

INSTRUCTION MANUAL

**2601
R2601
MAINFRAME**

MR20E



TM763794



MANUFACTURERS OF CATHODE-RAY OSCILLOSCOPES

INSTRUCTION MANUAL

Serial Number

1030555

**2601
R2601
MAINFRAME**



WARRANTY

All Tektronix instruments are warranted against defective materials and workmanship for one year. Tektronix transformers, manufactured in our plant, are warranted for the life of the instrument.

Any questions with respect to the warranty, mentioned above should be taken up with your Tektronix Field Engineer or Representative.

All requests for repairs and replacement parts should be directed to the Tektronix Field Office or representative in your area. This procedure will assure you the fastest possible service. Please include the instrument Type (or Part Number) and Serial or Model Number with all requests for parts or service.

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TABLE OF CONTENTS

	Page		Page
SECTION 1 2601 SPECIFICATION		SECTION 5 ADJUSTMENT PROCEDURE	
Introduction	1-1	Introduction	5-1
Accessories	1-1	Equipment Required	5-1
Electrical Characteristics	1-1	General	5-1
		Test Equipment	5-1
SECTION 2 OPERATING INSTRUCTIONS		Adjustment	5-1
Introduction	2-1	General	5-1
Line Voltage	2-1	Preliminary	5-1
Function of Connectors	2-2	Adjustment +7-volt Supply	5-2
Interconnection Board	2-2		
2601 Option 1		SECTION 6 RACKMOUNTING	
(without interconnection board)	2-5	Introduction	6-1
SECTION 3 CIRCUIT DESCRIPTION		Rackmounting Instruction	6-1
Introduction	3-1	Mounting Methods	6-1
Low Voltage Power Supply	3-1	Rack Space Needed	6-1
General	3-1	Slideout Track Mounting	6-1
Preregulator Circuit	3-1	Installing the Instrument	6-2
+7-volt Supply	3-1		
-17-volt, +17-volt Supplies	3-1	SECTION 7 ELECTRICAL PARTS LIST	
		Parts List Abbreviations	
SECTION 4 MAINTENANCE		Parts Ordering Information	
Introduction	4-1	Special Notes and Symbols	
Cleaning	4-1	Complete Parts Lists	
Semiconductor Checks	4-1	SECTION 8 MECHANICAL PARTS LIST	
Recalibration	4-1	Mechanical Parts List Information	
Troubleshooting	4-1	Index of Mechanical Parts List and	
Troubleshooting Aids	4-1	Illustrations	
Diagrams	4-1	Mechanical Parts List	
Circuit Boards	4-1	Mechanical Parts Illustrations	
Voltages and Waveforms	4-1		
Troubleshooting Equipment	4-1	SECTION 9 DIAGRAMS	
Replacement Parts	4-1		
Standard Parts	4-1	CHANGE INFORMATION	
Special Parts	4-2		
Ordering Parts	4-2	Abbreviations and symbols used in this manual are based on or	
Component Replacement	4-2	taken directly from the IEEE Standard 260 "Standard Symbols for	
General	4-2	Units", MIL-STD-12B and other standards of the electronics	
Power Supply Removal	4-2	industry. Change information, if any, is located at the rear of this	
Circuit Board Replacement	4-2	manual.	
Interface Board and Connector Assembly	4-2		
Rectifier-Capacitor Board (Power Supply)	4-2		
Preregulator Board	4-3		
Semiconductor Replacement	4-3		

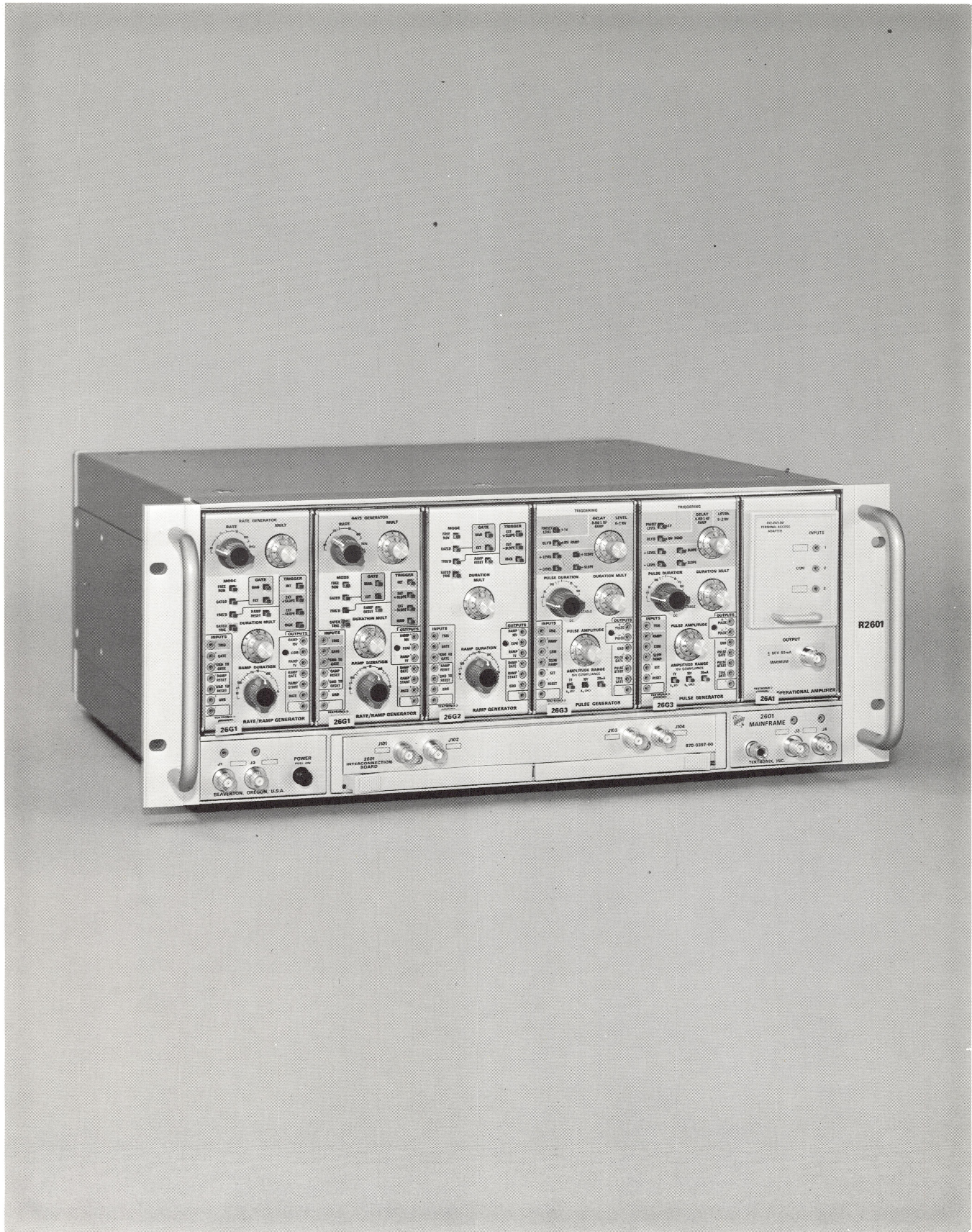


Fig. 1-1. 2601 Mainframe.

SECTION 1

2601 SPECIFICATION

Change information, if any, affecting this section will be found at the rear of this manual.

Introduction

The 2601 is a power supply and interconnecting system for 2600-Series plug-in units. The 2601 accepts up to six plug-in units and provides a board for interconnection of plug-in units to develop a specific signal. Provision is also made for front-panel or rear-panel signal input or output.

The instrument provides three preregulated voltages to power the plug-in units.

It is intended to be operated from a power source having its neutral at or near ground (earth) potential. It is not intended for operation from the phases of a multi-phase system or across the legs of a single-phase, three-wire system.

The 2601 is provided with a three-wire power cord with a three-terminal polarized plug for connection to the power source. The grounding terminal of the plug is directly connected to the instrument frame as recommended by national and international safety codes. Color coding of cord conductors follows the National Electrical Code (USAS C-1 1968) which specifies: Line, black; Neutral, white; Safety Earth or Ground, green with a yellow stripe (or solid green).

Accessories

Standard and optional accessories for the 2601 are listed on the last pages of the Mechanical Parts List.

NOTE

The pins, jacks and cables supplied to interconnect 2600-System modules are based upon a standard 40-mil (0.040 inch to ≈ 1 mm) pin diameter. These items are manufactured by Cambion (Cambridge Thermionic Corp.) and others. Allied Radio Shack catalogs the basic elements of this 40-mil system.

ELECTRICAL CHARACTERISTICS

Characteristic	Performance Requirement	Supplemental Information
+17-volt Supply Voltage	+16.0 V to +18 V	Combined loads not to exceed 50 watts, based upon nominal voltages of +17 V, -17 V, and +7 V.
Max. Current	1.25 A	
-17-volt Supply Voltage	-16.0 V to -18.0 V	
Max. Current	1.25 A	
+7-volt Supply Voltage	+6.0 V to +8.0 V	
Max. Current	6.5 A	
Nominal Line Voltage (RMS)		
100 V/110 V	$\pm 10\%$ (90 V-121 V)	
115 V/127 V	$\pm 10\%$ (103.5 V-140 V)	
220 V	$\pm 10\%$ (198 V-242 V)	
230 V/240 V/ 250 V	$\pm 10\%$ (207 V-275 V)	
Crest Factor		At least 1.3
Line Current	0.9 A	At 115 V, 60 Hz
Power	95 Watts	At 115 V, 60 Hz
Frequency	48 to 440 Hz	
Fuses		
Line		1.5 A Fast
230 V		1 A Fast

SECTION 2

OPERATING INSTRUCTIONS

Change information, if any, affecting this section will be found at the rear of this manual.

Introduction

This section of the manual describes the Line Voltage Selector, Line Voltage requirements, Interconnection Circuit Board, and the function of the front- and rear-panel connectors.

Line Voltage

The 2601 can be operated from either a low-line (90 to 136 volts) or a high-line (180 to 272 volts) source voltage. The Line Voltage Selector assembly on the rear panel converts the instruments from one operating range to the other. In addition, the Selector assembly changes transfer primary connections for HI and LO regulating ranges within the two line ranges. The Selector assembly includes two fuses; one fuse is connected for 90 to 136-volt operation and both are connected for 180 to 272 volt operation.

An important consideration in choosing the correct settings for a given nominal line voltage is the crest factor. Crest factor is defined as the ratio of the Sine-Wave-Peak Amplitude to the Root-Mean-Square Amplitude as shown in the following formula:

$$\text{Crest Factor} = \frac{E_{\text{peak}}}{E_{\text{RMS}}}$$

The minimum acceptable crest factor at the lower end of a given regulating range is 1.3.

Use the following procedure to obtain the proper line voltage and regulating range setting of the Line Voltage selector:

1. Disconnect the instrument from the power source.
2. Remove the Voltage Selector assembly cover.
3. To convert from 115-volt to 230-volt line range, pull out the Voltage selector, See Fig. 2-1, rotate it 180° (arrow toward 230-volt designation) and plug into the lower set of holes. Change the line-cord power plug to match the power-source receptacle, or use a 115- to 230-volt adapter.

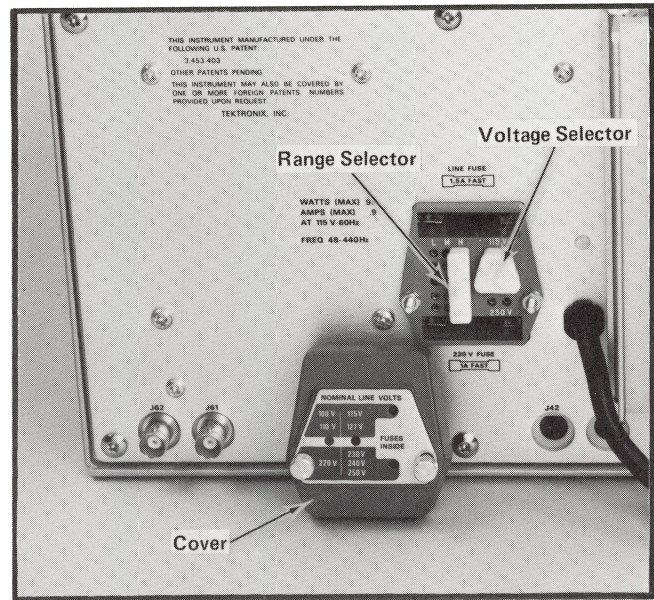


Fig. 2-1. Voltage Selector assembly with cover removed.

4. To change regulating range, pull out the Range selector bar, Fig. 2-1, slide the bar to the desired position and plug it back in.

5. Re-install the cover.

6. Be sure that the indicating tabs on the selector bars are protruding through the correct holes for the desired line voltage and regulating ranges.

CAUTION

Damage to the instrument may result from incorrect Line Voltage Selector settings.

TABLE 2-1

Range Selector Position	Regulating Range	
	115 volt	230 volt
LO	90 V to 118 V	180 V to 236 V
HI	104 V to 136 V	208 V to 272 V

Operating Instructions—2601/R2601

A thermal cutout in the 2601 disconnects the power to the instrument if the internal temperature exceeds a safe operating level. The thermal device will automatically restore power when temperature returns to a safe level.

FUNCTION OF CONNECTORS

Any input or output signal of the plug-in modules may be connected through the BNC connectors provided on the front and rear panels. Holes are prepunched in the rear panel to accommodate an additional 4 pairs of BNC connectors.

The front- and rear-panel BNC connectors are connected to the 80-pin connectors using solderless connectors. The solderless connectors attach to pins which extend through the Interconnection Board/Plug-in module interface circuit board and are easily moved to provide access to any of the terminal pins (except terminals 1 through 4, J210, which are power-supply terminals).

INTERCONNECTION BOARD

The 670-0397-00 Interconnection board (Fig. 2-2) provides a convenient means of interconnecting any of the

plug-in inputs and outputs, as well as the front- and rear-panel connectors, at one location.

Also available on the Interconnection board are the +7, +17, and -17-volt preregulated supplies and the Utility and Reference grounds.

The area designated M1 gives access to the first (left) plug-in compartment terminals, M2 to the second, etc.

The numbered jacks, 1, 2, 3.... (on each of the six areas, M1, M2, etc.) correspond to the numbered input jacks, if any, on each plug-in module front panel. The lettered jacks, A, B, C.... correspond to the lettered output jacks on the plug-in module front panel.

Jacks XA, XB, XC....are free lines for access to front and rear-connectors on the mainframe. The (J11) designation below XA indicates internal connection. Reassignment is easily accomplished at the rear of the mainframe Interface board (Fig. 2-3). Marking on the Interface board is similar to that on the Interconnection board, with one notable addition; pins marked S are grounds for coaxial shields.

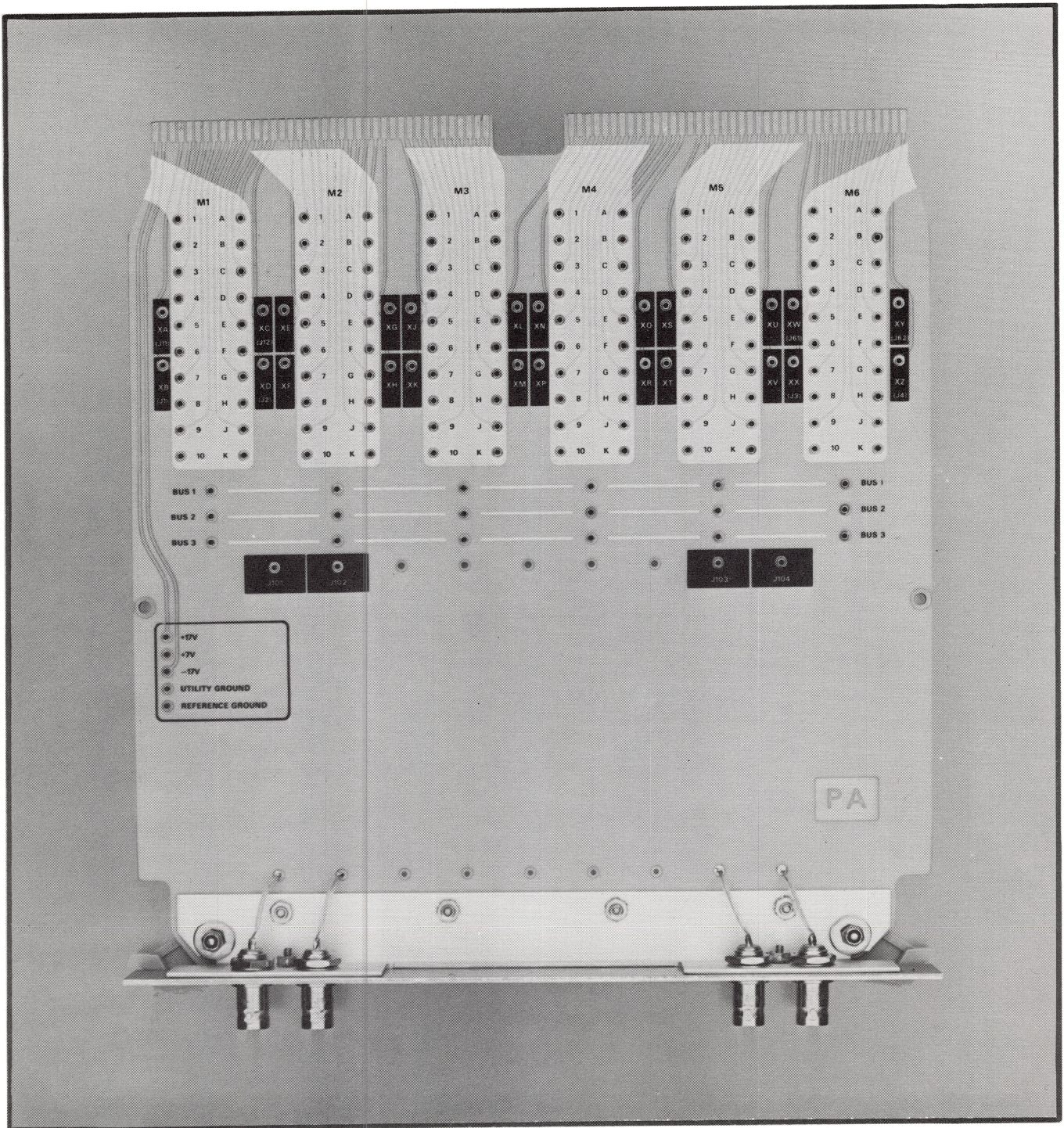


Fig. 2-2. 2601 Interconnection Board.

