3Com® Switch 5500 Family
Getting Started Guide

Switch 5500-SI
Switch 5500-EI
Switch 5500G-EI
CONTENTS

ABOUT THIS GUIDE
Release Notes 10
Conventions 10
Related Documentation 10
Accessing the Documentation 11
Documentation Comments 12

1 INTRODUCING THE
SWITCH 5500 FAMILY
About the Switch 5500 Family 14
   Summary of Hardware Features 15
Switch 5500 Family — Front View 16
   Switch 5500G-EI 17
   10BASE-T/100BASE-TX/1000BASE-T Ports 18
   1000BASE-X SFP Ports 19
   100BASE-X SFP Ports (Switch 5500-EI FX only) 19
   Console Port 19
   Unit LED 20
   LEDs 20
Switch 5500 — Rear View Detail 23
   Switch 5500G-EI 24
   Expansion Module Slot (Switch 5500G-EI Only) 24
   Power Socket 24
   Open Book Warning Labels 24
   Redundant Power System Socket 25
   Stacking Cable Ports (Switch 5500G-EI) 25
Default Settings 26
## 2 INSTALLING THE SWITCH

### Package Contents 28

### Choosing a Suitable Site 29

### Rack-mounting 30

- Switch 5500 (non PoE) 30
- Switch 5500 and Switch 5500G-EI (PoE) 32

### Connecting a Redundant Power Supply 33

- Specifying the Redundant Power System 36
- Connecting the Switch to the Redundant Power System 37
- Connecting the Earthing Cable 38
- RPS LED 39
- Using Power over Ethernet 39

### Placing Units On Top of Each Other 40

### The Power-up Sequence 40

- Powering-up the Switch 5500 40
- Checking for Correct Operation of LEDs 40
- Choosing the Correct Cables 41
- Choosing the Correct Cables for the 1000BASE-X SFP Ports 42
- Choosing the Correct Cables for the 100BASE-X SFP Ports 43

### SFP Operation 44

- Approved 1000BASE-X SFP Transceivers 44
- Approved 100BASE-X SFP Transceivers 45
- Inserting an SFP Transceiver 46
- Removing an SFP Transceiver 47

### Packing and Shipping the Switch 5500 48

- The Switch 5500G 48
- The Switch 5500SI and EI 49
- The Switch 5500-EI PWRs 49

## 3 SETTING UP FOR MANAGEMENT

### Methods of Managing a Switch 52

- Command Line Interface Management 52
- Command Line Interface Management using SSH 53
- Web Interface Management 53
- SNMP Management 53

### Setting Up Your Switch 54
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>CREATING AN XRN STACKING FABRIC</td>
<td>71</td>
</tr>
<tr>
<td>5</td>
<td>PROBLEM SOLVING</td>
<td>78</td>
</tr>
<tr>
<td>6</td>
<td>UPGRADING SOFTWARE</td>
<td>84</td>
</tr>
</tbody>
</table>
TFTP  87
FTP (via a network port)  89
XModem (via the console cable)  90
Upgrading from the Bootrom Interface  91
  Introduction  91
  TFTP  93
  FTP  93
  XModem  94
Bootrom Upgrade  95
  Bootrom Upgrade via TFTP  96
  Bootrom Upgrade via FTP  96
  Bootrom Upgrade via XModem  97

A  SAFETY INFORMATION
Power Cord Set — Japan  100
Important Safety Information  100
L’information de Sécurité Importante  103
Wichtige Sicherheitsinformationen  106
Información de Seguridad Importante  108
Importanti Informazioni di Sicurezza  111
Wa¿ne informacje o zabezpieczeniach  114

B  PIN-OUTS
Null Modem Cable  119
PC-AT Serial Cable  119
Modem Cable  120
Ethernet Port RJ-45 Pin Assignments  120

C  TECHNICAL SPECIFICATIONS
Switch 5500 (28 Port)  124
Switch 5500 PWR (28 Port)  125
Switch 5500 (52 Port)  126
Switch 5500 PWR (52 Port)  127
Switch 5500 FX (28 Port)  128
Switch 5500G-EI (24 Port)  129
Switch 5500G-EI PWR (24 Port)  130
D

OBTAINING SUPPORT FOR YOUR PRODUCT

Register Your Product  137
Purchase Value-Added Services  137
Troubleshoot Online  138
Access Software Downloads  138
Telephone Technical Support and Repair  138
Contact Us  139

INDEX

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

<table>
<thead>
<tr>
<th>Table 1  Switch 5500 Family</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Switch Model</strong></td>
</tr>
<tr>
<td>Switch 5500-SI 28-Port</td>
</tr>
<tr>
<td>Switch 5500-SI 52-Port</td>
</tr>
<tr>
<td>Switch 5500-EI 28-Port</td>
</tr>
<tr>
<td>Switch 5500-EI 52-Port</td>
</tr>
<tr>
<td>Switch 5500-EI PWR 28-Port</td>
</tr>
<tr>
<td>Switch 5500-EI PWR 52-Port</td>
</tr>
<tr>
<td>Switch 5500-EI 28-Port FX</td>
</tr>
<tr>
<td>Switch 5500G-EI 24-Port</td>
</tr>
<tr>
<td>Switch 5500G-EI 48-Port</td>
</tr>
<tr>
<td>Switch 5500G-EI PWR 24-Port</td>
</tr>
<tr>
<td>Switch 5500G-EI PWR 48-Port</td>
</tr>
<tr>
<td>Switch 5500G-EI 24-Port SFP</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Icon</th>
<th>Notice Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![i]</td>
<td>Information note</td>
<td>Information that describes important features or instructions</td>
</tr>
<tr>
<td>![⚠️]</td>
<td>Caution</td>
<td>Information that alerts you to potential data loss or potential damage to an application, system, or device</td>
</tr>
<tr>
<td>![⚠️]</td>
<td>Warning</td>
<td>Information that alerts you to potential personal injury</td>
</tr>
</tbody>
</table>

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

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

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

pddtechpubs_comments@3com.com

Please include the following information when commenting:

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

Example:

