Technical Reference Manual

Tektronix

TLA7000 Series Mainframes

071-1764-00

This document applies to System Software version 5.0 and above.

Warning
The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

www.tektronix.com

Contacting Tektronix

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For product information, sales, service, and technical support:
- In North America, call 1-800-833-9200.
- Worldwide, visit www.tektronix.com to find contacts in your area.

Warranty 2

Tektronix warrants that this product will be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. If any such product proves defective during this warranty period, Tektronix, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product. Parts, modules and replacement products used by Tektronix for warranty work may be new or reconditioned to like new performance. All replaced parts, modules and products become the property of Tektronix.

In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non-Tektronix supplies; or d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

THIS WARRANTY IS GIVEN BY TEKTRONIX WITH RESPECT TO THE PRODUCT IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. TEKTRONIX AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TEKTRONIX' RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR BREACH OF THIS WARRANTY. TEKTRONIX AND ITS VENDORS WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER TEKTRONIX OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

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General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

While using this product, you may need to access other parts of a larger system. Read the safety sections of the other component manuals for warnings and cautions related to operating the system.

To Avoid Fire or Personal Injury

Use Proper Power Cord. Use only the power cord specified for this product and certified for the country of use.

Connect and Disconnect Properly. Do not connect or disconnect probes or test leads while they are connected to a voltage source.

Ground the Product. This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

The inputs are not rated for connection to mains or Category II, III, or IV circuits.

Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.

Power Disconnect. The power cord disconnects the product from the power source. Do not block the power cord; it must remain accessible to the user at all times.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

Do Not Operate With Suspected Failures. If you suspect there is damage to this product, have it inspected by qualified service personnel.

Avoid Exposed Circuitry. Do not touch exposed connections and components when power is present.

Use Proper Fuse. Use only the fuse type and rating specified for this product.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Keep Product Surfaces Clean and Dry.

Provide Proper Ventilation. Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

Terms in this Manual   These terms may appear in this manual:

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

CAUTION. Caution statements identify conditions or practices that could result in damage to this product or other property.

Symbols and Terms on the Product   These terms may appear on the product:

- DANGER indicates an injury hazard immediately accessible as you read the marking.

- WARNING indicates an injury hazard not immediately accessible as you read the marking.

- CAUTION indicates a hazard to property including the product.

The following symbols may appear on the product:

CAUTION
Refer to Manual

WARNING
High Voltage

Protective Ground
(Earth) Terminal

Chassis Ground

Standby

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

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

Disconnect Power. To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Environmental Considerations

This section provides information about the environmental impact of the product.

Product End-of-Life Handling

Observe the following guidelines when recycling an instrument or component:

Equipment Recycling. Production of this equipment required the extraction and use of natural resources. The equipment may contain substances that could be harmful to the environment or human health if improperly handled at the product's end of life. In order to avoid release of such substances into the environment and to reduce the use of natural resources, we encourage you to recycle this product in an appropriate system that will ensure that most of the materials are reused or recycled appropriately.

The symbol shown to the left indicates that this product complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). For information about recycling options, check the Support/Service section of the Tektronix Web site (www.tektronix.com).

Mercury Notification. This product uses an LCD backlight lamp that contains mercury. Disposal may be regulated due to environmental considerations. Please contact your local authorities or, within the United States, the Electronics Industries Alliance (www.eiae.org) for disposal or recycling information.

Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment, and is outside the scope of the 2002/95/EC RoHS Directive. This product is known to contain lead, cadmium, mercury, and hexavalent chromium.

Preface

This is the service manual for the TLA7012 Portable Mainframe and the TLA7016 Benchtop Mainframe. For service information on the TLA7PC1, refer to the documentation that came with the product.

Manual Structure

This document contains the following information:

- *Maintenance* contains information and procedures for doing corrective maintenance on the instruments. Included are instructions for removal and installation of replaceable parts.

- *Mechanical Parts List* includes tables of all replaceable parts for the instrument along with the Tektronix part number.

Manual Conventions

This manual uses certain conventions that you should become familiar with before attempting service.

Mainframes   The TLA7012 Portable Mainframe has a built-in controller and display with room for two TLA plug-in modules. The benchtop mainframe consists of a mainframe with an interface module. Slots are available for installing other modules.

Replaceable Parts   This manual refers to any field-replaceable assembly or mechanical part specifically by its name or generically as a replaceable part. In general, a replaceable part is any circuit board or assembly, such as the hard disk drive, or a mechanical part, such as the I/O port connectors, that is listed in the replaceable parts list.

Related Documentation

The following documents are available as part of the Tektronix Logic Analyzer Family documentation set. The procedures in this manual assume that the service personnel have access to the manuals listed in the following table. Contact your local Tektronix Service Representative for the latest part numbers of the service documentation. All manuals are available at the Tektronix Web Site.

Table i: Tektronix Logic Analyzer Family documentation

Manual name	Description
TLA Quick Start User Manuals	High-level operational overview
Online Help	In-depth operation and User Interface help
Installation Quick Reference Cards	High-level installation information
Installation Manuals	Detailed first-time installation information
TLA Product Specifications & Performance Verification Procedures	Product specifications and performance verification procedures for TLA7000 series products
Field upgrade kits	Upgrade information for your logic analyzer
Optional Service Manuals	Self-service documentation for modules and mainframes

Introduction

This manual contains information needed to service the TLA7000 series mainframes.

To prevent personal injury or damage to the instrument, consider the following requirements before attempting service:

- Read the *General Safety Summary* and *Service Safety Summary* found at the beginning of this manual.

- The procedures in this manual should only be performed by a qualified service person.

Be sure to follow all warnings, cautions and notes.

Adjustment and Certification Interval

Generally, you should perform the adjustments and certification (calibration) once per year, or following repairs that may affect adjustment or calibration.

Service Strategy

This manual supports and contains information needed for periodic maintenance of the instrument. It supports and contains the following information for corrective maintenance:

- Supports removal and replacement of boards or assemblies.

- Supports removal and replacement of the mechanical parts listed in the parts lists.

This manual does not support component-level fault isolation and replacement.

Service Offerings

Tektronix provides service to cover repair under warranty as well as other services that are designed to meet your specific service needs.

Whether providing warranty repair service or any of the other services listed below, Tektronix service technicians are equipped to service the instrument. Services are provided at Tektronix Services Centers and on-site at your facility, depending on your location.

Warranty Repair Service

Tektronix warrants this product for one year from date of purchase. The warranty is located behind the title page in this manual. Tektronix technicians provide warranty service at most Tektronix service locations worldwide. The Tektronix product catalog lists all service locations worldwide.

Calibration and Repair Service

In addition to warranty repair, Tektronix Service offers calibration and other services which provide solutions to your service needs and quality standards compliance requirements.

The following services can be tailored to fit your requirements for calibration and/or repair of your portable mainframe.

Service Options. Tektronix Service Options can be selected at the time you purchase your instrument. You select these options to provide the services that best meet your service needs.

Service Agreements. If service options are not added to the instrument purchase, then service agreements are available on an annual basis to provide calibration services or post-warranty repair coverage. Service agreements may be customized to meet special turn-around time and/or on-site requirements.

Service on Demand. Tektronix offers calibration and repair services on a "per-incident" basis that is available with standard prices.

Self Service. Tektronix supports repair to the replaceable-part level by providing for circuit board exchange.

Use this service to reduce down-time for repair by exchanging circuit boards for remanufactured ones. Tektronix ships updated and tested exchange boards. Each board comes with a 90-day service warranty.

For More Information. Contact your local Tektronix service center or sales engineer for more information on any of the Calibration and Repair Services just described.

Maintenance

This chapter provides information and procedures for removing and replacing components in the TLA7012 Portable Mainframe and the TLA7016 Benchtop Mainframe.

⚠ **WARNING.** *To avoid electric shock, always power off the instrument and disconnect the power cord before cleaning or servicing the instrument.*

Preventing ESD

When performing any service which requires internal access to the instrument, adhere to the following precautions to avoid damaging internal circuit boards and their components due to electrostatic discharge (ESD).

⚠ **CAUTION.** *Many components within the instrument are susceptible to static discharge damage.*

Service the instrument only in a static-free environment. Observe standard handling precautions for static-sensitive devices.

1. Minimize handling of static-sensitive circuit boards.

2. Transport and store static-sensitive circuit boards in their static protected containers or on a metal rail. Label any package that contains static-sensitive boards.

3. Discharge the static voltage from your body by wearing a grounded antistatic wrist strap while handling these circuit boards.

4. Nothing capable of generating or holding a static charge should be allowed on the work station surface.

5. Handle circuit boards by the edges when possible.

6. Do not slide the circuit boards over any surface.

7. Avoid handling circuit boards in areas that have a floor or work-surface covering capable of generating a static charge.

Inspection and Cleaning

The instrument is inspected mechanically and electrically before shipment. It should be free of marks or scratches and should meet or exceed all electrical specifications. To confirm this, inspect for physical damage incurred during transit. Retain the packaging in case shipment for repair is necessary. If there is damage or deficiency, contact your local Tektronix representative.

Cleaning procedures consist of exterior and interior cleaning. Periodic cleaning reduces instrument breakdown and increases reliability. Clean the instrument as needed, based on your operating environment.

Exterior Inspection
Inspect the outside of the instrument for damage, wear, and missing parts. Use Table 1 as a guide. Modules that appear to have been dropped or otherwise abused should be checked thoroughly to verify correct operation and performance. Immediately repair defects that could cause personal injury or lead to further damage to the benchtop controller, expansion module, or the mainframes that the module plug into.

Table 1: External inspection check list

Item	Inspect for	Repair action
Front panel	Cracks, scratches, deformations, missing or damaged retainer screws, or ejector handles.	Replace defective or missing parts.
Front and rear connectors	Broken shells, cracked insulation, and deformed contacts. Dirt in connectors.	Replace defective parts. Clear dirt out of connectors.
Accessories	Missing items or parts of items, bent pins, broken or frayed cables, and damaged connectors.	Replace damaged or missing parts, frayed cables.

⚠ **CAUTION.** *To prevent damage to electrical components from moisture during external cleaning, use only enough liquid to dampen the cloth or applicator.*

Exterior Cleaning Procedure

Clean the exterior surfaces with a soft dry lint-free cloth, or a soft-bristle brush. If any dirt remains, use a soft cloth or swab dipped in a 75% isopropyl alcohol solution. Use a swab to clean narrow spaces around controls and connectors. Do not use abrasive cleaning compounds.

CAUTION. Avoid getting moisture inside the instrument during exterior cleaning; use just enough moisture to dampen the cloth or swab.

Use only deionized water when cleaning. Use a 75% isopropyl alcohol solution as a cleanser and rinse with deionized or distilled water.

Do not use chemical cleaning agents; they may damage the chassis. Avoid chemicals that contain benzene, toluene, xylene, acetone, or similar solvents.

Interior Inspection

Remove the module covers to access the inside of the instrument for inspection and cleaning. Refer to the *Removal and Installation Procedures* for detailed information on cover removal. Inspect the internal portions of the modules and the mainframes for damage and wear using Table 2 as a guide. Defects found should be repaired immediately.

Table 2: Internal inspection check list

Item	Inspect for	Repair action
Circuit boards	Loose, broken, or corroded solder connections. Burned circuit boards. Burned, broken, or cracked circuit-run plating.	Return to a Tektronix Service Center.
Solder connections	Cold solder or rosin joints.	Return to a Tektronix Service Center.
Wiring and cables	Loose plugs or connectors. Burned, broken, or frayed wiring.	Firmly seat connectors. Repair or replace parts with defective wires or cables.
Chassis	Dents, deformations, and damaged hardware.	Straighten, repair, or replace defective hardware.

CAUTION. To prevent damage from electrical arcing, ensure that circuit boards and components are dry before applying power.

Interior Cleaning Procedure

Use a dry, low-velocity stream of air to clean the interior of the modules and the mainframes. Use a soft-bristle brush for cleaning around components. If you must use a liquid for minor interior cleaning, use a 75% isopropyl alcohol solution and rinse with deionized or distilled water.

Clean the exterior (face) of the DVD drive and replaceable hard disk drive cartridge with a soft, clean cloth and a mild detergent.

Portable Mainframe Removal and Installation Procedures

This section provides procedures for removing and installing mechanical and electrical modules in the portable mainframe. The following procedures provide only high-level remove and replacement procedures. Refer to the Replaceable Parts Lists for additional remove and replace information.

⚠ **CAUTION.** *Before doing this or any other procedure in this manual, read the* General Safety Summary *and* Service Safety Summary *found at the beginning of this manual.*

Equipment Required

Table 3 lists the tools needed to remove and replace components in the mainframe.

Table 3: Equipment required to service the mainframes

Item number	Item	Description
1	Screwdriver handle	Accepts Torx driver bits
2	T-15 Torx tip	Torx drive bit for T-15 size screws
3	Phillips screwdriver	Phillips #1 screwdriver
4	3/16-inch nut driver	For motherboard and jack screw removal
5	9/16-inch socket	For interface board removal
6	Torque wrench	2 in-lb minimum

NOTE. *When installing the screws, use a torque screwdriver and tighten the screws to 8 in-lbs unless otherwise noted.*
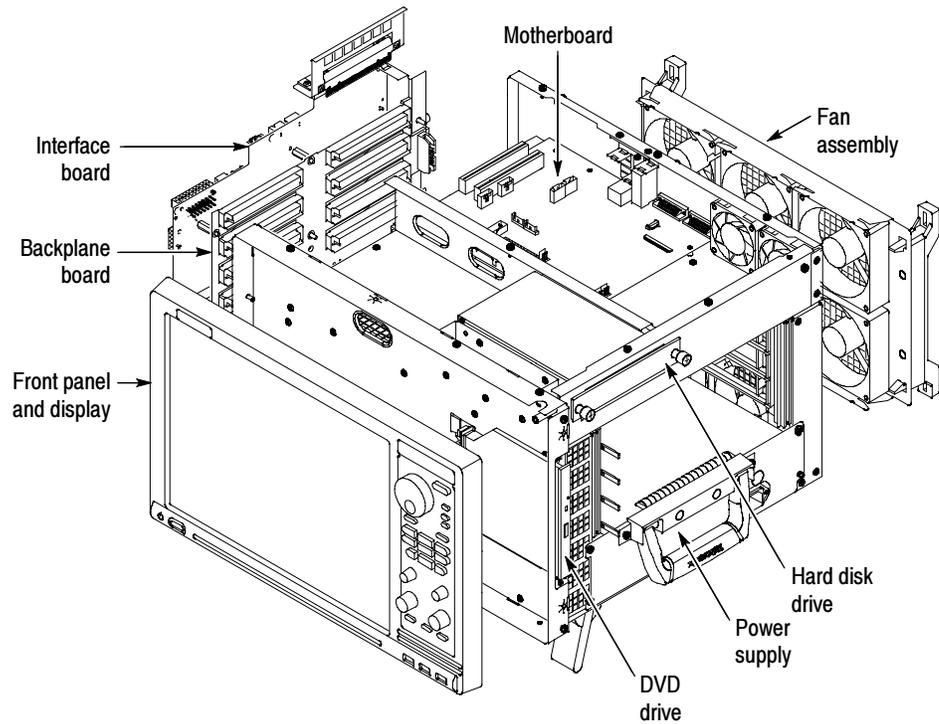
Figure 1: Locator diagram

⚠ **WARNING.** *To avoid electric shock, always power off the instrument and disconnect the power cord before cleaning or servicing the instrument.*

Instrument Covers

Complete the following steps to remove the instrument covers:

