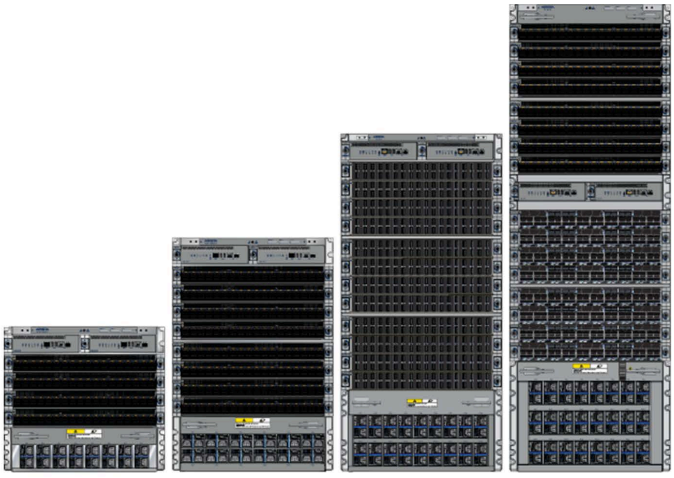
ARISTA



Quick Start Guide

7800 Series Modular Data Center Switch

Arista Networks

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DOC-04133-04

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Contents

Chapter 1

Overview

The following topics are covered in this section:

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-7804
- DCS-7808
- DCS-7812
- DCS-7816

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 DCS-7800 Series Modular Switches purchase order. Parts List provides a list of components included with the switch.

1.3 Installation Process

Perform the following steps to install and use the switch:

1. Select and prepare the installation site (Site Selection).
2. Assemble the installation tools listed (Tools and Parts Required for Installation).
3. Attach the mounting brackets and install the switch in an equipment rack (Rack Mounting the Switch).
4. Connect the switch to the power source and network devices (Cabling the Switch).
5. Configure the switch (Configuring the Switch).

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. 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.

L'élimination finale de ce produit doit être effectuée conformément à toutes les lois nationales etrèglements.

1.4 Safety Information

Refer to the Arista Networks document *Safety Information and Translated Safety Warnings* available at https://www.arista.com/en/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:**https://www.arista.com/en/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:** +1 866-476-0000 or +1 408-547-5502.

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

The Table 1: Modular Switch Specifications lists the specifications of Arista Data Center modular switches covered by this guide.

Table 1: Modular Switch Specifications

	DCS-7804	DCS-7808	DCS-7812	DCS-7816
Height	10 RU: 439 mm (17.28 inches)	16 RU: 702 mm (27.64 inches)	23 RU: 1012 mm (39.84 inches)	32 RU: 1422 mm (55.98 inches)
Width	441 mm (17.36 inches) maximum	441 mm (17.36 inches) maximum	441 mm (17.36 inches) maximum	441 mm (17.36 inches) maximum
Depth	940 mm (37.01 inches)	940 mm (37.01 inches)	940 mm (37.01 inches)	1004 mm (39.52 inches)
Weight	209.1 kg (460 lbs) fully loaded	338.6 kg (745 lbs) fully loaded	512.3 kg (1127 lbs) fully loaded	763.6 kg (1680 lbs) fully loaded
DC Input (per PSU)	2x -48 to -60 V DC 70 A to 55 A	2x -48 to -60 V DC 70 A to 55 A	2x -48 to -60 V DC 70 A to 55 A	2x -48 to -60 V DC 70 A to 55 A
DC Branch Circuit Protection	2x 90 A	2x 90 A	2x 90 A	2x 90 A
AC Input Voltage (per PSU)	2x 200-240 V	2x 200-240 V	2x 200-240 V	2x 200-240 V
AC Branch Circuit Protection	2x 20 A	2x 20 A	2x 20 A	2x 20 A
Input Power Circuits	6 to 8 circuits(1)	8 to 12 circuits(2)	10 to 18 circuits(3)	24 to 48 circuits(4)
Ambient Temperature	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)
Storage Temperature	-40° to 70°C (-40° to 158°F)	-40° to 70°C (-40° to 158°F)	-40° to 70°C (-40° to 158°F)	-40° to 70°C (-40° to 158°F)
Relative Humidity	5 to 90%	5 to 90%	5 to 90%	5 to 90%
Altitude	0 to 3,000 meters (0 to 10,000 feet)	0 to 3,000 meters (0 to 10,000 feet)	0 to 3,000 meters (0 to 10,000 feet)	0 to 3,000 meters (0 to 10,000 feet)
Cooling	See Power draw configurations in Table 2: 7800 Series Power Specifications	See Power draw configurations in Table 2: 7800 Series Power Specifications	See Power draw configurations in Table 2: 7800 Series Power Specifications	See Power draw configurations in Table 2: 7800 Series Power Specifications

1. For non-redundant power feeds, 12 to 16 for redundant power feeds.

2. For non-redundant power feeds, 16 to 24 for redundant power feeds.

3. For non-redundant power feeds, TBD for redundant power feeds.

4. For non-redundant power feeds, 24 to 48 for redundant power feeds.

The Table 2: 7800 Series Power Specifications lists power specifications of modular switch components.

Table 2: 7800 Series Power Specifications

Module Type	Part Number	Power Draw (Typical / Maximum)
Supervisor Modules	DCS-7800-SUP	61 W / 72 W
	DCS-7800-SUP1A	61 W / 72 W
	DCS-7800-SUP1S	61 W / 72 W
	DCS-7816-SUP1A	71 W / 78 W
	DCS-7816-SUP1S	71 W / 78 W
Line Card Modules	DCS-7800R3-48CQ	398 W / 462 W
	DCS-7800R3K-48CQ	398 W / 462 W
	DCS-7800R3K-72Y	142 W / 178 W
	DCS-7800R3-48CQM	620 W / 684 W
	DCS-7800R3-48CQ2	474 W / 622 W
	DCS-7800R3-48CQM2	511 W / 696 W
	DCS-7800R3-48CQMS	501 W / 666 W
	DCS-7800R3-36P	825 W / 1136 W
	DCS-7800R3A-36P	533 W / 749 W
	DCS-7800R3A-36PM	548 W / 764 W
	DCS-7800R3AK-36PM	578 W / 794 W
	DCS-7800R3-36D	839 W / 1149 W
	DCS-7800R3A-36D	533 W / 749 W
	DCS-7800R3A-36DM	548 W / 764 W
	DCS-7800R3AK-36DM	578 W / 794 W
	DCS-7800R3K-36DM	1416 W / 1823 W
	DCS-7800R3A-36D2	563 W / 779 W
	DCS-7800R3A-36DM2	578 W / 794 W
	DCS-7800R3AK-36DM2	608 W / 824 W

Fabric Modules	DCS-7804R3-FM DCS-7808R3-FM DCS-7808R3-FM2 DCS-7812R3-FM DCS-7816R3-FM	180 W / 248 W 510 W / 778 W 370 W / 518 W 681 W / 917 W 510 W / 778 W
Power Supply (AC)	PWR-D1-3041-AC-BLUE	3 W / 10 W(1)
Power Supply (DC)	PWR-D2-3041-DC-BLUE	3 W / 10 W(1)
7804 Series System	Full chassis loaded with: 2 DCS-7800-SUP1A 6 DCS-7804R3-FM 4 DCS-7800R3-48CQ 6 PWR-D1-3041-AC-BLUE	3310 W / 4397 W
7808 Series System	Full chassis loaded with: 2 DCS-7800-SUP1A 6 DCS-7808R3-FM 8 DCS-7800R3-48CQ 8 PWR-D1-3041-AC-BLUE	6390 W / 8540 W
7812 Series System	Full chassis loaded with: 2 DCS-7816-SUP1A 6 DCS-7812R3-FM 12 DCS-7800R3-48CQ2 10 PWR-D1-3041-AC-BLUE	12490 W / 14788 W
7816 Series System	Full chassis loaded with: 2 DCS-7816-SUP1A 12 DCS-7816R3-FM 16 DCS-7800R3-48CQ 24 PWR-D1-3041-AC-BLUE	12881 W / 17150 W

[1] With no input power.

Note [1] Includes typical power supply conversion inefficiency. Contact your local Sales Engineer for 7800 power calculator details.

Note [2] Power numbers given as Typical/Maximum or Typical/Hot/Maximum where Hot is defined as 40°C Sea Level.

[*] Not N+N redundant power at worst case Temp/Elevation.

Chapter 2

Preparation

The following topics are covered in this section:

- Site Selection
- Tools and Parts Required for Installation
- Unpacking and Moving the Switch
- Electrostatic Discharge (ESD) Precautions

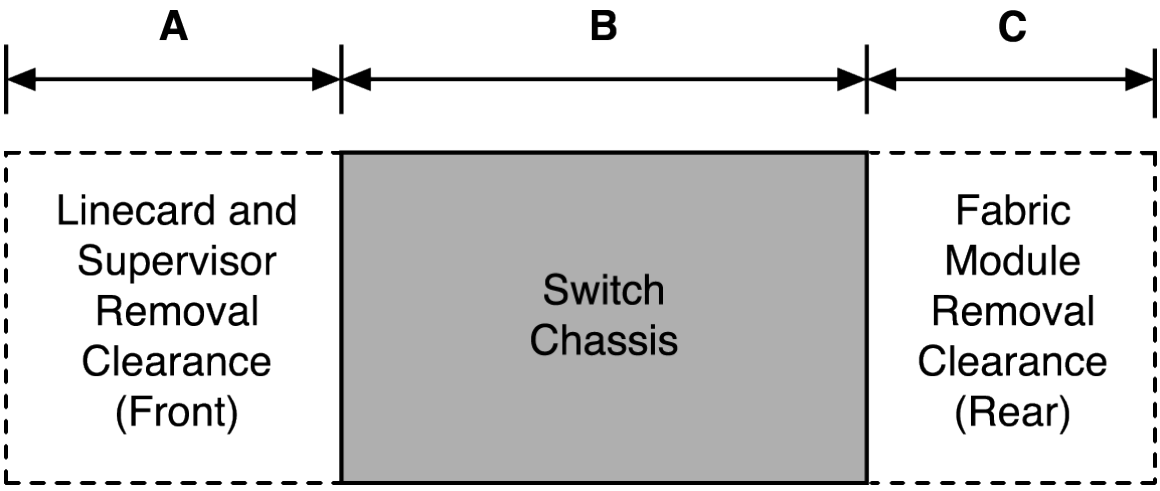
2.1 Site Selection

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.

The Figure 1: Clearance Requirements and Footprint for Switches displays the dimensions and footprint of the switch clearance requirements for the switches.

Figure 1: Clearance Requirements and Footprint for Switches



The Table 3: Clearance Requirements and Footprint Dimensions shows the dimensions for each of the modular switches.

Table 3: Clearance Requirements and Footprint Dimensions

Switch	Clearance Requirements Dimensions		
	A	B	C
DCS-7804	38.4 cm (15.1 in.)	102.1 cm (40.2 in.)	58.9 cm (23.2 in.)
DCS-7808	38.4 cm (15.1 in.)	102.1 cm (40.2 in.)	58.9 cm (23.2 in.)
DCS-7812	38.4 cm (15.1 in.)	102.1 cm (40.2 in.)	58.9 cm (23.2 in.)
DCS-7816	38.4 cm (15.1 in.)	102.1 cm (40.2 in.)	58.9 cm (23.2 in.)

Note: The PSU removal clearance (Front) is 62.5 cm (24.6 in.)

- **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:** The Table 4: Rack Space Requirements shows the rack space requirements for each of the modular switches.

Table 4: Rack Space Requirements

Switch	Rack or Cabinet (standard 19" EIA)		
	2-Post	4-Post	Switch Height (RU)
DCS-7804	No	Yes	10
DCS-7808	No	Yes	16
DCS-7812	No	Yes	23
DCS-7816	No	Yes	32

Note: The accessory kit provides the required mounting hardware for each switch.

- **Power Requirements:** Arista switches require a minimum number of operating power supplies in all chassis, AC or DC, and for each power domain of switches with multiple power domains. Refer to Cabling the Power Supplies for more details regarding your switch.

  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 éteindre une unité, 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. Ensure 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: Modular Switch Specifications).
- Torque reading nut driver (for DC power supplies)

- #2 Phillips head screwdriver

Note: Switches come with a template to assist with the rack mounting

Rack Mount

The Table 5: Rack Component Requirements shows the rack components required for each of the modular switches.

Table 5: Rack Component Requirements

Switch	Rack or Cabinet (standard 19" EIA)		
	Rack Screws [1]	Rack Nuts [2]	Notes
DCS-7804	21[3]	21[3]	4-post installation
DCS-7808	21[3]	21[3]	4-post installation
DCS-7812	27[3]	27[3]	4-post installation
DCS-7816	35[3]	35[3]	4-post installation

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

[2]Rack nuts are only for racks with unthreaded, rack-post holes.

[3]These are in addition to the rack-mount kit screws required for the cradle.

2.3 Unpacking and Moving the Switch

The DCS-7816 accessory kit includes bolts and lifting brackets (Figure 2: Lifting Brackets) that must be attached to the top of the chassis with the bolts supplied for lifting the chassis from the pallet onto the transport lift. You can use any appropriate lifting mechanism/tool to unload the switch. A platform lift is recommended for transportation and installation of the switch. The rack mounting cradle is shipped nested upside down over the top of the chassis for all switches (Figure 3: Cradle and Switch). There is a protective film on the top and sides to keep the cradle from scratching the chassis during transport.

Note: The DCS-7812 accessory kit includes bolts and lifting brackets that must be similarly attached. The illustrations highlight the DCS-7816.