Part Number 10014925 rev. AC
Switch 5500 Family Getting Started Guide
Page 21

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

<table>
<thead>
<tr>
<th>Switch 5500 Family</th>
<th>10BASE-T/100BASE-TX Ports</th>
<th>10BASE-T/100BASE-TX/1000BASE-T Ports</th>
<th>10/100/1000 Port PoE Ports</th>
<th>100BASE-X SFP Ports</th>
<th>1000BASE-X SFP Ports</th>
<th>Stacking Ports</th>
<th>RJ-45 Console Port</th>
<th>-48V DC RPS Input</th>
<th>Module Slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch 5500-SI 28 Port</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500-SI 52 Port</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500-EI 28 Port</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500-EI 52 Port</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500 PWR 28 Port</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500 PWR 52 Port</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500 FX 28 Port</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500G-EI 24 Port</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500G-EI 48 Port</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch 5500G-EI SFP 24 Port</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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>
<thead>
<tr>
<th>Feature</th>
<th>Switch 5500 Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAC Addresses</td>
<td>Up to 16,000 supported</td>
</tr>
<tr>
<td>Forwarding Modes</td>
<td>Store and Forward</td>
</tr>
<tr>
<td>Auto-negotiation</td>
<td>Supported on all ports</td>
</tr>
<tr>
<td>Auto MDI/MDIX</td>
<td>Supported on all ports. If fiber SFP transceivers are used, Auto MDIX is not supported.</td>
</tr>
<tr>
<td>Duplex Modes</td>
<td>Half and full duplex on all ports</td>
</tr>
<tr>
<td>Flow Control</td>
<td>In full duplex mode, all ports are supported.</td>
</tr>
<tr>
<td>Smart Auto-sensing</td>
<td>Supported on all copper ports</td>
</tr>
<tr>
<td></td>
<td>Eight traffic queues per port</td>
</tr>
<tr>
<td>Power over Ethernet (Switch 5500)</td>
<td>Supported on front panel ports, except for the SFP ports. (3CR17171 and 3CR17172 only)</td>
</tr>
<tr>
<td>Power over Ethernet (Switch 5500G-EI)</td>
<td>Supported on all front panel ports, except for the SFP ports, when fitted with PoE PSUs (3CR17254 and 3CR17255).</td>
</tr>
<tr>
<td>Ethernet and Fast Ethernet Ports (Switch 5500)</td>
<td>Auto-negotiating 10BASE-T/100BASE-TX or 100BASE-X ports.</td>
</tr>
<tr>
<td>Fast Ethernet and Gigabit Ethernet Ports (Switch 5500G-EI)</td>
<td>Auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T and SFP ports.</td>
</tr>
<tr>
<td>100BASE-X SFP Ports</td>
<td>Supports 100BASE-LX10 10km single-mode and 100BASE-FX 2km multi-mode transceivers.</td>
</tr>
<tr>
<td>1000BASE-X Gigabit Ethernet SFP Ports</td>
<td>Supports fiber Gigabit Ethernet short-wave (SX), long-wave (LX), long-haul (LH70), and copper (T) transceivers in any combination</td>
</tr>
</tbody>
</table>
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 74.

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 78.

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 40.

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

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.                                                        |
### LED Indicators

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>Indicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off</td>
<td></td>
<td>No links is present.</td>
</tr>
</tbody>
</table>

#### 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**: 10/100/1000 Duplex and Activity, 1000 SFP Duplex and Activity, or Stack Activity.
- **Speed**: 10/100/1000 Port Speed and Activity, 1000 SFP Status and Activity, or Stack Status and Activity.
- **PoE**: 10/100/1000 port showing PoE information.

#### RPS LED
### Switch 5500 — Rear View Detail

#### LED

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>Indicates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>AC and RPS supply connected.</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>AC failed or not connected. RPS supply is OK.</td>
<td></td>
</tr>
<tr>
<td>Off</td>
<td>There is no RPS supply connected.</td>
<td></td>
</tr>
</tbody>
</table>

#### PWR LED

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

---

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

**Figure 10** Switch 5500-EI PWR - rear view
Chapter 1: Introducing the Switch 5500 Family

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. Contact your supplier for further information.

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 6 shows the default settings for the Switch 5500 Family:

**Table 6  Default Settings**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Switch 5500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic IP Configuration</td>
<td>Enabled</td>
</tr>
<tr>
<td>Port Status</td>
<td>Enabled</td>
</tr>
<tr>
<td>Port Speed</td>
<td>Auto-negotiated</td>
</tr>
<tr>
<td>Duplex Mode</td>
<td>Auto-negotiated</td>
</tr>
<tr>
<td>Power over Ethernet</td>
<td>Enabled (3CR17171-91 and 3CR17172-91 only)</td>
</tr>
<tr>
<td>Flow Control</td>
<td>Auto-negotiated</td>
</tr>
<tr>
<td>Broadcast Storm Control</td>
<td>Enabled</td>
</tr>
<tr>
<td>Virtual LANs (VLANs)</td>
<td>All ports belong to the untagged Default VLAN (VLAN 1) with IEEE Std 802.1Q-1998 learning operational</td>
</tr>
<tr>
<td>Management VLAN</td>
<td>Fixed as VLAN 1 on 5500-SI units. Can be any VLAN for 5500-EI/5500G-EI units.</td>
</tr>
<tr>
<td>Link Aggregation Control Protocol (LACP)</td>
<td>Disabled per port</td>
</tr>
<tr>
<td>IP Multicast Filtering</td>
<td>Filtering enabled</td>
</tr>
<tr>
<td>Rapid Spanning Tree Protocol</td>
<td>Enabled</td>
</tr>
<tr>
<td>Fast Start</td>
<td>Enabled on front panel ports</td>
</tr>
<tr>
<td>RMON Alarm</td>
<td>Enabled</td>
</tr>
<tr>
<td>Webcache Support</td>
<td>Disabled</td>
</tr>
<tr>
<td>Traffic Prioritization</td>
<td>All ports prioritize NBX VoIP traffic (LAN and IP). All ports set to “best effort” for all other traffic.</td>
</tr>
<tr>
<td>Port Security</td>
<td>Disabled per port</td>
</tr>
<tr>
<td>Configuration Save and Restore</td>
<td>Disabled</td>
</tr>
<tr>
<td>Spanning Tree Protocol</td>
<td>Enabled</td>
</tr>
<tr>
<td>Smart Auto-sensing</td>
<td>Enabled</td>
</tr>
</tbody>
</table>
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 7 below details the packaging contents specific to each unit in the Switch 5500 Family.
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.

### Table 7 Package Contents

<table>
<thead>
<tr>
<th></th>
<th>Switch 5500-SI 28 and 52 Port</th>
<th>Switch 5500-El 28 and 52 Port</th>
<th>Switch 5500 PWIR 28 and 52 Port</th>
<th>Switch 5500 FX 28 Port</th>
<th>Switch 5500G-EI 24 Port</th>
<th>Switch 5500G-EI 48 Port</th>
<th>Switch 5500G-EI SFP 28 Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blanking Plate</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>12A RPS Connector and Backshell (incl. cable tie and earthing lead)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>25A RPS Connector and Backshell (incl. cable tie and earthing lead)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2 x Front Securing Brackets</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>2 x Back Securing Brackets</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4 x Screws</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6 x Screws</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
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 12.
3 Insert the two screws and tighten them with a suitable screwdriver.

