



Catalyst 4500 E-Series Module Installation Note

Revised: August 2016

Product Numbers:

WS-X4712-SFP+E	WS-X4606-X2-E	WS-X4624-SFP-E	WS-X4612-SFP-E
WS-X4748-RJ45V+E	WS-X4648-RJ45V+E	WS-X4648-RJ45V-E	WS-X4648-RJ45-E
WS-X4548-RJ45V+	WS-X4548-GB-RJ45V	WS-X4548-GB-RJ45	WS-X4306-GB
WS-X4418-GB	WS-X4448-GB-SFP	WS-X4506-GB-T	WS-X4248-RJ45V
WS-X4148-RJ	WS-X4248-FE-SFP	WS-X4748-UPOE+E	WS-X4748-RJ45-E
WS-X4640-CSFP-E	WS-X4748-12X48U+E		

This document provides instructions for installing modules in Catalyst 4500 series chassis.



Module Overview

Table 1 provides a brief description of each module, and provides the per slot bandwidth and maximum rated power of the E-series and classic modules.

Table 1 Catalyst 4500 E-Series and Classic Modules

Module	Description	Per Slot Bandwidth	Maximum Rated Power (W)
E-Series 10-Gigabit Ethernet and Multigigabit Modules			
WS-X4748-12X48U+E	<p>Catalyst 4500E 48-Port UPOE with 12 Multigigabit ports, and 36 10/100/1000 ports. This module supports the Cisco Multigigabit technology for 802.11ac Wave2 and 10GBASE-T speeds.</p> <p>Can be configured in three modes:</p> <p>Mode 1 - Multigigabit Lite</p> <ul style="list-style-type: none"> Ports 1 to 12 as 100/1000/2.5G/5G/10G Ethernet UPOE ports, oversubscribed 10:1 for 10G port speed Ports 13 to 48 as 10/100/1000 UPOE ports with no oversubscription <p>Mode 2 - Multigigabit Enhanced</p> <ul style="list-style-type: none"> Ports 1 to 12 as 100/1000/2.5G/5G/10G Ethernet UPOE ports, oversubscribed 5:1 for 10G port speed Ports 13 to 24 as inactive ports Ports 25 to 48 as 10/100/1000 UPOE ports, with no oversubscription <p>Mode 3 - Multigigabit Performance</p> <ul style="list-style-type: none"> Ports 1 to 12 as 100/1000/2.5G/5G/10G Ethernet UPOE ports. oversubscribed 2.5:1 for 10G port speed Ports 13 to 48 as inactive ports. 	48 Gbps	118
WS-X4712-SFP+E	12-port, 10-Gigabit Ethernet module	48 Gbps	90
WS-X4606-X2-E	<p>6-port, 10-Gigabit Ethernet module. Can also be configured as a 12-port 1000BASE-X module using TwinGig Converter modules and SFP transceivers.</p> <p>Note TwinGig converters must be used in groups of 3 ports; either ports 1–3 or ports 4–6.</p>	24 Gbps	50
E-Series 10/100/1000 Ethernet Modules			

Table 1 Catalyst 4500 E-Series and Classic Modules (continued)

Module	Description	Per Slot Bandwidth	Maximum Rated Power (W)
WS-X4748-UPOE+E	Cisco UPOE 48-port intelligent 60 W PoE ¹ per port (maximum of 1500 W per module) 10/100/1000 Ethernet module. Module supports 48 ports at 30 W per port simultaneously or 24 ports at 60 W per port simultaneously.	48 Gbps	80
WS-X4748-RJ45V+E	48-port, IEEE 802.3at, IEEE 802.3af, and Cisco prestandard, 10/100/1000 Ethernet module	24 Gbps	75
WS-X4748-RJ45-E	48-port, 10/100/1000 data only module for the Catalyst 4500 E-series and +E-series chassis.	48 Gbps	75
WS-X4648-RJ45V+E	48-port, IEEE 802.3at, IEEE 802.3af, and Cisco prestandard, 10/100/1000 Ethernet module	24 Gbps	92
WS-X4648-RJ45V-E	48-port, IEEE 802.3af and Cisco prestandard, 10/100/1000 Ethernet module	24 Gbps	92
WS-X4648-RJ45-E	48-port, 10/100/1000 Ethernet module	24 Gbps	89
E-Series 1000BASE Ethernet Modules			
WS-X4640-CSFP-E	40-port SFP or 80-port CSFP 1000BASE-X module (requires either SFP or CSFP transceivers)	24 Gbps	160
WS-X4624-SFP-E	24-port, 1000BASE-X Ethernet module. (requires SFP transceivers)	24 Gbps	45
WS-X4612-SFP-E	12-port, 1000BASE-X Ethernet module. (requires SFP transceivers)	24 Gbps	30

