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TM 506A
POWER MODULE

INSTRUCTION MANUAL

Tektronix, Inc.
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INSTRUMENT SERIAL NUMBERS

Each instrument has a serial number on a panel insert, tag, or stamped on the chassis. The first number or letter designates the country of manufacture. The last five digits of the serial number are assigned sequentially and are unique to each instrument. Those manufactured in the United States have six unique digits. The country of manufacture is identified as follows:

B000000	Tektronix, Inc., Beaverton, Oregon, USA
100000	Tektronix Guernsey, Ltd., Channel Islands
200000	Tektronix United Kingdom, Ltd., London
300000	Sony/Tektronix, Japan
700000	Tektronix Holland, NV, Heerenveen, The Netherlands

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OPERATORS PART

WARNING

THE FOLLOWING SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID PERSONAL INJURY, DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.

SERVICE PART

LIST OF ILLUSTRATIONS

OPERATORS SAFETY SUMMARY

The general safety information in this part of the summary is for both operating and servicing personnel. Specific warnings and cautions will be found throughout the manual where they apply, but may not appear in this summary.

TERMS

In This Manual

CAUTION statements identify conditions or practices that could result in damage to the equipment or other property.

WARNING statements identify conditions or practices that could result in personal injury or loss of life.

As Marked on Equipment

CAUTION indicates a personal injury hazard not immediately accessible as one reads the marking, or a hazard to property including the equipment itself.

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

SYMBOLS

In This Manual

This symbol indicates where applicable cautionary or other information is to be found.

As Marked on Equipment

DANGER—High voltage.

Protective ground (earth) terminal.

ATTENTION—refer to manual.

Power Source

This product is intended to operate from a power source that will not apply more than 250 volts rms between the supply conductors or between either supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Danger Arising From Loss of Ground

Upon loss of the protective-ground connection, all accessible conductive parts (including knobs and controls that may appear to be insulating) can render an electric shock.

Use the Proper Power Cord

Use only the power cord and connector specified for your product.

Use only a power cord that is in good condition.

For detailed information on power cords and connectors, see maintenance section.

Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse of correct type, voltage rating and current rating as specified in the parts list for your product.

Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere unless it has been specifically certified for such operation.

Do Not Remove Covers or Panels

To avoid personal injury, do not remove the product covers or panels. Do not operate the product without the covers and panels properly installed.

SERVICE SAFETY SUMMARY

FOR QUALIFIED SERVICE PERSONNEL ONLY

Refer also to the preceding Operators Safety Summary.

Do Not Service Alone

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

Use Care When Servicing With Power On

Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on.

Disconnect power before removing protective panels, soldering, or replacing components.

Power Source

This product is intended to operate from a power source that will not apply more than 250 volts rms between the supply conductors or between either supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

SPECIFICATION

INTRODUCTION

Description

The TEKTRONIX TM 506A Power Module is a six-compartment mainframe for the TM 500—Series of modular instrumentation. It accepts up to six independently functional plug-in modules to form a compact, versatile and low cost instrumentation system. The TM 506A is a basic power source for plug-in modules of the TM 500 Series family. It provides unregulated dc and ac supplies and non-dedicated power transistors for plug-in usage.

Accessories

Refer to the accessories list in the Replaceable Mechanical Parts list at the rear of this manual for part numbers.

Standard Accessories

1 Instruction Manual
1 Power Cord (U.S.)

Options

Refer to the Options section of this manual for information on instrument options.

Performance Conditions

The values listed below are valid only when the instrument is operated at an ambient temperature between 0°C and 50°C.

ELECTRICAL CHARACTERISTICS PER/COMPARTMENT

Table 1-1
VOLTAGE SUPPLIES

Characteristics	Performance Requirements	Supplemental Information
+33.5 Vdc		
Tolerance[a]		+23.7 V to +40.0 V
PARD[b]		≤2.5 V p to p.
Maximum Load		350 mA.
Maximum Load di/dt		10 mA/μs
−33.5 Vdc		
Tolerance[a]		−23.7 V to −40.0 V
PARD[b]		≤2.5 V p to p.
Maximum Load		350 mA.
Maximum Load di/dt		10 mA/μs
+11.5 Vdc		
Tolerance[a]		+7.6 V to +16.0 V
PARD[b]		<2.5 V p to p.
Maximum Load		3 A per compartment, 10 A total
Maximum Load di/dt		20 mA/μs
25 Vac (3 each)		
Range		25.0 V rms +10%, −15% floating
Maximum Load		
Standard compartment		25 VA
High power compartment		62.5 VA
Maximum Floating V		350 V peak
17.5 Vac		
Range		20.5 V +10%, −20% grounded center tap
Maximum Load		350 mA rms
MAXIMUM PLUG-IN POWER[c] DRAW FROM MAINFRAME		
Standard compartment		30 W dc or 50 VA ac
High power compartment		30 W dc or 125 VA
COMBINED POWER DRAW[c] SHARING LIMITATION		
Standard compartment		VA ac + 2.1 (Watts dc) ≤50.
High power compartment		

[a]Worst case low line full load and high line - no load values including PARD.
[b]Periodic and Random Deviation. See: Nema Standards Publication PY1-1972.
[c]At nominal line voltage.

Table 1-2
TOTAL POWER DRAW FROM MAINFRAME

Characteristics	Performance Requirements	Supplemental Information
TOTAL POWER DRAW[a] (all compartments combined)		VA ac + 2.1 (watts dc) ≤375.

[a]At nominal line voltage.

Table 1-3
SERIES PASS TRANSISTORS

Characteristics	Performance Requirements	Supplemental Information
TYPE		One each NPN and PNP per compartment.
MAXIMUM DISSIPATION		
Standard compartment		7.5 W each, 15 W total
High power compartment		30 W each, 50 W total

Table 1-4
SOURCE POWER REQUIREMENTS

Characteristics	Performance Requirements	Supplemental Information
VOLTAGE RANGES		Selectable 100 V, 120 V, 220 V, and 240 V nominal line ±10%.
LINE FREQUENCY		48 Hz to 66 Hz.
MAXIMUM POWER CONSUMPTION		Approximately 400 W.
FUSE DATA		
100 V, 120 V Ranges		4 A, 3 AG, slow blow, 250 V.
220 V, 240 V Ranges		2 A, 3 AG, slow blow, 250 V.

Table 1-5
MISCELLANEOUS

Characteristics	Performance Requirements	Supplemental Information
MAXIMUM RECOMMENDED PLUG-IN POWER DISSIPATION		
One-Wide		15 W.
Two-Wide		35 W.

PHYSICAL CHARACTERISTICS

Table 1-6
ENVIRONMENTAL[a]

Characteristics	Description	
TEMPERATURE		Meets MIL-T-28800D, class 5.
Operating[b]: Non-Operating:	0°C to +50°C −55°C to +75°C	
HUMIDITY[b]:	95% RH, 0°C to 50°C	Exceeds MIL-T-28800D, class 5.
ALTITUDE		
Operating[b]: Non-operating:	4.6 km (15,000 ft.) 15 km (50,000 ft)	Exceeds MIL-T-28800D, class 5.
VIBRATION:	0.25 mm (0.010″) peak to peak, 5 Hz to 55 Hz, 75 minutes.	See footnote b.
SHOCK:	20 g's (1/2 sine) 11 ms duration, 3 shocks in each direction along 3 major axes, 18 total shocks.	See footnote b.
BENCH HANDLING:	12 drops from 45 degrees, 4″ or equilibrium, whichever occurs first.	Meets MIL-T-28800D, class 5.
TRANSPORTATION:	Qualified under National Safe Transit Association Preshipment Test Procedures 1A-B-1 and 1A-B-2.	
EMC:	Electro-mechanical compatability within limits of F.C.C. Regulations, Part 15, Subpart J, Class A.	
ELECTRICAL DISCHARGE:	20 kV maximum discharge applied to instrument case.	

[a]With plug-ins.
[b]Meets MIL-T-28800D, class 5 with plug-ins (0.015″ displacement, 30 g's shock).

Table 1-7
MECHANICAL

Characteristics	Description
NOMINAL WEIGHT (Without Plug-ins)	12.3 kg (27 lbs)
OVERALL DIMENSIONS	
Length: Width: Height:	48.958 cm (19.275 in.) 44.473 cm (17.509 in.) 19.38 cm (7.63 in.)

OPERATING INSTRUCTIONS

INTRODUCTION

This section of the manual contains instructions on preparing the power module for use, installing plug-in modules, and repackaging the power module.

Power Source

The TM 506A is designed to operate from a power source with its neutral at or near earth (ground) potential with a separate safety-earth conductor. It is not intended for operation from two phases of a multi-phase system.

WARNING

AC POWER SOURCE AND CONNECTION. *This instrument operates from a single-phase power source. It has a three-wire power cord and two-pole, three-terminal grounding-type plug. The voltage to ground (earth) from either pole of the power source must not exceed the maximum rated operating voltage, 250 V.*

Before making connection to the power source, determine that the instrument is adjusted to match the voltage of the power source, and has a suitable two-pole, three-terminal grounding-type plug. Refer any changes to qualified service personnel.

GROUNDING. *This instrument is safety class I equipment (IEC designation). All accessible conductive parts are directly connected through the grounding conductor of the power cord to the grounding contact of the power plug.*

The power input plug must only be inserted in a mating receptacle with a grounding contact. Do not defeat the grounding connection. Any interruption of the grounding connection can create an electric shock hazard.

For electric shock protection, the grounding connection must be made before making connection to the instrument's input or output terminals.

Power Usage/Loading Considerations

With six plug-in modules installed, the TM 506A can require up to 375 W of power at the upper limits of the high line voltage ranges. Actual power consumption depends on the particular module combination and operating mode selected at any one time.

The power capability of the TM 506A can best be used by carefully planning the plug-in configuration, the external loads, and the resulting power distributions. Optimum conditions may be obtained by:

1. Having equal loads in all compartments.
2. Dissipating as much power as possible in the external loads.
3. Operating the system in an ambient temperature near 25°C.

Each plug-in is provided access to a pair of heat-sinked, series-pass transistors—one NPN and the other PNP. These transistors enable the plug-in to operate in power ranges not possible if the power were to be dissipated within the plug-ins.

Fuse Replacement

To check or replace a fuse, perform the following:

1. Turn off the power to the power module, and disconnect the power cord from the instrument.
2. See Fig. 2-1. To check or replace the Main Power Fuse, press downward on the tab located on the Line Voltage Selector just above the power cord receptacle. The door will open, and the fuse can be inspected or replaced.
3. Close the door to reconnect the fuse.
4. To check Power Supply fuses, use a small screwdriver to remove each of the three fuseholders, located on the rear panel, on the right-hand side when viewing the rear panel. Remove and replace fuses as required.

NOTE

The fuse value labeling on the instrument rear panel should read: "4A SLOW and 2A SLOW".

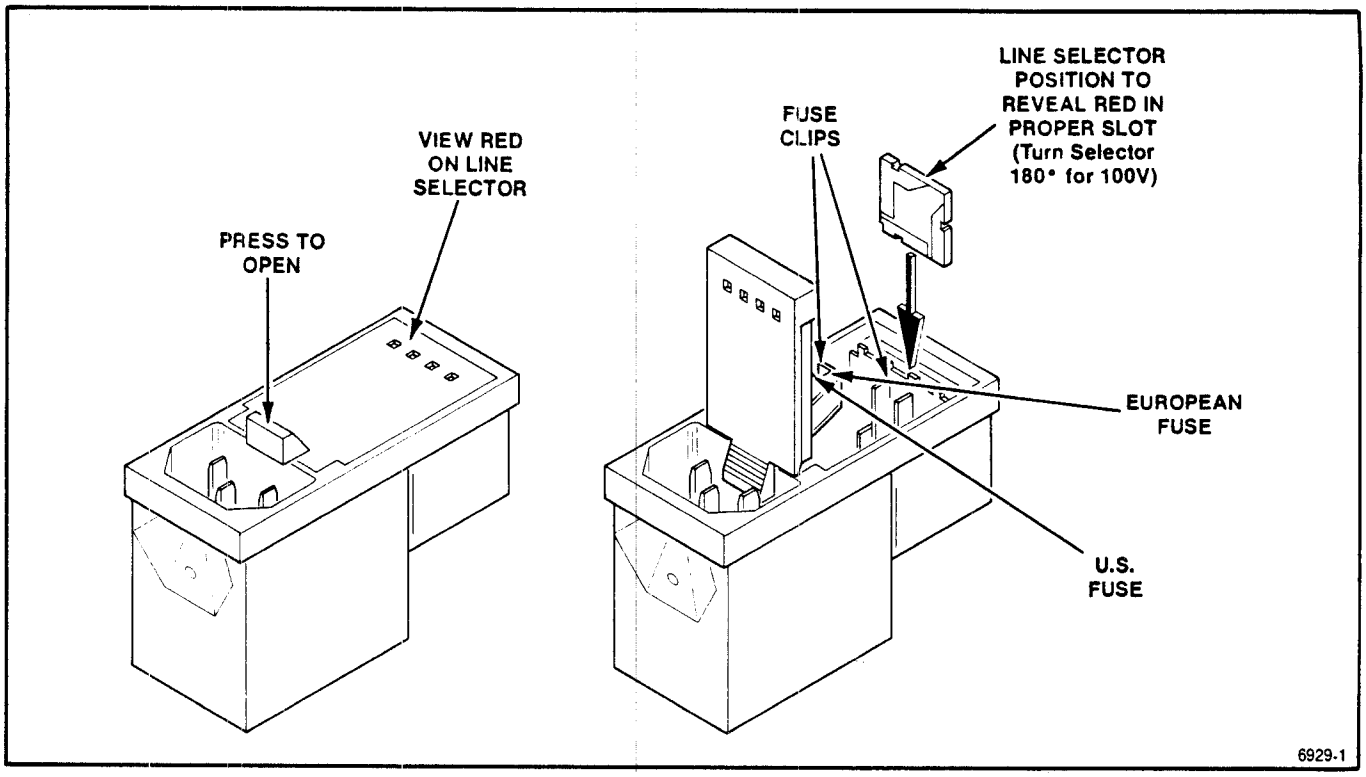


Fig. 2-1. Line Voltage Selection and Main Fuse Replacement.

Line Voltage Selection

The line voltage selector is part of the line cord plug assembly, located on the rear of the power module. Verify that the voltage shown in the selector window is correct for the line voltage available.

If the displayed voltage selection is incorrect or the fuse needs replacement, perform the following procedure. Refer to Fig. 2-1. (The voltage is indicated by the red-marked window.)

1. Make certain that the power module power switch is turned off and the line cord is not plugged into the line voltage connector.

2. See Fig. 2-1. Press downward on the tab located on the Line Voltage Selector just above the power cord receptacle. This opens the selector door.

3. Using a small screwdriver, gently pry, first on one edge, then the other, to remove the line selector card. This etched circuit card is approximately 3/4″ square and 1/8″ thick.

4. Note that on each edge of the selector card there is a red mark, but that the mark is in a different position on the edge.

5. Orient the selector card for the desired voltage range, and press the card into its receptacle.

6. Ensure that the installed fuse matches the range selected.

7. Close the selector door. The proper range should show through the correct one of the four windows.

8. Reconnect the power cord. The TM 506A is ready for use.

Operating Temperatures

The TM 506A can be operated in an ambient air temperature range of 0°C to +50°C. Since the TM 506A can be stored in temperatures between −55°C and +75°C, allow the instrument's chassis to return to within the temperature operating limits before applying power.

Cabling

CAUTION

Remove power cord before attempting cable installation.

For convenience, cabling from the front of the power module to the rear panel may be run through the air intake and cable raceway as shown in Fig. 2-2. To install this cabling, first remove the access panel on the rear of the power module. See Fig. 2-3. Next remove the two bottom panel retainer screws and the bottom panel retainers. Slide the bottom panel out from the rear of the instrument. Pass the cable through the front air intake, across the bottom of the plug-in support rails and out the access panel. Replace the power module bottom cover.

CAUTION

To ensure proper cooling, do not operate the power module with any cover removed.

Table Top Use

The power module may be operated with the front raised. To raise the front of the instrument extend the front bail as shown in Fig. 2-4.

Rackmounting Instructions

Cooling. At least 1-inch clearance is recommended above and below the power module. This is necessary to insure proper cooling.

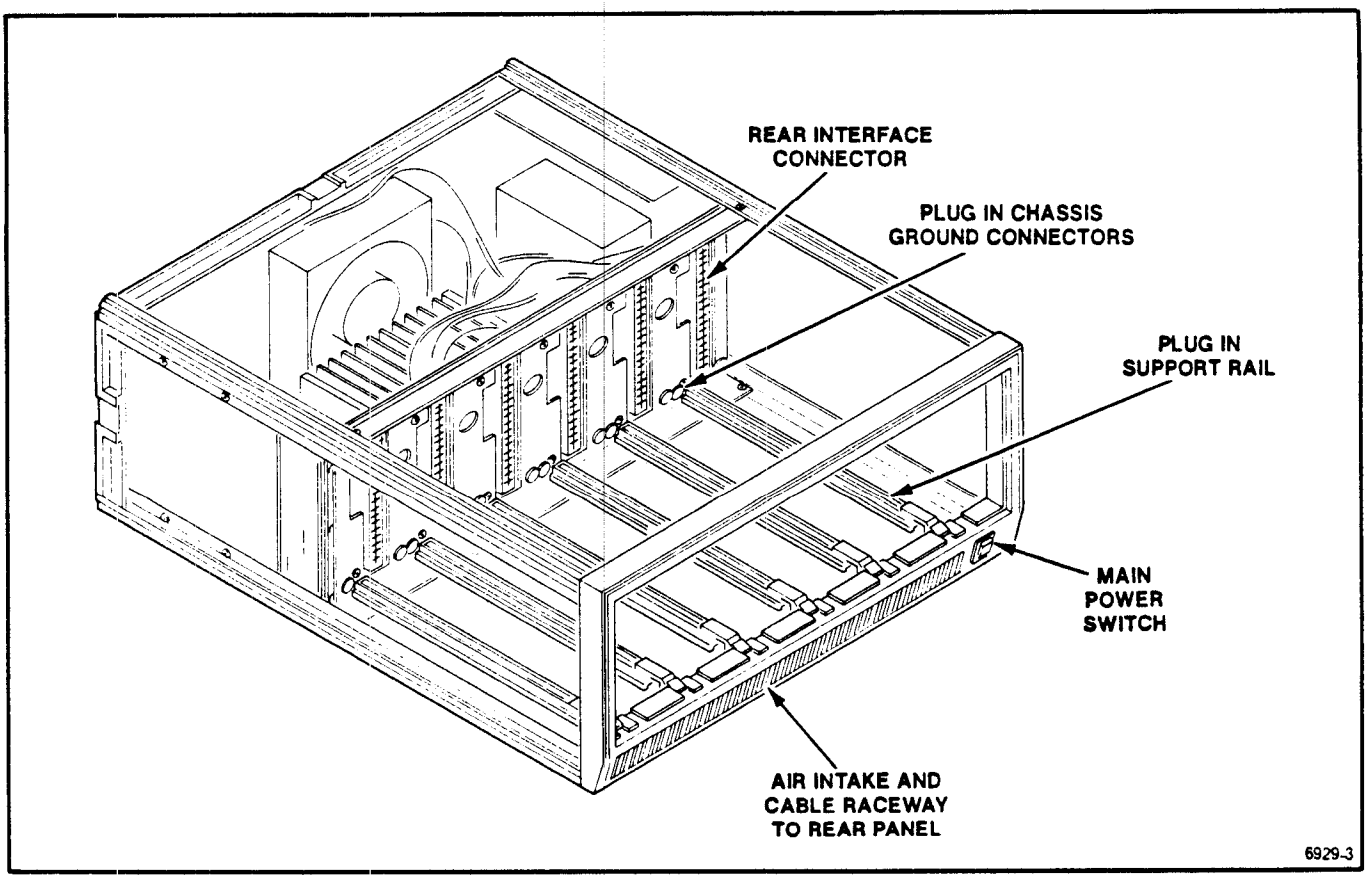


Fig. 2-2. TM 506A front view.

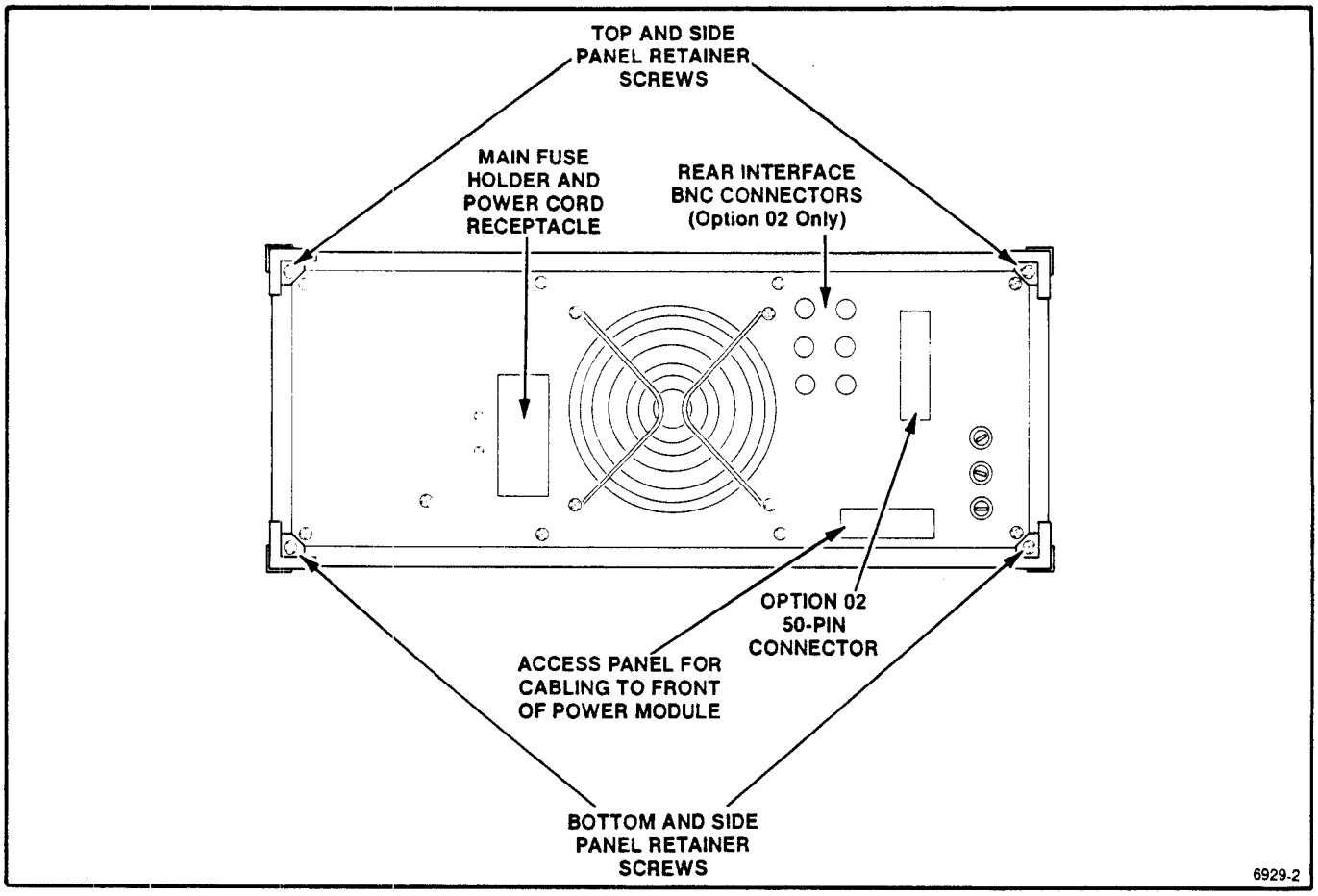


Fig. 2-3. TM 506A rear panel.

If the rack has positive internal pressure for cooling purposes, the mainframes must have all compartments filled with plug-ins or blank front panels (available from Tektronix, Inc.) must be installed in the unused plug-in openings. If greater internal air flow is desired in a relatively highly pressurized rack, the grill opening at the bottom front of the TM 506A may also be blocked.

Rack Dimensions. The TM 506A, Option 10, is shipped from the factory ready for rack mounting. Figure 2-4 shows major dimensions. Figure 2-5 shows the spring-latch cutout in the stationary section.