Figure 2: Lifting Brackets

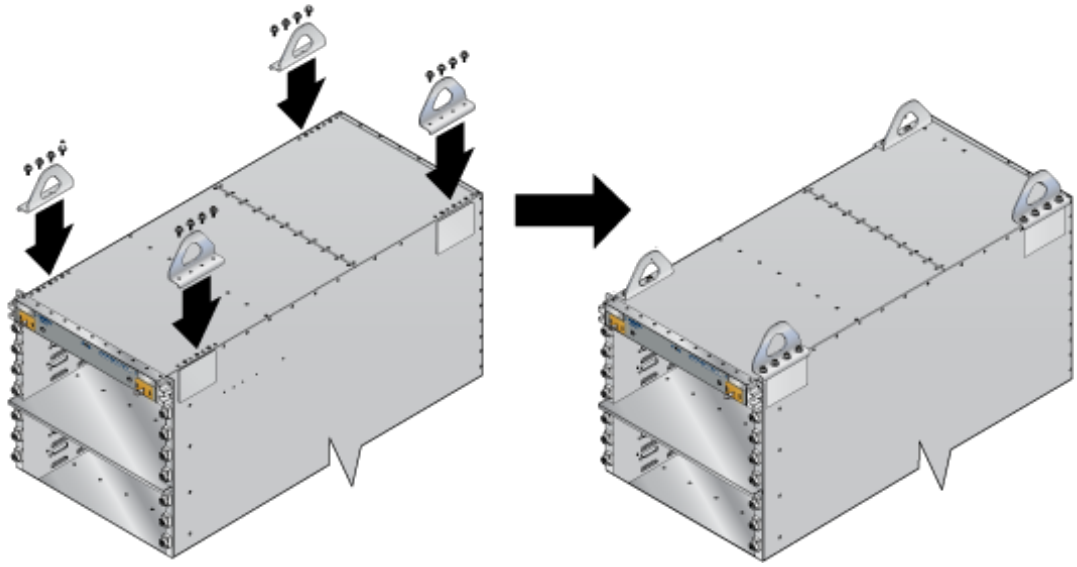
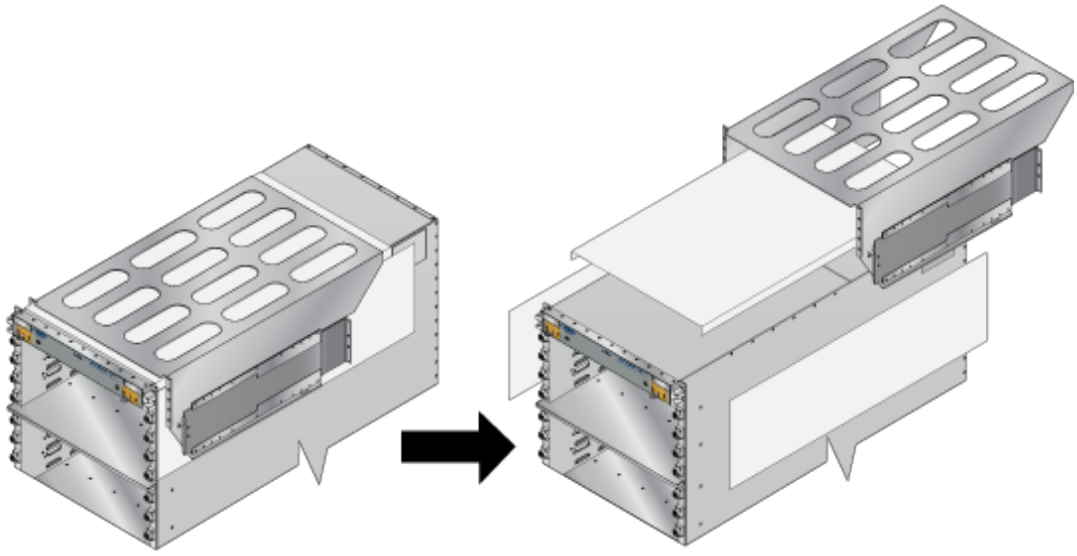


Figure 3: Cradle and Switch



2.3.1 Unpacking and Moving the Switch (Example)

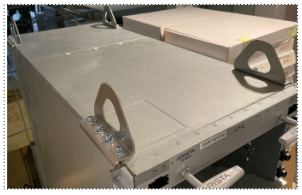
The example illustrates the de-palletizing and transportation of a DCS-7816 chassis using the following:

- 1000 lb lifting straps
  - Server Lift SL-1000X® Super-Duty Lift
    - 1000 lb capacity
    - Battery operated and motorized
    - Integrated rollers with lockout

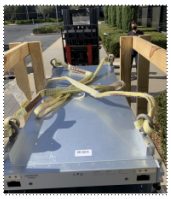
The DCS-7816 chassis ships on an engineered pallet as shown below.

1. Cut away the straps and remove the cardboard to expose the chassis with the rack kit basket attached and nested on top of the chassis.

2. From the accessory kit shipped with the chassis, remove and attach the lifting brackets to the top of the chassis.

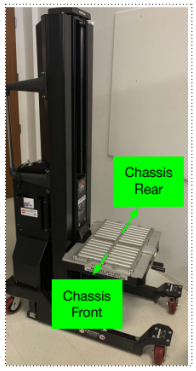


3. Attach the 1000 lb lifting straps to the lifting brackets on the chassis, and the loops through the prongs of the lift.



4. Place the chassis on the transport lift (Server Lift SL-1000X® Super-Duty Lift) with the lift platen in the neutral position and the chassis aligned for moving into the rack.

Note: Populate the chassis with line-cards and fabric modules only after insertion into the rack.



5. Align and move the chassis into the rack using the translatable platen.

Note: Use the built-in, foot-pedal actuated lock to secure lift while sliding the chassis into rack.

Note: Before moving the chassis into the rack, you must attach the cradle to the rack (DCS-7804, DCS-7808, DCS-7812, and DCS-7816 Rack Mounting).

2.4 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.

Chapter 3

Rack Mounting the Switch

The following topics are covered in this section:

3.1 DCS-7804, DCS-7808, DCS-7812, and DCS-7816 Rack Mounting

The accessory kit provides components for installing the switch in four-post racks. The accessory kit includes the following four-post mounting parts:

- Cradle assembly
- M6 pan-head Phillips screws
- M6 rack cage nuts (optional)
- Template for non-threaded racks requiring rack nuts

Note: Two-post rack mount is not supported.

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

After completing the instructions for your rack type, proceed to Cabling the Power Supplies .

Rack mounting the switch in a four-post rack requires the following tasks:

- Inserting rack nuts (for racks requiring them) at appropriate locations. (Inserting Rack Nuts Using the Template).
- Inserting and securing the cradle assembly into the rack (Inserting and Securing the Cradle Assembly).
- Inserting the switch into the rack (Inserting the Switch into the Rack).

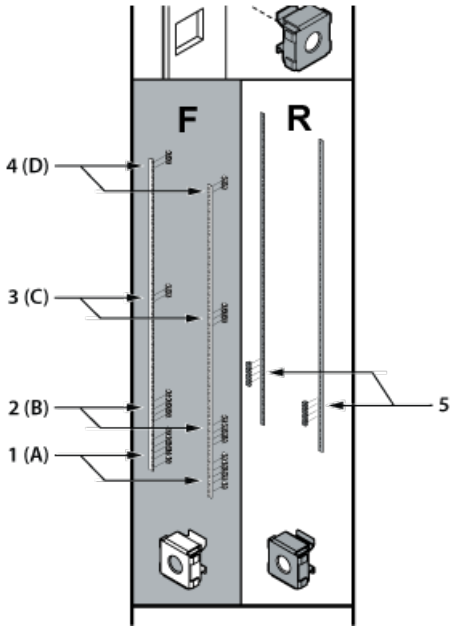
3.1.1 Inserting Rack Nuts Using the Template

Note: Required only for non-threaded racks that use rack nuts. Installation is referenced with the bottom screw located at 1RU location. For a different starting point for the bottom screw, always start at an RU location, and ensure there is enough room for your device in the rack.

1. Attach the template supplied with your switch to the front left post such that the top and bottom locations for the rack nuts line up with RU locations required by your device.
2. Insert rack-mount nuts required by the switch (Table 6: Rack Mount Locations and Screws Required by Switch 1) at the locations identified by the Figure 4: Rack Nut Locations using the template.

   Note: The number of rack nuts required for the front left and the front right rack posts are different. The rear posts require the same number (4 each).

Figure 4: Rack Nut Locations



1 Mounting location A Front (Left and Right)
2 Mounting location B Front (Left and Right)
3 Mounting location C Front (Left and Right)
4 Mounting location D Front (Left and Right)
5 Mounting location Rear (Left and Right)

Table 6: Rack Mount Locations and Screws Required by Switch [1]

Mounting Location	DCS-7804		DCS 7808		DCS-7812		DCS-7816	
	Front (L)	Front (R)	Front (L)	Front (R)	Front (L)	Front (R)	Front (L)	Front (R)
A	5	5	5	5	5	5	5	5
B	N/A	N/A	N/A	N/A	3	3	4	4
C	N/A	N/A	N/A	N/A	N/A	N/A	2	3
D	1	2	1	2	1	2	2	2

1. Rear post locations are indicated by the template and are used for securing the cradle.

3. Move the template to the right front post and repeat Step 2, taking care that the top and bottom rack nut locations are aligned with the left front post.
4. Move the template to the rear posts one at a time, and insert rack nuts at the locations indicated by the template.
5. Proceed to Inserting and securing the cradle assembly into the rack (Inserting and Securing the Cradle Assembly) once rack nuts have been inserted in all the posts.

3.1.2 Inserting and Securing the Cradle Assembly

To insert and secure the cradle assembly to the rack use the following steps.

Note: The rack mounting cradle is shipped nested upside down over the top of the chassis for all switches. There is a protective film on the top and sides to keep the cradle from scratching the chassis during transport.

1. Insert two screws loosely in the two front rack posts at the same level and two in the back two rack posts 3 RU above the front screws (Figure 5: Attaching Mounting Screws to the Rack Posts). Use the template for racks requiring rack nuts (Figure 6: Mounting (Starting Screws) Locations for Cradle (Front and Rear)). The front locations are marked with single dots and the rear locations with two dots.

Figure 5: Attaching Mounting Screws to the Rack Posts

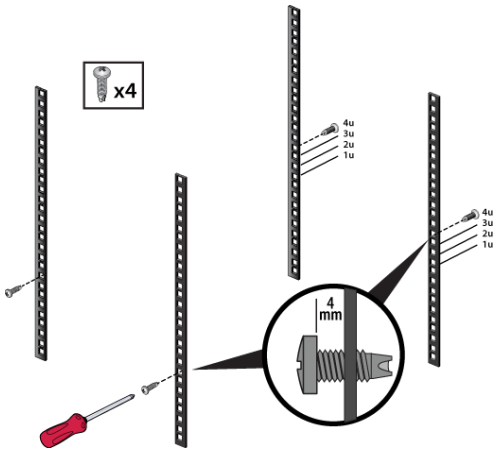
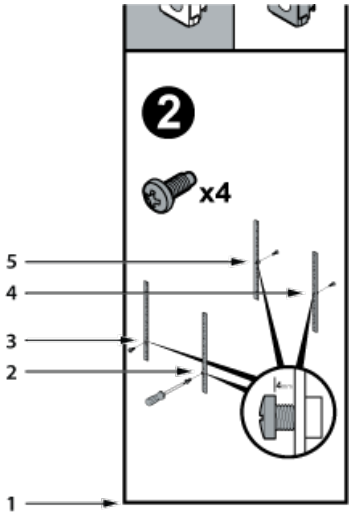


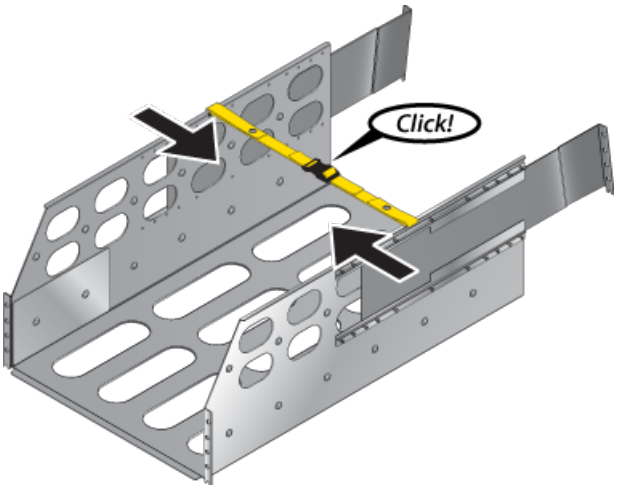
Figure 6: Mounting (Starting Screws) Locations for Cradle (Front and Rear)



1 Bottom of switch
2 Front screw (Right)
3 Front Screw (Left)
4 Rear Screw (Left)
5 Rear Screw (Right)

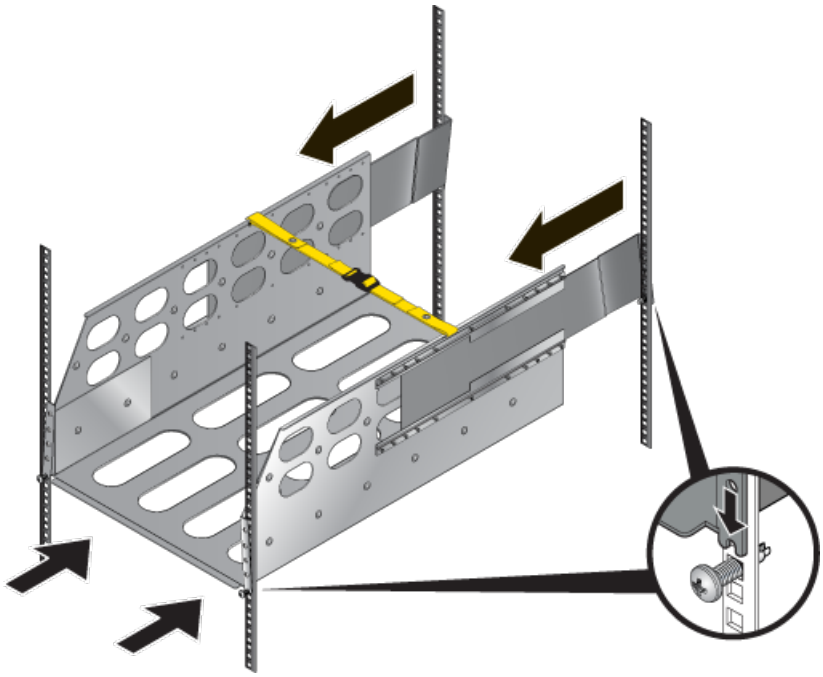
2. Buckle the straps on the cradle together, prior to installation, so the left and right sides are angled slightly inwards (Figure 7: Buckling the Straps).

