

HP 300

Service Handbook Part IV - Basic Diagrams



HEWLETT  **PACKARD**

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CHANGE HISTORY PAGE

Every Change Package for this book includes:

1. Complete new copy of the Contents Section.
2. A new copy of this Change History Page.
3. The changed or new Diagrams and Material Lists.

To update the Diagrams Book:

1. Check the new Change History Page against the old one to insure that you have not missed a Change Package.
2. Replace the Contents Section and this Change History Page .
3. Insert the new diagrams in numerical order.

Change History:

6/9/78	Initial Printing
1/15/79	Initial Printing - Basic Diagrams Book (see 1.0 Introduction)

NOTICE

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PCA-Mem Mod 128KB Material List		31204-60001			221	PCA-ADCC Extr Material List		31265-60001			232	
Memory Array 128KB Assembly	D-	31204-60001-	1	C	221	ADCC Extender Assembly	F-	31265-60001-	21	B	232	
Memory Array 128KB Schematic	D-	31204-60001-	6	A	221	Ext'd Async Data Comm Channel Schematic	D-	31265-60001-	26	B	232	
*Card Cage Assembly	D-	31213-60010-	1	B	201	PCA-PMPI Material List	F-	31321-60001			150	
*Card Cage Assembly	D-	31213-60010-	2	B	201	Processor Maint. Panel Interf Assy	F-	31321-60001-	11	C	150	
*Mainframe	D-	31213-90001-	1		000	PMPI Schematic	D-	31321-60001-	16	C	150	
*Mainframe Exploded View	D-	31213-90001-	1	F	201	*Worksurface Assembly	D-	31381-90001-	1	B	201	X
*Mainframe Cabinet Assembly	D-	31213-90001-	2	K	201							

4.0 INDEXES

There are three indexes:

- a. Sorted by subsystem using the Service Handbook Summary section number
- b. Sorted alphabetically by drawing name
- c. Sorted numerically by drawing number

Those drawings which are in the Basic Diagrams book are denoted with an asterisk.

Those drawings changed from the previous index (of last update package) have an "X" in the "Add" column.

In addition, there is a pictorial index system:

- a. the HP 300 as a whole is shown on an exploded view of the 31213A Mainframe. This is used as a pictorial index to the subsystems. Each subsystem is identified on this exploded drawing by its name and assembly number so that the appropriate subsystem drawings can be found.
- b. all parts in a subsystem are referenced on the subsystem assembly drawings by name and part number, including cables which are located within the subsystem.
- c. Cables which connect two or more subsystems are shown on the Mainframe Cable Routing drawing.

5.0 DRAWING NUMBERS

A drawing number looks like this:

D	31293-60004-21	B
Original		Revision level of drawing
size of		
drawing		Sub-drawing number and
		revision level of assembly

Original size of the drawing: this is needed to find the drawing in the Manufacturing Specifications files.

Sub-drawing number and revision level of the assembly: these two facts are combined in one two-digit number -- sub-drawing 1 is numbered 1, 11, 21, 31, etc. as the assembly is revised; sub-drawing 6 is numbered 6, 16, 26 and so forth.

Revision level of drawing: this letter corresponds to the last letter used in the revision note box in the upper right-hand corner of the drawing.

Via update packages through the two subscription services, subscribers receive all significant revisions of each diagram. Gaps occur in this sequence to skip drawing versions covering such things as product revisions not shipped, minor manufacturing corrections, etc.

Use the Production Change Summary section (in Part I of the Handbook) to check the complete change history for a given subsystem.



6.0 EXAMPLES OF USE

Here are three examples of diagrams usage. The first two examples show usage of the Basic book for parts identification and disassembly/reassembly; the third example shows usage of the Comprehensive set to trace signals.

Example 1:

You need to identify a part (for example, a bracket damaged in shipping)

- a. Use the exploded drawing of the mainframe to find which subsystem the part belongs to. (If not obvious.)
- b. Find the subsystem's assembly drawing.
- c. Locate the desired part on the assembly drawing and use the reference designators and parts list on the drawing to find the part number.
- d. Check Section 106, Parts and Logistics Summary, in the Service Handbook to determine whether it is exchange, non-exchange, or fabricated.

Example 2:

You need to disassemble or reassemble something. For example, replacing a fan in the power supply unit. Use the assembly drawing for the Power Supply Unit to see which parts need to be disassembled to be able to remove the old fan. Once the old fan has been replaced, the drawing can be used to reassemble the Power Supply Unit.

Example 3: (Comprehensive Diagrams Set)

You need to trace a signal from one board to another within a subsystem.

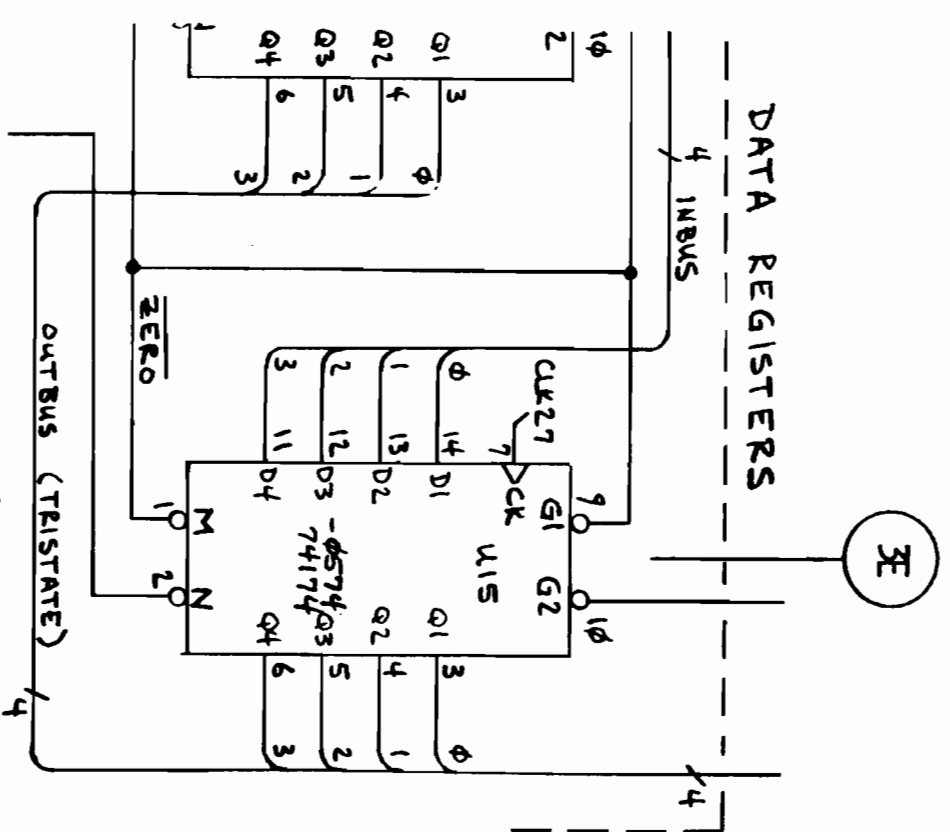
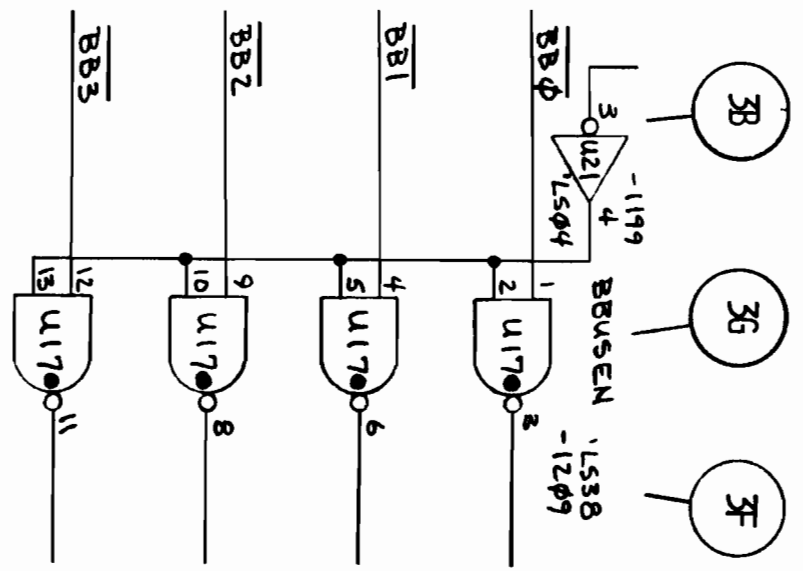
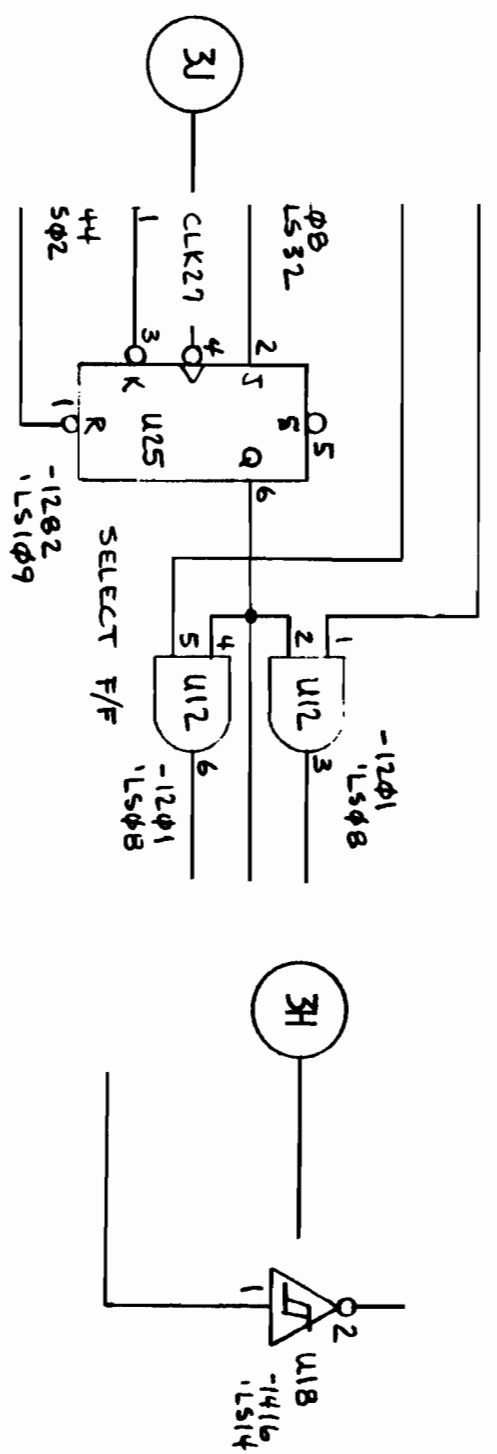
- a. Find the schematic diagram for each board
- b. Locate the pin numbers in question
- c. If necessary, the cable drawing may be found via either:
 - (1) the cable part number
 - (2) The subsystem assembly drawing
 - (3) The mainframe cable routing drawing.




7.0 SCHEMATIC DRAWING NOTATION



-CONTINUED NEXT PAGE-

3. Logic Symbols

- A. Logic symbols are based on MIL STD-806B. Use the attached sample schematic as a guide.
- B. Logic symbols with more than one possible symbolic representation should be shown using that symbol which most easily facilitates understanding the circuit operation. If it makes more sense to show a NAND or an OR with inverted inputs, do so. Generally speaking, the symbols used by the responsible engineer should be retained. Label the more complex elements with a descriptive logical name such as "Address Register", "Comparator", "Counter", etc.
- C. For unusual logic elements, use labeled blocks or the manufacturer's notation--do not invent symbols.
- D. All logic elements must have their pin numbers identified.
- E. All MSI and LSI logic elements must have their pins labeled. Also add descriptive name as per B above.
- F. Logic elements must be identified by the assembly designator, manufacturer's part number, and HP part number suffix. Use a note to show that the 1820- prefix is assumed.
- G. Open-collector gates are designated by a dot inside the gate outline near the output. (See sample schematic.) ("OC" is acceptable.)
- H. Schmidt-trigger gates are designated by a hysteresis symbol inside the gate outline. (See sample schematic.)
- I. Tri-state gates are designated by the words "Tri-State" next to the bus.
- J. Use a notch to show edge-triggering. For negative-edge triggering, add an inversion ball.
- K. A single pack of several drivers or buffers can be drawn as a box with a typical gate, to show direction, inside.



 ALL IC'S 1820- PREFIX
 UNLESS OTHERWISE SPECIFIED

7. Signal Flow

*A. Signal flow designators in the form of an arrowhead should be added when the responsible engineer feels that such information clarifies the logic diagram--especially for connectors, page-page connections, and between functional blocks.

B. In general, signal flow should be from left-to-right and top-to-bottom and symbols oriented with inputs to the left and outputs on the right. Some structures are best drawn not in accordance to left-to-right. For example, an interface module that connects two other systems. Here it is best to have interface to A at left edge and interface to B at right edge. (See the block diagram example.)

*C. In multi-page schematics, signals should enter the schematic from the left and leave on the right-hand side where possible. Use an arrowhead (opposing arrowheads if bidirectional) on each signal where it enters or exits the page. Show sheet number(s) and grid location in a "pill" shape as on example.

*D. Show busses as one line with a slash and number indicating the number of signals. (See sample schematic.)

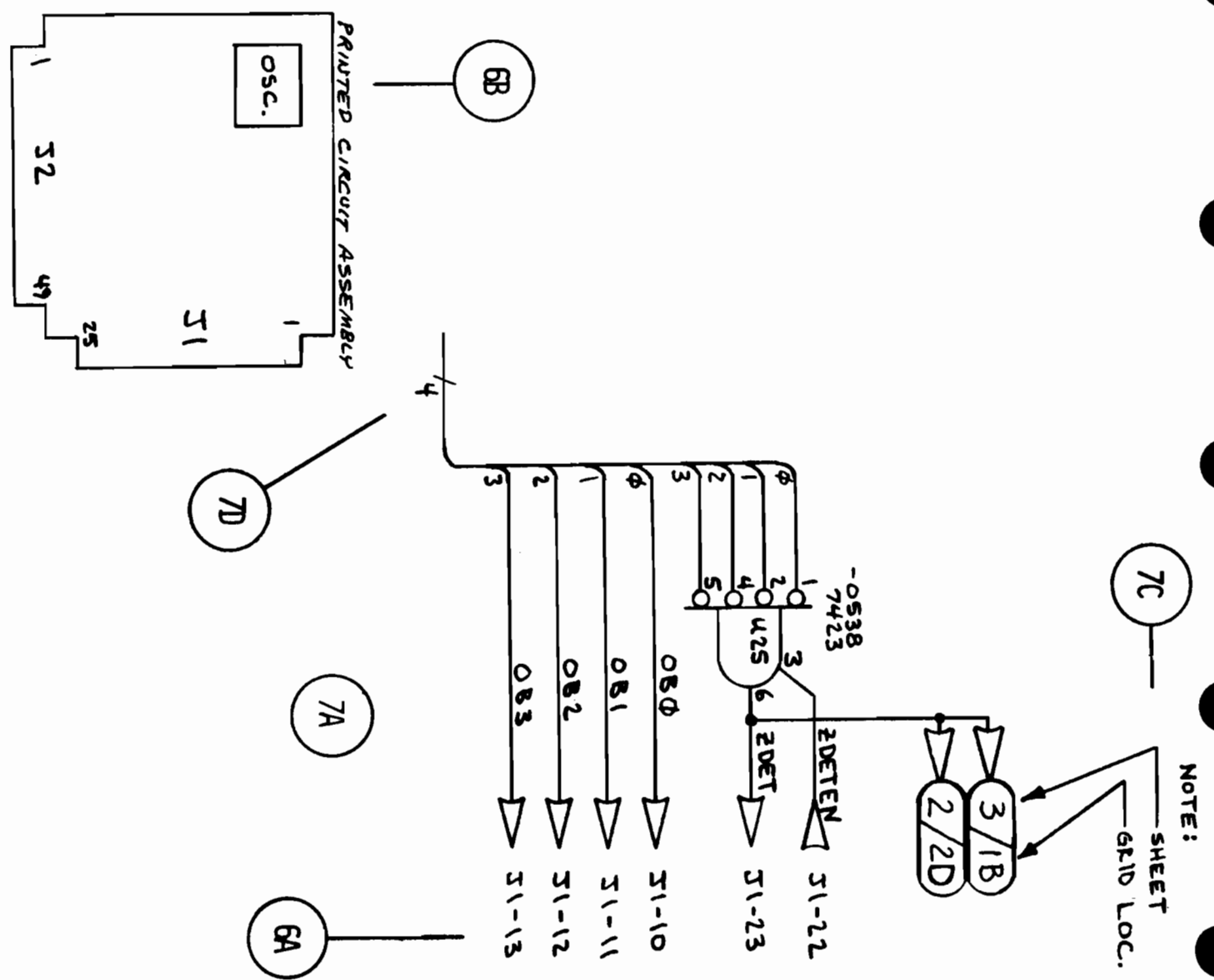
8. Signal Names

A. Important lines which meander over the logic diagrams should have their names repeated several times as an aid to signal tracing.

B. Where a large number of lines run in parallel they should be individually named to avoid confusion and error in signal tracing.

C. Write names on signal lines (signal designators) especially when entering or exiting a board. Signal designators on the lines entering or exiting a board should be the same as in the wire list. Consistency between individual drawings is important.

D. The TESTAID notation of "ADDR7L" and "PRGH" can be used rather than negation bars in documentation--since the bars make the theory of operation and other documents both difficult to write and error-prone. (Difficult because there is no easy way to handle the bars with text editor output to printers and CRTs; error-prone since the bars have to be drawn by



ITEM	QTY.	MATERIAL-DESCRIPTIC
DRAWN BY	J. EVANS	DATE 11 NOV 76
ENGINEER	A. KNOLL	DATE 1 NOV 76
RELEASE TO PROD.		
SUPERSEDES DWG.		
		TITLE
		Sc4
		NEXT ASS
		FINISH

hand on printer output or typescript.) It is acceptable to use bars on the schematic and another designation ("L" and "H" or "+" and "-") on the documentation. Use of apostrophe as the negation suffix is not acceptable since it is too easily lost in reduction or reproduction.

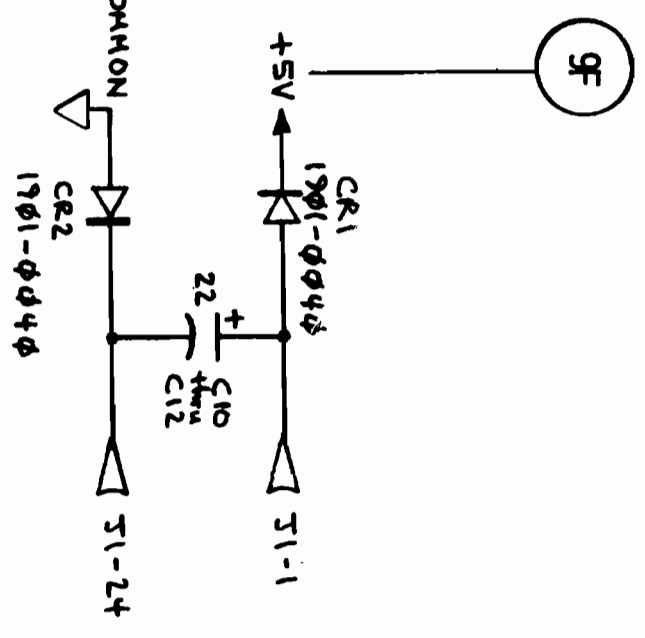
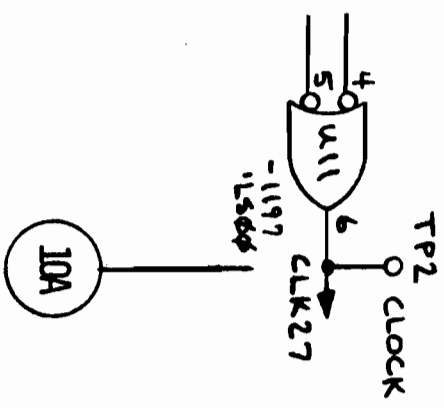
ERING RESPONSIBILITY	
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63	22
	23
	25
	21

3

9. Power and Ground

- A. VCC and ground pins on IC's need not be indicated for standard TTL SSI and MSI logic elements.
- B. All power and ground pins must be labeled and identified for MOS and LSI chips.
- C. Power and ground lines to unusual logic elements should not be specifically shown but rather indicated as in 9F to prevent clutter.
- D. The entry point of all power and ground lines should be indicated in some fashion, either by connector pin number, wire number, etc.
- E. Power related circuitry such as regulators, Zener diodes, decoupling capacitors, etc. should be clustered together near the bottom of the logic diagram.

SELECT



9F

10. Test Points

- *A. Test points must be identified by both their assembly reference designator and by functional name ("TP12 PCLK"). Symbol is "I".
- B. Analog boards should show voltage and condition for said voltage or a small waveform sketch.

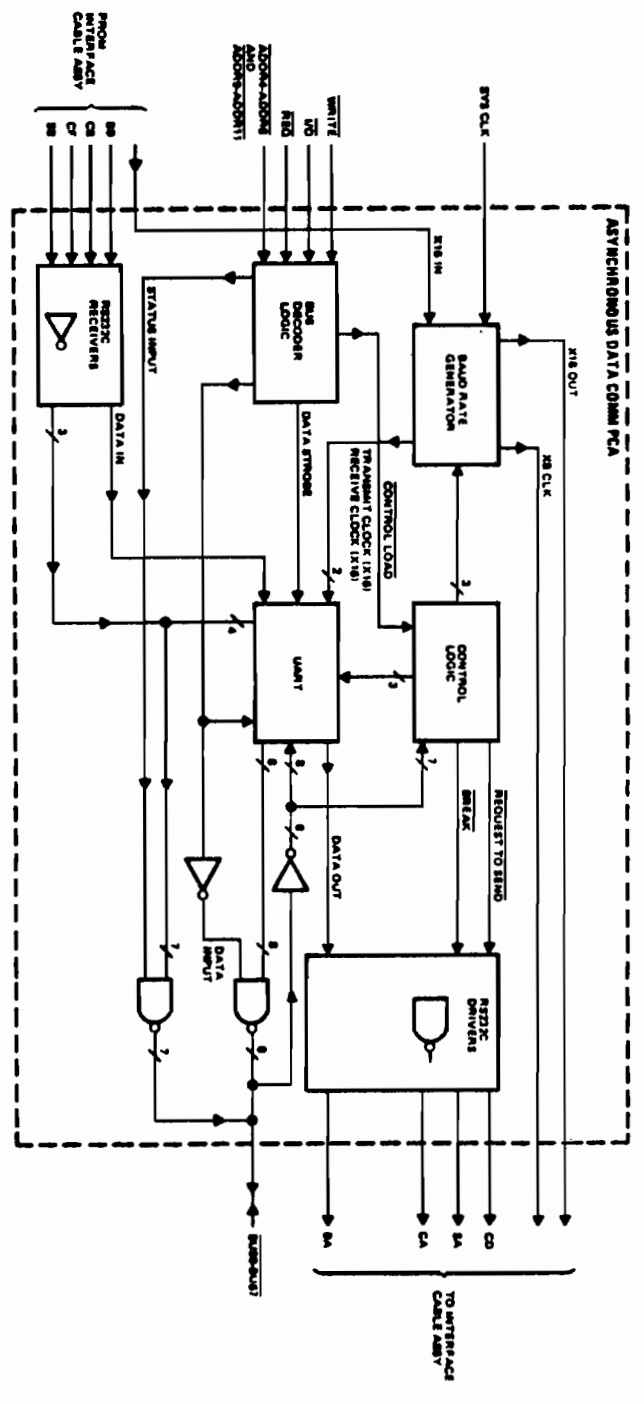
11. Timing and Adjustments

- A. Indicate nominal timing for one-shots, delays and clocks. (Also min. or max. if applicable.)
- B. Indicate on potentiometers clockwise (CW) or counterclockwise (CCW) rotation and increase or decrease of adjusted parameter. Use an arrow labeled, for example, "Increase Frequency CW" showing the direction of wiper motion to increase the parameter.

MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
IC SAMPLE		
HEWLETT PACKARD		
60099	31999 - 60999	
SCALE	PART NUMBER	
	C - -	

12. Examples

A. Here is a good example of block diagram organization:

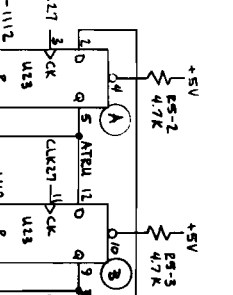
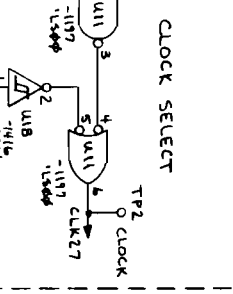
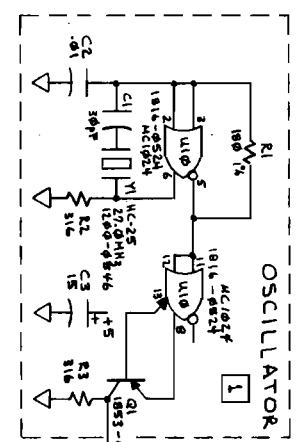


B. An acceptable C-size schematic is shown on the next page reduced 2:1 to B-size. D-size AMIG0 schematics will be reduced 4:1 (to B-size).

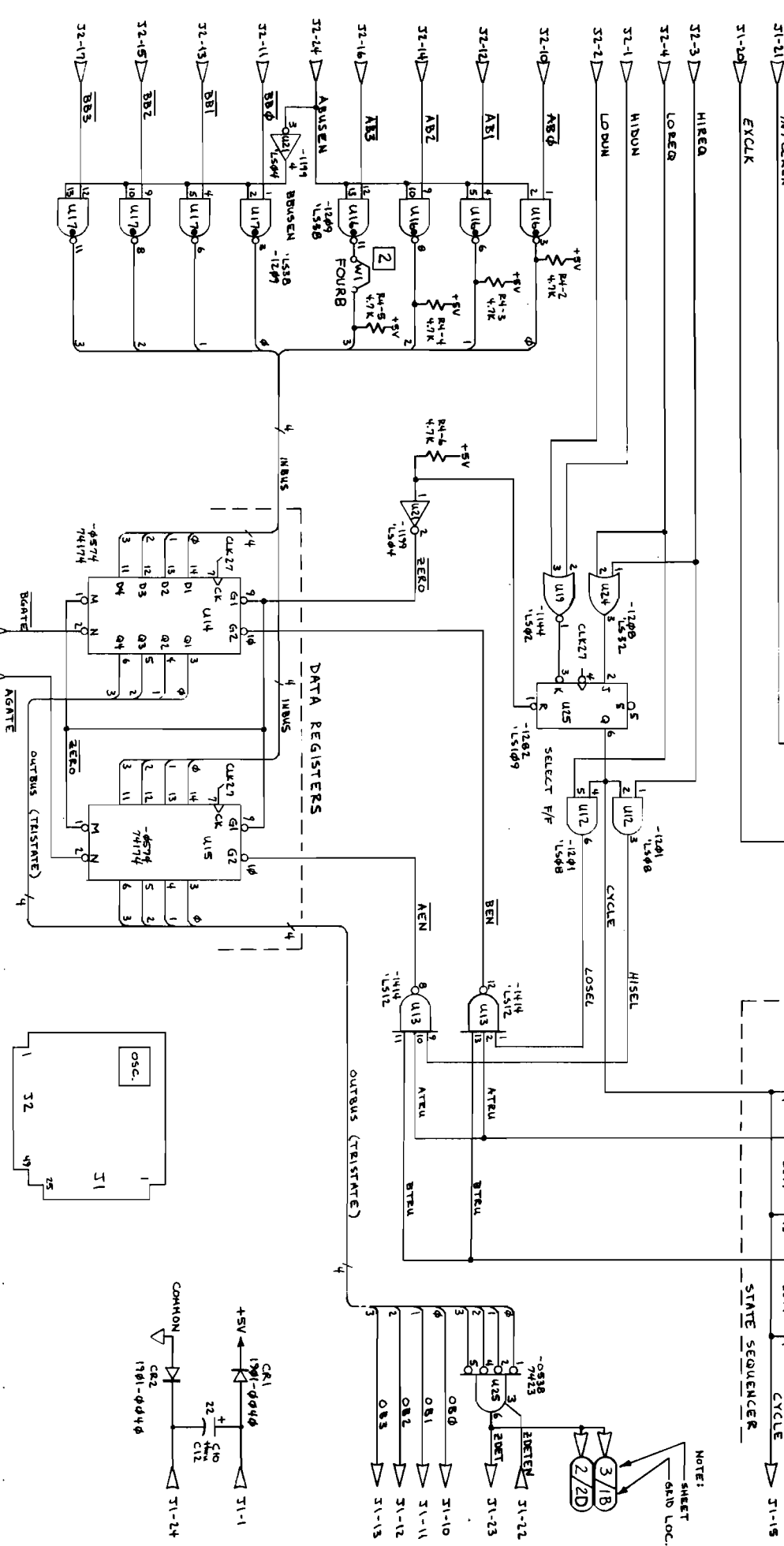
13. The Master Rule

Keep the purpose of your schematics in mind. No set of rules can be complete-- don't let one of these guidelines act as an obstruction to achievement of the goal. The diagrams which you leave behind should be a source of pride and a mark of your professionalism.

DRAWING RESPONSIBILITY		REVISIONS		DATE	
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40		40			



STATE SEQUENCE	
A	0
B	0
C	0
A	1
B	1
C	1
A	0
B	0
C	0
A	1
B	1
C	1



- 1 PC SPECIFIC LAYOUT REQUIRED
- 2 INSTALL W/ FOR 4 BIT OPERATION
- 3 ALL IC'S 1820 - PREFIX UNLESS OTHERWISE SPECIFIED
- 4 ALL R'S AND C'S IN OHMS AND MICROFARADS UNLESS NOTED

DO NOT SCALE THIS DRAWING	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES: XX ± .02 XXX ± .005	SEE COMP. STD. 808

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG NO.	MAT'L DWG
SCHEMATIC SAMPLE					
TITLE: 31999 - 80039					
HEWLETT PACKARD					
PART NUMBER: 31999 - 60999					
SCALE: C					

REV	DESCRIPTION	DATE
A	AS ISSUED	2-16-77
B	C-2 DWG ADDED TO DATE G, PCO-47-200 G	3-17-77
C	ADDED ITEM (2) PC-47-2047	7/1/77

P2
PIN ASSIGNMENT

1	BRN
2	RED
3	ORN
4	YEL
5	GRN
6	BLU
7	VIO
8	GRN
9	WHT
10	WHT/BLK
11	WHT/BRN
12	BLK 22 AWG (SHIELD DRAIN)

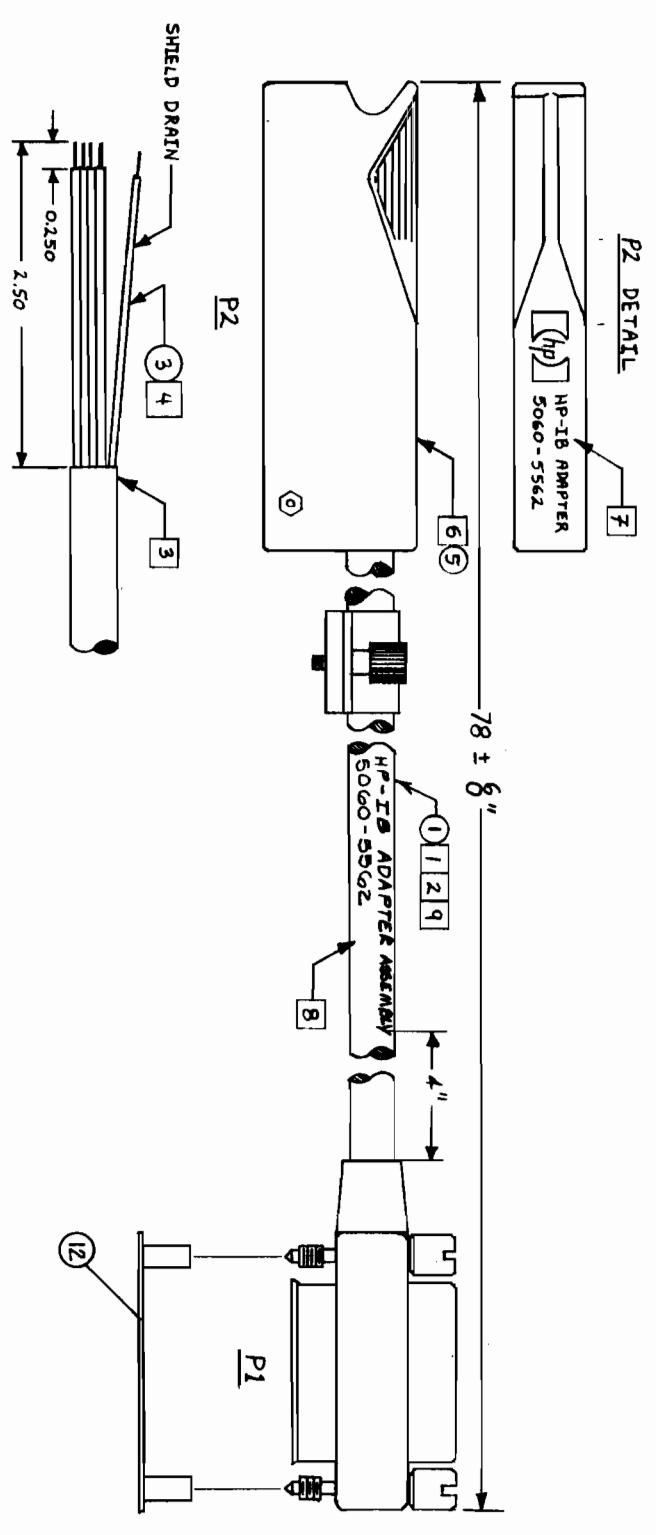
P1
PIN ASSIGNMENT

1	SHIELD DRAIN
2	WHT/BRN
3	WHT/BLK/GRN
4	WHT/BLK/YEL
5	WHT/BLK/ORN
6	WHT
7	GRN
8	VIO
9	BLU
10	GRN
11	WHT/VIO
12	WHT/BLU
13	WHT/GRN
14	WHT/YEL
15	WHT/ORN
16	RED
17	BRN

NOTES:

- REMOVE ALL PREVIOUS IDENTIFYING MARKS FROM ITEM 1 EXCEPT UL MARKINGS.
- ITEM 1 IS 4 METERS LONG. CUT IN HALF AND INSTALL CONNECTOR P2 AS SHOWN. USE EACH END OF CUT ITEM 1 TO MAKE A NEW CABLE. BE SURE CUT IS DEAD CENTER.
- STRIP INFO. FOR CONN. P2:

TRACKET	WIRES
2.50 IN.	0.25 IN.
- FORM SHIELD BRAID INTO PIGTAIL AND COVER WITH ITEM 3
- INSTALL ITEM 4 ON EVERY OTHER PIN ON CONN. P2 (0.3 FT. PER PIN).
- INSTALL P2 CONNECTOR AND HOOD ASSEMBLY PER HP DWG # 5-5951-5013-1 (ITEMS 2, 5 THRU 11 SHOWN). ASSEMBLE RFI CLAMP PER C-2 DWG.
- MARK CONN. P2 HOOD AS SHOWN PER HP DWG. NO. A-5951-7363-1.
- MARK CABLE PER HP DWG. NO. A-5950-3783-1
- THE CABLE MUST BE UL TYPE 24WG LOW VOLTAGE COMPUTER CABLE. SHIP CABLES PROPERLY MARKED UL-APPROVED.
- TEST PER HP DWG. NO. A-5950-8795-1, INCLUDING SHORT BETWEEN RFI CLAMP AND P1 SHIELD, AND OPEN BETWEEN RFI CLAMP AND P2 SHIELD.



ITEM	QTY	MATERIAL-DESCRIPTION	MAT'L-PAKTING	MAT'L-ORIG. NO.	MAT'L-SPEC.
12	1	MOUNTING PLATE	30070-00043		
11	1	NUT	2160-0002		
10	1	SCREW	2200-0091		
9	1	SCREW - SET	3030-0143		
8	2	SCREW - TAP	0624-0098		
7	1	CLAMP - TAP	5040-6004		
6	1	MOUNTING BLOCK	5040-6072		
5	1	HOOD	5040-6086		
4	1	.3 FT. TUBING - SHRINK	0890-0870		
3	2	TV/WIG - BRK/INK	0890-0870		
2	1	CONNECTOR (30-PIN)	1251-0159		
1	1/2	CABLE ASSY (4 METERS)	8120-1835		

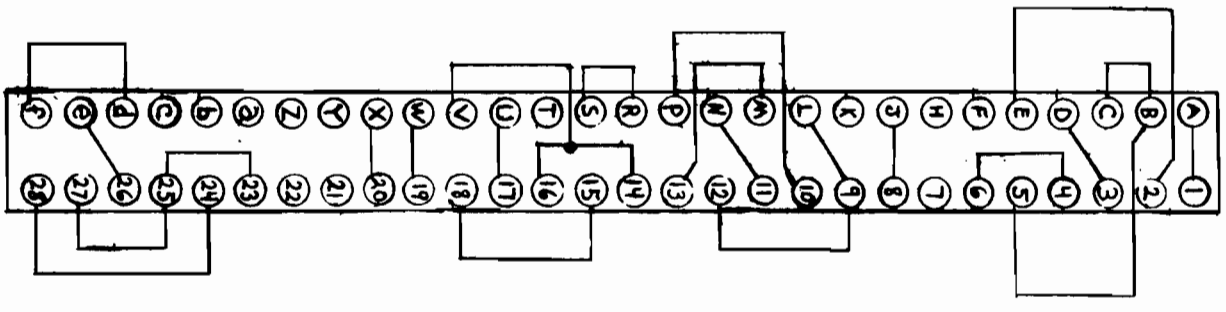
DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02 .XXX ± .005
SEE COMP. STD. 808

CABLE - HP-IB ADAPTER ASSY
TITLE: 31262A
NEXT ASSEMBLY: 5060-5562
FINISH: SCALE: PART NUMBER: 5060-5562
C-5060-5562-1

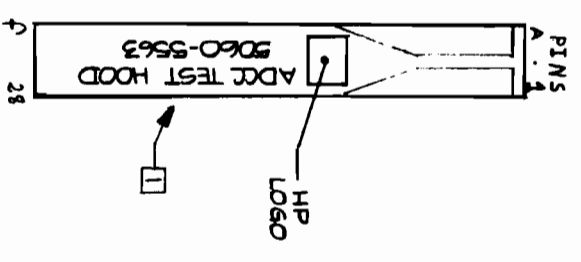
HEWLETT PACKARD

PROCESS REVIEW
DATE 2-17-77 BY *R. W. [Signature]*

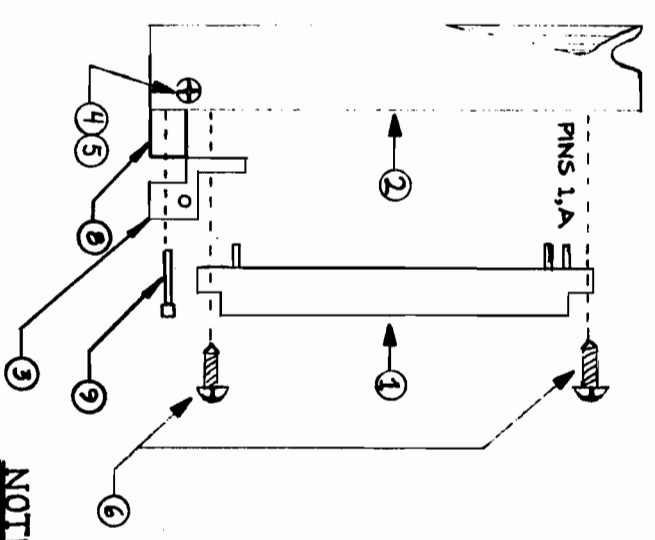
WIRING DIAGRAM



DETAIL 'A'



DETAIL 'B'



NOTES

1. MARK HOOD PER DETAIL 'A' PER REFERENCE DWG A-5950-5563-1
2. STRIP WIRES 0.25 INCHES
3. WIRE PER WIRING DIAGRAM
4. ASSEMBLE PER DETAIL 'B'

REV	DATE	DESCRIPTION
1	11/17/73	ISSUED FOR PRODUCTION
2	11/17/73	REVISION
3	11/17/73	REVISION
4	11/17/73	REVISION
5	11/17/73	REVISION
6	11/17/73	REVISION
7	11/17/73	REVISION
8	11/17/73	REVISION
9	11/17/73	REVISION
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25	11/17/73	REVISION
26	11/17/73	REVISION
27	11/17/73	REVISION
28	11/17/73	REVISION

REV	DATE	DESCRIPTION	APPROVED	DATE
A	11/17/73	ISSUED FOR PRODUCTION	ALAN WILSON	3/7/77
B	11/17/73	REVISION	ALAN WILSON	4/18/73
C	11/17/73	REVISION	ALAN WILSON	5/17/73
D	11/17/73	REVISION	ALAN WILSON	5/17/73
E	11/17/73	REVISION	ALAN WILSON	11/17/73

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L SPEC.
1	1	CONN PC 2 X 28 CONTACT	1291-49102	
2	1	HOOD CONNECTOR PC	5040-6071	
3	1	SUPPORT BLOCK	5040-7255	
4	1	SCREW #4-40 X .562L	2200-0091	
5	1	NUT #4-40 X .187ID	2260-0002	
6	2	SCREEN SELF-TAPPING POZI	0624-0095	
7	20	20 IN. WIRE INS. BLK 22 AWG	8150-0417	
8	1	CABLE CLAMP	5040-6009	
9	1	SET SCREW 6-32 X .50	3030-0143	

ADCC TEST HOOD ASSEMBLY

HEWLETT PACKARD

3060-5563

DATE 3-7-77 BY R. W. WRIGHT

PROCESS REVIEW

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02 .XXX ± .006

DO NOT SCALE THIS DRAWING

SEE COMP. STD. 608

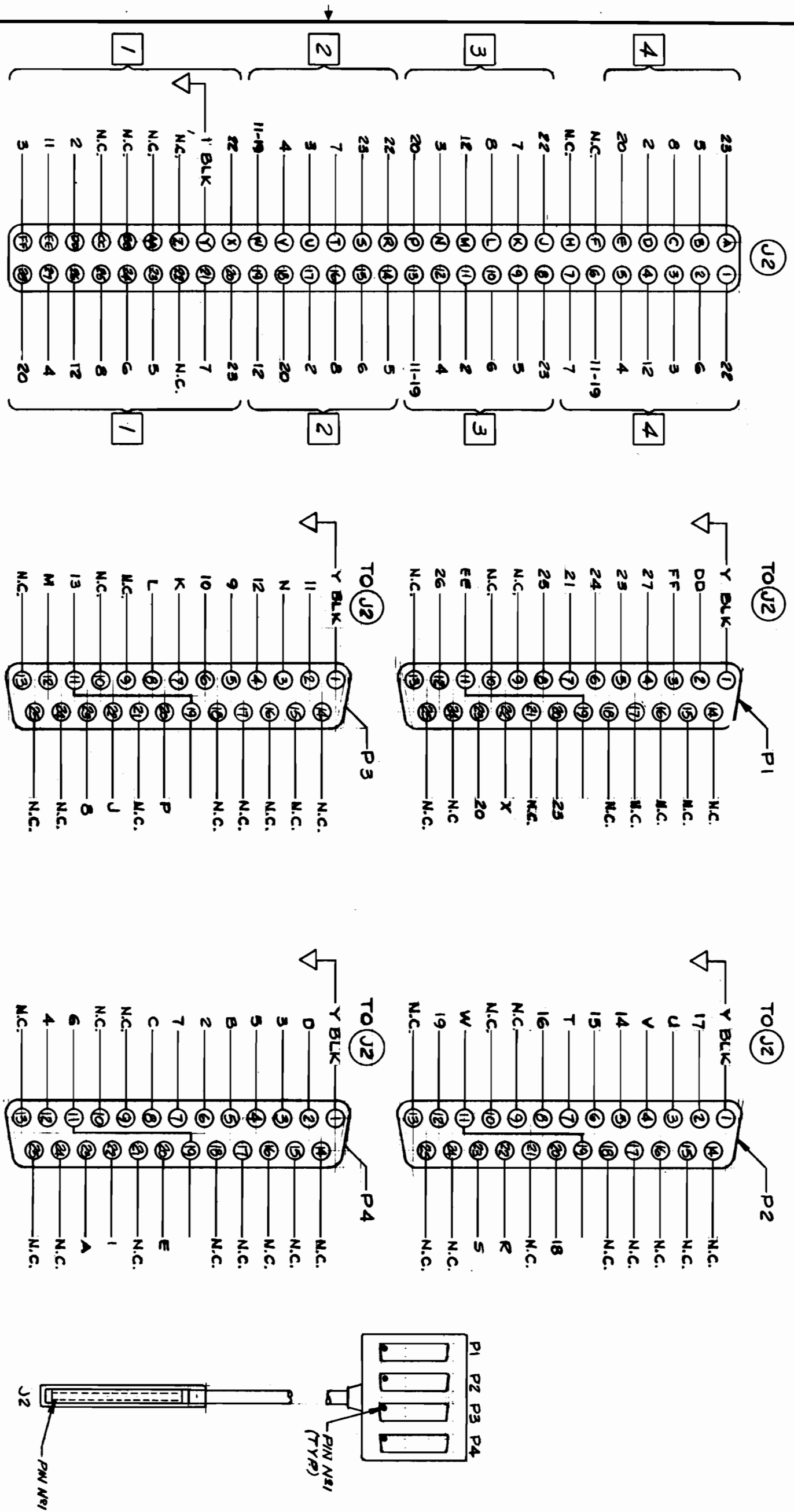
1-5060-5563-1

3-1

11/17/73

REF. DWG: D-1 (ASSY)

ENGINEERING RESPONSIBILITY												
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52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77
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91	92	93	94	95	96	97	98	99	100			
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2	5060-5564-2



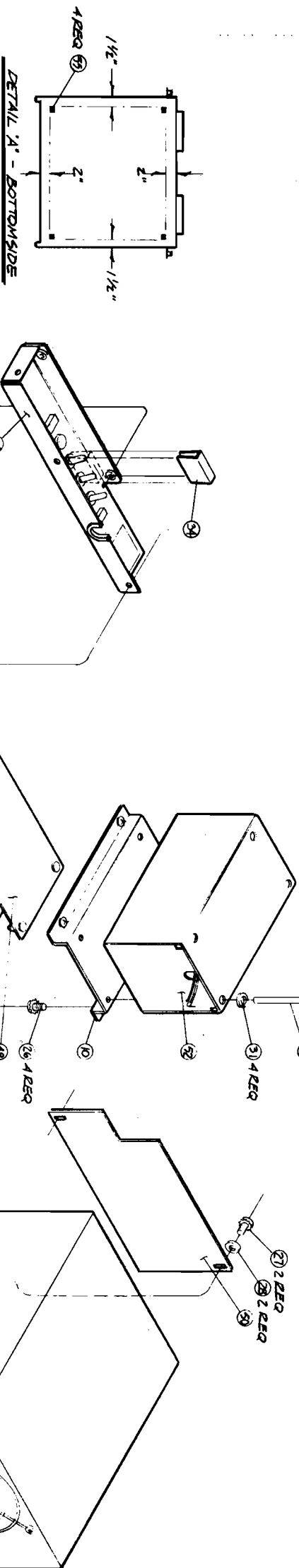
NOTES

- 1 TO P1 USE BROWN WIRES
- 2 TO P2 USE WHITE WIRES
- 3 TO P3 USE ORANGE WIRES
- 4 TO P4 USE RED WIRES
- 5 CONNECTORS VIEWED FROM WIRING SIDE.
- 6 INDICATES CONNECTED TO DRAIN.

STOCK NO. 5060-5564 PRINTED ON SHEET NO. 5060-5564 CLEARANCE FABRIQU

DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN INCHES. TOLERANCES .X1 S. 02 .X13 S. 008		MATERIAL DESCRIPTION		MATERIAL PART NO.		MATERIAL SPEC.	
ITEM	QTY.	WIRING DIAGRAM ADCC- RS 232 TITLE CABLE ASSY		HEWLETT PACKARD		5060-5564	
SUPERSEDES DWG.		FINISH		SCALE		PART NUMBER 5060-5564-2	

REF DRAWING #: C-2 (FILTER MOUNT ASSY)
 C-3 (UPPER CHANNEL ASSY)
 D-4 (POWER UNIT CABLE ASSY)



NOTES:
 1 ORIENT FAN TO PLACE CONNECTOR AT THIS CORNER.
 2 THIS PLATE TO BE CORRECTLY ORIENTED & MOUNTED DURING FINAL MACHINE CONFIGURATION.