NOTE

The slide tracks supplied with the TM 506A, Option 10, have holes in the stationary sections to accomodate the spring latches. The TM 506A, Option 10, should not be mounted with rack slides that do not have the rack-latch holes.

The TM 506A, Option 10, fits a standard 19-inch side cabinet, rack or console. Spacing inside the front rails must be at least 17 3/4 inches. This allows clearance for the stationary section of the slide-out tracks to permit the assembly to slide freely on the slid-out tracks.

The slide-out tracks, with existing hardware supplied, will conveniently mount in any rack with the front and rear rails spaced from 10 1/2 inches to 24 1/2 inches.

Mounting the Slide Tracks. Locate the proper rack holes for mounting as shown in Fig. 2-6. Notice that the hole spacing in the racks varies. When installing the slides in the EIA type racks, make certain the slides are attached to the 1/2-inch spaced holes. Figure 2-6 also shows details for determining position of the slides in the rack. Mount the rails using enclosed hardware as shown in Fig. 2-7 and 2-8. Figures 2-8B and C show rail-mounting details for deep and shallow racks. Make sure the stationary sections are horizontally aligned so they are level and parallel with each other.

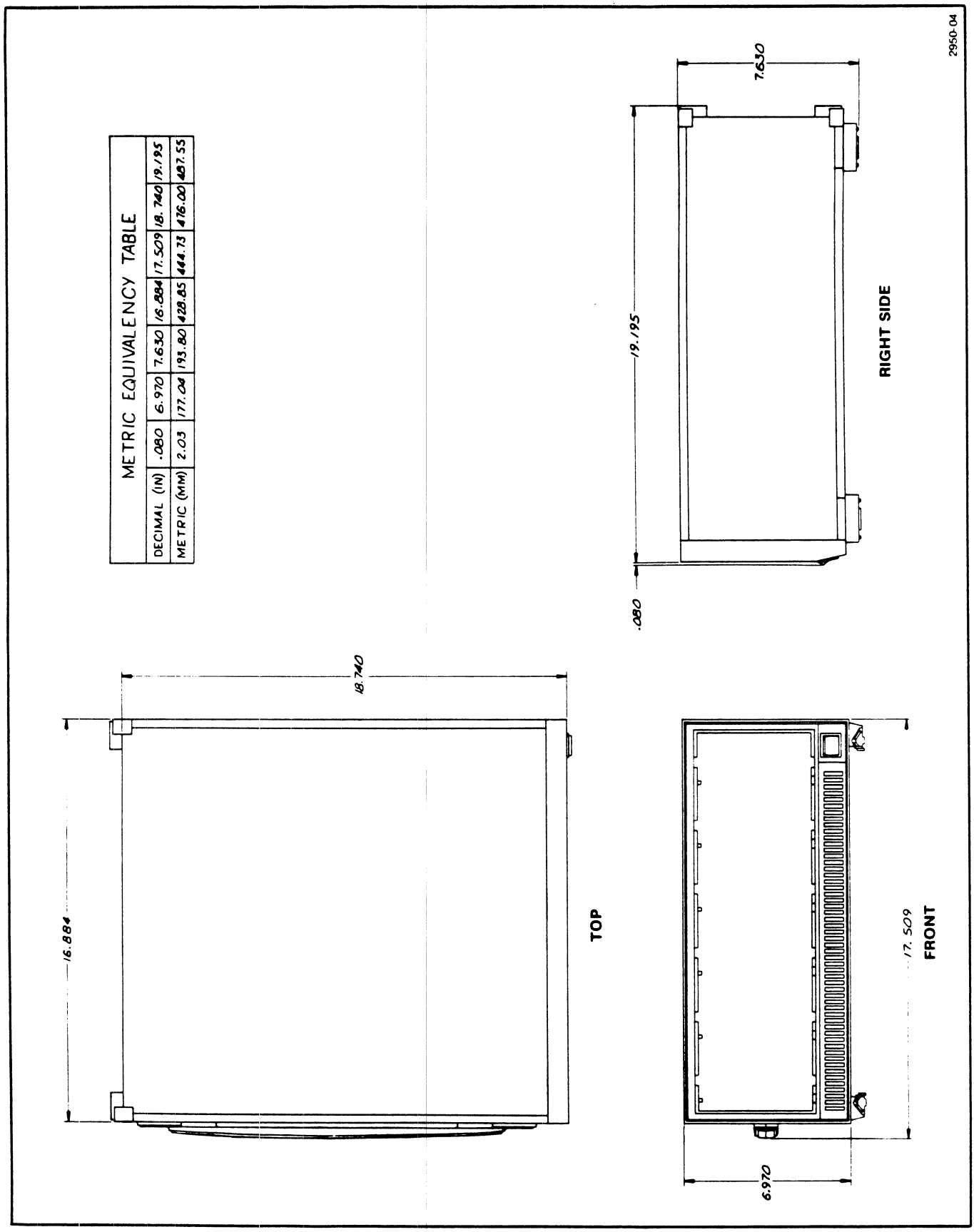


Fig. 2-4. TM 506A, overall dimensions.

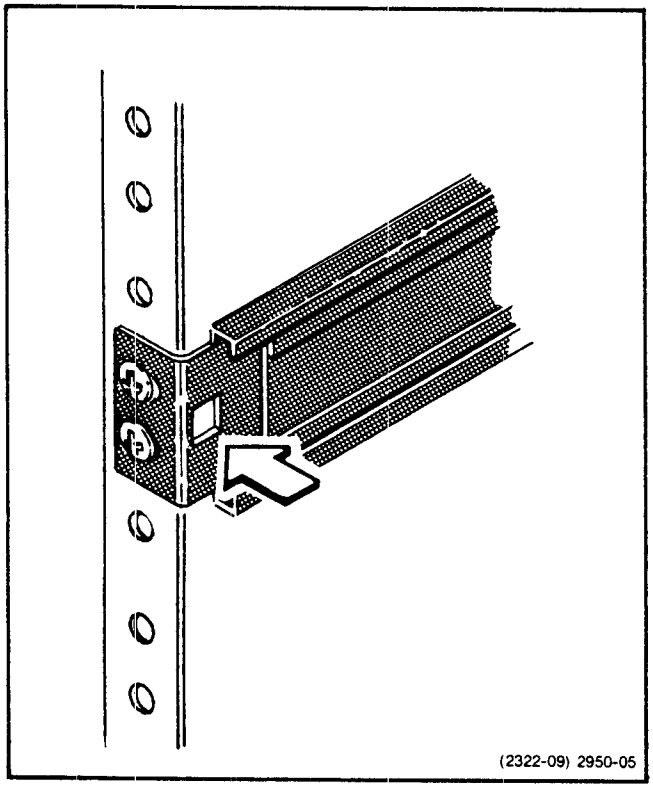


Fig. 2-5. Rack latch hole.

Installing the TM 506A, Option 10, in the Rack Slides. Make certain all plug-ins are removed from the power module. Pull the slide-out track intermediate sections out as far as they will go. See Fig. 2-9. Insert the instrument chassis sections into the intermediate section and push the instrument forward until the instrument chassis section locks into the intermediate section. Now press both buttons protruding from the stop-latch holes in the intermediate sections while pushing the instrument. The instrument can now be pushed into the rack, cabinet, or console. The latches holding the intermediate sections to the stationary sections are automatically operated by the instrument as it is pushed into the rack or cabinet. The quick-release latches automatically engage the rack-latch holes in the stationary sections of the rails as the instrument is pushed fully into the rack.

Removing the Instrument. Remove all plug-ins from power module. Unscrew the two thumb screws at the top of the front panel. Pull the rectangular latches on both sides of the front panel. Using the latches pull the instrument from the enclosure until the slide intermediate sections latch with the instrument sections and the stationary sections. The instrument is firmly held in this position. To completely remove the instrument, press both release-latch buttons visible in the stop-latch holes and carefully slide the instrument from the rack or cabinet.

Rack Adjustments. After installing the instrument in the rack, binding in the rack slides may occur if the slides are not properly adjusted. Slide the instrument from the rack until the front panel is about 10 inches from the front of the rack. Slightly loosen the screws holding the right and left tracks to the front rails. Allow the tracks to seek their normal position. Retighten the screws and check the tracks for smooth operation by sliding the instrument in and out of the rack.

Rack Slide Maintenance. The slide-out tracks do not require lubrication. The dark gray finish on the tracks is a permanent lubricative coating.

WARNING

During rackmount installation, interchanging the left and right slide-out track assemblies defeats the extension stop (safety latch) feature of the tracks. Equipment could, when extended, come out of the slides and fall from the rack, possibly causing personal injury and equipment damage.

When mounting the supplied slide-out tracks, inspect both assemblies to find the LH (left hand) and RH (right hand) designations to determine correct placement. Install the LH assembly to your left side as you face the front of the rack and install the RH assembly to your right side. Refer to the rackmounting instructions in this manual for complete information.

Plug-in Installation and Removal

CAUTION

Turn the power module off before inserting or removing the plug-in; otherwise, damage may occur to the plug-in circuitry.

Check to see that the plastic barriers on the interconnecting jack of the selected power module compartment match the cutouts in the plug-in cirucit board edge connector. The right-most compartment is the high power compartment. Align the plug-in chassis with the upper and lower guides (see Fig. 2-10) of the selected compartment. Push the plug-in chassis in and press firmly to seat the circuit board edge connector in the interconnecting jack. Turn the power module on.

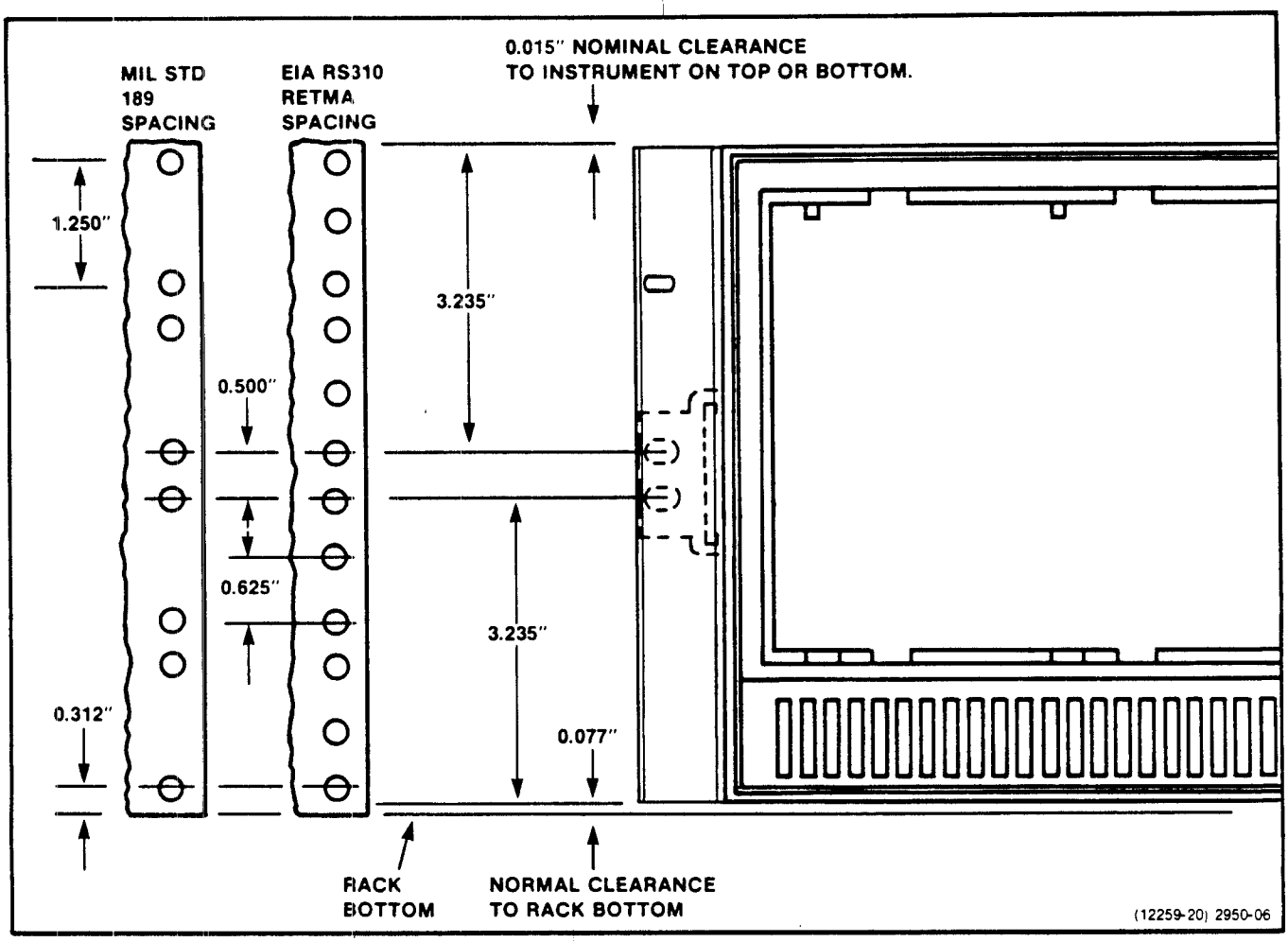


Fig. 2-6. Dimensions and positioning of TM 506A, Option 10, in standard rack.

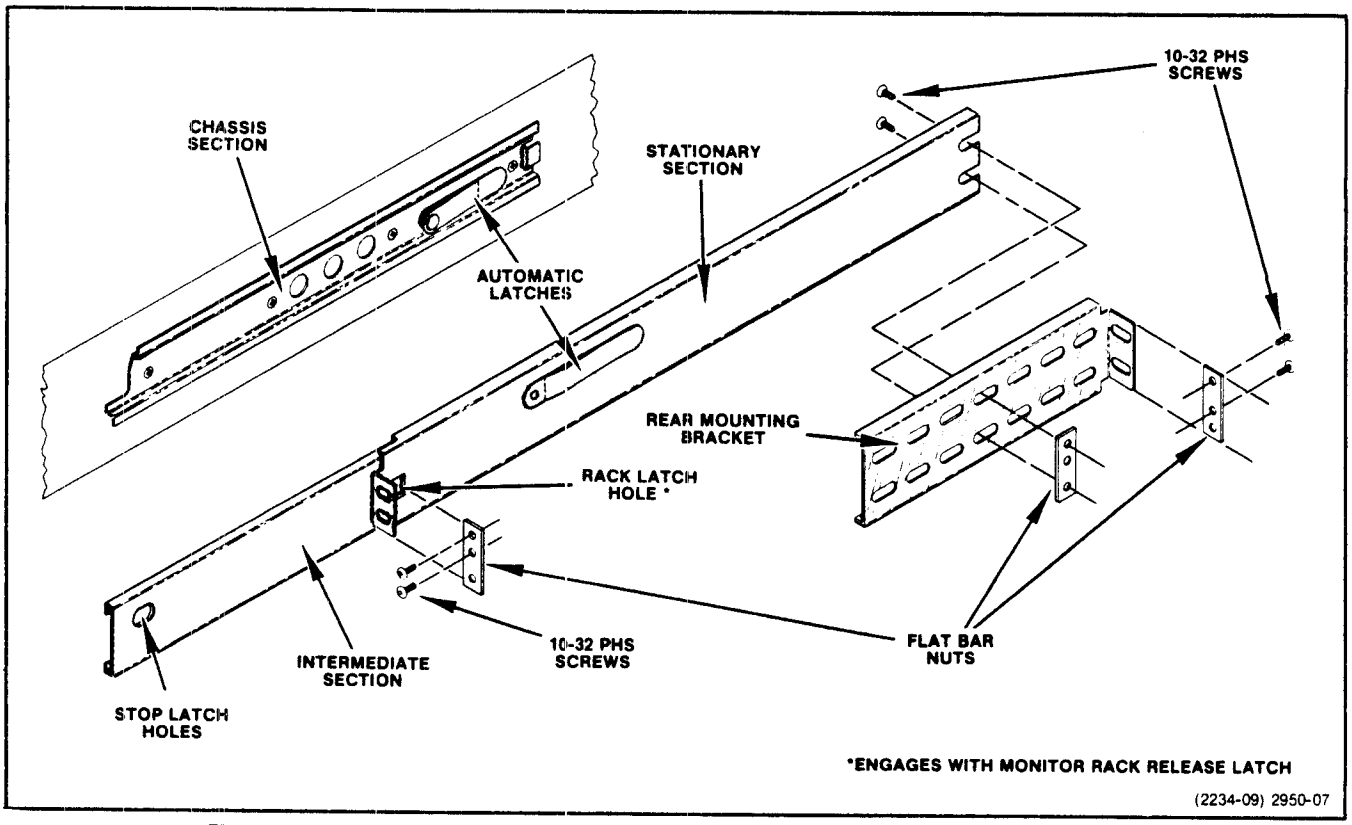


Fig. 2-7. Rackmount slide detail. If the rack has tapped holes, the bar nuts are not required.

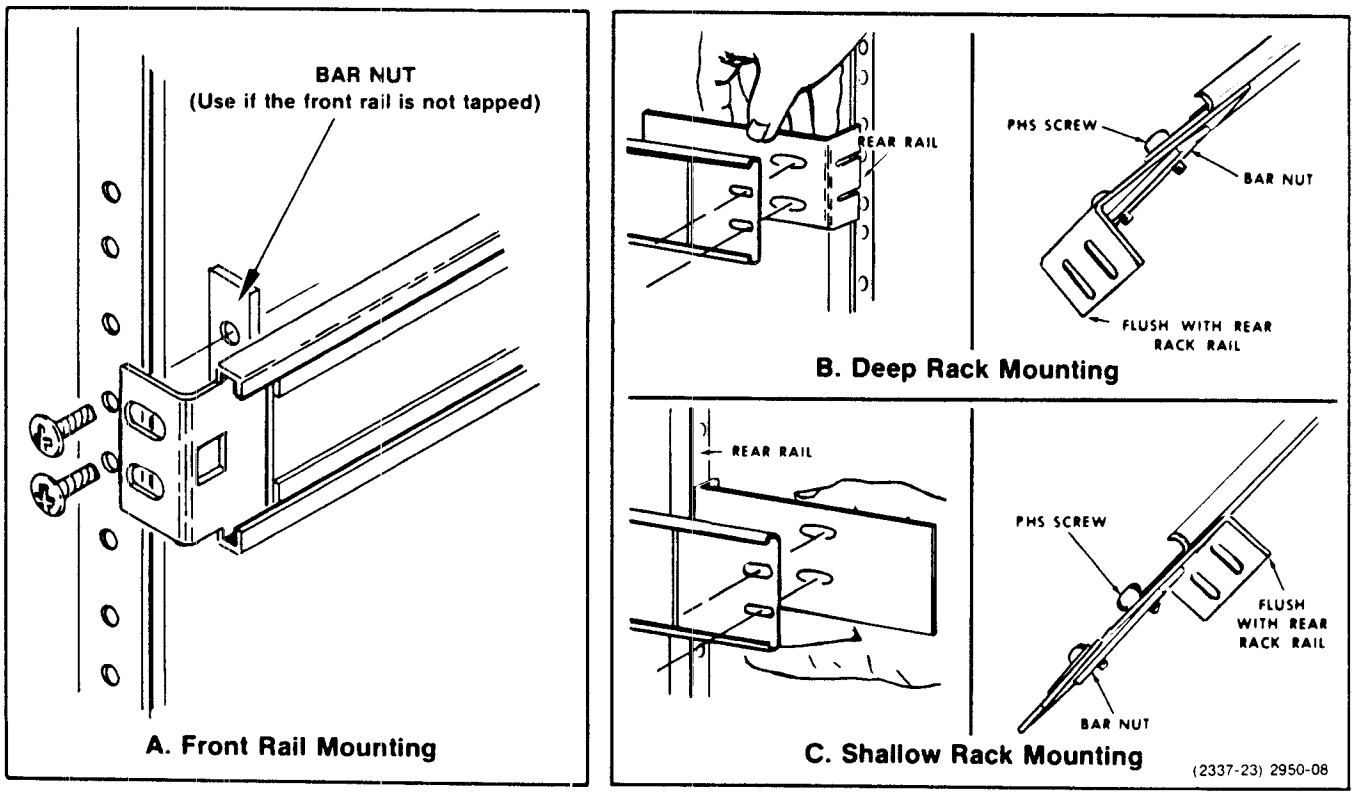


Fig. 2-8. Rackmounting slide details.

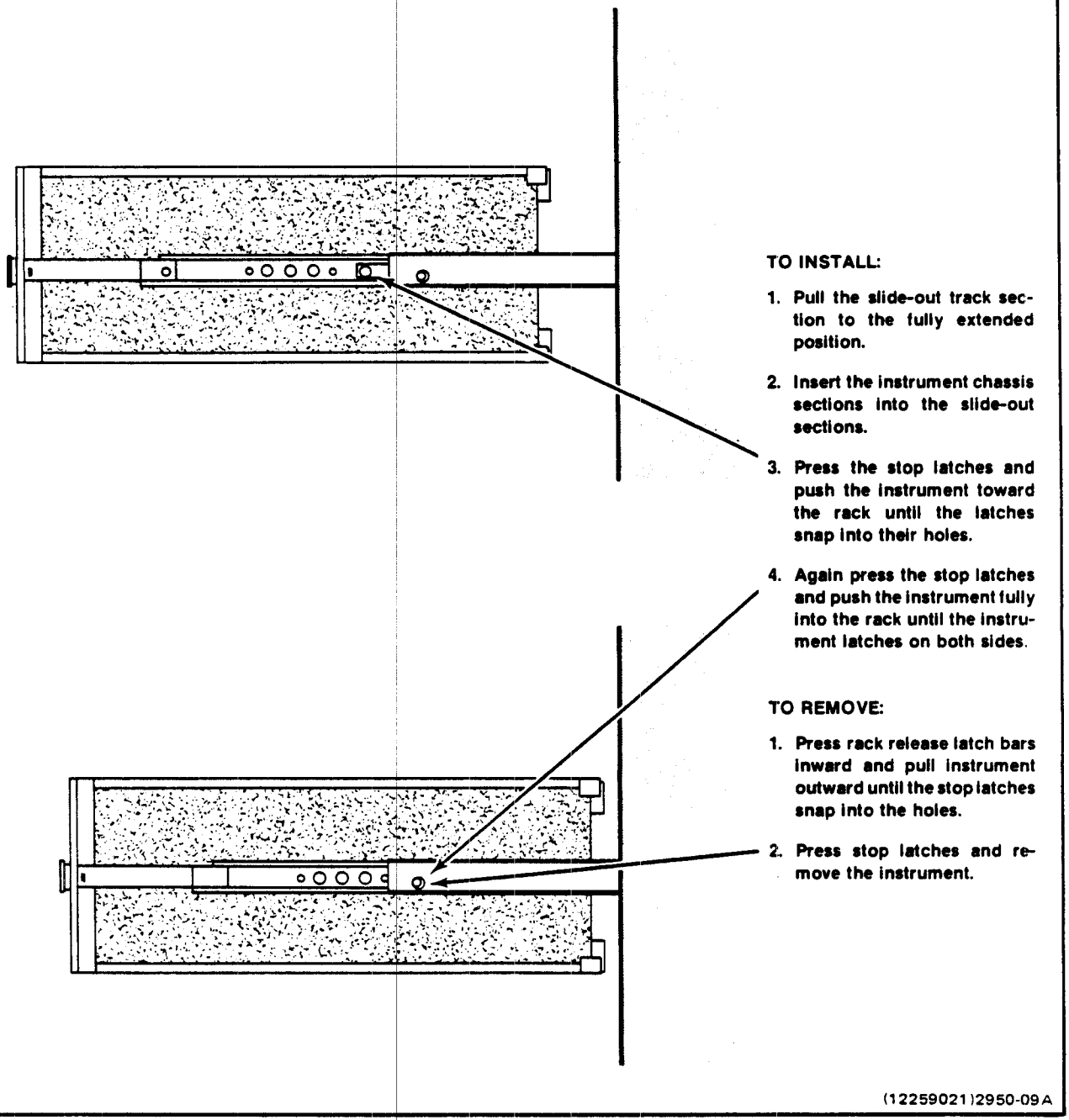


Fig. 2-9. Removing and installing TM 506A in rack slides.

