



Catalyst 6503 Switch Installation Note

Product Number: WS-C6503(=)

This publication contains the procedures for installing the Catalyst 6503 switch.



Note

For the latest Catalyst 6500 series switch and Cisco 7600 series Internet Router software release notes, including caveats and updates, refer to the release notes for the latest maintenance release in your software release. You can access release notes at the World Wide Web locations listed in the “Obtaining Documentation” section

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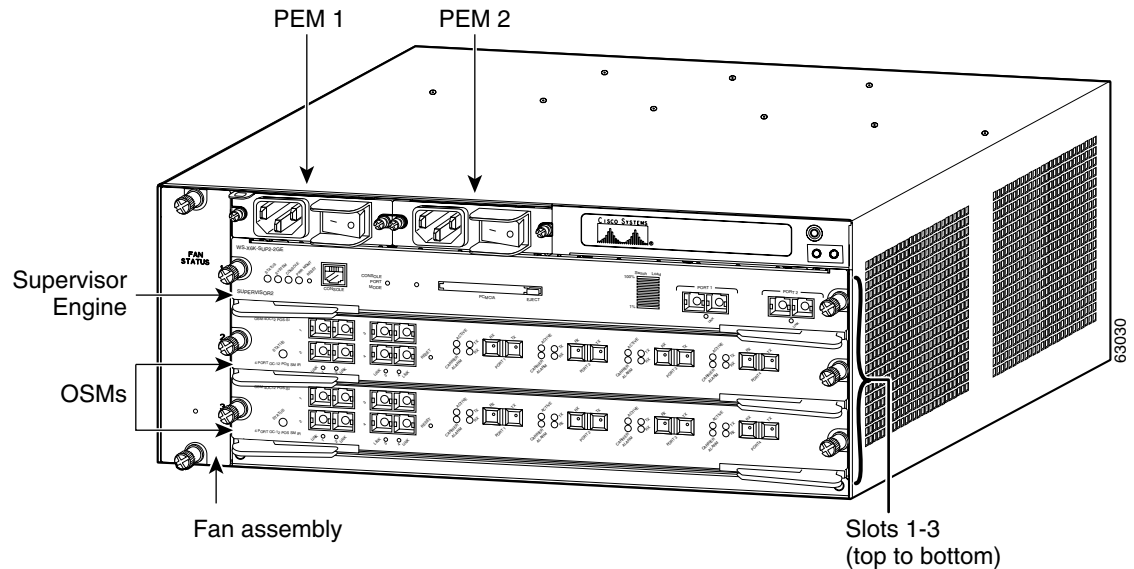
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Overview

The Catalyst 6503 switch chassis has three horizontal slots that are numbered from top to bottom. (See [Figure 1](#).)

Figure 1 Catalyst 6503 Switch – Front View



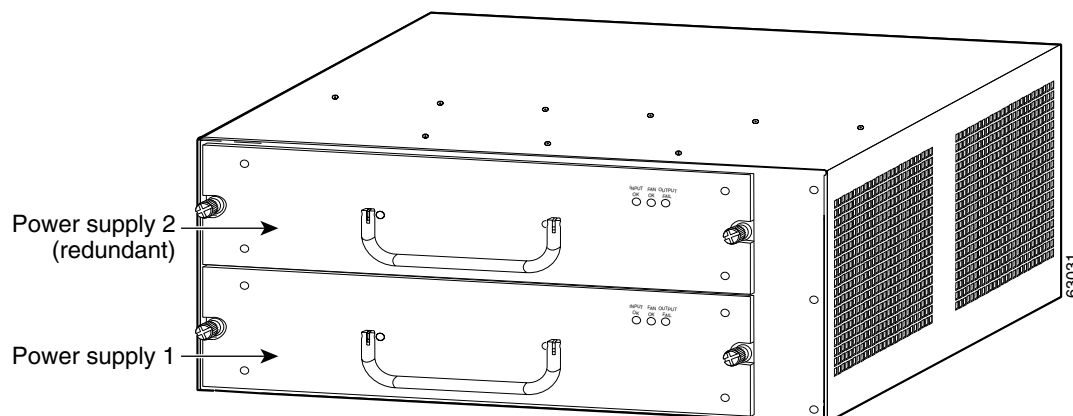
Slot 1 is reserved for the supervisor engine, which provides switching, local and remote management, and multiple gigabit uplink interfaces.

Slot 2 can contain an additional redundant supervisor engine, which can act as a backup if the first supervisor engine fails. If a redundant supervisor engine is not required, slot 2 is available for an OSM or other supported Catalyst 6500 series modules.

For a detailed description of supervisor engine operation in a redundant configuration, refer to the *Catalyst 6500 Series Software Configuration Guide*.

The power supplies are installed from the rear of the chassis. A maximum of two 950W power supplies can be installed. (See [Figure 2](#).)

Figure 2 Catalyst 6503 Switch – Rear View



The Catalyst 6503 switch supports the following:

- A supervisor engine with two gigabit Ethernet interface uplinks and an optional redundant supervisor engine, in one of the following configurations:
 - Supervisor Engine 1A with Multilayer Switch Feature Card 2 (MSFC2) and Policy Feature Card (PFC)
 - Supervisor Engine 2 with MSFC2 and PFC2



Note The uplink ports are fully functional on the redundant supervisor engine in standby mode.



Note Both supervisor engines in a single chassis must have identical configurations.

- Up to two additional Catalyst 6500 series modules



Note OSMs are not supported in the Catalyst 6503 switch with a Supervisor Engine 1A.



Note The Switch Fabric Module is not supported on the Catalyst 6503 switch.

- Hot-swappable fan assembly
- Redundant AC-input or DC-input 950W power supplies

Bandwidth and Port Density

Table 1 lists the bandwidth and port densities of the Catalyst 6503 switch.