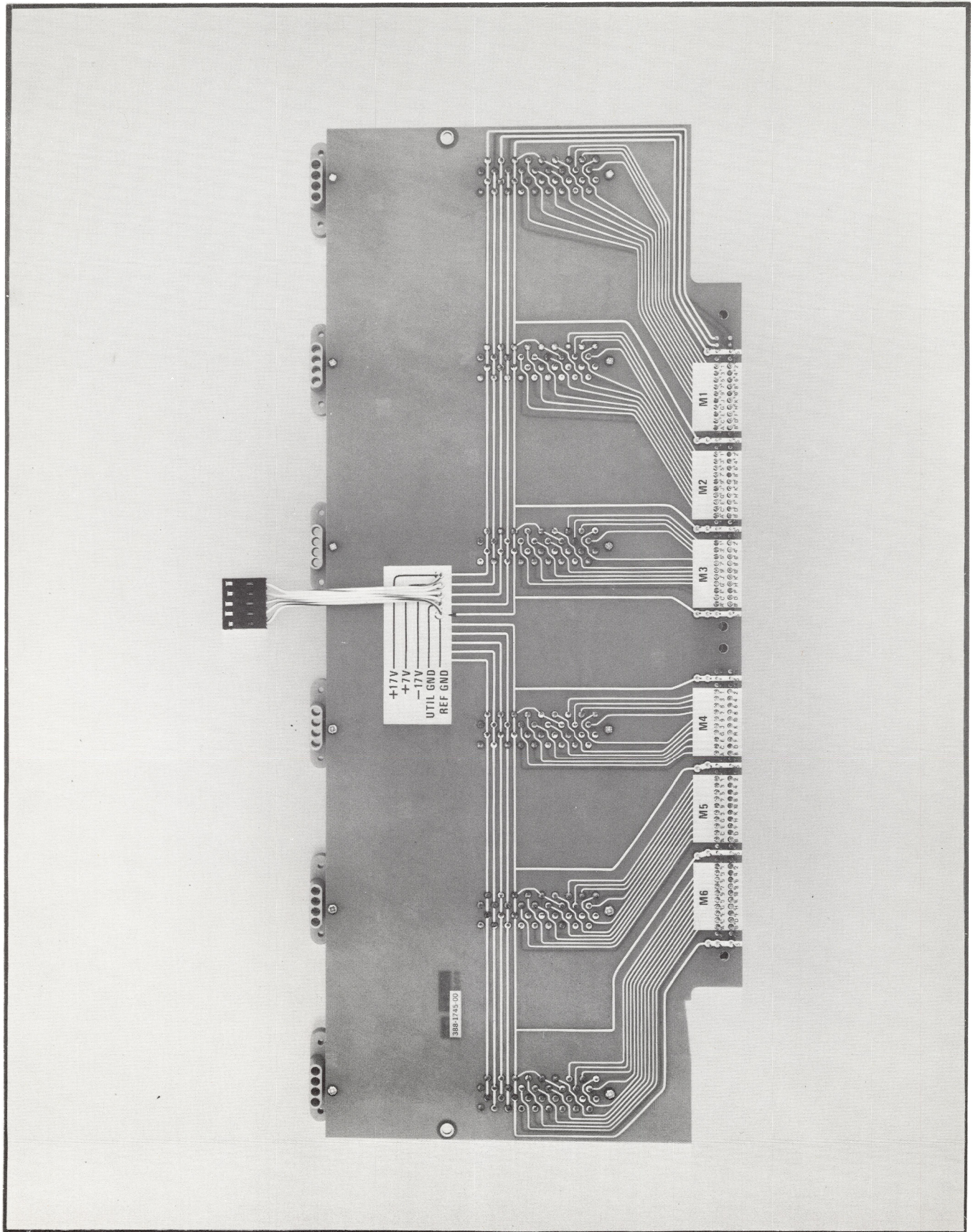


Fig. 2-3. 2601 Interface Board showing 80-pin connector pin numbers.

2601 Option 1 (without interconnection board)

A blank panel is provided for use in the interconnecting board compartment. See Fig. 2-4.

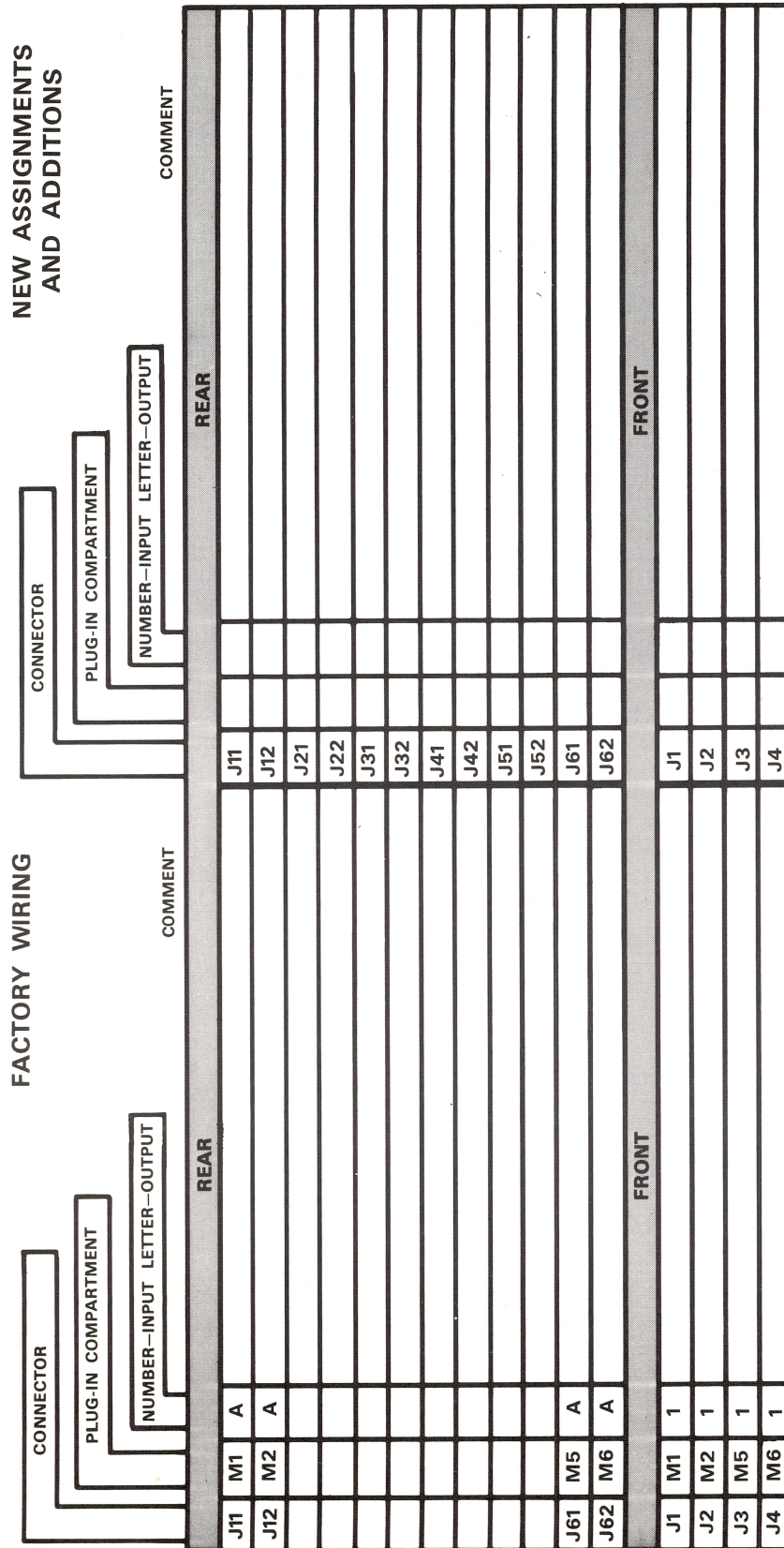
The blank chassis (part of the blank panel assembly) contains information about the internal wiring supplied with this option.

The left half shows the assignments of connections relative to plug-in compartments and module Inputs and Outputs. For Example, J1 (front panel) is connected to '1'

Input connector in plug-in compartment M1 (first compartment on the left). J11 (rear panel) is connected to 'A' Output connector in plug-in compartment M1.

The connections shown may be changed as desired to suit the particular requirements by moving the solderless connectors on the rear of the 80-pin connectors.

Space is available on the right half of the blank chassis under 'New Assignments and Additions' to record any changes of assignment. The anodized aluminum chassis provides a good, easily erasable surface to record the information.



PN 334-1638-00

016-0266-00 ASSEMBLY

MAINFRAME FRONT AND REAR CONNECTORS CAN BE INTERNALLY REWIRED TO SUIT THE APPLICATION.
SEE OPERATING INSTRUCTIONS, SECTION TWO, OF THE 2601 INSTRUCTION MANUAL.

Fig. 2-4. Blank panel provided with Option 1.

SECTION 3

CIRCUIT DESCRIPTION

Change information, if any, affecting this section will be found at the rear of the manual.

Introduction

This section of the manual contains an electrical description of the circuits in the 2601.

It is suggested that the schematics provided at the rear of the manual be referred to while studying the circuit description.

LOW VOLTAGE POWER SUPPLY

General

The Low-Voltage Power-Supply circuit provides three preregulated voltages to supply power for the six plug-in units.

The voltage input stage includes the Voltage Selector Assembly which permits selection of the nominal operating voltage and regulating range for the instrument, and the preregulator stage to maintain a constant output of the low-voltage transformer should change in line voltage occur.

Preregulator Circuit

The Preregulator circuit limits the peak-to-peak voltage across T705 primary to maintain constant secondary voltage output. Bridge rectifiers CR706 and CR726 through CR729 ascertain correct voltage polarity for operation of the regulating circuit, which consists of pass element, Q716 and its control transistors, Q718 and Q725. Silicon Controlled Rectifier, Q707, operates only at instrument turn on to handle in-rush current and limit the voltage across Q716.

When the instrument is turned on, the line voltage initially appears across T705 primary and bridge rectifier CR706. When the voltage across CR706 reaches approximately 30 volts, Q707 turns on. R707 is placed in series with T705 primary; and R707 resistance, together with the inductive reactance of the primary, limit the in-rush current. Also, the shunt path formed by R707 and Q707 limits the voltage across Q716.

As the secondary voltages build up, Q718 receives collector voltage and base drive from rectifiers CR726 and CR729. Q716, as it comes into conduction, starts to share the primary current with Q707. When the voltage from CR726-CR729 reaches about 80% of its final value, Q711 receives base drive through R713 and VR713. Conduction in Q711 allows Q707 to turn off, transferring the total current to Q716. The secondary voltage continues to increase until Q725 turns on.

When the current in the network consisting of R722, R723, R724, CR723, R725, CR727-CR728, is sufficient to produce a voltage drop of 6.2 volts across R724 and part of R723 (to CR723 cathode), Q725 will conduct. The 6.2 volt requirement is established by VR725. CR723 offsets Q725 base-emitter voltage and provides thermal compensation for Q725.

When Q725 turns on, the current in R720 reduces the Q716-Q718 base drive, limiting the T705 primary current. The degree of limiting, and hence control of the voltage across the secondary windings, is dependent upon the setting of R723. R723, the REG SET control, provides an adjustment of the resistance network across the feedback winding, which changes the current requirements necessary to produce the 6.2-volt drop.

+7-Volt Supply

Bridge Rectifier CR730, A-D provides the +7-volt preregulated DC supply. The output is filtered by C732 and a minimum load is provided by R732 to maintain preregulation in the event that the 2601 is turned on with no plug-in unit load.

-17-, +17-Volt Supplies

Bridge Rectifier CR740, CR741, CR742, and CR743 provides both the -17- and +17-volt preregulated voltages.

Filtering is provided by C742-C744 and minimum load by R742 and R744.

NOTES

Lined writing area with horizontal lines for notes.

SECTION 4 MAINTENANCE

Change information, if any, affecting this section will be found at the rear of this manual.

Introduction

This section of the manual contains maintenance information for use in preventive or corrective maintenance and troubleshooting of the 2601.

Cleaning

Avoid the use of chemical cleaning agents which might damage the plastics used in this instrument. Avoid chemicals which contain benzene, toluene, xylene, acetone or similar solvents.

Semiconductor Checks

The periodic checks of the semiconductors in the 2601 are not recommended. The best check of semiconductor performance is actual operation in the instrument.

Recalibration

A calibration check is recommended after each 1000 hours of operation or every year if used infrequently. Replacement of components may necessitate recalibration of the affected circuits. Complete calibration instructions are given in the Performance Check/Adjust section.

TROUBLESHOOTING

Troubleshooting Aids

Diagrams. Circuit diagrams are given on foldout pages in Section 9. The circuit number and electrical value of each component are given on the diagrams. Important voltages are also shown.

Circuit Boards. The circuit boards used in the 2601 are outlined with a tint band on the Schematic Diagram, and a photograph of each board is shown to the left of the diagram. Each board mounted electrical component is identified on the photograph by its circuit number.

Voltages and Waveforms. Often the defective component(s) can be located by checking for the correct voltage or waveform in the circuit. Typical voltages are given on the Schematic Diagrams. These voltages are not absolute and

may vary slightly from instrument to instrument. To obtain operating conditions similar to those used to take the reading, see the instructions in the Schematic Diagrams section.

The Preregulator circuit is mounted on the hinged heat sink. When performing maintenance in the preregulator portion of the Power Supply, the instrument can be operated with the heat sink open.

WARNING

Dangerous voltages exist within the preregulator circuit. Exercise extreme caution.

Troubleshooting Equipment

The following equipment is useful for troubleshooting the 2601.

1. Semiconductor Tester. Some means of testing the transistors and diodes used in the instrument is helpful. Probably the most convenient check is that of measuring the junction resistance. For more complete tests, the Tektronix Type 576 is recommended.

2. DC Voltmeter and Ohmmeter. For most applications a 20,000 ohm/volt VOM can be used to check voltages and resistance, if allowance is made for the circuit loading when making voltage measurements at high impedance points.

3. Test Oscilloscope. A test oscilloscope is required to check circuit waveforms. An oscilloscope having a DC to 10 MHz frequency response and 1 mV/Div to 10 V/Div vertical deflection factor is suggested. A 10X probe should be used where circuit loading is critical.

REPLACEMENT PARTS

Standard Parts

All electrical and mechanical parts replacements for the 2601 can be obtained through your local Tektronix Field Office or representative. However, many of the standard

electronic components can be obtained locally in less time than is required to order them from Tektronix, Inc. Before buying or ordering replacement parts, check the parts lists for value, tolerance, rating and description.

NOTE

All replacement parts should be direct replacements, unless it is known that a different component will not adversely affect the instrument performance.

Special Parts

Some parts are manufactured or selected by Tektronix, Inc. to satisfy particular requirements, or are manufactured for Tektronix, Inc. to our specifications. These special parts are indicated in the parts lists by an asterisk preceding the part number. Most of the mechanical parts used in the instrument have been manufactured by Tektronix, Inc. Order all special parts directly from your local Tektronix Field Office or representative.

Ordering Parts

When ordering replacement parts from Tektronix, Inc., refer to the Parts Ordering Information and Special Notes and Symbols on the page immediately preceding the Electrical Parts List, Section 7.

Include the following information:

1. Instrument Type (2601).
2. Instrument Serial number.
3. A description of the part (if electrical, include the circuit number).
4. Tektronix Part Number.

COMPONENT REPLACEMENT

General

The exploded-view drawings associated with the Mechanical Parts Lists (Figs. 1 and 2, pullout page) may be helpful when disassembling or reassembling individual components or subassemblies.

Power Supply Removal

To remove the Power Supply as a unit, use the following procedure:

1. Remove top and bottom covers.

2. Disengage the ON-OFF switch push rod from the switch assembly as shown in Fig. 4-1.

3. Remove the 5-pin connector from the edge of the Rectifier-Capacitor board.

4. Remove the ten (two under hinged heat sink) screws which secure the rear panel, and carefully remove the power supply from the mainframe.

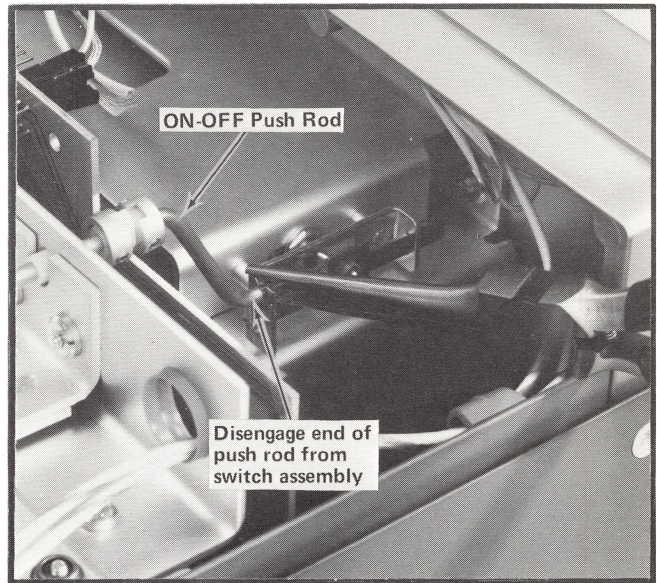


Fig. 4-1. Disconnecting ON-OFF push rod from switch assembly.

Circuit Board Replacement

Interface Board and Connector Assembly. Remove the interface board, 80-pin connectors, and the module (vertical) connectors as a unit.

Rectifier-Capacitor Board (Power Supply). Remove the circuit board as follows:

1. Remove the six screws which hold the filter capacitors in place.
2. Unsolder the four leads (to the rectifier assembly) either at the circuit board or at the rectifier.
3. Remove the four hex nuts from the transformer end of the circuit board.
4. Lift the board away from the transformer board pins, 13 through 17.

To replace the circuit board, reverse the order of the removal procedure. Observe these precautions in replacing the board.

1. Carefully align the board pin connectors with the transformer board pins.
2. When replacing the capacitors, note the polarity. The positive terminal of each capacitor is marked.
3. When replacing the capacitor screws, avoid cross-threading and use of excess torque.

Preregulator Board (mounted on hinged heat sink). Remove the circuit board as follows:

1. Unsolder the leads (brown on white, red on white) from the circuit board.
2. Remove the grounding screw (yellow on green lead) from the chassis.
3. Disconnect the two solderless pin connector assemblies.
4. Remove the two screws which pass through the circuit board, heat sink, and power transistor. A Beryllium Oxide heat conducting electrical insulator lies between the power transistor and the aluminum heat sink.

WARNING

Beryllium oxide heat sinks are safe during normal instrument operation or maintenance. The only hazard is a possible toxic effect if fumes or fine particles are inhaled. Avoid heating above 1800°F, crushing, or grinding which could produce fumes or fine particles.

Semiconductor Replacement

Replacement semiconductors should be of the original type or a direct replacement. Fig. 4-2 shows the lead configuration of the semiconductors used in this instrument. Some plastic case transistors may have lead configurations which do not agree with those shown here. If a replacement transistor is made by a manufacturer other than the original, check the manufacturer's basing diagram for correct basing. All transistor sockets in this instrument are wired for the standard basing as used for metal-cased transistors.

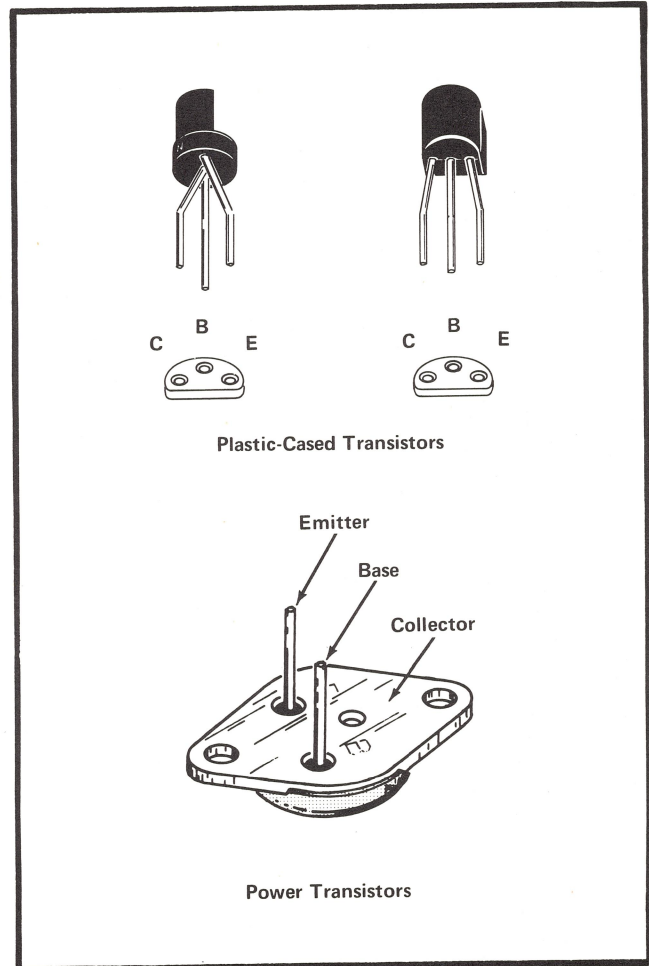


Fig. 4-2. Semiconductor Lead Configuration.

SECTION 5

ADJUSTMENT PROCEDURE

Change information, if any, affecting this section will be found at the rear of this manual.

Introduction

To assure instrument accuracy, check the performance of the 2601 every 1000 hours of operation or every year if used infrequently. Before adjusting the Preregulator output, thoroughly clean and inspect the instrument as outlined in the Maintenance section.

Completion of the Adjustment procedure ensures that the instrument meets the electrical specification given in Section 1.