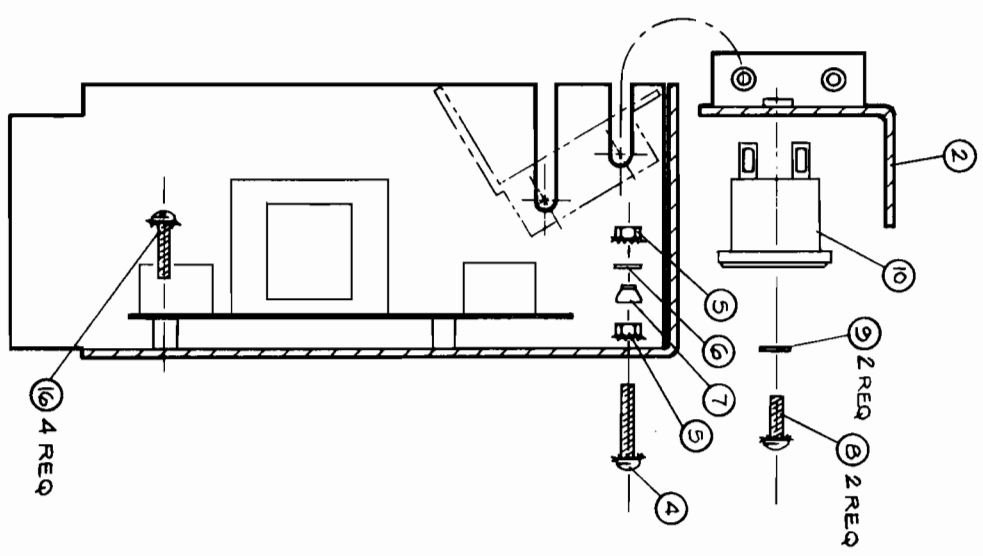
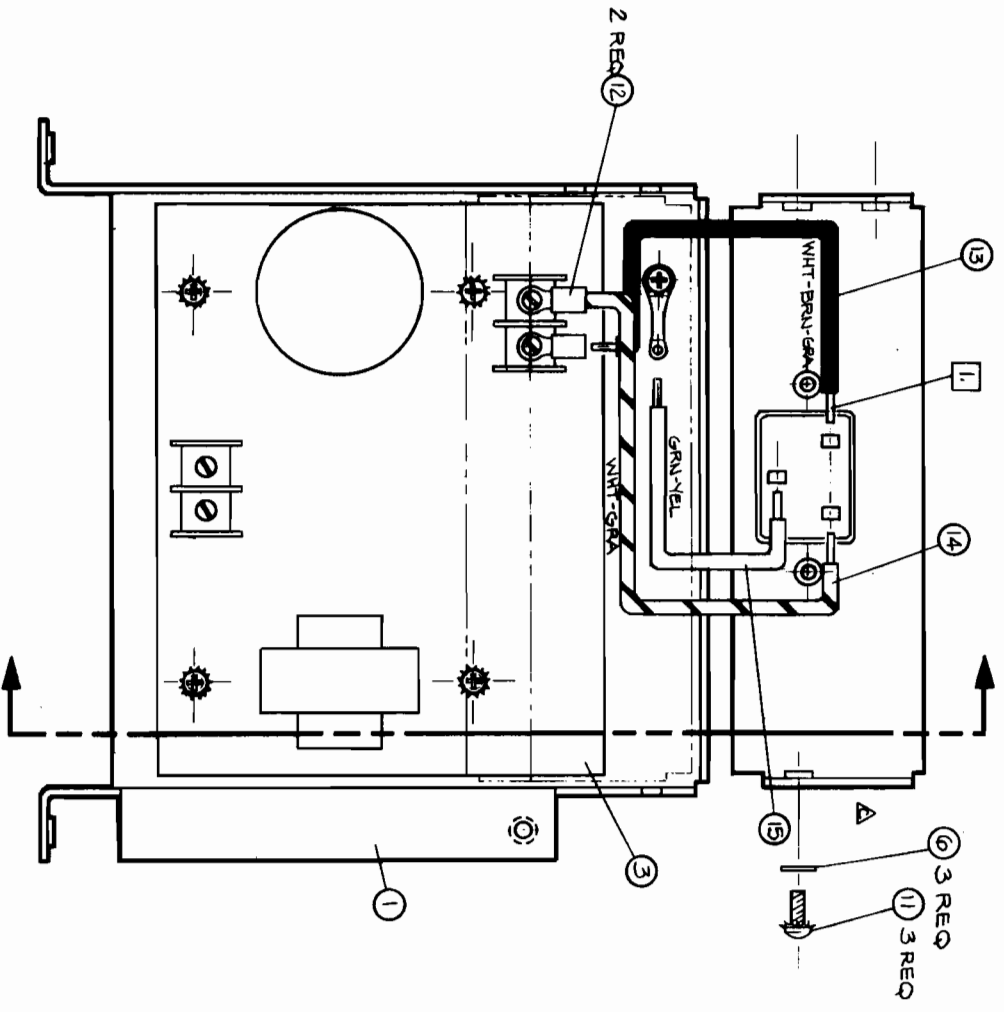
REV	DATE	BY	CHKD	APP'D
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QTY	DESCRIPTION	UNIT	QTY	DESCRIPTION	UNIT
64	LABEL - WARNING	7120-46326			
63	LABEL - GROUND	7120-6431			
62	GROUND PLATE	31000-00086			
61	ADHESIVE CHANNEL	0470-0010			
60	ADHESIVE CHANNEL	0470-0010			
59	TERMINAL BLOCK	0360-1870			
58	END COVER	31000-00085			
57	BOARD SUPPORT	31000-00084			
56	GUARD POWER SWITCH	1460-1667			
55	RUBBER BUMPER	0403-0324			
54	LABEL - FINISH SAFETY	7120-4605			
53	LABEL - CAUTION	7120-4428			
52	BATTERY PACK	31000-60001			
51	TRANSFORMER ASSY	31000-60024			
50	POWER DISTRIBUTION BD	31000-60025			
49	MEMORY REGULATORY BD	31000-60028			
48	MEMORY REGULATORY BD	31000-60028			
47	POWER CONTROL BD	31000-60046			
46	CAPACITOR HOLDER	0380-1969			
45	CAP 680UF 75V	080-2757			
44	NYLATCH GROMMET	1390-0366			
43	NYLATCH PLUNGER	1390-0365			
42	#8-32 SCREW x .625 W/L	2510-0051			
41	#10 STRIKE LOCK WASHER	2190-0012			
40	#8-32 SCREW .500	2510-0107			
39	#8-32 SCREW .500	2510-0107			
38	#8-32 FLAT WASHER	2560-0039			
37	#8-32 FLAT WASHER	2560-0039			
36	WASHER RECTIFIER	1400-0017			
35	#6-32 NUT W/L	2120-0011			
34	THE CLIP	51000-00076			
33	#8-32 SCREW .975	2510-0103			
32	#6-32 FH SCREW .75 x .812	2360-0181			
31	#8-32 SCREW .75 x .812	2360-0181			
30	#8-32 SCREW .75 x .812	2360-0181			
29	#6-32 SCREW .625 W/L	2360-0123			
28	#6-32 SCREW .625 W/L	2360-0123			
27	#6-32 SCREW .575 W/L	2360-0117			
26	#6-32 SCREW .575 W/L	2360-0117			
25	FILTER MOUNT ASSY	2310-0045			
24	MOUNT-CABLE TIE	1400-0786			
23	BLIND RIVET	0381-1011			
22	DIODE BRIDGE-3P	3105-0087			
21	DIODE BRIDGE-3P	3105-0087			
20	FAN FLASHTIC	1400-0092			
19	FAN GRILLE	1400-0092			
18	POWER SUPPLY	6312F-P02			
17	ROD-CABLE RETAINER	31000-20008			
16	SUPPORT-AIR FILTER	31000-00076			
15	SUPPORT-AIR FILTER	31000-00076			
14	HOUSING-AIR FILTER	31000-00075			
13	CHANNEL-UPPER ASSY	31000-00075			
12	SUPPORT-WIELD BOARD	31000-00072			
11	BACK COVER	31000-00071			
10	SUPPORT BATTERY	31000-00027			
9	SUPPORT LEFT END	31000-00025			
8	MOUNTING EAR-KWHT	31000-00024			
7	MOUNTING EAR-KWHT	31000-00024			
6	CHANNEL-LOWER SUPPORT	31000-00023			
5	CHANNEL MOUNT	31000-00021			
4	SWITCH COVER	31000-00020			
3	FRONT COVER	31000-00018			
2	REAR PANEL	31000-00017			
1	CHASSIS	31000-00017			

DO NOT SCALE THIS DRAWING	UNLESS OTHERWISE SPECIFIED	DIMENSIONS ARE IN INCHES	TOLERANCES ARE AS SHOWN
REV	DATE	BY	CHKD
D-1	REV A	5-18-71	
TITLE	POWER UNIT ASSEMBLY	SCALE	NONE
DATE	3/21/74	QTY	31000-60002
REV		QTY	31000-60002-1

REF. DRWGS: D-1 (POWER UNIT ASSY)
 C-3 (UPPER CHANNEL ASSY)
 D-4 (POWER UNIT CABLE ASSY)



NOTES:
 1. STRIP WIRES .25" BOTH ENDS (ALL 3 WIRES)

ENGINEERING RESPONSIBILITY												
0	1	2	3	4	5	6	7	8	9	10	11	12
16	17	18	19	20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37	38	39	40	41

REV	REVISIONS	DATE
0	REDRAWN	1/23/78
1	CORRECTED VIEW	3/21/78
2	ITEM 12 WAS 0360-0328 IN ERROR	10-19-78

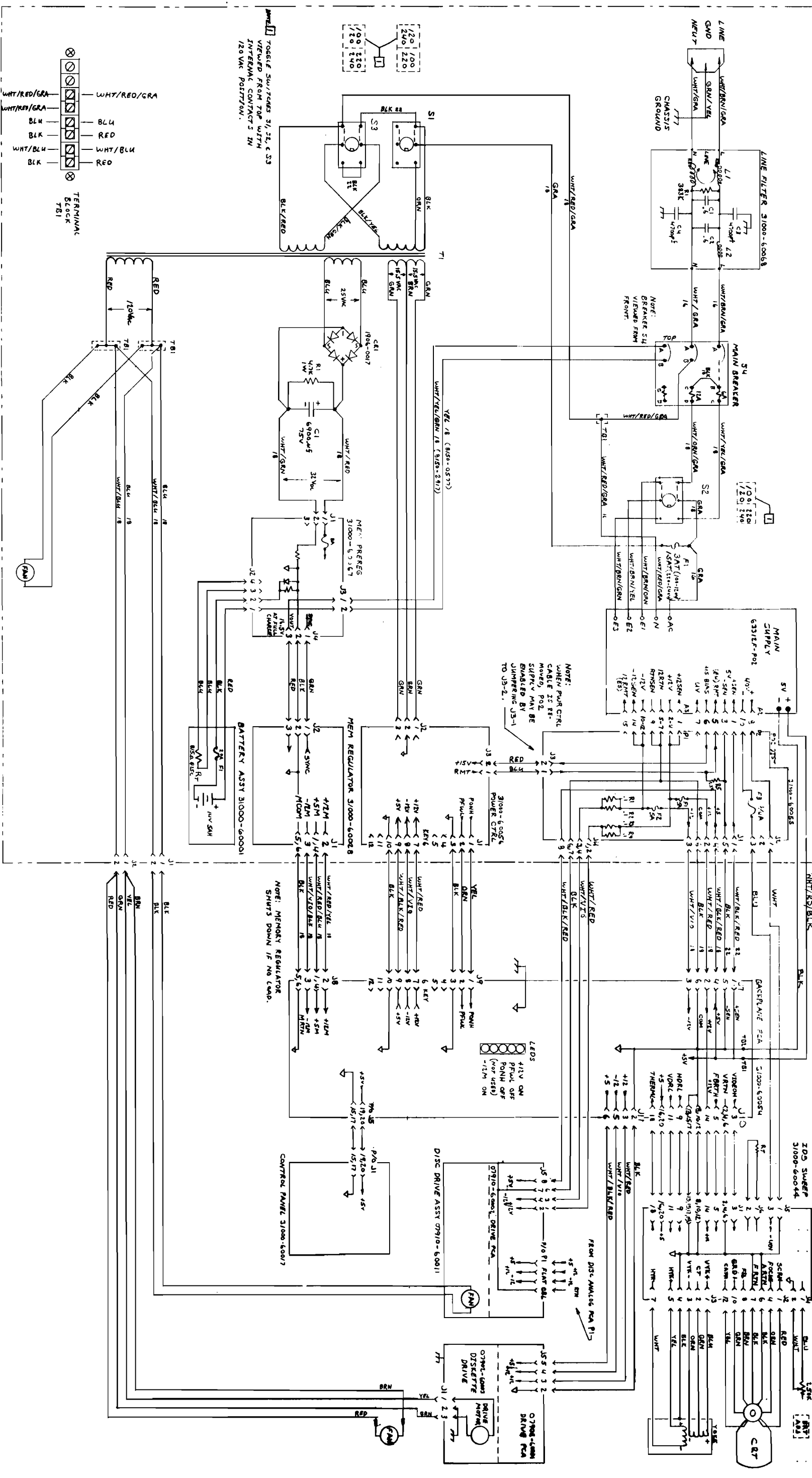
ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L. PART NO.	MAT'L. SPEC.
1	1	SOCKET SUPPORT	31000-00036	
2	1	AC SOCKET MOUNT	31000-00016	
3	1	LINE FILTER PCA	3000-00068	
4	1	#8-32 X .625L SCREW W/L	2510-00051	
5	2	#8-32 NUT W/L	2580-00003	
6	4	#8 FLAT WASHER	3050-0139	
7	1	SOLDER LUG TERMINAL	0360-0269	
8	2	#4-40 X .375 L SCREW W/L	2200-0107	
9	2	#4 FLAT WASHER	3050-0229	
10	1	AC POWER SOCKET	1251-4470	
11	3	#8-32 X .375 L SCREW W/L	2510-0045	
12	2	#6 LUG, BLU, CLOSED	0362-0329	
13	3.5"	WIRE 16 GA WHT BRN, GRA	8150-2614	
14	3.5"	WIRE 16 GA WHT, GRA	8150-2611	
15	4	#6-32 X .375L SCREW W/L	2560-0117	
16	4	WIRE 16 GA GRN, YEL	8150-2629	

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES .XX ± .02 .XXX ± .005
 SEE CORR. STD. 608

C-2, REV A 5-10-77

POWER UNIT ASSY
 SOCKET & FILTER MOUNT
 PERM PRINT
 51213A

HEWLETT PACKARD
 31000-00002
 C-31000-00002-2



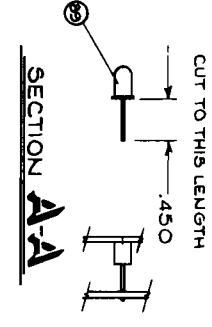
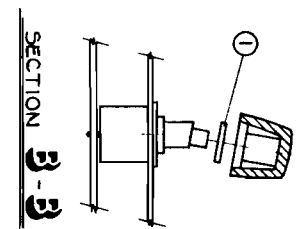
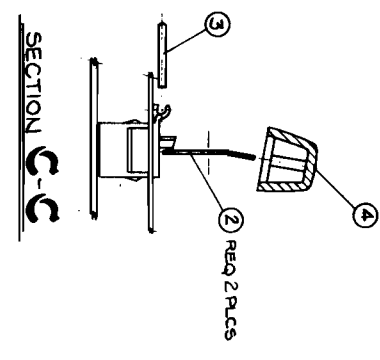
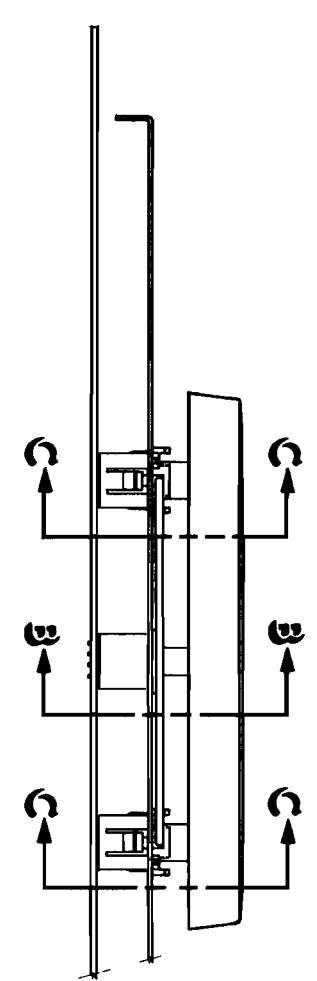
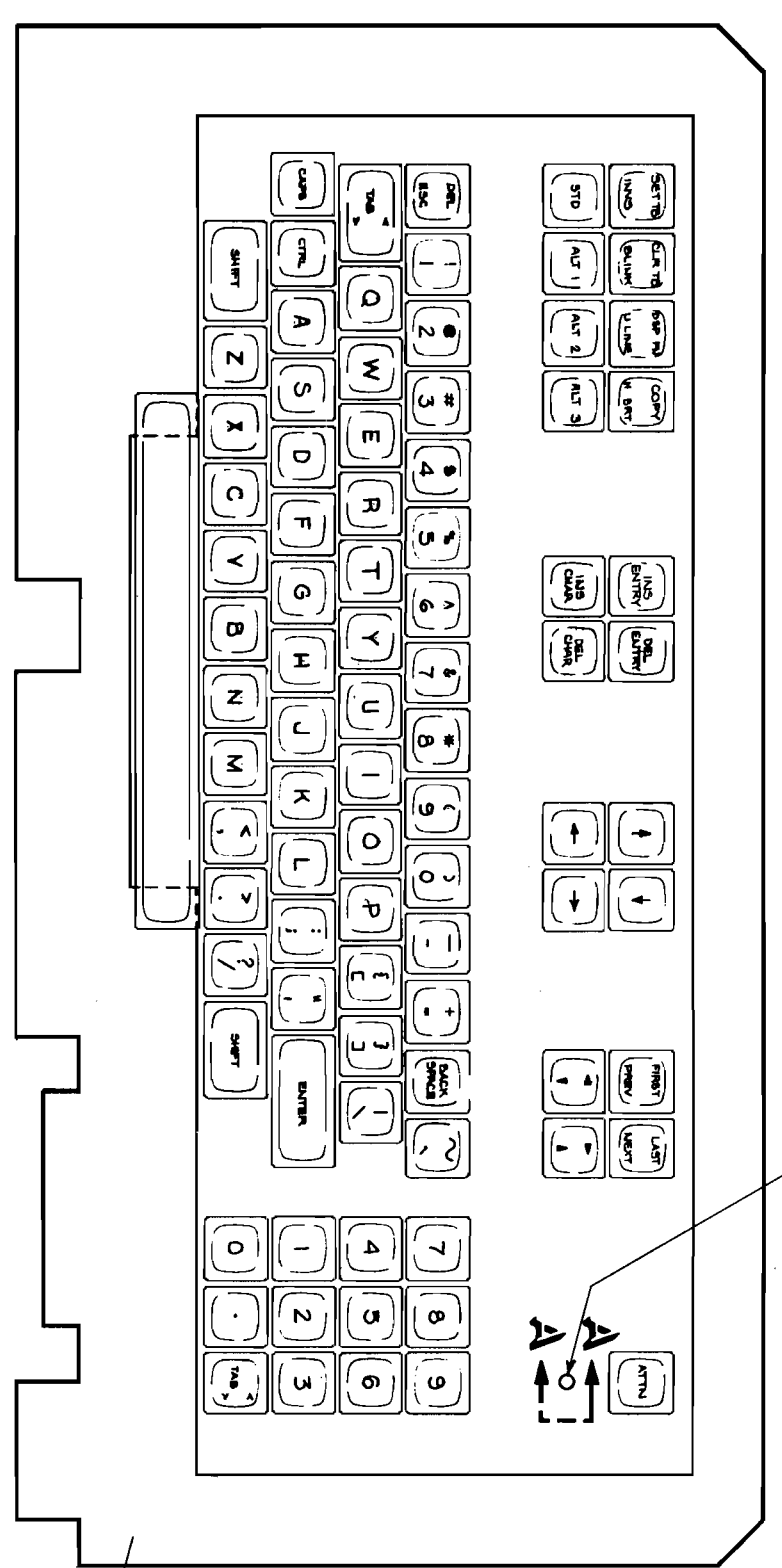
REV	DATE	DESCRIPTION	BY	CHKD
1		ISSUED FOR PRODUCTION		
2		REVISED FOR PRODUCTION		
3		REVISED FOR PRODUCTION		
4		REVISED FOR PRODUCTION		
5		REVISED FOR PRODUCTION		
6		REVISED FOR PRODUCTION		
7		REVISED FOR PRODUCTION		
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18		REVISED FOR PRODUCTION		
19		REVISED FOR PRODUCTION		
20		REVISED FOR PRODUCTION		
21		REVISED FOR PRODUCTION		
22		REVISED FOR PRODUCTION		
23		REVISED FOR PRODUCTION		
24		REVISED FOR PRODUCTION		
25		REVISED FOR PRODUCTION		

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED.
DIMENSIONS ARE IN INCHES.
TOLERANCES: XX ± .02, XXX ± .005
SEE COMP. STD. 008

ITEM	QTY	MATERIAL DESCRIPTION	MFG. PART NO.	MFG. QTY.
POWER SUPPLY UNIT WIRING DIAGRAM SCHEMATIC				
TYPE		31213A		
REV. NO.				
SCALE				

HEWLETT PACKARD
PART NUMBER 31000-60002
SHEET 07

REV	DATE	BY	CHKD	DESCRIPTION
1				ISSUED
2				REVISED CONTROL FIELD LAYOUT
3				PER PROR 3121A *K
4				SWITCHED DEL CHAN WITH TAB ENTRY



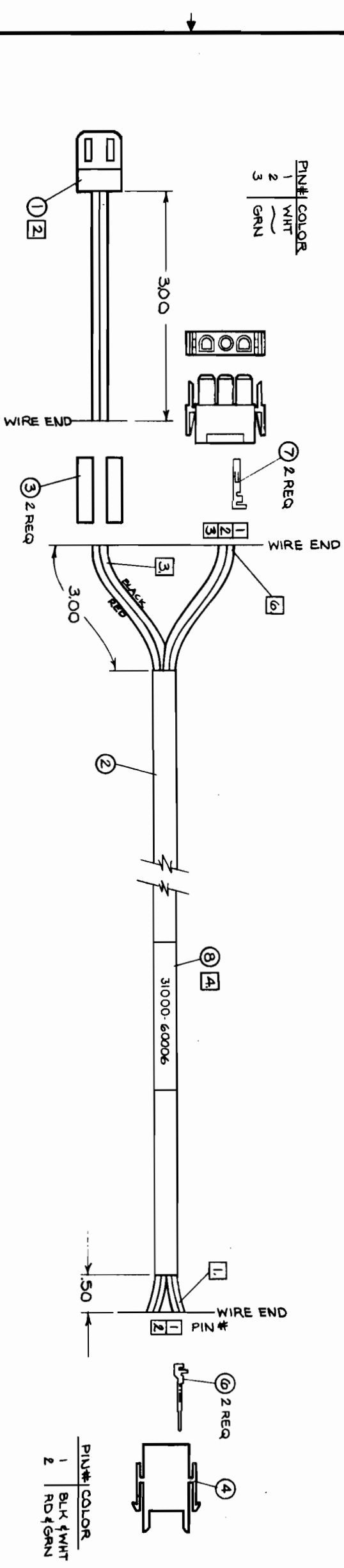
ITEM	QTY	MATERIAL DESCRIPTION	MATERIAL NO.	MATERIAL SPEC.
59	1	LED REED	1930-0410	
60	1	REBOARD PC ASSEMBLY	3100-60041	
61	1	FULL KEY CAP STD	0311-0824	
62	1	FULL KEY CAP	0311-0825	
63	1	FULL KEY	0311-0826	
64	1	FULL KEY	0311-0827	
65	1	FULL KEY	0311-0828	
66	1	FULL KEY	0311-0829	
67	1	FULL KEY	0311-0830	
68	1	FULL KEY	0311-0831	
69	1	FULL KEY	0311-0832	
70	1	FULL KEY	0311-0833	
71	1	FULL KEY	0311-0834	
72	1	FULL KEY	0311-0835	
73	1	FULL KEY	0311-0836	
74	1	FULL KEY	0311-0837	
75	1	FULL KEY	0311-0838	
76	1	FULL KEY	0311-0839	
77	1	FULL KEY	0311-0840	
78	1	FULL KEY	0311-0841	
79	1	FULL KEY	0311-0842	
80	1	FULL KEY	0311-0843	
81	1	FULL KEY	0311-0844	
82	1	FULL KEY	0311-0845	
83	1	FULL KEY	0311-0846	
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236	1	FULL KEY	0311-0999	
237	1	FULL KEY	0311-1000	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES: XX ± .02, XXX ± .008
REF COMP: STD 808

KEYBOARD ASSEMBLY
31213A
NEWLATT PACKARD
31000-60004
D-31000-60004-1
SHEET 1 OF 1

ENGINEERING RESPONSIBILITY											
0	1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	32	33	34	35
36	37	38	39	40	41	42	43	44	45	46	47

REV	BY	DATE	REVISIONS
0			
1	REDRAWN	7/5/77	PRC 2123A *F*
2			R472025, ITEM 5, WKS 1251446; ITEM 7, WKS 1251422
3			KS / Q10
4			5-18-78
5			6-12-78
6			8-8-78
7			8-12-78
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- NOTES:**
- 1 STRIP WIRE 1/8", CRIMP 2 WIRES TO EACH PIN.
 - 2 CUT FAN CORD TO 3" STRIP 1/4"
 - 3 STRIP WIRES 1/4"
 - 4 MARK PART NUMBER (31000-60006) ON TUBING AND HEAT SHRINK ONTO CABLE.
 - 5 TEST PER A-5950-3740-1.
 - 6 STRIP WIRE 1/8"

ITEM	QTY	MATERIAL-DESCRIPTION	MAT'-PART NO.	MAT'-QTY	MAT'-DESC.
1	1	FAN CORD	8120-1478		
2	1	CABLE, 22 GA., 4 COND.	8120-1134		
3	2	TUBULAR SPLICE	0362-0101		
4	1	CONNECTOR 2 PIN	1251-4130		
5	1	CONNECTOR 3 PIN	1251-3913		
6	2	CONTACT	1251-0612		
7	2	SHRINK TUBING	0890-0291		
8	1	CONTACT	1251-3911		

DO NOT SCALE THIS DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02, .XXX ± .005. SEE COMP. STD. 808.

RELIEVE TO PROD. C11 REV A 5-13-77

7902 AC POWER CABLE

TITLE: 31213A

HEAT SHRINKING: 31000-60006

SCALE: FULL

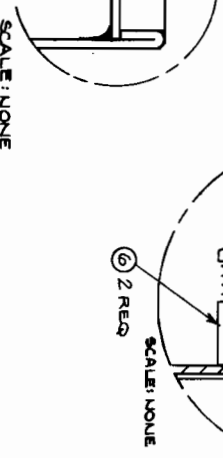
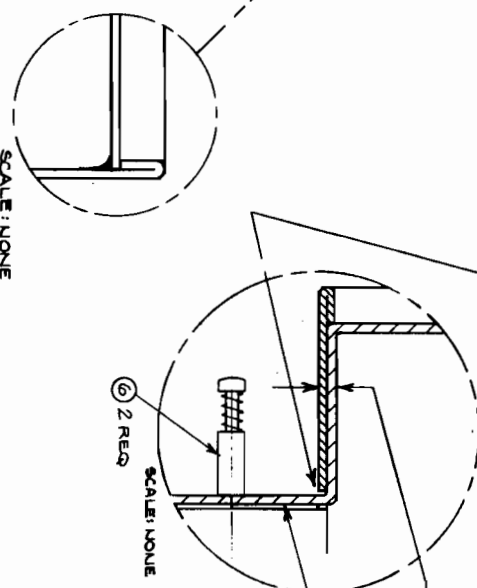
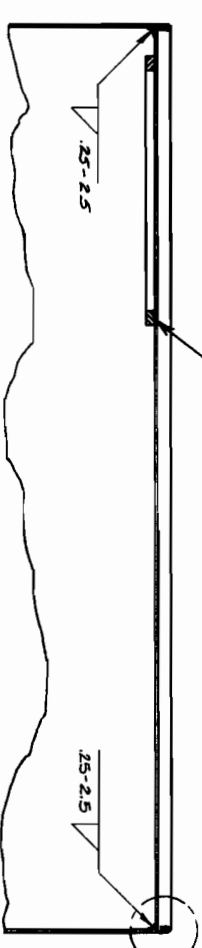
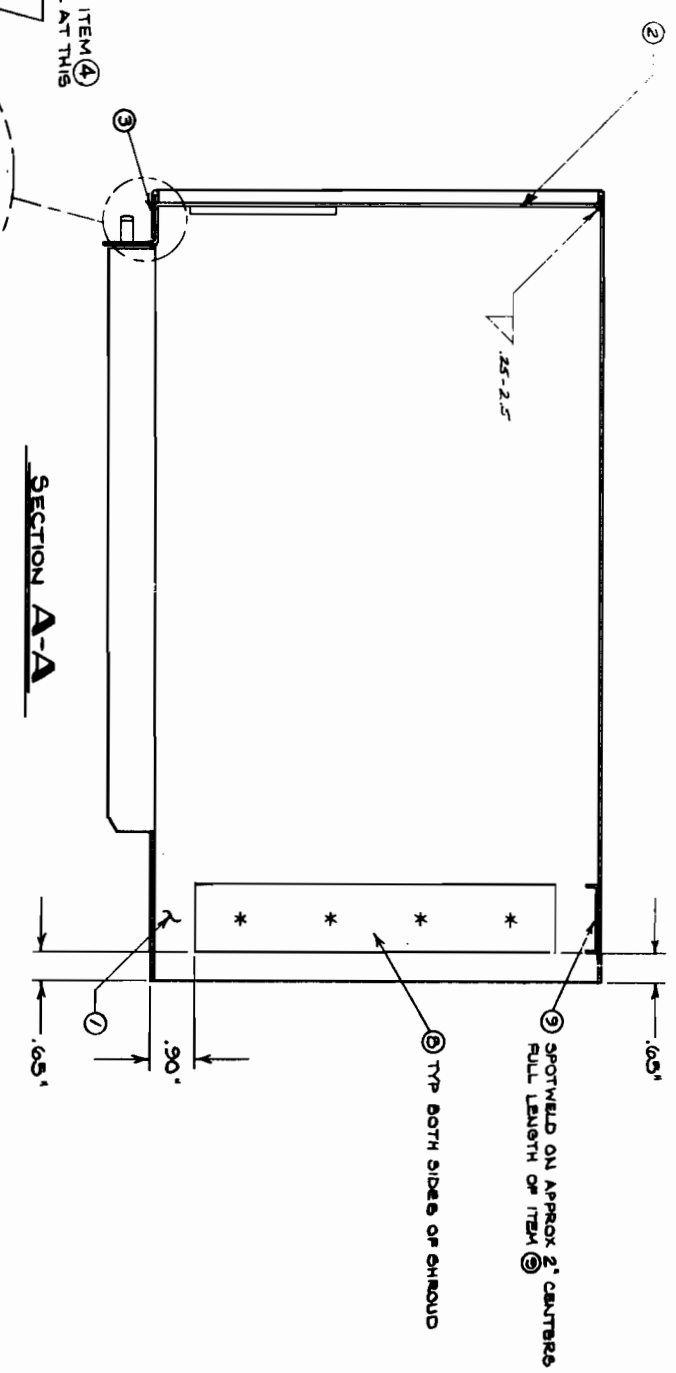
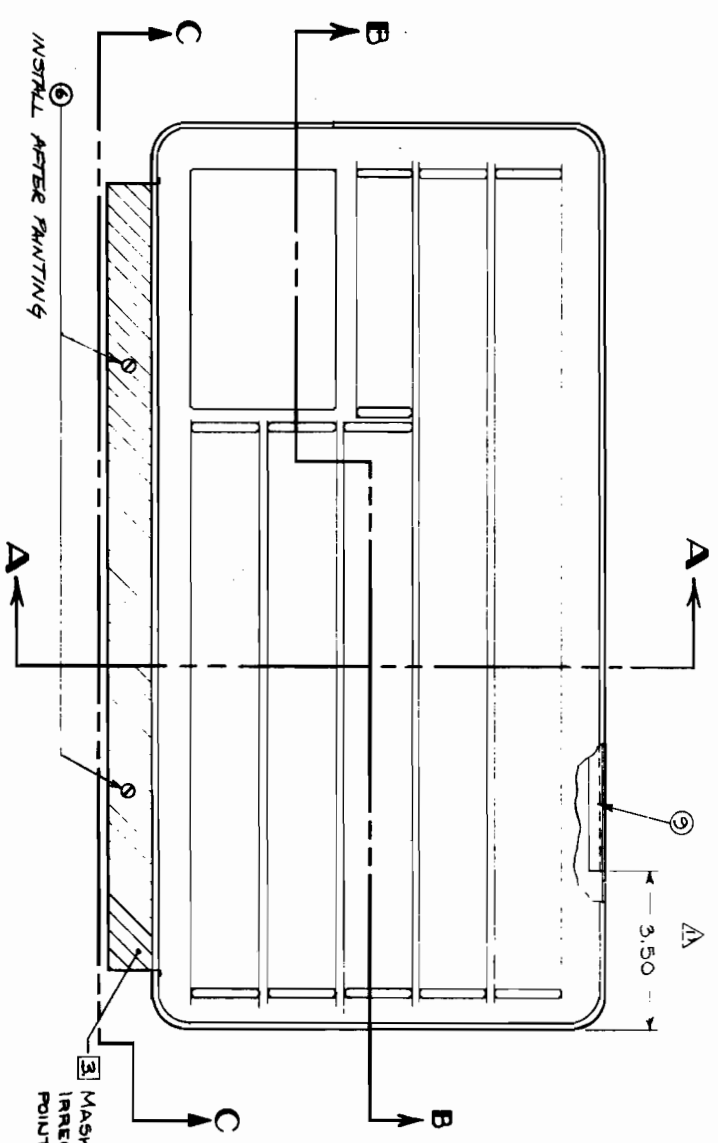
PART NUMBER: 31000-60006

HEWLETT PACKARD

DATE: 1-18-78 BY: Pat Wright

PROCESS REVIEW

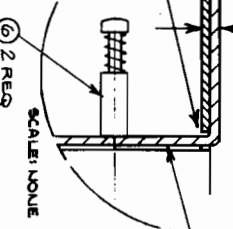
REV	DATE	BY	APP'D	DESCRIPTION
1	10/10/54	JML		ISSUED FOR PRODUCTION
2	11/10/54	JML		REVISED REAR STRIP
3	12/10/54	JML		ADDED ITEM 10 (ITEM 1001-8001)
4	1/10/55	JML		ADDED 3.50 DIM. P-17-2019



- NOTES:**
- 1 FINISH - SPRAY WITH METAL ETCH PRIMER.
 - 2 PAINT MAINBODY WITH ITEM 5 STIPPLE TEXTURE II.
 - 3 PAINT REAR STRIP WITH ITEM 2 STIPPLE TEXTURE II.
 - 4 ALIGN OPENING IN GASKET WITH OPENING IN SHEET METAL.

ALIGN TOOLING HOLED AND SPOTWELD ON APPROX 2" CENTERS FULL LENGTH OF ITEM 2

THIS SURFACE TO BE FREE OF PAINT



ITEM	QTY	DESCRIPTION	MAT'L. PART NO.	MAT'L. SPEC.
1	1	DISPLAY SHROUD FRONT STRIPPER	31000-00088	
2	1	DISPLAY SHROUD SIDE STRIPPER	31000-00089	
3	1	GASKET	09005-0117	
4	1	FASTENING NUT	1830-0447	
5	1	PAINT	1830-0447	
6	1	PAINT	1830-0447	
7	1	PAINT	1830-0447	
8	1	PAINT	1830-0447	
9	1	PAINT	1830-0447	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES: XX ± .02 XXX ± .005

DISPLAY SHROUD ASSEMBLY

REVISED 3/21/54

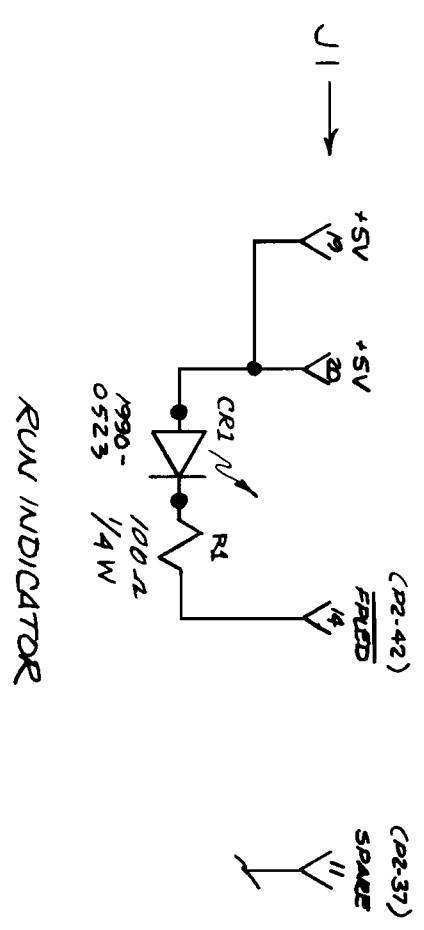
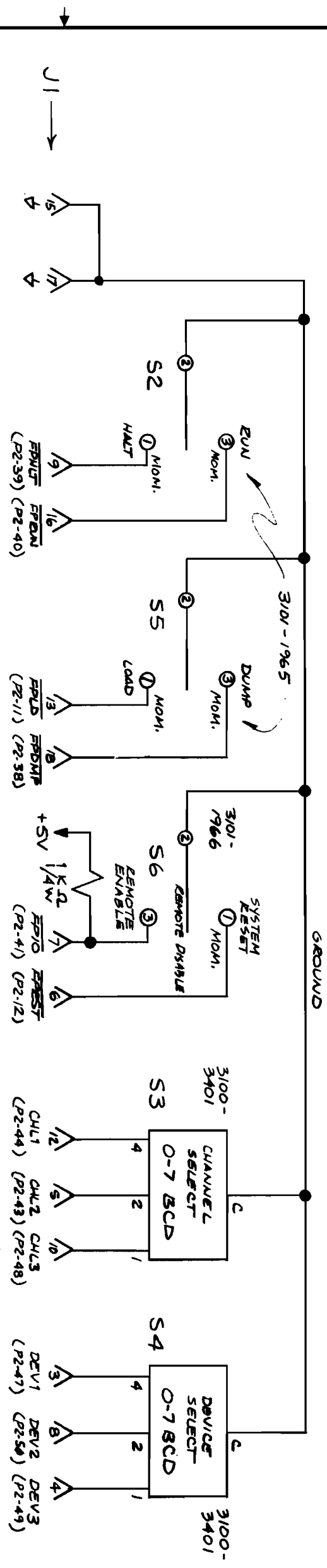
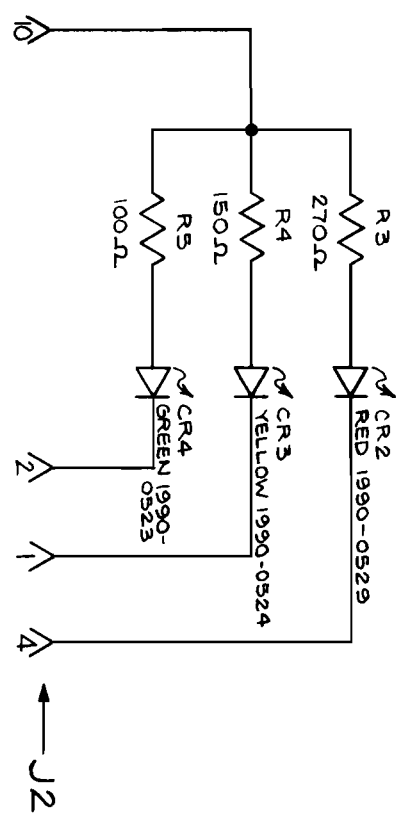
NOTE 1 2

3/21/54 JML

31000-00010

D-31000-00010-1

REVISIONS											
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16	17	18	19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51
52	53	54	55	56	57	58	59	60	61	62	63
64	65	66	67	68	69	70	71	72	73	74	75
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1372	1373	1374	1375	1376	1377	1378	1379	1380	1381	1382	1383
1384	1385	1386	1387	1388	1389	1390	1391	1392	139		



NOTE: J1 PINS 1 AND 2 ARE NOT CONNECTED
 X INDICATES PIN # ON J1 OR J2

DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02 .XXX ± .005		MATERIAL-DESCRIPTION		MATERIAL-PART NO.		MATERIAL-ORG.	
ITEM	QTY.	MATERIAL-DESCRIPTION		MATERIAL-PART NO.		MATERIAL-ORG.	
SUPERSEDES DWG.		TITLE CONTROL PANEL SCHEMATIC		HEWLETT PACKARD		PART NUMBER 31000-60017	
FINISH		SCALE		C-31000-60017-26		SHEET / OF 1	

J1

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG. NO.	MAT'L SPEC.
A16		SPARE			
A15		SPARE			
A14		SPARE			
A13		SPARE			
A12		SPARE			
A11		SPARE			
A10		SPARE			
A9		COM			
A8		COM			
A7		COM			
A6		COM			
A5		COM			
A4		RESET			
A3		SPARE			
A2		BI-RC			
A1		BWRQ			
		BWRQ			
		BX-03			
		BX-01			
		COM			
		DNIR			
		BBUSD			
		LDX			
		BMEMA			
		COM			
		CRGLK			
		COM			
		INTCLK			
		COM			
		MAEST			
		NIR			
		DATST			
		ROAD			
		ISR			
		FRZ			
		BUSEN			
		CLR			
		MICRO			
		IRPT			
		REN			
		CPU-BUS-E4			
		CPUBUS-E3			
		E2			
		E1			
		Ø			
		1			
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VIEW IS FROM COMPONENT SIDE

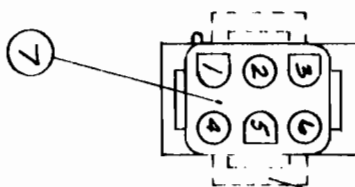
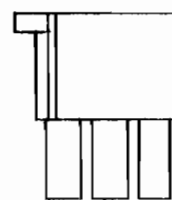
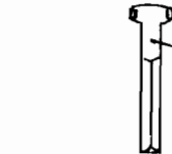
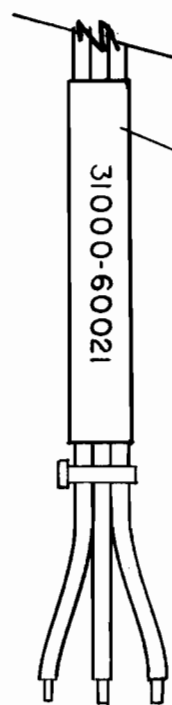
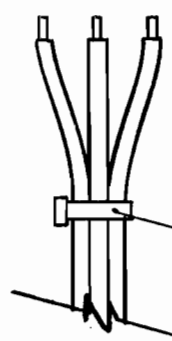
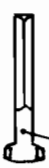
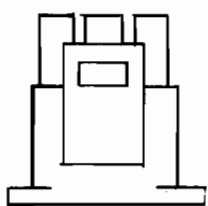
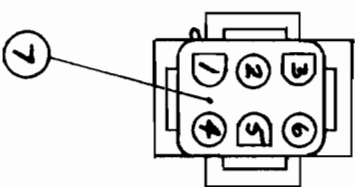
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES	THIRD ANGLE PROJECTION				
TOLERANCES: XX ± 0.5 mm, or ± 0.4 mm XX.X ± 0.2 mm, or ± 0.1 mm STRIKE OUT ONE XX AND ONE XXX SEE CORP. STD. 608	DO NOT SCALE THIS DRAWING				
ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG. NO.	MAT'L SPEC.
BACKPLANE (P1)					
SCHEMATIC					
TITLE 3/2/3-60010					
NEXT ASSEMBLY					
FINISH					
SCALE					
HEWLETT PACKARD					
31000-60020					
PART NUMBER					
C-31000-60020-6					

REF DWG: A-2 (WIRE LIST)

ENGINEERING RESPONSIBILITY														
0	1	2	3	4	6	8	9	11	12	14	15			
18	17		19		21	22	23	25	29	30	32	33	38	43
45	46	61	63		AVA									

SYM	REVISIONS	APPROVED	DATE
A	AS ISSUED	<i>[Signature]</i>	4-28-77
B	ITEM ② WAS 1251-3818; ITEM ③ QTY WAS 7 AND ITEM ④ PRCR 31213A "R"	<i>[Signature]</i>	11-29-77

ITEM #	PIN #	WIRE COLOR
1	1	WHT, RED, BLU
2	2	WHT, RED, YEL
3	3	WHT, BLK, VIO
4	4	WHT, RED, BLU
5	5	BLK
6	6	BLK



⑤ 6 REQ

⑨ 5 REQ.

⑩ 3 B

⑥ REQ ⑥

ITEM #	PIN #	WIRE COLOR
1	1	WHT, RED, BLU
2	2	WHT, RED, YEL
3	3	WHT, BLK, VIO
4	4	WHT, RED, BLU
5	5	BLK
6	6	BLK

NOTES:

1. STRIP ALL WIRES .12" (1/8")
2. CUT OFF TABS AS SHOWN.
3. MARK "31000-60021" ONTO THE TUBE AND HEAT SHRINK ONTO CABLE.

10	1.5'	SHRINK TUBING, .375 DIA	0890-0291		
9	5	CABLE TIE	1400-0249		
8	12	CONNECTOR CONTACT	1251-3911		
7	2	CONNECTOR HOUSING, 6 PIN	1251-3817		
6	25*	WIRE, 18 GA; BLK	8150-2890		
5	25*	WIRE, 18 GA; BLK	8150-2890		
4	25*	WIRE, 18 GA; WHT, RED, BLU	8150-2915		
3	25*	WIRE, 18 GA; WHT, BLK, VIO	8150-2907		
2	25*	WIRE, 18 GA; WHT, RED, YEL	8150-2914		
1	25*	WIRE, 18 GA; WHT, RED, BLU	8150-2915		

DO NOT SCALE THIS DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02 .XXX ± .005

ENGINEER /
RELEASE TO PROD.
SUPERSEDES DWG.

MEMORY POWER CABLE
TITLE
31000-60002

HEWLETT PACKARD
PART NUMBER
31000-60021

PROCESS REVIEW

DATE 4-28-77 BY *[Signature]*

SEE CORP. STD. 608

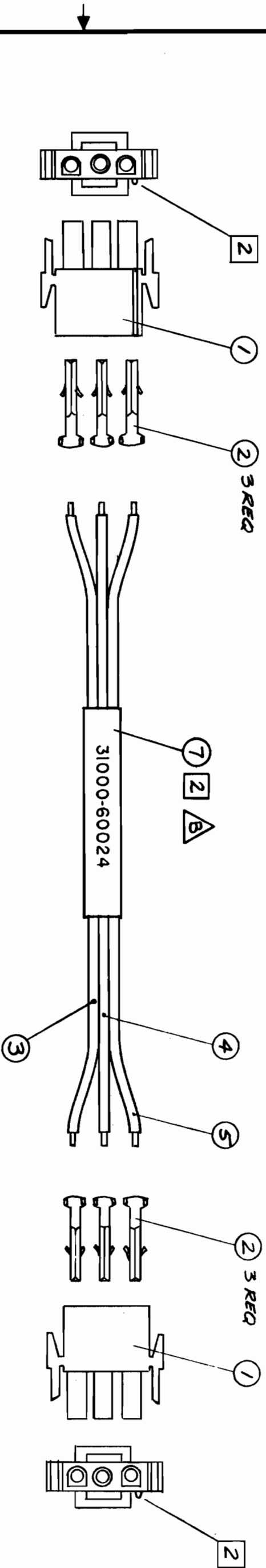
FINISH / SCALE FULL

B-31000-60021-1

REF DMG: A-2 (WIRE LIST)

ENGINEERING RESPONSIBILITY															
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16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63

SYM	REVISIONS	APPROVED	DATE
A	AS ISSUED	SHS/ML	4-28-77
B	ADD ITEM 1 & NOTE 3; ITEM 2 WAS 1251-3818 DEL ITEM 2 PRKR 31213A4R	SHS/ML	11-21-77



NOTES:

1. STRIP ALL WIRES .12" ($\frac{1}{8}$ ")
2. NOTE ORIENTATION OF CONNECTORS.
3. MARK "31000-60024" ONTO TUBE AND HEAT SHRINK ONTO CABLE.

ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
7	2"	SHRINK TUBING, .375 DIA	0890-0291		
6		DELETED			
5	6.2'	WIRE, 18 GA, GREEN	8150-0578		
4	6.2'	WIRE, 18 GA, BLACK	8150-2890		
3	6.2'	WIRE, 18 GA, RED	8150-2891		
2	6	CONNECTOR CONTACT	1251-3911		
1	2	CONNECTOR HOUSING, 3MM	1251-3913		

DO NOT SCALE THIS DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.

TOLERANCES .XX ± .02 .XXX ± .005

SEE CORP. STD. 608

ENGINEER: _____

RELEASE TO PROD. _____

SUPERSEDES DWG. _____

TITLE: **PREP & ULTROR OUTPUT CABLE**

31000-60024

HEWLETT PACKARD

PART NUMBER: 31000-60024

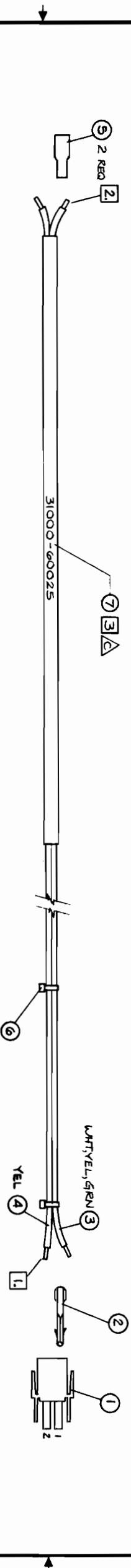
B-31000-60024-1

PROCESS REVIEW

DATE 4-28-77 BY Pat Wright

ENGINEERING RESPONSIBILITY	
0	1
16	17
26	27
36	37
46	47
56	57
66	67
76	77
86	87
96	97

REV	REVISION	DATE
B	REDRAWN PER PGR 31213A "G"	1/29/77
C	ITEM 2 WAS QTY 6 PER PKR 3213A "Y"	1/31/78
D	ITEM 2 WAS 1251-3818 PCO 4T-2007	5/18/78



- NOTES:
- 1 STRIP WIRES .125"
 - 2 STRIP WIRES .25"
 - 3 MARK "31000-60025" OUTO TUBING AND SHRINK ONTO CABLE IN POSITION SHOWN

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L LONG NO.	MAT'L SPEC.
1	1	CONNECTOR, 2 PIN	1251-4782		
2	2	CONTACT	1251-3911		
3	2	WIRE, 18 GA, WHT, YEL, GRN	8150-2917		
4	2	WIRE, 18 GA, WHT, YEL, GRN	8150-2917		
5	2	FASTON	0362-0467		
6	3	CABLE TIE	1400-0249		
7	1	HEAT SHRINK TUBING, .25" DIA	0890-0312		

DO NOT SCALE THIS DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES XX ± .02, XXX ± .005

SEE CORR. STD. 808

REL. TO PWD: **D-1 REV A** DATE: **4.28.77**

FINISH: **FULL** SCALE: **FULL**

TITLE: **BREAKER CONTROL CABLE**

PART NUMBER: **31000-60025**

HEWLETT PACKARD

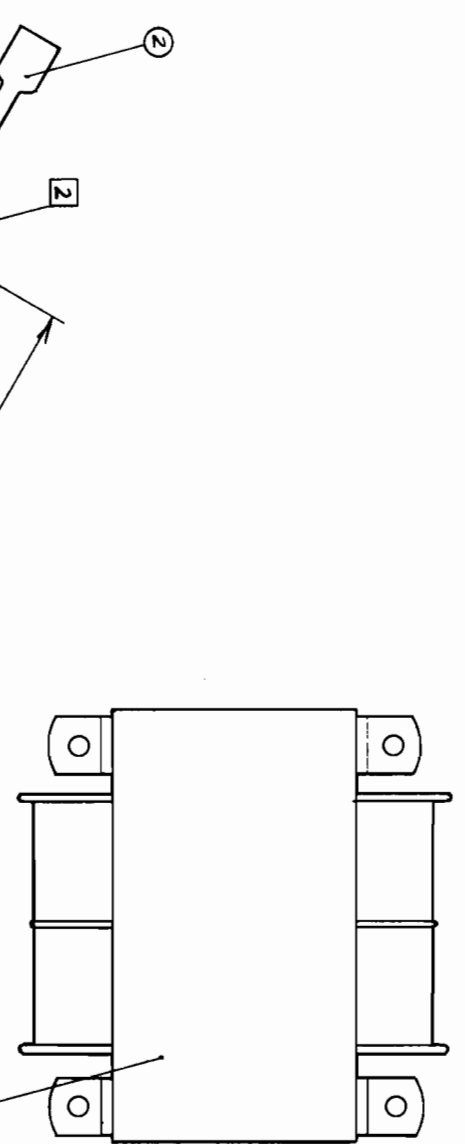
PROCESS REVIEW

DATE: 12-5-77

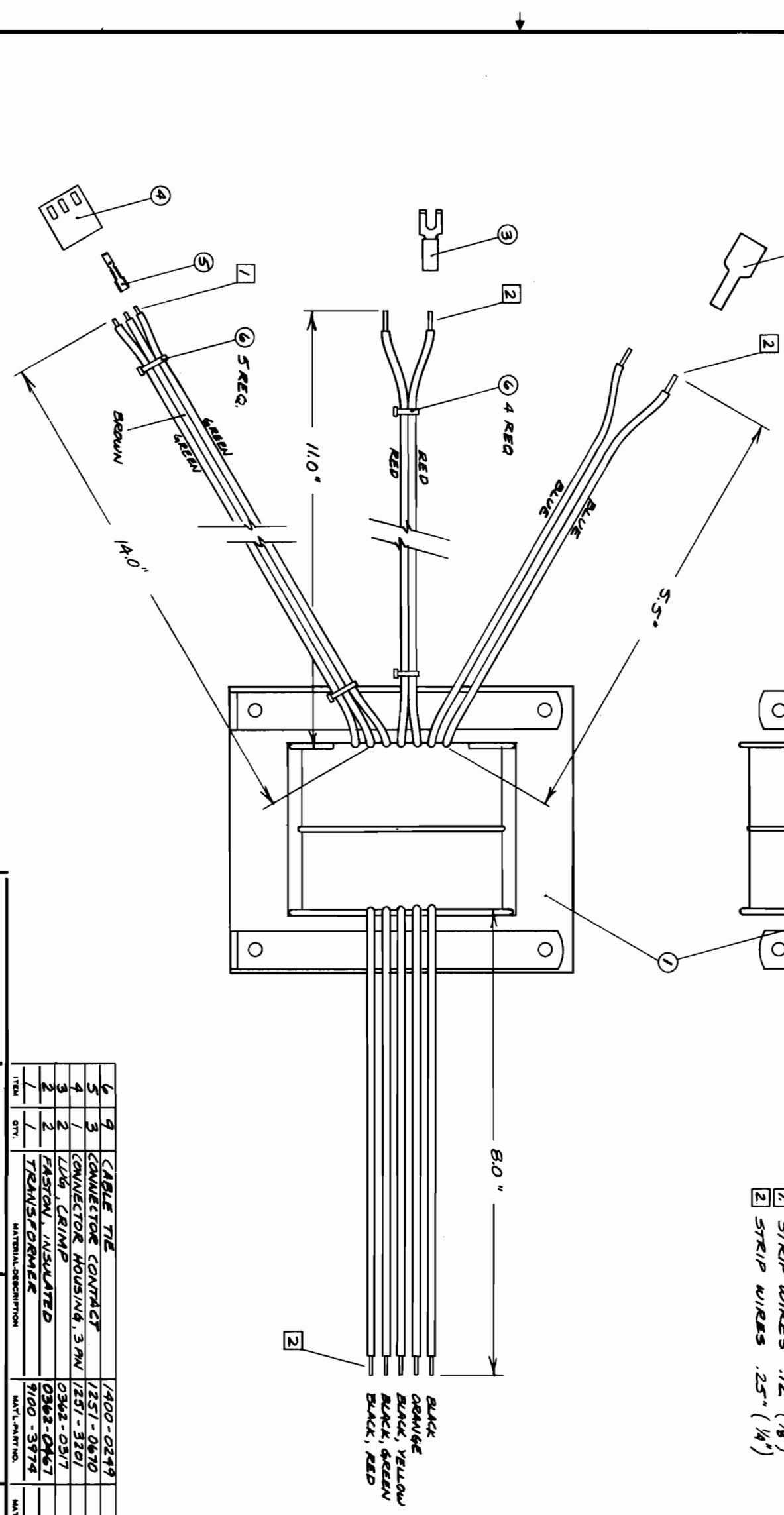
BY: *[Signature]*

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

3-31000-60026-1
 APPROVED: *[Signature]* DATE: 4/28/77
 4/28/77
 12/12/77
 AS ISSUED
 DINA CHANGES: IEDM @ HAS ONR-DAI PRGR 5115A *R*



NOTES:
 1 STRIP WIRES .12" (1/8")
 2 STRIP WIRES .25" (1/4")



ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY	MAT'L SPEC.
1	1	TRANSFORMER	9100-3974		
2	2	FASTON, INSULATED	0362-0467		
3	2	LUG, CRIMP	0362-0317		
4	1	CONNECTOR HOUSING, 3 AWG	1257-3101		
5	3	CONNECTOR CONTACT	1251-0670		
6	9	CABLE TIE	1400-0249		

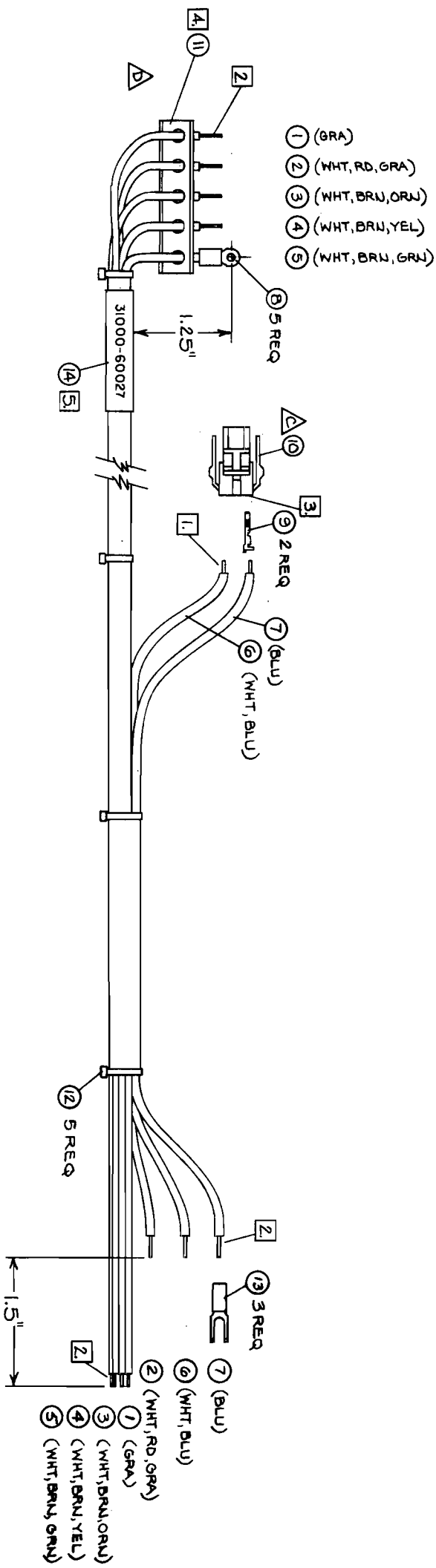
DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES: .XX ± .02, .XXX ± .008
 SEE COMP. STD. 808

TRANSFORMER ASSEMBLY
 TITLE: 31000-60002
 SCALE: FULL
 PART NUMBER: 31000-60026
 SHEET 1 OF 1

REF A-Z (WIRE LIST)

ENGINEERING RESPONSIBILITY	
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8
8	9
9	10
10	11
11	12
12	13
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REV	REVISIONS	DATE
B	REDRAWN PRICE 312134	12-8-77
C	ITEM 13 WAS 1850-2900 AND ITEM 14 WAS 1850-2873, ADDED ITEM 15, REVISION ITEM 16, ADDED NOTE 5 PER PRICE "M"	1/31/78
D	CABLE REROUTED ADDED 1.25" DIM	4/13/78



NOTES:

- 1 STRIP WIRE .12"
- 2 STRIP WIRE .25"
- 3 EITHER WIRE 6 OR 7 MAY GO INTO PIN 1.
- 4 CUT PERFORATED STRAP TO ~1.5" LONG (5 HOLES) AND THREAD WIRES THROUGH HOLES AS SHOWN. BE SURE TO PASS EACH COLOR WIRE THROUGH THE CORRECT HOLE.
- 5 MARK PART NUMBER (31000-60027) OUTSIDE TUBING AND HEAT SHRINK ONTO CABLE.

ITEM	QTY	MATERIAL-DESCRIPTION	MATL. PART NO.	MATL. SPEC.
14	1	1.5" SHRINK TUBING	0850-0291	
13	3	LUG, OPEN END, RED	0362-0317	
12	5	CABLE TIE	1400-0249	
11	1	PERFORATED STRAP	1400-0882	
10	1	CONNECTOR, 2 PIN	1251-4128	
9	2	CONTACT	1251-0613	
8	5	LUGS, CLOSED END, RED	0362-0321	
7	8	WIRE 18 GA BLU	8150-0656	
6	8	WIRE 18 GA WHT BLU	8150-0654	
5	13.5	WIRE 18 GA WHT BRN GRN	8150-2911	
4	13.5	WIRE 18 GA WHT BRN YEL	8150-2910	
3	13.5	WIRE 18 GA WHT BRN ORN	8150-2909	
2	18	WIRE 18 GA WHT RED GRA	8150-2652	
1	13.5	WIRE 18 GA GRA	8150-2648	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED.
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .005
SEE CORP. STD. 606

RELEASE TO PROD. C-1, REV A 5-18-77

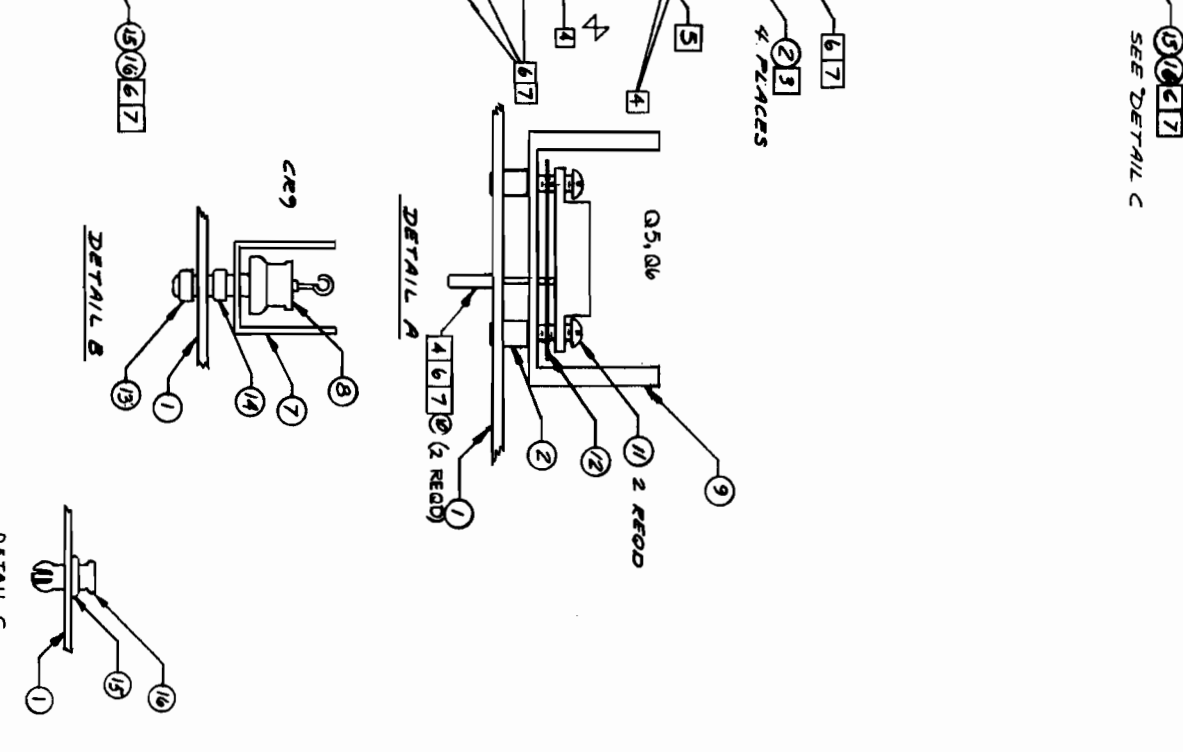
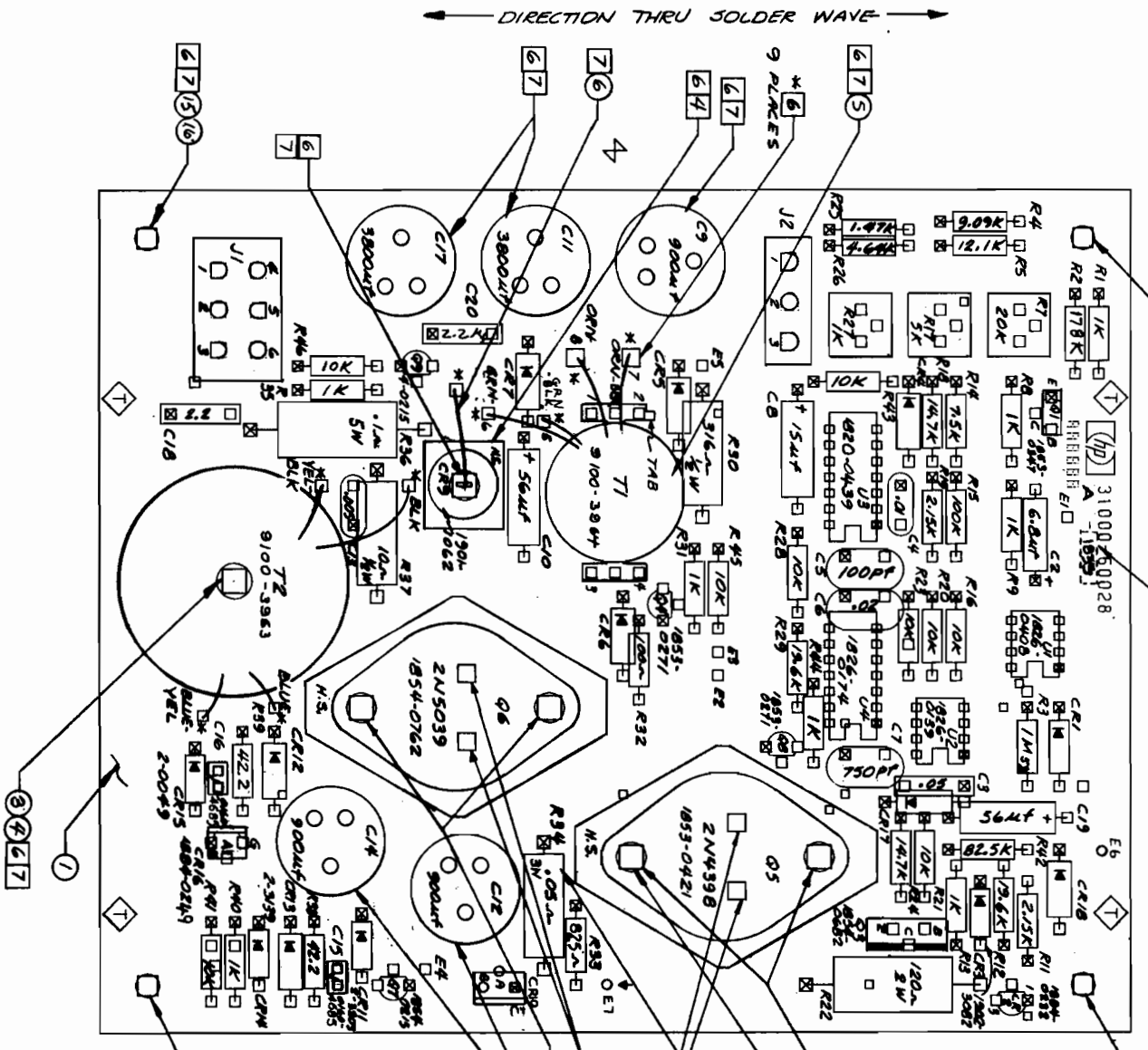
FINISH SCALE FULL

HEWLETT PACKARD
PART NUMBER 31000-60027
C-31000-60027-1

PROCESS REVIEW
DATE 4-12-78 BY Pat Wright

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

REV	DATE	BY	CHKD	APP'D
1	10/10/78
2	11/17/78
3	11/17/78
4	11/17/78
5	11/17/78
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20	11/17/78



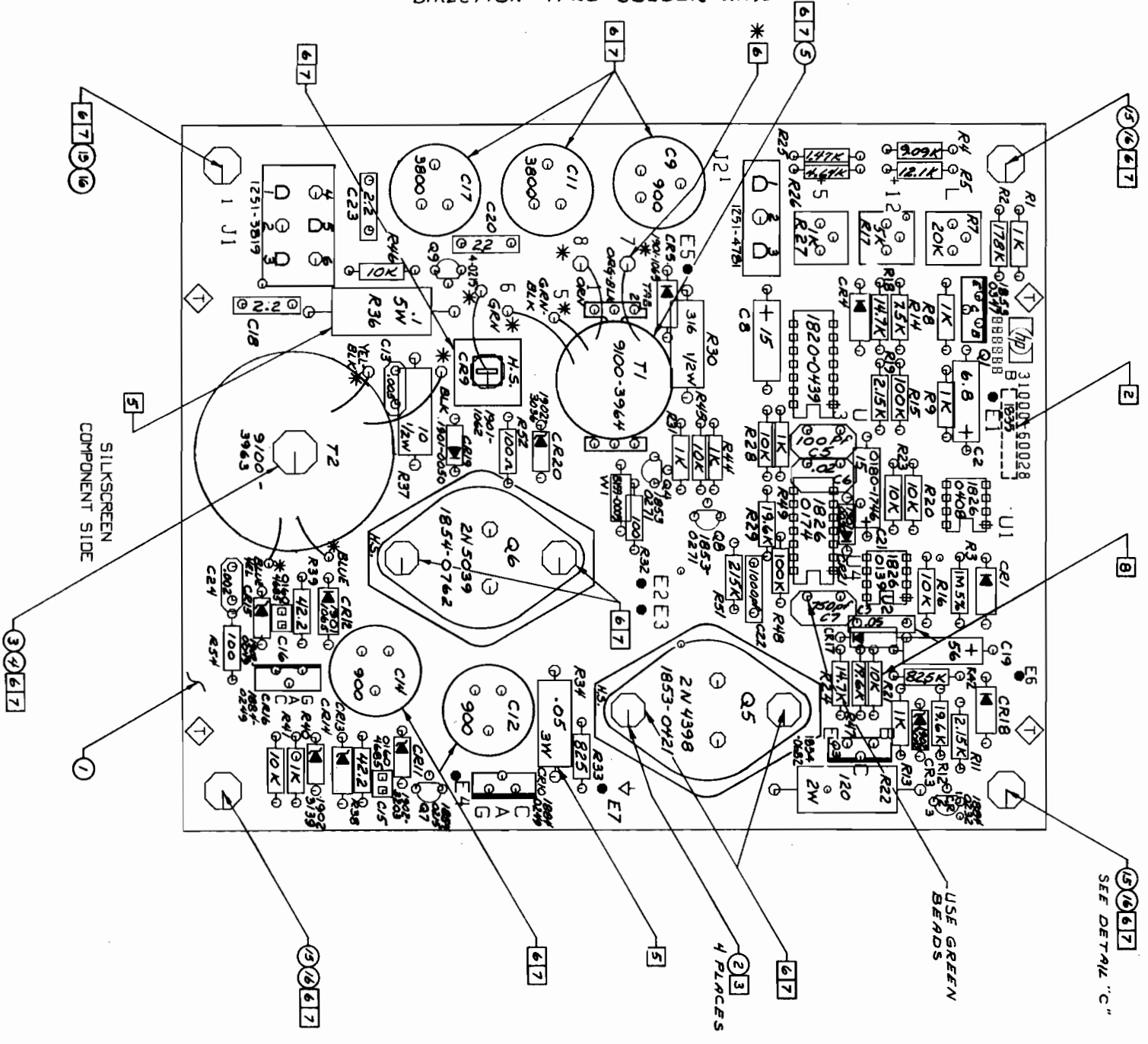
- NOTES:
- ▲ 1. UNLESS OTHERWISE SPECIFIED ALL RESISTORS $\frac{1}{8}$ W 1% .
 - ALL CAPACITANCE IN MICROFARADS, ALL DIODES ARE 1901-0028 EXCEPT CR5 1CE6 WHICH ARE 901-005 MARK DATE CODE
 - ▲ 2. INSTALL ITEM ② 4 PLACES PRIOR TO LOADING
 - ▲ 3. INSTALL, BUT DO NOT CUT ITEM ⑩ IN FORMING. MASK BOTTOM OF PWS. SEE DETAIL "A".
 - ▲ 4. MOUNT R34:R36 $\frac{1}{8}$ " ABOVE BOARD
 - ▲ 5. MASK AS INDICATED PRIOR TO LOADING.
 - ▲ 6. INSTALL IN TOUCH UP: CR9 PER DETAIL B, C9, C11, C17, C18, C19, ITEMS ③ f ④, ⑤, ⑥, ⑦, ⑧, ⑨, ⑩, AND G5 1QB PER DETAIL "A".
 - ▲ ⑧ DELETED
 - ▲ ⑨ SCHEMATIC C:31000-60028-6
 - ▲ 10. AT THE NI STATION, APPLY ITEM ⑩ NEAR THE HP LOGO.

OBsolete
DATE: SEP 21/1978
PC # 412071

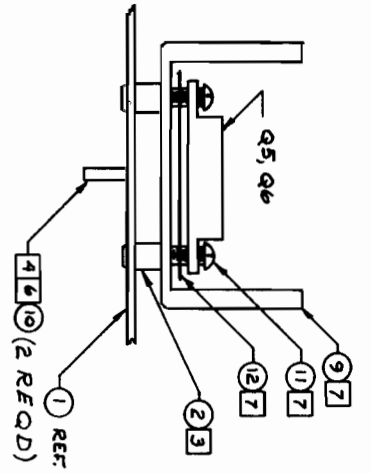
REV	DESCRIPTION	DATE	BY
17	1 LABEL, WIRING PLUNGER	7/30-68/30	
16	2 NYLON TSN GRONHET	1/30-03/45	
15	4 NYLON TSN GRONHET	1/30-03/45	
14	1 NYLON TSN GRONHET	2/7/40-00/02	
13	1 NYLON TSN GRONHET	2/7/40-00/02	
12	1 NYLON TSN GRONHET	2/7/40-00/02	
11	1 NYLON TSN GRONHET	2/7/40-00/02	
10	1 NYLON TSN GRONHET	2/7/40-00/02	
9	1 NYLON TSN GRONHET	2/7/40-00/02	
8	1 NYLON TSN GRONHET	2/7/40-00/02	
7	1 NYLON TSN GRONHET	2/7/40-00/02	
6	1 NYLON TSN GRONHET	2/7/40-00/02	
5	1 NYLON TSN GRONHET	2/7/40-00/02	
4	1 NYLON TSN GRONHET	2/7/40-00/02	
3	1 NYLON TSN GRONHET	2/7/40-00/02	
2	1 NYLON TSN GRONHET	2/7/40-00/02	
1	1 NYLON TSN GRONHET	2/7/40-00/02	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES: XX ± .02, XX.X ± .005
SHEET 1 OF 1

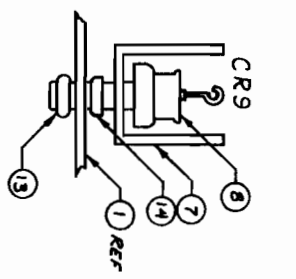
DIRECTION THRU SOLDER WAVE



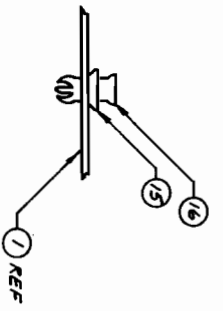
DETAIL "A"



DETAIL "B"



DETAIL "C"



NOTES

1. UNLESS OTHERWISE SPECIFIED:
- ALL RESISTORS ARE 1/8W 1%
- ALL CAPACITORS ARE 100V 1%
- ALL DIODES ARE 1N91-002B
- MARK DATE CODE
2. INSTALL ITEM ② 4 PLACES
3. INSTALL, BUT DO NOT CUT ITEM ⑩ SEE DETAIL "A"
4. MOUNT R34, 36 1/8" ABOVE BOARD
5. MASK AS INDICATED PRIOR TO LOADING
6. INSTALL IN P.C. FINAL ASSEMBLY: CR9 PER DETAIL "B"
7. C9, C11, C12, C14, C17, ITEMS ③, ④, ⑤ AND ⑥.
8. C3 AND R21 NOT USED
9. SERIALIZE BOARD IN P.C. FINAL ASSEMBLY
10. SCHEMATIC C-31000-6002B-16
11. AT THE MI STATION APPLY ITEM ⑦ NEAR LOGO.

ITEM	QTY	DESCRIPTION	PART NUMBER	DATE
17	1	LABEL, WARRANTY	7120-0830	
18	4	NYLATCH PLUNGER	1390-0365	
19	4	NYLATCH CROMMET	1330-0366	
20	1	NUT, 10-32	2740-0002	
21	1	NUT, 10-32 W/LOCK	2740-0003	
22	2	THERMAL WASHER	0340-0875	
23	4	SCREW 6-32 X .93B	2360-0119	
24	4	XSTR SOCKET	1257-2313	
25	2	HEAT SINK	1205-0289	
26	1	DIODE	1801-1068	
27	1	HEAT SINK	02108-0024	
28	1	WIRE, 18AWG 1/2" WHITE	8150-2664	
29	1	KFMR T1	9100-3964	
30	1	KFMR T2	9100-3965	
31	1	NUT 6-32 X .250	2420-0001	
32	4	SPACER	0380-0342	
33	1	P.C BOARD, ETCHED	31000-6002B	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES: .XX ± .02 XXX ± .005
SEE COMP. DTD. 808

MEMORY REGULATOR PERM. PRINTED
TITLE: 31000-60002
SCALE: 2/1
NEWLETT PACKARD
31000-6002B-11

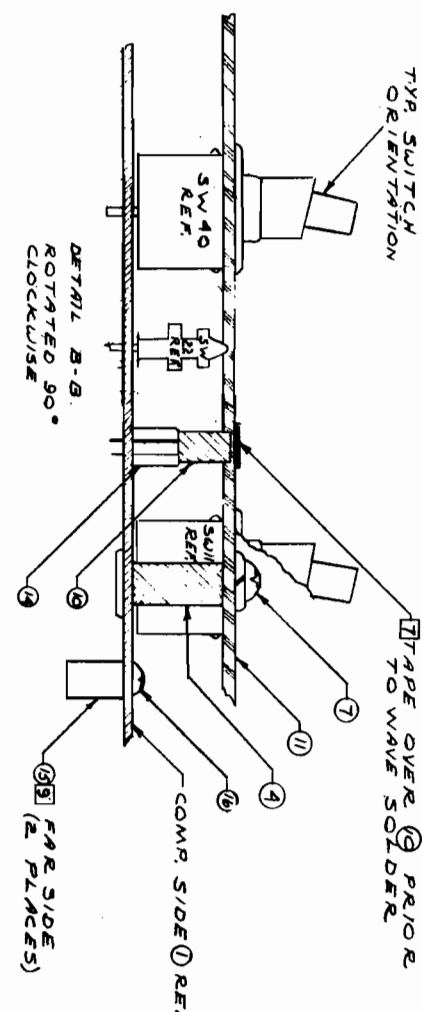
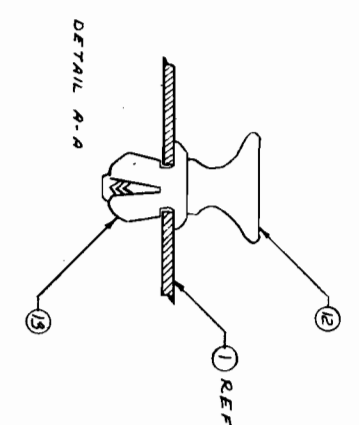
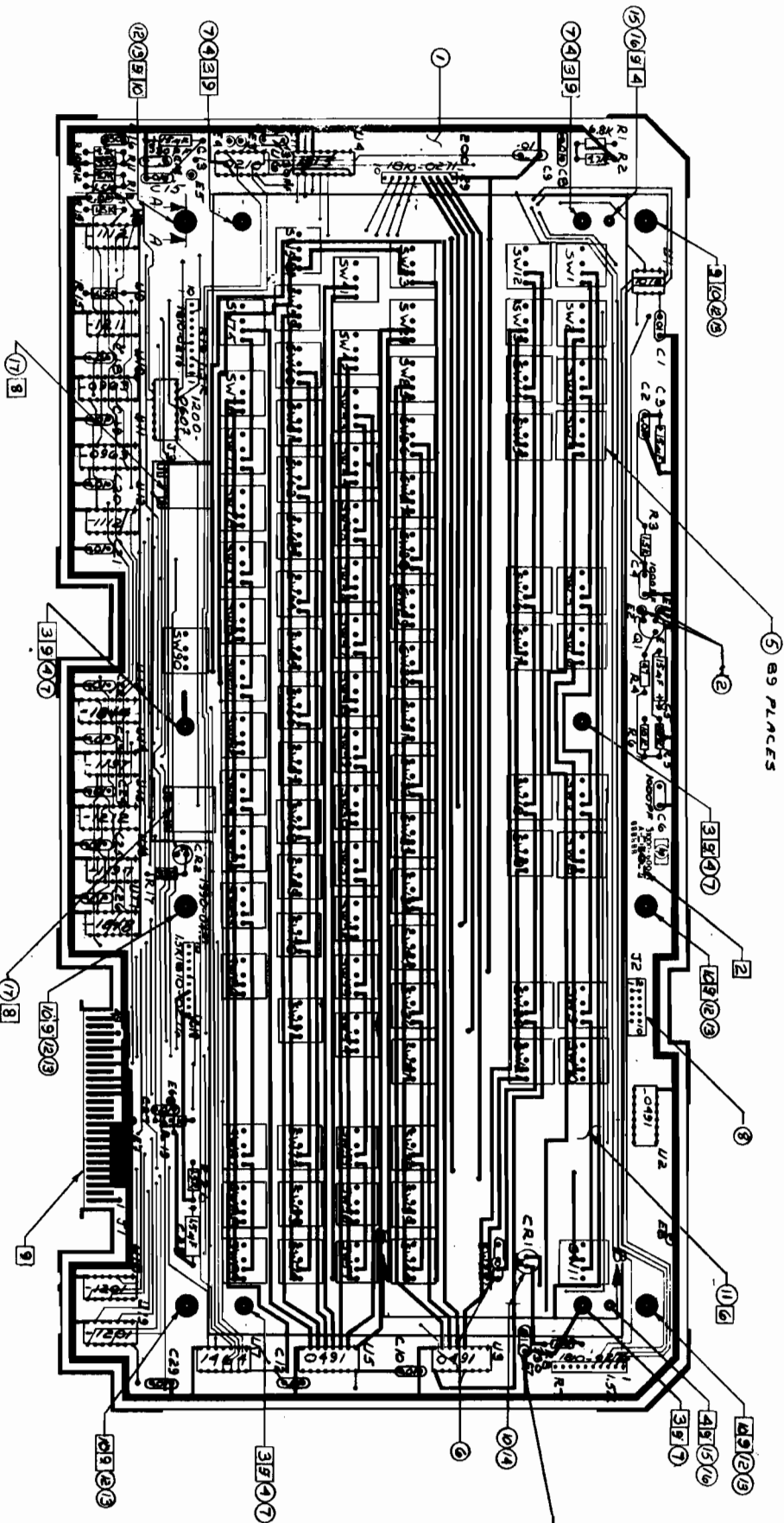
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20	11/12/71

AS ISSUED R47-2071
31000-6002B-11

REV	DATE	BY	CHKD
1	11/13/78	WJ	WJ
2	11/13/78	WJ	WJ
3	11/13/78	WJ	WJ
4	11/13/78	WJ	WJ
5	11/13/78	WJ	WJ
6	11/13/78	WJ	WJ
7	11/13/78	WJ	WJ
8	11/13/78	WJ	WJ
9	11/13/78	WJ	WJ
10	11/13/78	WJ	WJ
11	11/13/78	WJ	WJ
12	11/13/78	WJ	WJ
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15	11/13/78	WJ	WJ
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20	11/13/78	WJ	WJ

REV	DATE	BY	CHKD
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20	11/13/78	WJ	WJ

DIRECTION THRU SOLDER WAVE



CAUTION
DO NOT USE NORMAL WAVE SOLDER PROCEDURE. USE EOSIN FOAMING FLUX INSTEAD OF ACID FLUX. DO NOT ALLOW SOLDERED BOARD TO GO THROUGH WASHER OR BE WASHED. LEAVE FLUX RESIDUE ON BOARD.

- NOTES:
- UNLESS OTHERWISE SPECIFIED:
ALL RESISTANCE IN OHMS
ALL RESISTORS 1/4W 5%
ALL CAPACITANCE IN MICROFARADS
ALL CAPACITORS OF AN CERAMIC DISC
ALL IC'S 1/820-XXXX
 - MARK DATE CODE
 - INSTALL ITEM 4 IN FORMING, RIVETING AREA
 - INSTALL SCREWS ITEM 24 IN TOUGHEN 3
 - INSTALL ITEM 26 & 27
 - INSTALL ITEM 11 USING ITEM 7
 - TAPE OVER ITEM 9
 - INSTALL ITEM 7 (2 PLACES) INTO ITEM 11
 - MARK AS INDICATED PRIOR TO SOLDER WAVE
 - INSTALL ITEMS 12 & 13 & LED IN TOUCH UP AS SHOWN IN DETAIL A & B
 - SCHEMATIC D. 31000-60041-6
 - AT THE M1 STATION, APPLY ITEM 10 NEAR THE HP LOGO

OBsolete
DATE: 11/13/78
PC #: 47-2032

ITEM	QTY	DESCRIPTION	DATE	BY
1	1	WASHER	11/13/78	WJ
2	1	SCREW	11/13/78	WJ
3	1	WASHER	11/13/78	WJ
4	1	SCREW	11/13/78	WJ
5	1	WASHER	11/13/78	WJ
6	1	SCREW	11/13/78	WJ
7	1	WASHER	11/13/78	WJ
8	1	SCREW	11/13/78	WJ
9	1	WASHER	11/13/78	WJ
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11	1	WASHER	11/13/78	WJ
12	1	SCREW	11/13/78	WJ
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22	1	SCREW	11/13/78	WJ
23	1	WASHER	11/13/78	WJ
24	1	SCREW	11/13/78	WJ
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26	1	SCREW	11/13/78	WJ
27	1	WASHER	11/13/78	WJ
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29	1	WASHER	11/13/78	WJ
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35	1	WASHER	11/13/78	WJ
36	1	SCREW	11/13/78	WJ
37	1	WASHER	11/13/78	WJ
38	1	SCREW	11/13/78	WJ
39	1	WASHER	11/13/78	WJ
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95	1	WASHER	11/13/78	WJ
96	1	SCREW	11/13/78	WJ
97	1	WASHER	11/13/78	WJ
98	1	SCREW	11/13/78	WJ
99	1	WASHER	11/13/78	WJ
100	1	SCREW	11/13/78	WJ

PROCESS REVIEW
DATE: 5-7-77 BY: [Signature]

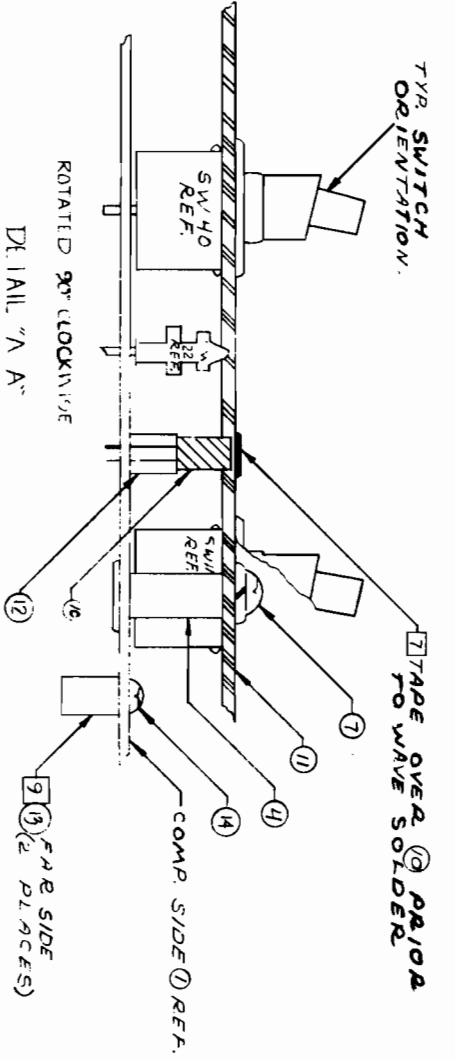
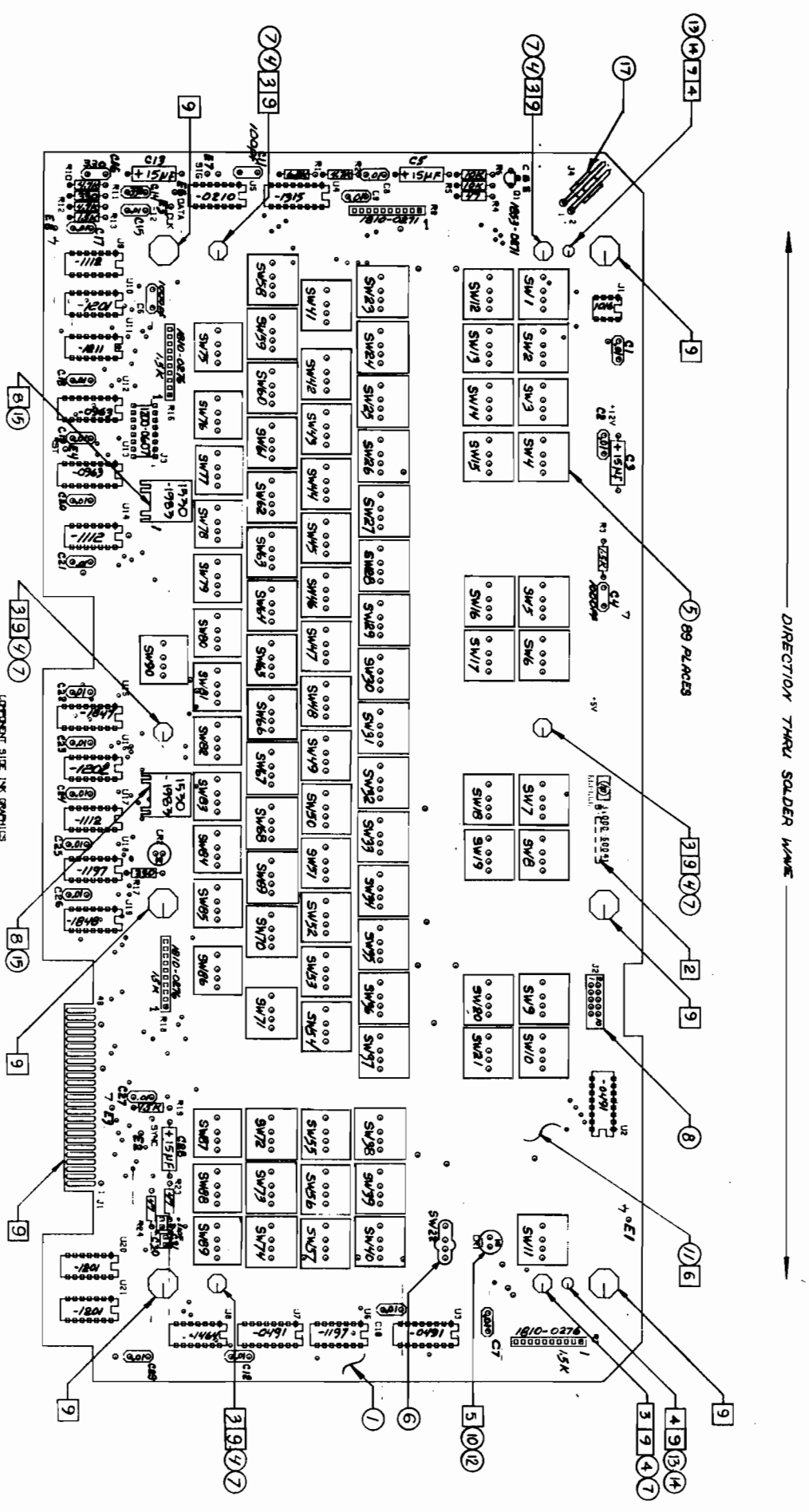
DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES: .XX, .02, .XXX ± .005
SEE COMP. STD. 008

REV	DATE	BY	CHKD
1	11-8-78	RAW	
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CAUTION
DO NOT USE NORMAL WAVE SOLDER PROCEDURE. USE ROBIN FLOWING FLUX INSTEAD OF ACID FLUX. DO NOT ALLOW SOLDERED BOARD TO GO THROUGH WASHER OR BE WASHED. LEAVE FLUX RESIDUE ON BOARD.

