



3Com® Switch 5500 Family

Getting Started Guide

Switch 5500-EI
Switch 5500G-EI

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ABOUT THIS GUIDE

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

Table 1 Switch 5500 Family

Switch Model	SKU Number	
Switch 5500-SI 28-Port	3CR17151-91	
Switch 5500-SI 52-Port	3CR17152-91	
Switch 5500-EI 28-Port	3CR17161-91	
Switch 5500-EI 52-Port	3CR17162-91	
Switch 5500-EI PWR 28-Port	3CR17171-91	
Switch 5500-EI PWR 52-Port	3CR17172-91	
Switch 5500-EI 28-Port FX	3CR17181-91	
Switch 5500G-EI 24-Port	3CR17250-91	Includes 3CR17254-91 (chassis) and 3C17266 (power supply)
Switch 5500G-EI 48-Port	3CR17251-91	Includes 3CR17255-91 (chassis) and 3C17267 (power supply)
Switch 5500G-EI PWR 24-Port	3CR17252-91	Includes 3CR17254-91 (chassis) and 3C17264 (power supply)
Switch 5500G-EI PWR 48-Port	3CR17253-91	Includes 3CR17255-91 (chassis) and 3C17265 (power supply)
Switch 5500G-EI 24-Port SFP	3CR17258-91	Includes 3CR17259-91 (chassis) and 3C17266 (power supply)

All procedures described in this guide apply to all models except where stated.

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

Release Notes

The Release Notes provide important information about the current software release, including new features, modifications, and known problems. You should read the Release Notes before installing the Switch in your network.



If the information in the Release Notes differs from the information in this guide, follow the instructions in the Release Notes.

Conventions

Table 2 lists conventions that are used throughout this guide.

Table 2 Notice Icons

Icon	Notice Type	Description
	Information note	Information that describes important features or instructions
	Caution	Information that alerts you to potential data loss or potential damage to an application, system, or device
	Warning	Information that alerts you to potential personal injury

Related Documentation

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

- *Switch 5500 Family Configuration Guide*
This guide contains information about the features supported by your Switch and how you can use them to optimize your network.
- *Switch 5500 Family Quick Reference Guide*
This guide contains a list of the features supported by the Switch 5500 Family and a summary of the command line interface commands available for the Switch. This guide is also available under the *Help* button on the web interface.
- *Switch 5500 Family Command Reference Guide*
This guide provides detailed information about the web interface and command line interface that enable you to manage the Switch.

- *Release Notes*

These notes provide information about the current software release, including new features, modifications, and known problems. The Release Notes are supplied in hard copy with your Switch.

**Accessing the
Documentation**

The Switch 5500 Family documentation is available in Adobe Acrobat Reader Portable Document Format (PDF) at www.3com.com.

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pddtechpubs_comments@3com.com

Please include the following information when commenting:

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

Example:

Part Number 10014925 rev. AC

Switch 5500 Family Getting Started Guide

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*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 SWITCH 5500 FAMILY

This chapter contains introductory information about the Switch 5500 and how to use it within a network. It includes hardware and software feature summaries and contains the following section:

- About the Switch 5500 Family
- Switch 5500 Family — Front View
- Switch 5500 — Rear View Detail
- Default Settings

About the Switch 5500 Family

The Switch 5500 Family includes mixed media devices consisting of those described in Table 3.

Table 3 Switch 5500 Family Hardware

Switch 5500 Family	10BASE-T\100BASE-TX Ports	10BASE-T\1000BASE-TX\1000BASE-T Ports	10\100\1000 PoE Ports	100BASE-X SFP Ports	1000BASE-X SFP Ports	Stacking Ports	RJ-45 Console Port	-48V DC RPS Input	Module Slot
Switch 5500-SI 28 Port	24				4		1	1	
Switch 5500-SI 52 Port	48				4		1	1	
Switch 5500-EI 28 Port	24				4		1	1	
Switch 5500-EI 52 Port	48				4		1	1	
Switch 5500 PWR 28 Port			24		4		1	1	
Switch 5500 PWR 52 Port			48		4		1	1	
Switch 5500 FX 28 Port		2		24	2		1	1	
Switch 5500G-EI 24 Port		24	24*		4†	2	1	1	1
Switch 5500G-EI 48 Port		48	48*		4†	2	1	1	1
Switch 5500G-EI SFP 24 Port		4			24	2	1	1	1

*Depending on Power Supply Unit Fitted

†Combo SFP and 10/100/100 Ports

The Switch 5500 Family provides high-performance workgroups with a backbone to the server connection. You can also add the Switch 5500 to any 3Com system as your network grows.



For information about using the software features of the Switch, refer to the “Command Reference Guide” located at www.3com.com.

Summary of Hardware Features

Table 4 summarizes the hardware features that are supported by the Switch 5500.

Table 4 Hardware Features

Feature	Switch 5500 Family
MAC Addresses	Up to 16,000 supported
Forwarding Modes	Store and Forward
Auto-negotiation	Supported on all ports
Auto MDI/MDIX	Supported on all ports. If fiber SFP transceivers are used, Auto MDIX is not supported.
Duplex Modes	Half and full duplex on all ports
Flow Control	In full duplex mode, all ports are supported.
Smart Auto-sensing	Supported on all copper ports
Traffic Prioritization	Supported (IEEE Std 802.1D, 1998 Edition) Eight traffic queues per port
Power over Ethernet (Switch 5500)	Supported on front panel ports, except for the SFP ports. (3CR17171 and 3CR17172 only)
Power over Ethernet (Switch 5500G-EI)	Supported on all front panel ports, except for the SFP ports, when fitted with PoE PSUs (3CR17254 and 3CR17255).
Ethernet and Fast Ethernet Ports (Switch 5500)	Auto-negotiating 10BASE-T/100BASE-TX ports or 100BASE-X ports.
Fast Ethernet and Gigabit Ethernet Ports (Switch 5500G-EI)	Auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T and SFP ports.
100BASE-X SFP Ports	Supports 100BASE-LX10 10km single-mode and 100BASE-FX 2km multi-mode transceivers.
1000BASE-X Gigabit Ethernet SFP Ports	Supports fiber Gigabit Ethernet short-wave (SX), long-wave (LX), long-haul (LH70), and copper (T) transceivers in any combination

Switch 5500 Family — Front View

Figure 1 Switch 5500-SI and EI 28-Port — front view

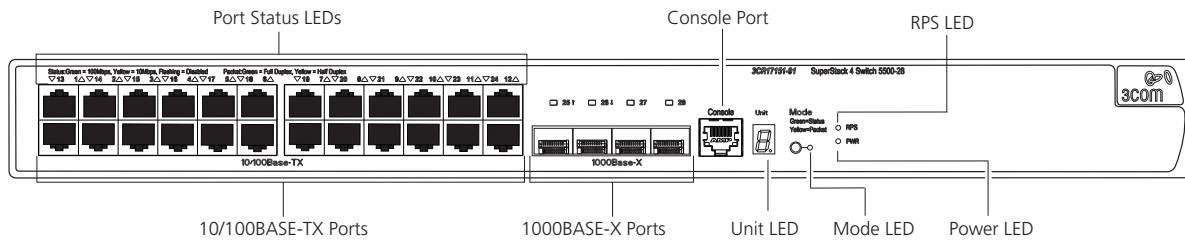


Figure 2 Switch 5500-SI and EI 52-Port — front view

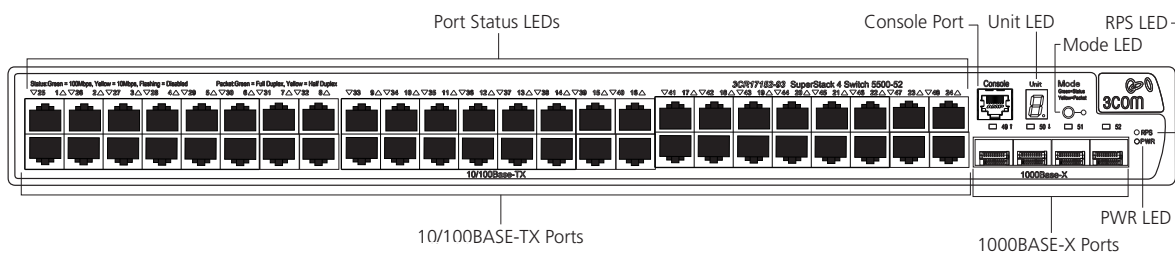


Figure 3 Switch 5500-EI 28-Port PWR - front view

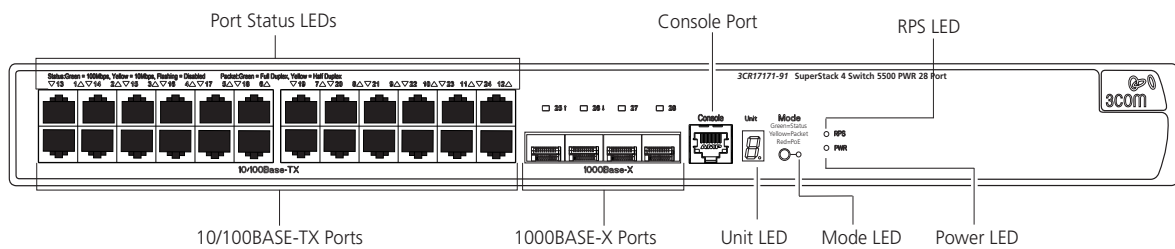


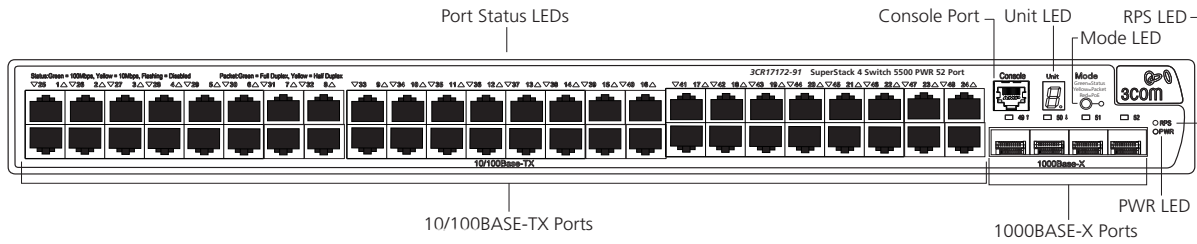
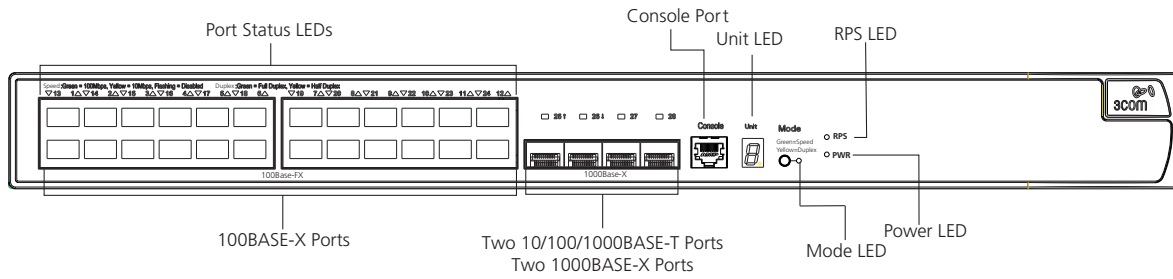
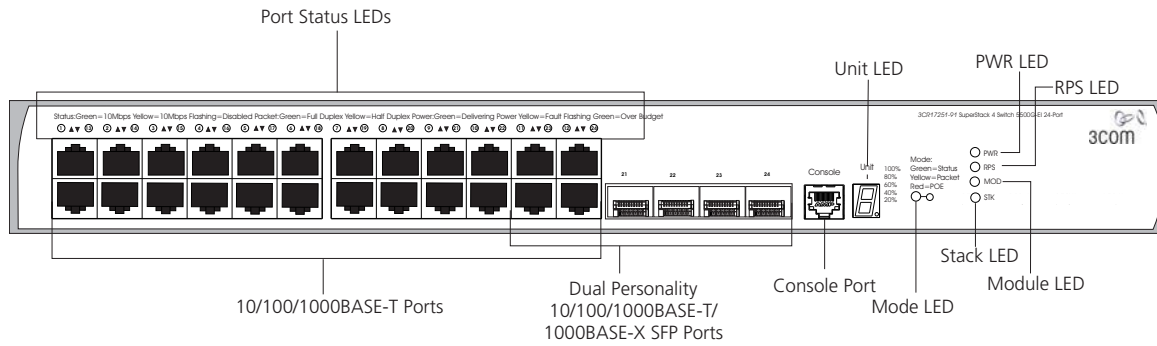
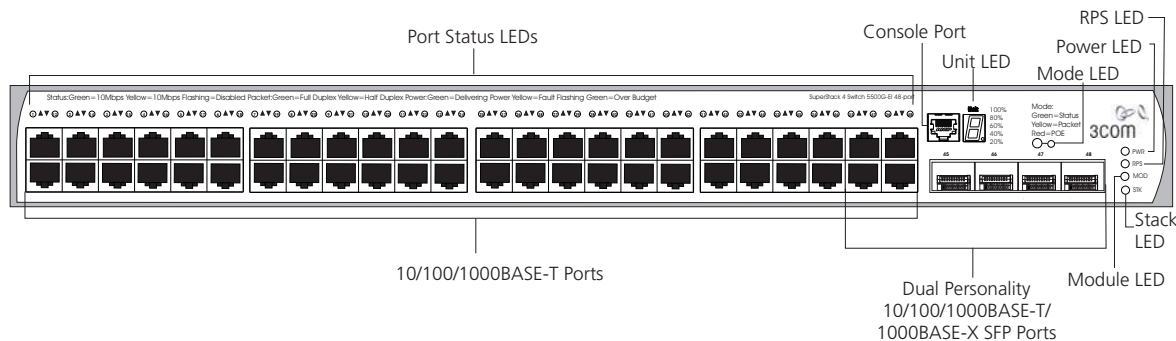
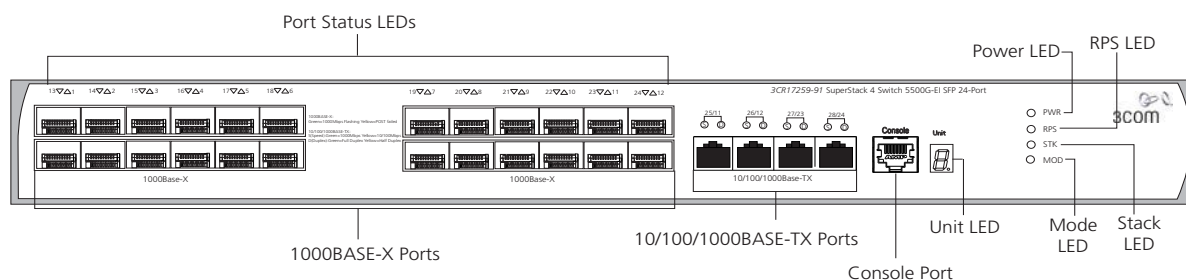
Figure 4 Switch 5500-EI 52-Port PWR - front view**Figure 5** Switch 5500-EI FX 28-Port — front view**Switch 5500G-EI** **Figure 6** Switch 5500G-EI (24 port) — front view

Figure 7 Switch 5500G-EI (48 port) — front view**Figure 8** Switch 5500G-EI SFP (24 port) — front view

WARNING: The RJ-45 ports are shielded RJ-45 data sockets. You cannot use them 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. You can connect either shielded or unshielded data cables with shielded or unshielded jacks to these data sockets.

10BASE-T/ 100BASE-TX/ 1000BASE-T Ports

The 10BASE-T/100BASE-TX/1000BASE-T ports have RJ-45 connectors and are configured as Auto MDIX (cross-over).

The default state for these ports is auto-negotiation enabled, where the link's speed, duplex, and flow control modes are automatically detected to provide the highest available bandwidth with the link partner.

You can disable auto-negotiation. You can manually configure these ports to 10 Mbps half duplex, 100 Mbps half duplex, 10 Mbps full duplex, or 100 Mbps full duplex. It is not possible to manually configure a 1000 Mbps link because auto-negotiation is mandatory in the 1000 Mbps standard. If you disable auto-negotiation, Auto MDIX cannot function and the ports become fixed in MDIX (cross-over) mode.



If you disable auto-negotiation on a 1000 Mbps port, the speed drops to the highest available speed, which is 100 Mbps by default.

1000BASE-X SFP Ports

The 1000BASE-X SFP (Small Form Factor Pluggable) ports support fiber Gigabit Ethernet short-wave (SX), long-wave (LX), long-haul (LH70), and copper (T) SFP Transceivers in any combination. This offers you the flexibility of using SFP transceivers to provide connectivity between the Switch and remote 1000 Mbps workgroups, or to create a high capacity aggregated link backbone connection.

The default state for these ports is auto-negotiation enabled, where the speed, duplex and flow control modes are negotiated. As the speed and duplex modes are fixed by the media type, only the flow control is negotiated with the link partner. Alternatively, auto-negotiation can be disabled (except 1000BASE-T where auto-negotiation is mandatory) and the flow control setting can be manually configured.



You can also use these ports for stacking the 5500 SI and EI. For information about stacking these switches, see the section entitled "Guidelines For Interconnecting Units" on page 78.

100BASE-X SFP Ports (Switch 5500-EI FX only)

The Switch 5500-EI FX has 24 100BASE-X SFP ports. These are 100Mbps ports that can use multi-mode fiber optic cables of up to 2km and single-mode fiber optic cables of up to 10km.

You must manually configure duplex and flow control.



The Switch 5500-EI FX supports copper transceivers on the Gigabit SFP ports only.

Console Port

The console port allows you to connect a terminal and perform remote or local out-of-band management. As the console port on the Switch is an RJ-45 port, you must connect an RJ-45 to DB9 converter cable to a standard null modem cable in order to connect a terminal.

Unit LED The Unit LED is a seven segment display visible on the front of the Switch. The Unit LED indicates the unit number in a fabric, POST test ID, and software upgrade information. In the unlikely event of a hardware fault occurring, you can use the Unit LED to help diagnose the problem. For information on using the Unit LED for problem solving, see “Solving Problems Indicated by LEDs” on page 82.

LEDs Table 5 lists the 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 “Checking for Correct Operation of LEDs” on page 43.

Table 5 LED behavior

LED	Color	Indicates
10/100/1000BASE-TX Port LEDs		
Speed	Green	A high speed (1000 Mbps) link is present, blinking off for every packet received or transmitted.
	Yellow	A low speed (10/100 Mbps) link is present, blinking off for every packet received or transmitted.
	Yellow flashing	The port has failed POST.
	Off	No link is present.
Duplex	Green	Full duplex, blinking off for every packet received or transmitted.
	Yellow	Half duplex, blinking off for every packet received or transmitted.
	Yellow flashing	The port has failed POST.
	Off	No link is present.
PoE	Green	Power is being delivered to the port.
	Green flashing	Port power has exceeded limit or is unable to supply power due to unit being over budget.
	Yellow	PoE error, no power supplied on port.
	Yellow flashing	The port has failed post.
	Off	No power is being delivered.
10/100BASE-T/TX Ports LEDs		
Speed	Green	A high speed (100 Mbps) link is present, blinking off for every packet received or transmitted.
	Yellow	A low speed (10 Mbps) link is present, blinking off for every packet received or transmitted.
	Yellow flashing	The port has failed POST.

LED	Color	Indicates
Duplex	Off	No link is present.
	Green	Full duplex, blinking off for every packet received or transmitted.
	Yellow	Half duplex, blinking off for every packet received or transmitted.
	Yellow flashing	The port has failed POST.
PoE	Off	No link is present.
	Green	Power is being delivered to the port.
	Green flashing	Port power has exceeded limit or is unable to supply power due to unit being over budget.
	Yellow	PoE error, no power supplied on port.
	Yellow flashing	The port has failed post.
	Off	No power is being delivered.

1000BASE-X SFP Port LEDs

Speed	Green	A 1000 Mbps link is present.
	Yellow flashing	The port has failed post.
	Off	No link is present.
Duplex	Green	Full duplex packets are being transmitted/received on the port.
	Yellow	Half duplex packets are being transmitted/received on the port.
	Yellow flashing	Port failed POST.
	Off	No links is present.

