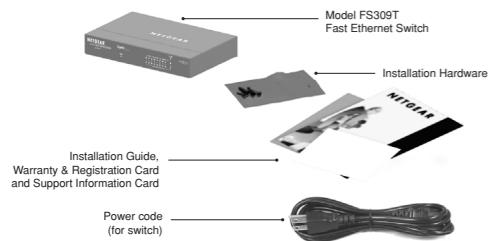


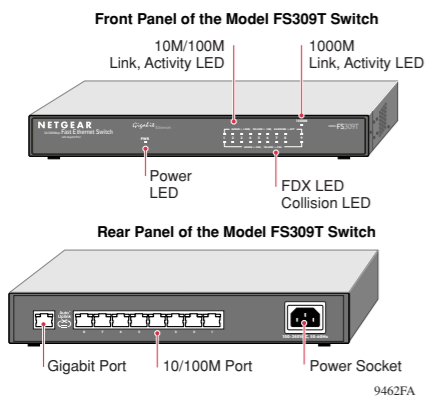
Introduction

The NETGEAR® Model FS309T Fast Ethernet Switch provides you with a low-cost, high-performance network solution and is designed to support power workgroups operating at either 10 megabits per second (Mbps) or 100 Mbps, and can relieve server and backbone bottlenecks with one copper Gigabit Ethernet port.

Verify Package Contents



Product Illustration



Auto Uplink™

The Auto Uplink technology that NETGEAR has included in this product will automatically sense whether the straight-through cable plugged into any port should have a ‘normal’ connection, e.g. connecting to a PC; or an ‘uplink’ connection, e.g. connecting to a router, switch, or hub. That port will then configure itself to the correct configuration. This feature also eliminates the need to worry about crossover cables, as Auto Uplink will accommodate either type of cable to make the right connection.

Note: Auto Uplink will compensate for setting uplink connections, and crossover or straight-through cables. Using Auto Uplink to create multiple paths between any two network devices will disable your network.

LEDs

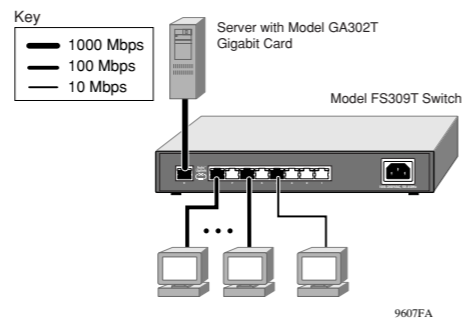
This table describes the activity of the Model FS309T switch LEDs.

Label	Activity	Description	Color
PWR	On Off	The Switch is receiving power The Switch is NOT receiving power	Green
100M/10M	On	Indicates Link or Activity at 10 Mbps or 100 Mbps • 100 Mbps speed Link • 100 Mbps speed Activity • 10 Mbps speed Link • 10 Mbps speed Activity	GREEN GREEN-Blinking YELLOW YELLOW-Blinking
1000M	On	Indicates Link or Activity at 1000 Mbps • 1000 Mbps speed Link • 1000 Mbps speed Activity	GREEN GREEN-Blinking
FDX/COL	On	Full Duplex Collision	GREEN YELLOW-Blinking

Applications

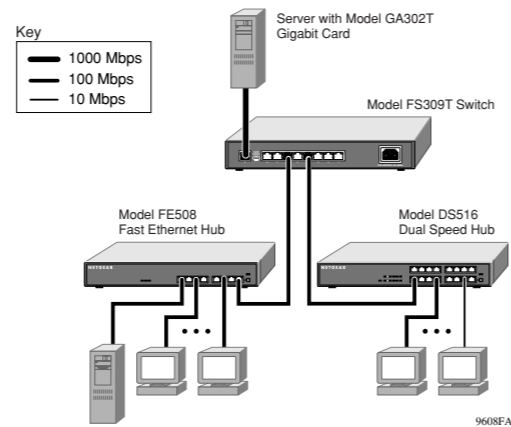
Desktop Switching

The Model FS309T switch, used as a desktop switch to build a small network that enables users to have Gigabit (1000 Mbps) access to a server.



Segment Switching

The Model FS309T switch can segment a network into multiple connected pieces, increasing overall bandwidth and throughput. The Model FS309T switch segmenting networks that are built with a NETGEAR Model FE508 Fast Ethernet Hub and a NETGEAR Model DS516 Dual Speed Hub.



Preparing the Site

Before you begin installing your switch, prepare the installation site. Make sure that your operating environment meets the operating environment requirements of the equipment.

Characteristic	Requirement
Temperature	Ambient temperature between 0 and 40 C (32 and 104 F). No nearby heat sources such as direct sunlight, warm air exhausts, or heaters.
Operating humidity	Maximum relative humidity of 90%, noncondensing.
Ventilation	Minimum 2 inches (5.08 cm) on all sides for cooling. Adequate airflow in room or wiring closet.
Operating conditions	At least 6 feet (1.83 m) to nearest source of electromagnetic noise (such as photocopier machine).
Power	Adequate power source within 6 feet (1.83 m).

Installing the Switch

Set the switch up on a flat surface; you do not need any special tools. Be sure the switch is positioned with at least 2 inches of space on all sides for ventilation.

Connecting Devices

To connect devices to the switch:

1. Connect the devices to the 10/100 Mbps ports on the switch, using Category 5 UTP cable and an RJ-45 plug.

Note: Ethernet specifications limit the cable length between your PC or server and the switch to 328 feet (100 meters)

2. Connect one end of the Category 5 UTP cable to the Gigabit port and the other end to the linking server or network device.