**Figure 12** 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 12.
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 13.

The bracket has two mounting positions. The one you choose depends on the rack depth. Table 8 describes the correct positions on which to mount the bracket:

<table>
<thead>
<tr>
<th>Distance from Front to Rear</th>
<th>Mounting Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>37cm — 25cm</td>
<td>Middle mounting point</td>
</tr>
<tr>
<td>43cm — 56cm</td>
<td>Rear mounting point</td>
</tr>
</tbody>
</table>

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

---

**Figure 13** 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.
**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 123.

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.
■ **Uninterruptible 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 9 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 9  Switch Power Inputs**

<table>
<thead>
<tr>
<th>Power Input before User Intervention</th>
<th>Power Input after User Intervention</th>
<th>Correct Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC mains and RPS</td>
<td>RPS only</td>
<td>The unit remains powered by the RPS.</td>
</tr>
<tr>
<td>AC mains and RPS</td>
<td>AC mains only</td>
<td>The unit is powered by the AC mains. 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. 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.</td>
</tr>
<tr>
<td>RPS only</td>
<td>AC mains and RPS</td>
<td>The unit remains powered by the RPS.</td>
</tr>
<tr>
<td>AC mains</td>
<td>AC mains and RPS</td>
<td>The unit is powered by the RPS. Full PoE power can be enabled on all ports.</td>
</tr>
</tbody>
</table>
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 123.

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 10 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 10  Power Availability

<table>
<thead>
<tr>
<th>Rectifiers</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Rectifier Redundancy</td>
<td>1500W</td>
<td>3000W</td>
<td>4500W</td>
<td>6000W</td>
<td>7500W</td>
<td>9000W</td>
</tr>
<tr>
<td>N+1 Rectifier Redundancy</td>
<td>-</td>
<td>1500W</td>
<td>3000W</td>
<td>4500W</td>
<td>6000W</td>
<td>7500W</td>
</tr>
</tbody>
</table>

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.

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 11 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 11  Switch 5500 Circuit Breaker and Cable Ratings**

<table>
<thead>
<tr>
<th>Circuit Breaker</th>
<th>Minimum 2-Core Cable Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non PoE</td>
<td>6A C type 18 AWG (solid or stranded cable)</td>
</tr>
<tr>
<td>PoE</td>
<td>25A C type 12 AWG (solid or stranded cable)</td>
</tr>
</tbody>
</table>

**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 14 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 14.
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 123.

*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).
Connecting a Redundant Power Supply

**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 12.

**Table 12  RPS LED Colors**

<table>
<thead>
<tr>
<th>Color</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>The AC and RPS supply is connected.</td>
</tr>
<tr>
<td>Yellow</td>
<td>The AC supply has failed or is not connected. The RPS supply is connected.</td>
</tr>
<tr>
<td>Off</td>
<td>There is no RPS supply connected.</td>
</tr>
</tbody>
</table>

**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 an unpowered 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).

### Placing Units On Top of Each Other

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.

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.

### The Power-up Sequence

The following sections describe how to prepare your Switch 5500 for operation.

#### Powering-up the Switch 5500

To power-up the Switch:

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.

   The Switch powers-up and runs through its Power On Self Test (POST), which takes approximately one minute.

#### Checking for Correct Operation of LEDs

During the POST, all ports on the Switch are disabled and the LEDs blink in a rapid sequence.

When the POST has completed, check the Unit Status to make sure that your Switch is operating correctly. Table 13 describes the possible LED colors.
Table 13  Unit Status Colors

<table>
<thead>
<tr>
<th>Color</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>The Switch is powered-up and operating normally.</td>
</tr>
<tr>
<td>Green flashing</td>
<td>The Power On Self Test (POST) is in process, or software is downloading.</td>
</tr>
<tr>
<td>Red</td>
<td>The Switch has failed its Power On Self Test (POST).</td>
</tr>
<tr>
<td>Off</td>
<td>The Switch is not receiving power.</td>
</tr>
</tbody>
</table>

If you encounter a problem, see the section entitled “Solving Problems Indicated by LEDs” on page 78 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 14.

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.).
CHAPTER 2: INSTALLING THE SWITCH

Table 14  Cables required to connect the Switch to other devices with auto-negotiation disabled

<table>
<thead>
<tr>
<th></th>
<th>Cross-over Cable</th>
<th>Straight-through Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch to Switch</td>
<td>✓</td>
<td>√</td>
</tr>
<tr>
<td>(MDIX to MDIX)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch to Hub</td>
<td>✓</td>
<td>√</td>
</tr>
<tr>
<td>(MDIX to MDIX)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch to PC (NIC)</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>(MDIX to MDI)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.
The Power-up Sequence

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 16 describes the port cable range for each connection:

### Table 15 1000BASE-X SFP Port Cable Range

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Diameter (microns)</th>
<th>Modal Bandwidth (MHz km)</th>
<th>Transmission Range in meters (in feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1000BASE-SX</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-mode</td>
<td>62.5</td>
<td>160</td>
<td>2m - 220m (6.6 ft - 721.8 ft)</td>
</tr>
<tr>
<td>Multi-mode</td>
<td>62.5</td>
<td>200</td>
<td>2m - 275m (6.6 ft - 902.3 ft)</td>
</tr>
<tr>
<td>Multi-mode</td>
<td>50</td>
<td>400</td>
<td>2m - 500m (6.6 ft - 1640.5 ft)</td>
</tr>
<tr>
<td>Multi-mode</td>
<td>50</td>
<td>500</td>
<td>2m - 550m (6.6 ft - 1804.6 ft)</td>
</tr>
<tr>
<td><strong>1000BASE-LX</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-mode</td>
<td>62.5</td>
<td>500</td>
<td>2m - 550m (6.6 ft - 1804.6 ft)</td>
</tr>
<tr>
<td>Multi-mode</td>
<td>50</td>
<td>400</td>
<td>2m - 550m (6.6 ft - 1804.6 ft)</td>
</tr>
<tr>
<td>Multi-mode</td>
<td>50</td>
<td>500</td>
<td>2m - 550m (6.6 ft - 1804.6 ft)</td>
</tr>
<tr>
<td>Single-mode</td>
<td>9</td>
<td></td>
<td>2m - 10,000m (6.6 ft - 32,810 ft)</td>
</tr>
<tr>
<td><strong>1000BASE-LH70</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-mode</td>
<td>9 core</td>
<td></td>
<td>2m - 70 km (6.5 ft - 43 miles)</td>
</tr>
</tbody>
</table>