Figure 7: Buckling the Straps



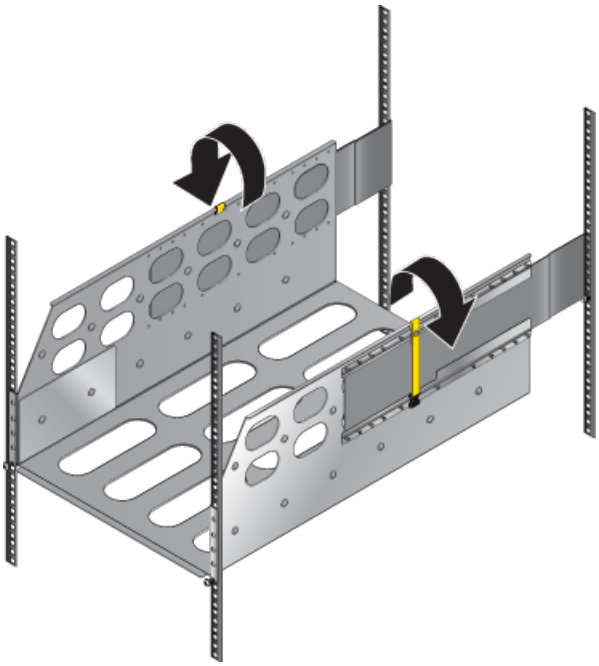
3. Pull out the rear sliding rails slightly beyond the back rack posts.
4. Insert the cradle so that the notches in the cradle engage behind the loosely mounted front screws (Figure 8: Inserting the Cradle).
5. Slide the rear sliding rails back in so that they are flush with the back rack posts, the notches in the cradle engage behind the loosely mounted screws, and the bottom of the cradle is horizontal and level (Figure 8: Inserting the Cradle).

Figure 8: Inserting the Cradle



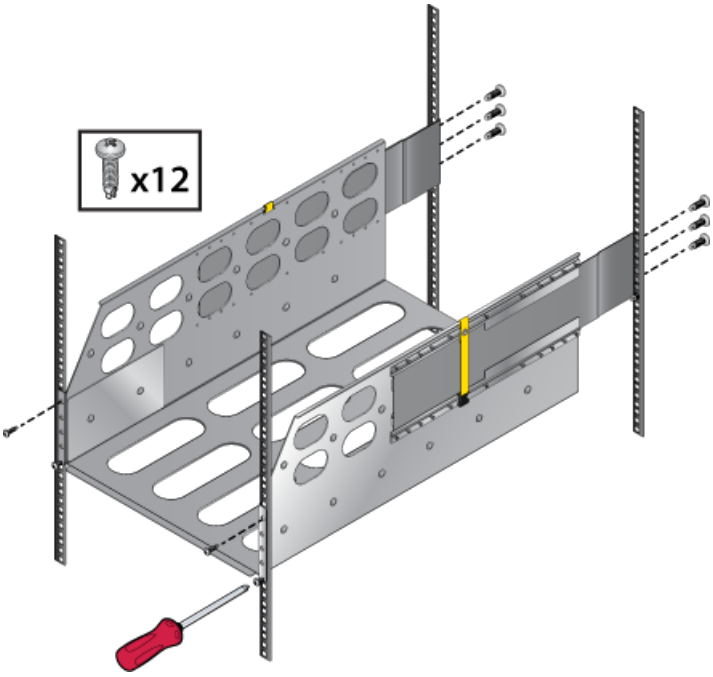
6. Release the clasp on the connector to rotate the left and right sides so they are vertical. (Figure 9: Aligning the Cradle in the Rack).

Figure 9: Aligning the Cradle in the Rack



7. Secure the cradle to the rack posts using the eight remaining screws, two more in the front and 6 more in the back for a total of twelve screws. (Figure 10: Securing the Cradle in the Rack).

Figure 10: Securing the Cradle in the Rack



3.1.3 Inserting the Switch into the Rack

The switch is mounted onto a four-post rack by assembling a rack-mount cradle into the rack (Inserting Rack Nuts Using the Template), then placing the switch on the cradle and securing it to the rack.

1. Move the chassis to the rack using a mechanical lift (Figure 11: Lifting the Chassis).

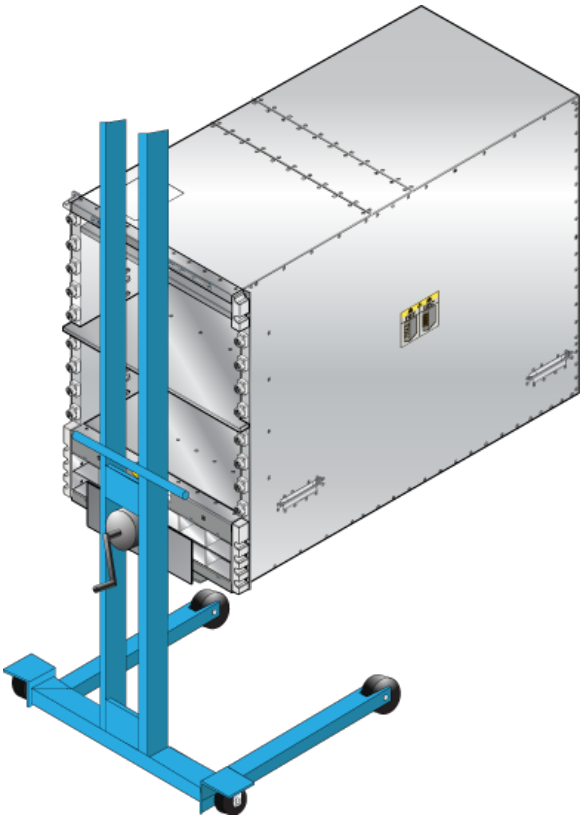
   Note: If modules are inserted in the chassis, use the lift carefully to avoid damaging any components.

2. Lift the chassis and insert it into the rack. For the DCS-7816 chassis, remove the lifting brackets required to lift the chassis from the pallet onto a transport lift, from the top of the chassis before insertion.

   Note: A platform lift is recommended for transportation and installation.

   Note: Rack space permitting, it is recommended to leave the lifting brackets attached to the switch after securing it in the rack.

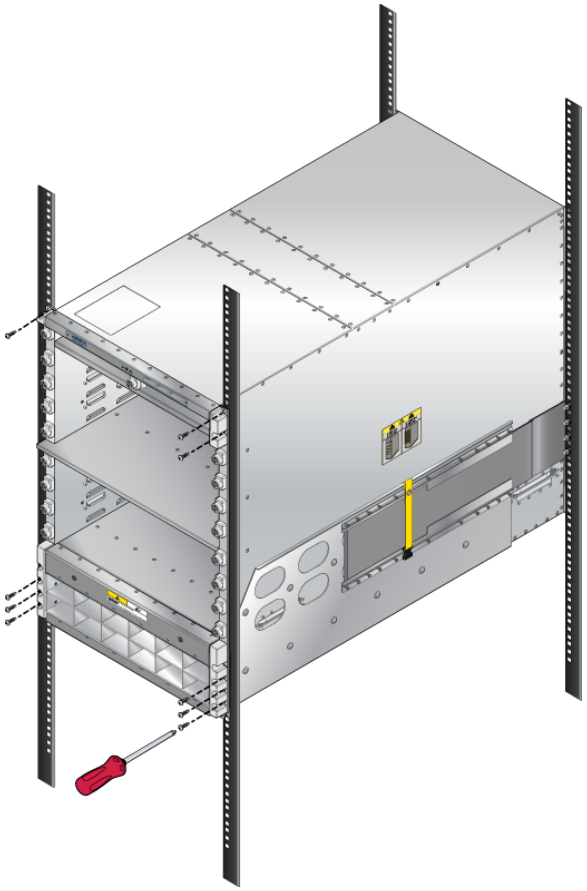
Figure 11: Lifting the Chassis



3. Secure the chassis by tightening additional M6 screws on the front flanges into the rack posts (Figure 12: Secure the Switch to the Rack Shelf).

   Note: Additional screws depend on the device. The 7804 and 7808 chassis require nine.

Figure 12: Secure the Switch to the Rack Shelf



4. After completing the Four-Post Installation, proceed to Cabling the Power Supplies.

Chapter 4

Cabling the Modular Switch

The following topics are covered in this section:

4.1 Cabling the Power Supplies

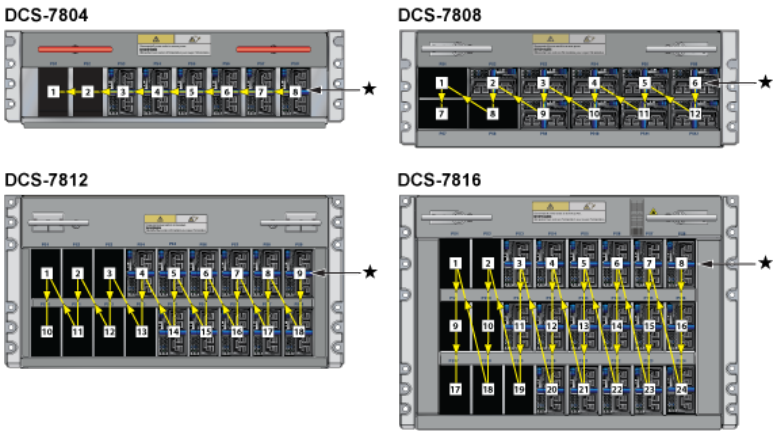
Before you begin, refer to the Arista Networks document *Compliance and Safety Guide* available at: https://www.arista.com/en/support/product-documentation.

Note: Power supplies may be loaded in the PSU bays in any order. The following order is recommended for each of the switches covered by this guide.

Table 7: Recommended PSU Bay Population Order

Switch	Order
DCS-7804	8, 7, 6, 5, 4, 3, 2, 1
DCS-7808	6, 12, 5, 11, 4, 10, 3, 9, 2, 8, 1, 7
DCS-7812	9, 18, 8, 17, 7, 16, 6, 15, 5, 14, 4, 13, 3, 12, 2, 11, 1, 10
DCS-7816	8, 16, 24, 7, 15, 23, 6, 14, 22, 5, 13, 21, 4, 12, 20, 3, 11, 19, 2, 10, 18, 1, 9, 17

The following figure shows the recommended order. All unpopulated bays should be covered with a blank (X):.



Note: '*' designates the recommended starting bay.

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 Table 9: Power Supply Configurations shows the minimum number of operating power supplies that must be connected to active circuits for each switch to operate.

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

4.2 Cabling Chassis Ground

The Figure 13: Front Panel (DCS-7804), Figure 14: Front Panel (DCS-7808), Figure 15: Front Panel (DCS-7812), and Figure 16: Front Panel (DCS-7816) display the location of the chassis grounding locations on the front panel of the switches. Chassis ground locations are also located on the rear panel of the switch chassis. After mounting the switch into the rack, connect at least one of the chassis

grounds to the data center ground using two-hole ground lugs with 16 mm (5/8 in.) spacing, and two M4 x 0.7 screws. 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.

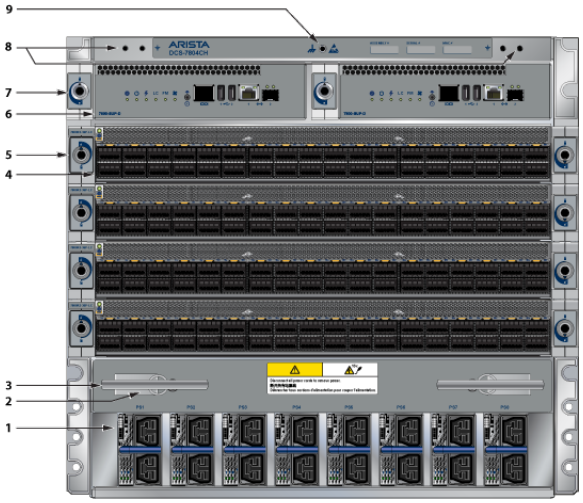
Important: This equipment must be grounded. Never defeat the ground conductor. This unit requires over-current protection.

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.

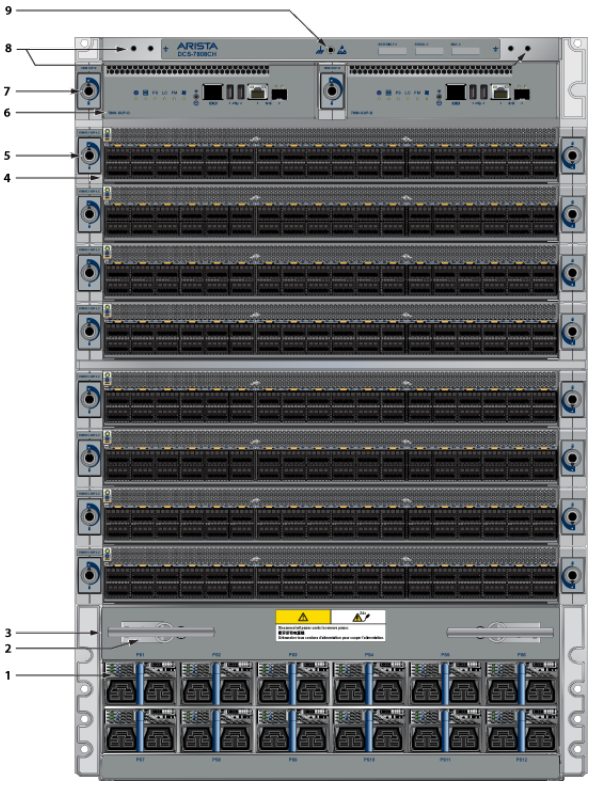
Secondaire à la terre, câbles, cosses et vis (M4 x 0.7) ne sont pas fournis.

