Managed Layer 2 Switches GSM7212, GSM7224, and GSM7248 Hardware Installation Guide

NETGEAR

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- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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This digital apparatus (NETGEAR ProSafe™ 12-Port Gigabit L2 Managed Switch Model GSM7212) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

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This digital apparatus (NETGEAR ProSafe™ 48-Port Gigabit L2 Managed Switch Model GSM7248) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

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Customer Support

Refer to the Support Information Card that shipped with your Managed Layer 2 Fast Ethernet Switch.

World Wide Web

NETGEAR maintains a World Wide Web home page that you can access at the universal resource locator (URL) *http://www.netgear.com*. A direct connection to the Internet and a Web browser such as Internet Explorer or Netscape are required.

Product and Publication Details

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Contents

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Chapter 1
About This Manual

The *Managed Layer 2 Switches GSM7212, GSM7224, and GSM7248 Hardware Installation Guide* contains information for hardware installation of the NETGEAR® GSM7212, GSM7224, and GSM7248 switches.

Audience, Conventions, Formats, and Scope

This guide is intended for network managers familiar with network management concepts and terminology This guide uses the following typographical conventions:

Table 1-1. Typographical Conventions

Italics	Emphasis, books, CDs, URL names
Bold	User input
`Fixed`	Screen text, file and server names, extensions, commands, IP addresses

This guide uses the following formats to highlight special messages:

	Note: This format is used to highlight information of importance or special interest.

	Tip: This format is used to highlight a procedure that will save time or resources.

	Warning: Ignoring this type of note may result in a malfunction or damage to the equipment.

⚠ **Danger:** This is a safety warning. Failure to take heed of this notice may result in personal injury or death.

This manual is written according to these specifications:

Table 1-2. Manual Scope

Product version	• ProSafe 12-Port Gigabit L2 Managed Switch Model GSM7212 • ProSafe 24-Port Gigabit L2 Managed Switch Model GSM7224 • ProSafe 48-Port Gigabit L2 Managed Switch Model GSM7248
Manual publication date	March 2006

→ **Note:** Product updates are available on the NETGEAR, Inc. Web site at *http://kbserver.netgear.com.*

Chapter 2
Introduction

The NETGEAR Managed Layer 2 Switch is a state-of-the-art, high-performance, IEEE-compliant network solution. It includes powerful management features that you can use to eliminate bottlenecks, boost performance, and increase productivity.

This guide describes the hardware for the following NETGEAR switches:

• ProSafe 12-Port Gigabit L2 Managed Switch Model GSM7212

• ProSafe 24-Port Gigabit L2 Managed Switch Model GSM7224

• ProSafe 48-Port Gigabit L2 Managed Switch Model GSM7248

These switches can be free-standing, or rack-mounted in a wiring closet or an equipment room. For information about features for each product, see the NETGEAR Web site at *http://www.netgear.com*.

GSM7212 Front Panel and LEDs

The following figure shows the front panel of the GSM7212. It contains LEDs, RJ-45 jacks, SFP module bays, and a console port.
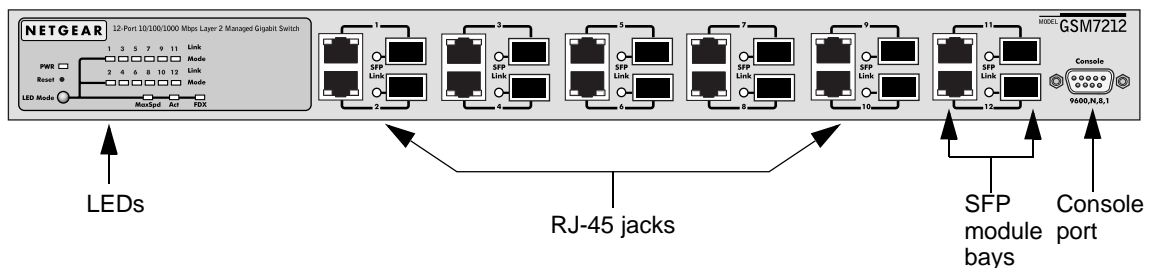

Figure 2-1

The following table describes the LEDs on the front panel of the switch.

