

# Instructions



**020-2664-00**

**TLA7012 Portable Logic Analyzer  
Rackmount Kit**

**071-1750-00**

**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.

**[www.tektronix.com](http://www.tektronix.com)**



071175000

Copyright © Tektronix, Inc. All rights reserved. Licensed software products are owned by Tektronix or its subsidiaries or suppliers, and are protected by national copyright laws and international treaty provisions.

Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supercedes that in all previously published material. Specifications and price change privileges reserved.

TEKTRONIX and TEK are registered trademarks of Tektronix, Inc.

## **Contacting Tektronix**

Tektronix, Inc.  
14200 SW Karl Braun Drive  
P.O. Box 500  
Beaverton, OR 97077  
USA

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.

# Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* in the product service manual or the instruction manual.

**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.

To prevent the instrument and rack from falling onto the operator, two or more installers should install the instrument into the rack cabinet. After completing the installation procedure, the installers should verify that the instrument and rack cabinet will not tip forward while the instrument is in the extended position.

**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 and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.



# Kit Description

This introduction describes the installation of the rackmount kit to your standard portable instrument.



---

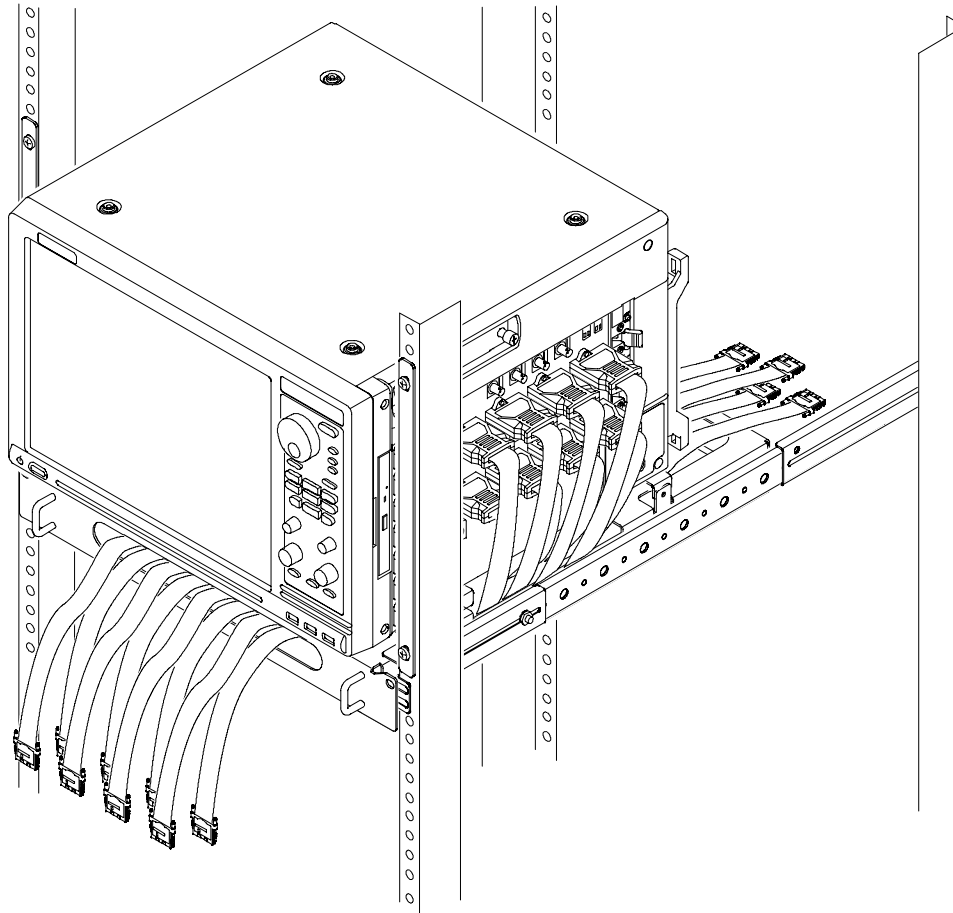
**CAUTION.** *This kit requires you to remove the right-side panel of the instrument rack you intend to use. You must have access to the right side of your instrument to connect the logic analyzer probes when the instrument is installed in the rack.*

---

The rackmount kit is a collection of parts that, once installed, configure the instrument for mounting into a standard 19-inch equipment rack.

