Catalyst GigaStack Gigabit Interface Converter Hardware Installation Guide

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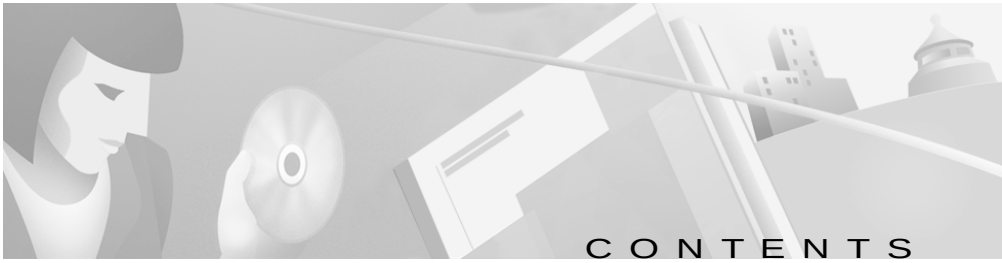

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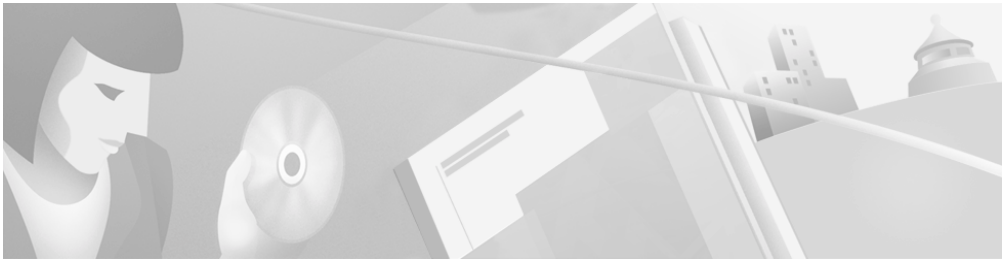

About This Guide

This section defines the audience and scope of this guide and briefly describes the contents of each chapter. There are also descriptions of the icons and conventions used to convey instructions and information.

Audience and Scope

This guide is for the technician installing the GigaStack Gigabit Interface Converter (GBIC), hereafter referred to as the GigaStack GBIC. We assume that you are familiar with the concepts and terminology of Ethernet and local-area networking. This guide provides the information you need to install the GigaStack GBIC and troubleshoot problems associated with their installation.

Note The GigaStack GBICs and their ports are managed through one of the management interfaces of a gigabit-capable switch. For more information on managing GigaStack GBICs, see the *Cisco IOS Desktop Switching Software Configuration Guide*.

Document Organization

This guide is organized into the following chapters:

Chapter 1, “Overview,” describes the modules and their key features. It contains a physical description of the modules, a description of the networking standards they support, and several examples of how they can be deployed in real networks.

Chapter 2, “Installation,” explains how to install the modules.

Chapter 3, “Troubleshooting,” describes how to identify and resolve common module installation and cabling problems.

Appendix A, “Technical Specifications,” lists the physical and environmental specifications of the modules and the regulatory agency approvals.

Appendix B, “Connectors and Cables,” describes the cables and connectors that can connect to the GigaStack GBIC ports.

Appendix C, “Translated Safety Warnings,” contains translations of the warnings in this guide.

Notes, Cautions, and Warnings

Notes, cautions, and warnings use the following conventions and symbols:

Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

Caution Means reader be careful. In this situation, you might do something that could result in equipment damage or loss of data.

Notes, Cautions, and Warnings

Warning **This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with the standard practices for preventing accidents. The warning symbol also means that you can see the warning in multiple languages in "Translated Safety Warnings."**

Waarschuwing **Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. Het waarschuwingssymbool betekent ook dat u de waarschuwing in meerdere talen in "Translated Safety Warnings" kunt vinden.**

Varoitus **Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Varoitusmerkki tarkoittaa myös sitä, että varoitus esiintyy useilla kielillä osassa "Translated Safety Warnings".**

Attention **Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Le symbole d'avertissement signifie également que cet avis se trouve traduit dans plusieurs langues dans la section «Translated Safety Warnings».**

Notes, Cautions, and Warnings

Warnung **Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. Das Warnsymbol bedeutet auch, daß Sie die Warnung in verschiedenen Sprachen unter "Translated Safety Warnings" lesen können.**

Avvertenza **Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. Il simbolo di avvertenza indica inoltre che l'avvertenza viene presentata in diverse lingue in "Translated Safety Warnings".**

Advarsel **Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du vare oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Dette varselsymbolet betyr også at du kan lese advarselen på flere språk i «Translated Safety Warnings».**

Aviso **Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Este símbolo serve também para indicar que poderá ler este tipo de aviso em várias línguas na secção: "Translated Safety Warnings."**

Related Publications

¡Atención! **Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. Este símbolo de aviso también significa que la misma advertencia aparece en varios idiomas bajo el título "Translated Safety Warnings."**

Varning! **Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. Denna varningssymbol innebär också att du kan se varningsmeddelandet på flera språk i "Translated Safety Warnings."**

Related Publications

Refer to the following product documentation for the GigaStack GBIC, Catalyst 3500 series XL switches, and Catalyst 2900 series XL switches.

- *Quick Start: Catalyst 3500 Series XL Cabling and Setup*
- *Quick Start: Catalyst 2900 Series XL Cabling and Setup*
- *Catalyst 3500 Series XL Hardware Installation Guide*
- *Catalyst 2900 Series XL Hardware Installation Guide*
- *Cisco IOS Desktop Switching Software Configuration Guide*
- *Cisco IOS Desktop Switching Command Reference* (online only)
- *Release Notes for Catalyst 2900 and Catalyst 3500 Series XL Cisco IOS Release 12.0(5)XU*

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Spanish	tac@cisco.com
Thai	thai-tac@cisco.com

In North America, TAC can be reached at 800 553-2447 or 408 526-7209. For other telephone numbers and TAC e-mail addresses worldwide, consult the following web site: http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml.

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CHAPTER 1

Overview

The GigaStack Gigabit Interface Converter (GBIC) adds port density and high-performance connectivity to a Catalyst 3500 XL or Catalyst 2900 XL network. You can install the GigaStack GBIC in a 3500 XL switch or into a 1000BaseX module residing in a modular 2900 XL switch. When installed in a 3500 XL switch or a 2900 XL module, the GigaStack GBIC supports 1000BaseX connections. The GigaStack GBIC autonegotiates the duplex settings of each port to maximize the bandwidth for your configuration.

