ARISTA

Quick Start Guide

7500N Series Modular Data Center Switch

DCS-7504N
DCS-7508N
DCS-7512N

Arista Networks

www.arista.com

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Chapter 1

Overview

1.1   Scope

This guide is intended for properly trained service personnel and technicians who need to install the following Arista Networks Data Center Switches:

- DCS-7504N
- DCS-7508N
- DCS-7512N

Important!   Only qualified personnel should install, service, or replace this equipment.

Seul le personnel qualifié doit installer, service, ou remplacer cet équipement.

1.2   Receiving and Inspecting the Equipment

Upon receiving the switch, inspect the shipping boxes and record any external damage. Retain packing materials if you suspect that part of the shipment is damaged; the carrier may need to inspect them.

If the boxes were not damaged in transit, unpack them carefully. Ensure that you do not discard any accessories that may be packaged in the same box as the main unit.

Inspect the packing list and confirm that you received all listed items. Compare the packing list with your purchase 7500N Series Modular Switch order. Appendix B provides a list of components included with the switch.

1.3   Installation Process

The following tasks are required to install and use the switch:

Step 1   Select and prepare the installation site (Site Selection (page 7)).

Step 2   Assemble the installation tools listed in (Tools and Parts Required for Installation (page 9).

Step 3   Attach the mounting brackets and install the switch in an equipment rack (Chapter 3).

Step 4   Connect the switch to the power source and network devices (Chapter 4).

Step 5   Configure the switch (Chapter 5).

Important! Class 1 Laser Product: This product has provisions to install Class 1 laser transceivers that provides optical coupling to the communication network. Once a Class 1 laser product is installed, the equipment is a Class 1 Laser Product (Appareil à Laser de Classe 1). The customer is responsible for selecting and installing the Class 1 laser transceiver and for insuring that the Class 1 AEL (Allowable Emission Limit) per EN/IEC 60825, CSA E60825-1, and Code of Federal Regulations 21 CFR 1040 is not exceeded after the laser transceiver have been installed. Do not install laser products whose class rating is greater than 1. Refer to all safety instructions that accompanied the transceiver prior to installation. Only Class 1 laser devices certified for use in the country of installation by the cognizant agency are to be utilized in this product.

Produit Laser de classe 1: Ce produit a des dispositions pour installer des émetteurs-récepteurs de laser de classe 1 qui offre de couplage au réseau de communication optique.Une fois un produit laser de classe 1 est installé, l'équipement est un produit Laser de classe 1 (Appareil à Laser de Classe 1).Le client est responsable pour sélectionner et installer l'émetteur/récepteur de laser de classe 1 et pour assurer que la classe 1 AEL (limite d'émission admissible) par EN/IEC 60825, CSA E60825-1, et Code des règlements fédéraux 21 CFR 1040 ne soit pas dépassée après avoir installé l'émetteur/récepteur de laser. Ne pas installer des appareils à laser dont la cote de classe est supérieure à 1.Voir toutes les consignes de sécurité qui ont accompagné l'émetteur-récepteur avant l'installation. Seuls appareils laser de classe 1 certifiés pour une utilisation dans le pays d'installation par l'organisme compétent doivent être utilisées dans ce produit.

Important! Ultimate disposal of this product should be handled in accordance with all national laws and regulations.

Aucune pièce réparable par l'utilisateur à l'intérieur. Confiez toute réparation à un technicien qualifié.

1.4   Safety Information

Refer to the Arista Networks document Safety Information and Translated Safety Warnings available at:

www.arista.com/support/product-documentation

1.5   Obtaining Technical Assistance

Any customer, partner, reseller or distributor holding a valid Arista Service Contract can obtain technical support in any of the following ways:

- **Email:** support@arista.com. This is the easiest way to create a new service request.

   Include a detailed description of the problem and the output of "show tech-support".

- **Web:** www.arista.com/support/customer-support.

   A support case may be created through the support portal on our website. You may also download the most current software and documentation, as well as view FAQs, Knowledge Base articles, Security Advisories, and Field Notices.

- **Phone:** 866-476-0000 or 408-547-5502.

Important! No user serviceable parts inside. Refer all servicing to qualified service personnel.

Aucune pièce réparable par l'utilisateur à l'intérieur. Confiez toute réparation à un technicien qualifié.

1.6 Specifications

Table 1-1 lists the specifications of Arista Data Center modular switches covered by this guide.

Table 1-1   Modular switch specifications

	DCS-7504N	DCS-7508N	DCS-7512N
Height	7 RU: 312 mm (12.25 inches)	13RU: 578 mm (22.75 inches)	18RU:801 mm (31.53 inches)
Width	483 mm (19 inches) maximum	483 mm (19 inches) maximum	483 mm (19 inches) maximum
Depth	795 mm (31.3 inches)	795 mm (31.3 inches)	849 mm (33.4 inches)
Weight	222 lbs (101 kg) fully loaded	400 pounds (182 kg) fully loaded	661 lbs (300 kg) fully loaded
DC Input Power (per circuit)	-48/-60V DC, 80A	-48/-60V DC, 80A	-48/-60V DC, 80A
DC Branch Circuit Protection	100A	100A	100A
AC Input Power (per circuit)	200-240V	200-240V	200-240V
AC Branch Circuit Protection	20A	20A	20A
Input Power Circuits	2 to 4 circuits	2 to 8 circuits	2 to 12 circuits
Ambient Temperature Storage Temperature Relative Humidity Altitude	0° to 40° C (32°to 104° F) -40° to 70° C (-40° to 158° F) 5 to 90% 0 to 3,000 meters (0 to 10,000 feet)	0° to 40° C (32°to 104° F) -40° to 70° C (-40° to 158° F) 5 to 90% 0 to 3,000 meters (0 to 10,000 feet)	0° to 40° C (32°to 104° F) -40° to 70° C (-40° to 158° F) 5 to 90% 0 to 3,000 meters (0 to 10,000 feet)
Cooling	5160 W Maximum	9880 W Maximum	15,300 W Maximum

Table 1-2.lists power specifications of modular switch components.

Table 1-2   7500N Series power specifications

Module Type	Part Number	Power Draw (Typical / {Hot}Maximum)
Supervisor Modules	DCS-7500E-SUP DCS-7500-SUP2	47 W / 87 W 80 W / 120W
Line Card Modules	DCS-7500E-36Q-LC DCS-7500E-72S-LC DCS-7500E-48S-LC DCS-7500E-12CM-LC DCS-7500E-6C2-LC DCS-7500E-12CQ-LC DCS-7500E-48T-LC DCS-7500R-36CQ-LC DCS-7500R-36Q-LC DCS-7500R-48S2CQ-LC	450 W / 556 W 212 W / 305 W 197 W / 285 W 408 W / 495 W 300 W / 320 W 414 W / 486 W 318 W / 332 W 758 W / 863W 368 W / 406 W 202W / 220 W
Fabric Modules	DCS-7504E-FM DCS-7508E-FM DCS-7504R-FM DCS-7508R-FM DCS-7512R-FM	80 W / 105 W 155 W / 195 W 121 W /163 W / 237 W 224 W / 298 W / 433 W 570 W / 680 W / 760W
Power Supply	PWR-2700-DC-R (Fan Power) PWR-3KT-AC RED (Fan Power) PWR-3K-DC-RED (Fan Power)	43 W / 47 W 43 W / 47 W 43 W / 47 W
7504N Series System	Full chassis loaded with 2 DCS-7500E-SUP 4 DCS-7504E-FM 4 DCS-7500E-36Q-LC	3150 W / 3400 W
	Full chassis loaded with 2 DCS-7500-SUP2 4 DCS-7504R-FM 4 DCS-7500E-36CQ-LC	3500 W / 4500 W
7508N Series System	Full chassis loaded with 2 DCS-7500E-SUP 6 DCS-7508E-FM 8 DCS-7500E-36Q-LC	5500 W / 6400 W
	Full chassis loaded with 2 DCS-7500-SUP2 6 DCS7508R-FM 8 DCS-7500E-36Q-LC	5820 W/ 6880 W / 7750 W
	Full chassis loaded with 2 DCS-7500-SUP2, 6 DCS7508R-FM 8 DCS-7500R-36CQ-LC	7720 W/ 8990 W / 9880 W
	Full Chassis loaded with 2 DCS-7500-SUP2 6 DCS-7508R-FM, 8 DCS-7500R-36Q-LC	4600 W/ 5360 W / 6230 W
	Full Chassis loaded with 2 DCS-7500-SUP2 6 DCS-7508R-FM 8 DCS-7500R-48S2CQ-LC	3270 W/ 3900 W / 4740 W

Table 1-2   7500N Series power specifications (Continued)

Module Type	Part Number	Power Draw (Typical / {Hot}Maximum)
7512N Series System **Note:**7512N systems only support 7500R Series Line cards.	Full chassis loaded with 2 DCS-7500-SUP2, 6 DCS75012R-FM 12 DCS-7500R-36CQ-LC	12800 W / 14700 W / 15300 W
	Full Chassis loaded with 2 DCS-7500-SUP2 6 DCS-7512R-FM 9 DCS-7500R-36CQ-LC 3 DCS-7500R-36Q-LC	11600 W / 13300 W / 13900 W
	Full Chassis loaded with 2 DCS-7500-SUP2 6 DCS-7512R-FM 3 DCS-7500R-36CQ-LC 9 DCS-7500R-36Q-LC	9300 W / 10600 W / 11200 W

Note1: Includes typical power supply conversion inefficiency. Contact your local Sales Engineer for 7500 power calculator details.

Note2: Power numbers given as Typical/Maximum or Typical/Hot/Maximum where Hot is defined as 40°C Sea Level.

Chapter 2

Preparation

2.1   Site Selection

The following criteria should be considered when selecting a site to install the switch:

- **Floor Space:** Install the switch in an area that provides adequate clearance for removing front and rear components.

Figure 2-1 displays switch clearance requirements for 7504N and 7508N switches.

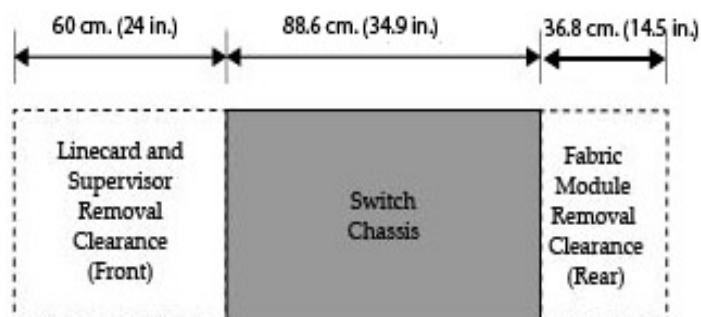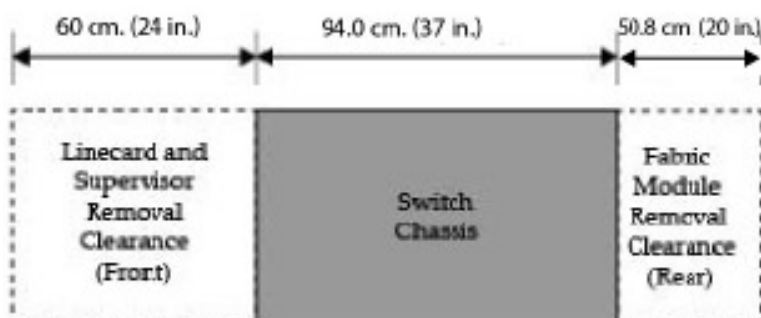**Figure 2-1   7504N and 7508N switch component footprint**

Figure 2-2 displays switch clearance requirements for 7512N switches.

Figure 2-2   7512N switch component footprint

- **Temperature and Ventilation:** For proper ventilation, install the switch where there is ample airflow to the front and back of the switch. The temperature should not go below 0° or exceed 40° C.

Important! To prevent the switch from overheating, do not operate it in an area where the ambient temperature exceeds 40°C (104°F).

Pour empêcher l'interrupteur de surchauffe, ne pas utiliser il dans une zone où la température ambiante est supérieure à 40° C (104° F).

- **Airflow Orientation:** The fans direct air from the front panel to the rear panel. Orient the front panel toward the cool aisle.
- **Rack Space Requirements:**

  DCS-7504N or DCS-7508N

  - Install the switch in a standard 19" EIA rack or cabinet. The switch height is 7 RU (DCS-7504N) or 13 RU (DCS-7508N). The accessory kit provides mounting brackets for two-post and four-post racks.

  DCS-7512N

  - Install the switch in a standard 19" EIA rack or cabinet. The switch height is18 RU. The accessory kit provides a mounting shelf for four-post racks.
- **Power Requirements:** Arista requires a minimum of 2 operating power supplies in the top section of all chassis, AC or DC.

  The AC DCS-7504N, DCS-7508N and DCS-7512N switches requires a minimum of two 200-240V~ 20A circuits.

  The DCS-7504N, DCS-7508N and DCS-7512N with DC power supplies require a minimum of two -48/-60V DC, 100A circuits.

  Arista recommends four circuits that provide 2+2 power redundancy for DCS-7504N switches.

  Arista recommends six circuits that provide 3+3 power redundancy for DCS-7508N switches. Future options may require 8 circuits.

  Arista recommends eight circuits that provide 4+4 power redundancy for DCS-7512N switches. Future options may require 12 circuits.

Important! DC cables should be protected with circuit over-current protection devices and circuit disconnect means. To power off a unit, power must be disconnected from ALL power cables.

DC câbles doivent être protégés avec dispositifs de protection de surintensité circuit et moyens de déconnexion du circuit. Pour alimenter un appareil hors tension, l'alimentation doit être débranchée de tous les câbles d'alimentation.

- **Other Requirements:** Select a site where liquids or objects cannot fall onto the equipment and foreign objects are not drawn into the ventilation holes. Verify these guidelines are met:
  - Clearance areas to the front and rear panels allow for unrestricted cabling.
  - All front and rear panel indicators can be easily read.
  - AC power cords can reach from the AC power outlet to the input connectors.
  - DC power cables can reach from the DC power distribution unit to the input connectors.

2.2 Tools and Parts Required for Installation

The following tools are required to install a modular switch:

- Mechanical device capable of lifting chassis being installed (Table 1-1 on page 3).
- Adjustable wrench (not provided) for the 7512N
- Torque reading nut driver (for DC power supplies)
- 2 Phillips head screwdriver
- Torque reading screwdriver using #2 Pozidriv or 1/4" flat bit (Needed for PWR-2700-DC-R)

Two-post rack mounts:

DCS-7504N

- Eight equipment rack screws (all two-post rack mounts).
- Eight equipment rack nuts (two-post rack mount with unthreaded rack post holes).

DCS-7508N

- Ten equipment rack screws (all two-post rack mounts).
- Ten equipment rack nuts (two-post rack mount with unthreaded rack post holes).

Four-post rack mounts:

DCS-7504N

- Ten equipment rack screws (all four-post rack mounts).
- Ten equipment rack nuts (four-post rack mount with unthreaded rack post holes).

The accessory kit includes screws that fit many common equipment racks.

DCS-7508N

- Sixteen equipment rack screws (all four-post rack mounts).
- Sixteen equipment rack nuts (four-post rack mount with unthreaded rack post holes).

The accessory kit includes screws that fit many common equipment racks.