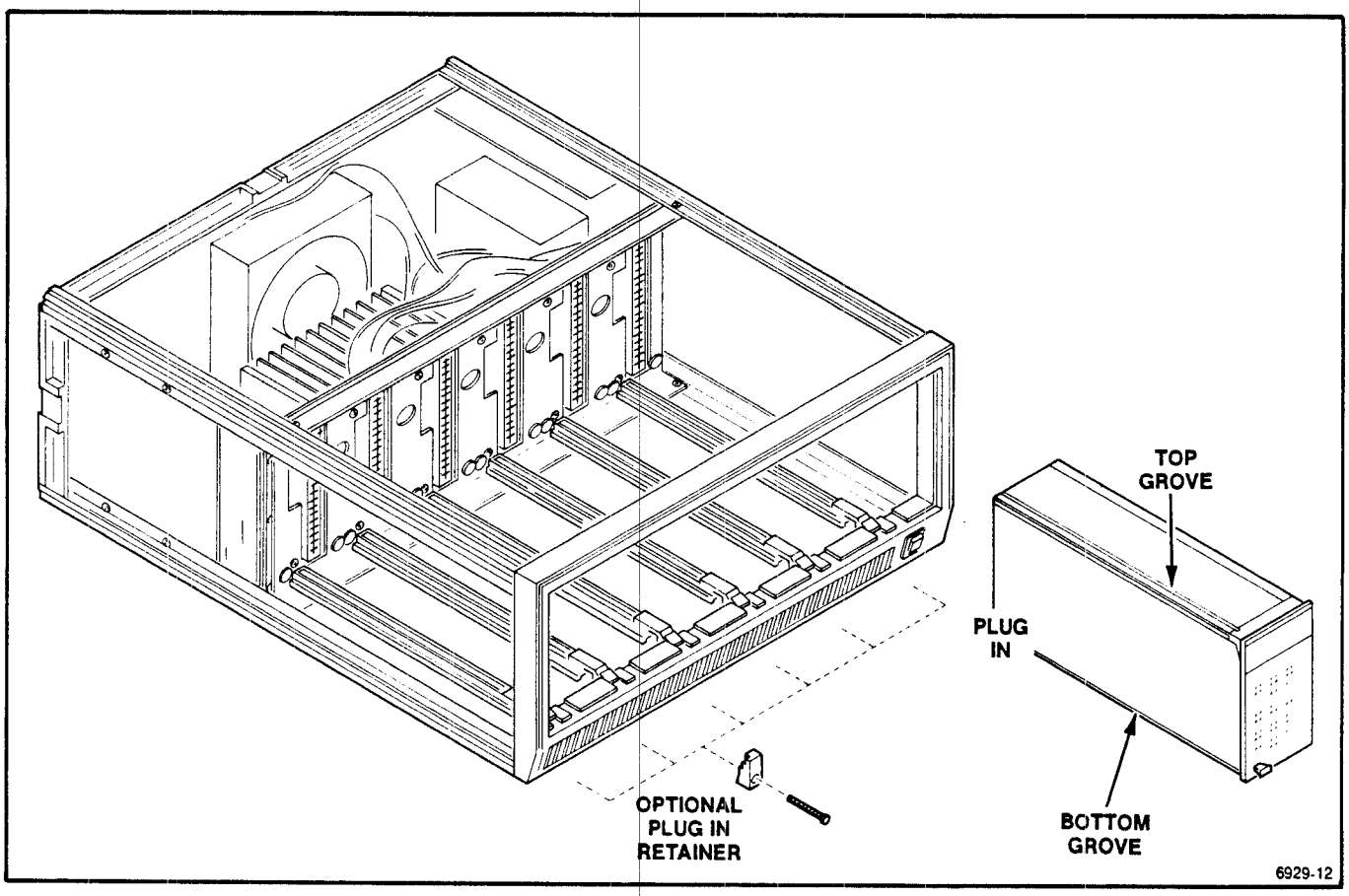


Fig. 2-10. Plug-in installation and removal.

Family Compatibility

Mechanically, TM 500 plug-in modules are very similar to other Tektronix product families. However, they are not electrically compatible. Therefore, the TM 506A interface has barriers on the mating connectors between pins 6 and 7 to ensure that incompatible plug-ins cannot be inserted. See Fig. 2-11. A compatible module will have a matching slot between pins 6 and 7 of its main circuit board edge connector. This slot and barrier combination is the primary keying assignment.

Customizing the Interface

The modularity of this instrumentation system provides for many different functions to be performed by the plug-in modules. Specific functions are grouped into families or classes, of which there may be several plug-in module members. For instance, some classes are Power Supplies, Signal Sources, Measurement, and so forth. Each modular member of a functional family will have a second slot peculiar to its family assignment, located in its edge connector. The TM 506A user can select one or more compartments to accept only members of that family, by installing a second barrier in the interface connector to match the module's slot location. An entire TM 506A can be set up in this manner for specific work functions. For extra barriers, order Tektronix Part No. 214-1593-02.

Jumper wires can be used to further specialize the interface. Compartments can communicate with one another by connecting jumpers on the back side of the interface board, using pins 14 through 28 (both A-side and B-side) of the interconnecting jacks. See the following description of Option 02. Refer to each plug-in module manual for the I/O assignments of each pin at the rear interface. Once interconnections of a specialized nature are made, it is recommended that barriers be installed on the interconnecting jacks to ensure module compatibility with the customized wiring.

Rear Panel

The rear panel has a connector mounting plate for bnc and multi-pin connector mountings. Customer or factory-installed connectors and wiring (Option 02) can provide external access to the interface. This feature makes the TM 500-Series Modular Instrumentation System very flexible in bench-top or rackmounted systems.

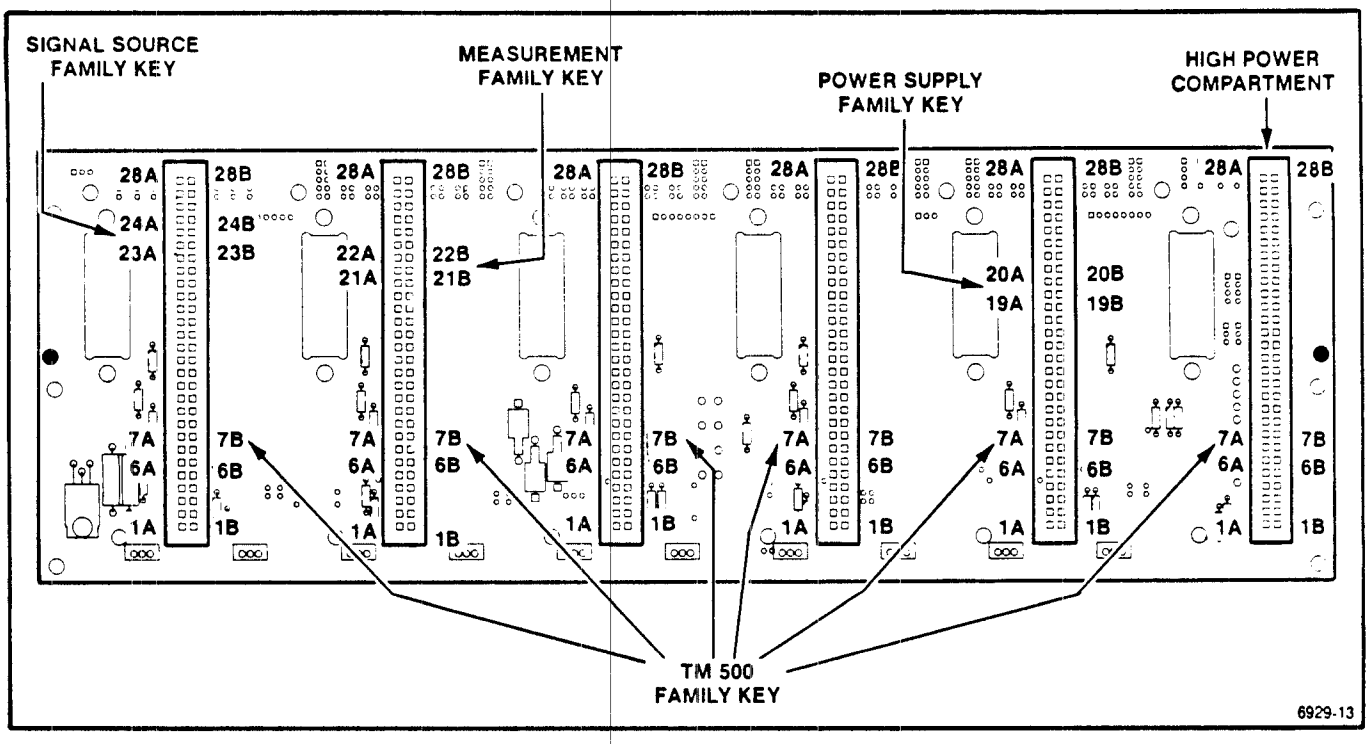


Fig. 2-11. Keying assignments for family functions. One of the many possible sequence combinations.

Option 02

This option adds six BNC connectors and a 50-pin connector to the rear panel to allow external access to the interface for external I/O control. These connectors are not prewired. Instead, prepared jumpers, strip pins, coaxial cables, and interconnection jack barriers are included in a kit. This gives the system designer as much flexibility as possible. Refer qualified service personnel to the Maintenance section of this manual for Option 02 installation information.

Plug-in Retainer Installation

The retainer is used to ensure that an installed plug-in module cannot come out of the power module while it is being moved or transported. Note that plug-in modules cannot be removed or inserted with the retainer installed.

To install the retainer, stand the power module on end. Install the retainer as shown in Fig. 2-10. A T-20 Torx bit is required.

Turn-On Procedure

After completing the power module preparation and plug-in module installation instructions, install the power cord and connect to the proper power outlet. Some plug-ins have independent power switches, usually labeled OUTPUT, that control application of mainframe power to the plug-in.

Repackaging Information

If the Tektronix instrument is shipped to a Tektronix Service Center for service or repair, attach a tag showing owner (with address) and the name of an individual at your firm to contact. Include the complete instrument serial number, option number and a description of the service required.

Save and reuse the package in which your instrument was shipped. If the original packaging is unfit for use or not available, repackage the instrument as follows:

Surround the instrument with polyethylene sheeting to protect the instrument finish. Obtain a carton of corrugated cardboard of the correct carton strength having inside dimensions of no less than six inches more than the instrument dimensions. Cushion the instrument by tightly packing three inches of dunnage or urethane foam between carton and instrument on all sides. Seal the carton with shipping tape or an industrial stapler.

The carton test strength for this instrument is 350 pounds per square inch.

MAINTENANCE

Introduction

This section contains information on preventive maintenance and instrument disassembly.

Static Sensitive Components

CAUTION

Static discharge can damage any semiconductor component in this instrument.

This instrument contains electrical components that are susceptible to damage from static discharge. See Table 3-1 for relative susceptibility of various classes of semiconductors. Static voltages of 1 kV to 30 kV are common in unprotected environments.

Table 3-1
RELATIVE SUSCEPTIBILITY TO STATIC DISCHARGE DAMAGE

Semiconductor Classes	Relative Susceptibility Levels[a]
MOS or CMOS microcircuits or discretes, or linear microcircuits with MOS inputs. (Most Sensitive)	1
ECL	2
Schottky signal diodes	3
Schottky TTL	4
High-frequency bipolar transistors	5
JFETs	6
Linear microcircuits	7
Low-power Schottky TTL	8
TTL (Least Sensitive)	9

[a]**Voltage equivalent for levels:**

1 = 100 to 500 V 4 = 500 V 7 = 400 to 1000 V (est.)
2 = 200 to 500 V 5 = 400 to 600 V 8 = 900 V
3 = 250 V 6 = 600 to 800 V 9 = 1200 V

(Voltage discharged from a 100 pF capacitor through a resistance of 100 Ω.)

Cleaning

This instrument should be cleaned as often as operating conditions require. Loose dust accumulated on the outside of the instrument can be removed with a soft cloth or small brush. Remove dirt that remains with a soft cloth dampened in a mild detergent and water solution. Do not use abrasive cleaners.

Clean the interior by blowing off the accumulated dust with a dry, low-velocity air (approximately 5 lb/in^2) or use a soft brush or cloth dampened with a mild detergent and water solution.

CAUTION

Circuit boards and components must be dry before applying power.

Multipin Connectors

The pin connectors used to connect the wires to the interconnecting pins are clamped to the ends of the wires. To replace damaged multi-pin connectors, remove the old pin connector from the holder. Do this by inserting a scribe between the connector and the holder and prying the connector from the holder. Clamp the replacement connector to the wire. Reinstall the connector in the holder.

If the individual end lead pin connectors are removed from the plastic holder, note the order of the individual wires for correct replacement in the holder. For proper replacement see Fig. 3-1.

Instrument Disassembly

WARNING

Use caution when operating this instrument with the side panels removed as dangerous voltages are present.

To remove the top, bottom and side panels, remove the four screws attaching the feet to the rear of the instrument and slide the panels to the rear. See Fig. 3-2. To remove the

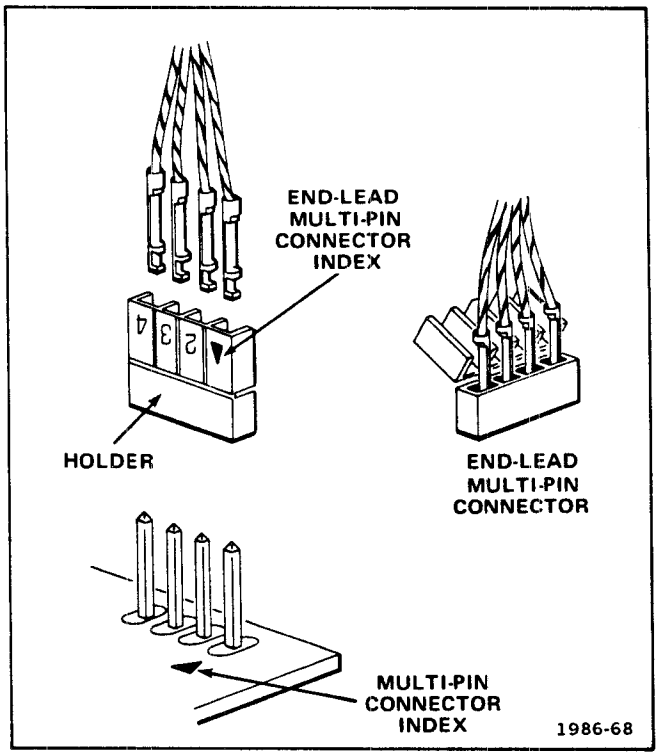


Fig. 3-1. Orientation and disassembly of multipin connectors.

interface circuit board, remove the plug-in guide rails shown in Fig. 3-3. Next remove the interface circuit board support by removing the screws shown in Fig. 3-4 and Fig. 3-6. Before removing the main interface circuit board, make certain the connections to the board are either unplugged or unsoldered. Remove the six screws holding the board to the mainframe, and the ten transistor mounting screws on the bottom side. To remove the rear panel, remove the screws shown in Fig. 3-5, and the nut that secures the dc power supply. After these screws are removed, the rear panel may be laid back for easier access to the dc power supply board. After removing the rear panel, the dc power supply circuit board may be removed. Remove the four screws and one nut shown in Fig. 3-6.

WARNING

Dangerous voltages may be present on the filter capacitors on the dc power supply board for several minutes after line voltage removal.

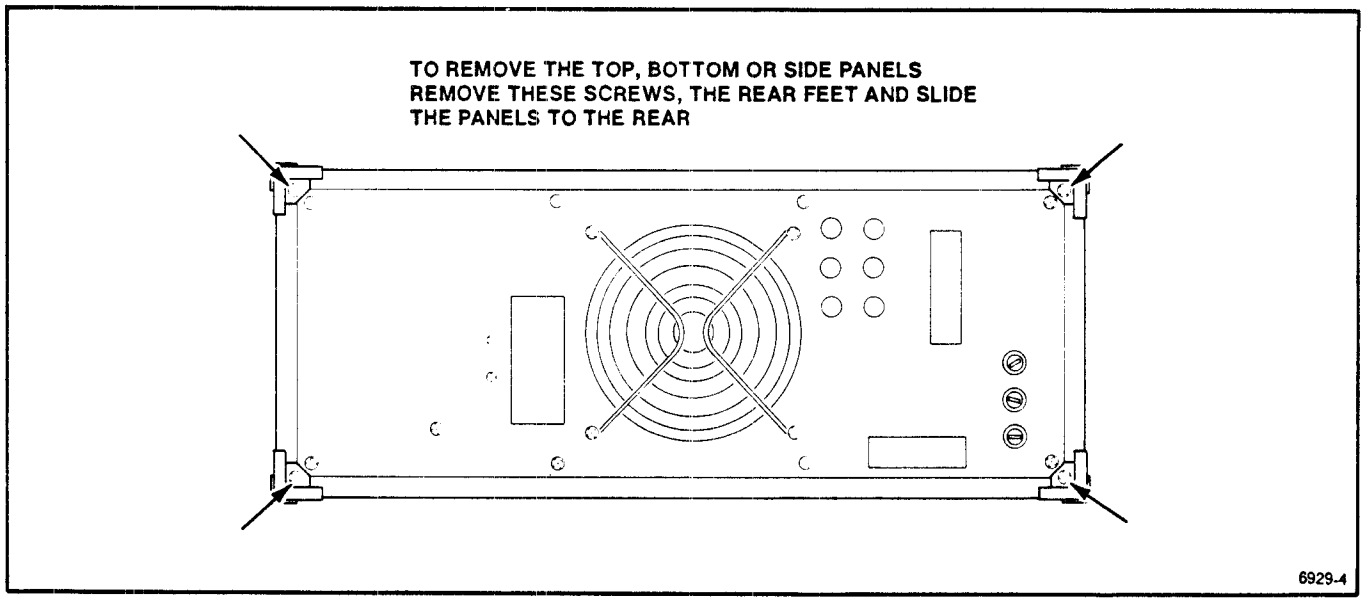


Fig. 3-2. Outer panel removal.

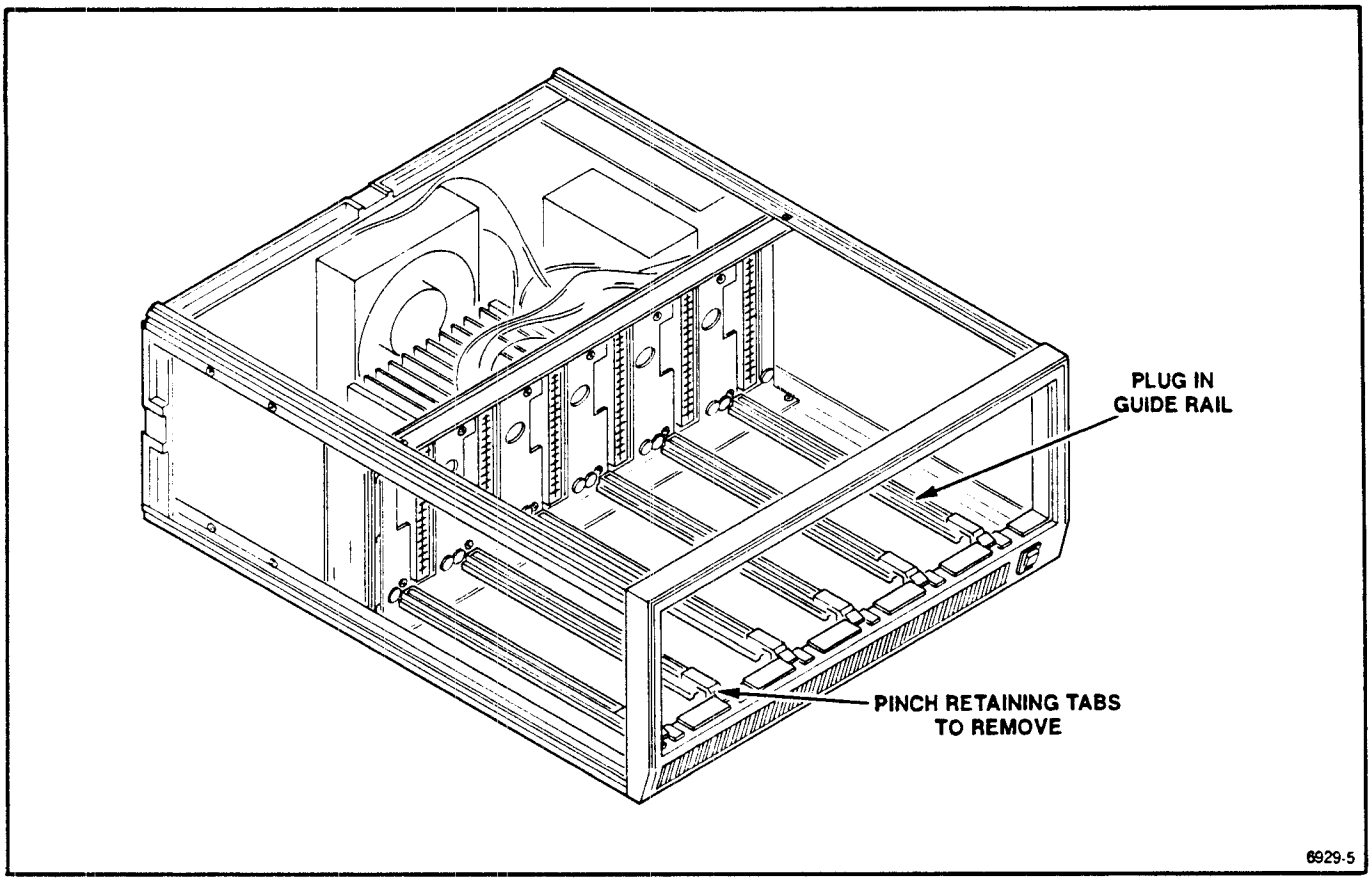


Fig. 3-3. Guide rail and air baffle removal.

To gain access to the bottom of the dc power supply board, remove the side panel next to the board.

To remove the heat sink:

1. Disconnect the TM 506A from the power source.
2. Disconnect the leads to the high-power series-pass transistors. (The transistors are shown in Fig. 3-7.)
3. Remove the six screws that fasten the heat sink (Fig. 3-8) to the chassis, and lift the heat sink out of the unit.

To remove the transformer assembly:

1. Remove the heat sink.
2. Remove the rear panel.
3. Tag and disconnect all leads.
4. Remove the fastening screws shown in Fig. 3-9, then lift the transformer assembly out of the chassis.

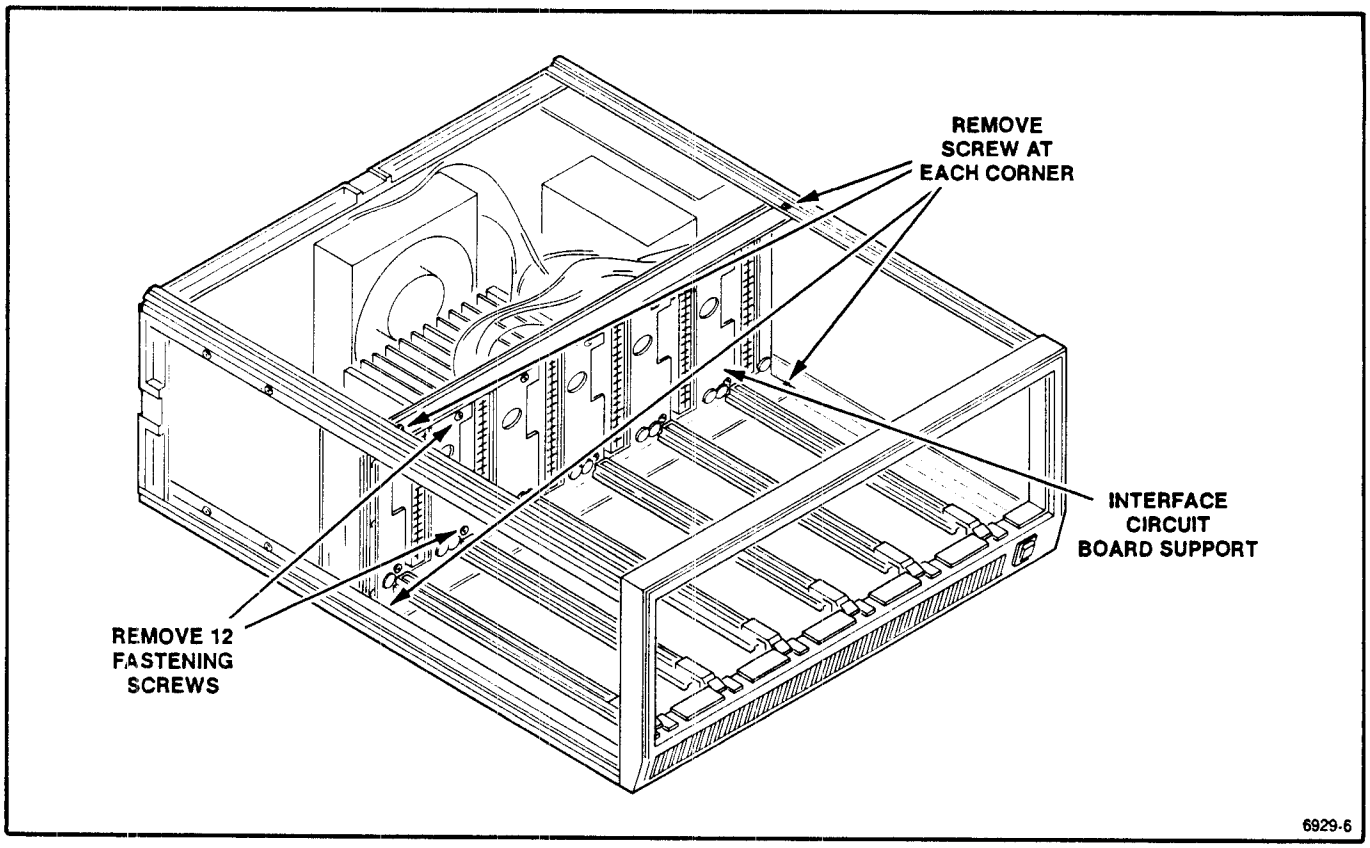


Fig. 3-4. Removal of the interface circuit board support.