Key Features

This section describes the GigaStack GBIC in detail. The following list describes the key features.

- Half-duplex stacking using only one GBIC slot for each switch

  Stack up to nine switches to form an independent backbone that can be managed with a single IP address. This stack gives the appearance of a single large switch for network management purposes. For this kind of connectivity, see “Example 1: Cascade Stack Connection.”

- Full-duplex connectivity between two switches

  You can also form a point-to-point link between two switches. The GigaStack GBIC supports one full-duplex link (in a point-to-point configuration) or up to eight half-duplex links (in a stack configuration) to other gigabit Ethernet devices. For this kind of connectivity, see “Example 2: Point-to-Point Connection.”

- Management through the Cisco IOS command-line interface (CLI) or the web-based Visual Switch Manager (VSM)
- Field-replaceability
- Support for IOS Release 12.0(5)XU or later
  - Virtual Local Area Network (VLAN) integration

    Supports Virtual Terminal Protocol (VTP) and Media Access Control (MAC) address-based static VLANs. See the *Cisco IOS Desktop Switching Command Reference* (online only) and the *Cisco IOS Desktop Switching Software Configuration Guide* for VLAN configuration information.
  - Per-VLAN Spanning Tree Plus (PVST+)

    An independent spanning tree instance runs on each VLAN. See the *Cisco IOS Desktop Switching Command Reference* and the *Cisco IOS Desktop Switching Software Configuration Guide* for spanning tree configuration information.
  - Trunking (IEEE 802.1Q and ISL)

    The GigaStack GBIC supports setting a trunk to IEEE 802.1Q or Inter-Switch Link (ISL) mode. Enter the **switchport mode trunk** command to configure trunk ports and to add VLANs to the allowed VLAN list for existing trunks. See the **switchport mode trunk** command description in the *Cisco IOS Desktop Switching Command Reference*.

Supported Switches

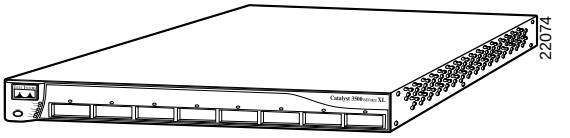
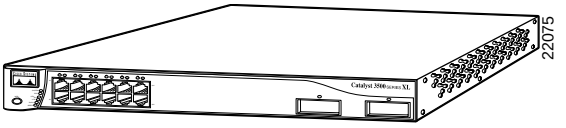
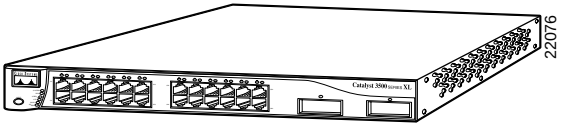
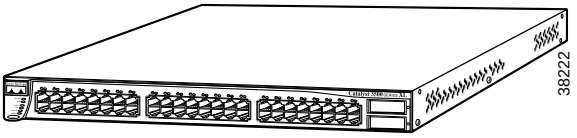
This section lists the various switches that support the GigaStack GBIC.

Caution Installing this product in or connecting this product to an unauthorized device might cause damage to the device.

Table 1-1 lists the Catalyst 3500 series switches supporting the GigaStack GBIC.

Note To use the GigaStack GBIC with a 3500 XL switch or 2900 XL modular switch, ensure that the switch is running IOS Release 12.0(5)XU or later. For software upgrade procedures, refer to the *Cisco IOS Desktop Switching Software Configuration Guide*.

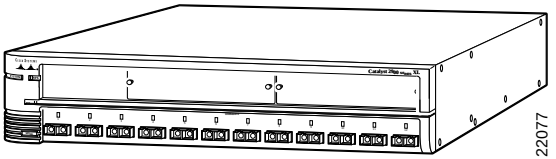
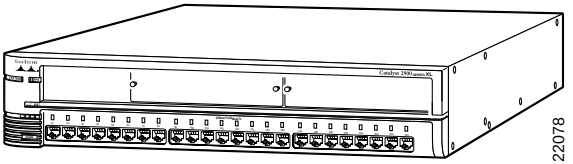
Table 1-1 Catalyst 3500 series switches supporting the GigaStack GBIC

Model Number	Description	Switch
Catalyst 3508G XL	8 autosensing 10/100 Ethernet ports	
Catalyst 3512 XL	12-port 10/100 switch with 2 GigaStack GBIC ports	
Catalyst 3524 XL	24-port 10/100 switch with 2 GigaStack GBIC ports	
Catalyst 3548-XL	48 autosensing 10/100 Ethernet ports with 2 GBIC-based Gigabit module slots	

A GigaStack GBIC can be installed into a 1000BaseX module to provide gigabit connectivity to Catalyst 2900 series switches (see also “Supported Module”).

Table 1-2 lists the Catalyst 2900 series switches supporting the GigaStack GBIC.

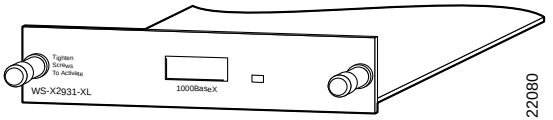
Table 1-2 Supported Catalyst 2900 Series Switches

Model Number	Description	Switch
Catalyst 2912MF XL	12 100BaseFX ports 2 high-speed expansion slots	 22077
Catalyst 2924M XL	24 fixed autosensing 10/100 ports 2 high-speed expansion slots	 22078

Supported Module

Table 1-3 lists the modules supporting the GigaStack GBIC.

Table 1-3 Supported Module

Part Number	Description	Module
WS-X2931-XL	1 1000BaseX port	 22080

The GigaStack GBIC with Support Devices

You can install a GigaStack GBIC in the 1000BaseX port on compatible switches and in the 1000BaseX module. Figure 1-1 shows a GigaStack GBIC, and the GigaStack GBIC part numbers are listed in Table 1-4.

