



QX and QXS 12- and 24-Drive Rackmount Install Guide

This document contains the following topics:

Before You Begin QXS-412/424 Rackmount Installation	2
Attach QXS-412/424 Side Brackets	4
Install QXS-412/424 Hanger Fasteners	7
Install the 12-Drive and 24-Drive Chassis Rails	8
Install and Secure the QXS-412/424 Chassis	16
QXS-412/424 Next steps	19

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Before You Begin QXS-412/424 Rackmount Installation

These instructions are for the following systems:

- QXS-312/412 Hybrid
- QXS-324/424 Hybrid
- StorNext QX-1200 and QX-2400
- StorNext QXS-1200 and QXS-2400

The person using these instructions must be qualified to service and install storage products.

 **Caution:** Two people are needed to lift and move the enclosure. Use care to avoid injury.

Required Tools

- #2 Phillips screwdriver
- Antistatic protection devices

Rackmount Bracket Kit Hardware

Use fasteners that pertain to your rack type.

Code	Part description	Qty
Rails and brackets		
-	Side bracket	2
-	Left rail (front sleeve with rear insert)	1-ea.
-	Right rail (front sleeve with rear insert)	1-ea.
Screws		
-	Hangar fasteners*	6
A	#8-32 x 3/16, FH100, PLP, SS	4
B	#8-32 x 3/8, FH, PLP2, SS	6

Before You Begin QXS-412/424 Rackmount Installation

Code	Part description	Qty
C	#10-32 x 3/4, Truss, PLP, SS; or M5 x 10, PH, PLP2, SS; or M6 x 10, PH, PLP2, SS	8
D	#10-32 x 5/8, FH100, PLP2, SS; or M5 x 10, FH, PLP2, SS; or M6 x 10, FH, PLP2, SS	2
E	#6-32 x 1/4, PH, PLP, SS, Patchlock	2
Nuts		
F	#10-32, UNF - Cage Nut; or #10-32, UNF - Clip Nut	10

*Hanger fasteners may be pre-installed on the rail's front and rear mounting flanges (noted in [Install QXS-412/424 Hanger Fasteners on page 7](#)).

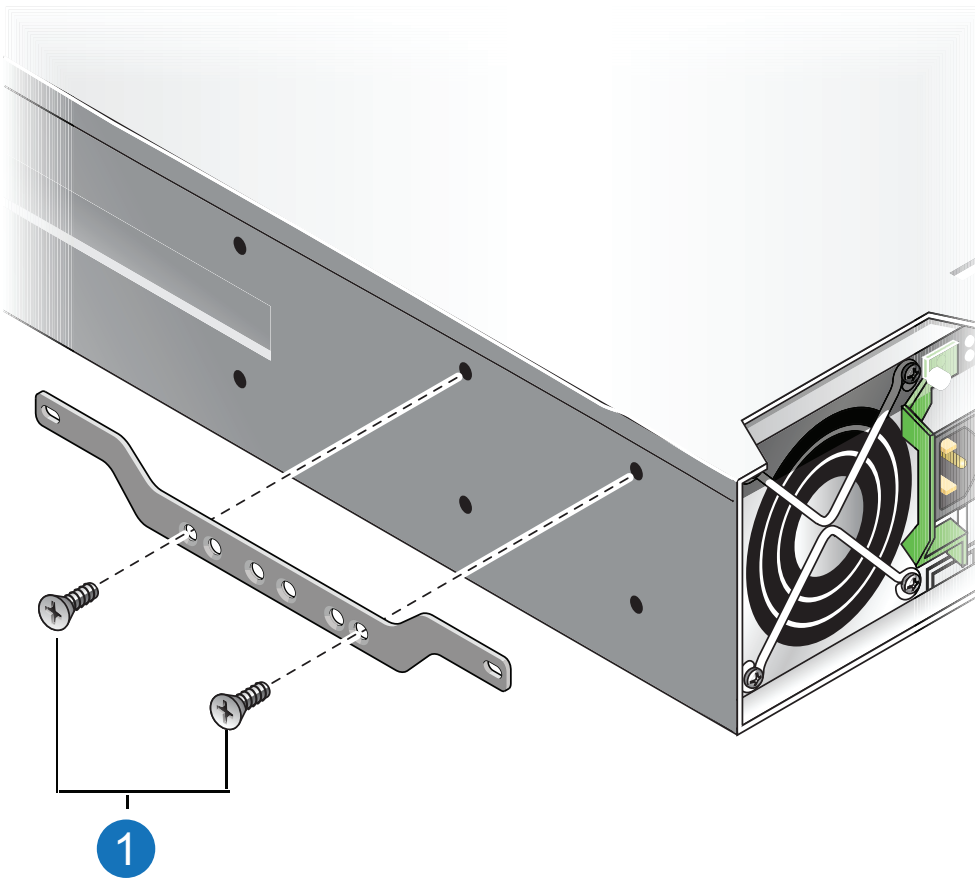
Fasteners provided vary by rail kit. Alpha codes (in hardware table) correlate to numeric P/Ns within illustrated procedures.

Attach QXS-412/424 Side Brackets

Using a total of four #8-32 x 3/16 flathead Phillips screws (two per bracket), attach the side bracket to rear mounting holes on each side of the chassis.

