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VXI-1000

VXI-1000

Rackmount Adapter Kit

Installation Guide



July 1990 Edition

Part Number 320265-01

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A Return Material Authorization (RMA) number must be obtained from the factory and clearly marked on the outside of the package before any equipment will be accepted for warranty work. National Instruments will pay the shipping costs of returning to the owner parts which are covered by warranty.

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Introduction

The rackmount adapter kit is an option for the VXI-1000 mainframe. This manual discusses how to assemble and install the kit and mount the mainframe. Illustrations are included to guide you through the installation steps.

The kit adapts the VXI-1000 for mounting in a standard 19-inch wide rack. The depth between the front and rear vertical rails can be no less than 22 inches and no more than 28 inches. The VXI-1000 can be mounted flush with the front of the rack, or recessed up to three inches.

Warning: The equipment rack must either be bolted to the floor or include extension feet. An unsecured rack is unsafe if the mainframe rackmounting assembly is extended on its tracks.

Mounting Requirements

The rackmounted equipment configuration must meet the following requirements for rackmount installation:

- A clear mounting space at least 7 inches high and 23 inches deep in a standard 19-inch equipment rack.
- At least 2 inches clearance between the sides of mainframe and the sides of the rack for air circulation.

Note: You may need to remove the VXI-1000's top and bottom covers to prevent interference with equipment mounted directly above or below the VXI-1000.

What Your Kit Should Contain

Your rackmount adapter kit should contain the following components:

Components
Adjustable Mounting Bracket Assemblies (2)
Chassis Track Sections (2)
Stationary Track Sections (2)
Intermediate Track Sections (2)
Rear Mounting Brackets (2)
8-32 Pan Head Screws (12)

(continues)

Components (continued)
10-32 x 5/16 inch Pan Head Screws (8)
10-32 x 3/8 inch Pan Head Screws (12)
Bar Nuts (6)
L Brackets (2)
Front Cover Panel with 1/4 Turn Fasteners

Make sure each of these items is in your kit. If any item is missing, contact National Instruments.

Tools Required

You will need the following tools to assemble the rackmount adapter kit:

- No. 1 Phillips screwdriver
- No. 2 Phillips screwdriver
- Small pointed tool, such as a scribe or punch

Mounting Bracket, Chassis Section, and Front Panel Installation

Refer to Figures 1, 2, and 3 for the following instructions.

Step 1. Remove the Carrying Handle

With the mainframe in the upright or "tower" position, pull up on the instrument carrying handle to expose the small holes on each handle mount. Carefully push a scribe or punch into one of the holes while pulling the handle toward the center. This releases the handle retaining spring. Once the spring is released, remove the scribe and continue to pull the handle until it disengages from the handle mount. Repeat this procedure for the other handle mount, then store the handle for future use.

Step 2. Remove the Top and Bottom Covers

Detach the top and bottom covers by removing the 14 pan head screws that secure each cover to the mainframe. If you want to mount the VXI-1000 within a 7-inch high (4U) space directly above or below other pieces of equipment, store the covers and screws for future use, and proceed to step 3. Otherwise, remove the eight rubber feet from the covers and re-install the covers on the mainframe. Store the feet and mounting hardware for future use.