Figure 1-1 GigaStack GBIC

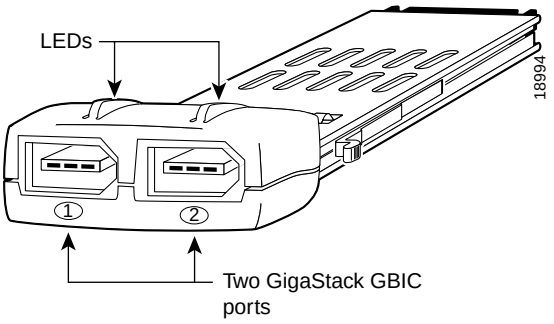


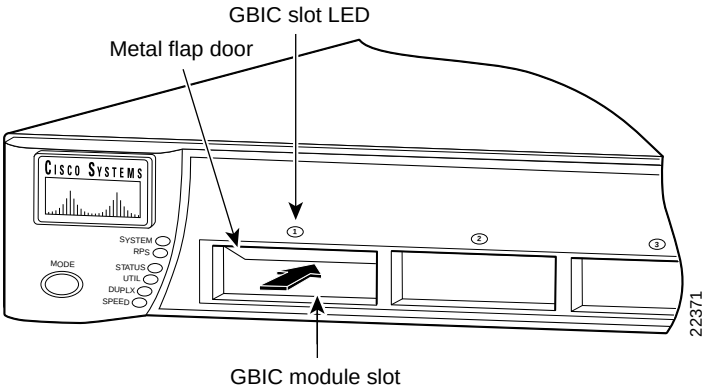
Table 1-4 GigaStack GBIC Part Number

Part Number	Description
WS-X3500-XL	GigaStack GBIC

Note GigaStack GBICs are sold separately from the module and the switches.

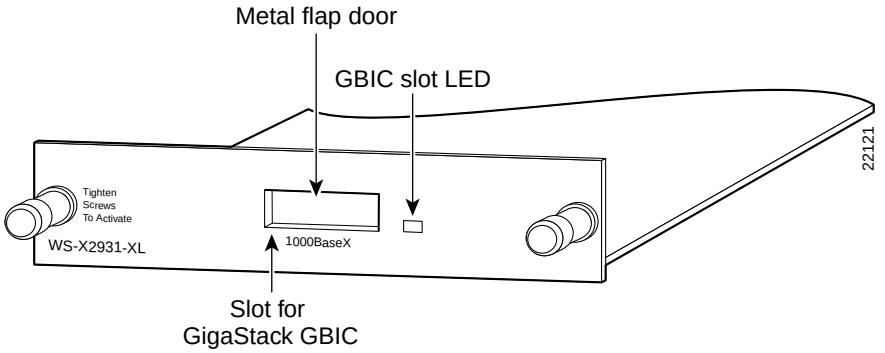
Figure 1-2 shows how a GigaStack GBIC fits through cutouts in the front of the switch.

Figure 1-2 GigaStack GBIC Slots on the Switch



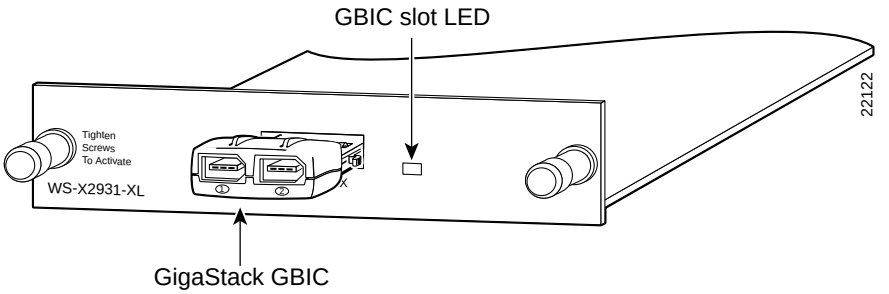
The 1000BaseX module, shown in Figure 1-3, provides one switched 1000-Mbps port in half-duplex, full-duplex, or autonegotiation mode that uses a GigaStack GBIC connector. The port supports the IEEE 802.3z 1000BaseX standard.

Figure 1-3 GigaStack GBIC Slot on the 1000BaseX Module



You can install a GigaStack GBIC in the front of the module, as shown in Figure 1-4.

Figure 1-4 1000BaseX Module with an installed GigaStack GBIC



LEDs

An LED above each GigaStack GBIC slot on a 2900 XL or 3500 XL switch or next to the GigaStack GBIC port on the 1000BaseX module reflects the port status, as described in Table 1-5.

Table 1-5 GigaStack GBIC Slot Port LEDs

Color	Meaning
Off	No link.
Green	Link present.
Flashing green	Activity; port is transmitting or receiving data.
Alternating green-amber	The port is experiencing error frames that can affect connectivity. The port monitors errors such as excessive collisions, CRC errors, and alignment errors.
Amber	Port is not forwarding. Port was disabled by management or an address violation, or it was blocked by Spanning Tree Protocol.

An LED on each GigaStack GBIC reflects the port status, as described in Table 1-6.

Table 1-6 GigaStack GBIC Port LEDs

Color	Meaning
Off	No link.
Green	Link present. This link occurs when you connect the Cisco proprietary cables into a GigaStack GBIC port.
Amber	Failed power-on self-test (POST) or an unauthorized cable is used.

Cabling Guidelines

This section describes the cabling guidelines you need to consider when planning your network.

The GigaStack GBIC uses the following Cisco proprietary cables. See Figure 1-5 and Table 1-7 for more information.

The maximum distance for a GBIC-to-GBIC connection is 1 meter. The GigaStack GBIC requires Cisco proprietary signaling and cabling. For more information on cabling, see Appendix B, “Connectors and Cables.”

Figure 1-5 GigaStack GBIC Cables

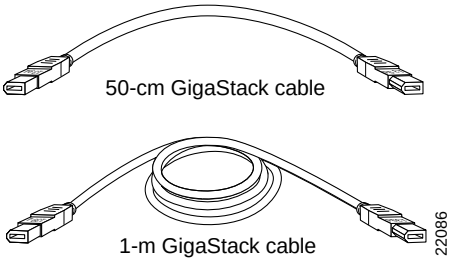


Table 1-7 GigaStack GBIC Cable Part Numbers

Part Number	Cable Length
CAB-GS-50CM	50 cm
CAB-GS-1M	1 m

Note The 50-cm cable comes with the GigaStack GBIC. You can order additional cables.

Caution Do not use standard IEEE 1394 cables with the GigaStack GBIC. You must use one of the Cisco proprietary cables (CAB-GS-50CM or CAB-GS-1M). If you use any other cable, you will not have connectivity.

Caution Do not use the GigaStack GBIC with standard IEEE 1394 equipment. You might damage the equipment or lose data.