The illustration below shows bracket alignment for a 12-drive chassis.

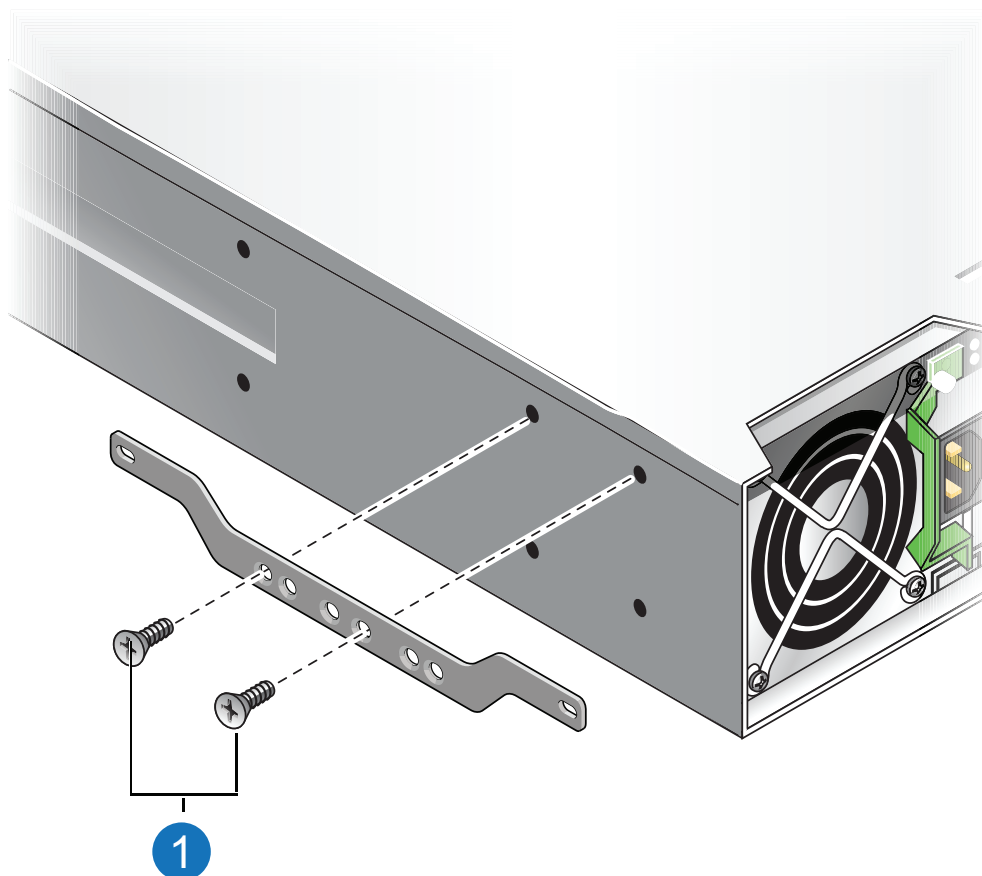
Figure 1: Attaching bracket to 12-drive chassis



1. Screw: Code A - P/N:01-0000142

The illustration below shows bracket alignment for a 24-drive chassis.

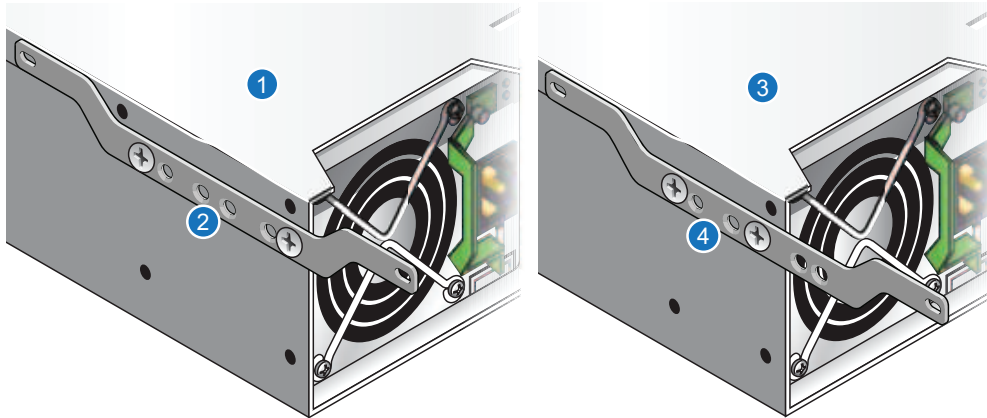
Figure 2: Attaching bracket to 24-drive chassis



1. Screw: Code A - P/N:01-0000142

The illustration below shows side brackets installed in the rear panel corner (2U12 chassis on left and 2U24 chassis on right).

