

# OmniSwitch<sup>®</sup> 6600 Family

## Getting Started Guide

060178-10, Rev. E  
March 2005



**Warning.** Only personnel knowledgeable in basic electrical and mechanical procedures should install or maintain this equipment.

**Lithium Batteries Caution.** There is a danger of explosion if the Lithium battery in your chassis is incorrectly replaced. Replace the battery only with the same or equivalent type of battery recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. The manufacturer's instructions are as follows:

**Return the module with the Lithium battery to Alcatel. The Lithium battery will be replaced at Alcatel's factory.**

**The features and specifications described in this guide are subject to change without notice.**

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This OmniSwitch product contains components which may be covered by one or more of the following U.S. Patents:

- U.S. Patent No. 6,339,830
- U.S. Patent No. 6,070,243
- U.S. Patent No. 6,061,368
- U.S. Patent No. 5,394,402
- U.S. Patent No. 6,047,024
- U.S. Patent No. 6,314,106
- U.S. Patent No. 6,542,507



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# OmniSwitch 6600 Family

## Features

The OmniSwitch 6600 Family (OS6624, OS6600-U24, OS6648, OS6600-P24, OS6602-24, and OS6602-48) are next generation enterprise edge/workgroup switches. These switches are based on the same software architecture as OmniSwitch 7000 and 8000 series switches (i.e., OS7700, OS7800, and OS8800). These switches are designed to meet the most stringent network requirements for mission-critical networks.

OmniSwitch 6600 Family switches are optimized for voice and data integration and provide non-blocking multi-Gigabit Ethernet capacity. Additional features include Carrier-class intelligence, best of breed QoS, Carrier-class resiliency, network management, and advanced policy-based VLANs and security. OmniSwitch 6600 Family switches also support wire-speed Layer 2 and Layer 3 switching, industry-based standards, and a full array of reliability, redundancy and resiliency capabilities.

## Stand-Alone and Stacked Configurations

### Stand-Alone

A stand-alone OmniSwitch 6600 Family switch is ideal for small and medium-sized network edge applications, offering 24 10/100 ports (OS6624 and OS6602-24), 24 Power over Ethernet (PoE) ports (OS6600-P24), 48 10/100 (OS6648 and OS6602-48) ports, and 24 100 SFP ports (OS6600-U24). These switches provide support for enterprise-based devices, such as computer workstations or IP telephones.

A single OmniSwitch 6600 Family also supports two Gigabit Ethernet uplinks for high-bandwidth connections to a backbone or server.

## Stacked Configurations

In addition to working as individual, stand-alone switches, OmniSwitch 6600 Family switches can also be linked together to form a single, high-density virtual chassis known as a *stack*.

Stacking switches provides scalability by allowing users to quickly and easily expand 10/100 port density. Twenty-four 10/100 ports are added for each OS6624 brought into the stack; twenty-four 100 SFP ports are added for each OS6600-U24; forty-eight 10/100 ports are added for each OS6648.

Up to eight switches can be stacked. OmniSwitch 6600 Family switches can be mixed and matched in *any combination* within the stack. This provides a virtual chassis with a 10/100 or 100 capacity of up to 384 ports.

As with the stand-alone configuration, a stacked virtual chassis configuration provides Gigabit Ethernet uplinks to a backbone or server.

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**Note.** For basic information on stacking OmniSwitch 6600 Family switches into a virtual chassis, refer to [“Completing a Stacked Configuration” on page 24](#). For additional information, refer to the *OmniSwitch 6600 Family Hardware Users Guide*.

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## Availability Features

The OmniSwitch 6600 Family provides a broad variety of *Availability* features. Availability features are hardware- and software-based safeguards that help prevent the loss of data flow in the event of a subsystem failure.

In addition, some Availability features allow you to maintain or replace hardware components without powering off your switch or interrupting switch operations.

Combined, these features provide added resiliency and help ensure that your switch is consistently available for your day-to-day network operations.

Hardware-related Availability features include:

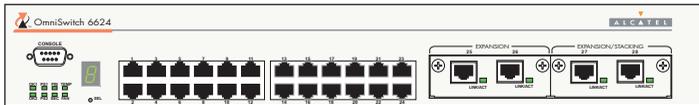
- Smart Continuous Switching
- Software Rollback
- Hot Swapping
- Hardware Monitoring

For information on these Availability features, refer to the *OmniSwitch 6600 Family Hardware Users Guide*.

## Chassis Types

### OmniSwitch 6624 (OS6624)

The OS6624 is a stackable edge/workgroup switch offering 24 10/100 Ethernet ports. The OS6624 can also be equipped with up to four Gigabit Ethernet ports for connections to a high speed backbone or server.

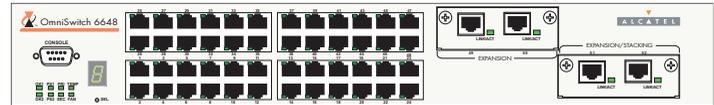


The OS6624 chassis contains the following components:

- Console port (DB-9)
- Stack indicator and status LEDs
- 24 10/100 Ethernet ports
- One slot for OS6600-GNI-U2 (fiber) or OS6600-GNI-C2 (copper) Gigabit Ethernet uplink module
- One slot for a Gigabit Ethernet uplink module as described above *or* a stacking module
- Factory-installed power supply
- Bay for optional back up power supply
- Built-in fan tray with three fans
- Grounding block for type LCD8-10A-L grounding lug

## OmniSwitch 6648 (OS6648)

The OS6648 is a stackable edge/workgroup switch offering 48 10/100 Ethernet ports. The OS6648 can also be equipped with up to four Gigabit Ethernet ports for connections to a high speed backbone or server.

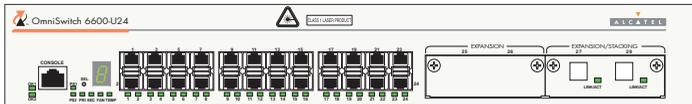


The OS6648 chassis contains the following components:

- Console port (DB-9)
- Stack indicator and status LEDs
- 48 10/100 Ethernet ports
- One slot for OS6600-GNI-U2 (fiber) or OS6600-GNI-C2 (copper) Gigabit Ethernet uplink module
- One slot for a Gigabit Ethernet uplink module as described above *or* a stacking module
- Factory-installed power supply
- Bay for optional back up power supply
- Built-in fan tray with three fans
- Grounding block for type LCD8-10A-L grounding lug

## OmniSwitch 6600-U24 (OS6600-U24)

The OS6600-U24 is a stackable edge/workgroup switch offering 24 100 SFP Ethernet ports. The OS6600-U24 can also be equipped with up to four Gigabit Ethernet ports for connections to a high speed backbone or server.

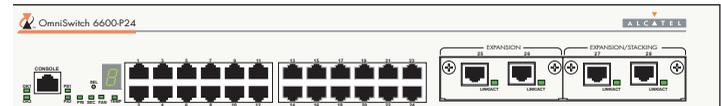


The OS6600-U24 chassis contains the following components:

- Console port (RJ-45)
- Stack indicator and status LEDs
- 24 100 Ethernet SFP ports
- One slot for OS6600-GNI-U2 (fiber) or OS6600-GNI-C2 (copper) Gigabit Ethernet uplink module
- One slot for a Gigabit Ethernet uplink module as described above *or* a stacking module
- Factory-installed power supply
- Bay for optional back up power supply
- Built-in fan tray with three fans
- Grounding block for type LCD8-10A-L grounding lug

## OmniSwitch 6600-P24 (OS6600-P24)

The OS6600-P24 is a stackable edge/workgroup switch offering 24 Power over Ethernet (PoE) 10/100 Ethernet ports. The OS6600-P24 can also be equipped with up to four Gigabit Ethernet ports for connections to a high speed backbone or server.



The OS6600-P24 chassis contains the following components:

- Console port (RJ-45)
- Stack indicator and status LEDs
- 24 10/100 PoE ports
- One slot for OS6600-GNI-U2 (fiber) or OS6600-GNI-C2 (copper) Gigabit Ethernet uplink module
- One slot for a Gigabit Ethernet uplink module as described above *or* a stacking module
- Factory-installed power supply
- Connector for optional back up power supply
- Built-in fan tray with three fans
- Grounding block for type LCD8-10A-L grounding lug

## OmniSwitch 6602-24 (OS6602-24)

The OS6602-24 is a stackable edge/workgroup switch offering 24 10/100 Ethernet ports. The OS6602-24 can also be equipped with up to two Gigabit Ethernet ports for connections to a high speed backbone or server.

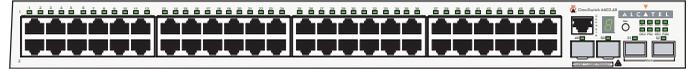


The OS6602-24 chassis contains the following components:

- Console port (RJ-45)
- Stack indicator and status LEDs
- 24 10/100 Ethernet ports
- Two slots for MiniGBICs
- Two built-in stacking ports
- Factory-installed power supply
- Bay for optional back up power supply
- Built-in fan tray with three fans
- Grounding block for type LCD8-10A-L grounding lug

## OmniSwitch 6602-48 (OS6602-48)

The OS6602-48 is a stackable edge/workgroup switch offering 48 10/100 Ethernet ports. The OS6602-48 can also be equipped with up to two Gigabit Ethernet ports for connections to a high speed backbone or server.



The OS6602-48 chassis contains the following components:

- Console port (RJ-45)
- Stack indicator and status LEDs
- 48 10/100 Ethernet ports
- Two slots for MiniGBICs
- Two built-in stacking ports
- Factory-installed power supply
- Bay for optional back up power supply
- Built-in fan tray with three fans
- Grounding block for type LCD8-10A-L grounding lug

# Setting Up the Hardware

## Items Required

In addition to the materials and components provided in the OmniSwitch 6600 Family shipment, you must provide the following items in order to complete this installation:

- Grounding wrist strap
- Phillips screwdriver
- Serial cable
- Rack mount screws, if applicable

## Site Preparation

### Environmental Requirements

OmniSwitch 6600 Family switches have the following environmental and airflow requirements:

- The installation site must maintain a temperature between 0° and 45° Celsius (32° and 122° Fahrenheit) and not exceed 95 percent maximum humidity (non-condensing) at any time.
- Be sure to allow adequate room for proper air ventilation and access at the front, back, and sides of the switch. No clearance is necessary at the top or bottom of the chassis. Refer to [“Airflow Considerations” on page 9](#) for minimum clearance requirements.

## Electrical Requirements

OmniSwitch 6600 Family switches have the following general electrical requirements:

- Each switch requires one grounded AC power source for each power supply installed in the chassis .
- Grounded AC power source must be 110V for North American installations (220V international).
- Each supplied AC power cord is 2 meters (approximately 6.5 feet) long. Do not use extension cords.

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**Redundant Circuit Recommendation.** If possible, it is recommended that the primary and back up power supplies are plugged into AC sources on separate circuits. With redundant AC, if a single circuit fails, the switch’s back up power supply (on a separate circuit) will likely be unaffected and can therefore continue operating.

---

## Weight Considerations

### OS6624

With a back up power supply installed, a single OS6624 weighs approximately 13.5 lbs (6.1 Kgs).

A stack of eight OS6624 switches—fully populated with uplink and stacking modules and back up power supplies—weighs approximately 108 lbs (49.1 Kgs).

### OS6648

With a back up power supply installed, a single OS6648 weighs approximately 15.5 lbs (6.8 Kgs).

A stack of eight OS6648 switches—fully populated with uplink and stacking modules and back up power supplies—weighs approximately 124 lbs (56.4 Kgs).

### OS6600-U24

With a back up power supply installed, a single OS6600-U24 weighs approximately 13.06 lbs (5.92 Kgs).

A stack of eight OS6600-U24 switches—with back up power supplies— weighs approximately 104.48 lbs (47.36 Kgs).

### OS6600-P24

Without a back up power supply installed, a single OS6600-P24 weighs approximately 12 lbs (4.5 Kgs).

A stack of eight OS6600-P24 switches—without back up power supplies— weighs approximately 96 lbs (36 Kgs).

### OS6602-24

Without a back up power supply installed, a single OS6602-24 weighs approximately 12 lbs (4.5 Kgs).

A stack of eight OS6602-24 switches—without back up power supplies— weighs approximately 96 lbs (36 Kgs).

### OS6602-48

Without a back up power supply installed, a single OS6602-48 weighs approximately 12 lbs (4.5 Kgs).

A stack of eight OS6602-48 switches—without back up power supplies— weighs approximately 96 lbs (36 Kgs).

## Items Included

Your OmniSwitch 6600 Family switch order includes the following items:

- OmniSwitch chassis
- Blank cover panels for empty uplink module and backup power supply bays
- Rack mount flanges with attachment screws
- Grounding wrist strap
- Power cord (country-specific)

- Hardcopy *OmniSwitch 6600 Family Getting Started Guide* (OS6624, OS6648, OS6600-U24, OS6600-P24 only)
- Documentation CD containing the following OmniSwitch 6600 Family-specific manuals:

*OmniSwitch 6600 Family Getting Started Guide*

*OmniSwitch 6600 Family Hardware Users Guide*

*OmniSwitch CLI Reference Guide*

*OmniSwitch 6600 Family Switch Management Guide*

*OmniSwitch 6600 Family Network Configuration Guide*

*OmniSwitch 6600 Family Advanced Routing Configuration Guide*

## Optional Items

Depending on your order, the OmniSwitch shipment may also include one or more of the following optional items:

- Back up power supply
- OS6600-GNI-U2 or OS6600-GNI-C2 Gigabit Ethernet uplink modules
- MiniGBIC-SX, MiniGBIC-LX, or MiniGBIC-LH-70 Mini Gigabit Ethernet Interface Converters (for switches using OS6600-GNI-U2 uplink modules only)

- SFP-100-LC-MM, SFP-100-LC-SM, or SFP-100-MTRJ 100 Mbps SFPs (OS6600-U24 only)
- Stacking kit (includes one stacking module and 30 centimeter cable)
- Redundant stacking kit (includes one stacking module and one-meter cable)

## Unpacking and Initial Setup

### Unpacking the Chassis

To protect your OmniSwitch chassis and hardware components from electrostatic discharge (ESD) and physical damage, read all unpacking recommendations and instructions carefully before beginning.

### Recommendations

- Unpack your OmniSwitch chassis as close as possible to the location where it will be installed.
- Depending on your order, uplink modules, MiniGBICs, stacking modules, and SFPs may be packaged separately. In order to greatly reduce exposure to electrostatic discharge (ESD) and physical damage, do not unpack these items until they are ready to be installed.

## Instructions

- 1 Carefully cut the tape along the seam at the top of the box containing the chassis.
- 2 Lift the box's top flaps. Remove any smaller boxes or pouches that are enclosed and set them aside.
- 3 Lift the chassis out of the packaging.
- 4 Carefully remove the foam pads and protective plastic from the switch chassis.

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**Note.** Alcatel provides factory-installed blank cover plates for empty module slots. Because they play an important role in chassis ventilation, do not remove these cover plates unless a module or back up power supply is to be installed immediately at the corresponding slot.

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- 5 If you are installing multiple switches in a stacked configuration, repeat steps 1 through 4 for the remaining switches that will make up the stack.
- 6 Once all OmniSwitch 6600 Family switches have been removed from their packaging, continue to [“Setting Up the Switch” on page 9](#).