Figure 13: Front Panel (DCS-7804)



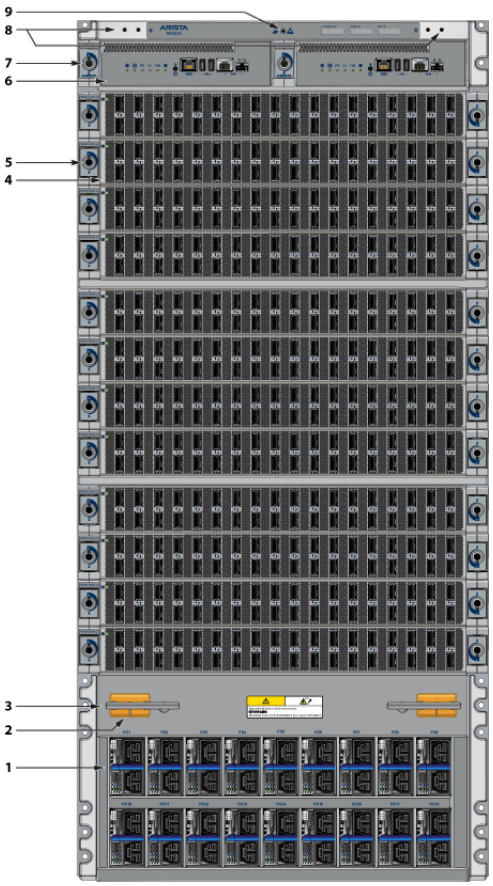
1	Power supplies	4	Linecards	7	Supervisor lock
2	Linecard and Supervisor extraction tool tether	5	Linecard lock	8	Grounding locations
3	Extraction tool	6	Supervisor modules	9	ESD attach point

Figure 14: Front Panel (DCS-7808)



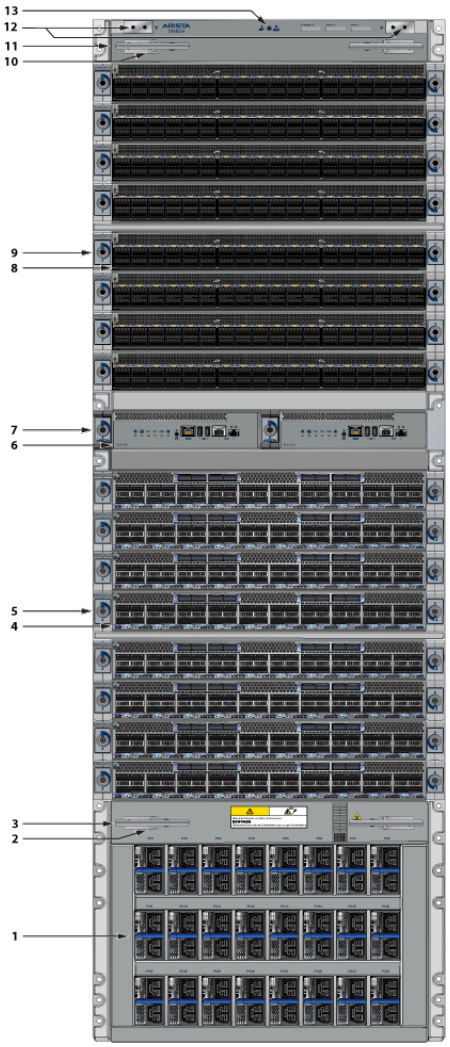
1	Power supplies	4	Linecards	7	Supervisor lock
2	Linecard and Supervisor extraction tool tether	5	Linecard lock	8	Grounding locations
3	Extraction tool	6	Supervisor modules	9	ESD attach point

Figure 15: Front Panel (DCS-7812)



1	Power supplies	4	Linecards	7	Supervisor lock
2	Linecard and Supervisor extraction tool tether	5	Linecard lock	8	Grounding locations
3	Extraction tool	6	Supervisor modules	9	ESD attach point

Figure 16: Front Panel (DCS-7816)



1	Power supplies	6	Supervisor modules	11	Extraction tool
2	Linecard and Supervisor extraction tool tether	7	Supervisor lock	12	Grounding locations
3	Extraction tool	8	Linecards	13	ESD attach point
4	Linecards	9	Linecard lock		
5	Linecard lock	10	Linecard and Supervisor extraction tool tether		

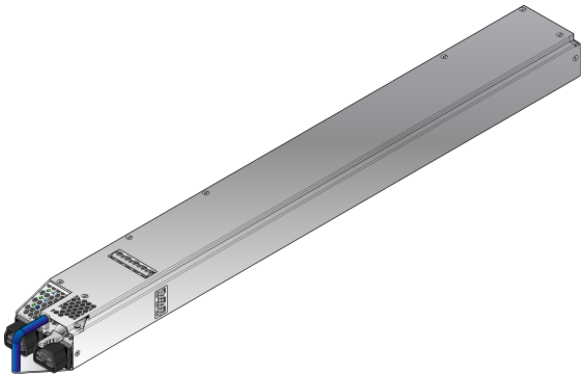
Note: To power down the switch, remove all power cords from the power inlets.

4.3 Cabling the AC Power Supplies

The switches use PWR-D1-3041-AC-BLUE (Figure 17: AC Power Supply) power supplies with SAF-D-GRID connectors on the PSU inputs. Power cables are included with the accessory kit (Table 16: Accessory Kits for the Modular Switches). To power the switch, insert the other side of the cable into the main power providing circuit.

Note: The power supply, handle color, orientation, etc. may be different in your device from the one shown in Figure 17: AC Power Supply.

Figure 17: AC Power Supply



The Front Panel displays the front panel location of the power supplies.

Note:

- The LEDs on a PSU remain lit for a period of time even after you disconnect the power and remove the PSU from the chassis. They will eventually turn off in a short while.
- The PWR-D1-3041-AC-BLUE PSU uses 2x 220 V supply inputs and uses 2 APP SAF-D-GRID 400 connectors.

4.4 Cabling the DC Power Supply

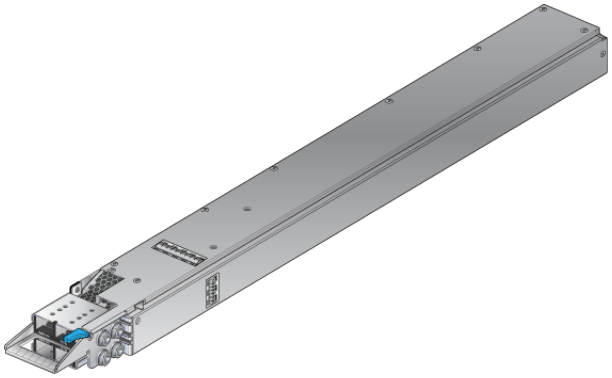
Note: The -48V and Battery-Return leads are a pair and should run adjacent to each other and be approximately the same length.

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.

4.4.1 DC Power Supplies

The switches support the PWR-D2-3041-DC-BLUE DC power supply displayed in Figure 18: PWR-D2-3041-DC-BLUE Power Supplies.

Figure 18: PWR-D2-3041-DC-BLUE Power Supplies



Note: Release lever color indicates airflow direction.

4.4.2 Wire and Lug Preparation

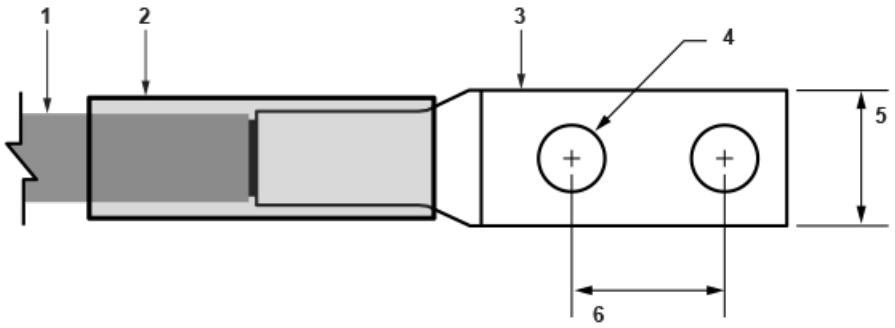
Before performing any installation actions, ensure power is removed from DC circuits by turning off the power line servicing the circuits. Prepare the stranded wiring before you begin a DC power installation.

1. Stranded copper wiring is required.
   - Commercially available 1 to 2 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: 1– 2 AWG
   - Primary Ground Wire Size: 1– 2 AWG per power supply.
   - The conductors are copper
2. Use agency-approved compression (pressure) lugs for wiring terminations (2x - Two M6 studs with 5/8" spacing).
3. 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.
4. Shrink the tubing with a heat gun.

Figure 19: Lugs Wiring Terminations



1 Insulated wire	3 Lug	5 Half-inch width
2 Heat-shrink tubing	4 Quarter-inch diameter hole	6 Five-eighth-inch apart centers

4.5 Power Supply Specifications

The Table 8: Power Supply Specifications (each PSU) shows the power supply specifications for each of the PSUs supported.

Table 8: Power Supply Specifications (each PSU)

Power Supply	Maximum Output Power Rating (DC)	Input Voltage and Frequency	Maximum Input Current	Input Branch Circuit Protection
PWR-D1-3041-AC-BLUE	3000 W	200 to 240 VAC(nominal) 50/60 Hz (nominal)	2x 16 A	2x 20 A
PWR-D2-3041-DC-BLUE	3000 W	-48 V to -60 VDC, 70 A to 55A	2x 70 A	2x 90 A

Important: Each power supply requires input branch circuit protection in compliance with AHJ requirements.

Chaque alimentation nécessite une protection du circuit de la branche d'entrée conformément aux exigences de l'AHJ.

4.6 Power Supply Configurations

The Table 9: Power Supply Configurations shows the power supply configurations for the modular switches.

Table 9: Power Supply Configurations

Modular Switch	Recommended Number of PSUs (for redundancy)	Number of PSUs Shipped in Bundle	Minimum Number of PSUs Required	Maximum Number of PSUs Supported
DCS-7804	6	6	6	8
DCS-7808	8	8	8	12
DCS-7812	10	10	10	18
DCS-7816	12	12	12	24

4.6.1 Recommendations for Power Supply Usage

- Use separate circuits (A & B) with required protection for each power supply.
- Use the same PSU model when replacing a failed PSU. Any suitable alternative must be approved before using if the original model is no longer supported or available.
- Unless your switch allows for mixing power supplies, do not mix power supply types.
- To minimize distribution power loss, use an equal number of supplies in each row: (e.g 4 PSUs in slots 1-4 and 4 PSUs in slots 7-10 for a configuration with 8 PSUs for the DCS-7808 switch). Table 7: Recommended PSU Bay Population Order provides more details.

Note: PSUs can be housed in either of two rows for the DCS-7808 switch. The LEDs for PSUs in each row indicate correct status only after at least one of the PSUs in that row (PSU1 to PSU6 or PSU7 to PSU12) is energized from a power source. For the DCS-7812 and DCS-7816 switches, as long as one PSU is powered, all PSU LEDs will report status correctly.

- All power supply slots must be filled with a powered supply, or a blank (X), or a non-powered power supply.
- Valid redundancy configurations for each domain are described in Power Supply Redundancy section.

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, dual, independent power feeds. Each independent power feed will be referenced as A and B.

The recommended installation is to wire input_A and input_B of each supply to independent power feed (A or B).

Note: When powered cables are connected to both A and B inputs of the PSU, the AC PSU will draw current from the A input. The B input is held in standby. The DC PSU will share power based on the input voltage.

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

The Front Panel displays the front panel location of the supervisor modules, line cards and PSUs.

The Rear Panel displays the rear panel location of 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.

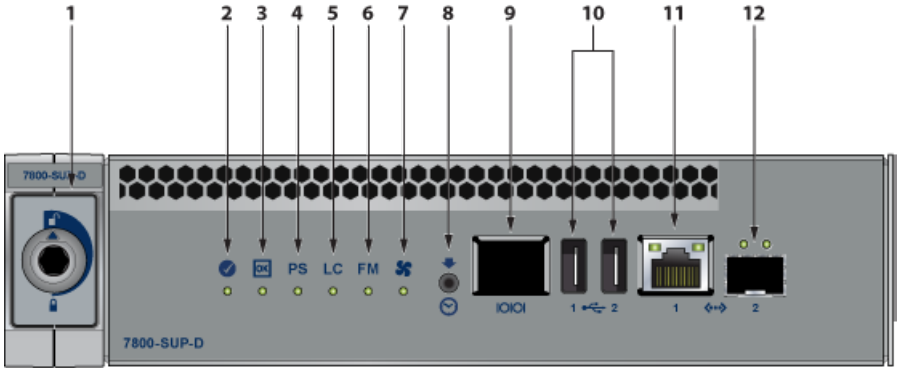
Les emplacements inutilisés doivent être occupés ou recouvert d'un blanc pour assurer la bonne circulation d'air dans le châssis.

4.8 Connecting Supervisor Cables

Supervisor modules contain console, management, and USB ports. Figure 20: Supervisor DCS-7800-SUP, DCS-7800-SUP1A, and DCS-7816-SUP displays port and status LED locations on the

supervisors. Refer to the chassis specification in Figure 21: DCS 7808 Supervisor Slots for additional information about the serial port.

Figure 20: Supervisor DCS-7800-SUP, DCS-7800-SUP1A, and DCS-7816-SUP

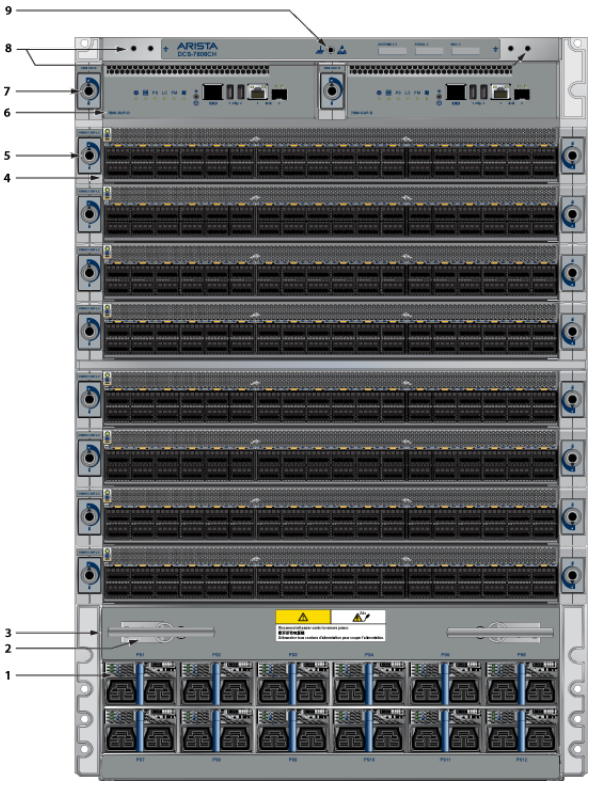


1	Locking mechanism	5	Line card status LED	9	RJ-45 Serial management port
2	Supervisor status LED	6	Fabric Module status LED	10	USB Ports
3	Supervisor active status LED	7	Fan status LED	11	RJ-45 Ethernet management port
4	PSU status LED	8	Clock In	12	SFP Ethernet management port

- **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

The appropriate supervisor cards must be installed in one of the two slots designated for them. They are shown in Figure 21: DCS 7808 Supervisor Slots for the DCS-7808 switch. For the DCS-7816 switch, the supervisor slots are in the middle of the chassis.