Figure 3: Installed brackets on 2U12 and 2U24 chassis



1. 2U12 Chassis

2. Bracket (screws installed in 2 outer holes)

3. 2U24 Chassis

4. Bracket (screws installed in 1st and 4th holes)

Install QXS-412/424 Hanger Fasteners

i Note: Proceed to [Install the 12-Drive and 24-Drive Chassis Rails on the next page](#) if either condition applies:

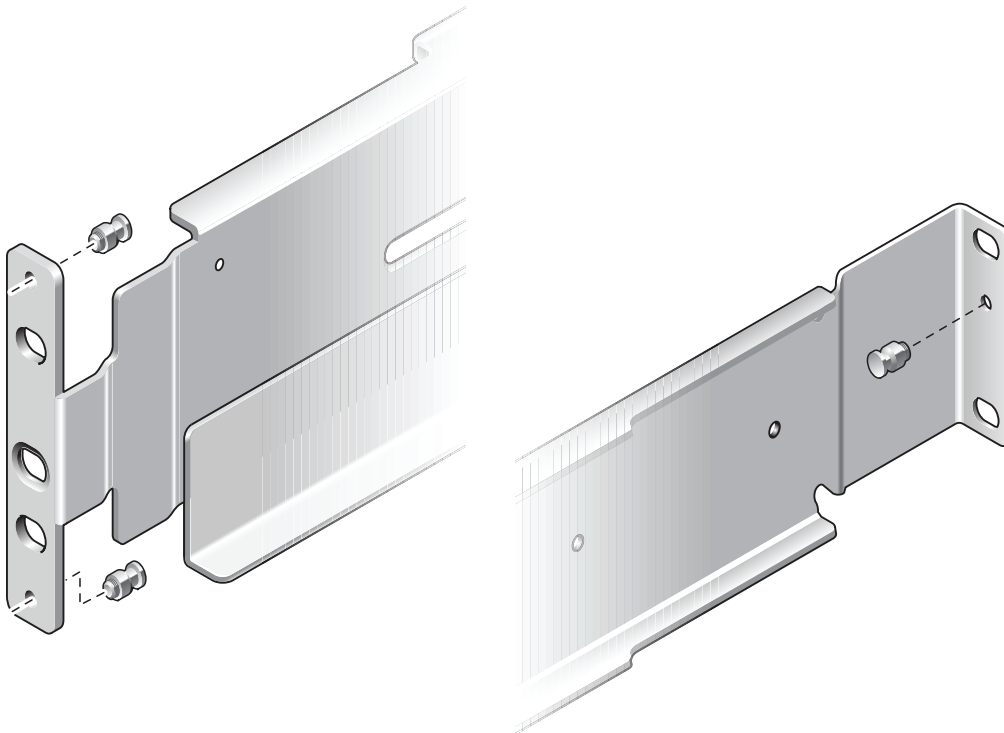
Hanger fasteners are pre-installed in rail sets; or

You are installing into a rack with pre-tapped holes.

If installing into square or round-hole racks, install the hanger fasteners in the front and rear rail components with the heads facing inward. Front rail sleeves require two pins each, and rear rail inserts each require one pin. Loosely attached fasteners temporarily hold the rails in place before being secured, enabling vertical and horizontal positioning for accurate alignment.

i Note: Hanger fasteners (pins) may be pre-installed.

Figure 4: Installing hanger fasteners



Install the 12-Drive and 24-Drive Chassis Rails

To install rack rails for the 12-drive and 24-drive chassis, you will need to complete the following steps.

Installation Steps

- a. Review all prerequisites. See [Install QXS RAID and Expansion Chassis](#).
- b. Attach the side brackets to the rear mounting holes on each side of the chassis.
- c. If you are installing the chassis into square or round-hole racks, you need to install hanger fasteners in the front and rear rail components.

Proceed to [Step 3: Install the Rails on page 11](#) if either or the following are true:

- Hanger fasteners are pre-installed in rail sets.
- You are installing the chassis into a rack with pre-tapped holes.

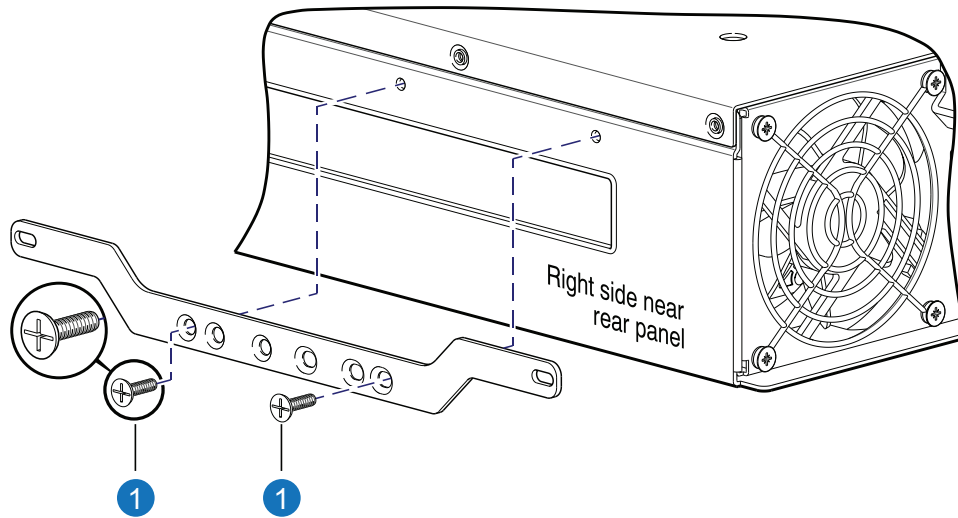
- d. Install the rails for the 12 and 24-drive chassis. Keep in mind that the rail kit supports both the controller and expansion chassis.