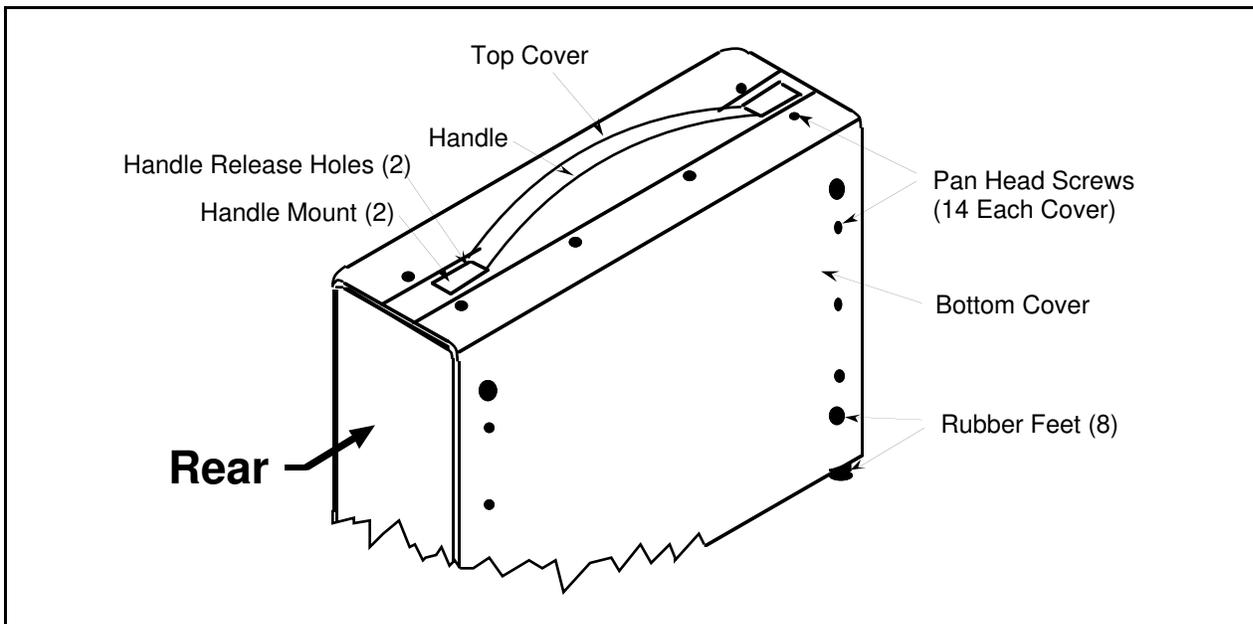


Figure 1. Carrying Handle and Covers

Step 3. Install the Adjustable Mounting Bracket Assemblies

Place one of the adjustable mounting bracket assemblies on the right side of the mainframe. Use four of the 8-32 pan head screws to secure the bracket. Repeat this procedure to secure the other bracket assembly to the left side.

