

# Instructions



**050-3534-00**

**Front Panel Board Replacement  
CSA8000B and TDS8000B**

**075-0754-00**

**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.

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## **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](http://www.tektronix.com) to find contacts in your area.

# 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 the system. Read the *General Safety Summary* in other system 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. Power cord needed only in the mainframe, not modules.

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

**Ground the Product.** The mainframe 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.

**Ground the Product.** The modules are indirectly grounded through the grounding conductor of the mainframe 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.

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

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

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

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

**Wear Eye Protection.** Wear eye protection if exposure to high-intensity rays or laser radiation exists.

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

**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.

**Symbols and Terms**

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



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

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

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**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.

**Symbols on the Product.** The following symbols may appear on the product:



CAUTION  
Refer to Manual



WARNING  
High Voltage



Protective Ground  
(Earth) Terminal



Mains Disconnected  
OFF (Power)



Mains Connected  
ON (Power)



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.



# Kit Description

Use these instructions to replace the front-panel board on the products listed in the *Products* section of these instructions.

This document supports Tektronix modification: BV4441

## Products

**CSA8000B** All Serial Numbers  
**TDS8000B** All Serial Numbers

## Minimum Tool and Equipment List

Required tools and equipment	Part number
Screwdriver handle	620-440
T-15 Torx tip	640-247
1/8 inch flat-bladed screwdriver	Standard tool
Angle-Tip Tweezers	Standard tool

## Kit Parts List

Quantity	Part number	Description
1 ea.	075-0754-00	KIT INSTRUCTIONS
1 ea.	671-4689-01	CIRCUIT BD ASSY; USB FRONT PANEL CONTROL BD
1 ea.	260-2724-01	SWITCH, KEYPAD; ELASTOMERIC, FRONT PANEL, PUSHBUTTON





# Installation Instructions

These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the appropriate product manual. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service for installation assistance.

