3com

OfficeConnect® Managed Switch 9 and Switch 9 FX Getting Started Guide

3CR16708-91
3CR16709-91

http://www.3com.com/

Part No. DUA1670-8AAA01
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3   SETTING UP FOR MANAGEMENT

ABOUT THIS GUIDE

This guide provides all the information you need to install and use the following switches in their default state.

- OfficeConnect Managed Switch 9 (3CR16708-91)
- OfficeConnect Managed Switch 9 FX (3CR16709-91)

All procedures described in this guide apply to both models except where stated. Where a procedure or description applies to both the Switch 9 and the Switch 9 FX, the term *Switch* is used.

The guide is intended for use by network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks).

Before You Start This section contains information about the CD-ROM that accompanies your Switch.

About Your CD-ROM The CD-ROM also contains the following:

- Online documentation for the Switch — refer to Related Documentation on page 9 for details.
- 3Com Network Supervisor — a powerful and easy-to-use network management platform.
- A number of other useful applications.

Most user guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) or HTML on the 3Com World Wide Web site:

`http://www.3com.com/`

Conventions

Table 1 and Table 2 list conventions that are used throughout this guide.

Table 1   Notice Icons

Icon	Notice Type	Description
$\boxed{i}\!\!\triangleright$	Information note	Information that describes important features or instructions
$\triangle\!\!!$	Caution	Information that alerts you to potential loss of data or potential damage to an application, system, or device
$\triangle\!\!\!\!\!\!\!/$	Warning	Information that alerts you to potential personal injury

Table 2   Text Conventions

Convention	Description
`Screen displays`	This typeface represents information as it appears on the screen.
`<syntax>`	The word "syntax" means that you must evaluate the syntax provided and then supply the appropriate values for the placeholders that appear in angle brackets. Example:
	To change your password, use the following syntax:
	`system management password <password>`
	In this example, you must supply a password for <password>.
Commands	The word "command" means that you must enter the command exactly as shown and then press Return or Enter. Commands appear in bold. Example:
	To display port information, enter the following command:
	bridge port detail
The words "enter" and "type"	When you see the word "enter" in this guide, you must type something, and then press Return or Enter. Do not press Return or Enter when an instruction simply says "type."
Keyboard key names	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example:
	Press Ctrl+Alt+Del
Words in *italics*	Italics are used to:
	■ Emphasize a point.
	■ Denote a new term at the place where it is defined in the text.
	■ Identify menu names, menu commands, and software button names. Examples:
	From the *Help* menu, select *Contents*.
	Click *OK*.

Related Documentation	In addition to this guide, each Switch documentation set includes the following:

- *OfficeConnect Managed Switch 9 and Switch 9 FX Implementation Guide*

    This guide contains information on the features supported by your Switch and how they can be used to optimize your network. It is supplied in PDF format on the CD-ROM that accompanies the Switch.

- *OfficeConnect Managed Switch 9 and Switch 9 FX Management Quick Reference Guide*

    This guide contains:

    - a list of the features supported by the Switch.

    - a summary of the Web interface and command line interface commands for the Switch.

- *OfficeConnect Managed Switch 9 and Switch 9 FX Management Interface Reference Guide*

    This guide provides detailed information about the Web interface and command line interface that enable you to manage the Switch. It is supplied in HTML format on the CD-ROM that accompanies the Switch.

- *Release Notes*

    These notes provide information about the current software release, including new features, modifications, and known problems.

There are other publications you may find useful, such as:

- Documentation accompanying 3Com Network Supervisor. This is supplied on the CD-ROM that accompanies the Switch.

Accessing Online Documentation   To access the documentation on the CD-ROM supplied with your Switch, do the following:

1 Insert the CD-ROM into your CD-ROM drive. If your PC has auto-run enabled, a splash screen will be displayed automatically.

2 Select the Documentation section from the contents page.

If the online documentation is to be accessed from a local drive or server, you will need to access the CD-ROM contents via the root directory and copy the files from the CD-ROM to a suitable directory.

- The HTML Reference Guide is stored in the `Docs/reference` directory on the CD-ROM. The documentation is accessed using the contents.htm file.
- The PDF Implementation Guide is stored in the `Docs/implementation` directory of the CD-ROM.

> *3Com recommends that you copy the* `Docs/reference` *directory as a whole to maintain the structure of the files.*

Documentation Comments

Your suggestions are very important to us. They will help make our documentation more useful to you. Please e-mail comments about this document to 3Com at:

pddtechpubs_comments@3com.com

Please include the following information when commenting:

- Document title
- Document part number (on the title page)
- Page number (if appropriate)

Example:

- OfficeConnect Managed Switch 9 and Switch 9 FX Getting Started Guide
- Part Number DUA1670-8AAA01
- Page 21

> *Please note that we can only respond to comments and questions about 3Com product documentation at this e-mail address. Questions related to technical support or sales should be directed in the first instance to your network supplier.*

1

INTRODUCING THE OFFICECONNECT MANAGED SWITCH 9 AND SWITCH 9 FX

This chapter contains introductory information about the Switch 9 and Switch 9 FX and how they can be used in your network. It covers summaries of hardware and software features and also the following topics:

- About the Switch
- Switch — Front View Detail
- Switch — Rear View Detail
- Default Settings

About the Switch   The Switch is a 10/100 Mbps Ethernet Switch, which consists of:

■ 8 10BASE-T/100BASE-TX ports

and either:

■ One 10BASE-T/100BASE-TX/1000BASE-T (10/100/1000) port or
■ One 100BASE-FX LC port and one SFP port

The 100BASE-FX and SFP port is a combination port. When an SFP module is inserted it has priority over the 100BASE-FX port of the same number. The corresponding 100BASE-FX port is disabled when an SFP module is present.

The Switch supports Power over Ethernet on ports 1, 2, 5 and 6. If you plug in a compatible (IEEE 802.3af compliant) device, it will be automatically detected and power supplied to it. Power over Ethernet is enabled on these ports by default.

Summary of Hardware Features   Table 3 summarizes the hardware features that are supported by the Switch.

Table 3   Hardware features

Feature	Switch
MAC Addresses	■ Up to 8000 supported
	■ Up to 64 static entries
Auto-negotiation	Supported on all ports
Auto MDI/MDI-X	Supported on all RJ-45 ports
Forwarding Modes	Store and Forward
Duplex Modes	Half and full duplex on all ports
Traffic Prioritization	Supported (using the IEEE Std 802.ID, 1998 Edition): 4 queues per port
Power over Ethernet	Supported on ports 1, 2, 5 and 6
Ethernet/Fast Ethernet Ports	Auto-negotiating 10BASE-T / 100BASE-TX ports
Ethernet/Fast Ethernet/ Gigabit Ethernet Ports	1 auto-negotiating 10BASE-T / 100BASE-TX / 1000BASE-T port
SFP Port	1 auto-negotiating SFP port on Switch 9 FX
Fiber-Optic Port	1 auto-negotiating 100BASE-FX port on Switch 9 FX
Mounting	Wall mounting or stand-alone mounting

Switch — Front View Detail
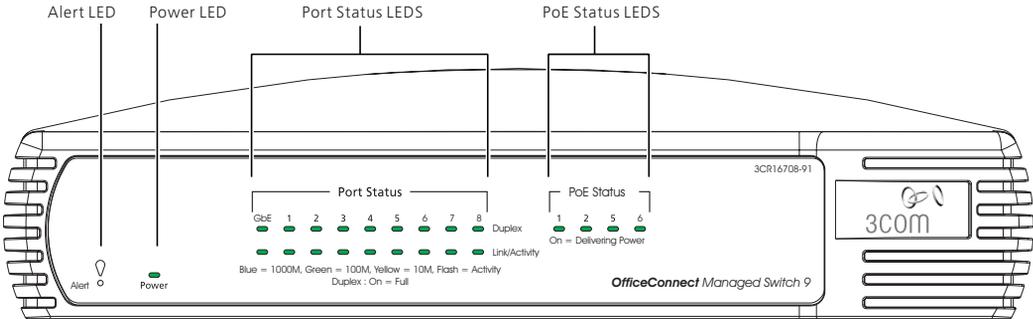
Figure 1 Switch 9 — front view
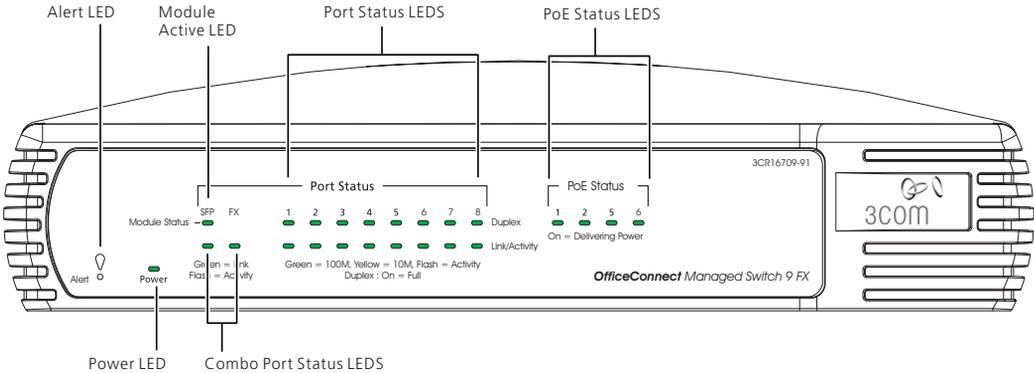
Figure 2 Switch 9 FX — front view

LEDs   Table 4 lists LEDs visible on the front of the Switch, and how to read their status according to color. For information on using the LEDs for problem solving, see "Solving Problems Indicated by LEDs" on page 52.

Table 4   LED behavior

LED	Color	Indicates
10BASE-T/100BASE-TX Port Status LEDs		
Link/ Activity	Green	A 100 Mbps link is present.
	Yellow	A 10 Mbps link is present.
	Green flashing	There is 100 Mbps activity on the port.
	Yellow flashing	There is 10 Mbps activity on the port.
	Off	No link is present.
Duplex	Green	The port is operating at full duplex
	Off	The port is operating at half duplex, or there is no link.
10BASE-T/100BASE-TX/1000BASE-T (GbE) Port Status LED (Switch 9 only)		
Link/ Activity	Blue	A 1000 Mbps link is present.
	Green	A 100 Mbps link is present.
	Yellow	A 10 Mbps link is present.
	Blue flashing	There is 1000 Mbps activity on the port.
	Green flashing	There is 100 Mbps activity on the port.
	Yellow flashing	There is 10 Mbps activity on the port.
	Off	No link is present.
Duplex	Green	The port is operating at full duplex
	Off	The port is operating at half duplex, or there is no link.
SFP Module Status LED (Switch 9 FX only)		
Link/ Activity	Green	The port has a link.
	Green flashing	There is activity on the port.
	Off	No link is present.
Module Status	Green	The SFP Module is present. The corresponding 100BASE-FX port is disabled.
	Off	No SFP Module has been inserted. The corresponding 100BASE-FX port can be used.
100BASE-FX Port Status LEDs (Switch 9 FX only)		
Link/ Activity	Green	The port has a link.
	Green Flashing	There is activity on the port.
	Off	No link is present.

LED	Color	Indicates
PoE Status LED (Ports 1, 2, 5, 6)		
	Green	Power is being delivered to the attached device.
	Off	No power is being delivered to the attached device, or no device is attached to this port.
Power LED		
	Green	The Switch is powered-up and operating normally.
	Off	The Switch is not receiving power or there is a fault with the Power Supply Unit.
Power OK LED (rear panel)		
	Green	The power adapter is providing power normally.
	Off	The power adapter has probably failed (see Chapter 4, "Problem Solving").
Alert LED		
	Orange flashing	The Switch is starting up or the Switch software is being upgraded.
	Orange	The Switch is reporting a fault (see Chapter 4, "Problem Solving"), or a user-configured alert condition has occurred (see the Implementation Guide for information on configuring alert conditions).
	Off	The Switch is powered-up and operating normally (if the Power LED is on).