100BASE-X SFP Port LEDs

Speed	Green	A 100 Mbps link is present.
	Yellow flashing	The port has failed post.
	Off	No link is present.
Duplex	Green	Full duplex packets are being transmitted/received on the port.
	Yellow	Half duplex packets are being transmitted/received on the port.
	Yellow flashing	Port failed POST.
	Off	No links is present.

LED	Color	Indicates
Unit LED		
	Green	Power on Self Test (POST) is in progress. During POST a test ID number appears in the Unit LED (seven segment display) or Software download is in progress. During software download, a clockwise cycling bar appears in the Unit LED.
	Green flashing	The Switch has failed POST. The Unit LED flashes the number of the test that has failed.
	Green flashing 'f'	There has been a fan failure.
	Green flashing 't'	The Switch is over temperature and unit temperature is critical.
Stack LED		
	Green	The XRN stack is functioning in resilient mode. Loop cable is attached.
	Green flashing	Switch is not compatible with the other Switches in the stack.
	Yellow	The XRN stack is functioning without the loop connection.
	Off	Stacking Cables are not connected.
Module LED (Switch 5500G-EI only)		
	Green	The Module is installed and operating normally.
	Yellow flashing	The Module is installed but not supported or faulty.
	Off	The Module is not installed.
Mode LED		
Duplex	Yellow	10/100/1000 Duplex and Activity, 1000 SFP Duplex and Activity, or Stack Activity.
Speed	Green	10/100/1000 Port Speed and Activity, 1000 SFP Status and Activity, or Stack Status and Activity.
PoE	Red	10/100/1000 port showing PoE information.
RPS LED		
	Green	AC and RPS supply connected.
	Yellow	AC failed or not connected. RPS supply is OK.
	Off	There is no RPS supply connected.

LED	Color	Indicates
PWR LED		
	Green	The Switch is powered-up and operating normally.
	Green flashing	Self Test (POST) or Software Download is in progress.
	Yellow flashing	One or more ports have failed POST.
	Red	The Switch has failed its Power On Self Test.
	Off	The Switch is not receiving power or there is a fault with the Power Supply Unit.

Switch 5500 — Rear View Detail

Figure 9 Switch 5500-SI, EI and FX — rear view

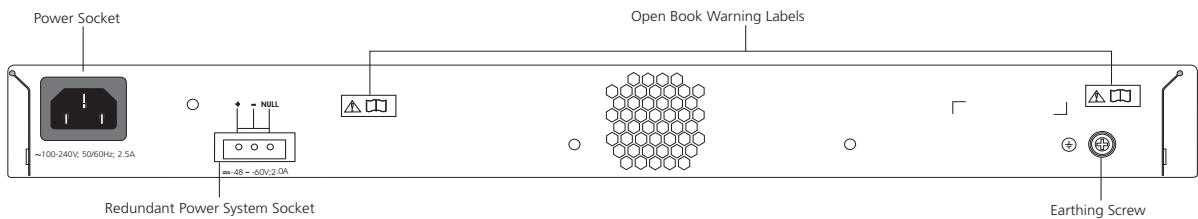
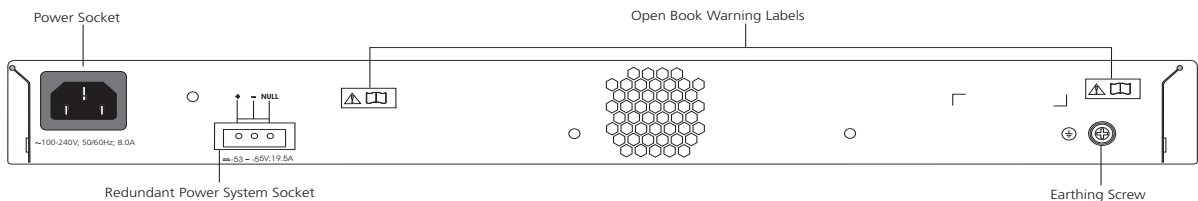
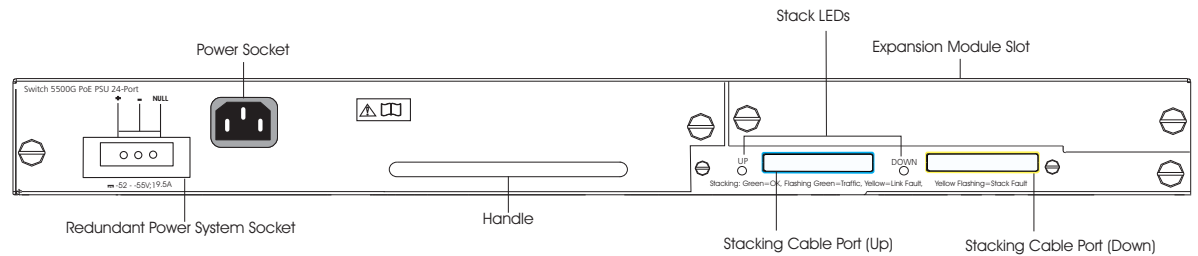


Figure 10 Switch 5500-EI PWR - rear view



Switch 5500G-EI

Figure 11 Switch 5500G-EI — rear view



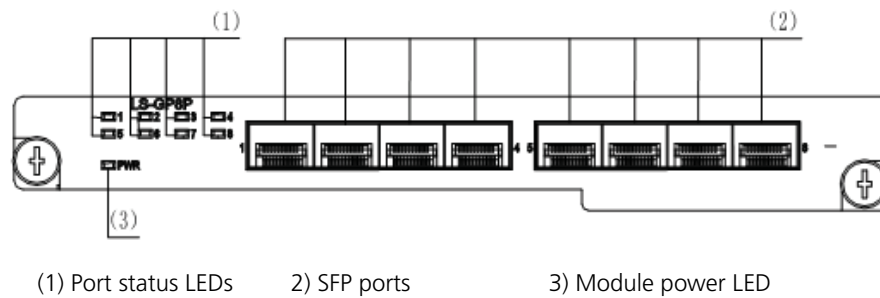
Expansion Module Slot (Switch 5500G-EI Only)

You can use this slot to install an Expansion Module. The Switch 5500G Family provides one expansion module slot on the rear panel in which you can use an 8-port 1000 Mbps SFP module, a 1-port 10 Gbps XENPAK module, or a 2-port 10 Gbps XFP module.

8-port 1000 Mbps SFP module

This module, shown in Figure 12, provides eight 1000 Mbps 1000Base-X SFP transceiver ports.

Figure 12 8-port 1000 Mbps SFP module



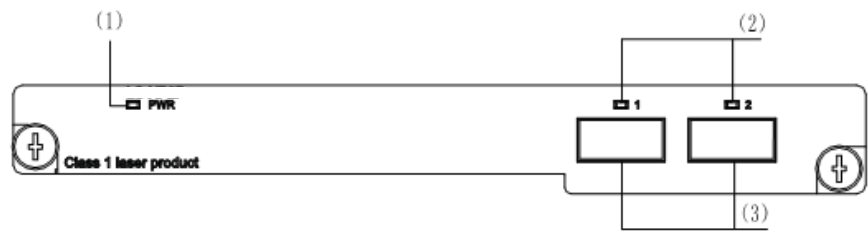
Notes:

- The types of available SFP modules may change over time. Refer to www.3com.com for the latest transceiver support.
- For SFP module specifications, refer to 3Com Web site at www.3com.com

2-port 10 Gbps XFP module

This module, shown in Figure 13, provides two 10 Gbps XFP optical ports.

Figure 13 2-port 10 Gbps XFP module



(1) Module power LED (2) 10 Gbps XFP optical ports (3) 10 Gbps XFP optical ports

Table 6 lists the available XFP transceivers.

Table 6 XFP transceivers supported by 2-port 10 Gbps XFP module

Type	Model
XFP transceivers	3CXFP90 10GBASE-LRM
	3CXFP92 10GBASE-LR
	3CXFP94 10GBASE-SR
	3CXFP95 10GBASE-CX4
	3CXFP96 10GBASE-ER



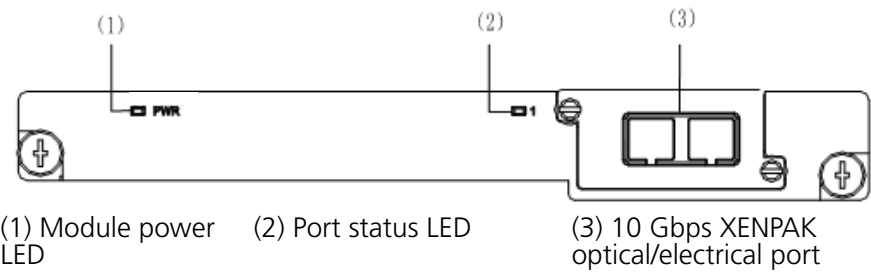
Notes:

- The type of 10 Gbps XFP module may be different from those listed above. For the most up-to-date information, refer to www.3com.com.
- For XFP transceiver specifications, refer to 3Com's Web site at www.3Com.com.

1-port 10 Gbps XENPAK module

This module, shown in Figure 14, provides one 10 Gbps XENPAK transceiver port.

Figure 14 1-port 10 Gbps XENPAK module



The Table 7 lists the available XENPAK optical modules:

Table 7 XENPAK optical port module supported by 1-port 10 Gbps XENPAK module

Table 8	Type	Table 9	Model
		XENPAKs that are supported	
		3CXENPAK91 10GBASE-LX4	
		3CXENPAK92 10GBASE-LR	
		3CXENPAK93 10GBASE-T	
		3CXENPAK94 10GBASE-SR	
		3CXENPAK95 10GBASE-CX4	
		3CXENPAK96 10GBASE-ER	



For specifications of XENPAK Transceivers, refer to 3Com's Web site at www.3Com.com.



WARNING: When an Expansion Module is not installed, ensure that the blanking plate is fitted by tightening all screws with a suitable tool. Failure to fit a blanking plate may void the product warranty.

Power Socket

The Switch automatically adjusts its power setting to any supply voltage in the range 100-240 VAC.

Open Book Warning Labels

Before installing or removing any components from the Switch 5500 Family or carrying out any maintenance procedures, you must read the safety information provided in Appendix A of this guide.



AVERTISSEMENT: Avant d'installer ou d'enlever tout composant des commutateurs de la gamme Switch 5500 ou d'entamer une procédure

de maintenance, lisez les informations relatives à la sécurité qui se trouvent dans l'annexe A de ce guide.



VORSICHT: *Bevor Sie Komponenten der Switch 5500-Baureihe installieren oder deinstallieren und bevor Sie Wartungsarbeiten ausführen, müssen Sie die in Anhang A dieses Handbuchs aufgeführten Sicherheitshinweise lesen.*



ADVERTENCIA: *Antes de instalar o extraer cualquier componente del Switch 5500 Family o de realizar tareas de mantenimiento, debe leer la información de seguridad facilitada en el Apéndice A de esta guía.*



AVVERTENZA: Prima di installare o rimuovere qualsiasi componente dello Switch 5500 Family o di eseguire qualsiasi procedura di manutenzione, leggere le informazioni di sicurezza riportate nell'Appendice A di questa guida.



OSTRZEŻENIE: Przed instalacją lub usunięciem jakichkolwiek elementów z przełącznika z rodziny 5500 lub przeprowadzeniem prac konserwacyjnych należy zapoznać się z informacjami o bezpieczeństwie zawartymi w Załączniku A niniejszego podręcznika.

Redundant Power System Socket

For protection against an internal power supply failure, you can use this socket to connect the Switch to a -48 DC Redundant Power System.

Stacking Cable Ports (Switch 5500G-EI)

You can use these ports to connect the following cables:

- Stacking Cable (3C17262) — this cable enables you to stack together two switches up to three rack units apart.
- Resilient Stacking Cable (3C17263) — this cable enables you to stack together two switches up to sixteen rack units apart.



You can stack together any combination of 5500G-EI 24 port and 48 port units, up to a maximum of eight units.



For more information on how to connect a stacking cable to your Switch units, refer to the Installation Guide that accompanies your cable.



You cannot create a Fabric by interconnecting a 3Com Switch 5500G with any other 3Com device (such as a 5500-EI) or mix Enhanced Image (EI) Switch 5500 units with Standard Image (SI) units.

Default Settings

Table 10 shows the default settings for the Switch 5500 Family:

Table 10 Default Settings

Feature	Switch 5500
Automatic IP Configuration	Enabled
Port Status	Enabled
Port Speed	Auto-negotiated
Duplex Mode	Auto-negotiated
Power over Ethernet	Enabled (3CR17171-91 and 3CR17172-91 only)
Flow Control	Auto-negotiated
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
Management VLAN	Fixed as VLAN 1 on 5500-SI units. Can be any VLAN for 5500-EI/5500G-EI units.
Link Aggregation Control Protocol (LACP)	Disabled per port
IP Multicast Filtering	Filtering enabled
Rapid Spanning Tree Protocol	Enabled
Fast Start	Enabled on front panel ports
RMON Alarm	Enabled
Webcache Support	Disabled
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
Configuration Save and Restore	Disabled
Spanning Tree Protocol	Enabled
Smart Auto-sensing	Enabled

2

INSTALLING THE SWITCH

This chapter contains the information you need to install and set up the Switch 5500. It covers the following topics:

- Package Contents
- Choosing a Suitable Site
- Rack-mounting
- Connecting a Redundant Power Supply
- Placing Units On Top of Each Other
- The Power-up Sequence
- SFP Operation
- Packing and Shipping the Switch 5500



WARNING: Safety Information. Before installing or removing any components from the Switch 5500 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 5500 ou d'entamer une procédure de maintenance, lisez les informations relatives à la sécurité qui se trouvent dans l'Appendice A de ce guide.



VORSICHT: Sicherheitsinformationen. Bevor Sie Komponenten aus dem Switch 5500 entfernen oder dem Switch 5500 hinzufügen oder Instandhaltungsarbeiten verrichten, lesen Sie die Sicherheitsanweisungen, die in Appendix A (Anhang A) in diesem Handbuch aufgeführt sind.



ADVERTENCIA: Información de seguridad. Antes de instalar o extraer cualquier componente del Switch 5500 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 Switch 5500 o di eseguire qualsiasi procedura di manutenzione, leggere le informazioni di sicurezza riportate nell'Appendice A della presente guida per l'utente.



OSTRZEŻENIE: Informacje o zabezpieczeniach. Przed instalacją lub usunięciem jakichkolwiek elementów z product lub przeprowadzeniem prac konserwacyjnych należy zapoznać się z informacjami o bezpieczeństwie zawartymi w Załączniku A niniejszego podręcznika.

Package Contents

The Switch 5500 packaging contains the following for all units:

- Switch unit
- Release Notes
- RPS -48V DC Connector
- Unit Information Labels
- Warranty Information
- RPS Flyer
- Power Cord
- Console Cable (RJ-45)
- RPS Connector (and backshell)
 - RPS Connector Cable Tie
 - Earthing Lead
- Mounting brackets
- Screws
- 4 x Rubber feet

Table 11 below details the packaging contents specific to each unit in the Switch 5500 Family.

Table 11 Package Contents

	Switch 5500-SI 28 and 52 Port	Switch 5500-EI 28 and 52 Port	Switch 5500 PWR 28 and 52 Port	Switch 5500 FX 28 Port	Switch 5500G-EI 24 Port	Switch 5500G-EI 48 Port	Switch 5500G-EI SFP 28 Port
Blanking Plate					✓	✓	✓
12A RPS Connector and Backshell (incl. cable tie and earthing lead)	✓	✓		✓			
25A RPS Connector and Backshell (incl. cable tie and earthing lead)			✓		✓	✓	✓
2 x Front Securing Brackets	✓	✓	✓	✓	✓	✓	✓
2 x Back Securing Brackets			✓		✓	✓	✓
4 x Screws	✓	✓		✓			
6 x Screws			✓		✓	✓	✓

Choosing a Suitable Site

The Switch 5500 Family is suited for use in an internal wiring closet, a network room, or telecommunications room, where you can mount it in a standard 19-inch equipment rack or leave it free-standing.



CAUTION: Ensure that the ventilation holes are not obstructed.

When deciding where to position the switch, ensure that:

- The 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 switch's case.

- 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 25 mm (1 in.) clearance.
- The air temperature around the switch does not exceed 40 °C (104 °F).



If the switch is installed in a 19-inch rack or closed assembly, its local air temperature may be greater than room ambient temperature.

- The air is as free from dust as possible.
- The switch is situated away from conductive (electrical) dust sources; laser printers, for example.
- The unit is installed in a clean, air conditioned environment.
- The AC supply used by the switch is separate from the AC supply used by units that generate high levels of AC noise; air conditioning units, for example.
- No more than four switch units are placed on top of one another if the units are free-standing.

Rack-mounting

The Switch 5500 is 1U high and will fit in most standard 19-inch racks.



CAUTION: *Disconnect all cables from the switch before continuing. Remove all self adhesive pads from the underside of the switch if they have been fitted.*



CAUTION: *If you use a shelf or support, ensure that it will not obstruct the air flow through the switch's side panels.*

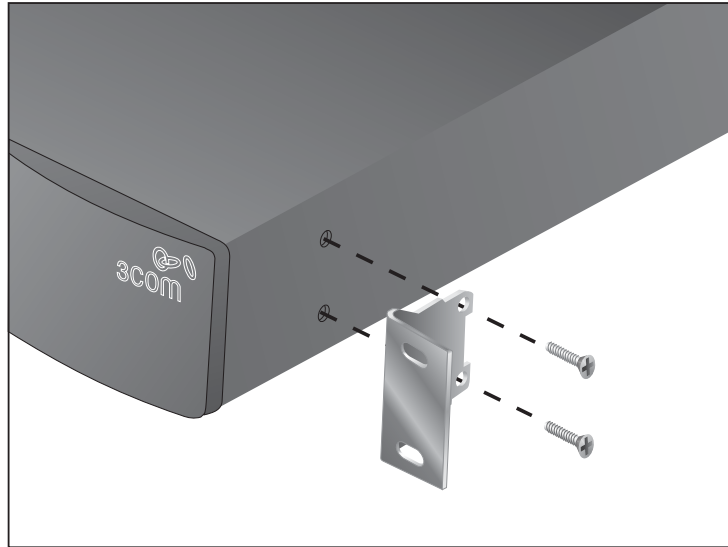
Switch 5500 (non PoE)

To rack-mount your Switch 5500 (non PoE):

- 1 Place the switch the right way up on a hard flat surface with the front facing towards you.
- 2 Place a securing bracket over the mounting holes on one side of the front of the switch, as shown in Figure 15.

- 3 Insert the two screws and tighten them with a suitable screwdriver.

Figure 15 Fitting a front bracket for rack-mounting



You must use the screws supplied with the securing brackets. Damage caused to the unit by using incorrect screws invalidates your warranty.

- 4 Repeat steps 2 and 3 for the other side of the switch.
- 5 Insert the switch into the 19-inch rack and secure with suitable screws (not provided). Ensure that the ventilation holes are not obstructed.
- 6 Connect the network cabling.
- 7 Place a unit information label on the unit in an easily accessible position. The unit information label shows the switch's:
 - 3Com product name
 - 3Com 3C number
 - Unique MAC address (Ethernet address)
 - Serial number

You may need this information if you contact 3Com for Technical Support.

**Switch 5500 and
Switch 5500G-EI (PoE)**

To rack-mount the front of your Switch 5500 and Switch 5500G-EI (PoE):

- 1 Place the switch the right way up on a hard flat surface, with the front facing towards you.
- 2 Place a securing bracket over the mounting holes on one side of the front of the switch, as shown in Figure 15.
- 3 Insert the two screws and tighten them with a suitable screwdriver.
- 4 Repeat steps 1 and 2 for the other front securing bracket.



You must use the screws supplied with the securing brackets. Damage caused to the unit by using incorrect screws invalidates your warranty.

- 5 Insert the switch into the 19-inch rack and secure with suitable screws (not provided). Ensure that the ventilation holes are not obstructed.