Figure 21: DCS 7808 Supervisor Slots



1	Power supplies	4	Linecards	7	Supervisor lock
2	Linecard and Supervisor extraction tool tether	5	Linecard lock	8	Grounding locations
3	Extraction tool	6	Supervisor modules	9	ESD attach point

RJ-45 to DB-9 Connections

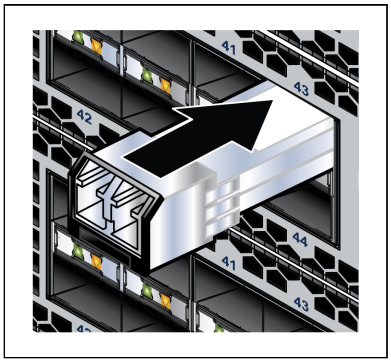
RJ-45		DB-9		RJ-45		DB-9	
RTS	1	8	CTS	GND	5	5	GND
DTR	2	6	DSR	RXD	6	3	TXD
TXD	3	2	RXD	DSR	7	4	DTR
GND	4	5	GND	CTS	8	7	RTS

- **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, OSFP, and QSFP-DD optic modules in line card module ports (Figure 22: SFP or SFP+ Ports).

Figure 22: SFP or SFP+ Ports



Connect cables as required to line card module 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.

Note: You must ensure that any open slots for modules, power supplies, etc. are covered by the appropriate “blank” plates. Check with your local Arista Networks representative if you have questions.

Chapter 5

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.

1. Provide power to the switch (Cabling the Supplies).
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:
```

3. Log into the switch by typing **admin** at the login prompt.

```
localhost login:admin
```

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

```
localhost>zerotouch cancel
```

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
```

6. Enter global configuration mode.

```
localhost>enable
localhost#config
```

7. Assign a password to the **admin** username with the **username secret** command.

```
localhost(config)#username admin secret pxq123
```

8. Configure a default route to the network gateway.

```
localhost(config)#ip route 0.0.0.0/0 192.0.2.1
```

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
```

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

