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Document conventions
The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Brocade technical documentation.

Text formatting conventions
Text formatting conventions such as boldface, italic, or Courier font may be used in the flow of the text to highlight specific words or phrases.

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bold text</td>
<td>Identifies command names</td>
</tr>
<tr>
<td></td>
<td>Identifies keywords and operands</td>
</tr>
<tr>
<td></td>
<td>Identifies the names of user-manipulated GUI elements</td>
</tr>
<tr>
<td></td>
<td>Identifies text to enter at the GUI</td>
</tr>
<tr>
<td>italic text</td>
<td>Identifies emphasis</td>
</tr>
<tr>
<td></td>
<td>Identifies variables</td>
</tr>
<tr>
<td></td>
<td>Identifies document titles</td>
</tr>
<tr>
<td>Courier font</td>
<td>Identifies CLI output</td>
</tr>
<tr>
<td></td>
<td>Identifies command syntax examples</td>
</tr>
</tbody>
</table>

Command syntax conventions
Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bold text</td>
<td>Identifies command names, keywords, and command options.</td>
</tr>
<tr>
<td>italic text</td>
<td>Identifies a variable.</td>
</tr>
<tr>
<td>value</td>
<td>In Fibre Channel products, a fixed value provided as input to a command option is printed in plain text, for example, --show WWN.</td>
</tr>
<tr>
<td>[ ]</td>
<td>Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.</td>
</tr>
</tbody>
</table>
Preface
Brocade resources

{x | y | z} A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.

In Fibre Channel products, square brackets may be used instead for this purpose.

x | y A vertical bar separates mutually exclusive elements.

< > Nonprinting characters, for example, passwords, are enclosed in angle brackets.

... Repeat the previous element, for example, member[member...].

\ Indicates a “soft” line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

Notes, cautions, and warnings
Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

NOTE
A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION
An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.

CAUTION
A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.

DANGER
A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Brocade resources
Visit the Brocade website to locate related documentation for your product and additional Brocade resources.

You can download additional publications supporting your product at www.brocade.com. Select the Brocade Products tab to locate your product, then click the Brocade product name or image to open the individual product page. The user manuals are available in the resources module at the bottom of the page under the Documentation category.

To get up-to-the-minute information on Brocade products and resources, go to MyBrocade. You can register at no cost to obtain a user ID and password.

Release notes are available on MyBrocade under Product Downloads.

White papers, online demonstrations, and data sheets are available through the Brocade website.
Contacting Brocade Technical Support

As a Brocade customer, you can contact Brocade Technical Support 24x7 online, by telephone, or by e-mail. Brocade OEM customers contact their OEM/Solutions provider.

Brocade customers

For product support information and the latest information on contacting the Technical Assistance Center, go to http://www.brocade.com/services-support/index.html.

If you have purchased Brocade product support directly from Brocade, use one of the following methods to contact the Brocade Technical Assistance Center 24x7.

<table>
<thead>
<tr>
<th>Online</th>
<th>Telephone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preferred method of contact for nonurgent issues:</td>
<td>Required for Sev 1-Critical and Sev 2-High issues:</td>
<td><a href="mailto:support@brocade.com">support@brocade.com</a></td>
</tr>
<tr>
<td>• My Cases through MyBrocade</td>
<td>• Continental US: 1-800-752-8061</td>
<td>Please include:</td>
</tr>
<tr>
<td>• Software downloads and licensing tools</td>
<td>• Europe, Middle East, Africa, and Asia Pacific:</td>
<td>• Problem summary</td>
</tr>
<tr>
<td>• Knowledge Base</td>
<td>+800-AT FIBREE (+800 28 34 27 33)</td>
<td>• Serial number</td>
</tr>
<tr>
<td></td>
<td>• For areas unable to access toll free number:</td>
<td>• Installation details</td>
</tr>
<tr>
<td></td>
<td>+1-408-333-6061</td>
<td>• Environment description</td>
</tr>
<tr>
<td></td>
<td>• Toll-free numbers are available in many countries.</td>
<td></td>
</tr>
</tbody>
</table>

Brocade OEM customers

If you have purchased Brocade product support from a Brocade OEM/Solution Provider, contact your OEM/Solution Provider for all of your product support needs.

- OEM/Solution Providers are trained and certified by Brocade to support Brocade® products.
- Brocade provides backline support for issues that cannot be resolved by the OEM/Solution Provider.
- Brocade Supplemental Support augments your existing OEM support contract, providing direct access to Brocade expertise. For more information, contact Brocade or your OEM.
- For questions regarding service levels and response times, contact your OEM/Solution Provider.

Document feedback

To send feedback and report errors in the documentation you can use the feedback form posted with the document or you can e-mail the documentation team.

Quality is our first concern at Brocade and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. You can provide feedback in two ways:

- Through the online feedback form in the HTML documents posted on www.brocade.com.
- By sending your feedback to documentation@brocade.com.

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.
About this Document

- What's new in this document

What's new in this document

There is no enhancements in this edition.
Brocade ICX 7750 Overview

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- Brocade ICX 7750 slot and Ethernet port numbering ......................... 16
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Brocade ICX 7750 features

The Brocade ICX 7750 is a high-density aggregation switch that offers both 1/10 and 10/40 Gigabit Ethernet (GbE) line rates, low latency cut-through switching, and up to 2.56 Tbps throughput for campus LAN and classic Ethernet data center environments.

The Brocade ICX 7750 switch features:

- Comprehensive support for a range of 1 GbE, 10 GbE, and 40 GbE optics (refer to the Brocade Optics Family Data Sheet).
- Dual redundant, hot-swappable 504 W AC or DC power supplies available with intake or exhaust airflow.
- Optional 6-port 10/40 GbE QSFP+ expansion/stacking module.
- Four hot-swappable fan units available with intake or exhaust airflow.
- One Gigabit Ethernet port (RJ-45) and one serial management port (mini-USB) to configure and manage the switch through the CLI.
- One USB port for the transfer of software and configuration files from an external disk drive.

Brocade ICX 7750 orderable models

The Brocade ICX 7750 consists of three orderable models, as shown in Table 1.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Brocade ICX 7750 orderable switch models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Description</td>
</tr>
<tr>
<td>ICX 7750-26Q</td>
<td>Brocade ICX 7750 with 26 10/40 GbE QSFP+ ports. No power supplies, fan units, or expansion module (must be ordered separately). Advanced software. No optics.</td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>Brocade ICX 7750 with 48 1/10 GbE SFP+ ports and six 10/40 GbE QSFP+ ports. No power supplies, fan units, or expansion module (must be ordered separately). Advanced software. No optics.</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>Brocade ICX 7750 with 48 1/10 GbE RJ-45 ports and six 10/40 GbE QSFP+ ports. No power supplies, fan units, or expansion module (must be ordered separately). Advanced software. No optics.</td>
</tr>
</tbody>
</table>

Brocade ICX 7750 customizable models

The Brocade ICX 7750 base systems do not ship with power supplies or fans. Fans and power supplies are ordered separately to allow for building the system that meets your network needs. Table 2 lists the available power supplies, fans, and the expansion module.
Brocade ICX 7750 Overview

Views of the Brocade ICX 7750 switch

### TABLE 2  SKUs for creating custom Brocade ICX 7750 switch models

<table>
<thead>
<tr>
<th>SKUs</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS9+E</td>
<td>504 W AC power supply; power-supply-side exhaust (port-side intake) airflow.</td>
</tr>
<tr>
<td>RPS9+I</td>
<td>504 W AC power supply; power-supply-side intake (port-side exhaust) airflow.</td>
</tr>
<tr>
<td>RPS9DC+E</td>
<td>504 W DC power supply; power-supply-side exhaust (port-side intake) airflow.</td>
</tr>
<tr>
<td>RPS9DC+I</td>
<td>504 W DC power supply; power-supply-side intake (port-side exhaust) airflow.</td>
</tr>
<tr>
<td>ICX 7750-FAN-E</td>
<td>Brocade ICX 7750 kit of four fans, exhaust airflow.</td>
</tr>
<tr>
<td>ICX 7750-FAN-I</td>
<td>Brocade ICX 7750 kit of four fans, intake airflow.</td>
</tr>
<tr>
<td>ICX 7750-6Q</td>
<td>Brocade ICX 7750 6-port QSFP+ expansion/stacking module.</td>
</tr>
</tbody>
</table>

### Views of the Brocade ICX 7750 switch

Figure 1 shows the front view of the Brocade ICX 7750-26Q switch.

**FIGURE 1** Front view of the Brocade ICX 7750-26Q

1. QSFP+ ports XL1/1 - XL1/20 and XL2/1 - XL2/6
2. Console port
3. System LEDs
4. Reset button
5. Stack unit ID display
6. QSFP+ port LEDs

Figure 2 shows the front view of the Brocade ICX 7750-48F switch.
**FIGURE 2**  Front view of the Brocade ICX 7750-48F

1. SFP+ ports 1/1 - 1/48  
2. Console port  
3. QSFP+ ports XL2/1 - XL2/6  
4. Reset button  
5. System LEDs  
6. SFP+ port LEDs  
7. Stack unit ID display  
8. QSFP+ port LEDs

*Figure 3* shows the front view of the Brocade ICX 7750-48C switch.

**FIGURE 3**  Front view of the Brocade ICX 7750-48C

1. 10GBase-T RJ-45 ports 1/1 - 1/48  
2. Console port  
3. QSFP+ ports XL2/1 - XL2/6  
4. Reset button  
5. System LEDs  
6. 10GBase-T port LEDs  
7. Stack unit ID display  
8. QSFP+ port LEDs

*Figure 4* shows the rear view of the Brocade ICX 7750 switch.
Brocade ICX 7750 slot and Ethernet port numbering

Many CLI commands require users to enter port numbers as part of the command syntax, and many `show` command outputs display port numbers. The port numbers are entered and displayed in stack-unit/slot number/port number format.

The Brocade ICX 7750 contains the following slots and Ethernet ports:

- Slot 1 and Slot 2 are located on the front of the Brocade ICX 7750-26Q device. Slot 1 contains 10/40 GbE QSFP+ ports XL1/1 through XL1/20; odd port numbers on the top row with port XL1/1 on the left and port XL1/20 on the right. Slot 2 contains 10/40 GbE QSFP+ ports XL2/1 through XL2/6; ports XL2/1, XL2/3, and XL2/5 are on the top row (left to right), and ports XL2/2, XL2/4, and XL2/6 are on the bottom row (left to right).
• Slot 1 and Slot 2 are located on the front of the Brocade ICX 7750-48F device. Slot 1 contains 1/10 GbE SFP+ ports 1/1 through 1/48, with odd port numbers on the top row and port 1/1 on the left. Slot 2 contains 10/40 GbE QSFP+ ports XL2/1, XL2/3, and XL2/5 on the top row (left to right), and ports XL2/2, XL2/4, and XL2/6 on the bottom row (left to right).

FIGURE 6  Brocade ICX 7750-48F slot numbering

1 Slot 1  2 Slot 2

• Slot 1 and Slot 2 are located on the front of the Brocade ICX 7750-48C device. Slot 1 contains 1/10 GbE RJ-45 ports 1/1 through 1/48, with odd port numbers on the top row and port 1/1 on the left. Slot 2 contains 10/40 GbE QSFP+ ports XL2/1, XL2/3, and XL2/5 on the top row (left to right), and ports XL2/2, XL2/4, and XL2/6 on the bottom row (left to right).

FIGURE 7  Brocade ICX 7750-48C slot numbering

1 Slot 1  2 Slot 2

• Slot 3 is located on the rear of the Brocade ICX 7750 switches and contains ports XL3/1, XL3/3, and XL3/5 on the top row (left to right) and ports XL3/2, XL3/4, and XL3/6 on the bottom row (left to right). These ports are 10/40 GbE QSFP+ ports.

FIGURE 8  Brocade ICX 7750 rear slot numbering

1 Slot 3

**Supported expansion module**

A 6-port 10/40 GbE QSFP+ expansion/stacking module can be purchased and installed in the rear of the Brocade ICX 7750. The module supports a range of 10 GbE and 40 GbE optics (refer to the Brocade Optics Family Data Sheet).

Instructions for installing or replacing an expansion/stacking module are described in "Replacing an expansion module" on page 69.
Brocade ICX 7750 Overview

Supported transceivers and cables

For a list of supported transceivers and cables, refer to the Brocade Optics Family Data Sheet.

**QSFP+ 40GBase-LR4/LM4/BiDi support**

The Brocade ICX 7750 supports 40GBASE-LR4 QSFP+ LC optics (up to 10 km over SMF) in the port ranges shown in Table 3.

<table>
<thead>
<tr>
<th>Model</th>
<th>Airflow</th>
<th>Front panel ports</th>
<th>Optional 40 GbE module ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-26Q</td>
<td>Exhaust</td>
<td>1/1/1 through 1/1/20</td>
<td>1/3/5 and 1/3/6</td>
</tr>
<tr>
<td></td>
<td>Inlet</td>
<td>1/2/5 and 1/2/6</td>
<td></td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>Exhaust or inlet</td>
<td>1/2/5 and 1/2/6</td>
<td>1/3/5 and 1/3/6</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>Exhaust or inlet</td>
<td>1/2/5 and 1/2/6</td>
<td>1/3/5 and 1/3/6</td>
</tr>
</tbody>
</table>

The Brocade ICX 7750 also supports 40GBASE-SR-BD bi-directional (BiDi) QSFP+ transceivers with duplex LC optics. The 40 GbE BiDi optics support two 20 GbE channels over duplex fiber cable, with the transmit and receive of each channel operating at two wavelengths on a single fiber.

The 40 GbE BiDi transceivers enable 40 GbE links to be supported on installed 10 GbE duplex fiber infrastructure. This optic has the same port limitations as the LR4 optic..
Breakout cables
The Brocade ICX 7750 can support the following breakout cables on certain 40 GbE ports:

- QSFP+ to 4 SFP+ (4x10 GbE) direct-attach copper breakout cables, lengths of 1, 3, and 5 m
- 4x10 GbE QSFP+ SR4 compatible with 10GBase-SR SFP+ using 1, 2, 3, 5, 7, 10, 15, and 100 m lengths of fiber cable

FIGURE 10 QSFP+ to 4 SFP+ (4x10 GbE) breakout cable

The Brocade ICX 7750 ports available for breakout are shown for each model in Table 4.

TABLE 4 Brocade ICX 7750 40 GbE breakout ports

<table>
<thead>
<tr>
<th>Model</th>
<th>Front panel Slot 1 ports</th>
<th>Front panel Slot 2 ports</th>
<th>Rear module Slot 3 ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-26Q</td>
<td>1/1/5 through 1/1/16</td>
<td>1/2/1 through 1/2/6</td>
<td>1/3/1 through 1/3/6</td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>N/A</td>
<td>1/2/1 through 1/2/6</td>
<td>1/3/1 through 1/3/6</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>N/A</td>
<td>1/2/1 through 1/2/6</td>
<td>1/3/1 through 1/3/6</td>
</tr>
</tbody>
</table>

QSFP+ to SFP+ adapter support
The Brocade ICX 7750 supports a third-party QSFP+ to SFP+ adapter for cost-effective connections between 40 GbE QSFP+ ports and 10 GbE hardware using standard SFP+ optical cabling rather than breakout cables.

An SFP+ transceiver (SR, LR, or USR) inserted in the QSFP+ to SFP+ adapter behaves as if it is connected to the first of the 4 breakout ports on the 40 GbE QSFP+ interface with no other ports available in the breakout. The 4x10 GbE breakout mode must be configured on the QSFP+ interface.
Brocade ICX 7750 Overview

Supported transceivers and cables
Installing the Brocade ICX 7750

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- Installation and safety considerations ........................................ 21
- Installation tasks .................................................................. 23
- Installation precautions .......................................................... 24
- Installing the device in a rack .................................................. 25
- Two-post rack mount installation .............................................. 26
- Installing the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295) ...................................................... 28
- Installing the Universal Four-Post Rack Kit (XBR-R000296) ........ 39
- Grounding the system ............................................................. 50
- Powering on the system ......................................................... 51
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- Connecting to the management port ....................................... 55
- Installing an SFP+ or a QSFP+ transceiver ................................. 55
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CAUTION
Procedures in this manual are intended for qualified service personnel.