To rack mount the rear of your switch:

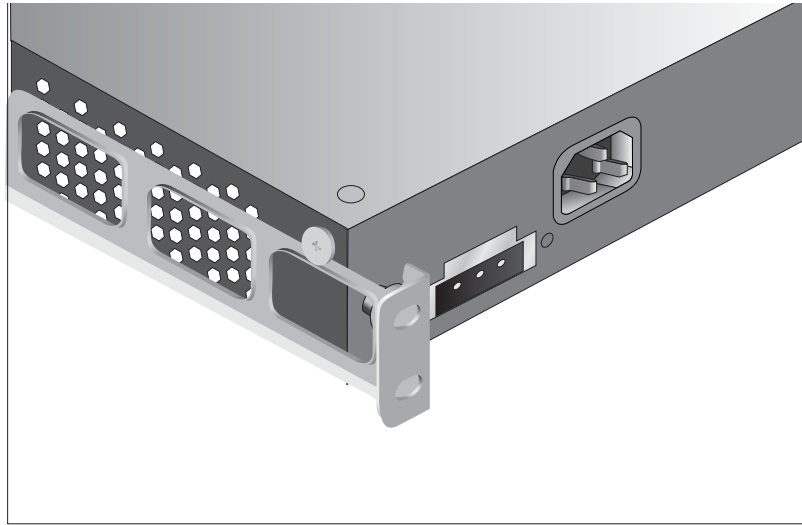
- 1 Place a rear rail bracket over the mounting holes on one side of the rear of the switch, as shown in Figure 16.

The bracket has two mounting positions. The one you choose depends on the rack depth. Table 12 describes the correct positions on which to mount the bracket:

Table 12 Rear rail bracket mounting points

Distance from Front to Rear	Mounting Positions
37cm — 25cm	Middle mounting point
43cm — 56cm	Rear mounting point

- 2 Insert the screw and tighten it with a suitable screwdriver.
- 3 Repeat steps 1 and 2 for the other rear securing bracket.

Figure 16 Fitting a rear rail bracket for rack-mounting

- 4 Insert the switch into the 19-inch rack and secure it with suitable screws (not provided). Ensure that the ventilation holes are not obstructed.
- 5 Connect the network cables.
- 6 Place a unit information label on the unit in an easily accessible position. The unit information label shows the switch's:
 - 3Com product name
 - 3Com 3C number
 - Unique MAC address (Ethernet address)
 - Serial number

You may need this information if you contact 3Com for Technical Support.

Connecting a Redundant Power Supply



The Switch 5500 Family has a -48V DC Redundant Power Supply socket.

WARNING: Only properly trained and qualified personnel should install the Redundant Power Supply (RPS).



WARNING: Make sure to read these instructions in conjunction with the RPS flyer and the safety and installation instructions supplied with your RPS.



WARNING: When powering any Switch 5500 from an RPS, make sure that the unit is earthed (grounded) by either connecting the power cord to the unit or by connecting the earth terminal on the rear of the unit to a reliable electrical earth (or by connecting both). Ensure that the earth connection is made before connecting the DC supply from the RPS.

3Com switches that support -48V DC RPS inputs, and are PoE enabled, can only be powered by an RPS that complies with the isolation requirements of IEEE-Std 802.3af. Non PoE enabled switches do not have this restriction.



WARNING: Do not use a standard 'positive-earthed' -48V redundant power system suitable for use with telecommunications equipment with the 3Com Power-over-Ethernet (PoE) network switches. In order to meet the IEEE 802.3af (PoE) specification, the -48V output must be isolated from earth (ground) and meet the isolation requirements in that specification.



WARNING: Any RPS must be approved as a SELV output in accordance with IEC 60950-1/UL 60950-1/EN 60950-1.



WARNING: The characteristics of the Switch 5500 DC supply input are provided in Appendix C on page 127.

You can power the Switch 5500 using three methods:

- **AC Mains only** — this does not offer any power redundancy. If the AC mains supply or the AC power supply fails, the switch powers off.
- **AC Mains and -48V DC (primary supply)** — the internal AC supply acts as the backup in the event of a DC power failure.
- **DC only** — the switch does not need an AC supply and the resiliency is provided by the DC supply. This is useful in environments where only DC power is available.

The RPS provides three main benefits:

- **Power Redundancy** — if a switch is powered from the mains supply unit, a failure of the internal power supply causes the switch to fail. You can avoid this by connecting both the AC and DC RPS supplies to the switch. You can also add redundancy to the DC power by using (N+1) DC power supplies to further increase the availability of the system.

- **Uninterruptable Power** — the system allows easy connection and maintenance of batteries to the RPS shelf to further increase the availability of the system.
- **Additional Power to PoE Ports** — the PoE switch's internal AC Power Supply provides enough power for most network applications. You can use the RPS to supplement power (up to a maximum of 15.4W), including full backups of all PoE devices on the network.

Table 13 outlines the behavior of the switch when changes occur to the power system, such as removing the AC mains cable when the RPS is attached. The responses to the different power inputs are controlled by the switch's internal power supply and not by the RPS.

Table 13 Switch Power Inputs

Power Input before User Intervention	Power Input after User Intervention	Correct Response
AC mains and RPS	RPS only	The unit remains powered by the RPS.
AC mains and RPS	AC mains only	<p>The unit is powered by the AC mains.</p> <p>PoE is dropped on all ports, however the unit does not reset. PoE restarts and is powered by the remaining power from the AC mains. PoE ports will be dropped depending on their preset priority level.</p> <p>The total power available to the switch may be less than when powered from the RPS. Some PoE ports may be dropped because they are unable to obtain the power they require.</p>
RPS only	AC mains and RPS	The unit remains powered by the RPS.
AC mains	AC mains and RPS	The unit is powered by the RPS. Full PoE power can be enabled on all ports.

**Specifying the
Redundant Power
System**

3Com’s redundant power solution allows you to use any off-the-shelf -48V DC RPS that meets the requirements defined in Appendix C on page 127.

For an approved vendor list, more details about purchasing the 3Com recommended RPS, and a full set of requirements go to:

<http://www.3Com.com/RPS>

The 3Com recommended RPS generates -48V DC power using power supply units (or rectifiers). The outputs of the rectifier(s) are connected together so that you can increase the total -48V power available by adding rectifiers. For example, three 1500W rectifiers can provide up to 4500W. Hot removal or insertion of a rectifier does not affect the -48V DC output voltage.

Table 14 shows an example of the total power available from several 1500W rectifiers.



A minimum of two rectifiers are required for each shelf to provide N+1 rectifier redundancy.

Table 14 Power Availability

	Rectifiers					
	1	2	3	4	5	6
No Rectifier Redundancy	1500W	3000W	4500W	6000W	7500W	9000W
N+1 Rectifier Redundancy	-	1500W	3000W	4500W	6000W	7500W

The unearthed -48V DC power distribution provides the mechanism to connect to the Switch 5500. The distribution consists of several circuit breakers and connection terminals for the positive (common) and negative -48V outputs. Individually connect each Switch 5500 to a circuit breaker terminal.

You can also connect a battery to battery terminals prior to the DC power distribution to provide uninterrupted power and to be protected against the loss of AC mains power.

3Com's RPS solution uses -48V DC power distribution. The RPS system provides bulk -48V DC power that is separately distributed to a number of network switches.

Each RPS consists of a shelf that can house from one to six rectifiers, a Distribution Module, and a Management Module.

Connecting the Switch to the Redundant Power System

When connecting the RPS to the switch, the circuit breaker and 2-core cables need to be matched to the switch's power rating. Table 15 shows the recommended circuit breaker and cable rating for the Switch 5500. The recommended cable length should not exceed three metres (9.84 feet).

Table 15 Switch 5500 Circuit Breaker and Cable Ratings

	Circuit Breaker	Minimum 2-Core Cable Diameter
Non PoE	6A C type	18 AWG (solid or stranded cable)
PoE	25A C type	12 AWG (solid or stranded cable)



WARNING: Make sure to follow the RPS Manufacturers recommendations when connecting the cable to the RPS.

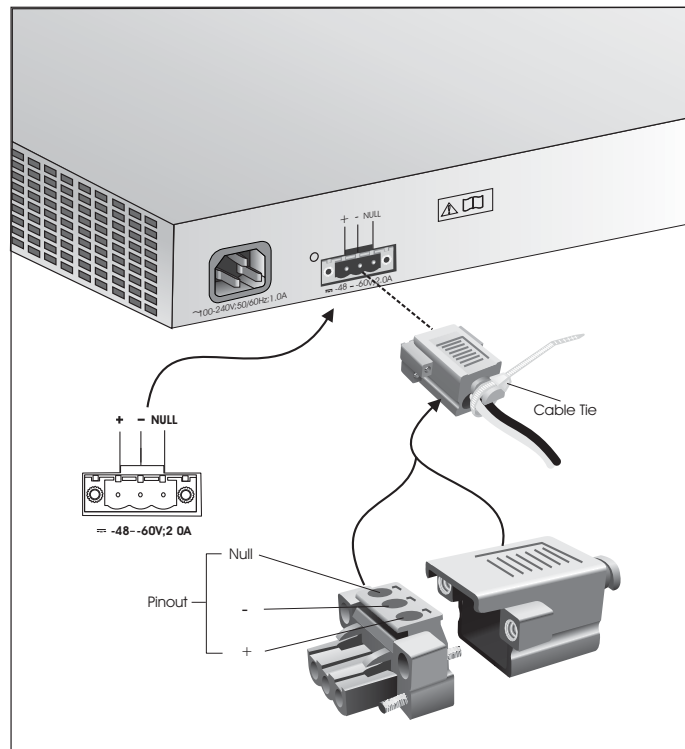


WARNING: Ensure that the circuit breaker in the RPS is in the open (off) position when connecting the cable to the RPS and the cable and connector to the switch.



WARNING: You must ensure that the positive terminal on the switch is connected to the positive (common) terminal of the RPS and that the negative terminal on the switch is connected to the negative (circuit breaker) terminal of the RPS.

Figure 17 shows how to connect the power supply to the RPS socket in the back of the switch. Use the cable tie supplied with your switch to support the cable in the back of the RPS connector as shown in Figure 17.

Figure 17 RPS Connection to the Switch

When the RPS is connected to the switch, you can move the circuit breaker in the RPS to the closed (on) position and the switch will be powered by the -48V DC power.

The -48V DC power takes priority over the AC mains and powers the switch if it is connected.

Connecting the Earthing Cable

Use the earthing cable that accompanies your switch if the length is suitable. Alternatively use the earthing cable specification as defined in Appendix C on page 127.



The earthing cable is only required if the switch is powered by the RPS only.

The recommended cable length should not exceed three metres (9.84 feet).

RPS LED The RPS status LED on the front of the Switch 5500 indicates the status of the RPS and AC supplies as shown in Table 16.

Table 16 RPS LED Colors

Color	State
Green	The AC and RPS supply is connected.
Yellow	The AC supply has failed or is not connected. The RPS supply is connected.
Off	There is no RPS supply connected.

Using Power over Ethernet The Switch 5500G-EI Power over Ethernet (PoE) units can supply power to any IEEE 802.3af compliant device through any of its front panel ports over a Category 5 or Category 5e Ethernet cable. The same cable connects the device to the network.

The Switch 5500 units can supply power through the 10/100 ports only.

Power over Ethernet is a self-configuring protocol. When you plug a PoE compliant device into one of the ports on the switch, the switch supplies the power required to the device, providing that the total power budget for the switch is not exceeded.

A PoE switch combines the functionality of a standard Ethernet switch with a single power supply that can power multiple devices. Using a PoE switch has the following advantages over a non-powered network.

- **Reduced Cabling** — a PoE (802.3af) compliant device that has its power supplied over its Ethernet cable does not require a separate power supply. If, for example, you use the switch to connect a 3Com 11 Mbps Wireless LAN Access Point 8500 to the network, then only a network cable is required to provide both power and network connectivity.
- **Increased Reliability** — a device powered by a PoE switch can take advantage of the facilities available to the switch. You can fit the switch with a redundant power supply or uninterruptible power supply to increase its uptime.

The switch supports resistor detection according to IEEE 802.3af and pre-standard detection methods.



The Switch 5500 supports 3Com 802.3af equipment. For the latest list of supported devices, refer to the product page on the 3Com web site at <http://www.3com.com/>

For additional information on Power over Ethernet, refer to the Power over Ethernet Configuration chapter in the Configuration Guide available on the 3Com Web site. Power over Ethernet management is available using the web interface or the command line interface (CLI).

Installing and Removing the Power Module

Installing the Power Module

The Switch 5500G Family Power Module is swappable. To install the power module:

- 1 Wear an ESD wrist strip, and make that sure it is well grounded.
- 2 Verify that the Power Module is not installed upside-down (the module should be installed according to the letters. If the module is installed upside down, it will not be fully seated due the design of the chassis' internal structure).
- 3 Use one hand to hold the handle on the front, and another to hold the bottom. Slide it gently along the power slot. Push the module until it is fully seated.
- 4 Use a Phillips screwdriver to fasten the screws at both sides of the module.

Removing the Power Module

To remove the Power Module:

- 1 Wear an ESD wrist strip, and make sure it is well grounded.
- 2 Disconnect all power to the switch.
- 3 Use a Phillips screwdriver to unscrew the screws on both sides of the module.
- 4 Use one hand to hold the handle on the front, and another to hold the top. Pull out the module stably towards you along the power slot until it is completely apart from the chassis bottom.



CAUTION: When you use the Phillips screwdriver or power screwdriver to fasten captive screws on both sides of the module, make sure the captive force moment is not larger than 0.4 Nom.

Placing Units On Top of Each Other	<p>If the switch units are free-standing, you can stack up to eight units. If you are mixing a variety of switches, make sure to place the smaller units at the top.</p> <p>If you are stacking switch units, apply the supplied self-adhesive rubber feet to the underside of each switch. Stick one in the marked area at each corner. Place the switch units on top of each other, ensuring that the feet of the upper unit sit fully on the lower unit.</p>
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The Power-up Sequence	<p>The following sections describe how to prepare your Switch 5500 for operation.</p>
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Powering-up the Switch 5500	<p>To power-up the switch:</p> <ol style="list-style-type: none">1 Plug the power cord into the power socket at the back of the switch.2 Plug the other end of the power cord into your power outlet. <p>The switch powers-up and runs through its Power On Self Test (POST), which takes approximately one minute.</p>
------------------------------------	--

Checking for Correct Operation of LEDs	<p>During the POST, all ports on the switch are disabled and the LEDs blink in a rapid sequence.</p> <p>When the POST has completed, check the Unit Status to make sure that your switch is operating correctly. Table 17 describes the possible LED colors.</p>
---	--

Table 17 Unit Status Colors

Color	State
Green	The switch is powered-up and operating normally.
Green flashing	The Power On Self Test (POST) is in process, or software is downloading.
Red	The switch has failed its Power On Self Test (POST).
Off	The switch is not receiving power.

If you encounter a problem, see the section entitled “Solving Problems Indicated by LEDs” on page 82 for a list of suggested solutions.



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

Choosing the Correct Cables

All of the ports on the switch are Auto-MDIX, that is, they have a cross-over capability. These ports can automatically detect whether to operate in MDI or MDIX mode. Therefore, you can make a connection to one of the ports with a straight-through (MDI) or a cross-over (MDIX) cable.



The Auto-MDIX feature only operates with auto-negotiation 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 18.

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

Table 18 Cables required to connect the switch to other devices with auto-negotiation 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, otherwise 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.



WARNING: The Switch 5500G-EI supports Power over Ethernet on all front ports. The Switch 5500 PWR supports Power over Ethernet on the 10/100 ports only. Use these ports for Ethernet wiring within the same building only.

Choosing the Correct Cables for the 1000BASE-X SFP Ports

The 1000BASE-SX SFP transceiver supports a direct connection to a multi-mode fiber-optic cable. The 1000BASE-LX SFP transceiver supports a direct connection to single-mode and multi-mode fiber-optic cables. The 1000BASE-LH70 SFP transceiver supports a direct connection to a single-mode fiber-optic cable. The 1000BASE-T SFP transceiver uses Category 5 copper cabling with RJ-45 connectors and supports segment lengths of up to 100 m (328 ft). Table 14 describes the port cable range for each connection.

Table 19 1000BASE-X SFP Port Cable Range

Fiber Type	Diameter (microns)	Modal Bandwidth (MHz . km)	Transmission Range in meters (in feet)
1000BASE-SX			
Multi-mode	62.5	160	2m - 220m (6.6 ft - 721.8 ft)
Multi-mode	62.5	200	2m - 275m (6.6 ft - 902.3 ft)
Multi-mode	50	400	2m - 500m (6.6 ft - 1640.5 ft)
Multi-mode	50	500	2m - 550m (6.6 ft - 1804.6 ft)
1000BASE-LX			
Multi-mode	62.5	500	2m - 550m (6.6 ft - 1804.6 ft)
Multi-mode	50	400	2m - 550m (6.6 ft - 1804.6 ft)
Multi-mode	50	500	2m - 550m (6.6 ft - 1804.6 ft)
Single-mode	9	-	2m - 10,000m (6.6 ft - 32, 810 ft)
1000BASE-LH70			
Single-mode	9 core	-	2m - 70 km (6.6 ft - 43 miles)

Choosing the Correct Cables for the 100BASE-X SFP Ports

The 100BASE-LX10 SFP transceiver supports a direct connection to a single-mode fiber-optic cable. The 100BASE-FX SFP transceiver supports a direct connection to multi-mode fiber-optic cable. Table 20 describes the port cable range for each connection:

Table 20 100BASE-X SFP Port Cable Range

Fiber Type	Diameter (microns)	Modal Bandwidth (MHz . km)	Transmission Range in meters (in feet)
100BASE-FX 2Km			
Multi-mode	62.5	160	2m - 2000m (6.5 ft - 6,562 ft)
Multi-mode	50	400	2m - 2000m (6.5 ft - 6,562 ft)
100BASE-LX10 10Km			
Single-mode	9	-	2m - 10,000m (6.5 ft - 32, 808 ft)

SFP Operation

The following sections describes how to select and use an SFP transceiver in an SFP port.

Approved 1000BASE-X SFP Transceivers

The approved Gigabit Ethernet SFP transceivers include:

- 3CSFP91 SFP (1000BASE-SX)
- 3CSFP92 SFP (1000BASE-LX)
- 3CSFP93 SFP (1000BASE-T)
- 3CSFP97 SFP (1000BASE-LH70)

3Com may approve additional SFP transceivers following the publication of this document. The latest list of approved SFP transceivers for the Switch 5500 Family is available on the 3Com Web site, at:

<http://www.3com.com>

You must match SFP transceivers with the correct cable type as follows:

- 1000BASE-SX SFP transceiver
Use this transceiver to connect Gigabit Ethernet SFP ports on the switch directly to a multimode fiber-optic cable.
- 1000BASE-LX SFP transceiver
Use this transceiver to connect Gigabit Ethernet SFP ports on the switch directly to a single-mode fiber-optic cable or to a multimode fiber using a conditional launch cable.
- 1000BASE-LH70 SFP transceiver
Use this transceiver to connect Gigabit Ethernet SFP ports on the switch directly to a single-mode fiber-optic cable.
- 1000BASE-T SFP transceiver
This transceiver uses Category 5 copper cabling with RJ-45 connectors and supports segment lengths of up to 100 m (328 ft).



If the SFP transceiver is faulty, it will not operate within the switch. See "Solving Hardware Problems" on page 83.



3Com recommends that you only use Gigabit Ethernet SFPs supplied by 3Com. If the SFP transceiver is invalid it will not be recognized by the switch.

Approved 100BASE-X SFP Transceivers

The following list of approved 100Mbps SFP transceivers is correct at the time of publication.