```
localhost#copy running-config startup-config
```

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 the complete switch configuration information.

Appendix A

Status Indicators

The following topics are covered in this section:

A.1 Supervisor Module

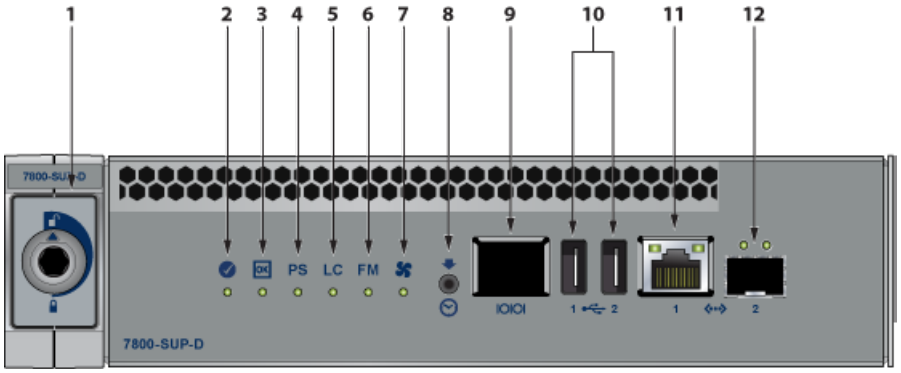
While the front panel of each switch can house two supervisors, switch operations require only one. Supervisors display switch status and contain Ethernet management and console ports. The supervisor provides:

- One serial console port
- Two Ethernet management ports (one RJ-45, one optical)
- Two USB ports
- One clock input port
- Several system level status indicator LEDs (System Level Status Indicator LEDs: DCS-7800-SUP-D).

A.1.1 System Level Status Indicator LEDs: DCS-7800-SUP-D

The system status indicator LEDs are shown in Figure 23: Supervisor DCS-7800-SUP-D.

Figure 23: Supervisor DCS-7800-SUP-D



1 Locking mechanism	5 Line card status LED	9 RJ-45 Serial management port
2 Supervisor status LED	6 Fabric Module status LED	10 USB Ports
3 Supervisor active status LED	7 Fan status LED	11 RJ-45 Ethernet management port
4 PSU status LED	8 Clock In	12 SFP Ethernet management port

Supervisor Status LEDs

Supervisor Status LED States interprets the states of the supervisor status LEDs for both the active and the redundant supervisor module.

Table 10: Supervisor Status LED States

Supervisor and System Condition [1]	LED Name and State							
	Status	Active	Power Supply (PSU)	Line Card (LC)	Fabric Module (FM)	Fan Module	Ethernet Port	
							Link (Left)	Activity (Right)
No power, failed, or improperly inserted.	Off	Off	Off	Off	Off	Off	Off	Off
Booting	Blinking Green	Off	Off	Off	Off	Off	Off	Off
Beacon Request Locate	Blue	Off	Off	Off	Off	Off	Off	Off
Normal Active Operation (Master Supervisor) System Status: Good	Green	Green	Green	Green	Green	Green	(2)	(2)
Redundant Supervisor (Active Standby) Status: Good	Green	Off	Off	Off	Off	Off	Off	Off
Forced fail-over to redundant supervisor (Not active) Status: Bad	Red	Off	Off	Off	Off	Off	Off	Off
Supervisor active and operating normally; No PSUs, LCs, FMs or Fan Modules present or powered	Green	Green	Off	Off	Off	Off	Off	Off
Supervisor active, Status: PSU failure (one or more) - no AC input, DC output, Over current or not enough PSUs present	Green	Green	Red	(3)	(3)	(3)	(2)	(2)
Supervisor active, Status: LC failure (one or more)	Green	Green	(3)	Red	(3)	(3)	(2)	(2)
Supervisor active, Status: FM failure (one or more)	Green	Green	(3)	(3)	Red	(3)	(2)	(2)
Supervisor active, Status: Fan Module failure (one or more) or not present	Green	Green	(3)	(3)	(3)	Red	(2)	(2)

Supervisor and System Condition [1]	LED Name and State							
	Status	Active	Power Supply (PSU)	Line Card (LC)	Fabric Module (FM)	Fan Module	Ethernet Port	
							Link (Left)	Activity (Right)
Supervisor active, Ethernet port linked with activity	Green	Green	(3)	(3)	(3)	(3)	Green	Green
Supervisor active, Ethernet port linked with no activity	Green	Green	(3)	(3)	(3)	(3)	Green	Off
Supervisor active, Ethernet port not linked	Green	Green	(3)	(3)	(3)	(3)	Off	Off

[1] Assumes redundant supervisor is present.

[2] Depends on port operation.

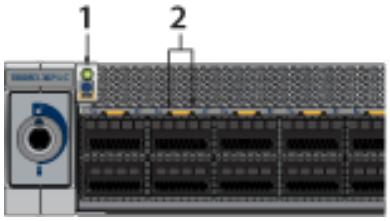
[3] Green for normal operation, red if no corresponding component is powered or present.

Note: Arista modular switches take 15 to 30 minutes to boot completely.

A.2 Line Card Module Indicators

Each line card module provides one status LED plus LEDs for each port on the card. Line Card Status LED shows a representative line card. The figures in Line Cards indicate the location of the LEDs on each line card.

Figure 24: Line Card Status LED



1 Line card status LED

2 Port status LED

Line Card Status LED States interprets the states of the status LED.

Table 11: Line Card Status LED States

LED State	Status
Off	Line card not inserted.
Green	Line card operating normally.
Yellow (amber/orange)	Line card administratively shut down or booting up.

Red	Linecard has failed.
Red (blinking)	Locator function is enabled.

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 or 100G ports, each port is assigned to an LED within the set.
- For line cards that support OSFP and QSFP-DD ports with one LED per port, Line Card Port LED States interprets the port LED states.

Table 12: Line Card Port LED States

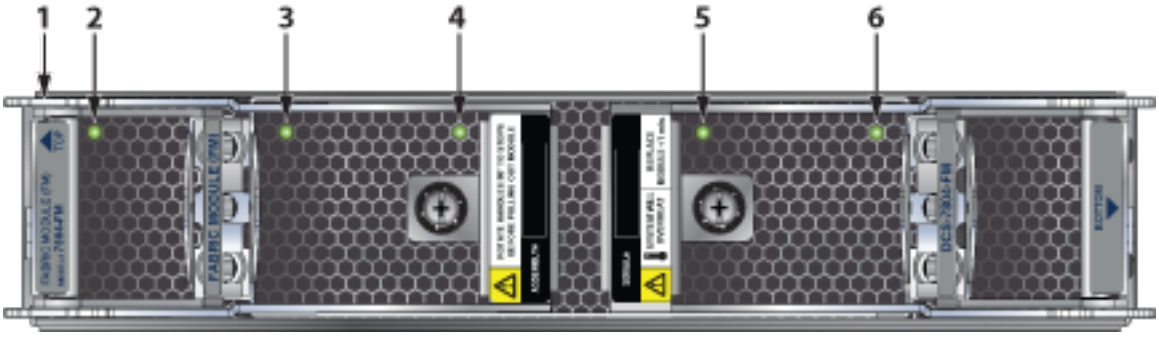
LED State	Status
Off	Port link is down for all enabled interfaces.
Green	Port link is up for any enabled interface.
Yellow (amber/orange)	Port is disabled in software.
Flashing yellow (amber/ orange)	Locator function is enabled on an interface.

A.3 Fabric Module Status Indicators

Fabric Status LEDs are on fan-fabric modules. Rear Panel displays the position of these modules on the rear of each switch. The following figure displays fan status and fabric status LEDs on the DCS-7804 switch. Figure 27: DCS-7808R3-FM and DCS-7816R3-FM Fabric Module and Fan Status LEDs displays fan status and fabric status LEDs on the DCS-7808 and DCS-7816 switches.

Note: The fabric modules are installed vertically in the chassis. They are shown horizontally in the following illustrations.

Figure 25: DCS-7804R3-FM Fabric Module and Fan Status LEDs



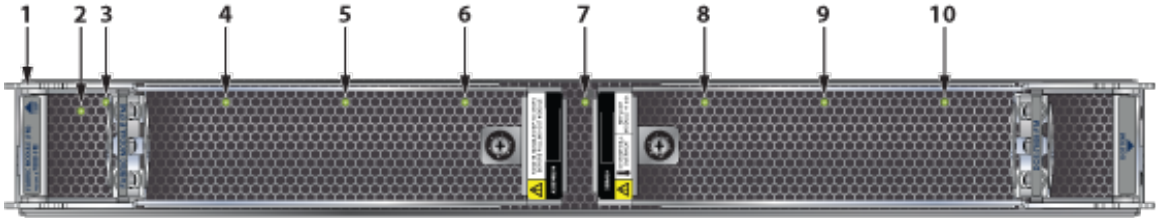
1 Fabric module top
2 Fan module 1 status LED
3 Fan module 2 status LED
4 Fan module 3 status LED
5 Fan module 4 status LED
6 Fan module 5 status LED

The following figure displays fan status and fabric status LEDs on the DCS-7812 switch.

Figure 26: DCS-7812R3-FM Fabric Module

1	Fabric module top	6	Fan module 4 status LED	11	Fan module 8 status LED
2	Fabric module status LED	7	Fan module 5 status LED	12	Fan module 9 status LED
3	Fan module 1 status LED	8	Fan module 6 status LED	13	Fan module 10 status LED
4	Fan module 2 status LED	9	Fabric module ejector lever	14	Fan module 11 status LED
5	Fan module 3 status LED	10	Fan module 7 status LED		

Figure 27: DCS-7808R3-FM and DCS-7816R3-FM Fabric Module and Fan Status LEDs



1	Fabric module top	5	Fan module 3 status LED	9	Fan module 7 status LED
2	Fabric module status LED	6	Fan module 4 status LED	10	Fan module 8 status LED
3	Fan module 1 status LED	7	Fan module 5 status LED		
4	Fan module 2 status LED	8	Fan module 6 status LED		

For the 7816 switch, the lower fabric module fan modules are numbered 9 through 16.

Note:

- DCS-7816R3-FM and DCS-7808R3-FM look similar. Check the label before populating the chassis
- For the DCS-7816 switch, the top and bottom fabric modules form one logical fabric module. Both physical modules in a logical pair power down if either loses power.
- The `show module` command lists the serial number (SN) of only the bottom-slot Fabric Module.

Fan Status and Fabric Status LEDs on Rear Panel interprets the states of the fan and fabric status LED.

Table 13: Fan Status and Fabric Status LEDs on Rear Panel

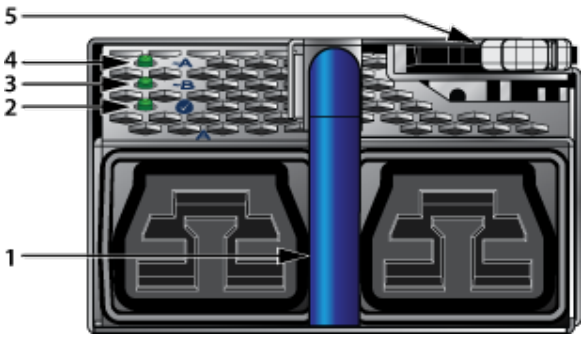
LED State	Status
Off	Module inserted, but status is unknown.
Green	Module operating normally.
Red	Module failed.

A.4 Power Supply Status Indicators

A.4.1 PWR-D1-3041-AC-BLUE

The power supply status LEDs are on the power supply modules. Figure 28: PWR-D1-3041-AC-BLUE Power Supplies displays all the LEDs on the PWR-D1-3041-AC-BLUE AC power supply.

Figure 28: PWR-D1-3041-AC-BLUE Power Supplies



1 Handle
2 Output
3 AC_B LED
4 AC_A LED
5 Release

Note: Handle color indicates airflow direction.

AC Power Supply Status LED States interprets the AC power supply setup for LED status indicators.

Table 14: AC Power Supply Status LED States

Power Supply Status	LED Name		
	AC_A	AC_B	Output
Normal Operation[1]	Green	Off	Green
No AC Input - Single PSU	Off	Off	Off
No AC Input - Parallel PSUs	Yellow	Yellow	Off
Standby Mode	Green	Off	Blinking Green[2]
AC_A Fail	Yellow	Green	Green
AC_B Fail	Green	Yellow	Green
Power Supply Fault	Green	Off	Yellow
Boot Loader	Off	Off	Blinking[3]

[1] AC_A is the primary input.

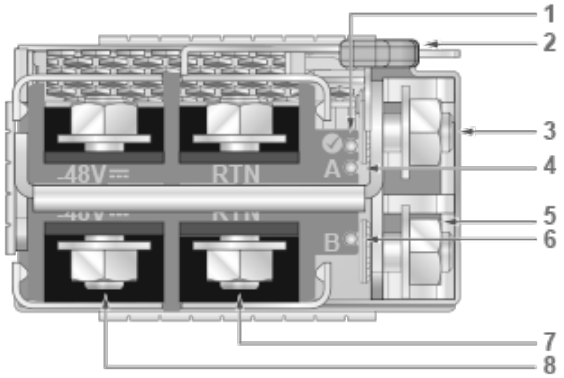
[2] 1 Hz, 50% Duty Cycle.

[3] 1 Hz, 50% Green, 50% Yellow.

A.4.2 PWR-D2-3041-DC-BLUE

The power supply status LEDs are on the power supply modules. Figure 29: PWR-D2-3041-DC-BLUE Power Supplies displays all the LEDs on the PWR-D2-3041-DC-BLUE DC power supply.

Figure 29: PWR-D2-3041-DC-BLUE Power Supplies



1 Status LED (Output)	4 Input_A LED	7 Battery return terminal
2 Release	5 Protective earth terminal	8 -48V terminal
3 GND terminal	6 Input_B LED	

Note: Release lever color indicates airflow direction.

DC Power Supply Status LED States interprets the DC power supply setup for LED status indicators.

Table 15: DC Power Supply Status LED States

Power Supply Status	LED Name		
	Input_A	**Input_B**	**Output**
Normal Operation	Green	Green	Green
No DC Input - Single PSU	Off	Off	Off
No DC Input - Parallel PSUs (Standby Mode 2)	Yellow	Yellow	Off
Standby Mode 1	Green	Green	Blinking Green[1]
Input_A Fail	Yellow	Green	Green
Input_B Fail	Green	Yellow	Green
Power Supply Fault	Green	Green	Yellow
Boot Loader	Off	Off	Blinking[2]

[1] 1 Hz, 50% Duty Cycle.

[2] 1 Hz, 50% Green, 50% Yellow.

[3] States can be combined.

Appendix B

Parts List

Each switch has an accessory kit that contains parts required to install the switch. The Table 16: Accessory Kits for the Modular Switches provides further details on the accessory kit for each switch.

Table 16: Accessory Kits for the Modular Switches

	DCS-7804	DCS-7808	DCS-7812	DCS-7816