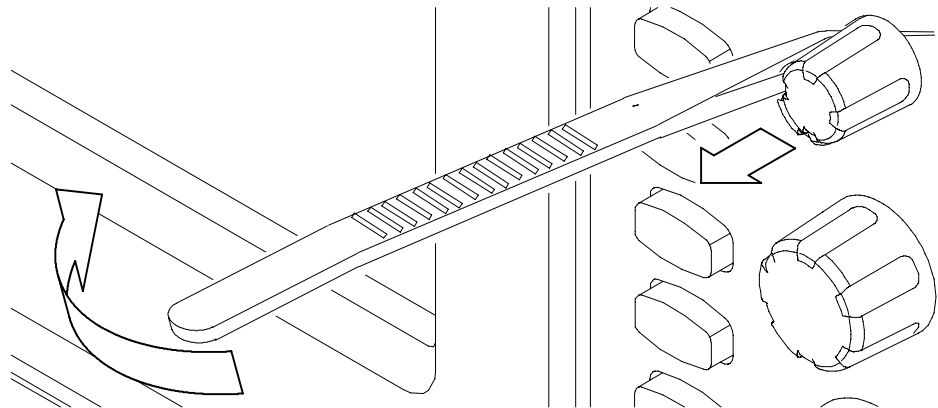


**CAUTION.** To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.

## Remove

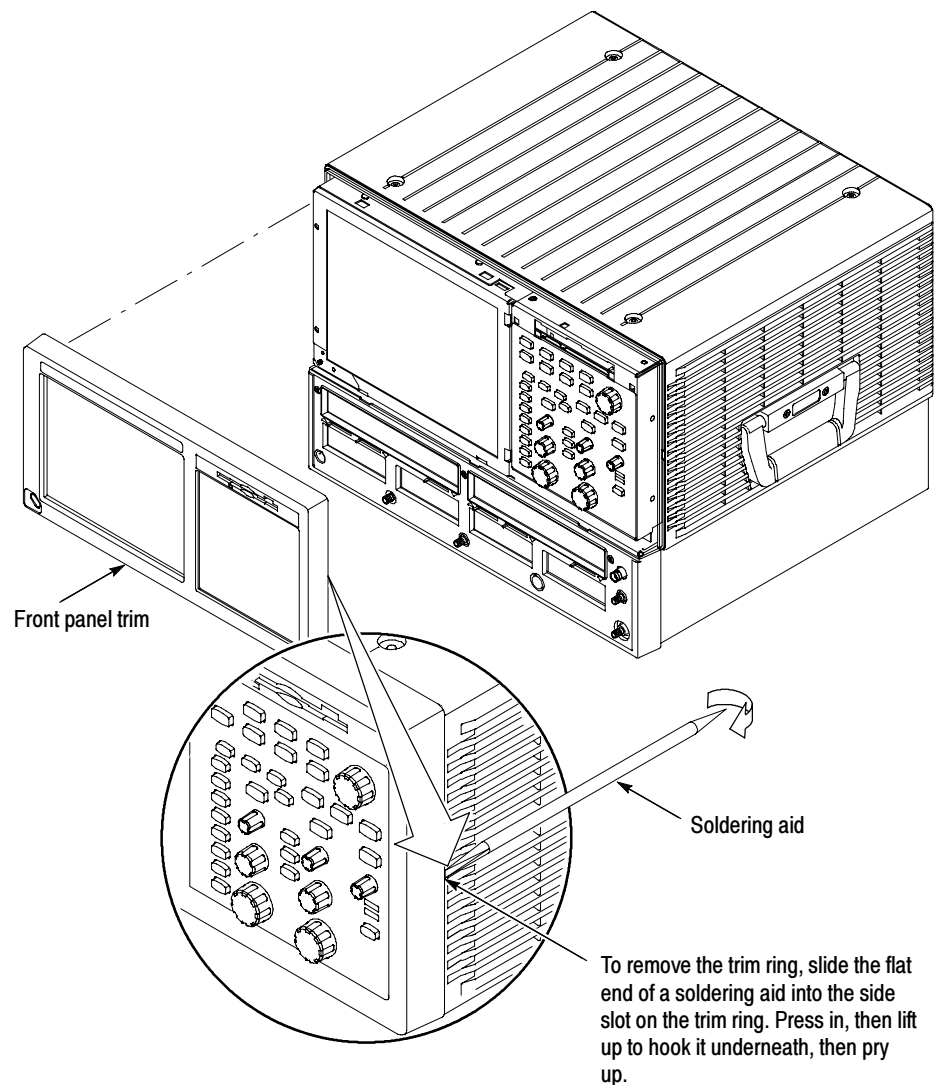
### Front-Panel Knobs

1. *Assemble equipment and locate modules to be removed:* Use an angled-tip tweezers and locate the the front panel see Figure 2 on page 8.
2. *Orient the instrument:* Set the instrument so its bottom is down on the work surface and its front is facing you.
3. *Remove the knob(s):* Grasp any knob you want to remove and pull it straight out from the front panel about a  $\frac{1}{4}$  inch to create some clearance between the base of the knob and the front panel. Insert the tweezers between the knob and front panel and use them to remove the knob. See Figure 1.



**Figure 1: Knob removal**

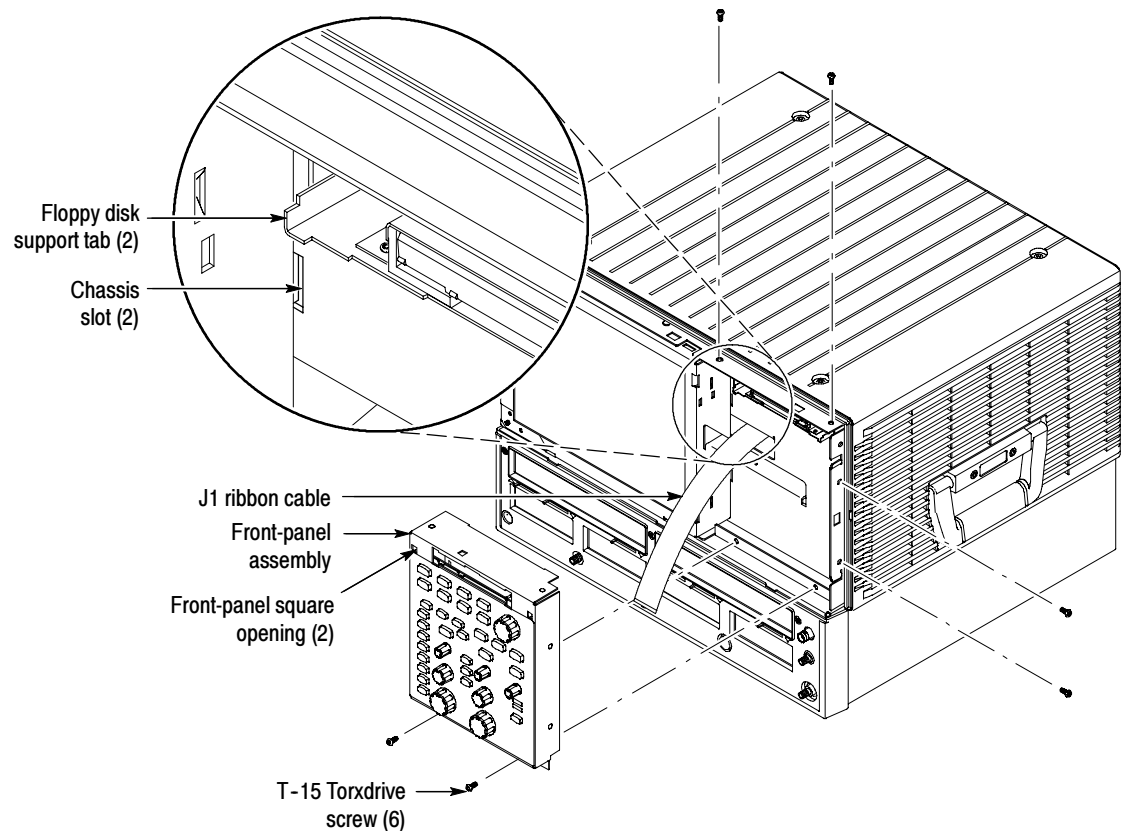
- Trim**
1. *Locate module to be removed:* Locate the Trim in the locator diagram, See Figure 2, page 8.
  2. *Remove the front-panel trim:* Use Figure 2, page 8, as a guide.
    - a. Place a piece of tape over the power button to prevent the button from galling out of the front-panel trim.
    - b. Grasp the trim ring by its top edge and pull toward you to detach the three plastic snaps. (Alternatively, you can use a flat-bladed screwdriver or other small prying tool to help you detach the snaps.)
    - c. Swing the bottom of the ring upward and off the front panel.