1. Disconnect all cords, cables, and probes from the instrument.

2. Carefully remove all instrument modules (if any) from the instrument.

3. Set the instrument on the bottom feet.

4. Remove the six T-15 screws from the right cover and remove the cover.
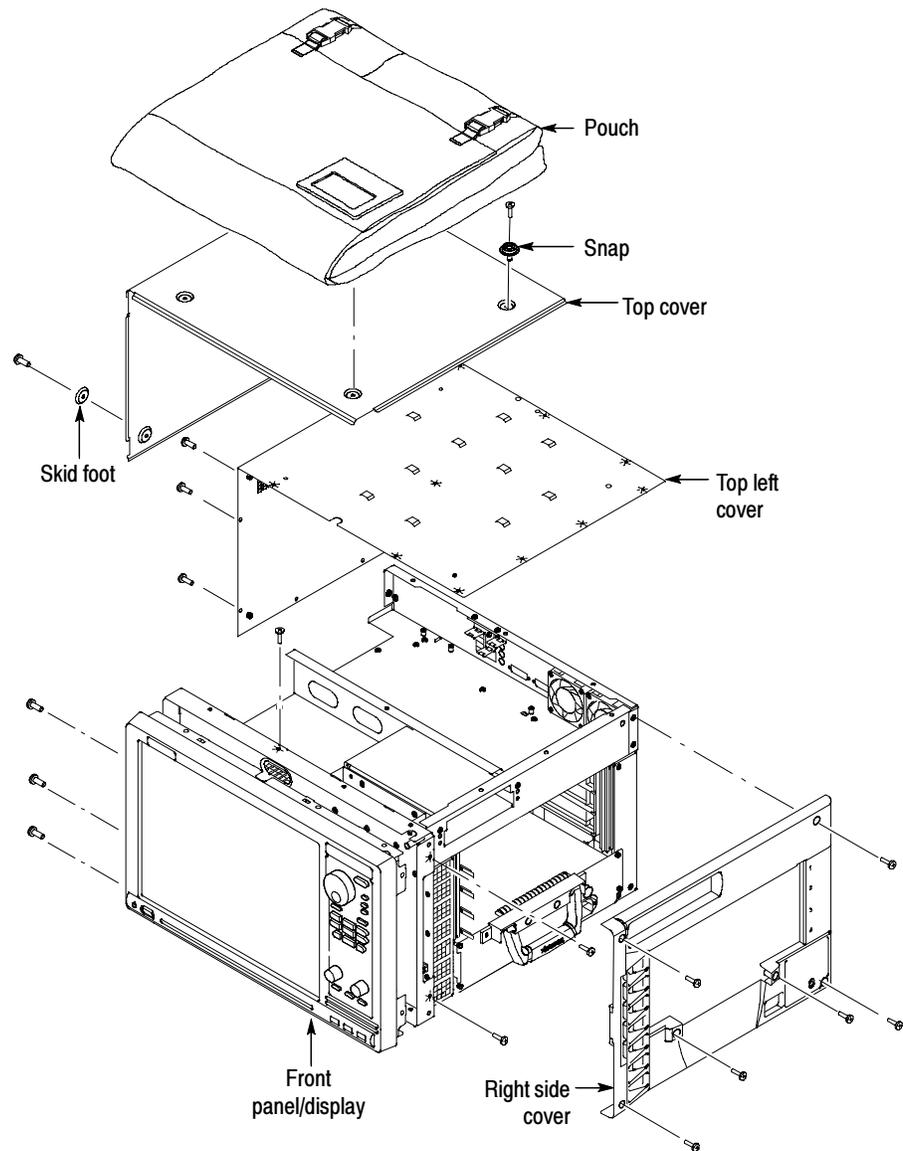
Figure 2: Instrument enclosure detail

5. Remove the accessory pouch and snap studs (4 T-15 screws).

6. Remove the four skid feet from the left side (4 T-15 screws).

7. Remove the remaining T-15 screws from the top left cover and then remove the cover.

8. Set the instrument on the rear feet.

Front Panel Display

Complete the following steps to remove the front panel display:

1. Remove the 12 T-15 screws from the front panel trim.

2. Set the instrument back on the bottom feet.

3. Tilt the top of the front panel trim out about 8 inches.

When reinstalling make sure that the alignment pins go into hollow posts (Alignment pins not shown)
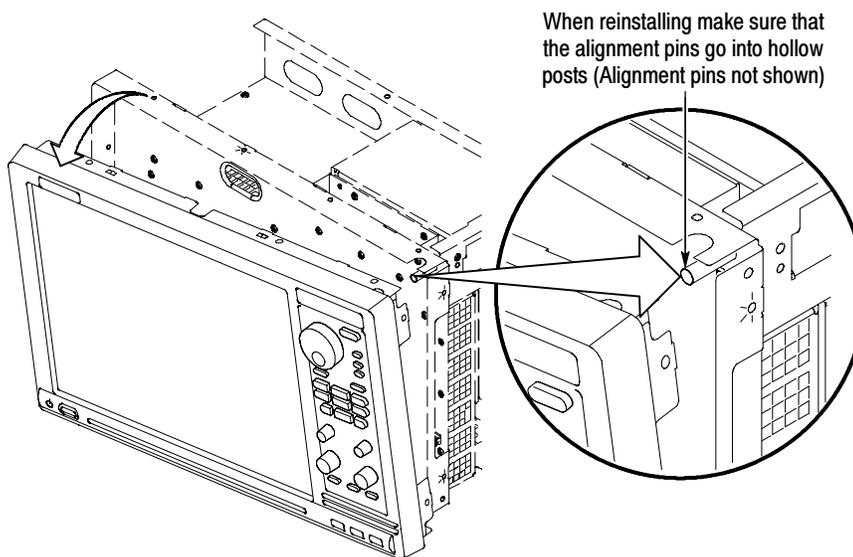
Figure 3: Tilt the panel forward for cable access

4. Disconnect the two display cables and three USB cables from the front panel assembly.

5. Remove the ground wire with a 5/16 in driver.
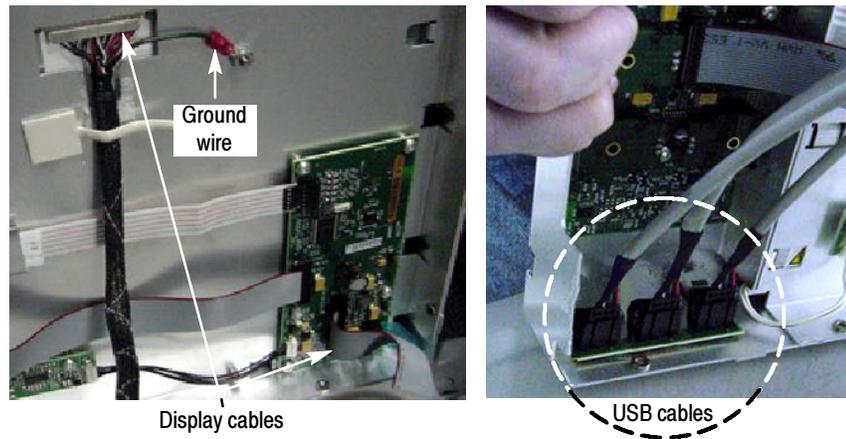
Figure 4: Front panel cable locations

6. Remove the front panel assembly.

Note the following steps when reinstalling the front panel display:

- When connecting the display cable, carefully line up the centers of the plug and socket before pressing them together.

- To avoid damaging the USB and DVD cables, dress the cables properly just before you attach the new panel to the chassis. See Figure 5.
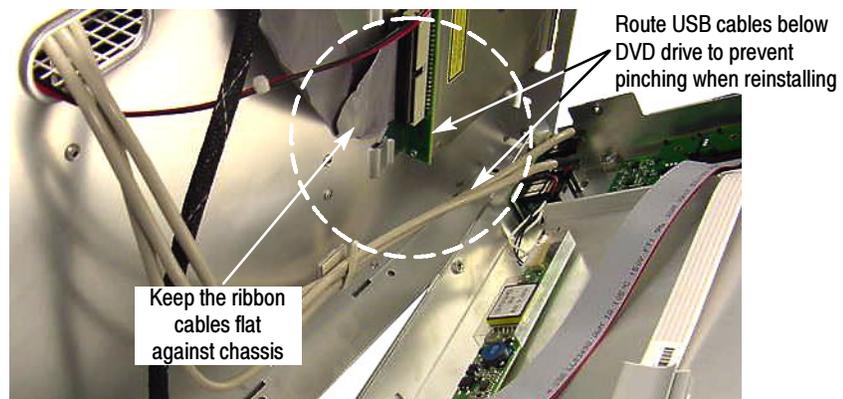
Figure 5: Dress the cables properly

DVD Drive

Complete the following steps to remove the DVD drive. Refer to Figure 23 on page 43 for the detailed exploded view drawings. Installation procedures are the reverse of the removal procedures.

1. Remove the instrument covers. (See *Instrument Covers* on page 6.)

2. Remove the front panel display. (See *Front Panel Display* on page 8.)

3. Disconnect the ribbon cable and the power cable from the DVD drive.

4. Remove the two screws securing the DVD drive to the chassis.

5. Slide the DVD drive out of the chassis.

6. Remove the four screws securing the DVD drive to bracket assembly.

7. Remove the two screws securing the DVD board and spacer to the DVD drive.

NOTE. Tighten the two screws securing the DVD board and spacer board to the DVD drive to 2.0 in-lbs. Tighten the four screws securing the DVD drive to the bracket assembly to 2.0 in-lbs.

Motherboard

Complete the following steps to remove the motherboard. Refer to Figure 24 on page 45 for the detailed exploded view drawings. Installation procedures are the reverse of the removal procedures.

1. Remove the instrument covers. (See *Instrument Covers* on page 6.)

2. Remove the top EMI cover. (Refer to Figure 22 on page 41.)

3. Remove the six screws securing the motherboard to the chassis.

4. Remove the four rear jack screws.

5. Disconnect and pull all cables clear of the motherboard. (Refer to Figure 6 on page 11.)

6. Pass the DVD ribbon cable through chassis to clear the motherboard.

7. Move the motherboard forward to clear the USB grounding bracket and then lift board out.

NOTE. When installing the four jack screws, tighten them to 4 in-lbs.
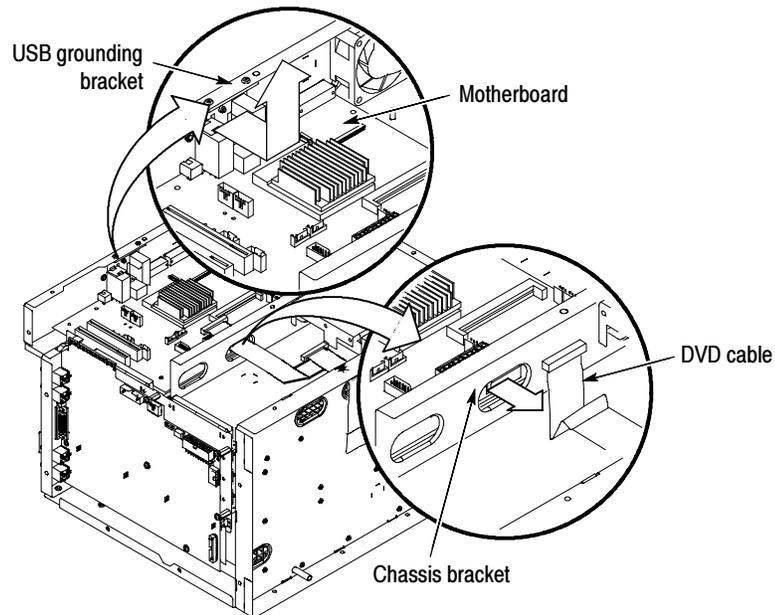
Figure 6: Removing the motherboard

Interface Board

Complete the following steps to remove the interface board. Refer to Figure 24 on page 45 for the detailed exploded view drawings. Installation procedures are the reverse of the removal procedures.

1. Remove the instrument covers. (See *Instrument Covers* on page 6.)

2. Remove the top EMI cover. (Refer to Figure 22 on page 41.)

3. Remove the hardware from the I/O bracket – four BNC nuts, two jack screws, and two chassis screws. (Refer to Figure 7 on page 12)

4. Gently pull out the I/O bracket.

5. Disconnect the cables from the interface board and move them out of the way.

6. Remove the five screws securing the interface board to the chassis.

To install the interface board, watch the ground fingers on top left. (Gently bend the board down while pushing it into place.)

NOTE. When installing the BNC nuts and the two jack screws, tighten them to 12 in-lbs ±1.5 in-lbs.
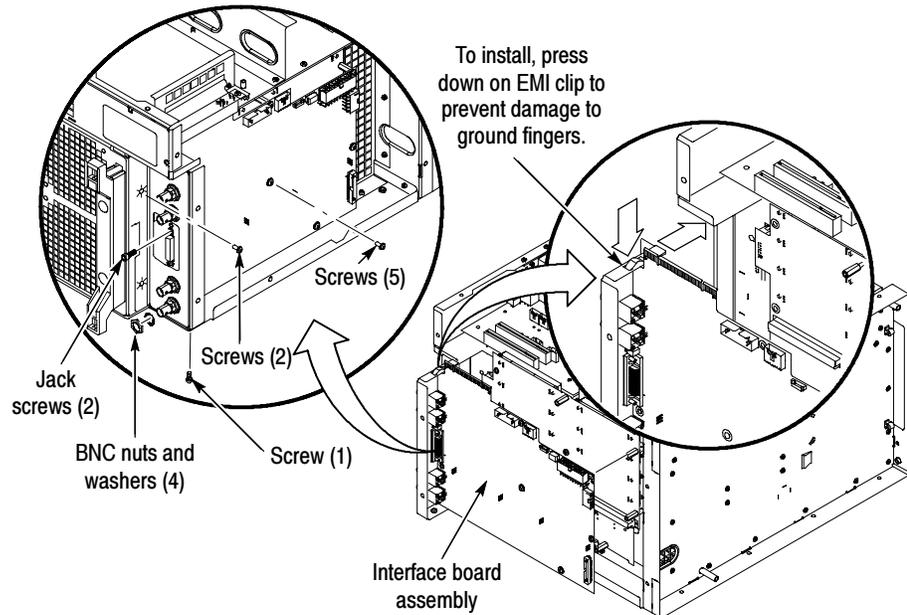
Figure 7: Removing the interface board

Backplane

Complete the following steps to remove the backplane. Refer to Figure 24 on page 45 for the detailed exploded view drawings. Installation procedures are the reverse of the removal procedures.

1. Remove the instrument covers. (See *Instrument Covers* on page 6.)

2. Remove the top EMI cover. (Refer to Figure 22 on page 41.)

3. Remove the interface board. (See *Interface Board* on page 11.)

4. Gently remove the interface board from the backplane board.

5. Remove the four screws and four binding posts from the backplane board.

6. Slide the backplane under the chassis post as indicated in Figure 8 on page 13.

7. Pull out the backplane.

NOTE. When installing the binding posts, tighten them to 10 in-lbs.
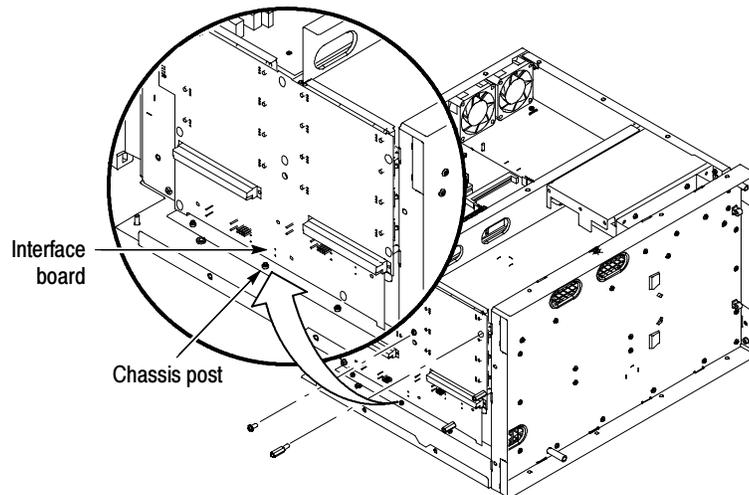
Figure 8: Removing the backplane

Power Supply

Complete the following steps to remove the power supply. Refer to Figure 25 on page 47 for the detailed exploded view drawings. Installation procedures are the reverse of the removal procedures.

1. Remove the top and right plastic covers. (See *Instrument Covers* on page 6.)

2. Remove bottom cover with the feet.

3. Remove the eight screws (four on the bottom EMI cover and four on the side) securing the power supply to the chassis.

4. Pull out the assembly.

5. Remove the handle from the assembly.

Benchtop Mainframe Removal and Installation Procedures

This section provides procedures for removing and installing mechanical and electrical modules in the benchtop mainframe.

⚠ **CAUTION.** *Before doing this or any other procedure in this manual, read the* General Safety Summary *and* Service Safety Summary *found at the beginning of this manual.*

Equipment Required

Table 4 lists the tools needed to remove and replace components in the mainframe.