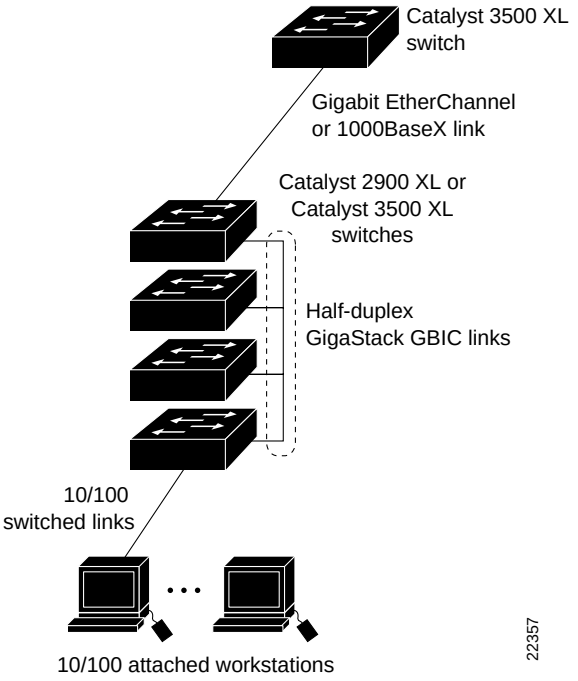
Deployment Examples

This section contains examples that use the GigaStack GBIC as a gigabit uplink to aggregate traffic in a switched and shared network.

Example 1: Cascade Stack Connection

Figure 1-6 shows the GigaStack GBIC cascaded together in a half-duplex stack configuration.

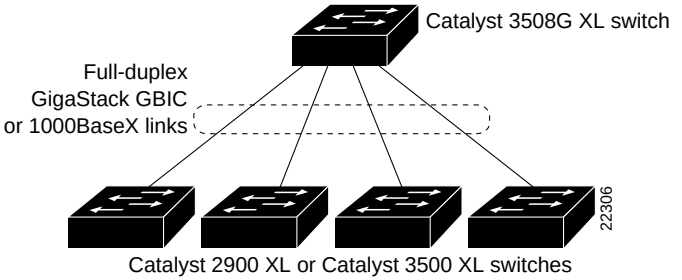
Figure 1-6 Cascade Connection



Example 2: Point-to-Point Connection

Figure 1-7 shows the 3500 XL switch aggregating traffic by using a GigaStack GBIC as a full-duplex, point-to-point uplink connection.

Figure 1-7 Point-to-Point Connection



CHAPTER 2

Installation

This chapter describes how to install and remove the GigaStack GBIC.

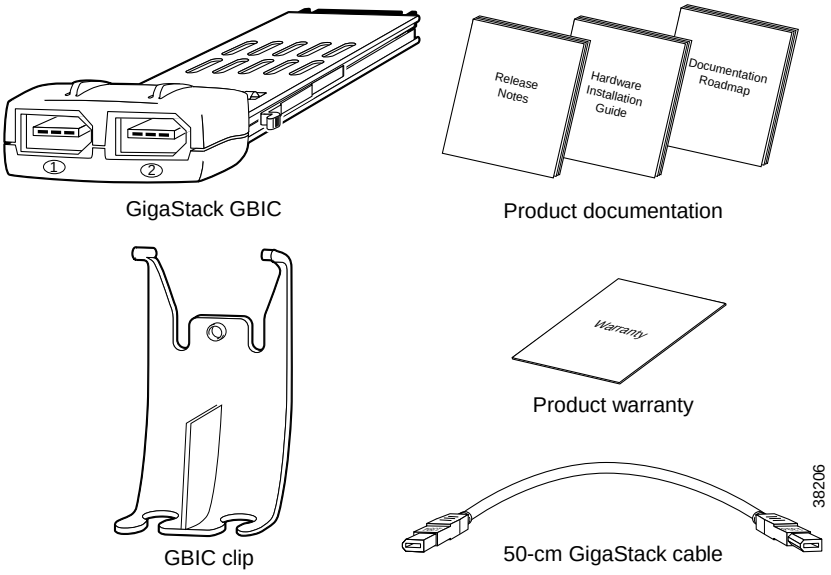
The GigaStack GBIC can be installed while the switch is running and requires no configuration. You can manage GBIC ports as you would manage fixed ports on the switch. The web-based Visual Switch Manager (VSM) is a graphical interface for monitoring and controlling port features, and you can use the console port or Telnet to access the IOS command-line interface.

Inspecting the Packing List

Before you install a GigaStack GBIC, ensure that the following items are included in the package:

- GigaStack GBIC
- A 50-cm cable
- GBIC clip
- Warranty card
- Release Notes for the GigaStack GBIC

Figure 2-1 Package Contents



If anything is missing, contact your Cisco Systems customer service representative.

Note You can order a 1-m cable separately.

EMC Regulatory Statements

This section lists international regulatory information for the GigaStack GBIC.

U.S.A.

U.S. regulatory information for this product is in the front matter of this manual.

Taiwan

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

15456

Avoiding Electrostatic Discharge

Before you install the GigaStack GBIC, ground yourself by touching a piece of metal to avoid electrostatic discharge (ESD). You should also take the following precautions to prevent damage to the GigaStack GBIC:

- Keep the GigaStack GBIC in its antistatic shielded bag until you are ready to install it.
- Handle the GigaStack GBIC by its edges.

Installing a GigaStack GBIC

Gigabit Ethernet devices are shipped without the GigaStack GBIC installed. You can install the GBIC into GigaStack GBIC slots, as shown in Figure 2-2.

Note The GigaStack GBIC is not hot-swappable.

To install a GigaStack GBIC, do the following:

Step 1 Remove the GigaStack GBIC from its protective packaging.

Step 2 If you want to install the GigaStack cable connector (referred to hereafter as the clip) before inserting the GBIC into the switch, see “Installing the GBIC Clip” section on page 2-5.

Note You can attach the clip to the GigaStack GBIC either before or after you insert the GBIC into the switch.

Step 3 Grip the sides of the GBIC with your thumb and forefinger, and insert it into the GBIC slot on the front panel of the gigabit Ethernet switching module, as shown in Figure 2-2.