DCS-7512N

- Twenty-two equipment rack screws (all four-post rack mounts).
- Twenty-two equipment rack nuts (four-post rack mount with unthreaded rack post holes).

The accessory kit includes screws that fit many common equipment racks.

2.3　Electrostatic Discharge (ESD) Precautions

Observe these guidelines to avoid ESD damage when installing or servicing the switch.

- Assemble or disassemble equipment only in a static-free work area.
- Use a conductive work surfaces (such as an anti-static mat) to dissipate static charge.
- Wear an ESD wrist strap to dissipate static charge accumulation.
- Minimize handling of assemblies and components.
- Keep replacement parts in their original static-free packaging.
- Remove all plastic, foam, vinyl, paper, and other static-generating materials from the work area.
- Use tools that do not create ESD.

<div align="right">**Chapter 3**</div>

Rack Mounting the Switch

The accessory kit provides components for installing the switch in two-post and four-post racks.

- Section 3.1.1 provides instructions for mounting the switch in a two-post rack.
- Section 3.1.4 provides instructions for mounting the switch in a four-post rack.
- Section 3.2 provides instructions for mounting the 7512N switch in a shelf four-post rack.

The rack mounting procedure is identical for the 7504N and 7508N Series switches. Illustrations in this chapter depict the mounting of an unpopulated 8-slot chassis.

The 7512N switch requires a special mounting shelf. Illustrations in this chapter depict the mounting of an unpopulated 12-slot chassis.

After completing the instructions for your rack type, proceed to Chapter 4.

3.1   7504N and 7508N Rack Mounting

3.1.1   Two-Post Rack Mount

To mount the switch to a two-post rack, assemble mounting brackets to the middle of the chassis, then attach the brackets to the rack. The switch does not support a front or rear mount into a two-post rack.

The accessory kit includes the following two-post mounting parts:

- 2 center-mount brackets
- 20 M4x8 pan-head Phillips screws

3.1.2   Attaching Mounting Brackets to the Chassis

Step 1 Orient the switch chassis and the two center-mount brackets (Figure 3-1).

Position the flanges that attach to the rack posts toward the rear of the chassis.

Step 2 Attach both center-mount brackets to the chassis. Each bracket requires ten M4x8 pan-head Phillips screw.

**Figure 3-1** **Attaching the center-mount brackets**
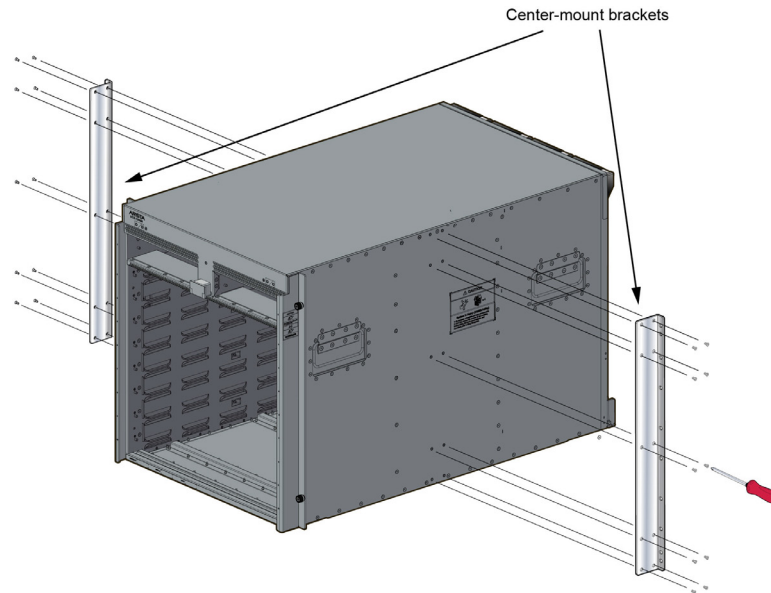
3.1.3 Inserting the Switch into the Rack

Step 1 Move the chassis to the rack using a mechanical lift.

If modules are inserted in the chassis, use the lift carefully to avoid damaging any components.

Step 2 Lift the chassis into the rack. Position the flanges against the rack posts (Figure 3-2).

**Figure 3-2** **Lifting the chassis into the two post rack**
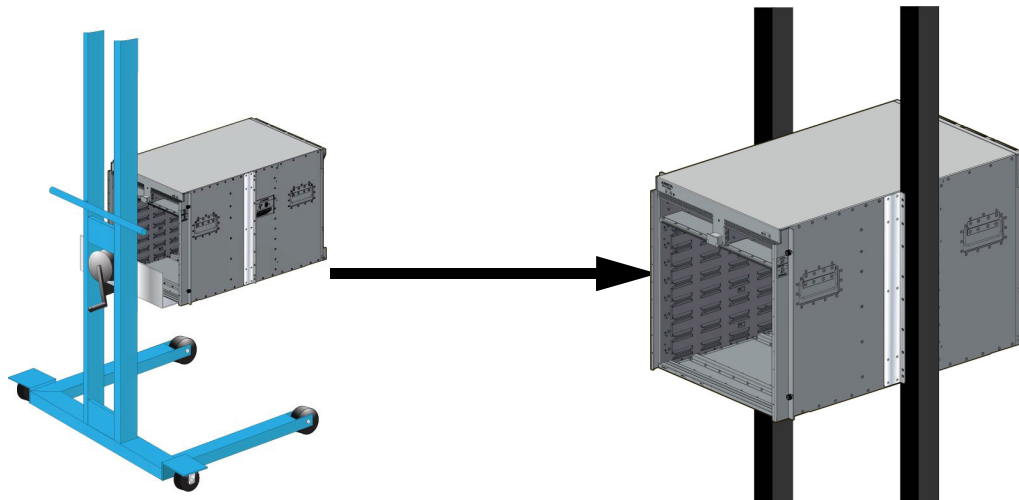
Step 3 Select mounting screws that fit your equipment rack.

Step 4 A minimum of four screws is required on each side of the chassis. The accessory kit provides screws that fit many common equipment racks. When installing the switch into a rack with unthreaded post holes, nuts are also required to secure the switch to the rack posts.

Step 5 Attach the bracket flanges to the rack posts (Figure 3-3). Space the screws evenly along the flange.

Figure 3-3   Attaching flanges to the rack post
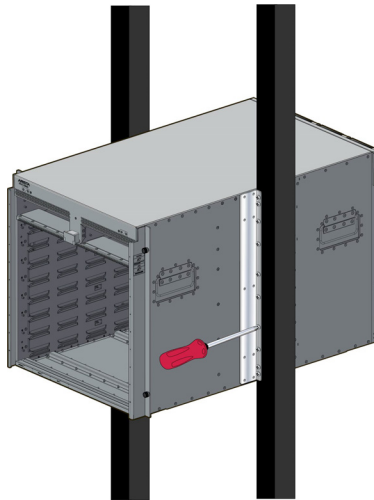
Step 6 After completing the two-post installation, proceed to Chapter 4.

3.1.4 Four-Post Rack Mount

The switch is mounted onto a four-post rack by assembling a shelf into the rack, then placing the switch on the shelf.

Illustrations in this chapter depict the mounting of an unpopulated 8-slot chassis.

The accessory kit provides the following four-post mounting parts:

- 2 front brackets
- 4 shelf supports
- 2 back brackets (not needed for racks with threaded holes)
- left shelf
- right shelf

Figure 3-4 on page 14 displays the front four-post mounting parts.

Figure 3-5 on page 14 displays the rear four-post mounting parts.

3.1.5 Assembling the Shelf

Step 1 Attach the front bracket and shelf support to the left front rack post, as shown in Figure 3-4. An up arrow is printed on the shelf support to indicate its proper orientation.

Unthreaded rack holes: Use the M6 screws and cage nuts supplied in the accessory kit.

Threaded rack holes: Attach the front bracket to the post with screws that can be threaded through the rack post.

Step 2 Secure the shelf support to the post with nuts that fit the screws threaded through the post.

- **7504N** - Requires six M6 screws and cage nuts.
- **7508N** - Requires eight M6 screws and cage nuts.

Figure 3-4   Left front post assembly: Four post rack mount
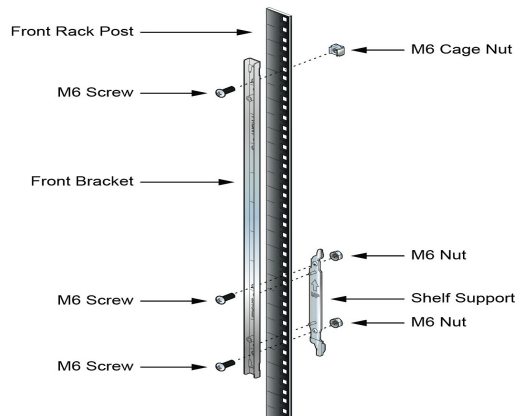

Step 3 Repeat step 1 on the right front rack post, assembling the parts at the same vertical level as those on the left rack post.

Step 4 Attach the shelf support and back bracket to the left rear post (Figure 3-5-left). The shelf support must be assembled at the same vertical level on the front and rear posts. An up arrow is printed on the shelf support to indicate its proper orientation.

Unthreaded rack holes: Attach the parts as displayed in Figure 3-5-left.

Threaded rack holes: Attach the shelf support to the post with screws that thread into the rack post. The back bracket is not required on threaded racks.
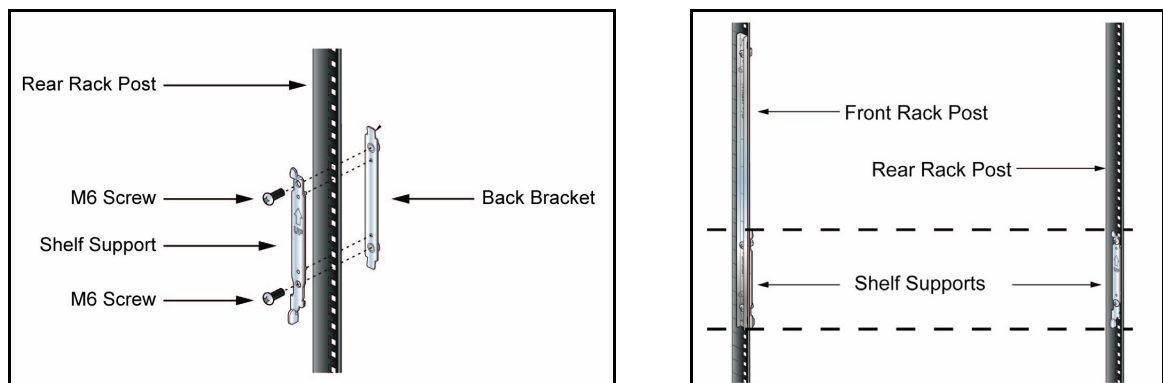
**Figure 3-5   Left rear post assembly and shelf support orientation**

Step 5 Adjust the left shelf by sliding its components to fit between the front left and rear left rack posts, as shown in Figure 3-6 on page 15.
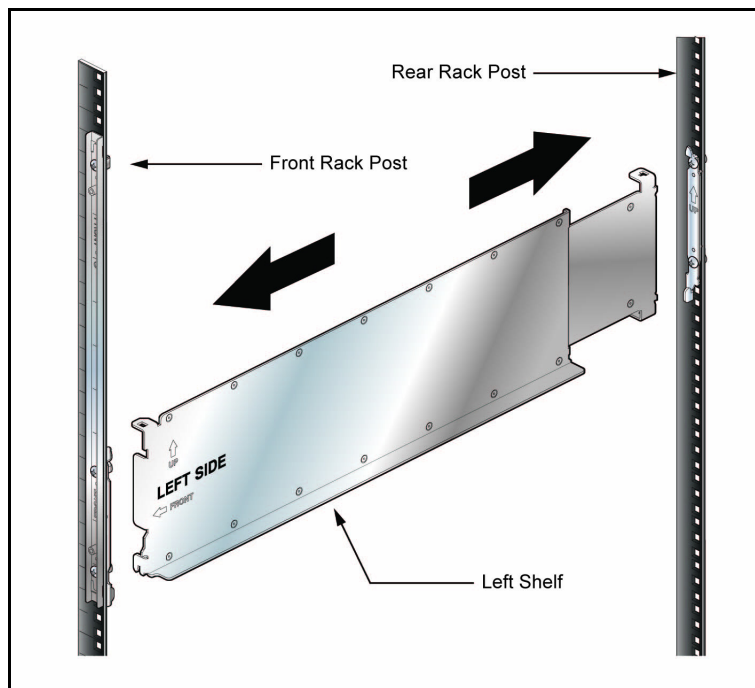
Figure 3-6   **Adjusting the left shelf**

Step 6 Lift the left shelf above the shelf supports installed on the front left and rear left rack posts (step 1 and step 4). Align the holes (Inset A) and hook (Inset B) with the stubs on the brackets as shown in Figure 3-7. Lower the shelf such that the bracket stubs are inserted into the shelf holes and hook.

Step 7 Press down firmly on the shelf to ensure it is seated securely on the rack posts.
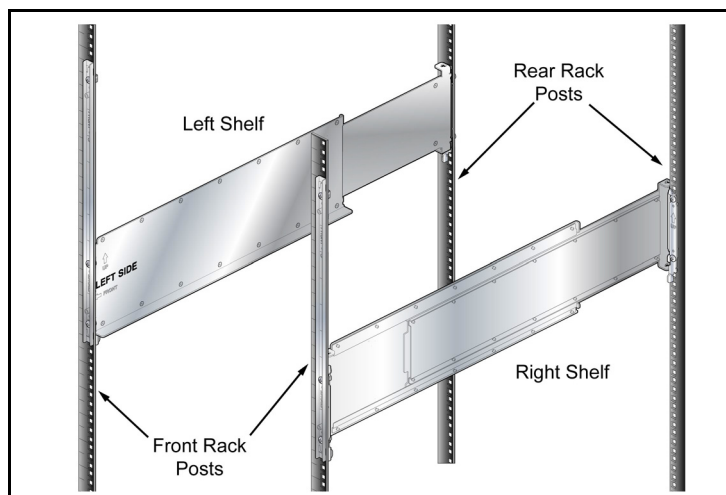
Figure 3-7   **Both switch shelves installed**

Step 8 Install the right shelf on the right front and right rear rack posts by repeating step 5 and step 6 to obtain the rack configuration shown in Figure 3-8.

3.1.6   Inserting the Switch into the Rack

The rack mounting assembly is identical for the 7504N and 7508N switches. Illustrations in this chapter depict the mounting of an unpopulated 8-slot chassis.

Step 1 Move the chassis to the rack using a mechanical lift (Figure 3-8).

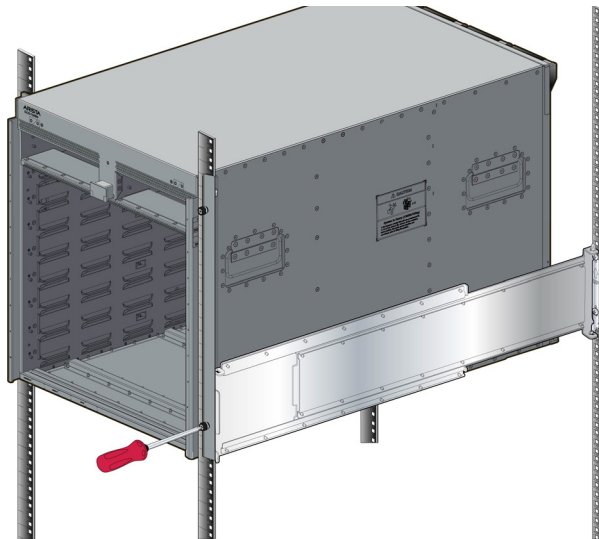**Note**: If modules are inserted in the chassis, use the lift carefully to avoid damaging any components.

