



Unpacking and Installing the CSS

This chapter describes how to unpack and install the CSS 11050, CSS 11150, and CSS 11800 as free-standing or rack-mount units.

This chapter contains the following major sections:

- [Site Requirements](#)
- [Shipment Contents](#)
- [Unpacking the CSS](#)
- [If the Product is Damaged](#)
- [Installing the CSS 11050 or CSS 11150](#)
- [Installing the CSS 11800](#)
- [Installing a CSS 11800 Module](#)



Note

For information on installing a replacement or accessory item in the CSS 11800 (such as a redundant AC or DC power supply, or fan unit) consult the reference sheet included with the item.

Site Requirements

Before you select an installation site for the CSS, read the electrical, environmental, and physical requirements as described in Appendix A, [Specifications](#). If you are installing a DC unit (CSS 11150 or CSS 11800 only), ensure that you read and follow the DC power supply safety warnings in Appendix A, [Specifications](#).

Required Tools and Equipment

To install the CSS hardware, you need the following tools and equipment:

- A Phillips and a flat-head screwdriver
- Anti-static wrist strap (included in the CSS 11800 accessory kit)
- Hand lift (recommended) for lifting the CSS 11800 chassis into the equipment rack

Once you complete the installation, you need a console terminal (or equivalent) that runs at 9600 bps to issue console commands.

Shipment Contents

The CSS 11050, CSS 11150, and CSS 11800 shipment contains the following items except where noted:

- Content Services Switch
- Anti-static wrist strap (CSS 11800 only)
- Four rubber feet (CSS 11050 and CSS 11150)
- Mounting brackets and hardware (CSS 11050 and CSS 11150)

- Console cable kit:
 - RS-232 shielded modem cable
 - RJ-45 to female 25-pin sub-d connector
 - RJ-45 to female 9-pin sub-d connector
 - RJ-45 to RJ-45 Cisco console adapter cable
- Standard software license key. If you ordered the Enhanced feature set, the Secure Management option (which include the Secure Shell Host option and SSL strong encryption for the Device Management software), or the Proximity Database feature, additional Claim Certificates will be included in the Accessory kit.



Note If you cannot locate the Standard software license key or a license key Claim Certificate in the Accessory kit, call the Cisco Technical Assistance Center (TAC) toll free, 24 hours a day, 7 days a week at 1-800-553-2447 or 1-408-526-7209. You can also e-mail TAC at tac@cisco.com.

- *Cisco 11000 Series Content Services Switch Hardware Installation Guide*

Unpacking the CSS

The CSS is shipped in a protective shipping carton. The CSS 11050 and CSS 11150 are shipped as a self-contained chassis; no modules or components can be added or removed. The CSS 11800 is shipped with the power supply, fan unit, SCM, and SFM preinstalled. You must install all separately ordered items (for example, I/O modules or a redundant AC or DC power supply) into the CSS 11800.

This section describes:

- [Unpacking the CSS 11050 or CSS 11150](#)
- [Unpacking the CSS 11800](#)

Unpacking the CSS 11050 or CSS 11150

To unpack the CSS 11050 or CSS 11150:

1. Remove the CSS and all accessories from the shipping carton.
2. Check the configuration of the CSS and the accessories against the items listed on the packing slip. Report any discrepancies as described in [“If the Product is Damaged”](#) in this chapter.
3. To install the CSS 11050 or CSS 11150, go to the [“Installing the CSS 11050 or CSS 11150”](#) section.