Table 1 Catalyst 6503 Switch Bandwidth and Port Density

Architecture	Catalyst 6503 Switch
Backplane Bandwidth	32 Gbps
Number of Gigabit Ethernet ports	34
Number of OC-3 POS ports	32
Number of OC-12 POS ports	8
Number of OC-48 POS ports	2
Number of OC-12 ATM ports	4
Number of channelized OC-12 ports	8
Number of channelized OC-48 ports	2
Number of FlexWAN modules	2

Specifications

The Catalyst 6503 switch specifications are provided in Table 2.

Table 2 Catalyst 6503 Switch Specifications

Item	Specification
Environmental	
Temperature, ambient operating	32°F (0°C) to 104°F (40°C)
Temperature, ambient nonoperating and storage	−40°F (−40°C) to 158°F (70°C)
Humidity (RH), ambient (noncondensing) operating	10% to 90%
Humidity (RH), ambient (noncondensing) nonoperating and storage	5% to 95%
Altitude, operating	Sea level to 6500 feet (2000 m)
Physical Characteristics	
Dimensions (H x W x D)	7 x 17.37 x 21.75 inches (17.78 x 44.12 x 55.25 cm). Chassis requires 4 RU ¹ .
Weight	Chassis only: 28.5 lb (12.93 kg) Chassis fully configured with 1 supervisor engine, 2 modules, 2 AC-input PEMs, and 2 AC-input power supplies: 83 lb (37.65 kg)

Table 2 Catalyst 6503 Switch Specifications (continued)

Item	Specification
Power Supply	950W AC- or DC-input power supply. An optional second power supply can be installed in the chassis.
Airflow	200 lfm ² through system fan assembly

1. RU = rack units
2. lfm = linear feet per minute

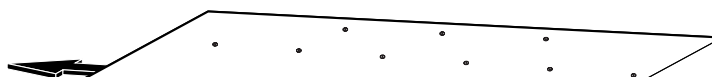
Chassis Components

This section describes the major hardware components for the Catalyst 6503 switch:

- [Fan Assembly, page 5](#)
- [Power Supplies, page 6](#)
- [Power Entry Module \(PEM\), page 8](#)

Fan Assembly

The system fan assembly, located in the chassis, provides cooling air for the supervisor engine and the switching modules. [Figure 3](#) shows the direction of airflow into and out of the switch. Sensors on the supervisor engine monitor the internal air temperatures. If the air temperature exceeds a preset threshold, the environmental monitor displays warning messages.

Figure 3 Chassis Internal Airflow

If an individual fan within the assembly fails, the FAN STATUS LED turns red.

**Note**

Refer to the *Catalyst 6500 Series Software Configuration Guide* for information on environmental monitoring.

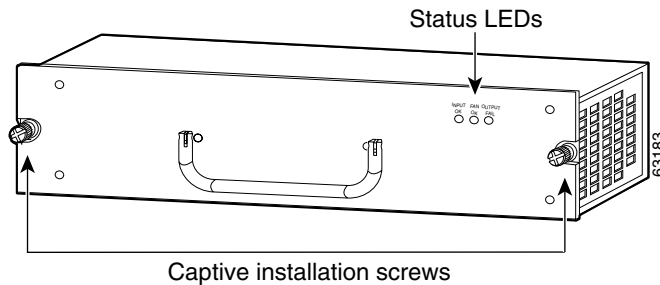
Power Supplies

The Catalyst 6503 switch supports either the 950W AC-input or 950W DC-input power supply (PWR-950-AC or PWR-950-DC).

The Catalyst 6503 supports redundant AC-input and DC-input power supplies.

The power supply (see [Figure 4](#)) has no external connectors but uses a power entry module (PEM), located on the front of the chassis, to connect the site power source to the power supply. For more information on the PEM, see the [“Power Entry Module \(PEM\)” section on page 8](#).

Figure 4 950W Power Supply



Both the AC-input and DC-input power supplies support redundancy. When power is removed from one supply, the redundant power feature causes the second supply to produce full power.

For complete power supply specifications, see [Table 3](#).

Table 3 950W Power Supply Specifications

Item	Specification
AC-input type	Autoranging input with power factor corrector
AC-input voltage	100 to 240 VAC ($\pm 10\%$ for full range)
AC-input current	15A
AC-input frequency	50/60 Hz (nominal)
Power supply output capacity	950W maximum (100–240 VAC)
DC-input voltage	-48 VDC to -60 VDC continuous
DC-input current	38A @ -48 VDC, 30A @ -60 VDC
Power supply output (AC supply)	+1.5V @ 15A, +3.3V @ 2.5A, +50V @ 19.15A
Power supply output (DC supply)	+1.5V @ 15A, +3.3V @ 2.5A, +50V @ 19.15A
Output holdup time	20 ms minimum (AC-input power supply) 4 ms (DC-input power supply)

Load Sharing

When you install and turn on two power supplies, each of the power supplies provides approximately half of the total amount of power required to operate the system. If one power supply fails, the second power supply immediately assumes full power to maintain uninterrupted system operation. Installing the second power supply automatically enables load sharing and fault tolerance; no software configuration is required.

**Note**

For proper load-sharing operation in a redundant power supply configuration, you must install two modules in the chassis. If you fail to install two modules, you might receive spurious OUTPUT FAIL indications on the power supply.

For information about the power management feature and individual module power consumption, refer to the *Catalyst 6500 Series Software Configuration Guide*.

Environmental Monitoring of the Power Supply

The environmental monitoring and reporting functions allow you to maintain normal system operation by resolving adverse environmental conditions prior to loss of operation.

The power supplies monitor their own internal temperature and voltages, and in the event of excessive internal temperature, the power supply will shut down to prevent damage. When the power supply returns to a safe operating temperature, it will restart. In the event of an abnormal voltage on one or more outputs of the power supplies, the OUTPUT FAIL LED will light. Substantial overvoltage conditions can lead to a power supply shutdown.

The power supply front panel LEDs are described in [Table 4](#).

For more information about the environmental monitoring feature, refer to the *Catalyst 6500 Series Software Configuration Guide*.