TEST EQUIPMENT REQUIRED

General

The following test equipment and accessories, or equivalent, are required for adjustment of the 2601. Specifications given are the minimum necessary for accurate check or adjustment. Some of the recommended equipment may have specifications that exceed those given. All test equipment is assumed to be correctly calibrated and operating within the given specifications. If equipment is substituted, it must meet or exceed the specifications of the recommended equipment.

Test Equipment

1. Variable Autotransformer. Must be capable of supplying at least 100 watts at 115 volts. If the autotransformer does not have an AC (RMS) voltmeter to indicate output voltage, monitor the voltage with an iron vane type AC voltmeter. The General Radio W10MT3W Metered Variac autotransformer is recommended.

2. Test Oscilloscope, consisting of indicator, Differential Comparator, and Time Base.

a. Differential Comparator—Comparison Voltage range from zero to ± 18 volts, deflection factor at least 50 mV/Div.

b. Time—Base Any compatible with indicator.

A recommended Tektronix oscilloscope is:

7504 Oscilloscope, with:

7A13 Differential Comparator Vertical
7B50 Time Base

Or,

561B Oscilloscope, with:

3A7 Differential Comparator
3B4 Time Base

3. Resistors. Two-22.7 Ω , $\pm 5\%$, 15 watt or greater, and one-2 Ω , $\pm 5\%$, 25 watt or greater.

4. 1X probe. Tektronix Type P6011 is recommended.

5. Clip leads to connect load resistors to the power supplies.

ADJUSTMENT

General

The following procedure uses the equipment listed under Test Equipment Required. If equipment is substituted, control settings or test equipment set up may need to be altered to meet the requirements of the test equipment used. Detailed operating instructions for the test equipment are not given in this procedure.

NOTE

The tolerances given in this procedure are for temperatures as follows:

Adjustment should be made at $+25^{\circ}\text{C}$, $\pm 5^{\circ}\text{C}$, and the performance may be checked at any temperature from 0°C to $+50^{\circ}\text{C}$.

The waveform photo shown in the procedure was taken with a Tektronix Oscilloscope Camera System.

PRELIMINARY PROCEDURE

For adjustment procedure for voltage check:

1. Remove the top cover of the 2601.

2. Set the Line Voltage Selector assembly switches on the 2601 rear panel for 115 V range, HI.

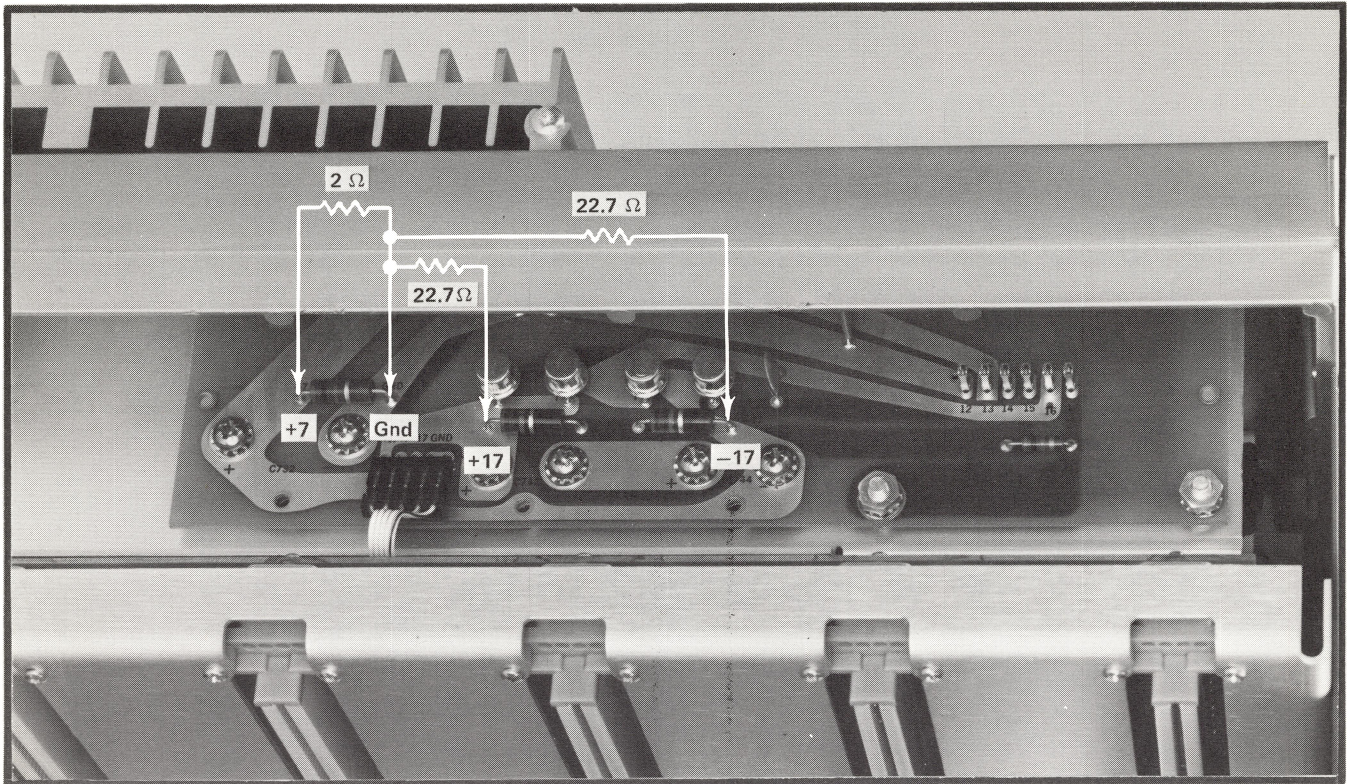


Fig. 5-1. +7, +17 and -17-volt points on Rectifier-Capacitor Board.

3. Connect the autotransformer to a suitable AC voltage source.
4. Set the autotransformer output voltage to 115.
5. Connect the load resistors to the +7 V, +17 V, and -17 V points as detailed in Fig. 5-1.
6. Remove all plug-in units from the 2601.
7. Plug the 2601 line cord into the autotransformer output.
8. Remove the two screws on rear heat sink and swing the heat sink gate open.
9. Pull the power switch ON.

Set the Test Oscilloscope control as follows:

Differential Comparator

+Input	Gnd
-Input	Gnd

Volts/Div	50 mV
Variable	Pulled
Comparison Voltage	+6.7 volts

Time Base

Triggering Mode	Auto
Coupling	AC
Source	Int
Time/Div	2 ms

1. Adjust +7-volt Supply

- a. Connect a 1X probe from the Differential Comparator +Input to the 2601 +7-volt supply.
- b. Position the trace vertically to graticule center.
- c. Switch +Input to DC.
- d. Switch -Input to V_C .

WARNING**SHOCK HAZARD**

Line voltages exist in the Preregulator circuit. Use extreme caution in making the following adjustment.

e. ADJUST—R723 (mounted on regulator board on heat sink gate) to set the waveform valley to graticule center. See Fig. 5-2.

f. CHECK—That the +17 and -17 volt supplies read between 16.0 and 18.0 volts.

g. Shut off power and remove load resistors and probe.

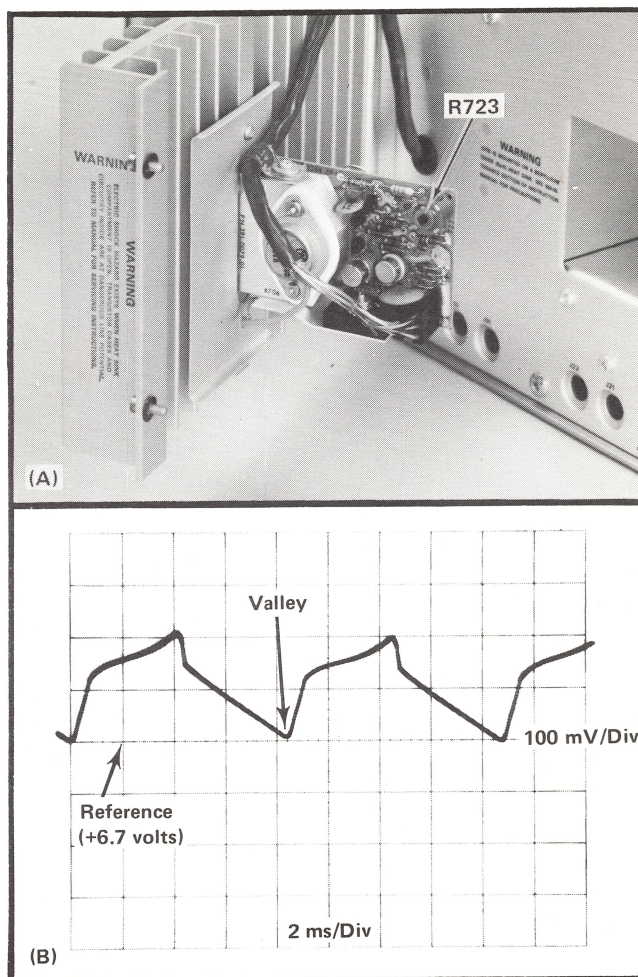


Fig. 5-2. (A) Location of R723 (B) Typical waveform showing correct setting of R723.

SECTION 6

RACKMOUNTING

Change information, if any, affecting this section will be found at the rear of this manual.

Introduction

The R2601 is designed for mounting in a standard 19-inch wide rack which has Universal, EIA, RETMA, or Western Electric hole spacing, or it can be used as a flat-package cabinet model.

When properly mounted in a rack or cabinet the instrument will meet all specifications given in Section 1.

RACKMOUNTING INSTRUCTIONS

Mounting Methods

The R2601 may be supported solely by its front mounting ears, and needs no rear support if slide-out track mounting is not needed.

The instrument will fit most 19-inch racks having universal hole spacing.

Fig. 6-1 shows the instrument installed in a cabinet type rack equipped with slide-out tracks. The instrument can be pulled out of the rack to a position which allows access to the whole instrument. The track assembly locks in the extended position.

The slide-out tracks mount to the cabinet rack front and rear vertical mounting rails.

Rack Space Needed

Height. At least 7 inches of vertical space is required to mount the instrument in a rack.

Depth. For proper circulation of cooling air, allow at least 2 inches clearance at the rear of the instrument.

Slide-out Track Mounting

The slide-out track allows the instrument to extend fully out of the cabinet.

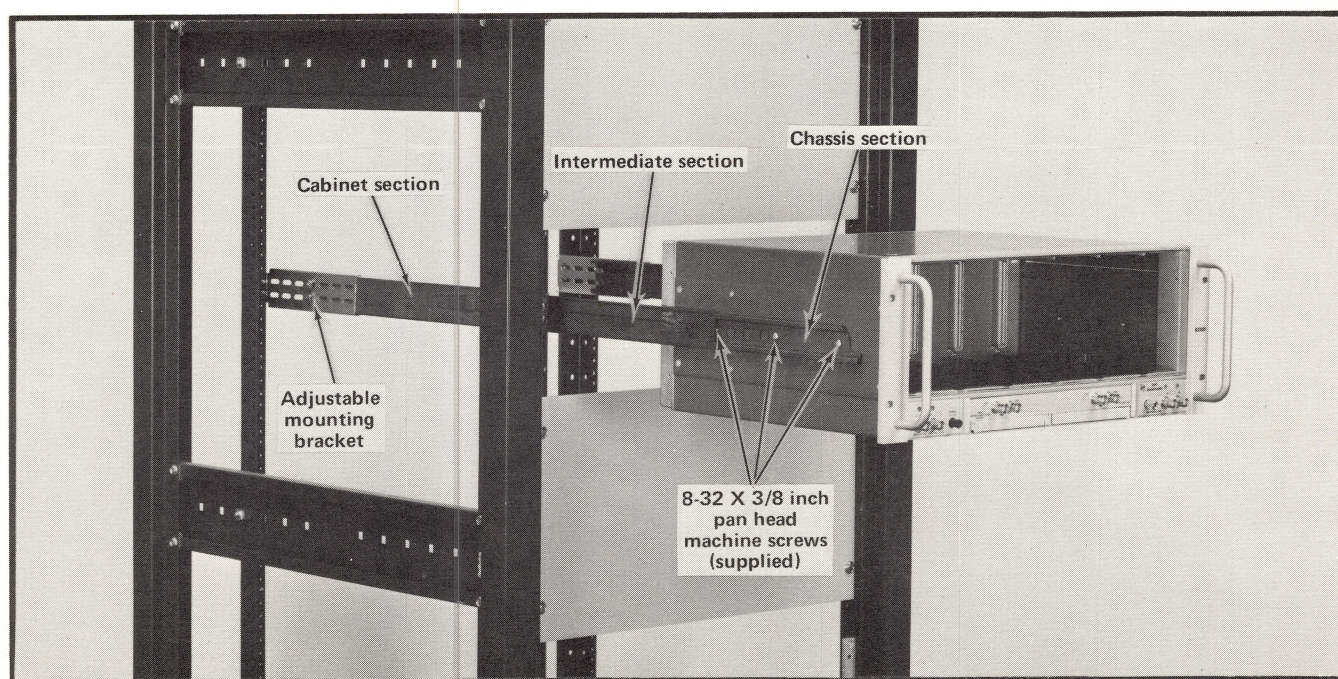


Fig. 6-1. Instrument mounted in rack equipped with slide-out tracks.

Rackmounting—2601/R2601

The slide-out tracks for the instrument consist of two assemblies, right and left sides. Each assembly consists of three sections, (1) a stationary section which attaches to the cabinet, (2) a chassis section which attaches to the instrument, and (3) an intermediate section which fits between the cabinet and chassis sections. See Fig. 6-1.

If the cabinet front and rear rails are tapped for 10-32 machine screws, the track mounting flanges should be mounted as shown in Fig. 6-2.

If the cabinet front and rear rails are drilled to clear 10-32 machine screws, the track mounting flanges should be mounted using the flat bar nuts provided. See Fig. 6-2.

The stationary and intermediate sections, for each side of the rack, are shipped as a matched set and should not be separated.

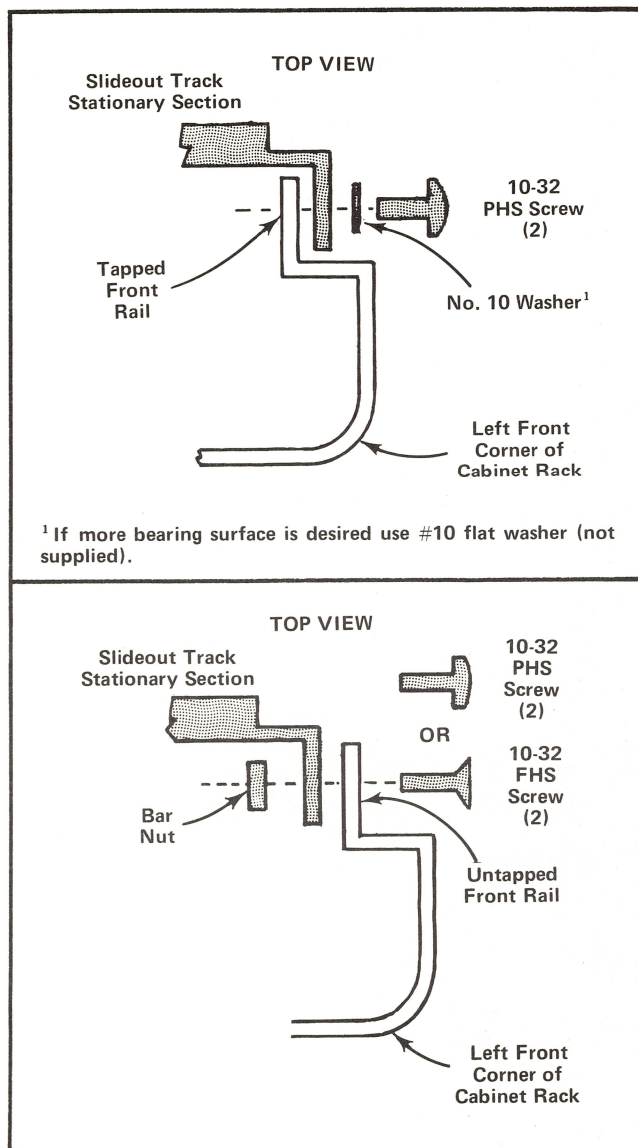


Fig. 6-2. Methods of mounting stationary track section to rails.

Note that the latch mechanism and latch stop are offset from track center. Mount the tracks in the cabinet and on the instrument with the latch and stop offset downward.

NOTE

Six 8-32 x 3/8 inch pan head screws and six No. 8 internal lockwashers are provided in the accessory package for mounting the tracks on the mainframe.

Installing the Instrument

Pull the slide-out track intermediate section out to the fully extended position.

Insert the instrument chassis sections into the intermediate sections.

Press the stop latches and push the instrument toward the rack until the latches snap into the stop holes.

Again press the stop latches and push instrument into the rack.

Secure the instrument into place with the front-panel screws.

NOTE

If the instrument does not slide all the way into the rack, loosen the screws which secure the stationary section to the rear mounting rails. Push the instrument into the rack and tighten the screws.

For smoothest sliding action, adjust front rail screws as shown in Fig. 6-3.

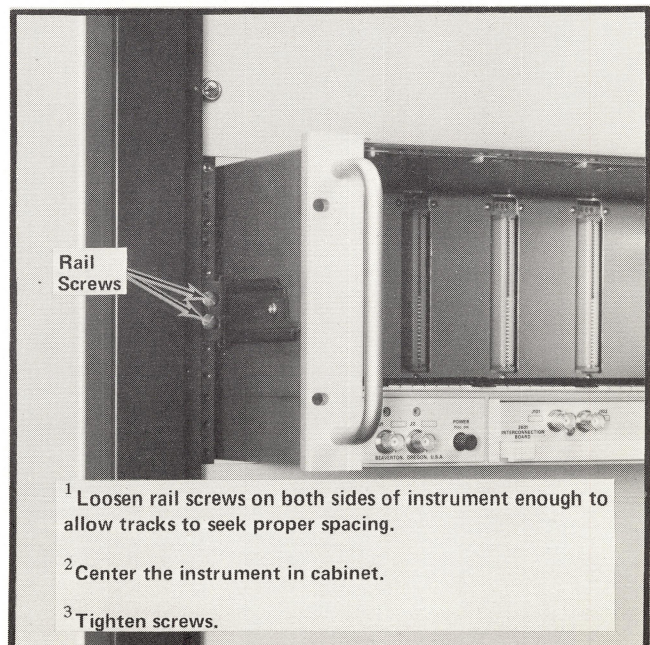


Fig. 6-3. Adjusting the slide-out tracks for smooth sliding action.

PARTS LIST ABBREVIATIONS

BHB	binding head brass	int	internal
BHS	binding head steel	lg	length or long
cap.	capacitor	met.	metal
cer	ceramic	mtg hdw	mounting hardware
comp	composition	OD	outside diameter
conn	connector	OHB	oval head brass
CRT	cathode-ray tube	OHS	oval head steel
csk	countersunk	P/O	part of
DE	double end	PHB	pan head brass
dia	diameter	PHS	pan head steel
div	division	plstc	plastic
elect.	electrolytic	PMC	paper, metal cased
EMC	electrolytic, metal cased	poly	polystyrene
EMT	electrolytic, metal tubular	prec	precision
ext	external	PT	paper, tubular
F & I	focus and intensity	PTM	paper or plastic, tubular, molded
FHB	flat head brass	RHB	round head brass
FHS	flat head steel	RHS	round head steel
Fil HB	fillister head brass	SE	single end
Fil HS	fillister head steel	SN or S/N	serial number
h	height or high	S or SW	switch
hex.	hexagonal	TC	temperature compensated
HHB	hex head brass	THB	truss head brass
HHS	hex head steel	thk	thick
HSB	hex socket brass	THS	truss head steel
HSS	hex socket steel	tub.	tubular
ID	inside diameter	var	variable
inc	incandescent	w	wide or width
		WW	wire-wound

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial or model number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

SPECIAL NOTES AND SYMBOLS

- | | |
|-----------------|---|
| ×000 | Part first added at this serial number |
| 00× | Part removed after this serial number |
| *000-0000-00 | Asterisk preceding Tektronix Part Number indicates manufactured by or for Tektronix, Inc., or reworked or checked components. |
| Use 000-0000-00 | Part number indicated is direct replacement. |

INDEX OF ELECTRICAL PARTS LIST

Title	Page No.
CHASSIS	7-1
A1 PRE REGULATOR Circuit Board Assembly	7-2
A2 RECTIFIER CAPACITOR Circuit Board Assembly	7-3
A3 INTERFACE Circuit Board Assembly	7-4
A4 INTERCONNECTING Circuit Board Assembly	7-4



SECTION 7

ELECTRICAL PARTS LIST

Values are fixed unless marked Variable.