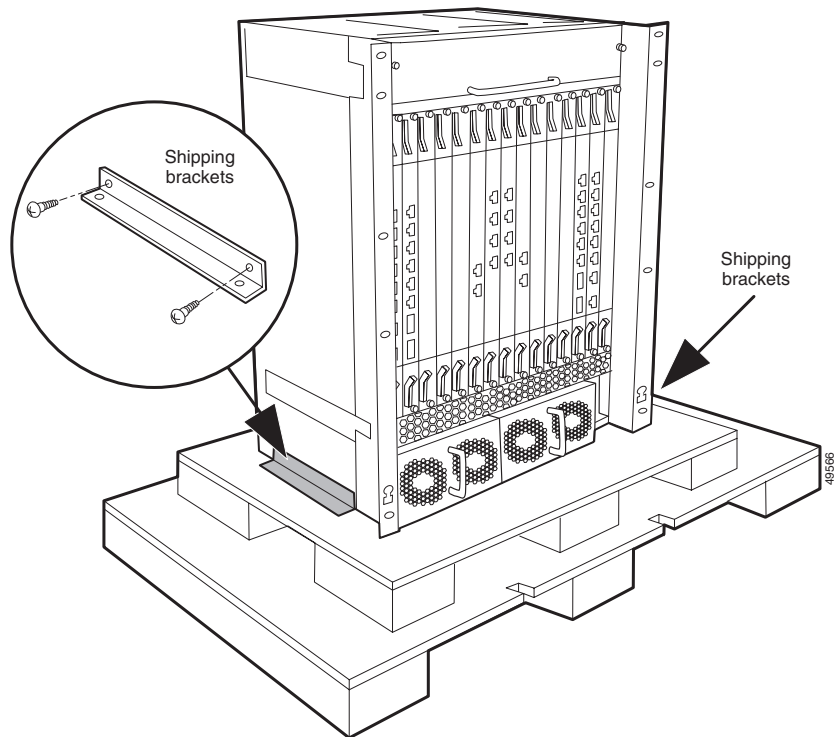
Unpacking the CSS 11800

The CSS 11800 is shipped attached to a wooden pallet with screws and shipping brackets. Due to the large size and weight of a unit, move it to the installation site before unpacking it from the shipping carton.

To unpack the CSS 11800:

1. Remove all enclosed packing materials. Save the packing materials in case you need to repack the CSS later.
2. Remove the accessories from the shipping carton.
3. Check the configuration of the CSS and the accessories against the packing slip. Report any discrepancies as described in the [“If the Product is Damaged”](#) section later in this chapter.
4. Using a Phillips screwdriver, remove the screws from the shipping brackets on the pallet. [Figure 1-1](#) shows the CSS 11800 attached to the wooden pallet.
5. Carefully remove the CSS from the pallet.

Figure 1-1 CSS 11800 Shipping Pallet



6. To install the CSS, go to the [“Installing the CSS 11800”](#) section.

If the Product is Damaged

If any portion of the unit or component is damaged in transit, forward an immediate request to the delivering carrier to perform an inspection of the product and to prepare a damage report. Save the container and all packing materials until the contents are verified.

Concurrently, report the nature and extent of the damage to Customer Service. Report the problem or deficiency to Customer Service along with the model number and serial number. Upon receipt of this information, you will be provided with service instructions, or a Return Material Authorization (RMA) Number and shipping information.

Installing the CSS 11050 or CSS 11150

The CSS 11050 or CSS 11150 can be placed on a flat surface as a free-standing unit or rack-mounted in an equipment cabinet. The following sections describe the steps to install the CSS as a:

- Free-standing unit
- Rack-mounted unit

Prior to installing the CSS, observe the following installation requirements:

- The ambient operating temperature is 32° to 104° F (0 to 40° C).
If you install the CSS in a closed or multi-unit rack, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Ensure that the temperature does not exceed the CSS maximum ambient operating temperature.
- The minimum clearance requirement is 2 inches (10 cm) of air flow space on both sides of the chassis.
- Ensure that the CSS is reliably grounded to earth. We recommend that you do not use power strips or extension cords to connect the CSS to the power source.



Caution

Do not remove the CSS 11050 or CSS 11150 cover. There are electrical shock hazards present in the unit if the cover is removed. There are no serviceable or installable components available with the CSS 11050 and CSS 11150.

Do not use a 3-prong to 2-prong electrical adapter. This will compromise the grounding.



Note

Removing the CSS 11050 or CSS 11150 cover voids its warranty.

Installing the CSS 11050 or CSS 11150 as a Free-Standing Unit

Position the CSS 11050 or CSS 11150 on the selected flat surface. When installing the CSS, note that all cables connect to the front of the unit with the exception of the cable that connects to the Ethernet management port on the rear panel and the power cord.

Rack-Mounting the CSS 11050 or CSS 11150

Before you rack-mount the CSS 11050 or CSS 11150:

- Determine if you want to front-mount or mid-mount the CSS chassis into the cabinet. The difference between front-mount or mid-mount is:
 - Front-mount sets the front edge of the unit even with the front edge of the rack
 - Mid-mounting the CSS sets the front edge of the unit past the front edge of the rack
- Install the mounting brackets on the CSS. The rack position of the CSS determines where you will install the mounting brackets on the CSS chassis. See the following section to install the mounting brackets.