Step 1: Attach Side Brackets

1. Use 2 #8-32 x 3/16 flathead Phillips screws to attach a side bracket to the rear mounting holes on one side of the chassis.

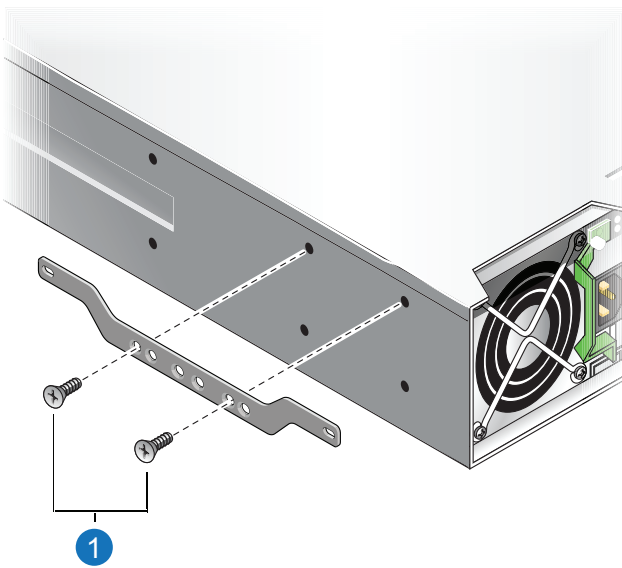
2. Repeat step 1 to attach the other bracket to the other side of the chassis.

Figure 5: Attaching bracket to a 12-drive enclosure



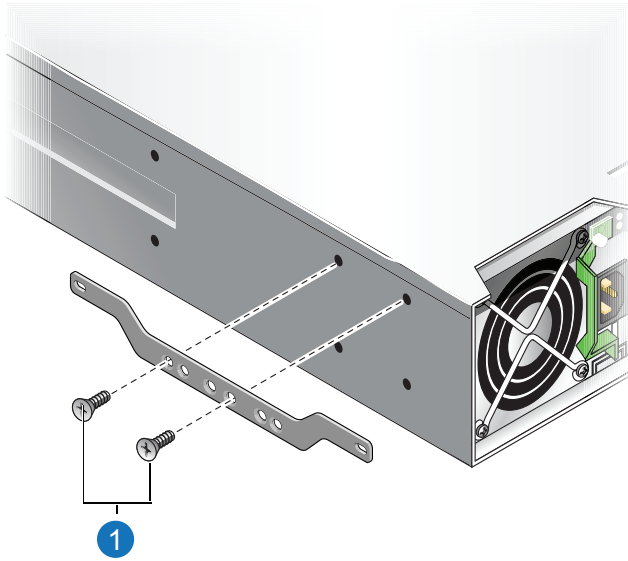
1. Screws (2 per bracket)

Figure 6: Attaching bracket to 24-depth enclosure (standard-depth)



1. Screws (2 per bracket)

Figure 7: Attaching bracket to 24-drive enclosure (reduced-depth)



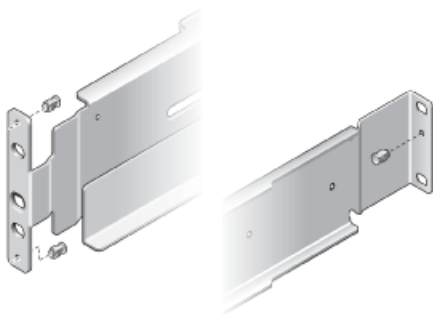
1. Screws (2 per bracket)

Step 2: Install Hanger Fasteners

1. Install the hanger fasteners in the front rail components with the heads facing inward.
Front rail sleeves require two pins each.
2. Install the hanger fasteners in the rear rail components with the heads facing inward.
Rear rail inserts require one pin each.

Keep in mind that you can loosely attach the fasteners to hold the rails in place, and then position the rails vertically and horizontally for accurate alignment. As soon as you have an accurate alignment, tighten the fasteners.

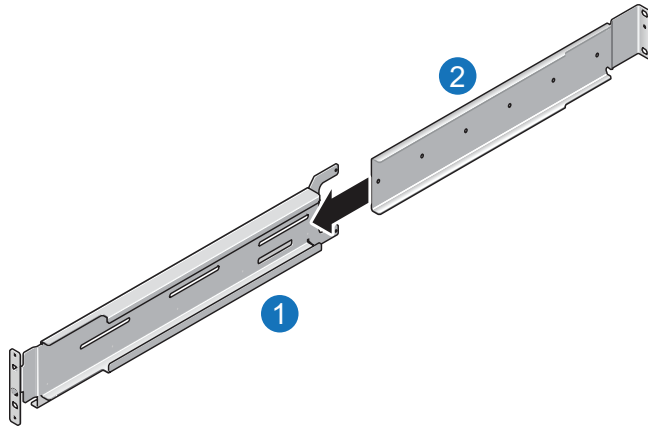
Figure 8: Pre-Installed Hanger Fasteners