Table 2-1. LED Descriptions for GSM7212

LED	Description
Power	• **Green:** Power is supplied, and the switch is operating normally. • **Yellow:** Power supply present, but it has failed. • **Off:** Power is disconnected.
Mode MaxSpd (maximum speed), ACT (activity) or FDX	**MaxSpd (maximum speed)** • **Green:** Link in 1,000 Mbps. • **Yellow:** Link in 100 Mbps. • **Off:** Link in 10 Mbps. **ACT (activity)** • **Blinking green:** The port is sending or receiving packets. **FDX** • **Green:** Full-duplex mode. • **Yellow:** Half-duplex mode. • **Blinking yellow:** Collision occurred when sending and receiving in half-duplex mode.
Link (port number)	• **Green:** A valid 1,000 Mbps link is established on the port. • **Yellow:** A valid 100 Mbps link is established on the port. • **Off:** A valid 10 Mbps link is established on the port..
SFP Port (1,000 Mbps only)	• **Solid green:** Link is up. • **Blinking green:** The port is sending or receiving packets in link up status. • **Off:** No link is detected.

GSM7212 Rear Panel

The rear panel has a standard AC power receptacle for the supplied power cord.

Power receptacle

120~240 VAC, 50-60HZ,1.9A max

Figure 2-2

GSM7224 Front Panel and LEDs

The following figure shows the front panel of the GSM7224. The front panel contains LEDs, RJ-45 jacks, and SFP module bays.

Figure 2-3

The following table shows the GSM7224 LEDs on the front of the switch.

Table 2-2. GSM7224 LED Description

LED	Description
Power	• **Green:** Power is supplied, and the switch is operating normally. • **Yellow:** Power supply present, but it has failed. • **Off:** Power is disconnected.
10/100/1000 ports (two LEDs)	**Speed (right)** • **Green:** Link in 1000 Mbps. • **Yellow:** Link in 100 Mbps. • **Off:** Link in 10 Mbps. **Link/ACT (left)** • **Green:** Link is up. • **Blinking green:** The port is sending or receiving packets. • **Off:** No link is detected.
SFP port (1,000 Mbps only)	• **Solid green:** Link is up. • **Blinking green:** The port is sending or receiving packets in link up status. • **Off:** No link is detected.

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GSM7224 Rear Panel

The rear panel has a standard AC power receptacle for the supplied power cord.

Power receptacle

120~240 VAC, 50-60HZ,1.9A max

Figure 2-4

GSM7248 Front Panel and LEDs

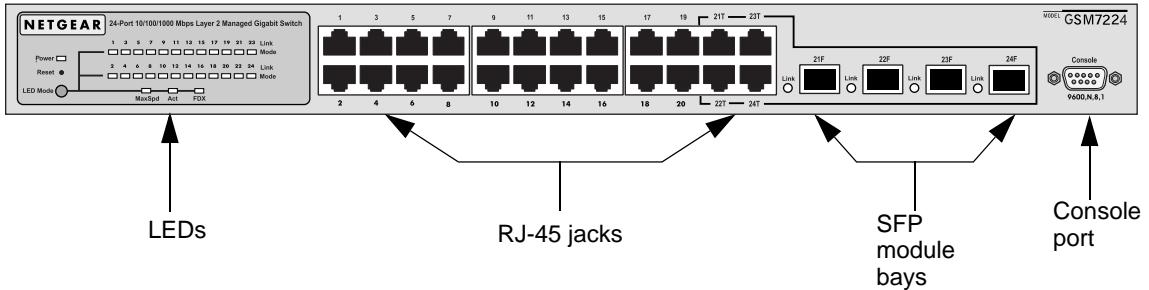The following figure shows the front panel of the GSM7248. The front panel contains LEDs, RJ-45 jacks, SFP module bays, and a console port.