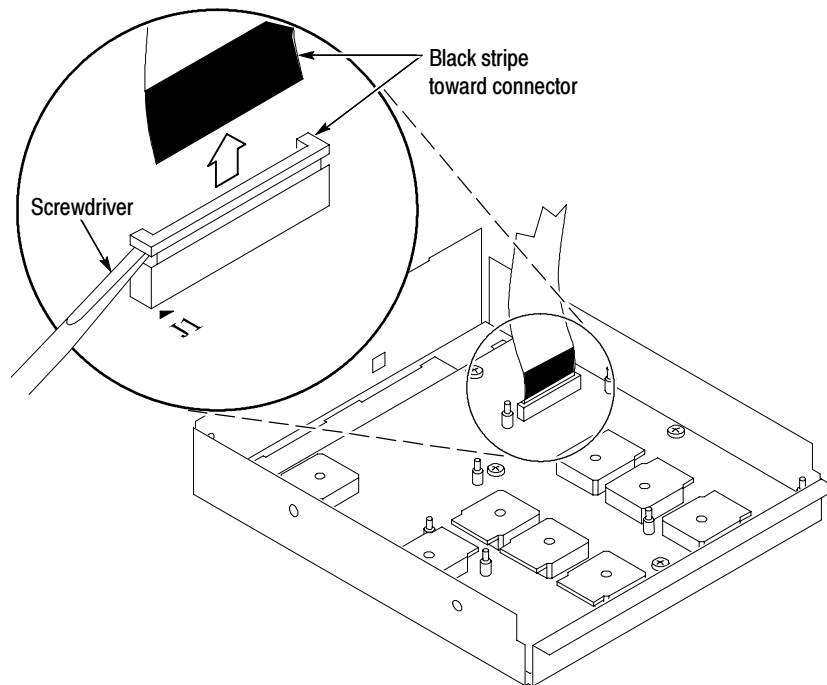


**Figure 2: Trim removal**

**Front-Panel Assembly**

1. *Locate module to be removed:* Locate the Front-panel assembly Figure 3, page 9.
2. *Remove the Front-panel assembly:* See Figure 3, page 9.
3. *Orient the instrument:* Set the instrument so its bottom is down on the work surface and its front panel is facing you.
  - a. Remove the six T-15 Torxdrive screws that secure the Front-panel assembly to the front chassis.
  - b. Grasp the top of Front-panel assembly and pull forward to allow access to the ribbon cable connector on the front panel board.
  - c. Use the  $\frac{1}{8}$  inch flat-bladed screwdriver to carefully lift J1 cable connector lock up to disconnect J1 flex cable from the display module assembly. See Figure 4, page 10. Note the connector's pin 1 index mark and the black stripe on the cable for later reassembly.
  - d. Pull the Front-panel assembly forward and remove from the instrument.

**Figure 3: Front-panel assembly removal**



**Figure 4: J1 flex cable connector removal**

**Front Panel Board**

1. *Locate module to be removed:* Locate the Front panel assembly Figure 3, page 9.
2. *Remove the Front-panel board:* See Figure 5, page 11.
  - a. Remove the eight T-15 Torxdrive screws that secure the Front-panel board to the Front-panel assembly.
  - b. Pry the board up off the alignment studs. Place a flat bladed screwdriver in the pry point access holes to pry the board up from the assembly.
  - c. Remove the board from the assembly.

