JUNIPER NETWORKS® | Engineering Simplicity

Day One+

QFX5700

Step 1: Begin

In this guide, we provide a simple, three-step path, to quickly get you up and running with your new QFX5700. We've simplified and shortened the installation and configuration steps, and included how-to videos. You'll learn how to install an AC-powered QFX5700 in a rack, power it up, and configure basic settings. For details on how to install a DC-powered QFX5700, see the QFX5700 Switch Hardware Guide.
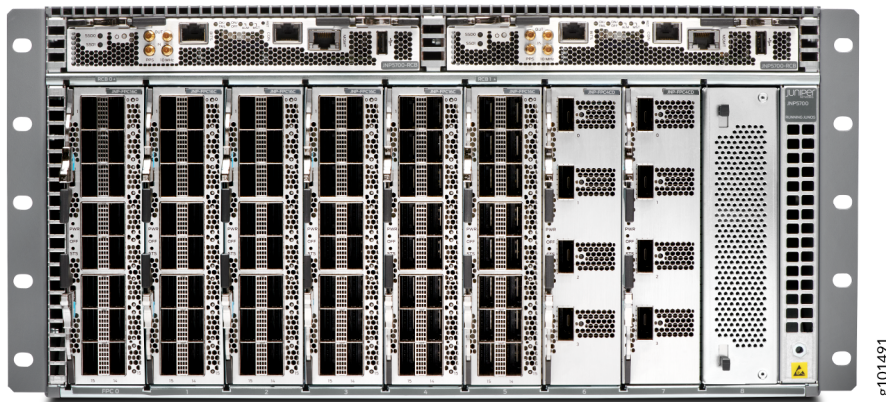
Junos OS Evolved

The QFX5700 runs Junos® OS Evolved software. Junos OS Evolved is a unified, end-to-end network operating system that provides reliability, agility, and open programmability for successful cloud-scale deployments. With Junos OS Evolved, you can enable higher availability, accelerate your deployments, innovate more rapidly, and operate your network more efficiently. We've aligned Junos OS Evolved with Junos OS so that you can seamlessly continue to manage and automate your network.

> **NOTE:** Are you interested in getting hands-on experience with the topics and operations covered in this guide? Visit Juniper Networks Virtual Labs and reserve your free sandbox today! You'll find the Junos Day One Experience sandbox in the stand alone category.

Meet the QFX5700 Switch

The QFX5700 line supports very large, dense, and fast 400GbE IP fabrics based on proven Internet scale technology. With 10/25/40/50/100/200/GbE interface options, the QFX5700 is an optimal choice for spine-and-leaf deployments in enterprise, high-performance computing (HPC), service provider, and cloud provider data centers..

Install the QFX5700

IN THIS SECTION

A QFX5700 switch is shipped with an Routing Control BoardCB, FEB, two power supplies is really heavy. You'll need a mechanical lift and someone to help you install it. If you don't have a mechanical lift, you can install an empty QFX5700 chassis and then install the components later.

What's in the Box?

- QFX5700 switch

- Two power cords appropriate for your geographic location

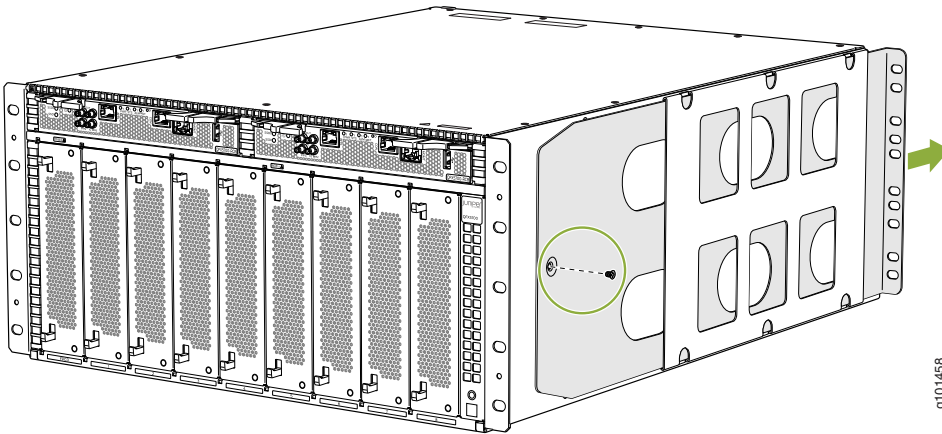- RJ-45 Ethernet cable

- RJ-45 to DB-9 serial port adapter

What Else Do I Need?