Figure 2-2 Inserting the GigaStack GBIC into a Catalyst 3508G XL Switch

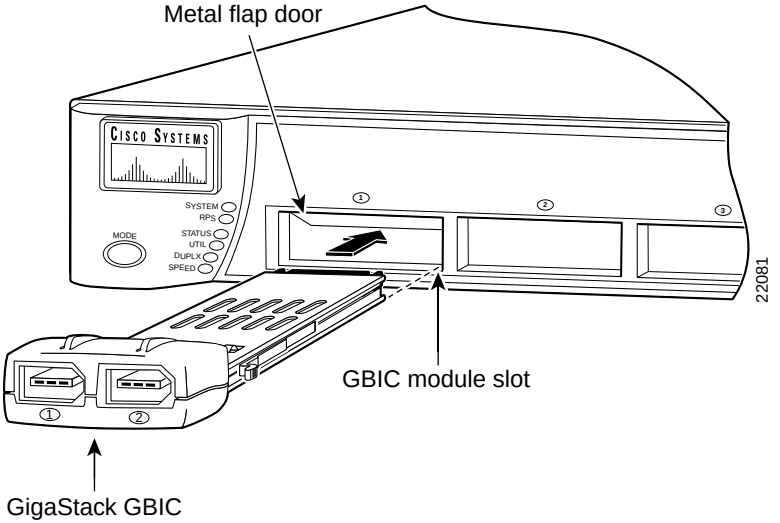
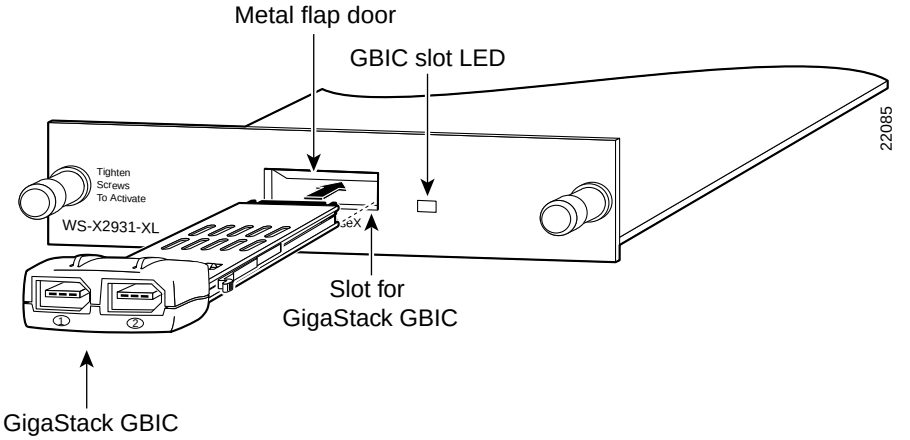


Figure 2-3 Inserting the GigaStack GBIC into a Catalyst 2900 Series XL Module



Note The GigaStack GBIC is keyed to prevent incorrect insertion.

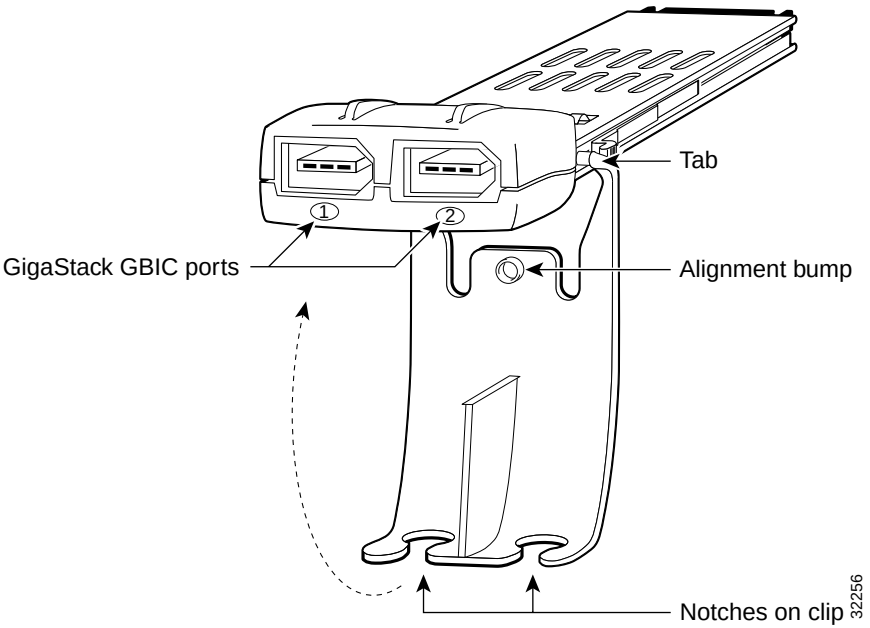
Step 4 Slide the GigaStack GBIC through the flap covering the opening into the slot until you hear a click. The click means the GigaStack GBIC is locked into the slot.

Installing the GBIC Clip

Each GigaStack GBIC now ships with a removable clip that can be attached to provide extra security against accidental cable removal. Install the clip as follows:

Step 1 Attach the clip to the GBIC by carefully inserting the tabs on the clip into the slots on either side of the GBIC, in the orientation shown in Figure 2-2. Slide the clip toward the port side of the GBIC.

Figure 2-4 Attaching the GBIC clip



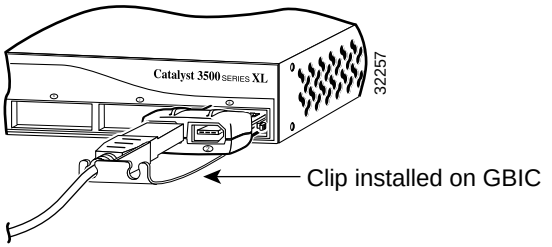
Note You can attach the clip to the GigaStack GBIC either before or after you insert the GBIC into the switch.

Step 2 Insert the cable connector into the GBIC receptacle according to your configuration.

Step 3 Swing the GBIC clip up toward the GBIC so that the alignment bump in the clip seats in the indentation on the bottom of the GBIC.

Step 4 Secure the cable in the notches on the clip. Refer to Figure 2-4.

Figure 2-5 Securing the Cables in the GBIC Clip



Step 5 If you have not already done so, insert the GBIC into the switch.