Switch — Rear View Detail

Power Socket   Console Port   1000BASE-T Port   10BASE-T/100BASE-TX Ports

Power LED

CONSOLE   12VDC 3.5A MAX   PWR OK   19200,N,8,1   GbE   4   8   1   5
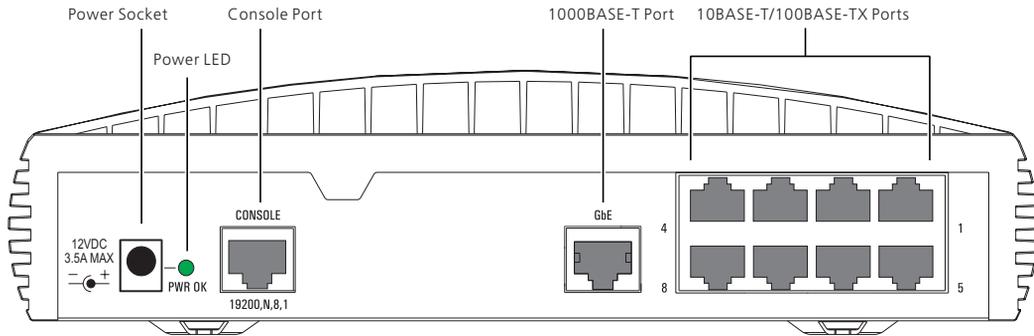
Figure 3   Switch 9 — rear view

Power Socket   Console Port   SFP Port   10BASE-T/100BASE-TX Ports

Power LED   100BASE-FX Port

CONSOLE   12VDC 3.5A MAX   PWR OK   19200,N,8,1   4   8   1   5
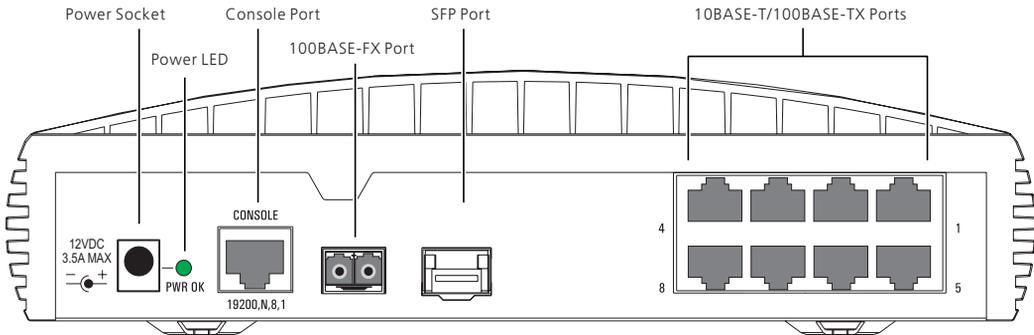
Figure 4   Switch 9 FX — rear view

WARNING: RJ-45 Ports. These are shielded RJ-45 data sockets. They cannot be used as standard traditional telephone sockets, or to connect the unit to a traditional PBX or public telephone network. Only connect RJ-45 data connectors, network telephony systems, or network telephones to these sockets.

Either shielded or unshielded data cables with shielded or unshielded jacks can be connected to these data sockets.

10BASE-T/
100BASE-TX Ports The Switch has 8 auto-negotiating 10BASE-T/100BASE-TX ports configured as Auto MDI/MDI-X. These ports automatically provide the appropriate connection. The default state for 10/100 Mbps ports is auto-negotiation enabled, where the speed, duplex and flow control modes are negotiated.

Alternatively, you can manually set these ports to 10BASE-T half duplex, 10BASE-T full duplex, 100BASE-TX half duplex, 100BASE-TX full duplex and manually enable or disable flow control. The maximum segment length is 100 m (328 ft) over Category 5 twisted pair cable.

i *If you disable auto-negotiation, Auto MDI/MDI-X will also be disabled.*

The Switch will supply up to 15.4W of power through ports 1, 2, 5 and 6 in conformance to the 802.3af specification. The Switch incorporates a PoE Status LED on the front panel, which indicates when power is being delivered to a device connected to one of these ports.

10BASE-T/
100BASE-TX/
1000BASE-T Port The Switch 9 has one auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T port configured as Auto MDI/MDI-X. This port automatically provides the appropriate connection. The default state for the 10/100/1000 Mbps port is auto-negotiation enabled, where the speed, duplex and flow control modes are negotiated.

Alternatively, you can manually set these ports to 10BASE-T half duplex, 10BASE-T full duplex, 100BASE-TX half duplex, 100BASE-TX full duplex or 1000BASE-T full duplex and manually enable or disable flow control. The maximum segment length is 100 m (328 ft) over Category 5 twisted pair cable.

i *If you disable auto-negotiation, Auto MDI/MDI-X will also be disabled.*

SFP Port The Switch 9 FX has one SFP (Small Form Factor Pluggable) port that supports Gigabit Ethernet short-wave (SX) or long-wave (LX) fiber-optic SFP transceivers, or Gigabit Ethernet 1000BASE-TX SFP transceivers. This offers you the flexibility of using SFP transceivers to provide connectivity between the Switch and a 1000 Mbps core network or to create a high capacity aggregated link between two workgroups.

When using fiber-optic SFP transceivers, the only state for this port is auto-negotiation enabled. As the speed and duplex modes are fixed by the media type, only the flow control is negotiated with the link partner.

> **i** *When an SFP module is inserted it has priority over the 100BASE-FX port. The corresponding 100BASE-FX port is disabled when an SFP module is present.*

100BASE-FX Port   The Switch 9 FX has one 100BASE-FX LC port. This is a 100 Mbps fiber-optic port that can use standard multi-mode fiber-optic cable of up to 2 kilometers (1.2 miles). It uses the standard duplex LC connector that allows both the transmit and the receive fibers to be connected in the same space as an RJ-45 port.

> **i** *When an SFP module is inserted it has priority over the 100BASE-FX port. The corresponding 100BASE-FX port is disabled when an SFP module is present.*

Console Port   The console port allows you to connect a terminal and perform local out-of-band management. The console port uses an RJ-45 to DB-9 null modem cable (supplied with the Switch) and is set to 19200 baud, 8 data bits, no parity and 1 stop bit.

> **i** *The default configuration automatically detects any of the following baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200. However, you must set the baud rate on your management device to 19200 baud if you want to view all the system initialization messages.*

Power Socket   The power adapter supplied with the Switch automatically adjusts its power setting to any supply voltage in the range 100-240 VAC. Only use the adapter provided with the Switch.

Default Settings   Table 5 shows the default settings for the Switch:

Table 5   Default Settings

Feature	Switch
IP Configuration	Automatic by DHCP client
Port Status	Enabled
Port Speed	■ 10BASE-T/100BASE-TX ports are auto-negotiated
	■ 10BASE-T/100BASE-TX/1000BASE-T port is auto-negotiated
	■ 100BASE-FX port is fixed at 100 Mbps
Duplex Mode	■ 10BASE-T/100BASE-TX port is auto-negotiated
	■ 10BASE-T/100BASE-TX/1000BASE-T port is auto-negotiated (half duplex or full duplex at 10/100 Mbps, full duplex only at 1000 Mbps)
	■ 100BASE-FX port defaults to 100 Mbps full-duplex mode (100 FD) and must be manually set to half-duplex mode (100 HD) if required.
Power over Ethernet	Enabled (ports 1, 2,5 and 6)
Flow Control	■ Disabled in half duplex 10/100 ports
	■ Auto-negotiated in full duplex 10/100 ports
	■ Disabled for 10/100/1000 port
Broadcast Storm Control	Enabled
Virtual LANs (VLANs)	All ports belong to the untagged Default VLAN (VLAN 1) with IEEE Std 802.1Q-1998 learning operational
Multicast Filtering	IGMP Filtering enabled
Rapid Spanning Tree Protocol	Enabled
Spanning Tree Fast Start	■ Disabled on 10/100 ports
	■ Disabled on 10/100/1000 port
Traffic Prioritization	All ports prioritize NBX VoIP traffic (LAN and IP). All ports set to "best effort" for all other traffic.
Port Security	Disabled per port

If you initialize a Switch unit by selecting *System > Control > Initialize* in the Web interface or by entering **system control initialize** in the Command Line Interface, the following settings are retained to allow you to connect to and manage the Switch:

- IP Address
- Subnet Mask
- Default Gateway

2   INSTALLING THE SWITCH

This chapter contains the information you need to install and set up the Switch. It covers the following topics:

- Package Contents
- Choosing a Suitable Site
- Placing Units On Top of Each Other
- Using a Stacking Clip
- Wall-mounting
- The Power-up Sequence
- SFP Operation

WARNING: Safety Information. *Before installing or removing any components from the Switch or carrying out any maintenance procedures, you must read the safety information provided in Appendix A of this guide.*

AVERTISSEMENT: Consignes de sécurité. *Avant d'installer ou d'enlever tout composant du Switch ou d'entamer une procédure de maintenance, lisez les informations relatives à la sécurité qui se trouvent dans l'Appendice A (Appendix A) de ce guide.*

VORSICHT: Sicherheitsinformationen. *Bevor Sie Komponenten aus dem Switch entfernen oder dem Switch hinzufuegen oder Instandhaltungsarbeiten verrichten, lesen Sie die Sicherheitsanweisungen, die in Anhang A (Appendix A) in diesem Handbuch aufgefuehrt sind.*

ADVERTENCIA: Información de seguridad. *Antes de instalar o extraer cualquier componente del product o de realizar tareas de mantenimiento, debe leer la información de seguridad facilitada en el Apéndice A de esta guía del usuario.*

AVVERTENZA: Informazioni di sicurezza. *Prima di installare o rimuovere qualsiasi componente dal product o di eseguire qualsiasi*

procedura di manutenzione, leggere le informazioni di sicurezza riportate nell'Appendice A della presente guida per l'utente.

Package Contents

- Switch unit
- CD-ROM
- Getting Started Guide (this guide)
- Management Quick Reference Guide
- Release Notes
- Warranty Information
- Power Adapter
- Console Cable (RJ-45 to RS-232)
- Stacking Clip
- 4 x Rubber feet

Choosing a Suitable Site

The Switch is suited for use on a desktop, either free standing, stacked together with other units using the stacking clip, or mounted on a wall. Alternatively, the Switch can be placed in a wiring closet or equipment room, as an aggregator for other Hubs and Switches. A stacking kit containing one mounting clip is supplied with the Switch.

CAUTION: Ensure that the ventilation holes are not obstructed.

When deciding where to position the Switch, ensure that:

- Cabling is located away from:
    - sources of electrical noise such as radios, transmitters and broadband amplifiers.
    - power lines and fluorescent lighting fixtures
- The Switch is accessible and cables can be connected easily.
- Water or moisture cannot enter the case of the Switch.
- Air flow is not restricted around the Switch or through the vents in the side of the Switch. 3Com recommends that you provide a minimum of 25mm (1in.) clearance.

- Air temperature around the Switch does not exceed 50 °C (122 °F).

⚠ *If the Switch is stacked with other OfficeConnect units its local air temperature may be greater than room ambient temperature.*

- The air is as free from dust as possible.

- The unit is installed in a clean, air conditioned environment.

- No more than four Switch units are placed on top of one another, if the units are free-standing or stacked together with the stacking clip.

- The Switch is situated away from sources of conductive (electrical) dust, for example laser printers.

- The AC supply used by the Switch is separate to that used by units that generate high levels of AC noise, for example air conditioning units and laser printers.

Placing Units On Top of Each Other

If the Switch units are free-standing or stacked together with the stacking clip, up to four units can be placed one on top of the other. If you are mixing a variety of OfficeConnect Switch and Hub units, the smaller units must be positioned at the top.

If you are placing free-standing Switch units one on top of the other, you must use the supplied self-adhesive rubber pads to prevent the Switch from moving around on your desk, or when stacking with flat top OfficeConnect units. Apply the pads to the underside of each Switch, sticking one in the marked area at each corner.

Using a Stacking Clip

Use a stacking clip when stacking your Switch with other curved OfficeConnect units. The stacking clip allows you to stack units neatly and securely.

⚠ *CAUTION: You can stack up to a maximum of four units. Smaller units must be stacked above larger units.*

To fit the clip:

1 Fit the clip across the top of the unit, as shown in Figure 5 (picture 1).

2 Align the fastening pieces over the slots found on each side of the unit.

3 Push the clip down gently to secure it, ensuring that the fastening pieces snap into the slots on the unit.

To fit another unit:

1 Rest the second unit on the top of the clip and align it with the front of the unit below.

2 Press down gently on the unit to secure in onto the clip, ensuring the fastening pieces fit into the slots on the unit below, as shown in Figure 5 (picture 2).

