTO POS. NO. 5 OF P2 FROM ITEM 8.

CAUTION: OFF SHEET PARTS LIST SEE K-PL-7017635-0-DBP

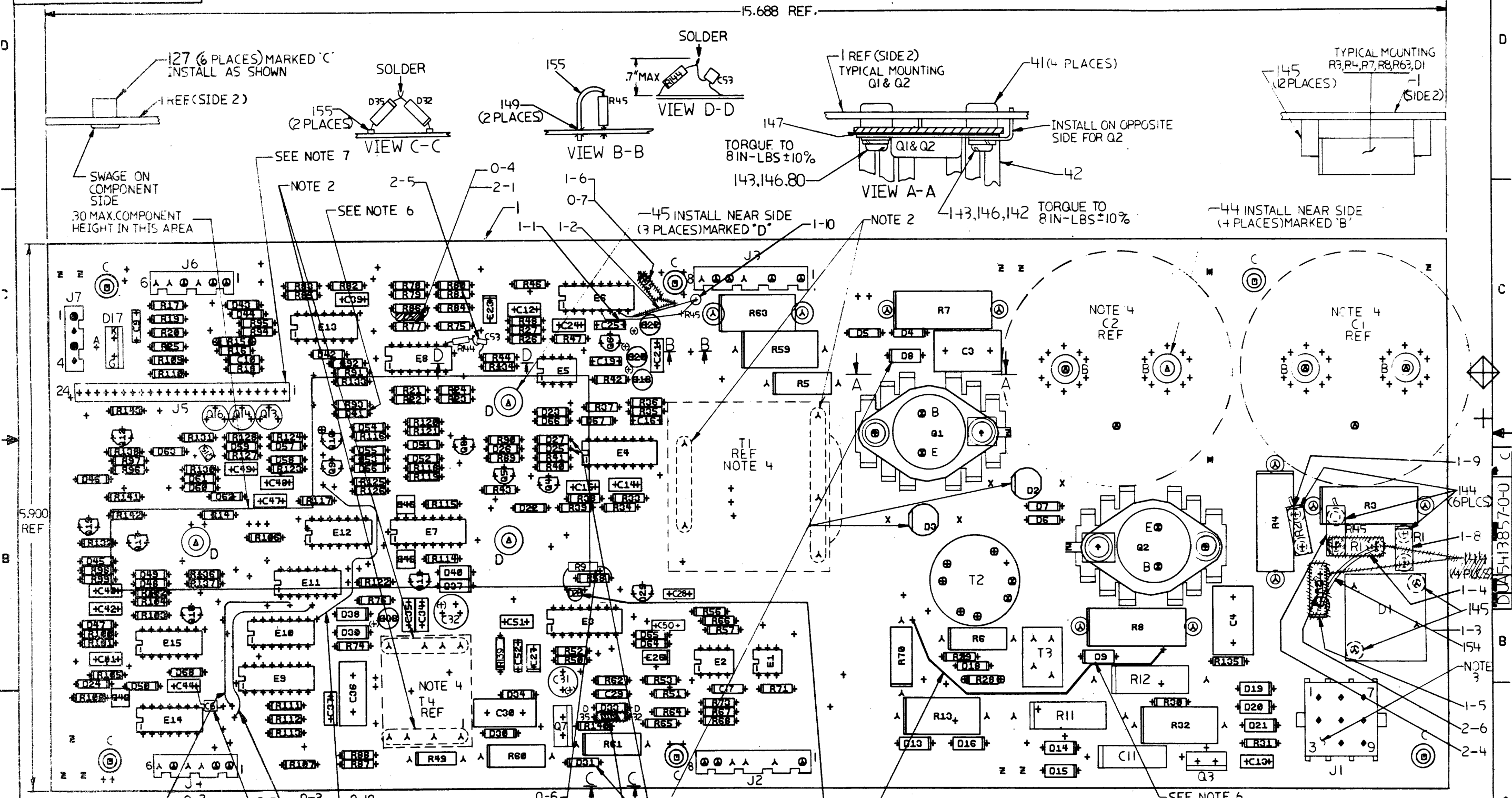
7017635-0-00
 H7202 BOX ASSY
 C. LANDINO
 1/12/61

DESCRIPTION	QUANTITY	DRWG. NO.	PART NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY PER DDC STD 116			
FINISH	ASSEMBLY	INSURANCE	REWORK
2 ± .1	ASSEMBLY	100%	100%
22 ± .05	ASSEMBLY	100%	100%
200 ± .05	ASSEMBLY	100%	100%
THIS IS A PRELIMINARY DRAWING DO NOT SCALE DRAWING REMOVE BURRS AND BREAK SHARP CORNERS MATERIAL: 44 FINISH: 44			
DATE: 7/2/61 BY: J.P. Sullivan CHECKED: J.P. Sullivan DATE: 7/19/61 APPROVED: J.P. Sullivan DATE: 7/19/61		TITLE: H7202 BOX ASSY DOCUMENT NUMBER: AD 7017635-0-0 E-11A-H7202-0-0	

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	D-IA-7018136-0-0	7018136-00	ASSY CHASSIS	1
2	D-AD-7017636-0-0	7017636-00	AC POWER ASSY	1
3	D-IA-7424257-0-0	7424257-00	BRACKET,POWER CONN	1
4	D-MD-7425398-0-0	7425398-00	INSULATOR,POWER CONNECTOR	1
5	D-MD-7424259-0-0	7424259-00	CONN MTG BRKT.	1
6	C-MD-7425494-0-0	7425494-00	INSULATOR,P,C,BOARD	2
7	C-MD-7425401-0-0	7425401-00	INSULATOR,SHIELD	1
8	A-PS-1217838-0-0	1217838-00	FILTER,LINE 115/250V,47-63HZ,6A	1
9	C-IA-7018142-0-0	7018142-00	DEC BUS HARNESS	1
10	C-IA-7018139-0-0	7018139-00	JUMPER, PWR	2
11		9006508-00	RIVET, BLIND, .125 DIA X .419 LG	4
12		9010174-01	SCREW,PAN,PHIL,SEMS 8-32X .31 L	4
13		9010148-01	SCREW TRUSS PHIL 6-32X 5/16	5
14		9009730-00	SCREW, PHILLIPS FLAT AD, 6-32 X	2
15		9006565-00	NUT,KEP , 10-32X 3/8 AF	1
16		9009800-00	SCTEW,PAN,PHIL,TAP'G 8-16X .5	1
17	C-IA-7018520-0-0	7018520-00	RETURN JUMPER	1
18	D-IA-7424257-0-0	7424257-01	BRKT-PWR-CONNECTOR	1
19	C-IA-7018139-0-0	7018139-01	POWER JUMPER	2
20	C-IA-7018143-0-0	7018143-00	RSU HARNESS	1
21		9009255-00	LABEL, POWER SUPPLY, 2-15/16 " L	1

REVISION HISTORY			BASIC PART NO: 7017635		DRN: T.MCCULLOUGH		DATE: 19-FEB-81		DIGITAL			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	J.SULLIVAN	DATE:	19-FEB-81	TITLE		PARTS LIST		
	INITIAL	A	SECTION, VARIATION INDEX	CHK'D:	J.SULLIVAN <td>DATE:</td> <td>19-FEB-81 <td colspan="2">H7202 BOX ASSY</td> <td colspan="3"></td> </td>	DATE:	19-FEB-81 <td colspan="2">H7202 BOX ASSY</td> <td colspan="3"></td>	H7202 BOX ASSY				
			[A] 00	DES.ENG.:	A.KANTARGIS <td>DATE:</td> <td>19-FEB-81 <td colspan="2">DOCUMENT NUMBER</td> <td colspan="3"></td> </td>	DATE:	19-FEB-81 <td colspan="2">DOCUMENT NUMBER</td> <td colspan="3"></td>	DOCUMENT NUMBER				
			[B]	RESP.ENG.:	R.MARTEL <td>DATE:</td> <td>19-FEB-81 <td>SIZE:</td> <td>CODE:</td> <td>NUMBER</td> <td>REV</td> <td></td> </td>	DATE:	19-FEB-81 <td>SIZE:</td> <td>CODE:</td> <td>NUMBER</td> <td>REV</td> <td></td>	SIZE:	CODE:	NUMBER	REV	
			[C]	IMFG.ENG.:	V.MITCHELL <td>DATE:</td> <td>19-FEB-81 <td>K</td> <td>PL</td> <td>7017635-0-DBP</td> <td>A</td> <td></td> </td>	DATE:	19-FEB-81 <td>K</td> <td>PL</td> <td>7017635-0-DBP</td> <td>A</td> <td></td>	K	PL	7017635-0-DBP	A	
			[D]	ASSEMBLY NUMBER:	E-AD-7017635-0-0 <td>TOP DOCUMENT NUMBER:</td> <td>B-DD-H7202-0-0 <td>FILE NAME:</td> <td>2285.PLS</td> <td>EDIT #</td> <td>2</td> <td></td> </td>	TOP DOCUMENT NUMBER:	B-DD-H7202-0-0 <td>FILE NAME:</td> <td>2285.PLS</td> <td>EDIT #</td> <td>2</td> <td></td>	FILE NAME:	2285.PLS	EDIT #	2	
			[E]	"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 (C) 1981, DIGITAL EQUIPMENT CORPORATION "								
			[F]									

TW



NOTES:

1. U/I APPROVAL REQUIRED.
2. MASK HOLES PRIOR TO WAVE SOLDER.
3. PULL PIN NO. 3 FROM J1, PIN NOS FROM J5 PRIOR TO INSERTION.
4. C1, C2, T1 & T4 TO BE INSERTED AT NEXT HIGHER ASSY LEVEL.
5. RAISE R11, R6, R63, D5 TO 10 OFF PC BOARD.

STEP 6 + Y AXIS STEP 11 TINES
REPORT + X AXIS STEP 12 TINES

CHG	NO	REV	BY	DATE	DESCRIPTION
1	1	1	...	...	...
2	1	1	...	...	...
3	1	1	...	...	...
4	1	1	...	...	...
5	1	1	...	...	...
6	1	1	...	...	...
7	1	1	...	...	...

6. DIODES D2, D3, D8, D9, D25, D27, D31, AND D41 ARE OPPOSITE ORIENTATION TO ALL OTHER DIODES.

7. CUT PIN 5 FROM J5 (FOR KEY).

ETCH	REV.	DATE

SIGNATURES		DATE	digital
DRN.	...	2-1-82	
CHK'D.	...	2-4-82	
RECH. ENG.	...	2/18/82	
PROJ. ENG.	...	2/18/82	
PROD.	...	2-18-82	
SCALE 2/1	OF 3		TITLE
SHT. 1			H7200 MAJOR BD.
NEXT HIGHER ASSY.	B-DD-5413857-0		SIZE CODE
			NUMBER
			REV
			0 UAF5413857-0-01C

8

DUA5413857-0-0

6

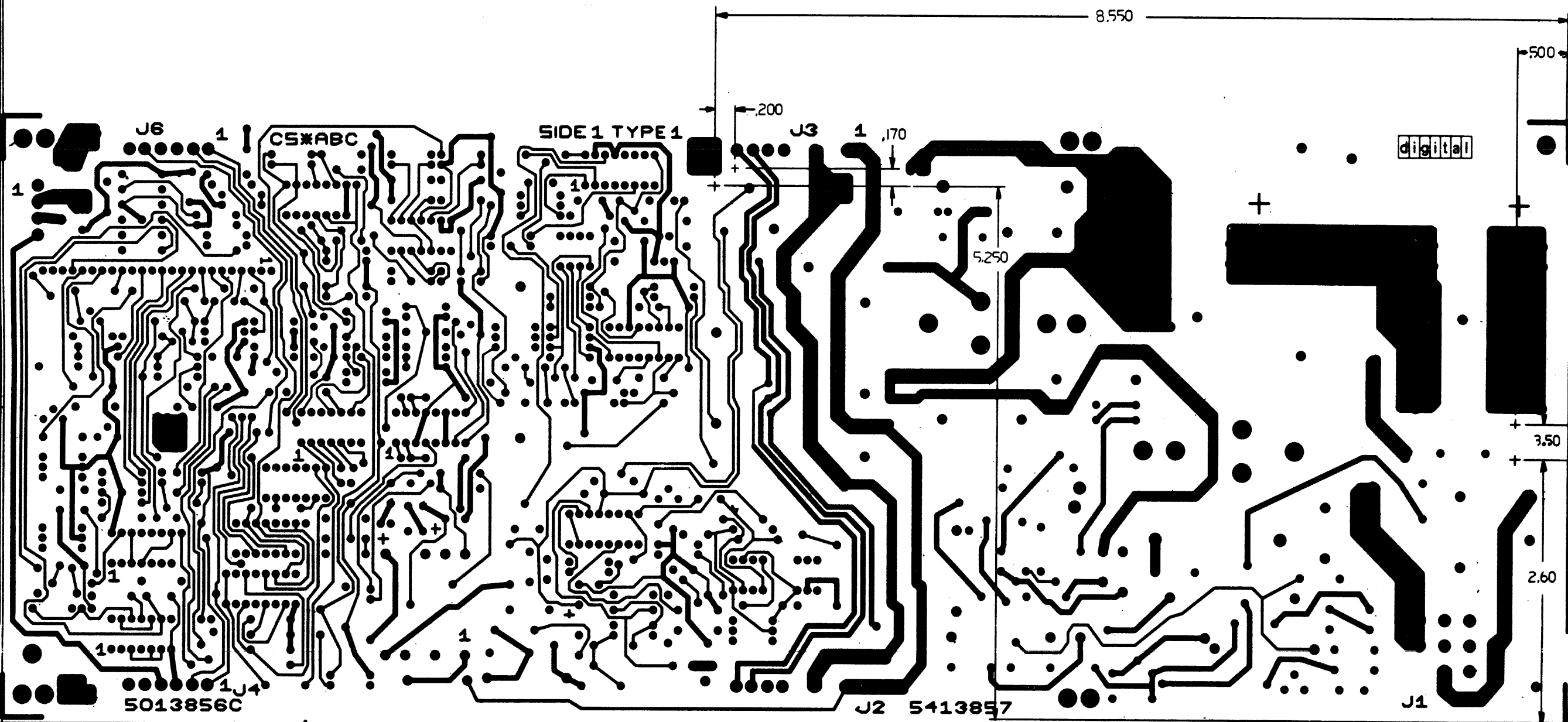
5

4

3

2

1980



DUA5413857-0-0

U/L APPVL REQD

DIMENSIONAL TOLERANCE, INCHES .XXX = ±.020

REVISION HISTORY		
DATE	ECO NUMBER	REV

TITLE
H7200 MAJOR BOARD

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV
DUA	5413857-0-0	C
SCALE	2/1	SHEET 2 OF 3

8

7

6

5

4

3

2

1

8

0-0-458145 UN

6

5

4

3

2

1

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- 1-10 INSTALL R45, DEC #1302751-00, BY DRILLING TWO .055" NEAR J3. SEE SHT. 2 OF UA FOR LOCATION. INSTALL EYELETS (ITEM 149) IN THESE HOLES. MOUNT R44 VERTICLE WITH SLEEVING (ITEM 155) ON LEAD. SEE VIEW B-B ON SHT. 1 OF UA.
- 1-11 CONNECT ANODE OF D32 TO CATHODE OF D35, BOTH DEC #1105275-00, BY TWISTING LEADS, SOLDERING AND TRIMMING EXCESS, INSTALL SHORT PIECE OF ITEM 155 ON THE OTHER TWO LEADS AND INSERT AS ONE COMPONENT IN LOCATION SHOWN, (BELOW D33), WITH D35 ON THE LEFT AND D32 ON THE RIGHT. SEE VIEW C-C ON SHT. 1 OF UA.

NOTE: ECO 5413857-TW001 ALSO CHANGES THE VALUE OF R44, R49, R50, R56, R62, R64, R65, R86, R140, C29, C30 AND D31. SEE REV B PARTS LIST OR ECO IF MORE INFORMATION IS NEEDED.

ECO #2
COMPONENT DELETIONS SIDE 1
2-1 DELETE C5 DEC #1001610-00.
2-2 DELETE D28 DEC #1117992-00.

COMPONENT ADDS SIDE 1
2-3 ADD D28 DEC #1117992-01
2-4 ADD R145 DEC #1311996-01 AND TO BOTH LEADS ADD SPACERS (ITEM 144) DEC #9009798-00 INSERT ONE LEAD IN PTH RIGHT OF R2 AND TACK SOLDER REMAINING LEAD TO ETCH UNDER AND NEAR LEFT SIDE OF R3.
2-5 ADD R144, DEC #1302751-00 AND C53 DEC #1010978-36 BY TWISTING AND SOLDERING ONE LEAD FROM EACH COMPONENT TOGETHER (CLIP OFF EXCESS LEAD) TACK SOLDER LEAD OF R144 TO ETCH LEADING TO E8-8 AND TACK SOLDER LEAD OF C53 TO ETCH BETWEEN R44 AND C23.

WIRE ADD SIDE 1
2-6 FROM PTH BELOW AND BETWEEN R2 AND R145 TO ETCH NEXT TO PTH LOCATED TO THE LEFT OF D1 (TACK SOLDER) USE ITEM 154.

WIRE ADDS

- 0-1 FROM FEED THRU RIGHT SIDE OF R70 TO FEED THRU BELOW R8 USING ITEM 106
- 0-2 FROM FEED THRU BELOW E11-2 TO FEED THRU NEAR E9-1 USING ITEM 124
- 0-3 FROM FEED THRU BELOW E11-4 TO FEED THRU BELOW E9-1 USING ITEM 124
- 0-10 FROM FEED THRU ABOVE R117, TO FEED THRU RIGHT SIDE E10 PIN 8 USING ITEM 124.

COMPONENT ADDS

- 0-4 C5 (.01UF) IN PARALLEL WITH R86
- 0-5 C6 (.1UF) FROM ETCH AT C44 TO FEED THRU NEAR E 14/8
- 0-6 R9 (270, 1/4W) FROM LEFT TERMINAL OF D26 TO RIGHT TERMINAL OF R58
- 0-7 R45(30 1/4 w) FROM E6/5 TO E6/7; USE EYELETS (ITEM 149) AND WIRES (ITEM 124)
NOTE: EYELETS MUST BE 3/16" IN MINIMUM FROM ETCHES AT R63, R59

WIRE ADDS

- 1-1 FROM E6-5 TO LOWER END OF R45 USING ITEM 124.
- 1-2 FROM E6-7 TO UPPER END OF R45 USING ITEM 124.
- 1-3 FROM PTH AT LEFT OF D1 TO PTH ABOVE D1 USING ITEM 154.

COMPONENT DELETIONS

- 1-4 REMOVE R1, DEC #1314270-02.
- 1-5 REMOVE R2, DEC #1314270-02.
- 1-6 REMOVE R45, DEC #1302751-00.
- 1-7 REMOVE D32, DEC #1105275-00.

COMPONENT ADDS

- 1-8 INSTALL R1, DEC #1314270-02, BY DRILLING TWO .055" HOLES ABOVE D1. SEE SHT. 2 OF UA FOR LOCATION. USE SPACERS ON LEADS. (ITEM 144).
- 1-9 INSTALL R2, DEC #1314270-02, USING SPACERS ON THE LEADS (ITEM 144). INSERT ONE LEAD INTO PTH NEAR ETCH CUT TO THE RIGHT OF R4. TACK SOLDER THE OTHER LEAD TO THE ETCH ON THE OTHER SIDE OF THE ETCH CUT.

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE
H7200 MAJOR BD

DOCUMENT NUMBER		
SIZE	CODE	NUMBER
D	UA	5413857-0-0
SCALE		SHEET 3 OF 3

5413857-0-0

B

A

8

7

6

5

4

3

2

1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1		D-MD-5013856-0-0	5013856-00	DRILL + ETCH BRD	1		
2			1000012-00	56.0 MMF 100V 5%200PPM MICA	1		C15
3			1013466-06	100.0 MMF 50V 5% CER	3		C25, C44, C47
4			1010978-24	.01 MFD 50V 10% CER	1		C46
5			1001765-00	.005 MFD 100V 20% ZST DISC	4		C9, C13, C16, C19
6			1018000-00	2.2 MFD 63V +50-10 AL EL	2		C18, C22
7			1010274-00	.22 MFD 50V +80-20% ZSU CER	1		C21
8			1010978-36	.1 MFD 50V 10% CER	12	CONT	C14, C24, C34, C35, C40-C42, C45, C6, C51, C43, C17
9			1011847-01	.01 MFD 400V 10% POLYPROP	1		C36
10			1011847-03	.0047 MFD 600V 10% POLYPROP	2		C3, C4
11			1012784-00	.047 MFD 50V +80-20% CER	1		C10
12			1010274-02	.1 MFD 50V +80-20% CER	1		C27
13			1015755-00	.047 MFD 270V 20% POLYPROP	1		C11
14			1000009-00	33.0 MMF 100V 5%200PPM MICA	1		C39
15			1014169-00	1000.0 MMF 100V 1%200PPM MICA	2		C23, C26
16			1011740-00	5600.0 MMF 50V 10% CER	2		C28, C50
17			1018000-01	15 MFD 25V +50-10 AL EL	2		C20, C33
18			1018001-00	100 MFD 20V 15% AL EL	1		C32
19			1000023-00	330.0 MMF 100V 5%200PPM MICA	1		C49
20			1011740-05	1000.0 MMF 50V 10% CER	1		C37
21			1000055-00	2200.0 MMF 250V 20% YSS DISC	1		C48
22			1018929-00	330.0 MMF 1000V 5% 70PPM MIC	1		C30
23			1018001-01	15 MFD 60V 15% AL EL	1		C31
24			1012783-00	.022 MFD 50V +80-20% CER	2		C12, C29
25			1012312-00	.47 MFD 50V +80-20% CER	1		C52
26			1117992-00	IN 5758 DIAC 20V BILATERAL TRIG	1		D28
27			1110968-00	2N 5062 SCR 100V I= .8A T092	1		D29
28			1105275-00	D 672 TR= 15NS PIV= 60V SI	35		D18, D22-D27, D32, D33, D41-D65, D35
29			1112594-02	A115M PIV=600 I= 3A	2		D2, D3

REVISION HISTORY		BASIC PART NO: 5413857		DRN: J. FERGUSON		DATE: 16-NOV-81		D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: K. SHEYTANIAN		DATE: 16-NOV-81		TITLE PARTS LIST			
	INITIAL	B	SECTION VARIATION INDEX					H7200 MAJOR BOARD			
			(A) 00	DES. ENG: C. LANDINO		DATE: 16-NOV-81		DOCUMENT NUMBER			
			(B)	RESP. ENG.: C. LANDINO		DATE: 16-NOV-81		SIZE CODE NUMBER REV			
			(C)	MFG. ENG.: H. ORTIZ		DATE: 16-NOV-81		K PL 5413857-0-DBP B			
			(D)	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: EDIT #			
			(E)	D-UA-5413857-0-0		B-DD-5413857-0-0		213108.PLS 6			
			(F)	"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 (C) 1981. DIGITAL EQUIPMENT CORPORATION"							
			(G)								
			(H)								
			(J)								
			(N)								

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
30	30		1112595-01	A114B PIV=200 I= 1A	11		D14-D16,D19-D21,D34,D37-D40
31	31		1114245-00	NBS30600LPIV=600 I=30A	1		D1
32	32		1112595-02	A114M PIV=600 I= 1A	4		D8,D9,D13,D30
33	33		1117061-00	MCR 69-1 THYRISTOR	1		D17
34	34		1105796-01	5796-1PIV=400 I=1A D041	4		D4-D7
35	35		1110994-00	1N 751A VZ= 5.1 5% 40W	1		D68
36	36		1100113-00	D 662 OS 600PCB(STABISTOR)	2		D66,D67
37	37		1212297-02	MATE-N-LOK 9PIN UNIV HEADER	1		J1
38	38		1218241-00	HEADER.156 8PIN KEYED	2		J2,J3
39	39		1216122-08	HEADER.156 6POS KEYED	2		J4,J6
40	40		1212518-04	HEADER.100 24POS STRAIGHT	1		J5
41	41		1214789-00	INSERT,THREADED 6-32 BRASS,ELEC	4		
42	42		1217304-00	HEAT SINK,W/NON-THREADED INSERT	2		
43	43		1216122-00	HEADER.156 4POS KEYED	1		J7
44	44		1214809-01	INSERT,W/O INTERNAL THREADS,THRU	4		
45	45		1214809-03	INSERT,W/O INTERNAL THREADS,THRU	4		
46	46		1300202-00	47.0 .25 W 5.0 % CC	3		R35,R36,R74,R62,R140
47	47		1300229-00	100.0 .25 W 5.0 % CC	2		R58,R104
48	48		1311337-00	56.0 5.0 W 5.0 % WW	1		R11
49	49		1300288-00	270.0 2.0 W 10.0 % CC	1		R13
50	50		1300365-00	1.0 K .25 W 5.0 % CC	4		R18,R25,R47,R119
51	51		1313469-00	240.0 .25 W 5.0 % CC	1		R29
52	52		1303313-00	12.10 K .25 W 1.0 % RN55D-F10	2		R26,R46
53	53		1300447-00	4.70 K .25 W 5.0 % CC	5		R40,R96,R116,R120,R126
54	54		1300479-00	10.0 K .25 W 5.0 % CC	8		R87,R117,R123,R127,R133,R134, CONT R136,R71
55	55		1300496-00	15.0 K .25 W 5.0 % CC	4		R41,R118,R125,R142
56	56		1301317-00	10.0 .25 W 5.0 % CC	2		R19,R20
57	57		1301422-00	7.50 K .25 W 5.0 % CC	3		R38,R138,R73
58	58		1301775-00	820.0 .25 W 5.0 % CC	3		R30,R97,R121
59	59		1302466-00	100.0 K .25 W 5.0 % CC	3		R124,R128,R130
60	60		1300277-00	220.0 1.0 W 10.0 % CC	1		R61
61	61		1302612-00	1.78 K .25 W 1.0 % RN55D-F10	1		R84
62	62		1302177-00	47.0 K .25 W 5.0 % CC	10		R37,R89,R90,R105-R107,R111-R113, CONT R131
63	63		1302377-00	39.0 .25 W 5.0 % CC	1		R31
64	64		1302398-00	470.0 K .25 W 5.0 % CC	2		R93,R108
65	65		1302514-00	39.0 K .25 W 5.0 % CC	1		R39
66	66		1302645-00	1.10 K .25 W 1.0 % RN55D-F10	1		R34
67	67		1303114-00	1.0 K .25 W 1.0 % RN55D-F10	7		R16,R21-R24,R33,R57
68	68	BLANK		*** THIS ITEM IS NOT USED ***	-		
69	69		1313476-00	51.10 K .25 W 1.0 % RN55D-F10	1		R85
70	70		1305516-00	128.0 K .25 W .10% RN55E-B 2	1		R80
71	71		1309963-00	260.0 5.0 W 3.0 % WW	2		R7,R8
72	72		1312546-00	16.50 K .25 W 1.0 % RN55D-F10	1		R75
73	73		1312932-00	36.0 K .25 W 5.0 % CC	2		R42,R122
74	74		1311320-00	90.90 K .25 W 1.0 % RN55D-F10	1		R48
75	75		1313752-00	15.0 K .25 W 1.0 % RN55D-F10	1		R86

D	I	G	I	T	A	L	TITLE	H7200 MAJOR BOARD	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
											K	PL	5413857-0-DBP	B

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
					00	
76	76		1314088-00	20.0 K 5.0 W 5.0 % WW	2	R3, R4
77	77		1316444-00	150.0 K .25 W 1.0 % RN55D-F10	1	R77
78	78		1314350-00	1.0 2.0 W 1.0 % FUSE	1	R5, R6
79	79		1303110-00	19.60 .25 W 1.0 % RN55D-F10	1	R28
80	80		9006656-00	WASHER, FLAT .312 0.0 X .156 I	1	
81	81		1300255-00	150.0 1.0 W 5.0 % CC	1	R32
82	82		1300488-00	12.0 K .25 W 5.0 % CC	1	R67, R91
83	83		1300417-00	2.20 K .25 W 5.0 % CC	1	R94, R95, R141
84	84		1301320-00	1.20 K .25 W 5.0 % CC	1	R43
85	85		1311522-00	200.0 K .25 W 5.0 % CC	1	R17, R88
86	86		1314119-00	44.20 K .25 W 1.0 % RN55D-F10	1	R78
87	87		1313559-00	20.0 K .25 W 1.0 % RN55D-F10	1	R51
88	88		1301972-00	270.0 K .25 W 5.0 % CC	1	R137, R9
89	89		1305346-00	27.0 K .25 W 5.0 % CC	1	R98-R103, R109, R110
90	90		1314643-00	430.0 K .25 W 5.0 % CC	1	R115
91	91		1317523-00	1.0 K .25 W 5.0 % CC	1	R76
92	92		1300439-00	3.30 K .25 W 5.0 % CC	1	R27
93	93		1300271-00	220.0 K .25 W 5.0 % CC	1	R14, R132, R143
94	94		1314270-02	2.50 15.0 % NTC THERM	1	R1, R2
95	95		1303155-00	21.50 K .25 W 1.0 % RN55D-F10	1	R79, R44
96	96		1317968-00	150.0 K 2.0 W 5.0 % CC	1	R59
97	97		1300368-00	1.0 K 1.0 W 5.0 % CC	1	R60
98	98		1317595-00	270.0 K 1.0 W 5.0 % CC	1	R70
99	99		1315052-00	500.0 K 5.0 W 5.0 % WW	1	R63
100	100		1303312-00	10.0 K .25 W 1.0 % RN55D-F10	1	R53
101	101		1314252-00	130.0 K .25 W 1.0 % RN55D-F10	1	R52
102	102		1312682-00	3.0 K 3.0 W 5.0 % WW	1	R12
103	103		1315518-02	10.0 1.0 W 1.0 % FUSE	1	R49
104	104		1314990-00	158.0 K .25 W 1.0 % RN55D-F10	1	R114
105	105		1313589-00	1.40 K .25 W 1.0 % RN55D-F10	1	R15
106	106		9107688-55	WIRE (WRAP) 24AWG UL1327	A/R	
107	107		1302388-00	2.0 K .25 W 5.0 % CC	1	R92
108	108		1301969-00	22.0 K .25 W 5.0 % CC	1	R135
109	109		1302751-00	30.0 K .25 W 5.0 % CC	1	R45
110	110		1304841-00	75.0 K .25 W 5.0 % CC	1	R139
111	111		1301423-00	6.80 K .25 W 5.0 % CC	1	R66
112	112		1302394-00	30.0 K .25 W 5.0 % CC	1	R68
113	113		1303045-00	3.16 K .25 W 1.0 % RN55D-F10	1	R82
114	114		1302859-00	5.76 K .25 W 1.0 % RN55D-F10	1	R56
115	115		1303044-00	100.0 K .25 W 1.0 % RN55D-F10	1	R83
116	116		1309414-00	9.76 K .25 W 1.0 % RN55D-F10	1	R81
117	117		1510705-00	XA 05 NPN 500MW SI 60 30 P	1	Q4-Q6, Q8, Q11, Q18
118	118		1510706-00	XA 55 PNP 500MW SI 60 50 P	1	Q9, Q10, Q12, Q17, Q19
119	119		1511686-01	FET N 350MW TO-92	1	Q13, Q14, Q16
120	120		1517365-00	2N 6678 NPN 175W SI	1	Q1, Q2
121	121		1512790-00	D 44C12 NPN 30W SI	1	Q3
122	122		1517551-00	J 176 FET 350MW SI P CHNNL	1	Q15
123	123		1516119-00	NPN 75W SI	1	Q7

D	I	G	I	T	A	L	TITLE	H7200 MAJOR BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	FL	5413857-0-DBP	B

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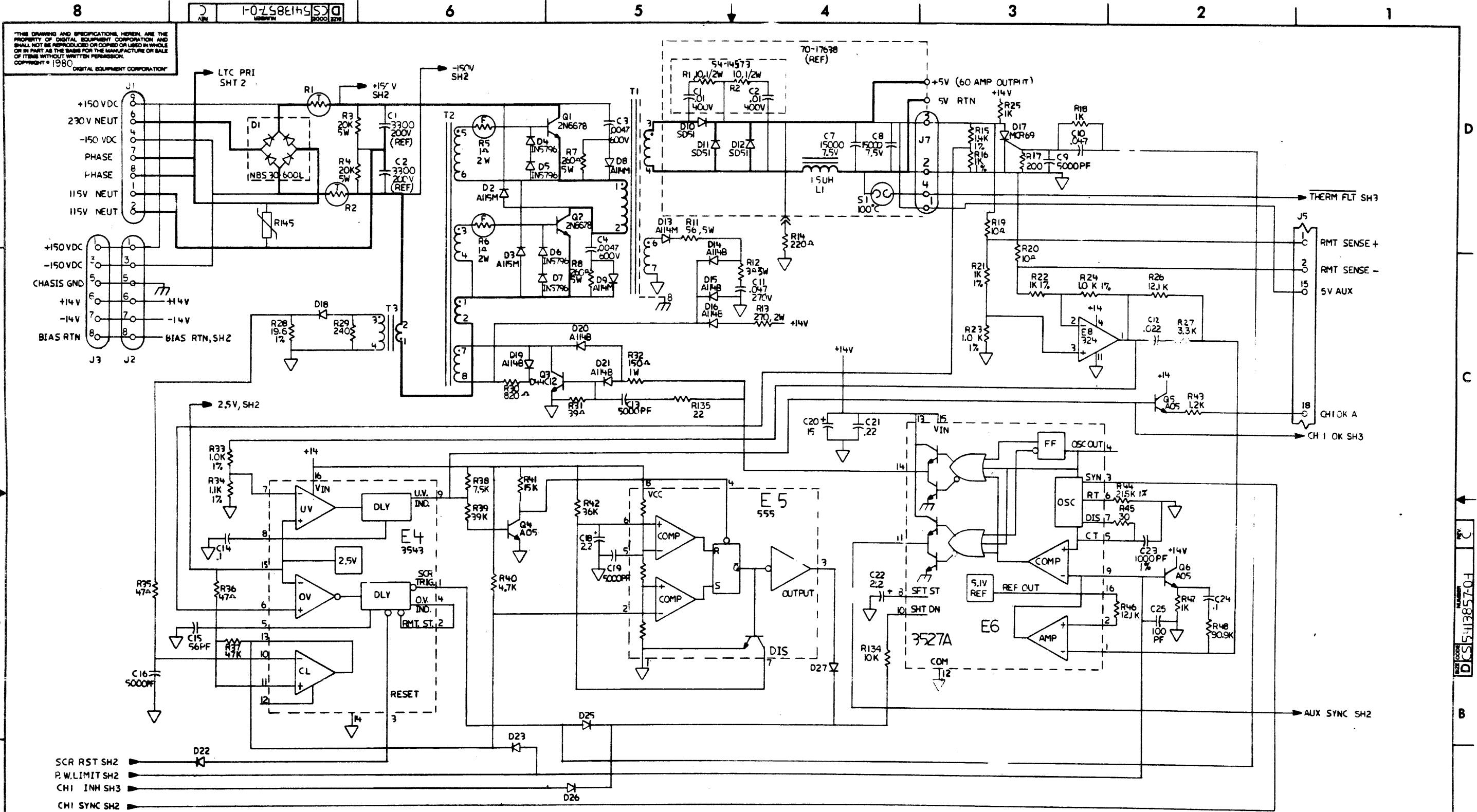
PARTS LIST

SHEET A4 OF A4

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
					00	
124	124		9105740-55	WIRE(WRAP)30AWG UL1423	A/R	
125	125		1617557-00	XFMR,CURRENT RATIO 1:2:100 PC MT	1	T3
126	126		1617450-00	PULSE XFMR,RATIO 40:3,3:1	1	T2
127	127		9010265-00	SPACER,INT.THD. 6-32X .187	6	
128	128		1911944-00	555CN TIMER,FUNCT.BLOCK	1	E5
129	129		1912107-00	324 OP AMP,QUAD	1	E8
130	130		1912108-00	339 VOLT CMPRTR,QUAD	1	E13
131	131		1914194-00	OPTP-COUPLED ISOLATOR	1	E1
132	132		1916819-00	3527A MODULATOR,REGULATING	1	E6
133	133		1917059-00	3543 P.S. SUPERVISORY CIR	1	E4
134	134		1914156-00	LM 393 VOLT.COMPARATOR DUAL	1	E2
135	135		1916820-00	SG3525J MODULATOR-REGULATING	1	E3
136	136		2113635-00	4071B OR GATE-QUAD 2IN CMO	1	E11
137	137		2113637-00	4073B AND GATE-TRIPLE 3IN	1	E12
138	138		2113612-00	4019B AND-OR SELECT GATE-Q	1	E9
139	139		2113645-00	4098B MULTIVIBRATOR,DUAL M	1	E7
140	140		2113644-00	4093B NAND GATE-QUAD 2IN C	2	E14,E15
141	141		2113615-00	4025UBNR GATE-TRIPLE 3IN	1	E10
142	142		9009676-00	TERM,SOLDER BARRIER STR	2	
143	143		9007793-01	SCREW PAN PHIL 6-32X 9/16 SS	4	
144	144		9009798-00	SPACER,CERAMIC,.186 ODX.078 ID	4	
145	145		9009798-01	SPACER,CERAMIC,.186 ODX.078 ID	12	
146	146		9007801-00	WASHER,LOCK,S.S.#6	4	
147	147		9008268-00	COMPOUND,THERMAL JOINT	A/R	
148	148		1001610-00	.01 MFD 50V +80-20% Z5U CER	1	C5
149	149		9006731-00	EYELET,(BRASS NICKEL PLATED).0	2	
150	150		1300521-00	47.50 K .25 W 1.0% RNSSD-F10	1	R50
151	151		1302379-00	75.0 .25 W 5.0% CC	1	R64
152	152		1318864-00	1.0 1.0 W 5.0% WW	1	R65
153	153		1115112-00	PIV=800V I=1A	1	D31
154	154		9107696-00	WIRE,SOLID,18AWG,IPVC UL1429	A/R	
155	155		9107256-11	TUBING,THIN WALL,.027ID UL	A/R	

156 NOTE: ITEM #124; .82' IS USED
 157 NOTE: ITEM #106; .33' IS USED
 158 NOTE: ITEM #154; .11' IS USED
 159 NOTE: ITEM #155; .07' IS USED

D	I	G	I	T	A	L	TITLE	H7200 MAJOR BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5413857-0-DBP	B



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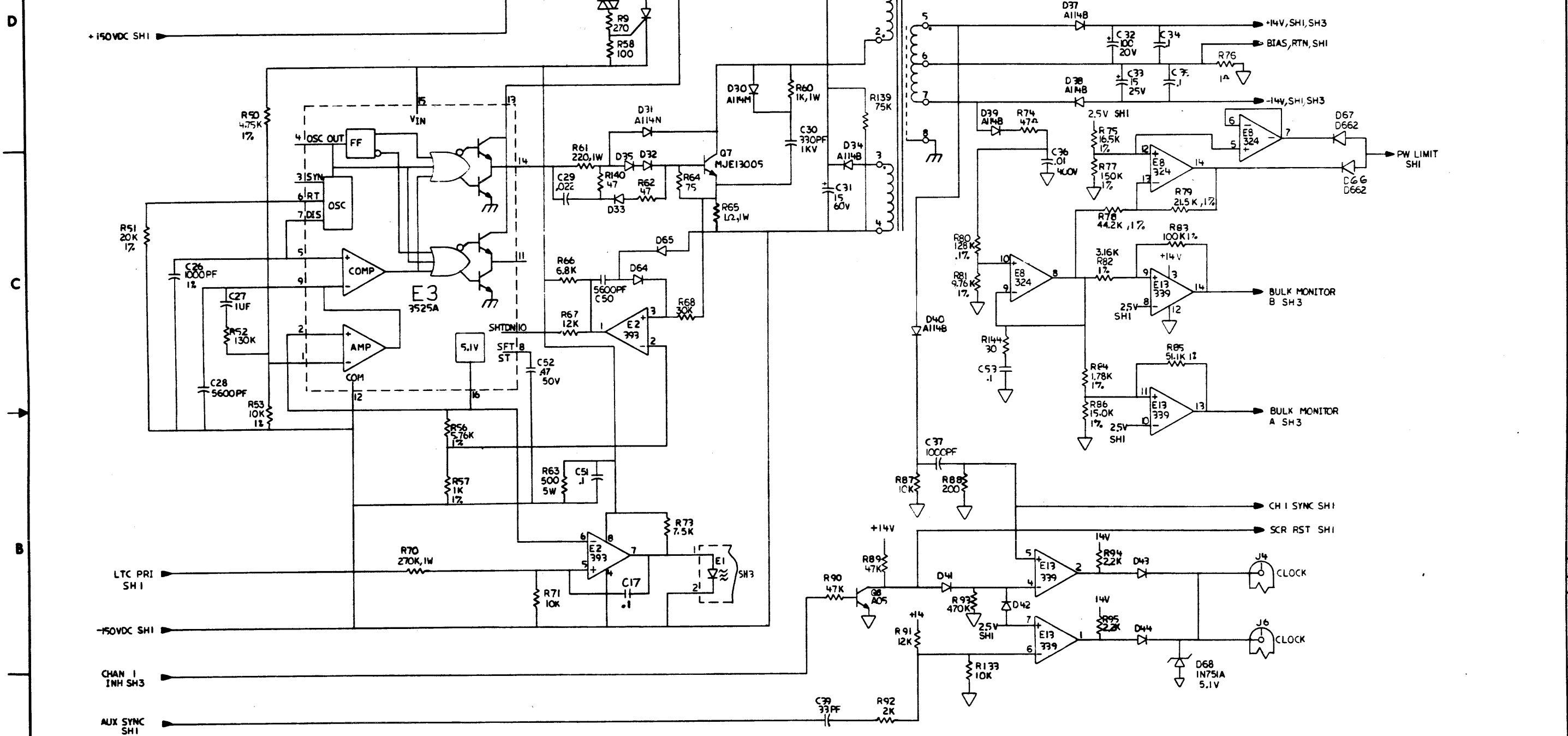
DATE	REV.	BY	CHKD.
12-16-81	B	C. LANDINO	
12-16-81	C	C. LANDINO	
12-16-81	D	C. LANDINO	

DESIGNED BY F. GUNDERSEN	DATE 6-2-80	TITLE MAJOR BOARD H7200	digital
DRAWN BY J. J. JAMES	DATE 12-13-80	DOCUMENT NUMBER D-UA-5413857-0-1	
CHECKED BY C. S. LINDEN	DATE 2/18/81	SCALE 1	A
APPROVED BY C. S. LINDEN	DATE 2/18/81	SHEET 1 OF 3	

TW 1

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REV	
DATE	
DESCRIPTION	

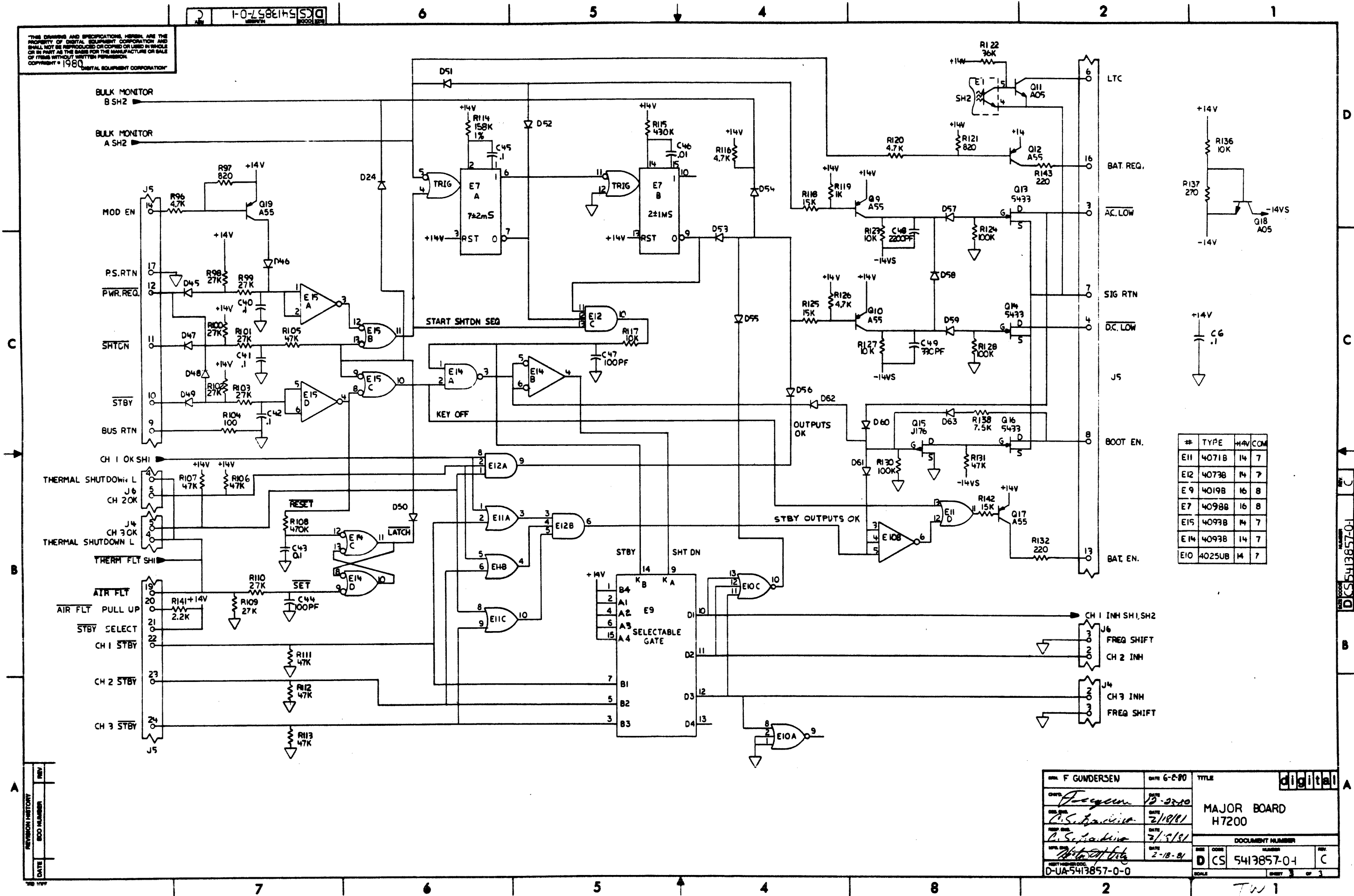
DESIGNER	F. GUNDERSON	DATE	6-2-80	TITLE	digital
CHECKED	<i>Traynor</i>	DATE	12-23-80	MAJOR BOARD	H7200
DESIGNED	<i>C. Spaulding</i>	DATE	2/15/81		
APP'D	<i>C. Spaulding</i>	DATE	2/15/81		
REVISED	<i>John P. Kelly</i>	DATE	2-18-81		
WORK CENTER	D-UA-5413857-0-0	SCALE	1:1	DOCUMENT NUMBER	D CS 5413857-0-1 C
				SHEET	2 OF 3

REV 1
DATE 12-23-80
DRAWN BY F. GUNDERSON
CHECKED BY TRAYNOR
DESIGNED BY C. SPAULDING
APP'D BY C. SPAULDING
REVISED BY JOHN P. KELLY

8 7 6 5 4 3 2 1

T.N. 1

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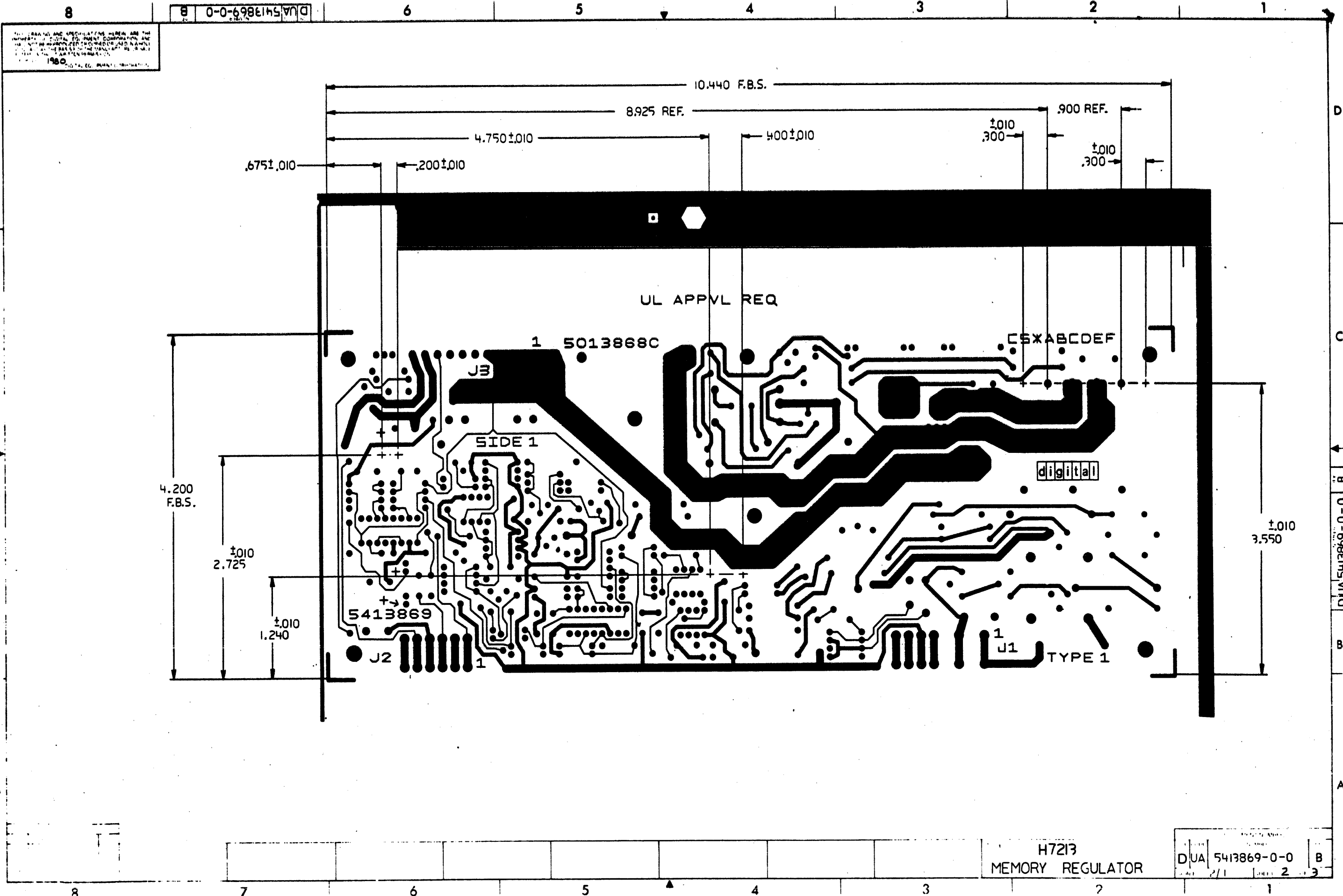
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E9	4019B	16	8
E7	4098B	16	8
E15	4093B	14	7
E14	4093B	14	7
E10	4025UB	14	7

DESIGNED BY F. GUNDERSEN	DATE 6-2-80	TITLE digital
CHKD BY J. Ferguson	DATE 12-22-80	MAJOR BOARD H7200
APP'D BY A. S. ...	DATE 2/18/81	
APP'D BY A. S. ...	DATE 2/15/81	DOCUMENT NUMBER
APP'D BY A. S. ...	DATE 2-18-81	D CS 5413857-0-1
D-UA-5413857-0-0		SCALE 1

DATE	REV

DCS5413857-0-1

TW 1



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DUA 5413869-0-0

4.200 F.B.S.

±010 2.725

±010 1.240

10.440 F.B.S.

8.925 REF.

4.750 ± 0.010

4.00 ± 0.010

±010 .300

.900 REF.

±010 .300

.675 ± 0.010

.200 ± 0.010

UL APPVL REQ

1 5013868C

CSX ABCDEF

SIDE 1

digital

5413869

1 J1 TYPE 1

J2

1

±010 3.550

H7213
MEMORY REGULATOR

DUA 5413869-0-0 B
2/1 2 3

DUA 5413869-0-0 B

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0-0-69817-0-0

REWORK INSTRUCTIONS

WIRE ADDS SIDE 1:

- 0-2 ADD ITEM 96 FROM E1 PIN 12 TO C22(-).
- 0-3 ADD ITEM 96 FROM C22 (+) TO D29 ANODE.
- 0-4 ADD ITEM 105 FROM ITEM 108 PIN 1 TO PTH A (RED WIRE). CONNECT BLACK WIRE FROM PIN 2 TO PTH B.
- 0-5 ADD ITEM 96 FROM R47 TO C11.

ECO #1

COMPONENT DELETES SIDE 1

- 1-7 DELETE R44 DEC# 1309094-00.
- 1-8 DELETE CERAMIC SPACERS DEC# 9009798-01.
- 1-9 DELETE R38 DEC# 1303047-00.
- 1-10 DELETE R9 DEC# 1302602-00.
- 1-11 DELETE R18 DEC# 1309446-00.
- 1-12 DELETE T1 DEC# 1617439-00.

COMPONENT ADDS SIDE 1

- 1-13 ADD R38 DEC# 136836-00.
- 1-14 DRILL ONE .042" HOLE AND ADD R71 DEC# 1305324-00.
- 1-15 DRILL ONE .042" HOLE AND ADD R72 DEC# 1303114-00.
- 1-16 ADD R9 DEC# 1300202-00.
- 1-17 ADD R18 DEC# 1311594-00.
- 1-18 DRILL TWO .042" HOLES AND ADD R73 DEC# 1311594-00. ON SIDE 2 TACK SOLDER R73 FROM ETCH RUN BETWEEN C73 AND E5-4 TO R26. (SIDE CONNECTED TO C32)
- 1-19 DRILL TWO .055" HOLES AND ADD T1 DEC# 1618879-00.

WIRE ADDS SIDE 1

- 1-20 ADD ITEM 96 FROM E2-1 TO J2-6.
- 1-21 ADD ITEM 96 FROM E2-3 TO R38.
- 1-22 ADD ITEM 96 FROM E2-2 TO R71. (WRAP AND SOLDER TO COMPONENT LEAD)
- 1-23 ADD ITEM 104 FROM D12/CATHODE TO D3/CATHODE.

WIRE ADDS SIDE 2

- 1-24 JUMPER R72 TO R71 (USE COMPONENT LEADS)
- 1-25 ADD ITEM 111 FROM J3-2 TO R16. (TACK SOLDER BOTH SIDES TO ETCH)
- 1-26 ADD ITEM 104 FROM PTH ABOVE R27 TO R13. (TACK SOLDER TO ETCH)
- 1-27 ADD ITEM 104 FROM L2 (SIDE CONNECTED TO C14/NEG) TO D12/ANODE. (TACK SOLDER BOTH SIDES TO ETCH)
- 1-28 ADD ITEM 104 FROM D11/ANODE TO T1-6. (TACK SOLDER BOTH SIDES TO ETCH)
- 1-29 ADD ITEM 104 FROM R13 (TACK SOLDER TO ETCH) TO T1-8. (WRAP AND SOLDER TO COMPONENT LEAD)
- 1-30 ADD ITEM 104 FROM C3 (TACK SOLDER TO ETCH) TO T1-9. (WRAP AND SOLDER TO COMPONENT LEAD)

REVISION HISTORY

DOC NUMBER
TITLE H7213
MEMORY REGULATOR
SCALE 1:1 (SEE 3 OF 3)

0-0-69817-0-0

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	1	D-MD-5013868-0-0	5013868-00	DRILL AND ETCH	1	
2	2		1000018-00	120.0 MMF 100V 5X200PPM MICA	3	C18-C20
3	3		1012607-00	560 MFD 20V+100-10% AL EL	1	C30
4	4		1001610-00	.01 MFD 50V +80-20% 25U CER	3	C5, C6, C26
5	5		1010274-00	.22 MFD 50V +80-20% 25U CER	6	C8, C9, C11, C17, C33, C34
6	6		1010978-36	.1 MFD 50V 10% CER	2	C25, C31
7	7		1011847-01	.01 MFD 400V 10% POLYPROP	2	C3, C35
8	8		1000016-00	100.0 MMF 100V 5X200PPM MICA	1	C12
9	9		1014169-00	1000.0 MMF 100V 1X200PPM MICA	1	C23
10	10		1010978-24	.01 MFD 50V 10% CER	1	C29
11	11		1014277-00	3800 MFD 6.3V +75-10% AL EL	2	C14, C21
12	12		1017426-00	2700.0 MMF 250V 10% POLYPROP	2	C1, C2
13	13		1000042-00	1000.0 MMF 100V 5X200PPM MICA	2	C7, C24
14	14		1015573-01	5600.0 MMF 50V 5% CER	1	C10
15	15		1011847-02	.01 MFD 600V 10% POLYPROP	1	C4
16	16		1000020-00	180.0 MMF 100V 5X200PPM MICA	1	C16
17	17		1010978-32	.047 MFD 50V 10% CER	1	C13
18	18		1018000-00	2.2 MFD 63V +50-10% AL EL	1	C22
19	19		1018000-01	15 MFD 25V +50-10% AL EL	1	C15
20	20		1000011-00	47.0 MMF 100V 5X200PPM MICA	1	C32
21	21		1105275-00	D 672 TR= 15NS PIV= 60V SI	11	D8, D17-D22, D24, D27-D29
22	22		1112595-01	A114B PIV=200 I= 1A	10	D1, D3, D4, D6, D7, D9, D10, D12, D14,
23	23		1102495-00	VZ= 3.3 5% .25W	1	CONT D15
24	24		1112595-02	A114M PIV=600 I= 1A	3	D16
25	25		1117555-00	UES2403 RECTIFIER 150V 3A T0220	1	D2, D5, D13
26	26		1116323-00	SD 241 PIV= 45 I=30A	1	D11
27	27		1109517-00	1N 914B TR= 4NS PIV= 75V SY	1	D23
28	28		1110766-00	1N 5248B VZ= 18.0 5% .50W	1	D25
29	29		1117061-00	MCR 69-1 THYRISTOR	1	D26

REVISION HISTORY		BASIC PART NO: 5413869		DRN: J.FERGUSON		DATE: 12-22-80		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: B.WALDIE		DATE: 12-22-80		TITLE PARTS LIST	
	INITIAL	A	SECTION VARIATION INDEX	DES. ENG: B.WOLF		DATE: 12-22-80		DOCUMENT NUMBER	
			(A) 00	RESP. ENG.: B.WOLF		DATE: 12-22-80		SIZE: CODE: NUMBER REV	
			(B)	MFG. ENG.: H.ORTIZ		DATE: 12-22-80		K PL 5413869-0-08P A	
			(C)	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: EDIT #	
			(D)	D-UA-5413869-0-0		B-DD-5413869-0-0		Z1311.PLS 9	
			(E)	"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 (C) 1981. DIGITAL EQUIPMENT CORPORATION"					

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
30	30		1216688-01	HEAT SINK, T03	1		
31	31		1214789-00	INSERT THREADED 6-32 BRASS ELEC	2		
32	32		1215228-02	HEAT SINK, T0-220, #6 MTC HOLE	1		
33	33		1217990-04	HEADER.156 6SKT RCPT	1		J2
34	34		1216122-09	HEADER.156 10POS KEYED	1		J3
35	35		1217990-02	HEADER.156 8SKT RCPT	1		J1
36	36		1300229-00	100.0 .25 W 5.0 % CC	3		R36, R45, R64
37	37		1313347-00	220.0 1.0 W 5.0 % CC	1		R27
38	38		1309855-00	300.0 2.0 W 5.0 % CC	2		R1, R2
39	39		1300298-00	330.0 1.0 W 10.0 % CC	1		R11
40	40		1300316-00	470.0 .25 W 5.0 % CC	3		R19, R30, R34
41	41		1300365-00	1.0 K .25 W 5.0 % CC	4		R28, R31, R49, R50
42	42		1300447-00	4.70 K .25 W 5.0 % CC	9		R10, R23, R29, R40, R46, R57, R62, R63, R65
							CONT
43	43		1300479-00	10.0 K .25 W 5.0 % CC	7		R51, R52, R56, R58, R61, R66, R67
44	44		1300168-00	10.0 .50 W 5.0 % CC	4		R5, R6, R7, R15
45	45		1302411-00	511.0 .25 W 1.0 % RN550-F10	1		R37
46	46		1301320-00	1.20 K .25 W 5.0 % CC	1		R53
47	47		1302377-00	39.0 .25 W 5.0 % CC	1		R14
48	48		1300356-00	820.0 .50 W 10.0 % CC	1		R12
49	49		1300257-00	150.0 2.0 W 5.0 % CC	1		R13
50	50		1303047-00	464.0 .25 W 1.0 % RN550-F10	1		R38
51	51		1302957-00	121.0 .25 W 1.0 % RN550-F10	1		R42
52	52		1303114-00	1.0 K .25 W 1.0 % RN550-F10	2		R17, R26
53	53		1314492-00	40.20 K .25 W 1.0 % RN550-F10	1		R35
54	54		1309444-00	2.70 .50 W 10.0 % CC	2		R3, R4
55	55		1314551-00	442.0 .25 W 1.0 % RN550-F10	2		R41, R43
56	56		1309094-00	100.0 5.0 W 5.0 % WW	1		R44
57	57		1302602-00	56.0 .25 W 5.0 % CC	1		R9
58	58		1303156-00	34.80 K .25 W 1.0 % RN550-F10	1		R24
59	59		1313841-00	23.20 K .25 W 1.0 % RN550-F10	1		R39
60	60		1302177-00	47.0 K .25 W 5.0 % CC	2		R47, R60
61	61		1302388-00	2.0 K .25 W 5.0 % CC	1		R20
62	62		1305324-00	4.99 K .25 W 1.0 % RN550-F10	1		R25
63	63		1317515-00	.04 2.0 W 2.0 % WW	1		R16
64	64		1317522-00	1.0 .25 W 5.0 % CC	1		R8
65	65		1305346-00	27.0 K .25 W 5.0 % CC	2		R33, R68
66	66		1314350-00	1.0 2.0 W 10.0 % FUSE	1		R54
67	67		1309416-00	31.60 K .25 W 1.0 % RN550-F10	1		R18
68	68		1312565-00	13.30 K .25 W 1.0 % RN550-F10	1		R21
69	69		1302466-00	100.0 K .25 W 5.0 % CC	1		R48
70	70		1302871-00	1.21 K .25 W 1.0 % RN550-F10	1		R32
71	71		1316511-00	15.0 K .50 W 5.0 % CC	1		R55
72	72		1300398-00	1.80 K .25 W 5.0 % CC	1		R59
73	73		1312929-00	62.0 .25 W 5.0 % CC	1		R69
74	74		1300171-00	10.0 1.0 W 5.0 % CC	1		R70
75	75		1011683-00	.022 MFD 50V 10% CER	1		C28
76	76		1510705-00	XA 05 NPN 500MW SI 60 50 P	2		Q6, Q10

D	I	G	I	T	A	L	TITLE	H7213 MEMORY REGULATOR	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5413869-0-DBP	A

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
77	77		1509524-00	2N 3904 NPN 310MW SI 40 40 M	1		Q5
78	78		1513489-00	2N 4401 NPN 350MW SI 40 20	2		Q4, Q9
79	79		1512790-00	D 44C12 NPN 30W SI	1		Q3
80	80		1517060-00	MJE13009 NPN 100W SI	2		Q1, Q2
81	81		1513490-00	2N 4403 PNP 350MW SI-40 30	1		Q8
82	82		1617450-00	PULSE XFMR, RATIO 40:3, 3:1	1		T3
83	83		1617439-00	XFMR P=360V S=25/62V	1		T1
84	84		1617557-00	XFMR, CURRENT RATIO 1:2:100 PC MT	1		T2
85	85		1617668-00	35.0 UH 20% 15A	1		L2
86	86		1617667-00	200.0 UH 2A	1		L1
87	87		1917908-00	LM 358N OP AMP DUAL LOW POWE	1		E4
88	88		1916819-00	SG3527J MODULATOR-REGULATING PUL	1		E1
89	89		1917059-00	3543 P.S. SUPERVISORY CIR	1		E3
90	90		1914156-00	LM 393 VOLT. COMPARATOR DUAL	2		E2, E5
91	91		9006010-01	SCREW, PAN, PHIL 4-40X 5/16 SS	2		
92	92		9006556-00	NUT, HEX 4-40X1/4 AF X 3/	2		
93	93		9006688-00	WASHER, LOCK, S.S. #4	2		
94	94		9009769-00	WASHER, RECTANGULAR .405X.225X.0	3		
95	95		9008269-00	COMPOUND, THERMAL JOINT	A/R		
96	96		9105740-55	WIRE (WRAP) 30AWG UL1423	A/R		
97	97		9006024-01	SCREW, PAN, PHIL 6-32X 1/2 SS	2		
98	98		9007801-00	WASHER, LOCK, S.S. #6	2		
99	99		9006656-00	WASHER, FLAT, .312 O.D. X .156 I	2		
100	100		9009005-00	NUT, HEX 10-32 X1/4 AF X 3	2		
101	101		9007906-00	WASHER, LOCK, S.S. #10	2		
102	102		9006664-00	WASHER, FLAT, .437 OD X .218 ID	2		
103	103		9008957-00	NUT, HEX 6-32X 1/4 AF X 3	1		
104	104		9009798-01	SPACER, CERAMIC, .186 ODX.078 ID	2		
105	105		9107430-02	WIRE, STRND, 18AWG, IPVC (UL1429)	A/R		
106	106		1000021-00	220.0 MMF 100V 5% 200PPM MICA	1		C27
107	107		1314951-00	390.0 K .25 W 5.0 % CC	1		R22
108	108		1218375-00	THERMOSTAT, 0.170, C220 NORM OPEN	1		
109	109		1215228-01	HEAT SINK, 10-220, SINGLE	1		
110	110		9107278-05	TUBING, THIN WALL, .042ID UL	A/R		

111 NOTE: ITEM NO 96 IS .17 FT.
 112 NOTE: ITEM NO 105 IS .75 FT.
 113 NOTE: ITEM NO 110 IS .10 FT.

D	I	G	I	T	A	L	TITLE	H7213 MEMORY REGULATOR	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5413869-0-DBP	A

8

DCS 5413869-0-1 B

6

5

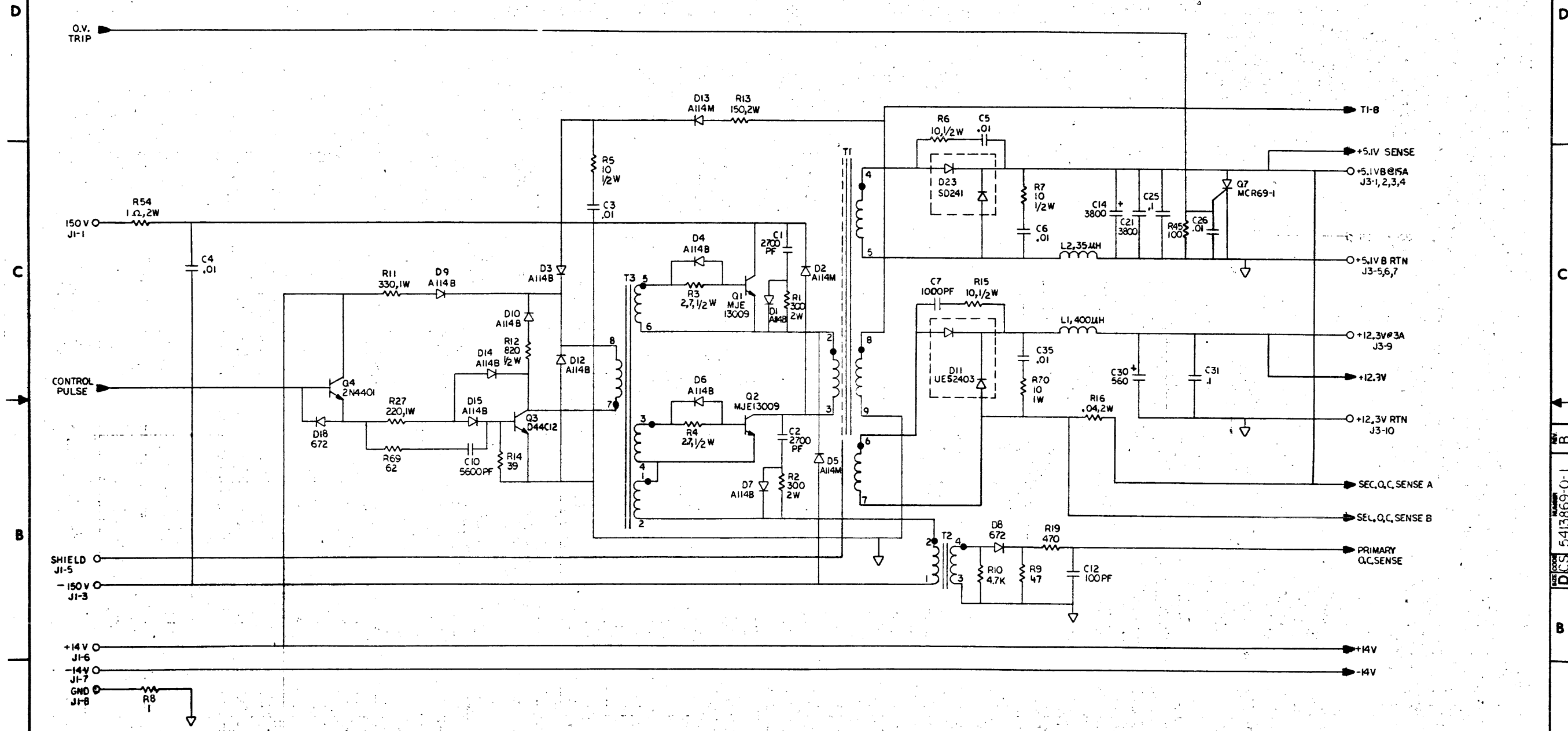
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3

2

1

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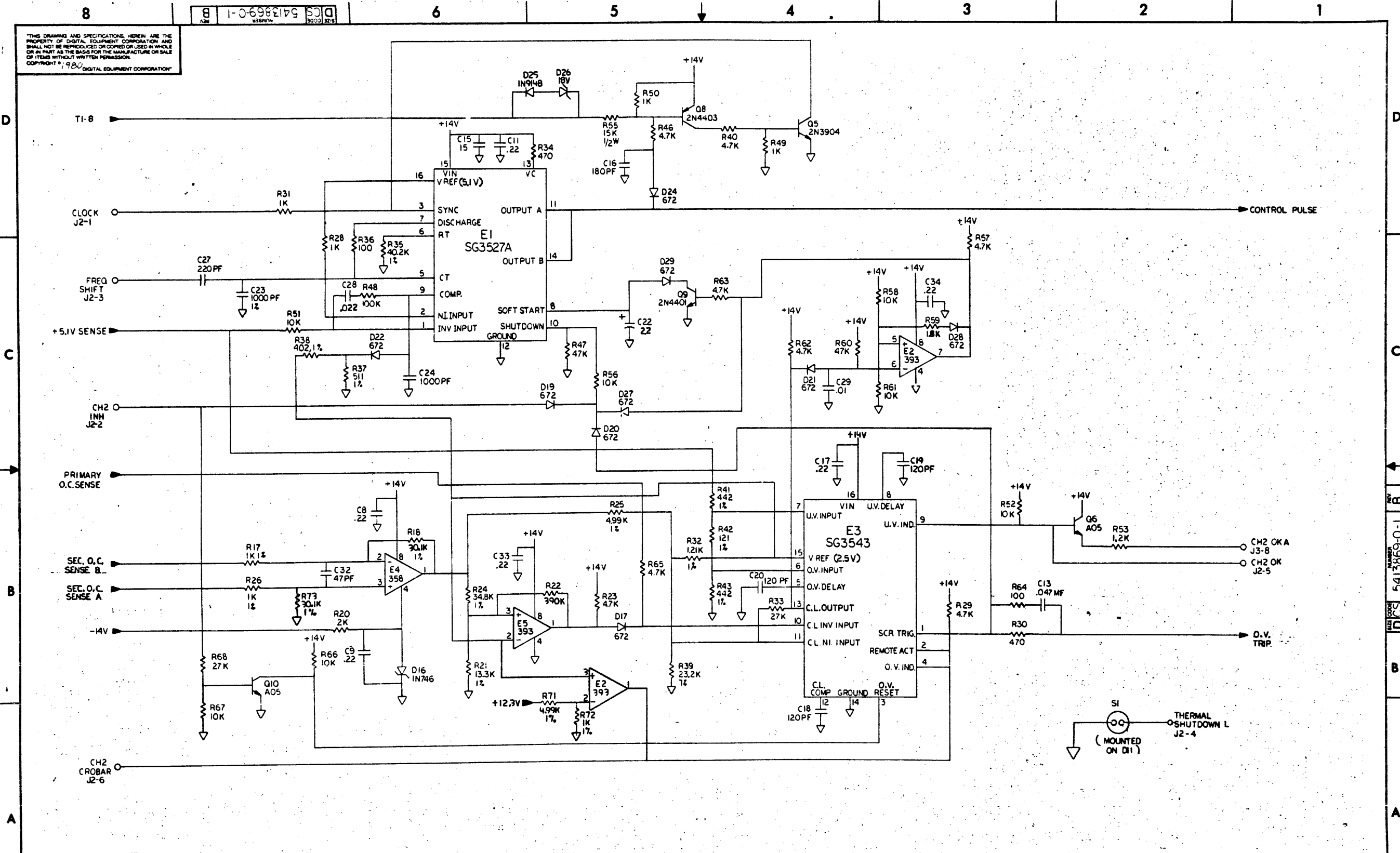


REVISION HISTORY	
DATE	BY
2/27/81	CS
2/18/81	CS
2/15/81	CS
12/2/80	CS

DESIGNED BY T.M. Callaghan	DATE 12-2-80	TITLE digital
CHECKED BY F. Ferguson	DATE 12-18-80	H7213 MEMORY REGULATOR
DESIGNED BY CS	DATE 2-15-81	DOCUMENT NUMBER DCS 5413869-0-1 B
DESIGNED BY CS	DATE 2/18/81	SCALE NONE
DESIGNED BY EUA-5413869-0-0	DATE 2-18-81	SHEET 1 OF 2

TW 1

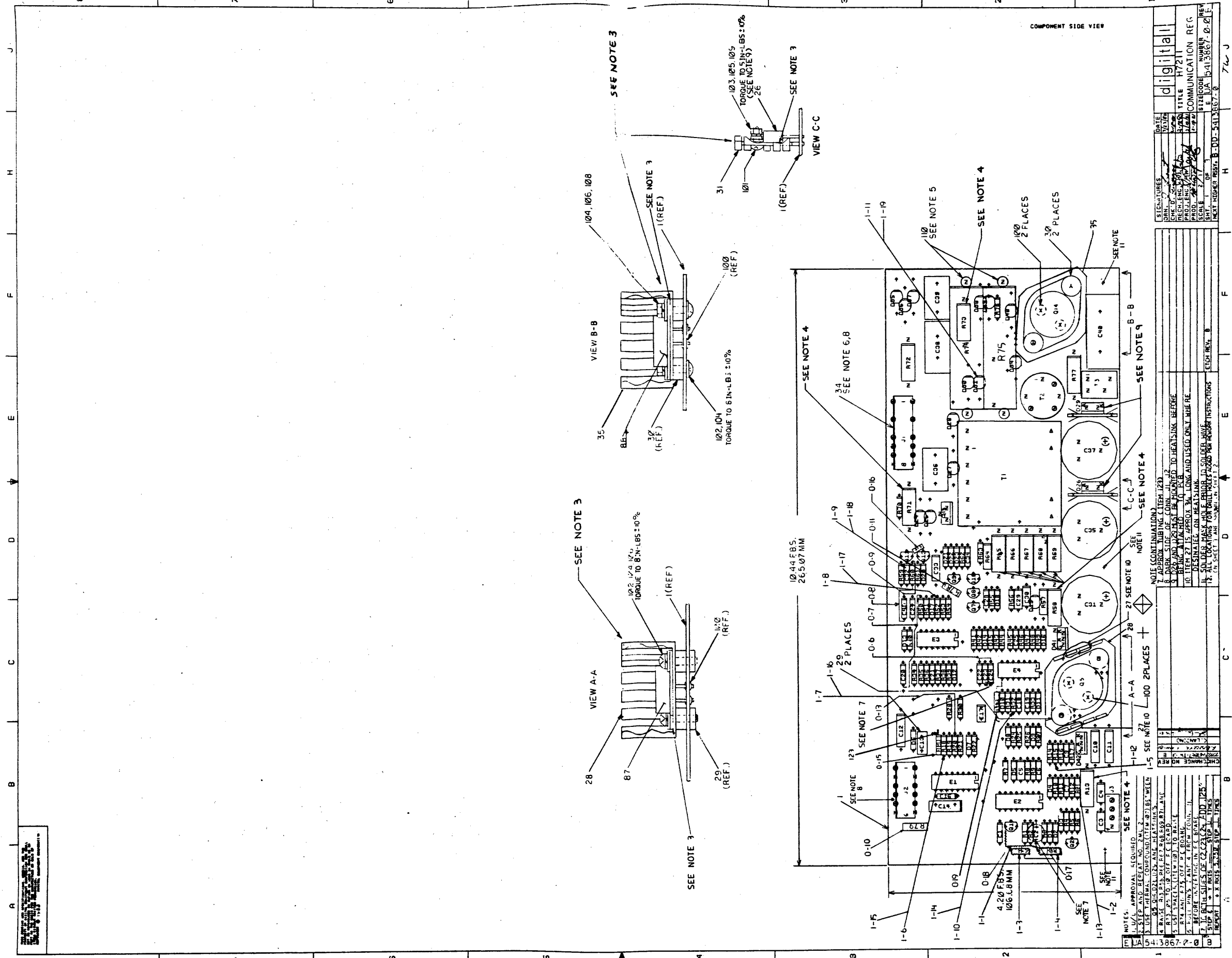
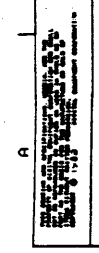
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REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE H7213
MEMORY REGULATOR

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV.
D CS	5413869-0-1	B
SCALE NONE	SHEET 2	OF 2



SIGNATURES	DATE	DATE
DRN. [Signature]	10/27/76	
DESIGN. [Signature]	10/27/76	
PROJ. ENG. [Signature]	10/27/76	
SCALE 2/1		
NEXT NUMBER 800-5413867-8		

COMMUNICATION REG.	STANDARD NUMBER
HY211	19-413867-021

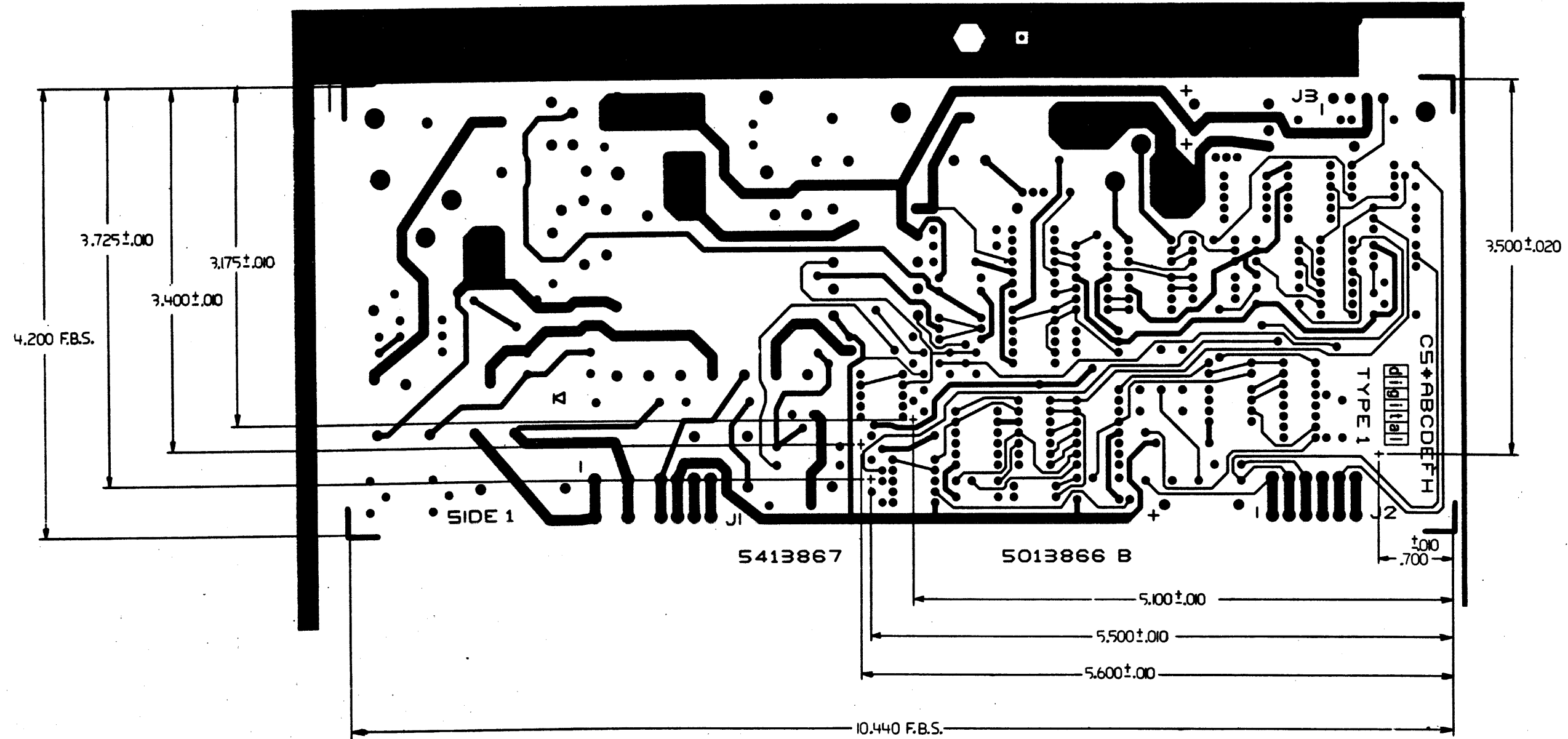
REVISION	DATE	DESCRIPTION
1		ISSUED FOR PRODUCTION
2		REVISION
3		REVISION
4		REVISION
5		REVISION
6		REVISION
7		REVISION
8		REVISION
9		REVISION
10		REVISION
11		REVISION
12		REVISION

NOTES:
 1. ILLUSTRATION APPROVAL REQUIRED
 2. STEP AND REPEAT NO. 2 IN 2
 3. USE DIMENSIONS INDICATED IN THIS DRAWING
 4. RAISE DIMENSIONS PER EC2 R88 R69 A71 A81
 5. USE SPACES (GIVE UP) TO RAISE
 6. 2.4 IN. DIA. ± .005
 7. BEFORE INSTALLING IN PCB BOARD
 8. TO BOTH SIDES OF PCB BOARD ADD 125
 9. STEP 4 + Y AXIS STEP 11 THICK
 10. REPORT 2 X AXIS STEP 11 THICK

NOTE (CONTINUATION)
 7. APPROX. TUBING ITEM 123
 8. DARK SIDE OF CONN. J2
 9. 20 AND 22 MUST BE WORN TO BEATING BEFORE
 10. ITEM 27 IS APPROX. 3/4" LONG AND USED ONLY WIRE RE
 DESIGNATED ON MEASURING
 11. SOLDER MASK HOLE PRIOR TO SOLDER WAVE
 12. ALL LOCATIONS FOR DRILL HOLES AND FOR INSTRUCTIONS
 (SEE SHEET 1 FOR DIMENSIONS)

APPROVAL: [Signature]
 DATE: 10/27/76

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TITLE		DOCUMENT NUMBER	
H7211 COMMUNICATION REG		NUMBER	REV.
SCALE 2/1		DUA 5413867-0-0	B
SHEET 2 OF 3			

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HONEYWELL INFORMATION CORPORATION

REWORK INSTRUCTIONS

WIRE ADDS SIDE 1

- 0-6 FROM C22 TO C24
- 0-7 FROM C20 TO R50
- 0-8 FROM C41 TO R60
- 0-9 FROM OTHER SIDE OF C41 TO OTHER SIDE OF R60.
- 0-13 FROM R20 TO PTH LEADING TO J2 PIN 1
- 0-18 FROM Q1/COLLECTOR TO R81.(WRAP WIRE AROUND COMPONENT LEAD)

COMPONENT ADDS SIDE 1

- 0-10 INSTALL R79 BY DRILLING ONE .042" HOLE AS SHOWN AND TACK SOLDER TO LARGE GND. ETCH ON SIDE 2, ALSO TACK SOLDER OTHER SIDE OF RESISTOR TO ETCH LEADING TO J2 PIN 5 SIDE 1
- 0-11 INSTALL R78 BY DRILLING ONE .042" HOLE AS SHOWN AND TACK SOLDER TO SIDE 2 ETCH LEADING TO BASE OF Q9. ALSO TACK SOLDER OTHER SIDE OF R78 TO ETCH BETWEEN R54 AND E3 PIN 1, SIDE 1
- 0-15 INSTALL R80 BY TACK SOLDERING ONE SIDE TO ETCH RUN LEADING TO E1-10 AND TACK SOLDER OTHER SIDE TO ETCH RUN BETWEEN D6/CATHODE AND PTH UNDER R30.(USE .25" APPROX. SLEEVING, ITEM 123, ON SIDE CONNECTED TO D6.)
- 0-16 INSTALL C15 BY DRILLING TWO .042" HOLES AS SHOWN. TACK SOLDER BOTTOM LEAD OF COMPONENT TO ETCH LEADING TO Q12/BASE.(SIDE 2) TACK SOLDER REMAINING LEAD TO ETCH LEADING TO Q12/EMITTER.(SIDE 2)
- 0-17 INSTALL R81 AND C42 BY DRILLING FOUR .042" HOLES. TACK SOLDER TOP LEAD OF C42 TO ETCH RUN BETWEEN C1 AND R1.(SIDE 2) JUMPER BOTTOM OF C42 AND TOP R81 USING COMPONENT LEADS.(SIDE 2) TACK SOLDER BOTTOM LEAD OF R81 TO ETCH RUN BETWEEN Q2/COLLECTOR AND C2/POSITIVE.(SIDE 2)
- 0-19 INSTALL R82 BY TACK SOLDERING ONE SIDE TO ETCH RUN BETWEEN E4-8 AND D10/CATHODE. TACK SOLDER OTHER SIDE TO ETCH RUN BETWEEN R32 AND R26.

ECO #1

WIRE DELETE SIDE 1

- 1-1 FROM Q1/COLLECTOR TO R81.

COMPONENT DELETES SIDE 1

- 1-2 DELETE C8 DEC #1001610-00.
- 1-3 DELETE C42 DEC #1013466-11.
- 1-4 DELETE R81 DEC #1300479-00.
- 1-5 DELETE R15 DEC #1317494-00.
- 1-6 DELETE R18 DEC #1316843-00.
- 1-7 DELETE C13 DEC #1002476-00.
- 1-8 DELETE R52 DEC #1300439-00.
- 1-9 DELETE C32 DEC #1001610-00.
- 1-10 DELETE R32 DEC #1305353-00.
- 1-11 DELETE D31 DEC #1112595-02.

COMPONENT ADDS SIDE 1

- 1-12 ADD R15 DEC #1313342-00.
- 1-13 ADD R81 DEC #1301425-00.
- 1-14 ADD R32 DEC #1315096-00.
- 1-15 ADD R18 DEC #1313752-00.
- 1-16 ADD C13 DEC #1000026-00.
- 1-17 ADD R52 DEC #1300365-00.
- 1-18 ADD C32 DEC #1012783-00.
- 1-19 ADD D31 DEC #1115112-00.

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE H7211 COMMUNICATION REG

DOCUMENT NUMBER		REV.
DUA	5413867-0-0	B
SCALE 2/1	SHEET 3 OF 3	

DUA 5413867-C-0

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A4

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER	VARIATION	REFERENCE DESIGNATOR
				00	YA		
1	D-MD-5013866-0-0	5013866-00	DRILL + ETCH BRD	1	0		
	BLANK						
		1001610-00	.01 MFD 50V +80-20% Z5U CER	2	1		C6, C18
		1000026-00	680.0 MMF 100V 5%200PPM MICA	1	1		C13
		1005784-00	.01 MFD 100V 200V 10% MYL	1	1		C33
		1010274-02	1 MFD 50V +80-20% CER	3	3		C17, C23, C24
		1011847-02	.01 MFD 600V 10% POLYPROP	1	1		C38
		1011847-03	.0047 MFD 600V 10% POLYPROP	2	2		C36, C39
		1012784-00	.047 MFD 50V +80-20% CER	2	2		C41, C9
		1013466-04	33.0 MMF 50V 5% CER	2	2		C28
		1013466-06	100.0 MMF 50V 5% CER	2	2		C21, C27
		1013466-08	680.0 MMF 50V 10% X7R CER	2	2		C22, C15
		1012783-00	.022 MFD 50V +80-20% CER	1	1		C32
		1013466-12	2200.0 MMF 50V 10% X7R CER	1	1		C19, C34
		1013466-11	.22 MFD 50V +80-20% Z5U CER	5	5		C3-C5, C29, C30
		1014170-00	2700.0 MMF 100V 1% 70PPM MICA	1	1		C14
		1015573-01	5600.0 MMF 50V 5% CER	2	2		C7, C16
		1017472-00	10 MFD 35V +50-10% AL EL	3	3		C10-C12
		1016992-00	2700 MFD 25V +75-10% AL EL	3	3		C31, C35, C37
		1015202-03	.0013 MFD 1600V 10% POLYPROP	1	1		C40
		1103441-00	IN 756A VZ= 8.2 5% 40W P	1	1		D9
		1105275-00	D 672 TR= 15NS PIV= 60V SI	2	2		D1-D8, D10-D18, D20-D23
		1112595-01	A114B PIV=200 I= 1A	9	9		D19, D24, D25, D27, D35-D39
		1112595-02	A114M PIV=600 I= 1A	1	1		D30
		1115112-00	PIV=800V I=1A	4	4		D28, D34, D40, D31
		1117490-00	UES 1403 RECTIFIER 150V 8A T0220	2	2		D26, D29
		9107252-00	TUBING, SHRINK 3/8 DIA. EXP UL	A/R	A/R		
		1213426-03	HEAT SINK TO-3 1" HIGH	1	1		
		1214789-00	INSERT, THREADED 6-32, BRASS, ELEC	2	2		
		1214809-02	INSERT, W/O INTERNAL THREADS, THRU	2	2		

REVISION HISTORY		BASIC PART NO: 5413867		DRN: J. FERGUSON	DATE: 5-AUG-80	D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	*****		TITLE PARTS LIST	
	INITIAL	B	SECTION VARIATION INDEX	CHK'D: J. FERGUSON	DATE: 21-OCT-80	H7211 COMMUNICATIONS REG	
			(A) 00, YA	*****		DOCUMENT NUMBER	
			(B)	DES. ENG: D. DRINKWATER	DATE: 21-OCT-80	*****	
			(C)	*****		SIZE CODE NUMBER REV	
			(D)	RESP. ENG.: C. LANDINO	DATE: 21-OCT-80	*****	
			(E)	*****		K PL 5413867-0-DBP B	
			(F)	MFG. ENG.: H. ORTIZ	DATE: 23-FEB-81	*****	
			(H)	*****		FILE NAME: 21309B.PLS	
			(J)	ASSEMBLY NUMBER: D-UA-5413867-0-0	TOP DOCUMENT NUMBER: B-DD-5413867-0-0	EDIT #: 12	
			(K)	*****		*****	
			(L)	*****		*****	
			(M)	*****		*****	
			(N)	*****		*****	

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER	VARIATION	REFERENCE DESIGNATOR
				00	YA		
31		1215228-00	HEAT SINK TO-220, VERTICAL MNT	2			J3
32		1216122-11	HEADER 156 4POS KEYED	1			J2
33		1217990-04	HEADER 156 6SKT RCPT	1			J1
34		1217990-02	HEADER 156 8SKT RCPT	1			
35		1213426-01	HEAT SINK TO-3	1			R81
36		1301425-00	300.0	1			R85
37		1300171-00	10.0	1			R4 R47, R76, R60
38		1300229-00	100.0	1			R7
39		1300287-00	270.0	1			R57, R64
40		1300315-00	470.0	1			R20, R52
41		1300365-00	1.0	2			R25
42		1300391-00	1.50	2			R33, R45
43		1300398-00	1.20	2			R5
44		1300417-00	2.20	1			R38
45		1300426-00	2.70	1			
46	BLANK	1300479-00	10.0 K .25 W 5.0 %	13	13	CONT	R1, R3, R12, R19, R39, R40, R51, R53, R54, R56, R78, R80, R82
47		1301317-00	10.0	1			R62
48		1301320-00	1.20	3			R6 R31
49		1301423-00	6.80	1			R50, R61, R79
50		1301899-00	56.0	1			R21
51		1302377-00	39.0	1			R53
52		1302394-00	30.0	1			R23
53		1302466-00	100.0	1			R49
54		1302859-00	5.76	1			R24
55		1303114-00	1.0	2			R29 R34
56		1303187-00	820.0	1			R28
57		1303305-00	6.98	1			R44
58		1304806-00	150.0	3			R66, R67, R69
59		1303311-00	46.40	1			R22
60		1304859-00	348.0	1			R27
61		1304867-00	7.0	1			R42
62		1304870-00	6.81	1			R51
63		1305121-00	38.30	1			R26
64		1305124-00	287.0	1			R28
65		1305346-00	27.0	1			R11, R48
66		1305621-00	111.10	1			R77
67		1314350-00	1.0	2			R43
68		1310632-00	2.37	1			R17, R46
69		1311522-00	200.0	1			R71
70		1312123-00	220.0	3			R7 R37
71		1312930-00	5.10	1			R30
72		1312933-00	360.0	1			R10
73		1313153-00	28.0	1			R59
74		1313580-00	360.0	1			R32
75		1315096-00	1.87	1			R24
76		1309413-00	3.83	1			
77							

D	I	G	I	T	A	L	TITLE	H7211 COMMUNICATIONS REG	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5413857-0-DBP	B

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER	VARIATION	REFERENCE DESIGNATOR
					00	YA		
78	78		1314350-01	.220 2.0 W 5.0% FUSE	1	1		R73
79	79		1314397-00	9.53 K .25 W 1.0 % RN55D-F10	1	0		R16
80	80	BLANK						
81	81		1313342-00	18.70 K .25 W 1.0 % RN55D-F10	1	0		R15
82	82		1317522-00	1.0 .25 W 5.0 % CC	1	1		R70
83	83		1317515-00	.04 3.0 W 3.0 % WW	2	2		R13, R58
84	84		1318039-00	1.0 K 14.0 W 5.0 % WW	2	2		R74, R75
85	85		1302385-00	750.0 1.0 W 5.0 % CC	1	1		R68
86	86		1510705-00	XA .05 NPN 500MW SI 60 50 P	4	4		Q1, Q2, Q11, Q12
87	87		1510853-00	MJ 1000 NPN 90WC SI 60 1K Y	1	1		Q5
88	88		1512782-00	BUY69A NPN 100N SI1325 15	1	1		Q14
89	89		1513489-00	2N 4401 NPN 350MW SI 40 20	2	2		Q7, Q10
90	90		1513490-00	2N 4403 PNP 350MW SI-40 30	2	2		Q8, Q9
91	91		1514271-01	D 4405 NPN 31W SI225 30	1	1		Q13
92	92		1117061-00	MCR 69-1 THYRISTOR	2	2		D41, D42
93	93		1617557-00	XFMR, CURRENT RATIO 1:2:100 PC MT	1	1		T3
94	94		1617440-00	XFMR, P=370V S=VARIABLE	1	1		T1
95	95		1617467-00	PULSE XFMR PC MOUNT	1	1		T2
96	96		1912107-00	324 OP AMP, QUAD	1	1		E4
97	97		1912108-00	339 VOLT CMPRTR, QUAD	1	1		E3
98	98		1916819-00	3527A MODULATOR, REGULATING	1	1		E1
99	99		1917059-00	3543 P.S. SUPERVISORY CIR	1	1		E2
100	100		9000024-09	EYELET, ROLL FLANGE .08900X .125	4	4		
101	101		9006010-01	SCREW, PAN, PHIL 4-40X 5/16 SS	2	2		
102	102		9007793-01	SCREW, PAN, PHIL 6-32X 9/16 SS	2	2		
103	103		9006556-00	NUT, HEX 4-40X 1/4 AF X 3/	2	2		
104	104		9006656-00	WASHER, FLAT, .312 O.D. X .156 I	2	2		
105	105		9006688-00	WASHER, LOCK, S.S. #4	2	2		
106	106		9007801-00	WASHER, LOCK, S.S. #6	2	2		
107	107		9008268-00	COMPOUND, THERMAL JOINT	A/R	A/R		
108	108		9008957-00	NUT, HEX 6-32X 1/4 AF X 3	2	2		
109	109		9009769-00	WASHER, RECTANGULAR 405X.225X.0	2	2		
110	110		9009798-00	SPACER, CERAMIC, .186 00X.078 ID	2	2		
111	111	BLANK						
112	112		1312452-00	3.74 K .25 W 1.0 % RN55D-F10	1	1		R35
113	113		1305128-00	5.62 K .25 W 1.0 % RN55D-F10	1	1		R44, R41
114	114		1304863-00	316.0 .25 W 1.0 % RN55D-F10	0	0		R36
115	115		1313598-00	32.40 K .25 W 1.0 % RN55D-F10	0	0		R27
116	116		1313752-00	15.0 K .25 W 1.0 % RN55D-F10	1	1		R18
			CONT					
117	117		1304856-00	4.64 K .25 W 1.0 % RN55D-F10	0	0		R15
118	118		1305125-00	383.0 .25 W 1.0 % RN55D-F10	0	0		R14
119	119		1313597-00	23.70 K .25 W 1.0 % RN55D-F10	0	0		R9
120	120		1013466-22	.1 MFD 50V +80-20% Z5U CER	1	3		R26
121	121		1018000-02	22 MFD 35V +50-10% AL EL	1	1		C1, C20, C25
122	122		9105740-55	WIRE (WRAP) 30AWG UL1423	A/R	A/R		C2
123	123		9107256-11	TUBING, THIN WALL, .027ID UL	A/R	A/R		

D	I	G	I	T	A	L	TITLE	H7211 COMMUNICATIONS REG	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5413867-0-DBP	B

AUTOMATED BY PRTLST.3P(44)

P A R T S L I S T

SHEET A4 OF A4

LINE ITEM DOCUMENT NUMBER

PART NUMBER

DESCRIPTION

QTY PER VARIATION
00 YA

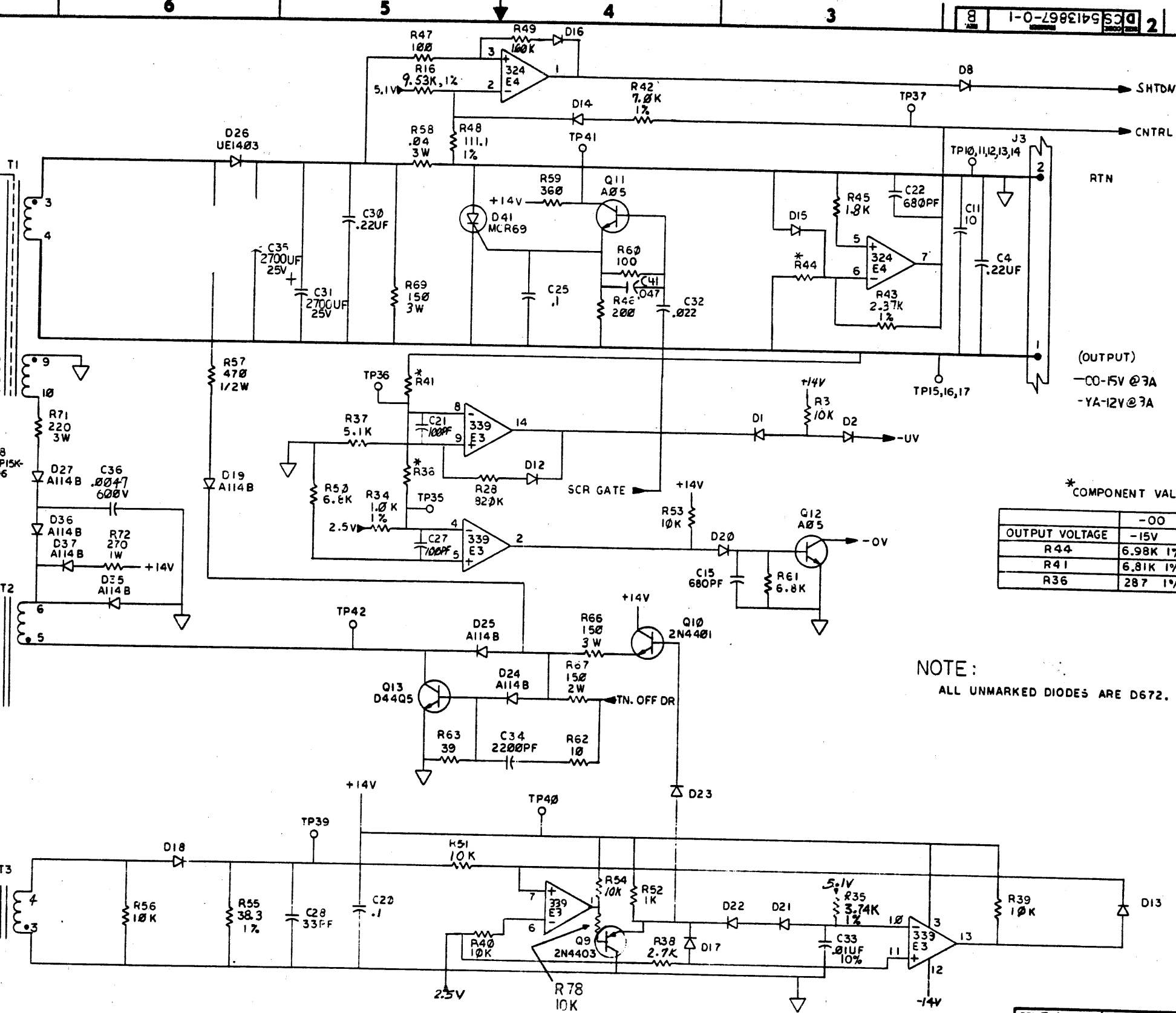
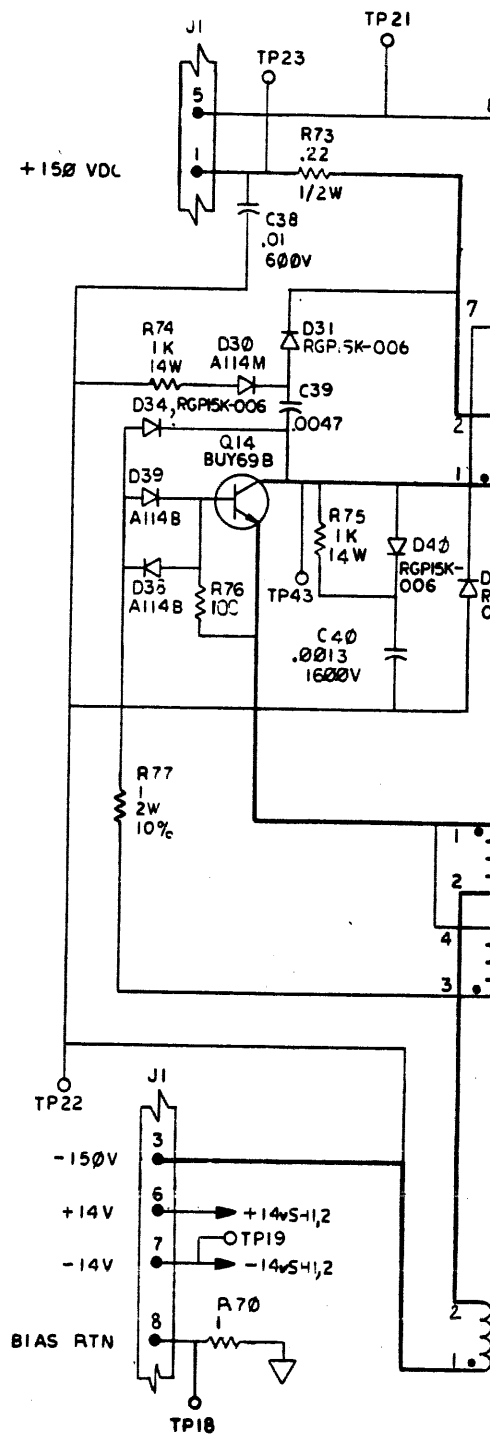
REFERENCE DESIGNATOR

124 NOTE: ITEM #122; .37' IS USED.
125 NOTE: ITEM #123; .13' IS USED.
126 NOTE: ITEM #27; .15' IS USED.

D	I	G	I	T	A	L	TITLE	H7211 COMMUNICATIONS REG	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	5413867-0-DBP	B

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D 5413867-0-1



* COMPONENT VALUES

OUTPUT VOLTAGE	-00	-YA
R44	6.98K 1%	5.62K 1%
R41	6.81K 1%	5.62K 1%
R36	287 1%	316 1%

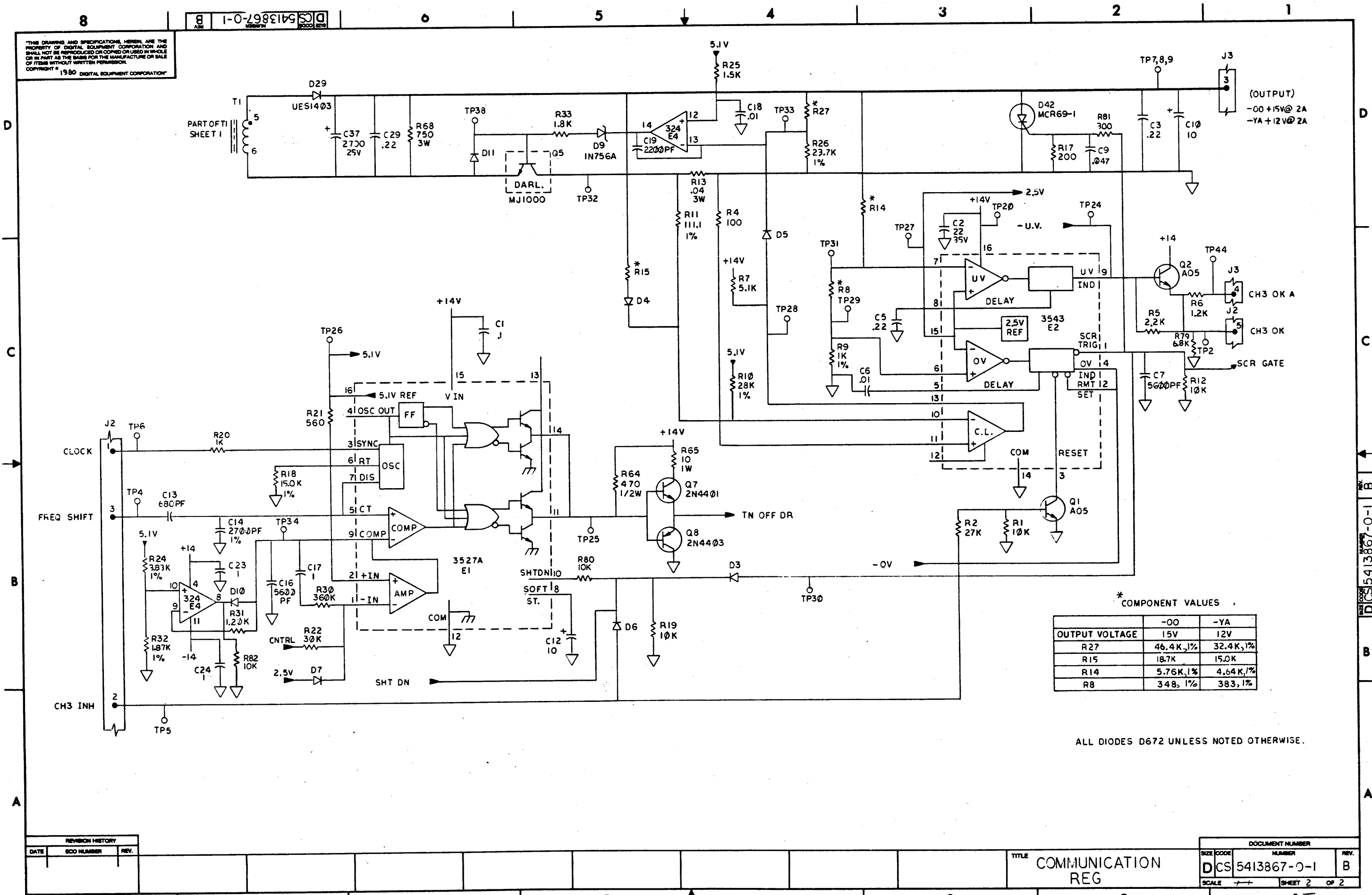
NOTE:
 ALL UNMARKED DIODES ARE D672.

REV.	B
CHANGE NO.	1
DATE	5-11-61
BY	C. LANDINO
CHKD.	J. H. HAYES
DATE	12-14-61

DRN. P. H. HAYES	W. H. B. C.	FIRST USED ON	H7211
CHKD. J. H. HAYES	W. H. B. C.	TITLE	COMMUNICATION REG
PROJ. ENG. C. J. HAYES	W. H. B. C.	NUMBER	5413867-0-1
PROD. J. H. HAYES	W. H. B. C.	REV.	B
E-1A-5413867-0-0		SIZE	D
SCALE	1 OF 2	DIST.	

D 5413867-0-1

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* COMPONENT VALUES

OUTPUT VOLTAGE	-00	-YA
R27	46.4K, 1%	32.4K, 1%
R15	18.7K	15.0K
R14	5.76K, 1%	4.64K, 1%
R8	348, 1%	383, 1%

ALL DIODES D672 UNLESS NOTED OTHERWISE.

REVISION HISTORY

DATE	ECO NUMBER	REV.

TITLE COMMUNICATION REG

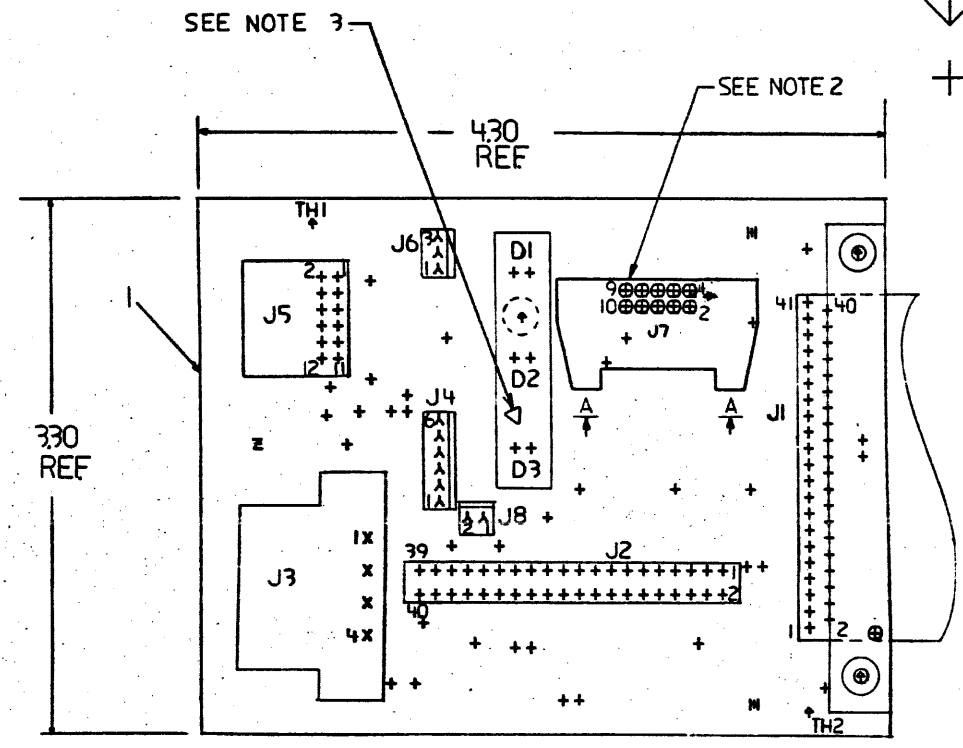
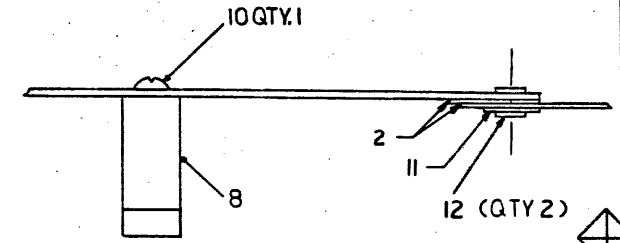
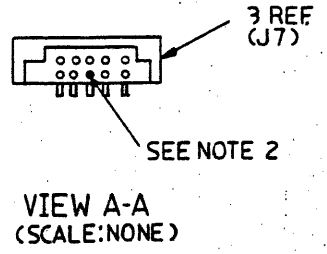
DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV.
D	CS	5413867-0-1	B

SCALE ++ SHEET 2 OF 2

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COMPONENT SIDE VIEW



NOTES:
 1. STEP & REPEAT 2ML 80
 2. BEFORE INSTALLATION CLIP PIN NO. 6 FLUSH TO .02 MAX HIGH
 3. NOTE ORIENTATION OF ITEM 8 (HOLDER)

STEP 1	+ Y AXIS	330	STEP 2	TIMES
REPEAT	+ X AXIS	430	STEP 2	TIMES

CHANGE NO	REV	DATE	BY

ETCH REV.	B-P1
-----------	------

SIGNATURES	DATE	digital	
DRN. S. CORCORAN	1/15/61		
CHK'D. P. Blandford	1-21-61	TITLE H7202 DISTRIBUTION BOARD	
MECH. ENG. S. J. ...	5/21/61		
PROJ. ENG. S. J. ...	5/21/61		
PROD. H. ...	5/17/61		
SCALE 2/1	SIZE CODE	NUMBER	REV
SHT. 1 OF 1	0 UA	5413877-0-0	A
NEXT HIGH PESSY. B-DD-5413877-0		TW 1 W0#172359	

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

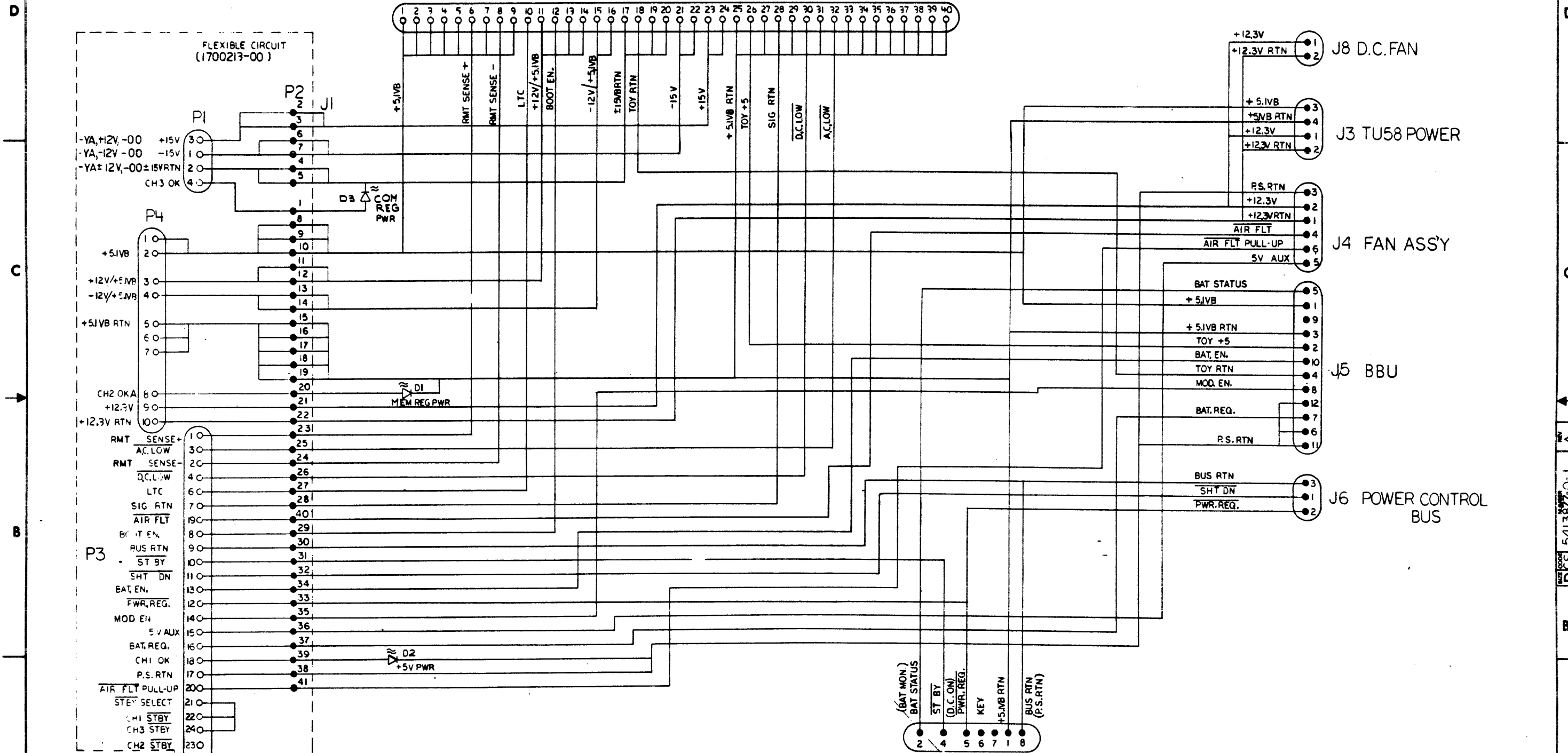
LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1		D-MD-5013876-0-0	5013876-00	DRILL AND ETCH BOARD	1		
			1700213-00	CIRCUIT FLEXIBLE DISTRIBUTION	1		
			1209941-05	HEADER.100 10POS RT ANGLE	1		J7
			1211004-01	SOCKET.100 40POS BOTTOM MOUNT	1		J2
			1218243-02	HEADER.100 2PIN STRAIGHT	1		J8
			1216112-04	HEADER.100 12POS DB SHROUDED	1		J5
			1218027-00	HEADER 4PIN RT ANGLE	1		J3
			1210940-02	LED HOLDER(3-DEC PART 11-10864)	1		
			1110324-00	LED 1MCD310MA PIV=3	3		D1-D3
10		C-MD-7425196-0-0	9010128-00	SCREW TAPPING TYPE PAN ,PHIL,	1		
11			7425196-00	BRACKET STRAIN RELIEF	1		
12			9000024-01	EYELET,ROLL FLANGE .1210DX .192	2		
13			1218243-00	HEADER.100 3PIN STRAIGHT	1		J6
14			1218243-03	HEADER.100 6PIN STRAIGHT	1		J4

REVISION HISTORY		BASIC PART NO: 5413877		DRN: J.FERGUSON	DATE: 16-OCT-80	DIGITAL	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: J.FERGUSON	DATE: 16-OCT-80	TITLE PARTS LIST	
	INITIAL	A	SECTION VARIATION INDEX	DES.ENG: C.LANDINO	DATE: 12-10-80	DOCUMENT NUMBER	
			[A] 00	RESP.ENG.: C.LANDINO	DATE: 12-10-80	SIZE:CODE:	NUMBER
			[B]	MFG.ENG.: H.ORTIZ	DATE: 12-11-80	K	PL
			[C]	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	
			[D]	D-UA-5413877-0-0	B-DD-5413877-0-0	Z1312.PLS	
			[E]			5413877-0-DBP	A
			[F]				EDIT #
			[H]				10
			[J]				
			[K]				
			[L]				
			[M]				
			[N]				

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BACKPLANE
 J2



REVISION HISTORY	REV. A
DOC NUMBER	5413877-0-1
DATE	5/29/81
BY	CR16

DRN. T. MCCULLOUGH	DATE 10-20-80	TITLE	digital
DATE 5/29/81	DATE 5/29/81	LEM, DISTRIBUTION	
DATE 5/29/81	DATE 5/29/81	BD.	
DATE 5/29/81	DATE 5/29/81	DOCUMENT NUMBER	
DATE 5/29/81	DATE 5/29/81	D E S 5413877-0-1	A
DATE 5/29/81	DATE 5/29/81	SCALE 1/1	SHEET 1 OF 1

DCS 5413877-0-1 REV. A

DIGITAL EQUIPMENT CORPORATION

H7202B POWER SUPPLY ENGINEERING
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REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY
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ENG	APPD	DATE	SIZE	CODE NUMBER	REV	TW
C.S. LANDINO	CS Landino	6/24/81	A	SP H7202-B-0	A	TW

SHEET 1 OF 39

DIGITAL EQUIPMENT CORPORATION

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1.1	GENERAL DESCRIPTION
1.2	REFERENCE DOCUMENTS
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2.3	DC INPUT (BBU)

SIZE	CODE NUMBER	REV	TW
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The information in this specification is subject of change without notice and should not be construed as final. No responsibility is assumed for any errors that may appear in this specification.

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CHAPTER 1
SCOPE

1.1 General Description - H7200 Series Power Supplies

This specification covers an off-line, high frequency switching power supply with a regulated 5 volt main output at 0 to 60 amps, memory and communications options outputs up to 400W total for all. It consists of a motherboard with supporting chassis and input-output connections. Size is approximately 15 x 50 cm. and 12 cm. high; weight is approximately 8 kilograms. Input power is 90-132 or 180-264 (internal select switch) at 48-63 Hz.

Outputs are divided into three groups: Main output (Channel 1): 5.1V main; Memory outputs (Channel 2): +5V at 15A for MOS memory, and DC Fan/TU58 power; Com Outputs (Channel 3): ±15V.

All outputs except fan/TU58 +12V feature overvoltage and overcurrent protection and are regulated independently of one another. Battery backup and AC standby are operable for the memory power channel (CH2).

Additionally, AC low and DC low signals are provided as well as AC line clock and boot enable. This power supply will be UL recognized, CSA certified and comply with DEC-STD-119 Rev B.

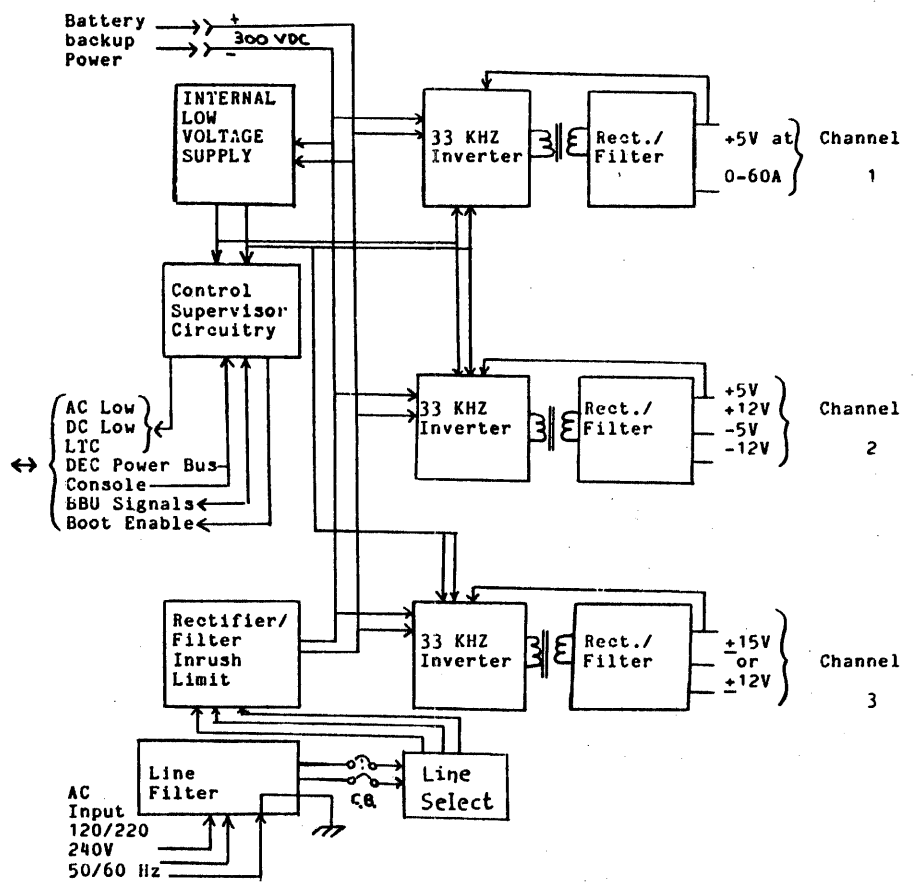
1.2 Reference Documents

- DEC Standard 023 - Circuit Schematics
- DEC Standard 60 - Policy Relating to Nationally and Internationally Recognized Laboratories.
- DEC Standard 102 - Section 7 - EMI
- DEC Standard 102 - Environmental Standards
- DEC Standard 116 - Workmanship Standards
- DEC Standard 119 - Product Safety
- DEC Standard 120 - Cooling Standards
- DEC Standard 122 - AC Power Line Standard
- DEC Standard 123 - Power Control Bus Standard
- DEC Standard 139 - Reliability Prediction
- DEC Standard 158 - Unibus

- Engineering Print Set
- DEC Standard 002 - AC Power Wiring, Grounding, Receptacles and Nameplates
- DEC Standard 030 - Module Manufacturing Specification

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FIGURE 1
FUNCTIONAL BLOCK DIAGRAM FOR H7200 SERIES POWER SUPPLIES



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CHAPTER 2
ELECTRICAL SPECIFICATIONS (H7202B)

2.1 Input Specifications - AC Line

Note: Selection of low range or high range is accomplished through a tool operated slide switch located adjacent to the circuit breaker. A clear cover is also used to discourage casual operation.

2.1.1 Line Voltage

Note: Line impedance must be sufficiently low to assure less than 5% total harmonic distortion of the line AC waveform.

Low Range: (120V nominal) 90-132 (rms) single phase three wire.

High Range: (240V nominal) 180-264 (rms) single phase three wire.

2.1.2 Line Frequency

47-63 Hz for either voltage range.

2.1.3 Line Current

Peak and RMS currents vary proportionally with line voltage.

Low Voltage Range: 8.5 amperes (rms) max. and 25 amperes (peak) max. at a nominal 120 VRMS line.

High Voltage Range: 4.2 amperes (rms) max. and 12 amperes (peak) max. at a nominal 240 VRMS line.

2.1.4 Power Factor

The ratio of real power to apparent power shall be greater than 0.60 at full output load and nominal input voltage.

2.1.5 Inrush Current

At first application of input voltage to the power supply, the stated surge current may be reached for 1/2 cycle of the input line. Following that, there will be repetitive peaks of lower amplitude for up to 10 more cycles of the line.

Maximums: Low Voltage Range: 120 A (Peak)
High Voltage Range: 120 A (Peak)

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2.1.6 Input Overload Protection

A two pole circuit breaker is provided to protect the input wire and components. This breaker is accessible and is a 15 Amp rating for both 120V and 240V settings.

2.1.7 Insulation/Hi-Pot

2.1.7.1 2120 V dc and 300 VAC, (rms) 50 Hz between input and frame and shields for 1 minute as specified in DEC-STD-119 Rev C, section 2, paragraph 2.

2.1.7.2 2500 VAC (rms) 50 Hz between input and output for 1 minute. In accordance with DEC-STD-119 Rev C. This excludes the line filter.

2.1.7.3 All isolation transformers shall have been high potential tested prior to assembly into a module or assembly. Devices without shields will have been tested to reinforced insulation levels (3750 VAC).

2.1.8 Input Power

The average input power shall be 650 watts max. with the outputs loaded to a total of 400 watts.

2.1.9 Grounding

The green/yellow bonding ground wire is connected to the metal case and to transformer shields. It is internally connected to the main 5V return.

2.1.10 Ride-Through Capability

All outputs are maintained within stated regulation limits for a minimum of 6 milliseconds after input power interruption at low line (either voltage range). AC low may be asserted at the interruption; DC low will follow a minimum of 5 milliseconds after AC low. (See power-down protocol Section 5.3.) The delay from power interruption to AC low increases with higher line voltage (either range) and lighter loads.

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2.1.11 Efficiency

The ratio of output DC power at the power supply terminals to the input real power shall be 0.65 minimum taken at 5V/60A in either input voltage range. This ratio may degrade to .60 when other outputs are loaded.

2.1.12 Input Over/Under Voltage Conditions

Undervoltage: The power supply is capable of withstanding any undervoltage condition for any duration without damage or degradation.

Overvoltage: The power supply is capable of withstanding an input overvoltage of 150 VAC (RMS (low voltage range)) or 300 VAC (RMS) (high voltage range) for one second maximum without sustaining any internal damage or degradation. The outputs are protected from overvoltage (within crowbar range) under these conditions. Overvoltage in excess of this may be damaging to the power supply.

2.1.13 Input Line Noise Susceptibility**2.1.13.1 Transients**

Note: A spike is defined as a voltage transient, of either polarity and of either common or differential mode, with a rise time (10% to 90%) of 0.1 micro-seconds or less and a fall time (to 10%) of 10 micro-seconds or more. The average power of spikes shall not exceed 0.5 watts. They may occur at any phase value of the input AC, adding to the instantaneous value.

2.1.13.1.1 Low Energy Transients

In accordance with DEC-STD-102.7 Rev C.

2.1.13.1.2 High Energy Transients

In accordance with DEC-STD 102.7 Rev C.

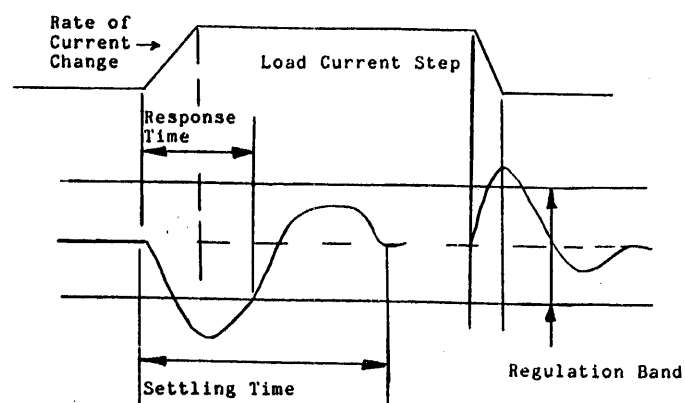
2.1.13.2 Conducted Noise

In accordance with DEC-STD-102.7 Rev C.

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FIGURE 2.1 DYNAMIC RESPONSE TIME

**2.1.13.2 Radiated Noise**

In accordance with DEC-STD-102.7 REV C.

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2.2 Output Specifications

This power supply has a fixed 5.1V output on the major board with remote sense capability. Other outputs are provided from the regulator cards. These outputs are regulated at the card. (See Table I.)

2.2.1 Output Voltages (Table I)

For all outputs, The "Total Tolerance" is the root-sum-squared of errors due to:

- Initial Tolerance
- Dynamic Voltage Limits
- Line/Load Changes Over Specified Range
- Long Term Stability (1000 hours)
- Temperature Drift
- Ripple

The "Total Static Tolerance" is the root-sum-squared of errors due to:

- Initial Tolerance
- Line/Load Changes Over Specified Range
- Long Term Stability (1000 hours)
- Temperature Drift

2.2.2 Output Current (Table I)

The minimum and maximum currents for each output are specified in Table I. Where minimum loads are given, it indicates a minimum loading level necessary to keep other outputs within that channel grouping within regulation.

2.2.3 Wattage

The maximum wattage from each output is the product of the max rated current and the sum of the rated voltage and the total tolerance. The maximum power obtainable from combining all output powers in any application must be limited to 400 watts.

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2.2.4 Line/Load Regulation

Table I shows the maximum deviation of each output for gradual line and load changes. The line voltage range for this parameter is the full range specified in 2.1.1. The load current variation is from minimum load to maximum rated load as specified in Table I. Gradual change is defined for this purpose as covering the range in more than one second.

2.2.5 Noise

Table I shows the maximum peak to peak noise which is present on each output. Noise must be measured at the output terminals of the power supply. The noise voltage is superimposed on the ripple voltage. Noise is defined as repetitive disturbances at a frequency greater than 170 KHZ.

2.2.6 Ripple

Table I shows the maximum peak-to-peak ripple voltage present on each output at the specified measurement points. The output deviations classified as ripple are repetitive disturbances in the frequency range of 1 Hz to 170 KHZ.

2.2.7 Dynamic Response Time

Table I shows the dynamic response characteristics of each output channel. The load current change, the allowable overshoot/undershoot, the response time and the settling time are specified for each channel. Each channel is to be subjected to a maximum rate of load current change of 0.5 Amperes per microsecond (increasing or decreasing load). The load changes are to occur as a 50% duty cycle square wave at a frequency of 100 hertz max; within the min/max values specified in Table I. Figure 2.1 shows a typical output wave form and defines all the above mentioned terms.

2.2.8 Temperature Coefficient

The maximum temperature coefficient of each output of this supply is +0.02%/oC maximum over the operating ambient temperature range specified in 7.1.1. The measurement of temperature coefficient is to be made at 50% load on all outputs, nominal line voltage and after ten minute warm-up period with proper cooling air flowing.

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2.2.9 Short Term Stability

The changes in the voltage at each output during warm-up after the initial turn-on will be less than 0.2% of the output measured. This measurement is made from one second after the supply is turned on until component temperature stability is reached (no later than one hour after turn on). All other parameters and environmental conditions must remain constant during this test.

2.2.10 Long Term Stability

The long term stability of each output of the supply is 0.1%/1000 hours maximum when measured under constant line, load and environmental conditions. The conditions must be within the limits called out in this specification.

2.2.11 Output Overload Protection

Table I shows the type of current limiting scheme and initiating point (limits) for each output.

The description of each type is below:

- Pulsing** In this mode, the output is turned off for some fixed period of time after the initiation point is reached. Upon reactivation of the output, the output current builds; then, if the initiation point is reached again, the output turns off again. The average current in this mode is low, but with higher peaks.
- Constant Current** At the initiation point, the output current is held constant and the voltage dropped to a level sufficient to maintain the fixed current level.
- Foldback** In this mode, once the initiation point is reached, the voltage is lowered and the output current level also lowered. At a short circuit, the current is approximately 40% - 60% of the initiation point current.

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The current limit on all outputs is configured such that the output will automatically recover to normal operation upon the removal of the overload.

All outputs are capable of operating for indefinite periods of time with short circuits on the output without causing damage or degradation to any portion or component of the supply.

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TABLE I

Output Designator	UNITS	#1 #2 #3		
		#1	#2	#3
Power Channel		1	2	2
Nominal Voltage	V.dc	+5.1	+12.3	+5.1
Rated Current (Max)	A.dc	60	3.0(Note 2)	15.0
Minimum Current	A.dc	0	0.8(Note 3)	2.0
			(Note 1)	
Total Tolerance	+mV.dc	230	1000	300
Total Static Tolerance	+mV.dc	150	850	275
Initial Tolerance	+mV.dc	100	500	100
Static Line/Load Regulation	+mV.dc	100	675	250
Ripple Voltage	mV (p-p)	100	200	75
Noise Voltage	mV (rms)	50	100	50
Dynamic Regulation	(Figure 2)			
Over/Undershoot (max)	mV	150	500	100
Response Time (max)	ms	1.0	10	1.0
Settling Time	ms	1.5	15	1.5
Current Limit Type	--	Pulsing	Pulsing	Pulsing
Initiation Point(min/max)	A.dc	65-75	3-3.5	16.0/22.0
Short Ckt Current (max)	A (RMS)	5	2.0	8.0
	A dc	---		
Overvoltage Trip Pt. Maximum Voltage	V dc max/min	+6.5	+14.5/15.5	+5.4/6.0
	V dc	+7.0		6.5

- Note 1: The minimum load specified for the +5.1V output is required to maintain reg. on the +12.3V output. The 5.1V output will operate at no load but the +12.3V output will be below spec.
- Note 2: Max continuous output current for +12.3V output is 3.0 amps. Intermittent currents of up to 6.0 amps may be drawn for several seconds if the duty cycle is kept below 2%. If continuous currents of greater than 3.0 amps are drawn a thermal protection switch will shut the supply down.
- Note 3: The minimum load specified for the +12.3V output is required to maintain regulation. If the minimum load is below that specified the +12.3V output can be out of regulation on the high side. If the load falls below 0.75A the 12.3V output can rise sufficiently to cause an overvoltage condition and the module will shut down. See A-SP-H7213, paragraph 2.2.13.