Recommended Configuration

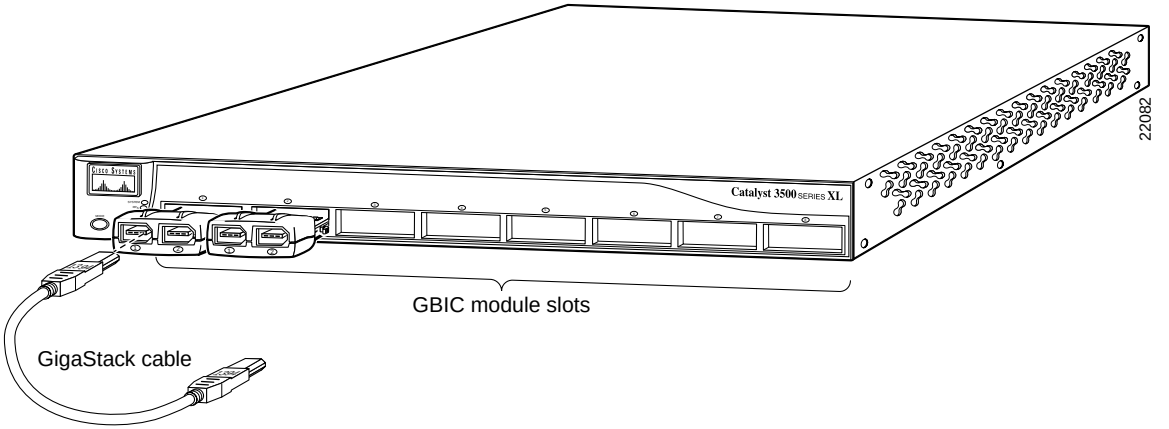
All ports are set to autonegotiate the duplex mode for your GigaStack GBIC. We recommend that you keep this default setting.

Connecting to GigaStack GBIC Ports

Insert the connector in the GigaStack GBIC receptacle, as shown in Figure 2-6.

Note The GigaStack GBIC LED is amber while Spanning Tree Protocol discovers the topology and searches for loops. This takes about 30 seconds. The port status LED then turns green.

Figure 2-6 Inserting the Cable in a GigaStack GBIC



Note Always use a GigaStack cable to connect GigaStack GBIC to any device. See the section "GigaStack GBIC Cabling" in the "Connectors and Cables" appendix for more information.

Creating Connections

You can create these configurations:

- Point-to-point configuration
- Cascade configuration

In a point-to-point configuration or stack configuration, the GigaStack GBIC can use the following ports to connect to other devices when inserted into the following devices:

Table 2-1 Point-to-Point Configuration

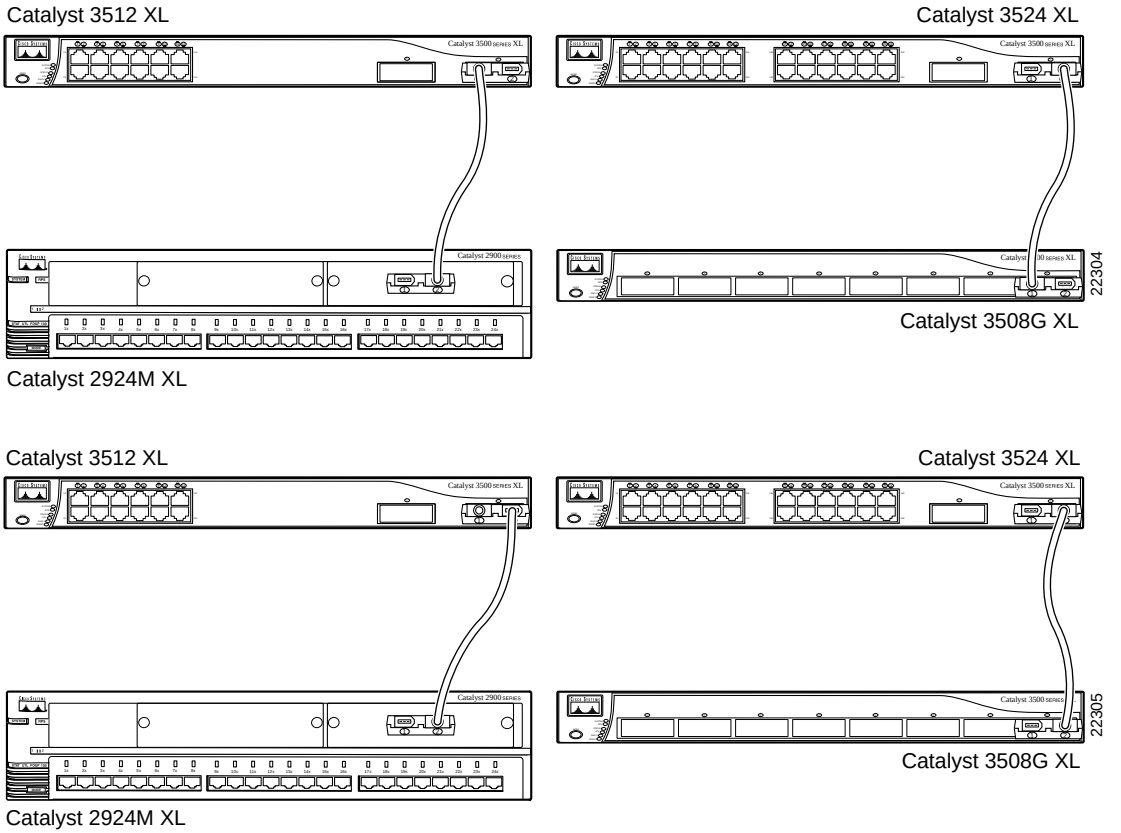
Device	Available Port
3500 XL switches	1 or 2
1000BaseX module	1 or 2

For more information, see "Point-to-Point Configuration" and "Cascade Stack Configuration."

Point-to-Point Configuration

A point-to-point connection operates in full-duplex mode. Figure 2-7 shows a combination of 3500 XL switches and 1000BaseX modules in modular 2900 XL switches that establish a point-to-point connection.