Table 4: Equipment required to service the mainframes

Item number	Item	Description
1	Flat blade screwdriver	Small flat blade screwdriver
2	Cutters	Diagonal cutters (for removing cable ties)
3	Screwdriver handle	Accepts Torx driver bits
4	T-7 Torx tip	Torx drive bit for T-7 size screws
5	T-15 Torx tip	Torx drive bit for T-15 size screws
6	T-20 Torx tip	Torx drive bit for T-20 size screws
7	Allen wrench	A 3/32-inch Allen wrench (hex wrench)
8	Phillips screwdriver	Phillips #1 screwdriver
9	Cable ties	4-inch tie-down straps (Tektronix part number 343-0549-00)

NOTE. *When installing the screws, use a torque screwdriver and tighten the screws to 8 in-lbs unless otherwise noted.*

⚠ **WARNING.** *To avoid electric shock, always power off the instrument and disconnect the power cord before cleaning or servicing the instrument.*

Instrument Modules

⚠ **CAUTION.** *To avoid damaging any the instrument or any instrument modules, remove the modules and the Slot 0 Interface module from the chassis before performing any procedures in this section.*

To remove the instrument modules and the Slot 0 Interface module from the mainframe, loosen the retaining screws, use the ejector/injector handles to unseat the modules, and then slide the modules out to the mainframe.

To install the modules, slide the modules into the mainframe, and secure the modules with the ejector/injector handles. Use a screwdriver to tighten the retaining screws to 2.5 in-lbs after seating the modules in place.

Blower Assembly

To remove the blower assembly, refer to Figures 9, 10, and 11 while performing the following steps:

1. From the back of the chassis, loosen the five captive screws including the safety ground (refer to Figure 9 for the screw locations).

2. Loosen the four 8-32 hex screws (see Figure 11 on page 18) under the mainframe so that you can easily remove the blower assembly.

3. Remove the cable cover.

4. Unplug the blower cable and set the blower assembly aside on a clean working surface.

5. To remove the blower, remove the ten screws with (the Allen wrench) holding the shroud part of the blower assembly to the chassis part of the assembly. Set the shroud aside. There are three screws on each side and four on the bottom. See Figure 11.

6. Remove the two sheet metal screws at the top of the blower.

7. Remove the four screws that hold the blower to the chassis part of the blower assembly.

8. For convenience, replace the two sheet metal screws from step 6 onto the top of the blower.

Install the blower assembly by following the removal procedures in reverse order.

NOTE. When reconnecting the blower cables to the chassis, verify that you connect the blower cable to J8, 1/BLOWER.
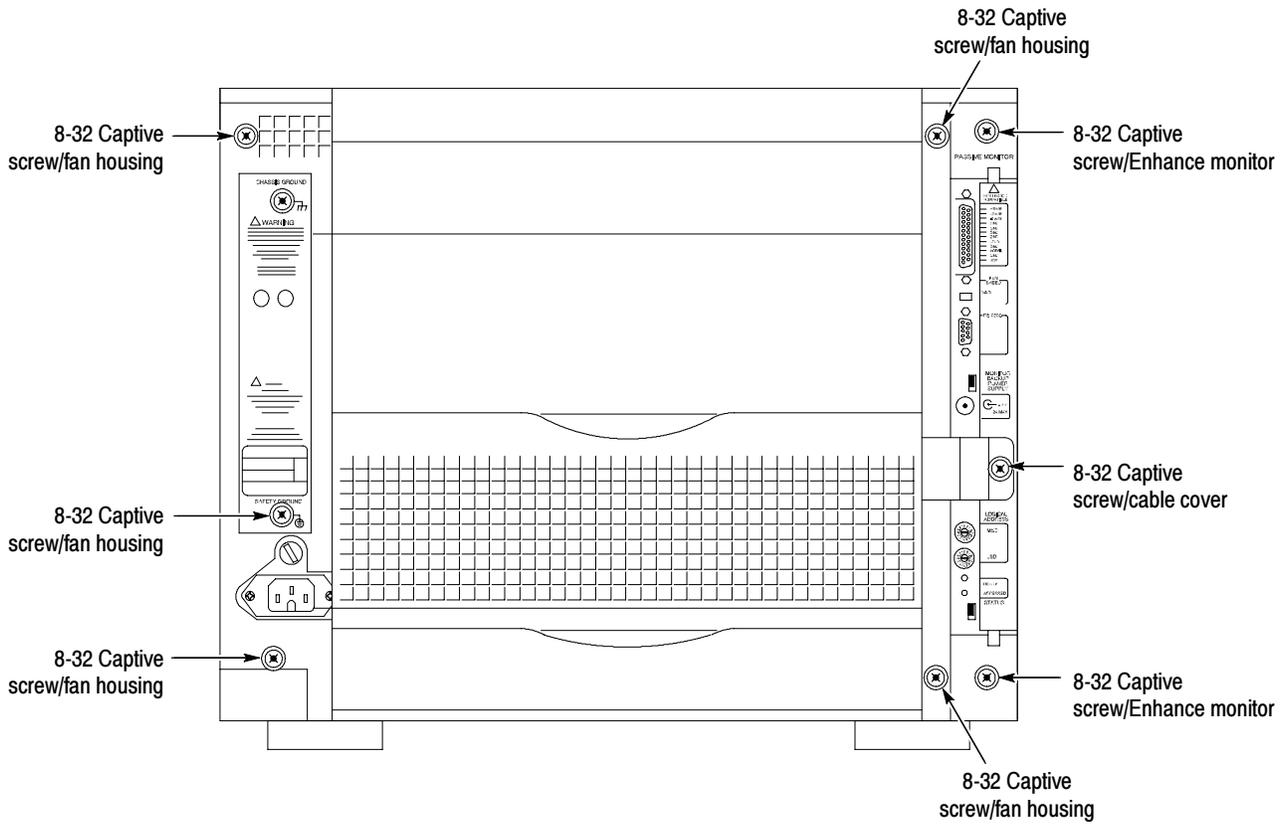
Figure 9: Location of blower assembly screws
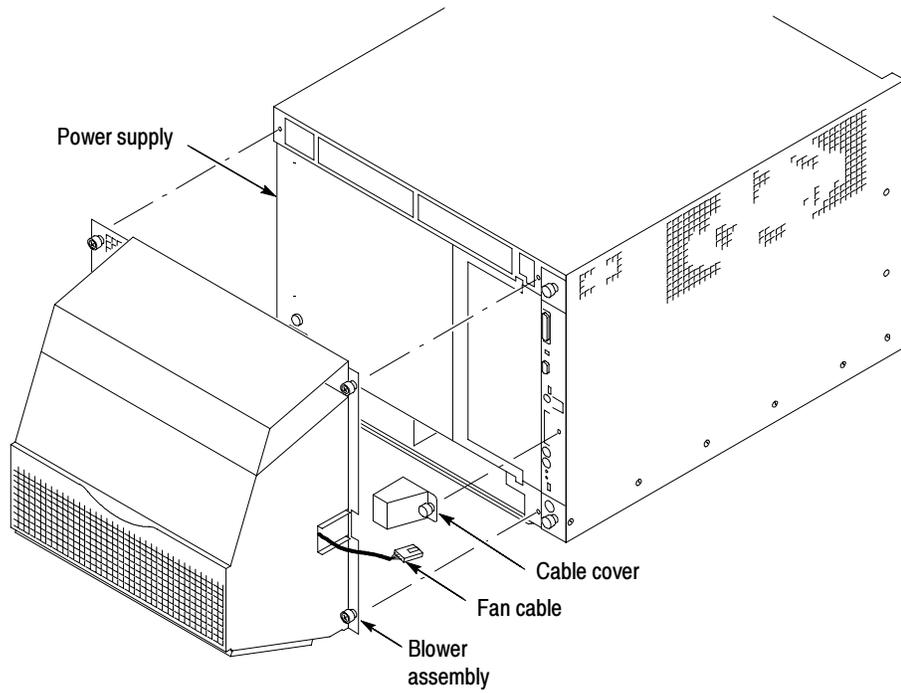
Figure 10: Removing the blower assembly
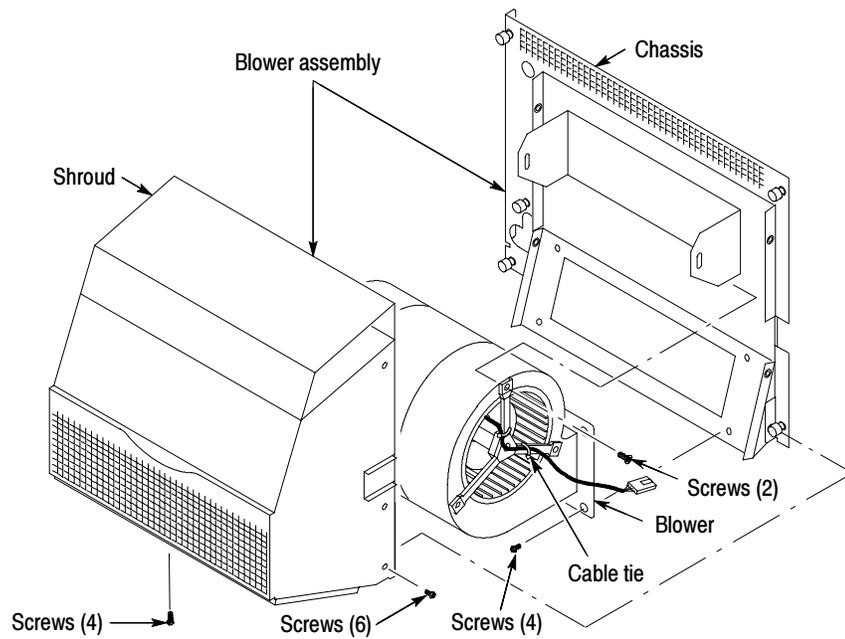
Figure 11: Removing the blower

Removing the Enhanced Monitor Board

To remove the enhanced monitor board, complete the following steps:

1. Refer to Figure 10 and unscrew the captive screw that attaches the cable cover. Remove the cable cover and set it aside.

2. Unplug the blower cable from the connector labeled 1/BLOWER.

3. Unscrew the two captive screws that attach the monitor board to the mainframe.

4. Slide the enhanced monitor board out of the mainframe as shown in Figure 12.
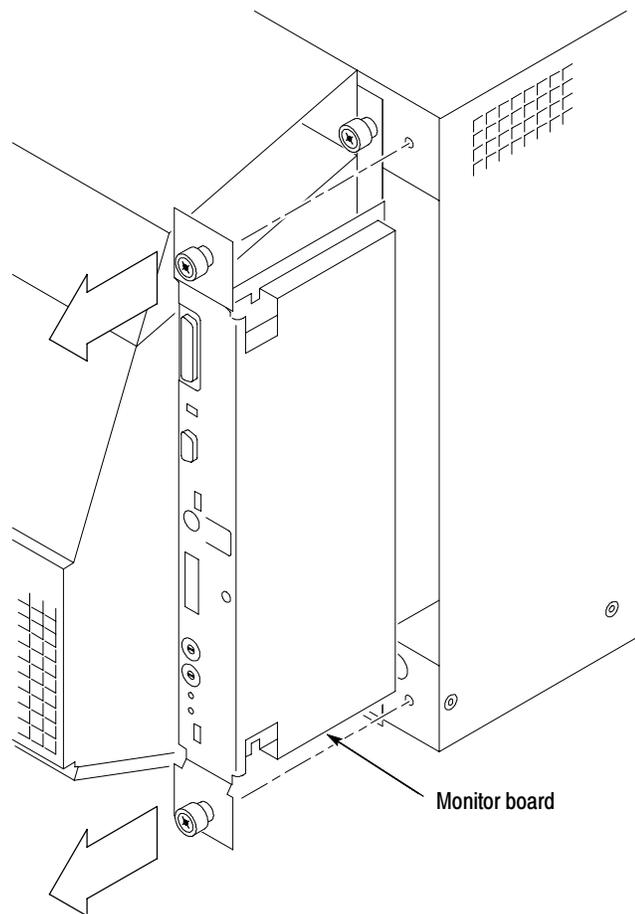
Monitor board

Figure 12: Removing the enhanced monitor board

To install the enhanced monitor board, complete the following steps:

1. Refer to Table 5 and verify that the jumpers on the enhanced monitor board are in the default locations before installing the board in the mainframe.

Table 5: Enhanced monitor board jumpers

Jumpers (location)	Pins	Label on board
J2 (top of board)	1-2 and 3-4	TLA721
J38 (middle of board)	2-3	Blower
J19 (bottom of board)	2-3	Blower

2. Slide the enhanced monitor board into the mainframe as shown in Figure 12. You may have to adjust the enhanced monitor board to engage the connectors on the rear of the board.

3. Push the enhanced monitor board into the mainframe to fully mate the rear connectors.

4. Tighten the two screws that attach the enhanced monitor board to the mainframe.

5. Connect the blower cable into the connector labeled 1/BLOWER.

6. Install the cable cover and tighten the captive screw to that attaches to the mainframe.

Power Supply

To remove the power supply from the mainframe, perform *Blower Assembly* procedure on page 16 and then complete the following steps:

1. Using the handle on the power supply, firmly pull out the power supply from the rear of the mainframe.

2. Remove the two 3/32 hex drive screws and washers to remove the handle from the power supply.
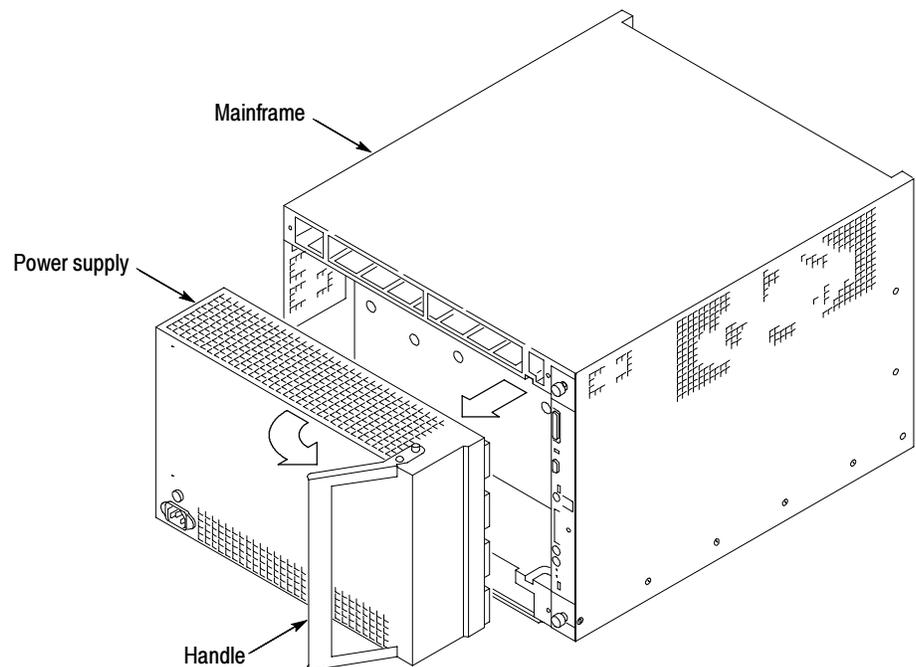
Figure 13: Removing the power supply

Complete the following steps to reinstall the power supply in the mainframe:

1. Reinstall the handle to the power supply if you removed it earlier.

2. Slide the power supply into the mainframe.

3. Push the power supply handle in firmly to ensure that the connectors are completely seated into the back plane connectors.

4. Reinstall the blower assembly.

Mainframe Cover

To remove the mainframe cover, refer to Figure 14 while performing the following steps (Note that this procedure assumes that the mainframe does not include any rails for the rackmount option; if it does, remove the rails before continuing this procedure).