Figure 3-8   **Lifting the chassis**

Step 2 Lift the chassis into the rack.

Step 3 Secure the chassis by tightening the thumbscrews on the front flanges into the rack posts (Figure 3-9 on page 17).

Figure 3-9   **Inserting the switch onto the rack shelf**

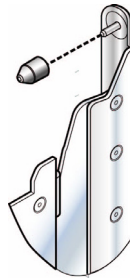**Step 4** After completing the Four-Post Installation, proceed to Chapter 4.

3.2 7512N Shelf Rack Mount Installation

The rack mounting assembly is for the 7512 Series switch.
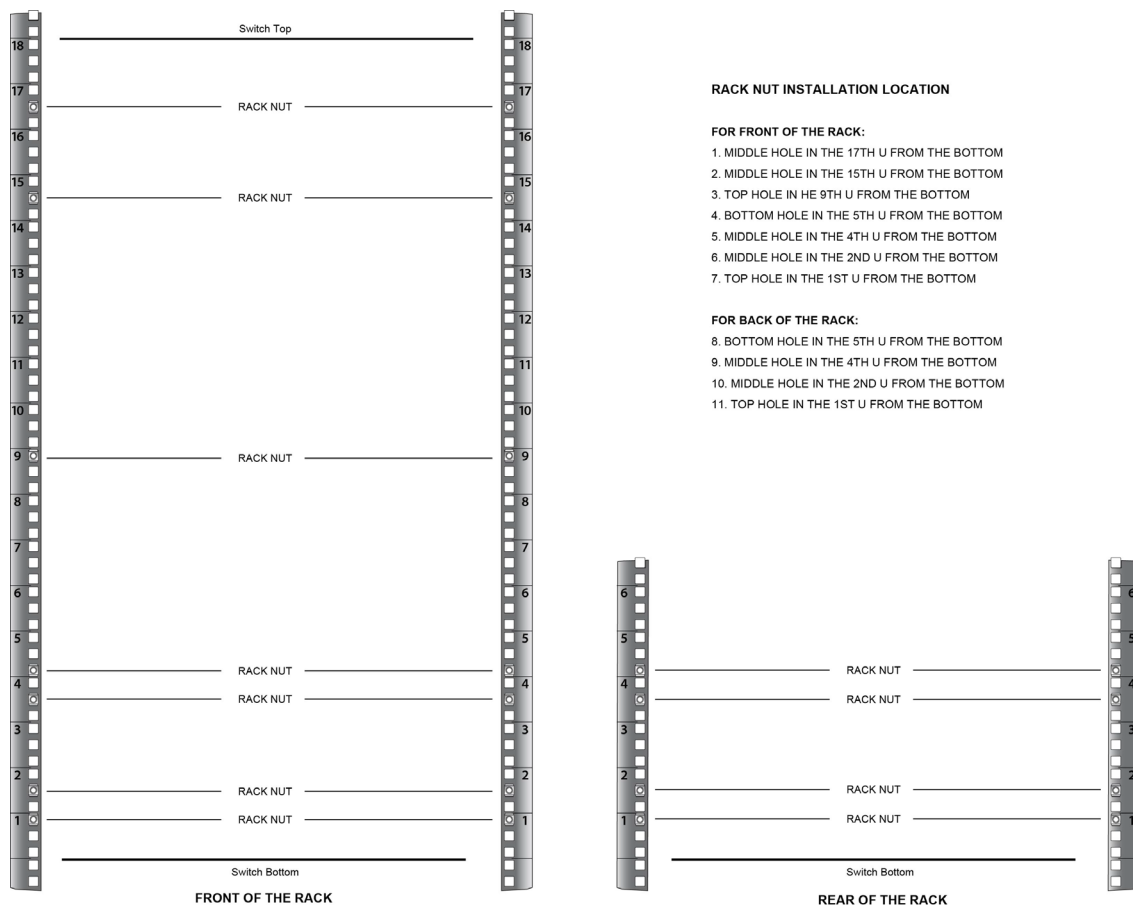
3.2.1 Assembling the Shelf

Step 1 For threaded racks, remove the plastic alignment spacers and use the 3mm diameter alignment pins.

Figure 3-10

Step 2 Attach the front bracket and shelf support to the left front rack post, as shown in Figure 3-12. An up arrow is printed on the shelf support to indicate its proper orientation.

Figure 3-11   Rack mount shelf orientation

RACK NUT INSTALLATION LOCATION

FOR FRONT OF THE RACK:
1. MIDDLE HOLE IN THE 17TH U FROM THE BOTTOM
2. MIDDLE HOLE IN THE 15TH U FROM THE BOTTOM
3. TOP HOLE IN HE 9TH U FROM THE BOTTOM
4. BOTTOM HOLE IN THE 5TH U FROM THE BOTTOM
5. MIDDLE HOLE IN THE 4TH U FROM THE BOTTOM
6. MIDDLE HOLE IN THE 2ND U FROM THE BOTTOM
7. TOP HOLE IN THE 1ST U FROM THE BOTTOM

FOR BACK OF THE RACK:
8. BOTTOM HOLE IN THE 5TH U FROM THE BOTTOM
9. MIDDLE HOLE IN THE 4TH U FROM THE BOTTOM
10. MIDDLE HOLE IN THE 2ND U FROM THE BOTTOM
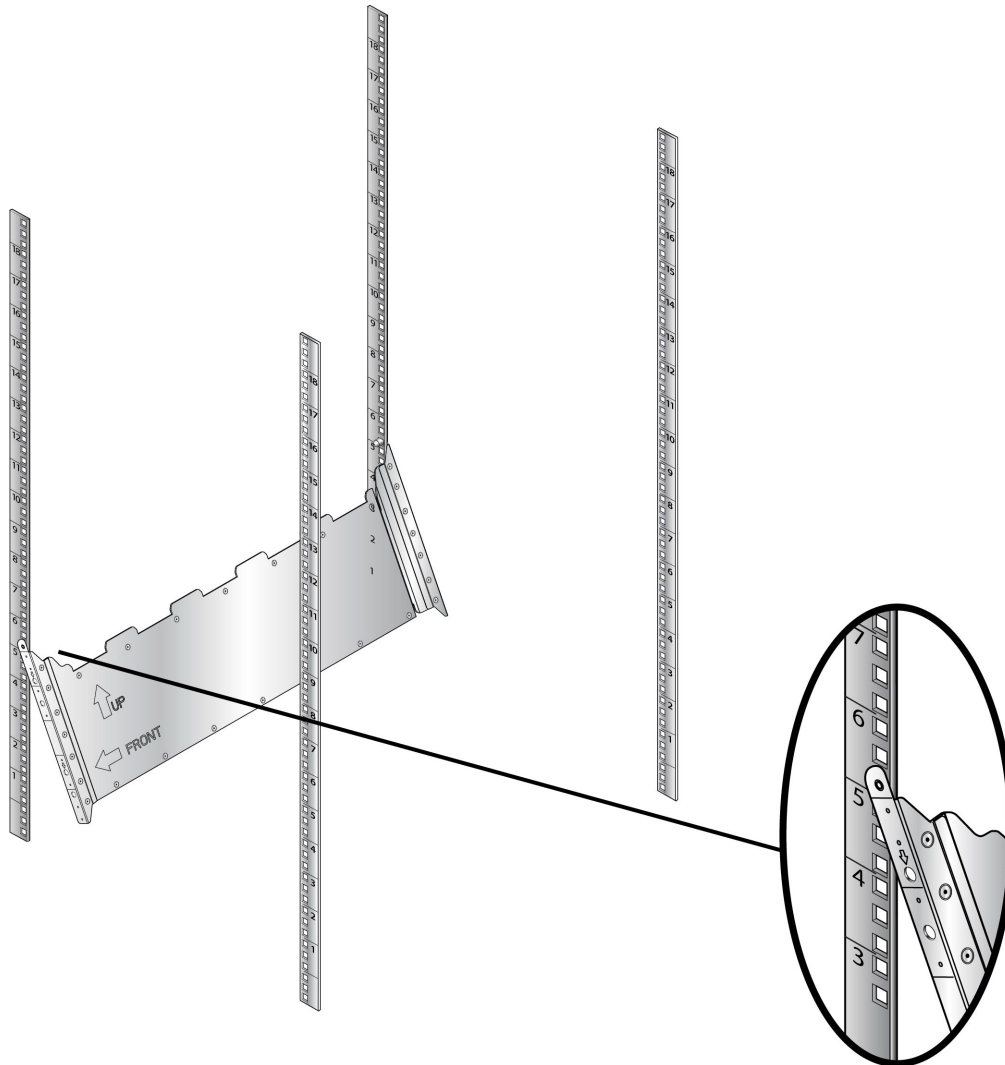11. TOP HOLE IN THE 1ST U FROM THE BOTTOM

FRONT OF THE RACK

REAR OF THE RACK

Unthreaded rack holes: Use the M6 screws and cage nuts supplied in the accessory kit.

Threaded rack holes: Attach the front bracket to the post with screws that can be threaded through the rack post.

Step 3 Hook the alignment pin to the bottom hole of the 6th U from bottom.

**Figure 3-12** **Left front post assembly**

Step 4 Repeat step 1 and 3 on the right front rack post, assembling the parts at the same vertical level as those on the left rack post.

Step 5 Attach the shelf support and back bracket to the left rear post ([Figure 3-13](#)). The shelf support must be assembled at the same vertical level on the front and rear posts. An up arrow is printed on the shelf support to indicate its proper orientation.

Unthreaded rack holes: Use the M6 screws and cage nuts supplied in the accessory kit.

**Threaded rack holes:** Attach the shelf support to the post with screws that thread into the rack post.

Figure 3-13   **Left rear post assembly and shelf support orientation**
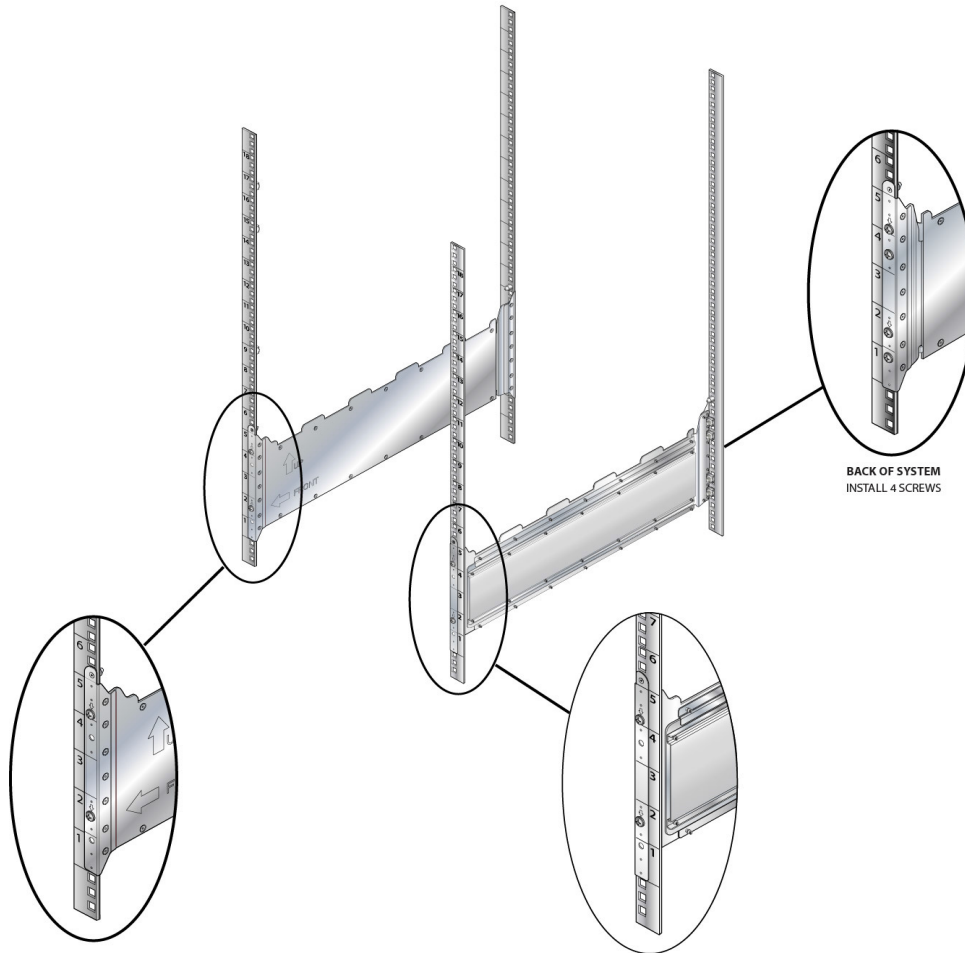
Step 6 Lift the shelf above the shelf supports installed on the left and right rack posts (step 2 and step 3). Align the holes and hook with the stubs on the brackets. Lower the shelf such that the bracket stubs are inserted into the shelf holes and hook.

Figure 3-14   Lower the shelf into the bracket stubs
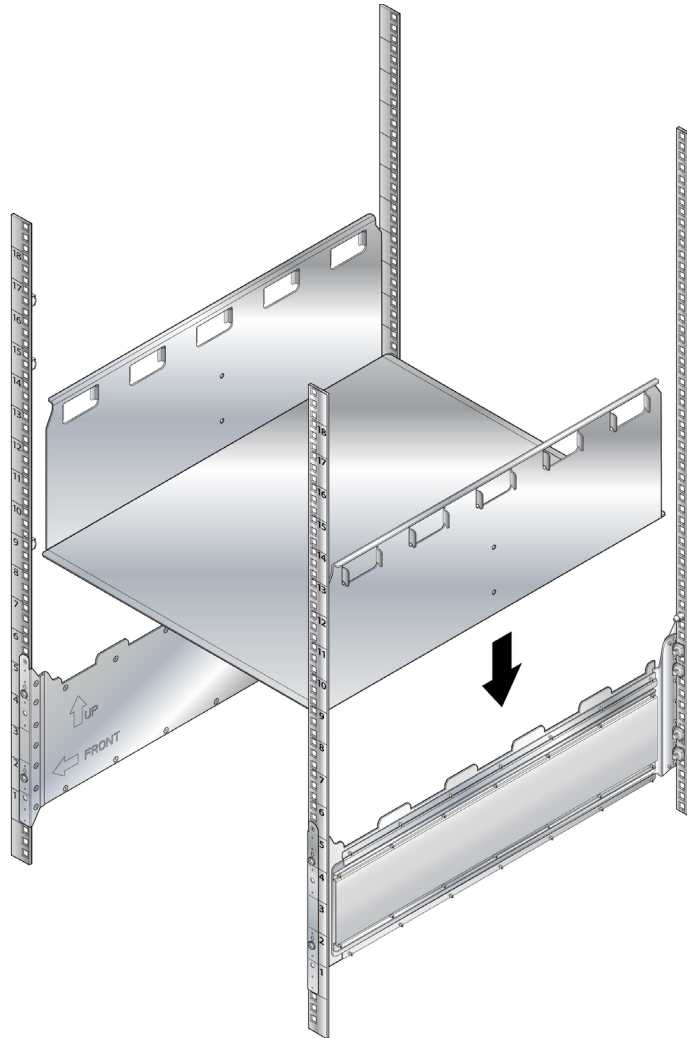
**Step 7** Press down firmly on the shelf to ensure it is seated securely on the rack posts.