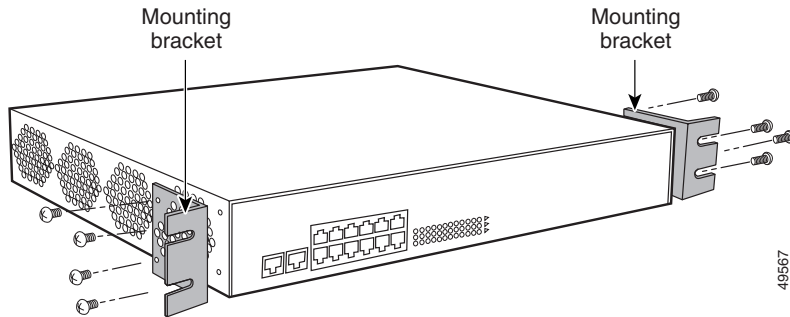
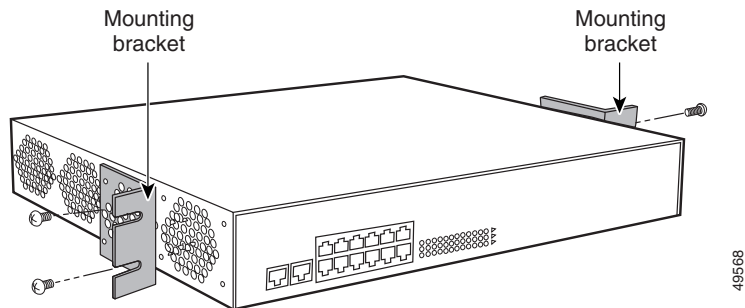
Installing the Mounting Brackets

Before you begin, you will need the mounting brackets and eight screws shipped in the accessory kit accompanying the CSS 11050 and CSS 11150, and a #2 Phillips screwdriver.

To install the mounting brackets on the CSS chassis:

1. Position the CSS with its front panel facing you. On the left and right side of its chassis, note the screw holes for installing the mounting brackets.
2. Position a bracket on one side of the chassis. Align the bracket with the appropriate screw holes for front- or mid-mounting.

[Figure 1-2](#) illustrates front-mounting the brackets. [Figure 1-3](#) illustrates mid-mounting the brackets.

Figure 1-2 Front-Mounting the Brackets on the CSS 11050 or CSS 11150**Figure 1-3 Mid-Mounting the Brackets on the CSS 11050 and CSS 11150**

3. Secure the bracket to the CSS with four screws.
4. Repeat steps 2 and 3 to install a mounting bracket on the other side of the CSS.

You are ready to install the CSS in the cabinet.

Installing the CSS into the Rack

Before you begin, you will need a #2 Phillips screwdriver and four pan-head screws. To install the CSS 11050 or CSS 11150 into an equipment rack:

1. Raise the CSS to the installation height. Align the screw holes on the mounting bracket with the holes on the equipment rack.

2. Use a #2 Phillips screwdriver and *two* pan-head screws to secure *each* mounting bracket to each side of the rack.

Installing the CSS 11800

The CSS 11800 is a rack-mount unit. When positioning the CSS 11800 for installation, keep in mind that all cables connect to the front of the unit.

Prior to rack-mounting the CSS, observe the following installation requirements:

- The maximum ambient operating temperature for the CSS 11800 is 32° to 104° F (0 to 40° C). When you install the CSS 11800 in a closed or multi-unit rack, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Ensure that the temperature does not exceed the CSS maximum ambient operating temperature.
- Ensure that the CSS 11800 is reliably grounded to earth. Do not use power strips or extension cords to connect the CSS to the power source.