Unpacking the device

The Brocade ICX 7750 ships with all of the items listed in the following list. Verify the contents of your shipping container. If any items are missing, contact the place of purchase.

The following items are included in your shipping carton:

- A Brocade ICX 7750 switch
- One accessory kit, containing two mounting ears and eight screws
- One console cable (Mini-USB to RJ-45) with RJ-45-to-DB-9 adapter
- Two Micro-HDMI to RJ-45 stack control-path cables, currently not used by the switch
- One control-path cable holder kit, containing one cable holder and one screw
- One grounding kit, containing one grounding lug and one grounding screw
- Installed filler panels for the PSU 2 slot, expansion module slot, and fan tray slot 1

Installation and safety considerations

You can install the Brocade ICX 7750 in the following ways:

- As a standalone unit on a flat surface.
Installing the Brocade ICX 7750

Installation and safety considerations

- In an EIA rack using a fixed-rail rack mount kit. The optional 4-post universal rack mount kit can be ordered from your switch retailer to support up to a 30-inch deep rack. The 4-post rack mount kit includes mid-mount and rear-mount brackets.
- In a 2-post Telco rack using a flush mount rack kit. The 2-post rack mount ears are included with the switch.

Electrical considerations

To install and operate the switch successfully, ensure compliance with the following requirements:

- The primary outlet is correctly wired, protected by a circuit breaker, and grounded in accordance with local electrical codes.
- The supply circuit, line fusing, and wire size are adequate, as specified by the electrical rating on the switch nameplate.
- The power supply standards are met.

Environmental considerations

For successful installation and operation of the switch, ensure that the following environmental requirements are met:

- Because the Brocade ICX 7750 can be ordered with fans that move air either front to back or back to front, be sure to orient your switch with the airflow pattern of any other devices in the rack. All equipment in the rack should force air in the same direction to avoid intake of exhaust air.
- Some combinations of intake and exhaust airflows may not be compatible with your environment. Consult your fan and power supply module FRU kit to determine the correct configuration.
- The ambient air temperature does not exceed 50°C (122°F) while the Brocade ICX 7750-26Q or Brocade ICX 7750-48F switch is operating, or 40°C (104°F) while the Brocade ICX 7750-48C switch is operating.

Location considerations

Before installing the device, plan its location and orientation relative to other devices and equipment. Devices can be mounted in a standard 19-inch equipment rack or on a flat surface.

The site should meet the following requirements:

- Maintain the operating environment as specified in “Environmental considerations” on page 22.
- Allow a minimum of 3 in. of space between the front and the back of the device and walls or other obstructions for proper airflow.
- Allow at least 3 in. of space at the front and back of the device for the twisted-pair, fiber-optic, and power cabling.
- Allow access for installing, cabling, and maintaining the devices.
- Allow the status LEDs to be clearly visible.
- Allow for twisted-pair cables to be routed away from power lines, fluorescent lighting fixtures, and other sources of electrical interference, such as radios and transmitters.
- Allow for the unit to be connected to a separate grounded power outlet that provides 100 to 240 VAC, 50 to 60 Hz, is within 2 m (6.6 ft) of each device, and is powered from an independent circuit breaker. As with any equipment, a filter or surge suppressor is recommended.

Rack considerations

For successful installation and operation of the switch in a rack, ensure the following rack requirements are met:

- The rack must be a standard EIA rack.
- The equipment in the rack is grounded through a reliable branch circuit connection and maintains ground at all times. Do not rely on a secondary connection to a branch circuit, such as a power strip.
• Airflow and temperature requirements are met on an ongoing basis, particularly if the switch is installed in a closed or multi rack assembly.

• The additional weight of the switch does not exceed the rack’s weight limits or unbalance the rack in any way.

• The rack is secured to ensure stability in case of unexpected movement, such as an earthquake.

Recommendations for cable management

Cables can be organized and managed in a variety of ways; for example, use cable channels on the sides of the rack or patch panels to reduce the potential for tangling the cables. The following list provides some recommendations for cable management:

### CAUTION
Before plugging a cable to any port, be sure to discharge any static charge stored on the cable by touching the electrical contacts to ground surface.

### NOTE
You should not use tie wraps with fiber-optic cables because they are easily overtightened and can damage the optical fibers. Velcro-like wraps are recommended.

• Plan for the rack space required for cable management before installing the switch.
• Leave at least 1 m (3.28 ft) of slack for each port cable. This provides room to remove and replace the switch, allows for inadvertent movement of the rack, and helps prevent the cables from being bent to less than the minimum bend radius.
• For easier maintenance, label the cables and record the devices to which they are connected.
• Keep LEDs visible by routing port cables and other cables away from the LEDs.

Installation tasks

Follow the steps listed in Table 1 to install your device. Details for each of these steps are provided on the pages indicated.

<table>
<thead>
<tr>
<th>Task number</th>
<th>Task</th>
<th>Where to find more information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ensure that the physical environment that will host the device has the proper cabling and ventilation.</td>
<td>“Installation and safety considerations” on page 21</td>
</tr>
<tr>
<td>2</td>
<td>If customizing a Brocade ICX 7750 baseline chassis:</td>
<td>“Installing and replacing a power supply unit” on page 51</td>
</tr>
<tr>
<td></td>
<td>1 Install at least one power supply unit.</td>
<td>“Installing or replacing the fan tray” on page 68</td>
</tr>
<tr>
<td></td>
<td>2 Install at least three fans.</td>
<td>“Installing or replacing an expansion module” on page 69</td>
</tr>
<tr>
<td></td>
<td>3 Install an expansion module.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Install the device in an equipment rack.</td>
<td>“Installing the device in a rack” on page 25</td>
</tr>
<tr>
<td>4</td>
<td>Attach a terminal or PC to the device. This will enable you to configure the device through the command line interface (CLI).</td>
<td>“Grounding the system” on page 50</td>
</tr>
<tr>
<td>5</td>
<td>Plug the device into a nearby power source that adheres to the regulatory requirements outlined in this manual.</td>
<td>“Powering on the system” on page 51</td>
</tr>
<tr>
<td>6</td>
<td>Assign a password for additional access security. No default password is assigned to the CLI.</td>
<td>Brocade FastIron Management Configuration Guide</td>
</tr>
</tbody>
</table>
Installation precautions

Follow all precautions when installing a device.

General precautions

**DANGER**
Laser radiation. Do not view directly with optical instruments. Class 1M laser products.

**CAUTION**
Do not install the device in an environment where the operating ambient temperature might exceed 50°C (122°F).

**CAUTION**
Make sure the airflow around the front and sides of the device is not restricted.

**CAUTION**
Never leave tools inside the device.

**DANGER**
Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the manufacturer’s instructions.

Lifting precautions

**DANGER**
Make sure the rack housing the device is adequately secured to prevent it from becoming unstable or falling over.

### TABLE 1  Installation tasks (Continued)

<table>
<thead>
<tr>
<th>Task number</th>
<th>Task</th>
<th>Where to find more information</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Before attaching equipment to the device, you must configure an interface IP address to the subnet on which the device will be located. Initial IP address configuration is performed using the CLI with a direct serial connection.</td>
<td>Brocade FastIron Management Configuration Guide</td>
</tr>
<tr>
<td>8</td>
<td>Connect network equipment to the system.</td>
<td>&quot;Connecting network devices&quot; on page 56</td>
</tr>
<tr>
<td>9</td>
<td>Test IP connectivity to other devices by pinging them and tracing routes.</td>
<td>Brocade FastIron Management Configuration Guide</td>
</tr>
<tr>
<td>10</td>
<td>Continue configuring the device using the CLI.</td>
<td>Brocade FastIron Management Configuration Guide</td>
</tr>
<tr>
<td>11</td>
<td>Secure access to the device.</td>
<td>Brocade FastIron Management Configuration Guide</td>
</tr>
</tbody>
</table>
Power precautions

**CAUTION**
Use a separate branch circuit for each AC power cord, which provides redundancy in case one of the circuits fails.

**DANGER**
To avoid high voltage shock, do not open the device while the power is on.

**CAUTION**
Ensure that the device does not overload the power circuits, wiring, and over-current protection. To determine the possibility of overloading the supply circuits, add the ampere (amp) ratings of all devices installed on the same circuit as the device. Compare this total with the rating limit for the circuit. The maximum ampere ratings are usually printed on the devices near the input power connectors.

**DANGER**
Disconnect the power cord from all power sources to completely remove power from the device.

**CAUTION**
Before plugging a cable to any port, be sure to discharge any static charge stored on the cable by touching the electrical contacts to ground surface.

**CAUTION**
If the installation requires a different power cord than the one supplied with the device, make sure you use a power cord displaying the mark of the safety agency that defines the regulations for power cords in your country. The mark is your assurance that the power cord can be used safely with the device.

DC-DC power source cautions

**CAUTION**
For DC systems, use grounding wire of at least 12 American Wire Gauge (AWG). The grounding wire should be attached to the DC input connector (as shown in Figure 32); the other end connects to the building ground.

**CAUTION**
For the DC input circuit to the system, make sure there is a 20 Amp circuit breaker, minimum 60 VDC, double pole, on the input terminal block to the power supply. The input wiring for connection to the product should be copper wire, 12 AWG, marked VW-1, and rated minimum 90°C.

Installing the device in a rack

**DANGER**
Make sure the rack housing the device is adequately secured to prevent it from becoming unstable or falling over.
Installing the Brocade ICX 7750
Two-post rack mount installation

NOTE
You need a #2 Phillips screwdriver for installation.

Before mounting the switch in a rack, pay particular attention to the following factors:

• Temperature: Because the temperature within a rack assembly may be higher than the ambient room temperature, check that the rack-environment temperature is within the specified operating temperature range. (Refer to “Environmental considerations” on page 22.)

• Mechanical loading: Do not place any equipment on top of a rack-mounted unit.

• Circuit overloading: Be sure that the supply circuit to the rack assembly is not overloaded.

• Grounding: Rack-mounted equipment should be properly grounded. Particular attention should be given to supply connections other than direct connections to the mains electricity supply.

To mount the product into a four-post rack, you can order one of two four-post rack kits with the part number XBR-R000295 or XBR-000296. For the procedures to install these kits, refer to “Installing the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295)” on page 28 and “Installing the Universal Four-Post Rack Kit (XBR-R000296)” on page 39.

Two-post rack mount installation
The Brocade ICX 7750 can be installed in a two-post rack in various mounting positions, as shown in Figure 1.

FIGURE 1   Two-post rack mounting positions

1. Front flush mount
2. Reverse mid-mount
3. Reverse-front mount
4. Rear mount
5. Front mid-mount
6. 2-post rack, side view

NOTE
Use the following procedure when installing the Brocade ICX 7750 in a two-post Telco rack only. If an ICX 7750 device is to be installed into a standard four-post rack, make sure that the correct rack mount kit has been purchased. For four-post racks, follow the procedures in “Installing the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295)” on page 28 or “Installing the Universal Four-Post Rack Kit (XBR-R000296)” on page 39.

Use the following steps to mount the Brocade ICX 7750 in a two-post rack.
Installing the Brocade ICX 7750
Two-post rack mount installation

1. Remove the rack mount kit from the shipping carton. The kit contains the following items:
   - Two L-shaped mounting brackets
   - Eight 8-32 x 5/16 in., panhead Phillips screws

2. Attach the mounting brackets to the sides of the device as illustrated in Figure 2 using the 8-32 x 5/16 in. screws.

FIGURE 2 Attaching the mounting brackets for a Brocade ICX 7750

3. Position the device in the rack, providing temporary support under the switch until the rail kit is secured to the rack.

4. Attach the front right bracket to the rail rack using two 10-32 x 5/8 in. screws and the appropriate round-hole or square-hole retainer nuts.

5. Repeat step 4 to attach the left front bracket to the left front rack rail and tighten all 10-32 x 5/8 in. screws to a torque of 25 in-lb (29 cm-kg). Refer to Figure 3.

FIGURE 3 Installing the Brocade ICX 7750 in a 2-post rack

Proceed to “Grounding the system” on page 50.
Installing the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295)

Use the following instructions to install a 1U, 1.5U, or 2U device in a 19-in. (48.3 cm) EIA rack using the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295).

The device can be installed so that the port side is either flush with the front posts or recessed with the non-port side flush with the rear posts. A recessed position allows a more gradual bend in the fiber-optic cables connected to the device and less interference in the aisle at the front of the rack.

NOTE
Hardware devices illustrated in these procedures are only for reference and may not depict the device you are installing into the rack.

Installation requirements
Review the installation and facility requirements for your product before mounting the device. Refer to the hardware installation guide for your product for more information.

Use Electronic Industries Association (EIA) standard racks. Provide space in a 19-in. (48.3 cm) EIA rack, as required for the device type, with a minimum distance of 24 in. (609.60 mm) and a maximum distance of 32 in. (812.80 mm) between the front and back posts.

Time and items required
Allow 15 to 30 minutes to complete this procedure. Note the following requirements to ensure correct installation and operation.

The following items are required to install the device using the Universal Four-Post Rack Kit:

- Clamps or other means of temporarily supporting the device in the rack
- #2 Phillips torque screwdriver
- 1/4-inch slotted-blade torque screwdriver

CAUTION
Use the screws specified in the procedure. Using longer screws can damage the device.

Parts list
The following parts are provided with the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks Installation (XBR-R000296).
FIGURE 4 Rack kit parts

1. Front brackets (2)  
2. Bracket extensions (2)  
3. Rear brackets, short (2)  
4. Rear brackets, medium (2)  
5. Rear brackets, long (2)  
6. Screw, 8-32 x 5/16-in., panhead Phillips (8)  
7. Screw, 8-32 x 5/16-in., flathead Phillips (16)  
8. Screw, 6-32 x 1/4-in., panhead Phillips (8)  
9. Screw, 10-32 x 5/8-in., panhead Phillips (8)  
10. Retainer nut, 10-32 (8)

Flush-front mounting the device in the rack

CAUTION
The device must be turned off and disconnected from the fabric during this procedure.

NOTE
The illustrations in the rack installation procedures show a 1U device, but the instructions are the same for a 1.5U or 2U device. The illustrations in the rack installation procedures are for reference only and may not show the actual device.

Complete the following tasks to install the device in a four-post rack:
1. "Attaching the front brackets" on page 30
2. "Attaching the extension brackets to the device" on page 30
3. "Installing the device in the rack" on page 31
4. "Attaching the rear brackets to the extensions" on page 32
5. "Attaching the rear brackets to the rack posts" on page 33
Attaching the front brackets

Complete the following steps to attach the front brackets to the device.

1. Position the right front bracket with the flat side against the right side of the device at the front of the device, as shown in Figure 5.
2. Insert four 8-32 x 5/16-in. flathead screws through the vertically aligned holes in the bracket and then into the holes on the side of the device. Use the upper and lower screw holes, leaving the center holes empty.
3. Repeat Step 1 and Step 2 to attach the left front bracket to the left side of the device.
4. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm-kg).

FIGURE 5 Attaching the front brackets

Attaching the extension brackets to the device

Complete the following steps to attach the extension brackets to the device. There are medium and long extension brackets that you can use for this step. Choose the correct extension bracket for the depth of your rack.

1. Select the proper length extension bracket for your rack depth.
2. Position the right extension bracket along the side of the device as shown in Figure 6.
3. Insert four 8-32 x 5/16-in. flathead screws through the vertically aligned holes in the extension bracket and then into the holes on the side of the device. Use the upper and lower screw holes, leaving the center holes empty.
4. Repeat Step 1 and Step 2 to attach the left extension bracket to the left side of the device.
5. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm-kg).
Installing the Brocade ICX 7750
Installing the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295)

FIGURE 6  Attaching the extension brackets to the device

1  Bracket extensions  2  Screws, 8-32 x 5/16-in., flathead Phillips

Installing the device in the rack
Complete the following steps to install the device in the rack.