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TABLE I (Cont'd)

Output Designator	Units	High Range	
		#4	#5
Power Channel		3	3
Nominal Voltage	V.dc	+15.0	-15.0
Rated Current (max)	A.dc	2.0	3.0
Minimum Current	A.dc	0	0.3
Total Tolerance	+mV.dc	580	700
Total Static Tolerance	+mV.dc	500	630
Initial Tolerance	+mV.dc	450	550
Static Line/Load Regulation	+mV.dc	175	275
Ripple Voltage	mV (p-p)	200	300
Noise Voltage	mV (rms)	150	150
Dynamic Regulation: (Figure 2.1)			
Current Step	A	.2	.3
Under/Overshoot (max)	mV	200	50
Response Time	ms	0.5	0.25
Settling Time	ms	0.5	0.25
Current Limit Type	--	Foldback	Foldback
Initiation Point	A.dc	2.1-3.0	3.1-4.0
Short Ckt Current (max)	A (RMS)	---	---
	A dc	0.5	1.5
Overvoltage Trip Point min/max	V dc (max)	+17.0/19.1	-16.7/18.8
Maximum Voltage	V dc	+21.0	-21.0

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2.2.12 Overvoltage Protection

All outputs except designator 2, table-1, have a crowbar protective device to prevent the voltage from exceeding the maximum fault voltage level indicated in Table I. The crowbars will be capable of discharging all internal and rated external capacitances. The maximum response time of the protection is 2 microseconds. The maximum voltage is not exceeded during the response time.

All overvoltage fault circuits (crowbars) are latching. The latched-off condition can be reset by removal of AC power for at least one minute or by removal of Power Request and Standby signals (console switch to "off").

2.2.13 Output Adjustment

All outputs are fixed with no means of adjustment. Channel 3 outputs are available for +15V or +12V. This selection is by choosing a variation of the module.

2.2.14 Output Sequencing

None.

2.2.15 Voltage Margins

There are no margin circuits or capability provided.

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2.3 D. C. Input - Battery Backup Power

P1 is the inlet connector for Battery Backup Power. It is common with the bulk DC on the major board which is derived from line rectification. It is not isolated from the AC line. Proper cable mounting, shielding and insulation must be exercised when using this input to avoid circumventing the AC line filter and preserve signal integrity in adjacent cables. In systems that are high potential tested, this input is raised to the high voltage.

Note: This input is in common with the internal bulk DC voltage. There is no fusing or limiting provided. High surge and average currents are therefore possible from this interface, as with any 240V line connection.

There is internally stored energy available at this connection for several seconds after power removal following some internal failures. These two terminals must not be short-circuited together or to ground to discharge this energy.

This input is to be used only with isolated RBU units such as the H7240 series battery converters.

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CHAPTER 3
ELECTROMAGNETIC INTERFERENCE

3.1 Limits of Equipment Generated Interference

AC Power Lines
Compliance with FCC A and VDE A limit is provided by the line filter within this power supply.

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CHAPTER 4
APPLICATION SPECIFICATIONS

4.1 Input - Voltage Current and Cord Requirements

The input voltage range is selected with a screwdriver operated slide switch on the unit. The inlet connector is a three pin (IEC) connector. A 14 gauge three wire cord is required. This cord is not supplied with the power supply. Removal of a small protective cover is required for operation of the line select switch.

4.2 Output Voltage, Current and Harness Requirements

The main 5 volt output is available at the connection blocks on the unit. A suitable bus bar or sufficient size wire is required to conduct the current used by the load and restrict the voltage drop to 100 mV between output terminals and remote voltage sense points for each lead, supply and return. Other voltages are available at the backplane connector on the distribution board (see D-IC-H7202). Voltage drops for these are determined by user requirements.

4.3 Load Duty Cycle

The power supply will operate within all specification limits continuously with any outputs loaded to full rated current, provided total DC output power does not exceed 400W.

4.4 Paralleling Requirements

Operation of this supply connected in parallel with any other power supply is not permissible.

4.5 Load Capacitance

The maximum external capacitance added in parallel at the load (for decoupling, etc.) for each output is:

+5V	: 500 uf	+15V	: 270 uf
+12V	: 100 uf	-15V	: 270 uf
+5VB	: 500 uf		

These limits are necessary to insure system stability.

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4.6 Load Connection Characteristics

The interconnection circuit from the output to the remote sense attachment points is restricted in inductance and capacitance to assure system stability as follows:

maximum inductance (Normal mode)	50	Microhenries
maximum capacitance	500	Microfarads
maximum LC product	250×10^{-12}	FARAD-HENRIES

4.7 Remote Sense

The main 5V output has remote sense capability. The maximum sense line length is one meter (each line). A capacitor of 0.1 μ F is required at the sense line termination at the load. The sense lines are pin 6 (+) and 8 (-) in connector J2. The power supply output is protected from opening or shorting the sense lines. Crowbar is considered adequate protection for this purpose. Regulation limits are not guaranteed if the sense line resistance from the sense pins to the 5V output exceeds 0.5ohm (each line). In the event of an open sense line, regulation takes place at output assembly on the H7200 power module.

4.8 Battery Back-Up Requirements

This power supply is capable of operating from a battery back-up with a 200V output interfacing with the primary bus, such as the H7240 series units. The power supply is capable of operation in this mode for 30 seconds maximum at rated load and temperature without forced air cooling. External forced air is required for operation for longer periods in this mode.

This unit is internally programmed to back up Channel 2 outputs (memory regulator). These are also the "standby" outputs (See Table 1 and 5.2.2).

4.9 Return Wire Voltage Offsets

The return lines for each power channel must be connected together externally for normal, safe operation. This is normally done at the load. In such cases, the difference in return wire voltage drops due to distribution losses must be less than 350 mV for any combination of two of the three power channels. This is necessary to prevent shortening the life of the internal ground isolation resistors between the power channel control circuits.

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CHAPTER 5
SIGNAL SPECIFICATIONS**5.1 Output Signals****5.1.1 DC Low**

This signal when asserted (low state) indicates that the dc voltage at the input bus is not adequate to maintain regulation of the outputs, and that output DC power is about to drop. All outputs will remain in regulation for 1 millisecond minimum after this signal is asserted.

The output signal is provided on two lines leading to an ungrounded (floating) FET. On power turn-on this signal is asserted until regulation is reached.

Electrical Characteristics:

Asserted (low) - Capable of sinking 50 mA. at 0.4Vmax.

Un-asserted (high) - Output impedance of 100 K ohms min, 15V maximum applied voltage.

5.1.2 AC Low

This signal when asserted (low state) indicates that the dc voltage at the input bus is at or near the value necessary to guarantee the 5 mS. hold-up prior to DC low. This value is below the specified line voltage but above the minimum required for regulation. When un-asserted (high) this signal indicates adequate input voltage.

On power turn-on this signal is asserted until after DC low is de-asserted. On power turn-off this signal is asserted 5 milli-seconds minimum prior to DC low (See Figure 5.2, 5.3).

Electrical characteristics are the same as DC low (see 5.1.1). The return lead (FET source) is common with DC low.

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5.1.3 Line Clock Signal

This signal is a timing reference at the frequency of and synchronous with the AC line. Its waveform is a square wave of approximately 50% duty cycle. Its source is an open-collector transistor sinking 20 mA. with 0.4V maximum in the low state and high impedance in the high state. High state maximum applied voltage is 15V, minimum impedance is 100 K ohms. The return lead is common with DC low (See Figure 5.1).

Note: This signal does not function when power is derived from battery back-up.

5.1.4 Battery Back-Up Enable

This signal when true (high state) asserts that a valid BBU condition exists in the power supply. This enables the BBU unit to assume the "ready" state which permits fast response to a power fail condition through the BBU request signal (para. 5.1.5).

When false, a non valid condition is indicated such as thermal shutdown or output failure. This allows the BBU unit to assume the "Off" state which does not allow fast response and permits minimum battery drain. A transition from True to False while BBU unit is supplying power, terminates the backup condition, removing power.

Electrical Characteristics:

True (high state): A voltage source of +12V (10.5 min, +14.5 max) at 10 mA. max current.

False (low state): High impedance source of greater than 100 K-ohms to +14.5V maximum.

5.1.5 Battery Back-Up Request

This is a momentary indication of a drop in the bulk DC power input to the power stages indicating input AC has dropped. This signal is asserted simultaneously with AC low but is de-asserted when the bulk DC is increased due to the input of battery derived power (See figure 5.4). The minimum assertion time is greater than 1 millisecond.

Electrical Characteristics are the same as Battery Back-up Enable (para. 5.1.4).

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5.1.6 Boot Enable

This signal is valid on power up between de-assertion of DC low and AC low. When true (high state) it indicates that memory voltage(s) had been good and uninterrupted since assertion of DC low on power down. When false (low state) it indicates that memory voltages had been interrupted. Electrical characteristics are the same as DC low.

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5.2 Input Signals

5.2.1 DEC Power Bus

The power supply responds to these two signals (Power Request and Total Shutdown) in accordance with DEC STD 123.

Power Request: All outputs are inhibited until this signal is pulled low externally, except for the Standby mode.

Total Shutdown: All outputs are inhibited whenever this signal is pulled low externally. This signal overrides all other signals.

Normal output signal and power output sequencing per section 5.3 occurs when these signals are used.

5.2.2 Standby (Console Signal)

This input enables the "Standby" outputs when pulled low externally. It overrides Power Request but not Total Shutdown. "Standby" is internally programmed to be the "Channel 2" outputs (memory regulator) (See Table I).

Low State (asserted): Less than 1.0V
Source Current is -1.0 mA. max.

High State (unasserted): Greater than 10V,
Sink current: 1 uA. max.

5.2.3 Module Enable

This signal when asserted (low state) indicates that primary power is coming from the battery converter. This signal forces a "standby" state by internally de-asserting power request. This shuts down the Channel 1 and 3 outputs. An AC Low - DC Low sequence precedes the fall in actual DC output. See figure 5.4.

Electrical Characteristics:

Low State (asserted): External low impedance to power supply return capable of sinking 3 mA. minimum with a max. voltage of 1 Volt.

High State (unasserted): High impedance, capable of blocking +15 V with 1 micro amp max. leakage.

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5.2.4 AIR FAULT:

This signal is a shutdown input with internal latch intended for use with external environmental sensors. It consists of a pull-up line and fault signal which must be connected together externally to permit normal operation (see Figure 5). When the AIR FAULT line is pulled low to P.S. return, all DC power is removed after an AC low - DC Low sequence. An internal latch is also set, holding this condition until Power Request and Standby inputs are de-asserted ("Key OFF"). Under default conditions with both lines open, the Power Supply will not operate.

The minimum fault assertion time to guarantee a latch is 100 microseconds.

Electrical Characteristics:

Asserted (low state): Low impedance to P.S. return capable of sinking 10 mA. with a maximum Voltage of 1 Volt.

Unasserted (high state): High impedance capable of blocking 15 VDC with a max. leakage of 1 Microamp.

Note: Electrical Characteristics apply when "pull-up" and "fault" are connected together.

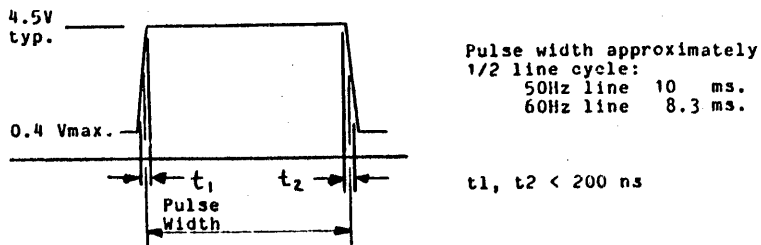
SIZE CODE NUMBER REV
A SP H7202-B-0 A TW

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5.3 Power-Up/Power-Down Sequencing

See Figure 5.2 for sequence of signals and events on power-up and power-down.

FIGURE 5.1 LINE CLOCK SIGNAL



SIZE CODE NUMBER REV
A SP H7202-B-0 A TW

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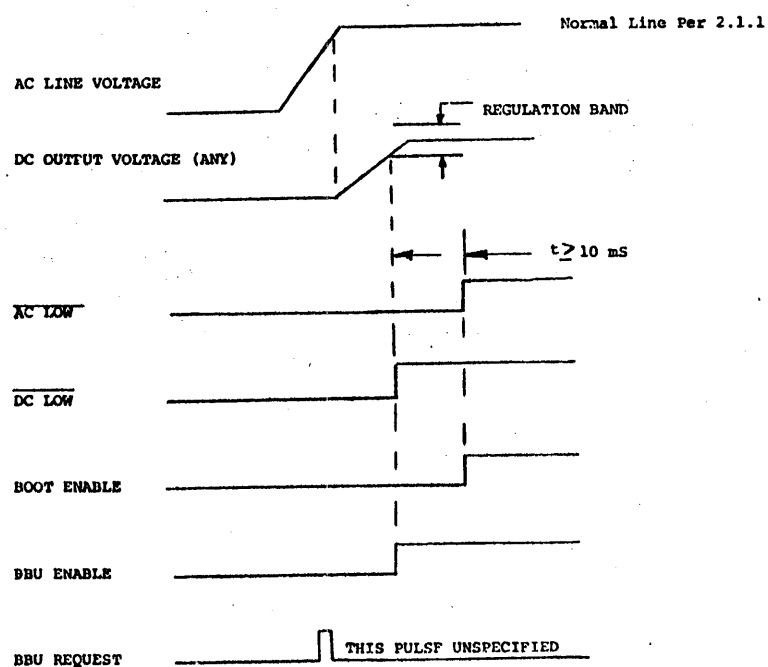
ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE H7202B POWER SUPPLY ENGINEERING SPECIFICATION

FIGURE 5.2

POWER UP SEQUENCING: AC LINE

NOTE: Power Request Asserted



SIZE CODE NUMBER REV
A SP H7202-B-0 A TW

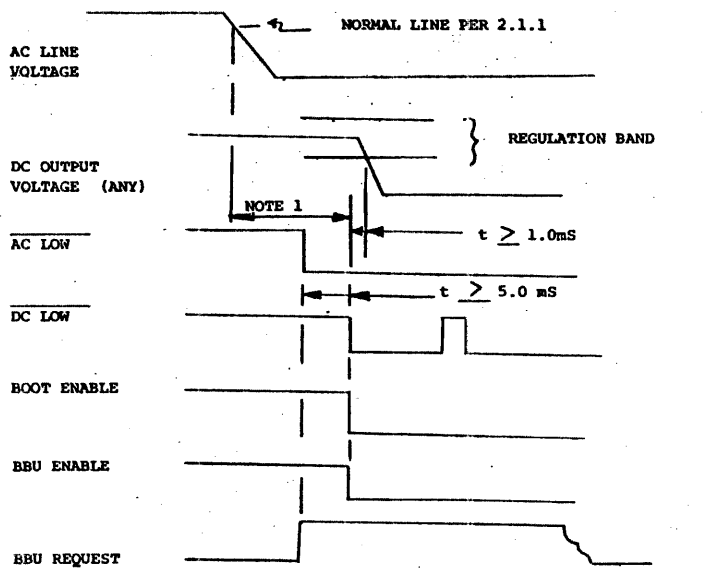
DEC FORM NO EN-01022-10-N370-(381)
DRA 108

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ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE H7202B POWER SUPPLY ENGINEERING SPECIFICATION

FIGURE 5.3
POWER DOWN SEQUENCING - AC LINE
NOTE: POWER REQUEST ASSERTED, NO BBU CONNECTED



NOTE 1: This interval varies:
For 400 W total load: 0ms minimum (low line)
5ms typical (low line)
50ms typical (nominal line)
For less total load, this interval increases.

SIZE	CODE	NUMBER	REV
A	SP	H7202-B-0	A

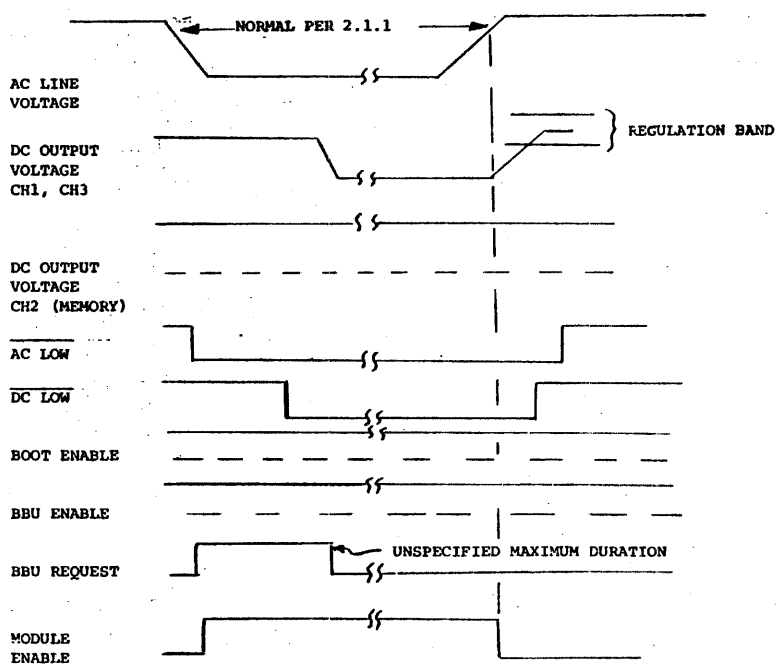
DEC FORM NO EN-01022-16-N370-(381)

SHEET 29 OF 39

ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE H7202B POWER SUPPLY ENGINEERING SPECIFICATION

FIGURE 5.4
POWER DOWN TO POWER UP SEQUENCING WITH BBU CONNECTED (H7240 or EQUIVALENT)
NOTE: POWER REQUEST ASSERTED



SIZE	CODE	NUMBER	REV
A	SP	H7202-B-0	A

DEC FORM NO EN-01022-16-N370-(381)

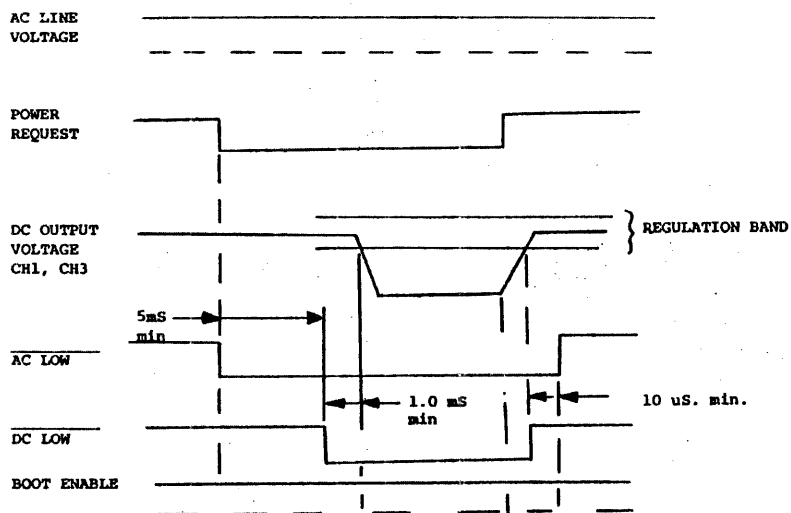
SHEET 30 OF 39

ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE H7202B POWER SUPPLY ENGINEERING SPECIFICATION

FIGURE 5.5
POWER DOWN TO POWER UP SEQUENCING - CONTROL SIGNALS

A. STANDBY ASSERTED



NOTE: BBU request is not asserted, BBU enable is not deasserted at any point in the above sequences.

B. STANDBY NOT ASSERTED



SIZE	CODE	NUMBER	REV
A	SP	H7202-B-0	A

DEC FORM NO EN-01022-16-N370-(381)
DRA 108

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DIGITAL EQUIPMENT CORPORATION

5.4 Status Indicators

Three red light emitting diodes indicate the status of each of the three power channels. These are visible through the connection access cover and labeled. Each LED will be on when that channel is on and outputs are within normal range.

Labels are as follows:

Main +5V OK (Channel 1)
Memory Power OK (Channel 2)
Com. Power OK (Channel 3)

SIZE	CODE	NUMBER	REV
A	SP	H7202-B-0	A

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DIGITAL EQUIPMENT CORPORATION

CHAPTER 6
MECHANICAL AND PHYSICAL SPECIFICATIONS

6.1 Size

The overall dimensions are 5 X 6.25 X 21 inches nominal, conforming to the dimensions shown in Figure 6.1.

6.2 Weight

The power supply with housing has a maximum weight of 8.2 kilograms (18lbs).

6.3 Mounting

Through threaded inserts compatible with BA11-H and BA11-Z boxes.

6.4 Cooling

Externally supplied forced air at 400 linear feet per minute (20 m/s) is required to properly cool this unit when operating at full load and max. temperature. Volume requirement is approximately 80 cubic feet per minute. A suitable air filter is required to prevent dirt accumulation inside the unit. (See 7.6)

6.5 Thermal Protection

The power supply is self-protecting against the loss of adequate cooling air or excessive temperature by internal temperature switches which shut down the power supply. This sets an internal latch which is externally reset by de-asserting both power request and standby inputs (console key to OFF).

6.6 Accessibility

6.6.1 Connections:

All power and signal connections are available at the rear of the unit. A protective clear cover must be removed to access many of the power and signal connectors.

6.6.2 Service:

To access the working internal modules, the input power connector P2 must be disconnected to allow the top cover to be removed. This disconnects all HV power from the input harness. Channel 2 and 3 power modules may be removed at this point.

To remove the H7200 power module, the AC input panel must be removed, as well as the mounting screws on the bottom of the unit as well as the high current cables.

SIZE	CODE	NUMBER	REV	
A	SP	H7202-B-0	A	TW

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6.7 Identification Stickers

Special markings or compliance stickers are placed on the outside of the housing near the circuit breaker access, adjacent to the AC inlet connector and on the top cover.

6.8 Input/Output Connectors

6.8.1 Line Interfaces

Interfaces at AC Line potential (AC input line, battery back-up power) are through connectors in the chassis at the rear of the unit. AC line input is directly into the line filter.

6.8.2 Main Output

5V, 60A output is through screw and insert connections on the rear side corners. Interface to the load is then through flex-print (wire could also be used).

6.8.3 Other Interfaces

All other interfaces are from connectors on the distribution board under the rear protective cover. Interfaces included are:

- (J2) Backplane (by flexprint) - includes DC power other than 5V/60A, and processor signals.
- (J3) Fan: Power for DC fans and signals to and from air flow sensor.
- (J7) Fan: Power for additional DC fan.
- (J4) Battery Back-up: Signals to Battery Back-up unit.
- (J6) DEC Power Bus.
- (J1) Console - Control signals.

SIZE	CODE	NUMBER	REV	
A	SP	H7202-B-0	A	TW

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6.8.4 DEC Power Bus

These signals are carried out from the distribution board (J6) to the chassis where the standard 3 pin connector is accessible.

6.9 PACKAGING

Shipment of this unit requires that proper containers be used:

bulk shipment	3700635-00
single unit shipment	3700635-01

(See A-SP-3700635-0-0)

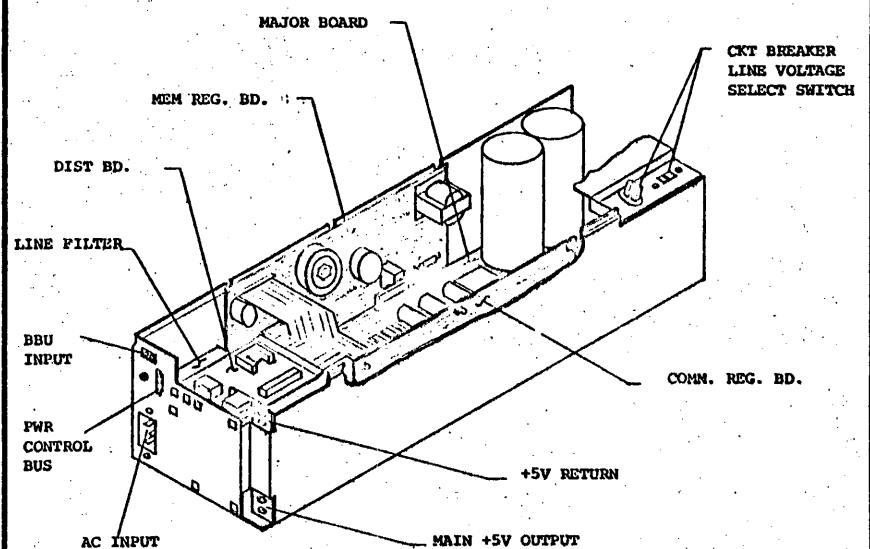
SIZE	CODE	NUMBER	REV	
A	SP	H7202-B-0	A	TW

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ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE H7202B POWER SUPPLY ENGINEERING SPECIFICATION

FIGURE 6.1
MECHANICAL CONFIGURATION



NOTES:

1. View shown with top cover and access panel removed.
2. Overall dimensions of power supply 21.00" x 6.25" x 5.00"

SIZE	CODE	NUMBER	REV	
A	SP	H7202-B-0	A	TW

DEC FORM NO EN-01022-16-N370-(381)
DRA 108

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DIGITAL EQUIPMENT CORPORATION

CHAPTER 7
ENVIRONMENTAL SPECIFICATIONS

General: In compliance with DEC STD 102, rev C class C.

7.1 Temperature

7.1.1 Operating Ambient Temperature Range

5 C to 55 C (intended for use in equipment rated DEC-STD 102, Class C).

7.1.2 Storage Temperature Range

-40 C to + 70 C.

7.2 Humidity

Per DEC Standard 102, Class C, Paragraph 3.0.

7.3 Altitude

7.3.1 Operating Limit

22.2 in Hg. (8,000 ft.).

7.3.2 Storage Limit

8.9 in. Hg. (30,000 ft.).

7.4 Vibration

Per DEC Standard 102, Class C, Paragraph 6.0.

7.5 Mechanical Shock

Per DEC Standard 102, Paragraph 5.0.

7.6 Dirt Protection

An external filter for cooling air is required to prevent internal dirt accumulation. This is necessary to preserve the integrity of the insulation systems.

SIZE CODE NUMBER REV
A SP H7202-B-0 A TW
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DIGITAL EQUIPMENT CORPORATION

CHAPTER 8
RELIABILITY

8.1 Life Expectancy

The design goal for life expectancy is 10 years.

8.2 Mean Time Between Failure

The design MTBF is greater than 27,000 hours based on a parts count calculation and data from MIL-HBK-217B and DEC STD 139.

SIZE CODE NUMBER REV
SP H7202-B-0 A TW
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DIGITAL EQUIPMENT CORPORATION

CHAPTER 9
SAFETY

The power supply as specified herein shall be UL recognized, CSA certified and comply with DEC STD 119 REV C.

9.1 Electrical

The power supply and its application (including battery back-up) shall be listed per UL-478-Electronic Data Processing Units and Systems and meet UL 1012 - Power Supplies.

The power supply and its application (including battery back-up) shall meet the following safety codes:

CSA C22.2	No. 154	Canadian Electrical Code, Part II, Safety Standards for Electrical Equipment.
VDE 0804		Regulations for Telecommunication Apparatus including Information Processing Equipment.
IEC 435		Safety of Data Processing Equipment.

9.2 Regulatory Bodies

See DEC Standards 60 and 119.

9.3 Isolation

See Section 2.1.7 of this specification. Refer also to DEC Standards 60 and 119.

9.4 Grounding

The ground wire (green/yellow stripe) is connected to the power supply frame, housing and shields. The 5V return lead is internally connected to the chassis and ground wire.

SIZE CODE NUMBER REV
A SP H7202-B-0 A TW
SHEET 39 of 39

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DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS			
PACKAGING INSTRUCTION			REV: _____ DATE: _____
TITLE PKG POWER SUPPLY H7202/H7200/H7211/H7213			
LEGEND			
VARIATION	USED ON	PACKAGE TYPE	REMARKS
3700635-01	H7202	CUSTOMER	
3700635-02	H7202	INTERPLANT	BULK
3700635-03	H7200	CUSTOMER	
3700635-04	H7200	INTERPLANT	BULK
3700635-05	H7211/H7213	CUSTOMER	
3700635-06	H7211/H7213	INTERPLANT	BULK
PARTS LIST 37000635-01 THROUGH 3700635-06 REFER TO OFF-SHEET PARTS LIST K-PL-3700635-0-DBP			
PACKAGING INSTRUCTIONS 3700635-01			
STEP PROCEDURE FIGURE 1			
1. WRAP THE FIVE PANEL FOLDER (9906851-00) AROUND THE H7202-B POWER SUPPLY AND TAPE IT WITH CARTON SEALING TAPE (9905729-00).			
2. INSTALL A MOLDED FOAM PAD (9990010-00) ONTO EACH END OF THE FIVE PANEL FOLDER.			
3. SET UP THE FULL OVERLAP CARTON (9906849-00) USING ONE (1) STRIP OF CARTON SEALING TAPE ALONG THE LENGTH AND ONE (1) STRIP ALONG EACH SIDE.			
4. POSITION THE PRE-PACKED H7202-B POWER SUPPLY INTO THE FULL OVERLAP CARTON.			
5. CLOSE AND SEAL THE FULL OVERLAP CARTON USING ONE (1) STRIP OF CARTON SEALING TAPE ALONG EACH SIDE.			
SHEETS 5 THRU 10 "C" SIZE			
ENG <i>R. Smith</i> 7/82	APPD <i>Jean Baruch</i> 7/82	SIZE A	CODE NUMBER PA 3700635-0-0 REV A
SHEET 1 OF 10			

PACKAGING INSTRUCTION		CONTINUATION SHEET	
TITLE PKG POWER SUPPLY H7202/H7200/H7211/H7213			
PACKAGING INSTRUCTIONS 3700635-02			
STEP PROCEDURE FIGURE 2			
1. SQUARE AND SET UP THE HALF SLOTTED CARTON (9906856-01), USING ONE (1) STRIP OF CARTON SEALING TAPE DOWN THE CENTER EXTENDING THREE (3) INCHES DOWN EACH SIDE, AND POSITION IT ONTO THE GENERAL PURPOSE PALLET (9906199-00).			
2. FIT THE GLUED TUBE (9906856-04) INTO THE HALF SLOTTED CARTON.			
3. AFTER SETTING TWO (2) MOLDED FOAM PADS (9990015-00) INTO THE HALF SLOTTED CARTON, ARRANGE THE ASSEMBLED AND NESTED DIVIDER (9906856-03) INTO THE CARTON.			
4. INSTALL THE H7202-B POWER SUPPLY INTO EACH OF THE DIVIDER CELLS (48 TOTAL), MAKING SURE THAT THE CAPACITOR IS ON THE TOP.			
5. PLACE THE TELESCOPE CAP (9906856-02) ONTO THE HALF SLOTTED CARTON.			
6. STRAP THE TELESCOPE CARTON ASSEMBLY TO THE PALLET USING TWO (2) POLYESTER STRAPS (9905734-00).			
PACKAGING INSTRUCTIONS 3700635-03			
STEP PROCEDURE FIGURE 3			
1. WRAP THE DIE CUT CARTON (9906853-00) AROUND THE H7200 POWER SUPPLY AND TAPE IT WITH CARTON SEALING TAPE (9905729-00).			
2. INSTALL A MOLDED FOAM PAD (9990012-00) ONTO EACH END OF THE DIE CUT CARTON.			
3. SET UP THE FULL OVERLAP CARTON (9906852-00) USING ONE (1) STRIP OF CARTON SEALING TAPE ALONG THE LENGTH AND ONE (1) STRIP ALONG EACH SIDE.			
4. POSITION THE PRE-PACKED H7200 POWER SUPPLY INTO THE FULL OVERLAP CARTON.			
5. CLOSE AND SEAL THE FULL OVERLAP CARTON USING ONE (1) STRIP OF CARTON SEALING TAPE ALONG THE LENGTH AND ONE (1) STRIP ALONG EACH SIDE.			
		SIZE A	CODE NUMBER PA 3700635-0-0 REV A
SHEET 2 OF 10			

PACKAGING INSTRUCTION		CONTINUATION SHEET	
TITLE PKG POWER SUPPLY H7202/H7200/H7211/H7213			
PACKAGING INSTRUCTIONS 37000635-04			
STEP PROCEDURE FIGURE 4			
1. WRAP THE DIE CUT CARTON (9906853-00) AROUND THE H7200 POWER SUPPLY AND TAPE WITH CARTON SEALING TAPE (9905729-00).			
2. SQUARE AND SET UP THE HALF SLOTTED CARTON (9906856-01) USING ONE (1) STRIP OF CARTON SEALING TAPE DOWN THE CENTER AND EXTENDING IT THREE (3) INCHES DOWN EACH SIDE; POSITION IT ONTO THE GENERAL PURPOSE PALLET (9906199-00).			
3. FIT THE GLUED TUBE (9906856-04) INTO THE HALF SLOTTED CARTON.			
4. PLACE TWO (2) MOLDED FOAM PADS (9990015-00) INTO THE HALF SLOTTED CARTON.			
5. ARRANGE EIGHTY-EIGHT (88) H7200 POWER SUPPLIES, PRE-WRAPPED PER STEP ONE, PER PALLET PATTERN CONFIGURATION.			
6. FIT THE TELESCOPE CAP (9906856-02) ONTO THE HALF SLOTTED CARTON.			
7. STRAP THE TELESCOPE CARTON ASSEMBLY TO THE PALLET USING TWO (2) POLYESTER STRAPS (9905734-00).			
PACKAGING INSTRUCTIONS 3700635-05			
STEP PROCEDURE FIGURE 5			
1. OPEN THE ALREADY SET-UP DIE CUT CARTON WITH CONVOLUTED FOAM (9906858-00).			
2. PLACE EITHER THE H7211 OR H7213 POWER SUPPLY (COMPONENT SIDE DOWN) INTO THE DIE CUT CARTON WITH FOAM.			
3. CLOSE THE SELF-LOCKING DIE CUT CARTON WITH ALL FLAPS INSIDE.			
		SIZE A	CODE NUMBER PA 3700635-0-0 REV A
SHEET 3 OF 10			

PACKAGING INSTRUCTION		CONTINUATION SHEET	
TITLE PKG POWER SUPPLY H7202/H7200/H7211/H7213			
PACKAGING INSTRUCTIONS 3700635-06			
STEP PROCEDURE FIGURE 6			
1. ON A GENERAL PURPOSE PALLET (9906199-00) PLACE TWENTY-ONE (21) 3 X 7 PRE-PACKED H7211 OR H7213 POWER SUPPLIES PER PALLET CONFIGURATION.			
2. CONTINUE STACKING UNTIL THERE ARE EIGHT (8) TIERS HIGH.			
3. USING ANGLEBOARDS (9906185-14) POLYESTER STRAPPING (9905734-00), STRAP THE POWER SUPPLIES TO THE PALLET.			
		SIZE A	CODE NUMBER PA 3700635-0-0 REV A
SHEET 4 OF 10			

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PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA		METRIC	
WEIGHT	24.0	LBS.	10.9	KG.
LENGTH	28.25	IN.	718	MM
WIDTH	11.81	IN.	300	MM
HEIGHT	14.25	IN.	362	MM
CUBE	27.5	CU. FT.	0.08	CU. M
DENSITY	87	LBS./CU. FT.	140	KG./CU. M
*PLASTIC	% V	% W	TYPE	

*% VOLUME (EXPANDED)
 % WEIGHT (UNEXPANDED)

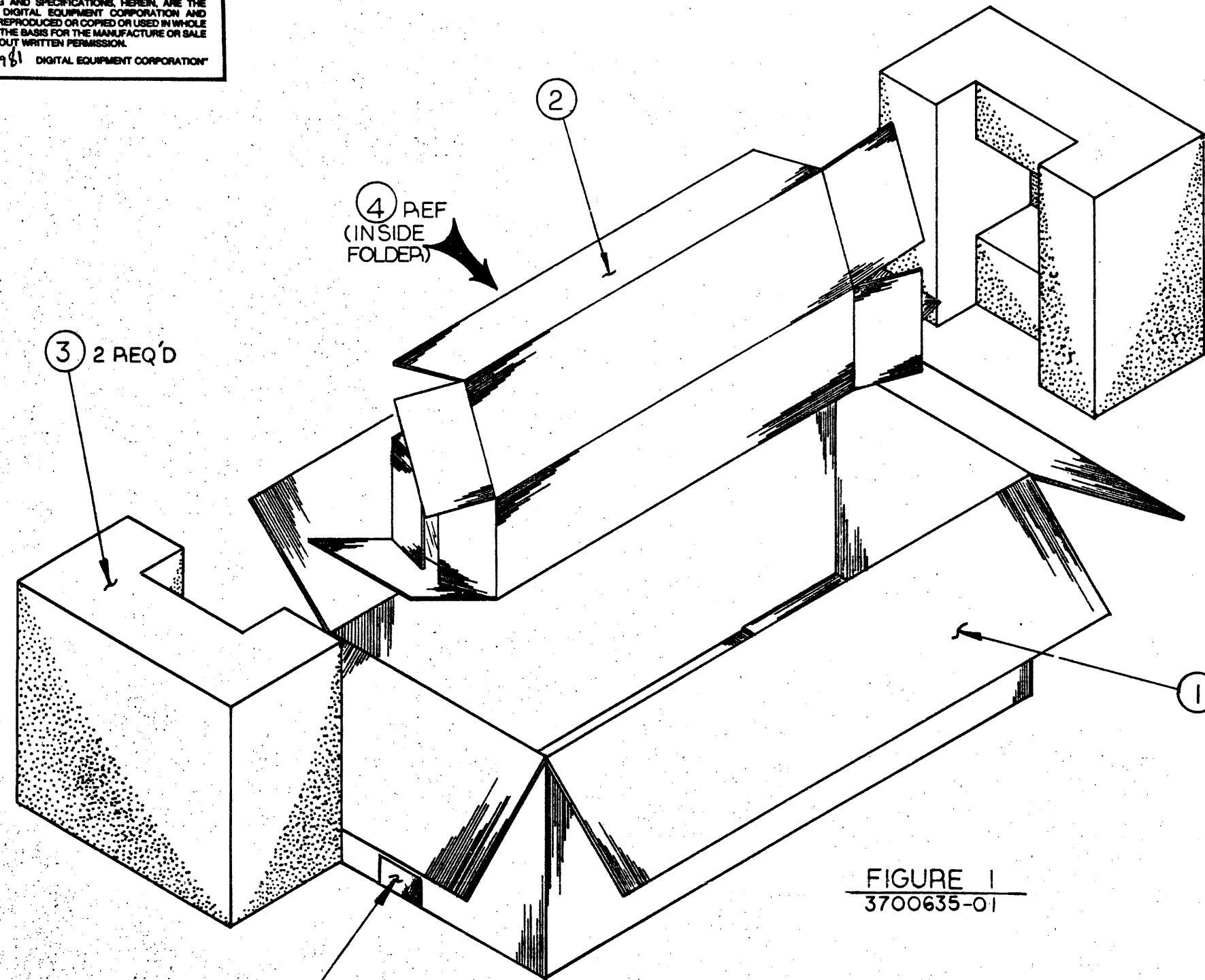


FIGURE 1
 3700635-01

SIZE C PA 3700635-0-0
 NUMBER
 REV. A

SIZE C PA 3700635-0-0
 NUMBER
 REV. A

REVISION HISTORY	
DATE	ECO NUMBER

FOR OFF SHEET PARTS LIST SEE K PL 3700635-0-DBP.

DRAWN <i>Gyorko</i>	DATE <i>5/6/82</i>	TITLE	digital
CH'CD. J. BARRETT	DATE <i>7/82</i>	PKG	POWER SUPPLY
DES. ENG. R. SPINELLI	DATE <i>6/82</i>	H7202/H7200	
RESP. ENG. R. SPINELLI	DATE <i>6/82</i>	DOCUMENT NUMBER	
MFG. ENG. NONE	DATE -	SIZE CODE	NUMBER
NEXT HIGHER DOC.		C PA 3700635-0-0	REV. A
		SCALE	SHEET 5 OF 10

SIZE CODE
C PA 3700635-0-0
 NUMBER
 REV.
A

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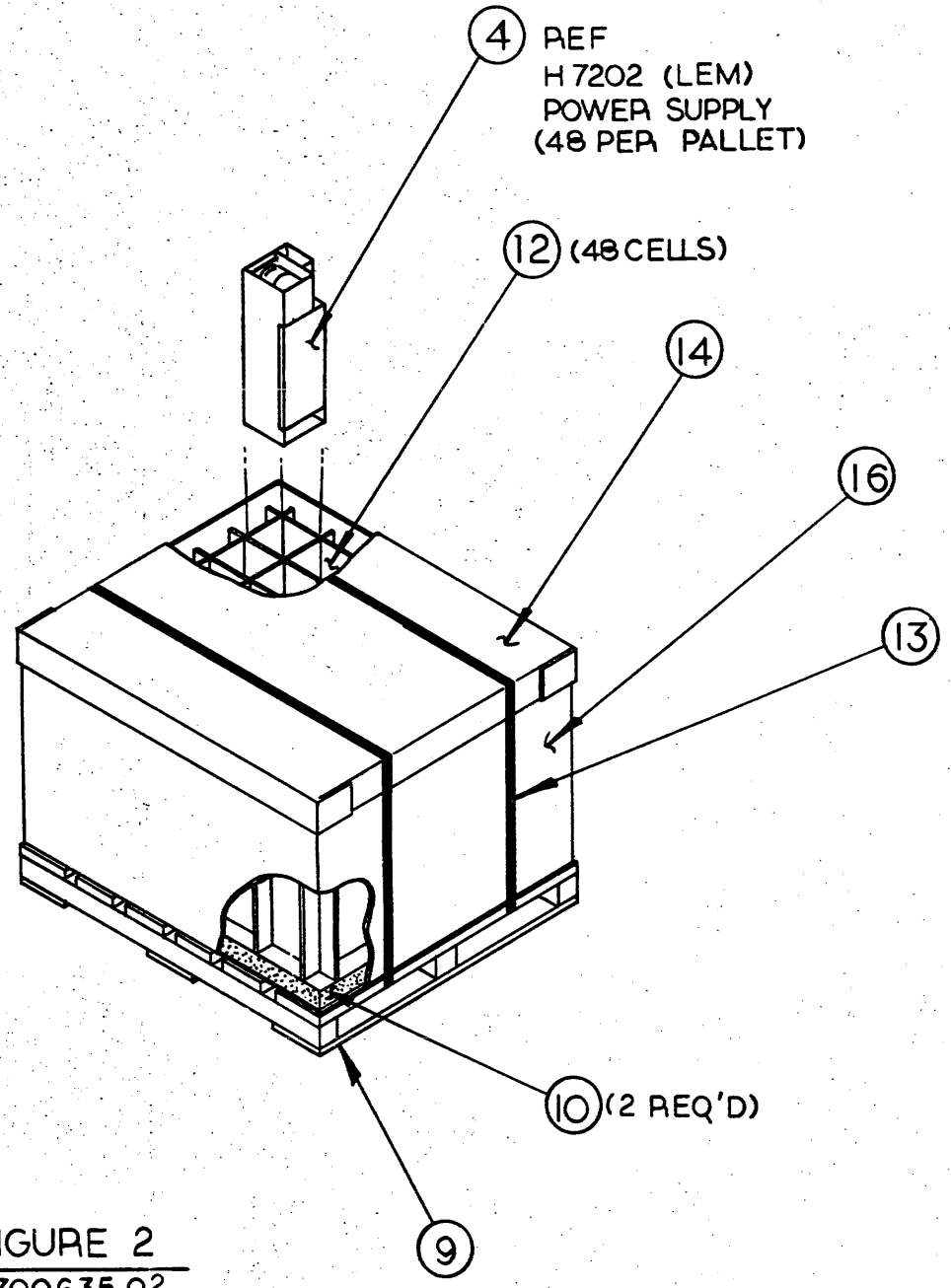


FIGURE 2
 3700635-02

PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA	METRIC
WEIGHT	1000.0 LBS.	454.0 KG.
LENGTH	48.00 IN.	1219 MM
WIDTH	42.00 IN.	1067 MM
HEIGHT	35.00 IN.	889 MM
CUBE	40.8 CU. FT.	1.16 CU.M
DENSITY	24.5 LBS./CU. FT.	392 KG/CU.M
*PLASTIC	% V L	% W T TYPE

*% VOLUME (EXPANDED)
 % WEIGHT (UNEXPANDED)

C
 B
 A

D
 C
 A

DATE	ECO NUMBER	REV.

FOR OFF SHEET PARTS LIST SEE KPL-3700635-0-DBP

DRN. <i>Gyorka</i>	DATE <i>5/12/82</i>	TITLE	digital
CHKD.	DATE	PKG	POWER SUPPLY H7202 / H7200
DES. ENG.	DATE		
RESP. ENG.	DATE		
MFG. ENG.	DATE	DOCUMENT NUMBER	
NEXT HIGHER DOC.		SIZE	CODE
		C PA	3700635-0-0
		NUMBER	REV.
		3700635-0-0	A
		SCALE	SHEET 6 OF 10

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SIZE C PA 3700635-0-0
 NUMBER
 REV. A

PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA		METRIC	
WEIGHT	10.0	LBS.	4.5	KG.
LENGTH	22.88	IN.	581	MM
WIDTH	11.50	IN.	292	MM
HEIGHT	13.88	IN.	353	MM
CUBE	2.11	CU. FT.	0.06	CU. M
DENSITY	4.7	LBS./CU. FT.	76	KG/CU. M
*PLASTIC	% V	% W	TYPE	

*% VOLUME (EXPANDED)
 % WEIGHT (UNEXPANDED)

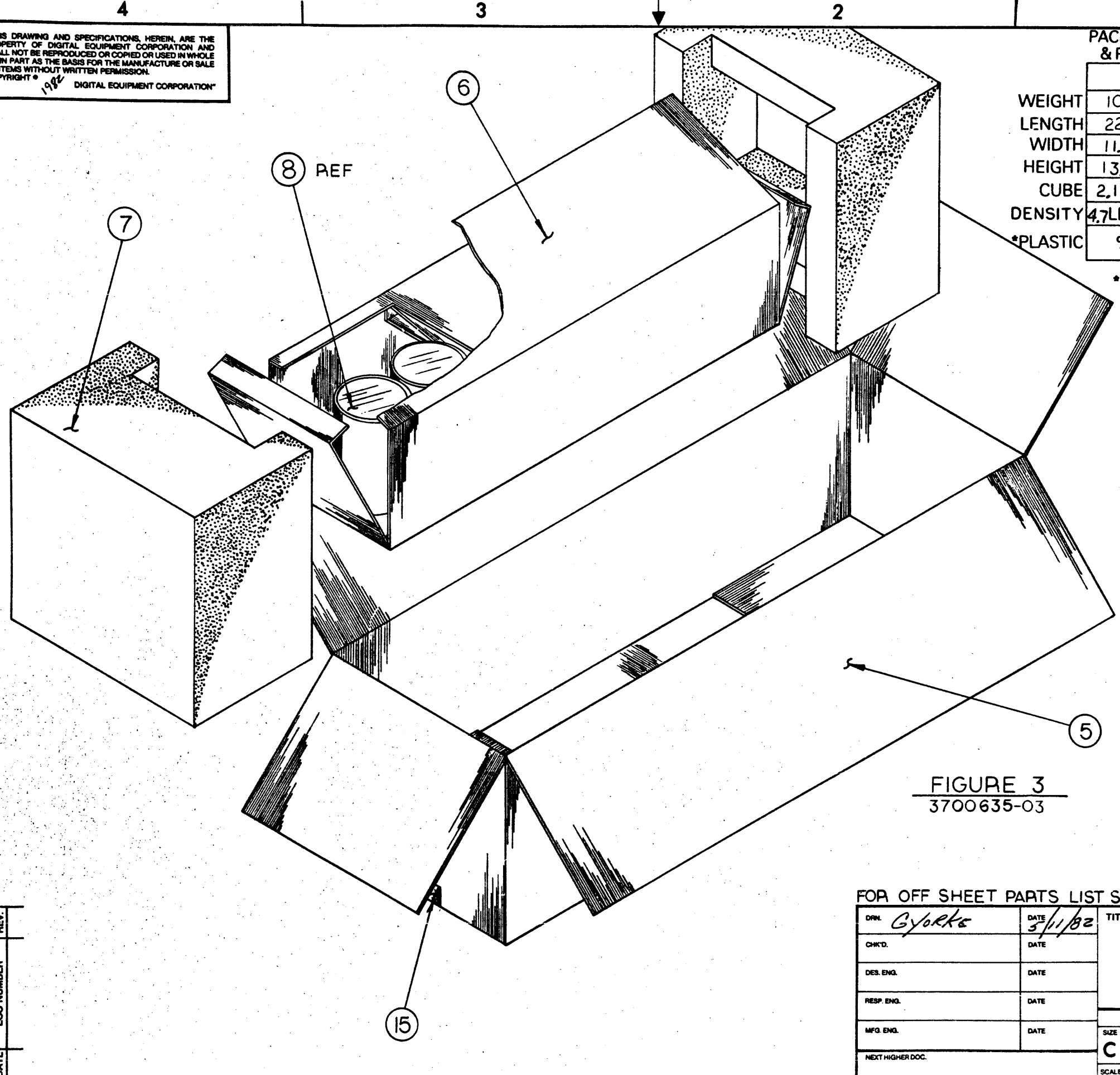


FIGURE 3
 3700635-03

FOR OFF SHEET PARTS LIST SEE K-PL-3700635-0-DBP.

DRW. <i>Gyorko</i>	DATE <i>3/1/82</i>	TITLE	digital
CHK'D.	DATE	PKG	POWER SUPPLY
DES. ENG.	DATE	H7202/H7200	
RESP. ENG.	DATE	DOCUMENT NUMBER	
MFG. ENG.	DATE	SIZE	CODE
NEXT HIGHER DOC.		C	PA 3700635-0-0
		NUMBER	REV.
			A
		SCALE	SHEET 7 OF 10

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DATE	ECO NUMBER

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SIZE CODE
 C PA
 NUMBER
 3700635-0-0
 REV.

PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA	METRIC
WEIGHT	650.0 LBS.	295.0 KG.
LENGTH	48.00 IN.	1219 MM
WIDTH	42.00 IN.	1067 MM
HEIGHT	35.00 IN.	889 MM
CUBE	40.8 CU. FT.	116 CU.M
DENSITY	16 LBS./CU. FT.	25.5 KG/CU.M
*PLASTIC	% V L	% W T TYPE

*% VOLUME (EXPANDED)
 % WEIGHT (UNEXPANDED)

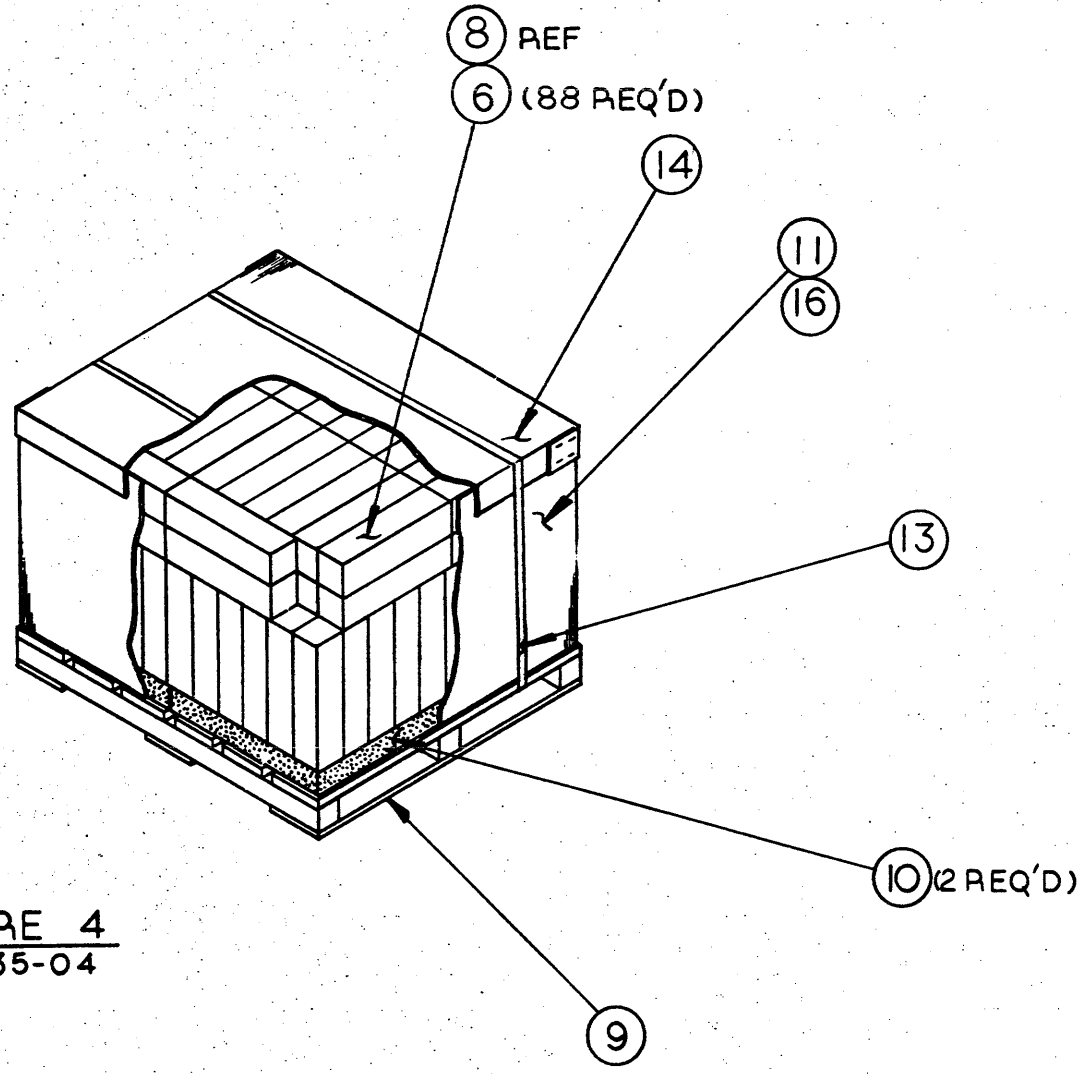


FIGURE 4
 3700635-04

REVISION HISTORY	ECO NUMBER	REV.
DATE		

FOR OFF SHEET PARTS LIST SEE K-PL-3700635-0-DBP

DRW. <i>Gyorko</i>	DATE <i>5/12/82</i>	TITLE digital
CHKD.	DATE	PKG POWER SUPPLY H7202/H7200
DES. ENG.	DATE	
RESP. ENG.	DATE	
MFG. ENG.	DATE	
NEXT HIGHER DOC.		
DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV.
C PA	3700635-0-0	A
SCALE <i>1/8" = 1"</i>	SHEET 8 OF 10	

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SIZE CODE
C PA
NUMBER
3700636-0-0
REV.
A

PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA	METRIC
WEIGHT	2.13 LBS.	0.97 KG.
LENGTH	14.00 IN.	356 MM
WIDTH	6.81 IN.	173 MM
HEIGHT	4.75 IN.	121 MM
CUBE	0.26 CU. FT.	0.0074 CU. M
DENSITY	8.2 LBS./CU. FT.	131 KG/CU. M
*PLASTIC	% V L	% W T TYPE

*% VOLUME (EXPANDED)
% WEIGHT (UNEXPANDED)

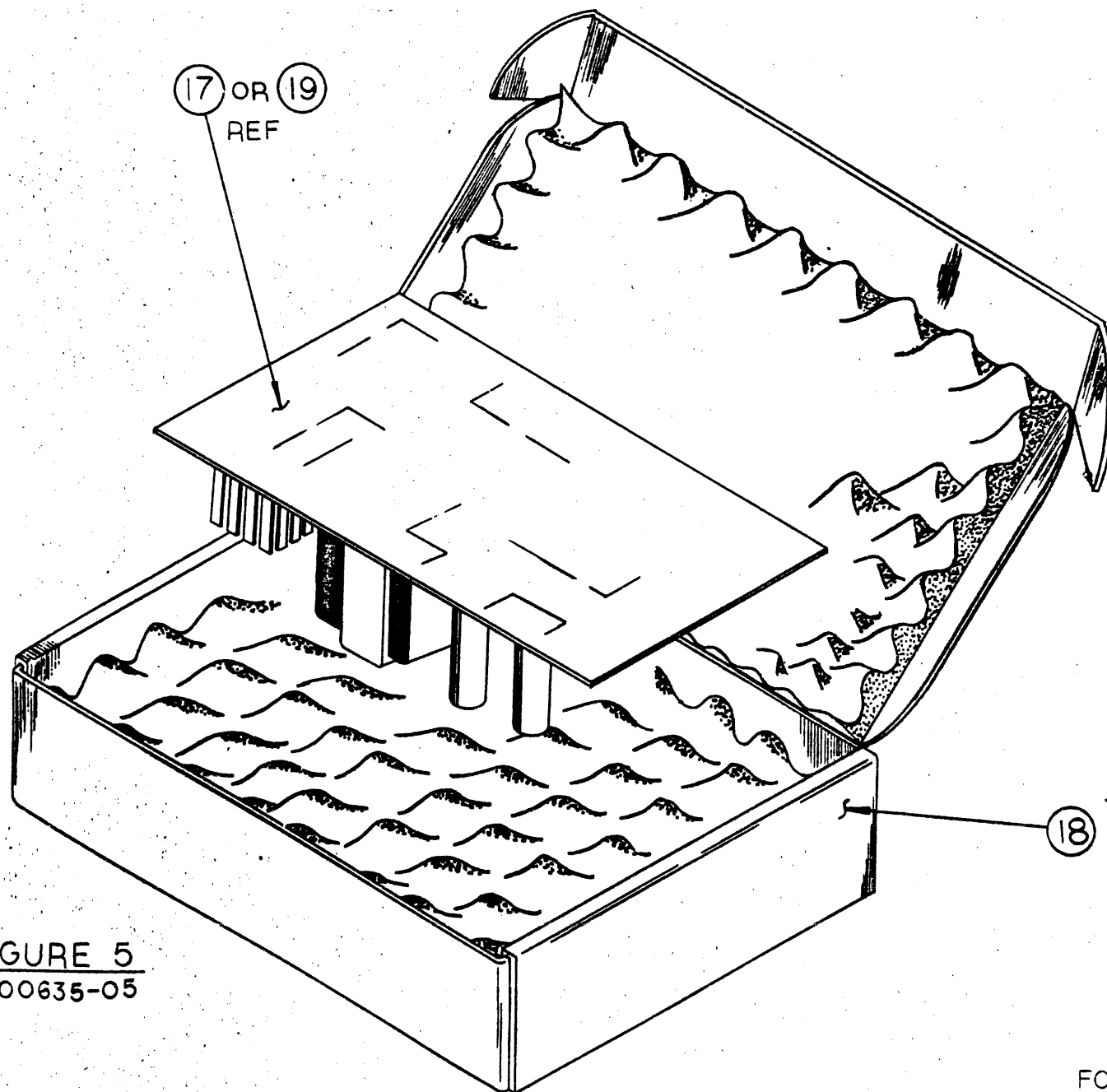


FIGURE 5
3700635-05

REVISION HISTORY	REV.
DATE	ECO NUMBER

DRC 1118

FOR OFF SHEET PARTS LIST SEE K-PL-3700635-0-DBP

DRN. <i>Gyorko</i>	DATE <i>5/3/82</i>	TITLE	digital
CHK'D.	DATE	PKG	
DES. ENG.	DATE	POWER SUPPLY	
RESP. ENG.	DATE	H7202/H7200	
MFG. ENG.	DATE	DOCUMENT NUMBER	
NEXT HIGHER DOC.		SIZE	CODE NUMBER REV.
		C PA	3700635-0-0 A
		SCALE	SHEET 9 OF 10

SIZE CODE
C PA
NUMBER
3700636-0-0
REV.
A

SIZE CODE
C PA
3700635-0-0
REV. A

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PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA	METRIC
WEIGHT	407.0 LBS.	185.0 KG.
LENGTH	49.00 IN.	1245 MM
WIDTH	42.00 IN.	1067 MM
HEIGHT	44.00 IN.	1118 MM
CUBE	52.4 CU. FT.	1.48 CU.M
DENSITY	78 LBS./CU. FT.	124 KG/CU.M
*PLASTIC	% V % L	% W % T TYPE

*% VOLUME (EXPANDED)
% WEIGHT (UNEXPANDED)

21 CARTONS PER TIER
8 TIERS HIGH

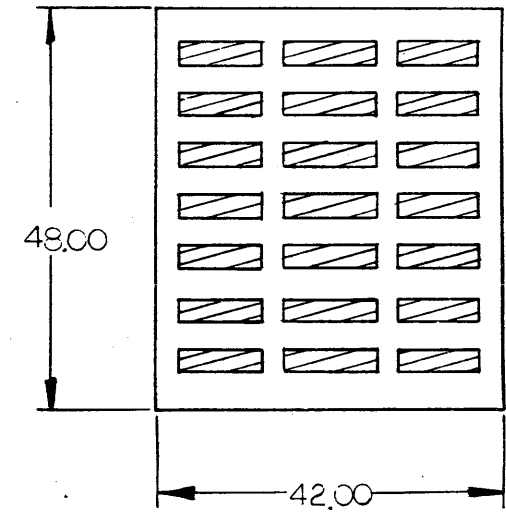
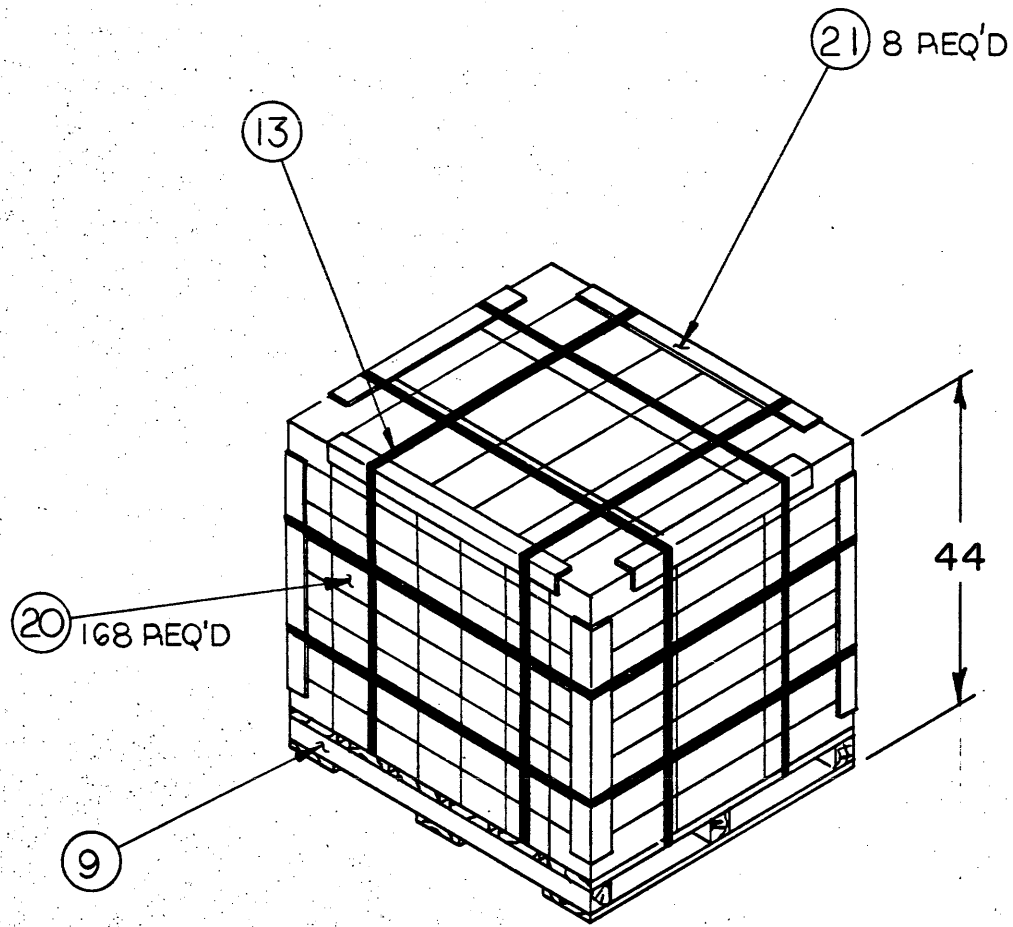


FIGURE 6
3700635-06

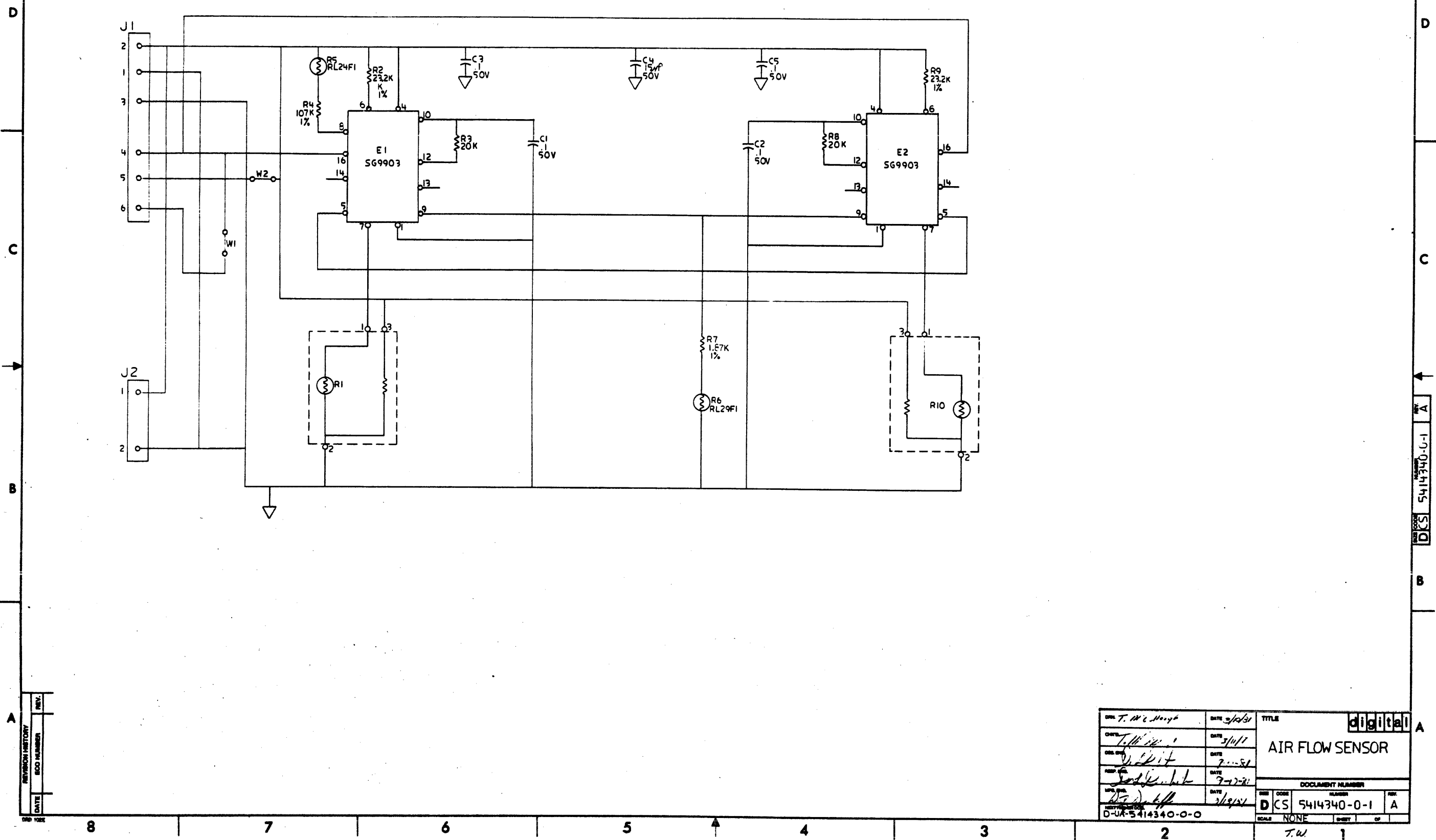
DATE	ECO NUMBER	REV.

FOR OFF SHEET PARTS LIST SEE K-PL-3700635-0-DBP

DRN. Gyorko	DATE 5/1/82	TITLE digital
CHK'D.	DATE	PKG POWER SUPPLY H7202/H7200
DES. ENG.	DATE	
RESP. ENG.	DATE	DOCUMENT NUMBER
MFG. ENG.	DATE	SIZE CODE NUMBER REV. C PA 3700635-0-0 A
NEXT HIGHER DOC.		SCALE SHEET 10 OF 10

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1-0-0h6h1h5

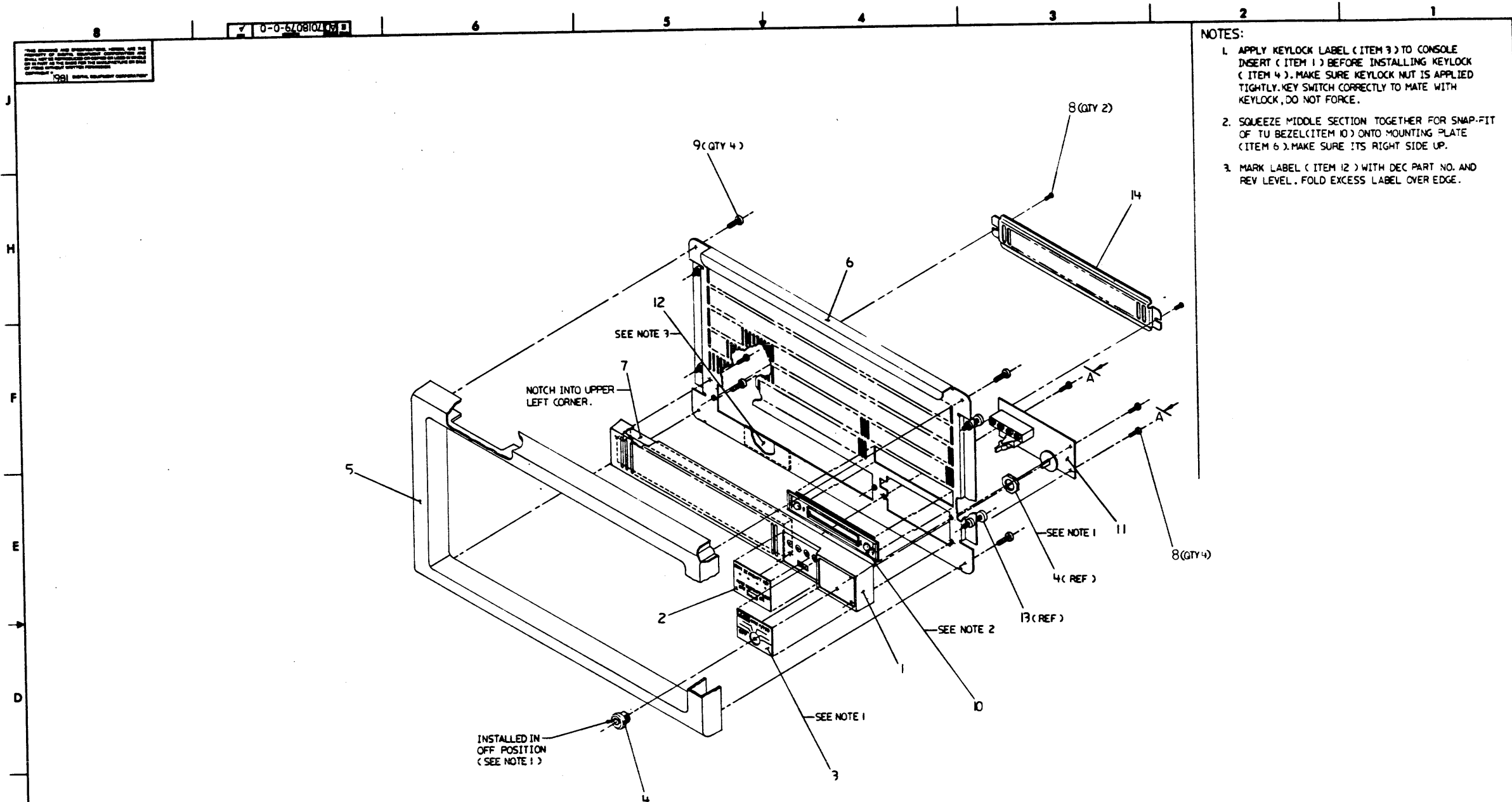


REV.	DATE	BY	CHKD

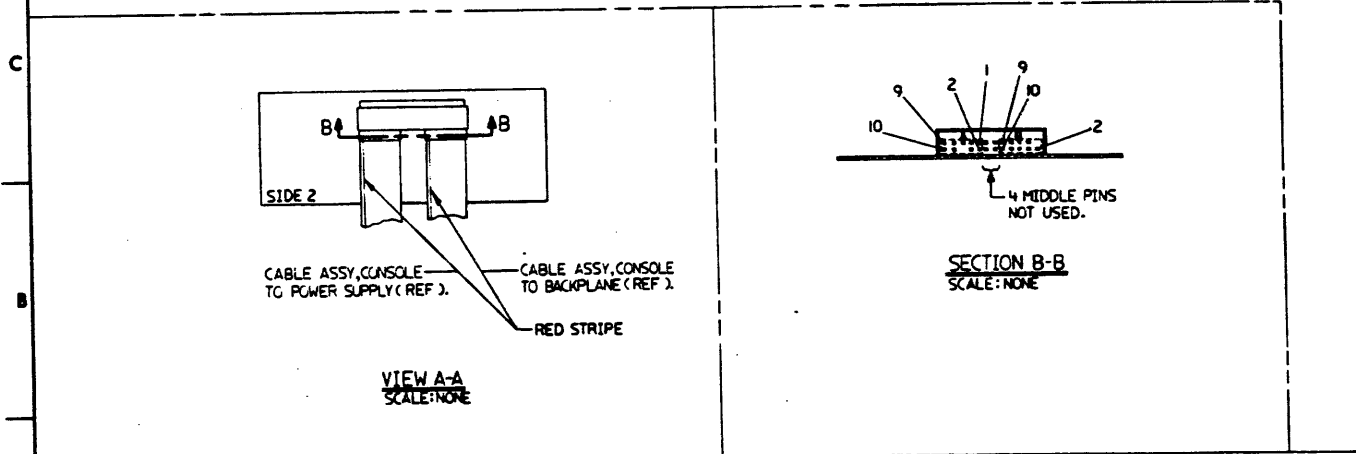
DRN <i>T. W. Hoyle</i>	DATE <i>3/1/81</i>	TITLE digital
DATE <i>7/1/81</i>	DATE <i>7/1/81</i>	AIR FLOW SENSOR
DATE <i>7/1/81</i>	DATE <i>7/1/81</i>	DOCUMENT NUMBER
DATE <i>7/1/81</i>	DATE <i>7/1/81</i>	REV. A
DATE <i>7/1/81</i>	DATE <i>7/1/81</i>	SCALE NONE
D-UX-5414340-0-0		SHEET 1

T.W. 1

0-0-670810Z-0-0
 991



- NOTES:
1. APPLY KEYLOCK LABEL (ITEM 3) TO CONSOLE INSERT (ITEM 1) BEFORE INSTALLING KEYLOCK (ITEM 4). MAKE SURE KEYLOCK NUT IS APPLIED TIGHTLY. KEY SWITCH CORRECTLY TO MATE WITH KEYLOCK, DO NOT FORCE.
 2. SQUEEZE MIDDLE SECTION TOGETHER FOR SNAP-FIT OF TU BEZEL (ITEM 10) ONTO MOUNTING PLATE (ITEM 6). MAKE SURE ITS RIGHT SIDE UP.
 3. MARK LABEL (ITEM 12) WITH DEC PART NO. AND REV LEVEL. FOLD EXCESS LABEL OVER EDGE.



NOTE: FOR PARTS LIST REFER TO K-PL-7018079-0-DBP.

REV. 1
 1524
 1964
 1004
 1004

QUANTITY & UNIT	DESCRIPTION	DRWING NO.	PART NO.
1	CONSOLE ASSY	E-11730-Z-0	AD 7018079-0-0

REVISION	DATE	BY	CHKD	APP'D
1	4 MAR 61	[Signature]	[Signature]	[Signature]
2	4 MAR 61	[Signature]	[Signature]	[Signature]
3	4 MAR 61	[Signature]	[Signature]	[Signature]

AD 7018079-0-0-A

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1		E-IA-7424269-0-0	7424269-00	CONSOLE INSERT	1
		A-PS-3617322-0-0	3617322-00	LABEL, LEGEND STRIP VAX 11/730 LE	1
		A-PS-3617902-0-0	3617902-01	LABEL, LEGEND STRIP VAX 11/730 6P	1
		A-PS-1216178-0-0	1216178-01	LOCK, PLASTIC 6POS ASSY	1
		A-PS-1217094-0-0	1217094-00	BEZEL, PLASTIC 11-44	1
		E-IA-7424832-0-0	7424832-00	PLATE, MTG 10-1/2	1
		A-PS-1217665-0-0	1217665-01	FILTER, FOAM 11.5X1.85X1/2 SPPI	1
			9009984-02	SCREW, SEMS, PHILLIPS PAN HD. 6-	6
			9010119-00	SCREW, PHILLIPS TRUSS HD. 10-32	4
10	10	C-IA-7018168-0-0	7018168-00	TUSB DUAL DRIVE BEZEL ASSY	1
11	11	D-AD-5414438-0-0	5414438-01	CONSOLE MODULE	1
12	12		9009255-01	LABEL, POWER SUPPLY, 2-7/8" LG X	1
13	13		9006075-03	SCREW, TRUS, PHIL, 10-32X 3/4	REF
14	14	D-MD-7426334-0-0	7426334-01	SHIELD	1

REVISION HISTORY		BASIC PART NO: 7018079		DRN: P. TOUSIGNANT		DATE: 30-JUL-81		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	A. ROCHA	DATE:	30-JUL-81	TITLE	PARTS LIST
	INITIAL	XA	SECTION. VARIATION INDEX					CONSOLE ASSEMBLY	
	INITIAL	A	(A) 00						
			(B)	DES. ENG.:	R. MORIN	DATE:	30-JUL-81		
			(C)						
			(D)	RESP. ENG.:	R. MORIN	DATE:	30-JUL-81	DOCUMENT NUMBER	
			(E)						
			(F)	MFG. ENG.:	S. CASTIGLIONE	DATE:	30-JUL-81	SIZE! CODE: NUMBER	REV
				ASSEMBLY NUMBER:	E-AD-7018079-0-0	TOP DOCUMENT NUMBER:	E-UA-11730-2-0	FILE NAME:	EDIT #
								21827A.PLS	16

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DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS															
				A	B														
			MODULE REVISION	A	B														
B-DD-5414438-0	1		CONSOLE MODULE	A	B														
D-UA-5414438-0-0	3		CONSOLE MODULE	A	B														
K-PL-5414438-0-DBP	1		CONSOLE MODULE	A	B														
D-CS-5414438-0-1	1		CONSOLE MODULE	A	A														
D-MD-5014437-0-0	3		DRILL & ETCH DRAWING	A	A														
		5014437	ETCHED BOARD	A	A														
K-PC-5414438-0-DBG			P.C. DESIGN DATA BASE	A	A														
D-EC-5014437-0-0	2		ETCH CUT DRAWING	A	A														

NOTES:

DATE	CHG NO.	REV.	REVISIONS																
				A	B														
3-82	1001	B																	

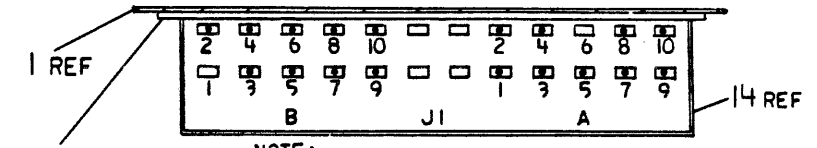
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USED ON OPTION/MODEL	DRN. P. J. [Signature]	29 JUL 80
	CHK'D [Signature]	7-30-80
	ENG. [Signature]	1-3-80
	PROD. [Signature]	1-2-80

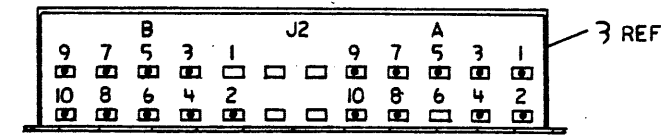
TITLE			
CONSOLE MODULE			
SIZE	CODE	NUMBER	REV.
B	DD	5414438-0	B
SHEET 1 OF 1			

COMPONENT SIDE VIEW



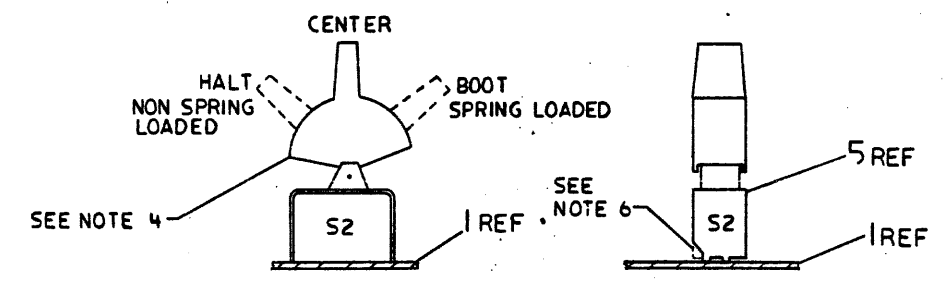
NOTE:
 □ - NO PIN INSERTED IN CONNECTOR
 ◻ - PIN INSERTED IN CONNECTOR
 USED WITH 11/730-ZA(5414438-01) ONLY

VIEW C-C
 SCALE: NONE

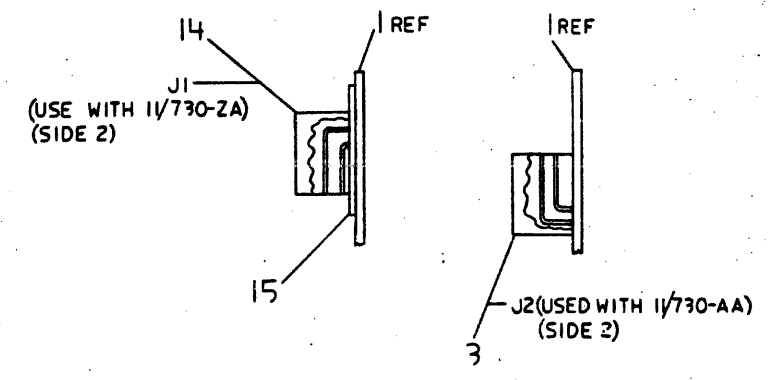


NOTE:
 □ - NO PIN INSERTED IN CONNECTOR
 ◻ - PIN INSERTED IN CONNECTOR
 USED WITH 11/730-AA(5414438-00) ONLY

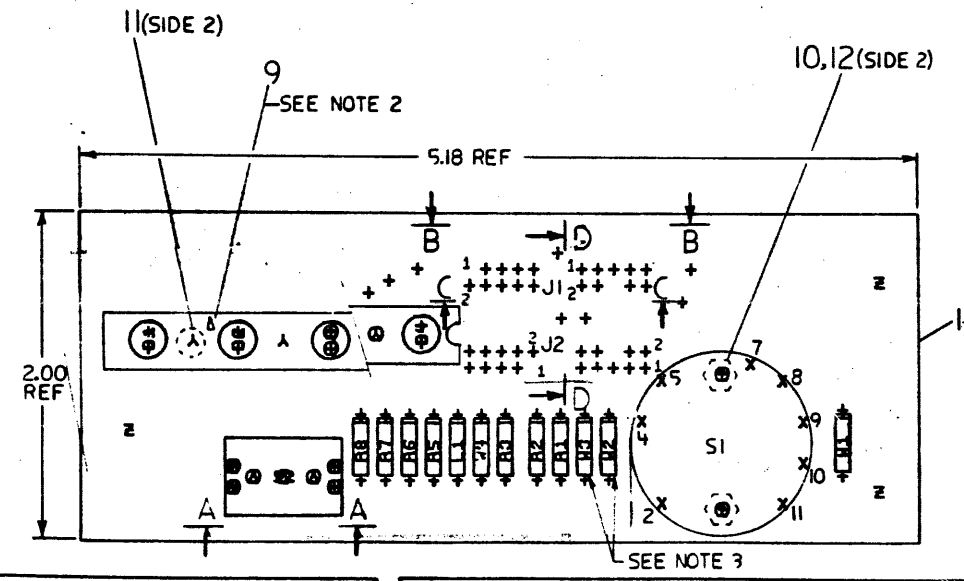
VIEW B-B
 SCALE: NONE



VIEW A-A
 SCALE: NONE



VIEW D-D



NOTES:
 1. STEP & REPEAT 2ML33.
 2. COMPONENT ORIENTATION MARK.
 3. JUMPER W2 IS USED ON VARIATION -C1, W3 IS USED ON -C0.
 4. MOUNT S2 WITH SPRING LOAD POSITION TOWARD S1.

STEP 1	Y AXIS 2.125	STEP 1	TIMES
REPEAT	X AXIS 5.250	STEP 1	TIMES

CHANGE NO	REV	DATE	BY
5414438-1	B		
5414438-1	B		
TR DAY			

NOTES (CONT)
 5. W1 IS NOT INSTALLED.
 6. REMOVE A SMALL SECTION OF THE MOUNTING BRACKET OF S2 BEFORE MOUNTING TO PC BOARD.

ETCH REV.	A
-----------	---

SIGNATURES	DATE	digital
DRN. P. [Signature]	9 JUL 80	
CHK'D. [Signature]	20-80	TITLE CONSOLE BOARD
RECH. ENG. [Signature]	10-8-80	
PROJ. ENG. [Signature]	10-8-80	SIZE CODE NUMBER REV d UA 5414438-0-0 B
PROD. [Signature]	10-8-80	
SCALE 2:1		
SHT. 1 OF 1		
NEXT HIGHER ASSY. B-DD-5414438-0		

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION		REFERENCE DESIGNATOR
				00	01	
1	D-MD-5014437-0-0	5014437-00	CONSOLE MODULE	1	1	
2		1110864-00	LED 2MCD@10MA	4	4	D1-D4
3		1213506-06	HEADER 24POS RT ANGLE	1	-	J2
4		1218038-00	SW,ROT 1P 2.0A 6POS 1SECTION	1	1	S1
5		1216179-00	SW,LEVER 1P ON/OFF/ON	1	1	S2
6		1300229-00	100.0 .25 W 5.0 % CC	3	3	R1,R2,R9
7		1300316-00	470.0 .25 W 5.0 % CC	4	4	R3,R5-R7
8		1601562-00	1.0 UH 10% 475MA #DD1.00	1	1	L1
9		7413127-00	LED HOLDER REWORK	1	1	
10		9006555-00	NUT,HEX , 2-56X3/16AF X 1/	2	2	
11		9009236-01	SCREW,TAPPING,TYPE F,PAN ,PHIL,	3	3	
12		9009321-00	LOCK TITE, SCREW LOCK, 10CC PER	A/R	A/R	
13		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	2	-	W3,W4
		CONT		-	2	W2,W4
14		1213506-08	HEADER 24POS RT ANGLE	-	1	J1

REVISION HISTORY			BASIC PART NO: 5414438								
ENG:	ECO NUMBER	REV	SECTION A OF A	DRN:	P.GROSSE	DATE:	09-JUL-80	DIGITAL			
---	INITIAL	A	SECTION,VARIATION INDEX	CHK'D:	F.GAROFALO	DATE:	09-JUL-80	TITLE	PARTS LIST		
			[A] 00,01					11/730	CONSOLE MODULE		
			[B]	DES.ENG:	D.LANDRY	DATE:	09-JUL-80	DOCUMENT NUMBER			
			[C]	RESP.ENG.:	D.LANDRY	DATE:	18-SEP-80	SIZE	CODE	NUMBER	REV
			[D]					K	PL	5414438-0-DBP	A
			[E]	MFG.ENG.:	J.CONSIDINE	DATE:	8-OCT-80	FILE NAME:			EDIT #
			[F]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		21273A,PLS		32	
			[G]	ID-UA-5414438-0-0							
			[H]								
			[I]								
			[J]								
			[K]								
			[L]								
			[M]								
			[N]								

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1-0-86hhhs SCD

LEGEND

J1	J2	W1	W2	W3	W4	VARIATION	ASSEMBLY NUMBER
OUT	IN	OUT	OUT	IN	IN	11/730-AA	54-14438-00 SEE NOTE 1
IN	OUT	OUT	IN	OUT	IN	11/730-ZA	54-14438-01 SEE NOTE 1

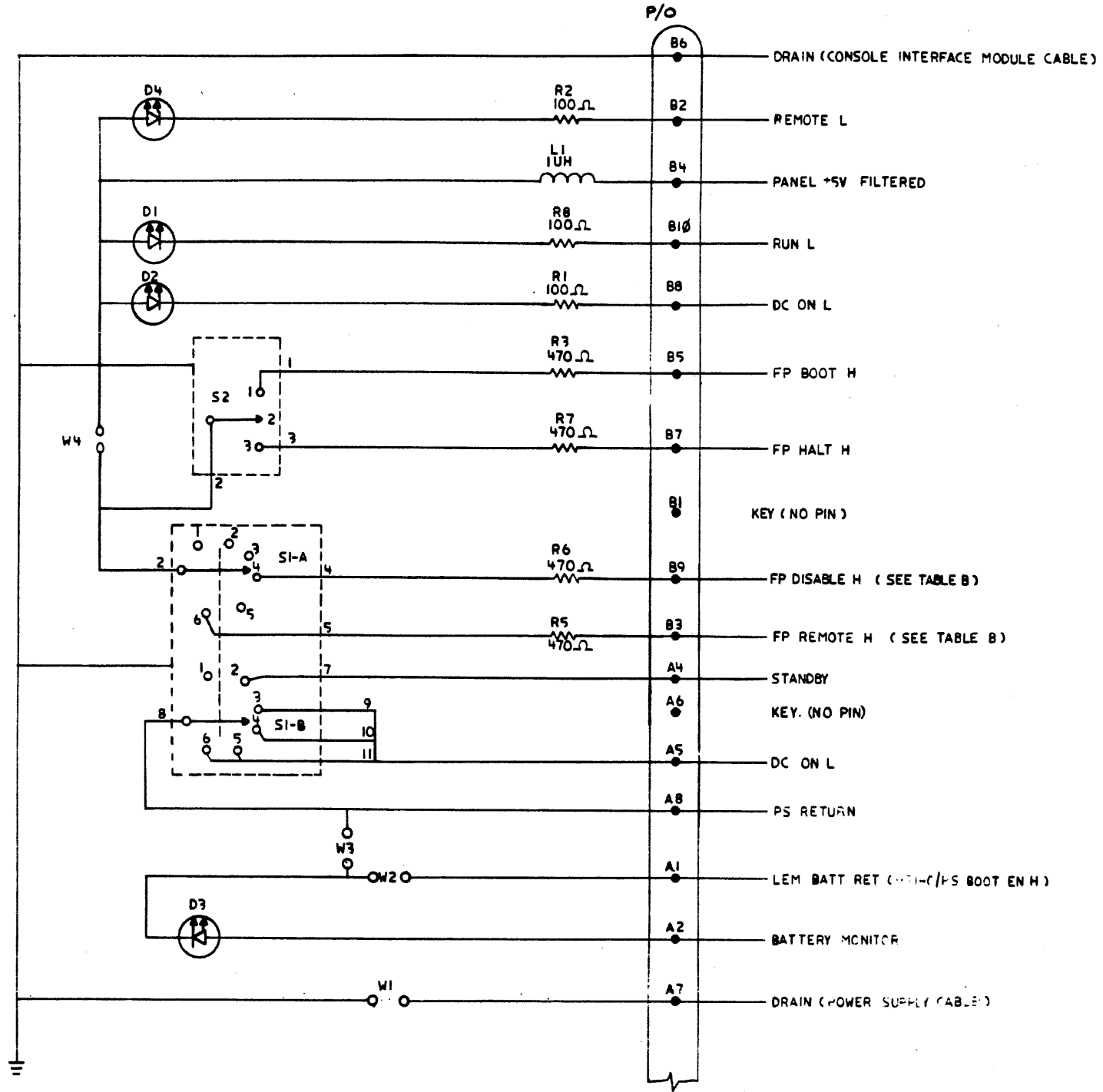
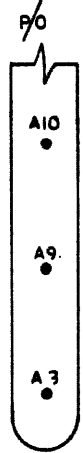
NOTE:
 1. FOR PICTORAL PINNING OF J1 AND J2 SEE D-UA-5414438-0-0.

TABLE A

POSITION	SWITCH 1A DESCRIPTION	SWITCH 1B DESCRIPTION
1	OFF	OFF
2	NONE	STANDBY
3	LOCAL	DC ON
4	LOCAL DISABLE	DC ON
5	REMOTE DISABLE	DC ON
6	REMOTE	DC ON

TABLE B

DISABLE	REMOTE	SWITCH 1A POSITION
0	0	1
0	0	2
0	0	3
1	0	4
1	1	5
0	1	6



DATE	DESIGNED BY	DATE	DESIGNED BY	TITLE
	<i>F. ...</i>	6-18-80		digital
	<i>F. ...</i>	8-29-80		CONSOLE MODULE
	<i>D.M. ...</i>	10-8-80		
	<i>D.M. ...</i>	12-9-80		
	<i>...</i>	...		
DOCUMENT NUMBER				
D CS 5414438-0-1 A				
D-UA-5414438-0-0				

DCS 5414438-0-1 A

TW

8

DEC 5014437-0-0 A

6

5

4

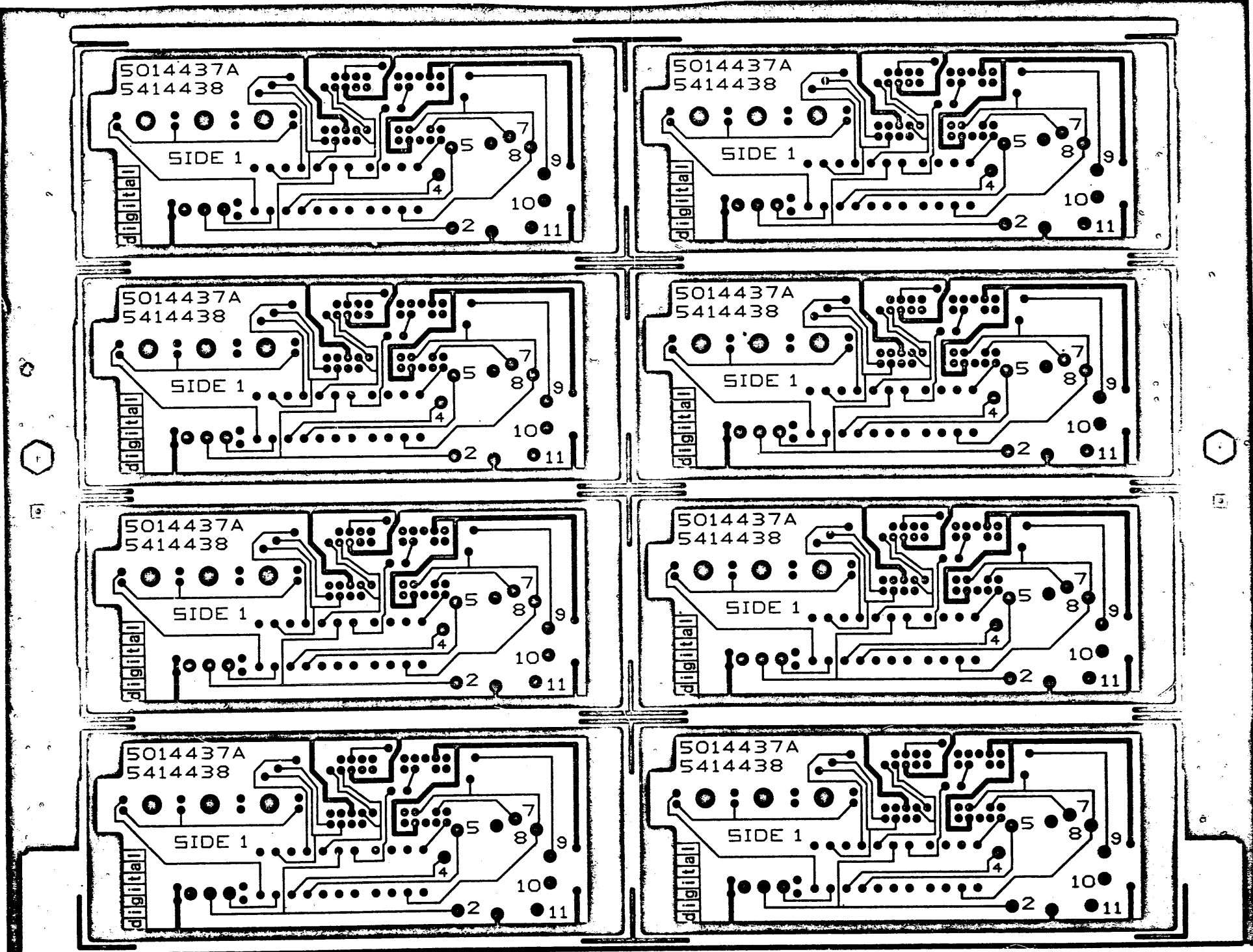
3

2

1

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D

C

B

A

D

C

B

A

DEC 5014437-0-0 A

DATE	ECO NUMBER	REV

DESIGNED BY <i>J. Casey</i>	DATE 8-27-80	TITLE digital
CHECKED BY <i>J. Casey</i>	DATE 8-27-80	ETCH CUT DRAWING
DESIGNED BY <i>M. Harding</i>	DATE 10-8-80	
CHECKED BY <i>M. Harding</i>	DATE 10-8-80	
DESIGNED BY <i>[Signature]</i>	DATE 10-9-80	
DOCUMENT NUMBER DEC 5014437-0-0 A		SCALE 2-1

8

7

6

5

4

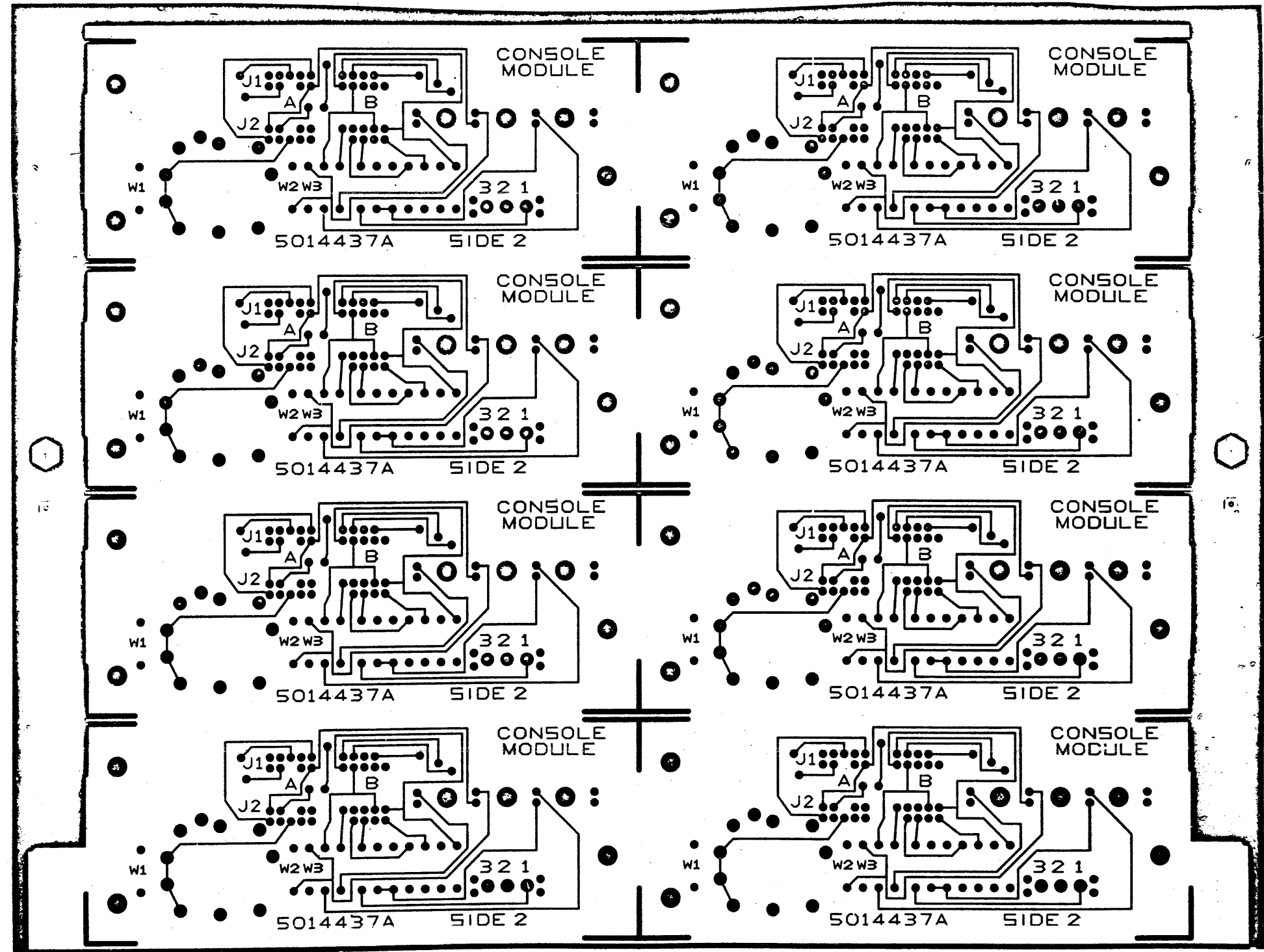
3

2

1

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1980



REVISION HISTORY		
DATE	ECO NUMBER	REV

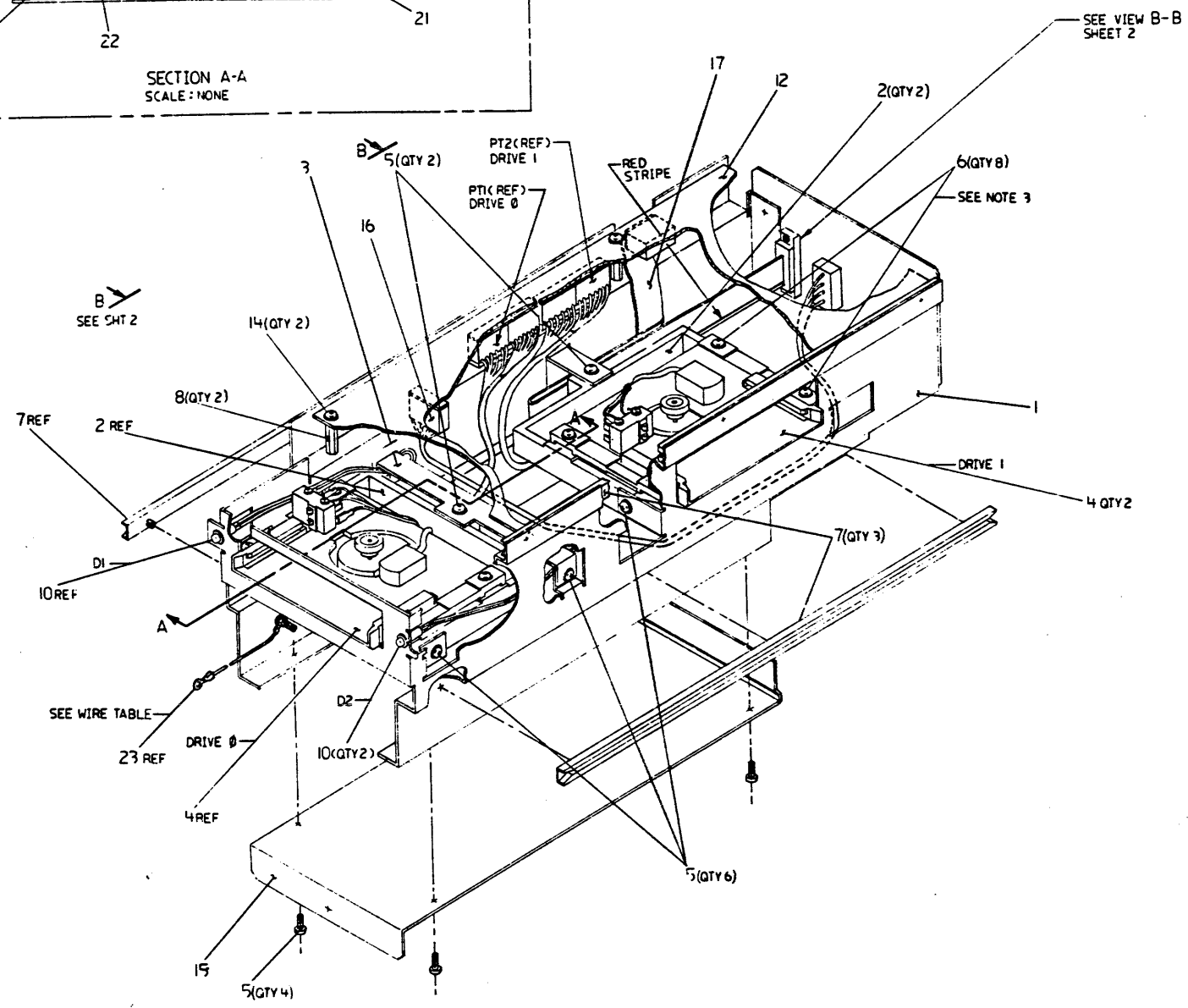
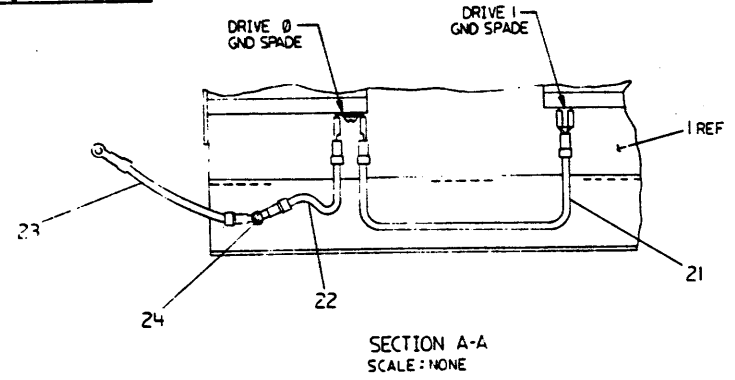
TITLE
ETCH CUT DRAWING

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV
DEC	5014437-0-0	A
SCALE	2-1	SHEET 2 OF 2

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ITEM NO.	DESCRIPTION	FROM		TO		REMARKS
		CONN	ITEM	CONN	ITEM	
10	BRN LEAD	D1	PT1-6-BRN	4	DRIVE 0	
	BLK LEAD	D1	C1 P2	4	DRIVE 0	
10	BRN LEAD	D2	PT2-6-BRN	4	DRIVE 1	
	BLK LEAD	D2	C2 P2	4	DRIVE 1	
21	JUMPER DR/DR	DRIVE 0 SPADE GND	DRIVE 1 SPADE GND			
22	JUMPER DR/GND	DRIVE 0 SPADE GND	UNIT GND STUD		ITEM 24 QTY 1,	
23	JUMPER GND/GND	(FLOATING)	UNIT GND STUD		TO CONN BOTH	

- NOTES:
- BROWN WIRE (PT1-6, DRIVE 0) & (PT2-6, DRIVE 1) MUST BE DISCONNECTED FROM C1-P2 & C2-P2 RESPECTIVELY BEFORE WIRING ITEM.
 - DRIVE ASSEMBLY SEQUENCE:
 - INSTALL ITEM 2 (DRIVE 1) WITH ITEMS 13 & 5.
 - INSTALL ITEM 3 WITH ITEM 5.
 - INSTALL ITEM 2 (DRIVE 2) WITH ITEMS 13 & 5.
 - INSTALL DRIVE UNITS (ITEMS 4) USING ITEM 6 AND TORQUE PER NOTE 3.
 - DRIVE 0 MUST BE ALIGNED IN THE CENTER OF ITS SLOT.
 - TORQUE VALUES ON DRIVES TO BE 6.0±1.0/LBS ON ITEM 6.



NOTE: FOR PARTS LIST REFER TO K-PL-70814-0-DBP.

QUANTITY & VARIATION	DESCRIPTION	DRAWING NO.	PART NO.	ITEM
1	TU58 DUAL DRIVE ASSY	E-UA-11730-Z-0	AD 70814-0-0	A

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 115):

DIMENSIONAL FINISH IN INCHES	DIMENSIONAL FINISH IN INCHES			
	FRAMES	DRIVE UNITS	DRIVE UNITS	DRIVE UNITS
0.0005	±0.0005	±0.0005	±0.0005	±0.0005
0.001	±0.001	±0.001	±0.001	±0.001
0.002	±0.002	±0.002	±0.002	±0.002
0.005	±0.005	±0.005	±0.005	±0.005
0.010	±0.010	±0.010	±0.010	±0.010
0.020	±0.020	±0.020	±0.020	±0.020
0.050	±0.050	±0.050	±0.050	±0.050
0.100	±0.100	±0.100	±0.100	±0.100
0.200	±0.200	±0.200	±0.200	±0.200
0.500	±0.500	±0.500	±0.500	±0.500
1.000	±0.005	±0.005	±0.005	±0.005
1.500	±0.010	±0.010	±0.010	±0.010
2.000	±0.015	±0.015	±0.015	±0.015
3.000	±0.020	±0.020	±0.020	±0.020
4.000	±0.025	±0.025	±0.025	±0.025
5.000	±0.030	±0.030	±0.030	±0.030
6.000	±0.035	±0.035	±0.035	±0.035
7.000	±0.040	±0.040	±0.040	±0.040
8.000	±0.045	±0.045	±0.045	±0.045
9.000	±0.050	±0.050	±0.050	±0.050
10.000	±0.055	±0.055	±0.055	±0.055
11.000	±0.060	±0.060	±0.060	±0.060
12.000	±0.065	±0.065	±0.065	±0.065
13.000	±0.070	±0.070	±0.070	±0.070
14.000	±0.075	±0.075	±0.075	±0.075
15.000	±0.080	±0.080	±0.080	±0.080
16.000	±0.085	±0.085	±0.085	±0.085
17.000	±0.090	±0.090	±0.090	±0.090
18.000	±0.095	±0.095	±0.095	±0.095
19.000	±0.100	±0.100	±0.100	±0.100
20.000	±0.105	±0.105	±0.105	±0.105
21.000	±0.110	±0.110	±0.110	±0.110
22.000	±0.115	±0.115	±0.115	±0.115
23.000	±0.120	±0.120	±0.120	±0.120
24.000	±0.125	±0.125	±0.125	±0.125
25.000	±0.130	±0.130	±0.130	±0.130
26.000	±0.135	±0.135	±0.135	±0.135
27.000	±0.140	±0.140	±0.140	±0.140
28.000	±0.145	±0.145	±0.145	±0.145
29.000	±0.150	±0.150	±0.150	±0.150
30.000	±0.155	±0.155	±0.155	±0.155
31.000	±0.160	±0.160	±0.160	±0.160
32.000	±0.165	±0.165	±0.165	±0.165
33.000	±0.170	±0.170	±0.170	±0.170
34.000	±0.175	±0.175	±0.175	±0.175
35.000	±0.180	±0.180	±0.180	±0.180
36.000	±0.185	±0.185	±0.185	±0.185
37.000	±0.190	±0.190	±0.190	±0.190
38.000	±0.195	±0.195	±0.195	±0.195
39.000	±0.200	±0.200	±0.200	±0.200
40.000	±0.205	±0.205	±0.205	±0.205
41.000	±0.210	±0.210	±0.210	±0.210
42.000	±0.215	±0.215	±0.215	±0.215
43.000	±0.220	±0.220	±0.220	±0.220
44.000	±0.225	±0.225	±0.225	±0.225
45.000	±0.230	±0.230	±0.230	±0.230
46.000	±0.235	±0.235	±0.235	±0.235
47.000	±0.240	±0.240	±0.240	±0.240
48.000	±0.245	±0.245	±0.245	±0.245
49.000	±0.250	±0.250	±0.250	±0.250
50.000	±0.255	±0.255	±0.255	±0.255
51.000	±0.260	±0.260	±0.260	±0.260
52.000	±0.265	±0.265	±0.265	±0.265
53.000	±0.270	±0.270	±0.270	±0.270
54.000	±0.275	±0.275	±0.275	±0.275
55.000	±0.280	±0.280	±0.280	±0.280
56.000	±0.285	±0.285	±0.285	±0.285
57.000	±0.290	±0.290	±0.290	±0.290
58.000	±0.295	±0.295	±0.295	±0.295
59.000	±0.300	±0.300	±0.300	±0.300
60.000	±0.305	±0.305	±0.305	±0.305
61.000	±0.310	±0.310	±0.310	±0.310
62.000	±0.315	±0.315	±0.315	±0.315
63.000	±0.320	±0.320	±0.320	±0.320
64.000	±0.325	±0.325	±0.325	±0.325
65.000	±0.330	±0.330	±0.330	±0.330
66.000	±0.335	±0.335	±0.335	±0.335
67.000	±0.340	±0.340	±0.340	±0.340
68.000	±0.345	±0.345	±0.345	±0.345
69.000	±0.350	±0.350	±0.350	±0.350
70.000	±0.355	±0.355	±0.355	±0.355
71.000	±0.360	±0.360	±0.360	±0.360
72.000	±0.365	±0.365	±0.365	±0.365
73.000	±0.370	±0.370	±0.370	±0.370
74.000	±0.375	±0.375	±0.375	±0.375
75.000	±0.380	±0.380	±0.380	±0.380
76.000	±0.385	±0.385	±0.385	±0.385
77.000	±0.390	±0.390	±0.390	±0.390
78.000	±0.395	±0.395	±0.395	±0.395
79.000	±0.400	±0.400	±0.400	±0.400
80.000	±0.405	±0.405	±0.405	±0.405
81.000	±0.410	±0.410	±0.410	±0.410
82.000	±0.415	±0.415	±0.415	±0.415
83.000	±0.420	±0.420	±0.420	±0.420
84.000	±0.425	±0.425	±0.425	±0.425
85.000	±0.430	±0.430	±0.430	±0.430
86.000	±0.435	±0.435	±0.435	±0.435
87.000	±0.440	±0.440	±0.440	±0.440
88.000	±0.445	±0.445	±0.445	±0.445
89.000	±0.450	±0.450	±0.450	±0.450
90.000	±0.455	±0.455	±0.455	±0.455
91.000	±0.460	±0.460	±0.460	±0.460
92.000	±0.465	±0.465	±0.465	±0.465
93.000	±0.470	±0.470	±0.470	±0.470
94.000	±0.475	±0.475	±0.475	±0.475
95.000	±0.480	±0.480	±0.480	±0.480
96.000	±0.485	±0.485	±0.485	±0.485
97.000	±0.490	±0.490	±0.490	±0.490
98.000	±0.495	±0.495	±0.495	±0.495
99.000	±0.500	±0.500	±0.500	±0.500
100.000	±0.505	±0.505	±0.505	±0.505

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWINGS

REMOVE BURRS AND BREAK SHARP CORNERS

SEE PARTS LIST

DATE: 7/10/51

BY: [Signature]

CHKD: [Signature]

APP'D: [Signature]

REVISIONS:

NO.	DESCRIPTION	DATE
1	AS SHOWN	7/10/51

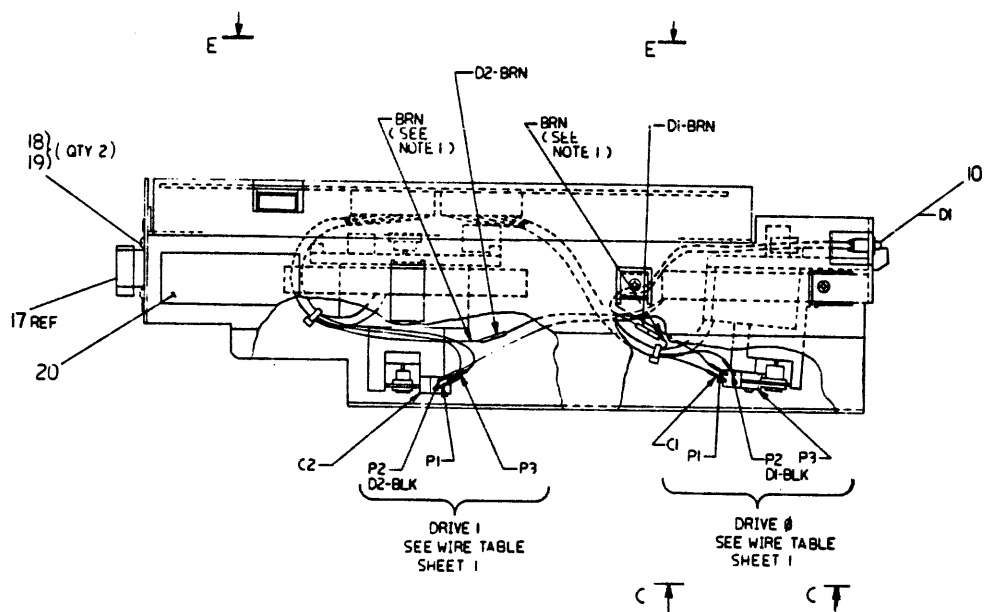
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CLASSIFICATION: A

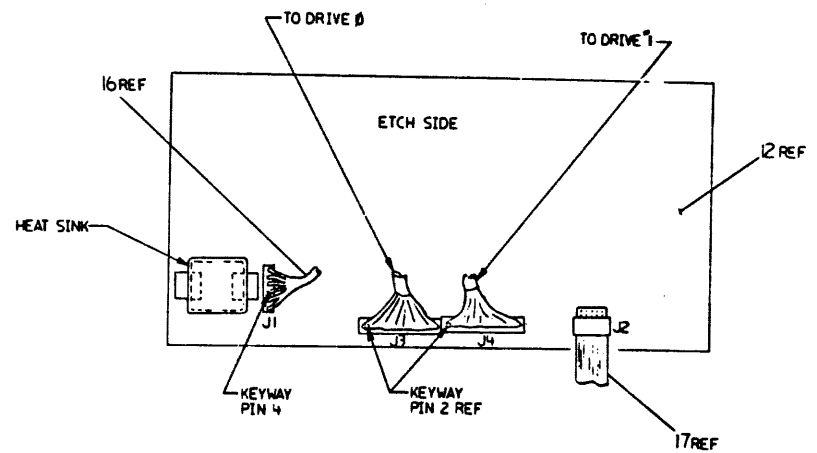
FORM NO. 1

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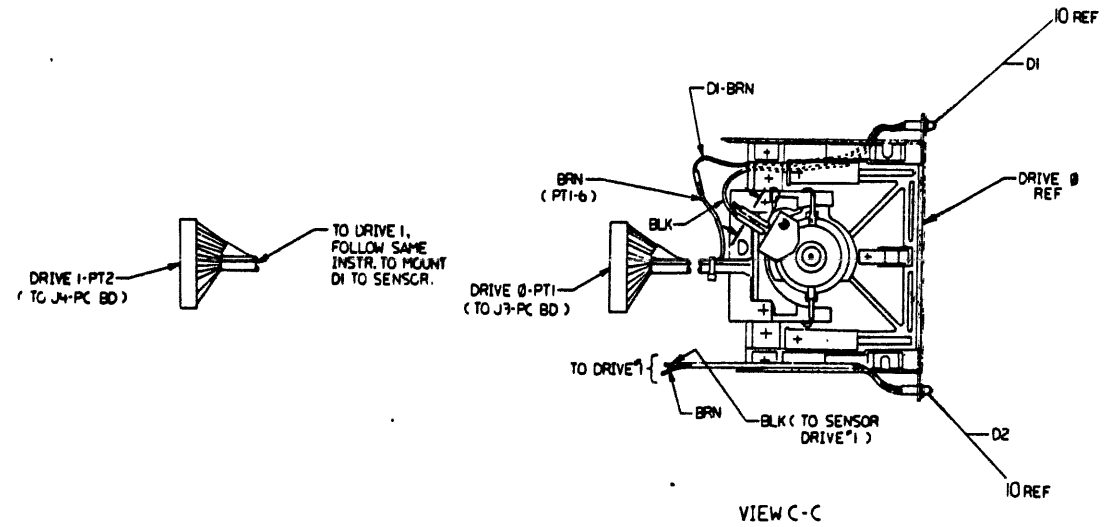
U.S. GOVERNMENT DRAWING



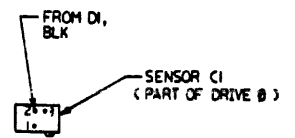
VIEW B-B
SCALE: NONE



VIEW E-E
SCALE: NONE
(ROTATED 180°)



VIEW C-C



VIEW D-D
SCALE: NONE
(WIRES REMOVED)

DATE	REV	DESCRIPTION

U.S. GOVERNMENT DRAWING
7018114-0-0
TUSB DUAL DRIVE ASSY

DATE	REV	DESCRIPTION

1 TW

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

QUANTITY PER VARIATION
00

SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1		C-IA-7018164-0-0	7018164-00	TU ENCLOSURE RIVETED ASSY	1
2		D-IA-7423933-0-0	7423933-00	TU58 PLATFORM	1
3		B-MD-7424846-0-0	7424846-00	BRACE, CENTER, TU	1
4		D-AD-7015510-0-0	7015510-00	CARTRIDGE DRIVE	1
5			9009701-00	SCREW, PAN, PHIL, SEMS 6-32X .312L	1
6			9009984-02	SCREW, SEMS, PHILLIPS PAN HD. 6-	1
7			9010107-00	GUIDE, CARD 11" LG.	1
8			9009284-00	STANDOFF, HEX, M/F 4-40	1
9				*** THIS ITEM IS NOT USED ***	1
10		BLANK		LED 15.0MCD320MA 3.0V	1
11		A-PS-1118799-0-0	1118799-00	*** THIS ITEM IS NOT USED ***	1
12		BLANK		TU58 ELECTRONICS SERIAL	1
13		E-UA-5413489-0-0	5413489-00	*** THIS ITEM IS NOT USED ***	1
14		BLANK		SCREW, PAN, SLOT, SEMS 4-40X .250L	1
15			9009643-02	PLATE, BOTTOM, TU	1
16		D-MD-7424848-0-0	7424848-00	TU BULKHEAD PWR CABLE	1
17		D-IA-7018166-0-0	7018166-1B	CABLE, SERIAL TU58	1
18		C-IA-7016305-0-0	7016305-0K	SCREW, PAN, PHIL 4-40K 1/2 SS	1
19			9006013-01	NUT, KEP 4-40 X 1/4 AF	1
20			9009990-00	LABEL, POWER, SUPPLY, 2-7/8" LG X	1
21			9009255-01	JUMPER, DRIVE/DRIVE	1
22		B-IA-7018521-0-0	7018521-00	JUMPER, DRIVE/GND	1
23		B-IA-7018522-0-0	7018522-00	JUMPER, GND/GND	1
24		B-IA-7018523-0-0	7018523-00	NUT, KEP 6-32X 1/4 AF	1
			9008185-00		1

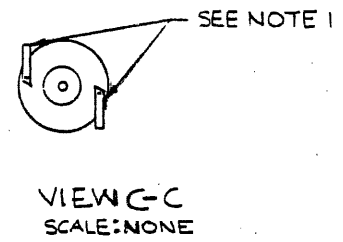
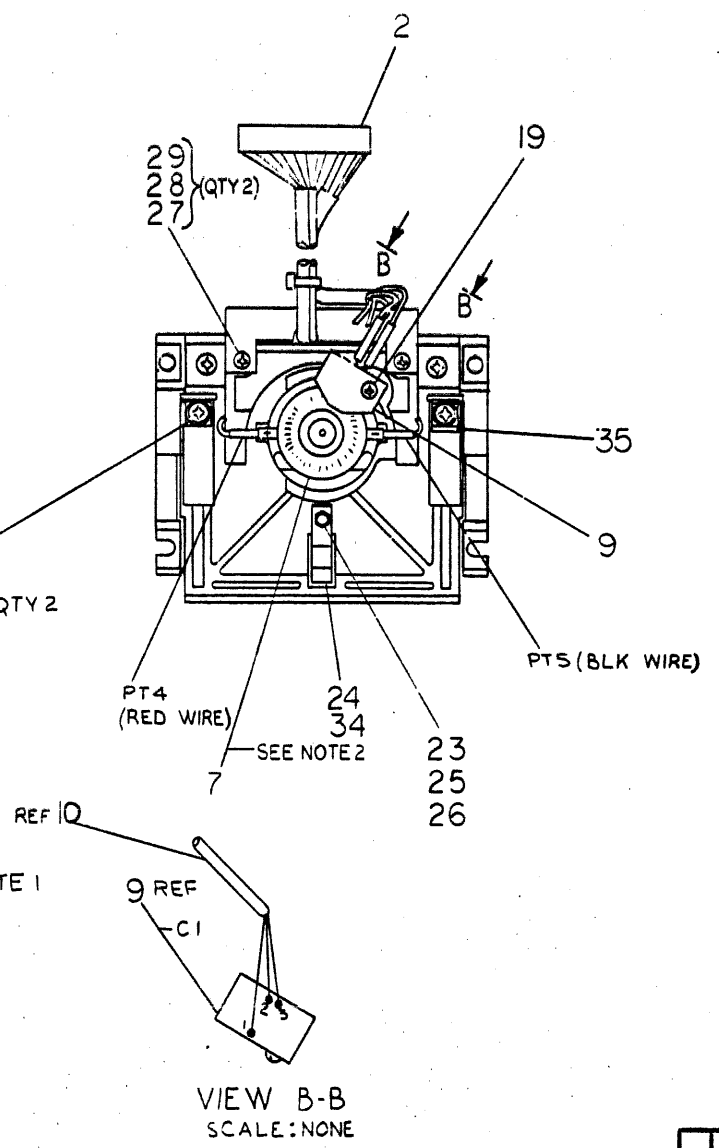
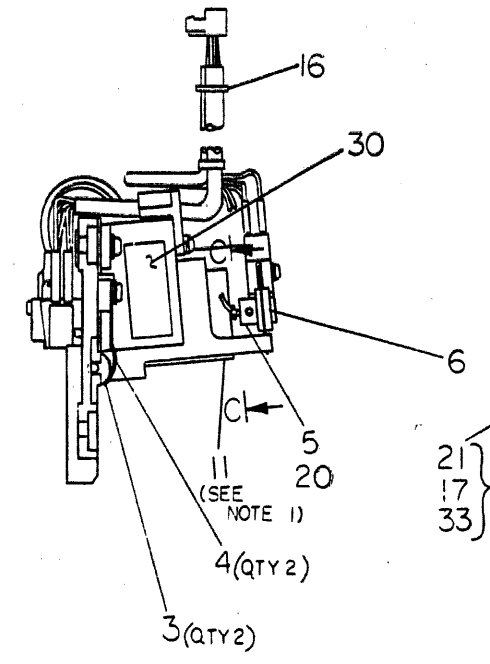
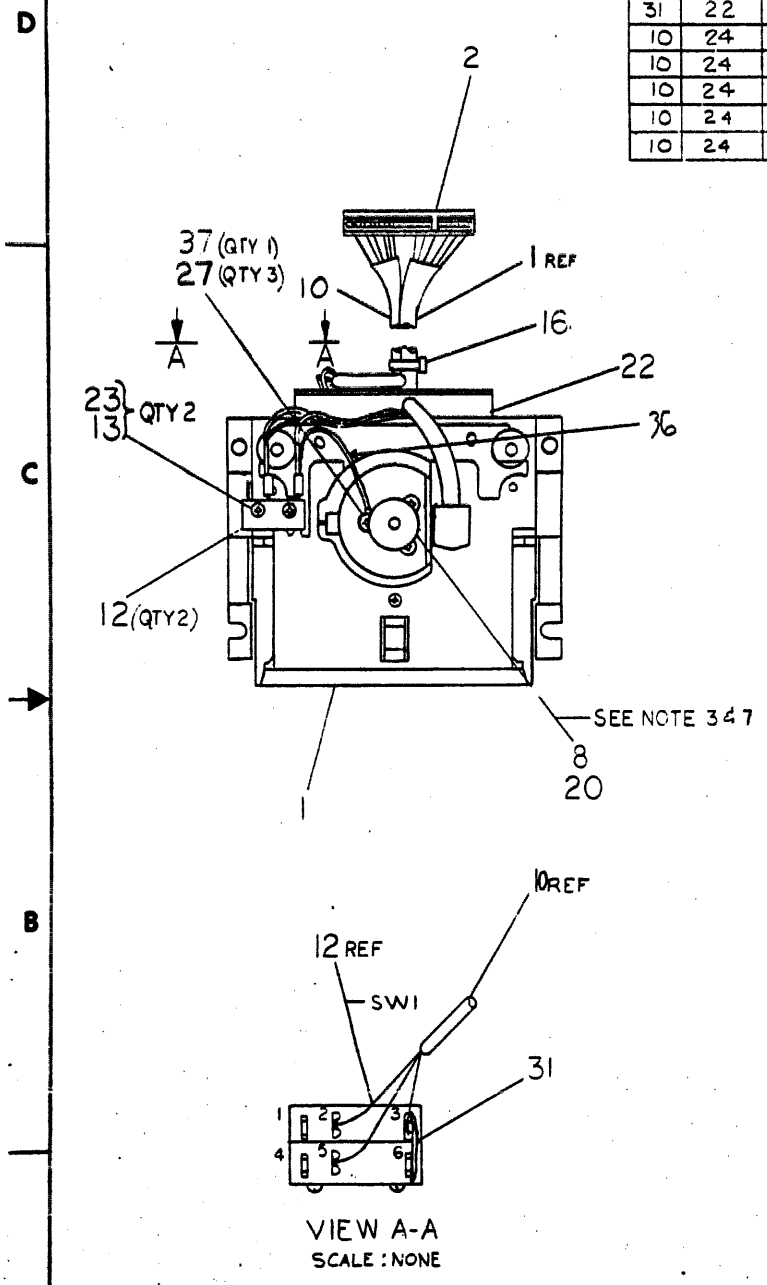
REVISION HISTORY		BASIC PART NO: 7018114		DRN: A. ROCHA	DATE: 23-JUL-81	D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: R. MORIN	DATE: 23-JUL-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX			TU58 DUAL DRIVE ASSY	
			(A) 00	DES. ENG.: R. MORIN	DATE: 23-JUL-81	DOCUMENT NUMBER	
			(B)	RESP. ENG.: R. MORIN	DATE: 23-JUL-81	SIZE	CODE
			(C)	MFG. ENG.: S. CASTIGLIONE	DATE: 23-JUL-81	K	PL
			(D)	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	7018114-0-DBP	A
			(E)	E-AD-7018114-0-0	E-UA-11730-Z-0	FILE NAME:	EDIT #
			(F)			21352A.PLS	20
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WIRE TABLE							
ITEM NO	AWG	COLOR	FROM		TO		REMARKS
			CONN	WITH	CONN	WITH	
10	24	VEL	PT-2	---	SWI-5	---	
10	24	GRY	PT-1	---	SWI-2	---	
10	24	VIO	PT-3	---	SWI-3	---	
31	22	---	SW-6	SOLD	SWI-3	SOLD	BUS WIRE
10	24	GRN	PT-6	---	C1-3	---	
10	24	BRN	PT-8	---	C1-2	---	
10	24	BLU	PT-7	---	C1-1	---	
10	24	BLK	PT-5	---	MOTOR-	---	TWISTED PAIR
10	24	RED	PT-4	---	MOTOR+	---	

- 8. ASSEMBLE ITEM#5,6 & 9 USING 5 ± .5 IN LBS TORQUE.
- 9. CARTRIDGE WITHDRAWAL FORCE SHALL BE A MAXIMUM OF 4.8 LBS. AND WHEN AN EXCESS FORCE OF 1LB. IS APPLIED TO THE DRIVE ROLLER (OUTWARD) AND IS REMOVED THE CARTRIDGE SHALL STILL BE AGAINST THE DRIVE REFERENCE STOPS.
- 10. HEAD SKEW TO BE WITHIN 6' ± 0.6' AFTER FINAL ASSY.

- NOTES:
- 1. MOTOR TO BE ROTATED TO PROVIDE EASIEST ACCESS TO TERMINALS PT4, PT5. MOTOR LEADS MAY BE BENT AS SHOWN IF NECESSARY TO CLEAR MOTOR MOUNT.
 - 2. CODE WHEEL ITEM #7 MUST ROTATE FREELY WITHOUT RUBBING IN SLOT IN OPTICAL SENSOR ITEM #9. TIGHTEN ITEM #20 TO 3.5 ± .5 IN LBS. SET DRIVE ROLLER, ITEM #8, TO BE FLUSH WITH END OF MOTOR SHAFT ITEM #11. TIGHTEN ITEM #20 TO 3.5 ± .5 IN LBS.
 - 4. TIGHTEN ITEMS 13 & 25 TO 2.0 ± .5 IN LBS.
 - 5. TIGHTEN ITEMS 15, 19 & 27 TO 3.5 ± .5 IN LBS.
 - 6. TIGHTEN ITEM 21 TO 5 ± .5 IN LBS.
 - 7. WHEN CARTRIDGE IS INSERTED INTO DRIVE THE FORCE ON THE DRIVE ROLLER (ITEM #8) IS TO BE 1LB ± .1".



CAUTION: OFF SHEET PARTS LIST K-PL-7015510-0-DBP

REV.	DESCRIPTION	DATE	BY	CHKD
1	7015510-ML000A	1/15/78	D. WARREN	D. WARREN
2	7015510-ML000B	2/24/78	D. WARREN	D. WARREN
3	7015510-ML000C	3/2/78	D. WARREN	D. WARREN
4	7015510-ML000D	3/2/78	D. WARREN	D. WARREN
5	7015510-ML000E	3/2/78	D. WARREN	D. WARREN
6	7015510-ML000F	3/2/78	D. WARREN	D. WARREN

DESCRIPTION		DWG. PART NO.		ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				
ANGLES 90° ± .005	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES		
SURFACE QUALITY	CHECK ONE	OVER 0 TO 1.25	OVER 1.25 TO 4.0	OVER 4.0 TO 12.0
		OVER 12.0 TO 30.0	OVER 30.0 TO 60.0	OVER 60.0 TO 120.0
QUALITY IN	MEDIUM	1.004	1.002	1.001
MICROINCHES	PREFERRED	0.012	0.010	0.008
THIRD ANGLE PROJECTION	DRN	1:1	FIRST USED ON	TU58-XA
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D	5 DFC 75	digital	
DO NOT SCALE DWG	ENG	12/20/78	TITLE	
MATERIAL SEE PARTS LIST	PROL ENG	1/28/78	CARTRIDGE DRIVE	
FINISH	PROD	1/28/78	SIZE	CODE
	NEXT HIGHER ASSY.		NUMBER	REV.
			D AD	7015510-0-0
			SHEET	OF
			DIST.	