## Products

**TLA7012**      All Serial Numbers

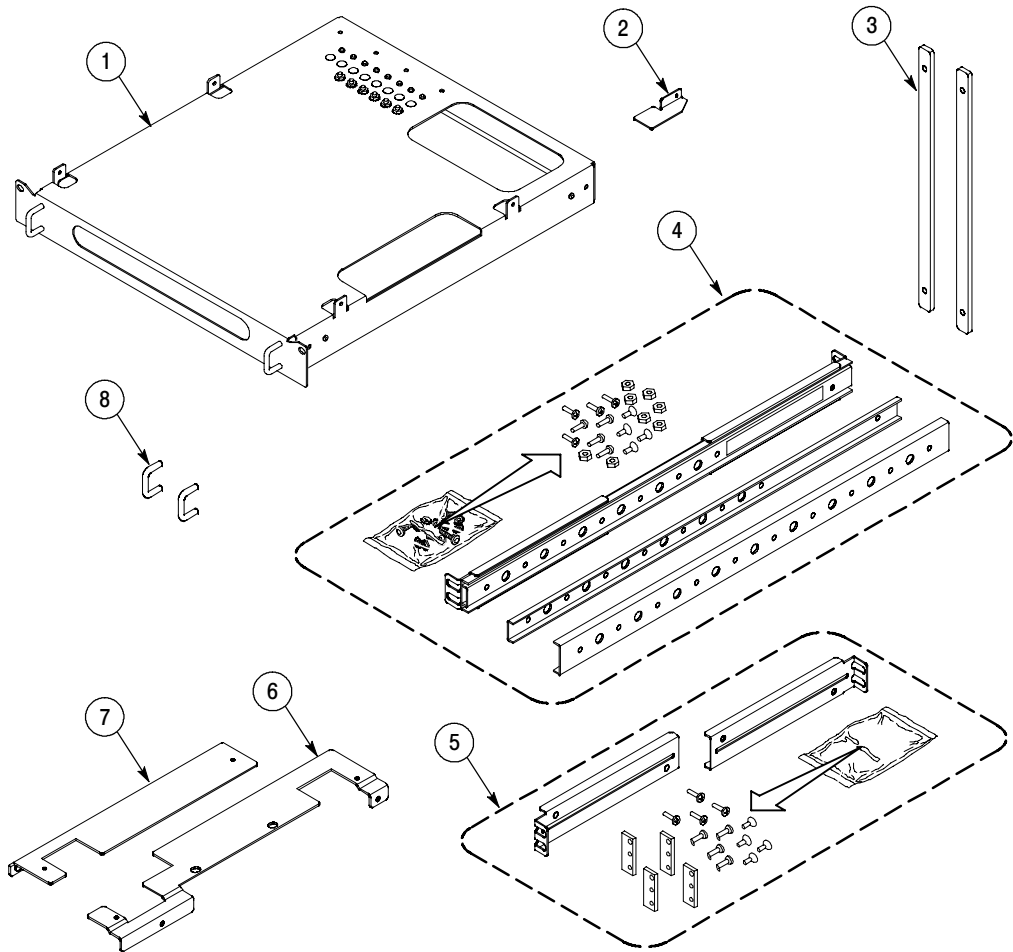


**Figure 1: Completed rackmount installation**

## Kit Parts List

Figure 2 on page 6	Quantity	Part number	Description
-----	1 ea	020-2664-XX	RACKMOUNT KIT TLA7012 CONSISTING OF THE FOLLOWING:
-----	1 ea	071-1750-00	TECH MANUAL: INSTRUCTIONS, TLA7012
1	1 ea	436-0426-00	CHASSIS ASSY, TLA7012 RACKMOUNT, INCLUDES 6-32 AND 10-32 SCREWS
2	1 ea	407-5122-00	BRACKET, LOCKING
3	2 ea	386-7459-00	PANEL, COSMETIC
4	1 ea	351-1119-00	GUIDE, SLIDE (RACKMOUNT, L AND R)
5	2 ea	407-5125-00	BRACKET, RACKMOUNT GUIDE, SET OF 4 W/HARDWARE
6	1 ea	407-5131-00	BRACKET, PORT RACKMNT ADAPTER (R)
7	1 ea	407-5124-00	BRACKET, PORT RACKMNT ADAPTER (L)
8	2 ea	367-0530-00	HANDLE: BOW

**NS - Not Saleable**



**Figure 2: Rackmount kit parts**

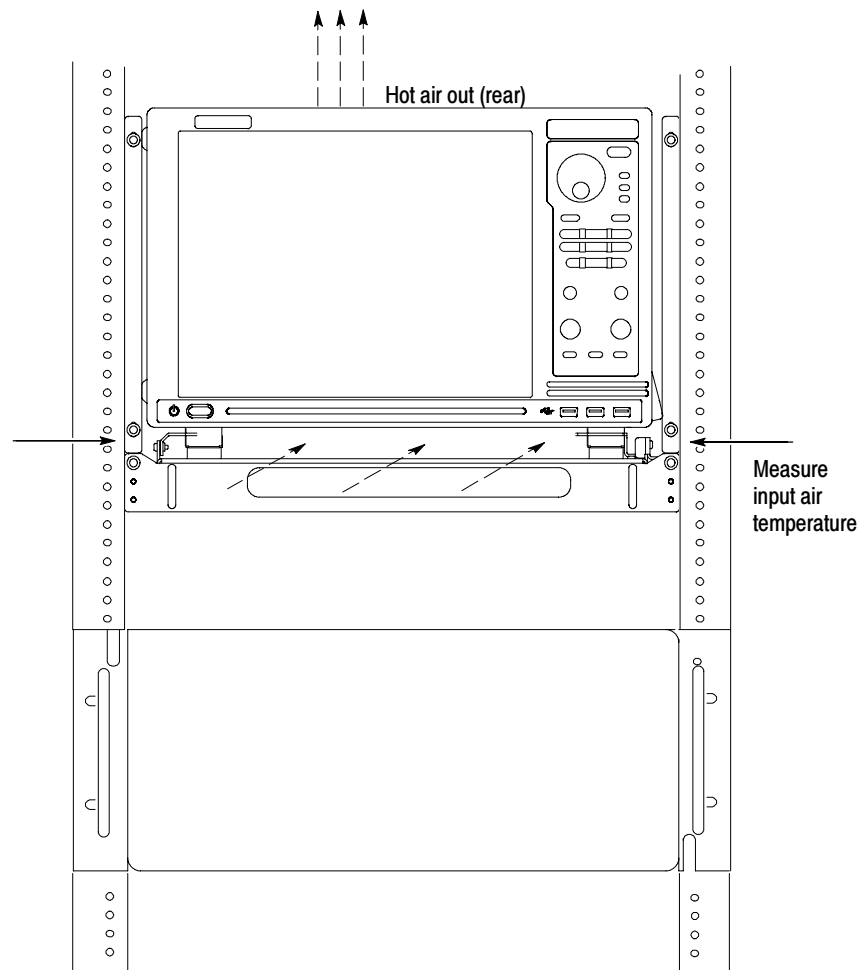


**Warranted Characteristics**

When the instrument is installed according to the instructions in this document, the rackmounted instrument meets all warranted requirements listed in the instrument specification except for those listed in *Environmental Requirements* on page 8. Instruments mounted using methods other than those described in these instructions may not meet their warranted requirements.