3.2.2   Inserting the Switch into the Rack

The rack mounting assembly is identical for all 7500N Series switches. Illustrations in this chapter depict the mounting of an unpopulated 8-slot chassis.

Step 1 Move the chassis to the rack using a mechanical lift (Figure 3-15).

If modules are inserted in the chassis, use the lift carefully to avoid damaging any components.

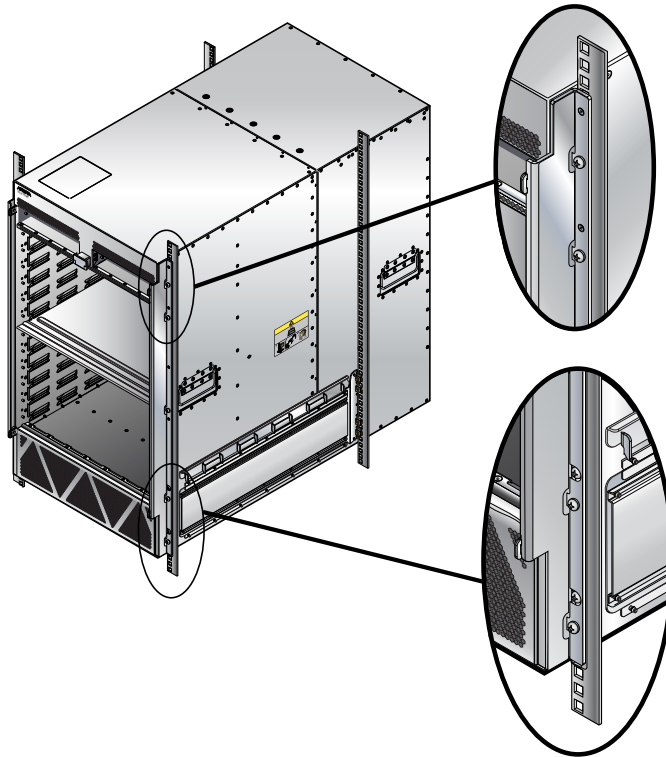**Figure 3-15   Lifting the chassis**
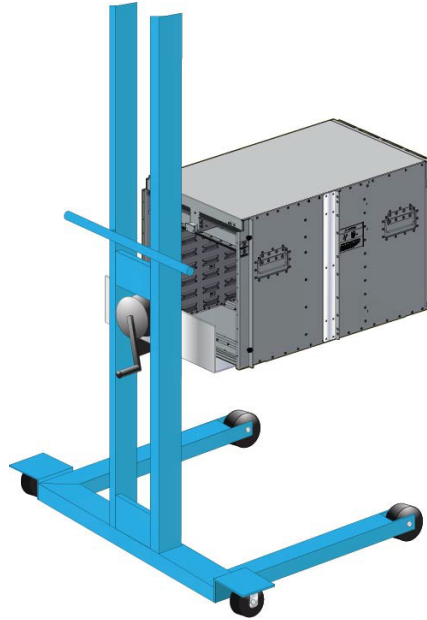
Step 2 Secure the chassis by use of 10 rack screws attaching the ears of the chassis to the front flanges of the rack posts.

Figure 3-16 **Secure the chassis to the rack**

Step 3 After completing the Shelf Rack Mount Installation, proceed to Chapter 4.

Chapter 4

Cabling the Modular Switch

4.1   Cabling the Power Supplies

Before you begin, refer to the Arista Networks document Compliance and Safety Guide available at: http://www.arista.com/support/product-documentation.

Important!   Power down the switch: Remove all power cords from the power inlets.

Mettez le commutateur: Retirez tous les cordons d'alimentation des prises d'alimentation.

Important!   Installation of this equipment must comply with local and national electrical codes. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.

Installation de cet équipement doit être conformes aux codes électriques locaux et nationaux. Si nécessaire, consulter les organismes de réglementation appropriés et des autorités de contrôle pour assurer la conformité.

Note: Many configurations will require additional power supplies.

Nombreuses configurations exigera des alimentations supplémentaires.

Important!   All power supply slots must be filled with either a power supply or blank to ensure proper air flow.

Tous les emplacements d'approvisionnement de puissance doivent être remplis avec une alimentation ou vide pour assurer un débit d'air appropriée.

Important!   Read all installation instructions before connecting the system to the power source.

Lire toutes les instructions d'installation avant de brancher le système à la source d'alimentation.

The 7500N chassis requires the connection of at least two operating power supplies in the top row to active circuits.

Each power supply includes a fan that maintains proper power supply temperature and cools the supervisor modules. The appendices display the location of components for all switches described in this guide.

4.2 Cabling Secondary Ground

Figure 4-1 displays the location of the secondary grounding pads on front panel of the switch chassis. After mounting the switch into the rack, connect at least one of the secondary grounds to the data center ground. After the switch is grounded, ESD wrist straps can be grounded by connecting them to one of the attach points.

|	
Important!	Grounding wires and grounding lugs are not supplied. Wire size should meet local and national installation requirements. Commercially available 2 or 4 AWG wire is recommended for installations in the U.S. À la terre et de mise à la terre fils cosses ne sont pas fournis. Calibre des fils doit satisfaire des exigences de l'installation locale et nationale. Disponible dans le commerce 2 ou 4 AWG fil est recommandé pour les installations aux États-Unis.
Important!	This equipment must be grounded. Never defeat the ground conductor. This unit requires over-current protection. Cet équipement doit être mis à la terre. Ne jamais modifier le conducteur de terre. Cet appareil nécessite de protection contre les surintensités.
Important!	Secondary Grounding wires, lugs and screws (M4 x 0.7) are not supplied. Secondaire à la terre, câbles, cosses et vis (M4 x 0.7) ne sont pas fournis.

Figure 4-1   **on Secdary ground pad**
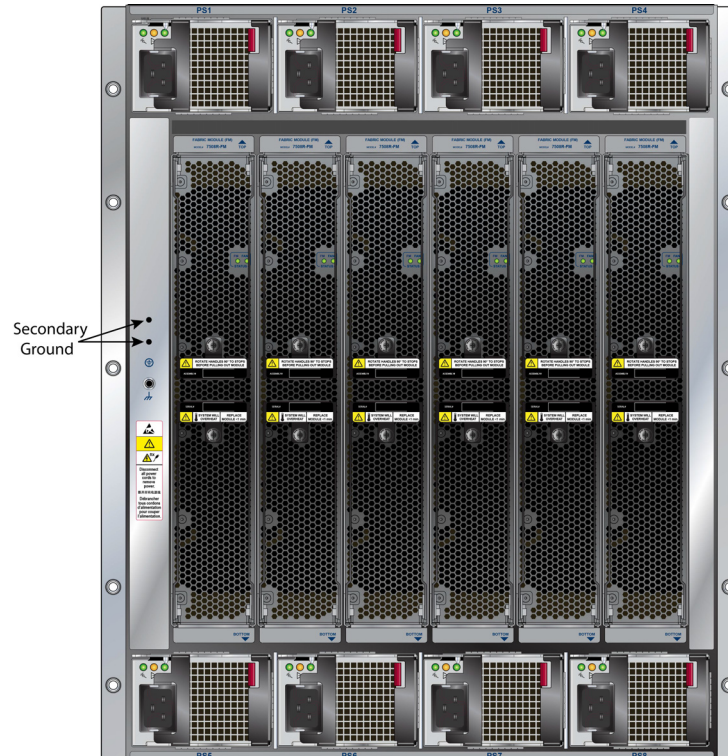
Power down the switch: Remove all power cords from the power inlets.

4.3 Cabling the AC Power Supply

Figure 4-2 AC power supply

Appendix D displays the rear panel location of power supplies and fabric modules.

The switch uses power cables with IEC-320 C-19 plugs. The accessory kit provides IEC-320 C-19 to C-20 power cables, each two meters long.

To insert a power cable, plug the power cables into the inlet.

4.4 Cabling the DC Power Supply

4.4.1 DC Power Supplies

Important! The -48V and Battery-Return leads are a pair and should run adjacent to each other and be approximately the same length.
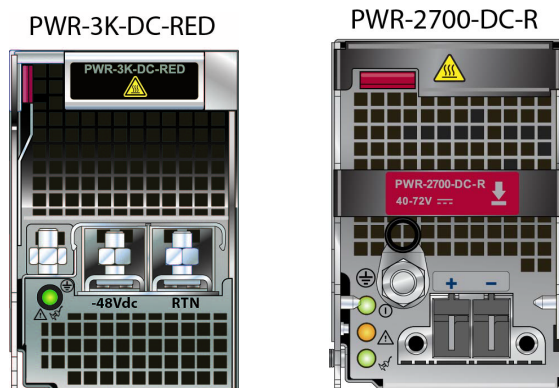
Le - 48V et câbles de batterie-retour sont une paire courir à côté de l'autre et doivent être à peu près la même longueur.

4.4.2 DC Power Supplies

The 7500N Series chassis supports two DC power supplies.

- PWR-3K-DC-RED Power Supply (page 27)
- PWR-2700-DC-R Power Supply (page 27)

Figure 4-3 PWR-3K-DC-RED and PWR-2700-DC-R power supplies

PWR-3K-DC-RED   PWR-2700-DC-R

4.4.3   Wire and Lug Preparation

Before performing any installation actions, ensure power is removed from DC circuits by turning off the power line servicing the circuits. Prepare the stranded wiring before you begin a DC power installation.

**Step 1** Attach an ESD grounding strap.

Step 2 Stranded copper wiring is required.

- Commercially available 2 to 4 AWG wire is recommended for installations in the U.S.
- Wire size should meet local and national installation requirements.
- Grounding wires and grounding lugs are not supplied.
- Strip the wires to the appropriate length for the lugs.

The wires connecting the DC power supply to the power source must meet the following requirements:

- DC Input Wire Size: 2 – 4 AWG (26.7 mm^2 to 21.2 mm^2).
- Tightening Torque: 2.7 N-m (24 in.- lbs.)
- Primary Ground Wire Size: 2 – 4 AWG (26.7 mm^2 to 21.2 mm^2) per power supply.
- The conductors are copper.

Figure 4-4   Lugs wiring terminations.
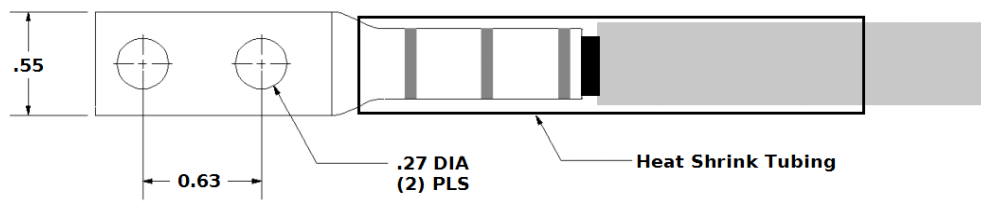
Step 3 Use agency-approved compression (pressure) lugs for wiring terminations with a single 5/16" mounting hole. The lugs should have 1/4" mounting holes on 5/8" centers.

The PWR-2700W-DC-R ground lug is a right-angle lug. Check the terminations for the appropriate wire size. Use a ground wire of at least 2 – 4 AWG. Use only copper wire.

Step 4 Slip on heat-shrink tubing on the wire ends before assembling the lugs on to the wire.
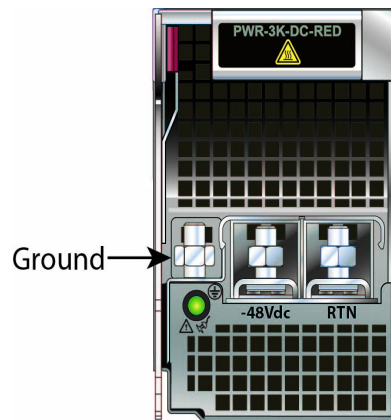
- The lugs must be crimped with the proper tool.
- The tubing should extend over the lug's barrel and the wire's insulator.

Step 5 Shrink the tubing with a heat gun.

4.4.4   PWR-3K-DC-RED Power Supply

Figure 4-5 displays the PWR-3K-DC-RED power supply.

Figure 4-5   **PWR-3K-DC-RED power supply**

Step 1 Prepare the stranded wiring, see Section 4.4.3

Step 2 Attach the power cable to the supply terminals.

Step 3 Tightening Torque: 2.7 N-m (24 in.-lbs.)

4.5   DC Power Adapter Installation for PWR-2700-DC-R

4.5.1   Connecting the Power Cable Lug to the Terminal Studs

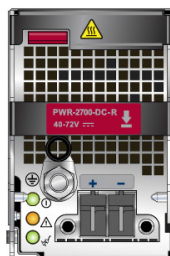**Step 1** Prepare the stranded wiring, see Section 4.4.3

Remove the clear plastic cover protecting the terminal studs on the adapter by lifting the small center tab while sliding the cover off the adapter.

4.5.2   PWR-2700-DC-R Power Supply

The primary ground on the system requires a 2 − 4 AWG 5/16 inch lug per power supply.

Figure 4-6 displays the PWR-2700-DC-R power supply without the DC adapter.

Figure 4-6   **DC power supply**

Step 1 Prepare the stranded wiring, see Section 4.4.2.

Step 2 Attach the ground cable to the ground stud.

Step 3 Tightening Torque: 2.7 N-m (24 in.-lbs.)

4.6 DC Power Adapter Installation for PWR-2700-DC-R

4.6.1 Connecting the Power Cable Lug to the Terminal Studs

Step 1 Prepare the stranded wiring, see Section 4.4.3.