Before you rack-mount the CSS 11800 chassis, determine if you want to front-mount, mid-mount, or extend-mount the chassis in the cabinet:

- Front-mount the chassis to set the front edge of the unit even with the front edge of the rack. The brackets are preinstalled in this position on the chassis and are ready for mounting in a rack, as described in the [“Rack-Mounting the CSS 11800 Chassis”](#) section.
- Mid-mount the chassis to set the front edge of the unit in front of the front edge of the rack. To mid-mount the brackets on the chassis, follow the steps in [“Mid-Mounting the CSS 11800 Brackets”](#).
- Extend-mount the chassis to set the front edge of the unit behind the front edge of the rack; allowing the chassis to be installed in an enclosed rack. To extend-mount the brackets on the chassis, follow the steps in [“Extend-Mounting the CSS 11800 Brackets”](#).

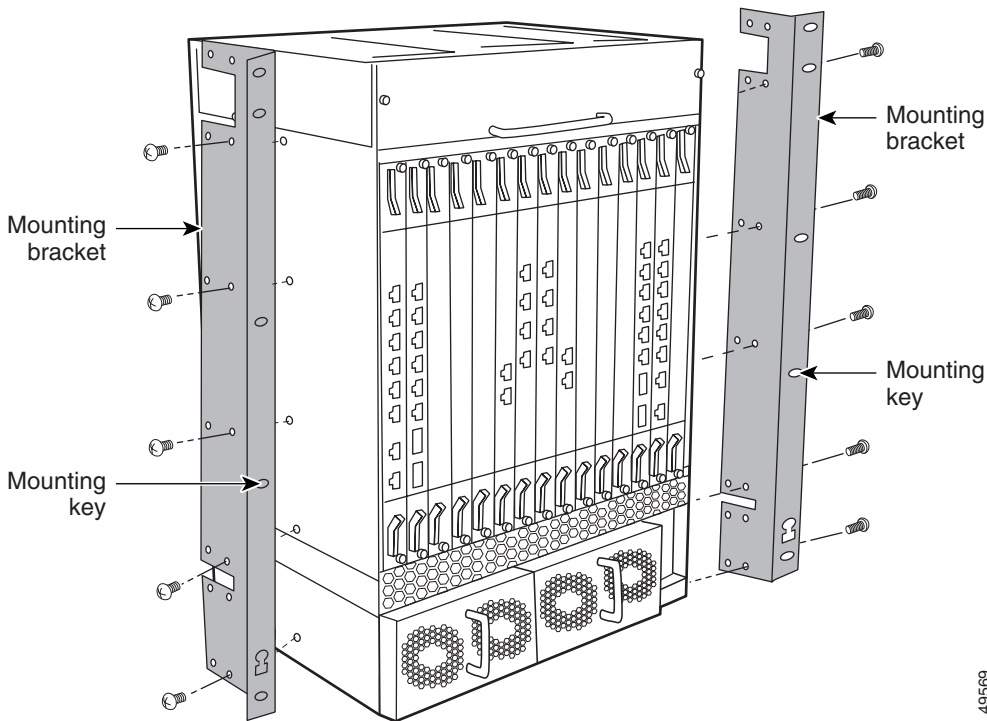
Mid-Mounting the CSS 11800 Brackets

To change the location of the mounting brackets on the CSS 11800 chassis from a front-mount position to a mid-mount position (see [Figure 1-4](#)):

1. Remove the seven front mounting bracket screws from one side of the chassis.

2. Position the mounting bracket onto the middle of one side of the CSS, lining up the front screw holes on the bracket with the holes on the side of the chassis.

Figure 1-4 Aligning Brackets on the CSS 11800 for Mid-Mounting



3. Using a Phillips screwdriver, install only five of the seven #10-32 pan-head screws through the mid-mount bracket holes into the CSS. Do not install the screws in the top of the bracket or second from the bottom of the bracket.
4. Repeat steps 1 through 3 to install the second bracket onto the other side of the chassis.

When the brackets are in position for mounting the chassis in a rack, proceed to the [“Rack-Mounting the CSS 11800 Chassis”](#) section.