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description
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CHASSIS

Capacitors

Tolerance $\pm 20\%$ unless otherwise indicated.

C732	290-0472-00		52,000 μF	Elect.	10 V
C742	290-0471-00		17,000 μF	Elect.	25 V
C744	290-0471-00		17,000 μF	Elect.	25 V

Semiconductor Device, Diode

CR730	152-0475-00		Silicon	Rectifier bridge 12 A, 50 V	
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Fuses

F700	159-0016-00		1 1/2 A	3 AG	Fast-Blo
F704	159-0022-00		1 A	3 AG	Fast-Blo

Connectors

J1	131-0955-00		Receptacle, electrical, BNC, female		
J2	131-0955-00		Receptacle, electrical, BNC, female		
J3	131-0955-00		Receptacle, electrical, BNC, female		
J4	131-0955-00		Receptacle, electrical, BNC, female		
J11	131-0955-00		Receptacle, electrical, BNC, female		
J12	131-0955-00		Receptacle, electrical, BNC, female		
J61	131-0955-00		Receptacle, electrical, BNC, female		
J62	131-0955-00		Receptacle, electrical, BNC, female		

Switches

Wired or Unwired

S701	260-0834-00		Toggle	POWER	
S703	260-0677-00		Thermo Open 158° $\pm 5^\circ$	closes at 128° $\pm 10\%$	
S704 ¹					
S705 ¹					

¹See Mechanical Parts List. Line Voltage Selector Body.

CHASSIS (cont)

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description
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Transformer

T705	*120-0685-00			Power
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A1 PRE REGULATOR Circuit Board Assembly

*670-1247-00

Complete Card

Capacitors

Tolerance $\pm 20\%$ unless otherwise indicated.

C706	283-0092-00	0.03 μF	Cer	200 V	+80%-20%
C714	283-0028-00	0.0022 μF	Cer	50 V	
C719	283-0067-00	0.001 μF	Cer	200 V	10%
C725	283-0003-00	0.01 μF	Cer	150 V	
C727	290-0134-00	22 μF	Elect.	15 V	

Semiconductor Device, Diodes

CR706A,B,C,D	152-0462-00	Rectifier bridge		200 V, 2.5 A
CR714	*152-0185-00	Silicon		Replaceable by 1N4152
CR723	*152-0185-00	Silicon		Replaceable by 1N4152
CR726	*152-0185-00	Silicon		Replaceable by 1N4152
CR727	*152-0185-00	Silicon		Replaceable by 1N4152
CR728	*152-0185-00	Silicon		Replaceable by 1N4152
CR729	*152-0185-00	Silicon		Replaceable by 1N4152
VR708	152-0440-00	Zener		1N3817 1.5 W, 150 V, 5%
VR713	152-0149-00	Zener		1N961B 400 mW, 10 V, 5%
VR725	152-0166-00	Zener		1N753A 400 mW, 6.2 V, 5%

Transistors

Q707	151-0509-00	SCR		400 V, 1.6 A
Q711	*151-0195-00	Silicon	NPN	TO-92 Replaceable by MPS 6515
Q716	*151-0291-00	Silicon	NPN	TO-3 Selected from 2N3773
Q718	151-0207-00	Silicon	NPN	TO-98 2N3415
Q725	*151-0195-00	Silicon	NPN	TO-92 Replaceable by MPS 6515

A1 PRE REGULATOR Circuit Board Assembly (cont)

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description		
Resistors						
Resistors are fixed, composition, $\pm 10\%$ unless otherwise indicated.						
R707	307-0060-00			6.8 Ω	1/2 W	5%
R710	316-0333-00			33 k Ω	1/4 W	
R712	316-0152-00			1.5 k Ω	1/4 W	
R713	316-0101-00			100 k Ω	1/4 W	
R714	315-0204-00			200 k Ω	1/4 W	5%
R715	315-0114-00			110 k Ω	1/4 W	5%
R717	316-0101-00			100 Ω	1/4 W	
R718	316-0150-00			15 Ω	1/4 W	
R719	315-0161-00			160 Ω	1/4 W	5%
R720	316-0392-00			3.9 k Ω	1/4 W	
R722	321-0242-00			3.24 k Ω	1/8 W	Prec 1%
R723	311-0480-00	B010100	B029999	500 Ω , Var		
R723	311-1224-00	B030000		500 Ω , Var		
R724	321-0226-00			2.21 k Ω	1/8 W	Prec 1%
R725	317-0103-00			10 k Ω	1/8 W	5%

A2 RECTIFIER CAPACITOR Circuit Board Assembly

*670-0396-00

Complete Board

Capacitors

Tolerance $\pm 20\%$ unless otherwise indicated.

C730	283-0003-00			0.01 μ F	Cer	150 V
C740	283-0003-00			0.01 μ F	Cer	150 V

Semiconductor Device, Diodes

CR740	*152-0418-00			Silicon	Rectifier Replaceable by 1N4999, 200 V, 3 A	
CR741	*152-0418-00			Silicon	Rectifier Replaceable by 1N4999, 200 V, 3 A	
CR742	*152-0418-00			Silicon	Rectifier Replaceable by 1N4999, 200 V, 3 A	
CR743	*152-0418-00			Silicon	Rectifier Replaceable by 1N4999, 200 V, 3 A	

Resistors

Resistors are fixed, composition, $\pm 10\%$ unless otherwise indicated.

R732	301-0101-00			100 Ω	1/2 W	5%
R742	304-0821-00			820 Ω	1 W	
R744	304-0821-00			820 Ω	1 W	
R746	304-0101-00			100 Ω	1 W	

A3 INTERFACE Circuit Board Assembly

Ckt. No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Description
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*670-0395-00 Complete Board

Connectors

J201	131-0984-00			Receptacle, electrical, 36-contact
J202	131-0984-00			Receptacle, electrical, 36-contact
J203	131-0984-00			Receptacle, electrical, 36-contact
J204	131-0984-00			Receptacle, electrical, 36-contact
J205	131-0984-00			Receptacle, electrical, 36-contact
J206	131-0984-00			Receptacle, electrical, 36-contact
J210	131-0626-00			Receptacle, electrical, 80-contact, female
J211	131-6266-00			Receptacle, electrical, 80-contact, female

A4 INTERCONNECTING Circuit Card Assembly

*670-0397-00 Complete Card

Connectors

J101	131-0955-00			Receptacle, electrical, BNC, female
J102	131-0955-00			Receptacle, electrical, BNC, female
J103	131-0955-00			Receptacle, electrical, BNC, female
J104	131-0955-00			Receptacle, electrical, BNC, female

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations which appear either on the back of the diagrams or on pullout pages immediately following the diagrams of the instruction manual.

INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the Description column.

Assembly and/or Component
Detail Part of Assembly and/or Component
mounting hardware for Detail Part
Parts of Detail Part
mounting hardware for Parts of Detail Part
mounting hardware for Assembly and/or Component

Mounting hardware always appears in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation.

Mounting hardware must be purchased separately, unless otherwise specified.

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial or model number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

ABBREVIATIONS AND SYMBOLS

For an explanation of the abbreviations and symbols used in this section, please refer to the page immediately preceding the Electrical Parts List in this instruction manual.

**INDEX OF
MECHANICAL PARTS LIST & ILLUSTRATIONS**

Title	Page Nos. of Parts List
Figure 1 Exploded	8-1 thru 8-4
Figure 2 Power Supply & Standard Accessories	8-5 thru 8-9
Figure 3 Repackaging	<i>(parts list combined with illustration)</i>

SECTION 8

MECHANICAL PARTS LIST

FIGURE 1 EXPLODED

Fig. & Index No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				t	y	1	2	3		4
1-1	670-0397-00			1						CIRCUIT CARD ASSEMBLY—INTERCONNECT A4
	- - - - -			-						circuit board assembly includes:
	388-1747-00			1						CIRCUIT CARD
-2	105-0212-00			1						EJECTOR, circuit card, left
	- - - - -			-						mounting hardware: <i>(not included w/ejector)</i>
-3	211-0015-00			1						SCREW, 4-40 x 0.50 inch, RHS
-4	210-0949-00			1						WASHER, flat, 0.141 ID x 0.50 inch OD
-5	210-0054-00			1						WASHER, lock, split, #4
-6	210-0589-00			1						NUT, locking, 4-40 x 0.25 inch
-7	105-0211-00			1						EJECTOR, circuit card, right
	- - - - -			-						mounting hardware: <i>(not included w/ejector)</i>
	211-0015-00			1						SCREW, 4-40 x 0.50 inch, RHS
	210-0949-00			1						WASHER, flat, 0.141 ID x 0.50 inch OD
	210-0054-00			1						WASHER, lock, split, #4
	210-0589-00			1						NUT, locking, 4-40 x 0.25 inch
-8	131-0955-00			4						CONNECTOR, receptacle, female BNC
	- - - - -			-						each connector includes:
-9	- - - - -			1						NUT, hex.
-10	- - - - -			1						WASHER, lock
-11	333-1364-00			1						PANEL, front
	- - - - -			-						mounting hardware: <i>(not included w/panel)</i>
-12	211-0071-00			2						SCREW, 4-40 x 0.375 inch, THS
-13	210-0586-00			2						NUT, keps, 4-40 x 0.25 inch
-14	407-0847-00			1						BRACKET, angle, circuit card
	- - - - -			-						mounting hardware: <i>(not included w/bracket)</i>
-15	211-0116-00			4						SCREW, sems, 4-40 x 0.312 inch, PHB
-16	210-0586-00			4						NUT, keps, 4-40 x 0.25 inch
-17	136-0388-00			171						SOCKET, pin, terminal
-18	333-1333-00			1						PANEL, front, right
-19	333-1334-00			1						PANEL, front, left
-20	200-0103-00			1						CAP, binding post
-21	129-0077-00			1						POST, binding
	- - - - -			-						mounting hardware: <i>(not included w/post)</i>
-22	210-0455-00			1						NUT, hex., 0.25-28 x 0.375 inch
-23	210-0011-00			-						WASHER, lock, internal, 0.25 ID x 0.468 inch OD

FIGURE 1 EXPLODED (cont)

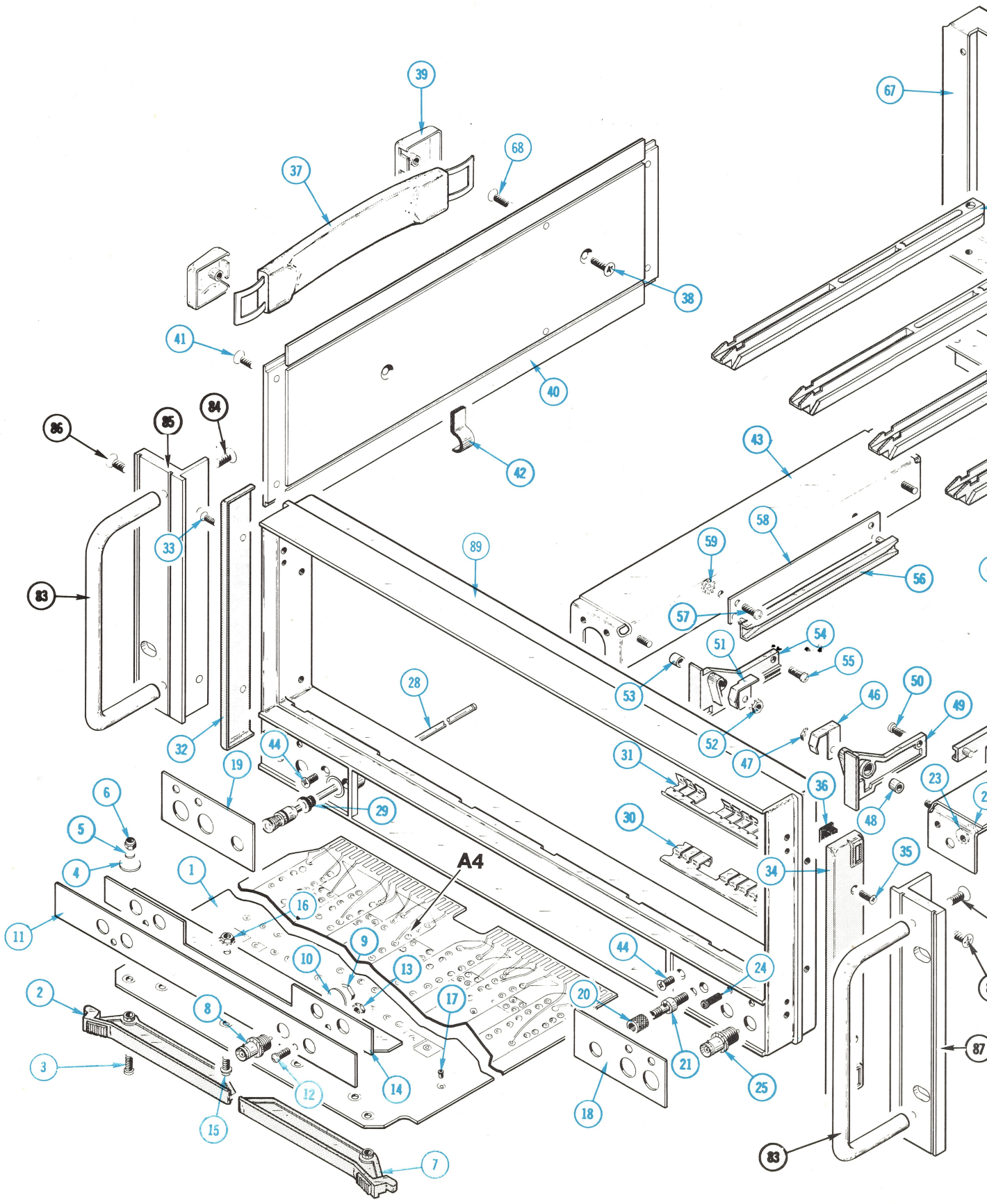
Fig. & Index No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description
				t	1	2	3	4	
1-24	136-0387-00			4					SOCKET, 1 pin
-25	131-0955-00			4					CONNECTOR, receptacle, female BNC
	- - - - -			-					each connector includes:
-26	- - - - -			1					NUT, hex.
-27	- - - - -			1					WASHER, lock
-28	384-1019-00			1					SHAFT, extension, w/gray knob
-29	358-0403-00			2					BUSHING, shaft, plastic
-30	348-0266-00			1					SHIELDING GASKET, electronic, bottom
-31	348-0268-00			1					SHIELDING GASKET, electronic, top
-32	200-1132-00			1					CAP, trim, handle side
	- - - - -			-					mounting hardware: (not included w/cap)
-33	211-0101-00			2					SCREW, 4-40 x 0.25 inch, 100° csk, FHS
	- - - - -								
-34	200-1131-00			1					CAP, trim, foot side
	- - - - -			-					mounting hardware: (not included w/cap)
-35	211-0101-00			2					SCREW, 4-40 x 0.25 inch, 100° csk, FHS
	- - - - -								
-36	348-0203-00			2					FOOT, cabinet
-37	367-0037-00			1					HANDLE, carrying
	- - - - -			-					mounting hardware: (not included w/handle)
-38	212-0560-00			2					SCREW, 10-32 x 0.312 inch, 100° csk, FHS
-39	344-0098-00			2					CLIP, handle
	- - - - -								
-40	426-0652-00			2					FRAME SECTION
	- - - - -			-					mounting hardware for each: (not included w/frame section)
-41	212-0012-00			2					SCREW, 8-32 x 0.25 inch, 100° csk, FHS
	212-0040-00			2					SCREW, 8-32 x 0.375 inch, 100° csk, FHS (not shown)
	- - - - -								
-42	343-0298-00			4					STRAP, retaining, 0.25 inch diameter
-43	407-0782-00	B010100	B029999	2					BRACKET, circuit card guide
	407-0782-01	B030000		2					BRACKET, circuit card guide
	- - - - -			-					mounting hardware for each: (not included w/bracket)
-44	211-0038-00			2					SCREW, 4-40 x 0.312 inch, 100° csk, FHS
-45	211-0097-00			2					SCREW, 4-40 x 0.312 inch, PHS
	- - - - -								
	337-1474-00	XB030000		1					SHIELD, cable
	- - - - -			-					mounting hardware: (not included w/shield)
	211-0007-00	XB030000		4					SCREW, 4-40 x 0.188 inch, PHS

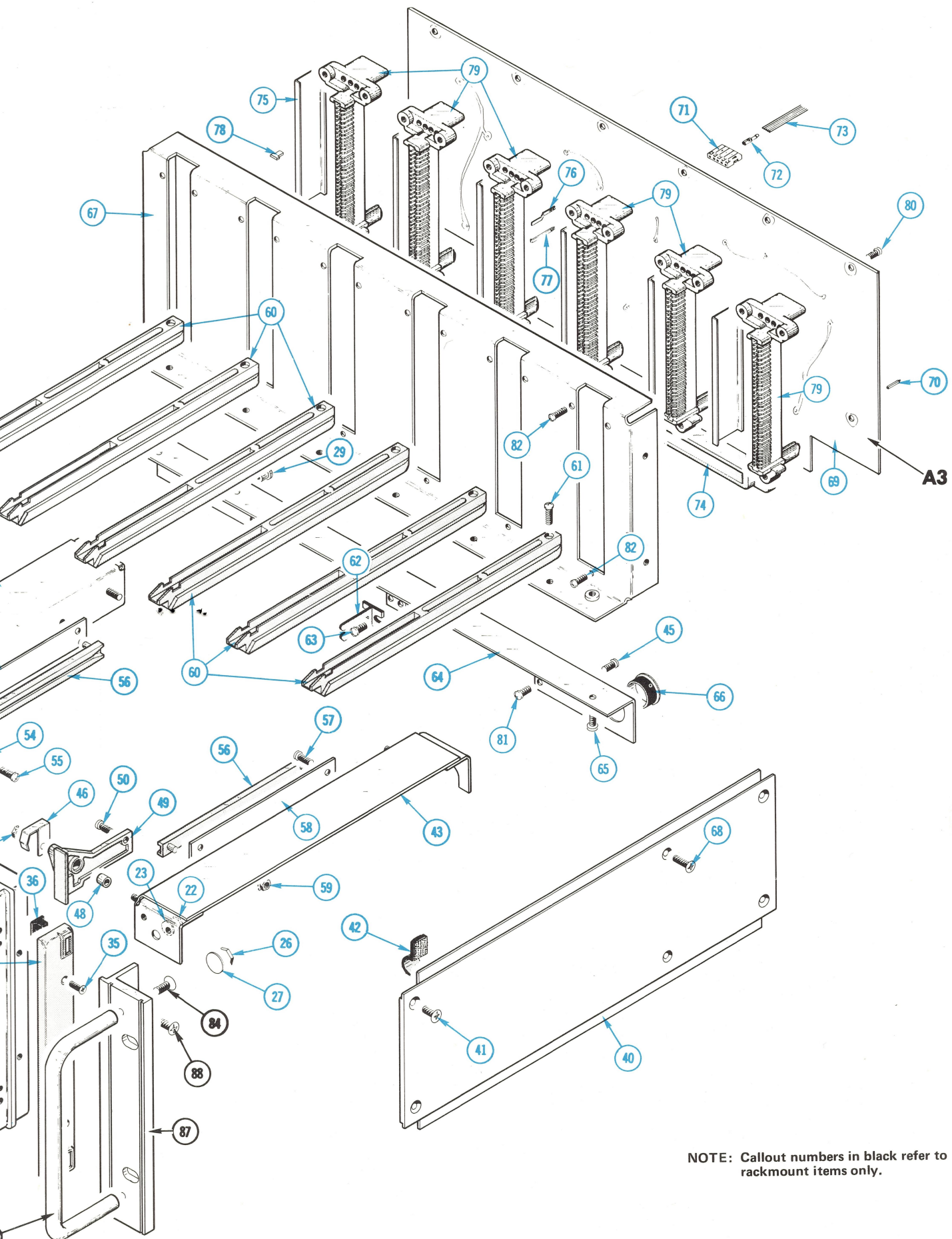
FIGURE 1 EXPLODED (cont)