- Someone to help you secure the switch to the rack

- A mechanical lift rated for 250 lb (113.4 kg)

- Eighteen mounting screws appropriate for your rack

- A Phillips (+) screwdriver, number 1, 2, or 3, depending on the size of your rack-mounting screws

> **NOTE:** Because of the size and weight of the switch, we strongly recommend that you use a mechanical lift to install the QFX5700.

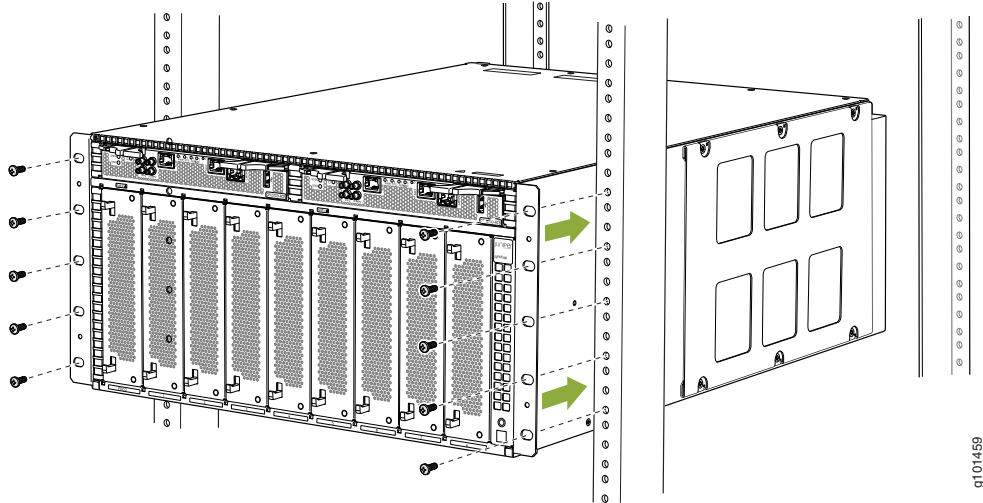**Install a Pre-Populated QFX5700 Using a Mechanical Lift**

1. Review the 'General Safety Guidelines and Warnings' in the QFX5700 Hardware Guide.

2. Wrap and fasten one end of the ESD grounding strap around your bare wrist, and connect the other end to a site ESD point.

3. Using a Phillips screwdriver, remove the screw on each side of the chassis that holds the rear mounting-blades to the chassis.

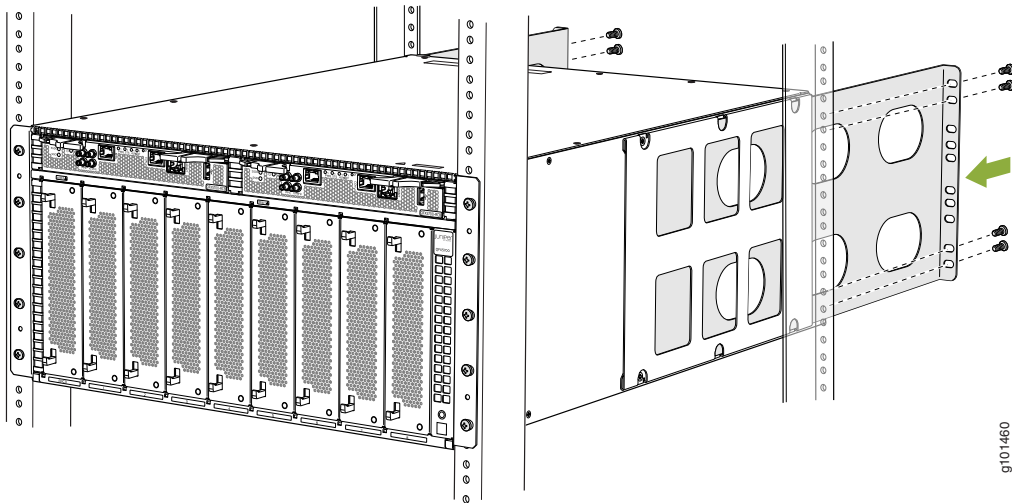4. Slide the mounting blades out of the channels.