See *Specifications* in the user or service manual that applies to your instrument model for tables of the warranted characteristics.

Cooling air enters from the bottom-front and right sides as shown in Figure 3. You must provide adequate cool air to meet the ambient temperature requirements listed in Table 1.



**Figure 3: Instrument cooling**

**Environmental Requirements**

The following environmental characteristics supercede those listed in the user or service manual for your instrument.

**Table 1: Warranted characteristics**

Characteristic	Description
Temperature, Inside Rack Cabinet	
Operating	+10 °C to +45 °C (+50 °F to +113 °F)
Non-operating	-22 °C to +60 °C (- 7.6 °F to +140 °F)

**Clearance Requirements**

The rack in which the rack adapted instrument is mounted must provide the following clearance requirements:

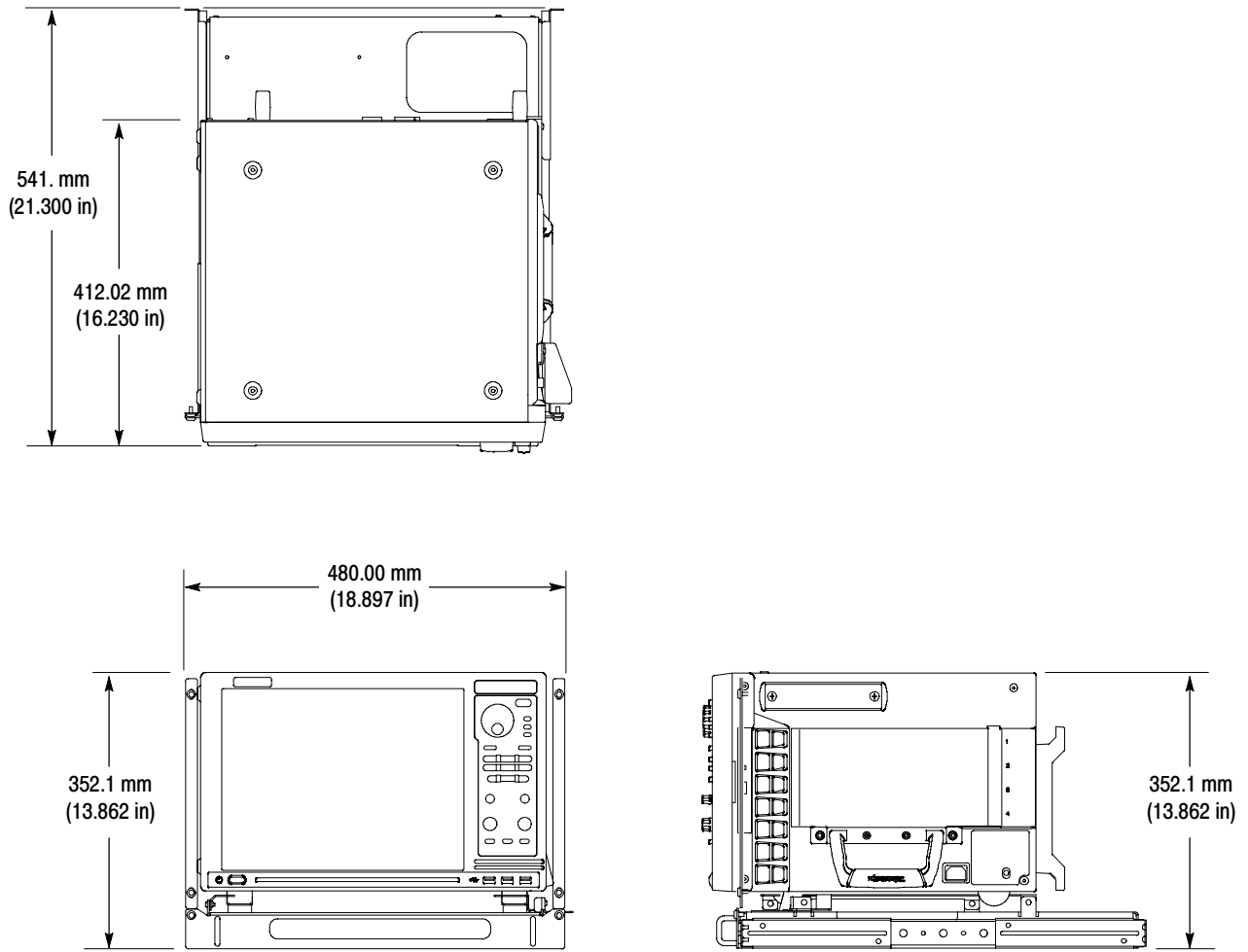
- A minimum of 14.0 inches (355.6 mm) of vertical space.
- A minimum width of 17.717 inches (450 mm) between the left- and right-front rails in the rack.
- A minimum depth of 20 inches (508 mm).



---

**CAUTION.** *Adhering to these clearance requirements provides the rack-mounted instrument with sufficient clearance for air circulation and accommodation of the power cord and mounting hardware. Failure to provide these clearances can result in overheating and can cause instrument faults or failure.*

---



**Figure 4: Instrument with rack adapter installed**



# Installation Instructions

This section contains all procedures needed to rackmount the TLA7012 instrument.



**CAUTION.** This kit requires you to remove the right-side panel of the instrument rack you intend to use. You must have access to the right side of your instrument to connect the logic analyzer probes when the instrument is installed in the rack.

## Minimum Tool and Equipment List

The following tools are required to attach the rack-adaptor kit hardware, install cabling hardware, and mount the rack-adapted instrument into a standard equipment cabinet. All tools are standard tools that are readily available.