Step 2 Remove the clear plastic cover protecting the terminal studs on the adapter by lifting the small center tab while sliding the cover off the adapter.
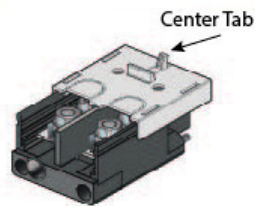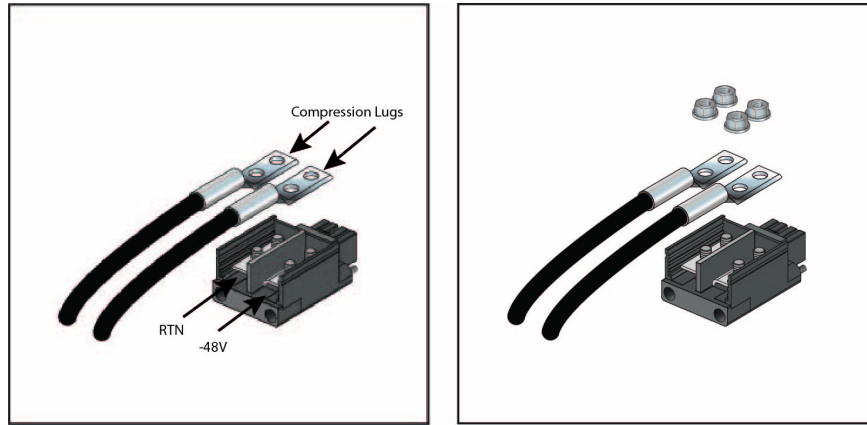

**Step 3** Remove the flange locking nuts from each of the terminal studs.
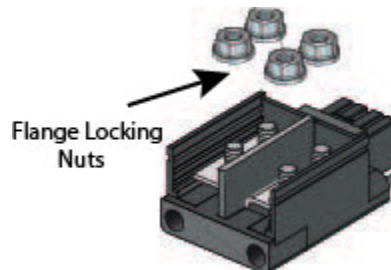
Step 4 Secure each power cable lug to the terminal studs with the flange locking nuts.
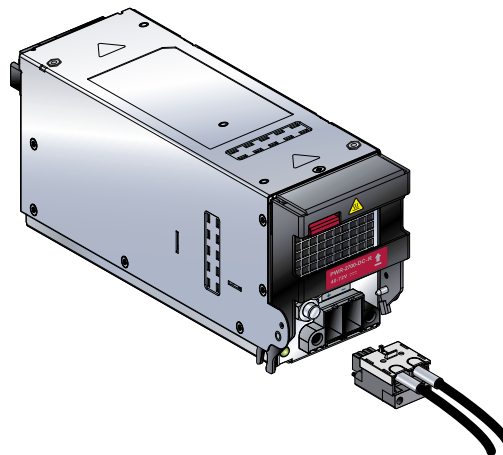
- Attach the positive (+) DC source power cable lug to the RTN (return) terminal.
- Attach the negative (−) DC source power cable lug to the −48V (input) terminal.
- Torque the four flange locking nuts to 2.7 N-m (24 in.-lbs.).

Step 5 Slide the cover over the terminal studs until it clicks into place.
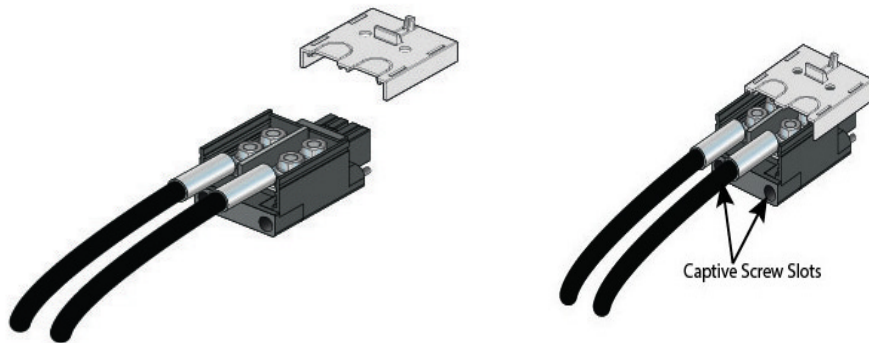
Step 6 Insert the adapter into the DC power supply.

Step 7 Tighten the two captive screws (on the bottom of the adapter) to the power supply module. Torque screws with #2 Posidriv to 2 N-m (17.7 in.-lbs.)

Step 8 Attach the power cable to the DC power source.

Important! Apply the ground connection first during installation and remove last when removing power.

Appliquer le motif connexion tout d'abord pendant l'installation et supprimer dernière lors du retrait de puissance.

4.7   Power Supply Redundancy

Important! Installation of this equipment must comply with local and national electrical codes. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.

Installation de cet équipement doit être conformes aux codes électriques locaux et nationaux. Si nécessaire, consulter les organismes de réglementation appropriés et des autorités de contrôle pour assurer la conformité.

Important! Read all installation instructions before connecting the system to the power source.

Lire toutes les instructions d'installation avant de brancher le système à la source d'alimentation.

Most installations will have redundant power feeds.

For the following examples, each power feed originates from a different power provider. Each independent power feed will be referenced as label A and B.

* Each supply is wired to one feed, either A, or B.
* The recommended installation is to alternate A, B feeds. In a four supply system configuration, you would wire ABAB, left to right.
* All power supply slots must be filled with a powered supply (A or B), or a blank (X), or a non-powered power supply.

For supervisor cooling purposes, all systems require at least two operating power supplies at all times in the top half of the chassis. For optimal performance, split pairs of power supplies (A and B) evenly from top to bottom (8 or more slot chassis).

Valid examples include:

* AXAX Minimum Configuration supported, 2+0 (non-redundant)
* ABAB 2+2 redundant
* ABAB (Upper), AB (Lower) 3+3 redundancy
* ABAB (Upper), ABAB (Lower) 4+4 redundancy
* ABXXAB (Upper), ABXXAB (Lower) 4+4 redundancy (12 slot chassis)
* ABABAB (Upper), ABABAB (Lower) 6+6 redundancy
* AAAX for 3+0 or 2+1 redundancy, with the X anywhere
* AAAA for 4+0 or 3+1 redundancy

Each power supply includes a fan that maintains proper power supply temperature and cools the supervisor modules. The following appendices display the location of the following component on all switches described in this guide.

Appendix C displays the front panel location of the supervisor modules.

Appendix D displays the rear panel location of power supplies and fabric modules.

| Important!	This unit requires over-current protection.
	Cet appareil nécessite de protection contre les surintensités.

| Important!	Unused slots must be occupied or covered with a blank to ensure proper airflow through the chassis.
	Les emplacements inutilisés doivent être occupés ou recouvert d'un blanc pour assurer la bonne circulation d'air dans le châssis.

4.8 Connecting Supervisor Cables

Supervisor modules contain console, management, and USB ports. Figure 4-7 and Figure 4-8 displays port locations on the supervisors. Refer to the chassis specification in Table 1-1 for additional information.

Figure 4-7　　　Supervisor DCS-7500E-SUP Ports
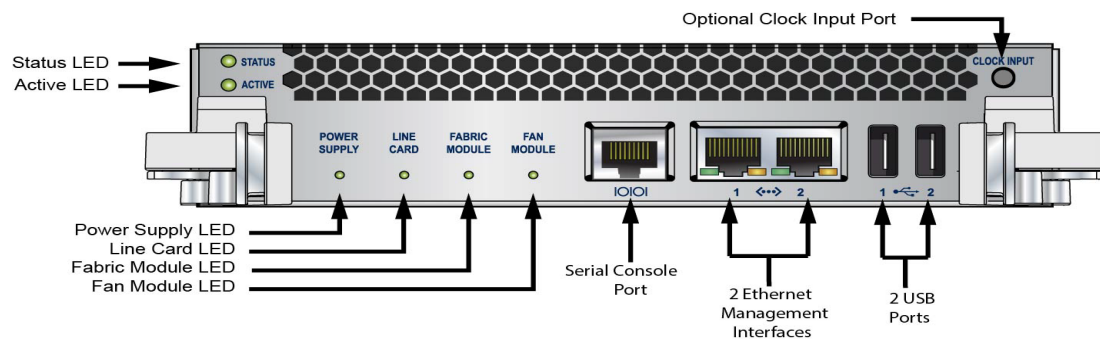
Figure 4-8　　　Supervisor DCS-7500-SUP2 ports
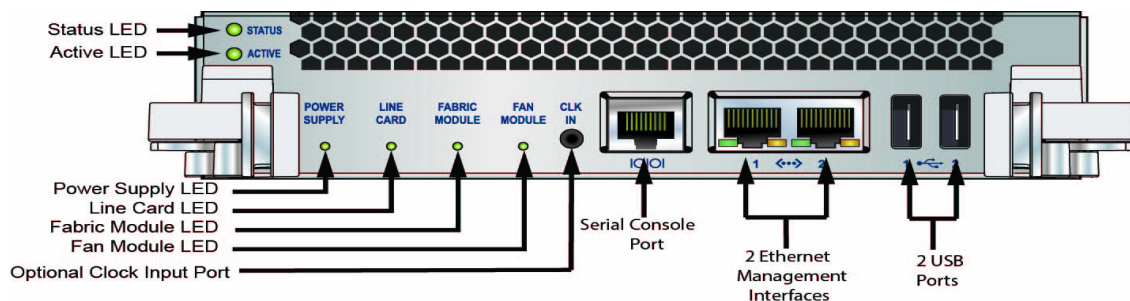
- **Console (Serial) Port:** Connect to a PC with RJ-45 to DB-9 serial adapter cable. Default switch settings include:
  - 9600 baud
  - No flow control
  - 1 stop bit
  - No parity bits
  - 8 data bits

Table 4-9   RJ-45 to DB-9 Connections

RJ-45		DB-9		RJ-45		DB-9	
RTS	1	8	CTS	GND	5	5	GND
DTR	2	6	DSR	RXD	6	3	TXD
TXD	3	2	RXD	DSR	7	4	DTR
GND	4	5	GND	CTS	8	7	RTS

- **Ethernet management port:** Connect to 10/100/1000 management network with RJ-45 cable.
- **USB Port:** May be used for software or configuration updates.
- **Clock Input Port:** Port type is MCX connector, 2-5.5V, 50 ohm termination.

4.9   Connecting Line Card Modules and Cables

Install required SFP, SFP+, QSFP+, QSFP100 and CFP2 optic modules in line card module ports (Figure 4-10).

Figure 4-10   SFP or SFP+ ports
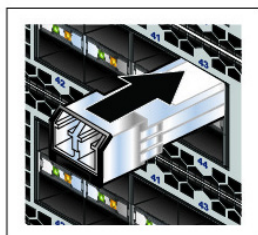
Connect cables as required to line card module ports or fixed MPO ports. Supervisor and line card module ejectors on the front of the chassis assist with cable management.

Caution	Excessive bending can damage interface cables, especially optical cables.
	Flexion excessive peut endommager les câbles d'interface, en particulier les câbles optiques.

Configuring the Modular Switch

Arista switches ship from the factory in Zero Touch Provisioning (ZTP) mode. ZTP configures the switch without user intervention by downloading a startup configuration file or a boot script from a location specified by a DHCP server. To manually configure a switch, ZTP is bypassed. The initial configuration provides one username (**admin)** accessible only through the console port because it has no password.

When bypassing ZTP, initial switch access requires logging in as **admin,** with no password, through the console port. Then you can configure an **admin** password and other password protected usernames.

This manual configuration procedure cancels ZTP mode, logs into the switch, assigns a password to **admin**, assigns an IP address to the management port, and defines a default route to a network gateway.

Step 1 Provide power to the switch (Section 4).

Step 2 Connect the console port to a PC.

As the switch boots without a **startup-config** file, it displays this message through the console:

```
The device is in Zero Touch Provisioning mode and is attempting to
download the startup-config from a remote system. The device will not
be fully functional until either a valid startup-config is downloaded
from a remote system or Zero Touch Provisioning is cancelled. To cancel
Zero Touch Provisioning, login as admin and type 'zerotouch cancel'
at the CLI.

localhost login:
```

Step 3 Log into the switch by typing **admin** at the login prompt.
```
localhost login:admin
```

Step 4 Cancel ZTP mode by typing **zerotouch cancel**. *IMPORTANT: This step initiates a switch reboot.*
```
localhost>zerotouch cancel
```

Step 5 After the switch boots, log into the switch again by typing **admin** at the login prompt.
```
Arista EOS
localhost login:admin
Last login: Fri Mar 15 13:17:13 on console
```

Step 6 Enter global configuration mode.
```
localhost>enable
localhost#config
```

Step 7 Assign a password to the *admin* username with the **username secret** command.
```
localhost(config)#username admin secret pxq123
```

Step 8 Configure a default route to the network gateway.
```
localhost(config)#ip route 0.0.0.0/0 192.0.2.1
```

Step 9 Assign an IP address (*192.0.2.8/24* in this example) to an Ethernet management port.
```
localhost(config)#interface management 1/1
localhost(config-if-Ma1/1)#ip address 192.0.2.8/24
```

Step 10 Save the configuration by typing **write memory** or **copy running-config startup-config**.
```
localhost#copy running-config startup-config
```

Step 11 When the management port IP address is configured, use this command to access the switch from a host, using the address configured in step 9:
```
ssh admin@192.0.2.8
```

Refer to the **Arista Networks User Manual** for complete switch configuration information.

Status Indicators

A.1 Supervisor Module

While the front panel of each switch can house two supervisors, switch operations require only one. Supervisors display switch component status and contain Ethernet management and console ports.

A.1.1 Supervisor Indicators: 7500E-SUP/7500-SUP2

The supervisor provides one serial console port, two Ethernet management ports, two USB ports, and one clock input port. Supervisor activity is reported by LEDs in the upper left corner. Four LEDs located left of the input ports report status of other switch components.

Figure A-1   **Supervisor 7500E-SUP**
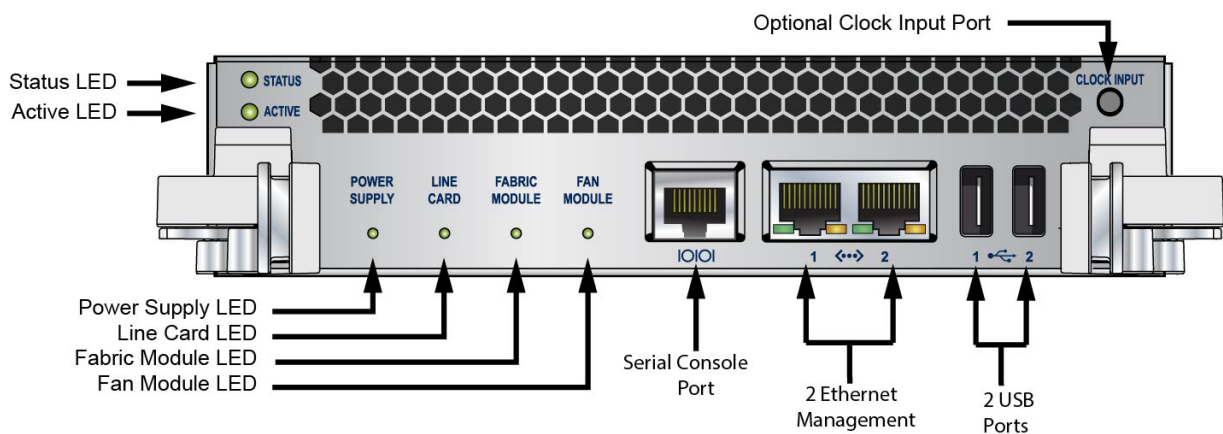
Figure A-2   Supervisor 7500-SUP2
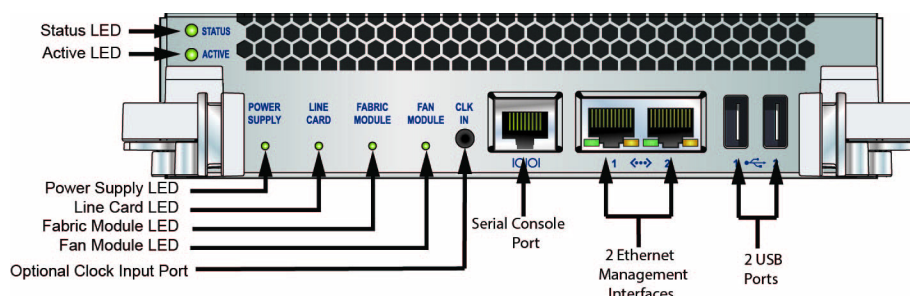
Supervisor Activity Status LEDs

The Status and Active LEDs are located on the left side of the Supervisor Module. Table A-1 interprets the states of these two LEDs.