1. Position the device in the rack, as shown in Figure 7, providing temporary support under the device until the rail kit is secured to the rack.

2. Attach the right front bracket to the right front rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

3. Attach the left front bracket to the left front rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

4. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).
Installing the Brocade ICX 7750
Installing the 1U, 1.5U, and 2U Universal Kit for Four-Post Racks (XBR-R000295)

FIGURE 7  Positioning the device in the rack

Attaching the rear brackets to the extensions

Complete the following steps to attach the rear brackets to the extensions. There are short and long rear brackets that you can use for this step. Choose the correct bracket for the depth of your rack.

1. Select the proper length rear bracket for your rack depth.
2. Slide the right rear bracket onto the right extension, as shown in Figure 8.
   The short rear brackets are shown. Use the first and third vertical pairs of holes for the screws.
   Refer to Figure 9 for the positioning of the medium or long brackets and screws.
3. Attach the brackets using four 6-32 x 1/4-in. panhead screws.
4. Repeat step 2 and step 3 to attach the left rear bracket to the left extension.
5. Adjust the brackets to the rack depth and tighten all the 6-32 x 1/4-in. screws to a torque of 9 in-lb (10 cm-kg).
Attaching the rear brackets to the rack posts

Complete the following steps to attach the rear brackets to the rack posts.

1. Attach the right rear bracket to the right rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts, as shown in Figure 10. Use the upper and lower holes in the bracket.

2. Attach the left rear bracket to the left rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

3. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).
Flush-rear (recessed) mounting the device in the rack

The flush-rear (recessed) mounting is similar to the flush-front mounting except that the brackets are reversed on the device.

**CAUTION**

The device must be turned off and disconnected from the fabric during this procedure.

**NOTE**

The illustrations in the rack installation procedures show a 1U device, but the instructions are the same for a 1.5U or 2U device. The illustrations in the rack installation procedures are for reference only and may not show the actual device.

Complete the following tasks to install the device in a four-post rack:

1. “Attaching the front brackets to the rear of the device” on page 35
2. “Attaching the extensions to the front of the device” on page 35
3. “Installing the device in the rack” on page 36
4. “Attaching the rear brackets to the extensions at the front of the device” on page 37
5. “Attaching the rear brackets to the front rack posts” on page 38
Attaching the front brackets to the rear of the device

**NOTE**
In this installation, the brackets are named as listed in the parts list even though the installation of the brackets is reversed from the flush-front installation.

Complete the following steps to attach the front brackets to the rear of the device.

1. Position the right front bracket with the flat side against the right rear side of the device, as shown in Figure 11.
2. Insert four 8-32 x 5/16-in. flathead screws through the vertically aligned holes in the bracket and then into the holes on the side of the device. Use the upper and lower screw holes, leaving the center holes empty.
3. Repeat Step 1 and Step 2 to attach the left rear bracket to the left side of the device.
4. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm·kg).

**FIGURE 11** Attaching the front brackets to the rear of the device

1 Device 2 Screws, 8-32 x 5/16-in., flathead Phillips
3 Front brackets

Attaching the extensions to the front of the device

Complete the following steps to attach the extension brackets to the front of the device. There are medium and long extension brackets that you can use for this step. Choose the correct extension for the depth of your rack.

1. Select the proper length extension bracket for your rack depth.
2. Position the right extension along the side of the device as shown in Figure 12.
3. Attach the bracket using four 8-32 x 5/16-in. flathead screws.
4. Repeat Step 1 and Step 2 to attach the left front extension to the left side of the device.
5. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm-kg).

**FIGURE 12** Attaching the bracket extensions to the device

1. Position the device in the rack, as shown in Figure 13, providing temporary support under the device until the rail kit is secured to the rack.
2. Attach the right front bracket to the right rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.
3. Attach the left front bracket to the left rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.
4. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).
FIGURE 13 Positioning the device in the rack

1. Select the proper length rear bracket for your rack depth.

2. Slide the right rear bracket onto the right extension, as shown in Figure 14.
   
   The short rear brackets are shown. Use the first and third vertical pairs of holes for the screws.
   
   Refer to Figure 15 for the positioning of the medium or long brackets and screws.

3. Attach the brackets using four 6-32 x 1/4-in. screws.

4. Repeat Step 2 and Step 3 to attach the left rear bracket to the left extension.

5. Adjust the brackets to the rack depth and tighten all the 6-32 x 1/4-in. screws to a torque of 9 in-lb (10 cm-kg).
Attaching the rear brackets to the front rack posts

Complete the following steps to attach the rear brackets to the front rack posts.

1. Attach the right rear bracket to the right front rack post using two 10-32 x 5/8-in. screws and two retainer nuts, as shown in Figure 16. Use the upper and lower holes in the bracket.

2. Attach the left rear bracket to the left front rack post using two 10-32 x 5/8-in. screws and two retainer nuts. Use the upper and lower holes in the bracket.
3. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).

**FIGURE 16** Attaching the rear brackets to the front rack posts

**Installing the Universal Four-Post Rack Kit (XBR-R000296)**

Use the following instructions to install a device in EIA racks that are between L-12.7 to 81.28 cm deep (L-5.0 to 32.0 in.), where L is the chassis depth, using the Universal Four-Post Rack Kit (XBR-R000296).

There are two ways you can mount the device in a four-post rack:

- With the port side flush with the front posts
- With the nonport side flush with the rear posts in a recessed position

A recessed position allows a more gradual bend in the fiber-optic cables connected to the switch and less interference in the aisle at the front of the rack.

**NOTE**
Although this document describes how to install both single height (1U) and double height (2U) switches, the illustrations show a 1U switch as a typical installation.

**NOTE**
Hardware devices illustrated in these procedures are only for reference and may not depict the device you are installing into the rack.
Installing the Brocade ICX 7750
Installing the Universal Four-Post Rack Kit (XBR-R000296)

Installation requirements

Provide space in an EIA rack with the following minimum and maximum distances between the front and back posts.

NOTE
For 1U and 2U devices, two people are required to install the device in a rack. One person holds the device, while the other screws in the front and rear "L" brackets.

TABLE 2 Space requirements

<table>
<thead>
<tr>
<th>Chassis with port-side side vents</th>
<th>Notes</th>
<th>Chassis depth</th>
<th>Minimum rack depth</th>
<th>Maximum rack depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Applicable to port-side and nonport-side flush mounts.</td>
<td>L</td>
<td>L-12.7 cm (L-5 in.)</td>
<td>81.28 cm (32 in.)</td>
</tr>
<tr>
<td>Yes</td>
<td>Applicable to port-side flush mounts.</td>
<td>L</td>
<td>L-12.7 cm (L-5 in.)</td>
<td>81.28 cm (32 in.)</td>
</tr>
<tr>
<td>Yes</td>
<td>Applicable to nonport-side flush mounts.</td>
<td>L</td>
<td>L</td>
<td>81.28 cm (32 in.)</td>
</tr>
</tbody>
</table>

Note that if chassis depth (L) is less than 40.64 cm (16 in.), the chassis will not fit into a rack with a maximum depth of 81.28 cm (32 in.) using the universal four-post rack kit. The maximum rack depth for a chassis less than 40.64 cm (16 in.) is 81.28 cm (32 in.) minus the difference between the chassis depth and 40.64 cm (16 in.). For example, a chassis with a depth (L) of 35.56 cm (14 in.) is 5.08 cm (2 in.) smaller than 40.64 cm (16 in.), so it will install into a rack with a maximum depth of 81.28 cm (32 in.) - 5.08 cm (2 in.) = 76.2 cm (30 in.).

Review the installation and facility requirements for your product before mounting the device. Refer to "Facility requirements" on page 10 for more information.

Time and items required

Allow 15 to 30 minutes to complete the installation.

The following items are required to install the device using the Universal Four-Post Rack Kit:

- #2 Phillips torque screwdriver
- 1/4-inch slotted-blade torque screwdriver
FIGURE 17  Items in the Universal Four-Post Rack Kit

1  Front brackets (2)
2  Extension brackets, medium (2)
3  Rear brackets, short (2)
4  Rear brackets, long (2)
5  Extension brackets, long (2)
6  Screw, 8-32 x 5/16-in., panhead Phillips (8)
7  Screw, 8-32 x 5/16-in., flathead Phillips (16)
8  Screw, 6-32 x 1/4-in., panhead Phillips (8)
9  Screw, 10-32 x 5/8-in., panhead Phillips (8)
10 Retainer nut, 10-32 (8)

Ensure that the items listed and illustrated in Figure 17 are included in the kit. Note that not all parts may be used with certain installations depending on the device type.

**CAUTION**
Use the screws specified in the procedure. Using longer screws can damage the device.

Flush-front mounting

**CAUTION**
The device must be turned off and disconnected from the fabric during this procedure.
NOTE
The illustrations in the rack installation procedures show a 1U device, but the instructions are the same for a 2U device. The illustrations in the rack installation procedures are for reference only and may not show the actual device.

Complete the following tasks to install the device in a four-post rack:

1. “Attaching the front brackets” on page 42
2. “Attaching the extension brackets to the device” on page 42
3. “Installing the device in the rack” on page 43
4. “Attaching the rear brackets to the extensions” on page 44
5. “Attaching the rear brackets to the rack posts” on page 45

**Attaching the front brackets**

Complete the following steps to attach the front brackets to the device.

1. Position the right front bracket with the flat side against the right side of the device at the front of the device, as shown in Figure 18.
2. Insert four 8-32 x 5/16-in. flathead screws through the vertically aligned holes in the bracket and then into the holes on the side of the device. Use the upper and lower screw holes, leaving the center holes empty.
3. Repeat Step 1 and Step 2 to attach the left front bracket to the left side of the device.
4. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm-kg).

**FIGURE 18** Attaching the front brackets

1. The Brocade device
2. Front brackets
3. Screws, 8-32 x 5/16-in., flathead Phillips

**Attaching the extension brackets to the device**

Complete the following steps to attach the extension brackets to the device. There are medium and long extension brackets that you can use for this step. Choose the correct extension bracket for the depth of your rack.
1. Select the proper length extension bracket for your rack depth.

2. Position the right extension bracket along the side of the device as shown in Figure 19.

3. Insert four 8-32 x 5/16-in. flathead screws through the vertically aligned holes in the extension bracket and then into the holes on the side of the device. Use the upper and lower screw holes, leaving the center holes empty.

4. Repeat Step 1 and Step 2 to attach the left extension bracket to the left side of the device.

5. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm·kg).

**FIGURE 19** Attaching the extension brackets to the device

---

**Installing the device in the rack**

Complete the following steps to install the device in the rack.

1. Position the device in the rack, as shown in Figure 20, providing temporary support under the device until the rail kit is secured to the rack.

2. Attach the right front bracket to the right front rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

3. Attach the left front bracket to the left front rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

4. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm·kg).
Installing the Brocade ICX 7750
Installing the Universal Four-Post Rack Kit (XBR-R000296)

FIGURE 20  Positioning the device in the rack

Attaching the rear brackets to the extensions

Complete the following steps to attach the rear brackets to the extensions. There are short and long rear brackets that you can use for this step. Choose the correct bracket for the depth of your rack.

1. Select the proper length rear bracket for your rack depth.
2. Slide the right rear bracket onto the right extension and attach to the extension by inserting four 6-32 x 1/4-in. panhead screws through the bracket holes. If possible, leave at least one empty vertical pair of holes between the screws for better support.
3. Repeat step 2 to attach the left rear bracket to the left extension.
4. Adjust the brackets to the rack depth and tighten all the 6-32 x 1/4-in. screws to a torque of 9 in-lb (10 cm·kg).

FIGURE 21  Attaching the rear brackets to the extensions
**Attaching the rear brackets to the rack posts**

Complete the following steps to attach the rear brackets to the rack posts.

1. Attach the right rear bracket to the right rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts, as shown in Figure 22. Use the upper and lower holes in the bracket.
2. Attach the left rear bracket to the left rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.
3. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).

**FIGURE 22** Attaching the rear brackets to the rack posts

![Diagram of rear brackets attachment](image)

1. Screws, 10-32 x 5/8-in., panhead Phillips
2. Retainer nuts, 10-32

**Flush-rear (recessed) mounting**

The flush-rear (recessed) mounting is similar to the flush-front mounting except that the brackets are reversed on the device.

**CAUTION**
The device must be turned off and disconnected from the fabric during this procedure.

**NOTE**
The illustrations in the rack installation procedures show a 1U device, but the instructions are the same for a 2U device. The illustrations in the rack installation procedures are for reference only and may not show the actual device.

Complete the following tasks to install the device in a four-post rack:

1. “Attaching the front brackets to the rear of the device” on page 46
2. “Attaching the extensions to the front of the device” on page 46
3. “Installing the device in the rack” on page 47
4. “Attaching the rear brackets to the extensions at the front of the device” on page 48
Installation the Brocade ICX 7750
Installing the Universal Four-Post Rack Kit (XBR-R000296)

5. “Attaching the rear brackets to the front rack posts” on page 49

Attaching the front brackets to the rear of the device

NOTE
In this installation, the brackets are named as listed in the parts list even though the installation of the brackets is reversed from the flush-front installation.

Complete the following steps to attach the front brackets to the rear of the device.

1. Position the right front bracket with the flat side against the right rear side of the device, as shown in Figure 23.
2. Insert four 8-32 x 5/16-in. flathead screws through the vertically aligned holes in the bracket and then into the holes on the side of the device. Use the upper and lower screw holes, leaving the center holes empty.
3. Repeat step 1 and step 2 to attach the left rear bracket to the left side of the device.
4. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm-kg).

FIGURE 23 Attaching the front brackets to the rear of the device

Attaching the extensions to the front of the device

Complete the following steps to attach the extension brackets to the front of the device. There are medium and long extension brackets that you can use for this step. Choose the correct extension for the depth of your rack.

1. Select the proper length extension bracket for your rack depth.
2. Position the right extension along the side of the device as shown in Figure 24.
3. Attach the bracket using four 8-32 x 5/16-in. flathead screws.
4. Repeat step 1 and step 2 to attach the left front extension to the left side of the device.
5. Tighten all the 8-32 x 5/16-in. screws to a torque of 15 in-lb (17 cm-kg).
FIGURE 24 Attaching the bracket extensions to the device


Installing the device in the rack

Complete the following steps to install the device in the rack.

1. Position the device in the rack, as shown in Figure 25, providing temporary support under the device until the rail kit is secured to the rack.

2. Attach the right front bracket to the right rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

3. Attach the left front bracket to the left rear rack post using two 10-32 x 5/8-in. panhead screws and two retainer nuts. Use the upper and lower holes in the bracket.

4. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).
Attaching the rear brackets to the extensions at the front of the device

Complete the following steps to attach the rear brackets to the extensions. There are short and long front brackets that you can use for this step. Choose the correct bracket for the depth of your rack.

1. Select the proper length rear bracket for your rack depth.
2. Slide the right rear bracket onto the right extension, as shown in Figure 26.
   The short rear brackets are shown. Use the first and third vertical pairs of holes for the screws.
   Refer to Figure 27 for the positioning of the short or long brackets and screws.
3. Attach the brackets using four 6-32 x 1/4-in. screws.
4. Repeat step 2 and step 3 to attach the left rear bracket to the left extension.
5. Adjust the brackets to the rack depth and tighten all the 6-32 x 1/4-in. screws to a torque of 9 in-lb (10 cm-kg).
Figure 26  Attaching the rear brackets to the extensions at the front of the device

Figure 27  Attaching the short or long rear brackets to the extensions

Attaching the rear brackets to the front rack posts

Complete the following steps to attach the rear brackets to the front rack posts.

1. Attach the right rear bracket to the right front rack post using two 10-32 x 5/8-in. screws and two retainer nuts, as shown in Figure 28. Use the upper and lower holes in the bracket.

2. Attach the left rear bracket to the left front rack post using two 10-32 x 5/8-in. screws and two retainer nuts. Use the upper and lower holes in the bracket.