LEDs

RJ-45 jacks
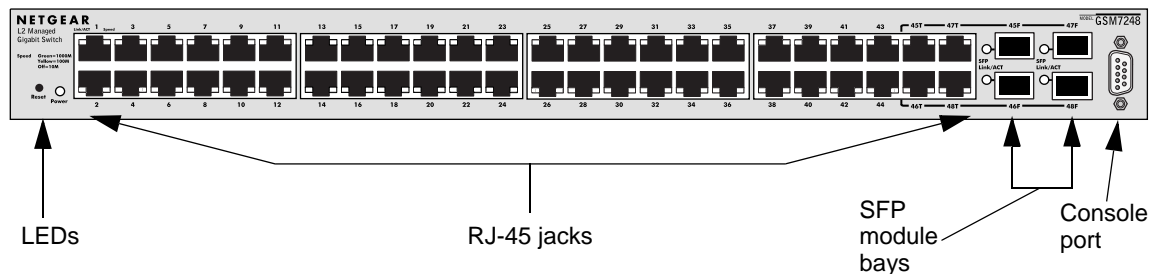
SFP module bays

Console port

Figure 2-5

The following table describes the GSM7248 LEDs on the front of the switch.

Table 2-3. GSM7248 LED Description

LED	Description
Power	• **Green:** Power is supplied, and the switch is operating normally. • **Off:** No power is applied, or power failure.

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Table 2-3. GSM7248 LED Description (continued)

10/100/1000 ports (two LEDs)	**Speed (left)** • **Green:** Link in 1000 Mbps. • **Yellow:** Link in 100 Mbps. • **Off:** Link in 10 Mbps. **Link or Activity (right)** • **Green:** Link is up. • **Blinking green:** The port is sending or receiving packets. • **Off:** No link is detected.
SFP port (1,000 Mbps only)	• **Solid green:** Link is up. • **Blinking green:** The port is sending or receiving packets in link up status. • **Off:** No link is detected.

GSM7248 Rear Panel

The rear panel has a standard AC power receptacle for the supplied power cord.

Power

120~240 VAC, 50-60HZ,1.9A max

Figure 2-6

Safety Instructions

Use the following safety guidelines to ensure your own personal safety and to help protect your system from potential damage.

To reduce the risk of bodily injury, electrical shock, fire, and damage to the equipment, observe the following precautions.

• Observe and follow service markings.

– Do not service any product except as explained in your system documentation.

– Opening or removing covers that are marked with the triangular symbol with a lightning bolt may expose you to electrical shock. Only a trained service technician should service components inside these compartments.

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- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your trained service provider:

    – The power cable, extension cable, or plug is damaged.

    – An object has fallen into the product.

    – The product has been exposed to water.

    – The product has been dropped or damaged.

    – The product does not operate correctly when you follow the operating instructions.

- Keep your system away from radiators and heat sources. Also, do not block cooling vents.

- Do not spill food or liquids on your system components, and never operate the product in a wet environment. If the system gets wet, see the appropriate section in your troubleshooting guide or contact your trained service provider.

- Do not push any objects into the openings of your system. Doing so can cause fire or electric shock by shorting out interior components.

- Use the product only with approved equipment.

- Allow the product to cool before removing covers or touching internal components.

- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service provider or local power company.

- To help avoid damaging your system, be sure the voltage selection switch (if provided) on the power supply is set to match the power available at your location:

    – 115 volts (V), 60 hertz (Hz) in most of North and South America and in some Far Eastern countries such as South Korea and Taiwan

    – 100 V, 50 Hz in eastern Japan and 100 V, 60 Hz in western Japan

    – 230 V, 50 Hz in most of Europe, the Middle East, and the Far East

- Also, be sure that attached devices are electrically rated to operate with the power available in your location.