Common Cables and Accessories (See Parts Used in All Rack Mount Configurations)	Included	Included	Included	Included
Four-post Rack Mount Kit (See Four-Post Rack Mount Parts)	Included	Included	Included	Included
Number of Power Cords Included	12	16	20	24
Lifting Kit	Not applicable	Not applicable	4x brackets 8x bolts	4x brackets 16x bolts

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

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

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。

The following sections in the chapter list the installation parts provided by the accessory kit in more detail:

- Parts Used in All Rack Mount Configurations
- Four-Post Rack Mount Parts

B.1 Parts Used in All Rack Mount Configurations

B.1.1 Cables

Table 17: Cables Provided in Accessory Kit

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

B.1.2 Getting-Started Booklet

One 2-page document.

B.2 Four-Post Rack Mount Parts

The following sections list the parts provided in the accessory kit for four-post rack mount installations.

Table 18: Four-Post Rack Mount Parts

Quantity	Description
1	Cradle assembly.
12	Rack mounting screws.
1	Template for rack mounting (used only for racks requiring mounting nuts)

Figure 30: Four-Post Rack Mount Parts

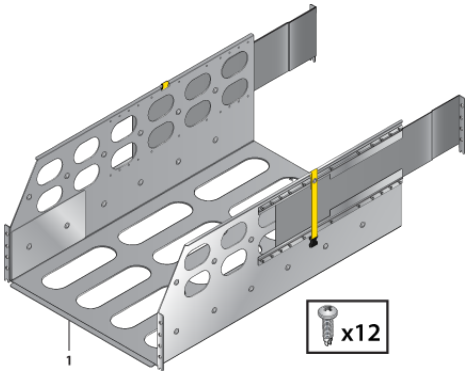
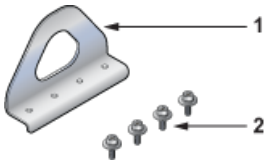


Figure 31: Lifting Bracket and Bolts (DCS-7812 and DCS-7816 only)



1 Lifting bracket

2 Bolts

Appendix C

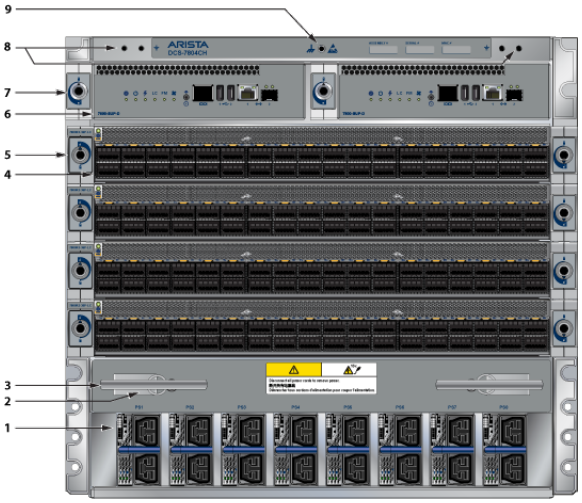
Front Panel

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

Note: Depending on the components used to populate the chassis, the appearance of a specific switch could be different.

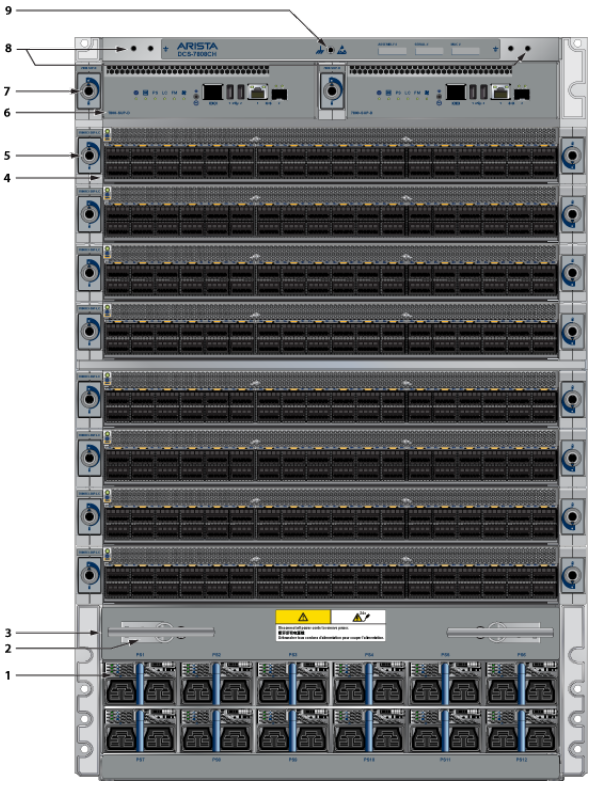
Note: All switches are designed to fit in 19-inch racks.

Figure 32: DCS-7804 Front Panel (Fully Populated)



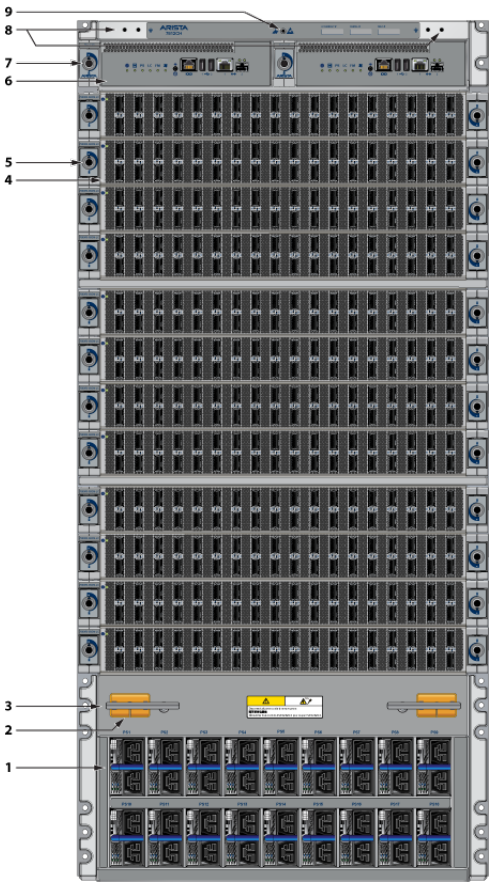
1	Power supplies	4	Line cards	7	Supervisor lock
2	Line card and Supervisor extraction tool tether	5	Line card lock	8	Grounding locations
3	Extraction tool	6	Supervisor modules	9	ESD attach point

Figure 33: DCS-7808 Front Panel (Fully Populated)



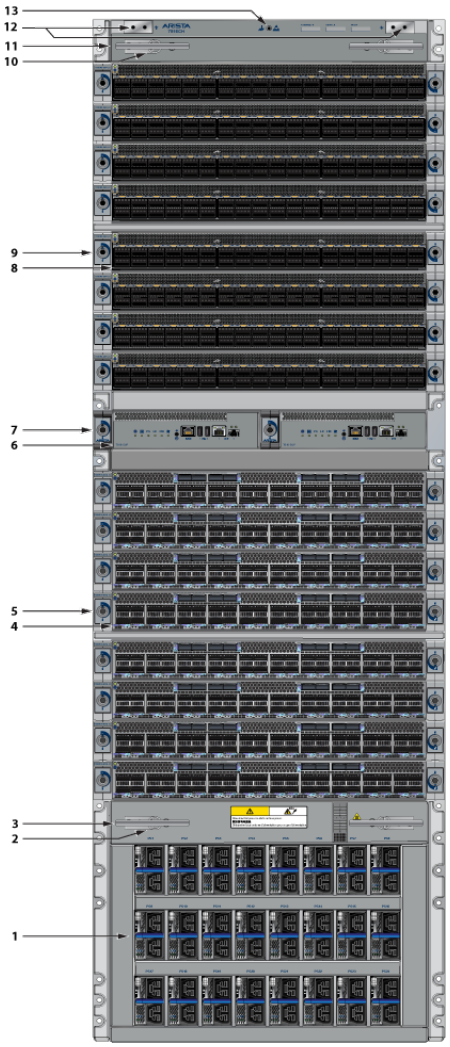
1 Power supplies	4 Line cards	7 Supervisor lock
2 Line card and Supervisor extraction tool tether	5 Line card lock	8 Grounding locations
3 Extraction tool	6 Supervisor modules	9 ESD attach point

Figure 34: DCS-7812 Front Panel (Fully Populated)



1	Power supplies	4	Line cards	7	Supervisor lock
2	Line card and Supervisor extraction tool tether	5	Line card lock	8	Grounding locations
3	Extraction tool	6	Supervisor modules	9	ESD attach point

Figure 35: DCS-7816 Front Panel (Fully Populated)



1	Power supplies	6	Supervisor modules	11	Extraction tool
2	Line card and Supervisor extraction tool tether	7	Supervisor lock	12	Grounding locations
3	Extraction tool	8	Line cards	13	ESD attach point
4	Line cards	9	Line card lock		
5	Line card lock	10	Line card and Supervisor extraction tool tether		

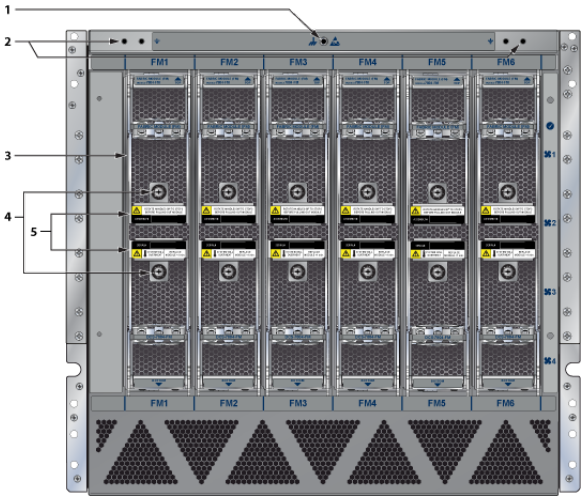
Appendix D

Rear Panel

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

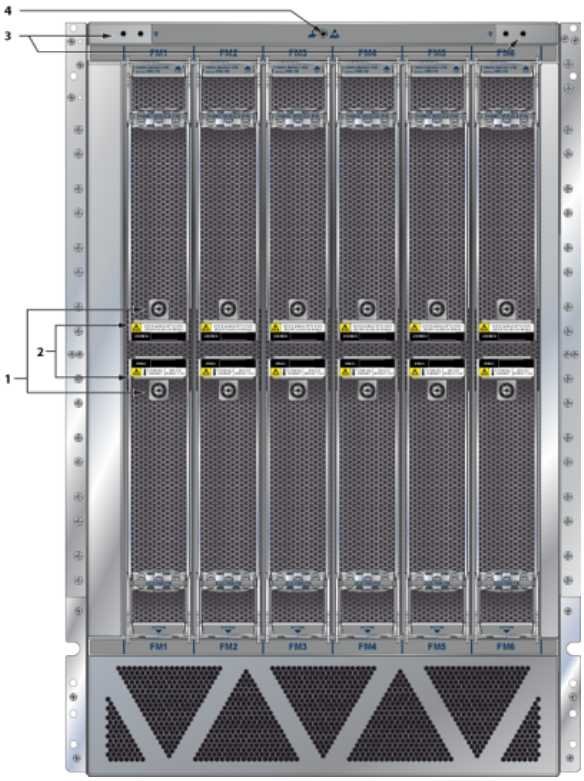
Note: Depending on the components used to populate the chassis, the appearance of a specific switch could be different.

Figure 36: DCS-7804 Rear Panel (Fully Populated)



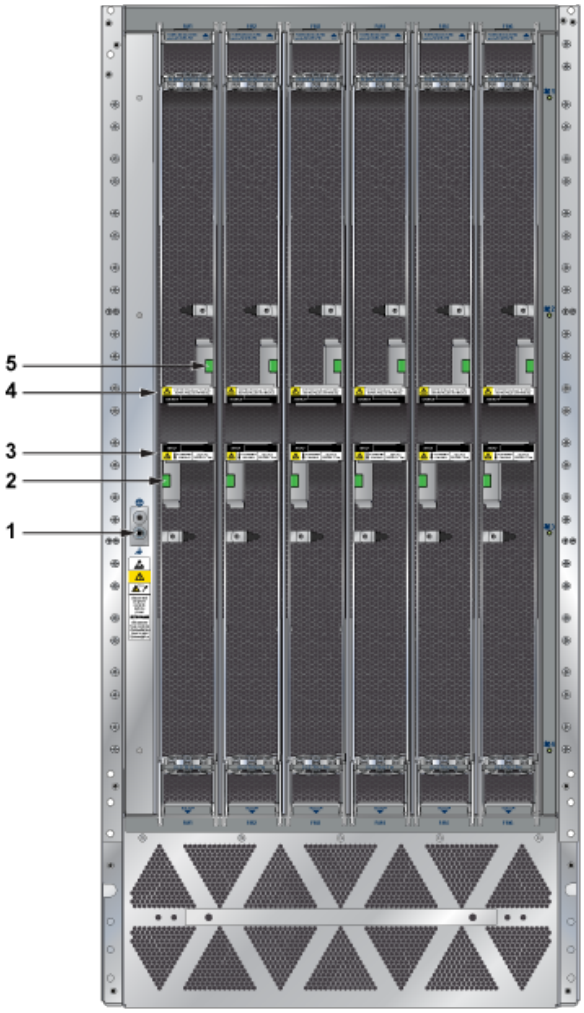
1 ESD attachment point
2 Chassis ground
3 Fabric modules
4 Fabric module screw
5 Fabric module ejector lever

Figure 37: DCS-7808 Rear Panel (Fully Populated)



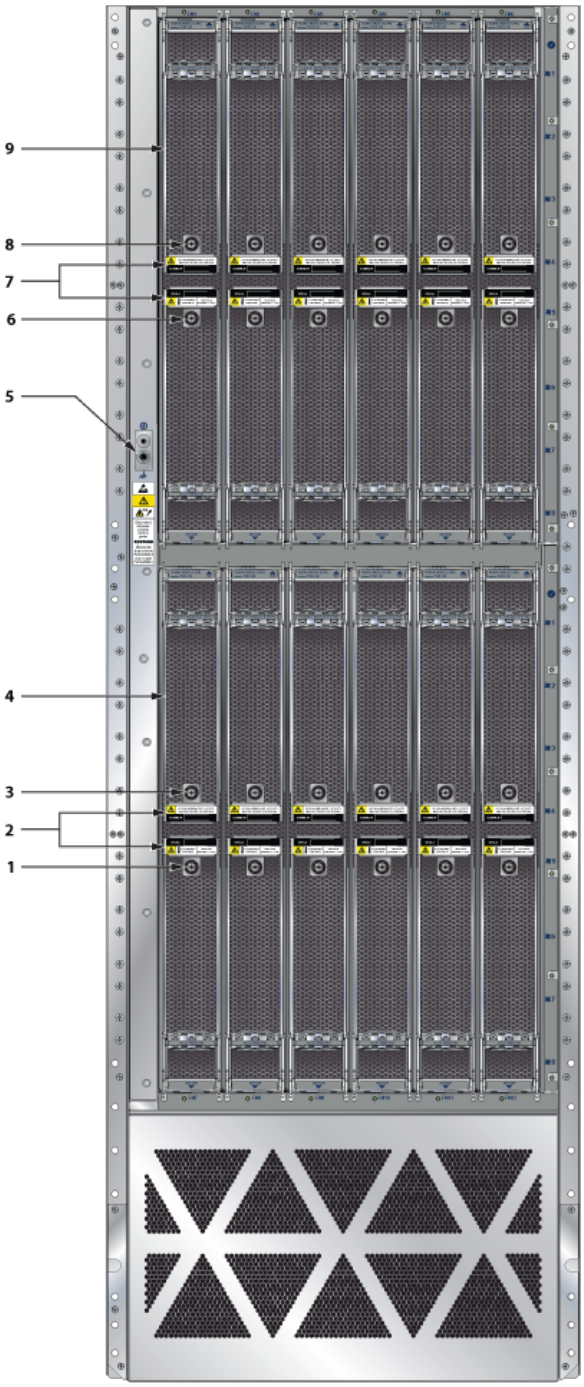
1 Fabric module screw
2 Fabric module ejector lever
3 Chassis ground
4 ESD attachment point

Figure 38: DCS-7812 Rear Panel (Fully Populated)



1 ESD attachment point
2 Fabric module release button
3 Fabric module ejector lever
4 Fabric module ejector lever
5 Fabric module release button

Figure 39: DCS-7816 Rear Panel (Fully Populated)



1 Fabric module screw
2 Fabric module ejector lever
3 Fabric module screw
4 Fabric module
5 ESD attachment point
6 Fabric module screw
7 Fabric module ejector lever
8 Fabric module screw
9 Fabric module

Appendix E

Line Cards

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

Figure 40: DCS-7800R3-48CQ, DCS-7800R3K-48CQ, DCS-7800R3-48CQM, DCS-7800R3-48CQ2, DCS-7800R3-48CQMS, and DCS-7800R3-48CQM2

1 Line card status LED
2 Port numbers
3 Port status LEDs

Figure 41: DCS-7800R3-36P

1 Line card status LED
2 Port numbers
3 Port status LEDs

Figure 42: DCS-7800R3-36D and DCS-7800R3K-36DM

1 Line card status LED
2 Port numbers
3 Port status LEDs

Appendix F

Maintenance and Field Replacement

This appendix describes the process for replacing switch components.

The following topics are covered in this section:

- Line Card and Supervisor Extraction Tools
- Power Supplies
- Fabric and Fan Module (Fabric Module)
- Fan Module (within Fabric Module)
- Supervisor Module
- Line Cards

You must ensure that at least one of the secondary grounding pads located on the front panel of the chassis is connected to the data center ground. While working on the switches, use grounded, anti-static wrist straps connected to one of the attach points on the switch for grounding yourself and preventing ESD damage to the switch.

Note: Illustrations in this appendix are examples for a representative switch and component(s). Procedures must be applied to component(s) supported by the specific device. You must use component(s) and the appropriate slots for those component(s) when replacing or adding them.

Inspect the connectors for damage prior to installing components into the chassis.

F.1 Line Card and Supervisor Extraction Tools

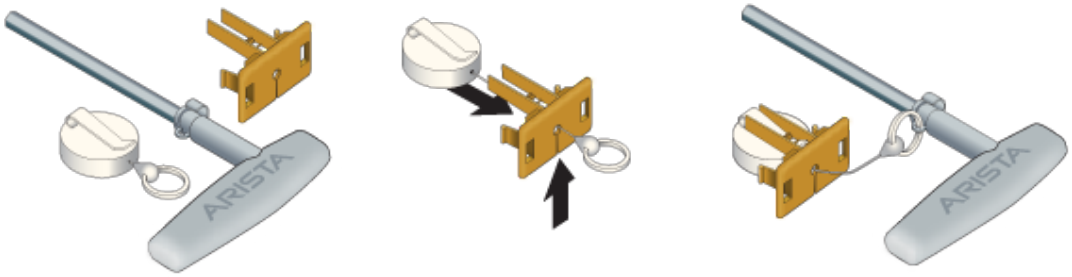
Extraction tools are provided for removing and inserting line cards and supervisor modules into the chassis. Assemble and tether these to the chassis.

Note: Front Panel shows the locations for tethering and storing the extraction tools.

F.1.1 Assembling and Storing the Extraction Tools

The extraction tools come with a lanyard and tethering plug as shown in Figure 43: Linecard and Supervisor Module Extraction Tool and Tether Assembly.

Figure 43: Linecard and Supervisor Module Extraction Tool and Tether Assembly



Use the following steps to attach the tethering mechanism to the extraction tool.

1. Extend and slip the lanyard thread through the slot in the plastic tether.
2. Attach the ring to the extraction tool.
3. Plug the plastic tether into one of the slots (Figure 32: DCS-7804 Front Panel (Fully Populated)).
4. Repeat for the other tools as appropriate.

F.2 Power Supplies

The switches support AC or DC Power supplies. The switches ship with a number of populated slots depending on the switch model. Empty slots are covered with a blank. For adding a new power supply in one of the available slots, remove the blank covering the slot before inserting a new power supply.The following steps are required for ESD protection when adding or replacing power supplies.

Note: Front Panel shows the locations of power supplies for your device.

1. Connect at least one of the chassis grounding pads located on the front and rear panels of the chassis to the data center ground as needed to ensure that the switch is grounded.
2. Put on an anti-static ESD wrist strap and connect it to one of the attach points on the switch.
3. Remove the power supply to be replaced (Removing AC Power Supply, Removing DC Power Supply) or the blank for the slot (Removing Power Supply Blank) in which the new power supply is to be added.

F.2.1 Removing AC Power Supply

Perform the following steps to remove an AC power supply.

1. Put on a grounded, anti-static ESD strap.
2. Unplug the cable(s) by squeezing the cable release. Up to two cables could be powering each PSU.
3. Squeeze the latch release.
4. Remove the power supply from the switch using the power supply latch release and handle.

F.2.2 Installing AC Power Supply

You must make space for installing the power supply by removing an existing one (Removing AC Power Supply, Removing DC Power Supply) or removing a blank (Removing Power Supply Blank) from a power supply slot available on the switch.

Perform the following steps to install an AC power supply:

1. Put on a grounded, anti-static ESD strap.
2. Unpack the new power supply.
3. Insert the new power supply into the empty power supply slot.
4. After you insert the power supply, push gently on the power supply until the power supply is fully seated.
5. Connect the power cord(s) to the power supply. Up to two cables can power each PSU.
6. Connect to the power source.
7. Verify normal operation using the LED indicators for your switch Table 14: AC Power Supply Status LED States.

F.2.3 Removing DC Power Supply

- Ensure power is removed from DC circuits by turning off the power line servicing the circuits.
- Make sure to remove the ground connection *last* when removing power.

1. Put on a grounded, anti-static ESD strap.
2. Disconnect the power cable from the DC power source.
3. Squeeze the latch release.
4. Remove the power supply from the switch using the power supply latch release and handle.
5. Remove each power cable lug to the terminal studs with the flange locking nuts.
6. Remove the flange locking nuts to each of the terminal studs.
7. Disconnect the power cable lug from the terminal studs.

F.2.4 Installing DC Power Supply