NOTES

- UNLESS OTHERWISE SPECIFIED:
ALL RESISTANCE IN OHMS
ALL CAPACITORS 1/4 W. 5%
ALL CAPACITORS IN MICROFARADS
ALL CAPACITORS ON CERAMIC DISC
ALL IC'S BZ0-XXXX
- MARK DATE CODE '1890'
- INSTALL ITEM 4 IN FORMING, RIVETING AREA
- INSTALL SCREWS ITEM 14 INTO ITEM 15 IN TOUCH-UP
- INSTALL ITEM 10 AND 12
- INSTALL ITEM 11 USING ITEM 7
- TAPE OVER ITEM 10
- INSTALL ITEM 19 (2 PLACES) INTO ITEM 11
- MARK AS INDICATED PRIOR TO SOLDER WAVE
- IN TOUCH-UP, INSTALL ITEMS AS SHOWN IN DETAIL "A-A"
- SCHEMATIC D-31000-60041-16
- AT THE MECHANICAL INSPECTION STATION, APPLY ITEM 16 NEAR THE HP LOGO
- SEE MODIFICATION DWGS: C-14 & C-15



ITEM	QTY	DESCRIPTION	DATE	REV
1	1	CONNECTOR JA	1751-4795	
2	1	LABEL WARRANTY	760-6830	
3	1	SCREENBAR HOUSING END	1590-1983	
4	2	SCREW 4-40 X .25	3030-0189	
5	2	SPACER 4-40	0380-0371	
6	1	RUBBER SPACER	0380-0371	
7	1	SWITCH MOUNTING BKT	3100-00067	
8	1	SOCKET 5K1	1450-0926	
9	1	CONNECTOR J2	1200-0607	
10	1	SCREW N/LOCKWASHER	1251-4797	
11	1	SWITCH (SW1-21, SW73-7)	3101-2108	
12	1	STANDOFF RIVET	3101-2201	
13	1	TERMINAL RIVET	0380-0585	
14	1	SELECTED	0360-1682	
15	1	W/AKU-ETCHED	31000-60041	
16	1	WARRANTY LABEL	760-6830	
17	1	SCREENBAR HOUSING END	1590-1983	
18	2	SCREW 4-40 X .25	3030-0189	
19	2	SPACER 4-40	0380-0371	
20	1	RUBBER SPACER	0380-0371	
21	1	SWITCH MOUNTING BKT	3100-00067	
22	1	SOCKET 5K1	1450-0926	
23	1	CONNECTOR J2	1200-0607	
24	1	SCREW N/LOCKWASHER	1251-4797	
25	1	SWITCH (SW1-21, SW73-7)	3101-2108	
26	1	STANDOFF RIVET	3101-2201	
27	1	TERMINAL RIVET	0380-0585	
28	1	SELECTED	0360-1682	
29	1	W/AKU-ETCHED	31000-60041	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES XX - .02 XXX - .005
SEE COMP 310 008

KEYBOARD ASSY
PART NUMBER
31000-60041

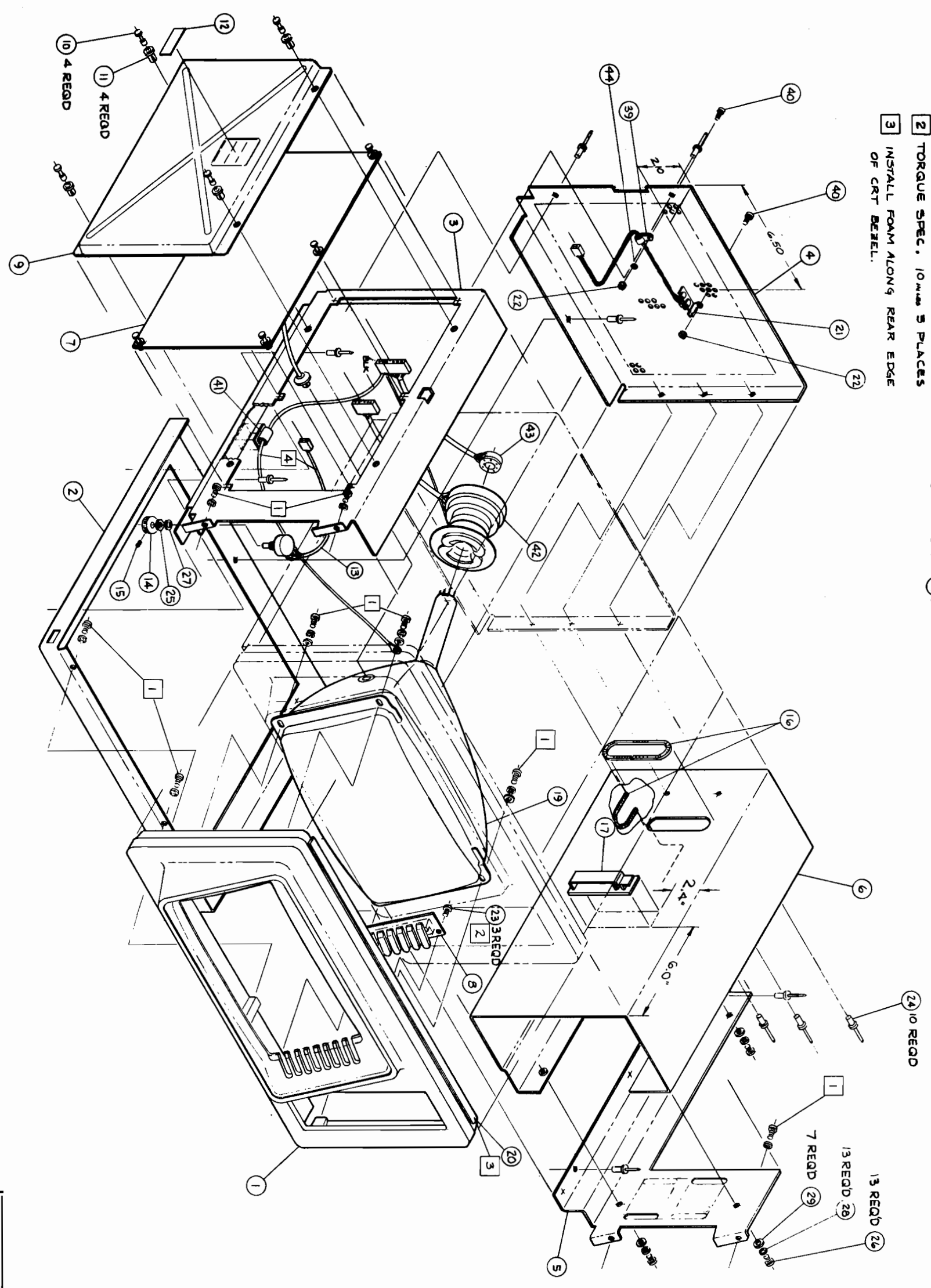
NEWLETT PACKARD
PART NUMBER
D-31000-60041-11

11-8-78 RAW

NOTES:

* QTY / ASSY OF MAGNETS UNKNOWN

- 1 TORQUE SPEC. 18_{max} 10 PLACES
- 2 TORQUE SPEC. 10_{max} 5 PLACES
- 3 INSTALL FOAM ALONG REAR EDGE OF CRT BEZEL.
- 4 ROUTE THESE WIRES THROUGH CABLE CLIP (41).



ITEM	QTY	MATERIAL DESCRIPTION	MATERIAL NO.	MATERIAL SPEC.
44	1	WASHER - FLAT # 6	309D-0228	
45	1	ASSY - CRT SOCKET CABLE	31000-60047	
42	1	ASSY - DEFLECTION YOKE CABLE	31000-60046	
41	1	CABLE CLIP	1400-0757	
40	2	SCREW/LOCK 6-32 X .58 L	2360-0117	
39	1	CABLE CLAMP	1400-0082	
38	*	MAGNET	9160-0257	
37	*	MAGNET	9160-0256	
36	*	MAGNET	9160-0255	
35	*	MAGNET	9160-0254	
34	*	MAGNET	9160-0253	
33	*	MAGNET	9160-0252	
32	*	MAGNET	9160-0251	
31	*	MAGNET	9160-0250	
30	*	MAGNET	9160-0249	
29	7	WASHER - FLAT # 8	309D-0199	
28	18	WASHER - LOCK # 8	2190-0017	
27	1	WASHER - NUT LOCK # 8/8	2190-0016	
26	13	SCREW - POZ # 8-32 X .515 L	2510-0103	
25	1	NUT - HEX # 3/8 - 24	2950-0001	
24	10	REVET - BLIND	0361-1011	
23	3	SCREW - TAPING # 6 X 3/8	0624-0046	
22	2	NUT - HEX # 6 - 32	2420-0001	
21	1	ASSY - THERMISTOR CABLE	31000-60090	
20	1/8.5"	STRIP - FOAM	0460-1204	
19	1	CATHODE RAY TUBE	2090-0026	
18	A/R	ZAP - ADHESIVE TYPE	0470-0010	
17	1	CLIP - FLAT CABLE	1400-0694	
16	1/2"	GROUNDING - CHANNEL	0400-0193	
15	1	SCREEN - SET	309D-0430	
14	1	KNOB - BRIGHTNESS CONT	31000-20002	
13	1	ASSY - BRIGHTNESS CONT CLR	31000-60045	
12	1	LABEL - HI VOLTAGE	7120-4626	
11	4	SWAP-IN GRONNET 1/4	1390-0366	
10	4	SWAP-IN PLUNGER 1/4	1390-0365	
9	1	SHIELD - SWEEP BD	4040-1179	
8	1	ASSY - SOFT KEY	31000-60048	
7	1	ASSY - SWEEP	31000-60044	
6	1	SHIELD - FLOPPY DISC	31000-00010	
5	1	BRACKET - F/X/BEZEL	31000-00009	
4	1	BRACKET - LAT. SUPPORT	31000-00008	
3	1	BRACKET - SWEEP MTD	31000-00007	
2	1	PACER - DISPLAY TOP	31000-00014	
1	1	BEZEL - CRT	31000-60004	

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES: XX ± .02, XXX ± .008
SEE COMP. STD. 908

REVISIONS

NO.	DATE	BY	DESCRIPTION
1			ASSEMBLED
2			REVISED PART 31213A 1/78

31000-60043-1
31000-60043-1

HEWLETT
PACKARD

MONITOR
ASSY

31213 A

SCALE

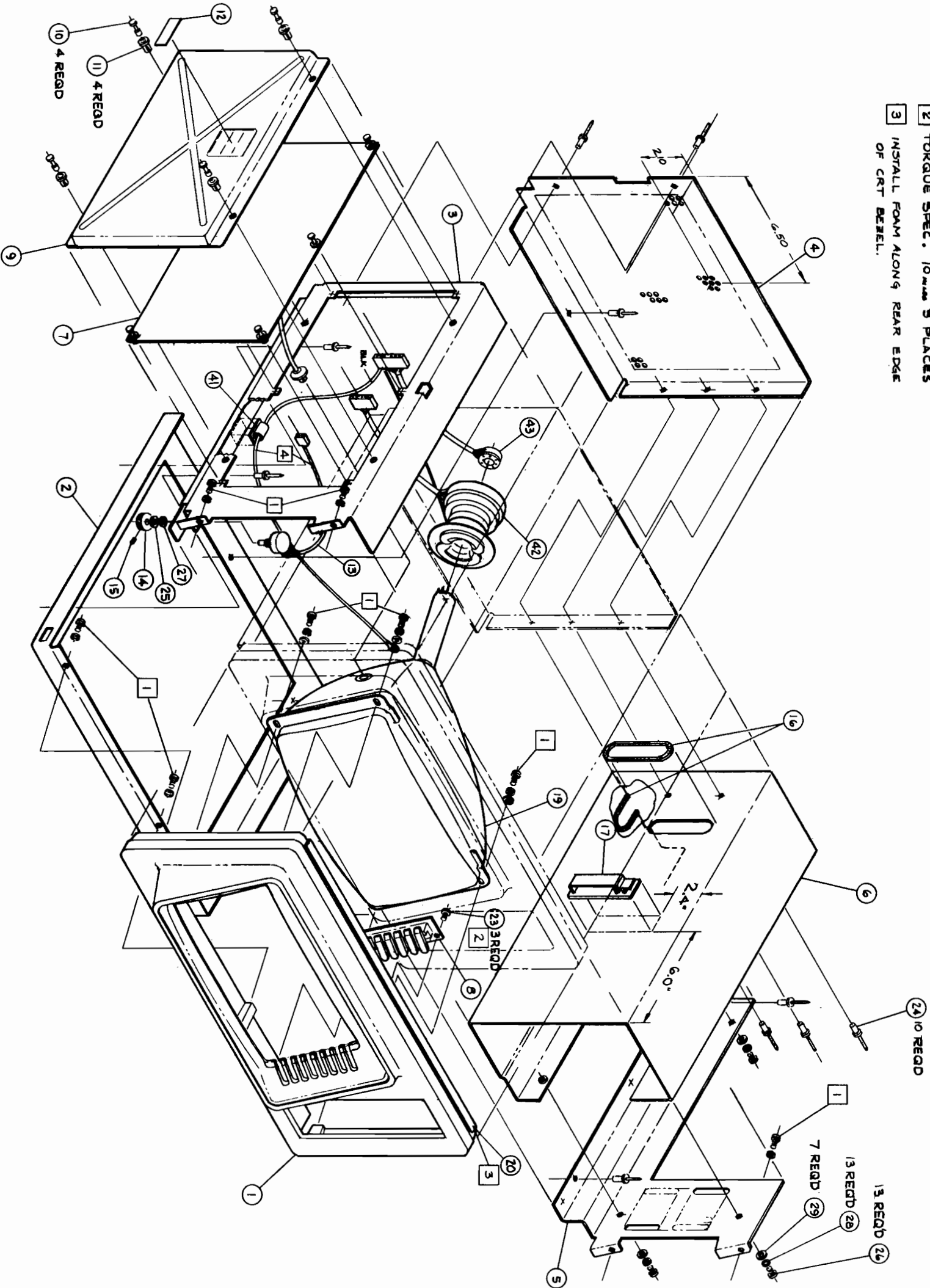
31000-60043-1

31000-60043-1

31000-60043-1

NOTES:

- * QTY / ASSY OF MAGNETS UNKNOWN
- 1 TORQUE SPEC. / BUSH 10 PLACES
- 2 TORQUE SPEC. / 10mm 5 PLACES
- 3 INSTALL FOAM ALONG REAR EDGE OF CRT BEZEL.
- 4 ROUTE THESE WIRES THROUGH CABLE CLIP (41).



REV	DATE	BY	CHKD	DESCRIPTION
1				ISSUED FOR FAB
2				REVISED FROM 3/21/84
3				ITEM 4 WAS 31000-00006 PART 2039
4				ITEM 15 WAS 3090-0430 PART 2072
5				DEL ITEMS 21,22,29,40,44 PART 2100

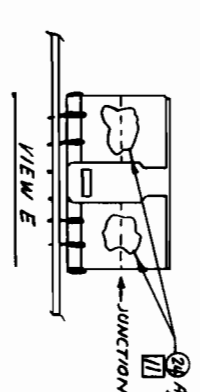
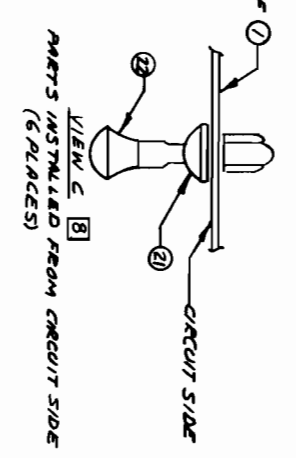
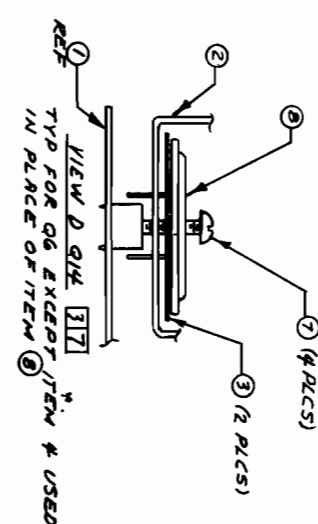
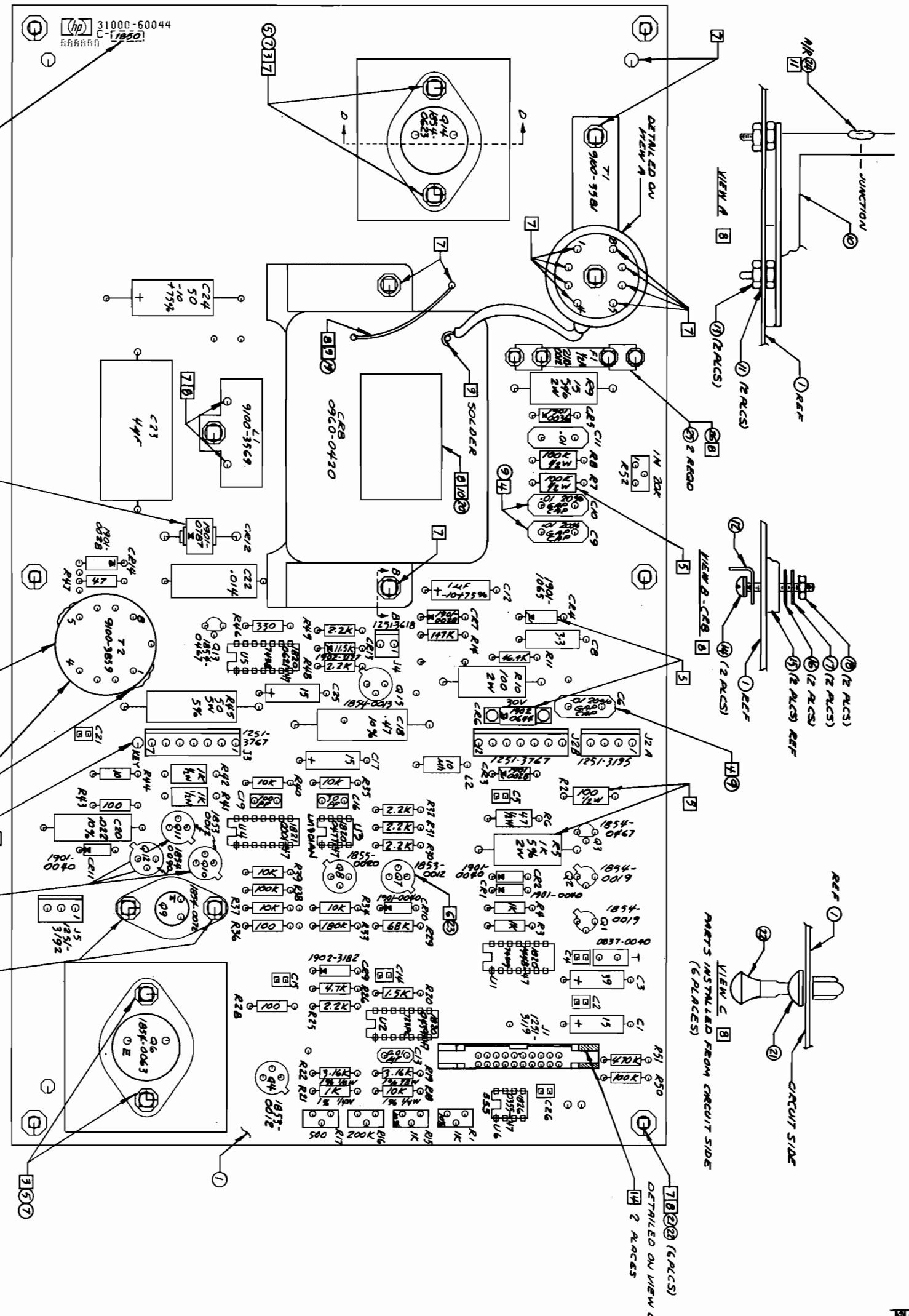
REV	DATE	BY	CHKD	DESCRIPTION
1				ISSUED FOR FAB
2				REVISED FROM 3/21/84
3				ITEM 4 WAS 31000-00006 PART 2039
4				ITEM 15 WAS 3090-0430 PART 2072
5				DEL ITEMS 21,22,29,40,44 PART 2100

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L CODE NO.	MAT'L SPEC.
1	1	DELETED			
2	1	DELETED			
3	1	DELETED			
4	1	DELETED			
5	1	DELETED			
6	1	DELETED			
7	1	DELETED			
8	1	DELETED			
9	1	DELETED			
10	1	DELETED			
11	1	DELETED			
12	1	DELETED			
13	1	DELETED			
14	1	DELETED			
15	1	DELETED			
16	1	DELETED			
17	1	DELETED			
18	1	DELETED			
19	1	DELETED			
20	1	DELETED			
21	1	DELETED			
22	1	DELETED			
23	3	RECD			
24	10	RECD			
25	7	RECD			
26	13	RECD			
27	13	RECD			
28	7	RECD			
29	1	ASSY - CRT SOCKET CABLE	31000-60041		
30	1	ASSY - DEFLECTION YOKE CABLE	31000-60044		
31	1	CABLE CLIP	1400-0757		
32	1	DELETED			
33	1	DELETED			
34	1	DELETED			
35	1	DELETED			
36	1	DELETED			
37	1	DELETED			
38	1	DELETED			
39	1	DELETED			
40	1	DELETED			
41	1	DELETED			
42	1	DELETED			
43	1	DELETED			
44	1	DELETED			

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES.
 TOLERANCES ARE: XX.X .006
 ALL CORNERS .010 R

NEWLETT PACKARD
 TITLE: MONITOR ASSY PERM PRINT
 DATE: 3/21/84
 PART NUMBER: 31000-60043
 SCALE: 1:1
 SHEET 07

REV	DATE	BY	CHKD	APP'D
1	10/15/64
2	11/10/64
3	12/15/64



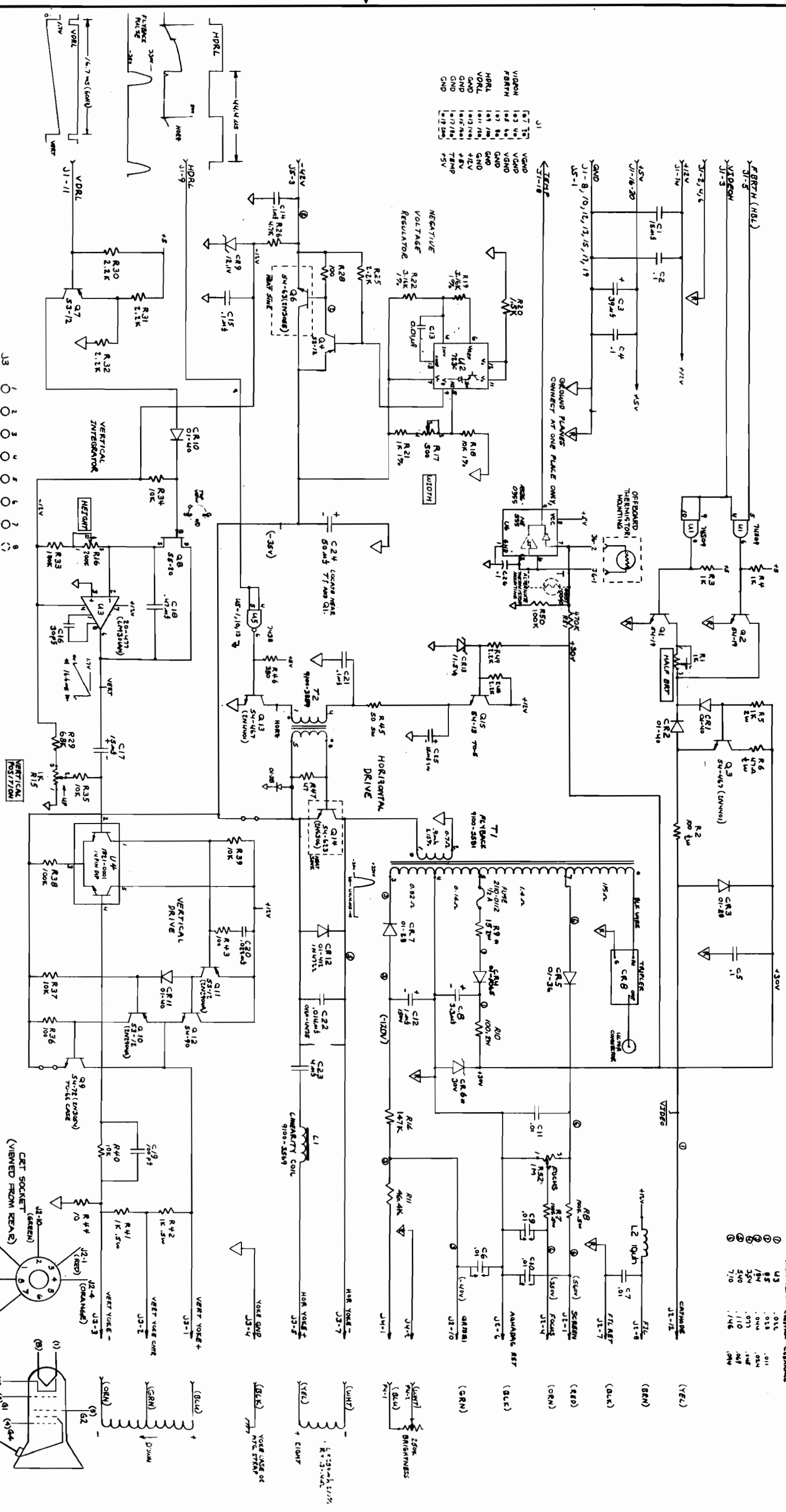
- NOTE:
 1. UNLESS OTHERWISE SPECIFIED
 ALL RESISTANCE IN OHMS,
 ALL RESISTORS 1/4W, 5%
 ALL CAPACITANCE IN MICROSECONDS
 ALL CAPACITORS ARE .1uF.
- MARK DATE CODE
 - INSTALL ITEM 5 PLACES (5WAYS)
 - LOAD C6, C9 & C10 USING ITEM 9
 - LOAD R2, R3, R7, C8, C6, & C12 50 BODY IS .062" (.55MM, 1/4")
 DEF. R.C. B.D. SURFACE
 - LOAD Q4, Q7, Q8, Q11 & Q12 USING ITEM 9 LEADS ARE NOT CRIMPED
 - MASK AS INDICATED PRIOR TO WAVE SOLDERING
 - INSTALL ITEMS 10 THROUGH 26 LITE TWICE IN AC FINISH ASSY
 - STRIP BACK EACH END OF ITEM 9 .5" (.257MM)
 - PLACE HV LABEL 20 ON TOP SURFACE AND ON CIRCUIT SIDE
 OF BOARD IN SAME AREA
 - APPLY ITEM 29 AS SHOWN TO OUTSIDE JUNCTIONS OF T1 & T2
 TRANSFORMER SECTIONS AS SHOWN IN VIEWS A & E
 (ELIMINATES AUDIBLE NOISE APPROX. 11KHZ)
 - SERIALIZE Q4 IN AC FINISH ASSY
 - AT THE M1 STATION APPLY ITEM 21 NEAR THE HP LOGO.
 - COLOR THIS SURFACE USING UNDELETABLE RED FELT TIP
 MARKER E-108E IN RED IN EQUIVALENT
 - SCHEMATIC D-31000-60044-26

NO	QTY	DESCRIPTION	REF
1	1	PC BOARD	
2	1	...	
3	1	...	
4	1	...	
5	1	...	
6	1	...	
7	1	...	
8	1	...	
9	1	...	
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11	1	...	
12	1	...	
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97	1	...	
98	1	...	
99	1	...	
100	1	...	

31000-60044
 C-11850
 888888

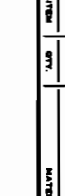
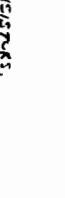
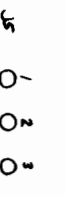
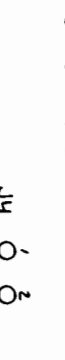
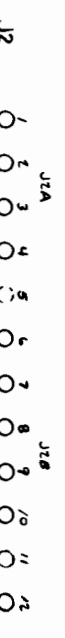
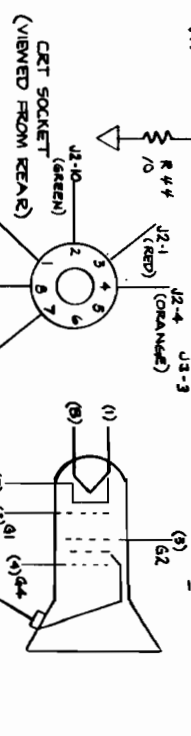
NOTES: 1. ASSEMBLIES WITH DATE CODE C1890 OR LATER HAVE THERMISTOR MOUNTED ON BOARD IN THE "ALTERNATE THERMISTOR MOUNTING" POSITION. CONNECTOR J16 IS NO LONGER AVAILABLE FOR CONNECTING TO EXTERNAL LOCATION.

VIDEO AMPLIFIER



VIDEO PANE CONTROL CAPACITANCE

U3	.01
U5	.01
U6	.01
U7	.01
U8	.01
U9	.01
U10	.01
U11	.01
U12	.01
U13	.01
U14	.01
U15	.01
U16	.01
U17	.01
U18	.01
U19	.01
U20	.01
U21	.01
U22	.01
U23	.01
U24	.01
U25	.01
U26	.01
U27	.01
U28	.01
U29	.01
U30	.01
U31	.01
U32	.01
U33	.01
U34	.01
U35	.01
U36	.01
U37	.01
U38	.01
U39	.01
U40	.01
U41	.01
U42	.01
U43	.01
U44	.01
U45	.01
U46	.01
U47	.01
U48	.01
U49	.01
U50	.01



DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN INCHES. TOLERANCES AS SHOWN UNLESS OTHERWISE SPECIFIED. SHEET 7 OF 7

FOR ALL SMALL TRANSISTORS, ALLOW SPACE FOR T0-5 CASES. * COMPONENT RAISED ABOVE BOARD.

ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
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 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
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 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
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 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
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 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

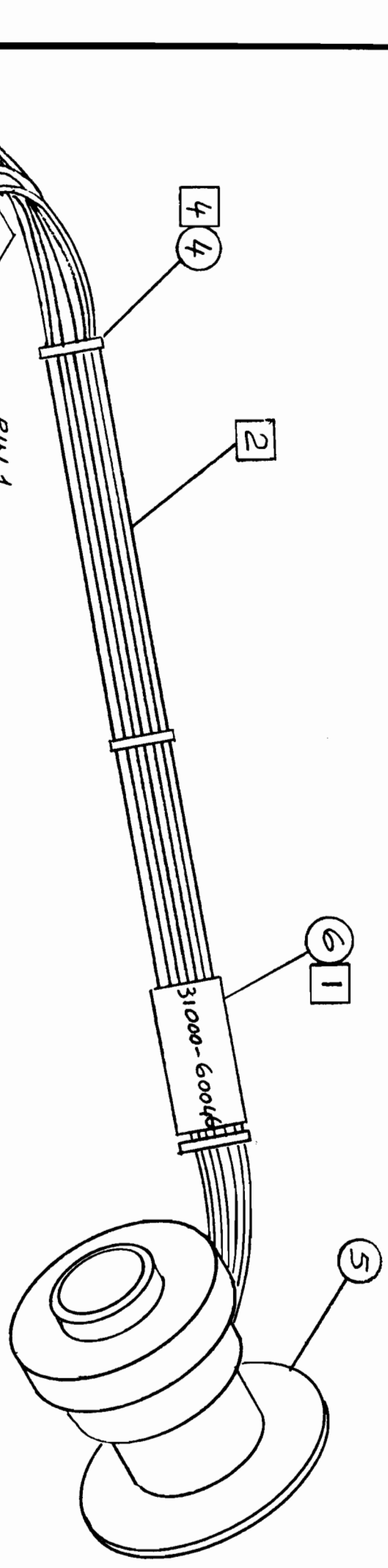
DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN INCHES. TOLERANCES AS SHOWN UNLESS OTHERWISE SPECIFIED. SHEET 7 OF 7

ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

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ICD SWEEP SCHEMATIC
 TITLE: 3000-60043
 PART NUMBER: 3000-60044
 SCALE: 1-31000-60044-26

ENGINEERING RESPONSIBILITY															SEP 14	REV	SYM	REVISIONS	APPROVED	DATE	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		A	AS ISSUED		S/S/OK	3-21-77
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		B	ITEM WAS 0890-0273; REVISE NOTE 2 PRCR 31213A		S/S/OK	11-29-77
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47						
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63						



- 1 MARK 31000-60046 ON TUBING & AFFIX TO CABLE
- 2 CUT WIRES 7" FROM EDGE OF YOKE.
- 3 STRIP WIRE .125 & CRIMP CONTACTS.
- 4 TIE WRAP 3 PLACES EVENLY SPACED.
- 5 INSERT POLARIZING KEY INTO PIN 8 OF CONNECTOR.

PIN #	WIRE COLOR
1	BLU
2	GRN
3	ORN
4	BLK
5	YEL
6	—
7	WHT
8	KEY

ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
6	1.5"	TUBING-BLACK .500 DIA	0890-0291		
5	1	DEFLECTION YOKE	9100-3580		
4	3	TIE WRAPS	1400-0249		
3	1	CONNECTOR (8PIN)	1251-3278		
2	1	POLARIZING KEY	1251-3753		
1	6	CONTACT	1251-0670		

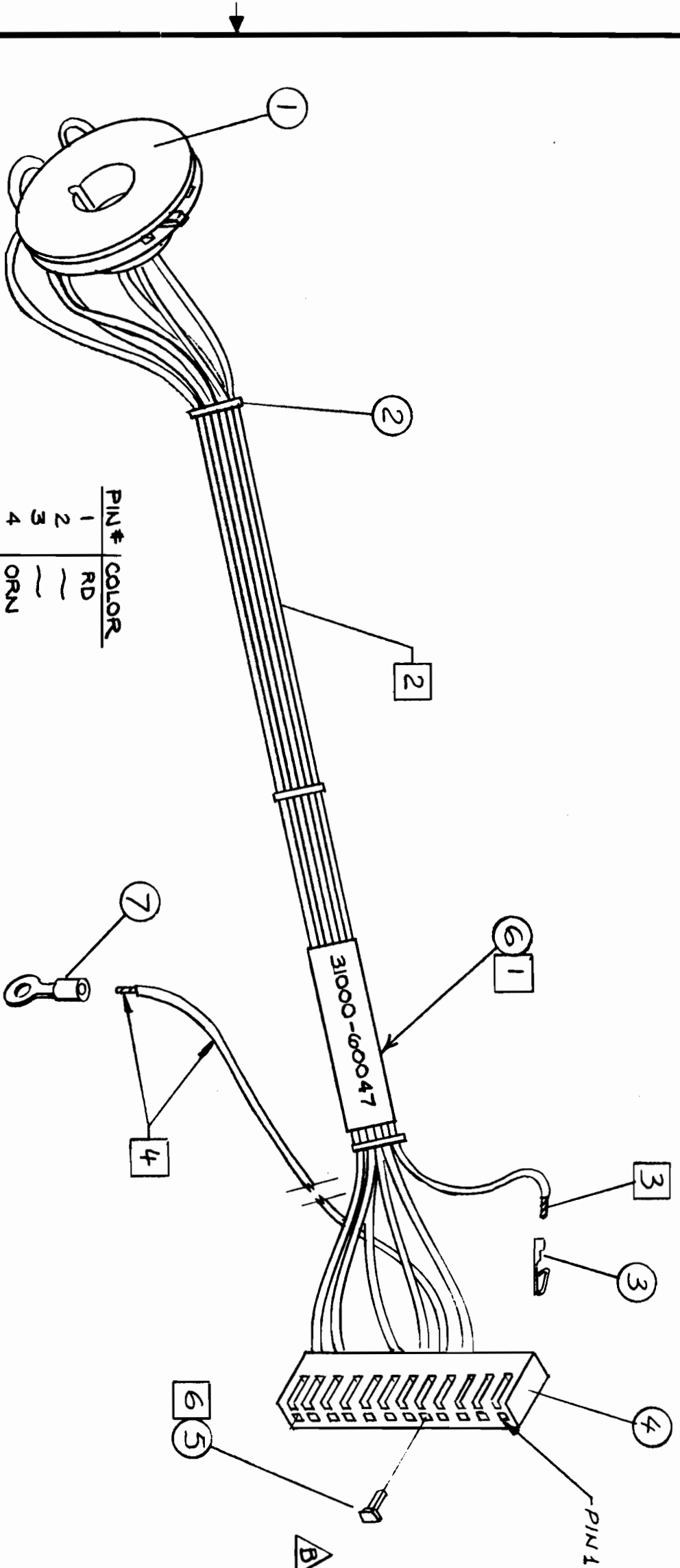
DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .005
SEE CORP. STD. 608

PROCESS REVIEW
BY *Pat Wright*
DATE 3-21-77

ENGINEER	TITLE	HEWLETT PACKARD
RELEASE TO PROD.	31000-60043	31000-60046
SUPERSEDES DWG.	FINISH	PART NUMBER
	SCALE	B-31000-60046-1

ENGINEERING RESPONSIBILITY															
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63

SERIAL		REVISIONS		APPROVED	
11	12	1	2	<i>[Signature]</i>	3-21-77
13	14	3	4	<i>[Signature]</i>	11-29-77
15	16	SYM A		DATE	
17	18	AS ISSUED			
19	20	ITEM WAS 0690-0273; REVISE NOTE [B] PRCE 31213A "R"			



PIN #	COLOR
1	RD
2	—
3	—
4	ORN
5	KEY
6	BLK
7	BLK
8	BRN
9	—
10	GRN
11	—
12	YEL

- NOTES:
1. MARK 31000-60047 ON TUBING & AFFIX TO CABLE
 2. CUT WIRES 1/3" LONG
 3. STRIP WIRE .125" GRIMP CONTACTS
 4. CUT REMAINING BLK WIRE 21" STRIP .250 GRIMP CONTACT AND INSERT INTO PIN 6 OF [B]
 5. THE WRAP 3 PLCS EVENLY SPACED.
 6. INSERT POLARIZING KEY INTO PINS OF CONNECTOR.

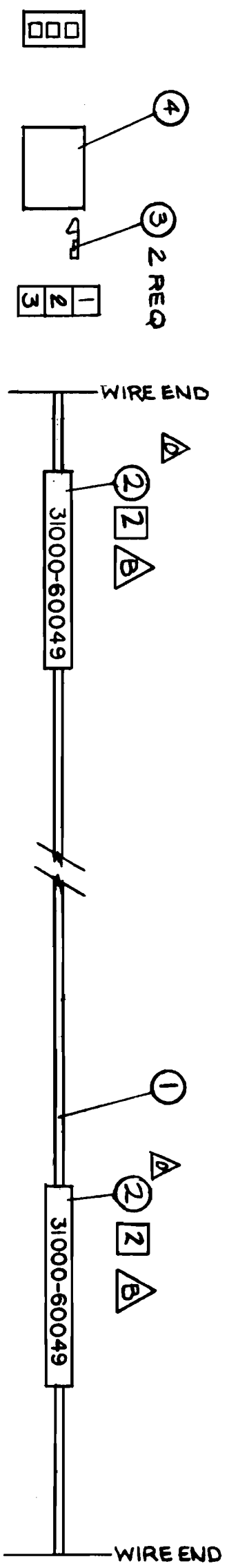
ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
7	1	LAG (RED)	0362-0319		
6	1/5"	TUBING BLACK .500 DIA	0890-0291		
5	1	POLARIZING KEY	1251-0627		
4	1	CONNECTOR (12PIN)	1251-3279		
3	7	CONTACT	1251-0670		
2	3	TIE WRAP	1400-0249		
1	1	CRT SOCKET CABLE	1200-0543		

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .005
SEE CORP. STD. 608

ENGINEER	TITLE	HEWLETT PACKARD
/	CRT SOCKET CABLE	
RELEASE TO PROD.	31000-60043	PART NUMBER
SEE CORP. STD. 608	31000-60047	31000-60047-1
DATE 3-21-77 BY <i>[Signature]</i>	FINISH	SHEET 1 OF 1

ENGINEER	RESPONSIBILITY	SERIAL
0	1	2
1	2	3
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3	4	5
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40	41	42
41	42	43
42	43	44
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47	48	49
48	49	50

REV. SYM	REVISIONS	APPROVED	DATE
A	AS ISSUED	<i>[Signature]</i>	4-19-77
B	REVISED PRCR 31213A "FA"	<i>[Signature]</i>	1-17-78
C	REVISED COLORS FOR PINS 1, 2, 3 AND ITEM 1 WAS 8120-2691 PCAT-2065	<i>[Signature]</i>	8-31-78
D	REFERENCE (C) WAS MISLABELLED	<i>[Signature]</i>	1-8-79



PIN#	COLOR
1	WHT
2	—
3	BLUE

PIN#	COLOR
1	WHT
2	—
3	BLUE

NOTES:

1. STRIP ALL WIRE .125"
2. CUT TUBING INTO 2 1.5" LENGTHS. MARK PART NUMBER ON EACH AND SHRINK ONTO EACH END OF CABLE.

ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
4	2	CONNECTOR, 3 PIN	1251-3201		
3	4	CONTACTS	1251-0670		
2	3'	HEATSHRINK TUBING, .187 DIA	0890-0029		
1	48"	WIRE, 22 GA TWISTED PAIR	8120-2518		

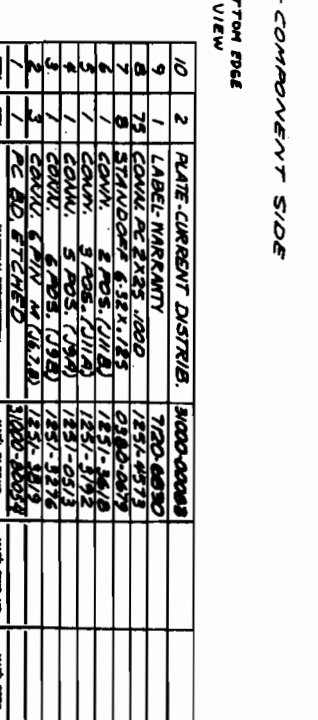
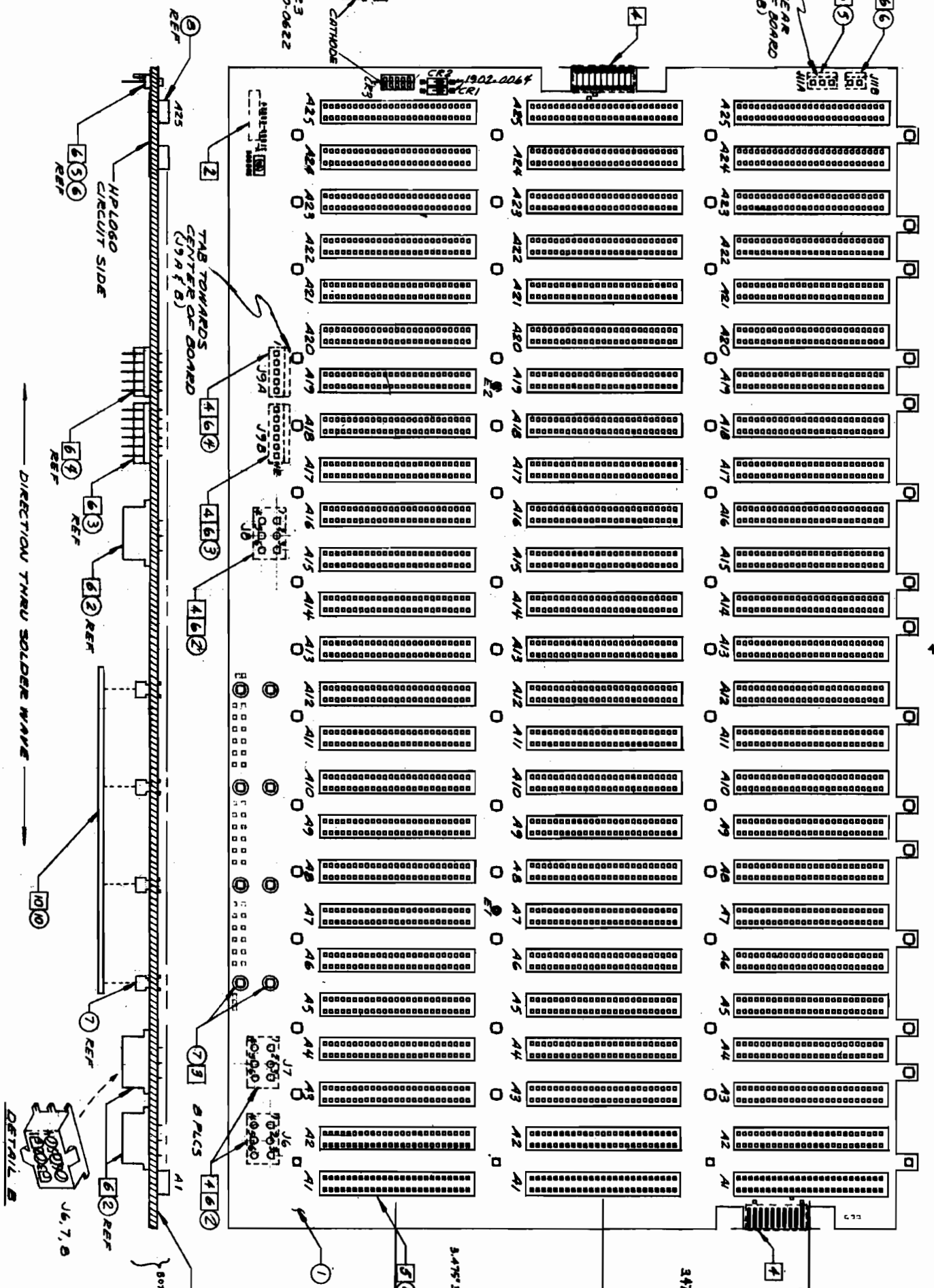
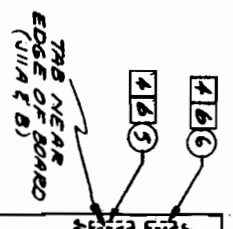
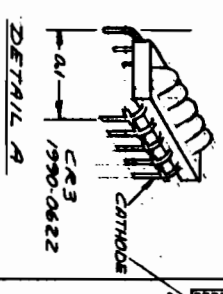
DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .005
SEE CORP. STD. 608

SWEET POWER CABLE
TITLE
31213A
NEXT ASSEMBLY
FINISH —
SCALE FULL

HEWLETT PACKARD
PART NUMBER
31000-60049
B-31000-60049-1

PROCESS REVIEW

DATE 4/8-77 BY *[Signature]*



1. TEST BACKPLANE PER A31000-00054-9, TEST PROCEDURE
2. MARK DATE CODE "1745"
3. MARK HP LOGO ON CIRCUIT SIDE.
4. SWAGE STANDOFFS, ITEM 7, ON CIRCUIT SIDE, 8 PLACES.
5. MASK AS INDICATED PRIOR TO WAVE SOLDERING.
6. PLACE THE BACKPLANE SOLDERING FIXTURE FACING UP.
7. PLACE ALL CONNECTORS, ITEM 9, ON FIXTURE.
8. PLACE BOARD ITEM 1 ON FIXTURE WITH THE CIRCUIT SIDE FACING UP (SIDE WITH HP LOGO). ALL CONNECTOR PINS & FIXTURE PINS WILL GO THROUGH BOARD.
9. INSTALL 4 LOCKING STRIPS OVER FIXTURE PINS TO HOLD BOARD FIRMLY IN POSITION.
10. TEST BACKPLANE AFTER WAVE SOLDERING PER A31000-9004-1, TEST PROCEDURE
11. INVERT FIXTURE LOAD ON COMPONENT SIDE
12. CEI/FOR LOAD C23 PER DETAIL "A"
13. INSTALL ITEMS 2-4, 4 1/2 & 5 ON CIRCUIT SIDE (SIDE WITH HP LOGO) IN AT FINAL ASSY SEE DETAIL "B" FOR PIN ORIENTATION OF ITEM 2
14. SERIALIZE THE BOARD IN AT FINAL ASSEMBLY
15. SCHEMATIC D-31000-60054-6
16. AT THE MECHANICAL INSPECTION STATION APPLY ITEM 6 AROUND THE HP LOGO
17. INSTALL ITEM 10 IN TOUCH-UP

DO NOT SCALE THIS DRAWING

PACKS REVIEW

DATE 1-25-78 BY R. B. ...