Table 1 Catalyst 4500 E-Series and Classic Modules (continued)

Module	Description	Per Slot Bandwidth	Maximum Rated Power (W)
Classic 10/100/1000 Ethernet Modules			
WS-X4548-RJ45V+	48-port PoE IEEE 802.3at, IEEE 802.3af, and Cisco prestandard 10/100/1000 Ethernet module	6 Gbps	60
WS-X4548-GB-RJ45V	48-port PoE IEEE 802.3af, and Cisco prestandard 10/100/1000 Ethernet module	6 Gbps	60
WS-X4524-GB-RJ45V	24-port PoE IEEE 802.3af, and Cisco prestandard 10/100/1000 Ethernet module	6 Gbps	35
Classic 1000BASE Ethernet Modules			
WS-X4306-GB	6-port Gigabit Ethernet module (requires GBIC transceivers)	6 Gbps	35
WS-X4418-GB	18-port Gigabit Ethernet module (requires GBIC transceivers)	6 Gbps	80
WS-X4448-GB-SFP	48-port Gigabit Ethernet module (requires SFP transceivers)	6 Gbps	65
WS-X4506-GB-T	6-port 10/100/1000 PoE IEEE 802.3af compliant and Cisco prestandard compliant 1000BASE-X Ethernet module (requires SFP transceivers)	6 Gbps	30
Classic Fast Ethernet Modules			
WS-X4248-FE-SFP	48-port Fast Ethernet module (requires 100BASE-X SFP transceivers)	6 Gbps	53
Classic 10/100 Ethernet Modules			
WS-X4148-RJ	48-port 10/100 Ethernet module	6 Gbps	65
WS-X4248-RJ45V	48-port 10/100 PoE IEEE 802.3af compliant Ethernet module	6 Gbps	60

1. Power over Ethernet (PoE)

For additional hardware and software information on the Catalyst 4500 series product line including module and chassis data sheets, chassis installation documentation, tech notes, and software release notes, refer to the following URL:

http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd_products_support_series_home.html

Module Support and Restrictions

The Catalyst 4500 series modules can have restrictions on which chassis they can be installed in, the number of modules supported by each chassis, and which supervisor engines support the modules. The tables in this section provide an overview of the restrictions for the modules.

For additional information on module restrictions, refer to the software release notes at the following URL:

http://www.cisco.com/en/US/products/hw/switches/ps4324/tsd_products_support_general_information.html

E-Series 10-Gigabit Ethernet and Multigigabit Modules

Table 2 lists the support and restrictions along with the minimum and maximum port density for the E-series 10-Gigabit Ethernet modules.

Table 2 E-Series 10-Gigabit Ethernet and Multigigabit Modules Support and Restrictions