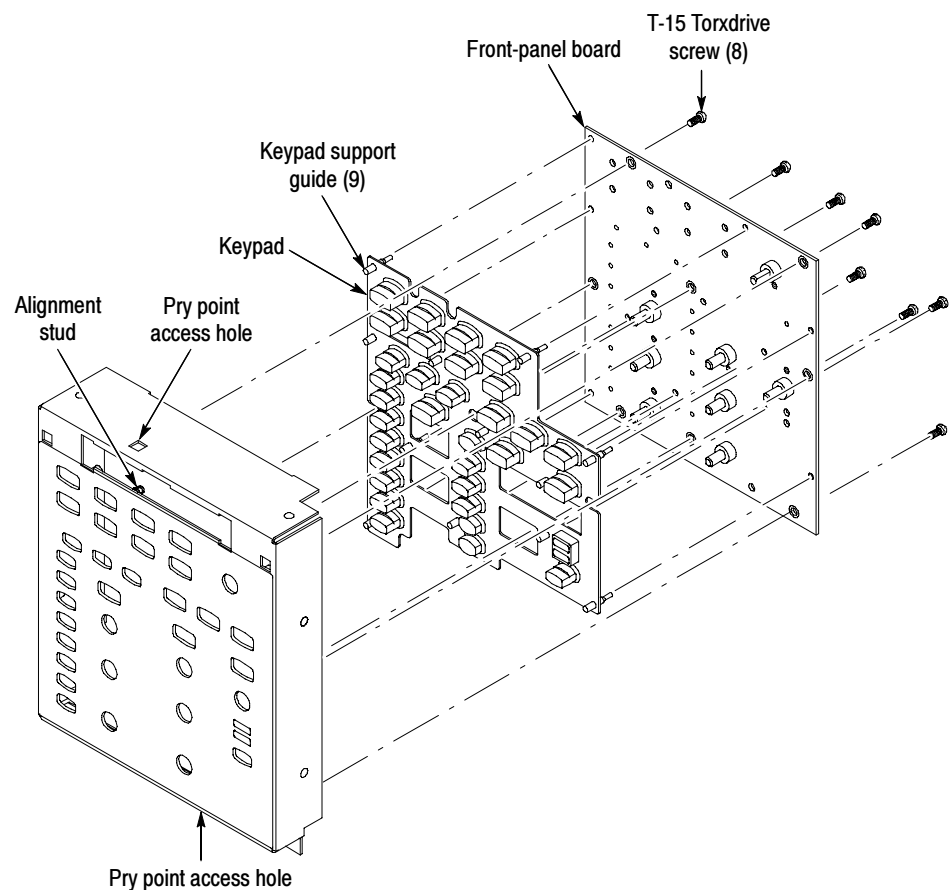
**Front Panel Keypad**

1. *Locate module to be removed:* Locate the Front-panel assembly Figure 3, page 9.
2. *Remove the Front-panel keypad:* See Figure 5, page 11.



**CAUTION.** When removing or installing the keypad, make sure you do not touch the switch contact with your fingers. The oils in your fingers will degrade or damage the switch contacts. To help prevent damage to the keypad use cotton gloves when removing or installing the keyboard pad.

- a. Pull on each of the keypad support guides to separate the keypad from the Front panel board. Use a pair of tweezers or equivalent tool to pull the keypad support guides.
- b. Remove the keypad from the front-panel board.



**Figure 5: Front panel board and keyboard removal**

## Install

Use the following procedure to install your new Front-panel keypad to your new front-panel board.

## Front-Panel Keypad

*Install the Front-panel keypad:* See Figure 5, page 11.

1. Carefully align the keypad on the Front-panel board.
2. Push on each of the keypad support guides to attach the keypad to the Front-panel board.



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**CAUTION.** *When removing or installing the keypad, make sure you do not touch the switch contacts with your fingers. The oils in your fingers will degrade or damage the switch contacts. To help prevent damage to the keypad use cotton gloves when removing or installing the keyboard pad.*

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## Reassemble

1. To reinstall the Front-panel board (with keypad), do in reverse steps 2a through c of *Front-Panel Board* on page 10. Note the following tips while installing the front-panel.
  - Make sure the keypad is aligned properly on the Front-panel board.
  - Make sure the ribbon cable is routed correctly when installing the Front-panel into the chassis.
  - Insert the two floppy disk support tabs into the front panel square openings. Both left front-panel tabs must go into the chassis slots. See Figure 3, page 9.
2. To reinstall the Front-panel assembly, do in reverse steps 3a through d of *Front-Panel Assembly* on page 9.
3. To install the trim, do in reverse steps 2a through c of *Trim* on page 8.
4. To reinstall the front-panel knobs, align each knob to the shaft and push it in until it snaps.



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**CAUTION.** *To prevent damage to the encoders located onto the circuit board, apply pressure to the backs of the encoders while pushing the knob on the shaft.*

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❖ End of document ❖