### Table 16 100BASE-X SFP Port Cable Range

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Diameter (microns)</th>
<th>Modal Bandwidth (MHz km)</th>
<th>Transmission Range in meters (in feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>100BASE-FX 2Km</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-mode</td>
<td>62.5</td>
<td>160</td>
<td>2m - 2000m (6.5 ft - 6,562 ft)</td>
</tr>
<tr>
<td>Multi-mode</td>
<td>50</td>
<td>400</td>
<td>2m - 2000m (6.5 ft - 6,562 ft)</td>
</tr>
<tr>
<td><strong>100BASE-LX10 10Km</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-mode</td>
<td>9</td>
<td></td>
<td>2m - 10,000m (6.5 ft - 32,808 ft)</td>
</tr>
</tbody>
</table>
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 79.

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 79.

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 15) 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 15* 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 20 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.
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 16.

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 16** 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 17.

Figure 17  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 16) and not facing forward.
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 18), or remotely over the network (see Figure 19).

![Figure 18 CLI Management via the Console Port](image)

![Figure 19 CLI Management over the Network](image)

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 65.

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 20).

Figure 20  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 67.

SNMP Management

You can manage a Switch using any network management workstation running the Simple Network Management Protocol (SNMP) as shown in Figure 21. For example, you can use the 3Com Network Director software, available from the 3Com Web site.

Figure 21  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 68.
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 22 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 22  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 69.

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 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 57.

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 63.

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 52.

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 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 Appendix B on page 119.

- 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 23.

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>
Manually Configuring the IP Information

or <5500-xx> displays (where xx is either SI or EI) as shown in Figure 24.

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

Figure 24  User View 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 52 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 63 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 67.
- 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 67.
- 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 25.

![Figure 25](image-url)  
*Connecting a Workstation to the Switch through a Front Panel Port*
To connect the cable:

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

*i* 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 52 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-EI>` or `<5500-xx>` is displayed (where `xx` is either SI or EI) as shown in the example in Figure 26.

   ![Figure 26 User View Login using Telnet](image)

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 52 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 58.
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 27.

   **Figure 27**  User View Login

   ![Figure 27 User View Login]

   ```plaintext
   Login authentication
   Username:admin
   Password:
   <468H>
   Apr 5 17:22:13:209 2000 <5500 SHELL/S>LOGIN:-- 1 - admin(161.71.164.110) in unit 0 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 52 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 57.

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 52.

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
CHAPTER 3: SETTING UP FOR MANAGEMENT

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-EI> or <5500-xx> (where xx is either SI or EI, as shown in Figure 24 on page 59).

---

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 52.

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 52.
- 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 17).

Choosing a Browser

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

Table 17  Supported Web Browsers and Platforms

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Netscape 7.1</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>✓</td>
</tr>
<tr>
<td>Internet Explorer 5.5</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Internet Explorer 6.0</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Mozilla 1.4</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
CHAPTER 3: SETTING UP FOR MANAGEMENT

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 correct Management Information Bases (MIBs) are installed on the management workstation.
- The management workstation is connected to the Switch using a port in VLAN 1 (the default VLAN). By default, all ports on the Switch are in VLAN 1.

You can use the 3Com Network Director application (available from 3Com’s Web site) to provide SNMP management for your Switch. 3Com Network Director automatically loads the correct MIBs and necessary files onto your workstation.
Changing the Default Passwords

Prerequisites

Before attempting to set up SNMP management, make sure that you have the documentation supplied with the SNMP network management application software.

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, specify SNMP community strings for the users defined on the Switch. 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 18.

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 18 Default Users

<table>
<thead>
<tr>
<th>User Name</th>
<th>Default Password</th>
<th>Access Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>monitor</td>
<td>monitor</td>
<td>This user can view all manageable parameters, except special/security features, but cannot change any manageable parameters</td>
</tr>
<tr>
<td>manager</td>
<td>manager</td>
<td>This user can access and change the operational parameters, but not special/security features</td>
</tr>
<tr>
<td>admin</td>
<td>(no password)</td>
<td>This user can access and change all manageable parameters</td>
</tr>
</tbody>
</table>
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 xxxxxxxx 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 19 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 for 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 19  SuperStack 4 Switch 5500 Support for XRN Distributed Fabric

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

* 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 19) 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 19.

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 28 on page 75.

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 28 on page 75.

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

Figure 29  Resilient Fabric example (using 4 Switch 5500-EI units)

If you are having problems, refer to “Solving Fabric Formation Problems” on page 82.
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.
Solving Hardware Problems

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 123.

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 44 and “Approved 100BASE-X SFP Transceivers” on page 45.

**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:


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
Chapter 6: Upgrading Software

The Contents of the Executable File

The self extracting executable file (xxxxxxxx.exe — where xxxxxxxx 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 xxxxxxxx.exe and xxxxxxxxxNetMan.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)

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).

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.

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.cfg`. To back up the default configuration file on each Switch in the fabric, enter:

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

   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
   ```
Upgrading from the Command Line Interface

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)

(see Table 20 for further details:)

<table>
<thead>
<tr>
<th>Filename Prefix</th>
<th>Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>s4a</td>
<td>SuperStack 4 Switch 5500-SI software</td>
</tr>
<tr>
<td>s4b</td>
<td>SuperStack 4 Switch 5500-EI software</td>
</tr>
<tr>
<td>s4c</td>
<td>SuperStack 4 Switch 5500G-EI software</td>
</tr>
<tr>
<td>s4e</td>
<td>SuperStack 4 Switch 5500 Family bootrom software</td>
</tr>
</tbody>
</table>

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: 3765073 byte(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 88.

5 Now activate these files as described in “Command Line Interface Switch Setup”, steps 1 to 3 on page 88.

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]? [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.
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:

5 Copy these files as described in “File Distribution”, steps 1 to 4 on page 88.

6 Now activate these files as described in “Command Line Interface Switch Setup”, steps 1 to 3 on page 88.
CHAPTER 6: UPGRADING SOFTWARE

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.
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.

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...CCCCCCCCCCCCCCCCCCCCCCCCCCCCC

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:

<table>
<thead>
<tr>
<th>File Number</th>
<th>File Size (bytes)</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(*)</td>
<td>4649088</td>
<td>s4b03_01_04s56.app</td>
</tr>
</tbody>
</table>

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.
CHAPTER 6: UPGRADING SOFTWARE

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

Enter your choice (0-5):
3 Select option 2 to set the baudrate to 19200.