Fig. & Index No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				t	y	1	2	3		4
1-46	214-1488-00			1						SPRING, ground, right
				-						mounting hardware: <i>(not included w/spring)</i>
-47	210-0586-00			1						NUT, keps, 4-40 x 0.25 inch
-48	166-0030-00			1						TUBE, spacer, 0.125 ID x 0.188 inch long
-49	351-0272-00			1						GUIDE, circuit card, right
				-						mounting hardware: <i>(not included w/guide)</i>
-50	211-0012-00			1						SCREW, 4-40 x 0.375 inch, PHS
-51	214-1487-00			1						SPRING, ground, left
				-						mounting hardware: <i>(not included w/spring)</i>
-52	210-0586-00			1						NUT, keps, 4-40 x 0.25 inch
-53	166-0030-00			1						TUBE, spacer, 0.125 ID x 0.188 inch OD
-54	351-0274-00			1						GUIDE, circuit card, left
				-						mounting hardware: <i>(not included w/guide)</i>
-55	211-0012-00			1						SCREW, 4-40 x 0.375 inch, PHS
-56	351-0087-00			2						GUIDE, circuit card
				-						mounting hardware for each: <i>(not included w/guide)</i>
-57	211-0097-00			2						SCREW, 4-40 x 0.312 inch, PHS
-58	361-0354-00			1						SPACER, plate, 4.75 inches long
-59	210-0586-00			1						NUT, 4-40 x 0.25 inch
-60	351-0254-00			6						GUIDE, slide, plug-in, 8.50 inches long
				-						mounting hardware for each: <i>(not included w/guide)</i>
-61	211-0014-00			1						SCREW, 4-40 x 0.50 inch, PHS
-62	351-0276-00			1						GUIDE: circuit card, alignment
				-						mounting hardware: <i>(not included w/guide)</i>
-63	211-0097-00			2						SCREW, 4-40 x 0.312 inch, PHS
-64	407-0780-00			1						BRACKET, angle, 12.78 inches long
				-						mounting hardware: <i>(not included w/bracket)</i>
-65	211-0507-00			4						SCREW, 6-32 x 0.312 inch, PHS
-66	348-0064-00			2						GROMMET, plastic, 0.625 inch diameter
-67	386-1789-00			1						PANEL, connector mounting, plug-in
				-						mounting hardware: <i>(not included w/panel)</i>
-68	211-0512-00			4						SCREW, 6-32 x 0.50 inch, 100° csk, FHS

FIGURE 1 EXPLODED (cont)

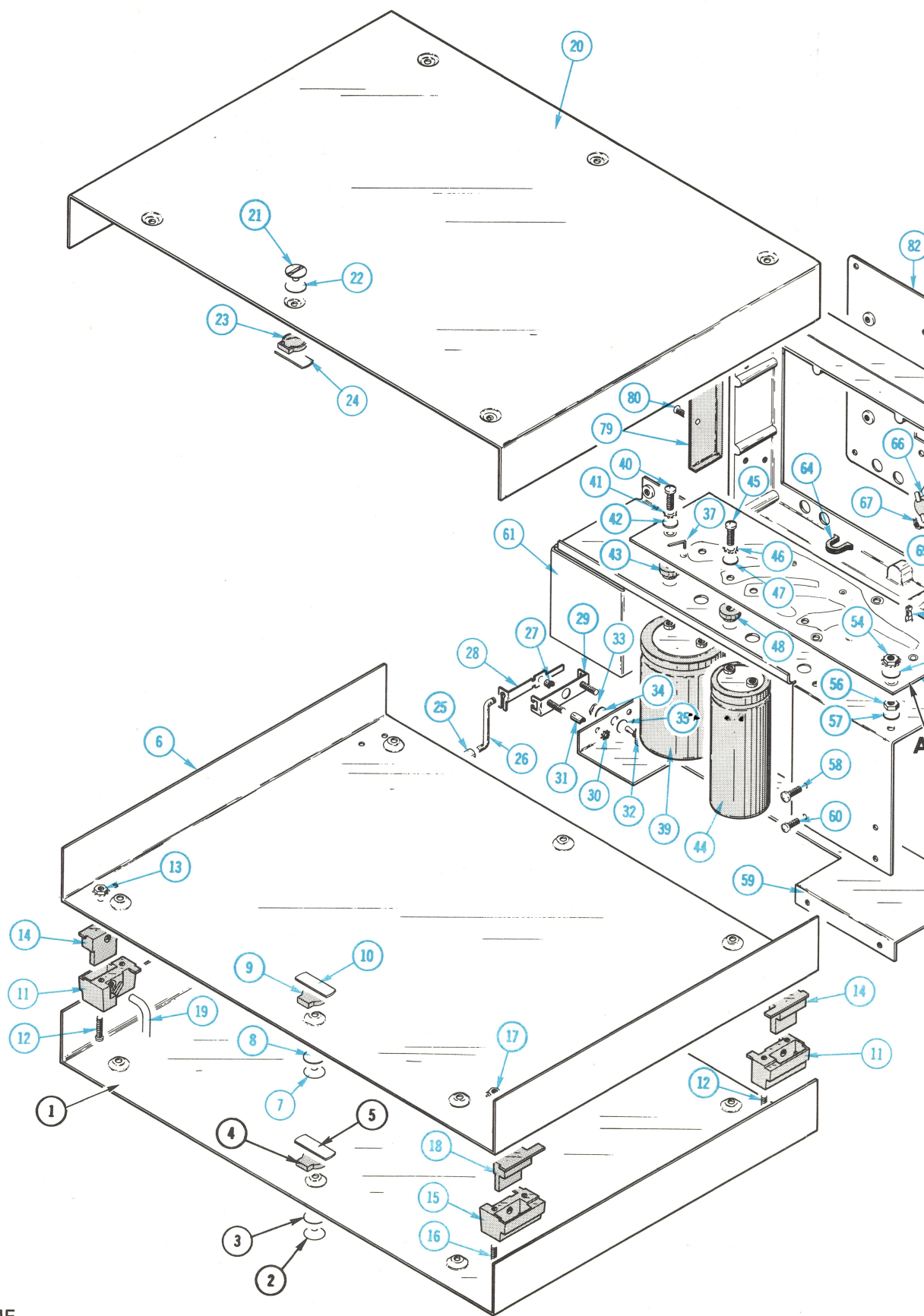
Fig. & Index No.	Tektronix Part No.	Serial/Model No.		Q t Y	Description
		Eff	Disc		
1-69	670-0395-00			1	CIRCUIT BOARD ASSEMBLY—INTERFACE A3
	- - - - -			-	circuit board assembly includes:
	388-1745-00			1	CIRCUIT BOARD
-70	131-0589-00			18	TERMINAL, pin, 0.50 inch long
-71	352-0201-00			1	HOLDER, terminal connector, 5 wire (black)
-72	131-0621-00			5	CONNECTOR, terminal
-73	175-0860-00			ft	WIRE, electrical, 5 wire ribbon, 0.292 foot long
-74	131-0626-00			2	CONNECTOR, receptacle, 80 female contacts
	131-0984-00			6	CONNECTOR, receptacle, 36 contact
	- - - - -			-	each connector includes:
-75	200-0950-00			2	COVER, connector body
-76	131-0727-00			18	CONTACT, offset
-77	131-0726-00			18	CONTACT, straight
-78	214-1391-00			1	KEY, connector
-79	204-0365-00			1	BODY, connector
	- - - - -			-	mounting hardware for each: (not included w/connector)
-80	213-0232-00			12	SCREW, thread forming, #2 x 0.312 inch, PHB
	- - - - -			-	mounting hardware: (not included w/circuit board assembly)
-81	211-0097-00			2	SCREW, 4-40 x 0.312 inch, PHS
-82	213-0034-00			18	SCREW, thread cutting, 4-40 x 0.312 inch, RHS
-83	367-0076-00			2	HANDLE, carrying
	- - - - -			-	mounting hardware for each: (not included w/handle)
-84	212-0559-00			2	SCREW, 10-32 x 0.75 inch, 100° csk, FHS
-85	407-0801-02			1	BRACKET, angle, rack mounting, left
	- - - - -			-	mounting hardware: (not included w/bracket)
-86	212-0002-00			2	SCREW, 8-32 x 0.25 inch, 100° csk, FHS
-87	407-0801-01			1	BRACKET, angle, rack mounting, right
	- - - - -			-	mounting hardware: (not included w/bracket)
-88	212-0002-00			2	SCREW, 8-32 x 0.25 inch, 100° csk, FHS
-89	426-0650-01			1	FRAME SECTION, front



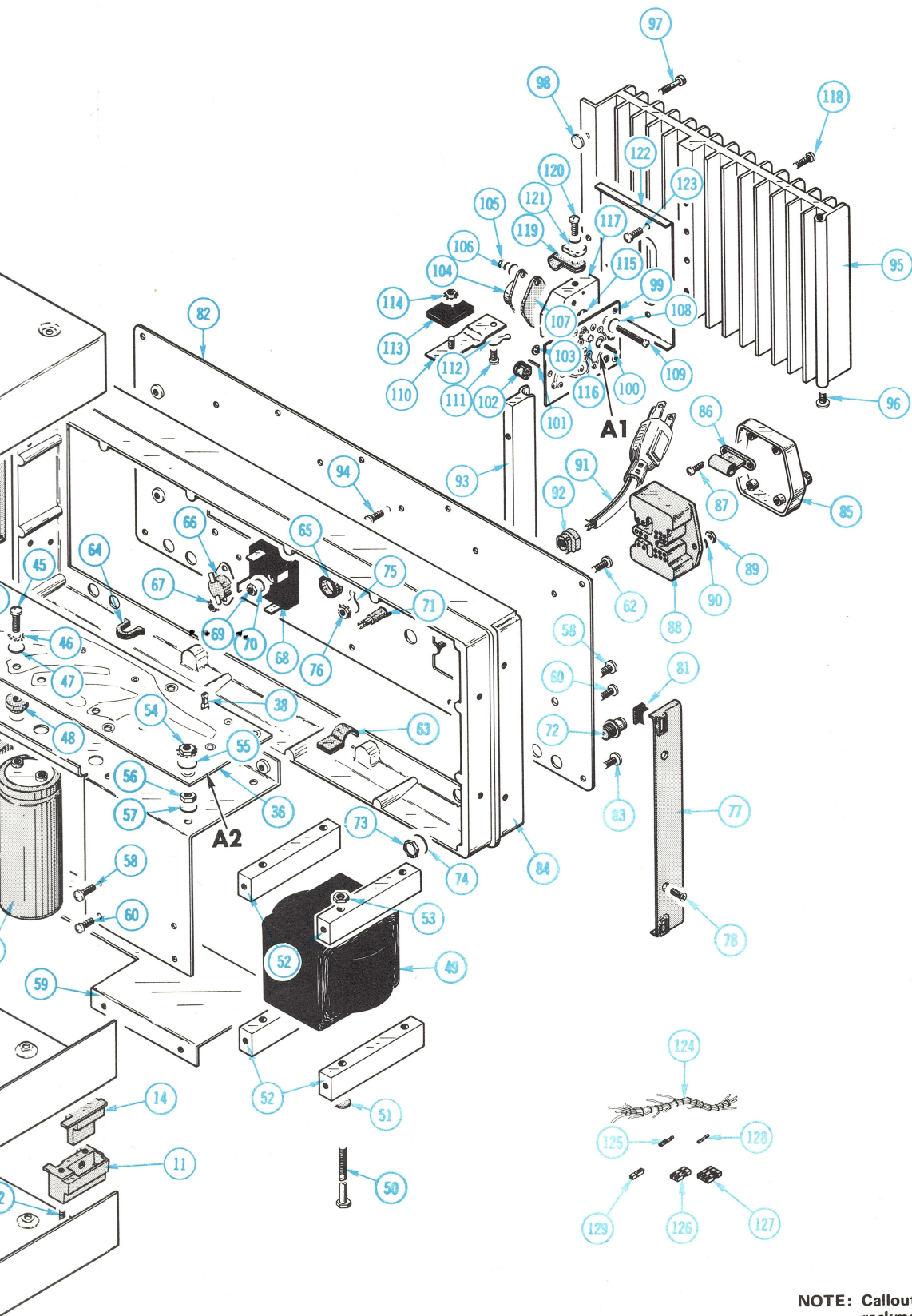


NOTE: Callout numbers in black refer to rackmount items only.

+



2601/R2601 MAINFRAME



NOTE: Callout numbers in black refer to rackmount items only.

FIGURE 2 POWER SUPPLY & STANDARD ACCESSORIES

Fig. & Index No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				t	y	1	2	3		4
2-1	390-0161-00			1						CABINET BOTTOM, for R2601
	- - - - -			-						each cabinet top includes:
	214-0816-00			6						LATCH ASSEMBLY
	- - - - -			-						each latch assembly includes:
-2	214-0603-01			1						PIN, securing
-3	214-0604-00			1						SPRING
-4	386-0227-00			1						PLATE, index, plastic
-5	386-0226-00			1						PLATE, locking
-6	390-0161-00			1						CABINET BOTTOM, for 2601
	- - - - -			-						cabinet bottom includes:
	214-0816-00			6						LATCH ASSEMBLY
	- - - - -			-						each latch assembly includes:
-7	214-0603-01			1						PIN, securing
-8	214-0604-00			1						SPRING
-9	386-0227-00			1						PLATE, index, plastic
-10	386-0226-00			1						PLATE, locking
-11	348-0073-00			2						FOOT, bail limiting, left front, right rear
	- - - - -			-						mounting hardware for each: <i>(not included w/foot)</i>
-12	211-0532-00			2						SCREW, 6-32 x 0.75 inch, Fil HS
-13	210-0457-00			2						NUT, keps, 6-32 x 0.312 inch
-14	348-0208-00			2						FOOT, cabinet, left front, right rear
-15	348-0074-00			2						FOOT, bail limiting, right front, left rear
	- - - - -			-						mounting hardware for each: <i>(not included w/foot)</i>
-16	211-0532-00			2						SCREW, 6-32 x 0.75 inch, Fil HS
-17	210-0457-00			2						NUT, keps, 6-32 x 0.312 inch
-18	348-0207-00			2						FOOT, cabinet, right front, left rear
-19	348-0201-00			1						FLIPSTAND, cabinet
-20	390-0162-00			1						CABINET TOP, for 2601 & R2601
	- - - - -			-						cabinet top includes:
	214-0816-00			6						LATCH ASSEMBLY
	- - - - -			-						each latch assembly includes:
-21	214-0603-01			1						PIN, securing
-22	214-0604-00			1						SPRING
-23	386-0227-00			1						PLATE, index, plastic
-24	386-0226-00			1						PLATE, locking

FIGURE 2 POWER SUPPLY & STANDARD ACCESSORIES (cont)

Fig. & Index No.	Tektronix Part No.	Serial/Model No.		Q † y	Description
		Eff	Disc		
2-25	376-0029-00			1	COUPLING, shaft, 0.50 inch long
	- - - - -			-	coupling includes:
	213-0075-00			2	SETSCREW, 4-40 x 0.094 inch, HSS
-26	384-1024-00			1	SHAFT EXTENSION, power switch, rear
-27	348-0031-00			1	GROMMET, plastic, 0.156 inch diameter
-28	214-1202-00			1	ACTUATOR, power switch
-29	407-0626-00			1	BRACKET, actuator, switch
	- - - - -			-	mounting hardware: <i>(not included w/bracket)</i>
-30	210-0586-00			2	NUT, keps, 4-40 x 0.25 inch
-31	166-0025-00			2	TUBE, spacer, 0.25 inch long
-32	260-0834-00			1	SWITCH, toggle—POWER
	- - - - -			-	mounting hardware: <i>(not included w/switch)</i>
-33	210-0562-00			1	NUT, hex., 0.25-40 x 0.312 inch
-34	210-0940-00			1	WASHER, flat, 0.25 ID x 0.375 inch OD
-35	210-0046-00			1	WASHER, lock, internal, 0.261 ID x 0.40 inch OD
-36	670-0396-00			1	CIRCUIT BOARD ASSEMBLY—RECTIFIER A2
	- - - - -			-	circuit board assembly includes:
	388-1746-00			1	CIRCUIT BOARD
-37	131-0787-00			5	TERMINAL, pin, 0.64 inch long
-38	136-0286-00			6	SOCKET, terminal pin
-39	- - - - -			1	CAPACITOR
	- - - - -			-	mounting hardware: <i>(not included w/capacitor)</i>
-40	212-0557-00			2	SCREW, 10-32 x 0.50 inch, RHS
-41	210-0009-00			2	WASHER, lock, external, #10
-42	210-1003-00			2	WASHER, flat, 0.20 ID x 0.438 inch OD
-43	342-0033-00			2	INSULATOR, bushing, 0.20 ID x 0.625 inch OD
-44	- - - - -			2	CAPACITOR
	- - - - -			-	mounting hardware for each: <i>(not included w/capacitor)</i>
-45	212-0557-00			2	SCREW, 10-32 x 0.50 inch, RHS
-46	210-0009-00			2	WASHER, lock, external, #10
-47	210-1003-00			2	WASHER, flat, 0.20 ID x 0.438 inch OD
-48	342-0033-00			2	INSULATOR, bushing, 0.20 ID x 0.625 inch OD
-49	- - - - -			1	TRANSFORMER
	- - - - -			-	transformer includes:
-50	212-0545-00			4	SCREW, 10-32 x 4 inches, HHS
-51	210-0812-00			4	WASHER, fiber, shouldered, #10
-52	381-0324-00			4	BAR, mounting, 3.25 inches long
-53	210-0564-00			8	NUT, hex., 10-32 x 0.375 inch
	210-0009-00			4	WASHER, lock, internal, #10
	- - - - -			-	mounting hardware: <i>(not included w/transformer)</i>
-54	220-0410-00			4	NUT, keps, 10-32 x 0.375 inch
-55	210-1003-00			4	WASHER, flat, 0.20 ID x 0.438 inch OD
-56	210-0564-00			4	NUT, hex., 10-32 x 0.375 inch
-57	210-0010-00			4	WASHER, lock, internal
-58	212-0023-00			4	SCREW, 8-32 x 0.375 inch, PHS

FIGURE 2 POWER SUPPLY & STANDARD ACCESSORIES (cont)

Fig. & Index No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description	
				t	y	1	2	3		4
2-59	337-1351-00			1						SHIELD, support
	- - - - -			-						mounting hardware: <i>(not included w/shield)</i>
-60	211-0507-00			6						SCREW, 6-32 x 0.312 inch, PHS
	- - - - -									
-61	441-0947-00			1						CHASSIS, mainframe
	- - - - -			-						mounting hardware: <i>(not included w/chassis)</i>
-62	211-0507-00			5						SCREW, 6-32 x 0.312 inch
	- - - - -									
-63	343-0299-00			4						STRAP RETAINING, 0.38 inch diameter
-64	348-0171-00			1						GROMMET, plastic, U shaped
-65	348-0005-00			1						GROMMET, rubber, 0.50 inch diameter
-66	- - - - -			1						THERMO CUTOUT
	- - - - -			-						mounting hardware: <i>(not included w/thermo cutout)</i>
-67	210-0586-00			2						NUT, keps, 4-40 x 0.25 inch
	- - - - -									
-68	- - - - -			1						LINE FILTER
	- - - - -			-						mounting hardware: <i>(not included w/line filter)</i>
-69	210-0407-00			1						NUT, hex., 6-32 x 0.25 inch
-70	210-0006-00			2						WASHER, lock, internal, #6
	- - - - -									
-71	131-0775-00			1						TERMINAL, stud, 6-32 x 0.25 inch
-72	131-0955-00			4						CONNECTOR, receptacle, female, BNC
	- - - - -			-						each connector includes:
-73	- - - - -			1						NUT, hex.
-74	- - - - -			1						WASHER, lock
-75	210-0202-00			1						LUG, solder, SE #6
	- - - - -			-						mounting hardware: <i>(not included w/lug)</i>
-76	210-0586-00			1						NUT, keps, 4-40 x 0.25 inch
	- - - - -									
-77	200-1131-00			1						CAP, trim, foot side
	- - - - -			-						mounting hardware: <i>(not included w/cap)</i>
-78	211-0025-00			2						SCREW, 4-40 x 0.375 inch, 100° csk, FHS
	- - - - -									
-79	200-1132-00			1						CAP, trim, handle side
	- - - - -			-						mounting hardware: <i>(not included w/cap)</i>
-80	211-0025-00			2						SCREW, 4-40 x 0.375 inch, 100° csk, FHS
	- - - - -									
-81	348-0203-00			2						FOOT, cabinet
-82	386-1788-00			1						PANEL, rear
	- - - - -			-						mounting hardware: <i>(not included w/panel)</i>
-83	212-0039-00			10						SCREW, 8-32 x 0.375 inch, THS