- Use only approved power cables. If you have not been provided with a power cable for your system or for any AC powered option intended for your system, purchase a power cable that is approved for use in your country. The power cable must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the product.

- To help prevent electric shock, plug the system and peripheral power cables into properly grounded electrical outlets.

- The peripheral power cables are equipped with 3-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cable, use a 3-wire cable with properly grounded plugs.

- Observe extension cable and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.

- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).

- Position system cables and power cables carefully; route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables.

- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications.

- Always follow your local and national wiring rules.

- Move products with care; ensure that all casters and stabilizers are firmly connected to the system. Avoid sudden stops and uneven surfaces.

Introduction

Chapter 3
Hardware Installation

This chapter explains how to install the hardware for the Managed Layer 3 Fast Ethernet Switch models GSM7212, GSM7224, and GSM7248.

Package Contents

Each switch is packed and shipped separately. The package contains the following items:

- Managed Layer 2 Switch

- Power adapter cord

- Rubber footpads for tabletop installation

- Rack-mounting kit

- Null-modem serial cable (RS-232) with 9-pin connectors

- NETGEAR CD: The CD contains

    – Configuration software

    – Documentation including the *Command Line Interface Reference for the ProSafe 7200 Series Layer-2 Switches*, the *Administration Manual for the 7200 Series Layer-2 Switches*, the Quick Install Guide, and this Hardware Installation Guide

- Warranty and Support Card

- Quick Install Guide

If you ordered SFP modules with your switch, they are provided in a separate package. If any item is missing or damaged, contact your place of purchase immediately.

Protecting Against Electrostatic Discharge

⚠	**Warning:** Static electricity can harm delicate components inside your system. To prevent static damage, discharge static electricity from your body before you touch any of the electronic components, such as the microprocessor. You can do so by periodically touching an unpainted metal surface on the switch.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

1. When unpacking a static-sensitive component from its shipping carton, leave it in the antistatic package until you are ready to install it. Just before unwrapping the antistatic package, discharge static electricity from your body.

2. Before moving a sensitive component, place it in an antistatic container or package.

3. Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads, workbench pads, and an antistatic grounding strap.

Unpacking the Hardware

Check the contents of the boxes to make sure that all items are present before beginning the installation.

1. Place the container on a clean flat surface and cut all straps securing the container.

2. Unpack the hardware from the boxes.

   Carefully remove the hardware and place it on a secure and clean surface. See "Select a Location" on page 3-3.

3. Remove all packing material.

4. Make sure that all items are present. See "Package Contents" on page 3-1.

> **Note:** If any item is found missing or damaged, contact your local NETGEAR reseller for replacement.

5. Inspect the products and accessories for damage. Report any damage immediately.

Installation

Install the equipment in the sequence presented in this chapter:

1. Select a Location.
   See "Select a Location" on page 3-3.

2. Install the Switch.
   See "Install the Switch" on page 3-5.

3. Check the installation.
   See "Check the Installation" on page 3-6

4. Apply power, and check the LEDs.
   See "Connect to Power and Check the LEDs" on page 3-6.

Select a Location

The switch can be mounted in a standard 19-inch (48.26-centimeter) rack, wall-mounted, or left freestanding (placed on a tabletop).

The site where you install the switch can affect its performance. Before installing the switch or switches, make sure that the location meets the following site requirements.

Table 3-1. Site Requirements for Switch Location

Requirements	
Mounting	• Desktop installations: Provide a flat table or shelf surface. • Rack-mount listallations: Use a 19-inch (48.3-centimeter) EIA standard equipment rack that is grounded and physically secure. You need the rack-mount kit supplied with your switch.