- 3CSFP81 100BASE-FX
- 3CSFP82 100BASE-LX10
- 3CSFP85 100BASE-BX10-D
- 3CSFP86 100BASE-BX10-U

SFP transceivers must be matched with the correct cable type as follows:

- 100BASE-FX
Use this transceiver to connect 100Mbps SFP ports on the switch directly to a multi-mode fiber-optic cable.
- 100BASE-LX10
Use this transceiver to connect 100Mbps SFP ports on the switch directly to a single-mode fiber-optic cable.
- 100BASE-BX10-D
Use this transceiver to connect 100Mbps SFP ports on the switch directly to a single strand of a single-mode fiber-optic cable on the opposite end of a link that is connected to a 100BASE-BX10-U transceiver.
- 100BASE-BX10-U
Use this transceiver to connect 100Mbps SFP ports on the switch directly to a single strand of a single-mode fiber-optic cable on the opposite end of a link that is connected to a 100BASE-BX10-D transceiver.



If the SFP transceiver is faulty, it will not operate within the switch. See “Solving Hardware Problems” on page 83.



3Com recommends that you only use Gigabit Ethernet and Fast Ethernet SFPs supplied by 3Com. If the SFP transceiver is invalid it will not be recognized by the switch.

Inserting an SFP Transceiver

To activate the SFP ports:



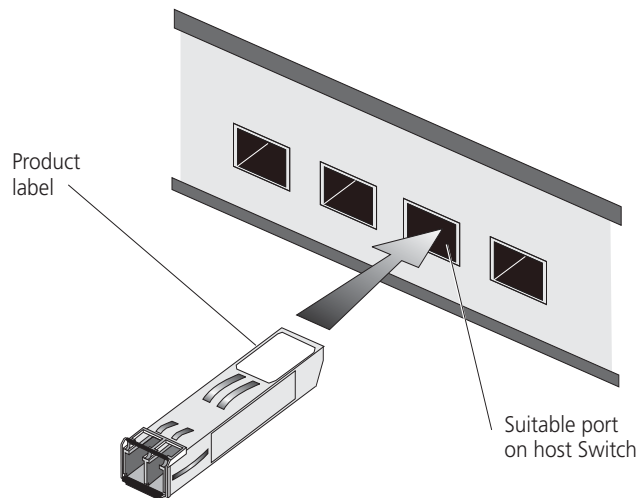
SFP transceivers are hot-insertable and hot-swappable. You can remove them from and insert them into an appropriate SFP port without having to power down the switch.

- 1 The SFP transceiver (shown in Figure 18) is keyed so that there is only one way that you can install it correctly. Hold the transceiver so that the connector is toward you and the product label is visible. Ensure that the wire release lever is closed (in the upright position).
- 2 Gently slide the transceiver into the SFP port until it clicks. If the transceiver does not click into place, remove it, turn it over and re-insert it.
- 3 Remove the plastic protective cover, if fitted.



CAUTION: The dual personality ports on the Switch 5500G-EI enable you to activate an RJ-45 port, an SFP port, or a mixture of both (for example, on the 24 Port switch, you can activate the RJ-45 ports 23 and 24 and the SFP ports 21 and 22 at the same time). If you try to activate the same dual personality RJ-45 port and SFP port (for example, RJ-45 port 23 and SFP port 23 at the same time), the SFP port takes priority.

Figure 18 Inserting an SFP Transceiver



- 4 Check the LEDs on the front of the switch to ensure that it is operating correctly. Refer to the section entitled “LEDs” on page 18 for more information.

Removing an SFP Transceiver

To remove the 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.

Installing and Removing the Optional Interface Module

The Optional Interface Module is hot-swappable. To install the Optional Interface Module:

- 1 Wear an ESD wrist strip that is well grounded and remove the module from the package.
- 2 Using a Phillips screwdriver, remove the blank filler panel from the slot where you plan to install the module.
- 3 Hold the module's front panel with both hands, align the module with the guides in the slot, and slide it gently into the slot. Push the module until it is fully in position.
- 4 Fasten the captive screws to fix the module using the Phillips screwdriver.

Note: Keep the removed blank panel for future use. When you use the Phillips screwdriver or power screwdriver to fasten captive screws on both sides of the module, make sure the captive force momentum is not larger than 0.4 Nm.

To remove the module,:

- 1 Wear an ESD wrist strip that is well grounded.
- 2 Use a Phillips screwdriver to unscrew the captive screws at both sides of the module.
- 3 Pull the module towards you until it is completely apart from the chassis bottom.



CAUTION: When installing and removing an Optional Interface Module, note that:

- Do not exert excessive force on the module or touch the components on the module surface.
- If you are not installing a new module, insert a blank filler panel to keep the dust out and to ensure normal ventilation within the switch.

Packing and Shipping the Switch 5500

This section describes how to correctly package your Switch 5500 should you need to return the switch to 3Com.



WARNING: If you are returning the unit to 3Com for repair, ensure that you fit the rear blanking plates for the PSU and module. If 3Com receives the unit without the blanking plates in place your warranty could be invalidated.



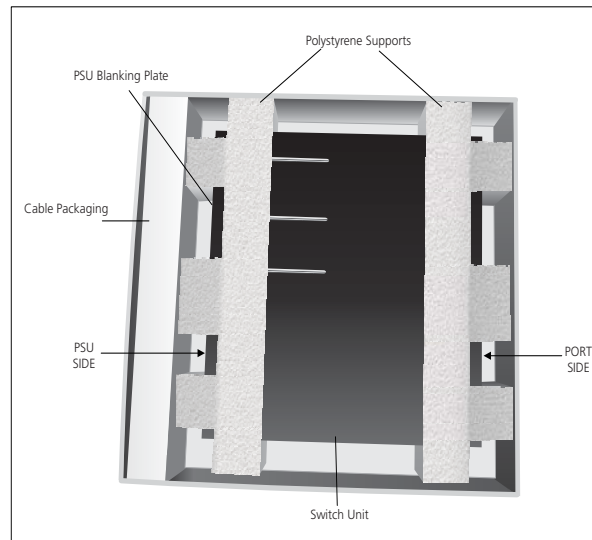
WARNING: Package the unit correctly to ensure that you do not invalidate the repair.

The Switch 5500G

To package your Switch 5500G unit correctly:

- 1 For the 5500G unit, orientate your switch so that the PSU blanking plate is on the left (looking down at the top of the unit) as shown in Figure 19.
- 2 Secure one of the polystyrene supports to side of the unit with the PSU blanking plate, ensuring that the wider recess on the support is fitted around the blanking plate. Secure the remaining support to the opposite side of the unit in the same way.
- 3 Place the unit in the box with the PSU blanking plate side placed next to the cable packaging.

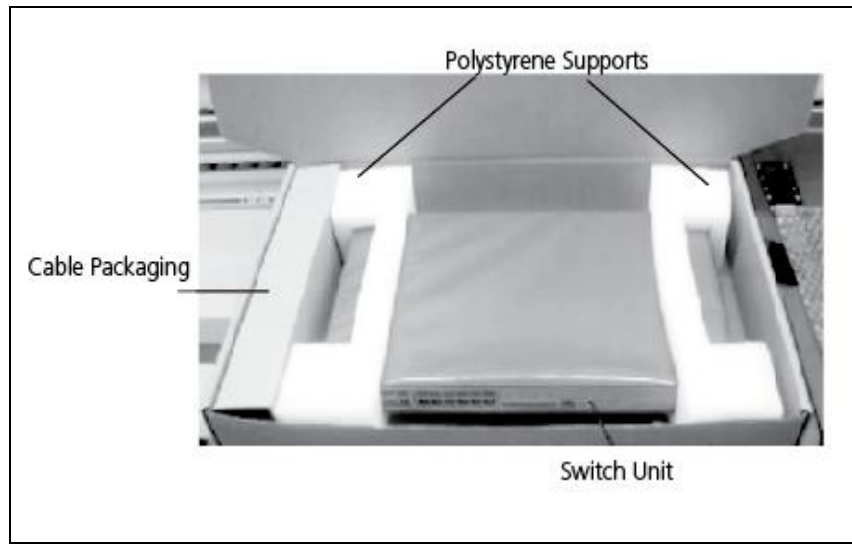
Figure 19 Correct Orientation When Packing the Switch 5500G-EI



**The Switch 5500SI
and EI**

To package your Switch 5500 unit correctly, orient the switch so that the front of the unit faces the front of the box, rather than the right of the box as shown in Figure 20.

Figure 20 Correct Orientation When Packing the Switch 5500SI and 5500EI



**The Switch 5500-EI
PWRs**

The 5500-EI PWRs should be orientated like the 5500G-EI (see Figure 19) and *not* facing forward.

3

SETTING UP FOR MANAGEMENT

To make full use of the features offered by your switch, and to change and monitor the way it works, you use management software that resides on the switch. Managing the switch can help you to improve its efficiency and, therefore, the overall performance of your network.

This chapter explains the initial setup and the methods by which you can access the management software to manage the switch. It includes the following topics:

- Methods of Managing a Switch
- Setting Up Your Switch
- Manually Configuring the IP Information
- Viewing Automatically Configured IP Information
- Setting Up Command Line Interface Management
- Setting Up Command Line Interface Management using SSH
- Setting Up Web Interface Management
- Setting Up SNMP Management
- Changing the Default Passwords
- Downloading the Configuration Conversion Utility

Methods of Managing a Switch

You can manage your switch using one of the following methods:

- Command line interface management
- Command line interface management using SSH
- 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 using a console port connection (see Figure 21), or remotely over the network (see Figure 22).

Figure 21 CLI Management via the Console Port

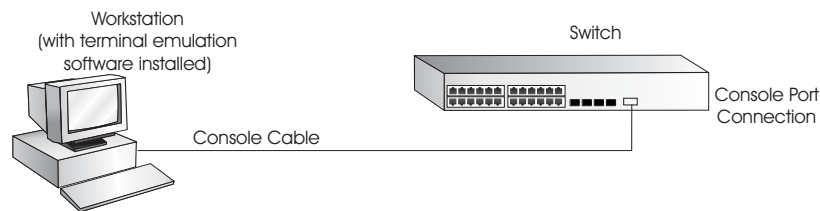
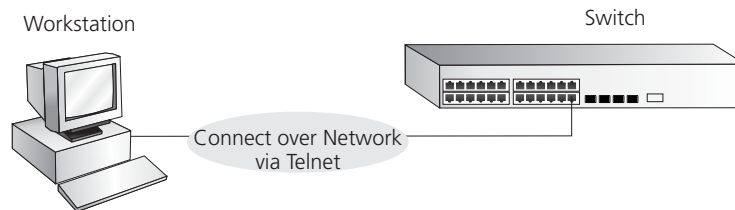


Figure 22 CLI Management over the Network



For a description on how you can set up command line interface management using a local console port connection or over the network, refer to “Setting Up Command Line Interface Management” on page 69.

There are two main views in the CLI:

- **User View** — this view displays when you first connect to the switch and provides basic information about its operation and statistics. The prompt for user view is **<SW5500-XX>** (where xx is either SI or EI).
- **System View** — this view enables you to configure the system parameters. To display this view, from user view enter **system-view**. The prompt for system view is **[SW5500-XX]**.

Command Line Interface Management using SSH

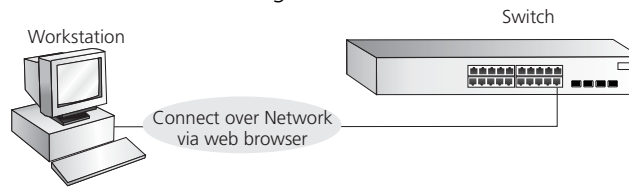
The Switch 5500 supports Secure Shell version 2.0 (SSHv2), allowing secure access to the Command Line Interface of the switch.

If you use SSH to administer your switch, and the network traffic is intercepted, no passwords or configuration information are visible in the data. To securely administer the switch using the Command Line Interface you need a third party SSH client.

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 23).

Figure 23 Web Interface Management over the Network

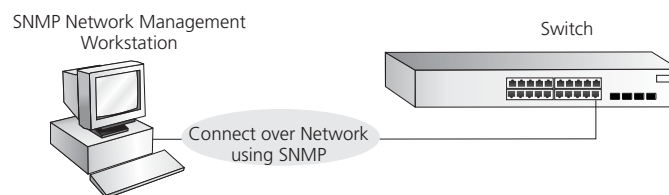


For more information about how to set up web interface management over the network, refer to "Setting Up Web Interface Management" on page 71.

SNMP Management

You can manage a switch using any network management workstation running the Simple Network Management Protocol (SNMP) as shown in Figure 24. For a description of 3Com Network Management applications, please refer to Appendix E.

Figure 24 SNMP Management over the Network



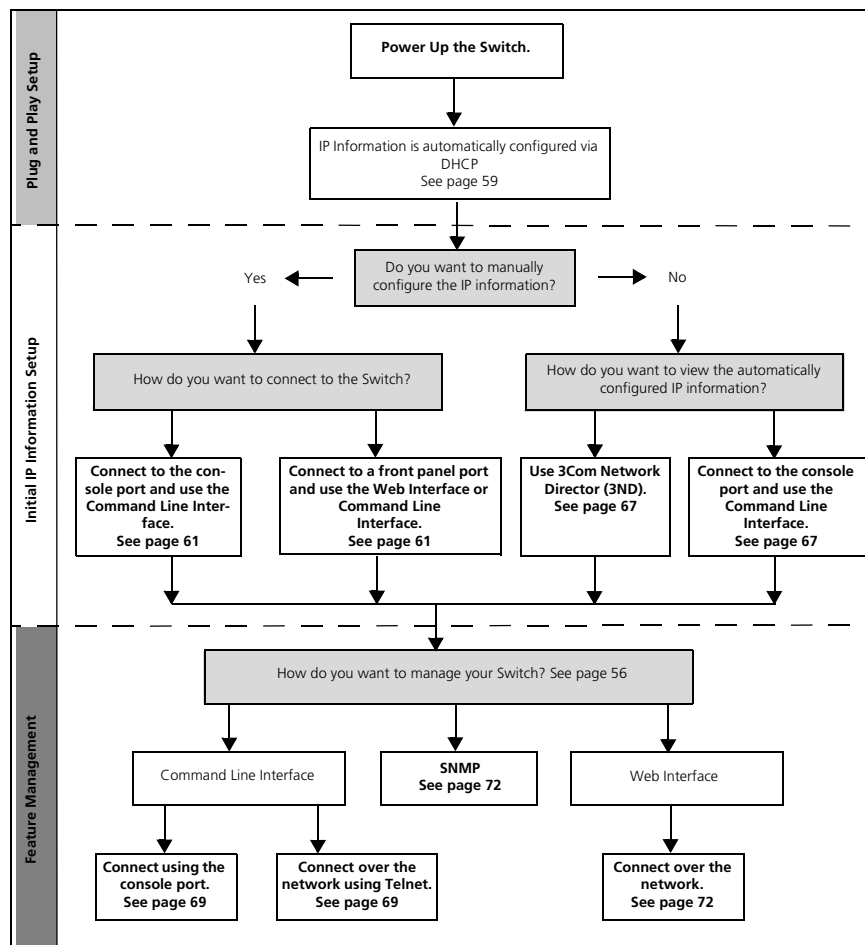
For more information about managing your switch using a network management application, refer to "Setting Up SNMP Management" on page 72.

Setting Up Your Switch

This section provides an overview how to set up your switch and manage that switch when it is in its default state. Figure 25 summarizes the setup process. Detailed steps are provided in the sections that follow. In brief, you need to:

- Manually configure the IP information for your switch or view the automatically configured IP information.
- Prepare for your chosen method of management

Figure 25 Initial Switch Setup and Management Process





CAUTION: To protect your switch from unauthorized access, you must change all three default passwords as soon as possible, even if you do not intend to actively manage your switch. For more information on the default user names and changing the default passwords, see “Changing the Default Passwords” on page 73.

IP Configuration

You can use one of the following methods to provide IP information to your switch. This step is essential if you wish to manage your switch over the network.

Manual IP Configuration

When you configure the IP information, the switch retains that information that you enter until you change it again.

You should use the Manual IP configuration method if:

- you do not have a DHCP or BootP server on your network
- you want to remove the risk of the IP address ever changing
- your DHCP or BootP 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.



For most installations, 3Com recommends that you manually configure the switch's IP information. This makes management simpler and more reliable since it does not depend on a DHCP or BootP server. It also eliminates the risk of the IP address changing.

To manually enter the switch's IP information, refer to the section entitled “Manually Configuring the IP Information” section on page 61.

Automatic IP Configuration using DHCP

By default, the switch automatically attempts to acquire its IP address from a DHCP server on the network. If you are using this method, make sure your DHCP server assigns the switch a static IP address so that you know what that IP address will be at all times.

If you do not know what the IP address is and it will be difficult to manage your switch. Most DHCP servers allow static IP address configurations. Refer to your DHCP server documentation for instructions.



For a detailed description of how automatic IP configuration operates, refer to the “Switch 5500 Family Configuration Guide” available on 3Com’s Web Site at www.3com.com.

You should use the automatic IP configuration method if:

- your network uses DHCP to allocate IP information
- the switch is deployed on a different subnet. In this case, the switch will automatically reconfigure itself with an appropriate IP address, rather than you having to manually reconfigure the switch.



If the switch is not allocated with an automatic IP address, the IP configuration will be blank or shown as ‘ ‘ ‘ ‘.

If you use the automatic IP configuration method, you need to discover the automatically allocated IP information before you can begin management. Refer to the section entitled “Viewing Automatically Configured IP Information” section on page 67.

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 56.



For detailed information about the specific Web interface operations, command line interface commands, and problem solving, refer to the “Switch 5500 Family Command Reference Guide” available on 3Com Web Site at www.3com.com.

Manually Configuring the IP Information

You can manually configure the switch's IP information by:

- Connecting a workstation using a console cable to the switch's console port. You can then manually enter IP information using the command line interface (CLI).
- Connecting a workstation using an Ethernet cable to a front panel port of the switch. You can then manually enter IP information using the web interface or the command line interface (CLI).

Connecting to the Console Port

To set up your switch manually, you can connect to the console port, (this example describes a local connection to the console port, rather than one using a modem). You can do this while the switch is offline (before you connect the switch to a network) or while the switch is online (connected to a network).

Prerequisites

Before configuring your switch, make sure that you have:

- A workstation with terminal emulation software installed, such as Microsoft Hyperterminal. This software allows you to communicate with the switch using the console port directly.
- Documentation supplied with the terminal emulation software.
- The console cable (RJ-45) supplied with your switch.



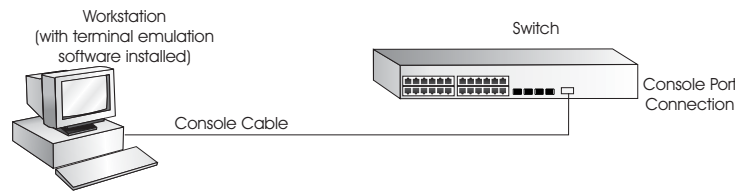
The cable's pin-out diagrams are provided in "Pin-outs" on page 123.

- An IP address
- A subnet mask
- A default gateway
- A management VLAN ID, normally set to the default value (1)

Connecting the Workstation to the Switch

- 1 Connect the workstation to the console port using the console cable as shown in Figure 26.

Figure 26 Connecting a Workstation to the Switch via the Console Port



To connect the cable:

- a Attach the RJ-45 connector on the cable to the switch's console port.
 - b Attach the other end of the cable to the workstation and tighten the retaining screws on the cable to prevent it from loosening.
- 2 Open your terminal emulation software and configure the COM port settings to which you have connected the cable. Make sure that the settings match the switch's default settings, which are:
 - 19,200 baud (bits per second)
 - 8 data bits
 - no parity
 - 1 stop bit
 - no hardware flow control

Refer to the terminal emulation software's documentation for more information about these settings.

- 3 Power up the switch. The switch performs its Power on Self Test (POST).

Setting Up the Switch with IP Information

To manually set up the switch with IP information using the command line interface, perform the following steps.

- 1 The command line interface login sequence begins as soon as the switch detects a connection to its console port. If the login prompt does not begin immediately, press *Return* a few times until it starts.
- 2 At the Username prompt, enter **admin** as your user name and press *Return*. At the password prompt press *Return* again. Either <500G-EI>

or <5500-xx> displays (where xx is either SI or EI) as shown in Figure 27.



Once you have logged into the switch, you are automatically in User View.