## Setting Up the Switch

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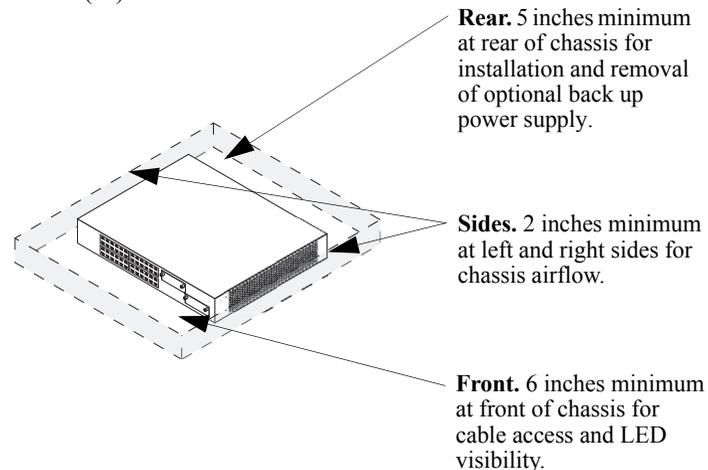
**Note.** Due to their airflow and access requirements, OmniSwitch 6600 Family switches cannot be wall-mounted.

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### Airflow Considerations

Be sure that your switch is placed in a well-ventilated, static-free environment. Always allow adequate clearance at the front, rear, and sides of the switch.

The following diagram shows recommended minimum clearances for adequate chassis airflow and access to components at the rear of the chassis—e.g., back up power supply and power switch(es).



**Chassis Top View**

Never obstruct the air vents located at the left and right sides of the chassis.

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**Note.** Clearance is not required at the top and bottom of the chassis. For detailed chassis airflow diagrams, refer to the *Hardware Users Guide*.

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There are two ways in which the OmniSwitch 6600 Family can be installed:

- Tabletop installation
- Rack-mount installation

For information on setting up a switch as a tabletop unit, refer to “[Installing the Switch on a Tabletop or Bench](#)” on [page 10](#). For information on rack-mounting the switch, refer to “[Rack-Mounting the Switch](#)” on [page 11](#).

## Installing the Switch on a Tabletop or Bench

OmniSwitch 6600 Family switches can be installed freestanding as tabletop units. Locate your switch in a stable, flat, static-free surface.

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**Note.** OmniSwitch 6600 Family switches must be placed “right side up.” Never attempt to operate a switch positioned on its side.

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To install the switch as a tabletop unit, follow the steps below:

- 1** Position the chassis on the table or bench where it is to be installed. Refer to [page 7](#) for chassis weight considerations.
- 2** Be sure that adequate clearance has been provided for chassis airflow and access to the front, back, and sides of the switch. For recommended clearances, refer to [page 9](#). Also, be sure that you have placed the chassis within reach of all required AC power sources. For environmental and electrical requirements, refer to [page 6](#).
- 3** If you are placing multiple switches in a stacked configuration, carefully stack the remaining switches, one on top of the other. Up to eight switches may be stacked to form a single virtual chassis. Be sure to maintain adequate clearance at the front, rear, left, and right side of all switches.
- 4** Verify that the on/off switch for each OmniSwitch 6600 Family is in the off ( O ) position.

**5** Plug the power cord (supplied) into the power socket located on the switch's rear panel; next, plug the cord into an easily-accessible grounded AC power source. See [“Electrical Requirements” on page 6](#) for more information.

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**Note.** *Do not* turn on the power supplies at this time. You will power on all switches later in the setup process.

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**6** Continue to [“Installing a Back Up Power Supply \(OS6624, OS6648, OS6600-U24\)” on page 14](#).

## Rack-Mounting the Switch

Refer to the important guidelines below before installing the OmniSwitch chassis in a rack.

- It is recommended that two people install the switch in the rack—one person to hold the chassis and position it in the rack, and a second person to secure the chassis to the rack using attachment screws (not supplied).
- Alcatel provides two rack-mount flanges with each OmniSwitch 6600 Family switch. These flanges support standard 19-inch rack mount installations. These flanges must be attached to the chassis before the switch can be rack mounted.

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**Note.** If you are installing the switch in a 23-inch wide rack, Alcatel offers optional 23-inch rack-mounting hardware. For more information, contact your Alcatel representative.

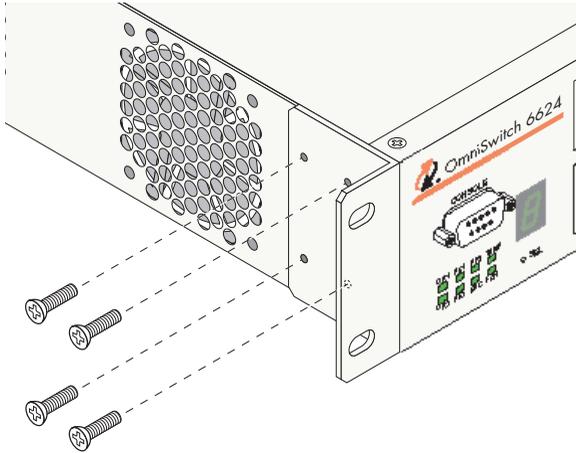
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- Alcatel does not provide rack-mount screws. Use the screws supplied by the rack vendor.
- To prevent a rack from becoming top heavy, it is recommended that you install heavier equipment at the bottom of the rack whenever possible.
- If you are installing the switch in a relay rack, be sure to install and secure the rack per the rack manufacturer's specifications.
- Review [page 9](#) for important chassis airflow and access recommendations before installing.

To rack-mount the switch, follow the steps below.

**1** Align the holes in the provided rack-mount flanges with the four threaded holes in the OmniSwitch chassis. These threaded holes are located in the left and right sides of the chassis, near the front panel.

**2** Attach the flanges to the chassis using the provided Phillips-head screws. Be sure to tighten each of the screws firmly using a Phillips screwdriver.

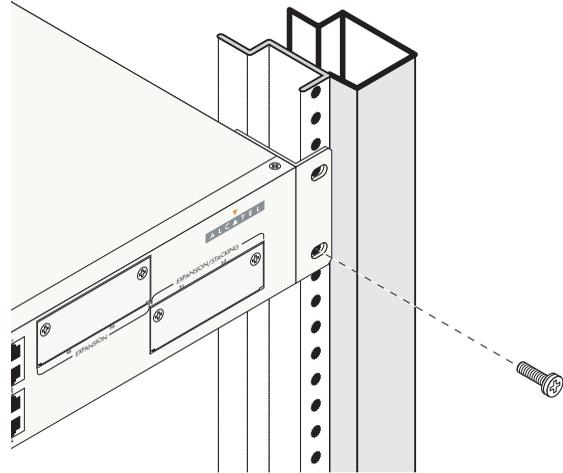


**3** After the rack-mount flanges are secured to the chassis, mark the holes on the rack where the switch is to be installed.

**4** Lift and position the switch until the rack-mount flanges are flush with the rack post.

**5** Align the holes in the flanges with the rack holes that were marked in step 3.

**6** Once the holes are aligned, insert a rack mount screw (not provided) through the *bottom hole of each flange*. Tighten both screws until they are secure.



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**Note.** Be sure to install the screws in the *bottom hole* of each flange, as shown, before proceeding.

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**7** Once the screws at the bottom of each flange are secure, install the remaining two rack mount screws. Be sure that all screws are securely tightened.

**8** On OS6624, OS6648, OS660-U24, and OS6600-P24 switches verify that the on/off switch for the OmniSwitch 6600 Family switch is in the off ( O ) position. The on/off switch is located on the switch's rear panel.

**9** Plug the power cord (supplied) into the power socket located on the switch's rear panel; next, plug the cord into an easily-accessible grounded AC power source. See [“Electrical Requirements” on page 6](#) for more information.

---

**Note.** *Do not* turn on the power supply at this time. You will power on the switch later in the setup process.

---

**10** If you wish to install a supplemental ground for the switch, you may attach a type LCD8-10A-L grounding lug to the grounding lug, located on the switch's rear panel. Install the type LCD8-10A-L grounding lug per manufacturer's specifications.

**11** If you are installing multiple switches in a rack to form a stacked configuration, refer to [“Rack Mounting Stacked Configurations” on page 13](#). If you are not installing a stacked configuration, continue to [“Installing a Back Up Power Supply \(OS6624, OS6648, OS6600-U24\)” on page 14](#).

## Rack Mounting Stacked Configurations

If you are rack mounting multiple switches in a stacked configuration, be sure to place all switches in vertically-adjacent rack positions. This will ensure that all required stacking cables will have adequate length for the installation. For additional instructions on rack mounting a stacked configuration, follow the steps below:

- 1** Install the rack mount flanges for *all switches* that are to be included in the stacked configuration, as described on [page 11](#). Up to eight switches may be stacked to form a single virtual chassis.
- 2** Place the next switch in the stack directly on top of the previously installed switch.
- 3** Align the holes in the flanges with the holes in the rack's vertical posts.
- 4** Once the holes are aligned, insert a rack mount screw through the bottom hole of each flange. Tighten both screws until they are secure. Once the screws at the bottom of each flange are secure, install the remaining two rack mount screws. Be sure that all screws are securely tightened.
- 5** Repeat steps 1 through 4 above for all remaining switches.
- 6** On OS6624, OS6648, OS660-U24, and OS6600-P24 switches verify that the on/off switch for each OmniSwitch 6600 Family switch is in the off ( O ) position.

**7** Plug a power cord (supplied) into the power socket of each switch; next, plug each cord into an easily-accessible grounded AC power source.

---

**Note.** *Do not* turn on the power supplies at this time. You will power on all switches later in the setup process.

---

**8** If you wish to install a supplemental ground for each switch, you may attach a type LCD8-10A-L grounding lug to the grounding lug. Install the type LCD8-10A-L grounding lug per manufacturer's specifications.

**9** After you have rack-mounted your switches, continue to [“Installing a Back Up Power Supply \(OS6624, OS6648, OS6600-U24\)”](#) on page 14.

## **Installing a Back Up Power Supply (OS6624, OS6648, OS6600-U24)**

If the optional back up power supply was included with your order, install the power supply now by following the steps below. The back up power supply bay is located at the switch's rear panel.

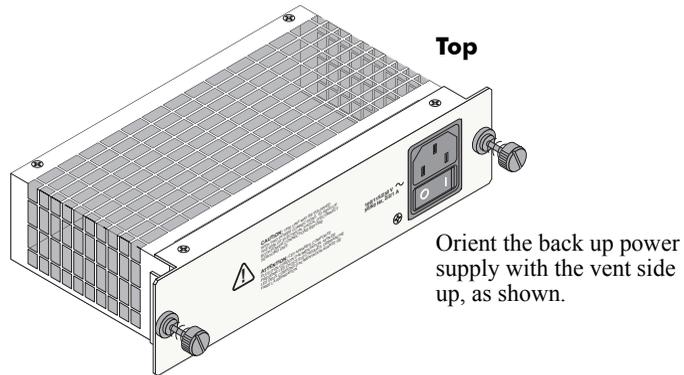
---

**Anti-Static Warning.** Before handling any components, free yourself of static by wearing a grounding strap, or by grounding yourself properly. Static discharge can damage the switch and the back up power supply.

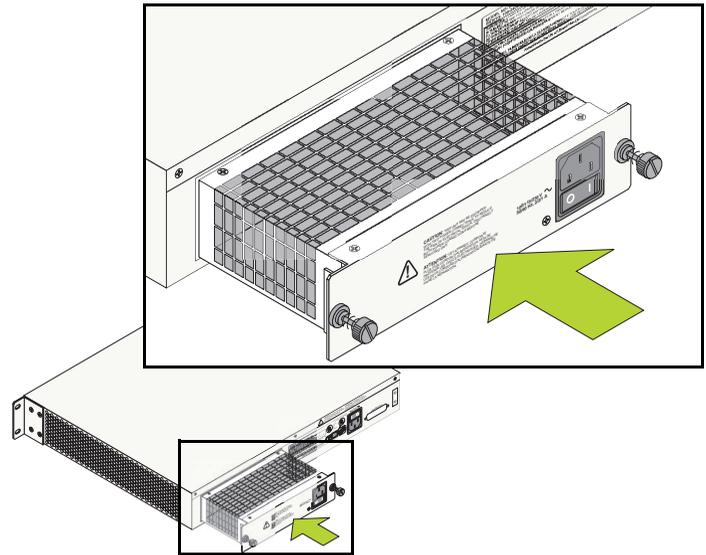
---

**1** If there is a blank cover panel installed at the back up power supply bay, uninstall it by removing the two Phillips attachment screws. After the attachment screws have been removed, carefully pry the blank cover panel out and away from the chassis. Set the cover panel and attachment screws aside.

**2** To avoid attempting to install the power supply upside down, orient the unit as shown in the diagram below.

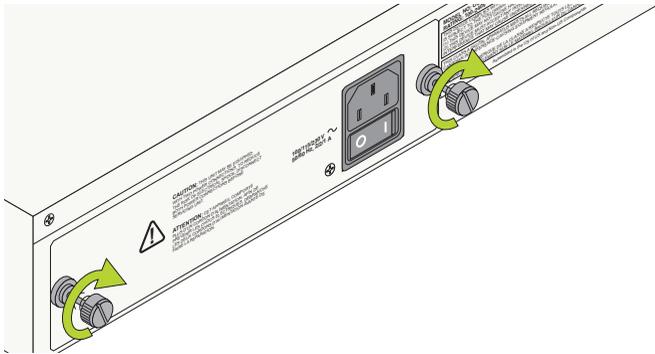


**3** Grasp the front portion of the power supply and carefully insert the rear of the casing into the power supply



**4** Continue sliding the power supply back until the front panel is flush with the rear panel of the chassis. *Do not force the power supply into the bay. Otherwise you can damage the connectors.*

**5** Tighten the two captive screws, located at the left and right sides of the power supply's front panel. *Be sure not to overtighten the captive screws. If you use a screwdriver, the torque used to tighten the screws must not exceed 2.3 inch pounds.*



**6** On OS6624, OS6648, OS660-U24, and OS6600-P24 switches verify that the power supply's on/off switch is in the off ( O ) position.

**7** Plug a power cord (supplied) into the unit's power socket; next, plug the cord into an easily-accessible, grounded power source.

---

**Note.** *Do not* turn on the power supply at this time. You will power on all supplies later in the setup process.

---

**8** If you are installing back up power supplies in a multi-chassis, stacked configuration, install all remaining power supply units now by repeating steps 1 through 7 for each chassis.

**9** Continue to [“Installing Uplink and Stacking Modules” on page 16.](#)

## Installing Uplink and Stacking Modules

OmniSwitch 6600 Family switches support the following modules:

- OS6600-GNI-C2 Copper Gigabit Ethernet Uplink Module
- OS6600-GNI-U2 Fiber Gigabit Ethernet Uplink Module
- Stacking Module

---

**Note.** This section does not apply to OS6602-24 and OS6602-48 switches.

---

If uplink modules and/or stacking kits were specified with your order, install them now by following the steps below:

---

**Important.** Stacking modules can only be installed in the far-right module slot. This slot is labeled EXPANSION/STACKING and contains port positions 27 and 28 (OS6624 and OS6600-U24) or 51 and 52 (OS6648).

*Do not* attempt to install stacking modules at the EXPANSION slot at port positions 25 and 26 (OS6624 and OS6600-U24) or 49 and 50 (OS6648).

OS6600-GNI-U2 and OS6600-GNI-C2 uplink modules can be installed in either slot location. However, if you install a Gigabit Ethernet uplink module in the EXPANSION/STACKING slot, the switch must be used as a stand-alone unit.