Figure 5 Stacking Your Units together
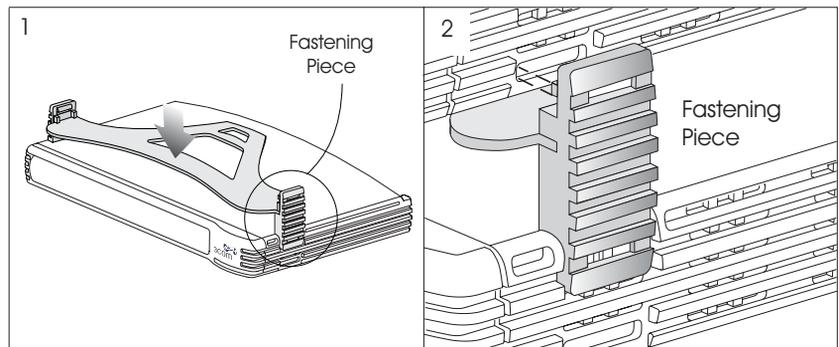
Wall-mounting

There are two slots on the underside of the Switch that can be used for wall mounting. The Switch must be mounted with the LEDs facing upwards.

> *When wall mounting the unit, ensure it is within reach of the power outlet.*

> *When wall mounting the unit, ensure that the rubber feet are not fixed.*

Mounting Instructions for Cement Walls

To wall mount the unit on a cement wall, follow these instructions:

1 Make two holes 150 mm (5.9 in.) apart and insert two nylon or similar screw anchors that are suitable for the wall construction.

2 Fix two suitable screws into the anchors, leaving their heads 3 mm (0.12 in.) clear of the wall surface. The screws should be at least 30 mm (1.2 in.) long.

3 Remove any connections from the Switch and locate it over the screw heads. When in line, gently push the Switch on to the wall and move downwards to secure.

Mounting Instructions for Wood Walls

To wall mount the unit on a wood wall, follow these instructions:

1 Make two holes 150 mm (5.9 in.) apart.

2 Fix two suitable screws directly into the wall, leaving their heads 3 mm (0.12 in.) clear of the wall surface. The screws should be at least 20 mm (0.75 in.) long.

3 Remove any connections from the Switch and locate it over the screw heads. When in line, gently push the Switch on to the wall and move downwards to secure.

⚠ **CAUTION:** *When making connections, be careful not to push the Switch up and off the wall.*

⚠ **CAUTION:** *Only wall mount single units, do not wall mount stacked units.*

The Power-up Sequence

The following sections describe how to get your Switch powered-up and ready for operation.

Powering-up the Switch

Use the following sequence of steps to power-up the Switch.

1 Plug the power adapter into the power socket at the rear of the Switch.

2 Plug the other end of the power cord into your power outlet.

3 The Alert LED will flash orange while the Switch is starting up.

4 When the unit is ready, the Power LED lights green and the Alert LED is off.

ℹ *The Switch powers-up and runs through its Power On Self Test (POST), which takes approximately 60 seconds.*

Checking for Correct Operation of LEDs   During the Power On Self Test, all ports on the Switch are disabled. When the POST has completed, check the Power and Alert LEDs to make sure that your Switch is operating correctly. Table 6 shows possible colors for these LEDs.

Table 6   Power and Alert LED colors

LED	Color	State
Power	Green	The Switch is powered-up and operating normally.
	Off	The Switch is not receiving power or there is a fault with the Power Supply Unit.
Alert	Orange flashing	The Switch is starting up or the Switch software is being upgraded.
	Orange	The Switch is reporting a fault (see Chapter 4, "Problem Solving").
	Off	Normal operation.

If there is evidence of a problem, see "Solving Problems Indicated by LEDs" on page 52.

⚠ *CAUTION The Switch has no ON/OFF switch; the only method of connecting or disconnecting mains power is by connecting or disconnecting the power adapter.*

Using Power over Ethernet   The Switch can power any IEEE 802.3af compliant device through rear panel ports 1, 2, 5 and 6. The Switch will support the following 3Com 802.3af equipment:

- Wireless:
  - 3Com 11 Mbps Wireless LAN Access Point 8000 (3CRWE80096B)
  - 3Com 11 Mbps Wireless LAN Access Point 8200 (3CRWE820096A)
  - 3Com 11 Mbps Wireless LAN Access Point 8500 (3CRWE850096A)
  - 3Com 11 Mbps Wireless LAN Access Point 8700 (3CRWE870096A)
  - 3Com Wireless LAN Building to Building Bridge (3CRWE91096B)
- Voice Over IP Telephones:
  - 3Com 11 Mbps Wireless LAN Access Point 8000 (3CRWE80096B)
  - 3Com 11 Mbps Wireless LAN Access Point 8200 (3CRWE820096A)
  - 3Com 11 Mbps Wireless LAN Access Point 8500 (3CRWE850096A)

- 3Com 11 Mbps Wireless LAN Access Point 8700 (3CRWE870096A)
- 3Com Wireless LAN Building to Building Bridge (3CRWE91096B)
- The following 3Com NBX phones are also supported using the 3Com NBX VoIP Phone Module (3CNJVOIPMOD-NBX):
  - 3Com NBX 1102 Business Phone (3C10121)
  - 3Com NBX 1102B Business Phone (3C10281B)
  - 3Com NBX 1102PE Business Phone (3C10281PE)
  - 3Com NBX 2101Basic Phone (3C10248B)
  - 3Com NBX 2101PE Basic Phone (3C10248PE)
  - 3Com NBX 2102 Business Phone (3C10226A)
  - 3Com NBX 2102IR Business Phone with IR (3C10228IRA)
  - 3Com NBX 2102B Business Phone (3C10226B)
  - 3Com NBX 2102IRB Business Phone with IR (3C10228IRB)
  - 3Com NBX 2102PE Business Phone (3C10226PE)
  - 3Com NBX 2102PEIR Business Phone with IR (3C10228RPE)
  - 3Com NBX 3102 Business Phone (3C10402A)
  - 3Com NBX ATA Business Phone (3C10400)
- Network Jacks:
  - 3Com NJ90 (3CNJ90)
  - 3Com NJ95 (3CNJ95
  - 3Com NJ100 (3CNJ100, 3CNJ100-CRM)
  - 3Com NJ105 - 3CNJ105
  - 3Com NJ105 + forwarding (3CNJ105)
  - 3Com NJ200 (3CNJ200, 3CNJ200-CRM)
  - 3Com NJ200 + forwarding (3CNJ200)
  - 3Com NJ205 (3CNJ205)
  - 3Com NJ205 + forwarding (3CNJ205)

> *For the latest list of supported devices, go to the product page on the 3Com web site* **http://www.3com.com/**.

For further information about Power Over Ethernet, refer to "Power Management and Control" in the Switch Implementation Guide supplied on the CD-ROM that accompanies your Switch. Power over Ethernet management is available using the web interface or the command line interface (CLI).

Choosing the Correct RJ-45 Cables   All of the RJ-45 ports on the Switch are Auto-MDIX, that is they have a cross-over capability. The port can automatically detect whether it needs to operate in MDI or MDIX mode. Therefore you can make a connection to a port with a straight-through (MDI) or a cross-over cable (MDIX).

> *The Auto-MDIX feature only operates when auto-negotiation is enabled.*

If auto-negotiation is disabled, all the Switch ports are configured as MDIX (cross-over). If you want to make a connection to another MDIX port, you need a *cross-over* cable. Many ports on workstations and servers are configured as MDI (straight-through). If you want to make a connection to an MDI port, you need to use a standard *straight-through* cable. See Table 7.

WARNING: The Switch supports Power over Ethernet on rear ports 1, 2, 5 and 6. These ports should only be used for Ethernet wiring within the same building. The SFP and 100BASE-FX ports of the Switch 9 FX can be used for Ethernet wiring between buildings.

3Com recommends that you use Category 5e twisted pair cable — the maximum segment length for this type of cable is 100 m (328 ft).

Table 7   Cables required to connect the Switch to other devices if auto-negotiation is disabled

	Cross-over Cable	Straight-through Cable
Switch to Switch (MDIX to MDIX)	✔	✗
Switch to Hub (MDIX to MDIX)	✔	✗
Switch to PC (NIC) (MDIX to MDI)	✗	✔

CAUTION: If you want to install the Switch using a Category 5e or Category 6 cable, 3Com recommends that you briefly connect the cable

to a grounded port before connecting network equipment. If you do not, the cable's Electrostatic Discharge (ESD) may damage the Switch's port.

You can create a grounded port by connecting all wires at one end of a UTP cable to an earth ground point, and the other end to a female RJ-45 connector located, for example, on a Switch rack or patch panel. The RJ-45 connector is now a grounded port.

SFP Operation   The following section describes the use of an SFP transceiver in your Switch.

SFP transceivers are hot-insertable and hot-swappable. You can remove them from and insert them into any SFP port without having to power down the Switch.

Approved SFP Transceivers   The following list of approved SFP transceivers is correct at the time of publication.

- 3CSFP91 SFP (1000BASE-SX)
- 3CSFP92 SFP (1000BASE-LX)
- 3CSFP93 SFP (1000BASE-T)

To access the latest list of approved SFP transceivers for the Switch on the 3Com Corporation World Wide Web site, enter this URL into your internet browser:

http://www.3com.com

Inserting an SFP Transceiver   To be recognized as valid, the SFP transceiver must have the following characteristics:

- 1000BASE-SX or 1000BASE-LX media type:
  - 1000BASE-SX SFP transceiver

    Use this transceiver to connect the Switch directly to a multimode fiber-optic cable with fiber LC connectors.
  - 1000BASE-LX SFP transceiver

    Use this transceiver to connect the Switch directly to a single-mode fiber-optic cable or to multimode fiber using a conditioned launch cable with fiber LC connectors.

■ 1000BASE-TX media type:

Use this transceiver to connect the Switch directly to a Category 5e twisted-pair cable with RJ-45 connectors.

$\boxed{i}$ *If the SFP transceiver is faulty, it will not operate within the Switch. See "Solving Hardware Problems" on page 53.*

$\boxed{i}$ *Use of non-3Com SFPs is not recommended. If the SFP transceiver is invalid it will not be recognized by the Switch.*

Use the following sequence of steps to activate the SFP ports:

1 Hold the transceiver so that the (1000BASE-TX) RJ-45 connector or (1000BASE-SX/LX) fiber connector is toward you and the product label is visible, as shown in Figure 6. Ensure the wire release lever is closed (in the upright position).

2 Gently slide the transceiver into the SFP port until it clicks into place.

$\triangle$ **CAUTION:** *SFP transceivers are keyed and can be properly inserted only one way. If the transceiver does not click when you insert it, remove it, turn it over, and reinsert it.*

3 Remove the plastic protective cover if fitted.

4 Connect the twisted-pair or fiber cable.

Figure 6 Inserting a SFP Transceiver
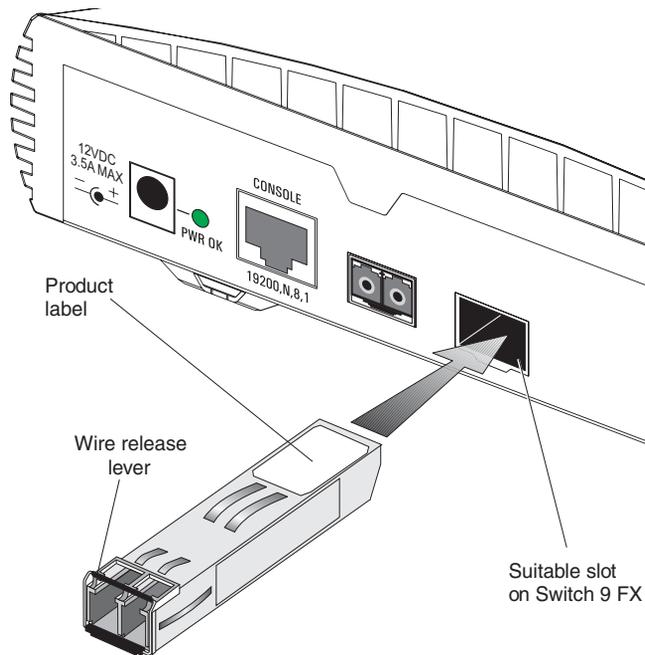
5 The 1000BASE-SX or 1000BASE-LX fiber transceiver connects to the network using a duplex LC connector. The 1000BASE-TX transceiver connects to the network using an RJ-45 connector. If you are using a fiber transceiver, attach a male duplex LC connector on the network cable into the duplex LC connector on the transceiver. If using a 1000BASE-TX transceiver, attach an RJ-45 connector on the network cable into the RJ-45 connector on the transceiver.

