Juniper Networks QFX3500-48S4Q

Juniper Networks QFX3500-48S4Q Switch User Manual

Model: QFX3500-48S4Q

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Juniper Networks QFX3500-48S4Q switch. Please read this manual thoroughly before using the device to ensure proper functionality and safety.

2. SAFETY INFORMATION

Always observe the following safety precautions:

- Ensure proper grounding before connecting power.
- Do not operate the switch in wet or excessively humid environments.
- Use only the specified power supply.
- Avoid blocking ventilation openings to prevent overheating.
- Refer all servicing to qualified personnel.

3. PRODUCT OVERVIEW

The Juniper Networks QFX3500-48S4Q is a high-performance, 48-port SFP+/SFP and 4-port QSFP switch designed for data center and enterprise environments. It supports high-density 10 Gigabit Ethernet and 40 Gigabit Ethernet connectivity, offering flexible deployment options.

Figure 1: Front Panel of QFX3500-48S4Q Switch. This image displays the front of the Juniper Networks QFX3500-48S4Q switch, highlighting its 48 SFP/SFP+ ports for 10 Gigabit Ethernet, 4 QSFP ports for 40 Gigabit Ethernet, and the integrated power supply and fan modules on either side. The central display shows status indicators and the Juniper logo.

3.1 Key Features

- 48 SFP/SFP+ ports for 10GbE connectivity.
- 4 QSFP ports for 40GbE connectivity.
- High-performance switching capabilities.
- Airflow In design for efficient cooling.

4. SETUP AND INSTALLATION

4.1 Unpacking the Switch

Carefully remove the switch from its packaging. Verify that all components listed in the packing list are present and undamaged. Report any missing or damaged items to your supplier immediately.

4.2 Rack Mounting

The QFX3500-48S4Q is designed for standard 19-inch rack mounting. Use the provided rack-mount kit and follow these steps:

1. Attach the mounting brackets to the sides of the switch using the supplied screws.
2. Secure the switch into the rack using appropriate rack screws.
3. Ensure adequate space for airflow around the switch.

4.3 Power Connection

Connect the power cord(s) to the power supply unit(s) at the rear of the switch and then to a grounded AC power outlet. The switch supports redundant power supplies for enhanced reliability.

4.4 Initial Configuration

Connect a console cable to the console port on the front panel. Use a terminal emulator (e.g., PuTTY, Tera Term) with the following settings:

- Baud rate: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

Follow the on-screen prompts to perform initial setup, including setting the root password and basic network parameters.

5. OPERATING THE SWITCH

5.1 Powering On/Off

To power on, ensure power cords are connected. The switch will automatically begin its boot sequence. To power off, disconnect the power cords. For graceful shutdown, use the appropriate command-line interface (CLI) commands.

5.2 Connecting Devices

Connect network devices (servers, other switches) to the SFP/SFP+ ports using compatible transceivers and fiber optic cables, or to the QSFP ports for 40GbE connections. Ensure proper cable types are used for optimal performance.

5.3 Status Indicators

Monitor the LED indicators on the front panel for system status, port activity, and power status. Refer to the official Juniper Networks documentation for a detailed explanation of each LED.

6. MAINTENANCE

6.1 Cleaning

Periodically clean the exterior of the switch with a soft, dry cloth. Ensure ventilation openings are free from dust and debris. Do not use liquid cleaners directly on the device.

6.2 Firmware Updates

Regularly check the Juniper Networks support website for the latest firmware updates. Applying updates can improve performance, add new features, and address security vulnerabilities. Follow the provided instructions carefully when performing firmware upgrades.

6.3 Fan and Power Supply Replacement

The QFX3500-48S4Q features hot-swappable fan modules and power supplies. In case of a failure, these components can be replaced without powering down the entire switch. Consult the Juniper Networks hardware guide for detailed replacement procedures.

7. TROUBLESHOOTING

7.1 No Power

- Verify power cords are securely connected to both the switch and the power outlet.
- Check the power outlet for functionality.
- Inspect power supply LEDs for error indications.

7.2 Port Link Issues

- Ensure correct transceiver and cable types are used for the port.
- Check cable integrity and connections.
- Verify port configuration (speed, duplex) on both ends of the link.

7.3 System Performance Degradation

- Check CPU and memory utilization via the CLI.
- Ensure adequate ventilation and operating temperature.
- Review system logs for error messages or warnings.

For advanced troubleshooting, consult the Juniper Networks technical documentation or contact support.

8. SPECIFICATIONS

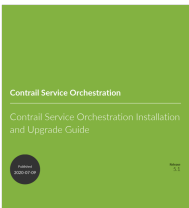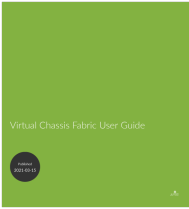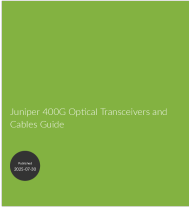| Feature	Description
Model	QFX3500-48S4Q
Ports	48 x SFP+/SFP, 4 x QSFP
Connectivity Protocol	X-10 *(Note: This may be a generic placeholder; actual protocols are Ethernet standards)*
Mounting Type	Wall Mount *(Typically rack-mount for this type of switch)*
International Protection Rating	IP00
Manufacturer	JUNIPER
UPC	649661984948

Note: Specifications are subject to change without notice. For the most current information, refer to the official Juniper Networks product documentation.

9. WARRANTY AND SUPPORT

This product is typically covered by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or visit the official Juniper Networks website. For technical support, product registration, or additional resources, please visit the Juniper Networks support portal.
For products purchased as "Amazon Renewed," please refer to the Amazon Renewed Guarantee for return and replacement policies.

Related Documents - QFX3500-48S4Q

	[Juniper Networks Contrail Service Orchestration Installation and Upgrade Guide Release 5.1](#) This guide provides detailed instructions for installing and upgrading Juniper Networks Contrail Service Orchestration (CSO) Release 5.1. It covers hardware and software requirements, deployment options, installation procedures, post-installation tasks, and upgrade processes for network infrastructure.
	[Juniper Networks Virtual Chassis Fabric User Guide](#) Comprehensive guide to Juniper Networks Virtual Chassis Fabric (VCF) for setting up, configuring, and managing high-performance data center networks. Covers spine-and-leaf topology, supported switches (QFX, EX series), software upgrades, and configuration.
	[Juniper Networks SFP-1G-SX-C Data Sheet: Specifications and Supported Platforms](#) Comprehensive data sheet for Juniper Networks SFP-1G-SX-C, detailing product description, specifications, supported platforms, interface modules, line cards, and routing engines. Includes compatibility information and technical details for network professionals.
	[Juniper 400G Optical Transceivers and Cables Guide](#) Explore Juniper Networks' 400G optical transceivers and cables with this comprehensive guide. Learn about QSFP-DD form factors, ZR/ZR+ optics, PAM4 modulation, DSP, FEC, installation, and maintenance for high-speed data center and metro networking solutions.

[Juniper Networks Vendor-Specific RADIUS Attributes for JUNOS Software](#)
This document details the Vendor-Specific RADIUS Attributes (VSAs) supported by Juniper Networks JUNOS Software. It explains their purpose, type, length, and string format, providing essential information for network administrators configuring RADIUS authentication and access control.

[Juniper Networks SSG 140 Hardware Installation and Configuration Guide](#)
This guide provides comprehensive instructions for the hardware installation and configuration of the Juniper Networks SSG 140, a secure services gateway offering integrated router and firewall capabilities for small to medium-sized businesses and enterprise branches. It details hardware components, installation procedures, and basic configuration steps.