1. Remove the 12 hex drive screws (6 on each side) using a 3/32 Allen wrench.

2. Remove the eight T-7 screws: four on the top front and four on the top rear.

3. Lift the front bottom corners up.

4. After tilting the cover up about 3 inches, lift the cover straight off the instrument.

Remove screws (20)

Step 1

Step 2

Step 3
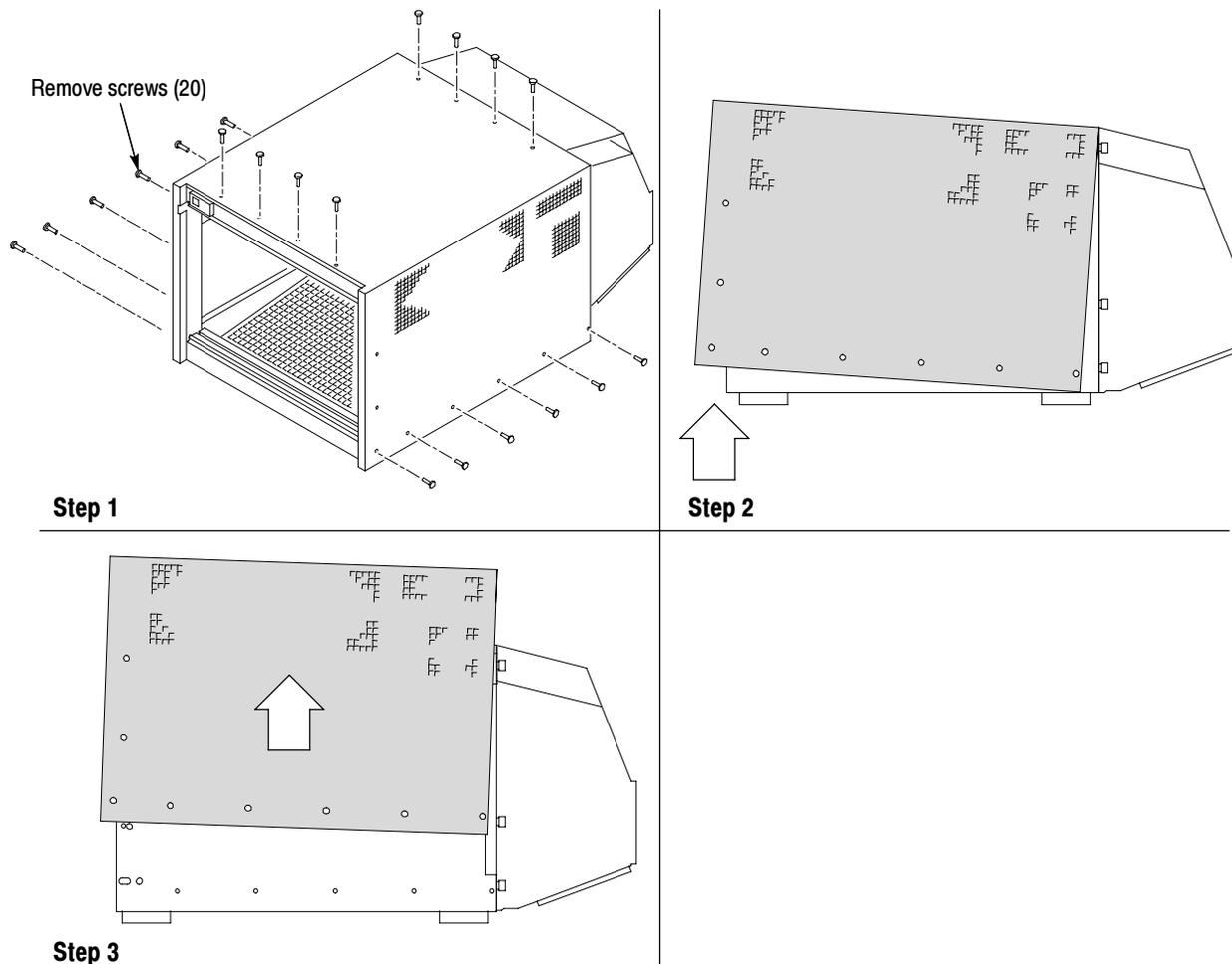
Figure 14: Removing the mainframe cover

Complete the following steps to install the mainframe cover (refer to Figure 14 as necessary):

1. Slide the cover over the mainframe.

2. Tilt the rear of the cover in place and then lower the front until the cover binds slightly (do not force the cover down).

3. Slowly push the cover down until the screw holes on the sides of the cover line up with those on the mainframe. Use care not to damage the front panel label while installing the cover.

4. Install the eight T-7 screws on the top of the mainframe cover; tighten them to 4 in-lbs.

5. Install the remaining 12 screws on the sides of the mainframe.

6. Tighten all screws.

Card Guides

The card guides at the top and bottom of the mainframe are very similar. The main difference is that the bottom guides include the spring-loaded shutters to redirect air into the mainframe. The procedure for removing both guides is identical. Refer to Figure 15 while performing the following steps:

1. Use a small flat blade screwdriver to pry up the tab of the card guide at the front of the mainframe being careful not to damage the card guide or the mainframe.

2. Gently pull the card guide forward until it pops out of place.

3. Remove the card guide.

To install the card guides refer to Figure 15 while completing the following steps:

NOTE. *The bottom card guides are replaced as a unit. These guides are not intended to be disassembled.*

1. Slide the card guide towards the rear of the mainframe and allow the front of the card guide to snap into place.

2. Test the card guides in the mainframe and verify that they do not move.

3. Reinstall the mainframe cover.

Installing card guides
Slide the card guides toward the rear of
the mainframe; allow the front of the
card guide to snap into place.

Front

Rear

Removing card guides
Gently pull the card guide
forward until it pops out of place.
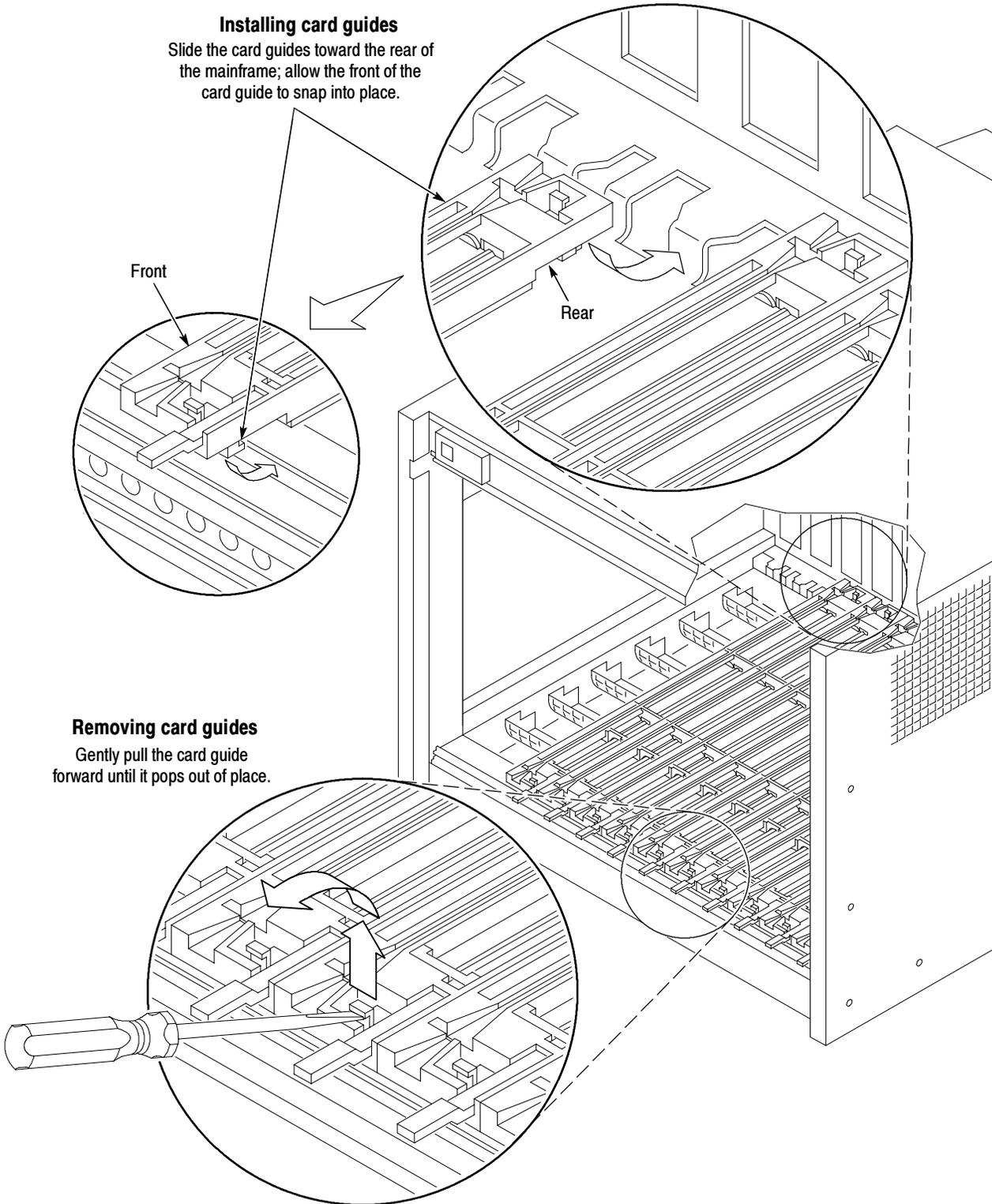
Figure 15: Removing the top and bottom card guides

Temperature Sense Board

To remove the temperature sense board complete the following steps:

1. Remove the mainframe cover by following the *Mainframe Cover* removal procedure on page 22.

2. Disconnect the ribbon cable from the temperature sense board.

3. Refer to Figure 16 and gently pry back on each retainer holding the temperature sense board in place.

4. Tilt the board forward and lift it out of the holes at the top of the mainframe being careful not to damage any components on the circuit board.

Complete the following steps to install the temperature sense board in the mainframe:

1. Refer to Figure 16 and install the temperature sense board in the mainframe as shown.

2. Make sure that the circuit board snaps into place under each retainer.

3. Reconnect the ribbon cable.

4. Reinstall the mainframe cover.

Temperature
sense board

Retainer

Cable
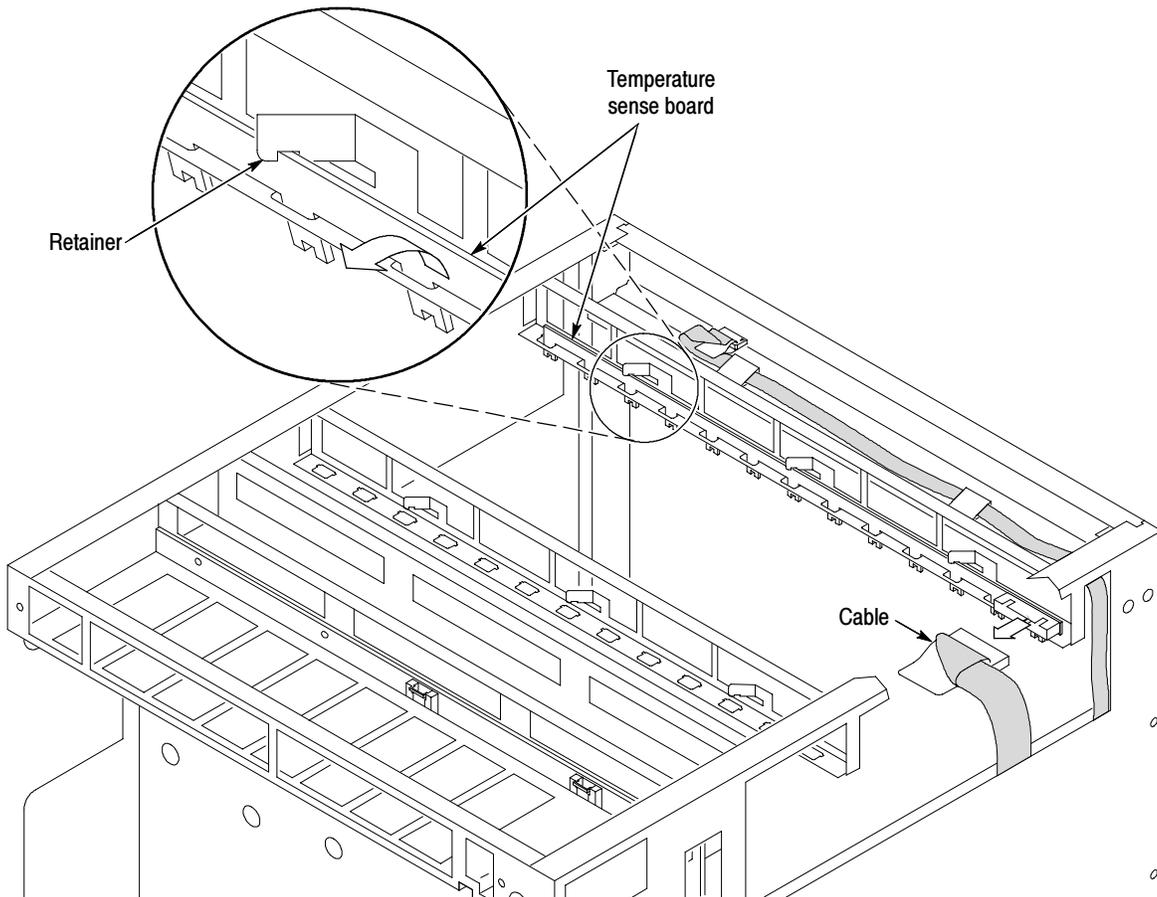
Figure 16: Removing the temperature sense board

Front Panel and Display Module

Perform the following steps to replace the front panel and display module:

1. Remove the mainframe cover by following the *Mainframe Cover* removal procedure on page 22.

2. Note the orientation of the power switch. (The green LED is toward the front-left side; see Figure 17).

3. Using needle-nose pliers, remove the five wires from the power switch. (The color-coded connections are shown later in the installation procedure).

4. Remove the two T-7 screws from the front panel and remove the front panel.
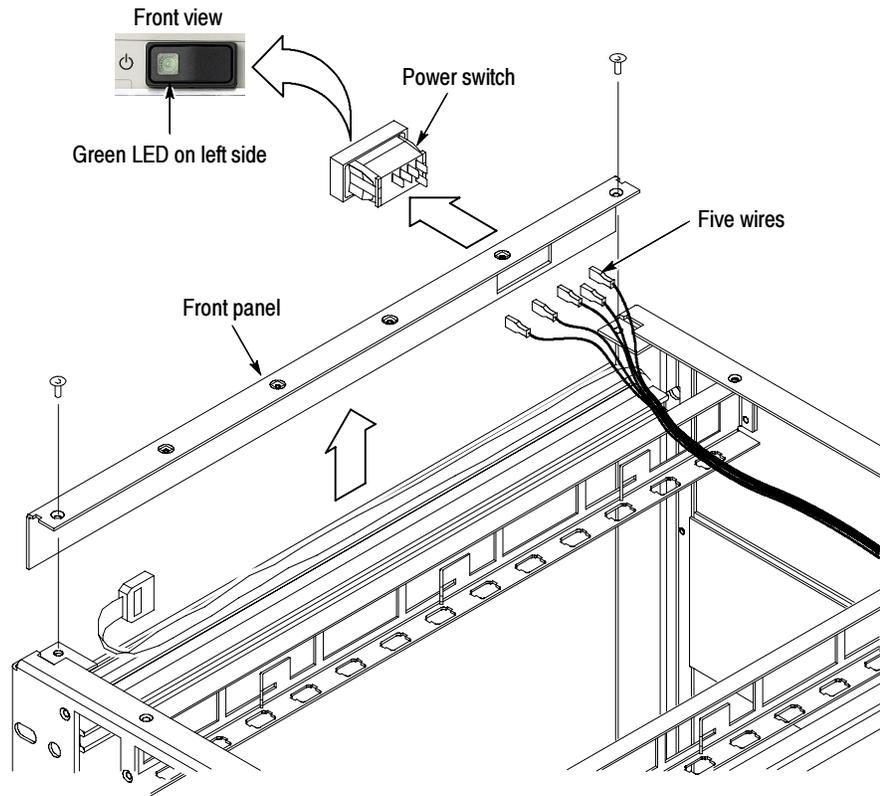
Figure 17: Removing the instrument front panel

5. Unsnap the power switch from the front panel by squeezing the snaps on each side of the switch and pushing the switch through the front of the panel.

NOTE. Before removing the display from the front panel, note the orientation so that you don't install it reversed

6. Disconnect the ribbon cable from the display assembly.

7. Remove the four screws securing the diaplay assembly to the bracket and remove the display.

Install the display assembly and front panel by performing the following steps:

1. Install the new display assembly using the four screws removed earlier.

2. Orient the power switch to the front panel so that the four terminals are on top, and the green LED is toward the front-left side. See Figure 18.