You will also need to change the baudrate 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
...CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
```

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:

```
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCdone!
Bootrom updating...........done!
```
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
APPENDIX A: SAFETY INFORMATION

**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、アース線がされていることを確認してから行なってください。アース線をはずす場合は、電源コードが接地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**
  - The cord set must be UL-approved and CSA certified.
  - The minimum specification for the flexible cord is:
    - No. 18 AWG
    - Type SV or SJ
    - 3-conductor
  - The cord set must have a rated current capacity of at least 10A.
  - The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.

- **United Kingdom only**
  - The supply plug must comply with BS1363 (3-pin 13 amp) and be fitted with a 5A fuse which complies with BS1362.
  - The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).
Important Safety Information

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 H03VF3GO.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 123.

**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 agrémenté dans le pays d’utilisation:

- **Etats-Unis et Canada**
  - Le cordon doit avoir reçu l’homologation des UL et un certificat de la CSA
  - Le cordon souple doit respecter, à titre minimum, les spécifications suivantes :
    - calibre 18 AWG
    - type SV ou SJ
    - à 3 conducteurs
    - Le cordon doit être en mesure d’acheminer un courant nominal d’au moins 10 A
    - La prise femelle de branchement doit être du type à mise à la terre (mise à la masse) et respecter la configuration NEMA 5-15P (15 A, 125 V) ou NEMA 6-15P (15 A, 250 V)

- **Danemark**
  - La prise mâle d’alimentation doit respecter la section 107-2 D1 de la norme DK2 1a ou DK2 5a

- **Europe**
  - La prise secteur doit être conforme aux normes CEE 7/7 ("SCHKO")
  - LE cordon secteur doit porter la mention <HAR> ou <BASEC> et doit être de type HO3VVF3GO.75 (minimum).

- **Suisse**
  - La prise mâle d’alimentation doit respecter la norme SEV/ASE 1011

**AVERTISSEMENT**: Le coupleur d’appareil (le connecteur du groupe et non pas la prise murale) doit respecter une configuration qui permet un branchement sur une entrée d’appareil EN60320/CEI 320.
AVERTISSEMENT: La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile.

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).


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 benötigt.

**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 schmaleren 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 HO3VV-F3G0.75 (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.


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 Schutzschalter 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 Schutzschalter an der RPS beim Anschließen des RPS-Kabels und des Steckers des 3Com Switch in der geöffneten Stellung (Aus) befindet.

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**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: Nº 18 AWG Tipo SV o SJ Tres conductores
- El conjunto de cables debe tener una capacidad de corriente nominal de al menos 10 A.
- El enchufe de conexión debe ser de tipo de toma de tierra con una configuración NEMA 5-15P (15 A, 125 V) o NEMA 6-15P (15 A, 250 V).

Sólo para el Reino Unido
- La toma de alimentación debe cumplir la norma BS1363 (3 patillas, 13 A) e instalarse con un fusible de 5 A que cumpla BS1362.
- El cable de alimentación de red debe tener la marca <HAR> o <BASEC> y ser de tipo H03VVF3G0.75 (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 H03VVF3G0.75 (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 esté encendido. No mire nunca directamente al puerto de transmisión de fibra óptica ni a los extremos del cable de fibra óptica mientras estén conectados.

**ADVERTENCIA:** 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 superflu (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 Switch 3Com.

**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 H03VVF3G0.75 (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 H03VVF3G0.75 (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/A SE 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. 

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:
Niezbedna jest zgodnosc z przepisami kraju, w którym jest stosowany:

Stany Zjednoczone i Kanada
- Zestaw przewodów musi posiadac zezwolenie UL oraz certyfikat CSA.
- Minimalna specyfikacja przewodu giętkiego: Przewód typu SV lub SJ 3 o średnicy 18 wg specyfikacji AWG.
- Zestaw przewodów musi posiadac pojemnosc pradu znamionowego przynajmniej 10A.

Wielka Brytania
- Wtyczka musi byc zgodna z norma BS1363 (3-pinowa 13 amperów) i musi byc wyposazona w bezpiecznik 5A zgodny z norma BS1362.
- Przewód sieci zasilajacej musi byc oznaczony <HAR> lub <BASEC> i musi byc typu H03VVF3g0.75 (minimum).

Europa
- Wtyczka zasilajaca musi byc zgodna z norma CEE 7/7 („SCHUKO”).
- Przewód sieci zasilajacej musi byc oznaczony <HAR> lub <BASEC> i musi byc typu H03VVF3g0.75 (minimum).

Dania
- Wtyczka zasilajaca musi byc zgodna z sekcja 107-2-D1 normy DK2-1a lub DK2-5a.

Szwajcaria
- Wtyczka zasilajaca musi byc zgodna z norma SEV/ASE 1011.

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

OSTRZEŻENIE: Gniazdo zasilajace musi byc umieszczone w pobli¿u urzadzenia i musi byc łatwo dostepne.

OSTRZEŻENIE: Urzadzenie to pracuje w warunkach SELV (Safety Extra Low Voltage – Bezpieczne niskie napi¿cie) zgodnie z norma IEC 60950. Takie warunki s¹ zachowane tylko, je¿li osprzęt, do którego jest pod³¹czone, równie¿ 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-
menta a tierra. †Impédance †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 osłonami lub nieosłonami wtykami mogą być podłączone do tych gniazd.

**OSTRZEŻENIE:** Porty światłowodowe – bezpieczeństwo

To urządzenie ma kilka punktów podłączenia zasilania. Aby włączyć 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 końcówek uziemienia z tyłu urządzenia do dobrego elementu uziemiającego. Należy upewnić się, że urządzenie zostało uziemione przed podłączeniem zasilacza prądu stałego do zasilacza RPS.