Figure 27 User View Login

```
*****
*      All rights reserved (1997-2005)      *
*      Without the owner's prior written consent,      *
*no decompiling or reverse-engineering shall be allowed.*
*****

Login authentication

Username:admin
Password:
<4500>
%Apr 5 17:22:13:289 2000 4500 SHELL/5/LOGIN:- 1 - admin(161.71.164.118) in unit
1 login_
```

- 3 Enter the **system-view** command and press *Enter*. The [5500-xx] prompt displays (where xx is either SI or EI)
- 4 Enter **interface vlan 1** and press *Enter*.
- 5 Enter the IP address and subnet mask for the switch as follows:
ip address xxx.xxx.xxx.xxx mmm.mmm.mmm.mmm
 and press *Enter*.
 (where xxx.xxx.xxx.xxx is the IP address and mmm.mmm.mmm.mmm is the switch's subnet mask)
- 6 Enter the **quit** command to exit System View (and return to User View) and then enter the switch's default gateway using the following command:
ip route-static 0.0.0.0 0.0.0.0 xxx.xxx.xxx.xxx
 (where xxx.xxx.xxx.xxx is the default gateway's IP address)
- 7 From User View, enter the **save** command to save the configuration to your switch (the configuration is not saved automatically when the switch is powered down).

You can now set up your switch management method. See "Methods of Managing a Switch" on page 56 to determine which method is best for you. If you do not intend to use the command line interface through the

console port to manage the switch, you can disconnect the serial cable and close the terminal emulator software.

Connecting to a Front Panel Port

To set up your switch manually you can, alternatively, make a connection to a front panel port. To do this you need an IP address. Refer to “Viewing Automatically Configured IP Information” on page 67 for more information.



The procedure described in this section assumes the unit is powered up in standalone mode.

Prerequisites

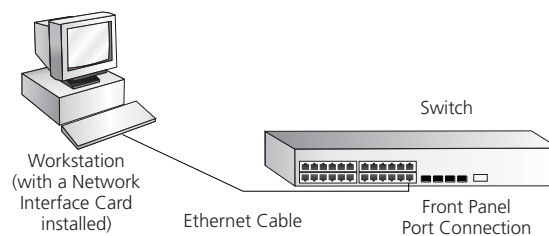
Before configuring your switch, make sure that you have:

- A workstation running a suitable operating system. Refer to “Choosing a Browser” on page 71.
- A Network Interface Card (NIC).
- A Category 5 twisted pair Ethernet cable with RJ-45 connectors at both ends.
- A suitable Web browser. Refer to “Choosing a Browser” on page 71.
- The switch’s IP address.
- An IP address
- A subnet mask
- A default gateway
- A management VLAN ID, normally set to the default value (1)

Connecting the Workstation to the Switch

- 1 Connect the workstation to a front panel port using an Ethernet cable as shown in Figure 28.

Figure 28 Connecting a Workstation to the Switch through a Front Panel Port



To connect the cable:

- a Attach an RJ-45 connector at one end of the Ethernet cable to the Network Interface Card (NIC) in the workstation.
- b Connect the RJ-45 connector at the other end of the cable to one of the front panel ports on the switch.



Do not interconnect the switch to any other unconfigured switch.

Setting Up the Switch with IP Information

You can set up the switch with IP information using the Web interface or the command line interface (CLI) using telnet.

Using the Web Interface

- 1 Power-up the switch. This takes approximately one minute.
- 2 Open a suitable Web browser and enter your switch's IP address in the *Address* field.



If there is no response, wait for one minute then re-enter the IP address.



*If your browser displays an option to install simplified Chinese characters, click **Cancel** to continue (do not install these characters).*

- 3 At the Username prompt, enter **admin** as your user name and press *Return*. At the password prompt press *Return* again. The switch's Device View displays.
- 4 To enter basic setup information for the switch, select *Administration > IP Setup* and follow the wizard screens to enter the IP address and subnet mask that you want the switch to use when it is connected to the network. The final page displays a summary of the information entered.
- 5 Select *Save Configuration* to save the configuration to your switch.

You can now set up your switch management method. See "Methods of Managing a Switch" on page 56 to determine which method is best for you.

Using the Command Line Interface through Telnet

- 1 To start a Telnet session to the unit, from Microsoft Windows, click *Start > Run*. In the *Open* field type **Telnet xxx.xxx.xxx.xxx** (where xxx.xxx.xxx.xxx is the switch's IP address) and click *OK*.

- 2 Press *Enter* to open a login prompt.



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

- 3 At the Username prompt, enter **admin** as your user name and press *Return*. At the password prompt press *Return* again. If you have logged on correctly, <5500G-El> or <5500-xx> is displayed (where xx is either SI or El) as shown in the example in Figure 29.

Figure 29 User View Login using Telnet

```
*****
*      All rights reserved (1997-2005)      *
*      Without the owner's prior written consent,      *
*no decompiling or reverse-engineering shall be allowed.*
*****

Login authentication

Username:admin
Password:
<4500>
%Apr  5 17:22:13:289 2000 4500 SHELL/5/LOGIN:- 1 - admin<161.71.164.118> in unit
1 login_
```

- 4 Enter the **system-view** command and press *Enter*.
- 5 Enter **interface vlan 1** and press *Enter*.
- 6 Enter the IP address and subnet mask for the switch as follows:

```
ip address xxx.xxx.xxx.xxx mmm.mmm.mmm.mmm
```

(where xxx.xxx.xxx.xxx is the IP address and mmm.mmm.mmm.mmm is the subnet mask of the switch)

- 7 Enter the default gateway for the switch:

```
ip route-static 0.0.0.0 0.0.0.0 xxx.xxx.xxx.xxx
```

(where xxx.xxx.xxx.xxx is the IP address of the default gateway)

- 8 From the User View, enter the **save** command to save the configuration to your switch because the configuration is not saved automatically when you power down the switch.

You can now set up your switch management method. See “Methods of Managing a Switch” on page 56 to determine which method is best for you.

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 Director to auto-discover the switch and display the automatically allocated IP information assigned to the switch.
- Connect a workstation using a console cable to the switch’s console port. You can then view the IP information automatically assigned to the switch using the command line interface (CLI).

Using 3Com Network Director

To use the 3Com Network Director application (available from the 3Com Web site) 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 Director and run the Auto-discovery wizard.

3Com Network Director automatically discovers the new switch and displays the IP information allocated to the switch.



Most DHCP and BootP servers allow you to configure static IP addresses so that you know what IP address is given to the switch. Refer to the documentation that accompanies your DHCP or BootP server for instructions.



If your network does not have a DHCP or BootP server, the workstation running 3Com Network Director must be on the same subnet as the switch because Auto-IP addresses are non-routable.

Connecting to the Console Port

You can view the automatically configured IP information using 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 connection using a modem. For further information on connecting to the console port see “Connecting the Workstation to the Switch” on page 62.

Viewing IP Information via the Console Port

To view the automatically-allocated IP information using the command line interface:

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



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.



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

- 3 At the username prompt, type **admin** and press *Return*. Press *Return* again at the password prompt. If you have logged on correctly, **<500G-EI>** or **<5500-xx>** is displayed (where **xx** is either **SI** or **EI**) as shown in the example in Figure 30.

Figure 30 User View Login

```
*****
* All rights reserved (1997-2005) *
* Without the owner's prior written consent, *
* no decompiling or reverse-engineering shall be allowed.*
*****

Login authentication

Username:admin
Password:
<4500>
%Apr 5 17:22:13:289 2000 4500 SHELL/5/LOGIN:- 1 - admin<161.71.164.118> in unit
1 login_
```

- 4 Enter **display ip interface br** to view a summary of allocated IP addresses.

You can now set up your switch management method. See “Methods of Managing a Switch” on page 56 to determine which method is best for you.

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

Setting Up Command Line Interface Management

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

User Interface Overview

The switch provides a user interface so that you can configure and manage the port data. There are two types of user interfaces, AUX and VTY:

- Use the AUX user interface to log into your switch through the console port. A fabric can have up to eight AUX user interfaces.
- Use the VTY user interface to Telnet to the switch. The switch can have up to five VTY user interfaces.

CLI Management through the Console Port

To manage a switch using the command line interface through the local console port connection, ensure that you have connected your workstation to the console port as described in “Connecting to the Console Port” on page 61.

You can now continue to manage and configure your switch using the CLI through its console port.

CLI Management over the Network

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

- 1 Ensure that you have already set up the switch with IP information as described in “Methods of Managing a Switch” on page 56.
- 2 Check that the IP protocol is correctly installed on your management workstation. You can check this by trying to browse the World Wide Web. If you can browse, the IP is installed correctly.
- 3 Check that you can communicate with the switch by entering a **ping** command at the DOS prompt in the following format:

```
c:\ ping xxx.xxx.xxx.xxx
```

(where xxx.xxx.xxx.xxx is the switch's IP address)

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

- 4 To open a Telnet session, from 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)



If you are opening a Telnet session using third party software, you must enter the IP address in the format suitable for that software.

- 5 At the Username prompt, enter **admin** as your user name and press *Return*. At the password prompt press *Return* again. (or enter the password if you have modified the default passwords).



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

- 6 If you have logged on correctly, the switch prompt display as <5500G-El> or <5500-xx> (where xx is either SI or EI, as shown in Figure 27 on page 63).

Setting Up Command Line Interface Management using SSH

This section describes to can set up command line Interface management using SSH over a network.

To manage a switch through the command line interface over a network using SSH:

- 1 Ensure that you have set up the switch with IP information as described in "Methods of Managing a Switch" on page 56.
- 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 is installed correctly.
- 3 Check that you can communicate with the switch by entering a **ping** command at the DOS prompt in the following format:

```
c:\ 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 that the switch is powered up.



The switch automatically generates a host key pair when it is powered up for the first time, or after any reset to factory defaults. Host key generation may take a while, during which time SSH connections to the switch will be refused.

- 4 Install an SSH client application on the workstation from which you want to use to access the switch.



3Com recommends the PuTTY, OpenSSH, and SSH Communications Security Corp Secure Shell SSH clients.

- 5 Open an SSH session and access the switch using the switch's IP address and port number.



The first time you connect to the switch, the client asks you to confirm that the host key is correct for the device.

- 6 The switch and the SSH client authenticate each other and a secure connection is established. Enter your username and password to access the CLI commands.



For increased security, you should change the default password when using SSH for the first time.



For further information on generating a host key on your switch and transferring keys to the switch using TFTP server, refer to the Configuration Guide.

Setting Up Web Interface Management

This section describes how to set up Web interface management over the network.

Prerequisites

Before setting up Web interface management, make sure that:

- You have already set up the switch with IP information as described in "Methods of Managing a Switch" on page 56.
- The switch is connected to the network using a Category 5 twisted pair Ethernet cable with RJ-45 connectors.
- You have a suitable Web browser (see Table 21).

Choosing a Browser

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

Table 21 Supported Web Browsers and Platforms

	Windows 2000	Windows XP	Windows Server 2003	Red Hat Linux 9	Solaris 7/9
Netscape 7.1	✓	✓	✗	✗	✓
Internet Explorer 5.5	✓	✓	✓	✗	✗
Internet Explorer 6.0	✓	✓	✓	✗	✗
Mozilla 1.4	✗	✗	✗	✓	✓

For the browser to operate the Web interface correctly, make sure that JavaScript™ and Cascading Style Sheets are 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 correct IP information configured on your management workstation. You can check this by trying to browse the World Wide Web. If you can browse, the IP is installed.
- 2 Check that you can communicate with the switch by entering a **ping** command at the DOS prompt in the following format:


```
c:\ 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 that the switch is powered up.
- 3 Open your Web browser and enter the switch's IP address in the URL locator, for example, in the following format:


```
http://xxx.xxx.xxx.xxx
```
- 4 At the Username prompt, enter **admin** as your user name and press *Return*. At the password prompt press *Return* again. (or enter the password if you have modified the default passwords).
- 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 management workstation is connected to the switch using a port on the management VLAN. By default, the management VLAN is 1, and all ports on the switch are in VLAN 1



You can use the 3Com Network Director, Device manager, EMC and the OV integration kit (available from 3Com's Web site) to provide SNMP management for your switch. 3Com Network Director, Device manager, EMS, and OV integration kit automatically loads the correct MIBs and necessary files onto your workstation.

Prerequisites

The default read community string is **public**. To change this setting, in System View, enter **display snmp community**.

The default write community string is **private**. To change this setting, in System View, enter **display snmp community**.

To manage your switch using an SNMP network management application, you need to specify the same SNMP community strings for the users defined on the switch and the management application.

*You can do this using the command line interface **system management snmp community** command. Refer to the command line interface section of the "Switch 5500 Family Command Reference Guide" for more information.*



SNMP V3 is on as default. All commands are in the SNMP menu in System View.

Changing the Default 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 three default user names, and each user name has a different password and access level. These default users are listed in Table 22.



CAUTION: *To protect your switch from unauthorized access, you should change all three default passwords as soon as possible, even if you do not intend to actively manage your switch.*

Table 22 Default Users

User Name	Default Password	Access Level
monitor	monitor	This user can view all manageable parameters, except special/security features, but cannot change any manageable parameters
manager	manager	This user can access and change the operational parameters, but not special/security features
admin	(no password)	This user can access and change all manageable parameters



*Use the **admin** default user name (no password) to login and perform the initial switch setup.*

To set a password for the admin user in the CLI, enter the following from System View:

```
[5500-xx]local-user admin <cr>  
[5500-xx-luser-admin]password simple xxxxxxxx
```

(where **xxxxxxx** is your chosen password).

Save the configuration in the User View.



For information on the lost password procedure refer to the Configuration Guide.

Downloading the Configuration Conversion Utility

The 3Com Switch 5500 Configuration Conversion Utility (CCU) enables you to convert the key configuration parameters from a range of 3Com devices to the configuration file format used by your Switch 5500. The utility provides conversion for several switch features

You can download the CCU package from 3Com's Web site at:

<http://www.3com.com/switchmigration/>

4

CREATING AN XRN STACKING FABRIC

This chapter contains the information you need to create an XRN Stacking Fabric. It covers the following topics:

- How To Interconnect Units
- Guidelines For Interconnecting Units
- Unit Numbering within the Fabric

How To Interconnect Units

Up to eight 3Com Switch 5500 units can be interconnected to create an XRN Stacking Fabric and then treated as a single manageable unit with one IP address.

You can interconnect your switches to create an XRN Fabric using a standard 1000 Mbps Ethernet connection. Table 23 lists the different variants of the Switch 5500 family, how they physically interconnect and the level of XRN support offered by the Fabric.



It is not possible to create a Fabric by interconnecting a 3Com Switch 5500 with any other 3Com device (such as a 5500G-EI) or mix Enhanced Image (EI) Switch 5500 units with Standard Image (SI) units.



This section assumes you have either set up your units for management as detailed in Chapter 3 "Setting Up SNMP Management" or that you are using a console cable connected to the console port to set up and allocate IP addresses and so on.



For more information on creating an XRN Fabric, refer to the Installation Guides that accompany the stacking cable (3C17262) and the resilient stacking cable (3C17263).

Table 23 SuperStack 4 Switch 5500 Support for XRN Distributed Fabric

Switch	Port used	XRN support
Switch 5500-SI 28-Port (3CR17151-91)	Ports 27 (up port) and 28 (down port) using a 1000 Mbps SFP transceiver	Supports DDM and DLA*
Switch 5500-SI 52-Port (3CR17152-91)	Ports 51 (up port) and 52 (down port) using a 1000 Mbps SFP transceiver	Supports DDM and DLA*
Switch 5500-EI 28-Port (3CR17161-91)	Ports 27 (up port) and 28 (down port) using a 1000 Mbps SFP transceiver	Full XRN functionality
Switch 5500-EI 52-Port (3CR17162-91)	Ports 51 (up port) and 52 (down port) using a 1000 Mbps SFP transceiver	Full XRN functionality
Switch 5500-EI PWR 28-Port (3CR17171-91)	Ports 27 (up port) and 28 (down port) using a 1000 Mbps SFP transceiver	Full XRN functionality
Switch 5500-EI PWR 52-Port (3CR17172-91)	Ports 51 (up port) and 52 (down port) using a 1000 Mbps SFP transceiver	Full XRN functionality
Switch 5500-EI FX 28-Port (3CR17181-91)	Ports 27 (up port) and 28 (down port) via 10/100/1000BASE-T ports	Full XRN functionality
Switch 5500G-EI 24-Port (3CR17254-91)	Two dedicated stacking cable ports (one 'up' and one 'down') on the rear of the unit.	Full XRN functionality
Switch 5500G-EI 48-Port (3CR17255-91)	Two dedicated stacking cable ports (one 'up' and one 'down') on the rear of the unit.	Full XRN functionality
Switch 5500G-EI SFP 24-Port (3CR17259-91)	Two dedicated stacking cable ports (one 'up' and one 'down') on the rear of the unit.	Full XRN functionality

* Distributed Device Management and Distributed Link Aggregation

Stacking Switch 5500 Units

- 1 Ensure that the switch units that you wish to interconnect have the latest software agent installed. You can use the **display version** command to check this.
- 2 Enable the 'up port' and the 'down port' on each switch (see Table 23) to operate in Fabric mode using the following CLI command. From the System View enter **fabric-port gigabitethernet 1/0/51 enable**, for example.



As with all Switch 5500 CLI commands, the format for entering a command that is port specific is x/y/z, where x = unit number, y = module number (in the case of the Switch 5500 this will always be 0), z = port number.

- 3 Connect the Fabric-enabled 'up' port on one Switch 5500 unit to the Fabric-enabled 'down' port on another Switch 5500 unit using the appropriate connection method for your switch as detailed in Table 23.
- 4 To create a fully resilient Fabric: enable the spare Fabric ports on the top-most and bottom-most units in the Fabric as described in the previous steps. Then insert a cable into these two Fabric ports to create a link between the top-most and bottom-most units in the Fabric, as shown in Figure 31 on page 79.

This ensures that in the event of a unit failure within the Fabric, the Fabric will continue working and no "Fabric split" will occur.

Save all configuration settings. From the User View, enter the **save** command to save the configuration to your switch.

Stacking Switch 5500G-EI Units

- 1 Ensure that the switch units that you wish to interconnect have the latest software agent installed. You can use the **display version** command to check this.
- 2 Connect the stacking cable 'up' port on one Switch 5500G-EI unit to the stacking cable 'down' port on another Switch 5500G-EI unit using a stacking cable (3C17262) or a resilient stacking cable (3C17263).



Note the color code on the stacking cable connectors should match the color code on the stacking ports, that is, blue for the 'up' port that is connecting to the physically higher unit, and yellow for the 'down' port that is connecting to the physically lower unit.

- 3 To create a fully resilient Fabric: using the 'up' stacking cable port on the top-most and the 'down' stacking cable port on the bottom-most units insert a stacking cable to create a link between the top-most and bottom-most units in the Fabric, as shown in Figure 31 on page 79.

This ensures that in the event of a unit failure within the Fabric, the Fabric will continue working and no "Fabric split" will occur.

- 4 Save all configuration settings. From the User View, enter the **save** command to save the configuration to your switch.

Guidelines For Interconnecting Units

This section offers some guidelines for creating a Fabric. Using these guidelines will help prevent problems arising when setting up your Fabric.

- The maximum number of switch units that can be interconnected is eight.
- It is not possible to create a Fabric by interconnecting a 3Com Switch 5500 with any other 3Com device (such as a 5500G-EI) or mix Enhanced Image (EI) Switch 5500 units with Standard Image (SI) units.
- 3Com strongly recommends that you upgrade all switches to be interconnected to the latest software agent.
- 3Com recommends that you remove the configuration file from a switch unit that has previously been used elsewhere in your network before you interconnect to an existing unit. If you do not do this, problems may be caused by conflicting switch configurations. Use the **dir** command from the User View to display the configuration files stored on the switch and locate the `[filename].cfg` file. Do **NOT** under any circumstances remove the `3comoscfg.def` file (this is the default configuration file).



For a detailed description of how XRN Technology operates and implementation guidelines, refer to the "Switch 5500 Family Configuration Guide" available on the 3Com Web Site at www.3com.com.