Step 3: Install the Rails

1. Slide the rear rail insert into the front rail sleeve.

Figure 9: Rail components

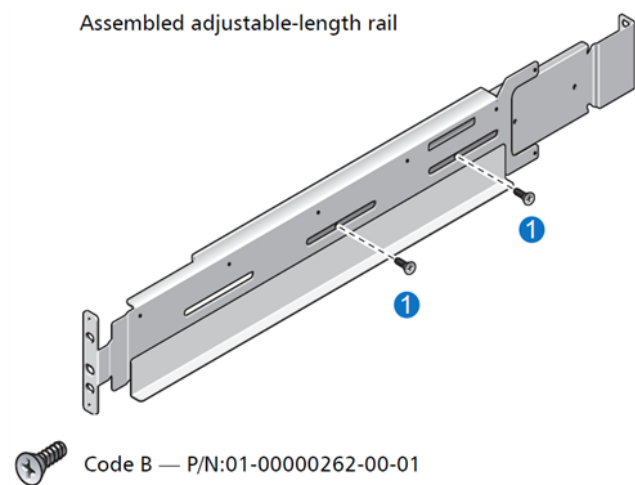


1. **Front rail sleeve**
2. **Rear rail insert**

2. Determine the chassis depth required by the rails.
 - Fit the rail assembly to the rack and note the tapped holes in the rear rails that align with the slotted holes in the front rails.
 - If cage nuts are pre-installed, remove them from the locations where hanger screws are inserted.
3. Select two or three #8-32 x 3/8 flathead Phillips screws, depending on your chassis depth, to loosely attach the rear rail to the front rail.

You will tighten the screws later.

Figure 10: Assembled adjustable-length rail



1. Screws: Code B - P/N:01-00000262-00-01

4. Do one of the following depending on the type of holes in the rail:

Square-hole racks

Install cage nuts in the front and rear rack holes, where the rails will be attached.

If you insert the cage nuts incorrectly, use a Cage Nut Removal Tool to more easily remove the nuts from the rack holes.

Round-hole racks

Install clip nuts in the front and rear rack holes, where the rails will be attached.

5. Position the rail's front and back mounting flanges so that the through-holes align with the corresponding rack holes, and note the location of the alignment.

Hint

Align the bottom of the rail with the bottom of the rack unit where you would like to install the rails. Rails should not be installed where the rail will straddle rack units (U). Most racks provide alignment markers indicating the rack units used for rail installation.

6. Attach three fasteners at the front of the rack and two fasteners at the rear of the rack, as shown by the red **X** marks in the following installation detail views.

On the following diagram, keep in mind that elevation numbers are arbitrary — they simply represent vertical location within the rack. Blue indicates where a 2U chassis would be positioned relative to the cage nuts. 1U rack heights are shown next to cage nut installation locations.

Figure 11: Cage nut placement

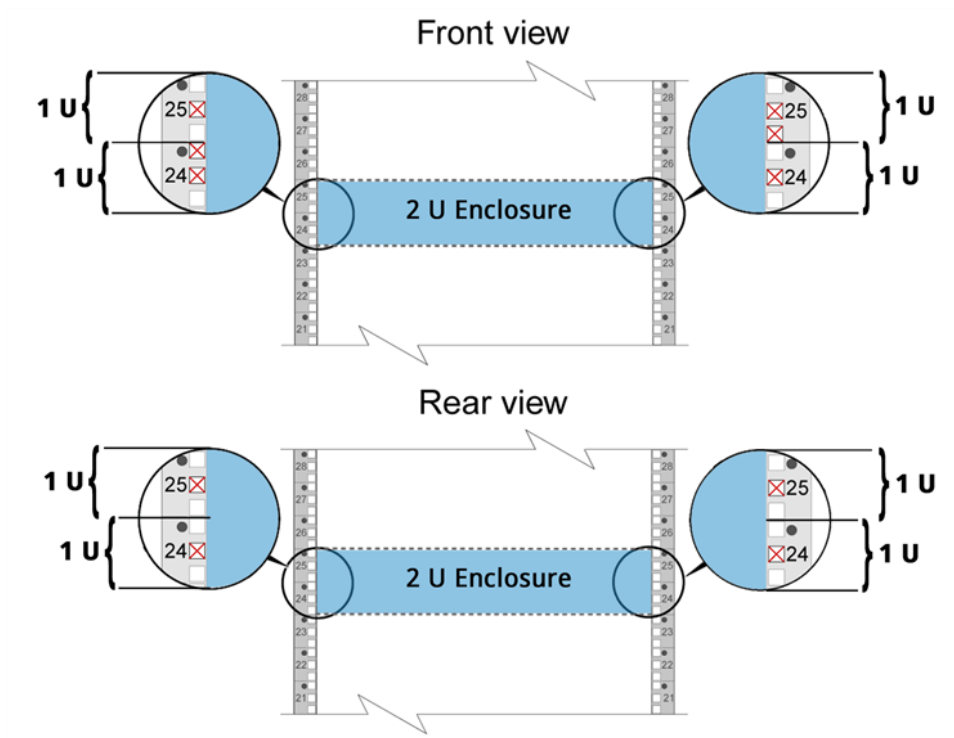


Figure 12: Cage nut installation



Cage nut: Code F - P/N:01-00000148 or 279-00-04

7. If your rack does not have pre-tapped holes, do the following:
 - Remove any cage nuts from the holes.
 - Hook the front and rear hanging pins into the rack's holes.