Port numbers are clearly marked on the OmniSwitch 6600 Family chassis front panels.

---

---

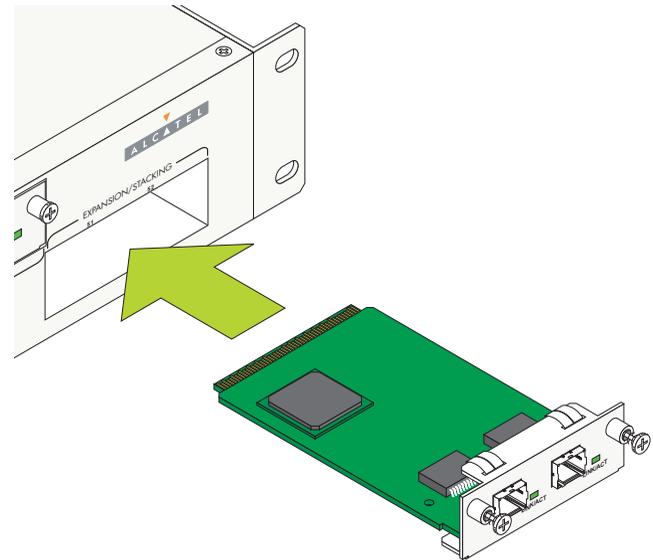
**Anti-Static Warning.** Before handling any components, free yourself of static by wearing a grounding strap, or by grounding yourself properly. Static discharge can damage the switch and the uplink or stacking module.

---

**1** If there is a blank cover panel installed over the uplink or stacking module slot position, uninstall it by removing the two Phillips attachment screws. After the attachment

screws have been removed, carefully pry the blank cover panel out and away from the chassis. Set the cover panel and attachment screws aside.

**2** Holding the uplink or stacking module by the front panel, carefully slide the circuit board into the card guide located in the chassis slot.



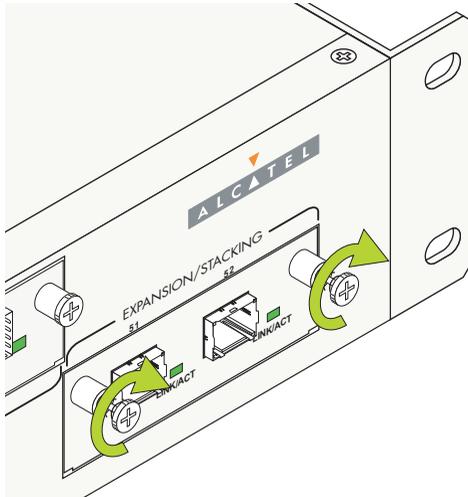
---

**Note.** The module should slide in easily. Do not force the module into the slot. If any resistance is encountered, ensure that the module is aligned properly in the card guide and try again.

---

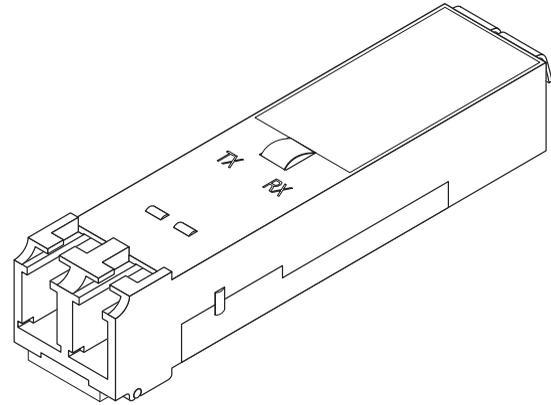
**3** Slide the module back until the backplane connector is inserted in the chassis backplane; the module's front panel should be flush with the front of the chassis. *Do not force the module into the slot. Otherwise you can damage the connectors.*

**4** Once the module is firmly seated and flush with the chassis front panel, secure the module by tightening the two captive screws. *Be sure not to overtighten the captive screws. If you use a screwdriver, the torque used to tighten the screws must not exceed 2.3 inch pounds.*



## Installing MiniGBIC Connectors

Each OS6600-GNI-U2 uplink module supports up to two Mini Gigabit Interface Converters (MiniGBICs). These MiniGBICs are packaged separately and therefore *are not* factory-installed.



**Mini Gigabit Interface Converter (MiniGBIC)**

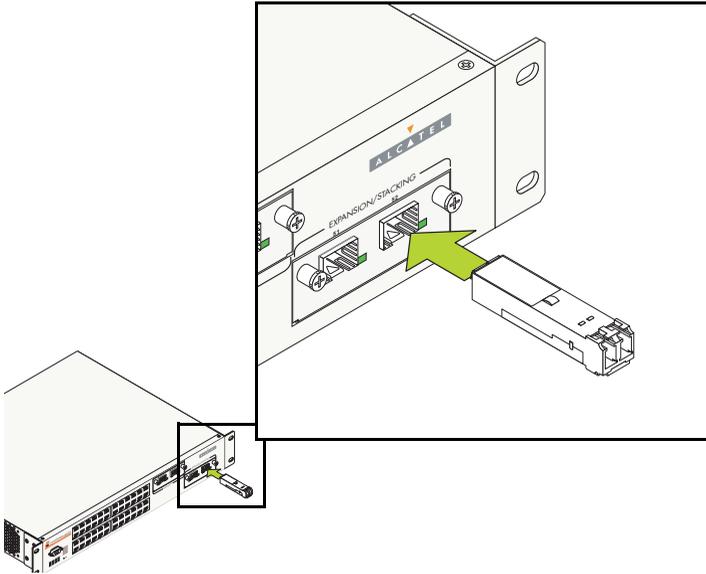
If you are using one or more OS6600-GNI-U2 modules to uplink to the backbone or server, you must install the MiniGBIC(s) by following the steps below.

---

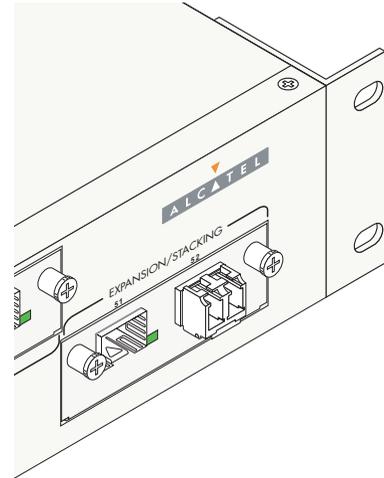
**Anti-Static Warning.** Before handling any components, free yourself of static by wearing a grounding strap, or by grounding yourself properly. Static discharge can damage the MiniGBIC, as well as the switch and uplink module.

---

**1** Holding the MiniGBIC by its sides, carefully slide it into the desired MiniGBIC slot in the OS6600-GNI-U2 module, as shown.



**2** Push the MiniGBIC into the slot until it is completely inserted and securely seated in the OS6600-GNI-U2 module, as shown.



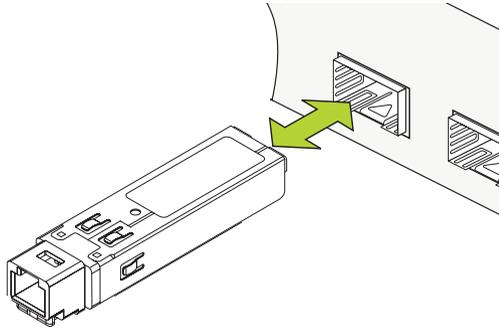
---

**Note.** The MiniGBIC should slide in easily. *Do not force the MiniGBIC into the slot. Otherwise you can damage the connectors.* If any resistance is encountered, ensure the MiniGBIC is aligned and oriented properly, as shown in the diagram above.

---

## Installing SFP Connectors (OS6600-U24 Only)

The OS6600-U24 supports up to twenty-four 924) 100 Mbps Small Form-factor Pluggable (SFPs). These SFPs are packaged separately and therefore *are not* factory-installed.



**100 Mbps SFP**

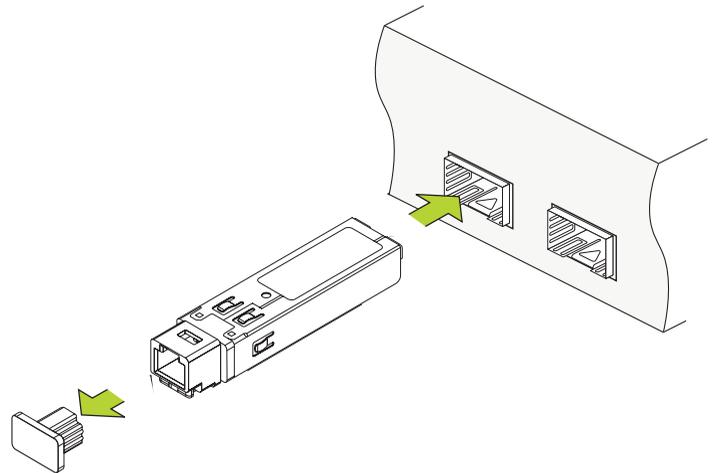
Follow the steps below to install an SFP.

---

**Anti-Static Warning.** Before handling any components, free yourself of static by wearing a grounding strap, or by grounding yourself properly. Static discharge can damage the MiniGBIC, as well as the switch and uplink module.

---

**1** Holding the SFP by its sides, carefully slide it into the desired SFP slot (ports 1–24) on the OS6600-U24 module, as shown.



---

**Note.** The SFP should slide in easily. *Do not force the SFP into the slot. Otherwise you can damage the connectors.* If any resistance is encountered, ensure the SFP is aligned and oriented properly, as shown in the diagram above.

---

**2** Push the SFP into the slot until it is completely inserted and securely seated in the OS6600-U24 SFP slot, as shown.

## Blank Cover Plates

Blank cover plates are factory-installed in the chassis and are used to cover empty uplink and stacking module slots, as well as empty back up power supply bays.

These cover plates play an important role in chassis airflow and temperature management. They also protect the switch's processor board and other sensitive internal switch components from physical damage by closing off a chassis that is not fully populated.

Because they regulate airflow and help protect internal chassis components, blank cover plates should remain installed over empty module slots and power supply bays at all times.

For detailed diagrams showing chassis airflow and the effects of missing blank cover plates on chassis airflow, refer to the *Hardware Users Guide*.

# Connections and Cabling

Once your switch is properly set up and all required hardware components are installed, you should connect all network and management cables required for your network applications.

Connections may include:

- Serial cable (OS6624 and OS6648) or RJ-45 (OS6600-U24, OS6600-P24, OS6602-24, OS6602-48) to the console port
- Gigabit Ethernet cables to MiniGBICs, as required by your network
- Ethernet cables to 10/100 Ethernet ports, as required by your network
- Single mode or multimode fiber cables to SFPs (OS6600-U24), as required by your network

---

**Important.** If you are installing switches in a stacked configuration, do not install the stacking cables at this time, as this will adversely affect the slot assignments. You will be prompted to install the stacking cables later in the setup process.

---

## Connecting the Serial Cable to the Console Port

The console port, located on the chassis front panel, provides a serial connection to the switch and is required when logging into the switch for the first time. By default, this connector (a male DB-9 on OS6624 and OS6648 and an RJ-45 on OS6600-U24, OS6600-P24, OS6602-24, OS6602-48) provides a DCE console connection.

## Serial Connection Default Settings

The default settings for the serial connection are as follows:

<b>baud rate</b>	9600
<b>parity</b>	none
<b>data bits (word size)</b>	8
<b>stop bits</b>	1

For information on modifying these settings, refer to [“Modifying the Serial Connection Settings” on page 38](#).

---

**Stacked Configurations.** To modify the default serial settings for switches in a stack, you must configure these settings when each switch is operating as a stand-alone unit.

---

## The Next Step

If you are setting up a stand-alone OmniSwitch 6600 Family switch (i.e., a switch that is not a part of a stacked configuration), skip to [“Booting Stand-Alone Switches” on page 29](#).

# Completing a Stacked Configuration

All switches in the stacked configuration should now be placed in their proper location (e.g., tabletop to rack). In order to complete the stacked configuration process, you must complete the following steps:

- 1 Individually assign slot numbers to all switches
- 2 Attach all required stacking cables
- 3 Boot the newly-configured stack

For OmniSwitch 6600 Family switches, the term “slot” refers to the priority status of the switch within the stacked configuration. Slot numbers may range from 1 to 8.

## Slot Assignment Guidelines

Before assigning slot numbers to switches in a stacked configuration, note the following guidelines.

- Slot numbers do not need to be sequential. However, each switch in a stack *must have a unique slot number*. If duplicate slot numbers are encountered, an error will occur and the stack will be disabled.
- The top switch in the stack *does not* have to be designated as slot 1.

- By default, the *primary*—or management—role will be given to the switch with the *lowest* chassis MAC address. All other switches in the stack will be in non-operational status until slot numbers are assigned by the user and the stack is manually rebooted.
- After manually assigning the slot assignments for all switches and rebooting the stack, the primary role will be given to the switch with the lowest slot number. The *secondary* role will be given to the switch with the next-lowest number. All additional switches with higher numbers will be given *idle* status. For more information on primary, secondary, and idle roles, refer to the “Managing OmniSwitch 6600 Family Stacks” chapter in the *OmniSwitch 6600 Family Hardware Users Guide*.
- Changing the slot number of a chassis *does not* immediately change its management role (i.e., primary, secondary, or idle). You must reboot all the switches in the stack before these changes will take effect.

Refer to the illustration on [page 26](#) for one of many valid slot numbering possibilities.

---

Follow the steps beginning on [page 25](#) to assign slot numbers for OmniSwitch 6600 Family switches.

# Assigning Slot Numbers

**1** Power on a single switch in the stack. *Do not power on any additional switches in the stack at this time.*

The slot number is displayed by the slot indicator LED located on the left side of the chassis front panel (refer to [“OmniSwitch 6600 Status LEDs” on page 67](#) for more information). Because the switch’s default slot number is 8, the slot indicator LED displays “8” when the switch is first booted.

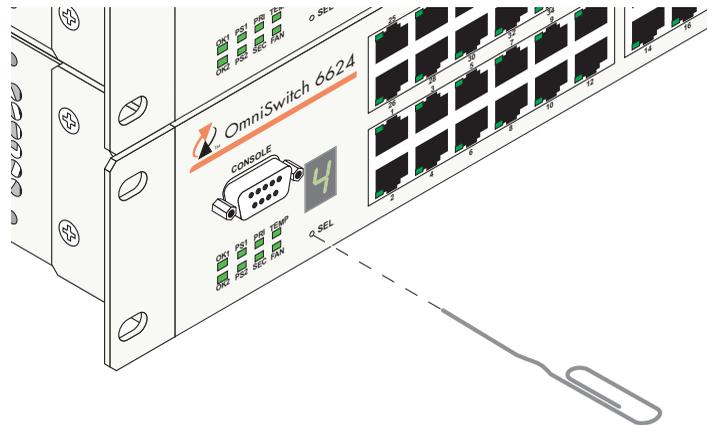
**2** To change the slot number, *gently* insert a pointed item, such as the open, pointed end of a paper clip, into the small hole (labeled **SEL**) below the slot number LED on the switch’s front panel. The LED display will begin to flash. You can manually change the slot number as long as the LED continues to flash.

---

**Note.** The LED may also advance by one number when the SEL button is initially pressed.

---

**3** Change the slot number by *gently* pressing the pointed item into the SEL hole again. Each time the SEL button is pressed, the LED display increases or decreases in increments of one.