3. Tighten all the 10-32 x 5/8-in. screws to a torque of 25 in-lb (29 cm-kg).
Installing the Brocade ICX 7750

Grounding the system

**FIGURE 28** Attaching the rear brackets to the front rack posts

Grounding the system

The rear panel of the Brocade ICX 7750 includes a single-screw grounding terminal. The surface area around this terminal is not painted to provide a good electrical connection. Before connecting power to the device, the grounding terminal must be connected to ground to ensure proper operation and to meet electromagnetic interference (EMI) and safety requirements.

**FIGURE 29** Connecting the grounding terminal

1. Screws, 10-32 x 5/8-in., panhead Phillips
2. Retainer nuts, 10-32

**NOTE**
Use the grounding lug and screw included in the Brocade ICX 7750 grounding kit.

Perform the following steps to connect to the grounding terminal.

1. Ensure that the rack in which the Brocade ICX 7750 is mounted is properly grounded and in compliance with local regulations.
2. Ensure that there is a good electrical connection to the grounding point on the rack (no paint or isolating surface treatment).
3. Crimp the included grounding lug to a grounding wire of at least 6 American Wire Gauge (AWG). The 6 AWG wire and grounding lug should be crimped together using a proper tool.

4. Attach the 6 AWG stranded copper wire to the grounding terminal on the Brocade ICX 7750 using the screw included in the grounding kit.

5. Attach the grounding wire to the grounding point on the rack.

**Powering on the system**

After you complete the physical installation, you can power on the system.

1. Install alternating-current (AC) and direct-current (DC) power supplies in the switch.
2. Attach AC or DC power cables to the power supply connectors on the rear panel.
3. Connect the power cables to the 100–240 VAC or -48 VDC power source.

**NOTE**

To turn the system off, simply unplug the power cable or cables.

**NOTE**

A power source should be installed near the equipment and should be easily accessible.

**Power supplies**

The Brocade ICX 7750 supports alternating-current (AC) and direct-current (DC) power supplies. The Brocade ICX 7750 is capable of running on one power supply and three fans. The second power supply and fourth fan provide redundancy.

If the second power supply and fourth fan slots are unused, you must cover them with filler panels.

**NOTE**

Brocade recommends that the Brocade ICX 7750-48C operate with two power supplies and four fan trays installed. If a power supply or fan tray fails, it must be replaced as soon as possible.

**NOTE**

AC and DC power supplies cannot be installed and used in the same device. Mismatched power supplies in the same device cause continual reboot on power up.

**Installing and replacing a power supply unit**

When installing or replacing a power supply unit, keep in mind the following:

- Power supplies can be swapped in or out while the device is running. The remaining power supply provides enough power for the device.
- The airflow direction of the power supply must match that of the installed fan trays. All must be either exhaust or intake.

**CAUTION**

Power supplies are hot-swappable. However, they should be inserted or removed without a power cord being connected to a power source to avoid damage.
Installing the Brocade ICX 7750
Power supplies

**CAUTION**
For Brocade ICX 7750 devices, be sure that the airflow direction of the power supply unit matches that of installed fan trays. The power supplies and fan trays are clearly labeled with either a green arrow with an “E”, or an orange arrow with an “I.”

**Installing an AC power supply**
Use the following steps to install an AC power supply in the Brocade ICX 7750.

**FIGURE 30** Installing an AC power supply unit

1. If replacing a power supply, remove the previously installed power supply from the appropriate slot by removing the two screws with a Phillips screwdriver.
2. If installing a new power supply into a slot covered with a filler panel:
   a. Using a Phillips screwdriver, unscrew the screws on the filler panel.
   b. Remove the filler panel.
3. Before opening the package that contains the power supply, touch the bag to the switch casing to discharge any potential static electricity. Brocade recommends using an ESD wrist strap during installation.
4. Remove the power supply from the anti-static shielded bag.
5. Holding the power supply level, guide it into the carrier rails on each side and gently push it all the way into the slot, ensuring that it firmly engages with the connector.
6. When you are sure the power supply has properly engaged the connector, tighten the retainer screws to secure the power supply in the slot.

When the Brocade ICX 7750 is powered on, the LEDs on the power supply rear panel should light up green to confirm that the power supply is correctly installed and supplying power.

**CAUTION**
If you do not install a power supply in a slot, you must keep the slot panel in place. If you run the device with an uncovered slot, the system will overheat.
Installing a DC power supply

CAUTION
All devices with DC power supplies (Brocade ICX 7750) are intended for installation in restricted access areas only. A restricted access area is where access can be gained only by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.

NOTE
AC and DC power supplies cannot be installed and used in the same device. Mismatched power supplies in the same device cause continual reboot on power up.

Use the following steps to install a DC power supply in the Brocade ICX 7750.

1. Remove the previously installed power supply from the appropriate slot by removing the chassis attachment screws located in the upper right and lower left of the power supply unit using a Phillips screwdriver. Refer to item 1 in Figure 31.

FIGURE 31  DC power supply screws

2. Before opening the package that contains the DC power supply, touch the bag of the switch casing to discharge any potential static electricity. Brocade recommends using an ESD wrist strap during installation.

3. Remove the DC power supply from the anti-static shielded bag.

4. Insert the DC power supply source wires into the DC wiring assembly, matching the terminals. Refer to Figure 32.
Installing the Brocade ICX 7750
Attaching a PC or terminal

FIGURE 32  DC power supply wiring assembly

1. Wire-tightening screws  
2. Assembly screws

5. Use the wire-tightening screws to secure the wires.

6. Insert the DC power supply wiring assembly with the wires connected into the power supply and tighten the assembly screws. Refer to Figure 32.

7. Using the handle on the power supply, hold the power supply level and guide it into the carrier rails on each side of the power supply slot. Gently push the power supply all the way into the slot, ensuring that it firmly engages with the connector.

8. When you are sure the power supply has properly engaged the connector, tighten the chassis attachment screws to secure the power supply in the slot.

When the Brocade ICX 7750 is powered on, the power LED on the front of the device should turn green to confirm that the power supply is correctly installed and supplying power. Refer to “Brocade ICX 7750 front-panel LEDs” on page 55.

Attaching a PC or terminal

To assign an IP address, you must have access to the command line interface (CLI). The CLI is a text-based interface that can be accessed through a direct serial connection to the device and through Telnet connections. The CLI is described in detail in the Brocade FastIron Management Configuration Guide.

Access the CLI by connecting to the console port. After you assign an IP address, you can access the system through Telnet, or Brocade Network Advisor.

Use the following steps to attach a management station to the console port.

1. Connect a PC or terminal to the console management port on the front of the Brocade ICX 7750 using the mini-USB serial console port cable and, if required, the RJ-45-to-DB-9 adapter.

   For port pinout information for the mini-USB serial console port, refer to “Serial port specifications (pinout mini-USB)” on page 74.

   NOTE
   You must run a terminal emulation program on the PC.

2. Launch the terminal emulation program and set the following session parameters:
Connecting to the management port

The Gigabit Ethernet management port (RJ-45) on the Brocade ICX 7750 rear panel provides an out-of-band network connection to the device. After you assign an IP address, you can access the Brocade ICX 7750 from anywhere in the attached network using Telnet, a web browser, or other network management tools, such as Brocade Network Advisor. To prevent unauthorized access, Brocade recommends that the management port only be connected to a secure private network.

To manage the Brocade ICX 7750 through its management port, connect the port to the management Ethernet network using Category 5 or better cable.

Management of the Brocade ICX 7750 is described in detail in the Brocade FastIron Management Configuration Guide.

Installing an SFP+ or a QSFP+ transceiver

To monitor the transceivers, the `show media` command output shows the transceiver information for all interfaces on the switch. Brocade provides support for third-party transceivers, but may require a Brocade transceiver be used for troubleshooting.

Support will not be provided if there is an issue with a third-party transceiver.

**NOTE**

Passive SFP+ and QSFP+ removable media devices are not supported. Use of passive devices may lead to unstable networks if utilized. Brocade-branded removable media devices are recommended for proper operation of the switch.

You can install a new transceiver in a slot while the device is powered on and running.

Before installing or removing a fiber-optic transceiver, have the following items available:

- The protective covering that you removed from the fiber-optic transceiver port when you initially installed the module.
- An ESD wrist strap with a plug for connection to the ESD connector on the router chassis.

**CAUTION**

For safety reasons, the ESD wrist strap should contain a series 1 megohm resistor.

**DANGER**

Laser radiation. Do not view directly with optical instruments. Class 1M laser products.

**NOTE**

When 10 GbE fiber-optic ports on the Brocade ICX 7750 are disabled, the laser light remains on even though the port link is down.

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

The console serial communication port serves as a connection point for management by a PC.
Installing the Brocade ICX 7750

Connecting network devices

Use the following steps to install a transceiver:

1. Put on the ESD wrist strap and ground yourself by attaching the clip end to a metal surface (such as an equipment rack) to act as ground.
2. Remove the new transceiver from the protective packaging.
3. Remove any protector plugs from the transceivers and the ports.
4. Making sure that the bail (wire handle) is in the unlocked position, place the transceiver in the correctly oriented position on the port, as shown in Figure 33.
5. Slide the transceiver into the port until you feel it click into place; then close the bail. Transceivers are keyed to prevent incorrect insertion.

NOTE
Each SFP+ transceiver has a 10-pad gold-plated edge connector on the bottom. The correct position to insert an SFP+ transceiver in the upper row of ports is with the gold-plated edge down. The correct position to insert an SFP+ transceiver in the lower row of ports is with the gold-plated edge up.

FIGURE 33 Installing an SFP+ transceiver in a port slot

Connecting network devices

Brocade devices support connections to other vendors' routers, switches, and hubs, as well other Brocade devices.

Connectors

For port information, refer to "Data port specifications (Ethernet)" on page 74.

Connecting a network device to a copper port

For copper connections to another Brocade device or any other devices, use straight-through or crossover UTP cabling.
Automatic MDI or MDIX detection

All 10/100/1000 Mbps and 10 Gbps Ethernet copper ports on the devices support automatic Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDIX) detection. Automatic MDI or MDIX detection is enabled on all copper ports by default. For each port, you can disable automatic MDI or MDIX detection, designate the port as an MDI port, or designate the port as an MDIX port.

For more information about automatic MDI or MDIX detection and configuration details, refer to the Brocade FastIron Management Configuration Guide.

Connecting a network device to a fiber port

For direct attachment from the device to a 1 GbE network interface card, switch, or router using a fiber-optic transceiver, you will need fiber cabling with an LC connector.

For information about transceivers supported on Brocade ICX 7750 devices, refer to the Brocade Optics Family Data Sheet:

To connect the device to another network device using a fiber port, you must complete the following tasks:

- Install a fiber-optic transceiver (SFP+ or QSFP+). Refer to “Installing an SFP+ or a QSFP+ transceiver” on page 55.
- Cable the fiber-optic transceiver

Cabling a fiber-optic transceiver

Use the following steps to cable a fiber-optic transceiver.

1. Remove the protective covering from the fiber-optic port connectors and store the covering for future use.
2. Before cabling a fiber-optic transceiver, Brocade strongly recommends cleaning the cable connectors and the port connectors. For more information, refer to “Cleaning the fiber-optic connectors” on page 57.
3. Gently insert the cable connector (a tab on each connector should face upward) into the transceiver connector until the tabs lock into place.
4. Observe the link and activity LEDs to determine if the network connections are functioning properly. For more information about the LED indicators, refer to “LED activity interpretation” on page 55.

NOTE
To verify that a Brocade ICX 7750 can reach another device through the network, use the ping command at any level of the CLI. For more information, refer to the Brocade FastIron Management Configuration Guide.

Cleaning the fiber-optic connectors

To avoid problems with the connection between the fiber-optic transceiver (SFP+ or QSFP+) and the fiber cable connectors, Brocade strongly recommends cleaning both connectors each time you disconnect and reconnect them. Dust can accumulate in the connectors and cause problems such as reducing the optic launch power.

To clean the fiber cable connectors, Brocade recommends using a fiber-optic reel-type cleaner. When not using an SFP+ or QSFP+ connector, make sure to keep the protective covering in place.

Connecting breakout cables to 40 GbE ports

A 40 GbE breakout cable can only be used on standalone Brocade ICX 7750 devices to break out certain 40 GbE QSFP+ ports into four 10 GbE sub-ports. (Refer to “Breakout cables” on page 19.)
Installing the Brocade ICX 7750
Stacking Brocade ICX 7750 switches

NOTE
Any previous configuration must be removed from a 40 GbE port before it can be broken out into sub-ports. Refer to the Brocade Fastiron Management Configuration Guide for more information.

NOTE
Stacking cannot be enabled on Brocade ICX 7750 devices that have a breakout configuration on any 40 GbE ports, and vice versa.

Stacking Brocade ICX 7750 switches
Brocade ICX 7750 devices support chassis-class high availability stacking with hitless failover on six full-duplex 40 Gbps stacking ports.

Brocade ICX 7750 Switches can be stacked using standard full-40 Gbps QSFP+ ports per switch, providing a maximum stacking bandwidth of 480 Gbps.

Stacking ports
There are six QSFP+ ports on the front panel (slot 2) and six QSFP+ ports on the rear panel (slot 3) that can be used as stacking ports. Use either the front panel stacking ports or the rear panel stacking ports. No mixed combination of front and rear ports is allowed.

Figure 34 shows the Brocade ICX 7750 stacking ports.

**FIGURE 34** Front panel stacking ports

The available front panel stacking ports are 1/2/1 through 1/2/6.

Ports 1/2/1 and 1/2/4 are default stacking ports on the front panel. Default stacking ports have the capability to accept special stacking packets during a CLI-initiated command sequence of the Secure Setup utility. The default ports can be changed to ports 1/3/1 and 1/3/4 on the rear panel. No other default ports are allowed.
The available rear panel stacking ports are ports 1/3/1 through 1/3/6.

**NOTE**

Unused stacking ports can be used as data ports. For example, you can elect to use only one default port as a stacking port and use the other default port as a data port. Furthermore, when a Brocade ICX 7750-6Q stacking module is not configured for stacking, its ports can be used as data ports.

A stack connection can also be a trunked link consisting of multiple ports, which increases stacking bandwidth and provides resiliency. Up to two stack trunks are supported, and each trunk can include up to three ports.

Only ports that are in sequential order can be configured as a stacking trunk. A default port, that is, either port 1/2/1 or 1/2/4 in slot 2 or port 1/3/1 or 1/3/4 in slot 3, is always the first sequential port in a trunk.

Possible 3-port trunks:
- 1/2/1 to 1/2/3
- 1/2/4 to 1/2/6
- 1/3/1 to 1/3/3
- 1/3/4 to 1/3/6

Possible 2-port trunks:
- 1/2/1 to 1/2/2
- 1/2/4 to 1/2/5
- 1/3/1 to 1/3/2
- 1/3/4 to 1/3/5

**Stacking configuration requirements**

Before configuring the stack using the CLI, physically connect the devices using stacking cables. For information about configuring a stack, refer to the FastIron Ethernet Switch Stacking Configuration Guide.
Stacking cables

Use QSFP+ direct attached active copper stacking cables or QSFP+ fiber optic cables to connect Brocade ICX 7750 devices in a stack. The copper cable lengths for 40 GbE ports are 1 meter, 3 meters, and 5 meters.

Extended distance stacking

Because Brocade ICX 7750 devices use Ethernet for the inter-switch stack connections, the deployment options are greatly increased. If standard copper stacking cables are used, the inter-switch connections can be up to 5 meters, which is usually sufficient for locally distributed stacks such as in top-of-rack (ToR) applications. For broader distribution, fiber-optic cables should be used, allowing a stack to be deployed across multiple physical locations such as the wiring closets of an office building.

NOTE

The use of 40GBASE-LR4 optics for extended distance stacking is supported only in the default stacking ports (1/2/1, 1/2/4, 1/3/1, or 1/3/4). Due to the limitation on the Brocade ICX7750-48C and the ICX7750-48F, where 40GBASE-LR4 optics are supported only in ports 1/2/5, 1/2/6, 1/3/5, or 1/3/6, extended distance stacking is not supported for 40GBASE-LR4 optics.