Module	Support and Restrictions	Minimum and Maximum Port Density
¹ WS-X4748-12X48U+E	<ul style="list-style-type: none"> Supported in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, and Catalyst 4510R+E switch chassis. Supported only with Supervisor Engine 7-E, Supervisor Engine 8-E, Supervisor Engine 7L-E. Not supported in slot 10 in the Cisco Catalyst 4510R-E switch chassis with Supervisor Engine 8-E, when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB. Can be installed on any non-supervisor chassis slot. 	<p>Mode 1 - Multigigabit Lite (Default)</p> <ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384 <p>Mode 2 - Multigigabit Enhanced</p> <ul style="list-style-type: none"> Catalyst 4503-E—36/72 Catalyst 4506-E, Catalyst 4507R+E—36/180 Catalyst 4510R+E—36/288 <p>Mode 3 - Multigigabit Performance</p> <ul style="list-style-type: none"> Catalyst 4503-E—12/24 Catalyst 4506-E, Catalyst 4507R+E—12/60 Catalyst 4510R+E—12/96
WS-X4712-SFP+E	<ul style="list-style-type: none"> Supported only with Supervisor Engine 7-E. Not supported in slot 10 in the Cisco Catalyst 4510R-E switch chassis, with Supervisor Engine 8-E when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—12/24 Catalyst 4506-E, Catalyst 4507R+E—12/60 Catalyst 4510R+E—12/96
WS-X4606-X2-E	<ul style="list-style-type: none"> Supported with Supervisor Engine 6-E, Supervisor Engine 6L-E, the Supervisor Engine 7-E, and the Supervisor Engine 7L-E. Supported only on Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, Catalyst 4507R-E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—6/12 (X2), 12/24 (SFP) Catalyst 4506-E, Catalyst 4507R+E—6/30 (X2), 12/60 (SFP) Catalyst 4510R+E—6/30 (X2), 12/60 (SFP)

1. Only ports 1 to 12 can be configured as 100/1000/2.5G/5G/10G Ethernet ports. For more information see, [Module Overview, page 2](#)

E-Series 10/100/1000 Ethernet Modules

Table 3 lists the support and restrictions along with the minimum and maximum port density for the E-series 10/100/1000 Ethernet modules.

Table 3 E-Series 10/100/1000 Ethernet Modules Support and Restrictions

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4748-UPOE+E	<ul style="list-style-type: none"> Supported only with Supervisor Engine 7-E. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R-E, Catalyst 4507R+E, Catalyst 4510R-E, and Catalyst 4510R+E switch chassis. Not supported in slot 10 in the Catalyst 4510R-E switch chassis with Supervisor Engine 8-E, when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384
WS-X4748-RJ45V+E	<ul style="list-style-type: none"> Supported only with Supervisor Engine 7-E. Not supported in slot 10 on the Catalyst 4510R-E switch chassis, with Supervisor Engine 8-E when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R-E, Catalyst 4507R+E, Catalyst 4510R-E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. Catalyst 4510R-E and Catalyst 4510R+E switches equipped with the Supervisor Engine 6-E do not support E-series modules in slots 8–10. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384
WS-X4748-RJ45V-E	<ul style="list-style-type: none"> Supported only with Supervisor Engine 7-E. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R-E, Catalyst 4507R+E, Catalyst 4510R-E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. Catalyst 4510R-E and Catalyst 4510R+E switches equipped with the Supervisor Engine 6-E do not support E-series modules in Slots 8–10. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384

Table 3 E-Series 10/100/1000 Ethernet Modules Support and Restrictions (continued)

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4648-RJ45V+E	<ul style="list-style-type: none"> Supported with Supervisor Engine 6-E, Supervisor Engine 6L-E, and the Supervisor Engine 7-E Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, Catalyst 4507R-E, Catalyst 4510R+E, and Catalyst 4510R-E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384 <p>Note You need a Supervisor Engine 7-E to support more than 240 ports on the Catalyst 4510R-E and Catalyst 4510R+E switch chassis</p> <p>Note Slots 8-10 on 4510R-E and 4510R+E chassis do not support E-Series line cards with Supervisor Engine 6-E.</p>
WS-X4648-RJ45V-E	<ul style="list-style-type: none"> Supported with Supervisor Engine 6-E, Supervisor Engine 6L-E, and the Supervisor Engine 7-E Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384 You need a Supervisor Engine 7-E to support more than 240 ports on the Catalyst 4510R-E and Catalyst 4510R+E switch chassis
WS-X4648-RJ45-E	<ul style="list-style-type: none"> Supported with Supervisor Engine 6-E, Supervisor Engine 6L-E, and the Supervisor Engine 7-E Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384 You need a Supervisor Engine 7-E to support more than 240 ports on the Catalyst 4510R-E and Catalyst 4510R+E switch chassis

E-Series 1000BASE Ethernet Modules

Table 4 lists the support and restrictions along with the minimum and maximum port density for the E-series 1000BASE Ethernet modules.