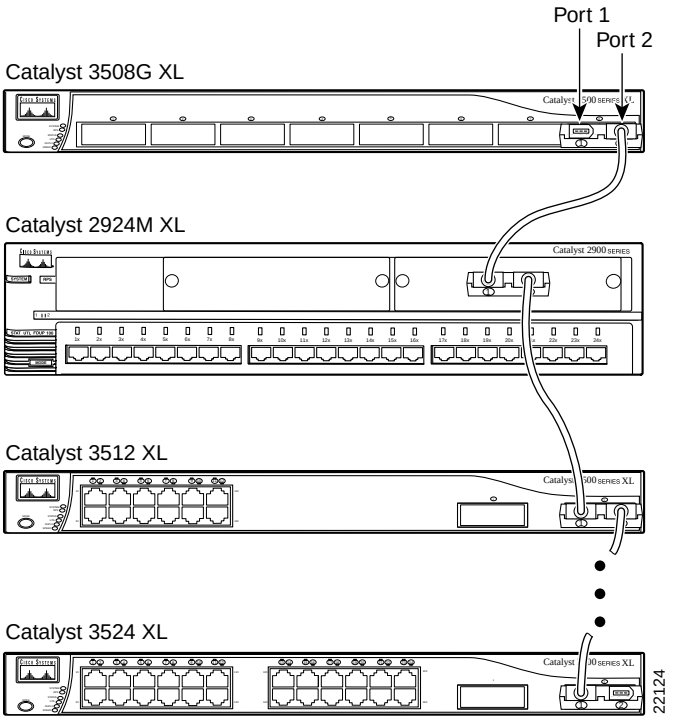
Figure 2-7 Point-to-Point Configuration



Cascade Stack Configuration

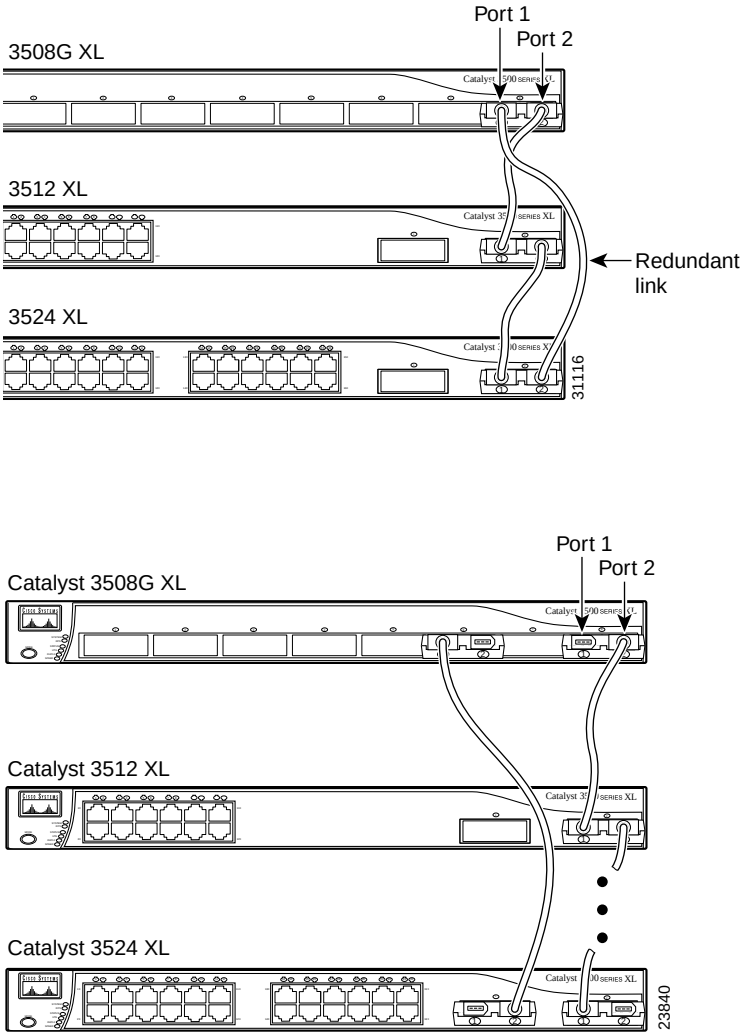
You can connect from three to nine switches in a cascade stack configuration. The stack configuration operates in half-duplex mode. Figure 2-8 shows the various connections.

Figure 2-8 Stack Configuration Example



You can form a redundant link by connecting the open ports on the top and bottom GigaStack GBICs within the same switch, as shown in Figure 2-9.

Figure 2-9 Examples of Redundant-Link Stack Configuration



For more information about stacking configuration guidelines, see Appendix B, “Loop Configuration Support.”

Removing a GigaStack GBIC

To remove a GigaStack GBIC, do the following:

Step 1 If you are using the GBIC clip to secure the GBIC cables, remove the clip from the GigaStack GBIC.

Step 2 Disconnect the cable from the GigaStack GBIC connector.

Step 3 Release the GigaStack GBIC from the slot by simultaneously squeezing the two plastic tabs (one on each side of the GigaStack GBIC).

Step 4 Slide the GigaStack GBIC out of the gigabit Ethernet module slot. A flap drops down to protect the gigabit Ethernet module connector.

Warning **Ultimate disposal of this product should be handled according to all national laws and regulations.**

Power-On Self-Test

All 3500 XL switches and modular 2900 XL switches perform a power-on self-test (POST) on the GigaStack GBIC if you insert it *before* you power-on the switch. These switches do not run POST on the GigaStack GBIC if you insert it *after* the switches power on.

When you insert a GigaStack GBIC into the switch or module slot, the port LED on the switch or module turns green. When you insert a GigaStack GBIC cable into the GBIC port, the GigaStack GBIC port turns green. This means that there is connectivity. For more information on the meaning of LEDs, see Chapter 1, “Overview.” For information about POST and troubleshooting, see Chapter 3, “Troubleshooting.”

CHAPTER 3

Troubleshooting

Use Table 3-1 to identify problems with the modules and to take the appropriate corrective action.

Table 3-1 Common Problems and Their Solutions

Symptom	Possible Causes	Corrective Action
Port LED is amber.	Spanning Tree Protocol is checking for loops.	Wait for Spanning Tree Protocol to complete its search. The LED turns green when Spanning Tree Protocol completes its check.
	Port is initializing, it was disabled by management or an address violation, or it was blocked by Spanning Tree Protocol.	Use Visual Switch Manager or the IOS command-line interface to check the status of the port and to enable it.
Port LED is alternating between green and amber.	Port is experiencing error frames. This could be due to a duplex mismatch caused by autonegotiation, collisions, CRC errors, or alignment errors.	Check the duplex settings on both devices. Check the speed settings on both devices except when using a 1000BaseX Ethernet module. You cannot change the speed on the gigabit Ethernet modules. If one parameter is manually set, manually set all of them, or set both devices to autonegotiate speed and duplex. See the *Catalyst 2900 Series XL Installation and Configuration Guide* for more information.