Table 4 Power Supply Front Panel LEDs

LED	Description
INPUT OK	AC-input power supplies: <ul style="list-style-type: none"> Green when the input voltage is OK (85 VAC or greater) Off when the input voltage falls below 70 VAC or if the power supply shuts down DC-input power supplies: <ul style="list-style-type: none"> Green when the input voltage is OK (–40.5 VDC or greater) Off when the input voltage falls below –33 VDC or if the power supply shuts down
FAN OK	Green when the power supply fan is operating properly
OUTPUT FAIL	Red when there is a problem with one or more of the DC-output voltages of the power supply

Power Supply Cooling

Each power supply has a built-in fan; air enters from the right of the fan and exits through the left. The Catalyst 6503 power supplies are self cooling to 77°F (25°C) but require additional airflow provided by the system fan module to operate over the full temperature range.

Power Entry Module (PEM)

The AC-input PEM (shown in [Figure 5](#)) and the DC-input PEM (shown in [Figure 6](#)) provide input power connections on the front of the switch chassis to connect the site power source to the power supply. In addition to providing an input power connection, each PEM also has an illuminated power switch (AC-input only), current protection, surge and EMI suppression, and filtering functions.

Figure 5 AC-Input PEM

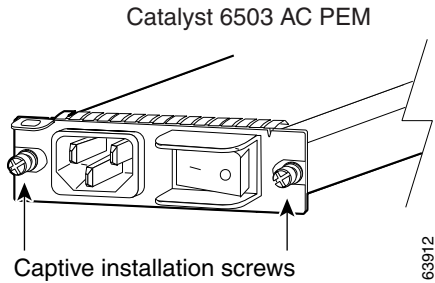
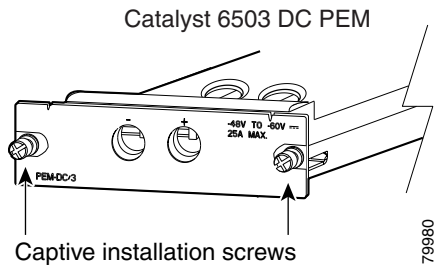


Figure 6 DC-Input PEM



Safety Overview

Safety warnings appear throughout this publication in procedures that, if performed incorrectly, may cause harm to you. A warning symbol precedes each warning statement.



Warning

This warning symbol means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information* document that accompanied this device.

Waarschuwing	Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het document <i>Regulatory Compliance and Safety Information</i> (Informatie over naleving van veiligheids- en andere voorschriften) raadplegen dat bij dit toestel is ingesloten.
Varoitus	Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä julkaisussa esiintyvien varoitusten käännökset löydät laitteen mukana olevasta <i>Regulatory Compliance and Safety Information</i> -kirjasesta (määräysten noudattaminen ja tietoa turvallisuudesta).
Attention	Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez le document <i>Regulatory Compliance and Safety Information</i> (Conformité aux règlements et consignes de sécurité) qui accompagne cet appareil.
Warnung	Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Dokument <i>Regulatory Compliance and Safety Information</i> (Informationen zu behördlichen Vorschriften und Sicherheit), das zusammen mit diesem Gerät geliefert wurde.
Avvertenza	Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nel documento <i>Regulatory Compliance and Safety Information</i> (Conformità alle norme e informazioni sulla sicurezza) che accompagna questo dispositivo.
Advarsel	Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i dokumentet <i>Regulatory Compliance and Safety Information</i> (Overholdelse av forskrifter og sikkerhetsinformasjon) som ble levert med denne enheten.

Aviso Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Para ver as traduções dos avisos que constam desta publicação, consulte o documento *Regulatory Compliance and Safety Information* (Informação de Segurança e Disposições Reguladoras) que acompanha este dispositivo.

¡Advertencia! Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. Para ver una traducción de las advertencias que aparecen en esta publicación, consultar el documento titulado *Regulatory Compliance and Safety Information* (Información sobre seguridad y conformidad con las disposiciones reglamentarias) que se acompaña con este dispositivo.

Varning! Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. Se förklaringar av de varningar som förkommer i denna publikation i dokumentet *Regulatory Compliance and Safety Information* (Efterrättelse av föreskrifter och säkerhetsinformation), vilket medföljer denna anordning.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

Preparing to Install the Switch

This section includes guidelines that you need to follow before installing the switch.

Rack Dimension and Clearance Guidelines

Before installing the chassis, ensure that the equipment rack complies with these guidelines:

- The width of the rack, measured between the two front mounting strips, must be 17.75 inches (45.09 cm).
- The depth of the rack, measured between the front and rear mounting strips, must be at least 19.25 inches (48.9 cm) but not more than 32 inches (81.3 cm).
- The rack must have at least 7 inches (17.8 cm) (4 RU) of vertical clearance to insert the chassis. Chassis height is measured in rack units (RU).

**Caution**

If the rack is on wheels, ensure that the brakes are engaged or that the rack is otherwise stabilized.

The installation hardware is not suitable for use with racks with obstructions (such as power strips) that could impair access to field-replaceable units (FRUs).

Power Connection Guidelines

This section provides important guidelines for connecting the Catalyst 6503 AC-input and DC-input power supplies to the site power source. Follow these guidelines when preparing your site for the installation:

- The redundant power option provides a second, identical power supply to ensure that power to the chassis continues uninterrupted if one of the power supplies fails or input power on one line fails.
- In systems configured with the redundant power option, connect each of the two power supplies to a separate input power source. If you fail to do this, your system might be susceptible to total power failure due to a fault in the external wiring or a tripped circuit breaker.
- To prevent a loss of input power, be sure that the total maximum load on each circuit that supplies the power is within the current ratings of the wiring and breakers.
- In some systems, you might use an uninterruptible power supply (UPS) to protect against power failures at your site. Avoid UPS types that use ferroresonant technology. These UPS types can become unstable with systems like the Catalyst 6503 switch, which can have substantial current draw fluctuations due to bursty data traffic patterns.