**SEL Button Location**

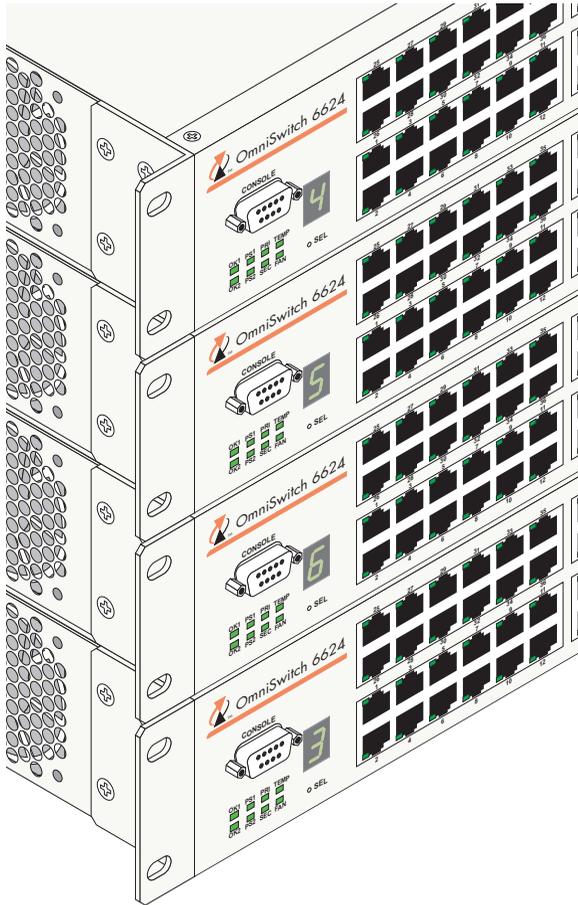
**4** Continue pressing the SEL button until you reach the number that is *one increment higher* than the desired slot number, then *hold in* the SEL button until the LED decreases one increment (to your desired number) and stops flashing.

**5** Power off the switch.

**6** Repeat steps 1 through 5 for all switches in the stack.

**7** Continue to [“Connecting Cables to Stacking Modules” on page 27](#). For a diagram showing one of many valid slot numbering examples, refer to [page 26](#).

## Slot Numbering Example



**Stack of Four Switches with Unique Slot Numbers**

### Valid Slot Assignments

The illustration at left (showing a stacked configuration with four switches) shows one of many valid slot numbering possibilities.

- Although the slot numbers are not sequential (4, 5, 6, and 3), all switches in the stack have a *unique slot number*.
- The top switch in the stack does not have to be designated as slot 1; for this example, the top switch has been designated slot number 4.
- Because it has the lowest user-assigned slot number, switch number 3 will be given the stack's primary management role in this example. Switch number 4 will be given the secondary role. Switches 5 and 6 will be given idle status. Refer to the *Hardware Users Guide* for more information.

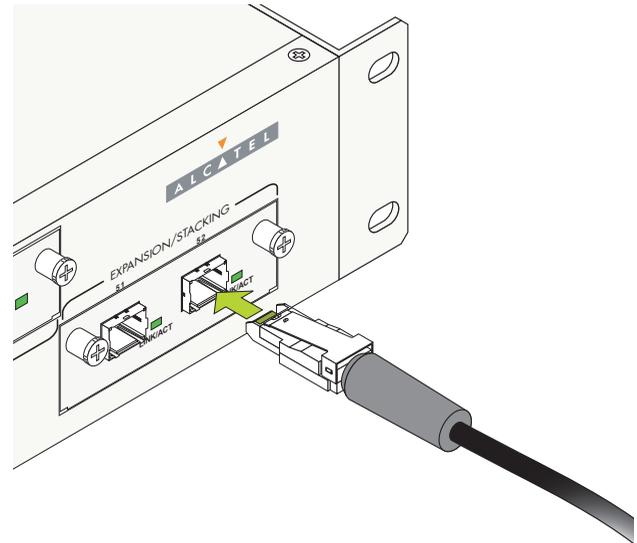
# Connecting Cables to Stacking Modules

## Guidelines

- If you have not already individually assigned slot numbers and powered off each switch, do not connect stacking cables to the stacking modules. Instead, refer to [“Assigning Slot Numbers” on page 25](#) and follow the instructions for assigning slot numbers to each switch.
- Before attempting to connect OmniSwitch 6600 Family switches in a stacked configuration, be sure that stacking modules are installed in the EXPANSION/STACKING slots of all switches. The stacking module provides two dedicated High Speed Serial Data Connectors (HSSDCs) at ports 27 and 28 (OS6624, OS6600-U24, OS6600-P24, OS6602-24) or 51 and 52 (OS6648 and OS6602-48). For detailed information on installing stacking modules, refer to [“Installing Uplink and Stacking Modules” on page 16](#).
- Stacking modules can only be installed in the far-right module slot. This slot is labeled EXPANSION/STACKING and contains port positions 27 and 28 (OS6624 and 6600-U24) or 51 and 52 (OS6648).
- *Do not* attempt to install the stacking module at the EXPANSION slot at port positions 25 and 26 (OS6624, OS6600-U24, OS6600-P24, OS6602-24) or 49 and 50 (OS6648 and OS6602-48).

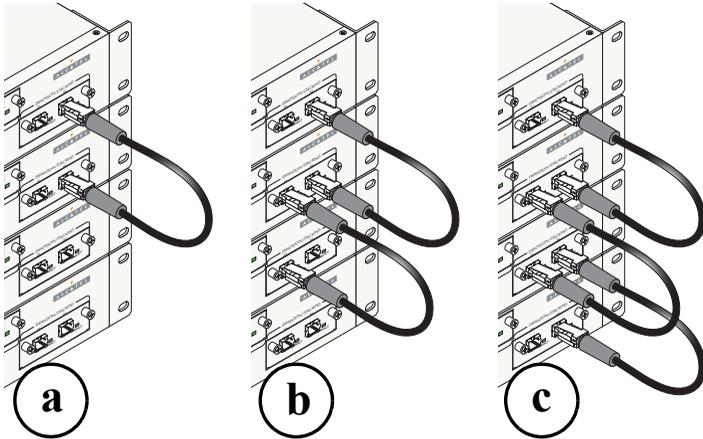
- Port numbers are clearly marked on the chassis front panel.

- 1 Starting from the top of the stack, attach one end of a 30 cm stacking cable to a High Speed Serial Data Connector (HSSDC) located on the switch’s stacking module, as shown.



**Attaching the Stacking Cable to a Stacking Module**

**2** Attach the other end of the cable to a HSSDC connector on the switch immediately below. Repeat this procedure until all switches in the stack are connected (see illustrations a, b, and c below).



**Connecting the Switches in the Stack**

---

**Note.** There are no restrictions on which HSSDC stacking ports must be connected. For example, a stacking cable connected to port 51 on an OS6648 may be connected to *either* port 51 or port 52 on the OS6648 immediately below. However, for easier management, it is recommended that you keep a consistent pattern for all switches in the stack.

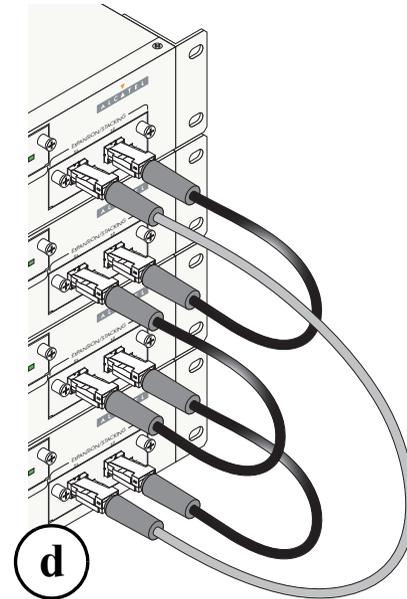
---

**3** To provide added resiliency and redundancy, it is strongly recommended that you install the optional one-meter stacking cable to connect the top switch in the stack to the bottom switch. Connect the unused HSSDC stacking connectors located at ports 27 and 28 (OS6624, OS6600-U24, OS6600-P24, OS6602-24) or 51 and 52 (OS6648 and OS6602-28) of each switch, as shown.

---

**Note.** The one-meter stacking cable is available with Alcatel's optional Redundant Stacking Kit.

---



**Recommended Redundant Connection Between Switches**

**4** Now that all switches in the stack are connected, continue to [“Booting the Stack” on page 29](#).

## Booting the Stack

In order for the switches in the stack to operate using their newly-assigned slot numbers, all switches in the stack must be manually booted. To manually boot the stack, follow the steps below.

**1** Power on all switches by moving the on/off switch for each switch to the on ( | ) position.

---

**Important.** Be sure to power on all switches in the stack in *rapid succession*. If you do not power up all switches within approximately three seconds, switches may take unintended stack management roles.

---

After the stack is completely booted, all switches in the stack will operate with the user-assigned slot numbers.

---

**Automatic Software Synchronization.** In order to ensure effective redundancy within a stacked configuration, the primary switch will automatically distribute its system and configuration software to all switches in the stack as the virtual chassis boots.

---

**2** If back up power supplies are installed in one or more switches in the stack, power on all back up power supplies at this time.

**3** After you have booted the stack and powered on all back up power supplies (if applicable), continue to [“Verifying LED Status” on page 30](#).

## Booting Stand-Alone Switches

**1** To boot a single, stand-alone switch, simply move the on/off switch for each switch to the on ( | ) position. This switch is located on the rear panel of the switch, next to the power cord socket.

---

**Note.** Because the switch’s default slot number is 8, the slot indicator LED displays “8” when the switch is first booted.

---

**2** If the stand-alone switch has a back up power supply installed, you may power on this unit as well. Move the on/off switch for the back up power supply to the on ( | ) position.

**3** After you have booted the stand-alone switch and powered on the back up power supply (if applicable), continue to [“Verifying LED Status” on page 30](#). This section provides information on LED states and switch status both during and after the boot process.

# Verifying LED Status

## Component LEDs

The boot process takes a few moments to complete. During this process, the LEDs on the switch's front panel may flash and change color, indicating different stages of the boot.

Following a successful boot, the LEDs should display as follows:

<b>OK1</b>	Solid Green
<b>OK2</b>	Blinking Green
<b>PS1</b>	Solid Green
<b>PS2</b>	Solid Green (if back up power supply is installed). Amber if no back up power supply is installed or if a back up power supply error has occurred.
<b>PRI</b>	Solid Green (if the switch is either a stand-alone switch <i>or</i> the primary switch in a stack; otherwise, if the switch status is secondary or idle, this LED is off)
<b>SEC</b>	Solid Green (if the switch is the secondary switch in a stack; otherwise, this LED is off)
<b>TEMP</b>	Solid Green
<b>FAN</b>	Solid Green

If the LEDs do not display as indicated, make sure the boot process is complete. Again, *the boot process may take several moments to complete*. If the LEDs do not display as indicated following a complete boot sequence, contact Alcatel Customer Support.

## Verifying Primary and Secondary Status

Primary, Secondary and Idle switch status is monitored through the PRI and SEC LEDs.

---

**Note.** The PRI and SEC LEDs on the switch's front panel are the most accurate and reliable method for determining the current role of a switch within a stacked configuration.

---

### PRI LED

Now that the stack has been completely configured and rebooted, the *primary*—or management—role should be assigned to the switch with the lowest assigned slot number. In other words, if you assigned a switch in the stack as slot 1, this switch should have the primary role.

To verify this, check the PRI LED on the front panel of the switch with the lowest assigned slot number. The PRI LED should be illuminated solid green.

## SEC LED

The secondary role is given to the switch with the *next-lowest* number.

To verify this, check the SEC LED on the front panel of the switch with the next-lowest assigned slot number. The SEC LED should be illuminated solid green.

## Idle Status

All additional switches with higher numbers will be given idle status. The PRI and SEC LEDs for these switches will be off.

For additional information on primary, secondary, and idle roles within the stack, refer to the *Hardware Users Guide*.

---

**Additional LED Descriptions.** For complete descriptions of OmniSwitch 6600 Family LED states, see [page 67](#).

---

# Your First Login Session

Once the switch or stack has successfully booted and you have accessed your computer's terminal emulation software via the console port, you are ready to log in to the switch's Command Line Interface (CLI) and configure basic information.

---

**Important.** If you are using OmniSwitch 6600 Family switches in a stacked configuration, you must be connected to the console port of the stack's primary switch. For detailed information on primary switch status, refer to the *Hardware Users Guide*.

---

In order to complete the setup process for the switch or stack, you should complete the following steps during your first login session:

- Log in to the switch
- Unlock session types
- Change the login password
- Set the date and time
- Set optional system information
- Save your changes

---

**Note.** You must be connected to the switch via the *console port* before initiating your first login session.

---

## Logging In to the Switch

When you first log in to the switch, you will be prompted for a login (i.e., *user*) name and password. During this first login session, only one user name option and one password option is available:

- Login (i.e., user name)—**admin**
- Password—**switch**

To log in to the switch, enter **admin** at the login prompt:

```
login: admin
```

Next, enter the factory default password, **switch**, at the password prompt:

```
password: switch
```

The default welcome banner, which includes information such as the current software version and system date, displays— followed by the CLI command prompt:

```
Welcome to the Alcatel OmniSwitch 6000
Software Version 5.1.5, June 30, 2004.

Copyright(c), 1994-2004 Alcatel Internetworking, Inc.
All Rights reserved.

OmniSwitch(TM) is a trademark of Alcatel Internetworking, Inc.
registered in the United States Patent and Trademark Office.

Setting user profile...
->
```

---

**More Information on User Accounts.** A user account includes a login name, password, and user privileges. Privileges determine whether the user has read or write access to the switch and which commands the user is authorized to execute.

For detailed information on setting up and modifying user accounts and user privileges, refer to the “Managing Switch User Accounts” chapter of your *OmniSwitch 6600 Family Switch Management Guide*.

---

## Assigning an IP Address to the Switch or Stack

Assigning an IP address to your OmniSwitch 6600 Family switch or stack is an important step in the setup process.

Remote sessions such as Telnet, FTP, and WebView require an IP address. The IP address for these session types serves as a destination point for the remote session. Therefore, before the switch can support any remote login sessions, a valid IP address must be configured.

To assign an IP address to a switch, simply assign an IP address to the switch’s default VLAN 1 by entering the **ip interface** command at the CLI prompt. Be sure that the command begins with the command syntax

```
ip interface
```

*exactly as shown*, followed by the the interface name, address, the IP address, vlan, and the VLAN number. For example:

```
-> ip interface vlan-1 address 172.22.120.1
vlan 1
```

## Assigning IP Addresses to Switches in a Stacked Configuration

It is important that *all switches* in a stacked configuration have the same assigned IP address. This way, if a failover should occur (i.e., another switch in the stack assumes the primary management role), users can still log in to the stack via remote login sessions such as Telnet, FTP, and WebView.

The IP assigned to the stack's primary switch is dynamically assigned to all other switches in the stack whenever either of the following actions occurs:

- The *entire stack* is rebooted
- The **copy flash-synchro** command is entered at the CLI prompt on the stack's *primary switch*

You are not required to manually assign the IP address to each switch in the stack.

---

### Avoiding Duplicate IP Addresses in the Network.

If any stacking cable (other than the optional redundant stacking cable) is disconnected while the stack is in operation, a duplicate IP addresses will exist on the network. Therefore, if a switch is to be pulled from a stack, it is recommended that the switch is given a unique IP address via the (**ip interface** command) before being disconnected.