Unit Numbering within the Fabric

When a Fabric is created using the Switch 5500 the unit numbering can be determined in two ways.

- You can manually assign unit IDs 1 to 8 to specific units using the `change[self-unit, unit-id] to [1-8, auto-numbering]` command from the System View. If you manually assign unit IDs to a switch via the `change` command the IDs will be retained after a power cycle.

If you add a unit to a Fabric that has previously been manually configured with a unit ID and this conflicts with an ID already within the Fabric, then the switch with the lowest MAC address assumes the ID in question and the other unit will automatically renumber.



3Com recommends that you manually assign the unit IDs within the Fabric if you wish to have predictability of knowing which units have which IDs at all times.

- Fabric topology is 'discovered' and the units auto-number their IDs.

Adding and removing units from the Fabric does not cause any renumbering to occur and the Fabric will continue to work normally. Renumbering only occurs when the Fabric is next power cycled if the units are configured to auto-number.

The unit LEDs will display the unit number in the Fabric, from 1 to 8.

Figure 31 Resilient Fabric example (using 4 Switch 5500G-EI units)

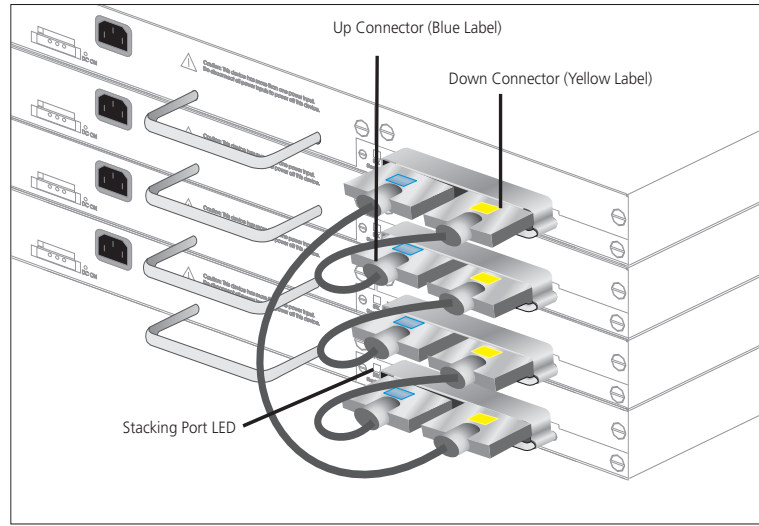
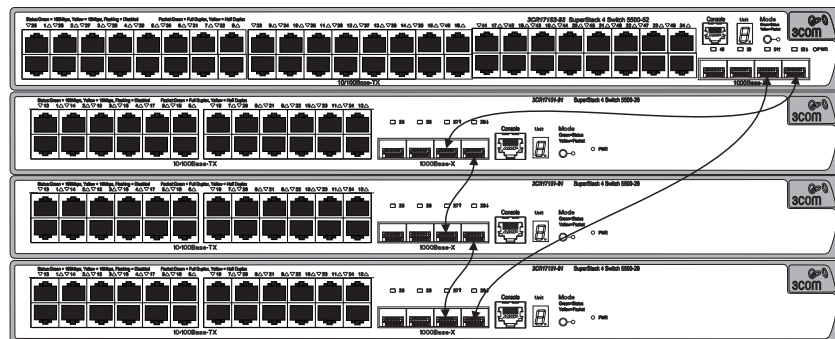


Figure 32 Resilient Fabric example (using 4 Switch 5500-EI units)



If you are having problems, refer to "Solving Fabric Formation Problems" on page 86.

5

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 and upgrading software.

The topics covered are:

- Solving Problems Indicated by LEDs
- Solving Hardware Problems
- Solving Communication Problems
- Solving Fabric Formation Problems

If you experience a problem that is not listed here, it may be included in the Support section of the Switch 5500 Family Command 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 PWR 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. Firstly, 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 PWR LED lights Red

The switch unit has failed its Power On Self Test (POST) because of an internal problem. The fault type will be indicated on the unit LEDs. Contact your supplier for advice.

On powering-up, the PWR LED is flashing yellow

A port has failed and has been automatically disabled. You can verify this by checking that the Port LED is quickly flashing Yellow. If a port fails, the switch passes its Power On Self Test and continues to operate normally.

A Port LED is flashing 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 Port LED 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 or 100BASE-T where auto-negotiation is disabled and incorrect cables are being used (cross-over or straight)

Auto-negotiation problems will occur with fiber if:

- The Receiver (RX) and Transceiver (TX) cable connectors are swapped
- Fibers are broken
- Auto-negotiation differs at either end (a link appears at the 'fixed' end and not at the auto-negotiation end)

Solving Hardware Problems

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

A fan failure warning message is received

Your switch has a fan monitoring system that will generate fan failure warning messages. Fan failure could potentially reduce the lifetime of the switch. The monitoring system polls the fan status at periodic intervals while the unit is powered up.

If one fan has failed in the switch, a warning message will be generated in the following ways:

- **Unit LED** — the seven segment display will show a green flashing 'f'.
- **RMON Trap** — if configured, an RMON trap is generated and sent to the management workstation.
- **Command Line Interface** — an indication of a general hardware failure is provided through the Top level menu displayed when logging on to the CLI. For more detailed information about the failure select the **display logbuffer** command.
- **Web interface** — an indication of fan failure is provided through the Device Summary table for the specific unit. In addition all Summary tables turn red to indicate the fan failure.

If a fan failure warning message is generated:

- 1 Power off the unit.
- 2 Check that the air vents are not obstructed.

- 3 Power cycle the unit. To do this, remove and reconnect the AC mains supply. If the unit has no AC main supply, remove and reconnect the DC RPS supply.
- 4 If another fan failure warning message is generated via the Command Line Interface or the Web interface, return the unit to 3Com.

Unit fails, no SNMP fan failure message is received

- 1 Power cycle the unit. To do this, remove and reconnect the AC mains supply. If the unit has no AC mains supply, remove and reconnect the DC RPS supply.
- 2 Check the command line interface (**display logbuffer** command) to determine whether a thermal shutdown has occurred.
- 3 If no, return the unit:
If yes, check that:
 - The air vents are not obstructed.
 - The ambient temperatures and environmental conditions meet those specified in Appendix C on page 127.
- 4 Power cycle the unit. If a further thermal shutdown occurs, and all environmental conditions are satisfactory, return the unit to 3Com.

Error message indicating that the SFP transceiver is invalid

The switch has identified that the SFP does not meet the minimum requirements for the switch and has disabled the port. To correct this problem, completely remove the SFP and replace it with a 3Com approved SFP. See “Approved 1000BASE-X SFP Transceivers” on page 47 and “Approved 100BASE-X SFP Transceivers” on page 48.

Error message indicating that the SFP transceiver is faulty

To correct this problem, completely remove the SFP and then reinsert it. Alternatively, insert another identical SFP. If the problem persists, contact 3Com Technical Support.

Solving Communication Problems

- If you experience communication problems with the switch, ensure that:
- The switch IP address and management VLAN ID has been configured.

- 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 Director).

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.

InterNIC Registration Services 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.internic.net>**

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.



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

A device is connected to a Switch 5500-EI PWR or Switch 5500G-EI but power is not being supplied

If power is not being supplied to a device connected to a Switch 5500 PWR, you should do the following checks:

- Check that the device is compliant with the 802.3af standard ref. [18].
The 5500-EI PWR will supply power through the front panel ports to 802.3af compliant and many pre-standard devices.
- Check that 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 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 PoE 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 on it.



The Switch 5500 PWR units do not provide PoE on the Gigabit SFP ports.

Solving Fabric Formation Problems

If you are having problems with correctly forming a fabric, first ensure that Spanning Tree is enabled. If it is enabled, do the following:

- 1 Power off all units in the fabric.
- 2 Check all the cable connections in the fabric.
- 3 Check the ports have been enabled as fabric ports.
- 4 Power on all units in the fabric.

6

UPGRADING SOFTWARE

This chapter describes how to upgrade software to your Switch 5500. It covers the following topics:

- The Contents of the Executable File
- Upgrading from the Command Line Interface
- Upgrading from the Bootrom Interface
- Bootrom Upgrade

The Contents of the Executable File

The self extracting executable file (xxxxxxx.exe — where xxxxxxx is the file name of your switch) contains the following:

- End User License
- Release Notes
- Application Software
- Web Software
- Bootrom Software
- Bundled File used with 3ND upgrade wizard — e.g.
s4a03_01_04s56NetMan.zip

Bundled files with the extension NetMan.zip, can be used to upgrade your switch using the 3Com Network Director Agent Update. Any attempt to upgrade individual .web, .btm or .app files using 3Com Network Director will fail. These files should be used to upgrade your switch as described below.

Any attempt to upgrade the switch directly with xxxxxxx.exe and xxxxxxxNetMan.zip will fail. The individual .web, .btm or .app files should be used to upgrade your switch as described below.

Upgrading from the Command Line Interface

This section describes how to upgrade files to your switch from the Command Line Interface (CLI).

Introduction

Before upgrading the software to your switch from the CLI, it is important to check the contents of the flash to ensure that there is enough space to download the new files.



The flash space needed for the new files is approximately 5.5 MB.

- 1 To check the contents of the flash, logon to your switch either via a telnet connection or directly via the console to display the User View in the CLI and enter the following:

```
dir unit1>flash:
```

A file list similar to the following is displayed:

Directory of unit1>flash:/

```
0  -rw-  714784  Apr 02 2005 01:36:16  s4h01_04.web
1  -rw-  11043   Apr 02 2005 01:37:17  3ComOScfg.def
2  -rw-  11427   Apr 02 2005 00:01:01  3ComOScfg.cfg
3  -rw-  4529259 Apr 02 2005 01:39:57  s4b03_01_04s56.app
```

15367 KB total (10215 KB free)

- 2 You can check the contents of the flash for the remaining units in the fabric by entering:

```
dir unit2>flash:
dir unit3>flash:
dir unit4>flash:
dir unit5>flash:
dir unit6>flash:
dir unit7>flash:
```

The file list should contain one of each file type (**.web**, **.def**, **.cfg** and **.app**).

- 3 Any additional files should be considered for deletion to allow maximum space for downloading the new files. To delete a file from the list enter:

```
delete/unreserved unit1>flash:/filename
```

To delete files from the list for the remaining units in a fabric, replace **unit1** with **unit2** (on the next line) and so on for each switch in the fabric.

- 4 The **/unreserved** option will cause the file to be deleted from both the flash and the recycle-bin. To check that deleted files have been removed from the recycle-bin enter the following:

```
reset recycle-bin unit1>flash:/
```

If the recycle-bin is empty the following is displayed:

```
% File can't be found "unitN>flash:/"
```

To check that deleted files have been removed from the recycle-bin for the remaining units in a fabric, replace **unit1** with **unit2** and so on for each switch in the fabric.

The following steps enable you to backup each switch in the fabric:

- 1 The default configuration file must have the name `3ComOScfg.def`. This file is only used if there is no active configuration file (`.cfg`) in the flash file system. The default configuration file is the same for every Switch 5500 of the same type (i.e Switch 5500 28-port) and is different to the file for a Switch 5500 of a different type (i.e Switch 5500 52-port). A sample default configuration file is provided by factory default with the switch and is not supplied in this upgrade.

Enter the following command:

```
more 3comoscfg.def
```

The display similar to the following shows on the first line of the file:

```
#28-port 3com version 3.1.4
```

This file is infrequently changed, so the version number may not match the application software version number.

The default configuration file can be created by saving the configuration and renaming the `xxx.cfg` file as `3ComOScfg.def`.

To back up the default configuration file on each switch in the fabric, enter:

```
copy unit1>flash:/3ComOScfg.def  
unit1>flash:/030100cfg.def
```

Replace `unit1` with `unit2` and so on for each switch in the fabric.

- 2 The active configuration file can be given any name, provided it ends in the extension `.cfg`. 3Com recommends that each fabric is given a unique configuration file name so that when the file is saved to an external TFTP server, it is clear which fabric the file belongs to.

To back up the active configuration file on each switch in the fabric, enter:

```
copy unit1>flash:/3ComOScfg.cfg  
unit1>flash:/030100cfg.cfg
```

Replace `unit1` with `unit2` and so on for each switch in the fabric.

3Com recommends that you save the active configuration file for each switch in the fabric is also saved to an external storage device. To save the active configuration file to a TFTP server in User View enter:

```
tftp aaa.aaa.aaa.aaa put unit1>flash:/3ComOScfg.cfg  
3ComOScfg_1.cfg
```

(where aaa.aaa.aaa.aaa is the IP address of the TFTP server)

Replace **unit1** with **unit2** and **_1.cfg** with **_2.cfg** and so on for each switch in the fabric.

- 3 The Web user interface file and the application file must be the same on all switches in the fabric. It is not necessary to backup these files because they will have a new version number.

TFTP To upgrade software to your switch via TFTP do the following:

- 1 To download the application file, enter:

```
tftp aaa.aaa.aaa.aaa get s4a03_01_04s56.app
```

(where aaa.aaa.aaa.aaa is the IP address of the TFTP server)

s4a indicates the switch filename, see Table 24 for further details:

Table 24 Switch 5500 Family Filenames

Filename Prefix	Switch
s4a	SuperStack 4 Switch 5500-SI software
s4b	SuperStack 4 Switch 5500-EI software
s4c	SuperStack 4 Switch 5500G-EI software
s4e	SuperStack 4 Switch 5500 Family bootrom software

- 2 To download the Web user interface file, enter:

```
tftp aaa.aaa.aaa.aaa get s4h01_04.web
```

- 3 To download the default configuration file, enter

```
tftp aaa.aaa.aaa.aaa get 3ComOScfg.def
```

- 4 To download the bootrom file, enter:

```
tftp aaa.aaa.aaa.aaa get s4e01_04.btm
```

The bootrom firmware may not require upgrading for every software upgrade. To display the bootrom firmware version in any view enter:

```
display version
```

The following should be displayed:

```
Bootrom version is 1.04
```

The number 1.04 will match the version number in the bootrom file, which is 01_04. If the version number of the file matches the displayed version, there is no need to download the bootrom (.btm) file.

File Distribution

The following commands enable you to distribute your downloaded files to the remaining switches in the fabric:

- 1 To copy the new software file to each switch in the fabric, enter the following from User View:

```
copy unit1>flash:/s4a03_01_04s56.app unit2>flash:/
```

Replace **unit2** with **unit3** and so on for each switch in the fabric.

- 2 To copy the new default configuration file to each switch in the fabric, enter:

```
copy unit1>flash:/3ComOScfg.def unit2>flash:/
```

Replace **unit2** with **unit3** and so on for each switch in the fabric.

- 3 To copy the new Web user interface file to each switch in the fabric, enter:

```
copy unit1>flash:/s4e01_04.web unit2>flash:/
```

Replace **unit2** with **unit3** and so on for each switch in the fabric.

- 4 To copy the new Bootrom firmware file to each switch in the fabric, enter:

```
copy unit1>flash:/s4e01_04.btm unit2>flash:/
```

Replace **unit2** with **unit3** and so on for each switch in the fabric.

Command Line Interface Switch Setup

- 1 To set the switch to boot from the new software you have downloaded, enter the following:

```
boot boot-loader unit1>flash:/s4a03_01_04s56.app
```

To set the remaining switches in the fabric to boot from the new software, replace **unit1** with **unit2** and so on for each switch in the fabric.

- 2 To set the switch to load the new bootrom firmware, enter:

```
boot bootrom unit1>flash:/s4e01_04.btm
```

To set the remaining switches in the fabric to load the new bootrom firmware, replace **unit1** with **unit2** and so on for each switch in the fabric.

- 3 You will now need to reboot the fabric for the changes to take effect. The switch will upgrade the bootrom firmware and boot from the specified software .app file.

The files that you have saved in the backup phase should be deleted once the upgrade has completed successfully.

FTP (via a network port)

To upgrade software to your switch via FTP do the following:

- 1 Enter the following command from User View:

```
ftp aaa.aaa.aaa.aaa
```

(where aaa.aaa.aaa.aaa is the IP address of the FTP server)

If the FTP server has been successfully located, the following information is displayed:

```
Trying...
Press CTRL+K to abort
Connected
```

Information on your FTP server is displayed, logon with your username and password.

- 2 To download the application file, enter:

```
binary
get s4a03_01_04s56.app
```

The following information is displayed if the download has been successful:

```
200 PORT command successful.
150 Opening ASCII mode data connection for
s4a03_01_04s56.app(3765073 bytes).....226 Transfer
complete.
```

```
FTP: 3765073byte(s) received in 376.5073 second(s)
10000.00 byte(s)/sec.
```

Download the web file and the bootrom file in the same way.

- 3 Enter **quit** to exit.
- 4 Copy these files as described in “File Distribution”, steps 1 to 4 on page 92.
- 5 Now activate these files as described in “Command Line Interface Switch Setup”, steps 1 to 3 on page 92.

XModem (via the console cable)

To upgrade software to your switch via XModem do the following:

- 1 From the User View, enter:

```
xmodem get unit1>flash:/s4a03_01_04s56.app
```

The following information is displayed:

```

      **** WARNING ****
xmodem is a slow transfer protocol limited to the
current speed
settings of the auxiliary ports.
During the course of the download no exec input/output
will be available!

```

```

Proceed?[Y/N]y
Destination filename
[unit1>flash:/s4a03_01_04s56.app]?
Before pressing ENTER you must choose 'YES' or
'NO'[Y/N]:

```

- 2 Enter **y** to display the following message:

```

Download with XMODEM protocol...
...C..

```

- 3 As the file is downloading, start the XModem send file process with terminal emulation software, such as Microsoft Hyperterminal.

When the file download is complete the message Download successful! is displayed.

- 4 Repeat steps 1 to 3 for each of the remaining files.

- 5 Copy these files as described in "File Distribution", steps 1 to 4 on page 92.
- 6 Now activate these files as described in "Command Line Interface Switch Setup", steps 1 to 3 on page 92.

Upgrading from the Bootrom Interface

This section describes how to upgrade your switch from the Bootrom Interface.

Introduction

When the switch is running the initial boot phase via the console, the following prompt is displayed with a five second countdown timer:

```
Press CTRL-B to enter Boot Menu... 4
```

followed by a password prompt:

```
password:
```

- 1 Select *Enter* (the default is no password) to display the following boot menu:

BOOT MENU

1. Download application file to flash
2. Select application file to boot
3. Display all files in flash
4. Delete file from flash
5. Modify bootrom password
6. Enter bootrom upgrade menu
7. Skip current configuration file
8. Set bootrom password recovery
9. Set switch startup mode
0. Reboot

```
Enter your choice(0-9):
```

- 2 Enter the appropriate menu number to select a specific option.

Before upgrading the software to your switch from the Bootrom Interface it is important to check the contents of the flash to ensure that there is enough space to download the new files.

- 3 Select option 3 from the Boot Menu. A file list similar to the following is displayed:

```

Boot menu choice: 3
File Number   File Size (bytes) File Name
=====
1             4             snmpboots
2             151           private-data.txt
3(*)          4649088        s4b03_01_04s56.app
4             576218        s4h01_04.web
5             10301         3comoscfg.def
6             10369         3comoscfg.cfg
7             10369         [test.cfg]

```

Free Space: 10469376 bytes
 The current application file is s4b03_01_04s56.app
 (*)-with main attribute; (b)-with backup attribute
 (*b)-with main and backup attribute

This option displays all the files in flash and also indicates the file that the switch is currently set to boot from (marked with an asterisk). A 'b' by the file number indicates the file is a backup boot file.

The files which are required by the switch are:

```

s4h01_04.web
3comoscfg.def
3comoscfg.cfg
s4b03_01_04s56.app

```



The s4b03_01_04s56.app file is the boot software. The name of this file will vary depending on the switch type and the release version.



If the filename is in brackets, for example [test.cfg], this indicates that the file has been deleted from the CLI but is still present in the recycle-bin.

Any additional files should be considered for deletion to allow maximum space for downloading the new files.

- 4** To delete a file from the list select option 4 from the Boot Menu and select the file number you wish to delete.