You must make space for installing the power supply by removing an existing one (Removing AC Power Supply, Removing DC Power Supply) or removing a blank (Removing Power Supply Blank) from a power supply slot available on the switch.

Perform the following steps to install a DC power supply.

1. Put on a grounded ESD strap.
2. Unpack the new power supply.
3. Connect the cables for your power supply as explained in the guide (Cabling the Modular Switch).
4. Insert the new power supply into the empty power supply slot.
5. After you insert the power supply, push gently on the power supply until the power supply is fully seated.
6. Connect to the power source.
7. Verify normal operation using the LED indicators for your switch Table 15: DC Power Supply Status LED States.

F.2.5 Removing Power Supply Blank

The power supply blank is held in place by friction.

1. Put on a grounded, anti-static ESD strap.
2. Remove the blank from the power supply slot you are going to populate.

Note: You may want to save the blank for future use as needed. The blank is needed for the switch to operate normally if a power supply slot is not populated.

F.3 Fabric and Fan Module (Fabric Module)

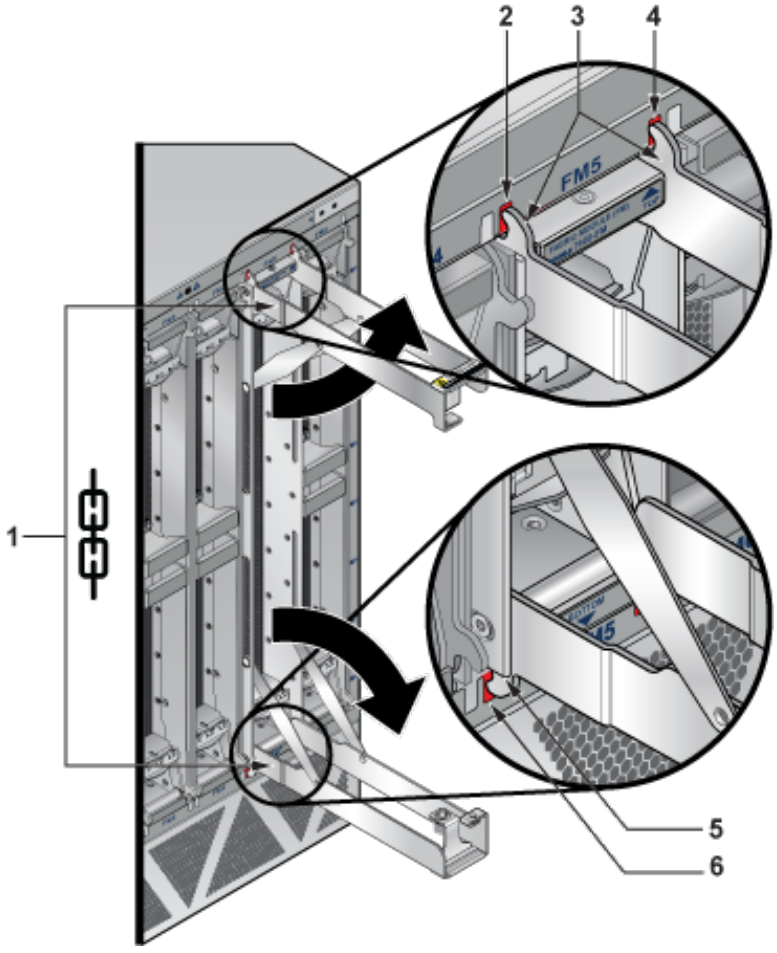
The fabric and fan modules are hot-swappable. They are accessible from the rear of the switch (Rear Panel). You must take into account that the module you are inserting is compatible with the switch and the module that you are replacing. Perform the following steps to remove and replace a fabric and fan module, or a fan-only module, if your switch supports one.

Note: The DCS-7816 switch has twelve fabric modules, each of half height.

F.3.1 Removing Fabric Module

1. Put on a grounded, anti-static ESD strap.
2. Loosen the two Phillips screws on fabric module.

   Note: The DCS-7812R3-FM fabric module has green latch release buttons. Use these instead.
3. Pull out the ejector levers on the fabric module.



1 Fabric module ejector levers
2 Claw position on chassis
3 Fabric module ejector claws
4 Claw position on chassis
5 Fabric module ejector claw
6 Claw position on chassis

4. Pull the ejector handles outwards by 90 degrees to disengage the fabric module.
5. Pull on the ejector handles to remove the fabric module from the slot.

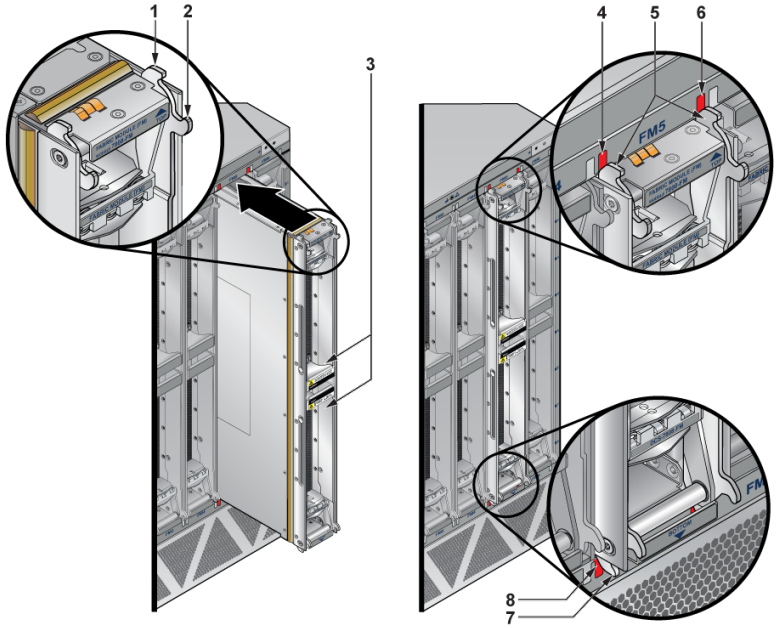
Note: Fabric modules can be heavier than 25 lbs. Provide adequate support while handling them to prevent injury or damage.

F.3.2 Installing Fabric Module

You must make space for installing the module by removing an existing one (Removing Fabric Module) from a fabric module slot available on the switch.

Perform the following steps to install the module:

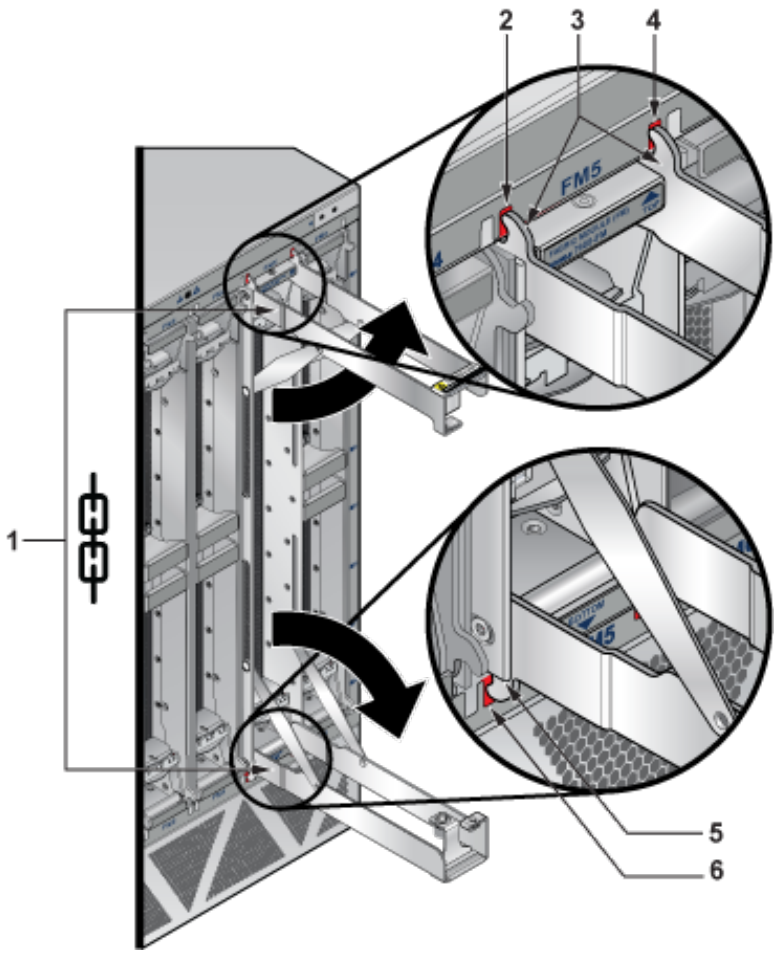
1. Put on a grounded, anti-static ESD strap.
2. Unpack the module to be installed.
3. Slide the module into the open slot until the injector claw is touching the rear face of the chassis.



1 Fabric module top right injector claw	4 Claw position on chassis	7 Fabric module bottom left injector claw
2 Fabric module top right ejector claw	5 Fabric module top injector claws	8 Claw position on chassis
3 Fabric module ejector levers	6 Claw position on chassis	

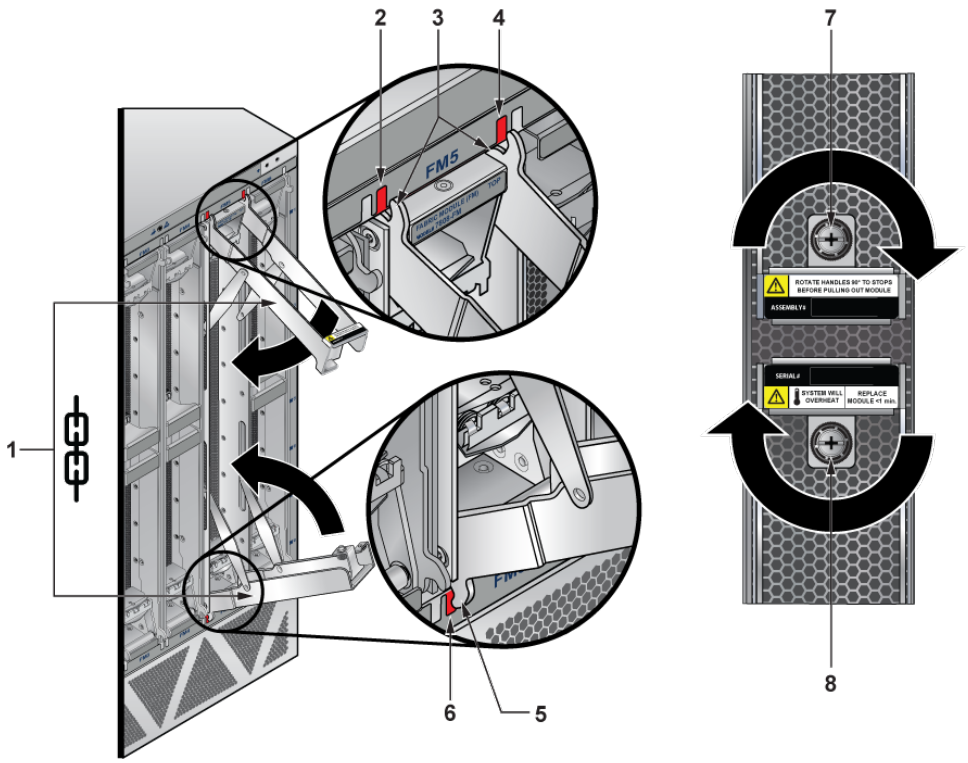
4. Fully open the ejector levers at 90 degrees and seat the module.

Note: The ejector claws should be touching the rear face of the chassis.



1 Fabric module ejector levers
2 Claw position on chassis
3 Fabric module seating claws
4 Claw position on chassis
5 Fabric module seating claw
6 Claw position on chassis

5. Close the ejector levers in unison.



CAUTION: Ensure that the claws engage correctly on the chassis.

1	Fabric module ejector levers	4	Claw position on chassis	7	Screw
2	Claw position on chassis	5	Fabric module ejector claw	8	Screw
3	Fabric module ejector claws	6	Claw position on chassis		

6. Screw in the two Phillips screws using a PH3 driver on a battery operated screwdriver with torque set between 16 and 18 in-lbs.

   Note: The DCS-7812 does not require screws.The green latch release buttons will pop out when the fabric module is seated.

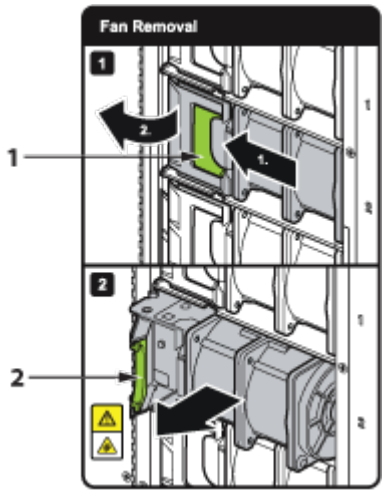
7. Verify that the module is operating normally (Table 13: Fan Status and Fabric Status LEDs on Rear Panel).
8. Use the show environment cooling command to further verify normal operation.

F.4 Fan Module (within Fabric Module)

The fabric and fan modules are hot-swappable. They are accessible from the rear of the switch (Rear Panel). You must take into account that the module you are inserting is compatible with the switch and the module that you are replacing. Perform the following steps to remove and replace a fan module which is part of the fabric module.

1. Remove the fabric module with the fan to be replaced (Removing Fabric Module).
2. Place the fabric module on a flat work surface. A cart or table designated for such tasks is typically appropriate.
3. Locate the failed fan and
   a. Push the green latch then
   b. Rotate the fan lever to the open position.

Note: See figure below.



1 Release latch

2 Fan lever

4. Lift the fan straight up and out of the fabric module.
5. Insert the replacement fan straight down and into the fabric module.
6. Rotate the fan lever to the closed position.
7. Ensure that the green latch has securely slid into the latched and locked position.
8. Reinstall the fabric module into the chassis (Installing Fabric Module).

Note: The DCS-7816 switch has twelve fabric modules, each of half height, and currently does not have a label to depict fan removal.

F.5 Supervisor Module

The supervisor modules are hot-swappable. They are accessible from the front of the switch. You must take into account that the module you are inserting is compatible with the switch and the module that you are replacing. Use the following procedure to remove and replace a supervisor module. For the supervisor module locations for your device, refer to Front Panel.

F.5.1 Removing Supervisor Module

Perform the following steps to remove the module.

1. Put on a grounded ESD strap.
2. Use the extraction tool supplied (Front Panel) to unlock the supervisor card.
3. Pull the supervisor module out.
4. Slide supervisor module out of the slot.

F.5.2 Installing Supervisor Module

You must make space for installing the module by removing an existing one (Removing Supervisor Module) or removing a blank (Removing Supervisor Module Blank) from a supervisor module slot available on the switch.

Perform the following steps to install the module:

1. Put on a grounded, anti-static ESD strap.
2. Unpack the supervisor module to be installed.

3. Slide supervisor module into slot.
4. Lock the supervisor module in place using the tool supplied (Front Panel).
5. Verify that the module is operating normally (Table 10: Supervisor Status LED States).

F.5.3 Removing Supervisor Module Blank

The supervisor module blank has plastic latches.

1. Put on a grounded, anti-static ESD strap.
2. Grip the plastic handles to release the latch and remove the blank from the supervisor module slot you are going to populate.

   You may want to save the blank for future use as needed. The blank is needed for the switch to operate normally if a supervisor module slot is not populated.

F.6 Line Cards

The line cards are hot-swappable. They are accessible from the front of the switch. You must take into account that the line card you are inserting is compatible with the switch and the line card that you are replacing. Use the following procedure to remove and replace a line card. If you are adding a new line card, remove the blank from the line card slot and install the new line card. For the line card locations on your switch, refer to Front Panel.

F.6.1 Removing Line Card

Perform the following steps to remove a line card:

1. Put on a grounded, anti-static ESD strap.
2. Use the tools supplied (Front Panel) simultaneously on each end of the line card.
3. Pull the line card out gently once released.
4. Slide line card out of the slot.

F.6.2 Installing Line Card

You must make space for installing the linecard by removing an existing one (Removing Line Card) or removing a blank (Removing Line Card Blank) from a linecard slot available on the switch.

1. Put on a grounded, anti-static ESD strap.
2. Unpack the line card to be installed.
3. Slide the line card into the slot.
4. Use the tools supplied (Front Panel) simultaneously on each end of the line card to lock it in place.
5. Verify that the line card is operating normally (Line Card Module Indicators).

F.6.3 Removing Line Card Blank

Perform the following steps to remove line card blank:

1. Put on a grounded, anti-static ESD strap.
2. Grip the plastic handles to release the latch and remove the blank from the line card slot you are going to populate.

   The line card blank has plastic latches. You may want to save the blank for future use as needed. The blank is needed for the switch to operate normally if a line card slot is not populated.

Appendix G

Regulatory Model Numbers

This appendix lists the Regulatory Model Numbers (RMNs), where applicable, for the product models for the switches described in this document.

Table 19: Regulatory Model Numbers and Product Numbers

Regulatory Model Number (RMN)	Product Number(s)
7804	7804
7808	7808
7812	7812
7816	7816

Appendix H

Taiwan RoHS Information

This appendix provides Taiwan RoHS information for switches covered by this guide.

For Taiwan BSMI RoHS Table, go to https://www.arista.com/assets/data/pdf/AristaBSMIRoHS.pdf.