Table 4 *E-Series 1000BASE Ethernet Modules Support and Restrictions*

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4624-SFP-E	<ul style="list-style-type: none"> Supported with Supervisor Engine 7-E. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—24/48 Catalyst 4506-E, Catalyst 4507R+E—24/120 Catalyst 4510R+E—24/168
WS-X4612-SFP-E	<ul style="list-style-type: none"> Supported with Supervisor Engine 6-E, Supervisor Engine 6L-E, and the Supervisor Engine 7-E Not supported in slot 10 in the Cisco Catalyst 4510R-E switch chassis with Supervisor Engine 8-E, when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E, and Catalyst 4510R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—12/28 Catalyst 4506-E, Catalyst 4507R+E—12/64 Catalyst 4510R+E—12/100
WS-X4640-CSFP-E	<ul style="list-style-type: none"> Supported with Supervisor Engine 6-E, Supervisor Engine 6L-E, and the Supervisor Engine 7-E. Not supported in slot 10 in the Cisco Catalyst 4510R-E switch chassis with Supervisor Engine 8-E, when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB. Supported only in the Catalyst 4503-E, Catalyst 4506-E, Catalyst 4507R+E switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—40/160 Catalyst 4506-E, Catalyst 4507R+E—40/120

Classic 10/100/1000 Ethernet Modules

Table 5 lists the support and restrictions along with the minimum and maximum port density for the classic 10/100/1000 Ethernet modules.

Table 5 Classic 10/100/1000 Ethernet Modules Support and Restrictions

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4548-RJ45V+	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384
WS-X4548-GB-RJ45V	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384
WS-X4524-GB-RJ45V	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—24/48 Catalyst 4506-E, Catalyst 4507R+E—24/120 Catalyst 4510R+E—24/168
WS-X4548-GB-RJ45	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E, and Supervisor Engine 7L-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384

Classic 1000BASE Ethernet Modules

Table 6 lists the support and restrictions along with the minimum and maximum port density for the classic 1000BASE Ethernet modules.

Table 6 Classic 1000BASE Ethernet Modules Support and Restrictions

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4306-GB	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—6/12 Catalyst 4506-E, Catalyst 4507R+E—6/30 Catalyst 4510R+E—6/42
WS-X4418-GB	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—19/36 Catalyst 4506-E, Catalyst 4507R+E—18/90 Catalyst 4510R+E—18/126
WS-X4448-GB-LX	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384
WS-X4448-GB-SFP	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R+E—48/240 Catalyst 4510R+E—48/384
WS-X4506-GB-T	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—6/12 Catalyst 4506-E, Catalyst 4507R+E—6/30 Catalyst 4510R+E—6/42

Classic Fast Ethernet Modules

Table 7 lists the support and restrictions along with the minimum and maximum port density for the classic fast 100BASE Ethernet modules.

Table 7 Classic Fast Ethernet Modules Support and Restrictions

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4248-FE-SFP	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R-E, Catalyst 4507R+E—48/240 Catalyst 4510R-E, Catalyst 4510R+E—48/384

Classic 10/100 Ethernet Modules

Table 8 lists the support and restrictions along with the minimum and maximum port density for the classic 10/100 Ethernet modules.