g101458

5. Load the switch onto the lift, making sure it rests securely on the lift platform.
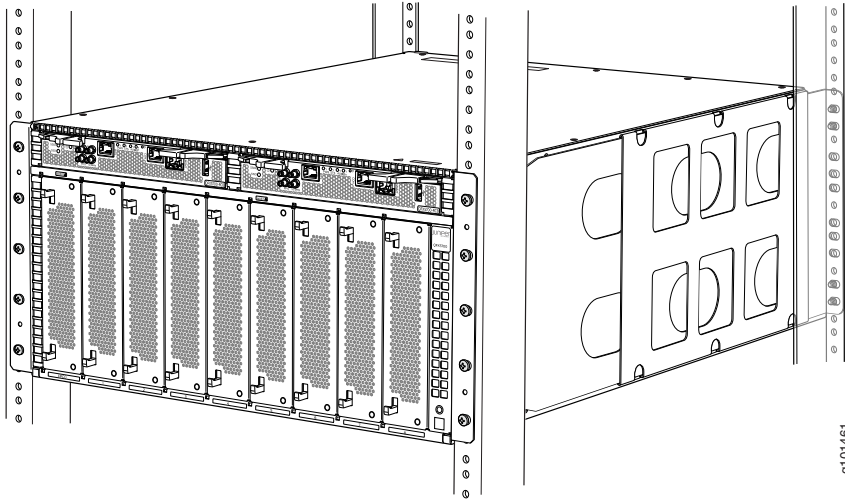

g101463

6. Using the lift, align the switch in front of the rack.

7. Carefully position the chassis in the rack until the holes of the front-mounting brackets align with the holes in the rack rails.

g101459

8. Starting from the bottom, insert 5 rack mounting screws into the front mounting bracket holes on each side of the rack and tighten them with a screwdriver.

9. On the rear of the chassis, slide the rear mounting blades into the channels on each side of the chassis until they contact the rack rails.

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10. Starting from the bottom, insert 4 rack mounting screws into the rear mounting bracket holes on each side of the rack and tighten them with a screw driver.

11. Check to see if the mounting screws are aligned on each slide of the rack and that the switch is level.

> **NOTE:** If you have unused ports on RCB (Timing Ports 10MHz/1PPS IN/OUT) and FPC (Optical Ports), plug them using dust covers to prevent dust from entering the connectors.
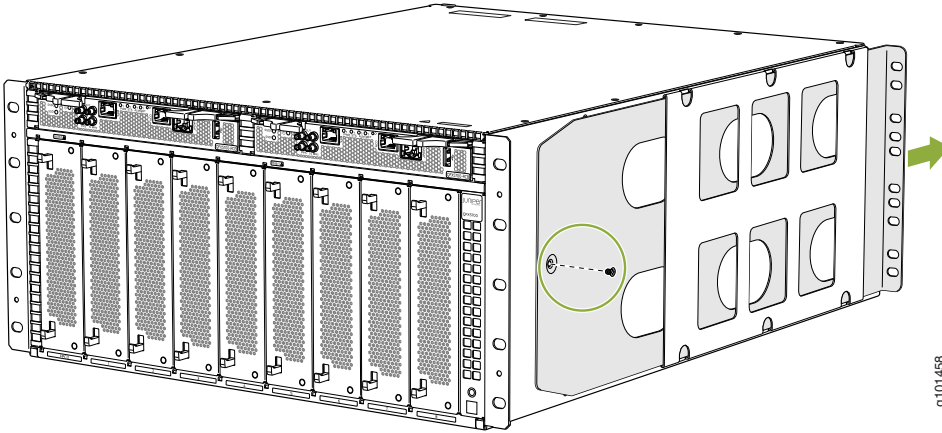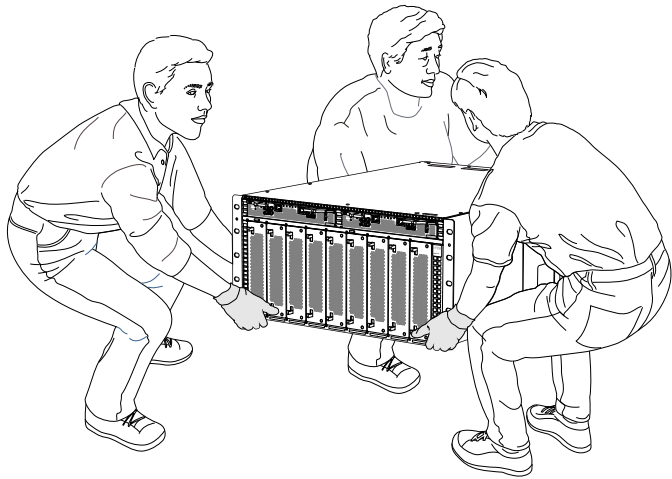
Install an Empty QFX5700 Chassis