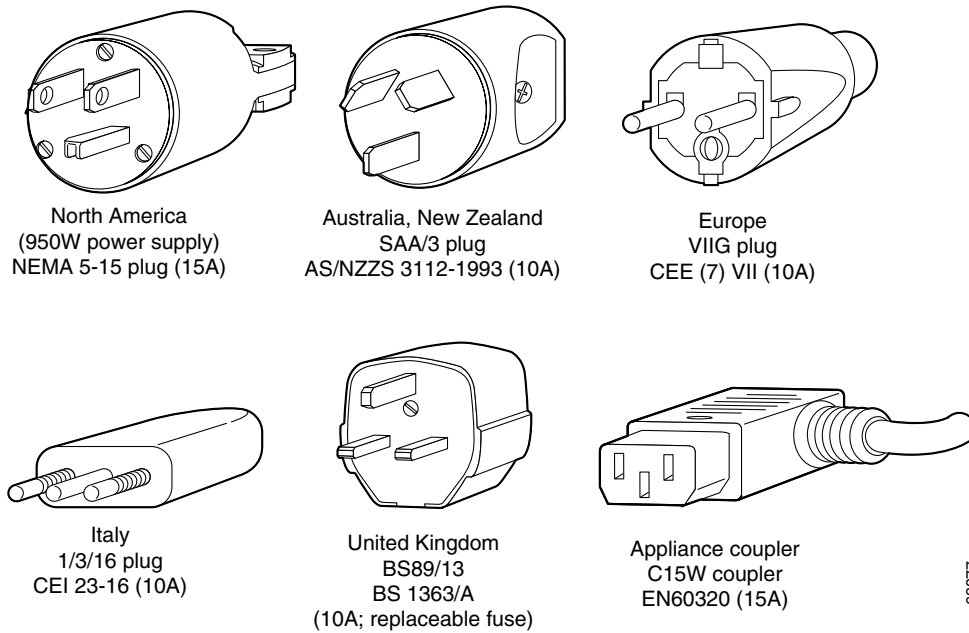
AC-Input Systems

Basic guidelines for AC-input systems include the following:

- Each chassis power supply should have its own dedicated branch circuit.
- The circuit must be protected by a dedicated two-pole circuit breaker. For North America, the circuit breaker should be rated 15A for the 950W power supply. For everywhere else, the circuit breaker should be sized according to the power supply input rating and local or national code requirements.
- The source AC outlet must be within 6 feet (1.8 meters) of the system and should be easily accessible.
- The AC power receptacles used to plug in the chassis must be the grounding type. The grounding conductors that connect to the receptacles should connect to protective earth ground at the service equipment.

[Figure 7](#) shows the different styles of power cord plugs that are available for North America or various international locales for the 950W power supply. [Table 5](#) lists the AC-input power cord options and Cisco product numbers.

Figure 7 AC Power Cord Plugs and Appliance Coupler for the 950W Power Supply



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Table 5 AC-Input Power Cord Options

Locale	Description	Product Number
950W Power Supply (PWR-950-AC=)		
North America	14 AWG, 15A/125V	CAB-AC15A-90L-US(=)
Europe	1 mm, 10A/250V	CAB-AC10A-90L-EU(=)
United Kingdom	1 mm, 10A/250V	CAB-AC10A-90L-UK(=)
Italy	1 mm, 10A/250V	CAB-AC10A-90L-IT(=)
Australia	1 mm, 10A/250V	CAB-AC10A-90L-AU(=)

DC-Powered Systems

Basic guidelines for DC-powered systems include the following:

- Each chassis power supply should have its own dedicated input power source. The source must comply with the safety extra-low voltage (SELV) requirements in the UL 60950, CSA 60950, EN 60950, IEC 60950 standards.
- The circuit must be protected by a dedicated two-pole circuit breaker. For North America, the circuit breaker should be rated 35A for the 950W power supply. For everywhere else, the circuit breaker should be sized according to the power supply input rating and local or national code requirements.
- We recommend using 10 AWG wire rated at 90° C for the 950W power supply.
- The circuit breaker is considered the disconnect device and should be easily accessible.
- The system ground is the power supply and PEM ground.

Site Preparation Checklist

Table 6 lists the site planning activities that you should perform prior to installing the Catalyst 6503 switch. Completing each activity helps ensure a successful installation.

Table 6 Site Planning Checklist

Task No.	Planning Activity	Verified By	Time	Date
1	Space evaluation: Space and layout Floor covering Impact and vibration Lighting Maintenance access			
2	Environmental evaluation: Ambient temperature Humidity Altitude Atmospheric contamination Airflow			
3	Power evaluation: Input power type Power receptacles (15A/20A) Receptacle proximity to the equipment Dedicated (separate) circuits for redundant power supplies UPS for power failures DC systems: Proper gauge wire and lugs			
4	Grounding evaluation: Circuit breaker size CO ground (AC- and DC-powered systems)			
5	Cable and interface equipment evaluation: Cable type Connector type Cable distance limitations Interface equipment (transceivers)			
6	EMI evaluation: Distance limitations for signaling Site wiring RFI levels			

Installing the Switch



Warning

Before you install, operate, or service the system, read the *Site Preparation and Safety Guide*. This guide contains important safety information you should know before working with the system.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

This section contains the procedures you need to follow to install the Catalyst 6503 switch.

Unpacking the Switch



Tip

Do not discard the shipping container when you unpack the switch. Flatten the shipping cartons and store them with the pallet. You will need these containers if you need to move or ship the switch in the future.

Perform the following to check the contents of the shipping container:

- Check the contents of the accessories box against the Accessories Box Components Checklist and the packing slip. Verify that you received all listed equipment, which should include the following:
 - Hardware and software documentation, if ordered
 - Optional equipment that you ordered, such as network interface cables, transceivers, or special connectors
- Check the modules in each slot. Ensure that the configuration matches the packing list and that all of the specified interfaces are included.