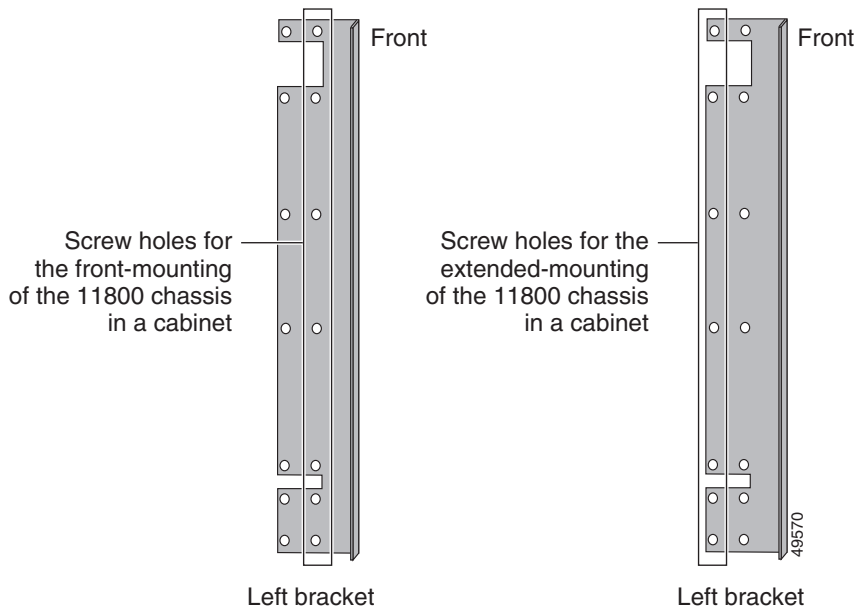
Extend-Mounting the CSS 11800 Brackets

You can extend-mount a CSS 11800 chassis to set the front edge of the unit behind the front edge of the rack to allow the chassis to be installed in an enclosed rack. Before you can extend-mount a chassis, you need to reposition its mounting brackets. Each bracket has two sets of screw holes. The set of holes you use to install the brackets to the chassis determines how the chassis is mounted in a rack:

- The screw holes toward the front of the bracket position each bracket on the CSS 11800 chassis for front mounting in a cabinet; this is the preinstalled position.
- The screw holes behind the first set of holes position each bracket on the CSS 11800 chassis for extended mounting in a cabinet.

Figure 1-5 illustrates extend-mounting the brackets.

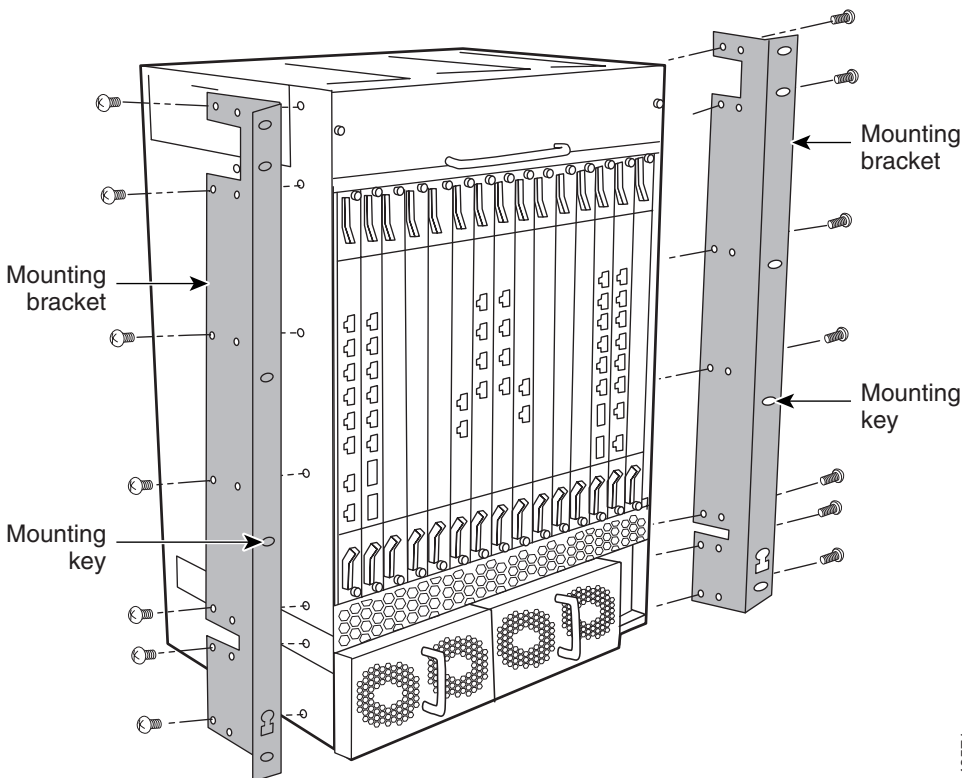
Figure 1-5 *Screw Holes on the CSS 11800 Bracket for Front and Extended Mounting*



To change the location of the mounting brackets on the CSS 11800 chassis from a front-mount position to an extended-mount position:

1. Remove the seven front mounting bracket screws from one side of the chassis.
2. Align the rear screw holes on the bracket with the screw holes on the front side of the chassis. Note the bracket's proper orientation as shown in [Figure 1-6](#).