Table 3 shows the approved optics and stacking distance combinations.

<table>
<thead>
<tr>
<th>Stacking cable option</th>
<th>Description</th>
<th>Maximum stacking distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>40GBase-SR4 fiber-optic cable</td>
<td>40G QSFP-QSFP</td>
<td>100 meter</td>
</tr>
<tr>
<td>40GBase-ESR4 fiber-optic cable</td>
<td>40G QSFP-QSFP</td>
<td>300 meter (OM3 multimode fiber) 400 meter (OM4 multimode fiber)</td>
</tr>
<tr>
<td>40GBase-LR4 fiber-optic cable</td>
<td>40G QSFP-QSFP</td>
<td>10 kilometers for ICX 7750-26Q device only</td>
</tr>
</tbody>
</table>

Stack size

The Brocade ICX 7750 supports up to 12 units in a stack. You can mix any number of Brocade ICX 7750-26Q, Brocade ICX 7750-48F, or Brocade ICX 7750-48C devices together in a stack.

Stacking topologies

Both linear and ring topologies are supported in a stack. In a linear stack topology, there is a connection between each switch that carries two-way communications across the stack.

For example, in a three-unit stack using a linear topology, unit 1 connects to unit 2, and unit 2 connects to unit 3.

Figure 36 shows a supported rear panel linear stacking topology.
In a ring stack topology, there is an extra connection between the logical first and last devices, forming a “ring” or “closed-loop.” The closed-loop connection provides a redundant path for the stack link, so if one link fails, stack communications can be maintained.

For example, in a three-unit stack using a ring topology, unit 1 connects to unit 2, unit 2 connects to unit 3, and unit 3 connects to unit 1. Figure 37 shows a supported rear panel ring stacking topology.

Figure 38 shows a supported front panel ring stacking topology.
Figure 39 shows a supported rear panel ring trunk-stack topology.

**NOTE**
For more information about stacking, refer to the *Brocade FastIron Stacking Configuration Guide*. 
Brocade ICX 7750 Operation

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LED activity interpretation

System activity and status can be determined through the activity of the LEDs on the switch.

There are three possible LED states: off (no light), a steady light, and a flashing light. Flashing lights may be slow, fast, or flickering. The LED colors are either green or amber.

Sometimes, the LEDs flash either of the colors during boot, POST, or other diagnostic tests. This is normal; it does not indicate a problem unless the LEDs do not indicate a healthy state after all boot processes and diagnostic tests are complete.

Brocade ICX 7750 front-panel LEDs

The Brocade ICX 7750-26Q has the following LEDs on the front panel:

- Two power supply unit (PSU) bicolor status LEDs (green and amber) labeled PSU1 and PSU2
- One DIAG LED bicolor status LED (green and amber)
- One MS LED bicolor status LED (green and amber)
- One HA LED bicolor status LED (green and amber)
- One RDNT LED bicolor status LED (green and amber)
- Four bicolor status LEDs (green and amber) for each of the 26 QSFP+ ports that indicate the status of the ports in 40 GbE mode and 4x10 GbE breakout mode

Figure 1 shows the LEDs on the Brocade ICX 7750-26Q front panel.
The Brocade ICX 7750-48C has the following LEDs on the front panel:

- Two power supply unit (PSU) bicolor status LEDs (green and amber) labeled PSU1 and PSU2
- One DIAG LED bicolor status LED (green and amber)
- One MS LED bicolor status LED (green and amber)
- One HA LED bicolor status LED (green and amber)
- One RDNT LED bicolor status LED (green and amber)
- 48 1/10 GbE bicolor status LEDs (green for 10 GbE and amber for 1 GbE) which indicate 1 GbE or 10 GbE mode of operation
- Four bicolor status LEDs (green and amber) for each of the six QSFP+ ports that indicate the status of the ports in 40 GbE mode and 4x10 GbE breakout mode

Figure 2 shows the LEDs on the Brocade ICX 7750-48C front panel. The up-arrow port status LEDs for the 1/10 GbE ports correspond to the upper, odd-numbered ports; the down-arrow port status LEDs correspond to the lower, even-numbered ports.
The Brocade ICX 7750-48F has the following LEDs on the front panel:

- Two power supply unit (PSU) bicolor status LEDs (green and amber) labeled PSU1 and PSU2
- One DIAG LED bicolor status LED (green and amber)
- One MS LED bicolor status LED (green and amber)
- One HA LED bicolor status LED (green and amber)
- One RDNT LED bicolor status LED (green and amber)
- 48 1/10 GbE SFP+ port bicolor status LEDs (green for 10 GbE and amber for 1 GbE) that indicate the 1 GbE or 10 GbE mode of operation
- Four bicolor status LEDs (green and amber) for each of the six QSFP+ ports that indicate the status of the ports in 40 GbE mode and 4x10 GbE breakout mode

**Figure 3** shows the LEDs on the Brocade ICX 7750-48F front panel.

The up-arrow port status LEDs for the 10 GbE ports correspond to the upper, odd-numbered ports; the down-arrow port status LEDs correspond to the lower, even-numbered ports.
**Brocade ICX 7750 Operation**

**Brocade ICX 7750 rear-panel LEDs**

**Figure 3** Brocade ICX 7750-48F front-panel LEDs

![Brocade ICX 7750-48F front-panel LEDs](image)

1. Upper 1/10 GbE port LEDs
2. MS and DIAG status LEDs
3. Lower 1/10 GbE port LEDs
4. HA and RDNT status LEDs
5. PSU1 and PSU2 status LEDs
   (PSU1 corresponds to the right power supply slot on the rear panel and PSU2 corresponds to the left power supply slot, as viewed from the rear)

**Brocade ICX 7750 rear-panel LEDs**

The Brocade ICX 7750 has the following LEDs on the rear panel:

- Two Management port status LEDs
- Two stack control path port LEDs (currently not used)
- Expansion module LEDs:
  - One Power LED bicolor status LED (green and amber)
  - Four bicolor status LEDs (green and amber) for each of the six QSFP+ ports that indicate the status of the ports in 40 GbE mode and 4x10 GbE breakout mode
- Power supply LEDs: One status LED on each installed power supply
- Fan tray LEDs: One status LED on each installed fan tray

*Figure 4* shows the LEDs on the rear panel of the Brocade ICX 7750.
FIGURE 4  Brocade ICX 7750 rear-panel LEDs

1. Management port 10/100 Mbps link/activity LEDs
2. UP port (left) and DN port (right) link status LEDs
3. Management port 1000 Mbps link/activity LEDs
4. Lower slot 40 GbE mode link/activity LED or 10 GbE mode lane 1 link/activity LEDs
5. Upper slot 40 GbE mode link/activity LED or 10 GbE mode lane 1 link/activity LEDs
6. Lower slot 10 GbE mode lanes 2, 3, and 4 link/activity LEDs
7. Upper slot 10 GbE mode lanes 2, 3, and 4 link/activity LEDs
8. Expansion module power LED

LED patterns

The following tables describe the Brocade ICX 7750 LED patterns.

TABLE 1  PSU1 and PSU2 LEDs

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>System is off or there is no power.</td>
<td>Verify the system is on and has completed booting.</td>
</tr>
<tr>
<td>Steady green</td>
<td>PSU is on and functioning properly.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>PSU is missing power or in a faulty state.</td>
<td>Verify that the PSU power cord is connected to a functioning power source. Replace power supply.</td>
</tr>
</tbody>
</table>

TABLE 2  DIAG LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Diagnostic is off.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green</td>
<td>System self-diagnostic test is in progress.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>System self-diagnostic test is successfully completed.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>System self-diagnostic test has detected a fault.</td>
<td>Contact support.</td>
</tr>
</tbody>
</table>
### TABLE 3  MS LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Stacking mode is enabled and the switch is a stack member, or the switch is operating in standalone mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>Stacking mode is enabled and the switch is the stack master.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Stacking mode is enabled and the switch is in slave mode.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 4  RDNT LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>System does not have redundant fans or PSUs installed.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>System is operating in redundant mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>System has redundant fans and PSUs, but software has disabled redundant mode.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 5  Management port left (link) status LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>A link is up.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 6  Management port right (activity) status LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled or no packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green</td>
<td>There is traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 7  1/10 GbE RJ-45 port LEDs

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>Link is up in 10 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green</td>
<td>There is 10 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Link is up in 1 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking amber</td>
<td>There is 1 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 8  1/10 GbE SFP+ port LEDs

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>Link is up in 10 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green</td>
<td>There is 10 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Link is up in 1 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking amber</td>
<td>There is 1 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>
### TABLE 9  40 GbE mode QSFP+ port LEDs (left-side LED)

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>Link is up in 40 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green</td>
<td>There is 40 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 10  4x10 GbE mode QSFP+ port LEDs

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Port lane link is up in 10 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking amber</td>
<td>There is 10 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 11  10/100/1000 Mbps UP and DN Ethernet port LEDs

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Not cabled.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>Link is up in 1 GbE mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green</td>
<td>There is 1 GbE traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Link is up in 10/100 Mbps mode.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking amber</td>
<td>There is 10/100 Mbps traffic and packets are being transmitted or received.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 12  Power supply unit LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>PSU is not powered on.</td>
<td>Verify that the PSU power cord is connected to a functioning power source.</td>
</tr>
<tr>
<td>Steady green</td>
<td>PSU is on and functioning properly.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Blinking green(with power cord connected)</td>
<td>External AC input parameters are within an acceptable range but there is no DC output or it is disabled.</td>
<td>Replace the power supply.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>PSU has no DC output.</td>
<td>Replace the power supply.</td>
</tr>
</tbody>
</table>

### TABLE 13  Expansion module power LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Module is not powered on.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady green</td>
<td>Module is on and functioning properly.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Module is on and booting up.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>

### TABLE 14  Fan tray LED

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off (no light)</td>
<td>Fan tray is not powered on.</td>
<td>No action required.</td>
</tr>
</tbody>
</table>
Brocade ICX 7750 Operation
Diagnostic tests and monitoring

Diagnostic tests and monitoring
Brocade Fastiron software includes diagnostic tests to help you troubleshoot the hardware. System diagnostic software is designed to fulfill the purpose of offline diagnostics. In offline diagnostics, you must turn the diagnostic flags on or off to execute diagnostic tests during the next bootup.

The CLI commands for system diagnostic tests are `dm diag` and `dm alt-diag`. These diagnostic tests verify all available hardware components including:

- I2C devices
- EEPROMS
- CPU packet
- Test MAC alignment
- Line rate

During system diagnostic testing, the system is completely under the control of the diagnostic software. All hardware components are verified, and results are displayed on the console. In cases where a failure is detected, results and corrective actions will be displayed. After the system diagnostic testing is complete, the system exits from the diagnostic mode and reloads the system for normal operation.

System diagnostic testing runs at link speeds 10 Gbps and 40 Gbps (QSFP+ ports) depending on the speed of the link being tested and the type of port.

<table>
<thead>
<tr>
<th>LED state</th>
<th>Status of hardware</th>
<th>Recommended action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steady green</td>
<td>Fan tray is on and functioning properly.</td>
<td>No action required.</td>
</tr>
<tr>
<td>Steady amber</td>
<td>Fan tray has nonfunctioning fans.</td>
<td>Replace fan tray.</td>
</tr>
</tbody>
</table>
Managing the Brocade ICX 7750

- Temperature threshold levels ................................................................. 71
- Hardware maintenance schedule .......................................................... 71
- Replacing a copper or fiber-optic module ............................................ 71
- FRU removal and replacement procedures ......................................... 73
- Replacing a power supply unit ............................................................... 74
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CAUTION
The procedures in this chapter are for qualified service personnel.

Temperature threshold levels
The fan speed settings are set by the Brocade ICX 7750, and are not configurable.

Hardware maintenance schedule
Brocade ICX 7750 switch hardware components require minimal maintenance. Brocade recommends cleaning the fiber-optic connectors on a fiber-optic port and the connected fiber cable each time you disconnect the cable.

Replacing a copper or fiber-optic module
You can remove an SFP+, or QSFP+ transceiver from a slot and replace it with a new one while the Brocade ICX 7750 is powered on and running.

This section provides information about the following tasks:

- Removing a copper or fiber-optic module
- Cabling a fiber-optic module
- Cleaning the fiber-optic connectors

Removing a copper or fiber-optic module
While removing a copper or fiber-optic module, be sure to wear an ESD wrist strap that is connected to ground.

Before removing a fiber-optic transceiver, have the following items available:

- The protective covering that you removed from the fiber-optic transceiver port when you initially installed the module.
- An ESD wrist strap with a plug for connection to the ESD connector on the router chassis.
Managing the Brocade ICX 7750
Replacing a copper or fiber-optic module

CAUTION
For safety reasons, the ESD wrist strap should contain a series 1 megohm resistor.

DANGER
Laser radiation. Do not view directly with optical instruments. Class 1M laser products.

NOTE
When 10 GbE fiber-optic ports on the Brocade ICX 7750 are disabled, the laser light remains on even though the port link is down.

To remove a copper or fiber-optic module from a transceiver slot, do the following.

1. Put on the ESD wrist strap and ground yourself by attaching the clip end to a metal surface (such as an equipment rack).
2. Disconnect the copper or fiber cable connector from the port connector.
3. Unlock the copper or fiber-optic module by pulling the bail latch forward, away from the front panel of the module.

NOTE
On 1000Base-SX ports, the bail latch is enclosed in a black sleeve, and on 1000Base-LX ports, the bail latch is enclosed in a blue sleeve.

NOTE
The bail latch may be attached to either the top or the bottom of the SFP+, or QSFP+ transceiver.

4. Grasp the bail latch and pull the copper or fiber-optic module out of the port.
5. Store the copper or fiber-optic module in a safe, static-free place or in an anti-static bag.
6. Install a new copper or fiber-optic module in the port.

Cabling a fiber-optic module
Use the following steps to cable a fiber-optic transceiver.

1. Remove the protective covering from the fiber-optic port connectors and store the covering for future use.

NOTE
Before cabling a fiber-optic transceiver, Brocade strongly recommends cleaning the cable connectors and the port connectors. For more information, refer to “Cleaning the fiber-optic connectors” on page 72.

2. Gently insert the cable connector (a tab on each connector should face upward) into the transceiver connector until the tabs lock into place.
3. Observe the link and active LEDs to determine if the network connections are functioning properly.

Cleaning the fiber-optic connectors
To avoid problems with the connection between the fiber-optic transceiver (SFP+, or QSFP+) and the fiber cable connectors, Brocade strongly recommends cleaning both connectors each time you disconnect and reconnect them. Dust can accumulate in the connectors and cause problems such as reducing the optic launch power.

NOTE
Before cabling a fiber-optic transceiver, Brocade strongly recommends cleaning the cable connectors and the port connectors. For more information, refer to “Cleaning the fiber-optic connectors” on page 72.
To clean the fiber cable connectors, Brocade recommends using a fiber-optic reel-type cleaner. When not using an SFP+, or QSFP+
connector, make sure to keep the protective covering in place.

**FRU removal and replacement procedures**

The field-replaceable units (FRUs) in the Brocade ICX 7750 can be removed and replaced by using a #1 Phillips screwdriver. The
switches can continue operating during the FRU replacement if the conditions specified in these procedures are followed. This covers
both the power supply unit (PSU) FRUs and fan FRUs.

**NOTE**

This document describes how to change FRUs for units with either an air intake or air exhaust. You must replace a failed FRU with
a FRU of the same type. This applies to both power supplies and fans. A new FRU must have the same part number (P/N) as the
FRU being replaced. The manufacturing P/N is located on the top of the FRU.