6 Connect the other end of the cable to a device fitted with an appropriate Gigabit Ethernet connection.

7 Check the Module Status LED on the front of the Switch to ensure that it is operating correctly. Refer to "LEDs" on page 14 for more information.

Removing an SFP Transceiver

If you wish to remove a 3Com transceiver (it is not necessary to power-down your Switch):

1 Disconnect the cable from the transceiver.

2 Move the wire release lever downwards until it is pointing toward you.

3 Pull the wire release lever toward you to release the catch mechanism; the transceiver will then easily slide out.

i▷   *The above procedure will release a 3Com SFP transceiver. To release a transceiver from another manufacturer see the documentation supplied with your SFP transceiver.*

3

SETTING UP FOR MANAGEMENT

Your Switch can operate in its default state, that is, you can install it and it will work straight away (plug-and-play). However, to make full use of the features offered by the Switch, and to change and monitor the way it works, you have to access the management software that resides on the Switch. This is known as managing the Switch.

Managing the Switch can help you to improve the efficiency of the Switch and therefore the overall performance of your network.

This chapter explains the initial set up of the Switch and the different methods of accessing the management software to manage a Switch. It covers the following topics:

- Setting Up Overview
- Manually Configuring IP Information
- Viewing Automatically Configured IP Information
- Methods of Managing a Switch
- Setting Up Command Line Interface Management
- Setting Up Web Interface Management
- Setting Up SNMP Management
- Default Users and Passwords

Setting Up Overview

This section gives an overview of what you need to do to get your Switch set up and ready for management when it is in its default state. The whole setup process is summarized in Figure 7. Detailed procedural steps are contained in the sections that follow. In brief, you need to:

■ Configure IP information manually for your Switch or view the automatically configured IP information

■ Prepare for your chosen method of management

Figure 7 Initial Switch Setup and Management Flow diagram
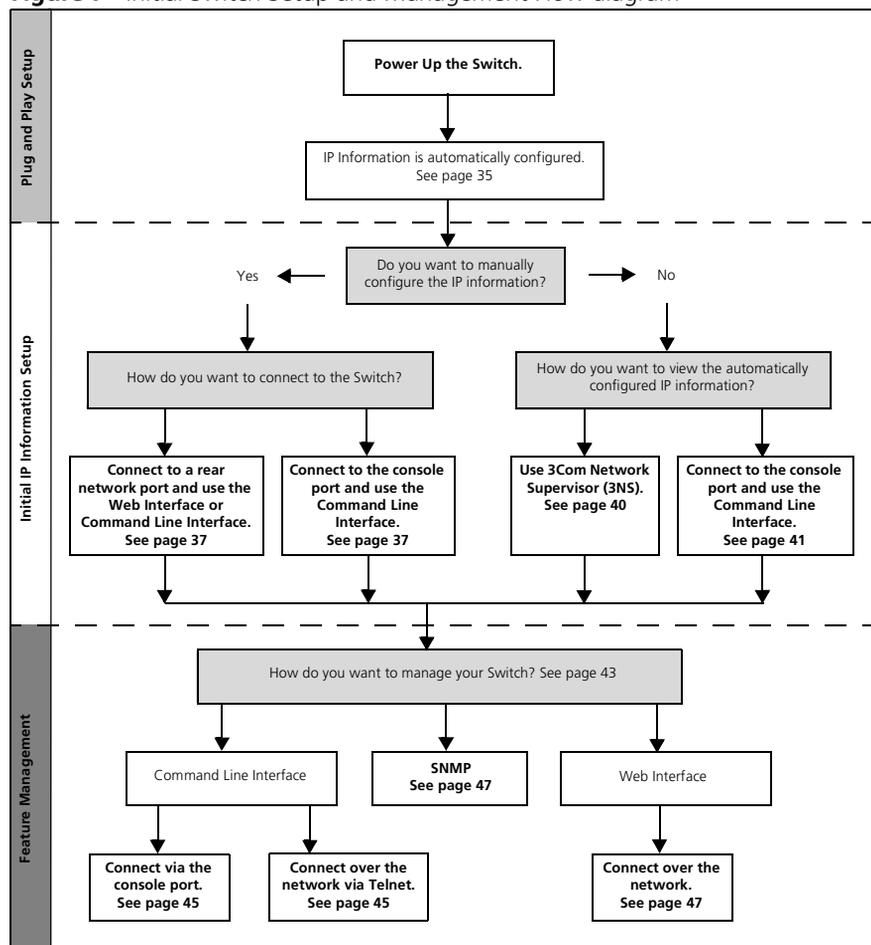
⚠ *CAUTION: To protect your Switch from unauthorized access, you must change all default passwords as soon as possible, even if you do not intend to actively manage your Switch. For more information on default users and changing default passwords, see "Default Users and Passwords" on page 48.*

IP Configuration
You can use one of the following methods to allocate IP information to your Switch (essential if you wish to manage your Switch across the network).

Manual IP Configuration

You can choose to configure the IP information yourself. The Switch remembers the information that you enter until you change it again or set the configuration method to Automatic.

You should use the Manual IP configuration method if:

■ you do not have a DHCP server on your network, or

■ you want to remove the risk of the IP address ever changing, or

■ your DHCP server does not allow you to allocate static IP addresses. (Static IP addresses are necessary to ensure that the Switch is always allocated the same IP information.)

ℹ *For most installations, 3Com recommends that you configure the Switch IP information manually. This makes management simpler and more reliable as it is not dependent on a DHCP server, and eliminates the risk of the IP address changing.*

If you wish to manually enter IP information for your Switch, work through the "Manually Configuring IP Information" section on page 37.

Automatic IP Configuration

By default the Switch tries to configure itself with IP information without requesting user intervention. It tries to obtain an IP address from a DHCP server on the network.

ℹ *It may take up to 5 minutes for your Switch to obtain an IP address after it has been powered up.*

When using automatic IP configuration it is useful if the Switch is issued the same IP address on each occasion, otherwise you will not know what the IP address is and it will be difficult to manage. Most DHCP servers

allow fixed IP addresses to be configured so that you know what IP address will be allocated to the Switch. Refer to the documentation that accompanies your DHCP server.

> *For a detailed description of how automatic IP configuration operates, please refer to the Implementation Guide on the CD-ROM that accompanies your Switch or on the 3Com Web site.*

You should use the automatic IP configuration method if:

■ your network uses DHCP to allocate IP information, or

■ flexibility is needed. If the Switch is re-deployed onto a different subnet, it will automatically reconfigure itself with an appropriate IP address, instead of you having to manually reconfigure the Switch.

If you use the automatic IP configuration method, you need to discover the automatically allocated IP information before you can begin management. Work through the "Viewing Automatically Configured IP Information" section on page 40.

Preparing for Management   Once your Switch's initial set up is complete you can set up your chosen management method as described in "Methods of Managing a Switch" on page 43.

> *For detailed information about the specific web interface operations and command line interface commands and problem solving, refer to the "Switch Management Interface Reference Guide" on the CD-ROM that is supplied with the Switch or on the 3Com Web site.*

| **Manually Configuring IP Information** | You can manually configure the Switch IP information in the following way: |

- Connecting to the console port — Connect a workstation using a console cable to the console port of the Switch. You can then manually enter IP information using the command line interface (CLI).

Connecting to the Console Port

To set up your Switch manually you can make a connection to the console port (this example describes a local connection to the console port, rather than a remote one via a modem). You can do this whilst the Switch is offline, that is, before you connect the Switch to a network, or whilst the Switch is online, that is, connected to a network.

Pre-requisites

- A workstation with terminal emulation software installed, such as Microsoft Hyperterminal. This software allows you to communicate with the Switch via the console port directly.

- Documentation supplied with the terminal emulation software.

- The RJ-45 to RS-232 cable supplied with the Switch.

i> *You can find the pin-out diagram for this cable in Appendix B on page 69.*

- You need to have the following so that you can manually set up the Switch with IP information:

  - IP address

  - subnet mask

  - default gateway

Connecting the Workstation to the Switch

1 Connect the workstation to the console port using a standard null modem cable as shown in Figure 8.

Figure 8 Connecting a workstation to the Switch via the console port
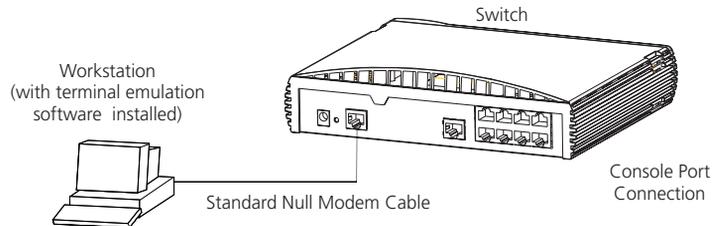
To connect the cable:

a Attach the RJ-45 to RS-232 cable to the console port on the Switch.

b Connect the other end of the cable to one of the serial ports (also known as a COM port) on your workstation.

c Tighten the retaining screws on the RS-232 connector to prevent it from being loosened.

2 Open your terminal emulation software and configure the COM port settings to which you have connected the cable. The settings should be set to match the default settings for the Switch, which are:

■ Any of the following baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200. (Note that the COM port must be set to 19200 baud to view all the system initialization messages.)

■ 8 data bits

■ no parity

■ 1 stop bit

■ no hardware flow control

Refer to the documentation that accompanies the terminal emulation software for more information.

Setting Up the Switch with IP Information

You are now ready to manually set up the Switch with IP information using the command line interface.

1 The command line interface login sequence begins as soon as the Switch detects a connection to its console port.

> **i** *If the login prompt does not begin immediately, press Return a few times until it starts.*

> **i** *If you have not logged onto the Switch before, you will be prompted to enter a new password. 3Com recommends that you change your password from its default blank setting.*

2 At the login and password prompts, enter **admin** as your user name and enter your password at the password prompt (or just press Return if you have not yet set a password). If you have logged on correctly, the top-level menu of the command line interface is displayed as shown in the example in Figure 9.

Figure 9   Example top-level command line interface menu

```
Menu options: -----------3Com OfficeConnect Switch 9-----------------------
 bridge             - Administer bridge-wide parameters
 feature            - Administer system features
 gettingStarted     - Basic device configuration
 logout             - Logout of the Command Line Interface
 physicalInterface  - Administer physical interfaces
 protocol           - Administer protocols
 security           - Administer security
 system             - Administer system-level functions
 trafficManagement  - Administer traffic management

Type ? for help.
--------------------------------- (1)-----------------------------------
Select menu option:
```

3 At the Select menu option prompt you can either:

- enter the **protocol ip basicConfig** command. At the Enter configuration method prompt enter **manual**. The screen prompts you to enter IP information.

or

- enter the **gettingStarted** command. At the Enter configuration method prompt enter **manual**. The screen prompts you to enter IP information.

4 Enter the IP address, subnet mask, and gateway IP address for the Switch. The screen displays a summary of the information entered.

If using the gettingStarted command you will then be prompted to enter system information, change passwords, and then given the option to carry out advanced configuration.

The initial set up of your Switch is now complete and the Switch is ready for you to set up your chosen management method. See "Methods of Managing a Switch" on page 43.

If you do not intend to use the command line interface via the console port to manage the Switch, you can disconnect the serial cable and close the terminal emulator software.

Viewing Automatically Configured IP Information

If you allow the Switch to automatically configure its own IP information you need to discover and view the IP information before you can begin to manage the Switch. You can discover the IP information in two ways:

- Using 3Com Network Supervisor — This application will auto-discover the Switch and display the automatically allocated IP information assigned to the Switch.

- Connecting to the Console Port — Connect a workstation to the console port of the Switch using the RJ-45 to RS-232 cable. You can then view the IP information automatically assigned to the Switch using the command line interface (CLI).