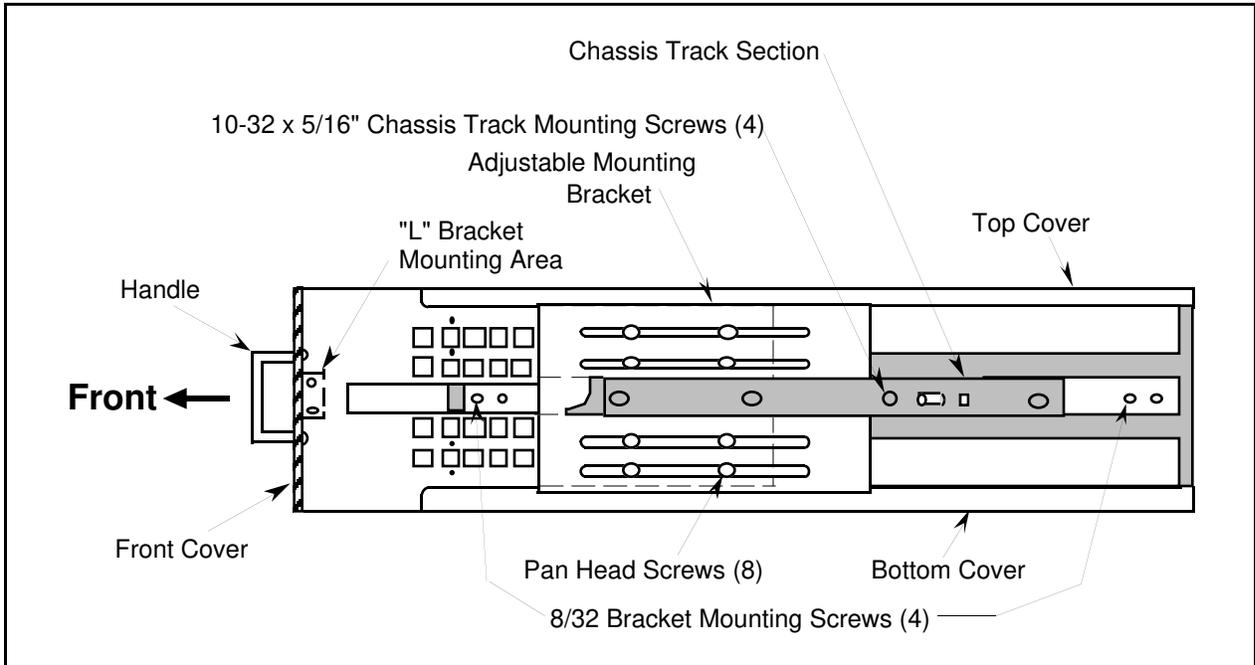


Figure 2. Adjustable Mounting Bracket and Chassis Section (Right Side View)

Step 4. Install the Chassis Track Section

Remove the chassis track sections from the shipping carton. Notice that there are right and left sections. Properly orient and mount the *right* chassis section to the adjustable mounting bracket, using four of the 10-32 x 5/16 inch pan head screws. Repeat this procedure to install the *left* chassis section.

Step 5. Adjust the Mounting Bracket for Recessed Mounting

The adjustable mounting bracket is shipped from the factory in the flush mount position. For recessed mounting, loosen the eight pan head screws on each bracket and extend the brackets as required (see Figure 2). Be sure to retighten the screws.

Step 6. Install the Front Cover Panel (Recessed Mount Only)

The cover panel gives a finished appearance and protects instrument modules and cabling. To accommodate the front panel installation, the mainframe must be recessed (see step 5) with adequate clearance between the cover panel and the instrument cables. The front panel attaches to the adjustable bracket assemblies with two L brackets, as shown in Figure 3. Secure each L bracket to bracket assemblies using two 8-32 pan head screws. Secure the front cover to the L brackets with 1/4 turn fasteners.

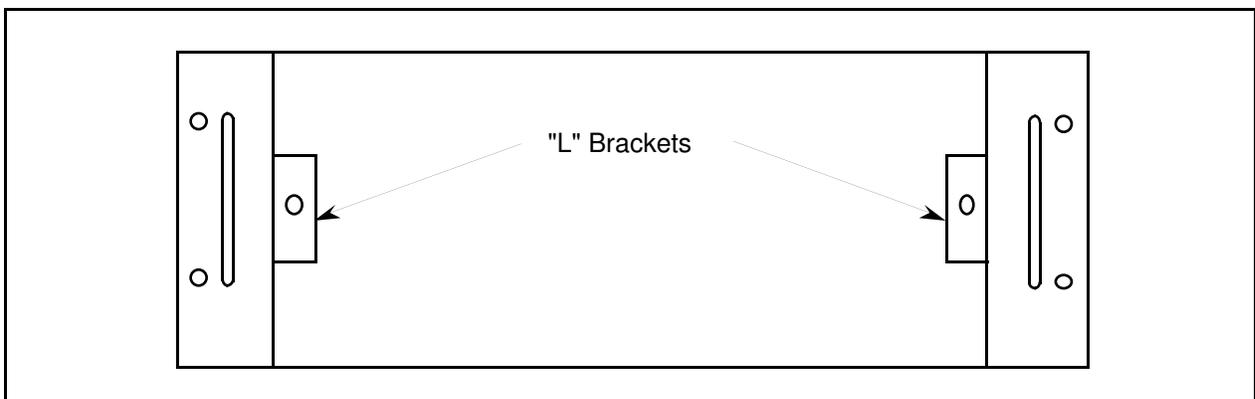


Figure 3. L Bracket Installation (Front View)

Track Installation

Refer to Figures 4, 5, and 6 for the following instructions.