If a mismatched power source or fan tray is installed by mistake, a warning is sent to the console. The warning messages will be similar to
the following:

- For a fan mismatch: **[WARNING, Brocade ICX 7750, MISMATCH in Fan Air Flow direction. Replace FRU with fan air flows in
  the same direction.]**
- For a power supply: **[WARNING, Brocade ICX 7750, MISMATCH in PSU Air Flow direction. Replace PSU with air flows in the
  same direction]**

You can use external labels as a guide. The power supplies and fan trays are labeled with an airflow symbol on the faceplate to indicate
whether the assembly takes in or exhausts air. The symbol also appears on the top of the FRU. All FRUs in a chassis must have the same
label affixed so that airflow direction is consistent. **Figure 1** illustrates examples of the airflow labels.

**FIGURE 1**  Examples of airflow symbols

The green **E** symbol indicates an exhaust FRU. This unit pulls air in from the front of the switch and exhausts it out the rear side. This is
called front-to-back airflow or forward airflow.

The orange **I** symbol indicates an intake FRU. This unit pulls air in from the rear side of the switch and exhausts it out the front side. This is
called back-to-front airflow or reverse airflow.

The **show chassis** command displays a device’s airflow direction: Front-to-Back or Back-to-Front.
Replacing a power supply unit

CAUTION
Remove the power cord from a power supply before you install it in or remove it from the device. Otherwise, the power supply or the device could be damaged as a result. (The device can be running while a power supply is being installed or removed, but the power supply itself should not be connected to a power source.)

CAUTION
For the Brocade ICX 7750 devices, be sure that the airflow direction of the power supply unit matches that of the installed fan tray. The power supplies and fan trays are clearly labeled with either a green arrow with an “E”, or an orange arrow with an “I.”

NOTE
Maintain all power supply and fan trays in operational condition to provide redundancy.

CAUTION
Because the cooling system relies on pressurized air, do not leave any of the power supply and fan tray slots empty longer than two minutes while the switch is operating. If a power supply or fan tray fails, leave it in the switch until it can be replaced.

CAUTION
Disassembling any part of the power supply and fan tray voids the warranty and regulatory certifications. There are no user-serviceable parts inside the power supply and fan tray.

Table 12 on page 69 describes the Brocade ICX 7750 power supply status LED colors, behaviors, and actions required, if any.

Determining the need to replace a power supply

Use one of the following methods to determine the status of the power supplies:

- Check the PSU1 and PSU2 LEDs on the switch front panel or power supply status LED (refer to “LED patterns” on page 67).
- Enter the `show chassis` command at the prompt to display power supply status.

Time and items required

Replacing a power supply in the Brocade ICX 7750 should take less than two minutes to complete.

You need the following items to replace a power supply in a Brocade ICX 7750:

- A new power supply (must have the same part number and the same airflow label as the power supply being replaced)
- A #1 Phillips screwdriver

Replacing a power supply

Complete the following steps to replace a power supply in a Brocade ICX 7750.
1. To leave the Brocade ICX 7750 in service while replacing a power supply, verify that the other power supply (the one not being replaced) has been powered on for at least four seconds and has a steady green status LED.

2. Before opening the package that contains the power supply, touch the bag to the switch casing to discharge any potential static electricity. Brocade recommends using an ESD wrist strap during installation.

3. Remove the power supply from the anti-static shielded bag.

4. Ensure that the replacement power supply has the same part number and airflow label as the power supply being replaced.

5. Unplug the power cord from the power supply that is being replaced.

6. Using the Phillips screwdriver, unscrew the two captive screws on the power supply.

7. Remove the power supply from the chassis by pulling the handle on the power supply out and away from the chassis.

   **NOTE**
   Do not force the installation. If the power supply does not slide in easily, ensure that the power supply is correctly oriented before continuing.

8. Holding the power supply level, guide it into the carrier rails on each side and gently push it all the way into the slot, ensuring that it firmly engages with the connector.

9. When you are sure the power supply has properly engaged the connector, tighten the retainer screws to secure the power supply in the slot.

10. Plug the power cord into the power supply to power on the unit.

    The power supply will immediately attempt to power up.

11. Verify that the LED on the new power supply displays steady green while the Brocade ICX 7750 is operating. If the LED is not steady green, ensure that the power supply is securely installed and seated properly. Alternatively, check the PSU1 and PSU2 LEDs on the switch front panel (refer to “LED patterns” on page 67).

You can enter the `show chassis` command at the command line prompt to display power supply status.

**Replacing fan trays**

**CAUTION**
For the Brocade ICX 7750 devices, be sure that the airflow direction of the fan tray matches that of the installed power supply unit. The power supplies and fan trays are clearly labeled with either a green arrow with an “E”, or an orange arrow with an “I.”

The Brocade ICX 7750 includes four redundant, hot-swappable fan units. However, it can run on one power supply and three fans. In that case, the empty power supply and fan slot must be covered using the filler panels.

**NOTE**
Maintain all power supply and fan trays in operational condition to provide redundancy.

**CAUTION**
Because the cooling system relies on pressurized air, do not leave any of the power supply and fan tray slots empty longer than two minutes while the switch is operating. If a power supply or fan tray fails, leave it in the switch until it can be replaced.

**NOTE**
Disassembling any part of the power supply and fan tray voids the warranty and regulatory certifications. There are no user-serviceable parts inside the power supply and fan tray.
Determining the need to replace a fan tray
Enter the `show chassis` command in the command line interface to display fan status.

Time and items required
Replacing a fan tray in the Brocade ICX 7750 should take less than two minutes to complete.

You need the following items to replace a fan tray in the Brocade ICX 7750:

- A new fan tray (must have the same part number and the same airflow label as the fan tray being replaced; refer to Figure 1 on page 73 for the location of the airflow label)
- A #1 Phillips screwdriver

Installing or replacing the fan tray
Complete the following steps to install or replace a fan tray in a Brocade ICX 7750.

1. If replacing a fan tray:
   a. Using a Phillips screwdriver, unscrew the captive screw on the fan tray.
   b. Remove the fan tray from the chassis by pulling the handle on the fan tray out and away from the chassis.
   c. Ensure that the replacement fan tray has the same part number and airflow label as the fan tray being replaced.

2. If installing a new fan tray into a slot covered with a filler panel:
   a. Using a Phillips screwdriver, unscrew the captive screw on the filler panel.
   b. Remove the filler panel.

3. Before opening the package that contains the new fan tray, touch the bag to the switch casing to discharge any potential static electricity. It is recommended that you wear an ESD wrist strap during installation.

4. Remove the fan tray from the anti-static shielded bag.

   **NOTE**
   Do not force the installation. If the fan tray does not slide in easily, ensure that it is correctly oriented before continuing.

5. Holding the fan tray level, guide it into the carrier rails on each side and gently push it all the way into the slot, ensuring that it firmly engages with the connector.

6. When you are sure the fan tray has properly engaged the connector, tighten the captive screw to secure the fan tray in the slot.

   **NOTE**
   The fans are controlled automatically by the device.

7. Verify correct installation by running the `show chassis` command.

   **CAUTION**
   If you do not install a power supply in a slot, you must keep the slot panel in place. If you run the device with an uncovered slot, the system will overheat.
Replacing an expansion module

The Brocade ICX 7750 includes a rear-panel slot for a 6-port QSFP+ 40 GbE expansion module. If not installed, the empty expansion module slot must be covered using the filler panel.

CAUTION
Disassembling any part of the expansion module voids the warranty and regulatory certifications. There are no user-serviceable parts inside the expansion module assembly.

Time and items required

Replacing an expansion module in the Brocade ICX 7750 should take less than two minutes to complete.

You need the following items to replace an expansion module in the Brocade ICX 7750:

- A new expansion module
- A #1 Phillips screwdriver

Installing or replacing an expansion module

NOTE
The Brocade ICX 7750 must be powered off before installing or replacing an expansion module.

Complete the following steps to install or replace an expansion module in the Brocade ICX 7750.

1. If replacing an expansion module:
   a. Pull the release latch lever on the module into its open position.
   b. Using a Phillips screwdriver, unscrew the two captive screws on the expansion module.
   c. Remove the expansion module from the chassis by pulling the handle on the expansion module out and away from the chassis.

2. If installing a new expansion module into a slot covered with a filler panel:
   a. Using a Phillips screwdriver, unscrew the captive screws on the filler panel.
   b. Remove the filler panel.

3. Before opening the package that contains the new expansion module, touch the bag to the switch casing to discharge any potential static electricity. It is recommended that you wear an ESD wrist strap during installation.

4. Remove the expansion module from the anti-static shielded bag.

   NOTE
   Do not force the installation. If the expansion module does not slide in easily, ensure that it is correctly oriented before continuing.

5. Holding the expansion module level, guide it into the carrier rails on each side and gently push it all the way into the slot, ensuring that it firmly engages with the connector.

6. When you are sure the expansion module has properly engaged the connector, tighten the captive screws to secure the expansion module in the slot.

7. Push the release latch lever on the module into its closed position.

8. Verify correct installation by running the show chassis command.
Managing the Brocade ICX 7750
Replacing an expansion module

CAUTION
If you do not install a power supply in a slot, you must keep the slot panel in place. If you run the device with an uncovered slot, the system will overheat.
Brocade ICX 7750 Specifications

- System specifications
- Ethernet
- LEDs
- Other
- Weight and physical dimensions
- Environmental requirements
- Power supply specifications (per PSU)
- Power consumption (typical configuration)
- Power consumption (maximum configuration)
- Power consumption (modules)
- Data port specifications (Ethernet)
- Serial port specifications (pinout mini-USB)
- Serial port specifications (pinout RJ-45)
- Serial port specifications (protocol)
- Memory specifications
- Regulatory compliance (EMC)
- Regulatory compliance (safety)
- Regulatory compliance (environmental)

**TABLE 1** System specifications

<table>
<thead>
<tr>
<th>System component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure</td>
<td>1U; stackable chassis mountable in a standard 2 or 4-post rack</td>
</tr>
<tr>
<td>Power supplies</td>
<td>Dual, redundant, hot-swappable 504 W AC or DC with intake or exhaust airflow</td>
</tr>
<tr>
<td>Fans</td>
<td>Four redundant, hot-swappable fan units with intake or exhaust airflow</td>
</tr>
<tr>
<td>Cooling</td>
<td>Forced-air cooling front-to-back or back-to-front</td>
</tr>
<tr>
<td>System architecture</td>
<td>Nonblocking shared memory switch</td>
</tr>
<tr>
<td></td>
<td>ICX 7750-26Q: 26 10/40 GbE QSFP+ ports</td>
</tr>
<tr>
<td></td>
<td>ICX 7750-48F: 48 1/10 GbE SFP+ ports and six 10/40 GbE QSFP+ ports</td>
</tr>
<tr>
<td></td>
<td>ICX 7750-48C: 48 1/10 GbE RJ-45 ports and six 10/40 GbE QSFP+ ports</td>
</tr>
<tr>
<td>System processors</td>
<td>System processor 1.5 GHz Freescale P2041</td>
</tr>
</tbody>
</table>

**TABLE 2** Ethernet specifications

<table>
<thead>
<tr>
<th>System component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP GbE ports</td>
<td>40/10/1 GbE optical and copper</td>
</tr>
<tr>
<td>Ethernet management port</td>
<td>1</td>
</tr>
</tbody>
</table>
Brocade ICX 7750 Specifications

LEDs

**TABLE 3**  LED specifications

<table>
<thead>
<tr>
<th>System component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch status and management</td>
<td>Nine LED states to indicate switch and module status (green and amber)</td>
</tr>
<tr>
<td>Port status</td>
<td>Five LED states to indicate port status (green and amber)</td>
</tr>
</tbody>
</table>

Other

**TABLE 4**  Other specifications

<table>
<thead>
<tr>
<th>System component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial cable</td>
<td>Mini-USB to RJ-45</td>
</tr>
<tr>
<td>RJ-45 to DB9 adapter</td>
<td>1</td>
</tr>
<tr>
<td>Stack Control-Path Cable</td>
<td>Two Micro-HDMI to RJ-45 (currently not used)</td>
</tr>
<tr>
<td>Control-Path Cable Holder Kit</td>
<td>One cable holder and one screw</td>
</tr>
</tbody>
</table>

Weight and physical dimensions

**TABLE 5**  Weight and physical dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
<th>Empty weight</th>
<th>Fully loaded weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-26Q</td>
<td>4.37 cm</td>
<td>44.00 cm</td>
<td>40.64 cm</td>
<td>5.60 kg</td>
<td>8.80 kg</td>
</tr>
<tr>
<td></td>
<td>1.72 in</td>
<td>17.32 in</td>
<td>16.00 in</td>
<td>12.30 lb</td>
<td>19.40 lb</td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>4.37 cm</td>
<td>44.00 cm</td>
<td>40.64 cm</td>
<td>5.90 kg</td>
<td>9.10 kg</td>
</tr>
<tr>
<td></td>
<td>1.72 in</td>
<td>17.32 in</td>
<td>16.00 in</td>
<td>13.00 lb</td>
<td>20.10 lb</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>4.37 cm</td>
<td>44.00 cm</td>
<td>43.10 cm</td>
<td>7.00 kg</td>
<td>10.20 kg</td>
</tr>
<tr>
<td></td>
<td>1.72 in</td>
<td>17.32 in</td>
<td>16.97 in</td>
<td>15.40 lb</td>
<td>22.50 lb</td>
</tr>
</tbody>
</table>

Environmental requirements

**TABLE 6**  Environmental requirements

<table>
<thead>
<tr>
<th>Condition</th>
<th>Operational</th>
<th>Non-operational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>ICX 7750-26Q: -5º to 50ºC (23º to 122ºF)</td>
<td>-40º to 60ºC (-40º to 140ºF)</td>
</tr>
<tr>
<td></td>
<td>ICX 7750-48F: -5º to 50ºC (23º to 122ºF)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICX 7750-48C: -5º to 40ºC (23º to 104ºF)</td>
<td></td>
</tr>
<tr>
<td>Relative humidity (non-condensing)</td>
<td>ICX 7750-26Q and ICX 7750-48F: 10% to 90% at 50ºC (122ºF)</td>
<td>10% to 90% at 60ºC (140ºF)</td>
</tr>
<tr>
<td></td>
<td>ICX 7750-48C: 10% to 90% at 40ºC (104ºF)</td>
<td></td>
</tr>
<tr>
<td>Altitude (above sea level)</td>
<td>0 to 3000 m (10,000 feet)</td>
<td>12,000 m (39,000 feet)</td>
</tr>
<tr>
<td>Shock</td>
<td>20 G, 11 ms, half-sine wave</td>
<td>30 G, 11 ms, half-sine wave</td>
</tr>
<tr>
<td>Vibration</td>
<td>1 G sine, 0.4 grms random, 5-500 Hz</td>
<td>2.4 G sine, 1.12 grms random, 5-500 Hz</td>
</tr>
</tbody>
</table>
### TABLE 6  
Environmental requirements (Continued)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Operational</th>
<th>Non-operational</th>
</tr>
</thead>
</table>
| Airflow         | ICX 7750-26Q: Back-to-Front: Maximum. - 55 cfm, Typical - 25 cfm  
                    Front-to-Back: Maximum. - 62 cfm, Typical - 29 cfm  
                    ICX 7750-48F: Back-to-Front: Maximum. - 55 cfm,  
                    Typical - 25 cfm  
                    Front-to-Back: Maximum. - 61 cfm, Typical - 29 cfm  
                    ICX 7750-48C: Back-to-Front: Maximum. - 55 cfm,  
                    Typical - 32 cfm  
                    Front-to-Back: Maximum. - 62 cfm, Typical - 36 cfm | N/A             |
| Heat dissipation| Refer to Table 8 on page 81 and Table 9 on page 82.                         | N/A             |

### TABLE 7  
Power supply specifications (per PSU)

<table>
<thead>
<tr>
<th>Power supply model</th>
<th>Maximum output power rating (DC)</th>
<th>Input voltage</th>
<th>Input line frequency</th>
<th>Maximum input current</th>
<th>Input line protection</th>
<th>Maximum inrush current</th>
</tr>
</thead>
</table>
| RPS9               | 504 W                            | 100-240 VAC (nominal)  
                    100-240 VAC (range)  | 50/60 Hz (nominal)  
                    47 – 63 Hz (range)  | 7 A Line fused      | 30 A peak cold or warm start for <10 ms  
                    10 A peak for cycles 10 ms – 150 ms  
                    Less than fuse rating for >150 ms |
| RPS9DC             | 504 W                            | -48 VDC (nominal)  
                    -40 to -60 VDC (range) | NA                  | 15 A -Ve fused      | 25 A peak cold or warm start for <10 ms  
                    Less than 15 A after 150 ms |

### Power consumption (typical configuration)

All ports linked and up. 50% traffic with 64-byte packets. Fans at normal speed.