Table 3-1. Site Requirements for Switch Location (continued) (continued)

Requirements	
Access	Locate the switch in a position that lets you access the front panel RJ-45 ports, view the front panel LEDs, and access the rear-panel power connector.
Power source	Provide a power source within 6 feet (1.8 meters) of the installation location. Power specifications for the switch are shown in Appendix A, "Technical Specifications". Be sure that the AC outlet is not controlled by a wall switch, which can accidentally turn off power to the outlet and the switch.
Environment	Install the switch in a site free from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
Temperature	The ambient switch operating temperature range is 32º to 104ºF (0º to 40ºC). Keep the switch away from heat sources such as direct sunlight, warm air exhausts, hot-air vents, and heaters.
Operating humidity	Install the switch in a dry area with a maximum relative humidity of 90%, noncondensing.
Ventilation	Do not restrict airflow by covering or obstructing air inlets on the sides of the switch. Keep at least 2 inches (5.08 centimeters) free on all sides for cooling. Be sure that there is adequate airflow in the room or wiring closet where you intend to install the switch.
Cabling	Route the cable to avoid sources of electrical noise such as radio transmitters, broadcast amplifiers, power lines, and fluorescent lighting fixtures.

Install the Switch

You can install the switch on a flat surface or in a standard 19-inch rack.

Installing the Switch on a Flat Surface

The switch ships with four self-adhesive rubber footpads. Stick one rubber footpad on each of the four concave spaces on the bottom of the switch. The rubber footpads cushion the switch against shock and vibrations.

Installing the Switch in a Rack

To install the switch in a rack, you will need the 19-inch rack-mount kit supplied with your switch.

1. Attach the supplied mounting brackets to the side of the switch.

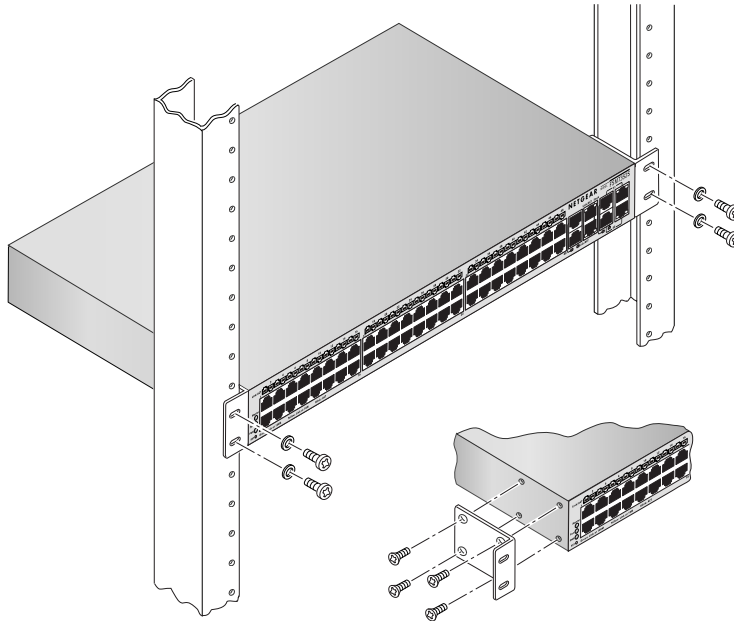2. Use the provided Phillips head screws to fasten the brackets to the sides of the switch.

Figure 3-1

3. Tighten the screws with a No. 1 Phillips screwdriver to secure each bracket.

4. Align the bracket and rack holes. Use two pan-head screws with nylon washers to fasten each bracket and to the rack.

5. Tighten the screws with a No. 2 Phillips screwdriver to secure the switch in the rack.

Check the Installation

Before you apply power, perform the following checks:

1. Inspect the equipment thoroughly.

2. Verify that all cables are installed correctly.

3. Check cable routing to ensure that cables are not damaged and will not create a safety hazard.

4. Be sure that all equipment is mounted properly and securely.

Connect to Power and Check the LEDs

The switch does not have an ON/OFF switch. The only way to apply or remove power is to connect or disconnect the power cord. Before you connect the power cord, select an AC outlet that is not controlled by a wall switch (which can turn off power to the switch).

After you select an appropriate outlet, follow these steps to apply AC power.