TFTP To upgrade software to your switch via TFTP, do the following:

- 1 From the Boot Menu, select option 1 (Download application file to flash) to display the following:
 - 1. Set TFTP protocol parameter
 - 2. Set FTP protocol parameter
 - 3. Set XMODEM protocol parameter
 - 0. Return to boot menu
 Enter your choice(0-3):
- 2 Select option 1 to display the following:
 - Load File name:
 - Switch IP address:
 - Server IP address:
- 3 Enter the file name, switch IP address and Server IP address to display the following:
 - Are you sure to download file to flash? Yes or No(Y/N)
- 4 Enter **y** and the following information is displayed to indicate the file is downloading:
 - Attached TCP/IP Interface to netdrv0
 - Attaching network interface lo0...done
 - Loading.....done
 - Free flash Space: 10456064 bytes
 - Writing flash....done!
 - Please input the file attribute (main/backup/none):none
 - done!
- 5 Repeat steps 1 to 4 for each of the remaining files.

FTP To upgrade software to your switch via FTP, do the following:

- 1 From the Boot Menu, select option 1 (Download application file to flash) to display the following:
 - 1. Set TFTP protocol parameter
 - 2. Set FTP protocol parameter
 - 3. Set XMODEM protocol parameter
 - 0. Return to boot menu
 Enter your choice(0-3):
- 2 Select option 2 to display the following:
 - Load File name:
 - Switch IP address:

```

Server IP address:
FTP User Name:
FTP User Password:

```

- 3 Enter the file name, switch IP address, Server IP address and FTP user name and password to display the following:

```
Are you sure to download file to flash? Yes or No(Y/N)
```

- 4 Enter **y** and the following information is displayed to indicate the file is downloading:

```

Loading.....done
Free flash Space: 10456064 bytes
Writing flash....done!
Please input the file attribute (main/backup/none):none
done!

```

- 5 Repeat steps 1 to 4 for each of the remaining files.

XModem To upgrade software to your switch via XModem, do the following:

- 1 From the Boot Menu, select option 1 (Download application file to flash) to display the following:

```

1. Set TFTP protocol parameter
2. Set FTP protocol parameter
3. Set XMODEM protocol parameter
0. Return to boot menu

```

```
Enter your choice(0-3):
```

- 2 Select option 3 to display the following:

```
Please select your download baud rate:
```

```

1. 9600
2.*19200
3. 38400
4. 57600
5. 115200
0. Return

```

```
Enter your choice(0-5):
```

- 3 Select option 2 to set the baud rate to 19200.

You will also need to change the baud rate on Hyperterminal to 19200 bps and select XModem protocol.



If supported, you can select Option 5 to increase the speed of the download.

- 4 Press *Enter* to start the download. The following information is displayed:

```
Now please start transfer file with XMODEM protocol
If you want to exit, Press <Ctrl+X>
Loading...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
```

- 5 As the file is downloading, start the XModem send file process with terminal emulation software, such as Microsoft Hyperterminal.

When the download is complete, the following information is displayed:

```
Please input the file attribute (main/backup/none):none
done!
```

- 6 Repeat steps 1 to 5 for each of the remaining files.

Bootrom Upgrade

This section describes how to indicate which file the switch is to boot from once the software has been loaded.

- 1 From the Boot menu, select option 2 to display the following:

```
Select application file to boot:
1. set application file to boot
2. set configuration files
3. set web files
0. return
```

Enter your choice (0-3):

- 2 Select option 2 to display a file list similar to the following:

```
Boot menu choice: 2
File Number    File Size (bytes)  File Name
=====
1(*)           4649088          s4b03_01_04s56.app

Free Space: 10491904 bytes
The current application file is s4b03_01_04s56.app
(*)-with main attribute;(b)-with backup attribute
(*b)-with both main and backup attribute
```

Please input the file number to change:

An asterisk (*) indicates the current main boot file.

A similar screen will be displayed for the configuration files and the web files.

In each case, the file is given the attribute “main” or “backup”

Bootrom Upgrade via TFTP To upgrade the bootrom firmware from the Boot menu via TFTP do the following:

- 1 From the Boot menu, select option 6 to display the bootrom upgrade menu as shown:

Bootrom update menu:

1. Set TFTP protocol parameter
2. Set FTP protocol parameter
3. Set XMODEM protocol parameter
0. Return to boot menu

Enter your choice(0-3):

- 2 Select option 1 to display the following:

Load File name:

Switch IP address:

Server IP address:

- 3 Enter the file name, switch IP address and Server IP address to display the following:

Are you sure to update your bootrom? Yes or No(Y/N)

- 4 Enter **y** and the following information is displayed to indicate the file is downloading:

Attached TCP/IP interface to netdrv0

Attaching network interface Io0...done

Loading.....

.....done

Bootrom updating.....done!

Bootrom Upgrade via FTP To upgrade the bootrom firmware from the Boot menu via FTP do the following:

- 1 From the Boot menu, select option 6 to display the bootrom upgrade menu as shown:

Bootrom update menu:

1. Set TFTP protocol parameter
2. Set FTP protocol parameter

3. Set XMODEM protocol parameter
 0. Return to boot menu
- Enter your choice(0-3):
- 2 Select option 2 to display the following:
 - Load File name:
 - Switch IP address:
 - Server IP address:
 - FTP User Name:
 - FTP User Password:
 - 3 Enter the file name, switch IP address, Server IP address, FTP user name and password to display the following:
 - Are you sure to update your bootrom? Yes or No(Y/N)
 - 4 Enter **y** and the following information is displayed to indicate the file is downloading:
 - Attached TCP/IP interface to netdrv0
 - Attaching network interface Io0...done
 - Loading.....
 -done
 - Bootrom updating.....done!

Bootrom Upgrade via XModem

To upgrade the bootrom firmware from the Boot menu via XModem do the following:

- 1 From the Boot Menu, select option 6 to display the following:
 1. Set TFTP protocol parameter
 2. Set FTP protocol parameter
 3. Set XMODEM protocol parameter
 0. Return to boot menu

Enter your choice(0-3):
- 2 Select option 3 to display the following:
 - Please select your download baud rate:
 - 1. 9600
 - 2.*19200
 - 3. 38400
 - 4. 57600
 - 5. 115200
 - 0. Return

Enter your choice(0-5):

A

SAFETY INFORMATION

You must read the following safety information before installing or removing any components, or completing any maintenance procedures on the Switch 5500 Family.



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.




OSTRZEŻENIE: Ostrzeżenia zawierają wskazówki, których należy przestrzegać dla własnego bezpieczeństwa. Należy uważnie przestrzegać wszystkich wskazówek. Przed instalacją lub demontażem


urządzenia należy uważnie przeczytać poniższe informacje o bezpieczeństwie.


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。
アース線をはさず場合は、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:** If installing the Switch 5500 together (one on top of the other) with other 3Com units that are shallower than the 5500, the Switch 5500 unit must be installed below the shallower units.

 **WARNING:** The unit must be earthed (grounded) or must be connected 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 | <ul style="list-style-type: none">■ 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 | <ul style="list-style-type: none">■ 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.



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 5500, 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



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



WARNING: This device has more than one power input. Disconnect all power inputs to power off this device.



WARNING: The installation of the Redundant Power Supply (RPS) should only be carried out by properly trained and qualified personnel.



WARNING: These instructions must be read in conjunction with the RPS flyer and the safety and installation instructions supplied with your RPS.



WARNING: When powering any Switch 5500 from an RPS, the unit must be earthed (grounded). This can be achieved by either connecting the power cord to the unit or by connecting the earth terminal on the rear of the unit to a reliable electrical earth, or by connecting both. It must be ensured that the earth connection is made before connecting the DC supply from the RPS.



WARNING: Any RPS must be approved as an unearthed SELV output in accordance with IEC 60950-1/UL 60950-1/EN 60950-1.



WARNING: The characteristics of the Switch 5500 DC supply input are given in Appendix C on page 127.



WARNING: RPS Manufacturers recommendations must be followed when connecting the cable to the RPS.



WARNING: Ensure that the circuit breaker in the RPS is in the open (off) position when connecting the cable to the RPS.



WARNING: You must ensure that the positive terminal on the switch is connected to the positive (common) terminal of the RPS and that the negative terminal on the switch is connected to the negative (circuit breaker) terminal of the RPS.



WARNING: Ensure that the circuit breaker in the RPS is in the open (off) position when connecting the RPS cable and connector to the switch.

L'information de Sécurité Importante



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



AVERTISSEMENT: Si vous entassez l'unité switch avec les unités SuperStack 4 Hub, l'unité Switch 5500 doit être installée en dessous des unités Hub plus étroites.



AVERTISSEMENT: Vous devez mettre l'appareil à la terre (à la masse) ce groupe.



AVERTISSEMENT: 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 | <ul style="list-style-type: none"> ■ 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 : <ul style="list-style-type: none"> ■ 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 | <ul style="list-style-type: none"> ■ La prise mâle d'alimentation doit respecter la section 107-2 D1 de la norme DK2 1a ou DK2 5a |
| Europe | <ul style="list-style-type: none"> ■ 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 | <ul style="list-style-type: none"> ■ 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.



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.



Ne regardez jamais le laser d'émission en utilisant un dispositif d'agrandissement, tant qu'il est sous tension. Ne regardez jamais directement le port TX à fibres optiques et les extrémités des câbles à fibres optiques tant qu'ils sont sous tension.



AVERTISSEMENT: Ce périphérique comporte plusieurs entrées d'alimentation. Déconnectez toutes les entrées d'alimentation afin de le mettre hors tension.



AVERTISSEMENT: L'installation du RPS (Redundant Power Supply) ne doit être confiée qu'à un personnel formé et qualifié.



AVERTISSEMENT: Ces instructions doivent être lues conjointement avec les instructions d'installation et les consignes de sécurité qui accompagnent le RPS.



AVERTISSEMENT: Lorsqu'un commutateur Switch 5500 est alimenté par un module RPS, l'unité doit être mise à la terre. Pour cela, branchez le cordon d'alimentation à l'unité ou branchez la borne de mise à la terre située à l'arrière de l'unité à une prise de terre fiable, ou procédez aux deux raccordements. Assurez-vous que l'unité est mise à la terre avant de raccorder l'alimentation CC du RPS.



AVERTISSEMENT: Le RPS doit être approuvé en tant que sortie SELV non reliée à la terre, conformément à la norme IEC 60950-1/UL 60950-1/EN 60950-1.



AVERTISSEMENT: Ces instructions doivent être lues conjointement avec les caractéristiques de l'alimentation CC du Switch 5500 fournies en annexe C, Spécifications techniques.



AVERTISSEMENT: Vous devez respecter les recommandations du fabricant lors du branchement du câble au module RPS.



AVERTISSEMENT: Assurez-vous que le disjoncteur du RPS est ouvert (off) lors du branchement du câble au RPS.



AVERTISSEMENT: Assurez-vous de brancher la borne positive du commutateur à la borne positive (commune) du RPS, et la borne négative du commutateur à la borne négative (disjoncteur) du RPS.



AVERTISSEMENT: Assurez-vous que le disjoncteur du RPS est ouvert (off) lors du branchement du câble et du connecteur du RPS au commutateur 3Com.

Wichtige Sicherheitsinformationen



VORSICHT: Alle Verfahren die in dieser Anleitung beschrieben werden gelten für alle Modelle, sofern nicht anders angegeben. Wo eine Vorgehensweise für die Schalter 5500-SI 24 und Schalter 5500-SI 52 gilt wird nur der Begriff Schalter verwendet.

Diese Anleitung ist für Netzwerkadministratoren vorgesehen, die für die Installation und das Einstellen von Netzwerkkomponenten verantwortlich sind; Erfahrung im Umgang mit LANs (Local Area Networks) wird



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



VORSICHT: Wenn die Switch 5500 Einheit in einer Stapel mit anderen SuperStack 4 Hub Einheiten eingebaut werden soll, muß die Switch 5500 Einheit unter die schmalere Hub Einheiten eingebaut werden.



VORSICHT: Das Gerät muß geerdet sein.



VORSICHT: 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-Datenanschlüsse, Telefonnetzsysteme oder Netztelefone an diese Steckdosen anschließen.

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



VORSICHT: Faseroptikanschlüsse – Optische Sicherheit



Sie sollten die/den eingeschaltete(n) Übertragungs-Laser niemals durch eine Vergrößerungseinrichtung betrachten. Schauen Sie niemals direkt auf den Lichtwellen-Übertragungsanschluss und die Kabelenden des Lichtwellenleiterkabels, während Daten übertragen werden.



VORSICHT: Dieses Gerät besitzt mehrere Eingänge zur Stromversorgung. Trennen Sie das Gerät zum Ausschalten von allen Stromquellen.



VORSICHT: Die RPS (Redundant Power Supply, redundante Stromversorgung) darf nur von entsprechend geschultem und qualifiziertem Fachpersonal installiert werden.



VORSICHT: Diese Anleitungen müssen im Zusammenhang mit den Sicherheitshinweisen und Installationsanleitungen zu Ihrer RPS gelesen werden.



VORSICHT: Bei der Stromversorgung eines Switch 5500 über eine RPS muss das Gerät geerdet sein. Hierfür kann entweder das Netzkabel an das Gerät angeschlossen werden oder die Erdungsklemme an der Rückseite des Geräts mit einer zuverlässigen elektrischen Erdung

verbunden werden oder beides. Es ist sicherzustellen, dass die Erdungsverbindung vor dem Anschließen der von der RPS bereitgestellten Gleichstromversorgung hergestellt wird.



VORSICHT: Jede RPS muss als nicht geerdetes SELV-Ausgangsgerät gemäß IEC 60950-1/UL 60950-1/EN 60950-1 zugelassen sein.



VORSICHT: Diese Anleitungen müssen im Zusammenhang mit den Eigenschaften des Gleichstrom-Versorgungseingangs des Switch 5500 gelesen werden, die in Anhang C, "Technische Daten", aufgeführt sind.



VORSICHT: Beim Anschließen des Kabels an die RPS sind die Empfehlungen des Herstellers zu beachten.



VORSICHT: Stellen Sie sicher, dass sich der Schutzscharter an der RPS beim Anschließen des Kabels an die RPS in der geöffneten Stellung (Aus) befindet.



VORSICHT: Stellen Sie auf jeden Fall sicher, dass die positive Klemme am switch an die positive (gemeinsame) Klemme der RPS und die negative Klemme am switch an die negative (gemeinsame) Klemme der RPS angeschlossen wird.



VORSICHT: Stellen Sie sicher, dass sich der Schutzscharter an der RPS beim Anschließen des RPS-Kabels und des Steckers des 3Com switch in der geöffneten Stellung (Aus) befindet.

Información de Seguridad Importante



ADVERTENCIA: La instalación o la extracción de la unidad sólo debe llevarla a cabo personal cualificado.



ADVERTENCIA: Si instala el 5500 en una pila con unidades SuperStack II o SuperStack 3 que son más estrechas que el 5500, la unidad 5500 debe instalarse debajo de las unidades más estrechas.



ADVERTENCIA: La unidad debe tener toma de tierra (conectado a tierra).



ADVERTENCIA: 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: N° 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.



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 5500, 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



Nunca mire el láser de transmisión a través de una lente de aumento mientras está 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: Este dispositivo dispone de más de una entrada de alimentación. Desconecte todas las entradas de alimentación del dispositivo.



ADVERTENCIA: La instalación del sistema de alimentación superflua (RPS) sólo debería llevarla a cabo personal cualificado y con la debida formación.



ADVERTENCIA: Estas instrucciones deben leerse junto con las instrucciones de instalación y seguridad que se facilitan con el sistema RPS.



ADVERTENCIA: al encender cualquier Switch 5500 desde un RPS, la unidad debe contar con una toma de tierra (conexión a tierra). Esto se puede conseguir conectando el cable de alimentación de la unidad o bien

conectando el terminal de tierra en la parte posterior de la unidad a una toma de tierra fiable, o conectando ambas. Deberá asegurarse de que la conexión a tierra se realiza antes de conectar el suministro de CC del RPS.



ADVERTENCIA: Todos los RPS deben estar homologados como salidas SELV sin toma de tierra según IEC 60950-1/UL 60950-1/EN 60950-1.



ADVERTENCIA: Estas instrucciones deben leerse junto con las características de la entrada de suministro de CC del Switch 5500 del Apéndice C, Especificaciones técnicas.



ADVERTENCIA: al conectar el cable al RPS deberán seguirse las recomendaciones del fabricante.



ADVERTENCIA: asegúrese de que el disyuntor del RPS se encuentra en la posición de abierto (desactivado) al conectar el cable al RPS.



ADVERTENCIA: deberá asegurarse de que el terminal positivo del switch está conectado al terminal positivo (común) del RPS, y de que el terminal negativo del switch está conectado al terminal negativo (disyuntor) del RPS.



ADVERTENCIA: asegúrese de que el disyuntor del RPS se encuentra en la posición de abierto (desactivado) al conectar el cable del RPS y el conector al 3Com switch.

Importanti Informazioni di Sicurezza



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



AVVERTENZA: Se si installa lo 5500 in uno stack con unità SuperStack II o SuperStack 3 più strette del modello 5500, posizionare lo 5500 sotto tali unità.



AVVERTENZA: L'unità deve disporre di messa a terra.



AVVERTENZA: 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.*



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 5500, 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



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



AVVERTENZA: Il dispositivo presenta più punti di alimentazione. Per spegnere il dispositivo, scollegare tutti i punti di alimentazione.



AVVERTENZA: le operazioni di installazione dell'RPS (Redundant Power Supply) devono essere eseguite esclusivamente da personale qualificato e opportunamente addestrato.



AVVERTENZA: queste istruzioni devono essere lette insieme alle istruzioni di sicurezza e installazione fornite con l'RPS.



AVVERTENZA: se si accende uno Switch 5500 da un RPS, l'unità deve disporre di messa a terra. Per accendere lo switch, è possibile collegare il cavo di alimentazione all'unità, collegare il terminale di terra situato sul retro dell'unità a una presa elettrica di terra sicura oppure collegarli entrambi. Prima di collegare l'alimentazione CC dell'RPS, è necessario verificare la messa a terra.



AVVERTENZA: tutti gli RPS devono essere approvati come dispositivi di uscita SELV non messi a terra in conformità con le norme IEC 60950-1/UL 60950-1/EN 60950-1.



AVVERTENZA: queste istruzioni devono essere lette insieme ai valori di ingresso dell'alimentazione CC dello Switch 5500 che vengono forniti nell'Appendice C, Specifiche tecniche.



AVVERTENZA: quando si collega il cavo all'RPS, si consiglia di rispettare le raccomandazioni fornite dal fabbricante.



AVVERTENZA: durante il collegamento del cavo all'RPS, verificare che il salvavita dell'RPS si trovi in posizione Acceso (spento).



AVVERTENZA: è necessario verificare che il polo positivo sullo switch sia collegato al polo positivo (comune) dell'RPS e che il polo negativo sullo switch sia collegato al polo negativo (salvavita) dell'RPS.



AVVERTENZA: prima di collegare il cavo RPS e il connettore allo switch 3Com, verificare che il salvavita si trovi in posizione Acceso (spento).

Ważne informacje o zabezpieczeniach



OSTRZEŻENIE: Instalacja i demontaż urządzenia mogą być wykonywane tylko przez wykwalifikowany personel.



OSTRZEŻENIE: Podczas instalacji Switch 5500 w stosie z urządzeniami SuperStack II lub SuperStack 3, które są węższe niż Switch 5500, urządzenie Switch 5500 musi być zainstalowane pod węższym urządzeniem.



OSTRZEŻENIE: Urządzenie musi być uziemione lub musi być podłączone do uziemionego źródła zasilania w celu zapewnienia zgodności z wymogami bezpieczeństwa.