Required Tools

These tools and equipment are required to install the switch chassis in the rack:

- Number 1 and number 2 Phillips-head screwdrivers
- 3/16-inch flat-blade screwdriver
- Tape measure and level

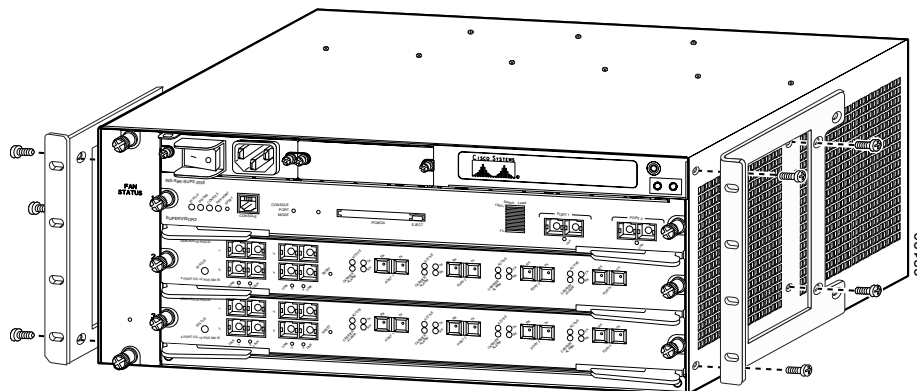
Installing the Brackets

The chassis is shipped with the mounting brackets installed on the front of the chassis. These brackets can be installed on the rear of the chassis.

To install the brackets on the rear of the chassis, perform these steps:

-
- Step 1** Remove the screws that secure the brackets to the chassis. (See [Figure 8](#).)

Figure 8 Installing the L-Brackets on the Catalyst 6503 Switch



- Step 2** Position one of the brackets against the chassis side, and align the screw holes.
- Step 3** Secure the bracket to the chassis with the screws that you removed in Step 1.
- Step 4** Repeat Steps 2 and 3 for the other bracket.
-

Installing the Switch Chassis in the Rack

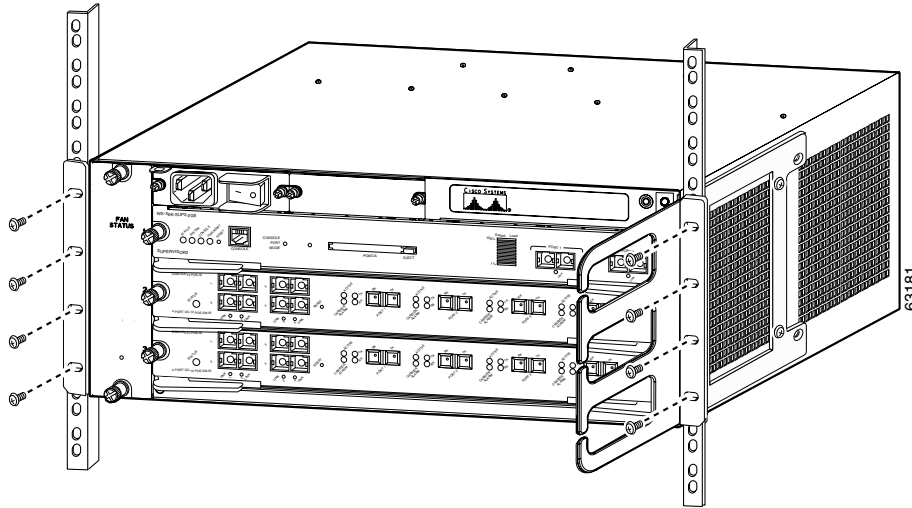


Warning

To prevent personal injury or damage to the chassis, never attempt to lift or tilt the chassis using the handles on modules (such as power supplies, fans, or cards); these types of handles are not designed to support the weight of the unit. Lift the unit only by using handles that are an integral part of the chassis, or by grasping the chassis underneath its lower edge.

To install the switch chassis in the equipment rack, perform these steps:

- Step 1** Position the chassis in the rack as follows:
- If the front of the chassis (front panel) is at the front of the rack, insert the rear of the chassis between the mounting posts.
 - If the rear of the chassis is at the front of the rack, insert the front of the chassis between the mounting posts.
- Step 2** Align the mounting holes in the bracket (and optional cable guide) with the mounting holes in the equipment rack. (See [Figure 9](#).)

Figure 9 Installing the Switch Chassis in the Rack

Step 3 Install the eight 12-24 x 3/4-inch or 10-32 x 3/4-inch screws (four per side) through the holes in the bracket and into the threaded holes in the equipment rack posts.

Step 4 Use a tape measure and level to verify that the chassis is straight and level.

System Ground Connection

This section describes how to connect a system (earth) ground to the Catalyst 6503 switch chassis.



Note

You must connect the system ground on both AC- and DC-powered systems to an earth ground. For DC-powered systems, the system ground is also the power supply ground. The DC ground must be installed with a permanent connection to an earth ground according to NEC guidelines. Use a minimum 12 AWG grounding wire.

Two threaded M4 holes are provided on the chassis frame to attach the ground cable. (See [Figure 10](#) for the system ground location.)

Required Tools and Equipment

To connect the system ground, you need the following tools and materials:

- One grounding lug.
- Two M4 (metric) hex-head screws with locking washers.