OSTRZEŻENIE: Wszystkie zasilacze RPS muszą mieć certyfikat nieuzo-
emionego źródła zasilania SELV zgodny z normami IEC 60950-1/UL
60950-1/EN 60950-1.

OSTRZEŻENIE: Te instrukcje należy przeczytać razem z charaktery-
styką 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 ujem-
na końcówka przełącznika jest podłączona do ujemnej końcówki
(wyłącznika) zasilacza RPS.
**Null Modem Cable**  
RJ-45 to RS-232 25-pin

<table>
<thead>
<tr>
<th>Switch 5500</th>
<th>PC/Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable connector: RJ-45 female</td>
<td>Cable connector: 25-pin male/female</td>
</tr>
<tr>
<td>Screen</td>
<td>1 Screen</td>
</tr>
<tr>
<td>TxD</td>
<td>3 RxD</td>
</tr>
<tr>
<td>RxD</td>
<td>2 TxD</td>
</tr>
<tr>
<td>Ground</td>
<td>7 Ground</td>
</tr>
<tr>
<td>RTS</td>
<td>4 RTS</td>
</tr>
<tr>
<td>CTS</td>
<td>20 DTR</td>
</tr>
<tr>
<td>DSR</td>
<td>5 CTS</td>
</tr>
<tr>
<td>DCD</td>
<td>6 DSR</td>
</tr>
<tr>
<td>DTR</td>
<td>8 DCD</td>
</tr>
</tbody>
</table>

**PC-AT Serial Cable**  
RJ-45 to 9-pin

<table>
<thead>
<tr>
<th>Switch 5500</th>
<th>PC-AT Serial Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable connector: RJ-45 female</td>
<td>Cable connector: 9-pin female</td>
</tr>
<tr>
<td>Screen</td>
<td>DCD</td>
</tr>
<tr>
<td>TxD</td>
<td>RxD</td>
</tr>
<tr>
<td>RxD</td>
<td>TxD</td>
</tr>
<tr>
<td>CTS</td>
<td>DTR</td>
</tr>
<tr>
<td>Ground</td>
<td>Ground</td>
</tr>
<tr>
<td>DSR</td>
<td>DSR</td>
</tr>
<tr>
<td>RTS</td>
<td>RTS</td>
</tr>
<tr>
<td>DCD</td>
<td>CTS</td>
</tr>
</tbody>
</table>
APPENDIX B: PIN-OUTS

Modem Cable

RJ-45 to RS-232 25-pin

Switch 5500
Cable connector: RJ-45 female

RS-232 Modem Port
Cable connector: 25-pin male

<table>
<thead>
<tr>
<th>Screen</th>
<th>Shell</th>
<th>1</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>TxD</td>
<td>2</td>
<td>2</td>
<td>TxD</td>
</tr>
<tr>
<td>RxD</td>
<td>3</td>
<td>3</td>
<td>RxD</td>
</tr>
<tr>
<td>RTS</td>
<td>7</td>
<td>4</td>
<td>RTS</td>
</tr>
<tr>
<td>CTS</td>
<td>8</td>
<td>5</td>
<td>CTS</td>
</tr>
<tr>
<td>DSR</td>
<td>6</td>
<td>6</td>
<td>DSR</td>
</tr>
<tr>
<td>Ground</td>
<td>5</td>
<td>7</td>
<td>Ground</td>
</tr>
<tr>
<td>DCD</td>
<td>1</td>
<td>8</td>
<td>DCD</td>
</tr>
<tr>
<td>DTR</td>
<td>4</td>
<td>20</td>
<td>DTR</td>
</tr>
</tbody>
</table>

Ethernet Port RJ-45 Pin Assignments

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

Table 10 Pin assignments

<table>
<thead>
<tr>
<th>Pin Number</th>
<th>10/100</th>
<th>1000</th>
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</thead>
<tbody>
<tr>
<td>Ports configured as MDI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Transmit Data +</td>
<td>Bidirectional Data A+</td>
</tr>
<tr>
<td>2</td>
<td>Transmit Data –</td>
<td>Bidirectional Data A-</td>
</tr>
<tr>
<td>3</td>
<td>Receive Data +</td>
<td>Bidirectional Data B+</td>
</tr>
<tr>
<td>4</td>
<td>Not assigned</td>
<td>Bidirectional Data C+</td>
</tr>
<tr>
<td>5</td>
<td>Not assigned</td>
<td>Bidirectional Data C-</td>
</tr>
<tr>
<td>6</td>
<td>Receive Data –</td>
<td>Bidirectional Data B-</td>
</tr>
<tr>
<td>7</td>
<td>Not assigned</td>
<td>Bidirectional Data D+</td>
</tr>
<tr>
<td>8</td>
<td>Not assigned</td>
<td>Bidirectional Data D-</td>
</tr>
</tbody>
</table>
Table 11  Pin assignments

<table>
<thead>
<tr>
<th>Pin Number</th>
<th>10/100</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ports configured as MDIX</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Receive Data +</td>
<td>Bidirectional Data B+</td>
</tr>
<tr>
<td>2</td>
<td>Receive Data -</td>
<td>Bidirectional Data B-</td>
</tr>
<tr>
<td>3</td>
<td>Transmit Data +</td>
<td>Bidirectional Data A+</td>
</tr>
<tr>
<td>4</td>
<td>Not assigned</td>
<td>Bidirectional Data A-</td>
</tr>
<tr>
<td>5</td>
<td>Not assigned</td>
<td>Bidirectional Data D+</td>
</tr>
<tr>
<td>6</td>
<td>Transmit Data –</td>
<td>Bidirectional Data D-</td>
</tr>
<tr>
<td>7</td>
<td>Not assigned</td>
<td>Bidirectional Data C+</td>
</tr>
<tr>
<td>8</td>
<td>Not assigned</td>
<td>Bidirectional Data C-</td>
</tr>
</tbody>
</table>
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)

<table>
<thead>
<tr>
<th>Physical Dimensions</th>
<th>Height: 44 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 274 mm (10.8 in.)</th>
<th>Weight: 4.4kg (9.72 lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 ° to 40 °C (32 ° to 104 °F)</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>−10 ° to +70 °C (14 ° to 158 °F)</td>
<td></td>
</tr>
<tr>
<td>Operating Humidity</td>
<td>95% non-condensing</td>
<td></td>
</tr>
<tr>
<td>Standards</td>
<td>EN60068 to 3Com schedule (Package testing: paras 2.1, 2.2, 2.30, and 2.32.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operational testing: paras 2.1, 2.2, 2.30 and 2.13).</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency Certifications</td>
<td>UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950</td>
<td></td>
</tr>
<tr>
<td>EMC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions</td>
<td>CISPRR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A,</td>
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<tr>
<td></td>
<td>ICES-003 Class A, EN61000-3-2, EN61000-3-3</td>
<td></td>
</tr>
<tr>
<td>Immunity</td>
<td>EN 55024</td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>80 watts maximum</td>
<td></td>
</tr>
<tr>
<td>Heat Dissipation</td>
<td>275 BTU/hour maximum</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line Frequency</td>
<td>50/60Hz</td>
<td></td>
</tr>
<tr>
<td>Input Voltage</td>
<td>100-240 VAC</td>
<td></td>
</tr>
<tr>
<td>Current Rating</td>
<td>1.0A (amps) maximum</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Voltage</td>
<td>-48 - -60 VDC</td>
<td></td>
</tr>
<tr>
<td>Current Rating</td>
<td>2.0A (amps) maximum</td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td>SELV (Safety Extra Low Voltage)</td>
<td></td>
</tr>
</tbody>
</table>
Switch 5500 PWR (28 Port)

**Physical Dimensions**
- Height: 43.6 mm (1.7 in.)
- Width: 440 mm (17.3 in.)
- 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)

<table>
<thead>
<tr>
<th><strong>Physical Dimensions</strong></th>