Table 8 Classic 10/100 Ethernet Modules Support and Restrictions

Module	Support and Restrictions	Minimum and Maximum Port Density
WS-X4148-RJ	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. Not supported in slot 10 in the Cisco Catalyst 4510R+E chassis with Supervisor Engine 8-E, when the uplink mode is 80GB, and is supported only when uplink mode is set to 40GB 	<ul style="list-style-type: none"> Catalyst 4503-E—48/96 Catalyst 4506-E, Catalyst 4507R-E, Catalyst 4507R+E—48/240 Catalyst 4510R-E, Catalyst 4510R+E—48/384
WS-X4248-RJ45V	<ul style="list-style-type: none"> Supported with Supervisor Engine V-10GE, Supervisor Engine 6-E, Supervisor Engine 6L-E, Supervisor Engine 7-E. Supported in the Catalyst 4500 and Catalyst 4500 E-Series switch chassis. Can be installed in any non-supervisor engine slot. 	<ul style="list-style-type: none"> Catalyst 4503—48/96 Catalyst 4506-E, Catalyst 4507R-E, Catalyst 4507R+E—48/240 Catalyst 4510R-E, Catalyst 4510R+E—48/384

Module LEDs

Table 9 lists the E-series module front panel LEDs and their meanings.


Note

Non-PoE modules do not have the POE LED.

Table 9 **Module LEDs and Their Meaning**

LED	Description
STATUS	<p>The STATUS LED indicates the results of a series of self-tests and diagnostic tests performed by the switch.</p> <p>Green—All diagnostics pass, the module is operational.</p> <p>Orange—The module is booting or running diagnostics or the module is disabled.</p> <p>Red—A test other than an individual port test has failed. On some modules, this LED turns red immediately after the system is powered on, until the software boot-up process begins.</p>
LINK or port number	<p>The LINK or port number LED indicates the status of the individual port.</p> <p>Green—The port is active (the link is connected and operational).</p> <p>Off—No signal is detected or when the port is disabled.</p> <p>Flashing orange—The link is disabled due to a hardware failure.</p>
POE	<p>Modules that support PoE¹ have an LED that indicates status of the PoE circuitry.</p> <p>Green—The PoE circuitry on the module is operational.</p> <p>Off—The PoE circuitry is not detected.</p>

1. Power over Ethernet (PoE)

Transceiver Support

Table 10 lists the E-series modules that support removable transceivers and the type and speed of transceivers that are supported.

Table 10 E-Series Module Transceiver Support

Module	Transceiver Type Supported	Speed
WS-X4712-SFP+E	SFP+ or SFP	Either 10GBASE-X using SFP+ transceivers or 1000BASE-X using SFP transceivers. Both types of transceivers can be used simultaneously without restriction.
WS-X4606-X2-E	X2 or SFP	Either 10GBASE-X X2 transceivers or 1000BASE-X using SFP transceivers with a TwinGig Converter Module ¹ . Both types of transceivers can be used simultaneously without restriction.
WS-X4624-SFP-E	SFP	1000BASE-X
WS-X4640-CSFP-E	SFP or CSFP	1000BASE-X
WS-X4612-SFP-E	SFP	1000BASE-X
WS-X4306-GB	GBIC	1000BASE-X
WS-X4418-GB	GBIC	1000BASE-X
WS-X4448-GB-SFP	SFP	1000BASE-X
WS-X4506-GB-T	SFP	1000BASE-X
WS-X4248-FE-SFP	SFP	100BASE-X

1. The Cisco TwinGig Converter Module (CVR-X2-SFP) is a hot-swappable input/output (I/O) device that installs in a module's 10-Gigabit Ethernet X2 port. It converts a single 10-Gigabit X2 interface into a dual 1000BASE-X SFP interface.

For a complete up-to-date list of supported transceiver types and their software support requirements for each module, refer to the transceiver compatibility matrices at the following url:

http://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html

Power over Ethernet Support

Some of the Catalyst 4500 E-series modules support Power over Ethernet (PoE). [Table 11](#) lists the Catalyst 4500 E-series modules that support PoE and the IEEE standards that they support.