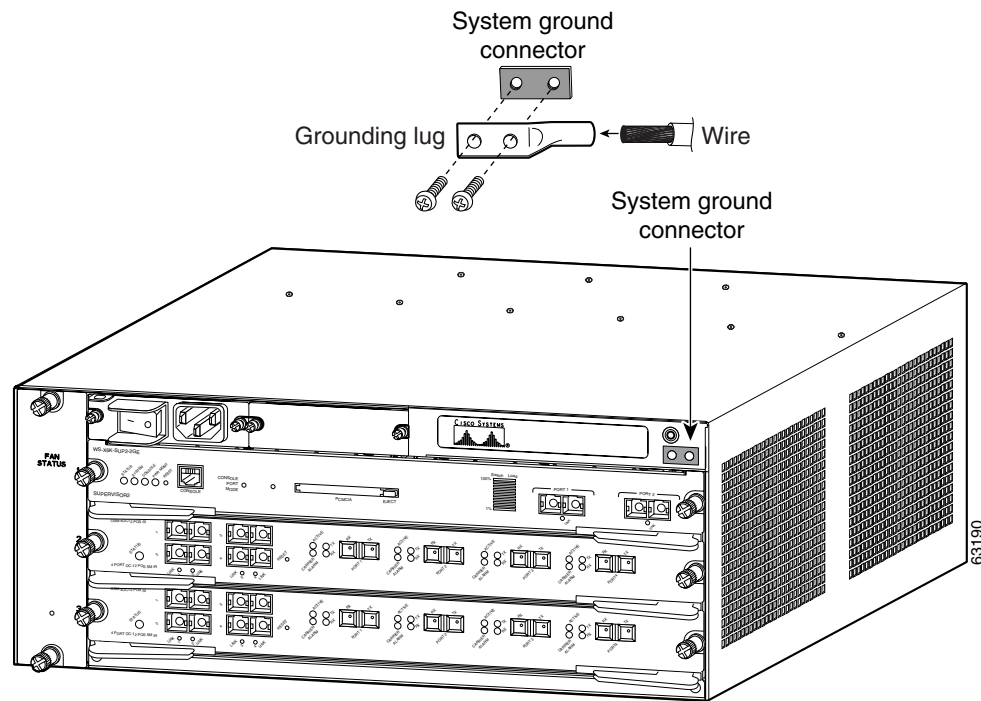
Note

The grounding lug and M4 hex-head screws with locking washers are provided in kit 69-0694-01.

- One grounding wire (should be sized according to local and national installation requirements). A 12AWG conductor or larger size wire is required for U.S. installations.

- Number 2 Phillips-head screwdriver.
- Crimping tool (must be large enough to accommodate the girth of the grounding lug when crimping the grounding cable into the lug).
- Wire-stripping tool.

Figure 10 System Ground Location



Connecting the System Ground

You must complete this procedure before connecting system power or turning on the Catalyst 6503 switch.

To attach the grounding lug and cable to the grounding pad, perform these steps:

- Step 1** Use a wire-stripping tool to remove approximately 0.75 inch (19 mm) of the covering from the end of the grounding wire.
- Step 2** Insert the stripped end of the grounding wire into the open end of the grounding lug.
- Step 3** Use a crimping tool to secure the grounding wire in place in the grounding lug.
- Step 4** Locate and remove the adhesive label from the system grounding pad on the chassis.

- Step 5** Place the grounding wire lug against the grounding pad, making sure there is complete metal-to-metal contact.
- Step 6** Secure the grounding lug to the chassis with two M4 screws. Ensure that the grounding lug will not interfere with other hardware or rack equipment.
- Step 7** Prepare the other end of the grounding wire, and connect it to an appropriate grounding point in your site to ensure adequate earth ground for the Catalyst 6503 switch.

Installing the Power Supplies in the Switch Chassis

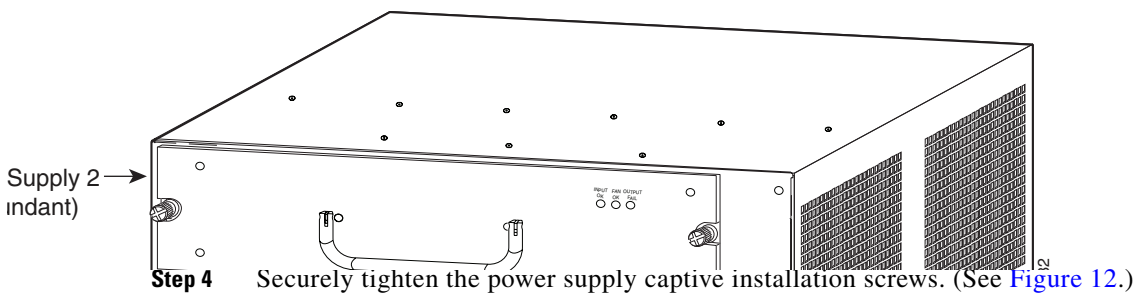
The 950W power supply (AC-input or DC-input) is shipped separately from the chassis. Remove the power supply from its shipping packaging.

Installing an AC-Input Power Supply

Follow these steps to install an AC-input power supply:

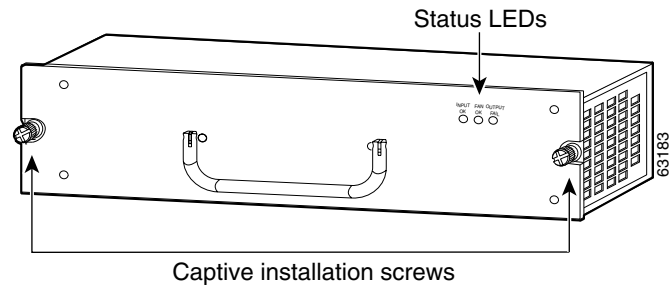
- Step 1** Ensure that the system (earth) ground connection has been made.
- Step 2** If necessary, remove the blank power supply filler plate from the chassis power supply bay opening by loosening the captive installation screws.
- Step 3** Grasp the power supply handle with one hand. Place your other hand underneath the power supply, as shown in [Figure 11](#). Slide the power supply into the power supply bay. Make sure that the power supply is fully seated in the bay.

Figure 11 Installing an AC-Input Power Supply



Warning

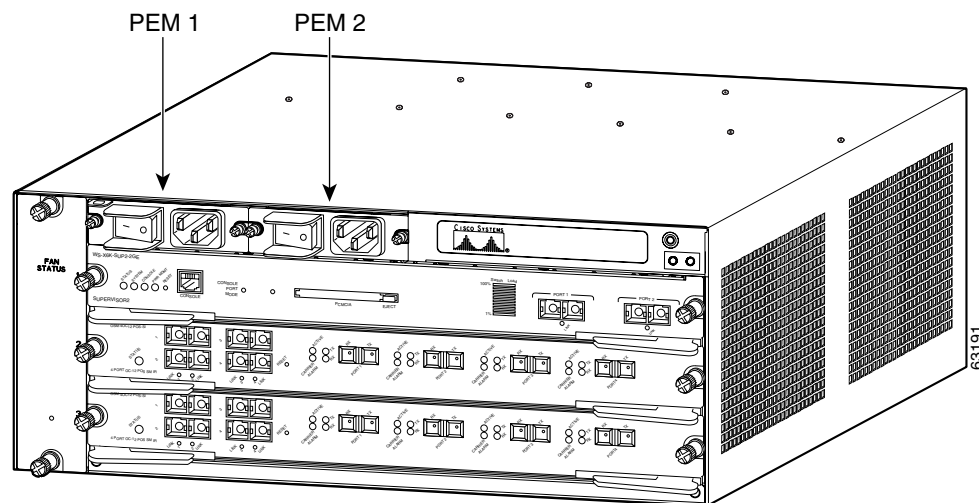
Power supply captive installation screws must be tight to ensure protective grounding continuity.