FIGURE 2 POWER SUPPLY & STANDARD ACCESSORIES (cont)

Fig. & Index No.	Tektronix Part No.	Serial/Model No.		Q † Y	Description	
		Eff	Disc			1
2-84	426-0651-01			1	FRAME SECTION, rear	
-85	200-1130-00			1	COVER, line voltage	
	- - - - -			-	cover includes:	
-86	352-0102-00			2	HOLDER, fuse	
	- - - - -			-	mounting hardware for each: (not included w/holder)	
-87	213-0088-00			2	SCREW, thread forming, #4 x 0.25 inch, PHS	
-88	204-0279-00			1	BODY, line selector	
	- - - - -			-	mounting hardware: (not included w/body)	
-89	210-0407-00			2	NUT, hex., 6-32 x 0.25 inch	
-90	210-0006-00			2	WASHER, lock, internal, #6	
-91	161-0046-00			1	CABLE ASSEMBLY, power	
-92	358-0161-00			1	BUSHING, strain relief	
-93	214-1381-00			1	HINGE HALF, heat sink	
	- - - - -			-	mounting hardware: (not included w/hinge half)	
-94	211-0012-00			2	SCREW, 4-40 x 0.375 inch, PHS	
-95	214-1382-00			1	HEAT SINK, transistor	
	- - - - -			-	mounting hardware: (not included w/heat sink)	
-96	211-0565-00			2	SCREW, 6-32 x 0.25 inch, THS	
-97	211-0598-00			2	SCREW, 6-32 x 0.375 inch	
-98	354-0195-00			2	RING, industrial	
-99	670-1247-00			1	CIRCUIT BOARD ASSEMBLY—PRE REGULATOR A1	
	- - - - -			-	circuit board assembly includes:	
	388-1350-01			1	CIRCUIT BOARD	
-100	131-0883-00			2	CONNECTOR, terminal	
-101	131-0589-00			7	TERMINAL, pin, 0.50 inch long	
-102	136-0183-00			1	SOCKET, transistor, 3 pin	
-103	136-0350-00			3	SOCKET, transistor, 3 pin, low profile	
-104	- - - - -			1	TRANSISTOR	
	- - - - -			-	mounting hardware: (not included w/transistor)	
-105	210-0405-00			2	NUT, hex., 2-56 x 0.188 inch	
-106	210-0053-00			2	WASHER, lock, internal, #2	
	210-0938-00			2	WASHER, flat, #2 x 0.25 inch OD	
-107	214-1213-00			1	INSULATOR, transistor	
-108	210-1104-00			2	WASHER, flat, 0.094 ID x 0.344 inch OD	
-109	211-0003-00			2	SCREW, 2-56 x 0.875 inch, RHS	
-110	407-0799-00			1	BRACKET, heat conducting	
	- - - - -			-	mounting hardware: (not included w/bracket)	
-111	211-0065-00			1	SCREW, 4-40 x 0.188 inch, PHS	
-112	210-0201-00			1	LUG, solder, SE #4	
-113	- - - - -			1	DIODE	
	- - - - -			-	mounting hardware: (not included w/diode)	
-114	210-0586-00			1	NUT, keps, 4-40 x 0.25 inch	

FIGURE 2 POWER SUPPLY & STANDARD ACCESSORIES (cont)

Fig. & Index No.	Tektronix Part No.	Serial/Model Eff	No. Disc	Q					Description
				t	y	1	2	3	
2-115	342-0003-00			2					INSULATOR, transistor
-116	342-0004-00			2					INSULATOR, transistor
-117	391-0079-01			1					BLOCK, transistor mounting
-118	211-0585-00			2					SCREW, 6-32 x 1 inch, RHS
-119	343-0136-00			1					CLAMP, cable, 0.188 inch diameter
-120	211-0012-00			1					SCREW, 4-40 x 0.375 inch, PHS
-121	210-0851-00			1					WASHER, flat, 0.093 ID x 0.188 inch OD
-121	210-0863-00			1					WASHER, D shape, 0.191 ID x 0.515 inch
-122	337-1371-00			1					SHIELD, mechanical, pre regulator
-123	211-0008-00			2					SCREW, 4-40 x 0.25 inch, PHS
-124	179-1567-00			1					WIRING HARNESS, AC
-125	131-0621-00			5					CONNECTOR, terminal
-126	352-0198-00			1					HOUSING, terminal connector, 2 wire (black)
-127	352-0199-00			1					HOUSING, terminal connector, 3 wire (black)
-128	175-1176-00			4					CABLE, special purpose, RF
-128	131-0707-00			1					CONNECTOR, terminal
-129	131-0708-00			1					CONNECTOR, terminal
-129	352-0171-00			2					HOUSING, terminal connector, 1 wire (black)
-129	175-1177-00			4					CABLE, special purpose, RF
-129	131-0707-00			1					CONNECTOR, terminal
-129	131-0708-00			1					CONNECTOR, terminal
-129	352-0171-00			2					HOUSING, terminal connector, 1 wire (black)
	012-0200-00			6					PATCHCORD, pinjack to pinjack (red)
	012-0201-00			4					PATCHCORD, pinjack to pinjack (blue)
	016-0164-00 ¹			1					RACKMOUNT HARDWARE PACKAGE
	070-1064-00			1					MANUAL, instruction

STANDARD ACCESSORIES (not shown)

¹R2601 only



CARTON ASSEMBLY
(Part No. 065-0143-00)

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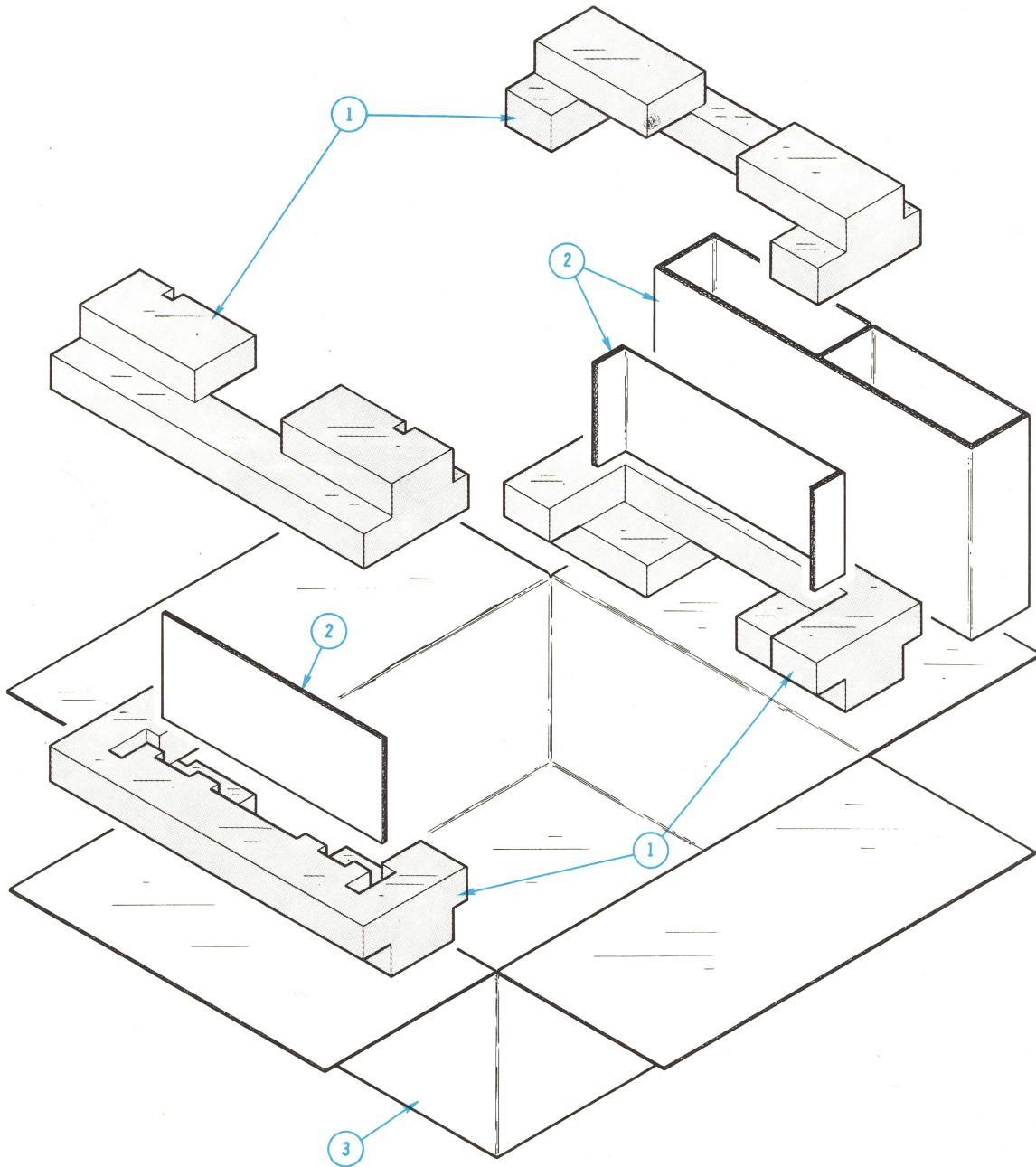


FIG. 3 REPACKAGING

Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Disc	Q					Description	
				t	y	1	2	3		4
3-	065-0143-00			1						CARTON ASSEMBLY
-1	004-0260-00			-						carton assembly includes:
-2	004-1080-00			2						ETHA FRAME, front & rear
-3	004-0758-00			1						PAD SET, 3 piece
				1						CARTON

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SECTION 9

DIAGRAMS AND CIRCUIT BOARDS

Symbols and Reference Designators

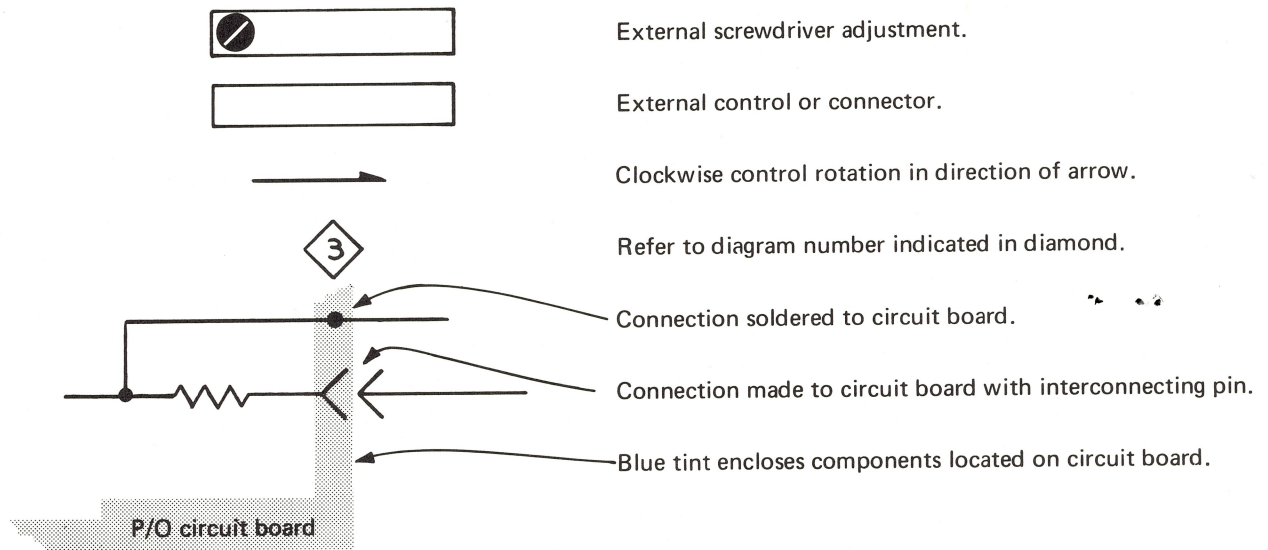
Electrical components shown on the diagrams are in the following units unless noted otherwise:

Capacitors =	Values one or greater are in picofarads (pF). Values less than one are in microfarads (μ F).
Resistors =	Ohms (Ω)

Symbols used on the diagrams are based on USA Standard Y32.2-1967.

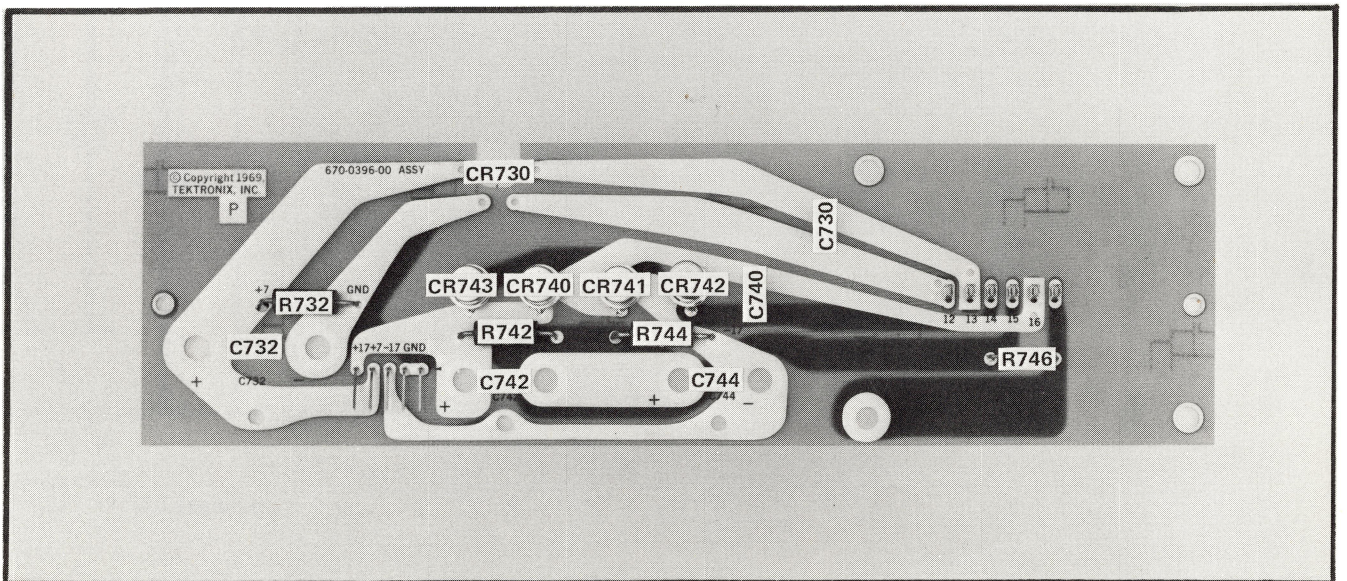
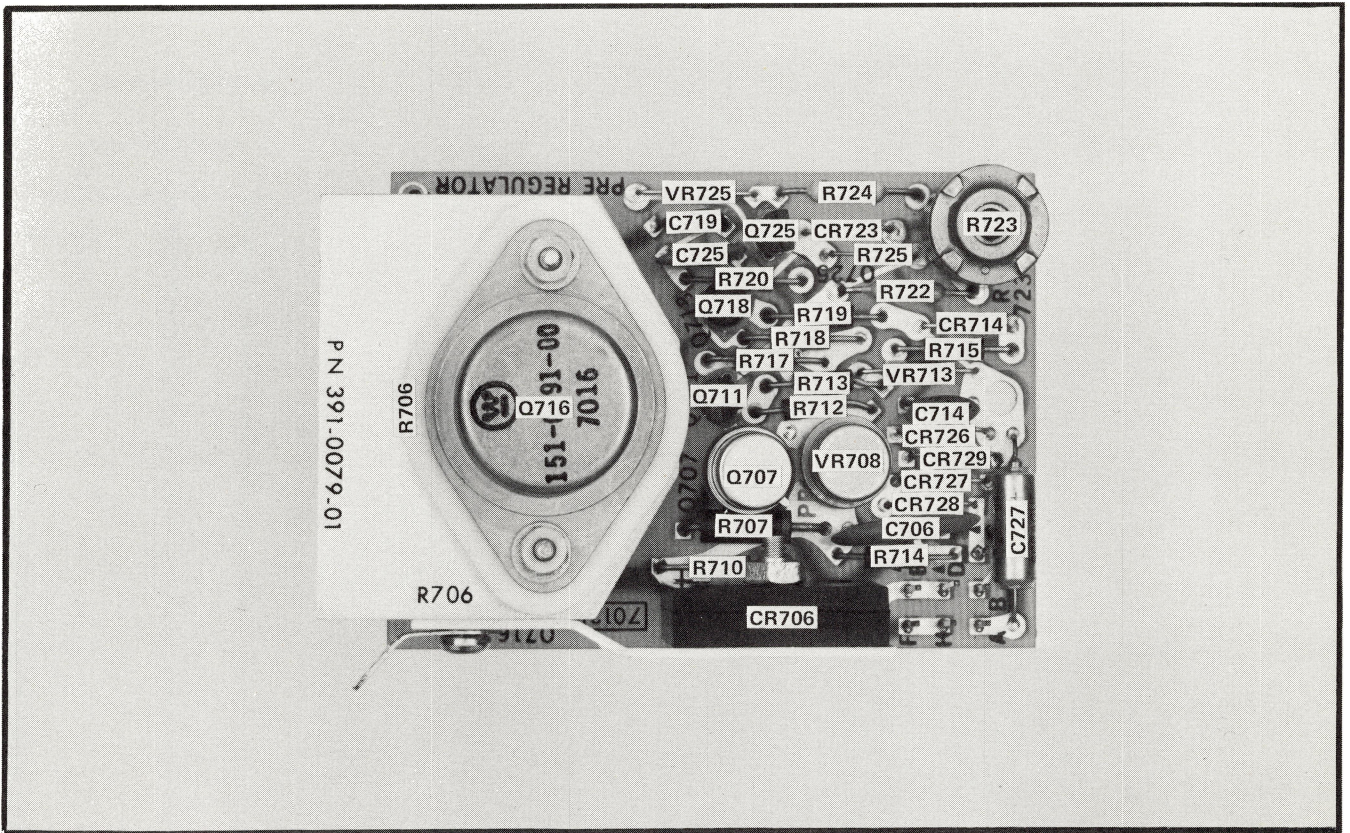
Logic symbology is based on MIL-STD-806B in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