NO.	DESCRIPTION	QTY	UNIT PRICE	TOTAL PRICE
10	PLATE CURRENT DISTRIBUTOR	3000-00008		
9	LABEL MARRANT	720-0892		
8	CONV. PC EXTS 1000	7251-2473		
7	STANDOFF 6-32X1/8	01840-0819		
6	CONV. 2 POS. (11A)	7251-2473		
5	CONV. 5 POS. (11A)	7251-5192		
4	CONV. 5 POS. (11A)	7251-0513		
3	CONV. 6 POS. (11A)	7251-3376		
2	CONV. 6 POS. (11A)	7251-3376		
1	PC BOARD ETCHED	3100-00054		

BACKPLANE ASSY SERIAL PRINT

31213-00010

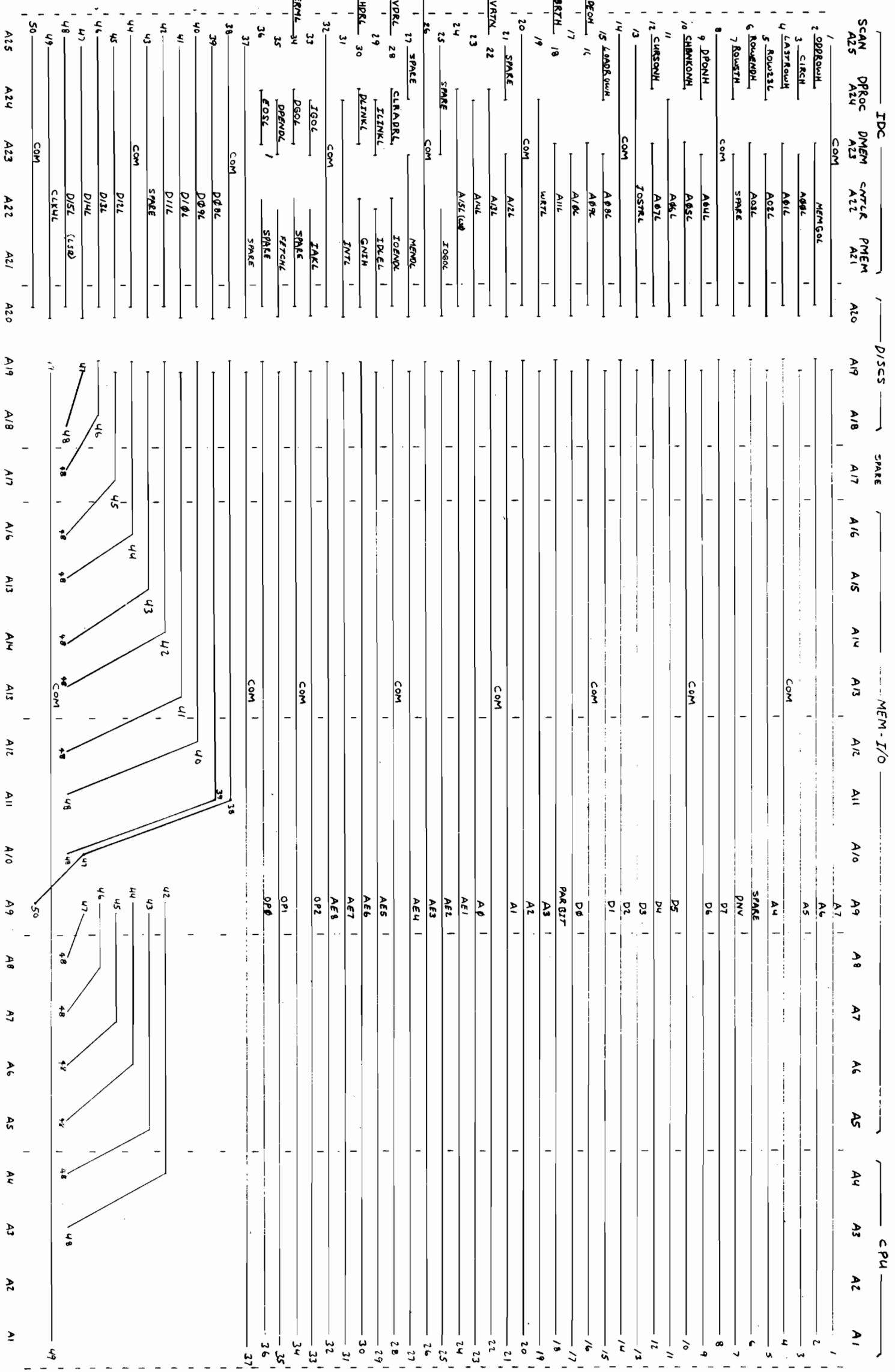
31000-60054

31000-60054-1

NO.	DESCRIPTION	QTY	UNIT PRICE	TOTAL PRICE
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REV	DATE	BY	APP
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J3



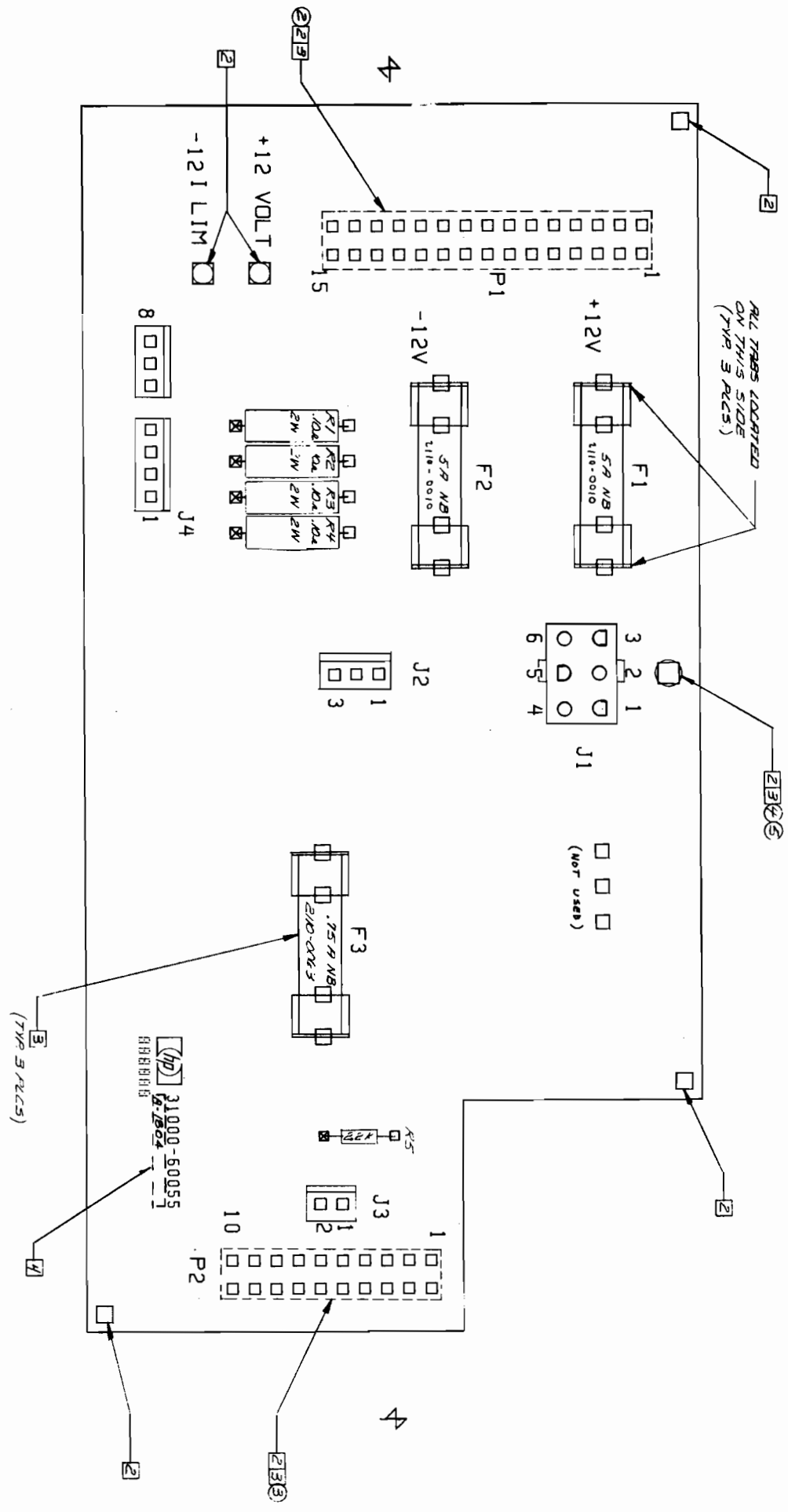
VIEWED FROM COMPONENT SIDE

11-1-77 +SV added A J11-2c

DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES: XX ± .02 XXX ± .005 SEE COMP. 510.008		MATERIAL DESCRIPTION BACKPLANE (3) SCHWENITZ	
TITLE 31213-60010	REV. NO. NEXT REVISION	DATE 3/10/00 - 60054	SCALE D - 31000 - 60054-6
PART NUMBER D - 31000 - 60054-6		SHEET 2 OF 3	

REV	DATE	BY	CHKD	APP'D
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31000-60055-1
 25 1531/ED
 31000-60055-1
 SHEET 1 OF 1



- NOTES:
1. UNLESS OTHERWISE SPECIFIED: ALL RESISTORS ARE 1/4 W, 5%.
 2. MARK AS INDICATED PRIOR TO LOADING.
 3. INSTALL IN P.C. BOARD HOLES: P1, F2, F3, P2 (ON CIRCUIT SIDE) MEMS (2), (3), (4), (5).
 4. MARK DATE CODE.
 5. SCHEMATIC C-31000-60055-6.
 6. AT THE MECHANICAL INSPECTION STATION, APPLY ITEM 6 NEAR THE HP LOGO.

ITEM	QTY	PC BOARD ETCHED	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DESC.
1	1	PC BOARD ETCHED	POWER DISTRIBUTION ASSEMBLY	31000-60002	31000-60055
2	1	PC BOARD ETCHED	WARRANTY	7170-6830	
3	1		FUSE, F 3	210-0063	
4	2		FUSE, F 1 & F 2	210-0010	
5	1		SCREW, (6-32X.25)	2360-0118	
6	1		WASHER, (6-32 X .70)	0980-0897	
7	1		CONDUCTIVE	257-003V	
8	1		CONNECTOR	1251-2035	
9	1		PC BOARD ETCHED	31000-60055	

PROCESS REVIEW
 DATE 1-24-78 BY RLV/JS

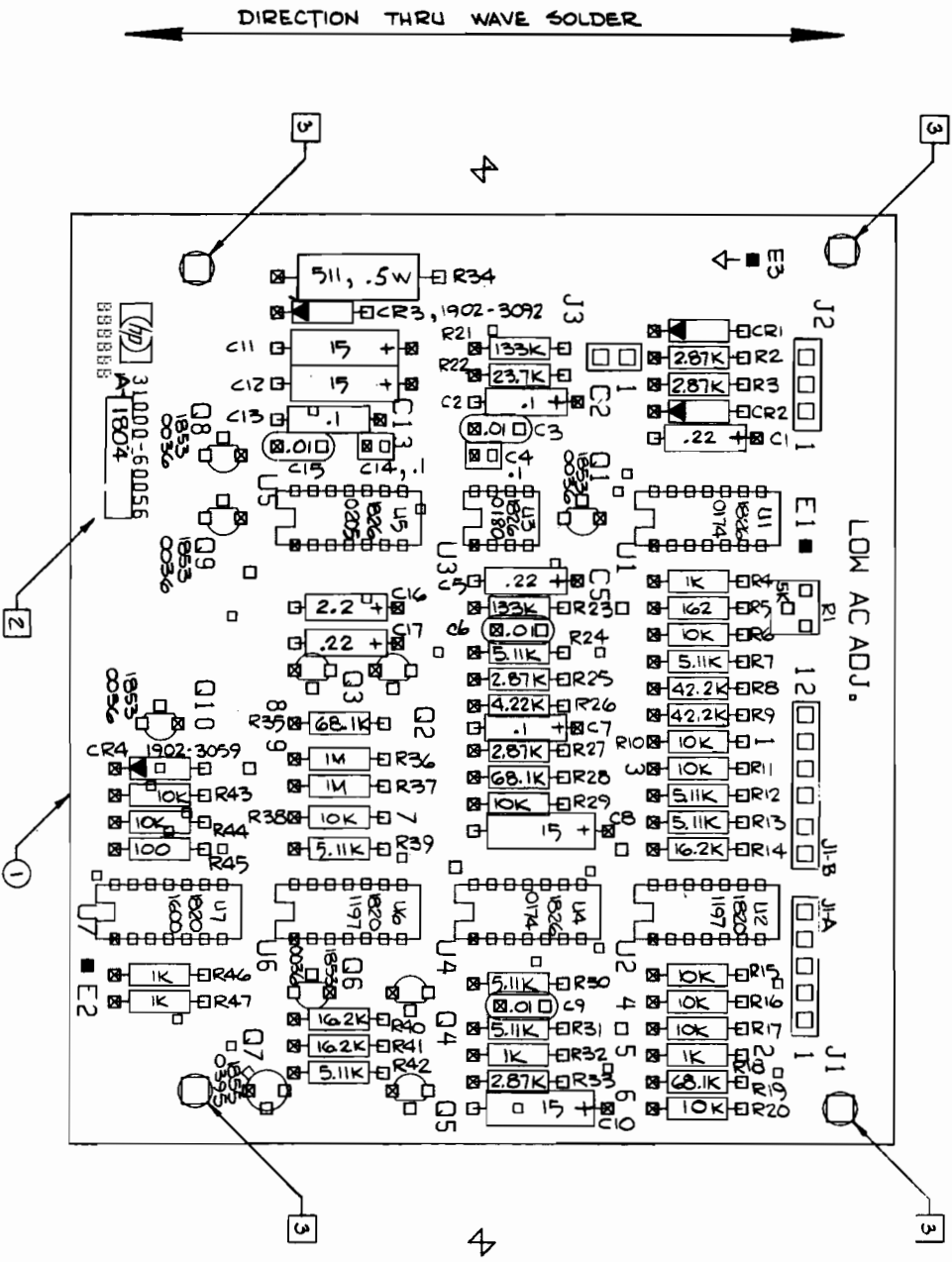
DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES: .XX ± .02 .XXX ± .008
 SEE COMP. STD. 008

MATERIAL LIST

HEWLETT PACKARD

DESCRIPTION		QTY	UNIT	DATE	BY	REVISION	DATE	BY	REVISION
PCA-POWER DISTRB				1000-6005					
HEWLETT PACKARD									
PART DESCRIPTION		QTY	UNIT	DATE	BY	REVISION	DATE	BY	REVISION
DATE CODE 180A									
P	8TDF #6X.500 8M	1	U	0380-0897					
P	RES 2200 5% .25	1	U	0683-2225					
P	RES .1 5% 2W PM	4	U	0611-3290					
P	CONN PC2X10.156D	1	U	1251-2034					
P	CONN PC2X15.156D	1	U	1251-2035					
P	CONN POST 3M.156	1	U	1251-3192					
P	CONN POST 4M	1	U	1251-3305					
P	CONN POST 2M.156	1	U	1251-3616					
P	CONN UTIL 6M PC	1	U	0251-3819					
P	CONN POST 3PUS M	1	U	1251-4286					
P	FUSE 5A NB	2	U	2110-0010					
P	FUSE .75A NB	1	U	2110-0063					
P	FUSE CLIP .250U	6	U	2110-0269					
P	SCR 6-32X.25 PM	1	U	2360-0113					
P	LABEL-DATE CODE	1	U	7120-6830					
P	PC8-PU2 DIST	1	M	3100-80055					

END OF MATERIAL LIST



- NOTES : UNLESS OTHERWISE SPECIFIED
1. ALL RESISTANCE VALUES ARE IN OHMS $\pm 1\%$, $1/4W$.
 - ALL CAPACITANCE VALUES ARE IN MICROFARADS.
 - ALL TRANSISTORS ARE 1854-0215.
 - ALL DIODES ARE 1901-0050
 2. MARK DATE CODE
 3. MASK AS INDICATED PRIOR TO WAVE SOLDERING
 4. SERIALIZE IN PC FINAL ASSEMBLY.
 5. SCHEMATIC : D-31000-60056-6
 6. AT THE MECHANICAL INSPECTION STATION, APPLY ITEM 2 NEAR THE HP LOGO.

REV	DATE	BY	CHKD	DESCRIPTION
1				ASSEMBLY
2				REVISION

PROCESS REVIEW

DATE: 1-24-78 BY: P.E. W. J.H.

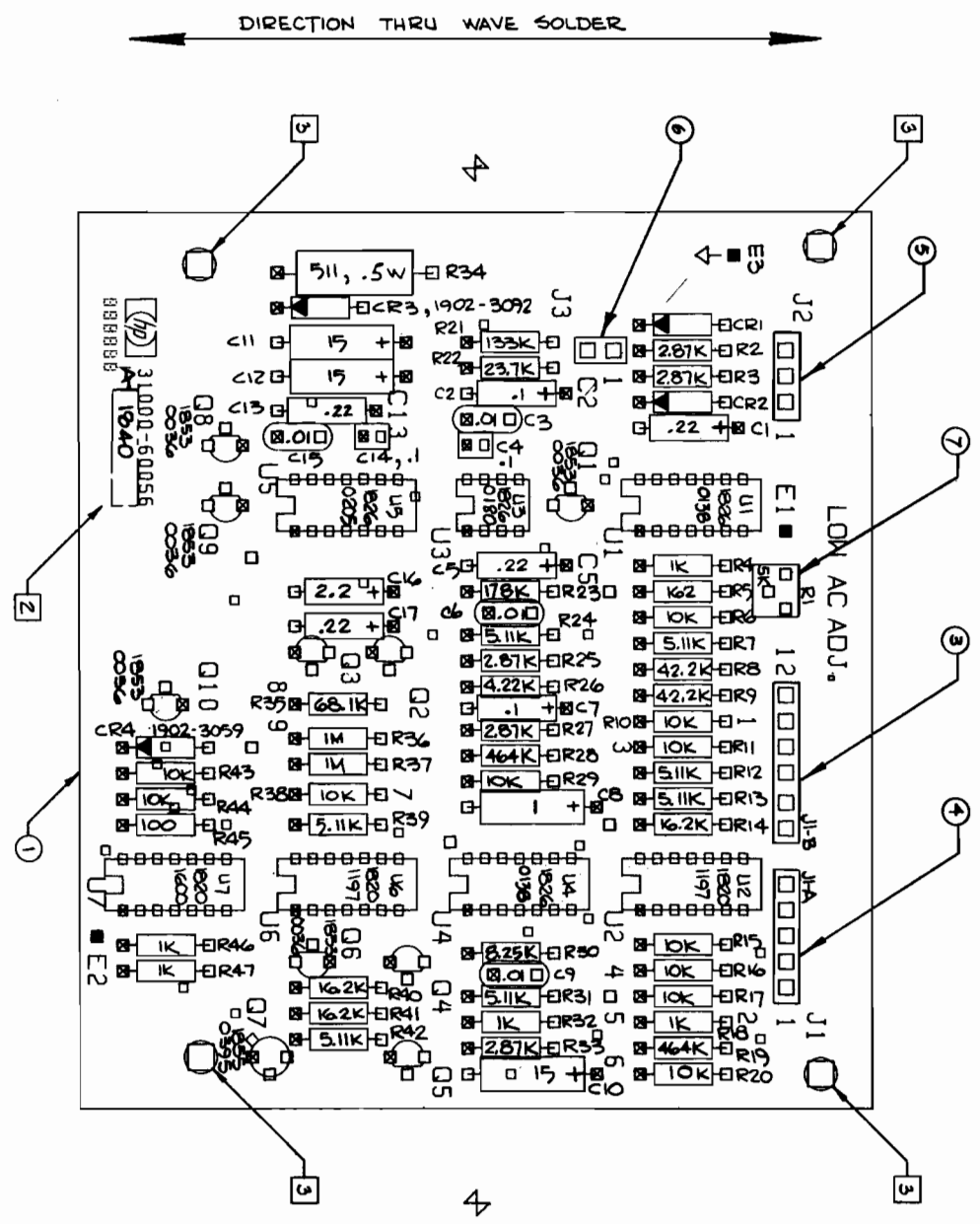
DO NOT SCALE THIS DRAWING	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES: .XX ± .02 .XXX ± .005
SEE COMP. STD. 008	

TITLE	QTY	MATERIAL DESCRIPTION	MAT'L UNIT NO.	MAT'L UNIT NO.
2	1	LABEL WARRANTY PC BOARD, STCHED	7120-6030	31000-60056

TITLE	QTY	MATERIAL DESCRIPTION	MAT'L UNIT NO.	MAT'L UNIT NO.
ASSEMBLY - POWER CONTROL	1		31000-60002	31000-60056
SCALE	2/1			

HEWLETT PACKARD

0-31000-60056-1



- NOTES : UNLESS OTHERWISE SPECIFIED
1. ALL RESISTANCE VALUES ARE IN OHMS ± 1%, 1/4W. ALL CAPACITANCE VALUES ARE IN MICROFARADS. ALL TRANSISTORS ARE 1054-0215. ALL DIODES ARE 1901-0050
 2. MARK DATE CODE
 3. MARK AS INDICATED PRIOR TO WAVE SOLDERING. SERIALIZE IN FINAL ASSEMBLY.
 4. SCHEMATIC : D-31000-60056-6
 5. AT THE MECHANICAL INSPECTION STATION, APPLY ITEM 2 NEAR THE HIP LOGO.

REV	DATE	DESCRIPTION
1	1-25-78	INITIAL DESIGN
2	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
3	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
4	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
5	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
6	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
7	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
8	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
9	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST
10	1-25-78	REVISED TO INCLUDE MECHANICAL DIMENSIONS AND ONE MORE PARTS LIST

7	1	RESISTOR 5K	R1	2100-3752
6	1	CONN POST 2PIN J3	J3	1291-4795
5	1	CONN POST 5PIN J2	J2	1291-4627
4	1	CONN POST 5POS J1A	J1A	1291-3640
3	1	CONN POST TYPE LABEL WAREHOUSE	J1B	1291-3766
2	1	PC BOARD ENCLAVED		31000-60056
1	1			

PROCESS REVIEW
DATE 1-24-78 BY *FLM*

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES
TOLERANCES XX ± .02, XXX ± .008
SEE COM. STD. 008

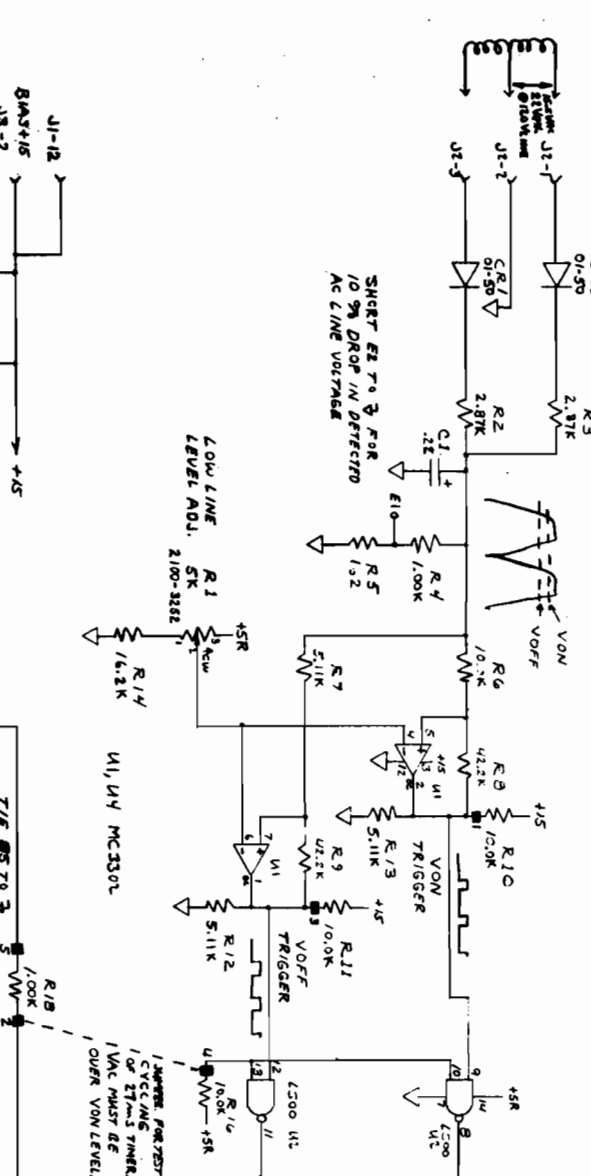
ASSEMBLY FINAL PRINT
- POWER CONTROL
DATE 1-25-78
REV 31000-60056
SCALE 2/1
REWORK 1
REWORK 2

REWORK 1
REWORK 2

REV	DATE	BY	CHKD	APP'D
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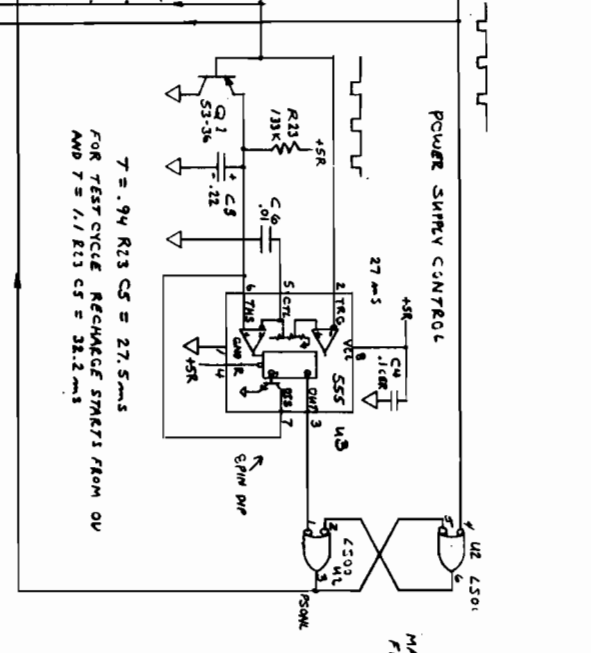
LOW LINE DETECTOR

VAC UNDER VON TURNS MAIN SUPPLY ON AND ALLOWS PFWL AND LATER POWH TO GO HIGH.
 VAC UNDER VOFF CAUSES PFWL AND LATER LATER POWH TO GO LOW.
 VAC UNDER VOFF TURNS OFF MAIN SUPPLY AFTER 27ms.

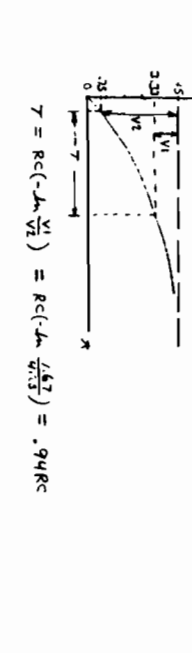
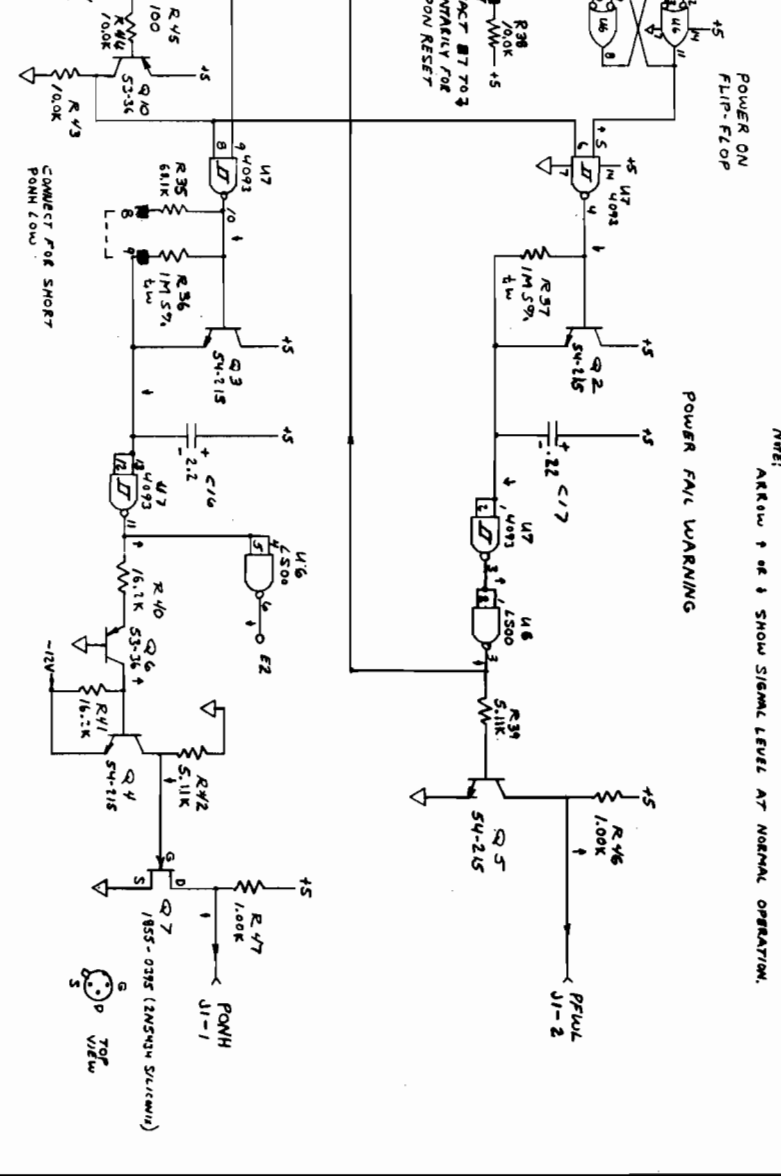
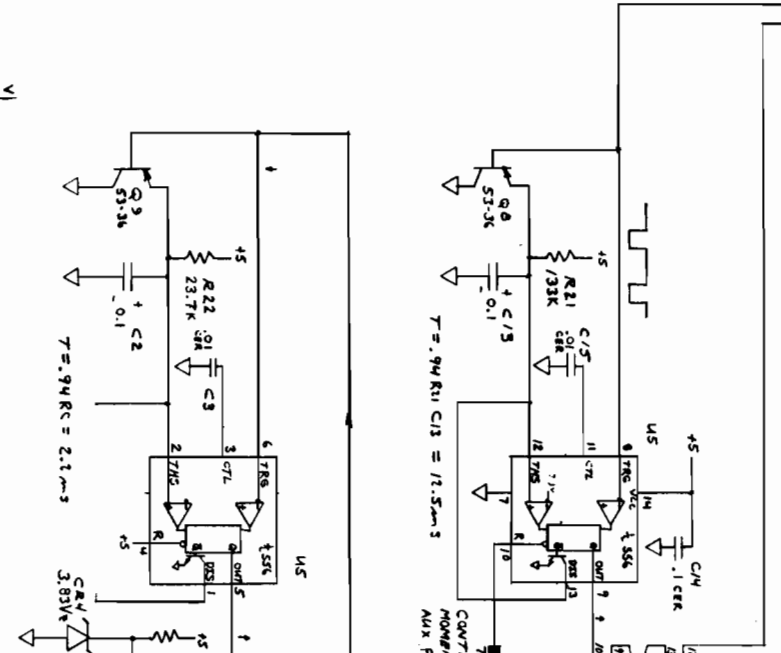
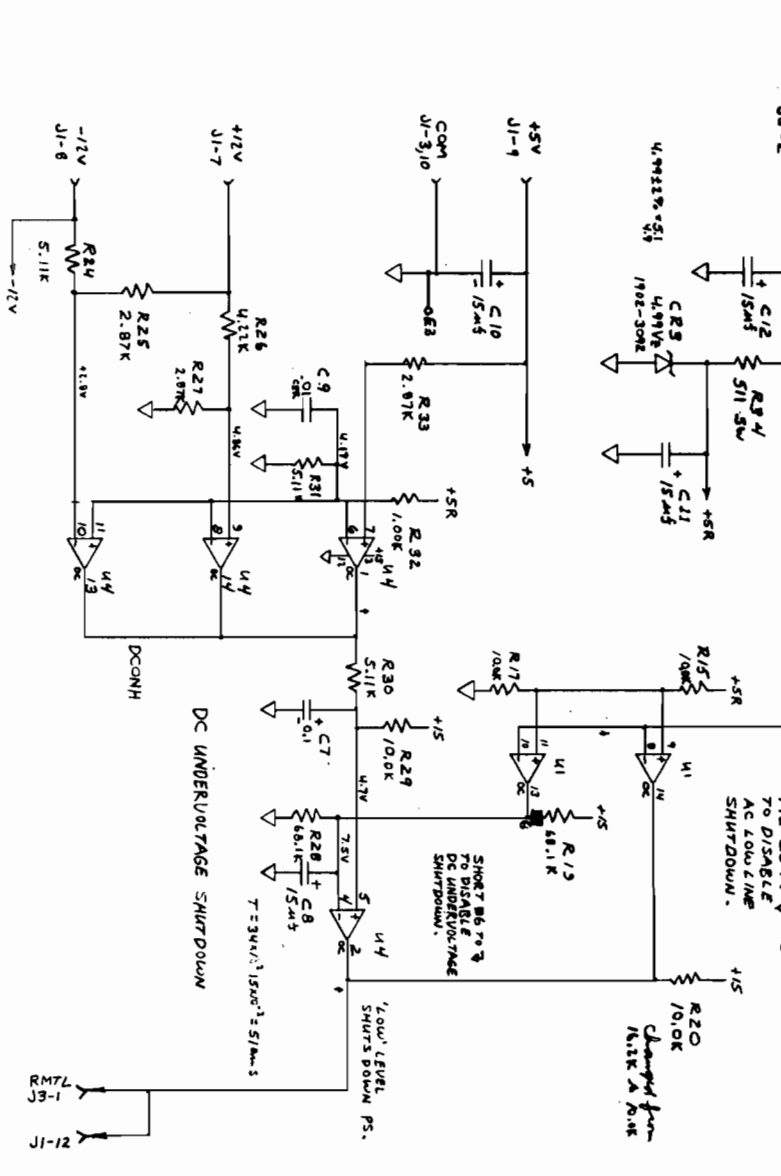


NOTE: 1. ALL RESISTORS $\frac{1}{2}$ W, UNLESS OTHERWISE NOTED.
 2. ALL CAPACITORS IN MICROFARADS.

9. THESE ARE OVERCITE SQUARE RESISTOR PADS WITH NO OTHER TRACES UNDER THE RESISTOR LEAD ON THE COMPONENT SIDE. THESE POINTS ARE USED FOR CLIP LEADS DURING TEST ONLY.

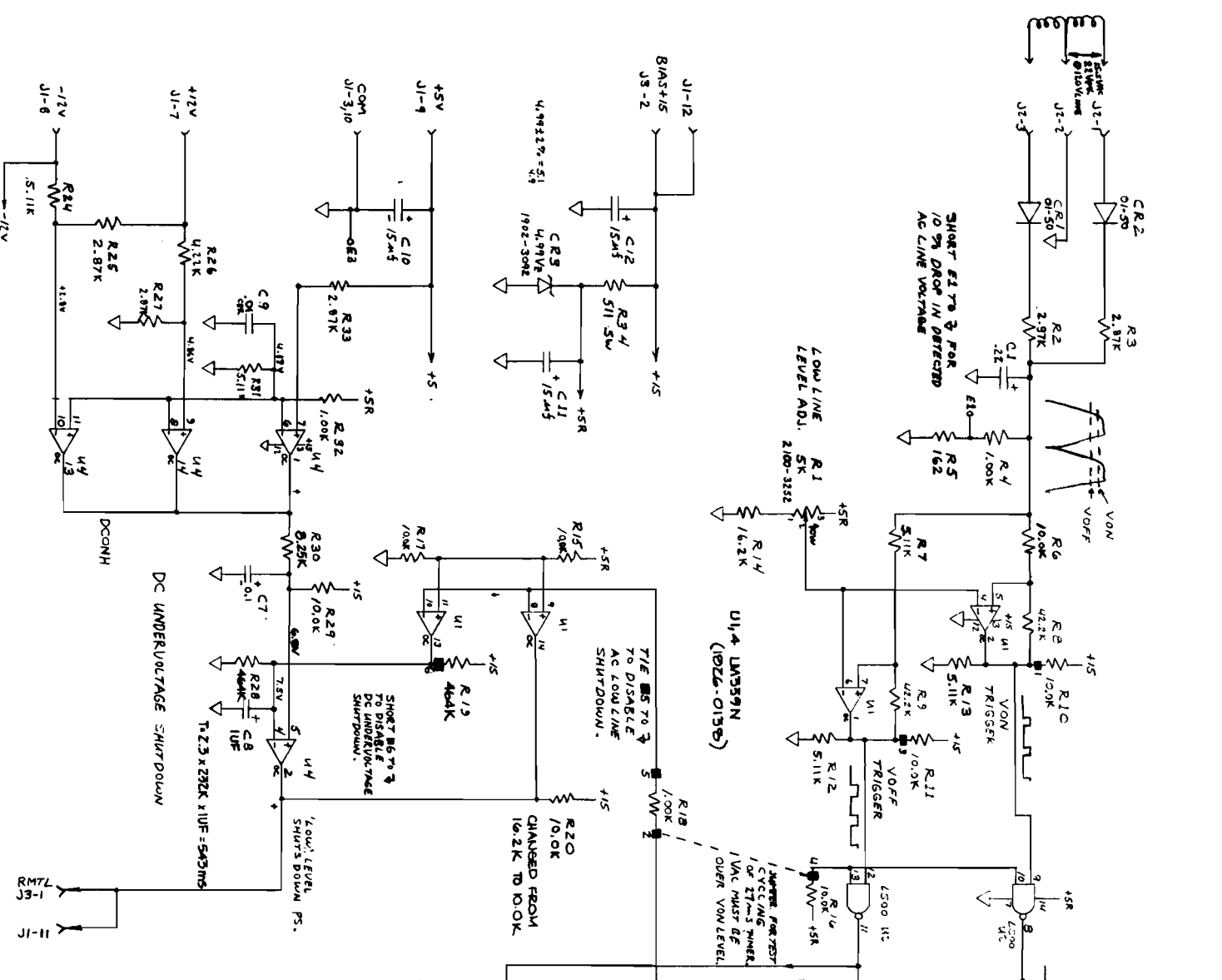


NOTE: FOR TEST CYCLING OF PFWL & POWH, (1) TIE #5 TO # TO DISABLE LOW LINE SHUT-DOWN, AND (2) TIE #2 TO #4. (VAC ABOVE VON) FOR FASTER CYCLING, TIE #8 TO #1. TO ACCURATELY MEASURE ONE-SHOT/TIME DELAY, SET EXTERNAL WAVEFORMS ON TIMING CAPS C5, C13, OR C2. ALL VALUES ARE $\pm 1.0\%$

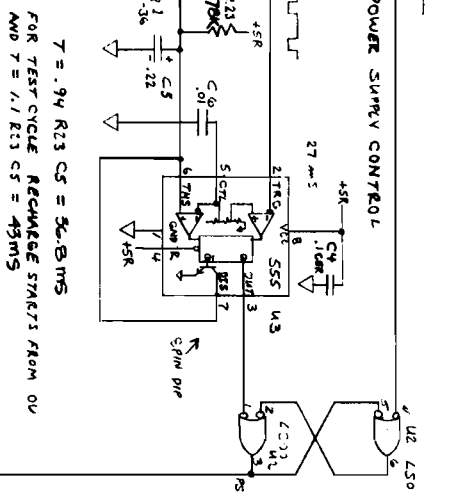


DO NOT SCALE THIS DRAWING	UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES XX ± .02, XXX ± .005. SEE COMP. STG. 608
TITLE	POWER CONTROL SCHEMATIC
DATE	3/10/00-60002
REV	1
DESIGNER	RENEE J. POKORNY
CHECKED	3/10/00-60056
APPROVED	1-31000-60056-6
SCALE	

LOW LINE DETECTOR
 VAC OVER VOLT TURNS MAIN SUPPLY ON AND ALLOWS PFWL
 AND LATER PFWL TO GO HIGH.
 VAC UNDER VOLT CAUSED PFWL AND 2ms LATER PFWL TO GO "LOW".
 VAC UNDER VOLT TURNS OFF MAIN SUPPLY AFTER 57ms.

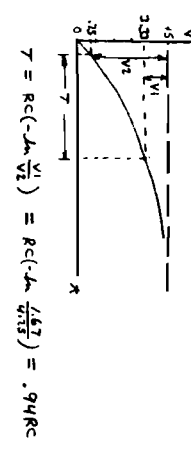
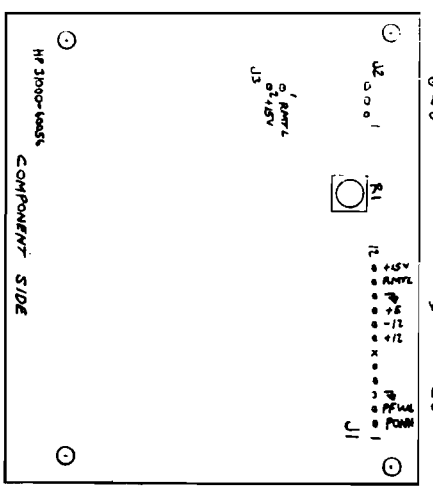
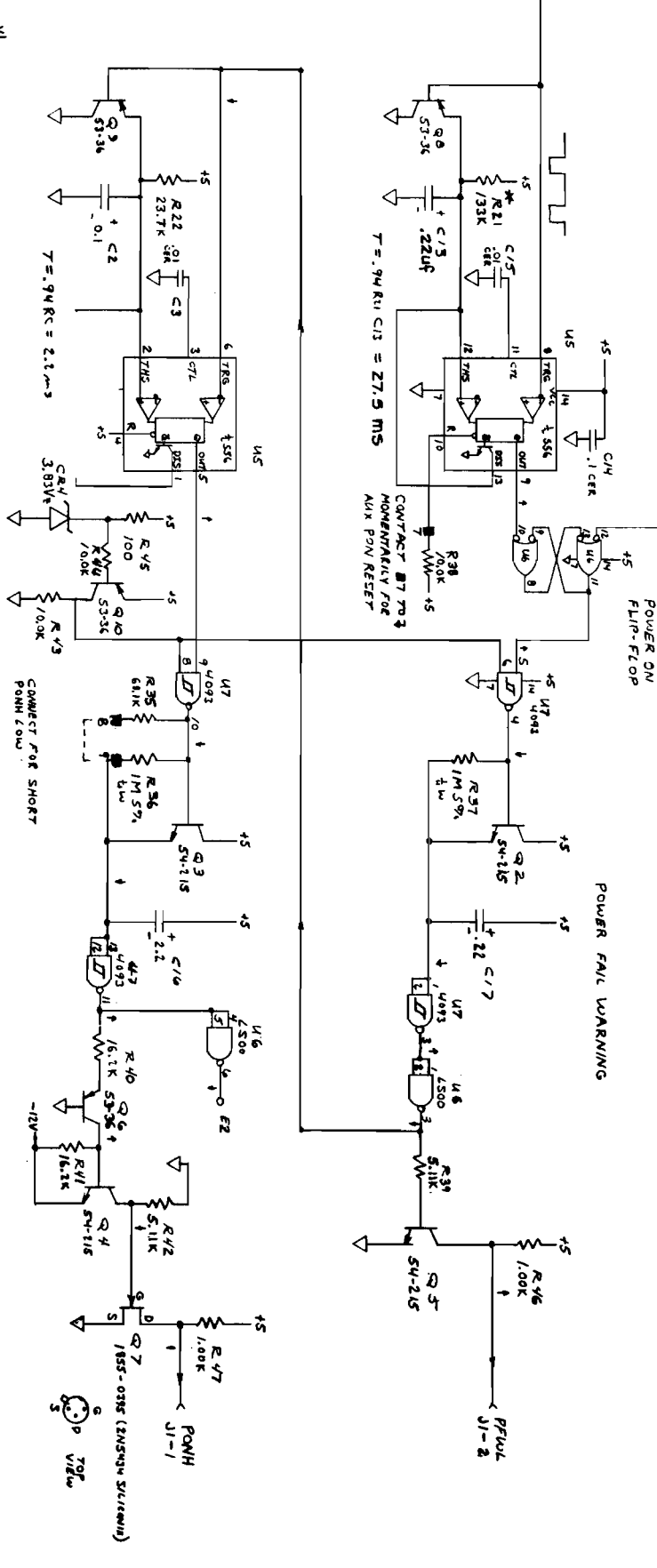


1. ALL RESISTORS 1/4W, 1% UNLESS OTHERWISE SPECIFIED
2. ALL CAPACITANCE IN MICROFARADS
3. WHEN OPERATING THE HPSO SYSTEM WITH INPUT LINE VOLTAGES AT 100 VOLTS OR LOWER, CERTAIN TIMING COMPONENTS ON THIS BOARD MUST BE CHANGED TO ALLOW PROPER SENSING OF LOW LINE CONDITIONS AND RESULTING POWER FAIL WARNING OPERATION. THE CHANGES REQUIRED ARE AS FOLLOWS:
 - R23 121K 0757-0461
 - R21 909K 0757-0464
 CHECK WITH FACTORY SUPPORT PERSONNEL IF OPERATIONS UNDER THESE CONDITIONS ARE SUSPECTED.
4. THERE ARE OVERSIZE SQUARE RESISTOR PADS WITH NO OTHER TRACES UNDER THE RESISTOR LEAD ON THE COMPONENT SIDE. THESE POINTS ARE USED FOR CLIP LEADS DURING TEST DUTY.
5. IF MAIN USE OF THIS ASSY IS UNDER 100VAC LINE CONDITIONS THE FOLLOWING RESISTORS SHOULD BE CHANGED:
 R21 SHOULD BE 90.9K FOR 18.7ms DELAY
 R23 SHOULD BE 121K FOR 24.5ms DELAY



NOTE:
 FOR TEST CYCLING OF PFWL & PFWH,
 (1) TIE S TO 0 TO DISABLE LOW-LINE SHUTDOWN, AND
 (2) TIE E2 TO 0. (VAC ABOVE VON)
 FOR FASTER CYCLING, TIE S TO 0.9.
 TO ACCURATELY MEASURE ONE-SHOTTED TIMING,
 USE EXponential WAVEFORMS ON TIMING
 CAPS C1, C2, OR C3. ALL VALUES ARE ±10%.

NOTE:
 ARROW ↑ or ↓ SHOW SIGNAL LEVEL AT NORMAL OPERATION.