Figure 12 Power Supply Captive Installation Screws

- Step 5** Plug the power cord into the PEM. (See [Figure 13](#) for the PEM location.)
- Step 6** Connect the other end of the power cord to an AC-input power source.

**Caution**

In a system with dual power supplies, connect each power supply to a separate input source. In case of a power source failure, the second source will most likely still be available.

Figure 13 PEM Location

- Step 7** Turn the PEM power switch to the On (I) position.
- Step 8** Verify power supply operation by checking that the power supply status LEDs (see [Figure 12](#)) are in the following states:
- INPUT OK LED is green
 - FAN OK LED is green
 - OUTPUT FAIL LED is not lit

Installing a DC-Input Power Supply



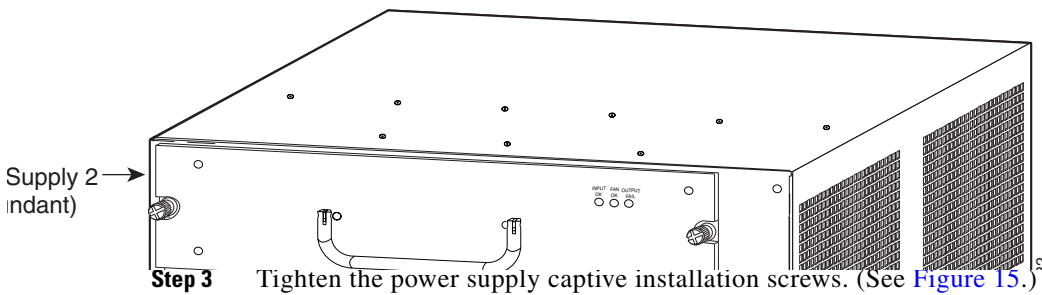
Warning

Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

Follow these steps to install a DC-input power supply:

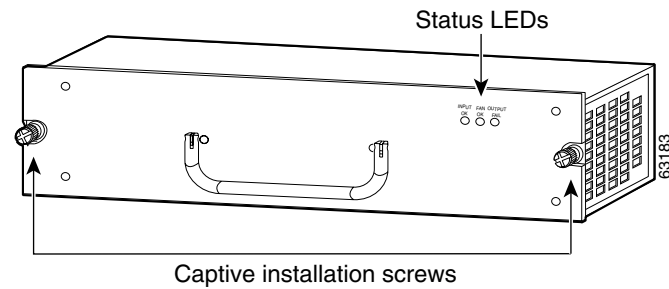
- Step 1** Ensure that the system (earth) ground connection has been made.
- Step 2** Grasp the power supply handle with one hand. Place your other hand underneath the power supply, as shown in [Figure 14](#). Slide the power supply into the power supply bay. Make sure that the power supply is fully seated in the bay.

Figure 14 Installing a DC-Input Power Supply



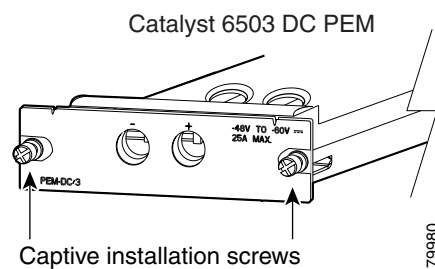
Warning

Power supply captive installation screws must be tight to ensure protective grounding continuity.

Figure 15 Power Supply Captive Installation Screws**Caution**

In a system with dual power supplies, connect each power supply to a separate input line. In case of a line failure, the second source will most likely still be available.

- Step 4** Loosen the captive installation screws on the PEM. (See [Figure 16](#).)

Figure 16 DC-Input PEM

- Step 5** Slide the PEM part way out of the chassis so that you have access to the PEM terminal block screws located on top of the PEM.
- Step 6** Connect the DC-input wires to the terminal block in the following order:
- Source DC Negative (-) wire to the Negative (-) PEM connector
 - Source DC Positive (+) wire to the Positive (+) PEM connector
- Step 7** After ensuring that all wire connections are secure, slide the PEM into the bay, and tighten the two captive installation screws.

**Caution**

In a system with dual power supplies, connect each power supply to a separate input line. In case of a line failure, the second source will most likely still be available.

- Step 8** Remove the tape from the circuit breaker switch handle, and restore power by moving the circuit breaker switch handle to the On (I) position.
- Step 9** Verify power supply operation by ensuring that the power supply front panel LEDs are in the following states:
- INPUT OK LED is green
 - FAN OK LED is green
 - OUTPUT FAIL LED is not lit

Attaching the Interface Cables

This section provides general information on attaching interface cables to the supervisor engines and to the modules.

Depending on the modules you have installed in your chassis, you will have different styles of connectors to attach.



Note

Refer to the *Catalyst 6500 Series Module Installation Guide* for additional module information.

Connecting the Supervisor Engine Console Port

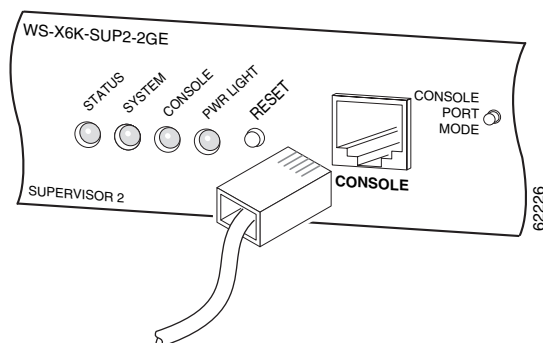
This section describes how to connect to the supervisor engine console port from a terminal or modem.