---

## Unlocking Session Types

Security is a key feature on OmniSwitch 6600 Family switches. As a result, when you access the switch for the first time, you must use a *direct console port connection*. All other session types (Telnet, FTP, WebView, SNMP, etc.) are “locked out” until they are manually unlocked by the user.

The CLI command used to unlock session types is **aaa authentication**.

---

**Note.** When you unlock session types, you are granting switch access to non-local sessions (e.g., Telnet). As a result, users who know the correct user login and password will have remote access to the switch. For more information on switch security, refer to the “Managing Switch User Accounts” chapter of your *OmniSwitch 6600 Family Switch Management Guide*.

---

## Unlocking All Session Types

To unlock all session types, enter the following command syntax at the CLI prompt:

```
-> aaa authentication default local
```

## Unlocking Specified Session Types

You can also unlock session types on a one-by-one basis. For example, to unlock Telnet sessions only, enter the following command:

```
-> aaa authentication telnet local
```

To unlock WebView (HTTP) sessions only, enter the following command:

```
-> aaa authentication http local
```

You cannot specify more than one session type in a single command line. However, you can still unlock multiple session types by using the **aaa authentication** command in succession. For example:

```
-> aaa authentication http local
-> aaa authentication telnet local
-> aaa authentication ftp local
```

## How many sessions are allowed?

Once a session type has been unlocked, the following number of sessions is allowed for each type:

Telnet sessions allowed	4 concurrent sessions
FTP sessions allowed	4 concurrent sessions
HTTP (Web browser) sessions allowed	4 concurrent sessions
Total sessions (Telnet, FTP, HTTP, console)	13 concurrent sessions
SNMP sessions allowed	50 concurrent sessions

## Changing the Login Password

Change the login password for **admin** user sessions by following the steps below:

- 1 Be sure that you have logged into the switch as user type **admin** (see “[Logging In to the Switch](#)” on page 32).
- 2 Enter the keyword **password** and press **Enter**.
- 3 Enter your new password at the prompt (refer to the note below).

---

**Note.** Typically, the password should be a string of non-repeating characters. The switch’s authentication software uses the first occurrence of the character Family to uniquely identify the password. For example, the password *engreng* is the same as *engr*. A better password might be *engr2735*.

---

- 4 You will be prompted to re-enter the password. Enter the password a second time.

---

**Note.** Be sure to remember or securely record all new passwords; overriding configured passwords on OmniSwitch 6600 Family switches is restricted.

---

New password settings are automatically saved in real time to the local user database; the user is not required to enter an additional command in order to save the password information. Also note that new password information is retained following a reboot.

All subsequent login sessions—including those through the console port—will require the new password in order to access the switch.

---

**User Accounts.** The switch allows a maximum of 50 user accounts in the local user database. For information on creating additional user types and assigning individual passwords, refer to the “Managing Switch User Accounts” chapter of your *Switch Management Guide*.

---

## Setting the System Time Zone

The switch’s default time zone is UTC (also referred to as Greenwich Mean Time).

If you require a time zone that is specific to your region—or if you need to enable Daylight Savings Time (DST) on the switch—you can configure these settings via the **system time-zone** and **system daylight savings time** commands. For example, to set the system clock to run on Pacific standard time, enter the following command.

```
-> system timezone pst
```

To enable Daylight Savings time, enter the following command.

```
-> system daylight savings time enable
```

Many other time zone variables are supported. For detailed information on configuring a time zone for the switch, refer to your *OmniSwitch 6600 Family Switch Management Guide*.

## Setting the Date and Time

Set the current time for the switch by entering **system time**, followed by the current time in *hh:mm:ss*. For example:

```
-> system time 18:35:00
```

The switch uses a 24-hour clock; the time value shown in the above example would set the time to 6:35 PM.

To set the current date for the switch, enter **system date**, followed by the current date in *mm/dd/yyyy*. For example:

```
-> system date 06/27/2002
```

## Setting Optional System Information

This section provides information on configuring optional system parameters, including:

- the switch's administrative contact
- a system name
- the switch's physical location

### Specifying an Administrative Contact

An administrative contact is the person or department in charge of the switch. If a contact is specified, users can easily find the appropriate network administrator if they have questions or comments about the switch.

To specify an administrative contact, enter **system contact**, followed by a text string of up to 254 characters. If you include spaces between words in the text string, be sure to enclose the string in quotes (" ").

For example:

```
-> system contact "JSmith js@company.com"
```

## Specifying a System Name

The system name is a simple, user-defined text description for the switch.

To specify a system name, enter **system name**, followed by a text description of up to 19 characters.

---

**Note.** You *cannot* include spaces between words when entering a system name.

---

For example:

```
-> system name EngSwitch3
```

### Specifying the Switch's Location

It is recommended that you use a physical labeling system for locating and identifying your switch(es). Examples include placing a sticker or placard with a unique identifier (e.g., the switch's default IP address) on each chassis.

However, if no labeling system has been implemented *or* if you need to determine a switch's location from a remote site, entering a system location can be very useful.

To specify a system location, enter **system location**, followed by a text description of up to 254 characters. If you include spaces between words in the text string, be sure to enclose the string in quotes (" ").

For example:

```
-> system location "NMS Lab--NE Rack"
```

## Viewing Your Changes

To view your current changes, enter **show system** at the CLI prompt.

## Saving Your Changes

Once you have configured this basic switch information, save your changes by entering **write memory** at the CLI command prompt.

When the **write memory** command is entered, changes are automatically saved to the main configuration file (**boot.cfg**) and placed in the **/flash/working** directory. For more information on the **boot.cfg** file, refer to [page 48](#).

---

**Note.** If the switch reboots following a **write memory** command entry, the switch will run from the **/flash/certified** directory. As a result, subsequent configuration changes cannot be saved using the **write memory** command until the switch is once again running from the **/flash/working** directory. See [page 51](#) for important information on these directories.

---

## Modifying the Serial Connection Settings

The switch's serial connection defaults are listed on [page 22](#). If you wish to modify the default serial connection settings (i.e., baud rate, parity, data bits, and stop bits), refer to the following steps.

---

**Note.** You must be connected to the switch via the console port before attempting to change serial connection settings. Otherwise, an error message will display.

For switches in a stacked configuration, all changes must be configured before the switches are cabled together. In other words, you must configure these settings when each switch is operating as a stand-alone unit.

---

**1** Enter **modify boot parameters** at the CLI prompt. The boot prompt displays:

```
Boot >
```

**2** To change the baud rate, enter **boot serialbaudrate**, followed by the desired baud rate value. Options include 1200, 2400, 4800, 9600 (default), 19200, 38400, 57600, 76800, and 115200. For example:

```
Boot > boot serialbaudrate 19200
```

---

**Note.** Setting the console port to speeds above 9600 baud can cause problems with Zmodem uploads.

---

**3** To change the parity value, enter **boot serialparity**, followed by the desired parity value. Options include none (default), even, and odd. For example:

```
Boot > boot serialparity even
```

**4** To change the data bits (i.e., word size) value, enter **boot serialwordsize**, followed by the number of data bits. Options include 7 and 8 (default). For example:

```
Boot > boot serialwordsize 7
```

**5** To change the stop bits value, enter **boot serialstopbits**, followed by the number of stop bits. Options include 1 (default) and 2. For example:

```
Boot > boot serialstopbits 2
```

**6** Verify your current changes by entering **show** at the boot prompt:

```
Boot > show
Edit buffer contents:
Serial (console) baud       : 19200
Serial (console) parity     : even
Serial (console) stopbits   : 2
Serial (console) wordsize   : 7
```

*(additional table output not shown)*

**7** You can save your changes to the **boot.params** file by entering **commit file** at the boot prompt:

```
Boot > commit file
```

When the **commit file** command is used, changes will not be enabled until after the next switch reboot.

**8** You can also save your changes in real time to the switch's running memory by entering **commit system** at the boot prompt:

```
Boot > commit system
```

---

**Caution.** There are two important things to consider when using the **commit system** command to save serial connection changes:

- Output to the terminal may become illegible due to incompatible serial connection settings between the switch and the terminal emulation software.
- If you use the **commit system** command only, changes will *not* be saved to the switch's **boot.params** file and will be lost if the switch is rebooted. To save changes to the **boot.params** file, refer to step 7.

---

**9** Return to the CLI prompt by entering **exit** at the boot prompt.

This completes the initial setup process. Your OmniSwitch OmniSwitch 6600 Family switch is now ready for additional configuration and network operation. Refer to the following sections for more information on using your switch, as well as additional built-in features.

# CLI Basics

The Command Line Interface (CLI) allows you to configure and monitor your switch by entering single-line commands. The CLI can be accessed through terminal or Telnet sessions.

---

**Note.** Configuring the switch using the CLI is also referred to as “online configuration.”

---

The following section provides basic information on CLI assistance features. For detailed information on the CLI, including syntax conventions, usage rules, command documentation, and a quick reference card, refer to the *OmniSwitch CLI Reference Guide* and the “Using the CLI” chapter in the *OmniSwitch 6600 Family Switch Management Guide*.

## CLI Assistance Features

The CLI provides built-in features that assist you while entering commands. These features include:

- Syntax checking
- Command line help
- Partial keyword completion
- Deleting and inserting characters
- Previous command recall
- Prefix recognition
- Prefix prompt
- Command history

---

**Note.** The software supports vt100 terminal emulation; CLI assistance features may be limited if your terminal emulation software is using a setting other than vt100.

---

## Syntax Checking

If you make a mistake while entering command syntax, the CLI provides clues about how to correct the error. Whenever a command error is entered, two indicators are displayed:

- An Error message describing the type of error.
- A carat (^) character indicating where the error occurred.

For example, the syntax

```
-> show vlan router port mac status
```

results in the following error:

```
-> show vlan router port mac status
                        ^
ERROR: Invalid entry: "port"
```

Because **port** is not valid syntax for the command, the error message shows it as an invalid entry and the carat indicates where the problem has occurred. For this example, the valid command syntax is

```
-> show vlan router mac status
```

## Command Line (?) Help

The CLI provides additional help in the form of the question mark (?) character. The ? character provides information that helps you build your command syntax. For example, if you enter

```
-> show vlan router
```

at the command line and are unsure of the next keyword, you can enter the ? character for additional options (be sure to include a space between the last keyword and the ? character):

```
-> show vlan router ?  
      ^  
  
      MAC IP  
(Vlan Manager Command Set)
```

The caret character (^) indicates the point where you invoked the command line help. Possible keyword options, along with the corresponding command set, are displayed. Here, you can continue building the command by entering either **mac** or **ip**.

Some command completion options may indicate user-defined information. For example: <**string**>, <**slot/port**>, <**hh:mm:ss**>, etc. The option <**cr**> indicates that the command can be completed by pressing **Enter**.

---

**Note.** The ? character can be entered at any time. In addition, you can type the ? character alone at the CLI prompt to display root keywords for *all* command sets.

---

## Partial Keyword Completion

The CLI has a partial keyword recognition feature. Instead of typing an entire keyword, you can type only the minimum number of characters needed to uniquely identify the keyword, then press the **Tab** key. The CLI will complete the keyword and place the cursor at the end of the command line.

If you do not enter enough characters to uniquely identify the keyword, pressing the **Tab** key will have no effect.

If you enter characters that do not belong to an applicable keyword, pressing the **Tab** key will remove the characters and place the cursor back to its previous position.

## Deleting Characters

You can delete CLI command characters by using the **Backspace** key or the **Delete** key. The **Backspace** key deletes each character in the line, one at a time, from right to left.

To change incorrect syntax with the **Delete** key, use the **Left Arrow** key to move the cursor to the left of the character to be deleted, then use the **Delete** key to remove characters to the right of the cursor.

## Inserting Characters

To insert a character between characters that are already typed, use the **Left** and **Right Arrow** keys to place the cursor into position, then type the new character. Once the syntax is correct, execute the command by pressing **Enter**. In the following example, the user enters the wrong syntax to execute a command. The result is an error message.

```
-> show micrcode
      ^
ERROR: Invalid entry: "micrcode"
```

To correct the syntax without retyping the entire command line, use the **!!** command to recall the previous syntax. Then, use the **Left Arrow** key to position the cursor between the “r” and the “c” characters. To insert the missing character for this example, type “o” as shown:

```
-> !!
-> show microcode
```

## Previous Command Recall

To recall the last command executed by the switch, press the **Up Arrow** key at the prompt and the previous command will display on your screen. You can execute the command again by pressing **Enter**, or you can edit it first by deleting or inserting characters.

## Prefix Recognition

Prefix recognition is a CLI feature that reduces redundant command line entry by storing commonly-used prefix information for certain commands. The CLI assumes this stored prefix information when the next command is entered. For example, if you enter

```
-> vlan 32
```

at the command line, the CLI will store the **vlan 32** prefix information.

The following command families support prefix recognition:

- AAA
- Interface
- Link Aggregation
- Quality of Service (QoS)
- Spanning Tree
- VLAN Management

## Prefix Prompt

You can set the CLI to display the current command prefix *as the command prompt* by entering the following command:

```
-> prompt prefix
```

After entering this command, your command prompt will include current stored prefix information until a new prompt is specified. For example, the following is a prompt for a user who has begun configuring VLAN 32:

```
-> vlan 32
```

To set the prompt back to the default arrow ( -> ), enter the following syntax, exactly as shown, at the prefix prompt:

```
prompt string ->
```

## Command History

You can view a list of up to 30 of the most recently executed commands via the **show history** command. For example:

```
-> show history
1 aaa authentication default local
2 password
3 system timezone pst
4 system daylight savings time enable
5 system time 14:58:00
6 system date 11/06/2002
7 system contact "JSmith js@company.com"
8 system name EngSwitch3
9 system location "NMS Lab--NE Rack"
10 show system
11 modify boot parameters
12 show history
```

Note that the most recent commands are displayed *lower* in the list. For this reason, the **show history** command will always be listed last.

You can recall commands from the history list by entering an exclamation point ( ! ). For example:

```
-> !4
-> show temperature
```

The CLI prints the fourth command from the history list (in this case, **show temperature**) at the CLI prompt.

You can also recall the *last* command in the history list by entering two exclamation points ( !! ). For example:

```
-> !!
-> show history
```

To specify the number of commands displayed in the history list (1 - 30), use the **history size** command. For example:

```
-> history size 10
```

To view the current history list settings, use the **show history parameters** command. For example:

```
-> show history parameters
History size: 30
CurrentSize: 10
Index Range: 1-10
```

## Command Logging

OmniSwitch 6600 Family switches provide command logging. This feature allows users to record up to 100 of the most recent commands entered via Telnet and console sessions. In addition to a list of commands entered, the results of each command entry are recorded. Results include information such as whether a command was executed successfully, or whether a syntax or configuration error occurred.

---

**Note.** The **command history** feature differs from the **command logging** feature in that command history buffers up to 30 of the most recent commands. The command information is *not* written to a separate log file. Also, the command history feature includes only general keyword syntax (i.e., it does not record full syntax, date and time, session IP address, and entry results). For more information on command history, refer to [page 44](#).

---

Refer to the sections below for more information on configuring and using CLI command logging. For detailed information related to command logging commands, refer to the *OmniSwitch CLI Reference Guide*.

### Enabling Command Logging

By default, command logging is *disabled*. To enable command logging on the switch, enter the following command:

```
-> command-log enable
```

When command logging is enabled via the **command-log enable** syntax, a file called **command.log** is automatically created in the switch's **/flash** directory. Once enabled, configuration commands entered on the command line will be recorded to this file until command logging is disabled.