DO NOT SCALE THIS DRAWING		UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES: XX ± .02, XXX ± .008	
DATE	REV.	MATERIAL DESCRIPTION	QUANTITY
		POWER CONTROL SCHEMATIC	
3/10/00-60002		REWORK PACKAGE	
3/10/00-60056			
3/10/00-60056-6			

MATERIAL LIST

HEWLETT PACKARD		DESCRIPTION		PCB-POWER CNTRL	ISSUE DATE	MODEL OR ASSEMBLY NUMBER	REVISION NUMBER	DATE	DRIVER TO
YIELD	QTY	UNIT	DESCRIPTION	PART NO	DATE	MODEL	REV	DATE	DRIVER TO
			03DATE CODE 1040			31000-60056	76-10-17	1976-10-17	7436568
			01DIV 47						
			02DIV 50						
			01C3,6,9,15	CAP .01UF 100V C	0160-2055				
			01C4,14	CAP .1UF 50V CER	0160-4685				
			01C16	CAP 2.2UF 20V TA	0160-0197				
			01C0	CAP 1.0UF 35V TA	0180-0291				
			01C1,5,13,17	CAP .22UF 35V TA	0160-1735				
			01C2,7	CAP .1UF 35V TA	0180-1743				
			01C10-12	CAP 15UF 20V TA	0180-1746				
			01E1-3	TERM-STUD SGL	0360-1682				
			01R36,37	RES 1M 5% .25W	0663-1055				
			01R2,3,25,27,33	RES 2.87K 1%,125	0698-3151				
			01R26	RES 4.22K 1%,125	0698-3154				
			01R22	RES 23.7K 1%,125	0698-3158				
			01R23	RES 178K 1%,125M	0698-3243				
			01R19,28	RES 464K 1%,125M	0698-3260				
			01R0,9	RES 42.2K 1%,125	0698-3450				
			01R21	RES 133K 1%,125M	0698-3451				
			01R4,16,35,46,47	RES 1.0K 1%,125M	0757-0280				

MATERIAL LIST

HEWLETT PACKARD		DESCRIPTION		PCB-POWER CNTRL	ISSUE DATE	MODEL OR ASSEMBLY NUMBER	REVISION NUMBER	DATE	DRIVER TO
YIELD	QTY	UNIT	DESCRIPTION	PART NO	DATE	MODEL	REV	DATE	DRIVER TO
			01R45	RES 100 1% .125M	0757-0401				
			01R5	RES 162 1% .125M	0757-0405				
			01R7,12,13,24,31,32,39,42	RES 5.11K 1%,125	0757-0436				
			01R30	RES 8.25K 1%,12M	0757-0441				
			01R6,10,11,15-17,20,22,29,36,43,44	RES 10K 1% .125	0757-0442				
			01R14,40,41	RES 16.2K 1%,125	0757-0447				
			01R35	RES 68.1K 1%,125	0757-0461				
			01R34	RES 511 1% .5W	0757-0814				
			01J18	CONN POST 6M RA	1251-3766				
			01J1A	CONN POST 5M RA	1251-3846				
			01J2	CONN POST 3M RA	1251-4627				
			01J3	CONN POST 2M RA	1251-4795				
			01J2,6	IC SN74L800N S	1820-1197-47				
			01U7	IC CD4093BV S	1820-1600-47				
			01U1,4	IC LM339 Q C/PTR	1826-0138				
			01U3	IC NESS5V TIME	1826-0180				
			01U5	IC 556 DUAL TIM	1826-0205				
			XSTR 2N3906 PLE	XSTR 2N3906 PLE	1853-0036				

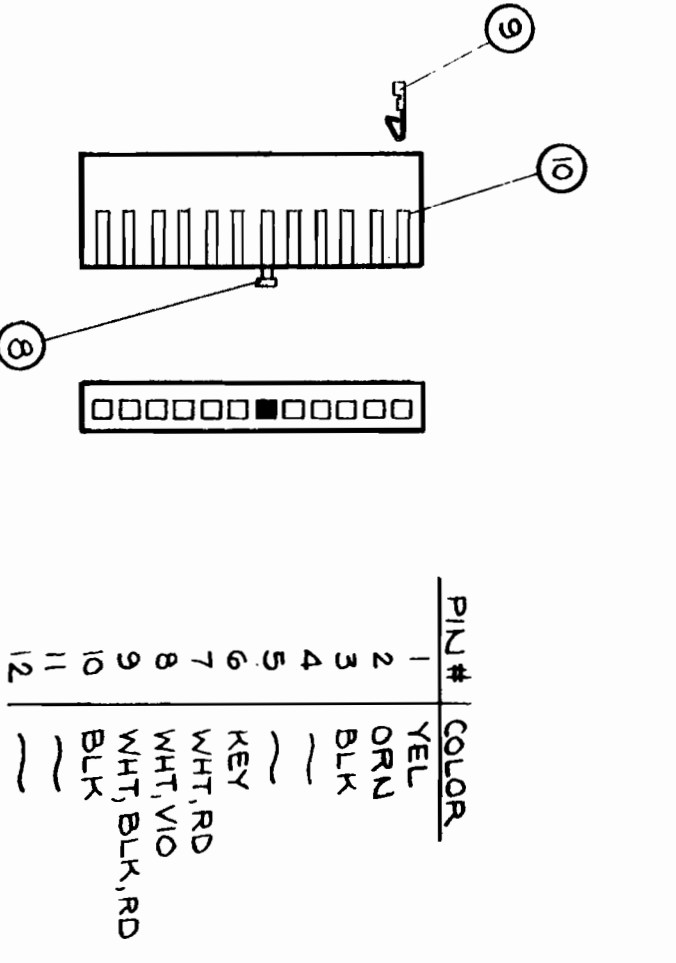
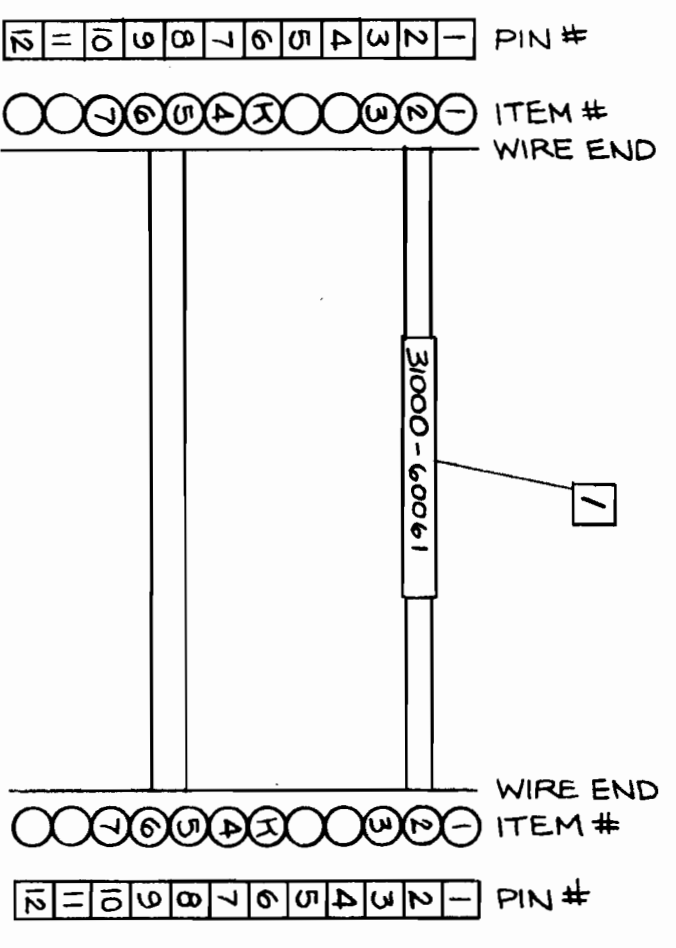
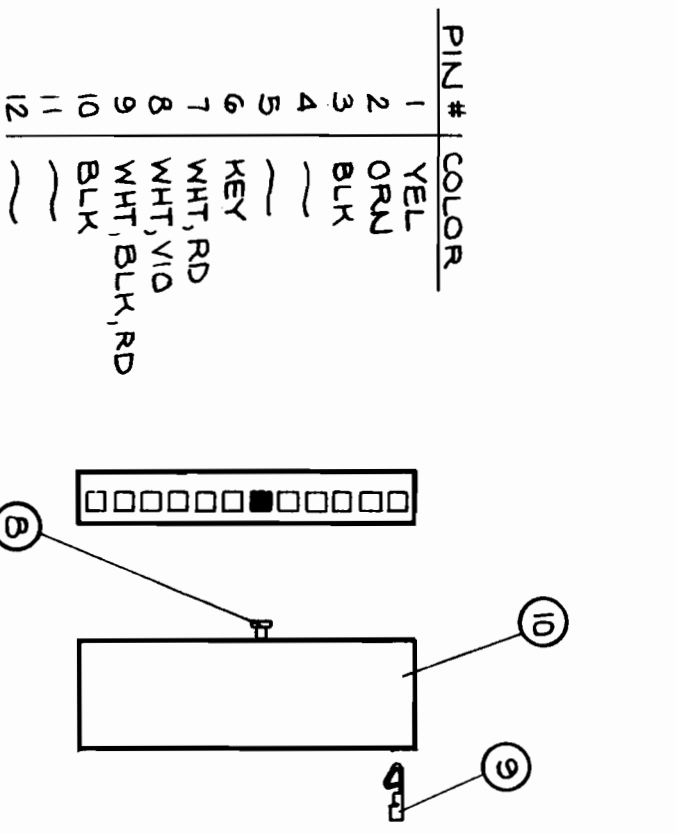
MATERIAL LIST

HEWLETT PACKARD		DESCRIPTION		PCB-POWER CNTRL	ISSUE DATE	MODEL OR ASSEMBLY NUMBER	REVISION NUMBER	DATE	DRIVER TO
YIELD	QTY	UNIT	DESCRIPTION	PART NO	DATE	MODEL	REV	DATE	DRIVER TO
			0101,6,8-10	PART NO CONT	1853-0036				
			0102-5	XSTR 2N3904 PLS	1854-0215				
			0107	FET 2N5434	1855-0395				
			01CR1,2	DIO 75V .2A ZNS	1901-0050				
			01CR4	DIO ZNR 3.83V 5K	1902-3059				
			01CR3	DIO ZNR 4.99V 2K	1902-3092				
			01R1	RES TRMR 5K 101	2100-3252				
				LABEL-DATE CODE	7120-6830				
				PCB-POWER CNTRL	31000-60056				

END OF MATERIAL LIST

REF A-2 (WIRE LIST)

ENGINEERING RESPONSIBILITY															SEP/A															SYM		REVISIONS		APPROVED		DATE														
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	A	A5 ISSUED	PRCR 31213A "R"	<i>[Signature]</i>	11/23-77
																																								B-31000-60061-1										



NOTES:

- MARK PART NUMBER (31000-60061) ON TUBING & SHRINK ONTO CABLE AS SHOWN.
- STRIP ALL WIRES .12" (1/8").

ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
11	2'	SHRINK TUBING, 1/4" DIA	0890-0312		
10	2	MOLEX CONNECTORS, 12 PIN	1251-3279		
9	14	CONTACTS	1251-0670		
8	2	POLARIZING KEY	1251-0627		
7	3.5"	WIRE 22 GA, BLK	8150-1540		
6	3.5"	WIRE 22 GA, WHT, BLK, RD	8150-1540		
5	3.5"	WIRE 22 GA, WHT, VIO	8150-1557		
4	3.5"	WIRE 22 GA, WHT, RD	8150-1552		
3	3.5"	WIRE 22 GA, BLK	8150-1540		
2	3.5"	WIRE 22 GA, YEL	8150-1544		
1	3.5"	WIRE 22 GA, ORN	8150-1543		

PROCESS REVIEW
DATE 12-5-77 BY *Pat Wright*

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .005
SEE CORP. STD. 608

ENGINEER
RELEASE TO PROD.
SUPERSEDES DWG.

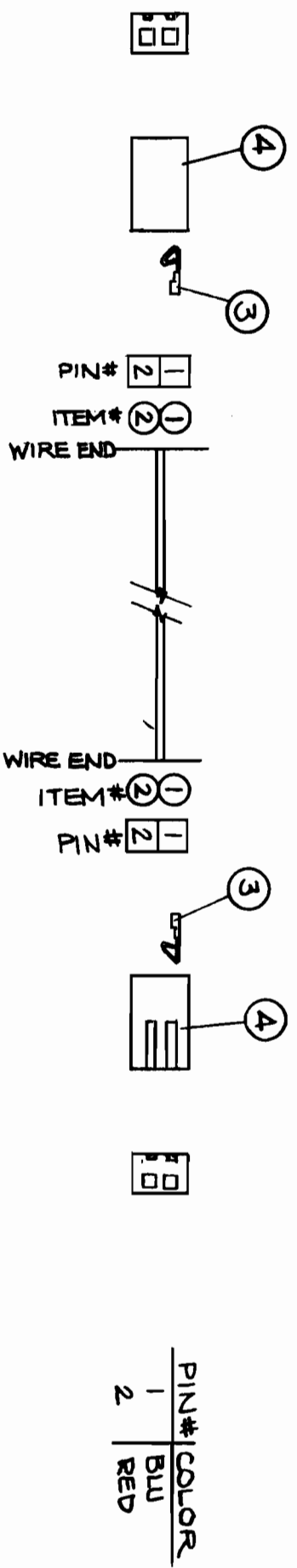
TITLE
POWER CONTROL CABLE
31213A

HEWLETT PACKARD
PART NUMBER
31000-60061
B-31000-60061-1

REF DWG: A-2 (WIRE LIST)

ENGINEERING RESPONSIBILITY															SERIAL		SYN		REVISIONS		APPROVED		DATE	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			A	B					
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			AS ISSUED FROM 31213A "R"				11-29-77		
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47			REVERSE PORTIONS OF ITEMS 1 & 2 PCAT-2065				8-31-78		

PIN#	COLOR
1	BLU
2	RED



ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG. NO.	MAT'L-SPEC.
4	2	CONNECTOR 2 PIN	1251-3613		
3	4	CONTACTS	1251-0670		
2	5.5"	WIRE; 22 GA; RED	8150-1542		
1	5.5"	WIRE; 22 GA; BLU	8150-1546		

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .005
SEE CORP. STD. 808

PERM. PRINT
REMOTE LOW POWER CABLE

HEWLETT PACKARD

DATE 12-5-77 BY Pat Wright

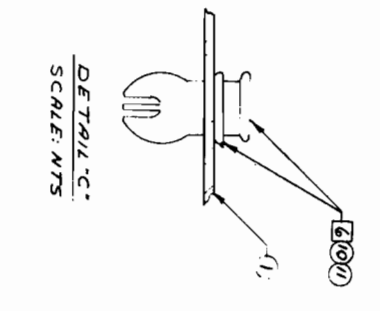
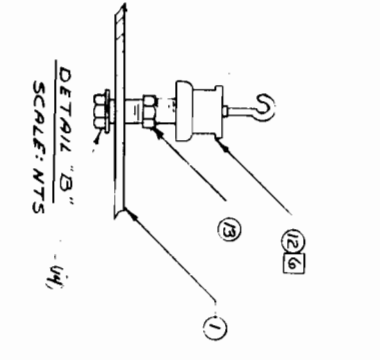
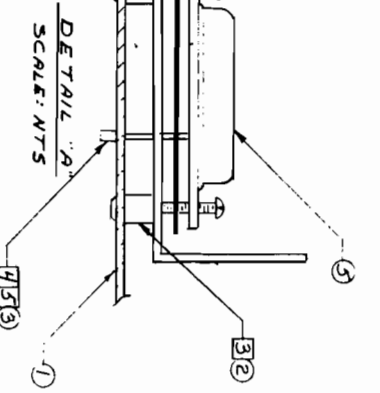
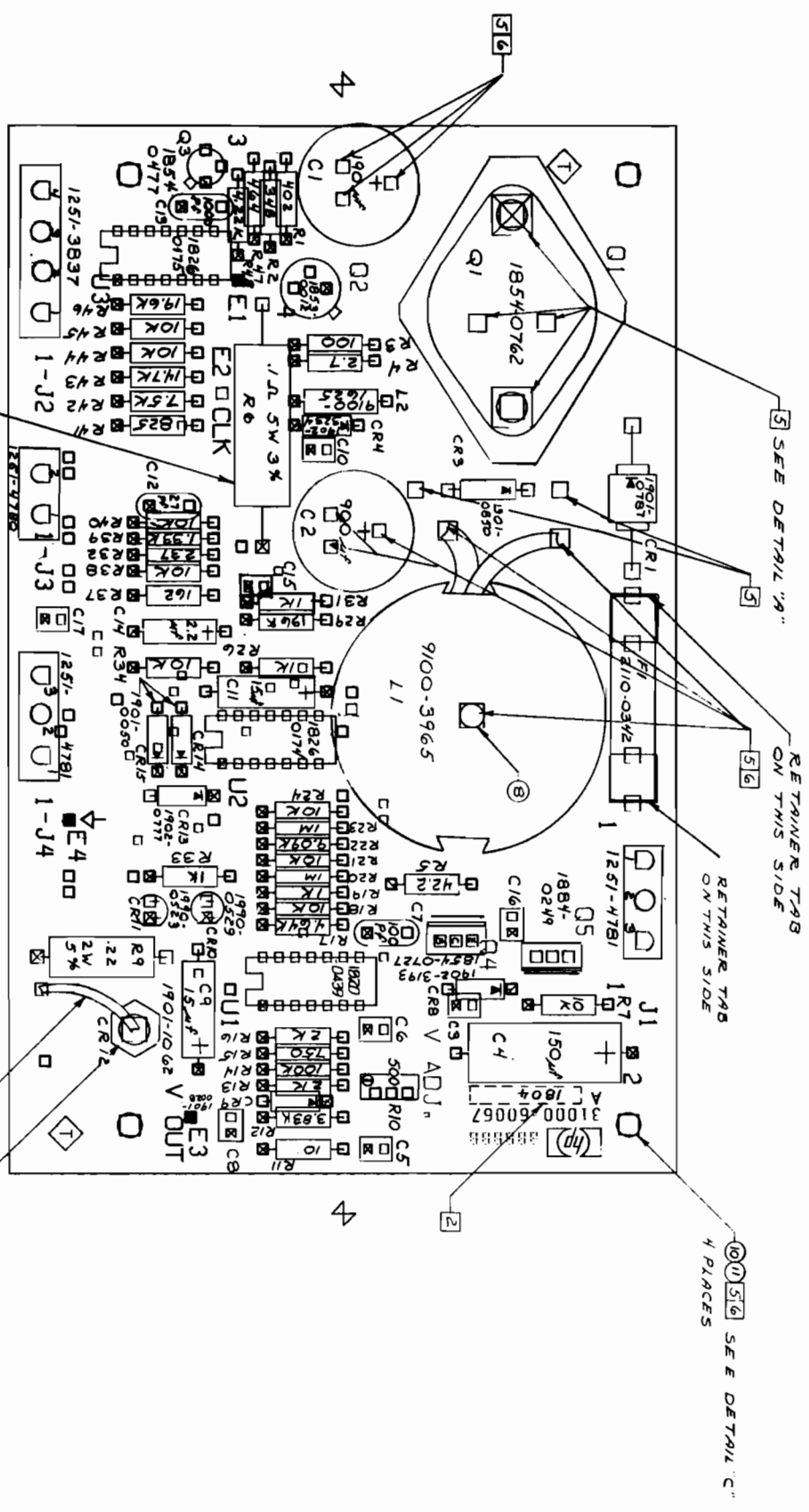
PROCESS REVIEW

31000-60002

31000-60063

B-31000-60063-1

DIRECTION THRU SOLDER WAVE

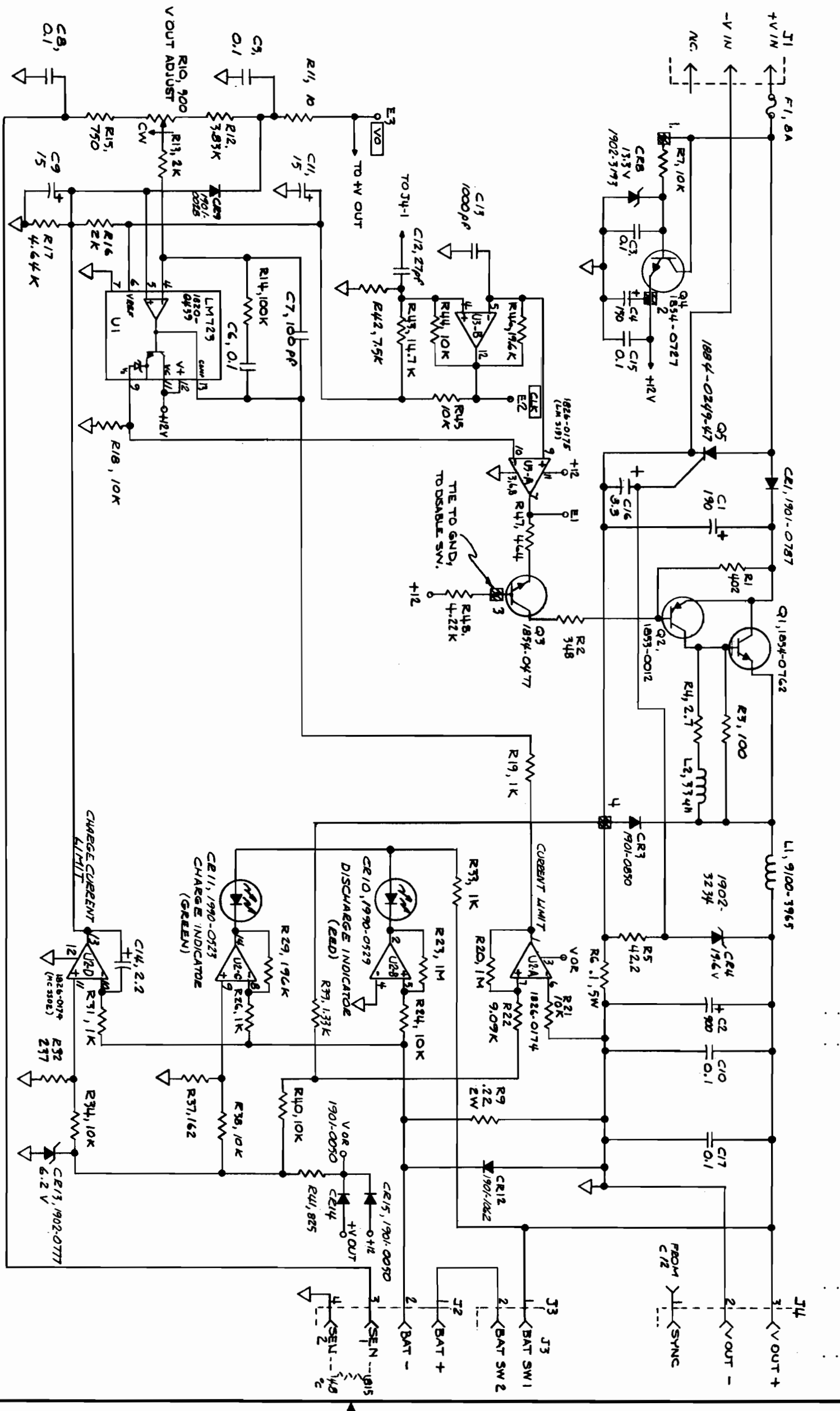


- NOTES:
- UNLESS OTHERWISE SPECIFIED: ALL RESISTANCE IN OHMS ALL RESISTORS 1/4W, 1% ALL CAPACITANCE IN MICROFARADS ALL CAPACITORS .1MICROFARADS
 - MARK DATE CODE
 - INSTALL ITEM 2 PLACES
 - INSTALL IN FORMING
 - INSTALL AS INDICATED PRIOR TO LOADING
 - INSTALL L1, F1C1, C2 & CR12 AND ITEMS 7 & 8 IN P.C. FINAL ASSEMBLY
 - SERIALIZE BOARD IN P.C. FINAL ASSEMBLY
 - SCHEMATIC C-31000-60067-6
 - AT THE MECHANICAL INSPECTION STATION, APPLY ITEM 9 NEAR THE HP LOGO.

ITEM	QTY	DESCRIPTION	DATE	BY
16	1	LABEL WARRANTY	7/20-6830	
15	1	WIRE 1/8 AWG 1/4" LMT	8450-2864	
14	1	NUT, 10-32 W/LOCK	2740-0003	
13	1	NUT, 10-32	2740-0002	
12	1	DIODE, CR12	1901-1062	
11	4	SWP-IN GROMMET	1590-0366	
10	4	SWP-IN PLUNGER	390-0365	
9	2	FUSE CLIP .250 D/4	210-0269	
8	1	NUT 6-32 W/LK	2420-0001	
7	2	SCR #6-32X.375 LG	2360-0117	
6	1	HEAT SINK	1205-0289	
5	1	TRANSISTOR, Q1	12540762	
4	1	WASHER	0340-0875	
3	2	CONNECTOR, 56L	1251-2915	
2	2	SPACER, TAP X 6 X .125"	0380-0342	
1	1	P.C. BOARD, ETCHED	3100060067	

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
 TOLERANCES: .XX ± .02 .XXX ± .008
 SEE COMP. STD. 008
 PROCESS REVIEW
 DATE 2-9-78 BY RALW/...
 HEWLETT PACKARD
 31000-60067-1
 SHEET 1 OF 1

DESIGNED BY	APPROVED
DATE	DATE
REVISED	REVISED
BY	BY
DATE	DATE
REVISED	REVISED
BY	BY
DATE	DATE



NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS $\frac{1}{8}$ W $\pm 1\%$
ALL CAPACITANCE IN MICRO FARADS

DO NOT SCALE THIS DRAWING	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02 .XXX ± .006	
ITEM	QTY.
MATERIAL DESCRIPTION	MAT'L PART NO.
MATERIAL DESCRIPTION	MAT'L PART NO.
TITLE 31000-60002	
NEXT ASSEMBLY PART NUMBER 31000-60067	
PRINTER	SCALE NONE
SUPERVISOR'S SIGNATURE	
HEWLETT PACKARD	
PART NUMBER 31000-60067-6	
SHEET 1 OF 1	

MATERIAL LIST

HEWLETT PACKARD

DESCRIPTION		FOR NUMBER		MODEL OR ASSEMBLY NUMBER		OPTION	
REV	DATE	REV	DATE	REV	DATE	REV	DATE
17	25 F	99-09-09		11000-60007	18-08-24	Y	4783556
PCAMEM PEREG							
03DATE CODE 1833							
0101V 47							
0201V 50							
0301V 50							
01C13	CAP 1000PF 5X	0160-0938		U	1		
01C13	CAP 1000PF 5X	0160-2204		U	1		
01C17	CAP 100PF 5X	0160-2306		U	1		
01C12	CAP 27PF 5X 100V	0160-4685		U	7		
01C3,4,5,6,10,15,17	CAP .1UF 50V CER	0180-0197		U	1		
01C14	CAP 2.2UF 20V TA	0180-1747		U	1		
01C16	CAP 3.3UF 15V TA	0180-0210		U	1		
01C9,11	CAP 15UF 20V TA	0180-1746		U	2		
01C4	CAP 150UF 15V TA	0180-2755		U	1		
01C2	CAP 900UF 25V AL	0180-2761		U	1		
01C1	CAP 190UF 75V AL	0340-0875		U	1		
01E1-4	INSUL-XSTR T0-3	0360-1682		U	4		
	TERM-STUD SGL	0360-0342		U	2		
	STDF RVT6-32X.12	0683-0275		U	1		
	RES 2.7 5X .25W	0683-1055		U	2		
	RES 1W 5X .25W	0698-0082		U	1		
	RES 464 1X .125	0698-3153		U	1		
	RES 3.03K 1X.125	0698-3154		U	1		
	RES 4.22K 1X.125			U	1		

MATERIAL LIST

HEWLETT PACKARD

DESCRIPTION		FOR NUMBER		MODEL OR ASSEMBLY NUMBER		OPTION	
REV	DATE	REV	DATE	REV	DATE	REV	DATE
17	25 F	99-09-09		11000-60007	18-08-24	Y	4783556
PCAMEM PEREG							
PART NO CONT							
01R48	RES 4.64K 1X.125	0698-3155		U	1		
01R17	RES 14.7K 1X.125	0698-3156		U	1		
01R43	RES 19.0K 1X.125	0698-3157		U	1		
01R46	RES 237 1X .125W	0698-3442		U	1		
01R32	RES 348 1X .125W	0698-3445		U	1		
01R2	RES 196K 1X.125W	0698-3453		U	1		
01R29	RES 402 1X .125W	0698-4453		U	1		
01R1	RES 1.0K 1X.125W	0757-0280		U	4		
01R19,26,31,33	RES 2.0K 1X.125W	0757-0283		U	2		
01R13,10	RES 9.09K 1X.125	0757-0286		U	1		
01R22	RES 42.2 1X.125W	0757-0316		U	1		
01R5	RES 1.33K 1X.125	0757-0317		U	1		
01R39	RES 10 1X .125W	0757-0346		U	1		
01R11	RES 100 1X .125W	0757-0401		U	1		
01R3	RES 162 1X .125W	0757-0405		U	1		
01R37	RES 750 1X .125W	0757-0420		U	1		
01R15	RES 825 1X .125W	0757-0421		U	1		
01R41	RES 7.5K 1X.125W	0757-0440		U	1		

MATERIAL LIST

HEWLETT PACKARD

DESCRIPTION		FOR NUMBER		MODEL OR ASSEMBLY NUMBER		OPTION	
REV	DATE	REV	DATE	REV	DATE	REV	DATE
17	25 F	99-09-09		11000-60007	18-08-24	Y	4783556
PCAMEM PEREG							
PART NO CONT							
01R42	RES 10K 1X .125	0757-0442		U	9		
01R7,18,21,24,34,38, 280,44,85	RES .1 3X 5W PV	0811-2490		U	1		
01R14	RES 100K 1X.125W	0811-3294		U	1		
01R6	RES .22 5X 2- PW	1205-0269		U	1		
01R9	HT DIS T0-03	1251-2913		U	2		
01R2	CONN UTIL 4PTIN M	1251-3637		U	1		
01J3	CONN UTIL 2PTIN M	1251-4760		U	1		
01J1,4	CONN UTIL 3PTIN M	1251-4761		U	2		
	SNAP-IN PLUNGER	1390-0365		U	4		
	SNAP-IN GRWNET	1390-0366		U	4		
	IC U67723393 S	1620-0439-47		U	1		
	IC MC3302 S	1626-0174-47		U	1		
	IC LM319N CMPTR	1626-0175		U	1		
	KSTR 2N2904A T05	1653-0012		U	1		
	KSTR 2N2222A1018	1654-0477		U	1		
	KSTR 2N6474	1654-0727		U	1		
	KSTR 2N5039 T036	1654-0762-47		U	1		
	SCR 2N6398 S	1660-0299-47		U	1		

MATERIAL LIST

HEWLETT
PACKARD

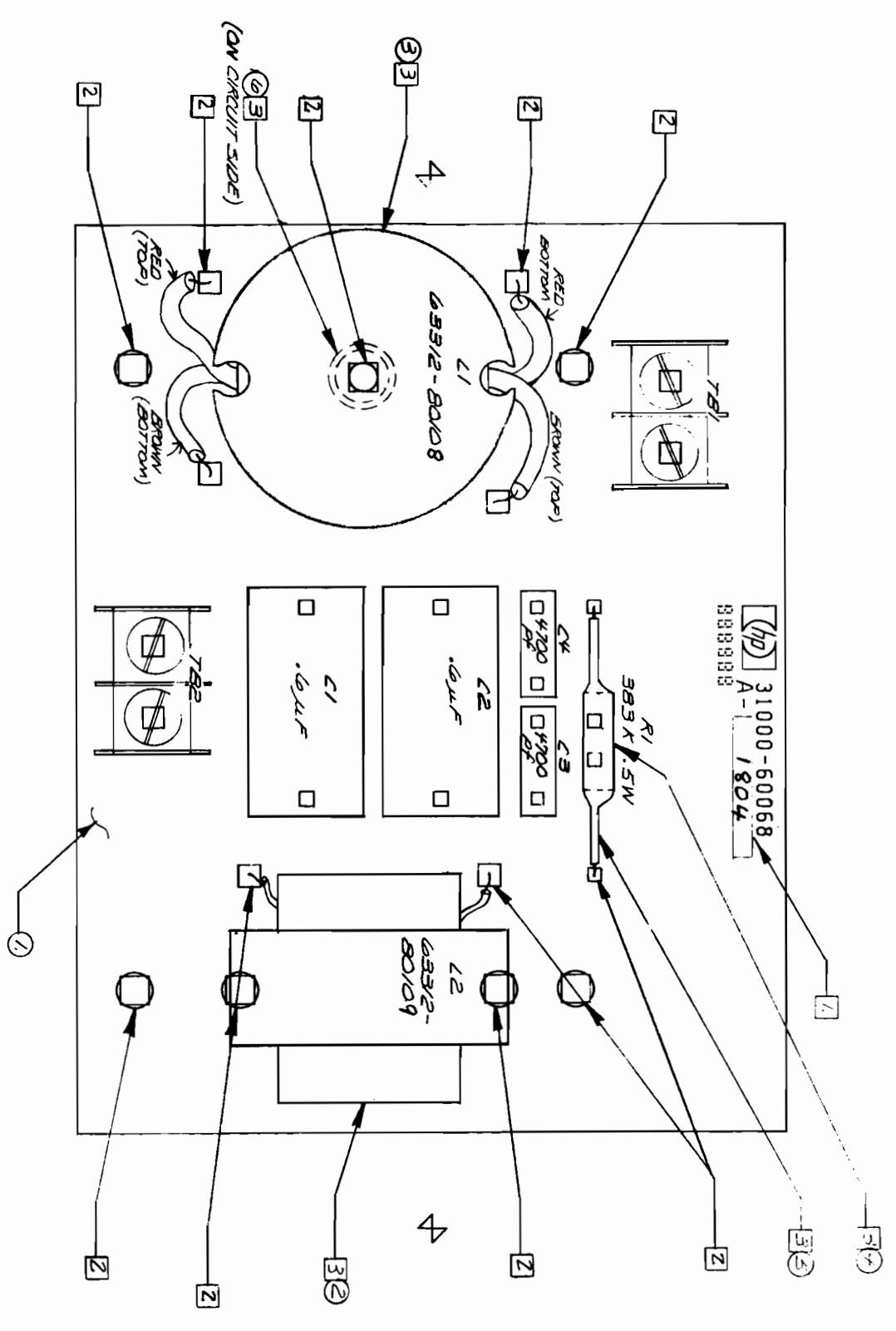
DESCRIPTION		FOR NUMBER	MODEL OR ASSEMBLY NUMBER	OPTION	PG#	QTY
PCB-MEM PREREG		RELISE DATE	11000-60007		4	OF
BY: S L F		DATE	15-08-24		15-08-24	
BY: S L F		DATE	15-08-24		15-08-24	
0105	PART NO CONT	1884-0289-47				
01CR9	DIO 400V .75A	1901-0026			1	
01CR14,15	DIO 75V .2A 2NS	1901-0050			2	
01CR1	DIO 600V 6A	1901-0787			1	
01CR3	DIO 50V 6A	1901-0850			1	
01CR12	DIO 20V 25A	1901-1062			1	
01CR13	DIO ZNR 6.2V 5A	1902-0777			1	
01CR8	DIO ZNR 13.3V 5A	1902-3193			1	
01CR4	DIO ZNR 19.6V 5A	1902-3234			1	
01CR11	LED GRN T1.75	1990-0523			1	
01CR10	LED RED T1.3.75	1990-0529			1	
01R10	RES TRMR 500K10%	2100-3617			1	
	FUSE CLIP .250D	2110-0269			2	
	FUSE 8A NB	2110-0342			1	
	SCR 6-32X.38 PH	2360-0117			2	
	NUT 6-32 W/LK	2420-0001			1	
	NUT 10-32 .375AF	2740-0002			1	
	NUT 10-32 W/LK	2740-0003			1	
	CTG CLR	6010-0140			.001	
	LABFL-DATE CODE	7120-6830			1	
	WIRE 18 WHT	8150-2664			.10 FT	
	COIL 33.0 UH	9100-1625			1	
	PART NO CONT					

MATERIAL LIST

HEWLETT
PACKARD

DESCRIPTION		FOR NUMBER	MODEL OR ASSEMBLY NUMBER	OPTION	PG#	QTY
PCB-MEM PREREG		RELISE DATE	11000-60007		5	OF
BY: S L F		DATE	15-08-24		15-08-24	
BY: S L F		DATE	15-08-24		15-08-24	
01L2	PART NO CONT	9100-1625				
01L1	CHOKE	9100-3965			1	
	PCB-MEM PREREG	31000-60067			1	
END OF MATERIAL LIST						

ENGINEERING RESPONSIBILITY		SERIAL															REV	REVISIONS	3-31000-60068-1	APPROVED	DATE
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	A	AS ISSUED	2-15-78	2-15-78		



NOTES:

- 1 APPLY DATE CODE
- 2 MASK AS INDICATED PRIOR TO LOADING
- 3 INSTALL ITEMS (2) AND (3) ON REVERSE SIDE
- 4 SCHEMATIC D-31000-60002-6
- 5 AT THE MECHANICAL INSPECTION STATION, APPLY ITEM 7 NEAR THE HP LOGO.

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L QTY NO.	MAT'L QTY
7	1	LABEL - WARRANTY	7120-6830		
6	1	#8 EXPOSE W/LEK WSHR	250-0095		
5	1	TUESDAY MET SHANK	0890-0911	1.4" L.G.	
4	1	RESISTOR, 583K, 1/2W	0257-0233		
3	1	CHOKE ON FOTCORE	693E-8008		
2	1	CHOKE CORE BODDY	633E-8010		
1	1	PC BOARD, ETCHED	3100-80068		

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES,
TOLERANCES .XX ± .02 .XXX ± .005
SEE COMP. STD. 608

RELIEF TO PROC.

PC/B
LIME CYL/TEK
R55Y

31000-60002

31000-60068

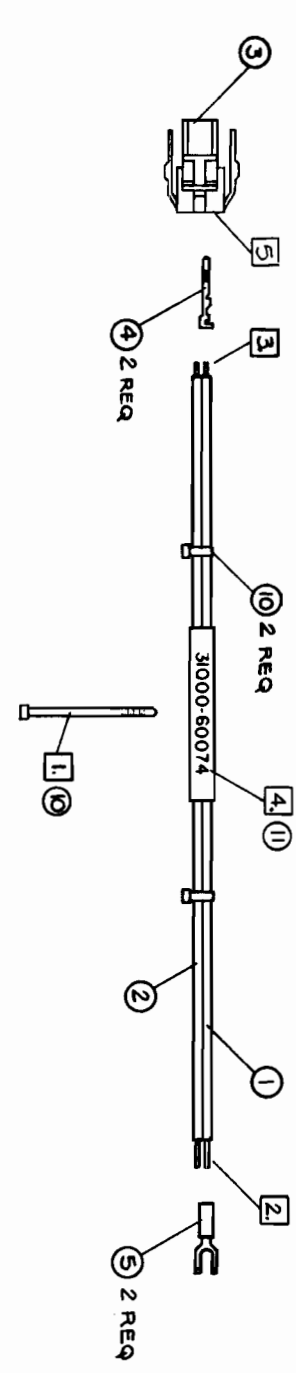
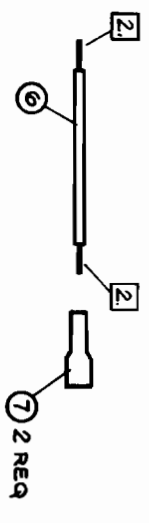
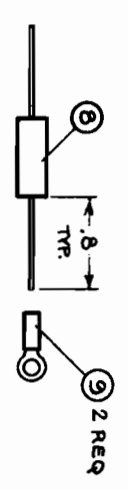
3-31000-60068-1

PROCESS REVIEW
DATE 1-25-78 BY Pat Wright

MATERIAL LIST
HEWLETT PACKARD

DESCRIPTION		FOR NUMBER	MODEL OR ASSEMBLY NUMBER	OPTION	PAGE	1 OF
QTY	UNIT	REL. DATE			1	
PC-A LINE FILTER						
17	LT	89-09-09	11000-6000A		8-08-24	1
PC-A LINE FILTER						
2	U	0160-4413				
CAP .6UF 250VAC						
2	U	0160-4439				
CAP 4700PF 20X						
2	U	0360-1909				
DLK BARR 2X1 20A						
1	U	0757-0133				
RES 383X 1X .5W						
1	U	2510-0045				
OCR 8-32X.78 PM						
1	U	7120-6630				
LABEL-DATE CODE						
1	U	81000-8006A				
PCR-LINE FILTER						
1	U	83312-8010B				
CHOKE CM POTCORE						
1	U	83312-80109				
CHOKE E COREFOUM						
1	U					
END OF MATERIAL LIST						

ENGINEERING RESPONSIBILITY																	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
36	37	38	39	40													
APPROVED DATE 7-8-78																	
BY BJS																	
DATE 2-17-78																	
REVISED DATE																	
AS ISSUED																	
ADDED ITEM 11 NOTE 4/SPECR 3103'EN																	
BY BJS																	
DATE 2-17-78																	



NOTES:

1. FASTEN THE THREE CABLES TOGETHER WITH A CABLE TIE.
2. STRIP WIRE .25"
3. STRIP WIRE .125"
4. MARK HP PART NUMBER (31000-60074) ONTO TUBING AND HEATSHRINK ONTO CABLE.
5. EITHER WIRE ① OR ② MAY GO INTO PIN 1

11	1.5"	SHRINK TUBING	0890-0029		
10	3	CABLE TIE	1400-0249		
9	2	LU6 CLOSED END RED	0362-0319		
8	1	RESISTOR .47K Ω	0764-0016		
7	2	LU6 FASTON RED	0362-0467		
6	2	WIRE 18GA BLK	0150-2890		
5	2	LU6 - OPEN END RED	0362-0317		
4	2	CONTACT	1251-0613		
3	1	CONNECTOR AMP	1251-4126		
2	7"	WIRE 18 GA; WHI; BLU	0150-0664		
1	7"	WIRE 18 GA; BLU	0150-0656		
ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L-PART NO.	MAT'L-OWB NO.	MAT'L-SPEC.

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 XXX ± .005
SEE CORR. STD. 808

PROCESS REVIEW
DATE 2-27-78 BY Pat Wright

RELEASE TO PRODUCE
SUPERVISOR'S DWG.

POWER SUPPLY
CABLE SET

HEWLETT PACKARD

TITLE 31000-60002

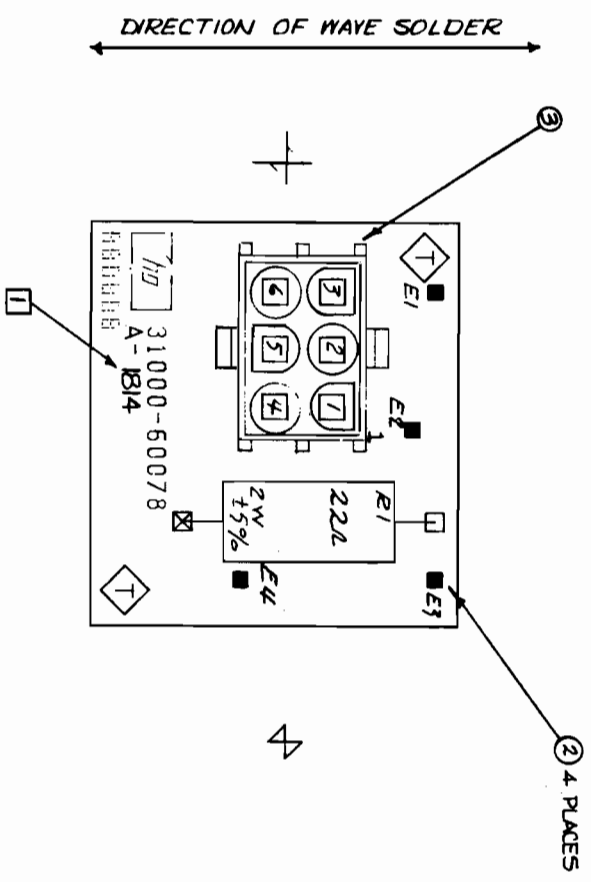
PART NUMBER 31000-60074

SCALE FULL

31000-60074-1

SHEET 1 OF 1

ENGINEERING RESPONSIBILITY																		REVISED		DATE	
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	DATE	BY	
																			3/10/68	AW/RS	
																			3/10/68	AW/RS	



- NOTES:**
1. MARK DATE CODE + "MADE IN USA"
 2. MATCH PIN 1 MARKED ON CONNECTOR WITH PIN 1 ETCHED ON BOARD.
 3. SCHEMATIC : C-31000-60078-6

ITEM	QTY	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG NO.	MAT'L-SPEC
1	1	BOARD ETCHED	31000-60078		
2	1	CONN-UTII. 6M P1	1X51-3R19		
3	4	TERM STUD S6L	0360-K8Z		
4	1	RES 220L	0698-3609		

DO NOT SCALE THIS DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES .XX ± .02 .XXX ± .005

SEE CONP. STD. 808

RELEASE TO PRODUCE

FINISH

SCALE 2/1

TITLE: I. OAD P LUG ASSEMBLY

HEWLETT PACKARD

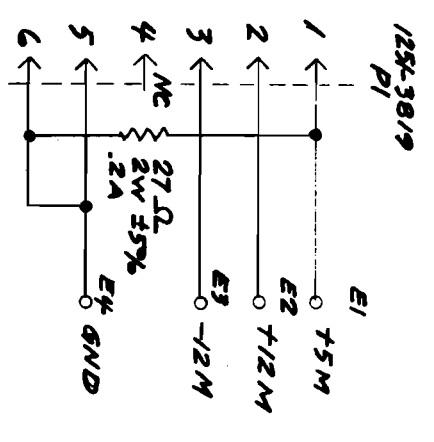
31000-60078

31000-60078-1

PROCESS REVIEW

4-5-78 BY P. Wright

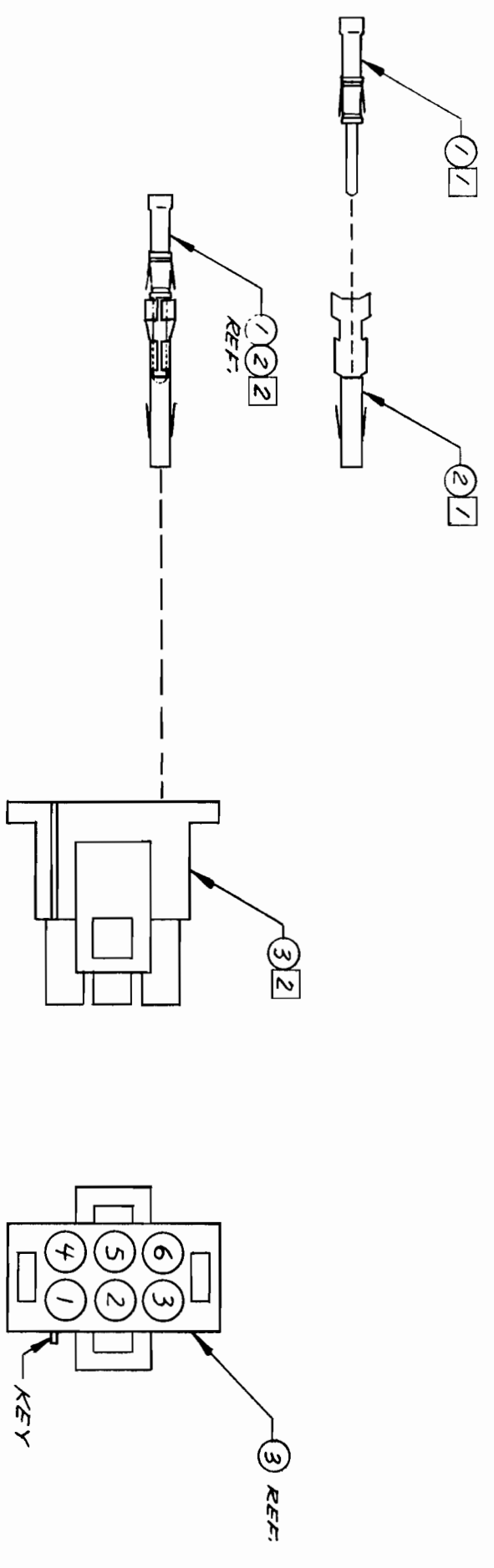
ENGINEERING RESPONSIBILITY													REV	DATE
1	2	3	4	5	6	7	8	9	10	11	12	13	A	1/15/78
14	15	16	17	18	19	20	21	22	23	24	25	26	AS ISSUED	1/15/78
27	28	29	30	31	32	33	34	35	36	37	38	39	APPROVED	DATE
40	41	42	43	44	45	46	47	48	49	50	51	52	AWB	1/15/78
53	54	55	56	57	58	59	60	61	62	63	64	65	HEWLETT	DATE
66	67	68	69	70	71	72	73	74	75	76	77	78	PACKARD	1/15/78
79	80	81	82	83	84	85	86	87	88	89	90	91		
92	93	94	95	96	97	98	99	100	101	102	103	104		
105	106	107	108	109	110	111	112	113	114	115	116	117		
118	119	120	121	122	123	124	125	126	127	128	129	130		



DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES: .XX ± .02 .XXX ± .005
SEE CORP. STD. 808

ITEM	QTY.	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG. NO.	MAT'L SPEC.
		LOAD PLUG			
RELEASE TO PRODUCE		TITLE SCHEMATIC			
SUPERSEDES DWG.		31000-67001 ± 67002			
FINISH		SCALE NONE			
		31000-60078			
		C 31000 60078-6			

ENGINEERING RESPONSIBILITY												DATE	
1	2	3	4	5	6	7	8	9	10	11	12	DATE	BY
												3/14/78	P/W/KS
												3/14/78	3/14/78



- NOTES:
- 1 CRIMP TOGETHER ITEMS 1 & 2.
 - 2 INSERT ASSEMBLED CONTACTS INTO POSITIONS 2, 4 & 6 OF ITEM 3. (NOTE KEY).
 - * 2 - +12V
 - * 4 - +5V
 - * 6 - GROUND



PROCESS REVIEW
DATE 3-14-78 BY P/W/KS

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES: .XX ± .02 .XXX ± .005
SEE COMP. STD. 008

ITEM	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-OWB NO.	MAT'L-SPEC.
3	1	CONNECTOR, PWR	1251-3817		
2	3	CONTACT CONN. F.	1251-3911		
1	3	CONTACT CONN. M.	7251-0329		

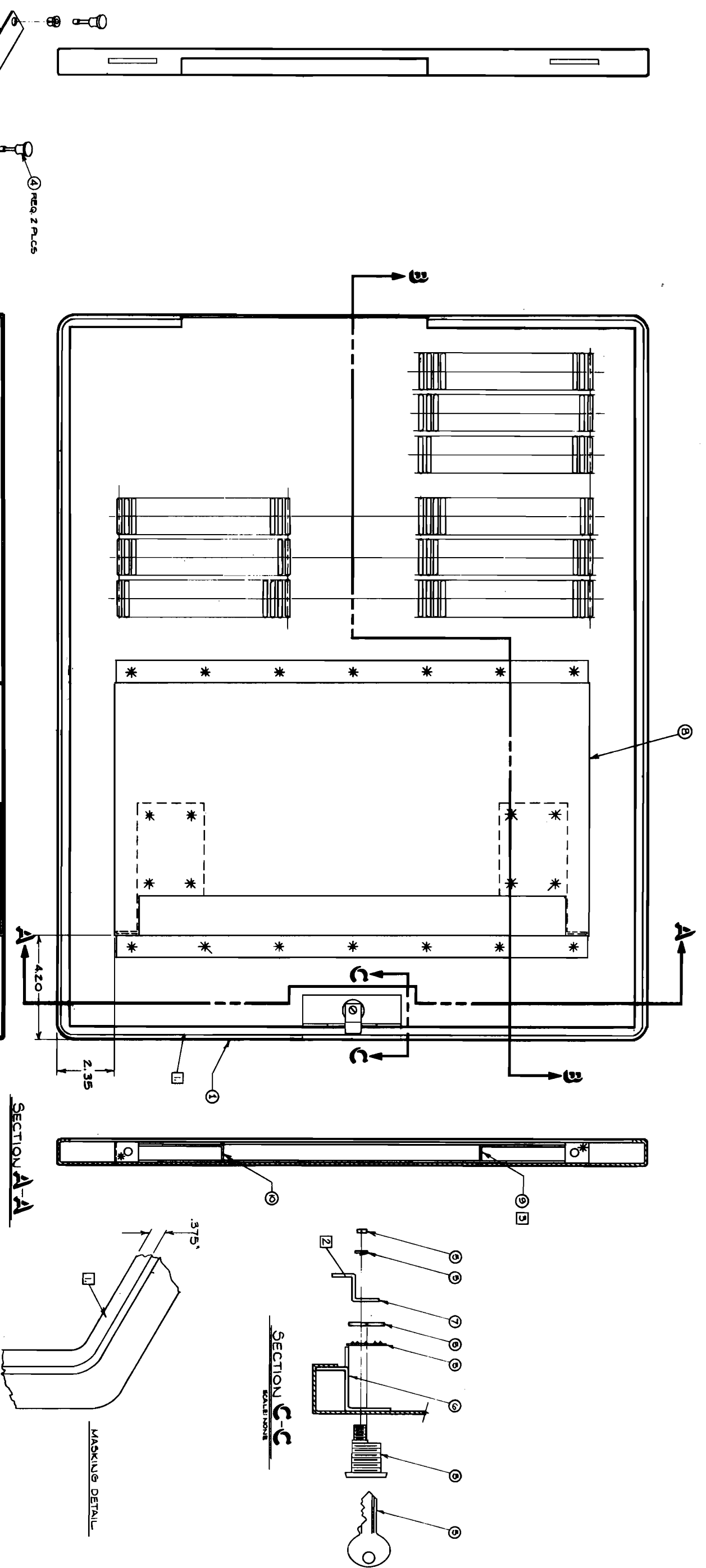
BACKPLANE
POWER CONN.
ASSY

TYPE
31000-67001

HEWLETT
PACKARD

31000-60079

HEWLETT
PACKARD

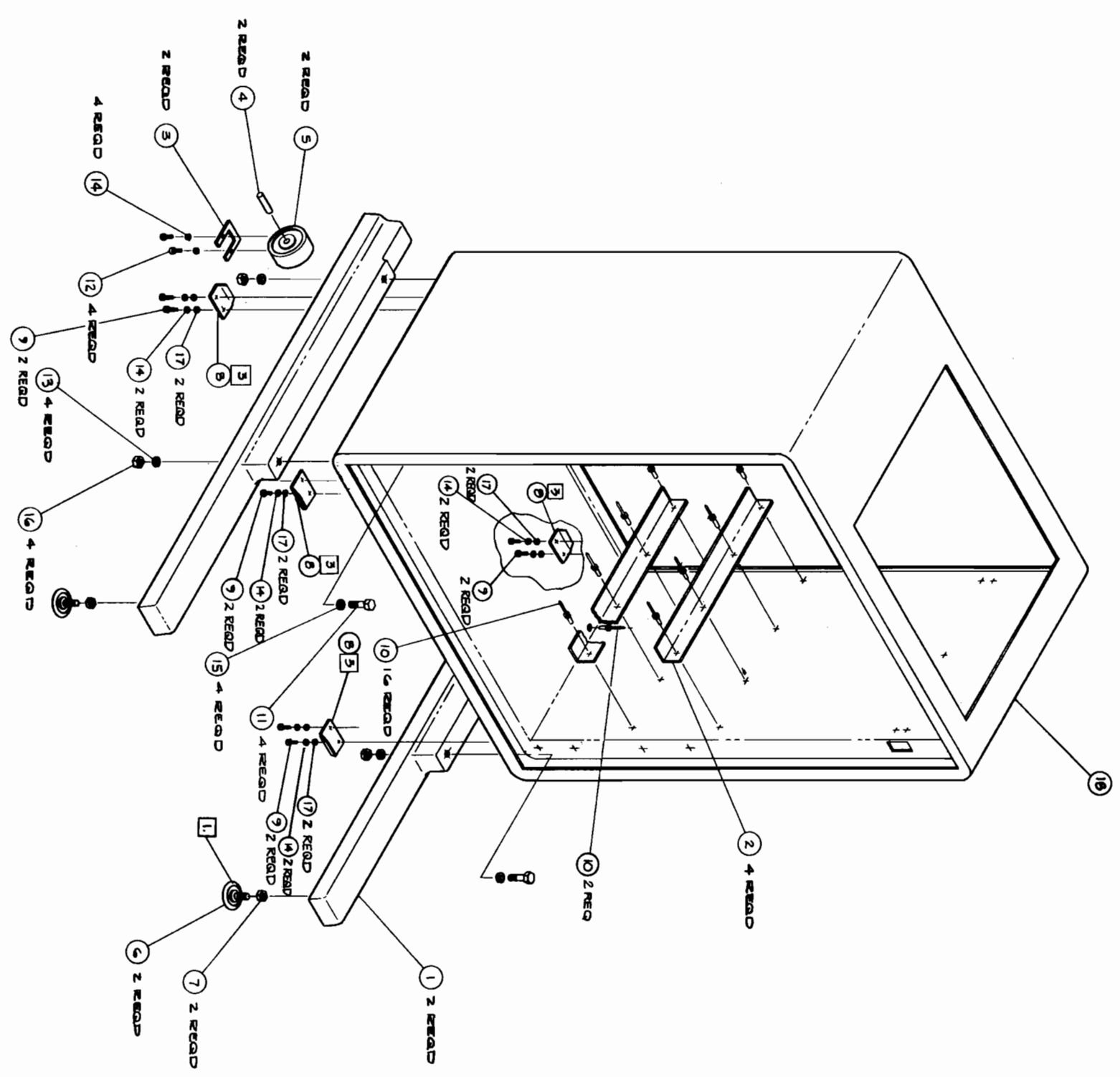


- NOTES:**
- 1 FINISH - ZINC PLATE .001" THK, MASK AS SHOWN AND PAINT WITH ITEM ②, STIPPLE TEXTURE II. INSIDE OF DOOR NEED NOT BE TEXTURED.
 - 2 LOCK PANEL ITEM ⑦ MUST BE INSTALLED AS SHOWN WITH LOCK SUCH THAT THE KEY CAN BE REMOVED.
 - 3 ALIGN ITEMS ③, ④, ⑤ SO THAT HOLES LINE UP WITH HOLES IN ITEM ⑥.
 - 4 INSTALL NYLON PINCH AND FASTEN TO LOCK BOOK HOLDER (ITEM ⑧).
 - 5 PLACE KEY IN PLASTIC BAG AND TAPE TO INSIDE OF DOOR POCKET.