3. Connect one end of the AC power cord to the power receptacle on the rear panel of the switch and the other end of the AC power cord to the wall outlet.

Verifying Installation

When power has been applied to the switch:

- The green Pwr (power) LED on the front panel is on.

When the switch is connected and operating, refer to the table in “LEDs” for information about the LEDs and their activity.

Troubleshooting Information

Symptom	Cause	Solution
Power LED is off.	No power is received at the hub.	Check the power cord connections for the switch and the connected device. Check for a defective adapter card, cable, or port by testing them in an alternate environment where all products are functioning. Make sure all cables used are correct and comply with Ethernet specifications.
Either 10M, 100M, or 1000M Link LED is off	Port connection is not functioning.	Check the crimp on the RJ-45 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 all cables used are correct and comply with Ethernet specifications.
One or more components are malfunctioning.	Not all system components are properly installed.	Test the components in an alternate environment where all other components are functioning properly.
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 all cable connectors are securely positioned in the required ports. Straight-through cables should be used for all standard twisted pair connections. Make sure all devices are connected to the network. Equipment may have been accidentally disconnected.

Technical Specifications

Type	Specification
Standards Compatibility	ISO/IEC 802-3 (ANSI/IEEE 802.3i) 10BASE-T Ethernet IEEE 802.3u, 100BASE-TX Fast Ethernet IEEE 802.3ab, 1000BASE-T Gigabit Ethernet compatible with major network software, including Windows® networking, NetWare, and Linux
Data Rate	100 Mbps with 4B/5B encoding and MLT-3 physical interface for 100BASE-TX 10 or 100 or 1000 Mbps half-duplex 20 or 200 or 2000 Mbps full-duplex
Network Interface	RJ-45 connector for 10BASE-T or 100BASE-TX or 1000BASE-T Ethernet interface
Power	3.7 w max
Physical Specifications	
Dimensions	25.3 x 3.5 x 18.0 cm
Weight	2.86 lb; 1.30 kg
Environmental Specifications	
Operating temperature:	0 to 40° C (32 to 104° F)
Operating humidity:	90% maximum relative humidity, noncondensing
Electromagnetic Compliance	CE mark, commercial; FCC Part 15, Class A; EN 55 022 (CISPR 22), C-Tick, VCCI A
Safety Agency Approvals for the Power Adapter	CE mark, Commercial UL listed (UL 1950)
Performance Specifications	
Frame filter rate:	14,800 frames/sec max for 10M port 148,000 frames/sec max for 100M port 1,480,000 frames/sec max for 1000M port
Frame forward rate:	14,800 frames/sec max for 10M port 148,000 frames/sec max for 100M port 1,480,000 frames/sec max for 1000M port
Network latency (using 64-byte packets):	100 Mbps to 100 Mbps: 9.5 µs max 100 Mbps to 1000 Mbps: 8.5 µs max 1000 Mbps to 100 Mbps: 3.2 µs max
Address database size:	4000 MAC addresses
Addressing:	48-bit MAC address
Queue buffer:	128 kilobytes

Trademarks

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Statement of Conditions

In the interest of improving internal design, operational function, and/or reliability, NETGEAR reserves the right to make changes to the product described in this document without notice.

NETGEAR does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

Certificate of the Manufacturer/Importer

It is hereby certified that the NETGEAR Model FS309T Fast Ethernet Switch has been suppressed in accordance with the conditions set out in the BMPT-AmtsblVfg 243/1991 and Vfig 46/1992. The operation of some equipment (for example, test transmitters) in accordance with the regulations may, however, be subject to certain restrictions. Please refer to the notes in the operating instructions.

Federal Office for Telecommunications Approvals has been notified of the placing of this equipment on the market and has been granted the right to test the series for compliance with the regulations.

VCCI Statement

This equipment is in the Class A category (information equipment to be used in a residential area or an adjacent area thereto) and conforms to the standards set by the Voluntary Control Council for Interference by Data Processing Equipment and Electronic Office Machines aimed at preventing radio interference in such residential areas.

When used near a radio or TV receiver, it may become the cause of radio interference.

Read instructions for correct handling.

Federal Communications Commission (FCC) Compliance Notice:

Radio Frequency Notice

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Note: 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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 or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

EN 55 024 Declaration of Conformance

This is to certify that the NETGEAR Model FS309T Fast Ethernet Switch is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN 55 024 Class A (CISPR 22).

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (NETGEAR Model FS309T Fast Ethernet Switch) 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.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (NETGEAR Model FS309T Fast Ethernet Switch) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.



NETGEAR®

Fast Ethernet Switch with Gigabit Port

10/100/1000 Mbps Fast Ethernet FS309T



Installation Guide



NETGEAR®

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www.NETGEAR.com

Support Information

See Support Information Card for phone numbers.

Internet / World Wide Web

Go to <http://www.NETGEAR.com> for the NETGEAR Web page.

Defective or damaged merchandise can be returned to your point-of-sale representative.

IMPORTANT!

Please register online. YOU MUST REGISTER TO OBTAIN TECHNICAL SUPPORT. PLEASE RETAIN PROOF OF PURCHASE and this warranty information. To register your product, get product support, or to obtain product information and NETGEAR product documentation, direct your Web browser to the <http://www.NETGEAR.com> Web page. If you do not have access to the World Wide Web, you can register your product using the enclosed registration card and mail it to NETGEAR customer service.