<th>Height: 44 mm (1.7 in.) x Width: 440 mm (17.3 in.) x Depth: 274 mm (10.8 in.)</th>
<th>Weight: 4.7kg (10.9 lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Requirements</strong></td>
<td>Operating Temperature: 0 ° to 40 °C (32 ° to 104 °F)</td>
<td>Storage Temperature: −10 ° to +70 °C (14 ° to 158 °F)</td>
</tr>
<tr>
<td></td>
<td>Operating Humidity: 95% non-condensing</td>
<td>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).</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>Agency Certifications: UL60950, EN60950, CSA 22.2 No. 60950, IEC 60950</td>
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<tr>
<td><strong>EMC</strong></td>
<td>Emissions: CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A,</td>
<td>Immunity: EN 55024</td>
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<td>ICES-003 Class A, VCCI Class A,</td>
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</tr>
<tr>
<td></td>
<td>EN61000-3-2, EN61000-3-3</td>
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<tr>
<td><strong>Power Consumption</strong></td>
<td>80 watts maximum</td>
<td></td>
</tr>
<tr>
<td><strong>Heat Dissipation</strong></td>
<td>275 BTU/hour maximum</td>
<td></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC</strong></td>
<td>Line Frequency: 50/60Hz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Input Voltage: 100-240 VAC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Rating: 1.0A (amps) maximum</td>
<td></td>
</tr>
<tr>
<td><strong>DC</strong></td>
<td>Input Voltage: -48 - -60 VDC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current Rating: 2.0A (amps) maximum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Characteristics: SELV (Safety Extra Low Voltage)</td>
<td></td>
</tr>
</tbody>
</table>
### Switch 5500 PWR (52 Port)

**Physical Dimensions**  
Height: 44 mm (1.7 in.)  
Width: 440 mm (17.3 in.)  
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 | CISPRR 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)  

APPENDIX C: TECHNICAL SPECIFICATIONS
Switch 5500G-EI (24 Port)

<table>
<thead>
<tr>
<th>Physical Dimensions</th>
<th>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</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Environmental Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
</tr>
<tr>
<td>Storage Temperature</td>
</tr>
<tr>
<td>Operating Humidity</td>
</tr>
<tr>
<td>Standards</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety Agency Certifications</th>
<th>UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950</th>
</tr>
</thead>
</table>

| EMC Emissions                | CISPRR 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                                           |

<table>
<thead>
<tr>
<th>Power Consumption</th>
<th>170 watts maximum</th>
</tr>
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<tbody>
<tr>
<td>Heat Dissipation</td>
<td>580 BTU/hour maximum</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Supply AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Frequency</td>
</tr>
<tr>
<td>Input Voltage</td>
</tr>
<tr>
<td>Current Rating</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Supply DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage</td>
</tr>
<tr>
<td>Current Rating</td>
</tr>
<tr>
<td>Characteristics</td>
</tr>
</tbody>
</table>
### Switch 5500G-EI PWR (24 Port)

<table>
<thead>
<tr>
<th><strong>Physical Dimensions</strong></th>
<th>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</th>
</tr>
</thead>
</table>
| **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: CISPRR 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)  
Heat Dissipation: 580 BTU/hour maximum (not including PoE load)  
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**: CISPRR 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
- **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)

<table>
<thead>
<tr>
<th>Physical Dimensions</th>
<th>Height: 43.6 mm (1.7 in.) x Width: 440 mm (17.32 in.) x Depth: 420 mm (16.54 in.). Weight: 9.85kg</th>
</tr>
</thead>
</table>
| **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: CISPRR 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.)
- Width: 440 mm (17.32 in.)
- Depth: 420 mm (16.54 in.)
- Weight: 8.9 kg

### Environmental Requirements
- **Operating Temperature**: 0 °C to 40 °C (32 °F to 104 °F)
- **Storage Temperature**: -10 °C to +70 °C (14 °F to 158 °F)
- **Operating Humidity**: 10–95% relative humidity, non-condensing
- **Standards**: EN60068 to 3Com schedule (package testing: paras 2.1, 2.2, 2.3.0, and 2.3.2. Operational testing: paras 2.1, 2.2, 2.3.0, and 2.13.)

### Safety
- **Agency Certifications**: UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950

### EMC
- **Emissions**: CISPRR 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

<table>
<thead>
<tr>
<th>SNMP</th>
<th>Terminal Emulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNMP protocol (RFC 1157)</td>
<td>Telnet (RFC 854)</td>
</tr>
<tr>
<td>MIB-II (RFC 1213)</td>
<td></td>
</tr>
<tr>
<td>Bridge MIB (RFC 1493)</td>
<td>UDP (RFC 768)</td>
</tr>
<tr>
<td>RMON MIB II (RFC 2021)</td>
<td>IP (RFC 791)</td>
</tr>
<tr>
<td>Remote Monitoring MIB (RFC 1757)</td>
<td>ICMP (RFC 792)</td>
</tr>
<tr>
<td>MAU MIB (RFC 2239)</td>
<td>TCP (RFC 793)</td>
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<tr>
<td>MIB II Traps (RFC 1215)</td>
<td>ARP (RFC 826)</td>
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<tr>
<td>RS232 (RFC 1659)</td>
<td>TFTP (RFC 783)</td>
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<tr>
<td>Interfaces (RFC 2233)</td>
<td>DHCP (RFC 2131, RFC 2132, RFC 1534)</td>
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<tr>
<td>Ether-like MIB (RFC 2665)</td>
<td>BOOTP (RFC 951, RFC 1497)</td>
</tr>
<tr>
<td>MAU MIB (RFC 2668)</td>
<td>Network Login (IEEE 803.1x)</td>
</tr>
<tr>
<td>Bridge extensions (RFC 2674)</td>
<td>RADIUS (RFC 2618, 2620)</td>
</tr>
</tbody>
</table>

### Terminal Emulation

- Telnet (RFC 854)
- UDP (RFC 768)
- IP (RFC 791)
- ICMP (RFC 792)
- TCP (RFC 793)
- ARP (RFC 826)
- TFTP (RFC 783)
- DHCP (RFC 2131, RFC 2132, RFC 1534)
- BOOTP (RFC 951, RFC 1497)
- Network Login (IEEE 803.1x)
- 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

<table>
<thead>
<tr>