3. Snap the power switch into the front panel.

4. Connect the wires to the power switch as shown in Figure 18.
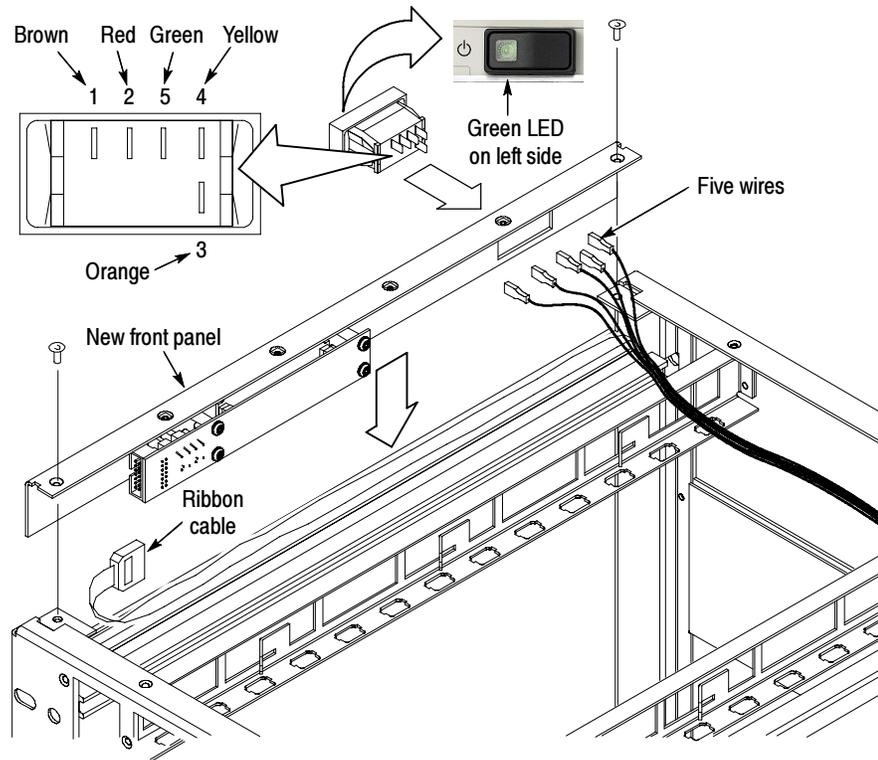
Figure 18: Installing the new front panel

5. Connect the ribbon cable from the mainframe to the front panel.

6. Position the front panel in the chassis. If there is a plastic cable retainer in the way, remove it. Dress the ribbon cable around the display board to avoid pinching the cable.

7. Dress the excess power switch cable towards the back of the chassis, away from the card guides.

8. Attach one T-7 screw on each side of the front panel.

9. Replace the cover and partially install the side cover screws first, and then the top screws, until the cover is aligned and all of the screws are started.

10. Tighten all of the cover screws.

EMI DIN Shields

Perform the following steps to remove the EMI DIN shields:

1. Remove any modules surrounding the slots where you intend to remove the Backplane EMI DIN shields. Refer to Figure 19.

2. Remove two 4-40 Torxdrive T-10 screws that secure each EMI DIN shield to the backplane.

3. Remove EMI DIN shield from the backplane.

Install the EMI DIN shield by reversing the removal procedure.

Polarization hole

Screws (2)

Backplane EMI
DIN shield
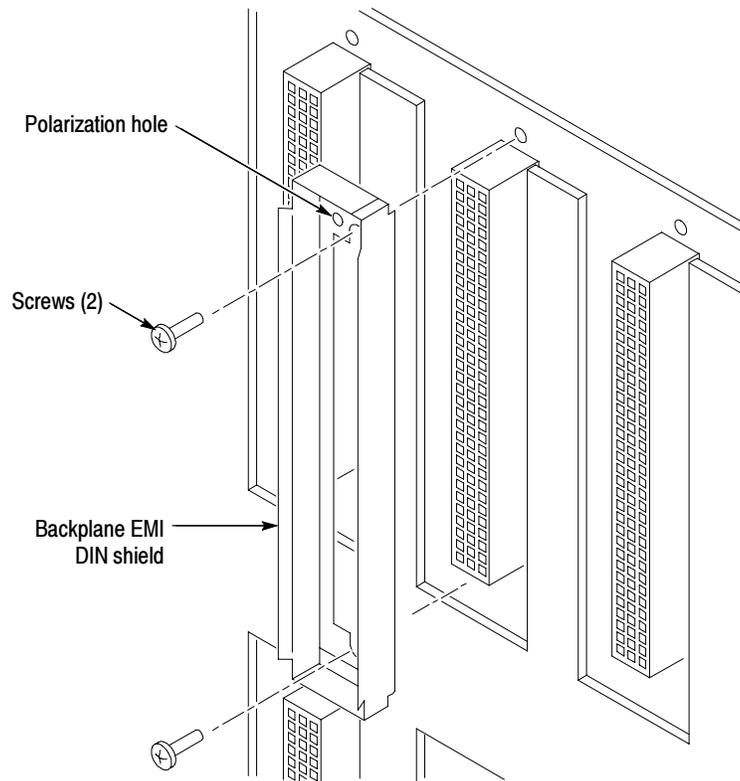
Figure 19: Removing the backplane EMI DIN shields

Backplane

To remove the backplane from the mainframe, complete the following steps:

1. Follow the instructions on page 16 to remove the blower assembly from the mainframe.

2. Follow the instructions on page 19 to remove the enhanced monitor board from the mainframe.

3. Follow the instructions on page 21 to remove the power supply from the mainframe.

4. Follow the instructions on page 22 to remove the cover from the mainframe.

5. Refer to Figure 20 and disconnect the ribbon cable on the right side of the backplane.

6. Note the location of the power switch cable at J22 (or from J23) at the top of the backplane and disconnect the cable.

NOTE. If the front panel switch is connected to the backplane at J22, the switch controls the power-on functions. If the switch is connected to J23, the front panel switch is disabled, however, the light still illuminates when the chassis is powered on.

7. From the rear of the mainframe, remove the five 6-32 screws on the top of the backplane, remove the seven 6-32 screws from the center, and then remove the five 6-32 screws from the bottom (refer to Figure 20 if necessary).

8. After removing all of the screws from the backplane, remove the backplane from the mainframe by sliding it out of the right side.
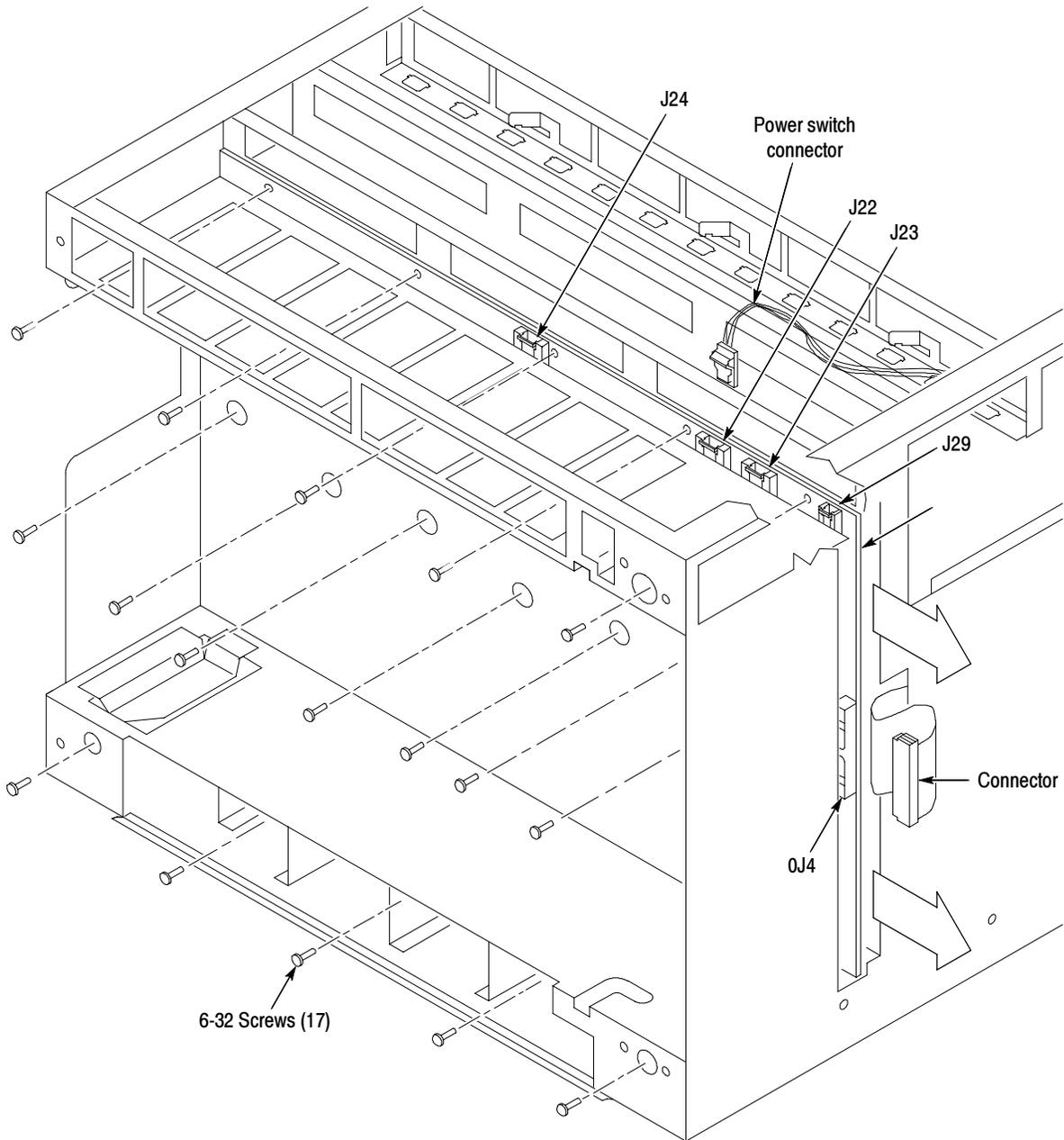
Figure 20: Removing the backplane

Before installing the backplane board in the mainframe verify the correct position and location of the jumpers (refer to Figure 21 and to Table 6).

Install the backplane board following the removal procedures in reverse order.

Table 6: Mainframe backplane jumpers

Location	Pins
JP1	No Jumper installed
JP2	pins 2-5
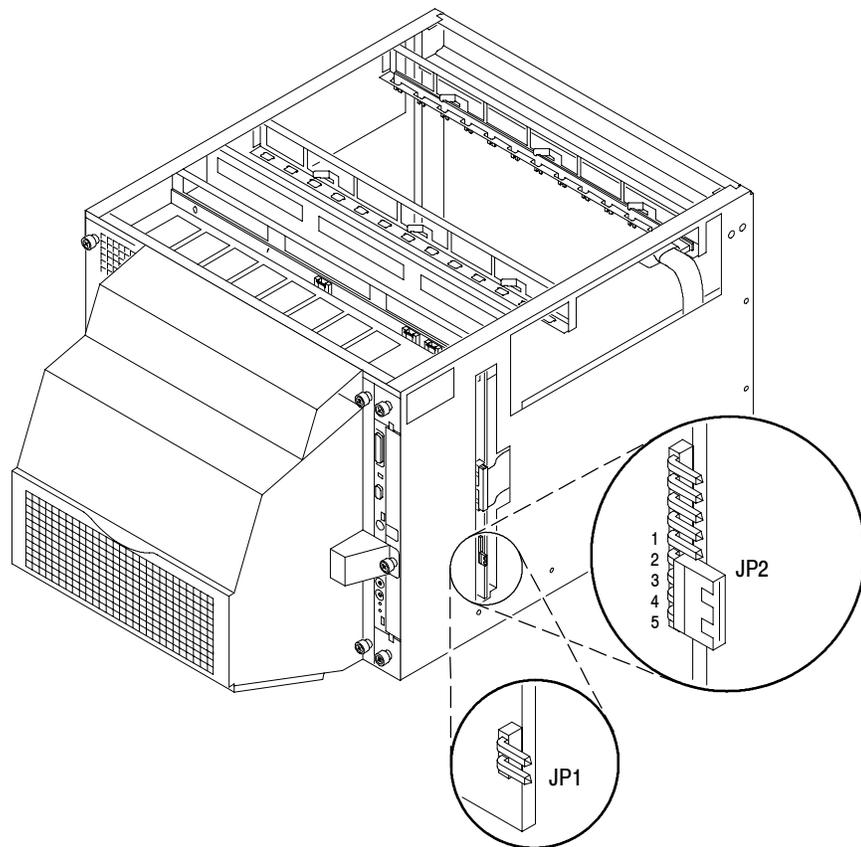
Figure 21: Soft power down jumper setting

Repackaging Instructions

This section contains the information needed to repackage the instrument for shipment or storage.

Packaging

When repacking the instrument for shipment, use the original packaging. If the packaging is unavailable or unfit for use, contact your local Tektronix representative to obtain new packaging.

Seal the shipping carton with an industrial stapler or strapping tape.

Shipping to the Service Center

Contact the Service Center to get an RMA (return material authorization) number, and any return or shipping information you may need.

If the instrument is being shipped to a Tektronix Service Center, enclose the following information:

- The RMA number.

- The owner's address.

- Name and phone number of a contact person.

- Type and serial number of the instrument.

- Reason for returning.

- A complete description of the service required.

Mark the address of the Tektronix Service Center and the return address on the shipping carton in two prominent locations.

Parts List

This chapter contains a list of the replaceable parts for the TLA7012 Portable Mainframe and the TLA7016 Benchtop Mainframe. Use this chapter to order replacement parts for your instrument. Refer to the individual module service manuals for replaceable parts for those product modules.

NOTE. The term "module" in this chapter refers to a replaceable subcomponent of the mainframe such as a power supply. It does not refer to a TLA product module.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number (see Part Number Revision Level below)

- Instrument type or model number

- Instrument serial number

- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Part Number Revision Level

Tektronix part numbers contain two digits representing the revision level of the part. For most parts in this manual, you will find the letters XX in place of the revision level number.

Part Number Revision Level

Revision Level May Show as XX

670-7918-03

670-7918-XX

When you order parts, Tektronix will provide you with the most current part for your product type, serial number, and modification (if applicable). At the time of your order, Tektronix will determine the part number revision level needed for your product, based on the information you provide.

Module Servicing

Modules can be serviced by selecting one of the following options. Contact your local Tektronix service center or representative for repair assistance.

Module Repair and Return. You may ship your module to Tektronix for repair, after which Tektronix will return it to you.

New Modules. You may purchase replacement modules in the same way as other replacement parts.

Using the Replaceable Parts List

The following table describes each column in the replaceable parts lists.

Table 7: Parts lists column descriptions

Column number	Column name	Description
1	Figure & index number	Figure and index numbers in the exploded view illustrations.
2	Tektronix part number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial number	Column 3 indicates the serial number at which the part was first effective. Column 4 indicates the serial number at which the part was discontinued. No entries in either column indicates the part is good for all serial numbers.
5	Qty	Quantity of parts used.
6	Name & description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear incomplete. Use the U. S. Federal Catalog Handbook H6-1 for further item name identification.
7	Mfr. code	Manufacturer code.
8	Mfr. part number	Manufacturer's or vendor's part number.

Abbreviations

Abbreviations conform to American National Standard ANSI Y1.1-1972.