<table>
<thead>
<tr>
<th>Model name</th>
<th>@100 VAC input</th>
<th>@200 VAC input</th>
<th>@-48 VDC input</th>
<th>Minimum number of power supplies</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-26Q</td>
<td>277 W 945 BTU/hr</td>
<td>274 W 935 BTU/hr</td>
<td>274 W 935 BTU/hr</td>
<td>1 AC or DC</td>
<td>Fan speed is at nominal.</td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>254 W 867 BTU/hr</td>
<td>250 W 853 BTU/hr</td>
<td>250 W 853 BTU/hr</td>
<td>1 AC or DC</td>
<td>Fan speed is at nominal.</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>510 W 1740 BTU/hr</td>
<td>511 W 1744 BTU/hr</td>
<td>511 W 1744 BTU/hr</td>
<td>1 AC or DC</td>
<td>Fan speed is at nominal.</td>
</tr>
</tbody>
</table>
Brocade ICX 7750 Specifications
Power consumption (maximum configuration)

Power consumption (maximum configuration)
All ports connected with optics to draw maximum power per MSA Optics Specification. Traffic at full rate or 100% throughput. Fans at full speed.

TABLE 9 Power consumption (maximum configuration)

<table>
<thead>
<tr>
<th>Model name</th>
<th>@100 VAC input</th>
<th>@200 VAC input</th>
<th>@-48 VDC input</th>
<th>Minimum number of power supplies</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-26Q</td>
<td>319 W 1088 BTU/hr</td>
<td>350 W 1194 BTU/hr</td>
<td>350 W 1194 BTU/hr</td>
<td>1 AC or DC</td>
<td>Fans at high speed</td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>290 W 989 BTU/hr</td>
<td>327 W 1116 BTU/hr</td>
<td>327 W 1116 BTU/hr</td>
<td>1 AC or DC</td>
<td>Fans at high speed</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>558 W 1904 BTU/hr</td>
<td>586 W 2000 BTU/hr</td>
<td>586 W 2000 BTU/hr</td>
<td>1 AC or DC</td>
<td>Fans at high speed</td>
</tr>
</tbody>
</table>

Power consumption (modules)

TABLE 10 Power consumption (modules)

<table>
<thead>
<tr>
<th>Module name</th>
<th>Module description</th>
<th>Power consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-6Q</td>
<td>6-port 10/40 GbE QSFP+</td>
<td>Typical = 18.8 W</td>
</tr>
</tbody>
</table>

Data port specifications (Ethernet)

TABLE 11 Data port specifications (Ethernet)

<table>
<thead>
<tr>
<th>Model</th>
<th>Port type</th>
<th>Number of ports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICX 7750-26Q</td>
<td>40 GbE</td>
<td>26</td>
<td>QSFP+, 10/40 Gbps, compatible with short range (SR) and long range (LR) optical SFP transceivers.</td>
</tr>
<tr>
<td>ICX 7750-48F</td>
<td>40 GbE</td>
<td>6</td>
<td>QSFP+, 10/40 Gbps, compatible with short range (SR) and long range (LR) optical SFP transceivers.</td>
</tr>
<tr>
<td></td>
<td>10 GbE</td>
<td>48</td>
<td>SFP+, 1/10 Gbps, compatible with short range (SR) and long range (LR) optical SFP transceivers.</td>
</tr>
<tr>
<td>ICX 7750-48C</td>
<td>40 GbE</td>
<td>6</td>
<td>QSFP+, 10/40 Gbps, compatible with short range (SR) and long range (LR) optical SFP transceivers.</td>
</tr>
<tr>
<td></td>
<td>10 GbE</td>
<td>48</td>
<td>10GBASE-T, 1/10 Gbps, capable of auto-negotiating link speed.</td>
</tr>
</tbody>
</table>

Serial port specifications (pinout mini-USB)

TABLE 12 Serial port specifications (pinout mini-USB)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reserved</td>
<td>Not used</td>
</tr>
<tr>
<td>2</td>
<td>UART0_RX</td>
<td>Data received by iCX</td>
</tr>
<tr>
<td>3</td>
<td>UART0_TX</td>
<td>Data transmitted by iCX</td>
</tr>
</tbody>
</table>
TABLE 12  Serial port specifications (pinout mini-USB)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Reserved</td>
<td>Not used</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>Ground</td>
</tr>
</tbody>
</table>

Serial port specifications (pinout RJ-45)

TABLE 13  Serial port specifications (pinout RJ-45)

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not supported</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Not supported</td>
<td>N/A</td>
</tr>
<tr>
<td>3</td>
<td>UART1_TXD</td>
<td>Transmit data to ICX</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td>Logic ground</td>
</tr>
<tr>
<td>5</td>
<td>Not supported</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>UART1_RXD</td>
<td>Receive data from ICX</td>
</tr>
<tr>
<td>7</td>
<td>Not supported</td>
<td>N/A</td>
</tr>
<tr>
<td>8</td>
<td>Not supported</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Serial port specifications (protocol)

TABLE 14  Serial port specifications (protocol)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud</td>
<td>9600</td>
</tr>
<tr>
<td>Data bits</td>
<td>8</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop bits</td>
<td>1</td>
</tr>
<tr>
<td>Flow control</td>
<td>None</td>
</tr>
</tbody>
</table>

Memory specifications

TABLE 15  Memory specifications

<table>
<thead>
<tr>
<th>Memory</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main memory</td>
<td>DDR3</td>
<td>8 GB</td>
</tr>
<tr>
<td>Boot Flash</td>
<td>NOR Flash</td>
<td>64 MB</td>
</tr>
<tr>
<td>eUSB Drive</td>
<td>USB</td>
<td>2 GB</td>
</tr>
</tbody>
</table>

Regulatory compliance (EMC)

- FCC Part 15, Subpart B (Class A)
- EN 55022 (CE mark) (Class A)
Brocade ICX 7750 Specifications
Regulatory compliance (safety)

- EN 55024 (CE mark) (Immunity) for Information Technology Equipment
- ICES-003 (Canada) (Class A)
- AS/NZ 55022 (Australia) (Class A)
- VCCI (Japan) (Class A)
- EN 61000-3-2
- EN 61000-3-3
- EN 61000-6-1

Regulatory compliance (safety)
- CAN/CSA-C22.2 No. 60950/UL 60950 - Safety of Information Technology Equipment
- EN 60950/IEC 60950 Safety of Information Technology Equipment

Regulatory compliance (environmental)
- 2014/35/EU and 2014/30/EU
- 2011/65/EU – Restriction of the use of certain hazardous substance in electrical and electronic equipment (EU RoHS)
- 2012/19/EU – Waste electrical and electronic equipment (EU WEEE)
- 94/62/EC – packaging and packaging waste (EU)
- 2006/66/EC – batteries and accumulators and waste batteries and accumulators (EU battery directive)
- Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 – U.S. Conflict Minerals
- 30/2011/TT-BCT – Vietnam circular
- SJ/T 11363-2006 Requirements for Concentration Limits for Certain Hazardous Substances in EIPs (China)
- SJ/T 11364-2006 Marking for the Control of Pollution Caused by EIPs (China)
USA (FCC CFR 47 Part 15 Warning)
This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTE
Changes or modifications made to this device which are not expressly approved by Brocade could void the user’s authority to operate the equipment.

Industry Canada statement
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

English translation of above statement
This Class A digital apparatus complies with Canadian ICES-003.

Europe and Australia (CISPR 22 Class A Warning)
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Germany (Noise Warning)
Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 53.0 dB(A) gemäß EN ISO 7779.

English translation of above statement
Brocade ICX 7750 Regulatory Statements
Japan (VCCI)

Machine noise information regulation - 3. GPSGV, the highest sound pressure level value is 53.0 dB(A) in accordance with EN ISO 7779.

Japan (VCCI)

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波障害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要請されることがあります。[VCCI-A]

English translation of above statement

This is Class A product based on the standard of the Voluntary Control Council For Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Korea

A급 기기 (방송통신기기): 이 기기는 업무용 (A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.

English translation of above statement

Class A device (Broadcasting Communication Device for Office Use): This device obtained EMC registration for office use (Class A), and may be used in places other than home. Sellers and/or users need to take note of this.
**China**

**China-CCC Warning statements**

在維修的時候一定要斷開所有電源 (English translation: “disconnect all power sources before service”)

| 安全说明和标识 | 仅适用于非热带气候条件下安全使用。
| 汉文        | "仅适用于非热带气候条件下安全使用。"
| 藏文        | 《2000m
| 蒙古文      | "2000m
| 番文        | Dan hab yungh youq gij dienhecq diuzgen mbouj dwg diegndat haenx ancienz sawjyungh.
| 维文        |

For altitude 2000 meter and below:

| 安全说明和标识 | 仅适用于海拔2000m以下地区安全使用。
| 汉文        | "仅适用于海拔2000m以下地区安全使用。"
| 藏文        | 《2000m
| 蒙古文      | "2000m
| 番文        | Dan hab yungh youq gij digih haijbaz 2000m doxroengz haenx ancienz sawjyungh.
| 维文        |

Warning for Class A:

声明
此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

English translation of above statement

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.
BSMI statement (Taiwan)

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，
在這種情況下，使用者會被要求採取某些適當的對策。

English translation of above statement

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Cautions

A caution calls your attention to a possible hazard that can damage equipment.

“Vorsicht” weist auf die Gefahr einer möglichen Beschädigung des Gerätes hin.

Une mise en garde attire votre attention sur un risque possible d’endommagement de l’équipement. Ci-dessous, vous trouverez les mises en garde utilisées dans ce manuel.

Un mensaje de precaución le advierte sobre un posible peligro que pueda dañar el equipo. Las siguientes son precauciones utilizadas en este manual.

Table 0.1:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The procedures in this manual are for qualified service personnel.</td>
<td></td>
</tr>
<tr>
<td>Die Verfahren in diesem Handbuch sind nur für qualifiziertes Wartungspersonal gedacht.</td>
<td></td>
</tr>
<tr>
<td>Les procédures décrites dans ce manuel doivent être effectuées par le personnel de service qualifié uniquement.</td>
<td></td>
</tr>
<tr>
<td>Los procedimientos de este manual se han hecho para personal de servicio cualificado.</td>
<td></td>
</tr>
<tr>
<td>TABLE 1</td>
<td></td>
</tr>
<tr>
<td>CAUTION</td>
<td></td>
</tr>
<tr>
<td>All devices with DC power supplies (Brocade ICX 7750) are intended for installation in restricted access areas only. A restricted access area is where access can be gained only by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location.</td>
<td>All Geräte mit Gleichstromversorgung (Brocade ICX 7750) sind nur zur Installation in Sperrbereichen bestimmt. Ein Sperrbereich ist ein Ort, zu dem nur Wartungspersonal mit einem Spezialwerkzeug, Schloss und Schlüssel oder einer anderen Schutzvorrichtung Zugang hat. Er unterliegt außerdem der Kontrolle durch die für den Standort verantwortliche Stelle.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td></td>
</tr>
<tr>
<td>Tous les équipements dotés d’un bloc d’alimentation en courant continu (Brocade ICX 7750) sont conçus pour l’installation dans des zones à accès réglementé uniquement. Une zone à accès réglementé est un local qui n’est accessible que par le personnel d’entretien à l’aide d’un outil, verrou ou clé conçus à cet effet, ou de tout autre accessoire de sécurité, et qui est contrôlé par l’autorité responsable de ce local.</td>
<td></td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td></td>
</tr>
<tr>
<td>Todos aquellos dispositivos con fuentes de alimentación de CC (Brocade ICX 7750) están diseñados para su instalación en zonas de acceso restringido solamente. Una zona de acceso restringido es un lugar al que sólo puede acceder personal de mantenimiento haciendo uso de una herramienta especial, una llave y un candado, o algún otro medio de seguridad, y que está controlado por la autoridad responsable.</td>
<td></td>
</tr>
</tbody>
</table>
### Table 0.2:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>Do not install the device in an environment where the operating ambient temperature might exceed 50°C (122°F).</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Das Gerät darf nicht in einer Umgebung mit einer Umgebungsbetriebstemperatur von über 50°C (122°F) installiert werden.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>N’installez pas le dispositif dans un environnement où la température d’exploitation ambiante risque de dépasser 50°C (122°F).</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>No instale el instrumento en un entorno en el que la temperatura ambiente de operación pueda exceder los 50°C (122°F).</td>
</tr>
</tbody>
</table>

### Table 0.3:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>Make sure the airflow around the front, sides, and back of the device is not restricted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Stellen Sie sicher, dass an der Vorderseite, den Seiten und an der Rückseite der Luftstrom nicht behindert wird.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Vérifiez que rien ne restreint la circulation d’air devant, derrière et sur les côtés du dispositif et qu’elle peut se faire librement.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Asegúrese de que el flujo de aire en las inmediaciones de las partes anterior, laterales y posterior del instrumento no esté restringido.</td>
</tr>
</tbody>
</table>

### Table 0.4:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>Use a separate branch circuit for each AC power cord, which provides redundancy in case one of the circuits fails.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Es empfiehlt sich die Installation eines separaten Stromkreiszweiges für jede Wechselstrom-Elektroschnur als Redundanz im Fall des Ausfalls eines Stromkreises.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Utilisez un circuit de dérivation différent pour chaque cordon d’alimentation C.A. Ainsi, il y aura un circuit redondant en cas de panne d’un des circuits.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Use un circuito derivado separado para cada cordón de alimentación de CA, con lo que se proporcionará redundancia en caso de que uno de los circuitos falle.</td>
</tr>
</tbody>
</table>

### Table 0.5:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>Ensure that the device does not overload the power circuits, wiring, and over-current protection. To determine the possibility of overloading the supply circuits, add the ampere (amp) ratings of all devices installed on the same circuit as the device. Compare this total with the rating limit for the circuit. The maximum ampere ratings are usually printed on the devices near the input power connectors.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MISE EN GARDE</td>
<td>Assurez-vous que le dispositif ne risque pas de surcharger les circuits d’alimentation, le câblage et la protection de surintensité. Pour déterminer le risque de surcharge des circuits d’alimentation, additionnez l’intensité nominale (ampères) de tous les dispositifs installés sur le même circuit que le dispositif en question. Comparez alors ce total avec la limite de charge du circuit. L’intensité nominale maximum en ampères est généralement imprimée sur chaque dispositif près des connecteurs d’entrée d’alimentation.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Verifique que el instrumento no sobrecargue los circuitos de corriente, el cableado y la protección para sobrecargas. Para determinar la posibilidad de sobrecarga en los circuitos de suministros, añada las capacidades nominales de corriente (amp) de todos los instrumentos instalados en el mismo circuito que el instrumento. Compare esta suma con el límite nominal para el circuito. Las capacidades nominales de corriente máximas están generalmente impresas en los instrumentos, cerca de los conectores de corriente de entrada.</td>
</tr>
</tbody>
</table>
### TABLE 2

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>VORSICHT</th>
<th>MISE EN GARDE</th>
<th>PRECAUCIÓN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never leave tools inside the chassis.</td>
<td>Lassen Sie keine Werkzeuge im Chassis zurück.</td>
<td>Ne laissez jamais d’outils à l’intérieur du châssis.</td>
<td>No deje nunca herramientas en el interior del chasis.</td>
</tr>
</tbody>
</table>