Table 11 Catalyst 4500 E-Series PoE Modules

Module	PoE Support
WS-X4748-12X48U+E	IEEE 802.3at, IEEE 802.3af, Cisco prestandard
WS-X4748-UPOE+E	IEEE 802.3at, IEEE 802.3af, Cisco prestandard
WS-X4748-RJ45V+E	IEEE 802.3at, IEEE 802.3af, Cisco prestandard
WS-X4648-RJ45V+E	IEEE 802.3at, IEEE 802.3af, Cisco prestandard
WS-X4648-RJ45V-E	IEEE 802.3af, Cisco prestandard

Table 11 Catalyst 4500 E-Series PoE Modules (continued)

Module	PoE Support
WS-X4548-RJ45V+	IEEE 802.3at, IEEE 802.3af, Cisco prestandard
WS-X4548-GB-RJ45V	IEEE 802.3af, Cisco prestandard
WS-X4524-GB-RJ45V	IEEE 802.3af, Cisco prestandard
WS-X4506-GB-T	IEEE 802.3af, Cisco prestandard
WS-X4248-RJ45V	IEEE 802.3af, Cisco prestandard

For information on configuring and using PoE on your switch, refer to the Configuring Power Over Ethernet chapter in the software configuration guide for your software release at the following URL:

http://www.cisco.com/en/US/products/hw/switches/ps4324/products_installation_and_configuration_guides_list.html

Safety

Safety warnings appear throughout this publication in procedures that may harm you if performed incorrectly or are ignored. A warning symbol precedes each warning statement.

Statement 1071—Warning Definition



Warning

IMPORTANT SAFETY INSTRUCTIONS

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. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Waarschuwing

BELANGRIJKE VEILIGHEIDSINSTRUCTIES

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 de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus	<p>TÄRKEITÄ TURVALLISUUSOHJEITA</p> <p>Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.</p> <p>SÄILYTÄ NÄMÄ OHJEET</p>
Attention	<p>IMPORTANTES INFORMATIONS DE SÉCURITÉ</p> <p>Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.</p> <p>CONSERVEZ CES INFORMATIONS</p>
Warnung	<p>WICHTIGE SICHERHEITSHINWEISE</p> <p>Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.</p> <p>BEWAHREN SIE DIESE HINWEISE GUT AUF.</p>
Avvertenza	<p>IMPORTANTI ISTRUZIONI SULLA SICUREZZA</p> <p>Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.</p> <p>CONSERVARE QUESTE ISTRUZIONI</p>
Advarsel	<p>VIKTIGE SIKKERHETSINSTRUKSJONER</p> <p>Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.</p> <p>TA VARE PÅ DISSE INSTRUKSJONENE</p>

Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

¡Advertencia! INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES

Varning! VIKTIGA SÄKERHETSANVISNINGAR

Denna varningssignal 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 vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR

Figyelem FONTOS BIZTONSÁGI ELOÍRÁSOK

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejte helyzetben van. Mielőtt bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告 重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

주의 重要 안전 지침

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

이 지시 사항을 보관하십시오.

Aviso **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES**Advarsel** **VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemeskade. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER**تحذير****إرشادات الأمان الهامة**

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في أحر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

Upozorenje VAŽNE SIGURNOSNE NAPOMENE

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE**Upozornění DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY**

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY**Προειδοποίηση ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ**

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθειες πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ**אזהרה****הוראות בטיחות חשובות**

סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה**Opomena VAŽNI BEZBEDNOSNI NAPATSTVIJA**

Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во prevedените безбедносни предупредувања што се испорачани со уредот.

ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА

Ostrzeżenie WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ

Upozornenie DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

USCHOVAJTE SI TENTO NÁVOD

Module Installation

This section describes how to install the switching modules in Catalyst 4500 series switch chassis.



Warning

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034

Required Tools

You will need these tools to install or remove supervisor engines and switching modules in the Catalyst 4500 series switches:

- Wrist strap or other personal grounding device
- Antistatic mat or antistatic bag
- Number 1 and number 2 Phillips screwdrivers for the captive installation screws on most modules
- 3/16-inch flat-blade screwdriver for the captive installation screws on some modules

Installing the Modules



Warning

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034



Warning

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051



Caution

To prevent electrostatic discharge (ESD) damage, handle modules by the carrier edges only.