> ⚠ **WARNING:** The switch weighs approximately 250 lb (113 kg). You'll need at least three people to help lift the chassis and mount it in the rack or cabinet. If you're not using a mechanical lift, make sure the chassis is empty (contains only the midplane) before you lift it.

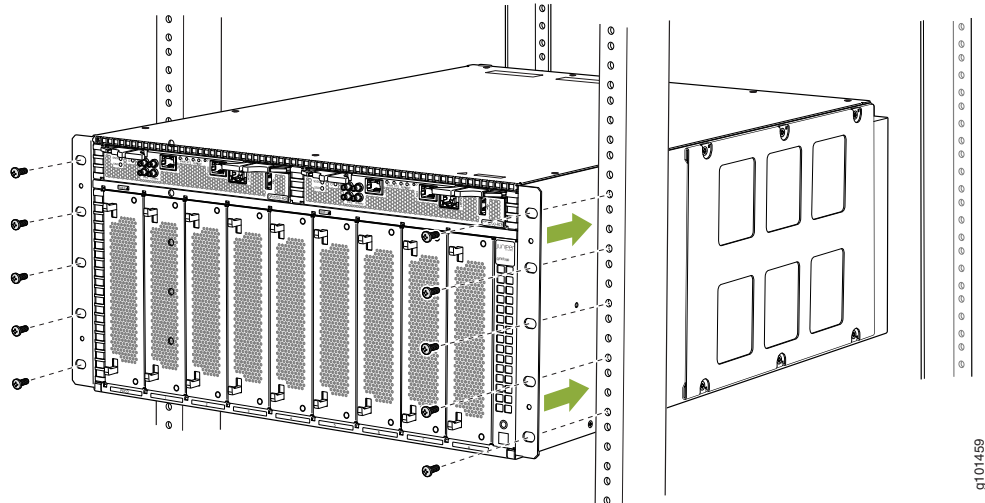1. Remove all components from the chassis (if installed):

   - Remove the QFX5700 Routing and Control Board

   - Remove the QFX5700 Forwarding Engine Board

   - Remove the QFX5700 FPC

   - Remove the QFX5700 Fan Tray

   - Remove the AC/HVDC Power Supply

2. Wrap and fasten one end of the ESD wrist strap around your bare wrist, and connect the other end of the strap to the ESD point on the device.