1. Connect one end of the AC power adapter cable to the rear of the switch, and the other end to a grounded 3-pronged AC outlet.

2. Check the Power LED on the front panel of the switch. The LED should light up in the following sequence:

   • The LED turns yellow as the switch runs a Power-On Self-Test (POST).

   • The switch passes the test, the LED turns green and the switch is working and ready to pass data.

   • If the POST fails, the Power LED blinks yellow.

   If the Power LED does not light up, check that the power cable is plugged in correctly and that the power source is good. For help with troubleshooting, see Chapter 4, "Troubleshooting".

Connecting Equipment to the Switch

You can connect devices, an SPF Gigabit Ethernet module, and a console to the switch.

RJ-45 Ports

The switch uses Auto Uplink technology, which enables you to attach devices using either straight-through or crossover cables. Use a Category 5 (Cat5) unshielded twisted-pair (UTP) cable terminated with an RJ-45 connector.

> **Note:** Ethernet specifications limit the cable length between the switch and the attached device to 328 feet (100 meters).

Gigabit Module Bay

You can install an SFP Gigabit Ethernet module in the gigabit module bays. SFP modules are sold separately.

Four ports on the switch can be used for either STP (RJ-45) or SFP (fiber) cable. However, both port types cannot be used at the same time. The switch selects the first connected interface. If both connectors are plugged, the SFP interface operates normally and disables the copper interface.

The SFP bay accommodates a standard SFP module with an LC connector that is compatible with the IEEE 802.3z 1000BASE-SX standard.

To install an SFP module:

1. Insert the SFP module into the SFP module bay. Press firmly to ensure that the module seats into the connector.

2. After the switch has been configured for management, use one of the management interfaces (Web browser or console interface) to configure the port with the SFP module.

3. To install additional Gigabit Ethernet modules, repeat step 1.

Connecting a Console to the Switch

After you install the switch and apply power, you can connect to it with a terminal or workstation. You can use the Command Line Interface (CLI) to identify the IP address.

To use a console, you need the following items:

- VT100/ANSI terminal, a Windows PC, Apple Macintosh computer, or UNIX workstation.

- Null-modem cable with 9-pin connectors on each end (shipped with the product).

To connect a console to the switch:

1. Connect the null-modem cable to the console port of the switch.
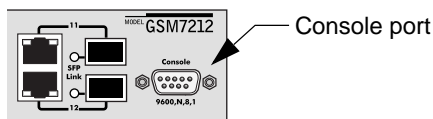

Figure 3-2

2. Connect the other end of the cable to a workstation or terminal.

3. If you attached a workstation, start a terminal-emulation program.

  - Microsoft Windows users can use HyperTerminal, which comes with the Windows operating systems.

  - Macintosh users can use ZTerm.

  - UNIX users can use a terminal emulator such as TIP.

4. Configure the terminal-emulation program to use the following settings:

  - Baud rate: 9,600 bps

  - Data bits: 8

  - Parity: none

  - Stop bit: 1

  - Flow control: none

Hardware Installation

After you connect a console to the switch, you will need to configure the switch. The following documents are provided for this purpose:

- Quick Install Guide: Explains basic setup and configuration (provided as both a print document and in PDF format on the NETGEAR CD).

- *Command Line Interface Reference for the ProSafe 7200 Series Layer-2 Switches:* Gives detailed examples of how to use the CLI, and is located on the NETGEAR CD.

- *Administration Manual for the 7200 Series Layer-2 Switches*: Describes configuration tasks, and is located on the NETGEAR CD.

Chapter 4
Troubleshooting

Troubleshooting Chart

The table below lists symptoms, causes, and solutions of possible problems.