To install modules in a Catalyst 4500 series switch, follow these steps:

- Step 1** Take the necessary precautions to prevent ESD damage. Wear a grounded ESD wrist strap while handling the modules, and keep them in ESD-protective bags when they are not installed in a chassis.
- Step 2** Choose a slot for the new module.
Verify that you have enough clearance for any interface equipment that you are connecting directly to the switching module ports.
- Step 3** Loosen the captive installation screws that secure the existing module or the blank module filler plate in the slot you want to use.
- Step 4** Remove the existing module and immediately place it on an antistatic mat or in an antistatic bag. If you are removing a blank module filler plate, set the blank module filler plate aside for future use.

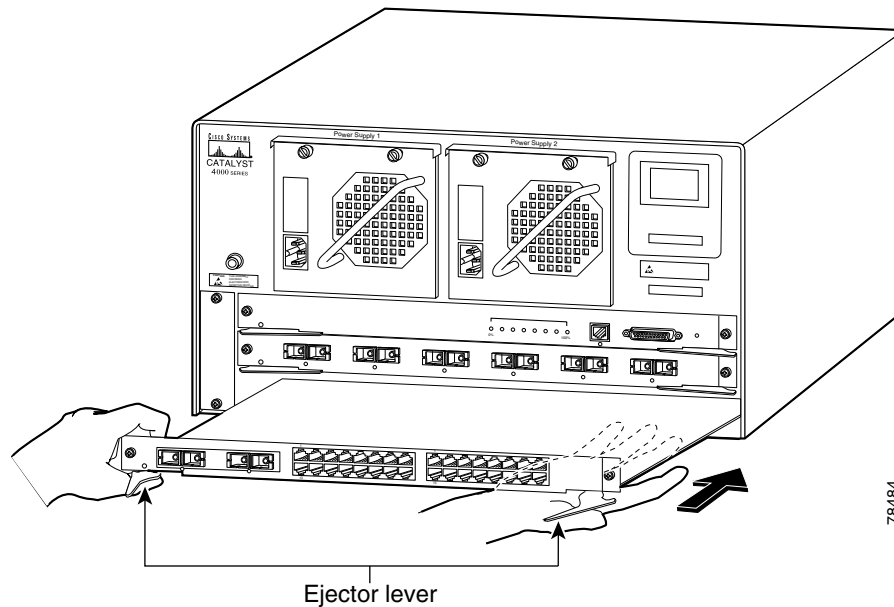


Note

To ensure the proper air flow and to maintain EMI protection, make sure that there is a blank module filler plate (C4K-SLOT-CVR-E) installed in any unused chassis slot. If a chassis slot are left open, air circulation is disrupted and the fans may not be able to adequately cool the other modules in the chassis.

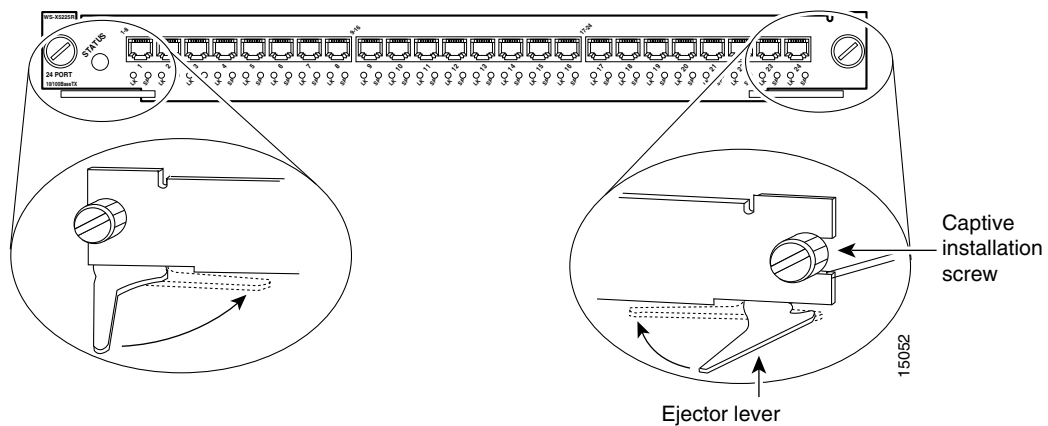
- Step 5** Remove the new module from its packaging being careful to handle the module using only the module's metal tray or the front panel. Do not touch the printed circuit board or the connector pins.
- Step 6** Position the module in front of the chassis slot and align the edges of the module carrier with the slot guides on the sides of the switch chassis. (See [Figure 1.](#))