Using 3Com Network Supervisor

You can use the 3Com Network Supervisor application provided on the CD-ROM that accompanies your Switch to discover the automatically allocated IP information.

1 Connect your Switch to the network.

2 Power-up the Switch and wait for two minutes.

3 Launch 3Com Network Supervisor and run the Auto-discovery wizard.

3Com Network Supervisor will auto-discover the new Switch and display the IP information that has been automatically allocated to the Switch.

Most DHCP servers allow static IP addresses to be configured so that you know what IP address the Switch will be given. Refer to the documentation that accompanies your DHCP server.

Connecting to the Console Port   Alternatively, you can view the automatically configured IP information via the command line interface (CLI) through a connection to the console port. (This example describes a local connection to the console port, rather than a remote one via a modem.)

Pre-requisites

■   A workstation with terminal emulation software installed, such as Microsoft Hyperterminal. This software allows you to communicate with the Switch via the console port directly, or through a modem.

■   Documentation supplied with the terminal emulation software.

■   The RJ-45 to RS-232 cable supplied with the Switch

i⊳   *You can find the pin-out diagram for this cable in Appendix B on page 69.*

■   A Category 5 twisted pair Ethernet cable with RJ-45 connectors to connect your Switch to the network.

Connecting the Workstation to the Switch

1   Connect the workstation to the console port using the RJ-45 to RS-232 cable as shown in Figure 10.

Figure 10   Connecting a workstation to the Switch via the console port
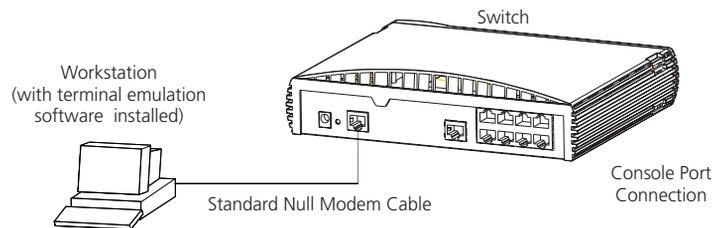
To connect the cable:

a   Attach the RJ-45 to RS-232 cable to the console port on the Switch.

b   Connect the other end of the cable to one of the serial ports (also known as a COM port) on your workstation.

c   Tighten the retaining screws on the RS-232 connector to prevent it from being loosened.

2 Open your terminal emulation software and configure the COM port settings to which you have connected the cable. The settings should be set to match the default settings for the Switch, which are:

- Any of the following baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
- 8 data bits
- no parity
- 1 stop bit
- no hardware flow control

Refer to the documentation that accompanies the terminal emulation software for more information.

> **i** *Set the baud rate on your management device to 19200 baud if you want to view all the system initialization messages.*

Viewing IP Information via the Console Port

You are now ready to view the automatically allocated IP information using the command line interface.

1 Connect your Switch to the network using an Ethernet cable. As soon as a network connection is made the Switch begins the automatic IP configuration process.

> **i** *The automatic IP configuration process usually completes within one minute.*

2 The command line interface login sequence begins as soon as the Switch detects a connection to its console port.

> **i** *If the login prompt does not begin immediately, press Return a few times until it starts.*

3 At the login and password prompts, enter **admin** as your user name and enter your password at the password prompt (or just press Return if you have not yet set a password). If you have logged on correctly, the top-level menu of the command line interface is displayed as shown in the example in Figure 11.

Figure 11   Example top-level command line interface menu

```
Menu options: -----------3Com OfficeConnect Switch 9-----------------------
 bridge              - Administer bridge-wide parameters
 feature             - Administer system features
 gettingStarted      - Basic device configuration
 logout              - Logout of the Command Line Interface
 physicalInterface   - Administer physical interfaces
 protocol            - Administer protocols
 security            - Administer security
 system              - Administer system-level functions
 trafficManagement   - Administer traffic management

Type ? for help.
--------------------------------- (1)-----------------------------------
Select menu option:
```

4 At the Select menu option prompt enter the **protocol ip interface summary** command. A summary of the automatically allocated IP information is displayed. Make a note of the Network IP Address.

The initial set up of your Switch is now complete and the Switch is ready for you to set up your chosen management method. See "Methods of Managing a Switch" on page 43.

If you do not intend to use the command line interface via the console port to manage the Switch, you can logout, disconnect the serial cable and close the terminal emulator software.

| **Methods of Managing a Switch** | Once you have completed the initial set up of your Switch, you can decide how you wish to manage the Switch. You can use one of the following methods: |

- Command line interface management

- Web interface management

- SNMP management

| **Command Line Interface Management** | Each Switch has a command line interface (CLI) that allows you to manage the Switch from a workstation, either locally via a console port connection (see Figure 12), or remotely over the network (see Figure 13). |

Figure 12   CLI management via the console port
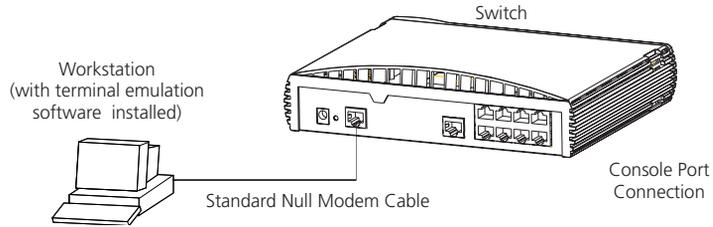
Figure 13   CLI management over the network
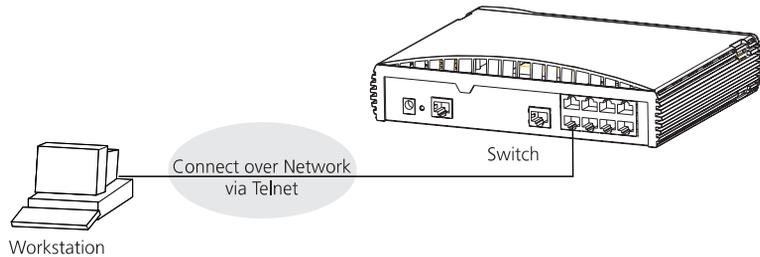
Refer to "Setting Up Command Line Interface Management" on page 45.

Web Interface Management

Each Switch has an internal set of web pages that allow you to manage the Switch using a Web browser remotely over an IP network (see Figure 14).

Figure 14   Web interface management over the network
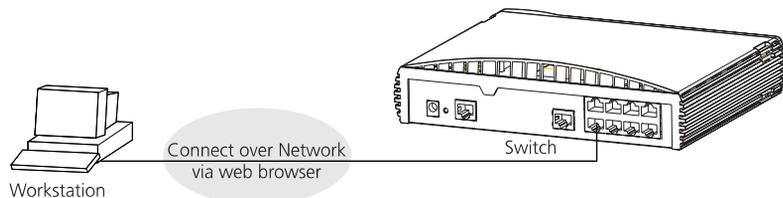
Refer to "Setting Up Web Interface Management" on page 46.

SNMP Management

You can manage a Switch using any network management workstation running the Simple Network Management Protocol (SNMP) as shown in Figure 15. For example, you can use the 3Com Network Supervisor software that is provided on the CD-ROM that accompanies your Switch.

Figure 15   SNMP management over the network
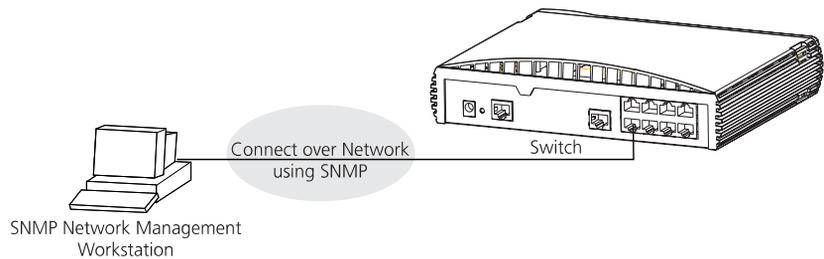
Refer to "Setting Up SNMP Management" on page 47.

Setting Up Command Line Interface Management

This section describes how you can set up command line interface management using a local console port connection or over the network.

CLI Management via the Console Port

To manage a Switch using the command line interface via the local console port connection:

1 Ensure you have connected your workstation to the console port correctly as described in "Connecting to the Console Port" on page 37.

2 Your Switch is now ready to continue being managed and/or configured through the CLI via its console port.

CLI Management over the Network

To manage a Switch using the command line interface over a network using Telnet:

1 Ensure you have already set up the Switch with IP information as described in "Setting Up Overview" on page 34.

2 Check that you have the IP protocol correctly installed on your management workstation. You can check this by trying to browse the World Wide Web. If you can browse, the IP protocol is installed.

3 Check you can communicate with the Switch by entering a `ping` command at the DOS prompt in the following format:

`ping xxx.xxx.xxx.xxx`
(where xxx.xxx.xxx.xxx is the IP address of the Switch)

If you get an error message, check that your IP information has been entered correctly and the Switch is powered up.

4 To open a Telnet session via the DOS prompt, enter the IP address of the Switch that you wish to manage in the following format:

`telnet xxx.xxx.xxx.xxx`
(where xxx.xxx.xxx.xxx is the IP address of the Switch)

> **i** *If opening a Telnet session via third party software you will need to enter the IP address in the format suitable for that software.*

5 At the login and password prompts, enter **admin** as your user name and enter your password at the password prompt (or just press Return if you have not yet set a password).

> **i** *If the login prompt does not display immediately, press Return a few times until it starts.*

6 If you have logged on correctly, the top-level menu of the command line interface for the Switch you wish to manage is displayed as shown in Figure 9 on page 39.

Setting Up Web Interface Management

This section describes how you can set up web interface management over the network.

Pre-requisites

- Ensure you have already set up the Switch with IP information as described in "Setting Up Overview" on page 34.

- Ensure that the Switch is connected to the network using a Category 5 twisted pair Ethernet cable with RJ-45 connectors.

- A suitable Web browser.

Choosing a Browser

To display the web interface correctly, use one of the following Web browser and platform combinations:

Table 8 Supported Web Browsers and Platforms

	Windows 98/Me	Windows NT 4	Windows 2000	Windows XP	Solaris 2.6
Netscape 7	✓	✓	✓	✓	✗
Internet Explorer 5.5 and 6.0	✓	✓	✓	✓	✗

For the browser to operate the web interface correctly, JavaScript™ and Cascading Style Sheets must be enabled on your browser. These features are enabled on a browser by default. You will only need to enable them if you have changed your browser settings.

Web Management Over the Network

To manage a Switch using the web interface over an IP network:

1 Check that you have the IP protocol correctly installed on your management workstation. You can check this by trying to browse the World Wide Web. If you can browse, the IP protocol is installed.

2 Check you can communicate with the Switch by entering a `ping` command at the DOS prompt in the following format:

`ping xxx.xxx.xxx.xxx`
(where xxx.xxx.xxx.xxx is the IP address of the Switch)

If you get an error message, check that your IP information has been entered correctly and the Switch is powered up.

3 Open your web browser and enter the IP address of the Switch that you wish to manage in the URL locator, for example, in the following format:

`http://xxx.xxx.xxx.xxx`

(where xxx.xxx.xxx.xxx is the IP address of the Switch)

4 At the login and password prompts, enter `admin` as your user name and enter your password at the password prompt (or just press Return if you have not yet set a password).

5 Click on the *Device View* button to display the web management options.

Setting Up SNMP Management

Any network management application running the Simple Network Management Protocol (SNMP) can manage a Switch if:

■ The correct Management Information Bases (MIBs) are installed on the management workstation.

■ The management workstation is connected to the Switch using a port in VLAN 1 (the Default VLAN). By default, all ports on the Switch are in VLAN 1.

You can use the 3Com Network Supervisor application that is provided on the CD-ROM that accompanies your Switch to provide SNMP management for your Switch. If you use 3Com Network Supervisor it

automatically loads the correct MIBs and necessary files onto your workstation.

Pre-requisites   ■   Documentation supplied with the SNMP network management application software.

> **i** *To manage your Switch using an SNMP network management application, you need to specify SNMP community strings for the users defined on the Switch. You can do this using the Web management interface — refer to the command line interface section of the "Switch Management Interface Reference Guide" for more information.*

Default Users and Passwords

If you intend to manage the Switch using the web interface or the command line interface, or to change the default passwords, you need to log in with a valid user name and password. The Switch has two default user names, and each user name has a different password and level of access. These default users are listed in Table 9.