The **command.log** file has a 66402 byte capacity. This capacity allows up to 100 of the most recent commands to be recorded. Because all CLI command logging information is archived to the **command.log** file, command history information will be lost if the file is deleted.

---

**Note.** The **command.log** file cannot be deleted while the command logging feature is enabled. Before attempting to remove the file, be sure to disable command logging.

---

For detailed information on command logging, refer to the *OmniSwitch 6600 Family Switch Management Guide*.

## Common CLI Commands

The following table lists some basic CLI commands that will help you get acquainted with the CLI interface. Enter each command exactly as shown. For complete descriptions of these commands, refer to your *OmniSwitch CLI Reference Guide*.

<b>write memory</b>	Saves current configuration changes to the <b>/flash/working</b> directory's <b>boot.cfg</b> file. For more information, refer to <a href="#">page 48</a> .
<b>show running-directory</b>	Displays the current running directory. For more information, refer to <a href="#">page 52</a> .
<b>vlan</b>	Creates a new VLAN.
<b>show vlan</b>	Displays a list of VLANs configured on the switch.
<b>ip interface</b>	Configures an IP interface to enable IP routing on a VLAN. For more information, refer to <a href="#">page 33</a> .
<b>show chassis</b>	Displays basic configuration and status information for the switch chassis.
<b>show module</b>	Displays basic information for switches in a stacked configuration.

<b>show ni</b>	Displays basic hardware and status information for a stand-alone switch, or for all switches installed in a stacked configuration.
<b>show cmm</b>	Displays basic hardware and status information for a stand-alone switch, or for the primary or secondary switches installed in a stacked configuration.
<b>show system</b>	Displays basic information about the switch.
<b>show stack topology</b>	Displays stack-specific information for switches in a stacked configuration (e.g., the current management roles for all switches in the stack).
<b>show microcode</b>	Displays the version of software currently installed on the switch.
<b>session timeout</b>	Modifies the amount of time before Telnet and console sessions time out.
<b>who</b>	Displays all active login sessions (e.g., Console, Telnet, FTP, HTTP, Secure Shell, Secure Shell FTP)
<b>exit</b>	Ends the current Telnet or console session.

# Offline Configuring

You can configure OmniSwitch 6600 Family switches using an ASCII-based text file. This is referred to as *offline configuring*. With offline configuring, CLI commands may be typed into a text document (referred to as a *text-based configuration file*) and then uploaded and applied to the switch.

An ASCII-based configuration file can be viewed or edited at any time using a standard text editor (e.g., WordPad). The switch also offers its own text editing buffer, so a file can be edited in the flash file directory without having to be downloaded to a workstation.

Because they are portable, stand-alone documents, configuration files allow users to easily clone switch configurations. Moreover, the ability to store a broad range of network information in a single text file facilitates troubleshooting, testing, and overall network readability.

## Syntax Checking

Offline configuration includes a syntax check feature. This function will report syntax errors or typos that might cause a command to be rejected by the switch when a configuration file is applied.

## Scheduling a Configuration File to be Applied at a Later Time

You can apply a file to the switch immediately. You can also schedule a file to be applied either at a specific date and time, or after a specific amount of time has passed. Timer sessions can greatly facilitate maintenance tasks, such as synchronized batch updates.

## Generating Snapshots of the Current Configuration

A generated snapshot captures the switch's current configuration settings in a single text file. Captured configuration settings can then be viewed or edited offline at any time. Troubleshooting is greatly facilitated, as aggregate network information can be read at a glance.

Snapshot files can be used as configuration files for a single switch or for multiple switches. This allows easy cloning of switch configurations for networks requiring multiple, similarly-configured switches. Simply place the snapshot file in the appropriate directory of the switch(es) you want to configure and use the CLI to apply the file.

For detailed information on offline configuring and the features described above, refer to the *OmniSwitch 6600 Family Switch Management Guide*.

# Files and Directories

## Boot and Image Files

Although the flash memory on OmniSwitch 6600 Family switches can contain many file types (e.g., log and snapshot files), there are four specific file types that provide key switch and network functions. These files include the **boot.cfg** file, **boot.params** file, **boot.slot.cfg** file, and image (.img) files.

### boot.params File

The **boot.params** file provides IP address, gateway, and mask information for the switch. This information is required for Ethernet connections to the switch.

This file also contains default console port parameters (baud rate, etc.) and can be modified via the **modify boot parameters** CLI command.

In order to be read by the switch, the **boot.params** file must be placed in the **/flash** directory. If the file is deleted for any reason, a new **boot.params** file will be automatically generated on the next system boot. However, all user-configured information, such as IP address, gateway, and mask information, will be lost. Therefore, it is recommended that you keep a backup copy of this file at all times.

### boot.cfg File

The **boot.cfg** file stores your network configuration parameters. When you first boot the switch, no **boot.cfg** file is present. This file is automatically generated when you first issue a **write memory** command to save your configuration changes. The file is then automatically placed in the **/flash/working** directory.

---

**Important.** Your switch must be running from the **/flash/working** directory in order to save changes to the **boot.cfg** file. Refer to [“Working and Certified Directories” on page 51](#) for more information.

---

Once the configuration parameters stored in the **boot.cfg** file are considered tested and reliable, the file can be copied to the **/flash/certified** directory and become part of the “last known good” software for the switch.

If all copies of this file are deleted and a system boot occurs, your network configuration will be lost. Therefore, it is recommended that you keep a backup copy of this file at all times.

## boot.slot.cfg File

The **boot.slot.cfg** file contains the slot assignment for each switch installed in a stacked configuration.

The slot assignment number is automatically written to the **boot.slot.cfg** whenever a slot number is manually assigned *and* the switch is rebooted. The following is a sample **boot.slot.cfg** slot entry:

```
boot slot 3
```

No software configuration is required. For detailed information on manually assigning slot numbers, refer to [page 25](#).

## Image Files

Image files (those files with **.img** extensions) contain executable code that provides support for the system, Ethernet ports, and network functions. In other words, they serve as essential drivers for switch and network operations.

Although these files may be backed up to the root flash directory or any user-defined subdirectory, they must be present in the **/flash/working** and **/flash/certified** directories for the switch to operate and pass traffic.

If you delete all copies of an image file, you will be required to contact Alcatel Customer Support for replacements. Therefore, it is recommended that you keep backup copies on your computer's hard drive or a locally-accessible server.

For a complete list of OmniSwitch 6600 Family image files, along with their functions, refer to the following table.

Hos.img	Contains the OmniSwitch 6600 Family operating system software.
Hbase.img	Contains base code for the switch.
Hrelease.img	Contains release number information for the system software package.
HL2eth.img	Provides support for Layer 2 switching functions.
Hrout.img	Provides support for Layer 3 routing functions.
Hqos.img	Provides Quality of Service (QoS) functionality.
Heni.img	Provides support for 10/100, Fast Ethernet, and Gigabit Ethernet.
Hdiag.img	Provides enhanced hardware diagnostics for the switch.
Hadvrout.img	Alcatel's Advanced Routing software package. Optional.
Hsecu.img	Provides enhanced security features for the switch, such as Authenticated VLANs (AVLANs).
Hweb.img	Provides support for the WebView software application.
Hwebl2eth.img	Provides WebView configuration of Layer 2 features.
Hwebroun.img	Provides WebView configuration of basic routing features.

---

Hwebqos.img	Provides WebView configuration of Quality of Service (QoS) features.
Hwebadvrout.img	Enables WebView configuration of Alcatel's Advanced Routing. Optional.
Hwebsecu.img	Provides WebView configuration of enhanced security features for the switch.

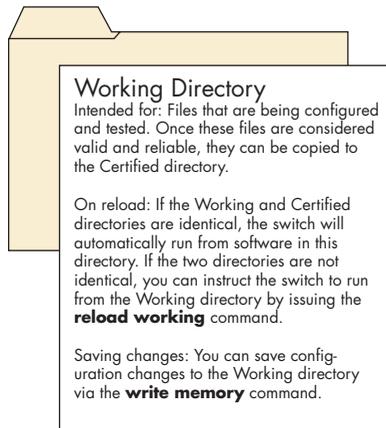
---

# Working and Certified Directories

Alcatel's OmniSwitch 6600 Family switches are shipped with 32 MB of flash memory. This memory is used to store files, including boot and image files, that are used for switch operations.

The **/flash** directory contains two subdirectories: **/working** and **/certified**. These directories work together to provide the *image rollback* resiliency feature. Image rollback allows the switch to return to a prior "last known good" version of software in the event of a system software problem.

## Working Directory

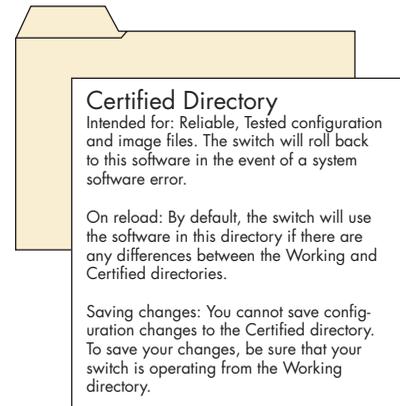


The **/flash/working** directory is intended for software that is still being configured for your network. Changes made while

configuring your switch are saved to the **boot.cfg** file in the **/flash/working** directory.

Once the **/flash/working** directory's configuration and image files are road-tested and considered valid and reliable for your network, they can be copied to the **/flash/certified** directory.

## Certified Directory



The software in the **/flash/certified** directory should be treated as the "gold master" for the switch. When you place configuration and image files in this directory, you are "certifying" them as tested and reliable. If the switch is running from the **/flash/working** directory and experiences a software problem, it will "roll back" to the last known good software in the **/flash/certified** directory on the next reboot.

## How can I tell which directory the switch is currently using?

When you first boot the switch, the **/flash/working** directory is used; this allows you to save your initial configuration changes to the **boot.cfg** file. However, subsequent boots may result in your switch running from the **/flash/certified** directory. Therefore, verifying the current running directory is a key step any time you are configuring or monitoring the switch.

View the switch's current running directory by entering the **show running-directory** command. For example:

```
-> show running-directory

CONFIGURATION STATUS
  Running CMM           : PRIMARY,
  CMM Mode              : DUAL CMMs,
  Current CMM Slot     : 1,
  Running configuration : WORKING,
  Certify/Restore Status : CERTIFY NEEDED

SYNCHRONIZATION STATUS
  Flash Between CMMs   : SYNCHRONIZED,
  Running Configuration : NOT AVAILABLE,
  Stacks Reload on Takeover: ALL STACKs (SW
  Activation)
```

In this example, the switch is using the **/flash/working** directory. For more information on the **show running-directory** command output, refer to the “CMM Commands” chapter in the *OmniSwitch CLI Reference Guide*.

## Can I save changes to the Certified directory?

No. The **/flash/certified** directory is intended to store only tested, reliable configuration and image files. Configuration

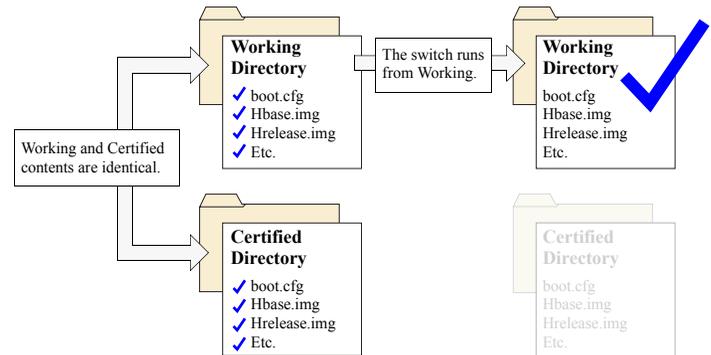
changes must be saved to the **boot.cfg** file in the **/flash/working** directory. Once those changes have been road-tested, the contents of the **/flash/working** directory can be copied to the **/flash/certified** directory via the **copy working certified** command.

## What happens when the switch boots?

During the boot process, the switch compares the contents of the **/flash/working** and **/flash/certified** directories. Based on this comparison, the switch determines which directory to use as its running software.

## Working and Certified Are Identical

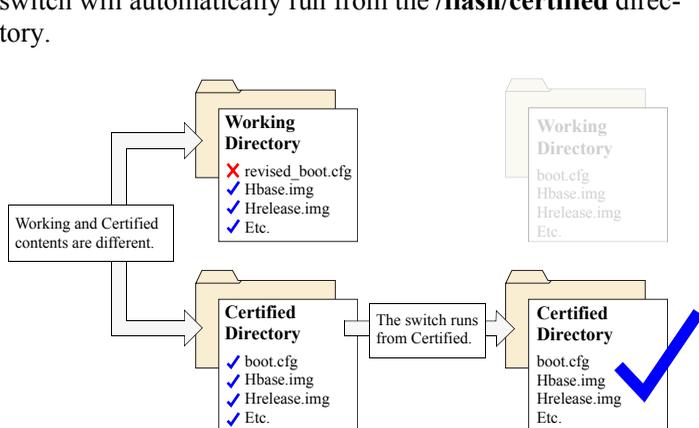
If the software in the **/flash/working** and **/flash/certified** directories are completely identical, the switch considers the software in both directories to be equally reliable. In this case, the switch will run from the **/flash/working** directory.



When the switch is running from the **/flash/working** directory software, configuration changes can be saved via the **write memory** command.

## Working and Certified Are Different

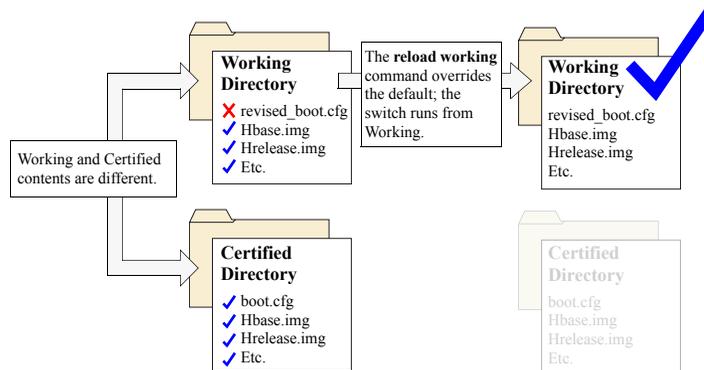
If the software in the **/flash/working** directory differs *even slightly* from the software in the **/flash/certified** directory, the switch will automatically run from the **/flash/certified** directory.



When the switch runs from the **/flash/certified** directory, configuration changes *cannot* be saved via the **write memory** command

## My Working and Certified directories are different. Can I force a reboot from the Working directory?

Yes. If its configuration and image files are known to be reliable, you can override the default and initiate a reboot from the **/flash/working** directory. This is done via the **reload working** command. For more information, refer to your *OmniSwitch CLI Reference Guide*.



---

**Note.** For detailed information on using directories, refer to the “Managing CMM Directory Content” chapter in the *OmniSwitch 6600 Family Switch Management Guide*.

---

# Loading Software

The following section describes the procedure for loading new release software to your switch. Note that the procedure varies slightly for stand-alone and stacked OmniSwitch 6600 Family configurations. Follow the steps that apply to your system.

---

**Note.** For more detailed information on loading software and working with directories in both stand-alone and stacked configurations, refer to the “Managing CMM Directory Content” chapter in the *OmniSwitch 6600 Family Switch Management Guide*.

---

## Stand-Alone Configurations

- 1 Verify that all required image files from the new software release are located on your computer’s hard drive or a *locally-accessible* server.
- 2 Establish an FTP session to the switch, then access the `/flash/working` directory.