7015510-0-0 DBP

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	1	D-IA-7016558-0-0	7016558-00	HEAD MOUNTING ASSY	1
2	2		1216144-00	COVER, CONN FOR 12-15815-	1
3	3	C-MD-7420645-0-0	7420645-01	LOCK, ROLLER	1
4	4	C-MD-7423353-0-0	7423353-00	SPRING, BEVELED	1
5	5	C-MD-7420651-0-0	7420651-00	HUB, ENCODER	1
6	6	B-MD-7420652-0-0	7420652-00	CLAMP	1
7	7	C-MD-7420649-0-0	7420649-00	WHEEL CODE	1
8	8		1216231-00	ROLLER ASSEMBLY, DRIVE	1
9	9		1915721-00	PHOTO SWITCH W/LED &	1
10	10	D-IA-7016017-0-0	7016017-00	CABLE, TAPE DRIVE	1
11	11		1215602-00	MOTOR, 12VDC SERVO	1
12	12		1209782-00	SW, MICRO 1P .1A 2125V, AG "CROSS	1
13	13		9008025-01	SCREW, PAN, PHIL 2-56X 5/8 SS	1
14	14		9006009-02	*** THIS ITEM IS NOT USED ***	1
15	15		9008301-01	SCREW, PAN, PHIL 4-40X 1/4 SS	1
16	16		9007031-00	TIE, CABLE BUNDL. DIA 0- 3/4"=101	1
17	17		9007801-00	WASHER, LOCK, S.S. #6	1
18	18	B-MD-7422968-0-0		*** THIS ITEM IS NOT USED ***	1
19	19		9006013-01	SCREW, PAN, PHIL 4-40X 1/2 SS	1
20	20		9006278-10	SCREW, SET, SKT, 4-40X 1/8	1
21	21		9006021-01	SCREW, PAN, PHIL 6-32X 5/16 SS	1
22	22	C-MD-7421491-0-0	7421491-00	CLAMP, CABLE	1
23	23		9006631-00	WASHER, LOCK, INT, .1800D X .096ID	1
24	24	C-MD-7423355-0-0	7423355-00	SPRING STRAIGHT SUPPORT	1
25	25		9006001-02	SCREW, FLAT, PHIL, 2-56X 1/4	1
26	26		9006555-00	NUT, HEX 2-56X3/16AF X 1/4	1
27	27		9006010-01	SCREW, PAN, PHIL 4-40X 5/16 SS	1
28	28		9006655-00	WASHER, FLAT, .312 O.D. X .125 I	1
29	29		9006688-00	WASHER, LOCK, S.S. #4	1
30	30		3616582-00	LABEL, SERIAL TUS8-XA	1

REVISION HISTORY		BASIC PART NO: 7015510		DRN: D. WARREN	DATE: 24-APR-78	DIGITAL	
ENG:	ECO NUMBER	REV	SECTION A OF A	CHK'D: D. HEALY	DATE: 5-DEC-78	TITLE	PARTS LIST
D.W.	TJ58XA-ML003	C	SECTION. VARIATION INDEX:	DES. ENG.: M. LEIS	DATE: 5-DEC-78	CARTRIDGE DRIVE	
DW	7015510-ML002	D	(A) 00	RESP. ENG.: M. LEIS	DATE: 5-DEC-78	DOCUMENT NUMBER	
DW	TU58XA-ML004	E	(B)	MFG. ENG.: R. TAYLOR	DATE: 5-DEC-78	SIZE: CODE:	NUMBER
			(C)	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	K PL	7015510-0-DBP
			(D)				REV
			(E)				FILE NAME:
			(F)				Z1610E.PLS
							EDIT #
							13

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PARTS LIST

SHEET 02 OF 02

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
31	31		9107560-01	WIRE, BUSS, 22AWG	A/R
32	32		9006656-00	*** THIS ITEM IS NOT USED ***	1
33	33	C-MD-7423354-0-0	7423354-00	WASHER, LEAF SPRING	2
34	34	B-MD-7423356-0-0	7423356-00	BUTTON, SUPPORT	1
35	35		9007113-01	TERM QUICK .152DIA .350TAB BR/T	1

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CARTRIDGE DRIVE		K	PL	7015510-0-DBP	E

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																
				A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
B-DD-5413489-0	1		SERIAL TU58	*	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
E-UA-5413489-0-0	3		SERIAL TU58	C	D	D	E	F	F	H	J									
D-CS-5413489-0-1	2		SERIAL TU58	C	D	D	E	F	F	H	J									
E-MD-5013488-0-0	4		DRILL & ETCH DRAWING	C	D	D	D	D	D	E	E									
		5013488	ETCHED BOARD	D	E	E	E	E	E	F	F									
K-PL-5413489-0-DBP	-		PARTS LIST DATA BASE (5413489)	C	D	D	E	F	F	H	J									
K-PC-5413489-0-DBC	-		P.C. DESIGN DATA BASE (5413489)	A	B	B	B	B	B	C	C									
E-EC-5013488-0-0	2		ETCH CUT DRAWING	-	-	-	-	-	-	H	H									
E-UA-5413489-0-0	3		SERIAL TU58			C1	C1	C1	C1	C1	C1									
D-CS-5413489-0-1	2		SERIAL TU58			C1	C1	C1	C1	C1	C1									
K-PL-5413489-0-DBP			PARTS LIST DATA BASE			C1	C1	C1	C1	C1	C1									
		5013488	ETCH BOARD			D	D	D	D	D	D									
E-UA-5413489-0-0	3		SERIAL TU58							F1	F1	F1								
D-CS-5413489-0-1	2		SERIAL TU58							F1	F1	F1								
K-PL-5413489-0-DBP			PARTS LIST DATA BASE (5413489)							F1	F1	F1								
		5013488	ETCH BOARD							E	E	E								

NOTES: ~~SPECIAL REVISIONS: FOUND ON SHEET 2~~

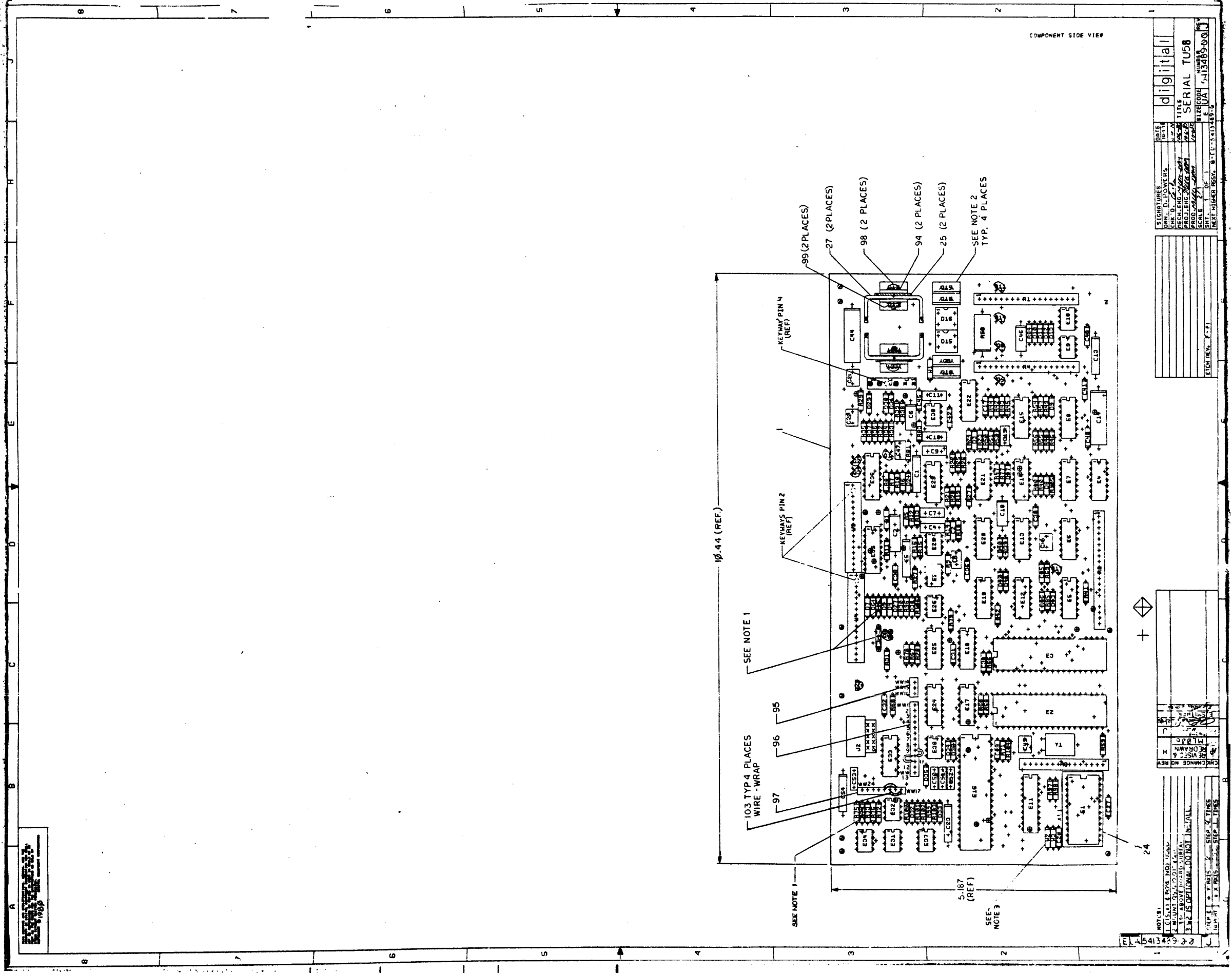
REVISIONS		DATE	CHG NO.	REV.	*	A	B	C	D	E	F	H
		8/1/78			*							
		1/2/78	ML001									
		1/79	ML002									
		6-79	ML003									
		11-79	ML004									
		7-80	ML005									
		7/80	ML006									
		2/82	ML007									

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USED ON OPTION/MODEL	DRN. P. BOSSMAN	6/14/78	TITLE	SERIAL TU58
TU58	CHK'D	2/7/79	SIZE	DD
	ENG. M. Feis	8/1/78	CODE	NUMBER
	PROD. Peter Barton	8-1-78	B DD	5413489-0
			SHEET 1 OF 1	REV. H

ML2



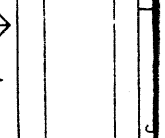
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONS IN PARENTHESES ARE OPTIONAL.
3. 24 IS OPTIONAL. DO NOT INCLUDE.

STEP 1 → 7 PADS → STEP 2 TIMES
STEP 1 → 2 PADS → STEP 3 TIMES

CHANGE NO REV

REV	DATE	BY	REASON
1			
2			
3			



SIGNATURES	DATE	BY	REASON
DRN. D. POWERS	10/24/67	DP	
DESIGN	10/24/67	DP	
PROJ. ENG.	10/24/67	DP	
SCALE	1:1		
REF. NUMBER	8-TU-313485-3		

TITLE	digital
SERIAL	TU58
DATE	10/24/67
BY	DP

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	1	5013488-00	TU58 ELECTRONIC SERIAL	1	
2	2	1215816-00	HEADER.100 15POS STRAIGHT	2	J3,J4
3	3	1000021-00	220.0 MMF 100V 5%200PPM MICA	1	C10
4	4	1000023-00	*** THIS ITEM IS NOT USED ***	-	
5	5	1010978-36	.1 MFD 50V 10% CER	3	C8,C16,C47
6	6	1000042-00	1000.0 MMF 100V 5%200PPM MICA	2	C9,C7
7	7	1001610-00	.01 MFD 50V +80-20% 25U CER	17	C2,C17,C27-C33,C35,C36,C38,C40, CONT C41,C42,C43,C45
8	8	1001776-00	1 MFD 35V 10% S.TANT	2	C6,C46
9	9	1002315-00	2000.0 MMF 500V 5%200PPM MICA	1	C12
10	10	1013466-21	3.3 MMF 50V+-,5PF CER	1	C4
11	11	1002431-00	2.2MFD 35V 10% S.TANT	2	C1,C3
12	12	1005306-00	6.8MFD 35V 10% S.TANT	4	C5,C13,C23,C54
13	13	1005334-00	*** THIS ITEM IS NOT USED ***	-	
14	14	1005820-00	22.0 MMF 100V 5%200PPM MICA	1	C11
15	15	1010978-40	.22 MFD 50V 10% CER	1	C19
16	16	1011895-00	.15 MFD 35V 10% S.TANT	1	C18
17	17	1012312-00	*** THIS ITEM IS NOT USED ***	-	
18	18	1100101-00	*** THIS ITEM IS NOT USED ***	-	
19	19	1102808-00	1N 752A VZ= 5.6 5% .40W	1	D27
20	20	1105275-00	D 672 TR= 15NS PIV= 60V SI	25	D1-D13,D31,D33-D43
21	21	1110324-00	LED 1MCD@10MA PIV=3	1	D28
22	22	1115369-00	VM 18 PIV=100 I=1A	2	D15,D16
23	23	1213506-04	HEADER 10POS RT ANGLE W/3 SI	1	J2
24	24	1212385-04	SOCKET 24PIN IC	1	XE1
25	25	1213071-06	INSULATOR,RUBBER SILICONE	2	
26	26	1213113-01	*** THIS ITEM IS NOT USED ***	-	
27	27	1213418-01	HEAT SINK,VERTICLE MNT,ALUMINUM	2	
28	28	1300247-00	120.0 .25 W 5.0 % CC	1	R75
29	29	1300274-00	*** THIS ITEM IS NOT USED ***	-	

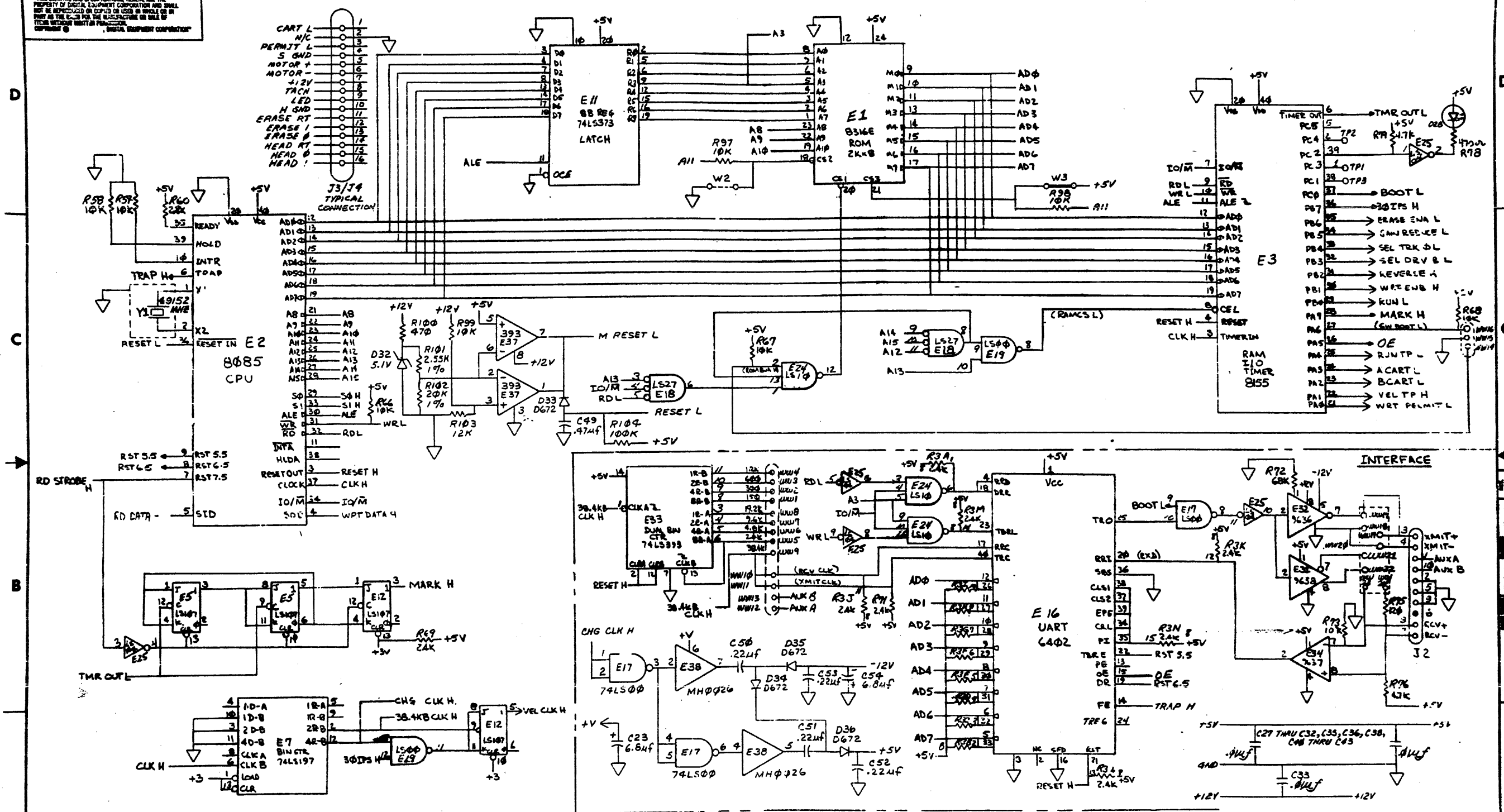
REVISION HISTORY			BASIC PART NO: 5413489			DRN: DAN MUTNANSKY DATE: 22-MAY-78			D I G I T A L		
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	P. BOSSMAN	DATE:	6-JUNE-78	TITLE	PARTS LIST		
	INIT	C	SECTION.VARIATION INDEX					SERIAL TU58			
PB	5413489-ML001	D	[A] 00								
M.L	5413489-ML003	E	[B]								
ML	5413489-ML004	F	[C]	DES.ENG:	MIKE LEIS	DATE:	22-MAY-78				
D.M	5413489-ML006	H	[D]					DOCUMENT NUMBER			
			[E]								
			[F]	RESP.ENG.:	M. LEIS	DATE:	6-JUNE-78	SIZE!CODE! NUMBER	REV		
			[H]								
			[J]								
			[K]	MFG.ENG.:	P. BARTON	DATE:	6-JUNE-78	K ! PL ! 5413489-0-DBP	H		
			[L]								
			[M]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #		
			[N]	E-UA-5413489-0-0		TU58		Z0582H.PLS	38		

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR	
76	76	1914451-00	74LS393 COUNTER,BINARY,4BIT	1	E33	
77	77	1914466-00	3130E OP AMP MOS/FET IN,CM	1	E28	
78	78	1915219-00	LS373 FF-D OCTAL-TRANSPARE	1	E11	
79	79	1915415-00	9636 DRIVER,DUAL,EIA RS-	1	E32	
80	80	1915416-00	9637 RECEIVER,DUAL,RS-42	1	E34	
81	81	1915417-00	9638 DRIVER,DUAL,EIA RS-	1	E31	
82	82	2113605-00	4006B SHIFT REG,18 STAGE	1	E14	
83	83	2113609-00	4013B FF-D DUAL W/SET/RESE	1	E4	
84	84	2113630-00	4052B MULTIPLEXER 4CHAN DI	1	E35	
85	85	2113632-00	4063B BILATERAL SWITCH-QUA	1	E22	
86	86	2113634-00	4070B X-OR GATE-QUAD CMOS	1	E21	
87	87	2113937-00	UART 125K BUAD	1	F16	
88	88	2114663-00	MM 80C95 BUFFER-GATE-HEX TRIS	1	E36	
89	89	2114963-00	UP,8-BIT NMOS	1	E2	
90	90	2114964-00	RAM 2048 MOSJ-STATIC	1	E3	
91	91	23089E2-00	E2-01	1	E1	
92	92	1212619-07	HEADER.156 6POS STRAIGHT	1	J1	
93	93	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	2	W1,W3	
94	94	USED FOR Q7 & Q12	9010057-00	WASHER, INSULATING SHOULDER FOR	2	
95	95	1215816-01	HEADER.100 3POS STRAIGHT	1		
96	96	1215816-02	HEADER.100 13POS STRAIGHT	1		
97	97	1215816-03	HEADER.100 8POS STRAIGHT	1		
98	98	9006011-01	SCREW,PAN,PHIL 4-40X 3/8 SS	2		
99	99	9006557-00	NUT,KEP , 4-40X 1/4 AF	2		
100	100	1100124-00	1N 750A VZ= 4.7 5% .40W P	2	D29,D30	
101	101	1301890-00	560.0 .25 W 5.0 % CC	2	R32,R35	
102	102	1313840-00	4.53 K .25 W 1.0 % RN55D-F10	1	R48	
103	103	9105740-55	WIRE(WRAP)30AWG UL1423	A/R		
104	104	1012084-03	150 MFD 15V +75-10% AL EL	2	C44,C14	
105	105	9107256-11	*** THIS ITEM IS NOT USED ***	-		
106	106	1910741-01	7406N BUFFER,HEX	1	E20	
107	107	5414232-00	*** THIS ITEM IS NOT USED ***	-		
108	108	1310633-00	2.55 K .25 W 1.0 % RN55D-F10	1	R101	
109	109	1300488-00	12.0 K .25 W 5.0 % CC	1	R103	
110	110	1302466-00	100.0 K .25 W 5.0 % CC	1	R104	
111	111	1105871-00	1/4MS.1AZ1 = 5.1 1% .25W N	1	D32	
112	112	1914156-00	LM 393 VOLT.COMPARATOR DUAL	1	E37	
113	113	1912098-00	0026 DRIVER,MOS CLOCK,2	1	E38	
114	114	1010274-01	.22 MFD 50V +80-20% Z5U CER	4	C50-C53	
115	115	1010279-00	.47 MFD 25V 20% CER	3	C20,C21,C49	

D	I	G	I	T	A	L	TITLE	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							SERIAL TU58			K	PL	5413489-0-DBP	H

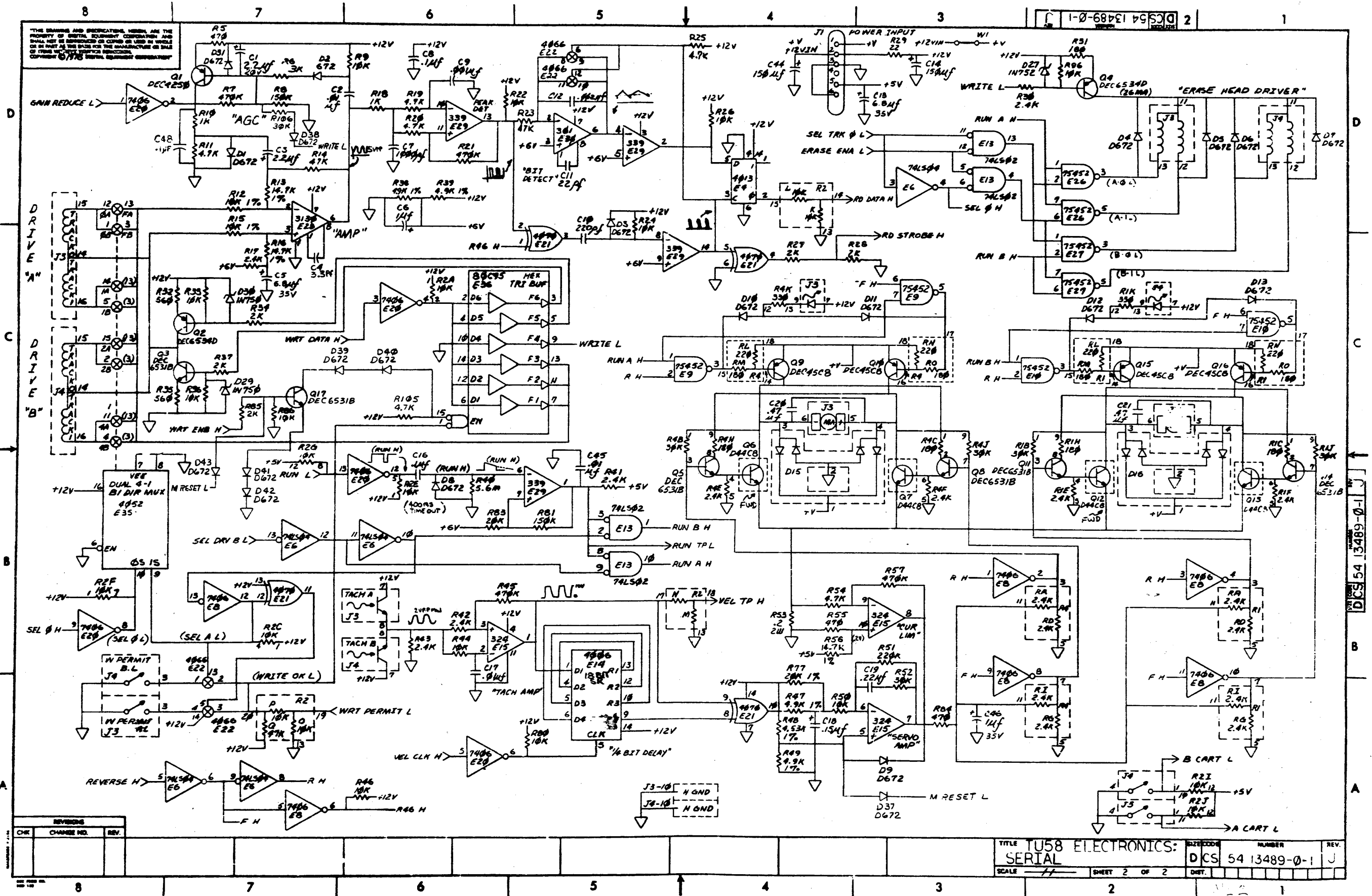
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REV	DATE	BY	CHKD
1	10/1/78	M. LEIS	M. LEIS
2	10/1/78	M. LEIS	M. LEIS
3	10/1/78	M. LEIS	M. LEIS
4	10/1/78	M. LEIS	M. LEIS
5	10/1/78	M. LEIS	M. LEIS
6	10/1/78	M. LEIS	M. LEIS
7	10/1/78	M. LEIS	M. LEIS
8	10/1/78	M. LEIS	M. LEIS

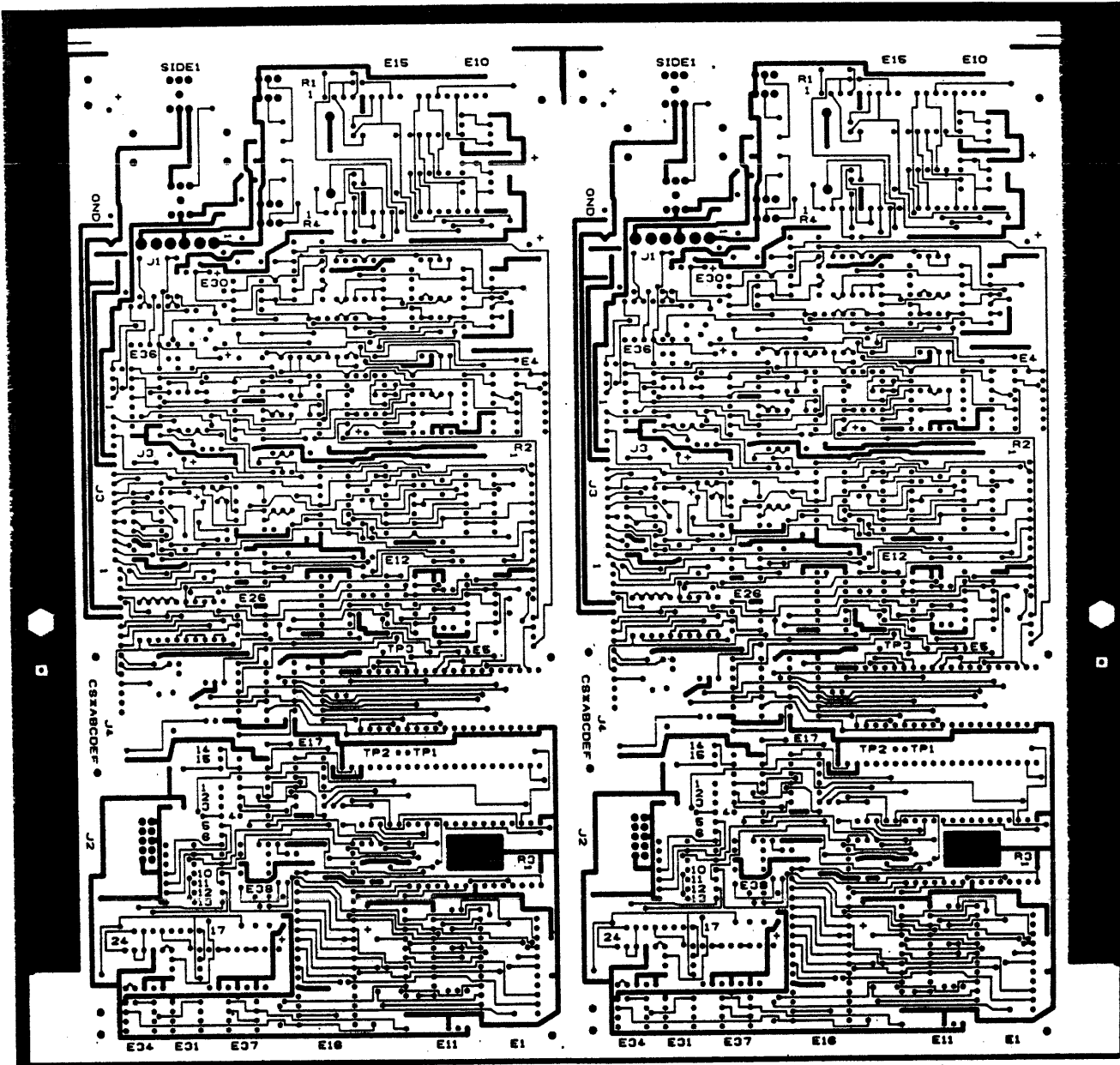
DRN. M. LEIS	7/78	FIRST USED ON	TU58
CHK'D M. LEIS	7/78	TITLE	TU58 ELECTRONICS:
ENG. ROSE LEIS	7/78	PROJ. ENG. M. LEIS	8/1/78
PROD. M. LEIS	8/1/78	NEXT HIGHER ASSY.	
B-22-5413489-0	SIZE CODE	NUMBER	REV.
SCALE	D CS 5413489-0-1		J
SHEET 1 OF 2	DIST.		

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REV.	CHANGE NO.	DESCRIPTION

TITLE	TU58 ELECTRONICS:	SIZE	DCS 54 13489-0-1	NUMBER	2 OF 2	REV.	J
SHEET	2	OF	2	DIST.			

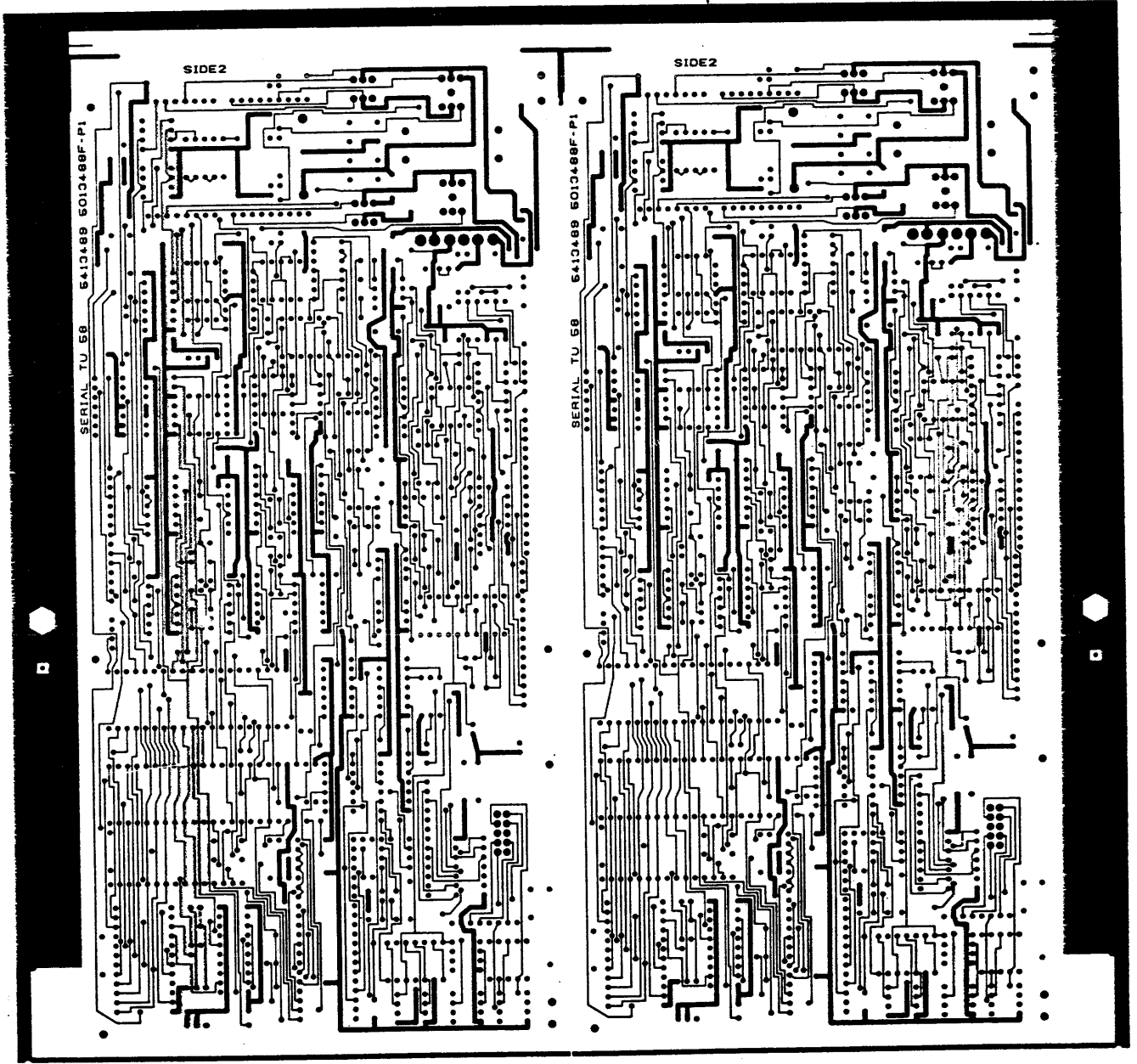


DATE	BY	CHKD	DATE	BY	CHKD	DATE	BY	DATE	BY
10/10/68	...	...	...	...	...	...	...	...	...
ETCH CUT DRAWING								30-00	
EQUIC 5134190-0								EQUIC 5013488-0	
REV. 1								REV. 1	

1
2
3
4
5
6
7
8

8 7 6 5 4 3 2 1

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REV	CHANGED BY	DATE

TITLE	ETCH CUT DRAWING	PROJECT NUMBER	EC 5013488-00	REV.	H
SCALE	SHEET 2 OF 2	DATE			

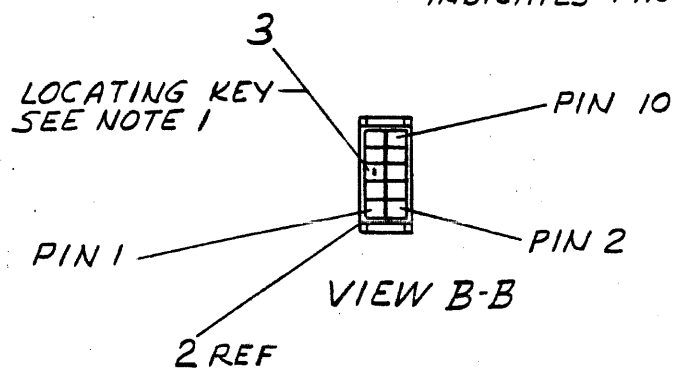
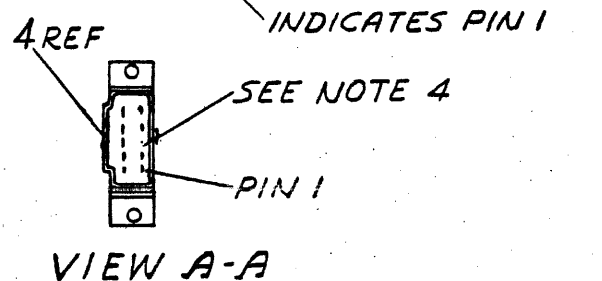
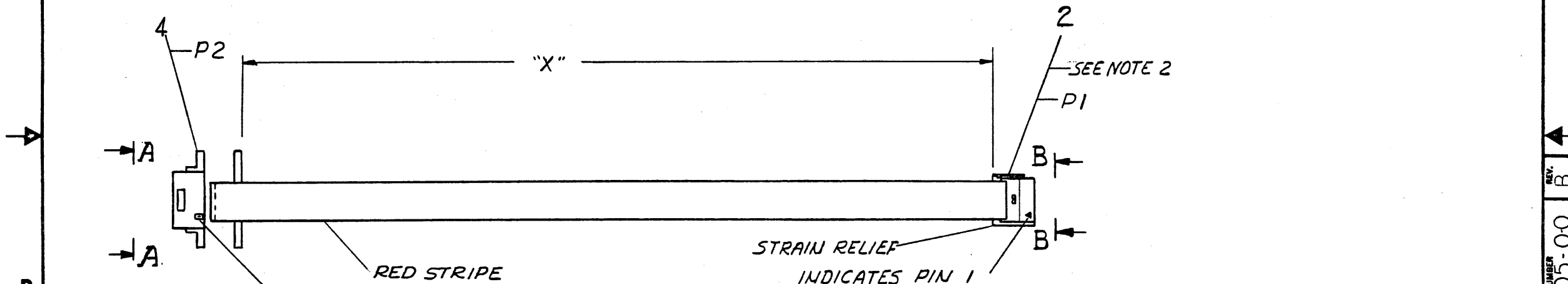
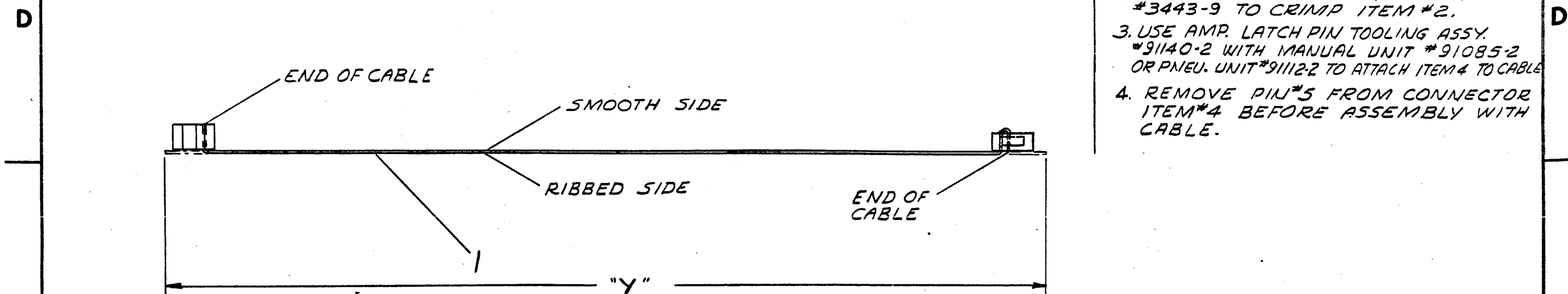
EC 5013488-00 H

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NUMBER	DIM "X" VARIATION	DIM "Y" (PRECUT)
7016305-03	3 FT ± 1.0 IN.	3 FT. 3 IN.
7016305-1F	1 FT 6 IN ± 1.0 IN.	1 FT 9 IN.
7016305-OK	9 IN. ± .5 IN.	10 IN.

NOTES

1. INSERT KEY IN #5 CONNECTOR PIN HOLE AND BREAK OFF TAB
2. USE CRIMP PRESS 3M # 3440 OR #3445 AND LOCATER GUIDE 3M #3443-9 TO CRIMP ITEM #2.
3. USE AMP. LATCH PIN TOOLING ASSY. #91140-2 WITH MANUAL UNIT #91085-2 OR PNEU. UNIT #91112-2 TO ATTACH ITEM 4 TO CABLE.
4. REMOVE PIN #5 FROM CONNECTOR ITEM #4 BEFORE ASSEMBLY WITH CABLE.



DESCRIPTION	DWG./PART NO.	ITEM NO.
CONNECTOR, CRIMP	1213039-02	4
KEY	9009707-00	3
CONNECTOR, CRIMP	1211206-02	2
CABLE, 10 CONDUCTOR	9107747-02	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		NOMINAL DIMENSION RANGE INCHES					
ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES					
		OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0
SURFACE QUALITY IN MICROINCHES	MEDIUM <input type="checkbox"/>	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED <input type="checkbox"/>	±.012	±.016	±.025	±.04	±.063	±.1

THIRD ANGLE PROJECTION	DRN <i>[Signature]</i> 5/5/78	FIRST USED ON	digital
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D <i>[Signature]</i> 11/01/78	TU58	
DO NOT SCALE DWG	ENG. <i>[Signature]</i> 1/10/78	TITLE	CABLE, SERIAL TU58
MATERIAL SEE PARTS LIST	PROJ. ENG. <i>[Signature]</i> 2/10/78		
FINISH	PROD. <i>[Signature]</i> 15/00/78		
	NEXT HIGHER ASSY.	SIZE	CODE
	E-UA-TU58-C-0	C	IA
	SCALE NONE	NUMBER	REV.
	SHEET 1 OF 1	7016305-0-0	B

REV.	CHANGE NO.	BY	DATE
A	ML003	D. WARREN	10/16/80
B	ML001	D. WARREN	10/16/80
C	ML001	KEN OKIN	10/16/80

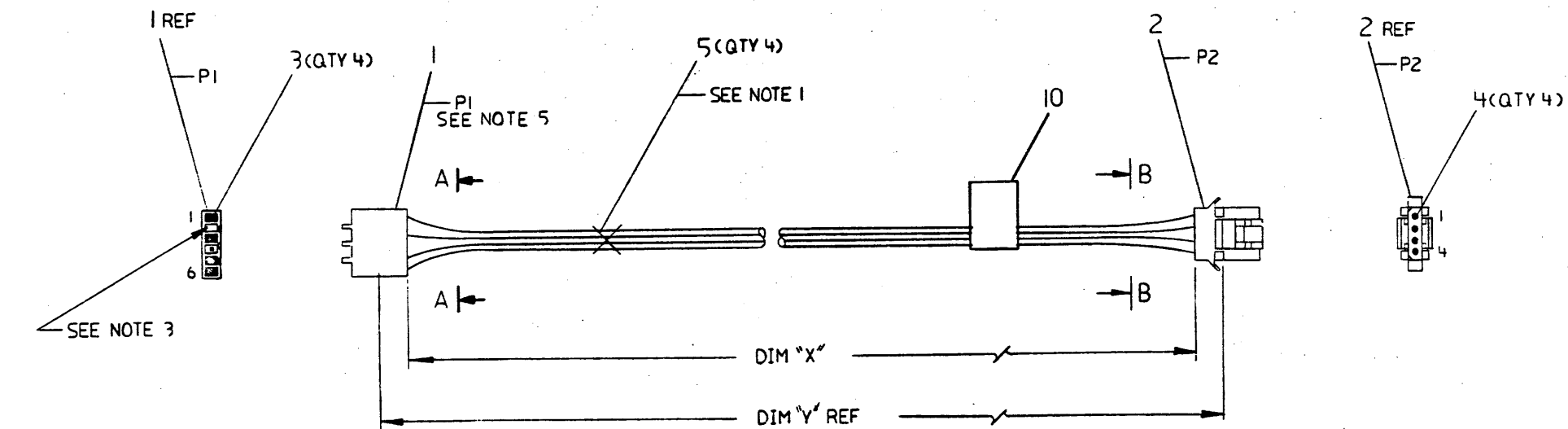
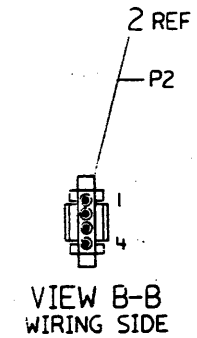
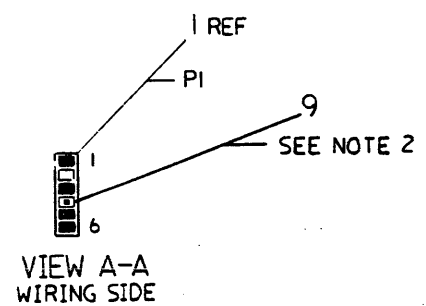
WIRE TABLE

ITEM NO	DESCRIPTION	FROM	TO	REMARKS
6	18 ORN	P1-1	P2-1	+12V
7	18 BLK	P1-3	P2-2	+12V RTN
8	18 RED	P1-5	P2-3	+5V
7	18 BLK	P1-6	P2-4	+5V RTN

LEGEND

NUMBER	DIM "X" VARIATION	DIM "Y" (PRECUT) REF
7018166-1B	14 IN ±.5 IN	14.5 IN ±.5 IN

- NOTES:**
- ATTACH CABLE TIES (ITEM 5) APPROXIMATELY EVERY 3 INCHES AS SHOWN.
 - INSERT KEY PLUG (ITEM 9) INTO POSITION 4 OF P1 FROM THIS END.
 - THERE SHOULD BE NO SOCKET OR KEY INSTALLED IN ITEM 1 POSITION 2 OF P1.
 - ALL WIRE ENDS TO BE STRIPPED.



SEE OFF SHEET PARTS LIST
K-PL-7018166-0-DBP

REVISION HISTORY

REV.	DATE	DESCRIPTION
A	11/14/81	RECORDED IN REV A FROM REV A B S

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)			
INCHES TOLERANCES	ANGLES ± 0° 30'	APPLICABLE DIMENSION RANGE	OVER
			TO
SURFACE QUALITY	MICROINCHES	CHECK ONE	OVER
			TO
QUANTITY & VARIATION	THIRD ANGLE PROJECTION	DATE	TITLE
		1/11/81	CABLE, TU BULKHEAD POWER
	DO NOT SCALE DRAWING	DATE	digital
	REMOVE BURRS AND BREAK SHARP CORNERS	9 AUG 81	
MATERIAL	DATE	9 AUG 81	DOCUMENT NUMBER
SEE PARTS LIST	DATE	13 OCT 81	D IA 7018166-0-0
FINISH	SCALE	E-AD-7018114-0-0	TW 1

REV A
NUMBER 7018166-0-0
SIZE CODE DIA

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
10		1212202-00	CONN 6POS HOUSING	1
		1212203-00	ROPT 4PIN KEYED	1
		1212203-00	FIN CRIMP TYPE	1
		0007021-00	TIE, CABLE SKT 16-18ANG REEL	1
		0107786-00	WIRE, STRND, 18ANG UL1430 0	15
		0107786-00	WIRE, STRND, 18ANG UL1430 0	15
		0107786-00	WIRE, STRND, 18ANG UL1430 R	15
		1212113-00	CONN KEYING PLUG	1
		0002255-01	LABEL, POWER SUPPLY, 2-7/8" LG X	1

11 NOTE: ITEMS 6,7 AND 8 ARE IN INCHES.

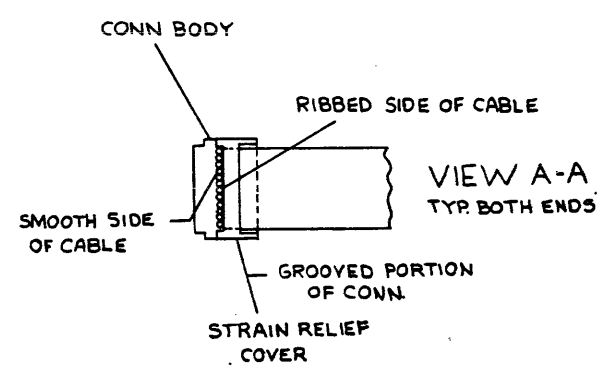
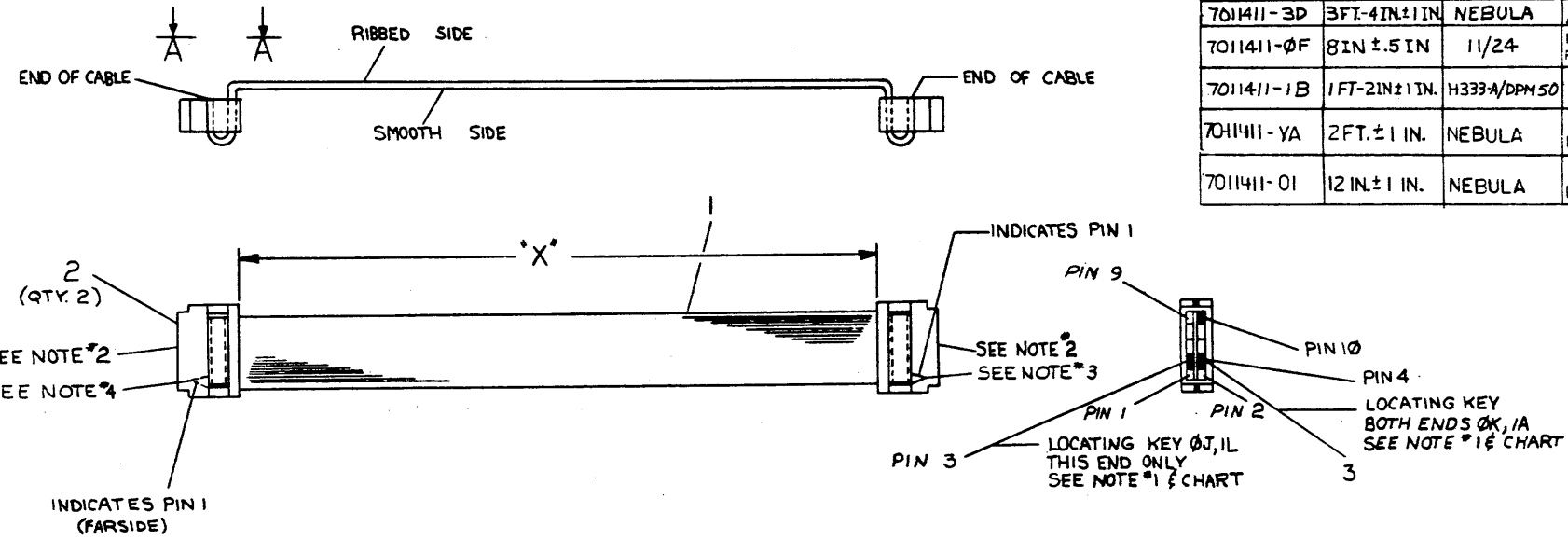
REVISION HISTORY		BASIC PART NO: 7018166		DRN: P. TOUSIGNANT		DATE: 23-JUL-81		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	A. ROCHA	DATE:	23-JUL-81	TITLE	PARTS LIST
	INITIAL	A	SECTION. VARIATION INDEX					TU BULKHEAD POWER CABLE	
			(A) 1B	DES.ENG.:	R. MORIN	DATE:	23-JUL-81	DOCUMENT NUMBER	
			(B)	RESP.ENG.:	R. MORIN	DATE:	23-JUL-81	SIZE	CODE
			(C)	MFG.ENG.:	S. CASTIGLIONE	DATE:	23-JUL-81	K	PL
			(D)	ASSEMBLY NUMBER:	D-1A-7018166-0-0	TOP DOCUMENT NUMBER:	E-AD-7018114-0-0	NUMBER	REV
			(E)			FILE NAME:	Z1854A.PLS	7018166-0-DBP	A
			(F)			EDIT #	11		

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LEGEND			
NUMBER	DIM. & VARIATION	USED ON	KEY PIN
7011411-0J	8 IN ± .5 IN.	B111-L OR K	10 ONE END
7011411-0K	9 IN ± .5 IN.	LS1-11	4 BOTH ENDS
7011411-1D	1 FT-4 IN ± 1 IN.	KY11-LB	
7011411-2D	2 FT-4 IN ± 1 IN.	B111-F/DO RPF	10 ONE END
7011411-0H	7 IN ± .5 IN.	H790, 1, 2, 3	
7011411-1J	1 FT-8 IN ± 1 IN.	1104/34-7A	
7011411-1L	1 FT-10 IN ± 1 IN.	B111-L, H777	PIN 3 1 END
7011411-1A	1 FT-1 IN ± 1 IN.	H787	4 BOTH ENDS
7011411-3J	3 FT-8 IN ± 1 IN.	B111-K, H785	
7011411-2J	2 FT-8 IN ± 1 IN.	B111-K, H785	NO KEY
7011411-5F	5 FT-6 IN ± 1 IN.	1160	8 ONE END
7011411-12	12 FT ± 3 IN.	KA570	
7011411-7	7 FT ± 2 IN.	11780	
7011411-1C	1 FT-3 IN ± 1 IN.	VT103	SEE NOTES 3 AND 4
7011411-2	2 FT ± 1 IN.	VT103	SEE NOTES 3 AND 4
7011411-0E	5 IN ± .5 IN.	NEBULA	10 BOTH ENDS
7011411-3D	3 FT-4 IN ± 1 IN.	NEBULA	5 BOTH ENDS
7011411-0F	8 IN ± .5 IN.	11/24	PIN 3 ONE END PIN 6 ONE END
7011411-1B	1 FT-2 IN ± 1 IN.	H333-A/DPM50	4 BOTH ENDS
7011411-YA	2 FT. ± 1 IN.	NEBULA	PIN 5 BOTH ENDS
7011411-0I	12 IN ± 1 IN.	NEBULA	PIN 10 BOTH ENDS

NOTES:
 1. INSERT KEY IN PROPER CONNECTOR PIN AND BREAK OFF TAB.
 2. FOR ITEM (2) DRAWING IS SHOWING 3M CONNECTOR.
 3. FOR -1C AND -2 VARIATIONS, KEY PIN 6.
 4. FOR -1C AND -2 VARIATIONS, KEY PIN 5.



ITEM NO.	DESCRIPTION	DWG./PART NO.	ITEM NO.
1	TIE, CABLE	9007031	5
1	LABEL, CABLE IDENT.	9009532	4
AR	KEY	9009707	3
2	CONN. CRIMP	1211206-02	2
AR	CABLE, 10 CONDUCT	9107747-02	1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
ANGLES ± 30°	CLASS OF ACCURACY CHECK ONE MEDIUM
SURFACE QUALITY IN	NOMINAL DIMENSION RANGE INCHES
	OVER 0 TO 12.0 OVER 12.0 TO 40.0 OVER 40.0 TO 80.0 OVER 80.0 TO 120.0 OVER 120.0 TO 400.0
QUANTITY & VARIATION	±.012 ±.016 ±.025 ±.04 ±.06 ±.08
	MICROINCHES PREFERRED

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL SEE PARTS LIST

FINISH

DRN. M. BAPTIST 5-20-75
 CHK'D. HEALY 6-13-75
 ENG. R. BARRY 6-18-75
 PROJ. ENG. R. BARRY 6-18-75
 PROD. R. PETERSON 6-18-75

FIRST USED ON SEE LEGEND

TITLE
CABLE CONSOLE BACKPLANE

SIZE CODE
 D IA 7011411-0-0

NUMBER
 7011411-0-0

REV.
 .W

SHEET 1 OF 1

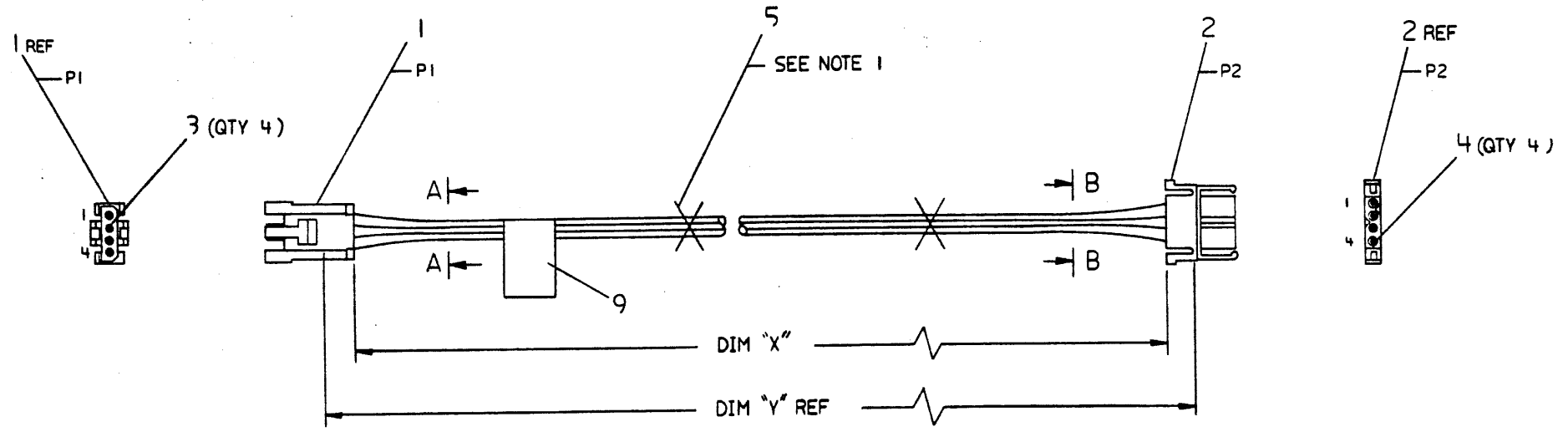
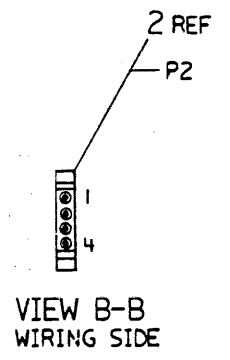
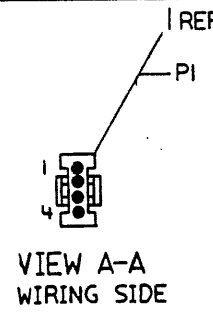
REV.	DATE	BY	APP.	DESCRIPTION
1	10-17-74	M. BANGERT		ISSUE FOR MANUFACTURE
2	11-15-74	M. BANGERT		REVISED TO SHOW 3M CONNECTOR
3	12-10-74	M. BANGERT		REVISED TO SHOW 10 CONDUCT CABLE
4	1-10-75	M. BANGERT		REVISED TO SHOW KEY PIN 10
5	2-10-75	M. BANGERT		REVISED TO SHOW KEY PIN 5
6	3-10-75	M. BANGERT		REVISED TO SHOW KEY PIN 6
7	4-10-75	M. BANGERT		REVISED TO SHOW KEY PIN 4
8	5-10-75	M. BANGERT		REVISED TO SHOW KEY PIN 3

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WIRE TABLE							
ITEM NO.	DESCRIPTION	FROM	TO	REMARKS			
NO.	AWG	COLOR	CONN	WITH	CONN	WITH	
6	18	ORN	P1-1	3	P2-1	4	+12V
7	18	BLK	P1-2	3	P2-2	4	+2V RTN
8	18	RED	P1-3	3	P2-3	4	+5V
7	18	BLK	P1-4	3	P2-4	4	+5V RTN

LEGEND		
NUMBER	DIM "X" VARIATION	DIM "Y" (PRECUT) REF
7018109-3B	3 FT. 2 IN. ± 1 IN.	3 FT. 3 IN. ± 1 IN.

NOTES:
 1. ATTACH CABLE TIE (ITEM 5) APPROXIMATELY EVERY 3 IN. AS SHOWN.
 2. ALL WIRE ENDS TO BE STRIPPED.



SCALE
 0 3.0 6.0
 FOR MANUFACTURING PURPOSES ONLY
 DO NOT REDUCE

SEE OFF SHEET PARTS LIST
 K-PL-7018109-0-DBP

DATE	REV. NO.	DESCRIPTION
JUN 21 1981	1	RELEASED AT
JUN 21 1981	2	REV A FROM
JUN 21 1981	3	REV XBT

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)								
INCHES TOLERANCES	ANGLES TO 30°	APPLICABLE DIMENSION RANGE	DIMENSION RANGE IN INCHES					
			OVER 0 TO 0.25	OVER 0.25 TO 1.25	OVER 1.25 TO 3.00	OVER 3.00 TO 6.00	OVER 6.00 TO 12.00	OVER 12.00 TO 48.00	OVER 48.00 TO 192.00
X = ± 0.1			± 0.04	± 0.08	± 0.12	± 0.16	± 0.24	± 0.36
XX = ± 0.02								
XXX = ± 0.015								
THIRD ANGLE PROJECTION	DATE 26 JUL 80	TITLE digital						
DO NOT SCALE DRAWING	DATE 7 FEB 81	CABLE, TU58 POWER						
REMOVE BURRS AND BREAK SHARP CORNERS	DATE 9 AUG 81	DOCUMENT NUMBER						
MATERIAL SEE PARTS LIST	DATE 4 AUG 81	DIA 7018109-0-0 A						
FINISH NONE	DATE 13 OCT 81	SCALE 1/1 SHEET 1 OF 1						
	E-UA-11730-Z-0	TW 1						

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1		1213901-00	CONN. PLUG 4PIN	
2		1213944-00	CONN 4SKT	
3		1213955-00	CONN PIN 18-18AWG	
4		1213956-00	SKT 18-18AWG	
5		1213957-00	TIE CABLE BUNDL DIA 0.101	
6		1213958-00	WIRE STRND, 18AWG	
7		1213959-00	WIRE STRND, 18AWG	
8		1213960-00	WIRE STRND, 18AWG	
9		1213961-00	WIRE STRND, 18AWG	
10		1213962-00	LABEL, POWER SUPPLY, 2-7-8 LG X	

10 NOTE: ITEMS 6,7 AND 8 ARE IN INCHES.

REVISION HISTORY			BASIC PART NO: 7018109		DRN: P. TOUSIGNANT		DATE: 28-JUL-81		DIGITAL	
ENG	EOD NUMBER	REV	SECTION A OF A	CHK'D:	A. ROCHA	DATE:	28-JUL-81	TITLE	PARTS LIST	
	INITIAL	A	SECTION. VARIATION INDEX					TU59 POWER CABLE		
			(A) 3B	DES.ENG.:	R. MORIN	DATE:	28-JUL-81			
			(B)	RESP.ENG.:	R. MORIN	DATE:	28-JUL-81	DOCUMENT NUMBER		
			(C)					SIZE CODE NUMBER	REV	
			(D)	MFG.ENG.:	S. CASTIGLIONE	DATE:	28-JUL-81	K PL	7018109-C-DBP	A
			(E)	ASSEMBLY NUMBER:	D-IA-7018109-0-0	TOP DOCUMENT NUMBER:	E-UA-11730-Z-0	FILE NAME:	21853A.PLS	EDIT #:
			(F)							5

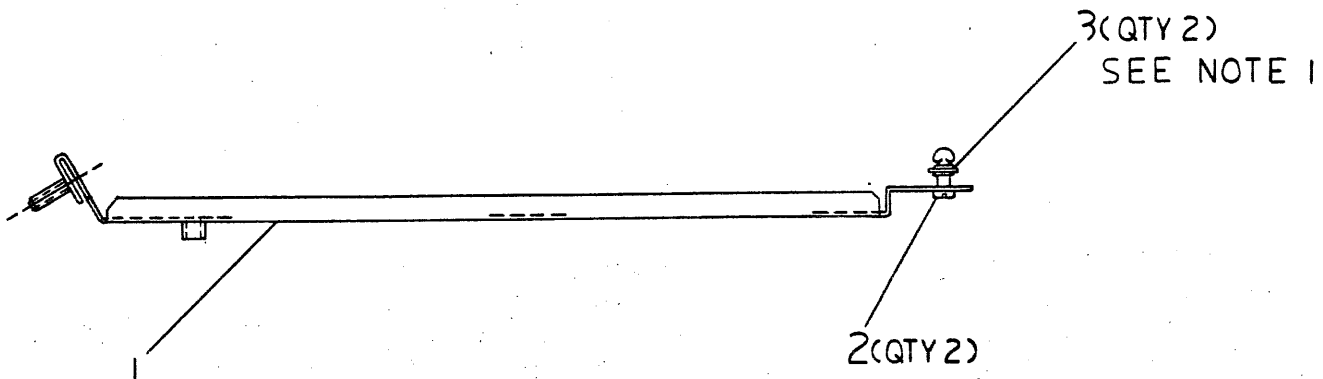
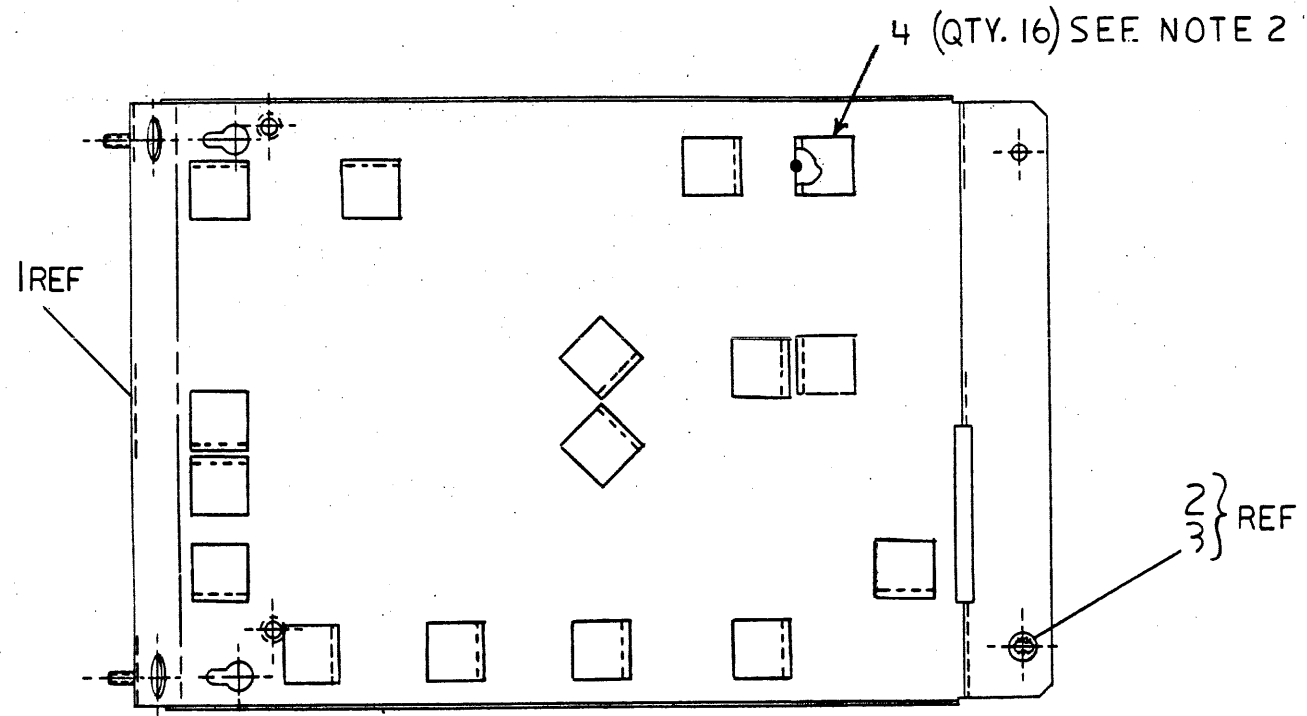
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SIZE CODE
CIA 7018720-0-0
REV. A

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NOTES:

1. TO INSTALL RETAINER RING USE VENDOR INSTALLATION TOOL NUMBER 82-0-14719-11 (SOUTHCO).
2. APPLY CABLE CLAMPS TO EMBOSSED SQUARES AS SHOWN. DOT ON METAL INDICATES CLOSED END OF CLAMP.



CAUTION: OFF SHEETS PARTS LIST REFER TO K-PL-7018720-0-DBP

REVISION HISTORY	
DATE	ECO NUMBER
13 Jul 81	Rev XPP [unclear]
14 Jul 81	Rev [unclear]
17 Jul 81	Rev [unclear]
AUG REV'D AT REV A	

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)			
DIMENSIONS RANGE IN INCHES			
INCHES TOLERANCES	ANGLES ± 0° 30'	APPLICABLE DIMENSION RANGE (CHECK ONE)	DIMENSIONS RANGE IN INCHES
X = ± .1 XX = ± .02 XXX = ± .005		<input type="checkbox"/> 0-4 <input type="checkbox"/> 4-16 <input type="checkbox"/> 16-48 <input type="checkbox"/> 48-120 <input type="checkbox"/> 120-480 <input type="checkbox"/> 480-1200	OVER 0 TO 0.2 OVER 0.2 TO 0.4 OVER 0.4 TO 0.6 OVER 0.6 TO 1.2 OVER 1.2 TO 2.0 OVER 2.0 TO 4.0 OVER 4.0 TO 12.0 OVER 12.0 TO 40.0 OVER 40.0 TO 80.0
		<input type="checkbox"/> ± .02 <input type="checkbox"/> ± .04 <input type="checkbox"/> ± .08 <input type="checkbox"/> ± .12 <input type="checkbox"/> ± .16 <input type="checkbox"/> ± .24 <input type="checkbox"/> ± .30	
THIRD ANGLE PROJECTION	DATE 13 July 81	TITLE CATCH PAN ASSY	digital
DO NOT SCALE DRAWING	CHECKED [Signature] DATE 7-14-81	DOCUMENT NUMBER	
REMOVE BURRS AND BREAK SHARP CORNERS	DESIGNED BY [Signature] DATE 4 AUG 81	CIA 7018720-0-0	
MATERIAL SEE PARTS LIST	30 Casty [unclear] DATE 30 AUG 81	SIZE CODE	NUMBER
FINISH	E-UA-11730-Z-0	CIA	7018720-0-0
		SCALE 1/2	SHEET 1 OF 1

DRC 1000

TW 1

REV. A
NUMBER
CIA 7018720-0-0

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1		E-IA-7425728-0-0	7425728-00 9010308-00 9000026-05 9009636-00	PAN, CATCH RETAINER, PUSH-ON SS/PAS FASTNR, 1/4 TURN WING HD CLAMP, CABLE, FOR FLAT CABLE	00 1 16

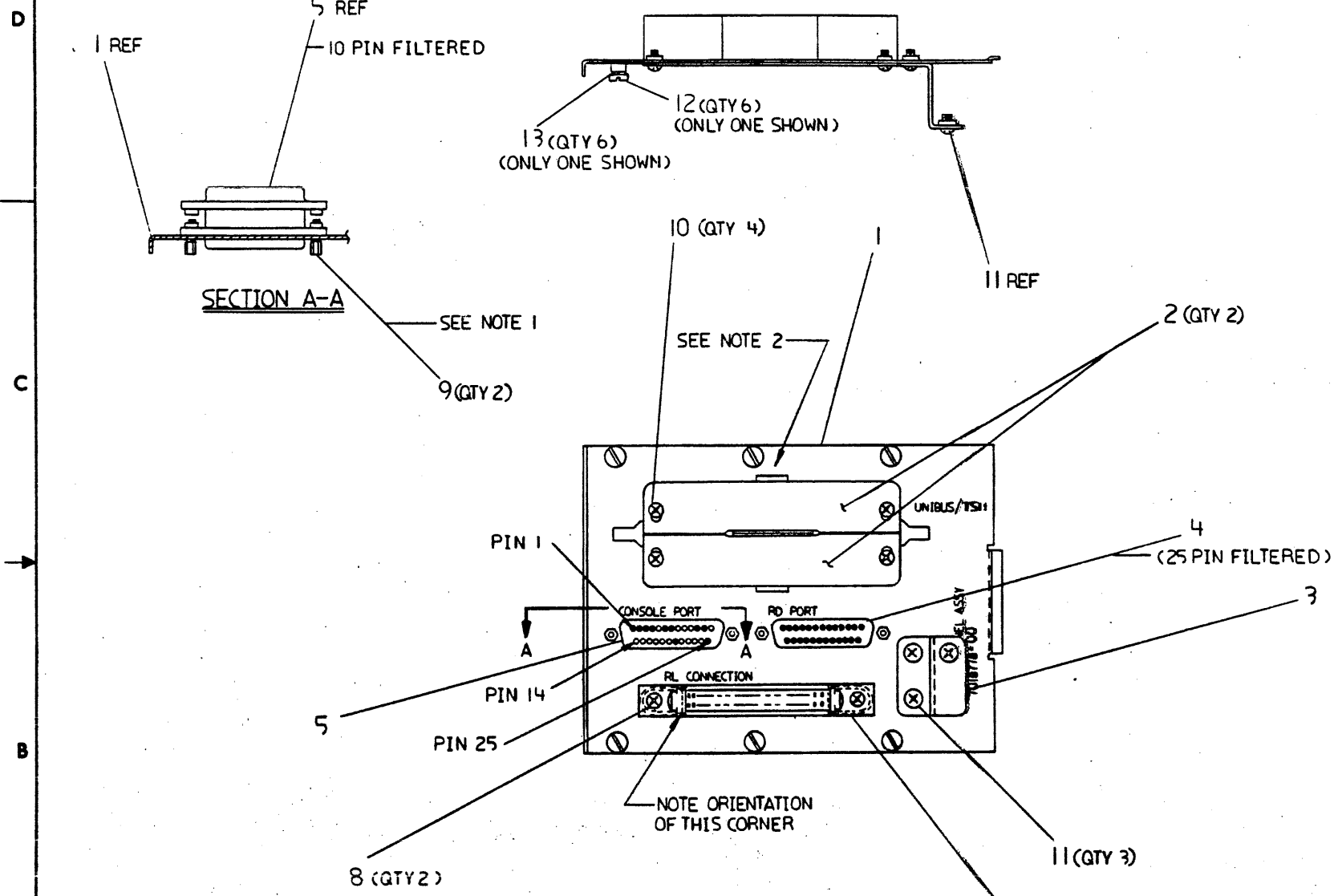
REVISION HISTORY		BASIC PART NO: 7018720		DRN: P. TOUSIGNANT	DATE: 30-JUL-81	D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: A. ROCHA	DATE: 30-JUL-81	TITLE PARTS LIST	
	INITIAL	A	SECTION. VARIATION INDEX	DES.ENG.: R. MORIN	DATE: 30-JUL-81	CATCH PAN ASSY	
			(A) 00	RESP.ENG.: R. MORIN	DATE: 30-JUL-81	DOCUMENT NUMBER	
			(B)	MFG.ENG.: S. CASTIGLIONE	DATE: 30-JUL-81	SIZE	CODE
			(C)	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	NUMBER	REV
			(D)	C-IA-7018720-0-0	E-UA-11730-Z-0	K	PL
			(E)			PL	7018720-0-DBP
			(F)				A
						FILE NAME:	EDIT #
						Z2835A.PLS	6
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REV. A D AD 7018778-0-0
DATE CODE (REV.)
DOC. NO.

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NOTES:

- 1. SCREWLOCK ASSY IS A KIT BAG PER CONNECTOR. DISCARD FOUR FLAT WASHERS AND TWO NUTS PER CONNECTOR ASSY.
- 2. RECTANGULAR SLOTS ARE PROVIDED SO THAT PRESSURE CAN BE EXERTED TO FIRMLY SEAT THE TWO UNIBUS PLATES FOR METAL CONTACT BY USING FLAT SCREWDRIVER BLADE OR EQUIVALENT.



CAUTION: SEE OFF SHEET PARTS LIST
 K-PL-7018778-0-DBP.(Z3616A)

DESCRIPTION			DRAWING NO.			PART NO.			ITEM NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)										
INCHES TOLERANCES		ANGLES ±0° 30'		APPLICABLE DIMENSION RANGE		DIMENSION RANGE IN INCHES				
X ± .1		SURFACE QUALITY		CHECK ONE		OVER 0 TO .12	OVER .12 TO .49	OVER .49 TO 12.9	OVER 12.9 TO 63.0	OVER 63.0 TO 253.0
.XX ± .02		✓		□		± .004	± .008	± .012	± .016	± .024
.XXX ± .005		□		□						
QUANTITY & VARIATION	THIRD ANGLE PROJECTION	DRW. <i>P. Fousignat</i>	DATE 15 Jan 82	TITLE			digital			
	DO NOT SCALE DRAWING	DATE 2 Feb 82		CPU-I/O PANEL ASSY						
	REMOVE BURRS AND BREAK SHARP CORNERS	DATE 2 Feb 82								
MATERIAL	SEE PARTS LIST	DATE 2 Feb 82					DOCUMENT NUMBER			
FINISH		DATE 25 Feb 82					D AD 7018778-0-0 A			
		DATE 25 Feb 82		E-AD-7018779-0-0			SCALE SHEET OF			

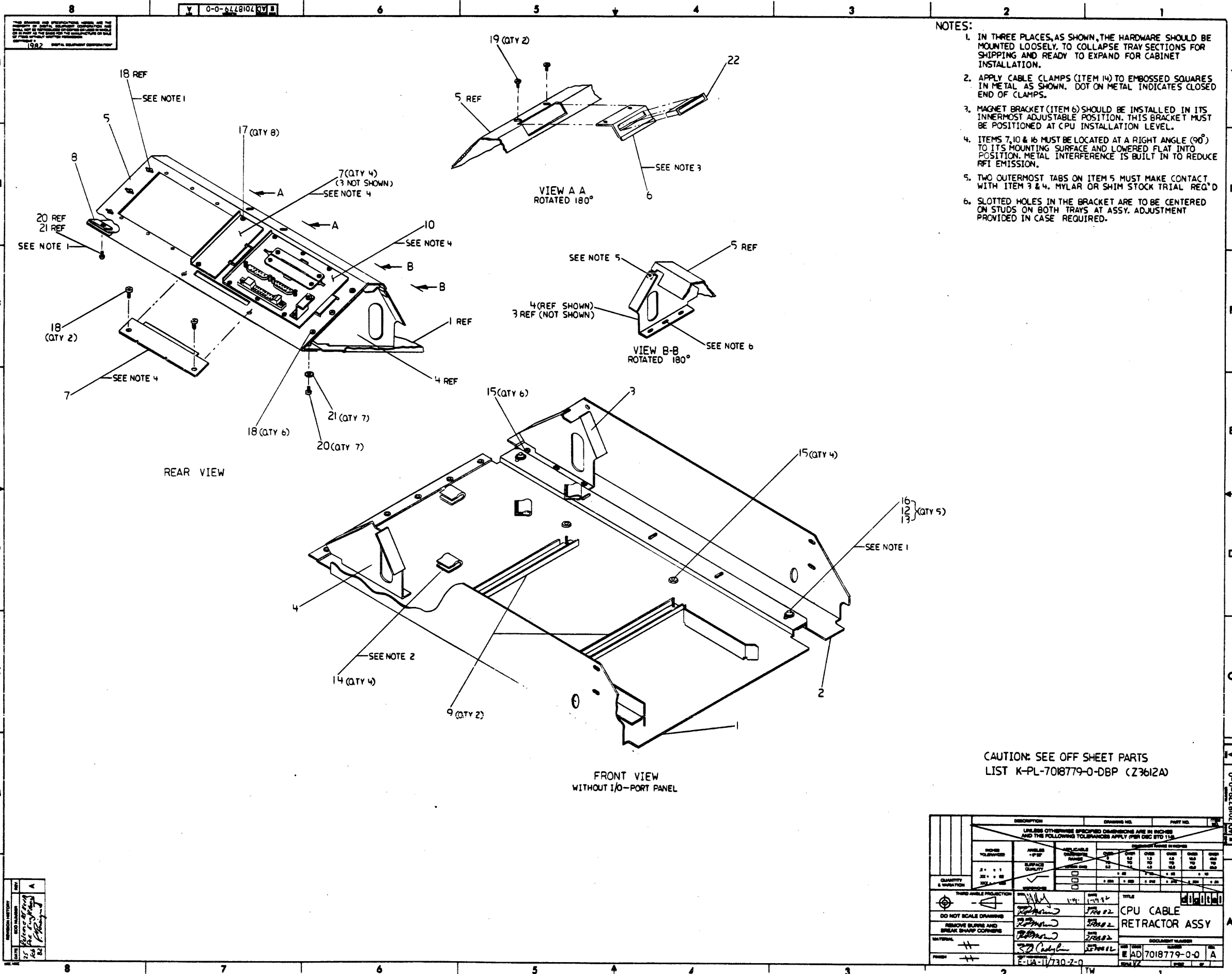
REVISION HISTORY	REV.	DATE
	A	26 Feb 82
		26 Feb 82
		02 Mar 82

REV. A D AD 7018778-0-0

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
					00
1	1	D-IA-7426405-04-DBU	7426405-04	PANEL,SEXTAL	1
2	2	B-IA-7018781-0-0	7018781-00	BRKT. ASSY, UNIBUS FILLER	2
3	3	C-IA-7426654-0-0	7426654-01	BRACKET,CABLE GROUND	1
4	4	A-PS-1217431-0-0	1217431-00	CONN,D SUB 25POS ASSY STRAIGHT W	1
5	5	A-PS-1217431-0-0	1217431-02	CONN,D SUB 10POS ASSY STRAIGHT W	1
6	6	A-PS-1211591-0-0	1211591-35	CONN,ZIF 40PIN RCPT ASSY	1
7	7	A-PS-1211591-0-0	1211591-38	CONN,ZIF 40PIN RCPT,SWAP IN GU	2
8	8		9006010-01	SCREW,PAN,PHIL 4-40X 5/16 SS	2
9	9		9008451-00	SCREW LOCK ASSY	2
10	10		9009546-00	SCREW,PAN,PHIL,SEMS 4-40X .375L	4
11	11		9010174-00	SCREW,PAN,PHIL,SEMS 6-32X .25 L	3
12	12	A-PS-1219534-0-0	1219534-01	SCREW,CAPTIVE,SLTD HD 4-40X.60LG	6
13	13		9006688-00	WASHER, LOCK, S.S. #4	6

REVISION HISTORY		BASIC PART NO: 7018778		DRN:	P. TOUSIGNANT	DATE: 27-JAN-82	DIGITAL				
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	R. MORIN	DATE: 27-JAN-82	TITLE	PARTS LIST			
	INITIAL	A	SECTION. VARIATION INDEX				CPU-I/O PANEL ASSY				
			[A] 00								
			[B]	DES.ENG.:	R. MORIN	DATE: 27-JAN-82					
			[C]				DOCUMENT NUMBER				
			[D]	RESP.ENG.:	R. MORIN	DATE: 27-JAN-82	SIZE	CODE	NUMBER	REV	
			[E]	MFG.ENG.:	S. CASTIGLIONE	DATE: 27-JAN-82	K	PL	7018778-0-DBP	A	
			[F]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #			
				D-AD-7018778-0-0		E-AD-7018779-0-0	Z3616A.PLS	8			

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CAUTION: SEE OFF SHEET PARTS
LIST K-PL-7018779-0-DBP (Z3612A)

QUANTITY & LOCATION	DESCRIPTION	DRWING NO.	PART NO.	REV.
1	CPU CABLE RETRACTOR ASSY	7018779-0-0		1
1	ITEM 1			
1	ITEM 2			
1	ITEM 3			
1	ITEM 4			
1	ITEM 5			
1	ITEM 6			
1	ITEM 7			
1	ITEM 8			
1	ITEM 9			
1	ITEM 10			
1	ITEM 11			
1	ITEM 12			
1	ITEM 13			
1	ITEM 14			
1	ITEM 15			
1	ITEM 16			
1	ITEM 17			
1	ITEM 18			
1	ITEM 19			
1	ITEM 20			
1	ITEM 21			
1	ITEM 22			

APPROVED FOR RELEASE
DATE: 11/17/2014
BY: [Signature]

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	1	D-IA-70118549-0-0	7018549-00	RETRACTOR TRAY RIVETED	1
2	2	E-IA-74225733-0-0	7425733-00	TRAY, R.H. HALF	1
3	3	E-IA-74226619-0-0	7426619-01	I/O PANEL BRKT.(RIGHT)	1
4	4	E-IA-74226619-0-0	7426619-22	I/O PANEL BRKT.(LEFT)	1
5	5	E-IA-74226618-0-0	7426618-01	I/O PORT PANEL	1
6	6	C-IA-74226620-0-0	7426620-01	BRACKET, MAGNETIC	1
7	7	C-MD-74226621-0-0	7426621-01	COVER, PLATE-R80 HOLE	1
8	8	B-IA-74226652-0-0	7426652-01	NUT PLATE	1
9	9	C-IA-70118772-0-0	7018772-00	CLAMP ASSY	2
10	10	D-AD-70118778-0-0	7018778-00	CPU-I/O PANEL ASSY	1
11	11	D-MD-74226407-01-DBU	7426407-01	PANEL, SUB, DOUBLE	4
12	12		9006664-00	WASHER, FLAT, .437 OD X .218 ID	5
13	13		9007651-00	WASHER, LOCK, EXTERNAL TOOTH #10	5
14	14		9009636-00	CLAMP, CABLE, FOR FLAT CABLE	4
15	15		9006563-00	NUT, KEP 8-32X 11/13AF	10
16	16		9006071-03	SCREW, TRUS, PHIL, 10-32X 3/8	5
17	17		9009546-00	SCREW, PAN, PHIL, SEMS 4-40X .375L	8
18	18		9010174-00	SCREW, PAN, PHIL, SEMS 6-32X .25 L	8
19	19		9010174-01	SCREW, PAN, PHIL, SEMS 8-32X .31 L	2
20	20		9006037-03	SCREW, TRUS, PHIL, 8-32X 3/8	7
21	21		9008151-00	WASHER, LOCK, EXT. TOOTH #8	7
22	22	A-PS-1212908-0-0	1212908-01	DOOR CATCH, MAGNETIC, SNAP-IN	1

 ##### RELEASABLE #####

REVISION HISTORY		BASIC PART NO: 7018779		IDRN:	R.J. RILEY	DATE: 27-JAN-82	DIGITAL		
ENGR	ECO NUMBER	REV	SECTION A OF A	CHK'D:	R.J. RILEY	DATE: 27-JAN-82	TITLE	PARTS LIST	
---	INITIAL	1A	SECTION. VARIATION INDEX				CPU CABLE RETRACTOR ASSY		
			[A] 00						
			[B]	DES.ENG.:	R. MORIN	DATE: 27-JAN-82			
			[C]	RESP.ENG.:	R. MORIN	DATE: 27-JAN-82		DOCUMENT NUMBER	
			[D]				SIZE	CODE	NUMBER
			[E]	MPG.ENG.:	S. CASTIGLIONE	DATE: 27-JAN-82	K	PL	7018779-0-DBP
			[F]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:		EDIT #
				E-AD-7018779-0-0		E-UA-11730-Z-0	Z3612A.PLS		3

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DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS			
PACKAGING INSTRUCTION		REV: _____	DATE: _____
TITLE PKG CPU 11730-ZA		_____	_____
LEGEND			
VARIATION	USED ON	PACKAGE TYPE	REMARKS
3700662-01	11730-ZA		
PARTS LIST 3700662-01			
REFER TO OFF-SHEET PARTS LIST K-PL-3700662-0-DBP			
PACKAGING INSTRUCTIONS 3700662-01			
PROCEDURE FIGURE 1 AND 2			
STEP	<p>1. CUT TWO (2) PIECES OF POLYESTER STRAPPING (9905734-02) SEVEN (7) FEET LONG AND LAY FLAT ON THE PALLET (9906199-00).</p> <p>2. SET UP ONE (1) END OF THE DIE CUT TRAY (9906832-01) AND PLACE ON THE TWO (2) STRAPS.</p> <p>3. SET UP THE DIE CUT SHEET (9906933-01).</p> <p>4. PLACE RETRACTOR TRAY (7018779-00) ON DIE CUT SHEET SO THAT THE ANGLED CABLE CONNECTOR RESTS AGAINST THE CORRUGATED SQUARE.</p> <p>5. WRAP THE SHEET AROUND THE RETRACTOR TRAY.</p> <p>6. PLACE THE WRAPPED RETRACTOR TRAY INTO THE DIE CUT TRAY SO THAT THE CORRUGATED SQUARE ON THE SHEET RESTS AGAINST THE SET UP END OF THE DIE CUT TRAY.</p> <p>7. TAPE ONE (1) PRESSURE SHEET ASSY (7018718-00) TO THE TOP OF THE CPU BOX USING FIFTEEN (15) INCHES OF GLASS FILAMENT TAPE (9009634-00).</p> <p>8. PLACE A POLYETHYLENE BAG (9905128-23) OVER THE CPU UNIT ASSEMBLY.</p> <p>9. PLACE THE CPU BOX INTO THE WRAPPED RETRACTOR TRAY SO THAT THE BEZEL OF THE CPU UNIT ASSEMBLY IS FACING THE OPEN END OF THE DIE CUT TRAY.</p> <p>10. FOLD OVER THE OPEN END OF THE DIE CUT TRAY.</p>		
SHEET 4 & 5 "C" SIZE			
ENG <i>[Signature]</i>	APPD <i>[Signature]</i>	SIZE A	CODE NUMBER PA 3700662-0-0 REV A
SHEET 1 OF 5			

EN-01189-16-REV(331)

PACKAGING INSTRUCTION		CONTINUATION SHEET	
TITLE PKG CPU 11730-ZA			
<p>11. PLACE ONE (1) HALF SLOTTED CARTON (9906930-01) OVER THE CPU UNIT ASSEMBLY AND INTO THE DIE CUT TRAY. LEAVE THE TOP FLAPS OPEN.</p> <p>12. PLACE EACH OF THE FOLLOWING ITEMS IN, THE QUANTITY SPECIFIED, INTO A PLASTIC BAG (9906557-14) AND PLACE THEM ON THE FOURTH PANEL OF THE FIVE PANEL FOLDER (9906786-00):</p>			
ITEM	DESCRIPTION	PART NUMBER	QUANTITY
A	GUIDE AND CLAMP	7425927-00	1
B	SHIPPING BRACKET	7413659-00	1
C	BRACKET, CARRIER/BOX	7425928-00	1
D	BRACKET, CAB/CARRIER	7425929-00	1
E	CABLE, FERRULED	1215700-04	1
F	CABLE CARRIER	121902-00	1
G	CLAMP, R80 CABLE	7426623-01	1
H	CLAMP, DMF CABLE	7426625-01	1
I	BAR CLAMP ASSY	7426723-01	1
J	STUD PLATE	7426335-01	4
K	SLIDE MTG BRKT, LEFT	7425734-00	2
L	SLIDE MTG BRKT, RIGHT	7425734-01	2
		SIZE A	CODE NUMBER PA 3700662-0-0 REV A
SHEET 2 OF 5			

EN-01189-16-REV(331)

PACKAGING INSTRUCTION		CONTINUATION SHEET	
TITLE PKG CPU 11730-ZA			
<p>13. CLOSE AND SEAL THE FIVE PANEL FOLDER USING TWENTY-FOUR (24) INCHES OF CARTON SEALING TAPE (9905729-00).</p> <p>14. PLACE THE SEALED FIVE PANEL FOLDER INTO THE HALF SLOTTED CARTON IN FRONT OF THE CPU BEZEL.</p> <p>15. PLACE ONE (1) TUS8-K MEDIA CARTRIDGE (3615809-00) INTO A BUBBLELITE ENVELOPE (9905012-05) AND PLACE ON TOP OF THE FIVE PANEL FOLDER.</p> <p>16. PLACE ONE (1) AC LINE CORD (1700083-21) AND ONE (1) AC LINE CORD 1700083-22 INTO THE HALF SLOTTED CARTON ON TOP OF THE FIVE PANEL FOLDER.</p> <p>17. PLACE A HARDWARE KIT BAG (B-PL-11730-Z-5) INTO THE HALF SLOTTED CARTON ON TOP OF THE AC LINE CORDS.</p> <p>18. PLACE TWO (2) SLIDES (1218166-00) AND HARDWARE KIT BAGS, ONE (1) ON EACH SIDE OF THE CPU UNIT ASSEMBLY BETWEEN THE INSIDE OF THE HALF SLOTTED CARTON AND THE WRAPPED RETRACTOR TRAY AS SHOWN IN FIGURE 1.</p> <p>19. CLOSE THE FLAPS OF THE HALF SLOTTED CARTON.</p> <p>20. SEAL THE CARTON BY CLAMPING THE TWO (2) STRAPS AROUND THE CARTON.</p> <p>21. PALLETIZE PER FIGURE 2 USING FOUR (4) ANGLEBOARD (9906185-05) AND FOUR (4) PIECES OF STRAPPING (9905734-02).</p>			
		SIZE A	CODE NUMBER PA 3700662-0-0 REV A
SHEET 3 OF 5			

EN-01189-16-REV(331)

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PACKAGE DIMENSIONS, WEIGHTS & PLASTIC PACKING MATERIAL

	USA		METRIC	
WEIGHT	98.00	LBS.	44.45	KG.
LENGTH	42.00	IN.	1066	MM
WIDTH	22.00	IN.	558	MM
HEIGHT	12.50	IN.	317	MM
CUBE	6.68	CU.FT.	0.19	CU.M.
DENSITY	14.67	LBS./CU.FT.	235.0	KG./CU.M
* PLASTIC	— % _L	— % _W	— TYPE	

* % VOLUME EXPANDED
% WEIGHT UNEXPANDED

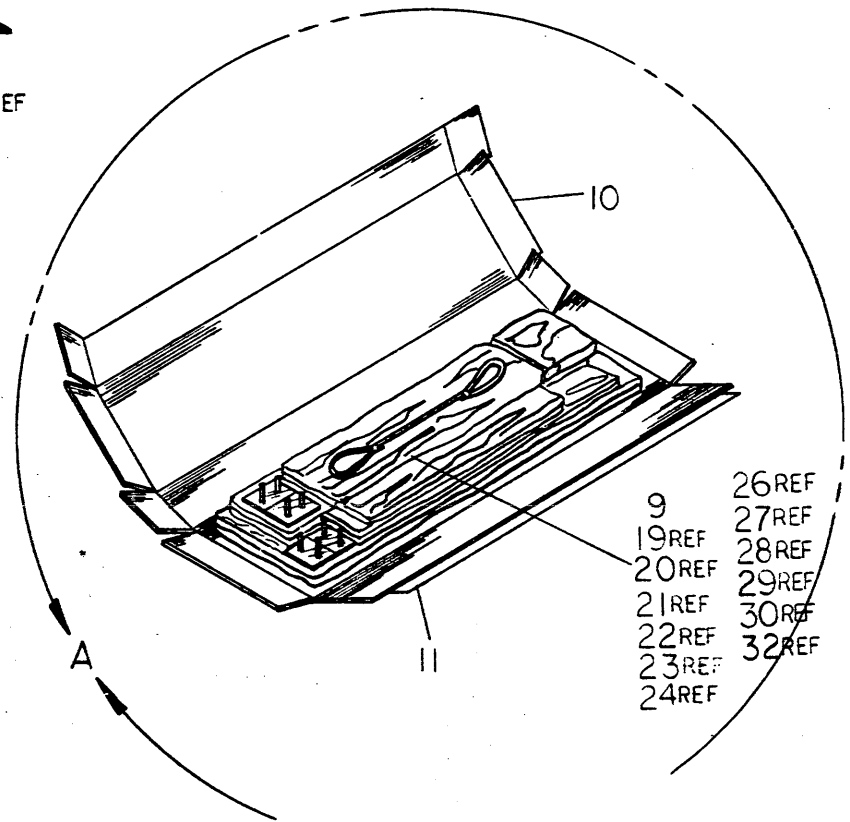
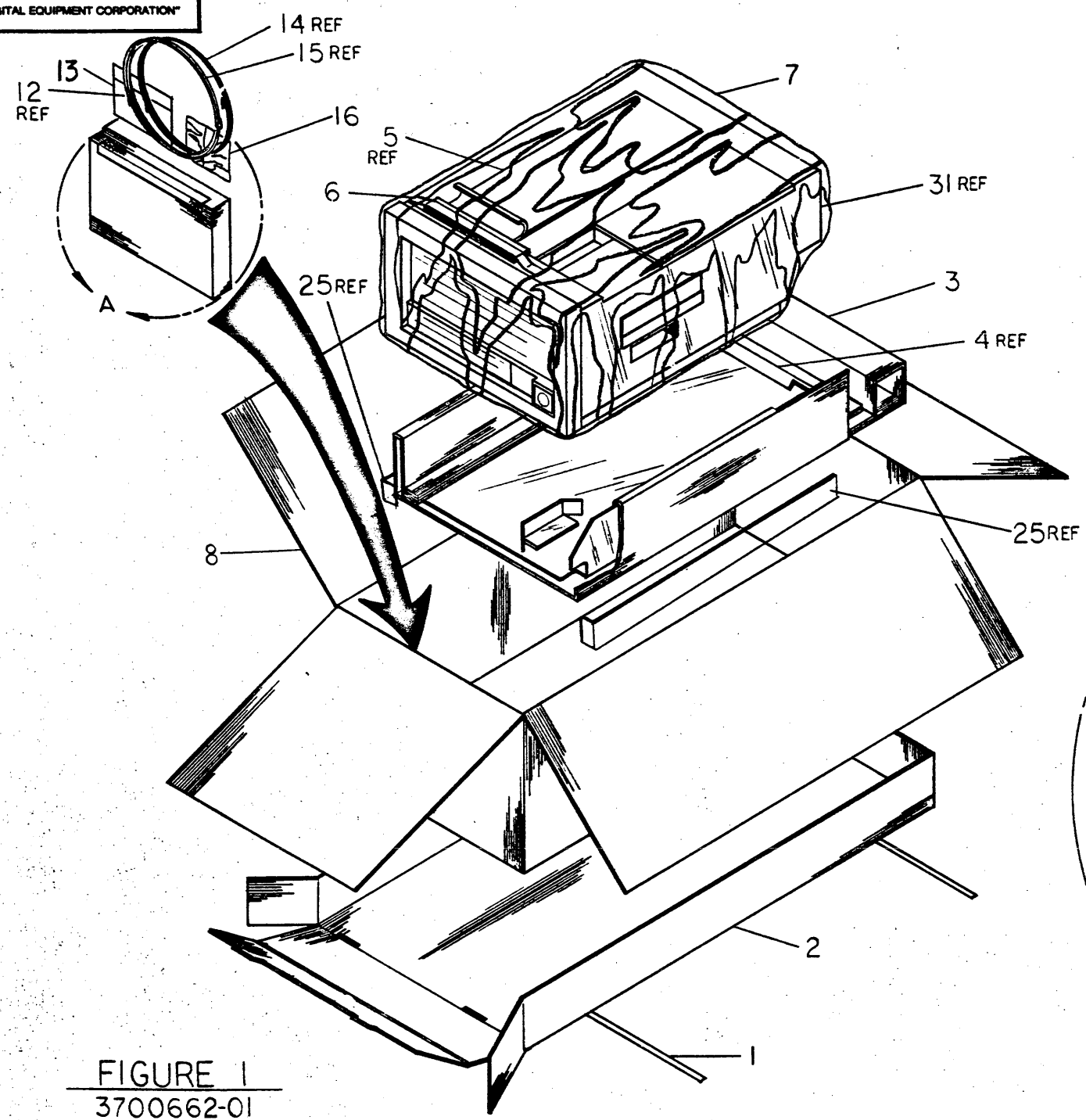


FIGURE 1
3700662-01

FOR OFF SHEET PARTS LIST SEE K-PL-3700662-0-DBP

REVISION HISTORY	
DATE	ECO NUMBER

DRW. G. GYORKE	DATE 6/82	TITLE PKG	digital
CHKD. J. Barrett	DATE 6/24/82	CPU 11730-ZA	
DES. ENG. G. Larsen	DATE 6/82		
RESP. ENG. G. Larsen	DATE 6/82	DOCUMENT NUMBER	
MFG. ENG. NONE	DATE —	SIZE C	CODE PA
NEXT HIGHER DOC.		NUMBER 3700662-0-C	REV A
		SCALE 7/8	SHEET 4 OF 5

SIZE CODE
C PA 3700662-0-0

REV A

C

B

A

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SIZE C PA 3700662-0-0
 REV. A

PACKAGE DIMENSIONS WEIGHTS & PLASTIC PACKING MATERIAL

	USA	METRIC
WEIGHT	638.00 LBS.	289.39 KG.
LENGTH	48.00 IN.	1219 MM
WIDTH	42.00 IN.	1066 MM
HEIGHT	42.50 IN.	1079 MM
CUBE	49.58 CU.FT.	1.40 CU.M
DENSITY	12.87 LBS/CU.FT.	206.1 KG/CU.M
*PLASTIC	— % _L — % _W	— TYPE

* % VOLUME (EXPANDED)
 % WEIGHT (UNEXPANDED)

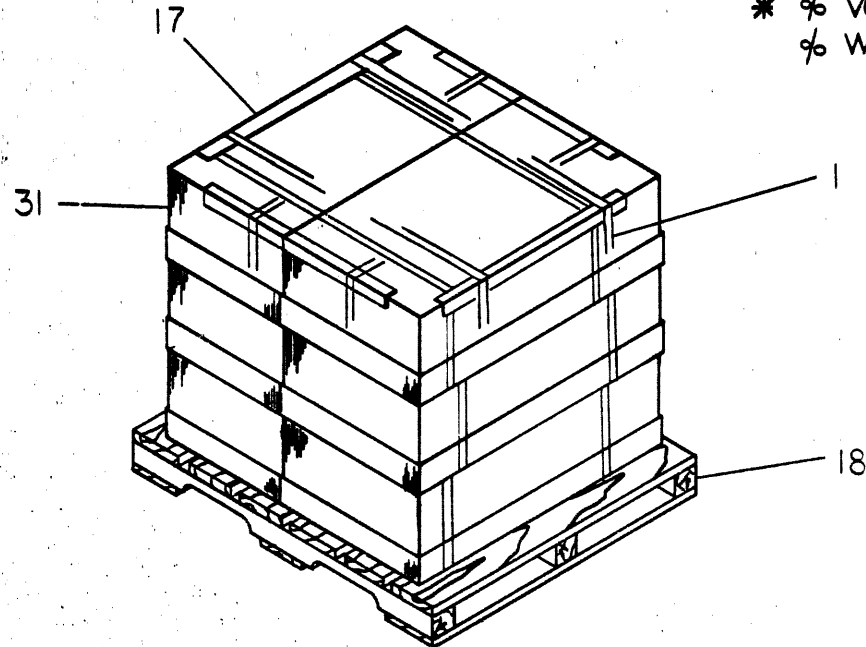


FIGURE 2
 3700662-01

DATE	ECO NUMBER	REV.

FOR OFF SHEET PARTS LIST SEE K-PL-3700662-0-DBP

DRN.	DATE	TITLE PKG	digital
CHK'D.	DATE	CPU 11730-ZA	
DES. ENG.	DATE	DOCUMENT NUMBER	
RESP. ENG.	DATE	SIZE	CODE
MFG. ENG.	DATE	C	PA
NEXT HIGHER DOC.		NUMBER	REV.
		3700662-0-0	A
		SCALE	SHEET 5 OF 5

4 3 2 1

C B A

D C A

4 3 2 1

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UNIT VARIATIONS	
VAR	TITLE
KA730-A	11730 PROCESSOR MODULE SET

REV. NO.	CHANGE NO.

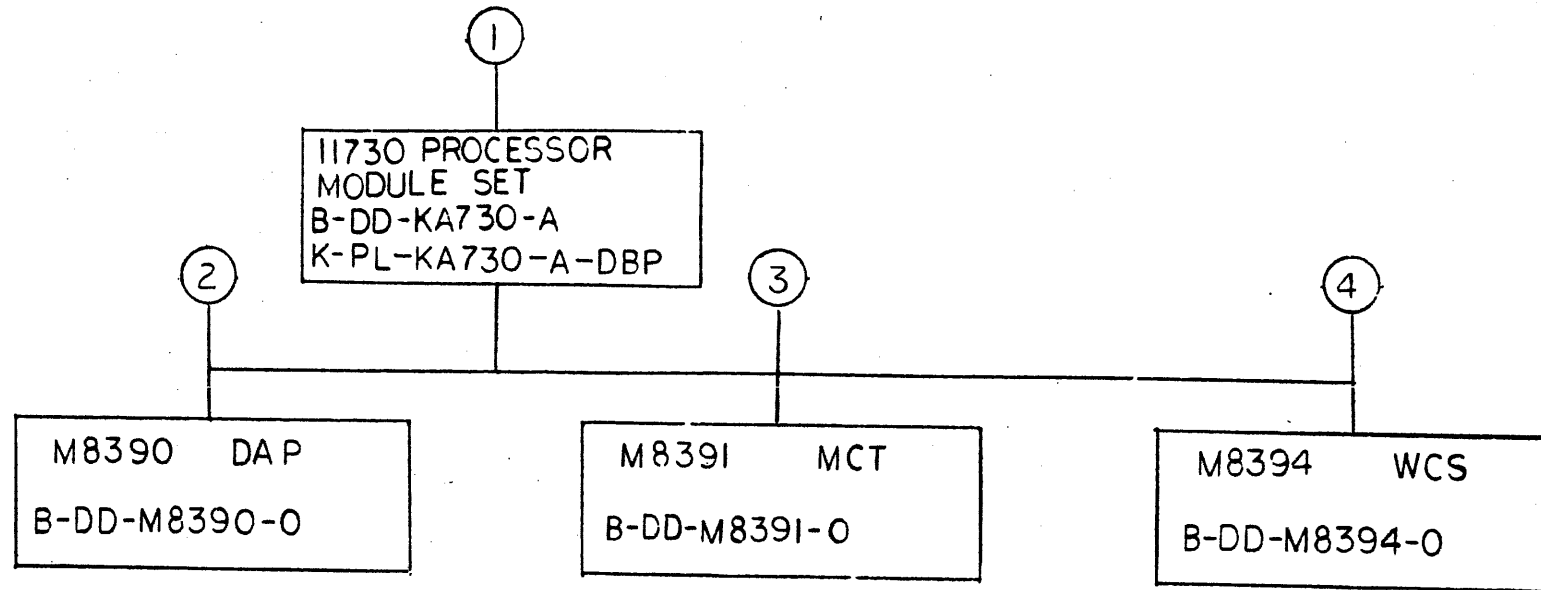
USED ON OPTION/MODEL	DRN.	DATE	TITLE								
11730	D. LANDRY	2-2-82	11730 PROCESSOR MODULE SET								
	CHK'D.	DATE									
	D.M. Landry	25-FEB-82	<table border="1"> <tr> <th>SIZE</th> <th>CODE</th> <th>NUMBER</th> <th>REV</th> </tr> <tr> <td>B</td> <td>DD</td> <td>KA 730-A</td> <td>A</td> </tr> </table>	SIZE	CODE	NUMBER	REV	B	DD	KA 730-A	A
SIZE	CODE	NUMBER		REV							
B	DD	KA 730-A		A							
	PROJ. ENG.	DATE									
	D.M. Landry	25-FEB-82									
	PROD.	DATE	DIST.								
	S.A. Coyle	25-FEB-82									
SHEET OF 3											



TW

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REV	NUMBER	SIZE	CODE
Δ	KA730-A	B	DD



TITLE	SIZE	CODE	NUMBER	REV
11730 PROCESSOR MODULE SET	B	DD	KA730-A	A

SHEET 2 OF 3

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE
	B-DD-KA730-A	11730 MODULE SET-DWG DIRECTORY	—				
	K-PL-KA730-A-DBP	11730 MODULE SET-PARTS LIST	—				
2	B-DD-M8390-0	M8390 DAP MODULE-DWG DIRECTORY	—				
	D-UA-M8390-0-0	DAP UNIT ASSEMBLY	E/M				
	K-PL-M8390-0-DBP	DAP PARTS LIST	—				
	D-BD-M8390-0-0	DAP BLOCK DIAGRAM	E				
	D-CS-M8390-0-X	DAP CIRCUIT SCHEMATICS	E				
		(D-CS-M8390-0-DAPA THRU -DAPM)	—				
	D-GL-M8390-0-0	DAP ROM AND PAL LISTINGS	—				
3	B-DD-M8391-0	M8391 MCT MODULE-DWG DIRECTORY	—				
	D-UA-M8391-0-0	MCT UNIT ASSEMBLY	E/M				
	K-PL-M8391-0-DBP	MCT PARTS LIST	—				
	D-BD-M8391-0-0	MCT BLOCK DIAGRAM	E				
	D-CS-M8391-0-X	MCT CIRCUIT SCHEMATICS	E				
		(D-CS-M8391-0-MCTA THRU -MCTN)	—				
	D-GL-M8391-0-1	MCT ROM AND PAL LISTINGS	—				
	D-FD-M8391-0-X	MCT FLOW DIAGRAMS	—				
		(D-FD-M8391-0-1 THRU -2!)	—				
4	B-DD-M8394-0	M8394 WCS MODULE-DWG DIRECTORY	—				
	D-UA-M8394-0-0	WCS UNIT ASSEMBLY	E/M				
	K-PL-M8394-0-DBP	WCS PARTS LIST	—				
	D-BD-M8394-0-0	WCS BLOCK DIAGRAM	—				
	D-CS-M8394-0-X	WCS CIRCUIT SCHEMATICS	E				
		(D-CS-M8394-0-WCSA THRU -WCSR)	—				
	D-GL-M8394-0-1	WCS ROM AND PAL LISTINGS	—				

TYPE: E ELECTRICAL
M MECHANICAL
E/M ELECTRO/MECHANICAL



TITLE 11730 PROCESSOR MODULE SET

SHEET 3 OF 3

SIZE CODE B DD

NUMBER KA730-A

REV A

TW

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	B-DD-M8390-0	M8390-00	DAP (DATA PATH)	1
2	B-DD-M8391-0	M8391-00	MCT (MEMORY CONTROLLER) HEX	1
3	B-DD-M8394-0	M8394-00	WRITEABLE CONTROL STORE, HEX, FOR	1
***** RELEASABLE *****				

REVISION HISTORY		BASIC PART NO: KA730		DRN: A. ROCHA	DATE: 03-MAR-82	DIGITAL			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: D. LANDRY	DATE: 03-MAR-82	TITLE	PARTS LIST		
	INITIAL	A	SECTION. VARIATION INDEX			11730 PROCESSOR MODULE SET			
			[AJ A						
			[BJ	DES.ENG.: D. LANDRY	DATE: 03-MAR-82				
			[CJ			DOCUMENT NUMBER			
			[DJ	RESP.ENG.: D. LANDRY	DATE: 03-MAR-82	SIZE	CODE	NUMBER	REV
			[EJ	MFG.ENG.: S. CASTIGLIONE	DATE: 03-MAR-82	K	PL	KA730-A-DBP	A
			[FJ	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #		
					#B-DD-KA730-A	Z1867A.PLS	3		
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DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																			
				A	B																		
			MODULE REVISION	A	B																		
B-DD-M8390-0-0	1		DRAWING DIRECTORY	A	B																		
B-UA-M8390-0-0	2		UNIT ASSEMBLY	A	A																		
K-PL-M8390-0-DBP	2		PARTS LIST	A	B																		
		5013860	ETCH BOARD REVISION	B	B																		
K-PC-5013860-0-DBC			DESIGN DATA BASE PC	A	B																		
D-MD-5013860-0-0	5		DRILL AND ETCH DRAWING	A	A																		
D-EC-5013860-0	3		ETCH CUT DRAWING	A	B																		
K-CS-M8390-0-DBS			DESIGN DATA BASE SUDS	A	B																		
D-CS-M8390-0-DAPA	1	*	MICRO WORD DECODE AND REG ADDR GEN	A	B																		
D-CS-M8390-0-DAPB	1	*	DATA PATH CLOCKS AND CONTROL	A	B																		
D-CS-M8390-0-DAPC	1	*	DATA PATH AND LS (HIGH WORD)	A	B																		
D-CS-M8390-0-DAPD	1	*	DATA PATH AND LS (LOW WORD)	A	B																		
D-CS-M8390-0-DAPE	1	*	BUS IB AND BUS D DRIVERS	A	B																		
D-CS-M8390-0-DAPF	1	*	BUS NAD AND BUS IB CONTROL	A	B																		
D-CS-M8390-0-DAPH	1	*	OS MUX AND CC CONTROL	A	B																		
D-CS-M8390-0-DAPJ	1	*	CONTROL STORE REG AND SEQUENCER	A	B																		
D-CS-M8390-0-DAPK	1	*	MICRO PC AND INTERRUPT CONTROL	A	B																		
D-CS-M8390-0-DAPL	1	*	CONSOLE INTERFACE AND CONTROL	A	B																		
D-CS-M8390-0-DAPM	1	*	FILTER CAPACITORS	A	B																		
D-BD-M8390-0-0	1	*	DATA PATH BLOCK DIAGRAM	X	A																		
D-GL-M8390-0-0	13	*	ROM AND PAL LISTINGS		A																		
D-BD-M8390-0-1	1		11/730 CONTROL STORE FORMATS	-	A																		
D-TD-M8390-0-0	1		11/730 CPU MICROCYCLE TIMING	-	A																		

NOTES:

*CONTROL STORE IS THE SUDS DATA BASE
NO CONTROLLED PAPER ORIGINALS EXIST

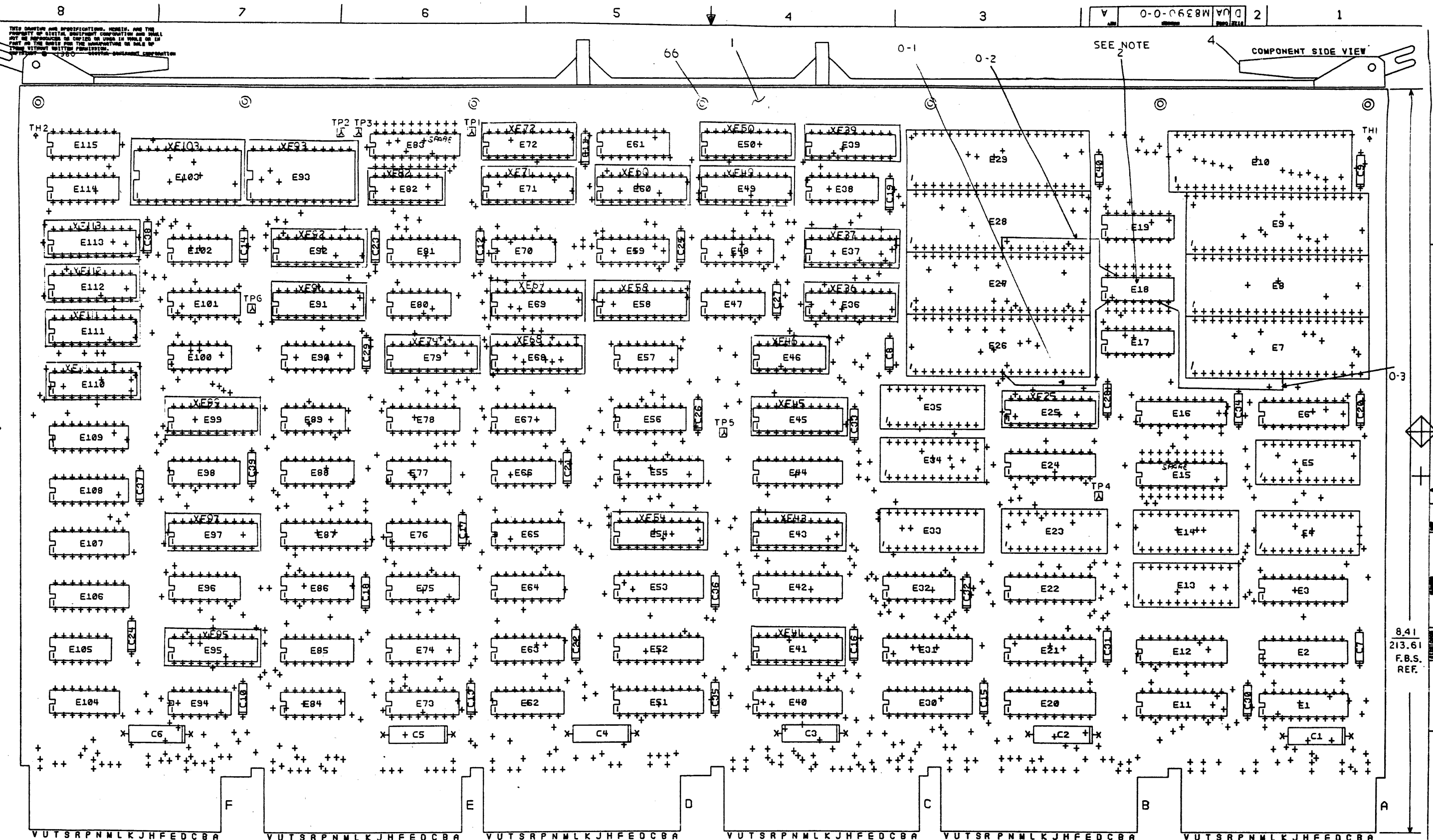
DATE	CHG NO.	REV.	REVISIONS																				
				A	B																		
XXXXXX	XXXXXX	XXXXXX	XXXXXX																				
12-81	TW001		B																				

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USED ON OPTION/MODEL		DRN. J. CASEY	7-15-80	TITLE		DAP	
		CHK'D J. CASEY	7-15-80	SIZE	CODE	NUMBER	REV.
		ENG. S. LACKEY	8-8-80	B	DD	M8390-0	B
		PROD. C. CONSIDINE	8-8-80	SHEET 1 OF 1			



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0-0-0668W 2

SEE NOTE

COMPONENT SIDE VIEW

NOTES:

STEP	± Y AXIS	STEP	TIMES
REPEAT	± X AXIS	STEP	TIMES

CHANGE NO.	REV.

ETCH REV.	B
DATA BASE REV.	B

SIGNATURES		DATE	digital
DRN.	[Signature]	3-3-80	
CHK'D.	E.T. GERRY	3-4-80	D.A.P.
MECH. ENG.	[Signature]	8-8-80	
PROJ. ENG.	[Signature]	8-8-80	
PROD.	[Signature]	8-8-80	
SCALE	2/1	SIZE CODE	D
SHT.	1 OF 2	NUMBER	M8390-0-0
NEXT HIGHER ASSY.		B-DD-MR390-C	REV
			A

0 - 0 - 06E8W

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REWORK INSTRUCTIONS

WIRE ADDS SIDE 1:

- 0 - 1 FROM E18 - 1 TO E26 - 11
- 0 - 2 FROM E18 - 15 TO E23 - 11
- 0 - 3 FROM E18 - 7 TO E7 - 11

REVISION HISTORY

DATE	ECO NUMBER	REV.

DOCUMENT NUMBER			REV.
SIZE	CODE	NUMBER	
D	UA	M8390-0-0	A
SCALE 2-1		SHEET 2 OF 2	

D.A.P

TW

AUTOMATED BY PRTLST.3M(41)

P A R T S L I S T

SHEET A1 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1	1	D-MD-5013860-0-0	5013860-00	DAP	1		
			1012084-01	8 MFD 25V +75-10% AL EL	6		C1-C6
			1012784-00	.047 MFD 50V +80-20% CER	34		C7-C40
			1216988-02	HANDLE, MODULE, HEX TWO EJECTORS	1		
			1215006-02	SKT, IC 16PIN DIP TIN PLATE	2		XE46, XE82
			1215006-04	SKT, IC 20PIN DIP TIN PLATE	26		XE36, XE37, XE39, XE41, XE43, XE45, XE49, XE50, XE54, XE58, XE60, XE68, XE69, XE71, XE72, XE79, XE91, XE92, XE95, XE97, XE99, XE110, XE111-XE113, XE25
							CONT
							CONT
							CONT
							CONT
7	7		1215006-06	SKT, IC 24PIN DIP TIN PLATE	2		XE93, XE103
			1311003-01	R NETWORK 14-180 14-390 16PIN	1		E73
			1910532-00	74500 NAND GATE-QUAD 2IN	1		E57, E89
			1910534-00	74504 INVERTER GATE-HEX 1I	1		E67, E77
			1910536-00	74510 NAND GATE-TRIPLE 3IN	1		E102
			1910539-00	74520 NAND GATE-DUAL 4INPU	1		E100
			1910542-00	74564 A-0-1 GATE 4-2-3-2	1		E94
			1910547-00	745153 MUX 1 OF 4 (DUAL)	1		E32
			1910549-00	745158 MUX 1 OF 2 (QUAD)	1		E55, E78, E90, E98, E101, E114
			1910956-00	745151 MUX 1 OF 8	1		E81, E89
			1910957-00	745175 FF-D QUAD COMMON CLO	1		E64, E75
			1911579-00	8641 TRANSCEIVER, BUS, QUA	1		E74
			1911641-00	SN 745257 MUX, QUAD 2 TO 1	1		E33
			1911675-00	745138 DECODER/DEMUX 3-8 LIN	1		E62
			1911675-00	745139 DECODER-DUAL TWO-INP	1		E43, E63
			1911712-00	74551 AND-OR GATE-INVERT D	1		E47, E105
			1912097-00	SN 745182 LOCK AND CARRY GEN	1		E17, E19
			1912388-00	74502 NOR GATE-QUAD 2IN, PO	1		E70, E76, E80, E84
			1912586-00	DM 85568N REGISTER, 64BIT EDGE	1		E106-E109
			1912648-00	LS251 MUX 8 INPUT, TRI-STA	1		E96

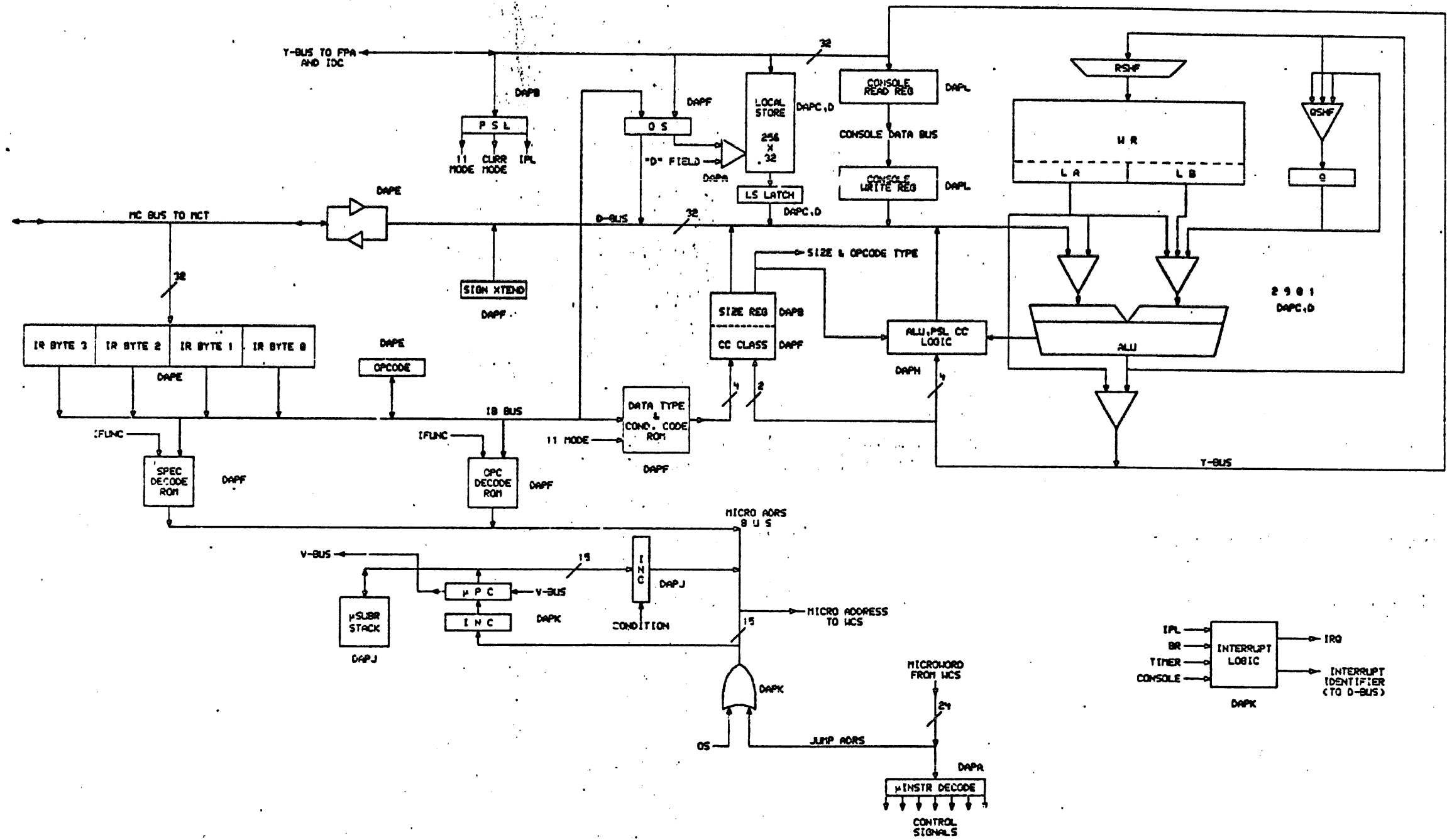
REVISION HISTORY		BASIC PART NO: M8390		DRN: J. CASEY		DATE: 27-FEB-80		D I G I T A L	
ENG:	ECO NUMBER	REV	SECTION A OF A	CHK'D:	E. T. GERRY	DATE:	27-FEB-80	TITLE PARTS LIST	
	INITIAL	A	SECTION VARIATION INDEX	DES. ENG:	S. LACKEY	DATE:	7-29-80	DOCUMENT NUMBER	
KO	M8390-TW001	B	(A) 00	RESP. ENG.:	S. LACKEY	DATE:	7-29-80	SIZE:	CODE:
			(B)	MFG. ENG.:	J. CONSIDINE	DATE:	8-AUG-80	K	PL
			(C)	ASSEMBLY NUMBER:	D-UA-M8390-0-0	TOP DOCUMENT NUMBER:	B-DD-M8390-0-0	FILE NAME:	EDIT #
			(D)					Z1269B.PLS	18
			(E)						
			(F)						
			(G)						
			(H)						
			(I)						
			(J)						
			(K)						
			(L)						
			(M)						
			(N)						

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LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
27	27	1912660-00	74S253 MUX 1 OF 4 (DUAL)	2	E59, E61
28	28	1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	E66
29	29	1912796-00	74148 EXCODER, PRIORITY, 8 T	1	E65
30	30	1912860-00	LS259 LATCH 8BIT	1	E86
31	31	1912865-00	LS283 ADDER-4BIT BINARY FU	1	E115
32	32	1913245-01	2901A MICROPROCESSOR-4 BIT	8	E7-E10, E26-E29
33	33	1913670-00	74S373 LATCH 8BIT TRASP TR	7	E3, E6, E12, E16, E21, E22, E24
34	34	1913671-00	74S374 FF-D OCTAL TRISTATE	10	E1, E20, E30, E40, E42, E51-E53, E55,
					CONT
35	35	1914866-00	AM 93S48PCGEN/CHECK PARITY, 48	2	E87
36	36	1915218-00	LS245 TRANSCEIVER, BUS, OCT	4	E85, E104
37	37	1915697-00	RAM 256X4 TRI-STATE	8	E2, E11, E31, E44
38	38	23001K4-00	K4-01	1	E4, E5, E13, E14, E23, E33-E35
39	39	23002K4-00	K4-01	1	E69
40	40	23003K4-00	K4-01	3	E95
41	41	23008K3-00	K3-01	1	E97, E99, E110
42	42	23032K3-00	K3-01	1	E58
43	43	23010K3-00	K3-01	1	E41
44	44	23011K3-00	K3-01	1	E60
45	45	23012J5-00	J5-01	1	E49
46	46	23006K3-00	K3-01	1	E79
47	47	23007K3-00	K3-01	1	E72
48	48	23012K3-00	K3-01	1	E71
49	49	23013J5-00	J5-01	1	E112
50	50	23013K3-00	K3-01	1	E45
51	51	23014J5-00	J5-01	1	E37
52	52	23014K3-00	K3-01	1	E91
53	53	23015J5-00	J5-01	1	E39
54	54	23015K3-00	K3-01	1	E25
55	55	23016J5-00	J5-01	1	E50
56	56	23017J5-00	J5-01	1	E111
57	57	23018J5-00	J5-01	1	E92
58	58	23019J5-00	J5-01	1	E113
59	59	23020J5-00	J5-01	1	E68
60	60	23021J5-00	J5-01	1	E54
61	61	23041J5-00	J5-01	1	E43
62	62	23069D1-00	D1-02	1	E36
63	63	23133F3-00	F3-03	1	E93
64	64	23954A9-00	A9-01	1	E103
65	65	23945A9-00	A9-01	1	E82
66	66	9009000-00	EYELET, ROLL FLANGE .1210DX .156	12	E46
67	67	9009149-00	PIN, STAKING, P.C. BOARD, .025 X	6	TP1-TP6
68	68	1311003-02	R NETWORK 14-330 14-680 16PIN	1	E18
69	69	9105740-55	WIRE (WRAP) 30AWG UL1423	A/R	

***** RELEASABLE/NO REF DES CHECK *****

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							DAP		K	PL	M8390-0-DBP	B

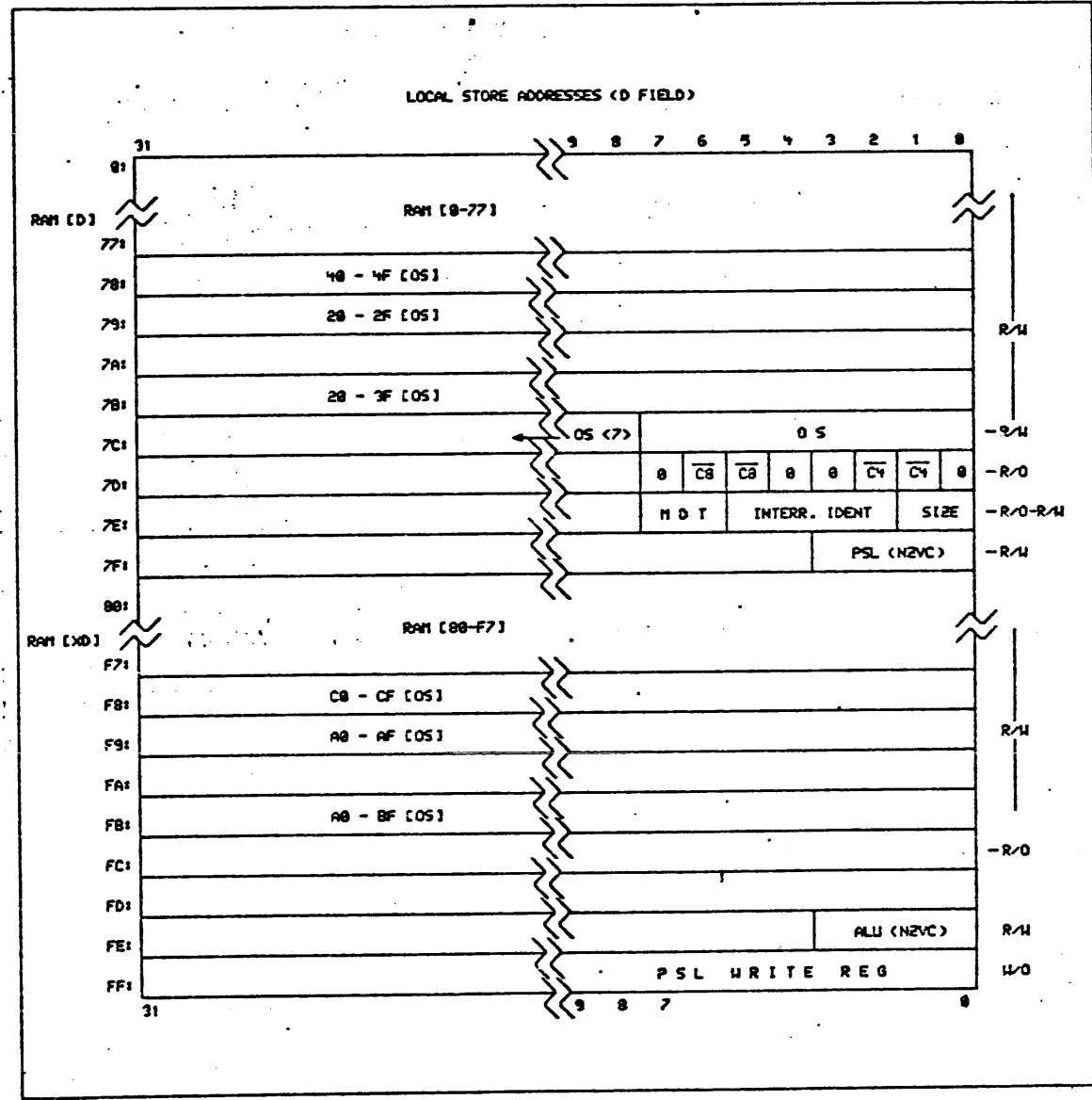
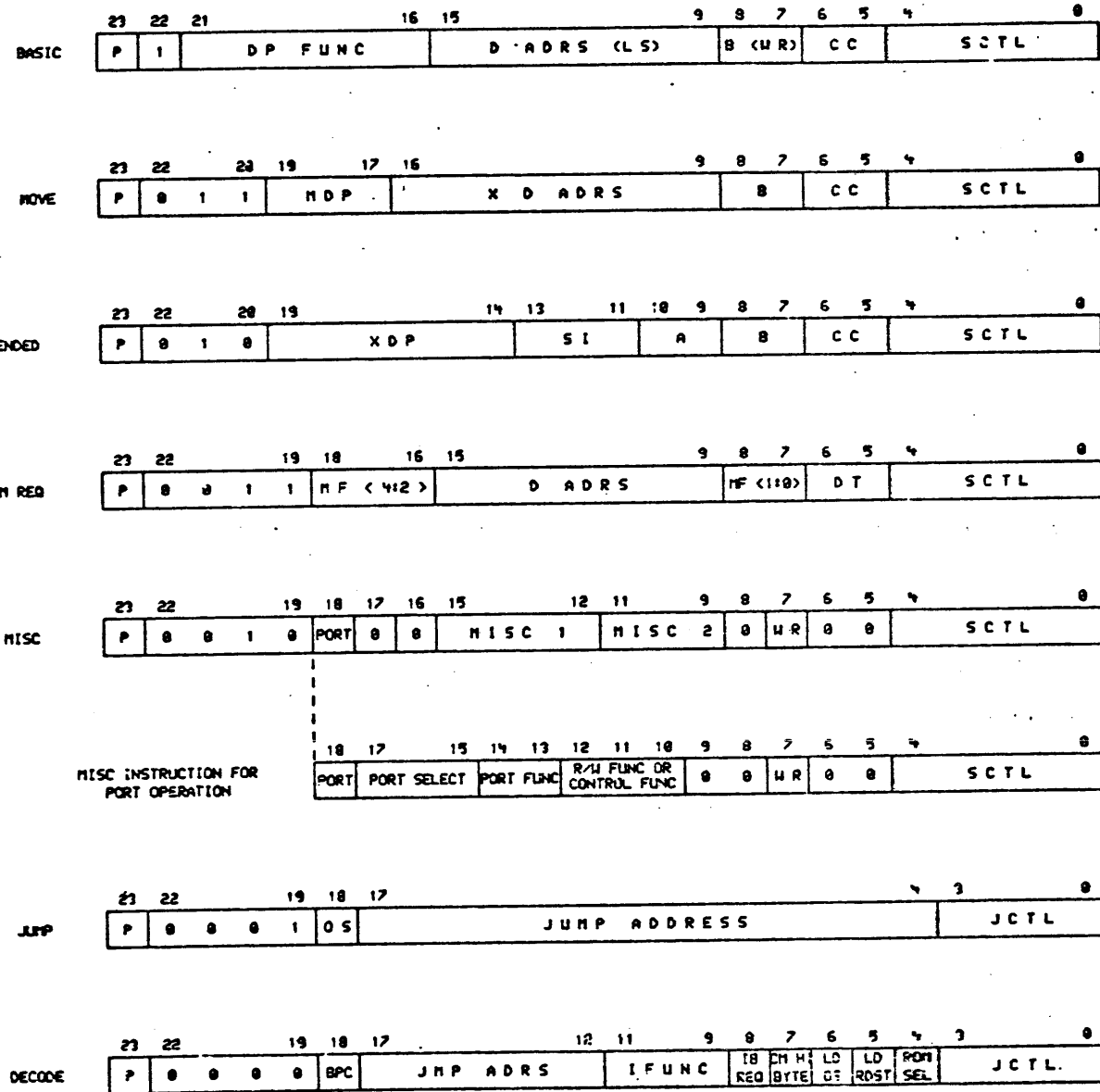


REV. NO.	DATE	BY	CHK	CHANGE NO.	REV.