1. Measure the distance between the front and rear rails (depth between the front and rear vertical rails can be no less than 22 inches and no more than 28 inches).
2. Attach a rear mounting bracket to each stationary track section. Use two 10-32 x 3/8 inch pan head screws and one bar nut for each assembly. Choose an alignment to match the rail spacing. Do not fully tighten the screws. The front rail mounting method is shown in Figure 5. Figures 6a and 6b illustrate the rear rail mounting methods for deep and shallow racks, respectively.
3. Install the stationary track assemblies into the rack. Use four 10-32 x 3/8 inch pan head screws to secure each track assembly to the rack rails. Use bar nuts if the rack rail holes are not threaded. Tighten the rack rail screws enough to secure the stationary track assemblies to the rack while still allowing movement. Fully tighten the screws that attach the rear mounting brackets to the stationary sections.
4. Slide the intermediate track sections into the stationary tracks so they lock in their extended positions.
5. Carefully lift the mainframe into place so the chassis track sections align with the intermediate track sections. Slide the chassis tracks into the intermediate tracks and push the mainframe halfway into the rack. It will stop at the first detent.
6. The sliding track sections should align themselves as the mainframe is pushed into the rack. Tighten all loose screws.

If the tracks do not operate smoothly, loosen the screws that secure the stationary track sections to the front and rear rails. Center the mainframe assembly, allowing the tracks to seek their proper position, then retighten the screws.

The tracks require no lubrication because of their special finish.