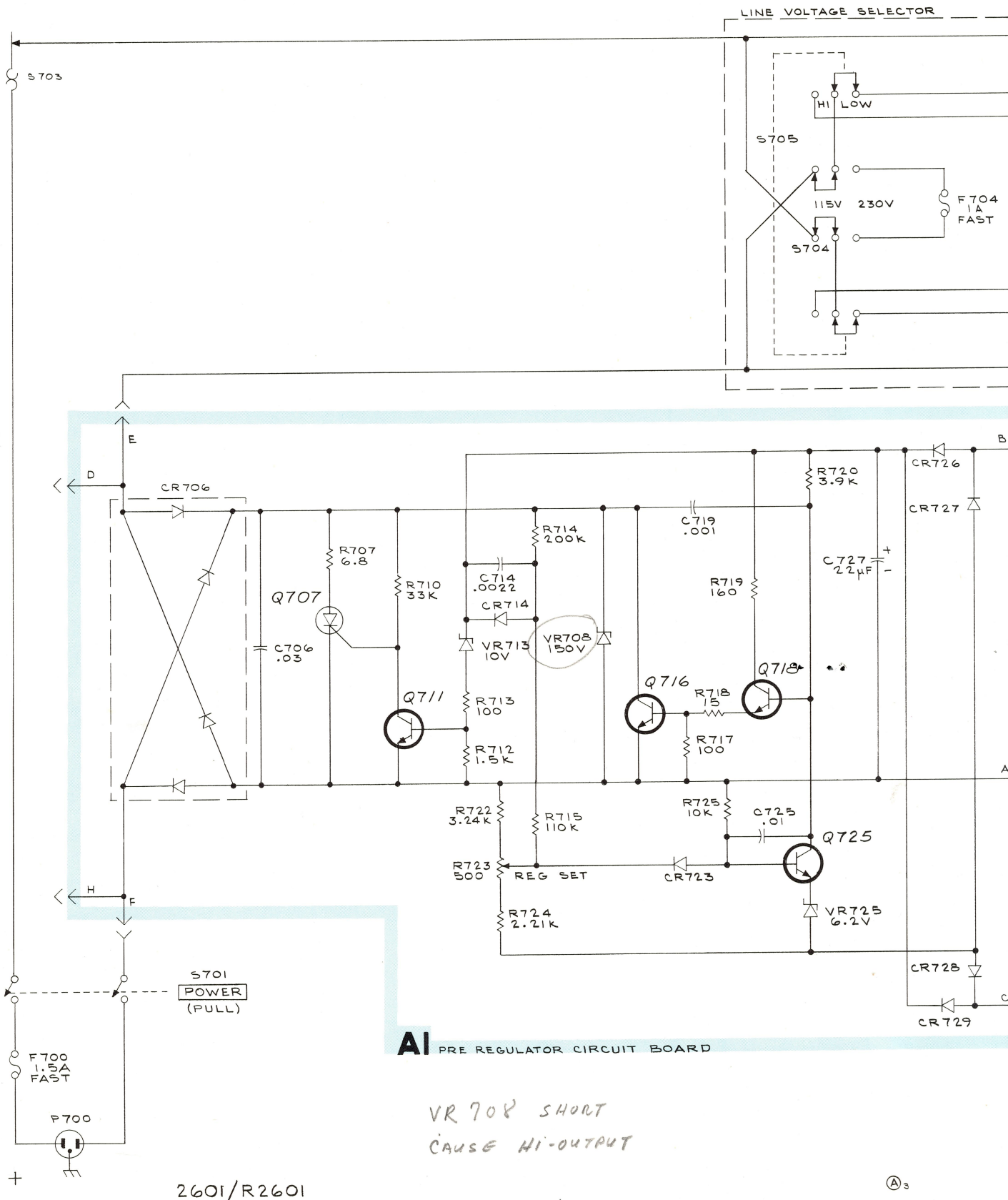
The following special symbols are used on the diagrams:



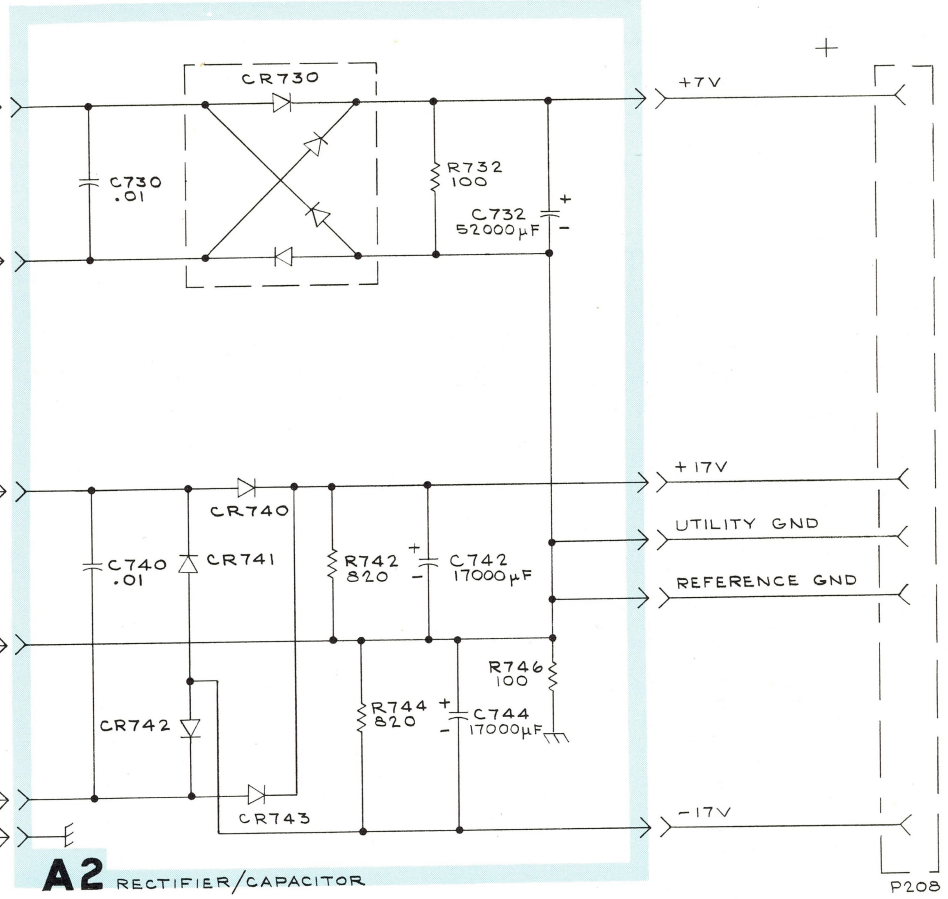
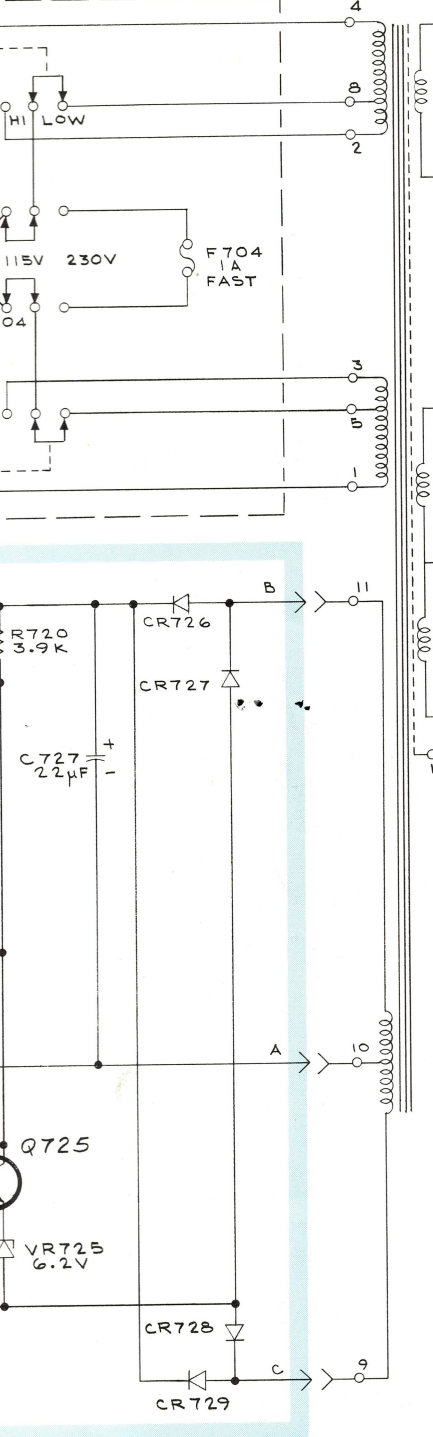
The following prefix letters are used as reference designators to identify components or assemblies on the diagrams.

A	Assembly, separable or repairable (circuit board, etc.)	LR	Inductor/resistor combination
AT	Attenuator, fixed or variable	M	Meter
B	Motor	Q	Transistor or silicon-controlled rectifier
BT	Battery	P	Connector, movable portion
C	Capacitor, fixed or variable	R	Resistor, fixed or variable
CR	Diode, signal or rectifier	RT	Thermistor
DL	Delay line	S	Switch
DS	Indicating device (lamp)	T	Transformer
F	Fuse	TP	Test point
FL	Filter	U	Assembly, inseparable or non-repairable (integrated circuit, etc.)
H	Heat dissipating device (heat sink, heat radiator, etc.)	V	Electron tube
HR	Heater	VR	Voltage regulator (zener diode, etc.)
J	Connector, stationary portion	Y	Crystal
K	Relay		
L	Inductor, fixed or variable		





VOLTAGE SELECTOR



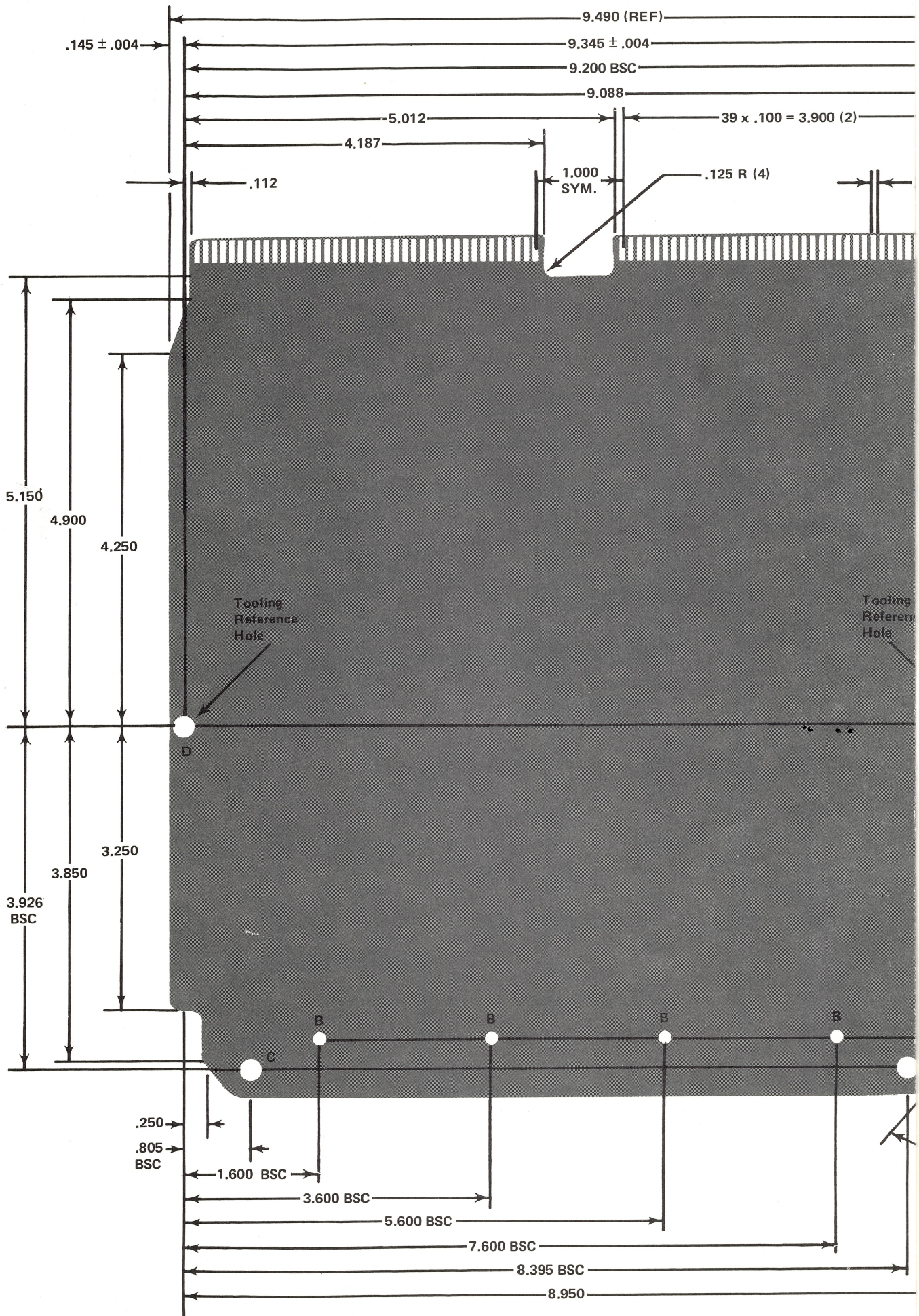
A2 RECTIFIER/CAPACITOR

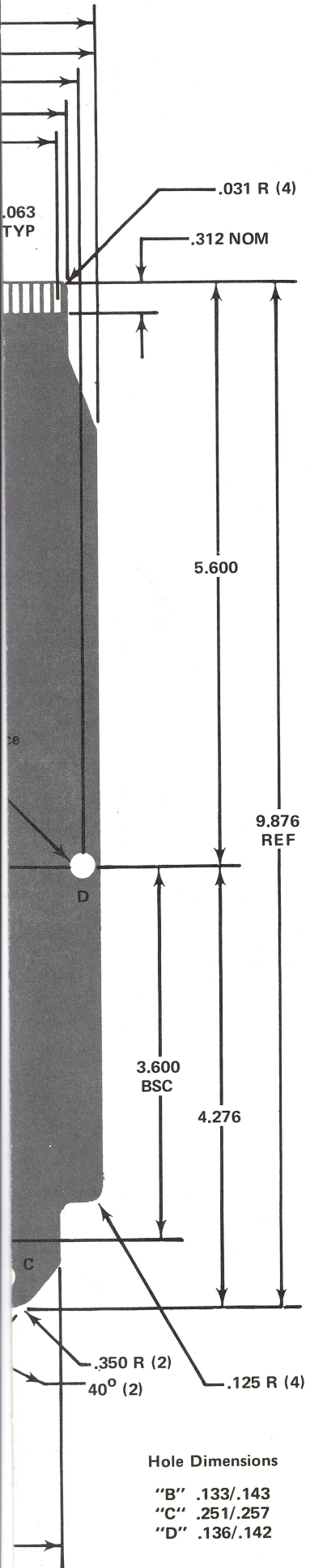
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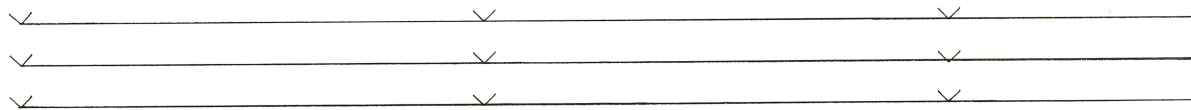
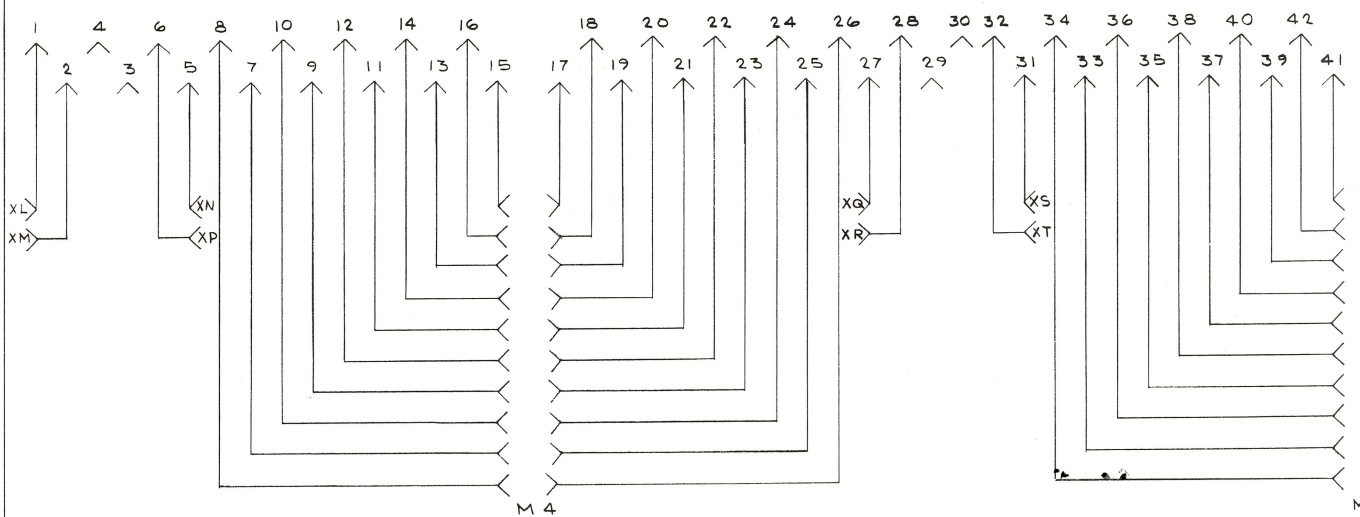
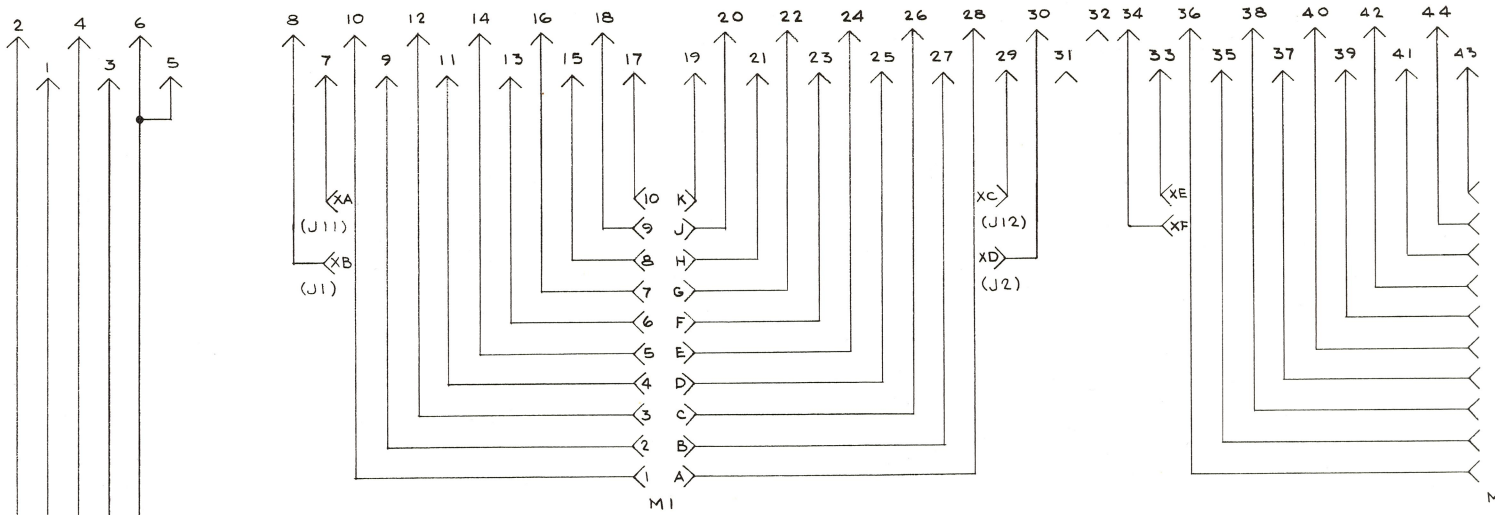
POWER SUPPLY

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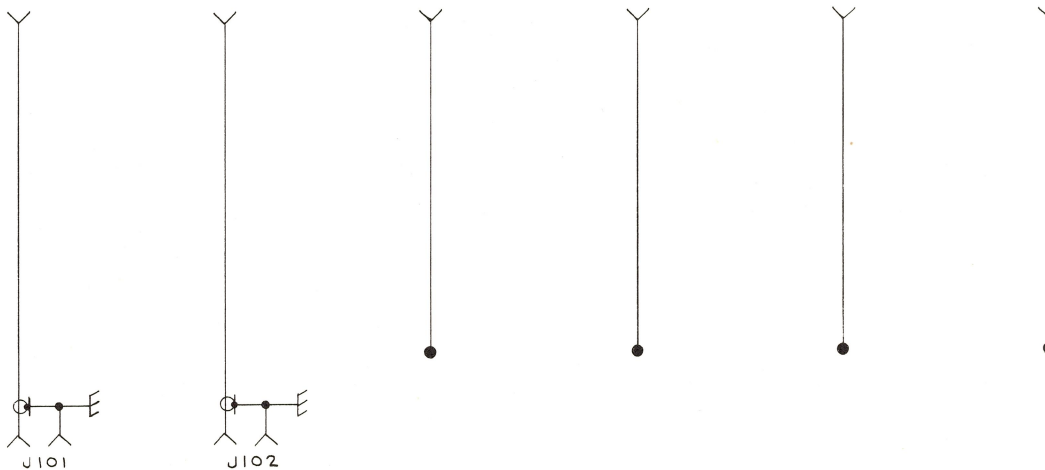