Table A-1   Supervisor activity LED states

LED Name	LED State	Supervisor State
Status	Off	No power, failed, or improperly inserted.
	Green	Operating normally.
	Red	Supervisor failed.
Active	Off	Not active.
	Green	Active and controlling the switch.

Component Activity Status LEDs

LEDs located below the vents and left of the input ports display summary indicators for power supplies, fabric modules, fans, and line cards. Table A-2 interprets the states of these indicators. When error conditions are indicated, refer to LEDs on the specified modules to determine the condition's source.

Table A-2   Component activity LED states

LED Name	LED State	Module State
Power Supply, Line Card Fabric Module Fans	Off	No modules are present or powered.
	Green	All powered modules are operating normally.
	Red	One or more components failed.

A.2 Line Card Module Indicators

Each line card module provides one status LED plus LEDs for each port on the card. The figures in Appendix E indicate the location of the LEDs on each line card.

Figure A-3 **Line card Status LED**
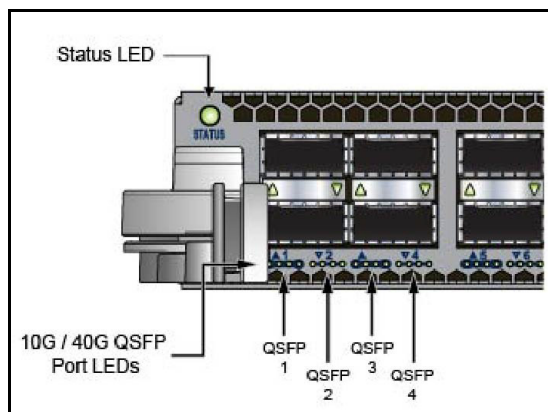
Table A-4 interprets the states of the status LED.

Table A-4 **Line card status LED states**

LED State	Status
Off	Line card not inserted.
Green	Line card operating normally.
Yellow	Line card administratively shut down.
Red	Line card has failed.

The line card provides LEDs for each port module socket:

• Each LED corresponds to a module.

• A set of four LEDs correspond to each module. When the module is programmed as a 40G port, the first LED in the set reports status. When the module is programmed as four 10G ports, each port is assigned to an LED within the set.

Table A-5 interprets the port LED states.

Table A-5 **Line card Port LED States**
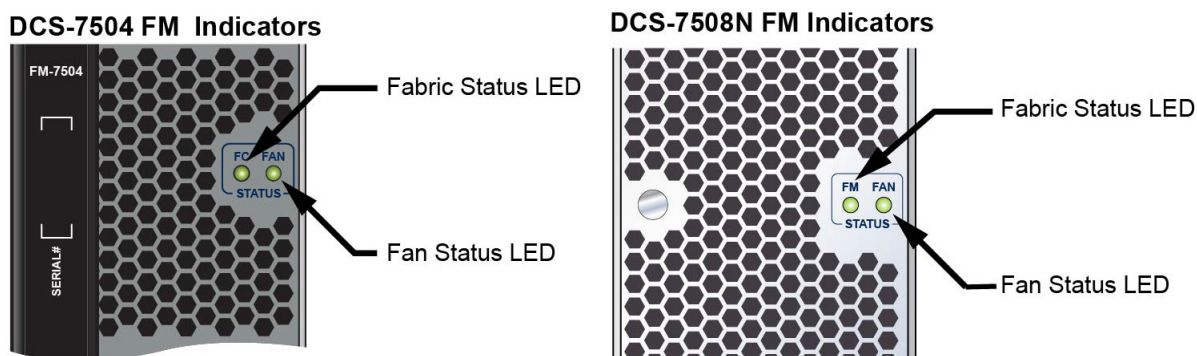
LED State	Status
Off	Port link is down.
Green	Port link is up.
Yellow	Port is disabled in software.

A.3   Fabric Status Indicators
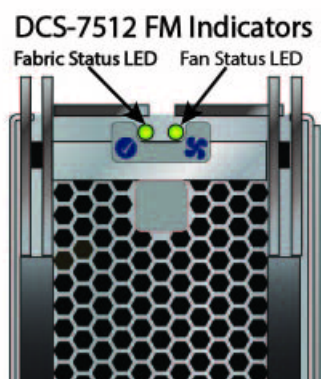
Fabric Status LEDs are on fan-fabric modules. Appendix D displays the position of these LEDs on the rear of each switch. Figure A-4 displays fan status and fabric status LEDs on the switch.

Note: Gen 1 Fabric are not supported.

Figure A-4   **7504N and 7508N fan status and fabric status LEDs**

Figure A-4   **7512N fan status and fabric status LEDs**

Table A-5 interprets the states of the fan and fabric status LED.

**Table A-5**   **Fan status and fabric status LEDs on rear panel**

LED State	Status
Off	Module inserted, but status is unknown.
Green	Module operating normally
Red	Module failed

A.4 Power Supply Status Indicators

- PWR-3KT-AC RED
- PWR-2700-DC-R
- PWR-3K-DC-RED

The power supply LEDs are on the power supply modules.The position of the LEDs are on the rear of each switch. Figure A-6 displays all the power supply modules supported on the 7500N.

Figure A-6   7500N power supplies

PWR-3K-AC-RED   PWR-2700-DC-R   PWR-3K-DC-RED
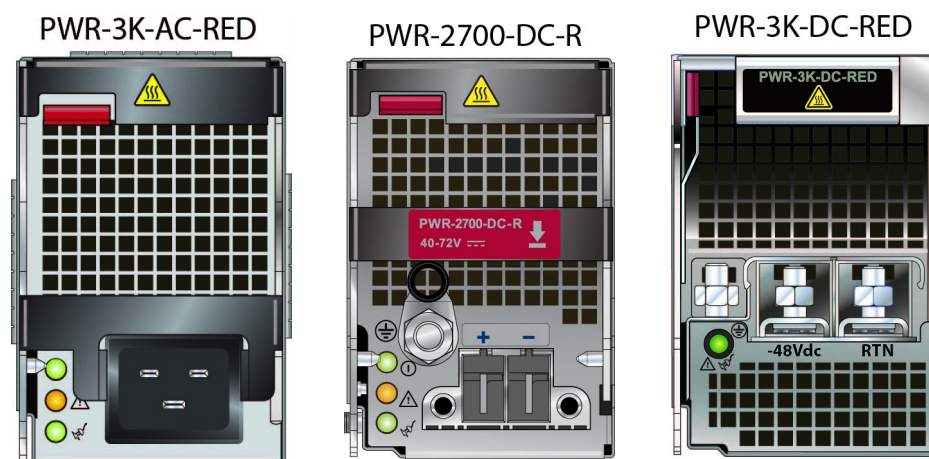
Table A-7 interprets the power supply setup for LED status indicators.

Table A-7   Status LED states

Power Supply State	LED Name	PWR-3K-AC-Red	PWR-2700-DC-R	PWR-3K-DC-Red
Input power present Normal Operation	DC Good Fault Vin Good	Green Off Green	Green Off Green	Green
Input power present Main output off	DC Good Fault Vin Good	Off Off Green	Off Off Green	Blinking Green
Input power present Power Supply Fault	DC Good Fault Vin Good	Off Blinking Amber Green	Off Blinking Amber Green	Blinking Amber, 1 sec on, 1 sec off
No Input Power Supply installed in chassis	DC Good Fault Vin Good	Off Off Off	Off Off Off	Off
Input power present Supply not seated in chassis	DC Good Fault Vin Good	Off Off Off	Off Off Off	Blinking Amber, 0.5 sec on/off

Appendix B

Parts List

Each switch provides an accessory kit that contains parts that are required to install the switch. The following sections list the installation parts provided by the accessory kit.
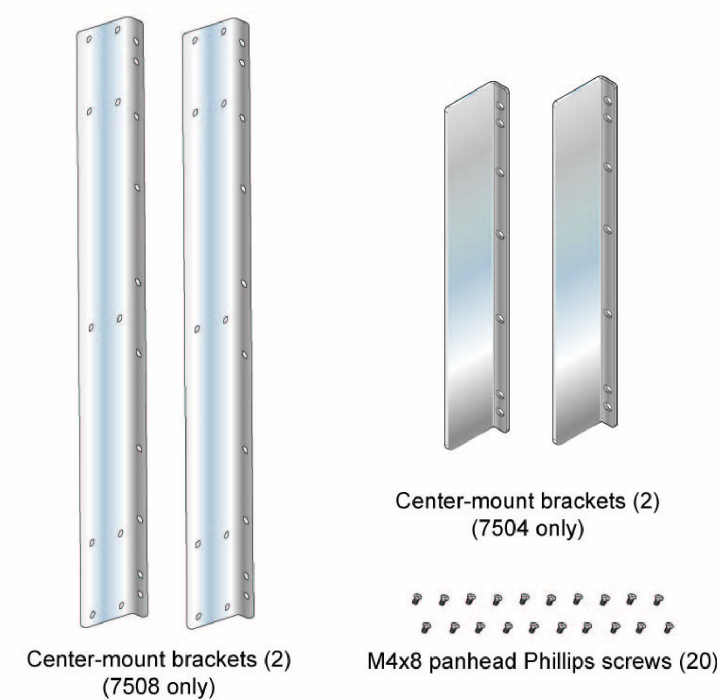
B.1   Two-Post Rack Mount Parts

The following sections list the installation parts provided by the accessory kit.

Table B-1   Two-Post rack mount parts

Quantity	Description
2	Center-mount brackets.
20	M4x8 pan-head Phillips screws.

Figure B-1   Two-Post rack mount parts

Center-mount brackets (2)
(7504 only)

M4x8 panhead Phillips screws (20)

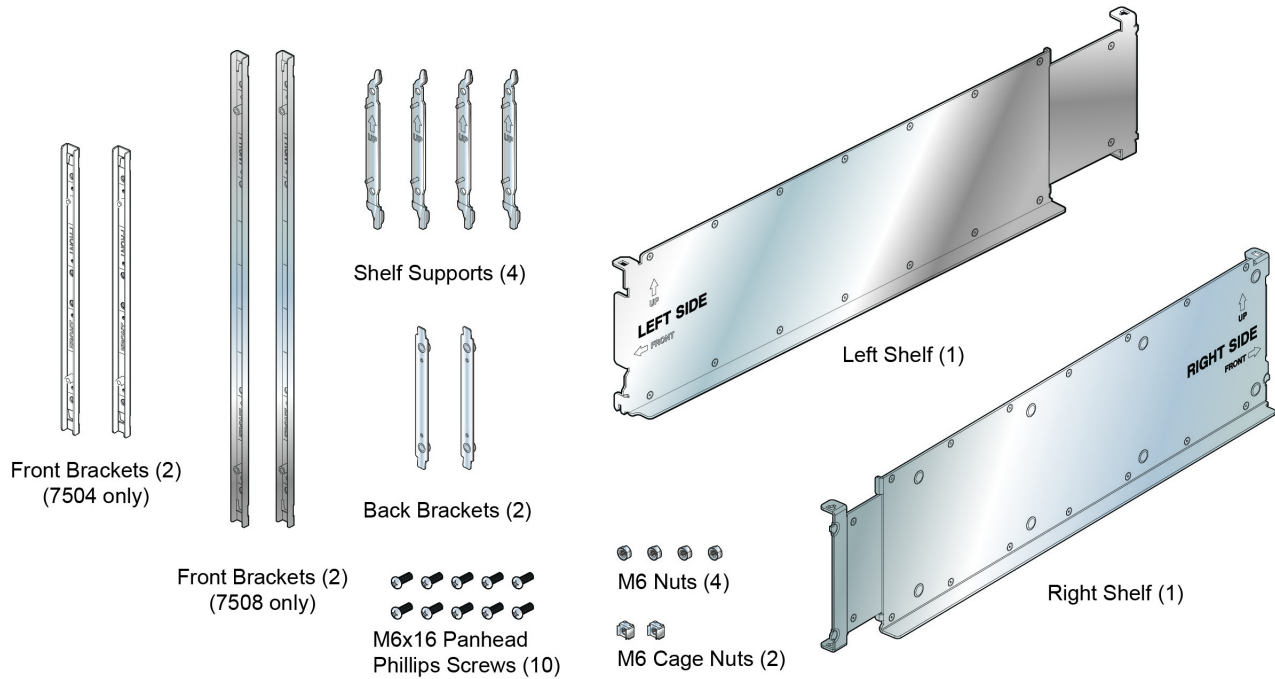Center-mount brackets (2)
(7508 only)

B.2   Four-Post Rack Mount Parts

Each switch provides an accessory kit that contains parts that are required to install the switch. The following sections list the installation parts provided by the accessory kit.

Table B-2   Four-Post rack mount parts

Quantity	Description
2	Front brackets.
4	Shelf supports.
2	Back brackets.
1	Left shelf.
1	Right shelf.
10	M6X16 pan-head Phillips screws.
4	M6 Hex Nuts.
2	M6 Cage Nut Square Hole Racks.

Figure B-2   Four-Post rack mount

Front Brackets (2)
(7504 only)

Front Brackets (2)
(7508 only)

Shelf Supports (4)

Back Brackets (2)

M6x16 Panhead
Phillips Screws (10)

M6 Nuts (4)

M6 Cage Nuts (2)

Left Shelf (1)

Right Shelf (1)

B.3   Shelf Rack Mount
Figure B-3   7512N shelf rack mount parts

M6x16mm Panhead
Phillips Screw (22)

M6 Cage Nut
Square Hole Racks (22)

M5x16mm Panhead
Phillips Screw(22)

#12-24x5/8 Panhead
Phillips Screw (22)

#10-32x5/8 Panhead
Phillips Screw (22)
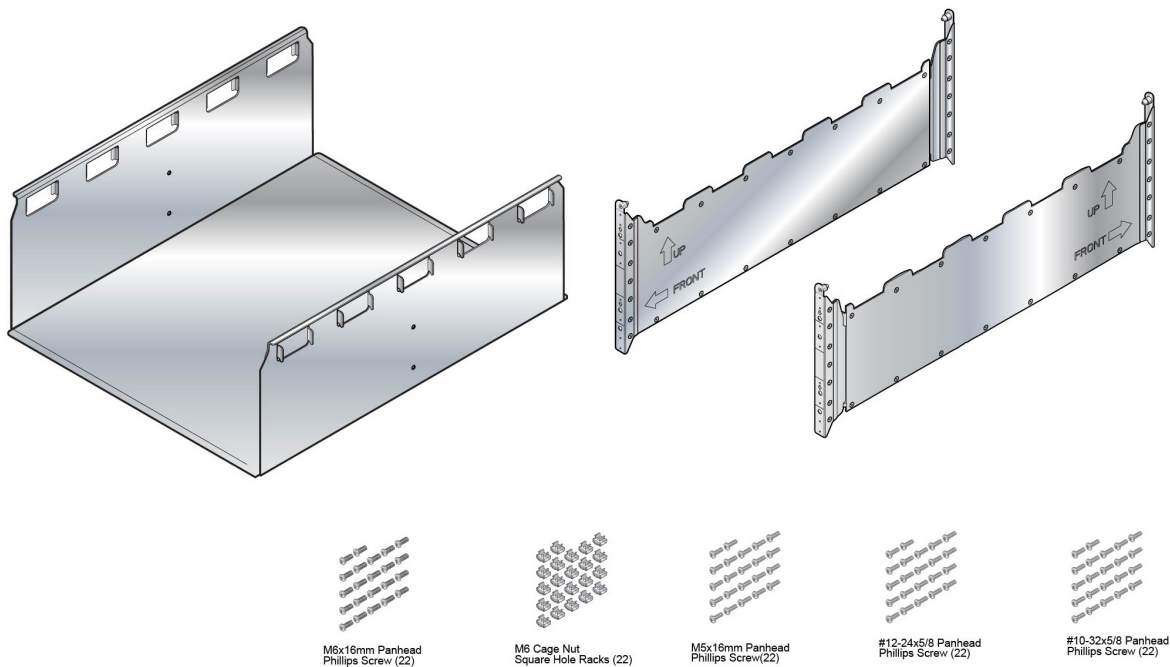
Table B-3   Four-Post rack mount parts

Quantity	Description
1	Shelf
1	Left shelf support.
1	Right shelf support.
22	M6X16 pan-head Phillips screws.
22	M6 cage nut square hole racks.
22	M5X16mm pan-head Phillip screws.
22	12-24X5/8 pan-head Phillip screws.
22	10-32X5/8 pan-head Phillip screws.