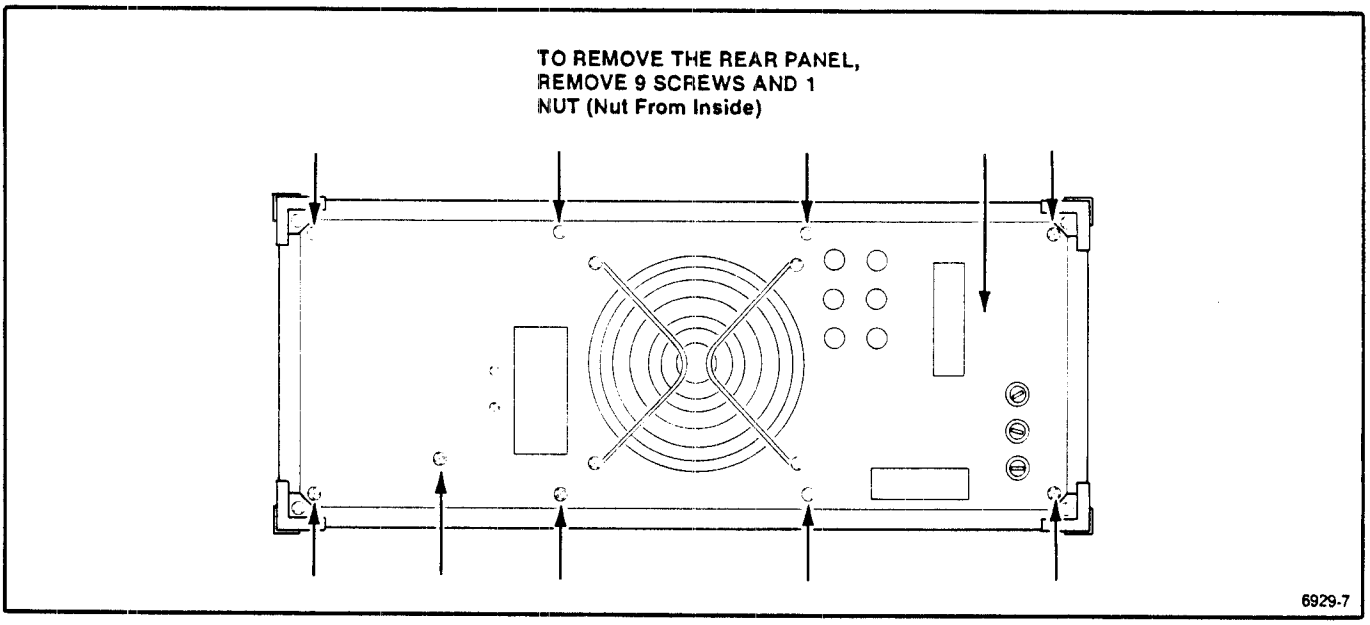


Fig. 3-5. Rear panel removal.

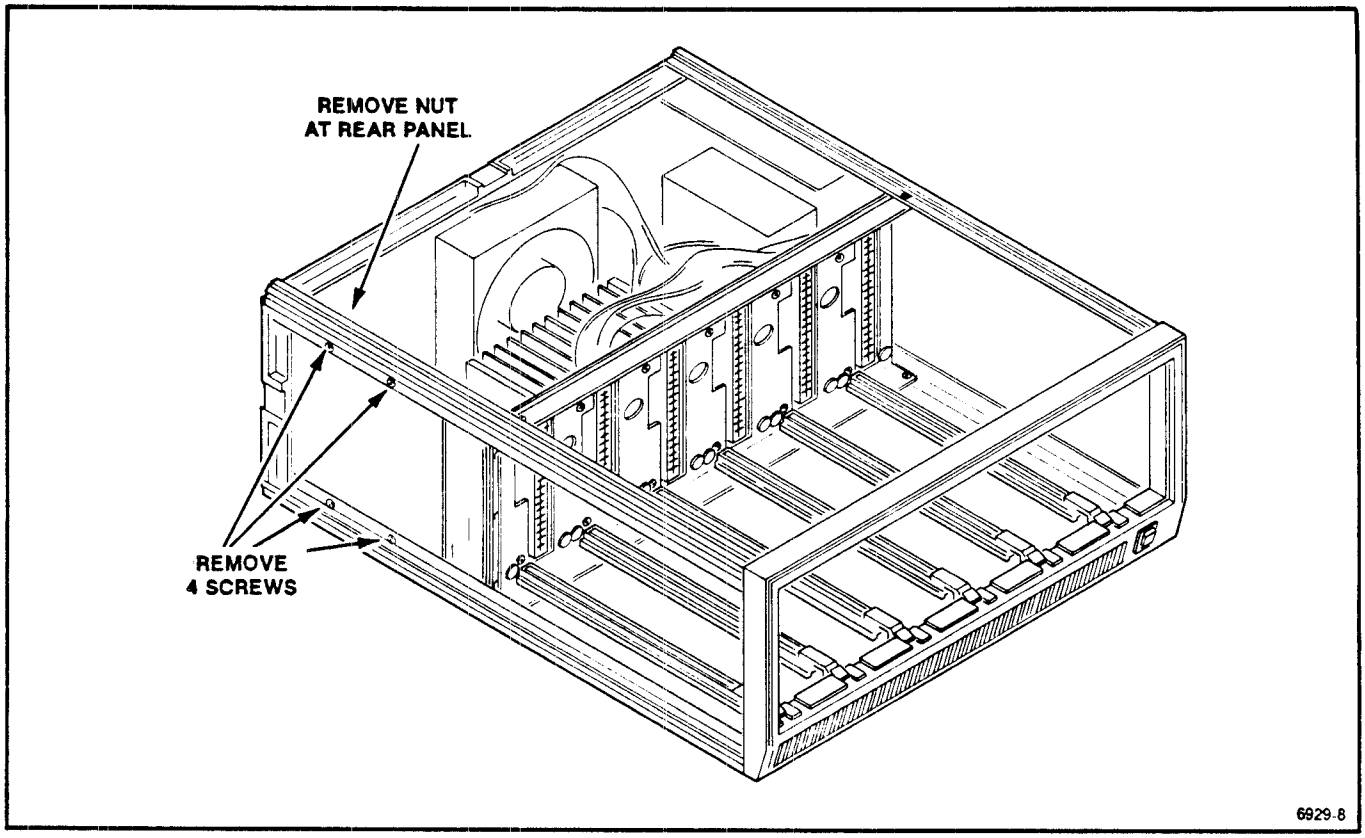


Fig. 3-6. Location of screws holding the dc power supply circuit board to the mainframe chassis.

Circuit Troubleshooting

Troubleshooting the TM 506A is usually very simple. However, if a plug-in is defective, be sure that the problem is not in the TM 506A:

1. Check the power supply fuses. These are located at the rear panel.
2. If no fuses are blown, check the voltages in the TM 506A at the connector where the defective plug-in was used.
3. Turn off the power to the TM 506A and use an ohmmeter to test the series-pass transistor that drives the connector in question.

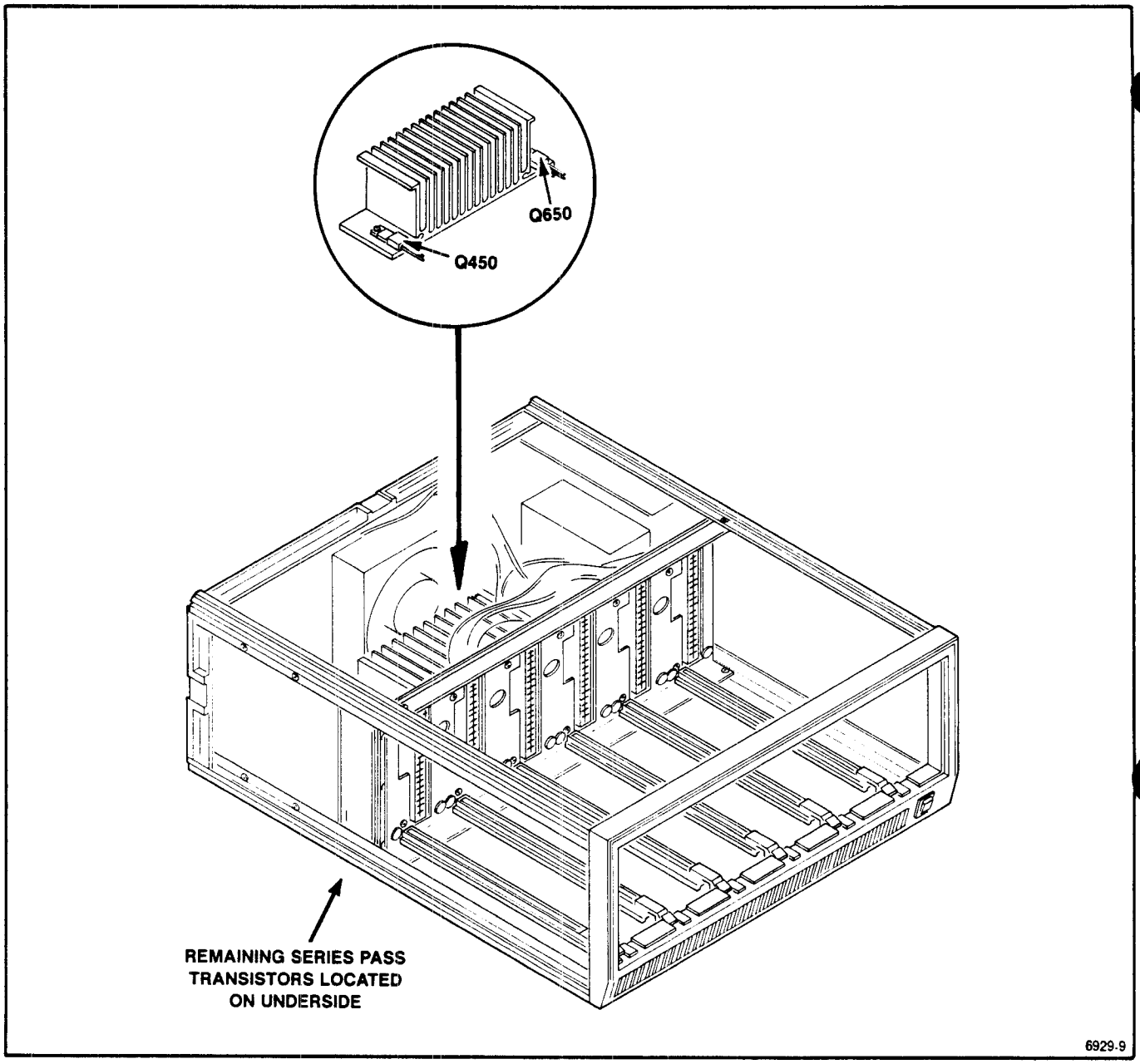


Fig. 3-7. Series pass transistor locations. The high power compartment series pass transistors Q450 and Q650 are on the right side of the heat sink. Q650 is the upper transistor.

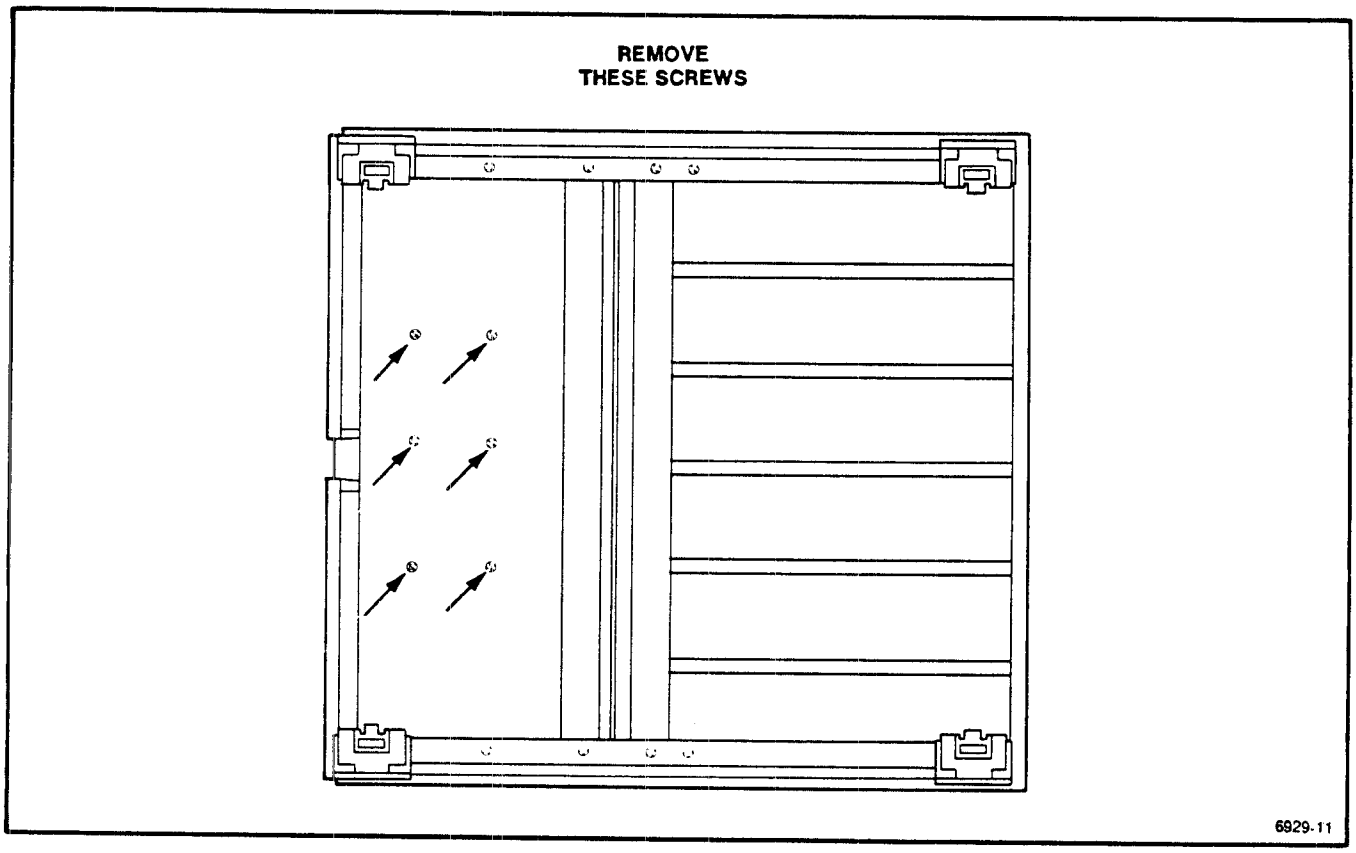


Fig. 3-8. Attaching screws on bottom of mainframe.

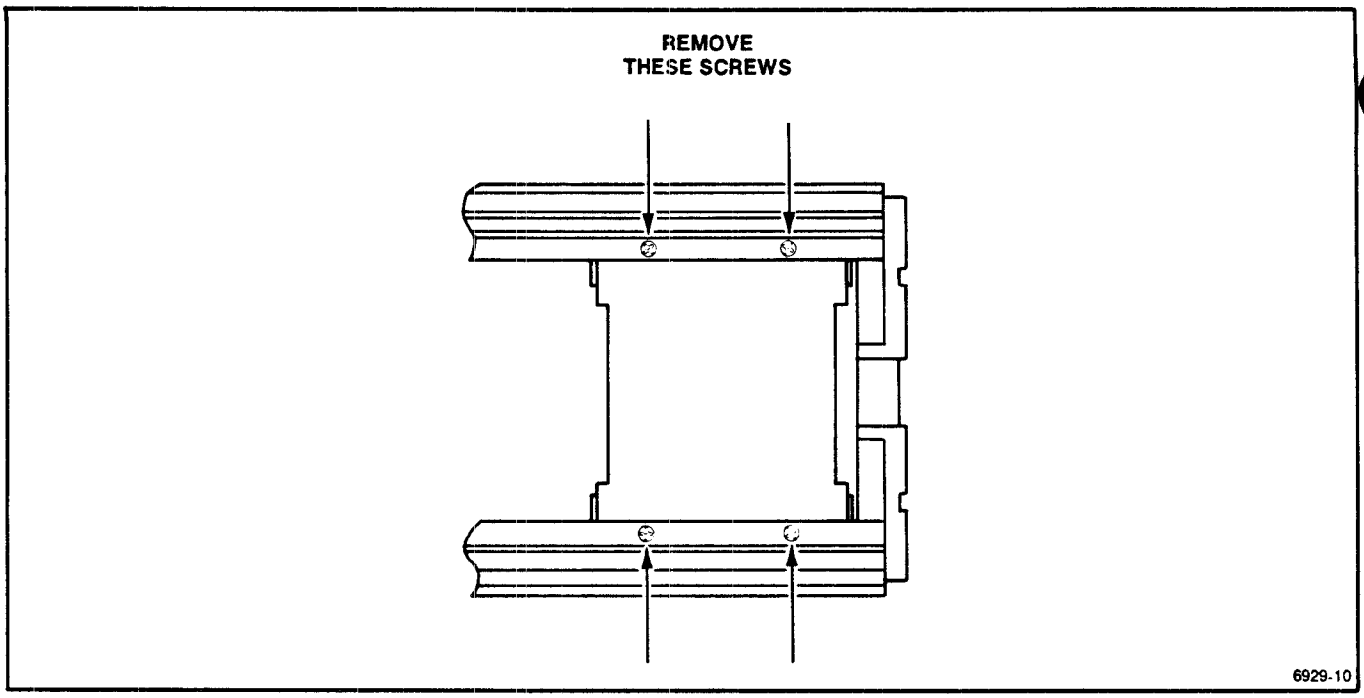


Fig. 3-9. Transformer assembly attaching screws.

OPTIONS

Introduction

Option 02 provides rear interface connections at the rear panel and Option 10 provides rack mounting capabilities. Information on Option 02 is found below. Information on Option 10 is provided in Section 2 of this manual, and at the end of the Replaceable Mechanical Parts List.

Option 02

This option adds 25-mil square pin connectors to the rear of the interconnecting jacks at all pins from 14A and B to pins 28A and B. This option also adds six bnc connectors and one 50-pin connector to the rear panel. These connectors are not prewired. Prepared jumpers, coaxial cables, square pins, and interconnection jack barriers are included in the kit.

System Design Directions

1. Plan the plug-in location in the mainframe based on operator convenience as well as interface connections.

2. Plan the wiring between interconnecting jacks and to the rear panel connectors before starting assembly. A mating rear panel 50-pin connector and cover are provided for external cabling.

NOTE

There are no pin assignments for the rear panel connectors, due to the great variety of possible connections.

When high frequency or fast digital signals are involved, plan the wiring to minimize crosstalk. Make allowance for possible auxiliary ground connections.

The 50-pin rear panel connector may be easier to connect if it is removed from the rear panel and remounted after connections are made. Remove the top rear cabinet piece for ease of access.

If more than 50 pins are needed, an AMP HD-22 series connector with 104 pins may be mounted in the same cut out. It is suggested that these parts be obtained directly from AMP Inc., Harrisburg, PA or their distributors. For further application information, contact Tektronix TM 500 Marketing Group.

3. Pin assignments for individual plug-ins will be found in the appropriate instruction manual.

4. Install an interconnection jack barrier at the appropriate location on the interconnection jack. Refer to operating instructions for keying assignments for family functions.

5. Select and install the wires (hook-up or coaxial cable) following the guidelines in the Wire Use part of these instructions.

6. Wires or cables which may be at large potential differences should be dressed or bundled so as to avoid contact. Keep all interface wiring away from the power module primary line wiring.

CAUTION

Maximum input voltage is ≤60 Vdc or ≤42.4 Vdc peak-to-peak. Limit input power to ≤150 W total for Option 02.

Wire Use

1. Hook up wire with square pin receptacles on both ends. These may be used for low frequency or dc circuits where impedance levels and crosstalk are not a problem. The wire is supplied for connection between compartments (adjacent or nonadjacent) or between a compartment and the rear panel. For connection to the rear panel, cut to length then tin and solder the end going to the rear panel connector.

2. Coaxial wire with square pin receptacles on both ends. These are used for connections which require shielding or which must maintain a 50 Ω characteristic impedance. The outer conductor should be connected to either chassis ground or circuit ground. Plug-in lines which require coaxial leads usually have a specified ground pin assignment. If necessary, establish auxiliary ground connections at the appropriate wire ends. The coaxial wire is supplied for connection between compartments (adjacent or nonadjacent) or between a compartment and the rear panel. For connection to the rear panel, cut to length then tin and solder the end going to the rear panel connector.

REPLACEABLE ELECTRICAL PARTS

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 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.

LIST OF ASSEMBLIES

A list of assemblies can be found at the beginning of the Electrical Parts List. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

CROSS INDEX-MFR. CODE NUMBER TO MANUFACTURER

The Mfr. Code Number to Manufacturer index for the Electrical Parts List is located immediately after this page. The Cross Index provides codes, names and addresses of manufacturers of components listed in the Electrical Parts List.

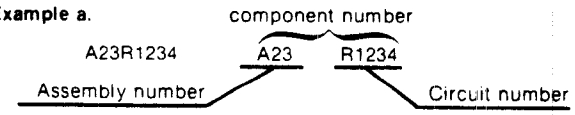
ABBREVIATIONS

Abbreviations conform to American National Standard Y1.1.

COMPONENT NUMBER (column one of the Electrical Parts List)

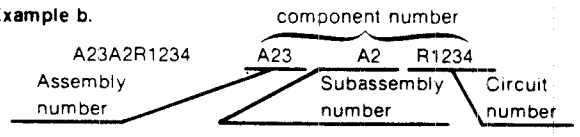
A numbering method has been used to identify assemblies, subassemblies and parts. Examples of this numbering method and typical expansions are illustrated by the following:

Example a.



Read: Resistor 1234 of Assembly 23

Example b.



Read: Resistor 1234 of Subassembly 2 of Assembly 23

Only the circuit number will appear on the diagrams and circuit board illustrations. Each diagram and circuit board illustration is clearly marked with the assembly number. Assembly numbers are also marked on the mechanical exploded views located in the Mechanical Parts List. The component number is obtained by adding the assembly number prefix to the circuit number.

The Electrical Parts List is divided and arranged by assemblies in numerical sequence (e.g., assembly A1 with its subassemblies and parts, precedes assembly A2 with its subassemblies and parts).

Chassis-mounted parts have no assembly number prefix and are located at the end of the Electrical Parts List.

TEKTRONIX PART NO. (column two of the Electrical Parts List)

Indicates part number to be used when ordering replacement part from Tektronix.

SERIAL/MODEL NO. (columns three and four of the Electrical Parts List)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

NAME & DESCRIPTION (column five of the Electrical Parts List)

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

MFR. CODE (column six of the Electrical Parts List)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

MFR. PART NUMBER (column seven of the Electrical Parts List)

Indicates actual manufacturers part number.