---

**Note.** Before attempting to establish an FTP session, be sure that you have first unlocked the FTP session type via the **aaa authentication** command. Otherwise, an FTP login error will occur. See “[Unlocking Session Types](#)” on [page 34](#) for more information.

---

- 3 Using your FTP client or the CLI’s **rm** command, delete all **.img** files from the `/flash/working` directory. You can use the asterisk (\*) wildcard to delete all **.img** files at once. For example:

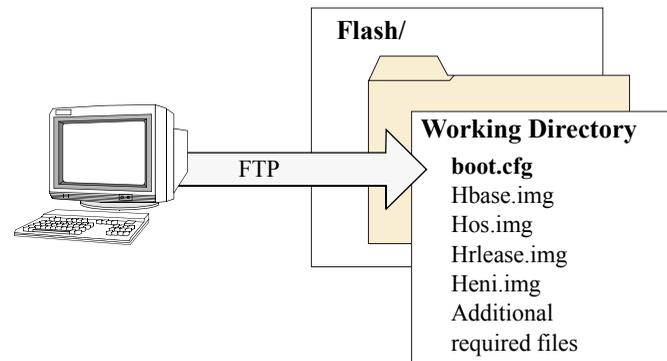
```
-> rm working/*.img
```

---

**Important.** Do not delete the **boot.cfg** file. Otherwise, any configuration changes you have saved will be lost. Also, do not delete files from the `/flash/certified` directory.

---

- 4 Using your FTP client, upload all required **.img** files from the new software release to the `/flash/working` directory.



**5** Use the **install** command after the software files have been transferred to the switch via FTP. For example:

```
-> install /flash/working/*.img
```

---

**Note.** For more information on the **install** command, refer to the *OmniSwitch 6600 Family Switch Management Guide* or the *OmniSwitch CLI Reference Guide*.

---

**6** Reload the switch from the **/flash/working** directory. To do this, enter

```
-> reload working no rollback-timeout
```

at the CLI prompt.

---

**Note.** This reload process will take a few moments to complete.

---

Following the reload, the switch will come up running from the **/flash/working** directory (i.e., the new release software) until the next system reboot. Meanwhile, the software in the **/flash/certified** directory remains unchanged and available as a last known good version if an error should occur with the new software.

Once the release software is considered valid and reliable with your network configuration, the contents of the **/flash/working** directory can be copied to the **/flash/certified** directory via the **copy working certified** command.

## Stacked Configurations

**1** Verify that the OK1 LED is solid green and the OK2 LED is flashing green on both the stack's primary and secondary OmniSwitch 6600 Family switches.

**2** Next, verify that all required image files from the new software release are located on your computer's hard drive or a *locally-accessible* server.

**3** Establish an FTP session to the *primary* switch in the stack, then access the **/flash/working** directory.

---

**Note.** Before attempting to establish an FTP session, be sure that you have first unlocked the FTP session type via the **aaa authentication** command. Otherwise, an FTP login error will occur. See [“Unlocking Session Types” on page 34](#) for more information.

---

**4** Using your FTP client or the CLI's **rm** command, delete all **.img** files from the **/flash/working** directory on the stack's primary switch. (To determine whether you are logged into the primary switch, use the **show running-directory** command.) You can use the asterisk (\*) wildcard to delete all **.img** files at once. For example:

```
-> rm working/*.img
```

---

**Note.** Do not delete the **boot.cfg** file. Otherwise, any configuration changes you have saved will be lost. Also, do not delete the **boot.slot.cfg** file or files from the **/flash/certified** directory.

---

**5** Using your FTP client, upload all required **.img** files from the new software release to the primary switch's **/flash/working** directory.

**6** Use the **install** command after the software files have been transferred to the switch via FTP. For example:

```
-> install /flash/working/*.img
```

---

**Note.** For more information on the **install** command, refer to the *OmniSwitch 6600 Family Switch Management Guide* or the *OmniSwitch CLI Reference Guide*.

---

**7** Reload the switch from the **/flash/working** directory. To do this, enter

```
-> reload working no rollback-timeout
```

at the CLI prompt.

---

**Note.** This reload process will take a few moments to complete.

---

## Certifying Your New Software

After the newly-loaded software is considered tested and reliable, it is important that you certify the new software by copying it to the **/flash/certified** directory.

It is also important that you synchronize the contents of the **/flash/working** and **/flash/certified** directories on *all switches* in the stack with the newer contents of the **/flash/certified** and **/flash/working** directories on the primary switch.

Otherwise, your new software—along with any configuration changes you have made—will be lost if a reboot or failover occurs.

To certify and synchronize all new software in the stack, enter the following command:

```
-> copy working certified flash-synchro
```

During this reload, software from the primary switch is distributed to all switches in the stacked configuration. By synchronizing the system software, the primary switch ensures effective redundancy throughout the stack.

# Using WebView

The switch can be configured and monitored using WebView, Alcatel's Web-based device management tool. WebView software is pre-installed in the switch; you are not required to load additional software.

---

**Note.** Although WebView software is pre-installed, you must first enable HTTP sessions for your switch before you can log in. Refer to [“Unlocking Session Types” on page 34](#) for more information.

---

## Browser Compatibility

WebView has been tested on the following Web browsers:

- Internet Explorer 6.0 for Windows 2000, Windows NT, Windows XP
- Netscape 4.79 for Solaris 2.8, HP-UX 11.0
- Netscape 7.1 for Windows 2000, Windows NT, Solaris 2.8

## Required Image Files

In order to access WebView, the following image files must be present in the current running directory:

- Hweb.img
- Hwebl2eth.img
- Hwebroun.img
- Hwebqos.img
- Hwebadvroun.img
- Hwebsecu.img

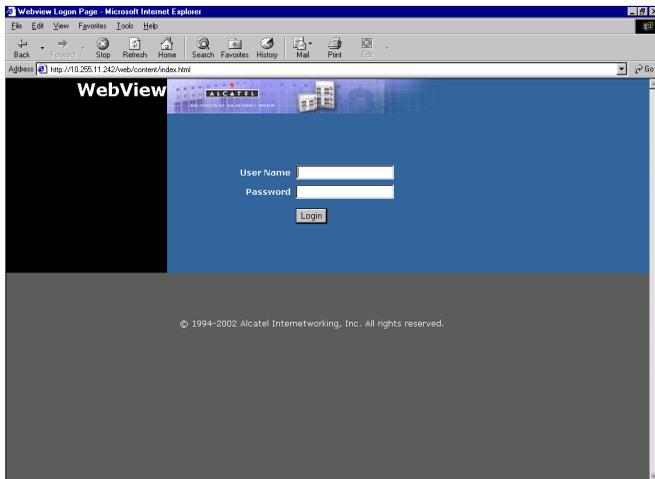
Refer to [“Image Files” on page 49](#) for more information.

# Logging In to WebView

**Note.** Before attempting to establish a WebView session, be sure that you have first unlocked the HTTP session type via the **aaa authentication** command. Otherwise, a login error will occur. See [“Unlocking Session Types” on page 34](#) for more information.

To access WebView and log in to a switch:

- 1 Open any Alcatel-tested Web browser (see [page 57](#)).
- 2 Enter the switch’s IP address in the browser’s “Address” text field (“Location:” for Netscape users). The login screen displays:

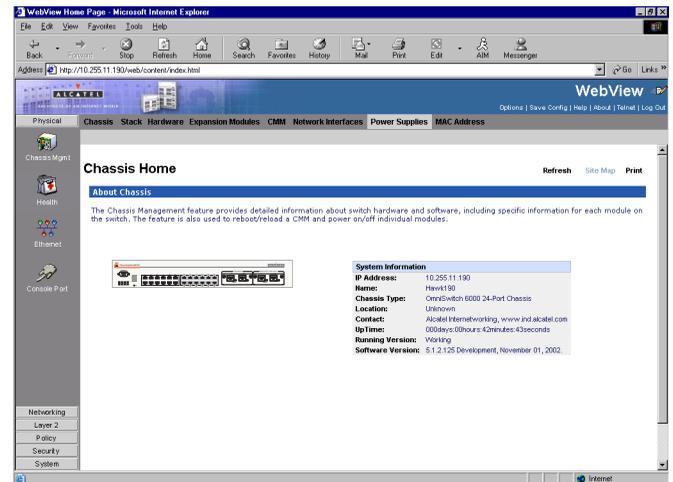


- 3 Enter the user name and password at the login prompt.

Remember, if you have already changed the user name and password for your switch, be sure to use the new information. If you have not changed your user name or password, the factory defaults are **admin** and **switch**, respectively. Refer to the “Managing Switch User Accounts” chapter of your *OmniSwitch 6600 Family Switch Management Guide* for information on modifying the default user name and password.

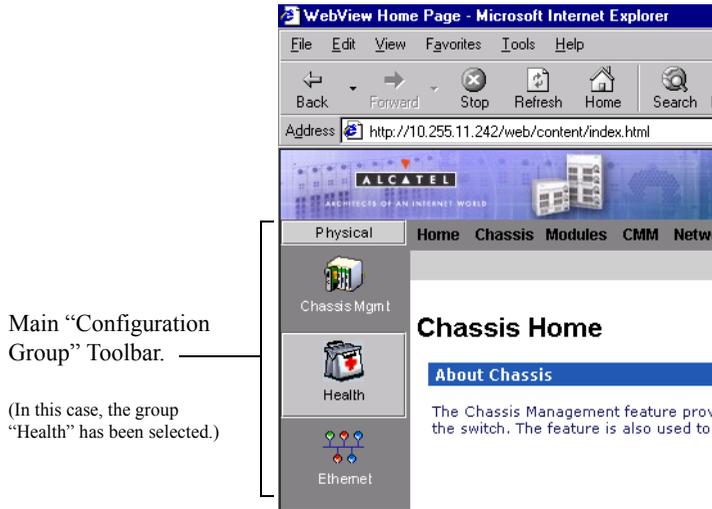
# Navigating WebView

After you have successfully logged in, the Chassis Management home page displays:

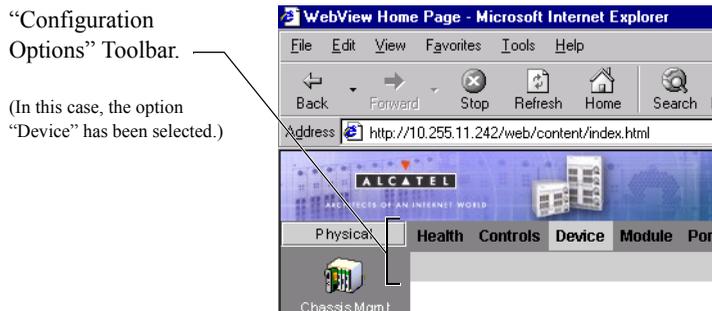


The Chassis Management home page provides a physical representation of the switch, as well as basic system information. This is the main launching point for WebView.

Navigate the application by clicking on the “Configuration Group” buttons in the left-hand toolbar



Refine your navigation by selecting “Configuration Options” for each group from the items displayed in the grey, horizontal navigation bar:



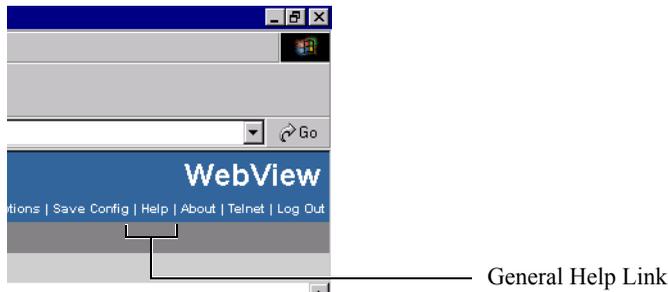
---

**Site Maps.** WebView also provides site maps for each configuration group. Site maps allow you to view complete page contents under each feature. By providing quick, easy access to specific pages, site maps can reduce time spent searching through the WebView application. To access site maps, click the “Site Map” link included on each configuration group Home page, (e.g., Health).

---

## Online Help

General online help is available through the main Help link located in the top WebView banner:



Detailed, context-based help is provided for each status table and configuration dialog window:

### VLAN Administration

<input type="checkbox"/>	VLAN	Description	Admin Status	Operational Status	STP Status	Authentication
<input type="checkbox"/>	1	VLAN 1	Enabled	Active	Enabled	Disabled

[Expanded View]

Add    Modify    Delete    Refresh    Help

Context-specific Help button.

(In this case, for the VLAN Administration table.)

## Additional Information

For more information on using WebView, refer to “Using WebView” in the *OmniSwitch 6600 Family Switch Management Guide*.

## Troubleshooting

### The WebView login screen does not display.

This suggests either a physical or network connection issue. Try the following options:

- Be sure that you have a good physical Ethernet cable connection to the switch.
- Be sure your computer has a valid Ethernet connection and IP address.
- Verify that all required WebView image files are installed in the current running directory. See [page 57](#) for more information.

### The login screen displays, but my login attempt fails.

This suggests either a user name and password or Authenticated Switch Access error. Try the following options:

- Check that you are using the correct user name and password. If you have already changed the user name and password for your switch, be sure to use the new information. If you have not changed the user name and password, the factory defaults are **admin** and **switch**, respectively.
- Be sure that you have “unlocked” HTTP sessions on the switch. To unlock HTTP sessions, enter the following command:

```
-> aaa authentication http local
```

See [page 34](#) for information on unlocking session types.

# Hardware Basics

## OmniSwitch 6624 Front Panel

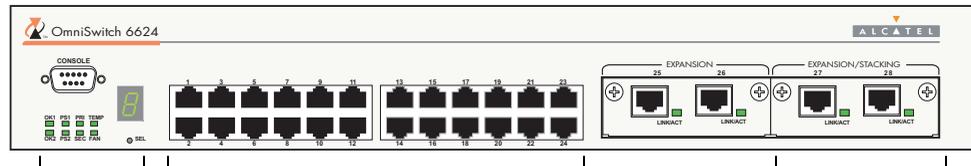
### Console Port

The OS6624 front panel provides one RS232 port for console connections. Serial console connections are used by network administrators for switch management. This female DB-9 connector provides a DCE console connection.

### Gigabit Ethernet Uplink Module Slot

The OS6624 provides a dedicated slot for Gigabit Ethernet uplink modules. This slot supports the following module types:

- OS6600-GNI-C2—Provides two fixed 1000BaseT copper connections (uses two RJ-45 connectors). Supports distances up to 100 meters.
- OS6600-GNI-U2—Provides two MiniGBIC bays that support hot-swappable 1000BASE-X MiniGBIC transceivers.



### Status and Slot Indicator LEDs

For information on the OS6624's status and slot indicator LEDs, refer to [page 67](#).

### Slot Selector Button

The slot selector button, located directly beneath the slot indicator LED, is used to manually assign slot numbers to switches in stacked configurations. Refer to “[Assigning Slot Numbers](#)” on [page 25](#) for detailed information.

### 10/100 Ethernet Ports

The OS6624 provides 24 Ethernet ports. These ports are twisted-pair and are individually configurable as 10BaseT or 100BaseTX. The ports use RJ-45 connectors.

### Stacking or Uplink Module Slot

The OS6624 provides an additional slot that can accommodate either a stacking module or a Gigabit Ethernet uplink module.