The console port on the supervisor engine allows you to perform the following functions:

- Configure the Catalyst 6503 from the CLI
- Monitor network statistics and errors
- Configure SNMP agent parameters
- Download software updates to the switch, or distribute software images residing in Flash memory to attached devices

The console port, located on the front panel of the supervisor engine, is shown in [Figure 17](#).

Figure 17 Supervisor Engine Console Port Connector



**Note**

The accessories box that shipped with your switch contains the necessary cable and adapters to connect a terminal or modem to the console port.

To connect a terminal to the console port using the cable and adapters provided, perform these steps:

-
- Step 1** Place the console port mode switch in the *in* position (factory default).
 - Step 2** Connect to the port using the RJ-45-to-RJ-45 cable and RJ-45-to-DB-25 DTE adapter or RJ-45-to-DB-9 DTE adapter (labeled “Terminal”).
 - Step 3** Position the cable in the cable guide (if installed). Make sure that there are no sharp bends in the cable.
 - Step 4** Check the terminal documentation to determine the baud rate. The baud rate of the terminal must match the default baud rate (9600 baud) of the console port. Set up the terminal as follows:
 - 9600 baud
 - 8 data bits
 - No parity
 - 2 stop bits
-

To connect a terminal using a Catalyst 5000 family Supervisor Engine III console cable, perform these steps:

-
- Step 1** Place the console port mode switch in the *out* position.
 - Step 2** Connect to the port using the Supervisor Engine III cable and the appropriate adapter for the terminal connection.
 - Step 3** Position the cable in the cable guide (if installed). Make sure that there are no sharp bends in the cable.
 - Step 4** Check the terminal documentation to determine the baud rate. The baud rate of the terminal must match the default baud rate (9600 baud) of the console port. Set up the terminal as follows:
 - 9600 baud
 - 8 data bits
 - No parity
 - 2 stop bits
-

To connect a modem to the console port, perform these steps:

-
- Step 1** Place the console port mode switch in the *in* position.
 - Step 2** Connect to the port using the RJ-45-to-RJ-45 rollover cable and the RJ-45-to-DB-25 DCE adapter (labeled “Modem”).
 - Step 3** Position the cable in the cable guide (if installed). Make sure that there are no sharp bends in the cable.
-

Connecting the Supervisor Engine Uplink Ports

This section describes how to connect to the supervisor engine uplink ports.



Warning

Because invisible laser radiation may be emitted from the aperture of the port when no cable is connected, avoid exposure to laser radiation and do not stare into open apertures.



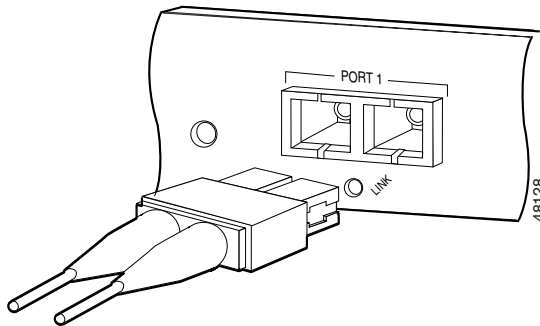
Note

In a redundant configuration with two supervisor engines, the uplink ports on the redundant (standby) supervisor engine are active and can be used for normal traffic, like any other ports in the chassis.

To connect to the supervisor engine uplink ports, perform these steps:

- Step 1** Remove the plugs from the Gigabit Interface Converter (GBIC) optical bores; store them for future use.
- Step 2** Remove the plugs from the SC-type connector on the fiber-optic cable. Insert the connector into the GBIC. (See [Figure 18](#).)

Figure 18 Connecting the Supervisor Engine Uplink Ports



Note

When you plug the SC-type connector into the GBIC, make sure that both the transmit (Tx) and receive (Rx) fiber-optic cables are fully inserted into the SC-type connector.



Note

If you are using the LX/LH GBIC with MMF, you need to install a patch cord between the GBIC and the MMF cable.

Verifying Switch Chassis Installation

After you finish connecting the modules, you need to verify that the modules, power supplies, power entry modules (PEMs), and fan assembly are correctly and securely installed. To verify the chassis installation, perform these steps:

-
- Step 1** Verify that the ejector levers of each module are fully closed (parallel to the faceplate) to ensure that the supervisor engine and all modules are fully seated in the backplane connectors.
- Step 2** Check the captive installation screws of each module, power supply, PEM, and the fan assembly. Tighten any loose captive installation screws.



Note

PEM 1 connects the site power source to power supply 1; PEM 2 connects the site power source to power supply 2. If there is only one PEM and one power supply installed in the chassis, verify that they are in the correct bays before powering up the system.



Warning

Power supply captive installation screws must be tight to ensure protective grounding continuity.

- Step 3** Verify that all empty module slots have blank faceplates (WS-X6K-SLOT-CVR) installed and that the screws holding the plates in place are tight.
- Step 4** For AC-powered systems, turn the AC-input PEM switch to the On (I) position to power up the system. For DC-powered systems, move the circuit breaker switch handle to the On (I) position to power up the system.



Warning

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain EMI that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all modules, faceplates, front covers, and rear covers are in place.



Note

For instructions on installing and replacing modules, refer to the *Catalyst 6500 Series Module Installation Guide*.

Related Documentation

For additional information on the Catalyst 6503 switch, refer to these publications:

- *Regulatory Compliance and Safety information for the Catalyst 6500 Series Switches*
- *Catalyst 6500 Series Installation Guide*
- *Catalyst 6500 Series Module Installation Guide*
- *Catalyst 6500 Series Software Configuration Guide*
- *Catalyst 6500 Series Command Reference*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

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