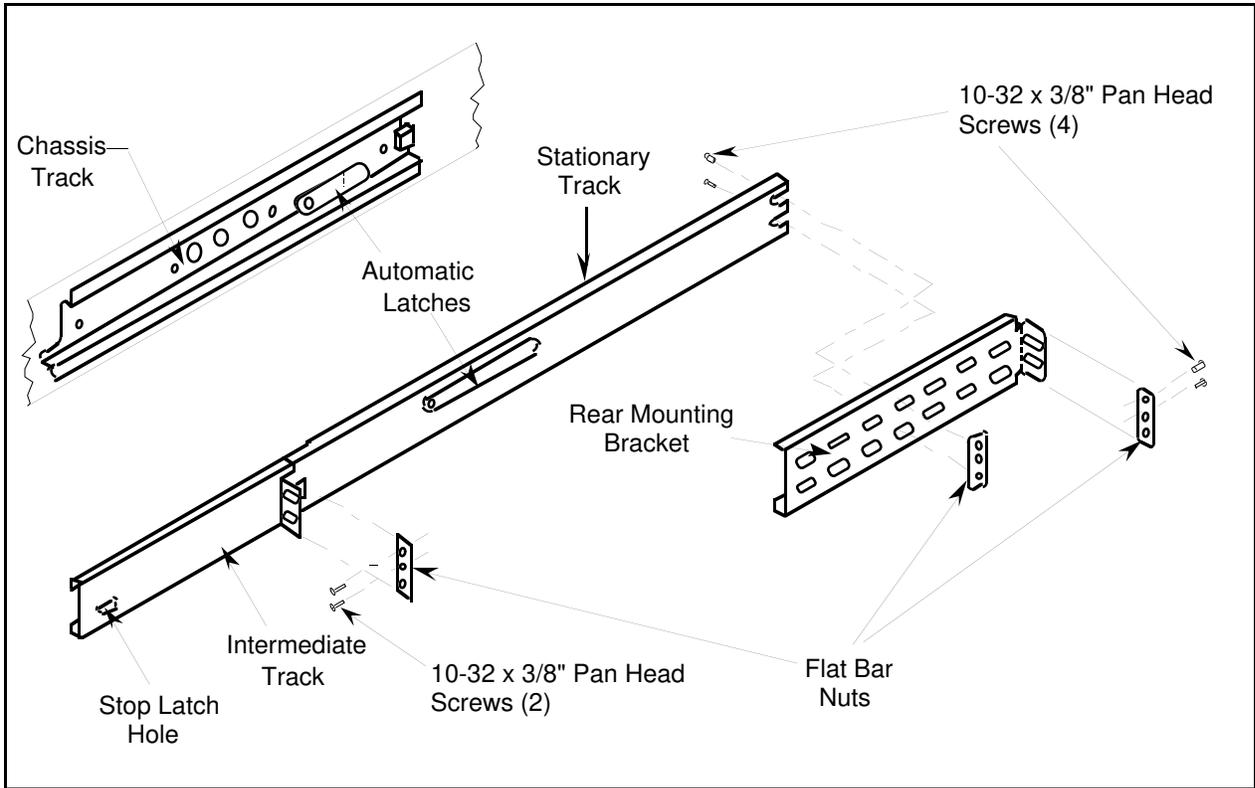


Figure 4. Track Installation (Right Assembly Shown)