**Table 2: Tools required for rackmount installation**

Item no.	Name	Description
1	Screwdriver handle (magnetic)	Accepts 1/4-inch hexagonal head driver tips
2	No. 2 Phillips or Pozidriv tip	Phillips or Pozidriv-driver tip for number 2 size screw heads
3	T-15 Torx tip	Torx-driver tip for T-15 size screw heads
4	11/32-inch wrench	Wrench or nut driver can be used to install slides
5	Torque driver	Accepts 1/4-inch hexagonal head driver tips

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 Service Center or Tektronix Factory Service for installation assistance.



**WARNING.** To prevent the rackmounted instrument from tipping forward onto the operator, install the instrument so that the operator will be able to access all of its rear-panel connectors without pushing down on the instrument.

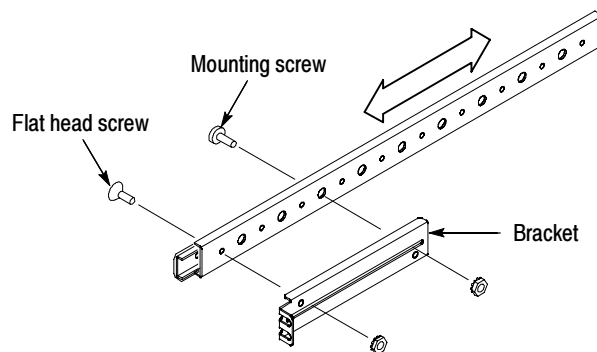
Verify that the rack does not become unstable with the instrument fully extended. Do not leave the instrument extended when finished accessing the rear panel.

---

## Assemble Shelf

Begin the installation procedure by attaching the brackets to the track assembly:

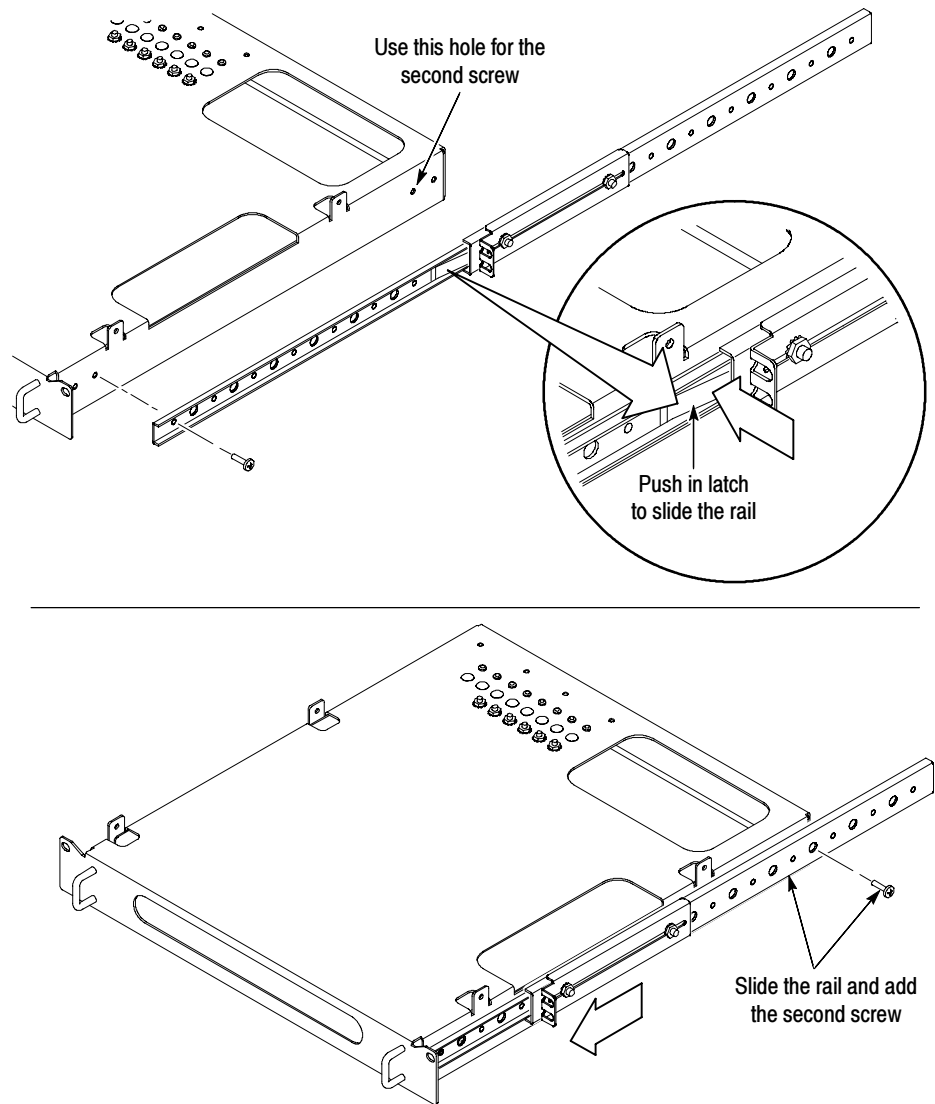
1. Remove the mounting screw that is attached to each track. (See Figure 5).
2. Mount one bracket to the front of each track assembly using two 8-32 flathead screws for each bracket. You must slide the rail within the track assembly to gain access to the mounting screws and holes. See the latch detail in Figure 6 on page 13).



**Figure 5: Preparing the track assembly**

3. Next, use two 8-32 locking-nut washer assemblies to secure the track onto the shelf assembly, applying 28 inch-lbs of torque. (You must move the rail within the track to gain access to the rearward mounting hole).

Refer to Figure 6 to help you attach the tracks to the shelf.