Figure 1-6 *Aligning Brackets on the CSS 11800 Chassis for Extended Mounting*



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3. Using a Phillips screwdriver, install the seven #10-32 pan-head screws through the extended-mount bracket holes into the CSS.
4. Repeat steps 1 through 3 to install the second bracket onto the other side of the chassis.

When the brackets are in position for mounting the chassis in a rack, proceed to the [“Rack-Mounting the CSS 11800 Chassis”](#) section.

Rack-Mounting the CSS 11800 Chassis

Once the mounting brackets are installed, you are ready to install the CSS 11800 chassis.



Warning

The weight and position of the CSS 11800 chassis within the cabinet may make the cabinet top-heavy or unstable. Take all necessary precautions to anchor the cabinet securely before installing the chassis.

To install the CSS 11800 chassis into a cabinet:

1. Locate the mounting keys on the left and right mounting brackets (see [Figure 1-4](#)). Mounting keys are designed to fit over pan-head screws installed in the mounting rack to hold the chassis in place while you secure the chassis into the rack.
2. Install a pan-head screw into the left and right sides of the mounting rack. These screws fit into the mounting keys and hold the chassis.
3. Raise the CSS to the appropriate installation height and place the mounting keys over the installed pan-head screws. The CSS is now held in place by the mounting keys so you can install the remaining screws.
4. Align the screw holes on the mounting bracket with the screw holes on the equipment cabinet and install the pan-head screws through the CSS and cabinet brackets. The CSS 11800 requires five pan-head screws for each side of the chassis.

Installing a CSS 11800 Module

This section applies to the CSS 11800 modules only and contains the following sections:

- [Installation Precautions and Restrictions](#)
- [Unpacking a CSS 11800 Module](#)
- [Installing a Module](#)
- [Installing a Passive SCM or SFM](#)

Installation Precautions and Restrictions

This section includes background material related to installing a module into the CSS 11800 chassis. It is recommended that you read the topics in this section before installing a module.

Installation Precautions

Read and observe the following precautionary information prior to servicing the CSS 11800.



Warning

Do not remove or install modules without using appropriate anti-static guard measures. The CSS includes an anti-static wrist strap in the accessory kit. Attach the copper tape end of the strap to an unpainted metal surface on the chassis. You can leave the strap connected to the chassis when you are done.



Warning

If you do not power down the CSS 11800, an electrical energy hazard is present within the chassis. Prior to installing or removing components, remove all metallic objects from hands and wrists to prevent bridging of live contact points.

Module Slot Restrictions

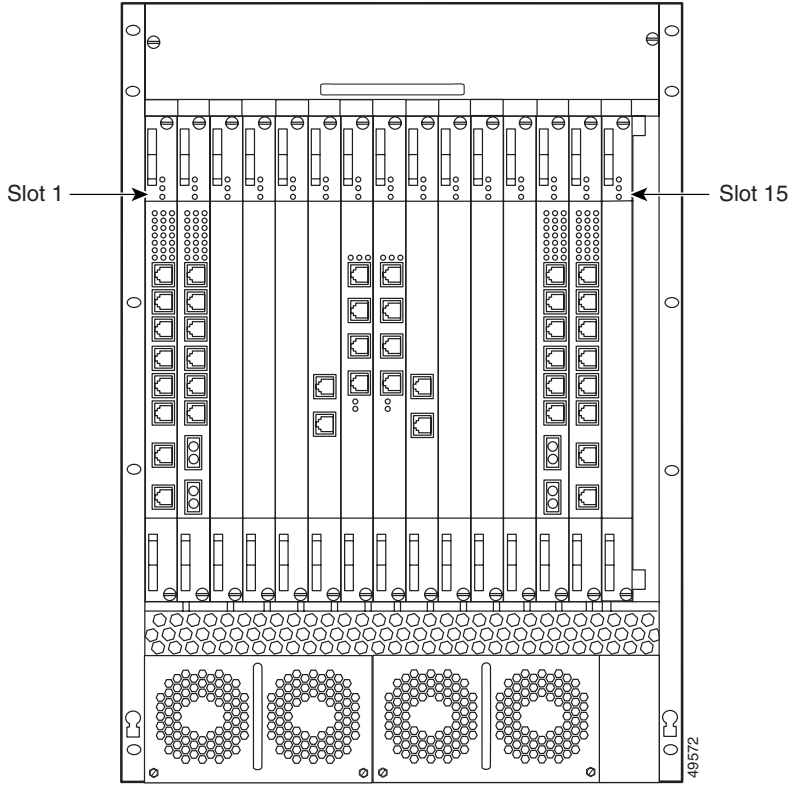
Modules are restricted to specific slots due to bandwidth capabilities. The CSS 11800 chassis backplane is designed for specific modules to reside in their respective slots. For example, you cannot install a SCM in slot 2 because the backplane connector for slot 2 does not accommodate a SCM connector. Prior to installing a module, see [Table 1-1](#) for information on chassis slot usage.