Mfr. Code to Manufacturer Cross Index

The table titled Manufacturers Cross Index shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

Manufacturers Cross Index

Mfr. code	Manufacturer	Address	City, State, Zip code
00779	TYCO ELECTRONICS CORPORATION	CUSTOMER SERVICE DEPT~PO BOX 3608~M/S 38-35	HARRISBURG, PA 17105-3608
060D9	TENSOLITE COMPANY	PRECISION HARNESS AND ASSEMBLY~3000 COLUMBIA HOUSE BLVD~#120	VANCOUVER, WA 98661
06915	RICHCO	5825 N TRIPP AVE~P.O. BOX 804238	CHICAGO, IL 60646
0KB01	STAUFFER SUPPLY CO	810 SE SHERMAN	PORTLAND, OR 97214-4657
0KB05	NORTH STAR NAMEPLATE INC	METAL PRODUCTS~5750 NE MOORE COURT	HILLSBORO, OR 97124-6474
0L0L7	RADISYS CORPORATION	5445 NE DAWSON CREEK DRIVE	HILLSBORO, OR 97124
1LT13	ARTESYN TECHNOLOGY	7575 MARKET PLACE DR	EDEN PRAIRIE, MN 55344
12136	PHC INDUSTRIES INC	1643 HADDON AVE	CAMDEN, NJ 08103
26742	METHODE ELECTRONICS INC	7444 WEST WILSON AVE	CHICAGO, IL 60656-4548
27264	MOLEX PRODUCTS COMPANY	2222 WELLINGTON CT.	LISLE, IL 60532
2W944	PAPST MECHATRONIC CORP	AQUIDNECK INDUSTRIAL PARK	NEWPORT, RI 02840
3M099	PORTLAND SCREW COMPANY	6520 N BASIN AVE	PORTLAND, OR 97217
50356	TEAC AMERICA INC	7733 TELEGRAPH RD~PO BOX 750	MONTEBELLO, CA 90640-6537
52152	3M COMPANY	INDUSTRIAL TAPE DIVISION~3M CENTER	ST PAUL, MN 55144-1000
55566	RAF ELECTRONIC HARDWARE INC	95 SILVERMINE ROAD	SEYMOUR, CT 06483
61081	APW ELECTRONIC SOLUTIONS	WEST COAST OPERATIONS~6790 FLANDERS DRIVE	SAN DIEGO, CA 92121-2902
68167	BELKIN COMPONENTS	1303 WALNUT PARKWAY	COMPTON, CA 90220
71400	BUSSMANN	DIVISION COOPER INDUSTRIES INC~PO BOX 14460	ST LOUIS, MO 63178-4460
74594	ESCO LLC	14525 SW WALKER ROAD	BEAVERTON, OR 97006
75915	LITTELFUSE INC	800 E NORTHWEST HWY	DES PLAINES, IL 60016-3049
78189	SHAKEPROOF	DIVISION OF ILLINOIS TOOL WORK~ST. CHARLES ROAD	ELGIN, IL 60120
7X318	KASO PLASTICS INC	5720-C NE 121ST AVE, STE 110	VANCOUVER, WA 98682
93907	CAMCAR DIV OF TEXTRON INC	516 18TH AVE	ROCKFORD, IL 611045181
TK0EM	MOLEX ELECTRONICS	FARNHAM ROAD~BORDON	HAMPSHIRE, ENGLAND
TK0588	UNIVERSAL PRECISION PRODUCT	1775 NW CORNELIUS PASS RD	HILLSBORO, OR 97124
TK1163	POLY-CAST INC	14140 SW 72ND AVE~SUITE 100	TIGARD, OR 97224
TK1269	NORITAKE COMPANY INC	ELECTRONICS DIV LA BRANCH~2050 E VISTA BELLA WAY	COMPTON, CA 90220
TK1943	NEILSEN MANUFACTURING INC	3501 PORTLAND RD NE	SALEM, OR 97303
TK2157	APW ELECTRONIC SOLUTIONS	14100 DANIELSON ST	POWAY, CA 92064
TK2565	VISION PLASTICS INC	26000 SW PARKWAY CENTER DRIVE	WILSONVILLE, OR 97070
TK6314	MCX INC	1315 OREGON AVE	KLAMATH FALLS, OR 97601-6540

Replaceable Parts List

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
22-1	211-1093-XX			4	SCREW,MACHINE; 4-40 X 0.25,FLH 100 DEG,STL BLK OXIDE,T7	0KB01	211-1093-XX
-2	016-1441-XX			1	ACCESSORY POUCH; BLACK CORDURA	80009	016-1441-XX
-3	211-0721-XX			35	SCREW,MACHINE; 6-32 X 0.375,PNH,STL,CDPL,T-15 TORX DR	80009	211-0721-XX
-4	200-4946-XX			1	COVER; TOP LEFT,EMI	TK1943	200-4946-XX
-5	200-4940-XX			1	COVER, RIGHT (COSMETIC)	TK2565	200-4940-XX
-6	343-1213-XX			1	CLAMP,PWR CORD; POLYMIDE	TK1163	343-1213-XX
-7	200-4947-XX			1	COVER; BOTTOM,COSMETIC WITH FEET	TK1943	200-4947-XX
-8	200-4939-XX			1	COVER,FRONT;PROTECTIVE,PLASTIC	TK2565	200-4939-XX
-9	335-1322-XX			1	LABEL, INDENTIFICATION (TEKTROINIX LOGO)	80009	335-1322-XX
-10	101-0169-XX			1	TRIM RING;FRONT	80009	101-0169-XX
-11	348-1817-XX			4	FOOT, SKID	80009	348-1817-XX
-12	200-4948-XX			1	COVER; TOP COSMETIC	TK1943	200-4948-XX
-13	355-0298-XX			4	STUD.SNAP; 0.570 DIA,0.165 THK,STAINLESS STEEL	TK0588	355-0298-XX
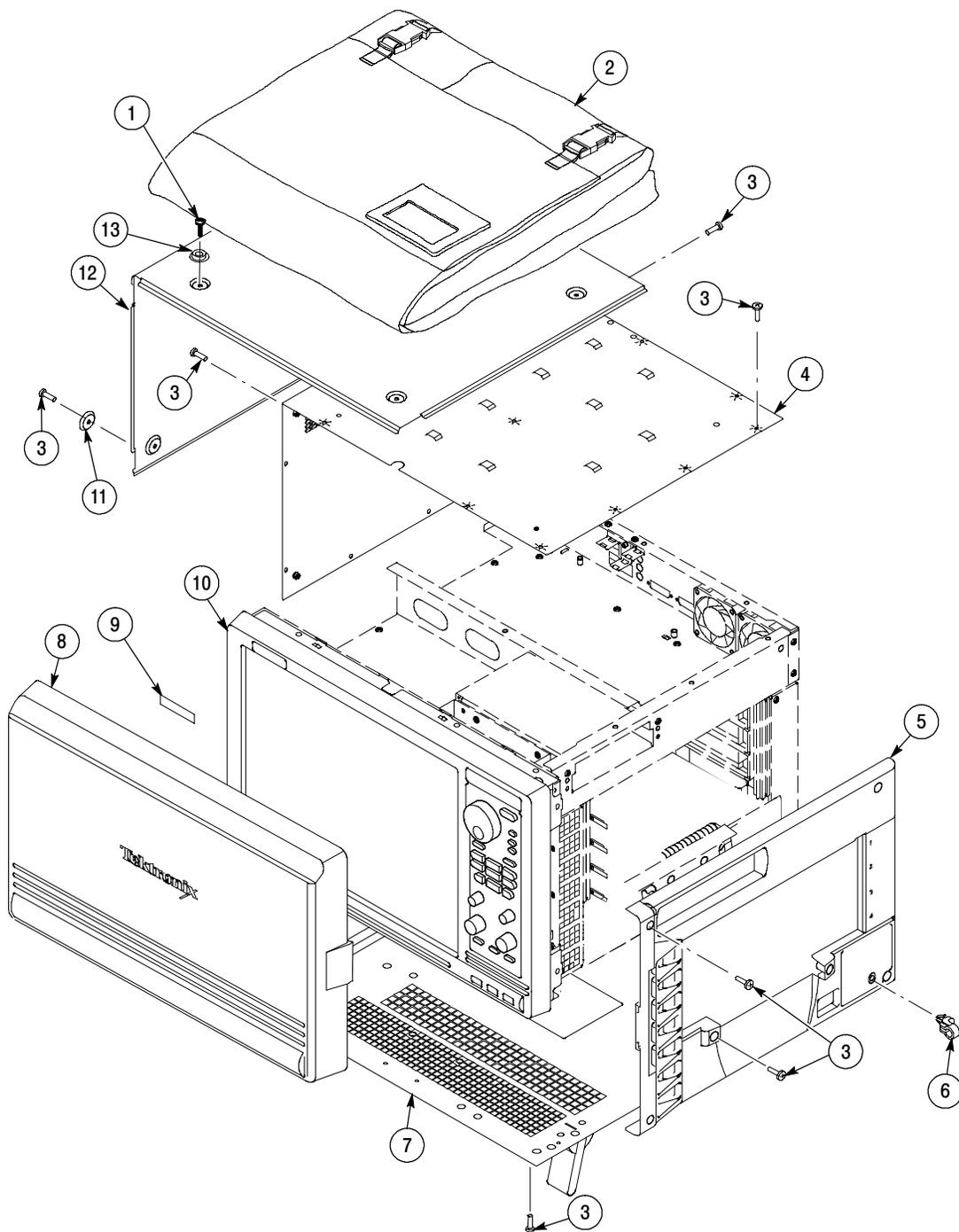
Figure 22: External parts

Replaceable Parts List

| Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
23-1	441-2425-XX			1	CHASSIS ASSY; MAIN	TK1943	441-2425-XX
-2	343-1701-XX			1	CLAMP,CABLE; WITH ADHESIVE BACK	06915	PCC -12
-3	650-4815-XX			1	HARD DRIVE ASSY; TLA7012 REMOVABLE HARD DISK DRIVE ASSEMBLY W/OUT SW INSTALLED	80009	650-4815-XX
-4	211-1174-XX			4	SCREW,MACHINE; W/HEAVY PATCH THREADLOCKING MATERIAL; 6-32 X 0.312 L,PNH,STL CAD PLT,T15	0KB01	211-1174-XX
-5	351-1118-XX			2	GUIDE,HD; REMOVABLE,3.5 INCH HARD DISK DRIVE	TK2565	351111800
-6	211-0721-XX			12	SCREW,MACHINE; 6-32 X 0.375,PNH,STL,CDPL,T-15 TORX DR	80009	211072100
-7	407-5068-XX			1	BRACKET,HD; REMOVABLE 3.5 INCH HARD DRIVE CARTRIDGE	TK1943	407506800
-8	211-0734-XX			4	SCREW,MACHINE; 6-32 X 0.25O,FLH100,STL,CDPL,T-10 TORX DR	93907	MACHINE SCREW: 6-32 X .250, T1
-9	174-5057-XX			3	CABLE ASSY; USB 2.0	TK6314	174505700
-10	679-5974-XX			3	CKT BD SUBASSY; USB ADAPTER BOARD,UNTESTED	80009	679-5974-XX
-11	366-0837-XX			2	KNOB,CAP;0.650 DIAMETER,SOFT FEEL COATING	80009	366-0837-XX
-12	366-0836-XX			2	KNOB,CAP; 0.430 D,SOFT FEEL COATING,TEK SILVER GRAY	80009	366-0836-XX
-13	366-0846-XX			1	KNOB; GENERAL PURPOSE	80009	366-0846-XX
-14	650-4676-XX			1	DISPLAY/FRONT PANEL ASSY; 15 INCH LCD,WITH TOUCH PANEL,LOGIC NALYZER,PORTABLE; TLA7012 OPT 18	80009	650-4676-XX
-14	650-4804-XX			1	DISPLAY/FRONT PANEL ASSY; 15 INCH LCD W/OUT TOUCH SCREEN, STANDARD,LOGIC ANALYZER,PORTABLE; TLA7012	80009	650-4804-XX
-15	174-5053-XX			1	CABLE ASSY; DISPLAY ADAPTER TO INTERFACE,30 PIN	060D9	174505300
-16	119-7123-XX			1	DISK DRIVE; OPTICAL,CD-RW/DVD-R/RW DVD+R/RW,16.7 MB/SEC,650MEG/8.5GIG,IDE/ATAPI;TEAC MODEL DV-W28E-793,ROHSCONV	50356	DV-W28EA-793
-17	679-5915-XX			1	CKT BD SUBASSY; DVD-CD/RW ADAPTER	80009	679-5915-XX
-18	211-0888-XX			2	SCREW,METRIC; M-2 X 0.4 X 6MM,PHILLIPS PAN,ZINC PLATED,PHIL PAN HEAD,STEEL	0KB01	211-0888-XX
-19	129-1618-XX			1	SPACER; DVD-CD/RW SLIMLINE DRIVE ADAPTER,PLASTIC	TK2565	129161800
-20	211-0950-XX			4	SCREW,MACHINE; M2X.4X3L,PHL, PNH, STL NI PL	0KB01	0310248-0
-21	407-5070-XX			1	BRACKET,DVD-CD/RW; ADAPTER FOR DVD-CD/RW,SLIM-LINE	TK1943	407507000
-22	174-4671-XX			1	CA ASSY,SP; ULTRA DMA/ATA HARD DISK DRIVE,IDE,18.0 L	68167	F2N1107-18INCH
-23	174-5017-XX			1	CABLE ASSEMBLY; DVD POWER	060D9	174-5017-XX
-24	407-5069-XX			1	BRACKET,RHDD; SATA COMBO CABLE,3.5 INCH REMOVABLE HARD DISK DRIVE RECEPTACLE	TK1943	407506900
-25	174-5169-XX			1	CABLE ASSY; SATA COMBO,HARD DRIVE CABLE	27264	174516900
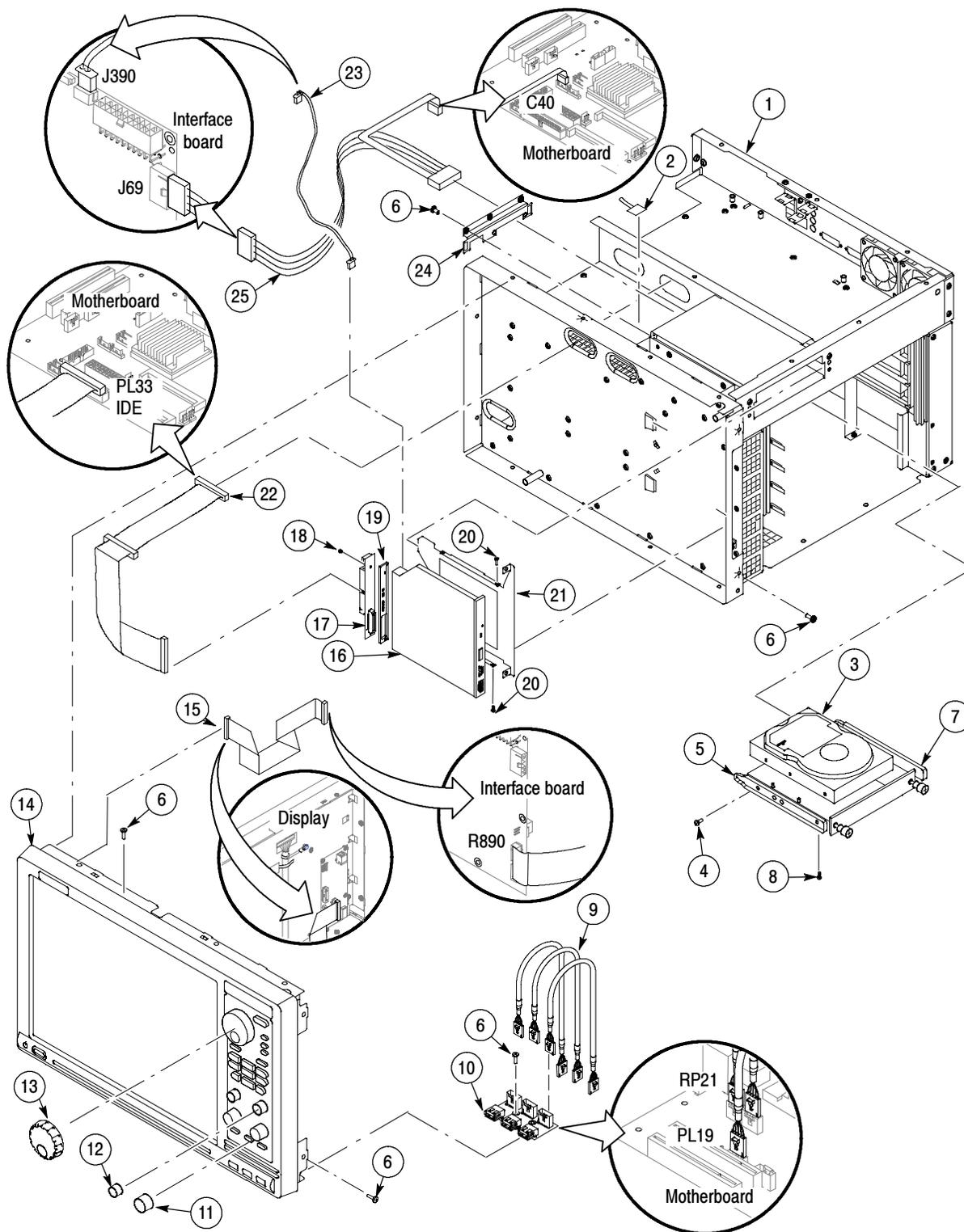
Figure 23: Front panel assembly