B.4   Parts Used in All Rack Mount Configurations

B.4.1   Cables

Table B-4   Cables Provided in Accessory Kit

Quantity	Description
2	RJ-45 Patch Panel Cables, 2 meters.
2	RJ-45 to DB9 Adapter Cable, 2 meters.

Warning   All provided power cables are for use only with Arista products.

Câbles d'alimentation doivent être utilisés uniquement avec des produits de Arista

---

Japaneses translation 警告
すべての電源コードは提供する製品で使用するためだけを目的としている。

電源コードの他の製品での使用の禁止
Arista が提供するすべての電源コードは、Arista の製品でのみ使用してください。

B.5   Equipment

These parts are provided in the accessory kit.

Table B-5   Installation equipment provided in accessory kit

Quantity	Description
1	Adjustable Wrench.

B.6   Rack Mount Alternate Parts

These parts are supplied for threaded racks that do not use M6 screws.

Table 2-1   Threaded rack post parts

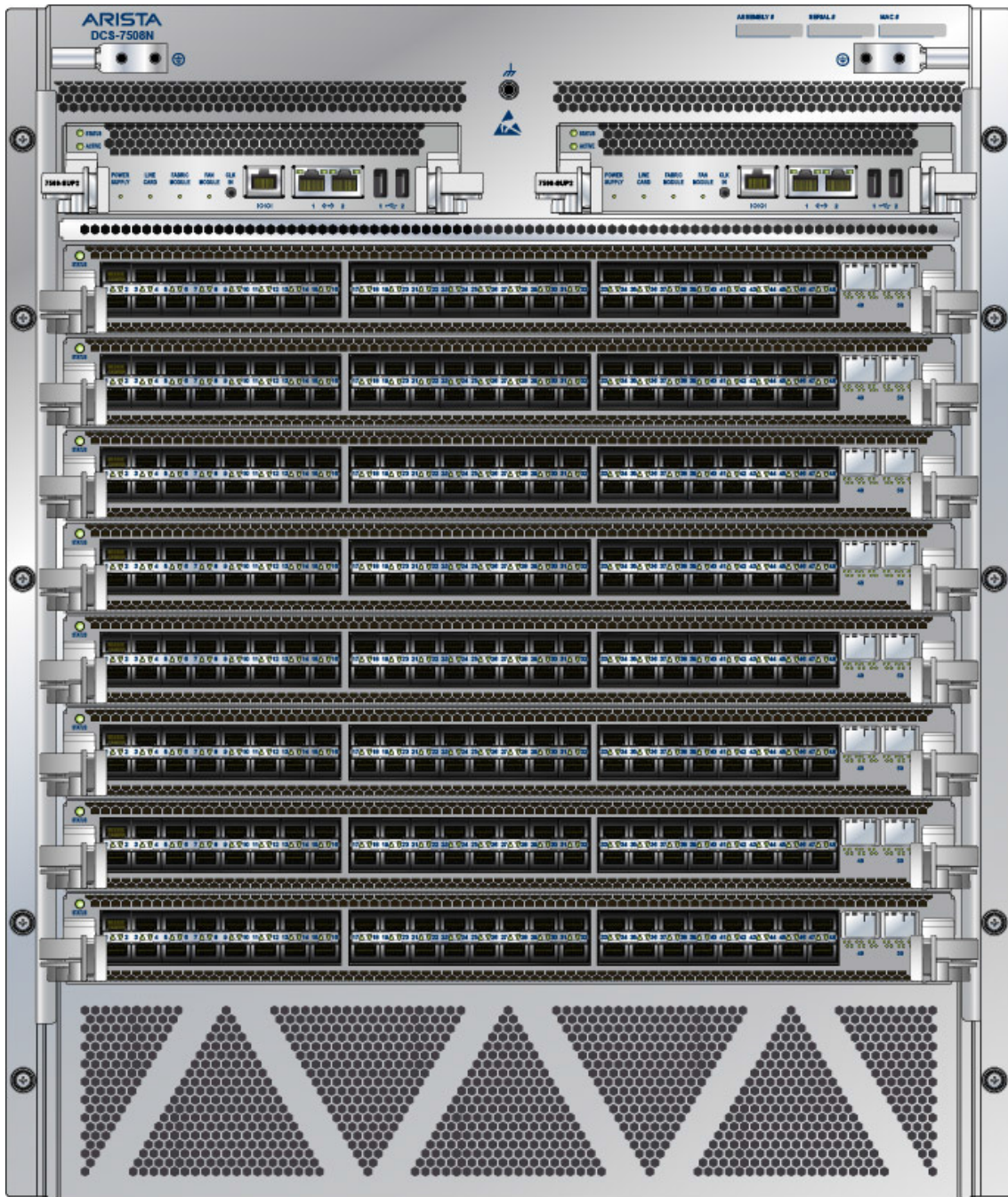| Quantity	Description
5	M5 hex nuts.
11	M5X16 pan-head Phillips screws.
5	12-24 hex nuts.
11	12-24X5/8 pan-head Phillips screws.
5	10-32 hex nuts.
11	10-32X5/8 pan-head Phillips screws.
3	M6 cage nuts.

Appendix C

Front Panel

This appendix displays the front panel of all switches covered by this guide.

DCS-7504N front panel (fully populated)
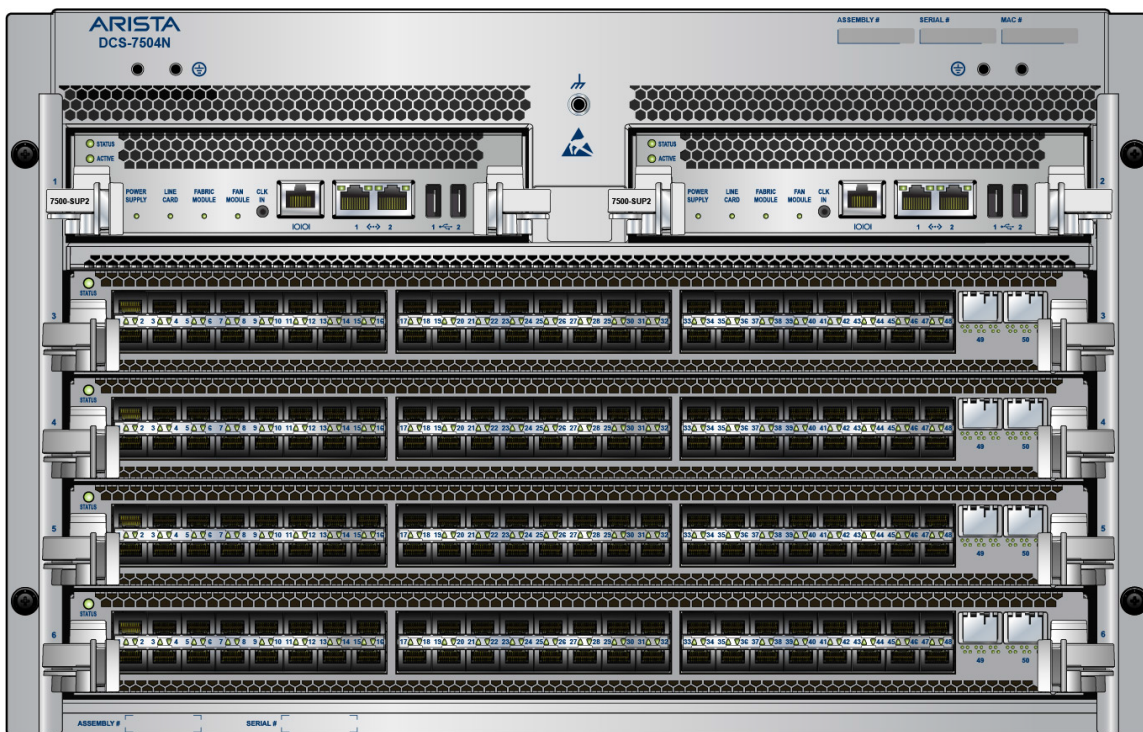
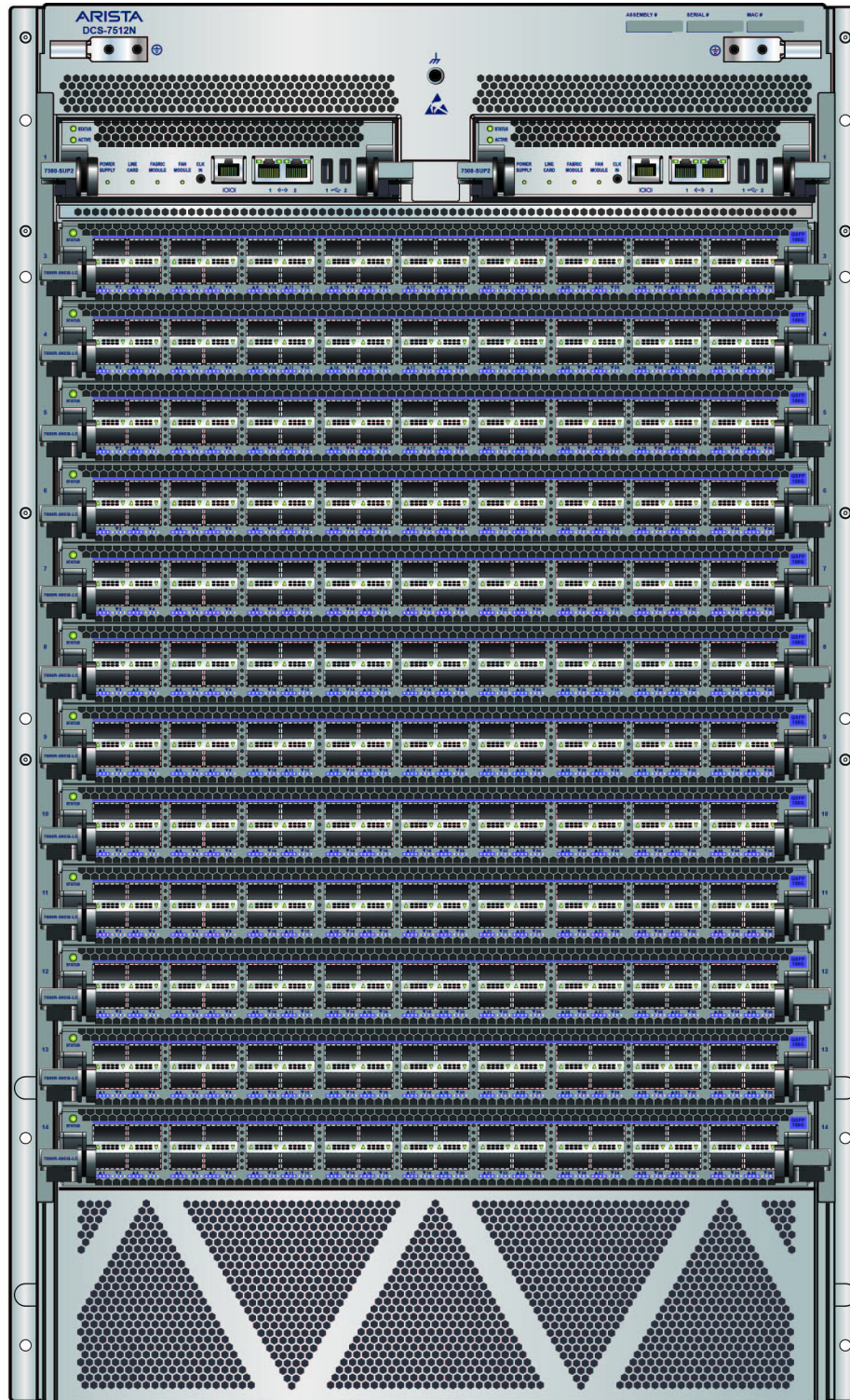**DCS-7508N front panel (fully populated)**

DCS-7512N front panel (fully populated)

Appendix D

Rear Panel

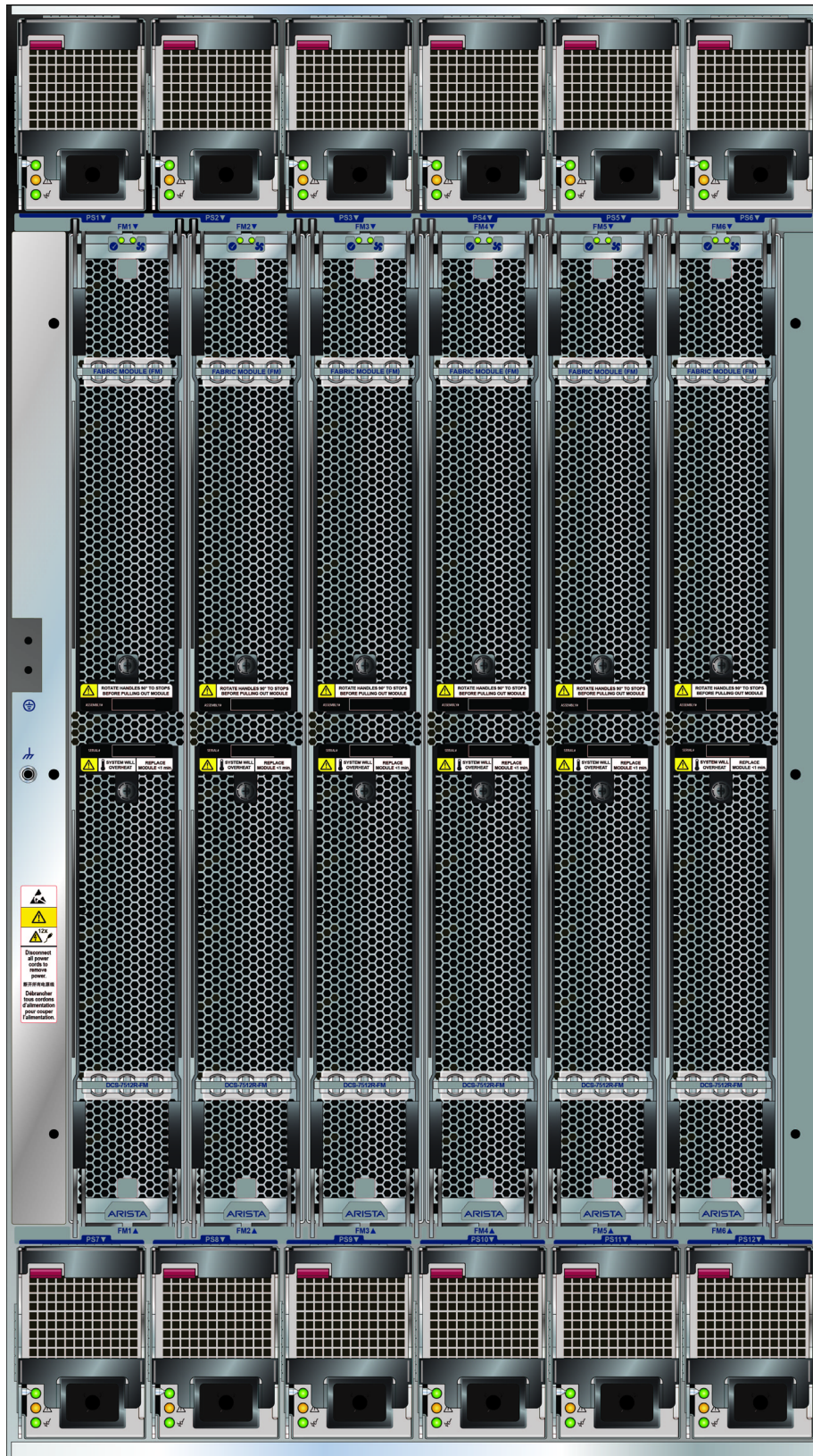This appendix displays the rear panel of all switches covered by this guide.