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
00213	NYTRONICS COMPONENTS GROUP INC SUBSIDIARY OF NYTRONICS INC	ORANGE ST	DARLINGTON SC 29532
01121	ALLEN-BRADLEY CO	1201 SOUTH 2ND ST	MILWAUKEE WI 53204-2410
03508	GENERAL ELECTRIC CO SEMI-CONDUCTOR PRODUCTS DEPT	W GENESEE ST	AUBURN NY 13021
04222	AVX CERAMICS DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
04713	MOTOROLA INC SEMICONDUCTOR PRODUCTS SECTOR	5005 E MCDOWELL RD	PHOENIX AZ 85008-4229
05828	GENERAL INSTRUMENT CORP GOVERNMENT SYSTEMS DIV	600 W JOHN ST	HICKSVILLE NY 11802
19701	MEPCO/CENTRALAB A NORTH AMERICAN PHILIPS CO	P O BOX 760	MINERAL WELLS TX 76067-0760
22526	DU PONT E I DE NEMOURS AND CO INC DU PONT CONNECTOR SYSTEMS DIV MILITARY PRODUCTS GROUP	515 FISHING CREEK RD	NEW CUMBERLAND PA 17070-3007
27264	MOLEX INC	2222 WELLINGTON COURT	LISLE IL 60532-1613
31781	EDAC INC	20 RAILSIDE RD DON MILLS	ONT M3A 1A4 CAN
57668	R-OHM CORP	16931 MILLIKEN AVE	IRVINE CA 92713
71400	BUSSMANN DIV OF COOPER INDUSTRIES INC	114 OLD STATE RD PO BOX 14460	ST LOUIS MO 63178
80009	TEKTRONIX INC	14150 SW KARL BRAUM DR PO BOX 500 MS 53-111	BEAVERTON OR 97077
81483	INTERNATIONAL RECTIFIER	9220 SUNSET BLVD P O BOX 2321 TERMINAL ANNEX	LOS ANGELES CA 90069-3501
82877	ROTRON INC CUSTOM DIV	7 HASBROUCK LN	WOODSTOCK NY 12498-1807
93410	ESSEX GROUP ING CONTROLS DIV LEXINGTON PLANT	45-55 PLYMOUTH ST P O BOX 1007	LEXINGTON OH 44904
TK0935	MARQUARDT SWITCHES INC	67 ALBANY ST PO BOX 465	CAZENOVIA NY 13035-1219

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A10	671-0621-00			CIRCUIT BD ASSY:MAIN INTERFACE	80009	671-0621-00
A11	671-0622-00			CIRCUIT BD ASSY:POWER SUPPLY	80009	671-0622-00
A10	671-0621-00			CIRCUIT BD ASSY:MAIN INTERFACE	80009	671-0621-00
A10C2011	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2013	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2014	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2019	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2021	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2023	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2037	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2038	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2041	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2043	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2044	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2051	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2053	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2055	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2064	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2065	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2070	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2073	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2074	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C2075	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3016	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3017	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3021	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3022	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3043	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3044	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3053	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3055	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3067	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3068	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3075	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10C3076	281-0774-00			CAP,FXD,CER DI:0.022MFD,20%,100V	04222	MA201E223MAA
A10CR2034	152-0198-00			SEMICOND DVC,DI:RECT,SI,200V,3A,A249	03508	1N5624
A10CR3037	152-0198-00			SEMICOND DVC,DI:RECT,SI,200V,3A,A249	03508	1N5624
A10CR3038	152-0198-00			SEMICOND DVC,DI:RECT,SI,200V,3A,A249	03508	1N5624
A10J1005	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY OF 3)	22526	48283-036
A10J1025	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY OF 10)	22526	48283-036
A10J1045	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY OF 8)	22526	48283-036
A10J1065	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY OF 3)	22526	48283-036
A10J1070	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 BRZ GLD PL (QUANTITY OF 8)	22526	48283-036
A10J2041	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A10J2043	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A10J2045	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A10J2047	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A10J2079	131-2576-00			TERM SET,PIN:6 CONTACT,MALE	27264	09-61-1061
A10J3015	131-1078-00			CONN,RCPT,ELEC:CKT BD,28/56 CONTACT	31781	303-056-520-301
A10J3025	131-1078-00			CONN,RCPT,ELEC:CKT BD,28/56 CONTACT	31781	303-056-520-301
A10J3040	131-1078-00			CONN,RCPT,ELEC:CKT BD,28/56 CONTACT	31781	303-056-520-301
A10J3065	131-1078-00			CONN,RCPT,ELEC:CKT BD,28/56 CONTACT	31781	303-056-520-301

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A10J3080	131-1078-00			CONN,RCPT,ELEC:CKT BD,28/56 CONTACT	31781	303-056-520-301
A10Q3005	151-0462-00			TRANSISTOR:PNP,SI,TO-220	04713	SJE491
A10R2047	315-0100-00			RES,FXD,FILM:10 OHM,5%,0.25W	19701	5043CX10RR00J
A10R3010	308-0142-00			RES,FXD,WW:30 OHM,5%,3W	00213	1240S-30-5
A10R3011	308-0740-00			RES,FXD,WW:20 OHM,1%,3W	00213	1200S-20-1
A10R3012	315-0332-00			RES,FXD,FILM:3.3K OHM,5%,0.25W	57668	NTR25J-E03K3
A11	671-0622-00			CIRCUIT BD ASSY:POWER SUPPLY	80009	671-0622-00
A11C2041	290-1186-00			CAP,FXD,ELCTLT:4700UF,20%,50WVDC	80009	290-1186-00
A11C2055	290-1186-00			CAP,FXD,ELCTLT:4700UF,20%,50WVDC	80009	290-1186-00
A11C3025	290-1187-00			CAP,FXD,ELCTLT:18000UF,20%,16WVDC	80009	290-1187-00
A11C3041	290-1186-00			CAP,FXD,ELCTLT:4700UF,20%,50WVDC	80009	290-1186-00
A11C3055	290-1186-00			CAP,FXD,ELCTLT:4700UF,20%,50WVDC	80009	290-1186-00
A11C4041	290-1187-00			CAP,FXD,ELCTLT:18000UF,20%,16WVDC	80009	290-1187-00
A11C4055	290-1187-00			CAP,FXD,ELCTLT:18000UF,20%,16WVDC	80009	290-1187-00
A11CR3011	152-0668-00			SEMICOND DVC,DI:RECT BRIDGE,SI,200V,6A	05828	KBPC802
A11CR4005	152-0793-00			SEMICOND DVC,DI:DUAL RECT,SI,40V,25A	81483	28CPQ040
A11F1005	159-0126-00			FUSE,CARTRIDGE:3AG,2.5A,250V,0.65SEC	71400	AGC-CW-2 1/2
A11F2005	159-0126-00			FUSE,CARTRIDGE:3AG,2.5A,250V,0.65SEC	71400	AGC-CW-2 1/2
A11F3005	159-0242-00			FUSE,CARTRIDGE:3AG,10A,32V,VERY FAST	71400	AGC-CW-10
A11J5005	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5011	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5015	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5021	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5025	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5031	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5041	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5045	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5051	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11J5055	131-2427-01			TERM,QIK DISC.:TAB	80009	131-2427-01
A11R1025	305-0102-00			RES,FXD,CMPSN:1K OHM,5%,2W	01121	HB1025
A11R3025	305-0102-00			RES,FXD,CMPSN:1K OHM,5%,2W	01121	HB1025
A11R3031	303-0511-00			RES,FXD,CMPSN:510 OHM,5%,1W	01121	GB5115
B500	119-0721-00			FAN,VENTILATING:75CFM,115VAC,50/60HZ (STANDARD ONLY)	82877	WR2H1
B500	119-0147-00			FAN,VENTILATING:115V,14W,3200RPM,105CFM (OPTION 10 AND OPTION 12 ONLY)	82877	028021
F500	159-0005-00			FUSE,CARTRIDGE:3AG,3A,250V,30SEC,CER	71400	MSL-3
FL500	119-3212-00			SELECTOR,LINE V:W/LINE FILTER,RCPT & FUHLR	80009	119-3212-00
Q450	151-0652-00			TRANSISTOR:NPN,SI,X-86	04713	TIP35C
Q650	151-0651-00			TRANSISTOR:PNP,SI,X-86	04713	TIP36C
Q3011	151-0918-00			TRANSISTOR:PNP POWER,15A,80V	80009	151-0918-00
Q3017	151-0917-00			TRANSISTOR:NPN POWER,15A,80V	80009	151-0917-00
Q3025	151-0918-00			TRANSISTOR:PNP POWER,15A,80V	80009	151-0918-00
Q3029	151-0917-00			TRANSISTOR:NPN POWER,15A,80V	80009	151-0917-00
Q3036	151-0918-00			TRANSISTOR:PNP POWER,15A,80V	80009	151-0918-00
Q3039	151-0917-00			TRANSISTOR:NPN POWER,15A,80V	80009	151-0917-00
Q3051	151-0918-00			TRANSISTOR:PNP POWER,15A,80V	80009	151-0918-00
Q3057	151-0917-00			TRANSISTOR:NPN POWER,15A,80V	80009	151-0917-00
Q3067	151-0918-00			TRANSISTOR:PNP POWER,15A,80V	80009	151-0918-00
Q3070	151-0917-00			TRANSISTOR:NPN POWER,15A,80V	80009	151-0917-00
SW500	260-1961-00			SWITCH,ROCKER:DPST,6(4)A,250V	TK0935	1802.1121
SW600	260-0907-00			SWITCH,THRMSTC:NC,OPEN 97.8,CL 75.6,10A	93410	430-349
T500	120-1810-00			TRANSFORMER,PWR:48-66HZ,100,120,220,240V	80009	120-1810-00
W110	196-3219-00			LEAD,ELECTRICAL:18 AWG,12.0 L,2-1 (FROM A11J5051 TO A10J2041)	80009	196-3219-00
W120	196-3216-00			LEAD,ELECTRICAL:12 AWG,12.0 L,0-N (FROM A11J5055 TO A10J2045)	80009	196-3216-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
W130	196-3217-00			LEAD,ELECTRICAL:12 AWG,12.0 L,2-N (FROM A11J5041 TO A10J2047)	80009	196-3217-00
W140	196-3218-00			LEAD,ELECTRICAL:18 AWG,12.0 L,7-1 (FROM A11J5045 TO A10J2043)	80009	196-3218-00
W200	174-1267-00			CA ASSY,SP,ELEC:6,22 AWG,30.0 L (FROM A10J2079 TO TRANSISTORS ON HEATSINK)	80009	174-1267-00
W300	174-1287-00			CA ASSY,SP,ELEC:4,18 AWG,8-N,24.0 L (FROM S500 TO FL500 AND SW600)	80009	174-1287-00
W310	196-3221-00			LEAD,ELECTRICAL:18 AWG,13.5 L,8-7 (FROM SW600 TO FL500)	80009	196-3221-00
W400	196-3220-00			LEAD,ELECTRICAL:18 AWG,2.5 L,5-4 (FROM GND LUG TO FL500)	80009	196-3220-00

DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975.

Logic symbology is based on ANSI Y32.14-1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

The overline on a signal name indicates that the signal performs its intended function when it is in the low state.

Abbreviations are based on ANSI Y1.1-1972.

Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

Y14.15, 1966 Drafting Practices.
Y14.2, 1973 Line Conventions and Lettering.
Y10.5, 1968 Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering.

American National Standard Institute
1430 Broadway
New York, New York 10018

Component Values

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

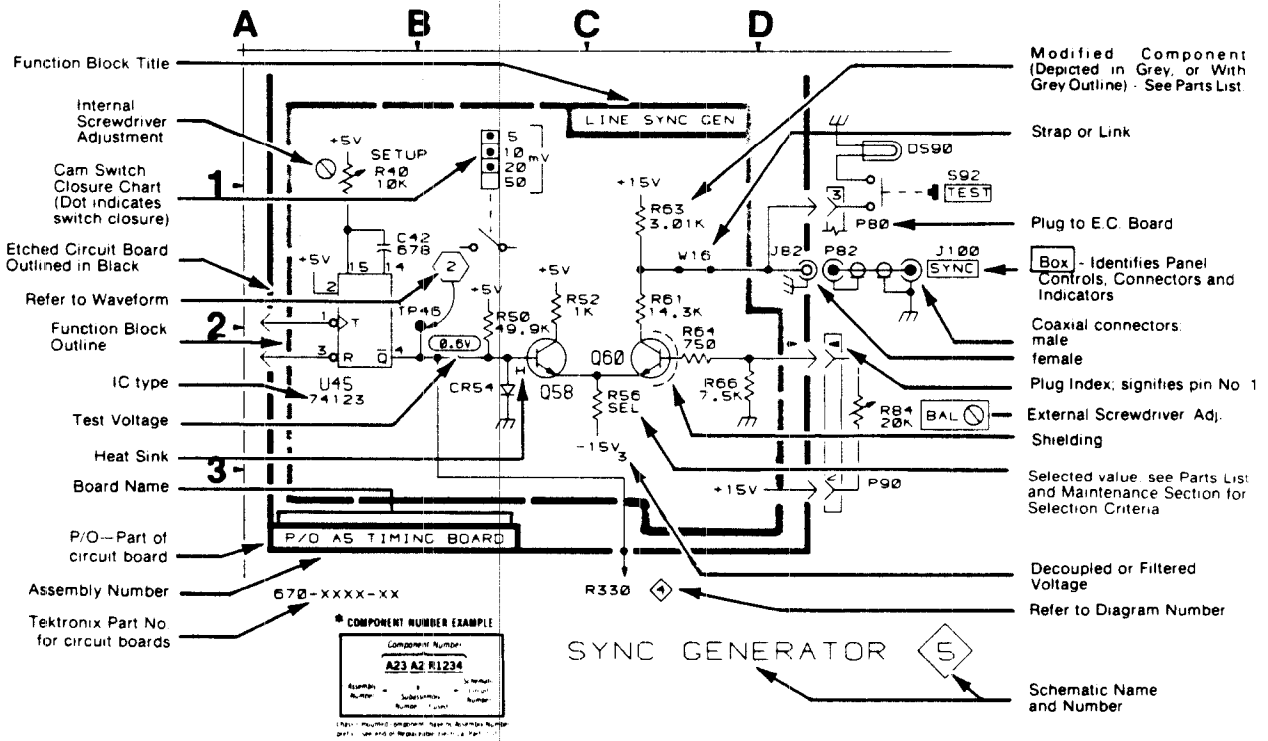
Capacitors = Values one or greater are in picofarads (pF). Values less than one are in microfarads (μF).
Resistors = Ohms (Ω).

The information and special symbols below may appear in this manual.

Assembly Numbers and Grid Coordinates

Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board component location illustration, and in the lookup table for the schematic diagram and corresponding component locator illustration. The Replaceable Electrical Parts list is arranged by assemblies in numerical sequence; the components are listed by component number *(see following illustration for constructing a component number).

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table. When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration may only appear opposite the first diagram on which it was illustrated; the lookup table will list the diagram number of other diagrams that the circuitry of the circuit board appears on.



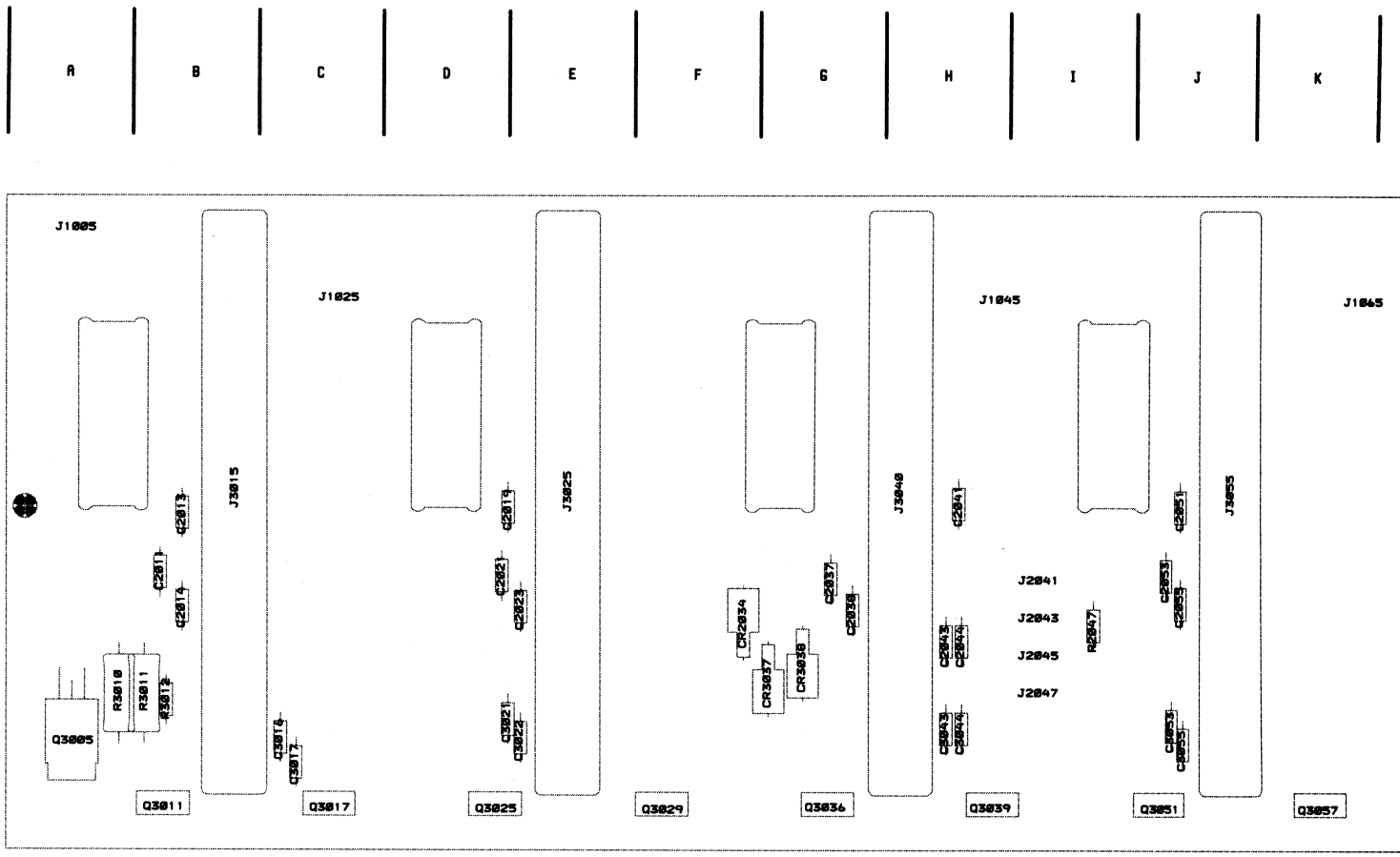
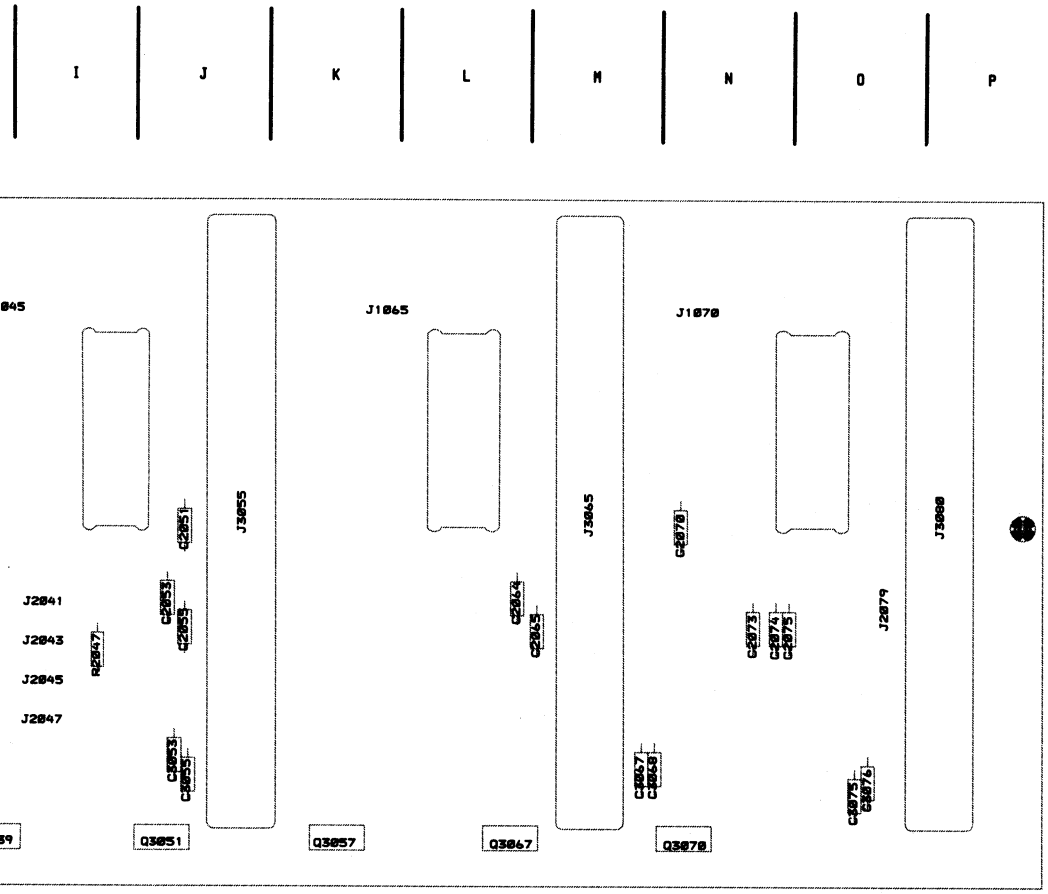


Fig. 6-1. A10—Main Interface circuit board assembly.



it board assembly.