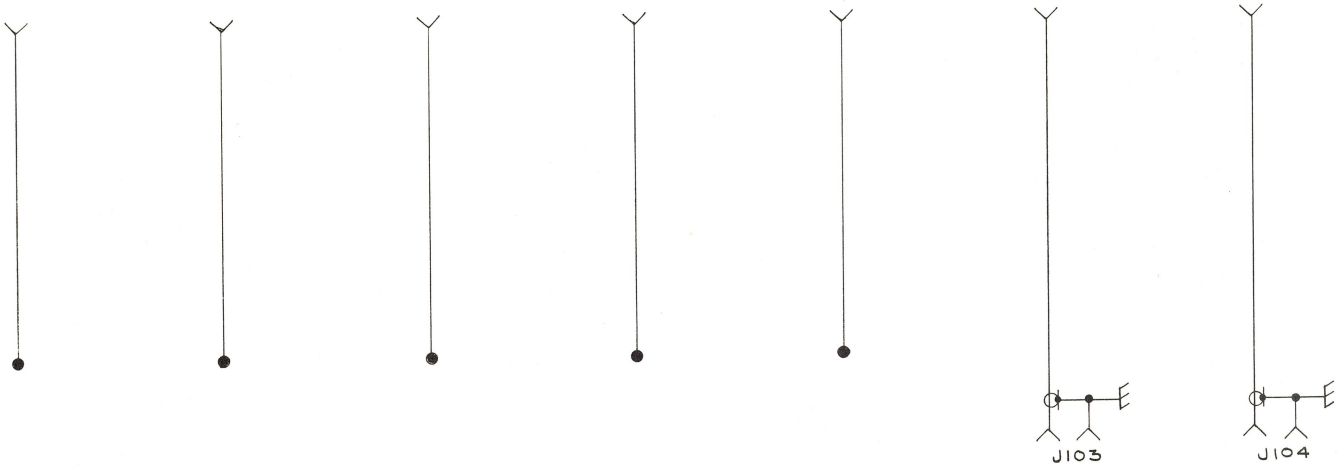
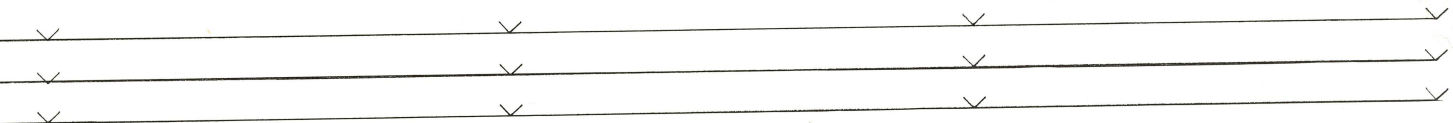
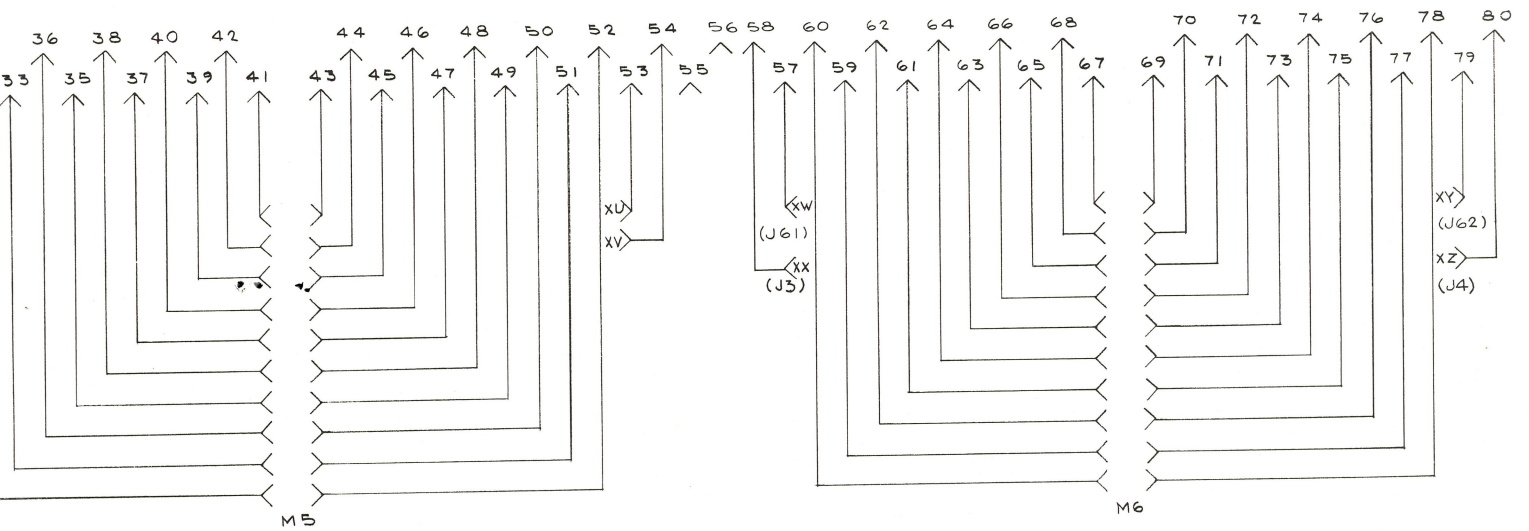
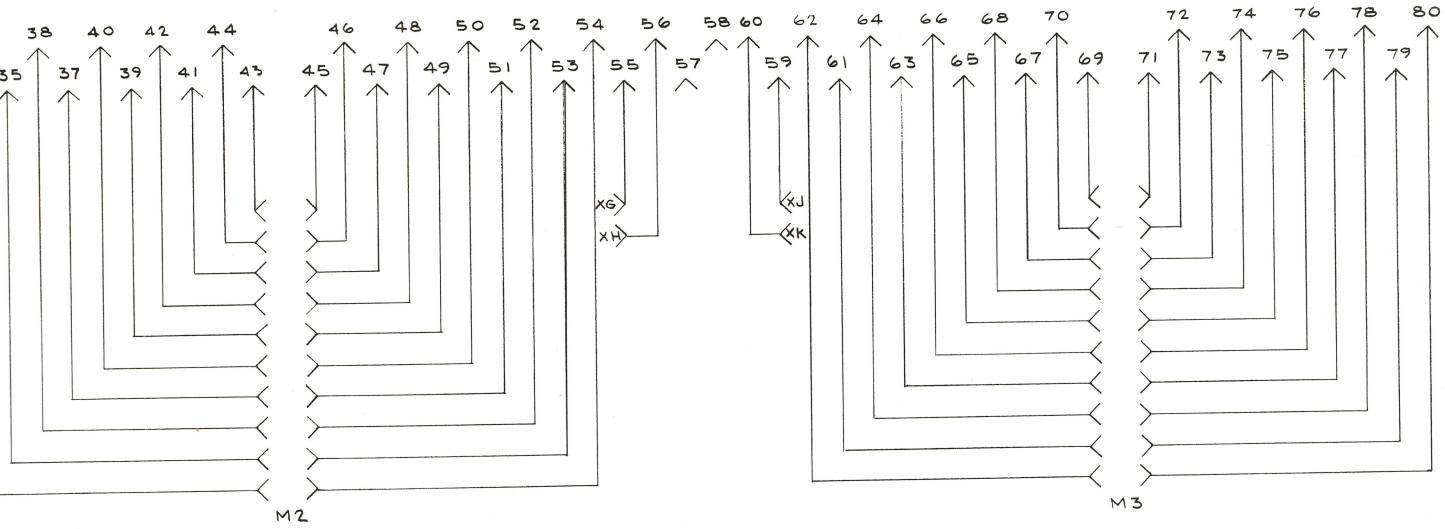


Hole Dimensions
 "B" .133/.143
 "C" .251/.257
 "D" .136/.142



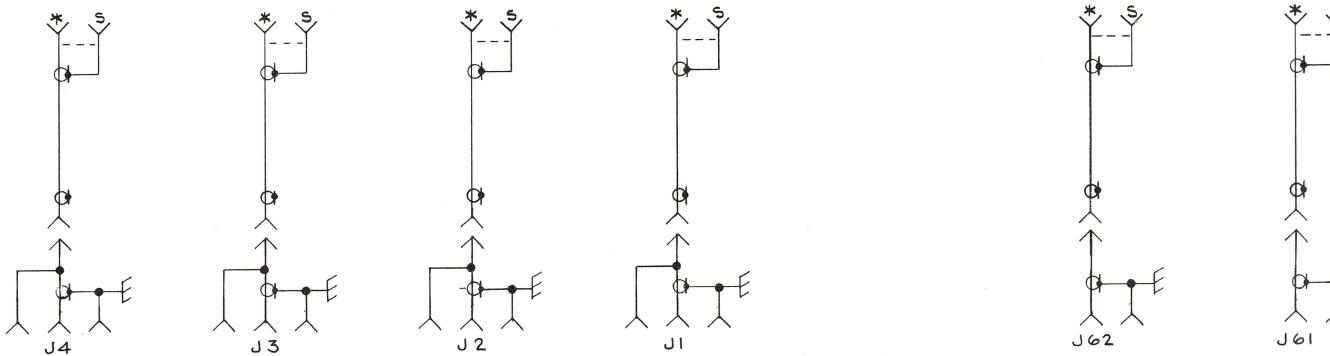
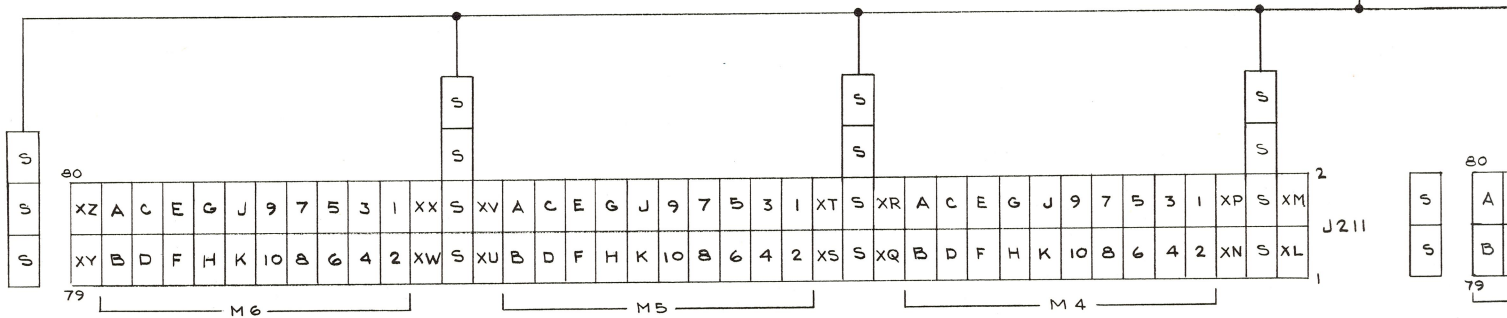
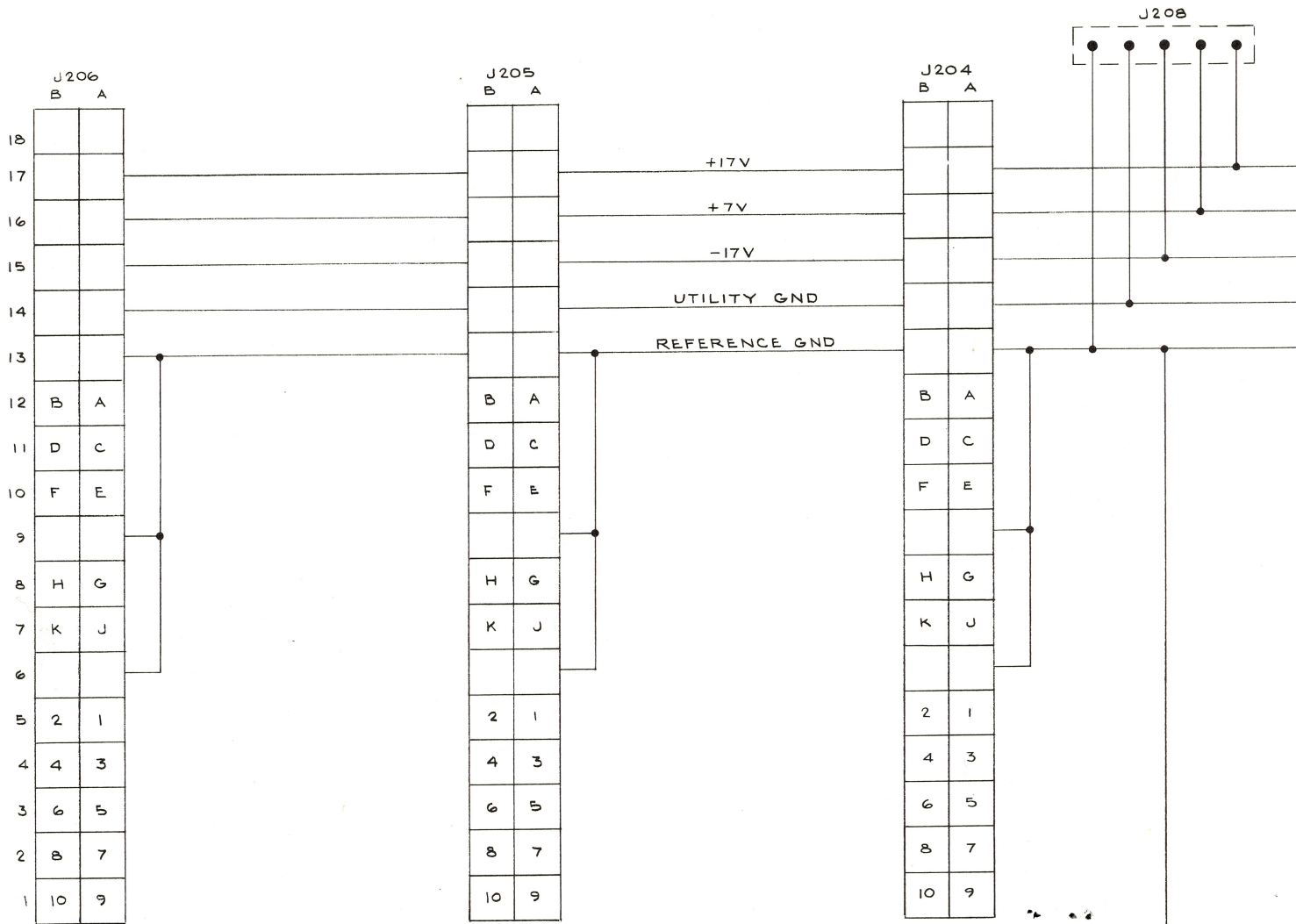
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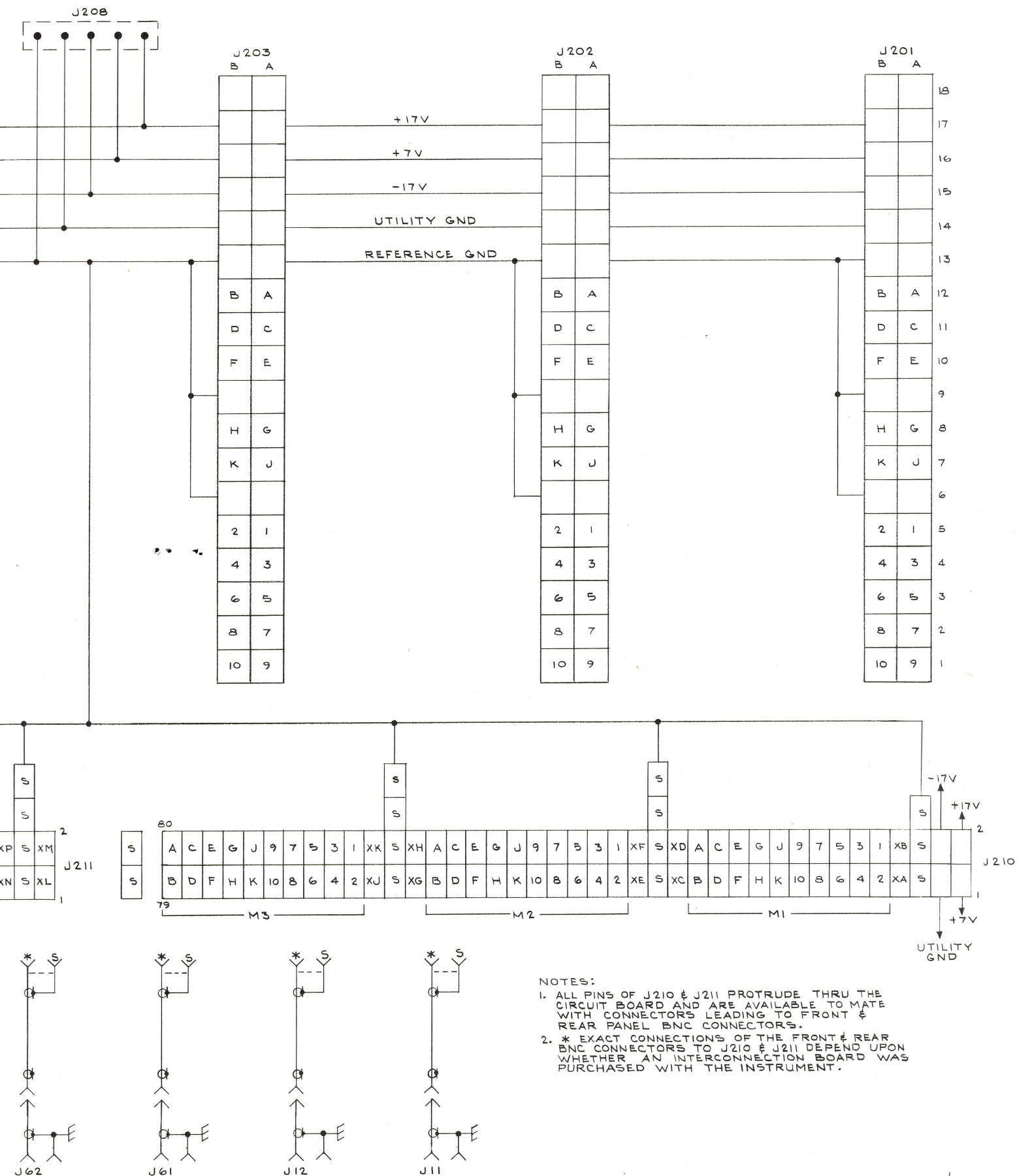
A4 INTERCONNECTION BOARD

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2601/R2601

(A)



NOTES:

1. ALL PINS OF J210 & J211 PROTRUDE THRU THE CIRCUIT BOARD AND ARE AVAILABLE TO MATE WITH CONNECTORS LEADING TO FRONT & REAR PANEL BNC CONNECTORS.
2. * EXACT CONNECTIONS OF THE FRONT & REAR BNC CONNECTORS TO J210 & J211 DEPEND UPON WHETHER AN INTERCONNECTION BOARD WAS PURCHASED WITH THE INSTRUMENT.

MANUAL CHANGE INFORMATION

At Tektronix, we continually strive to keep up with latest electronic developments by adding circuit and component improvements to our instruments as soon as they are developed and tested.

Sometimes, due to printing and shipping requirements, we can't get these changes immediately into printed manuals. Hence, your manual may contain new change information on following pages.

A single change may affect several sections. Sections of the manual are often printed at different times, so some of the information on the change pages may already be in your manual. Since the change information sheets are carried in the manual until ALL changes are permanently entered, some duplication may occur. If no such change pages appear in this section, your manual is correct as printed.