### TABLE 3

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>VORSICHT</th>
<th>MISE EN GARDE</th>
<th>PRECAUCIÓN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove the power cord from a power supply before you install it in or remove it from the device. Otherwise, the power supply or the device could be damaged as a result. (The device can be running while a power supply is being installed or removed, but the power supply itself should not be connected to a power source.)</td>
<td>Nehmen Sie vor dem Anschließen oder Abtrennen des Geräts das Stromkabel vom Netzteil ab. Ansonsten könnten das Netzteil oder das Gerät beschädigt werden. (Das Gerät kann während des Anschließen oder Annehmens des Netzteils laufen. Nur das Netzteil sollte nicht an eine Stromquelle angeschlossen sein.)</td>
<td>Enlevez le cordon d’alimentation d’un bloc d’alimentation avant de l’installer ou de l’enlever du dispositif. Sinon, le bloc d’alimentation ou le dispositif risque d’être endommagé. (Le dispositif peut être en train de fonctionner lorsque vous installez ou enlevez un bloc d’alimentation, mais le bloc d’alimentation lui-même ne doit pas être connecté à une source d’alimentation.)</td>
<td>Retirez le cordon de corriente del suministro de corriente antes de instalarlo o retírarlo del instrumento. De no hacerse así, el suministro de corriente o el instrumento podrían resultar dañados. (El instrumento puede estar encendido mientras se instala o retira un suministro de corriente, pero el suministro de corriente en sí no deberá conectado a la corriente).</td>
</tr>
</tbody>
</table>

### TABLE 4

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>VORSICHT</th>
<th>MISE EN GARDE</th>
<th>PRECAUCIÓN</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the ICX 7750 devices, be sure that the airflow direction of the power supply unit matches that of the installed fan tray. The power supplies and fan trays are clearly labeled with either a green arrow with an “E”, or an orange arrow with an “I.”</td>
<td>Vergewissern Sie sich bei den ICX 7750-Geräten, dass die Luftstromrichtung des Netzteils der der eingebauten Lüftereinheit entspricht. Die Netzteile und Lüftereinheiten sind eindeutig mit einem grünen Pfeil und dem Buchstaben &quot;E&quot; oder einem orangefarbenen Pfeil mit dem Buchstaben &quot;I&quot; gekennzeichnet.</td>
<td>Pour les équipements de type ICX 7750, veillez à ce que le sens de circulation de l’air du bloc d’alimentation corresponde à celui du tiroir de ventilation installé. Les blocs d’alimentation et les tiroirs de ventilation sont étiquetés d’une flèche verte avec un “ E ” ou d’une flèche orange avec un “ 1 ”.</td>
<td>En el caso de dispositivos ICX 7750, asegúrese de que la dirección del flujo de aire de la unidad de alimentación se corresponda con la de la bandeja del ventilador instalada. Los dispositivos de alimentación y las bandejas del ventilador están etiquetadas claramente con una flecha verde y una “E” o con una flecha naranja y una “I”.</td>
</tr>
</tbody>
</table>

### TABLE 5

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>VORSICHT</th>
<th>MISE EN GARDE</th>
<th>PRECAUCIÓN</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the ICX 7750 devices, be sure that the airflow direction of the fan tray matches that of the installed power supply unit. The power supplies and fan trays are clearly labeled with either a green arrow with an “E”, or an orange arrow with an “I.”</td>
<td>Vergewissern Sie sich bei den ICX 7750-Geräten, dass die Luftstromrichtung der Lüftereinheit der des eingebauten Netzteils entspricht. Die Netzteile und Lüftereinheiten sind eindeutig mit einem grünen Pfeil und dem Buchstaben &quot;E&quot; oder einem orangefarbenen Pfeil mit dem Buchstaben &quot;I&quot; gekennzeichnet.</td>
<td>Pour les équipements de type ICX 7750, veillez à ce que le sens de circulation de l’air du tiroir de ventilation corresponde à celui du bloc d’alimentation installé. Les blocs d’alimentation et les tiroirs de ventilation sont étiquetés d’une flèche verte avec un “ E ” ou d’une flèche orange avec un “ 1 ”.</td>
<td>En el caso de dispositivos ICX 7750, asegúrese de que la dirección del flujo de aire de la unidad de alimentación se corresponda con la de la bandeja del ventilador instalada. Los dispositivos de alimentación y las bandejas del ventilador están etiquetadas claramente con una flecha verde y una “E” o con una flecha naranja y una “I”.</td>
</tr>
</tbody>
</table>
### TABLE 6

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>If you do not install a power supply in a slot, you must keep the slot panel in place. If you run the device with an uncovered slot, the system will overheat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Wenn Sie in einem Einschub kein Netzteil einsetzen, müssen Sie die Blende im Einschub lassen. Der Betrieb des Geräts mit einem offenen Einschub kann zur Überhitzung des Systems führen.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Si vous n'installez pas de bloc d'alimentation dans un emplacement, vous devez laisser le cache de protection en place. Si vous faites fonctionner l'équipement avec un emplacement vide, sans cache, le système risque de surchauffer.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Si no hay ninguna fuente de alimentación instalada en una ranura, debe dejar la tapa correspondiente puesta en la ranura. Si pone en funcionamiento el dispositivo con una ranura descubierta, el sistema se sobrecalentará.</td>
</tr>
</tbody>
</table>

### Table 0.6:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>For the DC input circuit to the system of a Brocade ICX 7750, make sure there is a UL-Listed 20 Amp circuit breaker, minimum 60 VDC, double pole, on the input lugs to the power supply. The input wiring for connection to the product should be Listed copper wire, 12 AWG, marked VW-1, and rated minimum 90°C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Bei der Gleichstromeingangsschaltung zum System eines Brocade ICX 7750, muss sichergestellt werden, dass an den Eingangskabelschuh(en) zur Stromversorgung ein zwei-poliger Schalter mit UL-Zulassung, 20 Ampere und mindestens 60 V Gleichstrom vorhanden ist. Die Eingangsleitung zum Anschluss an das Produkt sollte als Kupferdraht, 12 AWG, angegeben, als VW-1 gekennzeichnet und für mindestens 90°C bemessen sein.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Pour le circuit d'alimentation en courant continu du système Brocade ICX 7750, vérifier la présence d’un disjoncteur bipolaire homologué de 20 A, minimum 60 VCC, sur l'entrée de l'alimentation. Les câbles d'alimentation du produit doivent être des fils de cuivre homologués de section 2.1 mm² (12 AWG), marqués VW-1 et testés à 90°C.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Para el circuito de entrada de CC al sistema de un Brocade ICX 7750, verifique que existe un disyuntor catalogado por UL de 20 amperios, 60 VCC como mínimo, bipolar, en las orejetas de entrada a la fuente de alimentación. El cableado de entrada para la conexión al producto deberá ser de cable de cobre catalogado, 12 AWG, marcado con VW-1, y tener una capacidad nominal mínima para 90°C.</td>
</tr>
</tbody>
</table>

### TABLE 7

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>Before plugging a cable to any port, be sure to discharge the voltage stored on the cable by touching the electrical contacts to ground surface.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Bevor Sie ein Kabel in einen Anschluss einstecken, entladen Sie jegliche im Kabel vorhandene elektrische Spannung, indem Sie mit den elektrischen Kontakten eine geerdete Oberfläche berühren.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Avant de brancher un câble à un port, assurez-vous de décharger la tension du câble en reliant les contacts électriques à la terre.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Antes de conectar un cable en cualquier puerto, asegúrese de descargar la tensión acumulada en el cable tocando la superficie de conexión a tierra con los contactos eléctricos.</td>
</tr>
</tbody>
</table>

### TABLE 8

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>For DC systems, use grounding wire of at least 12 American Wire Gauge (AWG). The grounding wire should be attached to the DC input connector (as shown in Figure 32); the other end connects to the building ground.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Für Gleichstromsystem verwenden Erdungskabel von mindestens 12 AWG (3.31 mm²) (amerikanische Norm für Drahtquerschnitte). Der Erdungsdraht sollte DC-Eingang angeschlossen werden (wie in Figure 32 zeigen #14), das andere Ende verbindet sich mit dem Baugrund.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Pour les systèmes d’alimentation courant continu (C.C), utilisez un fil de mise à terre d’au moins 12 AWG (ou 3.31 mm²). Le fil de mise à terre doit être relié au connecteur du circuit d’alimentation (voir Figure 32); l’autre extrémité se connecte à la prise terre du bâtiment.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Para el sistema CC, utilice un cable de tierra de al menos 12 AWG (Ancho de cable de EEUU). El cable de tierra debe estar acoplado al conector de entrada de CC (según se muestra en la Figure 32); el otro extremo se conecta al suelo del edificio.</td>
</tr>
</tbody>
</table>
Danger notices

A danger notification calls your attention to a possible hazard that can cause injury or death. The following are the warnings used in this manual.

"Gefahr" weist auf eine mögliche Gefährdung hin, die zu Verletzungen oder Tod führen können. Sie finden die folgenden Warnhinweise in diesem Handbuch.

Un danger attire votre attention sur un risque possible de blessure ou de décès. Ci-dessous, vous trouverez les avertissements utilisés dans ce manuel.

Una señal de peligro le llama la atención sobre cualquier posible peligro que pueda ocasionar daños personales o la muerte. A continuación se dan las advertencias utilizadas en este manual.

### TABLE 9

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>Power supplies are hot-swappable. However, they should be inserted or removed without a power cord being connected to a power source to avoid damage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MISE EN GARDE</td>
<td>Les unités d’alimentation sont permutables à chaud. Cependant, et pour éviter tout dommage, elles doivent être insérées ou retirées sans cordon d’alimentation relié à une source d’alimentation.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Los proveedores de energía son deslizables por calor. Sin embargo deben insertarse o extraerse sin ningún cable de alimentación conectado a la fuente de alimentación para evitar daños.</td>
</tr>
</tbody>
</table>

### Table 0.7:

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>For safety reasons, the ESD wrist strap should contain a series 1 megaohm resistor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VORSICHT</td>
<td>Aus Sicherheitsgründen sollte ein EGB-Armband zum Schutz von elektronischen gefährdeten Bauelementen mit einem 1 Megaohm-Reihenwiderstand ausgestattet sein.</td>
</tr>
<tr>
<td>MISE EN GARDE</td>
<td>Pour des raisons de sécurité, la dragonne ESD doit contenir une résistance de série 1 méga ohm.</td>
</tr>
<tr>
<td>PRECAUCIÓN</td>
<td>Por razones de seguridad, la correa de muñeca ESD deberá contener un resistor en serie de 1 mega ohmio.</td>
</tr>
</tbody>
</table>

### TABLE 10

<table>
<thead>
<tr>
<th>DANGER</th>
<th>Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the manufacturer’s instructions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEFAHR</td>
<td>Es besteht Explosionsgefahr, wenn ein unzulässiger Batterietyp eingesetzt wird. Verbrauchte Batterien sind entsprechend den geltenden Vorschriften zu entsorgen.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Risque d’explosion en cas de remplacement de la pile par un modèle incorrect. Débarrassez-vous des piles usagées conformément aux instructions.</td>
</tr>
<tr>
<td>PELIGRO</td>
<td>Riesgo de explosión si se sustituye la bateria por una de tipo incorrecto. Deshágase de las baterías usadas de acuerdo con las instrucciones.</td>
</tr>
</tbody>
</table>
### Table 0.8:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER</td>
<td>Make sure the rack housing the device is adequately secured to prevent it from becoming unstable or falling over.</td>
</tr>
<tr>
<td>GEFAHR</td>
<td>Stellen Sie sicher, dass das Gestell die Unterbringung des Geräts auf angemessene Weise gesichert ist, so dass das Gestell nicht wackeln oder umfallen kann.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Vérifiez que le bâti ou le support abritant le dispositif est bien fixé afin qu’il ne devienne pas instable ou qu’il ne risque pas de tomber.</td>
</tr>
<tr>
<td>PELIGRO</td>
<td>Verifique que el bastidor que alberga el instrumento está asegurado correctamente para evitar que pueda hacerse inestable o que caiga.</td>
</tr>
</tbody>
</table>

### Table 0.9:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER</td>
<td>Disconnect the power cord from all power sources to completely remove power from the device.</td>
</tr>
<tr>
<td>GEFAHR</td>
<td>Ziehen Sie das Stromkabel aus allen Stromquellen, um sicherzustellen, dass dem Gerät kein Strom zugeführt wird.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Débranchez le cordon d'alimentation de toutes les sources d'alimentation pour couper complètement l'alimentation du dispositif.</td>
</tr>
<tr>
<td>PELIGRO</td>
<td>Para desconectar completamente la corriente del instrumento, desconecte el cordon de corriente de todas las fuentes de corriente.</td>
</tr>
</tbody>
</table>

### Table 0.10:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER</td>
<td>If the installation requires a different power cord than the one supplied with the device, make sure you use a power cord displaying the mark of the safety agency that defines the regulations for power cords in your country. The mark is your assurance that the power cord can be used safely with the device.</td>
</tr>
<tr>
<td>GEFAHR</td>
<td>Falls für die Installation ein anderes Stromkabel erforderlich ist (wenn das mit dem Gerät gelieferte Kabel nicht passt), müssen Sie sicherstellen, dass Sie ein Stromkabel mit dem Siegel einer Sicherheitsbehörde verwenden, die für die Zertifizierung von Stromkabeln in Ihrem Land zuständig ist. Das Siegel ist Ihre Garantie, dass das Stromkabel sicher mit Ihrem Gerät verwendet werden kann.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Si l’installation nécessite un cordon d’alimentation autre que celui fourni avec le dispositif, assurez-vous d’utiliser un cordon d’alimentation portant la marque de l’organisation responsable de la sécurité qui définit les normes et régulations pour les cordons d’alimentation dans votre pays. Cette marque vous assure que vous pouvez utiliser le cordon d’alimentation avec le dispositif en toute sécurité.</td>
</tr>
<tr>
<td>PELIGRO</td>
<td>Si la instalación requiere un cordon de corriente distinto al que se ha suministrado con el instrumento, verifique que usa un cordon de corriente que venga con la marca de la agencia de seguridad que define las regulaciones para cordones de corriente en su país. Esta marca será su garantía de que el cordon de corriente puede ser utilizado con seguridad con el instrumento.</td>
</tr>
</tbody>
</table>

### Table 0.11:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER</td>
<td>Laser radiation. Do not view directly with optical instruments. Class 1M laser products.</td>
</tr>
<tr>
<td>GEFAHR</td>
<td>Laserstrahlung! Schauen Sie nicht direkt mit optischen Instrumenten in den Laserstrahl herein. Klasse 1M Laserprodukte.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Rayonnement de laser. Ne regardez pas directement avec les instruments optiques. Produits de laser de la classe 1M.</td>
</tr>
</tbody>
</table>

危险 電射輻射，勿以光學儀器直接接觸 1M 電射產品。
警告 レーザ放射 光学器具で直接ビームを見ないことクラス1Mレーザ製品
## Table 0.12:

<table>
<thead>
<tr>
<th></th>
<th>DANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remove both power cords before servicing.</td>
</tr>
<tr>
<td>GEFAHR</td>
<td>Trennen Sie beide Netzkabel, bevor Sie Wartungsarbeiten durchführen.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Retirez les deux cordons d'alimentation avant toute maintenance.</td>
</tr>
<tr>
<td>PELIGRO</td>
<td>Desconecte ambos cables de alimentación antes de realizar reparaciones.</td>
</tr>
</tbody>
</table>

## TABLE 11

<table>
<thead>
<tr>
<th></th>
<th>DANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To avoid high voltage shock, do not open the device while the power is on.</td>
</tr>
<tr>
<td>GEFAHR</td>
<td>Das eingeschaltete Gerät darf nicht geöffnet werden, da andernfalls das Risiko eines Stromschlags mit Hochspannung besteht.</td>
</tr>
<tr>
<td>DANGER</td>
<td>Afin d’éviter tout choc électrique, n’ouvrez pas l’appareil lorsqu’il est sous tension.</td>
</tr>
<tr>
<td>PELIGRO</td>
<td>Para evitar una descarga de alto voltaje, no abra el dispositivo mientras esté encendido.</td>
</tr>
</tbody>
</table>