	DRN: <i>Milomen</i> DATE: 26-SEP-81 DATE: 2-SEP-81 DATE: 2-SEP-81	DATE: ENG. DATE: BASED LOCATION:	TITLE: NEBULA DATA PATH BLOCK DIAGRAM (DAP)
(357-1590) DAPBLK.DRW (26-SEP-81) 18104 NEXT HIGHER ASSEMBLY FIRST USED ON OPTION/MODEL: NEBULA	SIZE CODE: D 180 NUMBER: M8390-0-0	NUMBER:	REV.: A

REV. NO. NAME NUMBER
 SIZE CODE BD 118390-0-0
 D B A

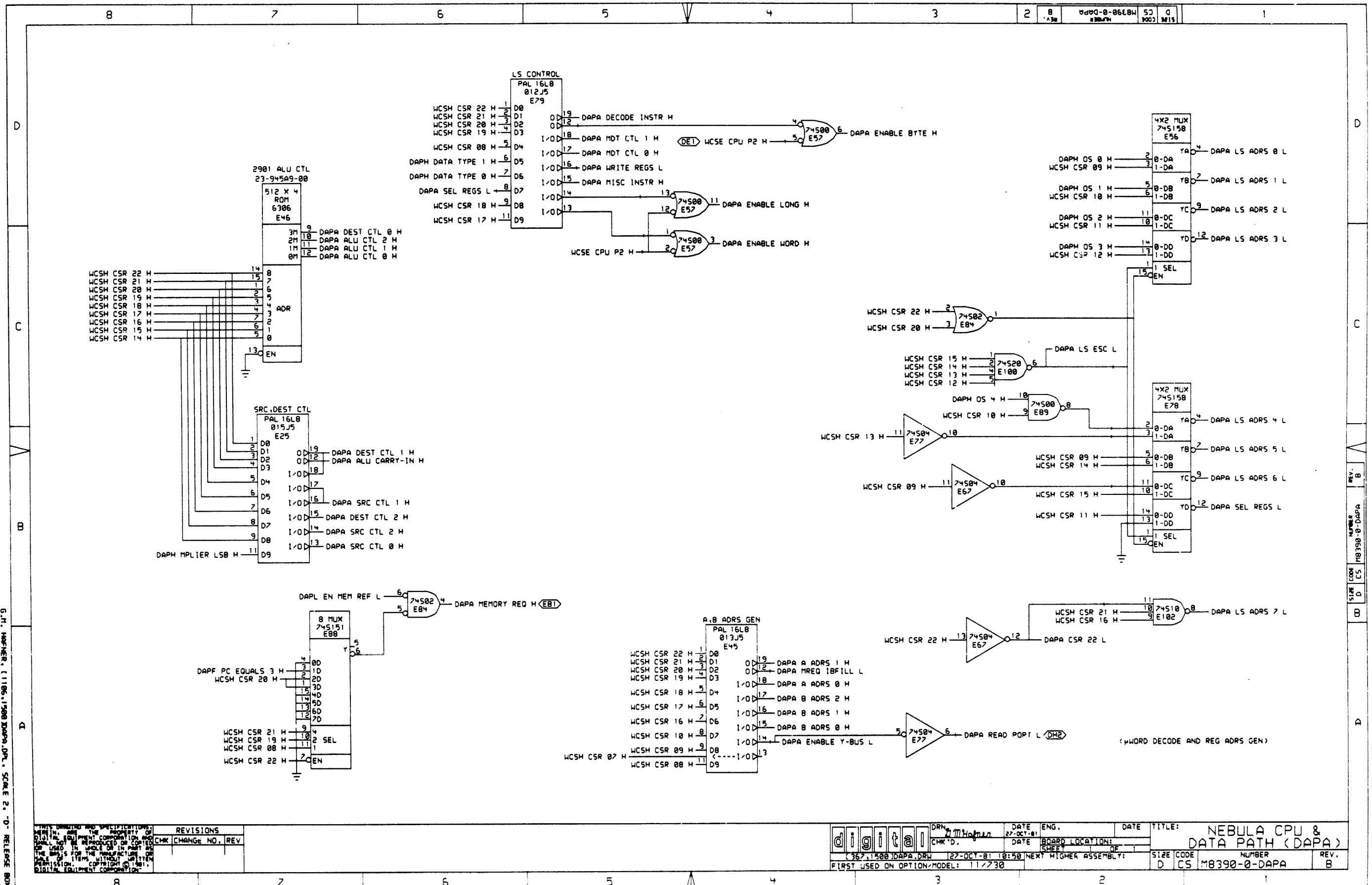
MICRO WORD FORMATS



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REV.	NO.	DATE	DESCRIPTION
1	1	06-SEP-87	ISSUE FOR LOCATION

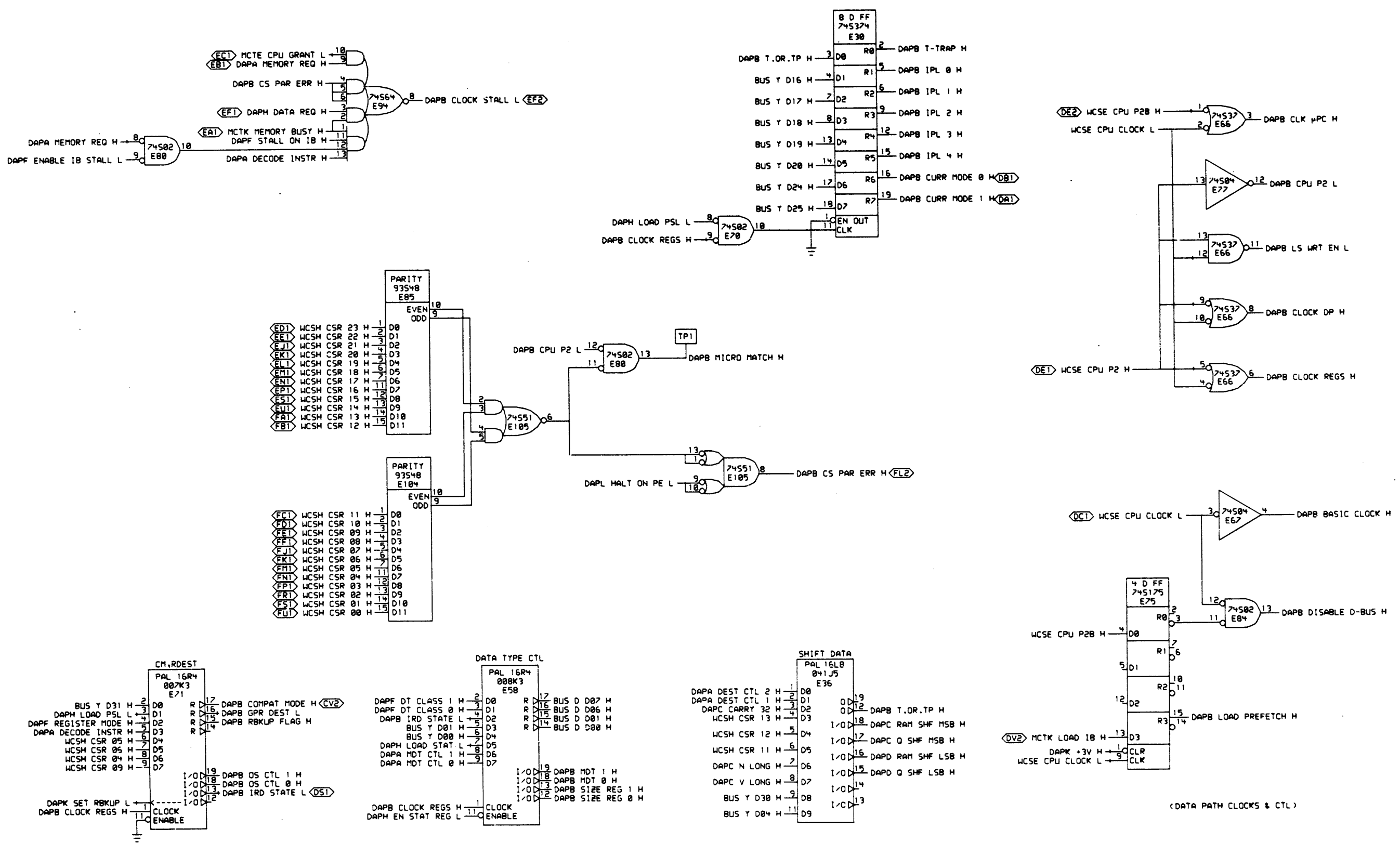
digital DRN: 11/730
 DATE: 26-SEP-87
 TITLE: 11/730 CONTROL STORE FORMATS
 SIZE: D BD
 CODE: M8390-0-1
 NUMBER: 1
 REV: A



G.H. WARNER, (1186,1500) DAPA, P. 1, SCALE 2, "D" RELEASE BOX
 G.H. WARNER DAPA, P. 1, (1186,1500) 27-OCT-81 1126

REV. NO.	DATE	DESCRIPTION
1		INITIAL DESIGN
2		REVISIONS
3		REVISIONS

DRN: <i>M. H. Miller</i>	DATE: 27-OCT-81	ENG.	DATE	TITLE: NEBULA CPU & DATA PATH (DAPA)
CHK'D:	DATE	BOARD LOCATION:	SHEET	REV. B
1367, 1500 DAPA, DRW	27-OCT-81 10:50	NEXT HIGHER ASSEMBLY:	SIZE CODE: D CS	NUMBER: M8390-0-DAPA
FIRST USED ON OPTION/MODEL: 117730				REV. B



G.H. HARTNER, (1106, 1500) DAPB, P.L. SCALE 2. "D" RELEASE 80M
 G.H. HARTNER DAPB, P.L. (1106, 1500) 27-OCT-81 11:26

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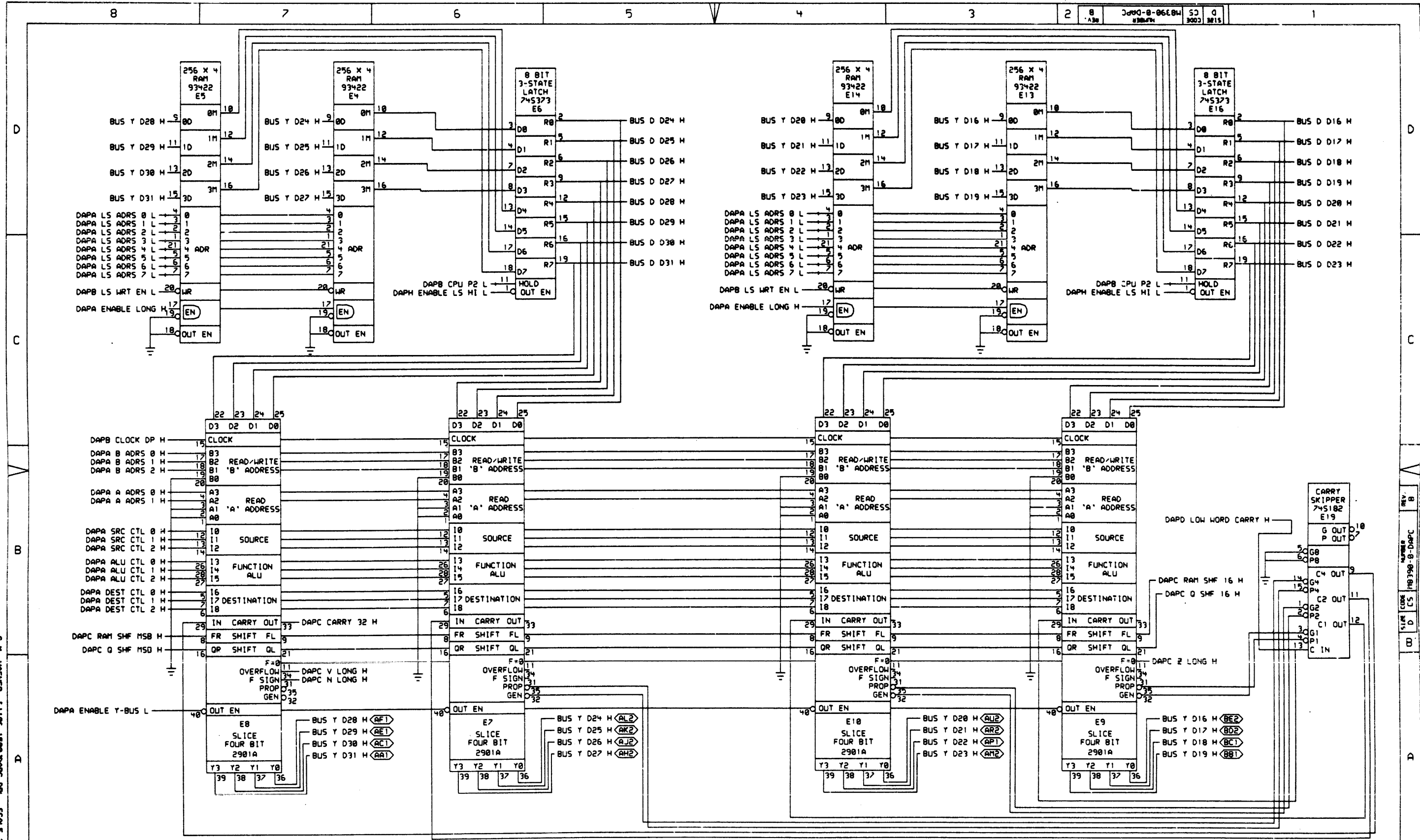
REVISIONS	CHK	CHANGE NO.	REV

digital DRN: G.H. Hartner DATE: 27-OCT-81 ENG. DATE: DATE: TITLE: NEBULA CPU & DATA PATH (DAPB)

BOARD LOCATION: SHEET: OF: SIZE CODE: D CS NUMBER: M8390-0-DAPB REV: B

367,1500 DAPB.DRW 127-OCT-81 10:51 NEXT HIGHER ASSEMBLY: FIRST USED ON OPTION-MODEL: 11/730

REV. B
 NUMBER M8390-0-DAPB
 SIZE CODE CS
 D



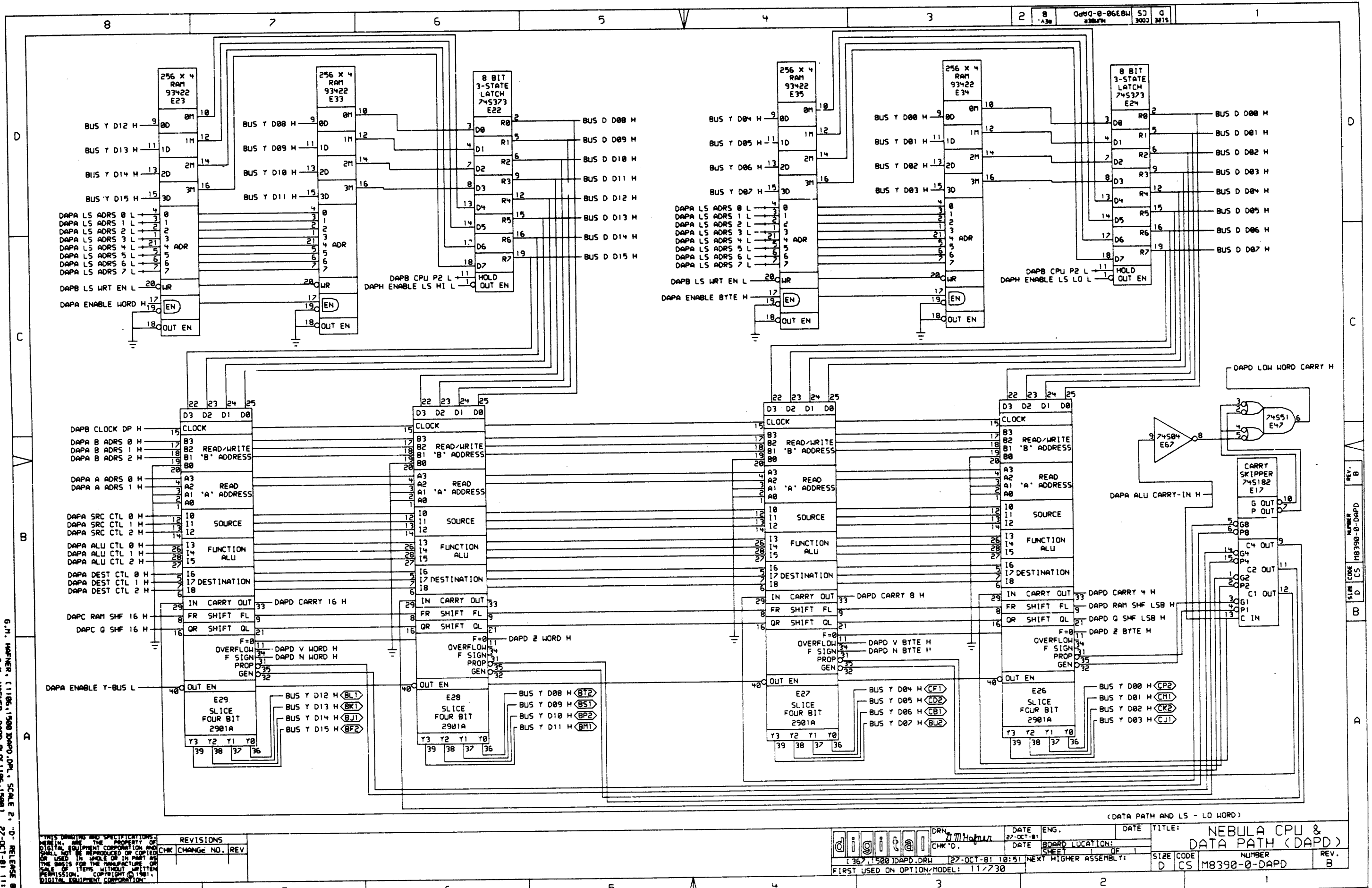
(DATA PATH AND LS - HI WORD)

G.M. WARNER, (1186,1500) DAPC.DRW, SCALE 2, "D" RELEASE BOX
 G.M. WARNER DAPC.PLT(1186,1500) 27-OCT-81 11:25

REVISIONS	
CHK	CHANGE NO. REV

digital	DRN: M.Holman	DATE: 27-OCT-81	ENG.	DATE	TITLE: NEBULA CPU & DATA PATH (DAPC)
	CHK'D.	DATE	BOARD LOCATION:	SHEET	OF
FIRST USED ON OPTION/MODEL: 117730		NEXT HIGHER ASSEMBLY:		SIZE CODE: D CS	NUMBER: M8390-0-DAPC
				REV.:	B

REV. B
 SIZE CODE: D CS
 NUMBER: M8390-0-DAPC



G.M. HARKER, (1186, 1500) DAPD, DRW, SCALE 2, "D" RELEASE 80R
 G.M. HARKER, DAPD, PLOT (1186, 1500) 27-OCT-81 11:27

REV.	NO.	DATE	DESCRIPTION
1	1	27-OCT-81	INITIAL RELEASE

REV.	NO.	DATE	DESCRIPTION
1	1	27-OCT-81	INITIAL RELEASE

REV.	NO.	DATE	DESCRIPTION
1	1	27-OCT-81	INITIAL RELEASE

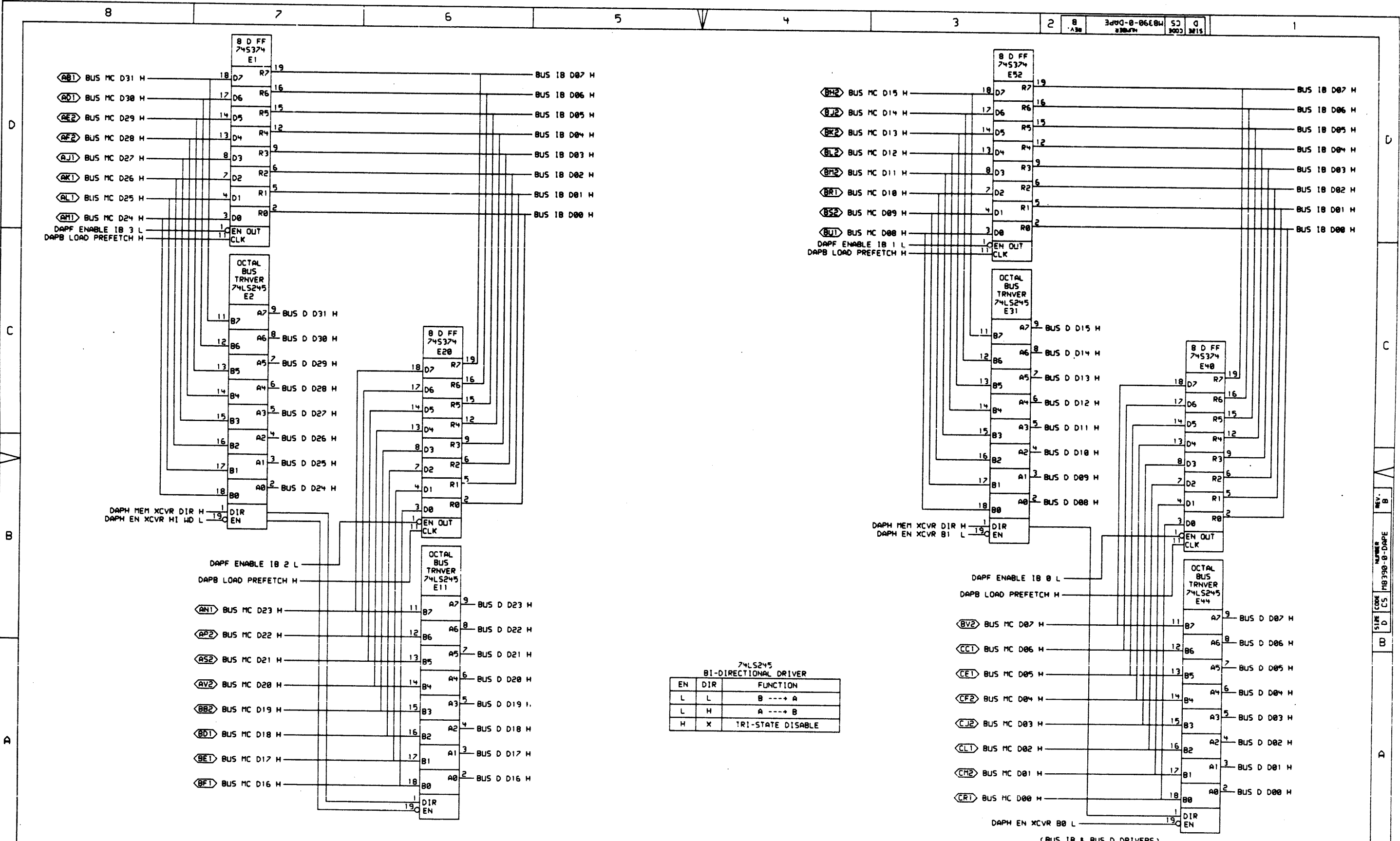
REV.	NO.	DATE	DESCRIPTION
1	1	27-OCT-81	INITIAL RELEASE

REV.	NO.	DATE	DESCRIPTION
1	1	27-OCT-81	INITIAL RELEASE

REV.	NO.	DATE	DESCRIPTION
1	1	27-OCT-81	INITIAL RELEASE

TITLE: NEBULA CPU & DATA PATH (DAPD)
 DATE: 27-OCT-81
 ENG: M.HARKER
 BOARD LOCATION: SHEET 1 OF 1
 SIZE CODE: D CS M8390-0-DAPD
 NUMBER: 1
 REV: B
 FIRST USED ON OPTION/MODEL: 11/730

(DATA PATH AND LS - LO WORD)



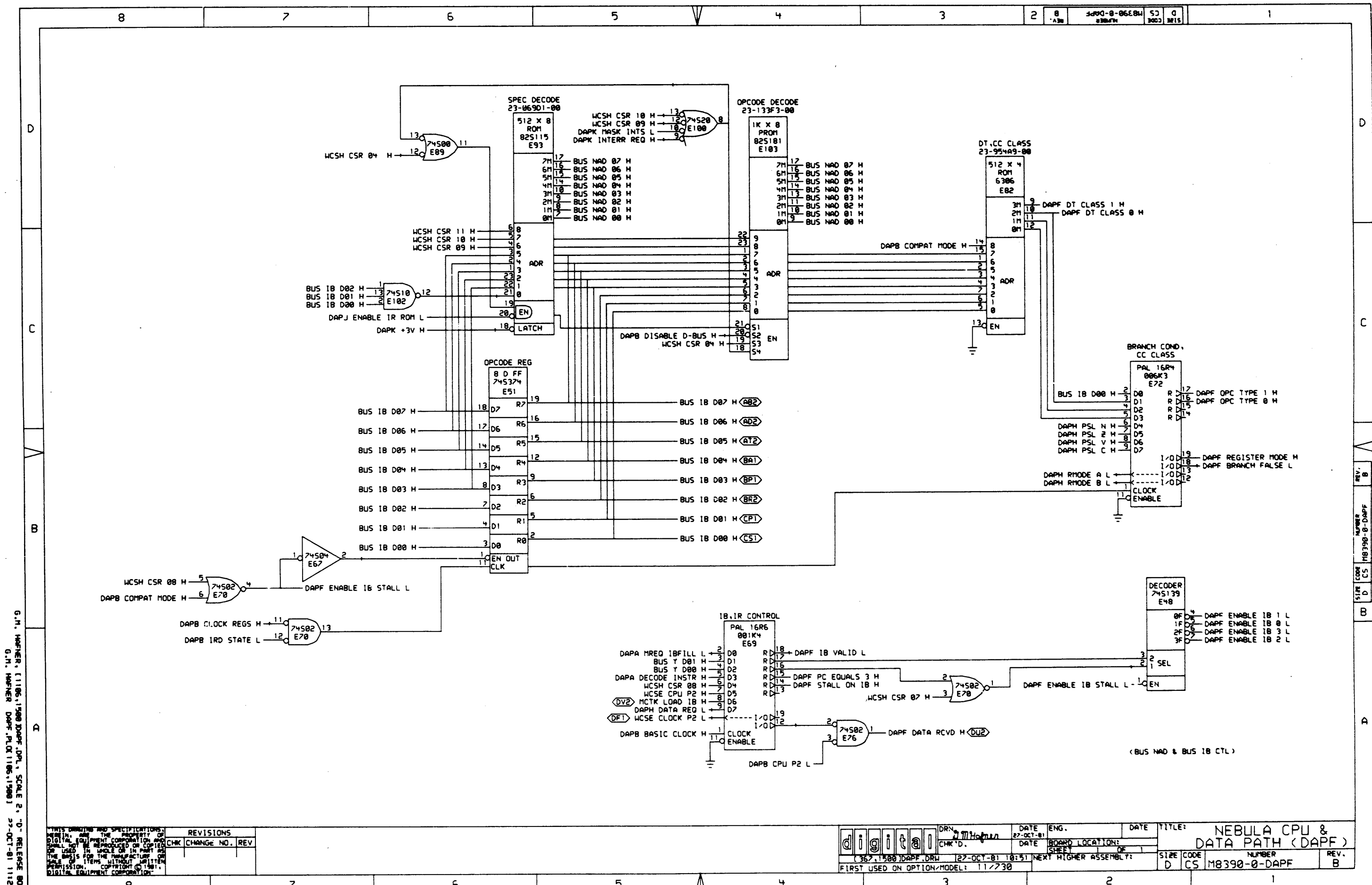
G.N. WAFNER (1186, 1500) DAPE.DRW, SCALE 2, "D" RELEASE BOX
 G.N. WAFNER DAPE.PLOT (1186, 1500) 27-OCT-81 11:27

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REVISIONS	
CHK	CHANGE NO. REV

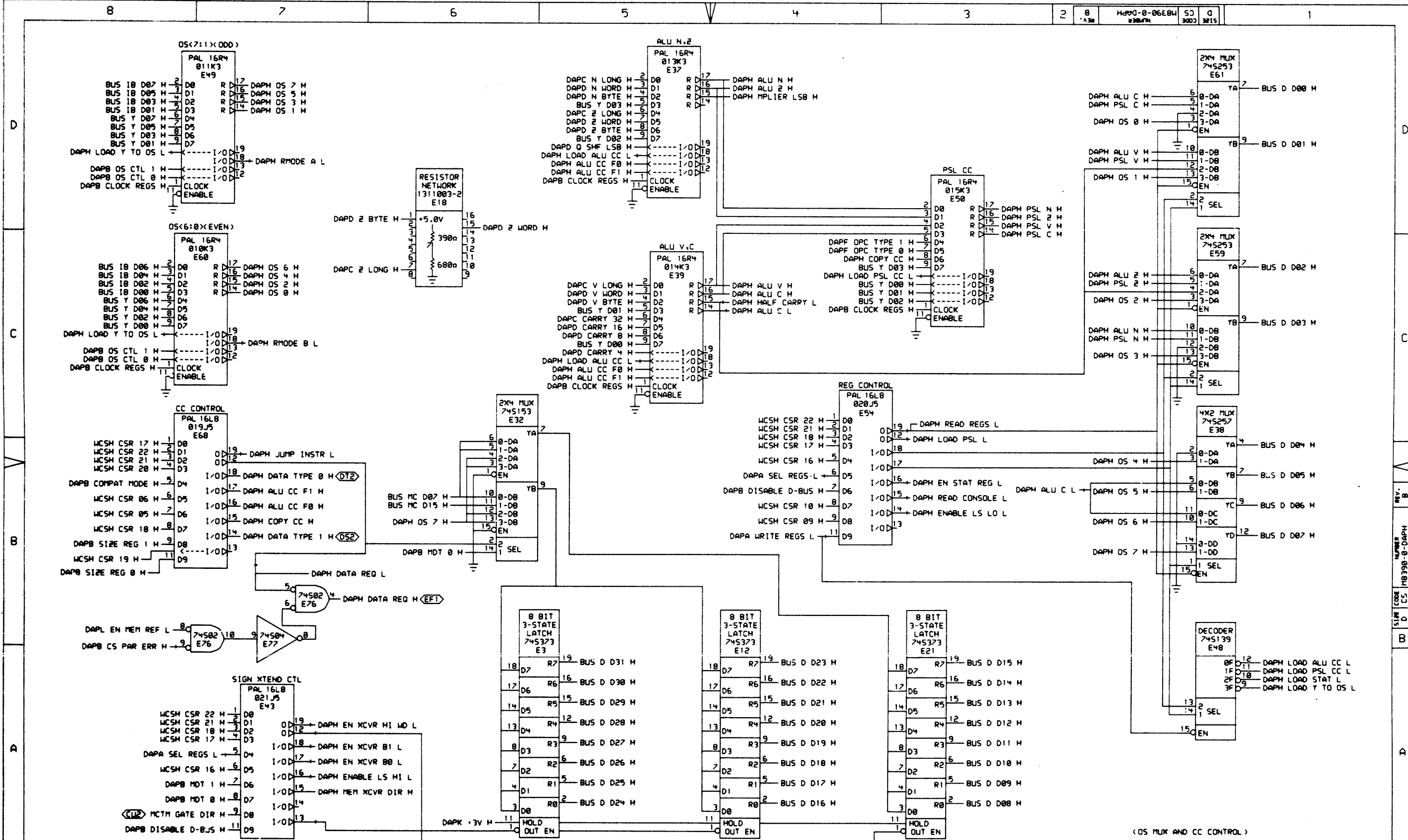
digital	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D.	27-OCT-81	M. Holman	27-OCT-81	NEBULA CPU & DATA PATH (DAPE)
FIRST USED ON OPTION/MODEL: 117730		NEXT HIGHER ASSEMBLY:		SIZE CODE	NUMBER
				D CS M8390-0-DAPE	REV. B

REV. B
 NUMBER M8390-0-DAPE
 SIZE CODE D CS
 SHEET 1 OF 1



G.M. HARNER, (1106-1500) DAPF, DPL, SCALE 2, "D" RELEASE BOX
 G.M. HARNER DAPF, PLOT (1106-1500)] 27-OCT-81 1127

REVISIONS		DATE		TITLE	
CHK	CHANGE NO.	REV	DATE	ENG.	DATE
			27-OCT-81	M. Harnen	
DIGITAL				DRN	DATE
367,1500 DAPF.DRW				CHK'D.	DATE
FIRST USED ON OPTION/MODEL: 11/730				BOARD LOCATION:	SHEET
				OF	OF
				1F	3F
				2F	3F
				3F	3F
				D	CS
				M8390-0-DAPF	B



REV. B
 NUMBER M8390-0-DAPH
 SIZE CODE CS
 BOARD LOCATION

G.M. HARPER, (1186, 1980 DAPH.DWG., SCALE 2, 27-OCT-81 11:28)
 G.M. HARPER, DAPH.PLOT (1186, 1980) 27-OCT-81 11:28

REV.	NO.	DATE	DESCRIPTION

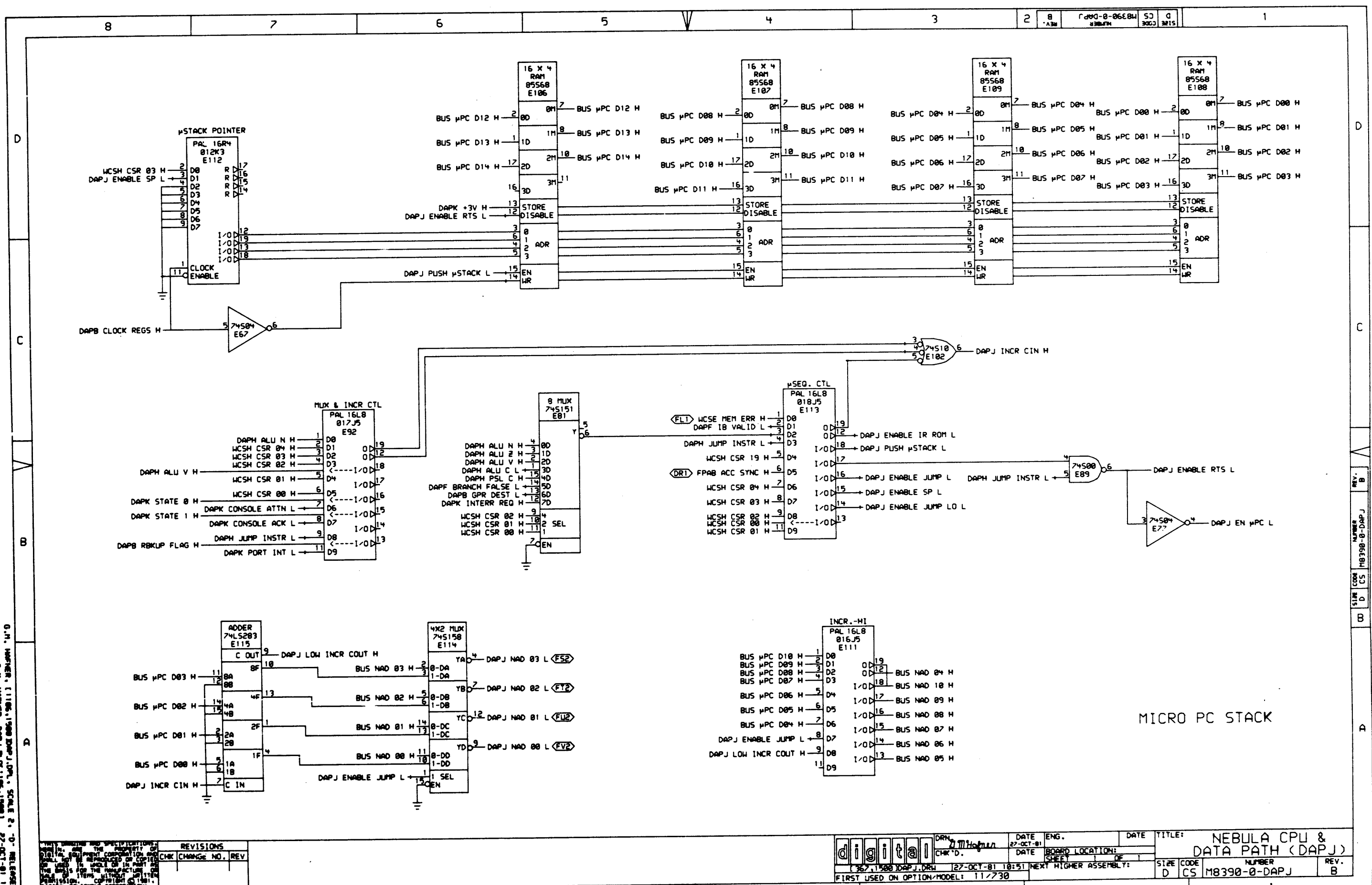
REV.	NO.	DATE	DESCRIPTION

REV.	NO.	DATE	DESCRIPTION

ORIGINATOR: <i>M. Holtzer</i>	DATE: 27-OCT-81	ENGINEER: <i>M. Holtzer</i>	DATE: 27-OCT-81	TITLE: NEBULA CPU & DATA PATH (DAPH)
CHECKED: <i>M. Holtzer</i>	DATE: 27-OCT-81	BOARD LOCATION: SHEET 1 OF 1		
FIRST USED ON OPTION/MODEL: 11/730		SIZE CODE NUMBER REV. D CS M8390-0-DAPH B		

TITLE: NEBULA CPU & DATA PATH (DAPH)	SIZE CODE: D CS	NUMBER: M8390-0-DAPH	REV.: B
--------------------------------------	-----------------	----------------------	---------

(OS MUX AND CC CONTROL)



MICRO PC STACK

G.M. WARNER (1106, 1500) DAPJ.DRW. SCALE 2:1
 G.M. WARNER DAPJ.PLD (1106, 1500) 27-OCT-81 11:28

REV.	NO.	DATE	BY	REASON
1	1	27-OCT-81	G.M. WARNER	INITIAL RELEASE

REV.	NO.	DATE	BY	REASON
1	1	27-OCT-81	G.M. WARNER	INITIAL RELEASE

REV.	NO.	DATE	BY	REASON
1	1	27-OCT-81	G.M. WARNER	INITIAL RELEASE

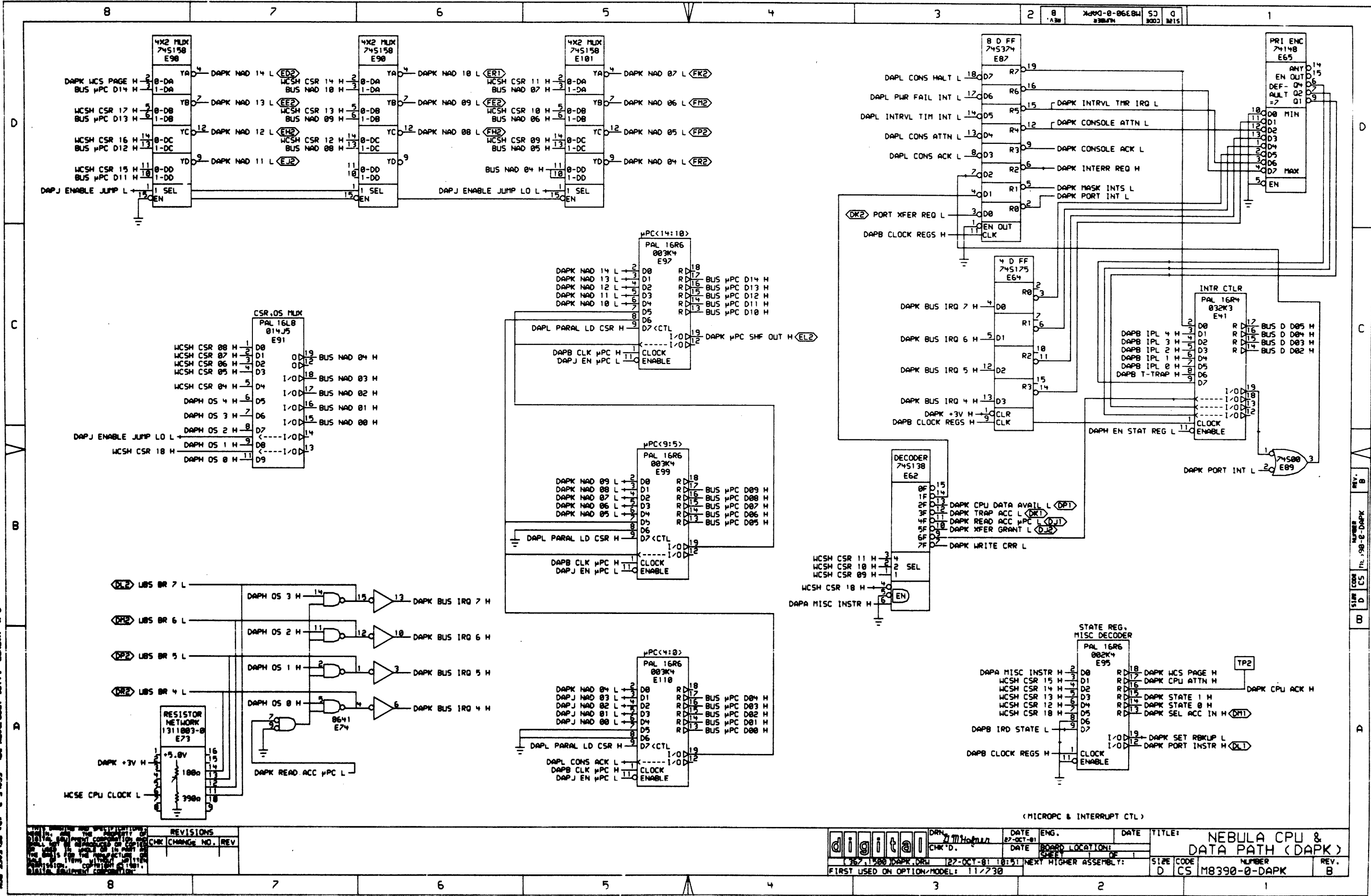
REV.	NO.	DATE	BY	REASON
1	1	27-OCT-81	G.M. WARNER	INITIAL RELEASE

REV.	NO.	DATE	BY	REASON
1	1	27-OCT-81	G.M. WARNER	INITIAL RELEASE

REV.	NO.	DATE	BY	REASON
1	1	27-OCT-81	G.M. WARNER	INITIAL RELEASE

digital
 DRN: 1106, 1500 DAPJ.DRW. 127-OCT-81 10:51
 DATE: 27-OCT-81
 TITLE: NEBULA CPU & DATA PATH (DAPJ)
 SHEET: 1 OF 1
 FIRST USED ON OPTION MODEL: 11/730
 NEXT HIGHER ASSEMBLY:

REV. B
 NUMBER 1106-1500-DAPJ
 CODE CS
 SIZE D



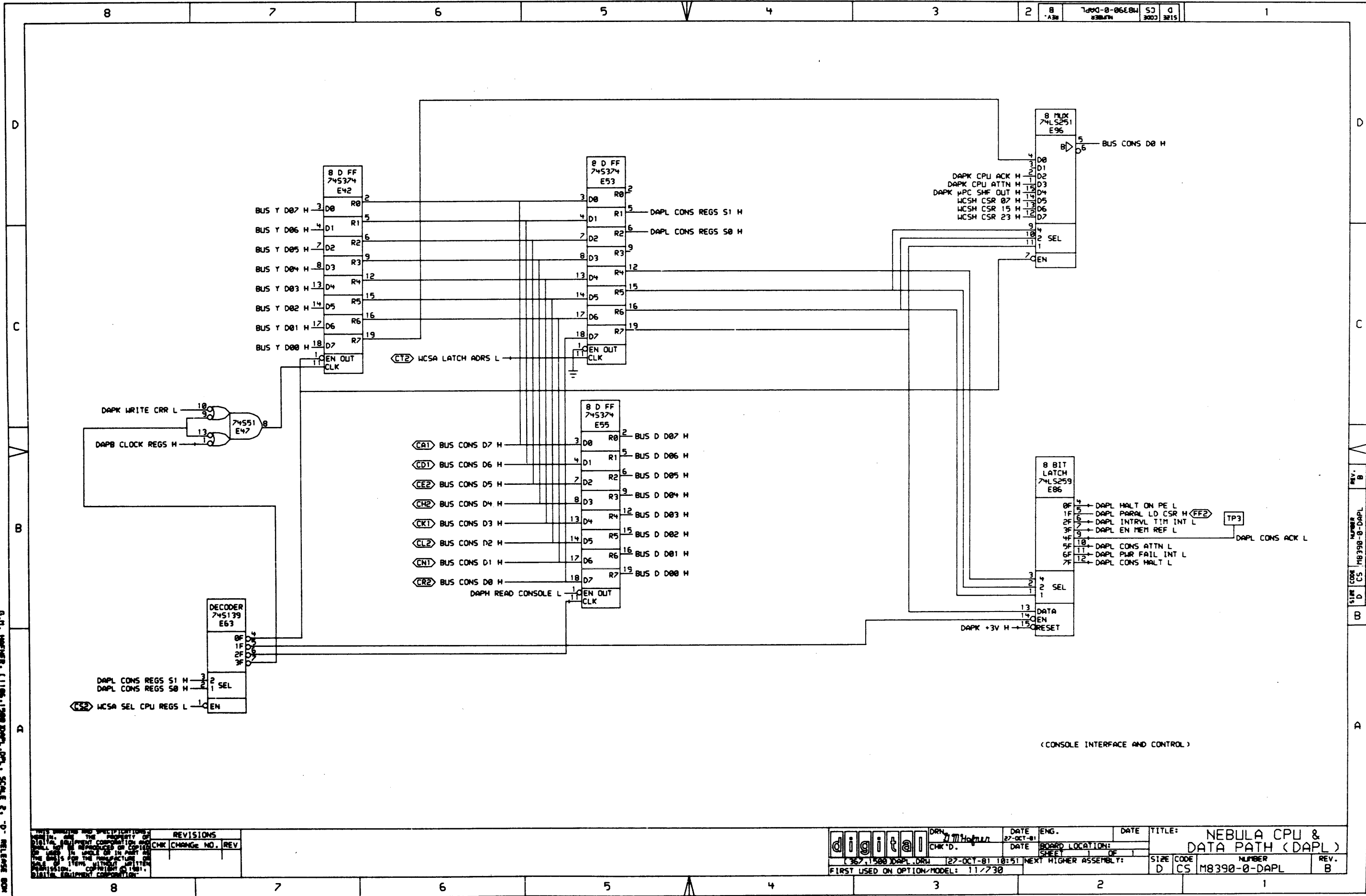
G.M. WARNER • 1186-1588 DAPK DPL, SCALE 2, 0-1 RELEASE BOM
 G.M. WARNER DAPK PLD 1186-1588 | 27-OCT-81 11:23

REV. B
 NUMBER 1186-1588-E-DAPK
 STAR CODE CS
 CD D

REVISIONS	
CHK	CHANGE NO. REV

	DRN: <i>M. Holman</i>	DATE: 82-OCT-81	ENG.:	DATE:	TITLE: NEBULA CPU & DATA PATH (DAPK)
	CHK'D:	DATE: 82-OCT-81	BOARD LOCATION:	SHEET: 1	
FIRST USED ON OPTION/MODEL: 11/230			SIZE CODE: D CS	NUMBER: M8390-0-DAPK	REV. B

(MICROPC & INTERRUPT CTL)

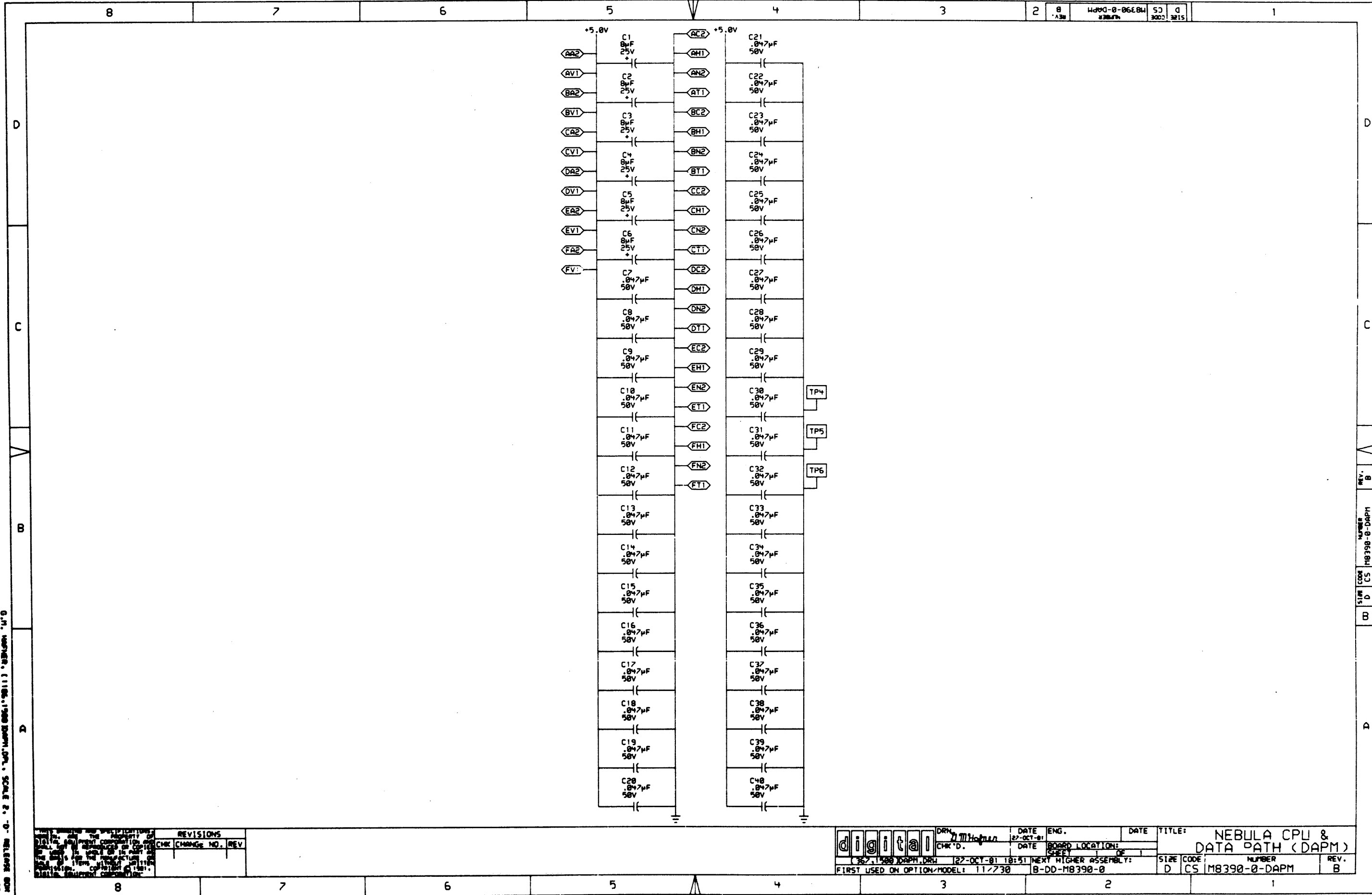


(CONSOLE INTERFACE AND CONTROL)

G.N. WARNER, (1186, 1988) DAPL, DPL, SCALE 2" - 0" RELEASE 808
 G.N. WARNER DAPL, DPL, (1186, 1988) 27-OCT-81 11:29

REVISIONS	
CHK	CHANGE NO. REV

	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D.	DATE	BOARD LOCATION:	SHEET	NEBULA CPU & DATA PATH (DAPL)
FIRST USED ON OPTION/MODEL: 11/730		27-OCT-81 18:51	NEXT HIGHER ASSEMBLY:	SIZE	CODE
				D	CS
				NUMBER	
				M8390-0-DAPL	
				REV.	
				B	



G.M. WARDER, (118,1198) DATA PATH, SCALE 2, 0-100% RELEASE FOR
 G.M. WARDER DATA PATH, (118,1198) 27-OCT-81 1119

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REVISIONS		
CHK	CHANGE NO.	REV

digital
 352,1480 DAPM.DRW 11/27/80
 FIRST USED ON OPTION MODEL: 11/27/80

DRN: J. Hoffman
 DATE: 27-OCT-81
 ENG.
 DATE: 27-OCT-81
 BOARD LOCATION: 1
 SHEET: 1 OF 1
 NEXT HIGHER ASSEMBLY: B-DD-M8390-0

TITLE: NEBULA CPU & DATA PATH (DAPM)
 SIZE CODE: D CS M8390-0-DAPM
 NUMBER: B
 REV.: B

SIZE CODE: D CS M8390-0-DAPM
 NUMBER: B
 REV.: B

PART NUMBER: 23-012J-5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #10-CS-18390-0-DATA
 LOCATION/DESCRIPTION: E79/ LOCAL STORE CONTROL
 ASSIGNED PIN NUMBER:

- | | | |
|-----------|--------------------|------------------|
| 1= CSR.22 | 8= /SEL.REGS | 15= MISC.INSTR |
| 2= CSR.21 | 9= CSR.18 | 16= /WRT.REGS |
| 3= CSR.20 | 10= GND | 17= /WRT.C0 |
| 4= CSR.19 | 11= CSR.17 | 18= /WRT.C1 |
| 5= CSR.08 | 12= /WRT.LS<7-0> | 19= DECODE.INSTR |
| 6= DT.1 | 13= /WRT.LS<15-8> | 20= VCC |
| 7= DT.0 | 14= /WRT.LS<31-16> | |

EQUATIONS:

IF(VCC) /WRT.LS<7-0> = /SEL.REGS * CSR.22 * CSR.21
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /SEL.REGS * CSR.21 * CSR.20 * CSR.19 * CSR.08
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /CSR.18 * CSR.17

IF(VCC) /WRT.LS<15-8> = /SEL.REGS * CSR.22 * CSR.21 * DT.0
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19 * DT.0
 + /CSR.22 * CSR.21 * CSR.20 * CSR.19 * CSR.08
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /CSR.18 * CSR.17 * DT.0

IF(VCC) /WRT.LS<31-16> = /SEL.REGS * CSR.22 * CSR.21 * DT.1
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19 * DT.1
 + /CSR.22 * CSR.21 * CSR.20 * CSR.19 * CSR.08
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /CSR.18 * CSR.17 * DT.1

IF(VCC) /MISC.INSTR = CSR.22
 + CSR.21
 + CSR.20
 + CSR.15

IF(VCC) /WRT.REGS = /SEL.REGS * CSR.22 * CSR.21
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /SEL.REGS * CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /CSR.18 * CSR.17

IF(VCC) /WRT.C0 = /CSR.22 * CSR.21 * CSR.20 * CSR.19 * DT.1 * DT.0
 + /CSR.22 * CSR.21 * CSR.20 * CSR.19 * DT.1

IF(VCC) /WRT.C1 = /CSR.22 * CSR.21 * CSR.20 * CSR.19 * DT.1

IF(VCC) /DECODE.INSTR = CSR.22
 + CSR.21
 + CSR.20

PART NUMBER: 23-013J-5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #10-CS-18390-0-DATA
 LOCATION/DESCRIPTION: E75/ A,B ADDRESS GENERATOR
 ASSIGNED PIN NUMBER:

- | | | |
|-----------|-------------------|--------------|
| 1= CSR.22 | 8= CSR.18 | 15= B.ADRS.0 |
| 2= CSR.21 | 9= CSR.09 | 16= B.ADRS.1 |
| 3= CSR.20 | 10= GND | 17= B.ADRS.2 |
| 4= CSR.19 | 11= CSR.08 | 18= A.ADRS.0 |
| 5= CSR.18 | 12= /REQ.1BFILL | 19= A.ADRS.1 |
| 6= CSR.17 | 13= CSR.07 | 20= VCC |
| 7= CSR.16 | 14= /ENABLE.Y-BUS | |

EQUATIONS:

IF(VCC) /REQ.1BFILL = /CSR.22 * CSR.21 * CSR.20 * CSR.19 * CSR.18 * CSR.17
 + /CSR.16 * CSR.08 * CSR.07

VCC) /ENABLE.Y-BUS = CSR.22
 + /CSR.21
 + /CSR.20
 + /CSR.19
 + /CSR.18
 + /CSR.17

IF(VCC) /B.ADRS.0 = CSR.22 * CSR.07
 + CSR.21 * CSR.07
 + /CSR.20 * CSR.07
 + /CSR.19 * CSR.07
 + /CSR.22 * CSR.21 * CSR.20 * CSR.19

IF(VCC) /B.ADRS.1 = CSR.08
 + /CSR.22 * CSR.21

IF(VCC) /B.ADRS.2 = CSR.22
 + CSR.21 * CSR.20
 + /CSR.22 * CSR.21 * CSR.20 * CSR.19
 + /CSR.22 * CSR.21 * CSR.20 * CSR.18
 + /CSR.22 * CSR.21 * CSR.20 * CSR.17
 + /CSR.20 * CSR.09
 + /CSR.22 * CSR.21 * CSR.20 * CSR.19

IF(VCC) /A.ADRS.0 = /CSR.22 * CSR.21 * CSR.20 * CSR.09
 + CSR.22 * CSR.07
 + /CSR.21 * CSR.07
 + CSR.23 * CSR.07

IF(VCC) /A.ADRS.1 = /CSR.22 * CSR.21 * CSR.20 * CSR.18
 + CSR.22 * CSR.09
 + /CSR.21 * CSR.09
 + CSR.20 * CSR.03

PART NUMBER: 23-014J-5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #10-CS-18390-0-DATA
 LOCATION/DESCRIPTION: E91/ CSR , OS PLM
 ASSIGNED PIN NUMBER:

- | | | |
|-----------|---------------------|------------|
| 1= CSR.08 | 8= OS.2 | 15= NAD.08 |
| 2= CSR.07 | 9= OS.1 | 16= NAD.01 |
| 3= CSR.06 | 10= GND | 17= NAD.02 |
| 4= CSR.05 | 11= OS.0 | 18= NAD.03 |
| 5= CSR.04 | 12= NC | 19= NAD.04 |
| 6= OS.4 | 13= CSR.18 | 20= VCC |
| 7= OS.3 | 14= /ENABLE.JUMP.L0 | |

EQUATIONS:

IF(ENABLE.JUMP.L0) /NAD.00 = /CSR.04 * CSR.18
 + /CSR.04 * OS.0

IF(ENABLE.JUMP.L0) /NAD.01 = /CSR.05 * CSR.18
 + /CSR.05 * OS.1

IF(ENABLE.JUMP.L0) /NAD.02 = /CSR.06 * CSR.18
 + /CSR.06 * OS.2

IF(ENABLE.JUMP.L0) /NAD.03 = /CSR.07 * CSR.18
 + /CSR.07 * OS.3

IF(ENABLE.JUMP.L0) /NAD.04 = /CSR.08 * CSR.18
 + /CSR.08 * OS.4

23-012J-5-00
 23-013J-5-00
 23-014J-5-00

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	8 7 6 5 4 3 2 1	11-SEP-81 DATE BOARD LOCATION: SHEET 01 OF 14 SIZE CODE NUMBER REV. D GL M8390-0-0 A

PART NUMBER: 23-016J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET 010-CS-M8390-0-04P.J
 LOCATION/DESCRIPTION: E111/ MICRO ADDRESS (10:04) INCREMENTER
 ASSIGNED PIN NUMBER:
 1= LPC.10 8= ENABLE.JUMP 15= NAD.07
 2= LPC.09 9= CARRY.IN 16= NAD.08
 3= LPC.08 10= GND 17= NAD.09
 4= LPC.07 11= MC 18= NAD.10.A
 5= LPC.06 12= NAD.04 19= NAD.10.B
 6= LPC.05 13= NAD.05 20= VCC
 7= LPC.04 14= NAD.06

EQUATIONS:
 IFC/ENABLE.JUMP/NAD.04=LPC.04=CARRY.IN
 +LPC.04=CARRY.IN
 IFC/ENABLE.JUMP/NAD.05=LPC.05=LPC.04=CARRY.IN
 +LPC.05=LPC.04
 +LPC.05=CARRY.IN
 IFC/ENABLE.JUMP/NAD.06=LPC.06=LPC.05=LPC.04=CARRY.IN
 +LPC.06=LPC.05
 +LPC.05=LPC.04
 +LPC.06=CARRY.IN
 IFC/ENABLE.JUMP/NAD.07=LPC.07=LPC.06=LPC.05=LPC.04=CARRY.IN
 +LPC.07=LPC.06
 +LPC.06=LPC.05
 +LPC.07=LPC.04
 +LPC.07=CARRY.IN
 IFC/ENABLE.JUMP/NAD.08=LPC.08=LPC.07=LPC.06=LPC.05=LPC.04
 =CARRY.IN
 +LPC.08=LPC.07
 +LPC.07=LPC.06
 +LPC.08=LPC.05
 +LPC.08=LPC.04
 +LPC.08=CARRY.IN
 IFC/ENABLE.JUMP/NAD.09=LPC.09=CARRY.IN
 +LPC.09=LPC.08
 +LPC.09=LPC.07
 +LPC.09=LPC.06
 +LPC.09=LPC.05
 +LPC.09=LPC.04
 +LPC.09=LPC.08=LPC.07=LPC.06=LPC.05
 =LPC.04=CARRY.IN
 IFC/ENABLE.JUMP=LPC.10/NAD.10.A=CARRY.IN
 +LPC.09
 +LPC.08
 +LPC.07
 +LPC.06
 +LPC.05
 IFC/ENABLE.JUMP=LPC.10/NAD.10.B=LPC.09=LPC.08=LPC.07=LPC.06
 =LPC.05=LPC.04=CARRY.IN

PART NUMBER: 23-018J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET 010-CS-M8390-0-04P.J
 LOCATION/DESCRIPTION: E113/ MICRO SEQUENCER CONTROL
 ASSIGNED PIN NUMBER:
 1= ERR.SUM 8= CSR.01 15= ENABLE.SP
 2= IB.VALID 9= CSR.02 16= ENABLE.JUMP
 3= TLX.IN 10= GND 17= ENABLE.LPC
 4= JUMP.INSTR 11= CSR.01 18= PUSH.USTACK
 5= CSR.19 12= ENABLE.TR.ROM 19= OR.OUT.2
 6= SYNC 13= CSR.00 20= VCC
 7= CSR.04 14= ENABLE.JUMP.LO

EQUATIONS:
 IFC/VCC/ENABLE.TR.ROM=JUMP.INSTR=CSR.19=CSR.03=TLX.IN
 +JUMP.INSTR=CSR.19=CSR.03=CSR.02=TLX.IN
 +JUMP.INSTR=CSR.19=CSR.02=CSR.01=CSR.00
 +JUMP.INSTR=CSR.19=CSR.03=CSR.02=CSR.00=IB.VALID
 IFC/VCC/ENABLE.JUMP.LO=JUMP.INSTR=CSR.19=CSR.03=TLX.IN
 +JUMP.INSTR=CSR.19=CSR.03=CSR.02=TLX.IN
 +JUMP.INSTR=CSR.19=CSR.02=CSR.01=CSR.00
 +JUMP.INSTR=CSR.19=CSR.03=CSR.02=CSR.00=IB.VALID
 IFC/VCC/ENABLE.SP=JUMP.INSTR=CSR.04=CSR.03=CSR.01=CSR.00
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.00
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=ERR.SUM
 +JUMP.INSTR=CSR.03=CSR.02=CSR.01=CSR.00
 +JUMP.INSTR=CSR.03=CSR.02=CSR.01=CSR.00=IB.VALID
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.00=TLX.IN
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.01=CSR.00=SYNC
 IFC/VCC/ENABLE.JUMP=JUMP.INSTR=CSR.03=TLX.IN
 +JUMP.INSTR=CSR.03=CSR.02=TLX.IN
 +JUMP.INSTR=CSR.02=CSR.01=CSR.00
 +JUMP.INSTR=CSR.03=CSR.02=CSR.00=IB.VALID
 IFC/VCC/ENABLE.LPC=CSR.04
 +CSR.03
 +CSR.02=CSR.01=CSR.00=ERR.SUM
 +CSR.00=TLX.IN
 +CSR.02=CSR.01=CSR.00
 +CSR.02=CSR.01=CSR.00
 +CSR.02=CSR.01=CSR.00=SYNC
 IFC/VCC/PUSH.USTACK=JUMP.INSTR=CSR.03=CSR.02=CSR.01=CSR.00
 +JUMP.INSTR=CSR.03=CSR.02=CSR.01=CSR.00=IB.VALID
 IFC/VCC/OR.OUT.2=JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.01=CSR.00=ERR.SUM
 +JUMP.INSTR=CSR.03=CSR.02=CSR.01=CSR.00=IB.VALID
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.01=CSR.00=SYNC
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=TLX.IN
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=TLX.IN
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.01=CSR.00
 +JUMP.INSTR=CSR.04=CSR.03=CSR.02=CSR.01=CSR.00

PART NUMBER: 23-019J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET 010-CS-M8390-0-04P.J
 LOCATION/DESCRIPTION: E58/ CC CONTROL
 ASSIGNED PIN NUMBER:
 1= CSR.17 8= CSR.18 15= COPY.CC
 2= CSR.22 9= SIZE.REG.1 16= ALU.CC.F0
 3= CSR.21 10= GND 17= ALU.CC.F1
 4= CSR.20 11= SIZE.REG.0 18= DT.0
 5= COMPAT.MODE 12= DATA.REQ 19= JUMP.INSTR
 6= CSR.06 13= CSR.19 20= VCC
 7= CSR.05 14= DT.1

EQUATIONS:
 IFC/VCC/DATA.REQ=CSR.22=CSR.21=CSR.20=CSR.19=CSR.18
 +CSR.22=CSR.21=CSR.20=CSR.18=CSR.17
 IFC/VCC/DT.1=CSR.22=CSR.06=SIZE.REG.1
 +CSR.21=CSR.05=SIZE.REG.1
 +CSR.22=CSR.21=CSR.20=CSR.06
 +CSR.22=CSR.21=CSR.20=CSR.06=CSR.05=SIZE.REG.1
 +COMPAT.MODE
 IFC/VCC/COPY.CC=CSR.22=CSR.21
 +CSR.06
 +CSR.05
 IFC/VCC/ALU.CC.F0=CSR.22=CSR.06=CSR.05
 +CSR.21=CSR.05=CSR.05
 +CSR.22=CSR.05=CSR.05=DT.1=DT.0
 +CSR.21=CSR.05=CSR.05=DT.1=DT.0
 +CSR.22=CSR.05=CSR.05=DT.1
 +CSR.21=CSR.06=CSR.05=DT.1
 IFC/VCC/ALU.CC.F1=CSR.22=CSR.06=CSR.05=DT.1
 +CSR.21=CSR.05=CSR.05=DT.1
 IFC/VCC/DT.0=CSR.22=CSR.06=SIZE.REG.1=SIZE.REG.0
 +CSR.21=CSR.05=SIZE.REG.1=SIZE.REG.0
 +CSR.22=CSR.21=CSR.20=CSR.06=CSR.05
 +CSR.22=CSR.21=CSR.20=CSR.06=CSR.05=SIZE.REG.1
 =SIZE.REG.0
 IFC/VCC/JUMP.INSTR=CSR.22=CSR.21=CSR.20

23-016J5-00
 23-018J5-00
 23-019J5-00

TITLE: DATA PATH ROM AND PAL LISTINGS SHEET: 02 OF 14 FIRST USED ON OPTION/MODEL: 11/730 13-DD-M8390-0-0	DATE: 11-SEP-81 DATE: 11-SEP-81	ENGINEER: [Signature] CHECK'D: [Signature]	DATE: 11-SEP-81 DATE: 11-SEP-81	TITLE: DATA PATH ROM AND PAL LISTINGS SHEET: 02 OF 14 FIRST USED ON OPTION/MODEL: 11/730 13-DD-M8390-0-0	SIZE: D CODE: GL NUMBER: M8390-0-0	REV: A
	REVISIONS CHK CHANGE NO. REV		DIGITAL ORN: [Signature] DATE: 11-SEP-81		DATE: 11-SEP-81 DATE: 11-SEP-81	

D
 C
 A
 B
 A

PART NUMBER: 23-020J5-00

DEVICE TYPE: PAL16L8

SCHEMATIC SHEET 810-CS-118390-0-DAPH

LOCATION/DESCRIPTION: E53/ RAM CONTROL

ASSIGNED PIN NUMBER:

1= CSR.22	8= CSR.10	15= READ.CONSOLE
2= CSR.21	9= CSR.09	16= EN.STAT.REG
3= CSR.18	10= GND	17= S.0
4= CSR.17	11= WRITE.REGS	18= S.1
5= CSR.16	12= LOAD.PSL	19= READ.REGS
6= SEL.REGS	13= NC	20= VCC
7= DISABL.D-BUS	14= ENABLE.LS.LD	

EQUATIONS:

IF(VCC) LOAD.PSL:=CSR.22*CSR.21*CSR.16*WRITE.REGS
*SEL.REGS*CSR.10*CSR.09

IF(VCC) ENABLE.LS.LD:=CSR.22*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*DISABL.D-BUS
*CSR.22*CSR.21*SEL.REGS*CSR.17*DISABL.D-BUS

IF(VCC) READ.CONSOLE:=CSR.22*CSR.21*CSR.16*SEL.REGS*CSR.10
*CSR.09*CSR.17*DISABL.D-BUS

IF(VCC) EN.STAT.REG:=CSR.22*SEL.REGS*DISABL.D-BUS*CSR.10*CSR.09
*CSR.22*CSR.21*SEL.REGS*DISABL.D-BUS*CSR.10
*CSR.09*CSR.17*DISABL.D-BUS

IF(VCC) S.0:=CSR.22*CSR.10*CSR.09
*CSR.22*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.17*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.17*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.18*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.18*CSR.09

IF(VCC) S.1:=CSR.22*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.17*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.17*CSR.16
*CSR.22*CSR.21*CSR.18*CSR.10*CSR.09
*CSR.22*CSR.21*CSR.18*CSR.16

IF(VCC) READ.REGS:=CSR.22*CSR.21*CSR.17*CSR.16*DISABL.D-BUS
*CSR.10*SEL.REGS
*CSR.22*CSR.21*CSR.18*CSR.17*DISABL.D-BUS
*CSR.22*SEL.REGS*DISABL.D-BUS*CSR.10
*CSR.22*SEL.REGS*DISABL.D-BUS*CSR.09
*CSR.22*CSR.21*CSR.17*CSR.16*DISABL.D-BUS
*CSR.10*SEL.REGS
*CSR.22*CSR.21*CSR.17*CSR.16*DISABL.D-BUS
*CSR.09*SEL.REGS

PART NUMBER: 23-021J5-00

DEVICE TYPE: PAL16L8

SCHEMATIC SHEET 810-CS-118390-0-DAPH

LOCATION/DESCRIPTION: E43/ SIGN EXTEND CONTROL

ASSIGNED PIN NUMBER:

1= CSR.22	8= MDT.0	15= READ.IN.MEMORY
2= CSR.21	9= GATE.DIR	16= EN.LS.HI
3= CSR.18	10= GND	17= EN.XCVR.00
4= CSR.17	11= DISABL.D-BUS	18= EN.XCVR.01
5= SEL.REGS	12= EN.SXT.01	19= EN.XCVR.HI.LD
6= CSR.16	13= EN.SXT.HI.LD	20= VCC
7= MDT.1	14= NC	

EQUATIONS:

IF(VCC) EN.SXT.01:=CSR.22*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*CSR.16*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*MDT.0*DISABL.D-BUS

IF(VCC) EN.SXT.HI.LD:=CSR.22*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*CSR.16*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*MDT.1*DISABL.D-BUS

IF(VCC) READ.IN.MEMORY:=GATE.DIR

IF(VCC) EN.LS.HI:=CSR.22*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*CSR.17*SEL.REGS*DISABL.D-BUS
*CSR.22*CSR.21*DISABL.D-BUS

IF(VCC) EN.XCVR.00:=CSR.22*CSR.21*CSR.18*CSR.17*DISABL.D-BUS
*CSR.22*CSR.21*CSR.18*CSR.17*GATE.DIR*DISABL.D-BUS
*CSR.22*CSR.21*GATE.DIR*DISABL.D-BUS

IF(VCC) EN.XCVR.01:=CSR.22*CSR.21*CSR.18*CSR.17*DISABL.D-BUS*MDT.0
*CSR.22*CSR.21*CSR.18*CSR.17*GATE.DIR*DISABL.D-BUS
*CSR.22*CSR.21*GATE.DIR*DISABL.D-BUS

IF(VCC) EN.XCVR.HI.LD:=CSR.22*CSR.21*CSR.18*CSR.17
*DISABL.D-BUS*MDT.1
*CSR.22*CSR.21*CSR.18*CSR.17*GATE.DIR
*DISABL.D-BUS
*CSR.22*CSR.21*GATE.DIR*DISABL.D-BUS

PART NUMBER: 23-041J5-00

DEVICE TYPE: PAL16L8

SCHEMATIC SHEET 810-CS-118390-0-DAPH

LOCATION/DESCRIPTION: E36/ SHIFT DATA

ASSIGNED PIN NUMBER:

1= DEST.CTL.2	8= V.LONG	15= 0.SHF.LSB
2= DEST.CTL.1	9= T.30	16= RAM.SHF.LSB
3= CARRY.32	10= GND	17= 0.SHF.MSB
4= CSR.13	11= T.09	18= RAM.SHF.MSB
5= CSR.12	12= T.OR.TP	19= NC
6= CSR.11	13= NC	20= VCC
7= H.LONG	14= NC	

EQUATIONS:

IF(VCC) T.OR.TP:=T.30*T.09

IF(DEST.CTL.2=DEST.CTL.1) 0.SHF.LSB:=CSR.13*CSR.12*CSR.11*0.SHF.MSB
*CSR.13*CSR.12*CSR.11*RAM.SHF.MSB
*CSR.13*CSR.12

IF(DEST.CTL.2=DEST.CTL.1) RAM.SHF.LSB:=CSR.13*CSR.12*CSR.11
*RAM.SHF.MSB
*CSR.13*CSR.11*0.SHF.MSB
*CSR.13*CSR.12*CSR.11
*CSR.13

IF(DEST.CTL.2=DEST.CTL.1) 0.SHF.MSB:=CSR.13*CSR.12*CSR.11
*0.SHF.LSB
*CSR.13*CSR.11*RAM.SHF.LSB
*CSR.13*CSR.12*CSR.11
*CSR.13*CSR.12*RAM.SHF.LSB
*CSR.13*CSR.11*RAM.SHF.LSB

IF(DEST.CTL.2=DEST.CTL.1) RAM.SHF.MSB:=CSR.13*CSR.12*CSR.11
*RAM.SHF.LSB
*CSR.13*CSR.12*CSR.11*0.SHF.LSB
*CSR.13*CSR.12*CSR.11*H.LONG*V.LONG
*CSR.13*CSR.12*CSR.11*H.LONG*V.LONG
*CSR.13*CSR.12*CSR.11*RAM.SHF.LSB
*CSR.13*CSR.12

23-020J5-00
23-021J5-00
23-041J5-00

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REV.	CHANGE NO.	REV.

8	7	6	5	4	3	2	1
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	DATE ENG. 11-22-81	DATE 03-14-87	TITLE: DATA PATH ROM AND PAL LISTINGS
	DATE 03-14-87	DATE 03-14-87	SIZE CODE D GL
DSK:GLDPW3.TPC:362.1500.111-SEP-81 15:12 NEXT HIGHER ASSEMBLY: 8-DD-118390-0-0 FIRST USED ON OPTION: MODEL: 117730	NUMBER M8390-0-0	REV. A	NUMBER M8390-0-0

PART NUMBER: 23-086K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #10-CS-M8390-0-DAPP
 LOCATION/DESCRIPTION: E72/ BRANCH COND. ,CC
 ASSIGNED PIN NUMBER:
 1= REGISTER.CLOCK 8= PSL.V
 2= IB.0 9= PSL.C
 3= DT.CLASS.0 10= GND
 4= CC.CLASS.1 11= REG.OUT.EN
 5= CC.CLASS.0 12= RMODE.B
 6= PSL.N 13= RMODE.A
 7= PSL.Z 14= PRETEST
 15= IB.0.SAVE
 16= OPC.TYPE.0
 17= OPC.TYPE.1
 18= BR.FALSE
 19= REGISTER.MODE
 20= VCC

EQUATIONS:
 PRETEST:=/CC.CLASS.1*PSL.Z
 +/DT.CLASS.0*CC.CLASS.0*PSL.C
 +/DT.CLASS.0*CC.CLASS.0*PSL.N
 +/DT.CLASS.0*CC.CLASS.1*CC.CLASS.0*PSL.V
 +/DT.CLASS.0*CC.CLASS.0*PSL.N*PSL.V
 +/DT.CLASS.0*CC.CLASS.0*PSL.N*PSL.V
 /IB.0.SAVE:=/IB.0
 /OPC.TYPE.0:=/CC.CLASS.0
 /OPC.TYPE.1:=/CC.CLASS.1
 IF(VCC) /BR.FALSE:=/IB.0.SAVE*PRETEST
 +/IB.0.SAVE*/PRETEST
 IF(VCC) /REGISTER.MODE:=/RMODE.A

PART NUMBER: 23-087K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #10-CS-M8390-0-DAPP
 LOCATION/DESCRIPTION: E71/ [-STRM DATA PROCESSING],R-DEST.
 ASSIGNED PIN NUMBER:
 1= REGISTER.CLK 8= CSR.04
 2= Y.31 9= CSR.09
 3= /LD.PSL 10= GND
 4= R.MODE 11= REG.OUT.EN
 5= DECODE.INSTR 12= /SET.RBKUP
 6= CSR.05 13= /IRD.STATE
 7= CSR.05 14= /CH.IRD
 15= RBKUP.FLAG
 16= /GPR.DEST
 17= COMPAT.MODE
 18= OS.CTL.0
 19= OS.CTL.1
 20= VCC

EQUATIONS:
 IF(VCC) /OS.CTL.1:=DECODE.INSTR*CSR.06*/COMPAT.MODE
 +DECODE.INSTR*CSR.06*/CSR.05
 +CH.IRD*/DECODE.INSTR
 IF(VCC) /OS.CTL.0:=DECODE.INSTR*CSR.06
 /COMPAT.MODE:=/LD.PSL*/Y.31
 +/LD.PSL*/COMPAT.MODE
 GPR.DEST:=DECODE.INSTR*CSR.05*/R.MODE
 DECODE.INSTR*/GPR.DEST
 CSR.05*/GPR.DEST
 /RBKUP.FLAG:=/IRD.STATE
 +/SET.RBKUP*/RBKUP.FLAG
 CH.IRD:=DECODE.INSTR*CSR.05*/CSR.04*/COMPAT.MODE
 IF(VCC) /IRD.STATE:=DECODE.INSTR*CSR.05*/CSR.04

PART NUMBER: 23-088K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #10-CS-M8390-0-DAPP
 LOCATION/DESCRIPTION: E53/ DATA TYPE CONTROL
 ASSIGNED PIN NUMBER:
 1= CLK.REGS 8= /MDT.CTL.1
 2= DT.CLASS.1 9= /MDT.CTL.0
 3= DT.CLASS.0 10= GND
 4= /IRD.STATE 11= EN.STAT.REG
 5= Y.01 12= SIZE.REG.0
 6= Y.00 13= SIZE.REG.1
 7= /LOAD.STAT 14= D.09
 15= D.01
 16= D.06
 17= D.07
 18= /MDT.0
 19= /MDT.1
 20= VCC

EQUATIONS:
 IF(VCC) /SIZE.REG.0:=/D.00
 IF(VCC) /SIZE.REG.1:=/D.01
 /D.00:=/IRD.STATE*/DT.CLASS.0
 +/LOAD.STAT*/Y.00
 +/IRD.STATE*/LOAD.STAT*/D.00
 /D.01:=/IRD.STATE*/DT.CLASS.1
 +/LOAD.STAT*/Y.01
 +/IRD.STATE*/LOAD.STAT*/D.01
 /D.06:=/MDT.CTL.1*/MDT.CTL.0
 +/MDT.CTL.1*/MDT.CTL.0*/D.06
 /D.07:=/MDT.CTL.1
 +/MDT.CTL.1*/MDT.CTL.0*/D.07
 IF(VCC) /MDT.0:=/D.06
 IF(VCC) /MDT.1:=/D.07

23-086K3-00
 23-087K3-00
 23-088K3-00

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	7			DATE: 11-SEP-81 NEXT HIGHER ASSEMBLY: 19-00-M8390-0-0			
8	7	6	5	4	3	2	1

PART NUMBER: 23-010K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET 010-CS-M8390-0-DAPH
 LOCATION/DESCRIPTION: E68/ OS EVEN NUMBERED BITS
 ASSIGNED PIN NUMBER:

- | | | |
|-------------|----------------|------------------|
| 1= CLK_REGS | 8= Y.2 | 15= OS.2 |
| 2= IB.6 | 9= Y.0 | 16= OS.4 |
| 3= IB.4 | 10= GND | 17= OS.6 |
| 4= IB.2 | 11= REG.OUT.EN | 18= RMODE.0 |
| 5= IB.0 | 12= OS.CTL.0 | 19= LOAD.Y.TO.OS |
| 6= Y.6 | 13= OS.CTL.1 | 20= VCC |
| 7= Y.4 | 14= OS.0 | |

EQUATIONS:

IF(VCC) RMODE.0=OS.CTL.1#IB.4
 ~OS.CTL.1#IB.6#IB.4
 OS.6=~OS.CTL.1#OS.CTL.0#IB.6
 ~OS.CTL.1#OS.CTL.0#OS.4
 +OS.CTL.1#OS.CTL.0#IB.6
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.6
 +LOAD.Y.TO.OS#Y.6
 OS.4=~OS.CTL.1#OS.CTL.0#IB.4
 ~OS.CTL.1#OS.CTL.0#OS.2
 +OS.CTL.1#OS.CTL.0#IB.4
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.4
 +LOAD.Y.TO.OS#Y.4
 OS.2=~OS.CTL.1#OS.CTL.0#IB.2
 ~OS.CTL.1#OS.CTL.0#OS.0
 +OS.CTL.1#OS.CTL.0#IB.2
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.2
 +LOAD.Y.TO.OS#Y.2
 OS.0=~OS.CTL.1#OS.CTL.0#IB.0
 ~OS.CTL.1#OS.CTL.0#IB.6
 +OS.CTL.1#OS.CTL.0#IB.0
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.0
 +LOAD.Y.TO.OS#Y.0

PART NUMBER: 23-011K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET 010-CS-M8390-0-DAPH
 LOCATION/DESCRIPTION: E49/ OS ODD NUMBERED BITS
 ASSIGNED PIN NUMBER:

- | | | |
|-------------|----------------|------------------|
| 1= CLK_REGS | 8= Y.03 | 15= OS.3 |
| 2= IB.7 | 9= Y.01 | 16= OS.5 |
| 3= IB.5 | 10= GND | 17= OS.7 |
| 4= IB.3 | 11= REG.OUT.EN | 18= RMODE.A |
| 5= IB.1 | 12= OS.CTL.0 | 19= LOAD.Y.TO.OS |
| 6= Y.07 | 13= OS.CTL.1 | 20= VCC |
| 7= Y.05 | 14= OS.1 | |

EQUATIONS:

IF(VCC) RMODE.A1=OS.CTL.1#IB.5#IB.3
 ~OS.CTL.1#IB.7#IB.5
 OS.7=~OS.CTL.1#OS.CTL.0#IB.7
 ~OS.CTL.1#OS.CTL.0#OS.5
 +OS.CTL.1#OS.CTL.0#IB.7
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.7
 +LOAD.Y.TO.OS#Y.07
 OS.5=~OS.CTL.1#OS.CTL.0#IB.5
 ~OS.CTL.1#OS.CTL.0#OS.3
 +OS.CTL.1#OS.CTL.0#IB.5
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.5
 +LOAD.Y.TO.OS#Y.05
 OS.3=~OS.CTL.1#IB.3
 ~OS.CTL.1#OS.CTL.0
 +OS.CTL.1#OS.CTL.0
 +OS.CTL.1#LOAD.Y.TO.OS#OS.3
 +LOAD.Y.TO.OS#Y.03
 OS.1=~OS.CTL.1#OS.CTL.0#IB.1
 ~OS.CTL.1#OS.CTL.0#IB.7
 +OS.CTL.1#OS.CTL.0#IB.1
 +OS.CTL.1#OS.CTL.0#LOAD.Y.TO.OS#OS.1
 +LOAD.Y.TO.OS#Y.01

PART NUMBER: 23-012K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET 010-CS-M8390-0-DAPH
 LOCATION/DESCRIPTION: E112/ U STACK POINTER CONTROL
 ASSIGNED PIN NUMBER:

- | | | |
|--------------|----------------|------------|
| 1= CLK_REGS | 8= NC | 15= SP.1 |
| 2= CSR.3 | 9= PRESET | 16= SP.2 |
| 3= ENABLE.SP | 10= GND | 17= SP.3 |
| 4= NC | 11= REG.OUT.EN | 18= ADRS.2 |
| 5= NC | 12= ADRS.0 | 19= ADRS.3 |
| 6= NC | 13= ADRS.1 | 20= VCC |
| 7= NC | 14= SP.0 | |

EQUATIONS:

IF(VCC) ADRS.01=CSR.3#SP.1#SP.0
 +SP.1#SP.0
 ~CSR.3#SP.1#SP.0
 IF(VCC) ADRS.11=~CSR.3#SP.1#SP.0
 +CSR.3#SP.1#SP.0
 +SP.1#SP.0
 SP.01=ENABLE.SP#CSR.3#SP.1#SP.0#PRESET
 +ENABLE.SP#CSR.3#SP.1#SP.0#PRESET
 ~ENABLE.SP#SP.0#PRESET
 +CSR.3#SP.1#SP.0#PRESET
 +CSR.3#SP.1#SP.0#PRESET
 SP.11=ENABLE.SP#CSR.3#SP.1#SP.0#PRESET
 +ENABLE.SP#CSR.3#SP.1#SP.0#PRESET
 ~ENABLE.SP#SP.1#PRESET
 +CSR.3#SP.1#SP.0#PRESET
 +CSR.3#SP.1#SP.0#PRESET
 SP.21=ENABLE.SP#CSR.3#SP.1#SP.0#PRESET
 +ENABLE.SP#CSR.3#SP.1#SP.0#PRESET
 +SP.2#SP.0#PRESET
 +SP.3#SP.2#SP.1#PRESET
 ~SP.3#SP.2#SP.1#PRESET
 +ENABLE.SP#SP.2#PRESET
 +CSR.3#SP.3#SP.2#PRESET
 +CSR.3#SP.3#SP.2#PRESET
 SP.31=ENABLE.SP#CSR.3#SP.2#SP.1#SP.0#PRESET
 +ENABLE.SP#CSR.3#SP.2#SP.1#SP.0#PRESET
 +SP.3#SP.0#PRESET
 +SP.3#SP.2#SP.1#PRESET
 +SP.3#SP.2#SP.1#PRESET
 ~ENABLE.SP#SP.3#PRESET
 +CSR.3#SP.3#SP.2#PRESET
 +CSR.3#SP.3#SP.2#PRESET
 IF(VCC) ADRS.21=CSR.3#SP.3#SP.1#SP.0
 +CSR.3#SP.2
 +SP.3#SP.2
 +SP.2#SP.0
 +SP.2#SP.1
 IF(VCC) ADRS.31=CSR.3#SP.2#SP.1#SP.0
 +CSR.3#SP.3
 +SP.3#SP.2
 +SP.3#SP.0
 +SP.3#SP.1

23-010K3-00
 23-011K3-00
 23-012K3-00

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	7	6	5

PART NUMBER: 23-014K3-00
 DEVICE TYPE: PAL16A4
 SCHEMATIC SHEET #10-CS-M8390-0-DAPH
 LOCATION/DESCRIPTION: E37/ ALU N,2
 ASSIGNED PIN NUMBER:

- 1= CLK.REGS
- 2= N.LONG
- 3= N.WORD
- 4= N.BYTE
- 5= Y.03
- 6= Z.LONG
- 7= Z.WORD
- 8= Z.BYTE
- 9= Y.02
- 10= GND
- 11= REG.OUT.EN
- 12= ALU.CC.F1
- 13= ALU.CC.F0
- 14= NC
- 15= MULTIPLIER.LSB
- 16= ALU.Z
- 17= ALU.N
- 18= LOAD.Y-BUS
- 19= Q.SHF.LSB
- 20= VCC

EQUATIONS:

MULTIPLIER.LSB = Q.SHF.LSB
 ALU.Z1 = ALU.CC.F1 * LOAD.Y-BUS / 2.BYTE
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / 2.WORD
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / 2.LONG
 ALU.CC.F0 = LOAD.Y-BUS / 2.BYTE
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / 2.WORD
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / ALU.Z
 LOAD.Y-BUS = Y.02
 ALU.N1 = ALU.CC.F1 * ALU.CC.F0 * LOAD.Y-BUS / N.BYTE
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / N.WORD
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / N.LONG
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / ALU.N
 LOAD.Y-BUS = Y.03

PART NUMBER: 23-014K3-00
 DEVICE TYPE: PAL16A4
 SCHEMATIC SHEET #10-CS-M8390-0-DAPH
 LOCATION/DESCRIPTION: E39/ ALU V,C
 ASSIGNED PIN NUMBER:

- 1= REGISTER.CLOCK
- 2= V.LONG
- 3= V.WORD
- 4= V.BYTE
- 5= Y.21
- 6= C.32
- 7= C.16
- 8= C.8
- 9= Y.00
- 10= GND
- 11= REG.OUT.EN
- 12= ALU.CC.F1
- 13= ALU.CC.F0
- 14= NOT.ALU.C
- 15= HALF.CARRY
- 16= ALU.C
- 17= ALU.V
- 18= LOAD.Y-BUS
- 19= C.4
- 20= VCC

EQUATIONS:

NOT.ALU.C1 = ALU.CC.F1 * ALU.CC.F0 * LOAD.Y-BUS / C.8
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / C.16
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / C.32
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / ALU.C
 LOAD.Y-BUS = Y.00
 HALF.CARRY1 = C.4
 ALU.C1 = ALU.CC.F1 * ALU.CC.F0 * LOAD.Y-BUS / C.8
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / C.16
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / C.32
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / ALU.C
 LOAD.Y-BUS = Y.00
 ALU.V1 = ALU.CC.F1 * ALU.CC.F0 * LOAD.Y-BUS / V.BYTE
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / V.WORD
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / V.LONG
 ALU.CC.F1 = ALU.CC.F0 * LOAD.Y-BUS / ALU.V
 LOAD.Y-BUS = Y.01

PART NUMBER: 23-015K3-00
 DEVICE TYPE: PAL16A4
 SCHEMATIC SHEET #10-CS-M8390-0-DAPH
 LOCATION/DESCRIPTION: E55/ PSL CC
 ASSIGNED PIN NUMBER:

- 1= CLK.REGS
- 2= ALU.N
- 3= ALU.Z
- 4= ALU.V
- 5= ALU.C
- 6= OPC.TYPE.1
- 7= OPC.TYPE.0
- 8= COPY.CC
- 9= Y.03
- 10= GND
- 11= REG.OUT.EN
- 12= Y.02
- 13= Y.01
- 14= PSL.C
- 15= PSL.V
- 16= PSL.Z
- 17= PSL.N
- 18= Y.00
- 19= LOAD.PSL.CC
- 20= VCC

EQUATIONS:

PSL.C1 = LOAD.PSL.CC / Y.00
 LOAD.PSL.CC = COPY.CC * PSL.C
 LOAD.PSL.CC = COPY.CC * OPC.TYPE.1 * OPC.TYPE.0 * ALU.C
 LOAD.PSL.CC = COPY.CC * OPC.TYPE.1 * OPC.TYPE.0 * ALU.C
 LOAD.PSL.CC = COPY.CC * OPC.TYPE.1 * OPC.TYPE.0 * PSL.C
 PSL.V1 = LOAD.PSL.CC / Y.01
 LOAD.PSL.CC = COPY.CC * PSL.V
 LOAD.PSL.CC = COPY.CC * ALU.V
 LOAD.PSL.CC = COPY.CC * OPC.TYPE.1
 PSL.Z1 = LOAD.PSL.CC / Y.02
 LOAD.PSL.CC = COPY.CC * PSL.Z
 LOAD.PSL.CC = COPY.CC * ALU.Z
 PSL.N1 = LOAD.PSL.CC / Y.03
 LOAD.PSL.CC = COPY.CC * PSL.N
 LOAD.PSL.CC = COPY.CC * ALU.N * ALU.V
 LOAD.PSL.CC = COPY.CC * OPC.TYPE.1 * ALU.N
 LOAD.PSL.CC = COPY.CC * OPC.TYPE.0 * ALU.N

23-014K3-00
 23-014K3-00
 23-015K3-00

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CHK	CHANGE NO.	REV									
8	7	6	5	4	3	2	1				

PART NUMBER: 23-032K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #1D-CS-118390-0-DAPK
 LOCATION/DESCRIPTION: E41/ INTERRUPT CONTROLLER
 ASSIGNED PIN NUMBER:

- | | | |
|-------------------|----------------|-------------|
| 1= REGISTER.CLOCK | 8= T.TRAP | 15= VECT.1 |
| 2= HALT | 9= IRQ.2 | 16= VECT.2 |
| 3= IPL.4 | 10= GND | 17= VECT.3 |
| 4= IPL.3 | 11= REQ.OUT.EN | 18= MASK |
| 5= IPL.2 | 12= IRQ.1 | 19= IRQ.OUT |
| 6= IPL.1 | 13= IRQ.0 | 20= VCC |
| 7= IPL.0 | 14= VECT.0 | |

EQUATIONS:

VECT.0:=IRQ.0/IPL.4
 +IRQ.2=IRQ.1+IRQ.0/IPL.3
 +IRQ.2=IRQ.1+IRQ.0/IPL.2
 +IRQ.2=IRQ.1+IRQ.0/IPL.1
 +IRQ.0/IPL.3/IPL.2
 +IRQ.2=IRQ.0/IPL.3/IPL.2/IPL.1
 +IRQ.2=IRQ.0/IPL.3/IPL.2/IPL.0
 +IRQ.1=IRQ.0/IPL.3/IPL.2/IPL.1/IPL.0

VECT.1:=IRQ.1/IPL.4
 +IRQ.2=IRQ.1/IPL.3
 +IRQ.2=IRQ.1+IRQ.0/IPL.2
 +IRQ.2=IRQ.1+IRQ.0/IPL.1
 +IRQ.1=IPL.3/IPL.2
 +IRQ.1=IRQ.0/IPL.3/IPL.2/IPL.1/IPL.0

VECT.2:=IRQ.2/IPL.4
 +IRQ.2=IRQ.1/IPL.3
 +IRQ.2=IRQ.1+IRQ.0/IPL.2
 +IRQ.2=IRQ.1+IRQ.0/IPL.1
 +IRQ.2=IPL.3/IPL.2
 +IRQ.2=IPL.3/IPL.2/IPL.1
 +IRQ.2=IRQ.0/IPL.3/IPL.2/IPL.1

VECT.3:=HALT

IF(VCC) IRQ.OUT:=VECT.3/MASK
 +VECT.2
 +VECT.1
 +VECT.0
 +T.TRAP/MASK

PART NUMBER: 23-015J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #1D-CS-118390-0-DAPA
 LOCATION/DESCRIPTION: E25/ FUNCTION CONTROL SIGNAL GENERATION
 ASSIGNED PIN NUMBER:

- | | | |
|-----------|------------------|-----------------|
| 1= CSR.22 | 8= CSR.15 | 15= DEST.CTL.2 |
| 2= CSR.21 | 9= CSR.14 | 16= SRC.CTL.1B |
| 3= CSR.20 | 10= GROUND | 17= SRC.CTL.1A |
| 4= CSR.19 | 11= INPLIER.L5B | 18= DEST.CTL.1B |
| 5= CSR.18 | 12= ALU.CARRY.IN | 19= DEST.CTL.1A |
| 6= CSR.17 | 13= SRC.CTL.0 | 20= VCC |
| 7= CSR.16 | 14= SRC.CTL.2 | |

EQUATIONS:

IF(CSR.22) DEST.CTL.1A:=/CSR.21/CSR.20/CSR.18
 +CSR.20/CSR.19/CSR.10
 +CSR.21/CSR.20/CSR.19/CSR.18/CSR.17
 +CSR.21/CSR.19/CSR.10/CSR.17
 +CSR.21/CSR.20/CSR.19
 +CSR.21/CSR.20/CSR.19/CSR.17/CSR.15
 +CSR.21/CSR.20/CSR.18/CSR.17/CSR.16
 +CSR.15/CSR.14

IF(CSR.22) DEST.CTL.1B:=/CSR.21/CSR.20/CSR.19/CSR.10/CSR.17/CSR.16
 +CSR.20/CSR.19
 +CSR.21/CSR.20
 +CSR.20/CSR.19
 +CSR.20/CSR.18

IF(CSR.22) SRC.CTL.1A:=/CSR.21/CSR.20/CSR.19
 +CSR.21/CSR.19/CSR.18
 +CSR.21/CSR.20/CSR.18/CSR.15
 +CSR.21/CSR.20/CSR.18/CSR.17/CSR.15
 +CSR.21/CSR.20/CSR.19/CSR.18/CSR.17
 +CSR.16/CSR.15/INPLIER.L5B
 +CSR.21/CSR.20/CSR.19

IF(CSR.22) SRC.CTL.1B:=/CSR.21/CSR.20
 +CSR.20/CSR.19
 +CSR.21/CSR.20/CSR.19/CSR.17/CSR.16
 +CSR.21/CSR.20/CSR.19/CSR.18/CSR.17
 +CSR.21/CSR.20/CSR.19/CSR.10/CSR.17/CSR.16
 +CSR.17

IF(VCC) DEST.CTL.2:=CSR.22
 +CSR.21
 +CSR.20
 +CSR.19
 +CSR.18
 +CSR.17

IF(VCC) SRC.CTL.2:=/CSR.22/CSR.21/CSR.19/CSR.18/CSR.17
 +CSR.22/CSR.21/CSR.20/CSR.19
 +CSR.22/CSR.21/CSR.20/CSR.17/CSR.16/CSR.15
 +CSR.22/CSR.21/CSR.20/CSR.17
 +CSR.22/CSR.21/CSR.19/CSR.18/CSR.17
 +CSR.22/CSR.21/CSR.20/CSR.19/CSR.10

IF(VCC) SRC.CTL.0:=/CSR.22/CSR.21/CSR.20/CSR.19
 +CSR.22/CSR.21/CSR.20/CSR.19/CSR.18/CSR.17
 +CSR.22/CSR.21/CSR.20/CSR.17
 +CSR.22/CSR.21/CSR.19/CSR.18/CSR.17
 +CSR.22/CSR.20/CSR.19/CSR.18/CSR.17
 +CSR.22/CSR.21/CSR.20/CSR.19/CSR.10/CSR.17/CSR.16

IF(VCC) ALU.CARRY.IN:=/CSR.22/CSR.21/CSR.20
 +CSR.22/CSR.21/CSR.20/CSR.15/CSR.14
 +CSR.22/CSR.21/CSR.20/CSR.19/CSR.10/CSR.17
 +CSR.16/CSR.15/CSR.14
 +CSR.22/CSR.17/CSR.16
 +CSR.22/CSR.21/CSR.20/CSR.19/CSR.18/CSR.17/CSR.16
 +CSR.22/CSR.21/CSR.20/CSR.19/CSR.10/CSR.17/CSR.16

PART NUMBER: 23-017J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #1D-CS-118390-0-DAPJ
 LOCATION/DESCRIPTION: E32/ FLX INCREMENT CONTROL
 ASSIGNED PIN NUMBER:

- | | | |
|--------------|----------------|--------------|
| 1= ALU.N | 8= CONS.ACK | 15= STATE.1 |
| 2= CSR.07 | 9= JUMP.INSTR | 16= STATE.0 |
| 3= CSR.03 | 10= GND | 17= NC |
| 4= CSR.02 | 11= PORT.IRQ | 18= ALU.V |
| 5= CSR.01 | 12= CR.OUT.1 | 19= DR.OUT.0 |
| 6= CSR.00 | 13= REKIP.FLAG | 20= VCC |
| 7= CONS.ATTN | 14= NC | |

EQUATIONS:

IF(VCC) CR.OUT.0:=/JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/STATE.0
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/STATE.1
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/STATE.0
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/STATE.1
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/CONS.ATTN
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/CONS.ACK

IF(VCC) CR.OUT.1:=/JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/REKIP.FLAG
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/ALU.N/ALU.V
 +JUMP.INSTR/CSR.07/CSR.03/CSR.02/CSR.01
 +CSR.00/ALU.N/ALU.V

23-032K3-00
 23-015J5-00
 23-017J5-00

REVISIONS	
CHK	CHANGE NO. REV

	DRN: 23-SEP-81	DATE ENG: 23-SEP-81	DATE	TITLE: DATA PATH ROM AND PAL LISTINGS
	CHK'D:	DATE	BASED LOCATION: SHEET 17 OF 17	SIZE CODE NUMBER REV. D GL M8390-0-0 A
23-SEP-81 15:27 NEXT HIGHER ASSEMBLY: B-DD-118390-0-0		FIRST USED ON OPTIO-MODEL: 117730		

PART NUMBER: 23-081K1-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #10-CS-H8390-0-DAPF
 LOCATION/DESCRIPTION: E94/ IR CONTROL
 ASSIGNED PIN NUMBER:

- 1= REGISTER.CLOCK
- 2= /REQ.IBFILL
- 3= Y.01
- 4= Y.00
- 5= DECODE.INSTR
- 6= CSR.00
- 7= CPU.P2
- 8= LOAD.IB
- 9= /DATA.REQUEST
- 10= GND
- 11= REG.OUT.EN.L
- 12= /DATA.RECEIVED
- 13= /IB.LOADED
- 14= STALL.ON.IB
- 15= PC.EQUALS.3
- 16= PC.0
- 17= PC.1
- 18= /IB.VALID
- 19= /CLOCK.P2
- 20= VCC

EQUATIONS:

```
IB.LOADED=LOAD.IB
+/IB.VALID=IB.LOADED

IB.VALID=LOAD.IB&CLOCK.P2
+/IB.LOADED=CLOCK.P2
+CPU.P2+/REQ.IBFILL&DECODE.INSTR=IB.VALID
+CPU.P2+/REQ.IBFILL&CSR.00=IB.VALID
+CPU.P2+/REQ.IBFILL&PC.EQUALS.3&IB.VALID
+/CPU.P2=IB.VALID

/PC.11=REQ.IBFILL&Y.01&CPU.P2
+DECODE.INSTR&CSR.00&Y.01&CPU.P2
+/REQ.IBFILL&DECODE.INSTR&PC.1&CPU.P2
+/REQ.IBFILL&CSR.00&PC.1&CPU.P2
+/PC.1=CPU.P2

/PC.01=REQ.IBFILL&Y.00&CPU.P2
+DECODE.INSTR&CSR.00&Y.00&CPU.P2
+/REQ.IBFILL&DECODE.INSTR&PC.0&CPU.P2
+/REQ.IBFILL&CSR.00&PC.0&CPU.P2
+/PC.0=CPU.P2

/PC.EQUALS.3=REQ.IBFILL&Y.01&CPU.P2
+REQ.IBFILL&Y.00&CPU.P2
+DECODE.INSTR&CSR.00&Y.01&CPU.P2
+DECODE.INSTR&CSR.00&Y.00&CPU.P2
+/REQ.IBFILL&DECODE.INSTR&PC.EQUALS.3&CPU.P2
+/REQ.IBFILL&CSR.00&PC.EQUALS.3&CPU.P2
+/PC.EQUALS.3&CPU.P2

/STALL.ON.IB=IB.VALID
+REQ.IBFILL&DECODE.INSTR&CPU.P2

IF(VCC) DATA.RECEIVED=REQ.IBFILL
+DECODE.INSTR&CSR.00&PC.EQUALS.3
+DATA.REQUEST
```

PART NUMBER: 23-082K1-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #10-CS-H8390-0-DAPK
 LOCATION/DESCRIPTION: E95/ MISC CONTROL
 ASSIGNED PIN NUMBER:

- 1= REGISTER.CLOCK
- 2= MISC.INSTR
- 3= CSR.15
- 4= CSR.14
- 5= CSR.13
- 6= CSR.12
- 7= CSR.18
- 8= RESET
- 9= /RD.STATE
- 10= GND
- 11= REG.OUT.EN
- 12= /PORT.INSTR
- 13= SEL.ACC
- 14= STATE.0
- 15= STATE.1
- 16= CPU.ACK
- 17= CPU.ATTN
- 18= UCS.PAGE
- 19= /SET.RBKUP
- 20= VCC

EQUATIONS:

```
IF(VCC) SET.RBKUP=MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13
+CSR.12

/UCS.PAGE=MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13&CSR.12
+/MISC.INSTR=UCS.PAGE
+CSR.10&UCS.PAGE
+CSR.15&UCS.PAGE
+CSR.14&UCS.PAGE
+CSR.13&UCS.PAGE
+CSR.12&UCS.PAGE
+RESET

/CPU.ATTN=MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13&CSR.12
+/MISC.INSTR=CPU.ATTN
+CSR.10&CPU.ATTN
+CSR.15&CPU.ATTN
+CSR.14&CPU.ATTN
+CSR.13&CPU.ATTN
+CSR.12&CPU.ATTN
+RESET

/CPU.ACK=MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13&CSR.12
+/MISC.INSTR=CPU.ACK
+CSR.10&CPU.ACK
+CSR.15&CPU.ACK
+CSR.14&CPU.ACK
+CSR.13&CPU.ACK
+CSR.12&CPU.ACK
+RESET

/STATE.11=/RD.STATE
+MISC.INSTR&CSR.10&CSR.15&CSR.13&CSR.12
+MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13
+/MISC.INSTR=STATE.1
+CSR.10&STATE.1
+CSR.15&STATE.1
+CSR.13&STATE.1
+CSR.12&STATE.1

/STATE.01=/RD.STATE
+MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13
+MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.12
+/MISC.INSTR=STATE.0
+CSR.10&STATE.0
+CSR.15&STATE.0
+CSR.13&STATE.0
+CSR.12&STATE.0

/SEL.ACC=MISC.INSTR&CSR.10&CSR.15&CSR.14&CSR.13&CSR.12
+/MISC.INSTR=SEL.ACC
+CSR.10&SEL.ACC
+CSR.15&SEL.ACC
+CSR.14&SEL.ACC
+CSR.13&SEL.ACC
+CSR.12&SEL.ACC
+RESET

IF(VCC) /PORT.INSTR=MISC.INSTR
+/CSR.13
```

PART NUMBER: 23-083K1-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #10-CS-H8390-0-DAPK
 LOCATION/DESCRIPTION: E97, E99, E118/ MICRO-PC-FIVE BIT SLICE
 ASSIGNED PIN NUMBER:

- 1= CLK.UPC
- 2= /D.4
- 3= /D.3
- 4= /D.2
- 5= /D.1
- 6= /D.0
- 7= /P1
- 8= /P2
- 9= PARAL.LD.CSR
- 10= GND
- 11= EN.UPC.L
- 12= SI
- 13= UPC.0
- 14= UPC.1
- 15= UPC.2
- 16= UPC.3
- 17= UPC.4
- 18= NC
- 19= PROP.L.50
- 20= VCC

EQUATIONS:

```
/UPC.01=PARAL.LD.CSR&SI
+PARAL.LD.CSR&P1&P2&D.0
+PARAL.LD.CSR&P1&D.0
+PARAL.LD.CSR&P2&D.0

/UPC.11=PARAL.LD.CSR&UPC.0
+PARAL.LD.CSR&P1&P2&D.0&D.1
+PARAL.LD.CSR&P1&D.0&D.1
+PARAL.LD.CSR&P2&D.0&D.1
+PARAL.LD.CSR&D.0&D.1

/UPC.21=PARAL.LD.CSR&UPC.1
+PARAL.LD.CSR&P1&P2&D.0&D.1&D.2
+PARAL.LD.CSR&P1&D.0&D.2
+PARAL.LD.CSR&P2&D.0&D.2
+PARAL.LD.CSR&D.0&D.2

/UPC.31=PARAL.LD.CSR&UPC.2
+PARAL.LD.CSR&P1&P2&D.0&D.1&D.2&D.3
+PARAL.LD.CSR&P1&D.0&D.3
+PARAL.LD.CSR&P2&D.0&D.3
+PARAL.LD.CSR&D.0&D.3

/UPC.41=PARAL.LD.CSR&UPC.3
+PARAL.LD.CSR&P1&P2&D.0&D.1&D.2&D.3&D.4
+PARAL.LD.CSR&P1&D.0&D.4
+PARAL.LD.CSR&P2&D.0&D.4
+PARAL.LD.CSR&D.0&D.4
+PARAL.LD.CSR&D.1&D.4
+PARAL.LD.CSR&D.2&D.4
+PARAL.LD.CSR&D.3&D.4

IF(VCC) /PROP.L.501=PARAL.LD.CSR&UPC.4
+PARAL.LD.CSR&D.0&D.1&D.2&D.3&D.4
```

23-081K1-00
 23-082K1-00
 23-083K1-00

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REV.	CHG.	NO.	REV.

digital
 ORN 7/11/87
 CHK'D.

DATE	ENG.	DATE	TITLE
11-SEP-81			DATA PATH ROM AND PAL LISTINGS

DATE	LOC.	SHEET	OF	REV.
11-SEP-81	B-00	03	14	A

DSK:GLOP08.12P1357.1500 11-SEP-81 15:12 NEXT HIGHER ASSEMBLY
 FIRST USED ON OPTION MODEL: 11/730 B-00-H8390-0-0 D GL M8390-0-0

Table with 8 columns of data (HEX LOC, HEX DAT, BIN DAT) and 8 rows of data, containing hexadecimal addresses and binary values.

D
C
A
REV. A
MAY 1983
GL
D

PART NUMBER: 23-06901-00
DEVICE TYPE: 512 X 8
SCHEMATIC SHEET #: D-CS-M8390-0-DAPP
LOCATION/DESCRIPTION: E93 / SPECIFIER CONTROL

LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

REVISIONS
C-CHANGE NO. REV

digital
DATE ENG. 11-SEP-81
DATE EX-PO LOCATION
DATE 09-08-81
DATE 11-SEP-81
DATE 11-SEP-81
DATE 11-SEP-81

TITLE: DATA PATH ROM AND PAL LISTINGS
SIZE CODE: D GL
NUMBER: M8390-0-0
REV. A

Table with columns: HEX LOC, HEX DAT, BIN DAT, HEX LOC, HEX DAT, BIN DAT, HEX LOC, HEX DAT, BIN DAT, HEX LOC, HEX DAT, BIN DAT, HEX LOC, HEX DAT, BIN DAT, HEX LOC, HEX DAT, BIN DAT, HEX LOC, HEX DAT, BIN DAT. Rows 000 to 07F.

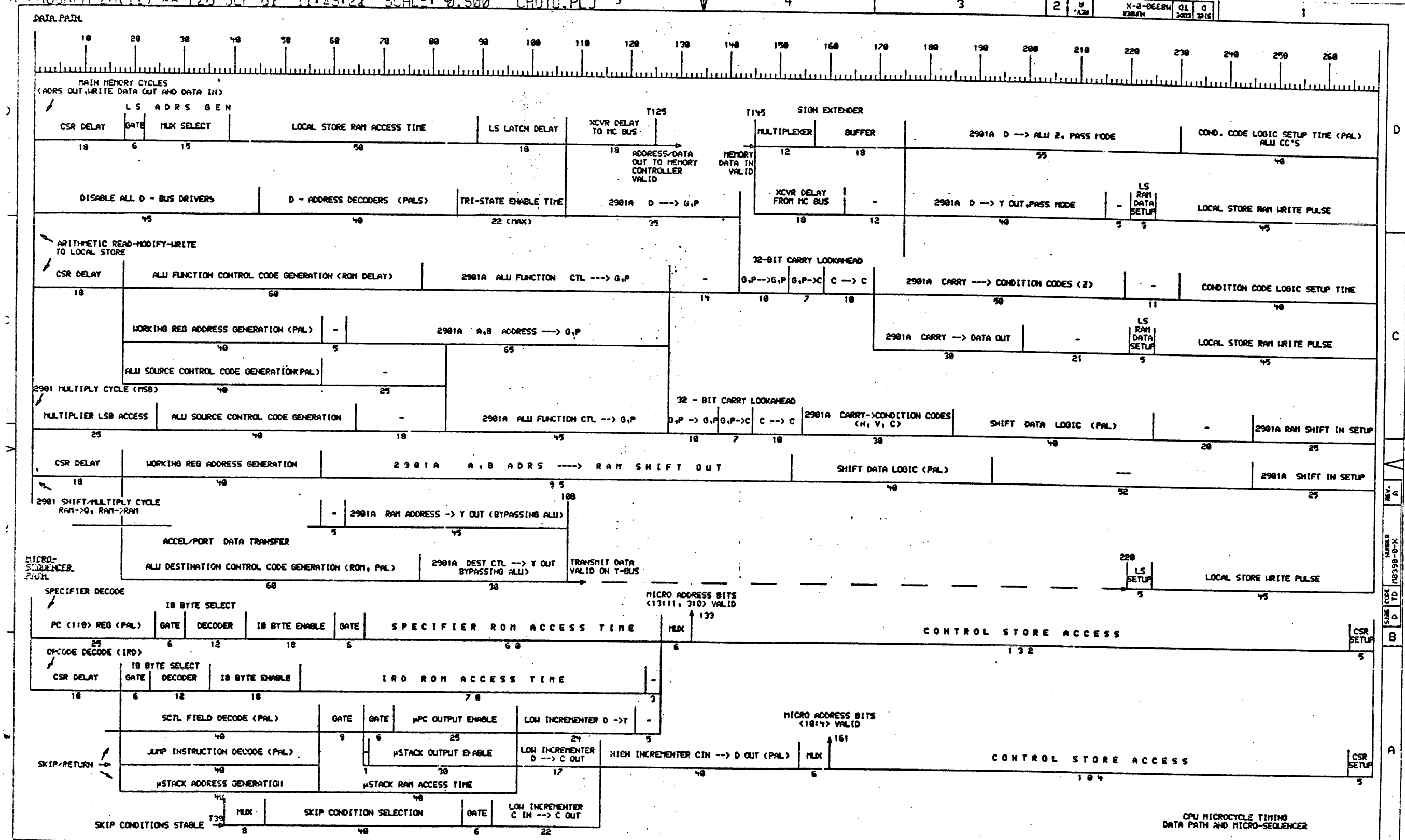
PART NUMBER: 23-133F3-00 ,PAGE 1
DEVICE TYPE: 1024 X 8
SCHEMATIC SHEET #: D-CS-M8390-0-DAPP
LOCATION/DESCRIPTION: E103 / OPCODE DECODE

LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

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REVISIONS table with columns: CHANGE NO., REV.

Form with fields: TITLE: DATA PATH ROM AND PAL LISTINGS, DATE, ENG., BOARD LOCATION, SIZE, CODE, NUMBER, REV. Includes a logo for Digital Equipment Corporation.



REVISIONS		
CHK	CHANGE NO.	REV

	DRN: <i>W.H. Miller</i>	DATE ENG: 25-SEP-87	DATE	TITLE: 11/730 CPU MICROCYCLE TIMING
	CHK'D:	DATE BOARD LOCATION:	SHEET	SIZE/CODE: D 1 TD
FIRST USED ON OPTION MODEL: 11/730		DATE: 25-SEP-87 10:04	NEXT HIGHER ASSEMBLY:	NUMBER: M8390-0-X

8

DEC 5013860-0-0 B

6

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LAYER 1

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2

1

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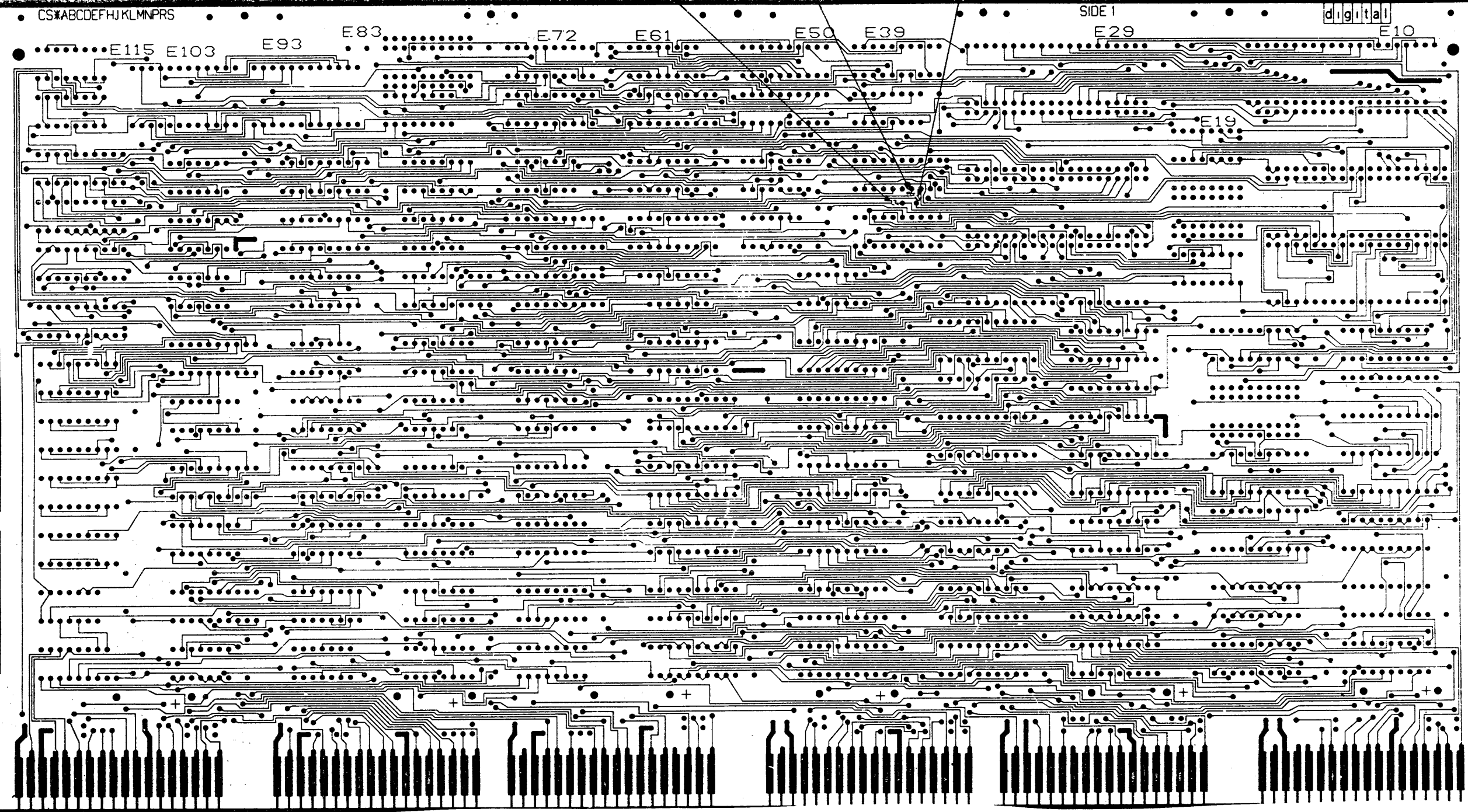
0-1

0-2

0-3

SIDE 1

digital



D

C

B

A

DEC 5013860-0-0 B

DATE	ECO NUMBER	REV
7/7/67	118390-1 W001	B
7/7/67	118390-1 W001	A

DESIGNED BY: K. OKIN
 DRAWN BY: J. M. LEE
 CHECKED BY: J. M. LEE

DATE	DATE	TITLE
11/1/67	11/1/67	digital
11/1/67	11/1/67	ETCH CUT DRAWING
DOCUMENT NUMBER		DEC 5013860-0-0 B

8

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DEC 5013860-0-0 B

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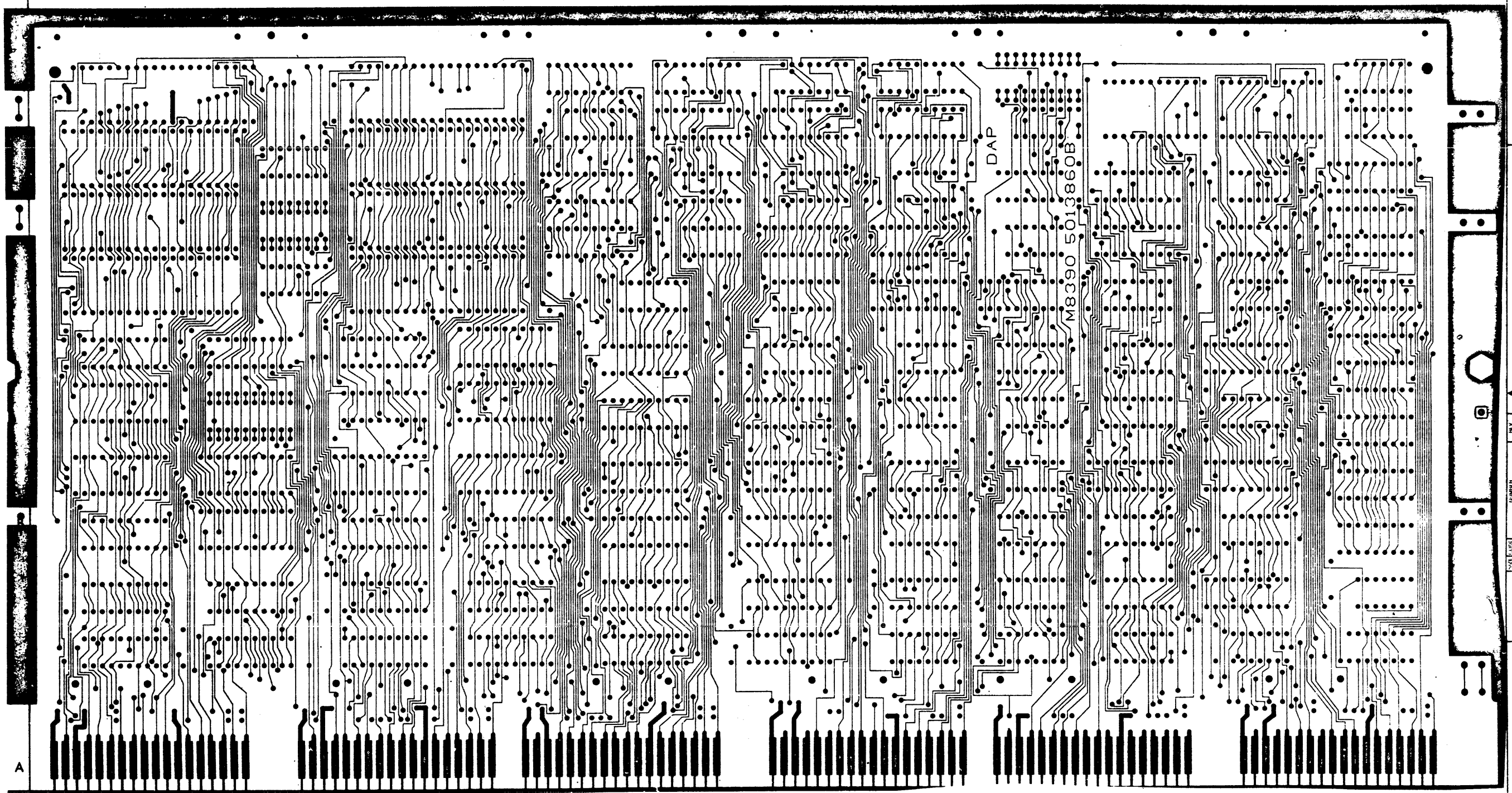
2

1

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1980 RANDOLPH EQUIPMENT CORPORATION

PARA 834AJ



D
C
B
A

DEC 5013860-0-0 B

REVISION HISTORY		
DATE	ECO NUMBER	REV

TITLE
ETCH CUT DRAWING

DOCUMENT NUMBER			
SIZE	CODE	NUMBER	REV
D	EC	5013860-0-0	B
SCALE	2-1	SHEET	2 OF 2

8

7

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8

DEC 5013860-0-0 B

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1

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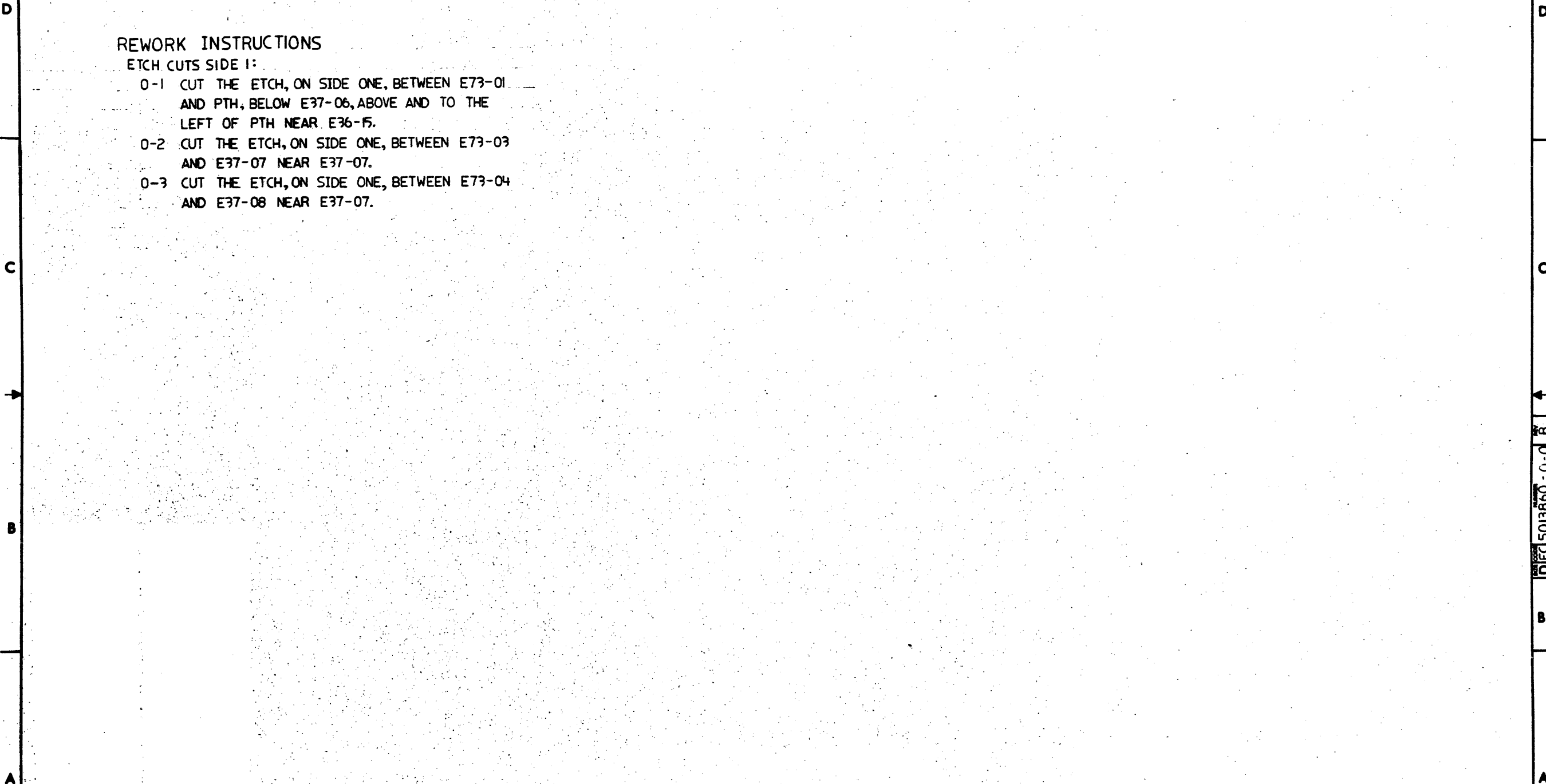
REWORK INSTRUCTIONS

ETCH CUTS SIDE 1:

0-1 CUT THE ETCH, ON SIDE ONE, BETWEEN E73-01 AND PTH, BELOW E37-06, ABOVE AND TO THE LEFT OF PTH NEAR E36-15.

0-2 CUT THE ETCH, ON SIDE ONE, BETWEEN E73-03 AND E37-07 NEAR E37-07.

0-3 CUT THE ETCH, ON SIDE ONE, BETWEEN E73-04 AND E37-08 NEAR E37-07.



REVISION HISTORY

DATE	ECO NUMBER	REV.

--	--	--	--	--	--	--	--	--	--	--	--	--	--

TITLE
ETCH CUT DRAWING

DOCUMENT NUMBER		REV.
DEC	5013860-0-0	B

SCALE 2-1 SHEET 3 OF 3

8

7

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4

3

2

1

DEC 5013860-0-0 B

A

C

D

TU

DRAWING NO.	NO. OF SHOTS.	PART NO.	DESCRIPTION	REVISIONS																
				A	B	C														
			MODULE REVISION	A	B	C														
B-DD-M8391-0	1		DRAWING DIRECTORY	A	B	C														
D-UA-M8391-0-0	2		UNIT ASSEMBLY	A	B	B														
K-PL-M8391-0-DBP	3		PARTS LIST	A	B	C														
		5013893	ETCH BOARD	B	B	B														
K-PC-5013893-0-DBC			DESIGN DATA BASE PC BOARD	B	B	B														
D-MD-5013893-0-0	5		MECHANICAL DRAWING	A	A	B														
D-EC-5013893-0-0	3		ETCH CUT DRAWING	A	B	B														
K-CS-M8391-0-DBS			DESIGN DATA BASE SUDS	A	B	B														
D-CS-M8391-0-MCTA	1	*	ARRAY CONTROL	A	B	B														
D-CS-M8391-0-MCTB	1	*	VAR AND ADDRESS DECODERS	A	B	B														
D-CS-M8391-0-MCTC	1	*	TRANSLATION BUFFER	A	B	B														
D-CS-M8391-0-MCTD	1	*	BUS MC DRIVERS, CLOCK GENERATION	A	B	B														
D-CS-M8391-0-MCTE	1	*	ARBITRATOR AND POWER UP/DOWN	A	B	B														
D-CS-M8391-0-MCTF	1	*	CONTROL AND STATUS REGISTERS	A	B	B														
D-CS-M8391-0-MCTH	1	*	UNIBUS ADDRESS XCVRS AND TERMINATOR	A	B	B														
D-CS-M8391-0-MCTJ	1	*	ECC CONTROL	A	B	B														
D-CS-M8391-0-MCTK	1	*	DATA CONTROL AND REFRESH LOGIC	A	B	B														
D-CS-M8391-0-MCTL	1	*	DATA ROTATORS/LATCHES	A	B	B														
D-CS-M8391-0-MCTM	1	*	CONTROL STORE	A	B	B														
D-CS-M8391-0-MCTN	1	*	FILTER CAPACITORS	A	B	B														
D-BD-M8391-0-0	1	*	MEMORY BLOCK DIAGRAM	-	A	B														
D-GL-M8391-0-0	16	*	ROM AND PAL LISTINGS	-	A	B														
D-TD-M8391-0-0	3	*	MEMORY TIMING DIAGRAM	-	A	B														

NOTES:

REVISIONS		DATE	CHG NO.	REV.
		10-81	TW001	B
		4-82	TW002	C

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USED ON OPTION/MODEL	DRN.	DATE
	J. CASEY	8-6-80
	J. CASEY	8-6-80
	K. OKIN	8-8-80
	C.J. CONSIDINE	8-8-80

TITLE M C T			
SIZE B	CODE DD	NUMBER M8391-0	REV. C
SHEET 1 OF 2			

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																			
				A	B																		
D-FD-M8391-0-0	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-1	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-2	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-3	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-4	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-5	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-6	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-7	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-8	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-9	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-10	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-11	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-12	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-13	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-14	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-15	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-16	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-17	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-18	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-19	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-20	1		MEMORY FLOW DIAGRAM	A	B																		
D-FD-M8391-0-21	1		MEMORY FLOW DIAGRAM	A	B																		

NOTES:

REVISIONS	DATE	CHG NO.	REV.
		1-82	TW001
	2-82	TW002	C

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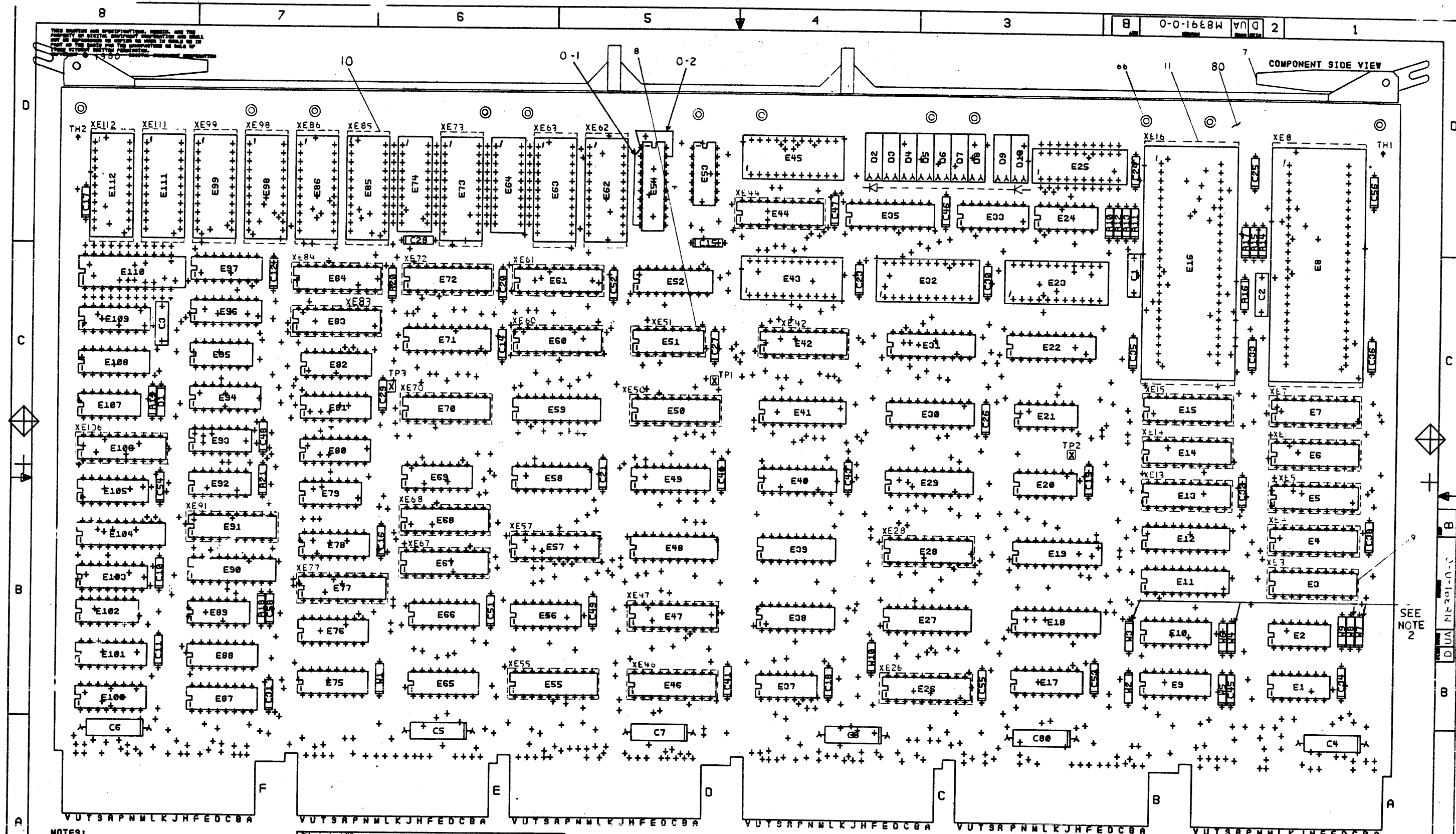


USED ON OPTION/MODEL		
DRN.	J. CASEY	8-6-80
CHK'D	J. CASEY	8-6-80
ENG.	K. OKIN	8-8-80
PROD.	C. CONSIDINE	8-8-80

TITLE			
M C T			
SIZE	CODE	NUMBER	REV.
B	DD	M8391-0	C
SHEET 2 OF 2			

rw

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NOTES:
 1. SPARE LOCATIONS ARE E25, E64, E74, E110.
 2. W1, W2, W4, W5, W7, AND W8 ARE NOT INSTALLED.

STEP #	Y AXIS	STEP 2 TIMES
8	→	
7	→	

CHANGE NO	REV	DATE	BY	CHK'D
1	1			
2	1			

ETCH REV.	DATE	BY
1		
2		

SIGNATURES	DATE	TITLE
DRN.		digital
CHK'D.		
MECH. ENG.		
PROJ. ENG.		
PROD.		
SCALE		
SHT.		
NEXT HIGHER ASSY.		

SIZE CODE	NUMBER	REV
D	UA	B

0-0-1688W71D

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REWORK INSTRUCTIONS

WIRE ADDS SIDE 1:

- 0-1 FROM E54-1 TO E54-10
- 0-2 FROM E54-1 TO E54-19
- ~~0-3 FROM E53-1 TO E91-11~~
- ~~0-4 FROM E53-2 TO E105-7~~
- ~~0-5 FROM E53-3 TO E108-12~~

ECO # M8391-TW001

1-1 STEPS 0-3 THROUGH 0-5 HAVE BEEN REMOVED AS PER ECO M8391-TW001.