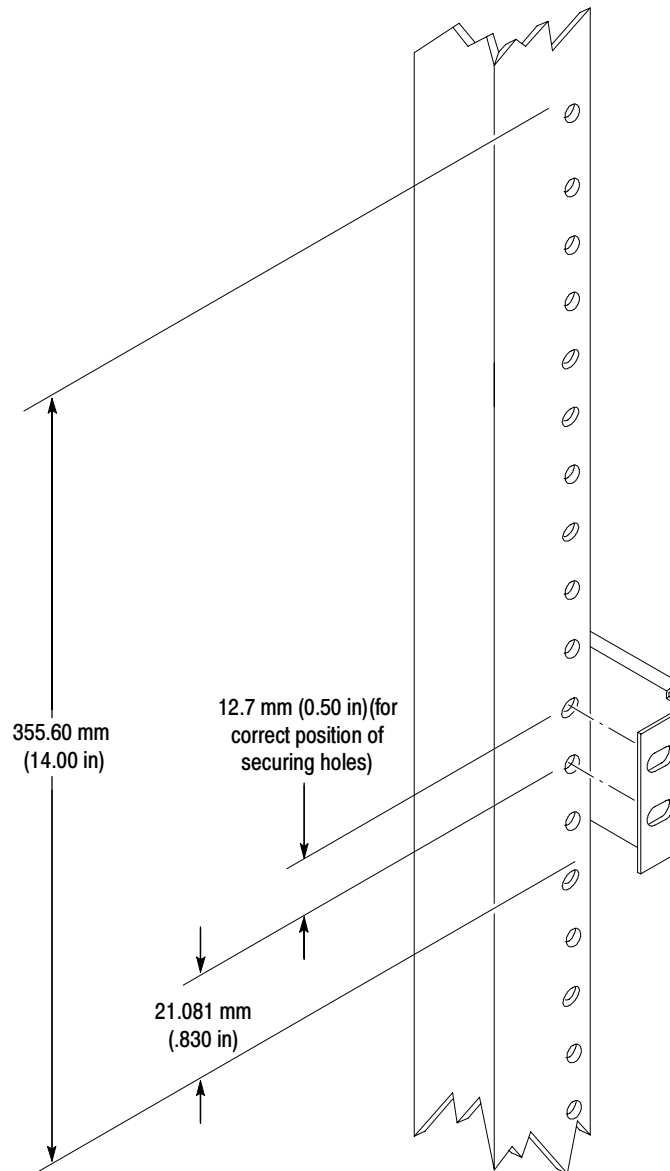


**Figure 6: Rackmount shelf preassembly**

## Instrument Rack Preparation

This section describes mounting the rackmount parts to the instrument rack.

1. Remove the right-side panel of the instrument rack.
2. Select two 0.5 inch-spaced holes that have at least 14 inches of clearance above, on all four rails of the rack. See Figure 7.



**Figure 7: Vertical clearances for rack installation (left-front rail shown)**



3. Select the mounting method according to rack type:

- To mount the brackets with their rear flanges outside of the rear rails, use the mounting method A shown in Figure 8 when doing substep 4. Add a bar nut to the installation only if the rails have untapped holes.
- To mount with the rear flanges inside of rails, use the mounting method B outlined in Figure 8. This mounting method assumes untapped holes.

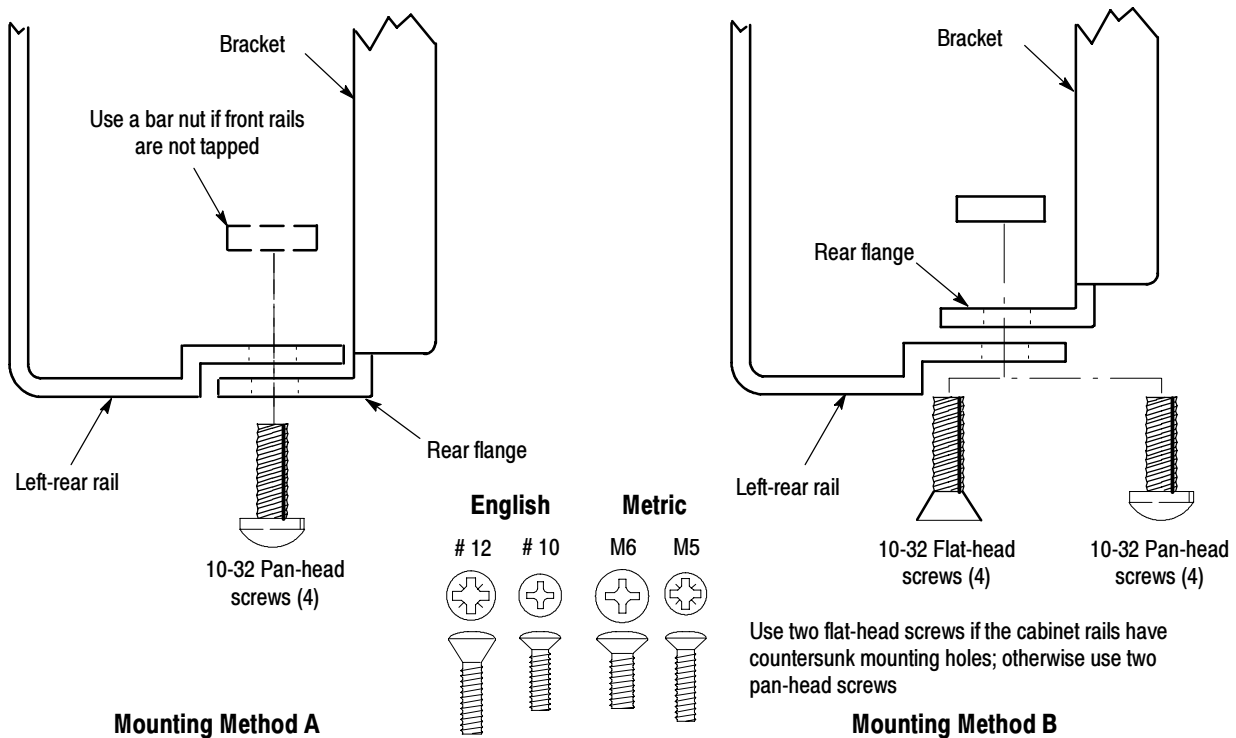
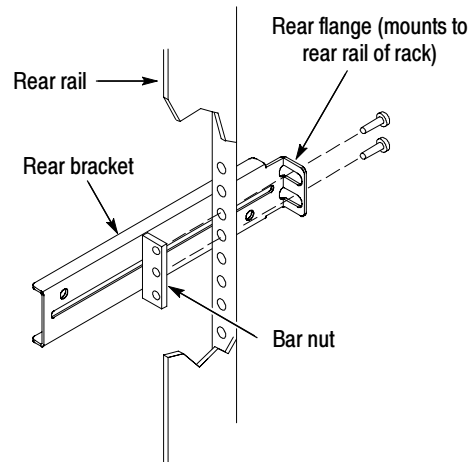