Figure 1 Installing the Module in the Chassis



- Step 7** Pivot the two module ejector levers out away from the module faceplate.
- Step 8** Carefully slide the module into the slot until the notches on both ejector levers engage the chassis sides (the ejector levers start to pivot in towards the faceplate).
- Step 9** Using your thumb and forefinger of each hand, simultaneously pivot in both ejector levers, as shown in [Figure 2](#), to fully seat the module in the backplane connector.

Figure 2 Module Ejector Lever Operation



Caution

Always use the ejector levers when installing or removing modules. A module that is only partially seated in the backplane causes the system to halt or subsequently crash. Further, an improperly seated module may also prevent the system from booting properly.



Note

If you perform a hot swap, the console displays the message “Module *n* has been inserted.” This message also appears if you are connected to the Catalyst 4500 series switch through a Telnet session.

- Step 10** Use a screwdriver to tighten the captive installation screw on each end of the module faceplate (see [Figure 2](#)).
- Step 11** Install any necessary transceivers in the module ports. Installation instructions along with safety warnings for the various types of transceivers can be found at the following URL:
http://www.cisco.com/en/US/products/hw/modules/ps5455/prod_installation_guides_list.html
- Step 12** Attach any necessary network interface cables or other devices to the interface ports.
- Step 13** Check the status of the module as follows:
 - a. Ensure that the LED labeled STATUS is green (module operational).
 - b. When the switch is on line, enter the **show module** command. Verify that the system acknowledges the new module and that the module status is good.
- Step 14** If the module is not operational, try reseating it in the slot. If the module is still not operational, contact your customer representative.

Removing the Modules



Warning

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034



Warning

Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051

You will need a blank module filler plate (C4K-SLOT-CVR-E) if the module slot is to remain empty. To remove a switching module from a Catalyst 4500 series switch, follow these steps:

- Step 1** Disconnect any network interface cables attached to the module ports.
- Step 2** If the module is equipped with removable optical transceivers, immediately install dust plugs into the transceiver’s optical bores. This prevents possible dust contamination, which can affect port performance.
- Step 3** With a Phillips screwdriver, completely loosen the two captive screws located at each end of the module faceplate.
- Step 4** Grasp the left and right ejector levers and simultaneously pivot the levers outward to eject the module from the backplane connector.
- Step 5** Grasp the module front panel with one hand, and place your other hand under the module (on the metal carrier) to support and guide it out of the slot. Do not touch the printed circuit boards or connector pins.
- Step 6** Pull the module straight out of the slot, keeping one hand under the module to support it.

- Step 7** Immediately place the removed module on an antistatic mat, in an antistatic bag, or install it in another slot.

**Warning**

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

Statement 1029

- Step 8** If the slot is to remain empty, install a blank module filler plate (C4K-SLOT-CVR-E) to keep dust out of the chassis, maintain proper airflow through the chassis, preserve electromagnetic interference (EMI) integrity, and to prevent exposure to high current inside the chassis.

Configuring the Module

To set up the configuration for your switch and module, refer to the software configuration guide for your specific software release at:

http://www.cisco.com/en/US/products/hw/switches/ps4324/products_installation_and_configuration_guides_list.html

Setting Up Power Over Ethernet

To set up Power over Ethernet (PoE) on Catalyst 4500 E-series modules that support PoE, refer to the PoE section in the software configuration guide for your specific software release at:

http://www.cisco.com/en/US/products/hw/switches/ps4324/products_installation_and_configuration_guides_list.html

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>

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