A10

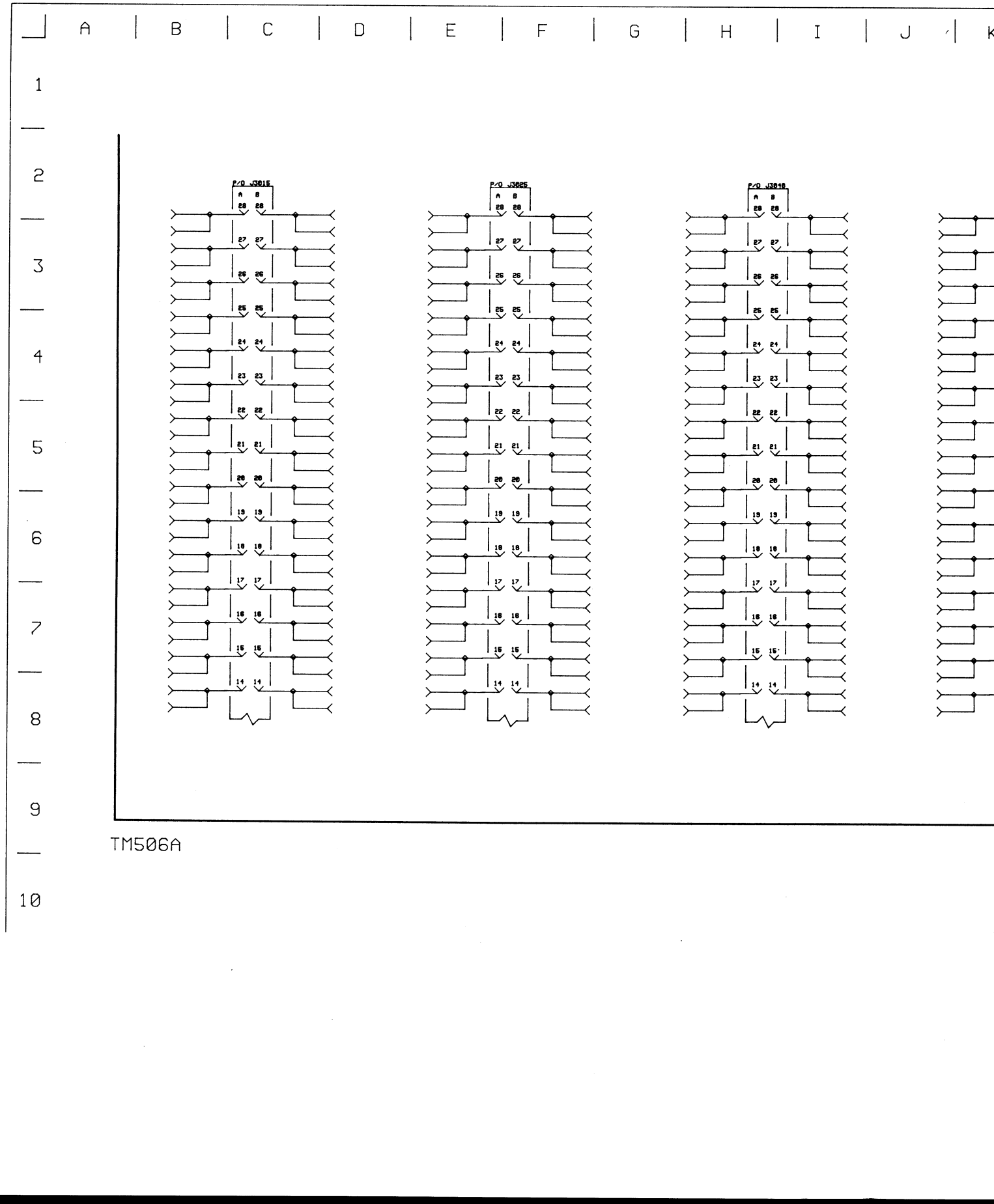
Table 6-1

USER INTERFACE ◇1

MAIN INTERFACE BD., ASSEMBLY A10

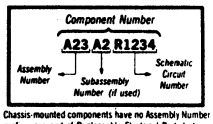
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
J3015	C2	B3
J3025	F2	E3
J3040	H2	H3
J3055	K2	J3
J3065	N2	M3
J3080	Q2	P3

A10 also shown on Diagram 2


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
10
P/O J3015
P/O J3025
P/O J3010
TM506A

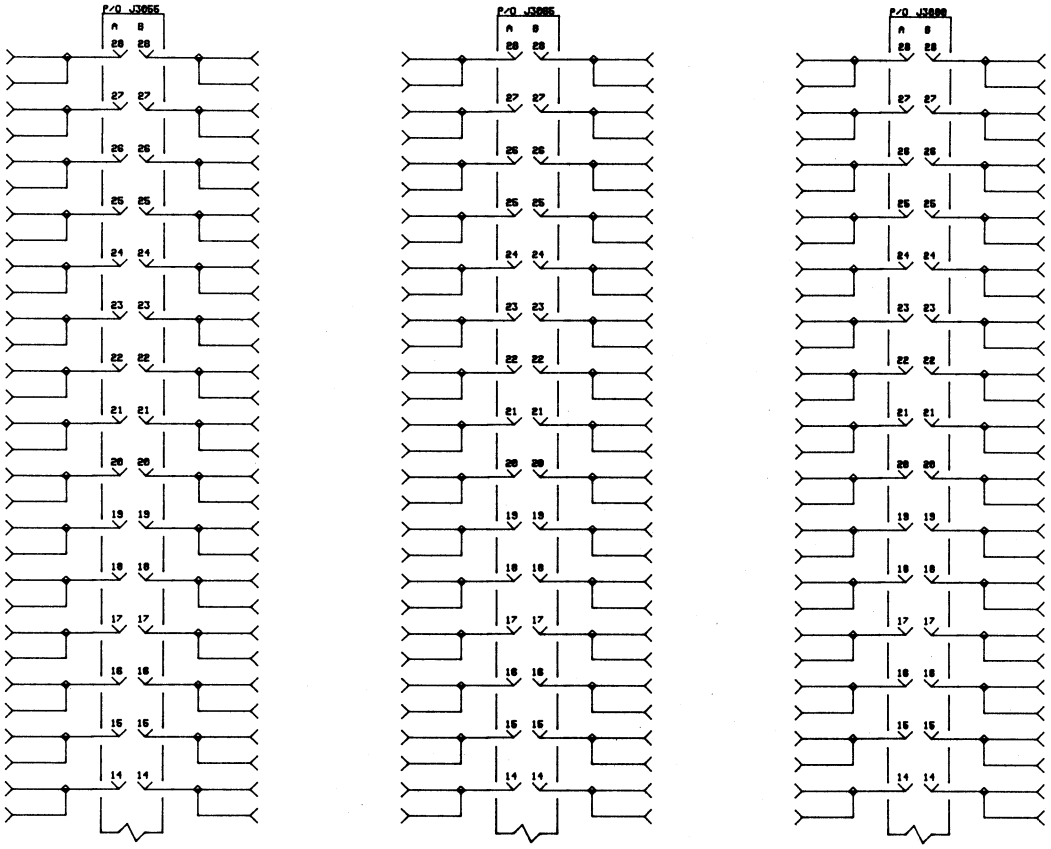
J | K | L | M | N | O | P | Q | R

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List

Static Sensitive Devices
See Maintenance Section



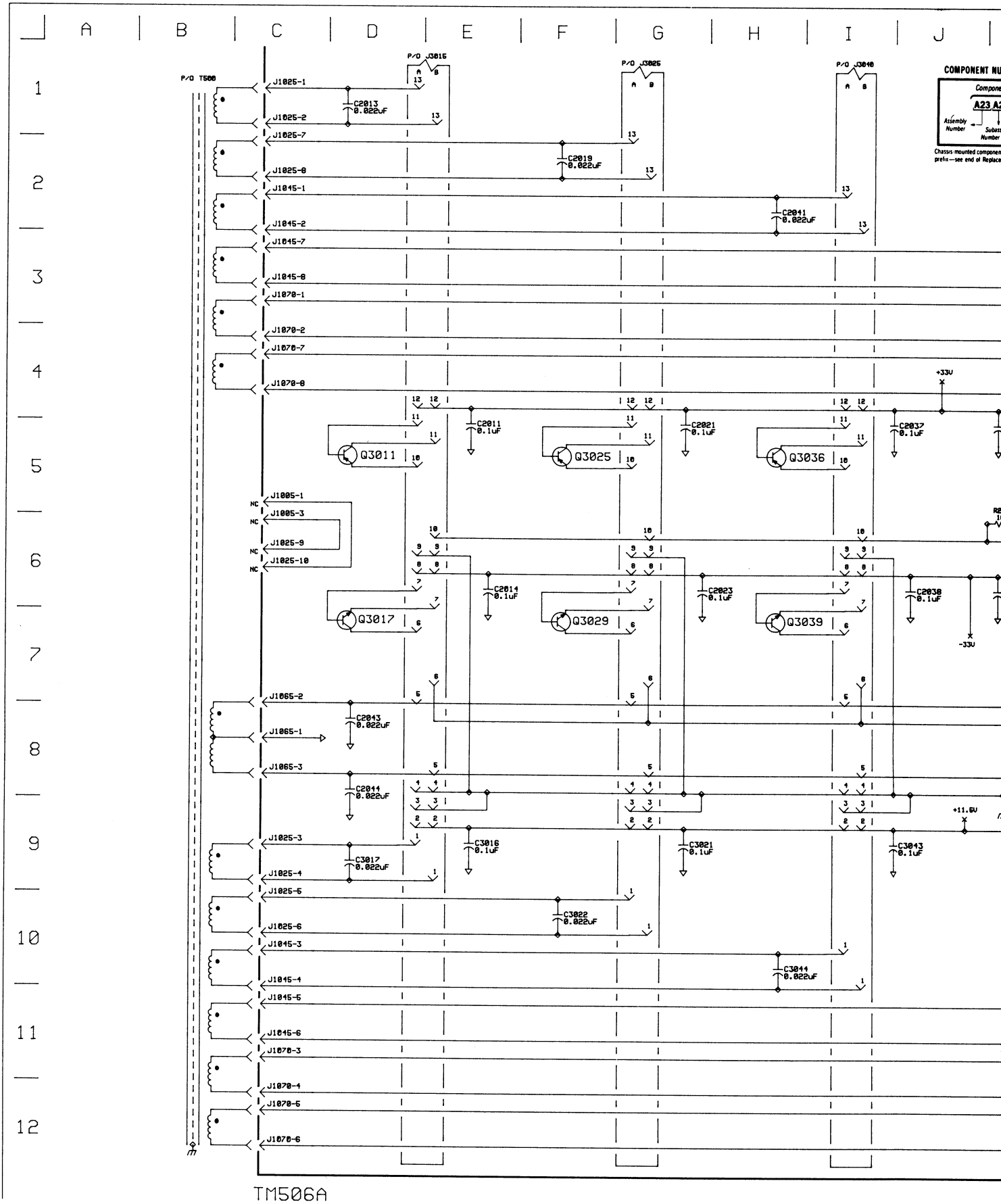
P/O A10 MAIN INTERFACE BD.

Table 6-2

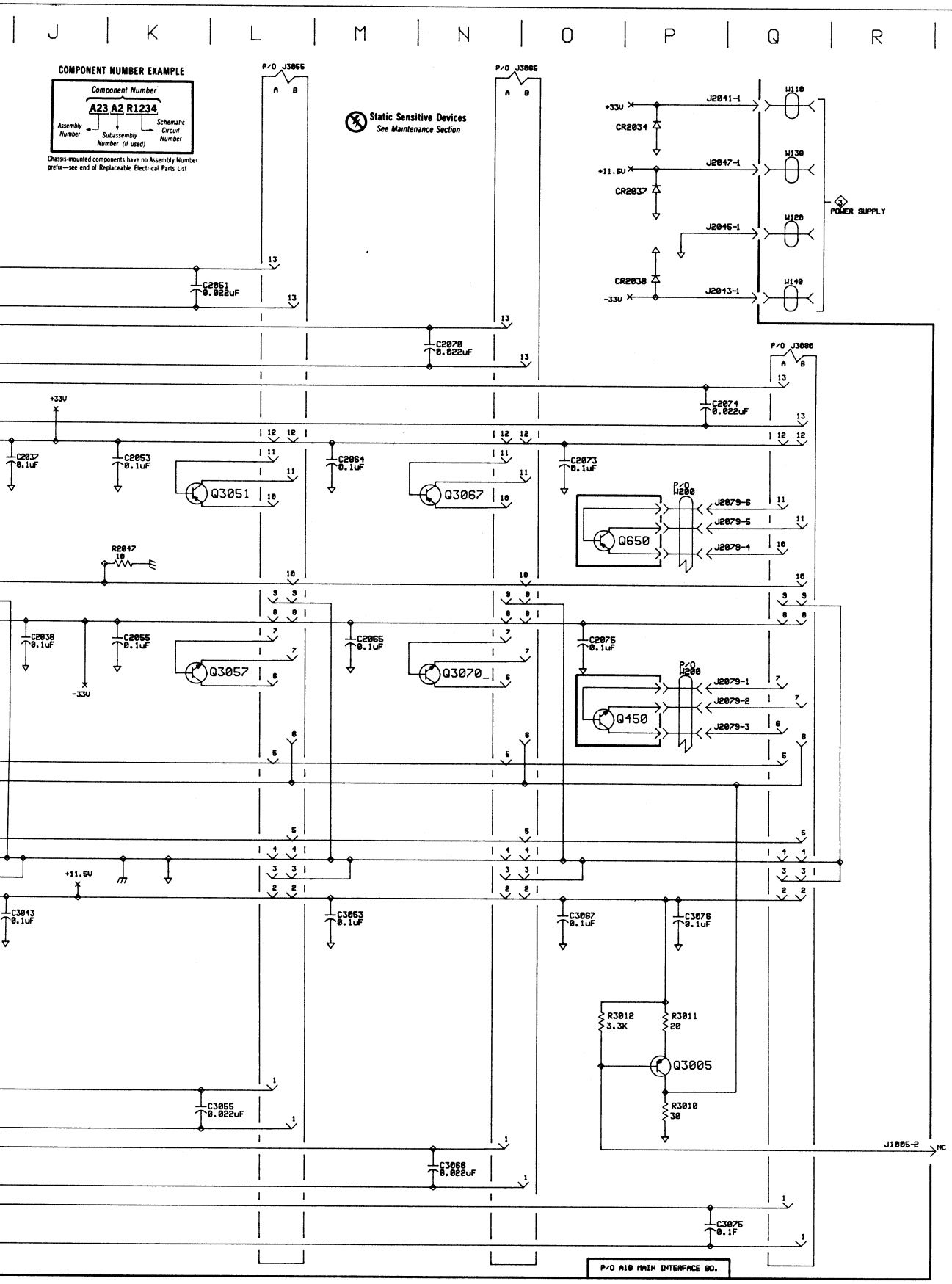
MAIN INTERFACE ◇2◇ — MAIN INTERFACE BD., ASSEMBLY A10

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C2011	E5	B4	J1065	C8	K1
C2013	D1	B3	J1070	C3	N1
C2014	E6	B4	J1070	C11	N1
C2019	F2	D3	J2041	Q1	I4
C2021	G5	D4	J2043	Q2	I4
C2023	C6	E4	J2043	Q3	I4
C2037	J5	G4	J2045	Q2	I4
C2038	J6	G4	J2079	P5	O4
C2041	H2	H3	J2079	P7	O4
C2043	D8	H4	J3015	D1	B3
C2044	D8	H4	J3025	G1	E3
C2051	K3	J3	J3040	I1	H3
C2053	K5	J4	J3055	L1	J3
C2055	K6	J4	J3065	N1	M3
C2064	M5	L4	J3080	Q4	P3
C2065	M6	L4			
C2070	N3	N3	Q3005	P10	A5
C2073	O5	N4	Q3011	D5	B5
C2074	P4	N4	Q3017	D7	C5
C2075	O6	N4	Q3025	F5	D5
C3016	E9	C5	Q3029	F7	F5
C3017	D9	C5	Q3036	H5	G5
C3021	G9	D5	Q3039	H7	H5
C3022	F10	E5	Q3051	K5	J5
C3043	J9	H5	Q3057	K7	K5
C3044	H10	H5	Q3067	N5	L5
C3053	M9	J5	Q3070	N7	N5
C3055	K11	J5	Q540	O7	(CHASSIS)
C3067	O9	M5	Q650	O5	(CHASSIS)
C3068	N11	M5			
C3075	P12	O5	R2047	K6	I4
C3076	P9	O5	R3010	P11	A4
			R3011	P10	B4
CR2034	P1	F4	R3012	O10	B5
CR2037	P2	G4			
CR2038	P3	G4	T500	B1	(CHASSIS)
J1005	C5	A1	W110	Q1	(CHASSIS)
J1005	R11	A1	W120	Q2	(CHASSIS)
J1025	C1	C1	W130	Q2	(CHASSIS)
J1025	C6	C1	W140	Q3	(CHASSIS)
J1025	C9	C1	W200	P5	(CHASSIS)
J1045	C2	H1	W200	P7	(CHASSIS)
J1045	C10	H1			

A10 also shown on Diagram 1


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10
11
12
P/O T500
P/O J3015
P/O J3025
P/O J3040
COMPONENT NU
Assembly Number
Subass Number
Chassis-mounted componen
prefix—see end of Replace
J1025-1
J1025-2
J1025-7
J1025-8
J1045-1
J1045-2
J1045-7
J1045-8
J1070-1
J1070-2
J1070-7
J1070-8
J1005-1
J1005-3
J1025-9
J1025-10
J1065-2
J1065-1
J1065-3
J1025-3
J1025-4
J1025-5
J1025-6
J1045-3
J1045-4
J1045-5
J1045-6
J1070-3
J1070-4
J1070-5
J1070-6
NC
C2013 0.022uF
C2019 0.022uF
C2041 0.022uF
C2011 0.1uF
C2021 0.1uF
C2037 0.1uF
Q3011
Q3025
Q3036
+33V
C2014 0.1uF
C2023 0.1uF
C2038 0.1uF
Q3017
Q3029
Q3039
-33V
C2043 0.022uF
C2044 0.022uF
C3016 0.1uF
C3021 0.1uF
C3043 0.1uF
+11.6V
C3017 0.022uF
C3022 0.022uF
C3044 0.022uF

TM506A


J K L M N O P Q R
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List
Static Sensitive Devices
See Maintenance Section
P/O J3065
P/O J3080
+33V
-33V
+11.6V
CR2034
CR2037
CR2038
J2041-1
J2047-1
J2045-1
J2043-1
W110
W130
W120
W140
POWER SUPPLY
C2051 0.022uF
C2070 0.022uF
C2074 0.022uF
C2037 0.1uF
C2053 0.1uF
C2064 0.1uF
C2073 0.1uF
Q3051
Q3067
Q650
P/O W200
J2079-6
J2079-5
J2079-4
R2047 10
C2038 0.1uF
C2055 0.1uF
C2065 0.1uF
C2075 0.1uF
Q3057
Q3070_
Q450
J2079-1
J2079-2
J2079-3
C3043 0.1uF
C3053 0.1uF
C3067 0.1uF
C3076 0.1uF
R3012 3.3K
R3011 20
Q3005
R3010 30
C3055 0.022uF
C3068 0.022uF
C3075 0.1F
J1005-2
NC
P/O A10 MAIN INTERFACE BD.

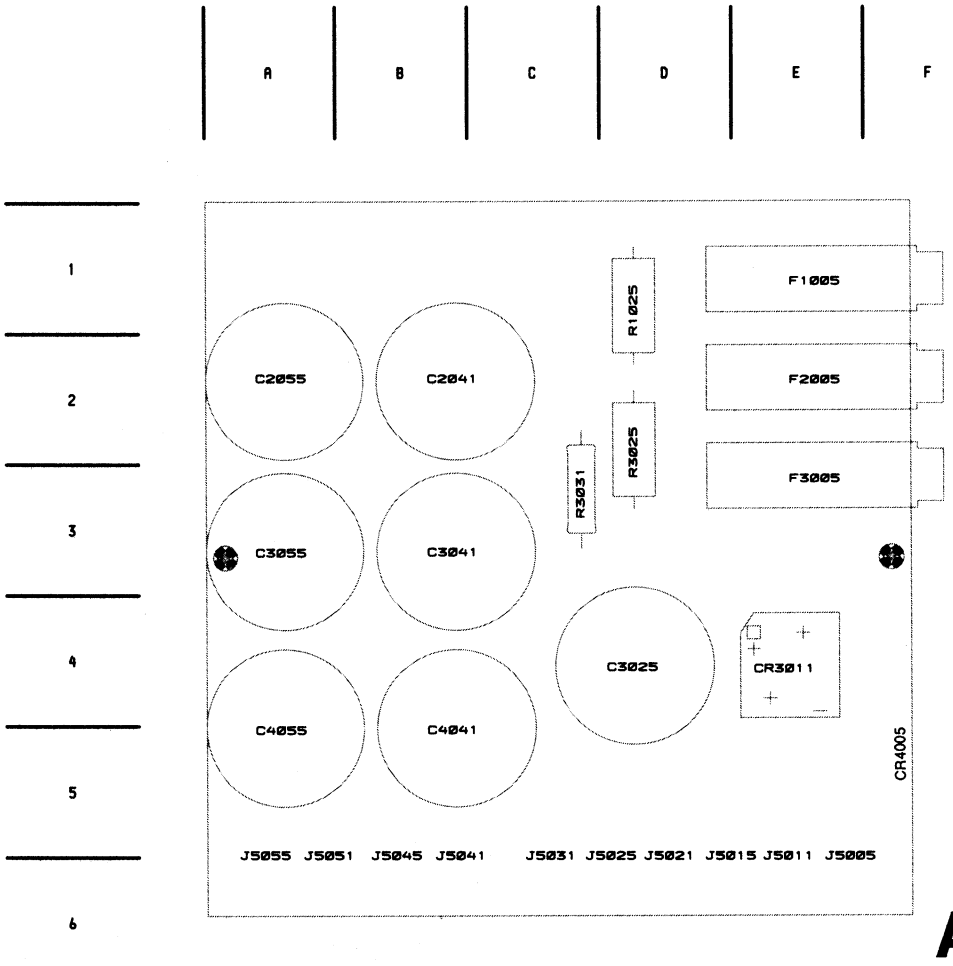
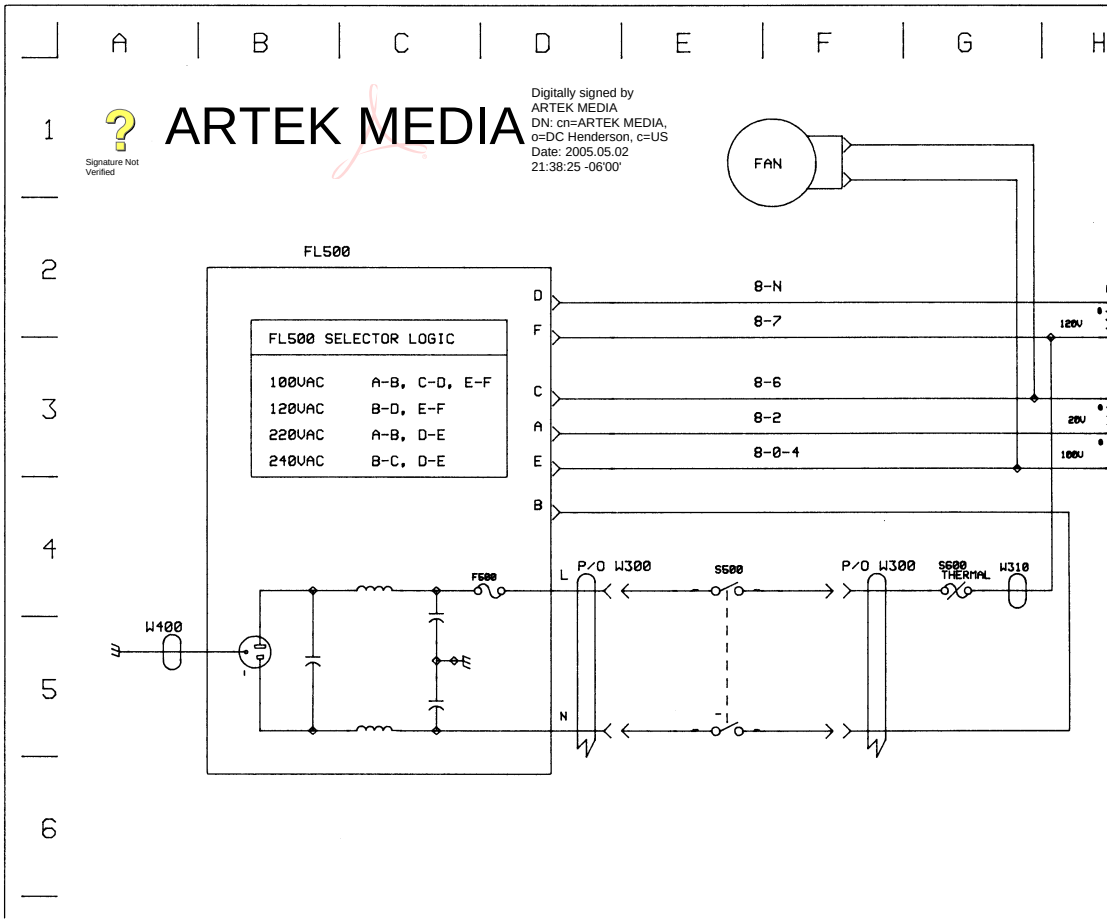


Fig. 6-2. A11—Power Supply circuit board assembly.