Table 4-1. Troubleshooting

Problem	Cause	Solution
Power LED is off.	No power is received	Check the power cord connections for the switch at the switch and at the connecting device. Make sure that all cables used are correct and comply with Ethernet specifications.
Link LED is off or intermittent.	Port connection is not working.	Check the crimp on the connectors and make sure that the plug is properly inserted and locked into the port at both the switch and the connecting device. Make sure that all cables used are correct and comply with Ethernet specifications. See Appendix A, "Technical Specifications". Check for a defective adapter card, cable, or port by testing it in an alternate environment where all products are functioning.
File transfer is slow or performance degradation is a problem.	Half- or full-duplex setting on the switch and the connected device are not the same.	Make sure that the attached device is set to auto-negotiate. Check the system message log.

Table 4-1. Troubleshooting (continued)

A segment or device is not recognized as part of the network.	One or more devices are not properly connected, or cabling does not meet Ethernet guidelines.	Verify that the cabling is correct. Be sure that all connectors are securely positioned in the required ports. Equipment may have been accidentally disconnected.
ACT LED is flashing continuously on all connected ports and the network is disabled	A network loop (redundant path) has been created.	Break the loop by ensuring that there is only one path from any networked device to any other networked device.

Additional Troubleshooting Suggestions

If the suggestions in Table 4-1 do not resolve your problem, refer to the troubleshooting suggestions in this section.

Network Adapter Cards

Make sure that the network adapter cards installed in the PCs are in working condition and the software driver has been installed.

Configuration

If problems occur after you change the network configuration, restore the original connections. Then find the problem by making the changes, one step at a time. Make sure that cable distances, repeater limits, and other physical aspects of the installation do not exceed the Ethernet limitations.

Switch Integrity

You can verify the integrity of the switch by resetting the switch. To reset the switch, use the Tools> Reset command or remove AC power from the switch and then reapply AC power. If the problem continues, contact NETGEAR technical support. See the Support Information Card that shipped with your product.

Auto-Negotiation

The 10/100/1000 Mbps ports negotiate the correct duplex mode and speed if the device at the other end of the link supports auto-negotiation. If the device does not support auto-negotiation, the switch only determines the speed correctly and the duplex mode defaults to half-duplex.

The gigabit port on the gigabit module negotiates speed, duplex mode, and flow control, provided that the attached device supports auto-negotiation.

Appendix A
Technical Specifications

This appendix provides technical specifications for the switches.

Table A-1. Technical Specifications

Feature	GSM7212	GSM7224	GSM7248
IEEE network protocol and standards compatibility	• 802.3 10BASE-T • 802.3u 100BASE-TX • 802.3z 1000BASE-SX • 802.3ab 1000BASE-T • 802.3x flow control		
Interface (Auto Uplink on all RJ-45 ports)	• 12 RJ-45 connectors for 10BASE-T, 100BASE-TX, and 1000BASE-T • 12 Gigabit Interface converter (SFP) slots for SFP modules • RS-232 console port	• 24 RJ-45 connectors for 10BASE-T, 100BASE-TX, and 1000BASE-T • 4 Gigabit Interface converter (SFP) slots for SFP modules RS-232 console port	• 48 RJ-45 connectors for 10BASE-T, 100BASE-TX, and 1000BASE-T • 4 Gigabit Interface converter (SFP) slots for SFP modules • RS-232 console port
Performance	• Forwarding modes: store-and-forward • Bandwidth: 24 Gbps • Network latency: Less than 80 microseconds for 64-byte frames in store-and-forward mode for 10 Mbps to 100 Mbps transmission	• Forwarding modes: store-and-forward • Bandwidth: 48 Gbps • Network latency: Less than 80 microseconds for 64-byte frames in store-and-forward mode for 10 Mbps to 100 Mbps transmission	• Forwarding modes: store-and-forward • Bandwidth: 96 Gbps • Network latency: Less than 5.4 microseconds for 64-byte frames in store-and-forward mode for 10 Mbps to 100 Mbps transmission
Address database size	8,000 media access control (MAC) addresses per system	4,000 media access control (MAC) addresses per system	16,000 media access control (MAC) addresses per system
Addressing	Addressing: 48-bit MAC address		
10/100/1000 buffer memory	2-MB embedded memory for 12 ports	2-MB embedded memory for 24 ports	12-MB embedded memory for 48 ports
Acoustic noise (ANSI-S10.12)	41.6 Db		
Heat dissipation	18.99 BTU/hr		