ITEM	DESCRIPTION	QTY	MATERIAL SPECIFICATION	MATERIAL NUMBER
12	PLASTIC PLUG	4	6480-0098	
11	LOCK BOOK COVER	1	5100-0006	
10	CONDUCTOR SUPPORT, LEFT	1	3100-0008	
9	CONDUCTOR SUPPORT, RIGHT	1	3100-0009	
8	LOCK BOOK HOLDER	1	3100-0004	
7	LOCK PANEL	1	3100-0018	
6	LOCK DOOR GUIDE - F	1	3100-0016	
5	LOCK ASSEMBLY	1	1390-0244	
4	NYLON PINCH	2	1590-0265	
3	NYLON PINCH GROMMET	2	350-0266	
2	PAINT-PEARL GRAY	1	6010-0635	
1	REAR DOOR	1	3100-0001	

DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE AS SHOWN

REAR DOOR ASSEMBLY
 TITLE: 31213A
 NOTE 1
 SCALE: HALF
 PART NUMBER: 31000-60081
 SHEET 1 OF 1



- NOTES:**
- 1 ADJUST LEVELING PAD TO EXTEND 1/2" FROM BOTTOM EDGE OF FOOT.
 - 2 INSTALL FEET SUCH THAT VERTICAL SURFACE IS FLUSH WITH CABINET FRONT.
 - 3 USE ALIGNMENT TOOL (TI1652) TO INSTALL DOOR MOUNTING BRACKETS, ITEM 9.

ITEM	QTY	DESCRIPTION	PART NUMBER	REV.
16	1	MINIRACK ASSY	51000-60080	
17	6	WASHER-FLAT #8	3030-0199	
16	4	NUT-HEX 5/16-18	2990-0047	
15	4	WASHER-FLAT 5/16	3030-0081	
14	12	WASHER-LOCK 5/16 HEL	2190-0078	
13	4	WASHER-LOCK 5/16 HEL	2190-0432	
12	4	SCREW-8-32 X .375 L	2510-0105	
11	4	SCREW-9/16-18 X .87 L	2940-0094	
10	16	RIVET BLIND	0361-1011	
9	8	SCREW 8-32 X .50 L	2510-0107	
8	4	BRACKET-DOOR MOUNT	3000-00086	
7	2	NUT-TIHM 5/16-18	2950-0012	
6	2	LEVELING PAD	0408-0188	
5	2	WHEEL	198-0887	
4	2	AXLE	51000-20007	
3	2	WHEEL-PLATE	51000-00087	
2	4	BRACKET-SUPPORT	51000-00082	
1	2	FOOT-FINISHED	51000-20001	

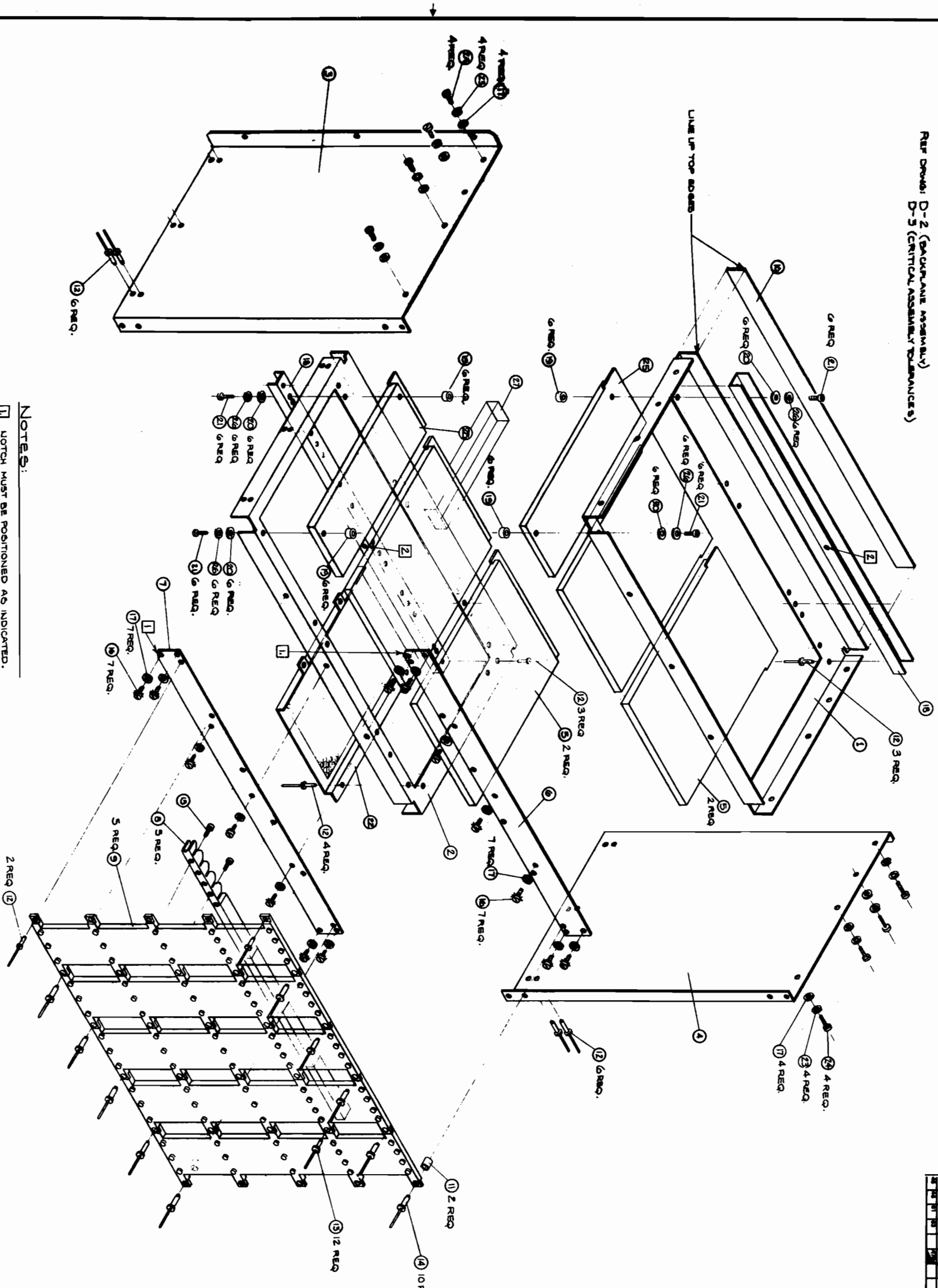
DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES: .XX ± .02, .XXX ± .008

DATE: _____ BY: _____

31000-60084-1
 REV. 1
 11/11/04

31000-60084-1
 REV. 1
 11/11/04

REF DRAWING: D-2 (BACKPLANE ASSEMBLY)
D-3 (CRITICAL ASSEMBLY TOLERANCES)



NOTES:
 1 NOTCH MUST BE POSITIONED AS INDICATED.
 2 ORIENT CHANNEL WITH LOCATING HOLE AS SHOWN.

DATE	BY	CHKD	APP'D	REV	DESCRIPTION
11/27/72	AS	BS	UBS	1	REVISED PER PROJ 31213A-50
11/27/72	AS	BS	UBS	2	

QTY	PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION
1	7120-7051	LABEL "CAUTION"	1	7120-7051	LABEL "CAUTION"
27	84	1/8" HEL. SHP LOCK	27	84	1/8" HEL. SHP LOCK
28	1	RC GUIDE	28	1	RC GUIDE
29	3	1/8" X 3/16" SCREW	29	3	1/8" X 3/16" SCREW
30	3	1/8" HEL. SHP LOCK	30	3	1/8" HEL. SHP LOCK
31	1	GUIDE	31	1	GUIDE
32	24	1/8" X 3/16" SCREW	32	24	1/8" X 3/16" SCREW
33	24	1/8" HEL. SHP LOCK	33	24	1/8" HEL. SHP LOCK
34	24	1/8" X 3/16" SCREW	34	24	1/8" X 3/16" SCREW
35	24	1/8" HEL. SHP LOCK	35	24	1/8" HEL. SHP LOCK
36	24	1/8" X 3/16" SCREW	36	24	1/8" X 3/16" SCREW
37	24	1/8" HEL. SHP LOCK	37	24	1/8" HEL. SHP LOCK
38	24	1/8" X 3/16" SCREW	38	24	1/8" X 3/16" SCREW
39	24	1/8" HEL. SHP LOCK	39	24	1/8" HEL. SHP LOCK
40	24	1/8" X 3/16" SCREW	40	24	1/8" X 3/16" SCREW
41	24	1/8" HEL. SHP LOCK	41	24	1/8" HEL. SHP LOCK
42	24	1/8" X 3/16" SCREW	42	24	1/8" X 3/16" SCREW
43	24	1/8" HEL. SHP LOCK	43	24	1/8" HEL. SHP LOCK
44	24	1/8" X 3/16" SCREW	44	24	1/8" X 3/16" SCREW
45	24	1/8" HEL. SHP LOCK	45	24	1/8" HEL. SHP LOCK
46	24	1/8" X 3/16" SCREW	46	24	1/8" X 3/16" SCREW
47	24	1/8" HEL. SHP LOCK	47	24	1/8" HEL. SHP LOCK
48	24	1/8" X 3/16" SCREW	48	24	1/8" X 3/16" SCREW
49	24	1/8" HEL. SHP LOCK	49	24	1/8" HEL. SHP LOCK
50	24	1/8" X 3/16" SCREW	50	24	1/8" X 3/16" SCREW
51	24	1/8" HEL. SHP LOCK	51	24	1/8" HEL. SHP LOCK
52	24	1/8" X 3/16" SCREW	52	24	1/8" X 3/16" SCREW
53	24	1/8" HEL. SHP LOCK	53	24	1/8" HEL. SHP LOCK
54	24	1/8" X 3/16" SCREW	54	24	1/8" X 3/16" SCREW
55	24	1/8" HEL. SHP LOCK	55	24	1/8" HEL. SHP LOCK
56	24	1/8" X 3/16" SCREW	56	24	1/8" X 3/16" SCREW
57	24	1/8" HEL. SHP LOCK	57	24	1/8" HEL. SHP LOCK
58	24	1/8" X 3/16" SCREW	58	24	1/8" X 3/16" SCREW
59	24	1/8" HEL. SHP LOCK	59	24	1/8" HEL. SHP LOCK
60	24	1/8" X 3/16" SCREW	60	24	1/8" X 3/16" SCREW
61	24	1/8" HEL. SHP LOCK	61	24	1/8" HEL. SHP LOCK
62	24	1/8" X 3/16" SCREW	62	24	1/8" X 3/16" SCREW
63	24	1/8" HEL. SHP LOCK	63	24	1/8" HEL. SHP LOCK
64	24	1/8" X 3/16" SCREW	64	24	1/8" X 3/16" SCREW
65	24	1/8" HEL. SHP LOCK	65	24	1/8" HEL. SHP LOCK
66	24	1/8" X 3/16" SCREW	66	24	1/8" X 3/16" SCREW
67	24	1/8" HEL. SHP LOCK	67	24	1/8" HEL. SHP LOCK
68	24	1/8" X 3/16" SCREW	68	24	1/8" X 3/16" SCREW
69	24	1/8" HEL. SHP LOCK	69	24	1/8" HEL. SHP LOCK
70	24	1/8" X 3/16" SCREW	70	24	1/8" X 3/16" SCREW
71	24	1/8" HEL. SHP LOCK	71	24	1/8" HEL. SHP LOCK
72	24	1/8" X 3/16" SCREW	72	24	1/8" X 3/16" SCREW
73	24	1/8" HEL. SHP LOCK	73	24	1/8" HEL. SHP LOCK
74	24	1/8" X 3/16" SCREW	74	24	1/8" X 3/16" SCREW
75	24	1/8" HEL. SHP LOCK	75	24	1/8" HEL. SHP LOCK
76	24	1/8" X 3/16" SCREW	76	24	1/8" X 3/16" SCREW
77	24	1/8" HEL. SHP LOCK	77	24	1/8" HEL. SHP LOCK
78	24	1/8" X 3/16" SCREW	78	24	1/8" X 3/16" SCREW
79	24	1/8" HEL. SHP LOCK	79	24	1/8" HEL. SHP LOCK
80	24	1/8" X 3/16" SCREW	80	24	1/8" X 3/16" SCREW
81	24	1/8" HEL. SHP LOCK	81	24	1/8" HEL. SHP LOCK
82	24	1/8" X 3/16" SCREW	82	24	1/8" X 3/16" SCREW
83	24	1/8" HEL. SHP LOCK	83	24	1/8" HEL. SHP LOCK
84	24	1/8" X 3/16" SCREW	84	24	1/8" X 3/16" SCREW
85	24	1/8" HEL. SHP LOCK	85	24	1/8" HEL. SHP LOCK
86	24	1/8" X 3/16" SCREW	86	24	1/8" X 3/16" SCREW
87	24	1/8" HEL. SHP LOCK	87	24	1/8" HEL. SHP LOCK
88	24	1/8" X 3/16" SCREW	88	24	1/8" X 3/16" SCREW
89	24	1/8" HEL. SHP LOCK	89	24	1/8" HEL. SHP LOCK
90	24	1/8" X 3/16" SCREW	90	24	1/8" X 3/16" SCREW
91	24	1/8" HEL. SHP LOCK	91	24	1/8" HEL. SHP LOCK
92	24	1/8" X 3/16" SCREW	92	24	1/8" X 3/16" SCREW
93	24	1/8" HEL. SHP LOCK	93	24	1/8" HEL. SHP LOCK
94	24	1/8" X 3/16" SCREW	94	24	1/8" X 3/16" SCREW
95	24	1/8" HEL. SHP LOCK	95	24	1/8" HEL. SHP LOCK
96	24	1/8" X 3/16" SCREW	96	24	1/8" X 3/16" SCREW
97	24	1/8" HEL. SHP LOCK	97	24	1/8" HEL. SHP LOCK
98	24	1/8" X 3/16" SCREW	98	24	1/8" X 3/16" SCREW
99	24	1/8" HEL. SHP LOCK	99	24	1/8" HEL. SHP LOCK
100	24	1/8" X 3/16" SCREW	100	24	1/8" X 3/16" SCREW

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES.
 TOLERANCES XX ± .02 XXX ± .005
 SEE COMP. STD. 808

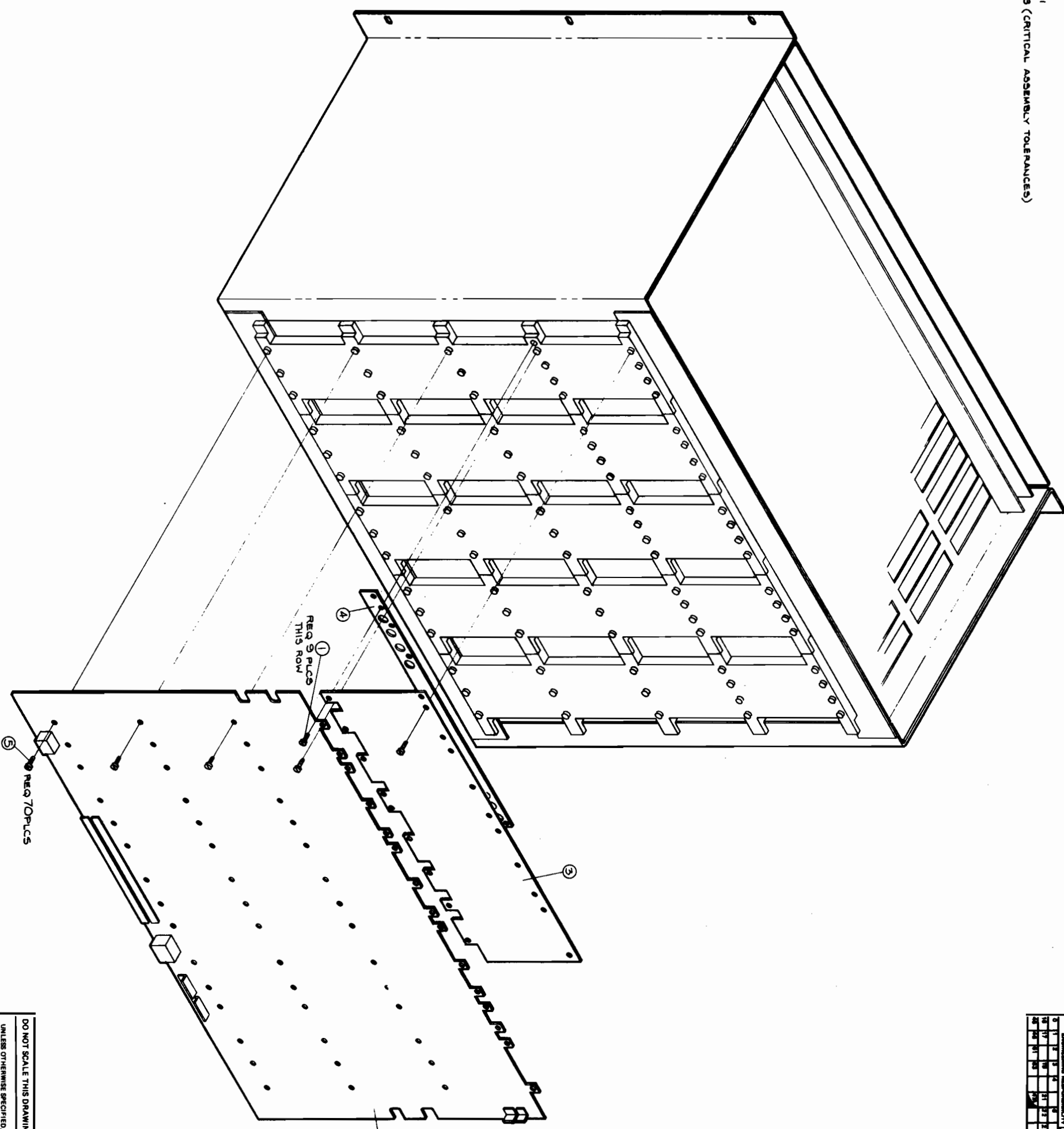
APPROVED BY: _____
 DATE: _____

SCALE: NONE

TITLE: CARD CAGE ASSEMBLY
 PART NUMBER: 31213-60010
 REV: 1

NEWITT PHOENIX
 31213-60010-1

REF. DRAWINGS : D-1
D-3 (CRITICAL ASSEMBLY TOLERANCES)



REV	DATE	BY	CHKD	APP'D	DESCRIPTION
1	11/27/77				AS ISSUED
2	11/30/77				REVISED PER PRGR 31213A'S

NO	QTY	PART NO	DESCRIPTION	MATERIAL	UNIT
1	1	23.60-011.3	FRONT PLATE	ALUMINUM	PCB
2	1	3.000-000.37	FRONT PLATE SHIM	ALUMINUM	PCB
3	1	3.000-000.25	FRONT PLATE	ALUMINUM	PCB
4	1	3.000-000.24	FRONT PLATE	ALUMINUM	PCB
5	1	1.000-010.7	FRONT PLATE	ALUMINUM	PCB

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TOLERANCES: .XX ± .02, .XXX ± .005
SEE COMP. STD. 808

SCALE: NONE

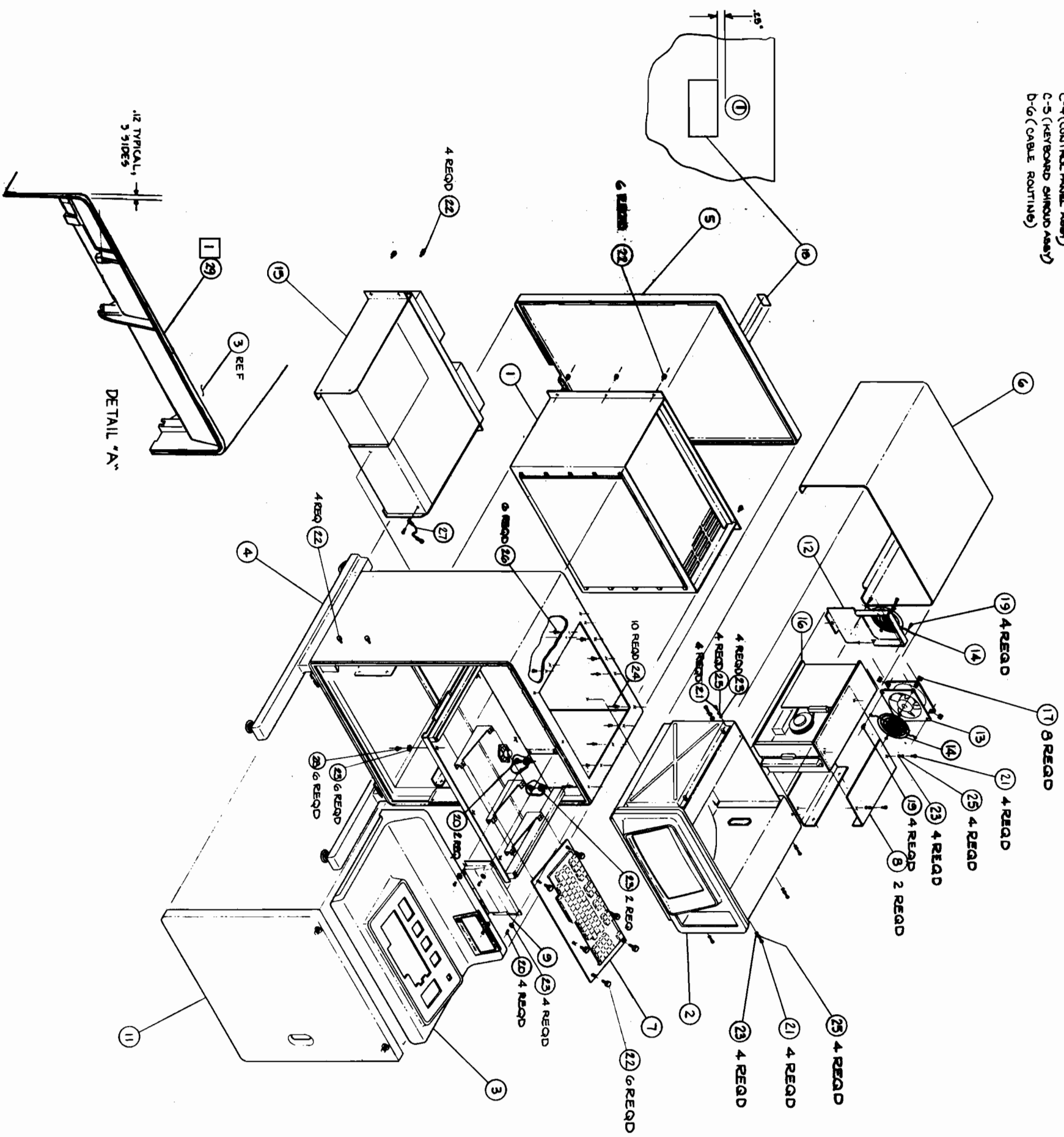
DATE: 3/21/84

REV: 2

31213-60010-2

31213-60010-2

REF DRWGS: D-2 (CABINET ASSY)
 C-4 (CONTROL PANEL ASSY)
 C-5 (KEYBOARD SHROUD ASSY)
 D-6 (CABLE ROUTING)



1 INSTALL FOAM GASKET (ITEM 29) ON SHROUD (ITEM 3) AS SHOWN IN DETAIL "A"

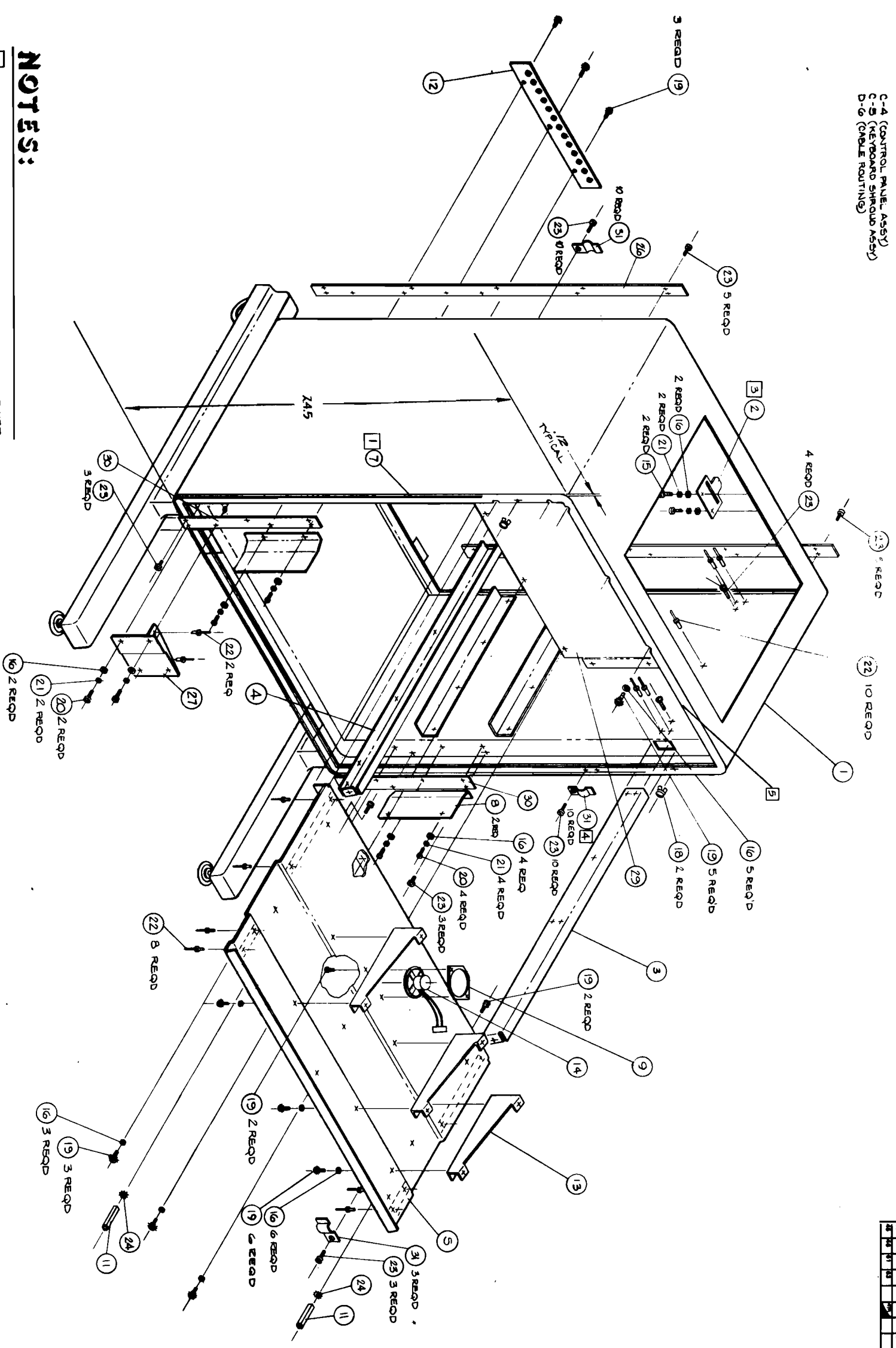
REV	DATE	BY	CHKD
D	12-22-78	AVN	AVN
E	12-22-78	AVN	AVN
F	12-22-78	AVN	AVN

DEL. DEMO (710) PCL AND
 ITEM 22 ON WAS 25 12/22/78
 ADD ITEM 27 NO. 1 DETAIL V-1417041 12/22/78

QTY	PKT	DESCRIPTION	UNIT	QTY	PKT	DESCRIPTION	UNIT
27	NR	FOAM GASKET		0440-1204			
28	6	#8-32 SCREW X .625 L		2510-0051			
27	1	CABLE DET, GROUNDING		3000-40013			
26	6	SELF TAP, SCREW		0464-0949			
25	12	WASHER #8 LOCK		2190-0073			
24	10	RIVET-BLIND		0361-1011			
23	24	WASHER #8 FLAT		3080-0199			
22	20	SCREEN #8-32 HEX HEAD		2510-0254			
21	12	SCREEN B-52 X .375 L		2510-0208			
20	6	SCREEN B-52 X .375 L		2510-0208			
19	6	SCREEN 6-32 X .75 L		2340-0128			
18	1	LABEL, "CAUTION"		7120-4429			
17	5	NUT SHIMET U 6-32		0990-0653			
16	1	FLEXIBLE DISC		7902A			
15	1	POWER UNIT ASSY		3000-60002			
14	2	FAN GRILLE		3160-0092			
13	1	FAN-TBAX		3160-0218			
12	1	SUPPORT-FAN/LABEL		31000-00011			
11	1	FRONT DOOR		31000-00107			
10							
9	1	ASSY-CTRL PNL				SEE C-4	
8	2	BRACKET-FX DISC MTG		31000-00077			
7	1	KEY BOARD ASSY		31000-60004			
6	1	DISPLAY SHROUD ASSY		31000-60010			
5	1	REAR DOOR ASSY		31000-60061			
4	1	CABINET ASSY				SEE D-2	
3	1	KEYBOARD SHROUD ASSY				SEE D-5	
2	1	MONITOR ASSY		31000-60018			
1	1	CARD CASE ASSY		31000-60019			

DATE	4-10-78
BY	AVN
CHKD	AVN
APPV	AVN

REF DRWGS: D-1 (MAIN FRAME)
 C-4 (CONTROL PANEL ASSY)
 C-5 (KEYBOARD SHIELD ASSY)
 D-6 (CABLE ROUTING)



- NOTES:**
- 1 INSTALL FOAM GASKET ON BOTH FRONT AND REAR OF CABINET— ON FRONT OF CABINET INSTALL ONLY TO DIMENSION MARKED ON REAR, CONTINUE ON BOTH SIDES AND ALONG TOP
 - 2 DELETED
 - 3 USE ALIGNMENT TOOL TO INSTALL DOOR GUIDE
 - 4 TO INSTALL RFI GROUND CLIP ITEM (31), CUT AWAY FROM GASKET, INSERT TAB INTO SLOT IN CABINET AND INSTALL SELF-TAPPING SCREW ITEM (23). BE SURE SPRING IS FREE TO MOVE THROUGH SLOT.
 - 5 DO NOT INSTALL RFI CLIPS IN THE 2 SLOTS AT THE TOP FRONT OF CABINET.

DATE	REV	BY	CHKD	APP'D	DESCRIPTION
11/17/78	1				ISSUED FOR MANUFACTURE
11/17/78	2				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	3				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	4				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	5				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	6				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	7				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	8				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	9				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	10				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	11				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	12				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	13				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	14				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	15				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	16				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	17				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	18				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	19				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	20				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	21				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	22				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	23				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	24				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	25				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	26				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	27				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	28				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	29				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	30				REVISED TO REFLECT CHANGES TO PART 2029
11/17/78	31				REVISED TO REFLECT CHANGES TO PART 2029

REV	DATE	BY	CHKD	APP'D	DESCRIPTION
1	11/17/78				ISSUED FOR MANUFACTURE
2	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
3	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
4	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
5	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
6	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
7	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
8	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
9	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
10	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
11	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
12	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
13	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
14	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
15	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
16	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
17	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
18	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
19	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
20	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
21	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
22	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
23	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
24	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
25	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
26	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
27	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
28	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
29	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
30	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029
31	11/17/78				REVISED TO REFLECT CHANGES TO PART 2029

QTY	PART NO.	DESCRIPTION	UNIT
31	23	RFI GROUND CLIP	W00-0774
30	2	GROUNDING STRIP, FRONT	51000-00102
29	1	P1 BACKPLANE SHIELD	30000-00109
28			
27	1	DISC MOUNT, FIXED	31241-00008
26	2	GROUNDING STRIP, REAR	51000-00101
25			
24	2	WASHER, #8 STRK	2190-0010
23	43	SCREW, SELF-TAP#4-20 X.56	0624-0349
22	20	RIVET - BLIND	0861-1011
21	8	WASHER - LOCK #8	2190-0078
20	6	SCREW - 8-32 X.38L	2810-0103
19	21	SCREW/LOCK 8-32 X.38L	2810-0043
18	2	PLUG - PLASTIC	6960-00085
17			
16	22	WASHER - FLAT #8	3030-0159
15	2	SCREW - 8-32 X.50L	2810-0107
14	1	ASSY - CBL SPEAKER	31000-00064
13	3	BACKLET - KEYBOARD	31000-00104
12	1	PLATE - CABLE STRAIN	31000-00097
11	2	STANDOFF, HEX 8-32 X.1062	0360-0090
10			
9	1	SPEAKER - MOUNT	31000-00046
8	2	SUPPORT BKLT - PWR SUP	31000-00096
7	AR	FOAM GASKET	0420-1204
6			
5	1	KEYBOARD PAN	31000-00106
4	1	SUPPORT - KBD LEFT	31000-00055
3	1	SUPPORT - KBD RIGHT	31000-00084
2	1	GUIDE - ML RR DOOR	31000-00051
1	1	CABINET ASSEMBLY	31000-00084
MATERIAL DESIGNATION			
MATERIAL NO.			
MATERIAL NO.			

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES: XX ± .02, XXX ± .006
 SEE COMP. DTS, 888

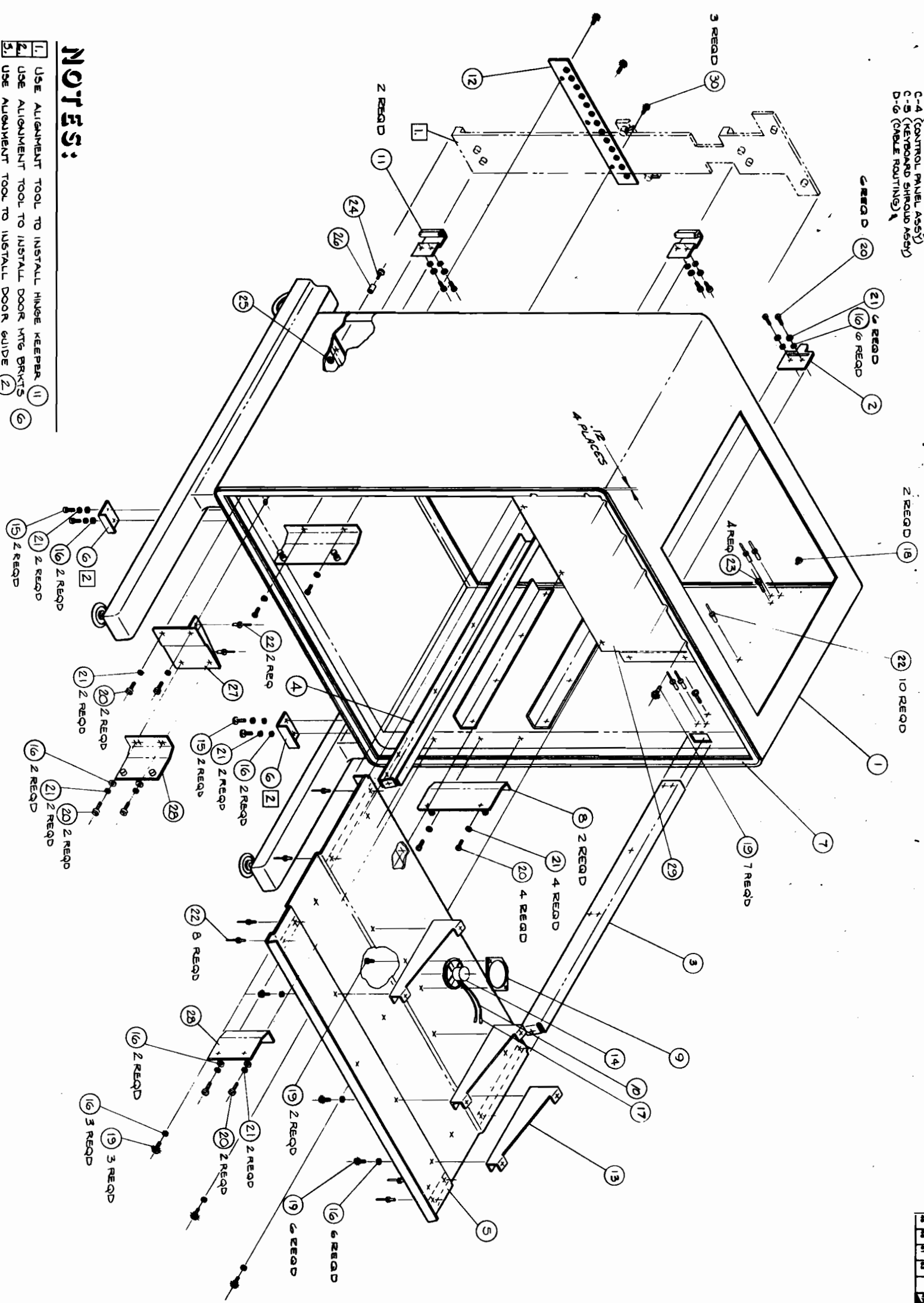
D-2, REV C 4-10-78

SCALE 1/4

31215-90001-2

HEWLETT PACKARD

REF DRWGS: D-1 (MAIN FRAME)
 D-3 (7510 MFG HARDWARE)
 C-4 (CONTROL PANEL ASSY)
 C-5 (KEYBOARD SHIELD ASSY)
 D-6 (CABLE ROUTING)



- NOTES:**
1. USE ALIGNMENT TOOL TO INSTALL HINGE KEPPER (1)
 2. USE ALIGNMENT TOOL TO INSTALL MFG BRKTS (6)
 5. USE ALIGNMENT TOOL TO INSTALL DOOR GUIDE (2)

REV	DATE	BY	CHKD	APP'D
1	11/17/72
2	11/17/72
3	11/17/72
4	11/17/72
5	11/17/72
6	11/17/72
7	11/17/72
8	11/17/72
9	11/17/72
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24	11/17/72
25	11/17/72
26	11/17/72
27	11/17/72
28	11/17/72
29	11/17/72
30	11/17/72

ITEM	QTY	MATERIAL DESCRIPTION	MATERIAL NO.	MATERIAL SPEC.
30	3	CORNER/PLY HD, 8-32 X .35L	2510-0121	
29	1	PL BACKPLATE SHIELD	31000-00081	
28	2	DISC MOUNT, REAR	51241-00005	
27	1	DISC MOUNT, FIXED	51241-00006	
26	1	SPACER, #8 X .456"	0390-00077	
25	1	WTR, #8-32 W/LOCK	2880-00005	
24	1	SCREEN #8-32 K/62" ALUMIN HD	3050-00225	
23	4	SCREW, SELF-TAP	0824-0349	
22	20	RIVET - BLIND	0861-1011	
21	20	WASHER-LOCK #8	2190-0073	
20	16	SCREW - 8-32 X .35L	2510-0103	
19	16	SCREW/LOCK 8-32 X .50L	2510-0045	
18	2	PLUG - PLASTIC	6960-00088	
17	2	RECEPTACLE-FEMALE	1200-0063	
16	23	WASHER-FLAT #8	3080-0189	
15	4	SCREW - 8-32 X .50L	2510-0107	
14	1	LOUDSPEAKER	9160-0253	
13	3	BRACKET - KEY BOARD	51000-00008	
12	1	PLATE - CABLE STRAIN	51000-00042	
11	2	HINGE KEPPER	51000-02004	
10	1	WIRE SPEAKER	8120-1072	
9	1	SPEAKER - MOUNT	51000-00046	
8	2	SUPPORT BRKT - PWR SUP	51000-00058	
7	1	FOAM GASKET	0440-1204	
6	2	MOUNT BRKT - REENT DOOR	51000-00094	
5	1	KEYBOARD PAN	51000-00085	
4	1	SUPPORT-KBD LEFT	51000-00055	
3	1	SUPPORT-KBD RIGHT	51000-00054	
2	1	GUIDE-MLR DR	51000-00051	
1	1	MINI-RACK ASSY	51000-00003	

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES: XX ± .02 XXX ± .008
 SEE COMP. STD. 988

REV A 5 26 77

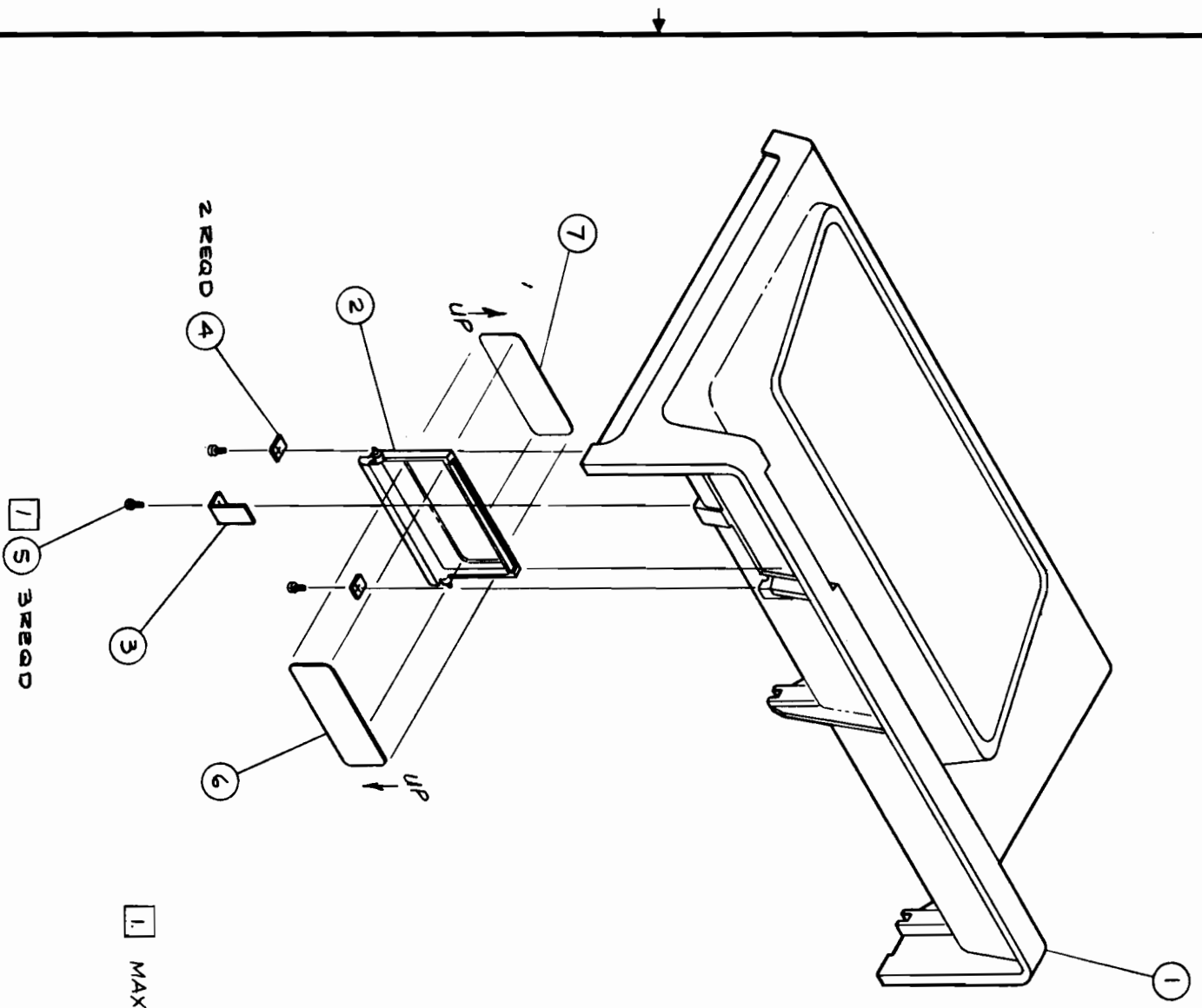
SCALE 1/4

DATE 3/21/73

3-90001-2

HEWLETT PACKARD

REF DWGS : D-1 (MAIN FRAME)
 D-2 (CABINET ASSY)
 D-3 (7910 MTG HARDWARE)
 C-4 (CONTROL PANEL ASSY)
 D-6 (CABLE ROUTING)