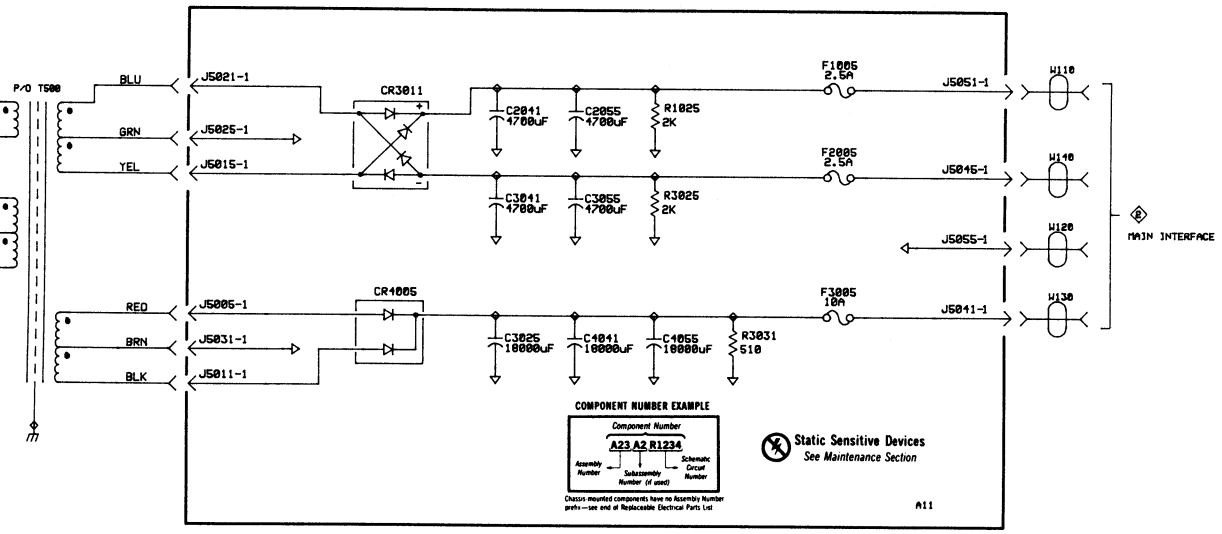
Table 6-3

POWER SUPPLY ◇3◇ — POWER SUPPLY BD., ASSEMBLY A11

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C2041	L2	B2
C2055	L2	A2
C3025	L4	D4
C3041	L3	B3
C3055	L3	A3
C4041	L4	B5
C4055	M4	A5
CR3011	K2	E4
CR4005	K4	F5
F1005	N2	E1
F2005	N3	E2
F3005	N4	E3
FAN	E2	(CHASSIS)
FL500	B2	(CHASSIS)
J5005	J4	E5
J5011	J4	E5
J5015	J3	D5
J5021	J2	D5
J5025	J2	C5
J5031	J4	C5
J5041	O4	B5
J5045	O3	B5
J5051	O2	A5
J5055	O3	A5
R1025	M2	D1
R3025	M3	D2
R3031	M4	C3
S500	E4	(CHASSIS)
S600	G4	(CHASSIS)
T500	H2	(CHASSIS)
W110	O2	(CHASSIS)
W120	O3	(CHASSIS)
W130	O4	(CHASSIS)
W140	O3	(CHASSIS)
W300	D4	(CHASSIS)
W300	F4	(CHASSIS)
W310	G4	(CHASSIS)
W400	A5	(CHASSIS)



H | I | J | K | L | M | N | O | P | Q



TM506A

REPLACEABLE MECHANICAL PARTS

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 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.

ITEM NAME

In the Parts List, an item Name is separated from the description by a colon(:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations.

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.

1 2 3 4 5 Name & Description

Assembly and/or Component
Attaching parts for Assembly and/or Component

END ATTACHING PARTS

Detail Part of Assembly and/or Component
Attaching parts for Detail Part

END ATTACHING PARTS

Parts of Detail Part
Attaching parts for Parts of Detail Part

END ATTACHING PARTS

Attaching Parts always appear 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.

Attaching parts must be purchased separately, unless otherwise specified.

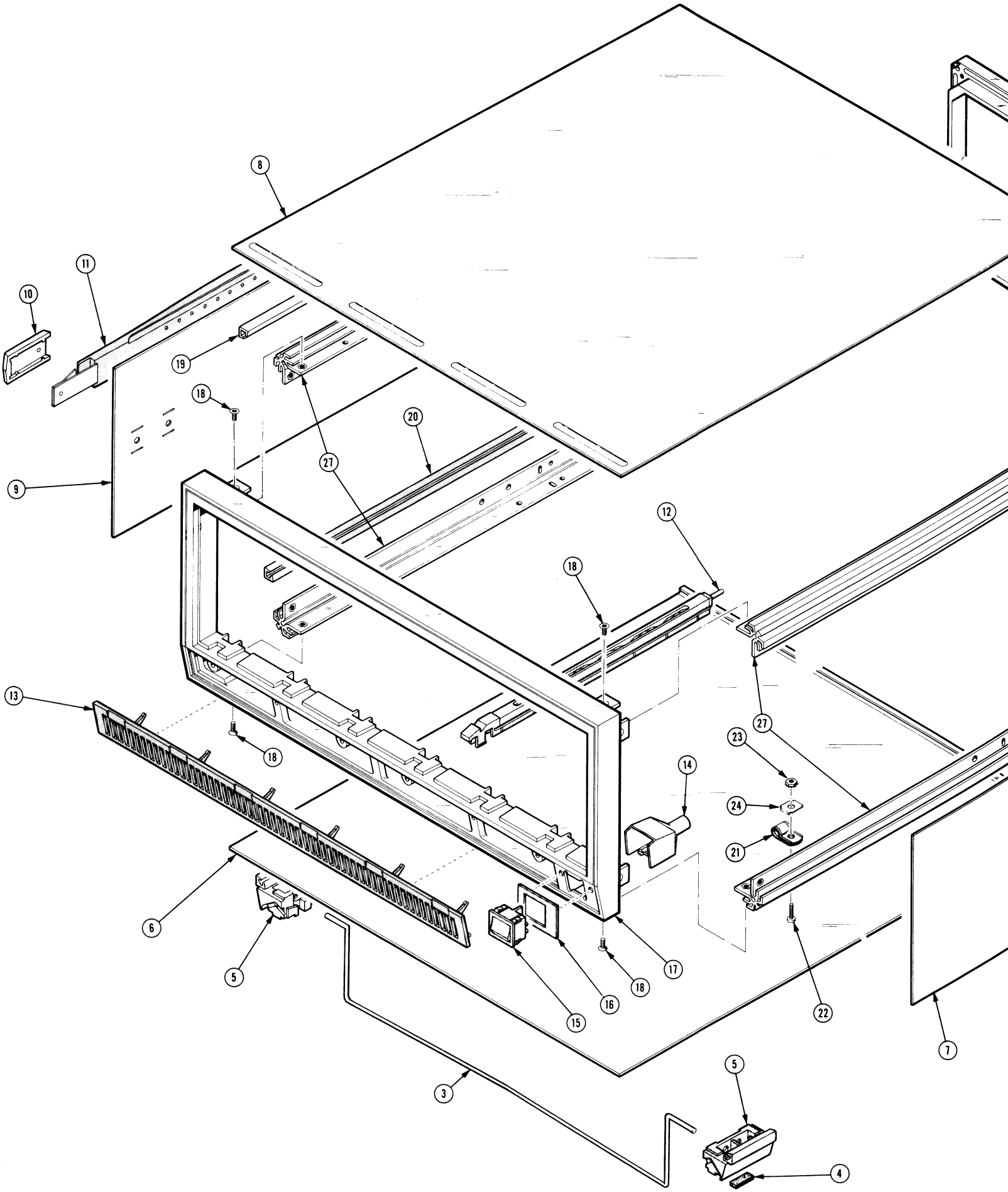
ABBREVIATIONS

Abbreviations conform to American National Standards Institute Y1.1

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
06666	GENERAL DEVICES CO INC	1410 S POST RD PO BOX 39100	INDIANAPOLIS IN 46239-9632
06915	RICHCO PLASTIC CO	5825 N TRIPP AVE	CHICAGO IL 60646-6013
11897	PLASTIGLIDE MFG CORP	2701 W EL SEGUNDO BLVD	HAWTHORNE CA 90250-3318
12327	FREEWAY CORP	9301 ALLEN DR	CLEVELAND OH 44125-4632
13511	AMPHENOL CADRE DIV BUNKER RAMO CORP		LOS GATOS CA
16428	COOPER BELDEN ELECTRONIC WIRE AND CA SUB OF COOPER INDUSTRIES INC	NW N ST	RICHMOND IN 47374
70903	COOPER BELDEN ELECTRONICS WIRE AND C SUB OF COOPER INDUSTRIES INC	2000 S BATAVIA AVE	GENEVA IL 60134-3325
71400	BUSSMANN DIV OF COOPER INDUSTRIES INC	114 OLD STATE RD PO BOX 14460	ST LOUIS MO 63178
71468	ITT CANNON DIV OF ITT CORP	10550 TALBERT AVE PO BOX 8040	FOUNTAIN VALLEY CA 92728-8040
72228	AMCA INTERNATIONAL CORP CONTINENTAL SCREW CO DIV	459 MT PLEASANT	NEW BEDFORD MA 02742
77900	SHAKEPROOF DIV OF ILLINOIS TOOL WORKS	SAINT CHARLES RD	ELGIN IL 60120
78189	ILLINOIS TOOL WORKS INC SHAKEPROOF DIV	ST CHARLES ROAD	ELGIN IL 60120
80009	TEKTRONIX INC	14150 SW KARL BRAUM DR PO BOX 500 MS 53-111	BEAVERTON OR 97077
81041	HOWARD INDUSTRIES DIV OF MSL INDUSTRIES INC	1 NORTH DIXIE HWY PO BOX 287	MILFORD IL 60953
83309	ELECTRICAL SPECIALITY CO SUBSIDIARY OF BELDEN CORP	345 SWIFT AVE	SOUTH SAN FRANCISCO CA 94080-6206
83385	MICRODOT MFG INC GREER-CENTRAL DIV	3221 W BIG BEAVER RD	TROY MI 48098
83486	ELCO INDUSTRIES INC	1101 SAMUELSON RD	ROCKFORD IL 61101
86928	SEASTROM MFG CO INC	701 SONORA AVE	GLENDALE CA 91201-2431
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61101
95987	WECKESSER CO INC	4444 WEST IRVING PARK RD	CHICAGO IL 60641
S3109	FELLER	ASA ADOLF AG STOTZWEID CH8810	HORGEN SWITZERLAND
S3629	SCHURTER AG H C/O PANEL COMPONENTS CORP	2015 SECOND STREET	BERKELEY CA 94170
TK0435	LEWIS SCREW CO	4300 S RACINE AVE	CHICAGO IL 60609-3320
TK0508	NORTHWEST SPRING AND MFG CO	5858 WILLOW LANE	LAKE OSWEGO OR 97034-5343
TK0858	STAUFFER SUPPLY CO	105 SE TAYLOR	PORTLAND OR 97214
TK1373	PATELEC-CEM (ITALY)	10156 TORINO	VAICENTALLO 62/45S ITALY
TK1569	GERHART TOOL AND DIE	1116 W ISABEL ST	BURBANK CA 91506

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Serial/Assembly No. Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
1-1	348-0544-00			4	RTNR,CAB.COVER:CORNER,TEK BLUE,PC		
					ATTACHING PARTS		
-2	213-0782-00			4	SCREW,TPG,TF:8-32 X 0.625,FILH,STL		
					END ATTACHING PARTS		
-3	348-0201-00			1	FLIP-STAND,CAB.:2.875 H,SST		
-4	348-0776-00			4	PAD,CAB.FOOT:POLYURETHANE		
-5	348-0617-00			4	FOOT,CABINET:BOT,TEK BLUE,POLYCARBONATE		
-6	390-1044-00			1	CABINET,BOTTOM:FULL RACK X 17.956,ALUMINUM		
-7	390-1040-00			1	CABINET,SIDE:7 X 17.956,ALUMINUM		
-8	390-1043-00			1	CABINET,TOP:FULL RACK X 17.956,ALUMINUM		
-9	390-1042-00			1	CABINET,SIDE:7 X 17.956,W/HANDLE RTNR		
-10	200-2191-00			2	CAP,RETAINER:PLASTIC		
-11	367-0248-01			1	HANDLE,CARRYING:16.341 L,W/CLIP		
-12	351-0619-00			6	GUIDE,PL-IN UNI:BOTTOM		
-13	378-2044-01			1	GRILLE,AIR:INTAKE,TEK BLUE		
-14	200-2576-00			1	COVER,SWITCH:		
-15	----- -----			1	SWITCH,ROCKER:(SEE SW500 REPL)		
-16	200-2565-01			1	COVER,SWITCH:FRONT,TEK BLUE,PC		
-17	426-1706-03			1	FR SECT,PL-IN:FINISHED		
					ATTACHING PARTS		
-18	211-0502-00			8	SCREW,MACHINE:6-32 X 0.188,FLH,100 DEG,STL		
					END ATTACHING PARTS		
-21	343-0003-00			2	CLAMP,LOOP:0.25 ID,PLASTIC		
					ATTACHING PARTS		
-22	211-0578-00			2	SCREW,MACHINE:6-32 X 0.438,PNH,STL		
-23	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL		
-24	210-0863-00			2	WSHR,LOOP CLAMP:0.187 ID U/W 0.5 W CLP		
					END ATTACHING PARTS		
-25	426-1480-01			1	FRAME,CABINET:REAR,7.0 X FULL RACK		
					ATTACHING PARTS		
-26	213-0863-00			4	SCREW,TPG,TR:8-32 X 1.375,TAPTITE,FILH,STL		
					END ATTACHING PARTS		
-27	426-2278-00			4	FRAME,SECT:ALUMINUM		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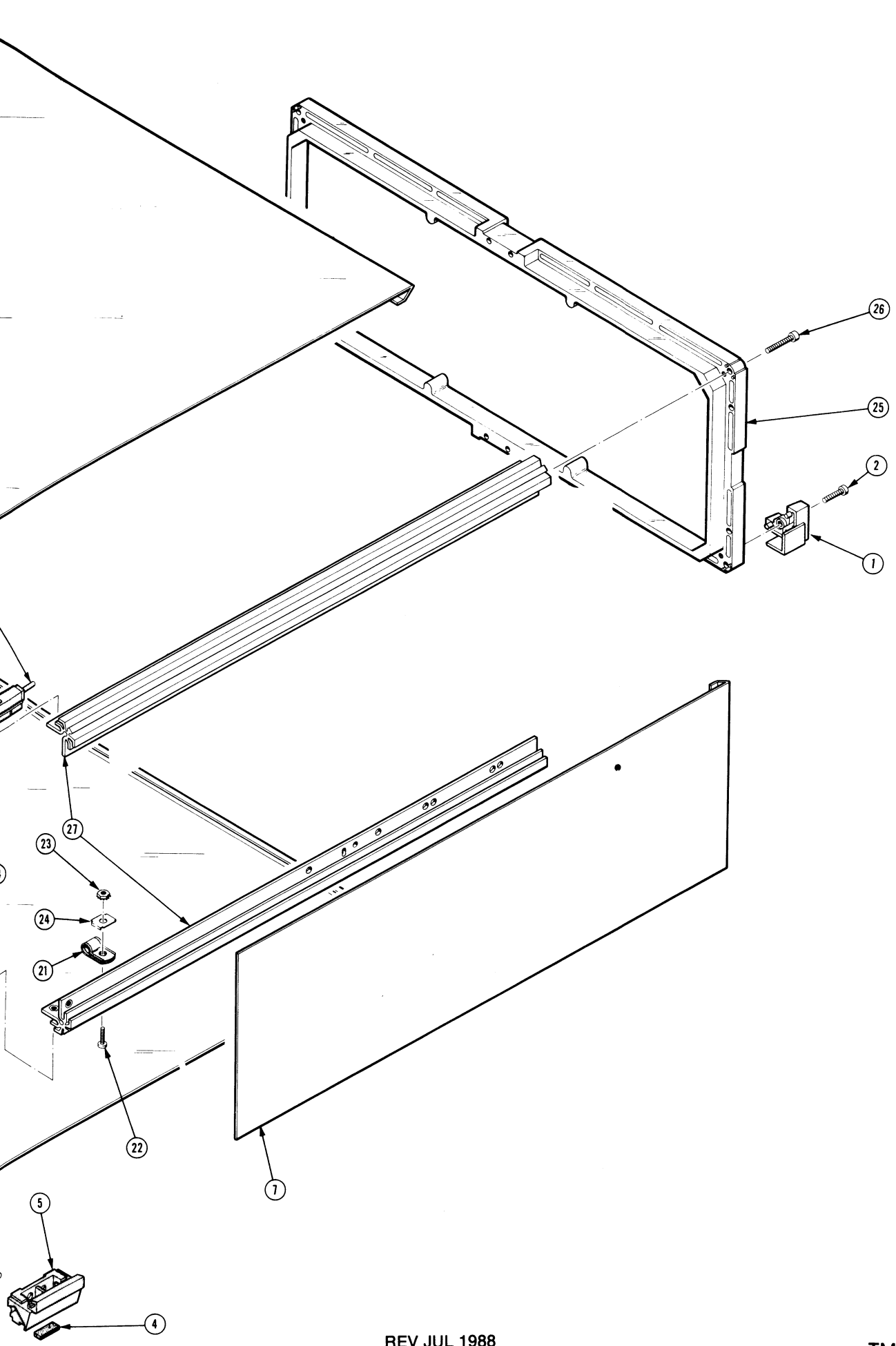
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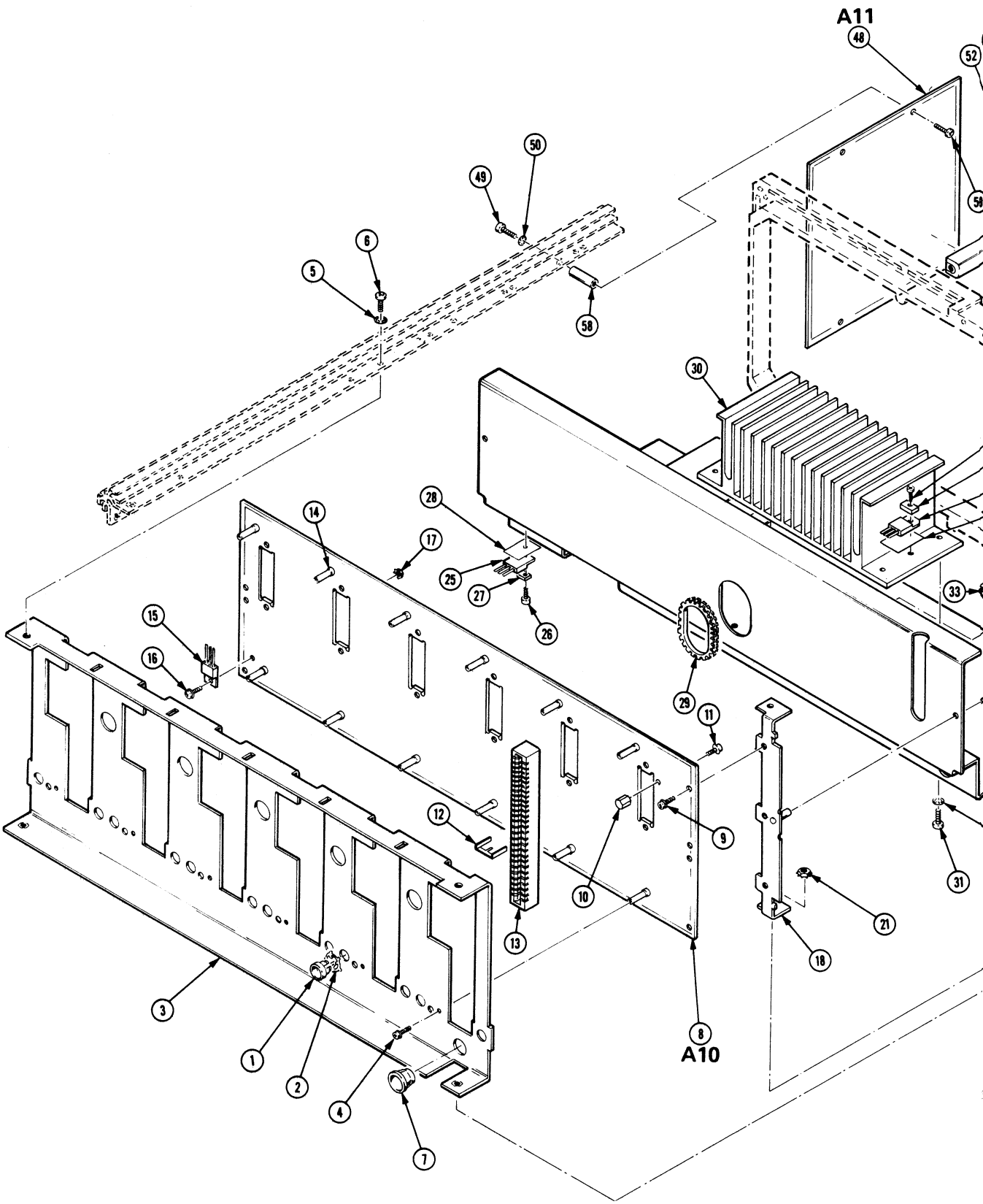
FIG. 2 EXPLODED VIEW