3. Using a Phillips screwdriver, remove the screw on each side of the chassis that holds the rear mounting blades to the chassis.
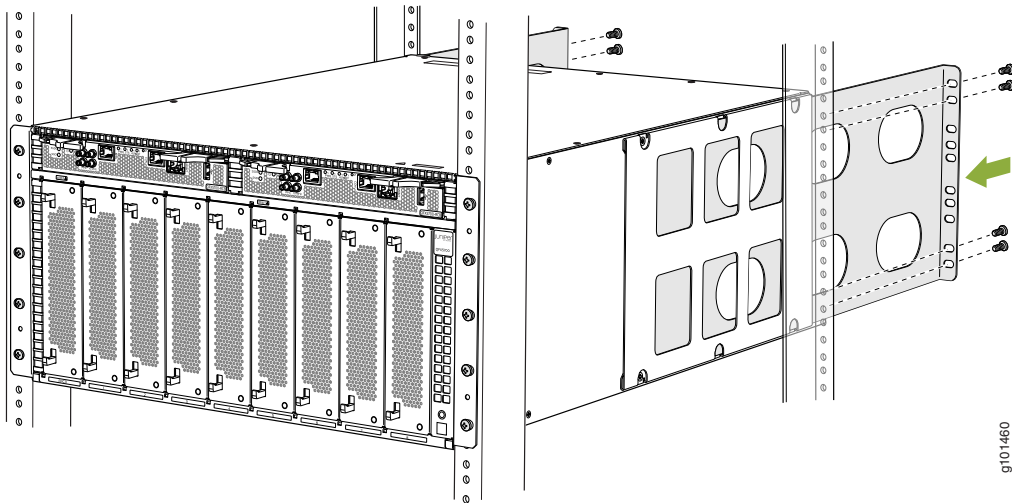
4. Slide the mounting blades out of the channels.

5. With one person on each side, carefully lift the bottom of the chassis and position it in the rack so that the front brackets are aligned with the rack holes.

6. With two people continuing to support the chassis, have the third person install and tighten five mounting screws in the front mounting bracket holes on each side of the rack, starting from the bottom.

7. On the rear of the chassis, slide the rear mounting blades into the channels on each side of the chassis until the rear mounting brackets contact the rack rails

8. Install and tighten four mounting screws into the rear mounting bracket holes on each side of the rack, starting from the bottom.

9. Check to see that all mounting screws on each side of the rack are aligned and the switch is level.

10. If you have removed any pre-installed components, reinstall them:

- Install a QFX5700 Routing and Control Board

- Install a QFX5700 Forwarding Engine Board

- Install a QFX5700 FPC

- Install a QFX5700 Fan Tray

- Install a AC/HVDC Power Supply/DC Power Supply

Power On

Now that you've installed your QFX5700 in the rack, you're ready to connect it to power.

1. Wrap and fasten one end of the ESD wrist strap around your bare wrist, and connect the other end of the strap to the ESD point on the QFX5700.

2. Ensure that the power supplies are fully inserted in the chassis and the latches are secure.

3. Locate the AC power cords shipped with the QFX5700 switch; the cords have plugs appropriate for your geographical location.

4. Insert the coupler end of the power cord into the each AC power cord inlet on the AC power supply.

5. If the AC power source outlet has a power switch, turn it off.

> **NOTE:** The QFX5700 powers on as soon as you plug it in to power. There is no power switch.

6. Plug in each power cord to the AC power source outlet.

7. If the AC power source outlet has a power switch, turn it on.

8. Verify that the status LEDs on each power supply are lit green.

Step 2: Up and Running

IN THIS SECTION

- Plug and Play | **11**
- Customize the Basic Configuration | **11**

Now that the QFX5700 is powered on, let's do some initial configuration to get it up and running on the network. It's simple to provision and manage the QFX5700 using the CLI.

Plug and Play

The QFX5700 switch ships with factory-default settings that enable plug-and-play operation. These settings load as soon as you power on the QFX5700 switch.

Customize the Basic Configuration

You can easily customize the factory-default configuration using CLI commands. Initially, you'll need to make changes through the console port. After you configure the management port, you can access the device using SSH to make additional configuration changes. You can revert to the factory-default configuration whenever you want.

Have the following information ready before you begin to configure custom settings for the switch:

- Hostname
- Root authentication password
- Management port IP address
- Default gateway IP address
- (Optional) SNMP read community, location, and contact information

1. Verify that your laptop or desktop PC has these default serial port settings:
   - Baud Rate—9600
   - Flow Control—None
   - Data—8
   - Parity—None
   - Stop Bits—1
   - DCD State—Disregard

2. Connect the console port on the QFX5700 to a laptop or desktop PC using the supplied RJ-45 cable and RJ-45 to DB-9 adapter.