Figure 8: Installation of slide-out track assemblies in rack (top view)

- Using the method and hardware determined from step 3, secure the brackets to the rear rails. The screws should be fully, but lightly, seated so mounting can be adjusted later.



**Figure 9: Attaching the rear brackets to the instrument rails**

- Mount the cosmetic trim on the front, using two 10-32 screws each. See item 2 in Figure 10. (This helps to guide you where to locate the shelf during shelf installation).

### **Install the Shelf/Track Assembly into the Rack**

*Equipment Required:* One screwdriver handle (Item 1), one number two Pozidriv tip (Item 2), and one torque driver (Item 5).

---

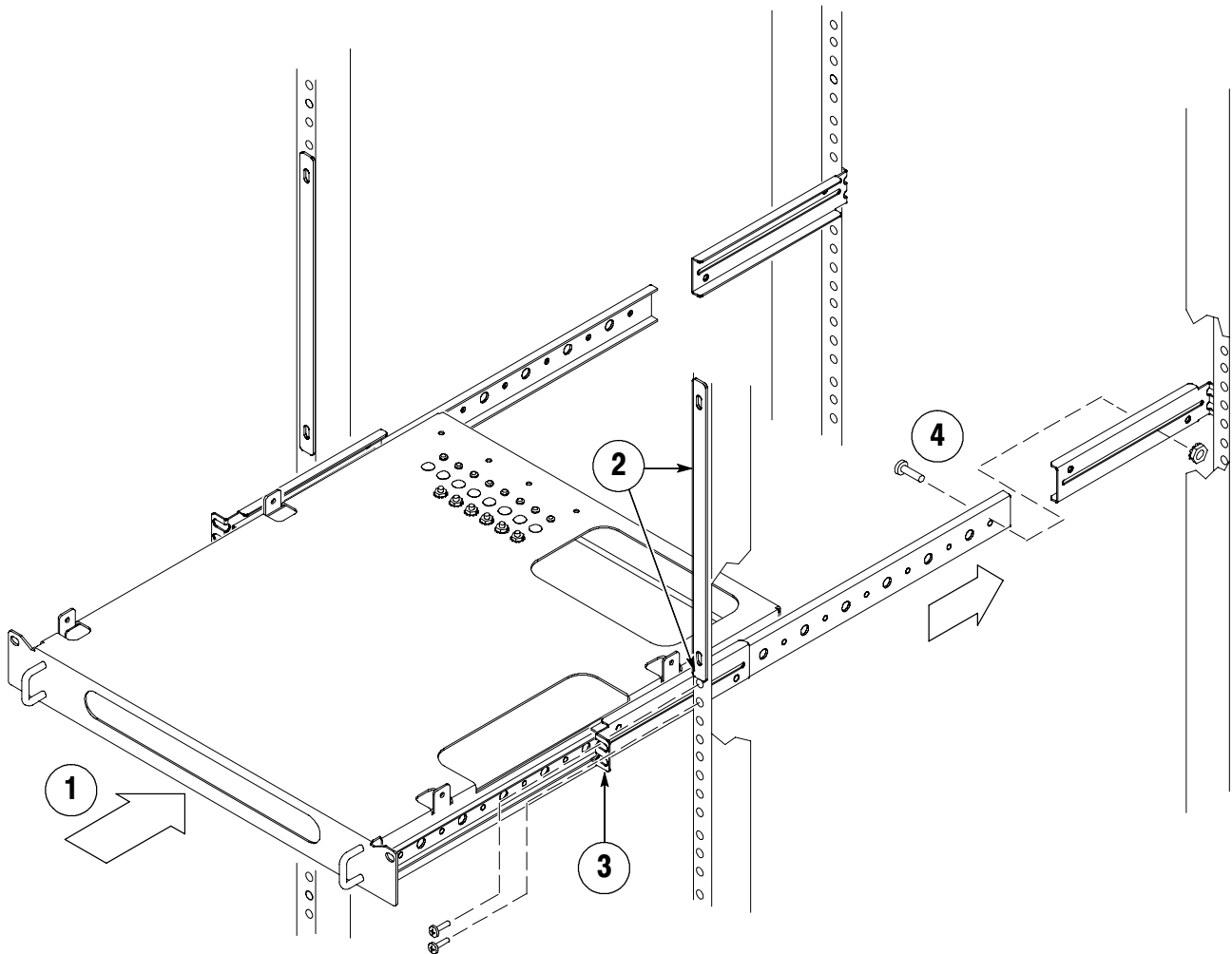
**NOTE.** The rack hardware kit contains hardware for mounting the instrument in several configurations. Not all of the hardware in the kit will be needed.

*A standard equipment rack has rails with universal hole spacing. If you use a rack with other than universal hole spacing, you may have to drill additional mounting holes in the rack.*

---

*Procedure:*

- Grab the shelf/track assembly and slide the tracks into the brackets on the rear rails of the instrument rack.
- Align the front of the shelf to the bottom of the cosmetic trim on the front of the instrument rack.