> **!** *CAUTION: To protect your Switch from unauthorized access, you must change the two default passwords as soon as possible, even if you do not intend to actively manage your Switch*

Table 9   Default Users

User Name	Default Password	Access Level
monitor	monitor	monitor — the user can view all manageable parameters, but cannot change any manageable parameters
admin	(no password)	security — the user can access and change all manageable parameters

> **i** *Use the admin default user name (no password) to login and carry out initial Switch setup.*

Changing Default Passwords

You can change the default passwords using either:

■   The **gettingStarted** command on the CLI, or

■   The *Security > Device > User > Modify* operation on the web interface.

> **i** *For more information about default users and passwords, refer to the "Switch Management Interface Reference Guide" on the Switch CD-ROM.*

4 PROBLEM SOLVING

This chapter helps you to diagnose and solve problems you may have with the operation of your Switch. There is also an explanation of IP addressing.

The topics covered are:

- Solving Problems Indicated by LEDs
- Solving Hardware Problems
- Solving Communication Problems
- Solving Software Upgrade Problems
- Recovering from a Lost Password

If you experience a problem that is not listed here, it may be included in the Support section of the Switch Management Interface Reference Guide on the CD-ROM that accompanies your Switch.

For Technical Support information, see Appendix D.

Solving Problems Indicated by LEDs	If the LEDs on the Switch indicate a problem, refer to the list of suggested solutions below.

The Power LED does not light

Check that the power cable is firmly connected to the Switch and to the supply outlet. If the connection is secure and there is still no power, you may have a faulty power cord or an internal fault. Check the power cord by:

- testing it in another device
- connecting a working power cord to the 'problem' device

Then contact your supplier for advice.

On powering-up, the Alert LED remains orange

This indicates that a port has failed and has been automatically disabled. You can verify this by checking that the Port Status LED is flashing Green/Yellow. This could be due to loop back failure. If a port fails, the Switch passes its Power On Self Test and continues to operate normally.

> **i** *On Powering up, the Alert LED flashes orange while the Switch is starting up. This is normal and does not indicate any of the above conditions.*

A Port Status LED is flashing green/yellow

The port has failed and has been automatically disabled. The Switch passes its Power On Self Test and continues to operate normally, even if one or more ports are disabled.

A link is connected and yet the Status LED for the port does not light

Check that:

- The Switch and the device at the other end of the link (or cable) are connected securely.
- The devices at both ends of the link are powered-up.

■ The quality of cable is satisfactory.

■ Auto-negotiation settings are the same at both ends.

Auto-negotiation problems will occur with 10BASE-T, 100BASE-TX or 1000BASE-T where auto-negotiation is disabled and incorrect cables are being used (cross-over or straight).

Auto-negotiation problems will occur with fiber if:

■ Fibers are broken.

■ Auto-negotiation differs at either end (a link appears at the 'fixed' end and not at the auto-negotiation end).

A PoE device is connected and yet the PoE Status LED does not light

Refer to "A device is connected to the Switch but power is not being supplied" on page 53 for troubleshooting procedures.

Solving Hardware Problems

In the rare event of your Switch unit experiencing a hardware failure, refer to the list of suggested solutions below.

A device is connected to the Switch but power is not being supplied

If power is not being supplied to a device connected to the Switch, you should do the following checks:

■ Check that the device is compliant with the 802.3af standard ref. [18].

The Switch will only supply power through rear panel ports 1, 2, 5, and 6 to 802.3af compliant devices.

■ Check that the power budget for the Switch has not been exceeded.

If the power budget has been exceeded, then by default, the powered device connected to the Power over Ethernet port with the lowest priority port will lose power. However, if all the devices connected to the Switch have equal priority levels, then the port with the highest number will lose power.

By default the Switch will allow a device to receive power as long as the Power over Ethernet power supply has 18 watts spare in its power budget. If this much power is not available the device will not be powered (unless it has a higher priority than existing powered ports) and a Power over Ethernet fault will be reported for that port. If

enough power subsequently becomes available the port will be powered.

■ Check that the port has not had a power limit imposed upon it.

| **Solving Communication Problems** | If you experience communication problems with the Switch, ensure that: |

■ The Switch IP address has been configured as described in Chapter 3.

■ If the Switch is separated from your management application by a router, ensure that the default gateway IP address within the Switch is the same as the IP address of the router.

■ The Switch's IP address has been entered correctly in your network management application (such as 3Com Network Supervisor).

The following is a brief overview of IP addressing, and how to obtain a registered IP address.

IP Addressing

To be managed correctly, each device on your network (for example a Switch or Hub) must have a unique IP address. IP addresses have the format *n.n.n.n* where *n* is a decimal number between 0 and 255. An example IP address is 192.168.100.8.

The IP address is split into two parts:

■ The first part ('192.168.100' in the example) identifies the network on which the device resides

■ The second part ('.8' in the example) identifies the device within the network

The natural subnet mask for this example is 255.255.255.0.

If your network has a connection to the external IP network, that is, you access the Internet, you must apply for a registered IP address.

How do you obtain a registered IP Address?

The IP registration system ensures that every IP address used is unique; if you do not have a registered IP address, you may be using an identical address to someone else and your network will not operate correctly.

The Internet Assigned Numbers Authority is the organization responsible for supplying registered IP addresses. The following contact information is correct at time of publication:

World Wide Web site: **http://www.iana.org/**

If your IP network is internal to your organization only, that is, you do not access the Internet, you may use any arbitrary IP address as long as it is not being used by another device on your network. 3Com suggests you use addresses in the range 192.168.0.0 to 192.168.255.255 with a subnet mask of 255.255.255.0.

> **i** *These suggested IP addresses are part of a group of IP addresses that have been set aside specially for use 'in house' only.*

Solving Software Upgrade Problems

You can upgrade the management software of the Switch by using the *System > Control > Software Upgrade* operation in the Web Interface, or the **system control softwareUpgrade** command in the command line interface. For details on these options, refer to the Management Interface Reference Guide supplied in HTML format on the CD-ROM that accompanies your Switch.

If you have problems with your software upgrade, refer to the Problem Solving section in the Management Interface Reference Guide.

Recovering from a Lost Password

The password recovery mechanism assumes that the Switch is located in a physically secure area, and access is restricted to legitimate network administrators. The first time the Switch is powered on, you will be prompted to set a password for administrator access. Record the password and store it in a safe place.

If you forget the password, follow this recovery procedure:

- Connect a workstation to the Switch's console port.
- Use a terminal emulation software package such as Microsoft Hyperterminal to connect to the console interface on the Switch.
- Log onto the Switch with the reserved user name "recover" and the password "recover" to place it into password recovery mode.

- Reset power to the Switch within 30 seconds by removing the power cord from the Switch and then re-connecting it.
- When the Switch restarts, enter a new password for the Administrator.
- Log onto the Switch with the user name "admin" and the new password you just configured.

A SAFETY INFORMATION

You must read the following safety information before carrying out any installation or removal of components, or any maintenance procedures on the Switch.

⚠ **WARNING:** *Warnings contain directions that you must follow for your personal safety. Follow all directions carefully.*
You must read the following safety information carefully before you install or remove the unit.

⚠ **AVERTISSEMENT:** *Les avertissements présentent des consignes que vous devez respecter pour garantir votre sécurité personnelle. Vous devez respecter attentivement toutes les consignes.*
Nous vous demandons de lire attentivement les consignes suivantes de sécurité avant d'installer ou de retirer l'appareil.

⚠ **VORSICHT:** *Warnhinweise enthalten Anweisungen, die Sie zu Ihrer eigenen Sicherheit befolgen müssen. Alle Anweisungen sind sorgfältig zu befolgen.*
Sie müssen die folgenden Sicherheitsinformationen' sorgfältig durchlesen, bevor Sie das Gerät installieren oder ausbauen.

⚠ **ADVERTENCIA:** *las advertencias contienen indicaciones que debe respetar por su seguridad personal. Siga las indicaciones con cuidado.*
Antes de instalar o extraer la unidad, debe leer detenidamente la siguiente información de seguridad.

⚠ **AVVERTENZA:** *le avvertenze contengono istruzioni indispensabili per assicurare la sicurezza personale. Seguire attentamente tutte le indicazioni fornite.*
Prima di installare o rimuovere l'unità, leggere attentamente le seguenti informazioni di sicurezza.

Power Cord Set — Japan

電源コードを接続する場合は、アース接続がされていることを確認してから行なってください。
アース線をはずす場合は、電源コードが接続されていないことを確認してから行なってください。

Important Safety Information

⚠ *WARNING: Installation and removal of the unit must be carried out by qualified personnel only.*

⚠ *WARNING: The unit must be earthed (grounded). Connect the unit to an earthed power supply to ensure compliance with safety standards.*

⚠ *WARNING: Power Cord Set:*
This must be approved for the country where it is used:

U.S.A. and Canada	■ The cord set must be UL-approved and CSA certified.
	■ The minimum specification for the flexible cord is: No. 18 AWG Type SV or SJ 3-conductor
	■ The cord set must have a rated current capacity of at least 10A.
	■ The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.
United Kingdom only	■ The supply plug must comply with BS1363 (3-pin 13 amp) and be fitted with a 5A fuse which complies with BS1362.
	■ The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).
Europe only:	■ The supply plug must comply with CEE 7/7 ("SCHUKO").
	■ The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).
Denmark	■ The supply plug must comply with section 107-2-D1, standard DK2-1a or DK2-5a.
Switzerland	■ The supply plug must comply with SEV/ASE 1011.

⚠ *WARNING: The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN60320/IEC320 appliance inlet.*

WARNING: *The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.*

WARNING: *This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.*

WARNING: *France and Peru only:*
This unit cannot be powered from IT† supplies. If your supplies are of IT type, this unit must be powered by 230V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to earth (ground).
†Impédance à la terre.

WARNING: *U.K. only:*
If connecting a modem to the console port of the Switch, only use a modem which is suitable for connection to the telecommunications system.

WARNING: *RJ-45 Ports. These are shielded RJ-45 data sockets. They cannot be used as standard traditional telephone sockets, or to connect the unit to a traditional PBX or public telephone network. Only connect RJ-45 data connectors, network telephony systems, or network telephones to these sockets.*

Either shielded or unshielded data cables with shielded or unshielded jacks can be connected to these data sockets.

WARNING: *Fiber Optic ports – Optical Safety*

Class 1
LASER PRODUCT

Never look at the transmit laser through a magnifying device while it is powered on. Never look directly at the fiber TX port and fiber cable ends when they are powered on.

WARNING: *Use of controls or adjustments of performance or procedures other than those specified herein may result in hazardous laser emissions.*

⚠ *WARNING: The Switch supports Power over Ethernet on rear ports 1, 2, 5 and 6. These ports should only be used for Ethernet wiring within the same building.*

L'information de Sécurité Importante

⚠ *AVERTISSEMENT: L'installation et la dépose de ce groupe doivent être confiés à un personnel qualifié.*

⚠ *AVERTISSEMENT: Vous devez mettre l'appareil à la terre (à la masse) ce groupe. Brancher l'unité à une source de courant mise à la terre pour assurer la conformité aux normes de sécurité.*

⚠ *AVERTISSEMENT: Cordon électrique:*
Il doit être agréé ans le pays d'utilisation:

Etats-Unis et Canada	■ Le cordon doit avoir reçu l'homologation des UL et un certificat de la CSA
	■ Le cordon souple doit respecter, à titre minimum, les spécifications suivantes :
	■ calibre 18 AWG
	■ type SV ou SJ
	■ à 3 conducteurs
	■ Le cordon doit être en mesure d'acheminer un courant nominal d'au moins 10 A
	■ La prise femelle de branchement doit être du type à mise à la terre (mise à la masse) et respecter la configuration NEMA 5-15P (15 A, 125 V) ou NEMA 6-15P (15 A, 250 V)
Danemark	■ La prise mâle d'alimentation doit respecter la section 107-2 D1 de la norme DK2 1a ou DK2 5a
Europe	■ La prise secteur doit être conforme aux normes CEE 7/7 ("SCHKO")
	■ LE cordon secteur doit porter la mention <HAR> ou <BASEC> et doit être de type HO3VVF3GO.75 (minimum).
Suisse	■ La prise mâle d'alimentation doit respecter la norme SEV/ASE 1011

⚠ *AVERTISSEMENT: Le coupleur d'appareil (le connecteur du groupe et non pas la prise murale) doit respecter une configuration qui permet un branchement sur une entrée d'appareil EN60320/CEI 320.*

⚡ **AVERTISSEMENT***: La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile. Vous ne pouvez mettre l'appareil hors circuit qu'en débranchant son cordon électrique au niveau de cette prise.*

⚡ **AVERTISSEMENT***: L'appareil fonctionne à une tension extrêmement basse de sécurité qui est conforme à la norme CEI 60950. Ces conditions ne sont maintenues que si l'équipement auquel il est raccordé fonctionne dans les mêmes conditions.*

⚡ **AVERTISSEMENT***: France et Pérou uniquement:*
Ce groupe ne peut pas être alimenté par un dispositif à impédance à la terre. Si vos alimentations sont du type impédance à la terre, ce groupe doit être alimenté par une tension de 230 V (2 P+T) par le biais d'un transformateur d'isolement à rapport 1:1, avec un point secondaire de connexion portant l'appellation Neutre et avec raccordement direct à la terre (masse).