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE
MCT

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV.
DUA	M8391-0-0	B
SCALE 2-1	SHEET 2 OF 2	

tu

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	90	D-MD-5013893-0-0	5013893-00 NEBULA MCT	1	
	79		1000064-00 3.9MFD 10V 10% S.TANT	1	C3
	78		1012084-01 8 MFD 25V +75-10% AL EL	1	C4-C8,C80
	77		1012784-00 .047 MFD 50V +80-20% CER	41	C10-C12,C14-C21,C23-C36,C38,C40,
					C41,C43,C45-C49,C51-C56,C58
5	4		1013466-11 .22 MFD 50V +80-20% Z5U CER	2	C1,C2
	5		1105796-00 1N 4004 PIV=400 I=1A D041 SP	1	D1
	6		1112689-00 LED .8MCD@16MA VF=5V	9	D2-D10
	7		1215006-02 SKT,IC 16PIN DIP TIN PLATE	1	XE51
	8		1215006-04 SKT,IC 20PIN DIP TIN PLATE	28	XE3-XE7,XE13-XE15,XE25,XE28,
					XE42,XE44,XE46,XE47,XE50,XE55,
					XE57,XE60,XE61,XE67,XE68,XE70,
					XE72,XE77,XE83,XE84,XE91,XE106
					XE62,XE63,XE73,XE95,XE96,XE98,
					XE99,XE111,XE112
					XE8,XE16
10	10		1215006-05 SKT,IC 22PIN DIP TIN PLATE	9	
11	11		1215924-00 SKT,IC 48PIN DIP GOLD PLATE	2	
12	12	SEE NOTE 1	1215935-00 GASKET, THERMAL .50"X.80"	2	
13	13	SEE NOTE 2	1215936-00 HEAT SINK, FORCED CONVECTION	2	
14	14		1216988-02 HANDLE,MODULE,HEX TWO EJECTORS	1	
15	14		1300229-00 100.0 .25 W 5.0 % CC	3	R18,R20,R21
16	15		1302377-00 39.0 .25 W 5.0 % CC	8	R10-R17
17	15		1302514-00 39.0 K .25 W 5.0 % CC	1	R19
18	17		1311003-02 R NETWORK 14-330 14-680 16PIN	1	E65
19	17		1312628-00 R NETWORK 14-176.5 14-275 16PIN	4	E55,E78,E88,E100
20	18		1616322-00 DELAY= 75NS,STAPS	1	E2
21	19		1910532-00 74500 NAND GATE-QUAD 2IN	1	E33
22	19		1910534-00 74504 INVERTER GATE-HEX 1I	2	E79,E102
23	19		1910548-00 745157 MUX 1 OF 2 (QUAD)	1	E69
24	19		1910549-00 745158 MUX 1 OF 2 (QUAD)	1	E97
25	19		1910550-00 745174 FF-D HEX	1	E105

REVISION HISTORY		BASIC PART NO: M8391		DRN: J.FERGUSON		DATE: 14-MAR-80		D I G I T A L	
ENG: ECO NUMBER	REV	SECTION A OF A	CHK'D: E.T.GERRY	DATE: 14-MAR-80	TITLE		PARTS LIST		
INITIAL	A	SECTION VARIATION INDEX	DES.ENG: K.OKIN	DATE: 22-APR-80	DOCUMENT NUMBER				
KO M8391-TW001	B	[A] 00	RESP.ENG.: K.OKIN	DATE: 22-APR-80	SIZE	CODE	NUMBER	REV	
		[B]	MFG.ENG.: J.CONSIDINE	DATE: 8-AUG-80	K	PL	M8391-0-DBP	B	
		[C]	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	FILE NAME:		EDIT #		
		[D]	D-UA-M8391-0-0	B-DD-M8391-0-0	Z1270B.PLS		17		
		[E]	"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 (C) 1982. DIGITAL EQUIPMENT CORPORATION"						
		[F]							
		[G]							
		[H]							
		[I]							
		[J]							
		[K]							
		[L]							
		[M]							
		[N]							

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
76			1910956-00	74S151 MUX 1 OF 8	4		E94, E96, E108, E109
77			1911116-00	DEC 8837 RECEIVER, BUS, HEX, UN	1		E101
78			1911573-00	74S280 PARITY GEN/CHKR, 9BIT	1		E20, E21
79			1911579-00	8641 TRANSCIEVER, BUS, QUA	1		E66, E75, E76, E80, E81, E87, E103
80			1911641-00	SN 74S257 MUX, QUAD 2 TO 1	3		E9, E10, E17
81			1911676-00	74S139 DECODER-DUAL TWO-INP	1		E82
82			1911712-00	74S51 AND-OR GATE-INVERT D	1		E107
83			1912388-00	74S02 NOR GATE-QUAD 2IN, PO	1		E24, E95
84			1912389-00	74S08 AND GATE-QUAD 2IN, PO	1		E53, E92
85			1912697-00	LS174 FF-D HEX W/CLEAR	1		E33
86			1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1		E37
87			1912799-00	LS00 NAND-GATE-QUAD 2IN, P	1		E89
88			1913670-00	74S373 LATCH 8BIT TRASP TR	1		E59, E71
89			1913671-00	74S374 FF-D OCTAL TRISTATE	1		E90, E104
90			1913888-00	DC 102A EQUALS CHECKER 8BIT	1		E30, E35
91			1914214-00	LS374 FF-D OCTAL EDGE TRIG	1		E11, E12
92			1914705-00	DC 631B BIPOLAR, LS, 400-GATE	1		E8, E16
93			1915019-00	74S38 NAND BUFFER-QUAD 2IN	1		E1
94			1915193-00	LS244 DRIVER, LINE, OCTAL, T	1		E16, E19, E22, E27, E31, E54
95			1915218-00	LS245 TRANSCIEVER, BUS, OCT	1		E29, E41, E48
96			1915697-00	LS245 TRANSCIEVER, BUS, OCT	1		E23, E32, E43, E45
97			2116957-02	RAM 256X4 TRI-STATE	4		E38, E40, E49, E52, E58
98			23946A9-00	1K MOS RAM 70NS 1	6		E51
99			23003K5-00	A9-01	1		E77
100			23005K4-00	K5-01	1		E43
101			23006K4-00	K4-01	1		E75
102			23007K4-00	K4-01	1		E69
103			23008K4-00	K4-01	1		E83
104			23010K4-00	K4-01	1		E57
105			23032D2-00	D2-01	1		E99
106			23033D2-00	D2-01	1		E112
107			23034D2-00	D2-01	1		E65
108			23035D2-00	D2-01	1		E62
109			23017K3-00	K3-01	8		E3-E7, E13-E15
110			23036D2-00	D2-01	1		E98
111			23018K3-00	K3-01	2		E47, E50
112			23037D2-00	D2-01	1		E63
113			23019K3-00	K3-01	3		E26, E67, E70
114			23039D2-00	D2-01	1		E86
115			23026K3-00	K3-01	1		E60
116			23039D2-00	D2-01	1		E73
117			23056K3-00	K3-01	1		E91
118			23040D2-00	D2-01	1		E111
119			23060K3-00	K3-01	1		E68
120			23023K3-00	K3-01	1		E106
121			23061J5-00	J5-01	1		E61
122			23025J5-00	J5-01	1		E44
123			23042J5-00	J5-01	1		E46

D	I	G	I	T	A	L	TITLE	MCT	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	M8391-0-DBP	B

AUTOMATED BY PRTLST.3M(41)

P A R T S L I S T

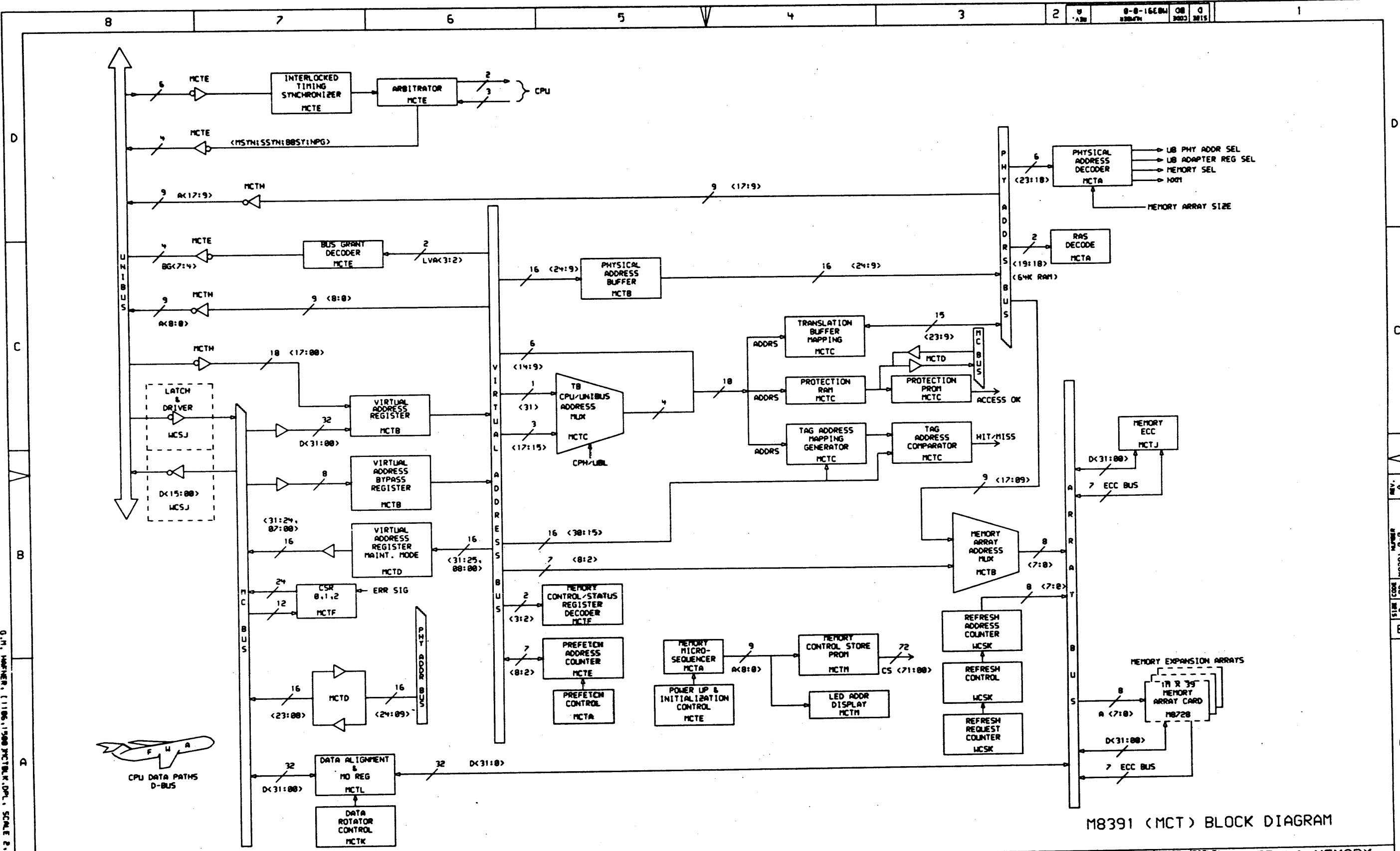
SHEET A3 OF A3

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
74	64		23043J5-00	J5-01 PAL, LOGIC, CONT	1	E55
75	65		23044J5-00	J5-01 PAL, LOGIC, CONT	1	E84
76	66		9009000-00	EYELET ROLL FLANGE .12100X .156	12	
77	67		9009149-00	PIN, STAKING, P.C. BOARD, .025 X	3	TP1-TP3
78	68		9009185-00	JUMPER WIRE INSULATED, BLACK B	4	W3, W6, W9, W10
79	81		9105740-55	WIRE(WRAP)30AWG UL1423	A/R	

80 NOTE: NOTE 1 ITEM 12 USED IN REF DES E8, E16
 81 NOTE: NOTE 2 ITEM 13 USED IN REF DES E8, E16

***** RELEASABLE/NO REF DES CHECK *****

D	I	G	I	T	A	L	TITLE	MCT	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	M8391-0-DBP	B

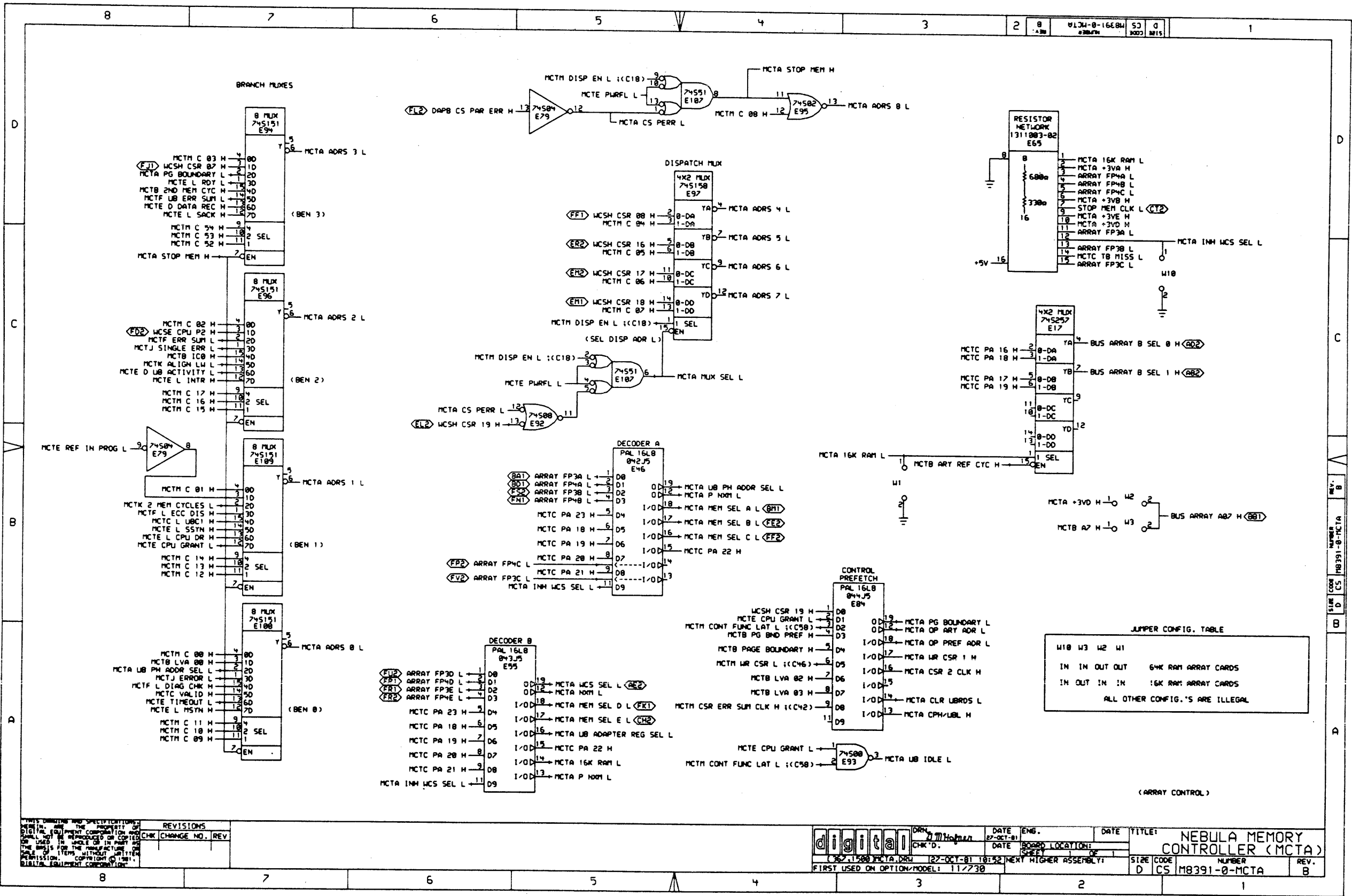


M8391 (MCT) BLOCK DIAGRAM

D.M. WARNER, (1106,1980) MCTLR, DPL, SCALE 2, "D" RELEASE BOX
 D.M. WARNER, MCTLR, PLD, (1106,1980) 18-DEC-81 17:42

REV.	CHG.	NO.	REV.

	DRN	DATE	ENG.	DATE	TITLE
	CHK'D.	18-DEC-81	W.H.	18-DEC-81	NEBULA MEMORY CONTROLLER (MCT)
FIRST USED ON OPTION/MODEL: NEBULA					SIZE D BD
NUMBER M8391-0-0					REV. A



JUMPER CONFIG. TABLE

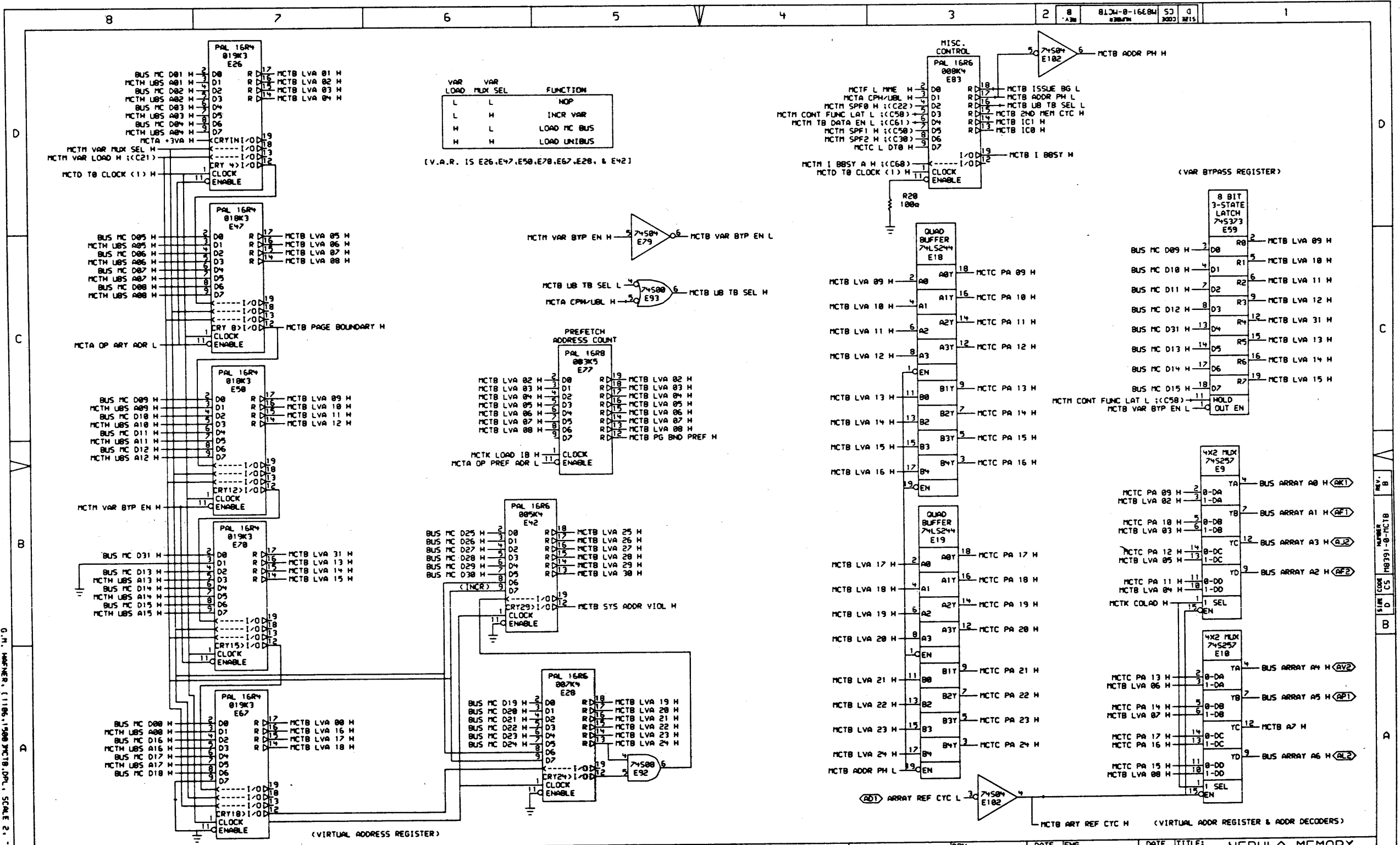
W10	W3	W2	W1	
IN	IN	OUT	OUT	64K RAM ARRAY CARDS
IN	OUT	IN	IN	16K RAM ARRAY CARDS
ALL OTHER CONFIG.'S ARE ILLEGAL				

(ARRAY CONTROL)

REV	DATE	DESCRIPTION
1	27-OCT-81	RELEASE BOX

digital	DATE: 27-OCT-81	ENG: M. Hopman	DATE: 27-OCT-81	TITLE: NEBULA MEMORY CONTROLLER (MCTA)
1362.1588 MCTA.DRW	DATE: 12-OCT-81 10:52	CHECKED: M. Hopman	DATE: 27-OCT-81	BOARD LOCATION: 1
FIRST USED ON OPTION/MODEL: 11/230	NEXT HIGHER ASSEMBLY:	SIZE: D	CODE: CS	NUMBER: M8391-0-MCTA
		REV: B		

G.M. HARNER (1186, 1588) MCTA.DRW, SCALE 2: -D- RELEASE BOX G.M. HARNER MCTA.PLC (1186, 1588) 27-OCT-81 11:39

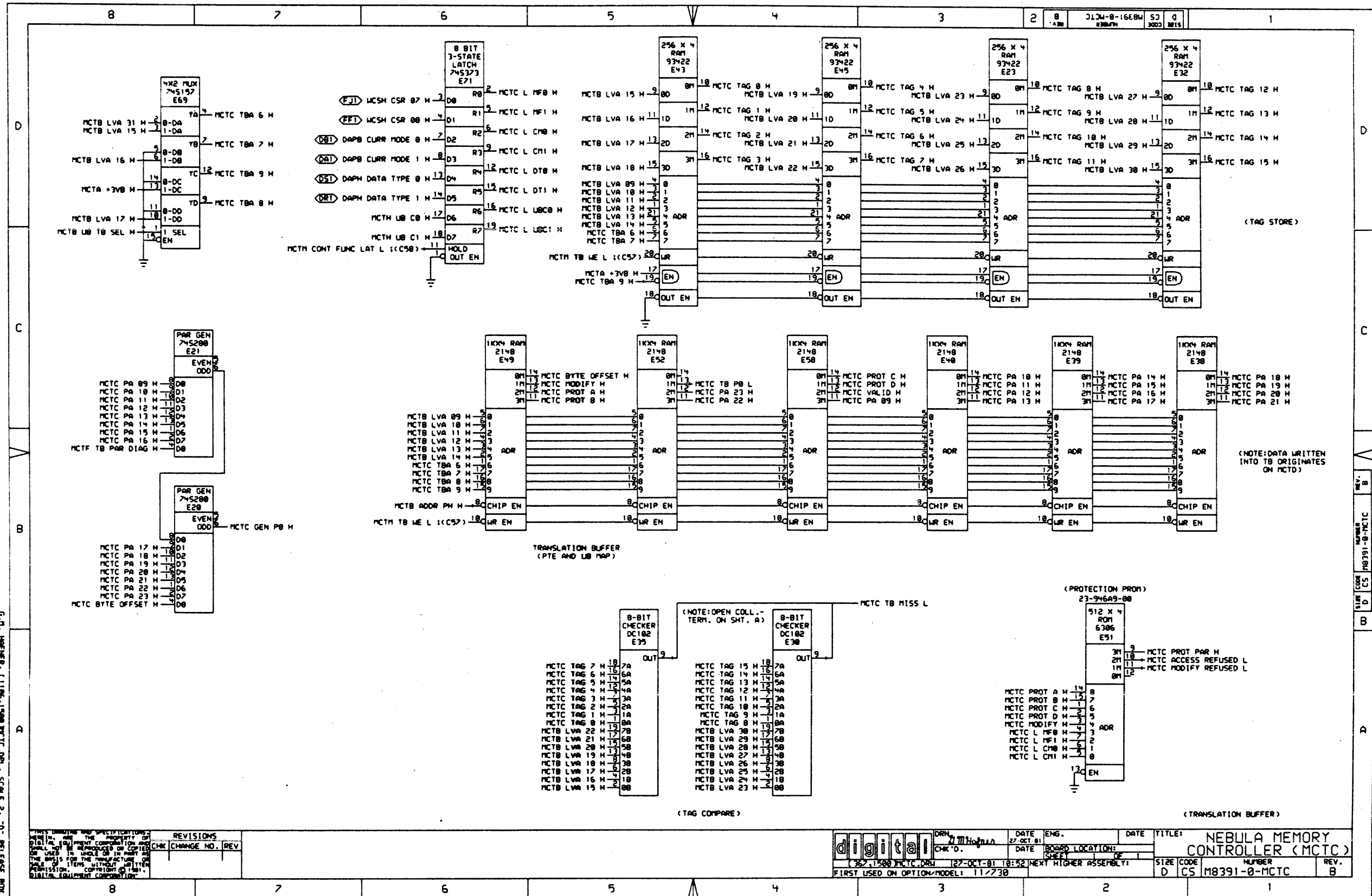


G.N. WARNER (1186, 1500) MCTB, DPL, SCALE 2, 0-0- RELEASE BOX
 G.N. WARNER (MCTB, PLOC 1186, 1500) 27-OCT-81 11198

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REVISIONS	
CHK	CHANGE NO. REV

	DRN: <i>W.H. Hoban</i> DATE: 27-OCT-81 CHK'D:	ENG. DATE: BOARD LOCATION:	TITLE: NEBULA MEMORY CONTROLLER (MCTB)
FIRST USED ON OPTION MODEL: 117730	DATE: 127-OCT-81 10:52	NEXT HIGHER ASSEMBLY:	SIZE CODE: D NUMBER: M8391-0-MCTB REV: B



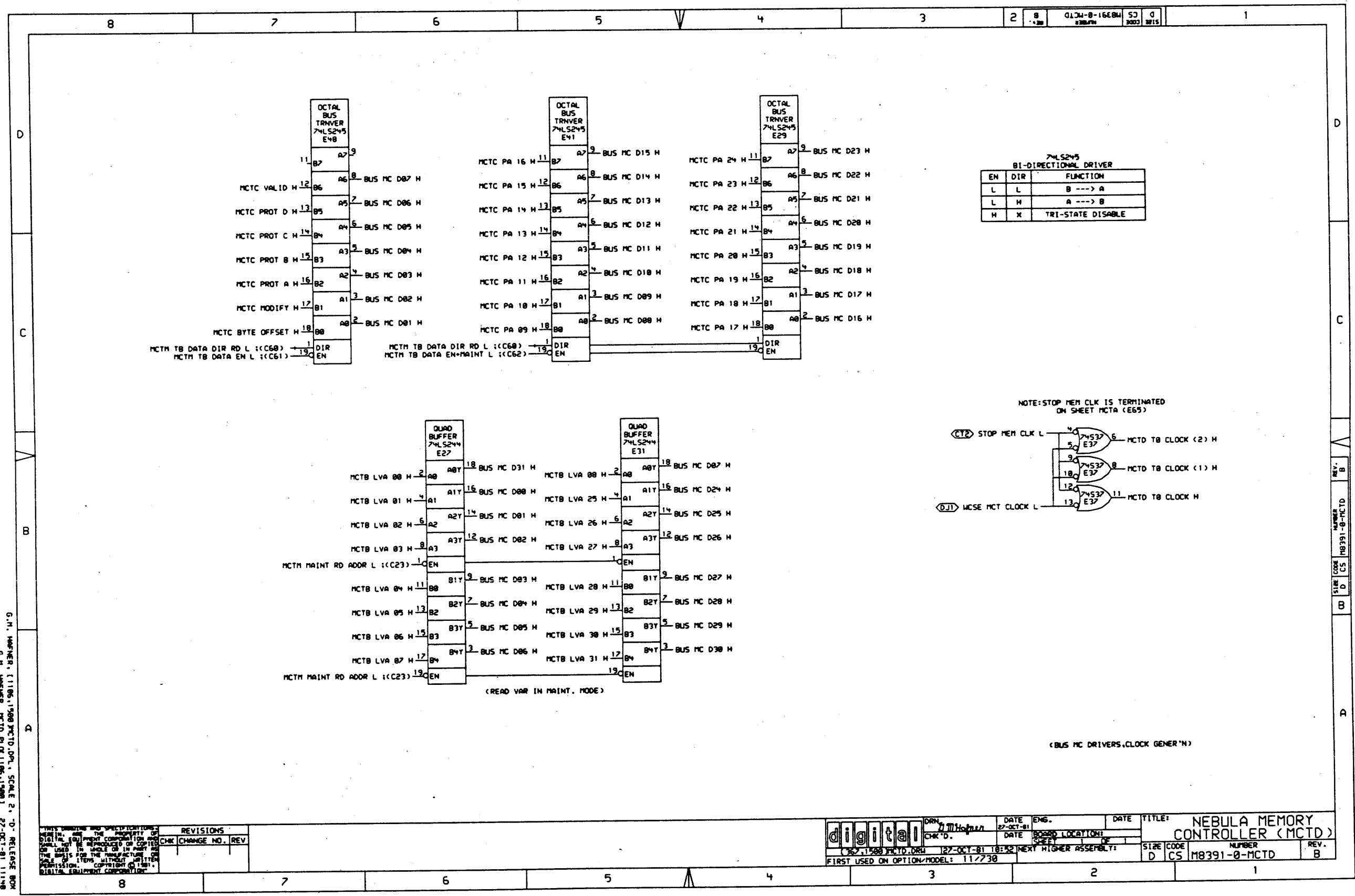
G.M. WARNER, (1106, 1500) MCTC, DPL, SCALE 2, "D" RELEASE BOX
 G.M. WARNER, MCTC, PLOT (1106, 1500) 27-OCT-81 11:48

REVISIONS	
CHK	CHANGE NO. REV

DATE	ENG.	DATE	TITLE
27-OCT-81			NEBULA MEMORY CONTROLLER (MCTC)

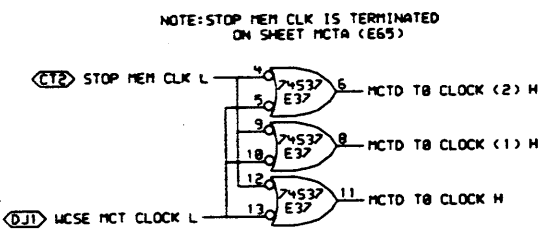
DIGITAL 352,1500 MCTC, DPL FIRST USED ON OPTION MODEL: 11/730	DATE: 27-OCT-81 CHECKED BY: [Signature] DATE: [Blank] NEXT HIGHER ASSEMBLY: [Blank]	SIZE: D CODE: CS NUMBER: M8391-0-MCTC	REV: B
---	--	---	--------

REV. B
 NUMBER M8391-0-MCTC
 CS
 D



74LS245
BI-DIRECTIONAL DRIVER

EN	DIR	FUNCTION
L	L	B ---> A
L	H	A ---> B
H	X	TRI-STATE DISABLE



(READ VAR IN MAINT. MODE)

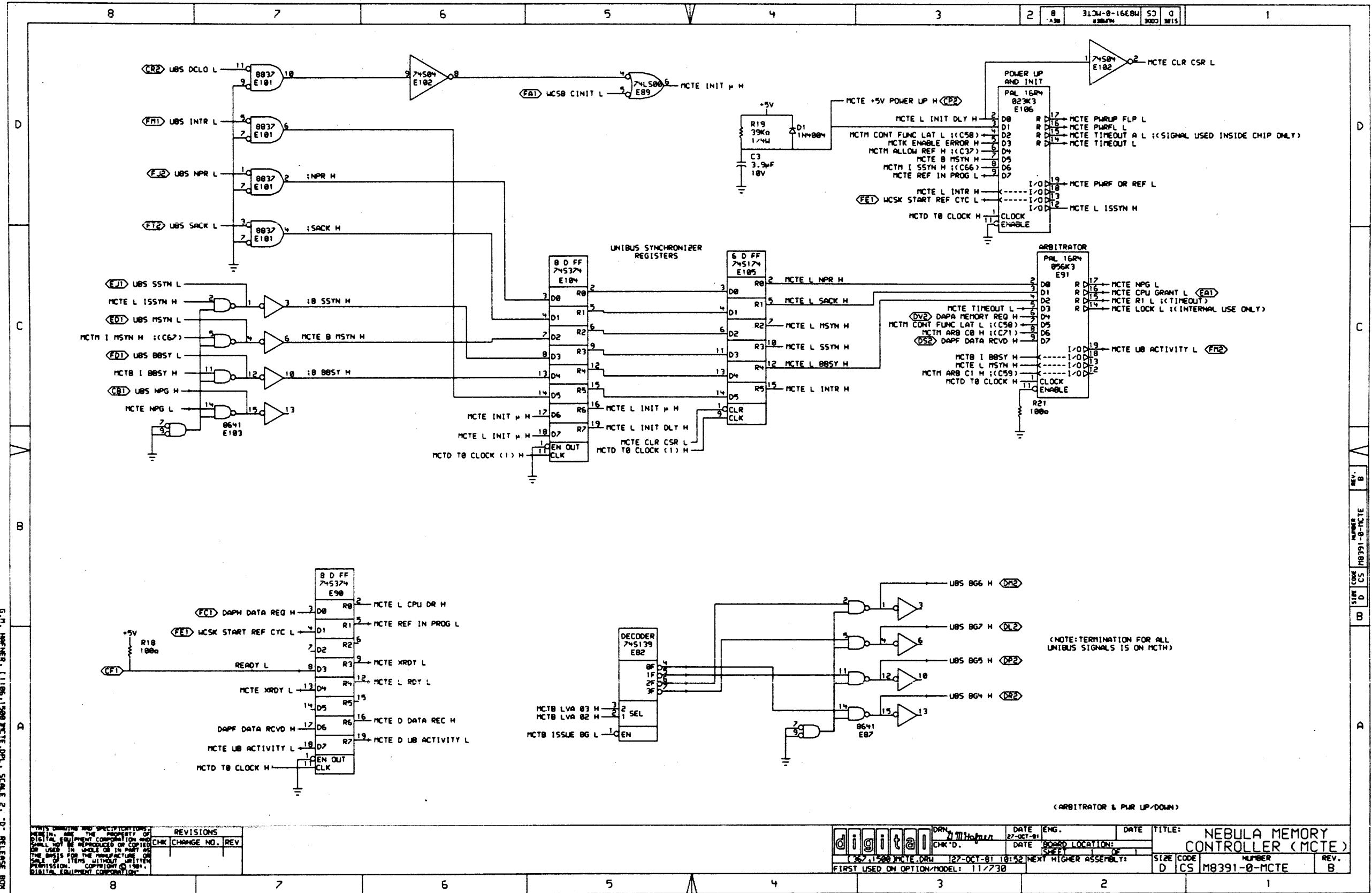
(BUS MC DRIVERS, CLOCK GENERATION)

G.M. WARNER, (1186) 1988 MCTD, OPN., SCALE 2: "D" - RELEASE BOX
 G.M. WARNER, MCTD, PLOT (1186, 1988) 27-OCT-81 11:18

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REV.	CHANGE NO.	REV.

	DATE	ENG.	DATE	TITLE
	27-OCT-81	J. M. Warner	27-OCT-81	NEBULA MEMORY CONTROLLER (MCTD)
DATE	DESIGN LOCATION	DATE	CHECKED	REV.
127-OCT-81 10:52				B
FIRST USED ON OPTION MODEL: 11/730		NEXT HIGHER ASSEMBLY:		
SIZE	CODE	NUMBER	REV.	
D	CS	M8391-0-MCTD	B	



G.M. WARNER, (1186) MCTE.DPL, SCALE 2, -D- RELEASE BOX
 G.M. WARNER MCTE.PLD (1186,1588) 27-OCT-81 11:49

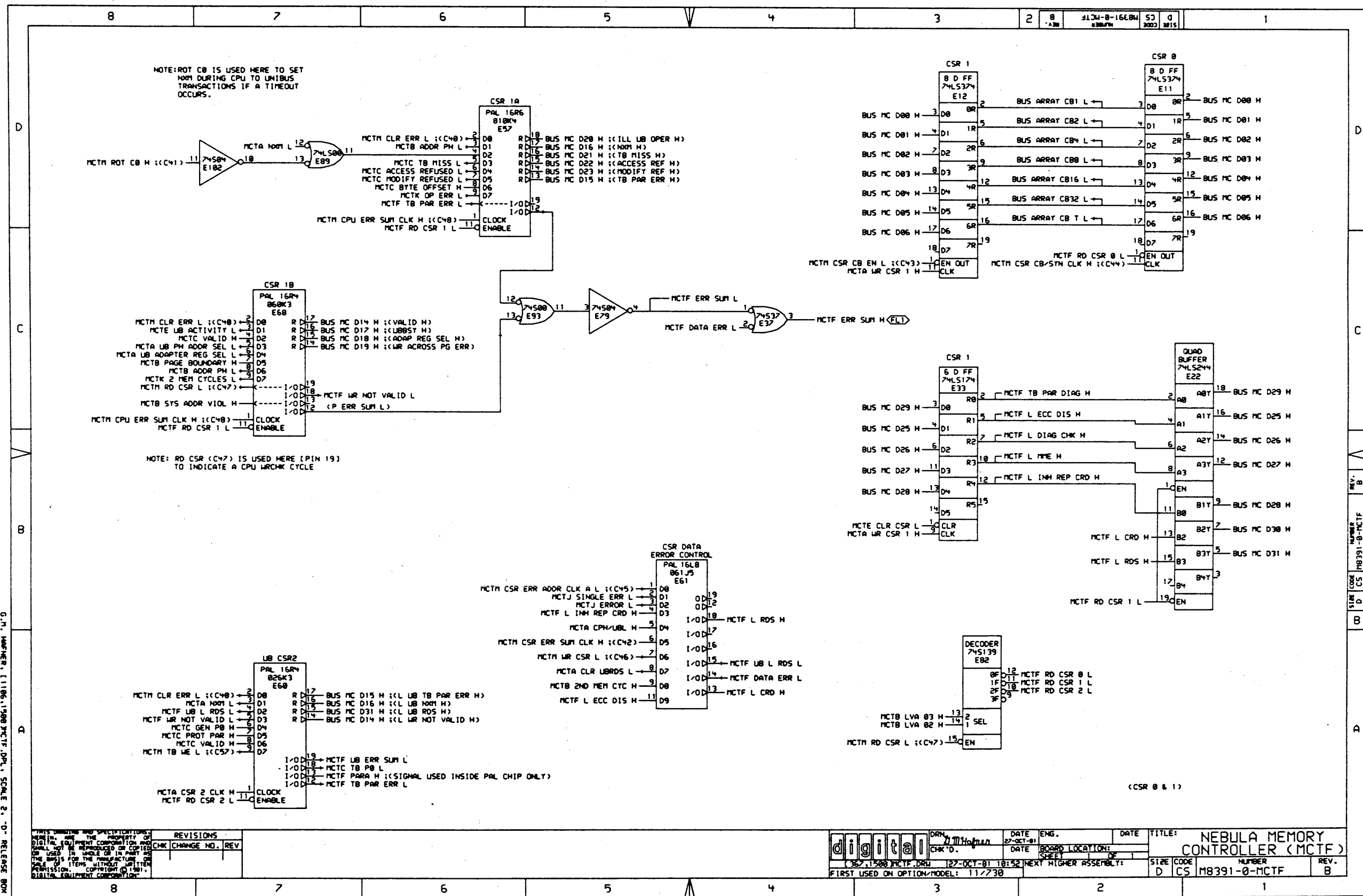
REVISIONS	
CHK	CHANGE NO. REV

	DATE: 27-OCT-81 DATE: 27-OCT-81 DATE: 27-OCT-81	TITLE: NEBULA MEMORY CONTROLLER (MCTE)
FIRST USED ON OPTION MODEL: 11/730	BOARD LOCATION: SHEET 1 OF 1	SIZE CODE: D CS NUMBER: M8391-0-MCTE REV.: B

REV. B
 NUMBER M8391-0-MCTE
 SIZE CODE CS
 D D D D

(NOTE: TERMINATION FOR ALL UNIBUS SIGNALS IS ON MCTH)

(ARBITRATOR & PWR UP/DOWN)



G.M. WARNER, 11196-1988 PCTF.DRW, SCALE 2" = 1" RELEASE ROM
 G.M. WARNER, PCTF.PLOT.1196-1988, 27-OCT-81 11:11

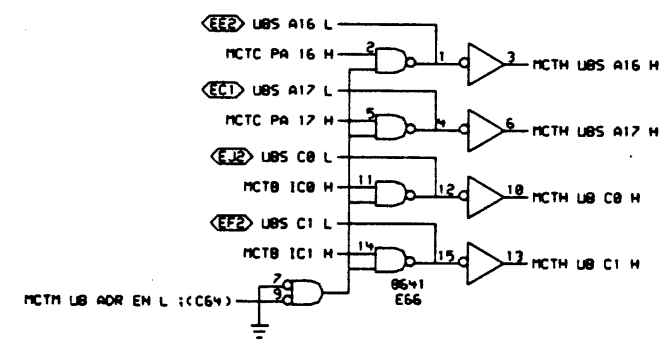
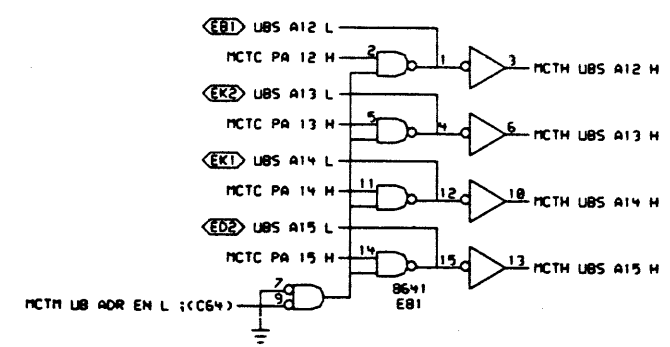
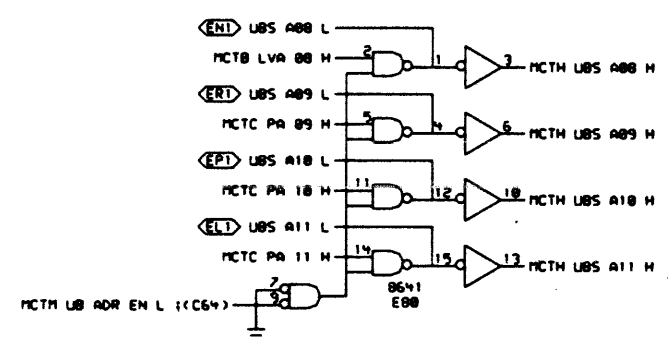
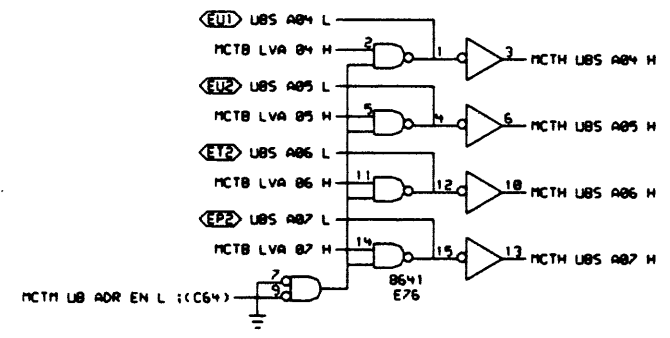
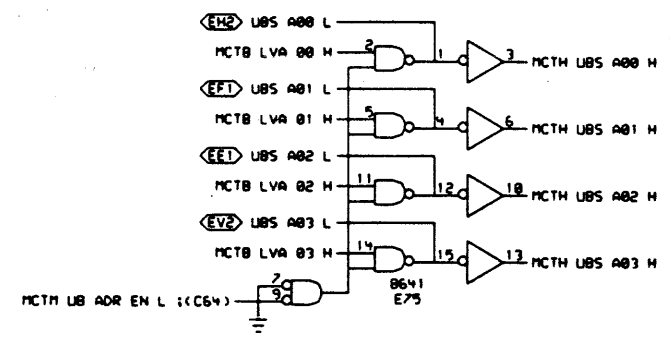
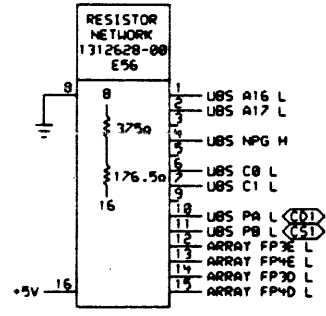
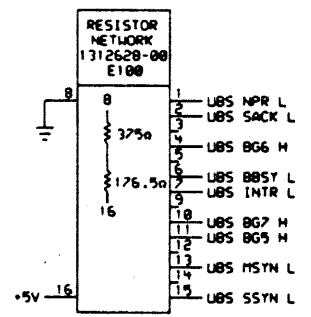
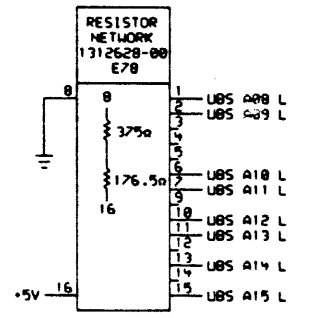
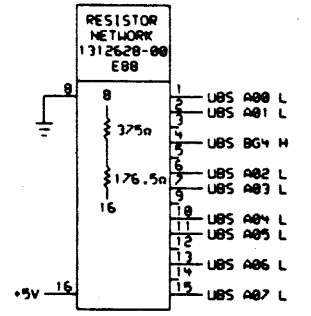
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REV. NO.	DESCRIPTION	DATE
1	INITIAL RELEASE	11/7/80

REV. NO.	DESCRIPTION	DATE
1	INITIAL RELEASE	11/7/80

digital	DRN	11/1988	DATE	27-OCT-81	ENG.		DATE		TITLE:	NEBULA MEMORY CONTROLLER (MCTF)
	CHK'D.		DATE		BOARD LOCATION:		OF		SIZE	D
									CODE	CS
									NUMBER	M8391-0-MCTF
									REV.	B

REV. B
 NUMBER M8391-0-MCTF
 SIZE CODE CS
 ED



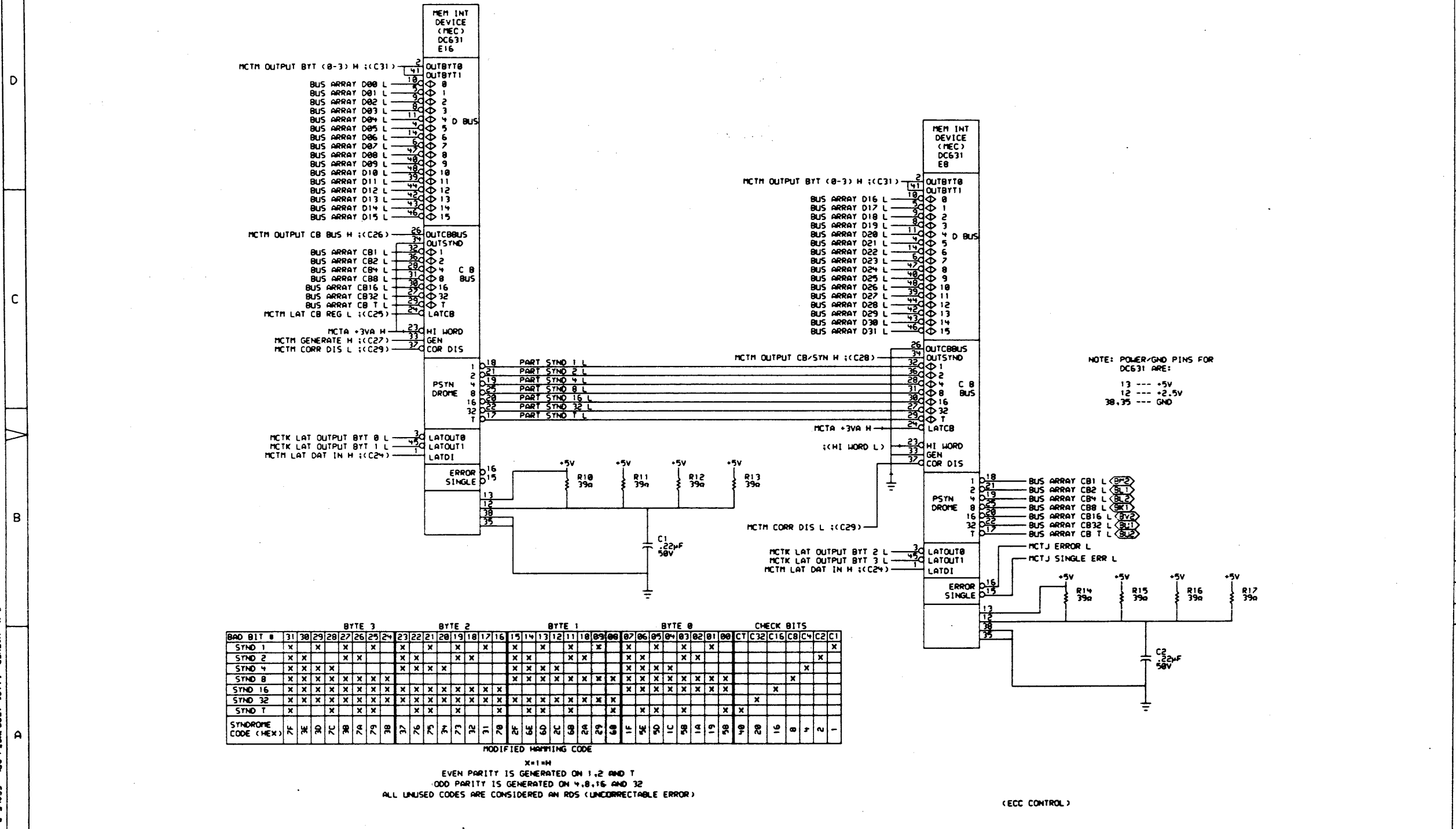
(UBS ADRS XCVRS & TERM.)
(DATA XCVRS AND LATCHES ON MCS)

G.M. HARPER, (1186,1988) MCTH.DRL, SCALE 2, -D- RELEASE BOX
G.M. HARPER, MCTH.PLOX (186,1988), 27-OCT-81 11:31

REV.	CHG.	NO.	REV.

DRN	DATE	ENG.	DATE	TITLE
D. M. Harper	27-OCT-81			NEBULA MEMORY CONTROLLER (MCTH)
CHK'D.	DATE	BOARD LOCATION	REV.	
SIZE	CODE	NUMBER	REV.	
D	CS	M8391-0-MCTH	B	

REV. B
NUMBER M8391-0-MCTH
SIZE CODE CS
D



G.M. WARNER (1186, 1988) MCTJ.DWG. SCALE 2'-0" RELEASE BOX
 G.M. WARNER MCTJ.PLO (1186, 1988) 27-OCT-81 11:01

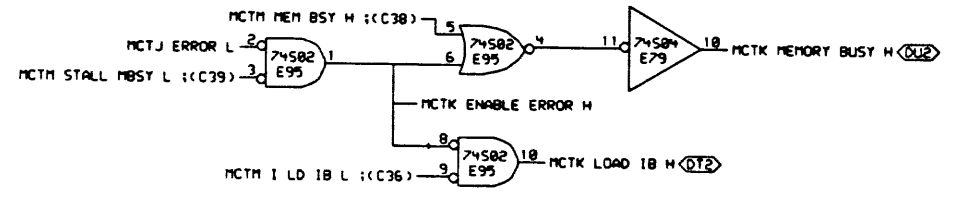
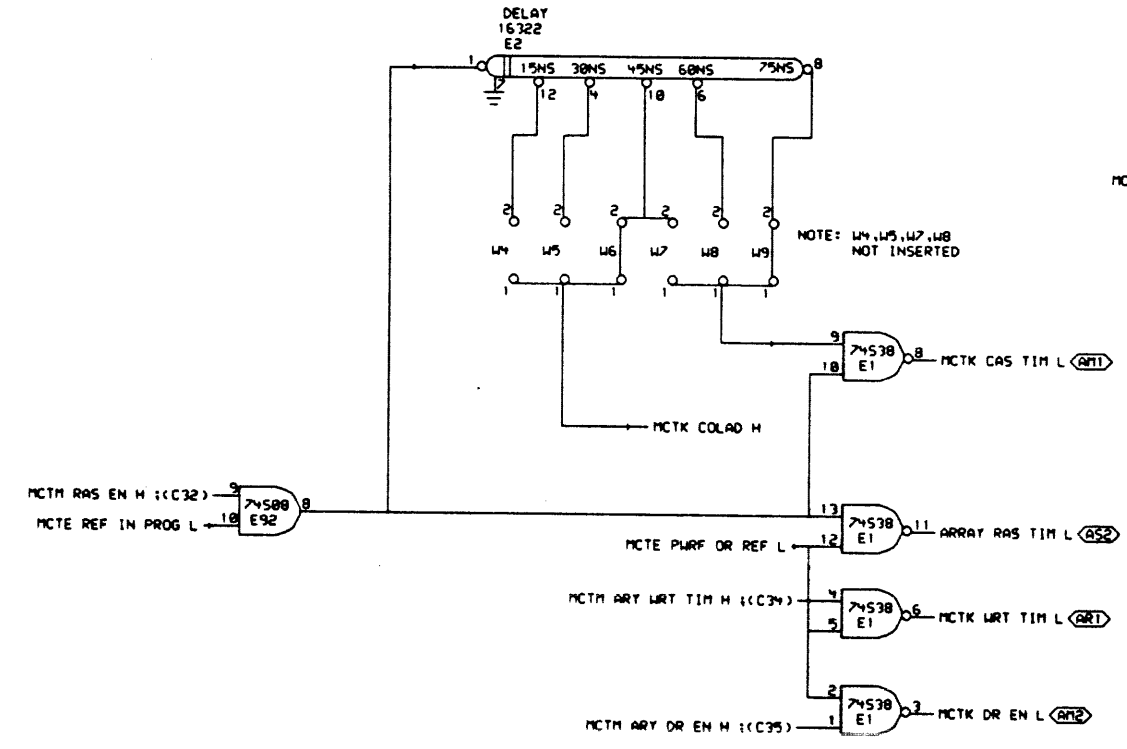
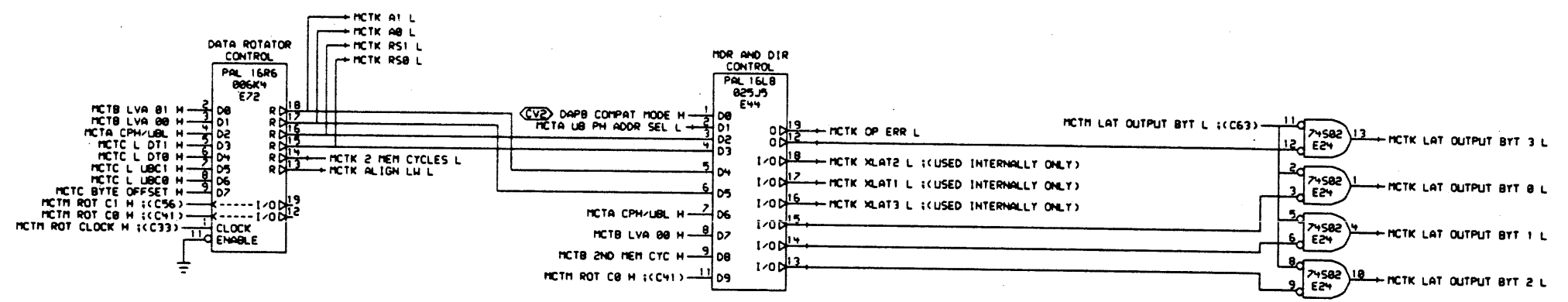
REV.	CHANGE NO.	DATE	ENG.	DATE	TITLE
		27-OCT-81			NEBULA MEMORY CONTROLLER (MCTJ)

357,1500 MCTJ.DWG (27-OCT-81 18:52) NEXT HIGHER ASSEMBLY:
 FIRST USED ON OPTION/MODEL: 117730

SIZE	CODE	NUMBER	REV.
D	CS	M8391-0-MCTJ	B

REV. B
 NUMBER
 M8391-0-MCTJ
 CS
 CS
 D

7134-B-16684 53 0
28074 3000 2115



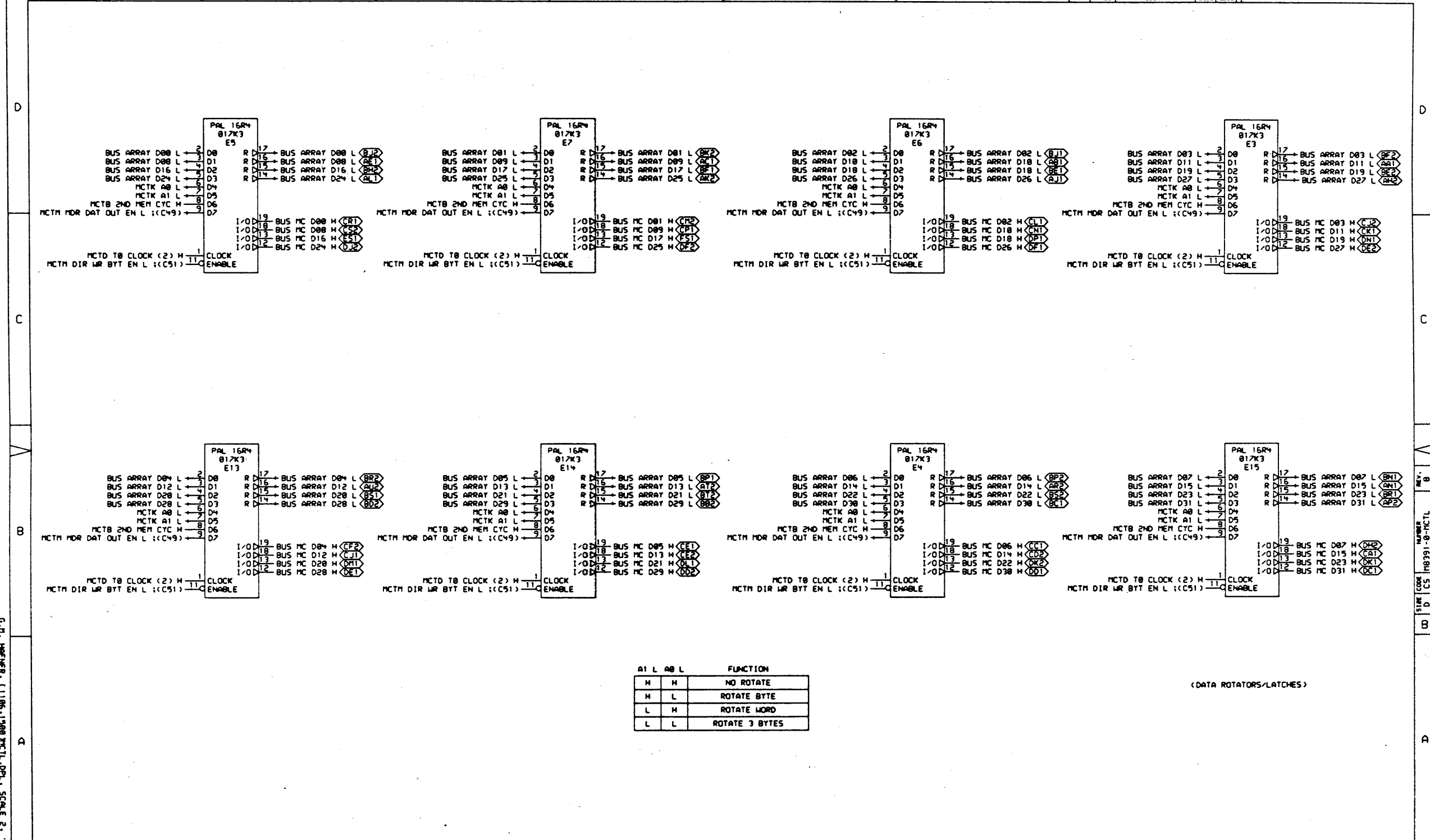
NOTE: PULLUP RESISTORS FOR ARRAY TIMING SIGNALS ARE ON WCS MODULE (M8394)

(DATA CONTROL CKTS & REFRESH TIMING)

REV.	CHG.	NO.	REV.

digital	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D.	DATE	BOARD LOCATION:	DATE	NEBULA MEMORY CONTROLLER (MCTK)
FIRST USED ON OPTION/MODEL: 11/230		DATE	DATE	DATE	DATE
SIZE	CODE	NUMBER	REV.		
D	CS	M8391-0-MCTK	B		

G.M. WARNER (1196) MCTK.DPL SCALE 2.0 RELEASE BOX
G.M. WARNER MCTK.PLOC (1196) (1988) 27-OCT-81 11:41



A1 L	A0 L	FUNCTION
H	H	NO ROTATE
H	L	ROTATE BYTE
L	H	ROTATE WORD
L	L	ROTATE 3 BYTES

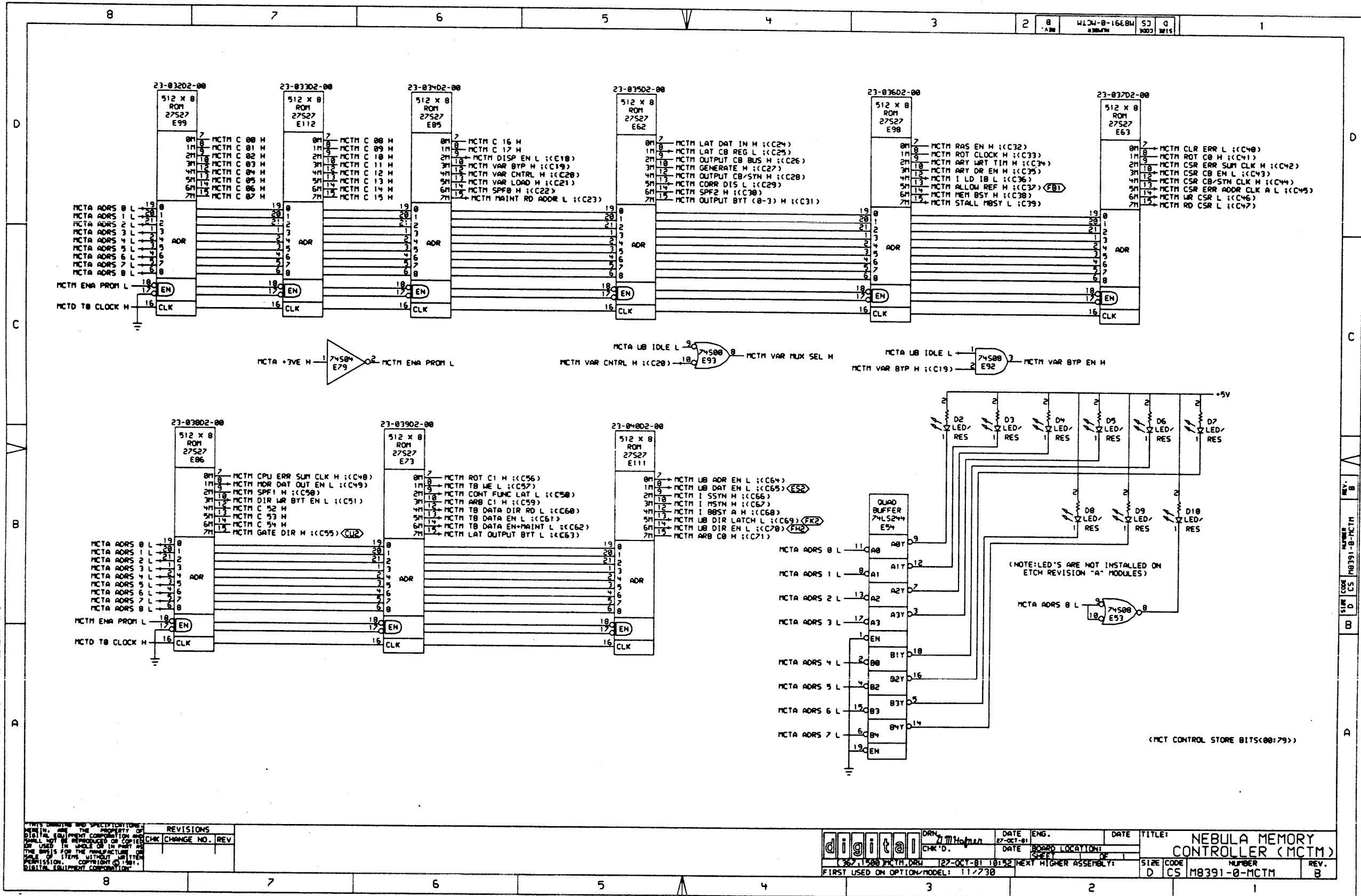
(DATA ROTATORS/LATCHES)

G.M. WARNER, (11)96, 1588 MCTL.DTL, SCALE 2, "D" RELEASE BOX
G.M. WARNER MCTL.PLOT(11)96, 1588, 27-OCT-81 11:42

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REVISIONS		
CHK	CHANGE NO.	REV

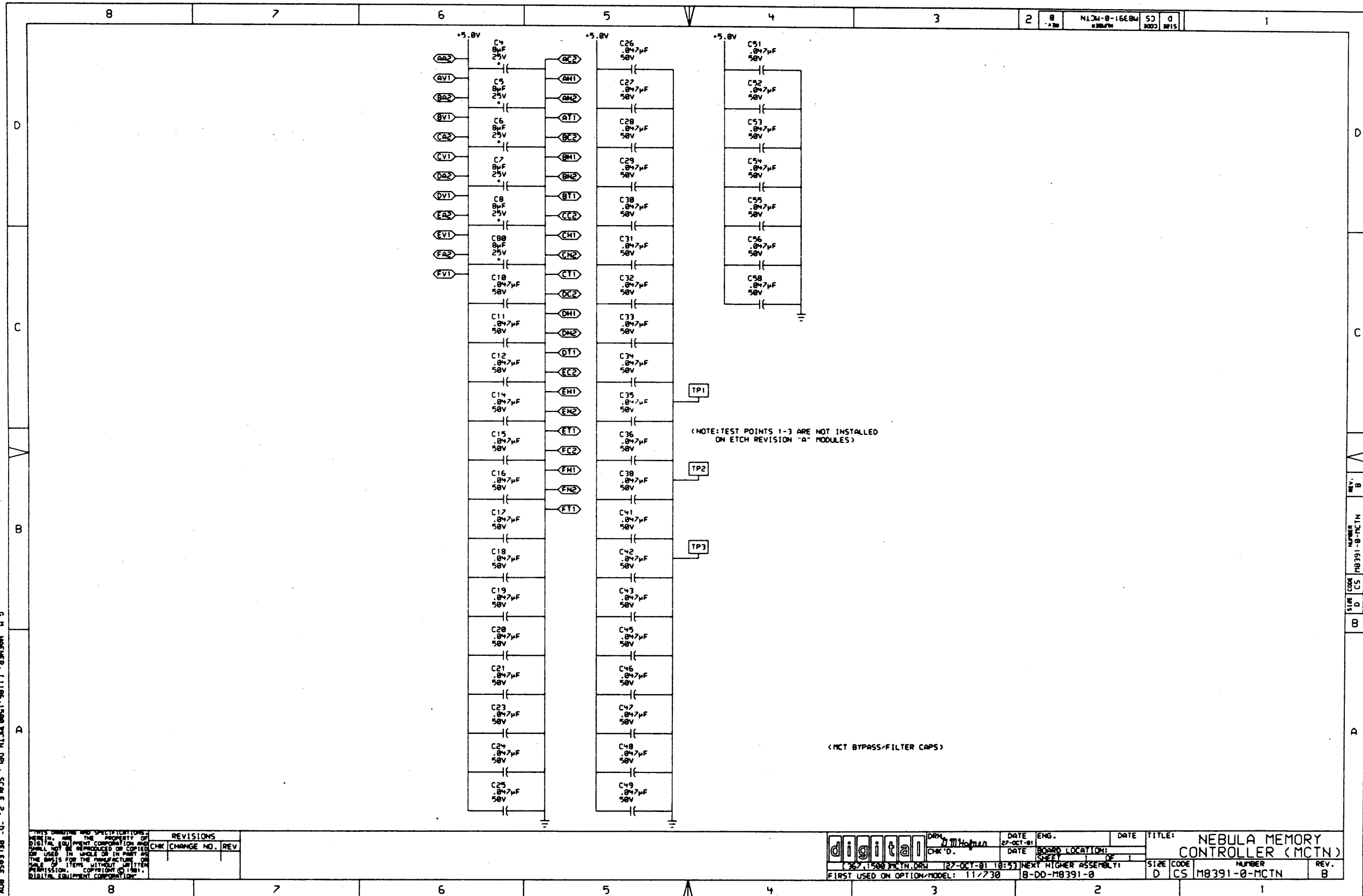
digital	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D.	27-OCT-81	M. Warner		NEBULA MEMORY CONTROLLER (MCTL)
FIRST USED ON OPTION/MODEL: 11/230		DATE	BOARD LOCATION:	SIZE	CODE
				D	CS
NEXT HIGHER ASSEMBLY:				NUMBER	REV.
				M8391-0-MCTL	B



G.M. WARNER, (1106-1900) MCTM, OPT. SCALE 2, -0- RELEASE BOX
 G.M. WARNER, MCTM, PLOT (1106-1900) 27-OCT-81 11142

REVISIONS	
CHK	CHANGE NO. REV.

	DRN: J.M. Holman	DATE: 87-OCT-81	ENG.	DATE	TITLE: NEBULA MEMORY CONTROLLER (MCTM)
	CHK'D.	DATE: 87-OCT-81	80500 LOCATION: SHEET 1	DATE	SIZE CODE: D CS
FIRST USED ON OPTION MODEL: 11/730		NEXT HIGHER ASSEMBLY:		NUMBER: M8391-0-MCTM	REV. 8



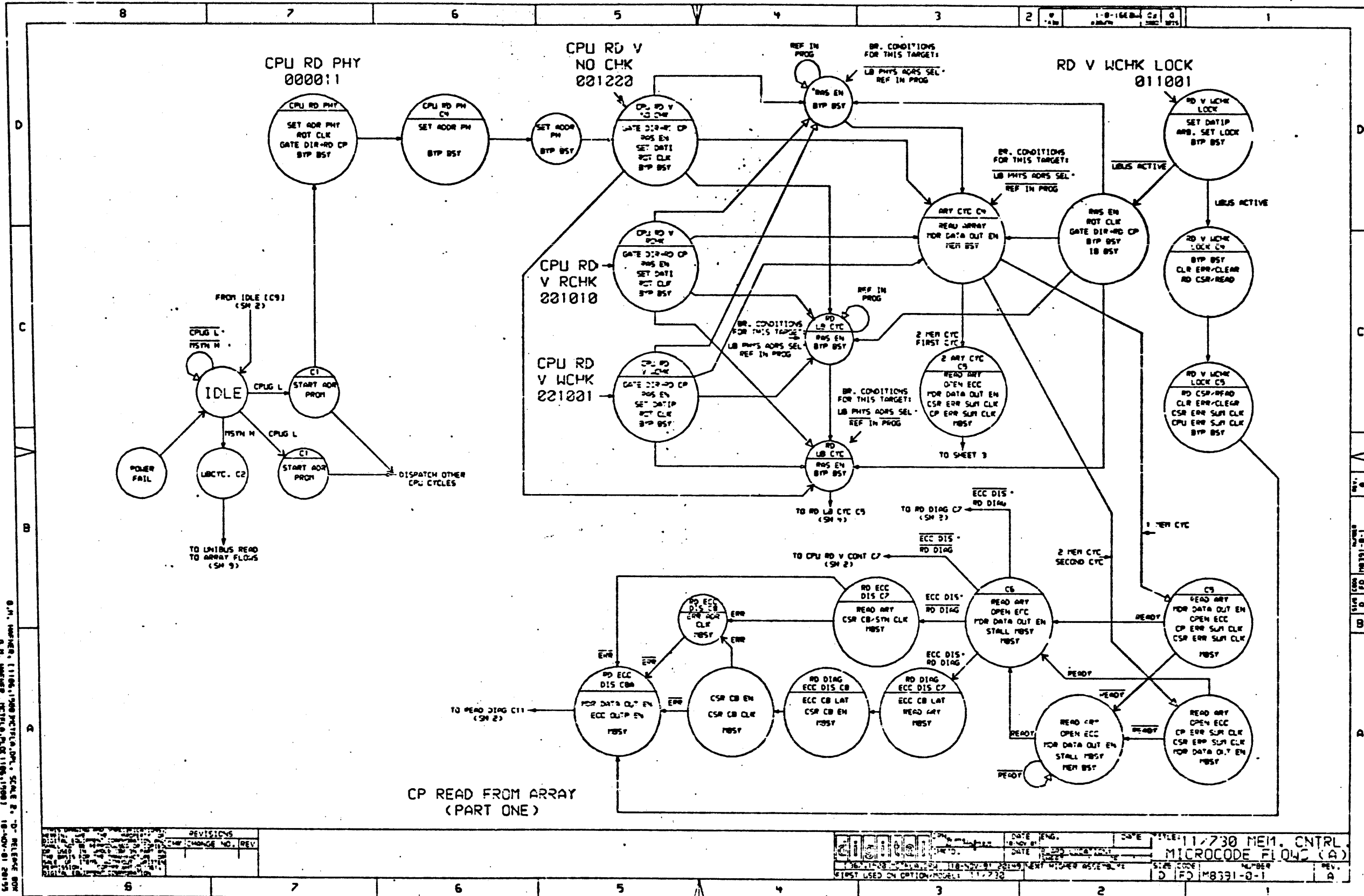
G.M. WARNER, (1186,1500) MCTN, DPL, SCALE 2, "D" RELEASE BOX
 G.M. WARNER MCTN, PLOT (1186,1500) 27-OCT-81 11:42

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REVISIONS		
CHK	CHANGE NO.	REV

	DRN <i>M. Hoffman</i>	DATE 27-OCT-81	ENG.	DATE	TITLE: NEBULA MEMORY CONTROLLER (MCTN)
	CHK'D.	DATE 27-OCT-81 10:53	BOARD LOCATION: C5E7	SIZE D	CODE CS
FIRST USED ON OPTION/MODEL: 117730			NEXT HIGHER ASSEMBLY: 8-DD-M8391-0	NUMBER M8391-0-MCTN	REV. B

SIZE CODE NUMBER
 D CS M8391-0-MCTN
 REV. B



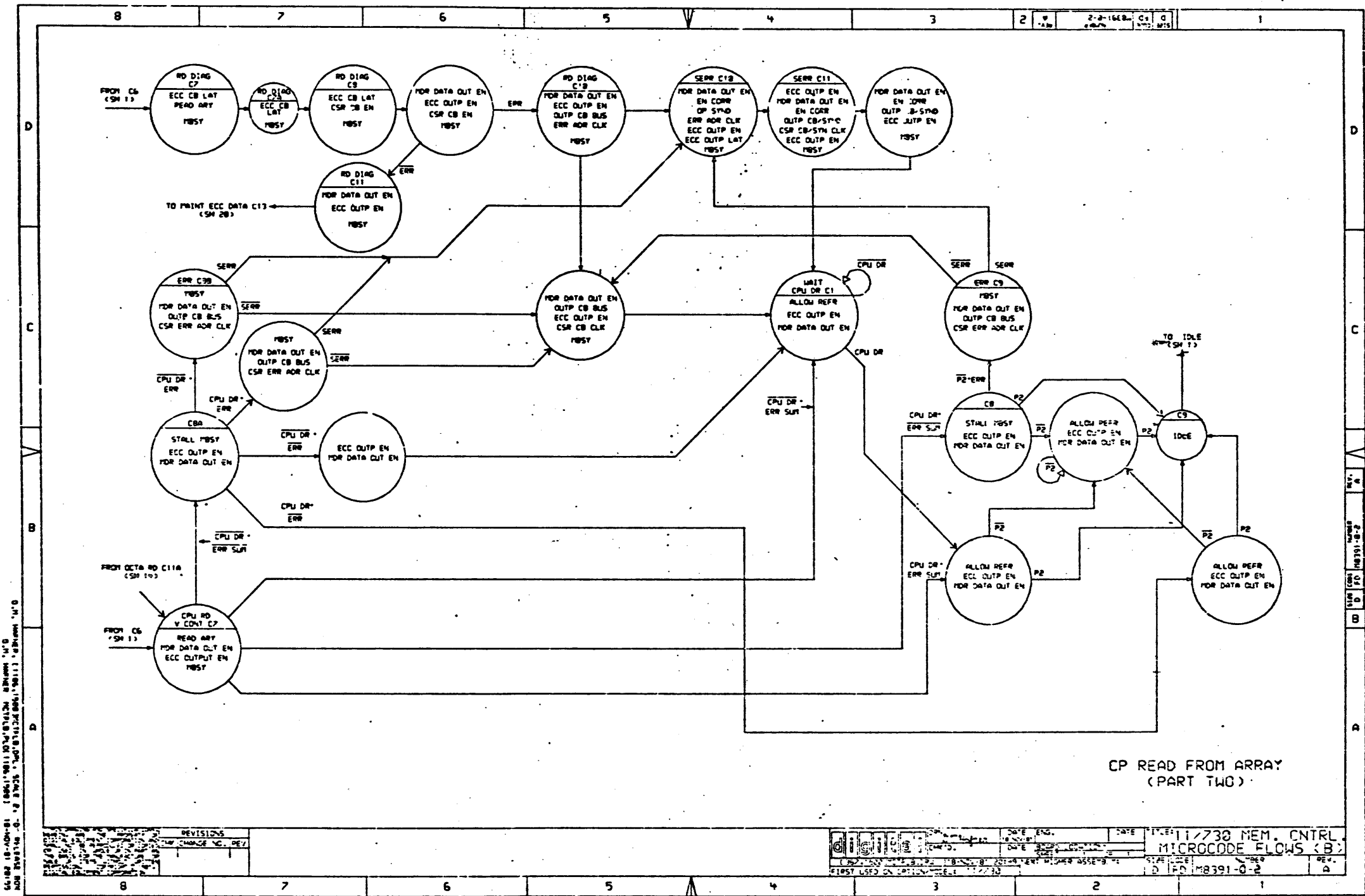
CP READ FROM ARRAY
(PART ONE)

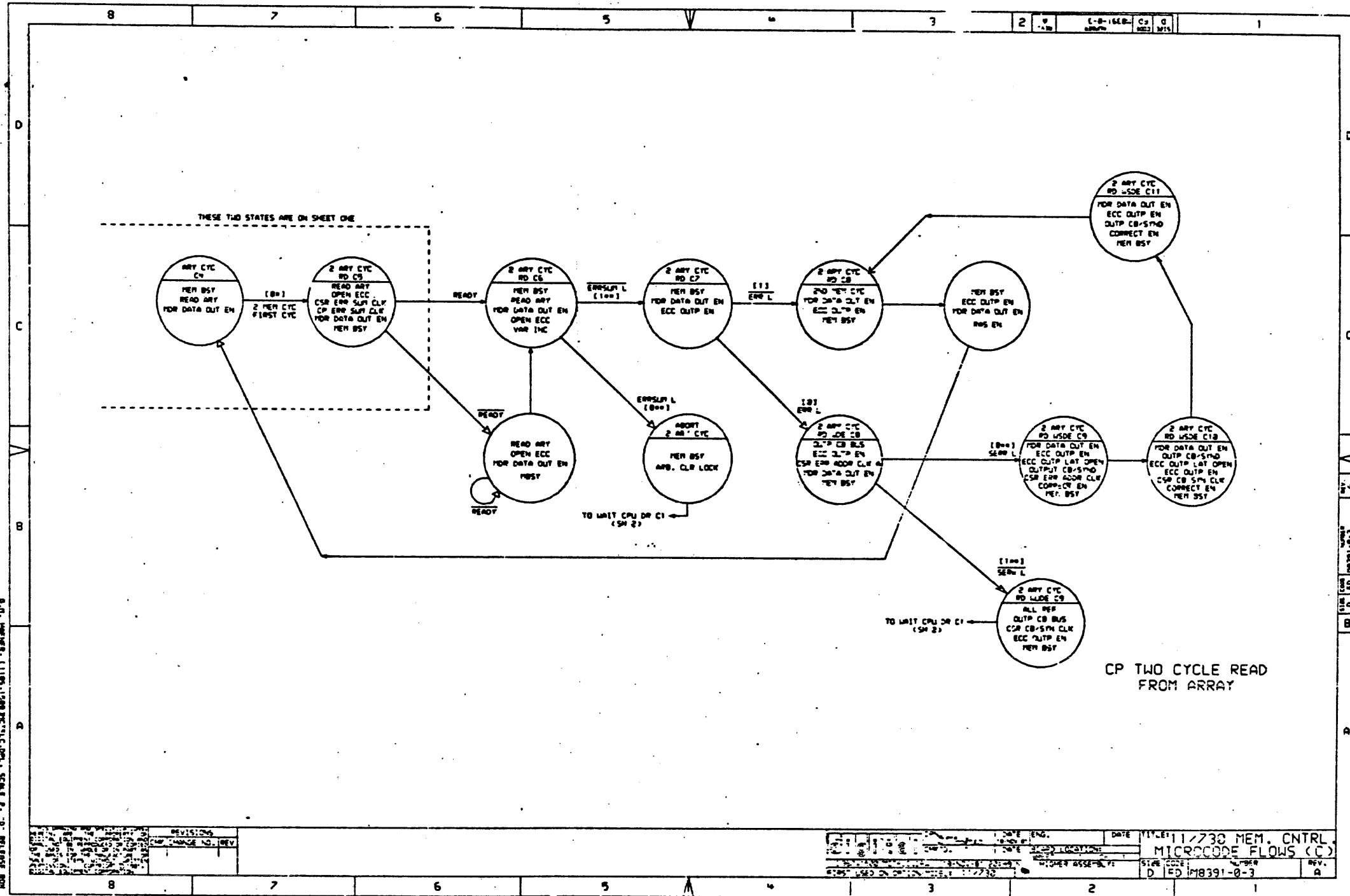
REV	CHANGE NO.	REV

DATE ENG.	DATE	FILE: 11730 MEM. CNTRL
		MICROCODE FLOWC (A)

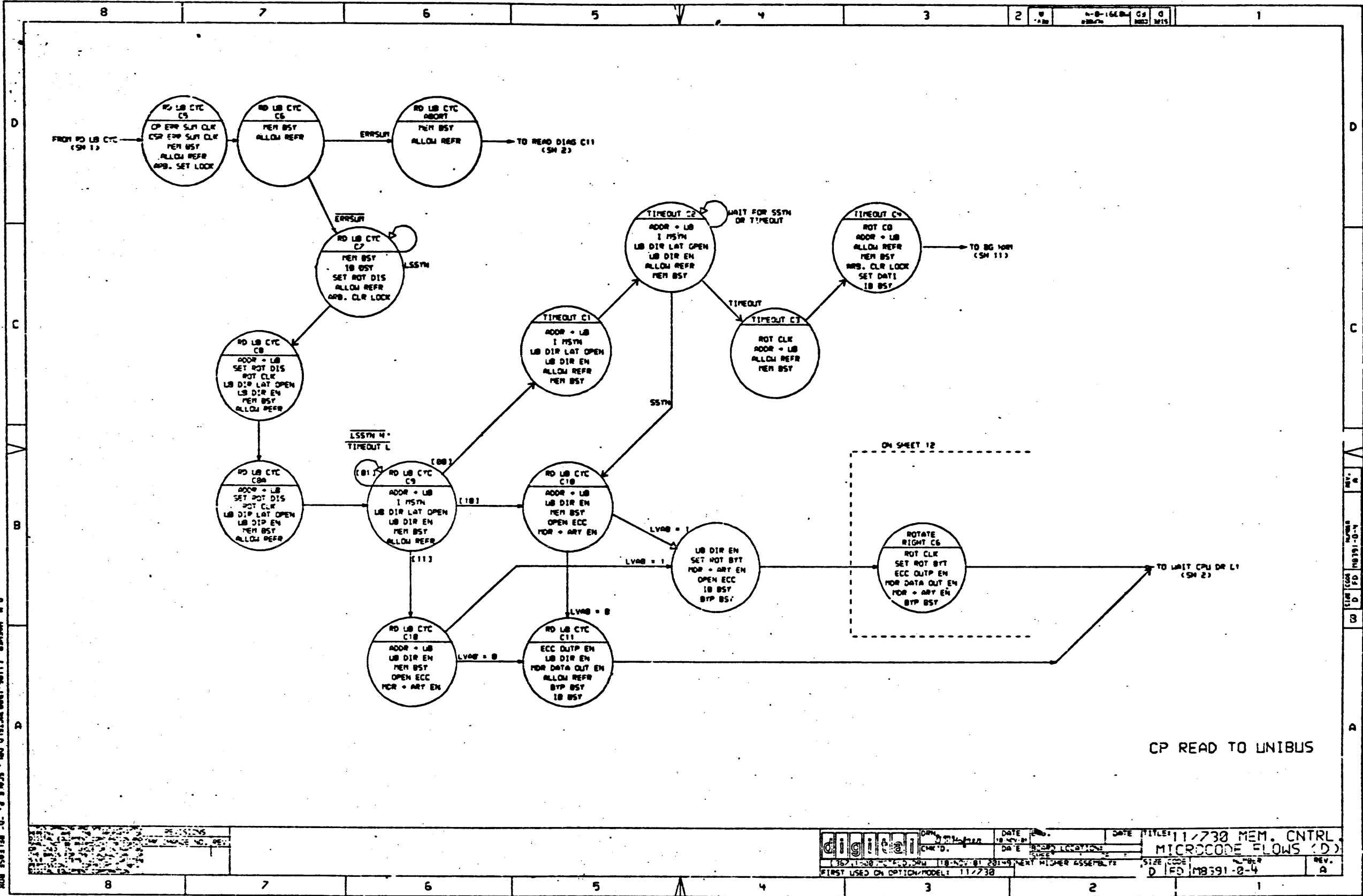
G.M. WARNER, (1106) 1900 PCT/PLA, DFL, SCALE 2, D, RELEASE 008
 G.M. WARNER, (1106) 1900 PCT/PLA, DFL, SCALE 2, D, RELEASE 008

REV. A
 DATE 11/7/73
 FILE: 11730 MEM. CNTRL
 MICROCODE FLOWC (A)
 SCALE CODE
 NUMBER
 REV. A





S.M. WARNER (11/91) (1989) PC "L" CPU, SCALE F, "D" RELEASE BOX
 D.M. WARNER (11/91) (1989) PC "L" CPU, SCALE F, "D" RELEASE BOX
 18-000-0-28175



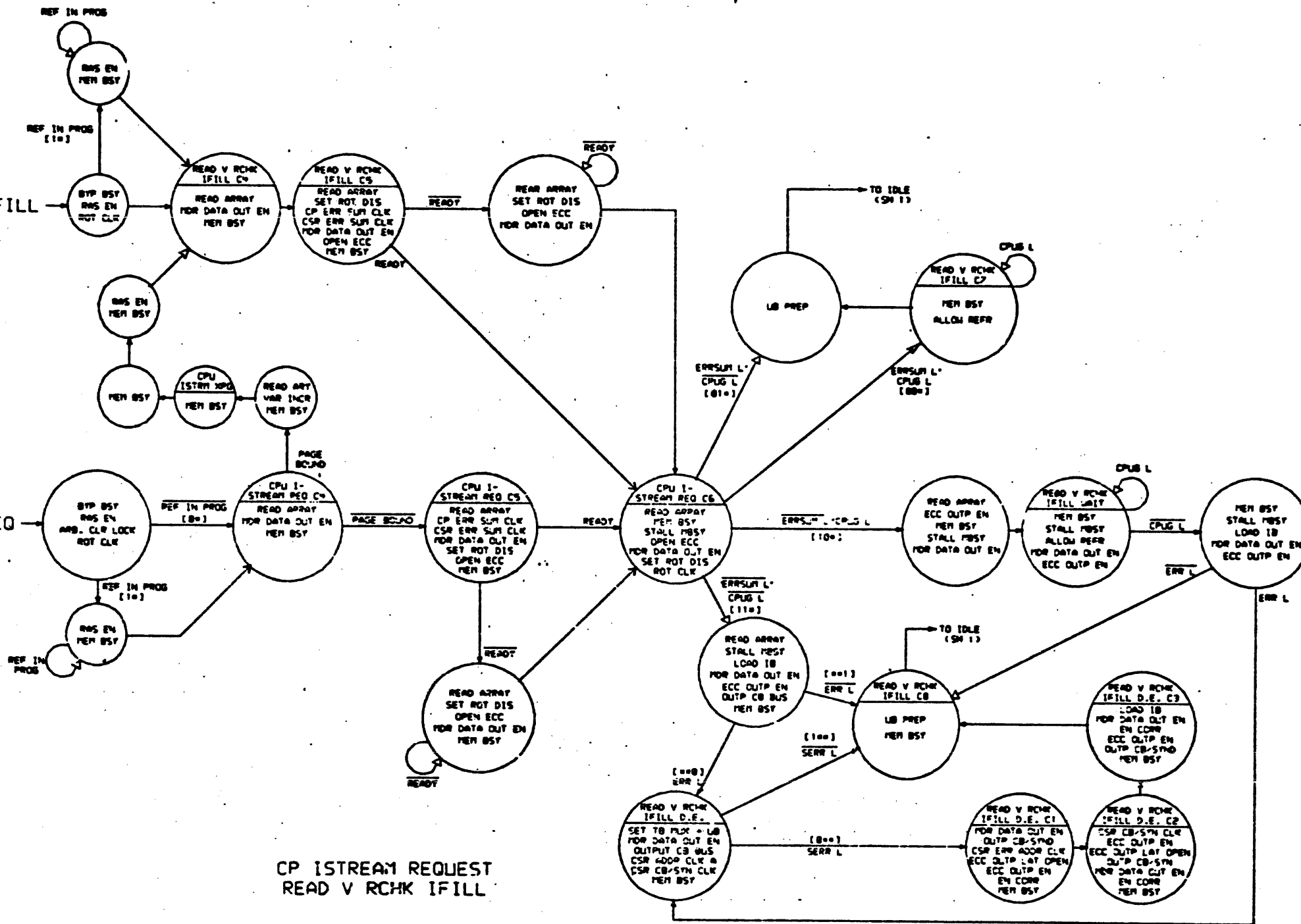
G.M. WARNER, 11/230 MEM. CNTRL. SCALE 2" = 0" - RELEASE FROM
 G.M. WARNER, 11/230 MEM. CNTRL. SCALE 2" = 0" - RELEASE FROM
 18-NOV-81 20:55

digital	DATE: 11/230	DATE: 11/230	TITLE: 11/230 MEM. CNTRL. MICROCODE FLOWS (D)	REV: A
FIRST USED ON OPTION MODEL: 11/230		SIZE CODE: D		REV: A

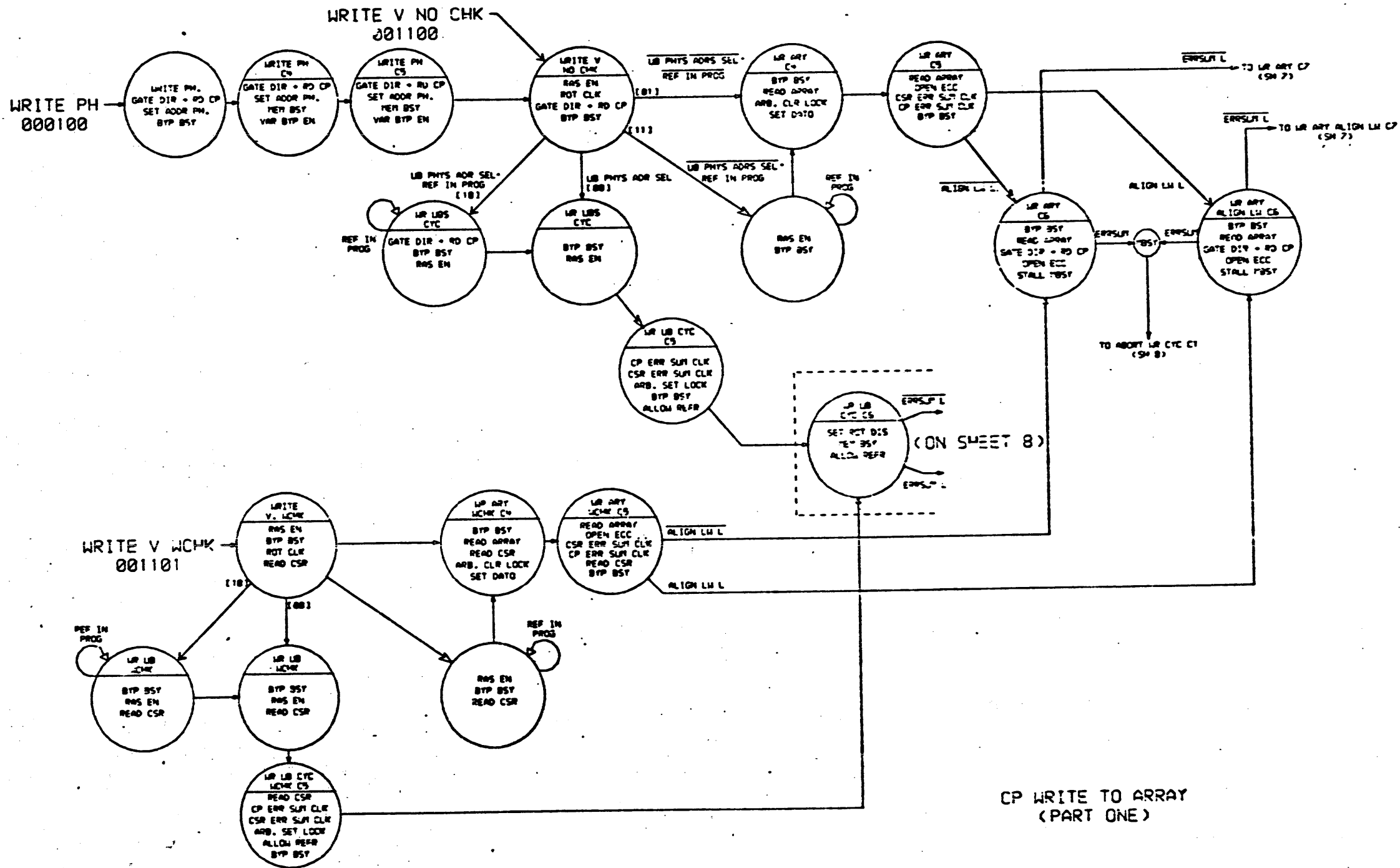
READ V RCHK IFILL
001110

CPU ISTREAM REQ
000000

CP ISTREAM REQUEST
READ V RCHK IFILL



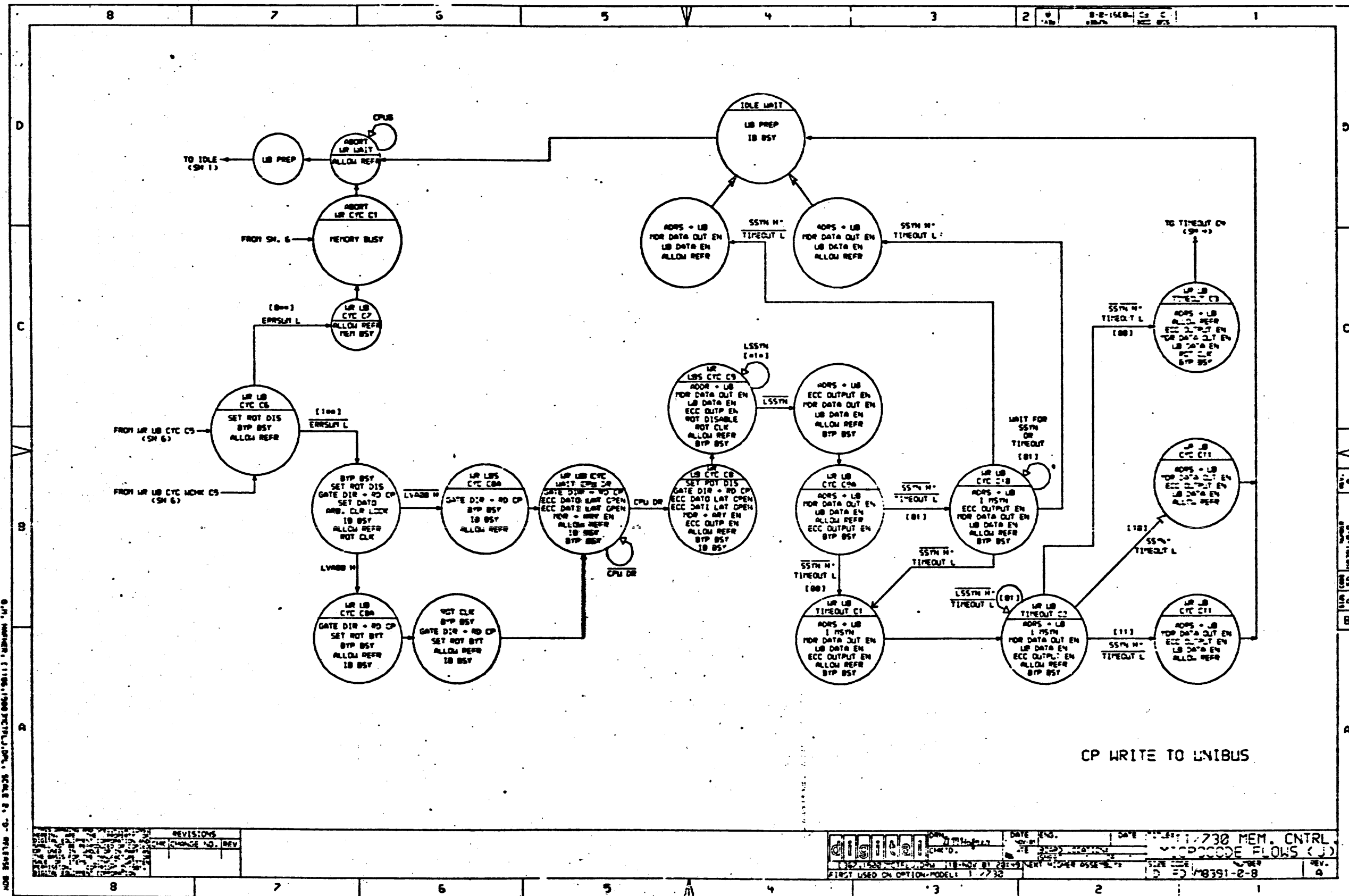
D.M. WARNER, 1106, 1969 PICTURE, QM, SCALE 2, -D- RELEASE 80M
D.M. WARNER PICTURE, PLOT 1106, 1969 18-NOV-81 20:27



O.P. NUMBER 111001900
 O.P. NUMBER PC101901 (111001901)

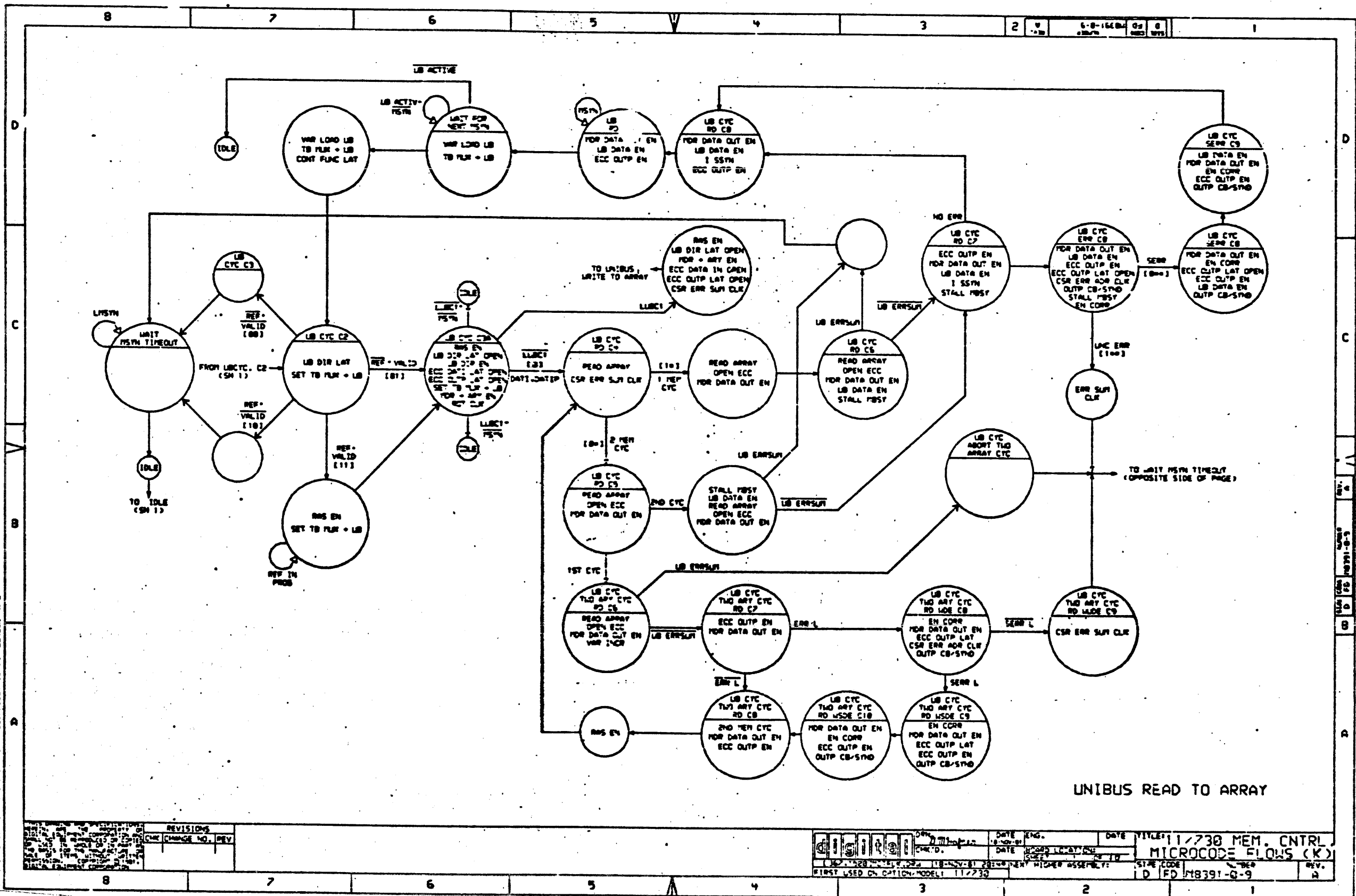
REVISIONS	NO.	REV.

TITLE: 111730 MEM. CNTRL	DATE:	REV.:
MICROCODE FLOWS (F)		



0-1, NUMBER 1100-1500 MICROCODE FLOWS (SCALE 2) - G - RELEASE FOR
 0-1, NUMBER 1100-1500 MICROCODE FLOWS (SCALE 2) - G - RELEASE FOR

REV.	CHANGE NO.	REV.



UNIBUS READ TO ARRAY

REVISIONS

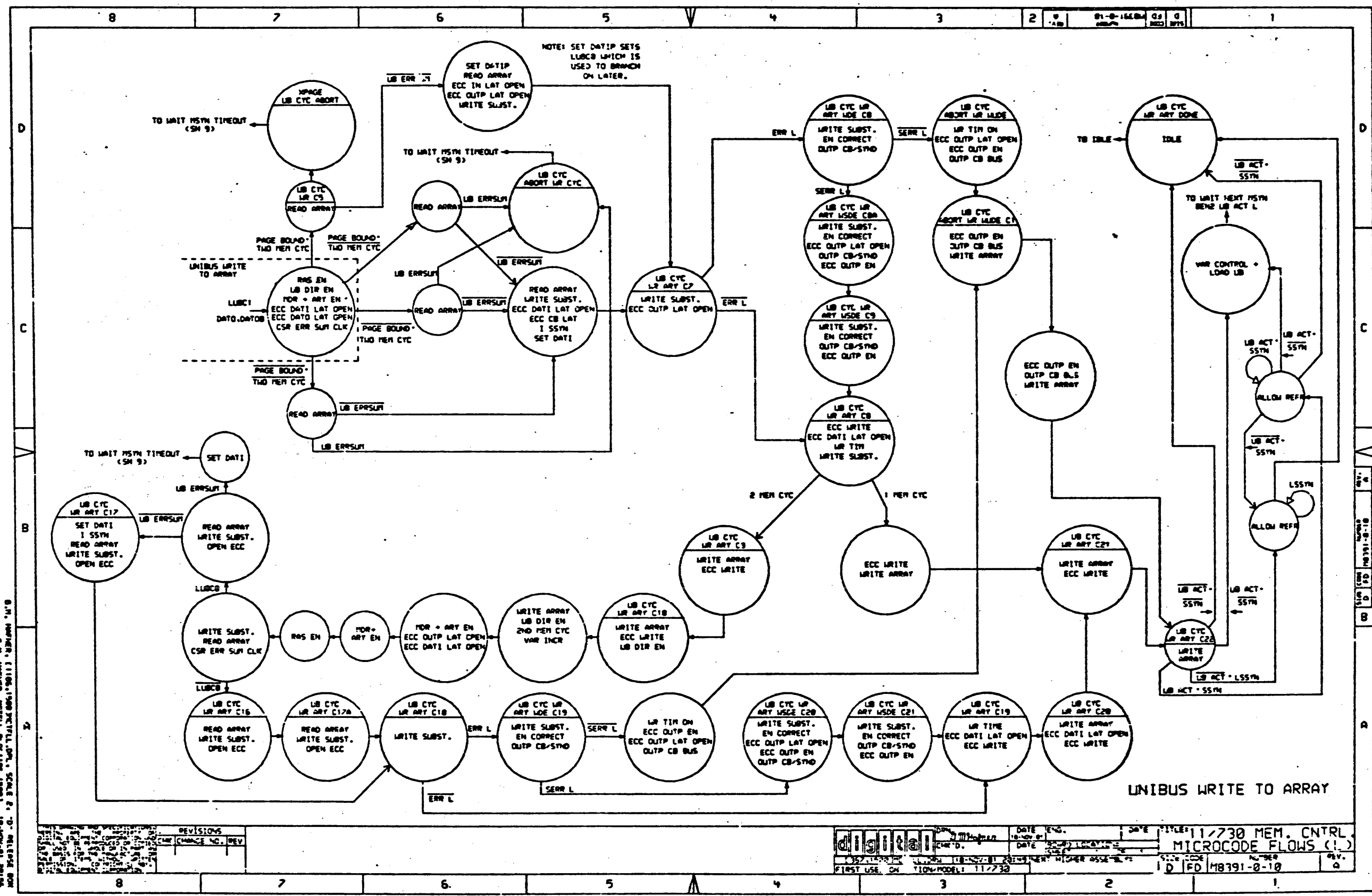
CHG	CHANGE NO.	REV

digit	DATE	ENG.	DATE	TITLE: 11730 MEM. CNTRL.
				MICROCODE FLOWS (K)
	DATE			

STATE CODE 1 D FD M8391-G-9

REV. A

0-27 (REV. 1-7-66) (11730) MEM. CNTRL. (K) SCALE 2:1 - 9-66 RELEASED FOR
 0-27 (REV. 1-7-66) (11730) MEM. CNTRL. (K) SCALE 2:1 - 9-66 RELEASED FOR
 18-NOV-81 00756

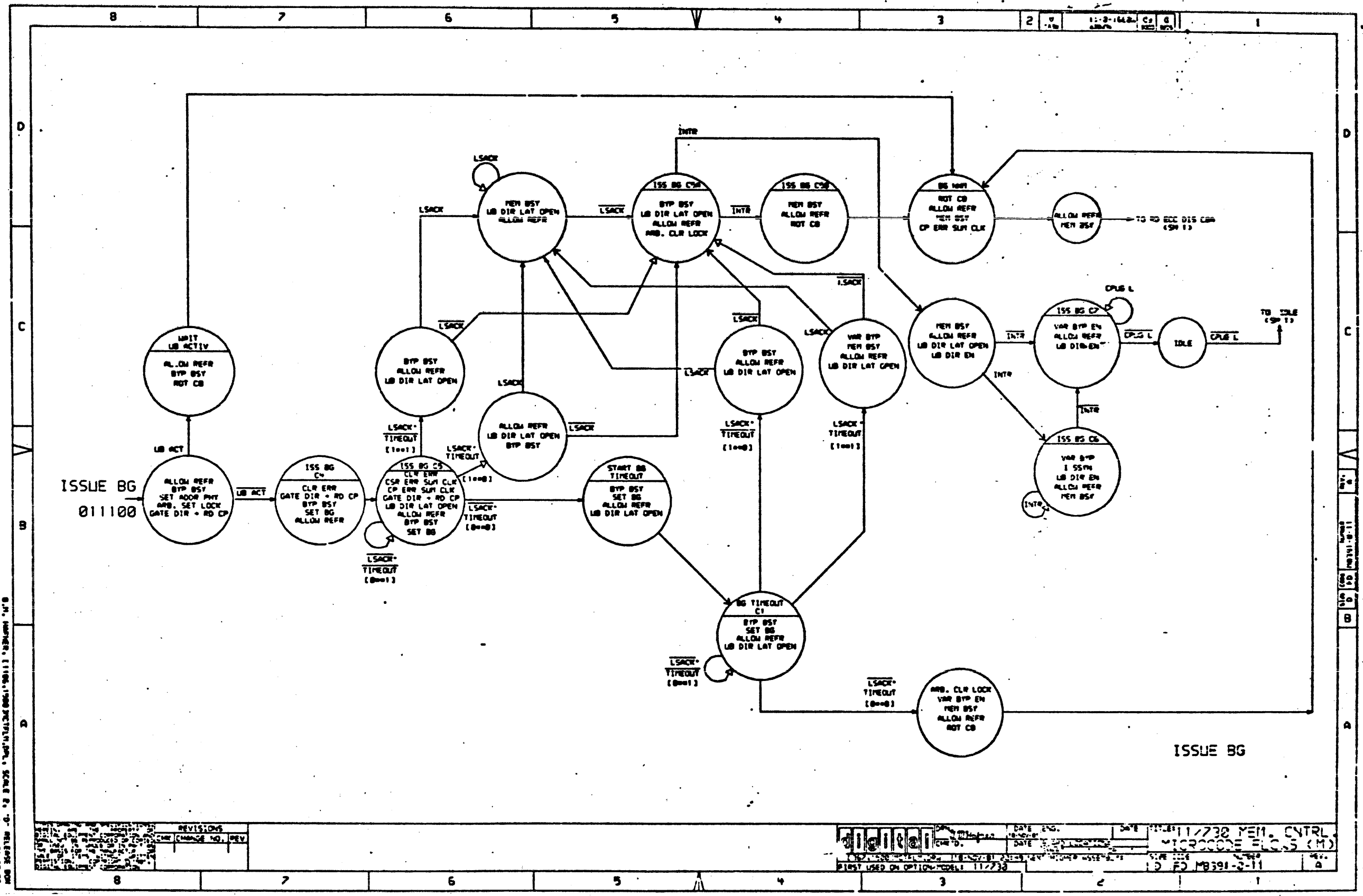


11/730 MEM. CNTRL. MICROCODE FLOWS (1.)
 DATE 11/730
 FIRST USE ON 11/730

REV.	CHG.	NO.	DEV.

digital
 DATE 11/730
 FIRST USE ON 11/730

11/730 MEM. CNTRL. MICROCODE FLOWS (1.)
 DATE 11/730
 FIRST USE ON 11/730



ISSUE BG
011100

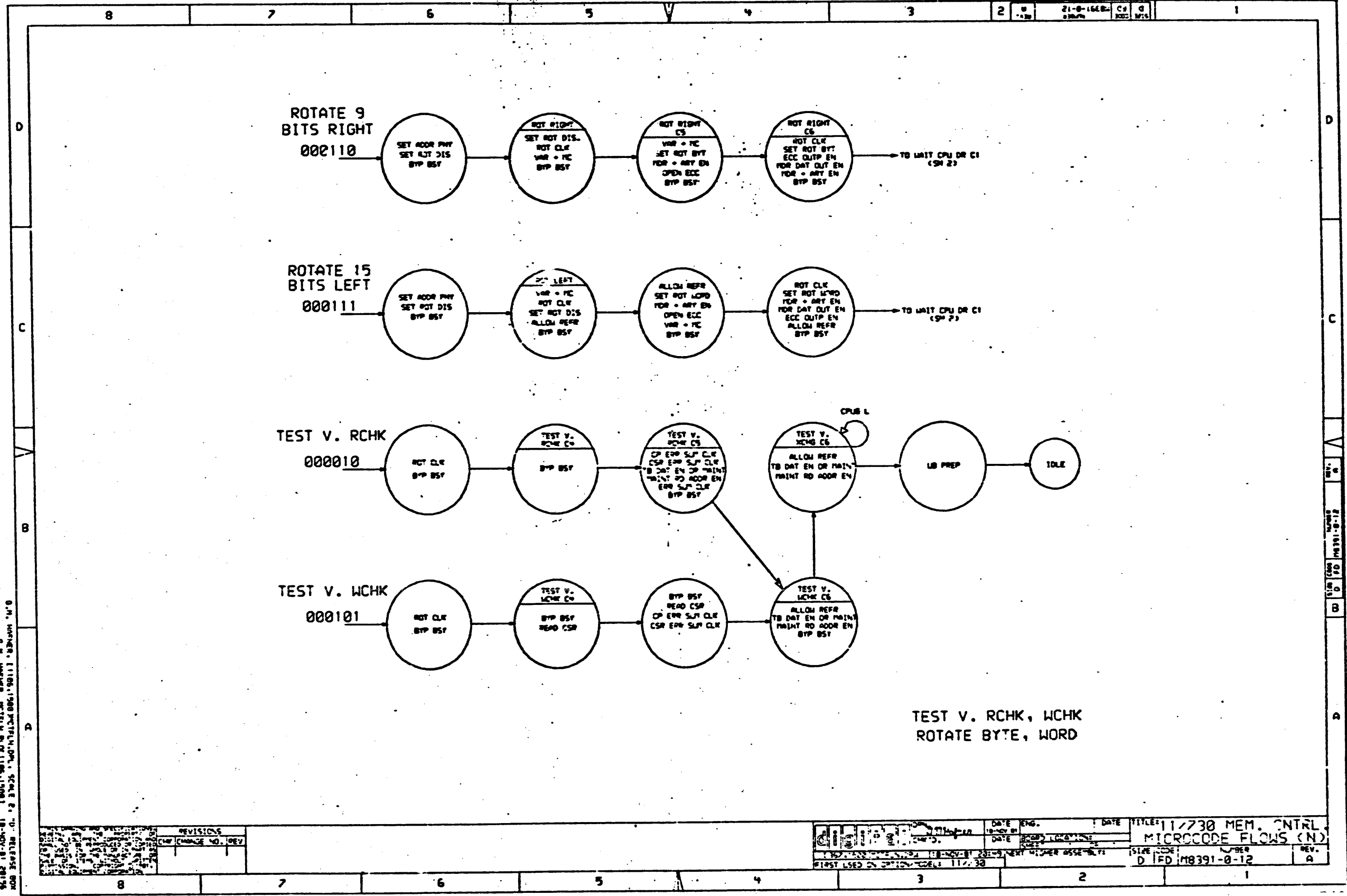
ISSUE BG

O.N. NUMBER (1188, 1988) PART NO. SCALE 2:1 28-38459-000
O.N. NUMBER (1188, 1988) PART NO. SCALE 2:1 28-38459-000

REVISIONS	
NO.	DESCRIPTION

DATE ENG.	
DATE	
FILE NO.	11/230 MEM. CNTRL.
REV. NO.	MICROCODE FLO. 5 (M)

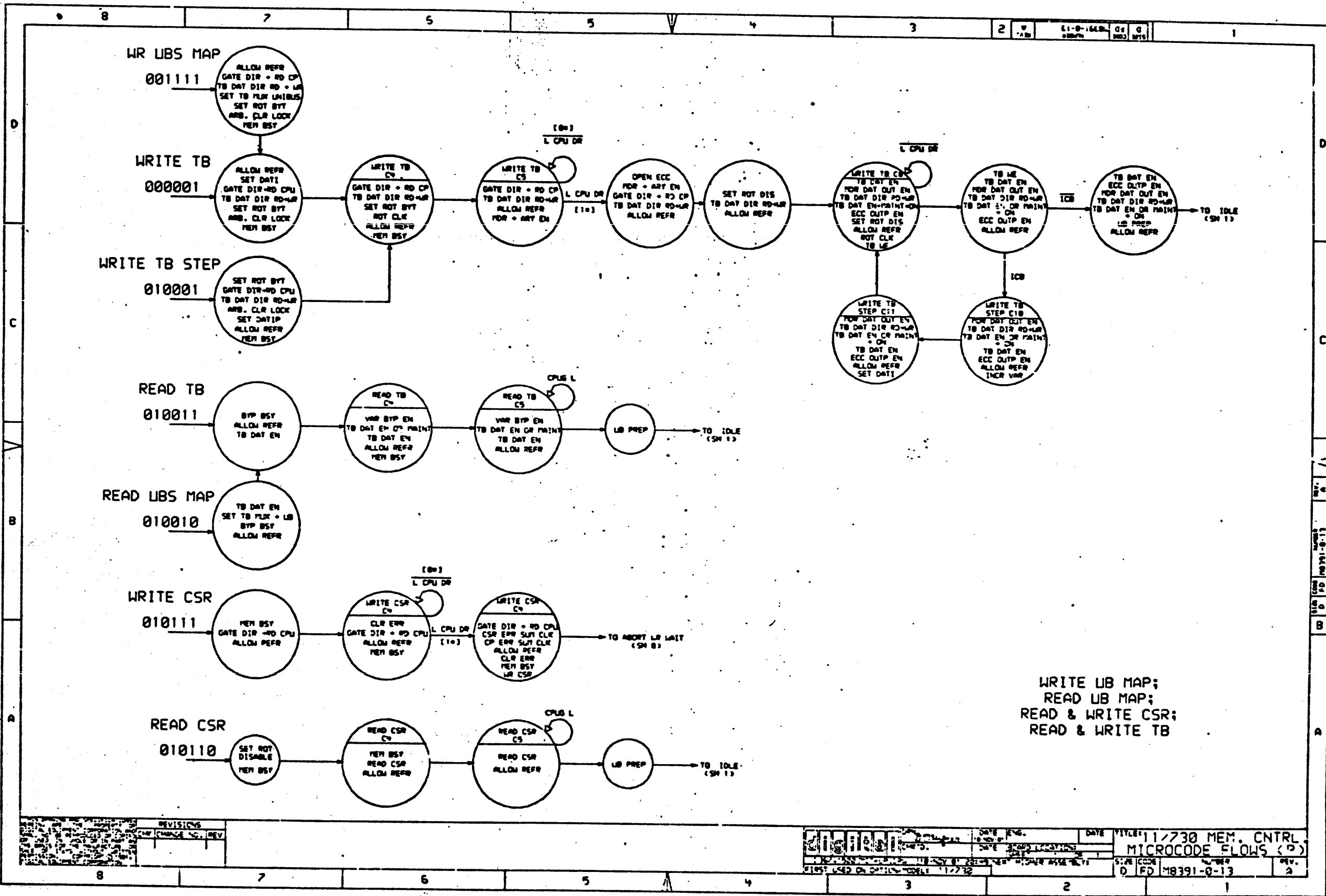
11/230 MEM. CNTRL. MICROCODE FLO. 5 (M)
M8391-3-11



O.M. NUMBER: 11051508 PCTELN.DM, SCALE 2, "D" 11/730 MEM. CNTRL.
 O.M. NUMBER: PCTELN.DM, 11051508 10-NOV-81 28156

REVISIONS	
CHG	CHANGE NO. REV

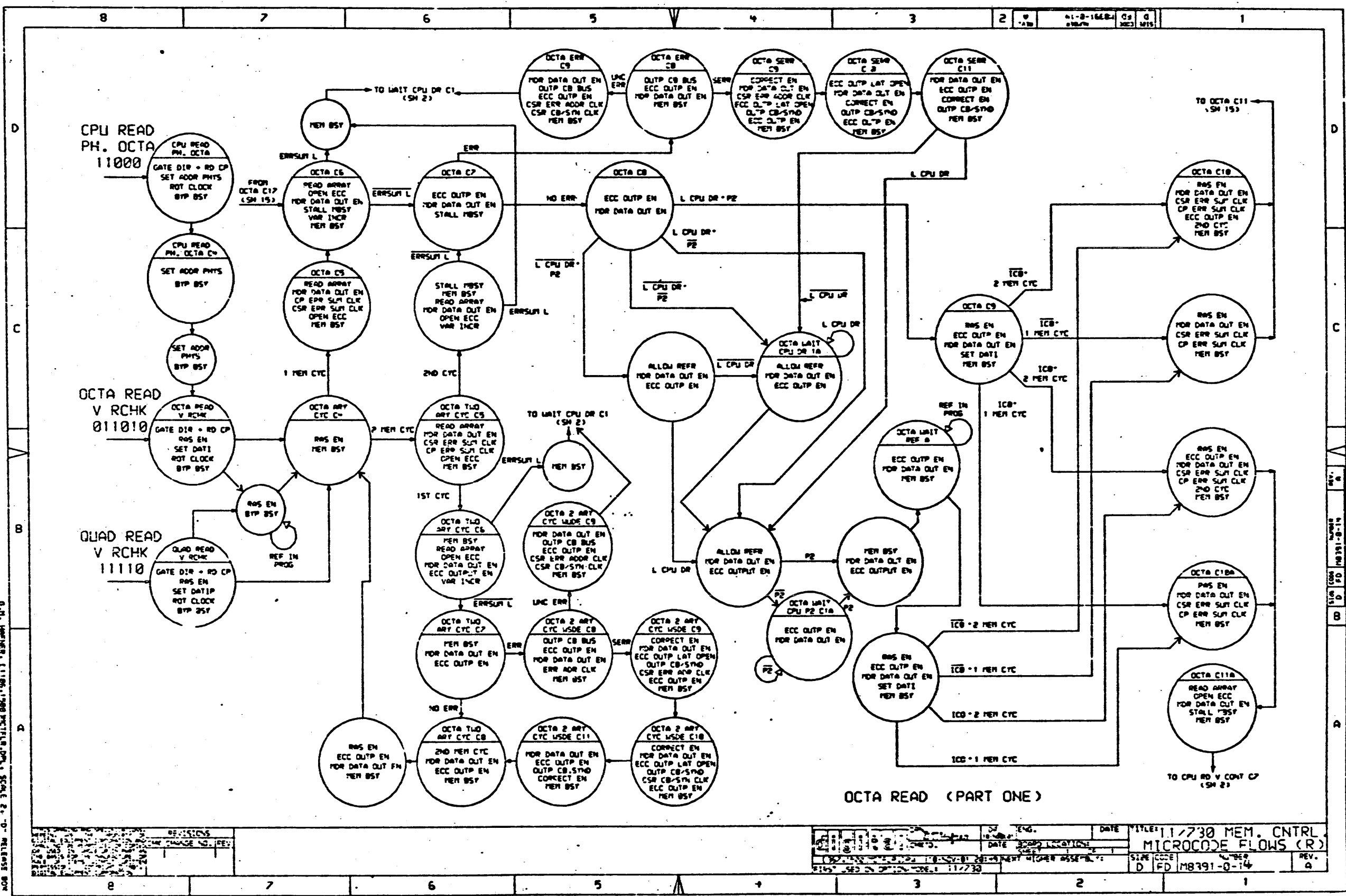
DATE ENG.	DATE	TITLE: 11/730 MEM. CNTRL.
DATE	DATE	MICROCODE FLOWS (N)
DATE	DATE	SIZE CODE: D
DATE	DATE	NUMBER: 11/730
DATE	DATE	REV: A



01-11-1968 (1100-1) 11/230 MEM. CNTRL MICROCODE FLOWS (P)
 01-11-1968 (1100-1) 11/230 MEM. CNTRL MICROCODE FLOWS (P)
 01-11-1968 (1100-1) 11/230 MEM. CNTRL MICROCODE FLOWS (P)

REV. NO.	CHG.	DATE	BY	CHK.	REV.

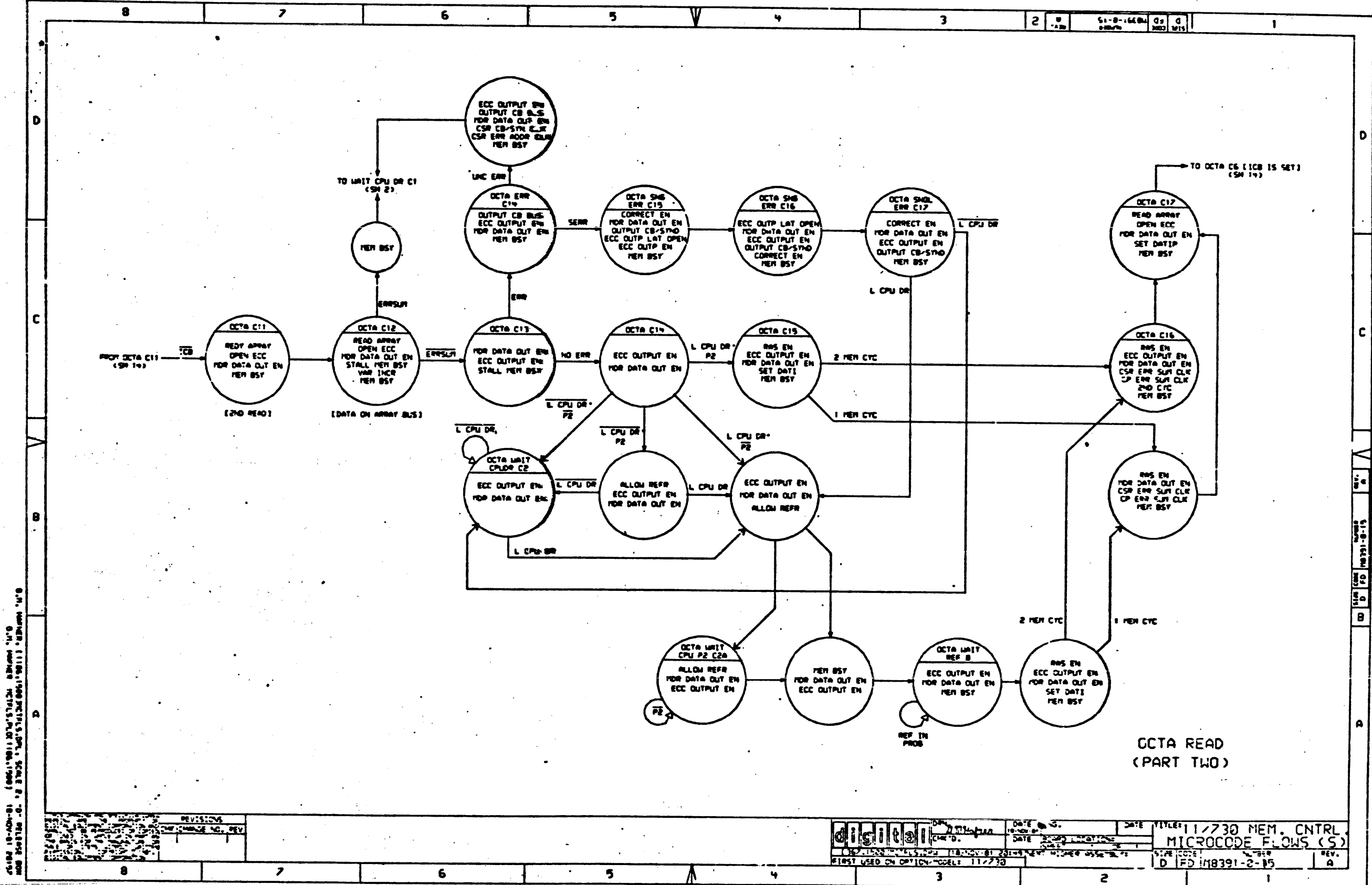
DATE ENG.	DATE	TITLE: 11/230 MEM. CNTRL MICROCODE FLOWS (P)
REV. NO.	REV. DATE	REV. BY



OCTA READ (PART ONE)

G.N. WARNER, (1106) PICTUR, D.L. SCOLE, P. D. RELEASE BOX
 G.N. WARNER, PICTUR, PICTUR, (1106) 18-NOV-81 20136

REV. 4	NO. 14	DATE 11/73	TITLE 11/730 MEM. CNTRL
REV. 4	NO. 14	DATE 11/73	TITLE 11/730 MEM. CNTRL
REV. 4	NO. 14	DATE 11/73	TITLE 11/730 MEM. CNTRL
REV. 4	NO. 14	DATE 11/73	TITLE 11/730 MEM. CNTRL

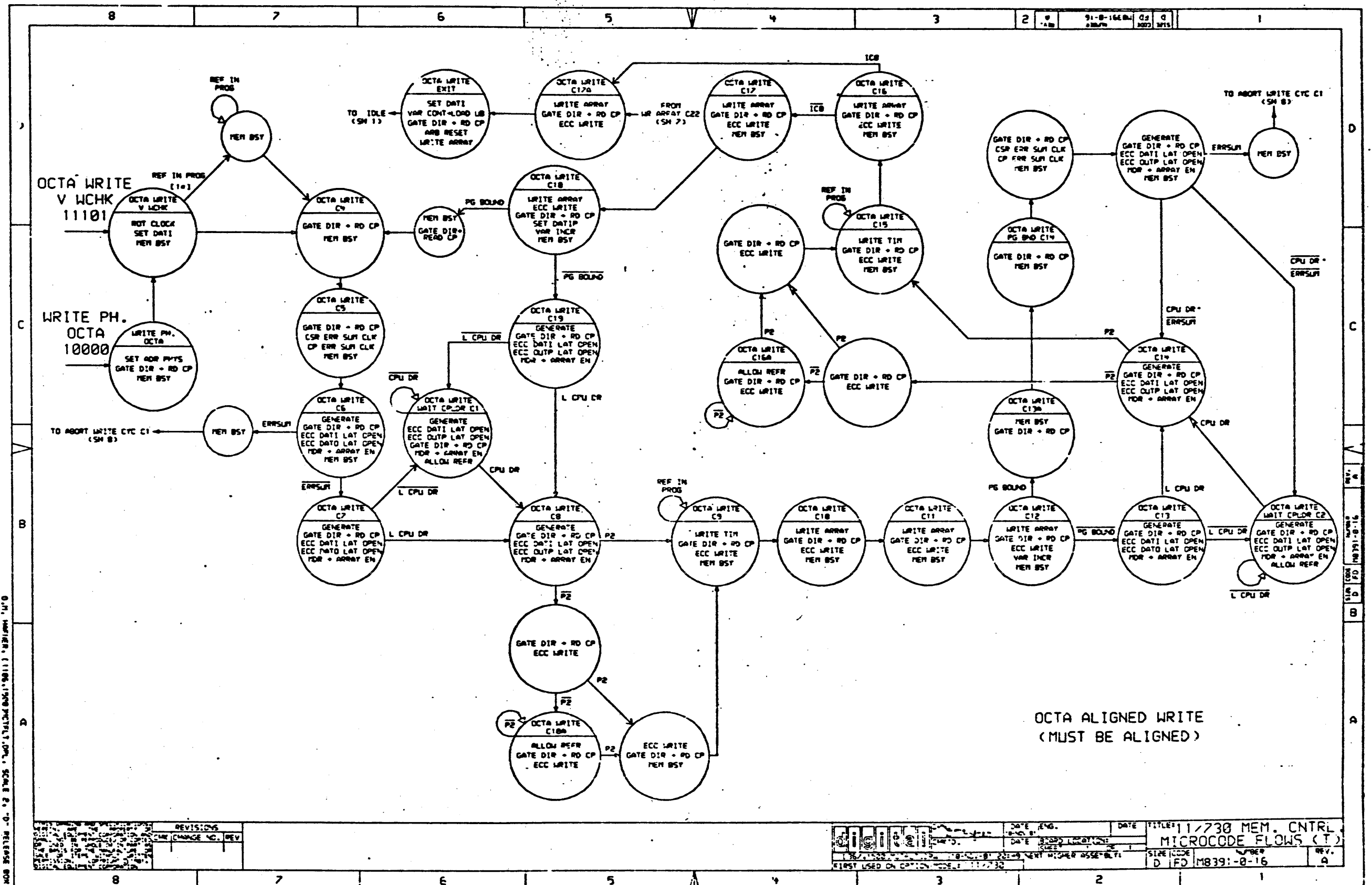


OCTA READ
(PART TWO)

01. 11/730 MEM. CNTRL. MICROCODE FLOWS (S)
 01. 11/730 MEM. CNTRL. MICROCODE FLOWS (S)
 18-001-01 2111

REV.	DESCRIPTION	DATE

digital	DATE: 11-11-73	DATE: 11-11-73	DATE: 11-11-73	FILE: 11/730 MEM. CNTRL. MICROCODE FLOWS (S)
DESIGNED BY: J. J. ...	DATE: 11-11-73	DATE: 11-11-73	DATE: 11-11-73	SCALE: 1:1
FIRST USED ON OPTION MODEL: 11/730				REV. D FD 118391-2-15

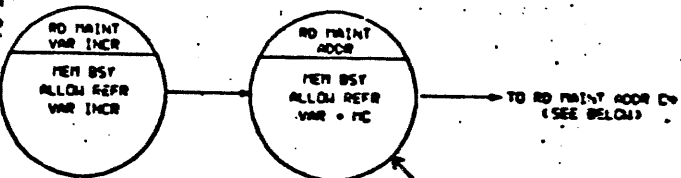


O.M. NUMBER, (1106-1908) PCTLS, PCL, SCALE P. D. RELEASED 80M
 O.M. NUMBER, PCTLS, PCL, (1106-1908) 18-NOV-81 20137

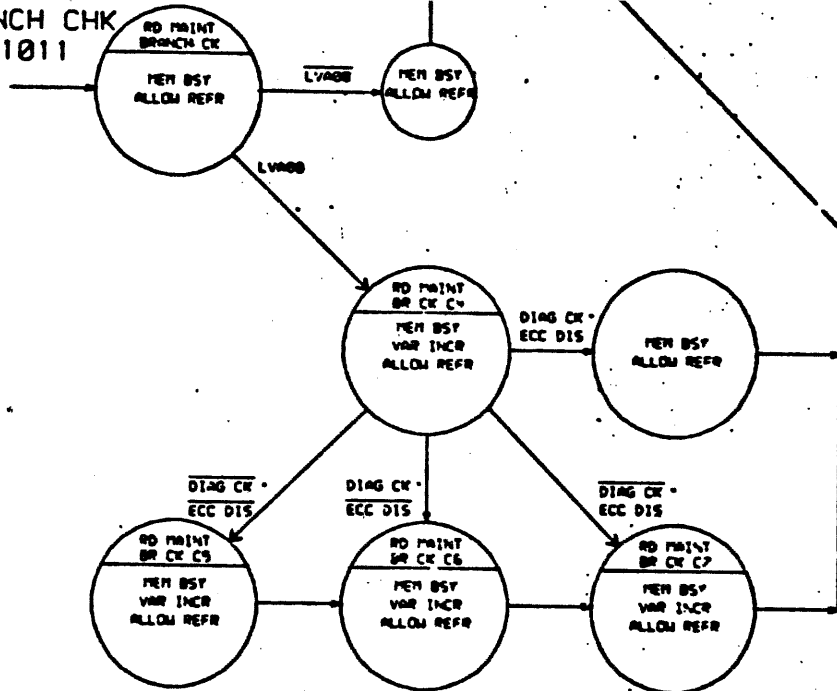
REV. NO.	DATE	DESCRIPTION

DATE ENG.	DATE	TITLE: 11/730 MEM. CNTRL
DATE	DATE	MICROCODE FLOWS (T)
DATE	DATE	SIZE (CODE)
DATE	DATE	D FD M839-8-16
DATE	DATE	REV. A

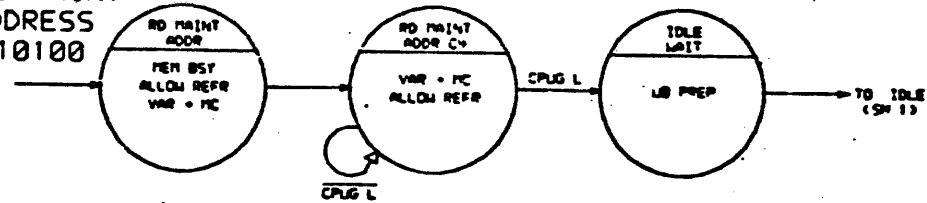
READ MAINT
VAR INCR
01011



READ MAINT
BRANCH CHK
11011



READ MAINT
ADDRESS
010100

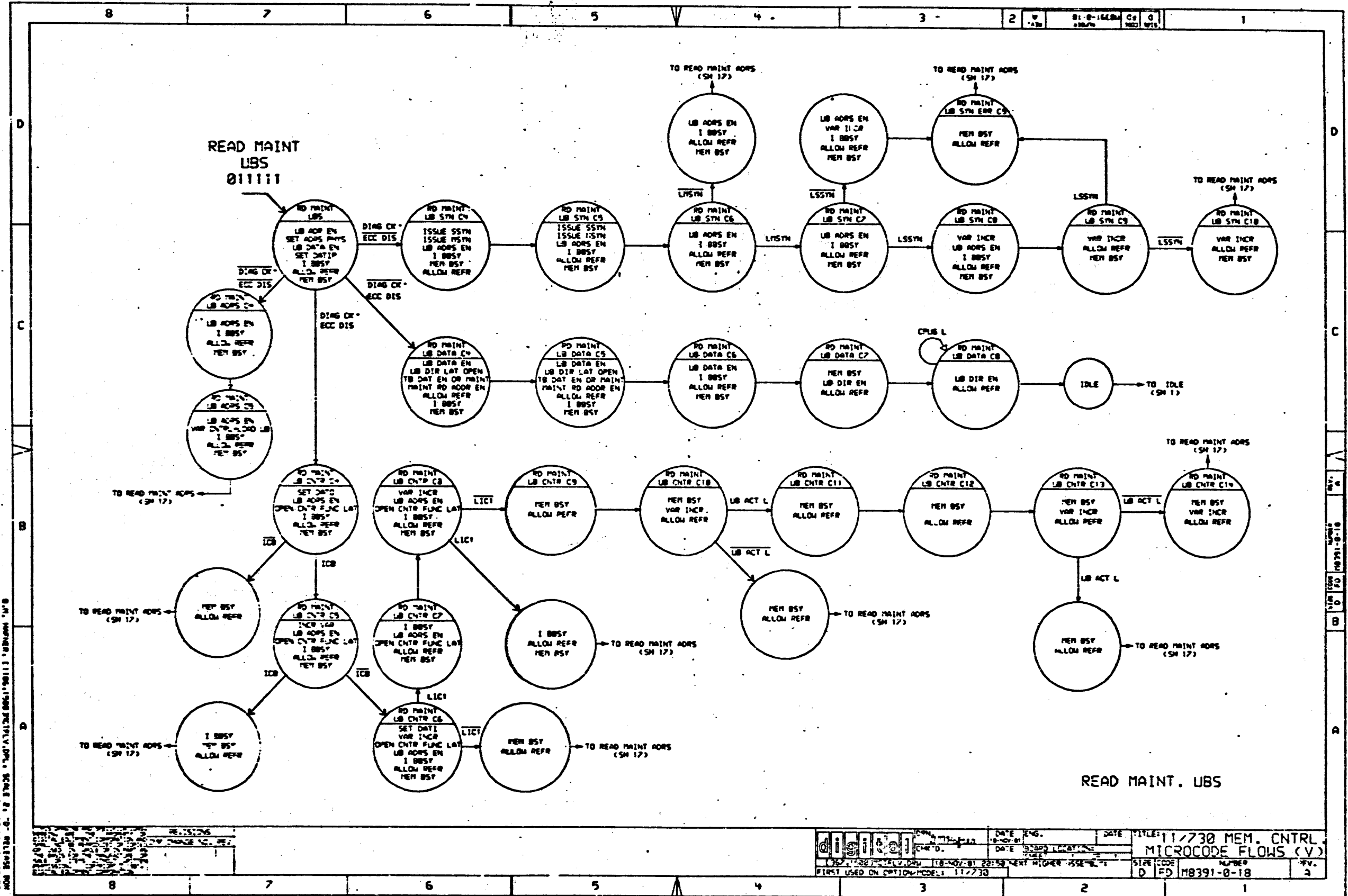


RD MAINT ADDR;
RD MAINT VAR INCR;
RD MAINT BRANCH CK

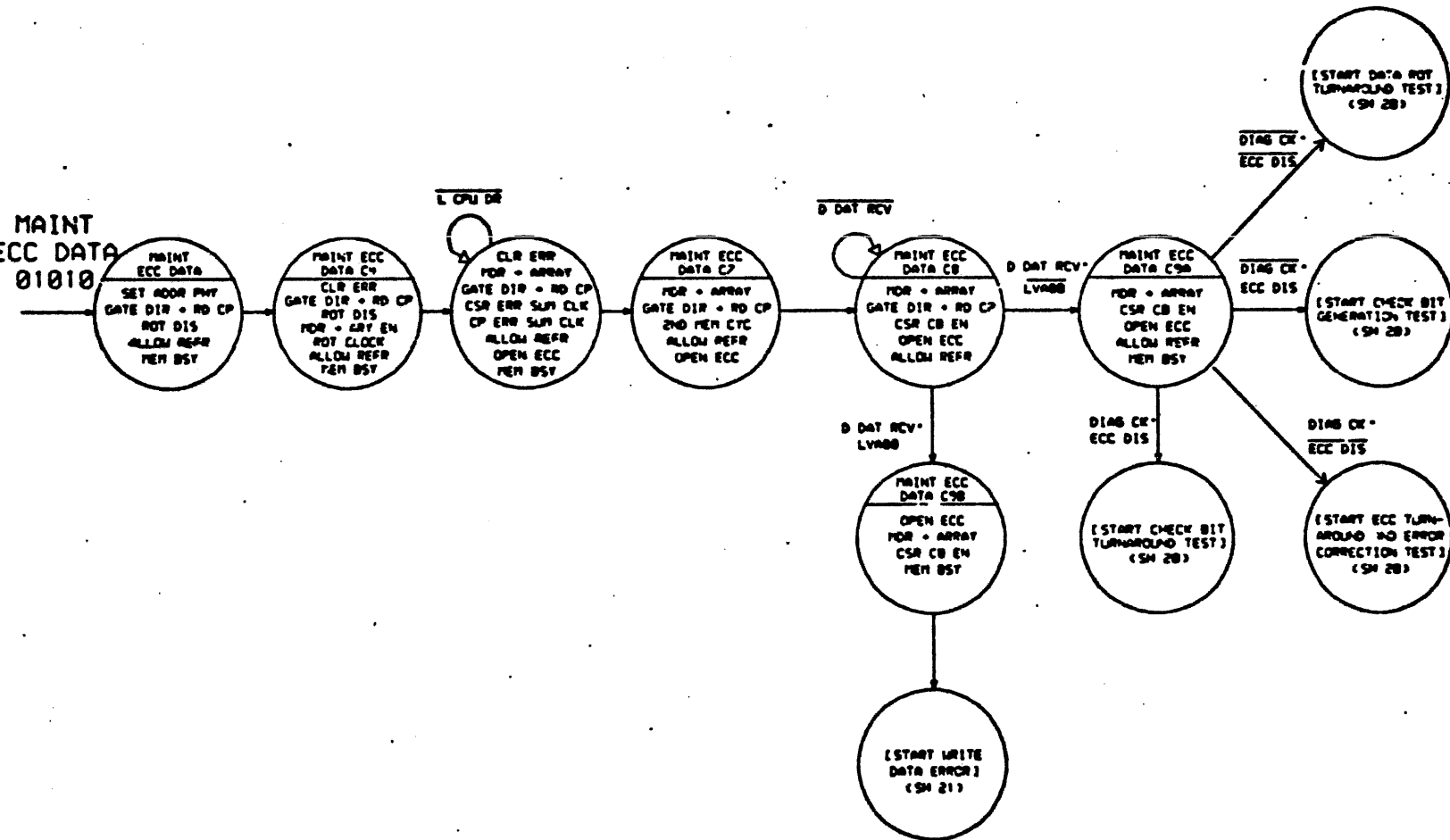
0.1. NUMBER: 1180.1900 PCT/PLU/OP. - SCALE 8. - C. - RELEASE BOX
 0.1. NUMBER: PCT/PLU/OP. (1180.1900) - 18-100-01-20137

REVISIONS	
CHANGE NO.	REV

DATE	11/730	TITLE	MEM. CNTRL
			MICROCODE FLOWS (L)
SIZE	CODE	REV	
D	FD	18391-3-17	A



MAINT
ECC DATA
01010



MAINT. ECC DATA
(PART ONE)

01010-10-00000000 (11/27/73) MEM. CNTRL. MICROCODE FLOWS (W)
 01010-10-00000000 (11/27/73) MEM. CNTRL. MICROCODE FLOWS (W)
 01010-10-00000000 (11/27/73) MEM. CNTRL. MICROCODE FLOWS (W)

REVISIONS	
NO.	REV.