Table A-1. Technical Specifications (continued)

Feature	GSM7212	GSM7224	GSM7248
Mean time between failure (MTBF)	61,349 hours (~ 7 years)	58,300 hours (~ 6.5 years)	58,300 hours (~ 6.5 years)
Power consumption	31 W maximum 100–240 VAC, 50–60 Hz universal input		
Dimensions (W x D x H)	17.32 x 10.12 x 1.70 in (440 x 257 x 43.2 mm)	17.32 x 10.12 x 1.70 in (440 x 257 x 43.2 mm)	17.32 x 10.12 x 1.70 in (440 x 257 x 43.2 mm)
Weight	7.39 lb (3.36 kg)	7.39 lb (3.36 kg)	- 8.4 lb (- 3.81 kg)
Management	• 802.1Q Static VLAN (up to 4k) • 802.1p Class of Service (CoS) • 802.1D Spanning Tree Protocol (STP) • 802.1w Rapid Spanning Tree Protocol (RSTP) • 802.1s Multiple Spanning Tree Protocol (MSTP) • 802.3ad Link Aggregation (LACP) • IGMP v1, v2 snooping support • Port mirroring support • SNMP v3 • RFC1757 • RMON 1 groups 1, 2, 3, and 9 • RFC1213 MIB II • RFC1643 Ethernet interface MIB • RFC1493 bridge MIB • RFC2131 DHCP client (and BOOTP) • RFC2138 RADIUS client • Broadcast storm control • Private enterprise MIB		
SSH/SSL	N/A	SSH/SSL v1 and v2 HTTPS 1.0	N/A
Environment	• Operating temperature: 32° to 104°F (0° to 40°C) • Storage temperature: –4° to 158°F (–20° to 70°C) • Operating humidity: 90% maximum relative humidity, noncondensing • Storage humidity: 95% maximum relative humidity, noncondensing • Operating altitude: 10,000 ft.(3,000 m) maximum • Storage altitude: 10,000 ft. (3,000 m) maximum		

Technical Specifications

Table A-1. Technical Specifications (continued)

Feature	GSM7212	GSM7224	GSM7248
Electromagnetic emissions and immunity	• CE mark, commercial • FCC Part 15 Class A VCCI • Class A EN 55022 (CISPR 22) • Class A C-Tick MIC • EN 50082-1 • EN 55024		
Safety	• CE mark, commercial • UL listed (UL 1950)/cUL IEC950/EN60950		

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Technical Specifications

Appendix B
Default Configuration Settings

This appendix provides the default settings for the NETGEAR Model GSM7212, GSM7224, and GSM7248 switches.

Table B-1. Default Configuration Settings

Features	GSM7212	GSM7224	GSM7248
Traffic prioritization	• 802.1p: Disabled • DiffServ: Disabled	• 802.1p: Disabled • DiffServ: Disabled	• 802.1p: Optimized for flow control, all ports normal priority • DiffServ: 0–31 normal priority, 32–63 high priority
Flow control (full duplex)	Disabled		
Broadcast storm control	Enabled		
Jumbo Frame	Disabled		
Port speed	Auto-negotiation		
Port duplex	Auto-negotiation		
Gigabit port type	Auto-detect		
IP configuration	DHCP		
Password protection	Disabled		
User name	Admin		
Password	(none)		
Web access	Enabled		
Java mode	Enabled		
VLAN	All ports belong to VLAN 1 (default VLAN) as untagged ports		
Spanning Tree Protocol	Enabled (IEEE 802.1s)		
MAC address aging	300 seconds		
SNMP community	Public: Read-only access		

Default Configuration Settings