**Figure 10: Installing the shelf/track assembly**

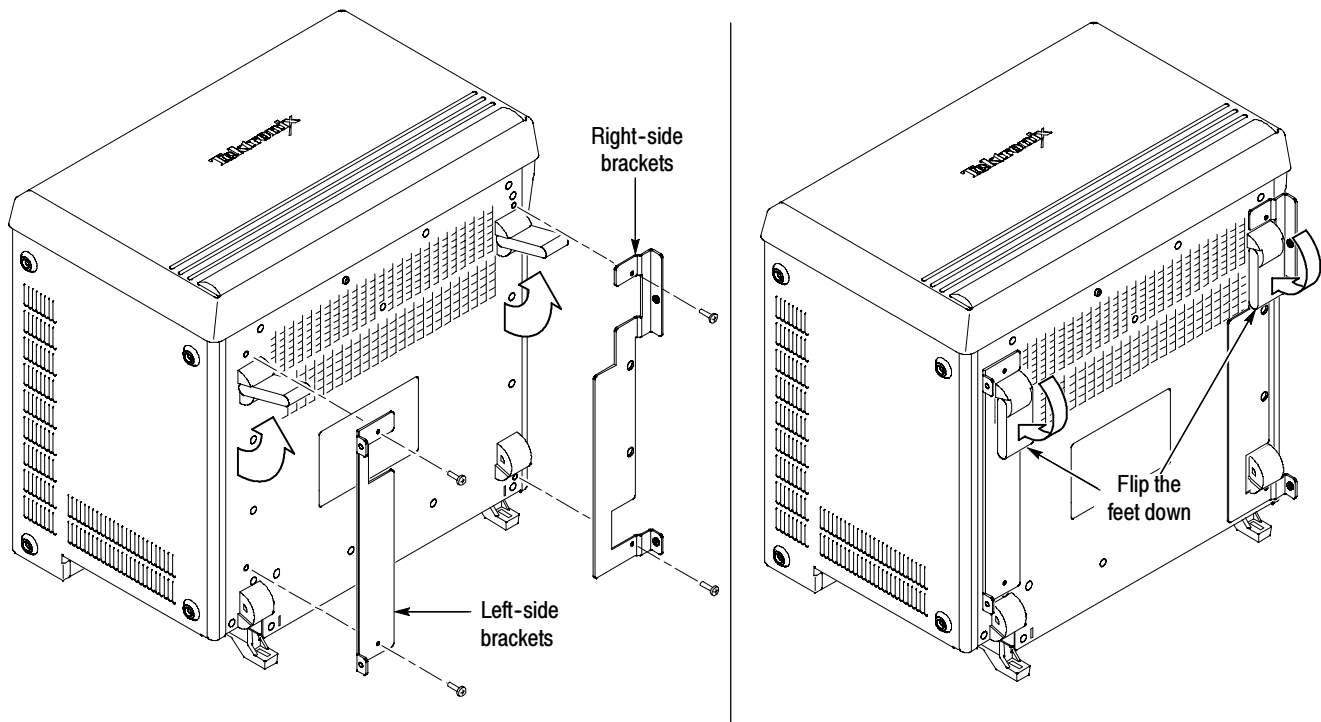
3. Install two 10-32, P2 screws through the front brackets to the rack on each side of the shelf front.
4. Install two 8-32 screws through the shelf tracks to the rear brackets. Attach the screws with the 8-32 lock nuts included in the kit.
5. Tighten all of the screws and check that the shelf slides in and out easily. Loosen and adjust, if necessary.

This completes the installation of the shelf/track assembly into the rack. Next, perform the *Attach Brackets to the Instrument* procedure.

### Attach Brackets to the Instrument

*Equipment Required:* Screwdriver handle with T-15 tip (Items 1 and 3).

1. Set the instrument on its back feet to expose the instrument bottom.
2. Remove the four T-15 Torx screws near the bottom feet. See Figure 11.



**Figure 11: Location of screws for bracket mounting**

3. Attach the right and left-side brackets to the bottom of the instrument using the screws that you removed in the previous step.
4. Fold the front feet down flat against the bottom of the instrument.

This completes the installation of the rack-adapter hardware to the instrument. Next, do the following procedure: *Mount the Instrument to the Shelf.*

## Mount the Instrument to the Shelf

The slide-out shelf permits the rack-adapted instrument to be extended out of the rack for rear-panel and connector maintenance without removing the instrument from the rack.

The rackmount kit includes a mechanical safety stop that prevents the instrument from accidentally being pulled out while probes are attached.



**CAUTION.** *To prevent damaging the probes, you must remove any probes from the instrument before extending the instrument. Also, you may want to remove any modules from the instrument to make it lighter. Always reinstall the mechanical safety stop after you push the instrument back into the rack.*

---



**WARNING.** *To prevent the rackmounted instrument from tipping forward onto the operator, install the instrument so that the operator will be able to access all of its rear devices without pushing down on the instrument.*

*Verify that the rack does not become unstable with the instrument fully extended. Do not leave the instrument extended when finished accessing the rear panel.*

---



**WARNING.** *To prevent the instrument from tipping or dropping onto the installers, two or more people should install this instrument into the rack cabinet.*