	DATE ENG.	DATE	11/27/73	MEM. CNTRL.
	DATE	DATE		MICROCODE FLOWS (W)
FIRST USED ON OPTION MODEL: 11/27/73	DATE	DATE	DATE	REV. 9
			D 150	M8391-2-19

PART NUMBER: 23-044J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #1-D-CS-M8391-0-MCTA
 LOCATION/DESCRIPTION: E61/ CONTROL PREFETCH
 ASSIGNED PIN NUMBER:

- | | | |
|--------------------|-----------------|------------------|
| 1= CSR.19 | 8= LVA3 | 15= NC |
| 2= CPLUG | 9= ERR.SUM.CLK | 16= CSR.2.CLK |
| 3= OPEN.CONT.LATCH | 10= GND | 17= LR.CSR.1 |
| 4= PG.BND.PREF | 11= NC | 18= OP.PREF.ADDR |
| 5= PG.BND | 12= OP.ARY.ADDR | 19= PG.BOUND |
| 6= LR.CSR | 13= CPU.CYCLE | 20= VCC |
| 7= LVA2 | 14= CLR.LB.RDS | |

EQUATIONS:

IF(VCC) OP.ARY.ADDR1=OP.PREF.ADDR
 IF(VCC) CLR.LB.RDS=LR.CSR=LVA3=LVA2
 IF(VCC) /CSR.2.CLK=ERR.SUM.CLK=LVA2
 +ERR.SUM.CLK=LVA3
 +ERR.SUM.CLK=LR.CSR
 +LR.CSR=CPU.CYCLE
 +CPU.CYCLE=LVA3
 +CPU.CYCLE=LVA2
 IF(VCC) /LR.CSR.1=LR.CSR
 +LVA2
 +LVA3
 IF(VCC) OP.PREF.ADDR1=CSR.19=CPLUG=OPEN.CONT.LATCH
 +OP.PREF.ADDR=OPEN.CONT.LATCH
 +OP.PREF.ADDR=CPLUG
 IF(VCC) PG.BOUND=OP.PREF.ADDR=PG.BND.PREF
 +OP.PREF.ADDR=PG.BND
 IF(VCC) /CPU.CYCLE=CPU.CYCLE=CPLUG
 +CPLUG=OPEN.CONT.LATCH

PART NUMBER: 23-061J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #1-D-CS-M8391-0-MCTF
 LOCATION/DESCRIPTION: E61/ MCTF CSR CONTROL
 ASSIGNED PIN NUMBER:

- | | | |
|------------------|---------------|------------|
| 1=ERR.ADDR.CLK.A | 8=CLR.LB.RDS | 15=LB.LRDS |
| 2=SERR | 9=2ND.MEM.CYC | 16=NC |
| 3=ERR | 10=GND | 17=NC |
| 4=INH.REP.CRD | 11=L.ECC.DIS | 18=LRDS |
| 5=CPU.CYCLE | 12=NC | 19=NC |
| 6=ERR.SUM.CLK | 13=LCRD | 20=VCC |
| 7=LR.CSR | 14=DAT.ERR | |

EQUATIONS:

IF(VCC) LB.LRDS=SERR=ERR=ERR.ADDR.CLK.A=CPU.CYCLE
 +CLR.LB.RDS=LB.LRDS
 IF(VCC) DAT.ERR=SERR=ERR=ERR.ADDR.CLK.A=CPU.CYCLE
 +ERR=ERR.ADDR.CLK.A=L.ECC.DIS=CPU.CYCLE
 +SERR=ERR=ERR.ADDR.CLK.A=INH.REP.CRD=CPU.CYCLE
 +CPU.CYCLE=LR.CSR=DAT.ERR
 +ERR.SUM.CLK=LR.CSR=DAT.ERR
 +LR.CSR=2ND.MEM.CYC=DAT.ERR
 IF(VCC) /LRDS=CPU.CYCLE=ERR.SUM.CLK=2ND.MEM.CYC
 +LR.CSR
 +LRDS=SERR
 +LRDS=ERR
 +LRDS=ERR.ADDR.CLK.A
 +LRDS=CPU.CYCLE
 IF(VCC) /LCRD=CPU.CYCLE=ERR.SUM.CLK=2ND.MEM.CYC
 +LR.CSR
 +LCRD=SERR
 +LCRD=ERR
 +LCRD=ERR.ADDR.CLK.A
 +LCRD=CPU.CYCLE
 +LCRD=INH.REP.CRD

PART NUMBER: 23-017K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #1-D-CS-M8391-0-MCTL
 LOCATION/DESCRIPTION: E3-E7.E13-E15/ DATA ROTATOR & LATCH
 ASSIGNED PIN NUMBER:

- | | | |
|-------------|-----------------|-----------|
| 1=REG.CLK.H | 8=CYC1 | 15=/OAB16 |
| 2=/IAB00 | 9=MDR.DATOUT.EN | 16=/OAB00 |
| 3=/IAB08 | 10=GND | 17=/OAB08 |
| 4=/IAB16 | 11=DIR.LRBYT.EN | 18=MC08 |
| 5=/IAB24 | 12=MC24 | 19=MC00 |
| 6=/A0 | 13=MC16 | 20=VCC |
| 7=/A1 | 14=/OAB24 | |

EQUATIONS:

IF(MDR.DATOUT.EN) /MC24=CYC1/A1/A0=/IAB24
 +A1=A0=/IAB00
 +A1=A0=/IAB08
 +A1=A0=/IAB16
 +CYC1=A1/A0=/OAB24
 IF(MDR.DATOUT.EN) /MC16=CYC1/A1/A0=/IAB16
 +CYC1=A1/A0=/IAB24
 +A1=A0=/IAB00
 +A1=A0=/IAB08
 +CYC1=A1/A0=/OAB16
 OAB24=CYC1/MDR.DATOUT.EN/A1/A0=MC24
 +CYC1/MDR.DATOUT.EN/A1/A0=MC16
 +CYC1/MDR.DATOUT.EN/A1/A0=MC08
 +CYC1/MDR.DATOUT.EN/A1/A0=MC00
 +CYC1=OAB24
 OAB16=CYC1/MDR.DATOUT.EN/A1/A0=MC16
 +CYC1/MDR.DATOUT.EN/A1/A0=MC08
 +CYC1/MDR.DATOUT.EN/A1/A0=MC00
 +CYC1/MDR.DATOUT.EN/A1/A0=MC24
 +CYC1=OAB16
 +CYC1=A1/A0=/IAB24=MDR.DATOUT.EN
 OAB08=CYC1/MDR.DATOUT.EN/A1/A0=MC08
 +CYC1/MDR.DATOUT.EN/A1/A0=MC00
 +CYC1/MDR.DATOUT.EN/A1/A0=MC24
 +CYC1/MDR.DATOUT.EN/A1/A0=MC16
 +CYC1=OAB08
 +CYC1/MDR.DATOUT.EN/A1/A0=/IAB08
 +CYC1/MDR.DATOUT.EN/A1/A0=/IAB16
 +CYC1/MDR.DATOUT.EN/A1/A0=/IAB24
 IF(MDR.DATOUT.EN) /MC08=CYC1/A1/A0=/IAB08
 +CYC1/A1/A0=/IAB16
 +CYC1/A1/A0=/IAB24
 +A1=A0=/IAB00
 +CYC1=A1/A0=OAB08
 +CYC1=A1/A0=OAB00
 IF(MDR.DATOUT.EN) /MC00=CYC1/A1/A0=/IAB00
 +CYC1/A1/A0=/IAB08
 +CYC1/A1/A0=/IAB16
 +CYC1/A1/A0=/IAB24
 +CYC1=OAB00

23-044J5-00
 23-061J5-00
 23-017K3-00

G.M. WARNER, 11186, 1500
 G.M. WARNER, 11186, 1500
 G.M. WARNER, 11186, 1500
 27-OCT-81 18:28

REV.	CHANGE NO.	REV.

digital	DRN. <i>M.Hopner</i>	DATE 27-OCT-81	ENG.	DATE	TITLE: MEM. CTRL. ROM AND PAL LISTINGS
	CHK'D.	DATE	BOARD LOCATION: SHEET 32 OF 16	SIZE CODE D GL	NUMBER M8391-0-0
FIRST USED ON OPTION/MODEL: 11/730		NEXT HIGHER ASSEMBLY: B-DD-M8391-0-0		REV. A	

PART NUMBER: 23-019K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #1D-CS-M8391-0-MCTB
 LOCATION/DESCRIPTION: E47,E50/ VAR (2 INPUT MUX)
 ASSIGNED PIN NUMBER:

- | | | |
|------------|------------------|-------------|
| 1= REG.CLK | 8= A3 | 15= LVA2 |
| 2= A0 | 9= B3 | 16= LVA1 |
| 3= B0 | 10= GND | 17= LVA0 |
| 4= A1 | 11= REG.OUT.EN.L | 18= CONTROL |
| 5= B1 | 12= CARRY3.OUT | 19= CIN |
| 6= A2 | 13= LOAD | 20= VCC |
| 7= B2 | 14= LVA3 | |

EQUATIONS:

```
IF[VCC] /CARRY3.OUT:=/LVA3
    +/LVA2
    +/LVA1
    +/LVA0
    +/CIN

/LVA3:=/LOAD=/CONTROL=/LVA3
    +LOAD=/CONTROL=/A3
    +LOAD=CONTROL=/B3
    +LOAD=CONTROL=LVA3=LVA2=LVA1=LVA0=CIN
    +LOAD=CONTROL=/LVA3=/LVA2
    +LOAD=CONTROL=/LVA3=/LVA1
    +LOAD=CONTROL=/LVA3=/LVA0
    +LOAD=CONTROL=/LVA3=/CIN

/LVA2:=/LOAD=/CONTROL=/LVA2
    +LOAD=/CONTROL=/A2
    +LOAD=CONTROL=/B2
    +LOAD=CONTROL=LVA2=LVA1=LVA0=CIN
    +LOAD=CONTROL=/LVA2=/LVA1
    +LOAD=CONTROL=/LVA2=/LVA0
    +LOAD=CONTROL=/LVA2=/CIN

/LVA1:=/LOAD=/CONTROL=/LVA1
    +LOAD=/CONTROL=/A1
    +LOAD=CONTROL=LVA1=LVA0=CIN
    +LOAD=CONTROL=/LVA1=/LVA0
    +LOAD=CONTROL=/LVA1=/CIN

/LVA0:=/LOAD=/CONTROL=/LVA0
    +LOAD=/CONTROL=/A0
    +LOAD=CONTROL=/B0
    +LOAD=CONTROL=CIN=LVA0
    +LOAD=CONTROL=CIN=LVA0
```

PART NUMBER: 23-019K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #1D-CS-M8391-0-MCTB
 LOCATION/DESCRIPTION: E26,E70,E67/ VAR (2 INPUT MUX)
 ASSIGNED PIN NUMBER:

- | | | |
|------------|------------------|-------------|
| 1= REG.CLK | 8= A3 | 15= LVA2 |
| 2= A0 | 9= B3 | 16= LVA1 |
| 3= B0 | 10= GND | 17= LVA0 |
| 4= A1 | 11= REG.OUT.EN.L | 18= CONTROL |
| 5= B1 | 12= CARRY3.OUT | 19= CIN |
| 6= A2 | 13= LOAD | 20= VCC |
| 7= B2 | 14= LVA3 | |

EQUATIONS:

```
IF[VCC] /CARRY3.OUT:=/LVA3
    +/LVA2
    +/LVA1
    +/CIN

/LVA3:=/LOAD=/CONTROL=/LVA3
    +LOAD=/CONTROL=/A3
    +LOAD=CONTROL=/B3
    +LOAD=CONTROL=LVA3=LVA2=LVA1=CIN
    +LOAD=CONTROL=/LVA3=/LVA2
    +LOAD=CONTROL=/LVA3=/LVA1
    +LOAD=CONTROL=/LVA3=/CIN

/LVA2:=/LOAD=/CONTROL=/LVA2
    +LOAD=/CONTROL=/A2
    +LOAD=CONTROL=/B2
    +LOAD=CONTROL=LVA2=LVA1=CIN
    +LOAD=CONTROL=/LVA2=/LVA1
    +LOAD=CONTROL=/LVA2=/CIN

/LVA1:=/LOAD=/CONTROL=/LVA1
    +LOAD=/CONTROL=/A1
    +LOAD=CONTROL=/B1
    +LOAD=CONTROL=LVA1=CIN
    +LOAD=CONTROL=/LVA1=/CIN

/LVA0:=/LOAD=/LVA0
    +LOAD=/CONTROL=/A0
    +LOAD=CONTROL=/B0
```

PART NUMBER: 23-023K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #1D-CS-M8391-0-MCTE
 LOCATION/DESCRIPTION: E106/ MCTE POWER UP & INIT
 ASSIGNED PIN NUMBER:

- | | | |
|------------------|-------------------|-----------------|
| 1= REG.CLK | 8= ISSYM | 15=/TIMEOUT.A |
| 2= DCLO | 9=/REF.IN.PROG | 16=/PHR.FL |
| 3= 5V.PHR.UP | 10= GND | 17=/PHR.UP.FLP |
| 4= OPEN.FUNC.LAT | 11= REG.OUT.EN.L | 18= INTR |
| 5= ERROR | 12= LISSYM | 19=/PHRF.OR.REF |
| 6= ALLOW.REF | 13=/START.REF.CYC | 20= VCC |
| 7= BMSYN | 14=/TIMEOUT | |

EQUATIONS:

```
IF[VCC] PHRF.OR.REF:=START.REF.CYC
    +PHR.FL

IF[VCC] /LISSYM:=/BMSYN=/INTR
    +/LISSYM=/LISSYM
    +ERROR

PHR.FL:=/PHR.UP.FLP
    +PHR.FL=DCLO
    +DCLO=OPEN.FUNC.LAT
    +DCLO=ALLOW.REF

PHR.UP.FLP:=5V.PHR.UP

TIMEOUT.A:=REF.IN.PROG

TIMEOUT:=TIMEOUT.A=/REF.IN.PROG
```

23-019K3-00
 23-019K3-00
 23-023K3-00

G.H. WAFNER (1106,1500) RLCRC3.DPL, SCALE 2, "D" RELEASE ROM
 G.H. WAFNER GLRC03.PLOT(1106,1500) 27-OCT-81 18:29

REVISIONS	
CHK	CHANGE NO. REV

digital	DATE	ENG.	DATE	TITLE:
	17-OCT-81			MEM. CTLR. ROM AND PAL LISTINGS
DATE	BOARD LOCATION:	SHEET	OF	IS
11/27/80	B-DD-M8391-0-0	1	16	
FIRST USED ON OPTION/MODEL:	11/27/80	B-DD-M8391-0-0	SIZE CODE	NUMBER
			D GL	M8391-0-0
			REV.	A

REV. A
 NUMBER
 M8391-0-0
 STATE CODE
 GL
 D

PART NUMBER: 23-026K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #: D-CS-M8391-0-MCTF
 LOCATION/DESCRIPTION: E68/ MCTF UNIBUS CSR 2
 ASSIGNED PIN NUMBER:

- | | | |
|------------------|-------------------|--------------------|
| 1= REG.CLK | 8= VALID | 15= LUB.RDS |
| 2= CLR.ERR | 9= TBM | 16= LUB.NMI |
| 3= NMI | 10= GND | 17= LUB.TB.PAR.ERR |
| 4= LUB.RDS | 11= REG.OUT.EN | 18= TBP0 |
| 5= LUR.NOT.VALID | 12= TB.PAR.ERR | 19= LUB.ERR.SUM |
| 6= GEN.P0 | 13= PAR.A | 20= VCC |
| 7= PROT.PAR | 14= LUR.NOT.VALID | |

EQUATIONS:

```
IF (VCC) TB.PAR.ERR = GEN.P0#PROT.PAR#PAR.A
+GEN.P0#PROT.PAR#PAR.A
+GEN.P0#PROT.PAR#PAR.A
+GEN.P0#PROT.PAR#PAR.A

LUR.NOT.VALID = LUB.NMI#LUR.NOT.VALID
+LUB.TB.PAR.ERR#LUR.NOT.VALID
+TB.PAR.ERR#LUR.NOT.VALID
+LUR.NOT.VALID#LUR.NOT.VALID
+CLR.ERR
+LUB.RDS#LUR.NOT.VALID

LUB.RDS = LUB.RDS
+CLR.ERR
+LUB.TB.PAR.ERR#LUB.RDS
+LUB.NMI#LUB.RDS
+LUR.NOT.VALID#LUB.RDS

LUB.NMI = NMI#LUB.NMI#VALID
+CLR.ERR
+LUB.TB.PAR.ERR#LUB.NMI
+TB.PAR.ERR#LUB.NMI
+LUB.RDS#LUB.NMI
+LUR.NOT.VALID#LUB.NMI
+LUR.NOT.VALID#LUB.NMI

LUB.TB.PAR.ERR = LUB.TB.PAR.ERR#PAR.A#GEN.P0#PROT.PAR
+LUB.TB.PAR.ERR#PAR.A#GEN.P0#PROT.PAR
+LUB.TB.PAR.ERR#PAR.A#GEN.P0#PROT.PAR
+LUB.TB.PAR.ERR#PAR.A#GEN.P0#PROT.PAR
+CLR.ERR
+LUB.RDS#LUB.TB.PAR.ERR
+LUR.NOT.VALID#LUB.TB.PAR.ERR
+LUB.NMI#LUB.TB.PAR.ERR

IF (TBM) TBP0 = VALID#GEN.P0#PROT.PAR
+VALID#GEN.P0#PROT.PAR
+VALID#GEN.P0#PROT.PAR
+VALID#GEN.P0#PROT.PAR

IF (VCC) LUB.ERR.SUM = NMI
+VALID
+LUR.NOT.VALID
+GEN.P0#PROT.PAR#PAR.A
+GEN.P0#PROT.PAR#PAR.A
+GEN.P0#PROT.PAR#PAR.A
+GEN.P0#PROT.PAR#PAR.A

IF (VCC) PAR.A = TBP0#VALID
+TBP0#VALID
```

PART NUMBER: 23-056K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #: D-CS-M8391-0-MCTE
 LOCATION/DESCRIPTION: E91/ ARBITRATOR
 ASSIGNED PIN NUMBER:

- | | | |
|------------------|----------------|------------------|
| 1= REG.CLK | 8= SET.LOCK | 15= R1 |
| 2= LNPR | 9= CPUDR | 16= CPUG |
| 3= LSACK | 10= GND | 17= NPG |
| 4= LBBST | 11= REG.OUT.EN | 18= LBBST |
| 5= TIMEOUT | 12= CLEAR.LOCK | 19= LUB.ACTIVITY |
| 6= CPUR | 13= LMSYN | 20= VCC |
| 7= CONT.FUNC.LAT | 14= LOCK | |

EQUATIONS:

```
LOCK = LOCK#CLEAR.LOCK
+SET.LOCK#CLEAR.LOCK

R1 = TIMEOUT#NPG
+R1#NPG

NPG = LNPR#LSACK#LOCK#SET.LOCK
+LNPR#LSACK#LOCK#CPUR#CPUG
+NPG#LSACK#R1#TIMEOUT
+NPG#LSACK#R1

CPUG = LOCK#CONT.FUNC.LAT#CPUR#CPUDR#NPG#LSACK#LBBST#LBBST
+LOCK#CONT.FUNC.LAT#CPUR#CPUDR#LMSYN
+CPUG#CLEAR.LOCK#SET.LOCK#CPUDR
+CPUG#CLEAR.LOCK#SET.LOCK#CPUDR
+CPUG#CLEAR.LOCK#SET.LOCK#CPUDR

IF (VCC) LUB.ACTIVITY = LNPR#LBBST#LOCK
+LSACK#LBBST#LOCK
+NPG#LBBST#LOCK
+LBBST#LBBST#LOCK
```

PART NUMBER: 23-060K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #: D-CS-M8391-0-MCTF
 LOCATION/DESCRIPTION: E68/ CSR 1B
 ASSIGNED PIN NUMBER:

- | | | |
|----------------------|-------------------|-------------------|
| 1= REG.CLK | 8= ADDR.PH | 15= ADP.REG.SEL |
| 2= CLR.ERR | 9= 2.MEM.CYC | 16= LUB.BUSY |
| 3= LUB.ACT | 10= GND | 17= LVALID |
| 4= VALID | 11= REG.OUT.EN | 18= LUR.NOT.VALID |
| 5= LUB.PHYS.ADDR.SEL | 12= P.ERR.SUM | 19= LUR.CHK |
| 6= LUB.REG.SEL | 13= SYS.ADRS.VIOL | 20= VCC |
| 7= PAGE.BOUND | 14= LUR.XPG.ERR | |

EQUATIONS:

```
IF (VCC) P.ERR.SUM = LUR.XPG.ERR
+ADP.REG.SEL
+LUB.BUSY
+LVALID

LUR.XPG.ERR = CLR.ERR
+2.MEM.CYC
+PAGE.BOUND#SYS.ADRS.VIOL
+SYS.ADRS.VIOL#LUR.CHK#CLR.ERR
+ADDR.PH#SYS.ADRS.VIOL

ADP.REG.SEL = CLR.ERR
+LUB.REG.SEL

LUB.BUSY = CLR.ERR#LUR.CHK
+LUB.ACT#CLR.ERR#LUR.CHK
+LUB.PHYS.ADDR.SEL#CLR.ERR#LUR.CHK
+LUB.PHYS.ADDR.SEL#CLR.ERR#LUR.CHK

LVALID = CLR.ERR
+VALID
+ADDR.PH

IF (VCC) LUR.NOT.VALID = 2.MEM.CYC#VALID#ADDR.PH
+2.MEM.CYC#SYS.ADRS.VIOL
```

23-026K3-00
 23-056K3-00
 23-060K3-00

G.H. WARNER, (1186,1500) JOLICORP, DPL, SCALE 2, -0- RELEASE BOX
 G.H. WARNER, (1186,1500) JOLICORP, DPL, (1186,1500) 27-OCT-81 18129

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DSK: GLMCR, TRP, 1186, 1500, 127-OCT-81 18122 NEXT HIGHER ASSEMBLY: FIRST USED ON OPTION/MODEL: 11/730		SIZE CODE: D	NUMBER: M8391-0-0	REV: A				

PART NUMBER: 23-005K4-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #1-D-CS-M8391-0-MCTB
 LOCATION/DESCRIPTION: E72/ MCTB VAR 6 BIT COUNTER (B)
 ASSIGNED PIN NUMBER:

- 1= REG.CLK
- 2= A0
- 3= A1
- 4= A2
- 5= A3
- 6= A4
- 7= A5
- 8= CONTROL
- 9= LOAD
- 10= GND
- 11= REG.OUT.EN
- 12= SYS.ADRS.VIOL
- 13= LA5
- 14= LA4
- 15= LA3
- 16= LA2
- 17= LA1
- 18= LA0
- 19= CIN
- 20= VCC

EQUATIONS:

IF(VCC) /SYS.ADRS.VIOL = /LA4
 +/LA3
 +/LA2
 +/LA1
 +/LA0
 +/CIN

/LA5 = LOAD = CONTROL = /A5
 +/LOAD = /LA5

/LA4 = LOAD = CONTROL = /A4
 +/LOAD = CONTROL = /LA4
 +/LOAD = CONTROL = LA4 = LA3 = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA4
 +/LOAD = CONTROL = /LA2 = /LA4
 +/LOAD = CONTROL = /LA3 = /LA4
 +/LOAD = CONTROL = /CIN = /LA4

/LA3 = LOAD = CONTROL = /A3
 +/LOAD = CONTROL = /LA3
 +/LOAD = CONTROL = LA3 = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA3
 +/LOAD = CONTROL = /LA1 = /LA3
 +/LOAD = CONTROL = /LA2 = /LA3
 +/LOAD = CONTROL = /CIN = /LA3

/LA2 = LOAD = CONTROL = /A2
 +/LOAD = CONTROL = /LA2
 +/LOAD = CONTROL = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA2
 +/LOAD = CONTROL = /LA1 = /LA2
 +/LOAD = CONTROL = /CIN = /LA2

/LA1 = LOAD = CONTROL = /A1
 +/LOAD = CONTROL = /LA1
 +/LOAD = CONTROL = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA1
 +/LOAD = CONTROL = /CIN = /LA1

/LA0 = LOAD = CONTROL = /A0
 +/LOAD = CONTROL = /LA0
 +/LOAD = CONTROL = LA0 = CIN
 +/LOAD = CONTROL = /CIN = /LA0

PART NUMBER: 23-006K4-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #1-D-CS-M8391-0-MCTK
 LOCATION/DESCRIPTION: E72/ MCTK DATA ROTATOR CONTROL
 ASSIGNED PIN NUMBER:

- 1= REG.CLK
- 2= LVAI
- 3= LVAB
- 4= CPU.CYCLE
- 5= LDT1
- 6= LDT0
- 7= LUBC1
- 8= LUBC0
- 9= BYTE.OFFSET
- 10= GND
- 11= REG.OUT.EN
- 12= F0
- 13= ALIGN.LW
- 14= 2.MEM.CYC
- 15= /RS0
- 16= /RS1
- 17= /A0
- 18= /A1
- 19= F1
- 20= VCC

EQUATIONS:

/ALIGN.LW = LDT1 = LDT0 = /LVAB = /LVAI

2.MEM.CYC = CPU.CYCLE = LVAI = LDT1
 + CPU.CYCLE = /LVAI = LVAB = LDT1 = LDT0
 + CPU.CYCLE = /LUBC1 = LVAI = BYTE.OFFSET
 + CPU.CYCLE = LUBC1 = LUBC0 = LVAI = LVAB = BYTE.OFFSET
 + CPU.CYCLE = LUBC1 = /LUBC0 = LVAI = BYTE.OFFSET
 + CPU.CYCLE = LVAI = LVAB = LDT0

RS0 = CPU.CYCLE = LDT0
 + CPU.CYCLE = /LUBC1
 + CPU.CYCLE = /LUBC0
 + F1
 + F0

RS1 = CPU.CYCLE = LDT1
 + F1
 + F0

A0 = CPU.CYCLE = LVAB = /F1 = /F0
 + CPU.CYCLE = /F1 = /F0
 + CPU.CYCLE = BYTE.OFFSET

A1 = CPU.CYCLE = LVAI = /F0 = /F1
 + CPU.CYCLE = /F1 = /F0
 + CPU.CYCLE = LVAI

PART NUMBER: 23-007K4-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #1-D-CS-M8391-0-MCTB
 LOCATION/DESCRIPTION: E20/ MCTB VAR 6-BIT COUNTER(A)
 ASSIGNED PIN NUMBER:

- 1= REG.CLK
- 2= A0
- 3= A1
- 4= A2
- 5= A3
- 6= A4
- 7= A5
- 8= CONTROL
- 9= LOAD
- 10= GND
- 11= REG.OUT.EN.L
- 12= CARRY4.OUT
- 13= LA5
- 14= LA4
- 15= LA3
- 16= LA2
- 17= LA1
- 18= LA0
- 19= CIN
- 20= VCC

EQUATIONS:

IF(VCC) /CARRY4.OUT = /LA4
 +/LA3
 +/LA2
 +/LA1
 +/LA0
 +/CIN

/LA5 = LOAD = CONTROL = /A5
 +/LOAD = CONTROL = /LA5
 +/LOAD = CONTROL = LA5 = LA4 = LA3 = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /CARRY4.OUT = /LA5

/LA4 = LOAD = CONTROL = /A4
 +/LOAD = CONTROL = /LA4
 +/LOAD = CONTROL = LA4 = LA3 = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA4
 +/LOAD = CONTROL = /LA2 = /LA4
 +/LOAD = CONTROL = /LA3 = /LA4
 +/LOAD = CONTROL = /CIN = /LA4

/LA3 = LOAD = CONTROL = /A3
 +/LOAD = CONTROL = /LA3
 +/LOAD = CONTROL = LA3 = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA3
 +/LOAD = CONTROL = /LA1 = /LA3
 +/LOAD = CONTROL = /LA2 = /LA3
 +/LOAD = CONTROL = /CIN = /LA3

/LA2 = LOAD = CONTROL = /A2
 +/LOAD = CONTROL = /LA2
 +/LOAD = CONTROL = LA2 = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA2
 +/LOAD = CONTROL = /LA1 = /LA2
 +/LOAD = CONTROL = /CIN = /LA2

/LA1 = LOAD = CONTROL = /A1
 +/LOAD = CONTROL = /LA1
 +/LOAD = CONTROL = LA1 = LA0 = CIN
 +/LOAD = CONTROL = /LA0 = /LA1
 +/LOAD = CONTROL = /CIN = /LA1

/LA0 = LOAD = CONTROL = /A0
 +/LOAD = CONTROL = /LA0
 +/LOAD = CONTROL = LA0 = CIN
 +/LOAD = CONTROL = /CIN = /LA0

23-005K4-00
 23-006K4-00
 23-007K4-00

G.H. HARTER, (1196,1500) 20/10/00, SCALE 2, -D- RELEASE BOX
 G.H. HARTER GLNCS, PLOK1196,1500 27-OCT-81 18129

REVISIONS	
CHK	CHANGE NO. REV

digital	DRN	DATE	ENG.	DATE	TITLE
	CHK'D.	27-OCT-81	M.Holman	27-OCT-81	MEM. CTRL. ROM AND PAL LISTINGS
DSK:GLNCS,12PK1196,1500		27-OCT-81	18129	NEXT HIGHER ASSEMBLY:	SIZE CODE NUMBER REV.
FIRST USED ON OPTION/MODEL: 117730		B-DD-M8391-0-0	D	GL	M8391-0-0 A

REV. A
 SIZE CODE NUMBER
 D GL M8391-0-0

PART NUMBER: 23-000K4-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #10-CS-M8391-0-MCTB
 LOCATION/DESCRIPTION: E03/ MCTB MISC CONTROL
 ASSIGNED PIN NUMBER:

- | | | |
|------------------|-----------------|----------------|
| 1= REG.CLK | 8= SPF2 | 15= SEC.CYC |
| 2= L.NME | 9= LDT0 | 16= /UB.TB.SEL |
| 3= CPU.CYCLE | 10= GND | 17= /ADDR.PH |
| 4= SPF0 | 11= /REG.OUT.EN | 18= /BG |
| 5= OPEN.FUNC.LAT | 12= BBSY | 19= BBSY |
| 6= /TB.DATA.EN | 13= IC0 | 20= VCC |
| 7= SPF1 | 14= IC1 | |

EQUATIONS:

IF(VCC) /BBSY = /BBSY / BBSY
 + /BBSY = IC1
 + /BBSY = IC0

BG = SPF2 + SPF1 + SPF0

/IC1 = SPF2 + /SPF1
 + /SPF2 = /IC1
 + SPF2 + SPF1 = SPF0 + /IC1

/IC0 = SPF2 + /SPF1 + /SPF0
 + /SPF2 = /IC0
 + SPF2 + SPF1 = SPF0 + /IC0
 + SPF2 = SPF1 + /SPF0 + LDT0

ADDR.PH = /L.NME + CPU.CYCLE + /TB.DATA.EN
 + /SPF2 + /SPF1 + SPF0
 + ADDR.PH + OPEN.FUNC.LAT + /TB.DATA.EN

UB.TB.SEL = /OPEN.FUNC.LAT + UB.TB.SEL
 + /SPF2 + SPF1 + SPF0

/SEC.CYC = OPEN.FUNC.LAT
 + /SEC.CYC + SPF2
 + /SEC.CYC + SPF0
 + /SEC.CYC + SPF1
 + SPF2 + /SPF1 + /SPF0

PART NUMBER: 23-010K4-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #10-CS-M8391-0-MCTF
 LOCATION/DESCRIPTION: E57/ MEMORY CSR 1A
 ASSIGNED PIN NUMBER:

- | | |
|-------------|-----------------|
| 1= REG.CLK | 8= BYT.OFFSET |
| 2= CLR.ERR | 9= /OP.ERR |
| 3= ADDR.PH | 10= GND |
| 4= /N01 | 11= /REG.OUT.EN |
| 5= /TB.MISS | 12= /ERR.SUM |
| 6= ACC.REF | 13= L.TB.PAR |
| 7= /MOD.REF | 14= L.MOD.REF |

EQUATIONS:

IF(VCC) ERR.SUM = L.TB.MISS
 + ILL.LB.OPER
 + L.TB.PAR
 + L.MOD.REF
 + L.ACC.REF
 + L.N01

/L.TB.PAR = CLR.ERR
 + /TB.PAR
 + ADDR.PH

/L.MOD.REF = CLR.ERR
 + /MOD.REF
 + ADDR.PH

/L.ACC.REF = CLR.ERR
 + /ACC.REF
 + ADDR.PH

/L.TB.MISS = CLR.ERR
 + /TB.MISS + BYT.OFFSET
 + ADDR.PH

/L.N01 = CLR.ERR
 + /N01

/ILL.LB.OPER = CLR.ERR
 + /OP.ERR

PART NUMBER: 23-003K5-00
 DEVICE TYPE: PAL16R8
 SCHEMATIC SHEET #10-CS-M8391-0-MCTB
 LOCATION/DESCRIPTION: E77/ MCTB PREFETCH ADDRESS REG/COUNT
 ASSIGNED PIN NUMBER:

- | | | |
|-------------|---------------------|---------|
| 1= REG.CLK. | 8= A0 | 15= LA5 |
| 2= A2 | 9= NC | 16= LA6 |
| 3= A3 | 10= GND | 17= LA4 |
| 4= A4 | 11= REG.OUT.EN.L | 18= LA3 |
| 5= A5 | 12= PAGE.BOUND.PREF | 19= LA2 |
| 6= A6 | 13= LA8 | 20= VCC |
| 7= A7 | 14= LA7 | |

EQUATIONS:

/PAGE.BOUND.PREF = /A8
 + /A7
 + /A6
 + /A5
 + /A4
 + /A3
 + /A2

/LA8 = A2 + A3 + A4 + A5 + A6 + A7 + A8
 + /A8 = /A7
 + /A8 = /A6
 + /A8 = /A5
 + /A8 = /A4
 + /A8 = /A3
 + /A8 = /A2

/LA7 = A2 + A3 + A4 + A5 + A6 + A7
 + /A7 = /A6
 + /A7 = /A5
 + /A7 = /A4
 + /A7 = /A3
 + /A7 = /A2

/LA6 = A2 + A3 + A4 + A5 + A6
 + /A6 = /A5
 + /A6 = /A4
 + /A6 = /A3
 + /A6 = /A2

/LA5 = A2 + A3 + A4 + A5
 + /A5 = /A4
 + /A5 = /A3
 + /A5 = /A2

/LA4 = A2 + A3 + A4
 + /A4 = /A3
 + /A4 = /A2

/LA3 = A2 + A3
 + /A3 = /A2

/LA2 = A2

23-000K4-00
 23-010K4-00
 23-003K5-00

G.M. WARNER, (1186, 1500) RELEASED BY SCALE 2, 27-OCT-81 18:29
 G.M. WARNER (1186, 1500) RELEASED BY SCALE 2, 27-OCT-81 18:29

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REVISIONS	
CHK	CHANGE NO. REV

digital ORN: M. H. Warner CHK'D.	DATE: 27-OCT-81	ENG.	DATE:	TITLE: MEM. CTRL. ROM AND PAL LISTINGS
	DATE: 27-OCT-81	BOARD LOCATION: 18:23	SHEET: 06 OF 16	SIZE CODE: D
FIRST USED ON OPTION/MODEL: 11/730		NEXT HIGHER ASSEMBLY: B-DO-M8391-0-0		NUMBER: M8391-0-0
				REV. A

8 7 6 5 4 3 2 1
8-8-16584 79 0
REV. 0

Table with columns for HEX LOC, HEX DAT, and BIN DAT for addresses 000 to 03F. Each address is followed by three columns of data: a hex location, a hex datum, and a binary datum. The table is organized into 8 columns labeled 8 through 1.

PART NUMBER: 23-03302-00
DEVICE TYPE: 512 X 8
SCHEMATIC SHEET #: D-CS-M8391-0-MCTM
LOCATION/DESCRIPTION: E112 / UCDC08:15

LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

G.M. HARNER, (1196,1500) JLN:RUB DPL, SCALE 2: -D- RELEASE BOX
G.M. HARNER (1196,1500) PLOX (1196,1500) 27-OCT-81 10129

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

digital logo, DATE 27-OCT-81, ENG. D.M. Harner, BOARD LOCATION: SHEET 06 OF 16, TITLE: MEM. CTRL. ROM AND PAL LISTINGS, SIZE D, CODE GL, NUMBER M8391-0-0, REV. A

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
000	00	00000000	040	9D	10011101	080	94	10010100	0C0	94	10010100	100	94	10010100	140	94	10010100	180	94	10010100	1C0	9C	10011100
001	00	00000000	041	9C	10011100	081	94	10010100	0C1	A4	10100100	101	84	10000100	141	94	10010100	181	95	10010101	1C1	9C	10011100
002	00	00000000	042	9C	10011100	082	85	10000101	0C2	94	10010100	102	94	10010100	142	96	10010110	182	94	10010100	1C2	9C	10011100
003	00	00000000	043	9E	10011110	083	94	10010100	0C3	54	01010100	103	94	10010100	143	8C	10111100	183	95	10010101	1C3	9C	10011100
004	00	00000000	044	DC	11011100	084	94	10010100	0C4	A4	10100100	104	94	10010100	144	94	10010100	184	94	10010100	1C4	94	10010100
005	00	00000000	045	DC	11011100	085	95	10010101	0C5	9C	10011100	105	94	10010100	145	97	10010111	185	94	10010100	1C5	94	10010100
006	00	00000000	046	94	10010100	086	94	10010100	0C6	14	00010100	106	D4	11010100	146	94	10010100	186	D4	11010100	1C6	DC	11011100
007	C4	11000100	047	94	10010100	087	94	10010100	0C7	9C	10011100	107	94	10010100	147	A7	10100111	187	94	10010100	1C7	94	10010100
008	A4	10100100	048	94	10010100	088	94	10010100	0C8	9C	10011100	108	94	10010100	148	94	10010100	188	9C	10011100	1C8	9C	10011100
009	95	10010101	049	94	10010100	089	94	10010100	0C9	94	10010100	109	94	10010100	149	8C	10111100	189	9C	10011100	1C9	9C	10011100
00A	94	10010100	04A	94	10010100	08A	85	10000101	0CA	9C	10011100	10A	94	10010100	14A	94	10010100	18A	9C	10011100	1CA	9C	10011100
00B	94	10010100	04B	94	10010100	08B	94	10010100	0CB	9C	10011100	10B	94	10010100	14B	84	10000100	18B	9C	10011100	1CB	9C	10011100
00C	84	10000100	04C	94	10010100	08C	94	10010100	0CC	9C	10011100	10C	94	10010100	14C	E4	11100100	18C	9F	10011111	1CC	94	10010100
00D	94	10010100	04D	94	10010100	08D	94	10010100	0CD	9C	10011100	10D	94	10010100	14D	E7	11100111	18D	94	10010100	1CD	94	10010100
00E	95	10010101	04E	94	10010100	08E	94	10010100	0CE	DC	11011100	10E	DC	11011100	14E	94	10010100	18E	9C	10011100	1CE	DC	11011100
00F	94	10010100	04F	94	10010100	08F	94	10010100	0CF	94	10010100	10F	9C	10011100	14F	A4	10100100	18F	94	10010100	1CF	84	10000100
010	94	10010100	050	94	10010100	090	94	10010100	0D0	94	10010100	110	94	10010100	150	94	10010100	190	94	10010100	1D0	94	10010100
011	94	10010100	051	94	10010100	091	94	10010100	0D1	DC	11011100	111	94	10010100	151	8C	10111100	191	94	10010100	1D1	94	10010100
012	94	10010100	052	94	10010100	092	94	10010100	0D2	94	10010100	112	94	10010100	152	94	10010100	192	94	10010100	1D2	94	10010100
013	94	10010100	053	94	10010100	093	94	10010100	0D3	95	10010101	113	96	10010110	153	8C	10111100	193	95	10010101	1D3	9C	10011100
014	94	10010100	054	94	10010100	094	94	10010100	0D4	94	10010100	114	84	10000100	154	94	10010100	194	9C	10011100	1D4	94	10010100
015	D4	11010100	055	94	10010100	095	94	10010100	0D5	A4	10100100	115	94	10010100	155	94	10010100	195	9C	10011100	1D5	94	10010100
016	85	10000101	056	9E	10011110	096	94	10010100	0D6	DC	11011100	116	94	10010100	156	D4	11010100	196	9C	10011100	1D6	9C	10011100
017	94	10010100	057	94	10010100	097	96	10010110	0D7	84	10000100	117	95	10010101	157	94	10010100	197	8C	10111100	1D7	94	10010100
018	94	10010100	058	94	10010100	098	94	10010100	0D8	94	10010100	118	86	10000110	158	D4	11010100	198	94	10010100	1D8	94	10010100
019	94	10010100	059	94	10010100	099	95	10010101	0D9	94	10010100	119	94	10010100	159	94	10010100	199	94	10010100	1D9	95	10010101
01A	94	10010100	05A	94	10010100	09A	94	10010100	0DA	94	10010100	11A	94	10010100	15A	D4	11010100	19A	94	10010100	1DA	94	10010100
01B	85	10000101	05B	94	10010100	09B	94	10010100	0DB	94	10010100	11B	94	10010100	15B	94	10010100	19B	94	10010100	1DB	95	10010101
01C	97	10010111	05C	94	10010100	09C	94	10010100	0DC	94	10010100	11C	94	10010100	15C	94	10010100	19C	DC	11011100	1DC	94	10010100
01D	94	10010100	05D	94	10010100	09D	95	10010101	0DD	94	10010100	11D	94	10010100	15D	94	10010100	19D	9C	10011100	1DD	95	10010101
01E	94	10010100	05E	94	10010100	09E	94	10010100	0DE	94	10010100	11E	DF	11011111	15E	54	01010100	19E	9C	10011100	1DE	DC	11011100
01F	94	10010100	05F	94	10010100	09F	94	10010100	0DF	94	10010100	11F	94	10010100	15F	94	10010100	19F	94	10010100	1DF	94	10010100
020	94	10010100	060	94	10010100	0A0	94	10010100	0E0	94	10010100	120	94	10010100	160	94	10010100	1A0	94	10010100	1E0	8C	10111100
021	94	10010100	061	87	10000111	0A1	94	10010100	0E1	9C	10011100	121	94	10010100	161	94	10010100	1A1	84	10000100	1E1	94	10010100
022	96	10010110	062	94	10010100	0A2	94	10010100	0E2	94	10010100	122	84	10000100	162	94	10010100	1A2	84	10000100	1E2	85	10000101
023	94	10010100	063	87	10000111	0A3	94	10010100	0E3	9D	10011101	123	94	10010100	163	9F	10011111	1A3	84	10000100	1E3	94	10010100
024	94	10010100	064	84	10000100	0A4	94	10010100	0E4	94	10010100	124	94	10010100	164	94	10010100	1A4	9C	10011100	1E4	94	10010100
025	94	10010100	065	84	10000100	0A5	94	10010100	0E5	94	10010100	125	94	10010100	165	8C	10111100	1A5	9C	10011100	1E5	95	10010101
026	84	10000100	066	94	10010100	0A6	94	10010100	0E6	94	10010100	126	94	10010100	166	9C	10011100	1A6	84	10000100	1E6	DC	11011100
027	94	10010100	067	94	10010100	0A7	95	10010101	0E7	9D	10011101	127	94	10010100	167	9C	10011100	1A7	95	10010101	1E7	94	10010100
028	94	10010100	068	94	10010100	0A8	9C	10011100	0E8	A4	10100100	128	84	10000100	168	9C	10011100	1A8	96	10010110	1E8	9C	10011100
029	94	10010100	069	94	10010100	0A9	94	10010100	0E9	94	10010100	129	94	10010100	169	9C	10011100	1A9	14	00010100	1E9	94	10010100
02A	94	10010100	06A	94	10010100	0AA	94	10010100	0EA	94	10010100	12A	84	10000100	16A	9C	10011100	1AA	94	10010100	1EA	94	10010100
02B	94	10010100	06B	14	00010100	0AB	94	10010100	0EB	94	10010100	12B	94	10010100	16B	9C	10011100	1AB	94	10010100	1EB	94	10010100
02C	94	10010100	06C	A4	10100100	0AC	94	10010100	0EC	A4	10100100	12C	94	10010100	16C	84	10000100	1AC	DC	11011100	1EC	9C	10011100
02D	94	10010100	06D	9C	10011100	0AD	94	10010100	0ED	94	10010100	12D	94	10010100	16D	94	10010100	1AD	DC	11011100	1ED	94	10010100
02E	94	10010100	06E	94	10010100	0AE	94	10010100	0EE	94	10010100	12E	9C	10011100	16E	DC	11011100	1AE	9C	10011100	1EE	9C	10011100
02F	94	10010100	06F	94	10010100	0AF	94	10010100	0EF	94	10010100	12F	94	10010100	16F	94	10010100	1AF	94	10010100	1EF	94	10010100
030	94	10010100	070	94	10010100	0B0	94	10010100	0F0	94	10010100	130	8C	10111100	170	9C	10011100	1B0	A4	10100100	1F0	94	10011100
031	94	10010100	071	94	10010100	0B1	95	10010101	0F1	94	10010100	131	94	10010100	171	9C	10011100	1B1	95	10010101	1F1	9C	10011100
032	1C	00011100	072	94	10010100	0B2	94	10010100	0F2	94	10010100	132	94	10010100	172	9C	10011100	1B2	94	10010100	1F2	94	10010100
033	9C	10011100	073	94	10010100	0B3	94	10010100	0F3	95	10010101	133	94	10010100	173	9C	10011100	1B3	94	10010100	1F3	9C	10011100
034	9C	10011100	074	94	10010100	0B4	94	10010100	0F4	94	10010100	134	D4	11010100	174	9C	10011100	1B4	94	10010100	1F4	95	

Table with columns for HEX LOC, HEX DAT, BIN DAT for each of the 8 bit positions. Each row contains 24 data points (3 columns x 8 bit positions).

PART NUMBER: 23-03502-00
DEVICE TYPE: 512 X 8
SCHEMATIC SHEET #: D-CS-M8391-0-MCTM
LOCATION/DESCRIPTION: E62 / UCODE(24:31)

LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

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

digital logo, DATE 27-OCT-81, ENG. A. M. Hoffman, TITLE: MEM. CTRL. ROM AND PAL LISTINGS, BOARD LOCATION: SHEET 18 OF 16, SIZE CODE D, NUMBER M8391-0-0, REV. A

G.M. HARNER, (1196, 1500) JLN:FC10, DPL, SCALE 2, -D- RELEASE BOX
G.M. HARNER JLN:FC10, PLX(1196, 1500) 27-OCT-81 18:30

REV. A
MEM. CTRL. ROM AND PAL LISTINGS
D CS M8391-0-0

HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT

Table with 8 columns (HEX LOC, HEX DAT, BIN DAT) and 256 rows of memory data. Each column represents a different memory location, and each row contains the hex address and its corresponding data in hex and binary formats.

PART NUMBER: 23-036D2-00
DEVICE TYPE: 512 X 8
SCHEMATIC SHEET #: D-CS-M8391-0-MCTM
LOCATION/DESCRIPTION: E98 / UCODE<32:39>

LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

G.H. WARDNER, (1106,1500)GLMCTM, DPL, SCALE 2, D- RELEASE BOX
G.H. WARDNER GLMCTM, PLD(1106,1500) 27-OCT-81 18:30

Table with 2 columns: REVISIONS, CHANGE NO., REV. It contains a list of revisions for the document.

digital logo and title block containing: TITLE: MEM. CTRL. ROM AND PAL LISTINGS, DATE: 27-OCT-81, BOARD LOCATION: SHEET 11 OF 16, SIZE CODE: D, NUMBER: M8391-0-0, REV: A.

REV. A
NUMBER M8391-0-0
SIZE CODE D
D

000	00	00000000	040	EB	11101011	080	E9	11101001	0C0	E9	11101001	100	E9	11101001	140	EB	11101011	180	EB	11101011	1C0	E9	11101001
001	00	00000000	041	ED	11101101	081	E9	11101001	0C1	E9	11101001	101	E9	11101001	141	E9	11101001	181	E9	11101001	1C1	E9	11101001
002	00	00000000	042	6D	01101101	082	E9	11101001	0C2	E9	11101001	102	EC	11101100	142	E9	11101001	182	EB	11101011	1C2	E9	11101001
003	00	00000000	043	6D	01101101	083	E9	11101001	0C3	E9	11101001	103	E9	11101001	143	E9	11101001	183	E9	11101001	1C3	E9	11101001
004	00	00000000	044	E9	11101001	084	E9	11101001	0C4	E9	11101001	104	EB	11101011	144	F9	11111001	184	E9	11101001	1C4	E1	11100001
005	00	00000000	045	E9	11101001	085	E9	11101001	0C5	EB	11101011	105	E9	11101001	145	E9	11101001	185	E9	11101001	1C5	E1	11100001
006	00	00000000	046	E9	11101001	086	EF	11101111	0C6	E9	11101001	106	E9	11101001	146	E9	11101001	186	EB	11101011	1C6	EB	11101011
007	E9	11101001	047	EB	11101011	087	E9	11101001	0C7	E9	11101001	107	E9	11101001	147	E9	11101001	187	E9	11101001	1C7	EB	11101111
008	E9	11101001	048	EB	11101011	088	E9	11101001	0C8	EB	11101011	108	E9	11101001	148	E9	11101001	188	E9	11101001	1C8	E9	11101001
009	E9	11101001	049	EB	11101011	089	D9	11011001	0C9	E9	11101001	109	E9	11101001	149	E9	11101001	189	E9	11101001	1C9	E9	11101001
00A	ED	11101101	04A	EB	11101011	08A	E9	11101001	0CA	E9	11101001	10A	E9	11101001	14A	E9	11101001	18A	E9	11101001	1CA	E9	11101001
00B	E9	11101001	04B	EB	11101011	08B	E9	11101001	0CB	EB	11101011	10B	E9	11101001	14B	E9	11101001	18B	E9	11101001	1CB	E9	11101001
00C	E9	11101001	04C	E9	11101001	08C	ED	11101101	0CC	EB	11101011	10C	E9	11101001	14C	E9	11101001	18C	E9	11101001	1CC	E1	11100001
00D	E9	11101001	04D	E9	11101001	08D	E9	11101001	0CD	E9	11101001	10D	E9	11101001	14D	E9	11101001	18D	E9	11101001	1CD	E1	11100001
00E	E9	11101001	04E	E9	11101001	08E	ED	11101101	0CE	E9	11101001	10E	E9	11101001	14E	EB	11101011	18E	E9	11101001	1CE	EB	11101011
00F	ED	11101101	04F	E9	11101001	08F	E9	11101001	0CF	E9	11101001	10F	EB	11101011	14F	E9	11101001	18F	E9	11101001	1CF	EB	11101011
010	E9	11101001	050	E9	11101001	090	E9	11101001	0D0	E9	11101001	110	E9	11101001	150	E9	11101101	190	E9	11101001	1D0	E9	11101001
011	E9	11101001	051	E9	11101001	091	E9	11101001	0D1	E9	11101001	111	E9	11101001	151	E9	11101001	191	E1	11100001	1D1	EB	11101011
012	E9	11101001	052	EB	11101011	092	D9	11011001	0D2	E9	11101001	112	EB	11101011	152	ED	11101101	192	E9	11101001	1D2	E9	11101001
013	E9	11101001	053	E9	11101001	093	E9	11101001	0D3	EB	11101011	113	E9	11101001	153	E9	11101001	193	C9	11001001	1D3	EB	11101011
014	E9	11101001	054	E9	11101001	094	E9	11101001	0D4	EB	11101011	114	E9	11101001	154	E9	11101001	194	E9	11101001	1D4	E9	11101001
015	E9	11101001	055	E9	11101001	095	E9	11101001	0D5	E9	11101001	115	E9	11101001	155	E9	11101001	195	E9	11101001	1D5	E9	11101001
016	E9	11101001	056	ED	11101101	096	E9	11101001	0D6	E9	11101001	116	E9	11101001	156	EB	11101011	196	G9	01101001	1D6	E9	11101001
017	E9	11101001	057	G9	01101001	097	E9	11101001	0D7	E9	11101001	117	E9	11101001	157	E9	11101001	197	E9	11101001	1D7	ED	11101101
018	E9	11101001	058	E1	11100001	098	E9	11101001	0D8	F9	11111001	118	E9	11101001	158	E9	11101001	198	E9	11101001	1D8	E9	11101001
019	E9	11101001	059	F9	11111001	099	E9	11101001	0D9	EB	11101011	119	E9	11101001	159	E9	11101001	199	E9	11101001	1D9	C9	11001001
01A	E9	11101001	05A	E9	11101001	09A	E9	11101001	0DA	E9	11101001	11A	E9	11101001	15A	E9	11101001	19A	E9	11101001	1DA	E9	11101001
01B	E9	11101001	05B	E9	11101001	09B	E9	11101001	0DB	EB	11101011	11B	E9	11101001	15B	E9	11101001	19B	E9	11101001	1DB	C9	11001001
01C	E9	11101001	05C	E9	11101001	09C	E9	11101001	0DC	F9	11111001	11C	E9	11101001	15C	E9	11101001	19C	E9	11101001	1DC	E9	11101001
01D	E9	11101001	05D	E9	11101001	09D	E9	11101001	0DD	E9	11101001	11D	E9	11101001	15D	E9	11101001	19D	EB	11101011	1DD	C9	11001001
01E	E9	11101001	05E	E9	11101001	09E	E9	11101001	0DE	E9	11101001	11E	E9	11101001	15E	E9	11101001	19E	E9	11101001	1DE	E9	11101001
01F	EB	11101011	05F	F9	11111001	09F	E9	11101001	0DF	EB	11101011	11F	E9	11101001	15F	E9	11101001	19F	E9	11101001	1DF	E9	11101001
020	EB	11101011	060	E9	11101001	0A0	ED	11101101	0E0	E9	11101001	120	E9	11101001	160	E9	11101001	1A0	E9	11101001	1E0	E9	11101001
021	EB	11101011	061	E9	11101001	0A1	E9	11101001	0E1	EB	11101011	121	E9	11101001	161	F1	11110001	1A1	E9	11101001	1E1	F9	11111001
022	EF	11101111	062	E9	11101001	0A2	ED	11101101	0E2	E9	11101001	122	E9	11101001	162	E9	11101001	1A2	E9	11101001	1E2	E9	11101001
023	E9	11101001	063	E9	11101001	0A3	E9	11101001	0E3	E9	11101001	123	E9	11101001	163	E9	11101001	1A3	E9	11101001	1E3	F9	11111001
024	E9	11101001	064	E9	11101001	0A4	E9	11101001	0E4	E9	11101001	124	EB	11101011	164	E9	11101001	1A4	E9	11101001	1E4	E9	11101001
025	E9	11101001	065	E9	11101001	0A5	EB	11101011	0E5	E9	11101001	125	E9	11101001	165	E9	11101001	1A5	E9	11101001	1E5	C9	11001001
026	E9	11101001	066	E9	11101001	0A6	E9	11101001	0E6	E9	11101001	126	E9	11101001	166	E9	11101001	1A6	E9	11101001	1E6	E9	11101001
027	E9	11101001	067	E9	11101001	0A7	EB	11101011	0E7	E9	11101001	127	E9	11101001	167	E9	11101001	1A7	EB	11101011	1E7	C9	11001001
028	E9	11101001	068	E9	11101001	0A8	E9	11101001	0E8	E9	11101001	128	E9	11101001	168	E9	11101001	1A8	E9	11101001	1E8	E9	11101001
029	E9	11101001	069	E9	11101001	0A9	EB	11101011	0E9	AC	10101100	129	E9	11101001	169	E9	11101001	1A9	E9	11101001	1E9	E9	11101001
02A	EB	11101011	06A	E9	11101001	0AA	E9	11101001	0EA	E9	11101001	12A	E9	11101001	16A	E9	11101001	1AA	E9	11101001	1EA	E9	11101001
02B	EB	11101011	06B	E9	11101001	0AB	E9	11101001	0EB	EB	11101000	12B	E9	11101001	16B	E9	11101001	1AB	E9	11101001	1EB	E9	11101001
02C	E9	11101001	06C	E9	11101001	0AC	E9	11101001	0EC	E9	11101001	12C	E9	11101001	16C	E9	11101001	1AC	EC	11101100	1EC	G8	01101000
02D	E9	11101001	06D	E9	11101001	0AD	EB	11101011	0ED	E1	11100001	12D	E9	11101001	16D	E9	11101001	1AD	E9	11101001	1ED	E9	11101001
02E	E9	11101001	06E	E9	11101001	0AE	E9	11101001	0EE	G9	01101001	12E	E9	11101001	16E	E9	11101001	1AE	E9	11101001	1EE	E9	11101001
02F	E9	11101001	06F	E9	11101001	0AF	EB	11101011	0EF	E1	11100001	12F	E9	11101001	16F	E9	11101001	1AF	EB	11101011	1EF	E9	11101001
030	E9	11101001	070	EB	11101011	0B0	EB	11101011	0F0	E9	11101001	130	E9	11101001	170	E9	11101001	1B0	E9	11101001	1F0	E9	11101001
031	EB	11101011	071	E9	11101001	0B1	EB	11111001	0F1	F9	11111001	131	ED	11101101	171	E9	11101001	1B1	D9	11011001	1F1	E9	11101001
032	E9	11101001	072	E9	11101001	0B2	ED	11101101	0F2	E9	11101001	132	ED	11101001	172	E9	11101001	1B2	E9	11101001	1F2	E9	11101001
033	6D	01101101	073	E9	11101001	0B3	ED	11101101	0F3	E9	11101001	133	ED	11101101	173	E9	11101001	1B3	C9	11001001	1F3	E9	11101001
034	G9	01101101	074	EB	11101011	0B4	E9	11101001	0F4	E9	11101001	134	ED	11101011	174	EB	11101011	1B4	C9	11001001	1F4	E9	11101001
035	ED	11101101	075	E9	11101001	0B5	C9	11001001	0F5	F9	11111001	135	ED	11101101	175	E9	11101001	1B5	F9	11111001	1F5	G8	01101100
036	E9	11101001	076	E9	11101001	0B6	E9	11101001	0F6	E9	11101001	136	E9	11101001	176	EB	11101011	1B6	E9	11101001	1F6	EB	11101011
037	E9	11101001	077	E9	11101001	0B7	E9	11101001	0F7	E9	11101												

8 7 6 5 4 3 2 1

HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT

Table containing memory addresses and data in hexadecimal and binary formats for locations 000 to 03F.

PART NUMBER: 23-039D2-00
DEVICE TYPE: 512 X 8
SCHEMATIC SHEET #: D-CS-M8391-0-MCTM
LOCATION/DESCRIPTION: E73 / UCODE<56:63>

LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

G.H. WARNER, (1196,1500) DPL, SCALE 2, "0" RELEASE BOX
G.H. WARNER (LINC) PLD (1196,1500) 27-OCT-81 10 31

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

Form containing title MEM. CTLR. ROM AND PAL LISTINGS, date 27-OCT-81, and part number B-DD-M8391-0-0.

8 7 6 5 4 3 2 1

HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT HEX LOC HEX DAT BIN DAT

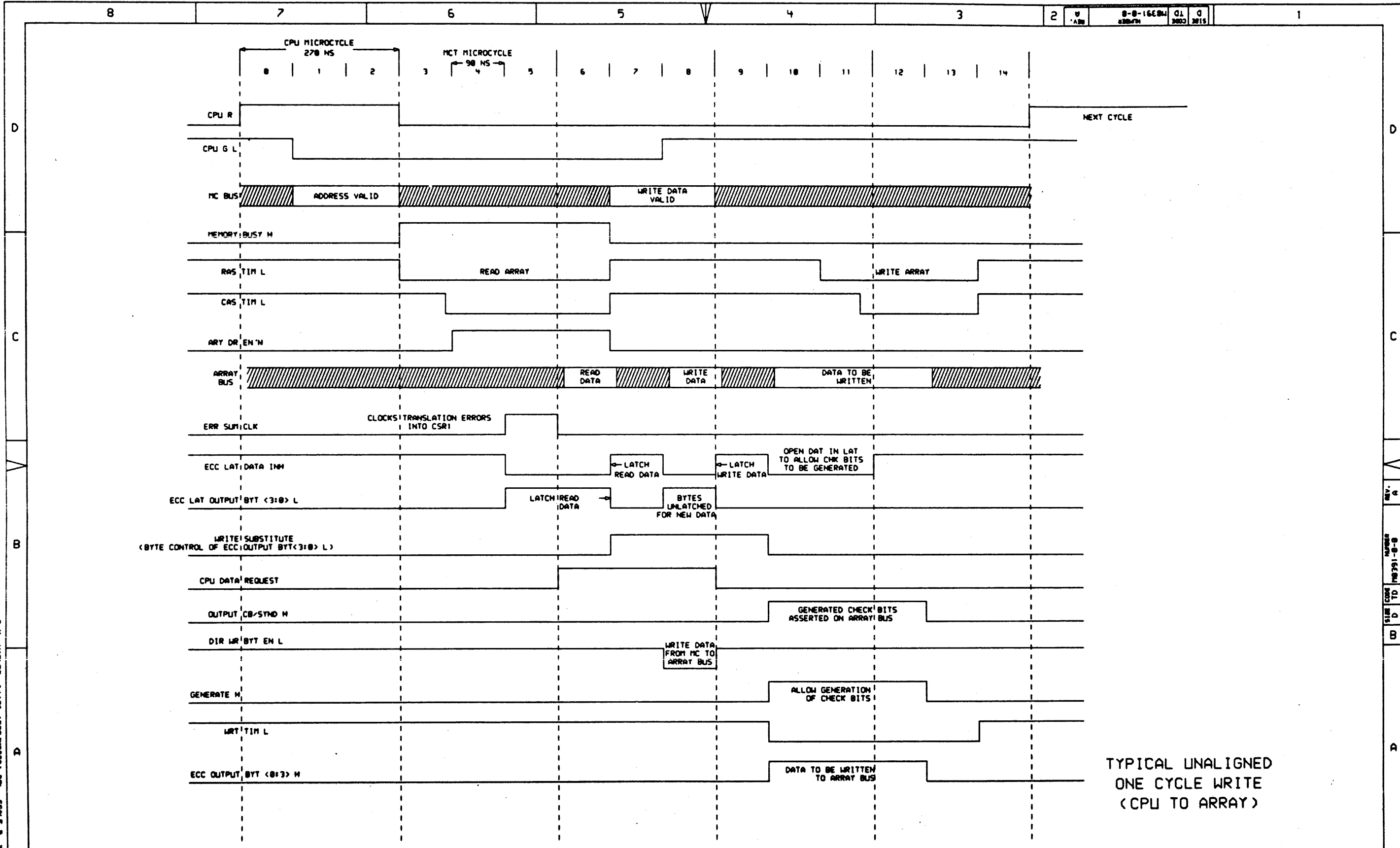
Table with 20 columns (HEX LOC, HEX DAT, BIN DAT) and 20 rows (000 to 03F) for each of the 8 sections.

PART NUMBER: 23-0402-00
DEVICE TYPE: 512 X 8
SCHEMATIC SHEET #: D-CS-M8391-0-MCTM
LOCATION/DESCRIPTION: E111 / UCODE(64:71)
LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

G.M. WARNER, [1106, 1900] DSK: 15, 12, 11, 06, 1, 500, [27-OCT-81 18:22] NEXT HIGHER ASSEMBLY: B-DD-M8391-0-0

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

digital logo, DSK: 15, 12, 11, 06, 1, 500, [27-OCT-81 18:22] NEXT HIGHER ASSEMBLY: B-DD-M8391-0-0, TITLE: MEM. CTRL. ROM AND PAL LISTINGS, SIZE CODE: D GL, NUMBER: M8391-0-0, REV.: A

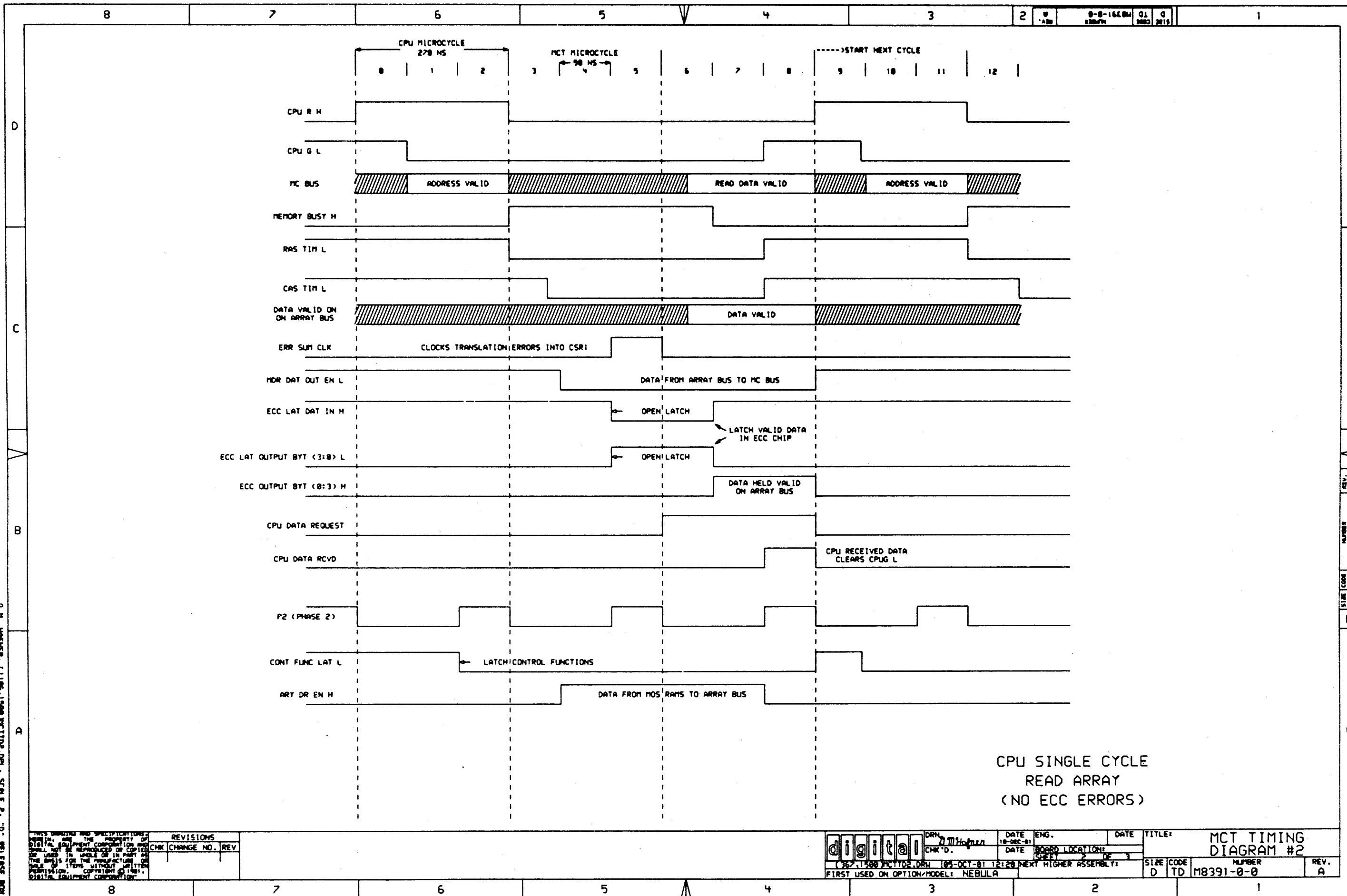


TYPICAL UNALIGNED ONE CYCLE WRITE (CPU TO ARRAY)

G.M. HARNER, (1186, 1988) PCT101 DR, SCALE 2, D, RELEASE BOX
 G.M. HARNER PCT101, PLOT 1186, 1988, 18-DEC-81 17:13

REVISIONS CHK CHANGE NO. REV		digital DRN: 2/11/88 CHK'D:		DATE ENG. 18-DEC-81 DATE 18-DEC-81	DATE TITLE:	MCT TIMING DIAGRAM #1
FIRST USED ON OPTION/MODEL: NEBULA				BOARD LOCATION:	SIZE CODE D TD	NUMBER M8391-0-0
NEXT HIGHER ASSEMBLY:						REV. A

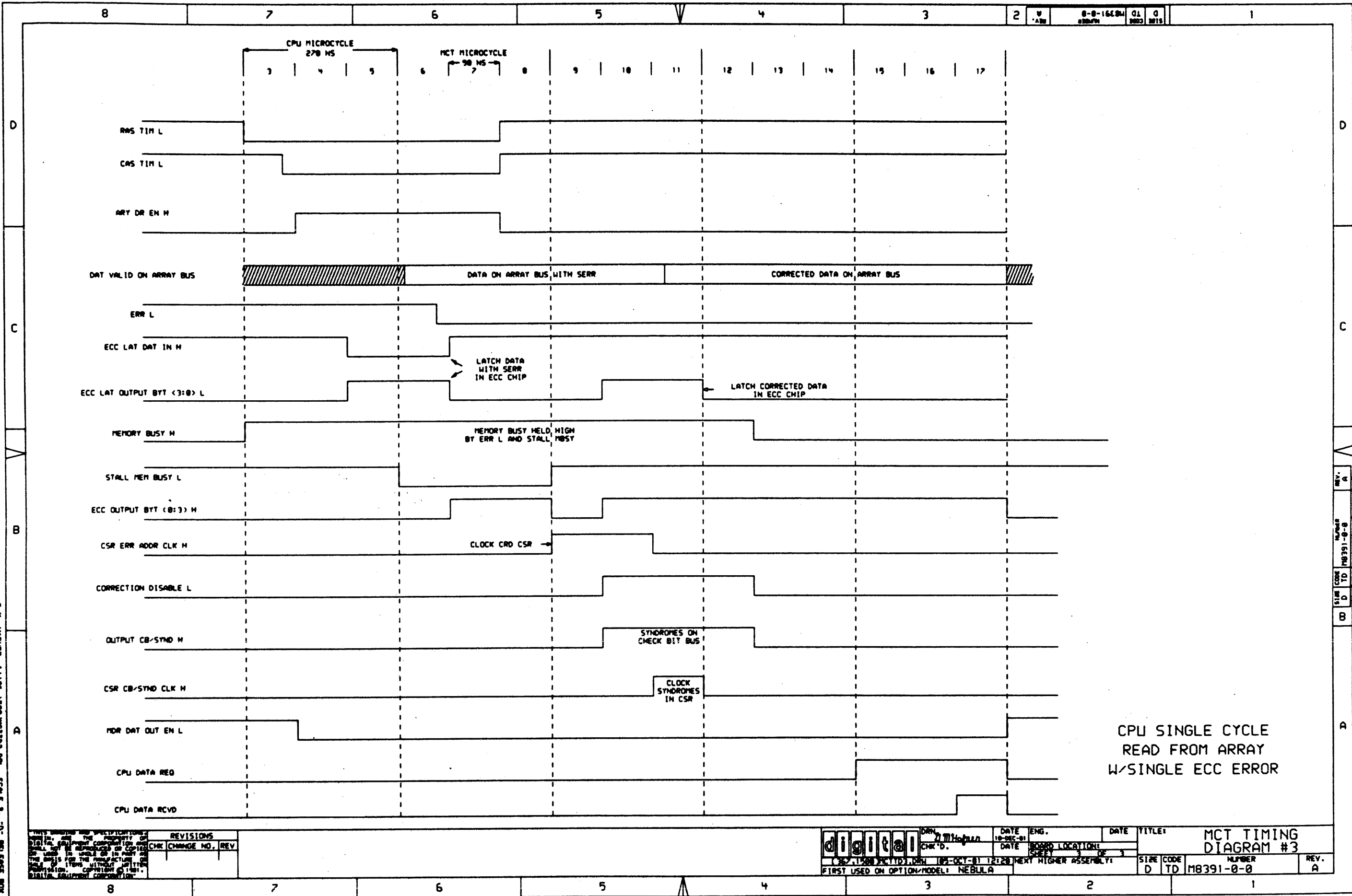
REV. A
 M8391-0-0
 D TD M8391-0-0



G.M. WARNER, 1196, 1500 JCT102, DRN, SCALE 2, "D" RELEASE 80R
 G.M. WARNER, 1500 JCT102, DRN, 1196, 1500, 18-DEC-81 171N3

REVISIONS	
CHK	CHANGE NO. REV

	DRN: M. H. H. H.	DATE: 18-DEC-81	ENG.:	DATE:	TITLE: MCT TIMING DIAGRAM #2
	CHK'D:	DATE: 18-OCT-81	BOARD LOCATION:	SHEET: 2 OF 3	SIZE CODE: D TD
(357,1500) JCT102, DRN, 1196, 1500, 18-DEC-81 171N3 NEXT HIGHER ASSEMBLY: FIRST USED ON OPTION/MODEL: NEBULA					NUMBER: M8391-0-0 REV: A



G.M. WARNER, (1106,1500) MCTD3.DWG, SCALE 2:1, RELEASE BOX
 G.M. WARNER MCTD3.PLC(1106,1500) 10-DEC-91 17:13

REV. A
 NUMBER M8391-0-0
 TD MCTD3

8

D EC 5013893-0-0 B

6

5

LAYER 1

3

2

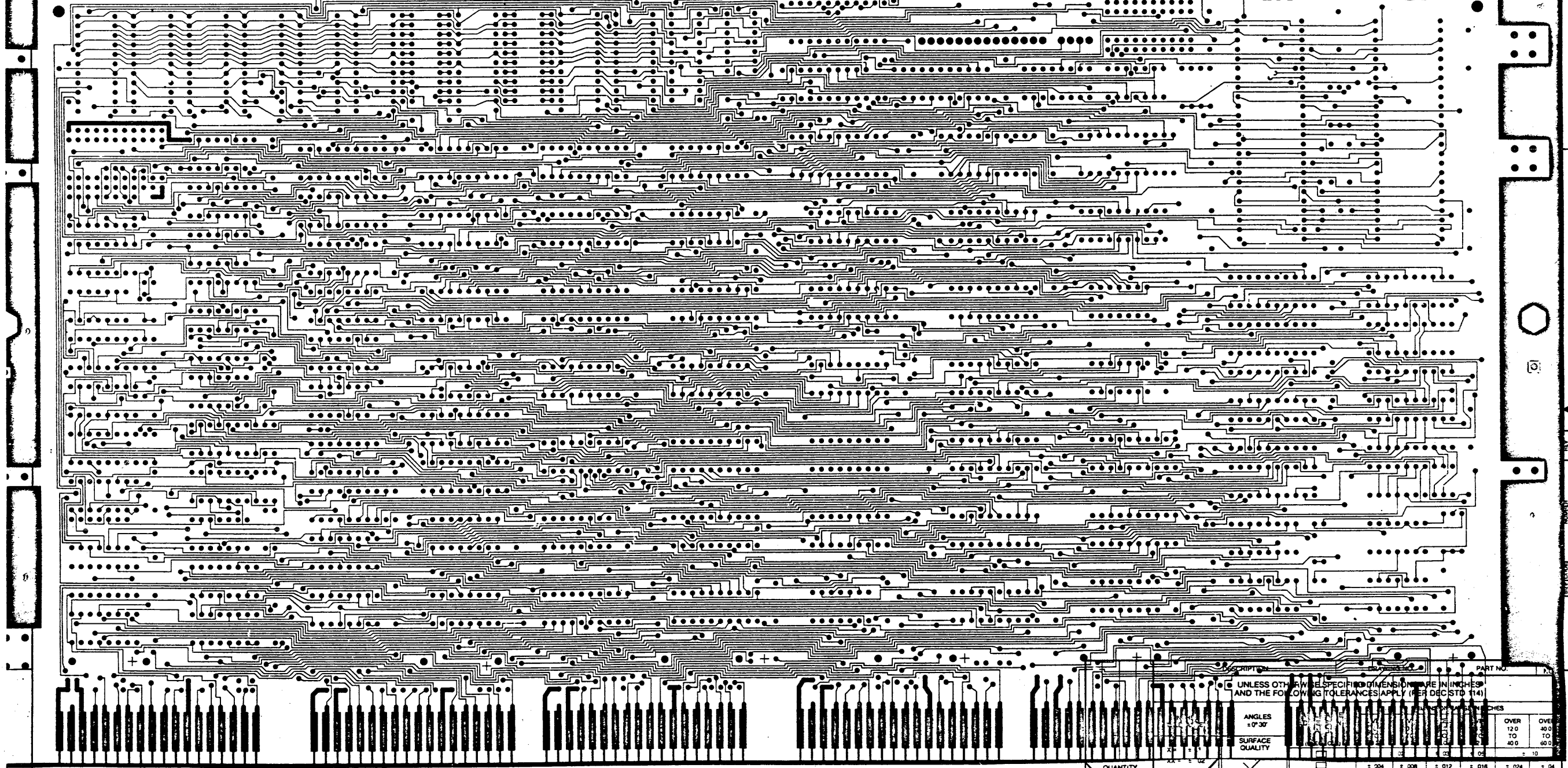
1

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CS*ABCDEFGHIJKLMNPRS
E112 E111 E99 E98 E86 E85 E74 E73 E64 E63 E62 E54 E53 E45 E25 E16 E8

SIDE 1

digital



D

C

B

D EC 5013893-0-0 B

DATE	ECO NUMBER	REV
12/18/89	1001	B
12/18/89	1001	A

REVISION HISTORY
 DATE ECO NUMBER REV
 12/18/89 1001 B
 12/18/89 1001 A
 K. OKIN
 J. M. L...

QUANTITY VARIATION	XXX ± 0%	ANGLES ± 0°30'	SURFACE QUALITY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)
THIRD ANGLE PROJECTION	DATE 7-9-80	DATE 7-9-80	DATE 8-5-80	DATE 8-8-80
DO NOT SEALE DRAWING	REMOVE BURRS AND BREAK SHARP CORNERS	MATERIAL	FINISH	NEXT SHEET DOC
TITLE		PART NO.		
ETCH CUT DRAWING		digital		
DOCUMENT NUMBER		D EC 5013893-0-0 B		
SCALE 2-1		SHEET OF 3		

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DEC 5013893-0-0 B

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1

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P80 PERIODIC TECHNOLOGY CORPORATION

LAYER 1

5013893B M8391

SIDE 2 MCT

D

C

B

A

DEC 5013893-0-0 B

REVISION HISTORY		
DATE	E.O. NUMBER	REV

TITLE
ETCH CUT DRAWING

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV
DEC	5013893-0-0	B
SCALE	2-1	SHEET 2 OF 3

8

7

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DEC 5013893 0 0 B

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REWORK INSTRUCTIONS:

ETCH CUT SIDE 2:

~~0-1 BETWEEN E108-12 TO E105-7.~~

ECO#M8391 TW001

1-1. STEP *0-1 OF THIS DRAWING IS ELIMINATED AS PER ECO M8391-TW001.

D

D

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C

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DEC 5013893 0 0 B

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE
ETCH CUT DRAWING

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV.
DEC	5013893-0-0	B
SCALE 2-	SHEET 3	OF 3

8

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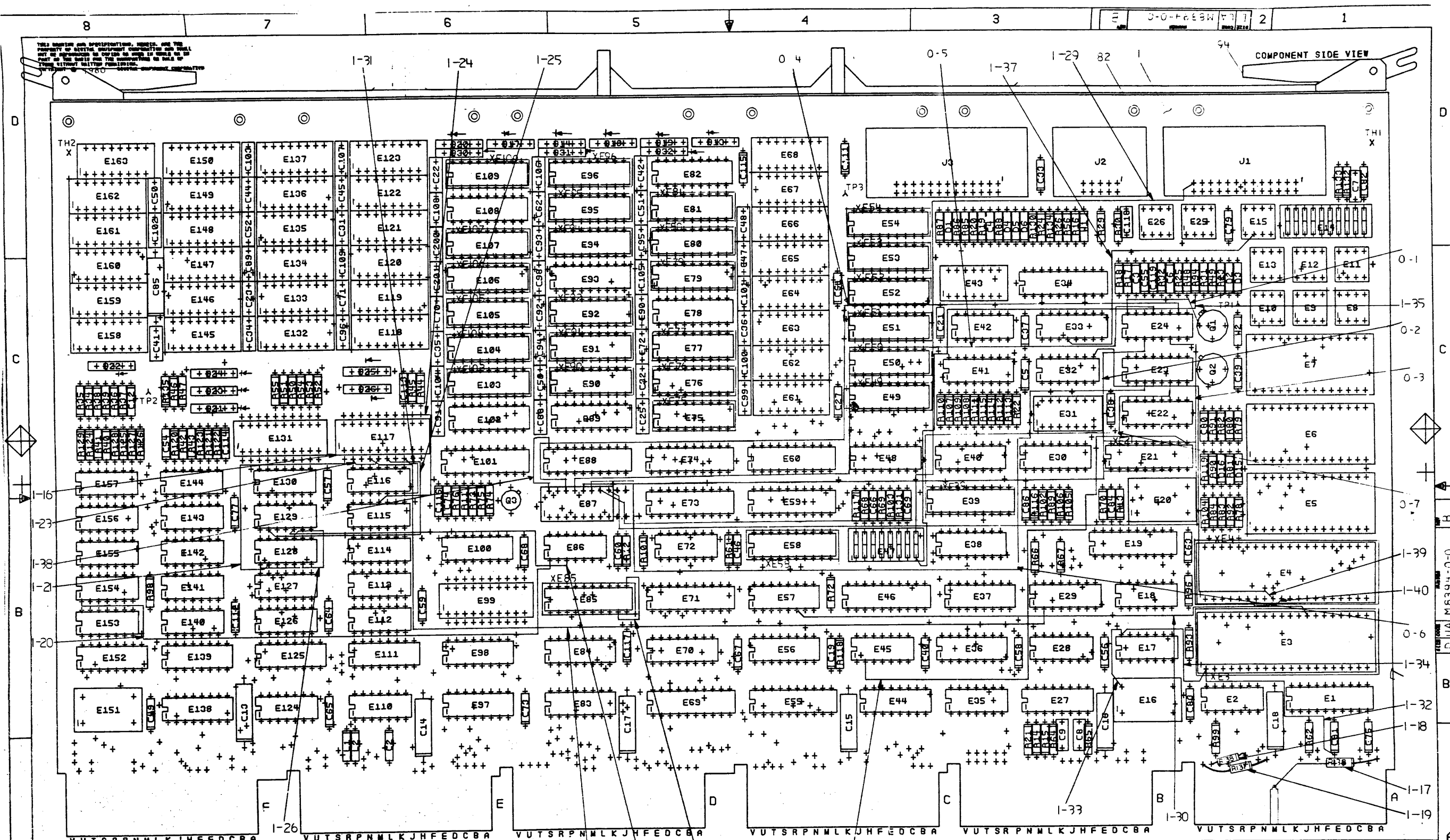
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TW

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DWG 122A



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- NOTES:**
1. SPARE I.C. LOCATIONS ARE E99, E117, E131.
 2. INSTALL SOCKET ITEM 97 AT E49 THRU E54, E75-E77, E79-E81, E90-E92, E94-E96, E103-E107, E109.
 3. INSTALL SOCKET ITEM 99 AT E21, E39, E58, E85.
 4. INSTALL SOCKET ITEM 107 AT E3, E4.

STEP	Y AXIS	STEP	TIMES
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1

CHANGE NO	REV	DATE	BY	CHK'D

ETCH REV.	DATE	BY

SIGNATURES		DATE	TITLE
DRN.			
CHK'D.	E. T. GERRY		
RECH. ENG.			
PROJ. ENG.			
SCALE	2/1	SIZE CODE	NUMBER
SHT.	1 OF 3	D	UA M6394-0-0
NEXT HIGHER ASSY. B-DD-M6394-0		REV	

digital

WCS

1 MS#170299A

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DUA M8394-0-0 R

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DUA M8394-0-0 R

VIEW FROM SIDE 2

REVISION HISTORY		
DATE	FOR NUMBER	BY

TITLE
WCS

DOCUMENT NUMBER	
NO.	REV.
DUA M8394-0-0	0
2-1	SHEET 2

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REWORK INSTRUCTIONS

- WIRE ADDS SIDE 1:**
 0-1 FROM Q1-1 TO E24-16
 0-2 FROM E24-3 TO E87-11
 0-3 FROM E24-6 TO E87-8
 0-4 FROM E24-10 TO E87-13
 0-5 FROM E24-13 TO E87-12
 0-6 FROM E23-3 TO E87-10
 0-7 FROM E23-6 TO E87-9
~~0-8 FROM E23-10 TO E87-12~~

- WIRE ADDS SIDE 2:**
~~0-9 FROM J2-4 TO J2-7~~
 0-10 FROM J2-4 TO J2-7

ECO#1

- COMPONENT ADDS:**
 1-15 STEP 0-9 HAS BEEN ELIMINATED.
 1-16 ADD A 74S175 IN SPARE LOCATION E17.
 1-17 ADD A 100 OHM RESISTOR (R136) FROM PTH, CONNECTED TO AA2, TO FINGER PIN AM1.
 1-18 ADD A 100 OHM RESISTOR (R138) FROM PTH, CONNECTED TO AVI NEAR R99, TO PTH GOING TO ARI.
 1-19 ADD A 100 OHM RESISTOR (R137) TO PTH, CONNECTED TO AVI AND NEAR PTH MENTIONED IN STEP 1-4, TO PTH CONNECTED TO AM2 NEAR C81.

- WIRE ADDS SIDE 1:**
 1-20 FROM E86-01 TO E154-01.
 1-21 FROM E117-01 TO E128-03.
 1-22 FROM E117-04 TO E29-02.
 1-23 FROM E117-02 TO E17-05.
 1-24 FROM E117-09 TO E15-11.
 1-25 FROM E117-06 TO E129-02.
 1-26 FROM E128-01 TO E128-10.
 1-27 FROM E86-03 TO E129-05.
 1-28 FROM E85-09 TO E85-11.
 1-29 FROM E47-09 TO J1-25.
 1-30 FROM E57-06 TO E3-28.
 1-31 FROM E117-08 TO E16-7.
 1-32 FROM BOTTOM OF C81 TO E3-01.
 1-33 FROM E3-4 TO E17-14.
 1-34 FROM E17-14 TO E3-01.

ECO#1

- WIRE ADDS SIDE 1:**
 1-35 FROM E47-08 TO BOTTOM OF R94.
 1-36 FROM E45-02 TO E21-11.
 1-37 FROM E15-02 TO E33-04.
 1-38 FROM E88-20 TO E87-14, REPLACES STEP 0-8.
 1-39 FROM E4-09 TO E32-08.
 1-40 FROM E4-10 TO E4-06.

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE		DOCUMENT NUMBER	
WCS		SIZE CODE	NUMBER
		DUA	M8394-0-0
		SCALE	SHEET
		2-1	3 OF 3

D
C
B
A

DUA M8394-0-0

TW

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1	1	D-ND-5014439-0-0	5014439-00	DRILL AND ETCH BRD WCS	1		
2	85		1000043-00	1000.0 MFD 250V 20% Y5F DISC	4		C7-C9,C118
3	86		1010274-01	.22 MFD 50V +80-20% Z5U CER	45		C22,C23,C25,C31,C32,C34-C36,C41, C42,C44,C45,C47,C48,C50-C53,C62, C70-C72,C88-C96,C98-C109,C200, C201
4	88		1012784-00	.047 MFD 50V +80-20% CER	49		C2-C6,C12,C19,C21,C27,C33, C37-C40,C46,C49,C54-C61,C63-C69, C73-C75,C81-C84,C111-C117,C119, C77,C79,C86
5	89		1013466-11	.22 MFD 50V +80-20% Z5U CER	1		C80
6	87		1017472-00	10 MFD 35V +50-10% AL EL	7		C13-C18,C85
7	90		1100122-00	1N 748A VZ= 3.9 5%	1		D15
8	91		1105796-00	1N 4004 PIV=400 I= 1A D041 SP	7		D1-D6,D16
9	93		1209941-09	HEADER 26POS RT ANGLE RCPT	2		J1,J3
10	92		1209941-05	HEADER,100 10POS RT ANGLE	1		J2
11	94		1216908-02	HANDLE,MODULE,HEX TWO EJECTORS	1		
12	95		1211164-04	SW,DIP 1P 1A 8POS	1		E47
13	96		1211164-06	SW,DIP 1P 1A 10POS	1		E14
14	97		1215006-03	SOCKET 10PIN IC LOW PROFILE	24		XE49-XE54,XE75-XE77,XE79-XE81, XF90-XE92,XE94-XE96,XE103-XE107, XE109
15	98		1215006-04	SOCKET 20PIN IC LOW PROFILE	4		XF21,XE39,XE85,XE88
16	2		1300197-00	33.0 .25 W 5.0 % CC	1		R80
17	3		1300229-00	100.0 .25 W 5.0 % CC	33		R11-R16,R25,R35,R37,R39,R41,R43, R45,R47,R51,R53,R61,R62,R70,R74, R93,R96,R98,R99,R101,R102, R116-R118,R135,R17,R19,R21
18	4		1300295-00	330.0 .25 W 5.0 % CC	1		R73
19	5		1300309-00	390.0 .25 W 5.0 % CC	2		R64,R65

REVISION HISTORY		BASIC PART NO: M8394		DRN:	J.CASEY	DATE:	12-JUN-80	DIGITAL			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	E.T.GERRY	DATE:	12-JUN-80	PARTS LIST			
---	INITIAL	A	SECTION VARIATION INDEX					WCS			
			(A) 00	DES.ENG:	S.LACKEY	DATE:	7-29-80	DOCUMENT NUMBER			
			(B)					SIZE	CODE	NUMBER	REV
			(C)	RESP.ENG.:	S.LACKEY	DATE:	7-29-80				
			(D)					K	PL	M8394-0-DBP	A
			(E)	MPG.ENG.:	J.CONSIDINE	DATE:	08-OCT-80	TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #
			(F)							21272.PLS	19
			(G)	ASSEMBLY NUMBER:							
			(H)	ID-UA-M8394-0-0							
			(I)								
			(J)								
			(K)								
			(L)								
			(M)								
			(N)								

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TW

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
20	6		1300316-00	470.0			R66,R67
21	7		1300365-00	1.0 K .25 W 5.0 %			R18,R20,R22,R32,R68,R69,R72,R76,
							R91,R94,R103,R119,R131
22	8		1302394-00	30.0 K .25 W 5.0 %			R24,R26,R29,R30,R56,R130,
							R132-R134
23	9		1300479-00	10.0 K .25 W 5.0 %			R89,R90,R106
24	11		1301322-00	180.0 .25 W 5.0 %			R75
25	12		1301522-00	27.0 .25 W 5.0 %			R34,R36,R38,R40,R42,R44,R50,R52,
							R54,R55,R120-R129,R46
26	13		1302177-00	47.0 K .25 W 5.0 %			R23,R31,R48,R49
27	14		1302379-00	75.0 .25 W 5.0 %			R78
28	15		1302391-00	20.0 K .25 W 5.0 %			R92
29	16		1302685-00	909.0 .25 W 1.0 %			R81,R104
30	17		1303114-00	1.0 K .25 W 1.0 %			R105
31	18		1303313-00	12.10 K .25 W 1.0 %			R86
32	19		1309295-00	1.80 K .25 W .10%			R84
33	20		1310634-00	2.67 K .25 W 1.0 %			R87
34	21		1312628-00	R NETWORK 14-176.5 14-375 16PIN			E57,E84
35	22		1312990-00	17.70 K .25 W 1.0 %			R85
36	23		1313150-00	430.0 .25 W 5.0 %			R79
37	24		1313155-00	604.0 .25 W 1.0 %			R82,R83
38	25		1313595-00	17.40 K .25 W 1.0 %			R88
39	26		1314386-00	91.0 .25 W 5.0 %			R107-R115
40	27		1501913-00	2N 2904A PNP 600MW SI 60 40 Y			Q1,Q2
41	28		1503100-00	DEC3009B NPN 200MW SI 20 25			Q3
42	29		1601562-00	1.0 UH 10% 475MA #DD1.00			L2
43	30		1612946-01	33 UH 10% 260MA			L1
44	31		1616322-00	DELAY= 75NS,5TAPS			E130
45	32		1811660-01	OSCILLATOR, XTAL 10.000 MHZ			E20
46	33		1811660-26	OSCILLATOR, XTAL 44.4444 MHZ			E151
47	34		1813951-00	OSCILLATOR, XTAL 1.0 KHZ			E16
48	35		1910532-00	74S00 NAND GATE-QUAD 2IN			E86
49	36		1910534-00	74S04 INVERTER GATE-HEX 1I			E18,E114,E124,E144,E157
50	37		1910536-00	74S10 NAND GATE-TRIPLE 3IN			E128
51	38		1910544-00	74S74 FF-D DUAL,EDGE TRIGG			E113,E140
52	39		1910545-00	74S112 FF-JK DUAL,EDGE TRIG			E41
53	40		1910550-00	74S174 FF-D HEX			E38
54	41		1910552-00	74S194 SHIFT REG.,4BIT RIGH			E98,E111,F125,E138,E139,R152
55	42		1910957-00	74S175 FF-D QUAD COMMON CLO			E36,E97
56	43		1911579-00	8641 TRANSCEIVER,BUS,QUA			E27,E44,E56,E70,E83
57	44		1911676-00	74S139 DECODER-DUAL TWO-INP			E30,E100
58	45		1911712-00	74S51 AND-OR GATE-INVERT D			E35,E127
59	46		1912108-00	339 VOLT CMPTR,QUAD			E31
60	47		1912300-00	74S02 NOR GATE-QUAD 2IN,PO			E112
61	48		1912647-00	LS257 MUX 1 OF 2 (QUAD)			E23,E24
62	49		1912648-00	LS251 MUX 8 INPUT,TRI-STA			E29,E33
63	50		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN			E110,E115,E129
64	51		1912799-00	LS00 NAND-GATE-QUAD 2IN,P			E17,E32

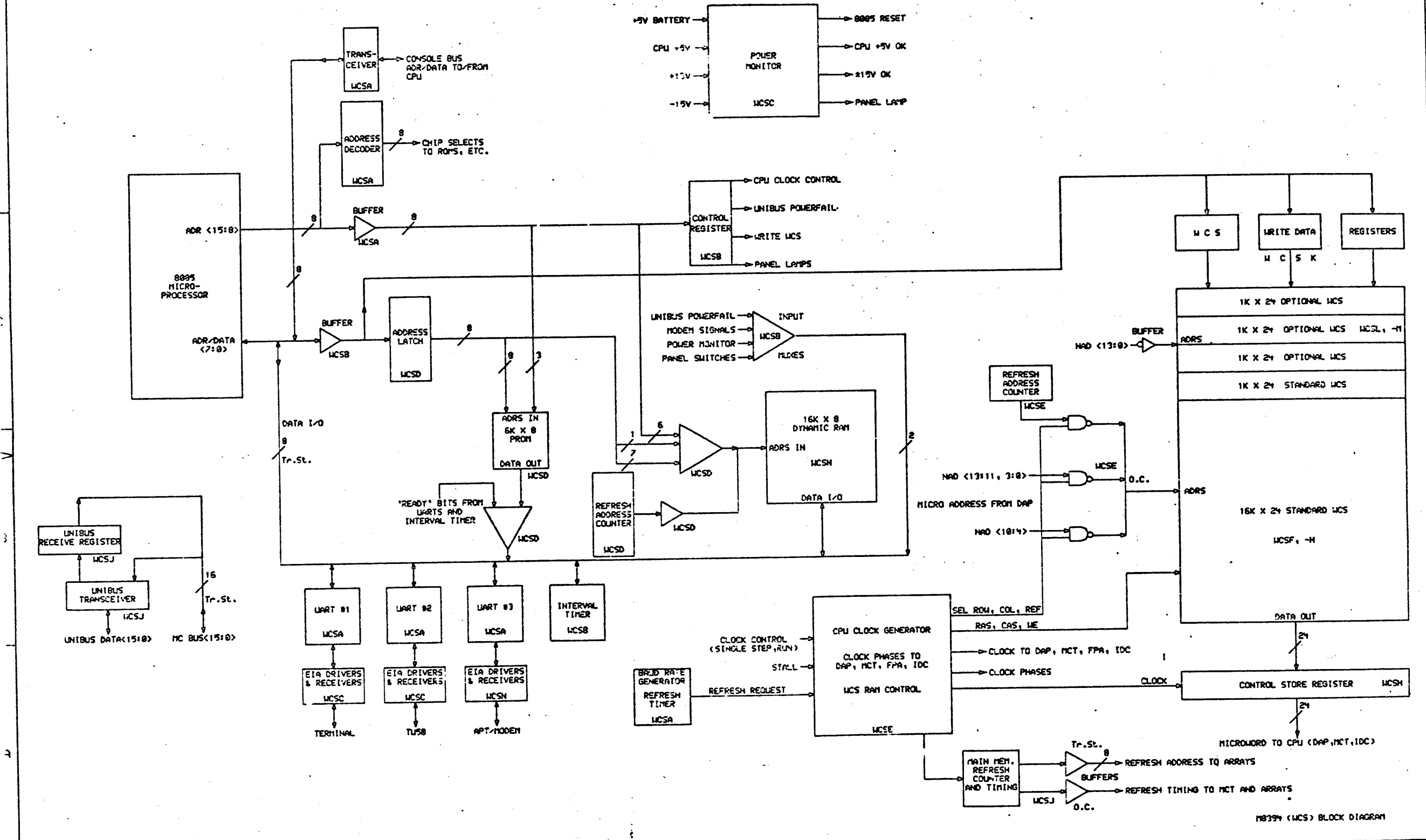
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							WCS				M8394-0-DBP	A

TW

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
65	52	1912808-00	LS11 AND GATE-TRIPLE 3IN	1	E28
66	53	1912824-00	LS74 FF-D DUAL,EDGE TR'GG	1	E42
67	54	1912830-00	LS90 COUNTER,ASYNCH UP,DE	1	E43
68	55	1912860-00	LS259 LATCH 8BIT	2	E22,E37
69	56	1913340-00	74S32 OR GATE-QUAD 2IN	1	E116
70	57	1913462-00	74S240 OCTAL BUFFER,INVERTI	2	E46,E34
71	58	1913493-00	74S241 OCTAL BUFFER,TRI-STA	1	E19
72	59	1913670-00	74S373 LATCH 8BIT TRASP TR	3	E55,E60,E69
73	60	1913671-00	74S374 FF-D OCTAL TRISTATE	1	E71
74	61	1913777-00	LS240 DRIVER,LINE,OCTAL,T	1	E1
75	62	1913887-00	74S258 MUX 1 OF 2(QUAD)TRI	2	E40,E48
76	63	1914214-00	LS374 FF-D OCTAL EDGE TRIG	3	E74,E98,E101
77	64	1914451-00	74LS393 COUNTER,BINARY,4BIT	4	E2,E45,E72,E154
78	65	1915019-00	74S38 NAND BUFFER-QUAD 2IN	7	E126,E141-E143,E153,E155,E156
79	66	1915218-00	LS245 TRANSCEIVER,BUS,OCT	1	E73
80	67	1915219-00	LS373 FF-D OCTAL-TRANSPARE	1	E59
81	68	1915415-00	9636 DRIVER,DUAL,EIA RS-	4	E13,E9,E10,E12
82	69	1915416-00	9637 RECEIVER,DUAL,RS-42	5	E8,E11,E15,E25,E26
83	70	2115103-00	RECEIVER-PCI	3	E5-E7
84	71	2116957-02	1K MOS RAM 70NS 1	6	E78,E82,E89,E93,E102,E108
85	72	2116962-00	UP,8-BTT NMOS .8MICRO SEC. INSTR	1	E4
86	73	2117247-02	2118-1	8	E61-E68
87	74	2117247-04	2118 PAM,16KX1,DYNAMIC,10	24	E118-E123,E132-E137,E145-E150, E158-E163
88	75	2117497-00	9513 SYSTEM TIMING CONTRO	1	CONT E3
89	77	23002K5-00	K5-01	1	E85
90	78	23012K4-00	K4-01 PAL ARRAY	1	E39
91	79	23024K3-00	K3-01 PAL,REG, CONT	1	E58
92	80	23045J5-00	J5-01 PAL,LOGIC,CONT	1	E21
93	81	7010918-01	DIODE STICK G652	15	D13,D14,D17-D26,D30-D32
94	82	9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
95	83	9009149-00	PIN, STAKING, P.C. BOARD, .025 X	3	TP1-TP3
96	84	9009185-00	JUMPER, WIRE, INSULATED, BLACK B	2	W1,W2
97	100	1300005-04	R NETWORK 15-470 5.0 % 16PIN	1	E87
98	102	23034F2-00	F2-01	1	E54
99	103	23035F2-00	F2-01	1	E53
100	104	23036F2-00	F2-01	1	E51
101	105	23037F2-00	F2-01	1	E49
102	106	1215006-02	*** THIS ITEM IS NOT USED ***	-	
103	107	1215006-08	SOCKET 40PIN IC LOW PROFILE	2	XE3,XE4

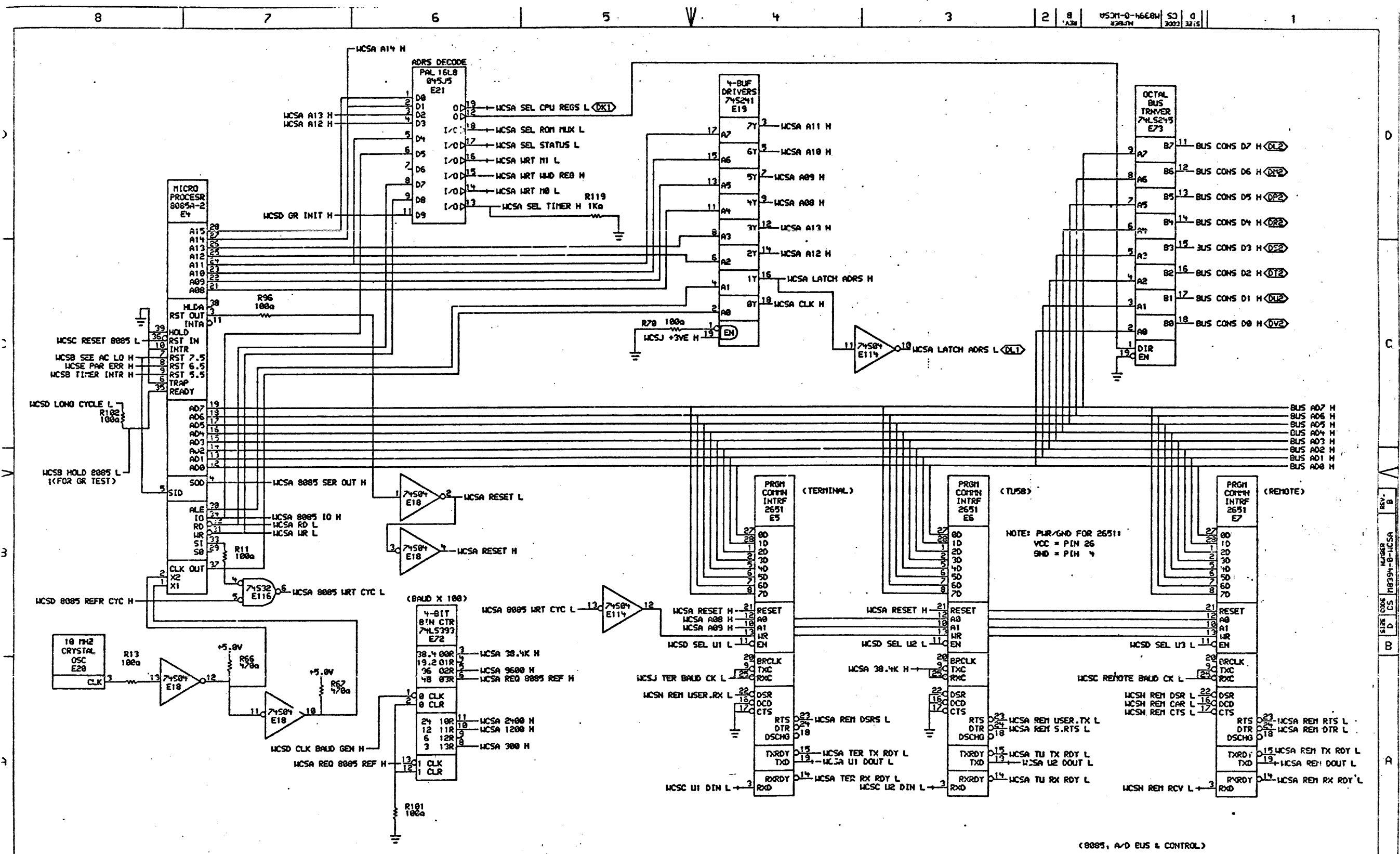
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							WCS		K	PL	M8394-0-DBP	A

TW



REVISIONS		DATE	ENG.	DATE	TITLE:
1	11/730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
2	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
3	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
4	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
5	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
6	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
7	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM
8	11730 WCS	26-SEP-81	M. Hoffman	26-SEP-81	BLOCK DIAGRAM

11730 WCS BLOCK DIAGRAM
 SIZE: D BD
 NUMBER: M8394-0-0
 REV. A

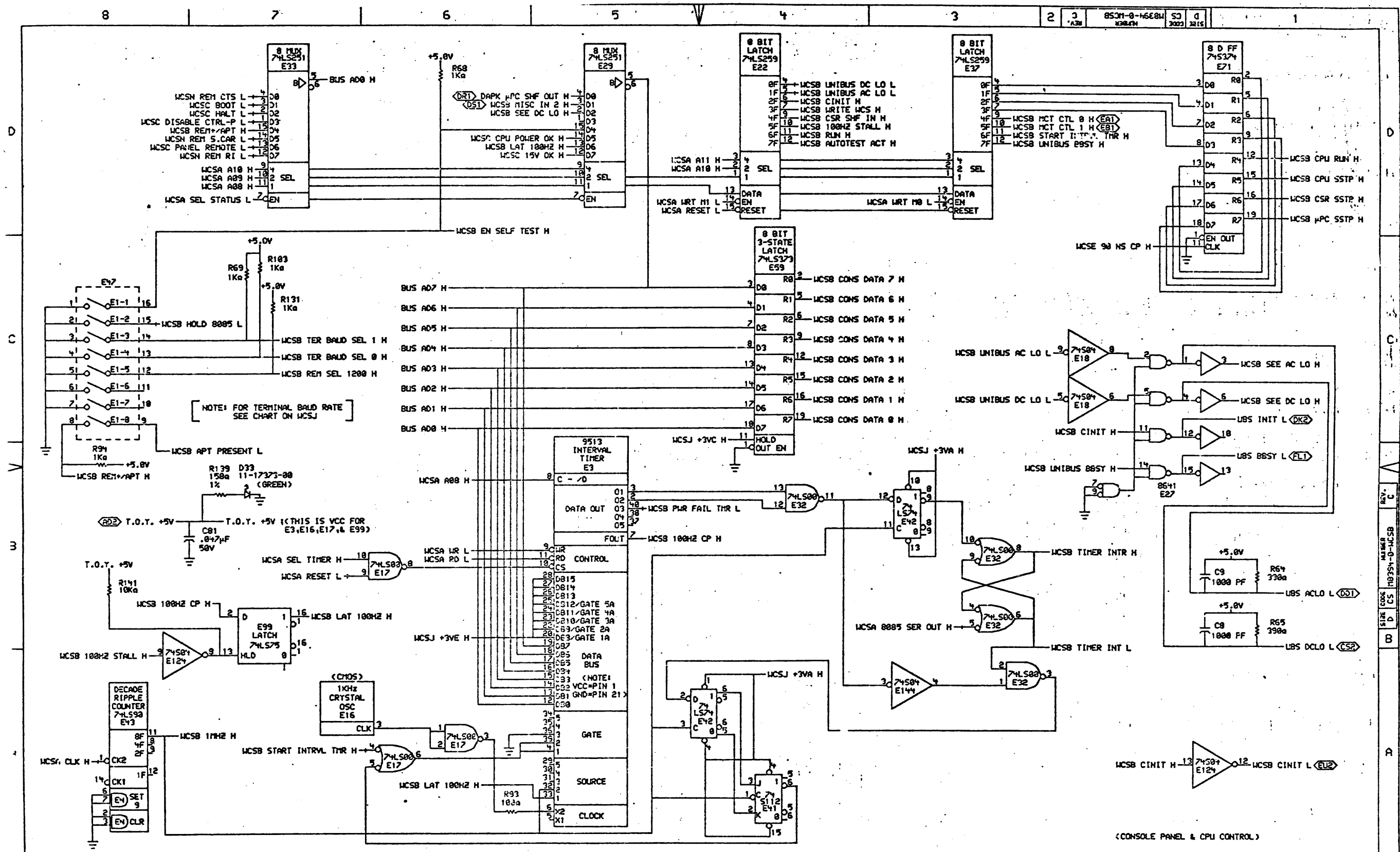


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REVISIONS	
CHK	CHANGE NO. REV

DATE	ENG.	DATE	TITLE
01-24-82			NEBULA WCS, MEM & CONSOLE (WCSA)
10-DEC-81			
11-7-80			

SIZE	CODE	NUMBER	REV.
D	CS	M8394-0-WCSA	B

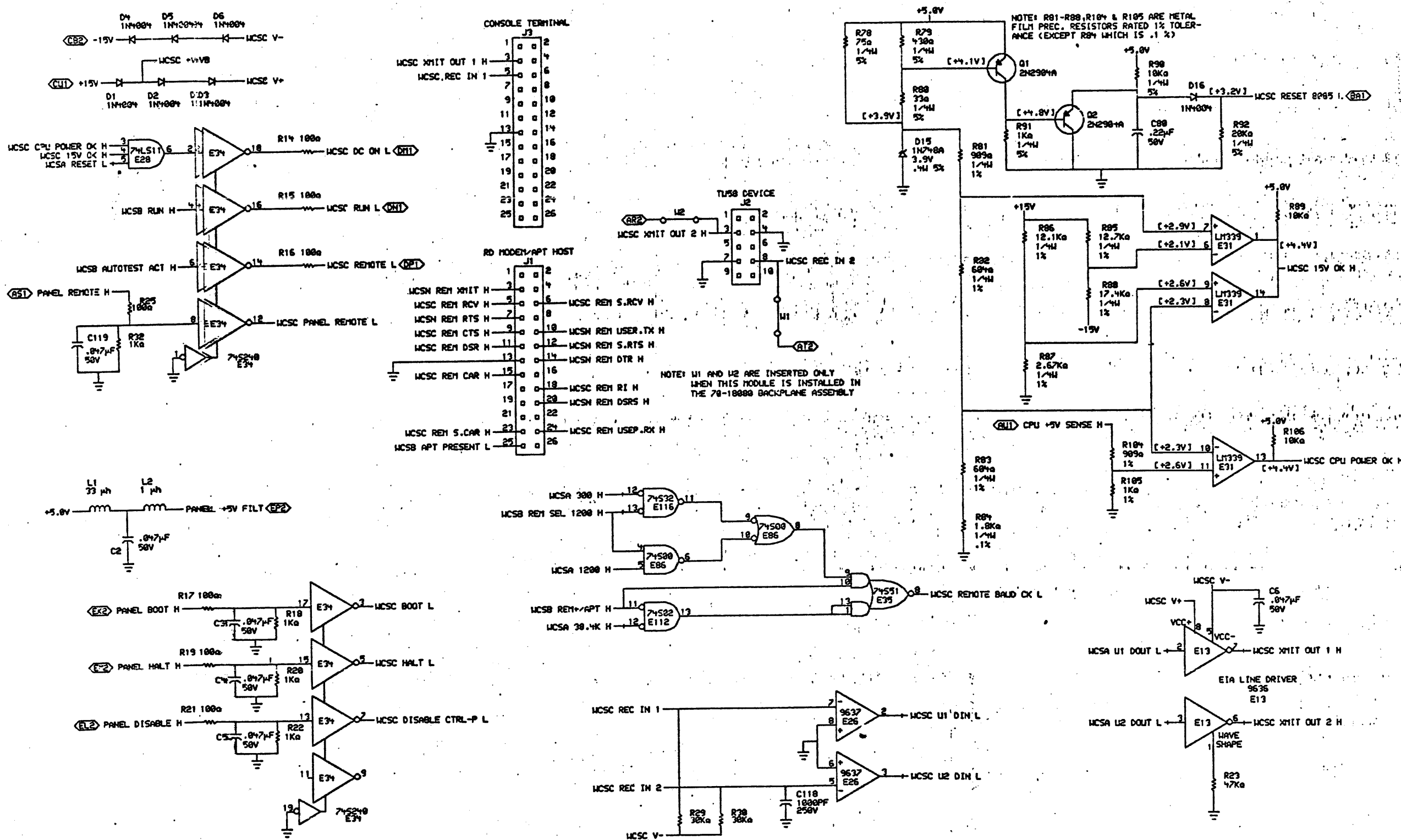


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REV.	CHANGE NO.	REV.
1		

DRN	DATE	ENG.	DATE	TITLE:
CHK'D.	01-29-82	M. Hoffman		NEBULA WCS, MEM & CONSOLE (WCSB)
CHECK'D.	DATE	BOARD LOCATION:	OF	
			1	
	18-DEC-81 14:40	NEXT HIGHER ASSEMBLY:	SIZE	CODE
FIRST USED ON OPTION MODEL:	11/730	B-DD-11730-8	D	CS
			NUMBER	REV.
			M8394-0-WCSB	C

REV. C
MEMBER M8394-0-WCSB
SIZE CODE CS 18394-0-WCSB

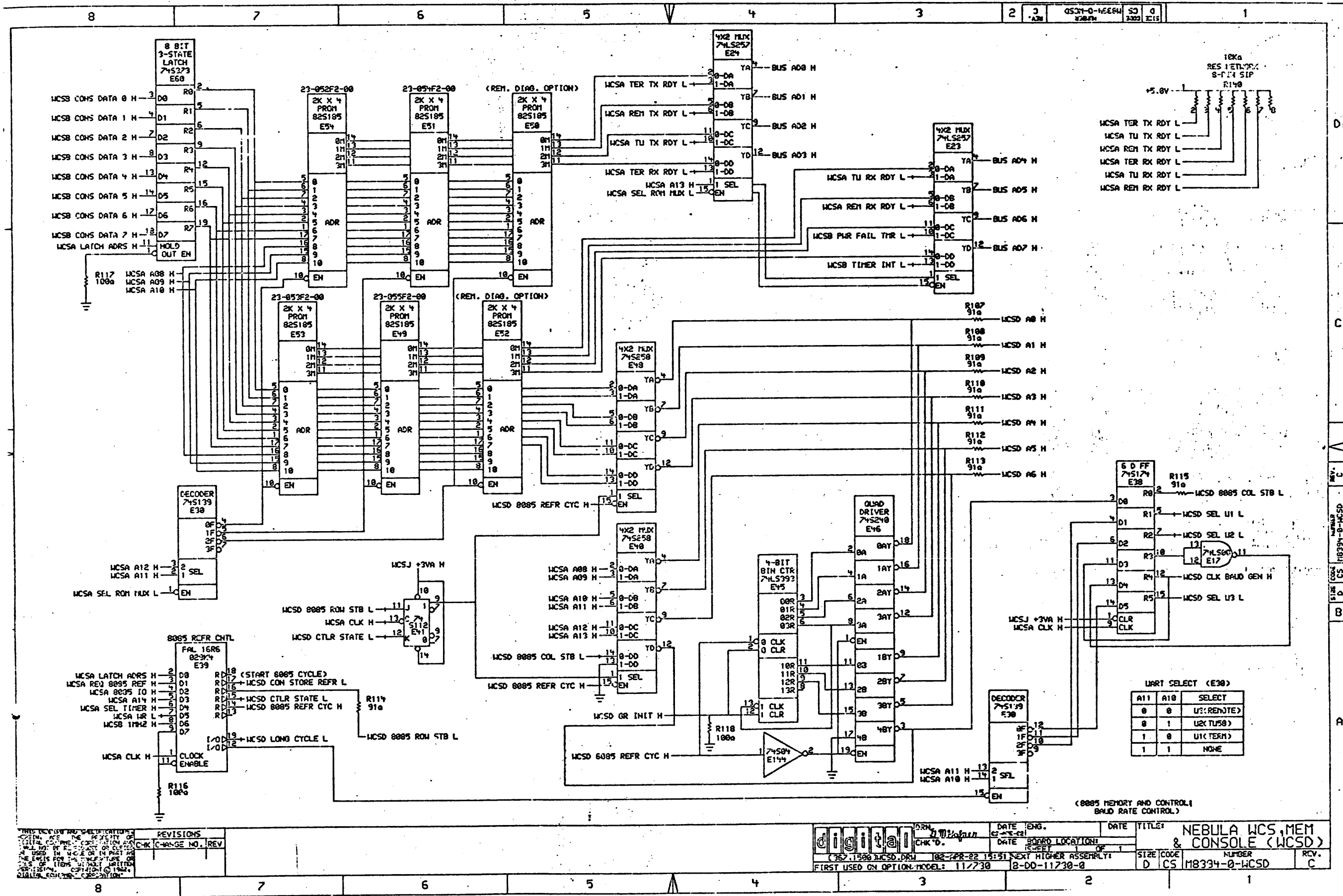


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REV.	NO.	DATE	BY	CHK'D.
1	1	10-DEC-81	14:40	11/730

REV.	NO.	DATE	BY	CHK'D.
1	1	10-DEC-81	14:40	11/730

REV.	NO.	DATE	BY	CHK'D.
1	1	10-DEC-81	14:40	11/730



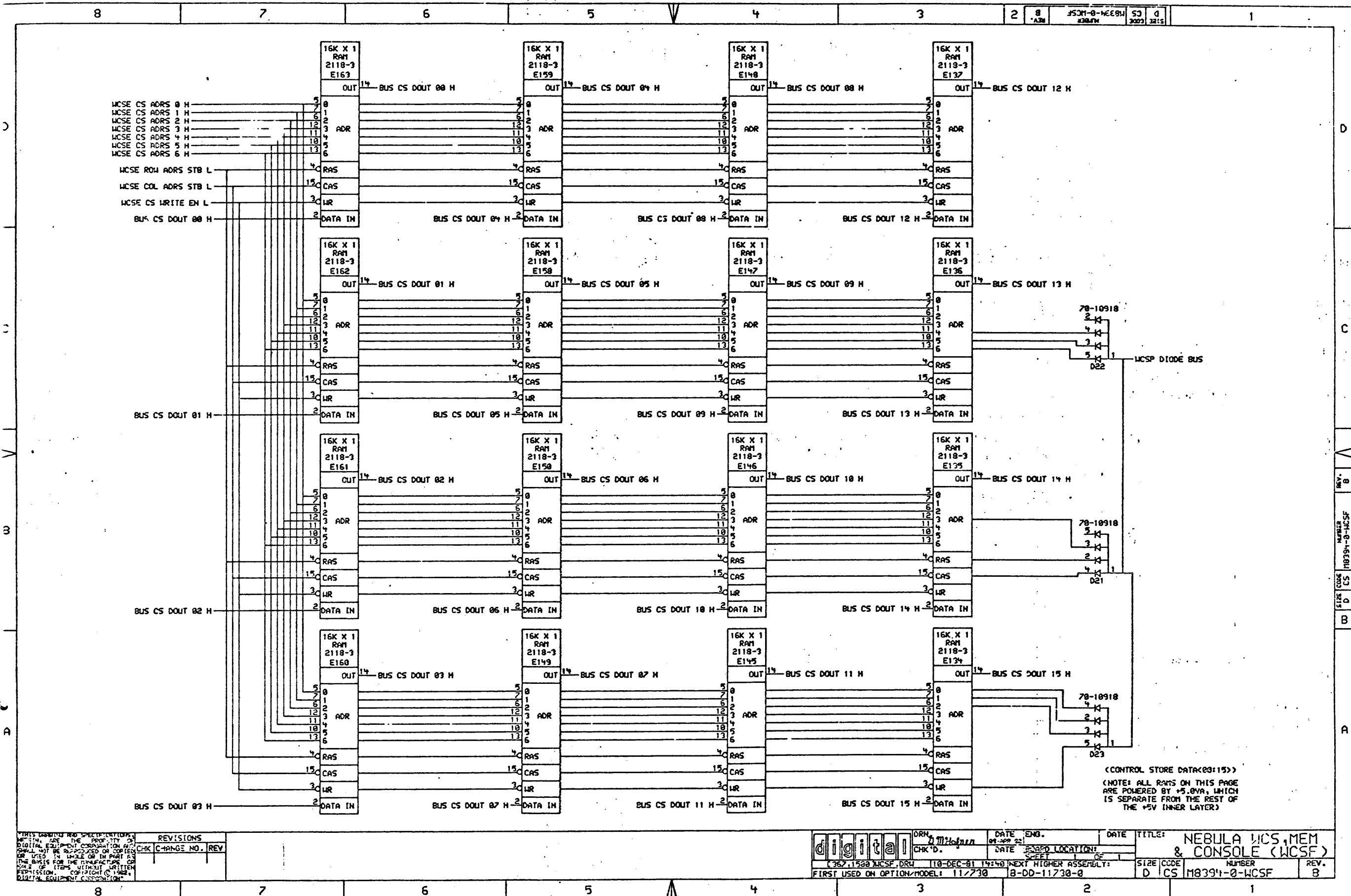
UART SELECT (E30)

A11	A10	SELECT
0	0	U1 (RENTE)
0	1	U2 (TUS8)
1	0	U1 (TERM)
1	1	NONE

REVISIONS

CHK	CHANGE NO.	REV

digital
 DATE ENG. 11/730
 DATE BOARD LOCATION 11/730
 DATE 11/730
 TITLE: NEBULA WCS, MEM & CONSOLE (WCSD)
 SIZE CODE D CS
 NUMBER M8394-0-WCSD
 REV. C
 FIRST USED ON OPTION MODEL: 11/730
 NEXT HIGHER ASSEMBLY: 11/730
 BOARD LOCATION: 11/730

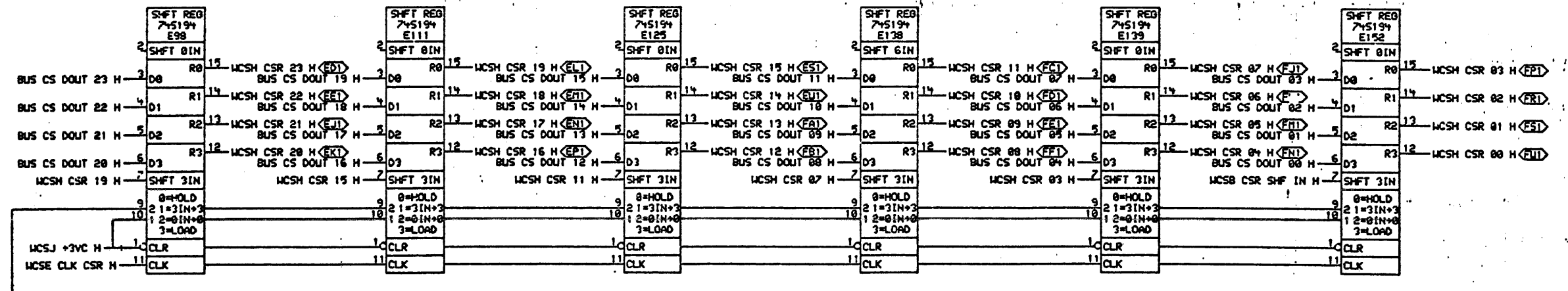
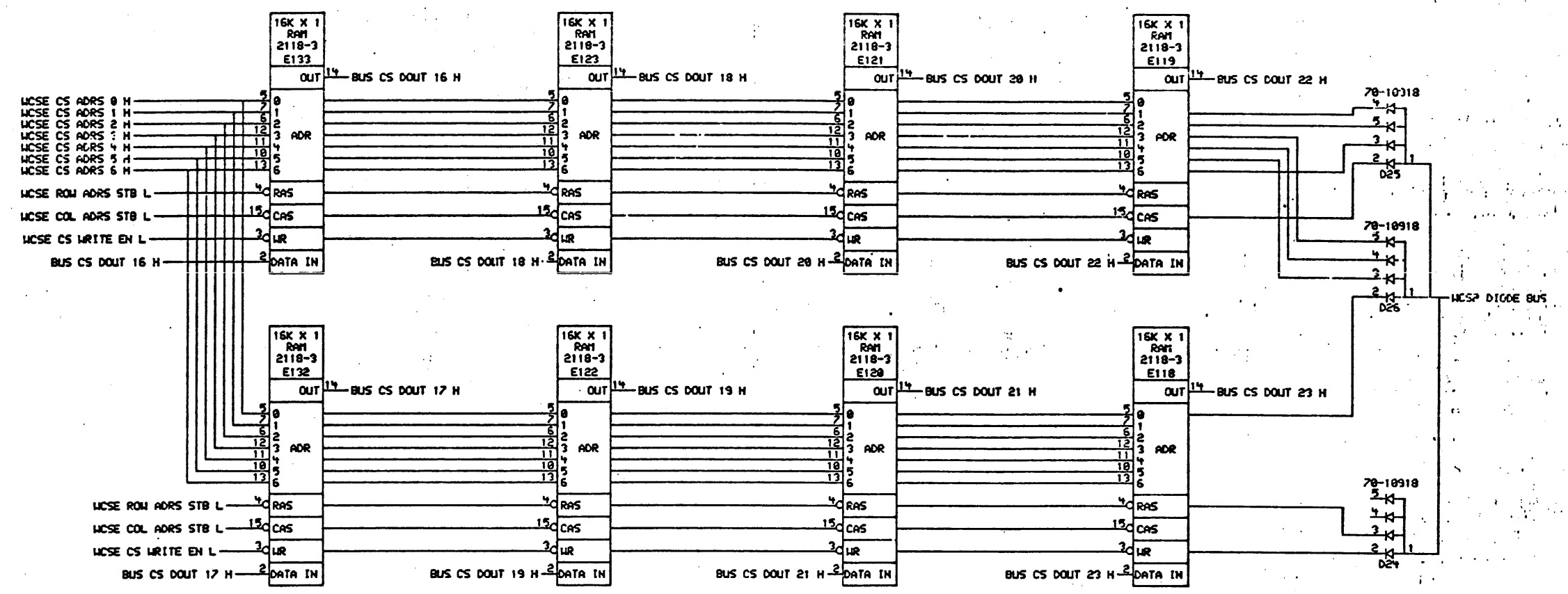


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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN. M. Hoffman	DATE ENO. 09-29-81	DATE	TITLE: NEBULA WCS MEM & CONSOLE (WCSF)
	CHK'D.	DATE 10-DEC-81 14:40	DATE	
FIRST USED ON OPTION/MODEL: 11/730				

REV. B
 SIZE CODE NUMBER
 D CS M8394-0-WCSF



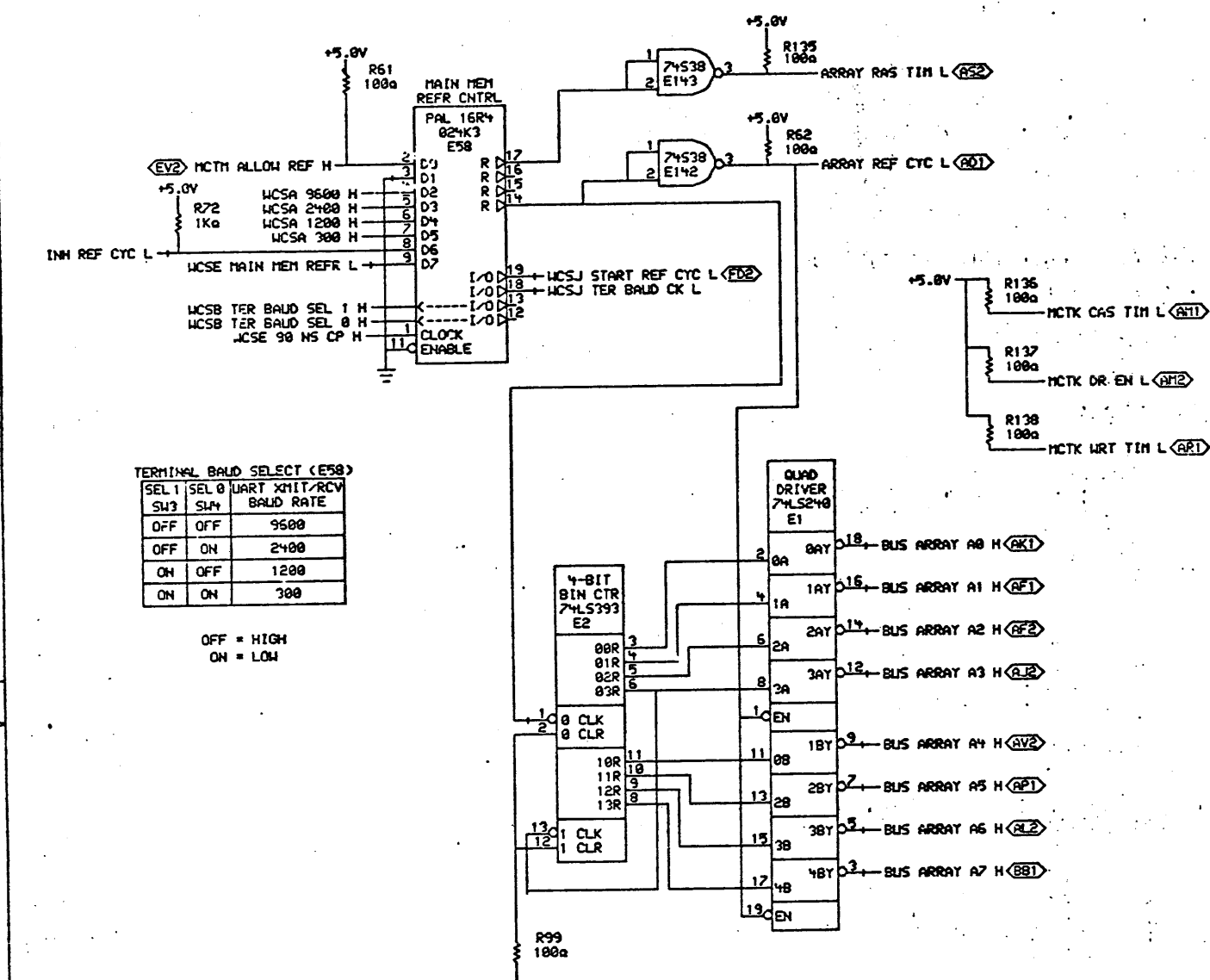
(CONTROL STORE BITS(16+23),
 CSR AND ADDRESS LINE TERM)
 (NOTE! ALL 16K RAMS ON THIS PAGE
 ARE POWERED BY +5.0VA, WHICH
 IS SEPARATE FROM THE REST OF
 THE +5V (INNER LAYER))

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REVISIONS	
CHK	CHANGE NO. REV