Replaceable Parts List

| Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
24-1	214-3903-XX			4	SCREW,JACK; 4-40 X 0.312 LONG,0.188 H HEX HEAD STAND OFF,4-40 INT THD, X 0.312 THD EXT 4-40	55566	4750-3-12 (+LOCK-WASHER)
-2	174-5056-XX			1	CABLE ASSY; 30 POSITION LVDS	060D9	174505600
-3	210-0457-XX			2	NUT,PL,ASSEM WA; 6-32 X 0.312,STL CD PL,W/LOCKWASH-ER	78189	511-061800-XX
-4	039-0164-XX			1	MOTHER BOARD	0L0L7	ABGD00-P20-1G
-5	210-1039-XX			4	WASHER,LOCK; 0.521 ID,INT,0.025 THK,SST	0KB01	1224-02-XX-0541C
-6	220-0497-XX			4	NUT,PLAIN,HEX; 0.5-28 X 0.562 HEX,BRS CD PL	0KB01	220-0497-XX
-7	211-1206-XX			2	SCREW,JACK; 2-56 ID X 4-40 OD,.188 HEX,SS		749087-7
-8	116-1121-XX			1	BACKPLANE; CIRCUIT BD ASSY,CUSTOM VXI BACKPLANE	61081	VXIBP-1648190 R.A
-9	211-0721-XX			18	SCREW,MACHINE; 6-32 X 0.375,PNH,STL,CDPL,T-15 TORX DR		211072100
-10	129-1613-XX			4	SPACER;POST	TK0588	129-1613-XX
-11	174-5137-XX			1	CABLE ASSEMBLY; (20 PIN ATX POWER)	060D9	174-5137-XX
-12	664-5920-XX			1	CIRCUIT BD ASSY; INTERFACE,FUNCTIONAL BOARD TESTED LEVEL	80009	664-5920-XX
-13	174-5070-XX			1	CABLE ASSY; ATX FRONT PANEL	060D9	174-5070-XX
-14	174-5073-XX			1	CABLE ASSY; BACKLIGHT CONTROL	060D9	174-5073-XX
-15	174-5071-XX			1	CABLE ASSY; USB 2.0 INTERFACE	060D9	174-5071-XX
-16	407-5075-XX			1	BRACKET ASSEMBLY,REAR I/O (WITH LABEL & GASKET)	TK1943	407507500
-17	343-1701-XX			2	CLAMP,CABLE; WITH ADHESIVE BACK	06915	PCC -12
-18	174-5052-XX			1	CABLE ASSY: PCI SEMI-RIGID FLEX,INTERFACE TO MOTHER BOARD	TK0EM	12243-XX01
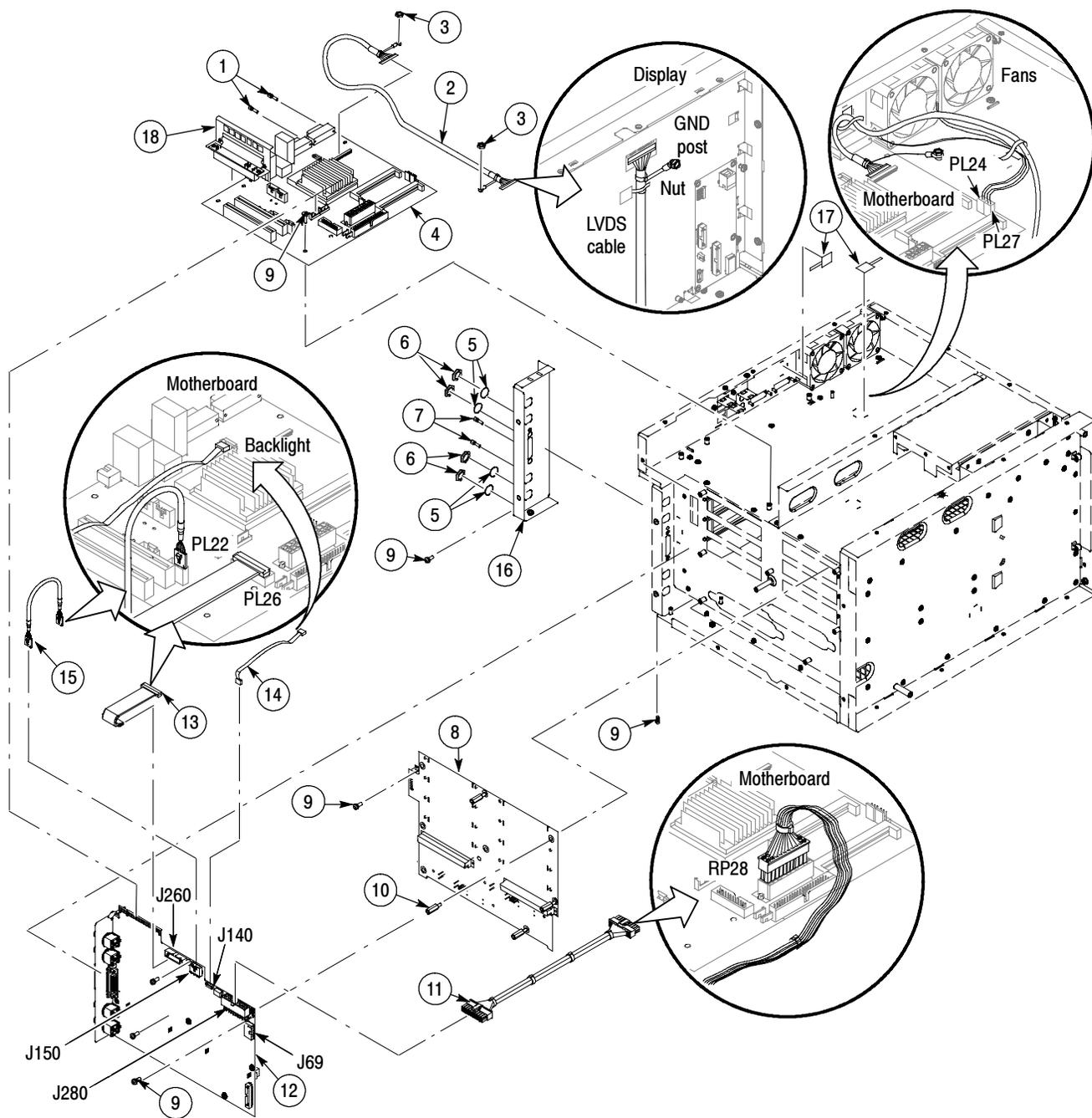
Figure 24: Interface, backplane and motherboard

Replaceable Parts List

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
25-1	211-0721-XX			10	SCREW,MACHINE; 6-32 X 0.375,PNH,STL,CDPL,T-15 TORX DR	80009	211-0721-XX
-2	436-0296-XX			1	TRAY,FAN; CHASSIS ASSY,W/FANS MOUNTED	TK1943	436-0296-XX
-3	119-7143-XX			2	FAN,TUBEAXIAL; 60MM,12VDC,0.12A,1.44W,3600RPM, W/2 PIN CONN	80009	2410ML-04W-B20-P00
-4	211-1213-XX			8	SCREW, METRIC 5 X 10MM, FLATHEAD, STL, ZINC, POSI	0KB01	211-1213-XX
-5	351-0979-XX			1	GUIDE,CARD; GUIDE,DIN 41612;ACCOM C MALE,FRONT PANEL,3 X 32	7X318	1426
-6	407-4459-XX			1	BRACKET; HANDLE BRACKET,PLASTIC	7X318	1428
-7	367-0477-XX			1	HANDLE,CARRYING; DUAL DUROMETER MOLDED HANDLE, POLYPROPYLENE HANDLE VINYL GRIP SECTION	12136	PT 3170
-8	378-0449-XX			1	SHUTTER ASSY; INCLUDING FRAME,ACTUATOR, FIN, SPRING	7X318	2TEK1550
-9	119-4933-XX			1	POWER SUPPLY ASSY	80009	119-4933-XX
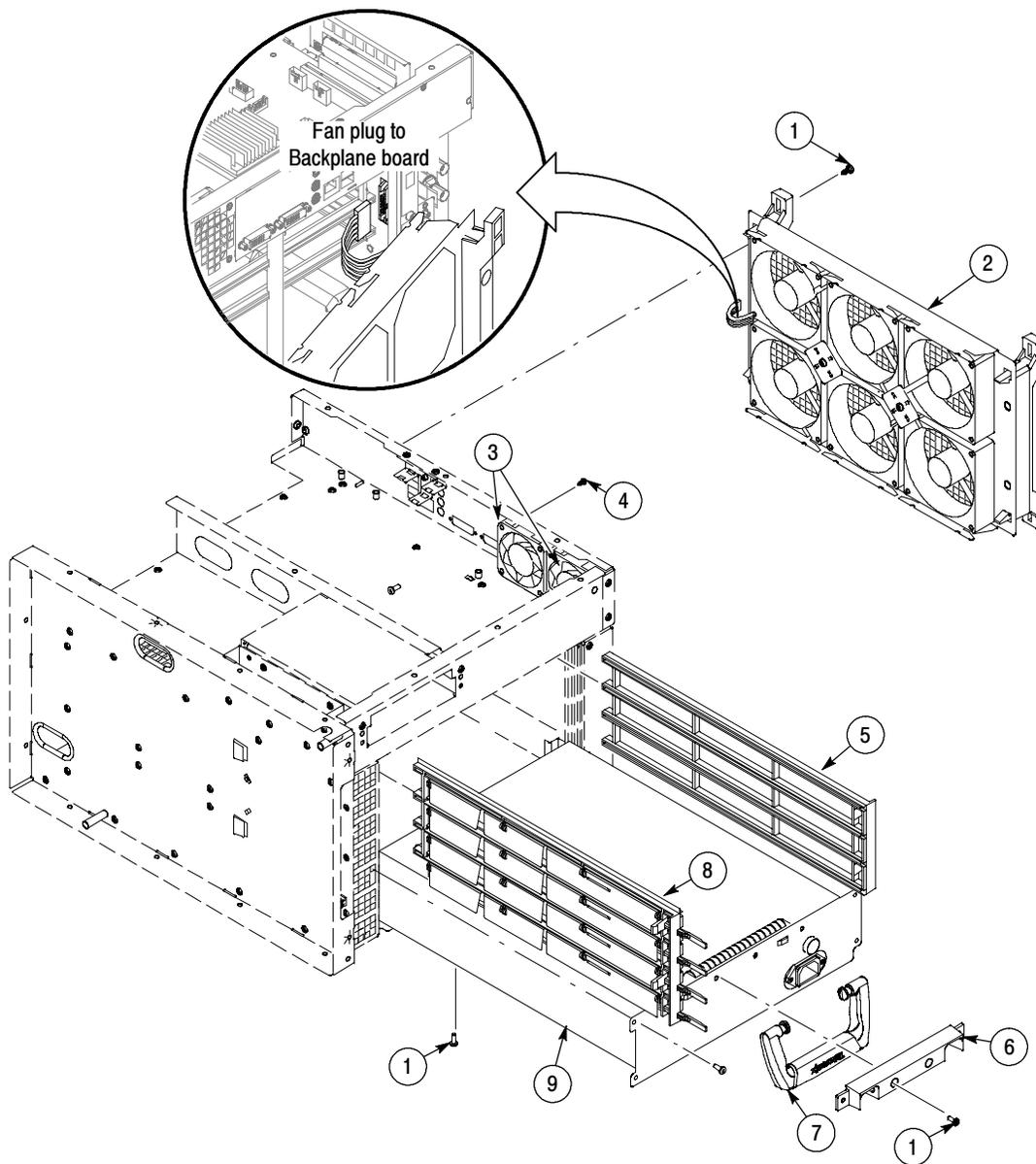
Figure 25: Power supply and fans

Replaceable parts list

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					CABINET AND CHASSIS ASSEMBLY		
26-1	212-0193-XX			12	SCREW, EXT RLV: 8-32 X 0.375 BUTTON HEAD, HEX DRIVE, STAINLESS STEEL, BLACK OXIDE FINISH, 0.093 DRIV	0KB01	ORDER BY DESCRIPTION
-2	211-1093-XX			8	SCREW, MACHINE: 4-40 X 0.25, FLH 100 DEG, STL BLK OXIDE, T7	0KB01	211-1093-XX
-3	200-4547-XX			1	COVER: MAINFRAME, AL	TK1943	200-4547-XX
-4	441-2191-XX			1	CHASSIS ASSY: MAIN, AL	TK1943	441-2191-XX
-5	348-1542-XX			4	FOOT, CABINET: BLACK RUBBER	74594	348-1542-XX
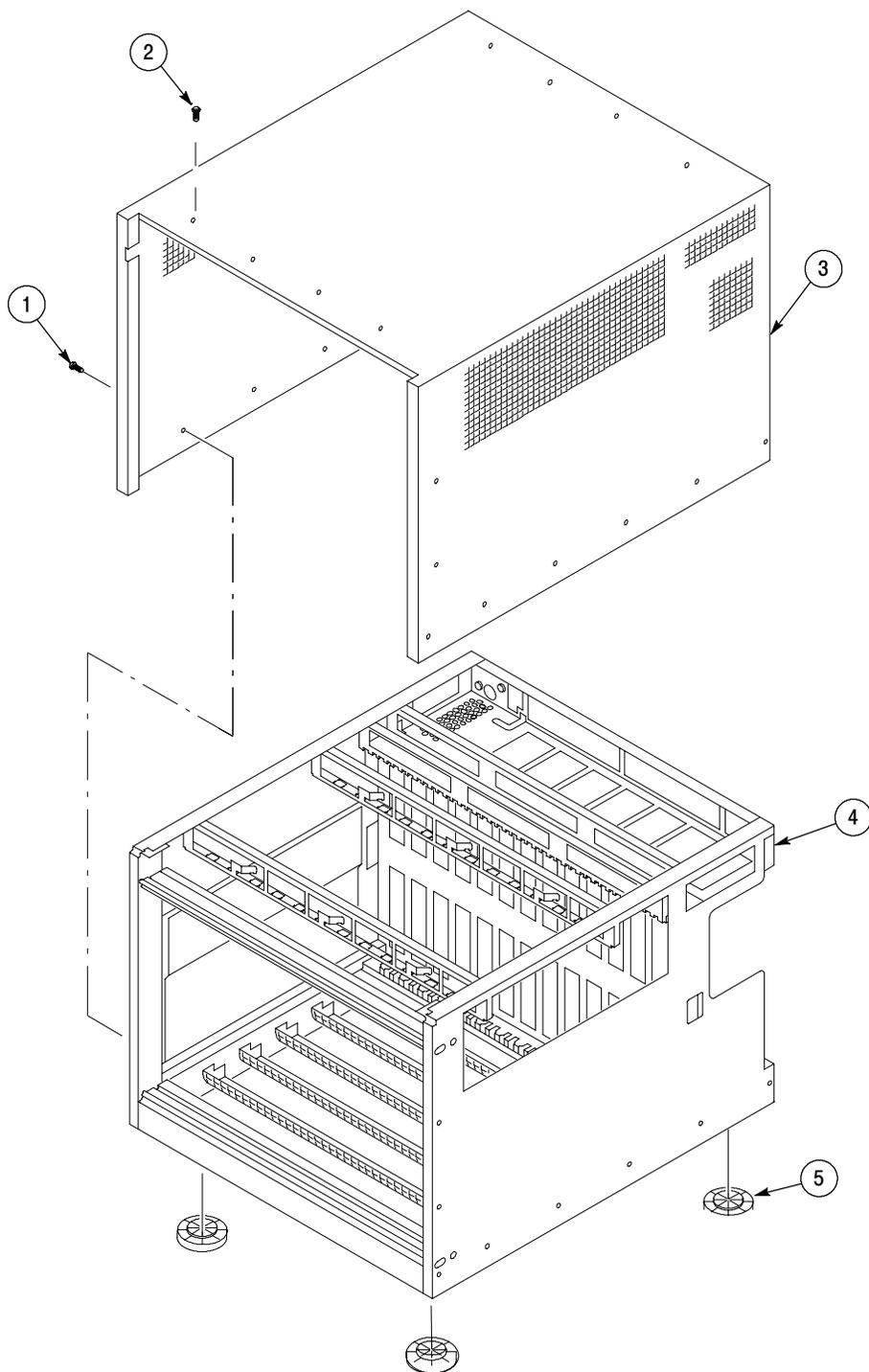
Figure 26: Cabinet and chassis assembly