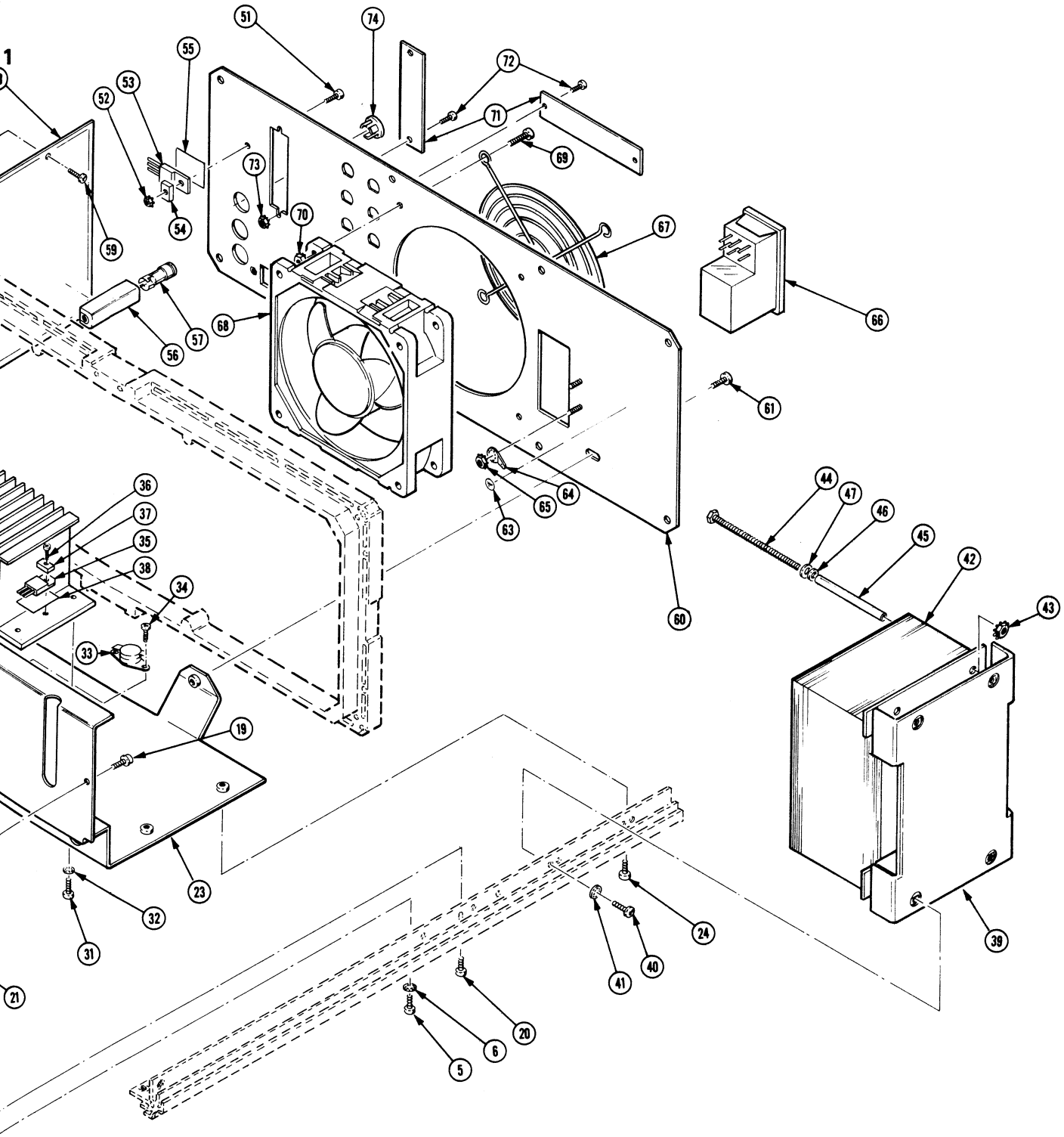

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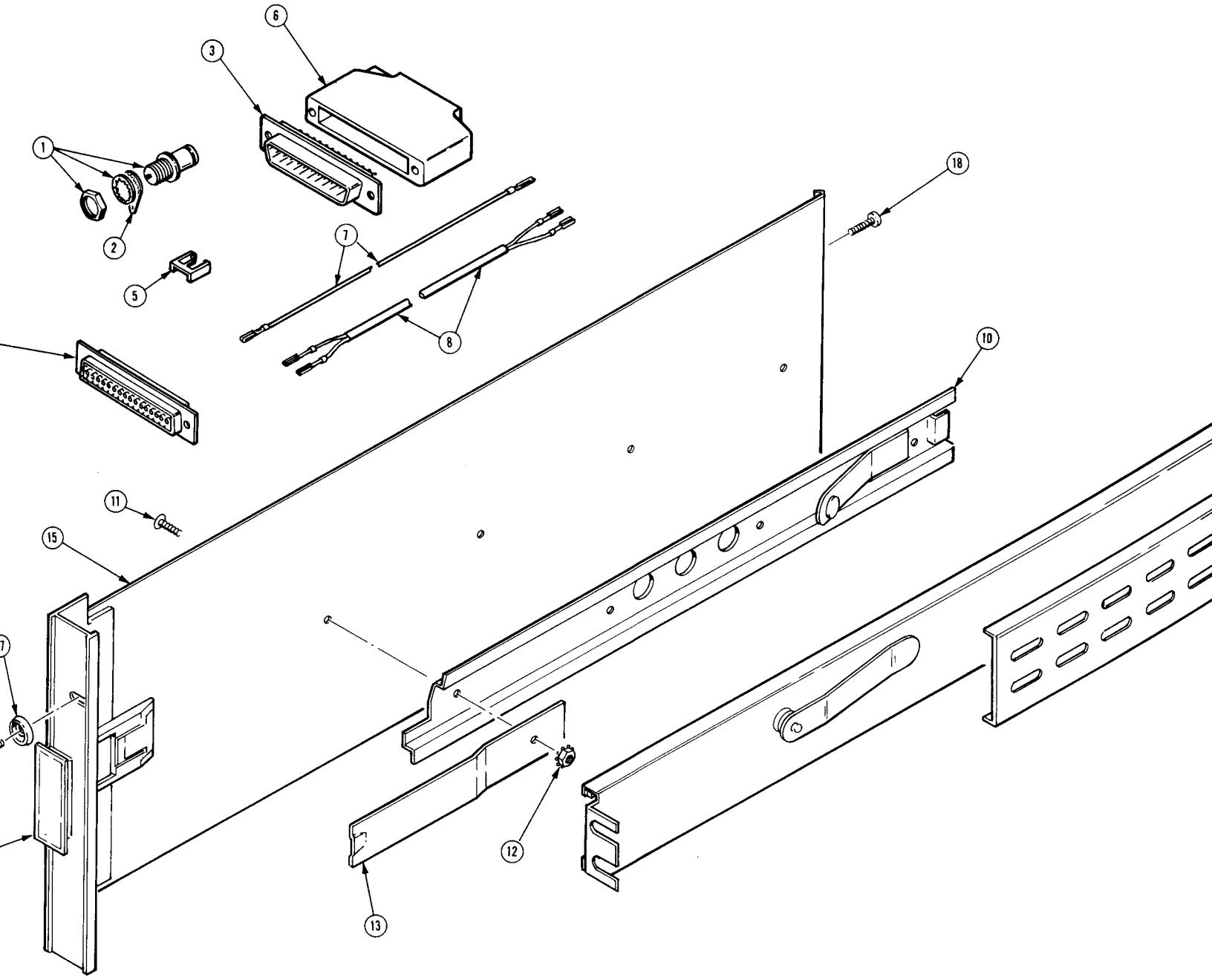
Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Serial/Assembly No. Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
2-1	348-0640-00			12	GROMMET,PLASTIC:BLACK,ROUND,0.188 ID		
-2	214-3026-00			12	SPRING,GROUND:CU BE		
-3	386-5773-00			1	SUPPORT,CKT BD:ALUMINUM		
					ATTACHING PARTS		
-4	211-0244-00			12	SCR,ASSEM WSHR:4-40 X 0.312,PNH STL		
-5	212-0023-00			4	SCREW,MACHINE:8-32 X 0.375,PNH,STL		
-6	210-0008-00			4	WASHER,LOCK:#8 INTL,0.02 THK,STL		
					END ATTACHING PARTS		
-7	342-0313-00			2	GROMMET,PLASTIC:0.437 ID X 0.562 OD,NYLON		
-8	----- -----			1	CKT BD ASSY:MAIN INTCON(SEE A10 REPL)		
					ATTACHING PARTS		
-9	211-0244-00			6	SCR,ASSEM WSHR:4-40 X 0.312,PNH STL		
					END ATTACHING PARTS		
					.CKT BD ASSY INCLUDES:		
-10	361-1084-00			1	.SPACER,ACTUATOR:0.33 L X 0.25 DIA,PLASTIC		
					ATTACHING PARTS		
-11	211-0244-00			1	.SCR,ASSEM WSHR:4-40 X 0.312,PNH STL		
					END ATTACHING PARTS		
-12	214-1593-02			6	.KEY,CONN PLZN:CKT BOARD CONN		
-13	----- -----			6	.CONNECTOR,RCPT:(SEE A10J1000,J1100,J1200		
					.J1300,J1400,J1500 REPL)		
-14	129-0814-00			12	.SPACER,POST:0.622L,4-40 INT,BRS,0.288OD		
-15	----- -----			1	.TRANSISTOR:(SEE A10Q1525 REPL)		
					ATTACHING PARTS		
-16	211-0244-00			1	.SCR,ASSEM WSHR:4-40 X 0.312,PNH STL		
-17	210-0586-00			1	.NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL		
					END ATTACHING PARTS		
-18	386-4350-00			2	SUPPORT,CKT BD:INTERFACE,AL		
					ATTACHING PARTS		
-19	211-0244-00			8	SCR,ASSEM WSHR:4-40 X 0.312,PNH STL		
-20	211-0510-00			4	SCREW,MACHINE:6-32 X 0.375,PNH,STL		
-21	210-0457-00			4	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL		
					ATTACHING PARTS		
-23	337-3503-00			1	SHIELD,ELEC:ALUMINUM		
					ATTACHING PARTS		
-24	211-0513-00			4	SCREW,MACHINE:6-32 X 0.625,PNH,STL		
					END ATTACHING PARTS		
-25	----- -----			6	TRANSISTOR:(SEE Q3011,3017,3025,3029,3036,		
					Q3039,3051,3057,3067,3070		
-26	211-0012-00			10	SCREW,MACHINE:4-40 X 0.375,PNH,STL		
-27	342-0860-00			10	INSULATOR,XSTR:POLYSULFONE,BLACK OR NATURAL		
-28	342-0831-00			10	INSULATOR,PLATE:TRANSISTOR TO-220		
					END ATTACHING PARTS		
-29	255-0334-00			1	PLASTIC CHANNEL:12.75 X 0.175 X 0.155,NYLON		
-30	214-4126-00			1	HEAT SINK:GOLD IRRIDITE		
					ATTACHING PARTS		
-31	211-0510-00			6	SCREW,MACHINE:6-32 X 0.375,PNH,STL		
-32	210-0006-00			6	WASHER, LOCK:#6, INTL,0.01B THK,STL		
					END ATTACHING PARTS		
-33	----- -----			1	SWITCH,THERMAL:(SEE SW600 REPL)		
					ATTACHING PARTS		
-34	211-0504-00			2	SCREW,MACHINE:6-32 X 0.250,PNH,STL		
					END ATTACHING PARTS		
-35	----- -----			2	TRANSISTOR:(SEE Q450,650 REPL)		
					ATTACHING PARTS		
-36	211-0012-00			2	SCREW,MACHINE:4-40 X 0.375,PNH,STL		
-37	342-0860-00			2	INSULATOR,XSTR:POLYSULFONE,BLACK OR NATURAL		
-38	342-0863-00			2	INSULATOR, TRANSISTOR		
					END ATTACHING PARTS		
-39	386-5772-00			1	SUPPORT,XFMR:ALUMINUM,ASSEMBLED		
					ATTACHING PARTS		
-40	212-0023-00			4	SCREW,MACHINE:8-32 X 0.375,PNH,STL		
-41	210-0008-00			4	WASHER,LOCK:#8 INTL,0.02 THK,STL		
					END ATTACHING PARTS		
-42	----- -----			1	TRANSFORMER:(SEE T500 REPL)		
					ATTACHING PARTS		
-43	220-0410-00			4	NUT,PL,ASSEM WA:10-32 X 0.375 HEX,STL CD PL		

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Serial/Assembly No. Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
2-44	212-0511-00			4	SCREW,MACHINE:10-32 X 3.0 HEX HD,STL		
-45	166-0434-00			4	INSUL SLVG,ELEC:0.19 ID X 2.25 L,MYLAR		
-46	210-0812-00			4	WASHER,FLAT:0.188 ID X 0.375 OD X 0.31		
-47	210-0805-00			4	WASHER,FLAT:0.204 ID X 0.438 OD X 0.032,STL		
-48	----- -----			1	CKT BD ASSY:POWER SUPPLY(SEE A11 REPL)		
					ATTACHING PARTS		
-49	211-0510-00			4	SCREW,MACHINE:6-32 X 0.375,PNH,STL		
-50	210-0008-00			4	WASHER,LOCK:#8 INTL,0.02 THK,STL		
-51	211-0012-00			1	SCREW,MACHINE:4-40 X 0.375, PNH, STL		
-52	210-0586-00			1	NUT,PL,ASSEM WA:4X40 X 0.25, STL, CD PL		
-53	----- -----			1	SEMICOND DVC,DI:(SEE A11CR4005 REPL)		
-54	342-0860-00			1	INSULATOR,XSTR:POLYSULFONE,BLACK OR NATURAL		
-55	342-0863-00			1	INSULATOR, TRANSISTOR		
					CKT BD ASSY INCLUDES:		
-56	204-0906-00			3	.BODY,FUSEHOLDER:3AG & 5 X 20MM FUSES		
-57	200-2264-00			3	.CAP,FUSEHOLDER:3AG FUSES		
-58	385-0160-00			4	.SPACER,POST:0.812 L W/6-32 THD THRU,AL		
					ATTACHING PARTS		
-59	211-0504-00			4	.SCREW,MACHINE:6-32 X 0.250,PNH,STL		
					END ATTACHING PARTS		
-60	333-3612-00			1	PANEL,REAR:		
					ATTACHING PARTS		
-61	213-0906-00			9	SCREW,TPG,TR:8-32 X 0.375,PNH,STL		
-63	334-3379-04			1	MARKER,IDENT:MKD GROUND SYMBOL (12)		
-64	210-0202-00			2	TERMINAL,LUG:0.146 ID,LOCKING,BRZ TIN PL		
					ATTACHING PARTS		
-65	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL		
					END ATTACHING PARTS		
-66	----- -----			1	POWER ENTRY/FILTER:(SEE FL500 REPL)		
-67	200-2222-00			1	GUARD,FAN:		
-68	----- -----			1	FAN:(SEE B500 REPL)		
					ATTACHING PARTS		
-69	211-0513-00			4	SCREW,MACHINE:6-32 X 0.625,PNH,STL		
-70	210-0457-00			4	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL		
					END ATTACHING PARTS		
-71	200-2467-01			2	COVER,CONN:ALUMINUM		
					ATTACHING PARTS		
-72	211-0244-00			4	SCR,ASSEM WSHR:4-40 X 0.312,PNH STL		
-73	210-0586-00			2	NUT,PL,ASSEM WA: 4X40 X 0.25 STL CD PL		
-74	134-0159-00			6	BUTTON,PLUG:0.38 DIA,PLASTIC		
					END ATTACHING PARTS		

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
3-1	131-0955-00			6	CONN,RCPT,ELEC:BNC,FEMALE (OPTION 02,12 ONLY)	13511	31-279
-2	210-0255-00			6	TERMINAL,LUG:0.391 ID,LOCKING,BRS CD PL (OPTION 02,12 ONLY)	12327	ORDER BY DESCR
-3	131-1344-00			1	CONN,PLUG,ELEC:D SERIES,50 CONT,MALE (OPTION 02,12 ONLY)	71468	DD-50P
-4	131-1345-00			1	CONN,RCPT,ELEC:D SERIES,50 CONT,FEMALE (OPTION 02,12 ONLY)	71468	DD-50S
-5	214-1593-00			40	KEY,CONN PLZN:CKT BOARD CONN (OPTION 02,12 ONLY)	80009	214-1593-00
-6	131-1319-00			1	SHLD,ELEC CONN: (OPTION 02 ONLY)	71468	DD51216
-7	175-3301-00			6	CABLE ASSY,RF:50 OHM COAX,15.0 L,9-4 (OPTION 02 ONLY)	80009	175-3301-00
-8	195-0993-00			12	LEAD,ELECTRICAL:22 AWG,15.0 L,9-4 (OPTION 02 ONLY)	80009	195-0993-00
-9	351-0636-00			AR	SLIDE,DWR,EXT:20.0 X 1.69,PAIR,R&L	80009	351-0636-00
-10	351-0104-03			AR	SL SECT,DWR EXT:12.625 L,W/O HARDWARE ATTACHING PARTS	06666	C-720-3
-11	212-0070-00			10	SCREW,MACHINE:8-32 X 0.312,FLH,100 DEG,STL	TK0435	ORDER BY DESCR
-12	210-0458-00			10	NUT,PL,ASSEM WA:8-32 X 0.344,STL CD PL END ATTACHING PARTS	78189	511-081800-00
-13	105-0787-00			2	LATCH,RETAINING:RACKMOUNT,SST	80009	105-0787-00
-14	105-0786-03			2	RELEASE,LATCH:PLASTIC,SMOKE TAN	80009	105-0786-03
-15	390-0887-09			1	CABINET,SIDE:LEFT,W/HANDLE (OPTION 10,12 ONLY)	80009	390-0887-09
	390-0887-01			1	CABINET SIDE:LEFT,W/HANDLE (OPTION 10,12 ONLY) ATTACHING PARTS	80009	390-0887-01
-16	212-0567-00			2	SCREW,MACHINE:10-32 X 0.875,OVH,STL	TK0435	ORDER BY DESCR
-17	210-1298-00			2	WSHR,SHLDR&RECD:0.195 ID X 0.57 OD,PLSTC	80009	210-1298-00
-18	213-0183-00			4	SCREW,TPG,TF:6-20 X 0.5,TYPE B,PNH,STL	83385	ORDER BY DESCR
-19	334-1377-00			1	MARKER,IDENT:MKD IDENTIFICATION NO. (OPTION 02,12 ONLY)	80009	334-1377-00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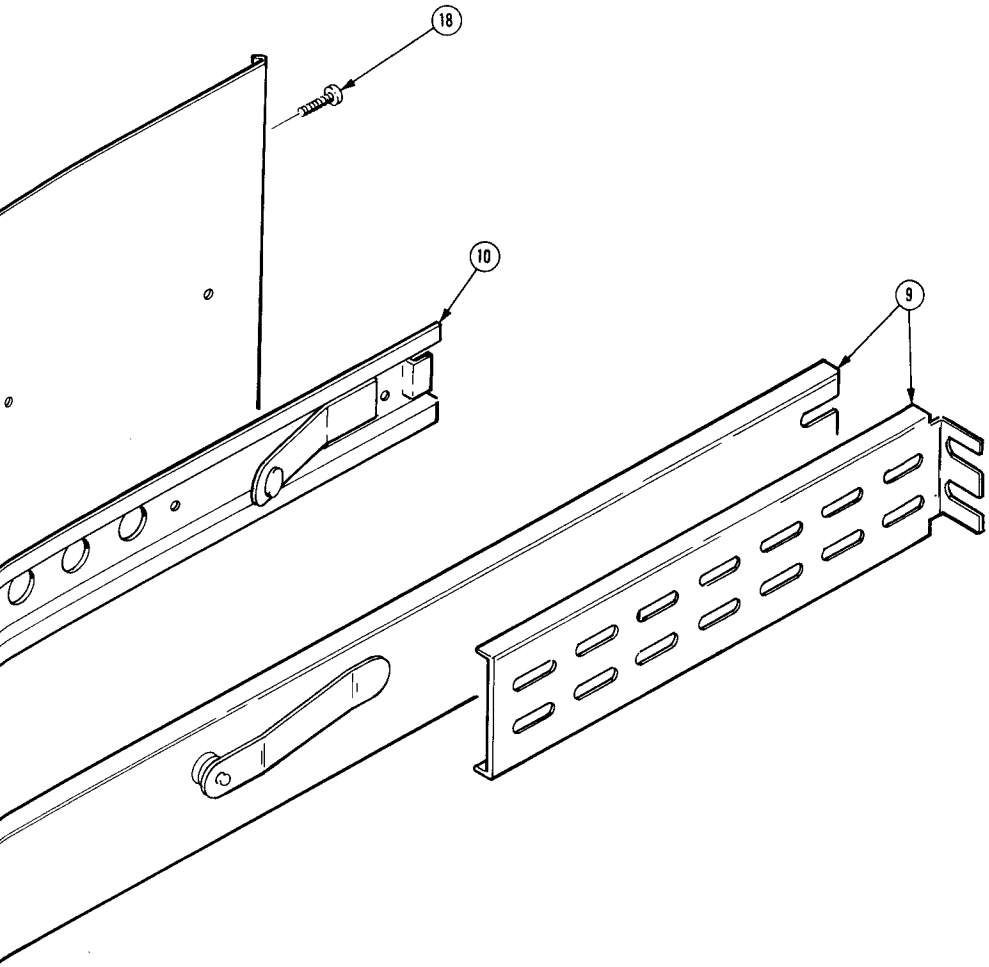
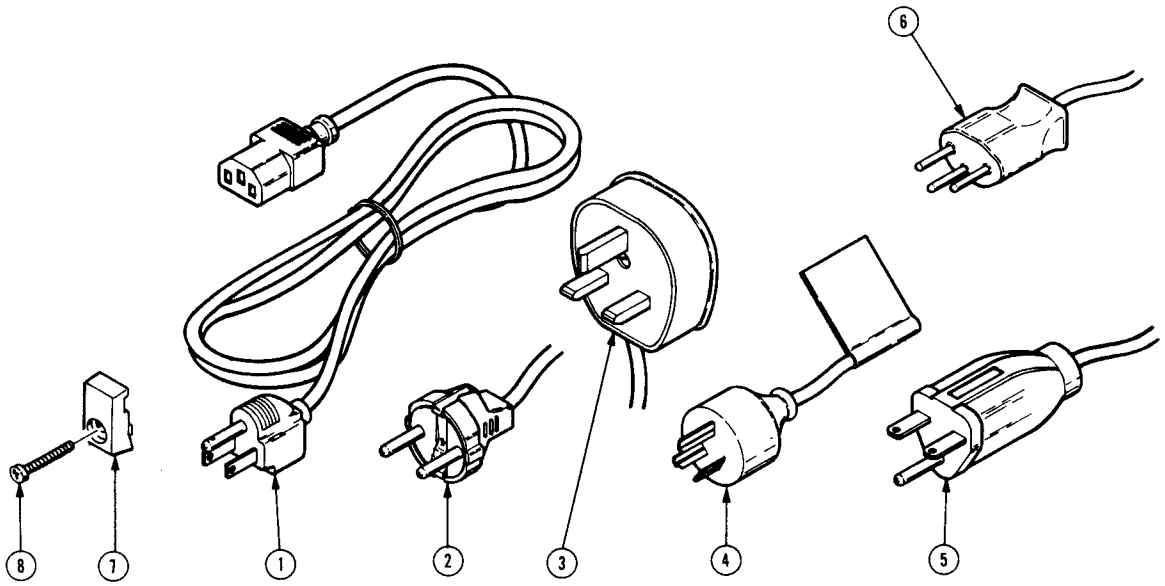


FIG. 3 OPTION 02, OPTION 10

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
4-					STANDARD ACCESSORIES		
-1	161-0066-00			1	CABLE ASSY,PWR,:3,18AWG,115V,98.0 L	16428	CH8481, FH8481
	159-0017-00			1	FUSE,CARTRIDGE:3AG,4A,250V,FAST BLOW (STANDARD ONLY)	71400	MTH-CW-4
-2	161-0066-09			1	CABLE ASSY,PWR,:3,0.75MM SQ,220V,99.0 L	S3109	86511000
	159-0016-00			1	FUSE,CARTRIDGE:3AG,1.5,250V,FAST BLOW (OPTION A1 EUROPEAN)	71400	AGC-CW-1 1/2
-3	161-0066-10			1	CABLE ASSY,PWR,:3,0.75MM SQ,240V,96.0 L	TK1373	24230
	159-0016-00			1	FUSE,CARTRIDGE:3AG,1.5,250V,FAST BLOW (OPTION A2 UNITED KINGDOM)	71400	AGC-CW-1 1/2
-4	161-0066-11			1	CABLE ASSY,PWR,:3,0.75MM,240V,96.0 L	S3109	ORDER BY DESCR
	159-0016-00			1	FUSE,CARTRIDGE:3AG,1.5,250V,FAST BLOW (OPTION A3 AUSTRALIAN)	71400	AGC-CW-1 1/2
-5	161-0066-12			1	CABLE ASSY,PWR,:3,18 AWG,250V,99.0 L	70903	CH-77893
	159-0016-00			1	FUSE,CARTRIDGE:3AG,1.5,250V,FAST BLOW (OPTION A4 NORTH AMERICAN)	71400	AGC-CW-1 1/2
-6	161-0154-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,240V,6A,2.5M L	S3109	86515000
	159-0016-00			1	FUSE,CARTRIDGE:3AG,1.5,250V,FAST BLOW (OPTION A5 SWITZERLAND)	71400	AGC-CW-1 1/2
-7	343-1085-01			6	RTNR,PL-IN UNIT:NYLON,TEK BLUE	80009	343-1085-01
-8	213-0760-00			6	SCREW,TPG,TF:8-32 X 0.875,SPCL TAPTITE,FILH	72228	ORDER BY DESCR
	070-6929-00			1	MANUAL,TECH:TM506A POWER MODULE	80009	070-6929-00

FIG. 4 ACCESSORIES



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. 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 following this page, your manual is correct as printed.

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MANUAL CHANGE INFORMATION

Date: June 1, 1988 Change Reference: C1/0688

Product: TM 506A Power Module Manual Part No: 070-6929-00

DESCRIPTION

Effective for all serial numbers, Please make the following changes:

Electrical Diagram

Change:

Schematic 3 Power Supply

A11R1025	1k ohm
A11R3025	1k ohm

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MANUAL CHANGE INFORMATION

Date: May 17, 1988 Change Reference: M66952

Product: TM 506A Power Module Manual Part No.: 070-6929-00

DESCRIPTION

Effective Serial Number B010109 and above, please make the following changes:

Electrical Parts List

Change:

F500 159-0027-00 Fuse,Cartridge:3AG,4A,125V,23Sec

Refer to schematic ◇2◇ MAIN INTERFACE for the following changes.

For the following NPN transistors, the interconnect connector pins should be:

Transistor	Base	Emitter	Collector
Q3017	6A	7B	7A
Q3029	6A	7B	7A
Q3039	6A	7B	7A
Q3057	6A	7B	7A
Q3070	6A	7B	7A
Q450	6A	7B	7A

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MANUAL CHANGE INFORMATION

Date: Feb 24, 1989 Change Reference: M66693

Product: TM 506A Power Module Manual Part No: 070-6929-00

DESCRIPTION

For Serial Numbers B010527 and above, please make the following changes:

Section 5

REPLACEABLE ELECTRICAL PARTS

Change:

Page 5-3

A10	670-0621-01	Circuit Bd Assy:Main Interface

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MANUAL CHANGE INFORMATION

Date: July 28, 1988 Change Reference: M67432

Product: TM 506A Power Module Manual Part No: 070-6929-00

DESCRIPTION

For Serial Numbers B010152 and above, please make the following changes:

Operating Instructions

Add:

Page 2-1

Fuse Replacement

NOTE

The fuse value labeling on the instrument rear panel should read: "4A SLOW and 2A SLOW".

Replaceable Mechanical Parts

Change to:

Page 7-6

-60	333-3612-01	1	Panel, Rear:

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COMMITTED TO EXCELLENCE

MANUAL CHANGE INFORMATION

Date: May 4, 1990 **Change Reference:** M71559

Product: TM 506A Power Module **Manual Part No.:** 070-6929-00

DESCRIPTION

For Serial Numbers B010933 and above, please make the following changes.

REPLACEABLE MECHANICAL PARTS

Delete:

Page 7-7

-13	105-0787-00	2	Latch, Retaining, Rackmount, SST
-14	105-0786-00	2	Release, Latch Plastic, Smoke Tan
-15	390-0887-09	1	Cabinet, Side, Left, W/Handle
	390-0087-01	1	Cabinet, Side, Left, W/Handle

Change:

-11	212-0070-00	8	Screw, Mach. 8-32 X 0.312, FLH
-12	210-0458-00	8	Nut, pl, Assy 8-32 X 0.344, stl

Add:

	211-0755-00	4	Screw, Mach. 10-32 X 0.5, PNH
	367-0022-00	2	Handle, Bow 4.579 L, Brs Crpl
	390-1105-00	2	Cabinet, Side Rackmount