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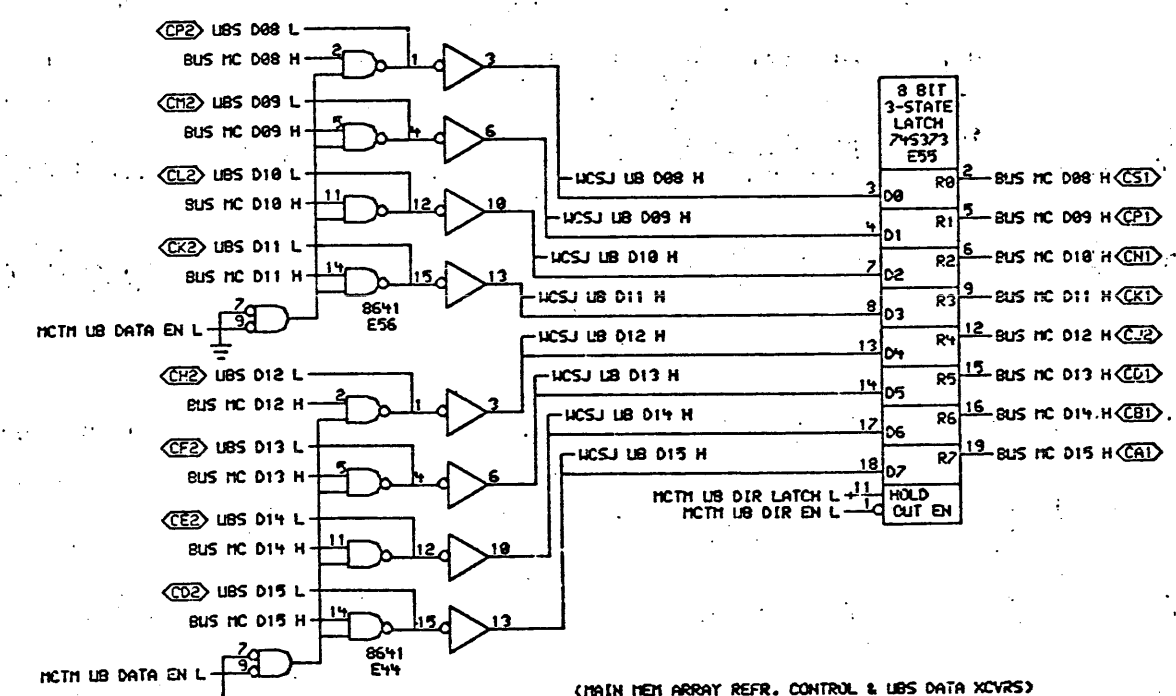
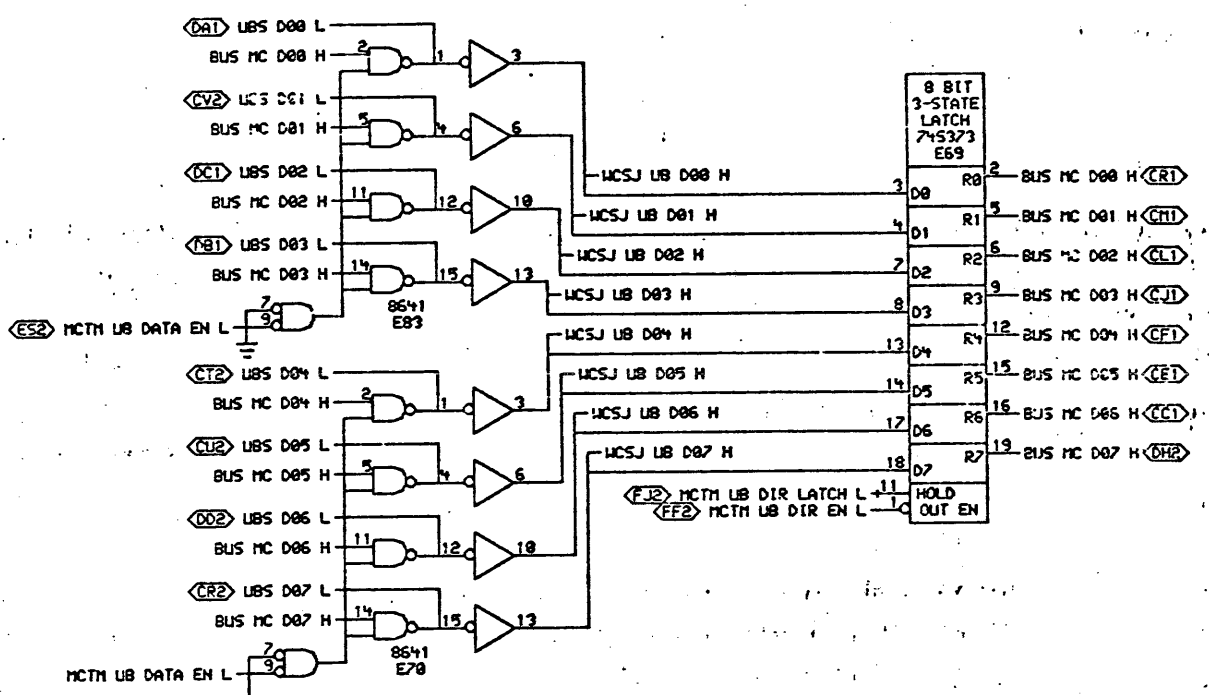
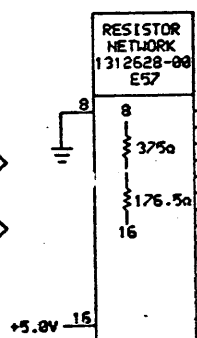
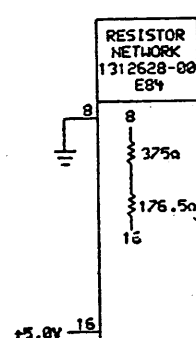
digital	DRN	DATE	ENG.	DATE	TITLE:
	CHK'D.	10-DEC-81	M.Holmes	8-00-11730-0	NEBULA WCS, MEM & CONSOLE (WCSH)
C367, 1538 WCSH.DPH		11-7-80	NEXT HIGHER ASSEMBLY:	SIZE CODE	NUMBER
FIRST USED ON OPTION MODEL: 117730		8-00-11730-0		D CS	M8394-0-WCSH
					REV. 8



TERMINAL BAUD SELECT (E58)

SEL 1	SEL 0	UART XMIT/RV	BAUD RATE
OFF	OFF		9600
OFF	ON		2400
ON	OFF		1200
ON	ON		300

OFF = HIGH
ON = LOW

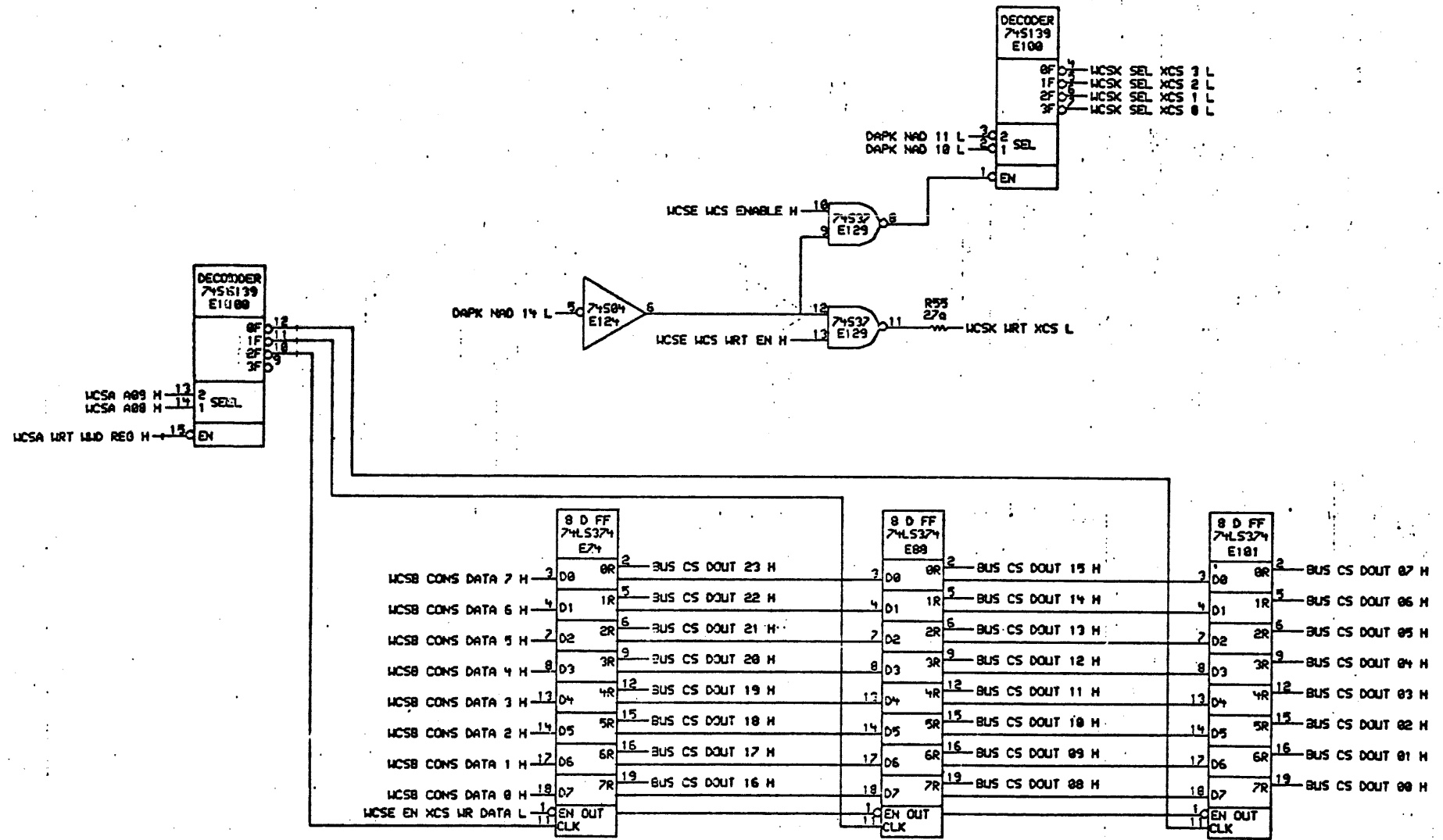


(MAIN MEM ARRAY REFR. CONTROL & UBS DATA XCVRS)

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN. <i>M.Hofman</i>	DATE ENG. 01-22-81	DATE	TITLE: NEBULA WCS, MEM & CONSOLE (WCSJ)
	CHK'D.	DATE BOARD LOCATION	SHEET	REV. B
C367,1588 WCSJ.DRW		10-DEC-81 14:40	NEXT HIGHER ASSEMBLY:	SIZE CODE D CS
FIRST USED ON OPTICAL MODEL: 11/2/80		8-DD-11/20-0		ML'SER M8394-0-WCSJ

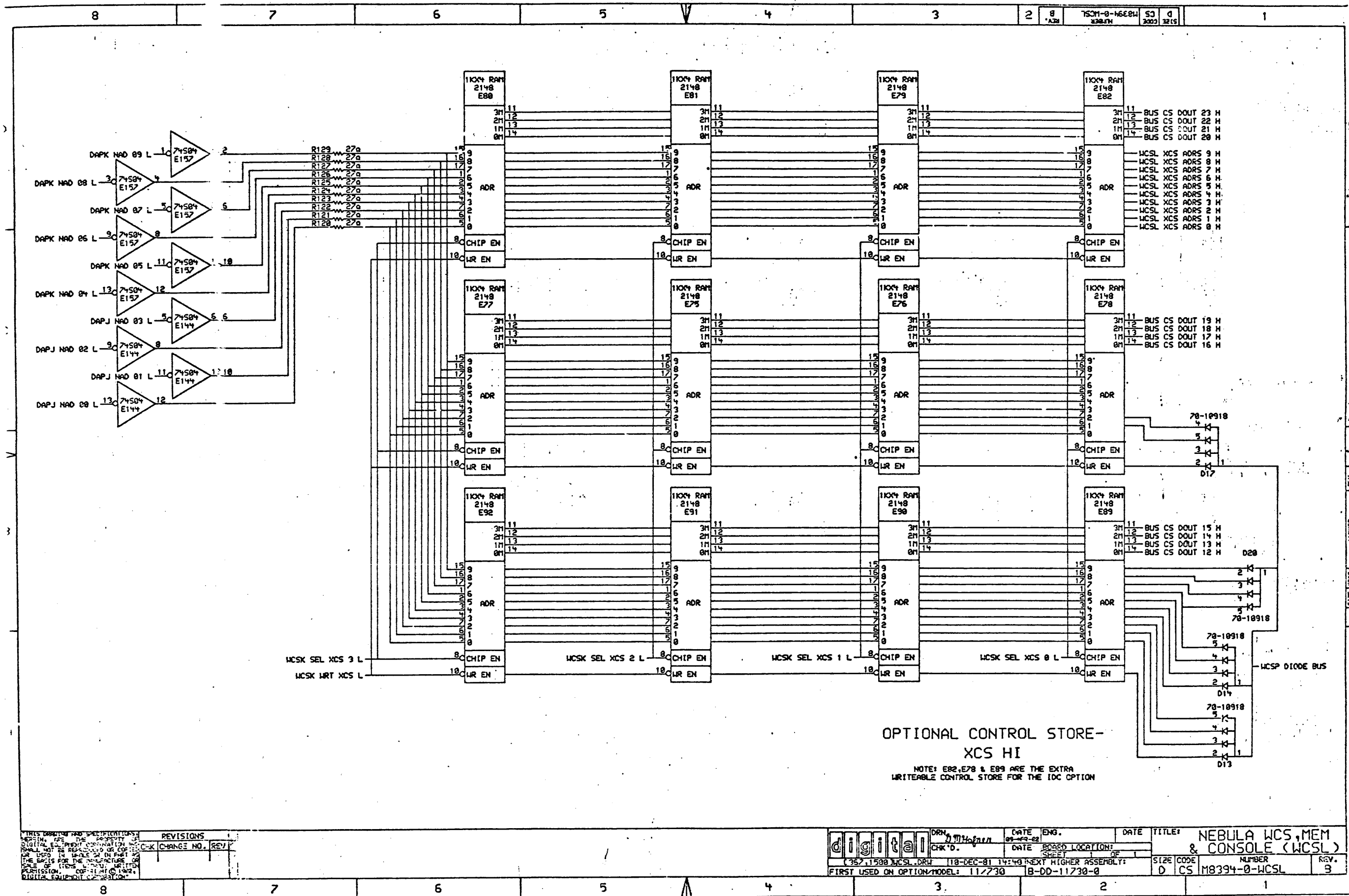


(XCS WRITE AND SELECT CONTROL & BUS CS DRIVERS)

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REVISIONS		
CHK	CHANGE NO.	REV.

digital	DRN. <i>D. M. Hoffman</i>	DATE ENG. 08-04-81	DATE	TITLE
	CHK'D.	DATE BOARD LOCATION		NEBULA WCS, MEM & CONSOLE (WCSK)
FIRST USED ON OPTION/MODEL: 112730		110-DEC-81	14148	NEXT HIGHER ASSEMBLY
SIZE CODE	D CS	NUMBER	M8394-0-WCSK	REV. B

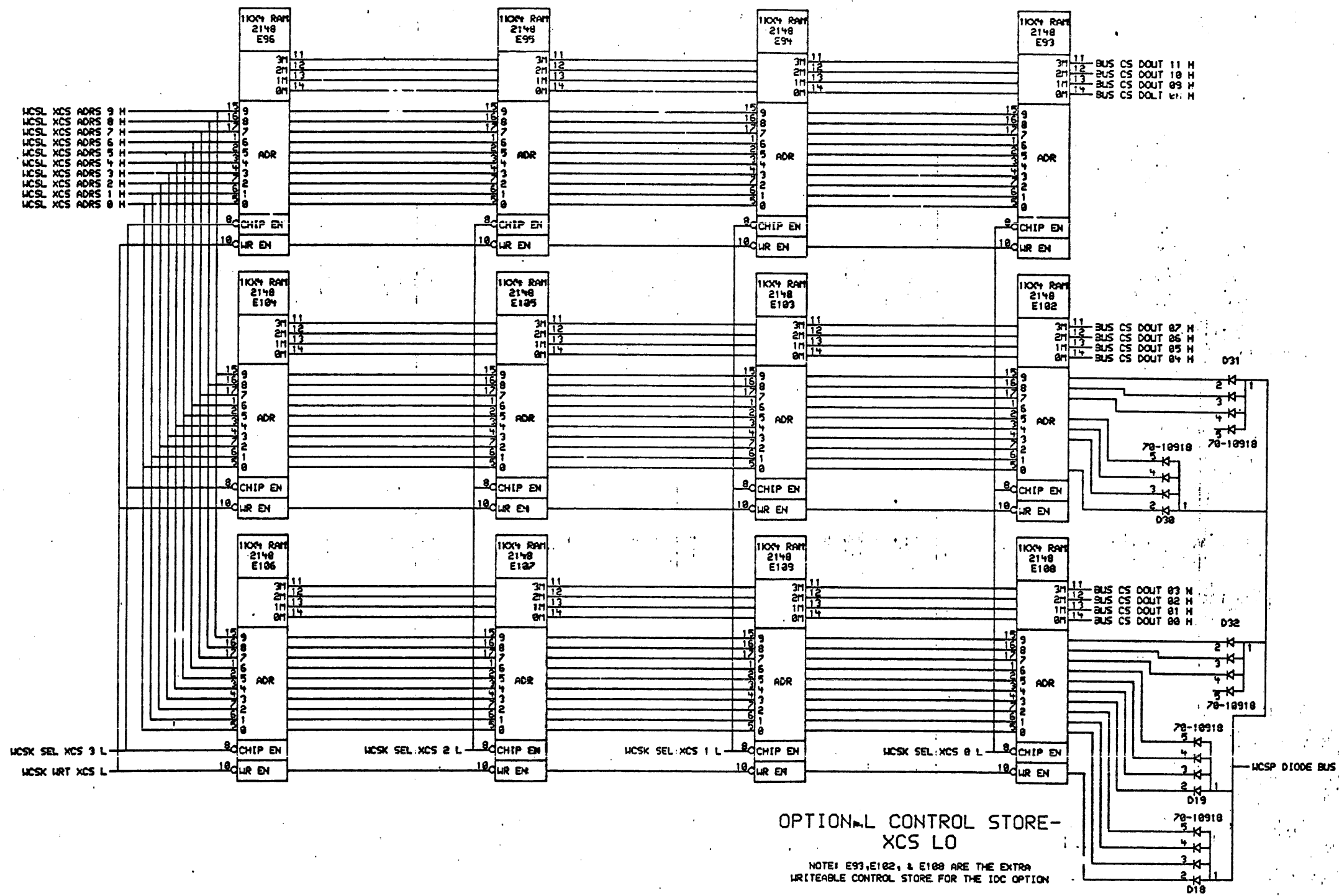


OPTIONAL CONTROL STORE-
XCS HI

NOTE: E82, E78 & E93 ARE THE EXTRA
WRITEABLE CONTROL STORE FOR THE IOC OPTION

REV.	CHG.	NO.	REV.

digital	DRW.	DATE	ENG.	DATE	TITLE		
	CHK'D.	DATE	BOARD LOCATION:	SHEET	OF		
FIRST USED ON OPTION MODEL: 11/730		18-DEC-81 14:40 NEXT HIGHER ASSEMBLY: 18-DD-11730-0		SIZE	CODE	NUMBER	REV.
				D	CS	M8394-0-WCSL	3

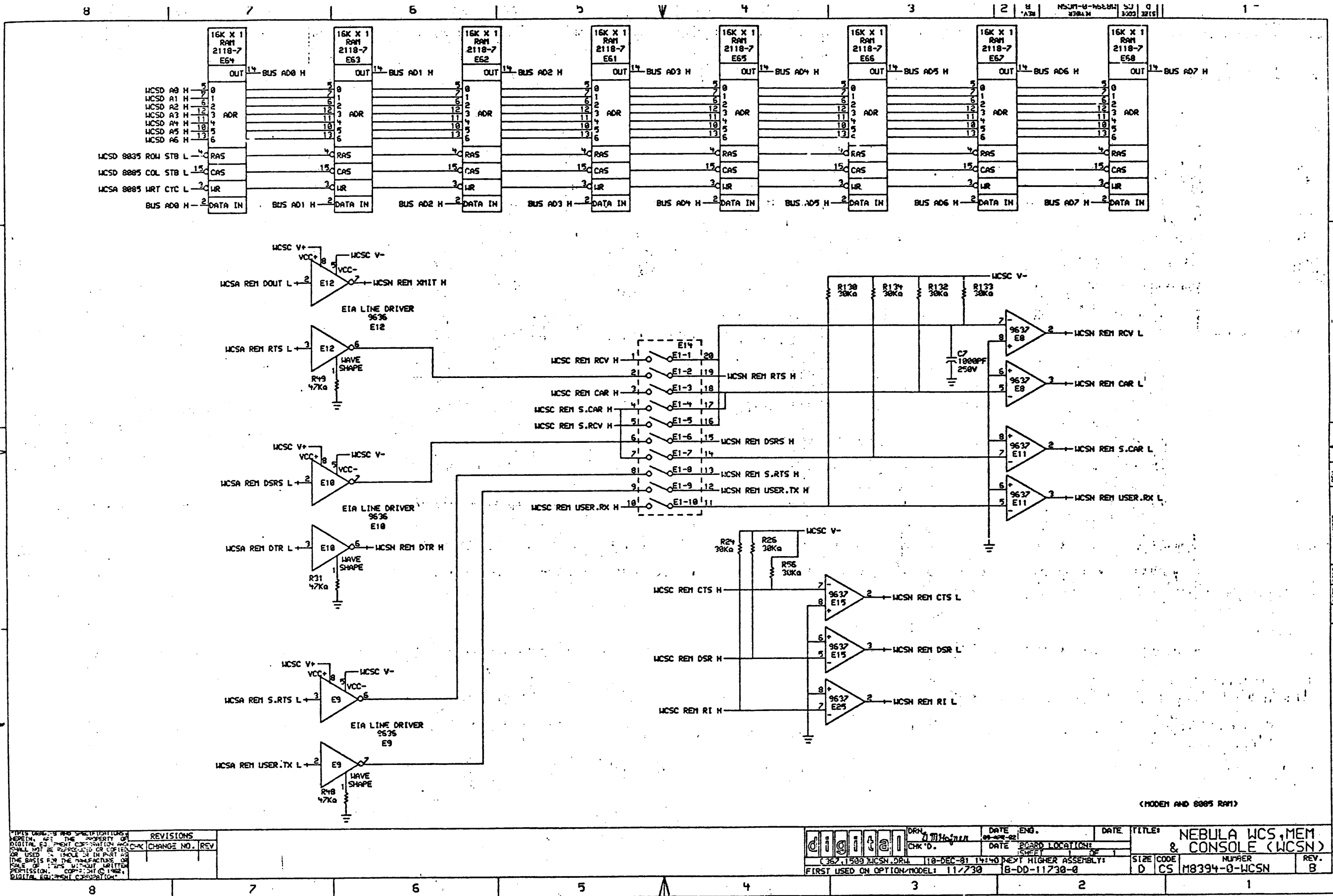


REV.	CHG.	DESCRIPTION

REV.	CHG.	DESCRIPTION

DRN: <i>D. M. Hoffman</i>	DATE: 01-09-82	ENG.	DATE	TITLE: NEBULA WCS, MEM & CONSOLE (WCSM)
CHK'D.	DATE: 10-DEC-81	BOARD LOCATION:	SHEET 1 OF 1	SIZE CODE: D CS
C 357, 1500 WCSM.DRW	110-DEC-81 14:48	NEXT HIGHER ASSEMBLY:	117730	NUMBER: M8394-0-WCSM
FIRST USED ON OPTION/MODEL:	117730	REV.:	8	

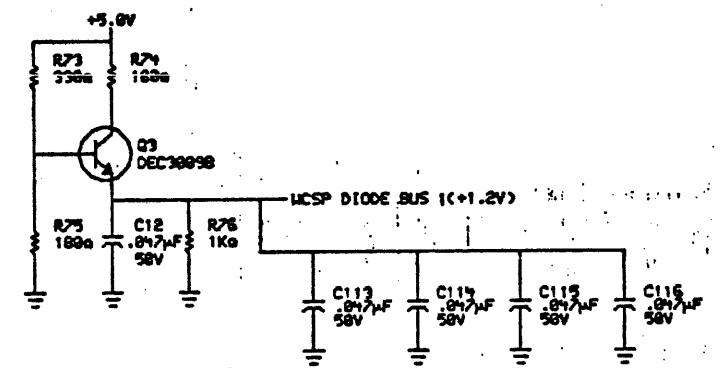
D
 C
 B
 A



REV.	DATE	DESCRIPTION
1	11-7-73	INITIAL DESIGN
2	11-7-73	REVISION

REV.	DATE	DESCRIPTION
1	11-7-73	INITIAL DESIGN
2	11-7-73	REVISION

TITLE: NEBULA WCS, MEM & CONSOLE (WCSN)
 SHEET: 1 OF 1
 BOARD LOCATION: 11730-0
 DATE: 11-7-73
 ENGINEER: M. HOFER
 CHECKED: M. HOFER
 FIRST USED ON OPTION/MODEL: 11730-0
 SIZE CODE: D CS
 NUMBER: M8394-0-WCSN
 REV.: B



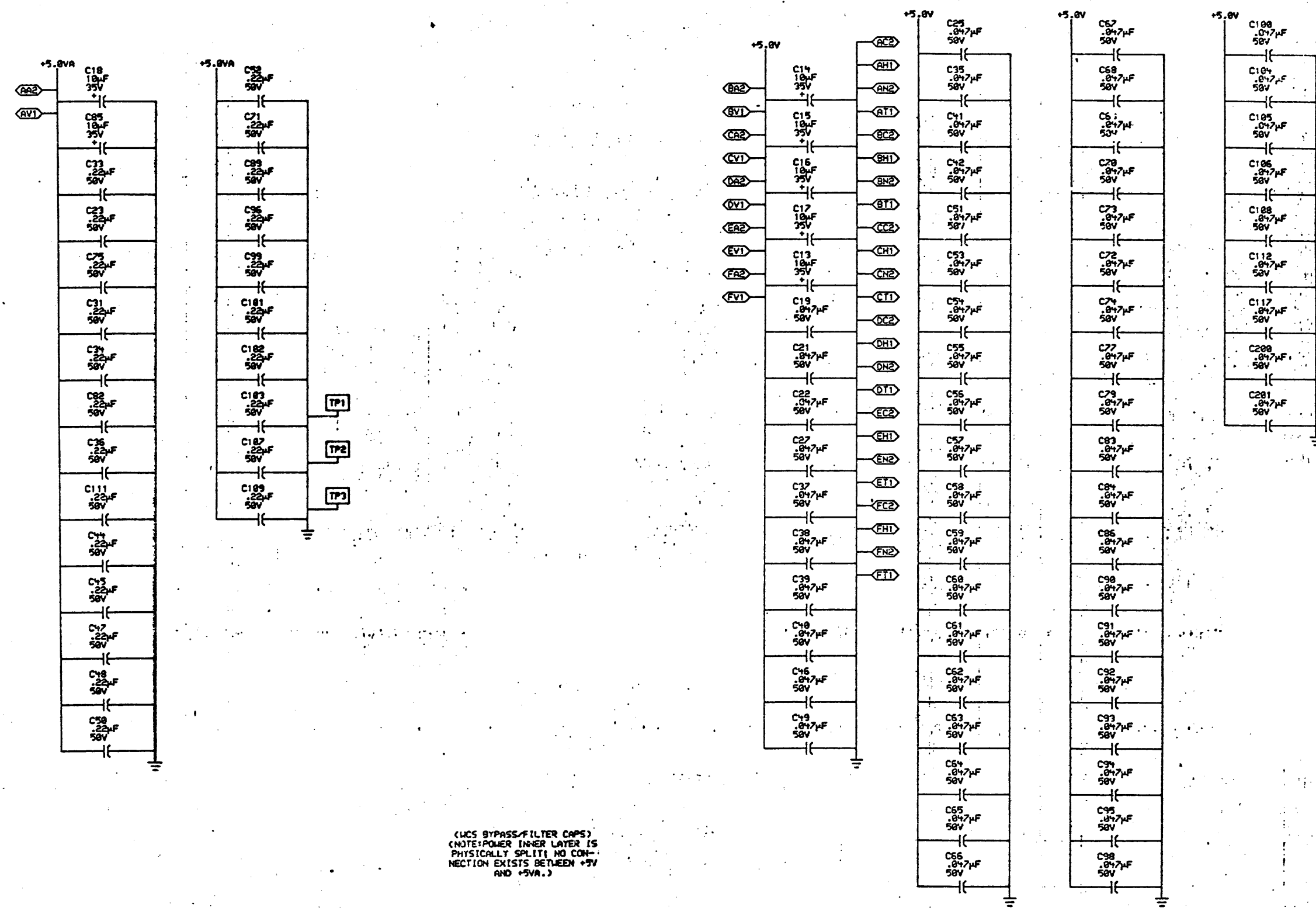
<DIODE BUS FOR ADDRESS LINE TERMINATION>

REV. B
NUMBER M8394-0-WCSP
SIZE CODE D CS
A

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRW. <i>M. Hoffman</i>	DATE ENG. 09-07-62	DATE	TITLE: NEBULA WCS, MEM & CONSOLE (WCSP)
	CHK'D.	DATE BASED LOCATION	SHEET OF	NUMBER
387.1580 WCSP DRW. (10-DEC-61) 14-3 NEXT HIGHER ASSEMBLY: 18-00-11730-0				SIZE CODE D CS
FIRST USED ON OPTION/MODEL: 11730				REV. B



(WCS BYPASS/FILTER CAPS)
(NOTE: POWER INNER LAYER IS
PHYSICALLY SPLIT; NO CON-
NECTION EXISTS BETWEEN +5V
AND +5VA.)

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN: M. Hohen	DATE: 01-19-82	ENG.	DATE:	TITLE: NEBULA WCS MEMORY AND CONSOLE (WCSR)
	CHK'D:	DATE:	BOARD LOCATION:	SHEET 1 OF 1	
FIRST USED ON OPTION MODEL: 117730		EXT HIGHER ASSEMBLY: B-DD-11730-0		SIZE CODE: D CS M8394-0-WCSR	NUMBER: C

PART NUMBER: 23-045J5-00
 DEVICE TYPE: PAL16L8
 SCHEMATIC SHEET #10-CS-88394-0-UCSA
 LOCATION/DESCRIPTION: E21 ADDRESS DECODE
 ASSIGNED PIN NUMBER:

- | | | |
|-------|---------------|------------------|
| 1= A7 | 8= RD | 15= WRT.HND.REQ |
| 2= A6 | 9= LR | 16= WRITE.HI |
| 3= A5 | 10= GROUND | 17= SEL.STATUS |
| 4= A4 | 11= TSE | 18= SEL.ROM.MUX |
| 5= A3 | 12= DIR | 19= SEL.CPU.REQS |
| 6= IO | 13= SEL.TIMER | 20= VCC |
| 7= NC | 14= WRITE.HB | |

EQUATIONS:

```

IF(TSE) SEL.CPU.REQ = IO & A7 & A6 & A5 & A4 & A3 & RD
+IO & A7 & A6 & A5 & A4 & A3 & RD

IF(TSE) SEL.ROM.MUX = IO & A7 & A6 & A5 & A4 & A3 & RD
+IO & A7 & A6 & A5 & A4 & A3 & RD

IF(TSE) SEL.STATUS = IO & A7 & A6 & A5 & A4 & A3 & RD

IF(TSE) WRITE.HI = IO & A7 & A6 & A5 & A4 & A3 & RD

IF(TSE) WRT.HND.REQ = IO & A7 & A6 & A5 & A4 & A3 & RD

IF(TSE) WRITE.HB = IO & A7 & A6 & A5 & A4 & A3 & RD

IF(TSE) SEL.TIMER = IO & A7 & A6 & A5 & A4 & A3 & RD
+ A7
+ A6
+ A5
+ A4
+ A3

IF(TSE) DIR = IO & A7 & A6 & A5 & A4 & A3 & RD
    
```

PART NUMBER: 23-024K3-00
 DEVICE TYPE: PAL16R4
 SCHEMATIC SHEET #10-CS-88394-0-UCSJ
 LOCATION/DESCRIPTION: E58 MEMORY REFRESH CONTROL AND SEQUENCER
 ASSIGNED PIN NUMBER:

- | | | |
|-------------------|--------------------|--------------------|
| 1= REGISTER.CLK | 8= INHIBIT.REFRESH | 15= REFR.PENDING |
| 2= ALLOW.REFR.CYC | 9= REFR.REQUEST | 16= STATE |
| 3= PRELOAD | 10= GROUND | 17= RAS |
| 4= 9600.BAUD | 11= REQ.OUT.EN | 18= TERM.BAUD |
| 5= 2400.BAUD | 12= BAUD.SEL.0 | 19= START.REFR.CYC |
| 6= 1200.BAUD | 13= BAUD.SEL.1 | 20= V |
| 7= 300.BAUD | 14= REFR.CYCLE | |

EQUATIONS:

```

IF(VCC) START.REFR.CYC = REFR.PENDING & ALLOW.REFR.CYC
+ STATE
+ REFR.CYCLE

STATE = REFR.PENDING & REFR.CYCLE & STATE & ALLOW.REFR.CYC & PRELOAD
+ REFR.PENDING & RAS & PRELOAD
+ PRELOAD & ALLOW.REFR.CYC

REFR.PENDING = REFR.REQUEST & REFR.PENDING & REFR.CYCLE
+ INHIBIT.REFRESH & PRELOAD
+ REFR.PENDING & RAS & PRELOAD
+ PRELOAD & INHIBIT.REFRESH

REFR.CYCLE = REFR.PENDING & RAS & PRELOAD
+ REFR.CYCLE & STATE & PRELOAD
+ PRELOAD & REFR.REQUEST

RAS = REFR.PENDING & STATE & PRELOAD
+ REFR.CYCLE & PRELOAD
+ PRELOAD & BAUD.SEL.0

IF(VCC) TERM.BAUD = BAUD.SEL.1 & BAUD.SEL.0 & 9600.BAUD
+ BAUD.SEL.1 & BAUD.SEL.0 & 2400.BAUD
+ BAUD.SEL.1 & BAUD.SEL.0 & 1200.BAUD
+ BAUD.SEL.1 & BAUD.SEL.0 & 300.BAUD
    
```

PART NUMBER: 23-004K4-00
 DEVICE TYPE: PAL16R6
 SCHEMATIC SHEET #10-CS-88394-0-UCSD
 LOCATION/DESCRIPTION: E39 MICRO PROCESSOR DYNAMIC RAM CONTROLLER
 ASSIGNED PIN NUMBER:

- | | | |
|-----------------|-------------------|--------------------|
| 1= CLOCK | 8= NC | 15= STATE |
| 2= ALE | 9= RESET | 16= RAS |
| 3= REQUEST.REFR | 10= GROUND | 17= REFRESH.DONE |
| 4= IO | 11= OUT.EN | 18= START.8005.CYC |
| 5= A14 | 12= UART.CHIP.SEL | 19= LONG.CYCLE |
| 6= NC | 13= UART.BNA | 20= VCC |
| 7= NC | 14= REFRESH.CYC | |

EQUATIONS:

```

START.8005.CYC = ALE
+ REFRESH.CYC & START.8005.CYC & A14

RAS = RAS & REFRESH.CYC
+ RAS & STATE
+ START.8005.CYC & RAS & IO & A14
+ RESET

STATE = START.8005.CYC
+ RAS
+ A14

REFRESH.CYC = START.8005.CYC
+ RAS & REFRESH.CYC
+ RAS & STATE
+ REFRESH.CYC & REQUEST.REFR
+ REFRESH.CYC & REFRESH.DONE
+ REFRESH.CYC & RAS & ALE & STATE
+ UART.BNA
+ RESET

REFRESH.DONE = REQUEST.REFR
+ REFRESH.DONE & REFRESH.CYC

IF(VCC) LONG.CYCLE = START.8005.CYC & A14

IF(VCC) UART.CHIP.SEL = START.8005.CYC & IO & A14 & RAS
+ RAS & STATE

UART.BNA = START.8005.CYC & IO & A14 & RAS
+ RAS & STATE
    
```

23-045J5-00
 23-024K3-00
 23-004K4-00

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DSK:GLCS91, TPE 1106, 1203 J10-DEC-81 10129 NEXT HIGHER ASSEMBLY: FIRST USED ON OPTION MODEL: 117739	DATE: 11/7/79	DATE: 11/7/79	SIZE CODE: D GL NUMBER: M8394-0-0	REV. A

PART NUMBER: 23-002K5-00
 DEVICE TYPE: PAL16R8
 SCHEMATIC SHEET # D-CS-18394-0-1C5E
 LOCATION/DESCRIPTION: E95/ CLOCK CONTROL AND SINGLE STEP
 ASSIGNED PIN NUMBER:

1= REGISTER.CLOCK.H	8= REFR.REB	15= /P0
2= STALL	9= RESET	16= /P1
3= CSPE	10= GROUND	17= PAR.ERR
4= CPU.RUN	11= REG.OUT.EN.L	18= /MAIN.MEM.REFR.REB
5= CSR.STEP	12= CLK.CSR	19= /WAIT
6= UPC.STEP	13= CLK.CPU	20= VCC
7= CPU.STEP	14= CLK.UPC	

EQUATIONS:

WAIT = CSR.STEP#CLK.CSR
 +WAIT#CSR.STEP
 +UPC.STEP#CLK.UPC
 +WAIT#UPC.STEP
 +CPU.STEP#CLK.CPU
 +WAIT#CPU.STEP
 +RESET

MAIN.MEM.REFR.REB = REFR.REB#P0#P1

/PAR.ERR = P0#PAR.ERR
 +P1#PAR.ERR
 +/P0#P1#CSPE
 +RESET

P1 = P0
 +RESET

P0 = /P0#P1
 +RESET

/CLK.UPC = /P1
 +STALL#CPU.RUN
 +STALL#CPU.STEP
 +REFR.REB
 +/CPU.RUN#UPC.STEP#CPU.STEP
 +/CPU.RUN#WAIT
 +RESET

/CLK.CPU = /P1
 +STALL
 +REFR.REB
 +/CPU.RUN#CPU.STEP
 +/CPU.RUN#WAIT
 +RESET

/CLK.CSR = /P1
 +STALL#CPU.RUN
 +STALL#CPU.STEP
 +REFR.REB
 +/CPU.RUN#CSR.STEP#CPU.STEP
 +/CPU.RUN#WAIT
 +RESET

23-002K5-00

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---	--	------------------------------	---	---

8

DEC 5014439-0-0 B

6

5

LAYER 1

3

2

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CS*ABCDEFGHIJKLMNPRS

E150 E137 E123 E109 E96 E82 E68

SIDE 1

digital

J3

J2

J1

M8394

5014439A

D

C

DEC 5014439-0-0 P

B

1-8

1-9

1-2

1-4

1-5

1-6

1-7

REV	B
ECO NUMBER	14001
DATE	10-21-51
BY	R. DAY
CHKD	R. DAY
APP'D	R. DAY
DATE	11-17-52

DATE	8-26-51	TITLE	digital
DATE	8-26-51	ETCH CUT DRAWING	
DATE	1-17-52	DOCUMENT NUMBER	DEC 5014439-0-0 B
DATE	10-8-52		

8

7

6

5

4

3

2

1

DEC 5014439-0-0 B

PARAJA

5014439A
WCS SIDE 2

I-13

I-10

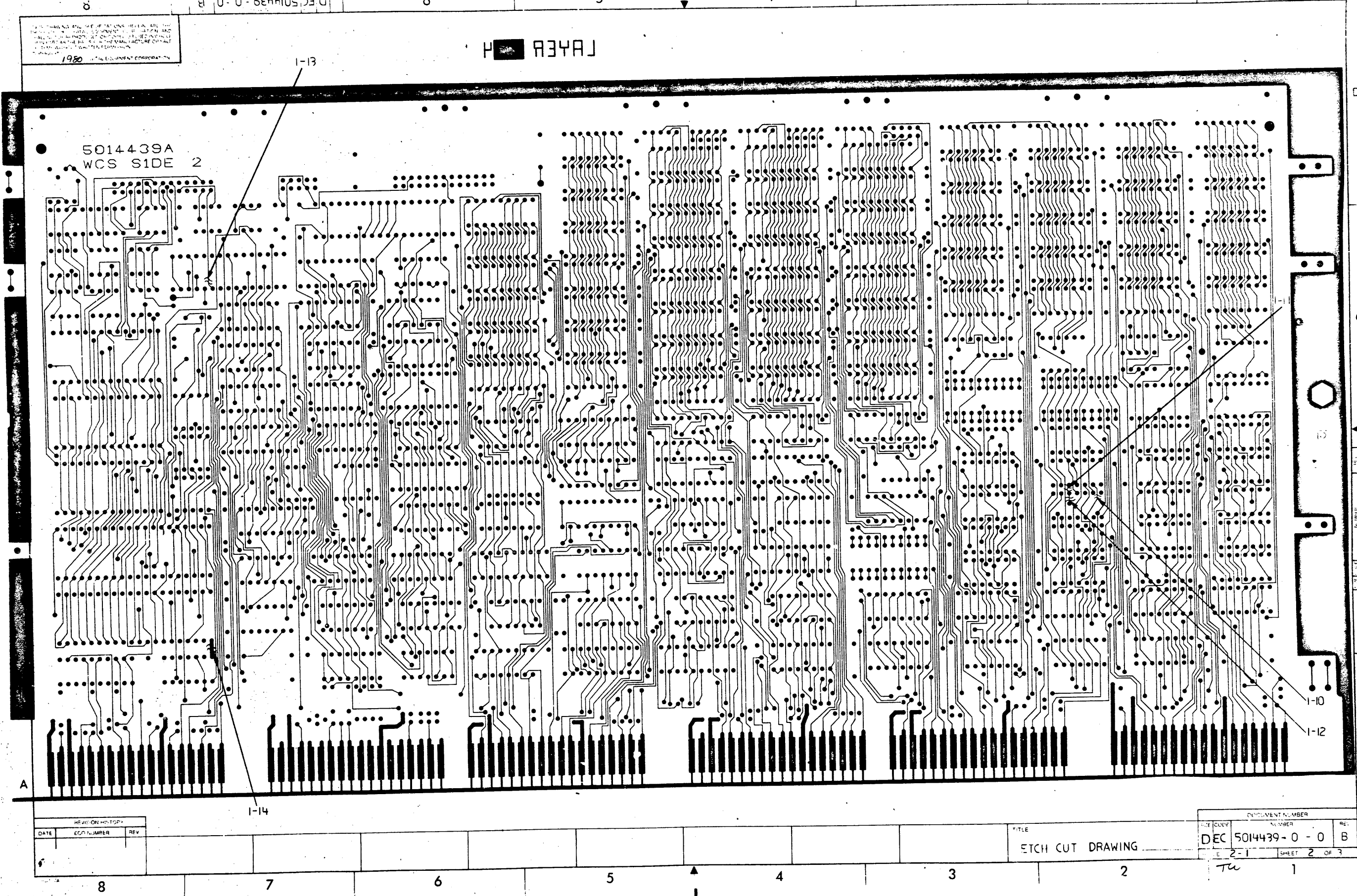
I-12

I-14

DEC 5014439-0-0 B

REVISION HISTORY		
DATE	ECO NUMBER	REV

TITLE		DOCUMENT NUMBER	
ETCH CUT DRAWING		DEC 5014439-0-0	B
		E 2-1	SHEET 2 OF 3



8

DEC 5014439-0-0

6

5

4

3

2

1

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REWORK INSTRUCTIONS

ECO #1

ETCH CUTS SIDE 1:

- 1-1 NEAR E154-01 GOING FROM E154-01 TO E153-12.
- 1-2 BETWEEN E85-09 GOING TO E85-10.
- 1-3 NEAR E21-11 GOING FROM E21-11 TO E19-01.
- 1-4 BETWEEN E47-07 GOING TO E47-08.
- 1-5 NEAR PTH TO THE LEFT OF R66 SEPARATING ETCH FROM E38-01 AND E19-19.
- 1-6 DRILL OUT PTH AT E17-14.
- 1-7 DRILL OUT PTH AT E16-4.
- 1-8 BETWEEN E4-09 GOING TO E4-10.
- 1-9 BETWEEN E4-09 GOING TO E4-06.

ETCH CUTS SIDE 2

- 1-10 NEAR E129-02 GOING FROM E129-02 TO E128-03.
- 1-11 BETWEEN E128-10 GOING TO E129-05.
- 1-12 BETWEEN E128-10 AND PTH GOING TO E86-03.
- 1-13 NEAR BOTTOM OF R94 GOING TO J1-26.
- 1-14 BETWEEN E3-01 GOING TO E2-14.

D

D

C

C

B

B

A

A

DEC 5014439-0-0 B

REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE		DOCUMENT NUMBER	
ETCH CUT DRAWING		DEC	5014439-0-0
SCALE	NOSE	SHEET	3 OF 3

8

7

6

5

4

3

2

1

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS																			
		G7273	MODULE REVISION	*																			
B-DD-G7273-0	1		DOUBLE GRANT	*																			
D-UA-G7273-0-C	3		DOUBLE GRANT	*																			
K-FL-G7273-0-DBF	1		DOUBLE GRANT	*																			
DMD-5013871-0-C	3		DRILL AND ETCH DRAWING	*																			
		5013871	ETCHED BOARD	A																			
K-FC-G7273-0-DBG			FC DESIGN DATA BASE	A																			

NOTES:

REVISIONS	DATE	CHG NO.	REV.																					

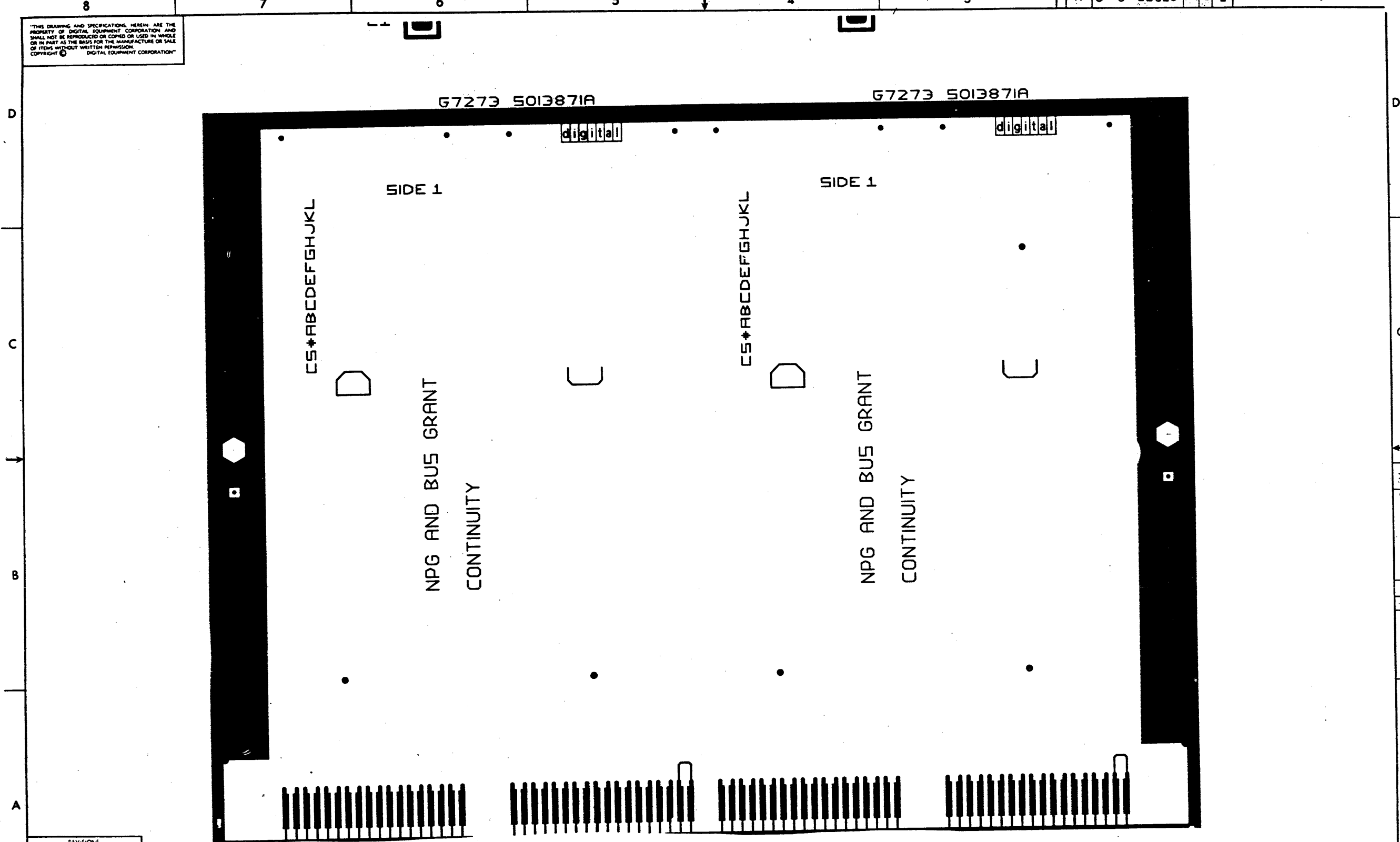
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USED ON OPTION/MODEL	DRN. <i>J. Casey</i>	4-30-80	TITLE	DOUBLE GRANT			
	CHK'D <i>J. Casey</i>	4-30-80	SIZE	B	DD	NUMBER	
	ENG. <i>H. Priddy</i>	4-30-80	CODE	G7273 - 0		REV. *	
	PROD. <i>H. Priddy</i>	5-5-80	SHEET	1	OF	1	

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DUA G7273-0-0 *



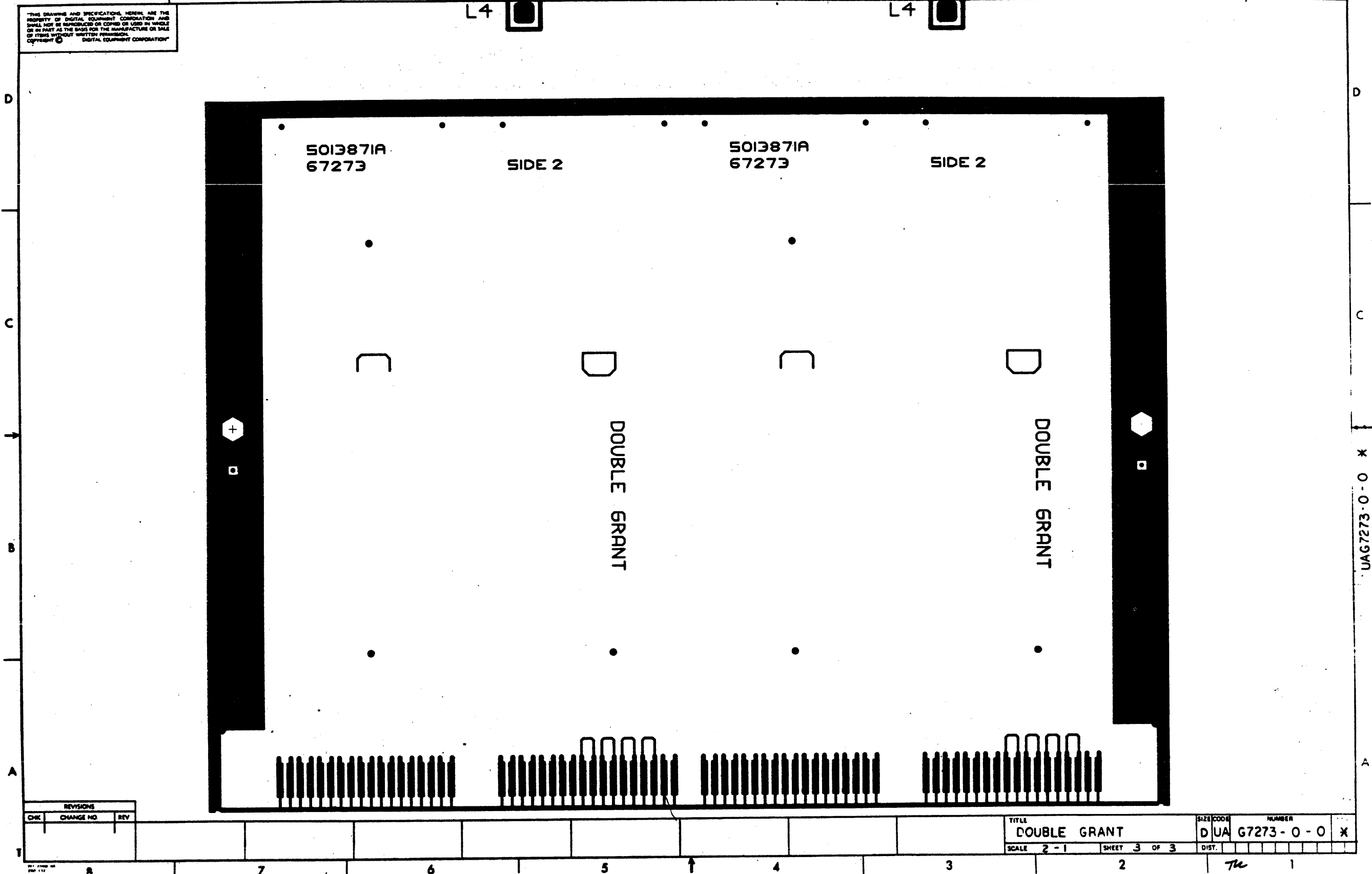
REVISIONS		
CHK	CHANGE TO	REV

TITLE	DOUBLE GRANT	SIZE CODE	DUA	NUMBER	G7273-0-0 *	REV.	
SCALE	2-1	SHEET	2	OF	3	DIST.	

8 7 6 5 4 3 2 1

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2 DUA67273-0-0 X



5013871A
67273

SIDE 2

5013871A
67273

SIDE 2

DOUBLE GRANT

DOUBLE GRANT

REVISIONS		
CHK	CHANGE NO	REV

TITLE	DOUBLE GRANT	SIZE CODE	D UA	NUMBER	G7273-0-0 X
SCALE	2-1	SHEET	3	OF	3
DIST.					

UAG7273-0-0 X

Tu

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY	PFR VARIATION
1	1	D-MD-5013871-0-0	5013871-00	(11/24) BOARD FOR G7273	1	
2	2		9006732-00	FYFLET, ROLLED FLANGE, .121 OD X	4	
3	3		9008337-01	HANDLE, FLIP CHIP, GREEN	2	

REVISION HISTORY			BASIC PART NO: G7273		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	DRN: F.SMART	DATE: 18-JUL-79	TITLE PARTS LIST
---	INITIAL	*	SECTION, VARIATION INDEX	CHK'D: F.GAPOFALO	DATE: 18-JUL-79	DOUBLE GRANT
			[A] 00	DES.ENG.: R.GRUDA	DATE: 5-MAY-80	
			[B]	RESP.ENG.: P.GRUDA	DATE: 5-MAY-80	DOCUMENT NUMBER
			[C]	MFG.ENG.: G.ABREU	DATE: 5-MAY-80	SIZE CODE NUMBER REV
			[D]	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	K PL G7273-0-DBP *
			[E]	ID-UA-G7273-0-0	B-DD-G7273-0-0	FILE NAME: EDIT #
			[F]			Z1264.PLS 4

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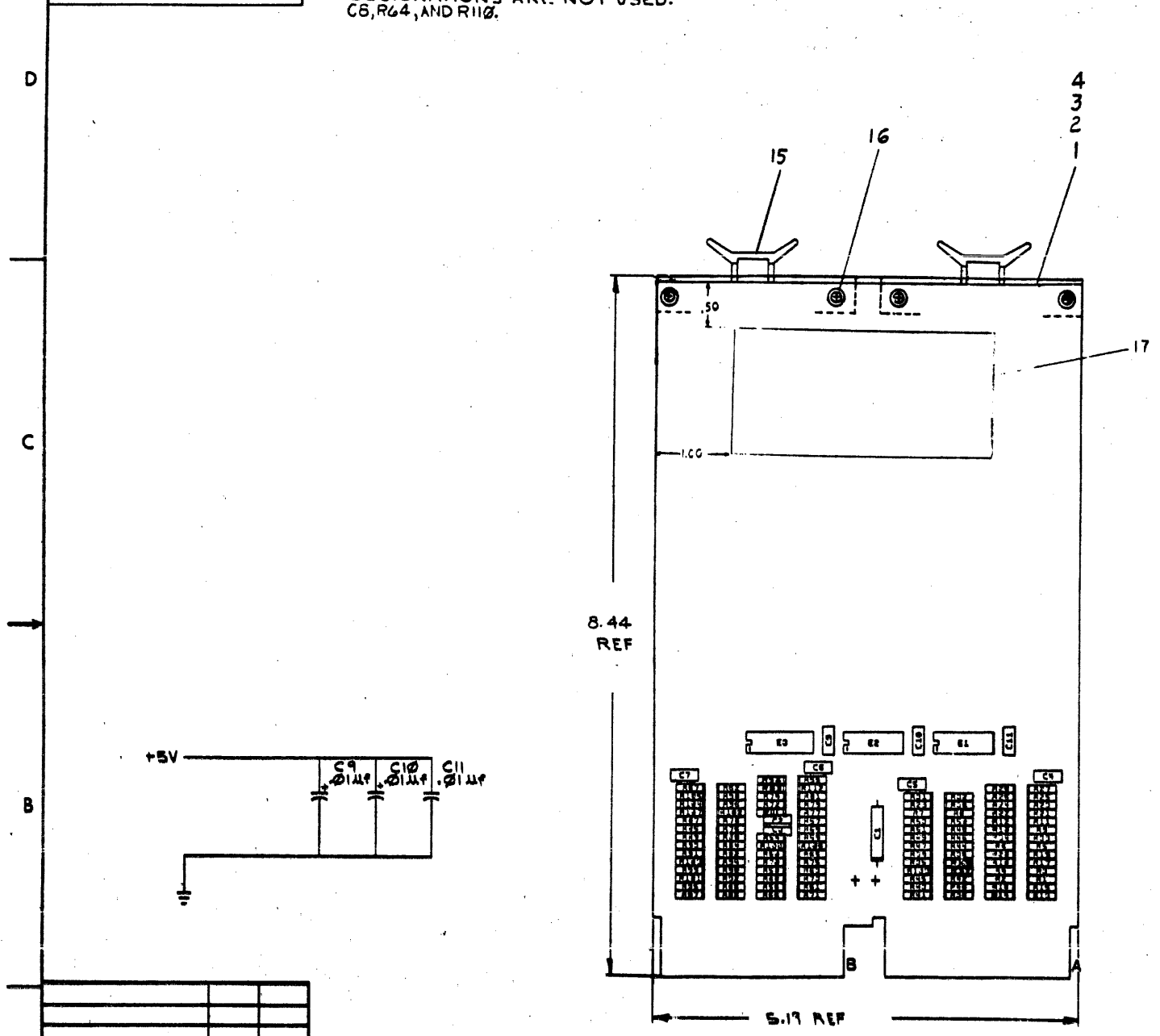
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NOTES:
 1.) THE FOLLOWING REFERENCE DESIGNATIONS ARE NOT USED: C6, R64, AND R110.

DCS M9302 2

REF	X-Y HOLE COORDINATE HOLE LOCATION	K-CO-M9302-0-4	1
REF	ASSY DRILLING HOLE LAYOUT	D-AH-M9302-0-5	2
			3
1	ETCHED CIRCUIT BOARD	5011311	4
3	C9, C10, C11	CAP .01 uf 100V 20% DISC	5
1	C1	CAP 39 uf 10V 10%	6
			7
4	C4 THRU C7	CAP 22 uf 50V 1%	8
2	C2, C3	CAP .001 uf 250V 20% DISC	9
56	R2, R4, R6, R8, R10, R12, R14, R16, R18, R20, R22, R24, R26, R28, R30, R32, R34, R36, R38, R40, R42, R44, R46, R48, R50, R54, R56, R58, R60, R62, R66, R69, R70, R72, R74, R76, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100, R102, R57, R66, R37, R52, R63, R108, R111	RES 220 OHM 1/4W 5%	10
54	R1, R3, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29, R31, R33, R35, R39, R41, R43, R45, R47, R49, R51, R53, R55, R59, R61, R63, R65, R67, R75, R77, R79, R81, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103 THRU R107, R109, R112	RES 15 OHM 1/4W 5%	11
1	E2	I.C. DEC 7430	12
1	E1	I.C. DEC 8891	13
1	E3	I.C. DEC 8837	14
2		HANDLE, FLIP-CHIP (MAGENTA)	15
4		EYELETS	16
1		DECAL	17

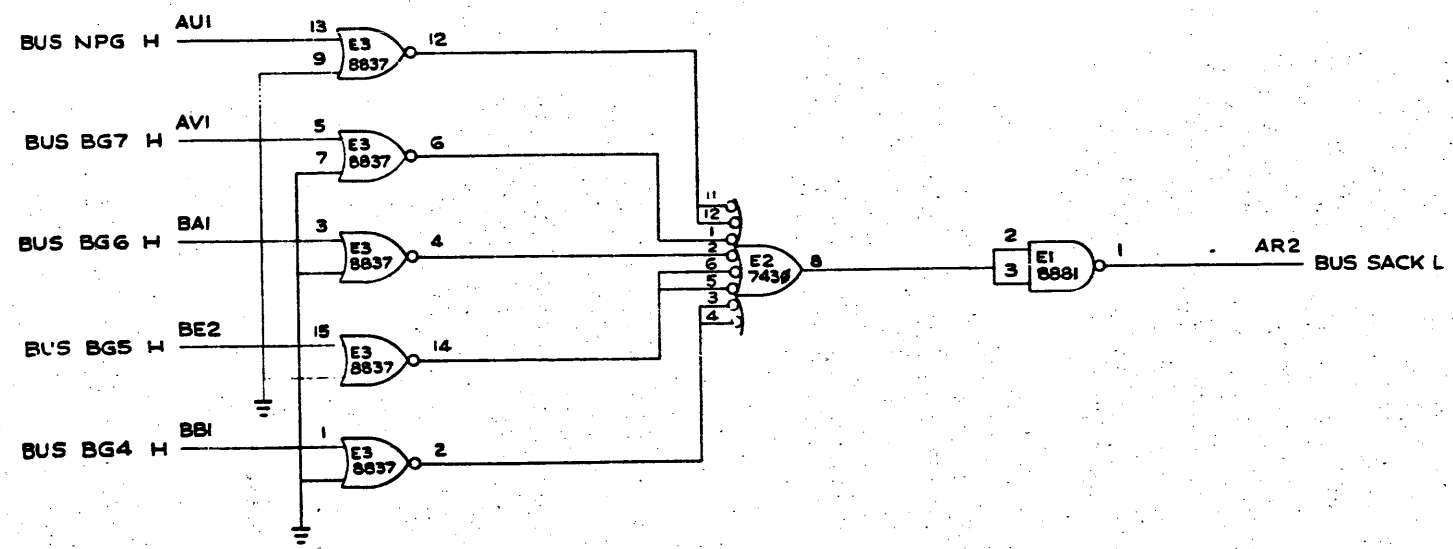
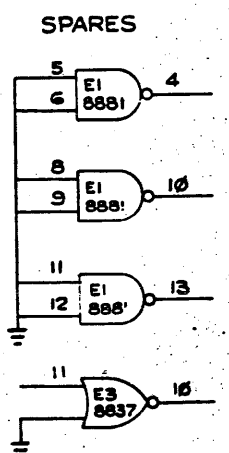
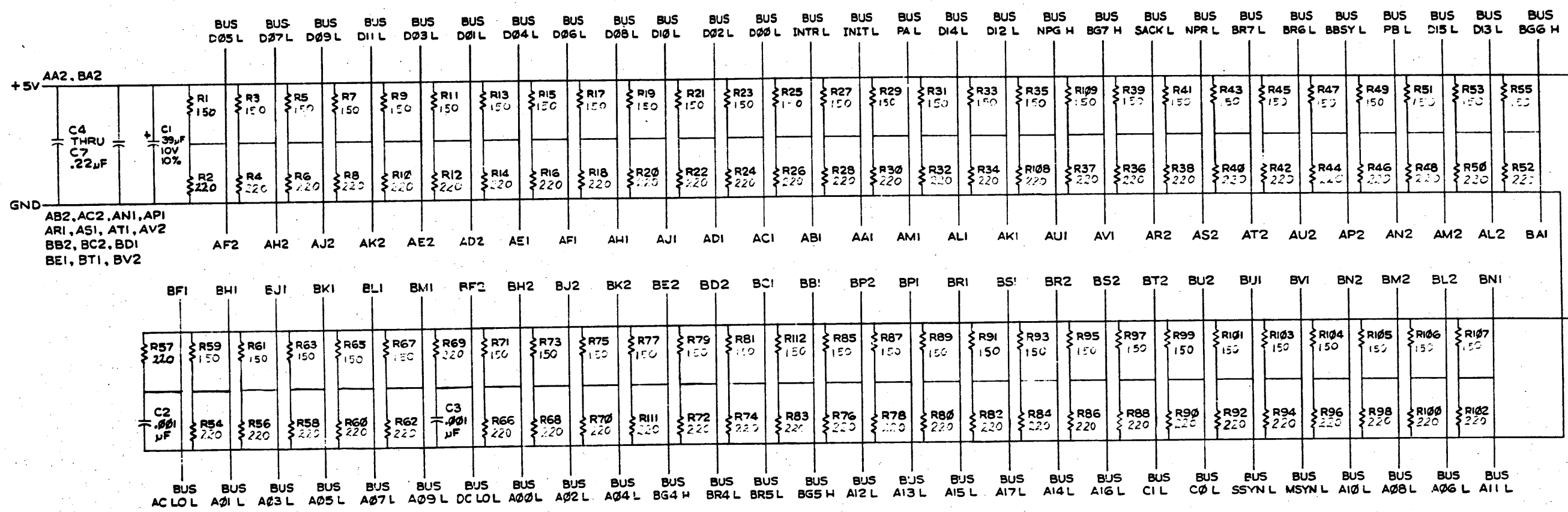


IC	DEC NO	EIA NO	IC PIN LOCATIONS
I.C. DEC 8837	8	16	
IC TYPE	8ND	+5V	
8ND AND 5V ARE USUALLY PIN 7 AND 16 RESPECTIVELY EXCEPTIONS ARE STATED ABOVE			
IC PIN LOCATIONS			

QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
ETCH BOARD REV 8				
FIRST USED ON OPTION MODEL				
CHANGE NO				
REV				
DATE				
BY				
CHECKED				
APPROVED				
TITLE				
UNIBUS TERMINATOR				
SCALE				
SHEET 1 OF 2				
DISTRIBUTION				
DISTRIBUTION				

digital EQUIPMENT CORPORATION
 TITLE
UNIBUS TERMINATOR
 SIZE CODE NUMBER REV
 DCS M9302-YA-1 *

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REVISIONS		
CHK	CHANGE NO	REV

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FIELD MAINTENANCE PRINT SET

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TABLE OF CONTENTS

B-TC-MS730-C-1	FIELD MAINT. PRINT SET MP01366
B-DD-MS730-C	1 MB 64K ECC MEMORY ARRAY - DRAWING DIRECTORY
B-PL-MS730-C-0	1 MB 64K ECC MEMORY ARRAY - PARTS LIST
B-DD-M8750-0	MOS MEMORY ARRAY - DRAWING DIRECTORY
D-UA-M8750-0-0	MOS MEMORY ARRAY ASSY
K-PL-M8750-CA-DBP	MOS MEMORY ARRAY - PARTS LIST
D-CS-M8750-0-1	MOS MEMORY ARRAY - CIRCUIT SCHEMATIC

UNIT VARIATIONS COVERED BY THIS PRINT SET
MS730-CA
MS730-CB
MS730-CC
MS730-CD
MS730-CF

MS730-C
**Field Maintenance
Print Set**

**Digital Equipment
Corporation**

PRINT SET ORDER
NO. MP01366

REVISIONS		USED ON OPTION/MODEL	DRN.	DATE	digital			
	REV		A. ROCHA	13APR82	TITLE: 1 MB 64K ECC MEMORY ARRAY FIELD MAINT. PRINT SET			
	CHG. NO.	11730	<i>[Signature]</i>	20APR82				
			PROJ. ENG.	DATE				
			<i>D.M. Landry</i>	20APR82				
	DATE		FIELD SERV.	DATE	SIZE B	CODE TC	NUMBER MS730-C-1	REV. A
		SHEET 1 OF 1	<i>H. Hunter</i>	21 APR 82	DIST.			

REV. A
NUMBER MS730-C-1
SIZE CODE B TC

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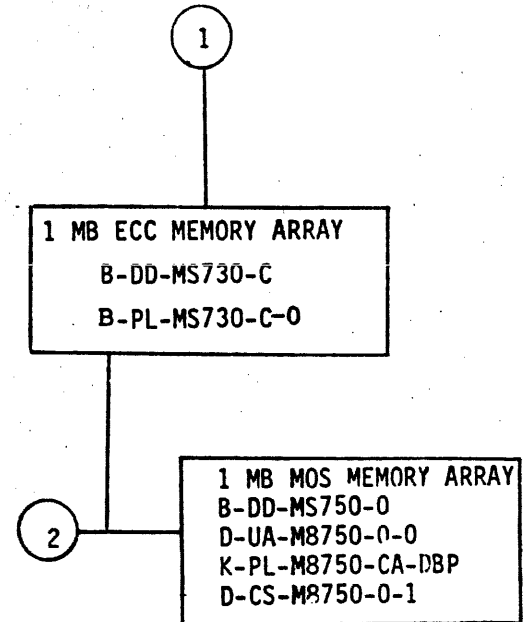
DRAWING DIRECTORY

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UNIT VARIATIONS	
VAR	TITLE
MS730-CA	1 MB 64K ECC MEMORY ARRAY - QTY 1
MS730-CB	1 MB 64K ECC MEMORY ARRAY - QTY 2
MS730-CC	1 MB 64K ECC MEMORY ARRAY - QTY 3
MS730-CD	1 MB 64K ECC MEMORY ARRAY - QTY 4
MS730-CF	1 MB 64K ECC MEMORY ARRAY - QTY 10

REVISIONS	REV.	USED ON OPTION/MODEL	DRN.	DATE	TITLE				REV													
	CHANGE NO.		A. ROCHA	13APR82	<table border="1" style="width: 100%;"> <tr><td colspan="4" style="text-align: center;">digital</td></tr> <tr><td colspan="4" style="text-align: center;">1 MB 64K ECC MEMORY ARRAY</td></tr> <tr> <th>SIZE</th> <th>CODE</th> <th>NUMBER</th> <th>REV</th> </tr> <tr> <td>B</td> <td>DD</td> <td>MS730-C</td> <td>A</td> </tr> </table>					digital				1 MB 64K ECC MEMORY ARRAY				SIZE	CODE	NUMBER	REV	B
digital																						
1 MB 64K ECC MEMORY ARRAY																						
SIZE	CODE	NUMBER	REV																			
B	DD	MS730-C	A																			
CHK	<i>R. Rocha</i>		CHK'D.	DATE																		
			PROJ. ENG.	DATE																		
			<i>D.M. Landry</i>	<i>20 APR 82</i>																		
			PROD.	DATE																		
			<i>S. Casty</i>	<i>21 APR 82</i>																		
		SHEET 1 OF 3	DIST.																			

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 1982
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TITLE 1 MB 64K ECC MEMORY ARRAY	SHEET 2	OF 3	SIZE B	CODE DD	NUMBER MS730-C	REV A
------------------------------------	------------	---------	-----------	------------	-------------------	----------

TW

DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MADE BY
DATE A.ROCHA 13APR82

CHECKED *R. P. ...*
DATE 20 APR 82

SECTION

ENG *R. P. ...*
DATE 20 APR 82

PROD
DATE *SQ Casty ...* 21 APR 82

ISSUED SECTION

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	QUANTITY / VARIATION										REF DESIGNATION				
				MS730-CA	MS730-CB	MS730-CC	MS730-CD	MS730-CF										
1	B-DD-M8750-0	M8750-CA	1 MB ARRAY MOS MEMORY	1	2	3	4	10										

E.C.O. NO.

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TITLE
1 MB 64K ECC MEMORY ARRAY

ASSY NO.
B-DD-MS730-C

SHEET 1 OF 1

SIZE B	CODE PL	NUMBER MS730-C-0
------------------	-------------------	---------------------

REV.
A

DRAWING NO.	NO. OF SHTS.	PART NO.	DESCRIPTION	REVISIONS															
				A	A	A	A												
	-	M8750-00	MOS MEMORY ARRAY	A	A	A	A												
D-UA-M8750-0-0	4		MOS MEMORY ARRAY	A	B	B	C												
D-CS-M8750-0-1	15		MOS MEMORY ARRAY	A	A	A	A												
K-PL-M8750-BA-DBP	3		PARTS LIST DATA BASE	A	B	B	C												
K-PC-M8750-0-DBC	-		P. C. DESIGN DATA BASE	A	A	A	A												
		5013706	ETCH BOARD	C	C	C	C												
K-PL-M8750-CA-DBP	-		PARTS LIST DATA BASE	A	A	A	A												
K-CS-M8750-0-DBS	-		CIRCUIT SCHEMATIC DATA BASE	A	A	A	A												
A-SP-M8750-0-2	14		M8750 MOS STORAGE ARRAY	-	-	A	A												

NOTES: 1. Uses Etch of D-MD-5013706-0-0 (M8728)

REVISIONS		DATE	CHG NO.	REV.	INITIAL	A	B	C	D
		1/81							
		2/82	ML001						
		6/82	ML002						
		7/82	ML003						

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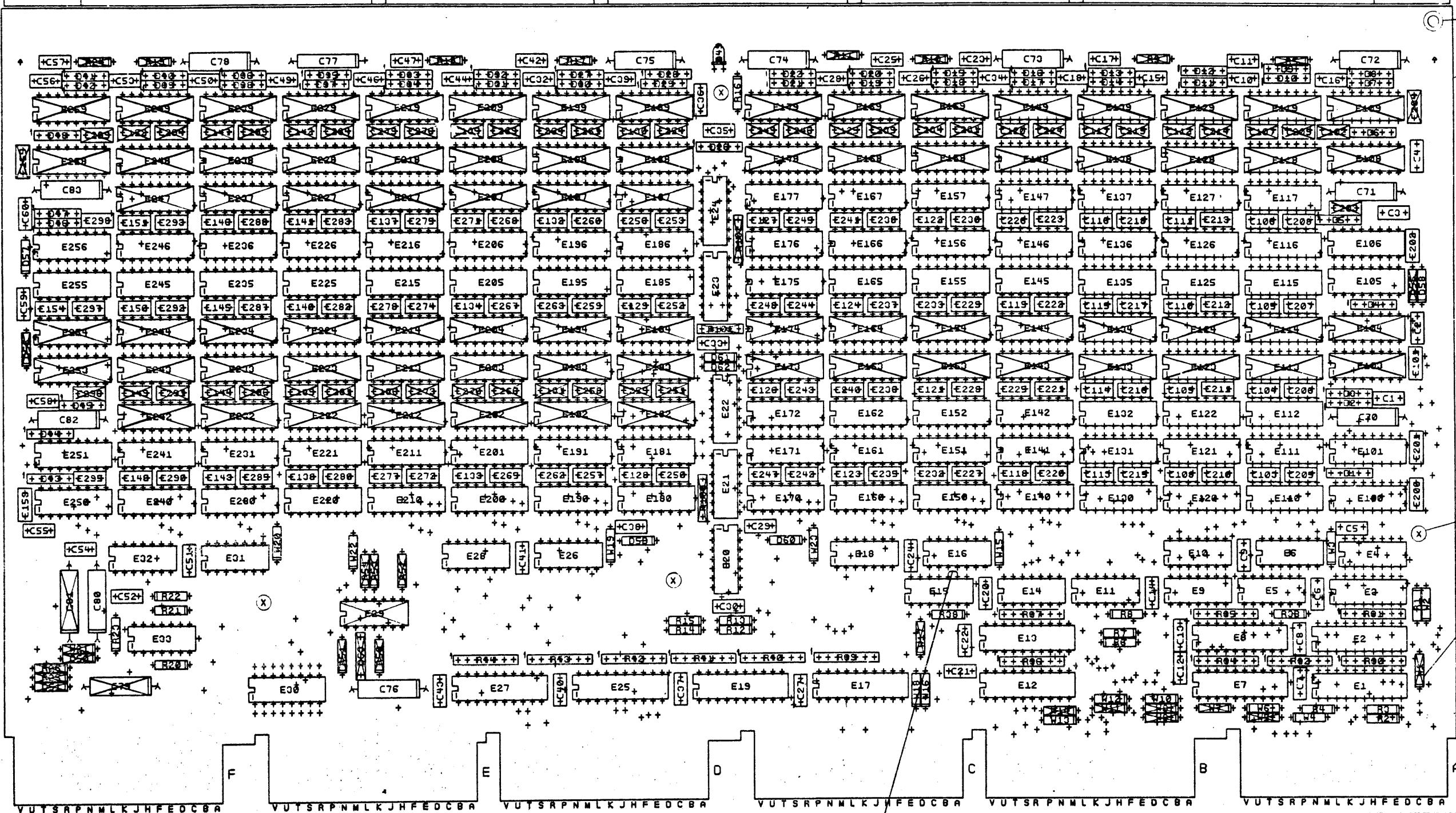
USED ON OPTION/MODEL	DRN. V. MANGAUDIS	21 JAN 81	TITLE MOS MEMORY ARRAY	
	CHK'D G. Boesman	10 MAR 81	SIZE B	CODE DD
	ENG. K. Marmoyek	24 JUN 81	NUMBER M8750-0	
	PROD. J. J. J.	24 JUN 81	REV. D	
			SHEET 1 OF 1	

ML2

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VARIATION BA

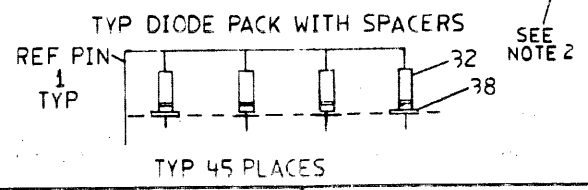
COMPONENT SIDE VIEW



NOTES: 1. ALL COMPONENTS CROSSED OUT SHOULD NOT BE INSTALLED.
 2. WIRE ADD SIDE 1: FROM E17-9 TO E15-10
 3. E30 IS A SPARE IC LOCATION.

STEP 6 + Y AXIS — STEP — TIMES
 REPEAT + X AXIS — STEP — TIMES

CHANGE NO	REV	DATE	BY	CHK'D
1	A	10/18/70	K. MANAYEK	
2	B	11/10/70	K. MANAYEK	
3	C	11/10/70	K. MANAYEK	



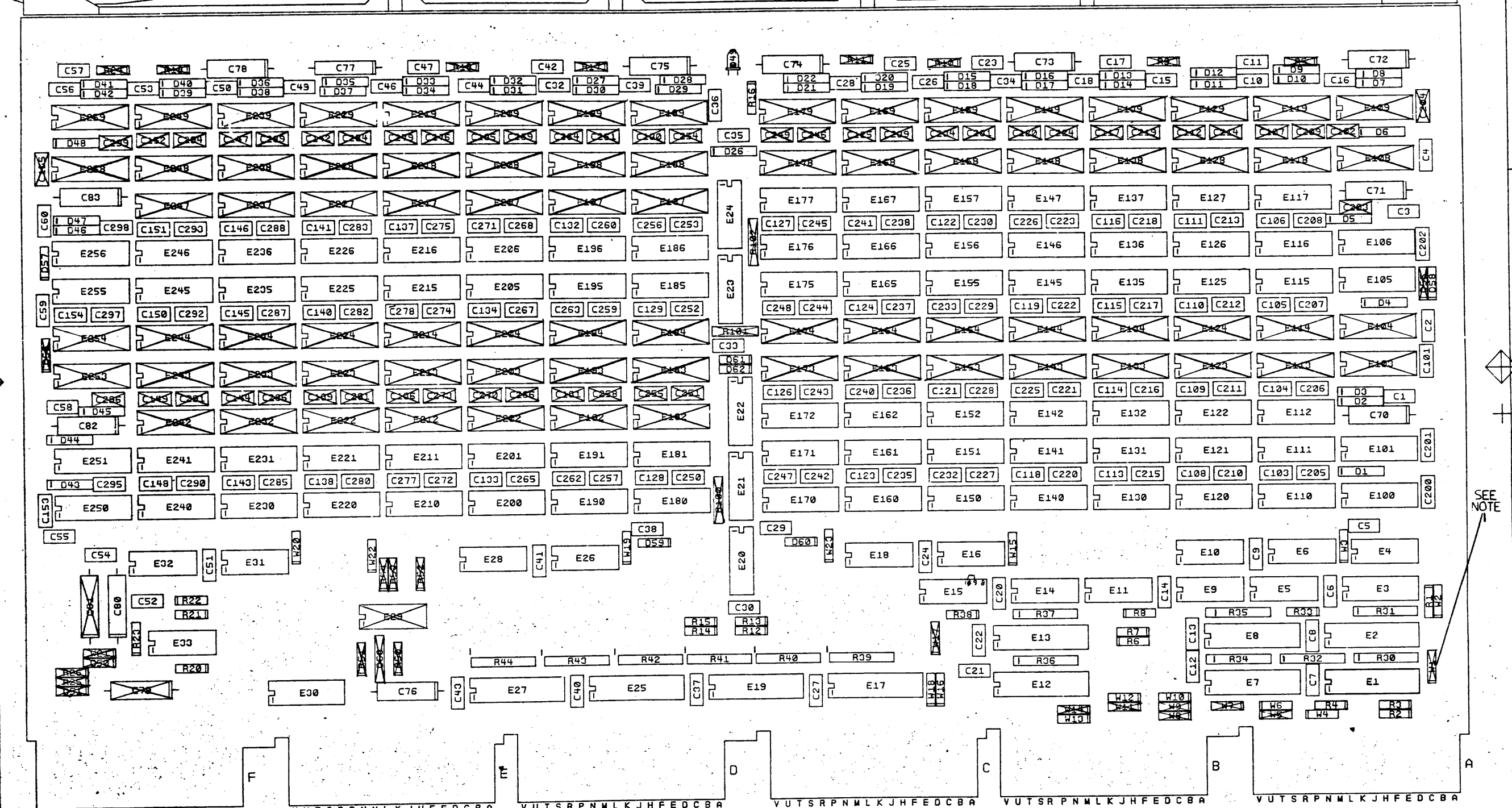
SIGNATURES	DATE
DRAWN: [Signature]	10/18/70
CHK'D: [Signature]	10/18/70
RECH. ENG.: [Signature]	10/18/70
PROJ. ENG.: [Signature]	10/18/70
PROD.: [Signature]	10/18/70
ETCH REV. C	

digital	
TITLE MOS MEMORY ARRAY	
SCALE 2:1	SIZE CODE NUMBER
SHT. 1 OF 4	D UA M8750-0-0 C
NEXT HIGHER ASSY. B-00-M8750-1	

37,36
 34
 TYP
 4
 PLCS
 SEE NOTE 1

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VARIAION BA



NOTES: ALL COMPONENTS CROSSED OUT SHOULD NOT BE INSTALLED.
 2. WIRE-ADD SIDE 1: FROM E15-9 TO E15-10
 3. E30 IS A SPARE LOCATION.

STEP E	+ Y AXIS	STEP	TIMES
REPEAT	+ X AXIS	STEP	TIMES

CHANGE NO	REV

SIGNATURES	DATE	digital
DRN. <i>D. Mangano</i>	19 JAN 81	
CHK'D.		TITLE MOS
MECH. ENG.		MEMORY ARRAY
PROJ. ENG.		SIZE CODE UA
PROD.		NUMBER M8750-0-0
SCALE 2:1		REV C
SHT. 2 OF 4		
NEXT HIGHER ASSY. B-DD-M8750-0		

ML2 1 WO#

8 7 6 5 4 3 2 1

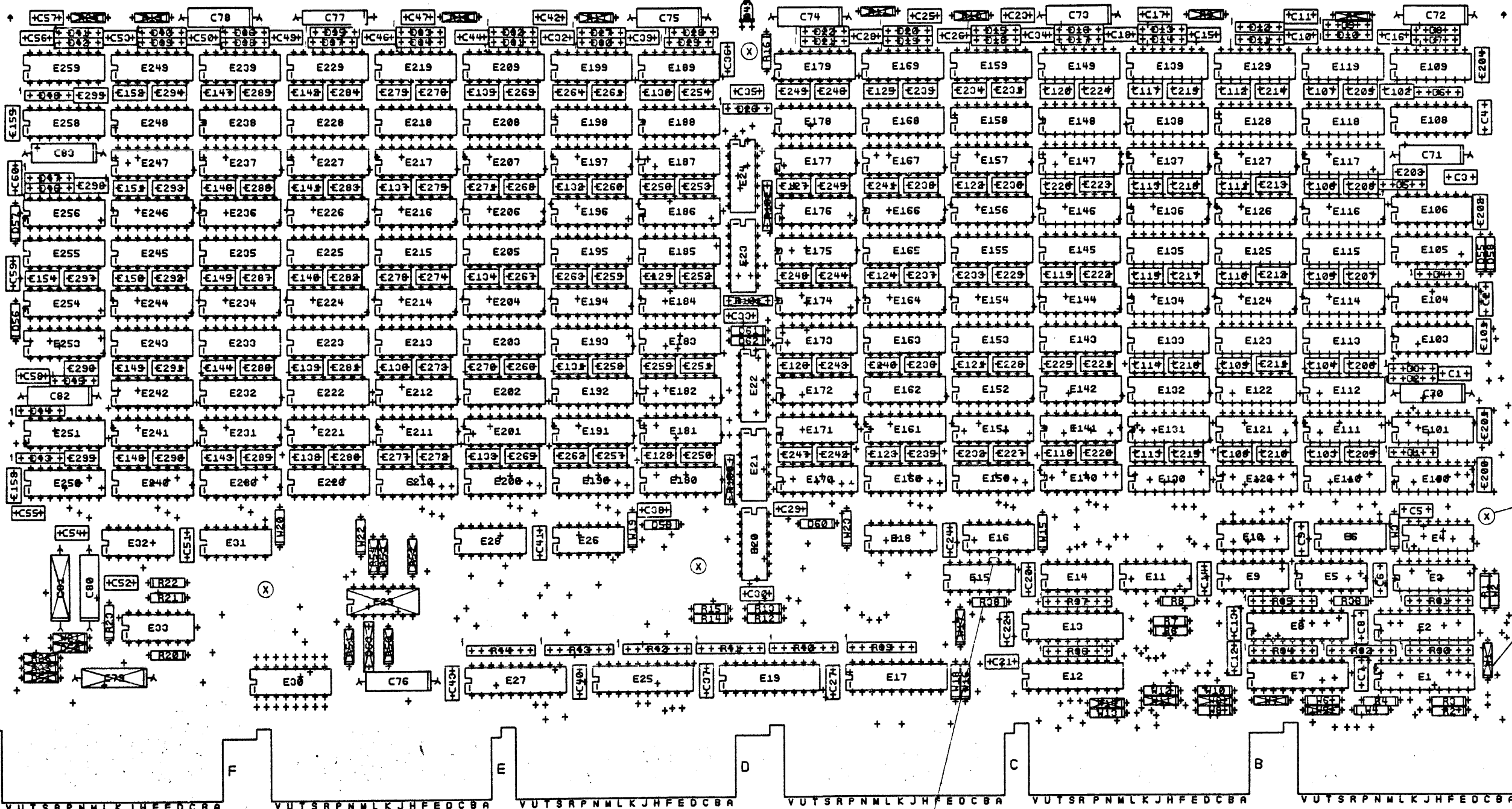
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2-0-0573W V7 7

VARIATION CA

21

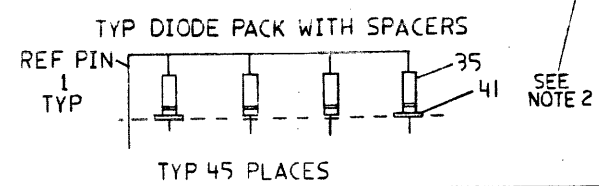
COMPONENT SIDE VIEW



- NOTES: 1. ALL COMPONENTS CROSSED OUT SHOULD NOT BE INSTALLED.
 2. WIRE ADD SIDE 1: FROM E15-9 TO E15-10
 3. E30 IS A SPARE IC LOCATION.

STEP	↑ Y AXIS	STEP	TIME
REPEAT	→ X AXIS	STEP	TIME

CHANGE NO	REV



ETCH REV.

SIGNATURES		DATE
DRAWN BY		
CHK'D.		
MECH. ENG.		
PROJ. ENG.		
PROD.		
SCALE 2:1		
SHT. 3 OF 4		
NEXT HIGHER ASSY: B-DD-M8750-3		

digital	
TITLE	MOS MEMORY ARRAY
SIZE CODE	NUMBER

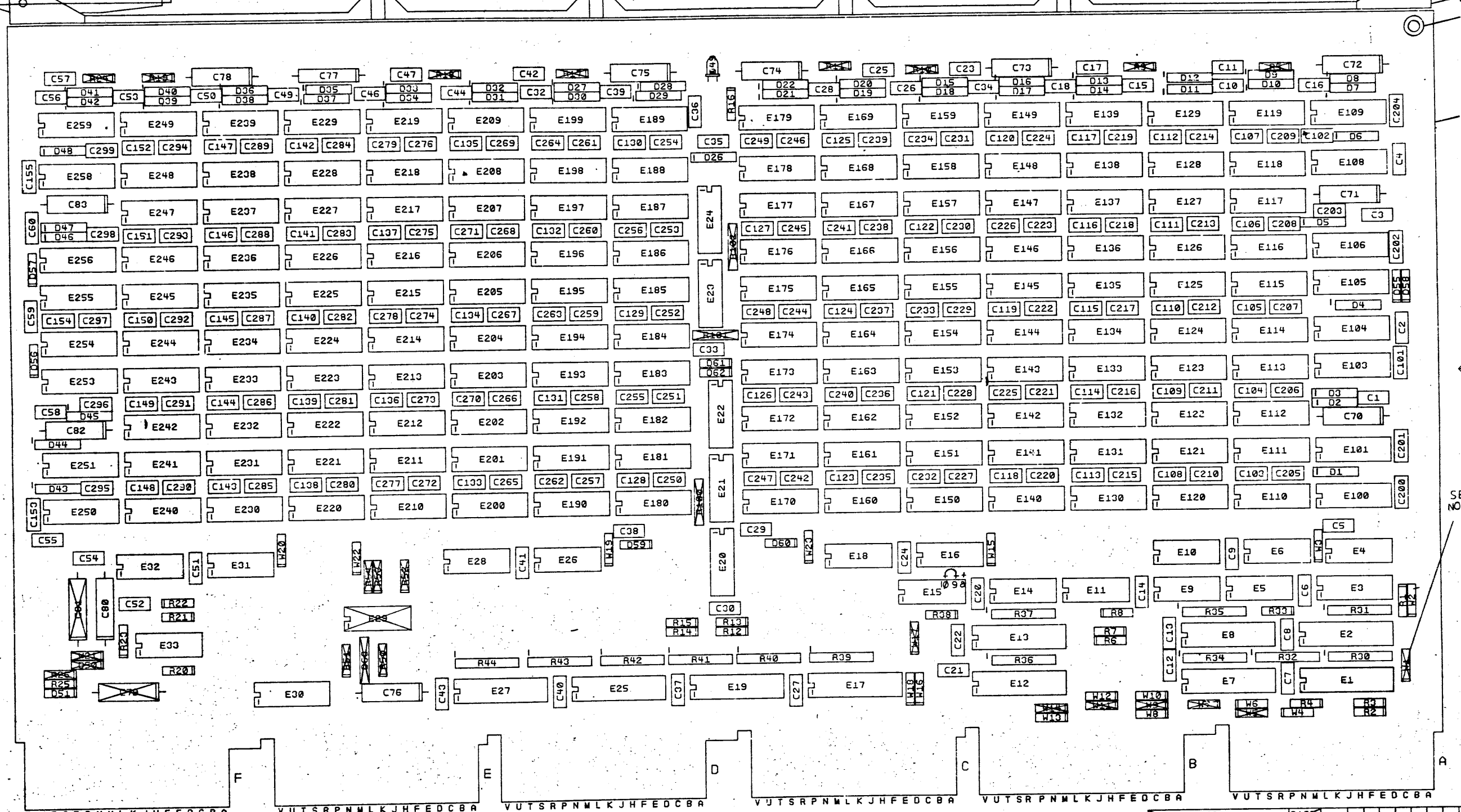
VUYSRPNMLKJHFEDCBA

8 7 6 5 4 3 2 1 ML2 1 WO#

37,39
 48
 TYP
 4
 PLCS
 SEE NOTE 1

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 AIRTEL EQUIPMENT CORPORATION
 11101 1-0-2025M7101/1

VARIATION CA

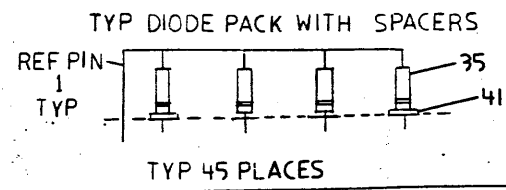


SEE NOTE

NOTES:
 1. ALL COMPONENTS CROSSED OUT SHOULD NOT BE INSTALLED.
 2. WIRE ADD SIDE 1: FROM E15-9 TO 15-10
 3. E30 IS A SPARE IC LOCATION.

STEP	E	+ Y AXIS	STEP	TIMES
REPEAT		+ X AXIS	STEP	TIMES

CHG	NO	REV



SIGNATURES		DATE
DRN.	 	
CHK'D.		
MECH. ENG.		
PROJ. ENG.		
PABD.	TITLE MOS MEMORY ARRAY	
SCALE 2/1	SIZE CODE	NUMBER
SHT. 4 OF 4	D UA M8750-0-0	REV C
NEXT HIGHER ASSY. B-DD-M8750-0		

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION			REFERENCE DESIGNATOR
					CB	CD	CH	
1	1	D-UA-M8750-0-0		UNIT ASSEMBLY	REF	REF	REF	
2	2	D-CS-M8750-0-1		CIRCUIT SCHEMATIC	REF	REF	REF	
3	3	D-MD-5013706-0-0		DRILL & ETCH DRAWING	REF	REF	REF	
4	4	B-DD-M8750-0		DRAWING DIRECTORY	REF	REF	REF	
5	5		5013706-00	DRILL+ETCH MEMORY	1	1	1	
6	6	SPARE IC		SPARE IC	1	1	1	E30
7	7		1001610-00	.01 MFD 50V +80-20% Z5U CER	47	47	47	C1-C10, C12-C16, C18, C20-C24, C27-C30, C32-C41, C43, C44, C46, C49, C51, C53-C56, C58-C60
8	8		1010274-00	.22 MFD 50V +80-20% Z5U CER	164	164	164	C101-C155, C11, C17, C25, C26, C42, C52, C47, C200-C299, C50, C57
9	9		1012084-01	8 MFD 25V +75-10% AL EL	12	12	12	C70-C78, C80, C82, C83
10	10		1105275-00	D 672 TR= 15NS PIV= 60V SI	8	8	8	D55-D62
11	11		1109991-00	*** THIS ITEM IS NOT USED ***	-	-	-	
12	12		1114384-00	LED 105MW 35MA GREEN	1	1	1	D49
13	13		1216988-02	HANDLE, MODULE HEX TWO EJECTORS	1	1	1	
14	14		1300309-00	390.0 .25 W 5.0 % CC	1	1	1	R20
15	15		1300365-00	1.0 K .25 W 5.0 % CC	1	1	1	R22
16	16		1301317-00	10.0 .25 W 5.0 % CC	2	2	2	R21, R23
17	17		1301972-00	270.0 .25 W 5.0 % CC	1	1	1	R16
18	18		1302124-00	18.0 .25 W 5.0 % CC	2	2	2	R33, R38
19	19		1302177-00	47.0 K .25 W 5.0 % CC	11	11	11	R1-R4, R6-R8, R12-R15
20	20		1315678-00	R NETWORK 3-18 5.0 % 7PIN	13	13	13	R30-R32, R34-R37, R39-R44
21	21		1513265-00	3725 QUAD CORE DRIVER	1	1	1	E33
22	22		1910091-00	DEC 7437 AND GATE-QUAD 2IN, 6U	2	2	2	E15, E20
23	23		1910532-00	74500 NAND GATE-QUAD 2IN	1	1	1	E22
24	24		1910534-00	74504 INVERTER GATE-HEX 11	1	1	1	E11
25	25		1911676-00	745139 DECODER-DUAL TWO-IMP	1	1	1	E3
26	26		1912068-00	74128 DRIVER LINE, QUAD, 50	1	1	1	E14
27	27		1912388-00	74502 NOR GATE-QUAD 2IN, 6U	2	2	2	E5, E9

REVISION HISTORY		BASIC PART NO: M8750		DRN: K. CROUSE	DATE: 13-JAN-81	DIGITAL	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: P. BOSSMAN	DATE: 4-FEB-81	PARTS LIST	
	INITIAL	A	SECTION VARIATION INDEX			MOS MEMORY ARRAY	
			[A] CB, CD, CH	DES. ENG: K. MAMAYEK	DATE: 13-JAN-81		
			[B]	RESP. ENG.: K. MAMAYEK	DATE: 13-JAN-81	DOCUMENT NUMBER	
			[C]	MFG. ENG.: D. TAYLOR	DATE: 13-JAN-81	K	PL M8750-CA-DBP
			[D]	ASSEMBLY NUMBER: D-UA-M8750-0-C	TOP DOCUMENT NUMBER: #B-DD-M8750-0		FILE NAME: Z2111A.PLS
			[E]				EDIT #: 15
			[F]	"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 (C) 1981. DIGITAL EQUIPMENT CORPORATION"			
			[G]				
			[H]				
			[I]				
			[J]				
			[K]				
			[L]				
			[M]				
			[N]				

AUTOMATED BY PRTLST.3P(44)

PARTS LIST

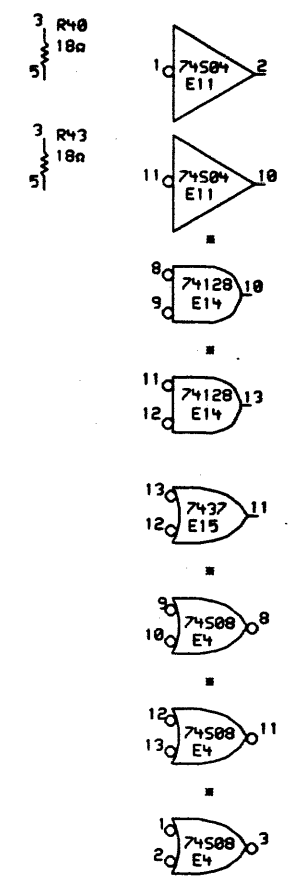
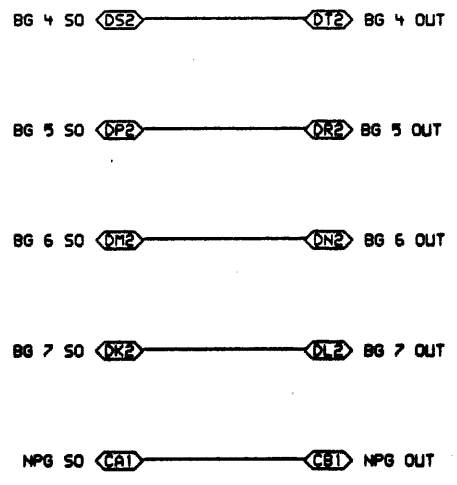
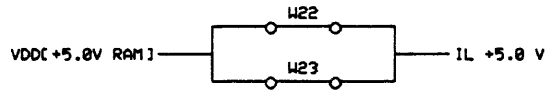
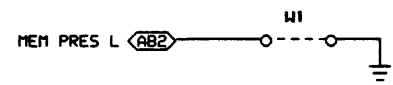
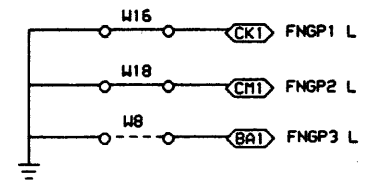
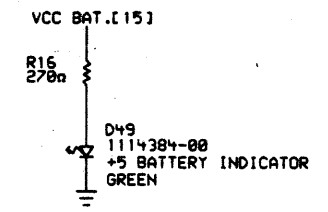
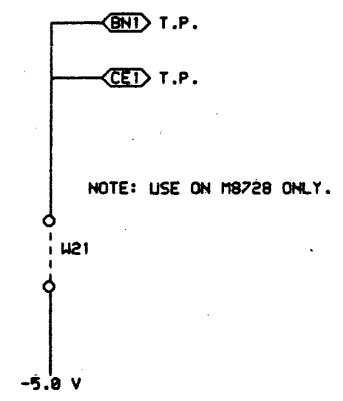
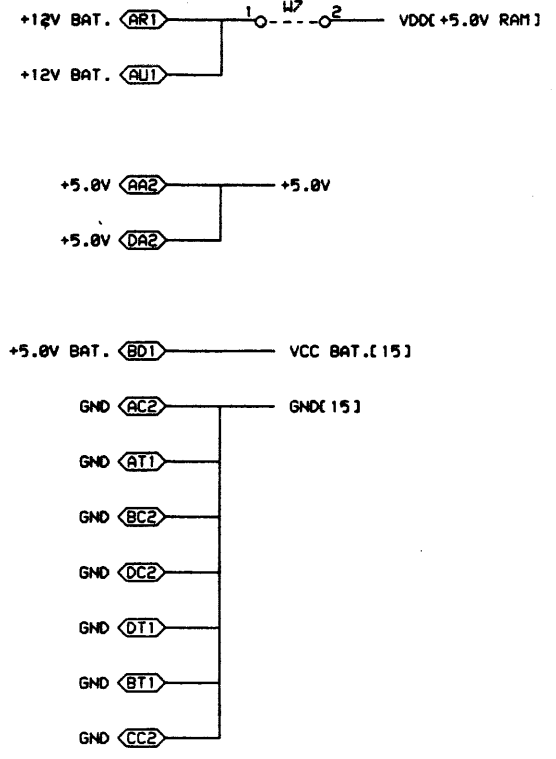
SHEET A2 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION			REFERENCE DESIGNATOR
					CB	CD	CH	
28	28		1912389-00	74508 AND GATE-QUAD 2IN,PO	1	1	1	E4
29	29		1912746-00	DEC 74537 NAND GATE-QUAD 2IN	11	11	11	E6, E10, E16, E18, E21, E23, E24, E26, E28, E31, E32
30	30		1913777-00	LS240 DRIVER, LINE, OCTAL, T	10	10	10	E1, E2, E7, E8, E12, E13, E17, E19, E25, E27
31	31		2113825-01	*** THIS ITEM IS NOT USED ***	-	-	-	
32	32		2118467-01	8264-20 RAM 64K X1, 200NS 1	-	156	-	E100, E101, E103-E106, E108-E251, E253-E256, E258, E259
33	33		2118472-01	4164-2 MOS RAM 64K X1, 200	-	-	156	E100, E101, E103-E106, E108-E251, E253-E256, E258, E259
34	34		2118470-01	4864-1 MOS RAM 64K X1, 200	156	-	-	E100, E101, E103-E106, E108-E251, E253-E256, E258, E259
35	35		7010918-01	DIODE STICK G652	45	45	45	D1-D22, D26-D48
36	36		9000024-01	EYELET, ROLL FLANGE .1210DX .192	12	12	12	
37	37		9006968-00	SPACER, FIBER, RND, 4-40, .250 X	4	4	4	
38	38		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	15	15	15	W2-W4, W5, W8, W10, W12, W13, W15, W16, W18-W20, W22, W23
39	39		9009233-04	SCREW, NYLON, SLTD BINDER HD, 4-	4	4	4	
40	40		9009321-00	LOCK TITE, SCREW LOCK, 1000 FER	4	4	4	
41	41		9107771-00	TUBING, STAD WALL, .04CID UL	90	90	90	

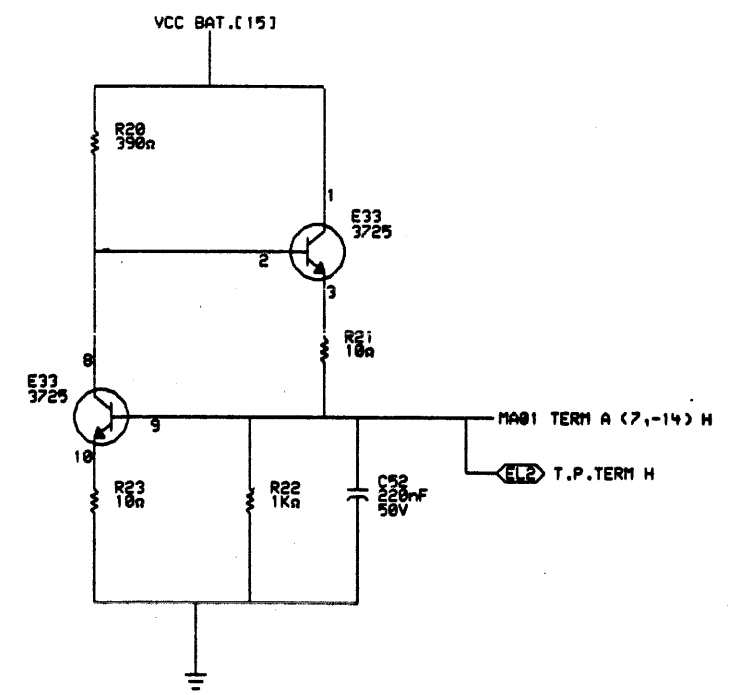
- 42 NOTE: M8750-CA IS THE PRIMARY VARIATION 256K X 39 BITS SYSTEM (NOT A MODULE TYPE).
- 43 NOTE: M8750-CB IS A MODULE TYPE USING HITACHI 64K MOS DEVICES.
- 44 NOTE: M8750-CD IS A MODULE TYPE USING FUJITSU 64K MOS DEVICES.
- 45 NOTE: M8750-CH IS A MODULE TYPE USING NEC 64K MOS DEVICES.

D	I	G	I	T	A	L	TITLE	MOS MEMORY ARRAY	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
											K	PL	M8750-CA-DBP	A

NOTE: USE ON M8728 ONLY.



- NOTE: 1. AN ASTERISK ON A DEVICE INDICATES IT IS CONNECTED TO THE +5V BATTERY.
 2. ALL RESISTORS WITH PIN NUMBERS ARE 1/8WATT SIPS. ALL OTHERS ARE 1/4W 5%.
 3. CC2 MAY BE FLOATED TO VARY -5V (VBB). THE VARIABLE VBB IS APPLIED TO PIN CE1.(M8728 ONLY)
 4. INT BUS A6 MAY BE CALLED INT BUS CS(CHIP SEL) ON SYSTEMS ORIGINALLY DESIGNED FOR 4K RAMS.
 5. FOR VARIATION M8750 CA, INSTALL JUMPERS: U2, U3, U4, U6, U8, U10, U12, U13, U15, U16, U18, U19, U20, U22, U23
 6. FOR VARIATION M8750 BA, INSTALL JUMPERS: U2, U3, U4, U6, U10, U12, U13, U15, U16, U18, U19, U20, U22, U23.
 7. SOURCE CODES PRECEDE THE SIGNAL NAME. DESTINATION CODES, ENCLOSED IN PARENTHESIS, FOLLOW THE NAME WHERE:
 (X), X DENOTES THE PAGE DESTINATION WHERE THE SIGNAL APPEARS ONCE.
 (X-Y), X DENOTES THE PAGE DESTINATION. Y DENOTES THE NUMBER OF PLACES THE SIGNAL APPEARS ON THE PAGE.
 (X,-Y) DENOTES THE SIGNAL DESTINATION APPEARING ON PAGE X THROUGH Y.

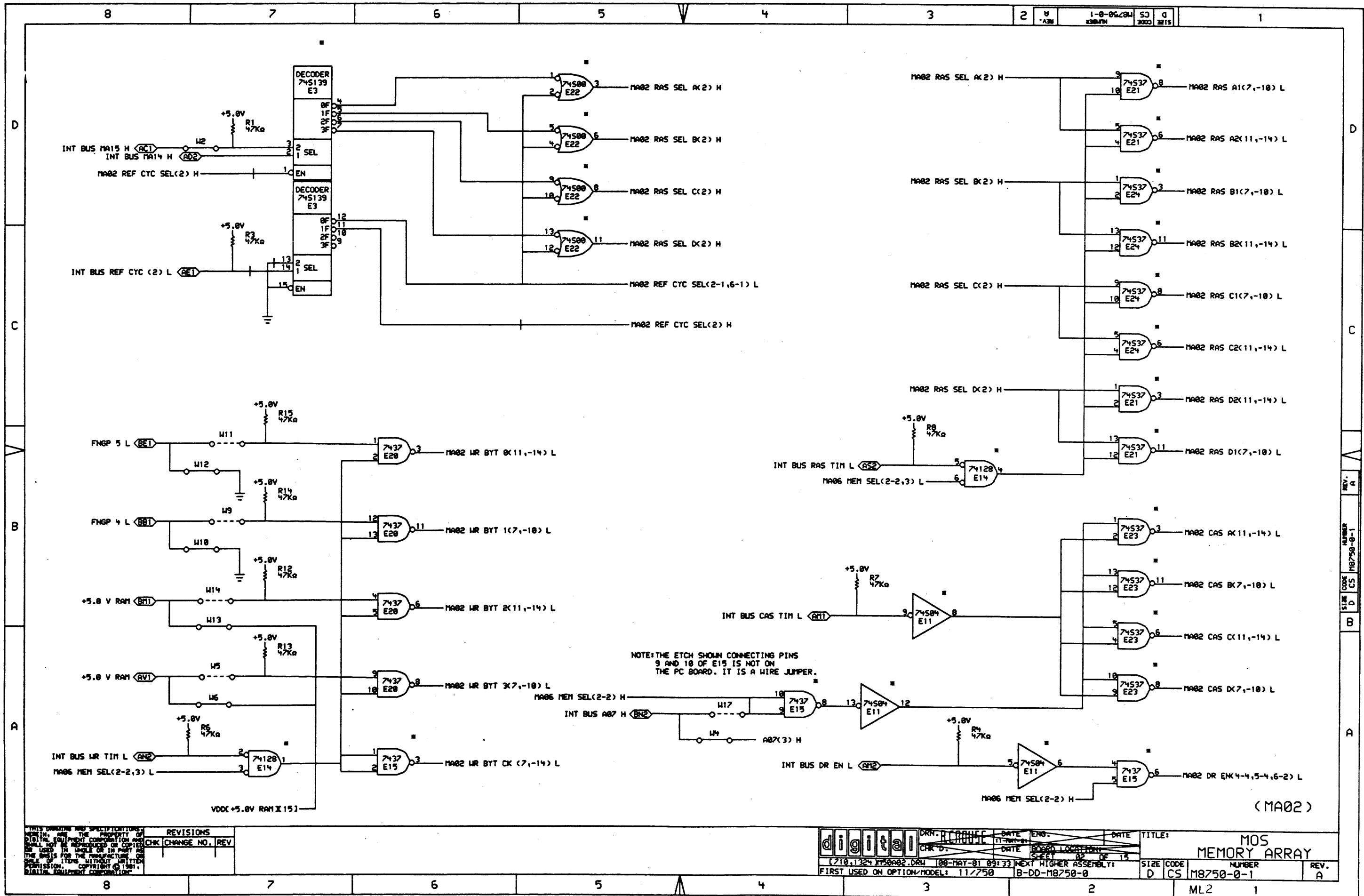


(MA01)

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REVISIONS		
CHK	CHANGE NO.	REV

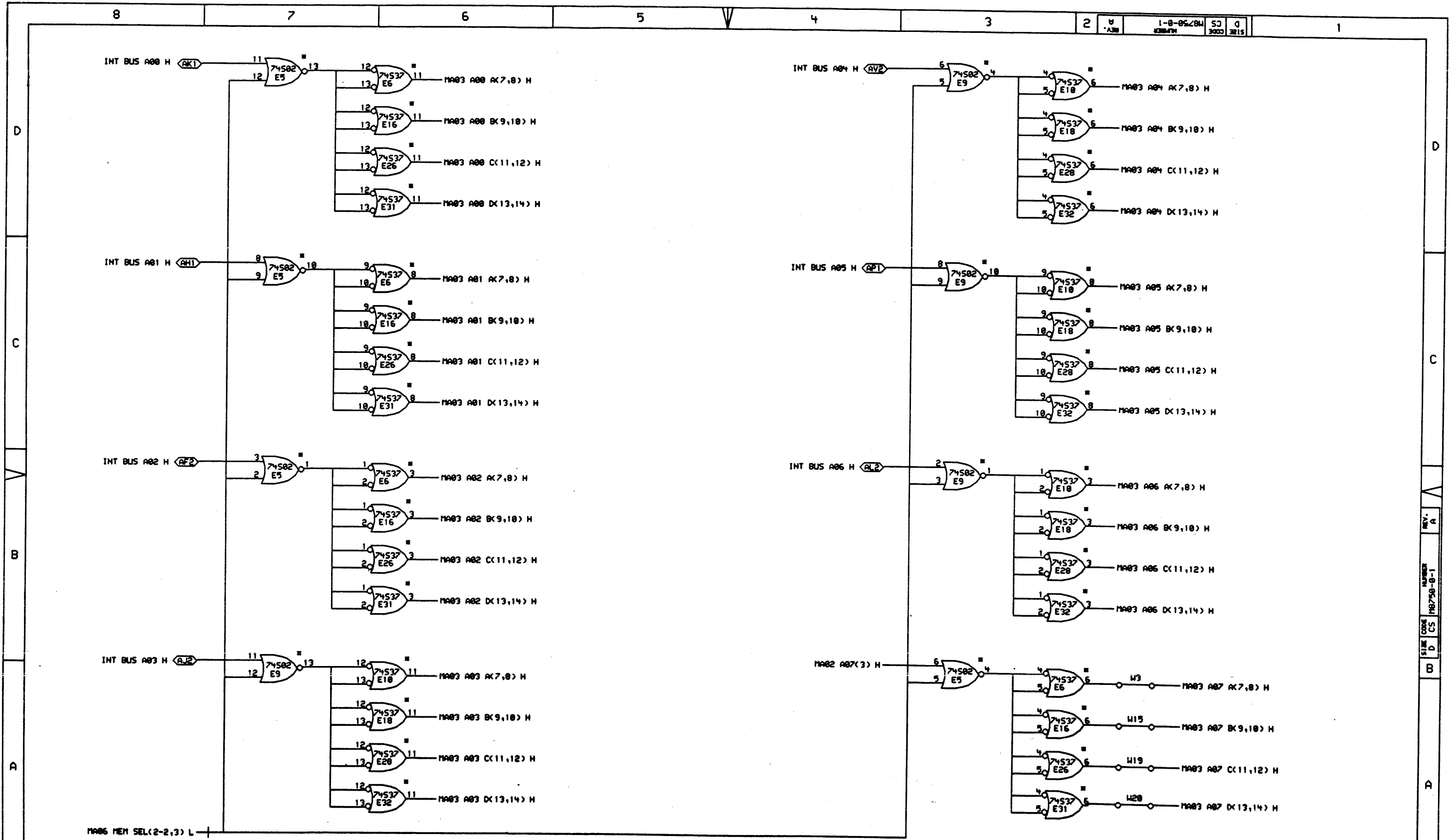
digital	DRN. R. CROUSE	DATE 20-11-81	ENG. J. MORGAN	DATE 12-3-81	TITLE: MOS MEMORY ARRAY
	CHK. D. BROWN	DATE 3 AUG 81	BOARD LOCATION: 01	SHEET 01 OF 15	SIZE CODE NUMBER REV. D CS M8750-0-1 A
FIRST USED ON OPTION/MODEL: 11/750			NEXT HIGHER ASSEMBLY: B-DD-M8750-0		ML2 1



REVISIONS	
CHK	CHANGE NO. REV

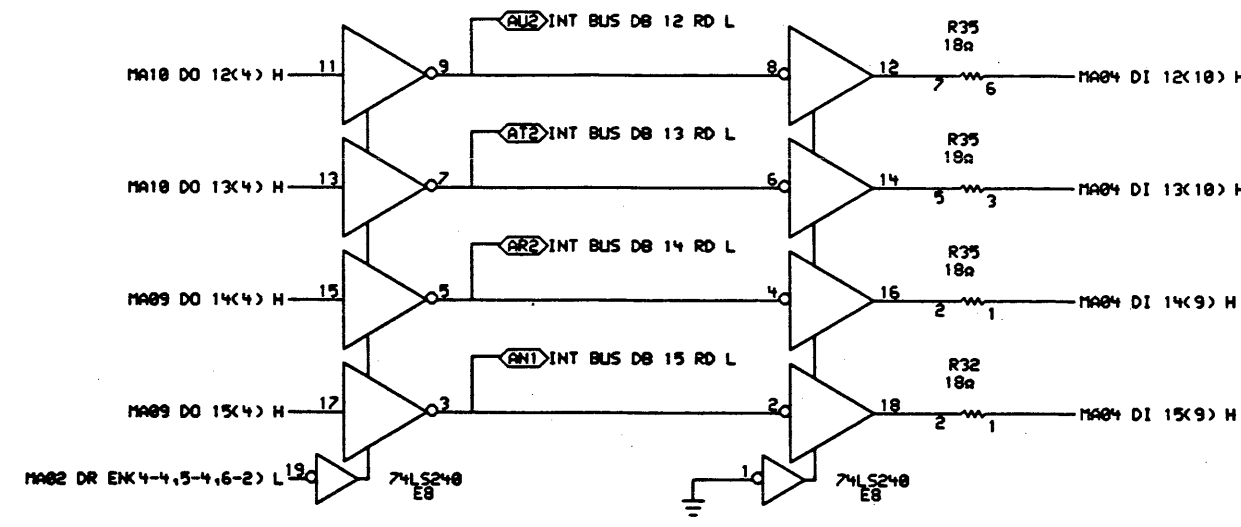
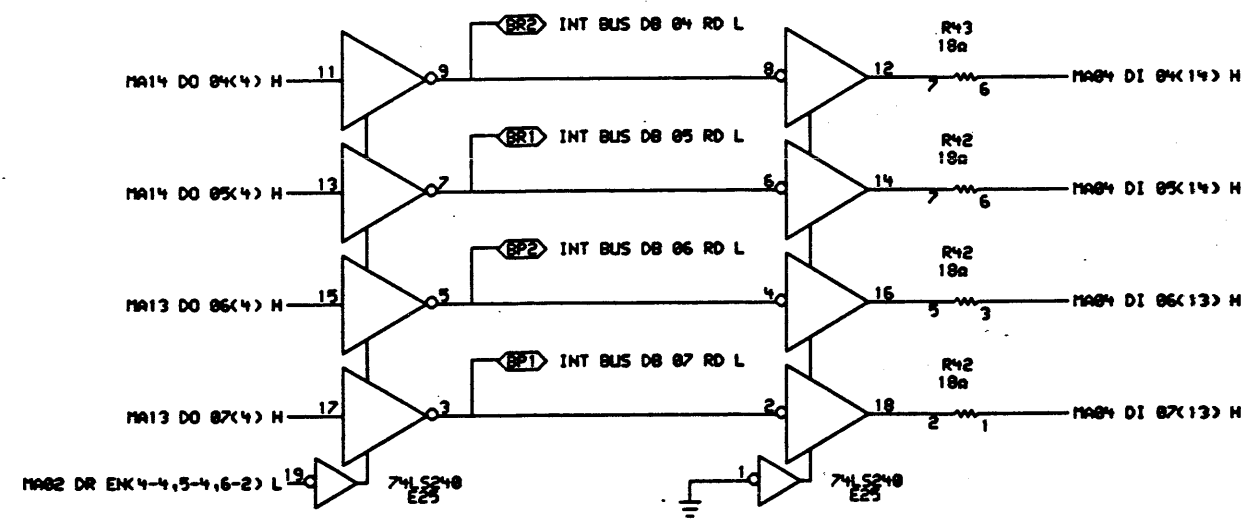
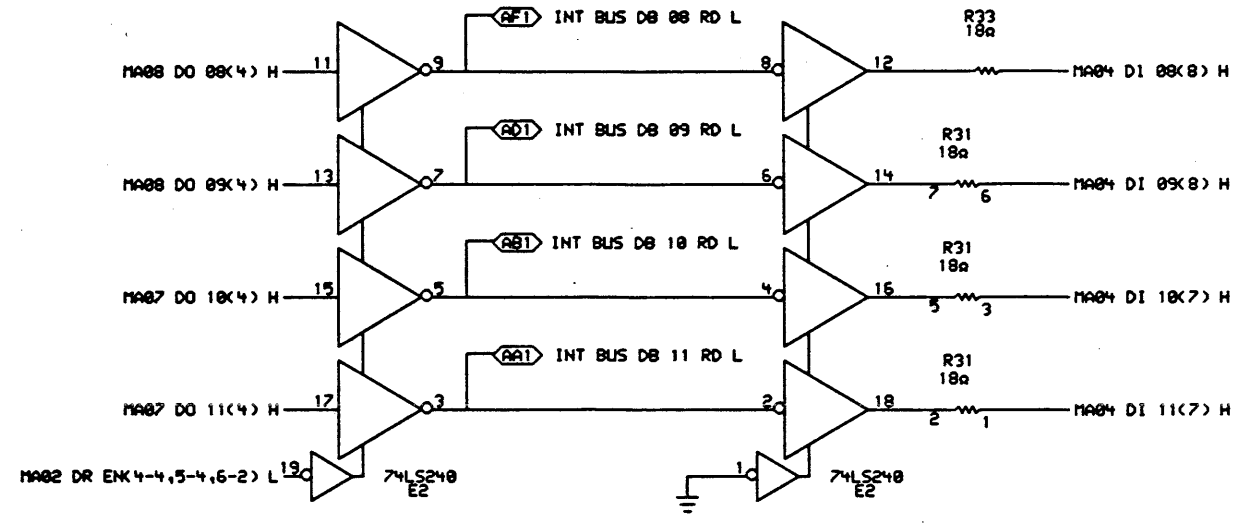
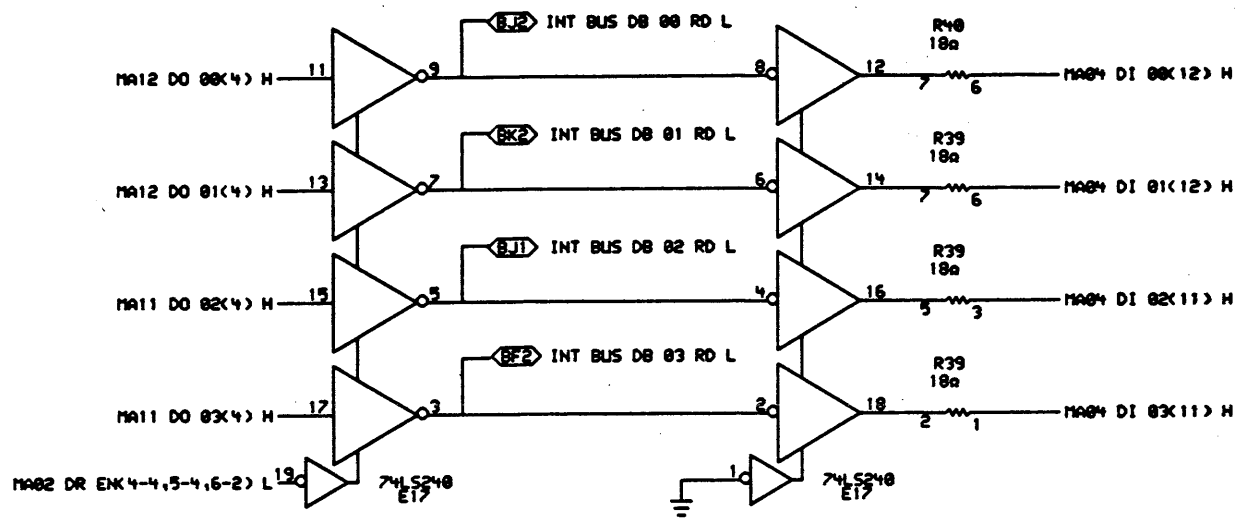
digital	DRN. R. RALPH	DATE	ENR.	DATE	TITLE:
	CHK'D.	DATE	BOGGS LOCATING	DATE	
(710.1324) M8750-0-1 100-MAY-81 09:33 NEXT HIGHER ASSEMBLY: B-DD-M8750-0					SIZE CODE NUMBER REV. D CS M8750-0-1 A

REV. A
 NUMBER M8750-0-1
 SIZE CODE D CS
 B
 A



(MA03)

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8	7	6	5	4	3	2	1

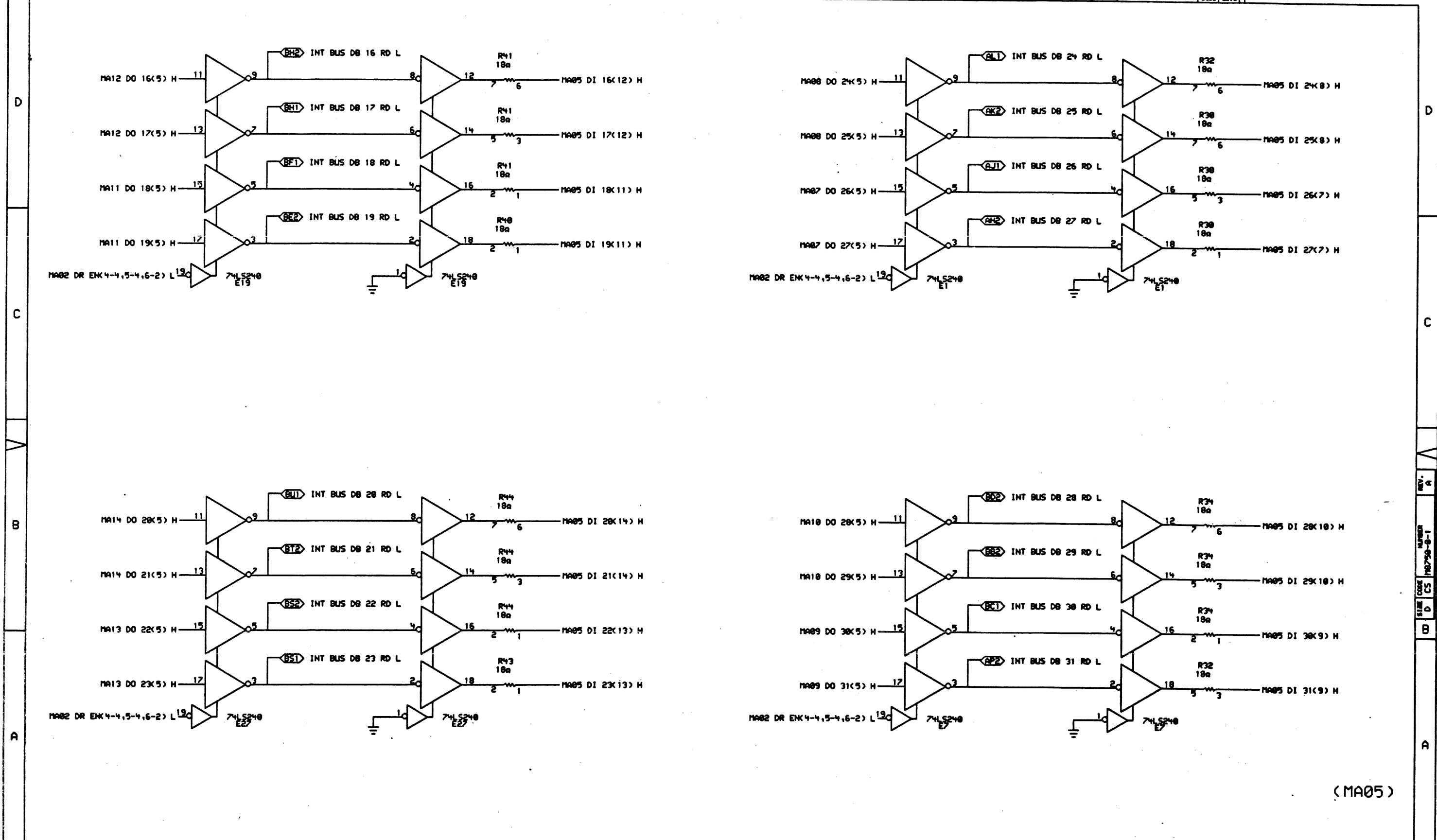


(MA04)

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN. ACROUSE	DATE 11-MAY-81	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK D.	DATE 08-MAY-81 09:36	BOARD LOCATION: SHEET 8 OF 15		
FIRST USED ON OPTION/MODEL: 11/750					
NEXT HIGHER ASSEMBLY: B-DD-M8750-0					
SIZE CODE D	CS	NUMBER M8750-0-1	REV. A	ML2	1

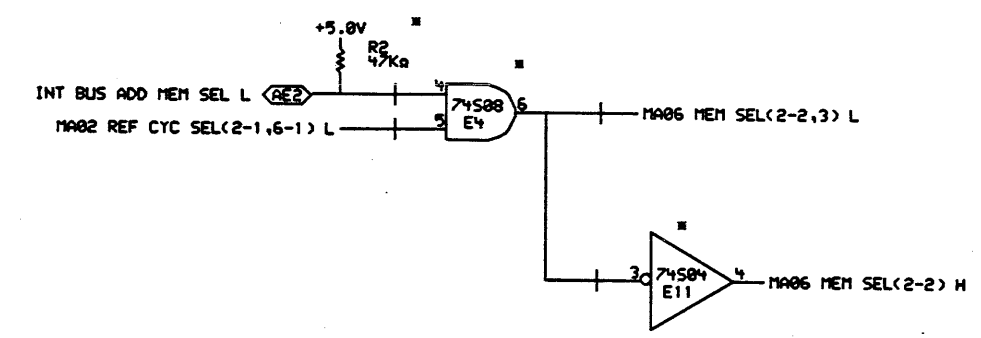
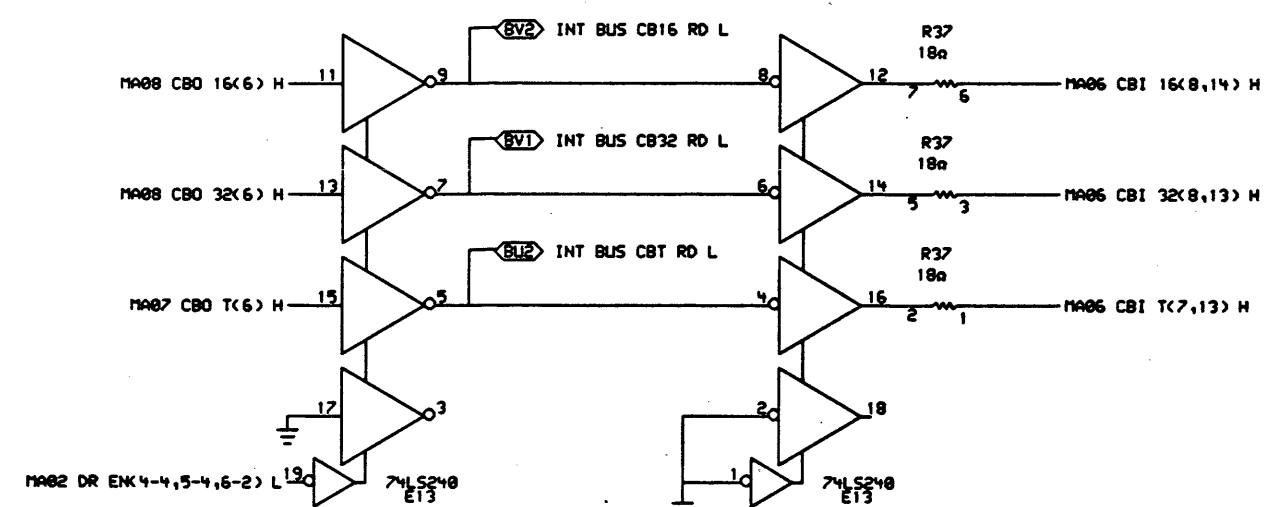
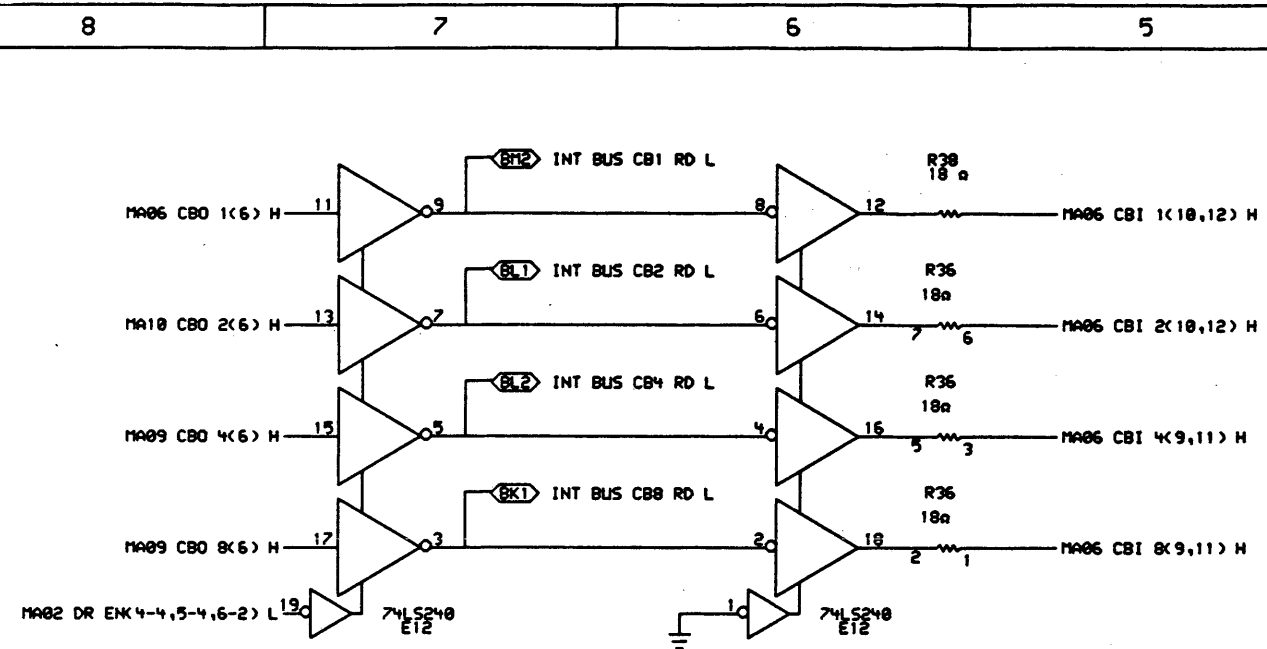


(MA05)

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN. R. CROUSE	DATE 11-MAY-81	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK D.	DATE 08-MAY-81	09137	BOARD LOCATION: ML2	NUMBER: D CS M8750-0-1
FIRST USED ON OPTION/MODEL: 11/750			NEXT HIGHER ASSEMBLY: B-DD-M8750-0		REV. A



(MA06)

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN. RCROUSE	DATE 11-MAY-81	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK D.	DATE	BOARD LOCATION: SHEET 06 OF 15		
FIRST USED ON OPTION/MODEL: 11/750 B-DD-M8750-0					SIZE CODE D CS
					NUMBER M8750-0-1
					REV. A