Replaceable parts list

| Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					CIRCUIT BOARDS AND CHASSIS PARTS		
27-1	260-2682-XX			1	SWITCH, PUSH: SPST, GOLD OVER NICKEL CONTACT, 0.4V @ 28V, ILLUMINATED BUTTON, PANEL MNT W/CABLE	80009	260-2682-XX
-2	333-4521-XX			1	PANEL,FRONT ASSEMBLY; BENCH TOP, DISPLAY	0KB05	333-4521-XX
-3	119-7163-XX			1	DISPLAY, 128 X 32 ACTIVE DOT MATRIX; GRAPHIC VDF MODULE	80009	119-7163-XX
-4	211-0721-XX			4	SCREW,MACHINE; 6-32 X 0.375, PNH,STL T-15 TORX DR	80009	211-0721-XX
-5	366-1538=XX			2	PUSH BUTTON; IVORY GRAY,0.3 X 0.665 H	TK1163	366-1538=XX
-6	174-3697-XX			1	CABLE ASSY: RIBBON, CABLE TEMP SENSE/BACKPLANE, 28AWG, 2x15, 2x10, 2x15	TK2469	174-3697-XX
-7	679-3219-XX			1	CIRCUIT BD ASSY: TEMP SENSE	80009	679-3219-XX
-8	211-0720-XX			17	SCR, ASSEM WSHR: 6-32 X 0.500, PNH, STL, CDPL, T-15 TORX DR	0KB01	ORDER BY DESCRIPTION
-9	118-9417-XX			1	BACKPLANE VXI: BACKPLANE VXI COMPATIBLE WITH 13 C-SIZE SLOTS ELECTRONIC AUTOMATIC	80009	118-9417-XX
-10	343-0775-XX			2	CABLE, CLAMP: RIBBON, 1.0X1.0, GRAY, POLYVI-NYL, W/URETHANE FOAM TAPE BACKING	52152	80610029243/3484-1000
-11	378-0438-XX			13	BAFFLE ASSY: VXI SLOT, SINGLE, SHUTTER	80009	378-0438-XX
-12	351-1007-XX			13	GUIDE, SINGLE: PLASTIC	80009	351-1007-XX
-13	334-9920-XX			1	MARKER, IDENT: LABEL, FRONT BOTTOM SLOT, 0.010 LEXAN, 1.25 X 15.60, BACKGROUND SILVER GRAY, TLA721	0KB05	334-9920-XX
-14	333-4206-XX			5	PANEL, FRONT: DOUBLE, BLANK, EMI, AL, PAINTED SILVER GRAY	TK1943	333-4206-XX
	212-0112-XX			2	SCREW,MACHINE:8-32 X 0.188,TRH,SST POZ	0KB01	ORDER BY DESCRIPTION
	211-1093-XX			2	SCREW,MACHINE:4-40 X 0.25,FLH 100 DEG,STL BLK OXIDE,T7	0KB01	211-1093-XX
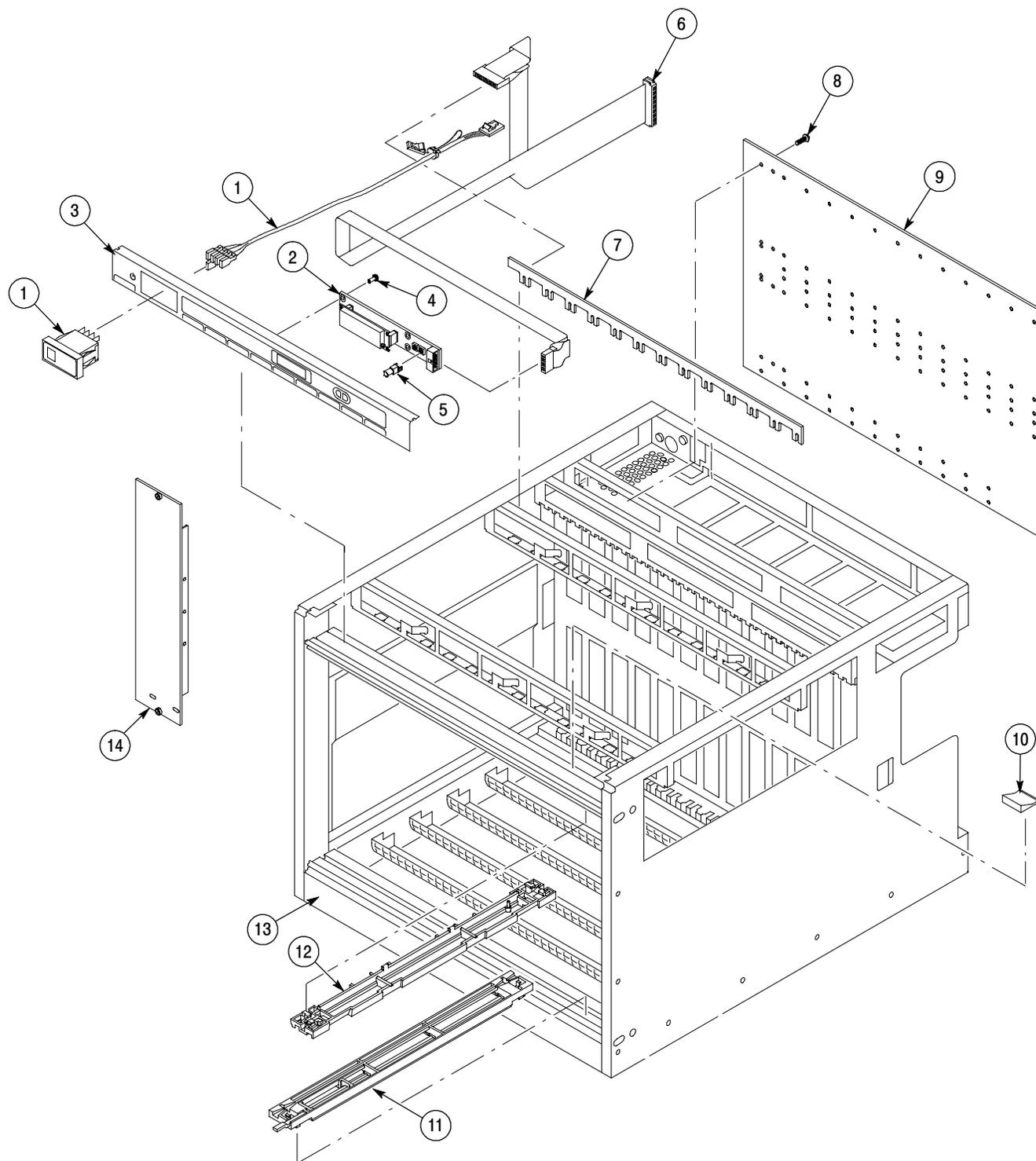
Figure 27: Circuit boards and chassis parts

Replaceable parts list

| Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					POWER SUPPLY, MONITOR, AND BLOWER		
28-1	679-6146-XX			1	CIRCUIT BD ASSY: ENHANCED MONITOR (CONTAINS ITEMS 1 THRU 4)	80009	679-6146-XX
-2	333-4236-XX			1	PANEL, MONITOR: ENHANCED, 0.062 AL, W/LEXAN OVERLAY	TK1943	333423600
-3	214-3903-XX			4	SCREW, JACK: 4-40 X 0.312 EXT THD, 4-40 INT THD, 0.188 HEX, STEEL, CADPLATE	0KB01	214-3903-01
-4	211-0747-XX			4	SCREW, MACHINE: 6-32 X 0.188, PNH, STL, CDPL, T-15	0KB01	ORDER BY DESCRIPTION
-5	200-4344-XX			1	COVER: BLOWER CABLE, 0.040 A1 ALLOY	TK1943	200-4344-XX
-6	380-1112-XX			1	HOUSING: BLOWER HOUSING BLOWER	TK1943	380-1112-XX
-7	212-0193-XX			10	SCREW, EXT RLV: 8-32 X 0.375 BUTTON HEAD, HEX DRIVE, STAINLESS STEEL, BLACK OXIDE FINISH, 0.093 DRIV	0KB01	212-0193-XX
-8	119-7089-XX			1	FAN, DC: BLOWER, 48V, DUAL INLET, 450 CFM, 177 W, WITH 6 SCREWS	80009	119-7089-XX
-9	212-0400-XX			4	SCREW, MACHINE: 8-32 X 0.250, PNH, STL, ZINC, T-20	3M099	BY DESCRIPTION
-10	334-9921-XX			1	MARKER, IDENT: LABEL, REAR POWER RATING, 0.010 LEXAN, 1.500 X 7.500, BACKGROUND SILVER GRAY	0KB05	334-9921-XX
-11	119-5553-XX			1	POWER SUPPLY: VXI MAINFRAME, 925W	80009	119-5553-XX
-12	367-0494-XX			1	HANDLE: EJECTOR POWER SUPPLY	TK1943	367-0494-XX 0BD
-13	211-0932-XX			2	SCREW: SHLDR, 8-32 X 0.187 OD X 0.125 L, 0.187 L	24931	PZ-6-3
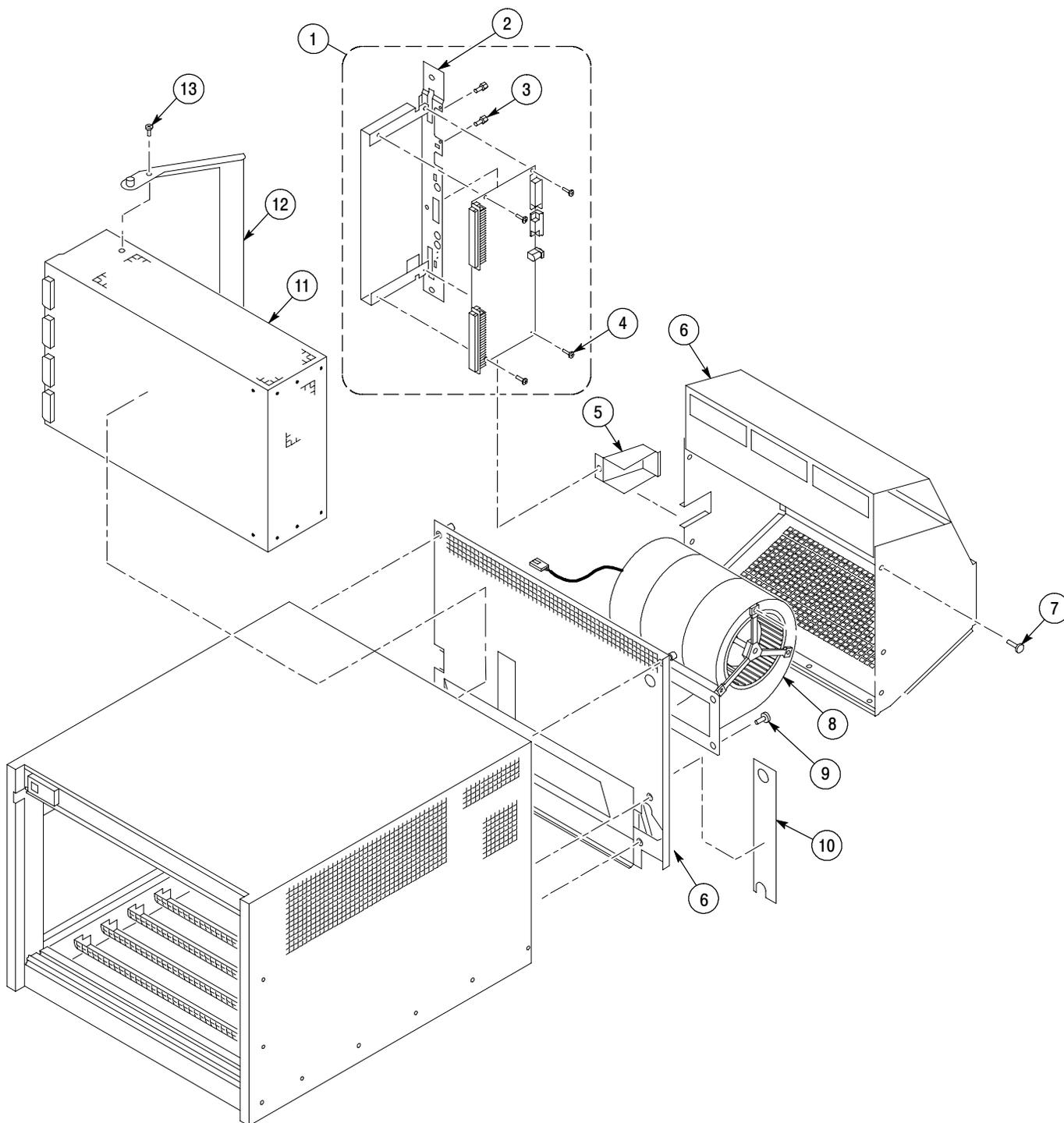
Figure 28: Power supply, monitor, and fan assembly

Replaceable parts List

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
29-1	650–4733–XX			1	SLOT 0 INTERFACE MODULE	80009	650–4733–XX
	664–5924–XX			1	CIRCUIT BD ASSY; SLOT 0, FUNCTIONAL BOARD TESTED (NOT SHOWN)	80009	664–5924–XX
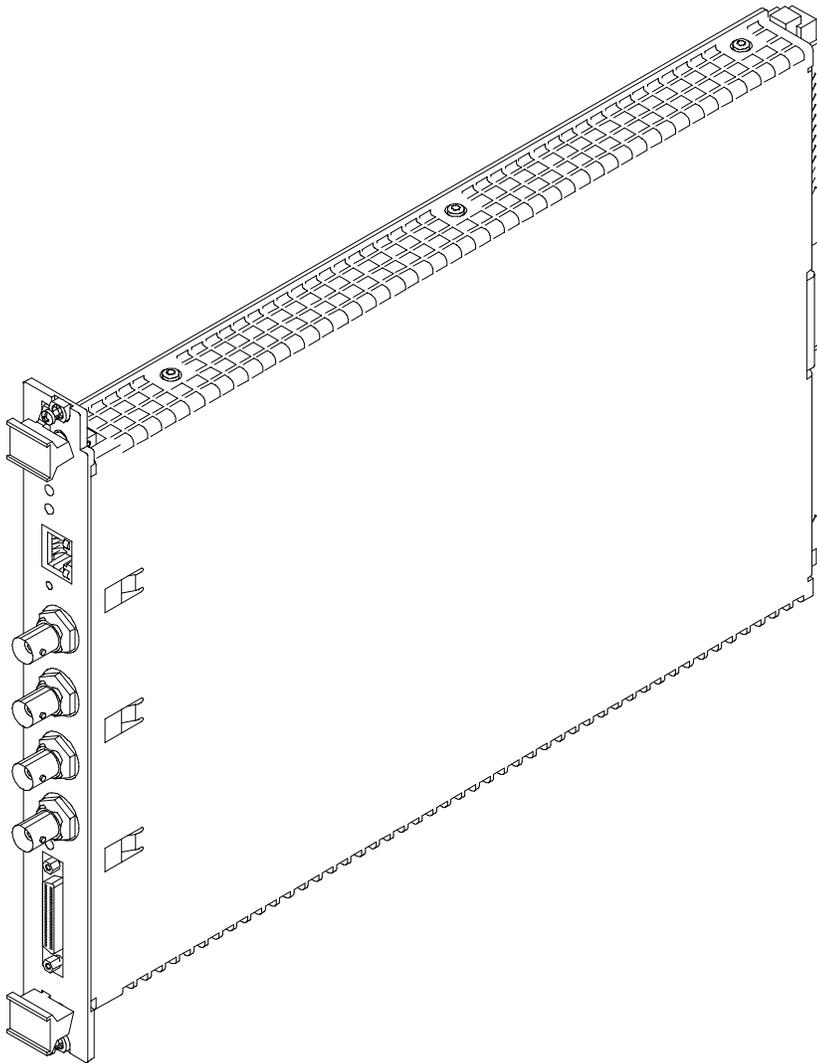
Figure 29: Slot 0 Interface module

Replaceable parts List

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
30-1	012-1614-XX			1	CA ASSY:INTEROPTIBILITY ADAPTER CABLE	060D9	012-1614-XX
-2	174-4583-XX			1	CA ASSY:SMB TO BNC ADAPTER	060D9	174-4583-XX

Figure 30: iView cables