Table 1-1 Chassis Slot Usage

Slot Number	Slot Usage	Slot Color Code
1	I/O Module	Blue
2	I/O Module	Blue
3	I/O Module	Blue
4	I/O Module	Blue
5	SFM or SFM2 (passive module)	Purple
6	SFM or SFM2 (active module)	Purple
7	SCM (initial active module)	Red
8	SCM (initial passive module)	Red
9	SFM or SFM2 (active module)	Purple
10	SFM or SFM2 (passive module)	Purple
11	I/O Module	Blue
12	I/O Module	Blue
13	I/O Module	Blue
14	I/O Module	Blue
15	Internal Disk Module (flash or hard disk)	Green

Figure 1-7 illustrates a fully configured CSS 11800.

Figure 1-7 Fully Configured CSS 11800



Removing or Installing a Module

You must power down the CSS 11800 chassis to remove or install a module. If you install a new module while the CSS is operational, the SCM will not recognize the module until the next reboot.



Warning

If you replace an active SCM with a new SCM, the boot configuration reverts back to its default settings. You must reconfigure these parameters through the Offline Diagnostic Monitor menu. For more information on accessing and using this menu, refer to the *Content Services Switch Administration Guide*.

When you remove a module and replace it with a module of the *same* type, the SCM automatically downloads the boot image and configuration files for the module. (For information on image and configuration files, refer to the *Content Services Switch Administration Guide*.) The newly installed module boots up with:

- The appropriate module image
- The same configuration as the former module

When you remove a module and replace it with a module of a *different* type, the SCM downloads the module boot image automatically. The newly installed module boots up with the appropriate module image.

Unpacking a CSS 11800 Module

To unpack a CSS 11800 module:

1. Verify that the module is the model you ordered by checking the model number listed on the side of the shipping carton
2. Remove the module, in its anti-static bag, from the shipping carton.
3. Put on the anti-static strap provided with your CSS.
4. Remove the module from the anti-static shielding bag and inspect it for damage.

Always hold the module by the faceplate, being careful not to touch the components. If the module appears to be damaged, return it to the anti-static bag, repack it in the shipping carton, and contact your local supplier.

5. For the procedure on installing a module into the CSS 11800 chassis, see the [“Installing a Module”](#) section.

Installing a Module

You must power down the CSS 11800 chassis to install a module.

**Note**

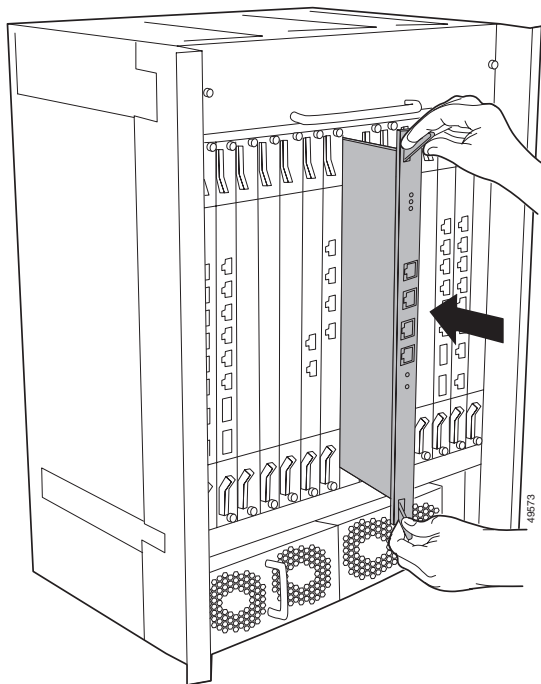
For the procedure on installing a passive SCM or SFM, see the [“Installing a Passive SCM or SFM”](#) section. For information on removing and replacing a module, see the [“Removing or Installing a Module”](#) section.