1. MAXIMUM TORQUE - 10 IN LBS

ENGINEERING RESPONSIBILITY																			REVISED		DATE																			
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
																			A		AS ISSUED																			
1-31213 - 90001 - 5 APPROVED: [Signature] DATE: 1/17/74																																								

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG. NO.	MAT'L SPEC.
7	1	LABEL - FRONT	7120-6828		
6	1	LABEL - REAR	7120-6427		
5	3	SCREW-TAP 6-20X.38L	0624-0045		
4	2	SUPPORT-DOOR HINGE	31000-00002		
3	1	SPRING - DOOR RETURN	31000-00003		
2	1	DOOR - CONTROL PNL	31000-40002		
1	1	KEYBOARD-SHROUD	31000-40008		

DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES .XX ± .02 .XXX ± .005
 SEE COMP. STD. 008

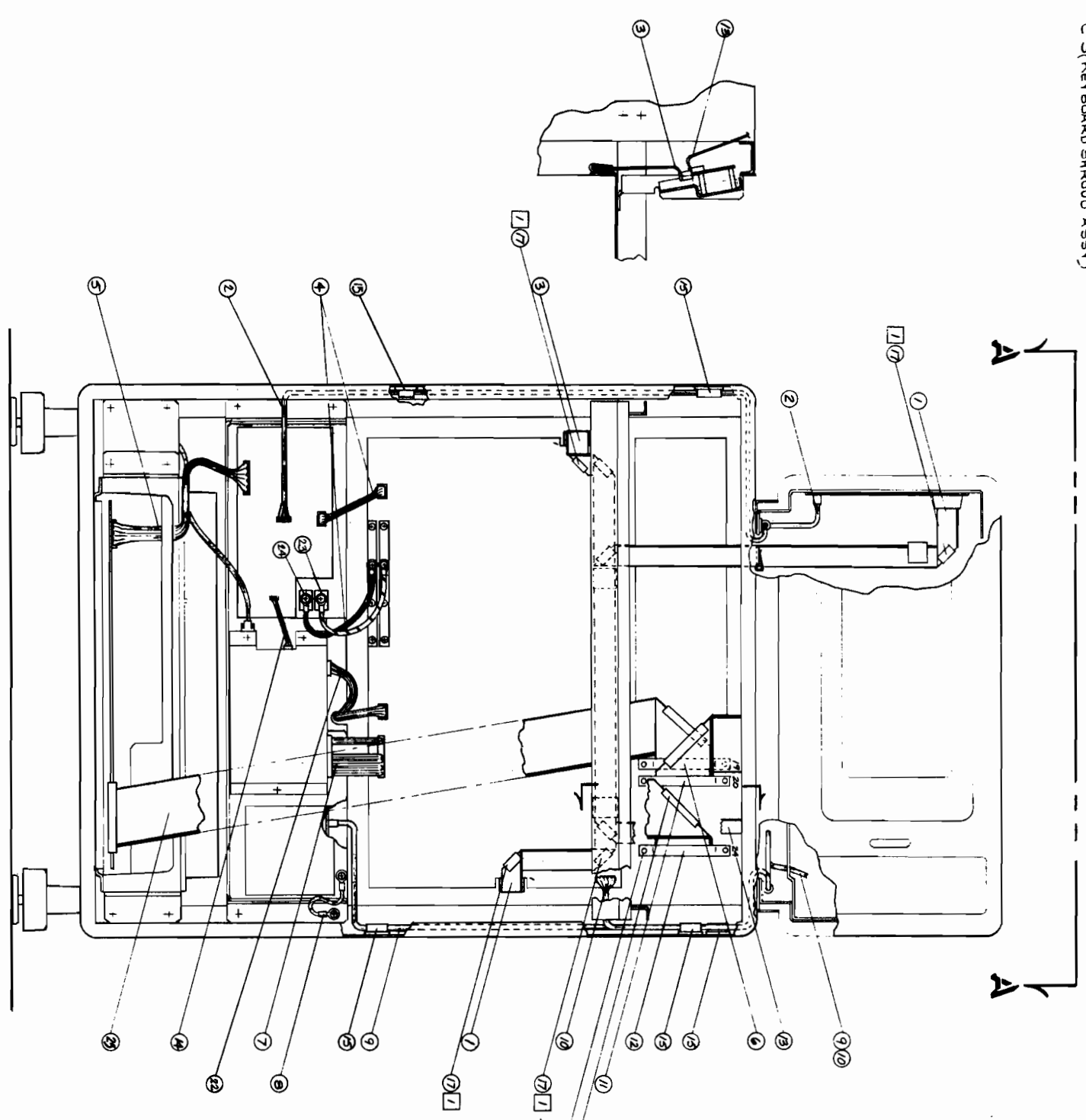
RELEASE TO PROG. _____
 SUPERSEDES DWG. _____

NEXT ASSEMBLY _____
 TITLE: KEYBOARD SHROUD ASSY
 FINISH: _____
 SCALE: 1/4

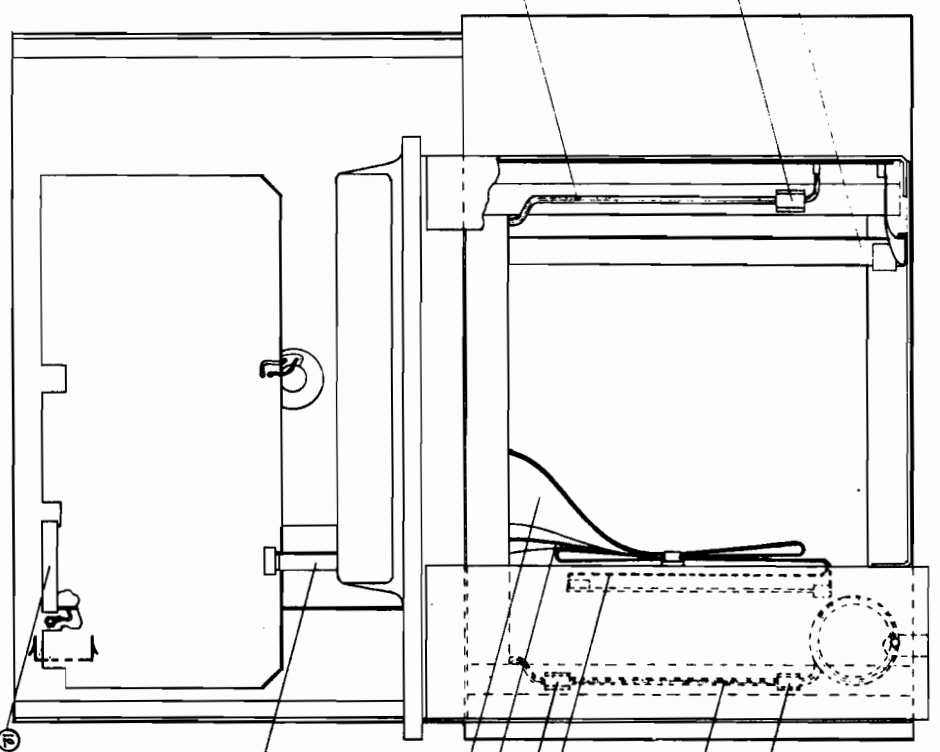
PART NUMBER: 1-31213 - 90001 - 5
 HEWLETT-PACKARD

REF DRWG'S: D-1 (MAINFRAME)
D-2 (CABINET ASSY)

C-4 (CONTROL PANEL ASSY)
C-5 (KEYBOARD SHROUD ASSY)



- NOTES:
1. CUT CLIP IN HALF & INSTALL ON POWER
 2. INSTALL IN SLOT INDICATED WITH
 - 2 - #4 SCREWS, (PART # 2200-0111)
 - 2 - FLAT WASHERS (PART # 3000-0223)



VIEW A-A

REV	DATE	DESCRIPTION
1	1/23/64	REVISED
2	2/23/64	ADD ITEM 25 TO ITEM 21 AND ADD REF IN ITEM 21 AND 25 TO ITEM 21 AND 25 TO CONCEPTS ONBLE REFERENCES

REV	DATE	DESCRIPTION
1	1/23/64	REVISED
2	2/23/64	ADD ITEM 25 TO ITEM 21 AND ADD REF IN ITEM 21 AND 25 TO ITEM 21 AND 25 TO CONCEPTS ONBLE REFERENCES

QTY	DESCRIPTION	PART NO.	REF ONLY
1	SOFT KEY CABLE	8120-2184	REF ONLY
25	7910 SIGNAL CABLE	0790-60016	
24	#10 LOCKWASHER	8190-0011	
23	#0-32 X 3/16 SCREEN	3260-0029	
22	HEAT POWER CABLE	31000-60021	REF ONLY
21	NUT, HEX #8-32	2590-0003	
20	SCREW, #8-32 X .50"	2510-0049	
19	SCREW, #4 FLAT	3050-0181	
18	SCREW, #4 HEX .50"	2200-0111	
17	CLIP, FLAT CABLE W/WH	4040-0207	
16	CLIP, CABLE	400-0757	
15	REMOTE LAMP PAIR CABLE	31000-60023	REF. ONLY
14	FX STRIPS LIGHTS CABLE	31000-60029	
13	KEYBOARD CABLE	31000-60025	
12	FX SIGNAL CABLE	31000-60025	
11	FX DC POWER CABLE	31000-60026	
10	FX AC POWER CABLE	31000-60025	REF. ONLY
9	GROUNDING CABLE SET	31000-60025	REF. ONLY
8	POWER CONTROL CABLE	7910/24	
7	7910 DISK SIGNAL CABLE	31291-60002	REF ONLY
6	7910 DISK POWER CABLE	31000-60006	REF ONLY
5	BACK PLANE PWR. CBL. SET	31213-60002	
4	CONTROL TRAILER CABLE	31213-60002	
3	SWEEP POWER CABLE	31000-60047	
2	SWEEP SIGNAL CABLE	31000-60028	
1			

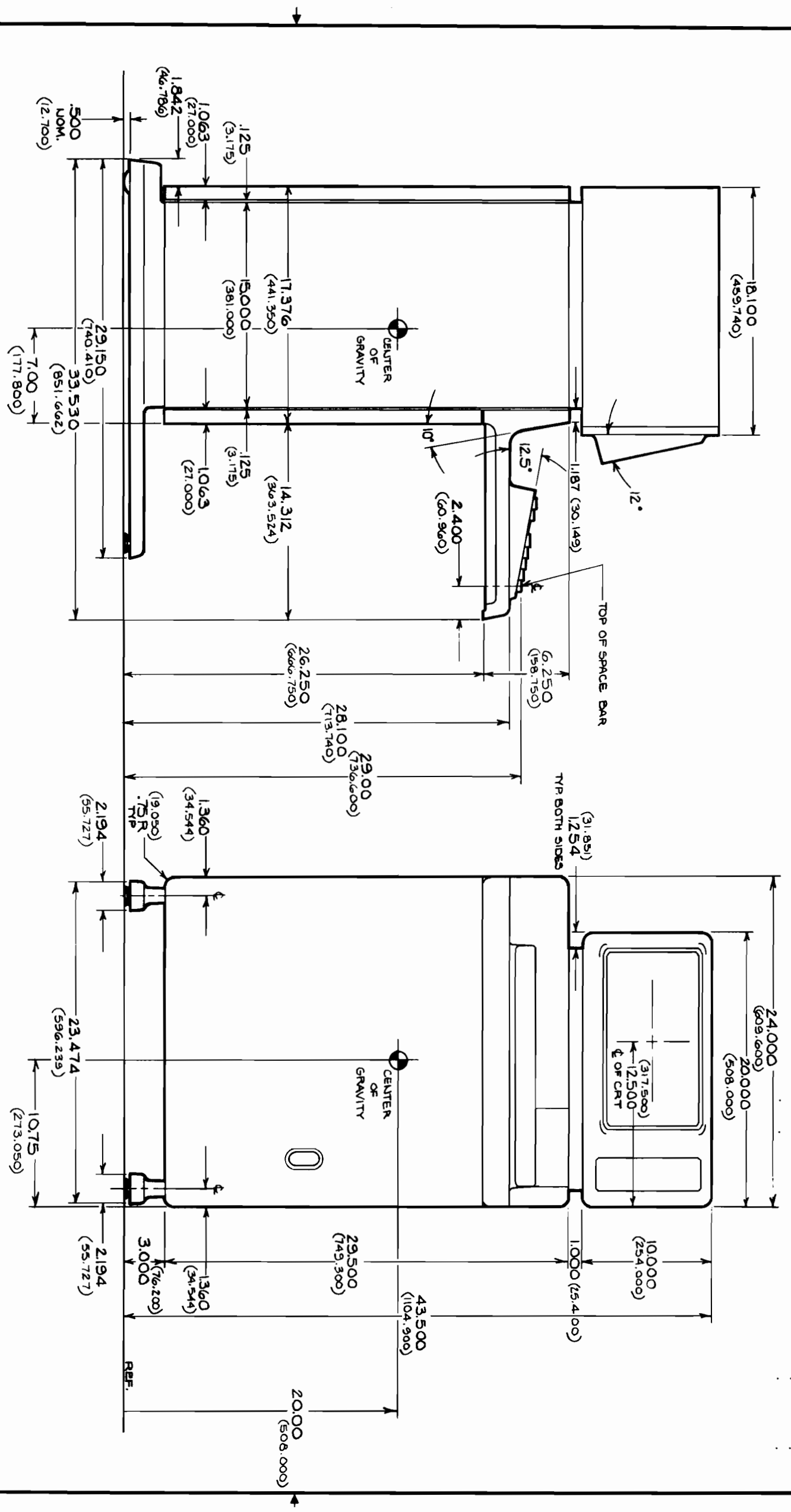
DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES: XX ± .02 XXX ± .005
SEE COMP. DTD. 006

MAINFRAME ASSY
CABLE ROUTING

HEWLETT
PACKARD

DATE: 3/2/65
PART NUMBER: 90001-6
SCALE: 1/8" = 1"

ENGINEERING RESPONSIBILITY																		
SERIAL																		
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	
56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	
74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	
92	93	94	95	96	97	98	99	100										
APPROVED	DATE	REVISED	DATE	REVISED	DATE	REVISED	DATE	REVISED	DATE	REVISED	DATE	REVISED	DATE	REVISED	DATE	REVISED	DATE	
DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	DR /	5/17/77	
DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	DBS /	5/30/77	



- NOTES:**
1. DIMENSIONS IN PARENTHESES ARE MILLIMETRES.
 2. WEIGHT WITH FULL BOARD SET: 260 LBS

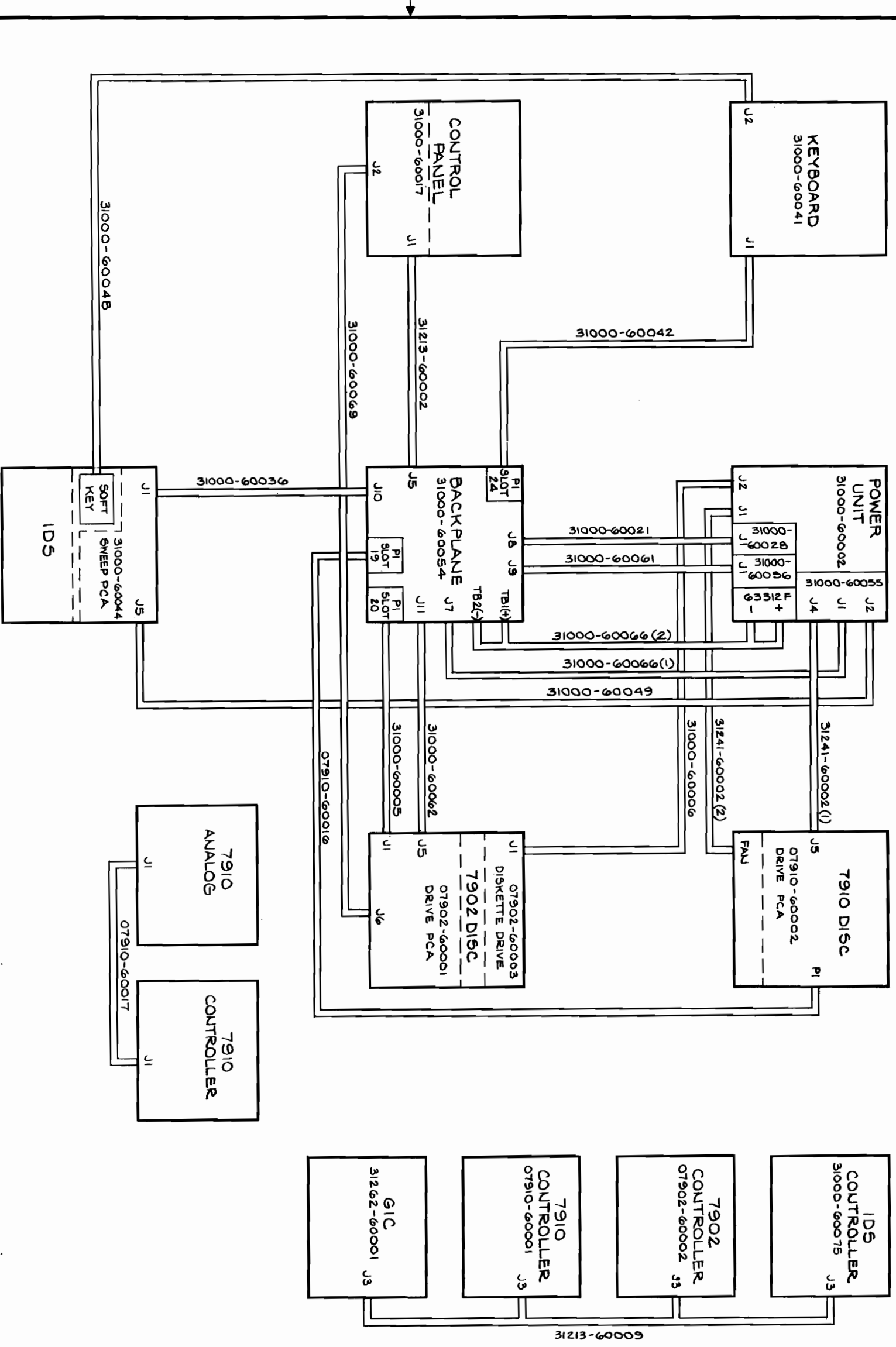
DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES REF. CALLY
SEE COMP. STD. 808

TITLE	QTY.	MATERIAL-DESCRIPTION	MAT'L-PART NO.	MAT'L-DWG NO.	MAT'L-DESC.
31213A REFERENCE DIMENSIONS					HEWLETT PACKARD

RELEASE TO PROD. SUPERSEDES DWG. FINISH NEXT ASSEMBLY SCALE 1" = 5" PART NUMBER C-31213-900021 SHEET 1 OF 1

ENGINEERING RESPONSIBILITY		DATE	
DESIGNED	BY	DATE	BY
CHECKED	BY	DATE	BY
APPROVED	BY	DATE	BY
ISSUED	BY	DATE	BY

REV	DATE	DESCRIPTION
1		AS ISSUED



TRUCK NO. 1880-0003 PRINTED ON SHEET NO. 1880-10 CLAIMPRINT FABRIKAT

DO NOT SCALE THIS DRAWING UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN INCHES. TOLERANCES .XX & .02 .XX & .008

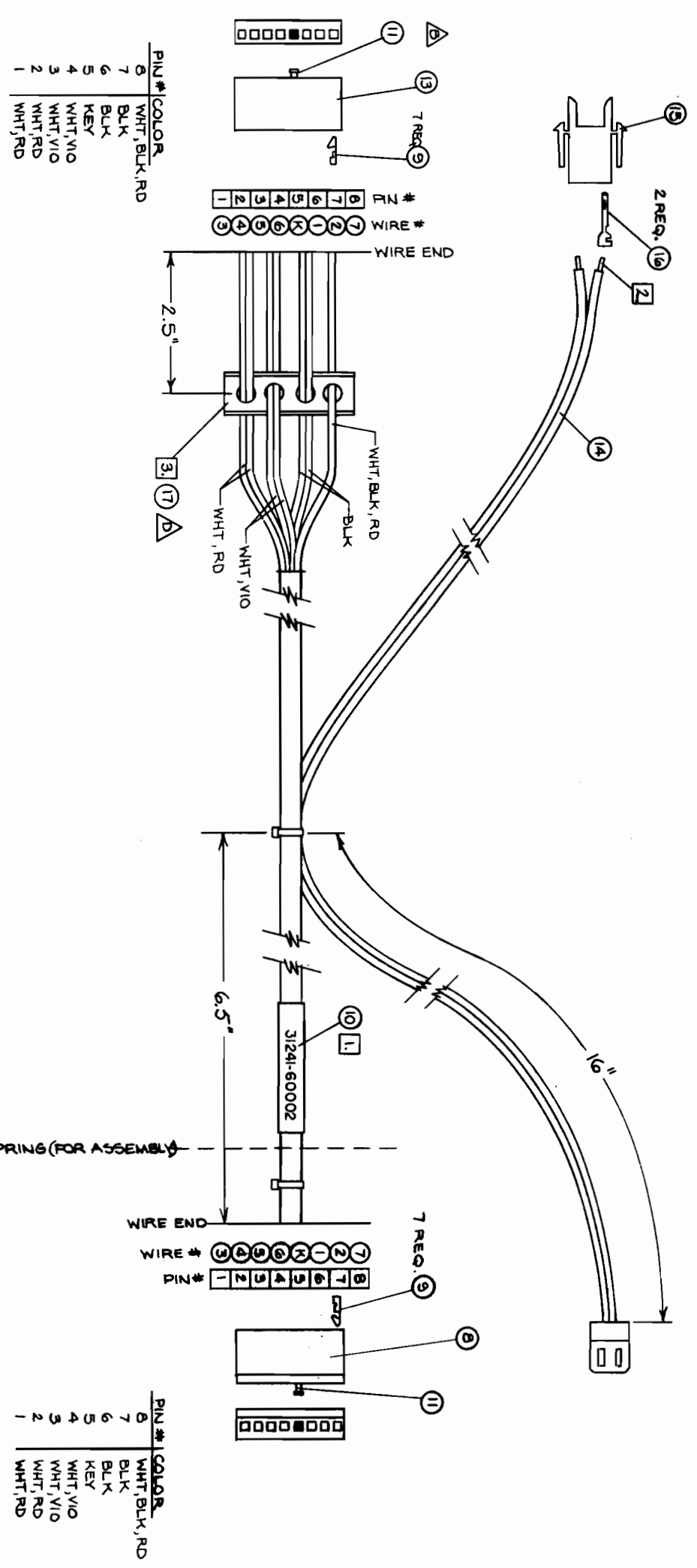
ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L DWG NO.	MAT'L SPEC.
31213A		CABLE DIAGRAM (REFERENCE)			
31213A		NEXT ASSEMBLY			
FINISH: SUPERSIDES DWG.					
SCALE: ~~~~~					
PART NUMBER: C-31213-90004-1					
SHEET OF					

HEWLETT PACKARD

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

REV	BY	DATE	APPROVED
A	AS ISSUED		
B	REVISED PER 3/2/74 RB	4/3/74	
C	ITEM (10) WAS 12B-280B, (9) WAS 12B1-241B PC AT 2007	5/2/74	
D	ADDED ITEM (1) (NOTE 1)	5/15/74	

31241-60002-1



PIN #	COLOR
8	WHT, BLK, RD
7	BLK
6	BLK
5	KEY
4	WHT, VIO
3	WHT, VIO
2	WHT, RD
1	WHT, RD

PIN #	COLOR
8	WHT, BLK, RD
7	BLK
6	BLK
5	KEY
4	WHT, VIO
3	WHT, VIO
2	WHT, RD
1	WHT, RD

- NOTES:**
- MARK PART NUMBER (31241-60002) ON TUBING AND SHRINK ONTO CABLE.
 - CUT STRIP LENGTH TO 1/4" CABLE LENGTH SHOULD BE 24" ± 1/16"
 - CUT STRAP 1.5" LONG (4 HOLES) WEAVE WIRES THROUGH HOLES AS SHOWN, NOTICE THAT SOME WIRES GO UP THROUGH THE HOLES AND SOME GO DOWN THROUGH THE HOLES.

ITEM	QTY	MATERIAL DESCRIPTION	MAT'L PART NO.	MAT'L SPEC.
17	1	1.5" PERFORATED STRAP	1400-0552	
16	2	CONTACT, FEMALE	1251-0612	
15	1	CONNECTOR, 2 PIN	1251-4130	
14	1	CABLE ASBY 10 GA, 2 COND, 24'L	0120-1478	
13	1	CONNECTOR, 8 PIN, NO RAMP	1251-3278	
12	3	CABLE TIES	1400-0249	
11	2	KEY, POLARIZING	1251-0627	
10	1	SHRINK TUBING .500 DIA	0890-0213	
9	14	CONTACT	1251-0670	
8	1	CONNECTOR, 8 PIN W/RAMP	1251-3068	
7	15	WIRE, 10 GA WHT, BLK, RD	0150-3510	
6	15	WIRE, 10 GA WHT, VIO	0150-3737	
5	15	WIRE, 10 GA WHT, VIO	0150-3737	
4	45	WIRE, 10 GA WHT, RD	0150-3246	
3	15	WIRE, 10 GA WHT, RD	0150-3246	
2	15	WIRE, 10 GA, BLK	0150-2829	
1	15	WIRE, 10 GA, BLK	0150-2829	

DO NOT SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.
TOLERANCES .XX ± .02 .XXX ± .006
SEE CORP. STD. 608

PROCESS REVIEW
DATE 12-5-77 BY *Pat Wright*

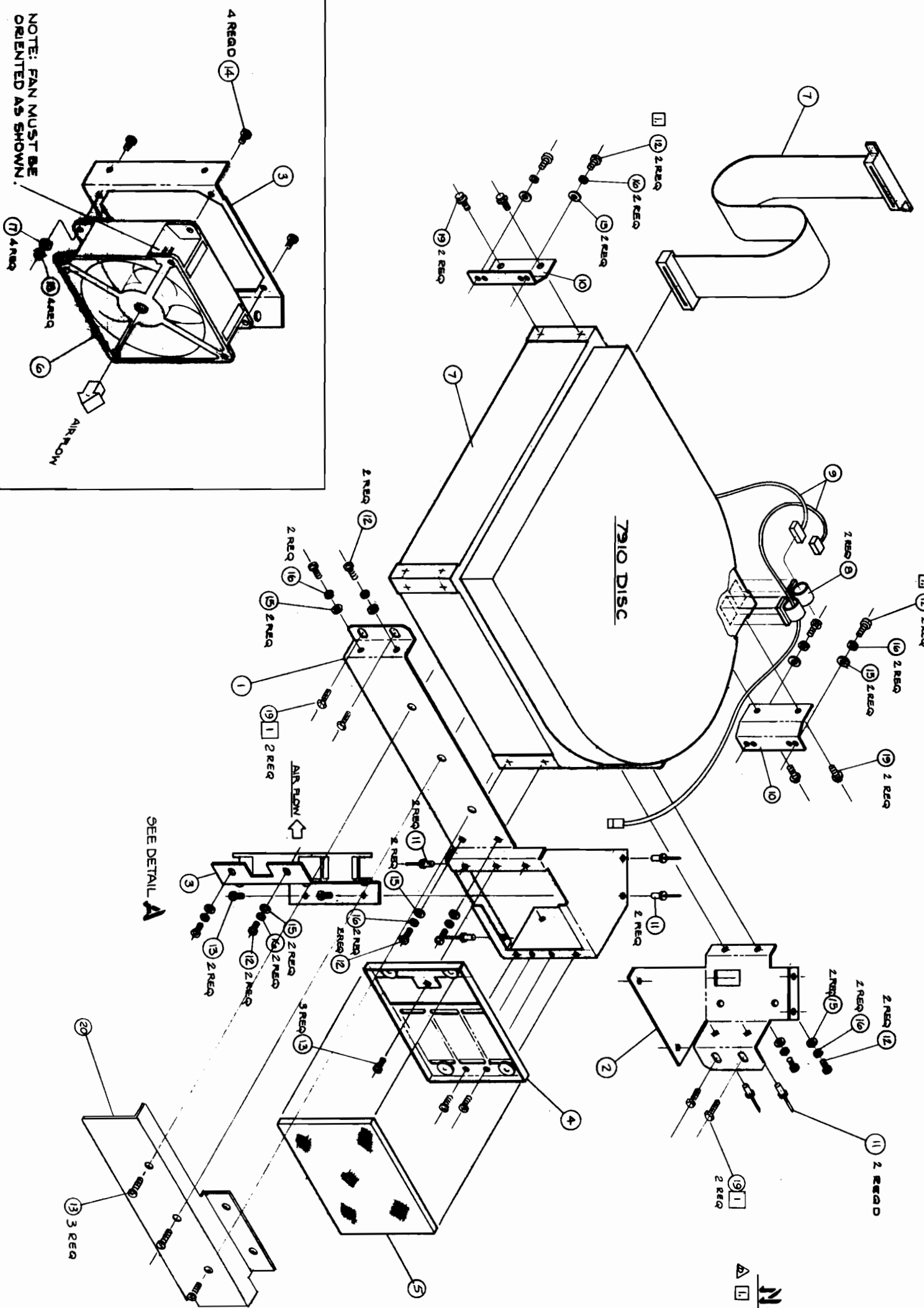
7910 POWER CABLE ASSEMBLY
TITLE 31241A
NEXT ASSEMBLY
FINISH
SCALE FULL
HEWLETT PACKARD
31241-60002
PART NUMBER
31241-60002-1
SHEET 1 OF 1

REV	DATE	BY	CHKD	DESCRIPTION
A	11-17-77	WJ	WJ	REVISED FOR FINAL ASSEMBLY
B				REVISED FOR FINAL ASSEMBLY
C				REVISED FOR FINAL ASSEMBLY
D				REVISED FOR FINAL ASSEMBLY

31241-90001-1
 31241-90001-1
 31241-90001-1
 31241-90001-1

NOTES:

△ 1 EACH OF ITEMS ②③④⑤⑥⑦ TO BE TAPED TO TOP OF DISC FOR LATER ASSEMBLY.



NOTE: FAN MUST BE ORIENTED AS SHOWN.

DETAIL A
(FAN CONNECTION)

ITEM	QTY	DESCRIPTION	PART NUMBER	DATE
20	1	CABLE SHIELD	31241-00009	
19	8	#5-32 HEXHEAD	2510-025-4	
18	4	NUT #5-32 W/LOCK	2420-0001	
17	4	WASHER #6	3030-0227	
16	12	WASHER-LOCK #8	2190-0073	
15	12	WASHER #8	3030-0158	
14	4	SCREW #6-32 X .625	2560-0125	
13	8	SCREW/LHW #8-32 X .575L	2510-0045	
12	12	SCREW #8-32 X .575L	2510-0105	
11	6	RIVET-QUIND	0361-1011	
10	2	DISC MOUNT, REAR	31241-00007	
9	1	7910 DISC MOUNT, FRONT	31241-00002	
8	2	CLIP, OASLE	1400-0757	
7	1	DISC/LHW COOL FIXED	790K 07100	
6	1	FAN-TBAX 4-125 SQ.	5160-0026	
5	1	AIR FILTER	4208-0157	
4	1	MOUNT DISC FILTER	31241-00004	
3	1	DISC FAN MOUNT	31241-00005	
2	1	DISC MOUNT- RIGHT	31241-00002	
1	1	DISC MOUNT- FRONT	31241-00001	

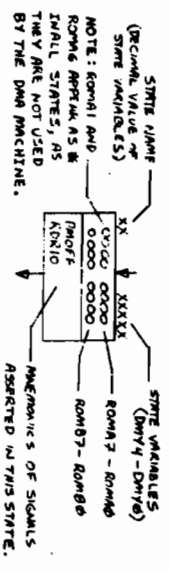
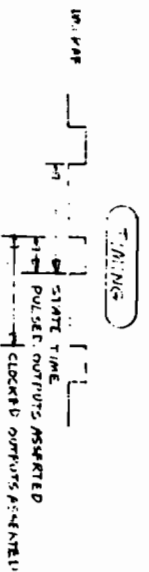
DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED,
 DIMENSIONS ARE IN INCHES.
 TOLERANCES ARE ± .0015 ± .005
 SEE COMP. STL. 988

DA 89VA 5-11-77

FINAL ASSY
 7910 MOUNTING
 HARDWARE

HEWLETT
 PACKARD

31241-90001-1



INPUTS

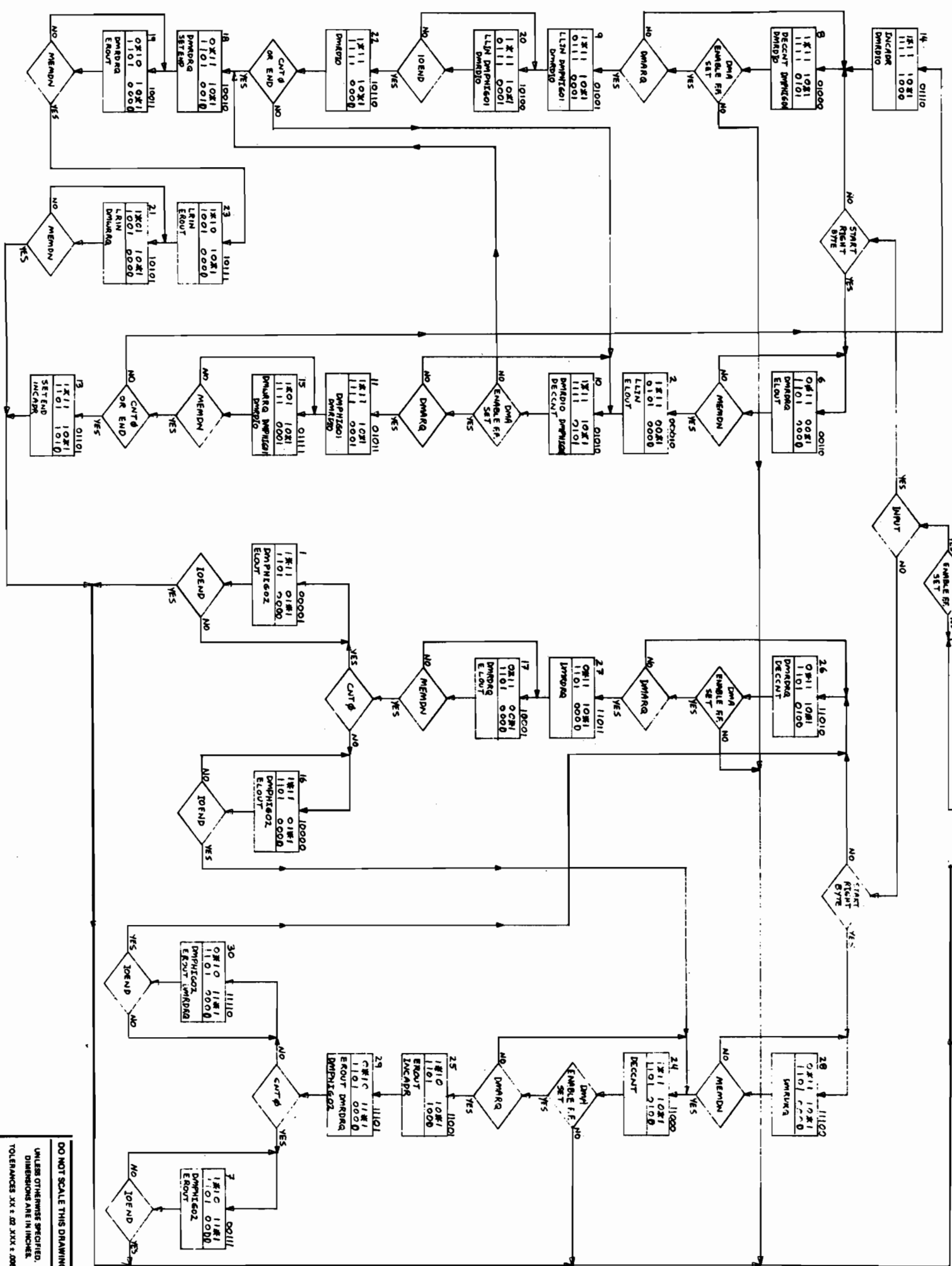
- CNTΦ = BYTE COUNT REGISTER EQUALS ZERO.
- DMNRQ = INPUT; INBOUND FIFO NOT EMPTY.
- DMNDQ = OUTPUT; OUTBOUND FIFO NOT FULL.
- DMEND = PHI HANDSHAKE COMPLETED.
- MEMDN = MEMORY OPERATION COMPLETED.
- OBSSI = IMB 'OBSSI' COMMAND HAS BEEN DONE.
- THG = THE BITS DO/PI OF PHI INDICATE END OF TRANSMFER.

OUTPUTS

- RECNT = DECREMENT BYTE COUNT AND COMPLEMENT LEFT/RIGHT BIT ONCE IN THIS STATE.
- DMNIT = ASSERT CSRQ. AFTER OBSSI, CSRQ IS HELD OFF.
- DMNDI = START WRITE TO PHI. THIS WILL PROVIDE A 'FAST' PHI HANDSHAKE WHICH RELEASES I/O AS SOON AS I/OEND IS ASSERTED, ASYNCHRONOUS TO DMM MACHINE.
- DMNDIOL = START READ FROM PHI. THIS PROVIDES A PHI HANDSHAKE WHICH RELEASES I/O AS SOON AS MEMDN IS ASSERTED, ASYNCHRONOUS TO DMM MACHINE.
- DMOFF = DMM IS IDLE; RE-ENABLE ALL CSRQ'S AND ALLOW SLAVE ACCESS TO PHI.
- DMRQ = SELECT PHI TO READ FIFO. IT IS SELECTED TO WRITE TO FIFO OTHERWISE. IN STATE φ, THE REQUEST READ OF MEMORY.
- DMNRQ = REQUEST WRITE TO MEMORY. THE CYCLE WILL NOT START UNTIL I/OEND OR LHM IS ASSERTED.
- ELOUT = GATE THE LEFT BYTE OUTPUT REGISTER TO THE PHI DATA LINES.
- EROUT = GATE THE RIGHT BYTE OUTPUT REGISTER TO THE PHI DATA LINES.
- INCRPR = INCREMENT THE DMM ADDRESS REGISTER.
- LLDN = CLOCK PHI DATA LINES INTO LEFT BYTE INPUT REGISTER EACH STATE TIME AT DMNRQφ.
- LHM = LATCH PHI DATA LINES INTO RIGHT BYTE INPUT REGISTER.
- SETRND = SET DMM STATUS TO APPROPRIATE TERMINATION CODE.

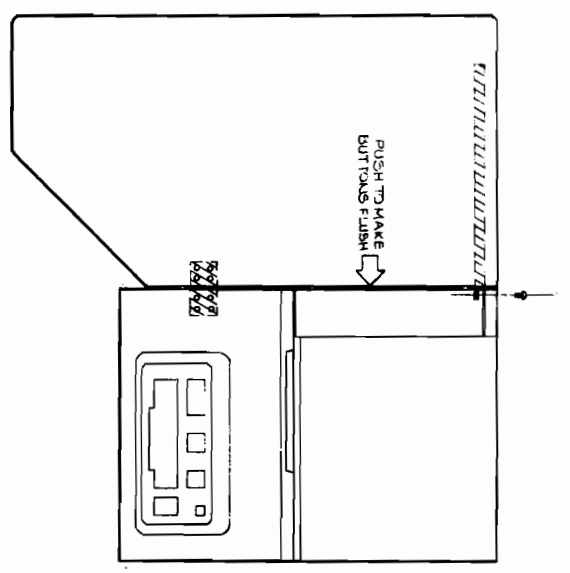
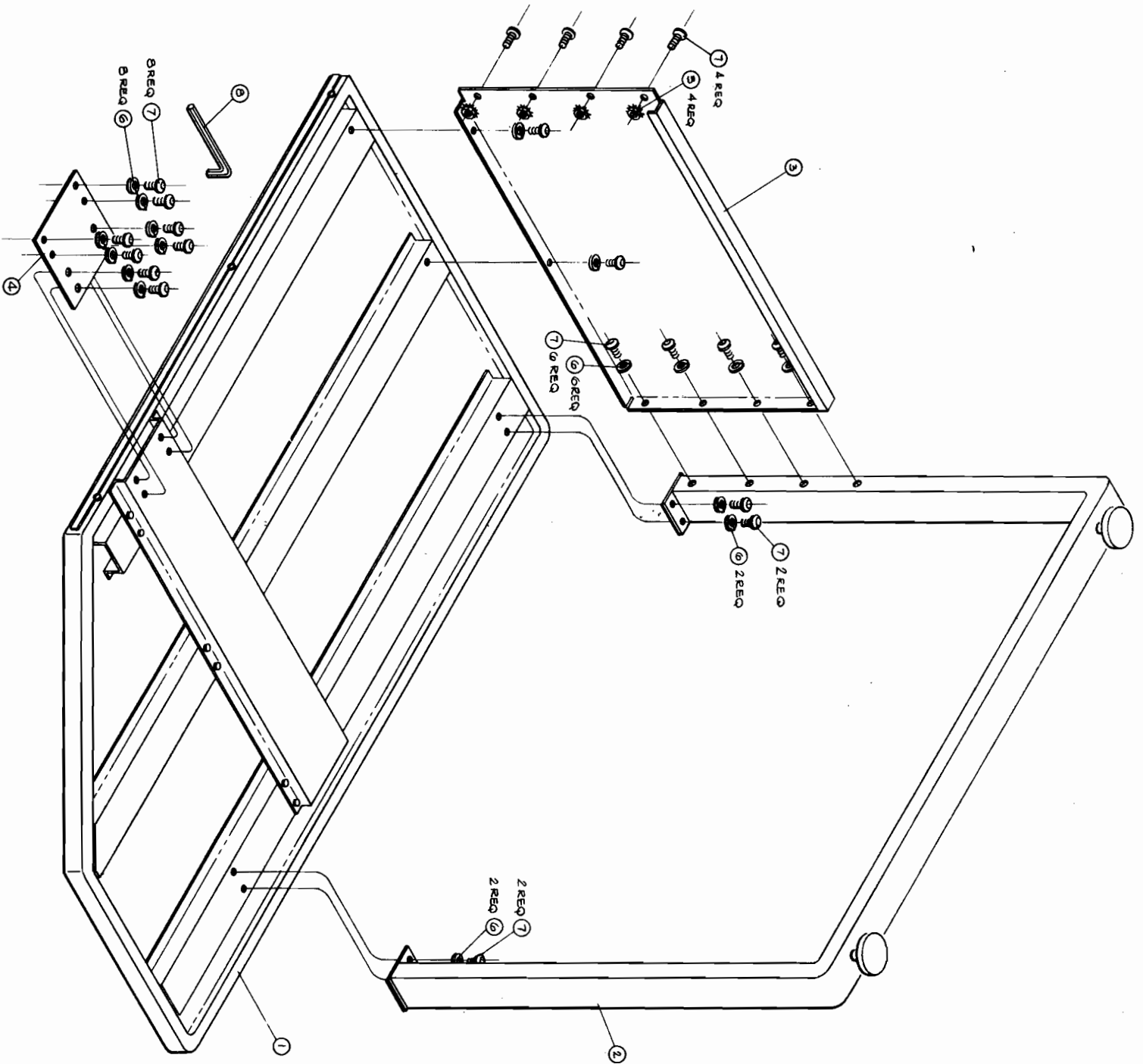
NOTES

1. OUTPUTS OCCURRING IN CONSECUTIVE STATES DO NOT ELITE BETWEEN STATES, EXCEPT LHM WHICH IS TAKEN DIRECTLY FROM THE DECODE R BYM.
2. THESE INPUTS ARE ASYNCHRONOUS: I/OEND, MEMDN, DMNRQ, OBSSI.
3. THE ONLY PULSED CONTROL ARE: DECCNT, SETRND.
4. BOTH OUTPUT DATA REGISTERS ARE LATCHED AT OCCURRENCE OF MEMDN.
5. THE NP-TB 'END' MESSAGE IS SENT IN STATES 7, 6 UNLESS INHIBITED WITH A DMM CONTROL BIT.
6. MEMDN REMAINS ASSERTED UNTIL BOTH DMNRQ AND DMNDQ ARE NOT ASSERTED.
7. ONCE DMNRQ IS ASSERTED, THE MEMORY CYCLE WILL COMPLETE EVEN IF DMNRQ IS REMOVED BEFORE MEMDN.



DO NOT SCALE THIS DRAWING
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 DIMENSIONS ARE IN INCHES.
 TOLERANCES XX ± .02 XXX ± .008
 SEE COMP. STG. 808

GENERAL I/O CHANNEL
 (DMM MACHINE FOUNDATION)
 THE SCHEMATIC
 31262-60001
 PART NUMBER
 0-31262-60001-6



ASSEMBLY SEQUENCE:

1. ASSEMBLE FRONT BRACKET TO UNDERSIDE OF KEYBOARD.
2. ASSEMBLE REMAINDER OF TABLE PARTS TOGETHER AS SHOWN.
3. REMOVE REAR DOOR FROM COMPUTER.
4. REST TABLE ON FRONT BRACKET AND PUSH TO MAKE BUTTONS FLUSH WITH THE COMPUTER SIDE.
5. FASTEN TABLE TO FRONT BRACKET WITH 4 SCREWS AND LOCKWASHERS.
6. FASTEN REAR PANEL OF TABLE TO HOLES IN REAR OF COMPUTER WITH 4 SCREWS, 4 NUTS, AND 1/2 LOCKWASHERS.

QTY.	PART NO.	DESCRIPTION	REF. ONLY
1	31381-0001	TABLE TOP ASSY	REF ONLY
1	31381-0002	FRONT BRACKET	REF ONLY
1	31381-0003	REAR PANEL	REF ONLY
1	31381-0004	FRONT BRACKET	REF ONLY
1	31381-0005	FRONT BRACKET	REF ONLY
1	31381-0006	FRONT BRACKET	REF ONLY
1	31381-0007	FRONT BRACKET	REF ONLY
1	31381-0008	FRONT BRACKET	REF ONLY
1	31381-0009	FRONT BRACKET	REF ONLY
1	31381-0010	FRONT BRACKET	REF ONLY
1	31381-0011	FRONT BRACKET	REF ONLY
1	31381-0012	FRONT BRACKET	REF ONLY
1	31381-0013	FRONT BRACKET	REF ONLY
1	31381-0014	FRONT BRACKET	REF ONLY
1	31381-0015	FRONT BRACKET	REF ONLY
1	31381-0016	FRONT BRACKET	REF ONLY
1	31381-0017	FRONT BRACKET	REF ONLY
1	31381-0018	FRONT BRACKET	REF ONLY
1	31381-0019	FRONT BRACKET	REF ONLY
1	31381-0020	FRONT BRACKET	REF ONLY
1	31381-0021	FRONT BRACKET	REF ONLY
1	31381-0022	FRONT BRACKET	REF ONLY
1	31381-0023	FRONT BRACKET	REF ONLY
1	31381-0024	FRONT BRACKET	REF ONLY
1	31381-0025	FRONT BRACKET	REF ONLY
1	31381-0026	FRONT BRACKET	REF ONLY
1	31381-0027	FRONT BRACKET	REF ONLY
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1	31381-0036	FRONT BRACKET	REF ONLY
1	31381-0037	FRONT BRACKET	REF ONLY
1	31381-0038	FRONT BRACKET	REF ONLY
1	31381-0039	FRONT BRACKET	REF ONLY
1	31381-0040	FRONT BRACKET	REF ONLY
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1	31381-0050	FRONT BRACKET	REF ONLY
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1	31381-0056	FRONT BRACKET	REF ONLY
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1	31381-0058	FRONT BRACKET	REF ONLY
1	31381-0059	FRONT BRACKET	REF ONLY
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1	31381-0063	FRONT BRACKET	REF ONLY
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1	31381-0066	FRONT BRACKET	REF ONLY
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1	31381-0069	FRONT BRACKET	REF ONLY
1	31381-0070	FRONT BRACKET	REF ONLY
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1	31381-0075	FRONT BRACKET	REF ONLY
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1	31381-0078	FRONT BRACKET	REF ONLY
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1	31381-0097	FRONT BRACKET	REF ONLY
1	31381-0098	FRONT BRACKET	REF ONLY
1	31381-0099	FRONT BRACKET	REF ONLY
1	31381-0100	FRONT BRACKET	REF ONLY

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TOLERANCES: .XX ± .02 .XXX ± .006
SEE COMP. STD. 608

REV A 7-11-78
SCALE 1/4
PART NUMBER 31381 A
NEWLETT PACKARD
D-31381-90001-1

DATE	BY	CHKD	APP'D	DESCRIPTION																													
01	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			

31381-90001-1
NEWLETT PACKARD
D-31381-90001-1