⚡ **AVERTISSEMENT***: Points d'accès RJ-45. Ceux-ci sont protégés par des prises de données. Ils ne peuvent pas être utilisés comme prises de téléphone conventionnelles standard, ni pour la connection de l'unité à un réseau téléphonique central privé ou public. Raccorder seulement connecteurs de données RJ-45, systèmes de réseaux de téléphonie ou téléphones de réseaux à ces prises.*

Il est possible de raccorder des câbles protégés ou non protégés avec des jacks protégés ou non protégés à ces prises de données.

⚡ **AVERTISSEMENT:** *Ports pour fibres optiques – sécurité sur le plan optique.*

**Dispositif Laser
de Classe 1**

Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

⚡ **AVERTISSEMENT:** *L'utilisation de contrôles, de réglages de performances ou de procédures autres que ceux spécifiés au sein du*

présent document risque d'entraîner l'exposition à des rayonnements laser dangereux.

AVERTISSEMENT: Le commutateur prend en charge l'alimentation sur Ethernet sur les ports arrière 1, 2, 5 et 6. Ces ports doivent être utilisés pour la connectique Ethernet à l'intérieur d'un même bâtiment uniquement.

Wichtige Sicherheitsinformationen

VORSICHT: Die Installation und der Ausbau des Geräts darf nur durch Fachpersonal erfolgen.

VORSICHT: Das Gerät muß geerdet sein. Das Gerät muß an eine geerdete Steckdose angeschlossen werden, die europäischen Sicherheitsnormen erfüllt.

VORSICHT: Der Anschlußkabelsatz muß mit den Bestimmungen des Landes übereinstimmen, in dem er verwendet werden soll.

VORSICHT: Der Gerätestecker (der Anschluß an das Gerät, nicht der Wandsteckdosenstecker) muß eine passende Konfiguration für einen Geräteeingang gemäß EN60320/IEC320 haben.

VORSICHT: Die Netzsteckdose muß in der Nähe des Geräts und leicht zugänglich sein. Die Stromversorgung des Geräts kann nur durch Herausziehen des Gerätenetzkabels aus der Netzsteckdose unterbrochen werden.

VORSICHT: **Europe**
- *Das Netzkabel muß vom Typ HO3VVF3GO.75 (Mindestanforderung) sein und die Aufschrift <HAR> oder <BASEC> tragen.*
- *Der Netzstecker muß die Norm CEE 7/7 erfüllen ("SCHUKO").*

VORSICHT: Der Betrieb dieses Geräts erfolgt unter den SELV-Bedingungen (Sicherheitskleinstspannung) gemäß IEC 60950. Diese Bedingungen sind nur gegeben, wenn auch die an das Gerät angeschlossenen Geräte unter SELV-Bedingungen betrieben werden.

VORSICHT: RJ-45-Porte. Diese Porte sind geschützte Datensteckdosen. Sie dürfen weder wie normale traditionelle Telefonsteckdosen noch für

die Verbindung der Einheit mit einem traditionellem privatem oder öffentlichem Telefonnetzwerk gebraucht werden. Nur RJ-45-Datenanscluße, Telefonnetzsysteme or Netztelefone an diese Steckdosen anschließen.

Entweder geschützte oder ungeschützte Buchsen dürfen an diese Datensteckdosen angeschlossen werden.

⚠ *VORSICHT: Faseroptikanschlüsse – Optische Sicherheit*

Laser Gerät der Klasse 1

Niemals ein Übertragungslaser betrachten, während dieses eingeschaltet ist. Niemals direkt auf die Faseransnchlüsse und auf die Faserkabelenden schauen, während diese eingeschaltet sind.

⚠ *VORSICHT: Die Verwendung von nicht in diesem Handbuch aufgeführten Steuerungs- oder Änderungsoptionen zum Modifizieren der Leistung oder der verwendeten Verfahren kann zur Freisetzung gefährlicher Laserstrahlung führen.*

⚠ *VORSICHT: Der Switch unterstützt Power over Ethernet an den rückseitigen Ports 1, 2, 5 und 6. Diese Ports dürfen nur für die Ethernet-Verkabelung im gleichen Gebäude verwendet werden.*

Información de seguridad importante

⚠ *ADVERTENCIA: la instalación y retirada de la unidad sólo debe llevarla a cabo personal cualificado.*

⚠ *ADVERTENCIA: la unidad debe tener toma de tierra (conexión a tierra). conecte la unidad a una fuente de alimentación con toma de tierra para garantizar el cumplimiento de las normas de seguridad.*

ADVERTENCIA: *conjunto de cables eléctricos:*
debe estar homologado para el país donde se utilice:

EE.UU. y Canadá	■ El conjunto de cables debe estar homologado por UL y tener la certificación CSA. ■ La especificación mínima del cable flexible es: ■ Nº 18 AWG ■ Tipo SV o SJ ■ Tres conductores ■ El conjunto de cables debe tener una capacidad de corriente nominal de al menos 10 A. ■ El enchufe de conexión debe ser de tipo de toma de tierra con una configuración NEMA 5-15P (15 A, 125 V) o NEMA 6-15P (15 A, 250 V).
Sólo para el Reino Unido	■ La toma de alimentación debe cumplir la norma BS1363 (3 patillas, 13 A) e instalarse con un fusible de 5 A que cumpla BS1362. ■ El cable de alimentación de red debe tener la marca <HAR> o <BASEC> y ser de tipo H03VVF3GO.75 (mínimo).
Sólo para Europa	■ La toma de alimentación debe cumplir la norma CEE 7/7 ("SCHUKO"). ■ El cable de alimentación de red debe tener la marca <HAR> o <BASEC> y ser de tipo H03VVF3GO.75 (mínimo).
Dinamarca	■ La toma de alimentación debe cumplir la sección 107-2-D1 de la norma DK2-1a o DK2-5a.
Suiza	■ La toma de alimentación debe cumplir la norma SEV/ASE 1011.

ADVERTENCIA: *el acoplador del equipo (el conector para la unidad y no la toma de la pared) debe tener una configuración que se adapte a una entrada del equipo EN60320/IEC320.*

ADVERTENCIA: *el enchufe debe estar cerca de la unidad y ser de fácil acceso. La única forma de cortar la alimentación de la unidad consiste en desconectar el cable eléctrico de la toma de corriente.*

ADVERTENCIA: *esta unidad funciona en condiciones SELV (voltaje extrabajo de seguridad) de conformidad con la norma IEC 60950. Las condiciones sólo se mantienen si el equipo al que esté conectada la unidad también funciona en condiciones SELV.*

ADVERTENCIA: *sólo para Francia y Perú:*
esta unidad no puede recibir corriente de fuentes IT†. Si las fuentes de suministro de corriente son de tipo IT, esta unidad debe recibir 230 V (2P+T) a través de un transformador aislador con relación 1:1, con el punto de conexión secundario etiquetado como neutro conectado directamente a tierra.

†Impédance à la terre.

ADVERTENCIA: *sólo para el Reino Unido:*
si conecta un módem al puerto de consola del Switch, utilice sólo un módem que sea adecuado para la conexión con el sistema de telecomunicaciones.

ADVERTENCIA: *puertos RJ-45. Son conectores de datos RJ-45 blindados. No pueden utilizarse como tomas de teléfono tradicionales estándar ni para conectar la unidad a una central de conmutación PBX tradicional ni a una red telefónica pública. Conecte sólo conectores de datos RJ-45, sistemas de telefonía de red local o teléfonos de red local a estas tomas.*

Pueden conectarse cables de datos blindados o sin blindaje con clavijas blindadas o sin blindaje a estos conectores de datos.

ADVERTENCIA: *Puertos de fibra óptica: seguridad óptica*

**DISPOSITIVO LÁSER
DE CLASE 1**
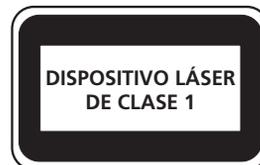
No mire nunca al láser de transmisión mientras esté encendido. No mire nunca directamente al puerto de transmisión de fibra óptica ni a los extremos del cable de fibra óptica mientras estén conectados.

ADVERTENCIA: *el uso de controles, ajustes de rendimiento o procedimientos distintos a los especificados en este documento puede producir emisiones de láser peligrosas.*

ADVERTENCIA: *El conmutador admite Power over Ethernet en los puertos traseros 1, 2, 5 y 6. Estos puertos sólo deben utilizarse para cableado Ethernet dentro del mismo edificio.*

Importanti Informazioni di Sicurezza

AVVERTENZA: le operazioni di installazione e rimozione dell'unità devono essere eseguite esclusivamente da personale qualificato.

AVVERTENZA: l'unità deve disporre di messa a terra. per rispettare gli standard di sicurezza, è necessario collegare l'unità a una fonte di alimentazione dotata di messa a terra.

AVVERTENZA: set dei cavi di alimentazione
Deve essere approvato per il paese in cui viene utilizzato.

Stati Uniti e Canada	■ "Il cavo deve avere l'approvazione UL e la certificazione CSA
	■ "La specifica minima per il cavo flessibile è: N. 18 AWG Tipo SV o SJ 3 conduttori
	■ "Il set di cavi deve avere una capacità nominale di almeno 10 A.
	■ "La spina di collegamento deve essere dotata di messa a terra, con configurazione NEMA 5-15P (15 A, 125 V) o NEMA 6-15P (15 A, 250 V).
Solo Regno Unito	■ "La spina di alimentazione deve essere conforme BS1363 (3 pin 13 amp) e dotata di un fusibile da 5 A conforme BS1362.
	■ "Il cavo dell'alimentazione di rete deve essere contrassegnato dai marchi <HAR> o <BASEC> ed essere di tipo H03VVF3GO.75 (minimo).
Solo Europa	■ "La spina di alimentazione deve essere conforme CEE 7/7 (tipo "SCHUKO").
	■ "Il cavo dell'alimentazione di rete deve essere contrassegnato dai marchi <HAR> o <BASEC> ed essere di tipo H03VVF3GO.75 (minimo).
Danimarca	■ "La spina di alimentazione deve essere conforme alla sezione 107-2-D1, standard DK2-1a o DK2
Svizzera	■ "La spina di alimentazione deve essere conforme SEV/ASE 1011

AVVERTENZA: l'accoppiatore (il connettore all'unità e non la spina a muro) deve avere una configurazione abbinabile a una presa EN60320/IEC320.