8. Use one of the following, as appropriate, to attach the front of the rail assembly to the front of the rack:

- 1 #10-32 x 5/8 flathead Phillips screw
- Appropriate 5 or 6 mm flathead Phillips screw

In a rack with pre-tapped holes, push the rails outward to maximize the opening width while tightening the screws.

Figure 13: Attaching front rail assembly



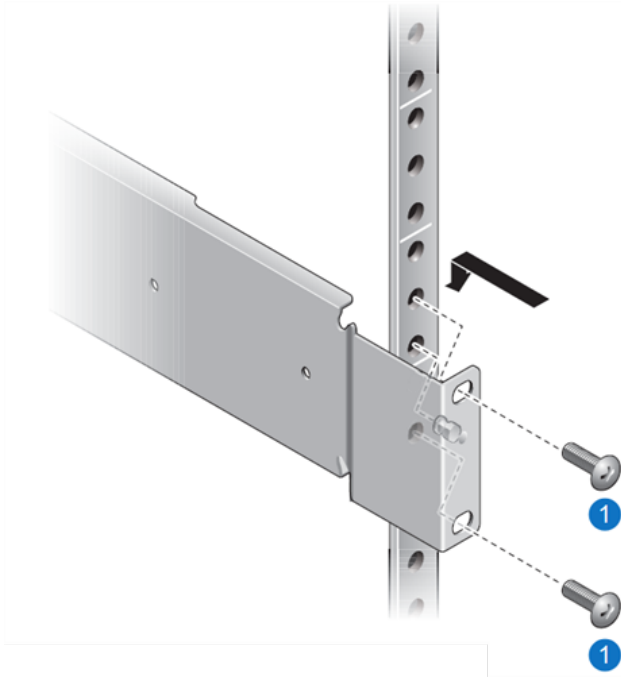
1. Screw: Code D - P/N:01-00000265-00-01 or 01-00000266-00-01 or 01-00000268-00-01

9. Use one of the following, as appropriate, to attach the rear of the rail assembly to the rear of the rack:

- 2 #10-32 x 3/4 truss Phillips screws
- Appropriate 5 or 6 mm panhead screws

In a rack with pre-tapped holes, push the rails outward to maximize the opening width while tightening the screws.

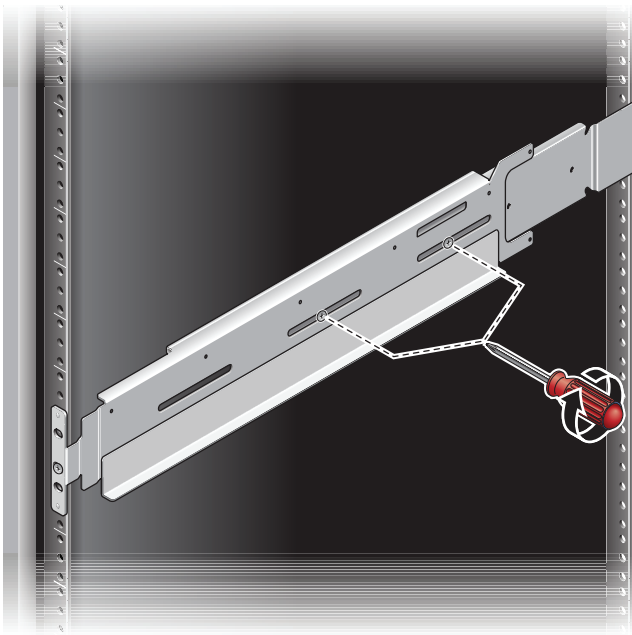
Figure 14: Attaching rear rail assembly



1. Screw: Code C - P/N:01-0000264-00-01 or 01-0000267-00-01 or 01-0000269-00-01

10. Tighten the screws that you loosely attached in Step 3.

Figure 15: Tightening rail screws



11. Repeat steps 1, 2, and 3 for the other side of the chassis.

Continue to [Install the QXS Chassis >>](#)

* [Back to Checklist: QXS Chassis Installation](#) *

* [Back to Checklist: System Installation](#) *

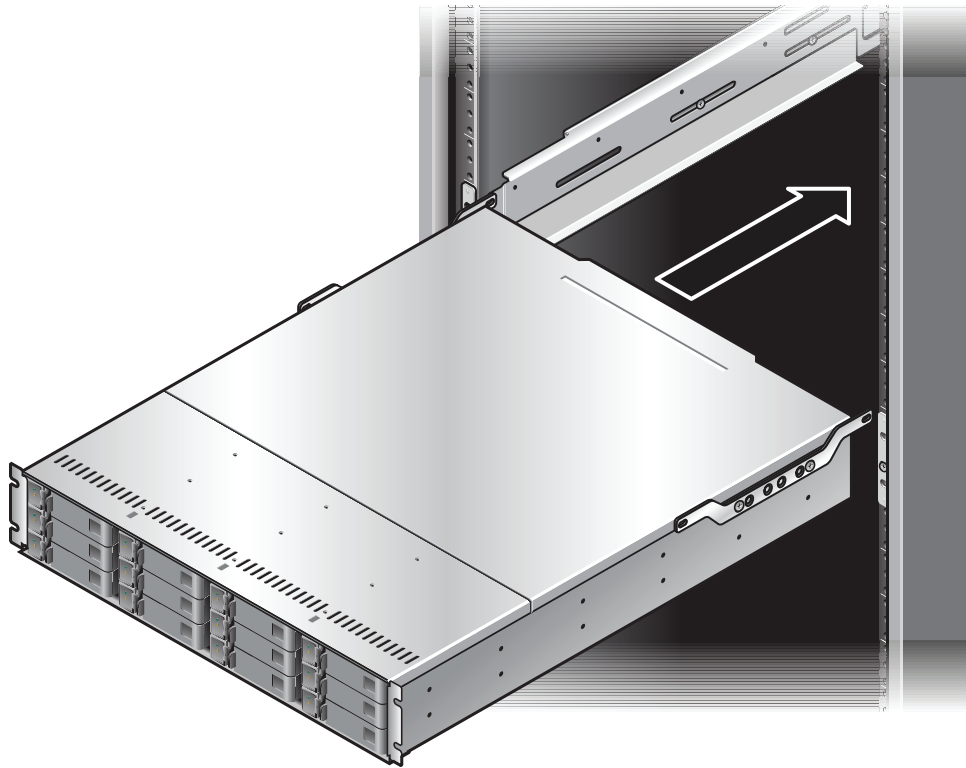
Install and Secure the QXS-412/424 Chassis