   NOTE: If your laptop or desktop doesn't have a serial port, use a serial-to-USB adapter (not provided).

3. At the Junos OS Evolved login prompt, type **root** to log in. You don't need to enter a password. If the software booted before you connected the laptop or desktop to the console port, you might need to press the Enter key for the prompt to appear.

   ```
   login: root
   ```

4. Start the CLI.

```
root@%  cli
```

5. Enter configuration mode.

```
root>  configure
```

6. Add a password for the root administration user account.

```
[edit]
root@#  set system root-authentication plain-text-password
New password: password
Retype new password: password
```

7. (Optional) Configure the name of the switch. If the name includes spaces, enclose the name in quotation marks (" ").

```
[edit]
root@#  set system host-name host-name
```

8. Configure the IP address and prefix length for the management port on the switch.

> **NOTE:** Although the CLI permits you to configure two management Ethernet interfaces within the same subnet, only one interface is usable and supported at any point of time.

```
[edit]
root@#  set interfaces re0:mgmt-0 unit 0 family inet address address/prefix-length
```

9. Create a routing instance.

```
[edit]
root@#  edit routing-instances mgmt_junos
root@#  set routing-instances mgmt_junos routing-options static route 0.0.0.0/0 next-hop 10.102.70.254
```

10. Configure the static routes to remote prefixes.

```
[edit]
root@#  set routing-options static route remote-prefix next-hop destination-ip
```

11. Enable the management instance.

```
[edit]
root@#  set system management-instance
```

12. Enable Telnet service if needed.

```
[edit]
root@#  set system services telnet
```

> **NOTE:** When Telnet is enabled, you can't log in to the QFX5700 through Telnet using root credentials. Root login is allowed only for SSH access.

13. Enable SSH service.

```
[edit]
root@#  set system services ssh
```

14. To allow users to log in to the switch as root through SSH, include the **root-login** statement.

```
[edit system services ssh]
root@#  root-login (allow | deny | deny-password)
```

> **NOTE:** By default, users are not allowed to log in to the switch as root through SSH.

15. Commit the configuration. Your changes become the active configuration for the switch.

```
[edit]
root@#  commit
```

Step 3: Keep Going

IN THIS SECTION

Congratulations! Your QFX5700 is configured and ready to go. Here are some things you can do next:

What's Next?

Here are some things you might want to configure next on your QFX5700.

If you want to	Then
Configure, monitor and troubleshoot various interfaces installed on the QFX5700	See Interfaces Fundamentals for Junos OS Evolved
Configure essential user access and authentication features for your system	See User Access and Authentication Administration Guide for Junos OS Evolved
Install and upgrade Junos OS Evolved and related software	See the Junos OS Evolved Software Installation and Upgrade Guide

General Information

Here are some excellent resources that will help take your QFX5700 knowledge to the next level:

If you want to	Then
Download, activate, and manage your software licenses to unlock additional features for your QFX series switch	See Activate Junos OS Licenses in the Juniper Licensing Guide
See all documentation available for the QFX5700	See the QFX5700 Documentation in the Juniper Networks TechLibrary.
Manage software upgrades for your QFX5700	See Installing Software on QFX Series Devices.
Stay up-to-date on new and changed features and known and resolved issues	See the Junos OS Evolved Release Notes.
See, automate, and protect your network with Juniper Security	Visit the Security Design Center.

Learn With Videos

Our video library continues to grow! We've created many, many videos that demonstrate how to do everything from install your hardware to configure advanced Junos OS network features. Here are some great video and training resources that will help you expand your knowledge of Junos OS.

If you want to	Then
Get short and concise tips and instructions that provide quick answers, clarity, and insight into specific features and functions of Juniper technologies	See Learning with Juniper on Juniper Networks main YouTube page
View a list of the many free technical trainings we offer at Juniper	Visit the Getting Started page on the Juniper Learning Portal