REV. A
NUMBER M8750-0-1
SIZE CODE CS
B

8 7 6 5 4 3 2 1

D

D

C

C

B

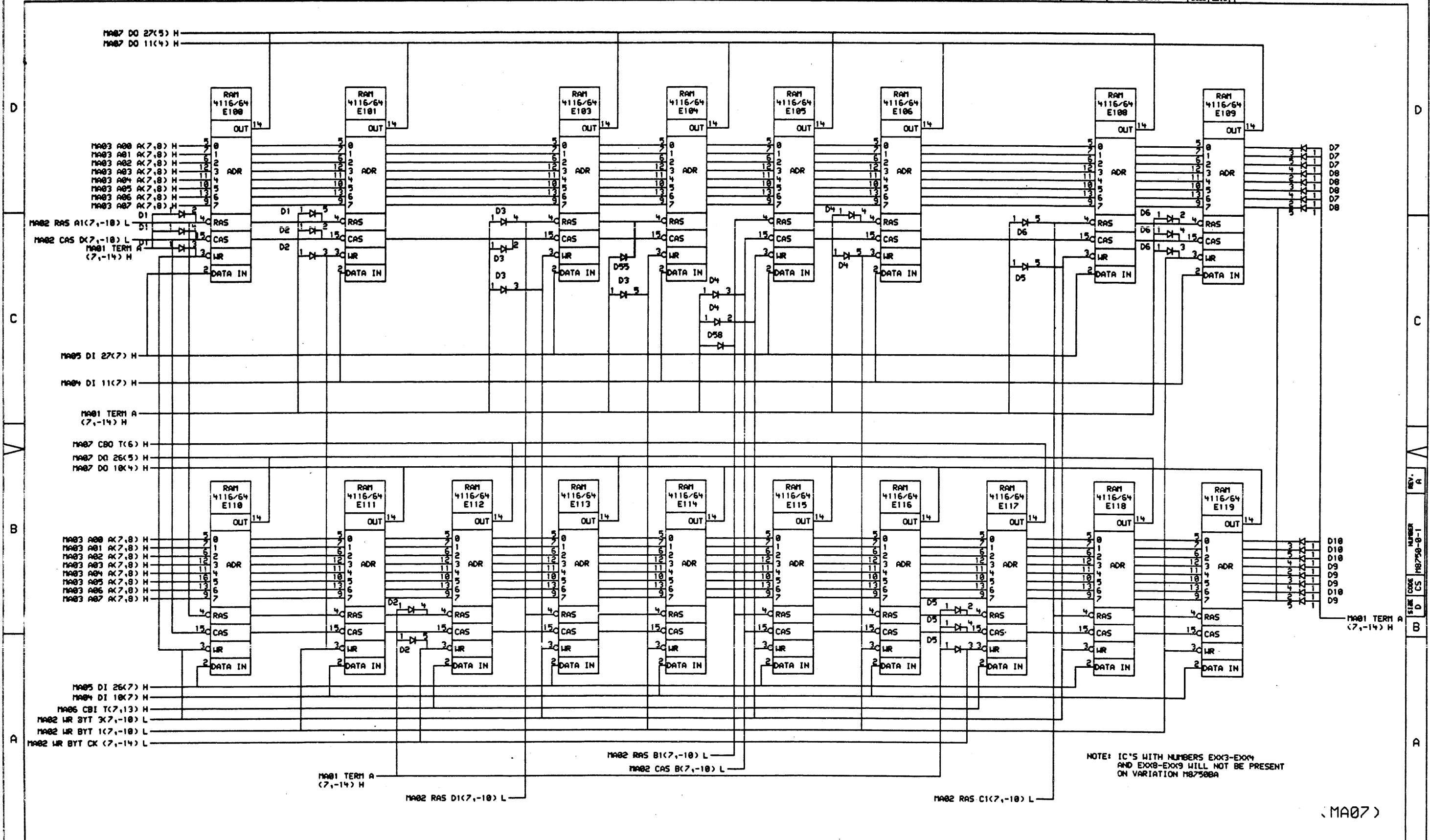
B

A

A

8 7 6 5 4 3 2 1

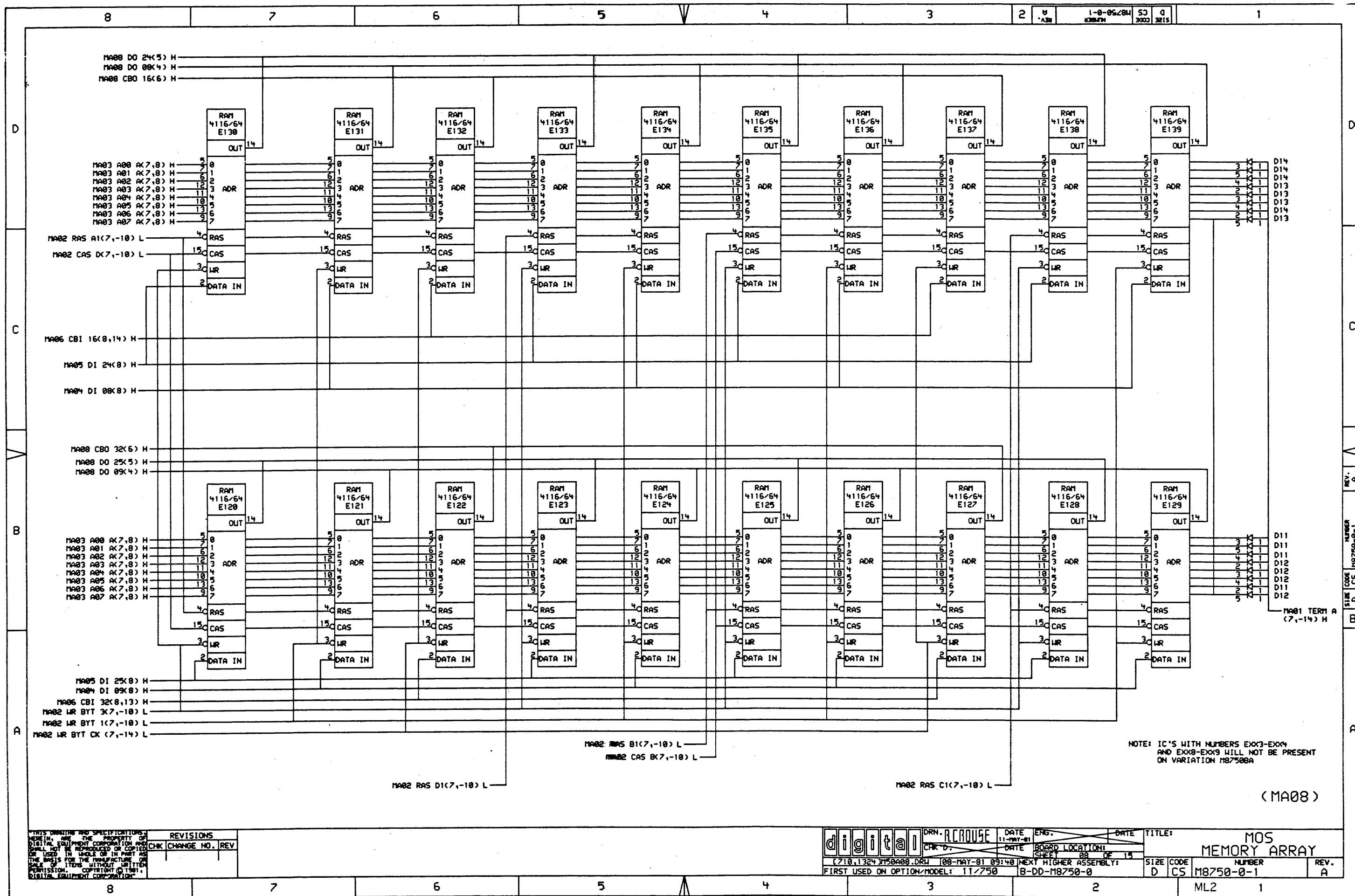
ML2 1



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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN. R. CROUSE	DATE 11-20-81	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK'D.	DATE	BOARD LOCATION: 17 OF 15	SHEET	
FIRST USED ON OPTION MODEL: 11750		NEXT HIGHER ASSEMBLY: B-DD-M8750-0		SIZE CODE D CS	NUMBER M8750-0-1

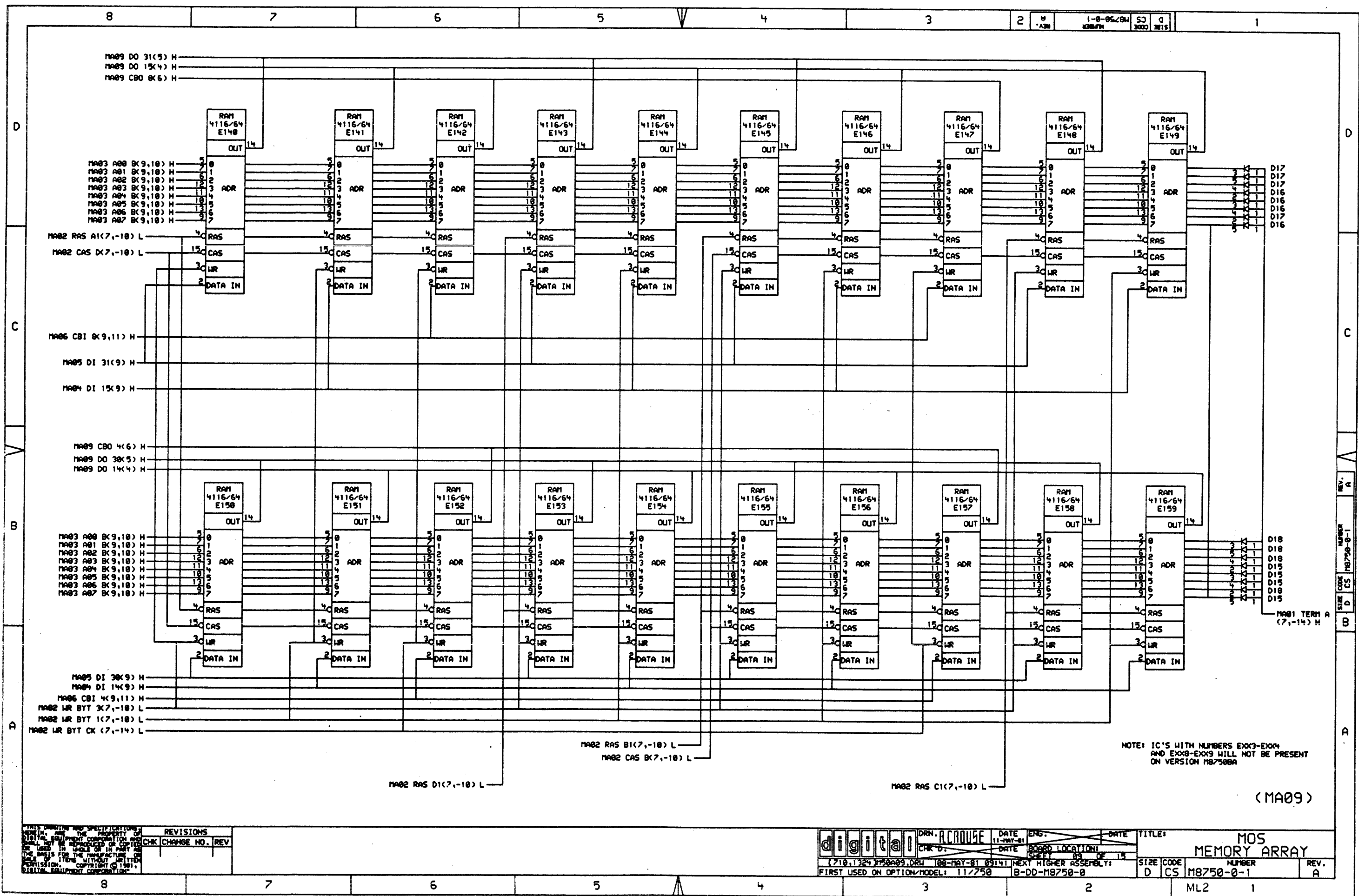


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REVISIONS
CHK CHANGE NO. REV

	DRN. ACROUSE	DATE 11-MAY-81	ENG.	DATE	TITLE:
	CHK D.	DATE	BOARD LOCATION:	SHEET	OF 15
(710,1324) M87508A DRN 108-MAY-81 09:40 NEXT HIGHER ASSEMBLY: B-DD-M8750-0		SIZE	CODE	NUMBER	REV.
FIRST USED ON OPTION/MODEL: 11/750		D	CS	M8750-0-1	A

ML2 1



NOTE: IC'S WITH NUMBERS EX03-EX04 AND EX08-EX09 WILL NOT BE PRESENT ON VERSION M8750A

(MA09)

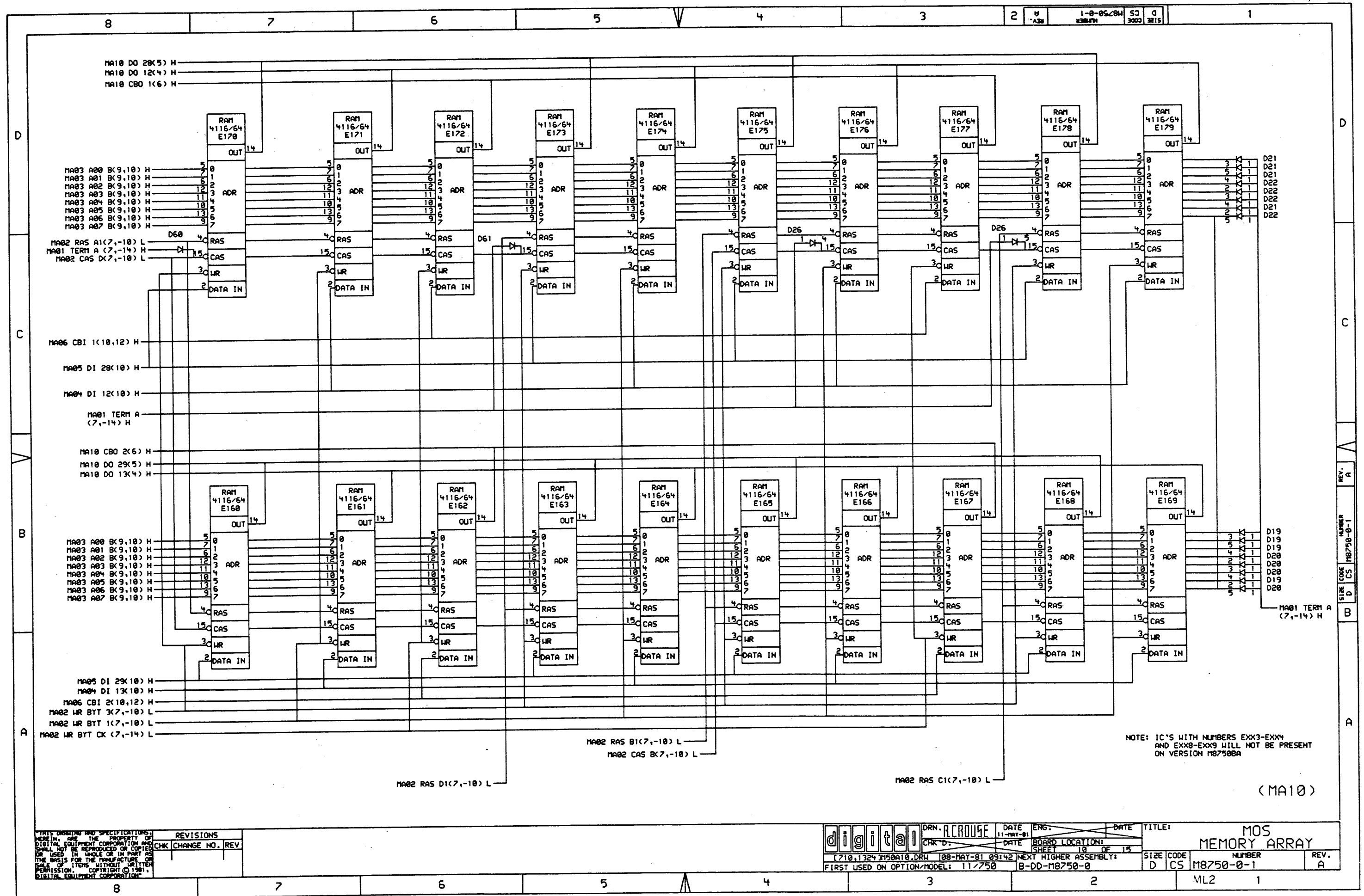
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REVISIONS		
CHK	CHANGE NO.	REV.

digital	DRN. A. CROUSE	DATE 11-7-71	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK. D.	DATE 08-MAY-81	BOARD LOCATION: 83 OF 15		
FIRST USED ON OPTION/MODEL: 11/750		NEXT HIGHER ASSEMBLY: B-DD-M8750-0		SIZE CODE: D CS	NUMBER: M8750-0-1

REV. A
NUMBER B-1
CS M8750-0-1
D CS

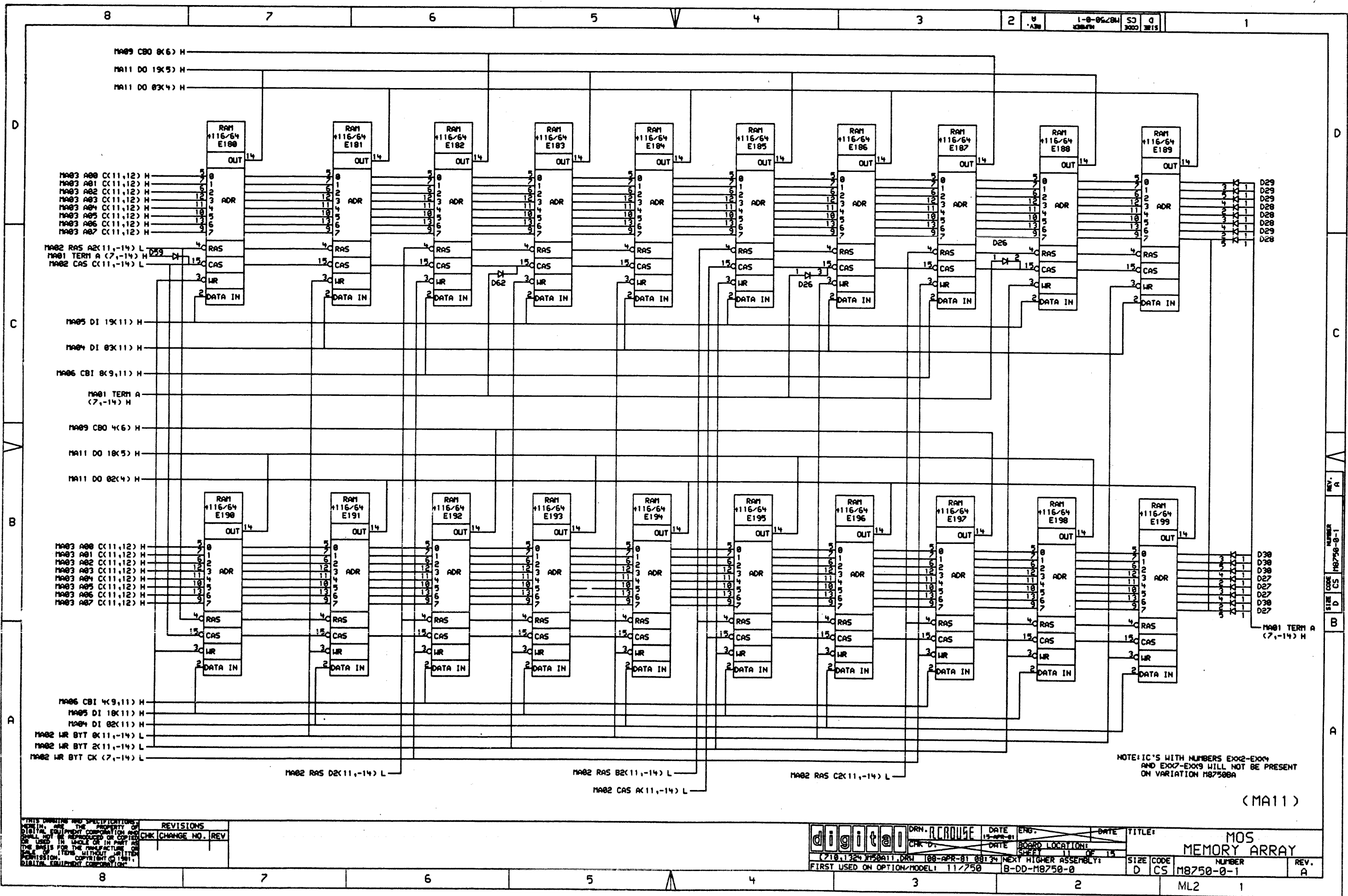
ML2 1



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REV.	CHG	NO.	REV.

digital DRN. ACROUSE DATE 11-MAY-81 ENG. [Signature] BOARD LOCATION: SHEET 10 OF 15 FIRST USED ON OPTION/MODEL: 11/750	TITLE: MOS MEMORY ARRAY SIZE CODE: D CS NUMBER: M8750-0-1 REV.: A
--	--

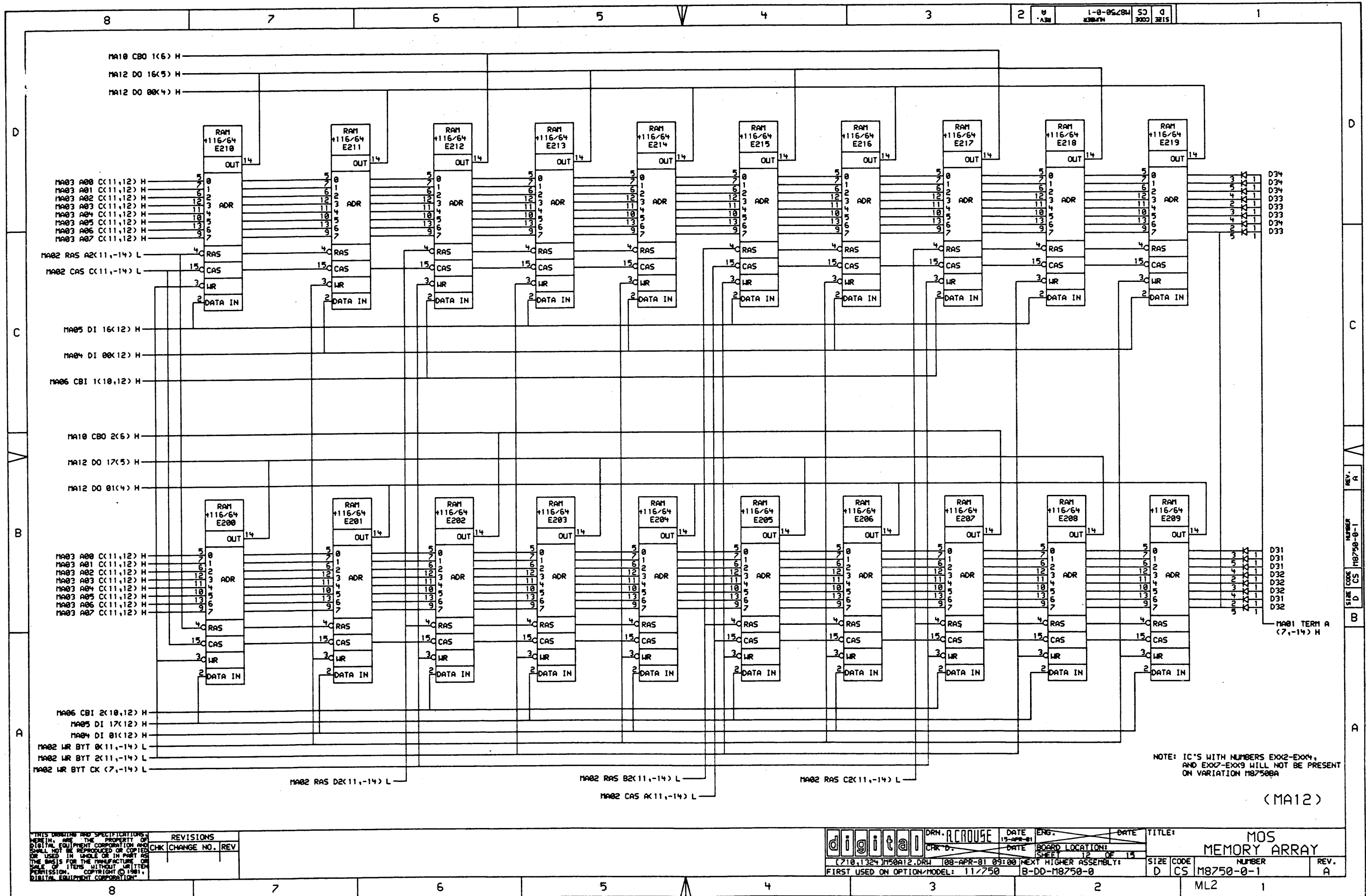


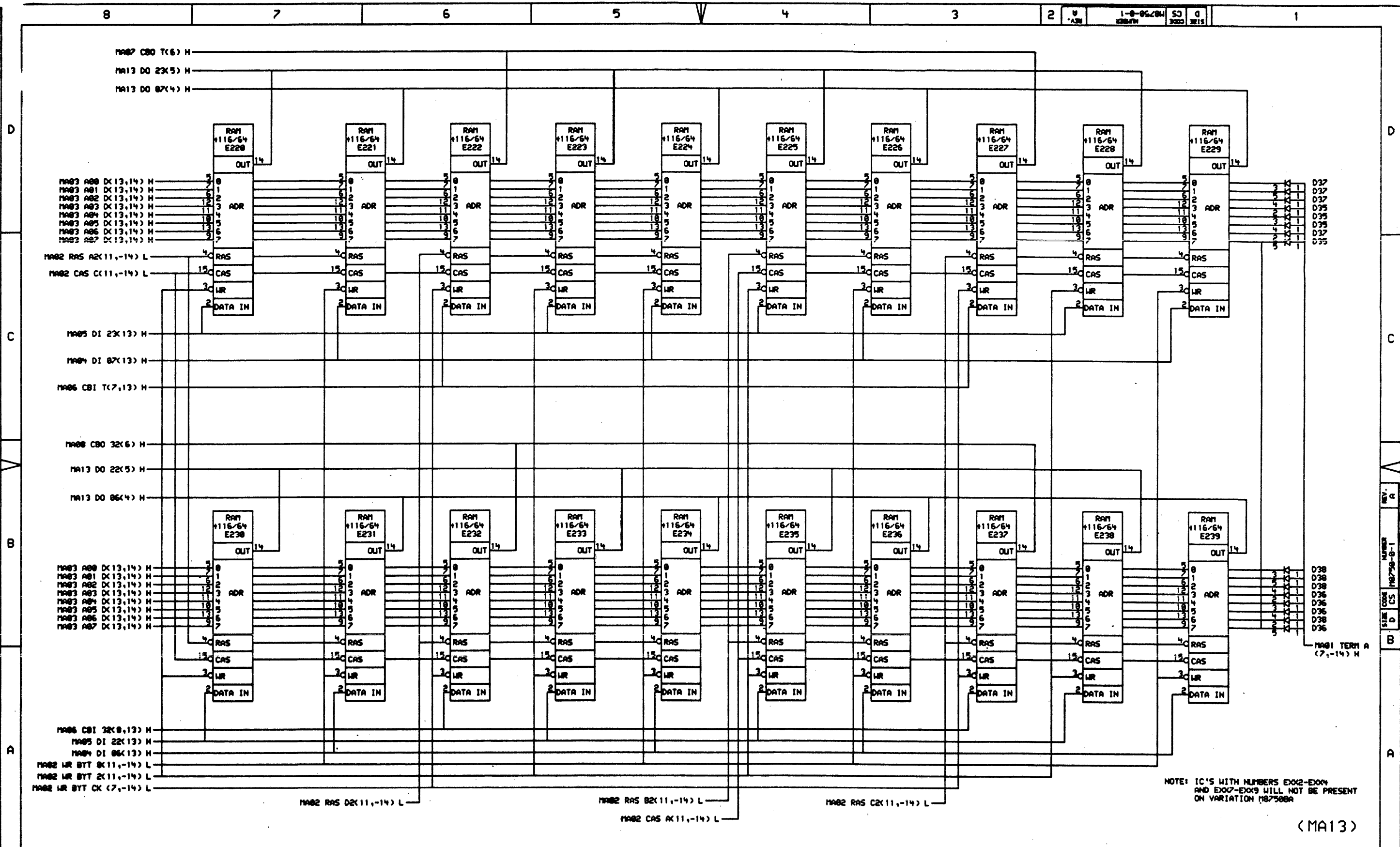
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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN. REAROUSE	DATE 12-27-81	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK D.	DATE 08-APR-81	BOARD LOCATION: 11 DE 15		
FIRST USED ON OPTION/MODEL: 11/750		NEXT HIGHER ASSEMBLY: B-DD-M8750-0		SIZE CODE D CS	NUMBER M8750-0-1
				REV. A	

ML2 1





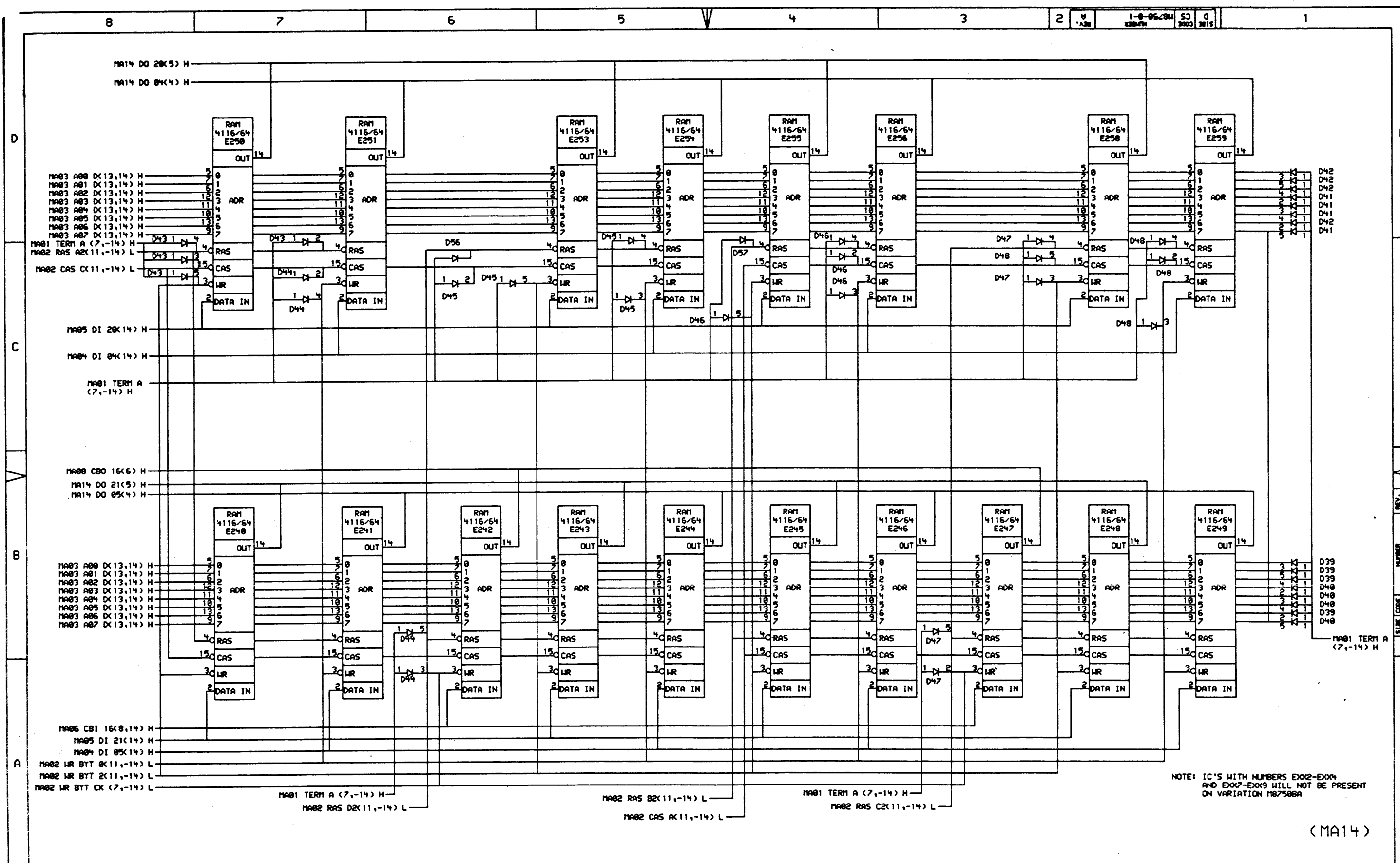
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REVISIONS	
CHK	CHANGE NO. REV

	DAN. ALCROUSE	DATE 12-28-81	ENG.	DATE	TITLE:
	CHK 0.	DATE 08-08-81	LOCATION	13	DE 13
(218.1324) MA13, RAM (88-APR-81 0518) NEXT HIGHER ASSEMBLY:					SIZE CODE D CS
FIRST USED ON OPTION/MODEL: 11/750 B-00-M8750-0					NUMBER ML2 1

MOS
 MEMORY ARRAY
 NUMBER M8750-0-1
 REV. A

REV. A
 NUMBER M8750-0-1
 SIZE CODE D CS
 ML2 1



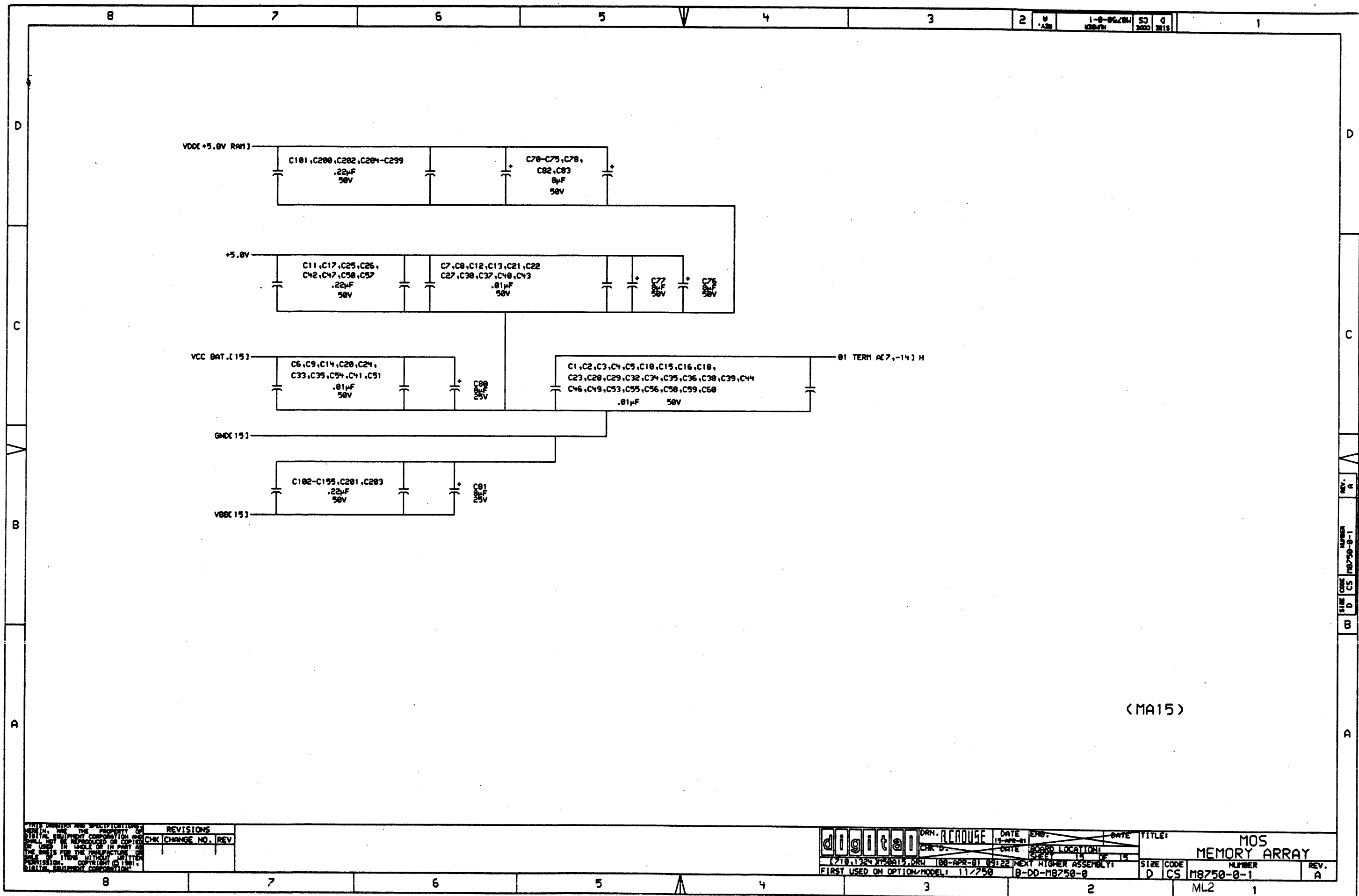
NOTE: IC'S WITH NUMBERS EXX2-EXX4 AND EXX7-EXX9 WILL NOT BE PRESENT ON VARIATION M8750B

(MA14)

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REVISIONS	
CHK	CHANGE NO. REV

digital	DRN.	DATE	ENG.	DATE	TITLE:
	CHK'D.	DATE	DESIGN LOCATION:	SHEET 14 OF 15	MOS MEMORY ARRAY
FIRST USED ON OPTION/MODEL: 117750		NEXT HIGHER ASSEMBLY: B-DD-M8750-0		SIZE CODE	NUMBER
				D CS	M8750-0-1
				REV.	A



(MA15)

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REVISIONS	
CHK	CHANGE NO. REV

	DRN. R. CROUSE	DATE 12-28-81	ENG.	DATE	TITLE: MOS MEMORY ARRAY
	CHK. D.	DATE 08-APR-81	09122	NEXT HIGHER ASSEMBLY: B-DD-M8750-0	SIZE CODE D CS
FIRST USED ON OPTION/MODEL: 11/750					NUMBER ML2
					REV. A

REV. A
NUMBER M8750-0-1
SIZE CODE CS

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***** FIELD MAINTENANCE PRINT SET *****

TABLE OF CONTENTS

B-TC-7017646-0-0	HARDWARE CONF. PKG #75
B-DD-7017646-0	HARDWARE CONF. PKG #75 DRAWING DIRECTORY
K-PL-7017646-0-DBP	HARDWARE CONF. PKG #75 PARTS LIST
D-AD-7017646-0-0	HARDWARE CONF. PKG #75 ASSY DRAWING
E-UA-BC21Z-0-0	I/O CABLE ASSEMBLY - UNIT ASSEMBLY
K-PL-BC21Z-0-DBP	I/O CABLE ASSEMBLY - PARTS LIST
D-UA-BC22D-0-0	NULL MODEM CABLE - UNIT ASSEMBLY
K-PL-BC22D-0-DBP	NULL MODEM CABLE - PARTS LIST
D-UA-BC06R-0-0	I/O CABLE - UNIT ASSEMBLY
D-IA-7012293-0-0	TERMINATOR ASSEMBLY - INSEPARABLE ASSEMBLY
D-UA-H026-0-0	RL CABLE RETRACTOR ASSY - UNIT ASSY
K-PL-H026-0-DBP	RL CABLE RETRACTOR ASSY - PARTS LIST
C-IA-7008288-0-0	CABLE ASSEMBLY - INSEPARABLE ASSEMBLY
B-DD-H9544-H	CABINET ACCESSORY KIT - DRAWING DIRECTORY
E-UA-H9544-H-0	CABINET ACCESSORY KIT - UNIT ASSEMBLY
K-PL-H9544-H-DBP	CABINET ACCESSORY KIT - PARTS LIST

UNIT VARIATIONS
7017646-00
7017646-01

FIELD MAINTENANCE PRINT SET
CONFIGURATION PKG #75
DIGITAL EQUIPMENT CORPORATION
MP01277

USED ON OPTION/MODEL
SVCXNMA
SHEET 1 OF 1

DRN.	DATE
R. J. RILEY	4-13-82
CHK'D	DATE
S. DUNCANSON	4-13-82
PROJ. ENG.	DATE
D. CARLSON	4-13-82
FIELD SERV.	DATE
H. HUNTER	4-13-82

digital

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TITLE:
FIELD MAINT. PRINT SET
(CONFIGURATION PKG #75)

SIZE	CODE	NUMBER	REV
B	TC	7017546-0-1	A
DIST.			

NR

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*** DRAWING DIRECTORY ***

UNIT VARIATIONS	
VAR	TITLE
-00	HARDWARE CONFIGURATION PKG NO. 76
-01	HARDWARE CONFIGURATION PKG NO. 76, 240V

	USED ON OPTION/MODEL	DRM. P. TOUSIGNANT	DATE 11 MARCH 82
	SV-CXMA	CHK'D R. RILEY	DATE 11 MARCH 82
		PROJ. ENG. D. CARLSON	DATE 11 MARCH 82
		PROD. S. CASTIGLIONE	DATE 11 MARCH 82

SHEET 1 OF 2 digital

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TITLE: HARDWARE CONFIGURATION PKG NO. 75			
SIZE B	CODE DD	NUMBER 7317646-0	REV A
DIST.			

DRAWING NUMBER			DESCRIPTION			DRAWING NUMBER			DESCRIPTION											
1	D-AD-7017646-0-0,	HARDWARE CONFIGURATION PKG. NO. 75	E/M	9	B-DD-H9544-C	H9544-C TRIM KIT	M													
	K-PL-7017646-0-DBP	HARDWARE CONFIG. PKG. NO. 75 P/L	E/M																	
	A-PS-3700436-0-0	PKG CAB H9642/H9645/H9646		10	B-DD-H9544-D	H9544-D BEZEL ASSY	M													
	C-MD-7419856-0-0	BRKT., RL01 SHIPPING BLACK	M																	
	A-PS-3618384-0-0	LABEL, CAUTION STABILIZER FOOT	M	11	B-DD-H9544-H	CABINET ACCESSORY KIT	E/M													
	A-PS-1213756-0-0	GROUND STRAP	E/M																	
	A-PS-3617880-0-0	LABEL, FCC CLASS A PROCESSOR	M	12	B-DD-H026-0	RL RETRACTOR ASSY	M													
	A-PS-3617674-0-0	LABEL, SERIAL & POWER W/UL & CSA	M																	
	A-PS-3618058-0-0	LABEL, CAUTION STABILITY 11V23-WA	M	13	B-DD-DMF32-A	DMF32 OPTION	E/M													
	A-PS-3618057-0-0	LABEL, CAUT. SERV. INTERLOCK 11V																		
				14	D-IA-7012293-0-0	TERMINATOR ASSY	E/M													
2	B-DD-11730-Z	11730-Z UNIT ASSY	E/M		A-DC-7416678-0-0	TERMINATOR LOGO	E/M													
3	B-DD-874-0	874 POWER CONTROL	E/M	15	D-UA-BC06R-0-0	BC06R I/O CABLE	E													
					A-PS-3616989-0-0	CABLE ID LABEL	M													
4	B-DD-M8338-0	IDC	E/M		A-PS-3616073-0-0	IDENTIFICATION LABEL	M													
5	B-DD-RL02-F	RL02 DISK DRIVE	E/M	16	C-IA-7008288-0-0	CABLE ASSY	E													
6	B-DD-H9542-F	H9542-F 40 INCH FRAME ASSY	M	17	E-UA-BC21Z-0-0	I/O CABLE ASSY	E													
					K-PL-BC21Z-0-DBP	I/O CABLE ASSY PARTS LIST	E													
7	B-DD-H9544-A	END. PANEL ASSY	M		A-PS-3616073-0-0	IDENTIFICATION LABEL	M													
8	B-DD-H9544-B	H9544-B REAR DOOR	M	18	B-DD-BC22D-0	CABLE, NULL MODEM	E													
				19	A-PL-7012938-0-0	UNIT SELECT PLUG KIT	M													
TYPE: E = ELECTRICAL			TITLE: HARDWARE CONFIGURATION PACKAGE NO. 75			SHEET 2 OF 2			SIZE B			CODE DD			NUMBER 7017646-0			REV A		
M = MECHANICAL																				
E/M = ELECTRO/MECHANICAL																				

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION	
				00	01
1	1	E-UA-11730-Z-0	11730-ZA	KA730-A,BA11-ZA,2 TUS9,MS730-CA,	1 1
2	2	A-PS-3700436-0-0	3700436-08	CAB H9642 REPLACES VAR. 00, 01,	1 1
3	3	E-UA-874-0-0	00874-C	120V 16A FILTERED POWER CONT,6 S	1 0
4	4	E-UA-874-0-0	00874-B	220-240V 12A FILTERED PWR CONT,6	0 1
5	5	D-UA-M8388-0-0	M8388-00	RB730 IDC (INTEGRATED DISK CONTR	1 1
6	6	E-UA-RL02-0-0	ORL02-FK	RL02-F + RL02K-IC,120V/240V	2 2
7	7	E-UA-H9542-0-0	H9542-FB	40" 10.5" TOP LOADING CAB FRAME	1 1
8	8	D-UA-H9544-A-0	H9544-AA	40"END PANEL,GREY FRAME,DARK BRO	2 2
9	9	D-UA-H9544-B-0	H9544-BK	EXTENDED DEPTH REAR DOOR FOR H96	1 1
10	10	D-UA-H9544-C-0	H9544-CA	RL01/RL02 TRIM FILLER STRIP KIT	1 1
11	11	D-UA-H9544-D-0	H9544-DA	1.75" BEZEL ASSY FOR H9642	1 1
12	12	D-UA-H9544-D-0	H9544-DB	6"X19" FRONT COVER FOR BOTTOM OF	1 1
13	13	E-UA-H9544-H-0	H9544-HA	KIT OF 4 LEVELERS,1 PULL-OUT STA	1 1
14	14	D-UA-H026-0-0	OH026-00	CABLE RETRACTOR FOR RL01,RL02	2 2
15	15	C-MD-7419856-0-0	7419856-01	BRKT,RL01 SHIPPING BLACK	1 1
16	16	D-UA-DMF32-A-0	DMF32-AA	8 EIA ASYNC SLU,SYNC SLU,PARALLE	1 1
17	17		9009700-00	SCREW,TRUS,PHIL,SEMS10-32X .500L	6 6
18	18		9007032-00	TIE,CABLE BUNDL,DIA 0-1-3/4"=101	10 10
19	19		9009636-00	CLAMP, CABLE, FOR FLAT CABLE	1 1
20	20		9007867-00	MOUNT, PUSH,CABLE TIE	1 1
21	21	A-PS-1218912-0-0	1218912-01	CLIP,CABLE 3/4	2 2
22	22		9007786-00	RETAINER, U-NUT, 10-32	5 5
23	23	A-PS-3618384-0-0	3618384-01	LABEL,CAUTION STABILIZER FOOT	1 1
24	24	D-IA-7012293-0-0	7012293-00	TERMINATOR ASSEMBLY	1 1
25	25	D-UA-BC06R-0-0	BC06R-8F	I/O CABLE	1 1
26	26	C-IA-7008288-0-0	7008288-06	CABLE ASSY	1 1
27	27	E-UA-BC21Z-0-0	BC21Z-06	SHIELDED I/O CABLE,RL01/RL02,PAS	1 1
28	28	B-UA-BC22D-0-0	BC22D-25	25FT CABLE,ASYNC,NULL MODEM,6 WI	1 1
29	29	A-PS-1213756-0-0	1213756-12	GROUND STRAP	1 1
30	30		9007083-00	CLAMP,CABLE,SCREW MTD. 3/8	1 1

REVISION HISTORY			BASIC PART NO: 7017646			DRN: P. TOUSIGNANT DATE: 24-FEB-82			DIGITAL		
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	S. DUNCANSON	DATE:	24-FEB-82	TITLE	PARTS LIST		
			SECTION, VARIATION INDEX					HARDWARE CONFIG. PKG. NO. 75			
			[A] 00,01								
			[B]	DES.ENG.:	D. CARLSON	DATE:	24-FEB-82				
			[C]					DOCUMENT NUMBER			
			[D]	RESP.ENG.:	D. CARLSON	DATE:	24-FEB-82	SIZE	CODE	NUMBER	REV
			[E]	MFG.ENG.:	S. CASTIGLIONE	DATE:	24-FEB-82	K	PL	7017646-0-DBP	X00
			[F]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #		
				D-AD-7017646-0-0		B-DD-7017646-0-0		Z3335A.PLS	16		

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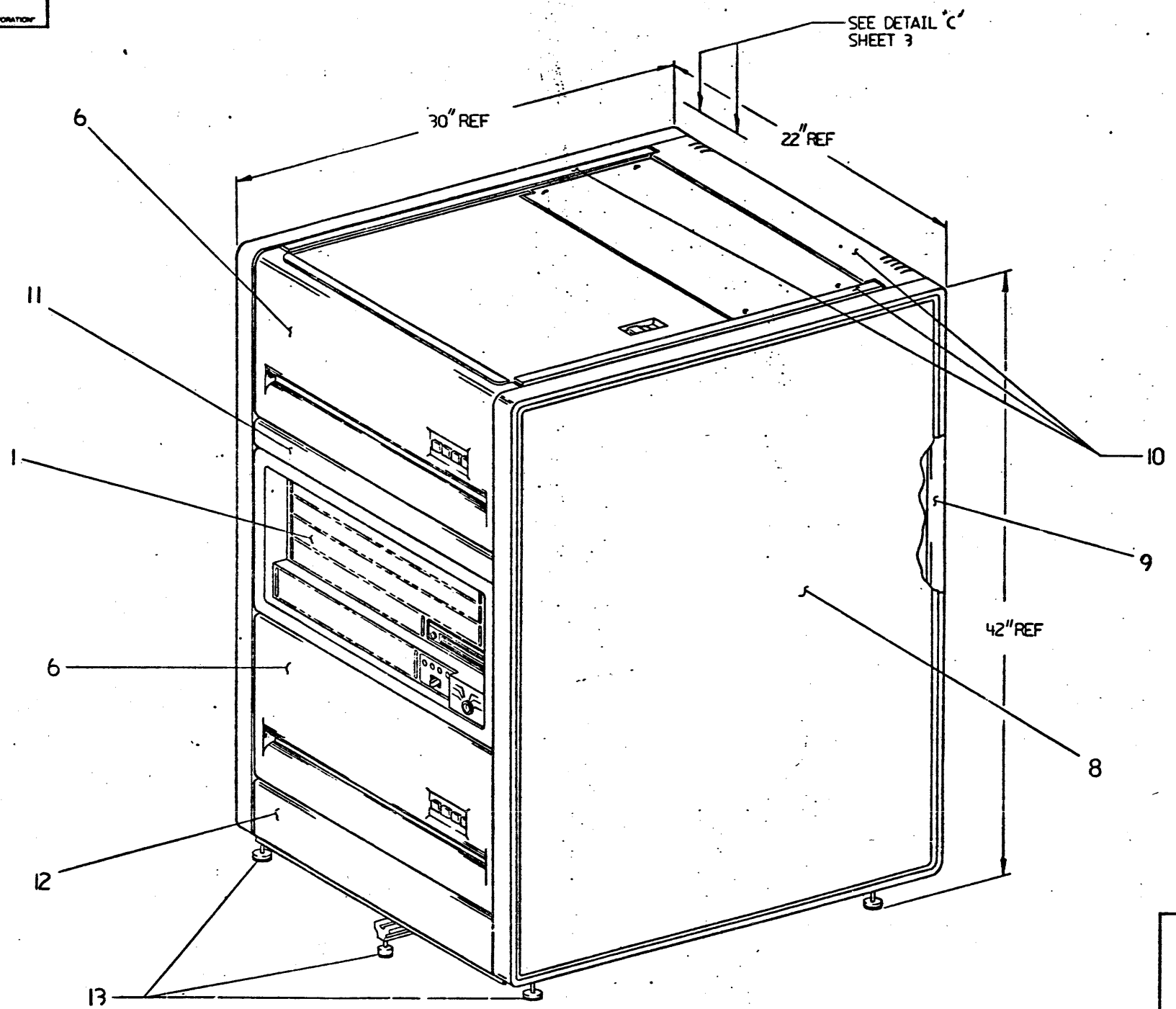
PARTS LIST

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION	
					00	01
31	31	E-UA-BC21Z-0-0	BC21Z-08	SHIELDED I/O CABLE,RL01/RL02,PAS	1	1
32	32	A-PS-3617880-0-0	3617880-02	LABEL,FCC CLASS A PROCESSOR	1	1
33	33	A-PS-3617674-0-0	3617674-01	LABEL,SERIAL & POWER W/UL & CSA	1	1
34	34	A-PS-3618058-0-0	3618058-01	LABEL,CAUTION STABILITY 11V23-WA	1	1
35	35	A-PS-3618057-0-0	3618057-01	LABEL,CAUTION SERV.INTERLOCK 11V	4	4
36	36	A-PS-1218912-0-0	1218912-C0	CLIP,CABLE 1/2	1	1
37	37	A-PL-7012938-0-0	7012938-00	70-12938 UNIT SELECT PLUG KIT	1	1
***** RELEASABLE *****						

D	I	G	I	T	A	L	TITLE	HARDWARE CONFIG. PKG. NO. 75	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
												K PL 7017646-0-DBP	X00

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NOTE:
1. FOR DETAIL CONFIGURATION INFORMATION OF ITEMS 5, 16, 25 WITHIN THE CPU BOX REFERENCE E-UA-11730-Z-0



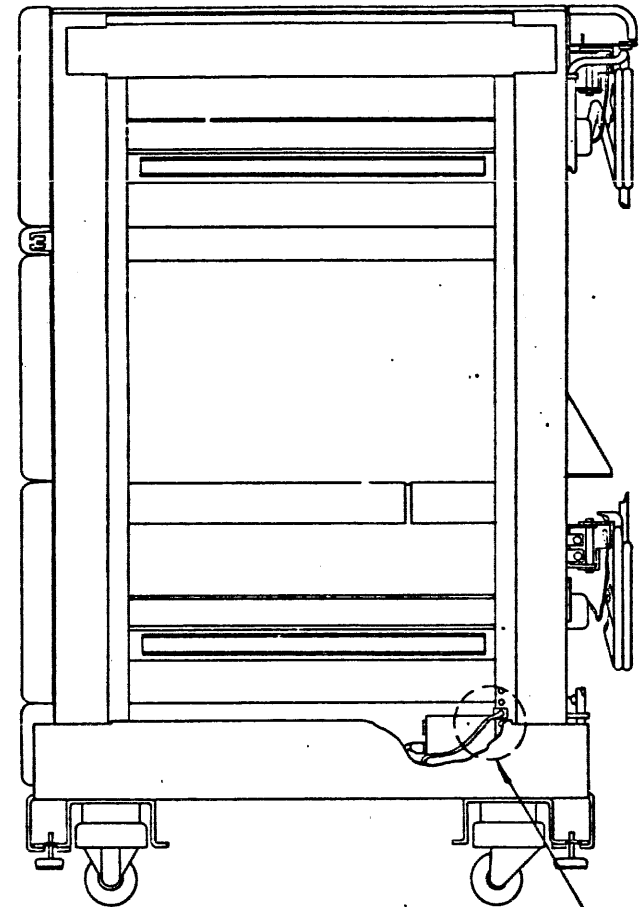
CAUTION: SEE OFF SHEETS PARTS LIST K-PL-7017646-0-DBP. (Z3335A)

REV.	DESCRIPTION	DATE

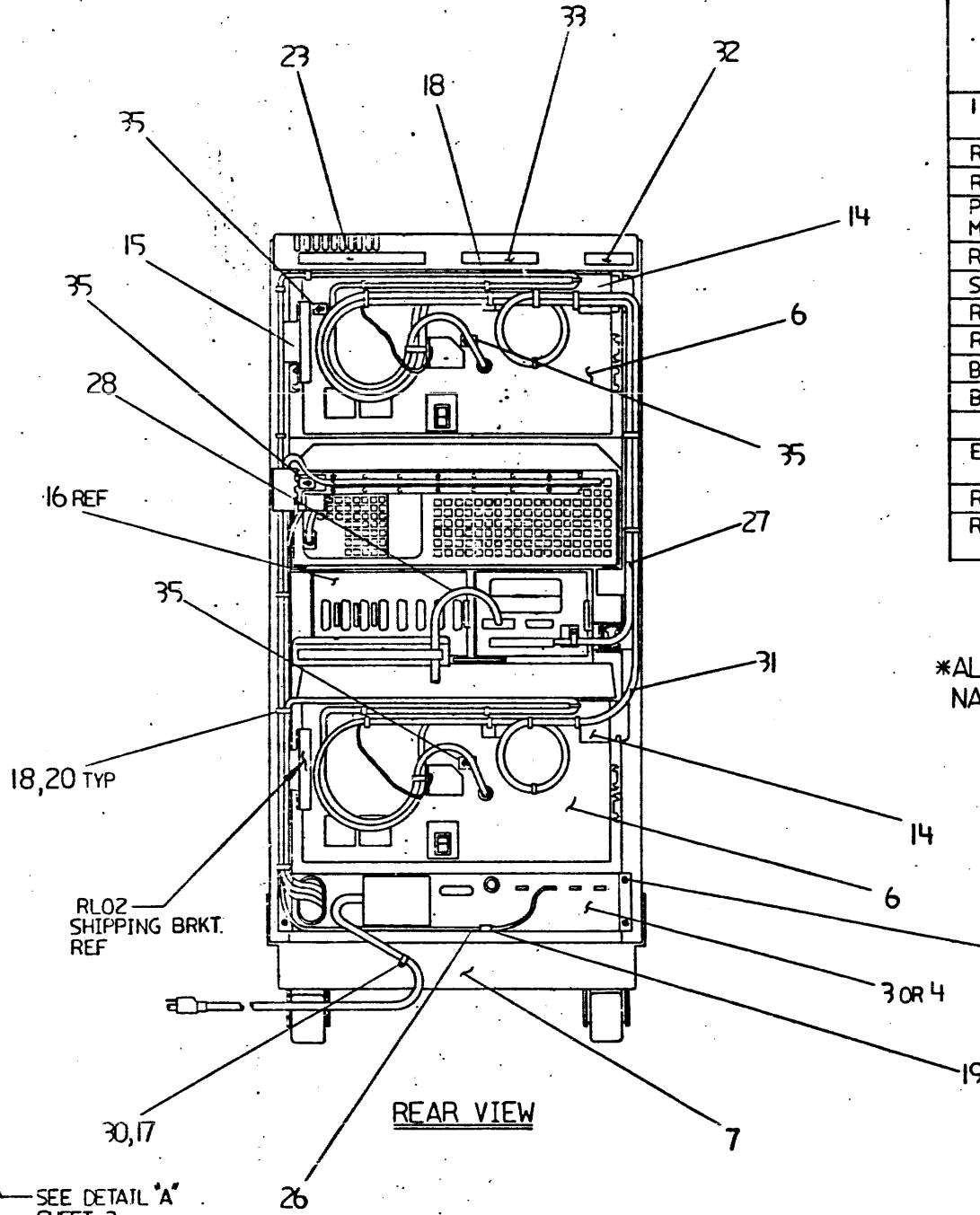
DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 113)								
INCH TOLERANCES	ANGLES ± 0° 30'	APPLICABLE DIMENSION RANGE	DIMENSION RANGE IN INCHES					
			OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.8	OVER 4.8 TO 12.8	OVER 12.8 TO 48.8	OVER 48.8 TO 96.8
X = ± .01	SURFACE QUALITY	CHECK ONE	± .001	± .002	± .012	± .018	± .024	± .04
XX = ± .02								
XXX = ± .05								
QUANTITY & VARIATION	THIRD ANGLE PROJECTION	DATE	TITLE					
		2/24/82	HARDWARE CONFIG. PACKAGE NO. 75					
	DO NOT SCALE DRAWINGS	DATE						
	REMOVE BURRS AND BREAK SHARP CORNERS	2/24/82						
		DATE						
		2/24/82						
MATERIAL		DATE						
SEE PARTS LIST		25 FEB 82						
FINISH								

DIAO 7017646-0-0

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RIGHT SIDE VIEW



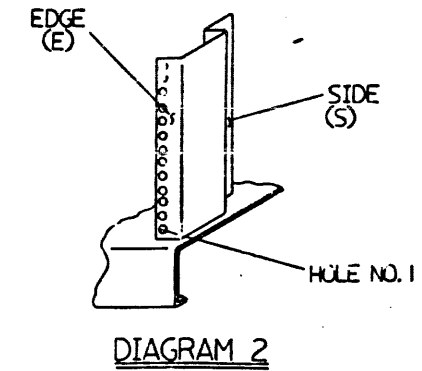
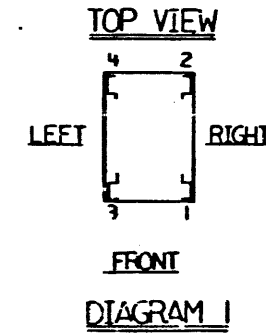
REAR VIEW

SEE DETAIL 'A' SHEET 3

RLOZ SHIPPING BRKT. REF

*ALL LOCATIONS ARE REFERENCED FROM DIAGRAMS 1 & 2; NA= NOT APPLICABLE; SWI= SUPPLIED WITH ITEM.

DESCRIPTION	PL ITEM NO'S	LOCATION				MOUNTING HARDWARE		REMARKS	
		HOLE NO'S	RAIL			PL ITEM NO'S	QTY		
			1	2	3	4			
11730 (FRONT) (REAR)	1	26,27 26,27	E	E	E		SWI	NA	SEE E-UA-11730-Z-0 SEE E-UA-B111-Z-0
RLOZ (DRIVE 1)	6	48,52	E	E	E		SWI	NA	SEE D-UA-RLOZFK-0
RLOZ (DRIVE 0)	6	9,13	E	E	E		SWI	NA	SEE D-UA-RLOZFK-0
POWER CONTROL, E74, MOUNTING GND STRAP	3,4 29	2,5, 6	E	E	E		SWI	4	
RESTRAIN BRKT.(DRIVE 1)	15	53,55	E				SWI	NA	MT. LIKE SHPNG BRKT
SHIPPING BRKT.(DRIVE 0)	6	14,16	E				SWI		SEE D-UA-RLOZFK-0
RETRACTOR ASSY(DRIVE 1)	14	57,59					SWI	NA	SEE D-UA-H026-0-0
RETRACTOR ASSY(DRIVE 0)	14	18,20					SWI	NA	SEE D-UA-H026-0-0
BEZEL, 6.00"	12		E	E			SWI	NA	SEE D-UA-H9544-D-0
BEZEL, 1.75"	11	44	E	E			SWI	NA	SEE D-UA-H9544-D-0
END PANEL, LEFT, GND STRAP RIGHT, GND STRAP	8	44 44	S	S			SWI	NA	SEE D-UA-H9544-A-0
RLOZ TRIM/FILLER	10	62	E	E			SWI	NA	SEE D-UA-H9544-C-0
REAR DOOR, DOOR STOPS GND STRAP	9	7,54, 15	E				SWI	NA	SEE D-UA-H9544-B-0



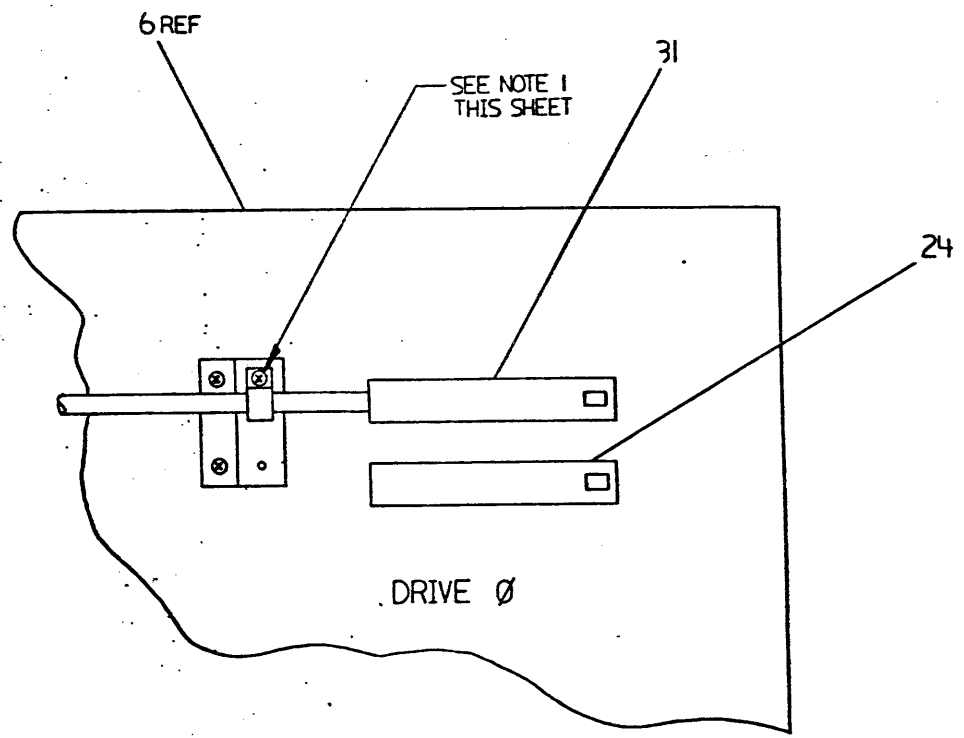
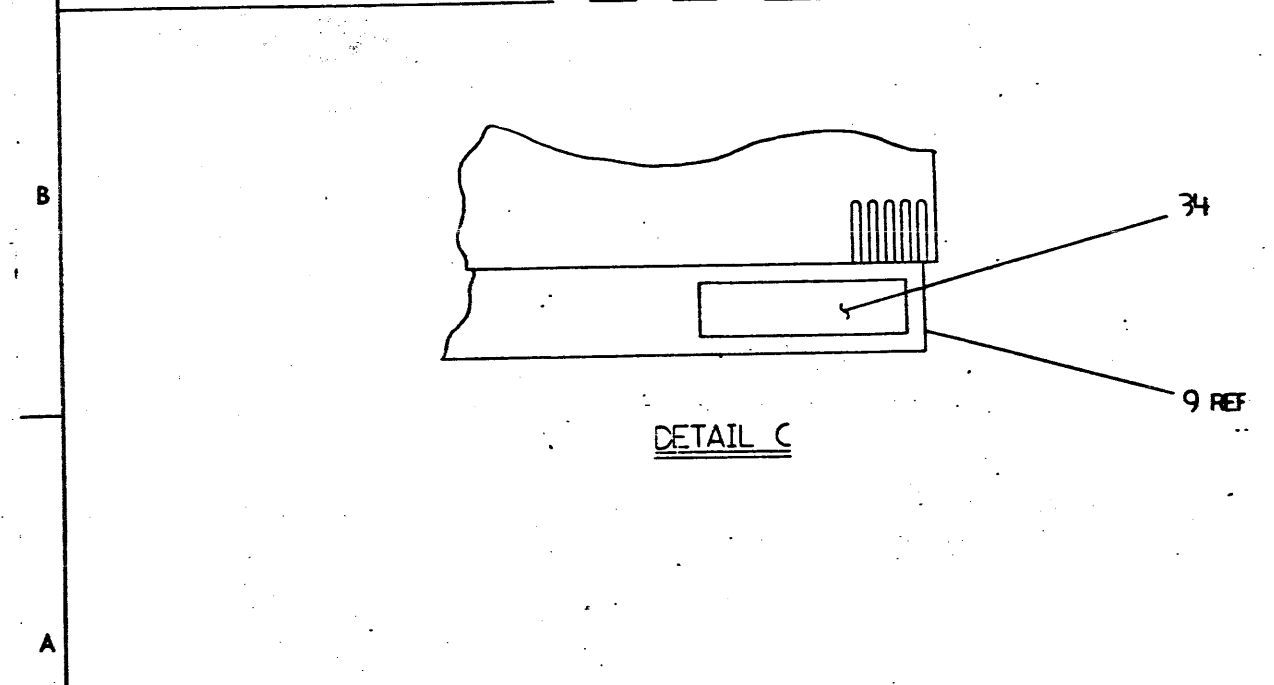
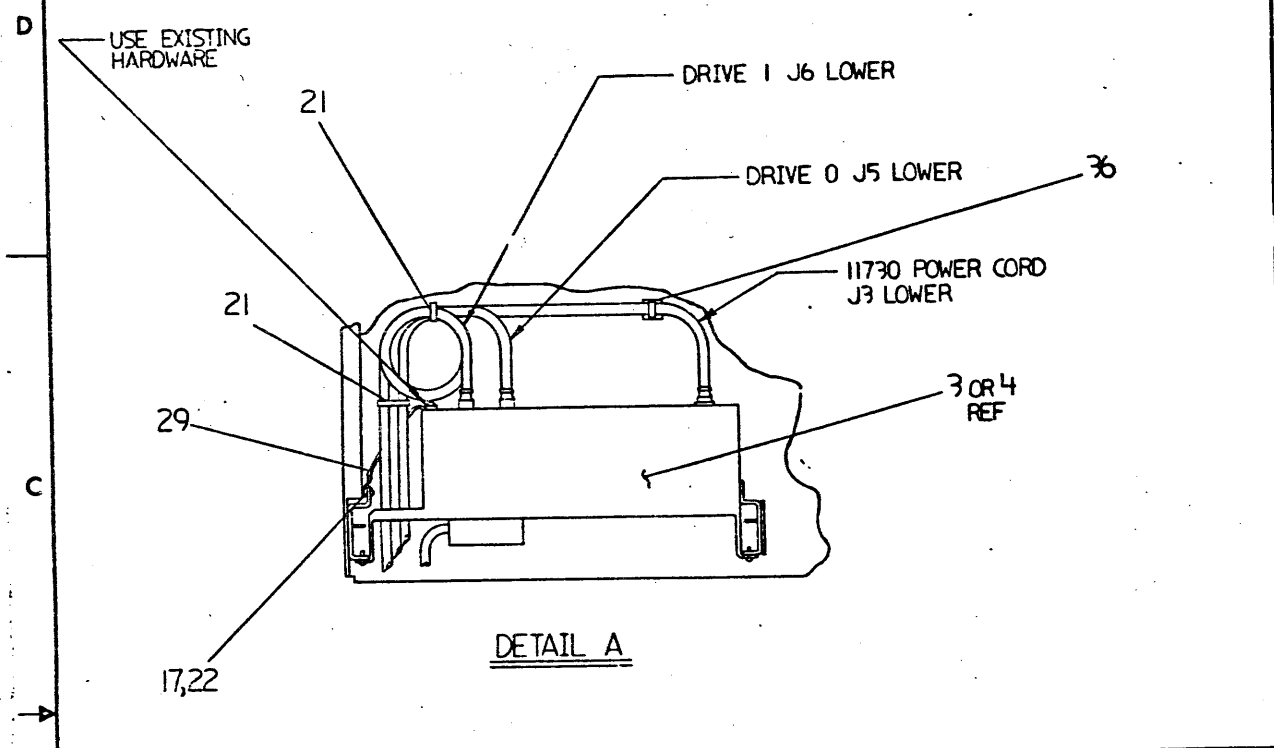
REVISION HISTORY		
DATE	ECO NUMBER	REV.

TITLE HARDWARE CONFIG. PACKAGE NO. 75

DOCUMENT NUMBER		
SIZE CODE	NUMBER	REV.
DAD	7017646-0-0	A
SCALE NONE		SHEET 2 OF 3

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V 0-0-9h9Z10Z DAD 3000 8275



DETAIL B
 REAR VIEW OF RLO2
 NOTE: 1. ATTACH BC21Z SHIELD WITH HARDWARE SUPPLIED WITH ITEM TYPICAL TO DRIVE 0, 1, AND 11730-ZA.

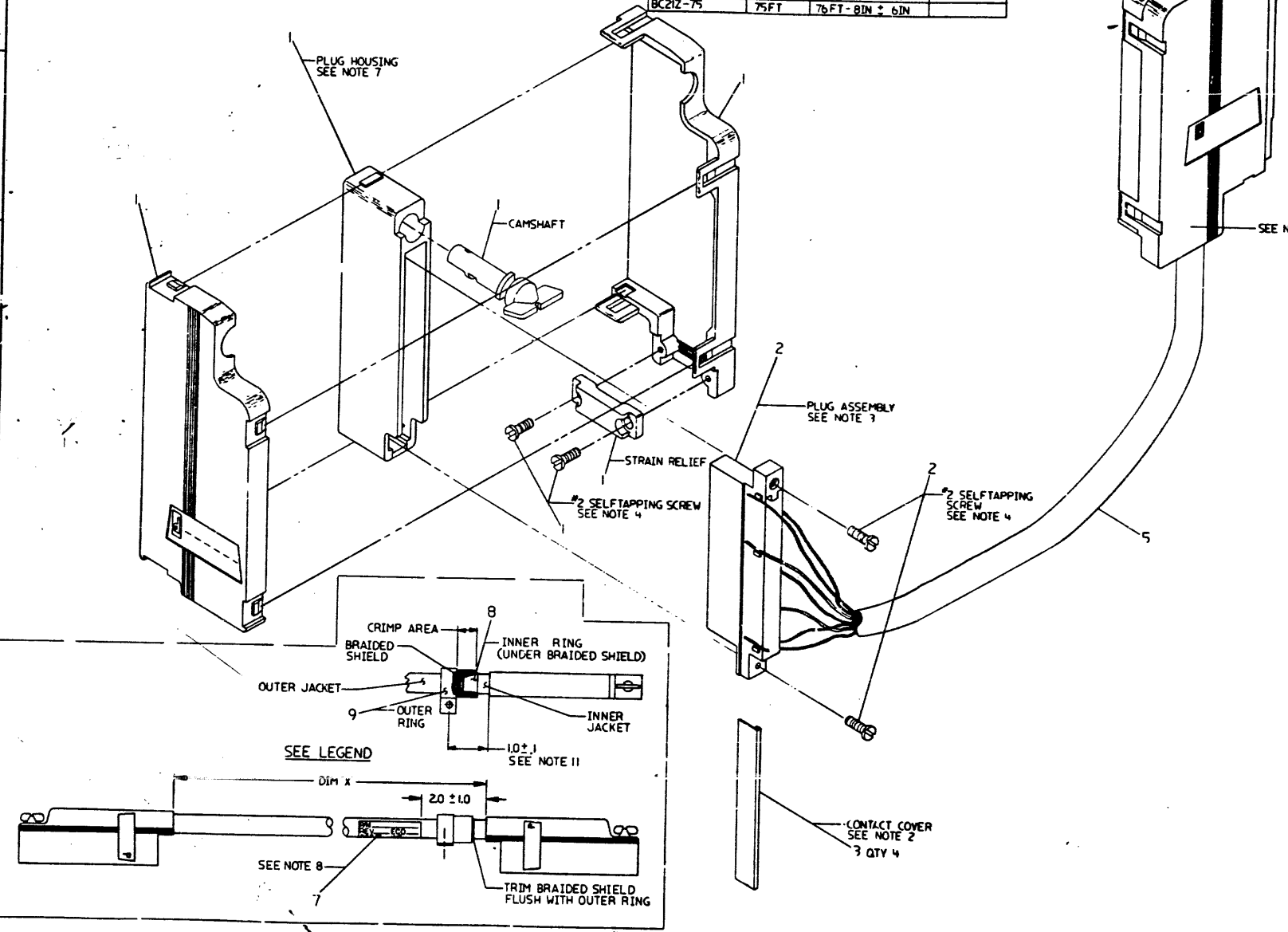
REVISION HISTORY		
DATE	ECD NUMBER	REV.

TITLE HARDWARE CONFIG. PACKAGE NO. 75

DOCUMENT NUMBER		REV.
SIZE CODE	NUMBER	
DAD	7017646-0-0	A
SCALE	SHEET	3 OF 3

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LEGEND			
NUMBER	DIM 'X'	PRE-CUT LENGTH	REMARKS
BC21Z-06	6 FT	7 FT-8 IN ± 2 IN	
BC21Z-08	8 FT	9 FT-8 IN ± 2 IN	
BC21Z-10	10 FT	11 FT-8 IN ± 2 IN	
BC21Z-12	12 FT	13 FT-8 IN ± 3 IN	
BC21Z-20	20 FT	21 FT-8 IN ± 3 IN	
BC21Z-25	25 FT	26 FT-8 IN ± 3 IN	
BC21Z-30	30 FT	31 FT-8 IN ± 6 IN	
BC21Z-40	40 FT	41 FT-8 IN ± 6 IN	
BC21Z-50	50 FT	51 FT-8 IN ± 6 IN	
BC21Z-60	60 FT	61 FT-8 IN ± 6 IN	
BC21Z-75	75 FT	76 FT-8 IN ± 6 IN	



NOTES:

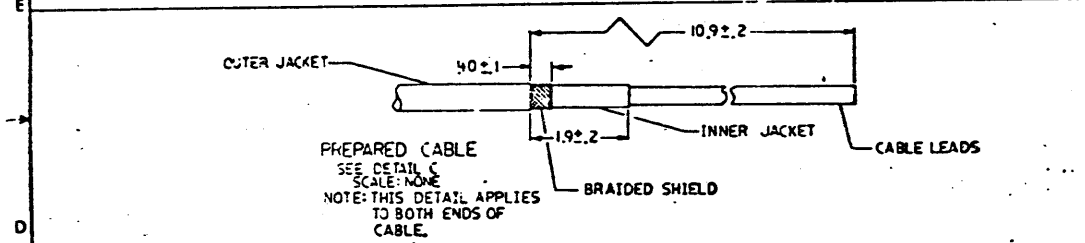
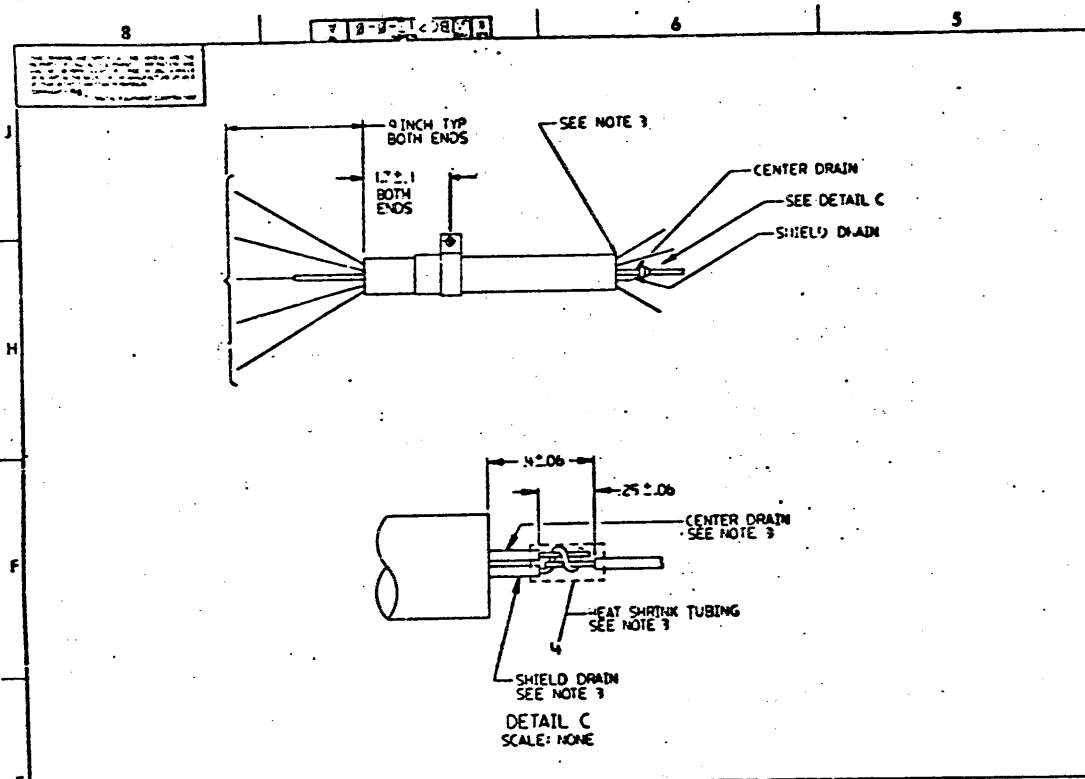
- "CUT AND REMOVE 0.0 ± .5 INCHES OF THE OUTER CABLE JACKET FROM BOTH ENDS OF CABLE. CAUTION: DO NOT CUT OR NICK BRAIN WIRE UNDER OUTER JACKET. REMOVE THE NYLON WRAP AND ALUMINUM SHIELD FLUSH TO JACKET."
- "APP SEMI-AUTOMATIC INSERTION MACHINES (COMPONENTS OR COMPONENTS) MUST BE USED TO TERMINATE THE LEADS TO PLUG ASSEMBLIES (ITER 2). THE STANDARD CABLE CLAMP SUPPLIED WITH THE APP MACHINES MAY REQUIRE MODIFYING TO POSITION CABLE. (ITER 5, TO PLUG ASSEMBLY, ITER 2, PER DETAIL B. AFTER ASSEMBLY OF WIRES TO PLUG, INSTALL COVER, ITER 3, TO EACH SIDE OF PLUG."
- "THE BRAIN WIRE AND TINNER #20 WIRE MUST BE PREPARED AS FOLLOWS BEFORE TERMINATING CABLE TO PLUG. THESE PROCEDURES ARE DESCRIBED IN THE ASSEMBLY PROCESSES FOR THIS ASSEMBLY. A SIMILAR DISCLOSURE STATEMENT IS REQUIRED TO OBTAIN COPIES OF ANY REC PROCESS SPECIFICATION."
- "CUT BACK THE CENTER BLACK END WIRE .4 ± .3 INCH ABOVE JACKET. STRIP END .25 ± .06 INCH."
- "FIND AND SEPARATE THE SOLID WHITE AND YELLOW PAIRED WIRES. CUT THE WHITE WIRE FLUSH WITH JACKET. STRIP END OF LOOSE WHITE WIRE .25 ± .06 INCH."
- "POSITION STRIPPED END OF WHITE WIRE PARALLEL TO THE STRIPPED END OF THE BLACK END WIRE. WRAP THE BRAIN WIRE AROUND THE STRIPPED END OF THE BLACK AND WHITE WIRE 2-4 TIMES. SOLDER WIRE SPLICE AND CUT OFF END OF BRAIN FLUSH WITH SPLICE."
- "COVER SPLICE WITH 0.5 ± .06 INCH OF SHRINK TUBING. (ITER 4). TWIST THE WHITE AND YELLOW WIRES (PREVIOUSLY SEPARATED) BACK TOGETHER FOR APPROXIMATELY (3) THREE INCHES."
- "SCREWS (2 X .33 S.T.) ARE PART OF ITER 3. TORQUE SCREWS TO 2.5 ± .5 INCHES CABLE CLAMP SHOULD BE CLIPPED IN POSITION BEFORE INSTALLING SCREWS. CABLE CLAMP MUST BE FLUSH TO HOUSING BOTH SIDES."
- "ACTIVE CONTACT (CNC 1221596-27) AND BLACK 20 #26 WIRE (CNC 1007789-00) IS FOR PRODUCTION REPLACEMENT ONLY. REF APP CONTACT (60055-3 L.P.) AND CRIMP TOOL (5000-3) EXTRACTOR TOOL (9100-1)."
- "ING. ITER 6, TO BE INSTALLED OVER EACH CONNECTOR AND SECURED AFTER COMPLETION OF ASSEMBLY."
- "PRIOR TO SHIPPING SITES OF HOUSING TOGETHER, ASSURE THAT ALL WIRES ARE WELL WITHIN HOUSING."
- "LABEL, ITER 9, TO CONTAIN:
ASSEMBLY P/N
REVISION LEVEL
P/N OF PLUG OF BUSHING WIRE (IF P/N)
TEST (STAMP) (IMP. (STAMP))"
- "REC STANDARD 136 (NONREWORK) APPLIED TO THIS ASSEMBLY."
- "MARK SHIPPING CONTAINER AS TO:
ASSEMBLY NO.
REVISION LEVEL
P/N BY
DATE
BY"
- "CONN. GROUNDING SHEATH (STRAIN RELIEF (ITER 4)) TO BE PLACED AT BEGAIN ANGLE (±20°) TO CONN. ZIP (ITENS 1,2,3) AS SHOWN (BOTH ENDS)."

CAUTION: OFF SHEET PARTS LIST EXISTS. SEE K-PL-BC21Z-0-DBP (Z2929)

DESCRIPTION	QUANTITY	UNIT	REVISION
1/0 CABLE ASSEMBLY	1	EA	A
BC21Z-0-0	1	EA	A

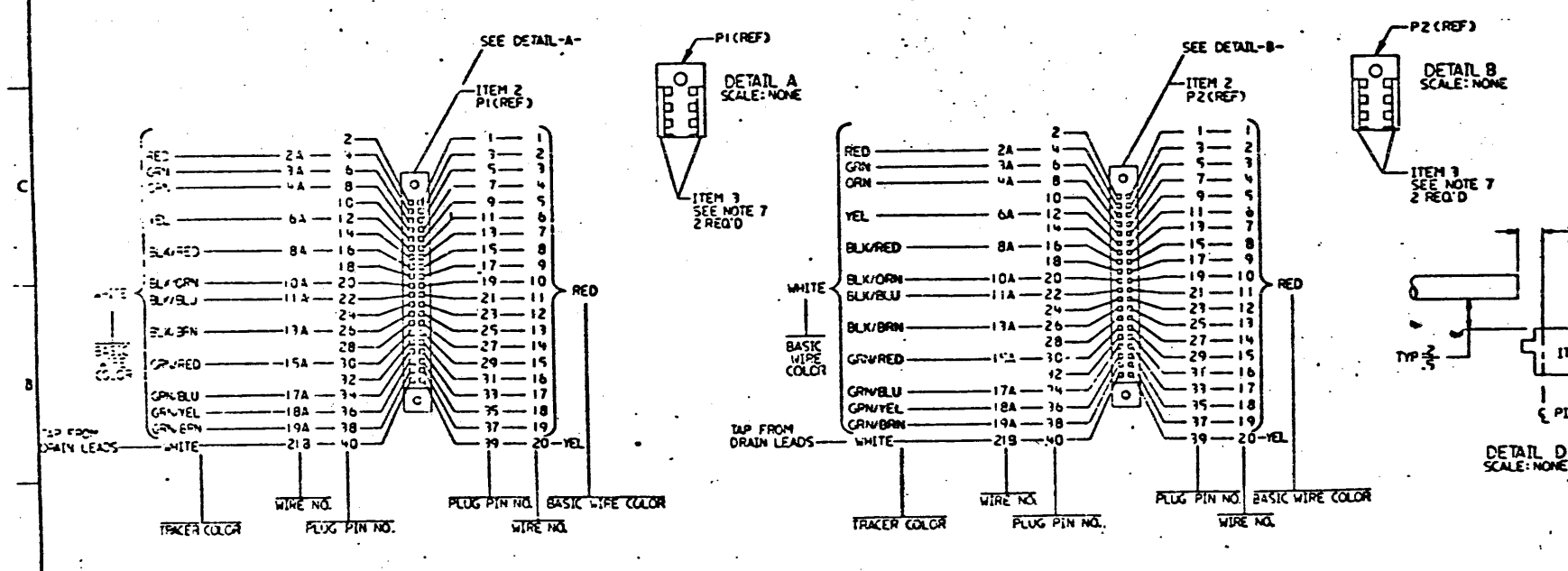
SEE PARTS LIST

REVISIONS TO THIS DRAWING SHALL BE INDICATED BY A CIRCLED NUMBER IN THE REVISION AREA. THE DATE OF THE REVISION SHALL BE INDICATED BY A CIRCLED DATE IN THE REVISION AREA.



WIRE TABLE							
WIRE NO.	FROM CONNECTOR PLUG	PLUG PIN NO.	BASIC WIRE COLOR	WITH PAIR COLO.	TO CONNECTOR PLUG	PLUG PIN NO.	REMARKS
1							TWISTED PAIR
1A							
2	P1	3	RED	---	P2	3	
2A		4	WHT	RED		4	
3		5	RED	---		5	
3A		6	WHT	GRN		6	
4		7	RED	---		7	
4A		8	WHT	ORN		8	
5							
5A							
6		11	RED	---		11	
6A		12	WHT	YEL		12	
7							
7A							
8		15	RED	---		15	
8A		16	WHT	BLK/RED		16	
9							
9A							
10		19	RED	---		19	
10A		20	WHT	BLK/ORN		20	
11		21	RED	---		21	
11A		22	WHT	BLK/BLU		22	
12							
12A							
13		25	RED	---		25	
13A		26	WHT	BLK/ORN		26	
14							
14A							
15		29	RED	---		29	
15A		30	WHT	GRN/RED		30	
16							
16A							
17		33	RED	---		33	
17A		34	WHT	GRN/BLU		34	
18		35	RED	---		35	
18A		36	WHT	GRN/YEL		36	
19		37	RED	---		37	TWISTED PAIR
19A		38	WHT	GRN/BRN		38	
20		39	YEL	---		39	
20A			WHT				
21	P1	SEE 21B	WHT	---	P2	SEE 21B	SHIELD DRAIN
21A							CENTER DRAIN WIRE
21B	P1	40	WHT	---	P2	40	GND WIRE

CUT WIRE NO. 20A OFF AT JACKET (SEE NOTE 3)
 JUMP SHIELD & CENTER DRAIN TOGETHER PER DETAIL-C & TERMINATE WHT WIRE (21B) IN PIN 40.



AUTOMATED BY PRTLST.3P(44)

PARTS LIST

SHEET A1 OF A1

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION												
				06	08	10	12	20	25	30	40	50	60	75		
1	1	1211591-52	CONN.ZIF 40PIN PLUG/STRAIN REL	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	1211591-07	CONN.ZIF 40PIN PLUG	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	1211591-11	CONN.ZIF COVER,CONTACT DISPLAY	4	4	4	4	4	4	4	4	4	4	4	4	4
4	4	9107255-00	TUBING,SHRINK 1/8 DIA.EXP UL	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
5	5	1700051-03	CABLE, 26 COND. 2RAUG.TUP,SHIELD	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
6	6	9905012-04	ENVELOPE,MAILITE,SHIPPING	2	2	2	2	2	2	2	2	2	2	2	2	2
7	7	3616073-00	LABEL,CABLE IDENTIFICATION	1	1	1	1	1	1	1	1	1	1	1	1	1
8	8	1219082-01	CONN.GROUNDING SHEATH,INNER RING	2	2	2	2	2	2	2	2	2	2	2	2	2
9	9	1219145-01	CONN.GROUNDING SHEATH/STRAIN REL	2	2	2	2	2	2	2	2	2	2	2	2	2

- | | | | |
|------------|-------------|---------------------|----------|
| 10 NOTE: - | LEGEND | | |
| 11 NOTE: - | PART NUMBER | VARIATION | LEGEND |
| 12 NOTE: - | BC212-06 | I/O CABLE ASSY,6FT | BC212-30 |
| 13 NOTE: - | BC212-08 | I/O CABLE ASSY,8FT | BC212-40 |
| 14 NOTE: - | BC212-10 | I/O CABLE ASSY,10FT | BC212-50 |
| 15 NOTE: - | BC212-12 | I/O CABLE ASSY,12FT | BC212-60 |
| 16 NOTE: - | BC212-20 | I/O CABLE ASSY,20FT | BC212-75 |
| 17 NOTE: - | BC212-25 | I/O CABLE ASSY,25FT | |

REVISION HISTORY		BASIC PART NO: BC21Z		DRWT: K. DAVIS		DATE: 12-OCT-81		D I S I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	S. MILLER	DATE:	13-OCT-81	TITLE	PARTS LIST
		A	SECTION, VARIATION INDEX	DES.ENG.:	S. HANDEL	DATE:	13-OCT-81		I/O CABLE ASSEMBLY
			[A] 06,08,10,12,20,25,	RESP.ENG.:	V. HARDER	DATE:	13-OCT-81		DOCUMENT NUMBER
			30,40,50,60,75	MFG.ENG.:	R. PAYETTE	DATE:	13-OCT-81	SIZE:CODE: NUMBER	REV
			[B]	ASSEMBLY NUMBER:	E-UA-BC21Z-0-0	TOP DOCUMENT NUMBER:	BB-DD-RL01-0	FILE NAME:	Z2929A.PLS
			[C]						EDIT 8
			[D]						
			[E]						
			[F]						

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REV. A
 NUMBER 0-0-02208100 B 21
 SIZE CODE B UA BC22D-0-0 1

NOTES:
 1. FOR CABLE CONFIGURATION REFER TO A-PS-1700313-0-0.

LEGEND

NUMBER	VARIATION	DIM "X"	DIM "Y" REF
BC22D-10	1700313-01	10 FT.	
BC22D-25	1700313-02	25 FT.	
BC22D-35	1700313-03	35 FT.	
BC22D-50	1700313-04	50 FT.	
BC22D-75	1700313-05	75 FT.	
BC22D-A0	1700313-06	100 FT.	
BC22D-A5	1700313-07	150 FT.	
BC22D-B0	1700313-08	200 FT.	
BC22D-B5	1700313-09	250 FT.	

WIRE TABLE

ITEM NO.	PAIR NO.	DESCRIPTION	TO		FROM		REMARKS
			CONN	WITH	CONN	WITH	
2 THRU 10	X	BLK	PI-1		P2-1		
		BRN	PI-2		P2-3		
		RED	PI-3		P2-2		
		ORN	PI-6		P2-20		
		YEL	PI-7		P2-7		
		GRN	PI-20		P2-6		
		—	PI-SHELL		P2-SHELL		SHIELD & DRAIN WIRE

REVISIONS	REV. A
CHANGE NO.	ORIGINATED
CHK	

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
	ANGLES ± 90° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES
	SURFACE QUALITY IN	MEDIUM	OVER 12.0 TO 12.9 ±.016 ±.024 ±.04
	MICROINCHES	PREFERRED	OVER 40.0 TO 40.9 ±.063 ±.1
THIRD ANGLE PROJECTION	DRN. <i>S. Little</i> 14/1/82	FIRST USED ON	
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D BY <i>[Signature]</i> 12/2/82	digital	
DO NOT SCALE DWG	ENG. <i>[Signature]</i> 1/10/82	TITLE	
MATERIAL	PROD.	CABLE, NULL MODEM	
FINISH	NEXT HIGHER ASSY.	B-DD-BC22D-0	
	SCALE NONE	SIZE CODE	NUMBER
	SHEET OF	B UA	BC22D-0-0
		DIST.	REV. A

DIGITAL EQUIPMENT CORPORATION PARTS LIST

MADE BY S. ZYLAK	CHECKED <i>J. Kalkowski</i>	SECTION 1
DATE 14-MAR-82	DATE <i>15 MAR 82</i>	
ENG <i>R. Harrington</i>	PROD	ISSUED SECTION 1
DATE 13 APR 82	DATE	

QUANTITY / VARIATION

NOTES:

ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	BC22D-10	BC22D-25	BC22D-35	BC22D-50	BC22D-75	BC22D-A0	BC22D-A5	BC22D-B0	BC22D-B5	REF DESIGNATION
1	A-PS-1700313-Ø-Ø	1700313-00	CABLE, NULL MODEM	-	-	-	-	-	-	-	-	-	
2	A-PS-1700313-Ø-Ø	1700313-01	CABLE, NULL MODEM	1	-	-	-	-	-	-	-	-	
3	A-PS-1700313-Ø-Ø	1700313-02	CABLE, NULL MODEM	-	1	-	-	-	-	-	-	-	
4	A-PS-1700313-Ø-Ø	1700313-03	CABLE, NULL MODEM	-	-	1	-	-	-	-	-	-	
5	A-PS-1700313-Ø-Ø	1700313-04	CABLE, NULL MODEM	-	-	-	1	-	-	-	-	-	
6	A-PS-1700313-Ø-Ø	1700313-05	CABLE, NULL MODEM	-	-	-	-	1	-	-	-	-	
7	A-PS-1700313-Ø-Ø	1700313-06	CABLE, NULL MODEM	-	-	-	-	-	1	-	-	-	
8	A-PS-1700313-Ø-Ø	1700313-07	CABLE, NULL MODEM	-	-	-	-	-	-	1	-	-	
9	A-PS-1700313-Ø-Ø	1700313-08	CABLE, NULL MODEM	-	-	-	-	-	-	-	1	-	
10	A-PS-1700313-Ø-Ø	1700313-09	CABLE, NULL MODEM	-	-	-	-	-	-	-	-	1	

E.C.O. NO.

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TITLE

CABLE, NULL MODEM

ASSY NO.

B-UA-BC22D-Ø-Ø

SIZE

B

CODE

PL

NUMBER

BC22D-Ø-Ø

REV.

A

SHEET 1 OF 1

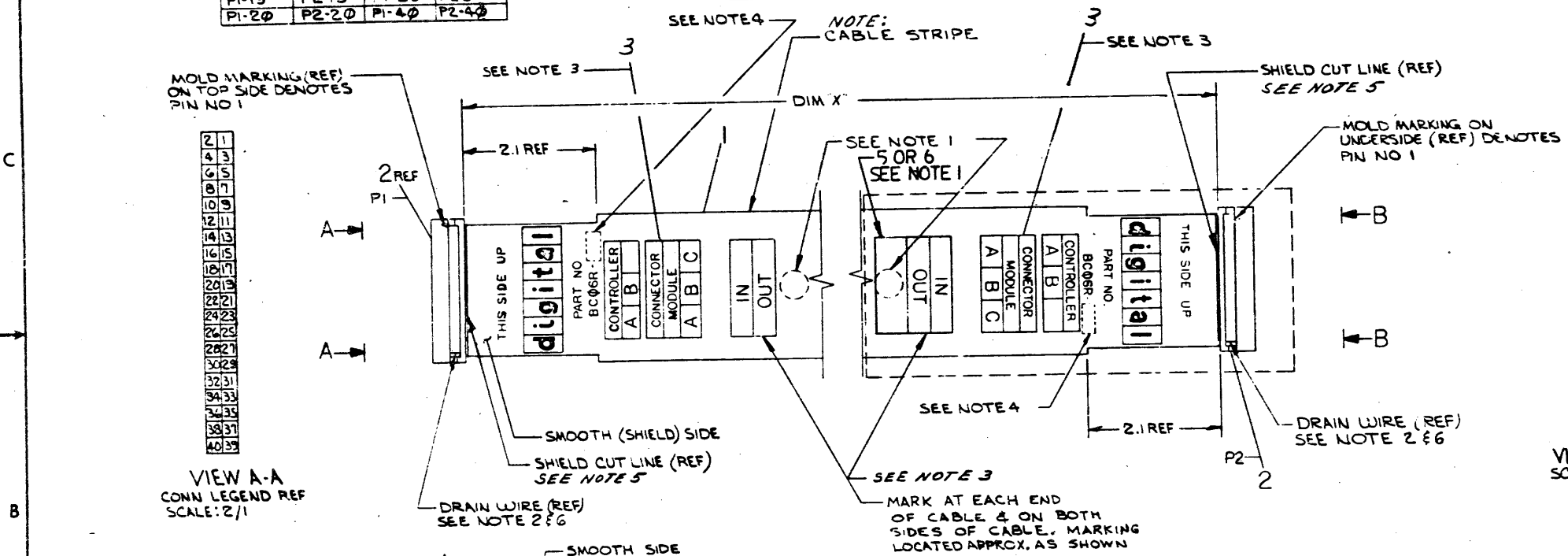
INSERTION PARTS LIST DATA BASE REV

1. The drawing and label features shown on this drawing are for the 40-pin connector. Connector configurations and pin numbers are reproduced for reference only. The actual connector configuration and pin numbers are shown on the label.

WIRE TABLE			
FROM	TO	FROM	TO
P1-1	P2-1	P1-21	P2-21
P1-2	P2-2	P1-22	P2-22
P1-3	P2-3	P1-23	P2-23
P1-4	P2-4	P1-24	P2-24
P1-5	P2-5	P1-25	P2-25
P1-6	P2-6	P1-26	P2-26
P1-7	P2-7	P1-27	P2-27
P1-8	P2-8	P1-28	P2-28
P1-9	P2-9	P1-29	P2-29
P1-10	P2-10	P1-30	P2-30
P1-11	P2-11	P1-31	P2-31
P1-12	P2-12	P1-32	P2-32
P1-13	P2-13	P1-33	P2-33
P1-14	P2-14	P1-34	P2-34
P1-15	P2-15	P1-35	P2-35
P1-16	P2-16	P1-36	P2-36
P1-17	P2-17	P1-37	P2-37
P1-18	P2-18	P1-38	P2-38
P1-19	P2-19	P1-39	P2-39
P1-20	P2-20	P1-40	P2-40

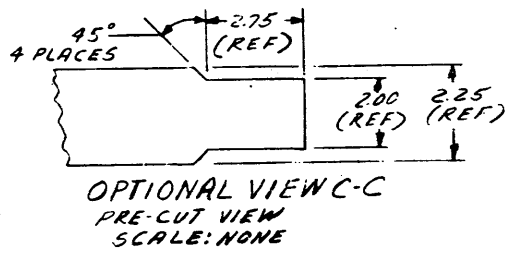
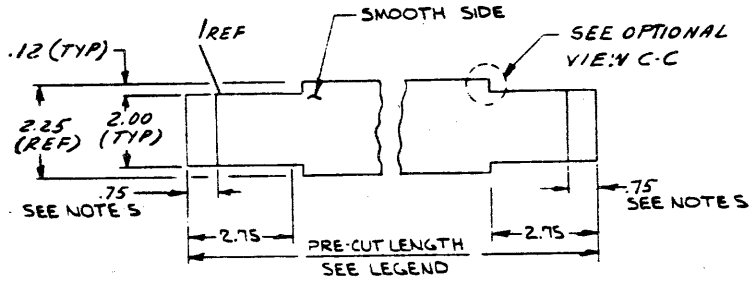
LEGEND			
NUMBER	DIM X	PRECUT LENGTH	REMARKS
BC06R-01	1 FT	1 FT 1.5 IN ± .1 IN	SEE PRE-CUT VIEW C-C
BC06R-02	2 FT	2 FT 1.5 IN ± .1 IN	
BC06R-03	3 FT	3 FT 1.5 IN ± .1 IN	
BC06R-04	4 FT	4 FT 1.5 IN ± .1 IN	
BC06R-05	4 FT 6 IN	4 FT 7.5 IN ± .1 IN	SEE NOTE 7
BC06R-06	6 FT	6 FT 1.5 IN ± .2 IN	
BC06R-08	8 FT	8 FT 1.5 IN ± .2 IN	
BC06R-10	10 FT	10 FT 1.5 IN ± .2 IN	
BC06R-12	12 FT	12 FT 1.5 IN ± .3 IN	
BC06R-20	20 FT	20 FT 1.5 IN ± .3 IN	
BC06R-25	25 FT	25 FT 1.5 IN ± .3 IN	
BC06R-30	30 FT	30 FT 1.5 IN ± .6 IN	
BC06R-50	50 FT	50 FT 1.5 IN ± 1.0 FT	
BC06R-60	60 FT	60 FT 1.5 IN ± 1.2 FT	
BC06R-75	75 FT	75 FT 1.5 IN ± 1.5 FT	
BC06R-A0	100 FT	100 FT 1.5 IN ± 2 FT	
BC06R-07	7 FT	7 FT 1.5 IN ± .2 IN	
BC06R-8F	8 FT 6 IN	8 FT 7.5 IN ± .1 IN	SEE PRE-CUT VIEW C-C
BC06R-15	15 FT	15 FT 1.5 IN ± .3 IN	

- NOTES:
- LABEL (ITEMS 5 OR 6 CAN BE USED) TO CONTAIN:
PART NO.
REV.
DATE (OF BUILD)
MFG (STAMP) TEST (STAMP)
INSP (STAMP)
AFFIX LABEL AROUND CABLE IN APPROX CENTER.
 - DRAIN WIRE CONNECTS TO PIN NO 40.
 - RUBBER STAMP INFORMATION SHOWN USING INK (ITEM 3) & ARTWORK DEC NO A-DC-7411699-0-0.
 - STAMP APPLICABLE OPTION DASH NO. ACCORDING TO LENGTH.
 - REMOVE SHIELD .75 FROM END OF PRECUT CABLE (SEE VIEW C-C).
 - COVER EXPOSED DRAIN WIRE WITH ITEM 4 PRIOR TO ASSY (BOTH ENDS).
 - FOR RP04, RP05, RP06 USE WRAP AROUND VINYL LABEL. SEE VARIATIONS ON DRAWING NUMBER A-PS-3615389-0-0. ALSO SEE NEXT HIGHER ASSEMBLY E-IA-7-307-0-0 AND E-IA-7009808-0-0.



VIEW A-A
CONN LEGEND REF
SCALE: 2/1

VIEW B-B
SCALE: 2/1



REV	CHANGED BY	DATE	DESCRIPTION
1	W. J. DUNIGAN	11/17/74	INITIAL DESIGN
2	W. J. DUNIGAN	12/11/74	REVISED TO 40 PIN
3	W. J. DUNIGAN	1/17/75	REVISED TO 40 PIN
4	W. J. DUNIGAN	2/11/75	REVISED TO 40 PIN
5	W. J. DUNIGAN	3/11/75	REVISED TO 40 PIN
6	W. J. DUNIGAN	4/11/75	REVISED TO 40 PIN
7	W. J. DUNIGAN	5/11/75	REVISED TO 40 PIN
8	W. J. DUNIGAN	6/11/75	REVISED TO 40 PIN
9	W. J. DUNIGAN	7/11/75	REVISED TO 40 PIN
10	W. J. DUNIGAN	8/11/75	REVISED TO 40 PIN
11	W. J. DUNIGAN	9/11/75	REVISED TO 40 PIN
12	W. J. DUNIGAN	10/11/75	REVISED TO 40 PIN
13	W. J. DUNIGAN	11/11/75	REVISED TO 40 PIN
14	W. J. DUNIGAN	12/11/75	REVISED TO 40 PIN
15	W. J. DUNIGAN	1/11/76	REVISED TO 40 PIN
16	W. J. DUNIGAN	2/11/76	REVISED TO 40 PIN
17	W. J. DUNIGAN	3/11/76	REVISED TO 40 PIN
18	W. J. DUNIGAN	4/11/76	REVISED TO 40 PIN
19	W. J. DUNIGAN	5/11/76	REVISED TO 40 PIN
20	W. J. DUNIGAN	6/11/76	REVISED TO 40 PIN
21	W. J. DUNIGAN	7/11/76	REVISED TO 40 PIN
22	W. J. DUNIGAN	8/11/76	REVISED TO 40 PIN
23	W. J. DUNIGAN	9/11/76	REVISED TO 40 PIN
24	W. J. DUNIGAN	10/11/76	REVISED TO 40 PIN
25	W. J. DUNIGAN	11/11/76	REVISED TO 40 PIN
26	W. J. DUNIGAN	12/11/76	REVISED TO 40 PIN
27	W. J. DUNIGAN	1/11/77	REVISED TO 40 PIN
28	W. J. DUNIGAN	2/11/77	REVISED TO 40 PIN
29	W. J. DUNIGAN	3/11/77	REVISED TO 40 PIN
30	W. J. DUNIGAN	4/11/77	REVISED TO 40 PIN
31	W. J. DUNIGAN	5/11/77	REVISED TO 40 PIN
32	W. J. DUNIGAN	6/11/77	REVISED TO 40 PIN
33	W. J. DUNIGAN	7/11/77	REVISED TO 40 PIN
34	W. J. DUNIGAN	8/11/77	REVISED TO 40 PIN
35	W. J. DUNIGAN	9/11/77	REVISED TO 40 PIN
36	W. J. DUNIGAN	10/11/77	REVISED TO 40 PIN
37	W. J. DUNIGAN	11/11/77	REVISED TO 40 PIN
38	W. J. DUNIGAN	12/11/77	REVISED TO 40 PIN
39	W. J. DUNIGAN	1/11/78	REVISED TO 40 PIN
40	W. J. DUNIGAN	2/11/78	REVISED TO 40 PIN
41	W. J. DUNIGAN	3/11/78	REVISED TO 40 PIN
42	W. J. DUNIGAN	4/11/78	REVISED TO 40 PIN
43	W. J. DUNIGAN	5/11/78	REVISED TO 40 PIN
44	W. J. DUNIGAN	6/11/78	REVISED TO 40 PIN
45	W. J. DUNIGAN	7/11/78	REVISED TO 40 PIN
46	W. J. DUNIGAN	8/11/78	REVISED TO 40 PIN
47	W. J. DUNIGAN	9/11/78	REVISED TO 40 PIN
48	W. J. DUNIGAN	10/11/78	REVISED TO 40 PIN
49	W. J. DUNIGAN	11/11/78	REVISED TO 40 PIN
50	W. J. DUNIGAN	12/11/78	REVISED TO 40 PIN

(CX ONLY) SEE NOTE 1
SEE NOTE 1

QTY	DESCRIPTION	PART NO	ITEM NO
1	LABEL I.D.	3616989-0-0	6
1	LABEL I.D.	3616073-0-0	5
A/R	PLASTIC TAPE	3612511-0	4
A/R	INK	4901150	3
2	CONNECTOR, 40 SOCKET	1211206	2
A/R	CABLE, 40 COND FLAT W/SHIELD	17-00034	1

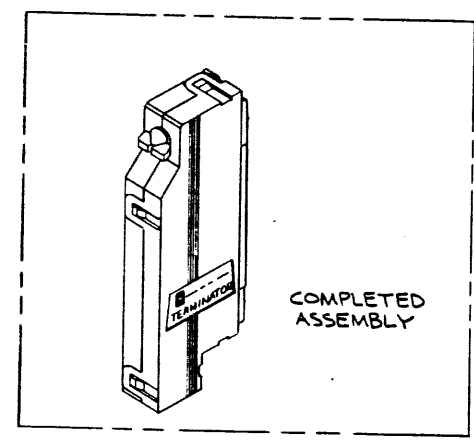
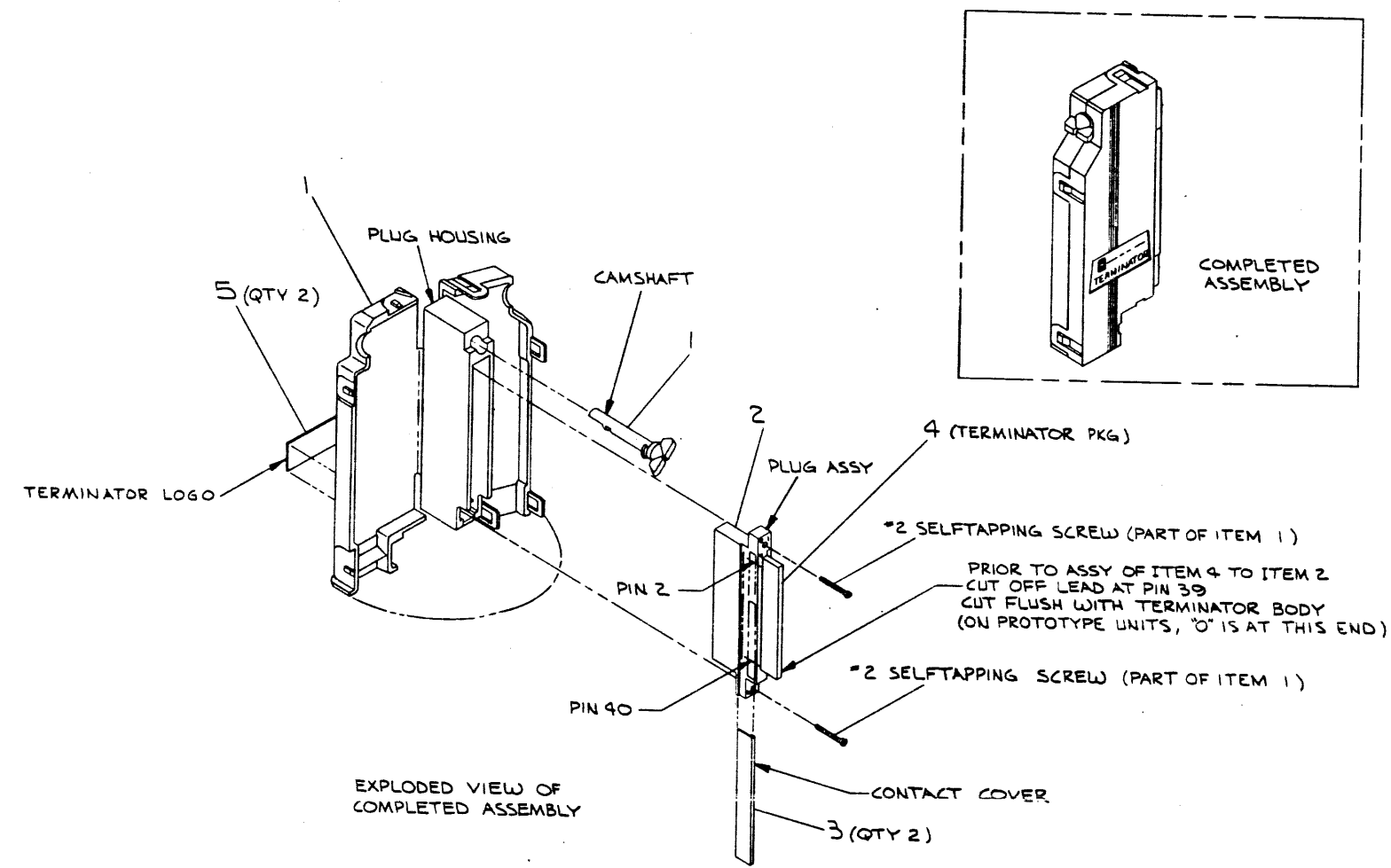
FIRST USED ON OPTION MODEL		QTY		DESCRIPTION		PART NO		ITEM NO	
RP04									
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN		DATE		PARTS LIST		TITLE	
DECIMALS .015		W. J. DUNIGAN		2-22-78		DIGITAL EQUIPMENT CORPORATION		BC06R I/O CABLE	
ANGLE .005		DATE		DATE		DATE		DATE	
XX .02		12/11/74		1/17/75		1/17/75		1/17/75	
X .1		DATE		DATE		DATE		DATE	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE		DATE		DATE		DATE	
MATERIAL		NEXT HIGHER ASSY.		DATE		DATE		DATE	
SEE PARTS LIST		E-IA-7009808-0-0		E-IA-7009808-0-0		E-IA-7009808-0-0		E-IA-7009808-0-0	
FINISH		SCALE NONE		SCALE NONE		SCALE NONE		SCALE NONE	
		SHEET 1 OF 1		SHEET 1 OF 1		SHEET 1 OF 1		SHEET 1 OF 1	

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DIA7012293-0-0 A

D
C
B
A

D
C
B
A



2	LOGO, TERMINATOR	A-DC-741667B-0-0	5
1	TERMINATOR PKG	1313242-00	4
2	COVER, CONTACT	1211591-11	3
1	PLUG ASSY	1211591-07	2
1	CONN PLUG HSG & CAMSHAFT KIT	1211591-34	1

QUANTITY & VARIATION		DESCRIPTION		DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES 10° 30'	CLASS OF ACCURACY	NOMINAL DIMENSION RANGE INCHES			
SURFACE QUALITY IN	(CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0
		0.3	1.3	4.1	12.1
MEDIUM		±.004	±.008	±.012	±.016
PREFERRED		±.012	±.016	±.025	±.040
MICROINCHES		±.001			

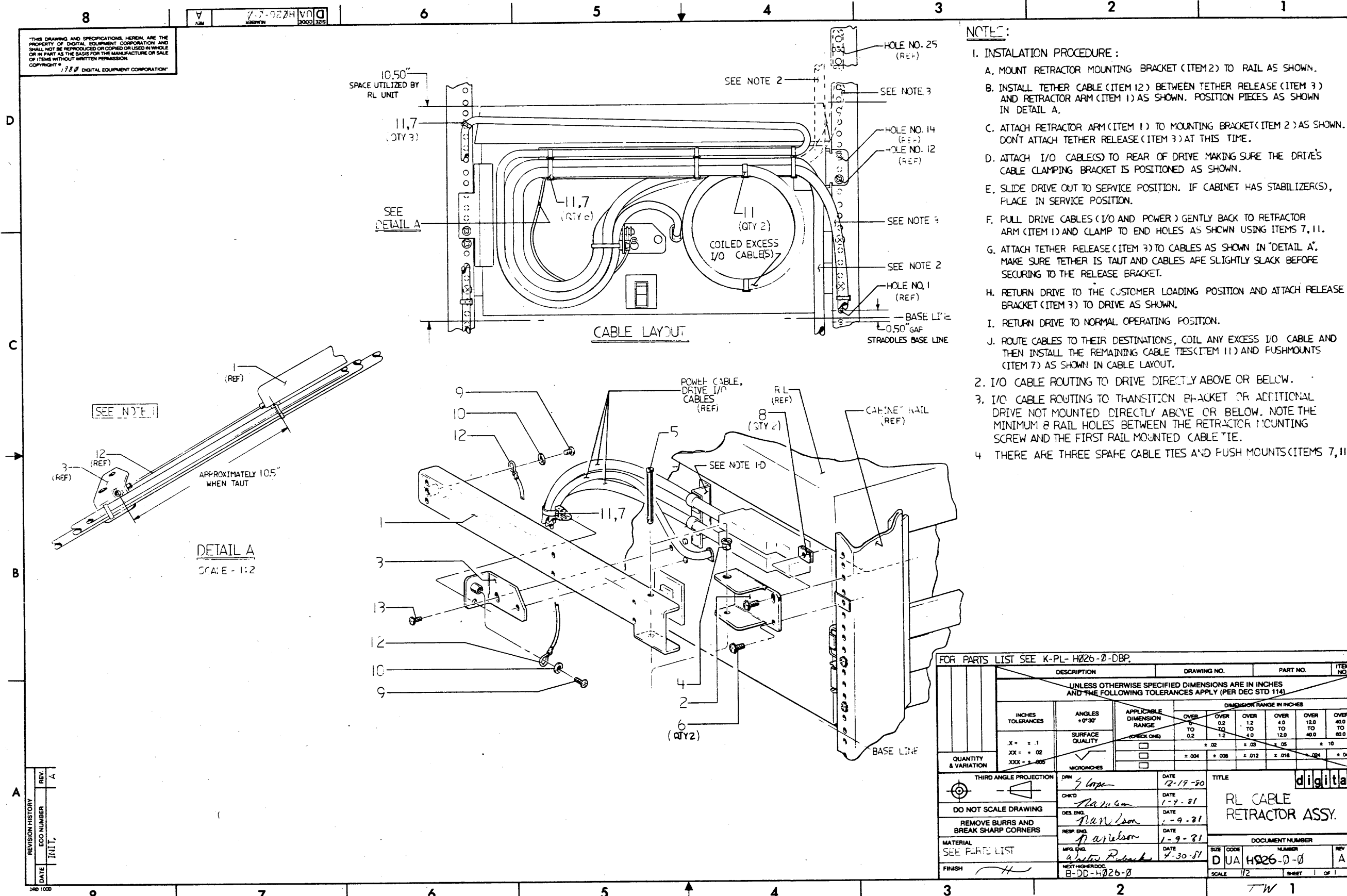
THIRD ANGLE PROJECTION	DRN. <i>[Signature]</i>	FIRST USED ON	RK06
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D. <i>[Signature]</i>	TITLE	
DO NOT SCALE DWG	PROL. ENG. <i>[Signature]</i>	TERMINATOR ASSY	
MATERIAL SEE PARTS LIST	PROD. <i>[Signature]</i>	SIZE CODE	NUMBER
FINISH	EUA-RK611-0-0	DIA7012293-0-0	A
	SCALE: NONE	DIST.	
	SHEET 1 OF 1		

REV	DATE	BY	CHK
0001	1/23/76	W. DUNHAM	

8 7 6 5 4 3 2 1

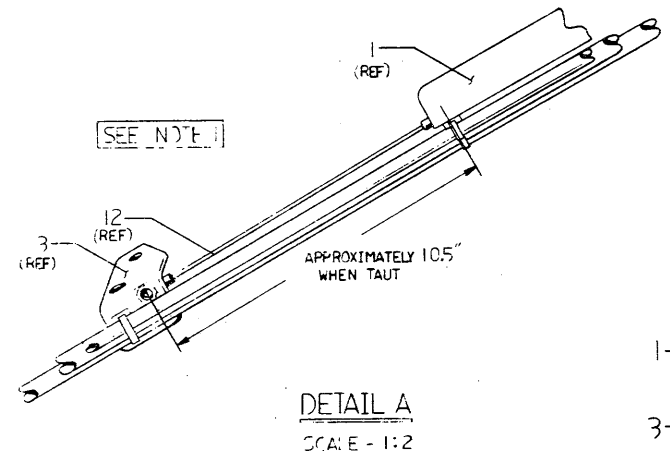
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7-7-82 ZH VAD
 1000 225



NOTE:

1. INSTALLATION PROCEDURE:
 - A. MOUNT RETRACTOR MOUNTING BRACKET (ITEM 2) TO RAIL AS SHOWN.
 - B. INSTALL TETHER CABLE (ITEM 12) BETWEEN TETHER RELEASE (ITEM 3) AND RETRACTOR ARM (ITEM 1) AS SHOWN. POSITION PIERCES AS SHOWN IN DETAIL A.
 - C. ATTACH RETRACTOR ARM (ITEM 1) TO MOUNTING BRACKET (ITEM 2) AS SHOWN. DON'T ATTACH TETHER RELEASE (ITEM 3) AT THIS TIME.
 - D. ATTACH I/O CABLE(S) TO REAR OF DRIVE MAKING SURE THE DRIVE'S CABLE CLAMPING BRACKET IS POSITIONED AS SHOWN.
 - E. SLIDE DRIVE OUT TO SERVICE POSITION. IF CABINET HAS STABILIZER(S), PLACE IN SERVICE POSITION.
 - F. PULL DRIVE CABLES (I/O AND POWER) GENTLY BACK TO RETRACTOR ARM (ITEM 1) AND CLAMP TO END HOLES AS SHOWN USING ITEMS 7, 11.
 - G. ATTACH TETHER RELEASE (ITEM 3) TO CABLES AS SHOWN IN "DETAIL A". MAKE SURE TETHER IS TAUT AND CABLES ARE SLIGHTLY SLACK BEFORE SECURING TO THE RELEASE BRACKET.
 - H. RETURN DRIVE TO THE CUSTOMER LOADING POSITION AND ATTACH RELEASE BRACKET (ITEM 3) TO DRIVE AS SHOWN.
 - I. RETURN DRIVE TO NORMAL OPERATING POSITION.
 - J. ROUTE CABLES TO THEIR DESTINATIONS, COIL ANY EXCESS I/O CABLE AND THEN INSTALL THE REMAINING CABLE TIES (ITEM 11) AND PUSHMOUNTS (ITEM 7) AS SHOWN IN CABLE LAYOUT.
2. I/O CABLE ROUTING TO DRIVE DIRECTLY ABOVE OR BELOW.
3. I/O CABLE ROUTING TO TRANSITION BRACKET OR ADDITIONAL DRIVE NOT MOUNTED DIRECTLY ABOVE OR BELOW. NOTE THE MINIMUM 8 RAIL HOLES BETWEEN THE RETRACTOR MOUNTING SCREW AND THE FIRST RAIL MOUNTED CABLE TIE.
4. THERE ARE THREE SPACE CABLE TIES AND PUSH MOUNTS (ITEMS 7, 11)



FOR PARTS LIST SEE K-PL- H026-D-DBP.

DESCRIPTION	DRAWING NO.	PART NO.	ITEM NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)							
INCHES TOLERANCES	ANGLES ±0°30'	APPLICABLE DIMENSION RANGE					
		DIMENSION RANGE IN INCHES					
X = ± .1	SURFACE QUALITY	OVER 0	OVER 0.2	OVER 1.2	OVER 4.0	OVER 12.0	OVER 40.0
XX = ± .02		TO 0.2	TO 1.2	TO 4.0	TO 12.0	TO 40.0	TO 60.0
XXX = ± .005		TO 0.2	TO 1.2	TO 4.0	TO 12.0	TO 40.0	TO 60.0
QUANTITY & VARIATION	MICROINCHES	± .02	± .05	± .10	± .15	± .20	± .25
THIRD ANGLE PROJECTION	DATE 12-19-80	TITLE RL CABLE RETRACTOR ASSY.					
DO NOT SCALE DRAWING	CHKD [Signature]	DATE 1-9-81	DOCUMENT NUMBER				
REMOVE BURRS AND BREAK SHARP CORNERS	DES. ENG. [Signature]	DATE 1-9-81	DUA H026-D-0				
MATERIAL SEE PARTS LIST	RESP. ENG. [Signature]	DATE 1-9-81	SCALE 1/2				
FINISH [Signature]	WFLD. ENG. [Signature]	DATE 4-30-81	SHEET 1 OF 1				
	TEST INSTRU. DOC. B-DD-H026-0		TW 1				

DATE	ECO NUMBER	REV	BY
		1	INT.

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION
1	1	D-IA-7424557-0-0	7424557-00 ARM CABLE CARRIER	1
2	2	C-MD-7424556-0-0	7424556-00 BRKT MTG CABLE CARRIER	1
3	3	B-IA-7424555-0-0	7424555-00 BRKT CABLE TEATHER REL.	1
4	4		9008111-00 BUSHING,SNAP,NYLON 3/8 MGTHOLE	1
5	5	A-PS-1217870-0-0	1217870-00 PIN,CLEVIS 2.50 X .25	1
6	6		9009700-00 SCREW,TRUS,PHIL,SEMS10-32X 1/2	2
7	7		9007867-00 MOUNT, PUSH,CABLE TIE	11
8	8		9007786-00 RETAINER, U-NUT, 10-32	2
9	9		9009642-00 SCREW,PAN,PHIL,SEMS 8-32X 1/4	2
10	10		9006662-00 WASHER, FLAT, .500 O.D. X .187 I	2
11	11		9007032-00 TIE,CABLE BUNDL.DIA 0-1-3/4"=101	13
12	12		1215700-04 CABLE ASSY,NYLON,11"LG	1
13	13		9009984-00 SCREW, SEMS, PHILLIPS PAN HD. 6-	1

REVISION HISTORY			BASIC PART NO: OH026		DRN: A.J.ROCHA <i>HR</i>		DATE: 09-OCT-80		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: R.A.NELSON <i>RAN</i>	DATE: 01-JAN-81	TITLE		PARTS LIST		
	INIT	A	SECTION. VARIATION INDEX	DES.ENG.: R.A.NELSON <i>RAN</i>	DATE: 01-JAN-81	RL RETRACTOR ASSY				
			[A] 00	RESP.ENG.: R.A.NELSON <i>RAN</i>	DATE: 01-JAN-81	DOCUMENT NUMBER				
			[B]	MFG.ENG.: J.HESS <i>Walt Hess</i>	DATE: 01-JAN-81	SIZE	CODE	NUMBER	REV	
			[C]	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:	K	PL	H026-0-DBP	A	
			[D]	D-UA-H026-0-00-0	B-DD-H026-0-0	FILE NAME:		EDIT #		
			[E]			Z0701.PLS		11		
			[F]	*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 (C) 1981. DIGITAL EQUIPMENT CORPORATION *						

TW

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WIRE TABLE

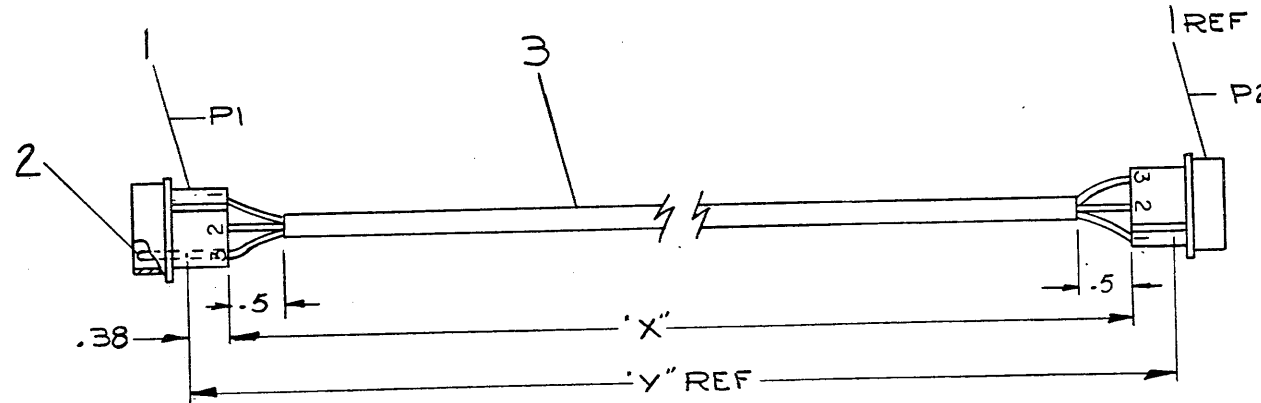
ITEM NO	DESCRIPTION		FROM		TO	
	AWG	COLOR	CONNECTION	WITH	CONNECTION	WITH
3	22	RED	PI-1	2	P2-1	2
3	22	BLK	PI-2	2	P2-2	2
3	22	GRN	PI-3	2	P2-3	2

LEGEND

NUMBER	DIM'X VARIATION	DIM'Y (PRECUT) REF
7008288-3F	3FT. 6IN ± 1 IN.	3FT. 6.8 IN ± 1 IN.
7008288-8F	8FT. 6IN ± 2 IN.	8FT. 6.8 IN ± 2 IN.
7008288-06	6FT. ± 2 IN.	6FT. 0.8 IN ± 2 IN.
7008288-12	12FT. ± 3 IN.	12FT. 0.8 IN ± 3 IN.
7008288-05	5FT. ± 1 IN.	5FT. 0.8 IN ± 2 IN.
7008288-10	10FT. ± 2 IN.	10FT. 0.8 IN ± 3 IN.
7008288-15	15FT. ± 3 IN.	15FT. 0.8 IN ± 3 IN.
7008288-08	8FT. ± 2 IN.	8FT. 0.8 IN ± 2 IN.
7008288-30	30FT. ± 7 IN.	30FT. 0.8 IN ± 7 IN.
7008288-40	40FT. ± 10 IN.	40FT. 0.8 IN ± 10 IN.
7008288-25	25FT. ± 10 IN.	25FT. 0.8 IN ± 10 IN.

NOTES

~~THE REMAINING BLK WIRE IS TO BE CUT W/IN AT JACKET (BOTH ENDS.)~~



REV.	CHANGE NO.	DESCRIPTION
A	7008288-00001	R. BURTON
B	7008288-00002	D. LEWIS
C	7008288-00003	B. MINOR
D	7008288-00004	J. PROVIDENT
E	7008288-00005	F. DOLL
F	7008288-00006	J. MCINTYRE
G	7008288-00007	I. MORRIS
H	7008288-00008	CASTELLANOS
J	7008288-00009	CASTELLANOS

FIRST USED ON OPTION/MODEL
PDP/11

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS — FRACTIONS — ANGLES
± .008 — ± 1/64 ± 0'30"

FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL
SEE PARTS LIST

FINISH
#

A/R	DESCRIPTION	PART NO.	ITEM NO.
6	WIRE, 3 COND #22 AWG	9107756	3
6	PIN MALE #G0620-1	1209378-03	2
2	PIN HOUSING #1-480305-0	1209351-03	1

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
CABLE ASSY

SIZE CODE
C IA 7008288-0-0

NUMBER
7008288-0-0

REV.
J

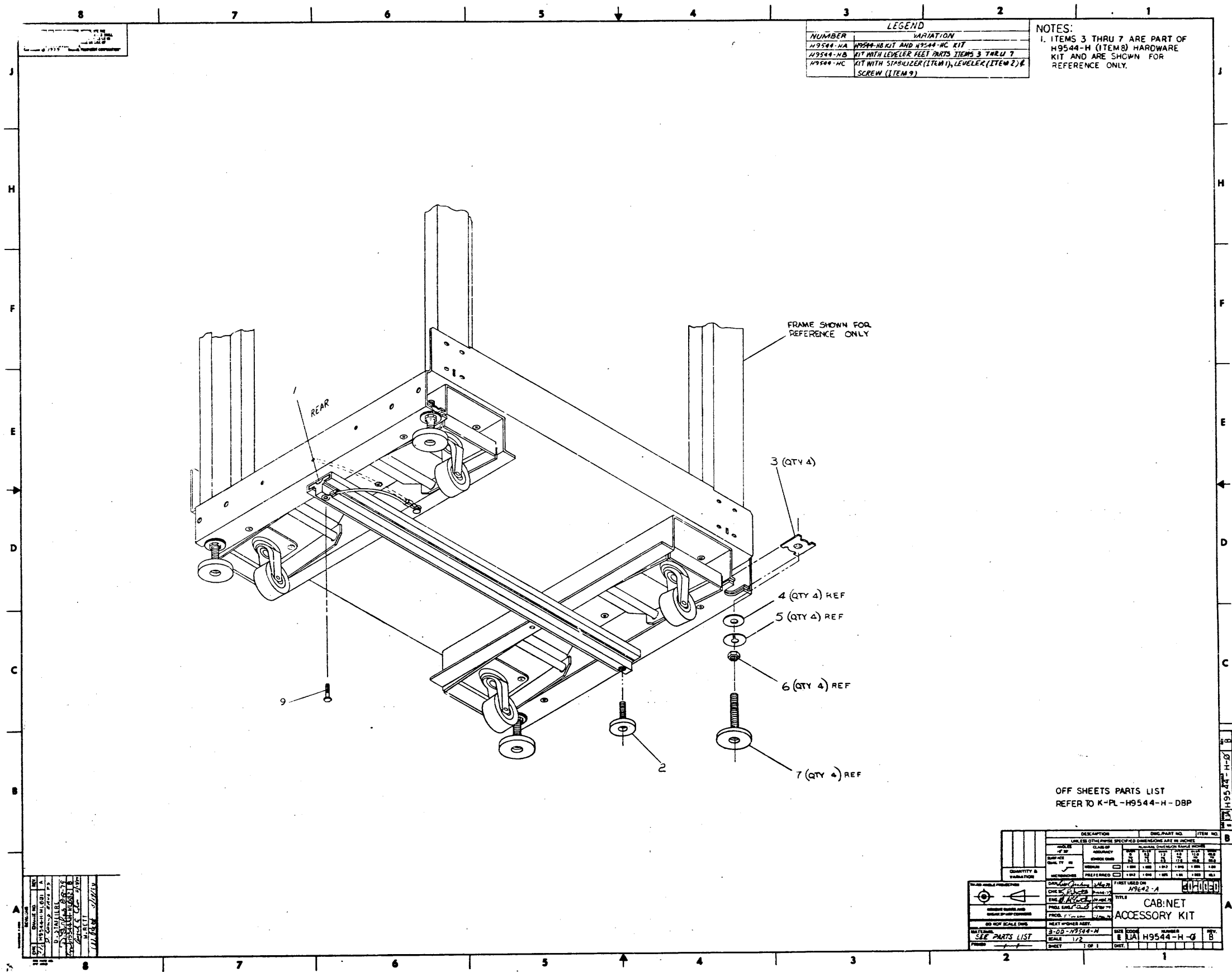
SCALE
1 OF 1

SHEET 1 OF 1

SIZE CODE
C IA 7008288-0-0

NUMBER
7008288-0-0

REV.
J



LEGEND	
NUMBER	VARIATION
H9544-HA	H9544-HB KIT AND H9544-HC KIT
H9544-HB	KIT WITH LEVELER FEET (ITEMS 3 THRU 7)
H9544-HC	KIT WITH STABILIZER (ITEM 1), LEVELER (ITEM 2) & SCREW (ITEM 9)

NOTES:
 1. ITEMS 3 THRU 7 ARE PART OF H9544-H (ITEM 8) HARDWARE KIT AND ARE SHOWN FOR REFERENCE ONLY.

FRAME SHOWN FOR REFERENCE ONLY

REAR

3 (QTY 4)

4 (QTY 4) REF

5 (QTY 4) REF

6 (QTY 4) REF

7 (QTY 4) REF

9

OFF SHEETS PARTS LIST
 REFER TO K-PL-H9544-H-DBP

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

DESCRIPTION		QTY	UNIT	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				
NO. OF	DESCRIPTION	QTY	UNIT	ITEM NO.
1	LEVELER FEET	4	EA	3
1	LEVELER	4	EA	4
1	STABILIZER	1	EA	1
1	SCREW	4	EA	9
TITLE: CABINET ACCESSORY KIT PART NO.: H9544-H-G SCALE: 1/2" SHEET: 1 OF 1				

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION		
					HA	HB	HC
1	1	C-MD-7422204-0-0	7422204-00	EXT FOOT (METAL)	-	-	1
2	2		1216373-02	FOOT,LEVELER 1-3/8 BASE DIA 5/16	-	-	1
3	3		9008878-00	NUT,TEE,IRR.BASE 1/2-13 S/ZIN	-	4	-
4	4		9009026-00	WASHER, FLAT, .875 O.D. X .515 I	-	4	-
5	5		9009895-00	WASHER, LOCK, SPLIT, .518 ID X .	-	4	-
6	6		9006596-00	NUT,HEX , 1/2-13X3/4 AF X 7/	-	4	-
7	7		9007601-01	FOOT, LEVELER, CUSHION, 1/2-13,	-	4	-
8	8		2200022-00	HARDWARE KIT FOR H9544-H	-	REF	-
9	9	B-MD-7424417-0-0	7424417-00	SCREW, HEX HEAD	-	-	1
10	10		H9544-HB	KIT OF 4 LEVELERS	1	-	-
11	11		H9544-HC	KIT OF 1 STABILIZER LEG WITH LEV	1	-	-

12 NOTE: ITEMS 3 THRU 7 ARE PART OF H9544-H HARDWARE KIT AND ARE

13 NOTE: LISTED FOR REFERENCE ONLY

REVISION HISTORY			BASIC PART NO: H9544			DIGITAIL		
ENG	ECO NUMBER	REV	SECTION A OF A	DRN:	LISE GRAHAM	DATE:	02-MAR-79	
---	INITIAL	*	SECTION, VARIATION INDEX	CHK'D:	S. ROBERTS	DATE:	02-MAR-79	TITLE PARTS LIST
DS	H9544-H-ML001	A	[A] HA,HB,HC					CABINET ACCESSORY KIT
WR	H9544-H-ML002	B	[B]	DES.ENG.:	W.F. MC CARTHY	DATE:	02-MAR-79	
			[C]	RESP.ENG.:	P. DUBE	DATE:	02-MAR-79	DOCUMENT NUMBER
			[D]					SIZE!CCDE! NUMBER ! REV
			[E]	MFG.ENG.:	R. CARRIER	DATE:	02-MAR-79	K ! PL ! H9544-H-DBP ! B
			[F]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: ! EDIT #!
				E-UA-H9544-H-0				Z0241B.PLS ! 10

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