OSTRZEŻENIE: Zestaw przewodów zasilania:

Niezbędna jest zgodność z przepisami kraju, w którym jest stosowany:

Stany Zjednoczone i Kanada	<ul style="list-style-type: none"> ■ Zestaw przewodów musi posiadać zezwolenie UL oraz certyfikat CSA. ■ Minimalna specyfikacja przewodu giętkiego: Przewód typu SV lub SJ 3 o średnicy 18 wg specyfikacji AWG. ■ Zestaw przewodów musi posiadać pojemność prądu znamionowego przynajmniej 10A. ■ Wtyczka musi być uziemiająca z układem typu NEMA 5-15P (15A, 125V) lub NEMA 6-15P (15A, 250V).
Wielka Brytania	<ul style="list-style-type: none"> ■ Wtyczka musi być zgodna z normą BS1363 (3-pinowa 13 amperów) i musi być wyposażona w bezpiecznik 5A zgodny z normą BS1362. ■ Przewód sieci zasilającej musi być oznaczony <HAR> lub <BASEC> i musi być typu H03VVF3g0.75 (minimum).
Europa	<ul style="list-style-type: none"> ■ Wtyczka zasilająca musi być zgodna z normą CEE 7/7 („SCHUKO”). ■ Przewód sieci zasilającej musi być oznaczony <HAR> lub <BASEC> i musi być typu H03VVF3g0.75 (minimum).
Dania	<ul style="list-style-type: none"> ■ Wtyczka zasilająca musi być zgodna z sekcją 107-2-D1 normy DK2-1a lub DK2-5a.
Szwajcaria	<ul style="list-style-type: none"> ■ Wtyczka zasilająca musi być zgodna z normą SEV/ASE 1011.



OSTRZEŻENIE: Złączka urządzenia (podłączona do przełącznika, a nie do wtyczki ściennej) musi być odpowiednio dopasowana do normy EN60320/IEC320 otworu wlotowego.



OSTRZEŻENIE: Gniazdo zasilające musi być umieszczone w pobliżu urządzenia i musi być łatwo dostępne.



OSTRZEŻENIE: Urządzenie to pracuje w warunkach SELV (Safety Extra Low Voltage – Bezpieczne niskie napięcie) zgodnie z normą IEC 60950. Takie warunki są zachowane tylko, jeśli osprzęt, do którego jest podłączone, również pracuje w warunkach SELV.



OSTRZEŻENIE: 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 230V (2P+T) a través de un transformador aislador con relación 1:1, con el punto de conexión secundario etiquetado como neutro conectado directa-

mente a tierra. †Impédance í la terre.



OSTRZEŻENIE: Tylko Wielka Brytania:

Podczas podłączania modemu do portu konsoli Switch 5500 należy stosować tylko modem odpowiedni do podłączenia do sieci telekomunikacyjnej.



OSTRZEŻENIE: Porty RJ-45. Są to ekranowane gniazda danych RJ-45. Nie mogą być używane jako tradycyjne gniazda telekomunikacyjne lub stosowane do podłączenia urządzenia do publicznej sieci telefonicznej lub centrali PBX. Do tych gniazd należy podłączać jedynie łącza danych RJ-45, sieciowe systemy telefoniczne lub telefony sieciowe. Zarówno osłonięte, jak i nieosłonięte przewody z danymi wraz z osłoniętymi lub nieosłoniętymi wtykami mogą być podłączone do tych gniazd.



OSTRZEŻENIE: Porty światłowodowe – bezpieczeństwo



Nie wolno nigdy patrzeć na włączoną diodę laser transmisyjny przez urządzenie wzmacniające. Nie wolno nigdy patrzeć bezpośrednio na port włókna TX i końcówki światłowodów, jeśli są zasilane.



OSTRZEŻENIE: To urządzenie ma kilka punktów podłączenia zasilania. Aby wyłączyć urządzenie, należy odłączyć wszystkie punkty zasilania.



OSTRZEŻENIE: Instalacja zasilacza nadmiarowego (RPS) powinna być wykonywana przez odpowiednio przeszkolony i wykwalifikowany personel.



OSTRZEŻENIE: Te instrukcje należy przeczytać razem z instrukcjami dotyczącymi bezpieczeństwa i instalacji dostarczonymi z systemem zasilania nadmiarowego.



OSTRZEŻENIE: Jeśli dowolny przełącznik Switch 5500 jest zasilany z zasilacza RPS, urządzenie musi być uziemione. Można to uzyskać przez podłączenie przewodu zasilającego do urządzenia lub przez podłączenie końcówki uziemienia z tyłu urządzenia do dobrego elementu uziemianego. Należy upewnić się, że urządzenie zostało uziemione przed podłączeniem zasilacza prądu stałego do zasilacza RPS.



OSTRZEŻENIE: Wszystkie zasilacze RPS muszą mieć certyfikat nieuziemionego źródła zasilania SELV zgodny z normami IEC 60950-1/UL 60950-1/EN 60950-1.



OSTRZEŻENIE: Te instrukcje należy przeczytać razem z charakterystyką zasilającego prądu stałego przełącznika Switch 5500 opisaną w Dodatku C, Specyfikacja techniczna.



OSTRZEŻENIE: Podczas podłączania kabla do zasilacza RPS należy przestrzegać zaleceń producenta.



OSTRZEŻENIE: Podczas podłączania kabla do zasilacza RPS należy upewnić się, że wyłącznik w zasilaczu jest w pozycji otwartej (wyłączony).

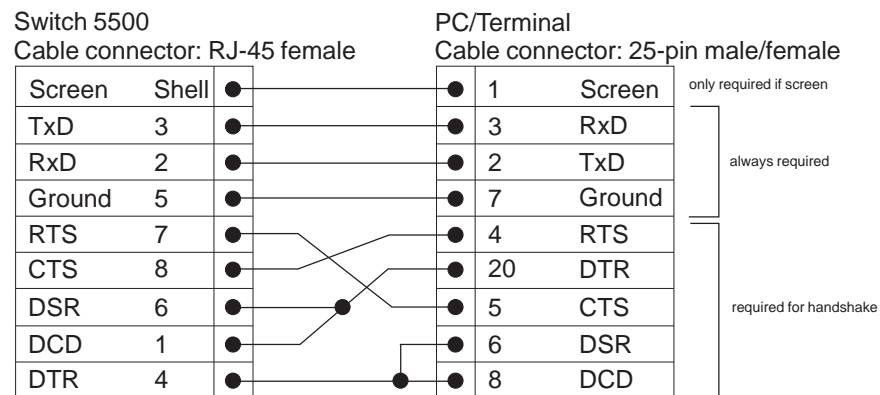


OSTRZEŻENIE: Należy upewnić się, że końcówka dodatnia przełącznika jest podłączona do dodatniej (wspólnej) końcówki zasilacza RPS, a ujemna końcówka przełącznika jest podłączona do ujemnej końcówki (wyłącznika) zasilacza RPS.

PIN-OUTS

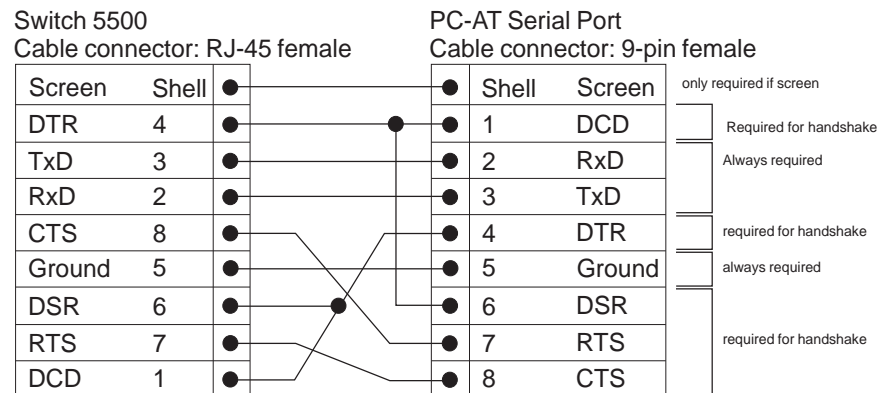
Null Modem Cable

RJ-45 to RS-232 25-pin



PC-AT Serial Cable

RJ-45 to 9-pin



Modem Cable

RJ-45 to RS-232 25-pin

Switch 5500			RS-232 Modem Port		
Cable connector: RJ-45 female			Cable connector: 25-pin male		
Screen	Shell	●	●	1	Screen
TxD	3	●	●	2	TxD
RxD	2	●	●	3	RxD
RTS	7	●	●	4	RTS
CTS	8	●	●	5	CTS
DSR	6	●	●	6	DSR
Ground	5	●	●	7	Ground
DCD	1	●	●	8	DCD
DTR	4	●	●	20	DTR

Ethernet Port RJ-45
Pin Assignments

10/100 and 1000BASE-T RJ-45 connections.

Table 10 Pin assignments

Pin Number	10/100	1000
<i>Ports configured as MDI</i>		
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 11 Pin assignments

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

C

TECHNICAL SPECIFICATIONS

This section contains the technical specifications for the following:

- Switch 5500 (28 Port)
- Switch 5500 PWR (28 Port)
- Switch 5500 (52 Port)
- Switch 5500 PWR (52 Port)
- Switch 5500 FX (28 Port)
- Switch 5500G-EI (24 Port)
- Switch 5500G-EI PWR (24 Port)
- Switch 5500G-EI (48 Port)
- Switch 5500G-EI PWR (48 Port)
- Switch 5500G-EI SFP (24-Port)
- RPS
- Earthing Lead

Switch 5500 (28 Port)

Physical Dimensions	Height: 44 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 274 mm (10.8 in.) Weight: 4.4kg (9.72 lbs)
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–10 ° to +70 °C (14 ° to 158 °F)
Operating Humidity	95% 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	80 watts maximum
Heat Dissipation	275 BTU/hour maximum
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	1.0A (amps) maximum
DC	
Input Voltage	-48 - -60 VDC
Current Rating	2.0A (amps) maximum
Characteristics	SELV (Safety Extra Low Voltage)

Switch 5500 PWR (28 Port)

Physical Dimensions	Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 420 mm (16.5 in.) Weight: 5.8kg (12.79 lbs)
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–40 ° to +70 °C (-40 ° to 158 °F)
Operating Humidity	10-95% 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, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	80 watts maximum (not including PoE load)
Heat Dissipation	275 BTU/hour maximum (not including PoE load)
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	7.0A (amps) maximum (at maximum PoE load)
DC	
Input Voltage	-52 - -55 VDC
Current Rating	12A (amps) maximum (at maximum PoE load)
Characteristics	SELV (Safety Extra Low Voltage), isolated from earth according to requirements of IEEE-Std 802.3af

Switch 5500 (52 Port)

Physical Dimensions	Height: 44 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 274 mm (10.8 in.) Weight: 4.7kg (10.9 lbs)
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	-10 ° to +70 °C (14 ° to 158 °F)
Operating Humidity	95% 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, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	80 watts maximum
Heat Dissipation	275 BTU/hour maximum
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	1.0A (amps) maximum
DC	
Input Voltage	-48 - -60 VDC
Current Rating	2.0A (amps) maximum
Characteristics	SELV (Safety Extra Low Voltage)

Switch 5500 PWR (52 Port)

Physical Dimensions	Height: 44 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 420 mm (16.5 in.) Weight: 6.2kg (13.67 lbs)
Environmental Requirements	
Operating Temperature	0° to 40 °C (32 ° to 104 °F)
Storage Temperature	–40 ° to +70 °C (-40 ° to 158 °F)
Operating Humidity	10-95% 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, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	80 watts maximum (not including PoE load)
Heat Dissipation	293.4 BTU/hour maximum (not including PoE load)
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	7.0A (amps) maximum (at maximum PoE load)
DC	
Input Voltage	-52 - -55 VDC
Current Rating	19.5A (amps) maximum (at maximum PoE load)
Characteristics	SELV (Safety Extra Low Voltage), isolated from earth according to requirements of IEEE-Std 802.3af

Switch 5500 FX (28 Port)

Physical Dimensions	Height: 44 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 260 mm (10.2 in.) Weight: 3.5kg (7.72 lbs)
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	-40 ° to +70 °C (-40 ° to 158 °F)
Operating Humidity	10-95% 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	80 watts maximum
Heat Dissipation	275 BTU/hour maximum
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage Options	100-240 VAC
Current Rating	1.0A (amps) maximum
DC	
Input Voltage	-48 - -60 VDC
Current Rating	2.0A (amps) maximum
Characteristics	SELV (Safety Extra Low Voltage)

Switch 5500G-EI (24 Port)

Physical Dimensions	Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.32 in.) x Depth: 420 mm (16.54 in.). Weight: 8.4 kg
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–10 ° to +70 °C (14 ° 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	170 watts maximum
Heat Dissipation	580 BTU/hour maximum
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	2.5A (amps) maximum
DC	
Input Voltage	-48 - -60 VDC
Current Rating	4A (amps) maximum
Characteristics	SELV (Safety Extra Low Voltage)

Switch 5500G-EI PWR (24 Port)

Physical Dimensions	Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.32 in.) x Depth: 420 mm (16.54 in.). Weight: 8.9 kg
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Environmental Requirements

Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–10 ° to +70 °C (14 ° 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950
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EMC

Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024

Power Consumption	170 watts maximum (not including PoE load)
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Heat Dissipation	580 BTU/hour maximum (not including PoE load)
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Power Supply
AC

Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	8.0A (amps) maximum (at maximum PoE load)

DC

Input Voltage	-53 - -55 VDC
Current Rating	12A (amps) maximum (at maximum PoE load)
Characteristics	SELV (Safety Extra Low Voltage), isolated from earth according to requirements of IEEE-Std 802.3af

Switch 5500G-EI (48 Port)

Physical Dimensions	Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.32 in.) x Depth: 420 mm (16.54 in.). Weight: 9.35kg
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–10 ° to +70 °C (14 ° 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950, IEC825-1, EN60825-1
EMC	
Emissions	CISPR22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, AS/NZS 3548 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	230 watts maximum
Heat Dissipation	785 BTU/hour maximum
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	3.0A (amps) maximum
DC	
Input Voltage	-48 - -60 VDC
Current Rating	5.5A (amps) maximum
Characteristics	SELV (Safety Extra Low Voltage)

Switch 5500G-EI PWR (48 Port)

Physical Dimensions	Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.32 in.) x Depth: 420 mm (16.54 in.). Weight: 9.85kg
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–10 ° to +70 °C (14 ° 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950, IEC825-1, EN60825-1
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, AS/NZS 3548 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	230 watts maximum (not including PoE load)
Heat Dissipation	785 BTU/hour maximum (not including PoE load)
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VDC
Current Rating	8.0A (amps) maximum (at maximum PoE load)
DC	
Input Voltage	-53 - -55 VAC
Current Rating	19.5A (amps) maximum (at maximum PoE load)
Characteristics	SELV (Safety Extra Low Voltage), isolated from earth according to requirements of IEEE-Std 802.3af

Switch 5500G-EI SFP (24-Port)

Physical Dimensions	Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.32 in.) x Depth: 420 mm (16.54 in.). Weight: 8.9 kg
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	–10 ° to +70 °C (14 ° 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	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Power Consumption	170 watts maximum
Heat Dissipation	580 BTU/hour maximum
Power Supply	
AC	
Line Frequency	50/60Hz
Input Voltage	100-240 VAC
Current Rating	2.5A (amps) maximum
DC	
Input Voltage	-48 - -60 VDC
Current Rating	4A (amps) maximum
Characteristics	SELV (Safety Extra Low Voltage)

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 II (RFC 2021)	IP (RFC 791)
	Remote Monitoring MIB (RFC 1757)	ICMP (RFC 792)
	MAU MIB (RFC 2239)	TCP (RFC 793)
	MIB II Traps (RFC 1215)	ARP (RFC 826)
	RS232 (RFC 1659)	TFTP (RFC 783)
	Interfaces (RFC 2233)	DHCP (RFC 2131, RFC 2132, RFC 1534)
	Ether-like MIB (RFC 2665)	BOOTP (RFC 951, RFC 1497)
	MAU MIB (RFC 2668)	Network Login (IEEE 803.1x)
	Bridge extensions (RFC 2674)	RADIUS (RFC 2618, 2620)
		Link aggregation (IEEE 802.3ad)

RPS

Safety Requirements	The RPS shall comply with the following safety standards: EN60950, UL60950, CSA22.2 60950, IEC60950
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, AS/NZS 3548 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3
Immunity	EN 55024
Output Specifications	Must meet DC power supply specifications for each unit (as defined above).

Earthing Lead

Safety Requirements	The Earthing Lead shall comply with the following safety standards: UL Subject 758, UL 1581 and CSA C22.2 No. 210 UL VW-1 and CSA FT1 Vertical Flame Test
Voltage Rating	600V
AWG	12
Insulation Thickness	0.4mm
Insulation Color	Green/Yellow

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 ExpressSM and GuardianSM 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

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

E

3COM NETWORK MANAGEMENT

3Com has a range of network management applications to address networks of all sizes and complexity, from small and medium businesses through large enterprises. The applications include:

- [3Com Network Supervisor](#)
- [3Com Network Director](#)
- [3Com Network Access Manager](#)
- [3Com Enterprise Management Suite](#)
- [Integration Kit with HP OpenView Network Node Manager](#)

Details of these and other 3Com Network Management Solutions can be found at www.3com.com/network_management

3Com Network Supervisor

3Com® Network Supervisor (3NS) is an easy-to-use management application that graphically discovers, maps, and monitors the network and links. It maps devices and connections so you can easily:

- Monitor stress levels
- Set thresholds and alerts
- View network events
- Generate reports in user-defined formats
- Launch embedded device configuration tools

3NS is configured with intelligent defaults and the ability to detect network misconfigurations. It can also offer optimization suggestions, making this application ideal for network managers with all levels of experience.

To find out more about 3Com Network Supervisor and to download a trial version, go to: www.3com.com/3ns

3Com Network Director

3Com Network Director (3ND) is a standalone application that allows you to carry out key management and administrative tasks on midsized networks. By using 3ND you can discover, map, and monitor all your 3Com devices on the network. It simplifies tasks such as backup and restore for 3Com device configurations as well as firmware and agent upgrades. 3ND makes it easy to roll out network-wide configuration changes with its intelligent VLAN configuration tools and the powerful template based configuration tools. Detailed statistical monitoring and historical reporting give you visibility into how your network is performing.

To find out more about how 3Com Network Director can help you manage your 3Com network and to download a trial version, go to: www.3com.com/3nd

3Com Network Access Manager

3Com Network Access Manager is installed seamlessly into Microsoft Active Directory and Internet Authentication Service (IAS). It simplifies the task of securing the network perimeter by allowing the administrator to easily control network access directly from the "Users and Computers" console in Microsoft Active Directory. With a single click, a user (or even an entire department) can be moved to a different VLAN, or a computer can be blocked from connecting to the network.

3Com Network Access Manager leverages the advanced desktop security capabilities of 3Com switches and wireless access points (using IEEE 802.1X or RADA desktop authentication) to control both user and computer access to the network.

To find out more about 3Com Network Access Manager, go to: www.3com.com/NAM

3Com Enterprise Management Suite

3Com Enterprise Management Suite (EMS) delivers comprehensive management that is flexible and scalable enough to meet the needs of the largest enterprises and advanced networks.

This solution provides particularly powerful configuration and change control functionalities, including the capability to:

- Customize scheduled bulk operations
- Create a detailed audit trail of all network changes
- Support multiple distributed IT users with varying access levels and individualized network resource control

The client-server offering operates on Windows and UNIX (Linux and Solaris) systems.

3Com EMS is available in four packages, varying in the maximum number of devices actively managed. These include SNMP-capable devices such as switches, routers, security switches, the 3Com VCX™ IP Telephony server, and wireless access points:

- Up to 250 devices
- Up to 1,000 devices
- Up to 5,000 devices
- An unlimited number of devices

To find out more about 3Com Enterprise Management Suite, go to: www.3com.com/ems

Integration Kit with HP OpenView Network Node Manager

3Com Integration Kit for HP OpenView Network Node Manager offers businesses the option of managing their 3Com network directly from HP OpenView Network Node Manager. The kit includes Object IDs, icons, MIBs, and traps for 3Com devices. The package supports both Windows platforms and UNIX or Solaris platforms. It can be installed as a standalone plug-in to HP OpenView, or used with a 3Com management application such as 3Com Enterprise Management Suite (EMS).

To find out more about 3Com Integration Kit for HP OpenView Network Node Manager, go to: www.3com.com/hpovintkit

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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.

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。