1. Carefully lift/align the chassis and slide it into the rack. Ensure that the chassis is level.

⚠ Caution:

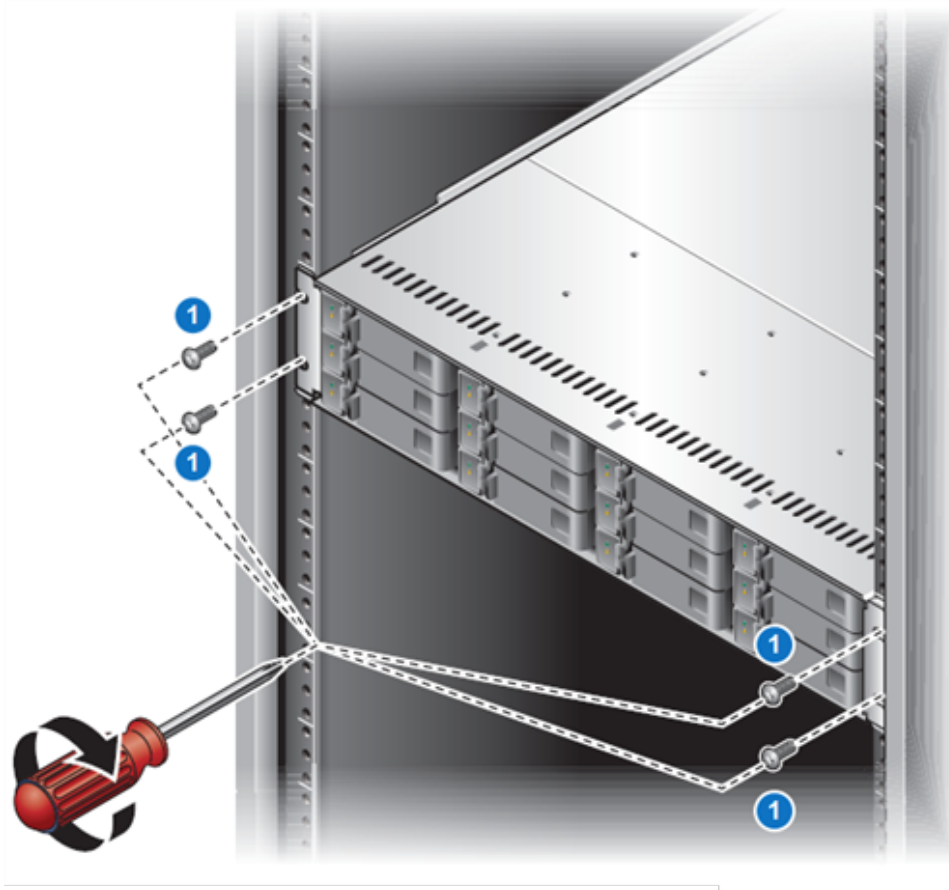
- Rails might bend if the chassis is not level when inserted.
- Replace the rail if it becomes deformed as a result of inserting the chassis in an unlevel position during installation.

Figure 16: Sliding chassis into rack



2. Using a total of four #10-32 x 3/4 truss Phillips or appropriate metric (5 or 6 mm) panhead screws (two per ear), secure the mounting ears on the front of the chassis to the rack face.