To install a module:

1. Properly ground yourself prior to handling the module. For example, wear the anti-static wrist strap (included in the accessory kit) and stick the copper-tape end of the strap to an unpainted metal surface on the chassis. Make sure that the wrist strap makes good contact with your skin.
2. Locate an open slot in the chassis for the module. See [Table 1-1](#) to identify possible slots for the module. If necessary, remove a blank panel from the chassis to expose a slot for the module.

3. Insert the module into the board guides at the top and bottom of the slot and slide it into the chassis by pressing firmly at the top and bottom of the faceplate as shown in [Figure 1-8](#).

Figure 1-8 Installing a Module into a CSS 11800 Chassis



4. Close both ejectors simultaneously to seat the module connector into the backplane.
5. Using a Phillips screwdriver, tighten the spring-loaded screws on the front of the module faceplate. Once you install the module, it begins diagnostics and initializes automatically.

If you installed a SFM or SFM2, you must reboot the chassis to activate it.

6. If you are installing additional GBICs in a Gigabit Ethernet module, position the GBIC with its receive connector above its transmit connector.

Installing a Passive SCM or SFM

You can install a passive SCM or SFMs (which includes SFM2s) in a CSS 11800 chassis. Passive modules are stand-by modules in case of an active module failure. When an active module fails, the passive module becomes active. Passive modules do not load share processing functions with the active module.

**Note**

The SCM contains a small lithium battery. Some jurisdictions restrict the ways in which items containing lithium batteries may be disposed. In particular, lithium batteries or products containing lithium batteries may never be disposed of in an unregulated fire. Other restrictions might apply. See Appendix A, [Specifications](#) for lithium battery disposal warnings.

**Warning**

Ultimate disposal of a lithium battery should be handled according to all national laws and regulations.

The CSS 11800 enables you to install a passive:

- SCM for the active SCM
- SFM for each of the two active SFMs (total of four SFMs)

**Note**

You can mix SFMs with SFM2s in the same CSS 11800 chassis. However, you must use the same type module as the active SFM and as the passive SFM.

To install a passive SCM or SFM:

1. Properly ground yourself prior to handling the module.
2. If the CSS is powered up, power it down.
3. As defined in [Table 1-1](#):
 - SCMs are restricted to slots 7 or 8
 - Passive SFMs are restricted to slots 5 and 10 (by default, active SFMs are in slots 6 and 9, respectively)
4. If necessary, remove a blank panel from the chassis to expose a slot.

5. Insert the module into the board guides at the top and bottom of the slot and slide it into the chassis by pressing firmly at the top and bottom of the faceplate.
6. Close both ejectors simultaneously to seat the module connector into the backplane.
7. Using a Phillips screwdriver, tighten the spring-loaded screws on the front of the module faceplate.
 - A SCM module begins diagnostics and initializes automatically.
 - To power on the SFM or SFM2, reboot the CSS.
8. Power up the CSS.
9. To copy the boot configuration from the active SCM to the passive SCM, use the **passive sync** command in boot configuration mode.

Passive Module Switchover

If the active SCM fails:

1. The CSS reboots and connections are terminated.
2. The CSS restores all configurations using the startup-config file.
3. The passive SCM becomes active automatically.

If an active SFM or SFM2 fails:

1. The CSS performs a cold boot and connections are terminated.
2. The CSS restores all configurations using the startup-config file.
3. A passive SFM becomes active automatically.



Note

When the CSS 11800 chassis contains two passive SFMs or SFM2s and an active switchover occurs, both passive SFMs or SFM2s switchover to become active SFMs.