DCS-7504N rear panel

DCS-7508N rear panel

DCS-7512N rear panel

Line Cards

This appendix displays the line cards supported by modular switches covered by this guide.

DCS-7500E-36Q-LC

The 36 port QSFP+ line card has 36 QSFP+ ports that allow for a high degree of flexibility in a mixed 10G/40G network. All QSFP+ ports can operate as either a single 40Gb Ethernet port or quad 10Gb Ethernet ports with up to 36 ports of 40G or 144 ports of high-density 10G.
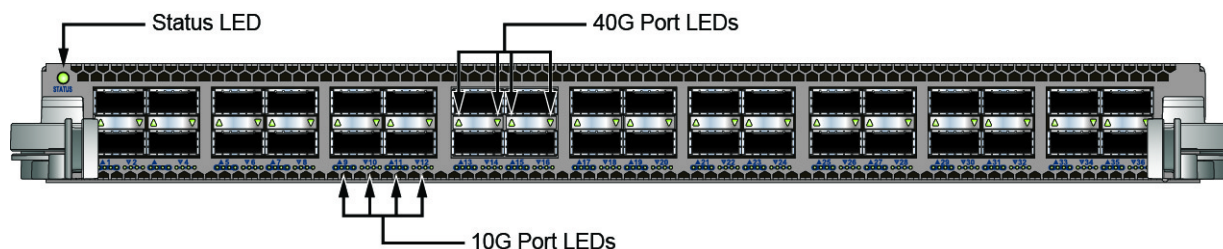

DCS-7500E-72S-LC

The 48 SFP+ and 2 port 100GbE MXP line card provides a flexible combination of 48 ports of SFP+ and 2 MPO ports for up to 72 10Gb Ethernet ports. The two 100G MTP/MPO ports provide 100G capability using Arista Multi-speed Ports (MXP) with integrated optics. MXP ports use 100GBASE-SR10 (Short Range) transceivers and are fully compatible with any standards compliant 100GBASE-SR10 ports. Each MXP port can be easily configured as a single 100Gb, triple 40Gb or twelve 10Gb Ethernet.
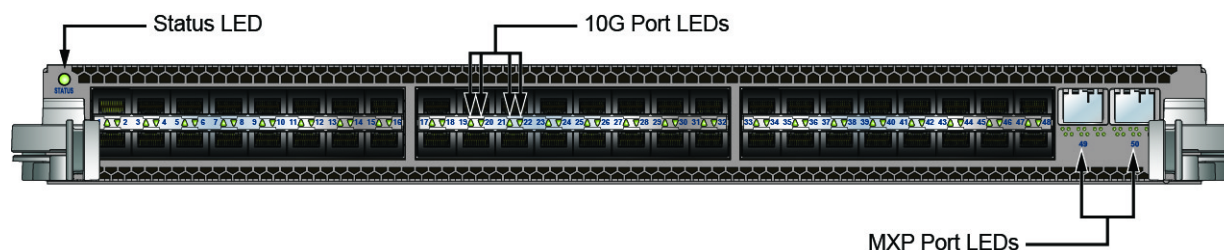
DCS-7500E-48S-LC

The 48 port 1/10GbE SFP+ line card has 48 SFP+ ports. Having 48 ports of SFP+ ports allows this line card the flexibility to utilize any existing Arista SFP+ optic or direct attach cables, and to support both 1Gb and 10Gb speeds.
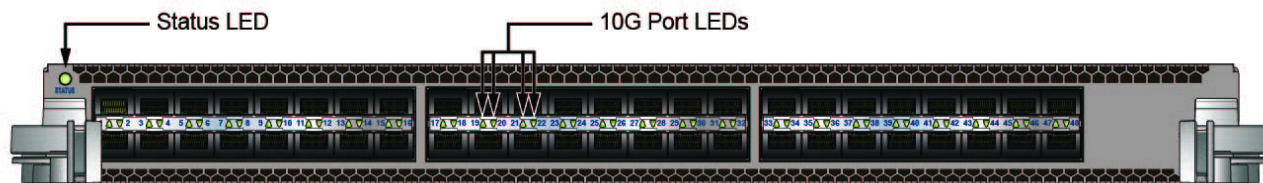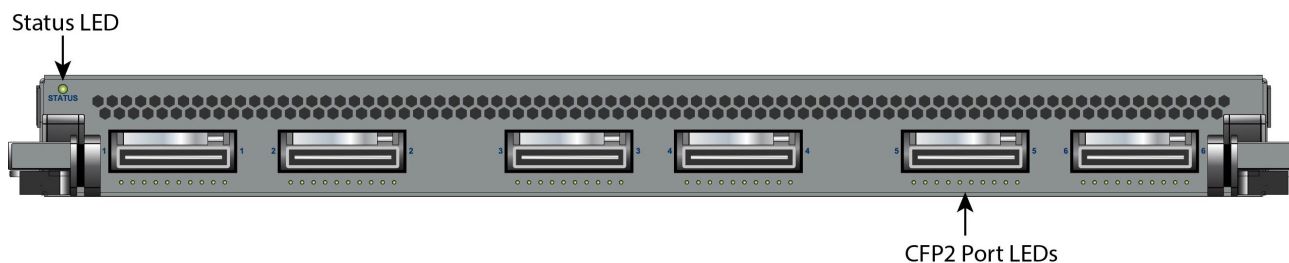

DCS-7500E-12CM-LC

The 12 x 100G MTP/MPO line card provides high density 100G using Arista Multi-speed Ports (MXP) with embedded optics. The MXP ports use 100GBASE-SR10 (Short Range) transceivers and are fully compatible with any standards compliant 100GBASE-SR10 ports. Each MXP port can be enabled in single 100Gb, triple 40Gb or twelve 10Gb Ethernet mode for up to $12 - 100$Gb, $36 - 40$Gb and $144 - 10$Gb Ethernet ports per line card. Since each of MXP ports come with integrated optics, no external transceivers are required for this line card.
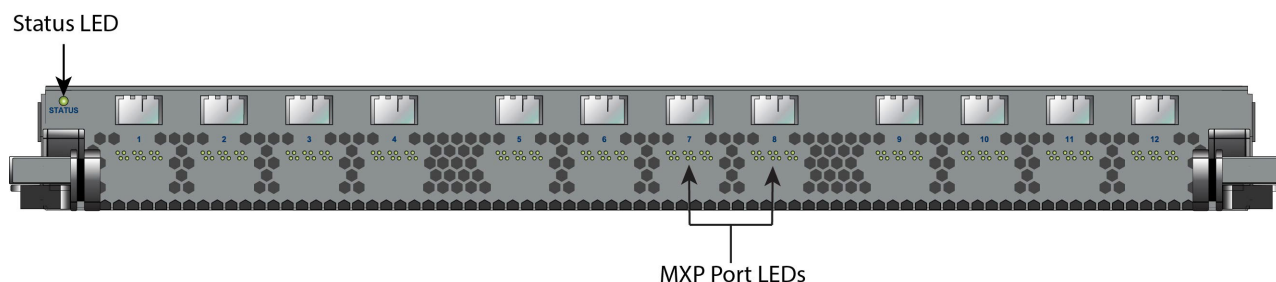

DCS-7500E-6C2-LC

The 6 x 100G CFP2 line card provides high performance 100G using industry standard CFP2 optics that are hot pluggable. The CFP2 form factor is designed to allow for long haul optics with a size that is approximately 50% smaller than the CFP optic. As a result CFP2 based line cards allow for up to 6 ports per line card, which increases overall system density. The CFP2 form factor allows 100GbE optics to be installed and with the use of 10x10 and 2x40 mode a choice of 10/40/100GbE.

DCS-7500E-12CQ-LC

The 12 x 100G QSFP100 line card provides high density 100G using industry standard QSFP100 optics. The QSFP100 form factor is identical to the size of the 40G QSFP+ allowing for either 40GbE or 100GbE optics to be installed, for a dual speed choice of 40/100GbE on all ports. With 12 ports of 100GbE the card allows each port to operate in a choice of 4 x 10GbE (using 40GbE optics), 40GbE, or 100GbE.
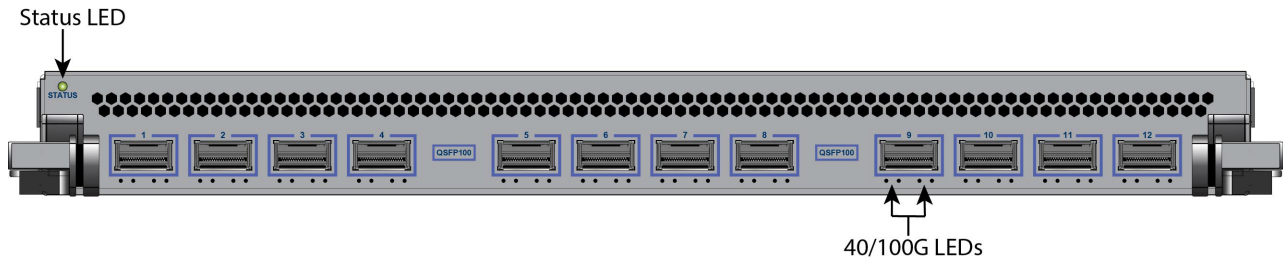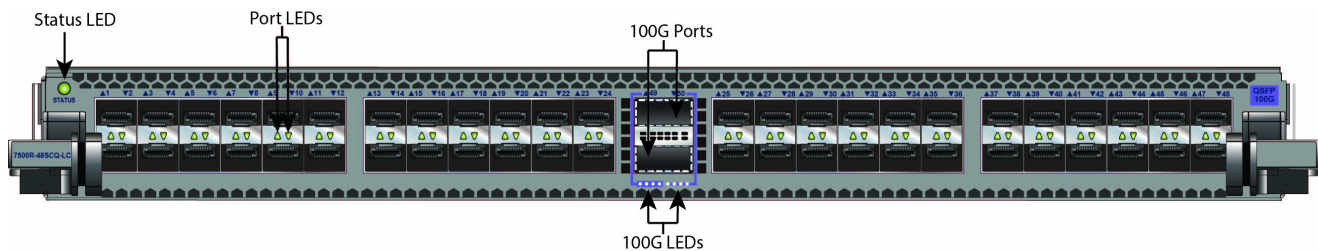

DCS-7500E-48T-LC

The 48 port RJ45 10GBASE-T wire-speed line card has 48 ports of RJ45 ports that supports 10Gb speeds.
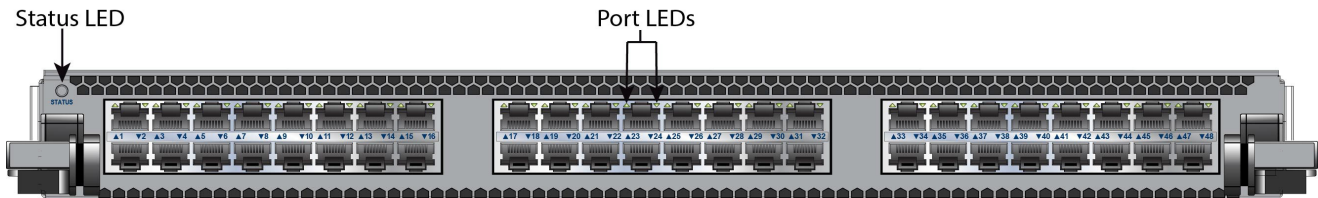

DCS-7500R-48S2CQ-LC

The 48 SFP+ and 2 port 100GbE QSFP line card provides a flexible combination of 48 ports of SFP+ and 2 QSFP100 ports for up to 56 10Gb Ethernet ports. The two 100G QSFP100 ports allow for 1x 100G, 1x40G, or 4x10G capability.

DCS-7500R-36CQ-LC

The 36 ports QSFP100 line card allows for a high degree of flexibility in a mixed 10G/40G/100G environment. All 36 ports can operate as either a single 100Gb or 40Gb Ethernet port. A wide range of additional interface speed flexibility is possible, with all ports able to support 4 x 10G Ethernet, 4 x 25G Ethernet or 2 x 50G Ethernet. This flexibility allows for a choice of 5 speeds on all ports and allow for simple migration from 10G to 100G and a wide range of combinations.
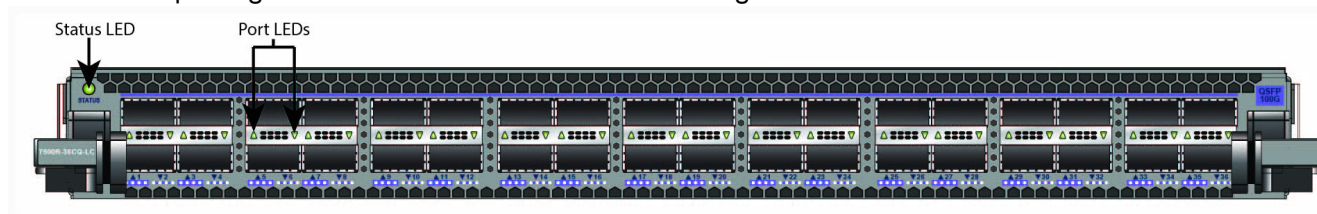
DCS-7500R-36Q-LC

The 36 port QSFP+ line card allows for a wide range of flexibility in a mixed 10G/40G environment. All QSFP+ ports can operate as either a single 40Gb Ethernet port. Additional interface flexibility is possible, with up to 24 ports able to support 4x10G mode and 6 ports of 1x100G mode. These interface speed choices allow for simple migration from 10G to 100G and a wide range of possible combinations.