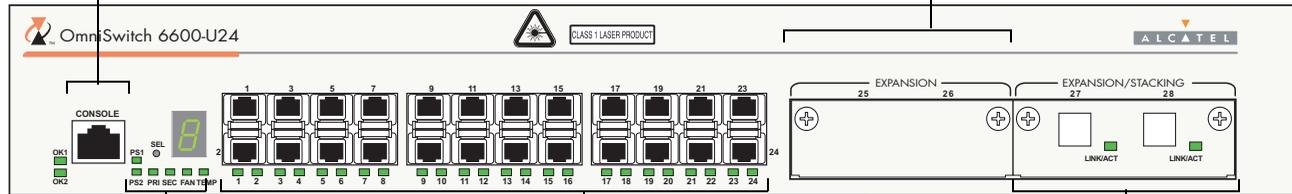
*If you use a Gigabit Ethernet uplink module in this slot, the OS6624 must be used as a stand-alone switch.*

*A stacking module must be installed in this slot if the switch is to be used in a stacked configuration. For information on stacking switches, refer to [page 24](#).*

# OmniSwitch 6600-U24 Front Panel

## Console Port

The OS6600-U24 front panel provides one RJ-45 port for console connections. Serial console connections are used by network administrators for switch management. This connector provides a DCE console connection.



## Status and Slot Indicator LEDs

For information on the OS6600-U24's status and slot indicator LEDs, refer to [page 67](#).

## Slot Selector Button

The slot selector button, located directly beneath the slot indicator LED, is used to manually assign slot numbers to switches in stacked configurations. Refer to “Assigning Slot Numbers” on [page 25](#) for detailed information.

## 100 Mbps Ethernet SFP Ports

The OS6600-U24 provides 24 100 Mbps SFP Ethernet ports. These ports can use the SFP-100-LC-MM, SFP-100-LC-SM, and SFP-100-MTRJ transceivers in any combination.

## Gigabit Ethernet Uplink Module Slot

The OS6600-U24 provides a dedicated slot for Gigabit Ethernet uplink modules. This slot supports the following module types:

- OS6600-GNI-C2—Provides two fixed 1000BaseT copper connections (uses two RJ-45 connectors). Supports distances up to 100 meters.
- OS6600-GNI-U2—Provides two MiniGBIC bays that support hot-swappable 1000BASE-X MiniGBIC transceivers.

## Stacking or Uplink Module Slot

The OS6600-U24 provides an additional slot that can accommodate either a stacking module or a Gigabit Ethernet uplink module.

*If you use a Gigabit Ethernet uplink module in this slot, the OS6600-U24 must be used as a stand-alone switch.*

*A stacking module must be installed in this slot if the switch is to be used in a stacked configuration. For information on stacking switches, refer to [page 24](#).*

# OmniSwitch 6648 Front Panel

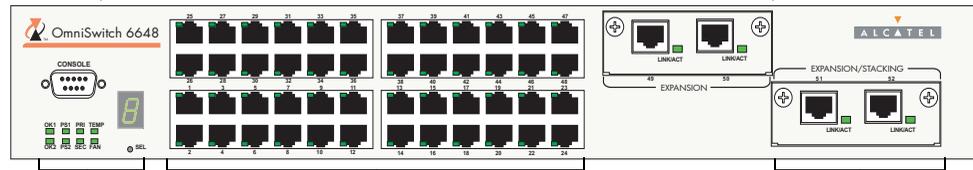
## Console Port

The OS6648 front panel provides one RS232 port for console connections. Serial console connections are used by network administrators for switch management. This female DB-9 connector provides a DCE console connection.

## Gigabit Ethernet Uplink Module Slot

The OS6648 provides a dedicated slot for Gigabit Ethernet uplink modules. This slot supports the following module types:

- OS6600-GNI-C2—Provides two fixed 1000BaseT copper connections (uses two RJ-45 connectors). Supports distances up to 100 meters.
- OS6600-GNI-U2—Provides two MiniGBIC bays that support hot-swappable 1000BASE-X MiniGBIC transceivers.



## Status and Slot Indicator LEDs

For information on the OS6648's status and slot indicator LEDs, refer to [page 67](#).

## Slot Selector Button

The slot selector button, located directly beneath the slot indicator LED, is used to manually assign slot numbers to switches in stacked configurations. Refer to “Assigning Slot Numbers” on [page 25](#) for detailed information.

## 10/100 Ethernet Ports

The OS6648 provides 48 Ethernet ports. These ports are twisted-pair and are individually configurable as 10BaseT or 100BaseTX. The ports use RJ-45 connectors.

## Stacking or Uplink Module Slot

The OS6648 provides an additional slot that can accommodate either a stacking module or a Gigabit Ethernet uplink module.

*If you use a Gigabit Ethernet uplink module in this slot, the OS6648 must be used as a stand-alone switch.*

*A stacking module must be installed in this slot if the switch is to be used in a stacked configuration. For information on stacking switches, refer to [page 24](#).*

# OmniSwitch 6600-P24 Front Panel

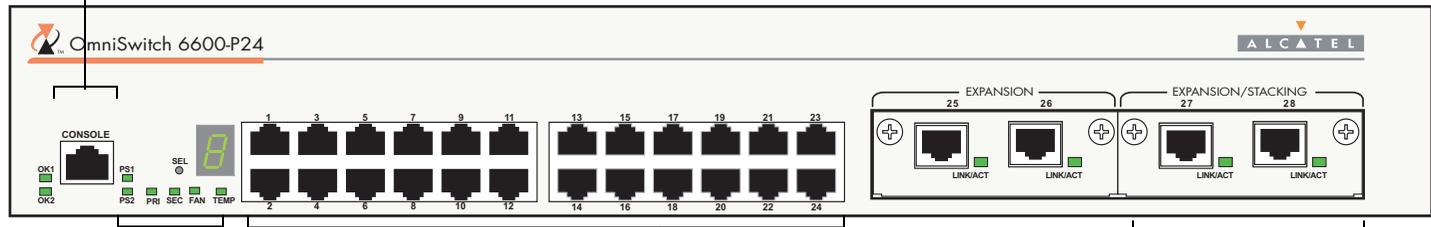
## Console Port

The OS6600-P24 front panel provides one RJ-45 port for console connections. Serial console connections are used by network administrators for switch management. This connector provides a DCE console connection.

## Gigabit Ethernet Uplink Module Slot

The OS6600-P24 provides a dedicated slot for Gigabit Ethernet uplink modules. This slot supports the following module types:

- OS6600-GNI-C2—Provides two fixed 1000BaseT copper connections (uses two RJ-45 connectors). Supports distances up to 100 meters.
- OS6600-GNI-U2—Provides two MiniGBIC bays that support hot-swappable 1000BASE-X MiniGBIC transceivers.



## Status and Slot Indicator LEDs

For information on the OS6600-P24's status and slot indicator LEDs, refer to [page 67](#).

## Slot Selector Button

The slot selector button, located directly beneath the slot indicator LED, is used to manually assign slot numbers to switches in stacked configurations. Refer to “Assigning Slot Numbers” on [page 25](#) for detailed information.

## 10/100 PoE Ports

The OS6600-P24 provides 24 Power over Ethernet (PoE) 10/100 Ethernet ports. These ports are twisted-pair and are individually configurable as 10BaseT or 100BaseTX. The ports use RJ-45 connectors.

## Stacking or Uplink Module Slot

The OS6600-P24 provides an additional slot that can accommodate either a stacking module or a Gigabit Ethernet uplink module.

*If you use a Gigabit Ethernet uplink module in this slot, the OS6600-P24 must be used as a stand-alone switch.*

*A stacking module must be installed in this slot if the switch is to be used in a stacked configuration. For information on stacking switches, refer to [page 24](#).*

# OmniSwitch 6602-24 Front Panel

## Console Port

The OS6602-24 front panel provides one RJ-45 port for console connections. Serial console connections are used by network administrators for switch management. This connector provides a DCE console connection.

## Gigabit Ethernet Uplink Slots

The OS6602-24 provides two MiniGBIC Gigabit Ethernet slots.



## Status and Slot Indicator LEDs

For information on the OS6602-24's status and slot indicator LEDs, refer to [page 67](#).

## Slot Selector Button

The slot selector button, located directly beneath the slot indicator LED, is used to manually assign slot numbers to switches in stacked configurations. Refer to [“Assigning Slot Numbers” on page 25](#) for detailed information.

## 10/100 Ethernet Ports

The OS6602-24 provides 24 10/100 Ethernet ports. These ports are twisted-pair and are individually configurable as 10BaseT or 100BaseTX. The ports use RJ-45 connectors.

## Stacking Ports

The OS6602-24 provides two built-in stacking ports.

For information on stacking switches, refer to [page 24](#).

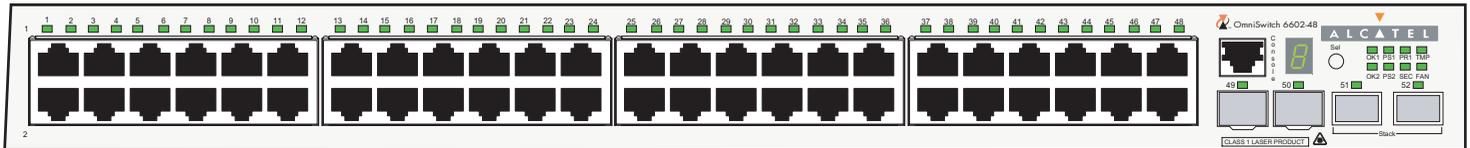
# OmniSwitch 6602-48 Front Panel

## Console Port

The OS6602-48 front panel provides one RJ-45 port for console connections. Serial console connections are used by network administrators for switch management. This connector provides a DCE console connection.

## Gigabit Ethernet Uplink Slots

The OS6602-48 provides two MiniGBIC Gigabit Ethernet slots.



## Status and Slot Indicator LEDs

For information on the OS6602-48's status and slot indicator LEDs, refer to [page 67](#).

## Slot Selector Button

The slot selector button, located directly beneath the slot indicator LED, is used to manually assign slot numbers to switches in stacked configurations. Refer to [“Assigning Slot Numbers” on page 25](#) for detailed information.

## 10/100 Ethernet Ports

The OS6602-48 provides 48 10/100 Ethernet ports. These ports are twisted-pair and are individually configurable as 10BaseT or 100BaseTX. The ports use RJ-45 connectors.

## Stacking Ports

The OS6602-48 provides two built-in stacking ports.

For information on stacking switches, refer to [page 24](#).

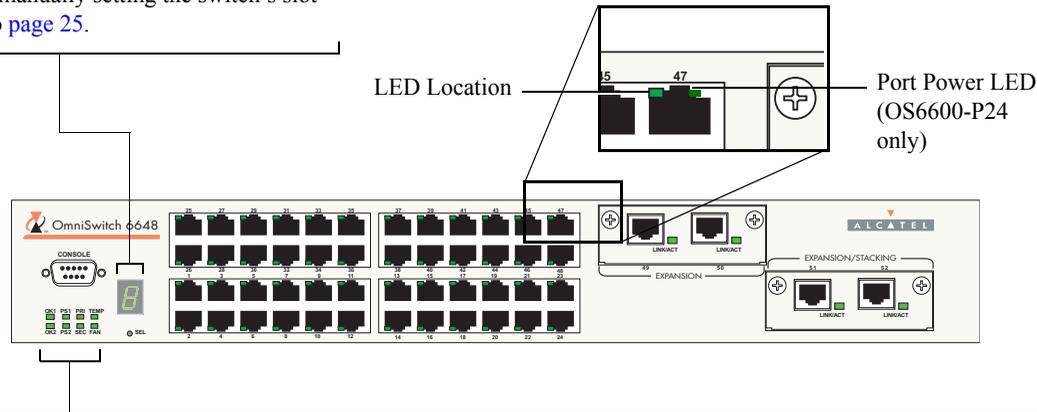
# OmniSwitch 6600 Status LEDs

## Slot Indicator LED

The slot indicator LED is manually configurable and displays the switch's current slot number in a stacked configuration (i.e., 1 – 8). For detailed information on manually setting the switch's slot number, refer to [page 25](#).

## Ethernet Port LEDs

Each Ethernet port has a built-in corresponding LED. This LED indicates the link and activity status for each Ethernet port. The LED displays green when a valid Ethernet cable connection exists. Flashes green as data is transmitted or received on the port.



## Hardware and Software Status LEDs

**OK1.** Hardware Status. Displays solid green when powered on and the switch has passed hardware diagnostic tests. Displays solid amber when powered on and the switch has failed hardware diagnostic tests.

**OK2.** Software Status. Blinks green when the switch's system management software is operational. Displays solid amber when a system software failure occurs. Blinks amber when the software is in a transitional state (e.g., when software is being downloaded to the switch).

## Power Supply LEDs

**PS1.** Displays solid green when the primary (i.e., factory-installed) power supply status is OK and the power supply is operating normally. Displays solid amber in the unlikely event of a power supply failure.

**PS2.** Displays solid green when the optional redundant power supply status is OK and the power supply is operating normally. Displays solid amber if no redundant power supply is installed or in the unlikely event of a redundant power supply failure.

## Temperature Management LEDs

**TEMP.** Displays solid green when the switch is operating within the allowed temperature range. Displays solid amber if a temperature error occurs (i.e., the switch is operating outside the temperature range).

**FAN.** Displays solid green when all fans in the fan tray are running at normal speed. Displays solid amber if a fan error occurs (i.e., one or more fans are not running at normal speed).

The CD that accompanies this *Getting Started Guide* contains comprehensive Alcatel user documentation, including the following manuals:

- *OmniSwitch 6600 Family Getting Started Guide*

Describes the hardware and software procedures for getting an OmniSwitch 6600 Family switch up and running. Also provides information on fundamental aspects of OmniSwitch hardware components and software architecture.

- *OmniSwitch 6600 Family Hardware Users Guide*

Complete technical specifications and procedures for all OmniSwitch 6600 Family hardware, including chassis, power supplies, fans, uplink modules, and stacking modules.

- *OmniSwitch CLI Reference Guide*

Complete reference to all CLI commands supported on the OmniSwitch 6600 Family. Includes syntax definitions, default values, examples, usage guidelines, and CLI-to-MIB variable mappings.

- *OmniSwitch 6600 Family Switch Management Guide*

Includes procedures for readying an individual switch for integration into a network. Topics include the software directory architecture, image rollback protections, authenticated switch access, managing switch files, system configuration, using SNMP, and using web management software (WebView).

- *OmniSwitch 6600 Family Network Configuration Guide*

Includes network configuration procedures and descriptive information on all the major software features and protocols included in the base software package. Chapters cover Layer 2 information (Ethernet and VLAN configuration), Layer 3 information (static routes), security options (authenticated VLANs), Quality of Service (QoS), and link aggregation.

- *OmniSwitch 6600 Family Advanced Routing Configuration Guide*

Includes network configuration procedures and descriptive information on all the software features and protocols included in the advanced routing software package. Chapters cover OSPF.

To load the CD and access the user documentation, refer to the instructions printed on the CD packaging.

All documentation is in PDF format and requires the Adobe Acrobat Reader program for viewing. Acrobat Reader free-ware is available at [www.adobe.com](http://www.adobe.com).

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**Global Search.** In order to take advantage of the documentation CD's global search feature, it is recommended that you select the option for *searching PDF files* when downloading Acrobat Reader freeware from the Adobe Website.

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To verify that you are using Acrobat Reader with the global search option, look for the following button in the toolbar:



If you cannot locate a button with the document image behind the binoculars (as shown), then the global search feature is *not* available in the version of Acrobat Reader you are currently using.

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**Printing PDFs.** When printing pages from the documentation PDFs, de-select Fit to Page if it is selected in your print dialog. Otherwise pages may print with slightly smaller margins.

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