Figure 17: Securing front mounting ears

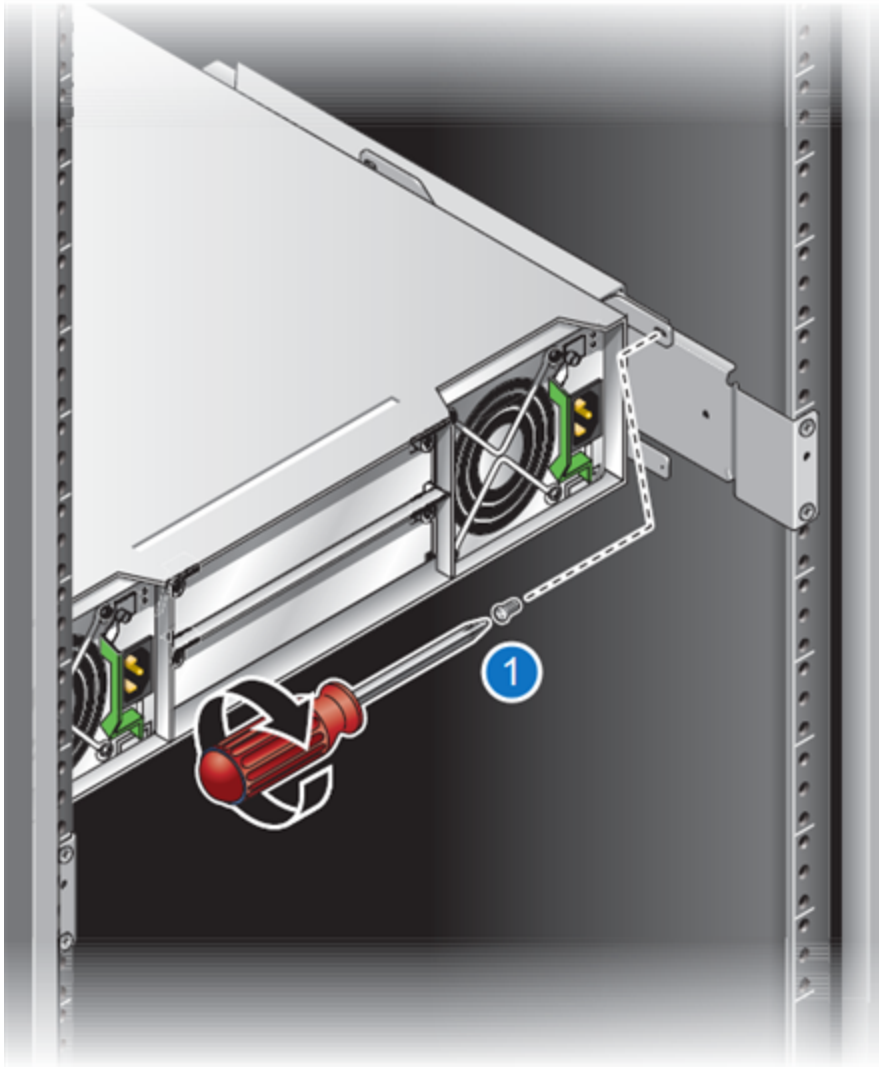


1. Screws: Code C - P/N:01-00000264-00-01 or 01-00000267-00-01 or 01-00000269-00-01

3. Using one #6-32 x 1/4 panhead Phillips screw for each rear bracket, secure the chassis to the horizontal rail spanning the depth of the rack.

i Note:
You can improve screwdriver access by removing the power supplies from the drive chassis, when securing the chassis into the rack.

Figure 18: Securing chassis to horizontal rail



1. Screw: Code E - P/N:01-00000522-00-01

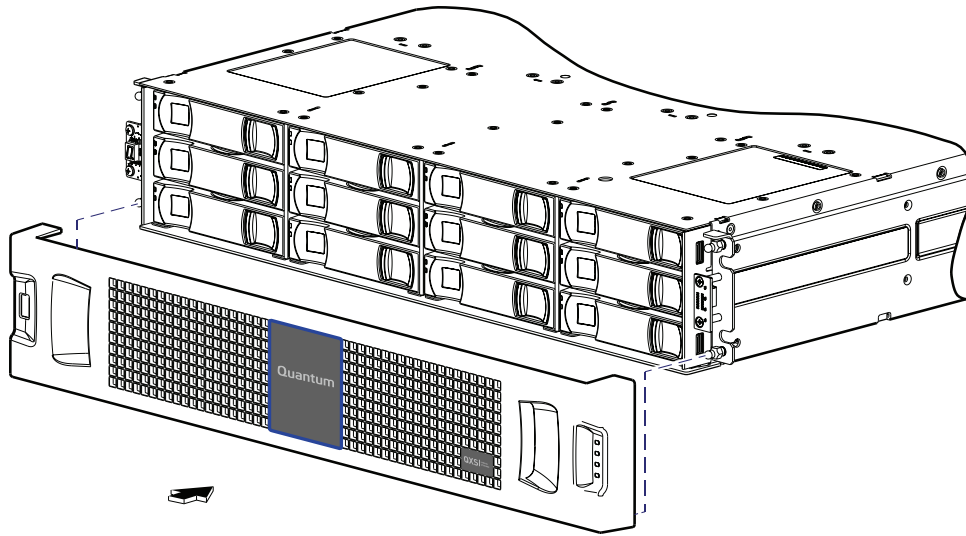
4. Repeat steps 1-3 for each chassis.

QXS-412/424 Next steps

Perform the following steps to finish the installation of the storage system components:

1. Install any additional drives and options per instructions provided with the options.
2. Install the chassis bezel as described in the Bezel Installation Guide.

Figure 19: Installing bezel (representative example)



i Note: When the chassis is in operation, the bezel must be attached in order to provide EMI protection for the drives.

3. Install any additional options as described in instructions provided with the options.
4. Connect chassis, power up the system, and connect hosts as described in the Setup Guide.
5. Upon successful completion of the hardware installation, use the storage system's web-based management interface to configure and provision the system.
6. See the [Quantum website](#) for additional information.