<th>Emissions</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunity</td>
<td>EN 55024</td>
</tr>
</tbody>
</table>

### Output Specifications
Must meet DC power supply specifications for each unit (as defined above).
### Earthing Lead

<table>
<thead>
<tr>
<th>Safety Requirements</th>
<th>The Earthing Lead shall comply with the following safety standards:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UL Subject 758, UL 1581 and CSA C22.2 No. 210</td>
</tr>
<tr>
<td></td>
<td>UL VW-1 and CSA FT1 Vertical Flame Test</td>
</tr>
<tr>
<td>Voltage Rating</td>
<td>600V</td>
</tr>
<tr>
<td>AWG</td>
<td>12</td>
</tr>
<tr>
<td>Insulation Thickness</td>
<td>0.4mm</td>
</tr>
<tr>
<td>Insulation Color</td>
<td>Green/Yellow</td>
</tr>
</tbody>
</table>
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/](http://www.3com.com/)

3Com Knowledgebase helps you troubleshoot 3Com products. This query-based interactive tool is located at [http://knowledgebase.3com.com](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/](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/](http://eSupport.3com.com/), or under the Product Support heading at [http://www.3com.com/](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/](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/

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

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

<table>
<thead>
<tr>
<th><strong>Europe, Middle East, and Africa</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>From anywhere in these regions, call:</td>
<td>+44 (0)1442 435529</td>
<td></td>
</tr>
<tr>
<td>From the following countries, you may use the numbers shown:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX D: OBTAINING SUPPORT FOR YOUR PRODUCT

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

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

<table>
<thead>
<tr>
<th>Country</th>
<th>Telephone Number</th>
<th>Country</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigua</td>
<td>1 800 998 2112</td>
<td>Guatemala</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Argentina</td>
<td>0 810 444 3COM</td>
<td>Haiti</td>
<td>57 1 657 0888</td>
</tr>
<tr>
<td>Aruba</td>
<td>1 800 998 2112</td>
<td>Honduras</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Bahamas</td>
<td>1 800 998 2112</td>
<td>Jamaica</td>
<td>1 800 998 2112</td>
</tr>
<tr>
<td>Barbados</td>
<td>1 800 998 2112</td>
<td>Martinique</td>
<td>571 657 0888</td>
</tr>
<tr>
<td>Belize</td>
<td>52 5 20 0010</td>
<td>Mexico</td>
<td>01 800 849CARE</td>
</tr>
<tr>
<td>Bermuda</td>
<td>1 800 998 2112</td>
<td>Nicaragua</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Bonaire</td>
<td>1 800 998 2112</td>
<td>Panama</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Brazil</td>
<td>0800 13 3COM</td>
<td>Paraguay</td>
<td>54 11 4894 1888</td>
</tr>
<tr>
<td>Cayman</td>
<td>1 800 998 2112</td>
<td>Peru</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Chile</td>
<td>AT&amp;T +800 998 2112</td>
<td>Puerto Rico</td>
<td>1 800 998 2112</td>
</tr>
<tr>
<td>Colombia</td>
<td>AT&amp;T +800 998 2112</td>
<td>Salvador</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>AT&amp;T +800 998 2112</td>
<td>Trinidad and Tobago</td>
<td>1 800 998 2112</td>
</tr>
<tr>
<td>Curacao</td>
<td>1 800 998 2112</td>
<td>Uruguay</td>
<td>AT&amp;T +800 998 2112</td>
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<tr>
<td>Ecuador</td>
<td>AT&amp;T +800 998 2112</td>
<td>Venezuela</td>
<td>AT&amp;T +800 998 2112</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>AT&amp;T +800 998 2112</td>
<td>Virgin Islands</td>
<td>57 1 657 0888</td>
</tr>
</tbody>
</table>

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
INDEX

I
installing the Switch 27
- prerequisites 30
IP addressing
- registered 81
IP configuration 55

L
LEDs 20
logging in as a default user 69

M
management
- methods 52
- preparing for 56
- setting up 51
manual setup
- console port 57
- front panel port 60
MDI configuration 41
MDIX configuration 41

P
passwords
- of default users 69
pin assignments
- modem cable 120
- null modem cable 119
- RJ45 120
- serial cable 119
pin-outs 119
ports 10/100/1000 18
power over ethernet (PoE) 39
power socket 24
powering-up a Switch 5500 40
problem solving 77, 83
- communication problems 80
- hardware problems 79
IP addressing 79
LEDs 78

R
rack mounting a Switch 5500 30
redundant power supply (RPS) 33
redundant power system socket 25
related documentation 10

A
access levels of default users 69
automatic setup 63
- 3Com Network Director 63
- console port 63

B
browsers
- choosing 67

C
cable 25
- 10/100/1000 41
- pin-outs 119
command line interface
- management 52
console port 19
conventions
- notice icons, About This Guide 10
- cross-over configuration 41

D
default
- settings 26
- users 69
documentation
- related 10

E
earthing cable 38
expansion module 24

F
factory defaults 26

H
hardware features 15
INDEX

S
safety information
   English 100
   French 103
   German 106
   Italian 111
   Spanish 108
SFP
   operation 43
   transceivers 44, 45
Simple Network Management Protocol. See SNMP
SNMP 68
SNMP management 53
   setting up 68
socket
   power 24
specifications, system 123
SSH 66
stacking 25, 41
stacking cable ports 25
straight-through configuration 41
Switch
   automatic setup 63
Switch 5500
   dimensions 123
   features 15
   installation 27, 30
   power socket 24
   powering-up 40
   rack mounting 30
   size 123
   weight 123
   XRN Distributed Fabric 71, 72
   system specifications 123

T
troubleshooting 77, 83

U
upgrading software
   bootrom 91
   bootrom via FTP 96
   bootrom via TFTP 96
   bootrom via XModem 97
   file distribution 88
   FTP 89, 93
   TFTP 87, 93
   XModem 90, 94

W
Web browsers
   choosing 67
web interface
   choosing a browser 67
web interface management 53
   setting up 67
X
XModem 90
XRN
   Distributed Fabric 71, 72
   Fully Resilient Fabric 73
   Guidelines for Interconnecting Units 74
   How to Interconnect Units 71
   Switch 5500 Support 72
   Unit Numbering 74
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)
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（V C C I）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。