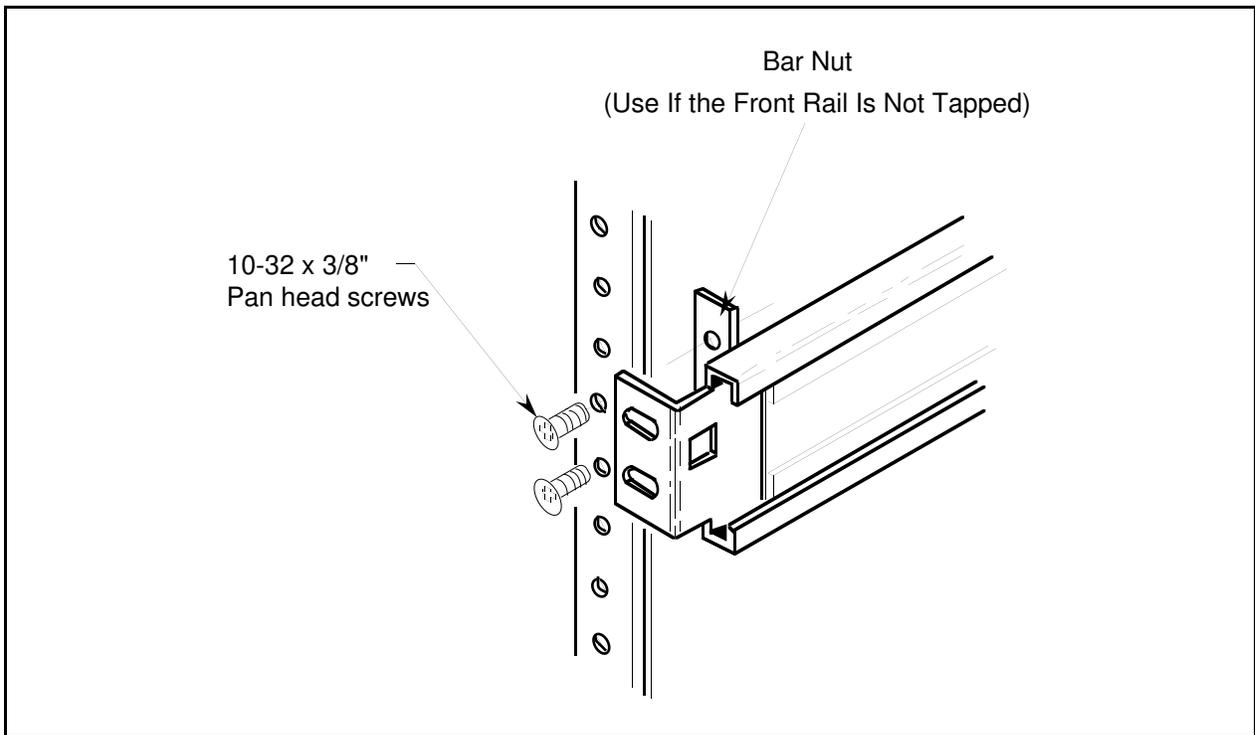


Figure 5. Front Rail Mounting Method

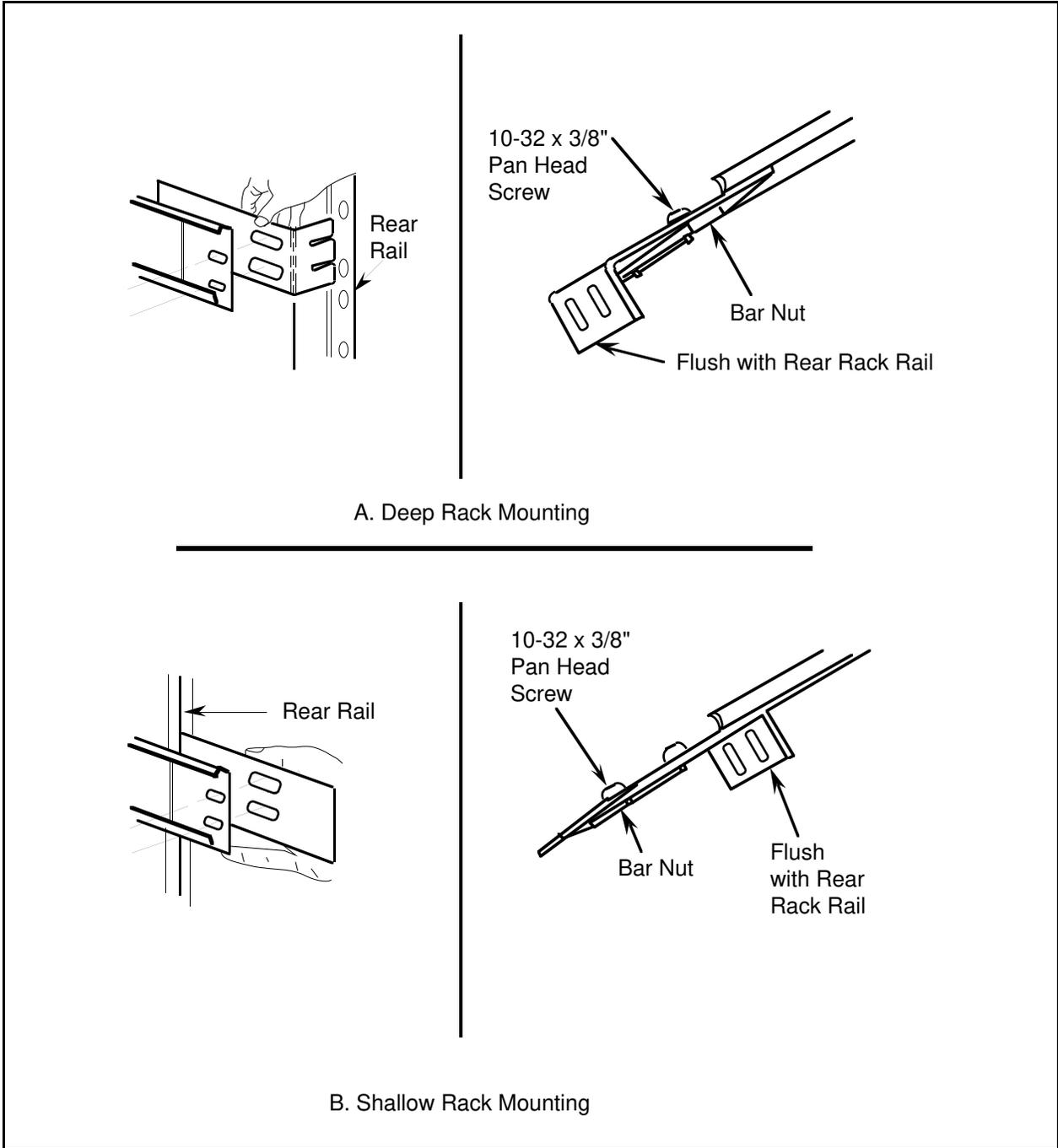


Figure 6. Rear Rail Mounting Methods

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