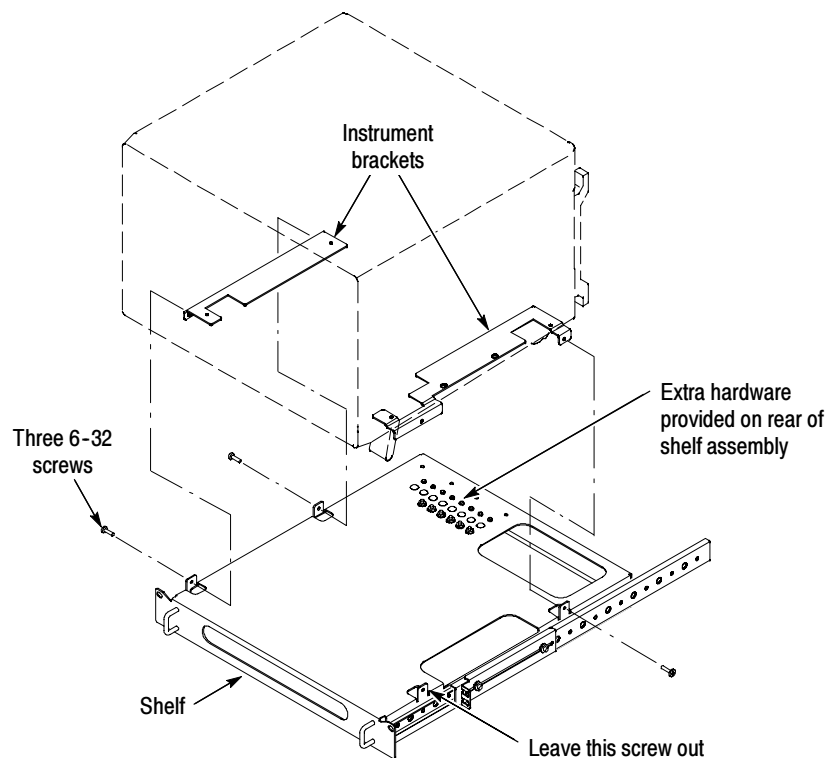
*After completing the installation procedure, the installers should verify that the instrument and rack cabinet will not tip forward while the instrument is in the extended position.*

---

## Mount the Instrument

*Equipment Required:* Screwdriver handle with T-15 and #2 Phillips tip (Items 1, 2 and 3).

1. Pull the shelf out from the rack.
2. Place the instrument on the shelf.
3. Align the instrument bracket screw holes with the threaded holes in the shelf.
4. Attach the instrument to the shelf with three 6-32 screws. Leave the front right-side screw out. (The screws are stored on the rear of the shelf. See Figure 12).



**Figure 12: Mounting the instrument to the shelf**

5. Slowly push the shelf back into the rack. Verify that the instrument handle and power cord clear the right-side rack rail. If necessary, remove from the instrument:
  - a. The handle, by first removing the right-side cover (six screws), and then the two handle screws. Replace the cover and mount the handle on the shelf as described in step 8.



## Route the Probes to Your DUT

The rackmount kit design allows you to route your logic analyzer probes out through the front or rear of your instrument rack. See Figure 14 on page 23.

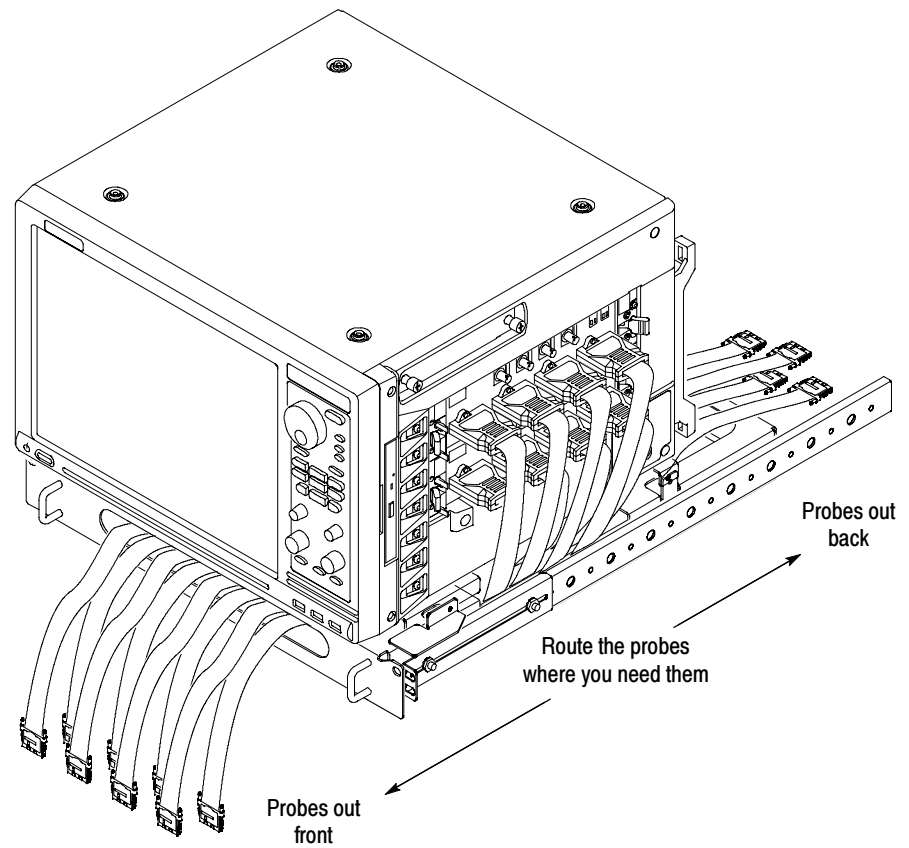
1. Install the logic analyzer modules that you need into the instrument.
2. Determine the best route for the probes to your DUT. This may include a front or rear exit through the instrument rack, or a combination of the two.
3. Push the module end of the probe, one at a time, through the opening at the front or back of the instrument rack, depending on your DUT location.
4. Route the probe underneath the instrument and through the cable opening on the module side of the shelf.
5. Connect the probe to the module.

---

**NOTE.** *It may be easier to first route all of the probes that you need through the shelf, and then connect them to the modules.*

---





**Figure 14: Routing the probes**

6. Repeat steps 2 through 5 for the remaining probes.
7. Connect the probes to your DUT.

❏ End of document ❏