AVVERTENZA: *la presa deve trovarsi vicino all'unità ed essere facilmente accessibile. L'unico modo per rimuovere l'alimentazione dall'unità consiste nello scollegare il cavo di alimentazione dalla presa.*

AVVERTENZA: *questa unità funziona alle condizioni SELV (Safety Extra Low Voltage) previste dalla norma IEC 60950. Tali condizioni sono mantenute solo se anche l'apparecchiatura a cui è collegata opera nelle stesse condizioni.*

AVVERTENZA: *solo per Francia e Perù. Questa unità non può ricevere alimentazione di tipo IT†. Se l'alimentazione è di tipo IT, l'unità deve essere alimentata a 230 V (2P+T) tramite un trasformatore di isolamento con rapporto 1:1, con il punto di collegamento secondario contrassegnato come Neutro, collegato direttamente a terra. †Impédance à la terre.*

AVVERTENZA: *solo Regno Unito. Se si collega un modem alla porta Console dello Switch, utilizzare solo un modem idoneo per il collegamento con il sistema di telecomunicazioni.*

AVVERTENZA: *le porte RJ-45 sono prese dati RJ-45 schermate. Non è pertanto possibile utilizzarle come normali prese telefoniche né per collegare l'unità a un PBX (Private Branch Exchange, centralino telefonico privato) o a una rete telefonica pubblica. Collegare a queste porte solo prese dati RJ-45, sistemi di telefonia o telefoni di rete. A queste prese dati è possibile collegare cavi dati schermati o non schermati con prese dati schermate o non schermate.*

AVVERTENZA: *porte a fibre ottiche - Protezione degli occhi*

> **PRODOTTO LASER CLASSE 1**

Non guardare mai il LED di trasmissione attraverso uno strumento ottico di ingrandimento quando è acceso. Non guardare mai direttamente la porta TX a fibre ottiche e le estremità del cavo a fibre ottiche quando sono accese.

AVVERTENZA: *l'esecuzione di procedure o regolazioni non previste dalle istruzioni fornite in questa guida può provocare emissioni laser nocive.*

AVVERTENZA: *Lo switch supporta l'alimentazione su Ethernet sulle porte posteriori 1, 2, 5 e 6. Tali porte devono essere utilizzate soltanto per il cablaggio Ethernet all'interno dello stesso edificio.*

B   PIN-OUTS

RJ-45 to RS-232 Adapter Cable

An RJ-45 to DB-9 adapter cable is provided with the Switch for connecting a management device to the RJ-45 console port on the rear panel. The pinout is shown below.

Table 10   Pin assignments

RJ-45 Pin	Signal	DB-9 Pin	Direction
1	RTS	7	←
2	DTR	4	←
3	TxD	3	←
4	DCD	1	→
5	Ground	5	---
6	RxD	2	→
7	DSR	6	→
8	CTS	8	→

**RJ-45 Pin
Assignments**

Pin assignments are identical for 10BASE-T and 100BASE-TX RJ-45
connectors.

Table 11   Pin assignments

Pin Number	10BASE-T/100BASE-TX	1000BASE-T
Ports configured as MDI		
1	Transmit Data +	Bidirectional Data A+
2	Transmit Data -	Bidirectional Data A-
3	Receive Data +	Bidirectional Data B+
4	Not assigned	Bidirectional Data C+
5	Not assigned	Bidirectional Data C-
6	Receive Data –	Bidirectional Data B-
7	Not assigned	Bidirectional Data D+
8	Not assigned	Bidirectional Data D-

Table 12   Pin assignments

Pin Number	10BASE-T/100BASE-TX	1000BASE-T
Ports configured as MDIX		
1	Receive Data +	Bidirectional Data B+
2	Receive Data -	Bidirectional Data B-
3	Transmit Data +	Bidirectional Data A+
4	Not assigned	Bidirectional Data D+
5	Not assigned	Bidirectional Data D-
6	Transmit Data -	Bidirectional Data A-
7	Not assigned	Bidirectional Data C+
8	Not assigned	Bidirectional Data C-

C TECHNICAL SPECIFICATIONS

OfficeConnect Managed Switch 9 and Switch 9 FX

Physical Dimensions	Height: 57.9 mm (2.3 in.) Width: 229 mm (9.0 in.) Depth: 185.4 mm (7.3 in.) Weight: 1.0 kg (approx)
Environmental Requirements	
Operating Temperature	0 ° to 50 °C (32 ° to 122 °F)
Storage Temperature	–40 ° to +70 °C (-40 ° to 158 °F)
Operating Humidity	10–95% relative humidity, non-condensing
Standards	EN60068 to 3Com schedule (Package testing: paras 2.1, 2.2, 2.30, and 2.32. Operational testing: paras 2.1, 2.2, 2.30 and 2.13).
Safety	
Agency Certifications	UL60950-1, EN60950-1, CSA 22.2 No. 60950-1, IEC 60950-1
EMC	
Emissions	CISPRR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, AS/NZS 3548 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Heat Dissipation	15 watts maximum (51 BTU/hour maximum)
Power Supply	
Power Inlet	12V DC ± 5% provided by in-line adapter
AC Line Frequency	50/60 Hz
Input Voltage Options	100–240 VAC
Current Rating	3.5 A (amps) (maximum)

Standards Supported	**SNMP**	**Terminal Emulation**
	SNMP protocol (RFC 1157)	Telnet (RFC 854)
	MIB-II (RFC 1213)	**Protocols Used for Administration**
	Bridge MIB (RFC 1493)	UDP (RFC 768)
	RMON MIB (RFC 2819, Groups 1, 2, 3, 7, 8, 9)	IP (RFC 791)
	RMON MIB II (RFC 2021)	ICMP (RFC 792)
	Remote Monitoring MIB (RFC 1757)	TCP (RFC 793)
	MAU MIB (RFC 2239)	ARP (RFC 826)
		TFTP (RFC 783)
		DHCP (RFC 2131, RFC 2132, RFC 1534)

D OBTAINING SUPPORT FOR YOUR PRODUCT

Register Your Product

Warranty and other service benefits start from the date of purchase, so it is important to register your product quickly to ensure you get full use of the warranty and other service benefits available to you.

Warranty and other service benefits are enabled through product registration. Register your product at **http://eSupport.3com.com/**. 3Com eSupport services are based on accounts that you create or have authorization to access. First time users must apply for a user name and password that provides access to a number of eSupport features including Product Registration, Repair Services, and Service Request. If you have trouble registering your product, please contact 3Com Global Services for assistance.

Purchase Value-Added Services

To enhance response times or extend warranty benefits, contact 3Com or your authorized 3Com reseller. Value-added services like 3Com Express^{SM} and Guardian^{SM} can include 24x7 telephone technical support, software upgrades, onsite assistance or advance hardware replacement. Experienced engineers are available to manage your installation with minimal disruption to your network. Expert assessment and implementation services are offered to fill resource gaps and ensure the success of your networking projects. More information on 3Com maintenance and Professional Services is available at **http://www.3com.com/**

Contact your authorized 3Com reseller or 3Com for a complete list of the value-added services available in your area.

Troubleshoot Online

You will find support tools posted on the 3Com web site at `http://www.3com.com/`

3Com Knowledgebase helps you troubleshoot 3Com products. This query-based interactive tool is located at `http://knowledgebase.3com.com` and contains thousands of technical solutions written by 3Com support engineers.

Access Software Downloads

Software Updates are the bug fix / maintenance releases for the version of software initially purchased with the product. In order to access these Software Updates you must first register your product on the 3Com web site at `http://eSupport.3com.com/`

First time users will need to apply for a user name and password. A link to software downloads can be found at `http://eSupport.3com.com/`, or under the Product Support heading at `http://www.3com.com/`

Software Upgrades are the software releases that follow the software version included with your original product. In order to access upgrades and related documentation you must first purchase a service contract from 3Com or your reseller.

Telephone Technical Support and Repair

To enable telephone support and other service benefits, you must first register your product at `http://eSupport.3com.com/`

Warranty and other service benefits start from the date of purchase, so it is important to register your product quickly to ensure you get full use of the warranty and other service benefits available to you.

When you contact 3Com for assistance, please have the following information ready:

- Product model name, part number, and serial number
- Proof of purchase, if you have not pre-registered your product
- A list of system hardware and software, including revision level
- Diagnostic error messages
- Details about recent configuration changes, if applicable

To send a product directly to 3Com for repair, you must first obtain a return authorization number (RMA). Products sent to 3Com, without authorization numbers clearly marked on the outside of the package, will be returned to the sender unopened, at the sender's expense. If your product is registered and under warranty, you can obtain an RMA number online at **http://eSupport.3com.com/**. First time users will need to apply for a user name and password.

Contact Us

3Com offers telephone, e-mail and internet access to technical support and repair services. To access these services for your region, use the appropriate telephone number, URL or e-mail address from the list below.

Telephone numbers are correct at the time of publication. Find a current directory of contact information posted on the 3Com web site at **http://csoweb4.3com.com/contactus/**

Country	Telephone Number	Country	Telephone Number
Asia, Pacific Rim Telephone Technical Support and Repair			
Australia	1 800 678 515	Philippines	1235 61 266 2602 or
Hong Kong	800 933 486		1800 1 888 9469
India	+61 2 9424 5179 or	P.R. of China	800 810 3033
	000800 650 1111	Singapore	800 6161 463
Indonesia	001 803 61009	S. Korea	080 333 3308
Japan	00531 616 439 or	Taiwan	00801 611 261
	03 3507 5984	Thailand	001 800 611 2000
Malaysia	1800 801 777		
New Zealand	0800 446 398		
Pakistan	+61 2 9937 5083		

You can also obtain support in this region using the following e-mail: **apr_technical_support@3com.com**

Or request a repair authorization number (RMA) by fax using this number: + 65 543 6348

Europe, Middle East, and Africa Telephone Technical Support and Repair

From anywhere in these regions, call: +44 (0)1442 435529

From the following countries, you may use the numbers shown:

Country	Telephone Number	Country	Telephone Number
Austria	01 7956 7124	Luxembourg	342 0808128
Belgium	070 700 770	Netherlands	0900 777 7737
Denmark	7010 7289	Norway	815 33 047
Finland	01080 2783	Poland	00800 441 1357
France	0825 809 622	Portugal	707 200 123
Germany	01805 404 747	South Africa	0800 995 014
Hungary	06800 12813	Spain	9 021 60455
Ireland	1407 3387	Sweden	07711 14453
Israel	1800 945 3794	Switzerland	08488 50112
Italy	199 161346	U.K.	0870 909 3266

You can also obtain support in this region using the following URL:
http://emea.3com.com/support/email.html

Latin America Telephone Technical Support and Repair

Country	Telephone Number	Country	Telephone Number
Antigua	1 800 988 2112	Guatemala	AT&T +800 998 2112
Argentina	0 810 444 3COM	Haiti	57 1 657 0888
Aruba	1 800 998 2112	Honduras	AT&T +800 998 2112
Bahamas	1 800 998 2112	Jamaica	1 800 998 2112
Barbados	1 800 998 2112	Martinique	571 657 0888
Belize	52 5 201 0010	Mexico	01 800 849CARE
Bermuda	1 800 998 2112	Nicaragua	AT&T +800 998 2112
Bonaire	1 800 998 2112	Panama	AT&T +800 998 2112
Brazil	0800 13 3COM	Paraguay	54 11 4894 1888
Cayman	1 800 998 2112	Peru	AT&T +800 998 2112
Chile	AT&T +800 998 2112	Puerto Rico	1 800 998 2112
Colombia	AT&T +800 998 2112	Salvador	AT&T +800 998 2112
Costa Rica	AT&T +800 998 2112	Trinidad and Tobago	1 800 998 2112
Curacao	1 800 998 2112	Uruguay	AT&T +800 998 2112
Ecuador	AT&T +800 998 2112	Venezuela	AT&T +800 998 2112
Dominican Republic	AT&T +800 998 2112	Virgin Islands	57 1 657 0888

You can also obtain support in this region using the following:

Spanish speakers, enter the URL:
http://lat.3com.com/lat/support/form.html

Portuguese speakers, enter the URL:
http://lat.3com.com/br/support/form.html

English speakers in Latin America should send e-mail to:
lat_support_anc@3com.com

US and Canada Telephone Technical Support and Repair

1 800 876 3266

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REGULATORY NOTICES

FCC STATEMENT	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference to radio communications, in which case the user will be required to correct the interference at their own expense.

INFORMATION TO THE USER

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the equipment with respect to the receiver.
- Move the equipment away from the receiver.
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

How to Identify and Resolve Radio-TV Interference Problems

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

In order to meet FCC emissions limits, this equipment must be used only with cables which comply with IEEE 802.3.

CSA STATEMENT

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CE STATEMENT (EUROPE)

This product complies with the European Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC as amended by European Directive 93/68/EEC.

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

You must only insert a 3Com approved SFP transceiver into the Switch. These are listed in the "Approved SFP Transceivers" section of the Getting Started Guide.

VCCI STATEMENT

　この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

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