Table 3-1 Common Problems and Their Solutions (continued)

Symptom	Possible Causes	Corrective Action
Port LED is off.	Device has no power.	Ensure that the switch and the target device have power.
	Wrong cable type.	Verify that the cable is correct: crossover or straight-through.
	Incompatible cable.	Replace with a Cisco proprietary GBIC cable. For more information, see Appendix B, “Connectors and Cables.”
	Bad cable.	Replace with a known good cable.
	No cable.	Insert and connect cable.
Expansion slot LED is amber.	Module failed POST.	Ensure that the switch is running an IOS software release that supports the module. (See “Key Features.”) If the IOS software release is correct, call Cisco Systems to replace the module.

Technical Specifications

Table A-1 lists the technical specifications and regulatory agency approvals for the GigaStack GBIC.

Table A-1 Technical Specifications

Environmental Ranges		
	Operating temperature	32 to 113°F (0 to 45°C)
	Storage temperature	–4 to 149°F (–20 to 65°C)
	Operating humidity	10 to 85% (noncondensing)
	Storage humidity	5 to 95% (noncondensing)
	Operating altitude	Up to 10,000 ft (3000 m)
	Storage altitude	Up to 15,000 ft (4570 m)
Power Consumption		2W
Physical Dimensions (H x W x D)		0.75 x 1.54 x 3.50 in. (1.90 x 3.91 x 8.89 cm)
	Weight	1.8 oz (0.05 kg)

Table A-1 Technical Specifications (continued)

Agency Approvals	
Safety	**EMI**
AS/NZS 3260, TS001	FCC Part 15 Class A
UL 1950/CSA 22.2 No. 950	EN 55022A Class A (CISPR 22 Class A)
IEC 950/EN 60950	VCCI Class A
CE	AS/NRZ 3548 Class A
	BCIQ
	CE

Connectors and Cables

This appendix describes the Cisco proprietary cables and connectors for the GigaStack GBIC.

GigaStack GBIC Cabling

The GigaStack GBIC uses proprietary connectors. This type of connector is shown in Figure B-1.

Figure B-1 GigaStack GBIC Connector

The GigaStack GBIC cables are proprietary, high-data-rate cables with enhanced signal integrity and EMI performance.

Caution Do not use standard IEEE 1394 cables with the GigaStack GBIC. You must use one of the Cisco proprietary cables (CAB-GS-50CM or CAB-GS-1M). If you use any other cable, you will not have connectivity.

Caution Do not use the GigaStack GBIC with standard IEEE 1394 equipment. You might damage the equipment or lose data.

Loop Configuration Support

GigaStack GBICs installed in a stack support a loop configuration only if *every* device in the stack is running IOS software Release 12.0(5)XU (April 2000) or higher.

For switches running IOS software previous to Release 12.0(5)XU, an illegal loop is created under the following conditions:

- A GigaStack GBIC is connected to two other GBIC ports in the same stack.
- A single GigaStack GBIC cable is inserted in port 1 and port 2 of the same GBIC.

Caution A loop causes excessive collision errors on the port and could cause the link to become unstable. This instability decreases performance on the links, and communication between the switches in the stack is adversely affected.

To avoidproblems with loop configurations, make sure that software for all devices in your stack is IOS software Release 12.0(5)XU or higher. To upgrade your software, refer to *Cisco IOS Desktop Switching Software Configuration Guide.*

Translated Safety Warnings

This appendix repeats in multiple languages the warnings in this guide.

Class 1 Laser Product Warning

Warning	**Class 1 laser product.**
Waarschuwing	**Klasse-1 laser produkt.**
Varoitus	**Luokan 1 lasertuote.**
Attention	**Produit laser de classe 1.**
Warnung	**Laserprodukt der Klasse 1.**
Avvertenza	**Prodotto laser di Classe 1.**
Advarsel	**Laserprodukt av klasse 1.**
Aviso	**Produto laser de classe 1.**

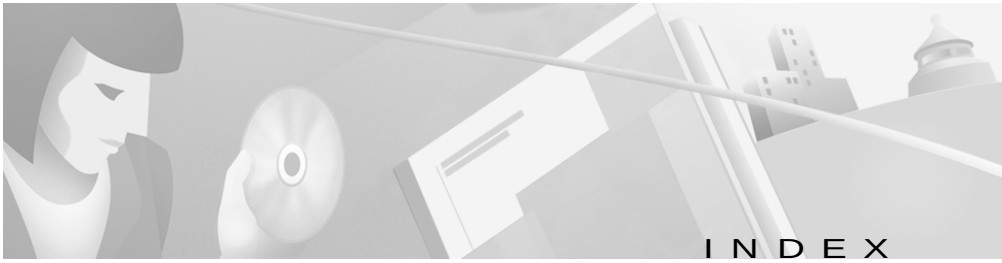
¡Advertencia!	Producto láser Clase I.
Varning!	Laserprodukt av klass 1.

Laser Beam Exposure Warning

Warning	Avoid exposure to the laser beam.
Waarschuwing	Vermijd blootstelling aan de straal.
Varoitus	Vältä säteelle altistumista.
Attention	Eviter toute exposition au faisceau.
Warnung	Schützen Sie sich vor Strahlung.
Avvertenza	Evitare l'esposizione al raggio.
Advarsel	Unngå å bli utsatt for strålen.
Aviso	Evite exposição ao raio.
¡Advertencia!	Evitar la exposición al haz.
Varning!	Utsätt dig inte för laserstrålningen.

Product Disposal

Warning	**Ultimate disposal of this product should be handled according to all national laws and regulations.**
Waarschuwing	**Het uiteindelijke wegruimen van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.**
Varoitus	**Tämä tuote on hävitettävä kansallisten lakien ja määräysten mukaisesti.**
Attention	**La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.**
Warnung	**Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.**
Avvertenza	**Lo smaltimento di questo prodotto deve essere eseguito secondo le leggi e regolazioni locali.**
Advarsel	**Endelig kassering av dette produktet skal være i henhold til alle relevante nasjonale lover og bestemmelser.**
Aviso	**Deitar fora este produto em conformidade com todas as leis e regulamentos nacionais.**
¡Advertencia!	**Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.**
Varning!	**Vid deponering hanteras produkten enligt gällande lagar och bestämmelser.**



Numerics

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